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29	GAM336809	TAAGGCATTTTTATGGT	A
30	GAM5385	TCACAGTGAACCGGTCTCTTTC	A
31	GAM7446	TCACTGCAACCTCTGCTGCCTG	A
32	GAM337624	TCTAAGAGAAAGGAAGTTCAGA	A
33	GAM336135	TCTTGTGAAATCTGTGGACCCT	A
33	GAM336176	TCTTGTGAAATCTGTGGACCCT	A
33	GAM336235	TCTTGTGAAATCTGTGGACCCT	A
33	GAM336933	TCTTGTGAAATCTGTGGACCCT	A
34	GAM336818	TGAGGTGGGATCCCGAGGCC	A
35	GAM336487	TGGCTAGGTAAGGGAAG	A
36	GAM7591	TTGGAGTAATTCAGTATAGGTT	A
37	GAM336688	AAAAGCTAGAAGGAGACTGGGT	A
38	GAM8016	AAAAGTGCCTGCTGCTGCTTCT	A
39	GAM1313	AAACTTTTGGCTGTGGGGACCC	B
39	GAM3487	AAACTTTTGGCTGTGGGGACCC	B
40	GAM2950	AAAGAGGTTCTGATTCTGGCCT	A
41	GAM5370	AAAGTGGCTGGAGTGGAGTCTT	A
42	GAM336788	AAAGTGTGTTATCTAGGTAGTC	A
43	GAM5615	AAATCCAGAATCTAGACTGAAT	A
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47	GAM337379	AACTGCTTTTGTTGTGCAGGGA	A
48	GAM584	AAGAATGTGCCCTCACCAAAGG	B
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50	GAM336314	AAGAGATCTTAGGTCTCTTCGT	A
51	GAM337247	AAGAGCTGAGTAATTGGGGGCA	A
52	GAM336622	AAGAGGTAGTGTAAGGAATTGT	A
53	GAM336442	AAGCAGAACTGTTTTGTTTTCT	A
54	GAM3266	AAGCAGCCTTGGACCAGGAGGG	A
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55	GAM337295	AAGCGCATGTCAAGAGCTTTTT	A
56	GAM337055	AAGCTGCCATTGAAGATCTGGG	A
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58	GAM337451	AAGGTGAATGACCTTGTTGGGG	A
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60	GAM337414	AAGTGCTGGGATTACAGGCCTG	A
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64	GAM337040	AATATCTTTCTTAGGGGACTGT	A
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4675 GAM7102 TCACTGCAACCTCCACCTCCCG A
4676 GAM7817 TCACCCAGGCTGGAGTGCAGTG A
4677 GAM347 TCATTGCAACCTCCACCTCCTG A
4678 GAM7559 TCTGCCTCCCTGTCTCACTCTC A
4679 GAM3211 TCTCATATAGCTGGGTTGCAGC A
4680 GAM336762 GTCTTGATCTCCTGACCTTGTG A
4681 GAM4364 AGGGTTGTTAGTTTTTTGGTTG A
4682 GAM336282 TTGCTCAGGCTGGAGTGCAGTG A
4682 GAM336283 TTGCTCAGGCTGGAGTGCAGTG A
4683 GAM1617 TTGCCCAGGCTGGAGTGCAGTG A
4683 GAM2799 TTGCCCAGGCTGGAGTGCAGTG A
4683 GAM3946 TTGCCCAGGCTGGAGTGCAGTG A
4683 GAM8013 TTGCCCAGGCTGGAGTGCAGTG A
4684 GAM337101 TCTTGGGATAGTGTCTCATGGC A
4685 GAM5836 TCACTGCAACCTCCGCCTGCCG B

4686 GAM336728 TCAAGCAATTCTCGTGCCTCAG A
4687 GAM401 TCACTGCAACCTCTGCCTTCCG A
4688 GAM1332 TGAGGTAGGTGCTGAAACTGC A
4689 GAM5415 TGATCCTCTGGCTTCAGCCTCC B
4690 GAM1443 GGCATGTGTGAGCAGCTGCAGG A
4690 GAM5728 GGCATGTGTGAGCAGCTGCAGG A
4691 GAM336257 GTCTGGAGGCTGGAACCTGGTG A
4692 GAM336294 GAGATGGAGTTTTACTATGTTG A
4693 GAM336427 GATCAGATTTCCTTATTTATCT A
4694 GAM336274 GAAGATGTTTAACAAATCATTT A
4695 GAM3513 CACTGCAAGCTCCACCTCCCGG A
4696 GAM4814 CACTGCAACCTCTGCCTCCTGG B
4696 GAM336879 CACTGCAACCTCTGCCTCCTGG B
4697 GAM1310 CACTGCAACCCCCCGCCTCCCAG A
4698 GAM336628 CCAGGCAACTGTGTTTTTTAAG A
4698 GAM336629 CCAGGCAACTGTGTTTTTTAAG A
4699 GAM5371 CCCAGGCTGGAGTGCAGTGGTG B
4700 GAM337059 CCAAAGTGCTGGGATTACAGGC A
4701 GAM361 CATTGCACTCCAGCCTAGGCAA A
4701 GAM4707 CATTGCACTCCAGCCTAGGCAA A
4702 GAM336703 CACTGCACTCAGCCTGGGTGAC A
4703 GAM336586 CACTGCACTCCAGCCCGGCAAC A
4704 GAM336921 CACTGCACTCCAGCCTGGGTAA A
4704 GAM336922 CACTGCACTCCAGCCTGGGTAA A
4705 GAM772 GCCAGGATGAAGAGGAGGAGAA A
4706 GAM336468 GCCTCCATTTCTACATCTCTA A
4707 GAM1238 TGCACCACTGCACTCCAGCCTG A
4708 GAM336723 TTGCACTCCAGCCTGGGTGACA A
4709 GAM750 TTCTCATTGGCCCACAGGGGTA A
4709 GAM1887 TTCTCATTGGCCCACAGGGGTA A
4710 GAM7366 TATTGCACTCCAGCCTGGGCAA A
4711 GAM337188 TGCACCAATGCACTCCAGCCTG A
4711 GAM337189 TGCACCAATGCACTCCAGCCTG A
4712 GAM3747 TGGCACAGATCAGCAGAACAGG A
4713 GAM336565 TTCTGCCACTGCATTCCAGCCT A
4714 GAM1543 ATTGCACTCCAGCCTGGGTGAC A
4714 GAM336573 ATTGCACTCCAGCCTGGGTGAC A
4714 GAM336575 ATTGCACTCCAGCCTGGGTGAC A
4714 GAM336582 ATTGCACTCCAGCCTGGGTGAC A
4715 GAM8311 CACTGCACTCCAGCCTGGGTGA A
4716 GAM336304 CACTGCACTCCAGCCTAGGCAA A
4717 GAM336251 CACTGCACTCCAGCCTGGGCGA A
4717 GAM336633 CACTGCACTCCAGCCTGGGCGA A
4718 GAM3183 AGTGCAGGTTCACAGGCTGGGC A
4719 GAM643 GTAGACAGCAAGAAAATGAAGA A
4720 GAM834 GGCAGGATCATAGCTCACTGCA A
4721 GAM337462 GCCATTGCACTCCAGCCTGGGC A
4722 GAM337545 GCCATTGCACTCCAGCCTGGAC A
4723 GAM336313 CCACTGCACTCCAGCCTGGGTG A
4724 GAM269 CATTGCACTCCAGCCTGGGTGA A

4724	GAM337157	CATTGCACTCCAGCCTGGGTGA	A
4725	GAM347	CTCCTAGGCTGGAGTGCAGTGG	B
4726	GAM336833	CTCAGTGGTTCAGACACTGTTT	A
4726	GAM336834	CTCAGTGGTTCAGACACTGTTT	A
4727	GAM336617	ACTGCACTCCAGCCTGGCAACA	A
4728	GAM8489	ACAAGGCAGGGCAGGTGTCTGT	B
4729	GAM337130	ACTGCACTCCAGCCTGGGCGAT	A
4730	GAM336697	ACTGTACTCCAGCCTGGGTGAC	A
4731	GAM4650	ACTGCACTCCAGCCTGGGTGAT	A
4731	GAM336764	ACTGCACTCCAGCCTGGGTGAT	A
4731	GAM336765	ACTGCACTCCAGCCTGGGTGAT	A
4732	GAM336681	ACTGCACTCCAGCCTGGGTGGC	A
4733	GAM336267	ACTGCACTCCAGCCTGGCGACA	A
4733	GAM336578	ACTGCACTCCAGCCTGGCGACA	A
4733	GAM336579	ACTGCACTCCAGCCTGGCGACA	A
4734	GAM330	ACTGCACTCCAGCCTGGGTGAC	A
4734	GAM2440	ACTGCACTCCAGCCTGGGTGAC	A
4734	GAM5058	ACTGCACTCCAGCCTGGGTGAC	A
4734	GAM336382	ACTGCACTCCAGCCTGGGTGAC	A
4734	GAM336675	ACTGCACTCCAGCCTGGGTGAC	A
4734	GAM336768	ACTGCACTCCAGCCTGGGTGAC	A
4734	GAM337041	ACTGCACTCCAGCCTGGGTGAC	A
4734	GAM337460	ACTGCACTCCAGCCTGGGTGAC	A
4735	GAM337314	ATTGCACTTCAGCCTGGGTGAC	A
4736	GAM7371	AGAAGGTTGGGGCTGGAGGTCT	A
4737	GAM337111	ACTGTACTTCAGCCTGGGTAAC	A
4737	GAM337112	ACTGTACTTCAGCCTGGGTAAC	A
4737	GAM337113	ACTGTACTTCAGCCTGGGTAAC	A

GAM NAME PRECUR PRECURSOR GAM DESCRIPTION
SEQ-ID SEQUENCE
========= ====== ==========
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=
GAM25 140475 GAGGCAGGAG Fig. 8 further provides a conceptual description of a novel bioinformatically

AATTGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCCAGGAAG Messenger 25 (GAM25) oligonucleotides modulates expression of respective target genes

TGGAGGCTTC whose function and utility is known in the art.

AGTGAGCTGA GAM25 is a novel bioinformatically detectable regulatory, non protein coding,
GAACACGCCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM25 was detected is

CTGCACTCCA described with additional reference to Figs. 9-15.

GTCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAGAGCAAG encoded by the human genome.

ACTCTGTCTC GAM25 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM25
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM25

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM25 precursor RNA is designated SEQ ID:140475, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140475 is located from position 52222126 to position 52222224 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM25 precursor RNA folds onto itself, forming GAM25 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM25 precursor RNA, designated SEQ ID NO: 140475, and a schematic representation of a predicted secondary folding of GAM25 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM25 folded precursor RNA yielding a GAM25 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM25 RNA, hereby incorporated herein. Expression of GAM25 RNA was

experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM25 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM25 target RNA, herein designated GAM TARGET RNA. GAM25 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM25 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM25 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM25 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM25 RNA, herein designated GAM RNA, to target binding sites on GAM25 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE

I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM25 target RNA into GAM25 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM25 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM25 target genes. The mRNA of each one of this plurality of GAM25 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM25 RNA, herein designated GAM RNA, and which when bound by GAM25 RNA causes inhibition of translation of the GAM25 target mRNA into a corresponding GAM25 target protein.

The mechanism of the translational inhibition exerted by GAM25 RNA, herein designated GAM RNA, on one or more GAM25 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM25 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM25 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM25 RNA, herein designated GAM RNA, of GAM25 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM25 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM25 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM25 RNA correlate with, and may be deduced from, the identity of the GAM25 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM31 140476 GGCTGTGGCT Fig. 8 further provides a conceptual description of another novel bioinformatically
GGATTCAAGT detected oligonucleotides of the present invention, referred to here as Genomic Address
AATCCAGGAT Messenger 31 (GAM31) oligonucleotides modulates expression of respective target genes

AGGCTGTTTC whose function and utility is known in the art.

CATCTGTGAG GAM31 is a novel bioinformatically detectable regulatory, non protein coding,
GCCTATTCTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM31 was detected is

GATTACTTGT described with additional reference to Figs. 9-15.

TTCTGGAGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGCT encoded by the human genome.

GAM31 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM31 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM31

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM31 precursor RNA is designated SEQ ID:140476, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140476 is located from position 57935139 to position 57935222 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM31 precursor RNA folds onto itself, forming GAM31 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM31 precursor RNA, designated SEQ ID NO: 140476, and a schematic representation of a predicted secondary folding of GAM31 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM31 folded precursor RNA

yielding a GAM31 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM31 RNA, hereby incorporated herein.

GAM31 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM31 target RNA, herein designated GAM TARGET RNA. GAM31 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM31 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM31 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM31 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM31 RNA, herein designated GAM RNA, to target binding sites on GAM31 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE

I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM31 target RNA into GAM31 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM31 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM31 target genes. The mRNA of each one of this plurality of GAM31 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM31 RNA, herein designated GAM RNA, and which when bound by GAM31 RNA causes inhibition of translation of the GAM31 target mRNA into a corresponding GAM31 target protein.

The mechanism of the translational inhibition exerted by GAM31 RNA, herein designated GAM RNA, on one or more GAM31 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM31 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM31 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM31 RNA, herein designated GAM RNA, of GAM31 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM31 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM31 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM31 RNA correlate with, and may be deduced from, the identity of the GAM31 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM44 140477 GAAAAGGTGG TGTCATGTTT TGGGGAGAAT CTTACTTCTC AAATGGAAAT TGCACTTTTT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 44 (GAM44) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM44 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM44 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM44 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM44 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM44 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM44 precursor RNA is designated SEQ ID:140477, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140477 is located from position 48222380 to position 48222439 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM44 precursor RNA folds onto itself, forming GAM44 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM44 precursor RNA, designated SEQ ID NO: 140477, and a schematic representation of a predicted secondary folding of GAM44 folded precursor RNA,

herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM44 folded precursor RNA yielding a GAM44 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM44 RNA, hereby incorporated herein.

GAM44 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM44 target RNA, herein designated GAM TARGET RNA. GAM44 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM44 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM44 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM44 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM44 RNA, herein designated GAM RNA, to target binding sites on GAM44 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE

I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM44 target RNA into GAM44 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM44 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM44 target genes. The mRNA of each one of this plurality of GAM44 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM44 RNA, herein designated GAM RNA, and which when bound by GAM44 RNA causes inhibition of translation of the GAM44 target mRNA into a corresponding GAM44 target protein.

The mechanism of the translational inhibition exerted by GAM44 RNA, herein designated GAM RNA, on one or more GAM44 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM44 precursor RNA, herein designated GAM PRECURSOR

RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM44 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM44 RNA, herein designated GAM RNA, of GAM44 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM44 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM44 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM44 RNA correlate with, and may be deduced from, the identity of the GAM44 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM55 140478 ACTGGAAATC Fig. 8 further provides a conceptual description of another novel bioinformatically
ACTGCCATTT detected oligonucleotides of the present invention, referred to here as Genomic Address
CCAGGAGATC Messenger 55 (GAM55) oligonucleotides modulates expression of respective target genes

ACCTATCCTA whose function and utility is known in the art.

GTTTTGAGGA GAM55 is a novel bioinformatically detectable regulatory, non protein coding,
ATAGTCATTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM55 was detected is

AGGTGGGTTT described with additional reference to Figs. 9-15.

CCTTAATGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATCTCTTCTA encoded by the human genome.

GT GAM55 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM55

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM55

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM55 precursor RNA is designated SEQ ID:140478, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140478 is located from position 69071144 to position 69071235 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM55 precursor RNA folds onto itself, forming GAM55 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM55 precursor RNA, designated SEQ ID NO: 140478, and a schematic representation of a predicted secondary folding of GAM55 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM55 folded precursor RNA yielding a GAM55 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM55 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM55 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM55 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM55 target RNA, herein designated GAM TARGET RNA. GAM55 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM55 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM55 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM55 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM55 RNA, herein designated GAM RNA, to target binding sites on GAM55 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE

I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM55 target RNA into GAM55 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM55 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM55 target genes. The mRNA of each one of this plurality of GAM55 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM55 RNA, herein designated GAM RNA, and which when bound by GAM55 RNA causes inhibition of translation of the GAM55 target mRNA into a corresponding GAM55 target protein.

The mechanism of the translational inhibition exerted by GAM55 RNA, herein designated GAM RNA, on one or more GAM55 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM55 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM55 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM55 RNA, herein designated GAM RNA, of GAM55 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM55 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM55 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM55 RNA correlate with, and may be deduced from, the identity of the GAM55 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM66 140479 AGTTTTGCAC Fig. 8 further provides a conceptual description of another novel bioinformatically
CTGAGACAGA detected oligonucleotides of the present invention, referred to here as Genomic Address
TAGCCTCACT Messenger 66 (GAM66) oligonucleotides modulates expression of respective target genes

CGCCTCACCC whose function and utility is known in the art.

TAGTCCTGGT GAM66 is a novel bioinformatically detectable regulatory, non protein coding,
GGCATTTGTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM66 was detected is

TCAGGTGCAA described with additional reference to Figs. 9-15.

AATT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM66 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM66 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM66

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM66 precursor RNA is designated SEQ ID:140479, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140479 is located from position 82042982 to position 82043055 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM66 precursor RNA folds onto itself, forming GAM66 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM66 precursor RNA, designated SEQ ID NO: 140479, and a schematic representation of a predicted secondary folding of GAM66 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM66 folded precursor RNA yielding a GAM66 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM66 RNA, hereby incorporated herein.

GAM66 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM66 target RNA, herein designated GAM TARGET RNA. GAM66 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM66 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM66 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM66 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM66 RNA, herein designated GAM RNA, to target binding sites on GAM66 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE

I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM66 target RNA into GAM66 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM66 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM66 target genes. The mRNA of each one of this plurality of GAM66 target genes comprises one or more target binding sites, each having a nucleotide

sequence which is at least partly complementary to GAM66 RNA, herein designated GAM RNA, and which when bound by GAM66 RNA causes inhibition of translation of the GAM66 target mRNA into a corresponding GAM66 target protein.

The mechanism of the translational inhibition exerted by GAM66 RNA, herein designated GAM RNA, on one or more GAM66 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM66 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM66 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM66 RNA, herein designated GAM RNA, of GAM66 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM66 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM66 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM66 RNA correlate with, and may be deduced from, the identity of the GAM66 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM83 140480 AAAGGATGAA Fig. 8 further provides a conceptual description of another novel bioinformatically
AAGGTGGTGT detected oligonucleotides of the present invention, referred to here as Genomic Address
CATGTTTTGG Messenger 83 (GAM83) oligonucleotides modulates expression of respective target genes

GGAGAATCTT whose function and utility is known in the art.

ACTTCTCAAA GAM83 is a novel bioinformatically detectable regulatory, non protein coding,
TGGAAATTGC micro RNA (miRNA)-like oligonucleotide. The method by which GAM83 was detected is

ACTTTTTGCT described with additional reference to Figs. 9-15.

GAATCCTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM83 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM83 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM83

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

to the nucleotide sequence of GAM83 precursor RNA is designated SEQ ID:140480, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140480 is located from position 48222373 to position 48222451 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM83 precursor RNA folds onto itself, forming GAM83 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM83 precursor RNA, designated SEQ ID NO: 140480, and a schematic representation of a predicted secondary folding of GAM83 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM83 folded precursor RNA yielding a GAM83 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM83 RNA, hereby incorporated herein.

GAM83 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM83 target RNA, herein designated GAM TARGET RNA. GAM83 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM83 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM83 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM83 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM83 RNA, herein designated GAM RNA, to target binding sites on GAM83 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE

I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM83 target RNA into GAM83 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM83 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM83 target genes. The mRNA of each one of this plurality of GAM83 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM83 RNA, herein designated GAM RNA, and which when bound by GAM83 RNA causes inhibition of translation of the GAM83 target mRNA into a corresponding GAM83 target protein.

The mechanism of the translational inhibition exerted by GAM83 RNA, herein designated GAM RNA, on one or more GAM83 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM83 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM83 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM83 RNA, herein designated GAM RNA, of GAM83 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM83 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM83 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM83 RNA correlate with, and may be deduced from, the identity of the GAM83 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM99 140481 CCTTCAAAAA Fig. 8 further provides a conceptual description of another novel bioinformatically
GTTTGTAGCC detected oligonucleotides of the present invention, referred to here as Genomic Address
TATCGGGGTG Messenger 99 (GAM99) oligonucleotides modulates expression of respective target genes

GAGAGATAAG whose function and utility is known in the art.

CCAAGTATCC GAM99 is a novel bioinformatically detectable regulatory, non protein coding,
AGATAACCAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM99 was detected is

GGCATAAGGC described with additional reference to Figs. 9-15.

AGAATATTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTGTACTATG encoded by the human genome.

AGAGGTACAA GAM99 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM99

AGGGGAGGG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM99

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM99 precursor RNA is designated SEQ ID:140481, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140481 is located from position 102246140 to position 102246248 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM99 precursor RNA folds onto itself, forming GAM99 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM99 precursor RNA, designated SEQ ID NO: 140481, and a schematic representation of a predicted secondary folding of GAM99 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM99 folded precursor RNA yielding a GAM99 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM99 RNA, hereby incorporated herein.

GAM99 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM99 target RNA, herein designated GAM TARGET RNA. GAM99 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM99 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM99 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM99 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM99 RNA, herein designated GAM RNA, to target

binding sites on GAM99 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM99 target RNA into GAM99 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM99 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM99 target genes. The mRNA of each one of this plurality of GAM99 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM99 RNA, herein designated GAM RNA, and which when bound by GAM99 RNA causes inhibition of translation of the GAM99 target mRNA into a corresponding GAM99 target protein.

The mechanism of the translational inhibition exerted by GAM99 RNA, herein designated GAM RNA, on one or more GAM99 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM99 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM99 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM99 RNA, herein designated GAM RNA, of GAM99 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM99 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM99 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM99 RNA correlate with, and may be deduced from, the identity of the GAM99 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM100 140482 ATCAACACAA TAATTGAAAT ATTTTCAAGC TGATTACACC GCAGCCCGAG GCTAGCCTGG TTGCTAAGGG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 100 (GAM100) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM100 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM100 was detected is described with additional reference to Figs. 9-15.

TGAGCTCCGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGTTGCTAGG encoded by the human genome.

GGGAGTAAAT GAM100 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM100

CATCTTGCAT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM100

TATTTGATTT precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar TTGTTATAGA to the nucleotide sequence of GAM100 precursor RNA is designated SEQ ID:140482, and is

T provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140482 is located from position 1018990 to position 1019120 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM100 precursor RNA folds onto itself, forming GAM100 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM100 precursor RNA, designated SEQ ID NO: 140482, and a schematic representation of a predicted secondary folding of GAM100 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM100 folded precursor RNA yielding a GAM100 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM100 RNA, hereby incorporated herein.

GAM100 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM100 target RNA, herein designated GAM TARGET RNA. GAM100 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM100 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM100 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM100 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM100 RNA, herein designated GAM RNA, to target binding sites on GAM100 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM100 target RNA into GAM100 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM100 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM100 target genes. The mRNA of each one of this plurality of GAM100 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM100 RNA, herein designated GAM RNA, and which when bound by GAM100 RNA causes inhibition of translation of the GAM100 target mRNA into a corresponding GAM100 target protein.

The mechanism of the translational inhibition exerted by GAM100 RNA, herein designated GAM RNA, on one or more GAM100 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM100 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM100 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM100 RNA, herein designated GAM RNA, of GAM100 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM100 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM100 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM100 RNA correlate with, and may be deduced from, the identity of the GAM100 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM106 140483 TGGGGCCTTG GTAATATAGG AAACCTTCTT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 106 (GAM106) oligonucleotides modulates expression of respective target genes

GCCAATATAG whose function and utility is known in the art.

GAATATGTTG GAM106 is a novel bioinformatically detectable regulatory, non protein coding, ACATATTAGC micro RNA (miRNA)-like oligonucleotide. The method by which GAM106 was detected is

TATAGCAAAA described with additional reference to Figs. 9-15.

GGCTTATATT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGCACCGAAT encoded by the human genome.

GAGGCTCTG GAM106 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM106
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM106
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM106 precursor RNA is designated SEQ ID:140483, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140483 is located from position 13445760 to position 13445858 relative to chromosome chr20 on the `-` strand (chr is an abbreviation for chromosome).

GAM106 precursor RNA folds onto itself, forming GAM106 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM106 precursor RNA, designated SEQ ID NO: 140483, and a schematic representation of a predicted secondary folding of GAM106 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM106 folded precursor RNA yielding a GAM106 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM106 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM106 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM106 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM106 target RNA, herein designated GAM TARGET RNA. GAM106 target RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM106 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM106 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM106 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM106 RNA, herein designated GAM RNA, to target binding sites on GAM106 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM106 target RNA into GAM106 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM106 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM106 target genes. The mRNA of each one of this plurality of GAM106 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM106 RNA, herein designated GAM RNA, and which when bound by GAM106 RNA causes inhibition of translation of the GAM106 target mRNA into a corresponding GAM106 target protein.

The mechanism of the translational inhibition exerted by GAM106 RNA, herein designated GAM RNA, on one or more GAM106 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM106 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM106 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM106 RNA, herein designated GAM RNA, of GAM106 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM106 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM106 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM106 RNA correlate with, and may be deduced from, the identity of the GAM106 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM112 140484 CAGTAAACAT Fig. 8 further provides a conceptual description of another novel bioinformatically
AAGTTCCTCA detected oligonucleotides of the present invention, referred to here as Genomic Address
GGAGAGTTTG Messenger 112 (GAM112) oligonucleotides modulates expression of respective target genes
ATGTGTGTCA whose function and utility is known in the art.

GGTGCTTAGA GAM112 is a novel bioinformatically detectable regulatory, non protein coding,
ACAGGGCCTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM112 was detected is

ATATATAATC described with additional reference to Figs. 9-15.

AGCCCATGAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGCTATTAC encoded by the human genome.

TG GAM112 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM112

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM112

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM112 precursor RNA is designated SEQ ID:140484, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140484 is located from position 47490562 to position 47490653 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM112 precursor RNA folds onto itself, forming GAM112 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM112 precursor RNA, designated SEQ ID NO: 140484, and a schematic representation of a predicted secondary folding of GAM112 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM112 folded precursor RNA yielding a GAM112 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM112 RNA, hereby incorporated herein.

GAM112 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM112 target RNA, herein designated GAM TARGET RNA. GAM112 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM112 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM112 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM112 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM112 RNA, herein designated GAM RNA, to target binding sites on GAM112 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM112 target RNA into GAM112 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM112 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM112 target genes. The mRNA of each one of this plurality of GAM112 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM112 RNA, herein designated GAM RNA, and which when bound by GAM112 RNA causes inhibition of translation of the GAM112 target mRNA into a corresponding GAM112 target protein.

The mechanism of the translational inhibition exerted by GAM112 RNA, herein designated GAM RNA, on one or more GAM112 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM112 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM112 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM112 RNA, herein designated GAM RNA, of GAM112 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM112 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM112 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7,

incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM112 RNA correlate with, and may be deduced from, the identity of the GAM112 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM144 140485 GTGATCCACA Fig. 8 further provides a conceptual description of another novel bioinformatically
CGCTGGCCCA detected oligonucleotides of the present invention, referred to here as Genomic Address
GGAGTTCGAC Messenger 144 (GAM144) oligonucleotides modulates expression of respective target genes
ATTTACCGCG whose function and utility is known in the art.

AGGTGGGCGG GAM144 is a novel bioinformatically detectable regulatory, non protein coding,
AGAGCCTGTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM144 was detected is

CCTGTGACGA described with additional reference to Figs. 9-15.

GGGATGAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM144 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM144

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM144
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM144 precursor RNA is designated SEQ ID:140485, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140485 is located from position 29007729 to position 29007806 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM144 precursor RNA folds onto itself, forming GAM144 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM144 precursor RNA, designated SEQ ID NO: 140485, and a schematic representation of a predicted secondary folding of GAM144 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM144 folded precursor RNA yielding a GAM144 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a

nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM144 RNA, hereby incorporated herein.

GAM144 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM144 target RNA, herein designated GAM TARGET RNA. GAM144 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM144 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM144 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM144 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM144 RNA, herein designated GAM RNA, to target binding sites on GAM144 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM144 target RNA into GAM144 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM144 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM144 target genes. The mRNA of each one of this plurality of GAM144 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM144 RNA, herein designated GAM RNA, and which when bound by GAM144 RNA causes inhibition of translation of the GAM144 target mRNA into a corresponding GAM144 target protein.

The mechanism of the translational inhibition exerted by GAM144 RNA, herein designated GAM RNA, on one or more GAM144 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM144 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM144 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM144 RNA, herein designated GAM RNA, of GAM144 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM144 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM144 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM144 RNA correlate with, and may be deduced from, the identity of the GAM144 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM175 140486 TGAACCAGCT Fig. 8 further provides a conceptual description of another novel bioinformatically
TCTCAGCTCT detected oligonucleotides of the present invention, referred to here as Genomic Address
ACTGTGTTTG Messenger 175 (GAM175) oligonucleotides modulates expression of respective target genes
ACCCTGTGTT whose function and utility is known in the art.

CAAGGTTAGG GAM175 is a novel bioinformatically detectable regulatory, non protein coding,
GGAATTATAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM175 was detected is

TTTCCCAGGT described with additional reference to Figs. 9-15.

CTCCATCGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGGGTAATCA encoded by the human genome.

GAGGGGCAGA GAM175 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM175
GAAGGCTTCA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM175
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM175 precursor RNA is designated SEQ ID:140486, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140486 is located from position 94175190 to position 94175299 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM175 precursor RNA folds onto itself, forming GAM175 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM175 precursor RNA, designated SEQ ID NO: 140486, and a schematic representation of a predicted secondary folding of GAM175 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM175 folded precursor RNA yielding a GAM175 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM175 RNA, hereby incorporated herein.

GAM175 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM175 target RNA, herein designated GAM TARGET RNA. GAM175 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM175 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM175 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM175 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM175 RNA, herein designated GAM RNA, to target binding sites on GAM175 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM175 target RNA into GAM175 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM175 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM175 target genes. The mRNA of each one of this plurality of GAM175 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM175 RNA, herein designated GAM RNA, and which when bound by GAM175 RNA causes inhibition of translation of the GAM175 target mRNA into a corresponding GAM175 target protein.

The mechanism of the translational inhibition exerted by GAM175 RNA, herein designated GAM RNA, on one or more GAM175 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM175 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM175 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM175 RNA, herein designated GAM RNA, of GAM175 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM175 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM175 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM175 RNA correlate with, and may be deduced from, the identity of the GAM175 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM189 140487 GAAGTTCCAG Fig. 8 further provides a conceptual description of another novel bioinformatically
GCTGTAGTGC detected oligonucleotides of the present invention, referred to here as Genomic Address
ACTATGATGA Messenger 189 (GAM189) oligonucleotides modulates expression of respective target genes
TCGTACGTAT whose function and utility is known in the art.

GAACAGCCAT GAM189 is a novel bioinformatically detectable regulatory, non protein coding,
TGCACTCCAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM189 was detected is

CCTGGGCAAT described with additional reference to Figs. 9-15.

TC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM189 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM189

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM189
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM189 precursor RNA is designated SEQ ID:140487, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140487 is located from position 95450005 to position 95450076 relative to chromosome chr4 on the `+` strand (chr is an abbreviation for chromosome).

GAM189 precursor RNA folds onto itself, forming GAM189 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM189 precursor RNA, designated SEQ ID NO: 140487, and a schematic representation of a predicted secondary folding of GAM189 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM189 folded precursor RNA yielding a GAM189 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM189 RNA, hereby incorporated herein. Expression of GAM189 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM189 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM189 target RNA, herein designated GAM TARGET RNA. GAM189 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM189 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM189 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM189 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM189 RNA, herein designated GAM RNA, to target binding sites on GAM189 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE

I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM189 target RNA into GAM189 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM189 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM189 target genes. The mRNA of each one of this plurality of GAM189 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM189 RNA, herein designated GAM RNA, and which when bound by GAM189 RNA causes inhibition of translation of the GAM189 target mRNA into a corresponding GAM189 target protein.

The mechanism of the translational inhibition exerted by GAM189 RNA, herein designated GAM RNA, on one or more GAM189 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM189 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM189 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM189 RNA, herein designated GAM RNA, of GAM189 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM189 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM189 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM189 RNA correlate with, and may be deduced from, the identity of the GAM189 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM193 140488 GCTGGATATT Fig. 8 further provides a conceptual description of another novel bioinformatically
GCTAAGAATT detected oligonucleotides of the present invention, referred to here as Genomic Address
CAGGTAGTCT Messenger 193 (GAM193) oligonucleotides modulates expression of respective target genes
CGGGATCTCC whose function and utility is known in the art.

AGAGTCTCCA GAM193 is a novel bioinformatically detectable regulatory, non protein coding,
TACTAGGACA micro RNA (miRNA)-like oligonucleotide. The method by which GAM193 was detected is

GGAGATCTTC described with additional reference to Figs. 9-15.

AGAACCTGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGAATGGAAA encoded by the human genome.

TAGTCTAGT GAM193 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM193
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM193
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM193 precursor RNA is designated SEQ ID:140488, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ

ID:140488 is located from position 150223538 to position 150223636 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM193 precursor RNA folds onto itself, forming GAM193 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM193 precursor RNA, designated SEQ ID NO: 140488, and a schematic representation of a predicted secondary folding of GAM193 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM193 folded precursor RNA yielding a GAM193 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM193 RNA, hereby incorporated herein.

GAM193 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM193 target RNA, herein designated GAM TARGET RNA. GAM193 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM193 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM193 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM193 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM193 RNA, herein designated GAM RNA, to target binding sites on GAM193 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM193 target RNA into GAM193 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM193 target gene, herein designated GAM TARGET GENE, in

fact represents a plurality of GAM193 target genes. The mRNA of each one of this plurality of GAM193 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM193 RNA, herein designated GAM RNA, and which when bound by GAM193 RNA causes inhibition of translation of the GAM193 target mRNA into a corresponding GAM193 target protein.

The mechanism of the translational inhibition exerted by GAM193 RNA, herein designated GAM RNA, on one or more GAM193 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM193 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM193 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM193 RNA, herein designated GAM RNA, of GAM193 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM193 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM193 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM193 RNA correlate with, and may be deduced from, the identity of the GAM193 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM205 140489 TCAGGCCTGG Fig. 8 further provides a conceptual description of another novel bioinformatically
AGCCCAGGAA detected oligonucleotides of the present invention, referred to here as Genomic Address
GTCTGGTTTC Messenger 205 (GAM205) oligonucleotides modulates expression of respective target genes
GAATTTCATG whose function and utility is known in the art.

CTTCTAACCT GAM205 is a novel bioinformatically detectable regulatory, non protein coding,
GAGCACTGTA micro RNA (miRNA)-like oligonucleotide. The method by which GAM205 was detected is

CTGCTTGGTG described with additional reference to Figs. 9-15.

GAGTTCTCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTAGTCCTAC encoded by the human genome.

CTTTCAGGCA GAM205 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM205

GA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM205

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM205 precursor RNA is designated SEQ ID:140489, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140489 is located from position 34136693 to position 34136794 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM205 precursor RNA folds onto itself, forming GAM205 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM205 precursor RNA, designated SEQ ID NO: 140489, and a schematic representation of a predicted secondary folding of GAM205 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM205 folded precursor RNA yielding a GAM205 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM205 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM205 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM205 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM205 target RNA, herein designated GAM TARGET RNA. GAM205 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM205 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM205 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM205 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM205 RNA, herein designated GAM RNA, to target binding sites on GAM205 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE

I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM205 target RNA into GAM205 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM205 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM205 target genes. The mRNA of each one of this plurality of GAM205 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM205 RNA, herein designated GAM RNA, and which when bound by GAM205 RNA causes inhibition of translation of the GAM205 target mRNA into a corresponding GAM205 target protein.

The mechanism of the translational inhibition exerted by GAM205 RNA, herein designated GAM RNA, on one or more GAM205 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM205 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM205 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM205 RNA, herein designated GAM RNA, of GAM205 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM205 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM205 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM205 RNA correlate with, and may be deduced from, the identity of the GAM205 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM206 140490 ACAATAGTCT Fig. 8 further provides a conceptual description of another novel bioinformatically
AAGAGCTAAC detected oligonucleotides of the present invention, referred to here as Genomic Address
TAGTTGCACT Messenger 206 (GAM206) oligonucleotides modulates expression of respective target genes
TGTCTTTACC whose function and utility is known in the art.

CTAGAGGCTT GAM206 is a novel bioinformatically detectable regulatory, non protein coding,
GCTAAATAAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM206 was detected is

GCATACTTTC described with additional reference to Figs. 9-15.

TGGAGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTGCAGGGGT encoded by the human genome.

CGCTTCTGTT GAM206 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM206

TGT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM206

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM206 precursor RNA is designated SEQ ID:140490, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140490 is located from position 63676328 to position 63676430 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM206 precursor RNA folds onto itself, forming GAM206 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM206 precursor RNA, designated SEQ ID NO: 140490, and a schematic representation of a predicted secondary folding of GAM206 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM206 folded precursor RNA yielding a GAM206 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM206 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM206 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM206 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM206 target RNA, herein designated GAM TARGET RNA. GAM206 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM206 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM206 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM206 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM206 RNA, herein designated GAM RNA, to target binding sites on GAM206 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM206 target RNA into GAM206 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM206 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM206 target genes. The mRNA of each one of this plurality of GAM206 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM206 RNA, herein designated GAM RNA, and which when bound by GAM206 RNA causes inhibition of translation of the GAM206 target mRNA into a corresponding GAM206 target protein.

The mechanism of the translational inhibition exerted by GAM206 RNA, herein designated GAM RNA, on one or more GAM206 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM206 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM206 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM206 RNA, herein designated GAM RNA, of GAM206 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM206 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM206 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM206 RNA correlate with, and may be deduced from, the identity of the GAM206 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM240 140491 TGGTTTAGCT TAGGAACAGC ATCTGGCACA Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 240 (GAM240) oligonucleotides modulates expression of respective target genes

TAGTAAGTGT whose function and utility is known in the art.

TCAGTGAACG GAM240 is a novel bioinformatically detectable regulatory, non protein coding,
TTAGCTATTA micro RNA (miRNA)-like oligonucleotide. The method by which GAM240 was detected is

CCATCATCAC described with additional reference to Figs. 9-15.

TATTAATGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGCTAGTGAC encoded by the human genome.

TGTCCTGAGT GAM240 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM240
TACATTA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM240

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM240 precursor RNA is designated SEQ ID:140491, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140491 is located from position 73803662 to position 73803768 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM240 precursor RNA folds onto itself, forming GAM240 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM240 precursor RNA, designated SEQ ID NO: 140491, and a schematic representation of a predicted secondary folding of GAM240 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM240 folded precursor RNA yielding a GAM240 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM240 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM240 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM240 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM240 target RNA, herein designated GAM TARGET RNA. GAM240 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM240 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM240 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM240 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM240 RNA, herein designated GAM RNA, to target binding sites on GAM240 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM240 target RNA into GAM240 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM240 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM240 target genes. The mRNA of each one of this plurality of GAM240 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM240 RNA, herein designated GAM RNA, and which when bound by GAM240 RNA causes inhibition of translation of the GAM240 target mRNA into a corresponding GAM240 target protein.

The mechanism of the translational inhibition exerted by GAM240 RNA, herein designated GAM RNA, on one or more GAM240 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM240 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM240 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM240 RNA, herein designated GAM RNA, of GAM240 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM240 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM240 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM240 RNA correlate with, and may be deduced from, the identity of the GAM240 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM259 140492 CAAGTTGTGA Fig. 8 further provides a conceptual description of another novel bioinformatically
CCTTCCCAGT detected oligonucleotides of the present invention, referred to here as Genomic Address
CCTCTCTCCA Messenger 259 (GAM259) oligonucleotides modulates expression of respective target genes
TTTGCAGATC whose function and utility is known in the art.

AGCAAGCTTC GAM259 is a novel bioinformatically detectable regulatory, non protein coding,
TGTCAGCAAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM259 was detected is

GAGGGGTGGA described with additional reference to Figs. 9-15.

CAATGAAACT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGGTTCAGCT encoded by the human genome.

TG GAM259 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM259

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM259

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM259 precursor RNA is designated SEQ ID:140492, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140492 is located from position 97689223 to position 97689314 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM259 precursor RNA folds onto itself, forming GAM259 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM259 precursor RNA, designated SEQ ID NO: 140492, and a schematic representation of a predicted secondary folding of GAM259 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM259 folded precursor RNA yielding a GAM259 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM259 RNA, hereby incorporated herein.

GAM259 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM259 target RNA, herein designated GAM TARGET RNA. GAM259 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM259 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM259 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM259 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM259 RNA, herein designated GAM RNA, to target binding sites on GAM259 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM259 target RNA into GAM259 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM259 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM259 target genes. The mRNA of each one of this plurality of GAM259 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM259 RNA, herein designated GAM RNA, and which when bound by GAM259 RNA causes inhibition of translation of the GAM259 target mRNA into a corresponding GAM259 target protein.

The mechanism of the translational inhibition exerted by GAM259 RNA, herein designated GAM RNA, on one or more GAM259 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM259 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM259 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM259 RNA, herein designated GAM RNA, of GAM259 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM259 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM259 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7,

incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM259 RNA correlate with, and may be deduced from, the identity of the GAM259 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM269 140493 GAGGTAAGTT Fig. 8 further provides a conceptual description of another novel bioinformatically
TGAACCCAGG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGGGAGAGGT Messenger 269 (GAM269) oligonucleotides modulates expression of respective target genes
TGTGGTGAGC whose function and utility is known in the art.

CAAGATGGCA GAM269 is a novel bioinformatically detectable regulatory, non protein coding,
CCATTGCACT micro RNA (miRNA)-like oligonucleotide. The method by which GAM269 was detected is

CCAGCCTGGG described with additional reference to Figs. 9-15.

TGACAGAGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGACTTC encoded by the human genome.

GAM269 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM269

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM269

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM269 precursor RNA is designated SEQ ID:140493, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140493 is located from position 75439944 to position 75440030 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM269 precursor RNA folds onto itself, forming GAM269 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM269 precursor RNA, designated SEQ ID NO: 140493, and a schematic representation of a predicted secondary folding of GAM269 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM269 folded precursor RNA yielding a GAM269 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a

nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM269 RNA, hereby incorporated herein.

GAM269 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM269 target RNA, herein designated GAM TARGET RNA. GAM269 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM269 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM269 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM269 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM269 RNA, herein designated GAM RNA, to target binding sites on GAM269 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM269 target RNA into GAM269 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM269 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM269 target genes. The mRNA of each one of this plurality of GAM269 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM269 RNA, herein designated GAM RNA, and which when bound by GAM269 RNA causes inhibition of translation of the GAM269 target mRNA into a corresponding GAM269 target protein.

The mechanism of the translational inhibition exerted by GAM269 RNA, herein designated GAM RNA, on one or more GAM269 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM269 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM269 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM269 RNA, herein designated GAM RNA, of GAM269 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM269 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM269 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM269 RNA correlate with, and may be deduced from, the identity of the GAM269 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM270 140494 ATGGGTAGCA Fig. 8 further provides a conceptual description of another novel bioinformatically
TGAACTAAGG detected oligonucleotides of the present invention, referred to here as Genomic Address
TAGATAAAGG Messenger 270 (GAM270) oligonucleotides modulates expression of respective target genes
CTTCACGTGG whose function and utility is known in the art.

TGTTTGGCAT GAM270 is a novel bioinformatically detectable regulatory, non protein coding,
GGCGTAGGTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM270 was detected is

TAGATTGGAC described with additional reference to Figs. 9-15.

CTCAGTTTTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGCCCAT encoded by the human genome.

GAM270 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM270

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM270

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM270 precursor RNA is designated SEQ ID:140494, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140494 is located from position 46553863 to position 46553949 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM270 precursor RNA folds onto itself, forming GAM270 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM270 precursor RNA, designated SEQ ID NO: 140494, and a schematic representation of a predicted secondary folding of GAM270 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM270 folded precursor RNA yielding a GAM270 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM270 RNA, hereby incorporated herein.

GAM270 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM270 target RNA, herein designated GAM TARGET RNA. GAM270 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM270 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM270 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM270 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM270 RNA, herein designated GAM RNA, to target binding sites on GAM270 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM270 target RNA into GAM270 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM270 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM270 target genes. The mRNA of each one of this plurality of GAM270 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM270 RNA, herein designated GAM RNA, and which when bound by GAM270 RNA causes inhibition of translation of the GAM270 target mRNA into a corresponding GAM270 target protein.

The mechanism of the translational inhibition exerted by GAM270 RNA, herein designated GAM RNA, on one or more GAM270 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM270 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM270 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM270 RNA, herein designated GAM RNA, of GAM270 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM270 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM270 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM270 RNA correlate with, and may be deduced from, the identity of the GAM270 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM281 140495 GAGGTGGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
GATTGCTTGT detected oligonucleotides of the present invention, referred to here as Genomic Address
TCCCCGGAGG Messenger 281 (GAM281) oligonucleotides modulates expression of respective target genes
TTGAAGCTAC whose function and utility is known in the art.

AGTGAGCCTT GAM281 is a novel bioinformatically detectable regulatory, non protein coding,
GATTGTGTCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM281 was detected is

CTGCACTCCA described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGGTAAGAC encoded by the human genome.

TCTGTCTC GAM281 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM281
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM281
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM281 precursor RNA is designated SEQ ID:140495, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140495 is located from position 51464300 to position 51464397 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM281 precursor RNA folds onto itself, forming GAM281 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM281 precursor RNA, designated SEQ ID NO: 140495, and a schematic representation of a predicted secondary folding of GAM281 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM281 folded precursor RNA yielding a GAM281 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM281 RNA, hereby incorporated herein. Expression of GAM281 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM281 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM281 target RNA, herein designated GAM TARGET RNA. GAM281 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM281 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM281 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM281 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM281 RNA, herein designated GAM RNA, to target binding sites on GAM281 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE

I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM281 target RNA into GAM281 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM281 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM281 target genes. The mRNA of each one of this plurality of GAM281 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM281 RNA, herein designated GAM RNA, and which when bound by GAM281 RNA causes inhibition of translation of the GAM281 target mRNA into a corresponding GAM281 target protein.

The mechanism of the translational inhibition exerted by GAM281 RNA, herein designated GAM RNA, on one or more GAM281 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM281 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM281 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM281 RNA, herein designated GAM RNA, of GAM281 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM281 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM281 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM281 RNA correlate with, and may be deduced from, the identity of the GAM281 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM282 140496 GGCTTTAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
ATCGCCTGGC detected oligonucleotides of the present invention, referred to here as Genomic Address
TCTACCCTCT Messenger 282 (GAM282) oligonucleotides modulates expression of respective target genes
CACTTCATGG whose function and utility is known in the art.

CTACAGATAC GAM282 is a novel bioinformatically detectable regulatory, non protein coding,
TTGTGCCCTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM282 was detected is

AGAGAGCAAG described with additional reference to Figs. 9-15.

TGAATTTCCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AAAGCC encoded by the human genome.

GAM282 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM282

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM282

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM282 precursor RNA is designated SEQ ID:140496, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ

ID:140496 is located from position 117492532 to position 117492617 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM282 precursor RNA folds onto itself, forming GAM282 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM282 precursor RNA, designated SEQ ID NO: 140496, and a schematic representation of a predicted secondary folding of GAM282 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM282 folded precursor RNA yielding a GAM282 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM282 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM282 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM282 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM282 target RNA, herein designated GAM TARGET RNA. GAM282 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM282 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM282 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM282 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM282 RNA, herein designated GAM RNA, to target binding sites on GAM282 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM282 target RNA into GAM282 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM282 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM282 target genes. The mRNA of each one of this plurality of GAM282 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM282 RNA, herein designated GAM RNA, and which when bound by GAM282 RNA causes inhibition of translation of the GAM282 target mRNA into a corresponding GAM282 target protein.

The mechanism of the translational inhibition exerted by GAM282 RNA, herein designated GAM RNA, on one or more GAM282 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM282 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM282 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM282 RNA, herein designated GAM RNA, of GAM282 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM282 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM282 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM282 RNA correlate with, and may be deduced from, the identity of the GAM282 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM291 140497 TGGGCCAGAT Fig. 8 further provides a conceptual description of another novel bioinformatically
AGTTCTCTGT detected oligonucleotides of the present invention, referred to here as Genomic Address
TGTTGGGGGA Messenger 291 (GAM291) oligonucleotides modulates expression of respective target genes
TTTCTTGTGC whose function and utility is known in the art.

ATTGTGGGAG GAM291 is a novel bioinformatically detectable regulatory, non protein coding,
ATTTCCCATC micro RNA (miRNA)-like oligonucleotide. The method by which GAM291 was detected is

TTTCCTCACT described with additional reference to Figs. 9-15.

TCTACCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM291 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM291 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM291 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM291 precursor RNA is designated SEQ ID:140497, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140497 is located from position 9780990 to position 9781067 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM291 precursor RNA folds onto itself, forming GAM291 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM291 precursor RNA, designated SEQ ID NO: 140497, and a schematic representation of a predicted secondary folding of GAM291 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM291 folded precursor RNA yielding a GAM291 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM291 RNA, hereby incorporated herein.

GAM291 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM291 target RNA, herein designated GAM TARGET RNA. GAM291 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM291 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM291 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM291 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM291 RNA, herein designated GAM RNA, to target

binding sites on GAM291 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM291 target RNA into GAM291 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM291 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM291 target genes. The mRNA of each one of this plurality of GAM291 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM291 RNA, herein designated GAM RNA, and which when bound by GAM291 RNA causes inhibition of translation of the GAM291 target mRNA into a corresponding GAM291 target protein.

The mechanism of the translational inhibition exerted by GAM291 RNA, herein designated GAM RNA, on one or more GAM291 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM291 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM291 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM291 RNA, herein designated GAM RNA, of GAM291 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM291 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM291 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM291 RNA correlate with, and may be deduced from, the identity of the GAM291 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM317 140498 GGCAGAGGAG GGCTCACTTT TCAAAGTTCC AAATAGGGCA AAATGTGTGT TTCCCTAGGA

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 317 (GAM317) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM317 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM317 was detected is

AGTATTTTTT described with additional reference to Figs. 9-15.

AAAAACATTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTGAGATAGA encoded by the human genome.

GTCTTGCTCT GAM317 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM317

GTC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM317

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM317 precursor RNA is designated SEQ ID:140498, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140498 is located from position 4462631 to position 4462733 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM317 precursor RNA folds onto itself, forming GAM317 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM317 precursor RNA, designated SEQ ID NO: 140498, and a schematic representation of a predicted secondary folding of GAM317 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM317 folded precursor RNA yielding a GAM317 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM317 RNA, hereby incorporated herein.

GAM317 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM317 target RNA, herein designated GAM TARGET RNA. GAM317 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM317 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM317 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM317 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM317 RNA, herein designated GAM RNA, to target binding sites on GAM317 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM317 target RNA into GAM317 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM317 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM317 target genes. The mRNA of each one of this plurality of GAM317 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM317 RNA, herein designated GAM RNA, and which when bound by GAM317 RNA causes inhibition of translation of the GAM317 target mRNA into a corresponding GAM317 target protein.

The mechanism of the translational inhibition exerted by GAM317 RNA, herein designated GAM RNA, on one or more GAM317 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM317 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM317 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM317 RNA, herein designated GAM RNA, of GAM317 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM317 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM317 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM317 RNA correlate with, and may be deduced from, the identity of the GAM317 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM329 140499 GGTGGTGGGT GTGAGGAAGG GCTGGGCACT Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 329 (GAM329) oligonucleotides modulates expression of respective target genes

TTCACTGTCT whose function and utility is known in the art.

TTTCCTTCAT GAM329 is a novel bioinformatically detectable regulatory, non protein coding, AAACTGGCAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM329 was detected is

GCACTACC described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM329 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM329

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM329

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM329 precursor RNA is designated SEQ ID:140499, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140499 is located from position 37420113 to position 37420180 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM329 precursor RNA folds onto itself, forming GAM329 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM329 precursor RNA, designated SEQ ID NO: 140499, and a schematic representation of a predicted secondary folding of GAM329 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM329 folded precursor RNA yielding a GAM329 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM329 RNA, hereby incorporated herein.

GAM329 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM329 target RNA, herein designated GAM TARGET RNA. GAM329 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM329 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM329 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM329 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM329 RNA, herein designated GAM RNA, to target binding sites on GAM329 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM329 target RNA into GAM329 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM329 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM329 target genes. The mRNA of each one of this plurality of GAM329 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM329 RNA, herein designated GAM RNA, and which when bound by GAM329 RNA causes inhibition of translation of the GAM329 target mRNA into a corresponding GAM329 target protein.

The mechanism of the translational inhibition exerted by GAM329 RNA, herein designated GAM RNA, on one or more GAM329 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM329 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM329 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM329 RNA, herein designated GAM RNA, of GAM329 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM329 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM329 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM329 RNA correlate with, and may be deduced from, the identity of the GAM329 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM330 140500 GAGAATTGCT Fig. 8 further provides a conceptual description of another novel bioinformatically
TGAACCCAGG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGGTGGAGGT Messenger 330 (GAM330) oligonucleotides modulates expression of respective target genes
TGCAGTGAGC whose function and utility is known in the art.

CGAGATCACG GAM330 is a novel bioinformatically detectable regulatory, non protein coding,
CTACTGCACT micro RNA (miRNA)-like oligonucleotide. The method by which GAM330 was detected is

CCAGCCTGGG described with additional reference to Figs. 9-15.

TGACAGAGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGACTC encoded by the human genome.

GAM330 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM330

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM330

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM330 precursor RNA is designated SEQ ID:140500, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140500 is located from position 102423230 to position 102423315 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM330 precursor RNA folds onto itself, forming GAM330 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM330 precursor RNA, designated SEQ ID NO: 140500, and a schematic representation of a predicted secondary folding of GAM330 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM330 folded precursor RNA yielding a GAM330 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM330 RNA, hereby incorporated herein.

GAM330 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM330 target RNA, herein designated GAM TARGET RNA. GAM330 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM330 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM330 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM330 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM330 RNA, herein designated GAM RNA, to target binding sites on GAM330 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM330 target RNA into GAM330 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM330 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM330 target genes. The mRNA of each one of this plurality of GAM330 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM330 RNA, herein designated GAM RNA, and which when bound by GAM330 RNA causes inhibition of translation of the GAM330 target mRNA into a corresponding GAM330 target protein.

The mechanism of the translational inhibition exerted by GAM330 RNA, herein designated GAM RNA, on one or more GAM330 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM330 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM330 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM330 RNA, herein designated GAM RNA, of GAM330 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM330 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM330 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7,

incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM330 RNA correlate with, and may be deduced from, the identity of the GAM330 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM335 140501 CAACCCAGTA Fig. 8 further provides a conceptual description of another novel bioinformatically
AGTGTCCCCA detected oligonucleotides of the present invention, referred to here as Genomic Address
GTCAATGCTT Messenger 335 (GAM335) oligonucleotides modulates expression of respective target genes
CTCTCCATAG whose function and utility is known in the art.

GAGACCTGTA GAM335 is a novel bioinformatically detectable regulatory, non protein coding,
AATGGGCGGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM335 was detected is

GGGGGGAGGA described with additional reference to Figs. 9-15.

ATTTTCTGGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTCACACACT encoded by the human genome.

ATTATGGGTT GAM335 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM335
G precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM335
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM335 precursor RNA is designated SEQ ID:140501, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140501 is located from position 22176932 to position 22177032 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM335 precursor RNA folds onto itself, forming GAM335 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM335 precursor RNA, designated SEQ ID NO: 140501, and a schematic representation of a predicted secondary folding of GAM335 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM335 folded precursor RNA yielding a GAM335 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a

nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM335 RNA, hereby incorporated herein.

GAM335 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM335 target RNA, herein designated GAM TARGET RNA. GAM335 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM335 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM335 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM335 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM335 RNA, herein designated GAM RNA, to target binding sites on GAM335 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM335 target RNA into GAM335 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM335 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM335 target genes. The mRNA of each one of this plurality of GAM335 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM335 RNA, herein designated GAM RNA, and which when bound by GAM335 RNA causes inhibition of translation of the GAM335 target mRNA into a corresponding GAM335 target protein.

The mechanism of the translational inhibition exerted by GAM335 RNA, herein designated GAM RNA, on one or more GAM335 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM335 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM335 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM335 RNA, herein designated GAM RNA, of GAM335 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM335 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM335 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM335 RNA correlate with, and may be deduced from, the identity of the GAM335 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM347 140502 AGTCTCACTC Fig. 8 further provides a conceptual description of another novel bioinformatically
TGTCTCCTAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GCTGGAGTGC Messenger 347 (GAM347) oligonucleotides modulates expression of respective target genes
AGTGGCGTGA whose function and utility is known in the art.

TCTCATCTCA GAM347 is a novel bioinformatically detectable regulatory, non protein coding,
TTGCAACCTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM347 was detected is

CACCTCCTGG described with additional reference to Figs. 9-15.

ATTCAAGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTCT encoded by the human genome.

GAM347 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM347

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM347

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM347 precursor RNA is designated SEQ ID:140502, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140502 is located from position 37269373 to position 37269456 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM347 precursor RNA folds onto itself, forming GAM347 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM347 precursor RNA, designated SEQ ID NO: 140502, and a schematic representation of a predicted secondary folding of GAM347 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM347 folded precursor RNA yielding a GAM347 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM347 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM347 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM347 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM347 target RNA, herein designated GAM TARGET RNA. GAM347 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM347 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM347 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM347 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM347 RNA, herein designated GAM RNA, to target binding sites on GAM347 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM347 target RNA into GAM347 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM347 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM347 target genes. The mRNA of each one of this plurality of GAM347 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM347 RNA, herein designated GAM RNA, and which when bound by GAM347 RNA causes inhibition of translation of the GAM347 target mRNA into a corresponding GAM347 target protein.

The mechanism of the translational inhibition exerted by GAM347 RNA, herein designated GAM RNA, on one or more GAM347 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM347 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM347 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM347 RNA, herein designated GAM RNA, of GAM347 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM347 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM347 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM347 RNA correlate with, and may be deduced from, the identity of the GAM347 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM353 140503 TACAGATATT Fig. 8 further provides a conceptual description of another novel bioinformatically

CTGAAAACTT detected oligonucleotides of the present invention, referred to here as Genomic Address

TAAGTTCAGT Messenger 353 (GAM353) oligonucleotides modulates expression of respective target genes

AATATGCCAG whose function and utility is known in the art.

GGGTTCCCAA GAM353 is a novel bioinformatically detectable regulatory, non protein coding,

GACCACTTGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM353 was detected is

GACCTGGTAA described with additional reference to Figs. 9-15.

TTTATTGGAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTCTCTAAGG encoded by the human genome.

GAATCAGAAG GAM353 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM353

CTGTA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM353

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM353 precursor RNA is designated SEQ ID:140503, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140503 is located from position 61973580 to position 61973684 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM353 precursor RNA folds onto itself, forming GAM353 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM353 precursor RNA, designated SEQ ID NO: 140503, and a schematic representation of a predicted secondary folding of GAM353 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM353 folded precursor RNA yielding a GAM353 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM353 RNA, hereby incorporated herein.

GAM353 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM353 target RNA, herein designated GAM TARGET RNA. GAM353 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM353 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM353 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM353 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM353 RNA, herein designated GAM RNA, to target binding sites on GAM353 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM353 target RNA into GAM353 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM353 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM353 target genes. The mRNA of each one of this plurality of GAM353 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM353 RNA, herein designated GAM RNA, and which when bound by GAM353 RNA causes inhibition of translation of the GAM353 target mRNA into a corresponding GAM353 target protein.

The mechanism of the translational inhibition exerted by GAM353 RNA, herein

designated GAM RNA, on one or more GAM353 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM353 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM353 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM353 RNA, herein designated GAM RNA, of GAM353 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM353 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM353 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM353 RNA correlate with, and may be deduced from, the identity of the GAM353 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM354 140504 GGCAGAGCGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TGCCTCTCTG detected oligonucleotides of the present invention, referred to here as Genomic Address
CAGGCCGTGT Messenger 354 (GAM354) oligonucleotides modulates expression of respective target genes
GCTTTGCTCG whose function and utility is known in the art.

GTTGATCTTG GAM354 is a novel bioinformatically detectable regulatory, non protein coding,
CAGAGCCTAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM354 was detected is

GACACAGGCC described with additional reference to Figs. 9-15.

CAGAGAGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTGATCGCC encoded by the human genome.

GAM354 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM354

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM354

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM354 precursor RNA is designated SEQ ID:140504, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140504 is located from position 50818302 to position 50818390 relative to chromosome

chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM354 precursor RNA folds onto itself, forming GAM354 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM354 precursor RNA, designated SEQ ID NO: 140504, and a schematic representation of a predicted secondary folding of GAM354 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM354 folded precursor RNA yielding a GAM354 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM354 RNA, hereby incorporated herein.

GAM354 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM354 target RNA, herein designated GAM TARGET RNA. GAM354 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM354 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM354 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM354 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM354 RNA, herein designated GAM RNA, to target binding sites on GAM354 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE

I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM354 target RNA into GAM354 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM354 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM354 target genes. The mRNA of each one of this plurality

of GAM354 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM354 RNA, herein designated GAM RNA, and which when bound by GAM354 RNA causes inhibition of translation of the GAM354 target mRNA into a corresponding GAM354 target protein.

The mechanism of the translational inhibition exerted by GAM354 RNA, herein designated GAM RNA, on one or more GAM354 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM354 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM354 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM354 RNA, herein designated GAM RNA, of GAM354 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM354 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM354 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM354 RNA correlate with, and may be deduced from, the identity of the GAM354 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM361 140505 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATCGTTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCTGGGAG Messenger 361 (GAM361) oligonucleotides modulates expression of respective target genes
GCGGAGGTTG whose function and utility is known in the art.

TGTTGAGCCG GAM361 is a novel bioinformatically detectable regulatory, non protein coding,
AGATCTCGCC micro RNA (miRNA)-like oligonucleotide. The method by which GAM361 was detected is

ATTGCACTCC described with additional reference to Figs. 9-15.

AGCCTAGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAAGAGCGA encoded by the human genome.

AACTCCATCT GAM361 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM361

CA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM361

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM361 precursor RNA is designated SEQ ID:140505, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140505 is located from position 94524959 to position 94525060 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM361 precursor RNA folds onto itself, forming GAM361 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM361 precursor RNA, designated SEQ ID NO: 140505, and a schematic representation of a predicted secondary folding of GAM361 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM361 folded precursor RNA yielding a GAM361 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM361 RNA, hereby incorporated herein.

GAM361 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM361 target RNA, herein designated GAM TARGET RNA. GAM361 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM361 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM361 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM361 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM361 RNA, herein designated GAM RNA, to target binding sites on GAM361 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE

I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM361 target RNA into GAM361 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM361 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM361 target genes. The mRNA of each one of this plurality of GAM361 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM361 RNA, herein designated GAM RNA, and which when bound by GAM361 RNA causes inhibition of translation of the GAM361 target mRNA into a corresponding GAM361 target protein.

The mechanism of the translational inhibition exerted by GAM361 RNA, herein designated GAM RNA, on one or more GAM361 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM361 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM361 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM361 RNA, herein designated GAM RNA, of GAM361 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM361 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM361 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM361 RNA correlate with, and may be deduced from, the identity of the GAM361 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM367 140506 TGAGGTAAGT Fig. 8 further provides a conceptual description of another novel bioinformatically
ATGTTATTGG detected oligonucleotides of the present invention, referred to here as Genomic Address
AAAGGTGTGA Messenger 367 (GAM367) oligonucleotides modulates expression of respective target genes
TCTATATAGA whose function and utility is known in the art.

ACCCTGTACA GAM367 is a novel bioinformatically detectable regulatory, non protein coding,
TGAAAAGGAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM367 was detected is

GAGATGCCGC described with additional reference to Figs. 9-15.

TATCTTGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGGATGATCA encoded by the human genome.

TGTATTTGAA GAM367 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM367

ATAGTAACTC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM367

ACAGCA precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM367 precursor RNA is designated SEQ ID:140506, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140506 is located from position 121833627 to position 121833742 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM367 precursor RNA folds onto itself, forming GAM367 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM367 precursor RNA, designated SEQ ID NO: 140506, and a schematic representation of a predicted secondary folding of GAM367 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM367 folded precursor RNA yielding a GAM367 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM367 RNA, hereby incorporated herein.

GAM367 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM367 target RNA, herein designated GAM TARGET RNA. GAM367 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM367 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM367 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM367 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM367 RNA, herein designated GAM RNA, to target binding sites on GAM367 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM367 target RNA into GAM367 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM367 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM367 target genes. The mRNA of each one of this plurality of GAM367 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM367 RNA, herein designated GAM RNA, and which when bound by GAM367 RNA causes inhibition of translation of the GAM367 target mRNA into a corresponding GAM367 target protein.

The mechanism of the translational inhibition exerted by GAM367 RNA, herein designated GAM RNA, on one or more GAM367 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM367 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM367 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM367 RNA, herein designated GAM RNA, of GAM367 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM367 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM367 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM367 RNA correlate with, and may be deduced from, the identity of the GAM367 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM372 140507 GCCGCACCTC CCCCAGCCCT GTGCTCACCT CCCTAAACAG Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 372 (GAM372) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

ACTCTGGAGT GAM372 is a novel bioinformatically detectable regulatory, non protein coding, TCAAGATCCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM372 was detected is

GTGTCCAATG described with additional reference to Figs. 9-15.

CACCATGGGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAATTCACAG encoded by the human genome.

CAGTGGTGGA GAM372 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM372

GGCAGCAGC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM372

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM372 precursor RNA is designated SEQ ID:140507, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140507 is located from position 551191 to position 551299 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM372 precursor RNA folds onto itself, forming GAM372 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM372 precursor RNA, designated SEQ ID NO: 140507, and a schematic representation of a predicted secondary folding of GAM372 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM372 folded precursor RNA yielding a GAM372 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM372 RNA, hereby incorporated herein.

GAM372 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM372 target RNA, herein designated GAM TARGET RNA. GAM372 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM372 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM372 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the

nucleotide sequence of GAM372 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM372 RNA, herein designated GAM RNA, to target binding sites on GAM372 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM372 target RNA into GAM372 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM372 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM372 target genes. The mRNA of each one of this plurality of GAM372 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM372 RNA, herein designated GAM RNA, and which when bound by GAM372 RNA causes inhibition of translation of the GAM372 target mRNA into a corresponding GAM372 target protein.

The mechanism of the translational inhibition exerted by GAM372 RNA, herein designated GAM RNA, on one or more GAM372 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM372 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM372 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM372 RNA, herein designated GAM RNA, of GAM372 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM372 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM372 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM372 RNA correlate with, and may be deduced from, the identity of the GAM372 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM388 140508 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 388 (GAM388) oligonucleotides modulates expression of respective target genes

GTTTGTTACA whose function and utility is known in the art.

TATGTATACA GAM388 is a novel bioinformatically detectable regulatory, non protein coding,

TGTGCCATGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM388 was detected is

TGGTGTGCTG described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM388 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM388 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM388 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM388 precursor RNA is designated SEQ ID:140508, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140508 is located from position 16098435 to position 16098516 relative to chromosome chr1 on the `-` strand (chr is an abbreviation for chromosome).

GAM388 precursor RNA folds onto itself, forming GAM388 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM388 precursor RNA, designated SEQ ID NO: 140508, and a schematic representation of a predicted secondary folding of GAM388 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM388 folded precursor RNA yielding a GAM388 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM388 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM388 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM388 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM388 target RNA, herein designated GAM TARGET RNA. GAM388 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM388 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM388 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM388 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM388 RNA, herein designated GAM RNA, to target binding sites on GAM388 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM388 target RNA into GAM388 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM388 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM388 target genes. The mRNA of each one of this plurality of GAM388 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM388 RNA, herein designated GAM RNA, and which when bound by GAM388 RNA causes inhibition of translation of the GAM388 target mRNA into a corresponding GAM388 target protein.

The mechanism of the translational inhibition exerted by GAM388 RNA, herein designated GAM RNA, on one or more GAM388 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM388 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM388 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM388 RNA, herein designated GAM RNA, of GAM388 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM388 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM388 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7,

incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM388 RNA correlate with, and may be deduced from, the identity of the GAM388 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM401 140509 AGAGAGAGTC Fig. 8 further provides a conceptual description of another novel bioinformatically
TCACTCTGTC detected oligonucleotides of the present invention, referred to here as Genomic Address
GCCCAGGCTG Messenger 401 (GAM401) oligonucleotides modulates expression of respective target genes
GAGTGCAGTG whose function and utility is known in the art.

GTGTGATCTC GAM401 is a novel bioinformatically detectable regulatory, non protein coding,
GGCTCACTGC micro RNA (miRNA)-like oligonucleotide. The method by which GAM401 was detected is

AACCTCTGCC described with additional reference to Figs. 9-15.

TTCCGGATTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AAGTGATTCT encoded by the human genome.

CCT GAM401 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM401

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM401

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM401 precursor RNA is designated SEQ ID:140509, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140509 is located from position 14110787 to position 14110879 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM401 precursor RNA folds onto itself, forming GAM401 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM401 precursor RNA, designated SEQ ID NO: 140509, and a schematic representation of a predicted secondary folding of GAM401 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM401 folded precursor RNA yielding a GAM401 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a

nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM401 RNA, hereby incorporated herein.

GAM401 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM401 target RNA, herein designated GAM TARGET RNA. GAM401 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM401 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM401 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM401 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM401 RNA, herein designated GAM RNA, to target binding sites on GAM401 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM401 target RNA into GAM401 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM401 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM401 target genes. The mRNA of each one of this plurality of GAM401 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM401 RNA, herein designated GAM RNA, and which when bound by GAM401 RNA causes inhibition of translation of the GAM401 target mRNA into a corresponding GAM401 target protein.

The mechanism of the translational inhibition exerted by GAM401 RNA, herein designated GAM RNA, on one or more GAM401 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM401 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM401 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM401 RNA, herein designated GAM RNA, of GAM401 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM401 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM401 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM401 RNA correlate with, and may be deduced from, the identity of the GAM401 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM408 140510 GGACTGAAAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AGAACTGGGA detected oligonucleotides of the present invention, referred to here as Genomic Address
TGGAGGAGAA Messenger 408 (GAM408) oligonucleotides modulates expression of respective target genes
TTAGAGGATG whose function and utility is known in the art.

GTGTGGTGTT GAM408 is a novel bioinformatically detectable regulatory, non protein coding,
TCCCAAGACA micro RNA (miRNA)-like oligonucleotide. The method by which GAM408 was detected is

TCCCCTGATC described with additional reference to Figs. 9-15.

TTGCTATCCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGCATCTCCT encoded by the human genome.

AGACC GAM408 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM408
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM408
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM408 precursor RNA is designated SEQ ID:140510, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140510 is located from position 62113790 to position 62113884 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GAM408 precursor RNA folds onto itself, forming GAM408 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM408 precursor RNA, designated SEQ ID NO: 140510, and a schematic representation of a predicted secondary folding of GAM408 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM408 folded precursor RNA yielding a GAM408 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM408 RNA, hereby incorporated herein.

GAM408 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM408 target RNA, herein designated GAM TARGET RNA. GAM408 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM408 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM408 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM408 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM408 RNA, herein designated GAM RNA, to target binding sites on GAM408 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM408 target RNA into GAM408 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM408 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM408 target genes. The mRNA of each one of this plurality of GAM408 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM408 RNA, herein designated GAM RNA, and which when bound by GAM408 RNA causes inhibition of translation of the GAM408 target mRNA into a corresponding GAM408 target protein.

The mechanism of the translational inhibition exerted by GAM408 RNA, herein designated GAM RNA, on one or more GAM408 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM408 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM408 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM408 RNA, herein designated GAM RNA, of GAM408 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM408 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM408 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM408 RNA correlate with, and may be deduced from, the identity of the GAM408 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM411 140511 AACGAACTCC Fig. 8 further provides a conceptual description of another novel bioinformatically
TGGATGTCTA detected oligonucleotides of the present invention, referred to here as Genomic Address
TGTAGATGTC Messenger 411 (GAM411) oligonucleotides modulates expression of respective target genes
TCATAATTTA whose function and utility is known in the art.

GGCCAATGCT GAM411 is a novel bioinformatically detectable regulatory, non protein coding,
GTACAACTTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM411 was detected is

ATGTGGCATC described with additional reference to Figs. 9-15.

ATCCACATAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AATGAATAGG encoded by the human genome.

GGTTGTT GAM411 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM411
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM411
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM411 precursor RNA is designated SEQ ID:140511, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140511 is located from position 18080171 to position 18080267 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM411 precursor RNA folds onto itself, forming GAM411 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM411 precursor RNA, designated SEQ ID NO: 140511, and a schematic representation of a predicted secondary folding of GAM411 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM411 folded precursor RNA yielding a GAM411 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM411 RNA, hereby incorporated herein.

GAM411 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM411 target RNA, herein designated GAM TARGET RNA. GAM411 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM411 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM411 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM411 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM411 RNA, herein designated GAM RNA, to target binding sites on GAM411 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM411 target RNA into GAM411 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM411 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM411 target genes. The mRNA of each one of this plurality of GAM411 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM411 RNA, herein designated GAM RNA, and which when bound by GAM411 RNA causes inhibition of translation of the GAM411 target mRNA into a corresponding GAM411 target protein.

The mechanism of the translational inhibition exerted by GAM411 RNA, herein designated GAM RNA, on one or more GAM411 target genes, herein collectively designated GAM

TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM411 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM411 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM411 RNA, herein designated GAM RNA, of GAM411 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM411 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM411 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM411 RNA correlate with, and may be deduced from, the identity of the GAM411 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM426 140512 CCTCCTGCTG Fig. 8 further provides a conceptual description of another novel bioinformatically
AAGCTTCTGG detected oligonucleotides of the present invention, referred to here as Genomic Address
ATTTGAGAGG Messenger 426 (GAM426) oligonucleotides modulates expression of respective target genes
CTTTACTCTC whose function and utility is known in the art.

CAGGAGAGTG GAM426 is a novel bioinformatically detectable regulatory, non protein coding,
AAGCGAGTTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM426 was detected is

GGCCAGAGCT described with additional reference to Figs. 9-15.

GAGAGTCTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGG encoded by the human genome.

GAM426 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM426

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM426

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM426 precursor RNA is designated SEQ ID:140512, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140512 is located from position 6961619 to position 6961701 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM426 precursor RNA folds onto itself, forming GAM426 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM426 precursor RNA, designated SEQ ID NO: 140512, and a schematic representation of a predicted secondary folding of GAM426 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM426 folded precursor RNA yielding a GAM426 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM426 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM426 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM426 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM426 target RNA, herein designated GAM TARGET RNA. GAM426 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM426 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM426 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM426 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM426 RNA, herein designated GAM RNA, to target binding sites on GAM426 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM426 target RNA into GAM426 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM426 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM426 target genes. The mRNA of each one of this plurality

of GAM426 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM426 RNA, herein designated GAM RNA, and which when bound by GAM426 RNA causes inhibition of translation of the GAM426 target mRNA into a corresponding GAM426 target protein.

The mechanism of the translational inhibition exerted by GAM426 RNA, herein designated GAM RNA, on one or more GAM426 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM426 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM426 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM426 RNA, herein designated GAM RNA, of GAM426 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM426 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM426 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM426 RNA correlate with, and may be deduced from, the identity of the GAM426 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM492 140513 TGTCTATAGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GTATGTGGGC detected oligonucleotides of the present invention, referred to here as Genomic Address
CATTTTCTGC Messenger 492 (GAM492) oligonucleotides modulates expression of respective target genes
CCGTAAAATG whose function and utility is known in the art.

TTCAAATGTT GAM492 is a novel bioinformatically detectable regulatory, non protein coding,
TTCTCTCTCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM492 was detected is

AAAGCTTTGT described with additional reference to Figs. 9-15.

TCATTGTATC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGGTGGAATT encoded by the human genome.

TTGGTTCTCA GAM492 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM492

GGGAGTAGAC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM492

A precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM492 precursor RNA is designated SEQ ID:140513, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140513 is located from position 43642880 to position 43642990 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM492 precursor RNA folds onto itself, forming GAM492 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM492 precursor RNA, designated SEQ ID NO: 140513, and a schematic representation of a predicted secondary folding of GAM492 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM492 folded precursor RNA yielding a GAM492 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM492 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM492 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM492 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM492 target RNA, herein designated GAM TARGET RNA. GAM492 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM492 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM492 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM492 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM492 RNA, herein designated GAM RNA, to target binding sites on GAM492 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE

I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM492 target RNA into GAM492 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM492 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM492 target genes. The mRNA of each one of this plurality of GAM492 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM492 RNA, herein designated GAM RNA, and which when bound by GAM492 RNA causes inhibition of translation of the GAM492 target mRNA into a corresponding GAM492 target protein.

The mechanism of the translational inhibition exerted by GAM492 RNA, herein designated GAM RNA, on one or more GAM492 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM492 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM492 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM492 RNA, herein designated GAM RNA, of GAM492 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM492 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM492 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM492 RNA correlate with, and may be deduced from, the identity of the GAM492 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM495 140514 CCCGACCACT Fig. 8 further provides a conceptual description of another novel bioinformatically
AGCAGCCTCT detected oligonucleotides of the present invention, referred to here as Genomic Address
TTCAGTCACT Messenger 495 (GAM495) oligonucleotides modulates expression of respective target genes
GGAAAATGCT whose function and utility is known in the art.

TACAGGCAGT GAM495 is a novel bioinformatically detectable regulatory, non protein coding,
AGCCACCATC micro RNA (miRNA)-like oligonucleotide. The method by which GAM495 was detected is

ATGTGGCACA described with additional reference to Figs. 9-15.

AAGTGGGCAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CATCCTAGTG encoded by the human genome.

TCTAACATTT GAM495 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM495

AAGCTGTGGT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM495

TCTGG precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM495 precursor RNA is designated SEQ ID:140514, and is provided hereinbelow with reference to the sequence listing part.

GAM495 precursor RNA folds onto itself, forming GAM495 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM495 precursor RNA, designated SEQ ID NO: 140514, and a schematic representation of a predicted secondary folding of GAM495 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM495 folded precursor RNA yielding a GAM495 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM495 RNA, hereby incorporated herein. Expression of GAM495 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM495 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM495 target RNA, herein designated GAM TARGET RNA. GAM495 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM495 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM495 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM495 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM495 RNA, herein designated GAM RNA, to target binding sites on GAM495 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM495 target RNA into GAM495 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM495 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM495 target genes. The mRNA of each one of this plurality of GAM495 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM495 RNA, herein designated GAM RNA, and which when bound by GAM495 RNA causes inhibition of translation of the GAM495 target mRNA into a corresponding GAM495 target protein.

The mechanism of the translational inhibition exerted by GAM495 RNA, herein designated GAM RNA, on one or more GAM495 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM495 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM495 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM495 RNA, herein designated GAM RNA, of GAM495 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM495 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM495 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM495 RNA correlate with, and may be deduced from, the identity of the GAM495 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM500 140515 AAGGGGGAGA ATATGTGAAG GGGGCTTCCA TGGGAGGCTT Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 500 (GAM500) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

CGATGGCCCA GAM500 is a novel bioinformatically detectable regulatory, non protein coding, CCCACCCTTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM500 was detected is

CATTCTTCCT described with additional reference to Figs. 9-15.

CTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM500 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM500

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM500

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM500 precursor RNA is designated SEQ ID:140515, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140515 is located from position 66755215 to position 66755287 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM500 precursor RNA folds onto itself, forming GAM500 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM500 precursor RNA, designated SEQ ID NO: 140515, and a schematic representation of a predicted secondary folding of GAM500 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM500 folded precursor RNA yielding a GAM500 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM500 RNA, hereby incorporated herein.

GAM500 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM500 target RNA, herein designated GAM TARGET RNA. GAM500 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM500 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM500 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the

nucleotide sequence of GAM500 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM500 RNA, herein designated GAM RNA, to target binding sites on GAM500 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM500 target RNA into GAM500 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM500 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM500 target genes. The mRNA of each one of this plurality of GAM500 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM500 RNA, herein designated GAM RNA, and which when bound by GAM500 RNA causes inhibition of translation of the GAM500 target mRNA into a corresponding GAM500 target protein.

The mechanism of the translational inhibition exerted by GAM500 RNA, herein designated GAM RNA, on one or more GAM500 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM500 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM500 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM500 RNA, herein designated GAM RNA, of GAM500 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM500 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM500 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM500 RNA correlate with, and may be deduced from, the identity of the GAM500 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM507 140516 GGGAGACCCA Fig. 8 further provides a conceptual description of another novel bioinformatically
GGACCCGGGA detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGAGGTAGA Messenger 507 (GAM507) oligonucleotides modulates expression of respective target genes
GGGGAGCAGA whose function and utility is known in the art.

GACAGCCACC GAM507 is a novel bioinformatically detectable regulatory, non protein coding,
AGCTTCTATC micro RNA (miRNA)-like oligonucleotide. The method by which GAM507 was detected is

TTCTGCTCTA described with additional reference to Figs. 9-15.

AGCACATTCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTCACGAGTT encoded by the human genome.

TAAGTTTCCT GAM507 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM507
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM507
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM507 precursor RNA is designated SEQ ID:140516, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140516 is located from position 40608766 to position 40608865 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM507 precursor RNA folds onto itself, forming GAM507 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM507 precursor RNA, designated SEQ ID NO: 140516, and a schematic representation of a predicted secondary folding of GAM507 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM507 folded precursor RNA yielding a GAM507 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM507 RNA, hereby incorporated herein.

GAM507 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM507 target RNA, herein designated GAM TARGET RNA. GAM507 target RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated

region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM507 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM507 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM507 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM507 RNA, herein designated GAM RNA, to target binding sites on GAM507 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM507 target RNA into GAM507 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM507 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM507 target genes. The mRNA of each one of this plurality of GAM507 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM507 RNA, herein designated GAM RNA, and which when bound by GAM507 RNA causes inhibition of translation of the GAM507 target mRNA into a corresponding GAM507 target protein.

The mechanism of the translational inhibition exerted by GAM507 RNA, herein designated GAM RNA, on one or more GAM507 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM507 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM507 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM507 RNA, herein designated GAM RNA, of GAM507 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM507 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM507 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM507 RNA correlate with, and may be deduced from, the identity of the GAM507 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM519 140517 ACCTATTCCC Fig. 8 further provides a conceptual description of another novel bioinformatically
TGTGGCTTAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GTGAGCATGT Messenger 519 (GAM519) oligonucleotides modulates expression of respective target genes
GACCAGGCCT whose function and utility is known in the art.

GGCCTCCTGA GAM519 is a novel bioinformatically detectable regulatory, non protein coding,
GTCCCACAGC micro RNA (miRNA)-like oligonucleotide. The method by which GAM519 was detected is

TTCCTAGCCA described with additional reference to Figs. 9-15.

CAGTGATAAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGAATGGGT encoded by the human genome.

GAM519 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM519

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM519
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM519 precursor RNA is designated SEQ ID:140517, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140517 is located from position 32800605 to position 32800693 relative to chromosome chr18 on the `-` strand (chr is an abbreviation for chromosome).

GAM519 precursor RNA folds onto itself, forming GAM519 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM519 precursor RNA, designated SEQ ID NO: 140517, and a schematic representation of a predicted secondary folding of GAM519 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM519 folded precursor RNA yielding a GAM519 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM519 RNA: a nucleotide sequence that is highly

likely to be identical or highly similar to the nucleotide sequence of GAM519 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM519 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM519 target RNA, herein designated GAM TARGET RNA. GAM519 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM519 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM519 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM519 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM519 RNA, herein designated GAM RNA, to target binding sites on GAM519 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM519 target RNA into GAM519 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM519 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM519 target genes. The mRNA of each one of this plurality of GAM519 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM519 RNA, herein designated GAM RNA, and which when bound by GAM519 RNA causes inhibition of translation of the GAM519 target mRNA into a corresponding GAM519 target protein.

The mechanism of the translational inhibition exerted by GAM519 RNA, herein designated GAM RNA, on one or more GAM519 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM519 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM519 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM519 RNA, herein designated GAM RNA, of GAM519 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM519 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM519 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM519 RNA correlate with, and may be deduced from, the identity of the GAM519 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM520 140518 GTAGGAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
TCAGGGATTT detected oligonucleotides of the present invention, referred to here as Genomic Address
TCTGGTTTGA Messenger 520 (GAM520) oligonucleotides modulates expression of respective target genes
GAGACAATGA whose function and utility is known in the art.

CACACACCCC GAM520 is a novel bioinformatically detectable regulatory, non protein coding,
TAAGTTCACC micro RNA (miRNA)-like oligonucleotide. The method by which GAM520 was detected is

TTCTCTCGAA described with additional reference to Figs. 9-15.

TAGTAGGCCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGCTCTTAC encoded by the human genome.

GAM520 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM520

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM520

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM520 precursor RNA is designated SEQ ID:140518, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140518 is located from position 43020516 to position 43020604 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM520 precursor RNA folds onto itself, forming GAM520 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM520 precursor RNA, designated SEQ ID NO: 140518, and a schematic representation of a predicted secondary folding of GAM520 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM520 folded precursor RNA yielding a GAM520 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM520 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM520 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM520 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM520 target RNA, herein designated GAM TARGET RNA. GAM520 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM520 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM520 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM520 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM520 RNA, herein designated GAM RNA, to target binding sites on GAM520 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM520 target RNA into GAM520 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM520 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM520 target genes. The mRNA of each one of this plurality of GAM520 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM520 RNA, herein designated GAM RNA, and which when bound by GAM520 RNA causes inhibition of translation of the GAM520 target mRNA into a corresponding GAM520 target protein.

The mechanism of the translational inhibition exerted by GAM520 RNA, herein designated GAM RNA, on one or more GAM520 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM520 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM520 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM520 RNA, herein designated GAM RNA, of GAM520 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM520 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM520 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM520 RNA correlate with, and may be deduced from, the identity of the GAM520 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM550 140519 TAAATCTGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

CTGAGGGAAA detected oligonucleotides of the present invention, referred to here as Genomic Address

GCATGTCCAC Messenger 550 (GAM550) oligonucleotides modulates expression of respective target genes

ACCAGGTGCC whose function and utility is known in the art.

CAGACATCTG GAM550 is a novel bioinformatically detectable regulatory, non protein coding,

GTTGGCTTTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM550 was detected is

GCTGATTTGT described with additional reference to Figs. 9-15.

CCTGCAGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCTGCCTTGT encoded by the human genome.

CTGGATTTGC GAM550 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM550

ACACTTTCCA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM550

AGTTGCCCAT precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

TA to the nucleotide sequence of GAM550 precursor RNA is designated SEQ ID:140519, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140519 is located from position 28205837 to position 28205958 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM550 precursor RNA folds onto itself, forming GAM550 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM550 precursor RNA, designated SEQ ID NO: 140519, and a schematic representation of a predicted secondary folding of GAM550 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM550 folded precursor RNA yielding a GAM550 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM550 RNA, hereby incorporated herein.

GAM550 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM550 target RNA, herein designated GAM TARGET RNA. GAM550 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM550 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM550 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM550 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM550 RNA, herein designated GAM RNA, to target binding sites on GAM550 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM550 target RNA into GAM550 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM550 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM550 target genes. The mRNA of each one of this plurality of GAM550 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM550 RNA, herein designated GAM RNA, and which when bound by GAM550 RNA causes inhibition of translation of the GAM550 target mRNA into a corresponding GAM550 target protein.

The mechanism of the translational inhibition exerted by GAM550 RNA, herein

designated GAM RNA, on one or more GAM550 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM550 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM550 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM550 RNA, herein designated GAM RNA, of GAM550 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM550 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM550 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM550 RNA correlate with, and may be deduced from, the identity of the GAM550 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM556 140520 GTTGCTGTGC Fig. 8 further provides a conceptual description of another novel bioinformatically
AACTCAGATG detected oligonucleotides of the present invention, referred to here as Genomic Address
GCCATTATGT Messenger 556 (GAM556) oligonucleotides modulates expression of respective target genes
AGGTTTGCCC whose function and utility is known in the art.

TAGTGCTTAG GAM556 is a novel bioinformatically detectable regulatory, non protein coding,
CATGGCTTAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM556 was detected is

TCCATGGCCA described with additional reference to Figs. 9-15.

TCACTATGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACCCAGGTGG encoded by the human genome.

C GAM556 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM556

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM556

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM556 precursor RNA is designated SEQ ID:140520, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140520 is located from position 16838063 to position 16838153 relative to chromosome

chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM556 precursor RNA folds onto itself, forming GAM556 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM556 precursor RNA, designated SEQ ID NO: 140520, and a schematic representation of a predicted secondary folding of GAM556 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM556 folded precursor RNA yielding a GAM556 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM556 RNA, hereby incorporated herein.

GAM556 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM556 target RNA, herein designated GAM TARGET RNA. GAM556 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM556 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM556 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM556 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM556 RNA, herein designated GAM RNA, to target binding sites on GAM556 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM556 target RNA into GAM556 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM556 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM556 target genes. The mRNA of each one of this plurality

of GAM556 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM556 RNA, herein designated GAM RNA, and which when bound by GAM556 RNA causes inhibition of translation of the GAM556 target mRNA into a corresponding GAM556 target protein.

The mechanism of the translational inhibition exerted by GAM556 RNA, herein designated GAM RNA, on one or more GAM556 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM556 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM556 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM556 RNA, herein designated GAM RNA, of GAM556 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM556 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM556 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM556 RNA correlate with, and may be deduced from, the identity of the GAM556 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM569 140521 GAGTAAGGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
CAGAGCGCTG detected oligonucleotides of the present invention, referred to here as Genomic Address
CCTCTCTGCA Messenger 569 (GAM569) oligonucleotides modulates expression of respective target genes
GGCCGTGTGC whose function and utility is known in the art.

TTTGCTCGGT GAM569 is a novel bioinformatically detectable regulatory, non protein coding,
TGATCTTGCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM569 was detected is

GAGCCTAAGA described with additional reference to Figs. 9-15.

CACAGGCCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGAGGCAGT encoded by the human genome.

GATCGCCAAA GAM569 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM569

GATC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM569

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM569 precursor RNA is designated SEQ ID:140521, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140521 is located from position 50818294 to position 50818397 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM569 precursor RNA folds onto itself, forming GAM569 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM569 precursor RNA, designated SEQ ID NO: 140521, and a schematic representation of a predicted secondary folding of GAM569 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM569 folded precursor RNA yielding a GAM569 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM569 RNA, hereby incorporated herein.

GAM569 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM569 target RNA, herein designated GAM TARGET RNA. GAM569 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM569 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM569 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM569 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM569 RNA, herein designated GAM RNA, to target binding sites on GAM569 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE

I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM569 target RNA into GAM569 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM569 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM569 target genes. The mRNA of each one of this plurality of GAM569 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM569 RNA, herein designated GAM RNA, and which when bound by GAM569 RNA causes inhibition of translation of the GAM569 target mRNA into a corresponding GAM569 target protein.

The mechanism of the translational inhibition exerted by GAM569 RNA, herein designated GAM RNA, on one or more GAM569 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM569 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM569 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM569 RNA, herein designated GAM RNA, of GAM569 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM569 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM569 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM569 RNA correlate with, and may be deduced from, the identity of the GAM569 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM572 140522 AGAACAAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

CTAAATTCAA detected oligonucleotides of the present invention, referred to here as Genomic Address

ATCAAATTTT Messenger 572 (GAM572) oligonucleotides modulates expression of respective target genes

CCCTGTACCC whose function and utility is known in the art.

TAAGAAAAAT GAM572 is a novel bioinformatically detectable regulatory, non protein coding,

AATTAGGCCG micro RNA (miRNA)-like oligonucleotide. The method by which GAM572 was detected is

GGAGATGTTT described with additional reference to Figs. 9-15.

GACTAAGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTAGGCATTG encoded by the human genome.

TTCT GAM572 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM572 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM572 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM572 precursor RNA is designated SEQ ID:140522, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140522 is located from position 14718325 to position 14718418 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM572 precursor RNA folds onto itself, forming GAM572 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM572 precursor RNA, designated SEQ ID NO: 140522, and a schematic representation of a predicted secondary folding of GAM572 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM572 folded precursor RNA yielding a GAM572 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM572 RNA, hereby incorporated herein.

GAM572 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM572 target RNA, herein designated GAM TARGET RNA. GAM572 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM572 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM572 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM572 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM572 RNA, herein designated GAM RNA, to target binding sites on GAM572 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM572 target RNA into GAM572 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM572 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM572 target genes. The mRNA of each one of this plurality of GAM572 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM572 RNA, herein designated GAM RNA, and which when bound by GAM572 RNA causes inhibition of translation of the GAM572 target mRNA into a corresponding GAM572 target protein.

The mechanism of the translational inhibition exerted by GAM572 RNA, herein designated GAM RNA, on one or more GAM572 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM572 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM572 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM572 RNA, herein designated GAM RNA, of GAM572 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM572 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM572 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM572 RNA correlate with, and may be deduced from, the identity of the GAM572 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM584 140523 CTGAGGCACC TCCACTGGCC CCTTTGTGAG GCACGCTTGA Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 584 (GAM584) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

CCTGGGTTTC GAM584 is a novel bioinformatically detectable regulatory, non protein coding, ATGGAAAGAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM584 was detected is

TGTGCCCTCA described with additional reference to Figs. 9-15.

CCAAAGGGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTAAACAAGG encoded by the human genome.

CCCCAG GAM584 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM584 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM584 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM584 precursor RNA is designated SEQ ID:140523, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140523 is located from position 67800165 to position 67800260 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM584 precursor RNA folds onto itself, forming GAM584 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM584 precursor RNA, designated SEQ ID NO: 140523, and a schematic representation of a predicted secondary folding of GAM584 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM584 folded precursor RNA yielding a GAM584 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM584 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM584 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM584 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM584 target RNA, herein designated GAM TARGET RNA. GAM584 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM584 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM584 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM584 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM584 RNA, herein designated GAM RNA, to target binding sites on GAM584 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM584 target RNA into GAM584 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM584 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM584 target genes. The mRNA of each one of this plurality of GAM584 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM584 RNA, herein designated GAM RNA, and which when bound by GAM584 RNA causes inhibition of translation of the GAM584 target mRNA into a corresponding GAM584 target protein.

The mechanism of the translational inhibition exerted by GAM584 RNA, herein designated GAM RNA, on one or more GAM584 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM584 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM584 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM584 RNA, herein designated GAM RNA, of GAM584 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM584 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM584 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM584 RNA correlate with, and may be deduced from, the identity of the GAM584 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM588 140524 CAAAGAGGTG Fig. 8 further provides a conceptual description of another novel bioinformatically

TAGAATCTGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GTTGGTCCTT Messenger 588 (GAM588) oligonucleotides modulates expression of respective target genes

CAAGGCAGCT whose function and utility is known in the art.

CATTGCAGCT GAM588 is a novel bioinformatically detectable regulatory, non protein coding,

ACTGGCCTCC micro RNA (miRNA)-like oligonucleotide. The method by which GAM588 was detected is

AGTGAAACAG described with additional reference to Figs. 9-15.

GTCTCTTTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM588 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM588

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM588

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM588 precursor RNA is designated SEQ ID:140524, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140524 is located from position 45420375 to position 45420453 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM588 precursor RNA folds onto itself, forming GAM588 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM588 precursor RNA, designated SEQ ID NO: 140524, and a schematic representation of a predicted secondary folding of GAM588 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM588 folded precursor RNA yielding a GAM588 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM588 RNA, hereby incorporated herein.

GAM588 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM588 target RNA, herein designated GAM TARGET RNA. GAM588 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM588 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM588 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM588 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM588 RNA, herein designated GAM RNA, to target binding sites on GAM588 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM588 target RNA into GAM588 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM588 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM588 target genes. The mRNA of each one of this plurality of GAM588 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM588 RNA, herein designated GAM RNA, and which when bound by GAM588 RNA causes inhibition of translation of the GAM588 target mRNA into a corresponding GAM588 target protein.

The mechanism of the translational inhibition exerted by GAM588 RNA, herein designated GAM RNA, on one or more GAM588 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM588 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM588 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM588 RNA, herein designated GAM RNA, of GAM588 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM588 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM588 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7,

incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM588 RNA correlate with, and may be deduced from, the identity of the GAM588 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM593 140525 AGGCTCACAC Fig. 8 further provides a conceptual description of another novel bioinformatically
AGCAAGTCTT detected oligonucleotides of the present invention, referred to here as Genomic Address
TGTCAAAGCT Messenger 593 (GAM593) oligonucleotides modulates expression of respective target genes
TAGGAATGGA whose function and utility is known in the art.

AGTAGGTTGT GAM593 is a novel bioinformatically detectable regulatory, non protein coding,
CCCCTCCTAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM593 was detected is

TCATGGGATC described with additional reference to Figs. 9-15.

TCTCCAACTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACTAGACAAT encoded by the human genome.

CTTGCTTTAC GAM593 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM593
GTGCTGATGA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM593
ACATGCTCTG precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar
TGAGCAGCCT to the nucleotide sequence of GAM593 precursor RNA is designated SEQ ID:140525, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140525 is located from position 43562097 to position 43562226 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM593 precursor RNA folds onto itself, forming GAM593 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM593 precursor RNA, designated SEQ ID NO: 140525, and a schematic representation of a predicted secondary folding of GAM593 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM593 folded precursor RNA yielding a GAM593 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an

enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM593 RNA, hereby incorporated herein.

GAM593 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM593 target RNA, herein designated GAM TARGET RNA. GAM593 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM593 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM593 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM593 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM593 RNA, herein designated GAM RNA, to target binding sites on GAM593 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM593 target RNA into GAM593 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM593 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM593 target genes. The mRNA of each one of this plurality of GAM593 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM593 RNA, herein designated GAM RNA, and which when bound by GAM593 RNA causes inhibition of translation of the GAM593 target mRNA into a corresponding GAM593 target protein.

The mechanism of the translational inhibition exerted by GAM593 RNA, herein designated GAM RNA, on one or more GAM593 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM593 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM593 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM593 RNA, herein designated GAM RNA, of GAM593 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM593 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM593 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM593 RNA correlate with, and may be deduced from, the identity of the GAM593 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM604 140526 CTAGCTGCTG Fig. 8 further provides a conceptual description of another novel bioinformatically
CCAGCCAAGC detected oligonucleotides of the present invention, referred to here as Genomic Address
TGCTACCAGA Messenger 604 (GAM604) oligonucleotides modulates expression of respective target genes
CCAGCTCCTG whose function and utility is known in the art.

CGGAACTGGC GAM604 is a novel bioinformatically detectable regulatory, non protein coding,
TGTGGCATTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM604 was detected is

GTGGTGGCAT described with additional reference to Figs. 9-15.

TGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM604 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM604

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM604
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM604 precursor RNA is designated SEQ ID:140526, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140526 is located from position 39106109 to position 39106181 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM604 precursor RNA folds onto itself, forming GAM604 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM604 precursor RNA, designated SEQ ID NO: 140526, and a schematic representation of a predicted secondary folding of GAM604 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM604 folded precursor RNA yielding a GAM604 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM604 RNA, hereby incorporated herein.

GAM604 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM604 target RNA, herein designated GAM TARGET RNA. GAM604 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM604 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM604 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM604 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM604 RNA, herein designated GAM RNA, to target binding sites on GAM604 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM604 target RNA into GAM604 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM604 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM604 target genes. The mRNA of each one of this plurality of GAM604 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM604 RNA, herein designated GAM RNA, and which when bound by GAM604 RNA causes inhibition of translation of the GAM604 target mRNA into a corresponding GAM604 target protein.

The mechanism of the translational inhibition exerted by GAM604 RNA, herein designated GAM RNA, on one or more GAM604 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM604 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM604 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM604 RNA, herein designated GAM RNA, of GAM604 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM604 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM604 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM604 RNA correlate with, and may be deduced from, the identity of the GAM604 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM640 140527 GCTCGTTGCC Fig. 8 further provides a conceptual description of another novel bioinformatically
CAGGCTGGAG detected oligonucleotides of the present invention, referred to here as Genomic Address
TGCAATGGCG Messenger 640 (GAM640) oligonucleotides modulates expression of respective target genes
TGATCTTGGC whose function and utility is known in the art.

TCACCACAAC GAM640 is a novel bioinformatically detectable regulatory, non protein coding,
CTCCACTTCC micro RNA (miRNA)-like oligonucleotide. The method by which GAM640 was detected is

CAGGTTCAAG described with additional reference to Figs. 9-15.

CGATTCTCAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCCTTAGCCT encoded by the human genome.

CCCAAGTAGC GAM640 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM640
TGGGATTACA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM640
GGC precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM640 precursor RNA is designated SEQ ID:140527, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140527 is located from position 74052253 to position 74052365 relative to chromosome chr2 on the `-` strand (chr is an abbreviation for chromosome).

GAM640 precursor RNA folds onto itself, forming GAM640 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM640 precursor RNA, designated SEQ ID NO: 140527, and a schematic representation of a predicted secondary folding of GAM640 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM640 folded precursor RNA yielding a GAM640 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM640 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM640 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM640 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM640 target RNA, herein designated GAM TARGET RNA. GAM640 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM640 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM640 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM640 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM640 RNA, herein designated GAM RNA, to target binding sites on GAM640 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE

I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM640 target RNA into GAM640 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM640 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM640 target genes. The mRNA of each one of this plurality of GAM640 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM640 RNA, herein designated GAM RNA, and which when bound by GAM640 RNA causes inhibition of translation of the GAM640 target mRNA into a corresponding GAM640 target protein.

The mechanism of the translational inhibition exerted by GAM640 RNA, herein

designated GAM RNA, on one or more GAM640 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM640 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM640 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM640 RNA, herein designated GAM RNA, of GAM640 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM640 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM640 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM640 RNA correlate with, and may be deduced from, the identity of the GAM640 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM643 140528 TGGACTTCAT Fig. 8 further provides a conceptual description of another novel bioinformatically

TTTCTTTCAC detected oligonucleotides of the present invention, referred to here as Genomic Address

GCTGCTGCTT Messenger 643 (GAM643) oligonucleotides modulates expression of respective target genes

GCCCAGTGGG whose function and utility is known in the art.

TGTAGACAGC GAM643 is a novel bioinformatically detectable regulatory, non protein coding,

AAGAAAATGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM643 was detected is

AGAAAATCAG described with additional reference to Figs. 9-15.

TCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM643 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM643

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM643

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM643 precursor RNA is designated SEQ ID:140528, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140528 is located from position 59545007 to position 59545080 relative to chromosome

chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM643 precursor RNA folds onto itself, forming GAM643 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM643 precursor RNA, designated SEQ ID NO: 140528, and a schematic representation of a predicted secondary folding of GAM643 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM643 folded precursor RNA yielding a GAM643 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM643 RNA, hereby incorporated herein.

GAM643 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM643 target RNA, herein designated GAM TARGET RNA. GAM643 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM643 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM643 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM643 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM643 RNA, herein designated GAM RNA, to target binding sites on GAM643 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM643 target RNA into GAM643 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM643 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM643 target genes. The mRNA of each one of this plurality

of GAM643 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM643 RNA, herein designated GAM RNA, and which when bound by GAM643 RNA causes inhibition of translation of the GAM643 target mRNA into a corresponding GAM643 target protein.

The mechanism of the translational inhibition exerted by GAM643 RNA, herein designated GAM RNA, on one or more GAM643 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM643 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM643 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM643 RNA, herein designated GAM RNA, of GAM643 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM643 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM643 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM643 RNA correlate with, and may be deduced from, the identity of the GAM643 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM667 140529 GTGCCTCATC Fig. 8 further provides a conceptual description of another novel bioinformatically
TGTAGGTGGT detected oligonucleotides of the present invention, referred to here as Genomic Address
TGAGAGAATG Messenger 667 (GAM667) oligonucleotides modulates expression of respective target genes
AAAGGAGGTA whose function and utility is known in the art.

GCATGAGCAG GAM667 is a novel bioinformatically detectable regulatory, non protein coding,
GGCACTCAGC micro RNA (miRNA)-like oligonucleotide. The method by which GAM667 was detected is

TCGGAGGCAG described with additional reference to Figs. 9-15.

TGCCTAGCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACATTGCTTA encoded by the human genome.

TCTTCACTGT GAM667 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM667

GAATTTGGCT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM667
TTTTTCCTAC precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar TCTTGAATCT to the nucleotide sequence of GAM667 precursor RNA is designated SEQ ID:140529, and is
T provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140529 is located from position 44371974 to position 44372104 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM667 precursor RNA folds onto itself, forming GAM667 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM667 precursor RNA, designated SEQ ID NO: 140529, and a schematic representation of a predicted secondary folding of GAM667 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM667 folded precursor RNA yielding a GAM667 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM667 RNA, hereby incorporated herein.

GAM667 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM667 target RNA, herein designated GAM TARGET RNA. GAM667 target RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM667 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM667 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM667 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM667 RNA, herein designated GAM RNA, to target binding sites on GAM667 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE

I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM667 target RNA into GAM667 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM667 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM667 target genes. The mRNA of each one of this plurality of GAM667 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM667 RNA, herein designated GAM RNA, and which when bound by GAM667 RNA causes inhibition of translation of the GAM667 target mRNA into a corresponding GAM667 target protein.

The mechanism of the translational inhibition exerted by GAM667 RNA, herein designated GAM RNA, on one or more GAM667 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM667 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM667 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM667 RNA, herein designated GAM RNA, of GAM667 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM667 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM667 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM667 RNA correlate with, and may be deduced from, the identity of the GAM667 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM674 140530 CACAGCCAGT Fig. 8 further provides a conceptual description of another novel bioinformatically
TTCTTTGATG detected oligonucleotides of the present invention, referred to here as Genomic Address
ACTCAAAACG Messenger 674 (GAM674) oligonucleotides modulates expression of respective target genes
TACTTTGTGA whose function and utility is known in the art.

TCTTGCCAAG GAM674 is a novel bioinformatically detectable regulatory, non protein coding,
CTTTGAGATC micro RNA (miRNA)-like oligonucleotide. The method by which GAM674 was detected is

ATCGTTACAA described with additional reference to Figs. 9-15.

GCAGCATTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGTTGTG encoded by the human genome.

GAM674 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM674 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM674 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM674 precursor RNA is designated SEQ ID:140530, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140530 is located from position 43395844 to position 43395930 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM674 precursor RNA folds onto itself, forming GAM674 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM674 precursor RNA, designated SEQ ID NO: 140530, and a schematic representation of a predicted secondary folding of GAM674 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM674 folded precursor RNA yielding a GAM674 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM674 RNA, hereby incorporated herein.

GAM674 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM674 target RNA, herein designated GAM TARGET RNA. GAM674 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM674 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM674 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM674 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM674 RNA, herein designated GAM RNA, to target binding sites on GAM674 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM674 target RNA into GAM674 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM674 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM674 target genes. The mRNA of each one of this plurality of GAM674 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM674 RNA, herein designated GAM RNA, and which when bound by GAM674 RNA causes inhibition of translation of the GAM674 target mRNA into a corresponding GAM674 target protein.

The mechanism of the translational inhibition exerted by GAM674 RNA, herein designated GAM RNA, on one or more GAM674 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM674 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM674 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM674 RNA, herein designated GAM RNA, of GAM674 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM674 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM674 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM674 RNA correlate with, and may be deduced from, the identity of the GAM674 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM689 140531 GAGGCAGGAA Fig. 8 further provides a conceptual description of another novel bioinformatically
AATCGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCCAAGGCA Messenger 689 (GAM689) oligonucleotides modulates expression of respective target genes
GAGGTTGCAG whose function and utility is known in the art.

TCAGCAGATA GAM689 is a novel bioinformatically detectable regulatory, non protein coding, TTGCACCACT micro RNA (miRNA)-like oligonucleotide. The method by which GAM689 was detected is

GCACTCCAGC described with additional reference to Figs. 9-15.

CTGGGCAACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAGCAAGACT encoded by the human genome.

CTGCCTC GAM689 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM689

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM689

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM689 precursor RNA is designated SEQ ID:140531, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140531 is located from position 69076605 to position 69076701 relative to chromosome chr5 on the `-` strand (chr is an abbreviation for chromosome).

GAM689 precursor RNA folds onto itself, forming GAM689 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM689 precursor RNA, designated SEQ ID NO: 140531, and a schematic representation of a predicted secondary folding of GAM689 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM689 folded precursor RNA yielding a GAM689 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM689 RNA, hereby incorporated herein. Expression of GAM689 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM689 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM689 target RNA, herein designated GAM TARGET RNA. GAM689 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM689 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM689 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM689 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM689 RNA, herein designated GAM RNA, to target binding sites on GAM689 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM689 target RNA into GAM689 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM689 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM689 target genes. The mRNA of each one of this plurality of GAM689 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM689 RNA, herein designated GAM RNA, and which when bound by GAM689 RNA causes inhibition of translation of the GAM689 target mRNA into a corresponding GAM689 target protein.

The mechanism of the translational inhibition exerted by GAM689 RNA, herein designated GAM RNA, on one or more GAM689 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM689 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM689 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM689 RNA, herein designated GAM RNA, of GAM689 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM689 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM689 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM689 RNA correlate with, and may be deduced from, the identity of the GAM689 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM704 140532 GAGGCCCCAA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAAGTTAAAT detected oligonucleotides of the present invention, referred to here as Genomic Address
AACTTGCTTA Messenger 704 (GAM704) oligonucleotides modulates expression of respective target genes
AGATCACAGA whose function and utility is known in the art.

GCTAATGAGT GAM704 is a novel bioinformatically detectable regulatory, non protein coding,
GGCAGAACAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM704 was detected is

TTATTCTAGC described with additional reference to Figs. 9-15.

TCTGATTTTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGGGATTTAC encoded by the human genome.

TTAACTTTTA GAM704 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM704
CTTGGAATTC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM704

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM704 precursor RNA is designated SEQ ID:140532, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140532 is located from position 81421650 to position 81421759 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM704 precursor RNA folds onto itself, forming GAM704 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM704 precursor RNA, designated SEQ ID NO: 140532, and a schematic representation of a predicted secondary folding of GAM704 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM704 folded precursor RNA yielding a GAM704 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM704 RNA, hereby incorporated herein.

GAM704 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM704 target RNA, herein designated GAM TARGET RNA. GAM704 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM704 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM704 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM704 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM704 RNA, herein designated GAM RNA, to target binding sites on GAM704 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM704 target RNA into GAM704 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM704 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM704 target genes. The mRNA of each one of this plurality of GAM704 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM704 RNA, herein designated GAM RNA, and which when bound by GAM704 RNA causes inhibition of translation of the GAM704 target mRNA into a corresponding GAM704 target protein.

The mechanism of the translational inhibition exerted by GAM704 RNA, herein designated GAM RNA, on one or more GAM704 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM704 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM704 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM704 RNA, herein designated GAM RNA, of GAM704 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM704 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM704 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7,

incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM704 RNA correlate with, and may be deduced from, the identity of the GAM704 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM744 140533 AGTCACTGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
AAATGCTTAC detected oligonucleotides of the present invention, referred to here as Genomic Address
AGGCAGTAGC Messenger 744 (GAM744) oligonucleotides modulates expression of respective target genes
CACCATCATG whose function and utility is known in the art.

TGGCACAAAG GAM744 is a novel bioinformatically detectable regulatory, non protein coding,
TGGGCATCAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM744 was detected is

CCTAGTGTCT described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM744 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM744

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM744
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM744 precursor RNA is designated SEQ ID:140533, and is provided hereinbelow with reference to the sequence listing part.

GAM744 precursor RNA folds onto itself, forming GAM744 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM744 precursor RNA, designated SEQ ID NO: 140533, and a schematic representation of a predicted secondary folding of GAM744 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM744 folded precursor RNA yielding a GAM744 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM744 RNA, hereby incorporated herein. Expression of GAM744 RNA

was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM744 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM744 target RNA, herein designated GAM TARGET RNA. GAM744 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM744 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM744 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM744 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM744 RNA, herein designated GAM RNA, to target binding sites on GAM744 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM744 target RNA into GAM744 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM744 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM744 target genes. The mRNA of each one of this plurality of GAM744 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM744 RNA, herein designated GAM RNA, and which when bound by GAM744 RNA causes inhibition of translation of the GAM744 target mRNA into a corresponding GAM744 target protein.

The mechanism of the translational inhibition exerted by GAM744 RNA, herein designated GAM RNA, on one or more GAM744 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM744 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM744 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM744 RNA, herein designated GAM RNA, of GAM744 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM744 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM744 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM744 RNA correlate with, and may be deduced from, the identity of the GAM744 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM750 140534 ACACCTCCAA Fig. 8 further provides a conceptual description of another novel bioinformatically
CCTCCCTGCC detected oligonucleotides of the present invention, referred to here as Genomic Address
TTTGAACCCT Messenger 750 (GAM750) oligonucleotides modulates expression of respective target genes
GTGTTAACAA whose function and utility is known in the art.

TGAGAAGCTT GAM750 is a novel bioinformatically detectable regulatory, non protein coding,
GTTTATTTGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM750 was detected is

AGGCTGGGTT described with additional reference to Figs. 9-15.

CTCATTGGCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CACAGGGGTA encoded by the human genome.

GGTTGTAATT GAM750 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM750
GTGT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM750

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM750 precursor RNA is designated SEQ ID:140534, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140534 is located from position 46615364 to position 46615467 relative to chromosome chr20 on the `-` strand (chr is an abbreviation for chromosome).

GAM750 precursor RNA folds onto itself, forming GAM750 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM750 precursor RNA, designated SEQ ID NO: 140534, and a schematic representation of a predicted secondary folding of GAM750 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM750 folded precursor RNA yielding a GAM750 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM750 RNA, hereby incorporated herein.

GAM750 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM750 target RNA, herein designated GAM TARGET RNA. GAM750 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM750 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM750 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM750 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM750 RNA, herein designated GAM RNA, to target binding sites on GAM750 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM750 target RNA into GAM750 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM750 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM750 target genes. The mRNA of each one of this plurality of GAM750 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM750 RNA, herein designated GAM RNA, and which when bound by GAM750 RNA causes inhibition of translation of the GAM750 target mRNA into a corresponding GAM750 target protein.

The mechanism of the translational inhibition exerted by GAM750 RNA, herein designated GAM RNA, on one or more GAM750 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM750 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM750 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM750 RNA, herein designated GAM RNA, of GAM750 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM750 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM750 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM750 RNA correlate with, and may be deduced from, the identity of the GAM750 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM760 140535 TCGCAGTCAG Fig. 8 further provides a conceptual description of another novel bioinformatically

ACGTTTGGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACAGCAGTGG Messenger 760 (GAM760) oligonucleotides modulates expression of respective target genes

AAGAGGCAAC whose function and utility is known in the art.

TGGTGCTTTT GAM760 is a novel bioinformatically detectable regulatory, non protein coding,

CAGCTAGGCC micro RNA (miRNA)-like oligonucleotide. The method by which GAM760 was detected is

TTGAAAAATT described with additional reference to Figs. 9-15.

GCTTCAGAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTGATTTCGA encoded by the human genome.

GAM760 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM760

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM760

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM760 precursor RNA is designated SEQ ID:140535, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140535 is located from position 15036029 to position 15036118 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM760 precursor RNA folds onto itself, forming GAM760 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM760 precursor RNA, designated SEQ ID NO: 140535, and a schematic representation of a predicted secondary folding of GAM760 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM760 folded precursor RNA yielding a GAM760 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM760 RNA, hereby incorporated herein.

GAM760 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM760 target RNA, herein designated GAM TARGET RNA. GAM760 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM760 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM760 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM760 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM760 RNA, herein designated GAM RNA, to target binding sites on GAM760 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM760 target RNA into GAM760 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM760 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM760 target genes. The mRNA of each one of this plurality of GAM760 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM760 RNA, herein designated GAM RNA, and which when bound by GAM760 RNA causes inhibition of translation of the GAM760 target mRNA into a corresponding GAM760 target protein.

The mechanism of the translational inhibition exerted by GAM760 RNA, herein designated GAM RNA, on one or more GAM760 target genes, herein collectively designated GAM

TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM760 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM760 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM760 RNA, herein designated GAM RNA, of GAM760 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM760 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM760 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM760 RNA correlate with, and may be deduced from, the identity of the GAM760 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM770 140536 TCTTTTATAG Fig. 8 further provides a conceptual description of another novel bioinformatically

TTTATGTTTT detected oligonucleotides of the present invention, referred to here as Genomic Address

CATTTTGGTG Messenger 770 (GAM770) oligonucleotides modulates expression of respective target genes

AAGCCTTAAA whose function and utility is known in the art.

ATGAGAAGGC GAM770 is a novel bioinformatically detectable regulatory, non protein coding,

AGATGACAAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM770 was detected is

GCTCAGTAAC described with additional reference to Figs. 9-15.

TAGTCTGCTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCTTGACCCA encoded by the human genome.

GAGCCTTAAT GAM770 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM770

GATTTTTAAG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM770

CTTATAAAGG precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

A to the nucleotide sequence of GAM770 precursor RNA is designated SEQ ID:140536, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140536 is located from position 87327369 to position 87327489 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM770 precursor RNA folds onto itself, forming GAM770 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM770 precursor RNA, designated SEQ ID NO: 140536, and a schematic representation of a predicted secondary folding of GAM770 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM770 folded precursor RNA yielding a GAM770 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM770 RNA, hereby incorporated herein.

GAM770 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM770 target RNA, herein designated GAM TARGET RNA. GAM770 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM770 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM770 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM770 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM770 RNA, herein designated GAM RNA, to target binding sites on GAM770 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM770 target RNA into GAM770 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM770 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM770 target genes. The mRNA of each one of this plurality of GAM770 target genes comprises one or more target binding sites, each having a

nucleotide sequence which is at least partly complementary to GAM770 RNA, herein designated GAM RNA, and which when bound by GAM770 RNA causes inhibition of translation of the GAM770 target mRNA into a corresponding GAM770 target protein.

The mechanism of the translational inhibition exerted by GAM770 RNA, herein designated GAM RNA, on one or more GAM770 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM770 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM770 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM770 RNA, herein designated GAM RNA, of GAM770 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM770 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM770 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM770 RNA correlate with, and may be deduced from, the identity of the GAM770 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM772 140537 TGGCACCAGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTCCAAAGCC detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGATGAAGA Messenger 772 (GAM772) oligonucleotides modulates expression of respective target genes

GGAGGAGAAA whose function and utility is known in the art.

GGATGGGGTC GAM772 is a novel bioinformatically detectable regulatory, non protein coding,

CACACCTTGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM772 was detected is

TTTCTCCACC described with additional reference to Figs. 9-15.

ATCATCCAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGCTCTGCTG encoded by the human genome.

CTGCTA GAM772 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM772

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM772

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM772 precursor RNA is designated SEQ ID:140537, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140537 is located from position 26891775 to position 26891870 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM772 precursor RNA folds onto itself, forming GAM772 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM772 precursor RNA, designated SEQ ID NO: 140537, and a schematic representation of a predicted secondary folding of GAM772 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM772 folded precursor RNA yielding a GAM772 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM772 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM772 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM772 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM772 target RNA, herein designated GAM TARGET RNA. GAM772 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM772 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM772 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM772 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM772 RNA, herein designated GAM RNA, to target binding sites on GAM772 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM772 target RNA into

GAM772 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM772 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM772 target genes. The mRNA of each one of this plurality of GAM772 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM772 RNA, herein designated GAM RNA, and which when bound by GAM772 RNA causes inhibition of translation of the GAM772 target mRNA into a corresponding GAM772 target protein.

The mechanism of the translational inhibition exerted by GAM772 RNA, herein designated GAM RNA, on one or more GAM772 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM772 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM772 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM772 RNA, herein designated GAM RNA, of GAM772 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM772 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM772 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM772 RNA correlate with, and may be deduced from, the identity of the GAM772 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM779 140538 CCGATGAACC Fig. 8 further provides a conceptual description of another novel bioinformatically
CAGGGCCGTT detected oligonucleotides of the present invention, referred to here as Genomic Address
CCCTTCATAC Messenger 779 (GAM779) oligonucleotides modulates expression of respective target genes
CCTTTCATTA whose function and utility is known in the art.

GTAGCTCTAA GAM779 is a novel bioinformatically detectable regulatory, non protein coding,
GATGTTTGAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM779 was detected is

TAAGGTGTAC described with additional reference to Figs. 9-15.

GTTTACAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGTTGGTTG encoded by the human genome.

GTGATGAGCA GAM779 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM779
TTGAACATTT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM779
GGGTTCTTCG precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar
G to the nucleotide sequence of GAM779 precursor RNA is designated SEQ ID:140538, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140538 is located from position 131264455 to position 131264575 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM779 precursor RNA folds onto itself, forming GAM779 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM779 precursor RNA, designated SEQ ID NO: 140538, and a schematic representation of a predicted secondary folding of GAM779 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM779 folded precursor RNA yielding a GAM779 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM779 RNA, hereby incorporated herein.

GAM779 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM779 target RNA, herein designated GAM TARGET RNA. GAM779 target RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM779 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM779 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM779 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM779 RNA, herein designated GAM RNA, to target binding sites on GAM779 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM779 target RNA into GAM779 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM779 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM779 target genes. The mRNA of each one of this plurality of GAM779 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM779 RNA, herein designated GAM RNA, and which when bound by GAM779 RNA causes inhibition of translation of the GAM779 target mRNA into a corresponding GAM779 target protein.

The mechanism of the translational inhibition exerted by GAM779 RNA, herein designated GAM RNA, on one or more GAM779 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM779 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM779 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM779 RNA, herein designated GAM RNA, of GAM779 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM779 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM779 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM779 RNA correlate with, and may be deduced from, the identity of the GAM779 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM785 140539 CCCGGAGTTT ATGGTCTGGT GAGAAGATCC CTGCTCTGAG TCACTGCCAA Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 785 (GAM785) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM785 is a novel bioinformatically detectable regulatory, non protein coding,

GCTCTAGCTA micro RNA (miRNA)-like oligonucleotide. The method by which GAM785 was detected is

TGTGACTTTG described with additional reference to Figs. 9-15.

AACAGGGAAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTCTGTCCCT encoded by the human genome.

ATCTATAAAA GAM785 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM785

TAAACGGG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM785

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM785 precursor RNA is designated SEQ ID:140539, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140539 is located from position 30319064 to position 30319171 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM785 precursor RNA folds onto itself, forming GAM785 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM785 precursor RNA, designated SEQ ID NO: 140539, and a schematic representation of a predicted secondary folding of GAM785 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM785 folded precursor RNA yielding a GAM785 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM785 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM785 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM785 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM785 target RNA, herein designated GAM TARGET RNA. GAM785 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM785 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM785 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM785 RNA is a partial or fully complementary sequence of the

nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM785 RNA, herein designated GAM RNA, to target binding sites on GAM785 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM785 target RNA into GAM785 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM785 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM785 target genes. The mRNA of each one of this plurality of GAM785 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM785 RNA, herein designated GAM RNA, and which when bound by GAM785 RNA causes inhibition of translation of the GAM785 target mRNA into a corresponding GAM785 target protein.

The mechanism of the translational inhibition exerted by GAM785 RNA, herein designated GAM RNA, on one or more GAM785 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM785 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM785 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM785 RNA, herein designated GAM RNA, of GAM785 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM785 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM785 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM785 RNA correlate with, and may be deduced from, the identity of the GAM785 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM801 140540 GAATTCCTAA Fig. 8 further provides a conceptual description of another novel bioinformatically

GTATGTGGTC detected oligonucleotides of the present invention, referred to here as Genomic Address
TGTATTGTGC Messenger 801 (GAM801) oligonucleotides modulates expression of respective target genes
TTGTACTGAC whose function and utility is known in the art.

CATGTATATA GAM801 is a novel bioinformatically detectable regulatory, non protein coding,
TGCTATGGTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM801 was detected is

ATTTAGTGCT described with additional reference to Figs. 9-15.

AGCTAAGAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATACCATTTC encoded by the human genome.

CCCAGTAGCA GAM801 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM801
GTC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM801

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM801 precursor RNA is designated SEQ ID:140540, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140540 is located from position 53583235 to position 53583337 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM801 precursor RNA folds onto itself, forming GAM801 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM801 precursor RNA, designated SEQ ID NO: 140540, and a schematic representation of a predicted secondary folding of GAM801 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM801 folded precursor RNA yielding a GAM801 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM801 RNA, hereby incorporated herein.

GAM801 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM801 target RNA, herein designated GAM TARGET RNA. GAM801 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM801 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM801 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM801 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM801 RNA, herein designated GAM RNA, to target binding sites on GAM801 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM801 target RNA into GAM801 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM801 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM801 target genes. The mRNA of each one of this plurality of GAM801 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM801 RNA, herein designated GAM RNA, and which when bound by GAM801 RNA causes inhibition of translation of the GAM801 target mRNA into a corresponding GAM801 target protein.

The mechanism of the translational inhibition exerted by GAM801 RNA, herein designated GAM RNA, on one or more GAM801 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM801 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM801 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM801 RNA, herein designated GAM RNA, of GAM801 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM801 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM801 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM801 RNA

correlate with, and may be deduced from, the identity of the GAM801 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM802 140541 TGGGTTTTGA ATTTGCAGTA ACAGGTGTGA GCATTCTAGC AGCAGTTTGA TGATCATGTA TGATACTGCA AACAGGACCT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 802 (GAM802) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM802 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM802 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene A encoded by the human genome.

GAM802 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM802 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM802 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM802 precursor RNA is designated SEQ ID:140541, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140541 is located from position 75549611 to position 75549691 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM802 precursor RNA folds onto itself, forming GAM802 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM802 precursor RNA, designated SEQ ID NO: 140541, and a schematic representation of a predicted secondary folding of GAM802 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM802 folded precursor RNA yielding a GAM802 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM802 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM802 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM802 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM802 target RNA, herein designated GAM TARGET RNA. GAM802 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM802 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM802 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM802 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM802 RNA, herein designated GAM RNA, to target binding sites on GAM802 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM802 target RNA into GAM802 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM802 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM802 target genes. The mRNA of each one of this plurality of GAM802 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM802 RNA, herein designated GAM RNA, and which when bound by GAM802 RNA causes inhibition of translation of the GAM802 target mRNA into a corresponding GAM802 target protein.

The mechanism of the translational inhibition exerted by GAM802 RNA, herein designated GAM RNA, on one or more GAM802 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM802 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM802 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM802 RNA, herein designated GAM RNA, of GAM802 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM802 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM802 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM802 RNA correlate with, and may be deduced from, the identity of the GAM802 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM807 140542 TGACAATCTT Fig. 8 further provides a conceptual description of another novel bioinformatically
GGTTACCATC detected oligonucleotides of the present invention, referred to here as Genomic Address
CATTAAGTGC Messenger 807 (GAM807) oligonucleotides modulates expression of respective target genes
TGCTGATTTT whose function and utility is known in the art.

GGAAAGATCA GAM807 is a novel bioinformatically detectable regulatory, non protein coding,
TGAAAAACGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM807 was detected is

CTTTCCAAAC described with additional reference to Figs. 9-15.

ATGAAGGCAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTCGTTTGGG encoded by the human genome.

CACAAGAGGC GAM807 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM807
A precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM807

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM807 precursor RNA is designated SEQ ID:140542, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140542 is located from position 53974897 to position 53974997 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM807 precursor RNA folds onto itself, forming GAM807 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM807 precursor RNA, designated SEQ ID NO: 140542, and a schematic representation of a predicted secondary folding of GAM807 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM807 folded precursor RNA

yielding a GAM807 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM807 RNA, hereby incorporated herein.

GAM807 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM807 target RNA, herein designated GAM TARGET RNA. GAM807 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM807 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM807 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM807 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM807 RNA, herein designated GAM RNA, to target binding sites on GAM807 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE

I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM807 target RNA into GAM807 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM807 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM807 target genes. The mRNA of each one of this plurality of GAM807 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM807 RNA, herein designated GAM RNA, and which when bound by GAM807 RNA causes inhibition of translation of the GAM807 target mRNA into a corresponding GAM807 target protein.

The mechanism of the translational inhibition exerted by GAM807 RNA, herein designated GAM RNA, on one or more GAM807 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM807 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM807 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM807 RNA, herein designated GAM RNA, of GAM807 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM807 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM807 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM807 RNA correlate with, and may be deduced from, the identity of the GAM807 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM821 140543 CGCTGCCTCT Fig. 8 further provides a conceptual description of another novel bioinformatically
CTGCAGGCCG detected oligonucleotides of the present invention, referred to here as Genomic Address
TGTGCTTTGC Messenger 821 (GAM821) oligonucleotides modulates expression of respective target genes
TCGGTTGATC whose function and utility is known in the art.

TTGCAGAGCC GAM821 is a novel bioinformatically detectable regulatory, non protein coding,
TAAGACACAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM821 was detected is

GCCCAGAGAG described with additional reference to Figs. 9-15.

GCAGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM821 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM821

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM821
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM821 precursor RNA is designated SEQ ID:140543, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140543 is located from position 50818309 to position 50818384 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM821 precursor RNA folds onto itself, forming GAM821 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM821 precursor RNA, designated SEQ ID NO: 140543, and a schematic representation of a predicted secondary folding of GAM821 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM821 folded precursor RNA yielding a GAM821 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM821 RNA, hereby incorporated herein.

GAM821 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM821 target RNA, herein designated GAM TARGET RNA. GAM821 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM821 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM821 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM821 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM821 RNA, herein designated GAM RNA, to target binding sites on GAM821 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM821 target RNA into GAM821 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM821 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM821 target genes. The mRNA of each one of this plurality of GAM821 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM821 RNA, herein designated GAM RNA, and which when bound by GAM821 RNA causes inhibition of translation of the GAM821 target mRNA into a corresponding GAM821 target protein.

The mechanism of the translational inhibition exerted by GAM821 RNA, herein designated GAM RNA, on one or more GAM821 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM821 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM821 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM821 RNA, herein designated GAM RNA, of GAM821 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM821 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM821 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM821 RNA correlate with, and may be deduced from, the identity of the GAM821 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM823 140544 GTCAGGGGTG Fig. 8 further provides a conceptual description of another novel bioinformatically

CCCATAATGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ATTGTGTTTA Messenger 823 (GAM823) oligonucleotides modulates expression of respective target genes

CCCTGAGAAC whose function and utility is known in the art.

AAATCCACTA GAM823 is a novel bioinformatically detectable regulatory, non protein coding,

CATTGGAATT micro RNA (miRNA)-like oligonucleotide. The method by which GAM823 was detected is

TTAGGCATAA described with additional reference to Figs. 9-15.

CCAGTATCAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TAAAAGGAGC encoded by the human genome.

CCCTTGC GAM823 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM823

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM823

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM823 precursor RNA is designated SEQ ID:140544, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140544 is located from position 12551748 to position 12551844 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM823 precursor RNA folds onto itself, forming GAM823 folded precursor RNA,

herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM823 precursor RNA, designated SEQ ID NO: 140544, and a schematic representation of a predicted secondary folding of GAM823 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM823 folded precursor RNA yielding a GAM823 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM823 RNA, hereby incorporated herein.

GAM823 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM823 target RNA, herein designated GAM TARGET RNA. GAM823 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM823 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM823 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM823 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM823 RNA, herein designated GAM RNA, to target binding sites on GAM823 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM823 target RNA into GAM823 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM823 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM823 target genes. The mRNA of each one of this plurality of GAM823 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM823 RNA, herein designated GAM RNA, and which when bound by GAM823 RNA causes inhibition of translation of

the GAM823 target mRNA into a corresponding GAM823 target protein.

The mechanism of the translational inhibition exerted by GAM823 RNA, herein designated GAM RNA, on one or more GAM823 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM823 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM823 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM823 RNA, herein designated GAM RNA, of GAM823 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM823 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM823 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM823 RNA correlate with, and may be deduced from, the identity of the GAM823 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM828 140545 ACTGGAGACA Fig. 8 further provides a conceptual description of another novel bioinformatically

CATCTAATGG detected oligonucleotides of the present invention, referred to here as Genomic Address

CTGTGCTGAT Messenger 828 (GAM828) oligonucleotides modulates expression of respective target genes

GTCAAGGGAC whose function and utility is known in the art.

TTTCTAATCA GAM828 is a novel bioinformatically detectable regulatory, non protein coding,

TGTTCATCAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM828 was detected is

TTGATAGCAG described with additional reference to Figs. 9-15.

ATGCTGTTTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGT encoded by the human genome.

GAM828 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM828

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM828

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

to the nucleotide sequence of GAM828 precursor RNA is designated SEQ ID:140545, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140545 is located from position 14758025 to position 14758108 relative to chromosome chrY on the `-` strand (chr is an abbreviation for chromosome).

GAM828 precursor RNA folds onto itself, forming GAM828 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM828 precursor RNA, designated SEQ ID NO: 140545, and a schematic representation of a predicted secondary folding of GAM828 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM828 folded precursor RNA yielding a GAM828 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM828 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM828 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM828 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM828 target RNA, herein designated GAM TARGET RNA. GAM828 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM828 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM828 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM828 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM828 RNA, herein designated GAM RNA, to target binding sites on GAM828 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM828 target RNA into GAM828 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by

a broken line.

It is appreciated that GAM828 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM828 target genes. The mRNA of each one of this plurality of GAM828 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM828 RNA, herein designated GAM RNA, and which when bound by GAM828 RNA causes inhibition of translation of the GAM828 target mRNA into a corresponding GAM828 target protein.

The mechanism of the translational inhibition exerted by GAM828 RNA, herein designated GAM RNA, on one or more GAM828 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM828 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM828 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM828 RNA, herein designated GAM RNA, of GAM828 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM828 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM828 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM828 RNA correlate with, and may be deduced from, the identity of the GAM828 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM834 140546 GCCCAGGCTA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATTCAGTG detected oligonucleotides of the present invention, referred to here as Genomic Address
GCAGGATCAT Messenger 834 (GAM834) oligonucleotides modulates expression of respective target genes
AGCTCACTGC whose function and utility is known in the art.

AGCCTCGAAC GAM834 is a novel bioinformatically detectable regulatory, non protein coding,
TCCTAGGCTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM834 was detected is

AAGCAATCCT described with additional reference to Figs. 9-15.

CCTGCTTCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCTCCTGGGT encoded by the human genome.

GAM834 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM834 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM834 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM834 precursor RNA is designated SEQ ID:140546, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140546 is located from position 90514756 to position 90514845 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM834 precursor RNA folds onto itself, forming GAM834 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM834 precursor RNA, designated SEQ ID NO: 140546, and a schematic representation of a predicted secondary folding of GAM834 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM834 folded precursor RNA yielding a GAM834 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM834 RNA, hereby incorporated herein.

GAM834 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM834 target RNA, herein designated GAM TARGET RNA. GAM834 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM834 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM834 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM834 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM834 RNA, herein designated GAM RNA, to target binding sites on GAM834 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM834 target RNA into GAM834 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM834 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM834 target genes. The mRNA of each one of this plurality of GAM834 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM834 RNA, herein designated GAM RNA, and which when bound by GAM834 RNA causes inhibition of translation of the GAM834 target mRNA into a corresponding GAM834 target protein.

The mechanism of the translational inhibition exerted by GAM834 RNA, herein designated GAM RNA, on one or more GAM834 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM834 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM834 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM834 RNA, herein designated GAM RNA, of GAM834 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM834 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM834 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM834 RNA correlate with, and may be deduced from, the identity of the GAM834 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM840 140547 GGAGAATCAT TTGAACCCAG GAGGTGGAAG TTGCAGTGAG CTCAGATCGC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 840 (GAM840) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM840 is a novel bioinformatically detectable regulatory, non protein coding,

ACCATTGCAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM840 was detected is

TCCAGCCTGG described with additional reference to Figs. 9-15.

GTAACAAGAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGAAACTCC encoded by the human genome.

GAM840 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM840

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM840

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM840 precursor RNA is designated SEQ ID:140547, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140547 is located from position 100281294 to position 100281382 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM840 precursor RNA folds onto itself, forming GAM840 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM840 precursor RNA, designated SEQ ID NO: 140547, and a schematic representation of a predicted secondary folding of GAM840 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM840 folded precursor RNA yielding a GAM840 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM840 RNA, hereby incorporated herein.

GAM840 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM840 target RNA, herein designated GAM TARGET RNA. GAM840 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM840 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM840 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM840 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows

three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM840 RNA, herein designated GAM RNA, to target binding sites on GAM840 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM840 target RNA into GAM840 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM840 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM840 target genes. The mRNA of each one of this plurality of GAM840 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM840 RNA, herein designated GAM RNA, and which when bound by GAM840 RNA causes inhibition of translation of the GAM840 target mRNA into a corresponding GAM840 target protein.

The mechanism of the translational inhibition exerted by GAM840 RNA, herein designated GAM RNA, on one or more GAM840 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM840 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM840 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM840 RNA, herein designated GAM RNA, of GAM840 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM840 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM840 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM840 RNA correlate with, and may be deduced from, the identity of the GAM840 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM842 140548 CTGGGGGCTG Fig. 8 further provides a conceptual description of another novel bioinformatically

AGACCACCCT detected oligonucleotides of the present invention, referred to here as Genomic Address TGCCTGCCCC Messenger 842 (GAM842) oligonucleotides modulates expression of respective target genes CTTCTTTCTG whose function and utility is known in the art.

CCTTAAGAAT GAM842 is a novel bioinformatically detectable regulatory, non protein coding, GTCCTTTTAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM842 was detected is

GCTGGGCATG described with additional reference to Figs. 9-15.

GTGGCTCACG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene CCTGTAACCC encoded by the human genome.

CAG GAM842 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM842

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM842

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM842 precursor RNA is designated SEQ ID:140548, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140548 is located from position 1319182 to position 1319274 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM842 precursor RNA folds onto itself, forming GAM842 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM842 precursor RNA, designated SEQ ID NO: 140548, and a schematic representation of a predicted secondary folding of GAM842 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM842 folded precursor RNA yielding a GAM842 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM842 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM842 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM842 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM842 target RNA, herein designated GAM TARGET RNA. GAM842 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN

CODING and 3`UTR respectively.

GAM842 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM842 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM842 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM842 RNA, herein designated GAM RNA, to target binding sites on GAM842 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM842 target RNA into GAM842 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM842 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM842 target genes. The mRNA of each one of this plurality of GAM842 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM842 RNA, herein designated GAM RNA, and which when bound by GAM842 RNA causes inhibition of translation of the GAM842 target mRNA into a corresponding GAM842 target protein.

The mechanism of the translational inhibition exerted by GAM842 RNA, herein designated GAM RNA, on one or more GAM842 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM842 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM842 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM842 RNA, herein designated GAM RNA, of GAM842 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM842 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM842 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM842 RNA correlate with, and may be deduced from, the identity of the GAM842 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM846 140549 TCCTGTGCTG CAGTAGAAAT TAGAGCATGT CCTGCTTTAT GCAGGCTTTG CTTTAGTTCT TCTGAAGTGT ATGA

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 846 (GAM846) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM846 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM846 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM846 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM846 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM846 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM846 precursor RNA is designated SEQ ID:140549, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140549 is located from position 127720318 to position 127720391 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM846 precursor RNA folds onto itself, forming GAM846 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM846 precursor RNA, designated SEQ ID NO: 140549, and a schematic representation of a predicted secondary folding of GAM846 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM846 folded precursor RNA yielding a GAM846 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM846 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM846 RNA and an

alternative nucleotide sequence thereof, hereby incorporated herein.

GAM846 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM846 target RNA, herein designated GAM TARGET RNA. GAM846 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM846 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM846 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM846 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM846 RNA, herein designated GAM RNA, to target binding sites on GAM846 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM846 target RNA into GAM846 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM846 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM846 target genes. The mRNA of each one of this plurality of GAM846 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM846 RNA, herein designated GAM RNA, and which when bound by GAM846 RNA causes inhibition of translation of the GAM846 target mRNA into a corresponding GAM846 target protein.

The mechanism of the translational inhibition exerted by GAM846 RNA, herein designated GAM RNA, on one or more GAM846 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM846 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM846 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM846 RNA, herein designated GAM RNA, of GAM846 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM846 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM846 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM846 RNA correlate with, and may be deduced from, the identity of the GAM846 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM869 140550 GGAAAGAATA Fig. 8 further provides a conceptual description of another novel bioinformatically
AAGGCTTGGA detected oligonucleotides of the present invention, referred to here as Genomic Address
CTCAGCCTAG Messenger 869 (GAM869) oligonucleotides modulates expression of respective target genes
GTTCAAGTAC whose function and utility is known in the art.

TGCATCTTGA GAM869 is a novel bioinformatically detectable regulatory, non protein coding,
CCTGGCCTGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM869 was detected is

AGGCAAGTCT described with additional reference to Figs. 9-15.

TTTCACTTCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
C encoded by the human genome.

GAM869 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM869

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM869

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM869 precursor RNA is designated SEQ ID:140550, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140550 is located from position 43962141 to position 43962221 relative to chromosome chr20 on the `-` strand (chr is an abbreviation for chromosome).

GAM869 precursor RNA folds onto itself, forming GAM869 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM869 precursor RNA, designated SEQ ID NO: 140550, and a schematic representation of a predicted secondary folding of GAM869 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM869 folded precursor RNA yielding a GAM869 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM869 RNA, hereby incorporated herein.

GAM869 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM869 target RNA, herein designated GAM TARGET RNA. GAM869 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM869 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM869 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM869 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM869 RNA, herein designated GAM RNA, to target binding sites on GAM869 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE

I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM869 target RNA into GAM869 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM869 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM869 target genes. The mRNA of each one of this plurality of GAM869 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM869 RNA, herein designated GAM RNA, and which when bound by GAM869 RNA causes inhibition of translation of the GAM869 target mRNA into a corresponding GAM869 target protein.

The mechanism of the translational inhibition exerted by GAM869 RNA, herein designated GAM RNA, on one or more GAM869 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM869 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM869 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM869 RNA, herein designated GAM RNA, of GAM869 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM869 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM869 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM869 RNA correlate with, and may be deduced from, the identity of the GAM869 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM892 140551 TGGCTTTATC TCTTGCCTTG ACCTCCTACA TTATCAACAA AGTGAGAGTT TAAGATCTCC TGGGCAGGAG ATTTCAGAAG CCA

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 892 (GAM892) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM892 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM892 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM892 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM892 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM892 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM892 precursor RNA is designated SEQ ID:140551, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140551 is located from position 101743922 to position 101744004 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM892 precursor RNA folds onto itself, forming GAM892 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM892 precursor RNA, designated SEQ ID NO: 140551, and a schematic representation of a predicted secondary folding of GAM892 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM892 folded precursor RNA yielding a GAM892 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM892 RNA, hereby incorporated herein.

GAM892 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM892 target RNA, herein designated GAM TARGET RNA. GAM892 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM892 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM892 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM892 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM892 RNA, herein designated GAM RNA, to target binding sites on GAM892 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM892 target RNA into GAM892 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM892 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM892 target genes. The mRNA of each one of this plurality of GAM892 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM892 RNA, herein designated GAM RNA, and which when bound by GAM892 RNA causes inhibition of translation of the GAM892 target mRNA into a corresponding GAM892 target protein.

The mechanism of the translational inhibition exerted by GAM892 RNA, herein designated GAM RNA, on one or more GAM892 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM892 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM892 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM892 RNA, herein designated GAM RNA, of GAM892 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM892 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM892 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM892 RNA correlate with, and may be deduced from, the identity of the GAM892 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM933 140552 ACCTCTCATT Fig. 8 further provides a conceptual description of another novel bioinformatically

TCTCCTCAAT detected oligonucleotides of the present invention, referred to here as Genomic Address

GCCACTGCAC Messenger 933 (GAM933) oligonucleotides modulates expression of respective target genes

TGATGTCAAC whose function and utility is known in the art.

TGACTTAGGG GAM933 is a novel bioinformatically detectable regulatory, non protein coding,

CAGGCATGAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM933 was detected is

AGAACTGAGG described with additional reference to Figs. 9-15.

T GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM933 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM933

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM933

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM933 precursor RNA is designated SEQ ID:140552, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140552 is located from position 86637069 to position 86637139 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM933 precursor RNA folds onto itself, forming GAM933 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM933 precursor RNA, designated SEQ ID NO: 140552, and a schematic representation of a predicted secondary folding of GAM933 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM933 folded precursor RNA yielding a GAM933 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM933 RNA, hereby incorporated herein.

GAM933 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM933 target RNA, herein designated GAM TARGET RNA. GAM933 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM933 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM933 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM933 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM933 RNA, herein designated GAM RNA, to target binding sites on GAM933 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM933 target RNA into GAM933 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM933 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM933 target genes. The mRNA of each one of this plurality of GAM933 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM933 RNA, herein

designated GAM RNA, and which when bound by GAM933 RNA causes inhibition of translation of the GAM933 target mRNA into a corresponding GAM933 target protein.

The mechanism of the translational inhibition exerted by GAM933 RNA, herein designated GAM RNA, on one or more GAM933 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM933 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM933 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM933 RNA, herein designated GAM RNA, of GAM933 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM933 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM933 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM933 RNA correlate with, and may be deduced from, the identity of the GAM933 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM965 140553 TGGGTAGCAT Fig. 8 further provides a conceptual description of another novel bioinformatically
GAACTAAGGT detected oligonucleotides of the present invention, referred to here as Genomic Address
AGATAAAGGC Messenger 965 (GAM965) oligonucleotides modulates expression of respective target genes
TTCACGTGGT whose function and utility is known in the art.

GTTTGGCATG GAM965 is a novel bioinformatically detectable regulatory, non protein coding,
GCGTAGGTGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM965 was detected is

AGATTGGACC described with additional reference to Figs. 9-15.

TCAGTTTTCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCCCA encoded by the human genome.

GAM965 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM965

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM965

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM965 precursor RNA is designated SEQ ID:140553, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140553 is located from position 46553864 to position 46553948 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM965 precursor RNA folds onto itself, forming GAM965 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM965 precursor RNA, designated SEQ ID NO: 140553, and a schematic representation of a predicted secondary folding of GAM965 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM965 folded precursor RNA yielding a GAM965 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM965 RNA, hereby incorporated herein.

GAM965 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM965 target RNA, herein designated GAM TARGET RNA. GAM965 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM965 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM965 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM965 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM965 RNA, herein designated GAM RNA, to target binding sites on GAM965 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM965 target RNA into GAM965 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by

a broken line.

It is appreciated that GAM965 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM965 target genes. The mRNA of each one of this plurality of GAM965 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM965 RNA, herein designated GAM RNA, and which when bound by GAM965 RNA causes inhibition of translation of the GAM965 target mRNA into a corresponding GAM965 target protein.

The mechanism of the translational inhibition exerted by GAM965 RNA, herein designated GAM RNA, on one or more GAM965 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM965 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM965 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM965 RNA, herein designated GAM RNA, of GAM965 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM965 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM965 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM965 RNA correlate with, and may be deduced from, the identity of the GAM965 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM973 140554 AAGTGCTGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
TATTGCTAAG detected oligonucleotides of the present invention, referred to here as Genomic Address
AATTCAGGTA Messenger 973 (GAM973) oligonucleotides modulates expression of respective target genes
GTCTCGGGAT whose function and utility is known in the art.

CTCCAGAGTC GAM973 is a novel bioinformatically detectable regulatory, non protein coding,
TCCATACTAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM973 was detected is

GACAGGAGAT described with additional reference to Figs. 9-15.

CTTCAGAACC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGGAGGAATG encoded by the human genome.

GAAATAGTCT GAM973 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM973 AGTCAGCTT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM973 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM973 precursor RNA is designated SEQ ID:140554, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140554 is located from position 150223532 to position 150223640 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM973 precursor RNA folds onto itself, forming GAM973 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM973 precursor RNA, designated SEQ ID NO: 140554, and a schematic representation of a predicted secondary folding of GAM973 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM973 folded precursor RNA yielding a GAM973 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM973 RNA, hereby incorporated herein.

GAM973 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM973 target RNA, herein designated GAM TARGET RNA. GAM973 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM973 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM973 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM973 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM973 RNA, herein designated GAM RNA, to target binding sites on GAM973 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM973 target RNA into GAM973 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM973 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM973 target genes. The mRNA of each one of this plurality of GAM973 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM973 RNA, herein designated GAM RNA, and which when bound by GAM973 RNA causes inhibition of translation of the GAM973 target mRNA into a corresponding GAM973 target protein.

The mechanism of the translational inhibition exerted by GAM973 RNA, herein designated GAM RNA, on one or more GAM973 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM973 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM973 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM973 RNA, herein designated GAM RNA, of GAM973 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM973 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM973 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM973 RNA correlate with, and may be deduced from, the identity of the GAM973 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM999 140555 AGACCACCTT ATTCTTTTCT TATGGGTATG TGGCATGAAT GCCATCATTT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 999 (GAM999) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM999 is a novel bioinformatically detectable regulatory, non protein coding,

ATTTACCCAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM999 was detected is

CTGCCAGTTG described with additional reference to Figs. 9-15.

AAGAACATTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGGTCT encoded by the human genome.

GAM999 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM999 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM999 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM999 precursor RNA is designated SEQ ID:140555, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140555 is located from position 93949150 to position 93949235 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM999 precursor RNA folds onto itself, forming GAM999 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM999 precursor RNA, designated SEQ ID NO: 140555, and a schematic representation of a predicted secondary folding of GAM999 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM999 folded precursor RNA yielding a GAM999 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM999 RNA, hereby incorporated herein.

GAM999 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM999 target RNA, herein designated GAM TARGET RNA. GAM999 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM999 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM999 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM999 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows

three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM999 RNA, herein designated GAM RNA, to target binding sites on GAM999 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM999 target RNA into GAM999 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM999 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM999 target genes. The mRNA of each one of this plurality of GAM999 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM999 RNA, herein designated GAM RNA, and which when bound by GAM999 RNA causes inhibition of translation of the GAM999 target mRNA into a corresponding GAM999 target protein.

The mechanism of the translational inhibition exerted by GAM999 RNA, herein designated GAM RNA, on one or more GAM999 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM999 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM999 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM999 RNA, herein designated GAM RNA, of GAM999 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM999 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM999 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM999 RNA correlate with, and may be deduced from, the identity of the GAM999 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1017 140556 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAATCTGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGCGGAGG Messenger 1017 (GAM1017) oligonucleotides modulates expression of respective target genes
TTGCAGTGAG whose function and utility is known in the art.

CTGAGATCGC GAM1017 is a novel bioinformatically detectable regulatory, non protein coding,
ACCACTGCAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM1017 was detected is

TCCAGCCTGT described with additional reference to Figs. 9-15.

TGACAGCGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATTCC encoded by the human genome.

GAM1017 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1017

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1017

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1017 precursor RNA is designated SEQ ID:140556, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140556 is located from position 18499225 to position 18499309 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM1017 precursor RNA folds onto itself, forming GAM1017 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1017 precursor RNA, designated SEQ ID NO: 140556, and a schematic representation of a predicted secondary folding of GAM1017 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1017 folded precursor RNA yielding a GAM1017 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1017 RNA, hereby incorporated herein.

GAM1017 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1017 target RNA, herein designated GAM TARGET RNA. GAM1017 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1017 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1017 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1017 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1017 RNA, herein designated GAM RNA, to target binding sites on GAM1017 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1017 target RNA into GAM1017 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1017 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1017 target genes. The mRNA of each one of this plurality of GAM1017 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1017 RNA, herein designated GAM RNA, and which when bound by GAM1017 RNA causes inhibition of translation of the GAM1017 target mRNA into a corresponding GAM1017 target protein.

The mechanism of the translational inhibition exerted by GAM1017 RNA, herein designated GAM RNA, on one or more GAM1017 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1017 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1017 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1017 RNA, herein designated GAM RNA, of GAM1017 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1017 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1017 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1017 RNA correlate with, and may be deduced from, the identity of the GAM1017 target gene inhibited

thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1032 140557 GCTAGTCACT Fig. 8 further provides a conceptual description of another novel bioinformatically
GGGGCAAAGA detected oligonucleotides of the present invention, referred to here as Genomic Address
TGACTAAAAC Messenger 1032 (GAM1032) oligonucleotides modulates expression of respective target genes
ACTTTTCCTG whose function and utility is known in the art.

CCCTCGAGGA GAM1032 is a novel bioinformatically detectable regulatory, non protein coding,
GCTCACAGTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM1032 was detected is

TAGTATGTCT described with additional reference to Figs. 9-15.

CATCCCCTAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TAGACTGAAG encoded by the human genome.

CTCCTTGAGG GAM1032 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1032
ACAGGGATGG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1032
TCATACTCAC precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar
CTCGGTGTTG to the nucleotide sequence of GAM1032 precursor RNA is designated SEQ ID:140557, and is
C provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140557 is located from position 141427052 to position 141427182 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM1032 precursor RNA folds onto itself, forming GAM1032 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1032 precursor RNA, designated SEQ ID NO: 140557, and a schematic representation of a predicted secondary folding of GAM1032 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1032 folded precursor RNA yielding a GAM1032 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1032 RNA, hereby incorporated herein. Expression of GAM1032 RNA was experimentally validated in HeLa cells using the methods described with reference to

Figs.22 to 24.

GAM1032 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1032 target RNA, herein designated GAM TARGET RNA. GAM1032 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1032 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1032 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1032 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1032 RNA, herein designated GAM RNA, to target binding sites on GAM1032 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1032 target RNA into GAM1032 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1032 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1032 target genes. The mRNA of each one of this plurality of GAM1032 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1032 RNA, herein designated GAM RNA, and which when bound by GAM1032 RNA causes inhibition of translation of the GAM1032 target mRNA into a corresponding GAM1032 target protein.

The mechanism of the translational inhibition exerted by GAM1032 RNA, herein designated GAM RNA, on one or more GAM1032 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1032 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1032 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1032 RNA, herein designated GAM RNA, of GAM1032 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1032 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1032 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1032 RNA correlate with, and may be deduced from, the identity of the GAM1032 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1033 140558 GAGGGGAGAT Fig. 8 further provides a conceptual description of another novel bioinformatically
TAAAGAATCA detected oligonucleotides of the present invention, referred to here as Genomic Address
ATGTTCCCAG Messenger 1033 (GAM1033) oligonucleotides modulates expression of respective target genes
GGGAAAAGGG whose function and utility is known in the art.

CCTTAAATTG GAM1033 is a novel bioinformatically detectable regulatory, non protein coding,
TTTGGTCTTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM1033 was detected is

TCAATGGCTG described with additional reference to Figs. 9-15.

ACACTGTCTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAACTCTCCC encoded by the human genome.

CTT GAM1033 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1033
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1033
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1033 precursor RNA is designated SEQ ID:140558, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140558 is located from position 126882804 to position 126882896 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM1033 precursor RNA folds onto itself, forming GAM1033 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1033 precursor RNA, designated SEQ ID NO: 140558, and a schematic representation of a predicted secondary folding of GAM1033 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1033 folded precursor RNA

yielding a GAM1033 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM1033 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1033 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM1033 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1033 target RNA, herein designated GAM TARGET RNA. GAM1033 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1033 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1033 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1033 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1033 RNA, herein designated GAM RNA, to target binding sites on GAM1033 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1033 target RNA into GAM1033 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1033 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1033 target genes. The mRNA of each one of this plurality of GAM1033 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1033 RNA, herein designated GAM RNA, and which when bound by GAM1033 RNA causes inhibition of translation of the GAM1033 target mRNA into a corresponding GAM1033 target protein.

The mechanism of the translational inhibition exerted by GAM1033 RNA, herein designated GAM RNA, on one or more GAM1033 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1033 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1033 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1033 RNA, herein designated GAM RNA, of GAM1033 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1033 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1033 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1033 RNA correlate with, and may be deduced from, the identity of the GAM1033 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1084 140559 CCAAAGTCCC Fig. 8 further provides a conceptual description of another novel bioinformatically

AACGGCCACG detected oligonucleotides of the present invention, referred to here as Genomic Address

CCTAACAATT Messenger 1084 (GAM1084) oligonucleotides modulates expression of respective target genes

ATAAAAGTGT whose function and utility is known in the art.

TCAGCGAGAG GAM1084 is a novel bioinformatically detectable regulatory, non protein coding,

TGTTGGCGTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM1084 was detected is

AGTGTGAATG described with additional reference to Figs. 9-15.

GGTGTGCGCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGGGGGCACG encoded by the human genome.

GTGG GAM1084 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1084

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1084

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1084 precursor RNA is designated SEQ ID:140559, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140559 is located from position 44004344 to position 44004437 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM1084 precursor RNA folds onto itself, forming GAM1084 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1084 precursor RNA, designated SEQ ID NO: 140559, and a schematic representation of a predicted secondary folding of GAM1084 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1084 folded precursor RNA yielding a GAM1084 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1084 RNA, hereby incorporated herein.

GAM1084 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1084 target RNA, herein designated GAM TARGET RNA. GAM1084 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1084 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1084 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1084 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1084 RNA, herein designated GAM RNA, to target binding sites on GAM1084 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1084 target RNA into GAM1084 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1084 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1084 target genes. The mRNA of each one of this plurality of GAM1084 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1084 RNA, herein designated GAM RNA, and which when bound by GAM1084 RNA causes inhibition of translation of the GAM1084 target mRNA into a corresponding GAM1084 target protein.

The mechanism of the translational inhibition exerted by GAM1084 RNA, herein designated GAM RNA, on one or more GAM1084 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1084 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1084 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1084 RNA, herein designated GAM RNA, of GAM1084 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1084 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1084 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1084 RNA correlate with, and may be deduced from, the identity of the GAM1084 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1087 140560 AGGTGGCAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAGGCAATAT detected oligonucleotides of the present invention, referred to here as Genomic Address

CAATCCTTCT Messenger 1087 (GAM1087) oligonucleotides modulates expression of respective target genes

GCATCACACA whose function and utility is known in the art.

GTGGGAAAAG GAM1087 is a novel bioinformatically detectable regulatory, non protein coding,

TTTGTCTCAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM1087 was detected is

TGCAGTTCTC described with additional reference to Figs. 9-15.

TTCCAAGCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM1087 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1087

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1087

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1087 precursor RNA is designated SEQ ID:140560, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140560 is located from position 105533378 to position 105533457 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM1087 precursor RNA folds onto itself, forming GAM1087 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1087 precursor RNA, designated SEQ ID NO: 140560, and a schematic representation of a predicted secondary folding of GAM1087 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1087 folded precursor RNA yielding a GAM1087 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1087 RNA, hereby incorporated herein.

GAM1087 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1087 target RNA, herein designated GAM TARGET RNA. GAM1087 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1087 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1087 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1087 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1087 RNA, herein designated GAM RNA, to target binding sites on GAM1087 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1087 target RNA into GAM1087 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1087 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1087 target genes. The mRNA of each one of this plurality of GAM1087 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1087 RNA, herein designated GAM RNA, and which when bound by GAM1087 RNA causes inhibition of translation of the GAM1087 target mRNA into a corresponding GAM1087 target protein.

The mechanism of the translational inhibition exerted by GAM1087 RNA, herein designated GAM RNA, on one or more GAM1087 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1087 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1087 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1087 RNA, herein designated GAM RNA, of GAM1087 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1087 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1087 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1087 RNA correlate with, and may be deduced from, the identity of the GAM1087 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1088 140561 CCGCAGGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AAGAGCTGTG detected oligonucleotides of the present invention, referred to here as Genomic Address
TGCTGTGATG Messenger 1088 (GAM1088) oligonucleotides modulates expression of respective target genes
TGGTTTATAA whose function and utility is known in the art.

ATTACCATTT GAM1088 is a novel bioinformatically detectable regulatory, non protein coding,
GGAAGGAGCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM1088 was detected is

GCACAGCACA described with additional reference to Figs. 9-15.

GCAGCCTGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACTACTCTTC encoded by the human genome.

CTGAGG GAM1088 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1088
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1088
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1088 precursor RNA is designated SEQ ID:140561, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ

ID:140561 is located from position 82179625 to position 82179720 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM1088 precursor RNA folds onto itself, forming GAM1088 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1088 precursor RNA, designated SEQ ID NO: 140561, and a schematic representation of a predicted secondary folding of GAM1088 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1088 folded precursor RNA yielding a GAM1088 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1088 RNA, hereby incorporated herein.

GAM1088 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1088 target RNA, herein designated GAM TARGET RNA. GAM1088 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1088 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1088 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1088 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1088 RNA, herein designated GAM RNA, to target binding sites on GAM1088 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1088 target RNA into GAM1088 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1088 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1088 target genes. The mRNA of each one of this

plurality of GAM1088 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1088 RNA, herein designated GAM RNA, and which when bound by GAM1088 RNA causes inhibition of translation of the GAM1088 target mRNA into a corresponding GAM1088 target protein.

The mechanism of the translational inhibition exerted by GAM1088 RNA, herein designated GAM RNA, on one or more GAM1088 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1088 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1088 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1088 RNA, herein designated GAM RNA, of GAM1088 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1088 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1088 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1088 RNA correlate with, and may be deduced from, the identity of the GAM1088 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1089 140562 GTCTGAAATC Fig. 8 further provides a conceptual description of another novel bioinformatically
CAGGTGTGGG detected oligonucleotides of the present invention, referred to here as Genomic Address
CAGGGCCGTG Messenger 1089 (GAM1089) oligonucleotides modulates expression of respective target genes
CTCCCTCCGA whose function and utility is known in the art.

AGGCTCTAGG GAM1089 is a novel bioinformatically detectable regulatory, non protein coding,
GGAGGATCCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM1089 was detected is

TGCTCAACTT described with additional reference to Figs. 9-15.

ATTTTTGAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
C encoded by the human genome.

GAM1089 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1089

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1089 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1089 precursor RNA is designated SEQ ID:140562, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140562 is located from position 114030793 to position 114030873 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM1089 precursor RNA folds onto itself, forming GAM1089 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1089 precursor RNA, designated SEQ ID NO: 140562, and a schematic representation of a predicted secondary folding of GAM1089 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1089 folded precursor RNA yielding a GAM1089 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM1089 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1089 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM1089 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1089 target RNA, herein designated GAM TARGET RNA. GAM1089 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1089 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1089 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1089 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1089 RNA, herein designated GAM RNA, to target binding sites on GAM1089 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1089 target RNA into GAM1089 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1089 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1089 target genes. The mRNA of each one of this plurality of GAM1089 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1089 RNA, herein designated GAM RNA, and which when bound by GAM1089 RNA causes inhibition of translation of the GAM1089 target mRNA into a corresponding GAM1089 target protein.

The mechanism of the translational inhibition exerted by GAM1089 RNA, herein designated GAM RNA, on one or more GAM1089 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1089 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1089 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1089 RNA, herein designated GAM RNA, of GAM1089 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1089 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1089 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1089 RNA correlate with, and may be deduced from, the identity of the GAM1089 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1099 140563 TAGTATGTTG Fig. 8 further provides a conceptual description of another novel bioinformatically

AGCATCTTTT detected oligonucleotides of the present invention, referred to here as Genomic Address

TGTAAGTGTA Messenger 1099 (GAM1099) oligonucleotides modulates expression of respective target genes

CTTGCCATCT whose function and utility is known in the art.

GTAGATCTTC GAM1099 is a novel bioinformatically detectable regulatory, non protein coding,

TTTGGTGAAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM1099 was detected is

TGTCTGTTCA described with additional reference to Figs. 9-15.

GATCTGTGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CATTTTTAAT encoded by the human genome.

TGGGTTGTTT GAM1099 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1099

AACTTATTG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1099

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1099 precursor RNA is designated SEQ ID:140563, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140563 is located from position 46973081 to position 46973189 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GAM1099 precursor RNA folds onto itself, forming GAM1099 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1099 precursor RNA, designated SEQ ID NO: 140563, and a schematic representation of a predicted secondary folding of GAM1099 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1099 folded precursor RNA yielding a GAM1099 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1099 RNA, hereby incorporated herein.

GAM1099 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1099 target RNA, herein designated GAM TARGET RNA. GAM1099 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1099 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1099 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1099 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1099 RNA, herein designated GAM RNA, to target binding sites on GAM1099 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1099 target RNA into GAM1099 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1099 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1099 target genes. The mRNA of each one of this plurality of GAM1099 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1099 RNA, herein designated GAM RNA, and which when bound by GAM1099 RNA causes inhibition of translation of the GAM1099 target mRNA into a corresponding GAM1099 target protein.

The mechanism of the translational inhibition exerted by GAM1099 RNA, herein designated GAM RNA, on one or more GAM1099 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1099 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1099 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1099 RNA, herein designated GAM RNA, of GAM1099 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1099 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1099 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1099 RNA correlate with, and may be deduced from, the identity of the GAM1099 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1120 140564 AAGAAAGAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

CAGTATAGTA detected oligonucleotides of the present invention, referred to here as Genomic Address

TAGTGGTTAA Messenger 1120 (GAM1120) oligonucleotides modulates expression of respective target genes

GAGCAAGGTC whose function and utility is known in the art.

TCTGGAGTTT GAM1120 is a novel bioinformatically detectable regulatory, non protein coding, TGTGACCTTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM1120 was detected is

AGCAAGTTAC described with additional reference to Figs. 9-15.

CAGATCTCTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGTGCCGCAA encoded by the human genome.

CTTTCTT GAM1120 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1120 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1120 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1120 precursor RNA is designated SEQ ID:140564, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140564 is located from position 9493748 to position 9493844 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM1120 precursor RNA folds onto itself, forming GAM1120 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1120 precursor RNA, designated SEQ ID NO: 140564, and a schematic representation of a predicted secondary folding of GAM1120 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1120 folded precursor RNA yielding a GAM1120 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1120 RNA, hereby incorporated herein.

GAM1120 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1120 target RNA, herein designated GAM TARGET RNA. GAM1120 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1120 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1120 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1120 RNA is a partial or fully complementary sequence of the

nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1120 RNA, herein designated GAM RNA, to target binding sites on GAM1120 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1120 target RNA into GAM1120 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1120 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1120 target genes. The mRNA of each one of this plurality of GAM1120 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1120 RNA, herein designated GAM RNA, and which when bound by GAM1120 RNA causes inhibition of translation of the GAM1120 target mRNA into a corresponding GAM1120 target protein.

The mechanism of the translational inhibition exerted by GAM1120 RNA, herein designated GAM RNA, on one or more GAM1120 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1120 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1120 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1120 RNA, herein designated GAM RNA, of GAM1120 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1120 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1120 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1120 RNA correlate with, and may be deduced from, the identity of the GAM1120 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1144 140565 CTCTCATCAT Fig. 8 further provides a conceptual description of another novel bioinformatically

AGATTAATCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CTTAGTTGCA Messenger 1144 (GAM1144) oligonucleotides modulates expression of respective target genes
AGGGACCAGT whose function and utility is known in the art.

AAATTAACAG GAM1144 is a novel bioinformatically detectable regulatory, non protein coding,
AATGGTGAAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM1144 was detected is

ATTTTCCTTT described with additional reference to Figs. 9-15.

TCTTGGTGCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTTGCTGGAT encoded by the human genome.

GACTAGTGGT GAM1144 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1144
TTCTGCTGGA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1144
ACAGAG precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1144 precursor RNA is designated SEQ ID:140565, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140565 is located from position 26088289 to position 26088404 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM1144 precursor RNA folds onto itself, forming GAM1144 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1144 precursor RNA, designated SEQ ID NO: 140565, and a schematic representation of a predicted secondary folding of GAM1144 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1144 folded precursor RNA yielding a GAM1144 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1144 RNA, hereby incorporated herein.

GAM1144 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1144 target RNA, herein designated GAM TARGET RNA. GAM1144 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1144 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1144 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1144 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1144 RNA, herein designated GAM RNA, to target binding sites on GAM1144 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1144 target RNA into GAM1144 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1144 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1144 target genes. The mRNA of each one of this plurality of GAM1144 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1144 RNA, herein designated GAM RNA, and which when bound by GAM1144 RNA causes inhibition of translation of the GAM1144 target mRNA into a corresponding GAM1144 target protein.

The mechanism of the translational inhibition exerted by GAM1144 RNA, herein designated GAM RNA, on one or more GAM1144 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1144 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1144 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1144 RNA, herein designated GAM RNA, of GAM1144 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1144 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1144 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1144 RNA correlate with, and may be deduced from, the identity of the GAM1144 target gene inhibited

thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1163 140566 GTGGTGTATG Fig. 8 further provides a conceptual description of another novel bioinformatically
GGATCTGCAT detected oligonucleotides of the present invention, referred to here as Genomic Address
GGAGGTGGTC Messenger 1163 (GAM1163) oligonucleotides modulates expression of respective target genes
TATGAGAAAG whose function and utility is known in the art.

CAAACCCCAG GAM1163 is a novel bioinformatically detectable regulatory, non protein coding,
TGAGTGCTGC micro RNA (miRNA)-like oligonucleotide. The method by which GAM1163 was detected is

TTCGGGATTC described with additional reference to Figs. 9-15.

TCTCCAACTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAACCATGCC encoded by the human genome.

TAC GAM1163 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1163
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1163
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1163 precursor RNA is designated SEQ ID:140566, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140566 is located from position 92946370 to position 92946462 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM1163 precursor RNA folds onto itself, forming GAM1163 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1163 precursor RNA, designated SEQ ID NO: 140566, and a schematic representation of a predicted secondary folding of GAM1163 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1163 folded precursor RNA yielding a GAM1163 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1163 RNA, hereby incorporated herein.

GAM1163 target gene, herein designated GAM TARGET GENE, encodes a corresponding

messenger RNA, GAM1163 target RNA, herein designated GAM TARGET RNA. GAM1163 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1163 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1163 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1163 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1163 RNA, herein designated GAM RNA, to target binding sites on GAM1163 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1163 target RNA into GAM1163 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1163 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1163 target genes. The mRNA of each one of this plurality of GAM1163 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1163 RNA, herein designated GAM RNA, and which when bound by GAM1163 RNA causes inhibition of translation of the GAM1163 target mRNA into a corresponding GAM1163 target protein.

The mechanism of the translational inhibition exerted by GAM1163 RNA, herein designated GAM RNA, on one or more GAM1163 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1163 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1163 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1163 RNA, herein designated GAM RNA, of GAM1163 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1163 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target

binding sites to GAM1163 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1163 RNA correlate with, and may be deduced from, the identity of the GAM1163 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1191 140567 TGCTGGGCGT Fig. 8 further provides a conceptual description of another novel bioinformatically
GTGAGGCGGC detected oligonucleotides of the present invention, referred to here as Genomic Address
TGTGCTGTGC Messenger 1191 (GAM1191) oligonucleotides modulates expression of respective target genes
CTGTGAGACA whose function and utility is known in the art.

GGAATGGTTC GAM1191 is a novel bioinformatically detectable regulatory, non protein coding,
CATTACACCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM1191 was detected is

TGGGAAATCA described with additional reference to Figs. 9-15.

CTGATTTATA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGTCCCAAAC encoded by the human genome.

TGCCACACAT GAM1191 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1191
CAGCA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1191

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1191 precursor RNA is designated SEQ ID:140567, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140567 is located from position 24390494 to position 24390598 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM1191 precursor RNA folds onto itself, forming GAM1191 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1191 precursor RNA, designated SEQ ID NO: 140567, and a schematic representation of a predicted secondary folding of GAM1191 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1191 folded precursor RNA yielding a GAM1191 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an

enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1191 RNA, hereby incorporated herein.

GAM1191 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1191 target RNA, herein designated GAM TARGET RNA. GAM1191 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1191 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1191 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1191 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1191 RNA, herein designated GAM RNA, to target binding sites on GAM1191 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1191 target RNA into GAM1191 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1191 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1191 target genes. The mRNA of each one of this plurality of GAM1191 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1191 RNA, herein designated GAM RNA, and which when bound by GAM1191 RNA causes inhibition of translation of the GAM1191 target mRNA into a corresponding GAM1191 target protein.

The mechanism of the translational inhibition exerted by GAM1191 RNA, herein designated GAM RNA, on one or more GAM1191 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1191 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1191 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1191 RNA, herein designated GAM RNA, of GAM1191 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1191 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1191 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1191 RNA correlate with, and may be deduced from, the identity of the GAM1191 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1193 140568 GAGCTGGAGT Fig. 8 further provides a conceptual description of another novel bioinformatically
CTCGCTCTGT detected oligonucleotides of the present invention, referred to here as Genomic Address
CACCCAGGCT Messenger 1193 (GAM1193) oligonucleotides modulates expression of respective target genes
GGAGTGCAGT whose function and utility is known in the art.

GGTGCGATCT GAM1193 is a novel bioinformatically detectable regulatory, non protein coding,
TGGCTCACTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM1193 was detected is

CAACCTCCAC described with additional reference to Figs. 9-15.

CTTTGTGTTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AAGCAATTCT encoded by the human genome.

CCTTCCTC GAM1193 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1193
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1193
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1193 precursor RNA is designated SEQ ID:140568, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140568 is located from position 138504313 to position 138504410 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM1193 precursor RNA folds onto itself, forming GAM1193 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1193 precursor RNA, designated SEQ ID NO: 140568, and a schematic representation of a predicted secondary folding of GAM1193 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1193 folded precursor RNA yielding a GAM1193 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1193 RNA, hereby incorporated herein.

GAM1193 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1193 target RNA, herein designated GAM TARGET RNA. GAM1193 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1193 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1193 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1193 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1193 RNA, herein designated GAM RNA, to target binding sites on GAM1193 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1193 target RNA into GAM1193 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1193 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1193 target genes. The mRNA of each one of this plurality of GAM1193 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1193 RNA, herein designated GAM RNA, and which when bound by GAM1193 RNA causes inhibition of translation of the GAM1193 target mRNA into a corresponding GAM1193 target protein.

The mechanism of the translational inhibition exerted by GAM1193 RNA, herein designated GAM RNA, on one or more GAM1193 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1193 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1193 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1193 RNA, herein designated GAM RNA, of GAM1193 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1193 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1193 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1193 RNA correlate with, and may be deduced from, the identity of the GAM1193 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1197 140569 AGATTTTTTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TGATACTACA detected oligonucleotides of the present invention, referred to here as Genomic Address

TATTGTCAGT Messenger 1197 (GAM1197) oligonucleotides modulates expression of respective target genes

TTTTTAAATA whose function and utility is known in the art.

CTCAGTTTGT GAM1197 is a novel bioinformatically detectable regulatory, non protein coding,

GCTAAAAGAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM1197 was detected is

AACATTCGGC described with additional reference to Figs. 9-15.

AACTGATATC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGCTGTTCTG encoded by the human genome.

TATGTATCTG GAM1197 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1197

TCAGTCCAGA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1197

TTT precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1197 precursor RNA is designated SEQ ID:140569, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140569 is located from position 62494484 to position 62494596 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM1197 precursor RNA folds onto itself, forming GAM1197 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1197 precursor RNA, designated SEQ ID NO: 140569, and a schematic representation of a predicted secondary folding of GAM1197 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1197 folded precursor RNA yielding a GAM1197 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1197 RNA, hereby incorporated herein.

GAM1197 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1197 target RNA, herein designated GAM TARGET RNA. GAM1197 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1197 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1197 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1197 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1197 RNA, herein designated GAM RNA, to target binding sites on GAM1197 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1197 target RNA into GAM1197 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1197 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1197 target genes. The mRNA of each one of this plurality of GAM1197 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1197 RNA, herein designated GAM RNA, and which when bound by GAM1197 RNA causes inhibition of translation of the GAM1197 target mRNA into a corresponding GAM1197 target protein.

The mechanism of the translational inhibition exerted by GAM1197 RNA, herein designated GAM RNA, on one or more GAM1197 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1197 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1197 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1197 RNA, herein designated GAM RNA, of GAM1197 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1197 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1197 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1197 RNA correlate with, and may be deduced from, the identity of the GAM1197 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1216 140570 TTCAGTGGCA Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGGGCCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

GCTGGGATGC Messenger 1216 (GAM1216) oligonucleotides modulates expression of respective target genes

TGAGTTATCC whose function and utility is known in the art.

ACTGGAGCAT GAM1216 is a novel bioinformatically detectable regulatory, non protein coding,

CGGCAGTACA micro RNA (miRNA)-like oligonucleotide. The method by which GAM1216 was detected is

GGCAGGCACA described with additional reference to Figs. 9-15.

GAGGCAGTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

A encoded by the human genome.

GAM1216 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1216

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1216

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1216 precursor RNA is designated SEQ ID:140570, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140570 is located from position 69762458 to position 69762538 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM1216 precursor RNA folds onto itself, forming GAM1216 folded precursor RNA,

herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1216 precursor RNA, designated SEQ ID NO: 140570, and a schematic representation of a predicted secondary folding of GAM1216 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1216 folded precursor RNA yielding a GAM1216 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1216 RNA, hereby incorporated herein.

GAM1216 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1216 target RNA, herein designated GAM TARGET RNA. GAM1216 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1216 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1216 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1216 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1216 RNA, herein designated GAM RNA, to target binding sites on GAM1216 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1216 target RNA into GAM1216 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1216 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1216 target genes. The mRNA of each one of this plurality of GAM1216 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1216 RNA, herein designated GAM RNA, and which when bound by GAM1216 RNA causes inhibition of translation of the GAM1216 target mRNA into a corresponding GAM1216 target protein.

The mechanism of the translational inhibition exerted by GAM1216 RNA, herein designated GAM RNA, on one or more GAM1216 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1216 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1216 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1216 RNA, herein designated GAM RNA, of GAM1216 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1216 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1216 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1216 RNA correlate with, and may be deduced from, the identity of the GAM1216 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1217 140571 ACCTGCCTAT Fig. 8 further provides a conceptual description of another novel bioinformatically

ATTACATTCA detected oligonucleotides of the present invention, referred to here as Genomic Address

TTTTGATGGT Messenger 1217 (GAM1217) oligonucleotides modulates expression of respective target genes

TTGTATCTCA whose function and utility is known in the art.

AAGGAGTACA GAM1217 is a novel bioinformatically detectable regulatory, non protein coding,

GTGAACGAAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM1217 was detected is

CTTGTTTAAA described with additional reference to Figs. 9-15.

GATACACCGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAAGAAAAAG encoded by the human genome.

AGAAGAGGCA GAM1217 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1217

GAGT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1217

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1217 precursor RNA is designated SEQ ID:140571, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140571 is located from position 88520253 to position 88520356 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM1217 precursor RNA folds onto itself, forming GAM1217 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1217 precursor RNA, designated SEQ ID NO: 140571, and a schematic representation of a predicted secondary folding of GAM1217 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1217 folded precursor RNA yielding a GAM1217 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1217 RNA, hereby incorporated herein.

GAM1217 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1217 target RNA, herein designated GAM TARGET RNA. GAM1217 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1217 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1217 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1217 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1217 RNA, herein designated GAM RNA, to target binding sites on GAM1217 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1217 target RNA into GAM1217 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1217 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM1217 target genes. The mRNA of each one of this plurality of GAM1217 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1217 RNA, herein designated GAM RNA, and which when bound by GAM1217 RNA causes inhibition of translation of the GAM1217 target mRNA into a corresponding GAM1217 target protein.

The mechanism of the translational inhibition exerted by GAM1217 RNA, herein designated GAM RNA, on one or more GAM1217 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1217 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1217 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1217 RNA, herein designated GAM RNA, of GAM1217 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1217 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1217 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1217 RNA correlate with, and may be deduced from, the identity of the GAM1217 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1221 140572 TGAAGACTCC Fig. 8 further provides a conceptual description of another novel bioinformatically
ATCACAGTTC detected oligonucleotides of the present invention, referred to here as Genomic Address
CAGATGGGTA Messenger 1221 (GAM1221) oligonucleotides modulates expression of respective target genes
GGAATACCTT whose function and utility is known in the art.

GCAGGGCTGG GAM1221 is a novel bioinformatically detectable regulatory, non protein coding,
GGCAAGGTAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM1221 was detected is

TGCCTTCTCT described with additional reference to Figs. 9-15.

GGAAGGCTGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCATTCTCTT encoded by the human genome.

CA GAM1221 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1221

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1221

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1221 precursor RNA is designated SEQ ID:140572, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140572 is located from position 26323250 to position 26323341 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM1221 precursor RNA folds onto itself, forming GAM1221 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1221 precursor RNA, designated SEQ ID NO: 140572, and a schematic representation of a predicted secondary folding of GAM1221 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1221 folded precursor RNA yielding a GAM1221 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1221 RNA, hereby incorporated herein.

GAM1221 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1221 target RNA, herein designated GAM TARGET RNA. GAM1221 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1221 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1221 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1221 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1221 RNA, herein designated GAM RNA, to target binding sites on GAM1221 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1221 target RNA

into GAM1221 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1221 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1221 target genes. The mRNA of each one of this plurality of GAM1221 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1221 RNA, herein designated GAM RNA, and which when bound by GAM1221 RNA causes inhibition of translation of the GAM1221 target mRNA into a corresponding GAM1221 target protein.

The mechanism of the translational inhibition exerted by GAM1221 RNA, herein designated GAM RNA, on one or more GAM1221 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1221 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1221 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1221 RNA, herein designated GAM RNA, of GAM1221 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1221 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1221 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1221 RNA correlate with, and may be deduced from, the identity of the GAM1221 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1234 140573 TGTGGGGATC Fig. 8 further provides a conceptual description of another novel bioinformatically
TGGTGCTGTG detected oligonucleotides of the present invention, referred to here as Genomic Address
GTTCTGCATG Messenger 1234 (GAM1234) oligonucleotides modulates expression of respective target genes
AAGACAGTAA whose function and utility is known in the art.

CGGTGTCTTC GAM1234 is a novel bioinformatically detectable regulatory, non protein coding,
ATCCAGGAAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM1234 was detected is

CACATTGTCT described with additional reference to Figs. 9-15.

GGACCTACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM1234 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1234 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1234 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1234 precursor RNA is designated SEQ ID:140573, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140573 is located from position 138312903 to position 138312981 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM1234 precursor RNA folds onto itself, forming GAM1234 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1234 precursor RNA, designated SEQ ID NO: 140573, and a schematic representation of a predicted secondary folding of GAM1234 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1234 folded precursor RNA yielding a GAM1234 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM1234 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1234 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM1234 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1234 target RNA, herein designated GAM TARGET RNA. GAM1234 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1234 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1234 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1234 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1234 RNA, herein designated GAM RNA, to target binding sites on GAM1234 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1234 target RNA into GAM1234 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1234 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1234 target genes. The mRNA of each one of this plurality of GAM1234 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1234 RNA, herein designated GAM RNA, and which when bound by GAM1234 RNA causes inhibition of translation of the GAM1234 target mRNA into a corresponding GAM1234 target protein.

The mechanism of the translational inhibition exerted by GAM1234 RNA, herein designated GAM RNA, on one or more GAM1234 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1234 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1234 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1234 RNA, herein designated GAM RNA, of GAM1234 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1234 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1234 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1234 RNA correlate with, and may be deduced from, the identity of the GAM1234 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1238 140574 GGAGAATCAC TTGAACCTGG GAGGCAGAGG TTGTTGCAGT GAGCCGAGAT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 1238 (GAM1238) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM1238 is a novel bioinformatically detectable regulatory, non protein coding,

TGCACCACTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM1238 was detected is

CACTCCAGCC described with additional reference to Figs. 9-15.

TGGGTGACAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGTGAGACTC encoded by the human genome.

C GAM1238 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1238

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1238

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1238 precursor RNA is designated SEQ ID:140574, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140574 is located from position 56600621 to position 56600711 relative to chromosome chr20 on the `-` strand (chr is an abbreviation for chromosome).

GAM1238 precursor RNA folds onto itself, forming GAM1238 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1238 precursor RNA, designated SEQ ID NO: 140574, and a schematic representation of a predicted secondary folding of GAM1238 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1238 folded precursor RNA yielding a GAM1238 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1238 RNA, hereby incorporated herein.

GAM1238 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1238 target RNA, herein designated GAM TARGET RNA. GAM1238 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1238 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1238 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1238 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows

three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1238 RNA, herein designated GAM RNA, to target binding sites on GAM1238 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1238 target RNA into GAM1238 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1238 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1238 target genes. The mRNA of each one of this plurality of GAM1238 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1238 RNA, herein designated GAM RNA, and which when bound by GAM1238 RNA causes inhibition of translation of the GAM1238 target mRNA into a corresponding GAM1238 target protein.

The mechanism of the translational inhibition exerted by GAM1238 RNA, herein designated GAM RNA, on one or more GAM1238 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1238 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1238 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1238 RNA, herein designated GAM RNA, of GAM1238 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1238 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1238 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1238 RNA correlate with, and may be deduced from, the identity of the GAM1238 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1293 140575 GTGTCCCTTC CAAGCTGTGT Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address

TAACTGTTCA Messenger 1293 (GAM1293) oligonucleotides modulates expression of respective target genes

AACTCAGGCC whose function and utility is known in the art.

TGTGTGACTC GAM1293 is a novel bioinformatically detectable regulatory, non protein coding, CATTGGGGTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM1293 was detected is

AGAGGTGAAA described with additional reference to Figs. 9-15.

GCATAACATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGTACAGAGG encoded by the human genome.

GGACAAC GAM1293 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1293 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1293 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1293 precursor RNA is designated SEQ ID:140575, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140575 is located from position 56453734 to position 56453830 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM1293 precursor RNA folds onto itself, forming GAM1293 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1293 precursor RNA, designated SEQ ID NO: 140575, and a schematic representation of a predicted secondary folding of GAM1293 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1293 folded precursor RNA yielding a GAM1293 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1293 RNA, hereby incorporated herein.

GAM1293 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1293 target RNA, herein designated GAM TARGET RNA. GAM1293 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1293 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1293 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1293 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1293 RNA, herein designated GAM RNA, to target binding sites on GAM1293 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1293 target RNA into GAM1293 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1293 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1293 target genes. The mRNA of each one of this plurality of GAM1293 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1293 RNA, herein designated GAM RNA, and which when bound by GAM1293 RNA causes inhibition of translation of the GAM1293 target mRNA into a corresponding GAM1293 target protein.

The mechanism of the translational inhibition exerted by GAM1293 RNA, herein designated GAM RNA, on one or more GAM1293 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1293 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1293 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1293 RNA, herein designated GAM RNA, of GAM1293 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1293 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1293 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1293 RNA correlate with, and may be deduced from, the identity of the GAM1293 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1294 140576 CTGGGTTCCC Fig. 8 further provides a conceptual description of another novel bioinformatically
AAATTCTCCT detected oligonucleotides of the present invention, referred to here as Genomic Address
TGCTGTTCTG Messenger 1294 (GAM1294) oligonucleotides modulates expression of respective target genes
CATCATTGTC whose function and utility is known in the art.

TAGATGGATT GAM1294 is a novel bioinformatically detectable regulatory, non protein coding,
AGTAAAGAAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM1294 was detected is

AATGAAAACT described with additional reference to Figs. 9-15.

CCAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM1294 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1294

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1294
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1294 precursor RNA is designated SEQ ID:140576, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140576 is located from position 74684805 to position 74684878 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GAM1294 precursor RNA folds onto itself, forming GAM1294 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1294 precursor RNA, designated SEQ ID NO: 140576, and a schematic representation of a predicted secondary folding of GAM1294 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1294 folded precursor RNA yielding a GAM1294 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1294 RNA, hereby incorporated herein.

GAM1294 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1294 target RNA, herein designated GAM TARGET RNA. GAM1294 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1294 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1294 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1294 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1294 RNA, herein designated GAM RNA, to target binding sites on GAM1294 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1294 target RNA into GAM1294 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1294 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1294 target genes. The mRNA of each one of this plurality of GAM1294 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1294 RNA, herein designated GAM RNA, and which when bound by GAM1294 RNA causes inhibition of translation of the GAM1294 target mRNA into a corresponding GAM1294 target protein.

The mechanism of the translational inhibition exerted by GAM1294 RNA, herein designated GAM RNA, on one or more GAM1294 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1294 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1294 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1294 RNA, herein designated GAM RNA, of GAM1294 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1294 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1294 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1294 RNA correlate with, and may be deduced from, the identity of the GAM1294 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1295 140577 TCTAGGGAGA Fig. 8 further provides a conceptual description of another novel bioinformatically
CCCAGGACCC detected oligonucleotides of the present invention, referred to here as Genomic Address
GGGAGAGAGG Messenger 1295 (GAM1295) oligonucleotides modulates expression of respective target genes
TAGAGGGGAG whose function and utility is known in the art.

CAGAGACAGC GAM1295 is a novel bioinformatically detectable regulatory, non protein coding,
CACCAGCTTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM1295 was detected is

TATCTTCTGC described with additional reference to Figs. 9-15.

TCTAAGCACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTCTTTCACG encoded by the human genome.

AGTTTAAGTT GAM1295 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1295
TCCTAGA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1295
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1295 precursor RNA is designated SEQ ID:140577, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140577 is located from position 40608762 to position 40608868 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM1295 precursor RNA folds onto itself, forming GAM1295 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1295 precursor RNA, designated SEQ ID NO: 140577, and a schematic representation of a predicted secondary folding of GAM1295 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1295 folded precursor RNA yielding a GAM1295 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the

nucleotide sequence of GAM1295 RNA, hereby incorporated herein.

GAM1295 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1295 target RNA, herein designated GAM TARGET RNA. GAM1295 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1295 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1295 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1295 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1295 RNA, herein designated GAM RNA, to target binding sites on GAM1295 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1295 target RNA into GAM1295 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1295 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1295 target genes. The mRNA of each one of this plurality of GAM1295 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1295 RNA, herein designated GAM RNA, and which when bound by GAM1295 RNA causes inhibition of translation of the GAM1295 target mRNA into a corresponding GAM1295 target protein.

The mechanism of the translational inhibition exerted by GAM1295 RNA, herein designated GAM RNA, on one or more GAM1295 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1295 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1295 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1295 RNA, herein designated GAM RNA, of GAM1295 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1295 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1295 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1295 RNA correlate with, and may be deduced from, the identity of the GAM1295 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1300 140578 TGCTAGGCTT Fig. 8 further provides a conceptual description of another novel bioinformatically
ATTCTCTTCC detected oligonucleotides of the present invention, referred to here as Genomic Address
TCATTCAGTC Messenger 1300 (GAM1300) oligonucleotides modulates expression of respective target genes
TCTCAATCAA whose function and utility is known in the art.

TCAATACTTA GAM1300 is a novel bioinformatically detectable regulatory, non protein coding,
CTGAGTACTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM1300 was detected is

GTCATTGCAA described with additional reference to Figs. 9-15.

GACCTGAGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATAGAGGGGC encoded by the human genome.

TAGCA GAM1300 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1300
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1300
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1300 precursor RNA is designated SEQ ID:140578, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140578 is located from position 82918189 to position 82918283 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM1300 precursor RNA folds onto itself, forming GAM1300 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1300 precursor RNA, designated SEQ ID NO: 140578, and a schematic representation of a predicted secondary folding of GAM1300 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1300 folded precursor RNA

yielding a GAM1300 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1300 RNA, hereby incorporated herein.

GAM1300 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1300 target RNA, herein designated GAM TARGET RNA. GAM1300 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1300 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1300 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1300 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1300 RNA, herein designated GAM RNA, to target binding sites on GAM1300 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1300 target RNA into GAM1300 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1300 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1300 target genes. The mRNA of each one of this plurality of GAM1300 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1300 RNA, herein designated GAM RNA, and which when bound by GAM1300 RNA causes inhibition of translation of the GAM1300 target mRNA into a corresponding GAM1300 target protein.

The mechanism of the translational inhibition exerted by GAM1300 RNA, herein designated GAM RNA, on one or more GAM1300 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1300 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1300 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1300 RNA, herein designated GAM RNA, of GAM1300 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1300 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1300 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1300 RNA correlate with, and may be deduced from, the identity of the GAM1300 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1310 140579 GGCGTCTTGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TCTATTGGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

GGCTGGAGTG Messenger 1310 (GAM1310) oligonucleotides modulates expression of respective target genes

CAGTGGTGCG whose function and utility is known in the art.

ATCTCAGCTC GAM1310 is a novel bioinformatically detectable regulatory, non protein coding,

ACTGCAACCC micro RNA (miRNA)-like oligonucleotide. The method by which GAM1310 was detected is

CCGCCTCCCA described with additional reference to Figs. 9-15.

GATTCAAGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATTCTCCTGC encoded by the human genome.

C GAM1310 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1310

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1310

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1310 precursor RNA is designated SEQ ID:140579, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140579 is located from position 51215356 to position 51215446 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM1310 precursor RNA folds onto itself, forming GAM1310 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1310 precursor RNA, designated SEQ ID NO: 140579, and

a schematic representation of a predicted secondary folding of GAM1310 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1310 folded precursor RNA yielding a GAM1310 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1310 RNA, hereby incorporated herein.

GAM1310 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1310 target RNA, herein designated GAM TARGET RNA. GAM1310 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1310 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1310 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1310 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1310 RNA, herein designated GAM RNA, to target binding sites on GAM1310 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1310 target RNA into GAM1310 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1310 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1310 target genes. The mRNA of each one of this plurality of GAM1310 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1310 RNA, herein designated GAM RNA, and which when bound by GAM1310 RNA causes inhibition of translation of the GAM1310 target mRNA into a corresponding GAM1310 target protein.

The mechanism of the translational inhibition exerted by GAM1310 RNA, herein designated GAM RNA, on one or more GAM1310 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1310 precursor RNA, herein designated GAM PRECURSOR

RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1310 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1310 RNA, herein designated GAM RNA, of GAM1310 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1310 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1310 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1310 RNA correlate with, and may be deduced from, the identity of the GAM1310 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1313 140580 TGTGGAAACT Fig. 8 further provides a conceptual description of another novel bioinformatically
TTTGGCTGTG detected oligonucleotides of the present invention, referred to here as Genomic Address
GGGACCCCAT Messenger 1313 (GAM1313) oligonucleotides modulates expression of respective target genes
TTCACTGATG whose function and utility is known in the art.

ATTGAATGGG GAM1313 is a novel bioinformatically detectable regulatory, non protein coding,
TCCACCTCTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM1313 was detected is

TCAAAGGAAT described with additional reference to Figs. 9-15.

TCAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM1313 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1313

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1313
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1313 precursor RNA is designated SEQ ID:140580, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140580 is located from position 2260318 to position 2260392 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM1313 precursor RNA folds onto itself, forming GAM1313 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1313 precursor RNA, designated SEQ ID NO: 140580, and a schematic representation of a predicted secondary folding of GAM1313 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1313 folded precursor RNA yielding a GAM1313 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM1313 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1313 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM1313 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1313 target RNA, herein designated GAM TARGET RNA. GAM1313 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1313 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1313 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1313 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1313 RNA, herein designated GAM RNA, to target binding sites on GAM1313 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1313 target RNA into GAM1313 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1313 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1313 target genes. The mRNA of each one of this plurality of GAM1313 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1313 RNA, herein designated GAM RNA, and which when bound by GAM1313 RNA causes inhibition of translation of the GAM1313 target mRNA into a corresponding GAM1313 target protein.

The mechanism of the translational inhibition exerted by GAM1313 RNA, herein designated GAM RNA, on one or more GAM1313 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1313 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1313 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1313 RNA, herein designated GAM RNA, of GAM1313 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1313 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1313 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1313 RNA correlate with, and may be deduced from, the identity of the GAM1313 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1332 140581 GCACCCTGTG Fig. 8 further provides a conceptual description of another novel bioinformatically

AGGTAGGTGC detected oligonucleotides of the present invention, referred to here as Genomic Address

TTTAACTGTG Messenger 1332 (GAM1332) oligonucleotides modulates expression of respective target genes

TGCACCCTGT whose function and utility is known in the art.

GAGGTAGGTG GAM1332 is a novel bioinformatically detectable regulatory, non protein coding,

CTTTAACTGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM1332 was detected is

GTGCACATTG described with additional reference to Figs. 9-15.

TGAGGTAGGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCTGAAACTG encoded by the human genome.

C GAM1332 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1332

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1332

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1332 precursor RNA is designated SEQ ID:140581, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ

ID:140581 is located from position 93614973 to position 93615063 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM1332 precursor RNA folds onto itself, forming GAM1332 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1332 precursor RNA, designated SEQ ID NO: 140581, and a schematic representation of a predicted secondary folding of GAM1332 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1332 folded precursor RNA yielding a GAM1332 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1332 RNA, hereby incorporated herein.

GAM1332 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1332 target RNA, herein designated GAM TARGET RNA. GAM1332 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1332 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1332 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1332 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1332 RNA, herein designated GAM RNA, to target binding sites on GAM1332 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1332 target RNA into GAM1332 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1332 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1332 target genes. The mRNA of each one of this

plurality of GAM1332 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1332 RNA, herein designated GAM RNA, and which when bound by GAM1332 RNA causes inhibition of translation of the GAM1332 target mRNA into a corresponding GAM1332 target protein.

The mechanism of the translational inhibition exerted by GAM1332 RNA, herein designated GAM RNA, on one or more GAM1332 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1332 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1332 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1332 RNA, herein designated GAM RNA, of GAM1332 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1332 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1332 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1332 RNA correlate with, and may be deduced from, the identity of the GAM1332 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1338 140582 GGAGAATGGC Fig. 8 further provides a conceptual description of another novel bioinformatically
ATGAACCCGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGTGGAGC Messenger 1338 (GAM1338) oligonucleotides modulates expression of respective target genes
TTGCAGTGAG whose function and utility is known in the art.

CAGAGATCAC GAM1338 is a novel bioinformatically detectable regulatory, non protein coding,
GCCACTGCAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM1338 was detected is

TCCAGCCTGG described with additional reference to Figs. 9-15.

GCAACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGACTCC encoded by the human genome.

GAM1338 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1338

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1338 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1338 precursor RNA is designated SEQ ID:140582, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140582 is located from position 62757693 to position 62757780 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM1338 precursor RNA folds onto itself, forming GAM1338 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1338 precursor RNA, designated SEQ ID NO: 140582, and a schematic representation of a predicted secondary folding of GAM1338 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1338 folded precursor RNA yielding a GAM1338 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1338 RNA, hereby incorporated herein. Expression of GAM1338 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM1338 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1338 target RNA, herein designated GAM TARGET RNA. GAM1338 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1338 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1338 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1338 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1338 RNA, herein designated GAM RNA, to target

binding sites on GAM1338 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1338 target RNA into GAM1338 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1338 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1338 target genes. The mRNA of each one of this plurality of GAM1338 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1338 RNA, herein designated GAM RNA, and which when bound by GAM1338 RNA causes inhibition of translation of the GAM1338 target mRNA into a corresponding GAM1338 target protein.

The mechanism of the translational inhibition exerted by GAM1338 RNA, herein designated GAM RNA, on one or more GAM1338 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1338 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1338 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1338 RNA, herein designated GAM RNA, of GAM1338 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1338 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1338 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1338 RNA correlate with, and may be deduced from, the identity of the GAM1338 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1351 140583 AGAATATCTG Fig. 8 further provides a conceptual description of another novel bioinformatically
AACATTGGAC detected oligonucleotides of the present invention, referred to here as Genomic Address
TTGTTCTTTA Messenger 1351 (GAM1351) oligonucleotides modulates expression of respective target genes
GAGTATATGG whose function and utility is known in the art.

CCTTTAGTTC GAM1351 is a novel bioinformatically detectable regulatory, non protein coding,
TTGTGGAACT micro RNA (miRNA)-like oligonucleotide. The method by which GAM1351 was detected is

AAATACAGTG described with additional reference to Figs. 9-15.

ATTCTAAGAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAAAAGTCTT encoded by the human genome.

AGTGTTTGGG GAM1351 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1351

GTTTT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1351

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1351 precursor RNA is designated SEQ ID:140583, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140583 is located from position 24488980 to position 24489084 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM1351 precursor RNA folds onto itself, forming GAM1351 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1351 precursor RNA, designated SEQ ID NO: 140583, and a schematic representation of a predicted secondary folding of GAM1351 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1351 folded precursor RNA yielding a GAM1351 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1351 RNA, hereby incorporated herein.

GAM1351 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1351 target RNA, herein designated GAM TARGET RNA. GAM1351 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1351 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1351 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1351 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1351 RNA, herein designated GAM RNA, to target binding sites on GAM1351 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1351 target RNA into GAM1351 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1351 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1351 target genes. The mRNA of each one of this plurality of GAM1351 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1351 RNA, herein designated GAM RNA, and which when bound by GAM1351 RNA causes inhibition of translation of the GAM1351 target mRNA into a corresponding GAM1351 target protein.

The mechanism of the translational inhibition exerted by GAM1351 RNA, herein designated GAM RNA, on one or more GAM1351 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1351 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1351 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1351 RNA, herein designated GAM RNA, of GAM1351 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1351 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1351 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1351 RNA correlate with, and may be deduced from, the identity of the GAM1351 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1361 140584 CAGAAGGGGT Fig. 8 further provides a conceptual description of another novel bioinformatically

TTTTATCAAA detected oligonucleotides of the present invention, referred to here as Genomic Address

AATATGTAGA Messenger 1361 (GAM1361) oligonucleotides modulates expression of respective target genes

TTCTACTACA whose function and utility is known in the art.

ATATTTTAGC GAM1361 is a novel bioinformatically detectable regulatory, non protein coding, TAAAGAAGAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM1361 was detected is

GAAGTAGTAG described with additional reference to Figs. 9-15.

TAGCAGTAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGTCAGTATT encoded by the human genome.

TTTGACCCTG GAM1361 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1361

ACCCAACTCT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1361

G precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1361 precursor RNA is designated SEQ ID:140584, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140584 is located from position 40576956 to position 40577066 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM1361 precursor RNA folds onto itself, forming GAM1361 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1361 precursor RNA, designated SEQ ID NO: 140584, and a schematic representation of a predicted secondary folding of GAM1361 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1361 folded precursor RNA yielding a GAM1361 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1361 RNA, hereby incorporated herein.

GAM1361 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1361 target RNA, herein designated GAM TARGET RNA. GAM1361 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1361 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1361 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the

nucleotide sequence of GAM1361 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1361 RNA, herein designated GAM RNA, to target binding sites on GAM1361 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1361 target RNA into GAM1361 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1361 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1361 target genes. The mRNA of each one of this plurality of GAM1361 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1361 RNA, herein designated GAM RNA, and which when bound by GAM1361 RNA causes inhibition of translation of the GAM1361 target mRNA into a corresponding GAM1361 target protein.

The mechanism of the translational inhibition exerted by GAM1361 RNA, herein designated GAM RNA, on one or more GAM1361 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1361 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1361 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1361 RNA, herein designated GAM RNA, of GAM1361 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1361 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1361 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1361 RNA correlate with, and may be deduced from, the identity of the GAM1361 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1363 140585 AGAGCTGGTG Fig. 8 further provides a conceptual description of another novel bioinformatically

TGTAGCGGGT detected oligonucleotides of the present invention, referred to here as Genomic Address ACCTTCTGTC Messenger 1363 (GAM1363) oligonucleotides modulates expression of respective target genes

TGCTGGCACT whose function and utility is known in the art.

AGGTATTTTA GAM1363 is a novel bioinformatically detectable regulatory, non protein coding, CACATTAAAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM1363 was detected is

CAGCTCGTTC described with additional reference to Figs. 9-15.

TCACATCAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCT encoded by the human genome.

GAM1363 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1363

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1363

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1363 precursor RNA is designated SEQ ID:140585, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140585 is located from position 54861174 to position 54861256 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM1363 precursor RNA folds onto itself, forming GAM1363 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1363 precursor RNA, designated SEQ ID NO: 140585, and a schematic representation of a predicted secondary folding of GAM1363 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1363 folded precursor RNA yielding a GAM1363 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1363 RNA, hereby incorporated herein.

GAM1363 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1363 target RNA, herein designated GAM TARGET RNA. GAM1363 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1363 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1363 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1363 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1363 RNA, herein designated GAM RNA, to target binding sites on GAM1363 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1363 target RNA into GAM1363 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1363 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1363 target genes. The mRNA of each one of this plurality of GAM1363 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1363 RNA, herein designated GAM RNA, and which when bound by GAM1363 RNA causes inhibition of translation of the GAM1363 target mRNA into a corresponding GAM1363 target protein.

The mechanism of the translational inhibition exerted by GAM1363 RNA, herein designated GAM RNA, on one or more GAM1363 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1363 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1363 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1363 RNA, herein designated GAM RNA, of GAM1363 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1363 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1363 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1363 RNA correlate with, and may be deduced from, the identity of the GAM1363 target gene inhibited

thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1372 140586 GCTAGGATTG Fig. 8 further provides a conceptual description of another novel bioinformatically
CACCACTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CTCCAACCTG Messenger 1372 (GAM1372) oligonucleotides modulates expression of respective target genes
GACAACAGAG whose function and utility is known in the art.

CAAGACCCTG GAM1372 is a novel bioinformatically detectable regulatory, non protein coding,
TCTCTAGGCC micro RNA (miRNA)-like oligonucleotide. The method by which GAM1372 was detected is

AGGTGCAGTG described with additional reference to Figs. 9-15.

GCTCACACCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTAATCCCAG encoded by the human genome.

C GAM1372 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1372
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1372
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1372 precursor RNA is designated SEQ ID:140586, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140586 is located from position 71938248 to position 71938338 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM1372 precursor RNA folds onto itself, forming GAM1372 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1372 precursor RNA, designated SEQ ID NO: 140586, and a schematic representation of a predicted secondary folding of GAM1372 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1372 folded precursor RNA yielding a GAM1372 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1372 RNA, hereby incorporated herein.

GAM1372 target gene, herein designated GAM TARGET GENE, encodes a corresponding

messenger RNA, GAM1372 target RNA, herein designated GAM TARGET RNA. GAM1372 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1372 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1372 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1372 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1372 RNA, herein designated GAM RNA, to target binding sites on GAM1372 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1372 target RNA into GAM1372 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1372 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1372 target genes. The mRNA of each one of this plurality of GAM1372 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1372 RNA, herein designated GAM RNA, and which when bound by GAM1372 RNA causes inhibition of translation of the GAM1372 target mRNA into a corresponding GAM1372 target protein.

The mechanism of the translational inhibition exerted by GAM1372 RNA, herein designated GAM RNA, on one or more GAM1372 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1372 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1372 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1372 RNA, herein designated GAM RNA, of GAM1372 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1372 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target

binding sites to GAM1372 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1372 RNA correlate with, and may be deduced from, the identity of the GAM1372 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1423 140587 GAGCAAGGAC Fig. 8 further provides a conceptual description of another novel bioinformatically
AAGTTGTGAC detected oligonucleotides of the present invention, referred to here as Genomic Address
CTTCCCAGTC Messenger 1423 (GAM1423) oligonucleotides modulates expression of respective target genes
CTCTCTCCAT whose function and utility is known in the art.

TTGCAGATCA GAM1423 is a novel bioinformatically detectable regulatory, non protein coding,
GCAAGCTTCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM1423 was detected is

GTCAGCAAGG described with additional reference to Figs. 9-15.

AGGGGTGGAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AATGAAACTG encoded by the human genome.

GGTTCAGCTT GAM1423 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1423
GATTTGTTT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1423
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1423 precursor RNA is designated SEQ ID:140587, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140587 is located from position 97689214 to position 97689322 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM1423 precursor RNA folds onto itself, forming GAM1423 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1423 precursor RNA, designated SEQ ID NO: 140587, and a schematic representation of a predicted secondary folding of GAM1423 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1423 folded precursor RNA yielding a GAM1423 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an

enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1423 RNA, hereby incorporated herein.

GAM1423 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1423 target RNA, herein designated GAM TARGET RNA. GAM1423 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1423 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1423 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1423 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1423 RNA, herein designated GAM RNA, to target binding sites on GAM1423 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1423 target RNA into GAM1423 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1423 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1423 target genes. The mRNA of each one of this plurality of GAM1423 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1423 RNA, herein designated GAM RNA, and which when bound by GAM1423 RNA causes inhibition of translation of the GAM1423 target mRNA into a corresponding GAM1423 target protein.

The mechanism of the translational inhibition exerted by GAM1423 RNA, herein designated GAM RNA, on one or more GAM1423 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1423 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1423 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1423 RNA, herein designated GAM RNA, of GAM1423 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1423 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1423 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1423 RNA correlate with, and may be deduced from, the identity of the GAM1423 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1431 140588 GAGAACTGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
ATGGAGGAGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ATTAGAGGAT Messenger 1431 (GAM1431) oligonucleotides modulates expression of respective target genes
GGTGTGGTGT whose function and utility is known in the art.

TTCCCAAGAC GAM1431 is a novel bioinformatically detectable regulatory, non protein coding,
ATCCCCTGAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM1431 was detected is

CTTGCTATCC described with additional reference to Figs. 9-15.

CAGCATCTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM1431 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1431

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1431
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1431 precursor RNA is designated SEQ ID:140588, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140588 is located from position 62113797 to position 62113875 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GAM1431 precursor RNA folds onto itself, forming GAM1431 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1431 precursor RNA, designated SEQ ID NO: 140588, and a schematic representation of a predicted secondary folding of GAM1431 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1431 folded precursor RNA yielding a GAM1431 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1431 RNA, hereby incorporated herein.

GAM1431 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1431 target RNA, herein designated GAM TARGET RNA. GAM1431 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1431 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1431 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1431 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1431 RNA, herein designated GAM RNA, to target binding sites on GAM1431 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1431 target RNA into GAM1431 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1431 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1431 target genes. The mRNA of each one of this plurality of GAM1431 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1431 RNA, herein designated GAM RNA, and which when bound by GAM1431 RNA causes inhibition of translation of the GAM1431 target mRNA into a corresponding GAM1431 target protein.

The mechanism of the translational inhibition exerted by GAM1431 RNA, herein designated GAM RNA, on one or more GAM1431 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1431 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1431 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1431 RNA, herein designated GAM RNA, of GAM1431 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1431 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1431 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1431 RNA correlate with, and may be deduced from, the identity of the GAM1431 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1439 140589 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTACA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACGTGCAG Messenger 1439 (GAM1439) oligonucleotides modulates expression of respective target genes

GTTTGTTACA whose function and utility is known in the art.

TATGTATACA GAM1439 is a novel bioinformatically detectable regulatory, non protein coding,

TGTGCCATGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM1439 was detected is

TGGTGTGCTG described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM1439 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1439

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1439

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1439 precursor RNA is designated SEQ ID:140589, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140589 is located from position 170985685 to position 170985766 relative to chromosome chr1 on the `+` strand (chr is an abbreviation for chromosome).

GAM1439 precursor RNA folds onto itself, forming GAM1439 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1439 precursor RNA, designated SEQ ID NO: 140589, and a schematic representation of a predicted secondary folding of GAM1439 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1439 folded precursor RNA yielding a GAM1439 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM1439 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1439 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM1439 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1439 target RNA, herein designated GAM TARGET RNA. GAM1439 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1439 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1439 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1439 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1439 RNA, herein designated GAM RNA, to target binding sites on GAM1439 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1439 target RNA into GAM1439 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1439 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1439 target genes. The mRNA of each one of this plurality of GAM1439 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1439 RNA, herein designated GAM RNA, and which when bound by GAM1439 RNA causes inhibition of translation of the GAM1439 target mRNA into a corresponding GAM1439 target protein.

The mechanism of the translational inhibition exerted by GAM1439 RNA, herein designated GAM RNA, on one or more GAM1439 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1439 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1439 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1439 RNA, herein designated GAM RNA, of GAM1439 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1439 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1439 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1439 RNA correlate with, and may be deduced from, the identity of the GAM1439 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1440 140590 GAACACAAAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AGGTGTAGAA detected oligonucleotides of the present invention, referred to here as Genomic Address
TCTGGGTTGG Messenger 1440 (GAM1440) oligonucleotides modulates expression of respective target genes
TCCTTCAAGG whose function and utility is known in the art.

CAGCTCATTG GAM1440 is a novel bioinformatically detectable regulatory, non protein coding,
CAGCTACTGG micro RNA (miRNA)-like oligonucleotide. The method by which GAM1440 was detected is

CCTCCAGTGA described with additional reference to Figs. 9-15.

AACAGGTCTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTTGAGCTAT encoded by the human genome.

TTGTTC GAM1440 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1440
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1440
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1440 precursor RNA is designated SEQ ID:140590, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140590 is located from position 45420363 to position 45420458 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM1440 precursor RNA folds onto itself, forming GAM1440 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1440 precursor RNA, designated SEQ ID NO: 140590, and a schematic representation of a predicted secondary folding of GAM1440 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1440 folded precursor RNA yielding a GAM1440 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1440 RNA, hereby incorporated herein.

GAM1440 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1440 target RNA, herein designated GAM TARGET RNA. GAM1440 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1440 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1440 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1440 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1440 RNA, herein designated GAM RNA, to target binding sites on GAM1440 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1440 target RNA into GAM1440 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1440 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1440 target genes. The mRNA of each one of this plurality of GAM1440 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1440 RNA, herein designated GAM RNA, and which when bound by GAM1440 RNA causes inhibition of translation

of the GAM1440 target mRNA into a corresponding GAM1440 target protein.

The mechanism of the translational inhibition exerted by GAM1440 RNA, herein designated GAM RNA, on one or more GAM1440 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1440 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1440 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1440 RNA, herein designated GAM RNA, of GAM1440 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1440 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1440 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1440 RNA correlate with, and may be deduced from, the identity of the GAM1440 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1443 140591 CTGAAGGGTG Fig. 8 further provides a conceptual description of another novel bioinformatically
GAGAGGGCCT detected oligonucleotides of the present invention, referred to here as Genomic Address
CTCATGCAGG Messenger 1443 (GAM1443) oligonucleotides modulates expression of respective target genes
CATGTGTGAG whose function and utility is known in the art.

CAGCTGCAGG GAM1443 is a novel bioinformatically detectable regulatory, non protein coding,
TGTGTGAGCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM1443 was detected is

AATGTGCATC described with additional reference to Figs. 9-15.

ACTGGGGAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGGTGTCTGT encoded by the human genome.

GGATGAGGGA GAM1443 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1443
GGAAGTGAGG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1443
GTGAGG precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

to the nucleotide sequence of GAM1443 precursor RNA is designated SEQ ID:140591, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140591 is located from position 79169031 to position 79169146 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM1443 precursor RNA folds onto itself, forming GAM1443 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1443 precursor RNA, designated SEQ ID NO: 140591, and a schematic representation of a predicted secondary folding of GAM1443 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1443 folded precursor RNA yielding a GAM1443 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1443 RNA, hereby incorporated herein.

GAM1443 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1443 target RNA, herein designated GAM TARGET RNA. GAM1443 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1443 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1443 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1443 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1443 RNA, herein designated GAM RNA, to target binding sites on GAM1443 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1443 target RNA into GAM1443 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1443 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1443 target genes. The mRNA of each one of this plurality of GAM1443 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1443 RNA, herein designated GAM RNA, and which when bound by GAM1443 RNA causes inhibition of translation of the GAM1443 target mRNA into a corresponding GAM1443 target protein.

The mechanism of the translational inhibition exerted by GAM1443 RNA, herein designated GAM RNA, on one or more GAM1443 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1443 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1443 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1443 RNA, herein designated GAM RNA, of GAM1443 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1443 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1443 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1443 RNA correlate with, and may be deduced from, the identity of the GAM1443 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1445 140592 TTCTGAAAAC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTTAAGTTCA detected oligonucleotides of the present invention, referred to here as Genomic Address
GTAATATGCC Messenger 1445 (GAM1445) oligonucleotides modulates expression of respective target genes
AGGGGTTCCC whose function and utility is known in the art.

AAGACCACTT GAM1445 is a novel bioinformatically detectable regulatory, non protein coding,
GAGACCTGGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM1445 was detected is

AATTTATTGG described with additional reference to Figs. 9-15.

AAGTCTCTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGGAATCAGA encoded by the human genome.

A GAM1445 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1445 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1445 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1445 precursor RNA is designated SEQ ID:140592, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140592 is located from position 61973588 to position 61973678 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM1445 precursor RNA folds onto itself, forming GAM1445 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1445 precursor RNA, designated SEQ ID NO: 140592, and a schematic representation of a predicted secondary folding of GAM1445 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1445 folded precursor RNA yielding a GAM1445 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1445 RNA, hereby incorporated herein.

GAM1445 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1445 target RNA, herein designated GAM TARGET RNA. GAM1445 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1445 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1445 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1445 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1445 RNA, herein designated GAM RNA, to target

binding sites on GAM1445 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1445 target RNA into GAM1445 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1445 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1445 target genes. The mRNA of each one of this plurality of GAM1445 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1445 RNA, herein designated GAM RNA, and which when bound by GAM1445 RNA causes inhibition of translation of the GAM1445 target mRNA into a corresponding GAM1445 target protein.

The mechanism of the translational inhibition exerted by GAM1445 RNA, herein designated GAM RNA, on one or more GAM1445 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1445 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1445 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1445 RNA, herein designated GAM RNA, of GAM1445 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1445 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1445 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1445 RNA correlate with, and may be deduced from, the identity of the GAM1445 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1447 140593 GTCCACACTG Fig. 8 further provides a conceptual description of another novel bioinformatically
ACCTTCTGTG detected oligonucleotides of the present invention, referred to here as Genomic Address
TCATGGCATA Messenger 1447 (GAM1447) oligonucleotides modulates expression of respective target genes
TGCCCATGTC whose function and utility is known in the art.

AGGCAGTGCT GAM1447 is a novel bioinformatically detectable regulatory, non protein coding,
GTGCTAAAGG micro RNA (miRNA)-like oligonucleotide. The method by which GAM1447 was detected is

AAGGATTACA described with additional reference to Figs. 9-15.

TGGAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM1447 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1447 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1447 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1447 precursor RNA is designated SEQ ID:140593, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140593 is located from position 84120401 to position 84120475 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM1447 precursor RNA folds onto itself, forming GAM1447 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1447 precursor RNA, designated SEQ ID NO: 140593, and a schematic representation of a predicted secondary folding of GAM1447 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1447 folded precursor RNA yielding a GAM1447 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM1447 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1447 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM1447 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1447 target RNA, herein designated GAM TARGET RNA. GAM1447 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1447 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1447 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1447 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1447 RNA, herein designated GAM RNA, to target binding sites on GAM1447 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1447 target RNA into GAM1447 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1447 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1447 target genes. The mRNA of each one of this plurality of GAM1447 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1447 RNA, herein designated GAM RNA, and which when bound by GAM1447 RNA causes inhibition of translation of the GAM1447 target mRNA into a corresponding GAM1447 target protein.

The mechanism of the translational inhibition exerted by GAM1447 RNA, herein designated GAM RNA, on one or more GAM1447 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1447 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1447 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1447 RNA, herein designated GAM RNA, of GAM1447 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1447 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1447 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1447 RNA correlate with, and may be deduced from, the identity of the GAM1447 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1456 140594 TAAGATGAGT TGATATTCAA ATATCCAGTT Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 1456 (GAM1456) oligonucleotides modulates expression of respective target genes

AGTAATGAAA whose function and utility is known in the art.

ACAATACAAT GAM1456 is a novel bioinformatically detectable regulatory, non protein coding, ACTGAGAGAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM1456 was detected is

AAAGCTTGTC described with additional reference to Figs. 9-15.

TTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM1456 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1456

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1456

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1456 precursor RNA is designated SEQ ID:140594, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140594 is located from position 27561775 to position 27561847 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM1456 precursor RNA folds onto itself, forming GAM1456 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1456 precursor RNA, designated SEQ ID NO: 140594, and a schematic representation of a predicted secondary folding of GAM1456 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1456 folded precursor RNA yielding a GAM1456 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1456 RNA, hereby incorporated herein.

GAM1456 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1456 target RNA, herein designated GAM TARGET RNA. GAM1456 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1456 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1456 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1456 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1456 RNA, herein designated GAM RNA, to target binding sites on GAM1456 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1456 target RNA into GAM1456 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1456 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1456 target genes. The mRNA of each one of this plurality of GAM1456 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1456 RNA, herein designated GAM RNA, and which when bound by GAM1456 RNA causes inhibition of translation of the GAM1456 target mRNA into a corresponding GAM1456 target protein.

The mechanism of the translational inhibition exerted by GAM1456 RNA, herein designated GAM RNA, on one or more GAM1456 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1456 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1456 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1456 RNA, herein designated GAM RNA, of GAM1456 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1456 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1456 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1456 RNA correlate with, and may be deduced from, the identity of the GAM1456 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1461 140595 TGTGAAACCA Fig. 8 further provides a conceptual description of another novel bioinformatically

TTATGCAGAT detected oligonucleotides of the present invention, referred to here as Genomic Address

GAAGAAGATG Messenger 1461 (GAM1461) oligonucleotides modulates expression of respective target genes

AAGCCCGAGA whose function and utility is known in the art.

GGTTATGAAA GAM1461 is a novel bioinformatically detectable regulatory, non protein coding,

CAGACCCAAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM1461 was detected is

TGGGCTCGCT described with additional reference to Figs. 9-15.

CTTCAGTCTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGCATAAGGA encoded by the human genome.

ATCCG GAM1461 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1461 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1461 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1461 precursor RNA is designated SEQ ID:140595, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140595 is located from position 11377024 to position 11377118 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM1461 precursor RNA folds onto itself, forming GAM1461 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1461 precursor RNA, designated SEQ ID NO: 140595, and a schematic representation of a predicted secondary folding of GAM1461 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1461 folded precursor RNA yielding a GAM1461 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM1461 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1461 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM1461 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1461 target RNA, herein designated GAM TARGET RNA. GAM1461 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1461 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1461 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1461 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1461 RNA, herein designated GAM RNA, to target binding sites on GAM1461 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1461 target RNA into GAM1461 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1461 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1461 target genes. The mRNA of each one of this plurality of GAM1461 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1461 RNA, herein designated GAM RNA, and which when bound by GAM1461 RNA causes inhibition of translation of the GAM1461 target mRNA into a corresponding GAM1461 target protein.

The mechanism of the translational inhibition exerted by GAM1461 RNA, herein designated GAM RNA, on one or more GAM1461 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1461 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1461 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1461 RNA, herein designated GAM RNA, of GAM1461 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1461 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1461 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1461 RNA correlate with, and may be deduced from, the identity of the GAM1461 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1469 140596 GTCAGGACTG Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGGCTAAGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAATGTCTGC Messenger 1469 (GAM1469) oligonucleotides modulates expression of respective target genes
TTGGACTGAT whose function and utility is known in the art.

CATTGAACAA GAM1469 is a novel bioinformatically detectable regulatory, non protein coding,
TCTTTCCAAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM1469 was detected is

TAAAAGCTTC described with additional reference to Figs. 9-15.

TATGATTCTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TAAGTAGCAA encoded by the human genome.

TCAGCACCGA GAM1469 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1469
CAGTTATGAT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1469
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1469 precursor RNA is designated SEQ ID:140596, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140596 is located from position 51978690 to position 51978799 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GAM1469 precursor RNA folds onto itself, forming GAM1469 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1469 precursor RNA, designated SEQ ID NO: 140596, and a schematic representation of a predicted secondary folding of GAM1469 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1469 folded precursor RNA yielding a GAM1469 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM1469 RNA: a nucleotide sequence that is highly

likely to be identical or highly similar to the nucleotide sequence of GAM1469 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM1469 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1469 target RNA, herein designated GAM TARGET RNA. GAM1469 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1469 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1469 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1469 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1469 RNA, herein designated GAM RNA, to target binding sites on GAM1469 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1469 target RNA into GAM1469 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1469 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1469 target genes. The mRNA of each one of this plurality of GAM1469 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1469 RNA, herein designated GAM RNA, and which when bound by GAM1469 RNA causes inhibition of translation of the GAM1469 target mRNA into a corresponding GAM1469 target protein.

The mechanism of the translational inhibition exerted by GAM1469 RNA, herein designated GAM RNA, on one or more GAM1469 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1469 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1469 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1469 RNA, herein designated GAM RNA, of GAM1469 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1469 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1469 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1469 RNA correlate with, and may be deduced from, the identity of the GAM1469 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1479 140597 GGGAAGGCAG Fig. 8 further provides a conceptual description of another novel bioinformatically
TAGGTTGTAT detected oligonucleotides of the present invention, referred to here as Genomic Address
AGTTATCTTC Messenger 1479 (GAM1479) oligonucleotides modulates expression of respective target genes
CGAGGGGCAA whose function and utility is known in the art.

CATCACTGCC GAM1479 is a novel bioinformatically detectable regulatory, non protein coding,
CTGAAACCAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM1479 was detected is

ACAACCTACT described with additional reference to Figs. 9-15.

ACCTCACC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM1479 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1479

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1479
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1479 precursor RNA is designated SEQ ID:140597, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140597 is located from position 44721810 to position 44721887 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM1479 precursor RNA folds onto itself, forming GAM1479 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1479 precursor RNA, designated SEQ ID NO: 140597, and a schematic representation of a predicted secondary folding of GAM1479 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1479 folded precursor RNA yielding a GAM1479 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1479 RNA, hereby incorporated herein. Expression of GAM1479 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM1479 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1479 target RNA, herein designated GAM TARGET RNA. GAM1479 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1479 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1479 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1479 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1479 RNA, herein designated GAM RNA, to target binding sites on GAM1479 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1479 target RNA into GAM1479 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1479 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1479 target genes. The mRNA of each one of this plurality of GAM1479 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1479 RNA, herein designated GAM RNA, and which when bound by GAM1479 RNA causes inhibition of translation of the GAM1479 target mRNA into a corresponding GAM1479 target protein.

The mechanism of the translational inhibition exerted by GAM1479 RNA, herein designated GAM RNA, on one or more GAM1479 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1479 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1479 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1479 RNA, herein designated GAM RNA, of GAM1479 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1479 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1479 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1479 RNA correlate with, and may be deduced from, the identity of the GAM1479 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1484 140598 TGGTTGCAAG Fig. 8 further provides a conceptual description of another novel bioinformatically

GCAGGAAATA detected oligonucleotides of the present invention, referred to here as Genomic Address

TTGGTGAAAT Messenger 1484 (GAM1484) oligonucleotides modulates expression of respective target genes

GCTAGCAAAG whose function and utility is known in the art.

TCACAATTTC GAM1484 is a novel bioinformatically detectable regulatory, non protein coding,

TACTCTGAAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM1484 was detected is

ATGATTTGCA described with additional reference to Figs. 9-15.

GTGTTCATCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTATTTTTCT encoded by the human genome.

GAACCCTGCT GAM1484 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1484

TTACCA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1484

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1484 precursor RNA is designated SEQ ID:140598, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140598 is located from position 63061687 to position 63061792 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM1484 precursor RNA folds onto itself, forming GAM1484 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1484 precursor RNA, designated SEQ ID NO: 140598, and a schematic representation of a predicted secondary folding of GAM1484 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1484 folded precursor RNA yielding a GAM1484 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM1484 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1484 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM1484 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1484 target RNA, herein designated GAM TARGET RNA. GAM1484 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1484 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1484 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1484 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1484 RNA, herein designated GAM RNA, to target binding sites on GAM1484 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1484 target RNA into GAM1484 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1484 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1484 target genes. The mRNA of each one of this plurality of GAM1484 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1484 RNA, herein designated GAM RNA, and which when bound by GAM1484 RNA causes inhibition of translation of the GAM1484 target mRNA into a corresponding GAM1484 target protein.

The mechanism of the translational inhibition exerted by GAM1484 RNA, herein designated GAM RNA, on one or more GAM1484 target genes, herein collectively designated

GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1484 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1484 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1484 RNA, herein designated GAM RNA, of GAM1484 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1484 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1484 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1484 RNA correlate with, and may be deduced from, the identity of the GAM1484 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1490 140599 GAGCTCCCAC Fig. 8 further provides a conceptual description of another novel bioinformatically
GGCTTTTCTA detected oligonucleotides of the present invention, referred to here as Genomic Address
GAAATTGGCA Messenger 1490 (GAM1490) oligonucleotides modulates expression of respective target genes
CACAAACTCC whose function and utility is known in the art.

AAAGCGTGTG GAM1490 is a novel bioinformatically detectable regulatory, non protein coding,
TGGAAATGCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM1490 was detected is

GATGACCTGG described with additional reference to Figs. 9-15.

GAGACCCAAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAACCTC encoded by the human genome.

GAM1490 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1490

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1490

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1490 precursor RNA is designated SEQ ID:140599, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140599 is located from position 132157864 to position 132157951 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM1490 precursor RNA folds onto itself, forming GAM1490 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1490 precursor RNA, designated SEQ ID NO: 140599, and a schematic representation of a predicted secondary folding of GAM1490 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1490 folded precursor RNA yielding a GAM1490 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1490 RNA, hereby incorporated herein.

GAM1490 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1490 target RNA, herein designated GAM TARGET RNA. GAM1490 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1490 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1490 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1490 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1490 RNA, herein designated GAM RNA, to target binding sites on GAM1490 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1490 target RNA into GAM1490 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1490 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1490 target genes. The mRNA of each one of this plurality of GAM1490 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1490 RNA, herein

designated GAM RNA, and which when bound by GAM1490 RNA causes inhibition of translation of the GAM1490 target mRNA into a corresponding GAM1490 target protein.

The mechanism of the translational inhibition exerted by GAM1490 RNA, herein designated GAM RNA, on one or more GAM1490 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1490 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1490 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1490 RNA, herein designated GAM RNA, of GAM1490 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1490 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1490 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1490 RNA correlate with, and may be deduced from, the identity of the GAM1490 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1500 140600 GCCCGGTGCT Fig. 8 further provides a conceptual description of another novel bioinformatically
CGGTTTGTAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GCAGTGTCAT Messenger 1500 (GAM1500) oligonucleotides modulates expression of respective target genes
TAGCTGATTG whose function and utility is known in the art.

TACTGTGGTG GAM1500 is a novel bioinformatically detectable regulatory, non protein coding,
GTTACAATCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM1500 was detected is

CTAACTCCAC described with additional reference to Figs. 9-15.

TGCCATCAAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAAGGCACA encoded by the human genome.

GC GAM1500 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1500
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1500

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1500 precursor RNA is designated SEQ ID:140600, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140600 is located from position 111417608 to position 111417699 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM1500 precursor RNA folds onto itself, forming GAM1500 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1500 precursor RNA, designated SEQ ID NO: 140600, and a schematic representation of a predicted secondary folding of GAM1500 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1500 folded precursor RNA yielding a GAM1500 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1500 RNA, hereby incorporated herein.

GAM1500 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1500 target RNA, herein designated GAM TARGET RNA. GAM1500 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1500 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1500 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1500 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1500 RNA, herein designated GAM RNA, to target binding sites on GAM1500 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1500 target RNA into GAM1500 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1500 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1500 target genes. The mRNA of each one of this plurality of GAM1500 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1500 RNA, herein designated GAM RNA, and which when bound by GAM1500 RNA causes inhibition of translation of the GAM1500 target mRNA into a corresponding GAM1500 target protein.

The mechanism of the translational inhibition exerted by GAM1500 RNA, herein designated GAM RNA, on one or more GAM1500 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1500 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1500 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1500 RNA, herein designated GAM RNA, of GAM1500 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1500 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1500 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1500 RNA correlate with, and may be deduced from, the identity of the GAM1500 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1502 140601 CATATATGTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TGGTATTCTT detected oligonucleotides of the present invention, referred to here as Genomic Address

GGGGTCTAGT Messenger 1502 (GAM1502) oligonucleotides modulates expression of respective target genes

AGTCTAGTAT whose function and utility is known in the art.

AATACACATA GAM1502 is a novel bioinformatically detectable regulatory, non protein coding,

GCCTAGGACA micro RNA (miRNA)-like oligonucleotide. The method by which GAM1502 was detected is

TGTATG described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM1502 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1502 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1502 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1502 precursor RNA is designated SEQ ID:140601, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140601 is located from position 37916875 to position 37916940 relative to chromosome chr13 on the `-` strand (chr is an abbreviation for chromosome).

GAM1502 precursor RNA folds onto itself, forming GAM1502 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1502 precursor RNA, designated SEQ ID NO: 140601, and a schematic representation of a predicted secondary folding of GAM1502 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1502 folded precursor RNA yielding a GAM1502 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1502 RNA, hereby incorporated herein.

GAM1502 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1502 target RNA, herein designated GAM TARGET RNA. GAM1502 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1502 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1502 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1502 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1502 RNA, herein designated GAM RNA, to target binding sites on GAM1502 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1502 target RNA into GAM1502 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1502 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1502 target genes. The mRNA of each one of this plurality of GAM1502 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1502 RNA, herein designated GAM RNA, and which when bound by GAM1502 RNA causes inhibition of translation of the GAM1502 target mRNA into a corresponding GAM1502 target protein.

The mechanism of the translational inhibition exerted by GAM1502 RNA, herein designated GAM RNA, on one or more GAM1502 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1502 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1502 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1502 RNA, herein designated GAM RNA, of GAM1502 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1502 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1502 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1502 RNA correlate with, and may be deduced from, the identity of the GAM1502 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1523 140602 CCCAAAGCTC ACAGTTTGGC ACTGAATCAT ATACAATCTC GTAGTTTGGA TGGCTGTGTG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 1523 (GAM1523) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM1523 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM1523 was detected is

TGACTGCAGA described with additional reference to Figs. 9-15.

CTGCTAGACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCAGGG encoded by the human genome.

GAM1523 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1523 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1523 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1523 precursor RNA is designated SEQ ID:140602, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140602 is located from position 102859224 to position 102859309 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM1523 precursor RNA folds onto itself, forming GAM1523 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1523 precursor RNA, designated SEQ ID NO: 140602, and a schematic representation of a predicted secondary folding of GAM1523 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1523 folded precursor RNA yielding a GAM1523 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1523 RNA, hereby incorporated herein.

GAM1523 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1523 target RNA, herein designated GAM TARGET RNA. GAM1523 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1523 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1523 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1523 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1523 RNA, herein designated GAM RNA, to target binding sites on GAM1523 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1523 target RNA into GAM1523 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1523 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1523 target genes. The mRNA of each one of this plurality of GAM1523 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1523 RNA, herein designated GAM RNA, and which when bound by GAM1523 RNA causes inhibition of translation of the GAM1523 target mRNA into a corresponding GAM1523 target protein.

The mechanism of the translational inhibition exerted by GAM1523 RNA, herein designated GAM RNA, on one or more GAM1523 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1523 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1523 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1523 RNA, herein designated GAM RNA, of GAM1523 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1523 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1523 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1523 RNA correlate with, and may be deduced from, the identity of the GAM1523 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1543 140603 GGAGAATTGC TTGAACCCAA GAGGTGGAGG Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 1543 (GAM1543) oligonucleotides modulates expression of respective target genes

TTGCAGTGAG whose function and utility is known in the art.

CCACGATTGT GAM1543 is a novel bioinformatically detectable regulatory, non protein coding,
GCCATTGCAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM1543 was detected is

TCCAGCCTGG described with additional reference to Figs. 9-15.

GTGACAGAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGACTCC encoded by the human genome.

GAM1543 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1543

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1543

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1543 precursor RNA is designated SEQ ID:140603, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140603 is located from position 28383578 to position 28383665 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GAM1543 precursor RNA folds onto itself, forming GAM1543 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1543 precursor RNA, designated SEQ ID NO: 140603, and a schematic representation of a predicted secondary folding of GAM1543 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1543 folded precursor RNA yielding a GAM1543 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1543 RNA, hereby incorporated herein.

GAM1543 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1543 target RNA, herein designated GAM TARGET RNA. GAM1543 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1543 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1543 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1543 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1543 RNA, herein designated GAM RNA, to target binding sites on GAM1543 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1543 target RNA into GAM1543 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1543 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1543 target genes. The mRNA of each one of this plurality of GAM1543 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1543 RNA, herein designated GAM RNA, and which when bound by GAM1543 RNA causes inhibition of translation of the GAM1543 target mRNA into a corresponding GAM1543 target protein.

The mechanism of the translational inhibition exerted by GAM1543 RNA, herein designated GAM RNA, on one or more GAM1543 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1543 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1543 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1543 RNA, herein designated GAM RNA, of GAM1543 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1543 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1543 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1543 RNA correlate with, and may be deduced from, the identity of the GAM1543 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1550 140604 TTACTGAGTA Fig. 8 further provides a conceptual description of another novel bioinformatically

TTCACCAGGT detected oligonucleotides of the present invention, referred to here as Genomic Address

GCTGGGTGGA Messenger 1550 (GAM1550) oligonucleotides modulates expression of respective target genes

GAAAGAAGAC whose function and utility is known in the art.

TTAAAGATTC GAM1550 is a novel bioinformatically detectable regulatory, non protein coding,

CCTAGACATC micro RNA (miRNA)-like oligonucleotide. The method by which GAM1550 was detected is

TCCTCTCCCC described with additional reference to Figs. 9-15.

TAGACTCAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACCATGGCAC encoded by the human genome.

TTATTTTCTA GAM1550 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1550

G precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1550

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1550 precursor RNA is designated SEQ ID:140604, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140604 is located from position 35798284 to position 35798384 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM1550 precursor RNA folds onto itself, forming GAM1550 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1550 precursor RNA, designated SEQ ID NO: 140604, and a schematic representation of a predicted secondary folding of GAM1550 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1550 folded precursor RNA yielding a GAM1550 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1550 RNA, hereby incorporated herein.

GAM1550 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1550 target RNA, herein designated GAM TARGET RNA. GAM1550 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated

region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1550 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1550 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1550 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1550 RNA, herein designated GAM RNA, to target binding sites on GAM1550 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1550 target RNA into GAM1550 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1550 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1550 target genes. The mRNA of each one of this plurality of GAM1550 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1550 RNA, herein designated GAM RNA, and which when bound by GAM1550 RNA causes inhibition of translation of the GAM1550 target mRNA into a corresponding GAM1550 target protein.

The mechanism of the translational inhibition exerted by GAM1550 RNA, herein designated GAM RNA, on one or more GAM1550 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1550 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1550 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1550 RNA, herein designated GAM RNA, of GAM1550 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1550 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1550 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1550 RNA correlate with, and may be deduced from, the identity of the GAM1550 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1602 140605 GAAGAAGTAG Fig. 8 further provides a conceptual description of another novel bioinformatically

ATTGGGCTGC detected oligonucleotides of the present invention, referred to here as Genomic Address

AATCACACAA Messenger 1602 (GAM1602) oligonucleotides modulates expression of respective target genes

TGGGTGCATC whose function and utility is known in the art.

ACCAGTGCGG GAM1602 is a novel bioinformatically detectable regulatory, non protein coding,

ACACCTAGGC micro RNA (miRNA)-like oligonucleotide. The method by which GAM1602 was detected is

GTACAGGGAA described with additional reference to Figs. 9-15.

CCATGGCTTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGGAGTGTAA encoded by the human genome.

AGAAGGATGT GAM1602 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1602

TACCCCAGGA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1602

TGCAGTTCAG precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

ACAATTTTAT to the nucleotide sequence of GAM1602 precursor RNA is designated SEQ ID:140605, and is

C provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140605 is located from position 33016836 to position 33016966 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM1602 precursor RNA folds onto itself, forming GAM1602 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1602 precursor RNA, designated SEQ ID NO: 140605, and a schematic representation of a predicted secondary folding of GAM1602 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1602 folded precursor RNA yielding a GAM1602 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the

nucleotide sequence of GAM1602 RNA, hereby incorporated herein.

GAM1602 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1602 target RNA, herein designated GAM TARGET RNA. GAM1602 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1602 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1602 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1602 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1602 RNA, herein designated GAM RNA, to target binding sites on GAM1602 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1602 target RNA into GAM1602 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1602 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1602 target genes. The mRNA of each one of this plurality of GAM1602 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1602 RNA, herein designated GAM RNA, and which when bound by GAM1602 RNA causes inhibition of translation of the GAM1602 target mRNA into a corresponding GAM1602 target protein.

The mechanism of the translational inhibition exerted by GAM1602 RNA, herein designated GAM RNA, on one or more GAM1602 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1602 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1602 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1602 RNA, herein designated GAM RNA, of GAM1602 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1602 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1602 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1602 RNA correlate with, and may be deduced from, the identity of the GAM1602 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1607 140606 TAGGCTGTAT Fig. 8 further provides a conceptual description of another novel bioinformatically
GCTGTTAATG detected oligonucleotides of the present invention, referred to here as Genomic Address
CTAATCGTGA Messenger 1607 (GAM1607) oligonucleotides modulates expression of respective target genes
TAGGGGTTTT whose function and utility is known in the art.

TGCCTCCAAC GAM1607 is a novel bioinformatically detectable regulatory, non protein coding,
TGACTCCTAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM1607 was detected is

ATATTAGCAT described with additional reference to Figs. 9-15.

TAACAGTGTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGATGCCTG encoded by the human genome.

GAM1607 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1607

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1607

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1607 precursor RNA is designated SEQ ID:140606, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140606 is located from position 25868151 to position 25868239 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GAM1607 precursor RNA folds onto itself, forming GAM1607 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1607 precursor RNA, designated SEQ ID NO: 140606, and a schematic representation of a predicted secondary folding of GAM1607 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1607 folded precursor RNA

yielding a GAM1607 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1607 RNA, hereby incorporated herein.

GAM1607 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1607 target RNA, herein designated GAM TARGET RNA. GAM1607 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1607 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1607 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1607 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1607 RNA, herein designated GAM RNA, to target binding sites on GAM1607 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1607 target RNA into GAM1607 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1607 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1607 target genes. The mRNA of each one of this plurality of GAM1607 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1607 RNA, herein designated GAM RNA, and which when bound by GAM1607 RNA causes inhibition of translation of the GAM1607 target mRNA into a corresponding GAM1607 target protein.

The mechanism of the translational inhibition exerted by GAM1607 RNA, herein designated GAM RNA, on one or more GAM1607 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1607 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1607 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1607 RNA, herein designated GAM RNA, of GAM1607 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1607 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1607 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1607 RNA correlate with, and may be deduced from, the identity of the GAM1607 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1616 140607 CAGGAGTACG Fig. 8 further provides a conceptual description of another novel bioinformatically

ACGCTGTGGT detected oligonucleotides of the present invention, referred to here as Genomic Address

AGCTATGATC Messenger 1616 (GAM1616) oligonucleotides modulates expression of respective target genes

ATGCCACTGC whose function and utility is known in the art.

ACTCCAGCCT GAM1616 is a novel bioinformatically detectable regulatory, non protein coding,

GGGTGACAGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM1616 was detected is

GCAAGATCTA described with additional reference to Figs. 9-15.

GATAATTACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTCTGTCCTG encoded by the human genome.

CTCCTG GAM1616 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1616

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1616

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1616 precursor RNA is designated SEQ ID:140607, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140607 is located from position 70520488 to position 70520583 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM1616 precursor RNA folds onto itself, forming GAM1616 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1616 precursor RNA, designated SEQ ID NO: 140607, and

a schematic representation of a predicted secondary folding of GAM1616 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1616 folded precursor RNA yielding a GAM1616 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1616 RNA, hereby incorporated herein.

GAM1616 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1616 target RNA, herein designated GAM TARGET RNA. GAM1616 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1616 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1616 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1616 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1616 RNA, herein designated GAM RNA, to target binding sites on GAM1616 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1616 target RNA into GAM1616 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1616 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1616 target genes. The mRNA of each one of this plurality of GAM1616 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1616 RNA, herein designated GAM RNA, and which when bound by GAM1616 RNA causes inhibition of translation of the GAM1616 target mRNA into a corresponding GAM1616 target protein.

The mechanism of the translational inhibition exerted by GAM1616 RNA, herein designated GAM RNA, on one or more GAM1616 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1616 precursor RNA, herein designated GAM PRECURSOR

RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1616 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1616 RNA, herein designated GAM RNA, of GAM1616 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1616 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1616 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1616 RNA correlate with, and may be deduced from, the identity of the GAM1616 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1617 140608 ATAGACAGGT Fig. 8 further provides a conceptual description of another novel bioinformatically

CTCACTCTGT detected oligonucleotides of the present invention, referred to here as Genomic Address

TGCCCAGGCT Messenger 1617 (GAM1617) oligonucleotides modulates expression of respective target genes

GGAGTGCAGT whose function and utility is known in the art.

GGTGTGACTG GAM1617 is a novel bioinformatically detectable regulatory, non protein coding,

TAGCTCACTA micro RNA (miRNA)-like oligonucleotide. The method by which GAM1617 was detected is

TAGCCACCAA described with additional reference to Figs. 9-15.

GTCCTGGGCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAAGCGATCC encoded by the human genome.

TCCTGTCTAT GAM1617 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1617

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1617

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1617 precursor RNA is designated SEQ ID:140608, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140608 is located from position 48119610 to position 48119709 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM1617 precursor RNA folds onto itself, forming GAM1617 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1617 precursor RNA, designated SEQ ID NO: 140608, and a schematic representation of a predicted secondary folding of GAM1617 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1617 folded precursor RNA yielding a GAM1617 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1617 RNA, hereby incorporated herein.

GAM1617 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1617 target RNA, herein designated GAM TARGET RNA. GAM1617 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1617 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1617 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1617 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1617 RNA, herein designated GAM RNA, to target binding sites on GAM1617 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1617 target RNA into GAM1617 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1617 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1617 target genes. The mRNA of each one of this plurality of GAM1617 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1617 RNA, herein designated GAM RNA, and which when bound by GAM1617 RNA causes inhibition of translation of the GAM1617 target mRNA into a corresponding GAM1617 target protein.

The mechanism of the translational inhibition exerted by GAM1617 RNA, herein

designated GAM RNA, on one or more GAM1617 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1617 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1617 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1617 RNA, herein designated GAM RNA, of GAM1617 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1617 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1617 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1617 RNA correlate with, and may be deduced from, the identity of the GAM1617 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1650 140609 TGGTGGCTTG Fig. 8 further provides a conceptual description of another novel bioinformatically

GTTTGTGTAC detected oligonucleotides of the present invention, referred to here as Genomic Address

CTATTTTTCT Messenger 1650 (GAM1650) oligonucleotides modulates expression of respective target genes

GCATTTGTAT whose function and utility is known in the art.

TGGAAAAGGT GAM1650 is a novel bioinformatically detectable regulatory, non protein coding,

TTCTTTTAAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM1650 was detected is

ACATTTTCCA described with additional reference to Figs. 9-15.

AAAGTGGAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGAATATGTG encoded by the human genome.

TGTTCAGGAA GAM1650 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1650

GGGCTTTCA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1650

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1650 precursor RNA is designated SEQ ID:140609, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140609 is located from position 108489391 to position 108489499 relative to chromosome

chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM1650 precursor RNA folds onto itself, forming GAM1650 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1650 precursor RNA, designated SEQ ID NO: 140609, and a schematic representation of a predicted secondary folding of GAM1650 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1650 folded precursor RNA yielding a GAM1650 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM1650 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1650 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM1650 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1650 target RNA, herein designated GAM TARGET RNA. GAM1650 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1650 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1650 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1650 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1650 RNA, herein designated GAM RNA, to target binding sites on GAM1650 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1650 target RNA into GAM1650 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1650 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1650 target genes. The mRNA of each one of this

plurality of GAM1650 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1650 RNA, herein designated GAM RNA, and which when bound by GAM1650 RNA causes inhibition of translation of the GAM1650 target mRNA into a corresponding GAM1650 target protein.

The mechanism of the translational inhibition exerted by GAM1650 RNA, herein designated GAM RNA, on one or more GAM1650 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1650 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1650 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1650 RNA, herein designated GAM RNA, of GAM1650 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1650 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1650 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1650 RNA correlate with, and may be deduced from, the identity of the GAM1650 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1653 140610 GGTGGAGCAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AAAGGCAGGA detected oligonucleotides of the present invention, referred to here as Genomic Address
GTCCTGCTCC Messenger 1653 (GAM1653) oligonucleotides modulates expression of respective target genes
CTGGCACCAT whose function and utility is known in the art.

CATGGAGCAT GAM1653 is a novel bioinformatically detectable regulatory, non protein coding,
GCCCAGCCCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM1653 was detected is

GATCTGCCCC described with additional reference to Figs. 9-15.

CC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM1653 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1653

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1653 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1653 precursor RNA is designated SEQ ID:140610, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140610 is located from position 38591310 to position 38591381 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM1653 precursor RNA folds onto itself, forming GAM1653 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1653 precursor RNA, designated SEQ ID NO: 140610, and a schematic representation of a predicted secondary folding of GAM1653 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1653 folded precursor RNA yielding a GAM1653 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1653 RNA, hereby incorporated herein.

GAM1653 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1653 target RNA, herein designated GAM TARGET RNA. GAM1653 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1653 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1653 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1653 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1653 RNA, herein designated GAM RNA, to target binding sites on GAM1653 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1653 target RNA

into GAM1653 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1653 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1653 target genes. The mRNA of each one of this plurality of GAM1653 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1653 RNA, herein designated GAM RNA, and which when bound by GAM1653 RNA causes inhibition of translation of the GAM1653 target mRNA into a corresponding GAM1653 target protein.

The mechanism of the translational inhibition exerted by GAM1653 RNA, herein designated GAM RNA, on one or more GAM1653 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1653 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1653 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1653 RNA, herein designated GAM RNA, of GAM1653 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1653 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1653 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1653 RNA correlate with, and may be deduced from, the identity of the GAM1653 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1664 140611 TTCACTGGAT Fig. 8 further provides a conceptual description of another novel bioinformatically
ATGGTGGTGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GTGCTTGTAG Messenger 1664 (GAM1664) oligonucleotides modulates expression of respective target genes
TTGCAGCTTA whose function and utility is known in the art.

GTCAGAAGGC GAM1664 is a novel bioinformatically detectable regulatory, non protein coding,
TGTGGTAGAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM1664 was detected is

GAATCGCCTG described with additional reference to Figs. 9-15.

AACCTGAGTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTTGAGGCTG encoded by the human genome.

CAGTGAGCCA GAM1664 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1664

TGATCATGCC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1664

ACTGAA precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1664 precursor RNA is designated SEQ ID:140611, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140611 is located from position 19042832 to position 19042947 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM1664 precursor RNA folds onto itself, forming GAM1664 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1664 precursor RNA, designated SEQ ID NO: 140611, and a schematic representation of a predicted secondary folding of GAM1664 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1664 folded precursor RNA yielding a GAM1664 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1664 RNA, hereby incorporated herein.

GAM1664 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1664 target RNA, herein designated GAM TARGET RNA. GAM1664 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1664 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1664 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1664 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1664 RNA, herein designated GAM RNA, to target binding sites on GAM1664 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1664 target RNA into GAM1664 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1664 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1664 target genes. The mRNA of each one of this plurality of GAM1664 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1664 RNA, herein designated GAM RNA, and which when bound by GAM1664 RNA causes inhibition of translation of the GAM1664 target mRNA into a corresponding GAM1664 target protein.

The mechanism of the translational inhibition exerted by GAM1664 RNA, herein designated GAM RNA, on one or more GAM1664 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1664 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1664 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1664 RNA, herein designated GAM RNA, of GAM1664 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1664 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1664 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1664 RNA correlate with, and may be deduced from, the identity of the GAM1664 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1698 140612 GTGTGACCTT Fig. 8 further provides a conceptual description of another novel bioinformatically
GGCCCTGTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
GGCTTCACCT Messenger 1698 (GAM1698) oligonucleotides modulates expression of respective target genes
CTTGAGCCTG whose function and utility is known in the art.

AGAAGCAGAG GAM1698 is a novel bioinformatically detectable regulatory, non protein coding,
GTGACAGTAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM1698 was detected is

TGGCCCTGGT described with additional reference to Figs. 9-15.

TCTTAGCAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGGGTGGCGG encoded by the human genome.

GCAGGGTAGG GAM1698 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1698

GGGTGGCGC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1698

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1698 precursor RNA is designated SEQ ID:140612, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140612 is located from position 30012807 to position 30012915 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM1698 precursor RNA folds onto itself, forming GAM1698 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1698 precursor RNA, designated SEQ ID NO: 140612, and a schematic representation of a predicted secondary folding of GAM1698 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1698 folded precursor RNA yielding a GAM1698 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1698 RNA, hereby incorporated herein.

GAM1698 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1698 target RNA, herein designated GAM TARGET RNA. GAM1698 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1698 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1698 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1698 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1698 RNA, herein designated GAM RNA, to target binding sites on GAM1698 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1698 target RNA into GAM1698 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1698 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1698 target genes. The mRNA of each one of this plurality of GAM1698 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1698 RNA, herein designated GAM RNA, and which when bound by GAM1698 RNA causes inhibition of translation of the GAM1698 target mRNA into a corresponding GAM1698 target protein.

The mechanism of the translational inhibition exerted by GAM1698 RNA, herein designated GAM RNA, on one or more GAM1698 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1698 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1698 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1698 RNA, herein designated GAM RNA, of GAM1698 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1698 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1698 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1698 RNA correlate with, and may be deduced from, the identity of the GAM1698 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1735 140613 GTCTAACCAG Fig. 8 further provides a conceptual description of another novel bioinformatically

TCCCAGTGAG detected oligonucleotides of the present invention, referred to here as Genomic Address

ATGAACCAGG Messenger 1735 (GAM1735) oligonucleotides modulates expression of respective target genes

TATCTCAGCT whose function and utility is known in the art.

GGAAATGCAG GAM1735 is a novel bioinformatically detectable regulatory, non protein coding, AAATCACCTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM1735 was detected is

CCTTCTCTGT described with additional reference to Figs. 9-15.

TGGTCTCCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGGAGCTGCA encoded by the human genome.

GAC GAM1735 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1735 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1735 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1735 precursor RNA is designated SEQ ID:140613, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140613 is located from position 16961669 to position 16961761 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM1735 precursor RNA folds onto itself, forming GAM1735 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1735 precursor RNA, designated SEQ ID NO: 140613, and a schematic representation of a predicted secondary folding of GAM1735 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1735 folded precursor RNA yielding a GAM1735 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1735 RNA, hereby incorporated herein.

GAM1735 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1735 target RNA, herein designated GAM TARGET RNA. GAM1735 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1735 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1735 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1735 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1735 RNA, herein designated GAM RNA, to target binding sites on GAM1735 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1735 target RNA into GAM1735 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1735 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1735 target genes. The mRNA of each one of this plurality of GAM1735 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1735 RNA, herein designated GAM RNA, and which when bound by GAM1735 RNA causes inhibition of translation of the GAM1735 target mRNA into a corresponding GAM1735 target protein.

The mechanism of the translational inhibition exerted by GAM1735 RNA, herein designated GAM RNA, on one or more GAM1735 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1735 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1735 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1735 RNA, herein designated GAM RNA, of GAM1735 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1735 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1735 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1735 RNA correlate with, and may be deduced from, the identity of the GAM1735 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1748 140614 TCGCTTGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically
CCTGGAGGTG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGTTGCAG Messenger 1748 (GAM1748) oligonucleotides modulates expression of respective target genes
TGAGCTGAGA whose function and utility is known in the art.

TCGTAGCCAC GAM1748 is a novel bioinformatically detectable regulatory, non protein coding,
TGCACTCCAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM1748 was detected is

TCTGGGTGAC described with additional reference to Figs. 9-15.

AGAGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM1748 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1748

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1748
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1748 precursor RNA is designated SEQ ID:140614, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140614 is located from position 17342458 to position 17342534 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM1748 precursor RNA folds onto itself, forming GAM1748 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1748 precursor RNA, designated SEQ ID NO: 140614, and a schematic representation of a predicted secondary folding of GAM1748 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1748 folded precursor RNA yielding a GAM1748 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1748 RNA, hereby incorporated herein.

GAM1748 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1748 target RNA, herein designated GAM TARGET RNA. GAM1748 target RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated

region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1748 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1748 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1748 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1748 RNA, herein designated GAM RNA, to target binding sites on GAM1748 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1748 target RNA into GAM1748 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1748 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1748 target genes. The mRNA of each one of this plurality of GAM1748 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1748 RNA, herein designated GAM RNA, and which when bound by GAM1748 RNA causes inhibition of translation of the GAM1748 target mRNA into a corresponding GAM1748 target protein.

The mechanism of the translational inhibition exerted by GAM1748 RNA, herein designated GAM RNA, on one or more GAM1748 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1748 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1748 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1748 RNA, herein designated GAM RNA, of GAM1748 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1748 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1748 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1748 RNA correlate with, and may be deduced from, the identity of the GAM1748 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1770 140615 GGTGGAGCAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AAAGGCAGGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GTCCTGCTCC Messenger 1770 (GAM1770) oligonucleotides modulates expression of respective target genes

CTGGCACCAT whose function and utility is known in the art.

CATGGAGCAT GAM1770 is a novel bioinformatically detectable regulatory, non protein coding,

GCCCAGCCCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM1770 was detected is

GATCTGCCCC described with additional reference to Figs. 9-15.

C GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM1770 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1770

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1770

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1770 precursor RNA is designated SEQ ID:140615, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140615 is located from position 38591310 to position 38591380 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM1770 precursor RNA folds onto itself, forming GAM1770 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1770 precursor RNA, designated SEQ ID NO: 140615, and a schematic representation of a predicted secondary folding of GAM1770 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1770 folded precursor RNA yielding a GAM1770 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1770 RNA, hereby incorporated herein.

GAM1770 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1770 target RNA, herein designated GAM TARGET RNA. GAM1770 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1770 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1770 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1770 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1770 RNA, herein designated GAM RNA, to target binding sites on GAM1770 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1770 target RNA into GAM1770 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1770 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1770 target genes. The mRNA of each one of this plurality of GAM1770 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1770 RNA, herein designated GAM RNA, and which when bound by GAM1770 RNA causes inhibition of translation of the GAM1770 target mRNA into a corresponding GAM1770 target protein.

The mechanism of the translational inhibition exerted by GAM1770 RNA, herein designated GAM RNA, on one or more GAM1770 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1770 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1770 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1770 RNA, herein designated GAM RNA, of GAM1770 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM1770 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1770 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1770 RNA correlate with, and may be deduced from, the identity of the GAM1770 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1782 140616 CTCTTAAACC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTTAGAAATG detected oligonucleotides of the present invention, referred to here as Genomic Address
CTACAGCATC Messenger 1782 (GAM1782) oligonucleotides modulates expression of respective target genes
TAGCTTCTCT whose function and utility is known in the art.

AGATCAATAA GAM1782 is a novel bioinformatically detectable regulatory, non protein coding,
TCACAGAGGC micro RNA (miRNA)-like oligonucleotide. The method by which GAM1782 was detected is

TTAAGTGCTG described with additional reference to Figs. 9-15.

ACCTCATAAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GATAAAGAG encoded by the human genome.

GAM1782 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1782

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1782
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1782 precursor RNA is designated SEQ ID:140616, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140616 is located from position 136594090 to position 136594178 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM1782 precursor RNA folds onto itself, forming GAM1782 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1782 precursor RNA, designated SEQ ID NO: 140616, and a schematic representation of a predicted secondary folding of GAM1782 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1782 folded precursor RNA yielding a GAM1782 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt

long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1782 RNA, hereby incorporated herein. Expression of GAM1782 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM1782 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1782 target RNA, herein designated GAM TARGET RNA. GAM1782 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1782 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1782 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1782 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1782 RNA, herein designated GAM RNA, to target binding sites on GAM1782 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1782 target RNA into GAM1782 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1782 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1782 target genes. The mRNA of each one of this plurality of GAM1782 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1782 RNA, herein designated GAM RNA, and which when bound by GAM1782 RNA causes inhibition of translation of the GAM1782 target mRNA into a corresponding GAM1782 target protein.

The mechanism of the translational inhibition exerted by GAM1782 RNA, herein designated GAM RNA, on one or more GAM1782 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1782 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1782 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1782 RNA, herein designated GAM RNA, of GAM1782 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1782 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1782 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1782 RNA correlate with, and may be deduced from, the identity of the GAM1782 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1786 140617 GGACTCATAG Fig. 8 further provides a conceptual description of another novel bioinformatically

TGGTAGATAG detected oligonucleotides of the present invention, referred to here as Genomic Address

CTTATTGGTC Messenger 1786 (GAM1786) oligonucleotides modulates expression of respective target genes

AGGGTAGATA whose function and utility is known in the art.

GAGATATGTT GAM1786 is a novel bioinformatically detectable regulatory, non protein coding,

TTCTGTGTAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM1786 was detected is

CTGTCTAGTT described with additional reference to Figs. 9-15.

TTTGTCCTAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CATTCGGAGA encoded by the human genome.

CT GAM1786 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1786

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1786

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1786 precursor RNA is designated SEQ ID:140617, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140617 is located from position 43677889 to position 43677980 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM1786 precursor RNA folds onto itself, forming GAM1786 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1786 precursor RNA, designated SEQ ID NO: 140617, and a schematic representation of a predicted secondary folding of GAM1786 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1786 folded precursor RNA yielding a GAM1786 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1786 RNA, hereby incorporated herein.

GAM1786 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1786 target RNA, herein designated GAM TARGET RNA. GAM1786 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1786 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1786 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1786 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1786 RNA, herein designated GAM RNA, to target binding sites on GAM1786 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1786 target RNA into GAM1786 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1786 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1786 target genes. The mRNA of each one of this plurality of GAM1786 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1786 RNA, herein designated GAM RNA, and which when bound by GAM1786 RNA causes inhibition of translation of the GAM1786 target mRNA into a corresponding GAM1786 target protein.

The mechanism of the translational inhibition exerted by GAM1786 RNA, herein designated GAM RNA, on one or more GAM1786 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1786 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1786 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1786 RNA, herein designated GAM RNA, of GAM1786 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1786 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1786 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1786 RNA correlate with, and may be deduced from, the identity of the GAM1786 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1820 140618 CTTGATCTGT Fig. 8 further provides a conceptual description of another novel bioinformatically

CACCCAGGCT detected oligonucleotides of the present invention, referred to here as Genomic Address

GCAGTGTAGT Messenger 1820 (GAM1820) oligonucleotides modulates expression of respective target genes

GGCATGATCT whose function and utility is known in the art.

CGGCTCACTG GAM1820 is a novel bioinformatically detectable regulatory, non protein coding,

CAACCCCCGC micro RNA (miRNA)-like oligonucleotide. The method by which GAM1820 was detected is

CTCCTGGGTT described with additional reference to Figs. 9-15.

CAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM1820 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1820

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1820

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1820 precursor RNA is designated SEQ ID:140618, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140618 is located from position 79670256 to position 79670329 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM1820 precursor RNA folds onto itself, forming GAM1820 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1820 precursor RNA, designated SEQ ID NO: 140618, and a schematic representation of a predicted secondary folding of GAM1820 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1820 folded precursor RNA yielding a GAM1820 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1820 RNA, hereby incorporated herein.

GAM1820 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1820 target RNA, herein designated GAM TARGET RNA. GAM1820 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1820 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1820 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1820 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1820 RNA, herein designated GAM RNA, to target binding sites on GAM1820 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1820 target RNA into GAM1820 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1820 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1820 target genes. The mRNA of each one of this plurality of GAM1820 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1820 RNA, herein designated GAM RNA, and which when bound by GAM1820 RNA causes inhibition of translation of the GAM1820 target mRNA into a corresponding GAM1820 target protein.

The mechanism of the translational inhibition exerted by GAM1820 RNA, herein designated GAM RNA, on one or more GAM1820 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1820 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1820 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1820 RNA, herein designated GAM RNA, of GAM1820 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1820 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1820 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1820 RNA correlate with, and may be deduced from, the identity of the GAM1820 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1835 140619 TAATCTTAAC Fig. 8 further provides a conceptual description of another novel bioinformatically
ATTCTCAACT detected oligonucleotides of the present invention, referred to here as Genomic Address
ATGATTACCA Messenger 1835 (GAM1835) oligonucleotides modulates expression of respective target genes
AAGCAGAAAA whose function and utility is known in the art.

ATAAAACACA GAM1835 is a novel bioinformatically detectable regulatory, non protein coding,
TTAAATCACA micro RNA (miRNA)-like oligonucleotide. The method by which GAM1835 was detected is

TGCTGGCTTA described with additional reference to Figs. 9-15.

TGAAAGCCTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CATCTTTAAG encoded by the human genome.

TGACATGTGC GAM1835 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1835
ACTCTCGTTC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1835
ATAGTTCATT precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar
GGCCAAAGAA to the nucleotide sequence of GAM1835 precursor RNA is designated SEQ ID:140619, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140619 is located from position 115193597 to position 115193726 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM1835 precursor RNA folds onto itself, forming GAM1835 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1835 precursor RNA, designated SEQ ID NO: 140619, and a schematic representation of a predicted secondary folding of GAM1835 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1835 folded precursor RNA yielding a GAM1835 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1835 RNA, hereby incorporated herein.

GAM1835 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1835 target RNA, herein designated GAM TARGET RNA. GAM1835 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1835 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1835 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1835 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1835 RNA, herein designated GAM RNA, to target binding sites on GAM1835 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1835 target RNA into GAM1835 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1835 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM1835 target genes. The mRNA of each one of this plurality of GAM1835 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1835 RNA, herein designated GAM RNA, and which when bound by GAM1835 RNA causes inhibition of translation of the GAM1835 target mRNA into a corresponding GAM1835 target protein.

The mechanism of the translational inhibition exerted by GAM1835 RNA, herein designated GAM RNA, on one or more GAM1835 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1835 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1835 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1835 RNA, herein designated GAM RNA, of GAM1835 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1835 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1835 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1835 RNA correlate with, and may be deduced from, the identity of the GAM1835 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1860 140620 TGATGAAAAT Fig. 8 further provides a conceptual description of another novel bioinformatically
CCACAATGTC detected oligonucleotides of the present invention, referred to here as Genomic Address
TTTGAGCTTC Messenger 1860 (GAM1860) oligonucleotides modulates expression of respective target genes
TGGTTGTGTA whose function and utility is known in the art.

ATGCTGGGGT GAM1860 is a novel bioinformatically detectable regulatory, non protein coding,
TTAAAGTCAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM1860 was detected is

CATTTGTGGG described with additional reference to Figs. 9-15.

TTTGGCATCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM1860 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1860

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1860 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1860 precursor RNA is designated SEQ ID:140620, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140620 is located from position 92812997 to position 92813076 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM1860 precursor RNA folds onto itself, forming GAM1860 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1860 precursor RNA, designated SEQ ID NO: 140620, and a schematic representation of a predicted secondary folding of GAM1860 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1860 folded precursor RNA yielding a GAM1860 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1860 RNA, hereby incorporated herein.

GAM1860 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1860 target RNA, herein designated GAM TARGET RNA. GAM1860 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1860 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1860 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1860 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1860 RNA, herein designated GAM RNA, to target binding sites on GAM1860 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1860 target RNA

into GAM1860 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1860 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1860 target genes. The mRNA of each one of this plurality of GAM1860 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1860 RNA, herein designated GAM RNA, and which when bound by GAM1860 RNA causes inhibition of translation of the GAM1860 target mRNA into a corresponding GAM1860 target protein.

The mechanism of the translational inhibition exerted by GAM1860 RNA, herein designated GAM RNA, on one or more GAM1860 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1860 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1860 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1860 RNA, herein designated GAM RNA, of GAM1860 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1860 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1860 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1860 RNA correlate with, and may be deduced from, the identity of the GAM1860 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1863 140621 TTCAGTATAG Fig. 8 further provides a conceptual description of another novel bioinformatically

CAAGGTGCTA detected oligonucleotides of the present invention, referred to here as Genomic Address

GGTTTTTTCC Messenger 1863 (GAM1863) oligonucleotides modulates expression of respective target genes

TTTCCCCACC whose function and utility is known in the art.

TGTCTCTTAG GAM1863 is a novel bioinformatically detectable regulatory, non protein coding,

CCTGGGGAAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM1863 was detected is

TAAATGAGAA described with additional reference to Figs. 9-15.

GCCTTAGAAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGGTGGCCCT encoded by the human genome.

TGTGACCTGA GAM1863 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1863 A precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1863 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1863 precursor RNA is designated SEQ ID:140621, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140621 is located from position 65182629 to position 65182729 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM1863 precursor RNA folds onto itself, forming GAM1863 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1863 precursor RNA, designated SEQ ID NO: 140621, and a schematic representation of a predicted secondary folding of GAM1863 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1863 folded precursor RNA yielding a GAM1863 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1863 RNA, hereby incorporated herein.

GAM1863 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1863 target RNA, herein designated GAM TARGET RNA. GAM1863 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1863 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1863 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1863 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1863 RNA, herein designated GAM RNA, to target binding sites on GAM1863 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1863 target RNA into GAM1863 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1863 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1863 target genes. The mRNA of each one of this plurality of GAM1863 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1863 RNA, herein designated GAM RNA, and which when bound by GAM1863 RNA causes inhibition of translation of the GAM1863 target mRNA into a corresponding GAM1863 target protein.

The mechanism of the translational inhibition exerted by GAM1863 RNA, herein designated GAM RNA, on one or more GAM1863 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1863 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1863 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1863 RNA, herein designated GAM RNA, of GAM1863 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1863 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1863 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1863 RNA correlate with, and may be deduced from, the identity of the GAM1863 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1864 140622 CCCAGCATGA TTCATACCTG TAATCTTACC CATTCTTGAT TTAGATGAGA TTTGGATTTC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 1864 (GAM1864) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM1864 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM1864 was detected is

GAGTTGATGC described with additional reference to Figs. 9-15.

TAGAATGGGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TAATACTTTT encoded by the human genome.

GAGGATGTTG GAM1864 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1864

GG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1864

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1864 precursor RNA is designated SEQ ID:140622, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140622 is located from position 89090896 to position 89090997 relative to chromosome chr1 on the `-` strand (chr is an abbreviation for chromosome).

GAM1864 precursor RNA folds onto itself, forming GAM1864 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1864 precursor RNA, designated SEQ ID NO: 140622, and a schematic representation of a predicted secondary folding of GAM1864 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1864 folded precursor RNA yielding a GAM1864 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM1864 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1864 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM1864 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1864 target RNA, herein designated GAM TARGET RNA. GAM1864 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1864 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1864 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1864 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1864 RNA, herein designated GAM RNA, to target binding sites on GAM1864 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1864 target RNA into GAM1864 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1864 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1864 target genes. The mRNA of each one of this plurality of GAM1864 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1864 RNA, herein designated GAM RNA, and which when bound by GAM1864 RNA causes inhibition of translation of the GAM1864 target mRNA into a corresponding GAM1864 target protein.

The mechanism of the translational inhibition exerted by GAM1864 RNA, herein designated GAM RNA, on one or more GAM1864 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1864 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1864 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1864 RNA, herein designated GAM RNA, of GAM1864 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1864 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1864 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1864 RNA correlate with, and may be deduced from, the identity of the GAM1864 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1887 140623 CCTTTGAACC Fig. 8 further provides a conceptual description of another novel bioinformatically

CTGTGTTAAC detected oligonucleotides of the present invention, referred to here as Genomic Address

AATGAGAAGC Messenger 1887 (GAM1887) oligonucleotides modulates expression of respective target genes

TTGTTTATTT whose function and utility is known in the art.

GAAGGCTGGG GAM1887 is a novel bioinformatically detectable regulatory, non protein coding, TTCTCATTGG micro RNA (miRNA)-like oligonucleotide. The method by which GAM1887 was detected is

CCCACAGGGG described with additional reference to Figs. 9-15.

TAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM1887 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1887

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1887

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1887 precursor RNA is designated SEQ ID:140623, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140623 is located from position 46615376 to position 46615449 relative to chromosome chr20 on the `-` strand (chr is an abbreviation for chromosome).

GAM1887 precursor RNA folds onto itself, forming GAM1887 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1887 precursor RNA, designated SEQ ID NO: 140623, and a schematic representation of a predicted secondary folding of GAM1887 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1887 folded precursor RNA yielding a GAM1887 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1887 RNA, hereby incorporated herein.

GAM1887 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1887 target RNA, herein designated GAM TARGET RNA. GAM1887 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1887 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1887 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1887 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1887 RNA, herein designated GAM RNA, to target binding sites on GAM1887 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1887 target RNA into GAM1887 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1887 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1887 target genes. The mRNA of each one of this plurality of GAM1887 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1887 RNA, herein designated GAM RNA, and which when bound by GAM1887 RNA causes inhibition of translation of the GAM1887 target mRNA into a corresponding GAM1887 target protein.

The mechanism of the translational inhibition exerted by GAM1887 RNA, herein designated GAM RNA, on one or more GAM1887 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1887 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1887 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1887 RNA, herein designated GAM RNA, of GAM1887 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1887 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1887 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1887 RNA correlate with, and may be deduced from, the identity of the GAM1887 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1896 140624 CCATCTCTGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTATTCCTCT detected oligonucleotides of the present invention, referred to here as Genomic Address

GCCACGTCTT Messenger 1896 (GAM1896) oligonucleotides modulates expression of respective target genes

TCCCTTCTCC whose function and utility is known in the art.

TCTCTGCTCT GAM1896 is a novel bioinformatically detectable regulatory, non protein coding,

CATAAAGAAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM1896 was detected is

AATGGGAGAT described with additional reference to Figs. 9-15.

GAAAGTGGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGGCAGCTGA encoded by the human genome.

GGTGG GAM1896 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1896 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1896 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1896 precursor RNA is designated SEQ ID:140624, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140624 is located from position 21174682 to position 21174776 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM1896 precursor RNA folds onto itself, forming GAM1896 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1896 precursor RNA, designated SEQ ID NO: 140624, and a schematic representation of a predicted secondary folding of GAM1896 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1896 folded precursor RNA yielding a GAM1896 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1896 RNA, hereby incorporated herein. Expression of GAM1896 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM1896 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1896 target RNA, herein designated GAM TARGET RNA. GAM1896 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1896 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1896 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1896 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1896 RNA, herein designated GAM RNA, to target binding sites on GAM1896 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1896 target RNA into GAM1896 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1896 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1896 target genes. The mRNA of each one of this plurality of GAM1896 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1896 RNA, herein designated GAM RNA, and which when bound by GAM1896 RNA causes inhibition of translation of the GAM1896 target mRNA into a corresponding GAM1896 target protein.

The mechanism of the translational inhibition exerted by GAM1896 RNA, herein designated GAM RNA, on one or more GAM1896 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1896 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1896 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1896 RNA, herein designated GAM RNA, of GAM1896 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1896 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1896 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1896 RNA correlate with, and may be deduced from, the identity of the GAM1896 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1914 140625 GATCCAGATA Fig. 8 further provides a conceptual description of another novel bioinformatically

GATGATATGT detected oligonucleotides of the present invention, referred to here as Genomic Address

TTCTACTAGT Messenger 1914 (GAM1914) oligonucleotides modulates expression of respective target genes

GGTTGATGGC whose function and utility is known in the art.

CTCTTTCAGC GAM1914 is a novel bioinformatically detectable regulatory, non protein coding,

TCCATCGCTA micro RNA (miRNA)-like oligonucleotide. The method by which GAM1914 was detected is

TGGAGGCGAG described with additional reference to Figs. 9-15.

GTTCATCAAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AACTCAGAGA encoded by the human genome.

AACTTGTGTC GAM1914 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1914

CAGAGTTGGT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1914

C precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1914 precursor RNA is designated SEQ ID:140625, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140625 is located from position 93938738 to position 93938848 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM1914 precursor RNA folds onto itself, forming GAM1914 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1914 precursor RNA, designated SEQ ID NO: 140625, and a schematic representation of a predicted secondary folding of GAM1914 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1914 folded precursor RNA yielding a GAM1914 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the

nucleotide sequence of GAM1914 RNA, hereby incorporated herein.

GAM1914 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1914 target RNA, herein designated GAM TARGET RNA. GAM1914 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1914 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1914 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1914 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1914 RNA, herein designated GAM RNA, to target binding sites on GAM1914 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1914 target RNA into GAM1914 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1914 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1914 target genes. The mRNA of each one of this plurality of GAM1914 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1914 RNA, herein designated GAM RNA, and which when bound by GAM1914 RNA causes inhibition of translation of the GAM1914 target mRNA into a corresponding GAM1914 target protein.

The mechanism of the translational inhibition exerted by GAM1914 RNA, herein designated GAM RNA, on one or more GAM1914 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1914 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1914 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1914 RNA, herein designated GAM RNA, of GAM1914 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1914 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1914 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1914 RNA correlate with, and may be deduced from, the identity of the GAM1914 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1934 140626 AGTTCTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATATGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 1934 (GAM1934) oligonucleotides modulates expression of respective target genes

GTTTGTTACA whose function and utility is known in the art.

TATGTATACA GAM1934 is a novel bioinformatically detectable regulatory, non protein coding,

TGTGCCATGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM1934 was detected is

TGGTGTGCTG described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM1934 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1934

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1934

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1934 precursor RNA is designated SEQ ID:140626, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140626 is located from position 124624947 to position 124625028 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM1934 precursor RNA folds onto itself, forming GAM1934 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1934 precursor RNA, designated SEQ ID NO: 140626, and a schematic representation of a predicted secondary folding of GAM1934 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1934 folded precursor RNA

yielding a GAM1934 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1934 RNA, hereby incorporated herein.

GAM1934 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1934 target RNA, herein designated GAM TARGET RNA. GAM1934 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1934 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1934 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1934 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1934 RNA, herein designated GAM RNA, to target binding sites on GAM1934 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1934 target RNA into GAM1934 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1934 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1934 target genes. The mRNA of each one of this plurality of GAM1934 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1934 RNA, herein designated GAM RNA, and which when bound by GAM1934 RNA causes inhibition of translation of the GAM1934 target mRNA into a corresponding GAM1934 target protein.

The mechanism of the translational inhibition exerted by GAM1934 RNA, herein designated GAM RNA, on one or more GAM1934 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1934 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1934 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1934 RNA, herein designated GAM RNA, of GAM1934 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1934 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1934 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1934 RNA correlate with, and may be deduced from, the identity of the GAM1934 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1937 140627 AATGTTTACT Fig. 8 further provides a conceptual description of another novel bioinformatically

GAGTATTCAC detected oligonucleotides of the present invention, referred to here as Genomic Address

CAGGTGCTGG Messenger 1937 (GAM1937) oligonucleotides modulates expression of respective target genes

GTGGAGAAAG whose function and utility is known in the art.

AAGACTTAAA GAM1937 is a novel bioinformatically detectable regulatory, non protein coding,

GATTCCCTAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM1937 was detected is

ACATCTCCTC described with additional reference to Figs. 9-15.

TCCCCTAGAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCAGGACCAT encoded by the human genome.

GGCACTTATT GAM1937 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1937

TTCTAGTCAA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1937

TATT precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1937 precursor RNA is designated SEQ ID:140627, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140627 is located from position 35798279 to position 35798392 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM1937 precursor RNA folds onto itself, forming GAM1937 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1937 precursor RNA, designated SEQ ID NO: 140627, and

a schematic representation of a predicted secondary folding of GAM1937 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1937 folded precursor RNA yielding a GAM1937 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1937 RNA, hereby incorporated herein.

GAM1937 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1937 target RNA, herein designated GAM TARGET RNA. GAM1937 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1937 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1937 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1937 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1937 RNA, herein designated GAM RNA, to target binding sites on GAM1937 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1937 target RNA into GAM1937 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1937 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1937 target genes. The mRNA of each one of this plurality of GAM1937 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1937 RNA, herein designated GAM RNA, and which when bound by GAM1937 RNA causes inhibition of translation of the GAM1937 target mRNA into a corresponding GAM1937 target protein.

The mechanism of the translational inhibition exerted by GAM1937 RNA, herein designated GAM RNA, on one or more GAM1937 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1937 precursor RNA, herein designated GAM PRECURSOR

RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1937 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1937 RNA, herein designated GAM RNA, of GAM1937 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1937 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1937 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1937 RNA correlate with, and may be deduced from, the identity of the GAM1937 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1942 140628 GGTAGTGGTG Fig. 8 further provides a conceptual description of another novel bioinformatically
ATTCAAAGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
AGATGGTAGC Messenger 1942 (GAM1942) oligonucleotides modulates expression of respective target genes
ATTGGAGAGG whose function and utility is known in the art.

ATGAGATATG GAM1942 is a novel bioinformatically detectable regulatory, non protein coding,
GTCAGATGAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM1942 was detected is

GATATATTTT described with additional reference to Figs. 9-15.

AAAAGTTGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTAACAGGAT encoded by the human genome.

TTGCTGAGGA GAM1942 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1942
ATCAGAAGTG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1942
AACC precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1942 precursor RNA is designated SEQ ID:140628, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140628 is located from position 133099401 to position 133099514 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM1942 precursor RNA folds onto itself, forming GAM1942 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1942 precursor RNA, designated SEQ ID NO: 140628, and a schematic representation of a predicted secondary folding of GAM1942 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1942 folded precursor RNA yielding a GAM1942 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1942 RNA, hereby incorporated herein.

GAM1942 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1942 target RNA, herein designated GAM TARGET RNA. GAM1942 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1942 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1942 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1942 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1942 RNA, herein designated GAM RNA, to target binding sites on GAM1942 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1942 target RNA into GAM1942 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1942 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1942 target genes. The mRNA of each one of this plurality of GAM1942 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1942 RNA, herein designated GAM RNA, and which when bound by GAM1942 RNA causes inhibition of translation of the GAM1942 target mRNA into a corresponding GAM1942 target protein.

The mechanism of the translational inhibition exerted by GAM1942 RNA, herein

designated GAM RNA, on one or more GAM1942 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1942 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1942 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1942 RNA, herein designated GAM RNA, of GAM1942 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1942 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1942 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1942 RNA correlate with, and may be deduced from, the identity of the GAM1942 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1961 140629 GGCCTCCCAA Fig. 8 further provides a conceptual description of another novel bioinformatically
AGTGCTGAGA detected oligonucleotides of the present invention, referred to here as Genomic Address
TTACAGGCAT Messenger 1961 (GAM1961) oligonucleotides modulates expression of respective target genes
GAGCCACTGC whose function and utility is known in the art.

ACCTGGCCCT GAM1961 is a novel bioinformatically detectable regulatory, non protein coding,
TGCCTCTATT micro RNA (miRNA)-like oligonucleotide. The method by which GAM1961 was detected is

TCAAAGCTAC described with additional reference to Figs. 9-15.

TTTGGTGCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM1961 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1961

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1961
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1961 precursor RNA is designated SEQ ID:140629, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140629 is located from position 111433254 to position 111433332 relative to chromosome

chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM1961 precursor RNA folds onto itself, forming GAM1961 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1961 precursor RNA, designated SEQ ID NO: 140629, and a schematic representation of a predicted secondary folding of GAM1961 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1961 folded precursor RNA yielding a GAM1961 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1961 RNA, hereby incorporated herein.

GAM1961 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1961 target RNA, herein designated GAM TARGET RNA. GAM1961 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1961 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1961 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1961 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1961 RNA, herein designated GAM RNA, to target binding sites on GAM1961 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1961 target RNA into GAM1961 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1961 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1961 target genes. The mRNA of each one of this plurality of GAM1961 target genes comprises one or more target binding sites, each having

a nucleotide sequence which is at least partly complementary to GAM1961 RNA, herein designated GAM RNA, and which when bound by GAM1961 RNA causes inhibition of translation of the GAM1961 target mRNA into a corresponding GAM1961 target protein.

The mechanism of the translational inhibition exerted by GAM1961 RNA, herein designated GAM RNA, on one or more GAM1961 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1961 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1961 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1961 RNA, herein designated GAM RNA, of GAM1961 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1961 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1961 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1961 RNA correlate with, and may be deduced from, the identity of the GAM1961 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1975 140630 ATCTGTCTTT Fig. 8 further provides a conceptual description of another novel bioinformatically

CCAAGCCTTC detected oligonucleotides of the present invention, referred to here as Genomic Address

CCCGGGATCA Messenger 1975 (GAM1975) oligonucleotides modulates expression of respective target genes

GAGTTTTTAA whose function and utility is known in the art.

GGATAATTTG GAM1975 is a novel bioinformatically detectable regulatory, non protein coding,

GTGGGGAGAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM1975 was detected is

GCTTGGGAAG described with additional reference to Figs. 9-15.

TGGGGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM1975 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1975

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1975

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1975 precursor RNA is designated SEQ ID:140630, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140630 is located from position 55606620 to position 55606695 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM1975 precursor RNA folds onto itself, forming GAM1975 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1975 precursor RNA, designated SEQ ID NO: 140630, and a schematic representation of a predicted secondary folding of GAM1975 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1975 folded precursor RNA yielding a GAM1975 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM1975 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1975 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM1975 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1975 target RNA, herein designated GAM TARGET RNA. GAM1975 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1975 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1975 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1975 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1975 RNA, herein designated GAM RNA, to target binding sites on GAM1975 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1975 target RNA into GAM1975 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM1975 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1975 target genes. The mRNA of each one of this plurality of GAM1975 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1975 RNA, herein designated GAM RNA, and which when bound by GAM1975 RNA causes inhibition of translation of the GAM1975 target mRNA into a corresponding GAM1975 target protein.

The mechanism of the translational inhibition exerted by GAM1975 RNA, herein designated GAM RNA, on one or more GAM1975 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1975 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1975 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1975 RNA, herein designated GAM RNA, of GAM1975 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1975 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1975 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1975 RNA correlate with, and may be deduced from, the identity of the GAM1975 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1976 140631 GGAAAATGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
TGGAAGACCT detected oligonucleotides of the present invention, referred to here as Genomic Address
GGCTCCCTCT Messenger 1976 (GAM1976) oligonucleotides modulates expression of respective target genes
CTTCTCTCCC whose function and utility is known in the art.

GTTAGGCACA GAM1976 is a novel bioinformatically detectable regulatory, non protein coding,
AGACGGTGTA micro RNA (miRNA)-like oligonucleotide. The method by which GAM1976 was detected is

AATCCTGGTC described with additional reference to Figs. 9-15.

TTCCTCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM1976 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1976 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1976 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1976 precursor RNA is designated SEQ ID:140631, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140631 is located from position 35292418 to position 35292494 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GAM1976 precursor RNA folds onto itself, forming GAM1976 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1976 precursor RNA, designated SEQ ID NO: 140631, and a schematic representation of a predicted secondary folding of GAM1976 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1976 folded precursor RNA yielding a GAM1976 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1976 RNA, hereby incorporated herein.

GAM1976 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1976 target RNA, herein designated GAM TARGET RNA. GAM1976 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1976 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1976 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1976 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1976 RNA, herein designated GAM RNA, to target binding sites on GAM1976 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1976 target RNA into GAM1976 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1976 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1976 target genes. The mRNA of each one of this plurality of GAM1976 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1976 RNA, herein designated GAM RNA, and which when bound by GAM1976 RNA causes inhibition of translation of the GAM1976 target mRNA into a corresponding GAM1976 target protein.

The mechanism of the translational inhibition exerted by GAM1976 RNA, herein designated GAM RNA, on one or more GAM1976 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1976 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1976 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1976 RNA, herein designated GAM RNA, of GAM1976 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1976 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1976 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1976 RNA correlate with, and may be deduced from, the identity of the GAM1976 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM1997 140632 GTCCCTATCA CTCGGAGCGG AGACCTGAGC TATGAGTCAT CAGTGAGGTG CTATACTCAG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 1997 (GAM1997) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM1997 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM1997 was detected is

AGCCATTCCG described with additional reference to Figs. 9-15.

CTCAGGTCAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGAGGAC encoded by the human genome.

GAM1997 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM1997 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM1997 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM1997 precursor RNA is designated SEQ ID:140632, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140632 is located from position 79802871 to position 79802957 relative to chromosome chr4 on the `+` strand (chr is an abbreviation for chromosome).

GAM1997 precursor RNA folds onto itself, forming GAM1997 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM1997 precursor RNA, designated SEQ ID NO: 140632, and a schematic representation of a predicted secondary folding of GAM1997 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM1997 folded precursor RNA yielding a GAM1997 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM1997 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM1997 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM1997 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM1997 target RNA, herein designated GAM TARGET RNA. GAM1997 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM1997 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM1997 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM1997 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM1997 RNA, herein designated GAM RNA, to target binding sites on GAM1997 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM1997 target RNA into GAM1997 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM1997 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM1997 target genes. The mRNA of each one of this plurality of GAM1997 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM1997 RNA, herein designated GAM RNA, and which when bound by GAM1997 RNA causes inhibition of translation of the GAM1997 target mRNA into a corresponding GAM1997 target protein.

The mechanism of the translational inhibition exerted by GAM1997 RNA, herein designated GAM RNA, on one or more GAM1997 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM1997 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM1997 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM1997 RNA, herein designated GAM RNA, of GAM1997 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM1997 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM1997 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM1997 RNA correlate with, and may be deduced from, the identity of the GAM1997 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2010 140633 ACAGGAGAAT Fig. 8 further provides a conceptual description of another novel bioinformatically

TGCTTGAACC detected oligonucleotides of the present invention, referred to here as Genomic Address

CTGGAGGTGG Messenger 2010 (GAM2010) oligonucleotides modulates expression of respective target genes

AGGTTGCAGT whose function and utility is known in the art.

GAGCCGAGAT GAM2010 is a novel bioinformatically detectable regulatory, non protein coding, TGCACCATTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM2010 was detected is

CACTCCACCC described with additional reference to Figs. 9-15.

TAGGCAACAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGCAAAACT encoded by the human genome.

CTGT GAM2010 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2010 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2010 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2010 precursor RNA is designated SEQ ID:140633, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140633 is located from position 22660388 to position 22660481 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM2010 precursor RNA folds onto itself, forming GAM2010 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2010 precursor RNA, designated SEQ ID NO: 140633, and a schematic representation of a predicted secondary folding of GAM2010 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2010 folded precursor RNA yielding a GAM2010 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2010 RNA, hereby incorporated herein.

GAM2010 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2010 target RNA, herein designated GAM TARGET RNA. GAM2010 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2010 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2010 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2010 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2010 RNA, herein designated GAM RNA, to target binding sites on GAM2010 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2010 target RNA into GAM2010 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2010 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2010 target genes. The mRNA of each one of this plurality of GAM2010 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2010 RNA, herein designated GAM RNA, and which when bound by GAM2010 RNA causes inhibition of translation of the GAM2010 target mRNA into a corresponding GAM2010 target protein.

The mechanism of the translational inhibition exerted by GAM2010 RNA, herein designated GAM RNA, on one or more GAM2010 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2010 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2010 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2010 RNA, herein designated GAM RNA, of GAM2010 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2010 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2010 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2010 RNA correlate with, and may be deduced from, the identity of the GAM2010 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2014 140634 GGCAGGGAGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TGACGAGGTA detected oligonucleotides of the present invention, referred to here as Genomic Address
GGGGCAGAGC Messenger 2014 (GAM2014) oligonucleotides modulates expression of respective target genes
GGATGGAAGC whose function and utility is known in the art.

CGGAGATCCC GAM2014 is a novel bioinformatically detectable regulatory, non protein coding,
AGGTTCCCGG micro RNA (miRNA)-like oligonucleotide. The method by which GAM2014 was detected is

AATACTCCGG described with additional reference to Figs. 9-15.

CTGGGGCCTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CGGGCTTCTC encoded by the human genome.

CTGTCCCCTC GAM2014 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2014
CCTACCCCCG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2014
TGCCTCGGGT precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar
TTCTCCCTCC to the nucleotide sequence of GAM2014 precursor RNA is designated SEQ ID:140634, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140634 is located from position 76816688 to position 76816817 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM2014 precursor RNA folds onto itself, forming GAM2014 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2014 precursor RNA, designated SEQ ID NO: 140634, and a schematic representation of a predicted secondary folding of GAM2014 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2014 folded precursor RNA yielding a GAM2014 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2014 RNA, hereby incorporated herein.

GAM2014 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2014 target RNA, herein designated GAM TARGET RNA. GAM2014 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2014 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2014 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2014 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2014 RNA, herein designated GAM RNA, to target binding sites on GAM2014 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2014 target RNA into GAM2014 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2014 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2014 target genes. The mRNA of each one of this plurality of GAM2014 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2014 RNA, herein designated GAM RNA, and which when bound by GAM2014 RNA causes inhibition of translation of the GAM2014 target mRNA into a corresponding GAM2014 target protein.

The mechanism of the translational inhibition exerted by GAM2014 RNA, herein designated GAM RNA, on one or more GAM2014 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2014 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2014 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2014 RNA, herein designated GAM RNA, of GAM2014 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2014 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2014 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2014 RNA correlate with, and may be deduced from, the identity of the GAM2014 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2022 140635 GACCATGAAG Fig. 8 further provides a conceptual description of another novel bioinformatically
CCAGAGTCTC detected oligonucleotides of the present invention, referred to here as Genomic Address
CAGGACTCCT Messenger 2022 (GAM2022) oligonucleotides modulates expression of respective target genes
CACTCAACCT whose function and utility is known in the art.

CGGCCATGGA GAM2022 is a novel bioinformatically detectable regulatory, non protein coding,
CGCAGGTTGG micro RNA (miRNA)-like oligonucleotide. The method by which GAM2022 was detected is

GTGTGAGGGG described with additional reference to Figs. 9-15.

GGTCCCAGCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTTCGGTCTT encoded by the human genome.

CTATTTC GAM2022 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2022
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2022
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2022 precursor RNA is designated SEQ ID:140635, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140635 is located from position 47568406 to position 47568502 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM2022 precursor RNA folds onto itself, forming GAM2022 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2022 precursor RNA, designated SEQ ID NO: 140635, and a schematic representation of a predicted secondary folding of GAM2022 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2022 folded precursor RNA yielding a GAM2022 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the

nucleotide sequence of GAM2022 RNA, hereby incorporated herein.

GAM2022 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2022 target RNA, herein designated GAM TARGET RNA. GAM2022 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2022 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2022 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2022 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2022 RNA, herein designated GAM RNA, to target binding sites on GAM2022 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2022 target RNA into GAM2022 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2022 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2022 target genes. The mRNA of each one of this plurality of GAM2022 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2022 RNA, herein designated GAM RNA, and which when bound by GAM2022 RNA causes inhibition of translation of the GAM2022 target mRNA into a corresponding GAM2022 target protein.

The mechanism of the translational inhibition exerted by GAM2022 RNA, herein designated GAM RNA, on one or more GAM2022 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2022 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2022 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2022 RNA, herein designated GAM RNA, of GAM2022 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2022 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2022 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2022 RNA correlate with, and may be deduced from, the identity of the GAM2022 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2027 140636 GCTACTTCTA Fig. 8 further provides a conceptual description of another novel bioinformatically
TGTGTCCCAT detected oligonucleotides of the present invention, referred to here as Genomic Address
GGTACTGCCA Messenger 2027 (GAM2027) oligonucleotides modulates expression of respective target genes
CAGAAGAGTC whose function and utility is known in the art.

TCAGCTCTCT GAM2027 is a novel bioinformatically detectable regulatory, non protein coding,
CCAGGATTCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM2027 was detected is

GTTCTAAGGT described with additional reference to Figs. 9-15.

CAGTGCCTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GATAAAAATG encoded by the human genome.

GAGTGT GAM2027 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2027
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2027
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2027 precursor RNA is designated SEQ ID:140636, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140636 is located from position 3662454 to position 3662549 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM2027 precursor RNA folds onto itself, forming GAM2027 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2027 precursor RNA, designated SEQ ID NO: 140636, and a schematic representation of a predicted secondary folding of GAM2027 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2027 folded precursor RNA

yielding a GAM2027 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2027 RNA, hereby incorporated herein.

GAM2027 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2027 target RNA, herein designated GAM TARGET RNA. GAM2027 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2027 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2027 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2027 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2027 RNA, herein designated GAM RNA, to target binding sites on GAM2027 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2027 target RNA into GAM2027 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2027 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2027 target genes. The mRNA of each one of this plurality of GAM2027 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2027 RNA, herein designated GAM RNA, and which when bound by GAM2027 RNA causes inhibition of translation of the GAM2027 target mRNA into a corresponding GAM2027 target protein.

The mechanism of the translational inhibition exerted by GAM2027 RNA, herein designated GAM RNA, on one or more GAM2027 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2027 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2027 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2027 RNA, herein designated GAM RNA, of GAM2027 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2027 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2027 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2027 RNA correlate with, and may be deduced from, the identity of the GAM2027 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2033 140637 GAAGAAGAAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATGGGTTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

GTGAGAGGGT Messenger 2033 (GAM2033) oligonucleotides modulates expression of respective target genes

TCCAATATTA whose function and utility is known in the art.

ACAACCCAAC GAM2033 is a novel bioinformatically detectable regulatory, non protein coding,

TTCAAGCTCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM2033 was detected is

TTCCTCTAAC described with additional reference to Figs. 9-15.

CTCTTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM2033 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2033

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2033

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2033 precursor RNA is designated SEQ ID:140637, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140637 is located from position 52243579 to position 52243654 relative to chromosome chr1 on the `+` strand (chr is an abbreviation for chromosome).

GAM2033 precursor RNA folds onto itself, forming GAM2033 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2033 precursor RNA, designated SEQ ID NO: 140637, and

a schematic representation of a predicted secondary folding of GAM2033 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2033 folded precursor RNA yielding a GAM2033 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2033 RNA, hereby incorporated herein. Expression of GAM2033 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM2033 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2033 target RNA, herein designated GAM TARGET RNA. GAM2033 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2033 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2033 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2033 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2033 RNA, herein designated GAM RNA, to target binding sites on GAM2033 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2033 target RNA into GAM2033 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2033 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2033 target genes. The mRNA of each one of this plurality of GAM2033 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2033 RNA, herein designated GAM RNA, and which when bound by GAM2033 RNA causes inhibition of translation of the GAM2033 target mRNA into a corresponding GAM2033 target protein.

The mechanism of the translational inhibition exerted by GAM2033 RNA, herein designated GAM RNA, on one or more GAM2033 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2033 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2033 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2033 RNA, herein designated GAM RNA, of GAM2033 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2033 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2033 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2033 RNA correlate with, and may be deduced from, the identity of the GAM2033 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2051 140638 CACTCTGTAA Fig. 8 further provides a conceptual description of another novel bioinformatically

TAAAGAACTT detected oligonucleotides of the present invention, referred to here as Genomic Address

GGAAAGGGAG Messenger 2051 (GAM2051) oligonucleotides modulates expression of respective target genes

GTTCCAAGAT whose function and utility is known in the art.

GGCCAAATAT GAM2051 is a novel bioinformatically detectable regulatory, non protein coding,

GAACAGCTCC micro RNA (miRNA)-like oligonucleotide. The method by which GAM2051 was detected is

AGTCTACAGC described with additional reference to Figs. 9-15.

CCCCAGCGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGTG encoded by the human genome.

GAM2051 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2051

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2051

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2051 precursor RNA is designated SEQ ID:140638, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140638 is located from position 27725973 to position 27726056 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM2051 precursor RNA folds onto itself, forming GAM2051 folded precursor RNA,

herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2051 precursor RNA, designated SEQ ID NO: 140638, and a schematic representation of a predicted secondary folding of GAM2051 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2051 folded precursor RNA yielding a GAM2051 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2051 RNA, hereby incorporated herein.

GAM2051 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2051 target RNA, herein designated GAM TARGET RNA. GAM2051 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2051 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2051 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2051 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2051 RNA, herein designated GAM RNA, to target binding sites on GAM2051 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2051 target RNA into GAM2051 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2051 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2051 target genes. The mRNA of each one of this plurality of GAM2051 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2051 RNA, herein designated GAM RNA, and which when bound by GAM2051 RNA causes inhibition of translation of the GAM2051 target mRNA into a corresponding GAM2051 target protein.

The mechanism of the translational inhibition exerted by GAM2051 RNA, herein designated GAM RNA, on one or more GAM2051 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2051 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2051 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2051 RNA, herein designated GAM RNA, of GAM2051 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2051 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2051 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2051 RNA correlate with, and may be deduced from, the identity of the GAM2051 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2058 140639 GCTTTGAAAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AGATGTGGTG detected oligonucleotides of the present invention, referred to here as Genomic Address

TGTGAAGACG Messenger 2058 (GAM2058) oligonucleotides modulates expression of respective target genes

AAGATGCCTT whose function and utility is known in the art.

TTGTTTGTCT GAM2058 is a novel bioinformatically detectable regulatory, non protein coding,

TTGGAGAATA micro RNA (miRNA)-like oligonucleotide. The method by which GAM2058 was detected is

TTGCAACACT described with additional reference to Figs. 9-15.

ACAAAAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM2058 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2058

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2058

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2058 precursor RNA is designated SEQ ID:140639, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140639 is located from position 89111973 to position 89112050 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM2058 precursor RNA folds onto itself, forming GAM2058 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2058 precursor RNA, designated SEQ ID NO: 140639, and a schematic representation of a predicted secondary folding of GAM2058 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2058 folded precursor RNA yielding a GAM2058 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2058 RNA, hereby incorporated herein.

GAM2058 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2058 target RNA, herein designated GAM TARGET RNA. GAM2058 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2058 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2058 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2058 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2058 RNA, herein designated GAM RNA, to target binding sites on GAM2058 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2058 target RNA into GAM2058 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2058 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM2058 target genes. The mRNA of each one of this plurality of GAM2058 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2058 RNA, herein designated GAM RNA, and which when bound by GAM2058 RNA causes inhibition of translation of the GAM2058 target mRNA into a corresponding GAM2058 target protein.

The mechanism of the translational inhibition exerted by GAM2058 RNA, herein designated GAM RNA, on one or more GAM2058 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2058 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2058 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2058 RNA, herein designated GAM RNA, of GAM2058 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2058 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2058 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2058 RNA correlate with, and may be deduced from, the identity of the GAM2058 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2062 140640 TGGGCGCCTG Fig. 8 further provides a conceptual description of another novel bioinformatically
TAATCTCAGC detected oligonucleotides of the present invention, referred to here as Genomic Address
TACTTGGGAG Messenger 2062 (GAM2062) oligonucleotides modulates expression of respective target genes
GCTGAGACAG whose function and utility is known in the art.

AGAATTGCTT GAM2062 is a novel bioinformatically detectable regulatory, non protein coding,
GAACCCAGGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM2062 was detected is

GGCGGAGGTT described with additional reference to Figs. 9-15.

GCAGTGAGCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TA encoded by the human genome.

GAM2062 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2062

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2062 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2062 precursor RNA is designated SEQ ID:140640, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140640 is located from position 97732458 to position 97732539 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM2062 precursor RNA folds onto itself, forming GAM2062 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2062 precursor RNA, designated SEQ ID NO: 140640, and a schematic representation of a predicted secondary folding of GAM2062 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2062 folded precursor RNA yielding a GAM2062 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2062 RNA, hereby incorporated herein.

GAM2062 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2062 target RNA, herein designated GAM TARGET RNA. GAM2062 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2062 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2062 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2062 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2062 RNA, herein designated GAM RNA, to target binding sites on GAM2062 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2062 target RNA

into GAM2062 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2062 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2062 target genes. The mRNA of each one of this plurality of GAM2062 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2062 RNA, herein designated GAM RNA, and which when bound by GAM2062 RNA causes inhibition of translation of the GAM2062 target mRNA into a corresponding GAM2062 target protein.

The mechanism of the translational inhibition exerted by GAM2062 RNA, herein designated GAM RNA, on one or more GAM2062 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2062 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2062 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2062 RNA, herein designated GAM RNA, of GAM2062 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2062 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2062 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2062 RNA correlate with, and may be deduced from, the identity of the GAM2062 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2098 140641 CTTCACCAAG Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGTCATTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGCACAGTTT Messenger 2098 (GAM2098) oligonucleotides modulates expression of respective target genes
GAGGAGTGTA whose function and utility is known in the art.

AGACAGTCAT GAM2098 is a novel bioinformatically detectable regulatory, non protein coding,
GCGGACTTGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM2098 was detected is

GGGGTACAAG described with additional reference to Figs. 9-15.

GGAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM2098 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2098 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2098 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2098 precursor RNA is designated SEQ ID:140641, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140641 is located from position 64216383 to position 64216457 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM2098 precursor RNA folds onto itself, forming GAM2098 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2098 precursor RNA, designated SEQ ID NO: 140641, and a schematic representation of a predicted secondary folding of GAM2098 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2098 folded precursor RNA yielding a GAM2098 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2098 RNA, hereby incorporated herein.

GAM2098 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2098 target RNA, herein designated GAM TARGET RNA. GAM2098 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2098 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2098 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2098 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2098 RNA, herein designated GAM RNA, to target binding sites on GAM2098 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2098 target RNA into GAM2098 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2098 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2098 target genes. The mRNA of each one of this plurality of GAM2098 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2098 RNA, herein designated GAM RNA, and which when bound by GAM2098 RNA causes inhibition of translation of the GAM2098 target mRNA into a corresponding GAM2098 target protein.

The mechanism of the translational inhibition exerted by GAM2098 RNA, herein designated GAM RNA, on one or more GAM2098 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2098 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2098 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2098 RNA, herein designated GAM RNA, of GAM2098 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2098 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2098 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2098 RNA correlate with, and may be deduced from, the identity of the GAM2098 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2171 140642 CTCCCAGGCA ATATTCCAGG ATAGGCTGCC AGTTGGACTA AGGAAGCCAC TCCTGCGGAA

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 2171 (GAM2171) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM2171 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM2171 was detected is

CCCTGGGAG described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM2171 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2171 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2171 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2171 precursor RNA is designated SEQ ID:140642, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140642 is located from position 54026270 to position 54026338 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM2171 precursor RNA folds onto itself, forming GAM2171 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2171 precursor RNA, designated SEQ ID NO: 140642, and a schematic representation of a predicted secondary folding of GAM2171 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2171 folded precursor RNA yielding a GAM2171 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2171 RNA, hereby incorporated herein.

GAM2171 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2171 target RNA, herein designated GAM TARGET RNA. GAM2171 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2171 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2171 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2171 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2171 RNA, herein designated GAM RNA, to target binding sites on GAM2171 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2171 target RNA into GAM2171 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2171 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2171 target genes. The mRNA of each one of this plurality of GAM2171 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2171 RNA, herein designated GAM RNA, and which when bound by GAM2171 RNA causes inhibition of translation of the GAM2171 target mRNA into a corresponding GAM2171 target protein.

The mechanism of the translational inhibition exerted by GAM2171 RNA, herein designated GAM RNA, on one or more GAM2171 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2171 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2171 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2171 RNA, herein designated GAM RNA, of GAM2171 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2171 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2171 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2171 RNA correlate with, and may be deduced from, the identity of the GAM2171 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2221 140643 ATGTCCAAAG ACTCAACAGT TAGACTACTT Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 2221 (GAM2221) oligonucleotides modulates expression of respective target genes

TTCTTCCACT whose function and utility is known in the art.

CATTTTAAAG AAAAATGTCT GAM2221 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM2221 was detected is

ATGAAGTGTT described with additional reference to Figs. 9-15.

TTGGATAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM2221 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2221

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2221

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2221 precursor RNA is designated SEQ ID:140643, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140643 is located from position 13327337 to position 13327414 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM2221 precursor RNA folds onto itself, forming GAM2221 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2221 precursor RNA, designated SEQ ID NO: 140643, and a schematic representation of a predicted secondary folding of GAM2221 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2221 folded precursor RNA yielding a GAM2221 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2221 RNA, hereby incorporated herein.

GAM2221 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2221 target RNA, herein designated GAM TARGET RNA. GAM2221 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2221 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2221 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2221 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2221 RNA, herein designated GAM RNA, to target binding sites on GAM2221 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2221 target RNA into GAM2221 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2221 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2221 target genes. The mRNA of each one of this plurality of GAM2221 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2221 RNA, herein designated GAM RNA, and which when bound by GAM2221 RNA causes inhibition of translation of the GAM2221 target mRNA into a corresponding GAM2221 target protein.

The mechanism of the translational inhibition exerted by GAM2221 RNA, herein designated GAM RNA, on one or more GAM2221 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2221 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2221 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2221 RNA, herein designated GAM RNA, of GAM2221 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2221 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2221 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2221 RNA correlate with, and may be deduced from, the identity of the GAM2221 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2223 140644 TCTTACCCCA Fig. 8 further provides a conceptual description of another novel bioinformatically
GTATCCTATT detected oligonucleotides of the present invention, referred to here as Genomic Address
ATCTCATACC Messenger 2223 (GAM2223) oligonucleotides modulates expression of respective target genes
TAAGGCAGTG whose function and utility is known in the art.

ATGGTTTCTC GAM2223 is a novel bioinformatically detectable regulatory, non protein coding,
AGACCTCTTA micro RNA (miRNA)-like oligonucleotide. The method by which GAM2223 was detected is

GATTGAGAAG described with additional reference to Figs. 9-15.

ATGTGGCATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGTGTAAGG encoded by the human genome.

GAM2223 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2223

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2223
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2223 precursor RNA is designated SEQ ID:140644, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140644 is located from position 50175599 to position 50175687 relative to chromosome chr20 on the `-` strand (chr is an abbreviation for chromosome).

GAM2223 precursor RNA folds onto itself, forming GAM2223 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2223 precursor RNA, designated SEQ ID NO: 140644, and a schematic representation of a predicted secondary folding of GAM2223 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2223 folded precursor RNA yielding a GAM2223 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2223 RNA, hereby incorporated herein.

GAM2223 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2223 target RNA, herein designated GAM TARGET RNA. GAM2223 target RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated

region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2223 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2223 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2223 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2223 RNA, herein designated GAM RNA, to target binding sites on GAM2223 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2223 target RNA into GAM2223 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2223 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2223 target genes. The mRNA of each one of this plurality of GAM2223 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2223 RNA, herein designated GAM RNA, and which when bound by GAM2223 RNA causes inhibition of translation of the GAM2223 target mRNA into a corresponding GAM2223 target protein.

The mechanism of the translational inhibition exerted by GAM2223 RNA, herein designated GAM RNA, on one or more GAM2223 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2223 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2223 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2223 RNA, herein designated GAM RNA, of GAM2223 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2223 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2223 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2223 RNA correlate with, and may be deduced from, the identity of the GAM2223 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2233 140645 AGTCTCTCTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TGGCTGGACC detected oligonucleotides of the present invention, referred to here as Genomic Address

TGGACTGCAG Messenger 2233 (GAM2233) oligonucleotides modulates expression of respective target genes

TCACACTCTA whose function and utility is known in the art.

AGAGCTCCTC GAM2233 is a novel bioinformatically detectable regulatory, non protein coding,

TTTCTACACC micro RNA (miRNA)-like oligonucleotide. The method by which GAM2233 was detected is

TCTGCCAGTG described with additional reference to Figs. 9-15.

GGCGTTCGGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGAGACAAG encoded by the human genome.

CT GAM2233 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2233

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2233

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2233 precursor RNA is designated SEQ ID:140645, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140645 is located from position 167487173 to position 167487264 relative to chromosome chr6 on the `-` strand (chr is an abbreviation for chromosome).

GAM2233 precursor RNA folds onto itself, forming GAM2233 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2233 precursor RNA, designated SEQ ID NO: 140645, and a schematic representation of a predicted secondary folding of GAM2233 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2233 folded precursor RNA yielding a GAM2233 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM2233 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2233 RNA and an

alternative nucleotide sequence thereof, hereby incorporated herein.

GAM2233 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2233 target RNA, herein designated GAM TARGET RNA. GAM2233 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2233 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2233 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2233 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2233 RNA, herein designated GAM RNA, to target binding sites on GAM2233 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2233 target RNA into GAM2233 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2233 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2233 target genes. The mRNA of each one of this plurality of GAM2233 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2233 RNA, herein designated GAM RNA, and which when bound by GAM2233 RNA causes inhibition of translation of the GAM2233 target mRNA into a corresponding GAM2233 target protein.

The mechanism of the translational inhibition exerted by GAM2233 RNA, herein designated GAM RNA, on one or more GAM2233 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2233 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2233 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2233 RNA, herein designated GAM RNA, of GAM2233 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2233 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2233 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2233 RNA correlate with, and may be deduced from, the identity of the GAM2233 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2251 140646 TGGCCTCTGG Fig. 8 further provides a conceptual description of another novel bioinformatically
GACTCAGATT detected oligonucleotides of the present invention, referred to here as Genomic Address
CCTCCTCTTT Messenger 2251 (GAM2251) oligonucleotides modulates expression of respective target genes
AAAATGGTGC whose function and utility is known in the art.

TAATAATAGC GAM2251 is a novel bioinformatically detectable regulatory, non protein coding,
ACCCACCCTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM2251 was detected is

TGTGAGGAGG described with additional reference to Figs. 9-15.

ATGCTGTGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GACAAAATGA encoded by the human genome.

GATCA GAM2251 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2251
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2251
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2251 precursor RNA is designated SEQ ID:140646, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140646 is located from position 17124868 to position 17124962 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM2251 precursor RNA folds onto itself, forming GAM2251 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2251 precursor RNA, designated SEQ ID NO: 140646, and a schematic representation of a predicted secondary folding of GAM2251 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2251 folded precursor RNA

yielding a GAM2251 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM2251 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2251 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM2251 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2251 target RNA, herein designated GAM TARGET RNA. GAM2251 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2251 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2251 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2251 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2251 RNA, herein designated GAM RNA, to target binding sites on GAM2251 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2251 target RNA into GAM2251 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2251 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2251 target genes. The mRNA of each one of this plurality of GAM2251 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2251 RNA, herein designated GAM RNA, and which when bound by GAM2251 RNA causes inhibition of translation of the GAM2251 target mRNA into a corresponding GAM2251 target protein.

The mechanism of the translational inhibition exerted by GAM2251 RNA, herein designated GAM RNA, on one or more GAM2251 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2251 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2251 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2251 RNA, herein designated GAM RNA, of GAM2251 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2251 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2251 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2251 RNA correlate with, and may be deduced from, the identity of the GAM2251 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2260 140647 GGAAGCATCC Fig. 8 further provides a conceptual description of another novel bioinformatically

CTGCTGCGGA detected oligonucleotides of the present invention, referred to here as Genomic Address

CGCTTTCACT Messenger 2260 (GAM2260) oligonucleotides modulates expression of respective target genes

TCTAAAGAGT whose function and utility is known in the art.

CTTGTCTGCT GAM2260 is a novel bioinformatically detectable regulatory, non protein coding,

AATAAGAGTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM2260 was detected is

CCCATGGCCC described with additional reference to Figs. 9-15.

AGGGTGGCAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGGGGGATT encoded by the human genome.

TAGAAAGGGC GAM2260 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2260

ATGATGATGG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2260

CACTAGCGGC precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

TGCTTTC to the nucleotide sequence of GAM2260 precursor RNA is designated SEQ ID:140647, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140647 is located from position 29926532 to position 29926658 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM2260 precursor RNA folds onto itself, forming GAM2260 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2260 precursor RNA, designated SEQ ID NO: 140647, and a schematic representation of a predicted secondary folding of GAM2260 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2260 folded precursor RNA yielding a GAM2260 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2260 RNA, hereby incorporated herein.

GAM2260 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2260 target RNA, herein designated GAM TARGET RNA. GAM2260 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2260 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2260 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2260 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2260 RNA, herein designated GAM RNA, to target binding sites on GAM2260 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2260 target RNA into GAM2260 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2260 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2260 target genes. The mRNA of each one of this plurality of GAM2260 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2260 RNA, herein designated GAM RNA, and which when bound by GAM2260 RNA causes inhibition of translation of the GAM2260 target mRNA into a corresponding GAM2260 target protein.

The mechanism of the translational inhibition exerted by GAM2260 RNA, herein designated GAM RNA, on one or more GAM2260 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2260 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2260 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2260 RNA, herein designated GAM RNA, of GAM2260 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2260 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2260 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2260 RNA correlate with, and may be deduced from, the identity of the GAM2260 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2262 140648 AGGCTGAGGT Fig. 8 further provides a conceptual description of another novel bioinformatically
AGGATGATTG detected oligonucleotides of the present invention, referred to here as Genomic Address
CTAGCTAGAG Messenger 2262 (GAM2262) oligonucleotides modulates expression of respective target genes
TCCAGGAGTT whose function and utility is known in the art.

CAGGATTAAA GAM2262 is a novel bioinformatically detectable regulatory, non protein coding,
ATGAGCTATG micro RNA (miRNA)-like oligonucleotide. The method by which GAM2262 was detected is

ATCATACCAC described with additional reference to Figs. 9-15.

TGCACTCCAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CCT encoded by the human genome.

GAM2262 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2262

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2262

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2262 precursor RNA is designated SEQ ID:140648, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140648 is located from position 42901138 to position 42901220 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM2262 precursor RNA folds onto itself, forming GAM2262 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2262 precursor RNA, designated SEQ ID NO: 140648, and a schematic representation of a predicted secondary folding of GAM2262 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2262 folded precursor RNA yielding a GAM2262 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2262 RNA, hereby incorporated herein.

GAM2262 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2262 target RNA, herein designated GAM TARGET RNA. GAM2262 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2262 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2262 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2262 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2262 RNA, herein designated GAM RNA, to target binding sites on GAM2262 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2262 target RNA into GAM2262 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2262 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2262 target genes. The mRNA of each one of this plurality of GAM2262 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2262 RNA, herein designated GAM RNA, and which when bound by GAM2262 RNA causes inhibition of translation

of the GAM2262 target mRNA into a corresponding GAM2262 target protein.

The mechanism of the translational inhibition exerted by GAM2262 RNA, herein designated GAM RNA, on one or more GAM2262 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2262 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2262 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2262 RNA, herein designated GAM RNA, of GAM2262 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2262 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2262 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2262 RNA correlate with, and may be deduced from, the identity of the GAM2262 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2263 140649 AATGAAGTGG Fig. 8 further provides a conceptual description of another novel bioinformatically
AATCAAGGTG detected oligonucleotides of the present invention, referred to here as Genomic Address
GCAAGAAAAT Messenger 2263 (GAM2263) oligonucleotides modulates expression of respective target genes
TTAGAATCGT whose function and utility is known in the art.

TTCTGATAGG GAM2263 is a novel bioinformatically detectable regulatory, non protein coding,
GACTTTCCCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM2263 was detected is

TATCCTAAAT described with additional reference to Figs. 9-15.

GTGTTTTGAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGCACACGTT encoded by the human genome.

ATTTCCATTG GAM2263 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2263
TCATT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2263
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

to the nucleotide sequence of GAM2263 precursor RNA is designated SEQ ID:140649, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140649 is located from position 40238503 to position 40238607 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM2263 precursor RNA folds onto itself, forming GAM2263 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2263 precursor RNA, designated SEQ ID NO: 140649, and a schematic representation of a predicted secondary folding of GAM2263 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2263 folded precursor RNA yielding a GAM2263 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM2263 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2263 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM2263 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2263 target RNA, herein designated GAM TARGET RNA. GAM2263 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2263 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2263 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2263 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2263 RNA, herein designated GAM RNA, to target binding sites on GAM2263 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2263 target RNA into GAM2263 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2263 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2263 target genes. The mRNA of each one of this plurality of GAM2263 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2263 RNA, herein designated GAM RNA, and which when bound by GAM2263 RNA causes inhibition of translation of the GAM2263 target mRNA into a corresponding GAM2263 target protein.

The mechanism of the translational inhibition exerted by GAM2263 RNA, herein designated GAM RNA, on one or more GAM2263 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2263 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2263 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2263 RNA, herein designated GAM RNA, of GAM2263 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2263 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2263 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2263 RNA correlate with, and may be deduced from, the identity of the GAM2263 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2270 140650 GTGACTTTCC Fig. 8 further provides a conceptual description of another novel bioinformatically

AGGTGTCACA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAGTGAGTGG Messenger 2270 (GAM2270) oligonucleotides modulates expression of respective target genes

CATAATCAGA whose function and utility is known in the art.

GTACAATTTG GAM2270 is a novel bioinformatically detectable regulatory, non protein coding,

AGTCATGCCC micro RNA (miRNA)-like oligonucleotide. The method by which GAM2270 was detected is

ATACATCACA described with additional reference to Figs. 9-15.

TTGCCAGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTACCCAAGG encoded by the human genome.

AAAGTGAC GAM2270 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2270 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2270 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2270 precursor RNA is designated SEQ ID:140650, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140650 is located from position 19237261 to position 19237358 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM2270 precursor RNA folds onto itself, forming GAM2270 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2270 precursor RNA, designated SEQ ID NO: 140650, and a schematic representation of a predicted secondary folding of GAM2270 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2270 folded precursor RNA yielding a GAM2270 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2270 RNA, hereby incorporated herein. Expression of GAM2270 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM2270 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2270 target RNA, herein designated GAM TARGET RNA. GAM2270 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2270 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2270 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2270 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2270 RNA, herein designated GAM RNA, to target binding sites on GAM2270 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2270 target RNA into GAM2270 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2270 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2270 target genes. The mRNA of each one of this plurality of GAM2270 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2270 RNA, herein designated GAM RNA, and which when bound by GAM2270 RNA causes inhibition of translation of the GAM2270 target mRNA into a corresponding GAM2270 target protein.

The mechanism of the translational inhibition exerted by GAM2270 RNA, herein designated GAM RNA, on one or more GAM2270 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2270 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2270 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2270 RNA, herein designated GAM RNA, of GAM2270 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2270 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2270 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2270 RNA correlate with, and may be deduced from, the identity of the GAM2270 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2272 140651 ATAAGCTGCT Fig. 8 further provides a conceptual description of another novel bioinformatically
CTAATTGCCA detected oligonucleotides of the present invention, referred to here as Genomic Address
AGAATTCACA Messenger 2272 (GAM2272) oligonucleotides modulates expression of respective target genes
TGTGGTTGTA whose function and utility is known in the art.

TGCAGCTTTA GAM2272 is a novel bioinformatically detectable regulatory, non protein coding,

CTGGGAGACT micro RNA (miRNA)-like oligonucleotide. The method by which GAM2272 was detected is

GAAGTGTATC described with additional reference to Figs. 9-15.

TGCATGTGAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCTGCTGTGA encoded by the human genome.

TGGACACTTG GAM2272 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2272

T precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2272

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2272 precursor RNA is designated SEQ ID:140651, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140651 is located from position 62131109 to position 62131209 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM2272 precursor RNA folds onto itself, forming GAM2272 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2272 precursor RNA, designated SEQ ID NO: 140651, and a schematic representation of a predicted secondary folding of GAM2272 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2272 folded precursor RNA yielding a GAM2272 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2272 RNA, hereby incorporated herein.

GAM2272 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2272 target RNA, herein designated GAM TARGET RNA. GAM2272 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2272 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2272 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2272 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows

three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2272 RNA, herein designated GAM RNA, to target binding sites on GAM2272 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2272 target RNA into GAM2272 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2272 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2272 target genes. The mRNA of each one of this plurality of GAM2272 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2272 RNA, herein designated GAM RNA, and which when bound by GAM2272 RNA causes inhibition of translation of the GAM2272 target mRNA into a corresponding GAM2272 target protein.

The mechanism of the translational inhibition exerted by GAM2272 RNA, herein designated GAM RNA, on one or more GAM2272 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2272 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2272 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2272 RNA, herein designated GAM RNA, of GAM2272 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2272 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2272 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2272 RNA correlate with, and may be deduced from, the identity of the GAM2272 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2290 140652 ACACTGCCTC TAGATTGTTA

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address

TTTTGTCCAA Messenger 2290 (GAM2290) oligonucleotides modulates expression of respective target genes

GAGAGAGATC whose function and utility is known in the art.

ATGGAGAGAG GAM2290 is a novel bioinformatically detectable regulatory, non protein coding, TCTCTCTCGC micro RNA (miRNA)-like oligonucleotide. The method by which GAM2290 was detected is

TCACGGAGGC described with additional reference to Figs. 9-15.

TCTGTCTTTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TAGGAGTATG encoded by the human genome.

TGT GAM2290 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2290 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2290 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2290 precursor RNA is designated SEQ ID:140652, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140652 is located from position 148621116 to position 148621208 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM2290 precursor RNA folds onto itself, forming GAM2290 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2290 precursor RNA, designated SEQ ID NO: 140652, and a schematic representation of a predicted secondary folding of GAM2290 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2290 folded precursor RNA yielding a GAM2290 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2290 RNA, hereby incorporated herein.

GAM2290 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2290 target RNA, herein designated GAM TARGET RNA. GAM2290 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2290 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2290 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2290 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2290 RNA, herein designated GAM RNA, to target binding sites on GAM2290 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2290 target RNA into GAM2290 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2290 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2290 target genes. The mRNA of each one of this plurality of GAM2290 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2290 RNA, herein designated GAM RNA, and which when bound by GAM2290 RNA causes inhibition of translation of the GAM2290 target mRNA into a corresponding GAM2290 target protein.

The mechanism of the translational inhibition exerted by GAM2290 RNA, herein designated GAM RNA, on one or more GAM2290 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2290 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2290 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2290 RNA, herein designated GAM RNA, of GAM2290 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2290 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2290 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2290 RNA correlate with, and may be deduced from, the identity of the GAM2290 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2300 140653 AGACAGTGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GGGTCAAACA detected oligonucleotides of the present invention, referred to here as Genomic Address

GCCTTTATTT Messenger 2300 (GAM2300) oligonucleotides modulates expression of respective target genes

TAGCAGTTGT whose function and utility is known in the art.

GAGACCCTAG GAM2300 is a novel bioinformatically detectable regulatory, non protein coding,

AGAACTCCTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM2300 was detected is

TGGTGTTTTG described with additional reference to Figs. 9-15.

GGGTCTCCCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGCATGCACA encoded by the human genome.

ATGGGGGTTA GAM2300 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2300

TGCTAGCATC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2300

TCT precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2300 precursor RNA is designated SEQ ID:140653, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140653 is located from position 22354493 to position 22354605 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM2300 precursor RNA folds onto itself, forming GAM2300 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2300 precursor RNA, designated SEQ ID NO: 140653, and a schematic representation of a predicted secondary folding of GAM2300 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2300 folded precursor RNA yielding a GAM2300 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM2300 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2300 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM2300 target gene, herein designated GAM TARGET GENE, encodes a corresponding

messenger RNA, GAM2300 target RNA, herein designated GAM TARGET RNA. GAM2300 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2300 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2300 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2300 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2300 RNA, herein designated GAM RNA, to target binding sites on GAM2300 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2300 target RNA into GAM2300 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2300 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2300 target genes. The mRNA of each one of this plurality of GAM2300 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2300 RNA, herein designated GAM RNA, and which when bound by GAM2300 RNA causes inhibition of translation of the GAM2300 target mRNA into a corresponding GAM2300 target protein.

The mechanism of the translational inhibition exerted by GAM2300 RNA, herein designated GAM RNA, on one or more GAM2300 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2300 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2300 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2300 RNA, herein designated GAM RNA, of GAM2300 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2300 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target

binding sites to GAM2300 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2300 RNA correlate with, and may be deduced from, the identity of the GAM2300 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2306 140654 TTTGAGATTT Fig. 8 further provides a conceptual description of another novel bioinformatically
TATTGAGTAC detected oligonucleotides of the present invention, referred to here as Genomic Address
TACTAATCTT Messenger 2306 (GAM2306) oligonucleotides modulates expression of respective target genes
GACATATTTT whose function and utility is known in the art.

GGTTGGCACC GAM2306 is a novel bioinformatically detectable regulatory, non protein coding,
ACATTCTTGG micro RNA (miRNA)-like oligonucleotide. The method by which GAM2306 was detected is

TATAGTGGGT described with additional reference to Figs. 9-15.

TAGTGGTTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATAGTTTGCA encoded by the human genome.

GA GAM2306 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2306
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2306
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2306 precursor RNA is designated SEQ ID:140654, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140654 is located from position 78004552 to position 78004643 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM2306 precursor RNA folds onto itself, forming GAM2306 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2306 precursor RNA, designated SEQ ID NO: 140654, and a schematic representation of a predicted secondary folding of GAM2306 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2306 folded precursor RNA yielding a GAM2306 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an

enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2306 RNA, hereby incorporated herein.

GAM2306 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2306 target RNA, herein designated GAM TARGET RNA. GAM2306 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2306 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2306 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2306 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2306 RNA, herein designated GAM RNA, to target binding sites on GAM2306 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2306 target RNA into GAM2306 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2306 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2306 target genes. The mRNA of each one of this plurality of GAM2306 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2306 RNA, herein designated GAM RNA, and which when bound by GAM2306 RNA causes inhibition of translation of the GAM2306 target mRNA into a corresponding GAM2306 target protein.

The mechanism of the translational inhibition exerted by GAM2306 RNA, herein designated GAM RNA, on one or more GAM2306 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2306 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2306 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2306 RNA, herein designated GAM RNA, of GAM2306 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2306 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2306 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2306 RNA correlate with, and may be deduced from, the identity of the GAM2306 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2309 140655 CCCCACCCCA Fig. 8 further provides a conceptual description of another novel bioinformatically
GTGGAGCTCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CCTTCCAGTA Messenger 2309 (GAM2309) oligonucleotides modulates expression of respective target genes
GGTCTAAACT whose function and utility is known in the art.

GGTTTGATTG GAM2309 is a novel bioinformatically detectable regulatory, non protein coding,
AGTTCCATGG micro RNA (miRNA)-like oligonucleotide. The method by which GAM2309 was detected is

AAAACAACAA described with additional reference to Figs. 9-15.

AGTGGGGTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGGG encoded by the human genome.

GAM2309 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2309

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2309

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2309 precursor RNA is designated SEQ ID:140655, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140655 is located from position 124008737 to position 124008820 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM2309 precursor RNA folds onto itself, forming GAM2309 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2309 precursor RNA, designated SEQ ID NO: 140655, and a schematic representation of a predicted secondary folding of GAM2309 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2309 folded precursor RNA yielding a GAM2309 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM2309 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2309 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM2309 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2309 target RNA, herein designated GAM TARGET RNA. GAM2309 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2309 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2309 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2309 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2309 RNA, herein designated GAM RNA, to target binding sites on GAM2309 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2309 target RNA into GAM2309 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2309 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2309 target genes. The mRNA of each one of this plurality of GAM2309 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2309 RNA, herein designated GAM RNA, and which when bound by GAM2309 RNA causes inhibition of translation of the GAM2309 target mRNA into a corresponding GAM2309 target protein.

The mechanism of the translational inhibition exerted by GAM2309 RNA, herein designated GAM RNA, on one or more GAM2309 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2309 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2309 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2309 RNA, herein designated GAM RNA, of GAM2309 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2309 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2309 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2309 RNA correlate with, and may be deduced from, the identity of the GAM2309 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2350 140656 AAACGGATGG Fig. 8 further provides a conceptual description of another novel bioinformatically

GCCTGGGGGC detected oligonucleotides of the present invention, referred to here as Genomic Address

CACTTTGCAC Messenger 2350 (GAM2350) oligonucleotides modulates expression of respective target genes

AGGGTTCTCC whose function and utility is known in the art.

AGAGCCCTGC GAM2350 is a novel bioinformatically detectable regulatory, non protein coding,

CCATCCTGCC micro RNA (miRNA)-like oligonucleotide. The method by which GAM2350 was detected is

TCCACCACTT described with additional reference to Figs. 9-15.

CCTGTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM2350 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2350

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2350

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2350 precursor RNA is designated SEQ ID:140656, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140656 is located from position 47322081 to position 47322157 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM2350 precursor RNA folds onto itself, forming GAM2350 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2350 precursor RNA, designated SEQ ID NO: 140656, and a schematic representation of a predicted secondary folding of GAM2350 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2350 folded precursor RNA yielding a GAM2350 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM2350 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2350 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM2350 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2350 target RNA, herein designated GAM TARGET RNA. GAM2350 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2350 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2350 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2350 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2350 RNA, herein designated GAM RNA, to target binding sites on GAM2350 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2350 target RNA into GAM2350 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2350 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2350 target genes. The mRNA of each one of this plurality of GAM2350 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2350 RNA, herein designated GAM RNA, and which when bound by GAM2350 RNA causes inhibition of translation of the GAM2350 target mRNA into a corresponding GAM2350 target protein.

The mechanism of the translational inhibition exerted by GAM2350 RNA, herein designated GAM RNA, on one or more GAM2350 target genes, herein collectively designated

GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2350 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2350 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2350 RNA, herein designated GAM RNA, of GAM2350 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2350 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2350 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2350 RNA correlate with, and may be deduced from, the identity of the GAM2350 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2384 140657 TCATTCCTCT Fig. 8 further provides a conceptual description of another novel bioinformatically

TAATCTTCAC detected oligonucleotides of the present invention, referred to here as Genomic Address

TAAAATGGAC Messenger 2384 (GAM2384) oligonucleotides modulates expression of respective target genes

AAGTATTCAT whose function and utility is known in the art.

TGAGCACCTA GAM2384 is a novel bioinformatically detectable regulatory, non protein coding,

ATGCGTGTTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM2384 was detected is

AGTATGGTGG described with additional reference to Figs. 9-15.

GAGATGAGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATGA encoded by the human genome.

GAM2384 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2384

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2384

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2384 precursor RNA is designated SEQ ID:140657, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140657 is located from position 35442640 to position 35442723 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM2384 precursor RNA folds onto itself, forming GAM2384 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2384 precursor RNA, designated SEQ ID NO: 140657, and a schematic representation of a predicted secondary folding of GAM2384 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2384 folded precursor RNA yielding a GAM2384 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM2384 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2384 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM2384 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2384 target RNA, herein designated GAM TARGET RNA. GAM2384 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2384 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2384 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2384 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2384 RNA, herein designated GAM RNA, to target binding sites on GAM2384 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2384 target RNA into GAM2384 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2384 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2384 target genes. The mRNA of each one of this plurality of GAM2384 target genes comprises one or more target binding sites, each having

a nucleotide sequence which is at least partly complementary to GAM2384 RNA, herein designated GAM RNA, and which when bound by GAM2384 RNA causes inhibition of translation of the GAM2384 target mRNA into a corresponding GAM2384 target protein.

The mechanism of the translational inhibition exerted by GAM2384 RNA, herein designated GAM RNA, on one or more GAM2384 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2384 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2384 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2384 RNA, herein designated GAM RNA, of GAM2384 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2384 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2384 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2384 RNA correlate with, and may be deduced from, the identity of the GAM2384 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2391 140658 GTGCTGGGTC Fig. 8 further provides a conceptual description of another novel bioinformatically
AAACAGCCTT detected oligonucleotides of the present invention, referred to here as Genomic Address
TATTTTAGCA Messenger 2391 (GAM2391) oligonucleotides modulates expression of respective target genes
GTTGTGAGAC whose function and utility is known in the art.

CCTAGAGAAC GAM2391 is a novel bioinformatically detectable regulatory, non protein coding,
TCCTTTGGTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM2391 was detected is

TTTTGGGGTC described with additional reference to Figs. 9-15.

TCCCCAGCAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCACAATGGG encoded by the human genome.

GGTTATGCTA GAM2391 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2391
GCAT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2391

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2391 precursor RNA is designated SEQ ID:140658, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140658 is located from position 22354497 to position 22354600 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM2391 precursor RNA folds onto itself, forming GAM2391 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2391 precursor RNA, designated SEQ ID NO: 140658, and a schematic representation of a predicted secondary folding of GAM2391 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2391 folded precursor RNA yielding a GAM2391 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM2391 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2391 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM2391 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2391 target RNA, herein designated GAM TARGET RNA. GAM2391 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2391 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2391 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2391 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2391 RNA, herein designated GAM RNA, to target binding sites on GAM2391 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2391 target RNA into GAM2391 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM2391 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2391 target genes. The mRNA of each one of this plurality of GAM2391 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2391 RNA, herein designated GAM RNA, and which when bound by GAM2391 RNA causes inhibition of translation of the GAM2391 target mRNA into a corresponding GAM2391 target protein.

The mechanism of the translational inhibition exerted by GAM2391 RNA, herein designated GAM RNA, on one or more GAM2391 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2391 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2391 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2391 RNA, herein designated GAM RNA, of GAM2391 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2391 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2391 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2391 RNA correlate with, and may be deduced from, the identity of the GAM2391 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2393 140659 AGTTTGGGTA Fig. 8 further provides a conceptual description of another novel bioinformatically
ATGAAGCCAC detected oligonucleotides of the present invention, referred to here as Genomic Address
AGAGATTTGC Messenger 2393 (GAM2393) oligonucleotides modulates expression of respective target genes
TGATACATTT whose function and utility is known in the art.

GCTAGGCACG GAM2393 is a novel bioinformatically detectable regulatory, non protein coding,
ACTTCTGGTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM2393 was detected is

ATTTAGAAAG described with additional reference to Figs. 9-15.

CTATTTTGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCTTCATCAA encoded by the human genome.

TAAGGTATTC GAM2393 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2393
CCCAGCT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2393
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2393 precursor RNA is designated SEQ ID:140659, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140659 is located from position 99981233 to position 99981339 relative to chromosome chr3 on the `+` strand (chr is an abbreviation for chromosome).

GAM2393 precursor RNA folds onto itself, forming GAM2393 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2393 precursor RNA, designated SEQ ID NO: 140659, and a schematic representation of a predicted secondary folding of GAM2393 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2393 folded precursor RNA yielding a GAM2393 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM2393 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2393 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM2393 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2393 target RNA, herein designated GAM TARGET RNA. GAM2393 target RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2393 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2393 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2393 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2393 RNA, herein designated GAM RNA, to target binding sites on GAM2393 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2393 target RNA into GAM2393 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2393 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2393 target genes. The mRNA of each one of this plurality of GAM2393 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2393 RNA, herein designated GAM RNA, and which when bound by GAM2393 RNA causes inhibition of translation of the GAM2393 target mRNA into a corresponding GAM2393 target protein.

The mechanism of the translational inhibition exerted by GAM2393 RNA, herein designated GAM RNA, on one or more GAM2393 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2393 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2393 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2393 RNA, herein designated GAM RNA, of GAM2393 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2393 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2393 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2393 RNA correlate with, and may be deduced from, the identity of the GAM2393 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2398 140660 AAGCCCTTGA CTGGGGCTGC TGCCTTTCTC TCAGAGATGC CCTGCCCAGT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 2398 (GAM2398) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM2398 is a novel bioinformatically detectable regulatory, non protein coding,

GAGGAGGAAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM2398 was detected is

CTAGAGAGGC described with additional reference to Figs. 9-15.

AGTCTGGCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGTTGCTT encoded by the human genome.

GAM2398 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2398 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2398 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2398 precursor RNA is designated SEQ ID:140660, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140660 is located from position 63185944 to position 63186032 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM2398 precursor RNA folds onto itself, forming GAM2398 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2398 precursor RNA, designated SEQ ID NO: 140660, and a schematic representation of a predicted secondary folding of GAM2398 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2398 folded precursor RNA yielding a GAM2398 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM2398 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2398 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM2398 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2398 target RNA, herein designated GAM TARGET RNA. GAM2398 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2398 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2398 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2398 RNA is a partial or fully complementary sequence of the

nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2398 RNA, herein designated GAM RNA, to target binding sites on GAM2398 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2398 target RNA into GAM2398 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2398 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2398 target genes. The mRNA of each one of this plurality of GAM2398 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2398 RNA, herein designated GAM RNA, and which when bound by GAM2398 RNA causes inhibition of translation of the GAM2398 target mRNA into a corresponding GAM2398 target protein.

The mechanism of the translational inhibition exerted by GAM2398 RNA, herein designated GAM RNA, on one or more GAM2398 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2398 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2398 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2398 RNA, herein designated GAM RNA, of GAM2398 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2398 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2398 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2398 RNA correlate with, and may be deduced from, the identity of the GAM2398 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2423 140661 GTGGCAGTTC Fig. 8 further provides a conceptual description of another novel bioinformatically

CAGCCTTATC detected oligonucleotides of the present invention, referred to here as Genomic Address CTCAGGGTCT Messenger 2423 (GAM2423) oligonucleotides modulates expression of respective target genes

GACACAATCG whose function and utility is known in the art.

GGCTTTTACG GAM2423 is a novel bioinformatically detectable regulatory, non protein coding, AAAGGCATGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM2423 was detected is

TTTACTGCCA described with additional reference to Figs. 9-15.

C GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM2423 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2423

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2423

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2423 precursor RNA is designated SEQ ID:140661, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140661 is located from position 31809450 to position 31809520 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM2423 precursor RNA folds onto itself, forming GAM2423 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2423 precursor RNA, designated SEQ ID NO: 140661, and a schematic representation of a predicted secondary folding of GAM2423 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2423 folded precursor RNA yielding a GAM2423 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2423 RNA, hereby incorporated herein.

GAM2423 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2423 target RNA, herein designated GAM TARGET RNA. GAM2423 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2423 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2423 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2423 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2423 RNA, herein designated GAM RNA, to target binding sites on GAM2423 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2423 target RNA into GAM2423 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2423 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2423 target genes. The mRNA of each one of this plurality of GAM2423 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2423 RNA, herein designated GAM RNA, and which when bound by GAM2423 RNA causes inhibition of translation of the GAM2423 target mRNA into a corresponding GAM2423 target protein.

The mechanism of the translational inhibition exerted by GAM2423 RNA, herein designated GAM RNA, on one or more GAM2423 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2423 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2423 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2423 RNA, herein designated GAM RNA, of GAM2423 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2423 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2423 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2423 RNA correlate with, and may be deduced from, the identity of the GAM2423 target gene inhibited

thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2424 140662 TCGCTTGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically
CCGGGAGGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGTAGTAG Messenger 2424 (GAM2424) oligonucleotides modulates expression of respective target genes
TGAGCTGAAG whose function and utility is known in the art.

TCCCGCCACT GAM2424 is a novel bioinformatically detectable regulatory, non protein coding,
GCACTCCAGC micro RNA (miRNA)-like oligonucleotide. The method by which GAM2424 was detected is

CTGGGCAACA described with additional reference to Figs. 9-15.

GAGCGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM2424 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2424

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2424
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2424 precursor RNA is designated SEQ ID:140662, and is provided hereinbelow with reference to the sequence listing part.

GAM2424 precursor RNA folds onto itself, forming GAM2424 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2424 precursor RNA, designated SEQ ID NO: 140662, and a schematic representation of a predicted secondary folding of GAM2424 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2424 folded precursor RNA yielding a GAM2424 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2424 RNA, hereby incorporated herein. Expression of GAM2424 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM2424 target gene, herein designated GAM TARGET GENE, encodes a corresponding

messenger RNA, GAM2424 target RNA, herein designated GAM TARGET RNA. GAM2424 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2424 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2424 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2424 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2424 RNA, herein designated GAM RNA, to target binding sites on GAM2424 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2424 target RNA into GAM2424 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2424 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2424 target genes. The mRNA of each one of this plurality of GAM2424 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2424 RNA, herein designated GAM RNA, and which when bound by GAM2424 RNA causes inhibition of translation of the GAM2424 target mRNA into a corresponding GAM2424 target protein.

The mechanism of the translational inhibition exerted by GAM2424 RNA, herein designated GAM RNA, on one or more GAM2424 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2424 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2424 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2424 RNA, herein designated GAM RNA, of GAM2424 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2424 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target

binding sites to GAM2424 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2424 RNA correlate with, and may be deduced from, the identity of the GAM2424 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2440 140663 TTGCTTGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically

CCAAGAGGCG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTTGCAG Messenger 2440 (GAM2440) oligonucleotides modulates expression of respective target genes

TGAGCTAAGA whose function and utility is known in the art.

TCATGCCACT GAM2440 is a novel bioinformatically detectable regulatory, non protein coding,

GCACTCCAGC micro RNA (miRNA)-like oligonucleotide. The method by which GAM2440 was detected is

CTGGGTGACA described with additional reference to Figs. 9-15.

GAGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM2440 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2440

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2440

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2440 precursor RNA is designated SEQ ID:140663, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140663 is located from position 29072015 to position 29072090 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM2440 precursor RNA folds onto itself, forming GAM2440 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2440 precursor RNA, designated SEQ ID NO: 140663, and a schematic representation of a predicted secondary folding of GAM2440 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2440 folded precursor RNA yielding a GAM2440 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an

enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2440 RNA, hereby incorporated herein.

GAM2440 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2440 target RNA, herein designated GAM TARGET RNA. GAM2440 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2440 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2440 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2440 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2440 RNA, herein designated GAM RNA, to target binding sites on GAM2440 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2440 target RNA into GAM2440 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2440 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2440 target genes. The mRNA of each one of this plurality of GAM2440 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2440 RNA, herein designated GAM RNA, and which when bound by GAM2440 RNA causes inhibition of translation of the GAM2440 target mRNA into a corresponding GAM2440 target protein.

The mechanism of the translational inhibition exerted by GAM2440 RNA, herein designated GAM RNA, on one or more GAM2440 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2440 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2440 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2440 RNA, herein designated GAM RNA, of GAM2440 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2440 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2440 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2440 RNA correlate with, and may be deduced from, the identity of the GAM2440 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2514 140664 TGGAACTGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GGAGCTGTCC detected oligonucleotides of the present invention, referred to here as Genomic Address
TGTGTCAGCC Messenger 2514 (GAM2514) oligonucleotides modulates expression of respective target genes
TGAAATAATC whose function and utility is known in the art.

AAAAGGATCA GAM2514 is a novel bioinformatically detectable regulatory, non protein coding,
AAAATCCTGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM2514 was detected is

TTTAGGCAAC described with additional reference to Figs. 9-15.

ATAGGAAGAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCCAACTCTA encoded by the human genome.

GAM2514 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2514

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2514

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2514 precursor RNA is designated SEQ ID:140664, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140664 is located from position 93198982 to position 93199071 relative to chromosome chr1 on the `+` strand (chr is an abbreviation for chromosome).

GAM2514 precursor RNA folds onto itself, forming GAM2514 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2514 precursor RNA, designated SEQ ID NO: 140664, and a schematic representation of a predicted secondary folding of GAM2514 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2514 folded precursor RNA yielding a GAM2514 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM2514 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2514 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM2514 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2514 target RNA, herein designated GAM TARGET RNA. GAM2514 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2514 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2514 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2514 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2514 RNA, herein designated GAM RNA, to target binding sites on GAM2514 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2514 target RNA into GAM2514 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2514 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2514 target genes. The mRNA of each one of this plurality of GAM2514 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2514 RNA, herein designated GAM RNA, and which when bound by GAM2514 RNA causes inhibition of translation of the GAM2514 target mRNA into a corresponding GAM2514 target protein.

The mechanism of the translational inhibition exerted by GAM2514 RNA, herein designated GAM RNA, on one or more GAM2514 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2514 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2514 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2514 RNA, herein designated GAM RNA, of GAM2514 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2514 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2514 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2514 RNA correlate with, and may be deduced from, the identity of the GAM2514 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2519 140665 ATGATGCCAG Fig. 8 further provides a conceptual description of another novel bioinformatically
GACTGCAGCT detected oligonucleotides of the present invention, referred to here as Genomic Address
TCAGGGACTT Messenger 2519 (GAM2519) oligonucleotides modulates expression of respective target genes
GTGGCAGATG whose function and utility is known in the art.

CACAGGGTGC GAM2519 is a novel bioinformatically detectable regulatory, non protein coding,
CTCTGGCTCC micro RNA (miRNA)-like oligonucleotide. The method by which GAM2519 was detected is

CTGGAGCTCC described with additional reference to Figs. 9-15.

ACACTGCAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CCCAGCTCTG encoded by the human genome.

T GAM2519 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2519
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2519
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2519 precursor RNA is designated SEQ ID:140665, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140665 is located from position 80675207 to position 80675297 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM2519 precursor RNA folds onto itself, forming GAM2519 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2519 precursor RNA, designated SEQ ID NO: 140665, and a schematic representation of a predicted secondary folding of GAM2519 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2519 folded precursor RNA yielding a GAM2519 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2519 RNA, hereby incorporated herein.

GAM2519 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2519 target RNA, herein designated GAM TARGET RNA. GAM2519 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2519 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2519 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2519 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2519 RNA, herein designated GAM RNA, to target binding sites on GAM2519 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2519 target RNA into GAM2519 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2519 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2519 target genes. The mRNA of each one of this plurality of GAM2519 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2519 RNA, herein designated GAM RNA, and which when bound by GAM2519 RNA causes inhibition of translation of the GAM2519 target mRNA into a corresponding GAM2519 target protein.

The mechanism of the translational inhibition exerted by GAM2519 RNA, herein designated GAM RNA, on one or more GAM2519 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2519 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2519 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2519 RNA, herein designated GAM RNA, of GAM2519 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2519 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2519 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2519 RNA correlate with, and may be deduced from, the identity of the GAM2519 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2543 140666 TGCTGTAGGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TGTATGCTGT detected oligonucleotides of the present invention, referred to here as Genomic Address
TAATGCTAAT Messenger 2543 (GAM2543) oligonucleotides modulates expression of respective target genes
CGTGATAGGG whose function and utility is known in the art.

GTTTTTGCCT GAM2543 is a novel bioinformatically detectable regulatory, non protein coding,
CCAACTGACT micro RNA (miRNA)-like oligonucleotide. The method by which GAM2543 was detected is

CCTACATATT described with additional reference to Figs. 9-15.

AGCATTAACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTGTATGATG encoded by the human genome.

CCTGTTACTA GAM2543 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2543
GCA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2543

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2543 precursor RNA is designated SEQ ID:140666, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140666 is located from position 25868146 to position 25868248 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GAM2543 precursor RNA folds onto itself, forming GAM2543 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2543 precursor RNA, designated SEQ ID NO: 140666, and a schematic representation of a predicted secondary folding of GAM2543 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2543 folded precursor RNA yielding a GAM2543 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2543 RNA, hereby incorporated herein.

GAM2543 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2543 target RNA, herein designated GAM TARGET RNA. GAM2543 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2543 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2543 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2543 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2543 RNA, herein designated GAM RNA, to target binding sites on GAM2543 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2543 target RNA into GAM2543 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2543 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2543 target genes. The mRNA of each one of this plurality of GAM2543 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2543 RNA, herein designated GAM RNA, and which when bound by GAM2543 RNA causes inhibition of translation

of the GAM2543 target mRNA into a corresponding GAM2543 target protein.

The mechanism of the translational inhibition exerted by GAM2543 RNA, herein designated GAM RNA, on one or more GAM2543 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2543 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2543 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2543 RNA, herein designated GAM RNA, of GAM2543 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2543 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2543 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2543 RNA correlate with, and may be deduced from, the identity of the GAM2543 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2565 140667 GAGCCTTTTA Fig. 8 further provides a conceptual description of another novel bioinformatically
ATGACACAGT detected oligonucleotides of the present invention, referred to here as Genomic Address
GGGGCCAGTT Messenger 2565 (GAM2565) oligonucleotides modulates expression of respective target genes
GGAGCACTGA whose function and utility is known in the art.

TCCTGGTCAT GAM2565 is a novel bioinformatically detectable regulatory, non protein coding,
TACTCCTGCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM2565 was detected is

CCCTGGCCTG described with additional reference to Figs. 9-15.

CAGCCTTCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTCAGTGTCT encoded by the human genome.

TATTTGGGCT GAM2565 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2565
T precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2565
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

to the nucleotide sequence of GAM2565 precursor RNA is designated SEQ ID:140667, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140667 is located from position 17811037 to position 17811137 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM2565 precursor RNA folds onto itself, forming GAM2565 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2565 precursor RNA, designated SEQ ID NO: 140667, and a schematic representation of a predicted secondary folding of GAM2565 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2565 folded precursor RNA yielding a GAM2565 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2565 RNA, hereby incorporated herein.

GAM2565 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2565 target RNA, herein designated GAM TARGET RNA. GAM2565 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2565 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2565 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2565 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2565 RNA, herein designated GAM RNA, to target binding sites on GAM2565 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2565 target RNA into GAM2565 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2565 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2565 target genes. The mRNA of each one of this plurality of GAM2565 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2565 RNA, herein designated GAM RNA, and which when bound by GAM2565 RNA causes inhibition of translation of the GAM2565 target mRNA into a corresponding GAM2565 target protein.

The mechanism of the translational inhibition exerted by GAM2565 RNA, herein designated GAM RNA, on one or more GAM2565 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2565 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2565 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2565 RNA, herein designated GAM RNA, of GAM2565 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2565 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2565 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2565 RNA correlate with, and may be deduced from, the identity of the GAM2565 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2578 140668 CAGTATAACT Fig. 8 further provides a conceptual description of another novel bioinformatically
ATGACCCTTC detected oligonucleotides of the present invention, referred to here as Genomic Address
TGGAACTGCT Messenger 2578 (GAM2578) oligonucleotides modulates expression of respective target genes
TCTCCACAAA whose function and utility is known in the art.

CCACTACAGA GAM2578 is a novel bioinformatically detectable regulatory, non protein coding,
GCAGGCAATT micro RNA (miRNA)-like oligonucleotide. The method by which GAM2578 was detected is

TTGGAAGGTC described with additional reference to Figs. 9-15.

AGTATGCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM2578 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2578 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2578 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2578 precursor RNA is designated SEQ ID:140668, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140668 is located from position 82178126 to position 82178204 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM2578 precursor RNA folds onto itself, forming GAM2578 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2578 precursor RNA, designated SEQ ID NO: 140668, and a schematic representation of a predicted secondary folding of GAM2578 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2578 folded precursor RNA yielding a GAM2578 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2578 RNA, hereby incorporated herein.

GAM2578 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2578 target RNA, herein designated GAM TARGET RNA. GAM2578 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2578 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2578 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2578 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2578 RNA, herein designated GAM RNA, to target

binding sites on GAM2578 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2578 target RNA into GAM2578 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2578 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2578 target genes. The mRNA of each one of this plurality of GAM2578 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2578 RNA, herein designated GAM RNA, and which when bound by GAM2578 RNA causes inhibition of translation of the GAM2578 target mRNA into a corresponding GAM2578 target protein.

The mechanism of the translational inhibition exerted by GAM2578 RNA, herein designated GAM RNA, on one or more GAM2578 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2578 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2578 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2578 RNA, herein designated GAM RNA, of GAM2578 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2578 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2578 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2578 RNA correlate with, and may be deduced from, the identity of the GAM2578 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2591 140669 CCGGTAGGTT Fig. 8 further provides a conceptual description of another novel bioinformatically
TAGAATGAGG detected oligonucleotides of the present invention, referred to here as Genomic Address
TCTGTGTCAC Messenger 2591 (GAM2591) oligonucleotides modulates expression of respective target genes
TGTGGTATTA whose function and utility is known in the art.

CGATATTTTG GAM2591 is a novel bioinformatically detectable regulatory, non protein coding,
ACTGGTTATT micro RNA (miRNA)-like oligonucleotide. The method by which GAM2591 was detected is

ATAACCACAG described with additional reference to Figs. 9-15.

TGTCACAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCCATCAAAA encoded by the human genome.

ACCCATGCCT GAM2591 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2591

GG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2591

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2591 precursor RNA is designated SEQ ID:140669, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140669 is located from position 104342178 to position 104342279 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GAM2591 precursor RNA folds onto itself, forming GAM2591 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2591 precursor RNA, designated SEQ ID NO: 140669, and a schematic representation of a predicted secondary folding of GAM2591 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2591 folded precursor RNA yielding a GAM2591 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2591 RNA, hereby incorporated herein.

GAM2591 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2591 target RNA, herein designated GAM TARGET RNA. GAM2591 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2591 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2591 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2591 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2591 RNA, herein designated GAM RNA, to target binding sites on GAM2591 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2591 target RNA into GAM2591 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2591 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2591 target genes. The mRNA of each one of this plurality of GAM2591 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2591 RNA, herein designated GAM RNA, and which when bound by GAM2591 RNA causes inhibition of translation of the GAM2591 target mRNA into a corresponding GAM2591 target protein.

The mechanism of the translational inhibition exerted by GAM2591 RNA, herein designated GAM RNA, on one or more GAM2591 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2591 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2591 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2591 RNA, herein designated GAM RNA, of GAM2591 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2591 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2591 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2591 RNA correlate with, and may be deduced from, the identity of the GAM2591 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2608 140670 CTTTTGAGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GCTTCTTATA detected oligonucleotides of the present invention, referred to here as Genomic Address

ATGTGTCTCT Messenger 2608 (GAM2608) oligonucleotides modulates expression of respective target genes

TGTGTTAAGG whose function and utility is known in the art.

TGCATCTAGT GAM2608 is a novel bioinformatically detectable regulatory, non protein coding, GCAGTTAGTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM2608 was detected is

AAGCAGCTTA described with additional reference to Figs. 9-15.

GAATCTACTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCCTAAATGC encoded by the human genome.

CCCTTCTGGC GAM2608 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2608

ACAGGCTGCC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2608

TAATATACAG precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

CATTTTAAAA to the nucleotide sequence of GAM2608 precursor RNA is designated SEQ ID:140670, and is

G provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140670 is located from position 131249037 to position 131249167 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM2608 precursor RNA folds onto itself, forming GAM2608 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2608 precursor RNA, designated SEQ ID NO: 140670, and a schematic representation of a predicted secondary folding of GAM2608 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2608 folded precursor RNA yielding a GAM2608 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2608 RNA, hereby incorporated herein. Expression of GAM2608 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM2608 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2608 target RNA, herein designated GAM TARGET RNA. GAM2608 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2608 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2608 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2608 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2608 RNA, herein designated GAM RNA, to target binding sites on GAM2608 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2608 target RNA into GAM2608 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2608 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2608 target genes. The mRNA of each one of this plurality of GAM2608 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2608 RNA, herein designated GAM RNA, and which when bound by GAM2608 RNA causes inhibition of translation of the GAM2608 target mRNA into a corresponding GAM2608 target protein.

The mechanism of the translational inhibition exerted by GAM2608 RNA, herein designated GAM RNA, on one or more GAM2608 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2608 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2608 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2608 RNA, herein designated GAM RNA, of GAM2608 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2608 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2608 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2608 RNA correlate with, and may be deduced from, the identity of the GAM2608 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2618 140671 TGTGGGAAGA Fig. 8 further provides a conceptual description of another novel bioinformatically
TGCTGGCAAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GTGCTGGAGG Messenger 2618 (GAM2618) oligonucleotides modulates expression of respective target genes
GCCCTGGAGG whose function and utility is known in the art.

CAAAGGGCCT GAM2618 is a novel bioinformatically detectable regulatory, non protein coding,
GCCTCGACCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM2618 was detected is

TGCCCCCCAT described with additional reference to Figs. 9-15.

AACCCACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM2618 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2618

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2618
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2618 precursor RNA is designated SEQ ID:140671, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140671 is located from position 10351230 to position 10351307 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM2618 precursor RNA folds onto itself, forming GAM2618 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2618 precursor RNA, designated SEQ ID NO: 140671, and a schematic representation of a predicted secondary folding of GAM2618 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2618 folded precursor RNA yielding a GAM2618 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2618 RNA, hereby incorporated herein.

GAM2618 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2618 target RNA, herein designated GAM TARGET RNA. GAM2618 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2618 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2618 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2618 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2618 RNA, herein designated GAM RNA, to target binding sites on GAM2618 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2618 target RNA into GAM2618 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2618 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2618 target genes. The mRNA of each one of this plurality of GAM2618 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2618 RNA, herein designated GAM RNA, and which when bound by GAM2618 RNA causes inhibition of translation of the GAM2618 target mRNA into a corresponding GAM2618 target protein.

The mechanism of the translational inhibition exerted by GAM2618 RNA, herein designated GAM RNA, on one or more GAM2618 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2618 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2618 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2618 RNA, herein designated GAM RNA, of GAM2618 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2618 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2618 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2618 RNA correlate with, and may be deduced from, the identity of the GAM2618 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2624 140672 ATCGTCTGAG CCCAGGAGTT TGAGGCTGCA GTGAGCTACA ATCACACCCC TGCACTCAAG CCTGGGTTAC AGAGTGAT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 2624 (GAM2624) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM2624 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM2624 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM2624 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2624 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2624 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2624 precursor RNA is designated SEQ ID:140672, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140672 is located from position 128731509 to position 128731586 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM2624 precursor RNA folds onto itself, forming GAM2624 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2624 precursor RNA, designated SEQ ID NO: 140672, and a schematic representation of a predicted secondary folding of GAM2624 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2624 folded precursor RNA yielding a GAM2624 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM2624 RNA: a nucleotide sequence that is highly

likely to be identical or highly similar to the nucleotide sequence of GAM2624 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM2624 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2624 target RNA, herein designated GAM TARGET RNA. GAM2624 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2624 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2624 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2624 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2624 RNA, herein designated GAM RNA, to target binding sites on GAM2624 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2624 target RNA into GAM2624 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2624 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2624 target genes. The mRNA of each one of this plurality of GAM2624 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2624 RNA, herein designated GAM RNA, and which when bound by GAM2624 RNA causes inhibition of translation of the GAM2624 target mRNA into a corresponding GAM2624 target protein.

The mechanism of the translational inhibition exerted by GAM2624 RNA, herein designated GAM RNA, on one or more GAM2624 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2624 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2624 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2624 RNA, herein designated GAM RNA, of GAM2624 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2624 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2624 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2624 RNA correlate with, and may be deduced from, the identity of the GAM2624 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2628 140673 GTGCACTACA Fig. 8 further provides a conceptual description of another novel bioinformatically
GACTCCAGCC detected oligonucleotides of the present invention, referred to here as Genomic Address
TCCCTTTGAA Messenger 2628 (GAM2628) oligonucleotides modulates expression of respective target genes
GCCAGGTTCC whose function and utility is known in the art.

AGAGCTTCCT GAM2628 is a novel bioinformatically detectable regulatory, non protein coding,
CCCTTTGGCC micro RNA (miRNA)-like oligonucleotide. The method by which GAM2628 was detected is

TGGAACCTCA described with additional reference to Figs. 9-15.

ACAGCAGGAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGGGATGAGG encoded by the human genome.

ATGGAAGTGT GAM2628 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2628
AC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2628

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2628 precursor RNA is designated SEQ ID:140673, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140673 is located from position 15653139 to position 15653240 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM2628 precursor RNA folds onto itself, forming GAM2628 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2628 precursor RNA, designated SEQ ID NO: 140673, and a schematic representation of a predicted secondary folding of GAM2628 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2628 folded precursor RNA yielding a GAM2628 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2628 RNA, hereby incorporated herein.

GAM2628 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2628 target RNA, herein designated GAM TARGET RNA. GAM2628 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2628 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2628 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2628 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2628 RNA, herein designated GAM RNA, to target binding sites on GAM2628 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2628 target RNA into GAM2628 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2628 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2628 target genes. The mRNA of each one of this plurality of GAM2628 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2628 RNA, herein designated GAM RNA, and which when bound by GAM2628 RNA causes inhibition of translation of the GAM2628 target mRNA into a corresponding GAM2628 target protein.

The mechanism of the translational inhibition exerted by GAM2628 RNA, herein designated GAM RNA, on one or more GAM2628 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2628 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2628 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2628 RNA, herein designated GAM RNA, of GAM2628 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2628 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2628 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2628 RNA correlate with, and may be deduced from, the identity of the GAM2628 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2631 140674 TGCTTCCTTA Fig. 8 further provides a conceptual description of another novel bioinformatically

CCTACAAGAA detected oligonucleotides of the present invention, referred to here as Genomic Address

AATTTAGAAG Messenger 2631 (GAM2631) oligonucleotides modulates expression of respective target genes

TTGGTGCAAA whose function and utility is known in the art.

TGGCATTTCC GAM2631 is a novel bioinformatically detectable regulatory, non protein coding,

ATGAGTACTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM2631 was detected is

CTCATGCATC described with additional reference to Figs. 9-15.

TTTGCATATT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCACCTGGGG encoded by the human genome.

GGAAGCA GAM2631 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2631

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2631

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2631 precursor RNA is designated SEQ ID:140674, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140674 is located from position 8927224 to position 8927320 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM2631 precursor RNA folds onto itself, forming GAM2631 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2631 precursor RNA, designated SEQ ID NO: 140674, and a schematic representation of a predicted secondary folding of GAM2631 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2631 folded precursor RNA yielding a GAM2631 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2631 RNA, hereby incorporated herein.

GAM2631 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2631 target RNA, herein designated GAM TARGET RNA. GAM2631 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2631 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2631 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2631 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2631 RNA, herein designated GAM RNA, to target binding sites on GAM2631 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2631 target RNA into GAM2631 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2631 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2631 target genes. The mRNA of each one of this plurality of GAM2631 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2631 RNA, herein designated GAM RNA, and which when bound by GAM2631 RNA causes inhibition of translation of the GAM2631 target mRNA into a corresponding GAM2631 target protein.

The mechanism of the translational inhibition exerted by GAM2631 RNA, herein designated GAM RNA, on one or more GAM2631 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2631 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2631 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2631 RNA, herein designated GAM RNA, of GAM2631 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2631 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2631 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2631 RNA correlate with, and may be deduced from, the identity of the GAM2631 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2640 140675 TGGTTTCATT Fig. 8 further provides a conceptual description of another novel bioinformatically

AAAATGTGTA detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGTTGGCTG Messenger 2640 (GAM2640) oligonucleotides modulates expression of respective target genes

GGTGCAGTAA whose function and utility is known in the art.

CTCATGCCTG GAM2640 is a novel bioinformatically detectable regulatory, non protein coding,

TAATCCCAGC micro RNA (miRNA)-like oligonucleotide. The method by which GAM2640 was detected is

ATTTTAGGAG described with additional reference to Figs. 9-15.

ACCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM2640 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2640

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2640

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2640 precursor RNA is designated SEQ ID:140675, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140675 is located from position 13483969 to position 13484042 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM2640 precursor RNA folds onto itself, forming GAM2640 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2640 precursor RNA, designated SEQ ID NO: 140675, and a schematic representation of a predicted secondary folding of GAM2640 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2640 folded precursor RNA yielding a GAM2640 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2640 RNA, hereby incorporated herein.

GAM2640 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2640 target RNA, herein designated GAM TARGET RNA. GAM2640 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2640 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2640 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2640 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2640 RNA, herein designated GAM RNA, to target binding sites on GAM2640 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2640 target RNA into GAM2640 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2640 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2640 target genes. The mRNA of each one of this plurality of GAM2640 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2640 RNA, herein designated GAM RNA, and which when bound by GAM2640 RNA causes inhibition of translation of the GAM2640 target mRNA into a corresponding GAM2640 target protein.

The mechanism of the translational inhibition exerted by GAM2640 RNA, herein designated GAM RNA, on one or more GAM2640 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2640 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2640 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2640 RNA, herein designated GAM RNA, of GAM2640 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2640 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2640 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2640 RNA correlate with, and may be deduced from, the identity of the GAM2640 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2669 140676 TGGGTGAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
ACAGGTAGAG detected oligonucleotides of the present invention, referred to here as Genomic Address
AAGTGTAAGT Messenger 2669 (GAM2669) oligonucleotides modulates expression of respective target genes
GAGACAAACT whose function and utility is known in the art.

TCCCTGCCAT GAM2669 is a novel bioinformatically detectable regulatory, non protein coding,
TTGCCAAAGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM2669 was detected is

GGCAGCACAT described with additional reference to Figs. 9-15.

AATGTATCAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGTGCCTCT encoded by the human genome.

ACCCTCTGAT GAM2669 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2669
ATCCA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2669
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2669 precursor RNA is designated SEQ ID:140676, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ

ID:140676 is located from position 35740046 to position 35740150 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM2669 precursor RNA folds onto itself, forming GAM2669 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2669 precursor RNA, designated SEQ ID NO: 140676, and a schematic representation of a predicted secondary folding of GAM2669 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2669 folded precursor RNA yielding a GAM2669 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2669 RNA, hereby incorporated herein.

GAM2669 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2669 target RNA, herein designated GAM TARGET RNA. GAM2669 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2669 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2669 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2669 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2669 RNA, herein designated GAM RNA, to target binding sites on GAM2669 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2669 target RNA into GAM2669 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2669 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2669 target genes. The mRNA of each one of this

plurality of GAM2669 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2669 RNA, herein designated GAM RNA, and which when bound by GAM2669 RNA causes inhibition of translation of the GAM2669 target mRNA into a corresponding GAM2669 target protein.

The mechanism of the translational inhibition exerted by GAM2669 RNA, herein designated GAM RNA, on one or more GAM2669 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2669 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2669 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2669 RNA, herein designated GAM RNA, of GAM2669 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2669 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2669 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2669 RNA correlate with, and may be deduced from, the identity of the GAM2669 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2672 140677 GCCTGCGGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TATTGTAGAA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACGCTGCGCT Messenger 2672 (GAM2672) oligonucleotides modulates expression of respective target genes
GCCTATCACA whose function and utility is known in the art.

GCTTGTGATG GAM2672 is a novel bioinformatically detectable regulatory, non protein coding,
TGACACGTTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM2672 was detected is

ATTCTGCAAG described with additional reference to Figs. 9-15.

TTTAAACTTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCCTAGGT encoded by the human genome.

GAM2672 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2672

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2672 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2672 precursor RNA is designated SEQ ID:140677, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140677 is located from position 97817966 to position 97818053 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM2672 precursor RNA folds onto itself, forming GAM2672 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2672 precursor RNA, designated SEQ ID NO: 140677, and a schematic representation of a predicted secondary folding of GAM2672 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2672 folded precursor RNA yielding a GAM2672 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2672 RNA, hereby incorporated herein.

GAM2672 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2672 target RNA, herein designated GAM TARGET RNA. GAM2672 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2672 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2672 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2672 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2672 RNA, herein designated GAM RNA, to target binding sites on GAM2672 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2672 target RNA

into GAM2672 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2672 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2672 target genes. The mRNA of each one of this plurality of GAM2672 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2672 RNA, herein designated GAM RNA, and which when bound by GAM2672 RNA causes inhibition of translation of the GAM2672 target mRNA into a corresponding GAM2672 target protein.

The mechanism of the translational inhibition exerted by GAM2672 RNA, herein designated GAM RNA, on one or more GAM2672 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2672 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2672 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2672 RNA, herein designated GAM RNA, of GAM2672 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2672 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2672 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2672 RNA correlate with, and may be deduced from, the identity of the GAM2672 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2732 140678 GGTCTGTGTG Fig. 8 further provides a conceptual description of another novel bioinformatically
AAGCATCACT detected oligonucleotides of the present invention, referred to here as Genomic Address
TTGCAGGGAT Messenger 2732 (GAM2732) oligonucleotides modulates expression of respective target genes
TACTAATGGT whose function and utility is known in the art.

GGGGCAGCAG GAM2732 is a novel bioinformatically detectable regulatory, non protein coding,
GTCTGTGAAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM2732 was detected is

TAAGTTATCT described with additional reference to Figs. 9-15.

CTTGACCTCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCCTCATGTC encoded by the human genome.

AACACAAATG GAM2732 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2732
TAATTCCTAA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2732
ACAAGATGCA precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar
TTGCCAGTCT to the nucleotide sequence of GAM2732 precursor RNA is designated SEQ ID:140678, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140678 is located from position 49257580 to position 49257709 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM2732 precursor RNA folds onto itself, forming GAM2732 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2732 precursor RNA, designated SEQ ID NO: 140678, and a schematic representation of a predicted secondary folding of GAM2732 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2732 folded precursor RNA yielding a GAM2732 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2732 RNA, hereby incorporated herein.

GAM2732 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2732 target RNA, herein designated GAM TARGET RNA. GAM2732 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2732 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2732 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2732 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2732 RNA, herein designated GAM RNA, to target binding sites on GAM2732 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2732 target RNA into GAM2732 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2732 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2732 target genes. The mRNA of each one of this plurality of GAM2732 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2732 RNA, herein designated GAM RNA, and which when bound by GAM2732 RNA causes inhibition of translation of the GAM2732 target mRNA into a corresponding GAM2732 target protein.

The mechanism of the translational inhibition exerted by GAM2732 RNA, herein designated GAM RNA, on one or more GAM2732 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2732 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2732 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2732 RNA, herein designated GAM RNA, of GAM2732 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2732 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2732 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2732 RNA correlate with, and may be deduced from, the identity of the GAM2732 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2762 140679 CTTCTCACTT Fig. 8 further provides a conceptual description of another novel bioinformatically

TCCCTTCACA detected oligonucleotides of the present invention, referred to here as Genomic Address

CACAGTCGTG Messenger 2762 (GAM2762) oligonucleotides modulates expression of respective target genes

TAGTTTTGCG whose function and utility is known in the art.

CTTGCTTGAT GAM2762 is a novel bioinformatically detectable regulatory, non protein coding,

TAATCTCTTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM2762 was detected is

GCCTCAGTCG described with additional reference to Figs. 9-15.

GTTTTCTACC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATATGGAGTT encoded by the human genome.

GGTTCATTCT GAM2762 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2762

CTCGAATGGC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2762

TGTGTAGTCC precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

AGTGTGTGGG to the nucleotide sequence of GAM2762 precursor RNA is designated SEQ ID:140679, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140679 is located from position 110144402 to position 110144531 relative to chromosome chr13 on the `-` strand (chr is an abbreviation for chromosome).

GAM2762 precursor RNA folds onto itself, forming GAM2762 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2762 precursor RNA, designated SEQ ID NO: 140679, and a schematic representation of a predicted secondary folding of GAM2762 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2762 folded precursor RNA yielding a GAM2762 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2762 RNA, hereby incorporated herein.

GAM2762 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2762 target RNA, herein designated GAM TARGET RNA. GAM2762 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2762 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2762 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2762 RNA is a partial or fully complementary sequence of the

nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2762 RNA, herein designated GAM RNA, to target binding sites on GAM2762 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2762 target RNA into GAM2762 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2762 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2762 target genes. The mRNA of each one of this plurality of GAM2762 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2762 RNA, herein designated GAM RNA, and which when bound by GAM2762 RNA causes inhibition of translation of the GAM2762 target mRNA into a corresponding GAM2762 target protein.

The mechanism of the translational inhibition exerted by GAM2762 RNA, herein designated GAM RNA, on one or more GAM2762 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2762 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2762 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2762 RNA, herein designated GAM RNA, of GAM2762 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2762 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2762 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2762 RNA correlate with, and may be deduced from, the identity of the GAM2762 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2767 140680 CACATTCCTG Fig. 8 further provides a conceptual description of another novel bioinformatically

TTAGCTGAGG detected oligonucleotides of the present invention, referred to here as Genomic Address
TCACCTGACT Messenger 2767 (GAM2767) oligonucleotides modulates expression of respective target
genes
CTGCTTGTCG whose function and utility is known in the art.

TTTTTGCACA GAM2767 is a novel bioinformatically detectable regulatory, non protein coding,
GGCAGACGTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM2767 was detected is

TGCATTCTGG described with additional reference to Figs. 9-15.

AGAGCAGGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is
a humen gene
GTG encoded by the human genome.

GAM2767 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2767

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM2767

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2767 precursor RNA is designated SEQ ID:140680, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140680 is located from position 129765262 to position 129765344 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM2767 precursor RNA folds onto itself, forming GAM2767 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2767 precursor RNA, designated SEQ ID NO: 140680, and a schematic representation of a predicted secondary folding of GAM2767 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2767 folded precursor RNA yielding a GAM2767 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2767 RNA, hereby incorporated herein.

GAM2767 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2767 target RNA, herein designated GAM TARGET RNA. GAM2767 target
RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2767 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2767 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2767 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2767 RNA, herein designated GAM RNA, to target binding sites on GAM2767 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2767 target RNA into GAM2767 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2767 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2767 target genes. The mRNA of each one of this plurality of GAM2767 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2767 RNA, herein designated GAM RNA, and which when bound by GAM2767 RNA causes inhibition of translation of the GAM2767 target mRNA into a corresponding GAM2767 target protein.

The mechanism of the translational inhibition exerted by GAM2767 RNA, herein designated GAM RNA, on one or more GAM2767 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2767 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2767 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2767 RNA, herein designated GAM RNA, of GAM2767 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2767 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2767 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2767 RNA correlate with, and may be deduced from, the identity of the GAM2767 target gene inhibited

thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2770 140681 GGACTACAGG Fig. 8 further provides a conceptual description of another novel bioinformatically
CACATGCAAC detected oligonucleotides of the present invention, referred to here as Genomic Address
CACATCTGGC Messenger 2770 (GAM2770) oligonucleotides modulates expression of respective target genes
TAATTTTCTT whose function and utility is known in the art.

GAGTTTTAGT GAM2770 is a novel bioinformatically detectable regulatory, non protein coding,
AGAGACTGGG micro RNA (miRNA)-like oligonucleotide. The method by which GAM2770 was detected is

TCTCATTATG described with additional reference to Figs. 9-15.

TTGTCCAGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGGTCCCAAG encoded by the human genome.

CTCCTGAGTT GAM2770 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2770
C precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2770

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2770 precursor RNA is designated SEQ ID:140681, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140681 is located from position 69984108 to position 69984208 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GAM2770 precursor RNA folds onto itself, forming GAM2770 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2770 precursor RNA, designated SEQ ID NO: 140681, and a schematic representation of a predicted secondary folding of GAM2770 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2770 folded precursor RNA yielding a GAM2770 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2770 RNA, hereby incorporated herein.

GAM2770 target gene, herein designated GAM TARGET GENE, encodes a corresponding

messenger RNA, GAM2770 target RNA, herein designated GAM TARGET RNA. GAM2770 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2770 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2770 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2770 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2770 RNA, herein designated GAM RNA, to target binding sites on GAM2770 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2770 target RNA into GAM2770 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2770 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2770 target genes. The mRNA of each one of this plurality of GAM2770 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2770 RNA, herein designated GAM RNA, and which when bound by GAM2770 RNA causes inhibition of translation of the GAM2770 target mRNA into a corresponding GAM2770 target protein.

The mechanism of the translational inhibition exerted by GAM2770 RNA, herein designated GAM RNA, on one or more GAM2770 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2770 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2770 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2770 RNA, herein designated GAM RNA, of GAM2770 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2770 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target

binding sites to GAM2770 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2770 RNA correlate with, and may be deduced from, the identity of the GAM2770 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2780 140682 CTGGGAGGCA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAGGTTGCAG detected oligonucleotides of the present invention, referred to here as Genomic Address
TGATCAGGAA Messenger 2780 (GAM2780) oligonucleotides modulates expression of respective target genes
TTGTGCCACT whose function and utility is known in the art.

GCACTCCAAC GAM2780 is a novel bioinformatically detectable regulatory, non protein coding,
CTGAGTGACA micro RNA (miRNA)-like oligonucleotide. The method by which GAM2780 was detected is

GAGCAACACT described with additional reference to Figs. 9-15.

CTGTCTTAAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AG encoded by the human genome.

GAM2780 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2780

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2780

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2780 precursor RNA is designated SEQ ID:140682, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140682 is located from position 101905422 to position 101905503 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM2780 precursor RNA folds onto itself, forming GAM2780 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2780 precursor RNA, designated SEQ ID NO: 140682, and a schematic representation of a predicted secondary folding of GAM2780 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2780 folded precursor RNA yielding a GAM2780 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an

enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2780 RNA, hereby incorporated herein.

GAM2780 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2780 target RNA, herein designated GAM TARGET RNA. GAM2780 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2780 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2780 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2780 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2780 RNA, herein designated GAM RNA, to target binding sites on GAM2780 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2780 target RNA into GAM2780 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2780 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2780 target genes. The mRNA of each one of this plurality of GAM2780 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2780 RNA, herein designated GAM RNA, and which when bound by GAM2780 RNA causes inhibition of translation of the GAM2780 target mRNA into a corresponding GAM2780 target protein.

The mechanism of the translational inhibition exerted by GAM2780 RNA, herein designated GAM RNA, on one or more GAM2780 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2780 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2780 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2780 RNA, herein designated GAM RNA, of GAM2780 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2780 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2780 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2780 RNA correlate with, and may be deduced from, the identity of the GAM2780 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2799 140683 AGTCTCACTC Fig. 8 further provides a conceptual description of another novel bioinformatically
TGTTGCCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GCTGGAGTGC Messenger 2799 (GAM2799) oligonucleotides modulates expression of respective target genes
AGTGGTGCGA whose function and utility is known in the art.

TCTCAGCTCA GAM2799 is a novel bioinformatically detectable regulatory, non protein coding,
CTGCAACCTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM2799 was detected is

CACCTCCTGG described with additional reference to Figs. 9-15.

GTTCAAGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTCT encoded by the human genome.

GAM2799 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2799

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2799

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2799 precursor RNA is designated SEQ ID:140683, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140683 is located from position 67595564 to position 67595647 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM2799 precursor RNA folds onto itself, forming GAM2799 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2799 precursor RNA, designated SEQ ID NO: 140683, and a schematic representation of a predicted secondary folding of GAM2799 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2799 folded precursor RNA yielding a GAM2799 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM2799 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2799 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM2799 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2799 target RNA, herein designated GAM TARGET RNA. GAM2799 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2799 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2799 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2799 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2799 RNA, herein designated GAM RNA, to target binding sites on GAM2799 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2799 target RNA into GAM2799 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2799 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2799 target genes. The mRNA of each one of this plurality of GAM2799 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2799 RNA, herein designated GAM RNA, and which when bound by GAM2799 RNA causes inhibition of translation of the GAM2799 target mRNA into a corresponding GAM2799 target protein.

The mechanism of the translational inhibition exerted by GAM2799 RNA, herein designated GAM RNA, on one or more GAM2799 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2799 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2799 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2799 RNA, herein designated GAM RNA, of GAM2799 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2799 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2799 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2799 RNA correlate with, and may be deduced from, the identity of the GAM2799 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2807 140684 ATTGTATTGC Fig. 8 further provides a conceptual description of another novel bioinformatically

AGCAGGTTGG detected oligonucleotides of the present invention, referred to here as Genomic Address

CAGCCTCAGT Messenger 2807 (GAM2807) oligonucleotides modulates expression of respective target genes

AAATCTCCAT whose function and utility is known in the art.

TTGTAAATGT GAM2807 is a novel bioinformatically detectable regulatory, non protein coding,

GACAGTCAGC micro RNA (miRNA)-like oligonucleotide. The method by which GAM2807 was detected is

AGAATCTCCA described with additional reference to Figs. 9-15.

GTTACAGTCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACTCAAAGCA encoded by the human genome.

AGCAGGGGCA GAM2807 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2807

TGCCACATAC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2807

ATGTTCATAT precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

ATAGT to the nucleotide sequence of GAM2807 precursor RNA is designated SEQ ID:140684, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140684 is located from position 79828330 to position 79828454 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GAM2807 precursor RNA folds onto itself, forming GAM2807 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2807 precursor RNA, designated SEQ ID NO: 140684, and a schematic representation of a predicted secondary folding of GAM2807 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2807 folded precursor RNA yielding a GAM2807 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2807 RNA, hereby incorporated herein.

GAM2807 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2807 target RNA, herein designated GAM TARGET RNA. GAM2807 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2807 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2807 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2807 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2807 RNA, herein designated GAM RNA, to target binding sites on GAM2807 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2807 target RNA into GAM2807 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2807 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2807 target genes. The mRNA of each one of this plurality of GAM2807 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2807 RNA, herein designated GAM RNA, and which when bound by GAM2807 RNA causes inhibition of translation of the GAM2807 target mRNA into a corresponding GAM2807 target protein.

The mechanism of the translational inhibition exerted by GAM2807 RNA, herein designated GAM RNA, on one or more GAM2807 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2807 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2807 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2807 RNA, herein designated GAM RNA, of GAM2807 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2807 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2807 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2807 RNA correlate with, and may be deduced from, the identity of the GAM2807 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2808 140685 GCTATTGTGA Fig. 8 further provides a conceptual description of another novel bioinformatically
CAATCTTGGT detected oligonucleotides of the present invention, referred to here as Genomic Address
TACCATCCAT Messenger 2808 (GAM2808) oligonucleotides modulates expression of respective target genes
TAAGTGCTGC whose function and utility is known in the art.

TGATTTTGGA GAM2808 is a novel bioinformatically detectable regulatory, non protein coding,
AAGATCATGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM2808 was detected is

AAAACGTCTT described with additional reference to Figs. 9-15.

TCCAAACATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AAGGCACGTC encoded by the human genome.

GTTTGGGCAC GAM2808 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2808
AAGAGGC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2808
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2808 precursor RNA is designated SEQ ID:140685, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140685 is located from position 53974898 to position 53975004 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM2808 precursor RNA folds onto itself, forming GAM2808 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2808 precursor RNA, designated SEQ ID NO: 140685, and a schematic representation of a predicted secondary folding of GAM2808 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2808 folded precursor RNA yielding a GAM2808 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2808 RNA, hereby incorporated herein.

GAM2808 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2808 target RNA, herein designated GAM TARGET RNA. GAM2808 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2808 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2808 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2808 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2808 RNA, herein designated GAM RNA, to target binding sites on GAM2808 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2808 target RNA into GAM2808 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2808 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2808 target genes. The mRNA of each one of this plurality of GAM2808 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2808 RNA, herein designated GAM RNA, and which when bound by GAM2808 RNA causes inhibition of translation

of the GAM2808 target mRNA into a corresponding GAM2808 target protein.

The mechanism of the translational inhibition exerted by GAM2808 RNA, herein designated GAM RNA, on one or more GAM2808 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2808 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2808 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2808 RNA, herein designated GAM RNA, of GAM2808 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2808 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2808 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2808 RNA correlate with, and may be deduced from, the identity of the GAM2808 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2817 140686 GATGGTCTCA Fig. 8 further provides a conceptual description of another novel bioinformatically
TAACTGAATA detected oligonucleotides of the present invention, referred to here as Genomic Address
TATTAAAAAC Messenger 2817 (GAM2817) oligonucleotides modulates expression of respective target genes
TTAAATTGTA whose function and utility is known in the art.

TACTTTAAGT GAM2817 is a novel bioinformatically detectable regulatory, non protein coding,
TGGTGATTGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM2817 was detected is

ATGATATATG described with additional reference to Figs. 9-15.

AGTTTTATC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM2817 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2817

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2817
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

to the nucleotide sequence of GAM2817 precursor RNA is designated SEQ ID:140686, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140686 is located from position 15101514 to position 15101592 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GAM2817 precursor RNA folds onto itself, forming GAM2817 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2817 precursor RNA, designated SEQ ID NO: 140686, and a schematic representation of a predicted secondary folding of GAM2817 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2817 folded precursor RNA yielding a GAM2817 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2817 RNA, hereby incorporated herein.

GAM2817 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2817 target RNA, herein designated GAM TARGET RNA. GAM2817 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2817 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2817 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2817 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2817 RNA, herein designated GAM RNA, to target binding sites on GAM2817 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2817 target RNA into GAM2817 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2817 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2817 target genes. The mRNA of each one of this plurality of GAM2817 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2817 RNA, herein designated GAM RNA, and which when bound by GAM2817 RNA causes inhibition of translation of the GAM2817 target mRNA into a corresponding GAM2817 target protein.

The mechanism of the translational inhibition exerted by GAM2817 RNA, herein designated GAM RNA, on one or more GAM2817 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2817 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2817 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2817 RNA, herein designated GAM RNA, of GAM2817 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2817 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2817 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2817 RNA correlate with, and may be deduced from, the identity of the GAM2817 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2827 140687 CACGCGAGTC Fig. 8 further provides a conceptual description of another novel bioinformatically
AGAACCTAAA detected oligonucleotides of the present invention, referred to here as Genomic Address
GTGCTCTCTG Messenger 2827 (GAM2827) oligonucleotides modulates expression of respective target genes
GGCAACCTGA whose function and utility is known in the art.

GTGGGTAGAG GAM2827 is a novel bioinformatically detectable regulatory, non protein coding,
TGATTCCGTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM2827 was detected is

TTTCTCTGGC described with additional reference to Figs. 9-15.

CCTGCTAGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CCAAAGGAGA encoded by the human genome.

GGTGTGACTA GAM2827 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2827
TCGTG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2827
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2827 precursor RNA is designated SEQ ID:140687, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140687 is located from position 54864223 to position 54864327 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM2827 precursor RNA folds onto itself, forming GAM2827 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2827 precursor RNA, designated SEQ ID NO: 140687, and a schematic representation of a predicted secondary folding of GAM2827 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2827 folded precursor RNA yielding a GAM2827 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2827 RNA, hereby incorporated herein.

GAM2827 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2827 target RNA, herein designated GAM TARGET RNA. GAM2827 target RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2827 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2827 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2827 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2827 RNA, herein designated GAM RNA, to target

binding sites on GAM2827 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2827 target RNA into GAM2827 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2827 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2827 target genes. The mRNA of each one of this plurality of GAM2827 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2827 RNA, herein designated GAM RNA, and which when bound by GAM2827 RNA causes inhibition of translation of the GAM2827 target mRNA into a corresponding GAM2827 target protein.

The mechanism of the translational inhibition exerted by GAM2827 RNA, herein designated GAM RNA, on one or more GAM2827 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2827 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2827 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2827 RNA, herein designated GAM RNA, of GAM2827 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2827 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2827 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2827 RNA correlate with, and may be deduced from, the identity of the GAM2827 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2839 140688 CTCTTGACCA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAGGGTCTCA detected oligonucleotides of the present invention, referred to here as Genomic Address
AATGAGGGAC Messenger 2839 (GAM2839) oligonucleotides modulates expression of respective target genes
ATTTTACCTG whose function and utility is known in the art.

CCAGGGGACA GAM2839 is a novel bioinformatically detectable regulatory, non protein coding,
TTTCCAATGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM2839 was detected is

TTGGGGACAC described with additional reference to Figs. 9-15.

TTTTGGTTAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGAG encoded by the human genome.

GAM2839 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2839 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2839 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2839 precursor RNA is designated SEQ ID:140688, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140688 is located from position 21329921 to position 21330005 relative to chromosome chr5 on the `+` strand (chr is an abbreviation for chromosome).

GAM2839 precursor RNA folds onto itself, forming GAM2839 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2839 precursor RNA, designated SEQ ID NO: 140688, and a schematic representation of a predicted secondary folding of GAM2839 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2839 folded precursor RNA yielding a GAM2839 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM2839 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2839 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM2839 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2839 target RNA, herein designated GAM TARGET RNA. GAM2839 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2839 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2839 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2839 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2839 RNA, herein designated GAM RNA, to target binding sites on GAM2839 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2839 target RNA into GAM2839 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2839 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2839 target genes. The mRNA of each one of this plurality of GAM2839 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2839 RNA, herein designated GAM RNA, and which when bound by GAM2839 RNA causes inhibition of translation of the GAM2839 target mRNA into a corresponding GAM2839 target protein.

The mechanism of the translational inhibition exerted by GAM2839 RNA, herein designated GAM RNA, on one or more GAM2839 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2839 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2839 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2839 RNA, herein designated GAM RNA, of GAM2839 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2839 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2839 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2839 RNA correlate with, and may be deduced from, the identity of the GAM2839 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2846 140689 CTCAGCCTCT CCCTGATGTA ATCTGGGTTC Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 2846 (GAM2846) oligonucleotides modulates expression of respective target genes

CTTGTGTGGC whose function and utility is known in the art.

AACAGTAATG GAM2846 is a novel bioinformatically detectable regulatory, non protein coding,
GGAAGAAAGG micro RNA (miRNA)-like oligonucleotide. The method by which GAM2846 was detected is

ACCTGAAATA described with additional reference to Figs. 9-15.

TTAGTTGATT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CCAAGGGACC encoded by the human genome.

CTCTAAGGTT GAM2846 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2846
AGAGAGGCAG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2846
AG precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2846 precursor RNA is designated SEQ ID:140689, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140689 is located from position 143268257 to position 143268368 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM2846 precursor RNA folds onto itself, forming GAM2846 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2846 precursor RNA, designated SEQ ID NO: 140689, and a schematic representation of a predicted secondary folding of GAM2846 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2846 folded precursor RNA yielding a GAM2846 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2846 RNA, hereby incorporated herein.

GAM2846 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2846 target RNA, herein designated GAM TARGET RNA. GAM2846 target RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2846 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2846 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2846 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2846 RNA, herein designated GAM RNA, to target binding sites on GAM2846 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2846 target RNA into GAM2846 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2846 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2846 target genes. The mRNA of each one of this plurality of GAM2846 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2846 RNA, herein designated GAM RNA, and which when bound by GAM2846 RNA causes inhibition of translation of the GAM2846 target mRNA into a corresponding GAM2846 target protein.

The mechanism of the translational inhibition exerted by GAM2846 RNA, herein designated GAM RNA, on one or more GAM2846 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2846 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2846 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2846 RNA, herein designated GAM RNA, of GAM2846 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2846 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2846 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2846 RNA correlate with, and may be deduced from, the identity of the GAM2846 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2868 140690 CCGTGGCCCG Fig. 8 further provides a conceptual description of another novel bioinformatically
TGTTCTCTCC detected oligonucleotides of the present invention, referred to here as Genomic Address
TTTTGTCCCC Messenger 2868 (GAM2868) oligonucleotides modulates expression of respective target genes
ATAGTGTGAC whose function and utility is known in the art.

TCCGCCAGGA GAM2868 is a novel bioinformatically detectable regulatory, non protein coding,
ACTTGGAATG micro RNA (miRNA)-like oligonucleotide. The method by which GAM2868 was detected is

GCTGAAGACT described with additional reference to Figs. 9-15.

GTGAATGAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTCATGGGTC encoded by the human genome.

TGTGG GAM2868 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2868
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2868
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2868 precursor RNA is designated SEQ ID:140690, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140690 is located from position 78873561 to position 78873655 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM2868 precursor RNA folds onto itself, forming GAM2868 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2868 precursor RNA, designated SEQ ID NO: 140690, and a schematic representation of a predicted secondary folding of GAM2868 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2868 folded precursor RNA yielding a GAM2868 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2868 RNA, hereby incorporated herein.

GAM2868 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2868 target RNA, herein designated GAM TARGET RNA. GAM2868 target RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated

region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2868 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2868 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2868 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2868 RNA, herein designated GAM RNA, to target binding sites on GAM2868 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2868 target RNA into GAM2868 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2868 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2868 target genes. The mRNA of each one of this plurality of GAM2868 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2868 RNA, herein designated GAM RNA, and which when bound by GAM2868 RNA causes inhibition of translation of the GAM2868 target mRNA into a corresponding GAM2868 target protein.

The mechanism of the translational inhibition exerted by GAM2868 RNA, herein designated GAM RNA, on one or more GAM2868 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2868 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2868 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2868 RNA, herein designated GAM RNA, of GAM2868 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2868 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2868 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2868 RNA correlate with, and may be deduced from, the identity of the GAM2868 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2887 140691 GGTGCAAACA Fig. 8 further provides a conceptual description of another novel bioinformatically

CCCCGTTCAT detected oligonucleotides of the present invention, referred to here as Genomic Address

GTAACACGGG Messenger 2887 (GAM2887) oligonucleotides modulates expression of respective target genes

CCTGAGGTCA whose function and utility is known in the art.

GCAGTAGAGG GAM2887 is a novel bioinformatically detectable regulatory, non protein coding,

ACCAGTATTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM2887 was detected is

GTTTTGGCCC described with additional reference to Figs. 9-15.

CAGCCTCTGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTGGATGGAT encoded by the human genome.

TGAACGCC GAM2887 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2887

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2887

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2887 precursor RNA is designated SEQ ID:140691, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140691 is located from position 69517026 to position 69517123 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM2887 precursor RNA folds onto itself, forming GAM2887 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2887 precursor RNA, designated SEQ ID NO: 140691, and a schematic representation of a predicted secondary folding of GAM2887 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2887 folded precursor RNA yielding a GAM2887 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2887 RNA, hereby incorporated herein.

GAM2887 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2887 target RNA, herein designated GAM TARGET RNA. GAM2887 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2887 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2887 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2887 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2887 RNA, herein designated GAM RNA, to target binding sites on GAM2887 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2887 target RNA into GAM2887 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2887 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2887 target genes. The mRNA of each one of this plurality of GAM2887 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2887 RNA, herein designated GAM RNA, and which when bound by GAM2887 RNA causes inhibition of translation of the GAM2887 target mRNA into a corresponding GAM2887 target protein.

The mechanism of the translational inhibition exerted by GAM2887 RNA, herein designated GAM RNA, on one or more GAM2887 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2887 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2887 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2887 RNA, herein designated GAM RNA, of GAM2887 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM2887 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2887 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2887 RNA correlate with, and may be deduced from, the identity of the GAM2887 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2908 140692 GGCAGGAGAA Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGCTTGAAC detected oligonucleotides of the present invention, referred to here as Genomic Address
ACAGGAGGCA Messenger 2908 (GAM2908) oligonucleotides modulates expression of respective target genes
GAGATTGCAG whose function and utility is known in the art.

TGAGTCAAGA GAM2908 is a novel bioinformatically detectable regulatory, non protein coding,
TCATGCCACT micro RNA (miRNA)-like oligonucleotide. The method by which GAM2908 was detected is

GCACTCCAGC described with additional reference to Figs. 9-15.

ACTCCAGCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AAGTGACAGA encoded by the human genome.

GCAAGATCCT GAM2908 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2908
GTT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2908
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2908 precursor RNA is designated SEQ ID:140692, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140692 is located from position 51977188 to position 51977290 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM2908 precursor RNA folds onto itself, forming GAM2908 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2908 precursor RNA, designated SEQ ID NO: 140692, and a schematic representation of a predicted secondary folding of GAM2908 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2908 folded precursor RNA yielding a GAM2908 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt

long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2908 RNA, hereby incorporated herein.

GAM2908 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2908 target RNA, herein designated GAM TARGET RNA. GAM2908 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2908 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2908 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2908 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2908 RNA, herein designated GAM RNA, to target binding sites on GAM2908 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2908 target RNA into GAM2908 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2908 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2908 target genes. The mRNA of each one of this plurality of GAM2908 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2908 RNA, herein designated GAM RNA, and which when bound by GAM2908 RNA causes inhibition of translation of the GAM2908 target mRNA into a corresponding GAM2908 target protein.

The mechanism of the translational inhibition exerted by GAM2908 RNA, herein designated GAM RNA, on one or more GAM2908 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2908 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2908 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2908 RNA, herein designated GAM RNA, of

GAM2908 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2908 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2908 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2908 RNA correlate with, and may be deduced from, the identity of the GAM2908 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2911 140693 CTGCCTCTCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GCAGGCCGTG detected oligonucleotides of the present invention, referred to here as Genomic Address

TGCTTTGCTC Messenger 2911 (GAM2911) oligonucleotides modulates expression of respective target genes

GGTTGATCTT whose function and utility is known in the art.

GCAGAGCCTA GAM2911 is a novel bioinformatically detectable regulatory, non protein coding,

AGACACAGGC micro RNA (miRNA)-like oligonucleotide. The method by which GAM2911 was detected is

CCAGAGAGGC described with additional reference to Figs. 9-15.

AG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM2911 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2911

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2911

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2911 precursor RNA is designated SEQ ID:140693, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140693 is located from position 50818311 to position 50818382 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM2911 precursor RNA folds onto itself, forming GAM2911 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2911 precursor RNA, designated SEQ ID NO: 140693, and a schematic representation of a predicted secondary folding of GAM2911 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2911 folded precursor RNA yielding a GAM2911 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2911 RNA, hereby incorporated herein.

GAM2911 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2911 target RNA, herein designated GAM TARGET RNA. GAM2911 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2911 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2911 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2911 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2911 RNA, herein designated GAM RNA, to target binding sites on GAM2911 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2911 target RNA into GAM2911 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2911 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2911 target genes. The mRNA of each one of this plurality of GAM2911 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2911 RNA, herein designated GAM RNA, and which when bound by GAM2911 RNA causes inhibition of translation of the GAM2911 target mRNA into a corresponding GAM2911 target protein.

The mechanism of the translational inhibition exerted by GAM2911 RNA, herein designated GAM RNA, on one or more GAM2911 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2911 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM2911 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2911 RNA, herein designated GAM RNA, of GAM2911 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2911 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2911 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2911 RNA correlate with, and may be deduced from, the identity of the GAM2911 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2920 140694 GGCTGAGACC Fig. 8 further provides a conceptual description of another novel bioinformatically

ACCCTTGCCT detected oligonucleotides of the present invention, referred to here as Genomic Address

GCCCCCTTCT Messenger 2920 (GAM2920) oligonucleotides modulates expression of respective target genes

TTCTGCCTTA whose function and utility is known in the art.

AGAATGTCCT GAM2920 is a novel bioinformatically detectable regulatory, non protein coding,

TTTAGGCTGG micro RNA (miRNA)-like oligonucleotide. The method by which GAM2920 was detected is

GCATGGTGGC described with additional reference to Figs. 9-15.

TCACGCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM2920 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2920

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2920

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2920 precursor RNA is designated SEQ ID:140694, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140694 is located from position 1319193 to position 1319269 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM2920 precursor RNA folds onto itself, forming GAM2920 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2920 precursor RNA, designated SEQ ID NO: 140694, and a schematic representation of a predicted secondary folding of GAM2920 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2920 folded precursor RNA yielding a GAM2920 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM2920 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2920 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM2920 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2920 target RNA, herein designated GAM TARGET RNA. GAM2920 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2920 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2920 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2920 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2920 RNA, herein designated GAM RNA, to target binding sites on GAM2920 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2920 target RNA into GAM2920 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2920 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2920 target genes. The mRNA of each one of this plurality of GAM2920 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2920 RNA, herein designated GAM RNA, and which when bound by GAM2920 RNA causes inhibition of translation of the GAM2920 target mRNA into a corresponding GAM2920 target protein.

The mechanism of the translational inhibition exerted by GAM2920 RNA, herein

designated GAM RNA, on one or more GAM2920 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2920 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2920 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2920 RNA, herein designated GAM RNA, of GAM2920 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2920 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2920 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2920 RNA correlate with, and may be deduced from, the identity of the GAM2920 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2927 140695 CCAGTATATT Fig. 8 further provides a conceptual description of another novel bioinformatically
TCTGCAGTCT detected oligonucleotides of the present invention, referred to here as Genomic Address
GGTATGTTTT Messenger 2927 (GAM2927) oligonucleotides modulates expression of respective target genes
TCCCCCTAAG whose function and utility is known in the art.

AACCTCAGCT GAM2927 is a novel bioinformatically detectable regulatory, non protein coding,
GAGAAATAAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM2927 was detected is

GCAGGTTAAC described with additional reference to Figs. 9-15.

AAAGCTGTAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAAATGTCAC encoded by the human genome.

TGG GAM2927 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2927
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2927
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2927 precursor RNA is designated SEQ ID:140695, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140695 is located from position 12168404 to position 12168496 relative to chromosome

chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM2927 precursor RNA folds onto itself, forming GAM2927 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2927 precursor RNA, designated SEQ ID NO: 140695, and a schematic representation of a predicted secondary folding of GAM2927 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2927 folded precursor RNA yielding a GAM2927 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2927 RNA, hereby incorporated herein.

GAM2927 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2927 target RNA, herein designated GAM TARGET RNA. GAM2927 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2927 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2927 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2927 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2927 RNA, herein designated GAM RNA, to target binding sites on GAM2927 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2927 target RNA into GAM2927 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2927 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2927 target genes. The mRNA of each one of this plurality of GAM2927 target genes comprises one or more target binding sites, each having

a nucleotide sequence which is at least partly complementary to GAM2927 RNA, herein designated GAM RNA, and which when bound by GAM2927 RNA causes inhibition of translation of the GAM2927 target mRNA into a corresponding GAM2927 target protein.

The mechanism of the translational inhibition exerted by GAM2927 RNA, herein designated GAM RNA, on one or more GAM2927 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2927 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2927 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2927 RNA, herein designated GAM RNA, of GAM2927 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2927 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2927 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2927 RNA correlate with, and may be deduced from, the identity of the GAM2927 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2931 140696 GGATTAGTTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TGGAGAGAGC detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGTTGCTAA Messenger 2931 (GAM2931) oligonucleotides modulates expression of respective target genes

GAAGAATCTG whose function and utility is known in the art.

GCTTCTTCAG GAM2931 is a novel bioinformatically detectable regulatory, non protein coding,

TCAGCGCTCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM2931 was detected is

TGCTTCCTAT described with additional reference to Figs. 9-15.

CTCTCCATGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GATCT encoded by the human genome.

GAM2931 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2931

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2931

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2931 precursor RNA is designated SEQ ID:140696, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140696 is located from position 97874565 to position 97874649 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM2931 precursor RNA folds onto itself, forming GAM2931 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2931 precursor RNA, designated SEQ ID NO: 140696, and a schematic representation of a predicted secondary folding of GAM2931 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2931 folded precursor RNA yielding a GAM2931 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2931 RNA, hereby incorporated herein.

GAM2931 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2931 target RNA, herein designated GAM TARGET RNA. GAM2931 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2931 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2931 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2931 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2931 RNA, herein designated GAM RNA, to target binding sites on GAM2931 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2931 target RNA into GAM2931 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2931 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2931 target genes. The mRNA of each one of this plurality of GAM2931 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2931 RNA, herein designated GAM RNA, and which when bound by GAM2931 RNA causes inhibition of translation of the GAM2931 target mRNA into a corresponding GAM2931 target protein.

The mechanism of the translational inhibition exerted by GAM2931 RNA, herein designated GAM RNA, on one or more GAM2931 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2931 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2931 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2931 RNA, herein designated GAM RNA, of GAM2931 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2931 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2931 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2931 RNA correlate with, and may be deduced from, the identity of the GAM2931 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM2950 140697 CCATCTGGCA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAACACTGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

CAAAAGAGGT Messenger 2950 (GAM2950) oligonucleotides modulates expression of respective target genes

TCTGATTCTG whose function and utility is known in the art.

GCCTGTTACT GAM2950 is a novel bioinformatically detectable regulatory, non protein coding,

TGCTGTACAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM2950 was detected is

ACTTGCACAA described with additional reference to Figs. 9-15.

GGCCAGAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GACTCTCTTT encoded by the human genome.

TCCCATCTGC GAM2950 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM2950 AAAGTGG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM2950 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM2950 precursor RNA is designated SEQ ID:140697, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140697 is located from position 170095979 to position 170096085 relative to chromosome chr5 on the `-` strand (chr is an abbreviation for chromosome).

GAM2950 precursor RNA folds onto itself, forming GAM2950 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM2950 precursor RNA, designated SEQ ID NO: 140697, and a schematic representation of a predicted secondary folding of GAM2950 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM2950 folded precursor RNA yielding a GAM2950 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM2950 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM2950 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM2950 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM2950 target RNA, herein designated GAM TARGET RNA. GAM2950 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM2950 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM2950 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM2950 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM2950 RNA, herein designated GAM RNA, to target binding sites on GAM2950 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM2950 target RNA into GAM2950 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM2950 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM2950 target genes. The mRNA of each one of this plurality of GAM2950 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM2950 RNA, herein designated GAM RNA, and which when bound by GAM2950 RNA causes inhibition of translation of the GAM2950 target mRNA into a corresponding GAM2950 target protein.

The mechanism of the translational inhibition exerted by GAM2950 RNA, herein designated GAM RNA, on one or more GAM2950 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM2950 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM2950 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM2950 RNA, herein designated GAM RNA, of GAM2950 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM2950 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM2950 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM2950 RNA correlate with, and may be deduced from, the identity of the GAM2950 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3001 140698 CCAGGTATCA Fig. 8 further provides a conceptual description of another novel bioinformatically

GTCTTTTTGT detected oligonucleotides of the present invention, referred to here as Genomic Address

CTATTCCTGG Messenger 3001 (GAM3001) oligonucleotides modulates expression of respective target genes

ATTTTGGTGA whose function and utility is known in the art.

AAACAGAATC GAM3001 is a novel bioinformatically detectable regulatory, non protein coding,

TAATCTTATA micro RNA (miRNA)-like oligonucleotide. The method by which GAM3001 was detected is

TTCGCAGCCT described with additional reference to Figs. 9-15.

TAAGGTTAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGGTCACTTA encoded by the human genome.

CATCCAGTAA GAM3001 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3001

TCACAGTAAG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3001

ATCTGG precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3001 precursor RNA is designated SEQ ID:140698, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140698 is located from position 55877656 to position 55877771 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM3001 precursor RNA folds onto itself, forming GAM3001 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3001 precursor RNA, designated SEQ ID NO: 140698, and a schematic representation of a predicted secondary folding of GAM3001 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3001 folded precursor RNA yielding a GAM3001 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3001 RNA, hereby incorporated herein.

GAM3001 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3001 target RNA, herein designated GAM TARGET RNA. GAM3001 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3001 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3001 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3001 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3001 RNA, herein designated GAM RNA, to target binding sites on GAM3001 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3001 target RNA into GAM3001 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3001 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3001 target genes. The mRNA of each one of this plurality of GAM3001 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3001 RNA, herein designated GAM RNA, and which when bound by GAM3001 RNA causes inhibition of translation of the GAM3001 target mRNA into a corresponding GAM3001 target protein.

The mechanism of the translational inhibition exerted by GAM3001 RNA, herein designated GAM RNA, on one or more GAM3001 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3001 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3001 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3001 RNA, herein designated GAM RNA, of GAM3001 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3001 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3001 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3001 RNA correlate with, and may be deduced from, the identity of the GAM3001 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3004 140699 CCCTGTCCTG TCTTCGAGTA TTTGTTTTTA Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 3004 (GAM3004) oligonucleotides modulates expression of respective target genes

ATGCTGGGTG whose function and utility is known in the art.

TCGATCGAGA CAACAAGCGC TCAGAGCAAA GCAAGGATGC ATTACGGGG GAM3004 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM3004 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM3004 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3004 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3004 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3004 precursor RNA is designated SEQ ID:140699, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140699 is located from position 79931895 to position 79931983 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM3004 precursor RNA folds onto itself, forming GAM3004 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3004 precursor RNA, designated SEQ ID NO: 140699, and a schematic representation of a predicted secondary folding of GAM3004 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3004 folded precursor RNA yielding a GAM3004 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3004 RNA, hereby incorporated herein.

GAM3004 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3004 target RNA, herein designated GAM TARGET RNA. GAM3004 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3004 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3004 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3004 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3004 RNA, herein designated GAM RNA, to target binding sites on GAM3004 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3004 target RNA into GAM3004 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3004 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3004 target genes. The mRNA of each one of this plurality of GAM3004 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3004 RNA, herein designated GAM RNA, and which when bound by GAM3004 RNA causes inhibition of translation of the GAM3004 target mRNA into a corresponding GAM3004 target protein.

The mechanism of the translational inhibition exerted by GAM3004 RNA, herein designated GAM RNA, on one or more GAM3004 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3004 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3004 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3004 RNA, herein designated GAM RNA, of GAM3004 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3004 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3004 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3004 RNA correlate with, and may be deduced from, the identity of the GAM3004 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3028 140700 AGGTTCTGGT Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATTCAGGA detected oligonucleotides of the present invention, referred to here as Genomic Address

TGGTATTTTT Messenger 3028 (GAM3028) oligonucleotides modulates expression of respective target genes

GTCTTTGAAT whose function and utility is known in the art.

AGTTTCTGGT GAM3028 is a novel bioinformatically detectable regulatory, non protein coding,

TGCATTTCTA micro RNA (miRNA)-like oligonucleotide. The method by which GAM3028 was detected is

TAGTGGGGGT described with additional reference to Figs. 9-15.

GAAGCTAGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAACTTCTGT encoded by the human genome.

GATCTTCCTG GAM3028 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3028

AGGTCACTTC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3028

AAAGTGCCT precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3028 precursor RNA is designated SEQ ID:140700, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140700 is located from position 1293547 to position 1293665 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM3028 precursor RNA folds onto itself, forming GAM3028 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3028 precursor RNA, designated SEQ ID NO: 140700, and a schematic representation of a predicted secondary folding of GAM3028 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3028 folded precursor RNA yielding a GAM3028 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3028 RNA, hereby incorporated herein.

GAM3028 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3028 target RNA, herein designated GAM TARGET RNA. GAM3028 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated

region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3028 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3028 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3028 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3028 RNA, herein designated GAM RNA, to target binding sites on GAM3028 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3028 target RNA into GAM3028 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3028 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3028 target genes. The mRNA of each one of this plurality of GAM3028 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3028 RNA, herein designated GAM RNA, and which when bound by GAM3028 RNA causes inhibition of translation of the GAM3028 target mRNA into a corresponding GAM3028 target protein.

The mechanism of the translational inhibition exerted by GAM3028 RNA, herein designated GAM RNA, on one or more GAM3028 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3028 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3028 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3028 RNA, herein designated GAM RNA, of GAM3028 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3028 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3028 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3028 RNA correlate with, and may be deduced from, the identity of the GAM3028 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3057 140701 CTTTCTGTGC Fig. 8 further provides a conceptual description of another novel bioinformatically
CACTCAGGAA detected oligonucleotides of the present invention, referred to here as Genomic Address
GCAATGGGCA Messenger 3057 (GAM3057) oligonucleotides modulates expression of respective target genes
TGATTCAGCA whose function and utility is known in the art.

GAGGAGAGGA GAM3057 is a novel bioinformatically detectable regulatory, non protein coding,
GAGTTTAGAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM3057 was detected is

CTGGTTATGC described with additional reference to Figs. 9-15.

TTCCTTCTCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AACCCTCCCT encoded by the human genome.

GCAAAAACAC GAM3057 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3057
TGGCCAGCTC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3057
CTGACATCAC precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar
AGTAAGACAG to the nucleotide sequence of GAM3057 precursor RNA is designated SEQ ID:140701, and is
provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140701 is located from position 8202273 to position 8202402 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM3057 precursor RNA folds onto itself, forming GAM3057 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3057 precursor RNA, designated SEQ ID NO: 140701, and a schematic representation of a predicted secondary folding of GAM3057 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3057 folded precursor RNA yielding a GAM3057 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the

nucleotide sequence of GAM3057 RNA, hereby incorporated herein.

GAM3057 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3057 target RNA, herein designated GAM TARGET RNA. GAM3057 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3057 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3057 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3057 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3057 RNA, herein designated GAM RNA, to target binding sites on GAM3057 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3057 target RNA into GAM3057 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3057 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3057 target genes. The mRNA of each one of this plurality of GAM3057 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3057 RNA, herein designated GAM RNA, and which when bound by GAM3057 RNA causes inhibition of translation of the GAM3057 target mRNA into a corresponding GAM3057 target protein.

The mechanism of the translational inhibition exerted by GAM3057 RNA, herein designated GAM RNA, on one or more GAM3057 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3057 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3057 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3057 RNA, herein designated GAM RNA, of GAM3057 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3057 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3057 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3057 RNA correlate with, and may be deduced from, the identity of the GAM3057 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3061 140702 GAATCTGGTT Fig. 8 further provides a conceptual description of another novel bioinformatically
GGTTCCTTAA detected oligonucleotides of the present invention, referred to here as Genomic Address
AGATCACTTG Messenger 3061 (GAM3061) oligonucleotides modulates expression of respective target genes
ACATGGACAG whose function and utility is known in the art.

GGTTTGGAAA GAM3061 is a novel bioinformatically detectable regulatory, non protein coding,
ACTATTTGAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM3061 was detected is

CATTACGGAG described with additional reference to Figs. 9-15.

ACTGTCACCG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCAAGAGGTG encoded by the human genome.

TTTATTATCA GAM3061 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3061
TTAGGTTT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3061

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3061 precursor RNA is designated SEQ ID:140702, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140702 is located from position 94124802 to position 94124909 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM3061 precursor RNA folds onto itself, forming GAM3061 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3061 precursor RNA, designated SEQ ID NO: 140702, and a schematic representation of a predicted secondary folding of GAM3061 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3061 folded precursor RNA

yielding a GAM3061 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3061 RNA, hereby incorporated herein.

GAM3061 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3061 target RNA, herein designated GAM TARGET RNA. GAM3061 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3061 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3061 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3061 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3061 RNA, herein designated GAM RNA, to target binding sites on GAM3061 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3061 target RNA into GAM3061 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3061 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3061 target genes. The mRNA of each one of this plurality of GAM3061 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3061 RNA, herein designated GAM RNA, and which when bound by GAM3061 RNA causes inhibition of translation of the GAM3061 target mRNA into a corresponding GAM3061 target protein.

The mechanism of the translational inhibition exerted by GAM3061 RNA, herein designated GAM RNA, on one or more GAM3061 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3061 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3061 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3061 RNA, herein designated GAM RNA, of GAM3061 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3061 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3061 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3061 RNA correlate with, and may be deduced from, the identity of the GAM3061 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3064 140703 GGCACTTGGA ACCGTCTTGG GGAATATAGC TTGGTAATTG AACTGCTTAA GCTTATTATT AATATTTAAG CTATAGTTCC AGGCCCATTC CAGAGGTCCC CCAGCC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 3064 (GAM3064) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM3064 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM3064 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM3064 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3064 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3064 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3064 precursor RNA is designated SEQ ID:140703, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140703 is located from position 69459978 to position 69460083 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM3064 precursor RNA folds onto itself, forming GAM3064 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3064 precursor RNA, designated SEQ ID NO: 140703, and

a schematic representation of a predicted secondary folding of GAM3064 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3064 folded precursor RNA yielding a GAM3064 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3064 RNA, hereby incorporated herein.

GAM3064 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3064 target RNA, herein designated GAM TARGET RNA. GAM3064 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3064 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3064 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3064 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3064 RNA, herein designated GAM RNA, to target binding sites on GAM3064 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3064 target RNA into GAM3064 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3064 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3064 target genes. The mRNA of each one of this plurality of GAM3064 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3064 RNA, herein designated GAM RNA, and which when bound by GAM3064 RNA causes inhibition of translation of the GAM3064 target mRNA into a corresponding GAM3064 target protein.

The mechanism of the translational inhibition exerted by GAM3064 RNA, herein designated GAM RNA, on one or more GAM3064 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3064 precursor RNA, herein designated GAM PRECURSOR

RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3064 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3064 RNA, herein designated GAM RNA, of GAM3064 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3064 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3064 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3064 RNA correlate with, and may be deduced from, the identity of the GAM3064 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3065 140704 GGAGACATGA Fig. 8 further provides a conceptual description of another novel bioinformatically
TGTAGCAGAT detected oligonucleotides of the present invention, referred to here as Genomic Address
GATGGGACTG Messenger 3065 (GAM3065) oligonucleotides modulates expression of respective target genes
TCTTACATAA whose function and utility is known in the art.

CTGGATCTTT GAM3065 is a novel bioinformatically detectable regulatory, non protein coding,
TAGAACTATC micro RNA (miRNA)-like oligonucleotide. The method by which GAM3065 was detected is

GAAGATTAAG described with additional reference to Figs. 9-15.

TAGTAAAATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTATAAAAAG encoded by the human genome.

TTTCTTGACA GAM3065 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3065
ATGTTATTTT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3065
CC precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3065 precursor RNA is designated SEQ ID:140704, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140704 is located from position 120332544 to position 120332655 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM3065 precursor RNA folds onto itself, forming GAM3065 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3065 precursor RNA, designated SEQ ID NO: 140704, and a schematic representation of a predicted secondary folding of GAM3065 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3065 folded precursor RNA yielding a GAM3065 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3065 RNA, hereby incorporated herein.

GAM3065 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3065 target RNA, herein designated GAM TARGET RNA. GAM3065 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3065 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3065 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3065 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3065 RNA, herein designated GAM RNA, to target binding sites on GAM3065 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3065 target RNA into GAM3065 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3065 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3065 target genes. The mRNA of each one of this plurality of GAM3065 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3065 RNA, herein designated GAM RNA, and which when bound by GAM3065 RNA causes inhibition of translation of the GAM3065 target mRNA into a corresponding GAM3065 target protein.

The mechanism of the translational inhibition exerted by GAM3065 RNA, herein

designated GAM RNA, on one or more GAM3065 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3065 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3065 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3065 RNA, herein designated GAM RNA, of GAM3065 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3065 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3065 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3065 RNA correlate with, and may be deduced from, the identity of the GAM3065 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3077 140705 CAGGTGTGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
CTACCATGCC detected oligonucleotides of the present invention, referred to here as Genomic Address
TGGCTAATTT Messenger 3077 (GAM3077) oligonucleotides modulates expression of respective target genes
TTGTATTTTT whose function and utility is known in the art.

GGTAGAAACA GAM3077 is a novel bioinformatically detectable regulatory, non protein coding,
GGGTTTTACC micro RNA (miRNA)-like oligonucleotide. The method by which GAM3077 was detected is

ATGTTGGCCA described with additional reference to Figs. 9-15.

GGCTGGTCTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAACTTCTG encoded by the human genome.

GAM3077 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3077

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3077

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3077 precursor RNA is designated SEQ ID:140705, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140705 is located from position 127843803 to position 127843891 relative to chromosome

chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM3077 precursor RNA folds onto itself, forming GAM3077 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3077 precursor RNA, designated SEQ ID NO: 140705, and a schematic representation of a predicted secondary folding of GAM3077 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3077 folded precursor RNA yielding a GAM3077 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3077 RNA, hereby incorporated herein.

GAM3077 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3077 target RNA, herein designated GAM TARGET RNA. GAM3077 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3077 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3077 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3077 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3077 RNA, herein designated GAM RNA, to target binding sites on GAM3077 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3077 target RNA into GAM3077 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3077 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3077 target genes. The mRNA of each one of this plurality of GAM3077 target genes comprises one or more target binding sites, each having

a nucleotide sequence which is at least partly complementary to GAM3077 RNA, herein designated GAM RNA, and which when bound by GAM3077 RNA causes inhibition of translation of the GAM3077 target mRNA into a corresponding GAM3077 target protein.

The mechanism of the translational inhibition exerted by GAM3077 RNA, herein designated GAM RNA, on one or more GAM3077 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3077 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3077 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3077 RNA, herein designated GAM RNA, of GAM3077 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3077 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3077 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3077 RNA correlate with, and may be deduced from, the identity of the GAM3077 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3081 140706 CCTCAGCCTC Fig. 8 further provides a conceptual description of another novel bioinformatically

CCAAAGTGCT detected oligonucleotides of the present invention, referred to here as Genomic Address

GGGATTACAG Messenger 3081 (GAM3081) oligonucleotides modulates expression of respective target genes

GTGTGAACCA whose function and utility is known in the art.

CCATGCCCGG GAM3081 is a novel bioinformatically detectable regulatory, non protein coding,

CAGTGATTCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM3081 was detected is

TTTCTAAACC described with additional reference to Figs. 9-15.

CAGCTTGTTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAAGGTGAGG encoded by the human genome.

GAM3081 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3081

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3081

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3081 precursor RNA is designated SEQ ID:140706, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140706 is located from position 23059753 to position 23059842 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM3081 precursor RNA folds onto itself, forming GAM3081 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3081 precursor RNA, designated SEQ ID NO: 140706, and a schematic representation of a predicted secondary folding of GAM3081 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3081 folded precursor RNA yielding a GAM3081 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM3081 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3081 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM3081 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3081 target RNA, herein designated GAM TARGET RNA. GAM3081 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3081 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3081 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3081 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3081 RNA, herein designated GAM RNA, to target binding sites on GAM3081 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3081 target RNA into GAM3081 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM3081 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3081 target genes. The mRNA of each one of this plurality of GAM3081 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3081 RNA, herein designated GAM RNA, and which when bound by GAM3081 RNA causes inhibition of translation of the GAM3081 target mRNA into a corresponding GAM3081 target protein.

The mechanism of the translational inhibition exerted by GAM3081 RNA, herein designated GAM RNA, on one or more GAM3081 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3081 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3081 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3081 RNA, herein designated GAM RNA, of GAM3081 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3081 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3081 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3081 RNA correlate with, and may be deduced from, the identity of the GAM3081 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3089 140707 TGACACTTTC Fig. 8 further provides a conceptual description of another novel bioinformatically
TGTAAACGCC detected oligonucleotides of the present invention, referred to here as Genomic Address
ATCTGTGCTT Messenger 3089 (GAM3089) oligonucleotides modulates expression of respective target genes
TTCTCCCATT whose function and utility is known in the art.

TGTACTGCCC GAM3089 is a novel bioinformatically detectable regulatory, non protein coding,
TGTATATCCC micro RNA (miRNA)-like oligonucleotide. The method by which GAM3089 was detected is

CGTTCAGCAT described with additional reference to Figs. 9-15.

TGCCAGTGTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCCAGCCACC encoded by the human genome.

TCTTAAAGCA GAM3089 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3089 TTCTGAAGTT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3089 TCA precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3089 precursor RNA is designated SEQ ID:140707, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140707 is located from position 39513226 to position 39513338 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM3089 precursor RNA folds onto itself, forming GAM3089 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3089 precursor RNA, designated SEQ ID NO: 140707, and a schematic representation of a predicted secondary folding of GAM3089 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3089 folded precursor RNA yielding a GAM3089 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3089 RNA, hereby incorporated herein.

GAM3089 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3089 target RNA, herein designated GAM TARGET RNA. GAM3089 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3089 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3089 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3089 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3089 RNA, herein designated GAM RNA, to target binding sites on GAM3089 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3089 target RNA into GAM3089 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3089 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3089 target genes. The mRNA of each one of this plurality of GAM3089 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3089 RNA, herein designated GAM RNA, and which when bound by GAM3089 RNA causes inhibition of translation of the GAM3089 target mRNA into a corresponding GAM3089 target protein.

The mechanism of the translational inhibition exerted by GAM3089 RNA, herein designated GAM RNA, on one or more GAM3089 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3089 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3089 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3089 RNA, herein designated GAM RNA, of GAM3089 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3089 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3089 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3089 RNA correlate with, and may be deduced from, the identity of the GAM3089 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3091 140708 GACAGCAGAA Fig. 8 further provides a conceptual description of another novel bioinformatically

CTTTTCTATC detected oligonucleotides of the present invention, referred to here as Genomic Address

CAAATGAATG Messenger 3091 (GAM3091) oligonucleotides modulates expression of respective target genes

CCGTCCCATG whose function and utility is known in the art.

GAAAGTGGCT GAM3091 is a novel bioinformatically detectable regulatory, non protein coding,

GTCCTGGGAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM3091 was detected is

GCTACACGTT described with additional reference to Figs. 9-15.

TCTCCAATGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGATGCTGTT encoded by the human genome.

GAM3091 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3091 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3091 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3091 precursor RNA is designated SEQ ID:140708, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140708 is located from position 96671073 to position 96671162 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM3091 precursor RNA folds onto itself, forming GAM3091 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3091 precursor RNA, designated SEQ ID NO: 140708, and a schematic representation of a predicted secondary folding of GAM3091 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3091 folded precursor RNA yielding a GAM3091 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3091 RNA, hereby incorporated herein.

GAM3091 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3091 target RNA, herein designated GAM TARGET RNA. GAM3091 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3091 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3091 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3091 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3091 RNA, herein designated GAM RNA, to target binding sites on GAM3091 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3091 target RNA into GAM3091 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3091 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3091 target genes. The mRNA of each one of this plurality of GAM3091 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3091 RNA, herein designated GAM RNA, and which when bound by GAM3091 RNA causes inhibition of translation of the GAM3091 target mRNA into a corresponding GAM3091 target protein.

The mechanism of the translational inhibition exerted by GAM3091 RNA, herein designated GAM RNA, on one or more GAM3091 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3091 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3091 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3091 RNA, herein designated GAM RNA, of GAM3091 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3091 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3091 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3091 RNA correlate with, and may be deduced from, the identity of the GAM3091 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3119 140709 CTCTGTTTCC TAATTCTAGG CTAGCTTTTT Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 3119 (GAM3119) oligonucleotides modulates expression of respective target genes

TTGTGAGATG whose function and utility is known in the art.

TGAATCTTAC GAM3119 is a novel bioinformatically detectable regulatory, non protein coding,
TCTTGTGAAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM3119 was detected is

TATGGGATCA described with additional reference to Figs. 9-15.

AGACACATAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCAAAAGTCT encoded by the human genome.

AGTGAGAATT GAM3119 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3119
AGGACAGAG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3119
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3119 precursor RNA is designated SEQ ID:140709, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140709 is located from position 54740907 to position 54741015 relative to chromosome chr6 on the `+` strand (chr is an abbreviation for chromosome).

GAM3119 precursor RNA folds onto itself, forming GAM3119 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3119 precursor RNA, designated SEQ ID NO: 140709, and a schematic representation of a predicted secondary folding of GAM3119 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3119 folded precursor RNA yielding a GAM3119 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM3119 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3119 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM3119 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3119 target RNA, herein designated GAM TARGET RNA. GAM3119 target RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3119 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM3119 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3119 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3119 RNA, herein designated GAM RNA, to target binding sites on GAM3119 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3119 target RNA into GAM3119 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3119 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3119 target genes. The mRNA of each one of this plurality of GAM3119 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3119 RNA, herein designated GAM RNA, and which when bound by GAM3119 RNA causes inhibition of translation of the GAM3119 target mRNA into a corresponding GAM3119 target protein.

The mechanism of the translational inhibition exerted by GAM3119 RNA, herein designated GAM RNA, on one or more GAM3119 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3119 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3119 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3119 RNA, herein designated GAM RNA, of GAM3119 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3119 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3119 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3119 RNA correlate with, and may be deduced from, the identity of the GAM3119 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3123 140710 CCTACCATGA Fig. 8 further provides a conceptual description of another novel bioinformatically
CTGTTCTCAA detected oligonucleotides of the present invention, referred to here as Genomic Address
AGTTTGAAGT Messenger 3123 (GAM3123) oligonucleotides modulates expression of respective target genes
TGAGCATACC whose function and utility is known in the art.

GATGCGCCAC GAM3123 is a novel bioinformatically detectable regulatory, non protein coding,
TCCTGCTTCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM3123 was detected is

ATGCTTGAGA described with additional reference to Figs. 9-15.

AGTCGTAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM3123 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3123

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3123
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3123 precursor RNA is designated SEQ ID:140710, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140710 is located from position 63390513 to position 63390591 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM3123 precursor RNA folds onto itself, forming GAM3123 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3123 precursor RNA, designated SEQ ID NO: 140710, and a schematic representation of a predicted secondary folding of GAM3123 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3123 folded precursor RNA yielding a GAM3123 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM3123 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3123 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM3123 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3123 target RNA, herein designated GAM TARGET RNA. GAM3123 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3123 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3123 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3123 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3123 RNA, herein designated GAM RNA, to target binding sites on GAM3123 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3123 target RNA into GAM3123 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3123 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3123 target genes. The mRNA of each one of this plurality of GAM3123 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3123 RNA, herein designated GAM RNA, and which when bound by GAM3123 RNA causes inhibition of translation of the GAM3123 target mRNA into a corresponding GAM3123 target protein.

The mechanism of the translational inhibition exerted by GAM3123 RNA, herein designated GAM RNA, on one or more GAM3123 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3123 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3123 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3123 RNA, herein designated GAM RNA, of GAM3123 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3123 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3123 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3123 RNA correlate with, and may be deduced from, the identity of the GAM3123 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3126 140711 TGTGAAACAC Fig. 8 further provides a conceptual description of another novel bioinformatically

AGCCAGTTTC detected oligonucleotides of the present invention, referred to here as Genomic Address

TTTGATGACT Messenger 3126 (GAM3126) oligonucleotides modulates expression of respective target genes

CAAAACGTAC whose function and utility is known in the art.

TTTGTGATCT GAM3126 is a novel bioinformatically detectable regulatory, non protein coding,

TGCCAAGCTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM3126 was detected is

TGAGATCATC described with additional reference to Figs. 9-15.

GTTACAAGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCATTTTGGT encoded by the human genome.

TGTGAAAAAC GAM3126 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3126

A precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3126

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3126 precursor RNA is designated SEQ ID:140711, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140711 is located from position 43395837 to position 43395937 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM3126 precursor RNA folds onto itself, forming GAM3126 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3126 precursor RNA, designated SEQ ID NO: 140711, and a schematic representation of a predicted secondary folding of GAM3126 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3126 folded precursor RNA yielding a GAM3126 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the

nucleotide sequence of GAM3126 RNA, hereby incorporated herein.

GAM3126 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3126 target RNA, herein designated GAM TARGET RNA. GAM3126 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3126 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3126 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3126 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3126 RNA, herein designated GAM RNA, to target binding sites on GAM3126 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3126 target RNA into GAM3126 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3126 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3126 target genes. The mRNA of each one of this plurality of GAM3126 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3126 RNA, herein designated GAM RNA, and which when bound by GAM3126 RNA causes inhibition of translation of the GAM3126 target mRNA into a corresponding GAM3126 target protein.

The mechanism of the translational inhibition exerted by GAM3126 RNA, herein designated GAM RNA, on one or more GAM3126 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3126 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3126 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3126 RNA, herein designated GAM RNA, of GAM3126 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3126 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3126 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3126 RNA correlate with, and may be deduced from, the identity of the GAM3126 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3132 140712 AGCTATTGTG Fig. 8 further provides a conceptual description of another novel bioinformatically
ACAATCTTGG detected oligonucleotides of the present invention, referred to here as Genomic Address
TTACCATCCA Messenger 3132 (GAM3132) oligonucleotides modulates expression of respective target genes
TTAAGTGCTG whose function and utility is known in the art.

CTGATTTTGG GAM3132 is a novel bioinformatically detectable regulatory, non protein coding,
AAAGATCATG micro RNA (miRNA)-like oligonucleotide. The method by which GAM3132 was detected is

AAAAACGTCT described with additional reference to Figs. 9-15.

TTCCAAACAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAAGGCACGT encoded by the human genome.

CGTTTGGGCA GAM3132 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3132
CAAGAGGCAA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3132
ATCT precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3132 precursor RNA is designated SEQ ID:140712, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140712 is located from position 53974892 to position 53975005 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM3132 precursor RNA folds onto itself, forming GAM3132 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3132 precursor RNA, designated SEQ ID NO: 140712, and a schematic representation of a predicted secondary folding of GAM3132 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3132 folded precursor RNA

yielding a GAM3132 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3132 RNA, hereby incorporated herein.

GAM3132 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3132 target RNA, herein designated GAM TARGET RNA. GAM3132 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3132 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3132 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3132 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3132 RNA, herein designated GAM RNA, to target binding sites on GAM3132 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3132 target RNA into GAM3132 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3132 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3132 target genes. The mRNA of each one of this plurality of GAM3132 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3132 RNA, herein designated GAM RNA, and which when bound by GAM3132 RNA causes inhibition of translation of the GAM3132 target mRNA into a corresponding GAM3132 target protein.

The mechanism of the translational inhibition exerted by GAM3132 RNA, herein designated GAM RNA, on one or more GAM3132 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3132 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3132 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3132 RNA, herein designated GAM RNA, of GAM3132 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3132 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3132 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3132 RNA correlate with, and may be deduced from, the identity of the GAM3132 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3138 140713 ACTCTTTGAG ATGACTGGTA TTGAATGGAG CAGTCTTTGA AAGGCACCAA CCCTTCCTAA CTGATGGTGG TCTCTTGAAA GAGGCTCTTC CAAATTTGTC TTCTGAAAGT GT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 3138 (GAM3138) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM3138 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM3138 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM3138 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3138 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3138 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3138 precursor RNA is designated SEQ ID:140713, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140713 is located from position 33981295 to position 33981406 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM3138 precursor RNA folds onto itself, forming GAM3138 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3138 precursor RNA, designated SEQ ID NO: 140713, and

a schematic representation of a predicted secondary folding of GAM3138 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3138 folded precursor RNA yielding a GAM3138 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3138 RNA, hereby incorporated herein.

GAM3138 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3138 target RNA, herein designated GAM TARGET RNA. GAM3138 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3138 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3138 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3138 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3138 RNA, herein designated GAM RNA, to target binding sites on GAM3138 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3138 target RNA into GAM3138 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3138 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3138 target genes. The mRNA of each one of this plurality of GAM3138 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3138 RNA, herein designated GAM RNA, and which when bound by GAM3138 RNA causes inhibition of translation of the GAM3138 target mRNA into a corresponding GAM3138 target protein.

The mechanism of the translational inhibition exerted by GAM3138 RNA, herein designated GAM RNA, on one or more GAM3138 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3138 precursor RNA, herein designated GAM PRECURSOR

RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3138 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3138 RNA, herein designated GAM RNA, of GAM3138 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3138 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3138 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3138 RNA correlate with, and may be deduced from, the identity of the GAM3138 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3140 140714 AGTGTGAAGA Fig. 8 further provides a conceptual description of another novel bioinformatically
CAAAAGCCAC detected oligonucleotides of the present invention, referred to here as Genomic Address
TTTCTAAGGA Messenger 3140 (GAM3140) oligonucleotides modulates expression of respective target genes
TGGTGGAGCA whose function and utility is known in the art.

GAAAGGCAGG GAM3140 is a novel bioinformatically detectable regulatory, non protein coding,
AGTCCTGCTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM3140 was detected is

CCTGGCACCA described with additional reference to Figs. 9-15.

TCATGGAGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGCCCAGCCC encoded by the human genome.

AGATCTGCCC GAM3140 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3140
CCCTCTGAAT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3140
TTCCTGTTGC precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar
ATT to the nucleotide sequence of GAM3140 precursor RNA is designated SEQ ID:140714, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140714 is located from position 38591279 to position 38591401 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM3140 precursor RNA folds onto itself, forming GAM3140 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3140 precursor RNA, designated SEQ ID NO: 140714, and a schematic representation of a predicted secondary folding of GAM3140 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3140 folded precursor RNA yielding a GAM3140 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3140 RNA, hereby incorporated herein.

GAM3140 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3140 target RNA, herein designated GAM TARGET RNA. GAM3140 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3140 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3140 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3140 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3140 RNA, herein designated GAM RNA, to target binding sites on GAM3140 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3140 target RNA into GAM3140 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3140 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3140 target genes. The mRNA of each one of this plurality of GAM3140 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3140 RNA, herein designated GAM RNA, and which when bound by GAM3140 RNA causes inhibition of translation of the GAM3140 target mRNA into a corresponding GAM3140 target protein.

The mechanism of the translational inhibition exerted by GAM3140 RNA, herein

designated GAM RNA, on one or more GAM3140 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3140 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3140 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3140 RNA, herein designated GAM RNA, of GAM3140 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3140 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3140 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3140 RNA correlate with, and may be deduced from, the identity of the GAM3140 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3143 140715 GGCGTATCAG Fig. 8 further provides a conceptual description of another novel bioinformatically
GTTTCAGAGG detected oligonucleotides of the present invention, referred to here as Genomic Address
ATGCGGCTGG Messenger 3143 (GAM3143) oligonucleotides modulates expression of respective target genes
GAACGGGAGT whose function and utility is known in the art.

AGAGGTGAGG GAM3143 is a novel bioinformatically detectable regulatory, non protein coding,
GGTCGTTGCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM3143 was detected is

TCTGTCGCGG described with additional reference to Figs. 9-15.

TGTGTATCTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTGGGGGTTC encoded by the human genome.

AGCGCC GAM3143 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3143
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3143
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3143 precursor RNA is designated SEQ ID:140715, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140715 is located from position 81003842 to position 81003937 relative to chromosome

chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM3143 precursor RNA folds onto itself, forming GAM3143 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3143 precursor RNA, designated SEQ ID NO: 140715, and a schematic representation of a predicted secondary folding of GAM3143 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3143 folded precursor RNA yielding a GAM3143 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3143 RNA, hereby incorporated herein.

GAM3143 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3143 target RNA, herein designated GAM TARGET RNA. GAM3143 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3143 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3143 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3143 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3143 RNA, herein designated GAM RNA, to target binding sites on GAM3143 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3143 target RNA into GAM3143 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3143 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3143 target genes. The mRNA of each one of this plurality of GAM3143 target genes comprises one or more target binding sites, each having

a nucleotide sequence which is at least partly complementary to GAM3143 RNA, herein designated GAM RNA, and which when bound by GAM3143 RNA causes inhibition of translation of the GAM3143 target mRNA into a corresponding GAM3143 target protein.

The mechanism of the translational inhibition exerted by GAM3143 RNA, herein designated GAM RNA, on one or more GAM3143 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3143 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3143 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3143 RNA, herein designated GAM RNA, of GAM3143 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3143 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3143 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3143 RNA correlate with, and may be deduced from, the identity of the GAM3143 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3157 140716 TTGTTGAAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

GCAGTGAAGG detected oligonucleotides of the present invention, referred to here as Genomic Address

TAGGTTTCAG Messenger 3157 (GAM3157) oligonucleotides modulates expression of respective target genes

GTTTGGTTTT whose function and utility is known in the art.

ACAAACCTGT GAM3157 is a novel bioinformatically detectable regulatory, non protein coding,

TAACTACCTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM3157 was detected is

CTGTCCAGCT described with additional reference to Figs. 9-15.

TGACAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM3157 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3157

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3157

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3157 precursor RNA is designated SEQ ID:140716, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140716 is located from position 21733645 to position 21733720 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GAM3157 precursor RNA folds onto itself, forming GAM3157 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3157 precursor RNA, designated SEQ ID NO: 140716, and a schematic representation of a predicted secondary folding of GAM3157 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3157 folded precursor RNA yielding a GAM3157 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3157 RNA, hereby incorporated herein.

GAM3157 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3157 target RNA, herein designated GAM TARGET RNA. GAM3157 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3157 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3157 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3157 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3157 RNA, herein designated GAM RNA, to target binding sites on GAM3157 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3157 target RNA into GAM3157 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3157 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3157 target genes. The mRNA of each one of this plurality of GAM3157 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3157 RNA, herein designated GAM RNA, and which when bound by GAM3157 RNA causes inhibition of translation of the GAM3157 target mRNA into a corresponding GAM3157 target protein.

The mechanism of the translational inhibition exerted by GAM3157 RNA, herein designated GAM RNA, on one or more GAM3157 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3157 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3157 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3157 RNA, herein designated GAM RNA, of GAM3157 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3157 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3157 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3157 RNA correlate with, and may be deduced from, the identity of the GAM3157 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3160 140717 TCAGTCTTTT Fig. 8 further provides a conceptual description of another novel bioinformatically
TGTCTATTCC detected oligonucleotides of the present invention, referred to here as Genomic Address
TGGATTTTGG Messenger 3160 (GAM3160) oligonucleotides modulates expression of respective target genes
TGAAAACAGA whose function and utility is known in the art.

ATCTAATCTT GAM3160 is a novel bioinformatically detectable regulatory, non protein coding,
ATATTCGCAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM3160 was detected is

CCTTAAGGTT described with additional reference to Figs. 9-15.

AGAAGGTCAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTACATCCAG encoded by the human genome.

TAATCACAGT GAM3160 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3160 AAGATCTGG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3160 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3160 precursor RNA is designated SEQ ID:140717, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140717 is located from position 55877663 to position 55877771 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM3160 precursor RNA folds onto itself, forming GAM3160 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3160 precursor RNA, designated SEQ ID NO: 140717, and a schematic representation of a predicted secondary folding of GAM3160 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3160 folded precursor RNA yielding a GAM3160 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3160 RNA, hereby incorporated herein.

GAM3160 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3160 target RNA, herein designated GAM TARGET RNA. GAM3160 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3160 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3160 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3160 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3160 RNA, herein designated GAM RNA, to target binding sites on GAM3160 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3160 target RNA into GAM3160 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3160 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3160 target genes. The mRNA of each one of this plurality of GAM3160 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3160 RNA, herein designated GAM RNA, and which when bound by GAM3160 RNA causes inhibition of translation of the GAM3160 target mRNA into a corresponding GAM3160 target protein.

The mechanism of the translational inhibition exerted by GAM3160 RNA, herein designated GAM RNA, on one or more GAM3160 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3160 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3160 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3160 RNA, herein designated GAM RNA, of GAM3160 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3160 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3160 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3160 RNA correlate with, and may be deduced from, the identity of the GAM3160 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3163 140718 TCTGCTCATG Fig. 8 further provides a conceptual description of another novel bioinformatically
ATTACTGGGC detected oligonucleotides of the present invention, referred to here as Genomic Address
CAATACCACT Messenger 3163 (GAM3163) oligonucleotides modulates expression of respective target genes
GCAATGACTG whose function and utility is known in the art.

TCAGAACAAT GAM3163 is a novel bioinformatically detectable regulatory, non protein coding,
TCTTGTGAAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM3163 was detected is

GTTGTTTTTA described with additional reference to Figs. 9-15.

TAAGCCTTGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGTTTGTTGA encoded by the human genome.

AGTTGAGGTT GAM3163 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3163

CAAGGGCAGA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3163

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3163 precursor RNA is designated SEQ ID:140718, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140718 is located from position 28262669 to position 28262778 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM3163 precursor RNA folds onto itself, forming GAM3163 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3163 precursor RNA, designated SEQ ID NO: 140718, and a schematic representation of a predicted secondary folding of GAM3163 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3163 folded precursor RNA yielding a GAM3163 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3163 RNA, hereby incorporated herein.

GAM3163 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3163 target RNA, herein designated GAM TARGET RNA. GAM3163 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3163 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3163 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3163 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3163 RNA, herein designated GAM RNA, to target binding sites on GAM3163 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3163 target RNA into GAM3163 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3163 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3163 target genes. The mRNA of each one of this plurality of GAM3163 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3163 RNA, herein designated GAM RNA, and which when bound by GAM3163 RNA causes inhibition of translation of the GAM3163 target mRNA into a corresponding GAM3163 target protein.

The mechanism of the translational inhibition exerted by GAM3163 RNA, herein designated GAM RNA, on one or more GAM3163 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3163 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3163 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3163 RNA, herein designated GAM RNA, of GAM3163 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3163 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3163 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3163 RNA correlate with, and may be deduced from, the identity of the GAM3163 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3174 140719 ACTTTTGGCT CATTTTTTGA TGCATGTGAC Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 3174 (GAM3174) oligonucleotides modulates expression of respective target genes

CTGGGATTAT whose function and utility is known in the art.

AAATGTGAAA GAM3174 is a novel bioinformatically detectable regulatory, non protein coding,
TTAGGTTTAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM3174 was detected is

GAAAGGATCC described with additional reference to Figs. 9-15.

AGTGTCATTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGCATCATGG encoded by the human genome.

GCAAGGAGT GAM3174 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3174
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3174
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3174 precursor RNA is designated SEQ ID:140719, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140719 is located from position 42623627 to position 42623725 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM3174 precursor RNA folds onto itself, forming GAM3174 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3174 precursor RNA, designated SEQ ID NO: 140719, and a schematic representation of a predicted secondary folding of GAM3174 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3174 folded precursor RNA yielding a GAM3174 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3174 RNA, hereby incorporated herein.

GAM3174 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3174 target RNA, herein designated GAM TARGET RNA. GAM3174 target RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3174 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3174 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3174 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3174 RNA, herein designated GAM RNA, to target binding sites on GAM3174 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3174 target RNA into GAM3174 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3174 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3174 target genes. The mRNA of each one of this plurality of GAM3174 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3174 RNA, herein designated GAM RNA, and which when bound by GAM3174 RNA causes inhibition of translation of the GAM3174 target mRNA into a corresponding GAM3174 target protein.

The mechanism of the translational inhibition exerted by GAM3174 RNA, herein designated GAM RNA, on one or more GAM3174 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3174 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3174 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3174 RNA, herein designated GAM RNA, of GAM3174 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3174 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3174 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3174 RNA correlate with, and may be deduced from, the identity of the GAM3174 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3183 140720 ATCTTGTACA Fig. 8 further provides a conceptual description of another novel bioinformatically

TTTTCCCCAC detected oligonucleotides of the present invention, referred to here as Genomic Address

ACTTGGAATC Messenger 3183 (GAM3183) oligonucleotides modulates expression of respective target genes

AGCCATTCCT whose function and utility is known in the art.

CCAGGGAGTG GAM3183 is a novel bioinformatically detectable regulatory, non protein coding,

CAGGTTCACA micro RNA (miRNA)-like oligonucleotide. The method by which GAM3183 was detected is

GGCTGGGCTC described with additional reference to Figs. 9-15.

TAAGAGAATT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATAAGGT encoded by the human genome.

GAM3183 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3183 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3183 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3183 precursor RNA is designated SEQ ID:140720, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140720 is located from position 36044102 to position 36044188 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM3183 precursor RNA folds onto itself, forming GAM3183 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3183 precursor RNA, designated SEQ ID NO: 140720, and a schematic representation of a predicted secondary folding of GAM3183 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3183 folded precursor RNA yielding a GAM3183 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM3183 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3183 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM3183 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3183 target RNA, herein designated GAM TARGET RNA. GAM3183 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3183 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3183 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3183 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3183 RNA, herein designated GAM RNA, to target binding sites on GAM3183 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3183 target RNA into GAM3183 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3183 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3183 target genes. The mRNA of each one of this plurality of GAM3183 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3183 RNA, herein designated GAM RNA, and which when bound by GAM3183 RNA causes inhibition of translation of the GAM3183 target mRNA into a corresponding GAM3183 target protein.

The mechanism of the translational inhibition exerted by GAM3183 RNA, herein designated GAM RNA, on one or more GAM3183 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3183 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3183 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3183 RNA, herein designated GAM RNA, of GAM3183 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3183 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3183 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3183 RNA correlate with, and may be deduced from, the identity of the GAM3183 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3190 140721 GATCATTTGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GACCAGAAGT detected oligonucleotides of the present invention, referred to here as Genomic Address

TCCAGGCTGT Messenger 3190 (GAM3190) oligonucleotides modulates expression of respective target genes

AGTGCACTAT whose function and utility is known in the art.

GATGATCGTA GAM3190 is a novel bioinformatically detectable regulatory, non protein coding,

CGTATGAACA micro RNA (miRNA)-like oligonucleotide. The method by which GAM3190 was detected is

GCCATTGCAC described with additional reference to Figs. 9-15.

TCCAGCCTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCAATTCAGC encoded by the human genome.

AAGACATC GAM3190 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3190

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3190

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3190 precursor RNA is designated SEQ ID:140721, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140721 is located from position 95449990 to position 95450087 relative to chromosome chr4 on the `+` strand (chr is an abbreviation for chromosome).

GAM3190 precursor RNA folds onto itself, forming GAM3190 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3190 precursor RNA, designated SEQ ID NO: 140721, and a schematic representation of a predicted secondary folding of GAM3190 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3190 folded precursor RNA yielding a GAM3190 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the

nucleotide sequence of GAM3190 RNA, hereby incorporated herein. Expression of GAM3190 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM3190 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3190 target RNA, herein designated GAM TARGET RNA. GAM3190 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3190 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3190 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3190 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3190 RNA, herein designated GAM RNA, to target binding sites on GAM3190 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3190 target RNA into GAM3190 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3190 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3190 target genes. The mRNA of each one of this plurality of GAM3190 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3190 RNA, herein designated GAM RNA, and which when bound by GAM3190 RNA causes inhibition of translation of the GAM3190 target mRNA into a corresponding GAM3190 target protein.

The mechanism of the translational inhibition exerted by GAM3190 RNA, herein designated GAM RNA, on one or more GAM3190 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3190 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3190 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3190 RNA, herein designated GAM RNA, of GAM3190 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3190 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3190 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3190 RNA correlate with, and may be deduced from, the identity of the GAM3190 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3195 140722 GTTCCTTAGG Fig. 8 further provides a conceptual description of another novel bioinformatically
CCACACCCTG detected oligonucleotides of the present invention, referred to here as Genomic Address
CCCTCCCTGG Messenger 3195 (GAM3195) oligonucleotides modulates expression of respective target genes
ACTGCCTGAC whose function and utility is known in the art.

CTCGCTCCAA GAM3195 is a novel bioinformatically detectable regulatory, non protein coding,
GGCTCAGGGG micro RNA (miRNA)-like oligonucleotide. The method by which GAM3195 was detected is

AAGGTTCTGA described with additional reference to Figs. 9-15.

GGGCAGGTGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAAAATGCTT encoded by the human genome.

GGAAT GAM3195 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3195
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3195
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3195 precursor RNA is designated SEQ ID:140722, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140722 is located from position 68013720 to position 68013814 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM3195 precursor RNA folds onto itself, forming GAM3195 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3195 precursor RNA, designated SEQ ID NO: 140722, and a schematic representation of a predicted secondary folding of GAM3195 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3195 folded precursor RNA yielding a GAM3195 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3195 RNA, hereby incorporated herein.

GAM3195 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3195 target RNA, herein designated GAM TARGET RNA. GAM3195 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3195 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3195 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3195 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3195 RNA, herein designated GAM RNA, to target binding sites on GAM3195 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3195 target RNA into GAM3195 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3195 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3195 target genes. The mRNA of each one of this plurality of GAM3195 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3195 RNA, herein designated GAM RNA, and which when bound by GAM3195 RNA causes inhibition of translation of the GAM3195 target mRNA into a corresponding GAM3195 target protein.

The mechanism of the translational inhibition exerted by GAM3195 RNA, herein designated GAM RNA, on one or more GAM3195 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3195 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3195 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3195 RNA, herein designated GAM RNA, of GAM3195 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3195 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3195 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3195 RNA correlate with, and may be deduced from, the identity of the GAM3195 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3211 140723 TCCTCCCCCA Fig. 8 further provides a conceptual description of another novel bioinformatically
GGCATTCTGG detected oligonucleotides of the present invention, referred to here as Genomic Address
TCACTGTTCC Messenger 3211 (GAM3211) oligonucleotides modulates expression of respective target genes
TTTTTGTTGA whose function and utility is known in the art.

GATCATTCTC GAM3211 is a novel bioinformatically detectable regulatory, non protein coding,
GGTGTCTCAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM3211 was detected is

ATAGCTGGGT described with additional reference to Figs. 9-15.

TGCAGCTCCG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTCTTTGCCA encoded by the human genome.

GGAGGTGGTA GAM3211 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3211
ATAGAGGA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3211
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3211 precursor RNA is designated SEQ ID:140723, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140723 is located from position 55666192 to position 55666299 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM3211 precursor RNA folds onto itself, forming GAM3211 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3211 precursor RNA, designated SEQ ID NO: 140723, and a schematic representation of a predicted secondary folding of GAM3211 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3211 folded precursor RNA yielding a GAM3211 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM3211 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3211 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM3211 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3211 target RNA, herein designated GAM TARGET RNA. GAM3211 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3211 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3211 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3211 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3211 RNA, herein designated GAM RNA, to target binding sites on GAM3211 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3211 target RNA into GAM3211 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3211 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3211 target genes. The mRNA of each one of this plurality of GAM3211 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3211 RNA, herein designated GAM RNA, and which when bound by GAM3211 RNA causes inhibition of translation of the GAM3211 target mRNA into a corresponding GAM3211 target protein.

The mechanism of the translational inhibition exerted by GAM3211 RNA, herein designated GAM RNA, on one or more GAM3211 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3211 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3211 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3211 RNA, herein designated GAM RNA, of GAM3211 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3211 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3211 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3211 RNA correlate with, and may be deduced from, the identity of the GAM3211 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3227 140724 GGAGAATGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
CCTGAACCCG detected oligonucleotides of the present invention, referred to here as Genomic Address
GGAGGCGGAC Messenger 3227 (GAM3227) oligonucleotides modulates expression of respective target genes
GTTGCAGTGA whose function and utility is known in the art.

GCCGAGATTG GAM3227 is a novel bioinformatically detectable regulatory, non protein coding,
CACCACTGCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM3227 was detected is

CTCCAGCCTG described with additional reference to Figs. 9-15.

GGCAACAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CGAGACTCC encoded by the human genome.

GAM3227 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3227

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3227

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3227 precursor RNA is designated SEQ ID:140724, and is provided hereinbelow with reference to the sequence listing part.

GAM3227 precursor RNA folds onto itself, forming GAM3227 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3227 precursor RNA, designated SEQ ID NO: 140724, and a schematic representation of a predicted secondary folding of GAM3227 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3227 folded precursor RNA yielding a GAM3227 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3227 RNA, hereby incorporated herein. Expression of GAM3227 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM3227 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3227 target RNA, herein designated GAM TARGET RNA. GAM3227 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3227 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3227 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3227 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3227 RNA, herein designated GAM RNA, to target binding sites on GAM3227 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3227 target RNA into GAM3227 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3227 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3227 target genes. The mRNA of each one of this plurality of GAM3227 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3227 RNA, herein designated GAM RNA, and which when bound by GAM3227 RNA causes inhibition of translation

of the GAM3227 target mRNA into a corresponding GAM3227 target protein.

The mechanism of the translational inhibition exerted by GAM3227 RNA, herein designated GAM RNA, on one or more GAM3227 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3227 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3227 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3227 RNA, herein designated GAM RNA, of GAM3227 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3227 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3227 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3227 RNA correlate with, and may be deduced from, the identity of the GAM3227 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3236 140725 GCAGCGACGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TGAGTTTCAA detected oligonucleotides of the present invention, referred to here as Genomic Address
GAAAGCCAAG Messenger 3236 (GAM3236) oligonucleotides modulates expression of respective target genes
ATGGCTGAGT whose function and utility is known in the art.

CCACAGGCTC GAM3236 is a novel bioinformatically detectable regulatory, non protein coding,
ACCCACGGGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM3236 was detected is

GCGTTTAGAC described with additional reference to Figs. 9-15.

TGGGATGCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
C encoded by the human genome.

GAM3236 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3236

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3236
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

to the nucleotide sequence of GAM3236 precursor RNA is designated SEQ ID:140725, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140725 is located from position 48954882 to position 48954962 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM3236 precursor RNA folds onto itself, forming GAM3236 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3236 precursor RNA, designated SEQ ID NO: 140725, and a schematic representation of a predicted secondary folding of GAM3236 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3236 folded precursor RNA yielding a GAM3236 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3236 RNA, hereby incorporated herein.

GAM3236 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3236 target RNA, herein designated GAM TARGET RNA. GAM3236 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3236 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3236 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3236 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3236 RNA, herein designated GAM RNA, to target binding sites on GAM3236 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3236 target RNA into GAM3236 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3236 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3236 target genes. The mRNA of each one of this plurality of GAM3236 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3236 RNA, herein designated GAM RNA, and which when bound by GAM3236 RNA causes inhibition of translation of the GAM3236 target mRNA into a corresponding GAM3236 target protein.

The mechanism of the translational inhibition exerted by GAM3236 RNA, herein designated GAM RNA, on one or more GAM3236 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3236 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3236 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3236 RNA, herein designated GAM RNA, of GAM3236 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3236 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3236 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3236 RNA correlate with, and may be deduced from, the identity of the GAM3236 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3246 140726 GGGCAGCAAA Fig. 8 further provides a conceptual description of another novel bioinformatically
AACATCCATT detected oligonucleotides of the present invention, referred to here as Genomic Address
CCGCTGCGCA Messenger 3246 (GAM3246) oligonucleotides modulates expression of respective target genes
ACAGTTGTCA whose function and utility is known in the art.

TTTTTCTAAC GAM3246 is a novel bioinformatically detectable regulatory, non protein coding,
ATCTGAAAAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM3246 was detected is

TCCAGAAGGA described with additional reference to Figs. 9-15.

GATGGTGATA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AATGTGGTAC encoded by the human genome.

CGGATTCTGC GAM3246 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3246 CT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3246 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3246 precursor RNA is designated SEQ ID:140726, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140726 is located from position 33339251 to position 33339352 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM3246 precursor RNA folds onto itself, forming GAM3246 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3246 precursor RNA, designated SEQ ID NO: 140726, and a schematic representation of a predicted secondary folding of GAM3246 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3246 folded precursor RNA yielding a GAM3246 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3246 RNA, hereby incorporated herein.

GAM3246 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3246 target RNA, herein designated GAM TARGET RNA. GAM3246 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3246 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3246 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3246 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3246 RNA, herein designated GAM RNA, to target

binding sites on GAM3246 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3246 target RNA into GAM3246 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3246 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3246 target genes. The mRNA of each one of this plurality of GAM3246 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3246 RNA, herein designated GAM RNA, and which when bound by GAM3246 RNA causes inhibition of translation of the GAM3246 target mRNA into a corresponding GAM3246 target protein.

The mechanism of the translational inhibition exerted by GAM3246 RNA, herein designated GAM RNA, on one or more GAM3246 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3246 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3246 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3246 RNA, herein designated GAM RNA, of GAM3246 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3246 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3246 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3246 RNA correlate with, and may be deduced from, the identity of the GAM3246 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3263 140727 CCGAGGCTAC Fig. 8 further provides a conceptual description of another novel bioinformatically

GTGAAGGAAC detected oligonucleotides of the present invention, referred to here as Genomic Address

ACTTTGCCTG Messenger 3263 (GAM3263) oligonucleotides modulates expression of respective target genes

GAGACATTTC whose function and utility is known in the art.

TACTGGTACC GAM3263 is a novel bioinformatically detectable regulatory, non protein coding,

TTACCAATGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM3263 was detected is

GGGTATCCAG described with additional reference to Figs. 9-15.

TATCTCCGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATTACCTTCA encoded by the human genome.

TCTGCCCCCG GAM3263 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3263 G precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3263 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3263 precursor RNA is designated SEQ ID:140727, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140727 is located from position 127750640 to position 127750740 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM3263 precursor RNA folds onto itself, forming GAM3263 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3263 precursor RNA, designated SEQ ID NO: 140727, and a schematic representation of a predicted secondary folding of GAM3263 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3263 folded precursor RNA yielding a GAM3263 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3263 RNA, hereby incorporated herein.

GAM3263 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3263 target RNA, herein designated GAM TARGET RNA. GAM3263 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3263 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3263 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3263 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3263 RNA, herein designated GAM RNA, to target binding sites on GAM3263 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3263 target RNA into GAM3263 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3263 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3263 target genes. The mRNA of each one of this plurality of GAM3263 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3263 RNA, herein designated GAM RNA, and which when bound by GAM3263 RNA causes inhibition of translation of the GAM3263 target mRNA into a corresponding GAM3263 target protein.

The mechanism of the translational inhibition exerted by GAM3263 RNA, herein designated GAM RNA, on one or more GAM3263 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3263 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3263 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3263 RNA, herein designated GAM RNA, of GAM3263 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3263 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3263 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3263 RNA correlate with, and may be deduced from, the identity of the GAM3263 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3266 140728 CCTGTACAAA GCAGCCTTGG ACCAGGAGGG AAAACCCCAA Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 3266 (GAM3266) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GGCTCTGCAG GAM3266 is a novel bioinformatically detectable regulatory, non protein coding, CCTCCCTGCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM3266 was detected is

CCCCTCCGTT described with additional reference to Figs. 9-15.

TAAGGCTGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTCAGG encoded by the human genome.

GAM3266 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3266 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3266 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3266 precursor RNA is designated SEQ ID:140728, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140728 is located from position 3852982 to position 3853067 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM3266 precursor RNA folds onto itself, forming GAM3266 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3266 precursor RNA, designated SEQ ID NO: 140728, and a schematic representation of a predicted secondary folding of GAM3266 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3266 folded precursor RNA yielding a GAM3266 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3266 RNA, hereby incorporated herein.

GAM3266 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3266 target RNA, herein designated GAM TARGET RNA. GAM3266 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3266 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3266 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the

nucleotide sequence of GAM3266 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3266 RNA, herein designated GAM RNA, to target binding sites on GAM3266 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3266 target RNA into GAM3266 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3266 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3266 target genes. The mRNA of each one of this plurality of GAM3266 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3266 RNA, herein designated GAM RNA, and which when bound by GAM3266 RNA causes inhibition of translation of the GAM3266 target mRNA into a corresponding GAM3266 target protein.

The mechanism of the translational inhibition exerted by GAM3266 RNA, herein designated GAM RNA, on one or more GAM3266 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3266 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3266 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3266 RNA, herein designated GAM RNA, of GAM3266 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3266 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3266 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3266 RNA correlate with, and may be deduced from, the identity of the GAM3266 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3271 140729 GATATGTTTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TACTAGTGGT detected oligonucleotides of the present invention, referred to here as Genomic Address
TGATGGCCTC Messenger 3271 (GAM3271) oligonucleotides modulates expression of respective target
genes
TTTCAGCTCC whose function and utility is known in the art.

ATCGCTATGG GAM3271 is a novel bioinformatically detectable regulatory, non protein coding,
AGGCGAGGTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM3271 was detected is

CATCAATAAC described with additional reference to Figs. 9-15.

TCAGAGAAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a
humen gene
TTGTGTC encoded by the human genome.

GAM3271 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3271

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM3271

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3271 precursor RNA is designated SEQ ID:140729, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140729 is located from position 93938749 to position 93938835 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM3271 precursor RNA folds onto itself, forming GAM3271 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3271 precursor RNA, designated SEQ ID NO: 140729, and a schematic representation of a predicted secondary folding of GAM3271 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3271 folded precursor RNA yielding a GAM3271 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3271 RNA, hereby incorporated herein.

GAM3271 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3271 target RNA, herein designated GAM TARGET RNA. GAM3271 target
RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3271 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3271 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3271 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3271 RNA, herein designated GAM RNA, to target binding sites on GAM3271 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3271 target RNA into GAM3271 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3271 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3271 target genes. The mRNA of each one of this plurality of GAM3271 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3271 RNA, herein designated GAM RNA, and which when bound by GAM3271 RNA causes inhibition of translation of the GAM3271 target mRNA into a corresponding GAM3271 target protein.

The mechanism of the translational inhibition exerted by GAM3271 RNA, herein designated GAM RNA, on one or more GAM3271 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3271 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3271 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3271 RNA, herein designated GAM RNA, of GAM3271 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3271 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3271 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3271 RNA correlate with, and may be deduced from, the identity of the GAM3271 target gene inhibited

thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3278 140730 TGCCCATGAT Fig. 8 further provides a conceptual description of another novel bioinformatically
GTTTTCAGTA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAAATCTAAG Messenger 3278 (GAM3278) oligonucleotides modulates expression of respective target genes
TCCCAAGATT whose function and utility is known in the art.

AGGTTGGAAA GAM3278 is a novel bioinformatically detectable regulatory, non protein coding,
GGGTATTTCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM3278 was detected is

TGTTGGCTTA described with additional reference to Figs. 9-15.

GTTTGGGTTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAATTTAGCA encoded by the human genome.

TGGGTA GAM3278 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3278
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3278
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3278 precursor RNA is designated SEQ ID:140730, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140730 is located from position 25101178 to position 25101273 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM3278 precursor RNA folds onto itself, forming GAM3278 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3278 precursor RNA, designated SEQ ID NO: 140730, and a schematic representation of a predicted secondary folding of GAM3278 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3278 folded precursor RNA yielding a GAM3278 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3278 RNA, hereby incorporated herein.

GAM3278 target gene, herein designated GAM TARGET GENE, encodes a corresponding

messenger RNA, GAM3278 target RNA, herein designated GAM TARGET RNA. GAM3278 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3278 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3278 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3278 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3278 RNA, herein designated GAM RNA, to target binding sites on GAM3278 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3278 target RNA into GAM3278 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3278 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3278 target genes. The mRNA of each one of this plurality of GAM3278 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3278 RNA, herein designated GAM RNA, and which when bound by GAM3278 RNA causes inhibition of translation of the GAM3278 target mRNA into a corresponding GAM3278 target protein.

The mechanism of the translational inhibition exerted by GAM3278 RNA, herein designated GAM RNA, on one or more GAM3278 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3278 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3278 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3278 RNA, herein designated GAM RNA, of GAM3278 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3278 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target

binding sites to GAM3278 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3278 RNA correlate with, and may be deduced from, the identity of the GAM3278 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3293 140731 CCAGGCCTGA Fig. 8 further provides a conceptual description of another novel bioinformatically
CCTGTCTCTT detected oligonucleotides of the present invention, referred to here as Genomic Address
GAAGGAGTAT Messenger 3293 (GAM3293) oligonucleotides modulates expression of respective target genes
TTGTGTTGAA whose function and utility is known in the art.

GATGGGTGGT GAM3293 is a novel bioinformatically detectable regulatory, non protein coding,
AACGTTCAGC micro RNA (miRNA)-like oligonucleotide. The method by which GAM3293 was detected is

AAAAGCCATG described with additional reference to Figs. 9-15.

CCCAGGAGAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGGCACAGTA encoded by the human genome.

CCCATGG GAM3293 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3293
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3293
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3293 precursor RNA is designated SEQ ID:140731, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140731 is located from position 72746540 to position 72746636 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM3293 precursor RNA folds onto itself, forming GAM3293 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3293 precursor RNA, designated SEQ ID NO: 140731, and a schematic representation of a predicted secondary folding of GAM3293 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3293 folded precursor RNA yielding a GAM3293 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an

enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM3293 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3293 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM3293 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3293 target RNA, herein designated GAM TARGET RNA. GAM3293 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3293 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3293 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3293 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3293 RNA, herein designated GAM RNA, to target binding sites on GAM3293 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3293 target RNA into GAM3293 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3293 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3293 target genes. The mRNA of each one of this plurality of GAM3293 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3293 RNA, herein designated GAM RNA, and which when bound by GAM3293 RNA causes inhibition of translation of the GAM3293 target mRNA into a corresponding GAM3293 target protein.

The mechanism of the translational inhibition exerted by GAM3293 RNA, herein designated GAM RNA, on one or more GAM3293 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3293 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3293 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3293 RNA, herein designated GAM RNA, of GAM3293 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3293 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3293 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3293 RNA correlate with, and may be deduced from, the identity of the GAM3293 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3298 140732 TTGGGTCCTA Fig. 8 further provides a conceptual description of another novel bioinformatically
GTAGTACCAA detected oligonucleotides of the present invention, referred to here as Genomic Address
AGTGCTCATA Messenger 3298 (GAM3298) oligonucleotides modulates expression of respective target genes
GTGCAGGTAG whose function and utility is known in the art.

TTTTGGCATG GAM3298 is a novel bioinformatically detectable regulatory, non protein coding,
ACTCTACTGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM3298 was detected is

AGTATGGGCA described with additional reference to Figs. 9-15.

CTTCCAGTAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCTTGGATAA encoded by the human genome.

CAA GAM3298 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3298
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3298
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3298 precursor RNA is designated SEQ ID:140732, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140732 is located from position 131248823 to position 131248915 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM3298 precursor RNA folds onto itself, forming GAM3298 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3298 precursor RNA, designated SEQ ID NO: 140732, and a schematic representation of a predicted secondary folding of GAM3298 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3298 folded precursor RNA yielding a GAM3298 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3298 RNA, hereby incorporated herein. Expression of GAM3298 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM3298 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3298 target RNA, herein designated GAM TARGET RNA. GAM3298 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3298 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3298 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3298 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3298 RNA, herein designated GAM RNA, to target binding sites on GAM3298 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3298 target RNA into GAM3298 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3298 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3298 target genes. The mRNA of each one of this plurality of GAM3298 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3298 RNA, herein designated GAM RNA, and which when bound by GAM3298 RNA causes inhibition of translation of the GAM3298 target mRNA into a corresponding GAM3298 target protein.

The mechanism of the translational inhibition exerted by GAM3298 RNA, herein designated GAM RNA, on one or more GAM3298 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3298 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM3298 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3298 RNA, herein designated GAM RNA, of GAM3298 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3298 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3298 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3298 RNA correlate with, and may be deduced from, the identity of the GAM3298 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3311 140733 GGGACTGCTG Fig. 8 further provides a conceptual description of another novel bioinformatically

TCTGCTGTCT detected oligonucleotides of the present invention, referred to here as Genomic Address

ACACTACACA Messenger 3311 (GAM3311) oligonucleotides modulates expression of respective target genes

CTACTACACT whose function and utility is known in the art.

GCTGTCTGCT GAM3311 is a novel bioinformatically detectable regulatory, non protein coding,

GTGTGTGATA micro RNA (miRNA)-like oligonucleotide. The method by which GAM3311 was detected is

AGGACACAGA described with additional reference to Figs. 9-15.

TAGTCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM3311 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3311

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3311

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3311 precursor RNA is designated SEQ ID:140733, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140733 is located from position 47179504 to position 47179580 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM3311 precursor RNA folds onto itself, forming GAM3311 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3311 precursor RNA, designated SEQ ID NO: 140733, and a schematic representation of a predicted secondary folding of GAM3311 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3311 folded precursor RNA yielding a GAM3311 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM3311 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3311 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM3311 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3311 target RNA, herein designated GAM TARGET RNA. GAM3311 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3311 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3311 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3311 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3311 RNA, herein designated GAM RNA, to target binding sites on GAM3311 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3311 target RNA into GAM3311 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3311 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3311 target genes. The mRNA of each one of this plurality of GAM3311 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3311 RNA, herein designated GAM RNA, and which when bound by GAM3311 RNA causes inhibition of translation of the GAM3311 target mRNA into a corresponding GAM3311 target protein.

The mechanism of the translational inhibition exerted by GAM3311 RNA, herein

designated GAM RNA, on one or more GAM3311 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3311 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3311 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3311 RNA, herein designated GAM RNA, of GAM3311 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3311 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3311 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3311 RNA correlate with, and may be deduced from, the identity of the GAM3311 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3323 140734 GAGGTCCAGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGCAGCCGT detected oligonucleotides of the present invention, referred to here as Genomic Address
CGTGGTTTTG Messenger 3323 (GAM3323) oligonucleotides modulates expression of respective target genes
TGCAAAGCAG whose function and utility is known in the art.

CTGAGTGTCC GAM3323 is a novel bioinformatically detectable regulatory, non protein coding,
CTCTGTTAAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM3323 was detected is

GTGTGCAAAC described with additional reference to Figs. 9-15.

CATGGTGAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCTGAGCCTG encoded by the human genome.

GATCTC GAM3323 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3323
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3323
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3323 precursor RNA is designated SEQ ID:140734, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140734 is located from position 72490894 to position 72490989 relative to chromosome

chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM3323 precursor RNA folds onto itself, forming GAM3323 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3323 precursor RNA, designated SEQ ID NO: 140734, and a schematic representation of a predicted secondary folding of GAM3323 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3323 folded precursor RNA yielding a GAM3323 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3323 RNA, hereby incorporated herein.

GAM3323 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3323 target RNA, herein designated GAM TARGET RNA. GAM3323 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3323 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3323 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3323 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3323 RNA, herein designated GAM RNA, to target binding sites on GAM3323 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3323 target RNA into GAM3323 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3323 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3323 target genes. The mRNA of each one of this plurality of GAM3323 target genes comprises one or more target binding sites, each having

a nucleotide sequence which is at least partly complementary to GAM3323 RNA, herein designated GAM RNA, and which when bound by GAM3323 RNA causes inhibition of translation of the GAM3323 target mRNA into a corresponding GAM3323 target protein.

The mechanism of the translational inhibition exerted by GAM3323 RNA, herein designated GAM RNA, on one or more GAM3323 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3323 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3323 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3323 RNA, herein designated GAM RNA, of GAM3323 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3323 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3323 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3323 RNA correlate with, and may be deduced from, the identity of the GAM3323 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3330 140735 CCTACATGTG Fig. 8 further provides a conceptual description of another novel bioinformatically
TTACACTCAG detected oligonucleotides of the present invention, referred to here as Genomic Address
TGTGTAAATA Messenger 3330 (GAM3330) oligonucleotides modulates expression of respective target genes
ACTGTGAAGA whose function and utility is known in the art.

GGCAATTGTC GAM3330 is a novel bioinformatically detectable regulatory, non protein coding,
AGATAGCAAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM3330 was detected is

TTGGGCACCT described with additional reference to Figs. 9-15.

GCTGTGTACG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTATATTGCA encoded by the human genome.

CTGGGGCTGA GAM3330 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3330
CGGGTGTGTA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3330

GG precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3330 precursor RNA is designated SEQ ID:140735, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140735 is located from position 62164417 to position 62164528 relative to chromosome chr20 on the `-` strand (chr is an abbreviation for chromosome).

GAM3330 precursor RNA folds onto itself, forming GAM3330 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3330 precursor RNA, designated SEQ ID NO: 140735, and a schematic representation of a predicted secondary folding of GAM3330 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3330 folded precursor RNA yielding a GAM3330 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3330 RNA, hereby incorporated herein.

GAM3330 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3330 target RNA, herein designated GAM TARGET RNA. GAM3330 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3330 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3330 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3330 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3330 RNA, herein designated GAM RNA, to target binding sites on GAM3330 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3330 target RNA into GAM3330 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3330 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3330 target genes. The mRNA of each one of this plurality of GAM3330 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3330 RNA, herein designated GAM RNA, and which when bound by GAM3330 RNA causes inhibition of translation of the GAM3330 target mRNA into a corresponding GAM3330 target protein.

The mechanism of the translational inhibition exerted by GAM3330 RNA, herein designated GAM RNA, on one or more GAM3330 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3330 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3330 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3330 RNA, herein designated GAM RNA, of GAM3330 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3330 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3330 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3330 RNA correlate with, and may be deduced from, the identity of the GAM3330 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3350 140736 GTTTTGACAA Fig. 8 further provides a conceptual description of another novel bioinformatically

ATGCAGATAC detected oligonucleotides of the present invention, referred to here as Genomic Address

ATGTGTAACT Messenger 3350 (GAM3350) oligonucleotides modulates expression of respective target genes

GAACTTATGA whose function and utility is known in the art.

CTTTCCTTAT GAM3350 is a novel bioinformatically detectable regulatory, non protein coding,

AGAAACTTCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM3350 was detected is

GAAAGTTCCC described with additional reference to Figs. 9-15.

TCATACCCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TATCTCAATC encoded by the human genome.

TTGTCACTAC GAM3350 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3350 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3350 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3350 precursor RNA is designated SEQ ID:140736, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140736 is located from position 9289824 to position 9289923 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM3350 precursor RNA folds onto itself, forming GAM3350 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3350 precursor RNA, designated SEQ ID NO: 140736, and a schematic representation of a predicted secondary folding of GAM3350 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3350 folded precursor RNA yielding a GAM3350 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3350 RNA, hereby incorporated herein.

GAM3350 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3350 target RNA, herein designated GAM TARGET RNA. GAM3350 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3350 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3350 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3350 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3350 RNA, herein designated GAM RNA, to target binding sites on GAM3350 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3350 target RNA into GAM3350 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3350 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3350 target genes. The mRNA of each one of this plurality of GAM3350 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3350 RNA, herein designated GAM RNA, and which when bound by GAM3350 RNA causes inhibition of translation of the GAM3350 target mRNA into a corresponding GAM3350 target protein.

The mechanism of the translational inhibition exerted by GAM3350 RNA, herein designated GAM RNA, on one or more GAM3350 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3350 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3350 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3350 RNA, herein designated GAM RNA, of GAM3350 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3350 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3350 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3350 RNA correlate with, and may be deduced from, the identity of the GAM3350 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3368 140737 TCAGATCAGT Fig. 8 further provides a conceptual description of another novel bioinformatically
AGTGACATGA detected oligonucleotides of the present invention, referred to here as Genomic Address
GATTTTCATA Messenger 3368 (GAM3368) oligonucleotides modulates expression of respective target genes
GGAGCAGAAA whose function and utility is known in the art.

CCCTATTGTG GAM3368 is a novel bioinformatically detectable regulatory, non protein coding,
AACTCCAAAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM3368 was detected is

ACAAGGGATC described with additional reference to Figs. 9-15.

TAGGTTATGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACTACTTATG encoded by the human genome.

AGAATCTAAT GAM3368 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3368

GCCTGATGAT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3368

CTGA precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3368 precursor RNA is designated SEQ ID:140737, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140737 is located from position 72291796 to position 72291909 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GAM3368 precursor RNA folds onto itself, forming GAM3368 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3368 precursor RNA, designated SEQ ID NO: 140737, and a schematic representation of a predicted secondary folding of GAM3368 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3368 folded precursor RNA yielding a GAM3368 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM3368 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3368 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM3368 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3368 target RNA, herein designated GAM TARGET RNA. GAM3368 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3368 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3368 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3368 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3368 RNA, herein designated GAM RNA, to target binding sites on GAM3368 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3368 target RNA into GAM3368 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3368 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3368 target genes. The mRNA of each one of this plurality of GAM3368 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3368 RNA, herein designated GAM RNA, and which when bound by GAM3368 RNA causes inhibition of translation of the GAM3368 target mRNA into a corresponding GAM3368 target protein.

The mechanism of the translational inhibition exerted by GAM3368 RNA, herein designated GAM RNA, on one or more GAM3368 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3368 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3368 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3368 RNA, herein designated GAM RNA, of GAM3368 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3368 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3368 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3368 RNA correlate with, and may be deduced from, the identity of the GAM3368 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3414 140738 ATGGCATGCA CGTGTTGGAA GTTAGTGGAG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 3414 (GAM3414) oligonucleotides modulates expression of respective target genes

GCTATCTCCC whose function and utility is known in the art.

CAGTGGTCAA GAM3414 is a novel bioinformatically detectable regulatory, non protein coding,
AGGAGGTCTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM3414 was detected is

GCTGGAGAAA described with additional reference to Figs. 9-15.

TTATATTTTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTAACTTGAA encoded by the human genome.

GCAGCAGCTG GAM3414 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3414
T precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3414

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3414 precursor RNA is designated SEQ ID:140738, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140738 is located from position 50214299 to position 50214399 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM3414 precursor RNA folds onto itself, forming GAM3414 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3414 precursor RNA, designated SEQ ID NO: 140738, and a schematic representation of a predicted secondary folding of GAM3414 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3414 folded precursor RNA yielding a GAM3414 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3414 RNA, hereby incorporated herein.

GAM3414 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3414 target RNA, herein designated GAM TARGET RNA. GAM3414 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3414 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3414 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3414 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3414 RNA, herein designated GAM RNA, to target binding sites on GAM3414 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3414 target RNA into GAM3414 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3414 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3414 target genes. The mRNA of each one of this plurality of GAM3414 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3414 RNA, herein designated GAM RNA, and which when bound by GAM3414 RNA causes inhibition of translation of the GAM3414 target mRNA into a corresponding GAM3414 target protein.

The mechanism of the translational inhibition exerted by GAM3414 RNA, herein designated GAM RNA, on one or more GAM3414 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3414 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3414 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3414 RNA, herein designated GAM RNA, of GAM3414 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3414 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3414 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3414 RNA correlate with, and may be deduced from, the identity of the GAM3414 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3422 140739 GGGGGACAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GCGAGACTCC detected oligonucleotides of the present invention, referred to here as Genomic Address

ATCTTTTCTG Messenger 3422 (GAM3422) oligonucleotides modulates expression of respective target genes

GGAGACTCCA whose function and utility is known in the art.

TTGGGAGACT GAM3422 is a novel bioinformatically detectable regulatory, non protein coding,

GTCTTTTTTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM3422 was detected is

GGAGACGGAG described with additional reference to Figs. 9-15.

TCGTGCCTTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTTTCCC encoded by the human genome.

GAM3422 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3422 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3422 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3422 precursor RNA is designated SEQ ID:140739, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140739 is located from position 122969346 to position 122969432 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM3422 precursor RNA folds onto itself, forming GAM3422 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3422 precursor RNA, designated SEQ ID NO: 140739, and a schematic representation of a predicted secondary folding of GAM3422 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3422 folded precursor RNA yielding a GAM3422 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3422 RNA, hereby incorporated herein.

GAM3422 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3422 target RNA, herein designated GAM TARGET RNA. GAM3422 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated

region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3422 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3422 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3422 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3422 RNA, herein designated GAM RNA, to target binding sites on GAM3422 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3422 target RNA into GAM3422 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3422 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3422 target genes. The mRNA of each one of this plurality of GAM3422 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3422 RNA, herein designated GAM RNA, and which when bound by GAM3422 RNA causes inhibition of translation of the GAM3422 target mRNA into a corresponding GAM3422 target protein.

The mechanism of the translational inhibition exerted by GAM3422 RNA, herein designated GAM RNA, on one or more GAM3422 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3422 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3422 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3422 RNA, herein designated GAM RNA, of GAM3422 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3422 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3422 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3422 RNA correlate with, and may be deduced from, the identity of the GAM3422 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3426 140740 ATCAATCACA Fig. 8 further provides a conceptual description of another novel bioinformatically

CTGGGTGACC detected oligonucleotides of the present invention, referred to here as Genomic Address

TTTACTCCCT Messenger 3426 (GAM3426) oligonucleotides modulates expression of respective target genes

GTCAGGTCAG whose function and utility is known in the art.

TAAGAGTCAC GAM3426 is a novel bioinformatically detectable regulatory, non protein coding,

CCAGTGTAAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM3426 was detected is

CAGCATGAT described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM3426 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3426

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3426

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3426 precursor RNA is designated SEQ ID:140740, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140740 is located from position 98551385 to position 98551453 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM3426 precursor RNA folds onto itself, forming GAM3426 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3426 precursor RNA, designated SEQ ID NO: 140740, and a schematic representation of a predicted secondary folding of GAM3426 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3426 folded precursor RNA yielding a GAM3426 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3426 RNA, hereby incorporated herein.

GAM3426 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3426 target RNA, herein designated GAM TARGET RNA. GAM3426 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3426 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3426 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3426 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3426 RNA, herein designated GAM RNA, to target binding sites on GAM3426 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3426 target RNA into GAM3426 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3426 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3426 target genes. The mRNA of each one of this plurality of GAM3426 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3426 RNA, herein designated GAM RNA, and which when bound by GAM3426 RNA causes inhibition of translation of the GAM3426 target mRNA into a corresponding GAM3426 target protein.

The mechanism of the translational inhibition exerted by GAM3426 RNA, herein designated GAM RNA, on one or more GAM3426 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3426 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3426 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3426 RNA, herein designated GAM RNA, of GAM3426 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM3426 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3426 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3426 RNA correlate with, and may be deduced from, the identity of the GAM3426 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3431 140741 GGGCGGGGGC Fig. 8 further provides a conceptual description of another novel bioinformatically
CCTCGTCTTA detected oligonucleotides of the present invention, referred to here as Genomic Address
CCCAGCAGTG Messenger 3431 (GAM3431) oligonucleotides modulates expression of respective target genes
TTTGGGTGCG whose function and utility is known in the art.

GTTGGGAGTC GAM3431 is a novel bioinformatically detectable regulatory, non protein coding,
TCTAATACTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM3431 was detected is

CCGGGTAATG described with additional reference to Figs. 9-15.

ATGGAGGCCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTGTCC encoded by the human genome.

GAM3431 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3431

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3431
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3431 precursor RNA is designated SEQ ID:140741, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140741 is located from position 6952114 to position 6952199 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM3431 precursor RNA folds onto itself, forming GAM3431 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3431 precursor RNA, designated SEQ ID NO: 140741, and a schematic representation of a predicted secondary folding of GAM3431 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3431 folded precursor RNA yielding a GAM3431 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt

long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3431 RNA, hereby incorporated herein. Expression of GAM3431 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM3431 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3431 target RNA, herein designated GAM TARGET RNA. GAM3431 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3431 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3431 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3431 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3431 RNA, herein designated GAM RNA, to target binding sites on GAM3431 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3431 target RNA into GAM3431 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3431 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3431 target genes. The mRNA of each one of this plurality of GAM3431 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3431 RNA, herein designated GAM RNA, and which when bound by GAM3431 RNA causes inhibition of translation of the GAM3431 target mRNA into a corresponding GAM3431 target protein.

The mechanism of the translational inhibition exerted by GAM3431 RNA, herein designated GAM RNA, on one or more GAM3431 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3431 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3431 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3431 RNA, herein designated GAM RNA, of GAM3431 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3431 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3431 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3431 RNA correlate with, and may be deduced from, the identity of the GAM3431 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3452 140742 ACTCCAGCCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GGCCTCTGAC detected oligonucleotides of the present invention, referred to here as Genomic Address

CCCAGTTCAA Messenger 3452 (GAM3452) oligonucleotides modulates expression of respective target genes

TCCGACCATG whose function and utility is known in the art.

CCCAAGCCCA GAM3452 is a novel bioinformatically detectable regulatory, non protein coding,

AGCGGGCCTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM3452 was detected is

TCCTCCAGAA described with additional reference to Figs. 9-15.

CTGCTCCGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCCTGGCTGT encoded by the human genome.

GT GAM3452 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3452

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3452

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3452 precursor RNA is designated SEQ ID:140742, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140742 is located from position 124136937 to position 124137028 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM3452 precursor RNA folds onto itself, forming GAM3452 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3452 precursor RNA, designated SEQ ID NO: 140742, and a schematic representation of a predicted secondary folding of GAM3452 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3452 folded precursor RNA yielding a GAM3452 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM3452 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3452 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM3452 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3452 target RNA, herein designated GAM TARGET RNA. GAM3452 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3452 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3452 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3452 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3452 RNA, herein designated GAM RNA, to target binding sites on GAM3452 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3452 target RNA into GAM3452 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3452 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3452 target genes. The mRNA of each one of this plurality of GAM3452 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3452 RNA, herein designated GAM RNA, and which when bound by GAM3452 RNA causes inhibition of translation of the GAM3452 target mRNA into a corresponding GAM3452 target protein.

The mechanism of the translational inhibition exerted by GAM3452 RNA, herein designated GAM RNA, on one or more GAM3452 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3452 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3452 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3452 RNA, herein designated GAM RNA, of GAM3452 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3452 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3452 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3452 RNA correlate with, and may be deduced from, the identity of the GAM3452 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3461 140743 CACCTGCCTA Fig. 8 further provides a conceptual description of another novel bioinformatically

TATTACATTC detected oligonucleotides of the present invention, referred to here as Genomic Address

ATTTTGATGG Messenger 3461 (GAM3461) oligonucleotides modulates expression of respective target genes

TTTGTATCTC whose function and utility is known in the art.

AAAGGAGTAC GAM3461 is a novel bioinformatically detectable regulatory, non protein coding,

AGTGAACGAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM3461 was detected is

ACTTGTTTAA described with additional reference to Figs. 9-15.

AGATACACCG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAAAGAAAAA encoded by the human genome.

GAGAAGAGGC GAM3461 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3461

AGAGTG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3461

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3461 precursor RNA is designated SEQ ID:140743, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140743 is located from position 88520252 to position 88520357 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM3461 precursor RNA folds onto itself, forming GAM3461 folded precursor RNA,

herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3461 precursor RNA, designated SEQ ID NO: 140743, and a schematic representation of a predicted secondary folding of GAM3461 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3461 folded precursor RNA yielding a GAM3461 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3461 RNA, hereby incorporated herein.

GAM3461 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3461 target RNA, herein designated GAM TARGET RNA. GAM3461 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3461 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3461 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3461 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3461 RNA, herein designated GAM RNA, to target binding sites on GAM3461 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3461 target RNA into GAM3461 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3461 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3461 target genes. The mRNA of each one of this plurality of GAM3461 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3461 RNA, herein designated GAM RNA, and which when bound by GAM3461 RNA causes inhibition of translation of the GAM3461 target mRNA into a corresponding GAM3461 target protein.

The mechanism of the translational inhibition exerted by GAM3461 RNA, herein designated GAM RNA, on one or more GAM3461 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3461 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3461 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3461 RNA, herein designated GAM RNA, of GAM3461 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3461 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3461 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3461 RNA correlate with, and may be deduced from, the identity of the GAM3461 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3463 140744 GGGATGGAAA Fig. 8 further provides a conceptual description of another novel bioinformatically

ATGCAGACAC detected oligonucleotides of the present invention, referred to here as Genomic Address

AATATAGCAA Messenger 3463 (GAM3463) oligonucleotides modulates expression of respective target genes

ATAGAGGGTC whose function and utility is known in the art.

TTTTCCTGTC GAM3463 is a novel bioinformatically detectable regulatory, non protein coding,

ATGGAAATCG micro RNA (miRNA)-like oligonucleotide. The method by which GAM3463 was detected is

GTCAGCCCTG described with additional reference to Figs. 9-15.

ATGCTTCTGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATTTCTTTCC encoded by the human genome.

C GAM3463 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3463

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3463

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3463 precursor RNA is designated SEQ ID:140744, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140744 is located from position 131571664 to position 131571754 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM3463 precursor RNA folds onto itself, forming GAM3463 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3463 precursor RNA, designated SEQ ID NO: 140744, and a schematic representation of a predicted secondary folding of GAM3463 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3463 folded precursor RNA yielding a GAM3463 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3463 RNA, hereby incorporated herein.

GAM3463 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3463 target RNA, herein designated GAM TARGET RNA. GAM3463 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3463 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3463 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3463 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3463 RNA, herein designated GAM RNA, to target binding sites on GAM3463 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3463 target RNA into GAM3463 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3463 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM3463 target genes. The mRNA of each one of this plurality of GAM3463 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3463 RNA, herein designated GAM RNA, and which when bound by GAM3463 RNA causes inhibition of translation of the GAM3463 target mRNA into a corresponding GAM3463 target protein.

The mechanism of the translational inhibition exerted by GAM3463 RNA, herein designated GAM RNA, on one or more GAM3463 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3463 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3463 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3463 RNA, herein designated GAM RNA, of GAM3463 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3463 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3463 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3463 RNA correlate with, and may be deduced from, the identity of the GAM3463 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3479 140745 GTCCATCTTC Fig. 8 further provides a conceptual description of another novel bioinformatically
AGTGGCATTG detected oligonucleotides of the present invention, referred to here as Genomic Address
GGCCTTGGCT Messenger 3479 (GAM3479) oligonucleotides modulates expression of respective target genes
GGGATGCTGA whose function and utility is known in the art.

GTTATCCACT GAM3479 is a novel bioinformatically detectable regulatory, non protein coding,
GGAGCATCGG micro RNA (miRNA)-like oligonucleotide. The method by which GAM3479 was detected is

CAGTACAGGC described with additional reference to Figs. 9-15.

AGGCACAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCAGTGGATC encoded by the human genome.

CATCGGAGGT GAM3479 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3479

GGC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3479 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3479 precursor RNA is designated SEQ ID:140745, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140745 is located from position 69762451 to position 69762553 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM3479 precursor RNA folds onto itself, forming GAM3479 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3479 precursor RNA, designated SEQ ID NO: 140745, and a schematic representation of a predicted secondary folding of GAM3479 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3479 folded precursor RNA yielding a GAM3479 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3479 RNA, hereby incorporated herein.

GAM3479 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3479 target RNA, herein designated GAM TARGET RNA. GAM3479 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3479 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3479 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3479 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3479 RNA, herein designated GAM RNA, to target binding sites on GAM3479 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3479 target RNA

into GAM3479 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3479 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3479 target genes. The mRNA of each one of this plurality of GAM3479 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3479 RNA, herein designated GAM RNA, and which when bound by GAM3479 RNA causes inhibition of translation of the GAM3479 target mRNA into a corresponding GAM3479 target protein.

The mechanism of the translational inhibition exerted by GAM3479 RNA, herein designated GAM RNA, on one or more GAM3479 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3479 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3479 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3479 RNA, herein designated GAM RNA, of GAM3479 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3479 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3479 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3479 RNA correlate with, and may be deduced from, the identity of the GAM3479 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3486 140746 CCAGTTCTCC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTTAGTGTTC detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGCTCAAAT Messenger 3486 (GAM3486) oligonucleotides modulates expression of respective target genes

GAAAGGCCAC whose function and utility is known in the art.

TTTCAGCAAG GAM3486 is a novel bioinformatically detectable regulatory, non protein coding,

TTTTCCTGAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM3486 was detected is

ATTGTCGGAG described with additional reference to Figs. 9-15.

ACTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM3486 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3486 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3486 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3486 precursor RNA is designated SEQ ID:140746, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140746 is located from position 59248137 to position 59248211 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM3486 precursor RNA folds onto itself, forming GAM3486 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3486 precursor RNA, designated SEQ ID NO: 140746, and a schematic representation of a predicted secondary folding of GAM3486 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3486 folded precursor RNA yielding a GAM3486 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM3486 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3486 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM3486 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3486 target RNA, herein designated GAM TARGET RNA. GAM3486 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3486 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3486 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3486 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3486 RNA, herein designated GAM RNA, to target binding sites on GAM3486 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3486 target RNA into GAM3486 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3486 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3486 target genes. The mRNA of each one of this plurality of GAM3486 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3486 RNA, herein designated GAM RNA, and which when bound by GAM3486 RNA causes inhibition of translation of the GAM3486 target mRNA into a corresponding GAM3486 target protein.

The mechanism of the translational inhibition exerted by GAM3486 RNA, herein designated GAM RNA, on one or more GAM3486 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3486 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3486 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3486 RNA, herein designated GAM RNA, of GAM3486 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3486 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3486 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3486 RNA correlate with, and may be deduced from, the identity of the GAM3486 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3487 140747 TGGAAACTTT TGGCTGTGGG GACCCCATTT CACTGATGAT TGAATGGGTC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 3487 (GAM3487) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM3487 is a novel bioinformatically detectable regulatory, non protein coding,

CACCTCTGTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM3487 was detected is AAAGGAATTC described with additional reference to Figs. 9-15.

A GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM3487 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3487 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3487 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3487 precursor RNA is designated SEQ ID:140747, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140747 is located from position 2260320 to position 2260390 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM3487 precursor RNA folds onto itself, forming GAM3487 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3487 precursor RNA, designated SEQ ID NO: 140747, and a schematic representation of a predicted secondary folding of GAM3487 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3487 folded precursor RNA yielding a GAM3487 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM3487 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3487 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM3487 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3487 target RNA, herein designated GAM TARGET RNA. GAM3487 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3487 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3487 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3487 RNA is a partial or fully complementary sequence of the

nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3487 RNA, herein designated GAM RNA, to target binding sites on GAM3487 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3487 target RNA into GAM3487 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3487 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3487 target genes. The mRNA of each one of this plurality of GAM3487 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3487 RNA, herein designated GAM RNA, and which when bound by GAM3487 RNA causes inhibition of translation of the GAM3487 target mRNA into a corresponding GAM3487 target protein.

The mechanism of the translational inhibition exerted by GAM3487 RNA, herein designated GAM RNA, on one or more GAM3487 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3487 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3487 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3487 RNA, herein designated GAM RNA, of GAM3487 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3487 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3487 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3487 RNA correlate with, and may be deduced from, the identity of the GAM3487 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3494 140748 AATACACACA Fig. 8 further provides a conceptual description of another novel bioinformatically

TATCAGAGTA detected oligonucleotides of the present invention, referred to here as Genomic Address
CTGTGATAGA Messenger 3494 (GAM3494) oligonucleotides modulates expression of respective target genes
CTCAGATAAA whose function and utility is known in the art.

ATGATACAAA GAM3494 is a novel bioinformatically detectable regulatory, non protein coding,
TTATAGTGTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM3494 was detected is

CTAACTATGT described with additional reference to Figs. 9-15.

CAAATGTGTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM3494 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3494

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3494
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3494 precursor RNA is designated SEQ ID:140748, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140748 is located from position 113157626 to position 113157705 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM3494 precursor RNA folds onto itself, forming GAM3494 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3494 precursor RNA, designated SEQ ID NO: 140748, and a schematic representation of a predicted secondary folding of GAM3494 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3494 folded precursor RNA yielding a GAM3494 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3494 RNA, hereby incorporated herein.

GAM3494 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3494 target RNA, herein designated GAM TARGET RNA. GAM3494 target RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3494 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3494 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3494 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3494 RNA, herein designated GAM RNA, to target binding sites on GAM3494 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3494 target RNA into GAM3494 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3494 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3494 target genes. The mRNA of each one of this plurality of GAM3494 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3494 RNA, herein designated GAM RNA, and which when bound by GAM3494 RNA causes inhibition of translation of the GAM3494 target mRNA into a corresponding GAM3494 target protein.

The mechanism of the translational inhibition exerted by GAM3494 RNA, herein designated GAM RNA, on one or more GAM3494 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3494 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3494 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3494 RNA, herein designated GAM RNA, of GAM3494 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3494 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3494 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3494 RNA correlate with, and may be deduced from, the identity of the GAM3494 target gene inhibited

thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3513 140749 GAAATGGAGT Fig. 8 further provides a conceptual description of another novel bioinformatically
CTTGCTTTGT detected oligonucleotides of the present invention, referred to here as Genomic Address
CACCGAGGCT Messenger 3513 (GAM3513) oligonucleotides modulates expression of respective target genes
GGAGTGCAGT whose function and utility is known in the art.

GGCATGATCT GAM3513 is a novel bioinformatically detectable regulatory, non protein coding,
CTGCTCACTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM3513 was detected is

CAAGCTCCAC described with additional reference to Figs. 9-15.

CTCCCGGGTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CACGCCATTC encoded by the human genome.

TCCTGCCTC GAM3513 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3513
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3513
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3513 precursor RNA is designated SEQ ID:140749, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140749 is located from position 130044291 to position 130044389 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM3513 precursor RNA folds onto itself, forming GAM3513 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3513 precursor RNA, designated SEQ ID NO: 140749, and a schematic representation of a predicted secondary folding of GAM3513 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3513 folded precursor RNA yielding a GAM3513 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3513 RNA, hereby incorporated herein.

GAM3513 target gene, herein designated GAM TARGET GENE, encodes a corresponding

messenger RNA, GAM3513 target RNA, herein designated GAM TARGET RNA. GAM3513 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3513 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3513 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3513 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3513 RNA, herein designated GAM RNA, to target binding sites on GAM3513 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3513 target RNA into GAM3513 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3513 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3513 target genes. The mRNA of each one of this plurality of GAM3513 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3513 RNA, herein designated GAM RNA, and which when bound by GAM3513 RNA causes inhibition of translation of the GAM3513 target mRNA into a corresponding GAM3513 target protein.

The mechanism of the translational inhibition exerted by GAM3513 RNA, herein designated GAM RNA, on one or more GAM3513 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3513 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3513 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3513 RNA, herein designated GAM RNA, of GAM3513 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3513 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target

binding sites to GAM3513 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3513 RNA correlate with, and may be deduced from, the identity of the GAM3513 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3535 140750 CTTTTTCTCT Fig. 8 further provides a conceptual description of another novel bioinformatically
GCCCTTCGTC detected oligonucleotides of the present invention, referred to here as Genomic Address
ATTATGCAGC Messenger 3535 (GAM3535) oligonucleotides modulates expression of respective target genes
CTGTGAACAG whose function and utility is known in the art.

CGTCTGGGAA GAM3535 is a novel bioinformatically detectable regulatory, non protein coding,
AGTGGTGGTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM3535 was detected is

ATTGGTTGCA described with additional reference to Figs. 9-15.

TAATTTGATC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGAGGCTTAT encoded by the human genome.

GGAGGAAAGG GAM3535 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3535
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3535
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3535 precursor RNA is designated SEQ ID:140750, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140750 is located from position 22420611 to position 22420710 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM3535 precursor RNA folds onto itself, forming GAM3535 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3535 precursor RNA, designated SEQ ID NO: 140750, and a schematic representation of a predicted secondary folding of GAM3535 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3535 folded precursor RNA yielding a GAM3535 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an

enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3535 RNA, hereby incorporated herein.

GAM3535 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3535 target RNA, herein designated GAM TARGET RNA. GAM3535 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3535 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3535 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3535 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3535 RNA, herein designated GAM RNA, to target binding sites on GAM3535 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3535 target RNA into GAM3535 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3535 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3535 target genes. The mRNA of each one of this plurality of GAM3535 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3535 RNA, herein designated GAM RNA, and which when bound by GAM3535 RNA causes inhibition of translation of the GAM3535 target mRNA into a corresponding GAM3535 target protein.

The mechanism of the translational inhibition exerted by GAM3535 RNA, herein designated GAM RNA, on one or more GAM3535 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3535 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3535 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3535 RNA, herein designated GAM RNA, of GAM3535 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3535 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3535 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3535 RNA correlate with, and may be deduced from, the identity of the GAM3535 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3564 140751 TAGAAATTTA Fig. 8 further provides a conceptual description of another novel bioinformatically
CCAGAGATAG detected oligonucleotides of the present invention, referred to here as Genomic Address
CACCTTCTGA Messenger 3564 (GAM3564) oligonucleotides modulates expression of respective target genes
CCCAGTGCAG whose function and utility is known in the art.

ATTGGACGGT GAM3564 is a novel bioinformatically detectable regulatory, non protein coding,
TAATTGGTAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM3564 was detected is

GTTGGAGTTG described with additional reference to Figs. 9-15.

AGTCTCACGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGAAACAGAA encoded by the human genome.

TGAAGTGCTT GAM3564 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3564
CCTGGAGCTA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3564
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3564 precursor RNA is designated SEQ ID:140751, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140751 is located from position 94797902 to position 94798011 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GAM3564 precursor RNA folds onto itself, forming GAM3564 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3564 precursor RNA, designated SEQ ID NO: 140751, and a schematic representation of a predicted secondary folding of GAM3564 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3564 folded precursor RNA yielding a GAM3564 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3564 RNA, hereby incorporated herein.

GAM3564 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3564 target RNA, herein designated GAM TARGET RNA. GAM3564 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3564 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3564 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3564 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3564 RNA, herein designated GAM RNA, to target binding sites on GAM3564 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3564 target RNA into GAM3564 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3564 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3564 target genes. The mRNA of each one of this plurality of GAM3564 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3564 RNA, herein designated GAM RNA, and which when bound by GAM3564 RNA causes inhibition of translation of the GAM3564 target mRNA into a corresponding GAM3564 target protein.

The mechanism of the translational inhibition exerted by GAM3564 RNA, herein designated GAM RNA, on one or more GAM3564 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3564 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3564 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3564 RNA, herein designated GAM RNA, of GAM3564 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3564 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3564 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3564 RNA correlate with, and may be deduced from, the identity of the GAM3564 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3593 140752 AGTTCTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 3593 (GAM3593) oligonucleotides modulates expression of respective target genes

GTTTGTTACA whose function and utility is known in the art.

TAGGTATACA GAM3593 is a novel bioinformatically detectable regulatory, non protein coding,

TGTGCTATGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM3593 was detected is

TGGTGTGCTG described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM3593 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3593

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3593

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3593 precursor RNA is designated SEQ ID:140752, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140752 is located from position 190505666 to position 190505747 relative to chromosome chr3 on the `+` strand (chr is an abbreviation for chromosome).

GAM3593 precursor RNA folds onto itself, forming GAM3593 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3593 precursor RNA, designated SEQ ID NO: 140752, and a schematic representation of a predicted secondary folding of GAM3593 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3593 folded precursor RNA yielding a GAM3593 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3593 RNA, hereby incorporated herein.

GAM3593 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3593 target RNA, herein designated GAM TARGET RNA. GAM3593 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3593 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3593 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3593 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3593 RNA, herein designated GAM RNA, to target binding sites on GAM3593 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3593 target RNA into GAM3593 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3593 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3593 target genes. The mRNA of each one of this plurality of GAM3593 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3593 RNA, herein designated GAM RNA, and which when bound by GAM3593 RNA causes inhibition of translation of the GAM3593 target mRNA into a corresponding GAM3593 target protein.

The mechanism of the translational inhibition exerted by GAM3593 RNA, herein designated GAM RNA, on one or more GAM3593 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3593 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3593 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3593 RNA, herein designated GAM RNA, of GAM3593 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3593 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3593 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3593 RNA correlate with, and may be deduced from, the identity of the GAM3593 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3595 140753 AGAGTCTTGA Fig. 8 further provides a conceptual description of another novel bioinformatically

TCTGTCACCC detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGCTGCAGT Messenger 3595 (GAM3595) oligonucleotides modulates expression of respective target genes

GTAGTGGCAT whose function and utility is known in the art.

GATCTCGGCT GAM3595 is a novel bioinformatically detectable regulatory, non protein coding,

CACTGCAACC micro RNA (miRNA)-like oligonucleotide. The method by which GAM3595 was detected is

CCCGCCTCCT described with additional reference to Figs. 9-15.

GGGTTCAAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CATTCT encoded by the human genome.

GAM3595 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3595

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3595

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3595 precursor RNA is designated SEQ ID:140753, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140753 is located from position 79670251 to position 79670336 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM3595 precursor RNA folds onto itself, forming GAM3595 folded precursor RNA,

herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3595 precursor RNA, designated SEQ ID NO: 140753, and a schematic representation of a predicted secondary folding of GAM3595 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3595 folded precursor RNA yielding a GAM3595 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3595 RNA, hereby incorporated herein.

GAM3595 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3595 target RNA, herein designated GAM TARGET RNA. GAM3595 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3595 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3595 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3595 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3595 RNA, herein designated GAM RNA, to target binding sites on GAM3595 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3595 target RNA into GAM3595 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3595 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3595 target genes. The mRNA of each one of this plurality of GAM3595 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3595 RNA, herein designated GAM RNA, and which when bound by GAM3595 RNA causes inhibition of translation of the GAM3595 target mRNA into a corresponding GAM3595 target protein.

The mechanism of the translational inhibition exerted by GAM3595 RNA, herein designated GAM RNA, on one or more GAM3595 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3595 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3595 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3595 RNA, herein designated GAM RNA, of GAM3595 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3595 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3595 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3595 RNA correlate with, and may be deduced from, the identity of the GAM3595 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3605 140754 CGGACCCTGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TGTGAGCAGC detected oligonucleotides of the present invention, referred to here as Genomic Address

TCCCTATTCC Messenger 3605 (GAM3605) oligonucleotides modulates expression of respective target genes

ATGACAGTGT whose function and utility is known in the art.

GTTGAGCTCT GAM3605 is a novel bioinformatically detectable regulatory, non protein coding,

CCATTGTCAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM3605 was detected is

AGGCTGGTAG described with additional reference to Figs. 9-15.

GGTGTTCAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TAGAGGTGCC encoded by the human genome.

G GAM3605 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3605

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3605

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3605 precursor RNA is designated SEQ ID:140754, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140754 is located from position 30275106 to position 30275196 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM3605 precursor RNA folds onto itself, forming GAM3605 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3605 precursor RNA, designated SEQ ID NO: 140754, and a schematic representation of a predicted secondary folding of GAM3605 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3605 folded precursor RNA yielding a GAM3605 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM3605 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3605 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM3605 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3605 target RNA, herein designated GAM TARGET RNA. GAM3605 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3605 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3605 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3605 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3605 RNA, herein designated GAM RNA, to target binding sites on GAM3605 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3605 target RNA into GAM3605 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3605 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3605 target genes. The mRNA of each one of this plurality of GAM3605 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3605 RNA, herein designated GAM RNA, and which when bound by GAM3605 RNA causes inhibition of translation of the GAM3605 target mRNA into a corresponding GAM3605 target protein.

The mechanism of the translational inhibition exerted by GAM3605 RNA, herein designated GAM RNA, on one or more GAM3605 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3605 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3605 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3605 RNA, herein designated GAM RNA, of GAM3605 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3605 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3605 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3605 RNA correlate with, and may be deduced from, the identity of the GAM3605 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3630 140755 GTCTATTATG Fig. 8 further provides a conceptual description of another novel bioinformatically
AGTCTGACTG detected oligonucleotides of the present invention, referred to here as Genomic Address
GCACAGACAT Messenger 3630 (GAM3630) oligonucleotides modulates expression of respective target genes
CTGTCAAGGA whose function and utility is known in the art.

AGAAGGATTC GAM3630 is a novel bioinformatically detectable regulatory, non protein coding,
TTTGAGCGTA micro RNA (miRNA)-like oligonucleotide. The method by which GAM3630 was detected is

TTTGTGTCAG described with additional reference to Figs. 9-15.

TCAACTGCAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATATGGAC encoded by the human genome.

GAM3630 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3630 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3630 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3630 precursor RNA is designated SEQ ID:140755, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140755 is located from position 78654898 to position 78654985 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM3630 precursor RNA folds onto itself, forming GAM3630 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3630 precursor RNA, designated SEQ ID NO: 140755, and a schematic representation of a predicted secondary folding of GAM3630 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3630 folded precursor RNA yielding a GAM3630 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3630 RNA, hereby incorporated herein.

GAM3630 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3630 target RNA, herein designated GAM TARGET RNA. GAM3630 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3630 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3630 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3630 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3630 RNA, herein designated GAM RNA, to target

binding sites on GAM3630 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3630 target RNA into GAM3630 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3630 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3630 target genes. The mRNA of each one of this plurality of GAM3630 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3630 RNA, herein designated GAM RNA, and which when bound by GAM3630 RNA causes inhibition of translation of the GAM3630 target mRNA into a corresponding GAM3630 target protein.

The mechanism of the translational inhibition exerted by GAM3630 RNA, herein designated GAM RNA, on one or more GAM3630 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3630 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3630 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3630 RNA, herein designated GAM RNA, of GAM3630 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3630 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3630 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3630 RNA correlate with, and may be deduced from, the identity of the GAM3630 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3640 140756 GGTTTCCTGG Fig. 8 further provides a conceptual description of another novel bioinformatically

AACTTTGGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GATCATTATA Messenger 3640 (GAM3640) oligonucleotides modulates expression of respective target genes

AAAATACTAG whose function and utility is known in the art.

GGTAAAAAAG GAM3640 is a novel bioinformatically detectable regulatory, non protein coding,

CAACCTTAGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM3640 was detected is

AATCCCAGCA described with additional reference to Figs. 9-15.

ATTTGGGAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CC encoded by the human genome.

GAM3640 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3640 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3640 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3640 precursor RNA is designated SEQ ID:140756, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140756 is located from position 47669037 to position 47669118 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM3640 precursor RNA folds onto itself, forming GAM3640 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3640 precursor RNA, designated SEQ ID NO: 140756, and a schematic representation of a predicted secondary folding of GAM3640 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3640 folded precursor RNA yielding a GAM3640 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3640 RNA, hereby incorporated herein.

GAM3640 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3640 target RNA, herein designated GAM TARGET RNA. GAM3640 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3640 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3640 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3640 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3640 RNA, herein designated GAM RNA, to target binding sites on GAM3640 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3640 target RNA into GAM3640 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3640 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3640 target genes. The mRNA of each one of this plurality of GAM3640 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3640 RNA, herein designated GAM RNA, and which when bound by GAM3640 RNA causes inhibition of translation of the GAM3640 target mRNA into a corresponding GAM3640 target protein.

The mechanism of the translational inhibition exerted by GAM3640 RNA, herein designated GAM RNA, on one or more GAM3640 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3640 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3640 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3640 RNA, herein designated GAM RNA, of GAM3640 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3640 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3640 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3640 RNA correlate with, and may be deduced from, the identity of the GAM3640 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3646 140757 CCATCTGCCA ATTCCTCAGG AGGACAGAAC AAACCAGTGA Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 3646 (GAM3646) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GGCATGAAGA GAM3646 is a novel bioinformatically detectable regulatory, non protein coding, TTAGATTATG micro RNA (miRNA)-like oligonucleotide. The method by which GAM3646 was detected is

TAACGCTCGA described with additional reference to Figs. 9-15.

GGATTGCTGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTTCAAAGAG encoded by the human genome.

GAAACAAATG GAM3646 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3646

G precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3646

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3646 precursor RNA is designated SEQ ID:140757, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140757 is located from position 120850862 to position 120850962 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM3646 precursor RNA folds onto itself, forming GAM3646 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3646 precursor RNA, designated SEQ ID NO: 140757, and a schematic representation of a predicted secondary folding of GAM3646 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3646 folded precursor RNA yielding a GAM3646 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM3646 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3646 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM3646 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3646 target RNA, herein designated GAM TARGET RNA. GAM3646 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3646 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3646 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3646 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3646 RNA, herein designated GAM RNA, to target binding sites on GAM3646 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3646 target RNA into GAM3646 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3646 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3646 target genes. The mRNA of each one of this plurality of GAM3646 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3646 RNA, herein designated GAM RNA, and which when bound by GAM3646 RNA causes inhibition of translation of the GAM3646 target mRNA into a corresponding GAM3646 target protein.

The mechanism of the translational inhibition exerted by GAM3646 RNA, herein designated GAM RNA, on one or more GAM3646 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3646 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3646 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3646 RNA, herein designated GAM RNA, of GAM3646 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3646 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3646 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3646 RNA correlate with, and may be deduced from, the identity of the GAM3646 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3666 140758 GCTCACAAAA Fig. 8 further provides a conceptual description of another novel bioinformatically
CCTAGGTGGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GATGAAAGCT Messenger 3666 (GAM3666) oligonucleotides modulates expression of respective target genes
GAGAAAGCGA whose function and utility is known in the art.

AGAGGTGGTT GAM3666 is a novel bioinformatically detectable regulatory, non protein coding,
CAGGGGATCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM3666 was detected is

CTCTTTCCTA described with additional reference to Figs. 9-15.

CTTGTTCCTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCACCTCAAA encoded by the human genome.

CTCACCTTCT GAM3666 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3666
ACTGCACAGC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3666
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3666 precursor RNA is designated SEQ ID:140758, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140758 is located from position 143019237 to position 143019346 relative to chromosome chr1 on the `+` strand (chr is an abbreviation for chromosome).

GAM3666 precursor RNA folds onto itself, forming GAM3666 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3666 precursor RNA, designated SEQ ID NO: 140758, and a schematic representation of a predicted secondary folding of GAM3666 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3666 folded precursor RNA yielding a GAM3666 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM3666 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3666 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM3666 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3666 target RNA, herein designated GAM TARGET RNA. GAM3666 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3666 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3666 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3666 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3666 RNA, herein designated GAM RNA, to target binding sites on GAM3666 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3666 target RNA into GAM3666 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3666 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3666 target genes. The mRNA of each one of this plurality of GAM3666 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3666 RNA, herein designated GAM RNA, and which when bound by GAM3666 RNA causes inhibition of translation of the GAM3666 target mRNA into a corresponding GAM3666 target protein.

The mechanism of the translational inhibition exerted by GAM3666 RNA, herein designated GAM RNA, on one or more GAM3666 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3666 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3666 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3666 RNA, herein designated GAM RNA, of GAM3666 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3666 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3666 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3666 RNA correlate with, and may be deduced from, the identity of the GAM3666 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3691 140759 CTGAATGACC Fig. 8 further provides a conceptual description of another novel bioinformatically
TGCAGTCAGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GCCCAGAGTT Messenger 3691 (GAM3691) oligonucleotides modulates expression of respective target genes
GGGACTCTAT whose function and utility is known in the art.

ACTACCCTGG GAM3691 is a novel bioinformatically detectable regulatory, non protein coding,
GCTCTGGTCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM3691 was detected is

GTAGGTTTGT described with additional reference to Figs. 9-15.

AG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM3691 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3691

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3691
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3691 precursor RNA is designated SEQ ID:140759, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140759 is located from position 8085889 to position 8085960 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM3691 precursor RNA folds onto itself, forming GAM3691 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3691 precursor RNA, designated SEQ ID NO: 140759, and a schematic representation of a predicted secondary folding of GAM3691 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3691 folded precursor RNA yielding a GAM3691 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM3691 RNA: a nucleotide sequence that is highly

likely to be identical or highly similar to the nucleotide sequence of GAM3691 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM3691 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3691 target RNA, herein designated GAM TARGET RNA. GAM3691 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3691 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3691 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3691 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3691 RNA, herein designated GAM RNA, to target binding sites on GAM3691 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3691 target RNA into GAM3691 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3691 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3691 target genes. The mRNA of each one of this plurality of GAM3691 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3691 RNA, herein designated GAM RNA, and which when bound by GAM3691 RNA causes inhibition of translation of the GAM3691 target mRNA into a corresponding GAM3691 target protein.

The mechanism of the translational inhibition exerted by GAM3691 RNA, herein designated GAM RNA, on one or more GAM3691 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3691 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3691 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3691 RNA, herein designated GAM RNA, of GAM3691 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3691 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3691 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3691 RNA correlate with, and may be deduced from, the identity of the GAM3691 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3712 140760 TGCCCACATT Fig. 8 further provides a conceptual description of another novel bioinformatically
CCTGTTAGCT detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGTCACCT Messenger 3712 (GAM3712) oligonucleotides modulates expression of respective target genes
GACTCTGCTT whose function and utility is known in the art.

GTCGTTTTTG GAM3712 is a novel bioinformatically detectable regulatory, non protein coding,
CACAGGCAGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM3712 was detected is

CGTGTGCATT described with additional reference to Figs. 9-15.

CTGGAGAGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGGAGTGAGT encoded by the human genome.

G GAM3712 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3712
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3712
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3712 precursor RNA is designated SEQ ID:140760, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140760 is located from position 129765258 to position 129765348 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM3712 precursor RNA folds onto itself, forming GAM3712 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3712 precursor RNA, designated SEQ ID NO: 140760, and a schematic representation of a predicted secondary folding of GAM3712 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3712 folded precursor RNA yielding a GAM3712 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3712 RNA, hereby incorporated herein.

GAM3712 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3712 target RNA, herein designated GAM TARGET RNA. GAM3712 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3712 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3712 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3712 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3712 RNA, herein designated GAM RNA, to target binding sites on GAM3712 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3712 target RNA into GAM3712 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3712 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3712 target genes. The mRNA of each one of this plurality of GAM3712 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3712 RNA, herein designated GAM RNA, and which when bound by GAM3712 RNA causes inhibition of translation of the GAM3712 target mRNA into a corresponding GAM3712 target protein.

The mechanism of the translational inhibition exerted by GAM3712 RNA, herein designated GAM RNA, on one or more GAM3712 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3712 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3712 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3712 RNA, herein designated GAM RNA, of GAM3712 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3712 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3712 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3712 RNA correlate with, and may be deduced from, the identity of the GAM3712 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3747 140761 AGAGGGTTGA Fig. 8 further provides a conceptual description of another novel bioinformatically

CATTAGGTTT detected oligonucleotides of the present invention, referred to here as Genomic Address

GGTGAGATGA Messenger 3747 (GAM3747) oligonucleotides modulates expression of respective target genes

GTTGCTTGGC whose function and utility is known in the art.

ACAGATCAGC GAM3747 is a novel bioinformatically detectable regulatory, non protein coding,

AGAACAGGAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM3747 was detected is

CCTGGTGATA described with additional reference to Figs. 9-15.

AGGCATCTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTTTGCTAAC encoded by the human genome.

CACTTATCAT GAM3747 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3747

CTTCCATTAT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3747

TCTCT precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3747 precursor RNA is designated SEQ ID:140761, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140761 is located from position 117953553 to position 117953667 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM3747 precursor RNA folds onto itself, forming GAM3747 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3747 precursor RNA, designated SEQ ID NO: 140761, and a schematic representation of a predicted secondary folding of GAM3747 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3747 folded precursor RNA yielding a GAM3747 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3747 RNA, hereby incorporated herein.

GAM3747 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3747 target RNA, herein designated GAM TARGET RNA. GAM3747 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3747 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3747 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3747 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3747 RNA, herein designated GAM RNA, to target binding sites on GAM3747 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3747 target RNA into GAM3747 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3747 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3747 target genes. The mRNA of each one of this plurality of GAM3747 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3747 RNA, herein designated GAM RNA, and which when bound by GAM3747 RNA causes inhibition of translation of the GAM3747 target mRNA into a corresponding GAM3747 target protein.

The mechanism of the translational inhibition exerted by GAM3747 RNA, herein designated GAM RNA, on one or more GAM3747 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3747 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3747 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3747 RNA, herein designated GAM RNA, of GAM3747 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3747 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3747 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3747 RNA correlate with, and may be deduced from, the identity of the GAM3747 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3768 140762 GTTTGTGGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GGAGGACTGG detected oligonucleotides of the present invention, referred to here as Genomic Address

CAAAAATATG Messenger 3768 (GAM3768) oligonucleotides modulates expression of respective target genes

AGAGTAGGAG whose function and utility is known in the art.

TTTGGGCTCT GAM3768 is a novel bioinformatically detectable regulatory, non protein coding,

TGAGCTTGGG micro RNA (miRNA)-like oligonucleotide. The method by which GAM3768 was detected is

CCTGGCCTTC described with additional reference to Figs. 9-15.

AAATTTCCAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCTTTCACTC encoded by the human genome.

ACTAGC GAM3768 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3768

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3768

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3768 precursor RNA is designated SEQ ID:140762, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140762 is located from position 47243042 to position 47243137 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM3768 precursor RNA folds onto itself, forming GAM3768 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3768 precursor RNA, designated SEQ ID NO: 140762, and a schematic representation of a predicted secondary folding of GAM3768 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3768 folded precursor RNA yielding a GAM3768 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3768 RNA, hereby incorporated herein.

GAM3768 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3768 target RNA, herein designated GAM TARGET RNA. GAM3768 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3768 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3768 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3768 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3768 RNA, herein designated GAM RNA, to target binding sites on GAM3768 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3768 target RNA into GAM3768 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3768 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3768 target genes. The mRNA of each one of this plurality of GAM3768 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3768 RNA, herein designated GAM RNA, and which when bound by GAM3768 RNA causes inhibition of translation of the GAM3768 target mRNA into a corresponding GAM3768 target protein.

The mechanism of the translational inhibition exerted by GAM3768 RNA, herein designated GAM RNA, on one or more GAM3768 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3768 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3768 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3768 RNA, herein designated GAM RNA, of GAM3768 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3768 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3768 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3768 RNA correlate with, and may be deduced from, the identity of the GAM3768 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3781 140763 GCAAGGTTTG Fig. 8 further provides a conceptual description of another novel bioinformatically

GGAAATAAGC detected oligonucleotides of the present invention, referred to here as Genomic Address

TGATAGTAAA Messenger 3781 (GAM3781) oligonucleotides modulates expression of respective target genes

GTCATGTAAC whose function and utility is known in the art.

ACTTTCTGTG GAM3781 is a novel bioinformatically detectable regulatory, non protein coding,

CAGGTTAACA micro RNA (miRNA)-like oligonucleotide. The method by which GAM3781 was detected is

TTTCTGGACC described with additional reference to Figs. 9-15.

TTGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM3781 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3781

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3781

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3781 precursor RNA is designated SEQ ID:140763, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ

ID:140763 is located from position 23264656 to position 23264729 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM3781 precursor RNA folds onto itself, forming GAM3781 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3781 precursor RNA, designated SEQ ID NO: 140763, and a schematic representation of a predicted secondary folding of GAM3781 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3781 folded precursor RNA yielding a GAM3781 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3781 RNA, hereby incorporated herein.

GAM3781 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3781 target RNA, herein designated GAM TARGET RNA. GAM3781 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3781 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3781 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3781 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3781 RNA, herein designated GAM RNA, to target binding sites on GAM3781 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3781 target RNA into GAM3781 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3781 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3781 target genes. The mRNA of each one of this

plurality of GAM3781 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3781 RNA, herein designated GAM RNA, and which when bound by GAM3781 RNA causes inhibition of translation of the GAM3781 target mRNA into a corresponding GAM3781 target protein.

The mechanism of the translational inhibition exerted by GAM3781 RNA, herein designated GAM RNA, on one or more GAM3781 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3781 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3781 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3781 RNA, herein designated GAM RNA, of GAM3781 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3781 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3781 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3781 RNA correlate with, and may be deduced from, the identity of the GAM3781 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3788 140764 CACTGTGTGA Fig. 8 further provides a conceptual description of another novel bioinformatically

TTTGATTCCA detected oligonucleotides of the present invention, referred to here as Genomic Address

AGCTACCCAT Messenger 3788 (GAM3788) oligonucleotides modulates expression of respective target genes

GAAGAAACCC whose function and utility is known in the art.

AGACTCAGAG GAM3788 is a novel bioinformatically detectable regulatory, non protein coding,

GTCACTTGCC micro RNA (miRNA)-like oligonucleotide. The method by which GAM3788 was detected is

TAGGGTCACA described with additional reference to Figs. 9-15.

CAGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM3788 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3788

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3788 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3788 precursor RNA is designated SEQ ID:140764, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140764 is located from position 50069896 to position 50069970 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM3788 precursor RNA folds onto itself, forming GAM3788 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3788 precursor RNA, designated SEQ ID NO: 140764, and a schematic representation of a predicted secondary folding of GAM3788 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3788 folded precursor RNA yielding a GAM3788 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3788 RNA, hereby incorporated herein.

GAM3788 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3788 target RNA, herein designated GAM TARGET RNA. GAM3788 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3788 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3788 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3788 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3788 RNA, herein designated GAM RNA, to target binding sites on GAM3788 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3788 target RNA

into GAM3788 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3788 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3788 target genes. The mRNA of each one of this plurality of GAM3788 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3788 RNA, herein designated GAM RNA, and which when bound by GAM3788 RNA causes inhibition of translation of the GAM3788 target mRNA into a corresponding GAM3788 target protein.

The mechanism of the translational inhibition exerted by GAM3788 RNA, herein designated GAM RNA, on one or more GAM3788 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3788 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3788 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3788 RNA, herein designated GAM RNA, of GAM3788 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3788 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3788 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3788 RNA correlate with, and may be deduced from, the identity of the GAM3788 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3810 140765 GCAGGGAGAC Fig. 8 further provides a conceptual description of another novel bioinformatically

TGGAGAGAAA detected oligonucleotides of the present invention, referred to here as Genomic Address

GCGAAGATGT Messenger 3810 (GAM3810) oligonucleotides modulates expression of respective target genes

AGCCCAAAGC whose function and utility is known in the art.

CATAGTGCTT GAM3810 is a novel bioinformatically detectable regulatory, non protein coding,

TGTGTGCCCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM3810 was detected is

GCAACTGAGC described with additional reference to Figs. 9-15.

TTTCCCTGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCTTTCTGT encoded by the human genome.

GAM3810 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3810 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3810 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3810 precursor RNA is designated SEQ ID:140765, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140765 is located from position 119579263 to position 119579351 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM3810 precursor RNA folds onto itself, forming GAM3810 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3810 precursor RNA, designated SEQ ID NO: 140765, and a schematic representation of a predicted secondary folding of GAM3810 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3810 folded precursor RNA yielding a GAM3810 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3810 RNA, hereby incorporated herein.

GAM3810 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3810 target RNA, herein designated GAM TARGET RNA. GAM3810 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3810 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3810 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3810 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3810 RNA, herein designated GAM RNA, to target binding sites on GAM3810 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3810 target RNA into GAM3810 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3810 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3810 target genes. The mRNA of each one of this plurality of GAM3810 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3810 RNA, herein designated GAM RNA, and which when bound by GAM3810 RNA causes inhibition of translation of the GAM3810 target mRNA into a corresponding GAM3810 target protein.

The mechanism of the translational inhibition exerted by GAM3810 RNA, herein designated GAM RNA, on one or more GAM3810 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3810 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3810 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3810 RNA, herein designated GAM RNA, of GAM3810 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3810 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3810 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3810 RNA correlate with, and may be deduced from, the identity of the GAM3810 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3851 140766 TCAGGGAAGT Fig. 8 further provides a conceptual description of another novel bioinformatically

GAAGGAAGTC detected oligonucleotides of the present invention, referred to here as Genomic Address

CAGTCTGGTG Messenger 3851 (GAM3851) oligonucleotides modulates expression of respective target genes

AGAGTGTTAA whose function and utility is known in the art.

GTCTGAGAGA GAM3851 is a novel bioinformatically detectable regulatory, non protein coding,

AAGACTAGAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM3851 was detected is

AGAACGAGGC described with additional reference to Figs. 9-15.

TCGGAGGTCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCTAATTTTC encoded by the human genome.

ATCCCCTGA GAM3851 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3851 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3851 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3851 precursor RNA is designated SEQ ID:140766, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140766 is located from position 25455342 to position 25455440 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM3851 precursor RNA folds onto itself, forming GAM3851 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3851 precursor RNA, designated SEQ ID NO: 140766, and a schematic representation of a predicted secondary folding of GAM3851 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3851 folded precursor RNA yielding a GAM3851 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3851 RNA, hereby incorporated herein.

GAM3851 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3851 target RNA, herein designated GAM TARGET RNA. GAM3851 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3851 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3851 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3851 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3851 RNA, herein designated GAM RNA, to target binding sites on GAM3851 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3851 target RNA into GAM3851 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3851 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3851 target genes. The mRNA of each one of this plurality of GAM3851 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3851 RNA, herein designated GAM RNA, and which when bound by GAM3851 RNA causes inhibition of translation of the GAM3851 target mRNA into a corresponding GAM3851 target protein.

The mechanism of the translational inhibition exerted by GAM3851 RNA, herein designated GAM RNA, on one or more GAM3851 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3851 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3851 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3851 RNA, herein designated GAM RNA, of GAM3851 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3851 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3851 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3851 RNA correlate with, and may be deduced from, the identity of the GAM3851 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3888 140767 AAAACCAAAA ACCTTTCTCC CACTCTAATA Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 3888 (GAM3888) oligonucleotides modulates expression of respective target genes

GATGAGTCAC whose function and utility is known in the art.

ATAATGGGAA GAM3888 is a novel bioinformatically detectable regulatory, non protein coding,
AACAAACAAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM3888 was detected is

TGTATCATCT described with additional reference to Figs. 9-15.

ATTAAAGTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGAACTTGG encoded by the human genome.

TTTTGTAGTT GAM3888 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3888
TT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3888

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3888 precursor RNA is designated SEQ ID:140767, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140767 is located from position 86844505 to position 86844606 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM3888 precursor RNA folds onto itself, forming GAM3888 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3888 precursor RNA, designated SEQ ID NO: 140767, and a schematic representation of a predicted secondary folding of GAM3888 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3888 folded precursor RNA yielding a GAM3888 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM3888 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3888 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM3888 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3888 target RNA, herein designated GAM TARGET RNA. GAM3888 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3888 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM3888 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3888 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3888 RNA, herein designated GAM RNA, to target binding sites on GAM3888 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3888 target RNA into GAM3888 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3888 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3888 target genes. The mRNA of each one of this plurality of GAM3888 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3888 RNA, herein designated GAM RNA, and which when bound by GAM3888 RNA causes inhibition of translation of the GAM3888 target mRNA into a corresponding GAM3888 target protein.

The mechanism of the translational inhibition exerted by GAM3888 RNA, herein designated GAM RNA, on one or more GAM3888 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3888 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3888 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3888 RNA, herein designated GAM RNA, of GAM3888 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3888 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3888 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3888 RNA correlate with, and may be deduced from, the identity of the GAM3888 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3890 140768 TGTGGTCCAC Fig. 8 further provides a conceptual description of another novel bioinformatically

AAGGGGAGAG detected oligonucleotides of the present invention, referred to here as Genomic Address

CAGGGGACAC Messenger 3890 (GAM3890) oligonucleotides modulates expression of respective target genes

AGCATTGGCA whose function and utility is known in the art.

GGAACCTCAA GAM3890 is a novel bioinformatically detectable regulatory, non protein coding,

ATTCCTGACC micro RNA (miRNA)-like oligonucleotide. The method by which GAM3890 was detected is

AAACCCTCTT described with additional reference to Figs. 9-15.

CCACACAATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCTCCCGAAA encoded by the human genome.

GAAAGGAACC GAM3890 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3890

CA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3890

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3890 precursor RNA is designated SEQ ID:140768, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140768 is located from position 92752551 to position 92752652 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM3890 precursor RNA folds onto itself, forming GAM3890 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3890 precursor RNA, designated SEQ ID NO: 140768, and a schematic representation of a predicted secondary folding of GAM3890 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3890 folded precursor RNA yielding a GAM3890 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3890 RNA, hereby incorporated herein.

GAM3890 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3890 target RNA, herein designated GAM TARGET RNA. GAM3890 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3890 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3890 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3890 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3890 RNA, herein designated GAM RNA, to target binding sites on GAM3890 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3890 target RNA into GAM3890 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3890 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3890 target genes. The mRNA of each one of this plurality of GAM3890 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3890 RNA, herein designated GAM RNA, and which when bound by GAM3890 RNA causes inhibition of translation of the GAM3890 target mRNA into a corresponding GAM3890 target protein.

The mechanism of the translational inhibition exerted by GAM3890 RNA, herein designated GAM RNA, on one or more GAM3890 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3890 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3890 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3890 RNA, herein designated GAM RNA, of GAM3890 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3890 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3890 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3890 RNA correlate with, and may be deduced from, the identity of the GAM3890 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3892 140769 GCTGCTGCTG Fig. 8 further provides a conceptual description of another novel bioinformatically
AAGTCACCTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AAAACTCAAC Messenger 3892 (GAM3892) oligonucleotides modulates expression of respective target genes
TAAGCTAAAG whose function and utility is known in the art.

AGCCTAGATG GAM3892 is a novel bioinformatically detectable regulatory, non protein coding,
GGTTACTCAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM3892 was detected is

ATGACTGGCA described with additional reference to Figs. 9-15.

GTGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM3892 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3892

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3892
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3892 precursor RNA is designated SEQ ID:140769, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140769 is located from position 34242096 to position 34242169 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM3892 precursor RNA folds onto itself, forming GAM3892 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3892 precursor RNA, designated SEQ ID NO: 140769, and a schematic representation of a predicted secondary folding of GAM3892 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3892 folded precursor RNA yielding a GAM3892 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM3892 RNA: a nucleotide sequence that is highly

likely to be identical or highly similar to the nucleotide sequence of GAM3892 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM3892 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3892 target RNA, herein designated GAM TARGET RNA. GAM3892 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3892 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3892 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3892 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3892 RNA, herein designated GAM RNA, to target binding sites on GAM3892 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3892 target RNA into GAM3892 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3892 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3892 target genes. The mRNA of each one of this plurality of GAM3892 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3892 RNA, herein designated GAM RNA, and which when bound by GAM3892 RNA causes inhibition of translation of the GAM3892 target mRNA into a corresponding GAM3892 target protein.

The mechanism of the translational inhibition exerted by GAM3892 RNA, herein designated GAM RNA, on one or more GAM3892 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3892 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3892 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3892 RNA, herein designated GAM RNA, of GAM3892 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3892 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3892 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3892 RNA correlate with, and may be deduced from, the identity of the GAM3892 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3946 140770 GTCTCTGTTG Fig. 8 further provides a conceptual description of another novel bioinformatically
CCCAGGCTGG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGTGCAGTGG Messenger 3946 (GAM3946) oligonucleotides modulates expression of respective target genes
CGCAATCTCA whose function and utility is known in the art.

GCTCACTGCA GAM3946 is a novel bioinformatically detectable regulatory, non protein coding,
ACCTCCACCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM3946 was detected is

CCTGGGTTCA described with additional reference to Figs. 9-15.

AGCGAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM3946 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3946

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3946
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3946 precursor RNA is designated SEQ ID:140770, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140770 is located from position 44652554 to position 44652629 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM3946 precursor RNA folds onto itself, forming GAM3946 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3946 precursor RNA, designated SEQ ID NO: 140770, and a schematic representation of a predicted secondary folding of GAM3946 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3946 folded precursor RNA yielding a GAM3946 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM3946 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3946 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM3946 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3946 target RNA, herein designated GAM TARGET RNA. GAM3946 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3946 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3946 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3946 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3946 RNA, herein designated GAM RNA, to target binding sites on GAM3946 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3946 target RNA into GAM3946 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3946 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3946 target genes. The mRNA of each one of this plurality of GAM3946 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3946 RNA, herein designated GAM RNA, and which when bound by GAM3946 RNA causes inhibition of translation of the GAM3946 target mRNA into a corresponding GAM3946 target protein.

The mechanism of the translational inhibition exerted by GAM3946 RNA, herein designated GAM RNA, on one or more GAM3946 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3946 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3946 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3946 RNA, herein designated GAM RNA, of GAM3946 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3946 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3946 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3946 RNA correlate with, and may be deduced from, the identity of the GAM3946 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3978 140771 GGGCTTGCTG Fig. 8 further provides a conceptual description of another novel bioinformatically

GGTTTACAGA detected oligonucleotides of the present invention, referred to here as Genomic Address

TGGCAAAGAT Messenger 3978 (GAM3978) oligonucleotides modulates expression of respective target genes

CTGGCAAATT whose function and utility is known in the art.

AAAAATAGCC GAM3978 is a novel bioinformatically detectable regulatory, non protein coding,

TTAGGCCAAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM3978 was detected is

GATCAAACCC described with additional reference to Figs. 9-15.

AAGGTGGGCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

T encoded by the human genome.

GAM3978 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3978

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3978

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3978 precursor RNA is designated SEQ ID:140771, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140771 is located from position 118768041 to position 118768121 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM3978 precursor RNA folds onto itself, forming GAM3978 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3978 precursor RNA, designated SEQ ID NO: 140771, and a schematic representation of a predicted secondary folding of GAM3978 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3978 folded precursor RNA yielding a GAM3978 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3978 RNA, hereby incorporated herein.

GAM3978 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3978 target RNA, herein designated GAM TARGET RNA. GAM3978 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3978 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3978 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3978 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3978 RNA, herein designated GAM RNA, to target binding sites on GAM3978 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3978 target RNA into GAM3978 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3978 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3978 target genes. The mRNA of each one of this plurality of GAM3978 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3978 RNA, herein designated GAM RNA, and which when bound by GAM3978 RNA causes inhibition of translation of the GAM3978 target mRNA into a corresponding GAM3978 target protein.

The mechanism of the translational inhibition exerted by GAM3978 RNA, herein designated GAM RNA, on one or more GAM3978 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3978 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3978 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3978 RNA, herein designated GAM RNA, of GAM3978 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3978 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3978 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3978 RNA correlate with, and may be deduced from, the identity of the GAM3978 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM3990 140772 AGTCTTGCTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TGTTGCCTAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GCTGGAGTGC Messenger 3990 (GAM3990) oligonucleotides modulates expression of respective target genes

AGTGATGCAA whose function and utility is known in the art.

TTTTGGCTCA GAM3990 is a novel bioinformatically detectable regulatory, non protein coding,

CTGCAACCTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM3990 was detected is

CACCTCCTGG described with additional reference to Figs. 9-15.

GTTCAAGCAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTCT encoded by the human genome.

GAM3990 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM3990

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM3990

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM3990 precursor RNA is designated SEQ ID:140772, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140772 is located from position 44650568 to position 44650651 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM3990 precursor RNA folds onto itself, forming GAM3990 folded precursor RNA,

herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM3990 precursor RNA, designated SEQ ID NO: 140772, and a schematic representation of a predicted secondary folding of GAM3990 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM3990 folded precursor RNA yielding a GAM3990 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM3990 RNA, hereby incorporated herein.

GAM3990 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM3990 target RNA, herein designated GAM TARGET RNA. GAM3990 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM3990 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM3990 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM3990 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM3990 RNA, herein designated GAM RNA, to target binding sites on GAM3990 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM3990 target RNA into GAM3990 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM3990 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM3990 target genes. The mRNA of each one of this plurality of GAM3990 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM3990 RNA, herein designated GAM RNA, and which when bound by GAM3990 RNA causes inhibition of translation of the GAM3990 target mRNA into a corresponding GAM3990 target protein.

The mechanism of the translational inhibition exerted by GAM3990 RNA, herein designated GAM RNA, on one or more GAM3990 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM3990 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM3990 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM3990 RNA, herein designated GAM RNA, of GAM3990 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM3990 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM3990 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM3990 RNA correlate with, and may be deduced from, the identity of the GAM3990 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4008 140773 TCAGAGACAC Fig. 8 further provides a conceptual description of another novel bioinformatically

CTCTCATTTC detected oligonucleotides of the present invention, referred to here as Genomic Address

TCCTCAATGC Messenger 4008 (GAM4008) oligonucleotides modulates expression of respective target genes

CACTGCACTG whose function and utility is known in the art.

ATGTCAACTG GAM4008 is a novel bioinformatically detectable regulatory, non protein coding,

ACTTAGGGCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM4008 was detected is

GGCATGAGAG described with additional reference to Figs. 9-15.

AACTGAGGTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TACATGG encoded by the human genome.

GAM4008 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4008

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4008

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4008 precursor RNA is designated SEQ ID:140773, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140773 is located from position 86637061 to position 86637147 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM4008 precursor RNA folds onto itself, forming GAM4008 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4008 precursor RNA, designated SEQ ID NO: 140773, and a schematic representation of a predicted secondary folding of GAM4008 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4008 folded precursor RNA yielding a GAM4008 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4008 RNA, hereby incorporated herein.

GAM4008 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4008 target RNA, herein designated GAM TARGET RNA. GAM4008 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4008 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4008 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4008 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4008 RNA, herein designated GAM RNA, to target binding sites on GAM4008 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4008 target RNA into GAM4008 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4008 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM4008 target genes. The mRNA of each one of this plurality of GAM4008 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4008 RNA, herein designated GAM RNA, and which when bound by GAM4008 RNA causes inhibition of translation of the GAM4008 target mRNA into a corresponding GAM4008 target protein.

The mechanism of the translational inhibition exerted by GAM4008 RNA, herein designated GAM RNA, on one or more GAM4008 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4008 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4008 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4008 RNA, herein designated GAM RNA, of GAM4008 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4008 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4008 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4008 RNA correlate with, and may be deduced from, the identity of the GAM4008 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4011 140774 AGTTCAAGGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TGCCTCCTCT detected oligonucleotides of the present invention, referred to here as Genomic Address

CTGTCTTCAT Messenger 4011 (GAM4011) oligonucleotides modulates expression of respective target genes

TATGTGAATT whose function and utility is known in the art.

GAATGTGGTC GAM4011 is a novel bioinformatically detectable regulatory, non protein coding,

ACACATCTGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM4011 was detected is

GTTGGAGCAG described with additional reference to Figs. 9-15.

AGGCAGGGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGCAGCTTTC encoded by the human genome.

AGCT GAM4011 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4011

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4011 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4011 precursor RNA is designated SEQ ID:140774, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140774 is located from position 45149119 to position 45149212 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM4011 precursor RNA folds onto itself, forming GAM4011 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4011 precursor RNA, designated SEQ ID NO: 140774, and a schematic representation of a predicted secondary folding of GAM4011 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4011 folded precursor RNA yielding a GAM4011 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4011 RNA, hereby incorporated herein.

GAM4011 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4011 target RNA, herein designated GAM TARGET RNA. GAM4011 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4011 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4011 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4011 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4011 RNA, herein designated GAM RNA, to target binding sites on GAM4011 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4011 target RNA

into GAM4011 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4011 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4011 target genes. The mRNA of each one of this plurality of GAM4011 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4011 RNA, herein designated GAM RNA, and which when bound by GAM4011 RNA causes inhibition of translation of the GAM4011 target mRNA into a corresponding GAM4011 target protein.

The mechanism of the translational inhibition exerted by GAM4011 RNA, herein designated GAM RNA, on one or more GAM4011 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4011 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4011 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4011 RNA, herein designated GAM RNA, of GAM4011 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4011 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4011 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4011 RNA correlate with, and may be deduced from, the identity of the GAM4011 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4020 140775 AAGGTATTTT Fig. 8 further provides a conceptual description of another novel bioinformatically
CTGAGCTGTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGCCTGCCTT Messenger 4020 (GAM4020) oligonucleotides modulates expression of respective target genes
CCAGTGACAT whose function and utility is known in the art.

GTTCTAAAAA GAM4020 is a novel bioinformatically detectable regulatory, non protein coding,
TTGCAAGTTA micro RNA (miRNA)-like oligonucleotide. The method by which GAM4020 was detected is

TTTGAGGAGG described with additional reference to Figs. 9-15.

CTTTACAGCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AATAGGAAGT encoded by the human genome.

TCTT GAM4020 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4020 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4020 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4020 precursor RNA is designated SEQ ID:140775, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140775 is located from position 62871608 to position 62871701 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM4020 precursor RNA folds onto itself, forming GAM4020 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4020 precursor RNA, designated SEQ ID NO: 140775, and a schematic representation of a predicted secondary folding of GAM4020 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4020 folded precursor RNA yielding a GAM4020 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM4020 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4020 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM4020 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4020 target RNA, herein designated GAM TARGET RNA. GAM4020 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4020 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4020 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4020 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4020 RNA, herein designated GAM RNA, to target binding sites on GAM4020 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4020 target RNA into GAM4020 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4020 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4020 target genes. The mRNA of each one of this plurality of GAM4020 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4020 RNA, herein designated GAM RNA, and which when bound by GAM4020 RNA causes inhibition of translation of the GAM4020 target mRNA into a corresponding GAM4020 target protein.

The mechanism of the translational inhibition exerted by GAM4020 RNA, herein designated GAM RNA, on one or more GAM4020 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4020 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4020 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4020 RNA, herein designated GAM RNA, of GAM4020 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4020 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4020 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4020 RNA correlate with, and may be deduced from, the identity of the GAM4020 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4027 140776 TGGGTCCCAG Fig. 8 further provides a conceptual description of another novel bioinformatically

ATTCTTCCTG detected oligonucleotides of the present invention, referred to here as Genomic Address

GTGGAGGCAT Messenger 4027 (GAM4027) oligonucleotides modulates expression of respective target genes

TCGGAGAGCA whose function and utility is known in the art.

ACACCCTGGC GAM4027 is a novel bioinformatically detectable regulatory, non protein coding,

CTTAACACAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM4027 was detected is

TACATATCTT described with additional reference to Figs. 9-15.

TGAATTTCAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACGGGGGCAG encoded by the human genome.

CCTTCTGGGA GAM4027 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4027

AAACCA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4027

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4027 precursor RNA is designated SEQ ID:140776, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140776 is located from position 6197075 to position 6197180 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM4027 precursor RNA folds onto itself, forming GAM4027 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4027 precursor RNA, designated SEQ ID NO: 140776, and a schematic representation of a predicted secondary folding of GAM4027 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4027 folded precursor RNA yielding a GAM4027 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM4027 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4027 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM4027 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4027 target RNA, herein designated GAM TARGET RNA. GAM4027 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4027 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4027 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4027 RNA is a partial or fully complementary sequence of the

nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4027 RNA, herein designated GAM RNA, to target binding sites on GAM4027 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4027 target RNA into GAM4027 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4027 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4027 target genes. The mRNA of each one of this plurality of GAM4027 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4027 RNA, herein designated GAM RNA, and which when bound by GAM4027 RNA causes inhibition of translation of the GAM4027 target mRNA into a corresponding GAM4027 target protein.

The mechanism of the translational inhibition exerted by GAM4027 RNA, herein designated GAM RNA, on one or more GAM4027 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4027 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4027 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4027 RNA, herein designated GAM RNA, of GAM4027 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4027 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4027 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4027 RNA correlate with, and may be deduced from, the identity of the GAM4027 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4064 140777 CCCCAGCCCG Fig. 8 further provides a conceptual description of another novel bioinformatically

GAAGCCTCCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CTATCTCCAG Messenger 4064 (GAM4064) oligonucleotides modulates expression of respective target
genes
CCCAGACAAA whose function and utility is known in the art.

CCCTGTGGTC GAM4064 is a novel bioinformatically detectable regulatory, non protein coding,
CAGAGGAGGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM4064 was detected is

ATGAGGGTGC described with additional reference to Figs. 9-15.

AGGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a
humen gene
encoded by the human genome.

GAM4064 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4064

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM4064
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4064 precursor RNA is designated SEQ ID:140777, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140777 is located from position 1197566 to position 1197640 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM4064 precursor RNA folds onto itself, forming GAM4064 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4064 precursor RNA, designated SEQ ID NO: 140777, and a schematic representation of a predicted secondary folding of GAM4064 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4064 folded precursor RNA yielding a GAM4064 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4064 RNA, hereby incorporated herein.

GAM4064 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4064 target RNA, herein designated GAM TARGET RNA. GAM4064 target
RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4064 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4064 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4064 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4064 RNA, herein designated GAM RNA, to target binding sites on GAM4064 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4064 target RNA into GAM4064 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4064 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4064 target genes. The mRNA of each one of this plurality of GAM4064 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4064 RNA, herein designated GAM RNA, and which when bound by GAM4064 RNA causes inhibition of translation of the GAM4064 target mRNA into a corresponding GAM4064 target protein.

The mechanism of the translational inhibition exerted by GAM4064 RNA, herein designated GAM RNA, on one or more GAM4064 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4064 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4064 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4064 RNA, herein designated GAM RNA, of GAM4064 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4064 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4064 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4064 RNA correlate with, and may be deduced from, the identity of the GAM4064 target gene inhibited

thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4074 140778 CTGACATGTG Fig. 8 further provides a conceptual description of another novel bioinformatically
CATTATCCAT detected oligonucleotides of the present invention, referred to here as Genomic Address
GTCATTTTAA Messenger 4074 (GAM4074) oligonucleotides modulates expression of respective target genes
ACAAAGTGAC whose function and utility is known in the art.

CTATGGAAGG GAM4074 is a novel bioinformatically detectable regulatory, non protein coding,
GTACGCTGTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM4074 was detected is

CTGTGACATG described with additional reference to Figs. 9-15.

GTAATGGGCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTTGG encoded by the human genome.

GAM4074 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4074

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4074
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4074 precursor RNA is designated SEQ ID:140778, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140778 is located from position 69300375 to position 69300459 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM4074 precursor RNA folds onto itself, forming GAM4074 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4074 precursor RNA, designated SEQ ID NO: 140778, and a schematic representation of a predicted secondary folding of GAM4074 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4074 folded precursor RNA yielding a GAM4074 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4074 RNA, hereby incorporated herein.

GAM4074 target gene, herein designated GAM TARGET GENE, encodes a corresponding

messenger RNA, GAM4074 target RNA, herein designated GAM TARGET RNA. GAM4074 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4074 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4074 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4074 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4074 RNA, herein designated GAM RNA, to target binding sites on GAM4074 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4074 target RNA into GAM4074 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4074 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4074 target genes. The mRNA of each one of this plurality of GAM4074 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4074 RNA, herein designated GAM RNA, and which when bound by GAM4074 RNA causes inhibition of translation of the GAM4074 target mRNA into a corresponding GAM4074 target protein.

The mechanism of the translational inhibition exerted by GAM4074 RNA, herein designated GAM RNA, on one or more GAM4074 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4074 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4074 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4074 RNA, herein designated GAM RNA, of GAM4074 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4074 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target

binding sites to GAM4074 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4074 RNA correlate with, and may be deduced from, the identity of the GAM4074 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4085 140779 AGGCACCTGG Fig. 8 further provides a conceptual description of another novel bioinformatically
GGGTGTAGAC detected oligonucleotides of the present invention, referred to here as Genomic Address
CGGGGTGGAG Messenger 4085 (GAM4085) oligonucleotides modulates expression of respective target genes
CCGCATGGGC whose function and utility is known in the art.

ACCTGGGGGT GAM4085 is a novel bioinformatically detectable regulatory, non protein coding,
GTAGACCGGG micro RNA (miRNA)-like oligonucleotide. The method by which GAM4085 was detected is

GTGGAACTAT described with additional reference to Figs. 9-15.

GTAAACATCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CACACACTCA encoded by the human genome.

GGTGACTT GAM4085 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4085
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4085
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4085 precursor RNA is designated SEQ ID:140779, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140779 is located from position 71416467 to position 71416564 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM4085 precursor RNA folds onto itself, forming GAM4085 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4085 precursor RNA, designated SEQ ID NO: 140779, and a schematic representation of a predicted secondary folding of GAM4085 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4085 folded precursor RNA yielding a GAM4085 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an

enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4085 RNA, hereby incorporated herein.

GAM4085 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4085 target RNA, herein designated GAM TARGET RNA. GAM4085 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4085 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4085 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4085 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4085 RNA, herein designated GAM RNA, to target binding sites on GAM4085 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4085 target RNA into GAM4085 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4085 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4085 target genes. The mRNA of each one of this plurality of GAM4085 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4085 RNA, herein designated GAM RNA, and which when bound by GAM4085 RNA causes inhibition of translation of the GAM4085 target mRNA into a corresponding GAM4085 target protein.

The mechanism of the translational inhibition exerted by GAM4085 RNA, herein designated GAM RNA, on one or more GAM4085 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4085 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4085 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4085 RNA, herein designated GAM RNA, of GAM4085 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4085 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4085 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4085 RNA correlate with, and may be deduced from, the identity of the GAM4085 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4107 140780 GATAACATGG Fig. 8 further provides a conceptual description of another novel bioinformatically
AGTTATGATA detected oligonucleotides of the present invention, referred to here as Genomic Address
GCAGTGGAGG Messenger 4107 (GAM4107) oligonucleotides modulates expression of respective target genes
CAGGCAGGGG whose function and utility is known in the art.

AAAAGGGCCC GAM4107 is a novel bioinformatically detectable regulatory, non protein coding,
ATGAGATATG micro RNA (miRNA)-like oligonucleotide. The method by which GAM4107 was detected is

GATGGCAGCA described with additional reference to Figs. 9-15.

CTCTCCCCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTCCCTGCCA encoded by the human genome.

TCCCCACTGC GAM4107 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4107
ACATGTATAA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4107
GCTAAGTAAA precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar
TATT to the nucleotide sequence of GAM4107 precursor RNA is designated SEQ ID:140780, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140780 is located from position 71299506 to position 71299629 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM4107 precursor RNA folds onto itself, forming GAM4107 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4107 precursor RNA, designated SEQ ID NO: 140780, and a schematic representation of a predicted secondary folding of GAM4107 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4107 folded precursor RNA yielding a GAM4107 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4107 RNA, hereby incorporated herein.

GAM4107 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4107 target RNA, herein designated GAM TARGET RNA. GAM4107 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4107 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4107 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4107 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4107 RNA, herein designated GAM RNA, to target binding sites on GAM4107 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4107 target RNA into GAM4107 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4107 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4107 target genes. The mRNA of each one of this plurality of GAM4107 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4107 RNA, herein designated GAM RNA, and which when bound by GAM4107 RNA causes inhibition of translation of the GAM4107 target mRNA into a corresponding GAM4107 target protein.

The mechanism of the translational inhibition exerted by GAM4107 RNA, herein designated GAM RNA, on one or more GAM4107 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4107 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4107 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4107 RNA, herein designated GAM RNA, of GAM4107 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4107 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4107 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4107 RNA correlate with, and may be deduced from, the identity of the GAM4107 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4130 140781 CTTCCATGGG CAGGGGCCAT GACAGGGAGA TAGGCCACAC CTTTCCCAGG TGGAACCTGC AGATGGAGG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 4130 (GAM4130) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM4130 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM4130 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM4130 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4130 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4130 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4130 precursor RNA is designated SEQ ID:140781, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140781 is located from position 77528890 to position 77528958 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM4130 precursor RNA folds onto itself, forming GAM4130 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4130 precursor RNA, designated SEQ ID NO: 140781, and a schematic representation of a predicted secondary folding of GAM4130 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4130 folded precursor RNA yielding a GAM4130 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4130 RNA, hereby incorporated herein.

GAM4130 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4130 target RNA, herein designated GAM TARGET RNA. GAM4130 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4130 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4130 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4130 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4130 RNA, herein designated GAM RNA, to target binding sites on GAM4130 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4130 target RNA into GAM4130 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4130 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4130 target genes. The mRNA of each one of this plurality of GAM4130 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4130 RNA, herein designated GAM RNA, and which when bound by GAM4130 RNA causes inhibition of translation of the GAM4130 target mRNA into a corresponding GAM4130 target protein.

The mechanism of the translational inhibition exerted by GAM4130 RNA, herein designated GAM RNA, on one or more GAM4130 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4130 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4130 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4130 RNA, herein designated GAM RNA, of GAM4130 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4130 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4130 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4130 RNA correlate with, and may be deduced from, the identity of the GAM4130 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4136 140782 AGACGTGGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TCTCGCTATG detected oligonucleotides of the present invention, referred to here as Genomic Address

TTGGCCAGGT Messenger 4136 (GAM4136) oligonucleotides modulates expression of respective target genes

TGGTCTTGAA whose function and utility is known in the art.

CTCTTGGCCT GAM4136 is a novel bioinformatically detectable regulatory, non protein coding,

CAAGCATTCC micro RNA (miRNA)-like oligonucleotide. The method by which GAM4136 was detected is

TCCTGCCTCA described with additional reference to Figs. 9-15.

GCTTCCCAAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTGCTAGGAT encoded by the human genome.

TACAGCCATG GAM4136 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4136

AGCCAATAGT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4136

AGTAAAATGA precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

CTTTTTGTTT to the nucleotide sequence of GAM4136 precursor RNA is designated SEQ ID:140782, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140782 is located from position 58315712 to position 58315841 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM4136 precursor RNA folds onto itself, forming GAM4136 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4136 precursor RNA, designated SEQ ID NO: 140782, and a schematic representation of a predicted secondary folding of GAM4136 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4136 folded precursor RNA yielding a GAM4136 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4136 RNA, hereby incorporated herein.

GAM4136 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4136 target RNA, herein designated GAM TARGET RNA. GAM4136 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4136 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4136 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4136 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4136 RNA, herein designated GAM RNA, to target binding sites on GAM4136 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4136 target RNA into GAM4136 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4136 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4136 target genes. The mRNA of each one of this plurality of GAM4136 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4136 RNA, herein designated GAM RNA, and which when bound by GAM4136 RNA causes inhibition of translation

of the GAM4136 target mRNA into a corresponding GAM4136 target protein.

The mechanism of the translational inhibition exerted by GAM4136 RNA, herein designated GAM RNA, on one or more GAM4136 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4136 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4136 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4136 RNA, herein designated GAM RNA, of GAM4136 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4136 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4136 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4136 RNA correlate with, and may be deduced from, the identity of the GAM4136 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4142 140783 CGAATGGACC Fig. 8 further provides a conceptual description of another novel bioinformatically
ACTGGAGGGG detected oligonucleotides of the present invention, referred to here as Genomic Address
TTCAAAGATT Messenger 4142 (GAM4142) oligonucleotides modulates expression of respective target genes
CCAGTTCTAA whose function and utility is known in the art.

TATGGGAATG GAM4142 is a novel bioinformatically detectable regulatory, non protein coding,
AGCCTCTTTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM4142 was detected is

ATCTCTTCCG described with additional reference to Figs. 9-15.

GGGCTTTTTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
G encoded by the human genome.

GAM4142 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4142

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4142
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

to the nucleotide sequence of GAM4142 precursor RNA is designated SEQ ID:140783, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140783 is located from position 145175426 to position 145175506 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM4142 precursor RNA folds onto itself, forming GAM4142 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4142 precursor RNA, designated SEQ ID NO: 140783, and a schematic representation of a predicted secondary folding of GAM4142 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4142 folded precursor RNA yielding a GAM4142 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4142 RNA, hereby incorporated herein.

GAM4142 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4142 target RNA, herein designated GAM TARGET RNA. GAM4142 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4142 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4142 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4142 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4142 RNA, herein designated GAM RNA, to target binding sites on GAM4142 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4142 target RNA into GAM4142 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4142 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4142 target genes. The mRNA of each one of this plurality of GAM4142 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4142 RNA, herein designated GAM RNA, and which when bound by GAM4142 RNA causes inhibition of translation of the GAM4142 target mRNA into a corresponding GAM4142 target protein.

The mechanism of the translational inhibition exerted by GAM4142 RNA, herein designated GAM RNA, on one or more GAM4142 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4142 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4142 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4142 RNA, herein designated GAM RNA, of GAM4142 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4142 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4142 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4142 RNA correlate with, and may be deduced from, the identity of the GAM4142 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4147 140784 TGTATTGCAG Fig. 8 further provides a conceptual description of another novel bioinformatically

CAGGTTGGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

GCCTCAGTAA Messenger 4147 (GAM4147) oligonucleotides modulates expression of respective target genes

ATCTCCATTT whose function and utility is known in the art.

GTAAATGTGA GAM4147 is a novel bioinformatically detectable regulatory, non protein coding,

CAGTCAGCAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM4147 was detected is

AATCTCCAGT described with additional reference to Figs. 9-15.

TACAGTCAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCAAAGCAAG encoded by the human genome.

CAGGGGCATG GAM4147 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4147 CCACATACAT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4147 GTTCATATAT precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar A to the nucleotide sequence of GAM4147 precursor RNA is designated SEQ ID:140784, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140784 is located from position 79828332 to position 79828452 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GAM4147 precursor RNA folds onto itself, forming GAM4147 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4147 precursor RNA, designated SEQ ID NO: 140784, and a schematic representation of a predicted secondary folding of GAM4147 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4147 folded precursor RNA yielding a GAM4147 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4147 RNA, hereby incorporated herein.

GAM4147 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4147 target RNA, herein designated GAM TARGET RNA. GAM4147 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4147 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4147 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4147 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4147 RNA, herein designated GAM RNA, to target

binding sites on GAM4147 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4147 target RNA into GAM4147 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4147 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4147 target genes. The mRNA of each one of this plurality of GAM4147 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4147 RNA, herein designated GAM RNA, and which when bound by GAM4147 RNA causes inhibition of translation of the GAM4147 target mRNA into a corresponding GAM4147 target protein.

The mechanism of the translational inhibition exerted by GAM4147 RNA, herein designated GAM RNA, on one or more GAM4147 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4147 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4147 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4147 RNA, herein designated GAM RNA, of GAM4147 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4147 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4147 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4147 RNA correlate with, and may be deduced from, the identity of the GAM4147 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4152 140785 CTGCAGCCCA AGCAAAATGG AAATACAAGC AATCATGTAG TTCACTGTGT CCATCAGACA GGAACAAATC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 4152 (GAM4152) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM4152 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM4152 was detected is described with additional reference to Figs. 9-15.

AGATGACCAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAATTGAGAG encoded by the human genome.

ACTGAACATT GAM4152 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4152

TCCTCAGGTG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4152

GCTGGAG precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4152 precursor RNA is designated SEQ ID:140785, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140785 is located from position 25256625 to position 25256741 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM4152 precursor RNA folds onto itself, forming GAM4152 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4152 precursor RNA, designated SEQ ID NO: 140785, and a schematic representation of a predicted secondary folding of GAM4152 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4152 folded precursor RNA yielding a GAM4152 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4152 RNA, hereby incorporated herein.

GAM4152 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4152 target RNA, herein designated GAM TARGET RNA. GAM4152 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4152 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4152 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4152 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4152 RNA, herein designated GAM RNA, to target binding sites on GAM4152 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4152 target RNA into GAM4152 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4152 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4152 target genes. The mRNA of each one of this plurality of GAM4152 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4152 RNA, herein designated GAM RNA, and which when bound by GAM4152 RNA causes inhibition of translation of the GAM4152 target mRNA into a corresponding GAM4152 target protein.

The mechanism of the translational inhibition exerted by GAM4152 RNA, herein designated GAM RNA, on one or more GAM4152 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4152 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4152 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4152 RNA, herein designated GAM RNA, of GAM4152 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4152 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4152 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4152 RNA correlate with, and may be deduced from, the identity of the GAM4152 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4188 140786 ATGACAGCAA GACACTGGCC CTGGAATCCT CCGTGTCACA Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 4188 (GAM4188) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

TGTGGGCTGC TGACAGGAAG AATGTGCTTT TGTTGTTGT

GAM4188 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM4188 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM4188 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4188 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4188 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4188 precursor RNA is designated SEQ ID:140786, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140786 is located from position 113971971 to position 113972049 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM4188 precursor RNA folds onto itself, forming GAM4188 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4188 precursor RNA, designated SEQ ID NO: 140786, and a schematic representation of a predicted secondary folding of GAM4188 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4188 folded precursor RNA yielding a GAM4188 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4188 RNA, hereby incorporated herein.

GAM4188 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4188 target RNA, herein designated GAM TARGET RNA. GAM4188 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4188 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4188 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the

nucleotide sequence of GAM4188 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4188 RNA, herein designated GAM RNA, to target binding sites on GAM4188 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4188 target RNA into GAM4188 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4188 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4188 target genes. The mRNA of each one of this plurality of GAM4188 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4188 RNA, herein designated GAM RNA, and which when bound by GAM4188 RNA causes inhibition of translation of the GAM4188 target mRNA into a corresponding GAM4188 target protein.

The mechanism of the translational inhibition exerted by GAM4188 RNA, herein designated GAM RNA, on one or more GAM4188 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4188 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4188 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4188 RNA, herein designated GAM RNA, of GAM4188 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4188 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4188 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4188 RNA correlate with, and may be deduced from, the identity of the GAM4188 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4189 140787 AGACATGTCA Fig. 8 further provides a conceptual description of another novel bioinformatically

AGGCAGGAGC detected oligonucleotides of the present invention, referred to here as Genomic Address
CATCTGATCG Messenger 4189 (GAM4189) oligonucleotides modulates expression of respective target genes
ACCTTAGACT whose function and utility is known in the art.

TGGCAAGCTG GAM4189 is a novel bioinformatically detectable regulatory, non protein coding,
GTGGCTAAGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM4189 was detected is

CCAGTGCTCA described with additional reference to Figs. 9-15.

CTGCCGACAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTGTCT encoded by the human genome.

GAM4189 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4189

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4189

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4189 precursor RNA is designated SEQ ID:140787, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140787 is located from position 32944216 to position 32944301 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM4189 precursor RNA folds onto itself, forming GAM4189 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4189 precursor RNA, designated SEQ ID NO: 140787, and a schematic representation of a predicted secondary folding of GAM4189 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4189 folded precursor RNA yielding a GAM4189 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4189 RNA, hereby incorporated herein.

GAM4189 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4189 target RNA, herein designated GAM TARGET RNA. GAM4189 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4189 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4189 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4189 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4189 RNA, herein designated GAM RNA, to target binding sites on GAM4189 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4189 target RNA into GAM4189 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4189 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4189 target genes. The mRNA of each one of this plurality of GAM4189 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4189 RNA, herein designated GAM RNA, and which when bound by GAM4189 RNA causes inhibition of translation of the GAM4189 target mRNA into a corresponding GAM4189 target protein.

The mechanism of the translational inhibition exerted by GAM4189 RNA, herein designated GAM RNA, on one or more GAM4189 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4189 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4189 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4189 RNA, herein designated GAM RNA, of GAM4189 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4189 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4189 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4189 RNA correlate with, and may be deduced from, the identity of the GAM4189 target gene inhibited

thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4199 140788 CTGGCTGCTC Fig. 8 further provides a conceptual description of another novel bioinformatically
CTCTCCATGT detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCCATTCCC Messenger 4199 (GAM4199) oligonucleotides modulates expression of respective target genes
CTTGGGGTGC whose function and utility is known in the art.

AAGCCACACC GAM4199 is a novel bioinformatically detectable regulatory, non protein coding,
ACCCTTCACT micro RNA (miRNA)-like oligonucleotide. The method by which GAM4199 was detected is

TGGGGGATGA described with additional reference to Figs. 9-15.

TAGCAGCCAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM4199 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4199

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4199
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4199 precursor RNA is designated SEQ ID:140788, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140788 is located from position 35997845 to position 35997924 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM4199 precursor RNA folds onto itself, forming GAM4199 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4199 precursor RNA, designated SEQ ID NO: 140788, and a schematic representation of a predicted secondary folding of GAM4199 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4199 folded precursor RNA yielding a GAM4199 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM4199 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4199 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM4199 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4199 target RNA, herein designated GAM TARGET RNA. GAM4199 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4199 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4199 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4199 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4199 RNA, herein designated GAM RNA, to target binding sites on GAM4199 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4199 target RNA into GAM4199 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4199 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4199 target genes. The mRNA of each one of this plurality of GAM4199 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4199 RNA, herein designated GAM RNA, and which when bound by GAM4199 RNA causes inhibition of translation of the GAM4199 target mRNA into a corresponding GAM4199 target protein.

The mechanism of the translational inhibition exerted by GAM4199 RNA, herein designated GAM RNA, on one or more GAM4199 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4199 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4199 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4199 RNA, herein designated GAM RNA, of GAM4199 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4199 target RNA, herein designated GAM

TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4199 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4199 RNA correlate with, and may be deduced from, the identity of the GAM4199 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4205 140789 GCTGTCAGAT Fig. 8 further provides a conceptual description of another novel bioinformatically
CAGGTTCCTG detected oligonucleotides of the present invention, referred to here as Genomic Address
ATTGGAGTTC Messenger 4205 (GAM4205) oligonucleotides modulates expression of respective target genes
TCTTATCTGC whose function and utility is known in the art.

TCTGGTTTGG GAM4205 is a novel bioinformatically detectable regulatory, non protein coding,
AGGGCTGCCC micro RNA (miRNA)-like oligonucleotide. The method by which GAM4205 was detected is

CATTCGGGAA described with additional reference to Figs. 9-15.

TCTGTTTTGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTTGC encoded by the human genome.

GAM4205 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4205

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4205
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4205 precursor RNA is designated SEQ ID:140789, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140789 is located from position 110102091 to position 110102175 relative to chromosome chr13 on the `-` strand (chr is an abbreviation for chromosome).

GAM4205 precursor RNA folds onto itself, forming GAM4205 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4205 precursor RNA, designated SEQ ID NO: 140789, and a schematic representation of a predicted secondary folding of GAM4205 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4205 folded precursor RNA yielding a GAM4205 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor

product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4205 RNA, hereby incorporated herein.

GAM4205 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4205 target RNA, herein designated GAM TARGET RNA. GAM4205 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4205 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4205 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4205 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4205 RNA, herein designated GAM RNA, to target binding sites on GAM4205 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4205 target RNA into GAM4205 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4205 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4205 target genes. The mRNA of each one of this plurality of GAM4205 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4205 RNA, herein designated GAM RNA, and which when bound by GAM4205 RNA causes inhibition of translation of the GAM4205 target mRNA into a corresponding GAM4205 target protein.

The mechanism of the translational inhibition exerted by GAM4205 RNA, herein designated GAM RNA, on one or more GAM4205 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4205 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4205 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4205 RNA, herein designated GAM RNA, of GAM4205 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4205 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4205 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4205 RNA correlate with, and may be deduced from, the identity of the GAM4205 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4238 140790 CTCCTGTAGT Fig. 8 further provides a conceptual description of another novel bioinformatically
CCTAGAGCGT detected oligonucleotides of the present invention, referred to here as Genomic Address
TTCTCTTGAA Messenger 4238 (GAM4238) oligonucleotides modulates expression of respective target genes
CCCTAATTTT whose function and utility is known in the art.

TAGGTCTCAA GAM4238 is a novel bioinformatically detectable regulatory, non protein coding,
AGAGTGGGCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM4238 was detected is

TCAGAGATAA described with additional reference to Figs. 9-15.

AGAGGTTTAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCAGGGACAG encoded by the human genome.

GGCGAGGAG GAM4238 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4238
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4238
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4238 precursor RNA is designated SEQ ID:140790, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140790 is located from position 42216969 to position 42217067 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM4238 precursor RNA folds onto itself, forming GAM4238 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4238 precursor RNA, designated SEQ ID NO: 140790, and a schematic representation of a predicted secondary folding of GAM4238 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4238 folded precursor RNA yielding a GAM4238 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4238 RNA, hereby incorporated herein.

GAM4238 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4238 target RNA, herein designated GAM TARGET RNA. GAM4238 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4238 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4238 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4238 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4238 RNA, herein designated GAM RNA, to target binding sites on GAM4238 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4238 target RNA into GAM4238 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4238 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4238 target genes. The mRNA of each one of this plurality of GAM4238 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4238 RNA, herein designated GAM RNA, and which when bound by GAM4238 RNA causes inhibition of translation of the GAM4238 target mRNA into a corresponding GAM4238 target protein.

The mechanism of the translational inhibition exerted by GAM4238 RNA, herein designated GAM RNA, on one or more GAM4238 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4238 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4238 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4238 RNA, herein designated GAM RNA, of GAM4238 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4238 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4238 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4238 RNA correlate with, and may be deduced from, the identity of the GAM4238 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4243 140791 AAAGGCAGAC Fig. 8 further provides a conceptual description of another novel bioinformatically

GGTGAATGCC detected oligonucleotides of the present invention, referred to here as Genomic Address

TTGAGAAATT Messenger 4243 (GAM4243) oligonucleotides modulates expression of respective target genes

GTTCAGATTC whose function and utility is known in the art.

AAGGACAAGC GAM4243 is a novel bioinformatically detectable regulatory, non protein coding,

ATTTGTTGCC micro RNA (miRNA)-like oligonucleotide. The method by which GAM4243 was detected is

TTT described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM4243 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4243

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4243

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4243 precursor RNA is designated SEQ ID:140791, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140791 is located from position 62347057 to position 62347119 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM4243 precursor RNA folds onto itself, forming GAM4243 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4243 precursor RNA, designated SEQ ID NO: 140791, and a schematic representation of a predicted secondary folding of GAM4243 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4243 folded precursor RNA yielding a GAM4243 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4243 RNA, hereby incorporated herein.

GAM4243 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4243 target RNA, herein designated GAM TARGET RNA. GAM4243 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4243 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4243 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4243 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4243 RNA, herein designated GAM RNA, to target binding sites on GAM4243 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4243 target RNA into GAM4243 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4243 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4243 target genes. The mRNA of each one of this plurality of GAM4243 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4243 RNA, herein designated GAM RNA, and which when bound by GAM4243 RNA causes inhibition of translation of the GAM4243 target mRNA into a corresponding GAM4243 target protein.

The mechanism of the translational inhibition exerted by GAM4243 RNA, herein designated GAM RNA, on one or more GAM4243 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4243 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4243 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4243 RNA, herein designated GAM RNA, of GAM4243 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4243 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4243 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4243 RNA correlate with, and may be deduced from, the identity of the GAM4243 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4298 140792 GTGAGGCTCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GGCAAGGTGT detected oligonucleotides of the present invention, referred to here as Genomic Address

GGGCTAGAGA Messenger 4298 (GAM4298) oligonucleotides modulates expression of respective target genes

TGCGACTCAG whose function and utility is known in the art.

TTGGATCTAT GAM4298 is a novel bioinformatically detectable regulatory, non protein coding,

CTCTCAGAAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM4298 was detected is

GCTACCTTGT described with additional reference to Figs. 9-15.

AAGTAGAGTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCAC encoded by the human genome.

GAM4298 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4298

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4298

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4298 precursor RNA is designated SEQ ID:140792, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140792 is located from position 111675686 to position 111675769 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM4298 precursor RNA folds onto itself, forming GAM4298 folded precursor RNA,

herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4298 precursor RNA, designated SEQ ID NO: 140792, and a schematic representation of a predicted secondary folding of GAM4298 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4298 folded precursor RNA yielding a GAM4298 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4298 RNA, hereby incorporated herein.

GAM4298 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4298 target RNA, herein designated GAM TARGET RNA. GAM4298 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4298 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4298 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4298 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4298 RNA, herein designated GAM RNA, to target binding sites on GAM4298 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4298 target RNA into GAM4298 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4298 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4298 target genes. The mRNA of each one of this plurality of GAM4298 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4298 RNA, herein designated GAM RNA, and which when bound by GAM4298 RNA causes inhibition of translation of the GAM4298 target mRNA into a corresponding GAM4298 target protein.

The mechanism of the translational inhibition exerted by GAM4298 RNA, herein designated GAM RNA, on one or more GAM4298 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4298 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4298 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4298 RNA, herein designated GAM RNA, of GAM4298 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4298 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4298 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4298 RNA correlate with, and may be deduced from, the identity of the GAM4298 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4315 140793 CAGATTGCAC Fig. 8 further provides a conceptual description of another novel bioinformatically

GAACATTTCA detected oligonucleotides of the present invention, referred to here as Genomic Address

TTTTTCACAC Messenger 4315 (GAM4315) oligonucleotides modulates expression of respective target genes

AGGGTCACCA whose function and utility is known in the art.

GAATACCATC GAM4315 is a novel bioinformatically detectable regulatory, non protein coding,

AATTTTTTGG micro RNA (miRNA)-like oligonucleotide. The method by which GAM4315 was detected is

TATCACTGTC described with additional reference to Figs. 9-15.

AAAAGTGATC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTAGCACCTT encoded by the human genome.

CTGAAATAAC GAM4315 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4315

GTGAGCTG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4315

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4315 precursor RNA is designated SEQ ID:140793, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140793 is located from position 75288703 to position 75288810 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM4315 precursor RNA folds onto itself, forming GAM4315 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4315 precursor RNA, designated SEQ ID NO: 140793, and a schematic representation of a predicted secondary folding of GAM4315 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4315 folded precursor RNA yielding a GAM4315 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4315 RNA, hereby incorporated herein.

GAM4315 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4315 target RNA, herein designated GAM TARGET RNA. GAM4315 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4315 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4315 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4315 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4315 RNA, herein designated GAM RNA, to target binding sites on GAM4315 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4315 target RNA into GAM4315 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4315 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM4315 target genes. The mRNA of each one of this plurality of GAM4315 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4315 RNA, herein designated GAM RNA, and which when bound by GAM4315 RNA causes inhibition of translation of the GAM4315 target mRNA into a corresponding GAM4315 target protein.

The mechanism of the translational inhibition exerted by GAM4315 RNA, herein designated GAM RNA, on one or more GAM4315 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4315 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4315 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4315 RNA, herein designated GAM RNA, of GAM4315 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4315 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4315 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4315 RNA correlate with, and may be deduced from, the identity of the GAM4315 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4364 140794 AATGTTCTGG Fig. 8 further provides a conceptual description of another novel bioinformatically
CACATAGTAA detected oligonucleotides of the present invention, referred to here as Genomic Address
TTAATTAAGA Messenger 4364 (GAM4364) oligonucleotides modulates expression of respective target genes
AAATCGAGCA whose function and utility is known in the art.

CCCTTAATTA GAM4364 is a novel bioinformatically detectable regulatory, non protein coding,
CCTAGAATGC micro RNA (miRNA)-like oligonucleotide. The method by which GAM4364 was detected is

AGGGTTGTTA described with additional reference to Figs. 9-15.

GTTTTTTGGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGACTTTTGT encoded by the human genome.

TTTGCTGGGG GAM4364 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4364

CATT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4364 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4364 precursor RNA is designated SEQ ID:140794, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140794 is located from position 98918395 to position 98918498 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM4364 precursor RNA folds onto itself, forming GAM4364 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4364 precursor RNA, designated SEQ ID NO: 140794, and a schematic representation of a predicted secondary folding of GAM4364 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4364 folded precursor RNA yielding a GAM4364 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4364 RNA, hereby incorporated herein.

GAM4364 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4364 target RNA, herein designated GAM TARGET RNA. GAM4364 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4364 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4364 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4364 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4364 RNA, herein designated GAM RNA, to target binding sites on GAM4364 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4364 target RNA

into GAM4364 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4364 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4364 target genes. The mRNA of each one of this plurality of GAM4364 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4364 RNA, herein designated GAM RNA, and which when bound by GAM4364 RNA causes inhibition of translation of the GAM4364 target mRNA into a corresponding GAM4364 target protein.

The mechanism of the translational inhibition exerted by GAM4364 RNA, herein designated GAM RNA, on one or more GAM4364 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4364 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4364 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4364 RNA, herein designated GAM RNA, of GAM4364 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4364 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4364 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4364 RNA correlate with, and may be deduced from, the identity of the GAM4364 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4376 140795 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AAATTGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCCAGGAG Messenger 4376 (GAM4376) oligonucleotides modulates expression of respective target genes
GTAGAGGTTG whose function and utility is known in the art.

CAGTGAGTCA GAM4376 is a novel bioinformatically detectable regulatory, non protein coding,
AGATCATGCC micro RNA (miRNA)-like oligonucleotide. The method by which GAM4376 was detected is

ATTGCACTCC described with additional reference to Figs. 9-15.

AACCTGGGCG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAAGAGCAA encoded by the human genome.

AACTCTGTCT GAM4376 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4376 C precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4376 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4376 precursor RNA is designated SEQ ID:140795, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140795 is located from position 182465 to position 182565 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM4376 precursor RNA folds onto itself, forming GAM4376 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4376 precursor RNA, designated SEQ ID NO: 140795, and a schematic representation of a predicted secondary folding of GAM4376 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4376 folded precursor RNA yielding a GAM4376 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4376 RNA, hereby incorporated herein.

GAM4376 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4376 target RNA, herein designated GAM TARGET RNA. GAM4376 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4376 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4376 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4376 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4376 RNA, herein designated GAM RNA, to target binding sites on GAM4376 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4376 target RNA into GAM4376 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4376 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4376 target genes. The mRNA of each one of this plurality of GAM4376 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4376 RNA, herein designated GAM RNA, and which when bound by GAM4376 RNA causes inhibition of translation of the GAM4376 target mRNA into a corresponding GAM4376 target protein.

The mechanism of the translational inhibition exerted by GAM4376 RNA, herein designated GAM RNA, on one or more GAM4376 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4376 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4376 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4376 RNA, herein designated GAM RNA, of GAM4376 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4376 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4376 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4376 RNA correlate with, and may be deduced from, the identity of the GAM4376 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4377 140796 TCCCTCTGCT AGTGAGTACA AATGAAGTCT GTGGGCCAAC AAGGAGCGAG GAGCAGTTTC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 4377 (GAM4377) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM4377 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM4377 was detected is

CTGGAAGCCC described with additional reference to Figs. 9-15.

TGGGCTGGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTTGACTTGC encoded by the human genome.

TTTGAGATAG GAM4377 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4377

AATAAATGGG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4377

A precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4377 precursor RNA is designated SEQ ID:140796, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140796 is located from position 49418894 to position 49419004 relative to chromosome chr20 on the `-` strand (chr is an abbreviation for chromosome).

GAM4377 precursor RNA folds onto itself, forming GAM4377 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4377 precursor RNA, designated SEQ ID NO: 140796, and a schematic representation of a predicted secondary folding of GAM4377 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4377 folded precursor RNA yielding a GAM4377 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM4377 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4377 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM4377 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4377 target RNA, herein designated GAM TARGET RNA. GAM4377 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4377 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4377 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4377 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4377 RNA, herein designated GAM RNA, to target binding sites on GAM4377 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4377 target RNA into GAM4377 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4377 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4377 target genes. The mRNA of each one of this plurality of GAM4377 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4377 RNA, herein designated GAM RNA, and which when bound by GAM4377 RNA causes inhibition of translation of the GAM4377 target mRNA into a corresponding GAM4377 target protein.

The mechanism of the translational inhibition exerted by GAM4377 RNA, herein designated GAM RNA, on one or more GAM4377 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4377 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4377 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4377 RNA, herein designated GAM RNA, of GAM4377 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4377 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4377 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4377 RNA correlate with, and may be deduced from, the identity of the GAM4377 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4382 140797 CATCAGCTAT TCCTGTTCTA GAAAGGGCAC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 4382 (GAM4382) oligonucleotides modulates expression of respective target genes

TCTGGCTGCA whose function and utility is known in the art.

ATGTGGAGGA GAM4382 is a novel bioinformatically detectable regulatory, non protein coding, GGGAGTGACT micro RNA (miRNA)-like oligonucleotide. The method by which GAM4382 was detected is

GGAGGAAGGG described with additional reference to Figs. 9-15.

AGGTAAGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM4382 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4382

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4382

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4382 precursor RNA is designated SEQ ID:140797, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140797 is located from position 98489976 to position 98490054 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM4382 precursor RNA folds onto itself, forming GAM4382 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4382 precursor RNA, designated SEQ ID NO: 140797, and a schematic representation of a predicted secondary folding of GAM4382 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4382 folded precursor RNA yielding a GAM4382 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4382 RNA, hereby incorporated herein.

GAM4382 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4382 target RNA, herein designated GAM TARGET RNA. GAM4382 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4382 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4382 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4382 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4382 RNA, herein designated GAM RNA, to target binding sites on GAM4382 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4382 target RNA into GAM4382 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4382 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4382 target genes. The mRNA of each one of this plurality of GAM4382 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4382 RNA, herein designated GAM RNA, and which when bound by GAM4382 RNA causes inhibition of translation of the GAM4382 target mRNA into a corresponding GAM4382 target protein.

The mechanism of the translational inhibition exerted by GAM4382 RNA, herein designated GAM RNA, on one or more GAM4382 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4382 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4382 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4382 RNA, herein designated GAM RNA, of GAM4382 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4382 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4382 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4382 RNA correlate with, and may be deduced from, the identity of the GAM4382 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4398 140798 TGGTGGGACA Fig. 8 further provides a conceptual description of another novel bioinformatically
CAGAGCCAGT detected oligonucleotides of the present invention, referred to here as Genomic Address
GACTGACATA Messenger 4398 (GAM4398) oligonucleotides modulates expression of respective target genes
GAAGAGCAGT whose function and utility is known in the art.

GGGGTAGAAT GAM4398 is a novel bioinformatically detectable regulatory, non protein coding,
TACAGTTCCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM4398 was detected is

TCTGGTGCCT described with additional reference to Figs. 9-15.

TTTCTCTGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAAAGCTGTA encoded by the human genome.

TCCATCACCA GAM4398 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4398
CCA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4398

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4398 precursor RNA is designated SEQ ID:140798, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140798 is located from position 50452834 to position 50452936 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM4398 precursor RNA folds onto itself, forming GAM4398 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4398 precursor RNA, designated SEQ ID NO: 140798, and a schematic representation of a predicted secondary folding of GAM4398 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4398 folded precursor RNA yielding a GAM4398 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4398 RNA, hereby incorporated herein.

GAM4398 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4398 target RNA, herein designated GAM TARGET RNA. GAM4398 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated

region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4398 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4398 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4398 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4398 RNA, herein designated GAM RNA, to target binding sites on GAM4398 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4398 target RNA into GAM4398 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4398 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4398 target genes. The mRNA of each one of this plurality of GAM4398 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4398 RNA, herein designated GAM RNA, and which when bound by GAM4398 RNA causes inhibition of translation of the GAM4398 target mRNA into a corresponding GAM4398 target protein.

The mechanism of the translational inhibition exerted by GAM4398 RNA, herein designated GAM RNA, on one or more GAM4398 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4398 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4398 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4398 RNA, herein designated GAM RNA, of GAM4398 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4398 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4398 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4398 RNA correlate with, and may be deduced from, the identity of the GAM4398 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4408 140799 AGTATCTGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
ATTCTATTGT detected oligonucleotides of the present invention, referred to here as Genomic Address
GTGTGAGTCT Messenger 4408 (GAM4408) oligonucleotides modulates expression of respective target genes
GTGCAGGAAC whose function and utility is known in the art.

ACAATGAGTC GAM4408 is a novel bioinformatically detectable regulatory, non protein coding,
TCAAAGTGAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM4408 was detected is

AAAAACTTTG described with additional reference to Figs. 9-15.

GATTCCTGGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCCTACAGCA encoded by the human genome.

CTTTTGTTCA GAM4408 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4408
GATACT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4408

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4408 precursor RNA is designated SEQ ID:140799, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140799 is located from position 138777302 to position 138777407 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM4408 precursor RNA folds onto itself, forming GAM4408 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4408 precursor RNA, designated SEQ ID NO: 140799, and a schematic representation of a predicted secondary folding of GAM4408 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4408 folded precursor RNA yielding a GAM4408 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM4408 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4408 RNA and an

alternative nucleotide sequence thereof, hereby incorporated herein.

GAM4408 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4408 target RNA, herein designated GAM TARGET RNA. GAM4408 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4408 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4408 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4408 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4408 RNA, herein designated GAM RNA, to target binding sites on GAM4408 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4408 target RNA into GAM4408 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4408 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4408 target genes. The mRNA of each one of this plurality of GAM4408 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4408 RNA, herein designated GAM RNA, and which when bound by GAM4408 RNA causes inhibition of translation of the GAM4408 target mRNA into a corresponding GAM4408 target protein.

The mechanism of the translational inhibition exerted by GAM4408 RNA, herein designated GAM RNA, on one or more GAM4408 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4408 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4408 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4408 RNA, herein designated GAM RNA, of GAM4408 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4408 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4408 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4408 RNA correlate with, and may be deduced from, the identity of the GAM4408 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4423 140800 GCTGCAGTGG Fig. 8 further provides a conceptual description of another novel bioinformatically
AAAGGAGTTT detected oligonucleotides of the present invention, referred to here as Genomic Address
GTGACATTGA Messenger 4423 (GAM4423) oligonucleotides modulates expression of respective target genes
CATTGACAGC whose function and utility is known in the art.

ATGAAAATGG GAM4423 is a novel bioinformatically detectable regulatory, non protein coding,
GTCTTGCCAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM4423 was detected is

TGCATGTGAG described with additional reference to Figs. 9-15.

ACTGCCTCCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AACACTCAGC encoded by the human genome.

GAM4423 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4423

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4423

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4423 precursor RNA is designated SEQ ID:140800, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140800 is located from position 40086542 to position 40086631 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM4423 precursor RNA folds onto itself, forming GAM4423 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4423 precursor RNA, designated SEQ ID NO: 140800, and a schematic representation of a predicted secondary folding of GAM4423 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4423 folded precursor RNA

yielding a GAM4423 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM4423 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4423 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM4423 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4423 target RNA, herein designated GAM TARGET RNA. GAM4423 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4423 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4423 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4423 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4423 RNA, herein designated GAM RNA, to target binding sites on GAM4423 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4423 target RNA into GAM4423 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4423 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4423 target genes. The mRNA of each one of this plurality of GAM4423 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4423 RNA, herein designated GAM RNA, and which when bound by GAM4423 RNA causes inhibition of translation of the GAM4423 target mRNA into a corresponding GAM4423 target protein.

The mechanism of the translational inhibition exerted by GAM4423 RNA, herein designated GAM RNA, on one or more GAM4423 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4423 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4423 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4423 RNA, herein designated GAM RNA, of GAM4423 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4423 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4423 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4423 RNA correlate with, and may be deduced from, the identity of the GAM4423 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4426 140801 TTGTGGATAT Fig. 8 further provides a conceptual description of another novel bioinformatically

TGAAGTTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

AGCCTGTTGT Messenger 4426 (GAM4426) oligonucleotides modulates expression of respective target genes

TCATCTATAG whose function and utility is known in the art.

ATGCACTGGA GAM4426 is a novel bioinformatically detectable regulatory, non protein coding,

TGGGATTGGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM4426 was detected is

AGTCTTCAGA described with additional reference to Figs. 9-15.

TTTCAGTAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTTTTCCACA encoded by the human genome.

A GAM4426 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4426

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4426

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4426 precursor RNA is designated SEQ ID:140801, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140801 is located from position 77432988 to position 77433078 relative to chromosome chr1 on the `-` strand (chr is an abbreviation for chromosome).

GAM4426 precursor RNA folds onto itself, forming GAM4426 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4426 precursor RNA, designated SEQ ID NO: 140801, and a schematic representation of a predicted secondary folding of GAM4426 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4426 folded precursor RNA yielding a GAM4426 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4426 RNA, hereby incorporated herein. Expression of GAM4426 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM4426 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4426 target RNA, herein designated GAM TARGET RNA. GAM4426 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4426 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4426 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4426 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4426 RNA, herein designated GAM RNA, to target binding sites on GAM4426 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4426 target RNA into GAM4426 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4426 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4426 target genes. The mRNA of each one of this plurality of GAM4426 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4426 RNA, herein designated GAM RNA, and which when bound by GAM4426 RNA causes inhibition of translation of the GAM4426 target mRNA into a corresponding GAM4426 target protein.

The mechanism of the translational inhibition exerted by GAM4426 RNA, herein designated GAM RNA, on one or more GAM4426 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4426 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4426 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4426 RNA, herein designated GAM RNA, of GAM4426 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4426 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4426 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4426 RNA correlate with, and may be deduced from, the identity of the GAM4426 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4429 140802 GTGGCTCGAC Fig. 8 further provides a conceptual description of another novel bioinformatically

TCTTGACCAT detected oligonucleotides of the present invention, referred to here as Genomic Address

GGCTGGGGTT Messenger 4429 (GAM4429) oligonucleotides modulates expression of respective target genes

CCTGAGGATG whose function and utility is known in the art.

AGCTAAACCC GAM4429 is a novel bioinformatically detectable regulatory, non protein coding,

TTTCCATGTA micro RNA (miRNA)-like oligonucleotide. The method by which GAM4429 was detected is

CTGGGGGTTG described with additional reference to Figs. 9-15.

AGGCCAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM4429 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4429

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4429

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4429 precursor RNA is designated SEQ ID:140802, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140802 is located from position 55937832 to position 55937908 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM4429 precursor RNA folds onto itself, forming GAM4429 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4429 precursor RNA, designated SEQ ID NO: 140802, and a schematic representation of a predicted secondary folding of GAM4429 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4429 folded precursor RNA yielding a GAM4429 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4429 RNA, hereby incorporated herein.

GAM4429 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4429 target RNA, herein designated GAM TARGET RNA. GAM4429 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4429 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4429 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4429 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4429 RNA, herein designated GAM RNA, to target binding sites on GAM4429 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4429 target RNA into GAM4429 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4429 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4429 target genes. The mRNA of each one of this plurality of GAM4429 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4429 RNA, herein designated GAM RNA, and which when bound by GAM4429 RNA causes inhibition of translation

of the GAM4429 target mRNA into a corresponding GAM4429 target protein.

The mechanism of the translational inhibition exerted by GAM4429 RNA, herein designated GAM RNA, on one or more GAM4429 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4429 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4429 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4429 RNA, herein designated GAM RNA, of GAM4429 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4429 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4429 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4429 RNA correlate with, and may be deduced from, the identity of the GAM4429 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4432 140803 CAACAGGTGC Fig. 8 further provides a conceptual description of another novel bioinformatically
AAGTGTTAAA detected oligonucleotides of the present invention, referred to here as Genomic Address
GGGTATGATC Messenger 4432 (GAM4432) oligonucleotides modulates expression of respective target genes
CTTCAGTGGA whose function and utility is known in the art.

ACAAAGCCTC GAM4432 is a novel bioinformatically detectable regulatory, non protein coding,
CGTGTCACCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM4432 was detected is

GAGGGATAGC described with additional reference to Figs. 9-15.

AACATGCCTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAAGCACTGC encoded by the human genome.

AAGAGTTG GAM4432 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4432
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4432
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

to the nucleotide sequence of GAM4432 precursor RNA is designated SEQ ID:140803, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140803 is located from position 27028798 to position 27028895 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM4432 precursor RNA folds onto itself, forming GAM4432 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4432 precursor RNA, designated SEQ ID NO: 140803, and a schematic representation of a predicted secondary folding of GAM4432 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4432 folded precursor RNA yielding a GAM4432 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4432 RNA, hereby incorporated herein.

GAM4432 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4432 target RNA, herein designated GAM TARGET RNA. GAM4432 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4432 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4432 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4432 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4432 RNA, herein designated GAM RNA, to target binding sites on GAM4432 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4432 target RNA into GAM4432 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4432 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4432 target genes. The mRNA of each one of this plurality of GAM4432 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4432 RNA, herein designated GAM RNA, and which when bound by GAM4432 RNA causes inhibition of translation of the GAM4432 target mRNA into a corresponding GAM4432 target protein.

The mechanism of the translational inhibition exerted by GAM4432 RNA, herein designated GAM RNA, on one or more GAM4432 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4432 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4432 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4432 RNA, herein designated GAM RNA, of GAM4432 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4432 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4432 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4432 RNA correlate with, and may be deduced from, the identity of the GAM4432 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4446 140804 TCCCACAGTC Fig. 8 further provides a conceptual description of another novel bioinformatically

GGGAGGAAAA detected oligonucleotides of the present invention, referred to here as Genomic Address

GAAAGAAGAC Messenger 4446 (GAM4446) oligonucleotides modulates expression of respective target genes

TCTGTTGTTC whose function and utility is known in the art.

ATTGTTTTTA GAM4446 is a novel bioinformatically detectable regulatory, non protein coding,

TCTTTTTCTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM4446 was detected is

CAGATGCCTG described with additional reference to Figs. 9-15.

TGGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM4446 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4446 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4446 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4446 precursor RNA is designated SEQ ID:140804, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140804 is located from position 117986909 to position 117986983 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM4446 precursor RNA folds onto itself, forming GAM4446 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4446 precursor RNA, designated SEQ ID NO: 140804, and a schematic representation of a predicted secondary folding of GAM4446 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4446 folded precursor RNA yielding a GAM4446 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM4446 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4446 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM4446 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4446 target RNA, herein designated GAM TARGET RNA. GAM4446 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4446 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4446 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4446 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4446 RNA, herein designated GAM RNA, to target binding sites on GAM4446 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4446 target RNA into GAM4446 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4446 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4446 target genes. The mRNA of each one of this plurality of GAM4446 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4446 RNA, herein designated GAM RNA, and which when bound by GAM4446 RNA causes inhibition of translation of the GAM4446 target mRNA into a corresponding GAM4446 target protein.

The mechanism of the translational inhibition exerted by GAM4446 RNA, herein designated GAM RNA, on one or more GAM4446 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4446 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4446 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4446 RNA, herein designated GAM RNA, of GAM4446 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4446 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4446 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4446 RNA correlate with, and may be deduced from, the identity of the GAM4446 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4448 140805 CACTTTCATG TCTGCCTTCT TTGCTGGAAG GTGCCTCCCT ATTCCACAGA CTTTGGATCA

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 4448 (GAM4448) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM4448 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM4448 was detected is

GTGGGTGTGG described with additional reference to Figs. 9-15.

GGGAATCCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGCAGACCAT encoded by the human genome.

GAAATG GAM4448 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4448 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4448 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4448 precursor RNA is designated SEQ ID:140805, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140805 is located from position 33327986 to position 33328081 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM4448 precursor RNA folds onto itself, forming GAM4448 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4448 precursor RNA, designated SEQ ID NO: 140805, and a schematic representation of a predicted secondary folding of GAM4448 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4448 folded precursor RNA yielding a GAM4448 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4448 RNA, hereby incorporated herein.

GAM4448 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4448 target RNA, herein designated GAM TARGET RNA. GAM4448 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4448 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4448 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4448 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4448 RNA, herein designated GAM RNA, to target binding sites on GAM4448 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4448 target RNA into GAM4448 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4448 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4448 target genes. The mRNA of each one of this plurality of GAM4448 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4448 RNA, herein designated GAM RNA, and which when bound by GAM4448 RNA causes inhibition of translation of the GAM4448 target mRNA into a corresponding GAM4448 target protein.

The mechanism of the translational inhibition exerted by GAM4448 RNA, herein designated GAM RNA, on one or more GAM4448 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4448 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4448 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4448 RNA, herein designated GAM RNA, of GAM4448 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4448 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4448 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4448 RNA correlate with, and may be deduced from, the identity of the GAM4448 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4459 140806 GAAGAGGCCT Fig. 8 further provides a conceptual description of another novel bioinformatically
TTACTCCTGT detected oligonucleotides of the present invention, referred to here as Genomic Address
TTTCTTCCAT Messenger 4459 (GAM4459) oligonucleotides modulates expression of respective target genes

TCTCACCCCT whose function and utility is known in the art.

CTGTTTCTGC GAM4459 is a novel bioinformatically detectable regulatory, non protein coding,
CAGAATTGTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM4459 was detected is

ACAGCAGGGC described with additional reference to Figs. 9-15.

AGAAAATGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTTTTCGTGC encoded by the human genome.

AGAGTTGACA GAM4459 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4459
AGATACAGGG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4459
TAGTGAAGAC precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar
AAGAATCTTC to the nucleotide sequence of GAM4459 precursor RNA is designated SEQ ID:140806, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140806 is located from position 18267651 to position 18267780 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM4459 precursor RNA folds onto itself, forming GAM4459 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4459 precursor RNA, designated SEQ ID NO: 140806, and a schematic representation of a predicted secondary folding of GAM4459 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4459 folded precursor RNA yielding a GAM4459 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4459 RNA, hereby incorporated herein.

GAM4459 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4459 target RNA, herein designated GAM TARGET RNA. GAM4459 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4459 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM4459 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4459 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4459 RNA, herein designated GAM RNA, to target binding sites on GAM4459 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4459 target RNA into GAM4459 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4459 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4459 target genes. The mRNA of each one of this plurality of GAM4459 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4459 RNA, herein designated GAM RNA, and which when bound by GAM4459 RNA causes inhibition of translation of the GAM4459 target mRNA into a corresponding GAM4459 target protein.

The mechanism of the translational inhibition exerted by GAM4459 RNA, herein designated GAM RNA, on one or more GAM4459 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4459 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4459 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4459 RNA, herein designated GAM RNA, of GAM4459 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4459 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4459 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4459 RNA correlate with, and may be deduced from, the identity of the GAM4459 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4516 140807 GGAGACGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically
ACATACACAG detected oligonucleotides of the present invention, referred to here as Genomic Address
AAGATTCAGA Messenger 4516 (GAM4516) oligonucleotides modulates expression of respective target genes
CACACTTGCA whose function and utility is known in the art.

ATGTATTGCT GAM4516 is a novel bioinformatically detectable regulatory, non protein coding,
GGGGATTCTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM4516 was detected is

CAGCATTGGC described with additional reference to Figs. 9-15.

ATGATGGAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGGTGGAGAA encoded by the human genome.

TCATTTGACC GAM4516 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4516
GCCTCC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4516

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4516 precursor RNA is designated SEQ ID:140807, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140807 is located from position 50034558 to position 50034663 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM4516 precursor RNA folds onto itself, forming GAM4516 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4516 precursor RNA, designated SEQ ID NO: 140807, and a schematic representation of a predicted secondary folding of GAM4516 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4516 folded precursor RNA yielding a GAM4516 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4516 RNA, hereby incorporated herein.

GAM4516 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4516 target RNA, herein designated GAM TARGET RNA. GAM4516 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4516 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4516 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4516 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4516 RNA, herein designated GAM RNA, to target binding sites on GAM4516 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4516 target RNA into GAM4516 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4516 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4516 target genes. The mRNA of each one of this plurality of GAM4516 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4516 RNA, herein designated GAM RNA, and which when bound by GAM4516 RNA causes inhibition of translation of the GAM4516 target mRNA into a corresponding GAM4516 target protein.

The mechanism of the translational inhibition exerted by GAM4516 RNA, herein designated GAM RNA, on one or more GAM4516 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4516 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4516 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4516 RNA, herein designated GAM RNA, of GAM4516 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4516 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4516 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4516 RNA correlate with, and may be deduced from, the identity of the GAM4516 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4538 140808 TCCCTCCTGT Fig. 8 further provides a conceptual description of another novel bioinformatically
GTCCCAAAAC detected oligonucleotides of the present invention, referred to here as Genomic Address
GAAAACACTC Messenger 4538 (GAM4538) oligonucleotides modulates expression of respective target genes
CTATATTTTG whose function and utility is known in the art.

TAGCGCCTTC GAM4538 is a novel bioinformatically detectable regulatory, non protein coding,
CAGAATGGGG micro RNA (miRNA)-like oligonucleotide. The method by which GAM4538 was detected is

CAGCGGAAAC described with additional reference to Figs. 9-15.

TAGTGTTGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAAAGGAGG encoded by the human genome.

CGA GAM4538 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4538
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4538
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4538 precursor RNA is designated SEQ ID:140808, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140808 is located from position 53161338 to position 53161430 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM4538 precursor RNA folds onto itself, forming GAM4538 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4538 precursor RNA, designated SEQ ID NO: 140808, and a schematic representation of a predicted secondary folding of GAM4538 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4538 folded precursor RNA yielding a GAM4538 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM4538 RNA: a nucleotide sequence that is highly

likely to be identical or highly similar to the nucleotide sequence of GAM4538 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM4538 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4538 target RNA, herein designated GAM TARGET RNA. GAM4538 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4538 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4538 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4538 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4538 RNA, herein designated GAM RNA, to target binding sites on GAM4538 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4538 target RNA into GAM4538 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4538 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4538 target genes. The mRNA of each one of this plurality of GAM4538 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4538 RNA, herein designated GAM RNA, and which when bound by GAM4538 RNA causes inhibition of translation of the GAM4538 target mRNA into a corresponding GAM4538 target protein.

The mechanism of the translational inhibition exerted by GAM4538 RNA, herein designated GAM RNA, on one or more GAM4538 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4538 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4538 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4538 RNA, herein designated GAM RNA, of GAM4538 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4538 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4538 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4538 RNA correlate with, and may be deduced from, the identity of the GAM4538 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4544 140809 TATGAACTGG Fig. 8 further provides a conceptual description of another novel bioinformatically

CCACTTTTCA detected oligonucleotides of the present invention, referred to here as Genomic Address

GATGAAACCT Messenger 4544 (GAM4544) oligonucleotides modulates expression of respective target genes

GGTGGGCCAG whose function and utility is known in the art.

CTCTGTGGGG GAM4544 is a novel bioinformatically detectable regulatory, non protein coding,

TGATGCATTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM4544 was detected is

AAAAGGGCAG described with additional reference to Figs. 9-15.

TTCATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM4544 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4544

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4544

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4544 precursor RNA is designated SEQ ID:140809, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140809 is located from position 100974291 to position 100974366 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM4544 precursor RNA folds onto itself, forming GAM4544 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4544 precursor RNA, designated SEQ ID NO: 140809, and a schematic representation of a predicted secondary folding of GAM4544 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4544 folded precursor RNA yielding a GAM4544 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM4544 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4544 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM4544 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4544 target RNA, herein designated GAM TARGET RNA. GAM4544 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4544 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4544 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4544 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4544 RNA, herein designated GAM RNA, to target binding sites on GAM4544 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4544 target RNA into GAM4544 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4544 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4544 target genes. The mRNA of each one of this plurality of GAM4544 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4544 RNA, herein designated GAM RNA, and which when bound by GAM4544 RNA causes inhibition of translation of the GAM4544 target mRNA into a corresponding GAM4544 target protein.

The mechanism of the translational inhibition exerted by GAM4544 RNA, herein designated GAM RNA, on one or more GAM4544 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4544 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4544 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4544 RNA, herein designated GAM RNA, of GAM4544 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4544 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4544 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4544 RNA correlate with, and may be deduced from, the identity of the GAM4544 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4557 140810 TTAGCACCTG Fig. 8 further provides a conceptual description of another novel bioinformatically

CCTATATTAC detected oligonucleotides of the present invention, referred to here as Genomic Address

ATTCATTTTG Messenger 4557 (GAM4557) oligonucleotides modulates expression of respective target genes

ATGGTTTGTA whose function and utility is known in the art.

TCTCAAAGGA GAM4557 is a novel bioinformatically detectable regulatory, non protein coding,

GTACAGTGAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM4557 was detected is

CGAAACTTGT described with additional reference to Figs. 9-15.

TTAAAGATAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACCGGAAAGA encoded by the human genome.

AAAAGAGAAG GAM4557 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4557

AGGCAGAGTG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4557

GCTTG precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4557 precursor RNA is designated SEQ ID:140810, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140810 is located from position 88520248 to position 88520362 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM4557 precursor RNA folds onto itself, forming GAM4557 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4557 precursor RNA, designated SEQ ID NO: 140810, and a schematic representation of a predicted secondary folding of GAM4557 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4557 folded precursor RNA yielding a GAM4557 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4557 RNA, hereby incorporated herein.

GAM4557 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4557 target RNA, herein designated GAM TARGET RNA. GAM4557 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4557 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4557 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4557 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4557 RNA, herein designated GAM RNA, to target binding sites on GAM4557 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4557 target RNA into GAM4557 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4557 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4557 target genes. The mRNA of each one of this plurality of GAM4557 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4557 RNA, herein designated GAM RNA, and which when bound by GAM4557 RNA causes inhibition of translation of the GAM4557 target mRNA into a corresponding GAM4557 target protein.

The mechanism of the translational inhibition exerted by GAM4557 RNA, herein designated GAM RNA, on one or more GAM4557 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4557 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4557 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4557 RNA, herein designated GAM RNA, of GAM4557 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4557 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4557 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4557 RNA correlate with, and may be deduced from, the identity of the GAM4557 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4561 140811 CCACACCAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GGCTGTGACC detected oligonucleotides of the present invention, referred to here as Genomic Address

ATGGCTAGTA Messenger 4561 (GAM4561) oligonucleotides modulates expression of respective target genes

GACAGTGGCA whose function and utility is known in the art.

ACATAGTCAT GAM4561 is a novel bioinformatically detectable regulatory, non protein coding,

CCCCAAGATG micro RNA (miRNA)-like oligonucleotide. The method by which GAM4561 was detected is

CTAATCTTCT described with additional reference to Figs. 9-15.

GCTGGAACTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCATACGTTA encoded by the human genome.

TCATGGTCAA GAM4561 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4561

TGTAAACCTG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4561

GTTTGTGTGG precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4561 precursor RNA is designated SEQ ID:140811, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140811 is located from position 158626687 to position 158626806 relative to chromosome chr1 on the `+` strand (chr is an abbreviation for chromosome).

GAM4561 precursor RNA folds onto itself, forming GAM4561 folded precursor RNA,

herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4561 precursor RNA, designated SEQ ID NO: 140811, and a schematic representation of a predicted secondary folding of GAM4561 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4561 folded precursor RNA yielding a GAM4561 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4561 RNA, hereby incorporated herein. Expression of GAM4561 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM4561 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4561 target RNA, herein designated GAM TARGET RNA. GAM4561 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4561 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4561 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4561 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4561 RNA, herein designated GAM RNA, to target binding sites on GAM4561 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4561 target RNA into GAM4561 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4561 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4561 target genes. The mRNA of each one of this plurality of GAM4561 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4561 RNA, herein

designated GAM RNA, and which when bound by GAM4561 RNA causes inhibition of translation of the GAM4561 target mRNA into a corresponding GAM4561 target protein.

The mechanism of the translational inhibition exerted by GAM4561 RNA, herein designated GAM RNA, on one or more GAM4561 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4561 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4561 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4561 RNA, herein designated GAM RNA, of GAM4561 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4561 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4561 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4561 RNA correlate with, and may be deduced from, the identity of the GAM4561 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4571 140812 AGTTCTGCAG Fig. 8 further provides a conceptual description of another novel bioinformatically

GGCTGCTGCC detected oligonucleotides of the present invention, referred to here as Genomic Address

TCAACATTTT Messenger 4571 (GAM4571) oligonucleotides modulates expression of respective target genes

AGGTTCTGAT whose function and utility is known in the art.

AGCTGTATTC GAM4571 is a novel bioinformatically detectable regulatory, non protein coding,

TCAGTCCTGG micro RNA (miRNA)-like oligonucleotide. The method by which GAM4571 was detected is

AGTGACAGGT described with additional reference to Figs. 9-15.

GTAGCCTGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTTACT encoded by the human genome.

GAM4571 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4571

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4571

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4571 precursor RNA is designated SEQ ID:140812, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140812 is located from position 54394158 to position 54394243 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM4571 precursor RNA folds onto itself, forming GAM4571 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4571 precursor RNA, designated SEQ ID NO: 140812, and a schematic representation of a predicted secondary folding of GAM4571 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4571 folded precursor RNA yielding a GAM4571 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM4571 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4571 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM4571 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4571 target RNA, herein designated GAM TARGET RNA. GAM4571 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4571 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4571 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4571 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4571 RNA, herein designated GAM RNA, to target binding sites on GAM4571 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4571 target RNA into GAM4571 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM4571 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4571 target genes. The mRNA of each one of this plurality of GAM4571 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4571 RNA, herein designated GAM RNA, and which when bound by GAM4571 RNA causes inhibition of translation of the GAM4571 target mRNA into a corresponding GAM4571 target protein.

The mechanism of the translational inhibition exerted by GAM4571 RNA, herein designated GAM RNA, on one or more GAM4571 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4571 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4571 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4571 RNA, herein designated GAM RNA, of GAM4571 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4571 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4571 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4571 RNA correlate with, and may be deduced from, the identity of the GAM4571 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4633 140813 TGCATTACCC Fig. 8 further provides a conceptual description of another novel bioinformatically

TCCCCAACTT detected oligonucleotides of the present invention, referred to here as Genomic Address

AAAATCTTTT Messenger 4633 (GAM4633) oligonucleotides modulates expression of respective target genes

GATAACCCAG whose function and utility is known in the art.

GCAGCTGGGT GAM4633 is a novel bioinformatically detectable regulatory, non protein coding,

TATCCCCAAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM4633 was detected is

TTAAAGTCTT described with additional reference to Figs. 9-15.

TTTGTTGTAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTGTATGGCA encoded by the human genome.

GAM4633 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4633 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4633 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4633 precursor RNA is designated SEQ ID:140813, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140813 is located from position 71710862 to position 71710951 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM4633 precursor RNA folds onto itself, forming GAM4633 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4633 precursor RNA, designated SEQ ID NO: 140813, and a schematic representation of a predicted secondary folding of GAM4633 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4633 folded precursor RNA yielding a GAM4633 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4633 RNA, hereby incorporated herein.

GAM4633 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4633 target RNA, herein designated GAM TARGET RNA. GAM4633 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4633 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4633 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4633 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4633 RNA, herein designated GAM RNA, to target binding sites on GAM4633 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4633 target RNA into GAM4633 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4633 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4633 target genes. The mRNA of each one of this plurality of GAM4633 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4633 RNA, herein designated GAM RNA, and which when bound by GAM4633 RNA causes inhibition of translation of the GAM4633 target mRNA into a corresponding GAM4633 target protein.

The mechanism of the translational inhibition exerted by GAM4633 RNA, herein designated GAM RNA, on one or more GAM4633 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4633 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4633 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4633 RNA, herein designated GAM RNA, of GAM4633 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4633 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4633 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4633 RNA correlate with, and may be deduced from, the identity of the GAM4633 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4650 140814 GGAGAATCAC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGTGGAGG Messenger 4650 (GAM4650) oligonucleotides modulates expression of respective target genes
TTGCAGTGAG whose function and utility is known in the art.

CCAAGATCGT GAM4650 is a novel bioinformatically detectable regulatory, non protein coding,
GCCACTGCAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM4650 was detected is

TCCAGCCTGG described with additional reference to Figs. 9-15.

GTGATAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAGACTCC encoded by the human genome.

GAM4650 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4650 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4650 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4650 precursor RNA is designated SEQ ID:140814, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140814 is located from position 66913128 to position 66913215 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM4650 precursor RNA folds onto itself, forming GAM4650 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4650 precursor RNA, designated SEQ ID NO: 140814, and a schematic representation of a predicted secondary folding of GAM4650 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4650 folded precursor RNA yielding a GAM4650 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4650 RNA, hereby incorporated herein.

GAM4650 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4650 target RNA, herein designated GAM TARGET RNA. GAM4650 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4650 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4650 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4650 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4650 RNA, herein designated GAM RNA, to target binding sites on GAM4650 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4650 target RNA into GAM4650 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4650 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4650 target genes. The mRNA of each one of this plurality of GAM4650 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4650 RNA, herein designated GAM RNA, and which when bound by GAM4650 RNA causes inhibition of translation of the GAM4650 target mRNA into a corresponding GAM4650 target protein.

The mechanism of the translational inhibition exerted by GAM4650 RNA, herein designated GAM RNA, on one or more GAM4650 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4650 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4650 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4650 RNA, herein designated GAM RNA, of GAM4650 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4650 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4650 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4650 RNA correlate with, and may be deduced from, the identity of the GAM4650 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4656 140815 TAGTGACAAG GGCATCCCAA GGCACTTGCC Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 4656 (GAM4656) oligonucleotides modulates expression of respective target genes

CAGAGCTGCA whose function and utility is known in the art.

GAGTTGTGTG GAM4656 is a novel bioinformatically detectable regulatory, non protein coding, TGCCATACCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM4656 was detected is

GCGGCTCAAA described with additional reference to Figs. 9-15.

GGGAAGGCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCTATCCCCT encoded by the human genome.

GAGTTTCTA GAM4656 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4656

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4656

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4656 precursor RNA is designated SEQ ID:140815, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140815 is located from position 142589577 to position 142589675 relative to chromosome chr5 on the `+` strand (chr is an abbreviation for chromosome).

GAM4656 precursor RNA folds onto itself, forming GAM4656 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4656 precursor RNA, designated SEQ ID NO: 140815, and a schematic representation of a predicted secondary folding of GAM4656 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4656 folded precursor RNA yielding a GAM4656 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4656 RNA, hereby incorporated herein. Expression of GAM4656 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM4656 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4656 target RNA, herein designated GAM TARGET RNA. GAM4656 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4656 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4656 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4656 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4656 RNA, herein designated GAM RNA, to target binding sites on GAM4656 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4656 target RNA into GAM4656 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4656 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4656 target genes. The mRNA of each one of this plurality of GAM4656 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4656 RNA, herein designated GAM RNA, and which when bound by GAM4656 RNA causes inhibition of translation of the GAM4656 target mRNA into a corresponding GAM4656 target protein.

The mechanism of the translational inhibition exerted by GAM4656 RNA, herein designated GAM RNA, on one or more GAM4656 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4656 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4656 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4656 RNA, herein designated GAM RNA, of GAM4656 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4656 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4656 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4656 RNA correlate with, and may be deduced from, the identity of the GAM4656 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4671 140816 CCCTGCCGCA Fig. 8 further provides a conceptual description of another novel bioinformatically
GGAGAGCCAC detected oligonucleotides of the present invention, referred to here as Genomic Address
TTTCAGAGAT Messenger 4671 (GAM4671) oligonucleotides modulates expression of respective target genes
GCCCTGAGTG whose function and utility is known in the art.

ATCGTCACCA GAM4671 is a novel bioinformatically detectable regulatory, non protein coding,
GCTGCATCCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM4671 was detected is

GCAAACTTCA described with additional reference to Figs. 9-15.

TCTTGCTGTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CCTGTGGCTT encoded by the human genome.

GG GAM4671 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4671
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4671
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4671 precursor RNA is designated SEQ ID:140816, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140816 is located from position 840148 to position 840239 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM4671 precursor RNA folds onto itself, forming GAM4671 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4671 precursor RNA, designated SEQ ID NO: 140816, and a schematic representation of a predicted secondary folding of GAM4671 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4671 folded precursor RNA yielding a GAM4671 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM4671 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4671 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM4671 target gene, herein designated GAM TARGET GENE, encodes a corresponding

messenger RNA, GAM4671 target RNA, herein designated GAM TARGET RNA. GAM4671 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4671 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4671 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4671 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4671 RNA, herein designated GAM RNA, to target binding sites on GAM4671 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4671 target RNA into GAM4671 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4671 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4671 target genes. The mRNA of each one of this plurality of GAM4671 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4671 RNA, herein designated GAM RNA, and which when bound by GAM4671 RNA causes inhibition of translation of the GAM4671 target mRNA into a corresponding GAM4671 target protein.

The mechanism of the translational inhibition exerted by GAM4671 RNA, herein designated GAM RNA, on one or more GAM4671 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4671 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4671 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4671 RNA, herein designated GAM RNA, of GAM4671 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4671 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target

binding sites to GAM4671 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4671 RNA correlate with, and may be deduced from, the identity of the GAM4671 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4685 140817 TTTTCAATTT Fig. 8 further provides a conceptual description of another novel bioinformatically

TTAAAAATTA detected oligonucleotides of the present invention, referred to here as Genomic Address

GATTTATTGC Messenger 4685 (GAM4685) oligonucleotides modulates expression of respective target genes

AGACTGGCCT whose function and utility is known in the art.

CAAGCTCCCA GAM4685 is a novel bioinformatically detectable regulatory, non protein coding,

GACTATATTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM4685 was detected is

TTTAGCTGCA described with additional reference to Figs. 9-15.

TTATTTAGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTTGAAATGC encoded by the human genome.

CAGCTTTTGA GAM4685 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4685

GACTTTTGAA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4685

AA precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4685 precursor RNA is designated SEQ ID:140817, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140817 is located from position 26788414 to position 26788525 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM4685 precursor RNA folds onto itself, forming GAM4685 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4685 precursor RNA, designated SEQ ID NO: 140817, and a schematic representation of a predicted secondary folding of GAM4685 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4685 folded precursor RNA yielding a GAM4685 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an

enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4685 RNA, hereby incorporated herein.

GAM4685 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4685 target RNA, herein designated GAM TARGET RNA. GAM4685 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4685 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4685 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4685 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4685 RNA, herein designated GAM RNA, to target binding sites on GAM4685 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4685 target RNA into GAM4685 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4685 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4685 target genes. The mRNA of each one of this plurality of GAM4685 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4685 RNA, herein designated GAM RNA, and which when bound by GAM4685 RNA causes inhibition of translation of the GAM4685 target mRNA into a corresponding GAM4685 target protein.

The mechanism of the translational inhibition exerted by GAM4685 RNA, herein designated GAM RNA, on one or more GAM4685 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4685 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4685 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4685 RNA, herein designated GAM RNA, of GAM4685 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4685 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4685 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4685 RNA correlate with, and may be deduced from, the identity of the GAM4685 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4687 140818 CTGGAGAGTT Fig. 8 further provides a conceptual description of another novel bioinformatically
CCATTCACTT detected oligonucleotides of the present invention, referred to here as Genomic Address
CCTGAAACGT Messenger 4687 (GAM4687) oligonucleotides modulates expression of respective target genes
GCACCTGTTT whose function and utility is known in the art.

CAGGTGCATG GAM4687 is a novel bioinformatically detectable regulatory, non protein coding,
TTTATTCAGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM4687 was detected is

GTGCATGGAT described with additional reference to Figs. 9-15.

ATTTAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM4687 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4687

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4687
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4687 precursor RNA is designated SEQ ID:140818, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140818 is located from position 125235787 to position 125235863 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM4687 precursor RNA folds onto itself, forming GAM4687 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4687 precursor RNA, designated SEQ ID NO: 140818, and a schematic representation of a predicted secondary folding of GAM4687 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4687 folded precursor RNA yielding a GAM4687 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4687 RNA, hereby incorporated herein.

GAM4687 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4687 target RNA, herein designated GAM TARGET RNA. GAM4687 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4687 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4687 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4687 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4687 RNA, herein designated GAM RNA, to target binding sites on GAM4687 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4687 target RNA into GAM4687 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4687 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4687 target genes. The mRNA of each one of this plurality of GAM4687 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4687 RNA, herein designated GAM RNA, and which when bound by GAM4687 RNA causes inhibition of translation of the GAM4687 target mRNA into a corresponding GAM4687 target protein.

The mechanism of the translational inhibition exerted by GAM4687 RNA, herein designated GAM RNA, on one or more GAM4687 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4687 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4687 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4687 RNA, herein designated GAM RNA, of GAM4687 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4687 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4687 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4687 RNA correlate with, and may be deduced from, the identity of the GAM4687 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4690 140819 GTTTCCCACT TTTCTCCCAT CTGTCATTTT TCTCTTTCCA TAAAAAGCTA ATGGTGACGT TATCAAAGAG TGAAGGAGTC AGAGGCTAAG GGTGGGGAAC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 4690 (GAM4690) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM4690 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM4690 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM4690 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4690 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4690 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4690 precursor RNA is designated SEQ ID:140819, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140819 is located from position 42013351 to position 42013450 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM4690 precursor RNA folds onto itself, forming GAM4690 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4690 precursor RNA, designated SEQ ID NO: 140819, and a schematic representation of a predicted secondary folding of GAM4690 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4690 folded precursor RNA yielding a GAM4690 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4690 RNA, hereby incorporated herein.

GAM4690 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4690 target RNA, herein designated GAM TARGET RNA. GAM4690 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4690 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4690 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4690 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4690 RNA, herein designated GAM RNA, to target binding sites on GAM4690 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4690 target RNA into GAM4690 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4690 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4690 target genes. The mRNA of each one of this plurality of GAM4690 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4690 RNA, herein designated GAM RNA, and which when bound by GAM4690 RNA causes inhibition of translation of the GAM4690 target mRNA into a corresponding GAM4690 target protein.

The mechanism of the translational inhibition exerted by GAM4690 RNA, herein designated GAM RNA, on one or more GAM4690 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4690 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4690 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4690 RNA, herein designated GAM RNA, of GAM4690 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4690 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4690 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4690 RNA correlate with, and may be deduced from, the identity of the GAM4690 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4707 140820 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCGTTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCTGGGAGG Messenger 4707 (GAM4707) oligonucleotides modulates expression of respective target genes

CGGAGGTTGT whose function and utility is known in the art.

GTTGAGCCGA GAM4707 is a novel bioinformatically detectable regulatory, non protein coding,

GATCTCGCCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM4707 was detected is

TTGCACTCCA described with additional reference to Figs. 9-15.

GCCTAGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAAGAGCGAA encoded by the human genome.

ACTCCATCTC GAM4707 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4707

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4707

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4707 precursor RNA is designated SEQ ID:140820, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140820 is located from position 94524960 to position 94525059 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM4707 precursor RNA folds onto itself, forming GAM4707 folded precursor RNA,

herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4707 precursor RNA, designated SEQ ID NO: 140820, and a schematic representation of a predicted secondary folding of GAM4707 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4707 folded precursor RNA yielding a GAM4707 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4707 RNA, hereby incorporated herein.

GAM4707 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4707 target RNA, herein designated GAM TARGET RNA. GAM4707 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4707 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4707 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4707 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4707 RNA, herein designated GAM RNA, to target binding sites on GAM4707 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4707 target RNA into GAM4707 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4707 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4707 target genes. The mRNA of each one of this plurality of GAM4707 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4707 RNA, herein designated GAM RNA, and which when bound by GAM4707 RNA causes inhibition of translation of the GAM4707 target mRNA into a corresponding GAM4707 target protein.

The mechanism of the translational inhibition exerted by GAM4707 RNA, herein designated GAM RNA, on one or more GAM4707 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4707 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4707 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4707 RNA, herein designated GAM RNA, of GAM4707 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4707 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4707 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4707 RNA correlate with, and may be deduced from, the identity of the GAM4707 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4709 140821 CTGCAGTGGT Fig. 8 further provides a conceptual description of another novel bioinformatically

GATGTGTTGT detected oligonucleotides of the present invention, referred to here as Genomic Address

CACTTCAGGA Messenger 4709 (GAM4709) oligonucleotides modulates expression of respective target genes

CACCCCACTA whose function and utility is known in the art.

CCTGAATTGC GAM4709 is a novel bioinformatically detectable regulatory, non protein coding,

AGCAGTGTTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM4709 was detected is

CGAATCATCA described with additional reference to Figs. 9-15.

CTCTGCAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM4709 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4709

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4709

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4709 precursor RNA is designated SEQ ID:140821, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140821 is located from position 97691104 to position 97691181 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM4709 precursor RNA folds onto itself, forming GAM4709 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4709 precursor RNA, designated SEQ ID NO: 140821, and a schematic representation of a predicted secondary folding of GAM4709 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4709 folded precursor RNA yielding a GAM4709 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4709 RNA, hereby incorporated herein.

GAM4709 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4709 target RNA, herein designated GAM TARGET RNA. GAM4709 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4709 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4709 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4709 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4709 RNA, herein designated GAM RNA, to target binding sites on GAM4709 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4709 target RNA into GAM4709 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4709 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM4709 target genes. The mRNA of each one of this plurality of GAM4709 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4709 RNA, herein designated GAM RNA, and which when bound by GAM4709 RNA causes inhibition of translation of the GAM4709 target mRNA into a corresponding GAM4709 target protein.

The mechanism of the translational inhibition exerted by GAM4709 RNA, herein designated GAM RNA, on one or more GAM4709 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4709 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4709 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4709 RNA, herein designated GAM RNA, of GAM4709 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4709 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4709 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4709 RNA correlate with, and may be deduced from, the identity of the GAM4709 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4733 140822 AAACGTGTGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TGATTGATGC detected oligonucleotides of the present invention, referred to here as Genomic Address
TTTCATGGAC Messenger 4733 (GAM4733) oligonucleotides modulates expression of respective target genes
TCTGTTGCCC whose function and utility is known in the art.

CAAGTCCCCA GAM4733 is a novel bioinformatically detectable regulatory, non protein coding,
AGCCTTGTAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM4733 was detected is

CAGCGTTT described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM4733 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4733

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4733 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4733 precursor RNA is designated SEQ ID:140822, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140822 is located from position 99149260 to position 99149327 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM4733 precursor RNA folds onto itself, forming GAM4733 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4733 precursor RNA, designated SEQ ID NO: 140822, and a schematic representation of a predicted secondary folding of GAM4733 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4733 folded precursor RNA yielding a GAM4733 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4733 RNA, hereby incorporated herein.

GAM4733 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4733 target RNA, herein designated GAM TARGET RNA. GAM4733 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4733 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4733 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4733 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4733 RNA, herein designated GAM RNA, to target binding sites on GAM4733 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4733 target RNA

into GAM4733 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4733 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4733 target genes. The mRNA of each one of this plurality of GAM4733 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4733 RNA, herein designated GAM RNA, and which when bound by GAM4733 RNA causes inhibition of translation of the GAM4733 target mRNA into a corresponding GAM4733 target protein.

The mechanism of the translational inhibition exerted by GAM4733 RNA, herein designated GAM RNA, on one or more GAM4733 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4733 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4733 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4733 RNA, herein designated GAM RNA, of GAM4733 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4733 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4733 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4733 RNA correlate with, and may be deduced from, the identity of the GAM4733 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4738 140823 AGGCTGTATG Fig. 8 further provides a conceptual description of another novel bioinformatically

CTGTTAATGC detected oligonucleotides of the present invention, referred to here as Genomic Address

TAATCGTGAT Messenger 4738 (GAM4738) oligonucleotides modulates expression of respective target genes

AGGGGTTTTT whose function and utility is known in the art.

GCCTCCAACT GAM4738 is a novel bioinformatically detectable regulatory, non protein coding,

GACTCCTACA micro RNA (miRNA)-like oligonucleotide. The method by which GAM4738 was detected is

TATTAGCATT described with additional reference to Figs. 9-15.

AACAGTGTAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GATGCCT encoded by the human genome.

GAM4738 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4738 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4738 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4738 precursor RNA is designated SEQ ID:140823, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140823 is located from position 25868152 to position 25868238 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GAM4738 precursor RNA folds onto itself, forming GAM4738 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4738 precursor RNA, designated SEQ ID NO: 140823, and a schematic representation of a predicted secondary folding of GAM4738 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4738 folded precursor RNA yielding a GAM4738 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4738 RNA, hereby incorporated herein.

GAM4738 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4738 target RNA, herein designated GAM TARGET RNA. GAM4738 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4738 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4738 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4738 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4738 RNA, herein designated GAM RNA, to target binding sites on GAM4738 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4738 target RNA into GAM4738 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4738 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4738 target genes. The mRNA of each one of this plurality of GAM4738 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4738 RNA, herein designated GAM RNA, and which when bound by GAM4738 RNA causes inhibition of translation of the GAM4738 target mRNA into a corresponding GAM4738 target protein.

The mechanism of the translational inhibition exerted by GAM4738 RNA, herein designated GAM RNA, on one or more GAM4738 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4738 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4738 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4738 RNA, herein designated GAM RNA, of GAM4738 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4738 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4738 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4738 RNA correlate with, and may be deduced from, the identity of the GAM4738 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4769 140824 CTGGGATTAC AGGCACCTGC TGCCAAGTCT GGCTAATTTT TGTATTTTTA ATAGAGACGG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 4769 (GAM4769) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM4769 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM4769 was detected is

GGTTTCGCTA described with additional reference to Figs. 9-15.

TGTTGGCCAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCTGGTCTCG encoded by the human genome.

AACTCCTGAT GAM4769 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4769

CTCAG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4769

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4769 precursor RNA is designated SEQ ID:140824, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140824 is located from position 128497043 to position 128497147 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM4769 precursor RNA folds onto itself, forming GAM4769 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4769 precursor RNA, designated SEQ ID NO: 140824, and a schematic representation of a predicted secondary folding of GAM4769 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4769 folded precursor RNA yielding a GAM4769 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4769 RNA, hereby incorporated herein.

GAM4769 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4769 target RNA, herein designated GAM TARGET RNA. GAM4769 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4769 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4769 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4769 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4769 RNA, herein designated GAM RNA, to target binding sites on GAM4769 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4769 target RNA into GAM4769 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4769 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4769 target genes. The mRNA of each one of this plurality of GAM4769 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4769 RNA, herein designated GAM RNA, and which when bound by GAM4769 RNA causes inhibition of translation of the GAM4769 target mRNA into a corresponding GAM4769 target protein.

The mechanism of the translational inhibition exerted by GAM4769 RNA, herein designated GAM RNA, on one or more GAM4769 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4769 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4769 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4769 RNA, herein designated GAM RNA, of GAM4769 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4769 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4769 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4769 RNA correlate with, and may be deduced from, the identity of the GAM4769 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4796 140825 TAAAACTCAC CATCAAATAG ATGTAATCTT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 4796 (GAM4796) oligonucleotides modulates expression of respective target genes

ATTAATTACA whose function and utility is known in the art.

CATTTTGTAT GAM4796 is a novel bioinformatically detectable regulatory, non protein coding,
TTTAATTATT micro RNA (miRNA)-like oligonucleotide. The method by which GAM4796 was detected is

TCAAGGAGTG described with additional reference to Figs. 9-15.

AAGAAAACAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGTGTTTTTG encoded by the human genome.

TTTTTGTAGT GAM4796 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4796
TCTGATTACT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4796
CATTTATGCA precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar
TTGTTTTG to the nucleotide sequence of GAM4796 precursor RNA is designated SEQ ID:140825, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140825 is located from position 37551256 to position 37551383 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM4796 precursor RNA folds onto itself, forming GAM4796 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4796 precursor RNA, designated SEQ ID NO: 140825, and a schematic representation of a predicted secondary folding of GAM4796 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4796 folded precursor RNA yielding a GAM4796 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4796 RNA, hereby incorporated herein.

GAM4796 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4796 target RNA, herein designated GAM TARGET RNA. GAM4796 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4796 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM4796 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4796 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4796 RNA, herein designated GAM RNA, to target binding sites on GAM4796 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4796 target RNA into GAM4796 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4796 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4796 target genes. The mRNA of each one of this plurality of GAM4796 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4796 RNA, herein designated GAM RNA, and which when bound by GAM4796 RNA causes inhibition of translation of the GAM4796 target mRNA into a corresponding GAM4796 target protein.

The mechanism of the translational inhibition exerted by GAM4796 RNA, herein designated GAM RNA, on one or more GAM4796 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4796 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4796 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4796 RNA, herein designated GAM RNA, of GAM4796 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4796 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4796 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4796 RNA correlate with, and may be deduced from, the identity of the GAM4796 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4800 140826 GGCCACTTCC Fig. 8 further provides a conceptual description of another novel bioinformatically

ACCTTCCAGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GCATAGGTGA Messenger 4800 (GAM4800) oligonucleotides modulates expression of respective target genes

CCCCTGTGGA whose function and utility is known in the art.

AAACAAGTAC GAM4800 is a novel bioinformatically detectable regulatory, non protein coding,

CCCTGGAACA micro RNA (miRNA)-like oligonucleotide. The method by which GAM4800 was detected is

TCCTAGAAGT described with additional reference to Figs. 9-15.

GGAGGTGGAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

C encoded by the human genome.

GAM4800 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4800

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4800

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4800 precursor RNA is designated SEQ ID:140826, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140826 is located from position 90601712 to position 90601792 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM4800 precursor RNA folds onto itself, forming GAM4800 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4800 precursor RNA, designated SEQ ID NO: 140826, and a schematic representation of a predicted secondary folding of GAM4800 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4800 folded precursor RNA yielding a GAM4800 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4800 RNA, hereby incorporated herein.

GAM4800 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4800 target RNA, herein designated GAM TARGET RNA. GAM4800 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4800 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4800 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4800 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4800 RNA, herein designated GAM RNA, to target binding sites on GAM4800 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4800 target RNA into GAM4800 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4800 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4800 target genes. The mRNA of each one of this plurality of GAM4800 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4800 RNA, herein designated GAM RNA, and which when bound by GAM4800 RNA causes inhibition of translation of the GAM4800 target mRNA into a corresponding GAM4800 target protein.

The mechanism of the translational inhibition exerted by GAM4800 RNA, herein designated GAM RNA, on one or more GAM4800 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4800 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4800 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4800 RNA, herein designated GAM RNA, of GAM4800 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4800 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4800 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4800 RNA correlate with, and may be deduced from, the identity of the GAM4800 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4803 140827 TGGAGGAATG Fig. 8 further provides a conceptual description of another novel bioinformatically
GGAGCTATGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GCAAATACTG Messenger 4803 (GAM4803) oligonucleotides modulates expression of respective target genes
GGAGCTGGCT whose function and utility is known in the art.

GGATGCCAGG GAM4803 is a novel bioinformatically detectable regulatory, non protein coding,
ATACAGCAGC micro RNA (miRNA)-like oligonucleotide. The method by which GAM4803 was detected is

CATCTGCCAT described with additional reference to Figs. 9-15.

CATTACCCTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCTTCAGGAT encoded by the human genome.

CCTCTA GAM4803 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4803
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4803
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4803 precursor RNA is designated SEQ ID:140827, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140827 is located from position 128048648 to position 128048743 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM4803 precursor RNA folds onto itself, forming GAM4803 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4803 precursor RNA, designated SEQ ID NO: 140827, and a schematic representation of a predicted secondary folding of GAM4803 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4803 folded precursor RNA yielding a GAM4803 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the

nucleotide sequence of GAM4803 RNA, hereby incorporated herein.

GAM4803 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4803 target RNA, herein designated GAM TARGET RNA. GAM4803 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4803 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4803 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4803 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4803 RNA, herein designated GAM RNA, to target binding sites on GAM4803 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4803 target RNA into GAM4803 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4803 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4803 target genes. The mRNA of each one of this plurality of GAM4803 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4803 RNA, herein designated GAM RNA, and which when bound by GAM4803 RNA causes inhibition of translation of the GAM4803 target mRNA into a corresponding GAM4803 target protein.

The mechanism of the translational inhibition exerted by GAM4803 RNA, herein designated GAM RNA, on one or more GAM4803 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4803 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4803 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4803 RNA, herein designated GAM RNA, of GAM4803 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4803 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4803 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4803 RNA correlate with, and may be deduced from, the identity of the GAM4803 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4814 140828 TCGCTCTTTG Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGCCCAGGC detected oligonucleotides of the present invention, referred to here as Genomic Address
TAGAGTGCAG Messenger 4814 (GAM4814) oligonucleotides modulates expression of respective target genes
TGGCATGATC whose function and utility is known in the art.

TCGGCTCACT GAM4814 is a novel bioinformatically detectable regulatory, non protein coding,
GCAACCTCTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM4814 was detected is

CCTCCTGGGT described with additional reference to Figs. 9-15.

TCAAGCGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM4814 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4814

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4814
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4814 precursor RNA is designated SEQ ID:140828, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140828 is located from position 51241197 to position 51241274 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM4814 precursor RNA folds onto itself, forming GAM4814 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4814 precursor RNA, designated SEQ ID NO: 140828, and a schematic representation of a predicted secondary folding of GAM4814 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4814 folded precursor RNA

yielding a GAM4814 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM4814 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4814 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM4814 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4814 target RNA, herein designated GAM TARGET RNA. GAM4814 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4814 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4814 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4814 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4814 RNA, herein designated GAM RNA, to target binding sites on GAM4814 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4814 target RNA into GAM4814 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4814 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4814 target genes. The mRNA of each one of this plurality of GAM4814 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4814 RNA, herein designated GAM RNA, and which when bound by GAM4814 RNA causes inhibition of translation of the GAM4814 target mRNA into a corresponding GAM4814 target protein.

The mechanism of the translational inhibition exerted by GAM4814 RNA, herein designated GAM RNA, on one or more GAM4814 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4814 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4814 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4814 RNA, herein designated GAM RNA, of GAM4814 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4814 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4814 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4814 RNA correlate with, and may be deduced from, the identity of the GAM4814 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4821 140829 TATTATTGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

CACCTGTTAT detected oligonucleotides of the present invention, referred to here as Genomic Address

GTGAGACACT Messenger 4821 (GAM4821) oligonucleotides modulates expression of respective target genes

GTCCTAGGCA whose function and utility is known in the art.

CTGTGGGATA GAM4821 is a novel bioinformatically detectable regulatory, non protein coding,

ACAACAGCAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM4821 was detected is

ACACTTCACA described with additional reference to Figs. 9-15.

CAACAGCCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCCTTCCTGT encoded by the human genome.

GTTTTACAAC GAM4821 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4821

AGCTCCTAAA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4821

GATA precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4821 precursor RNA is designated SEQ ID:140829, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140829 is located from position 52745273 to position 52745386 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM4821 precursor RNA folds onto itself, forming GAM4821 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4821 precursor RNA, designated SEQ ID NO: 140829, and a schematic representation of a predicted secondary folding of GAM4821 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4821 folded precursor RNA yielding a GAM4821 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM4821 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4821 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM4821 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4821 target RNA, herein designated GAM TARGET RNA. GAM4821 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4821 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4821 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4821 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4821 RNA, herein designated GAM RNA, to target binding sites on GAM4821 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4821 target RNA into GAM4821 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4821 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4821 target genes. The mRNA of each one of this plurality of GAM4821 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4821 RNA, herein designated GAM RNA, and which when bound by GAM4821 RNA causes inhibition of translation of the GAM4821 target mRNA into a corresponding GAM4821 target protein.

The mechanism of the translational inhibition exerted by GAM4821 RNA, herein designated GAM RNA, on one or more GAM4821 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4821 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4821 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4821 RNA, herein designated GAM RNA, of GAM4821 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4821 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4821 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4821 RNA correlate with, and may be deduced from, the identity of the GAM4821 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4844 140830 TGTTGATGGT Fig. 8 further provides a conceptual description of another novel bioinformatically

CTCATAACTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AATATATTAA Messenger 4844 (GAM4844) oligonucleotides modulates expression of respective target genes

AAACTTAAAT whose function and utility is known in the art.

TGTATACTTT GAM4844 is a novel bioinformatically detectable regulatory, non protein coding,

AAGTTGGTGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM4844 was detected is

TTGTATGATA described with additional reference to Figs. 9-15.

TATGAGTTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATCAATA encoded by the human genome.

GAM4844 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4844

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4844

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4844 precursor RNA is designated SEQ ID:140830, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140830 is located from position 15101510 to position 15101596 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GAM4844 precursor RNA folds onto itself, forming GAM4844 folded precursor RNA,

herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4844 precursor RNA, designated SEQ ID NO: 140830, and a schematic representation of a predicted secondary folding of GAM4844 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4844 folded precursor RNA yielding a GAM4844 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4844 RNA, hereby incorporated herein.

GAM4844 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4844 target RNA, herein designated GAM TARGET RNA. GAM4844 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4844 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4844 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4844 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4844 RNA, herein designated GAM RNA, to target binding sites on GAM4844 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4844 target RNA into GAM4844 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4844 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4844 target genes. The mRNA of each one of this plurality of GAM4844 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4844 RNA, herein designated GAM RNA, and which when bound by GAM4844 RNA causes inhibition of translation of the GAM4844 target mRNA into a corresponding GAM4844 target protein.

The mechanism of the translational inhibition exerted by GAM4844 RNA, herein designated GAM RNA, on one or more GAM4844 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4844 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4844 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4844 RNA, herein designated GAM RNA, of GAM4844 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4844 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4844 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4844 RNA correlate with, and may be deduced from, the identity of the GAM4844 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4895 140831 CTCGTGGCTG Fig. 8 further provides a conceptual description of another novel bioinformatically

CTGCTGCTCC detected oligonucleotides of the present invention, referred to here as Genomic Address

TGCTCTCCCT Messenger 4895 (GAM4895) oligonucleotides modulates expression of respective target genes

CTCCCTCCTC whose function and utility is known in the art.

CAGGCCACGG GAM4895 is a novel bioinformatically detectable regulatory, non protein coding,

ATTTCATGTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM4895 was detected is

CCTGTGACTG described with additional reference to Figs. 9-15.

GTGGGGCCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGGAGGAGAC encoded by the human genome.

AGGAAGCCTC GAM4895 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4895

AAGTTCCAGT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4895

GCAGAG precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4895 precursor RNA is designated SEQ ID:140831, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140831 is located from position 119323982 to position 119324097 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM4895 precursor RNA folds onto itself, forming GAM4895 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4895 precursor RNA, designated SEQ ID NO: 140831, and a schematic representation of a predicted secondary folding of GAM4895 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4895 folded precursor RNA yielding a GAM4895 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4895 RNA, hereby incorporated herein.

GAM4895 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4895 target RNA, herein designated GAM TARGET RNA. GAM4895 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4895 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4895 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4895 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4895 RNA, herein designated GAM RNA, to target binding sites on GAM4895 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4895 target RNA into GAM4895 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4895 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM4895 target genes. The mRNA of each one of this plurality of GAM4895 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4895 RNA, herein designated GAM RNA, and which when bound by GAM4895 RNA causes inhibition of translation of the GAM4895 target mRNA into a corresponding GAM4895 target protein.

The mechanism of the translational inhibition exerted by GAM4895 RNA, herein designated GAM RNA, on one or more GAM4895 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4895 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4895 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4895 RNA, herein designated GAM RNA, of GAM4895 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4895 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4895 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4895 RNA correlate with, and may be deduced from, the identity of the GAM4895 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4904 140832 GGTGGCACTG Fig. 8 further provides a conceptual description of another novel bioinformatically

GCAGGATGTG detected oligonucleotides of the present invention, referred to here as Genomic Address

CCTCCTGAGG Messenger 4904 (GAM4904) oligonucleotides modulates expression of respective target genes

TGTGTCGAGT whose function and utility is known in the art.

GTTCTCTACA GAM4904 is a novel bioinformatically detectable regulatory, non protein coding,

TGGGGCACTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM4904 was detected is

TGGAGGTGTC described with additional reference to Figs. 9-15.

ATCGGCTCAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTCCCC encoded by the human genome.

GAM4904 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4904

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4904 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4904 precursor RNA is designated SEQ ID:140832, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140832 is located from position 118036640 to position 118036725 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM4904 precursor RNA folds onto itself, forming GAM4904 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4904 precursor RNA, designated SEQ ID NO: 140832, and a schematic representation of a predicted secondary folding of GAM4904 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4904 folded precursor RNA yielding a GAM4904 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4904 RNA, hereby incorporated herein.

GAM4904 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4904 target RNA, herein designated GAM TARGET RNA. GAM4904 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4904 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4904 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4904 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4904 RNA, herein designated GAM RNA, to target binding sites on GAM4904 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4904 target RNA

into GAM4904 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4904 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4904 target genes. The mRNA of each one of this plurality of GAM4904 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4904 RNA, herein designated GAM RNA, and which when bound by GAM4904 RNA causes inhibition of translation of the GAM4904 target mRNA into a corresponding GAM4904 target protein.

The mechanism of the translational inhibition exerted by GAM4904 RNA, herein designated GAM RNA, on one or more GAM4904 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4904 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4904 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4904 RNA, herein designated GAM RNA, of GAM4904 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4904 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4904 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4904 RNA correlate with, and may be deduced from, the identity of the GAM4904 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4913 140833 AAATCTCTCA Fig. 8 further provides a conceptual description of another novel bioinformatically

ACCACTGCAA detected oligonucleotides of the present invention, referred to here as Genomic Address

GCTTTTAAAA Messenger 4913 (GAM4913) oligonucleotides modulates expression of respective target genes

GTCTGGCGCA whose function and utility is known in the art.

TCTTGACTTT GAM4913 is a novel bioinformatically detectable regulatory, non protein coding,

CTTTTCACCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM4913 was detected is

ATAACAGCCA described with additional reference to Figs. 9-15.

GCTTGGATTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATTTGAGAGA encoded by the human genome.

TTT GAM4913 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4913 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4913 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4913 precursor RNA is designated SEQ ID:140833, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140833 is located from position 52918008 to position 52918100 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM4913 precursor RNA folds onto itself, forming GAM4913 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4913 precursor RNA, designated SEQ ID NO: 140833, and a schematic representation of a predicted secondary folding of GAM4913 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4913 folded precursor RNA yielding a GAM4913 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4913 RNA, hereby incorporated herein.

GAM4913 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4913 target RNA, herein designated GAM TARGET RNA. GAM4913 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4913 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4913 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4913 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4913 RNA, herein designated GAM RNA, to target binding sites on GAM4913 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4913 target RNA into GAM4913 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4913 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4913 target genes. The mRNA of each one of this plurality of GAM4913 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4913 RNA, herein designated GAM RNA, and which when bound by GAM4913 RNA causes inhibition of translation of the GAM4913 target mRNA into a corresponding GAM4913 target protein.

The mechanism of the translational inhibition exerted by GAM4913 RNA, herein designated GAM RNA, on one or more GAM4913 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4913 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4913 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4913 RNA, herein designated GAM RNA, of GAM4913 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4913 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4913 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4913 RNA correlate with, and may be deduced from, the identity of the GAM4913 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4932 140834 TGTGGAGAAT Fig. 8 further provides a conceptual description of another novel bioinformatically
TAAAAAGGGT detected oligonucleotides of the present invention, referred to here as Genomic Address
AGTGAGGCTG Messenger 4932 (GAM4932) oligonucleotides modulates expression of respective target genes
GCATTTATAG whose function and utility is known in the art.

AATCTGGCTT GAM4932 is a novel bioinformatically detectable regulatory, non protein coding,
TCTTGTATTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM4932 was detected is

GGTGGAAAGC described with additional reference to Figs. 9-15.

TAGATGAAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGTTTCTCT encoded by the human genome.

CAGCCTTTTC GAM4932 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4932

TCTCCTCA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4932

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4932 precursor RNA is designated SEQ ID:140834, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140834 is located from position 116757833 to position 116757940 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM4932 precursor RNA folds onto itself, forming GAM4932 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4932 precursor RNA, designated SEQ ID NO: 140834, and a schematic representation of a predicted secondary folding of GAM4932 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4932 folded precursor RNA yielding a GAM4932 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4932 RNA, hereby incorporated herein.

GAM4932 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4932 target RNA, herein designated GAM TARGET RNA. GAM4932 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4932 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4932 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4932 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4932 RNA, herein designated GAM RNA, to target binding sites on GAM4932 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4932 target RNA into GAM4932 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4932 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4932 target genes. The mRNA of each one of this plurality of GAM4932 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4932 RNA, herein designated GAM RNA, and which when bound by GAM4932 RNA causes inhibition of translation of the GAM4932 target mRNA into a corresponding GAM4932 target protein.

The mechanism of the translational inhibition exerted by GAM4932 RNA, herein designated GAM RNA, on one or more GAM4932 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4932 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4932 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4932 RNA, herein designated GAM RNA, of GAM4932 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4932 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4932 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4932 RNA correlate with, and may be deduced from, the identity of the GAM4932 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4946 140835 TAGTGAGATG Fig. 8 further provides a conceptual description of another novel bioinformatically

AACCCGGTAC detected oligonucleotides of the present invention, referred to here as Genomic Address

CTCAGATGGA Messenger 4946 (GAM4946) oligonucleotides modulates expression of respective target genes

AATGGAGAAA whose function and utility is known in the art.

TCGCCTGTCT GAM4946 is a novel bioinformatically detectable regulatory, non protein coding,
TCTGCGTCTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM4946 was detected is

TCACGCTGGG described with additional reference to Figs. 9-15.

AGCTGTAGAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CGGAGCTGTT encoded by the human genome.

CCTATTTGGC GAM4946 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4946
CATCTTGGCT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4946
CCTCTCTCCT precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar
CTG to the nucleotide sequence of GAM4946 precursor RNA is designated SEQ ID:140835, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140835 is located from position 129644 to position 129766 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM4946 precursor RNA folds onto itself, forming GAM4946 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4946 precursor RNA, designated SEQ ID NO: 140835, and a schematic representation of a predicted secondary folding of GAM4946 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4946 folded precursor RNA yielding a GAM4946 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4946 RNA, hereby incorporated herein.

GAM4946 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4946 target RNA, herein designated GAM TARGET RNA. GAM4946 target RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4946 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4946 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4946 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4946 RNA, herein designated GAM RNA, to target binding sites on GAM4946 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4946 target RNA into GAM4946 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4946 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4946 target genes. The mRNA of each one of this plurality of GAM4946 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4946 RNA, herein designated GAM RNA, and which when bound by GAM4946 RNA causes inhibition of translation of the GAM4946 target mRNA into a corresponding GAM4946 target protein.

The mechanism of the translational inhibition exerted by GAM4946 RNA, herein designated GAM RNA, on one or more GAM4946 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4946 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4946 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4946 RNA, herein designated GAM RNA, of GAM4946 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4946 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4946 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4946 RNA correlate with, and may be deduced from, the identity of the GAM4946 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4955 140836 GCTTCCCCAT Fig. 8 further provides a conceptual description of another novel bioinformatically

GCCTCAGTTT detected oligonucleotides of the present invention, referred to here as Genomic Address

GCTCTGGGTT Messenger 4955 (GAM4955) oligonucleotides modulates expression of respective target genes

AGCTCAGCAG whose function and utility is known in the art.

CAGCACTCAA GAM4955 is a novel bioinformatically detectable regulatory, non protein coding,

TATTCCACAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM4955 was detected is

AAGCAAGGGG described with additional reference to Figs. 9-15.

GAAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM4955 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4955

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4955

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4955 precursor RNA is designated SEQ ID:140836, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140836 is located from position 31053381 to position 31053455 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM4955 precursor RNA folds onto itself, forming GAM4955 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4955 precursor RNA, designated SEQ ID NO: 140836, and a schematic representation of a predicted secondary folding of GAM4955 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4955 folded precursor RNA yielding a GAM4955 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4955 RNA, hereby incorporated herein.

GAM4955 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4955 target RNA, herein designated GAM TARGET RNA. GAM4955 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated

region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4955 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4955 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4955 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4955 RNA, herein designated GAM RNA, to target binding sites on GAM4955 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4955 target RNA into GAM4955 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4955 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4955 target genes. The mRNA of each one of this plurality of GAM4955 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4955 RNA, herein designated GAM RNA, and which when bound by GAM4955 RNA causes inhibition of translation of the GAM4955 target mRNA into a corresponding GAM4955 target protein.

The mechanism of the translational inhibition exerted by GAM4955 RNA, herein designated GAM RNA, on one or more GAM4955 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4955 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4955 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4955 RNA, herein designated GAM RNA, of GAM4955 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4955 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4955 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4955 RNA correlate with, and may be deduced from, the identity of the GAM4955 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4969 140837 GCTGGATGAT Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATCCTTGT detected oligonucleotides of the present invention, referred to here as Genomic Address
TTTTCAGGTG Messenger 4969 (GAM4969) oligonucleotides modulates expression of respective target genes
GCTCCAAAAA whose function and utility is known in the art.

GAATGTTGCA GAM4969 is a novel bioinformatically detectable regulatory, non protein coding,
TGTGTTCAGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM4969 was detected is

CCATCCTGAG described with additional reference to Figs. 9-15.

CAGAGCCACC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AAATTTAGTG encoded by the human genome.

ACAGTGTCTA GAM4969 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4969
GC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4969

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4969 precursor RNA is designated SEQ ID:140837, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140837 is located from position 43463077 to position 43463178 relative to chromosome chr20 on the `-` strand (chr is an abbreviation for chromosome).

GAM4969 precursor RNA folds onto itself, forming GAM4969 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4969 precursor RNA, designated SEQ ID NO: 140837, and a schematic representation of a predicted secondary folding of GAM4969 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4969 folded precursor RNA yielding a GAM4969 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM4969 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4969 RNA and an

alternative nucleotide sequence thereof, hereby incorporated herein.

GAM4969 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4969 target RNA, herein designated GAM TARGET RNA. GAM4969 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4969 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4969 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4969 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4969 RNA, herein designated GAM RNA, to target binding sites on GAM4969 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4969 target RNA into GAM4969 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4969 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4969 target genes. The mRNA of each one of this plurality of GAM4969 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4969 RNA, herein designated GAM RNA, and which when bound by GAM4969 RNA causes inhibition of translation of the GAM4969 target mRNA into a corresponding GAM4969 target protein.

The mechanism of the translational inhibition exerted by GAM4969 RNA, herein designated GAM RNA, on one or more GAM4969 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4969 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4969 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4969 RNA, herein designated GAM RNA, of GAM4969 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4969 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4969 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4969 RNA correlate with, and may be deduced from, the identity of the GAM4969 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4971 140838 TCCAGACACT Fig. 8 further provides a conceptual description of another novel bioinformatically
TTCTTCCTTC detected oligonucleotides of the present invention, referred to here as Genomic Address
AGTTCAGGGA Messenger 4971 (GAM4971) oligonucleotides modulates expression of respective target genes
ACCCTCAATA whose function and utility is known in the art.

CACAGTAAGA GAM4971 is a novel bioinformatically detectable regulatory, non protein coding,
ATGAAGAGGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM4971 was detected is

TGCAGGTCTG described with additional reference to Figs. 9-15.

AGCTTGAGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGACTGGA encoded by the human genome.

GAM4971 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4971

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4971

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4971 precursor RNA is designated SEQ ID:140838, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140838 is located from position 37937921 to position 37938008 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM4971 precursor RNA folds onto itself, forming GAM4971 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4971 precursor RNA, designated SEQ ID NO: 140838, and a schematic representation of a predicted secondary folding of GAM4971 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4971 folded precursor RNA

yielding a GAM4971 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4971 RNA, hereby incorporated herein.

GAM4971 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4971 target RNA, herein designated GAM TARGET RNA. GAM4971 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4971 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4971 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4971 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4971 RNA, herein designated GAM RNA, to target binding sites on GAM4971 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4971 target RNA into GAM4971 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4971 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4971 target genes. The mRNA of each one of this plurality of GAM4971 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4971 RNA, herein designated GAM RNA, and which when bound by GAM4971 RNA causes inhibition of translation of the GAM4971 target mRNA into a corresponding GAM4971 target protein.

The mechanism of the translational inhibition exerted by GAM4971 RNA, herein designated GAM RNA, on one or more GAM4971 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4971 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4971 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4971 RNA, herein designated GAM RNA, of GAM4971 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4971 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4971 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4971 RNA correlate with, and may be deduced from, the identity of the GAM4971 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4975 140839 CCACAGTGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

GGTGCCCGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

CTGGGTCCCA Messenger 4975 (GAM4975) oligonucleotides modulates expression of respective target genes

CTGGGGAAGC whose function and utility is known in the art.

TCAAGGCAGC GAM4975 is a novel bioinformatically detectable regulatory, non protein coding,

CCTGGCCTTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM4975 was detected is

CCCTCATTCT described with additional reference to Figs. 9-15.

CCACCCAGTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGGCCCCTGC encoded by the human genome.

GTGG GAM4975 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4975

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4975

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4975 precursor RNA is designated SEQ ID:140839, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140839 is located from position 142992769 to position 142992862 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM4975 precursor RNA folds onto itself, forming GAM4975 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4975 precursor RNA, designated SEQ ID NO: 140839, and

a schematic representation of a predicted secondary folding of GAM4975 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4975 folded precursor RNA yielding a GAM4975 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4975 RNA, hereby incorporated herein.

GAM4975 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4975 target RNA, herein designated GAM TARGET RNA. GAM4975 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4975 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4975 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4975 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4975 RNA, herein designated GAM RNA, to target binding sites on GAM4975 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4975 target RNA into GAM4975 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4975 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4975 target genes. The mRNA of each one of this plurality of GAM4975 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4975 RNA, herein designated GAM RNA, and which when bound by GAM4975 RNA causes inhibition of translation of the GAM4975 target mRNA into a corresponding GAM4975 target protein.

The mechanism of the translational inhibition exerted by GAM4975 RNA, herein designated GAM RNA, on one or more GAM4975 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4975 precursor RNA, herein designated GAM PRECURSOR

RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4975 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4975 RNA, herein designated GAM RNA, of GAM4975 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4975 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4975 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4975 RNA correlate with, and may be deduced from, the identity of the GAM4975 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4986 140840 CATCAAAGAA Fig. 8 further provides a conceptual description of another novel bioinformatically
TAAATAAGCT detected oligonucleotides of the present invention, referred to here as Genomic Address
GCTCTAATTG Messenger 4986 (GAM4986) oligonucleotides modulates expression of respective target genes
CCAAGAATTC whose function and utility is known in the art.

ACATGTGGTT GAM4986 is a novel bioinformatically detectable regulatory, non protein coding,
GTATGCAGCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM4986 was detected is

TTACTGGGAA described with additional reference to Figs. 9-15.

ATTGAAGTGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATCTGCATGT encoded by the human genome.

GATTCTGCTG GAM4986 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4986
TGATGGACAC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4986
TTGTAAGTTT precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar
GTTCCTGGAG to the nucleotide sequence of GAM4986 precursor RNA is designated SEQ ID:140840, and is
provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140840 is located from position 43025631 to position 43025760 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM4986 precursor RNA folds onto itself, forming GAM4986 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4986 precursor RNA, designated SEQ ID NO: 140840, and a schematic representation of a predicted secondary folding of GAM4986 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4986 folded precursor RNA yielding a GAM4986 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4986 RNA, hereby incorporated herein.

GAM4986 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4986 target RNA, herein designated GAM TARGET RNA. GAM4986 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4986 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4986 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4986 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4986 RNA, herein designated GAM RNA, to target binding sites on GAM4986 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4986 target RNA into GAM4986 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4986 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4986 target genes. The mRNA of each one of this plurality of GAM4986 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4986 RNA, herein designated GAM RNA, and which when bound by GAM4986 RNA causes inhibition of translation of the GAM4986 target mRNA into a corresponding GAM4986 target protein.

The mechanism of the translational inhibition exerted by GAM4986 RNA, herein designated GAM RNA, on one or more GAM4986 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4986 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4986 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4986 RNA, herein designated GAM RNA, of GAM4986 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4986 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4986 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4986 RNA correlate with, and may be deduced from, the identity of the GAM4986 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM4996 140841 TGAGTATACT Fig. 8 further provides a conceptual description of another novel bioinformatically
TGGATTTTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
GTATCTGTGG Messenger 4996 (GAM4996) oligonucleotides modulates expression of respective target genes
GTTGGGGGGA whose function and utility is known in the art.

CGGTCCAGGA GAM4996 is a novel bioinformatically detectable regulatory, non protein coding,
ACCAATACCC micro RNA (miRNA)-like oligonucleotide. The method by which GAM4996 was detected is

CATGGATACC described with additional reference to Figs. 9-15.

AAGGGACAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGTACTTA encoded by the human genome.

GAM4996 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM4996

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM4996

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM4996 precursor RNA is designated SEQ ID:140841, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ

ID:140841 is located from position 32850080 to position 32850167 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM4996 precursor RNA folds onto itself, forming GAM4996 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM4996 precursor RNA, designated SEQ ID NO: 140841, and a schematic representation of a predicted secondary folding of GAM4996 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM4996 folded precursor RNA yielding a GAM4996 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM4996 RNA, hereby incorporated herein.

GAM4996 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM4996 target RNA, herein designated GAM TARGET RNA. GAM4996 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM4996 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM4996 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM4996 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM4996 RNA, herein designated GAM RNA, to target binding sites on GAM4996 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM4996 target RNA into GAM4996 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM4996 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM4996 target genes. The mRNA of each one of this

plurality of GAM4996 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM4996 RNA, herein designated GAM RNA, and which when bound by GAM4996 RNA causes inhibition of translation of the GAM4996 target mRNA into a corresponding GAM4996 target protein.

The mechanism of the translational inhibition exerted by GAM4996 RNA, herein designated GAM RNA, on one or more GAM4996 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM4996 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM4996 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM4996 RNA, herein designated GAM RNA, of GAM4996 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM4996 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM4996 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM4996 RNA correlate with, and may be deduced from, the identity of the GAM4996 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5000 140842 GGAAACTGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

GCCTTCTTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGTACTAGTG Messenger 5000 (GAM5000) oligonucleotides modulates expression of respective target genes

AGTAAGACAT whose function and utility is known in the art.

TTTGCAACAG GAM5000 is a novel bioinformatically detectable regulatory, non protein coding,

TGCTGAGTAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM5000 was detected is

GAAAGGCCCT described with additional reference to Figs. 9-15.

GGTCTCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM5000 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5000

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5000

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5000 precursor RNA is designated SEQ ID:140842, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140842 is located from position 116259939 to position 116260015 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM5000 precursor RNA folds onto itself, forming GAM5000 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5000 precursor RNA, designated SEQ ID NO: 140842, and a schematic representation of a predicted secondary folding of GAM5000 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5000 folded precursor RNA yielding a GAM5000 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5000 RNA, hereby incorporated herein.

GAM5000 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5000 target RNA, herein designated GAM TARGET RNA. GAM5000 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5000 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5000 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5000 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5000 RNA, herein designated GAM RNA, to target binding sites on GAM5000 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5000 target RNA

into GAM5000 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5000 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5000 target genes. The mRNA of each one of this plurality of GAM5000 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5000 RNA, herein designated GAM RNA, and which when bound by GAM5000 RNA causes inhibition of translation of the GAM5000 target mRNA into a corresponding GAM5000 target protein.

The mechanism of the translational inhibition exerted by GAM5000 RNA, herein designated GAM RNA, on one or more GAM5000 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5000 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5000 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5000 RNA, herein designated GAM RNA, of GAM5000 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5000 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5000 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5000 RNA correlate with, and may be deduced from, the identity of the GAM5000 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5008 140843 CTGCAGGGCT Fig. 8 further provides a conceptual description of another novel bioinformatically
GCTGCCTCAA detected oligonucleotides of the present invention, referred to here as Genomic Address
CATTTTAGGT Messenger 5008 (GAM5008) oligonucleotides modulates expression of respective target genes
TCTGATAGCT whose function and utility is known in the art.

GTATTCTCAG GAM5008 is a novel bioinformatically detectable regulatory, non protein coding,
TCCTGGAGTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM5008 was detected is

ACAGGTGTAG described with additional reference to Figs. 9-15.

CCTGCAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM5008 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5008 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5008 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5008 precursor RNA is designated SEQ ID:140843, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140843 is located from position 54394162 to position 54394238 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM5008 precursor RNA folds onto itself, forming GAM5008 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5008 precursor RNA, designated SEQ ID NO: 140843, and a schematic representation of a predicted secondary folding of GAM5008 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5008 folded precursor RNA yielding a GAM5008 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM5008 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5008 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM5008 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5008 target RNA, herein designated GAM TARGET RNA. GAM5008 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5008 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5008 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5008 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5008 RNA, herein designated GAM RNA, to target binding sites on GAM5008 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5008 target RNA into GAM5008 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5008 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5008 target genes. The mRNA of each one of this plurality of GAM5008 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5008 RNA, herein designated GAM RNA, and which when bound by GAM5008 RNA causes inhibition of translation of the GAM5008 target mRNA into a corresponding GAM5008 target protein.

The mechanism of the translational inhibition exerted by GAM5008 RNA, herein designated GAM RNA, on one or more GAM5008 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5008 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5008 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5008 RNA, herein designated GAM RNA, of GAM5008 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5008 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5008 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5008 RNA correlate with, and may be deduced from, the identity of the GAM5008 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5011 140844 GTCTTCATAT Fig. 8 further provides a conceptual description of another novel bioinformatically
CTCCAGGTTC detected oligonucleotides of the present invention, referred to here as Genomic Address
TGCTGGAGCA Messenger 5011 (GAM5011) oligonucleotides modulates expression of respective target genes
ATTACCTCCC whose function and utility is known in the art.

CCATCTGGCT GAM5011 is a novel bioinformatically detectable regulatory, non protein coding,

CCTTAGGACC micro RNA (miRNA)-like oligonucleotide. The method by which GAM5011 was detected is

TAGAGGTAGT described with additional reference to Figs. 9-15.

AAAGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM5011 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5011

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5011

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5011 precursor RNA is designated SEQ ID:140844, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140844 is located from position 45580563 to position 45580638 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM5011 precursor RNA folds onto itself, forming GAM5011 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5011 precursor RNA, designated SEQ ID NO: 140844, and a schematic representation of a predicted secondary folding of GAM5011 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5011 folded precursor RNA yielding a GAM5011 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM5011 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5011 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM5011 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5011 target RNA, herein designated GAM TARGET RNA. GAM5011 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5011 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5011 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5011 RNA is a partial or fully complementary sequence of the

nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5011 RNA, herein designated GAM RNA, to target binding sites on GAM5011 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5011 target RNA into GAM5011 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5011 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5011 target genes. The mRNA of each one of this plurality of GAM5011 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5011 RNA, herein designated GAM RNA, and which when bound by GAM5011 RNA causes inhibition of translation of the GAM5011 target mRNA into a corresponding GAM5011 target protein.

The mechanism of the translational inhibition exerted by GAM5011 RNA, herein designated GAM RNA, on one or more GAM5011 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5011 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5011 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5011 RNA, herein designated GAM RNA, of GAM5011 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5011 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5011 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5011 RNA correlate with, and may be deduced from, the identity of the GAM5011 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5016 140845 AGCCTTTACT Fig. 8 further provides a conceptual description of another novel bioinformatically

TAAAATCTTC detected oligonucleotides of the present invention, referred to here as Genomic Address
AGTGTCTTGT Messenger 5016 (GAM5016) oligonucleotides modulates expression of respective target
genes
CAAATCTAGC whose function and utility is known in the art.

TCTGTATCAG GAM5016 is a novel bioinformatically detectable regulatory, non protein coding,
ATGCTGGAAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM5016 was detected is

ATTCCTAACA described with additional reference to Figs. 9-15.

TTTGACAAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a
humen gene
TGGAGTTGAA encoded by the human genome.

CTAAAGGCT GAM5016 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAM5016
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM5016
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5016 precursor RNA is designated SEQ ID:140845, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140845 is located from position 71500624 to position 71500722 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GAM5016 precursor RNA folds onto itself, forming GAM5016 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5016 precursor RNA, designated SEQ ID NO: 140845, and a schematic representation of a predicted secondary folding of GAM5016 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5016 folded precursor RNA yielding a GAM5016 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5016 RNA, hereby incorporated herein.

GAM5016 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5016 target RNA, herein designated GAM TARGET RNA. GAM5016 target
RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5016 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5016 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5016 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5016 RNA, herein designated GAM RNA, to target binding sites on GAM5016 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5016 target RNA into GAM5016 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5016 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5016 target genes. The mRNA of each one of this plurality of GAM5016 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5016 RNA, herein designated GAM RNA, and which when bound by GAM5016 RNA causes inhibition of translation of the GAM5016 target mRNA into a corresponding GAM5016 target protein.

The mechanism of the translational inhibition exerted by GAM5016 RNA, herein designated GAM RNA, on one or more GAM5016 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5016 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5016 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5016 RNA, herein designated GAM RNA, of GAM5016 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5016 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5016 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5016 RNA correlate with, and may be deduced from, the identity of the GAM5016 target gene inhibited

thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5035 140846 GTCCACTGGC Fig. 8 further provides a conceptual description of another novel bioinformatically
CCTTCTTGTC detected oligonucleotides of the present invention, referred to here as Genomic Address
TTAGGTCCTC Messenger 5035 (GAM5035) oligonucleotides modulates expression of respective target genes
ACACACAGCT whose function and utility is known in the art.

CTGCTCAGTT GAM5035 is a novel bioinformatically detectable regulatory, non protein coding,
CAATCACCCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM5035 was detected is

GAATGCAGGC described with additional reference to Figs. 9-15.

TGGTTGGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGCAAATTTG encoded by the human genome.

GACAGAAGAA GAM5035 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5035
GTCAGTGTCC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5035
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5035 precursor RNA is designated SEQ ID:140846, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140846 is located from position 71813551 to position 71813660 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM5035 precursor RNA folds onto itself, forming GAM5035 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5035 precursor RNA, designated SEQ ID NO: 140846, and a schematic representation of a predicted secondary folding of GAM5035 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5035 folded precursor RNA yielding a GAM5035 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM5035 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5035 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM5035 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5035 target RNA, herein designated GAM TARGET RNA. GAM5035 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5035 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5035 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5035 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5035 RNA, herein designated GAM RNA, to target binding sites on GAM5035 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5035 target RNA into GAM5035 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5035 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5035 target genes. The mRNA of each one of this plurality of GAM5035 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5035 RNA, herein designated GAM RNA, and which when bound by GAM5035 RNA causes inhibition of translation of the GAM5035 target mRNA into a corresponding GAM5035 target protein.

The mechanism of the translational inhibition exerted by GAM5035 RNA, herein designated GAM RNA, on one or more GAM5035 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5035 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5035 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5035 RNA, herein designated GAM RNA, of GAM5035 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5035 target RNA, herein designated GAM

TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5035 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5035 RNA correlate with, and may be deduced from, the identity of the GAM5035 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5048 140847 GCTTGCTGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TTTACAGATG detected oligonucleotides of the present invention, referred to here as Genomic Address
GCAAAGATCT Messenger 5048 (GAM5048) oligonucleotides modulates expression of respective target genes
GGCAAATTAA whose function and utility is known in the art.

AAATAGCCTT GAM5048 is a novel bioinformatically detectable regulatory, non protein coding,
AGGCCAAAGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM5048 was detected is

TCAAACCCAA described with additional reference to Figs. 9-15.

GGTGGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM5048 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5048

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5048
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5048 precursor RNA is designated SEQ ID:140847, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140847 is located from position 118768043 to position 118768119 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM5048 precursor RNA folds onto itself, forming GAM5048 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5048 precursor RNA, designated SEQ ID NO: 140847, and a schematic representation of a predicted secondary folding of GAM5048 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5048 folded precursor RNA yielding a GAM5048 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor

product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5048 RNA, hereby incorporated herein.

GAM5048 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5048 target RNA, herein designated GAM TARGET RNA. GAM5048 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5048 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5048 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5048 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5048 RNA, herein designated GAM RNA, to target binding sites on GAM5048 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5048 target RNA into GAM5048 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5048 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5048 target genes. The mRNA of each one of this plurality of GAM5048 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5048 RNA, herein designated GAM RNA, and which when bound by GAM5048 RNA causes inhibition of translation of the GAM5048 target mRNA into a corresponding GAM5048 target protein.

The mechanism of the translational inhibition exerted by GAM5048 RNA, herein designated GAM RNA, on one or more GAM5048 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5048 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5048 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5048 RNA, herein designated GAM RNA, of GAM5048 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5048 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5048 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5048 RNA correlate with, and may be deduced from, the identity of the GAM5048 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5058 140848 GGAGAATTGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAATCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGCAGAGG Messenger 5058 (GAM5058) oligonucleotides modulates expression of respective target genes
TTGCAGTGAG whose function and utility is known in the art.

CTGAGATCAT GAM5058 is a novel bioinformatically detectable regulatory, non protein coding,
GCCACTGCAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM5058 was detected is

TCCAGCCTGG described with additional reference to Figs. 9-15.

GTGACAGAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GACACTCC encoded by the human genome.

GAM5058 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5058

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5058

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5058 precursor RNA is designated SEQ ID:140848, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140848 is located from position 122025582 to position 122025669 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM5058 precursor RNA folds onto itself, forming GAM5058 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5058 precursor RNA, designated SEQ ID NO: 140848, and a schematic representation of a predicted secondary folding of GAM5058 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5058 folded precursor RNA yielding a GAM5058 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5058 RNA, hereby incorporated herein.

GAM5058 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5058 target RNA, herein designated GAM TARGET RNA. GAM5058 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5058 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5058 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5058 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5058 RNA, herein designated GAM RNA, to target binding sites on GAM5058 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5058 target RNA into GAM5058 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5058 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5058 target genes. The mRNA of each one of this plurality of GAM5058 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5058 RNA, herein designated GAM RNA, and which when bound by GAM5058 RNA causes inhibition of translation of the GAM5058 target mRNA into a corresponding GAM5058 target protein.

The mechanism of the translational inhibition exerted by GAM5058 RNA, herein designated GAM RNA, on one or more GAM5058 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5058 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5058 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5058 RNA, herein designated GAM RNA, of GAM5058 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5058 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5058 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5058 RNA correlate with, and may be deduced from, the identity of the GAM5058 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5074 140849 AGGTGCACCC TGTGGAATTT GGCAGAAAAG GCCCAATCGC CCTTTAGAGG GTGAACTGAA GCCTGTTCCT GCAATGTTCT AAGGAGTGCC CCT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 5074 (GAM5074) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM5074 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM5074 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM5074 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5074 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5074 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5074 precursor RNA is designated SEQ ID:140849, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140849 is located from position 44470838 to position 44470930 relative to chromosome chr18 on the `-` strand (chr is an abbreviation for chromosome).

GAM5074 precursor RNA folds onto itself, forming GAM5074 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5074 precursor RNA, designated SEQ ID NO: 140849, and a schematic representation of a predicted secondary folding of GAM5074 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5074 folded precursor RNA yielding a GAM5074 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5074 RNA, hereby incorporated herein.

GAM5074 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5074 target RNA, herein designated GAM TARGET RNA. GAM5074 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5074 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5074 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5074 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5074 RNA, herein designated GAM RNA, to target binding sites on GAM5074 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5074 target RNA into GAM5074 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5074 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5074 target genes. The mRNA of each one of this plurality of GAM5074 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5074 RNA, herein designated GAM RNA, and which when bound by GAM5074 RNA causes inhibition of translation of the GAM5074 target mRNA into a corresponding GAM5074 target protein.

The mechanism of the translational inhibition exerted by GAM5074 RNA, herein designated GAM RNA, on one or more GAM5074 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5074 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5074 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5074 RNA, herein designated GAM RNA, of GAM5074 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5074 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5074 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5074 RNA correlate with, and may be deduced from, the identity of the GAM5074 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5082 140850 GGTATACTTA Fig. 8 further provides a conceptual description of another novel bioinformatically

CTAGCATATT detected oligonucleotides of the present invention, referred to here as Genomic Address

ATATAGCTCT Messenger 5082 (GAM5082) oligonucleotides modulates expression of respective target genes

AAGAGTGTAG whose function and utility is known in the art.

AGTTATATGA GAM5082 is a novel bioinformatically detectable regulatory, non protein coding,

TGTGCTAGTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM5082 was detected is

AAGTGTATT described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM5082 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5082

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5082

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5082 precursor RNA is designated SEQ ID:140850, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140850 is located from position 101882283 to position 101882351 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM5082 precursor RNA folds onto itself, forming GAM5082 folded precursor RNA,

herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5082 precursor RNA, designated SEQ ID NO: 140850, and a schematic representation of a predicted secondary folding of GAM5082 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5082 folded precursor RNA yielding a GAM5082 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5082 RNA, hereby incorporated herein.

GAM5082 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5082 target RNA, herein designated GAM TARGET RNA. GAM5082 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5082 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5082 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5082 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5082 RNA, herein designated GAM RNA, to target binding sites on GAM5082 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5082 target RNA into GAM5082 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5082 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5082 target genes. The mRNA of each one of this plurality of GAM5082 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5082 RNA, herein designated GAM RNA, and which when bound by GAM5082 RNA causes inhibition of translation of the GAM5082 target mRNA into a corresponding GAM5082 target protein.

The mechanism of the translational inhibition exerted by GAM5082 RNA, herein designated GAM RNA, on one or more GAM5082 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5082 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5082 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5082 RNA, herein designated GAM RNA, of GAM5082 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5082 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5082 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5082 RNA correlate with, and may be deduced from, the identity of the GAM5082 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5085 140851 GGGACATCAA Fig. 8 further provides a conceptual description of another novel bioinformatically
AGAATAAATA detected oligonucleotides of the present invention, referred to here as Genomic Address
AGCTGCTCTA Messenger 5085 (GAM5085) oligonucleotides modulates expression of respective target genes
ATTGCCAAGA whose function and utility is known in the art.

ATTCACATGT GAM5085 is a novel bioinformatically detectable regulatory, non protein coding,
GGTTGTATGC micro RNA (miRNA)-like oligonucleotide. The method by which GAM5085 was detected is

AGCATTACTG described with additional reference to Figs. 9-15.

GGAAATTGAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTGTATCTGC encoded by the human genome.

ATGTGATTCT GAM5085 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5085
GCTGTGATGG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5085
ACACTTGTAA precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar
GTTTGTTCC to the nucleotide sequence of GAM5085 precursor RNA is designated SEQ ID:140851, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140851 is located from position 43025636 to position 43025764 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM5085 precursor RNA folds onto itself, forming GAM5085 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5085 precursor RNA, designated SEQ ID NO: 140851, and a schematic representation of a predicted secondary folding of GAM5085 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5085 folded precursor RNA yielding a GAM5085 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5085 RNA, hereby incorporated herein.

GAM5085 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5085 target RNA, herein designated GAM TARGET RNA. GAM5085 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5085 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5085 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5085 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5085 RNA, herein designated GAM RNA, to target binding sites on GAM5085 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5085 target RNA into GAM5085 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5085 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM5085 target genes. The mRNA of each one of this plurality of GAM5085 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5085 RNA, herein designated GAM RNA, and which when bound by GAM5085 RNA causes inhibition of translation of the GAM5085 target mRNA into a corresponding GAM5085 target protein.

The mechanism of the translational inhibition exerted by GAM5085 RNA, herein designated GAM RNA, on one or more GAM5085 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5085 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5085 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5085 RNA, herein designated GAM RNA, of GAM5085 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5085 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5085 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5085 RNA correlate with, and may be deduced from, the identity of the GAM5085 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5086 140852 TGGTACCTTA Fig. 8 further provides a conceptual description of another novel bioinformatically
TTATTGAAAA detected oligonucleotides of the present invention, referred to here as Genomic Address
TCAGATAAAC Messenger 5086 (GAM5086) oligonucleotides modulates expression of respective target genes
TTTGGTTGGG whose function and utility is known in the art.

TGGGTATTTG GAM5086 is a novel bioinformatically detectable regulatory, non protein coding,
GAGGAATCTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM5086 was detected is

TTAAGTCTTT described with additional reference to Figs. 9-15.

TCTTAAGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGTTTGGACA encoded by the human genome.

TTCTAAAATA GAM5086 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5086

AGGTTGCCA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5086 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5086 precursor RNA is designated SEQ ID:140852, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140852 is located from position 34577774 to position 34577882 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GAM5086 precursor RNA folds onto itself, forming GAM5086 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5086 precursor RNA, designated SEQ ID NO: 140852, and a schematic representation of a predicted secondary folding of GAM5086 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5086 folded precursor RNA yielding a GAM5086 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5086 RNA, hereby incorporated herein.

GAM5086 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5086 target RNA, herein designated GAM TARGET RNA. GAM5086 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5086 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5086 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5086 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5086 RNA, herein designated GAM RNA, to target binding sites on GAM5086 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5086 target RNA

into GAM5086 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5086 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5086 target genes. The mRNA of each one of this plurality of GAM5086 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5086 RNA, herein designated GAM RNA, and which when bound by GAM5086 RNA causes inhibition of translation of the GAM5086 target mRNA into a corresponding GAM5086 target protein.

The mechanism of the translational inhibition exerted by GAM5086 RNA, herein designated GAM RNA, on one or more GAM5086 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5086 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5086 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5086 RNA, herein designated GAM RNA, of GAM5086 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5086 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5086 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5086 RNA correlate with, and may be deduced from, the identity of the GAM5086 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5090 140853 CTGCCCCCGC Fig. 8 further provides a conceptual description of another novel bioinformatically
CCTCTGGACC detected oligonucleotides of the present invention, referred to here as Genomic Address
CGAGTGACTC Messenger 5090 (GAM5090) oligonucleotides modulates expression of respective target genes
AGGCCTTTGT whose function and utility is known in the art.

TTGTCCTTCC GAM5090 is a novel bioinformatically detectable regulatory, non protein coding,
TGGTAGAGGC micro RNA (miRNA)-like oligonucleotide. The method by which GAM5090 was detected is

GGGTTCCCTC described with additional reference to Figs. 9-15.

CCTCGGCAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATGCCGGAGT encoded by the human genome.

GCTGGGATGG GAM5090 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5090 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5090 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5090 precursor RNA is designated SEQ ID:140853, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140853 is located from position 58268693 to position 58268792 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM5090 precursor RNA folds onto itself, forming GAM5090 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5090 precursor RNA, designated SEQ ID NO: 140853, and a schematic representation of a predicted secondary folding of GAM5090 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5090 folded precursor RNA yielding a GAM5090 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5090 RNA, hereby incorporated herein.

GAM5090 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5090 target RNA, herein designated GAM TARGET RNA. GAM5090 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5090 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5090 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5090 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5090 RNA, herein designated GAM RNA, to target binding sites on GAM5090 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5090 target RNA into GAM5090 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5090 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5090 target genes. The mRNA of each one of this plurality of GAM5090 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5090 RNA, herein designated GAM RNA, and which when bound by GAM5090 RNA causes inhibition of translation of the GAM5090 target mRNA into a corresponding GAM5090 target protein.

The mechanism of the translational inhibition exerted by GAM5090 RNA, herein designated GAM RNA, on one or more GAM5090 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5090 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5090 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5090 RNA, herein designated GAM RNA, of GAM5090 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5090 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5090 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5090 RNA correlate with, and may be deduced from, the identity of the GAM5090 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5127 140854 GGGAGGAGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AAGGAACCAT detected oligonucleotides of the present invention, referred to here as Genomic Address
AGATTCTGAG Messenger 5127 (GAM5127) oligonucleotides modulates expression of respective target genes
AAACACACCA whose function and utility is known in the art.

GGATGACTAG GAM5127 is a novel bioinformatically detectable regulatory, non protein coding,
GCCTGGAGGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM5127 was detected is

GTCCAGGGTG described with additional reference to Figs. 9-15.

GGCCTCAGAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCTCACTTCT encoded by the human genome.

TGTCTGGCAC GAM5127 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5127

CTCCC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5127

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5127 precursor RNA is designated SEQ ID:140854, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140854 is located from position 43743986 to position 43744090 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM5127 precursor RNA folds onto itself, forming GAM5127 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5127 precursor RNA, designated SEQ ID NO: 140854, and a schematic representation of a predicted secondary folding of GAM5127 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5127 folded precursor RNA yielding a GAM5127 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM5127 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5127 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM5127 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5127 target RNA, herein designated GAM TARGET RNA. GAM5127 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5127 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5127 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5127 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5127 RNA, herein designated GAM RNA, to target binding sites on GAM5127 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5127 target RNA into GAM5127 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5127 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5127 target genes. The mRNA of each one of this plurality of GAM5127 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5127 RNA, herein designated GAM RNA, and which when bound by GAM5127 RNA causes inhibition of translation of the GAM5127 target mRNA into a corresponding GAM5127 target protein.

The mechanism of the translational inhibition exerted by GAM5127 RNA, herein designated GAM RNA, on one or more GAM5127 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5127 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5127 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5127 RNA, herein designated GAM RNA, of GAM5127 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5127 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5127 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5127 RNA correlate with, and may be deduced from, the identity of the GAM5127 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5142 140855 AGTCTCACTC TGTCACCCAG GCTGGAGTGC Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 5142 (GAM5142) oligonucleotides modulates expression of respective target genes

AGTGGCATGA whose function and utility is known in the art.

TCTTGGTTCA GAM5142 is a novel bioinformatically detectable regulatory, non protein coding,
CTGCAACCTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM5142 was detected is

TGCTTCTGGG described with additional reference to Figs. 9-15.

ATTCAAGAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TT encoded by the human genome.

GAM5142 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5142

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5142

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5142 precursor RNA is designated SEQ ID:140855, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140855 is located from position 4104693 to position 4104774 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM5142 precursor RNA folds onto itself, forming GAM5142 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5142 precursor RNA, designated SEQ ID NO: 140855, and a schematic representation of a predicted secondary folding of GAM5142 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5142 folded precursor RNA yielding a GAM5142 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM5142 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5142 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM5142 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5142 target RNA, herein designated GAM TARGET RNA. GAM5142 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5142 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM5142 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5142 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5142 RNA, herein designated GAM RNA, to target binding sites on GAM5142 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5142 target RNA into GAM5142 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5142 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5142 target genes. The mRNA of each one of this plurality of GAM5142 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5142 RNA, herein designated GAM RNA, and which when bound by GAM5142 RNA causes inhibition of translation of the GAM5142 target mRNA into a corresponding GAM5142 target protein.

The mechanism of the translational inhibition exerted by GAM5142 RNA, herein designated GAM RNA, on one or more GAM5142 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5142 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5142 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5142 RNA, herein designated GAM RNA, of GAM5142 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5142 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5142 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5142 RNA correlate with, and may be deduced from, the identity of the GAM5142 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5209 140856 GGAAGCCTTC Fig. 8 further provides a conceptual description of another novel bioinformatically

CCTTACCTCA detected oligonucleotides of the present invention, referred to here as Genomic Address

GCCTGGTTGA Messenger 5209 (GAM5209) oligonucleotides modulates expression of respective target genes

GGGCCCCCTG whose function and utility is known in the art.

GGCTGTTTTC GAM5209 is a novel bioinformatically detectable regulatory, non protein coding,

ACTGGTTGAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM5209 was detected is

GGTATCTGAT described with additional reference to Figs. 9-15.

CCCTTCCAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTGAGGTTCC encoded by the human genome.

TGGAGGGCCA GAM5209 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5209

GTCCAGGTCT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5209

GAGGTCTGGT precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

TCATGCTTCC to the nucleotide sequence of GAM5209 precursor RNA is designated SEQ ID:140856, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140856 is located from position 72669608 to position 72669737 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM5209 precursor RNA folds onto itself, forming GAM5209 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5209 precursor RNA, designated SEQ ID NO: 140856, and a schematic representation of a predicted secondary folding of GAM5209 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5209 folded precursor RNA yielding a GAM5209 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5209 RNA, hereby incorporated herein.

GAM5209 target gene, herein designated GAM TARGET GENE, encodes a corresponding

messenger RNA, GAM5209 target RNA, herein designated GAM TARGET RNA. GAM5209 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5209 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5209 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5209 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5209 RNA, herein designated GAM RNA, to target binding sites on GAM5209 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5209 target RNA into GAM5209 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5209 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5209 target genes. The mRNA of each one of this plurality of GAM5209 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5209 RNA, herein designated GAM RNA, and which when bound by GAM5209 RNA causes inhibition of translation of the GAM5209 target mRNA into a corresponding GAM5209 target protein.

The mechanism of the translational inhibition exerted by GAM5209 RNA, herein designated GAM RNA, on one or more GAM5209 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5209 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5209 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5209 RNA, herein designated GAM RNA, of GAM5209 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5209 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target

binding sites to GAM5209 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5209 RNA correlate with, and may be deduced from, the identity of the GAM5209 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5217 140857 ACACTGGACA Fig. 8 further provides a conceptual description of another novel bioinformatically
GATGGATGTT detected oligonucleotides of the present invention, referred to here as Genomic Address
GATGAGCTTG Messenger 5217 (GAM5217) oligonucleotides modulates expression of respective target genes
TGTGCAGCAG whose function and utility is known in the art.

TTCTACTGGA GAM5217 is a novel bioinformatically detectable regulatory, non protein coding,
AGTATGTACA micro RNA (miRNA)-like oligonucleotide. The method by which GAM5217 was detected is

AGGGGCTCAG described with additional reference to Figs. 9-15.

CCAGCCAATT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGGACGGTGT encoded by the human genome.

GAM5217 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5217

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5217

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5217 precursor RNA is designated SEQ ID:140857, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140857 is located from position 22848134 to position 22848223 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM5217 precursor RNA folds onto itself, forming GAM5217 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5217 precursor RNA, designated SEQ ID NO: 140857, and a schematic representation of a predicted secondary folding of GAM5217 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5217 folded precursor RNA yielding a GAM5217 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an

enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM5217 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5217 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM5217 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5217 target RNA, herein designated GAM TARGET RNA. GAM5217 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5217 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5217 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5217 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5217 RNA, herein designated GAM RNA, to target binding sites on GAM5217 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5217 target RNA into GAM5217 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5217 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5217 target genes. The mRNA of each one of this plurality of GAM5217 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5217 RNA, herein designated GAM RNA, and which when bound by GAM5217 RNA causes inhibition of translation of the GAM5217 target mRNA into a corresponding GAM5217 target protein.

The mechanism of the translational inhibition exerted by GAM5217 RNA, herein designated GAM RNA, on one or more GAM5217 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5217 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5217 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5217 RNA, herein designated GAM RNA, of GAM5217 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5217 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5217 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5217 RNA correlate with, and may be deduced from, the identity of the GAM5217 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5222 140858 ATATGCTGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGGGACAGG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGCTAAGGAT Messenger 5222 (GAM5222) oligonucleotides modulates expression of respective target genes
AGAGGTGAGG whose function and utility is known in the art.

AAACCCGCAG GAM5222 is a novel bioinformatically detectable regulatory, non protein coding,
ACAACAGCGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM5222 was detected is

CATGCTCCTC described with additional reference to Figs. 9-15.

ATCTTTGAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CCCAGCGAAC encoded by the human genome.

CTTTCCACTG GAM5222 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5222
TGTGTGT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5222

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5222 precursor RNA is designated SEQ ID:140858, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140858 is located from position 34060088 to position 34060194 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM5222 precursor RNA folds onto itself, forming GAM5222 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5222 precursor RNA, designated SEQ ID NO: 140858, and a schematic representation of a predicted secondary folding of GAM5222 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5222 folded precursor RNA yielding a GAM5222 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM5222 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5222 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM5222 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5222 target RNA, herein designated GAM TARGET RNA. GAM5222 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5222 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5222 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5222 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5222 RNA, herein designated GAM RNA, to target binding sites on GAM5222 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5222 target RNA into GAM5222 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5222 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5222 target genes. The mRNA of each one of this plurality of GAM5222 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5222 RNA, herein designated GAM RNA, and which when bound by GAM5222 RNA causes inhibition of translation of the GAM5222 target mRNA into a corresponding GAM5222 target protein.

The mechanism of the translational inhibition exerted by GAM5222 RNA, herein designated GAM RNA, on one or more GAM5222 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5222 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5222 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5222 RNA, herein designated GAM RNA, of GAM5222 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5222 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5222 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5222 RNA correlate with, and may be deduced from, the identity of the GAM5222 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5254 140859 TGAGTGTATG Fig. 8 further provides a conceptual description of another novel bioinformatically
TGTGAGAGAG detected oligonucleotides of the present invention, referred to here as Genomic Address
AATGTTATGT Messenger 5254 (GAM5254) oligonucleotides modulates expression of respective target genes
TTATCACTGA whose function and utility is known in the art.

GTTCCCATTG GAM5254 is a novel bioinformatically detectable regulatory, non protein coding,
TTTCATTCTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM5254 was detected is

ATAGCACTTA described with additional reference to Figs. 9-15.

TTTCTTCATA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTTTCTATAC encoded by the human genome.

ACATTTACTC GAM5254 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5254
G precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5254
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5254 precursor RNA is designated SEQ ID:140859, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140859 is located from position 107483900 to position 107484000 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM5254 precursor RNA folds onto itself, forming GAM5254 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5254 precursor RNA, designated SEQ ID NO: 140859, and a schematic representation of a predicted secondary folding of GAM5254 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5254 folded precursor RNA yielding a GAM5254 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5254 RNA, hereby incorporated herein.

GAM5254 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5254 target RNA, herein designated GAM TARGET RNA. GAM5254 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5254 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5254 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5254 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5254 RNA, herein designated GAM RNA, to target binding sites on GAM5254 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5254 target RNA into GAM5254 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5254 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5254 target genes. The mRNA of each one of this plurality of GAM5254 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5254 RNA, herein designated GAM RNA, and which when bound by GAM5254 RNA causes inhibition of translation of the GAM5254 target mRNA into a corresponding GAM5254 target protein.

The mechanism of the translational inhibition exerted by GAM5254 RNA, herein designated GAM RNA, on one or more GAM5254 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5254 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5254 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5254 RNA, herein designated GAM RNA, of GAM5254 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5254 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5254 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5254 RNA correlate with, and may be deduced from, the identity of the GAM5254 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5266 140860 TCACTCTGTT Fig. 8 further provides a conceptual description of another novel bioinformatically

GCCCAGGCTG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGTGCAGTG Messenger 5266 (GAM5266) oligonucleotides modulates expression of respective target genes

GTGCAATCTT whose function and utility is known in the art.

GGCTCACTGC GAM5266 is a novel bioinformatically detectable regulatory, non protein coding,

AACCTCCACC micro RNA (miRNA)-like oligonucleotide. The method by which GAM5266 was detected is

TCCCGGGTTC described with additional reference to Figs. 9-15.

AAGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM5266 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5266

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5266

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5266 precursor RNA is designated SEQ ID:140860, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140860 is located from position 28924785 to position 28924860 relative to chromosome chr6 on the `+` strand (chr is an abbreviation for chromosome).

GAM5266 precursor RNA folds onto itself, forming GAM5266 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5266 precursor RNA, designated SEQ ID NO: 140860, and a schematic representation of a predicted secondary folding of GAM5266 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5266 folded precursor RNA yielding a GAM5266 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5266 RNA, hereby incorporated herein.

GAM5266 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5266 target RNA, herein designated GAM TARGET RNA. GAM5266 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5266 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5266 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5266 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5266 RNA, herein designated GAM RNA, to target binding sites on GAM5266 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5266 target RNA into GAM5266 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5266 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5266 target genes. The mRNA of each one of this plurality of GAM5266 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5266 RNA, herein designated GAM RNA, and which when bound by GAM5266 RNA causes inhibition of translation

of the GAM5266 target mRNA into a corresponding GAM5266 target protein.

The mechanism of the translational inhibition exerted by GAM5266 RNA, herein designated GAM RNA, on one or more GAM5266 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5266 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5266 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5266 RNA, herein designated GAM RNA, of GAM5266 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5266 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5266 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5266 RNA correlate with, and may be deduced from, the identity of the GAM5266 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5270 140861 CCCAGACAGT Fig. 8 further provides a conceptual description of another novel bioinformatically
GCCCGTTTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGATGTGACC Messenger 5270 (GAM5270) oligonucleotides modulates expression of respective target genes
TGGTGGCCAC whose function and utility is known in the art.

CAAATGCCTT GAM5270 is a novel bioinformatically detectable regulatory, non protein coding,
GGCCTCAGTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM5270 was detected is

CAAACTAAGC described with additional reference to Figs. 9-15.

AGGGCACACT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCCTGGG encoded by the human genome.

GAM5270 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5270

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5270
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

to the nucleotide sequence of GAM5270 precursor RNA is designated SEQ ID:140861, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140861 is located from position 99045264 to position 99045350 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM5270 precursor RNA folds onto itself, forming GAM5270 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5270 precursor RNA, designated SEQ ID NO: 140861, and a schematic representation of a predicted secondary folding of GAM5270 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5270 folded precursor RNA yielding a GAM5270 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5270 RNA, hereby incorporated herein.

GAM5270 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5270 target RNA, herein designated GAM TARGET RNA. GAM5270 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5270 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5270 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5270 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5270 RNA, herein designated GAM RNA, to target binding sites on GAM5270 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5270 target RNA into GAM5270 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5270 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5270 target genes. The mRNA of each one of this plurality of GAM5270 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5270 RNA, herein designated GAM RNA, and which when bound by GAM5270 RNA causes inhibition of translation of the GAM5270 target mRNA into a corresponding GAM5270 target protein.

The mechanism of the translational inhibition exerted by GAM5270 RNA, herein designated GAM RNA, on one or more GAM5270 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5270 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5270 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5270 RNA, herein designated GAM RNA, of GAM5270 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5270 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5270 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5270 RNA correlate with, and may be deduced from, the identity of the GAM5270 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5272 140862 GGGACTTAAC Fig. 8 further provides a conceptual description of another novel bioinformatically
TGAGAGGATC detected oligonucleotides of the present invention, referred to here as Genomic Address
TGAGTAGCAG Messenger 5272 (GAM5272) oligonucleotides modulates expression of respective target genes
ACACCCTAAG whose function and utility is known in the art.

AGCATGTCAT GAM5272 is a novel bioinformatically detectable regulatory, non protein coding,
TGTCTTCTCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM5272 was detected is

CCAGTTACTC described with additional reference to Figs. 9-15.

TCCAGTTGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TAGAGTCCC encoded by the human genome.

GAM5272 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5272 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5272 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5272 precursor RNA is designated SEQ ID:140862, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140862 is located from position 93734228 to position 93734316 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM5272 precursor RNA folds onto itself, forming GAM5272 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5272 precursor RNA, designated SEQ ID NO: 140862, and a schematic representation of a predicted secondary folding of GAM5272 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5272 folded precursor RNA yielding a GAM5272 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM5272 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5272 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM5272 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5272 target RNA, herein designated GAM TARGET RNA. GAM5272 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5272 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5272 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5272 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5272 RNA, herein designated GAM RNA, to target binding sites on GAM5272 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5272 target RNA into GAM5272 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5272 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5272 target genes. The mRNA of each one of this plurality of GAM5272 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5272 RNA, herein designated GAM RNA, and which when bound by GAM5272 RNA causes inhibition of translation of the GAM5272 target mRNA into a corresponding GAM5272 target protein.

The mechanism of the translational inhibition exerted by GAM5272 RNA, herein designated GAM RNA, on one or more GAM5272 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5272 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5272 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5272 RNA, herein designated GAM RNA, of GAM5272 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5272 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5272 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5272 RNA correlate with, and may be deduced from, the identity of the GAM5272 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5278 140863 TCCCTTTTAT Fig. 8 further provides a conceptual description of another novel bioinformatically
TAACCATCTT detected oligonucleotides of the present invention, referred to here as Genomic Address
CCCTTTCTCG Messenger 5278 (GAM5278) oligonucleotides modulates expression of respective target genes
AGTATACACA whose function and utility is known in the art.

AGTAGAAAAG GAM5278 is a novel bioinformatically detectable regulatory, non protein coding,
AAACAGTGAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM5278 was detected is

GTACCCCGAT described with additional reference to Figs. 9-15.

AGGGAGGGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGGAGAGGAT encoded by the human genome.

GGGA GAM5278 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5278

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5278

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5278 precursor RNA is designated SEQ ID:140863, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140863 is located from position 58433646 to position 58433739 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM5278 precursor RNA folds onto itself, forming GAM5278 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5278 precursor RNA, designated SEQ ID NO: 140863, and a schematic representation of a predicted secondary folding of GAM5278 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5278 folded precursor RNA yielding a GAM5278 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM5278 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5278 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM5278 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5278 target RNA, herein designated GAM TARGET RNA. GAM5278 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5278 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5278 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5278 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5278 RNA, herein designated GAM RNA, to target binding sites on GAM5278 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5278 target RNA into GAM5278 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5278 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5278 target genes. The mRNA of each one of this plurality of GAM5278 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5278 RNA, herein designated GAM RNA, and which when bound by GAM5278 RNA causes inhibition of translation of the GAM5278 target mRNA into a corresponding GAM5278 target protein.

The mechanism of the translational inhibition exerted by GAM5278 RNA, herein designated GAM RNA, on one or more GAM5278 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5278 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5278 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5278 RNA, herein designated GAM RNA, of GAM5278 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5278 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5278 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5278 RNA correlate with, and may be deduced from, the identity of the GAM5278 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5280 140864 CTCTCCTATA ACCAGGATTC ACGGGTCCAG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 5280 (GAM5280) oligonucleotides modulates expression of respective target genes

GAATCAAGGG whose function and utility is known in the art.

ATAGAAGTAG GAM5280 is a novel bioinformatically detectable regulatory, non protein coding,
GAGTGGTTCC micro RNA (miRNA)-like oligonucleotide. The method by which GAM5280 was detected is

TCTCACCTGT described with additional reference to Figs. 9-15.

CCCCTCAACT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGAGTTCTAC encoded by the human genome.

TGGTTTGGAG GAM5280 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5280
GG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5280

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5280 precursor RNA is designated SEQ ID:140864, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140864 is located from position 233414375 to position 233414476 relative to chromosome chr2 on the `-` strand (chr is an abbreviation for chromosome).

GAM5280 precursor RNA folds onto itself, forming GAM5280 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5280 precursor RNA, designated SEQ ID NO: 140864, and a schematic representation of a predicted secondary folding of GAM5280 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5280 folded precursor RNA yielding a GAM5280 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM5280 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5280 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM5280 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5280 target RNA, herein designated GAM TARGET RNA. GAM5280 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5280 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM5280 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5280 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5280 RNA, herein designated GAM RNA, to target binding sites on GAM5280 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5280 target RNA into GAM5280 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5280 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5280 target genes. The mRNA of each one of this plurality of GAM5280 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5280 RNA, herein designated GAM RNA, and which when bound by GAM5280 RNA causes inhibition of translation of the GAM5280 target mRNA into a corresponding GAM5280 target protein.

The mechanism of the translational inhibition exerted by GAM5280 RNA, herein designated GAM RNA, on one or more GAM5280 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5280 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5280 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5280 RNA, herein designated GAM RNA, of GAM5280 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5280 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5280 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5280 RNA correlate with, and may be deduced from, the identity of the GAM5280 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5292 140865 TGCCCTGTTG Fig. 8 further provides a conceptual description of another novel bioinformatically

ACCAGAATTT detected oligonucleotides of the present invention, referred to here as Genomic Address

GTTAGATTGC Messenger 5292 (GAM5292) oligonucleotides modulates expression of respective target genes

TATTACAATG whose function and utility is known in the art.

CTGATTATAT GAM5292 is a novel bioinformatically detectable regulatory, non protein coding,

TTTATAGCAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM5292 was detected is

TTACTGACAT described with additional reference to Figs. 9-15.

AAGGTTATAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTTGGGCA encoded by the human genome.

GAM5292 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5292

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5292

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5292 precursor RNA is designated SEQ ID:140865, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140865 is located from position 96304363 to position 96304450 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM5292 precursor RNA folds onto itself, forming GAM5292 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5292 precursor RNA, designated SEQ ID NO: 140865, and a schematic representation of a predicted secondary folding of GAM5292 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5292 folded precursor RNA yielding a GAM5292 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5292 RNA, hereby incorporated herein.

GAM5292 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5292 target RNA, herein designated GAM TARGET RNA. GAM5292 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5292 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5292 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5292 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5292 RNA, herein designated GAM RNA, to target binding sites on GAM5292 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5292 target RNA into GAM5292 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5292 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5292 target genes. The mRNA of each one of this plurality of GAM5292 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5292 RNA, herein designated GAM RNA, and which when bound by GAM5292 RNA causes inhibition of translation of the GAM5292 target mRNA into a corresponding GAM5292 target protein.

The mechanism of the translational inhibition exerted by GAM5292 RNA, herein designated GAM RNA, on one or more GAM5292 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5292 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5292 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5292 RNA, herein designated GAM RNA, of GAM5292 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5292 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5292 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5292 RNA correlate with, and may be deduced from, the identity of the GAM5292 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5324 140866 TCACTTTGGT Fig. 8 further provides a conceptual description of another novel bioinformatically
GATATCATGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAAGGTGTAC Messenger 5324 (GAM5324) oligonucleotides modulates expression of respective target genes
TTCCGGTGAT whose function and utility is known in the art.

GCCTAGAGGT GAM5324 is a novel bioinformatically detectable regulatory, non protein coding,
CACGTCCTGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM5324 was detected is

GATGTCATTA described with additional reference to Figs. 9-15.

GGCTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM5324 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5324

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5324
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5324 precursor RNA is designated SEQ ID:140866, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140866 is located from position 51118141 to position 51118216 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM5324 precursor RNA folds onto itself, forming GAM5324 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5324 precursor RNA, designated SEQ ID NO: 140866, and a schematic representation of a predicted secondary folding of GAM5324 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5324 folded precursor RNA yielding a GAM5324 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the

nucleotide sequence of GAM5324 RNA, hereby incorporated herein.

GAM5324 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5324 target RNA, herein designated GAM TARGET RNA. GAM5324 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5324 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5324 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5324 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5324 RNA, herein designated GAM RNA, to target binding sites on GAM5324 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5324 target RNA into GAM5324 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5324 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5324 target genes. The mRNA of each one of this plurality of GAM5324 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5324 RNA, herein designated GAM RNA, and which when bound by GAM5324 RNA causes inhibition of translation of the GAM5324 target mRNA into a corresponding GAM5324 target protein.

The mechanism of the translational inhibition exerted by GAM5324 RNA, herein designated GAM RNA, on one or more GAM5324 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5324 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5324 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5324 RNA, herein designated GAM RNA, of GAM5324 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5324 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5324 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5324 RNA correlate with, and may be deduced from, the identity of the GAM5324 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5329 140867 TGATTCAAAG Fig. 8 further provides a conceptual description of another novel bioinformatically

CAAGATGGTA detected oligonucleotides of the present invention, referred to here as Genomic Address

GCATTGGAGA Messenger 5329 (GAM5329) oligonucleotides modulates expression of respective target genes

GGATGAGATA whose function and utility is known in the art.

TGGTCAGATG GAM5329 is a novel bioinformatically detectable regulatory, non protein coding,

AGGATATATT micro RNA (miRNA)-like oligonucleotide. The method by which GAM5329 was detected is

TTAAAAGTTG described with additional reference to Figs. 9-15.

AGCTAACAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATTTGCTGAG encoded by the human genome.

GAATCA GAM5329 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5329

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5329

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5329 precursor RNA is designated SEQ ID:140867, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140867 is located from position 133099409 to position 133099504 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM5329 precursor RNA folds onto itself, forming GAM5329 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5329 precursor RNA, designated SEQ ID NO: 140867, and a schematic representation of a predicted secondary folding of GAM5329 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5329 folded precursor RNA

yielding a GAM5329 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5329 RNA, hereby incorporated herein.

GAM5329 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5329 target RNA, herein designated GAM TARGET RNA. GAM5329 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5329 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5329 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5329 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5329 RNA, herein designated GAM RNA, to target binding sites on GAM5329 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5329 target RNA into GAM5329 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5329 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5329 target genes. The mRNA of each one of this plurality of GAM5329 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5329 RNA, herein designated GAM RNA, and which when bound by GAM5329 RNA causes inhibition of translation of the GAM5329 target mRNA into a corresponding GAM5329 target protein.

The mechanism of the translational inhibition exerted by GAM5329 RNA, herein designated GAM RNA, on one or more GAM5329 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5329 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5329 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5329 RNA, herein designated GAM RNA, of GAM5329 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5329 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5329 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5329 RNA correlate with, and may be deduced from, the identity of the GAM5329 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5340 140868 AGGCACACAC Fig. 8 further provides a conceptual description of another novel bioinformatically

GCATGGTTTT detected oligonucleotides of the present invention, referred to here as Genomic Address

CTCTTTTATA Messenger 5340 (GAM5340) oligonucleotides modulates expression of respective target genes

TGCTAGATTT whose function and utility is known in the art.

CATCCCTGAC GAM5340 is a novel bioinformatically detectable regulatory, non protein coding,

AGCAGAAAAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM5340 was detected is

GATTGGCAAT described with additional reference to Figs. 9-15.

GGTTATGACG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGAACATGC encoded by the human genome.

AATAGCGTGG GAM5340 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5340

TCCT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5340

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5340 precursor RNA is designated SEQ ID:140868, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140868 is located from position 65014377 to position 65014480 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM5340 precursor RNA folds onto itself, forming GAM5340 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5340 precursor RNA, designated SEQ ID NO: 140868, and

a schematic representation of a predicted secondary folding of GAM5340 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5340 folded precursor RNA yielding a GAM5340 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5340 RNA, hereby incorporated herein.

GAM5340 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5340 target RNA, herein designated GAM TARGET RNA. GAM5340 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5340 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5340 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5340 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5340 RNA, herein designated GAM RNA, to target binding sites on GAM5340 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5340 target RNA into GAM5340 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5340 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5340 target genes. The mRNA of each one of this plurality of GAM5340 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5340 RNA, herein designated GAM RNA, and which when bound by GAM5340 RNA causes inhibition of translation of the GAM5340 target mRNA into a corresponding GAM5340 target protein.

The mechanism of the translational inhibition exerted by GAM5340 RNA, herein designated GAM RNA, on one or more GAM5340 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5340 precursor RNA, herein designated GAM PRECURSOR

RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5340 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5340 RNA, herein designated GAM RNA, of GAM5340 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5340 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5340 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5340 RNA correlate with, and may be deduced from, the identity of the GAM5340 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5342 140869 AACCTCCAGC ACACCACCAA TGAATAGCAG TAATACCAGC ATAATTGTCT GCAGTTCTGC TGAGATACGT GCTCTATTTT ATTGGCTTGG CTGTAGGTT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 5342 (GAM5342) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM5342 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM5342 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM5342 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5342 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5342 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5342 precursor RNA is designated SEQ ID:140869, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140869 is located from position 9563450 to position 9563548 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM5342 precursor RNA folds onto itself, forming GAM5342 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5342 precursor RNA, designated SEQ ID NO: 140869, and a schematic representation of a predicted secondary folding of GAM5342 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5342 folded precursor RNA yielding a GAM5342 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM5342 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5342 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM5342 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5342 target RNA, herein designated GAM TARGET RNA. GAM5342 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5342 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5342 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5342 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5342 RNA, herein designated GAM RNA, to target binding sites on GAM5342 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5342 target RNA into GAM5342 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5342 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5342 target genes. The mRNA of each one of this plurality of GAM5342 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5342 RNA, herein designated GAM RNA, and which when bound by GAM5342 RNA causes inhibition of translation of the GAM5342 target mRNA into a corresponding GAM5342 target protein.

The mechanism of the translational inhibition exerted by GAM5342 RNA, herein designated GAM RNA, on one or more GAM5342 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5342 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5342 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5342 RNA, herein designated GAM RNA, of GAM5342 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5342 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5342 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5342 RNA correlate with, and may be deduced from, the identity of the GAM5342 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5354 140870 TGTGTCAGTC Fig. 8 further provides a conceptual description of another novel bioinformatically
AGGATAGGTC detected oligonucleotides of the present invention, referred to here as Genomic Address
AACTGCTGTA Messenger 5354 (GAM5354) oligonucleotides modulates expression of respective target genes
ACAAACAGCC whose function and utility is known in the art.

CTCAAATCTC GAM5354 is a novel bioinformatically detectable regulatory, non protein coding,
AGTGGCTGAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM5354 was detected is

CACCATACAG described with additional reference to Figs. 9-15.

CTCTGCTTCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGCTCACACA encoded by the human genome.

GAM5354 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5354

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5354

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5354 precursor RNA is designated SEQ ID:140870, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ

ID:140870 is located from position 68147756 to position 68147845 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM5354 precursor RNA folds onto itself, forming GAM5354 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5354 precursor RNA, designated SEQ ID NO: 140870, and a schematic representation of a predicted secondary folding of GAM5354 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5354 folded precursor RNA yielding a GAM5354 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5354 RNA, hereby incorporated herein.

GAM5354 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5354 target RNA, herein designated GAM TARGET RNA. GAM5354 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5354 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5354 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5354 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5354 RNA, herein designated GAM RNA, to target binding sites on GAM5354 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5354 target RNA into GAM5354 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5354 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5354 target genes. The mRNA of each one of this

plurality of GAM5354 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5354 RNA, herein designated GAM RNA, and which when bound by GAM5354 RNA causes inhibition of translation of the GAM5354 target mRNA into a corresponding GAM5354 target protein.

The mechanism of the translational inhibition exerted by GAM5354 RNA, herein designated GAM RNA, on one or more GAM5354 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5354 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5354 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5354 RNA, herein designated GAM RNA, of GAM5354 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5354 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5354 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5354 RNA correlate with, and may be deduced from, the identity of the GAM5354 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5370 140871 ATCCTGGGAA Fig. 8 further provides a conceptual description of another novel bioinformatically
GGACCCTACC detected oligonucleotides of the present invention, referred to here as Genomic Address
CAGTCATTTT Messenger 5370 (GAM5370) oligonucleotides modulates expression of respective target genes
ATCTACCCCA whose function and utility is known in the art.

ACCATGGTTA GAM5370 is a novel bioinformatically detectable regulatory, non protein coding,
AAGTGGCTGG micro RNA (miRNA)-like oligonucleotide. The method by which GAM5370 was detected is

AGTGGAGTCT described with additional reference to Figs. 9-15.

TGGAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM5370 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5370

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5370

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5370 precursor RNA is designated SEQ ID:140871, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140871 is located from position 26652582 to position 26652656 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM5370 precursor RNA folds onto itself, forming GAM5370 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5370 precursor RNA, designated SEQ ID NO: 140871, and a schematic representation of a predicted secondary folding of GAM5370 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5370 folded precursor RNA yielding a GAM5370 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5370 RNA, hereby incorporated herein.

GAM5370 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5370 target RNA, herein designated GAM TARGET RNA. GAM5370 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5370 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5370 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5370 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5370 RNA, herein designated GAM RNA, to target binding sites on GAM5370 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5370 target RNA

into GAM5370 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5370 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5370 target genes. The mRNA of each one of this plurality of GAM5370 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5370 RNA, herein designated GAM RNA, and which when bound by GAM5370 RNA causes inhibition of translation of the GAM5370 target mRNA into a corresponding GAM5370 target protein.

The mechanism of the translational inhibition exerted by GAM5370 RNA, herein designated GAM RNA, on one or more GAM5370 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5370 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5370 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5370 RNA, herein designated GAM RNA, of GAM5370 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5370 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5370 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5370 RNA correlate with, and may be deduced from, the identity of the GAM5370 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5371 140872 AGTCTTGCTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TGTCACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GCTGGAGTGC Messenger 5371 (GAM5371) oligonucleotides modulates expression of respective target genes

AGTGGTGCCA whose function and utility is known in the art.

TCTTGGCTCA GAM5371 is a novel bioinformatically detectable regulatory, non protein coding,

CTGCAACCTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM5371 was detected is

CGCCTCCCCA described with additional reference to Figs. 9-15.

GTTCAAGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TT encoded by the human genome.

GAM5371 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5371 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5371 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5371 precursor RNA is designated SEQ ID:140872, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140872 is located from position 17214638 to position 17214719 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM5371 precursor RNA folds onto itself, forming GAM5371 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5371 precursor RNA, designated SEQ ID NO: 140872, and a schematic representation of a predicted secondary folding of GAM5371 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5371 folded precursor RNA yielding a GAM5371 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM5371 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5371 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM5371 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5371 target RNA, herein designated GAM TARGET RNA. GAM5371 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5371 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5371 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5371 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5371 RNA, herein designated GAM RNA, to target binding sites on GAM5371 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5371 target RNA into GAM5371 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5371 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5371 target genes. The mRNA of each one of this plurality of GAM5371 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5371 RNA, herein designated GAM RNA, and which when bound by GAM5371 RNA causes inhibition of translation of the GAM5371 target mRNA into a corresponding GAM5371 target protein.

The mechanism of the translational inhibition exerted by GAM5371 RNA, herein designated GAM RNA, on one or more GAM5371 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5371 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5371 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5371 RNA, herein designated GAM RNA, of GAM5371 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5371 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5371 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5371 RNA correlate with, and may be deduced from, the identity of the GAM5371 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5374 140873 CATTAAAACT Fig. 8 further provides a conceptual description of another novel bioinformatically
CACCATCAAA detected oligonucleotides of the present invention, referred to here as Genomic Address
TAGATGTAAT Messenger 5374 (GAM5374) oligonucleotides modulates expression of respective target genes
CTTATTAATT whose function and utility is known in the art.

ACACATTTTG GAM5374 is a novel bioinformatically detectable regulatory, non protein coding,

TATTTTAATT micro RNA (miRNA)-like oligonucleotide. The method by which GAM5374 was detected is

ATTTCAAGGA described with additional reference to Figs. 9-15.

GTGAAGAAAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGGGTGTTT encoded by the human genome.

TTGTTTTTGT GAM5374 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5374

AGTTCTGATT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5374

ACTCATTTAT precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

GCATTGTTTT to the nucleotide sequence of GAM5374 precursor RNA is designated SEQ ID:140873, and is

G provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140873 is located from position 37551253 to position 37551383 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM5374 precursor RNA folds onto itself, forming GAM5374 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5374 precursor RNA, designated SEQ ID NO: 140873, and a schematic representation of a predicted secondary folding of GAM5374 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5374 folded precursor RNA yielding a GAM5374 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5374 RNA, hereby incorporated herein.

GAM5374 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5374 target RNA, herein designated GAM TARGET RNA. GAM5374 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5374 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5374 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5374 RNA is a partial or fully complementary sequence of the

nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5374 RNA, herein designated GAM RNA, to target binding sites on GAM5374 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5374 target RNA into GAM5374 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5374 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5374 target genes. The mRNA of each one of this plurality of GAM5374 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5374 RNA, herein designated GAM RNA, and which when bound by GAM5374 RNA causes inhibition of translation of the GAM5374 target mRNA into a corresponding GAM5374 target protein.

The mechanism of the translational inhibition exerted by GAM5374 RNA, herein designated GAM RNA, on one or more GAM5374 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5374 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5374 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5374 RNA, herein designated GAM RNA, of GAM5374 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5374 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5374 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5374 RNA correlate with, and may be deduced from, the identity of the GAM5374 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5385 140874 CAGTGGGAAG Fig. 8 further provides a conceptual description of another novel bioinformatically

GGGGGCCGAT detected oligonucleotides of the present invention, referred to here as Genomic Address ACACTGTACG Messenger 5385 (GAM5385) oligonucleotides modulates expression of respective target genes AGAGTGAGTA whose function and utility is known in the art.

GCAGGTCTCA GAM5385 is a novel bioinformatically detectable regulatory, non protein coding, CAGTGAACCG micro RNA (miRNA)-like oligonucleotide. The method by which GAM5385 was detected is

GTCTCTTTCC described with additional reference to Figs. 9-15.

CTACTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM5385 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5385 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5385 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5385 precursor RNA is designated SEQ ID:140874, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140874 is located from position 35621432 to position 35621507 relative to chromosome chr3 on the `+` strand (chr is an abbreviation for chromosome).

GAM5385 precursor RNA folds onto itself, forming GAM5385 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5385 precursor RNA, designated SEQ ID NO: 140874, and a schematic representation of a predicted secondary folding of GAM5385 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5385 folded precursor RNA yielding a GAM5385 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5385 RNA, hereby incorporated herein. Expression of GAM5385 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM5385 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5385 target RNA, herein designated GAM TARGET RNA. GAM5385 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated

region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5385 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5385 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5385 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5385 RNA, herein designated GAM RNA, to target binding sites on GAM5385 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5385 target RNA into GAM5385 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5385 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5385 target genes. The mRNA of each one of this plurality of GAM5385 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5385 RNA, herein designated GAM RNA, and which when bound by GAM5385 RNA causes inhibition of translation of the GAM5385 target mRNA into a corresponding GAM5385 target protein.

The mechanism of the translational inhibition exerted by GAM5385 RNA, herein designated GAM RNA, on one or more GAM5385 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5385 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5385 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5385 RNA, herein designated GAM RNA, of GAM5385 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5385 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5385 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5385 RNA correlate with, and may be deduced from, the identity of the GAM5385 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5415 140875 CTCTTGCCCA Fig. 8 further provides a conceptual description of another novel bioinformatically

GGCTGGAGTT detected oligonucleotides of the present invention, referred to here as Genomic Address

CAGTGGTATG Messenger 5415 (GAM5415) oligonucleotides modulates expression of respective target genes

ATCACAACTC whose function and utility is known in the art.

TCCTAAGCCT GAM5415 is a novel bioinformatically detectable regulatory, non protein coding,

CAAACACCTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM5415 was detected is

GGATCAAGTG described with additional reference to Figs. 9-15.

ATCCTCTGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTCAGCCTCC encoded by the human genome.

CAAGTAG GAM5415 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5415

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5415

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5415 precursor RNA is designated SEQ ID:140875, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140875 is located from position 41537048 to position 41537144 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM5415 precursor RNA folds onto itself, forming GAM5415 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5415 precursor RNA, designated SEQ ID NO: 140875, and a schematic representation of a predicted secondary folding of GAM5415 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5415 folded precursor RNA yielding a GAM5415 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM5415 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5415 RNA and an

alternative nucleotide sequence thereof, hereby incorporated herein.

GAM5415 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5415 target RNA, herein designated GAM TARGET RNA. GAM5415 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5415 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5415 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5415 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5415 RNA, herein designated GAM RNA, to target binding sites on GAM5415 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5415 target RNA into GAM5415 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5415 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5415 target genes. The mRNA of each one of this plurality of GAM5415 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5415 RNA, herein designated GAM RNA, and which when bound by GAM5415 RNA causes inhibition of translation of the GAM5415 target mRNA into a corresponding GAM5415 target protein.

The mechanism of the translational inhibition exerted by GAM5415 RNA, herein designated GAM RNA, on one or more GAM5415 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5415 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5415 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5415 RNA, herein designated GAM RNA, of GAM5415 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5415 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5415 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5415 RNA correlate with, and may be deduced from, the identity of the GAM5415 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5422 140876 GTGGGAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
GACTGGCAAA detected oligonucleotides of the present invention, referred to here as Genomic Address
AATATGAGAG Messenger 5422 (GAM5422) oligonucleotides modulates expression of respective target genes
TAGGAGTTTG whose function and utility is known in the art.

GGCTCTTGAG GAM5422 is a novel bioinformatically detectable regulatory, non protein coding,
CTTGGGCCTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM5422 was detected is

GCCTTCAAAT described with additional reference to Figs. 9-15.

TTCCACTCTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCACTCAC encoded by the human genome.

GAM5422 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5422

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5422
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5422 precursor RNA is designated SEQ ID:140876, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140876 is located from position 47243046 to position 47243133 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM5422 precursor RNA folds onto itself, forming GAM5422 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5422 precursor RNA, designated SEQ ID NO: 140876, and a schematic representation of a predicted secondary folding of GAM5422 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5422 folded precursor RNA

yielding a GAM5422 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5422 RNA, hereby incorporated herein.

GAM5422 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5422 target RNA, herein designated GAM TARGET RNA. GAM5422 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5422 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5422 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5422 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5422 RNA, herein designated GAM RNA, to target binding sites on GAM5422 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5422 target RNA into GAM5422 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5422 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5422 target genes. The mRNA of each one of this plurality of GAM5422 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5422 RNA, herein designated GAM RNA, and which when bound by GAM5422 RNA causes inhibition of translation of the GAM5422 target mRNA into a corresponding GAM5422 target protein.

The mechanism of the translational inhibition exerted by GAM5422 RNA, herein designated GAM RNA, on one or more GAM5422 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5422 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5422 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5422 RNA, herein designated GAM RNA, of GAM5422 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5422 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5422 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5422 RNA correlate with, and may be deduced from, the identity of the GAM5422 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5444 140877 GAAGGGTACC Fig. 8 further provides a conceptual description of another novel bioinformatically

TGCTGGAGAC detected oligonucleotides of the present invention, referred to here as Genomic Address

CTGTGTGGTT Messenger 5444 (GAM5444) oligonucleotides modulates expression of respective target genes

TGTGGGGTGG whose function and utility is known in the art.

GTTTCTTATA GAM5444 is a novel bioinformatically detectable regulatory, non protein coding,

TCACTGAATC micro RNA (miRNA)-like oligonucleotide. The method by which GAM5444 was detected is

TAAAGTGGGT described with additional reference to Figs. 9-15.

GCCTTTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM5444 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5444

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5444

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5444 precursor RNA is designated SEQ ID:140877, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140877 is located from position 127094099 to position 127094175 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM5444 precursor RNA folds onto itself, forming GAM5444 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5444 precursor RNA, designated SEQ ID NO: 140877, and

a schematic representation of a predicted secondary folding of GAM5444 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5444 folded precursor RNA yielding a GAM5444 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5444 RNA, hereby incorporated herein.

GAM5444 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5444 target RNA, herein designated GAM TARGET RNA. GAM5444 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5444 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5444 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5444 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5444 RNA, herein designated GAM RNA, to target binding sites on GAM5444 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5444 target RNA into GAM5444 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5444 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5444 target genes. The mRNA of each one of this plurality of GAM5444 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5444 RNA, herein designated GAM RNA, and which when bound by GAM5444 RNA causes inhibition of translation of the GAM5444 target mRNA into a corresponding GAM5444 target protein.

The mechanism of the translational inhibition exerted by GAM5444 RNA, herein designated GAM RNA, on one or more GAM5444 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5444 precursor RNA, herein designated GAM PRECURSOR

RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5444 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5444 RNA, herein designated GAM RNA, of GAM5444 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5444 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5444 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5444 RNA correlate with, and may be deduced from, the identity of the GAM5444 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5454 140878 GGAGAAGAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TCTTGCATAC detected oligonucleotides of the present invention, referred to here as Genomic Address

CAGCACAGTG Messenger 5454 (GAM5454) oligonucleotides modulates expression of respective target genes

GATGGGGAAT whose function and utility is known in the art.

GGTGTGACCT GAM5454 is a novel bioinformatically detectable regulatory, non protein coding,

CTGTCCCTGC micro RNA (miRNA)-like oligonucleotide. The method by which GAM5454 was detected is

TCTCTTCTCT described with additional reference to Figs. 9-15.

GCTGGCTTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGGTCTATTC encoded by the human genome.

TCC GAM5454 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5454

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5454

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5454 precursor RNA is designated SEQ ID:140878, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140878 is located from position 101393105 to position 101393197 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM5454 precursor RNA folds onto itself, forming GAM5454 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5454 precursor RNA, designated SEQ ID NO: 140878, and a schematic representation of a predicted secondary folding of GAM5454 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5454 folded precursor RNA yielding a GAM5454 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5454 RNA, hereby incorporated herein.

GAM5454 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5454 target RNA, herein designated GAM TARGET RNA. GAM5454 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5454 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5454 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5454 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5454 RNA, herein designated GAM RNA, to target binding sites on GAM5454 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5454 target RNA into GAM5454 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5454 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5454 target genes. The mRNA of each one of this plurality of GAM5454 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5454 RNA, herein designated GAM RNA, and which when bound by GAM5454 RNA causes inhibition of translation of the GAM5454 target mRNA into a corresponding GAM5454 target protein.

The mechanism of the translational inhibition exerted by GAM5454 RNA, herein

designated GAM RNA, on one or more GAM5454 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5454 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5454 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5454 RNA, herein designated GAM RNA, of GAM5454 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5454 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5454 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5454 RNA correlate with, and may be deduced from, the identity of the GAM5454 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5486 140879 CTTGAGAAAA Fig. 8 further provides a conceptual description of another novel bioinformatically
GACAACTAGT detected oligonucleotides of the present invention, referred to here as Genomic Address
ATTTGAGGAA Messenger 5486 (GAM5486) oligonucleotides modulates expression of respective target genes
GGTGTGAGAA whose function and utility is known in the art.

ATGAGCCTAA GAM5486 is a novel bioinformatically detectable regulatory, non protein coding,
AGAGGTAGAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM5486 was detected is

GAGACTCAAA described with additional reference to Figs. 9-15.

GGAGGCTGAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AAAGATACCA encoded by the human genome.

CAGCTACAAG GAM5486 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5486
TTTTTGTTAT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5486
ATTCTGAAG precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5486 precursor RNA is designated SEQ ID:140879, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140879 is located from position 71909012 to position 71909130 relative to chromosome

chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM5486 precursor RNA folds onto itself, forming GAM5486 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5486 precursor RNA, designated SEQ ID NO: 140879, and a schematic representation of a predicted secondary folding of GAM5486 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5486 folded precursor RNA yielding a GAM5486 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5486 RNA, hereby incorporated herein.

GAM5486 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5486 target RNA, herein designated GAM TARGET RNA. GAM5486 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5486 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5486 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5486 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5486 RNA, herein designated GAM RNA, to target binding sites on GAM5486 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5486 target RNA into GAM5486 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5486 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5486 target genes. The mRNA of each one of this plurality of GAM5486 target genes comprises one or more target binding sites, each having

a nucleotide sequence which is at least partly complementary to GAM5486 RNA, herein designated GAM RNA, and which when bound by GAM5486 RNA causes inhibition of translation of the GAM5486 target mRNA into a corresponding GAM5486 target protein.

The mechanism of the translational inhibition exerted by GAM5486 RNA, herein designated GAM RNA, on one or more GAM5486 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5486 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5486 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5486 RNA, herein designated GAM RNA, of GAM5486 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5486 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5486 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5486 RNA correlate with, and may be deduced from, the identity of the GAM5486 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5498 140880 AGTTCACAGT Fig. 8 further provides a conceptual description of another novel bioinformatically
GGCTGAAGCT detected oligonucleotides of the present invention, referred to here as Genomic Address
GTTCCCATAA Messenger 5498 (GAM5498) oligonucleotides modulates expression of respective target genes
GACCCTGAAT whose function and utility is known in the art.

CTAGCAGCCA GAM5498 is a novel bioinformatically detectable regulatory, non protein coding,
CTGTGTACT micro RNA (miRNA)-like oligonucleotide. The method by which GAM5498 was detected is

described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM5498 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5498

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5498

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5498 precursor RNA is designated SEQ ID:140880, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140880 is located from position 3674783 to position 3674841 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM5498 precursor RNA folds onto itself, forming GAM5498 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5498 precursor RNA, designated SEQ ID NO: 140880, and a schematic representation of a predicted secondary folding of GAM5498 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5498 folded precursor RNA yielding a GAM5498 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5498 RNA, hereby incorporated herein.

GAM5498 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5498 target RNA, herein designated GAM TARGET RNA. GAM5498 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5498 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5498 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5498 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5498 RNA, herein designated GAM RNA, to target binding sites on GAM5498 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5498 target RNA into GAM5498 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5498 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5498 target genes. The mRNA of each one of this plurality of GAM5498 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5498 RNA, herein designated GAM RNA, and which when bound by GAM5498 RNA causes inhibition of translation of the GAM5498 target mRNA into a corresponding GAM5498 target protein.

The mechanism of the translational inhibition exerted by GAM5498 RNA, herein designated GAM RNA, on one or more GAM5498 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5498 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5498 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5498 RNA, herein designated GAM RNA, of GAM5498 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5498 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5498 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5498 RNA correlate with, and may be deduced from, the identity of the GAM5498 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5512 140881 AGGAGGGAAA Fig. 8 further provides a conceptual description of another novel bioinformatically
GGCCCAGGAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GGGGAGAAAG Messenger 5512 (GAM5512) oligonucleotides modulates expression of respective target genes
GCAGACTCAG whose function and utility is known in the art.

CCAGGGATGG GAM5512 is a novel bioinformatically detectable regulatory, non protein coding,
GTGAGGGTTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM5512 was detected is

CCCTGTCCCA described with additional reference to Figs. 9-15.

AAGCAAGACC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAAGCT encoded by the human genome.

GAM5512 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5512 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5512 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5512 precursor RNA is designated SEQ ID:140881, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140881 is located from position 54100819 to position 54100904 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM5512 precursor RNA folds onto itself, forming GAM5512 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5512 precursor RNA, designated SEQ ID NO: 140881, and a schematic representation of a predicted secondary folding of GAM5512 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5512 folded precursor RNA yielding a GAM5512 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5512 RNA, hereby incorporated herein.

GAM5512 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5512 target RNA, herein designated GAM TARGET RNA. GAM5512 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5512 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5512 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5512 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5512 RNA, herein designated GAM RNA, to target binding sites on GAM5512 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5512 target RNA into GAM5512 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5512 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5512 target genes. The mRNA of each one of this plurality of GAM5512 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5512 RNA, herein designated GAM RNA, and which when bound by GAM5512 RNA causes inhibition of translation of the GAM5512 target mRNA into a corresponding GAM5512 target protein.

The mechanism of the translational inhibition exerted by GAM5512 RNA, herein designated GAM RNA, on one or more GAM5512 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5512 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5512 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5512 RNA, herein designated GAM RNA, of GAM5512 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5512 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5512 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5512 RNA correlate with, and may be deduced from, the identity of the GAM5512 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5514 140882 GGTTGCCGTG ATTGAGGAGG TGCTACCAGC GTCTGCTGGG CAGAGACCAG GGATGCTGCT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 5514 (GAM5514) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM5514 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM5514 was detected is

CCACATCCCA described with additional reference to Figs. 9-15.

CAATGCACAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GACAATC encoded by the human genome.

GAM5514 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5514 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5514 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5514 precursor RNA is designated SEQ ID:140882, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140882 is located from position 25442199 to position 25442285 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM5514 precursor RNA folds onto itself, forming GAM5514 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5514 precursor RNA, designated SEQ ID NO: 140882, and a schematic representation of a predicted secondary folding of GAM5514 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5514 folded precursor RNA yielding a GAM5514 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5514 RNA, hereby incorporated herein.

GAM5514 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5514 target RNA, herein designated GAM TARGET RNA. GAM5514 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5514 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5514 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5514 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5514 RNA, herein designated GAM RNA, to target binding sites on GAM5514 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5514 target RNA into GAM5514 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5514 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5514 target genes. The mRNA of each one of this plurality of GAM5514 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5514 RNA, herein designated GAM RNA, and which when bound by GAM5514 RNA causes inhibition of translation of the GAM5514 target mRNA into a corresponding GAM5514 target protein.

The mechanism of the translational inhibition exerted by GAM5514 RNA, herein designated GAM RNA, on one or more GAM5514 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5514 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5514 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5514 RNA, herein designated GAM RNA, of GAM5514 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5514 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5514 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5514 RNA correlate with, and may be deduced from, the identity of the GAM5514 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5526 140883 GAGGGCTTTA GAAATGCTGT GCCAGAGCTG Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 5526 (GAM5526) oligonucleotides modulates expression of respective target genes

CACCCCAGAC whose function and utility is known in the art.

CAACAAAATC AGACTCTCCA GAM5526 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM5526 was detected is

GGATGCGGCC described with additional reference to Figs. 9-15.

AAGGCATCAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TATGTGGAAA encoded by the human genome.

GCTTTC GAM5526 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5526 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5526 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5526 precursor RNA is designated SEQ ID:140883, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140883 is located from position 79906276 to position 79906371 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GAM5526 precursor RNA folds onto itself, forming GAM5526 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5526 precursor RNA, designated SEQ ID NO: 140883, and a schematic representation of a predicted secondary folding of GAM5526 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5526 folded precursor RNA yielding a GAM5526 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5526 RNA, hereby incorporated herein.

GAM5526 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5526 target RNA, herein designated GAM TARGET RNA. GAM5526 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5526 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5526 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5526 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5526 RNA, herein designated GAM RNA, to target binding sites on GAM5526 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5526 target RNA into GAM5526 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5526 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5526 target genes. The mRNA of each one of this plurality of GAM5526 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5526 RNA, herein designated GAM RNA, and which when bound by GAM5526 RNA causes inhibition of translation of the GAM5526 target mRNA into a corresponding GAM5526 target protein.

The mechanism of the translational inhibition exerted by GAM5526 RNA, herein designated GAM RNA, on one or more GAM5526 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5526 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5526 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5526 RNA, herein designated GAM RNA, of GAM5526 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5526 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5526 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5526 RNA correlate with, and may be deduced from, the identity of the GAM5526 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5560 140884 TCTATATGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

ACTAACTAAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GTATTTGCCC Messenger 5560 (GAM5560) oligonucleotides modulates expression of respective target genes

CTTGGAGCTT whose function and utility is known in the art.

TTATAGTCTT GAM5560 is a novel bioinformatically detectable regulatory, non protein coding,

TAAAATGAGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM5560 was detected is

TAATGTCTGT described with additional reference to Figs. 9-15.

GAAATGCTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TAGGACACTG encoded by the human genome.

CCTGGCATAA GAM5560 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5560

ACACTCATGA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5560

AGA precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5560 precursor RNA is designated SEQ ID:140884, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140884 is located from position 86570029 to position 86570141 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM5560 precursor RNA folds onto itself, forming GAM5560 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5560 precursor RNA, designated SEQ ID NO: 140884, and a schematic representation of a predicted secondary folding of GAM5560 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5560 folded precursor RNA yielding a GAM5560 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5560 RNA, hereby incorporated herein.

GAM5560 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5560 target RNA, herein designated GAM TARGET RNA. GAM5560 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated

region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5560 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5560 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5560 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5560 RNA, herein designated GAM RNA, to target binding sites on GAM5560 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5560 target RNA into GAM5560 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5560 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5560 target genes. The mRNA of each one of this plurality of GAM5560 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5560 RNA, herein designated GAM RNA, and which when bound by GAM5560 RNA causes inhibition of translation of the GAM5560 target mRNA into a corresponding GAM5560 target protein.

The mechanism of the translational inhibition exerted by GAM5560 RNA, herein designated GAM RNA, on one or more GAM5560 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5560 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5560 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5560 RNA, herein designated GAM RNA, of GAM5560 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5560 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5560 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5560 RNA correlate with, and may be deduced from, the identity of the GAM5560 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5597 140885 AGTGTTGGGT Fig. 8 further provides a conceptual description of another novel bioinformatically
TGACTTGAAT detected oligonucleotides of the present invention, referred to here as Genomic Address
GGAGGTGATT Messenger 5597 (GAM5597) oligonucleotides modulates expression of respective target genes
GTTTTAGAAG whose function and utility is known in the art.

AAGGTCAGAA GAM5597 is a novel bioinformatically detectable regulatory, non protein coding,
GACTAGATTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM5597 was detected is

GCTTTTCTCT described with additional reference to Figs. 9-15.

CCAATTTGAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATACCTCTTC encoded by the human genome.

TATTCGAGGA GAM5597 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5597
CACCCAGGAA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5597
CATT precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5597 precursor RNA is designated SEQ ID:140885, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140885 is located from position 42550378 to position 42550491 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM5597 precursor RNA folds onto itself, forming GAM5597 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5597 precursor RNA, designated SEQ ID NO: 140885, and a schematic representation of a predicted secondary folding of GAM5597 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5597 folded precursor RNA yielding a GAM5597 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM5597 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5597 RNA and an

alternative nucleotide sequence thereof, hereby incorporated herein.

GAM5597 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5597 target RNA, herein designated GAM TARGET RNA. GAM5597 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5597 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5597 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5597 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5597 RNA, herein designated GAM RNA, to target binding sites on GAM5597 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5597 target RNA into GAM5597 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5597 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5597 target genes. The mRNA of each one of this plurality of GAM5597 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5597 RNA, herein designated GAM RNA, and which when bound by GAM5597 RNA causes inhibition of translation of the GAM5597 target mRNA into a corresponding GAM5597 target protein.

The mechanism of the translational inhibition exerted by GAM5597 RNA, herein designated GAM RNA, on one or more GAM5597 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5597 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5597 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5597 RNA, herein designated GAM RNA, of GAM5597 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5597 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5597 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5597 RNA correlate with, and may be deduced from, the identity of the GAM5597 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5615 140886 CTCTCACCCC Fig. 8 further provides a conceptual description of another novel bioinformatically
TCTAGCCTTA detected oligonucleotides of the present invention, referred to here as Genomic Address
AATCCAGAAT Messenger 5615 (GAM5615) oligonucleotides modulates expression of respective target genes
CTAGACTGAA whose function and utility is known in the art.

TATGGACTGA GAM5615 is a novel bioinformatically detectable regulatory, non protein coding,
ATGGGTCAGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM5615 was detected is

TTTGGGGAAA described with additional reference to Figs. 9-15.

TGTGTTTCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGGACAGCTG encoded by the human genome.

AGGGACCAGA GAM5615 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5615
GAG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5615

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5615 precursor RNA is designated SEQ ID:140886, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140886 is located from position 51339544 to position 51339646 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM5615 precursor RNA folds onto itself, forming GAM5615 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5615 precursor RNA, designated SEQ ID NO: 140886, and a schematic representation of a predicted secondary folding of GAM5615 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5615 folded precursor RNA

yielding a GAM5615 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM5615 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5615 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM5615 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5615 target RNA, herein designated GAM TARGET RNA. GAM5615 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5615 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5615 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5615 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5615 RNA, herein designated GAM RNA, to target binding sites on GAM5615 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5615 target RNA into GAM5615 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5615 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5615 target genes. The mRNA of each one of this plurality of GAM5615 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5615 RNA, herein designated GAM RNA, and which when bound by GAM5615 RNA causes inhibition of translation of the GAM5615 target mRNA into a corresponding GAM5615 target protein.

The mechanism of the translational inhibition exerted by GAM5615 RNA, herein designated GAM RNA, on one or more GAM5615 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5615 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5615 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5615 RNA, herein designated GAM RNA, of GAM5615 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5615 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5615 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5615 RNA correlate with, and may be deduced from, the identity of the GAM5615 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5617 140887 GGCTAAGAGT Fig. 8 further provides a conceptual description of another novel bioinformatically

AACAGGTGCT detected oligonucleotides of the present invention, referred to here as Genomic Address

GGAGCCAGAC Messenger 5617 (GAM5617) oligonucleotides modulates expression of respective target genes

TTCCTGGGTT whose function and utility is known in the art.

CATATCCTGG GAM5617 is a novel bioinformatically detectable regulatory, non protein coding,

TTCTACCAAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM5617 was detected is

TTACCAGCTG described with additional reference to Figs. 9-15.

TGTGAACTTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGAAAATTCC encoded by the human genome.

TCTCCGCCTC GAM5617 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5617

TTAGTT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5617

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5617 precursor RNA is designated SEQ ID:140887, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140887 is located from position 47865219 to position 47865324 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM5617 precursor RNA folds onto itself, forming GAM5617 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5617 precursor RNA, designated SEQ ID NO: 140887, and a schematic representation of a predicted secondary folding of GAM5617 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5617 folded precursor RNA yielding a GAM5617 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM5617 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5617 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM5617 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5617 target RNA, herein designated GAM TARGET RNA. GAM5617 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5617 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5617 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5617 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5617 RNA, herein designated GAM RNA, to target binding sites on GAM5617 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5617 target RNA into GAM5617 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5617 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5617 target genes. The mRNA of each one of this plurality of GAM5617 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5617 RNA, herein designated GAM RNA, and which when bound by GAM5617 RNA causes inhibition of translation of the GAM5617 target mRNA into a corresponding GAM5617 target protein.

The mechanism of the translational inhibition exerted by GAM5617 RNA, herein designated GAM RNA, on one or more GAM5617 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5617 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5617 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5617 RNA, herein designated GAM RNA, of GAM5617 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5617 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5617 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5617 RNA correlate with, and may be deduced from, the identity of the GAM5617 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5623 140888 AGCATATGAC Fig. 8 further provides a conceptual description of another novel bioinformatically

AGCAAGACAC detected oligonucleotides of the present invention, referred to here as Genomic Address

TGGCCCTGGA Messenger 5623 (GAM5623) oligonucleotides modulates expression of respective target genes

ATCCTCCGTG whose function and utility is known in the art.

TCACATGTGG GAM5623 is a novel bioinformatically detectable regulatory, non protein coding,

GCTGCTGACA micro RNA (miRNA)-like oligonucleotide. The method by which GAM5623 was detected is

GGAAGAATGT described with additional reference to Figs. 9-15.

GCTTTTGTTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTGTTGTT encoded by the human genome.

GAM5623 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5623

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5623

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5623 precursor RNA is designated SEQ ID:140888, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140888 is located from position 113971966 to position 113972053 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM5623 precursor RNA folds onto itself, forming GAM5623 folded precursor RNA,

herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5623 precursor RNA, designated SEQ ID NO: 140888, and a schematic representation of a predicted secondary folding of GAM5623 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5623 folded precursor RNA yielding a GAM5623 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5623 RNA, hereby incorporated herein.

GAM5623 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5623 target RNA, herein designated GAM TARGET RNA. GAM5623 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5623 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5623 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5623 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5623 RNA, herein designated GAM RNA, to target binding sites on GAM5623 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5623 target RNA into GAM5623 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5623 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5623 target genes. The mRNA of each one of this plurality of GAM5623 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5623 RNA, herein designated GAM RNA, and which when bound by GAM5623 RNA causes inhibition of translation of the GAM5623 target mRNA into a corresponding GAM5623 target protein.

The mechanism of the translational inhibition exerted by GAM5623 RNA, herein designated GAM RNA, on one or more GAM5623 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5623 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5623 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5623 RNA, herein designated GAM RNA, of GAM5623 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5623 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5623 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5623 RNA correlate with, and may be deduced from, the identity of the GAM5623 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5640 140889 AGTATTATTA Fig. 8 further provides a conceptual description of another novel bioinformatically

AGACTTTTCC detected oligonucleotides of the present invention, referred to here as Genomic Address

TGGGTCTGGG Messenger 5640 (GAM5640) oligonucleotides modulates expression of respective target genes

CTGTGCCTGT whose function and utility is known in the art.

TGCTGCCTCT GAM5640 is a novel bioinformatically detectable regulatory, non protein coding,

GAGACAAGTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM5640 was detected is

AGCCTAATAC described with additional reference to Figs. 9-15.

AGGAAAAGCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TAATTCTCT encoded by the human genome.

GAM5640 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5640

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5640

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5640 precursor RNA is designated SEQ ID:140889, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140889 is located from position 16837776 to position 16837864 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM5640 precursor RNA folds onto itself, forming GAM5640 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5640 precursor RNA, designated SEQ ID NO: 140889, and a schematic representation of a predicted secondary folding of GAM5640 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5640 folded precursor RNA yielding a GAM5640 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM5640 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5640 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM5640 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5640 target RNA, herein designated GAM TARGET RNA. GAM5640 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5640 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5640 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5640 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5640 RNA, herein designated GAM RNA, to target binding sites on GAM5640 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5640 target RNA into GAM5640 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5640 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5640 target genes. The mRNA of each one of this plurality of GAM5640 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5640 RNA, herein designated GAM RNA, and which when bound by GAM5640 RNA causes inhibition of translation of the GAM5640 target mRNA into a corresponding GAM5640 target protein.

The mechanism of the translational inhibition exerted by GAM5640 RNA, herein designated GAM RNA, on one or more GAM5640 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5640 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5640 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5640 RNA, herein designated GAM RNA, of GAM5640 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5640 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5640 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5640 RNA correlate with, and may be deduced from, the identity of the GAM5640 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5653 140890 GGAGAATTTC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGTGGAGG Messenger 5653 (GAM5653) oligonucleotides modulates expression of respective target genes
TTGCAGTGAG whose function and utility is known in the art.

CCGAGATTGC GAM5653 is a novel bioinformatically detectable regulatory, non protein coding,
GCCACTGCAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM5653 was detected is

TCCAGCCTGG described with additional reference to Figs. 9-15.

GCAACAGAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AAGACTCC encoded by the human genome.

GAM5653 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5653 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5653 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5653 precursor RNA is designated SEQ ID:140890, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140890 is located from position 77350810 to position 77350897 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM5653 precursor RNA folds onto itself, forming GAM5653 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5653 precursor RNA, designated SEQ ID NO: 140890, and a schematic representation of a predicted secondary folding of GAM5653 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5653 folded precursor RNA yielding a GAM5653 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5653 RNA, hereby incorporated herein. Expression of GAM5653 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM5653 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5653 target RNA, herein designated GAM TARGET RNA. GAM5653 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5653 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5653 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5653 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5653 RNA, herein designated GAM RNA, to target binding sites on GAM5653 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5653 target RNA into GAM5653 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5653 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5653 target genes. The mRNA of each one of this plurality of GAM5653 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5653 RNA, herein designated GAM RNA, and which when bound by GAM5653 RNA causes inhibition of translation of the GAM5653 target mRNA into a corresponding GAM5653 target protein.

The mechanism of the translational inhibition exerted by GAM5653 RNA, herein designated GAM RNA, on one or more GAM5653 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5653 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5653 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5653 RNA, herein designated GAM RNA, of GAM5653 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5653 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5653 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5653 RNA correlate with, and may be deduced from, the identity of the GAM5653 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5654 140891 AAATACAAAT Fig. 8 further provides a conceptual description of another novel bioinformatically
TCCTGGGTCT detected oligonucleotides of the present invention, referred to here as Genomic Address
CCTGGCAGAC Messenger 5654 (GAM5654) oligonucleotides modulates expression of respective target genes
TTGCTAAATC whose function and utility is known in the art.

AGAATCTCCA GAM5654 is a novel bioinformatically detectable regulatory, non protein coding,
GGGGATCCTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM5654 was detected is

GAATTGGTGT described with additional reference to Figs. 9-15.

TT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM5654 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5654 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5654 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5654 precursor RNA is designated SEQ ID:140891, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140891 is located from position 21698933 to position 21699004 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM5654 precursor RNA folds onto itself, forming GAM5654 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5654 precursor RNA, designated SEQ ID NO: 140891, and a schematic representation of a predicted secondary folding of GAM5654 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5654 folded precursor RNA yielding a GAM5654 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5654 RNA, hereby incorporated herein.

GAM5654 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5654 target RNA, herein designated GAM TARGET RNA. GAM5654 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5654 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5654 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5654 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5654 RNA, herein designated GAM RNA, to target binding sites on GAM5654 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5654 target RNA into GAM5654 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5654 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5654 target genes. The mRNA of each one of this plurality of GAM5654 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5654 RNA, herein designated GAM RNA, and which when bound by GAM5654 RNA causes inhibition of translation of the GAM5654 target mRNA into a corresponding GAM5654 target protein.

The mechanism of the translational inhibition exerted by GAM5654 RNA, herein designated GAM RNA, on one or more GAM5654 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5654 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5654 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5654 RNA, herein designated GAM RNA, of GAM5654 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5654 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5654 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5654 RNA correlate with, and may be deduced from, the identity of the GAM5654 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5657 140892 GGGAGGATCG CTTGAGCCTA GGAGGTCAAG Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 5657 (GAM5657) oligonucleotides modulates expression of respective target genes

GCTGCAGTGA whose function and utility is known in the art.

GCTGAGATCA GAM5657 is a novel bioinformatically detectable regulatory, non protein coding, CACCACTGCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM5657 was detected is

CTCCTGCCTA described with additional reference to Figs. 9-15.

GGTGACAAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGAGACTGTC encoded by the human genome.

GAM5657 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5657

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5657

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5657 precursor RNA is designated SEQ ID:140892, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140892 is located from position 1344537 to position 1344626 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM5657 precursor RNA folds onto itself, forming GAM5657 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5657 precursor RNA, designated SEQ ID NO: 140892, and a schematic representation of a predicted secondary folding of GAM5657 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5657 folded precursor RNA yielding a GAM5657 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5657 RNA, hereby incorporated herein.

GAM5657 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5657 target RNA, herein designated GAM TARGET RNA. GAM5657 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5657 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5657 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5657 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5657 RNA, herein designated GAM RNA, to target binding sites on GAM5657 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5657 target RNA into GAM5657 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5657 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5657 target genes. The mRNA of each one of this plurality of GAM5657 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5657 RNA, herein designated GAM RNA, and which when bound by GAM5657 RNA causes inhibition of translation of the GAM5657 target mRNA into a corresponding GAM5657 target protein.

The mechanism of the translational inhibition exerted by GAM5657 RNA, herein designated GAM RNA, on one or more GAM5657 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5657 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5657 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5657 RNA, herein designated GAM RNA, of GAM5657 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5657 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5657 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5657 RNA correlate with, and may be deduced from, the identity of the GAM5657 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5673 140893 AGTGGTAATG Fig. 8 further provides a conceptual description of another novel bioinformatically
CCGTGTGTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
ATAGAAATAT Messenger 5673 (GAM5673) oligonucleotides modulates expression of respective target genes
GTAATCGATC whose function and utility is known in the art.

TTTTCTTTGG GAM5673 is a novel bioinformatically detectable regulatory, non protein coding,
TGGGCAATTA micro RNA (miRNA)-like oligonucleotide. The method by which GAM5673 was detected is

GCAATATTGA described with additional reference to Figs. 9-15.

GGAAAGTTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGATGTATGT encoded by the human genome.

ATCCCTACCA GAM5673 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5673
CTTGAAACAC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5673
CTGGAAATGC precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar
CATT to the nucleotide sequence of GAM5673 precursor RNA is designated SEQ ID:140893, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140893 is located from position 7772009 to position 7772132 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM5673 precursor RNA folds onto itself, forming GAM5673 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5673 precursor RNA, designated SEQ ID NO: 140893, and a schematic representation of a predicted secondary folding of GAM5673 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5673 folded precursor RNA yielding a GAM5673 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5673 RNA, hereby incorporated herein.

GAM5673 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5673 target RNA, herein designated GAM TARGET RNA. GAM5673 target RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated

region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5673 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5673 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5673 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5673 RNA, herein designated GAM RNA, to target binding sites on GAM5673 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5673 target RNA into GAM5673 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5673 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5673 target genes. The mRNA of each one of this plurality of GAM5673 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5673 RNA, herein designated GAM RNA, and which when bound by GAM5673 RNA causes inhibition of translation of the GAM5673 target mRNA into a corresponding GAM5673 target protein.

The mechanism of the translational inhibition exerted by GAM5673 RNA, herein designated GAM RNA, on one or more GAM5673 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5673 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5673 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5673 RNA, herein designated GAM RNA, of GAM5673 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5673 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5673 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5673 RNA correlate with, and may be deduced from, the identity of the GAM5673 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5691 140894 GGGAAAGGCC Fig. 8 further provides a conceptual description of another novel bioinformatically

CAGGAGGGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGAAAGGCAG Messenger 5691 (GAM5691) oligonucleotides modulates expression of respective target genes

ACTCAGCCAG whose function and utility is known in the art.

GGATGGGTGA GAM5691 is a novel bioinformatically detectable regulatory, non protein coding, GGGTTTCCCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM5691 was detected is

GTCCCAAAGC described with additional reference to Figs. 9-15.

AAGACCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM5691 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5691

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5691

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5691 precursor RNA is designated SEQ ID:140894, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140894 is located from position 54100823 to position 54100899 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM5691 precursor RNA folds onto itself, forming GAM5691 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5691 precursor RNA, designated SEQ ID NO: 140894, and a schematic representation of a predicted secondary folding of GAM5691 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5691 folded precursor RNA yielding a GAM5691 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the

nucleotide sequence of GAM5691 RNA, hereby incorporated herein.

GAM5691 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5691 target RNA, herein designated GAM TARGET RNA. GAM5691 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5691 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5691 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5691 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5691 RNA, herein designated GAM RNA, to target binding sites on GAM5691 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5691 target RNA into GAM5691 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5691 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5691 target genes. The mRNA of each one of this plurality of GAM5691 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5691 RNA, herein designated GAM RNA, and which when bound by GAM5691 RNA causes inhibition of translation of the GAM5691 target mRNA into a corresponding GAM5691 target protein.

The mechanism of the translational inhibition exerted by GAM5691 RNA, herein designated GAM RNA, on one or more GAM5691 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5691 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5691 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5691 RNA, herein designated GAM RNA, of GAM5691 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5691 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5691 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5691 RNA correlate with, and may be deduced from, the identity of the GAM5691 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5697 140895 ATGAGTATTG Fig. 8 further provides a conceptual description of another novel bioinformatically

ATCTGTCCCA detected oligonucleotides of the present invention, referred to here as Genomic Address

GCCTGTGCAT Messenger 5697 (GAM5697) oligonucleotides modulates expression of respective target genes

TGCTCCGAGG whose function and utility is known in the art.

CAGTTCTGAG GAM5697 is a novel bioinformatically detectable regulatory, non protein coding,

TGGATGATGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM5697 was detected is

ACAGATGGGA described with additional reference to Figs. 9-15.

TTCCTCAGCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAT encoded by the human genome.

GAM5697 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5697

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5697

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5697 precursor RNA is designated SEQ ID:140895, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140895 is located from position 31719324 to position 31719406 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM5697 precursor RNA folds onto itself, forming GAM5697 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5697 precursor RNA, designated SEQ ID NO: 140895, and a schematic representation of a predicted secondary folding of GAM5697 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5697 folded precursor RNA

yielding a GAM5697 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5697 RNA, hereby incorporated herein.

GAM5697 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5697 target RNA, herein designated GAM TARGET RNA. GAM5697 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5697 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5697 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5697 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5697 RNA, herein designated GAM RNA, to target binding sites on GAM5697 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5697 target RNA into GAM5697 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5697 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5697 target genes. The mRNA of each one of this plurality of GAM5697 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5697 RNA, herein designated GAM RNA, and which when bound by GAM5697 RNA causes inhibition of translation of the GAM5697 target mRNA into a corresponding GAM5697 target protein.

The mechanism of the translational inhibition exerted by GAM5697 RNA, herein designated GAM RNA, on one or more GAM5697 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5697 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5697 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5697 RNA, herein designated GAM RNA, of GAM5697 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5697 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5697 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5697 RNA correlate with, and may be deduced from, the identity of the GAM5697 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5703 140896 GACATGTCAA Fig. 8 further provides a conceptual description of another novel bioinformatically

GGCAGGAGCC detected oligonucleotides of the present invention, referred to here as Genomic Address

ATCTGATCGA Messenger 5703 (GAM5703) oligonucleotides modulates expression of respective target genes

CCTTAGACTT whose function and utility is known in the art.

GGCAAGCTGG GAM5703 is a novel bioinformatically detectable regulatory, non protein coding,

TGGCTAAGTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM5703 was detected is

CAGTGCTCAC described with additional reference to Figs. 9-15.

TGCCGACATC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGTC encoded by the human genome.

GAM5703 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5703

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5703

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5703 precursor RNA is designated SEQ ID:140896, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140896 is located from position 32944217 to position 32944300 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM5703 precursor RNA folds onto itself, forming GAM5703 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5703 precursor RNA, designated SEQ ID NO: 140896, and

a schematic representation of a predicted secondary folding of GAM5703 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5703 folded precursor RNA yielding a GAM5703 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5703 RNA, hereby incorporated herein.

GAM5703 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5703 target RNA, herein designated GAM TARGET RNA. GAM5703 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5703 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5703 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5703 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5703 RNA, herein designated GAM RNA, to target binding sites on GAM5703 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5703 target RNA into GAM5703 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5703 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5703 target genes. The mRNA of each one of this plurality of GAM5703 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5703 RNA, herein designated GAM RNA, and which when bound by GAM5703 RNA causes inhibition of translation of the GAM5703 target mRNA into a corresponding GAM5703 target protein.

The mechanism of the translational inhibition exerted by GAM5703 RNA, herein designated GAM RNA, on one or more GAM5703 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5703 precursor RNA, herein designated GAM PRECURSOR

RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5703 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5703 RNA, herein designated GAM RNA, of GAM5703 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5703 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5703 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5703 RNA correlate with, and may be deduced from, the identity of the GAM5703 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5723 140897 CCAGGGTTAG Fig. 8 further provides a conceptual description of another novel bioinformatically
ATGACTGCGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAAGCCTTTG Messenger 5723 (GAM5723) oligonucleotides modulates expression of respective target genes
ATCCCAACCC whose function and utility is known in the art.

CCAAGGCTTT GAM5723 is a novel bioinformatically detectable regulatory, non protein coding,
GTATATTTGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM5723 was detected is

TCATTTGTGA described with additional reference to Figs. 9-15.

TCTAACCCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
G encoded by the human genome.

GAM5723 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5723

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5723

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5723 precursor RNA is designated SEQ ID:140897, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140897 is located from position 71679220 to position 71679300 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM5723 precursor RNA folds onto itself, forming GAM5723 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5723 precursor RNA, designated SEQ ID NO: 140897, and a schematic representation of a predicted secondary folding of GAM5723 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5723 folded precursor RNA yielding a GAM5723 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM5723 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5723 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM5723 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5723 target RNA, herein designated GAM TARGET RNA. GAM5723 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5723 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5723 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5723 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5723 RNA, herein designated GAM RNA, to target binding sites on GAM5723 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5723 target RNA into GAM5723 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5723 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5723 target genes. The mRNA of each one of this plurality of GAM5723 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5723 RNA, herein designated GAM RNA, and which when bound by GAM5723 RNA causes inhibition of translation of the GAM5723 target mRNA into a corresponding GAM5723 target protein.

The mechanism of the translational inhibition exerted by GAM5723 RNA, herein designated GAM RNA, on one or more GAM5723 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5723 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5723 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5723 RNA, herein designated GAM RNA, of GAM5723 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5723 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5723 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5723 RNA correlate with, and may be deduced from, the identity of the GAM5723 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5728 140898 CTCTCATGCA Fig. 8 further provides a conceptual description of another novel bioinformatically
GGCATGTGTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGCAGCTGCA Messenger 5728 (GAM5728) oligonucleotides modulates expression of respective target genes
GGTGTGTGAG whose function and utility is known in the art.

CAAATGTGCA GAM5728 is a novel bioinformatically detectable regulatory, non protein coding,
TCACTGGGGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM5728 was detected is

ACAGGTGTCT described with additional reference to Figs. 9-15.

GTGGATGAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
G encoded by the human genome.

GAM5728 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5728

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5728

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5728 precursor RNA is designated SEQ ID:140898, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ

ID:140898 is located from position 79169049 to position 79169129 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM5728 precursor RNA folds onto itself, forming GAM5728 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5728 precursor RNA, designated SEQ ID NO: 140898, and a schematic representation of a predicted secondary folding of GAM5728 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5728 folded precursor RNA yielding a GAM5728 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5728 RNA, hereby incorporated herein.

GAM5728 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5728 target RNA, herein designated GAM TARGET RNA. GAM5728 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5728 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5728 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5728 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5728 RNA, herein designated GAM RNA, to target binding sites on GAM5728 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5728 target RNA into GAM5728 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5728 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5728 target genes. The mRNA of each one of this

plurality of GAM5728 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5728 RNA, herein designated GAM RNA, and which when bound by GAM5728 RNA causes inhibition of translation of the GAM5728 target mRNA into a corresponding GAM5728 target protein.

The mechanism of the translational inhibition exerted by GAM5728 RNA, herein designated GAM RNA, on one or more GAM5728 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5728 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5728 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5728 RNA, herein designated GAM RNA, of GAM5728 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5728 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5728 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5728 RNA correlate with, and may be deduced from, the identity of the GAM5728 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5744 140899 TAGTGTTCAC Fig. 8 further provides a conceptual description of another novel bioinformatically
ATGTTGCTCA detected oligonucleotides of the present invention, referred to here as Genomic Address
GTTTTGCTAA Messenger 5744 (GAM5744) oligonucleotides modulates expression of respective target genes
CTGATAAATC whose function and utility is known in the art.

ATTTAATCCT GAM5744 is a novel bioinformatically detectable regulatory, non protein coding,
CTTCTTCATA micro RNA (miRNA)-like oligonucleotide. The method by which GAM5744 was detected is

TGTATGAGTA described with additional reference to Figs. 9-15.

CTATCTTATA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCTGTGGTCA encoded by the human genome.

AGAGTGAGGT GAM5744 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5744

AAGCAAGCTC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5744

CAACAGACCC precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

TGAGAACCTA to the nucleotide sequence of GAM5744 precursor RNA is designated SEQ ID:140899, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140899 is located from position 901080 to position 901209 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM5744 precursor RNA folds onto itself, forming GAM5744 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5744 precursor RNA, designated SEQ ID NO: 140899, and a schematic representation of a predicted secondary folding of GAM5744 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5744 folded precursor RNA yielding a GAM5744 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5744 RNA, hereby incorporated herein.

GAM5744 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5744 target RNA, herein designated GAM TARGET RNA. GAM5744 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5744 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5744 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5744 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5744 RNA, herein designated GAM RNA, to target

binding sites on GAM5744 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5744 target RNA into GAM5744 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5744 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5744 target genes. The mRNA of each one of this plurality of GAM5744 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5744 RNA, herein designated GAM RNA, and which when bound by GAM5744 RNA causes inhibition of translation of the GAM5744 target mRNA into a corresponding GAM5744 target protein.

The mechanism of the translational inhibition exerted by GAM5744 RNA, herein designated GAM RNA, on one or more GAM5744 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5744 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5744 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5744 RNA, herein designated GAM RNA, of GAM5744 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5744 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5744 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5744 RNA correlate with, and may be deduced from, the identity of the GAM5744 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5749 140900 AGTTCCTATG Fig. 8 further provides a conceptual description of another novel bioinformatically

TGCCCCACAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAAAGCGCCC Messenger 5749 (GAM5749) oligonucleotides modulates expression of respective target genes

TTAACCACTG whose function and utility is known in the art.

ATGAGTGTTG GAM5749 is a novel bioinformatically detectable regulatory, non protein coding,

ATGTTTTTCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM5749 was detected is

GCACTAGAAG described with additional reference to Figs. 9-15.

GCACTATGTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAACT encoded by the human genome.

GAM5749 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5749 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5749 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5749 precursor RNA is designated SEQ ID:140900, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140900 is located from position 18721900 to position 18721984 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GAM5749 precursor RNA folds onto itself, forming GAM5749 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5749 precursor RNA, designated SEQ ID NO: 140900, and a schematic representation of a predicted secondary folding of GAM5749 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5749 folded precursor RNA yielding a GAM5749 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5749 RNA, hereby incorporated herein.

GAM5749 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5749 target RNA, herein designated GAM TARGET RNA. GAM5749 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5749 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5749 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5749 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5749 RNA, herein designated GAM RNA, to target binding sites on GAM5749 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5749 target RNA into GAM5749 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5749 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5749 target genes. The mRNA of each one of this plurality of GAM5749 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5749 RNA, herein designated GAM RNA, and which when bound by GAM5749 RNA causes inhibition of translation of the GAM5749 target mRNA into a corresponding GAM5749 target protein.

The mechanism of the translational inhibition exerted by GAM5749 RNA, herein designated GAM RNA, on one or more GAM5749 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5749 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5749 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5749 RNA, herein designated GAM RNA, of GAM5749 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5749 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5749 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5749 RNA correlate with, and may be deduced from, the identity of the GAM5749 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5764 140901 GGACATCAAA GAATAAATAA GCTGCTCTAA TTGCCAAGAA Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 5764 (GAM5764) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

TTCACATGTG GAM5764 is a novel bioinformatically detectable regulatory, non protein coding,
GTTGTATGCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM5764 was detected is

GCTTTACTGG described with additional reference to Figs. 9-15.

GAGACTGAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGTATCTGCA encoded by the human genome.

TGTGATTCTG GAM5764 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5764
CTGTGATGGA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5764
CACTTGTAAG precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar
TTTGTGCC to the nucleotide sequence of GAM5764 precursor RNA is designated SEQ ID:140901, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140901 is located from position 62131098 to position 62131225 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM5764 precursor RNA folds onto itself, forming GAM5764 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5764 precursor RNA, designated SEQ ID NO: 140901, and a schematic representation of a predicted secondary folding of GAM5764 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5764 folded precursor RNA yielding a GAM5764 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5764 RNA, hereby incorporated herein.

GAM5764 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5764 target RNA, herein designated GAM TARGET RNA. GAM5764 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5764 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5764 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5764 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5764 RNA, herein designated GAM RNA, to target binding sites on GAM5764 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5764 target RNA into GAM5764 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5764 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5764 target genes. The mRNA of each one of this plurality of GAM5764 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5764 RNA, herein designated GAM RNA, and which when bound by GAM5764 RNA causes inhibition of translation of the GAM5764 target mRNA into a corresponding GAM5764 target protein.

The mechanism of the translational inhibition exerted by GAM5764 RNA, herein designated GAM RNA, on one or more GAM5764 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5764 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5764 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5764 RNA, herein designated GAM RNA, of GAM5764 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5764 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5764 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5764 RNA correlate with, and may be deduced from, the identity of the GAM5764 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5798 140902 CCAGGGAAAG Fig. 8 further provides a conceptual description of another novel bioinformatically

TAGTAAGTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

TATAGTTATC Messenger 5798 (GAM5798) oligonucleotides modulates expression of respective target genes

TTCTAATTGG whose function and utility is known in the art.

GGCCTAATAT GAM5798 is a novel bioinformatically detectable regulatory, non protein coding,

CCCTACCCCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM5798 was detected is

CAACAATACA described with additional reference to Figs. 9-15.

ACTTACTACC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCACCCTGG encoded by the human genome.

GAM5798 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5798

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5798

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5798 precursor RNA is designated SEQ ID:140902, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140902 is located from position 52222704 to position 52222792 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM5798 precursor RNA folds onto itself, forming GAM5798 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5798 precursor RNA, designated SEQ ID NO: 140902, and a schematic representation of a predicted secondary folding of GAM5798 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5798 folded precursor RNA yielding a GAM5798 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5798 RNA, hereby incorporated herein.

GAM5798 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5798 target RNA, herein designated GAM TARGET RNA. GAM5798 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated

region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5798 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5798 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5798 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5798 RNA, herein designated GAM RNA, to target binding sites on GAM5798 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5798 target RNA into GAM5798 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5798 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5798 target genes. The mRNA of each one of this plurality of GAM5798 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5798 RNA, herein designated GAM RNA, and which when bound by GAM5798 RNA causes inhibition of translation of the GAM5798 target mRNA into a corresponding GAM5798 target protein.

The mechanism of the translational inhibition exerted by GAM5798 RNA, herein designated GAM RNA, on one or more GAM5798 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5798 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5798 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5798 RNA, herein designated GAM RNA, of GAM5798 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5798 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5798 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5798 RNA correlate with, and may be deduced from, the identity of the GAM5798 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5800 140903 TGTTCCTCTA Fig. 8 further provides a conceptual description of another novel bioinformatically

AGGTTGTCAT detected oligonucleotides of the present invention, referred to here as Genomic Address

AATAAGTGCA Messenger 5800 (GAM5800) oligonucleotides modulates expression of respective target genes

TCATTACCAA whose function and utility is known in the art.

GTATTACAGC GAM5800 is a novel bioinformatically detectable regulatory, non protein coding,

AGGTACTGGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM5800 was detected is

TTGCATCAGG described with additional reference to Figs. 9-15.

GCTGCTGACG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTGTCTGTGG encoded by the human genome.

GCATTGTTAA GAM5800 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5800

GAAACCAATC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5800

TGGGAAACA precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5800 precursor RNA is designated SEQ ID:140903, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140903 is located from position 35297121 to position 35297239 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM5800 precursor RNA folds onto itself, forming GAM5800 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5800 precursor RNA, designated SEQ ID NO: 140903, and a schematic representation of a predicted secondary folding of GAM5800 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5800 folded precursor RNA yielding a GAM5800 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5800 RNA, hereby incorporated herein.

GAM5800 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5800 target RNA, herein designated GAM TARGET RNA. GAM5800 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5800 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5800 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5800 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5800 RNA, herein designated GAM RNA, to target binding sites on GAM5800 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5800 target RNA into GAM5800 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5800 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5800 target genes. The mRNA of each one of this plurality of GAM5800 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5800 RNA, herein designated GAM RNA, and which when bound by GAM5800 RNA causes inhibition of translation of the GAM5800 target mRNA into a corresponding GAM5800 target protein.

The mechanism of the translational inhibition exerted by GAM5800 RNA, herein designated GAM RNA, on one or more GAM5800 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5800 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5800 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5800 RNA, herein designated GAM RNA, of GAM5800 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM5800 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5800 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5800 RNA correlate with, and may be deduced from, the identity of the GAM5800 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5806 140904 TGTGAGCTCC Fig. 8 further provides a conceptual description of another novel bioinformatically
TGAGGAGTCA detected oligonucleotides of the present invention, referred to here as Genomic Address
GGCCTGAGTC Messenger 5806 (GAM5806) oligonucleotides modulates expression of respective target genes
TGTGGGTCAT whose function and utility is known in the art.

CTAGCACATC GAM5806 is a novel bioinformatically detectable regulatory, non protein coding,
CTTAATAGAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM5806 was detected is

TGATTGCCTG described with additional reference to Figs. 9-15.

GATGTGACCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CCCTCACCCC encoded by the human genome.

CAACCCTCAC GAM5806 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5806
ACA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5806
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5806 precursor RNA is designated SEQ ID:140904, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140904 is located from position 23608784 to position 23608886 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM5806 precursor RNA folds onto itself, forming GAM5806 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5806 precursor RNA, designated SEQ ID NO: 140904, and a schematic representation of a predicted secondary folding of GAM5806 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5806 folded precursor RNA yielding a GAM5806 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt

long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM5806 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5806 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM5806 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5806 target RNA, herein designated GAM TARGET RNA. GAM5806 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5806 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5806 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5806 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5806 RNA, herein designated GAM RNA, to target binding sites on GAM5806 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5806 target RNA into GAM5806 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5806 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5806 target genes. The mRNA of each one of this plurality of GAM5806 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5806 RNA, herein designated GAM RNA, and which when bound by GAM5806 RNA causes inhibition of translation of the GAM5806 target mRNA into a corresponding GAM5806 target protein.

The mechanism of the translational inhibition exerted by GAM5806 RNA, herein designated GAM RNA, on one or more GAM5806 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5806 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5806 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5806 RNA, herein designated GAM RNA, of GAM5806 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5806 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5806 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5806 RNA correlate with, and may be deduced from, the identity of the GAM5806 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5809 140905 TTCTGTCTTT Fig. 8 further provides a conceptual description of another novel bioinformatically

TGAATTCTGT detected oligonucleotides of the present invention, referred to here as Genomic Address

CGTGACTGGG Messenger 5809 (GAM5809) oligonucleotides modulates expression of respective target genes

GCTAAACAAC whose function and utility is known in the art.

TGTCACTGGC GAM5809 is a novel bioinformatically detectable regulatory, non protein coding,

AAGTGACAAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM5809 was detected is

AGGCACAGAC described with additional reference to Figs. 9-15.

AGCAGGGGAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATAAAAAGAG encoded by the human genome.

AGAA GAM5809 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5809

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5809

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5809 precursor RNA is designated SEQ ID:140905, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140905 is located from position 114373899 to position 114373992 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM5809 precursor RNA folds onto itself, forming GAM5809 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5809 precursor RNA, designated SEQ ID NO: 140905, and

a schematic representation of a predicted secondary folding of GAM5809 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5809 folded precursor RNA yielding a GAM5809 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5809 RNA, hereby incorporated herein.

GAM5809 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5809 target RNA, herein designated GAM TARGET RNA. GAM5809 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5809 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5809 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5809 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5809 RNA, herein designated GAM RNA, to target binding sites on GAM5809 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5809 target RNA into GAM5809 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5809 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5809 target genes. The mRNA of each one of this plurality of GAM5809 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5809 RNA, herein designated GAM RNA, and which when bound by GAM5809 RNA causes inhibition of translation of the GAM5809 target mRNA into a corresponding GAM5809 target protein.

The mechanism of the translational inhibition exerted by GAM5809 RNA, herein designated GAM RNA, on one or more GAM5809 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5809 precursor RNA, herein designated GAM PRECURSOR

RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5809 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5809 RNA, herein designated GAM RNA, of GAM5809 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5809 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5809 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5809 RNA correlate with, and may be deduced from, the identity of the GAM5809 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5814 140906 AGACACTGAA Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGGACATTG detected oligonucleotides of the present invention, referred to here as Genomic Address

ATTTCCTTTT Messenger 5814 (GAM5814) oligonucleotides modulates expression of respective target genes

CTCTGCGTCG whose function and utility is known in the art.

AAATGTCAAG GAM5814 is a novel bioinformatically detectable regulatory, non protein coding,

GAAAGTTGCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM5814 was detected is

AGTCTGTGAT described with additional reference to Figs. 9-15.

TTTGTGTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM5814 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5814

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5814

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5814 precursor RNA is designated SEQ ID:140906, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140906 is located from position 58108888 to position 58108966 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM5814 precursor RNA folds onto itself, forming GAM5814 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5814 precursor RNA, designated SEQ ID NO: 140906, and a schematic representation of a predicted secondary folding of GAM5814 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5814 folded precursor RNA yielding a GAM5814 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5814 RNA, hereby incorporated herein.

GAM5814 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5814 target RNA, herein designated GAM TARGET RNA. GAM5814 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5814 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5814 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5814 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5814 RNA, herein designated GAM RNA, to target binding sites on GAM5814 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5814 target RNA into GAM5814 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5814 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5814 target genes. The mRNA of each one of this plurality of GAM5814 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5814 RNA, herein designated GAM RNA, and which when bound by GAM5814 RNA causes inhibition of translation of the GAM5814 target mRNA into a corresponding GAM5814 target protein.

The mechanism of the translational inhibition exerted by GAM5814 RNA, herein

designated GAM RNA, on one or more GAM5814 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5814 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5814 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5814 RNA, herein designated GAM RNA, of GAM5814 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5814 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5814 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5814 RNA correlate with, and may be deduced from, the identity of the GAM5814 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5823 140907 TAGAAATATG Fig. 8 further provides a conceptual description of another novel bioinformatically
TAATCGATCT detected oligonucleotides of the present invention, referred to here as Genomic Address
TTTCTTTGGT Messenger 5823 (GAM5823) oligonucleotides modulates expression of respective target genes
GGGCAATTAG whose function and utility is known in the art.

CAATATTGAG GAM5823 is a novel bioinformatically detectable regulatory, non protein coding,
GAAAGTTAAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM5823 was detected is

GATGTATGTA described with additional reference to Figs. 9-15.

TCCCTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM5823 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5823

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5823
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5823 precursor RNA is designated SEQ ID:140907, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140907 is located from position 7772036 to position 7772111 relative to chromosome chrX

on the `-` strand (chr is an abbreviation for chromosome).

GAM5823 precursor RNA folds onto itself, forming GAM5823 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5823 precursor RNA, designated SEQ ID NO: 140907, and a schematic representation of a predicted secondary folding of GAM5823 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5823 folded precursor RNA yielding a GAM5823 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5823 RNA, hereby incorporated herein.

GAM5823 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5823 target RNA, herein designated GAM TARGET RNA. GAM5823 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5823 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5823 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5823 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5823 RNA, herein designated GAM RNA, to target binding sites on GAM5823 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5823 target RNA into GAM5823 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5823 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5823 target genes. The mRNA of each one of this plurality of GAM5823 target genes comprises one or more target binding sites, each having

a nucleotide sequence which is at least partly complementary to GAM5823 RNA, herein designated GAM RNA, and which when bound by GAM5823 RNA causes inhibition of translation of the GAM5823 target mRNA into a corresponding GAM5823 target protein.

The mechanism of the translational inhibition exerted by GAM5823 RNA, herein designated GAM RNA, on one or more GAM5823 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5823 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5823 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5823 RNA, herein designated GAM RNA, of GAM5823 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5823 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5823 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5823 RNA correlate with, and may be deduced from, the identity of the GAM5823 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5826 140908 GGCTGGGACT Fig. 8 further provides a conceptual description of another novel bioinformatically
GAGGTCATGT detected oligonucleotides of the present invention, referred to here as Genomic Address
TCTGTCAGGT Messenger 5826 (GAM5826) oligonucleotides modulates expression of respective target genes
TCCAAAGAGC whose function and utility is known in the art.

GCCAGGAAGA GAM5826 is a novel bioinformatically detectable regulatory, non protein coding,
CTCTGAGACC micro RNA (miRNA)-like oligonucleotide. The method by which GAM5826 was detected is

ACAGAGCACG described with additional reference to Figs. 9-15.

GCCTGCTTTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCCCAGCC encoded by the human genome.

GAM5826 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5826

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5826

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5826 precursor RNA is designated SEQ ID:140908, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140908 is located from position 492716 to position 492803 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM5826 precursor RNA folds onto itself, forming GAM5826 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5826 precursor RNA, designated SEQ ID NO: 140908, and a schematic representation of a predicted secondary folding of GAM5826 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5826 folded precursor RNA yielding a GAM5826 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5826 RNA, hereby incorporated herein.

GAM5826 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5826 target RNA, herein designated GAM TARGET RNA. GAM5826 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5826 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5826 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5826 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5826 RNA, herein designated GAM RNA, to target binding sites on GAM5826 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5826 target RNA into GAM5826 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5826 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5826 target genes. The mRNA of each one of this plurality of GAM5826 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5826 RNA, herein designated GAM RNA, and which when bound by GAM5826 RNA causes inhibition of translation of the GAM5826 target mRNA into a corresponding GAM5826 target protein.

The mechanism of the translational inhibition exerted by GAM5826 RNA, herein designated GAM RNA, on one or more GAM5826 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5826 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5826 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5826 RNA, herein designated GAM RNA, of GAM5826 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5826 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5826 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5826 RNA correlate with, and may be deduced from, the identity of the GAM5826 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5836 140909 AGTTTCACTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGTCACCCA detected oligonucleotides of the present invention, referred to here as Genomic Address

GGCTGGAGTG Messenger 5836 (GAM5836) oligonucleotides modulates expression of respective target genes

CAGTGGTGCC whose function and utility is known in the art.

ATCTTGGCTC GAM5836 is a novel bioinformatically detectable regulatory, non protein coding,

ACTGCAACCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM5836 was detected is

CCGCCTGCCG described with additional reference to Figs. 9-15.

AGTTCAAGCG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATTCT encoded by the human genome.

GAM5836 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5836 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5836 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5836 precursor RNA is designated SEQ ID:140909, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140909 is located from position 232531653 to position 232531737 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GAM5836 precursor RNA folds onto itself, forming GAM5836 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5836 precursor RNA, designated SEQ ID NO: 140909, and a schematic representation of a predicted secondary folding of GAM5836 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5836 folded precursor RNA yielding a GAM5836 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM5836 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5836 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM5836 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5836 target RNA, herein designated GAM TARGET RNA. GAM5836 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5836 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5836 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5836 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5836 RNA, herein designated GAM RNA, to target binding sites on GAM5836 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5836 target RNA into GAM5836 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5836 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5836 target genes. The mRNA of each one of this plurality of GAM5836 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5836 RNA, herein designated GAM RNA, and which when bound by GAM5836 RNA causes inhibition of translation of the GAM5836 target mRNA into a corresponding GAM5836 target protein.

The mechanism of the translational inhibition exerted by GAM5836 RNA, herein designated GAM RNA, on one or more GAM5836 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5836 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5836 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5836 RNA, herein designated GAM RNA, of GAM5836 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5836 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5836 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5836 RNA correlate with, and may be deduced from, the identity of the GAM5836 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5859 140910 GAGGGCTGTC ACCATTAGCA CTCTCGGAGC TGGGAGAAGT CCCTGAGCCC TGAAGGGTGT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 5859 (GAM5859) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM5859 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM5859 was detected is

TTTGGGCAGT described with additional reference to Figs. 9-15.

ATGTGACAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCTC encoded by the human genome.

GAM5859 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5859 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5859 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5859 precursor RNA is designated SEQ ID:140910, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140910 is located from position 120684537 to position 120684620 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM5859 precursor RNA folds onto itself, forming GAM5859 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5859 precursor RNA, designated SEQ ID NO: 140910, and a schematic representation of a predicted secondary folding of GAM5859 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5859 folded precursor RNA yielding a GAM5859 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5859 RNA, hereby incorporated herein.

GAM5859 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5859 target RNA, herein designated GAM TARGET RNA. GAM5859 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5859 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5859 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5859 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5859 RNA, herein designated GAM RNA, to target binding sites on GAM5859 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5859 target RNA into GAM5859 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5859 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5859 target genes. The mRNA of each one of this plurality of GAM5859 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5859 RNA, herein designated GAM RNA, and which when bound by GAM5859 RNA causes inhibition of translation of the GAM5859 target mRNA into a corresponding GAM5859 target protein.

The mechanism of the translational inhibition exerted by GAM5859 RNA, herein designated GAM RNA, on one or more GAM5859 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5859 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5859 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5859 RNA, herein designated GAM RNA, of GAM5859 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5859 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5859 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5859 RNA correlate with, and may be deduced from, the identity of the GAM5859 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5868 140911 CATCACCCAG TGGTTCTCTC AGCAACAGAC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 5868 (GAM5868) oligonucleotides modulates expression of respective target genes

ATGTCCAGTG whose function and utility is known in the art.

GACCGTAGTG GAM5868 is a novel bioinformatically detectable regulatory, non protein coding,
TTGTGACGGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM5868 was detected is

CGCCCATCTG described with additional reference to Figs. 9-15.

CGCCCAGTAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTCGGATCAT encoded by the human genome.

GCGGAACATG GAM5868 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5868
TTGTCAAAGC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5868
TGCAGATTGC precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar
CTGTGACAAC to the nucleotide sequence of GAM5868 precursor RNA is designated SEQ ID:140911, and is
G provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140911 is located from position 56320934 to position 56321064 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM5868 precursor RNA folds onto itself, forming GAM5868 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5868 precursor RNA, designated SEQ ID NO: 140911, and a schematic representation of a predicted secondary folding of GAM5868 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5868 folded precursor RNA yielding a GAM5868 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5868 RNA, hereby incorporated herein.

GAM5868 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5868 target RNA, herein designated GAM TARGET RNA. GAM5868 target RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5868 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM5868 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5868 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5868 RNA, herein designated GAM RNA, to target binding sites on GAM5868 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5868 target RNA into GAM5868 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5868 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5868 target genes. The mRNA of each one of this plurality of GAM5868 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5868 RNA, herein designated GAM RNA, and which when bound by GAM5868 RNA causes inhibition of translation of the GAM5868 target mRNA into a corresponding GAM5868 target protein.

The mechanism of the translational inhibition exerted by GAM5868 RNA, herein designated GAM RNA, on one or more GAM5868 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5868 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5868 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5868 RNA, herein designated GAM RNA, of GAM5868 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5868 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5868 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5868 RNA correlate with, and may be deduced from, the identity of the GAM5868 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5872 140912 GTTTAAATGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TTATCCGGGA detected oligonucleotides of the present invention, referred to here as Genomic Address
GAATTCCTGT Messenger 5872 (GAM5872) oligonucleotides modulates expression of respective target genes
TGTGTGGAAG whose function and utility is known in the art.

ATGCTTTGCC GAM5872 is a novel bioinformatically detectable regulatory, non protein coding,
CTTTCTTCAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM5872 was detected is

CTGGAAATCA described with additional reference to Figs. 9-15.

TTTTTCCATC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTTTAGGTCA encoded by the human genome.

CAGCTTAAAC GAM5872 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5872
ATGATTTTCC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5872
CAGGAATTTT precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar
TCTCTGACCA to the nucleotide sequence of GAM5872 precursor RNA is designated SEQ ID:140912, and is
C provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140912 is located from position 78069309 to position 78069439 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM5872 precursor RNA folds onto itself, forming GAM5872 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5872 precursor RNA, designated SEQ ID NO: 140912, and a schematic representation of a predicted secondary folding of GAM5872 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5872 folded precursor RNA yielding a GAM5872 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5872 RNA, hereby incorporated herein.

GAM5872 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5872 target RNA, herein designated GAM TARGET RNA. GAM5872 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5872 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5872 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5872 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5872 RNA, herein designated GAM RNA, to target binding sites on GAM5872 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5872 target RNA into GAM5872 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5872 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5872 target genes. The mRNA of each one of this plurality of GAM5872 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5872 RNA, herein designated GAM RNA, and which when bound by GAM5872 RNA causes inhibition of translation of the GAM5872 target mRNA into a corresponding GAM5872 target protein.

The mechanism of the translational inhibition exerted by GAM5872 RNA, herein designated GAM RNA, on one or more GAM5872 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5872 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5872 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5872 RNA, herein designated GAM RNA, of GAM5872 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5872 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5872 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5872 RNA correlate with, and may be deduced from, the identity of the GAM5872 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5874 140913 CTGTGCTCTT Fig. 8 further provides a conceptual description of another novel bioinformatically

GATAACAGAG detected oligonucleotides of the present invention, referred to here as Genomic Address

TGTTTGAGGG Messenger 5874 (GAM5874) oligonucleotides modulates expression of respective target genes

ACAACTTTCA whose function and utility is known in the art.

CATTTGAGTT GAM5874 is a novel bioinformatically detectable regulatory, non protein coding,

TTTCCAAAAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM5874 was detected is

TAAAGGTTGT described with additional reference to Figs. 9-15.

AGAAGAGTCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAG encoded by the human genome.

GAM5874 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5874

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5874

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5874 precursor RNA is designated SEQ ID:140913, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140913 is located from position 31954910 to position 31954992 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GAM5874 precursor RNA folds onto itself, forming GAM5874 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5874 precursor RNA, designated SEQ ID NO: 140913, and a schematic representation of a predicted secondary folding of GAM5874 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5874 folded precursor RNA yielding a GAM5874 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the

nucleotide sequence of GAM5874 RNA, hereby incorporated herein.

GAM5874 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5874 target RNA, herein designated GAM TARGET RNA. GAM5874 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5874 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5874 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5874 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5874 RNA, herein designated GAM RNA, to target binding sites on GAM5874 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5874 target RNA into GAM5874 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5874 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5874 target genes. The mRNA of each one of this plurality of GAM5874 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5874 RNA, herein designated GAM RNA, and which when bound by GAM5874 RNA causes inhibition of translation of the GAM5874 target mRNA into a corresponding GAM5874 target protein.

The mechanism of the translational inhibition exerted by GAM5874 RNA, herein designated GAM RNA, on one or more GAM5874 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5874 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5874 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5874 RNA, herein designated GAM RNA, of GAM5874 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5874 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5874 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5874 RNA correlate with, and may be deduced from, the identity of the GAM5874 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5884 140914 GGGATAGCTC Fig. 8 further provides a conceptual description of another novel bioinformatically
ATTTTTGAAA detected oligonucleotides of the present invention, referred to here as Genomic Address
TCAGTTTAGA Messenger 5884 (GAM5884) oligonucleotides modulates expression of respective target genes
ACATTTAAAA whose function and utility is known in the art.

TGTGGGAAAT GAM5884 is a novel bioinformatically detectable regulatory, non protein coding,
TCAAATAAAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM5884 was detected is

ATGCAAATTT described with additional reference to Figs. 9-15.

TCACTGTTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTAAAAAGTC encoded by the human genome.

AGATCAACAT GAM5884 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5884
TGCTGGCCC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5884
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5884 precursor RNA is designated SEQ ID:140914, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140914 is located from position 65430589 to position 65430697 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM5884 precursor RNA folds onto itself, forming GAM5884 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5884 precursor RNA, designated SEQ ID NO: 140914, and a schematic representation of a predicted secondary folding of GAM5884 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5884 folded precursor RNA

yielding a GAM5884 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5884 RNA, hereby incorporated herein.

GAM5884 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5884 target RNA, herein designated GAM TARGET RNA. GAM5884 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5884 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5884 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5884 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5884 RNA, herein designated GAM RNA, to target binding sites on GAM5884 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5884 target RNA into GAM5884 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5884 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5884 target genes. The mRNA of each one of this plurality of GAM5884 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5884 RNA, herein designated GAM RNA, and which when bound by GAM5884 RNA causes inhibition of translation of the GAM5884 target mRNA into a corresponding GAM5884 target protein.

The mechanism of the translational inhibition exerted by GAM5884 RNA, herein designated GAM RNA, on one or more GAM5884 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5884 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5884 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5884 RNA, herein designated GAM RNA, of GAM5884 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5884 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5884 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5884 RNA correlate with, and may be deduced from, the identity of the GAM5884 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5886 140915 GGCTTTATCT Fig. 8 further provides a conceptual description of another novel bioinformatically

CTTGCCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

CCTCCTACAT Messenger 5886 (GAM5886) oligonucleotides modulates expression of respective target genes

TATCAACAAA whose function and utility is known in the art.

GTGAGAGTTT GAM5886 is a novel bioinformatically detectable regulatory, non protein coding,

AAGATCTCCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM5886 was detected is

GGGCAGGAGA described with additional reference to Figs. 9-15.

TTTCAGAAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

C encoded by the human genome.

GAM5886 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5886

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5886

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5886 precursor RNA is designated SEQ ID:140915, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140915 is located from position 101743923 to position 101744003 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM5886 precursor RNA folds onto itself, forming GAM5886 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5886 precursor RNA, designated SEQ ID NO: 140915, and

a schematic representation of a predicted secondary folding of GAM5886 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5886 folded precursor RNA yielding a GAM5886 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5886 RNA, hereby incorporated herein.

GAM5886 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5886 target RNA, herein designated GAM TARGET RNA. GAM5886 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5886 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5886 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5886 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5886 RNA, herein designated GAM RNA, to target binding sites on GAM5886 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5886 target RNA into GAM5886 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5886 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5886 target genes. The mRNA of each one of this plurality of GAM5886 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5886 RNA, herein designated GAM RNA, and which when bound by GAM5886 RNA causes inhibition of translation of the GAM5886 target mRNA into a corresponding GAM5886 target protein.

The mechanism of the translational inhibition exerted by GAM5886 RNA, herein designated GAM RNA, on one or more GAM5886 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5886 precursor RNA, herein designated GAM PRECURSOR

RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5886 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5886 RNA, herein designated GAM RNA, of GAM5886 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5886 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5886 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5886 RNA correlate with, and may be deduced from, the identity of the GAM5886 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5910 140916 TGAATCACTG Fig. 8 further provides a conceptual description of another novel bioinformatically
TGGAAAACAT detected oligonucleotides of the present invention, referred to here as Genomic Address
CAGTAATTCA Messenger 5910 (GAM5910) oligonucleotides modulates expression of respective target genes
ACAACCTTGC whose function and utility is known in the art.

TGCTGACCTC GAM5910 is a novel bioinformatically detectable regulatory, non protein coding,
TTATTCAGTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM5910 was detected is

AAATGAGAGC described with additional reference to Figs. 9-15.

AAGTGTTGAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAGCTGGTG encoded by the human genome.

GTGGTTCACA GAM5910 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5910
TCAAAATCA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5910
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5910 precursor RNA is designated SEQ ID:140916, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140916 is located from position 24156183 to position 24156291 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM5910 precursor RNA folds onto itself, forming GAM5910 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5910 precursor RNA, designated SEQ ID NO: 140916, and a schematic representation of a predicted secondary folding of GAM5910 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5910 folded precursor RNA yielding a GAM5910 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5910 RNA, hereby incorporated herein.

GAM5910 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5910 target RNA, herein designated GAM TARGET RNA. GAM5910 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5910 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5910 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5910 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5910 RNA, herein designated GAM RNA, to target binding sites on GAM5910 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5910 target RNA into GAM5910 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5910 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5910 target genes. The mRNA of each one of this plurality of GAM5910 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5910 RNA, herein designated GAM RNA, and which when bound by GAM5910 RNA causes inhibition of translation of the GAM5910 target mRNA into a corresponding GAM5910 target protein.

The mechanism of the translational inhibition exerted by GAM5910 RNA, herein

designated GAM RNA, on one or more GAM5910 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5910 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5910 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5910 RNA, herein designated GAM RNA, of GAM5910 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5910 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5910 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5910 RNA correlate with, and may be deduced from, the identity of the GAM5910 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5913 140917 GTAAGGGACT Fig. 8 further provides a conceptual description of another novel bioinformatically
TGAGTATACT detected oligonucleotides of the present invention, referred to here as Genomic Address
TGGATTTTTG Messenger 5913 (GAM5913) oligonucleotides modulates expression of respective target genes
GTATCTGTGG whose function and utility is known in the art.

GTTGGGGGGA GAM5913 is a novel bioinformatically detectable regulatory, non protein coding,
CGGTCCAGGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM5913 was detected is

ACCAATACCC described with additional reference to Figs. 9-15.

CATGGATACC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AAGGGACAAC encoded by the human genome.

TGTACTTATT GAM5913 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5913
TACCTTTAT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5913
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5913 precursor RNA is designated SEQ ID:140917, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140917 is located from position 32850069 to position 32850177 relative to chromosome

chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM5913 precursor RNA folds onto itself, forming GAM5913 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5913 precursor RNA, designated SEQ ID NO: 140917, and a schematic representation of a predicted secondary folding of GAM5913 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5913 folded precursor RNA yielding a GAM5913 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5913 RNA, hereby incorporated herein.

GAM5913 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5913 target RNA, herein designated GAM TARGET RNA. GAM5913 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5913 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5913 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5913 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5913 RNA, herein designated GAM RNA, to target binding sites on GAM5913 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5913 target RNA into GAM5913 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5913 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5913 target genes. The mRNA of each one of this plurality of GAM5913 target genes comprises one or more target binding sites, each having

a nucleotide sequence which is at least partly complementary to GAM5913 RNA, herein designated GAM RNA, and which when bound by GAM5913 RNA causes inhibition of translation of the GAM5913 target mRNA into a corresponding GAM5913 target protein.

The mechanism of the translational inhibition exerted by GAM5913 RNA, herein designated GAM RNA, on one or more GAM5913 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5913 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5913 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5913 RNA, herein designated GAM RNA, of GAM5913 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5913 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5913 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5913 RNA correlate with, and may be deduced from, the identity of the GAM5913 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5916 140918 CTGTACAAAG Fig. 8 further provides a conceptual description of another novel bioinformatically

CAGCCTTGGA detected oligonucleotides of the present invention, referred to here as Genomic Address

CCAGGAGGGA Messenger 5916 (GAM5916) oligonucleotides modulates expression of respective target genes

AAACCCCAAG whose function and utility is known in the art.

GCTCTGCAGC GAM5916 is a novel bioinformatically detectable regulatory, non protein coding,

CTCCCTGCTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM5916 was detected is

CCCTCCGTTT described with additional reference to Figs. 9-15.

AAGGCTGTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCAG encoded by the human genome.

GAM5916 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5916

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5916

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5916 precursor RNA is designated SEQ ID:140918, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140918 is located from position 3852983 to position 3853066 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM5916 precursor RNA folds onto itself, forming GAM5916 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5916 precursor RNA, designated SEQ ID NO: 140918, and a schematic representation of a predicted secondary folding of GAM5916 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5916 folded precursor RNA yielding a GAM5916 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5916 RNA, hereby incorporated herein.

GAM5916 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5916 target RNA, herein designated GAM TARGET RNA. GAM5916 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5916 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5916 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5916 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5916 RNA, herein designated GAM RNA, to target binding sites on GAM5916 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5916 target RNA into GAM5916 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5916 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5916 target genes. The mRNA of each one of this plurality of GAM5916 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5916 RNA, herein designated GAM RNA, and which when bound by GAM5916 RNA causes inhibition of translation of the GAM5916 target mRNA into a corresponding GAM5916 target protein.

The mechanism of the translational inhibition exerted by GAM5916 RNA, herein designated GAM RNA, on one or more GAM5916 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5916 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5916 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5916 RNA, herein designated GAM RNA, of GAM5916 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5916 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5916 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5916 RNA correlate with, and may be deduced from, the identity of the GAM5916 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5958 140919 AATGCTGGAC Fig. 8 further provides a conceptual description of another novel bioinformatically

ATTTATCTGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGCTGCAGGG Messenger 5958 (GAM5958) oligonucleotides modulates expression of respective target genes

GGTAAAGTGT whose function and utility is known in the art.

CATCCTTGGG GAM5958 is a novel bioinformatically detectable regulatory, non protein coding,

AAATTCAAAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM5958 was detected is

CTGGCCTGTA described with additional reference to Figs. 9-15.

CCTGCTGAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCACCAGGGA encoded by the human genome.

TATGGTCACA GAM5958 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5958 TT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5958 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5958 precursor RNA is designated SEQ ID:140919, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140919 is located from position 90601847 to position 90601948 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM5958 precursor RNA folds onto itself, forming GAM5958 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5958 precursor RNA, designated SEQ ID NO: 140919, and a schematic representation of a predicted secondary folding of GAM5958 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5958 folded precursor RNA yielding a GAM5958 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5958 RNA, hereby incorporated herein.

GAM5958 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5958 target RNA, herein designated GAM TARGET RNA. GAM5958 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5958 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5958 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5958 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5958 RNA, herein designated GAM RNA, to target binding sites on GAM5958 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5958 target RNA into GAM5958 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5958 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5958 target genes. The mRNA of each one of this plurality of GAM5958 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5958 RNA, herein designated GAM RNA, and which when bound by GAM5958 RNA causes inhibition of translation of the GAM5958 target mRNA into a corresponding GAM5958 target protein.

The mechanism of the translational inhibition exerted by GAM5958 RNA, herein designated GAM RNA, on one or more GAM5958 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5958 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5958 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5958 RNA, herein designated GAM RNA, of GAM5958 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5958 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5958 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5958 RNA correlate with, and may be deduced from, the identity of the GAM5958 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5963 142091 AAGTGTTCTC Fig. 8 further provides a conceptual description of another novel bioinformatically
CTGAGGACCC detected oligonucleotides of the present invention, referred to here as Genomic Address
TTAGGTCAGA Messenger 5963 (GAM5963) oligonucleotides modulates expression of respective target genes
CAGAGAAGCT whose function and utility is known in the art.

TTCTCTTTCT GAM5963 is a novel bioinformatically detectable regulatory, non protein coding,
GATGGGAAGG micro RNA (miRNA)-like oligonucleotide. The method by which GAM5963 was detected is

GTCAAAGTGG described with additional reference to Figs. 9-15.

AAATCTCTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM5963 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5963

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5963

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5963 precursor RNA is designated SEQ ID:142091, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142091 is located from position 126883041 to position 126883119 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM5963 precursor RNA folds onto itself, forming GAM5963 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5963 precursor RNA, designated SEQ ID NO: 142091, and a schematic representation of a predicted secondary folding of GAM5963 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5963 folded precursor RNA yielding a GAM5963 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM5963 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5963 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM5963 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5963 target RNA, herein designated GAM TARGET RNA. GAM5963 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5963 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5963 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5963 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5963 RNA, herein designated GAM RNA, to target binding sites on GAM5963 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5963 target RNA into GAM5963 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5963 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5963 target genes. The mRNA of each one of this plurality of GAM5963 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5963 RNA, herein designated GAM RNA, and which when bound by GAM5963 RNA causes inhibition of translation of the GAM5963 target mRNA into a corresponding GAM5963 target protein.

The mechanism of the translational inhibition exerted by GAM5963 RNA, herein designated GAM RNA, on one or more GAM5963 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5963 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5963 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5963 RNA, herein designated GAM RNA, of GAM5963 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5963 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5963 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5963 RNA correlate with, and may be deduced from, the identity of the GAM5963 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5971 142092 CACTGTAGGG CAGTAAGGAA AGAATGTTCT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 5971 (GAM5971) oligonucleotides modulates expression of respective target genes

TTTTCAAAAA whose function and utility is known in the art.

TAGTCTGAGC GAM5971 is a novel bioinformatically detectable regulatory, non protein coding, CAATTGGATG micro RNA (miRNA)-like oligonucleotide. The method by which GAM5971 was detected is

TTTTTGTGGA described with additional reference to Figs. 9-15.

ATATTTTTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AATTTGCCCT encoded by the human genome.

GCATGTG GAM5971 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5971 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5971 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5971 precursor RNA is designated SEQ ID:142092, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142092 is located from position 10754212 to position 10754308 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM5971 precursor RNA folds onto itself, forming GAM5971 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5971 precursor RNA, designated SEQ ID NO: 142092, and a schematic representation of a predicted secondary folding of GAM5971 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5971 folded precursor RNA yielding a GAM5971 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5971 RNA, hereby incorporated herein.

GAM5971 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5971 target RNA, herein designated GAM TARGET RNA. GAM5971 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5971 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5971 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5971 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5971 RNA, herein designated GAM RNA, to target binding sites on GAM5971 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5971 target RNA into GAM5971 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5971 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5971 target genes. The mRNA of each one of this plurality of GAM5971 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5971 RNA, herein designated GAM RNA, and which when bound by GAM5971 RNA causes inhibition of translation of the GAM5971 target mRNA into a corresponding GAM5971 target protein.

The mechanism of the translational inhibition exerted by GAM5971 RNA, herein designated GAM RNA, on one or more GAM5971 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5971 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5971 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5971 RNA, herein designated GAM RNA, of GAM5971 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5971 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5971 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5971 RNA correlate with, and may be deduced from, the identity of the GAM5971 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5973 142093 TGGAGTATTT Fig. 8 further provides a conceptual description of another novel bioinformatically
AAGAGTGACT detected oligonucleotides of the present invention, referred to here as Genomic Address
TAAACAACAG Messenger 5973 (GAM5973) oligonucleotides modulates expression of respective target genes
ATGTTCATAC whose function and utility is known in the art.

TCTGCCAGTT GAM5973 is a novel bioinformatically detectable regulatory, non protein coding,
CTGGAGGTTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM5973 was detected is

GAAAGTCCAA described with additional reference to Figs. 9-15.

GATCAGGGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTGGCAGATT encoded by the human genome.

TGGTTGCTGT GAM5973 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5973
TGGGTTCTCT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5973
TCTTGGCTCG precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar
CA to the nucleotide sequence of GAM5973 precursor RNA is designated SEQ ID:142093, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142093 is located from position 42645831 to position 42645952 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM5973 precursor RNA folds onto itself, forming GAM5973 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5973 precursor RNA, designated SEQ ID NO: 142093, and a schematic representation of a predicted secondary folding of GAM5973 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5973 folded precursor RNA yielding a GAM5973 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5973 RNA, hereby incorporated herein.

GAM5973 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5973 target RNA, herein designated GAM TARGET RNA. GAM5973 target RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated

region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5973 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5973 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5973 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5973 RNA, herein designated GAM RNA, to target binding sites on GAM5973 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5973 target RNA into GAM5973 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5973 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5973 target genes. The mRNA of each one of this plurality of GAM5973 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5973 RNA, herein designated GAM RNA, and which when bound by GAM5973 RNA causes inhibition of translation of the GAM5973 target mRNA into a corresponding GAM5973 target protein.

The mechanism of the translational inhibition exerted by GAM5973 RNA, herein designated GAM RNA, on one or more GAM5973 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5973 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5973 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5973 RNA, herein designated GAM RNA, of GAM5973 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5973 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5973 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5973 RNA correlate with, and may be deduced from, the identity of the GAM5973 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5990 142094 TGGGGGCACT Fig. 8 further provides a conceptual description of another novel bioinformatically
GGCTTCTGCT detected oligonucleotides of the present invention, referred to here as Genomic Address
CTTGCTCTTT Messenger 5990 (GAM5990) oligonucleotides modulates expression of respective target genes
CTTCTGGAAA whose function and utility is known in the art.

CATTATTCTG GAM5990 is a novel bioinformatically detectable regulatory, non protein coding,
TTCCTTTGGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM5990 was detected is

CATGGGCAAG described with additional reference to Figs. 9-15.

GGTCCTGTCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTA encoded by the human genome.

GAM5990 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5990

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5990

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5990 precursor RNA is designated SEQ ID:142094, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142094 is located from position 30850318 to position 30850400 relative to chromosome chr6 on the `+` strand (chr is an abbreviation for chromosome).

GAM5990 precursor RNA folds onto itself, forming GAM5990 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5990 precursor RNA, designated SEQ ID NO: 142094, and a schematic representation of a predicted secondary folding of GAM5990 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5990 folded precursor RNA yielding a GAM5990 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM5990 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5990 RNA and an

alternative nucleotide sequence thereof, hereby incorporated herein.

GAM5990 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5990 target RNA, herein designated GAM TARGET RNA. GAM5990 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5990 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5990 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5990 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5990 RNA, herein designated GAM RNA, to target binding sites on GAM5990 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5990 target RNA into GAM5990 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5990 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5990 target genes. The mRNA of each one of this plurality of GAM5990 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5990 RNA, herein designated GAM RNA, and which when bound by GAM5990 RNA causes inhibition of translation of the GAM5990 target mRNA into a corresponding GAM5990 target protein.

The mechanism of the translational inhibition exerted by GAM5990 RNA, herein designated GAM RNA, on one or more GAM5990 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5990 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5990 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5990 RNA, herein designated GAM RNA, of GAM5990 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5990 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5990 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5990 RNA correlate with, and may be deduced from, the identity of the GAM5990 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM5998 142095 CCTTGGCCCT Fig. 8 further provides a conceptual description of another novel bioinformatically
GTGAGGCTTC detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCTCTTGAG Messenger 5998 (GAM5998) oligonucleotides modulates expression of respective target genes
CCTGAGAAGC whose function and utility is known in the art.

AGAGGTGACA GAM5998 is a novel bioinformatically detectable regulatory, non protein coding,
GTACTGGCCC micro RNA (miRNA)-like oligonucleotide. The method by which GAM5998 was detected is

TGGTTCTTAG described with additional reference to Figs. 9-15.

CAGGGGGGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCGGGCAGGG encoded by the human genome.

TAGGGG GAM5998 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM5998
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM5998
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM5998 precursor RNA is designated SEQ ID:142095, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142095 is located from position 30012813 to position 30012908 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM5998 precursor RNA folds onto itself, forming GAM5998 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM5998 precursor RNA, designated SEQ ID NO: 142095, and a schematic representation of a predicted secondary folding of GAM5998 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM5998 folded precursor RNA

yielding a GAM5998 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM5998 RNA, hereby incorporated herein.

GAM5998 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM5998 target RNA, herein designated GAM TARGET RNA. GAM5998 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM5998 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM5998 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM5998 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM5998 RNA, herein designated GAM RNA, to target binding sites on GAM5998 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM5998 target RNA into GAM5998 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM5998 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM5998 target genes. The mRNA of each one of this plurality of GAM5998 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM5998 RNA, herein designated GAM RNA, and which when bound by GAM5998 RNA causes inhibition of translation of the GAM5998 target mRNA into a corresponding GAM5998 target protein.

The mechanism of the translational inhibition exerted by GAM5998 RNA, herein designated GAM RNA, on one or more GAM5998 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM5998 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM5998 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM5998 RNA, herein designated GAM RNA, of GAM5998 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM5998 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM5998 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM5998 RNA correlate with, and may be deduced from, the identity of the GAM5998 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6014 142096 GGCATGGCAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AGCCTTGATT detected oligonucleotides of the present invention, referred to here as Genomic Address

TGTAATGTTT Messenger 6014 (GAM6014) oligonucleotides modulates expression of respective target genes

GCTAATTTAC whose function and utility is known in the art.

GTGGTACAAG GAM6014 is a novel bioinformatically detectable regulatory, non protein coding,

TGCTCCAGTA micro RNA (miRNA)-like oligonucleotide. The method by which GAM6014 was detected is

CGGCC described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM6014 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6014

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6014

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6014 precursor RNA is designated SEQ ID:142096, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142096 is located from position 21850242 to position 21850306 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM6014 precursor RNA folds onto itself, forming GAM6014 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6014 precursor RNA, designated SEQ ID NO: 142096, and

a schematic representation of a predicted secondary folding of GAM6014 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6014 folded precursor RNA yielding a GAM6014 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6014 RNA, hereby incorporated herein.

GAM6014 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6014 target RNA, herein designated GAM TARGET RNA. GAM6014 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6014 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6014 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6014 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6014 RNA, herein designated GAM RNA, to target binding sites on GAM6014 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6014 target RNA into GAM6014 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6014 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6014 target genes. The mRNA of each one of this plurality of GAM6014 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6014 RNA, herein designated GAM RNA, and which when bound by GAM6014 RNA causes inhibition of translation of the GAM6014 target mRNA into a corresponding GAM6014 target protein.

The mechanism of the translational inhibition exerted by GAM6014 RNA, herein designated GAM RNA, on one or more GAM6014 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6014 precursor RNA, herein designated GAM PRECURSOR

RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6014 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6014 RNA, herein designated GAM RNA, of GAM6014 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6014 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6014 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6014 RNA correlate with, and may be deduced from, the identity of the GAM6014 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6024 142097 GAAATGTGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATTAAAAA detected oligonucleotides of the present invention, referred to here as Genomic Address
GGGTAGTGAG Messenger 6024 (GAM6024) oligonucleotides modulates expression of respective target genes
GCTGGCATTT whose function and utility is known in the art.

ATAGAATCTG GAM6024 is a novel bioinformatically detectable regulatory, non protein coding,
GCTTTCTTGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM6024 was detected is

ATTGGGTGGA described with additional reference to Figs. 9-15.

AAGCTAGATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AAACCAGTTT encoded by the human genome.

CTCTCAGCCT GAM6024 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6024
TTTCTCTCCT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6024
CAGGTC precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6024 precursor RNA is designated SEQ ID:142097, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142097 is located from position 116757829 to position 116757944 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM6024 precursor RNA folds onto itself, forming GAM6024 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6024 precursor RNA, designated SEQ ID NO: 142097, and a schematic representation of a predicted secondary folding of GAM6024 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6024 folded precursor RNA yielding a GAM6024 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6024 RNA, hereby incorporated herein.

GAM6024 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6024 target RNA, herein designated GAM TARGET RNA. GAM6024 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6024 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6024 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6024 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6024 RNA, herein designated GAM RNA, to target binding sites on GAM6024 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6024 target RNA into GAM6024 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6024 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6024 target genes. The mRNA of each one of this plurality of GAM6024 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6024 RNA, herein designated GAM RNA, and which when bound by GAM6024 RNA causes inhibition of translation of the GAM6024 target mRNA into a corresponding GAM6024 target protein.

The mechanism of the translational inhibition exerted by GAM6024 RNA, herein

designated GAM RNA, on one or more GAM6024 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6024 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6024 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6024 RNA, herein designated GAM RNA, of GAM6024 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6024 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6024 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6024 RNA correlate with, and may be deduced from, the identity of the GAM6024 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6051 142098 ACTCTTGAGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TCCCTCCACT detected oligonucleotides of the present invention, referred to here as Genomic Address
TCTGAGGACG Messenger 6051 (GAM6051) oligonucleotides modulates expression of respective target genes
TTTCCTGACA whose function and utility is known in the art.

CATTCAACAG GAM6051 is a novel bioinformatically detectable regulatory, non protein coding,
CATCAGCGTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM6051 was detected is

CAATCAGGAG described with additional reference to Figs. 9-15.

GGAGCTCAAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGT encoded by the human genome.

GAM6051 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6051

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6051

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6051 precursor RNA is designated SEQ ID:142098, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142098 is located from position 62941952 to position 62942035 relative to chromosome

chr14 on the `-` strand (chr is an abbreviation for chromosome).

GAM6051 precursor RNA folds onto itself, forming GAM6051 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6051 precursor RNA, designated SEQ ID NO: 142098, and a schematic representation of a predicted secondary folding of GAM6051 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6051 folded precursor RNA yielding a GAM6051 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM6051 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6051 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM6051 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6051 target RNA, herein designated GAM TARGET RNA. GAM6051 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6051 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6051 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6051 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6051 RNA, herein designated GAM RNA, to target binding sites on GAM6051 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6051 target RNA into GAM6051 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6051 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6051 target genes. The mRNA of each one of this

plurality of GAM6051 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6051 RNA, herein designated GAM RNA, and which when bound by GAM6051 RNA causes inhibition of translation of the GAM6051 target mRNA into a corresponding GAM6051 target protein.

The mechanism of the translational inhibition exerted by GAM6051 RNA, herein designated GAM RNA, on one or more GAM6051 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6051 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6051 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6051 RNA, herein designated GAM RNA, of GAM6051 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6051 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6051 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6051 RNA correlate with, and may be deduced from, the identity of the GAM6051 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6055 142099 GTGGGTGGTG Fig. 8 further provides a conceptual description of another novel bioinformatically
CAGGGGTGGT detected oligonucleotides of the present invention, referred to here as Genomic Address
CTTAGGAGGG Messenger 6055 (GAM6055) oligonucleotides modulates expression of respective target genes
CTTTCCTGAA whose function and utility is known in the art.

GGAGTGGCCA GAM6055 is a novel bioinformatically detectable regulatory, non protein coding,
GGGTTCACCC micro RNA (miRNA)-like oligonucleotide. The method by which GAM6055 was detected is

ATCTTTCCAC described with additional reference to Figs. 9-15.

CCAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM6055 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6055

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6055

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6055 precursor RNA is designated SEQ ID:142099, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142099 is located from position 43546131 to position 43546204 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM6055 precursor RNA folds onto itself, forming GAM6055 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6055 precursor RNA, designated SEQ ID NO: 142099, and a schematic representation of a predicted secondary folding of GAM6055 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6055 folded precursor RNA yielding a GAM6055 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6055 RNA, hereby incorporated herein.

GAM6055 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6055 target RNA, herein designated GAM TARGET RNA. GAM6055 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6055 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6055 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6055 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6055 RNA, herein designated GAM RNA, to target binding sites on GAM6055 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6055 target RNA

into GAM6055 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6055 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6055 target genes. The mRNA of each one of this plurality of GAM6055 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6055 RNA, herein designated GAM RNA, and which when bound by GAM6055 RNA causes inhibition of translation of the GAM6055 target mRNA into a corresponding GAM6055 target protein.

The mechanism of the translational inhibition exerted by GAM6055 RNA, herein designated GAM RNA, on one or more GAM6055 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6055 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6055 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6055 RNA, herein designated GAM RNA, of GAM6055 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6055 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6055 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6055 RNA correlate with, and may be deduced from, the identity of the GAM6055 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6083 142100 CACCCCGTTC Fig. 8 further provides a conceptual description of another novel bioinformatically
ATGTAACACG detected oligonucleotides of the present invention, referred to here as Genomic Address
GGCCTGAGGT Messenger 6083 (GAM6083) oligonucleotides modulates expression of respective target genes
CAGCAGTAGA whose function and utility is known in the art.

GGACCAGTAT GAM6083 is a novel bioinformatically detectable regulatory, non protein coding,
TGGTTTTGGC micro RNA (miRNA)-like oligonucleotide. The method by which GAM6083 was detected is

CCCAGCCTCT described with additional reference to Figs. 9-15.

GCGTGGATGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATTG encoded by the human genome.

GAM6083 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6083 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6083 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6083 precursor RNA is designated SEQ ID:142100, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142100 is located from position 69517032 to position 69517115 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM6083 precursor RNA folds onto itself, forming GAM6083 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6083 precursor RNA, designated SEQ ID NO: 142100, and a schematic representation of a predicted secondary folding of GAM6083 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6083 folded precursor RNA yielding a GAM6083 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6083 RNA, hereby incorporated herein.

GAM6083 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6083 target RNA, herein designated GAM TARGET RNA. GAM6083 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6083 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6083 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6083 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6083 RNA, herein designated GAM RNA, to target binding sites on GAM6083 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6083 target RNA into GAM6083 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6083 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6083 target genes. The mRNA of each one of this plurality of GAM6083 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6083 RNA, herein designated GAM RNA, and which when bound by GAM6083 RNA causes inhibition of translation of the GAM6083 target mRNA into a corresponding GAM6083 target protein.

The mechanism of the translational inhibition exerted by GAM6083 RNA, herein designated GAM RNA, on one or more GAM6083 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6083 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6083 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6083 RNA, herein designated GAM RNA, of GAM6083 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6083 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6083 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6083 RNA correlate with, and may be deduced from, the identity of the GAM6083 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6102 142101 TGGCCATGCA Fig. 8 further provides a conceptual description of another novel bioinformatically
CAGTGGCTCG detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACTGTAAT Messenger 6102 (GAM6102) oligonucleotides modulates expression of respective target genes
CTCAGCACTT whose function and utility is known in the art.

TCGGAAGCCA GAM6102 is a novel bioinformatically detectable regulatory, non protein coding,
AGGCGGTCAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM6102 was detected is

ATCACCTGAG described with additional reference to Figs. 9-15.

GTCAGGAGTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CGAGACCAGT encoded by the human genome.

CTGGCCA GAM6102 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6102 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6102 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6102 precursor RNA is designated SEQ ID:142101, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142101 is located from position 43773501 to position 43773597 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM6102 precursor RNA folds onto itself, forming GAM6102 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6102 precursor RNA, designated SEQ ID NO: 142101, and a schematic representation of a predicted secondary folding of GAM6102 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6102 folded precursor RNA yielding a GAM6102 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6102 RNA, hereby incorporated herein.

GAM6102 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6102 target RNA, herein designated GAM TARGET RNA. GAM6102 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6102 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6102 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6102 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6102 RNA, herein designated GAM RNA, to target binding sites on GAM6102 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6102 target RNA into GAM6102 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6102 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6102 target genes. The mRNA of each one of this plurality of GAM6102 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6102 RNA, herein designated GAM RNA, and which when bound by GAM6102 RNA causes inhibition of translation of the GAM6102 target mRNA into a corresponding GAM6102 target protein.

The mechanism of the translational inhibition exerted by GAM6102 RNA, herein designated GAM RNA, on one or more GAM6102 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6102 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6102 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6102 RNA, herein designated GAM RNA, of GAM6102 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6102 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6102 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6102 RNA correlate with, and may be deduced from, the identity of the GAM6102 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6105 142102 GGTGCACCCT GTGGAATTTG GCAGAAAAGG Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 6105 (GAM6105) oligonucleotides modulates expression of respective target genes

CCCAATCGCC whose function and utility is known in the art.

CTTTAGAGGG TGAACTGAAG GAM6105 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM6105 was detected is

CCTGTTCCTG described with additional reference to Figs. 9-15.

CAATGTTCTA AGGAGTGCCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM6105 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6105 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6105 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6105 precursor RNA is designated SEQ ID:142102, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142102 is located from position 44470840 to position 44470929 relative to chromosome chr18 on the `-` strand (chr is an abbreviation for chromosome).

GAM6105 precursor RNA folds onto itself, forming GAM6105 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6105 precursor RNA, designated SEQ ID NO: 142102, and a schematic representation of a predicted secondary folding of GAM6105 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6105 folded precursor RNA yielding a GAM6105 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6105 RNA, hereby incorporated herein.

GAM6105 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6105 target RNA, herein designated GAM TARGET RNA. GAM6105 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6105 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6105 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6105 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6105 RNA, herein designated GAM RNA, to target binding sites on GAM6105 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6105 target RNA into GAM6105 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6105 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6105 target genes. The mRNA of each one of this plurality of GAM6105 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6105 RNA, herein designated GAM RNA, and which when bound by GAM6105 RNA causes inhibition of translation of the GAM6105 target mRNA into a corresponding GAM6105 target protein.

The mechanism of the translational inhibition exerted by GAM6105 RNA, herein designated GAM RNA, on one or more GAM6105 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6105 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6105 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6105 RNA, herein designated GAM RNA, of GAM6105 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6105 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6105 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6105 RNA correlate with, and may be deduced from, the identity of the GAM6105 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6113 142103 CCCAGCCCTG Fig. 8 further provides a conceptual description of another novel bioinformatically

ACCGTTCTGC detected oligonucleotides of the present invention, referred to here as Genomic Address

ATATGAACAT Messenger 6113 (GAM6113) oligonucleotides modulates expression of respective target genes

GGGCCTTGGT whose function and utility is known in the art.

TTCCCCATCT GAM6113 is a novel bioinformatically detectable regulatory, non protein coding,

GTATGAAGAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM6113 was detected is

GGGAGTAGGG described with additional reference to Figs. 9-15.

CTGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM6113 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6113

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6113

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6113 precursor RNA is designated SEQ ID:142103, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142103 is located from position 75001000 to position 75001074 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GAM6113 precursor RNA folds onto itself, forming GAM6113 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6113 precursor RNA, designated SEQ ID NO: 142103, and a schematic representation of a predicted secondary folding of GAM6113 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6113 folded precursor RNA yielding a GAM6113 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM6113 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6113 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM6113 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6113 target RNA, herein designated GAM TARGET RNA. GAM6113 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6113 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6113 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6113 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6113 RNA, herein designated GAM RNA, to target binding sites on GAM6113 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6113 target RNA into GAM6113 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6113 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6113 target genes. The mRNA of each one of this plurality of GAM6113 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6113 RNA, herein designated GAM RNA, and which when bound by GAM6113 RNA causes inhibition of translation of the GAM6113 target mRNA into a corresponding GAM6113 target protein.

The mechanism of the translational inhibition exerted by GAM6113 RNA, herein designated GAM RNA, on one or more GAM6113 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6113 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6113 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6113 RNA, herein designated GAM RNA, of GAM6113 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6113 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6113 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6113 RNA correlate with, and may be deduced from, the identity of the GAM6113 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6121 142104 CTGAGGCAGG Fig. 8 further provides a conceptual description of another novel bioinformatically
AGAAATTGCT detected oligonucleotides of the present invention, referred to here as Genomic Address
TGAACCCAGG Messenger 6121 (GAM6121) oligonucleotides modulates expression of respective target genes
AGGTAGAGGT whose function and utility is known in the art.

TGCAGTGAGT GAM6121 is a novel bioinformatically detectable regulatory, non protein coding,
CAAGATCATG micro RNA (miRNA)-like oligonucleotide. The method by which GAM6121 was detected is

CCATTGCACT described with additional reference to Figs. 9-15.

CCAACCTGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CGACAAGAGC encoded by the human genome.

AAAACTCTGT GAM6121 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6121
CTCAG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6121
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6121 precursor RNA is designated SEQ ID:142104, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142104 is located from position 182463 to position 182567 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM6121 precursor RNA folds onto itself, forming GAM6121 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6121 precursor RNA, designated SEQ ID NO: 142104, and a schematic representation of a predicted secondary folding of GAM6121 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6121 folded precursor RNA yielding a GAM6121 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the

nucleotide sequence of GAM6121 RNA, hereby incorporated herein.

GAM6121 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6121 target RNA, herein designated GAM TARGET RNA. GAM6121 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6121 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6121 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6121 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6121 RNA, herein designated GAM RNA, to target binding sites on GAM6121 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6121 target RNA into GAM6121 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6121 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6121 target genes. The mRNA of each one of this plurality of GAM6121 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6121 RNA, herein designated GAM RNA, and which when bound by GAM6121 RNA causes inhibition of translation of the GAM6121 target mRNA into a corresponding GAM6121 target protein.

The mechanism of the translational inhibition exerted by GAM6121 RNA, herein designated GAM RNA, on one or more GAM6121 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6121 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6121 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6121 RNA, herein designated GAM RNA, of GAM6121 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6121 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6121 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6121 RNA correlate with, and may be deduced from, the identity of the GAM6121 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6161 142105 TGGGCTGAGG Fig. 8 further provides a conceptual description of another novel bioinformatically
GAAAGCATGT detected oligonucleotides of the present invention, referred to here as Genomic Address
CCACACCAGG Messenger 6161 (GAM6161) oligonucleotides modulates expression of respective target genes
TGCCCAGACA whose function and utility is known in the art.

TCTGGTTGGC GAM6161 is a novel bioinformatically detectable regulatory, non protein coding,
TTTGGCTGAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM6161 was detected is

TTGTCCTGCA described with additional reference to Figs. 9-15.

GGCACCTGCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTGTCTGGAT encoded by the human genome.

TTGCACACTT GAM6161 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6161
TCCAAGTTGC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6161
CCA precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6161 precursor RNA is designated SEQ ID:142105, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142105 is located from position 28205840 to position 28205952 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM6161 precursor RNA folds onto itself, forming GAM6161 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6161 precursor RNA, designated SEQ ID NO: 142105, and a schematic representation of a predicted secondary folding of GAM6161 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6161 folded precursor RNA

yielding a GAM6161 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6161 RNA, hereby incorporated herein.

GAM6161 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6161 target RNA, herein designated GAM TARGET RNA. GAM6161 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6161 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6161 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6161 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6161 RNA, herein designated GAM RNA, to target binding sites on GAM6161 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6161 target RNA into GAM6161 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6161 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6161 target genes. The mRNA of each one of this plurality of GAM6161 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6161 RNA, herein designated GAM RNA, and which when bound by GAM6161 RNA causes inhibition of translation of the GAM6161 target mRNA into a corresponding GAM6161 target protein.

The mechanism of the translational inhibition exerted by GAM6161 RNA, herein designated GAM RNA, on one or more GAM6161 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6161 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6161 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6161 RNA, herein designated GAM RNA, of GAM6161 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6161 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6161 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6161 RNA correlate with, and may be deduced from, the identity of the GAM6161 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6172 142106 TCCCTGACCA Fig. 8 further provides a conceptual description of another novel bioinformatically

CACCTTTACT detected oligonucleotides of the present invention, referred to here as Genomic Address

CAGAAGTCTA Messenger 6172 (GAM6172) oligonucleotides modulates expression of respective target genes

AGGAACAGAC whose function and utility is known in the art.

TGTTTAACCT GAM6172 is a novel bioinformatically detectable regulatory, non protein coding,

GTTTCCAGTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM6172 was detected is

GTTTCAGGGA described with additional reference to Figs. 9-15.

CTTCTGTATT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGGTGTAGCA encoded by the human genome.

AGGA GAM6172 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6172

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6172

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6172 precursor RNA is designated SEQ ID:142106, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142106 is located from position 73791102 to position 73791195 relative to chromosome chr13 on the `-` strand (chr is an abbreviation for chromosome).

GAM6172 precursor RNA folds onto itself, forming GAM6172 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6172 precursor RNA, designated SEQ ID NO: 142106, and

a schematic representation of a predicted secondary folding of GAM6172 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6172 folded precursor RNA yielding a GAM6172 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6172 RNA, hereby incorporated herein.

GAM6172 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6172 target RNA, herein designated GAM TARGET RNA. GAM6172 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6172 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6172 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6172 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6172 RNA, herein designated GAM RNA, to target binding sites on GAM6172 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6172 target RNA into GAM6172 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6172 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6172 target genes. The mRNA of each one of this plurality of GAM6172 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6172 RNA, herein designated GAM RNA, and which when bound by GAM6172 RNA causes inhibition of translation of the GAM6172 target mRNA into a corresponding GAM6172 target protein.

The mechanism of the translational inhibition exerted by GAM6172 RNA, herein designated GAM RNA, on one or more GAM6172 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6172 precursor RNA, herein designated GAM PRECURSOR

RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6172 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6172 RNA, herein designated GAM RNA, of GAM6172 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6172 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6172 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6172 RNA correlate with, and may be deduced from, the identity of the GAM6172 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6195 142107 GTCACCCATA Fig. 8 further provides a conceptual description of another novel bioinformatically

TTAAAATGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAGGGGCCAG Messenger 6195 (GAM6195) oligonucleotides modulates expression of respective target genes

GCATGGTGGC whose function and utility is known in the art.

TTATGCCTGT GAM6195 is a novel bioinformatically detectable regulatory, non protein coding,

AATCCCAGCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM6195 was detected is

TTTTGGGAGG described with additional reference to Figs. 9-15.

C GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM6195 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6195

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6195

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6195 precursor RNA is designated SEQ ID:142107, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142107 is located from position 22753017 to position 22753087 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM6195 precursor RNA folds onto itself, forming GAM6195 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6195 precursor RNA, designated SEQ ID NO: 142107, and a schematic representation of a predicted secondary folding of GAM6195 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6195 folded precursor RNA yielding a GAM6195 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6195 RNA, hereby incorporated herein.

GAM6195 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6195 target RNA, herein designated GAM TARGET RNA. GAM6195 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6195 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6195 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6195 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6195 RNA, herein designated GAM RNA, to target binding sites on GAM6195 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6195 target RNA into GAM6195 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6195 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6195 target genes. The mRNA of each one of this plurality of GAM6195 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6195 RNA, herein designated GAM RNA, and which when bound by GAM6195 RNA causes inhibition of translation of the GAM6195 target mRNA into a corresponding GAM6195 target protein.

The mechanism of the translational inhibition exerted by GAM6195 RNA, herein

designated GAM RNA, on one or more GAM6195 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6195 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6195 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6195 RNA, herein designated GAM RNA, of GAM6195 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6195 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6195 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6195 RNA correlate with, and may be deduced from, the identity of the GAM6195 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6234 142108 TTCTGAACTT Fig. 8 further provides a conceptual description of another novel bioinformatically
GGGCCAGATC detected oligonucleotides of the present invention, referred to here as Genomic Address
TTAACCTGCT Messenger 6234 (GAM6234) oligonucleotides modulates expression of respective target genes
GGTAAAGCAC whose function and utility is known in the art.

TGGCTGAGGG GAM6234 is a novel bioinformatically detectable regulatory, non protein coding,
TTTAGACTTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM6234 was detected is

CAAGGAATTT described with additional reference to Figs. 9-15.

GAGGTTGTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCCCTGCCTT encoded by the human genome.

ATTGCAACCC GAM6234 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6234
AGTGTCTGGC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6234
TGCTGAGACC precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar
AGAG to the nucleotide sequence of GAM6234 precursor RNA is designated SEQ ID:142108, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ

ID:142108 is located from position 80342962 to position 80343085 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM6234 precursor RNA folds onto itself, forming GAM6234 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6234 precursor RNA, designated SEQ ID NO: 142108, and a schematic representation of a predicted secondary folding of GAM6234 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6234 folded precursor RNA yielding a GAM6234 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6234 RNA, hereby incorporated herein.

GAM6234 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6234 target RNA, herein designated GAM TARGET RNA. GAM6234 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6234 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6234 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6234 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6234 RNA, herein designated GAM RNA, to target binding sites on GAM6234 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6234 target RNA into GAM6234 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6234 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6234 target genes. The mRNA of each one of this

plurality of GAM6234 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6234 RNA, herein designated GAM RNA, and which when bound by GAM6234 RNA causes inhibition of translation of the GAM6234 target mRNA into a corresponding GAM6234 target protein.

The mechanism of the translational inhibition exerted by GAM6234 RNA, herein designated GAM RNA, on one or more GAM6234 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6234 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6234 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6234 RNA, herein designated GAM RNA, of GAM6234 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6234 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6234 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6234 RNA correlate with, and may be deduced from, the identity of the GAM6234 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6250 142109 TTTGCGCTAT Fig. 8 further provides a conceptual description of another novel bioinformatically
TAAAGGCAAG detected oligonucleotides of the present invention, referred to here as Genomic Address
CTGATATAAA Messenger 6250 (GAM6250) oligonucleotides modulates expression of respective target genes
TTAGAACTCT whose function and utility is known in the art.

TCTGAATGGG GAM6250 is a novel bioinformatically detectable regulatory, non protein coding,
CCTTCTATAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM6250 was detected is

TTAAATGGGC described with additional reference to Figs. 9-15.

TTTTTCTAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AAGTGTATAT encoded by the human genome.

TTGTAAACTT GAM6250 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6250

GTCTTGAATG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6250

GAAAAAA precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6250 precursor RNA is designated SEQ ID:142109, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142109 is located from position 36468581 to position 36468697 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM6250 precursor RNA folds onto itself, forming GAM6250 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6250 precursor RNA, designated SEQ ID NO: 142109, and a schematic representation of a predicted secondary folding of GAM6250 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6250 folded precursor RNA yielding a GAM6250 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6250 RNA, hereby incorporated herein.

GAM6250 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6250 target RNA, herein designated GAM TARGET RNA. GAM6250 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6250 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6250 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6250 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6250 RNA, herein designated GAM RNA, to target binding sites on GAM6250 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6250 target RNA

into GAM6250 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6250 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6250 target genes. The mRNA of each one of this plurality of GAM6250 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6250 RNA, herein designated GAM RNA, and which when bound by GAM6250 RNA causes inhibition of translation of the GAM6250 target mRNA into a corresponding GAM6250 target protein.

The mechanism of the translational inhibition exerted by GAM6250 RNA, herein designated GAM RNA, on one or more GAM6250 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6250 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6250 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6250 RNA, herein designated GAM RNA, of GAM6250 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6250 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6250 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6250 RNA correlate with, and may be deduced from, the identity of the GAM6250 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6265 142110 TTTTGAGATT Fig. 8 further provides a conceptual description of another novel bioinformatically

TTATTGAGTA detected oligonucleotides of the present invention, referred to here as Genomic Address

CTACTAATCT Messenger 6265 (GAM6265) oligonucleotides modulates expression of respective target genes

TGACATATTT whose function and utility is known in the art.

TGGTTGGCAC GAM6265 is a novel bioinformatically detectable regulatory, non protein coding,

CACATTCTTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM6265 was detected is

GTATAGTGGG described with additional reference to Figs. 9-15.

TTAGTGGTTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AATAGTTTGC encoded by the human genome.

AGACTTTGTG GAM6265 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6265
AAACAAAA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6265
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6265 precursor RNA is designated SEQ ID:142110, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142110 is located from position 78004551 to position 78004658 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM6265 precursor RNA folds onto itself, forming GAM6265 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6265 precursor RNA, designated SEQ ID NO: 142110, and a schematic representation of a predicted secondary folding of GAM6265 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6265 folded precursor RNA yielding a GAM6265 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6265 RNA, hereby incorporated herein.

GAM6265 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6265 target RNA, herein designated GAM TARGET RNA. GAM6265 target RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6265 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6265 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6265 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6265 RNA, herein designated GAM RNA, to target binding sites on GAM6265 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6265 target RNA into GAM6265 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6265 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6265 target genes. The mRNA of each one of this plurality of GAM6265 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6265 RNA, herein designated GAM RNA, and which when bound by GAM6265 RNA causes inhibition of translation of the GAM6265 target mRNA into a corresponding GAM6265 target protein.

The mechanism of the translational inhibition exerted by GAM6265 RNA, herein designated GAM RNA, on one or more GAM6265 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6265 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6265 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6265 RNA, herein designated GAM RNA, of GAM6265 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6265 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6265 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6265 RNA correlate with, and may be deduced from, the identity of the GAM6265 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6271 142111 GATTCAAAGC AAGATGGTAG CATTGGAGAG GATGAGATAT GGTCAGATGA GGATATATTT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 6271 (GAM6271) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM6271 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM6271 was detected is

TAAAAGTTGA described with additional reference to Figs. 9-15.

GCTAACAGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTTGCTGAGG encoded by the human genome.

AATC GAM6271 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6271 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6271 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6271 precursor RNA is designated SEQ ID:142111, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142111 is located from position 133099410 to position 133099503 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM6271 precursor RNA folds onto itself, forming GAM6271 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6271 precursor RNA, designated SEQ ID NO: 142111, and a schematic representation of a predicted secondary folding of GAM6271 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6271 folded precursor RNA yielding a GAM6271 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6271 RNA, hereby incorporated herein.

GAM6271 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6271 target RNA, herein designated GAM TARGET RNA. GAM6271 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6271 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6271 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6271 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6271 RNA, herein designated GAM RNA, to target binding sites on GAM6271 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6271 target RNA into GAM6271 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6271 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6271 target genes. The mRNA of each one of this plurality of GAM6271 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6271 RNA, herein designated GAM RNA, and which when bound by GAM6271 RNA causes inhibition of translation of the GAM6271 target mRNA into a corresponding GAM6271 target protein.

The mechanism of the translational inhibition exerted by GAM6271 RNA, herein designated GAM RNA, on one or more GAM6271 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6271 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6271 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6271 RNA, herein designated GAM RNA, of GAM6271 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6271 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6271 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6271 RNA correlate with, and may be deduced from, the identity of the GAM6271 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6296 142112 TCCCTTCAGA GCCCATGGGT TTCCCATTCC Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 6296 (GAM6296) oligonucleotides modulates expression of respective target genes

CTCCTGTCAG whose function and utility is known in the art.

CCCTGGCCAT GAM6296 is a novel bioinformatically detectable regulatory, non protein coding, GAAATCCTGG micro RNA (miRNA)-like oligonucleotide. The method by which GAM6296 was detected is

GGATCTGGAG described with additional reference to Figs. 9-15.

GGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM6296 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6296

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6296

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6296 precursor RNA is designated SEQ ID:142112, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142112 is located from position 40099114 to position 40099186 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM6296 precursor RNA folds onto itself, forming GAM6296 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6296 precursor RNA, designated SEQ ID NO: 142112, and a schematic representation of a predicted secondary folding of GAM6296 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6296 folded precursor RNA yielding a GAM6296 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM6296 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6296 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM6296 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6296 target RNA, herein designated GAM TARGET RNA. GAM6296 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6296 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM6296 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6296 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6296 RNA, herein designated GAM RNA, to target binding sites on GAM6296 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6296 target RNA into GAM6296 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6296 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6296 target genes. The mRNA of each one of this plurality of GAM6296 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6296 RNA, herein designated GAM RNA, and which when bound by GAM6296 RNA causes inhibition of translation of the GAM6296 target mRNA into a corresponding GAM6296 target protein.

The mechanism of the translational inhibition exerted by GAM6296 RNA, herein designated GAM RNA, on one or more GAM6296 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6296 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6296 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6296 RNA, herein designated GAM RNA, of GAM6296 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6296 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6296 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6296 RNA correlate with, and may be deduced from, the identity of the GAM6296 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6306 142113 TGTCCCTTCC AAGCTGTGTT AACTGTTCAA ACTCAGGCCT GTGTGACTCC ATTGGGGTGA GAGGTGAAAG CATAACATGG GTACAGAGGG GACA

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 6306 (GAM6306) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM6306 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM6306 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM6306 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6306 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6306 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6306 precursor RNA is designated SEQ ID:142113, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142113 is located from position 56453736 to position 56453829 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM6306 precursor RNA folds onto itself, forming GAM6306 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6306 precursor RNA, designated SEQ ID NO: 142113, and a schematic representation of a predicted secondary folding of GAM6306 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6306 folded precursor RNA yielding a GAM6306 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6306 RNA, hereby incorporated herein.

GAM6306 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6306 target RNA, herein designated GAM TARGET RNA. GAM6306 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6306 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6306 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6306 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6306 RNA, herein designated GAM RNA, to target binding sites on GAM6306 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6306 target RNA into GAM6306 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6306 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6306 target genes. The mRNA of each one of this plurality of GAM6306 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6306 RNA, herein designated GAM RNA, and which when bound by GAM6306 RNA causes inhibition of translation of the GAM6306 target mRNA into a corresponding GAM6306 target protein.

The mechanism of the translational inhibition exerted by GAM6306 RNA, herein designated GAM RNA, on one or more GAM6306 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6306 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6306 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6306 RNA, herein designated GAM RNA, of GAM6306 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6306 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6306 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6306 RNA correlate with, and may be deduced from, the identity of the GAM6306 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6307 142114 ACAATAATTG Fig. 8 further provides a conceptual description of another novel bioinformatically

AAATATTTTC detected oligonucleotides of the present invention, referred to here as Genomic Address

AAGCTGATTA Messenger 6307 (GAM6307) oligonucleotides modulates expression of respective target genes

CACCGCAGCC whose function and utility is known in the art.

CGAGGCTAGC GAM6307 is a novel bioinformatically detectable regulatory, non protein coding,

CTGGTTGCTA micro RNA (miRNA)-like oligonucleotide. The method by which GAM6307 was detected is

AGGGTGAGCT described with additional reference to Figs. 9-15.

CCGCGGTTGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TAGGGGGAGT encoded by the human genome.

AAATCATCTT GAM6307 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6307

GCATTATTTG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6307

ATTTTTGT precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6307 precursor RNA is designated SEQ ID:142114, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142114 is located from position 1018996 to position 1019113 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM6307 precursor RNA folds onto itself, forming GAM6307 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6307 precursor RNA, designated SEQ ID NO: 142114, and a schematic representation of a predicted secondary folding of GAM6307 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6307 folded precursor RNA yielding a GAM6307 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the

nucleotide sequence of GAM6307 RNA, hereby incorporated herein.

GAM6307 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6307 target RNA, herein designated GAM TARGET RNA. GAM6307 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6307 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6307 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6307 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6307 RNA, herein designated GAM RNA, to target binding sites on GAM6307 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6307 target RNA into GAM6307 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6307 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6307 target genes. The mRNA of each one of this plurality of GAM6307 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6307 RNA, herein designated GAM RNA, and which when bound by GAM6307 RNA causes inhibition of translation of the GAM6307 target mRNA into a corresponding GAM6307 target protein.

The mechanism of the translational inhibition exerted by GAM6307 RNA, herein designated GAM RNA, on one or more GAM6307 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6307 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6307 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6307 RNA, herein designated GAM RNA, of GAM6307 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6307 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6307 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6307 RNA correlate with, and may be deduced from, the identity of the GAM6307 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6329 142115 GTGCAGTACA Fig. 8 further provides a conceptual description of another novel bioinformatically
AAGACAGTTC detected oligonucleotides of the present invention, referred to here as Genomic Address
AGTGACAAGT Messenger 6329 (GAM6329) oligonucleotides modulates expression of respective target genes
TCCATCCATA whose function and utility is known in the art.

CCATGGAAGA GAM6329 is a novel bioinformatically detectable regulatory, non protein coding,
GGGTTAAACT micro RNA (miRNA)-like oligonucleotide. The method by which GAM6329 was detected is

TGTGGCTGTT described with additional reference to Figs. 9-15.

TTTGCCACAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAT encoded by the human genome.

GAM6329 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6329

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6329

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6329 precursor RNA is designated SEQ ID:142115, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142115 is located from position 26729102 to position 26729184 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM6329 precursor RNA folds onto itself, forming GAM6329 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6329 precursor RNA, designated SEQ ID NO: 142115, and a schematic representation of a predicted secondary folding of GAM6329 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6329 folded precursor RNA

yielding a GAM6329 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM6329 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6329 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM6329 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6329 target RNA, herein designated GAM TARGET RNA. GAM6329 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6329 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6329 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6329 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6329 RNA, herein designated GAM RNA, to target binding sites on GAM6329 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6329 target RNA into GAM6329 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6329 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6329 target genes. The mRNA of each one of this plurality of GAM6329 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6329 RNA, herein designated GAM RNA, and which when bound by GAM6329 RNA causes inhibition of translation of the GAM6329 target mRNA into a corresponding GAM6329 target protein.

The mechanism of the translational inhibition exerted by GAM6329 RNA, herein designated GAM RNA, on one or more GAM6329 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6329 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6329 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6329 RNA, herein designated GAM RNA, of GAM6329 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6329 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6329 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6329 RNA correlate with, and may be deduced from, the identity of the GAM6329 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6361 142116 GCAGCAGGCA Fig. 8 further provides a conceptual description of another novel bioinformatically

GGGCCAGGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

GGGCCGGGCC Messenger 6361 (GAM6361) oligonucleotides modulates expression of respective target genes

TGGGGCCTGG whose function and utility is known in the art.

TGTCCGACCG GAM6361 is a novel bioinformatically detectable regulatory, non protein coding,

CAGCCCAGCC micro RNA (miRNA)-like oligonucleotide. The method by which GAM6361 was detected is

CCCCTCATCG described with additional reference to Figs. 9-15.

CCTGACACTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGCCTCTGC encoded by the human genome.

GAM6361 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6361

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6361

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6361 precursor RNA is designated SEQ ID:142116, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142116 is located from position 77134484 to position 77134572 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM6361 precursor RNA folds onto itself, forming GAM6361 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6361 precursor RNA, designated SEQ ID NO: 142116, and a schematic representation of a predicted secondary folding of GAM6361 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6361 folded precursor RNA yielding a GAM6361 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6361 RNA, hereby incorporated herein.

GAM6361 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6361 target RNA, herein designated GAM TARGET RNA. GAM6361 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6361 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6361 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6361 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6361 RNA, herein designated GAM RNA, to target binding sites on GAM6361 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6361 target RNA into GAM6361 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6361 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6361 target genes. The mRNA of each one of this plurality of GAM6361 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6361 RNA, herein designated GAM RNA, and which when bound by GAM6361 RNA causes inhibition of translation of the GAM6361 target mRNA into a corresponding GAM6361 target protein.

The mechanism of the translational inhibition exerted by GAM6361 RNA, herein designated GAM RNA, on one or more GAM6361 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6361 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6361 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6361 RNA, herein designated GAM RNA, of GAM6361 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6361 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6361 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6361 RNA correlate with, and may be deduced from, the identity of the GAM6361 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6366 142117 AGAGTATACC Fig. 8 further provides a conceptual description of another novel bioinformatically
TGTGCCCGGT detected oligonucleotides of the present invention, referred to here as Genomic Address
TGCTGTAGCT Messenger 6366 (GAM6366) oligonucleotides modulates expression of respective target genes
CATGCCTGTA whose function and utility is known in the art.

ATCCCACCAC GAM6366 is a novel bioinformatically detectable regulatory, non protein coding,
TTTGGGAGGC micro RNA (miRNA)-like oligonucleotide. The method by which GAM6366 was detected is

CAAGGCGGGT described with additional reference to Figs. 9-15.

GGATCATTTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGGTTAGTAG encoded by the human genome.

TTTGAGACCA GAM6366 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6366
GCTTGGCCAA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6366
CATGGGGAAA precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar
CTCT to the nucleotide sequence of GAM6366 precursor RNA is designated SEQ ID:142117, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142117 is located from position 102138768 to position 102138891 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM6366 precursor RNA folds onto itself, forming GAM6366 folded precursor RNA,

herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6366 precursor RNA, designated SEQ ID NO: 142117, and a schematic representation of a predicted secondary folding of GAM6366 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6366 folded precursor RNA yielding a GAM6366 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6366 RNA, hereby incorporated herein.

GAM6366 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6366 target RNA, herein designated GAM TARGET RNA. GAM6366 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6366 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6366 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6366 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6366 RNA, herein designated GAM RNA, to target binding sites on GAM6366 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6366 target RNA into GAM6366 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6366 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6366 target genes. The mRNA of each one of this plurality of GAM6366 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6366 RNA, herein designated GAM RNA, and which when bound by GAM6366 RNA causes inhibition of translation of the GAM6366 target mRNA into a corresponding GAM6366 target protein.

The mechanism of the translational inhibition exerted by GAM6366 RNA, herein designated GAM RNA, on one or more GAM6366 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6366 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6366 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6366 RNA, herein designated GAM RNA, of GAM6366 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6366 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6366 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6366 RNA correlate with, and may be deduced from, the identity of the GAM6366 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6388 142118 CTTCTTGCAG Fig. 8 further provides a conceptual description of another novel bioinformatically

GCAGTGTTGT detected oligonucleotides of the present invention, referred to here as Genomic Address

TCCTGATTGC Messenger 6388 (GAM6388) oligonucleotides modulates expression of respective target genes

CCCAGTCTAG whose function and utility is known in the art.

TTTATCGCAA GAM6388 is a novel bioinformatically detectable regulatory, non protein coding,

GGGAATTTCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM6388 was detected is

TTGCGGGGCA described with additional reference to Figs. 9-15.

GTGAGCTCCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTTTGGCAGA encoded by the human genome.

AG GAM6388 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6388

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6388

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6388 precursor RNA is designated SEQ ID:142118, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142118 is located from position 9805117 to position 9805208 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM6388 precursor RNA folds onto itself, forming GAM6388 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6388 precursor RNA, designated SEQ ID NO: 142118, and a schematic representation of a predicted secondary folding of GAM6388 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6388 folded precursor RNA yielding a GAM6388 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6388 RNA, hereby incorporated herein.

GAM6388 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6388 target RNA, herein designated GAM TARGET RNA. GAM6388 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6388 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6388 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6388 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6388 RNA, herein designated GAM RNA, to target binding sites on GAM6388 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6388 target RNA into GAM6388 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6388 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM6388 target genes. The mRNA of each one of this plurality of GAM6388 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6388 RNA, herein designated GAM RNA, and which when bound by GAM6388 RNA causes inhibition of translation of the GAM6388 target mRNA into a corresponding GAM6388 target protein.

The mechanism of the translational inhibition exerted by GAM6388 RNA, herein designated GAM RNA, on one or more GAM6388 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6388 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6388 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6388 RNA, herein designated GAM RNA, of GAM6388 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6388 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6388 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6388 RNA correlate with, and may be deduced from, the identity of the GAM6388 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6414 142119 GTTTTGAAGG ATGCGGTGTG GAGCCAGAGG ATGTGTGGGA GGGGTTTCTC TAACACTGAC TTCTATTCCA TGAGCTTTTT CAAGGC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 6414 (GAM6414) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM6414 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM6414 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM6414 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6414

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6414 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6414 precursor RNA is designated SEQ ID:142119, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142119 is located from position 98886813 to position 98886898 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM6414 precursor RNA folds onto itself, forming GAM6414 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6414 precursor RNA, designated SEQ ID NO: 142119, and a schematic representation of a predicted secondary folding of GAM6414 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6414 folded precursor RNA yielding a GAM6414 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6414 RNA, hereby incorporated herein.

GAM6414 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6414 target RNA, herein designated GAM TARGET RNA. GAM6414 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6414 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6414 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6414 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6414 RNA, herein designated GAM RNA, to target binding sites on GAM6414 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6414 target RNA

into GAM6414 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6414 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6414 target genes. The mRNA of each one of this plurality of GAM6414 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6414 RNA, herein designated GAM RNA, and which when bound by GAM6414 RNA causes inhibition of translation of the GAM6414 target mRNA into a corresponding GAM6414 target protein.

The mechanism of the translational inhibition exerted by GAM6414 RNA, herein designated GAM RNA, on one or more GAM6414 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6414 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6414 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6414 RNA, herein designated GAM RNA, of GAM6414 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6414 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6414 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6414 RNA correlate with, and may be deduced from, the identity of the GAM6414 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6417 142120 GGAAATGTGG Fig. 8 further provides a conceptual description of another novel bioinformatically
AGAATTAAAA detected oligonucleotides of the present invention, referred to here as Genomic Address
AGGGTAGTGA Messenger 6417 (GAM6417) oligonucleotides modulates expression of respective target genes
GGCTGGCATT whose function and utility is known in the art.

TATAGAATCT GAM6417 is a novel bioinformatically detectable regulatory, non protein coding,
GGCTTTCTTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM6417 was detected is

TATTGGGTGG described with additional reference to Figs. 9-15.

AAAGCTAGAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAAACCAGTT encoded by the human genome.

TCTCTCAGCC GAM6417 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6417
TTTTCTCTCC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6417
TCAGGTCT precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6417 precursor RNA is designated SEQ ID:142120, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142120 is located from position 116757828 to position 116757945 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM6417 precursor RNA folds onto itself, forming GAM6417 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6417 precursor RNA, designated SEQ ID NO: 142120, and a schematic representation of a predicted secondary folding of GAM6417 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6417 folded precursor RNA yielding a GAM6417 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6417 RNA, hereby incorporated herein.

GAM6417 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6417 target RNA, herein designated GAM TARGET RNA. GAM6417 target RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6417 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6417 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6417 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6417 RNA, herein designated GAM RNA, to target binding sites on GAM6417 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6417 target RNA into GAM6417 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6417 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6417 target genes. The mRNA of each one of this plurality of GAM6417 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6417 RNA, herein designated GAM RNA, and which when bound by GAM6417 RNA causes inhibition of translation of the GAM6417 target mRNA into a corresponding GAM6417 target protein.

The mechanism of the translational inhibition exerted by GAM6417 RNA, herein designated GAM RNA, on one or more GAM6417 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6417 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6417 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6417 RNA, herein designated GAM RNA, of GAM6417 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6417 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6417 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6417 RNA correlate with, and may be deduced from, the identity of the GAM6417 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6431 142121 GGCGTCACTG CCCTGATGGG CGGTTGGGAA GGCAAAACCT GCCCTGAAAA GCCTTTGGGT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 6431 (GAM6431) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM6431 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM6431 was detected is

AGTGATTCTA described with additional reference to Figs. 9-15.

GCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM6431 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6431

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6431

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6431 precursor RNA is designated SEQ ID:142121, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142121 is located from position 12904884 to position 12904956 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM6431 precursor RNA folds onto itself, forming GAM6431 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6431 precursor RNA, designated SEQ ID NO: 142121, and a schematic representation of a predicted secondary folding of GAM6431 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6431 folded precursor RNA yielding a GAM6431 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6431 RNA, hereby incorporated herein.

GAM6431 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6431 target RNA, herein designated GAM TARGET RNA. GAM6431 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6431 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6431 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6431 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6431 RNA, herein designated GAM RNA, to target binding sites on GAM6431 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6431 target RNA into GAM6431 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6431 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6431 target genes. The mRNA of each one of this plurality of GAM6431 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6431 RNA, herein designated GAM RNA, and which when bound by GAM6431 RNA causes inhibition of translation of the GAM6431 target mRNA into a corresponding GAM6431 target protein.

The mechanism of the translational inhibition exerted by GAM6431 RNA, herein designated GAM RNA, on one or more GAM6431 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6431 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6431 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6431 RNA, herein designated GAM RNA, of GAM6431 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6431 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6431 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6431 RNA correlate with, and may be deduced from, the identity of the GAM6431 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6440 142122 TCCCCTAGGC CAGATTATCT TATCAGCTAC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 6440 (GAM6440) oligonucleotides modulates expression of respective target genes

TGACCCAGTT whose function and utility is known in the art.

AGCTTTCCTA GAM6440 is a novel bioinformatically detectable regulatory, non protein coding,
CTTCACAACA micro RNA (miRNA)-like oligonucleotide. The method by which GAM6440 was detected is

GGTTTCTAAT described with additional reference to Figs. 9-15.

GCTTTATGTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGTGTGAGAG encoded by the human genome.

AAATGGCAAG GAM6440 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6440
TTGGGA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6440
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6440 precursor RNA is designated SEQ ID:142122, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142122 is located from position 104082529 to position 104082634 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM6440 precursor RNA folds onto itself, forming GAM6440 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6440 precursor RNA, designated SEQ ID NO: 142122, and a schematic representation of a predicted secondary folding of GAM6440 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6440 folded precursor RNA yielding a GAM6440 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6440 RNA, hereby incorporated herein.

GAM6440 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6440 target RNA, herein designated GAM TARGET RNA. GAM6440 target RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6440 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6440 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6440 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6440 RNA, herein designated GAM RNA, to target binding sites on GAM6440 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6440 target RNA into GAM6440 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6440 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6440 target genes. The mRNA of each one of this plurality of GAM6440 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6440 RNA, herein designated GAM RNA, and which when bound by GAM6440 RNA causes inhibition of translation of the GAM6440 target mRNA into a corresponding GAM6440 target protein.

The mechanism of the translational inhibition exerted by GAM6440 RNA, herein designated GAM RNA, on one or more GAM6440 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6440 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6440 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6440 RNA, herein designated GAM RNA, of GAM6440 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6440 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6440 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6440 RNA correlate with, and may be deduced from, the identity of the GAM6440 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6459 142123 AAGCTGGGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

CACTGGCTTC detected oligonucleotides of the present invention, referred to here as Genomic Address

TGCTCTTGCT Messenger 6459 (GAM6459) oligonucleotides modulates expression of respective target genes

CTTTCTTCTG whose function and utility is known in the art.

GAAACATTAT GAM6459 is a novel bioinformatically detectable regulatory, non protein coding,

TCTGTTCCTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM6459 was detected is

TGGACATGGG described with additional reference to Figs. 9-15.

CAAGGGTCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTCCCTAACT encoded by the human genome.

T GAM6459 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6459 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6459 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6459 precursor RNA is designated SEQ ID:142123, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142123 is located from position 30850314 to position 30850404 relative to chromosome chr6 on the `+` strand (chr is an abbreviation for chromosome).

GAM6459 precursor RNA folds onto itself, forming GAM6459 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6459 precursor RNA, designated SEQ ID NO: 142123, and a schematic representation of a predicted secondary folding of GAM6459 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6459 folded precursor RNA yielding a GAM6459 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM6459 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6459 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM6459 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6459 target RNA, herein designated GAM TARGET RNA. GAM6459 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6459 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6459 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6459 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6459 RNA, herein designated GAM RNA, to target binding sites on GAM6459 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6459 target RNA into GAM6459 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6459 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6459 target genes. The mRNA of each one of this plurality of GAM6459 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6459 RNA, herein designated GAM RNA, and which when bound by GAM6459 RNA causes inhibition of translation of the GAM6459 target mRNA into a corresponding GAM6459 target protein.

The mechanism of the translational inhibition exerted by GAM6459 RNA, herein designated GAM RNA, on one or more GAM6459 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6459 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6459 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6459 RNA, herein designated GAM RNA, of GAM6459 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6459 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6459 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6459 RNA correlate with, and may be deduced from, the identity of the GAM6459 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6466 142124 AGGGCAAGAT Fig. 8 further provides a conceptual description of another novel bioinformatically
CCTCGCTCCA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCGTGGCCC Messenger 6466 (GAM6466) oligonucleotides modulates expression of respective target genes
GTGTTCTCTC whose function and utility is known in the art.

CTTTTGTCCC GAM6466 is a novel bioinformatically detectable regulatory, non protein coding,
CATAGTGTGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM6466 was detected is

CTCCGCCAGG described with additional reference to Figs. 9-15.

AACTTGGAAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGCTGAAGAC encoded by the human genome.

TGTGAATGAG GAM6466 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6466
AGTCATGGGT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6466
CTGTGGAACG precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar
CTCATCCCT to the nucleotide sequence of GAM6466 precursor RNA is designated SEQ ID:142124, and is
provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142124 is located from position 78873540 to position 78873668 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM6466 precursor RNA folds onto itself, forming GAM6466 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6466 precursor RNA, designated SEQ ID NO: 142124, and a schematic representation of a predicted secondary folding of GAM6466 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6466 folded precursor RNA yielding a GAM6466 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an

enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6466 RNA, hereby incorporated herein.

GAM6466 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6466 target RNA, herein designated GAM TARGET RNA. GAM6466 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6466 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6466 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6466 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6466 RNA, herein designated GAM RNA, to target binding sites on GAM6466 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6466 target RNA into GAM6466 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6466 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6466 target genes. The mRNA of each one of this plurality of GAM6466 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6466 RNA, herein designated GAM RNA, and which when bound by GAM6466 RNA causes inhibition of translation of the GAM6466 target mRNA into a corresponding GAM6466 target protein.

The mechanism of the translational inhibition exerted by GAM6466 RNA, herein designated GAM RNA, on one or more GAM6466 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6466 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6466 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6466 RNA, herein designated GAM RNA, of GAM6466 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6466 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6466 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6466 RNA correlate with, and may be deduced from, the identity of the GAM6466 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6467 142125 CTCTGTGATG Fig. 8 further provides a conceptual description of another novel bioinformatically
CTTGGGGACC detected oligonucleotides of the present invention, referred to here as Genomic Address
GGCTCCTCGG Messenger 6467 (GAM6467) oligonucleotides modulates expression of respective target genes
TCACACCCCA whose function and utility is known in the art.

GTCCTGCTCT GAM6467 is a novel bioinformatically detectable regulatory, non protein coding,
GAAGGTTGCC micro RNA (miRNA)-like oligonucleotide. The method by which GAM6467 was detected is

GTTTTCCAAA described with additional reference to Figs. 9-15.

CAGAAGGATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTAGCTAGAG encoded by the human genome.

GGGAGATAGC GAM6467 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6467
AAGATTCTGG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6467
AGTCTGGAAA precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar
GCCTTCACTT to the nucleotide sequence of GAM6467 precursor RNA is designated SEQ ID:142125, and is
G provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142125 is located from position 23774919 to position 23775049 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM6467 precursor RNA folds onto itself, forming GAM6467 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6467 precursor RNA, designated SEQ ID NO: 142125, and a schematic representation of a predicted secondary folding of GAM6467 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6467 folded precursor RNA yielding a GAM6467 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6467 RNA, hereby incorporated herein.

GAM6467 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6467 target RNA, herein designated GAM TARGET RNA. GAM6467 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6467 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6467 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6467 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6467 RNA, herein designated GAM RNA, to target binding sites on GAM6467 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6467 target RNA into GAM6467 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6467 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6467 target genes. The mRNA of each one of this plurality of GAM6467 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6467 RNA, herein designated GAM RNA, and which when bound by GAM6467 RNA causes inhibition of translation of the GAM6467 target mRNA into a corresponding GAM6467 target protein.

The mechanism of the translational inhibition exerted by GAM6467 RNA, herein designated GAM RNA, on one or more GAM6467 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6467 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6467 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6467 RNA, herein designated GAM RNA, of GAM6467 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6467 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6467 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6467 RNA correlate with, and may be deduced from, the identity of the GAM6467 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6506 142126 GTAGTCCCAG Fig. 8 further provides a conceptual description of another novel bioinformatically

CTATTCAGGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GCTTGAGGTG Messenger 6506 (GAM6506) oligonucleotides modulates expression of respective target genes

GGAGGATCAC whose function and utility is known in the art.

TTCGGCCCAG GAM6506 is a novel bioinformatically detectable regulatory, non protein coding,

GAGTCTGAGG micro RNA (miRNA)-like oligonucleotide. The method by which GAM6506 was detected is

CTGGAGTGAG described with additional reference to Figs. 9-15.

CTAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM6506 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6506

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6506

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6506 precursor RNA is designated SEQ ID:142126, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142126 is located from position 29270291 to position 29270364 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM6506 precursor RNA folds onto itself, forming GAM6506 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6506 precursor RNA, designated SEQ ID NO: 142126, and a schematic representation of a predicted secondary folding of GAM6506 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6506 folded precursor RNA yielding a GAM6506 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM6506 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6506 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM6506 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6506 target RNA, herein designated GAM TARGET RNA. GAM6506 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6506 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6506 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6506 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6506 RNA, herein designated GAM RNA, to target binding sites on GAM6506 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6506 target RNA into GAM6506 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6506 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6506 target genes. The mRNA of each one of this plurality of GAM6506 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6506 RNA, herein designated GAM RNA, and which when bound by GAM6506 RNA causes inhibition of translation of the GAM6506 target mRNA into a corresponding GAM6506 target protein.

The mechanism of the translational inhibition exerted by GAM6506 RNA, herein designated GAM RNA, on one or more GAM6506 target genes, herein collectively designated

GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6506 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6506 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6506 RNA, herein designated GAM RNA, of GAM6506 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6506 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6506 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6506 RNA correlate with, and may be deduced from, the identity of the GAM6506 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6509 142127 CCTAGATGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

ATCTGCTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

GGCAAGATAT Messenger 6509 (GAM6509) oligonucleotides modulates expression of respective target genes

TCCCGGCCTC whose function and utility is known in the art.

AGAAGCTGAG GAM6509 is a novel bioinformatically detectable regulatory, non protein coding,

GGGAGAACCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM6509 was detected is

TCTGTTCTTC described with additional reference to Figs. 9-15.

CCCACCTTCG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCTTGCATTC encoded by the human genome.

CTCCTTCAGC GAM6509 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6509

ATCTTCTTAA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6509

GG precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6509 precursor RNA is designated SEQ ID:142127, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142127 is located from position 16592351 to position 16592462 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GAM6509 precursor RNA folds onto itself, forming GAM6509 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6509 precursor RNA, designated SEQ ID NO: 142127, and a schematic representation of a predicted secondary folding of GAM6509 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6509 folded precursor RNA yielding a GAM6509 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM6509 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6509 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM6509 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6509 target RNA, herein designated GAM TARGET RNA. GAM6509 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6509 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6509 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6509 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6509 RNA, herein designated GAM RNA, to target binding sites on GAM6509 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6509 target RNA into GAM6509 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6509 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6509 target genes. The mRNA of each one of this plurality of GAM6509 target genes comprises one or more target binding sites, each having

a nucleotide sequence which is at least partly complementary to GAM6509 RNA, herein designated GAM RNA, and which when bound by GAM6509 RNA causes inhibition of translation of the GAM6509 target mRNA into a corresponding GAM6509 target protein.

The mechanism of the translational inhibition exerted by GAM6509 RNA, herein designated GAM RNA, on one or more GAM6509 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6509 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6509 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6509 RNA, herein designated GAM RNA, of GAM6509 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6509 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6509 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6509 RNA correlate with, and may be deduced from, the identity of the GAM6509 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6531 142128 TCTCCCAGGC Fig. 8 further provides a conceptual description of another novel bioinformatically
AATATTCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GATAGGCTGC Messenger 6531 (GAM6531) oligonucleotides modulates expression of respective target genes
CAGTTGGACT whose function and utility is known in the art.

AAGGAAGCCA GAM6531 is a novel bioinformatically detectable regulatory, non protein coding,
CTCCTGCGGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM6531 was detected is

ACCCTGGGAG described with additional reference to Figs. 9-15.

A GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM6531 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6531

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6531

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6531 precursor RNA is designated SEQ ID:142128, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142128 is located from position 54026269 to position 54026339 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM6531 precursor RNA folds onto itself, forming GAM6531 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6531 precursor RNA, designated SEQ ID NO: 142128, and a schematic representation of a predicted secondary folding of GAM6531 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6531 folded precursor RNA yielding a GAM6531 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6531 RNA, hereby incorporated herein.

GAM6531 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6531 target RNA, herein designated GAM TARGET RNA. GAM6531 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6531 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6531 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6531 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6531 RNA, herein designated GAM RNA, to target binding sites on GAM6531 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6531 target RNA into GAM6531 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6531 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6531 target genes. The mRNA of each one of this plurality of GAM6531 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6531 RNA, herein designated GAM RNA, and which when bound by GAM6531 RNA causes inhibition of translation of the GAM6531 target mRNA into a corresponding GAM6531 target protein.

The mechanism of the translational inhibition exerted by GAM6531 RNA, herein designated GAM RNA, on one or more GAM6531 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6531 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6531 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6531 RNA, herein designated GAM RNA, of GAM6531 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6531 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6531 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6531 RNA correlate with, and may be deduced from, the identity of the GAM6531 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6541 142129 CCCAAGGTTA Fig. 8 further provides a conceptual description of another novel bioinformatically

CTTGGTAAGT detected oligonucleotides of the present invention, referred to here as Genomic Address

AAAGAGAGAA Messenger 6541 (GAM6541) oligonucleotides modulates expression of respective target genes

GCCAGAAGCC whose function and utility is known in the art.

TGGGGCCTCC GAM6541 is a novel bioinformatically detectable regulatory, non protein coding,

TGACGGCTCC micro RNA (miRNA)-like oligonucleotide. The method by which GAM6541 was detected is

TGCTTCTCTT described with additional reference to Figs. 9-15.

TTTACTAAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCTTCTGCCA encoded by the human genome.

TGGG GAM6541 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6541 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6541 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6541 precursor RNA is designated SEQ ID:142129, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142129 is located from position 99881835 to position 99881928 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM6541 precursor RNA folds onto itself, forming GAM6541 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6541 precursor RNA, designated SEQ ID NO: 142129, and a schematic representation of a predicted secondary folding of GAM6541 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6541 folded precursor RNA yielding a GAM6541 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6541 RNA, hereby incorporated herein.

GAM6541 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6541 target RNA, herein designated GAM TARGET RNA. GAM6541 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6541 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6541 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6541 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6541 RNA, herein designated GAM RNA, to target binding sites on GAM6541 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6541 target RNA into GAM6541 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6541 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6541 target genes. The mRNA of each one of this plurality of GAM6541 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6541 RNA, herein designated GAM RNA, and which when bound by GAM6541 RNA causes inhibition of translation of the GAM6541 target mRNA into a corresponding GAM6541 target protein.

The mechanism of the translational inhibition exerted by GAM6541 RNA, herein designated GAM RNA, on one or more GAM6541 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6541 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6541 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6541 RNA, herein designated GAM RNA, of GAM6541 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6541 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6541 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6541 RNA correlate with, and may be deduced from, the identity of the GAM6541 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6564 142130 GGCAAGATCC TCGCTCCAAC CGTGGCCCGT GTTCTCTCCT TTTGTCCCCA TAGTGTGACT Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 6564 (GAM6564) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM6564 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM6564 was detected is

CCGCCAGGAA described with additional reference to Figs. 9-15.

CTTGGAATGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTGAAGACTG encoded by the human genome.

TGAATGAGAG GAM6564 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6564

TCATGGGTCT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6564

GTGGAACGCT precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

CATCCCTGAC to the nucleotide sequence of GAM6564 precursor RNA is designated SEQ ID:142130, and is

C provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142130 is located from position 78873542 to position 78873672 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM6564 precursor RNA folds onto itself, forming GAM6564 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6564 precursor RNA, designated SEQ ID NO: 142130, and a schematic representation of a predicted secondary folding of GAM6564 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6564 folded precursor RNA yielding a GAM6564 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6564 RNA, hereby incorporated herein.

GAM6564 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6564 target RNA, herein designated GAM TARGET RNA. GAM6564 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6564 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6564 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6564 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows

three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6564 RNA, herein designated GAM RNA, to target binding sites on GAM6564 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6564 target RNA into GAM6564 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6564 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6564 target genes. The mRNA of each one of this plurality of GAM6564 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6564 RNA, herein designated GAM RNA, and which when bound by GAM6564 RNA causes inhibition of translation of the GAM6564 target mRNA into a corresponding GAM6564 target protein.

The mechanism of the translational inhibition exerted by GAM6564 RNA, herein designated GAM RNA, on one or more GAM6564 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6564 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6564 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6564 RNA, herein designated GAM RNA, of GAM6564 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6564 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6564 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6564 RNA correlate with, and may be deduced from, the identity of the GAM6564 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6567 142131 GCAAAGCAAG TGGCTTGGAG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address

AGATAGTGAT Messenger 6567 (GAM6567) oligonucleotides modulates expression of respective target genes

TTAGCTCAAG whose function and utility is known in the art.

AGGGAGTGAG GAM6567 is a novel bioinformatically detectable regulatory, non protein coding, ATGTGACTGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM6567 was detected is

TGCCACATGT described with additional reference to Figs. 9-15.

TAAATGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM6567 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6567

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6567

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6567 precursor RNA is designated SEQ ID:142131, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142131 is located from position 88200970 to position 88201046 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM6567 precursor RNA folds onto itself, forming GAM6567 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6567 precursor RNA, designated SEQ ID NO: 142131, and a schematic representation of a predicted secondary folding of GAM6567 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6567 folded precursor RNA yielding a GAM6567 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6567 RNA, hereby incorporated herein.

GAM6567 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6567 target RNA, herein designated GAM TARGET RNA. GAM6567 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6567 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6567 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6567 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6567 RNA, herein designated GAM RNA, to target binding sites on GAM6567 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6567 target RNA into GAM6567 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6567 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6567 target genes. The mRNA of each one of this plurality of GAM6567 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6567 RNA, herein designated GAM RNA, and which when bound by GAM6567 RNA causes inhibition of translation of the GAM6567 target mRNA into a corresponding GAM6567 target protein.

The mechanism of the translational inhibition exerted by GAM6567 RNA, herein designated GAM RNA, on one or more GAM6567 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6567 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6567 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6567 RNA, herein designated GAM RNA, of GAM6567 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6567 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6567 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6567 RNA correlate with, and may be deduced from, the identity of the GAM6567 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6618 142132 TAGTCTCATC Fig. 8 further provides a conceptual description of another novel bioinformatically

CAGGTATGAC detected oligonucleotides of the present invention, referred to here as Genomic Address

ATGTGCCACT Messenger 6618 (GAM6618) oligonucleotides modulates expression of respective target genes

GTGTCTGAAA whose function and utility is known in the art.

TTCCTGAGCA GAM6618 is a novel bioinformatically detectable regulatory, non protein coding,

CCGAGGGCCG micro RNA (miRNA)-like oligonucleotide. The method by which GAM6618 was detected is

CTTCAGGCAC described with additional reference to Figs. 9-15.

CAGGCACTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCCAACCTGA encoded by the human genome.

GAGCTG GAM6618 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6618 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6618 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6618 precursor RNA is designated SEQ ID:142132, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142132 is located from position 140693627 to position 140693722 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM6618 precursor RNA folds onto itself, forming GAM6618 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6618 precursor RNA, designated SEQ ID NO: 142132, and a schematic representation of a predicted secondary folding of GAM6618 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6618 folded precursor RNA yielding a GAM6618 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6618 RNA, hereby incorporated herein.

GAM6618 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6618 target RNA, herein designated GAM TARGET RNA. GAM6618 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6618 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6618 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6618 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6618 RNA, herein designated GAM RNA, to target binding sites on GAM6618 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6618 target RNA into GAM6618 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6618 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6618 target genes. The mRNA of each one of this plurality of GAM6618 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6618 RNA, herein designated GAM RNA, and which when bound by GAM6618 RNA causes inhibition of translation of the GAM6618 target mRNA into a corresponding GAM6618 target protein.

The mechanism of the translational inhibition exerted by GAM6618 RNA, herein designated GAM RNA, on one or more GAM6618 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6618 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6618 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6618 RNA, herein designated GAM RNA, of GAM6618 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6618 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6618 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6618 RNA correlate with, and may be deduced from, the identity of the GAM6618 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6638 142133 CTGCCTAATG Fig. 8 further provides a conceptual description of another novel bioinformatically
ATGGTGTATG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAAGCTGTAG Messenger 6638 (GAM6638) oligonucleotides modulates expression of respective target genes
CATTTCTGGC whose function and utility is known in the art.

ACCTGCCAAC GAM6638 is a novel bioinformatically detectable regulatory, non protein coding,
TTGTCAGAGC micro RNA (miRNA)-like oligonucleotide. The method by which GAM6638 was detected is

TGCCTTTCCC described with additional reference to Figs. 9-15.

TTCCTGGCAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTTGTCTATG encoded by the human genome.

TGGCAG GAM6638 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6638
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6638
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6638 precursor RNA is designated SEQ ID:142133, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142133 is located from position 51855487 to position 51855582 relative to chromosome chr3 on the `-` strand (chr is an abbreviation for chromosome).

GAM6638 precursor RNA folds onto itself, forming GAM6638 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6638 precursor RNA, designated SEQ ID NO: 142133, and a schematic representation of a predicted secondary folding of GAM6638 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6638 folded precursor RNA yielding a GAM6638 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM6638 RNA: a nucleotide sequence that is highly

likely to be identical or highly similar to the nucleotide sequence of GAM6638 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM6638 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6638 target RNA, herein designated GAM TARGET RNA. GAM6638 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6638 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6638 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6638 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6638 RNA, herein designated GAM RNA, to target binding sites on GAM6638 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6638 target RNA into GAM6638 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6638 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6638 target genes. The mRNA of each one of this plurality of GAM6638 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6638 RNA, herein designated GAM RNA, and which when bound by GAM6638 RNA causes inhibition of translation of the GAM6638 target mRNA into a corresponding GAM6638 target protein.

The mechanism of the translational inhibition exerted by GAM6638 RNA, herein designated GAM RNA, on one or more GAM6638 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6638 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6638 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6638 RNA, herein designated GAM RNA, of GAM6638 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6638 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6638 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6638 RNA correlate with, and may be deduced from, the identity of the GAM6638 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6674 142134 AGCAGAGGCT Fig. 8 further provides a conceptual description of another novel bioinformatically
GGGGAATGGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GGTTCTGCTC Messenger 6674 (GAM6674) oligonucleotides modulates expression of respective target genes
TCACTGAATG whose function and utility is known in the art.

GTGGGGAACC GAM6674 is a novel bioinformatically detectable regulatory, non protein coding,
TTCAACTGCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM6674 was detected is

TAGCCTGTGC described with additional reference to Figs. 9-15.

T GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM6674 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6674

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6674
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6674 precursor RNA is designated SEQ ID:142134, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142134 is located from position 4506790 to position 4506860 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GAM6674 precursor RNA folds onto itself, forming GAM6674 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6674 precursor RNA, designated SEQ ID NO: 142134, and a schematic representation of a predicted secondary folding of GAM6674 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6674 folded precursor RNA yielding a GAM6674 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6674 RNA, hereby incorporated herein.

GAM6674 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6674 target RNA, herein designated GAM TARGET RNA. GAM6674 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6674 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6674 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6674 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6674 RNA, herein designated GAM RNA, to target binding sites on GAM6674 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6674 target RNA into GAM6674 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6674 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6674 target genes. The mRNA of each one of this plurality of GAM6674 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6674 RNA, herein designated GAM RNA, and which when bound by GAM6674 RNA causes inhibition of translation of the GAM6674 target mRNA into a corresponding GAM6674 target protein.

The mechanism of the translational inhibition exerted by GAM6674 RNA, herein designated GAM RNA, on one or more GAM6674 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6674 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6674 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6674 RNA, herein designated GAM RNA, of GAM6674 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6674 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6674 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6674 RNA correlate with, and may be deduced from, the identity of the GAM6674 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6700 142135 AAGAGACTTT Fig. 8 further provides a conceptual description of another novel bioinformatically

GTAGATGTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

TTAAATTAAG Messenger 6700 (GAM6700) oligonucleotides modulates expression of respective target genes

GCTCTTGAGA whose function and utility is known in the art.

TTGGGAGATT GAM6700 is a novel bioinformatically detectable regulatory, non protein coding,

ATCCTGGATT micro RNA (miRNA)-like oligonucleotide. The method by which GAM6700 was detected is

ATCAGAGTAG described with additional reference to Figs. 9-15.

GCTTGATGTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATCACAAGAG encoded by the human genome.

TCCTT GAM6700 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6700

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6700

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6700 precursor RNA is designated SEQ ID:142135, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142135 is located from position 156731865 to position 156731959 relative to chromosome chr1 on the `+` strand (chr is an abbreviation for chromosome).

GAM6700 precursor RNA folds onto itself, forming GAM6700 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6700 precursor RNA, designated SEQ ID NO: 142135, and a schematic representation of a predicted secondary folding of GAM6700 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6700 folded precursor RNA yielding a GAM6700 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM6700 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6700 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM6700 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6700 target RNA, herein designated GAM TARGET RNA. GAM6700 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6700 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6700 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6700 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6700 RNA, herein designated GAM RNA, to target binding sites on GAM6700 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6700 target RNA into GAM6700 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6700 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6700 target genes. The mRNA of each one of this plurality of GAM6700 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6700 RNA, herein designated GAM RNA, and which when bound by GAM6700 RNA causes inhibition of translation of the GAM6700 target mRNA into a corresponding GAM6700 target protein.

The mechanism of the translational inhibition exerted by GAM6700 RNA, herein designated GAM RNA, on one or more GAM6700 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6700 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6700 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6700 RNA, herein designated GAM RNA, of GAM6700 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6700 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6700 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6700 RNA correlate with, and may be deduced from, the identity of the GAM6700 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6773 142136 GTCCACTGAT Fig. 8 further provides a conceptual description of another novel bioinformatically

ATTCACTAGC detected oligonucleotides of the present invention, referred to here as Genomic Address

CTGTTTGTCC Messenger 6773 (GAM6773) oligonucleotides modulates expression of respective target genes

TCACCCCTGA whose function and utility is known in the art.

AGCAGATAAA GAM6773 is a novel bioinformatically detectable regulatory, non protein coding,

CACATGTAGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM6773 was detected is

TGGAGGAAAA described with additional reference to Figs. 9-15.

GTGACAGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGTGGGTTCA encoded by the human genome.

TCAGTGGGC GAM6773 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6773

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6773

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6773 precursor RNA is designated SEQ ID:142136, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142136 is located from position 203719518 to position 203719616 relative to chromosome chr1 on the `+` strand (chr is an abbreviation for chromosome).

GAM6773 precursor RNA folds onto itself, forming GAM6773 folded precursor RNA,

herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6773 precursor RNA, designated SEQ ID NO: 142136, and a schematic representation of a predicted secondary folding of GAM6773 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6773 folded precursor RNA yielding a GAM6773 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6773 RNA, hereby incorporated herein. Expression of GAM6773 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM6773 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6773 target RNA, herein designated GAM TARGET RNA. GAM6773 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6773 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6773 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6773 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6773 RNA, herein designated GAM RNA, to target binding sites on GAM6773 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6773 target RNA into GAM6773 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6773 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6773 target genes. The mRNA of each one of this plurality of GAM6773 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6773 RNA, herein

designated GAM RNA, and which when bound by GAM6773 RNA causes inhibition of translation of the GAM6773 target mRNA into a corresponding GAM6773 target protein.

The mechanism of the translational inhibition exerted by GAM6773 RNA, herein designated GAM RNA, on one or more GAM6773 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6773 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6773 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6773 RNA, herein designated GAM RNA, of GAM6773 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6773 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6773 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6773 RNA correlate with, and may be deduced from, the identity of the GAM6773 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6774 142137 CTGCAGCTCC Fig. 8 further provides a conceptual description of another novel bioinformatically
AATAAAATTG detected oligonucleotides of the present invention, referred to here as Genomic Address
CCGAGATGAT Messenger 6774 (GAM6774) oligonucleotides modulates expression of respective target genes
GTTTGGGTTT whose function and utility is known in the art.

GTGCTGGACA GAM6774 is a novel bioinformatically detectable regulatory, non protein coding,
TTCCTGAGAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM6774 was detected is

GAGCCAGAGG described with additional reference to Figs. 9-15.

TGAGTCTTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTTTGTTGGG encoded by the human genome.

GAGAGCAG GAM6774 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6774
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6774

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6774 precursor RNA is designated SEQ ID:142137, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142137 is located from position 175687263 to position 175687360 relative to chromosome chr5 on the `+` strand (chr is an abbreviation for chromosome).

GAM6774 precursor RNA folds onto itself, forming GAM6774 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6774 precursor RNA, designated SEQ ID NO: 142137, and a schematic representation of a predicted secondary folding of GAM6774 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6774 folded precursor RNA yielding a GAM6774 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM6774 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6774 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM6774 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6774 target RNA, herein designated GAM TARGET RNA. GAM6774 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6774 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6774 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6774 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6774 RNA, herein designated GAM RNA, to target binding sites on GAM6774 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6774 target RNA into GAM6774 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM6774 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6774 target genes. The mRNA of each one of this plurality of GAM6774 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6774 RNA, herein designated GAM RNA, and which when bound by GAM6774 RNA causes inhibition of translation of the GAM6774 target mRNA into a corresponding GAM6774 target protein.

The mechanism of the translational inhibition exerted by GAM6774 RNA, herein designated GAM RNA, on one or more GAM6774 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6774 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6774 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6774 RNA, herein designated GAM RNA, of GAM6774 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6774 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6774 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6774 RNA correlate with, and may be deduced from, the identity of the GAM6774 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6799 142138 TCACCCAGTG Fig. 8 further provides a conceptual description of another novel bioinformatically

GTTCTCTCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACAGACAT Messenger 6799 (GAM6799) oligonucleotides modulates expression of respective target genes

GTCCAGTGGA whose function and utility is known in the art.

CCGTAGTGTT GAM6799 is a novel bioinformatically detectable regulatory, non protein coding,

GTGACGGTCG micro RNA (miRNA)-like oligonucleotide. The method by which GAM6799 was detected is

CCCATCTGCG described with additional reference to Figs. 9-15.

CCCAGTACCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CGGATCATGC encoded by the human genome.

GGAACATGTT GAM6799 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6799

GTCAAAGCTG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6799

CAGATTGCCT precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

GTGA to the nucleotide sequence of GAM6799 precursor RNA is designated SEQ ID:142138, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142138 is located from position 56320939 to position 56321062 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM6799 precursor RNA folds onto itself, forming GAM6799 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6799 precursor RNA, designated SEQ ID NO: 142138, and a schematic representation of a predicted secondary folding of GAM6799 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6799 folded precursor RNA yielding a GAM6799 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6799 RNA, hereby incorporated herein.

GAM6799 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6799 target RNA, herein designated GAM TARGET RNA. GAM6799 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6799 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6799 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6799 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6799 RNA, herein designated GAM RNA, to target binding sites on GAM6799 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6799 target RNA into GAM6799 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6799 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6799 target genes. The mRNA of each one of this plurality of GAM6799 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6799 RNA, herein designated GAM RNA, and which when bound by GAM6799 RNA causes inhibition of translation of the GAM6799 target mRNA into a corresponding GAM6799 target protein.

The mechanism of the translational inhibition exerted by GAM6799 RNA, herein designated GAM RNA, on one or more GAM6799 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6799 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6799 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6799 RNA, herein designated GAM RNA, of GAM6799 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6799 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6799 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6799 RNA correlate with, and may be deduced from, the identity of the GAM6799 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6807 142139 CGAGTGATTT TTGAGGTAAG TATGTTATTG GAAAGGTGTG ATCTATATAG AACCCTGTAC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 6807 (GAM6807) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM6807 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM6807 was detected is

ATGAAAAGGA described with additional reference to Figs. 9-15.

GGAGATGCCG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTATCTTGGC encoded by the human genome.

AGGGATGATC GAM6807 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6807

ATGTATTTGA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6807

AATAGTAACT precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

CACAGCATTT to the nucleotide sequence of GAM6807 precursor RNA is designated SEQ ID:142139, and is

G provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142139 is located from position 121833616 to position 121833746 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM6807 precursor RNA folds onto itself, forming GAM6807 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6807 precursor RNA, designated SEQ ID NO: 142139, and a schematic representation of a predicted secondary folding of GAM6807 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6807 folded precursor RNA yielding a GAM6807 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6807 RNA, hereby incorporated herein.

GAM6807 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6807 target RNA, herein designated GAM TARGET RNA. GAM6807 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6807 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6807 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6807 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6807 RNA, herein designated GAM RNA, to target binding sites on GAM6807 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6807 target RNA into GAM6807 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6807 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6807 target genes. The mRNA of each one of this plurality of GAM6807 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6807 RNA, herein designated GAM RNA, and which when bound by GAM6807 RNA causes inhibition of translation of the GAM6807 target mRNA into a corresponding GAM6807 target protein.

The mechanism of the translational inhibition exerted by GAM6807 RNA, herein designated GAM RNA, on one or more GAM6807 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6807 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6807 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6807 RNA, herein designated GAM RNA, of GAM6807 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6807 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6807 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6807 RNA correlate with, and may be deduced from, the identity of the GAM6807 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6811 142140 CTGTTTCCTA Fig. 8 further provides a conceptual description of another novel bioinformatically

TAGGTGCTGT detected oligonucleotides of the present invention, referred to here as Genomic Address

CAGATCAGGT Messenger 6811 (GAM6811) oligonucleotides modulates expression of respective target genes

TCCTGATTGG whose function and utility is known in the art.

AGTTCTCTTA GAM6811 is a novel bioinformatically detectable regulatory, non protein coding, TCTGCTCTGG micro RNA (miRNA)-like oligonucleotide. The method by which GAM6811 was detected is

TTTGGAGGGC described with additional reference to Figs. 9-15.

TGCCCCATTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGGAATCTGT encoded by the human genome.

TTTGTTTTGC GAM6811 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6811

TCAAATACAC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6811

TCAG precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6811 precursor RNA is designated SEQ ID:142140, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142140 is located from position 110102077 to position 110102190 relative to chromosome chr13 on the `-` strand (chr is an abbreviation for chromosome).

GAM6811 precursor RNA folds onto itself, forming GAM6811 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6811 precursor RNA, designated SEQ ID NO: 142140, and a schematic representation of a predicted secondary folding of GAM6811 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6811 folded precursor RNA yielding a GAM6811 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6811 RNA, hereby incorporated herein.

GAM6811 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6811 target RNA, herein designated GAM TARGET RNA. GAM6811 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6811 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6811 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6811 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6811 RNA, herein designated GAM RNA, to target binding sites on GAM6811 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6811 target RNA into GAM6811 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6811 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6811 target genes. The mRNA of each one of this plurality of GAM6811 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6811 RNA, herein designated GAM RNA, and which when bound by GAM6811 RNA causes inhibition of translation of the GAM6811 target mRNA into a corresponding GAM6811 target protein.

The mechanism of the translational inhibition exerted by GAM6811 RNA, herein designated GAM RNA, on one or more GAM6811 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6811 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6811 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6811 RNA, herein designated GAM RNA, of GAM6811 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6811 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6811 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6811 RNA correlate with, and may be deduced from, the identity of the GAM6811 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6818 142141 GGGTTCTTTT Fig. 8 further provides a conceptual description of another novel bioinformatically
TCCGCTTTCT detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGCCCTTTT Messenger 6818 (GAM6818) oligonucleotides modulates expression of respective target genes
ATACCTTACG whose function and utility is known in the art.

TTTAGAAGGG GAM6818 is a novel bioinformatically detectable regulatory, non protein coding,
GAAAATCATC micro RNA (miRNA)-like oligonucleotide. The method by which GAM6818 was detected is

CTCCC described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM6818 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6818

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6818
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6818 precursor RNA is designated SEQ ID:142141, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142141 is located from position 122713355 to position 122713419 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM6818 precursor RNA folds onto itself, forming GAM6818 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6818 precursor RNA, designated SEQ ID NO: 142141, and a schematic representation of a predicted secondary folding of GAM6818 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6818 folded precursor RNA yielding a GAM6818 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6818 RNA, hereby incorporated herein.

GAM6818 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6818 target RNA, herein designated GAM TARGET RNA. GAM6818 target RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated

region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6818 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6818 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6818 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6818 RNA, herein designated GAM RNA, to target binding sites on GAM6818 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6818 target RNA into GAM6818 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6818 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6818 target genes. The mRNA of each one of this plurality of GAM6818 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6818 RNA, herein designated GAM RNA, and which when bound by GAM6818 RNA causes inhibition of translation of the GAM6818 target mRNA into a corresponding GAM6818 target protein.

The mechanism of the translational inhibition exerted by GAM6818 RNA, herein designated GAM RNA, on one or more GAM6818 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6818 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6818 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6818 RNA, herein designated GAM RNA, of GAM6818 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6818 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6818 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6818 RNA correlate with, and may be deduced from, the identity of the GAM6818 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6836 142142 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCATTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCTGGGAAG Messenger 6836 (GAM6836) oligonucleotides modulates expression of respective target genes

TGGAGGTTGC whose function and utility is known in the art.

AGTGAGCCAA GAM6836 is a novel bioinformatically detectable regulatory, non protein coding,

GATCGTGTCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM6836 was detected is

CTGCACTCTA described with additional reference to Figs. 9-15.

GCCTAGGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TAAAGCGAGA encoded by the human genome.

CTCAGTCTC GAM6836 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6836

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6836

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6836 precursor RNA is designated SEQ ID:142142, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142142 is located from position 71860457 to position 71860555 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM6836 precursor RNA folds onto itself, forming GAM6836 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6836 precursor RNA, designated SEQ ID NO: 142142, and a schematic representation of a predicted secondary folding of GAM6836 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6836 folded precursor RNA yielding a GAM6836 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6836 RNA, hereby incorporated herein.

GAM6836 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6836 target RNA, herein designated GAM TARGET RNA. GAM6836 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6836 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6836 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6836 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6836 RNA, herein designated GAM RNA, to target binding sites on GAM6836 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6836 target RNA into GAM6836 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6836 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6836 target genes. The mRNA of each one of this plurality of GAM6836 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6836 RNA, herein designated GAM RNA, and which when bound by GAM6836 RNA causes inhibition of translation of the GAM6836 target mRNA into a corresponding GAM6836 target protein.

The mechanism of the translational inhibition exerted by GAM6836 RNA, herein designated GAM RNA, on one or more GAM6836 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6836 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6836 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6836 RNA, herein designated GAM RNA, of GAM6836 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM6836 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6836 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6836 RNA correlate with, and may be deduced from, the identity of the GAM6836 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6840 142143 TCCAGTTCTT Fig. 8 further provides a conceptual description of another novel bioinformatically
CTGGGAGAAA detected oligonucleotides of the present invention, referred to here as Genomic Address
AATGGCAGGC Messenger 6840 (GAM6840) oligonucleotides modulates expression of respective target genes
TTCTGGGGAA whose function and utility is known in the art.

AGAAAGCCAG GAM6840 is a novel bioinformatically detectable regulatory, non protein coding,
CTGAATTTTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM6840 was detected is

ACTCCATCTC described with additional reference to Figs. 9-15.

CCCAGAAGAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCTGGG encoded by the human genome.

GAM6840 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6840

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6840
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6840 precursor RNA is designated SEQ ID:142143, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142143 is located from position 40508403 to position 40508488 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM6840 precursor RNA folds onto itself, forming GAM6840 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6840 precursor RNA, designated SEQ ID NO: 142143, and a schematic representation of a predicted secondary folding of GAM6840 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6840 folded precursor RNA yielding a GAM6840 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt

long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM6840 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6840 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM6840 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6840 target RNA, herein designated GAM TARGET RNA. GAM6840 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6840 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6840 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6840 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6840 RNA, herein designated GAM RNA, to target binding sites on GAM6840 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6840 target RNA into GAM6840 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6840 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6840 target genes. The mRNA of each one of this plurality of GAM6840 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6840 RNA, herein designated GAM RNA, and which when bound by GAM6840 RNA causes inhibition of translation of the GAM6840 target mRNA into a corresponding GAM6840 target protein.

The mechanism of the translational inhibition exerted by GAM6840 RNA, herein designated GAM RNA, on one or more GAM6840 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6840 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6840 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6840 RNA, herein designated GAM RNA, of GAM6840 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6840 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6840 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6840 RNA correlate with, and may be deduced from, the identity of the GAM6840 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6842 142144 TCACGTCTCT GCAAAGTAGC AAGTGGTTAT GTTCATATCA TTTTGAAAGC TGAGTGGATA GATTTAAATA GCAAGAGCTT TGTTCGGAAT GATGTGTGGA ACCCAGAATC ACAGACCCTG CGATACATGA

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 6842 (GAM6842) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM6842 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM6842 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM6842 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6842 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6842 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6842 precursor RNA is designated SEQ ID:142144, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142144 is located from position 22646286 to position 22646415 relative to chromosome chr18 on the `-` strand (chr is an abbreviation for chromosome).

GAM6842 precursor RNA folds onto itself, forming GAM6842 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6842 precursor RNA, designated SEQ ID NO: 142144, and a schematic representation of a predicted secondary folding of GAM6842 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6842 folded precursor RNA yielding a GAM6842 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6842 RNA, hereby incorporated herein.

GAM6842 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6842 target RNA, herein designated GAM TARGET RNA. GAM6842 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6842 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6842 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6842 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6842 RNA, herein designated GAM RNA, to target binding sites on GAM6842 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6842 target RNA into GAM6842 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6842 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6842 target genes. The mRNA of each one of this plurality of GAM6842 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6842 RNA, herein designated GAM RNA, and which when bound by GAM6842 RNA causes inhibition of translation of the GAM6842 target mRNA into a corresponding GAM6842 target protein.

The mechanism of the translational inhibition exerted by GAM6842 RNA, herein designated GAM RNA, on one or more GAM6842 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6842 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6842 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6842 RNA, herein designated GAM RNA, of GAM6842 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6842 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6842 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6842 RNA correlate with, and may be deduced from, the identity of the GAM6842 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6858 142145 CAAGCAGTGA Fig. 8 further provides a conceptual description of another novel bioinformatically

AGGGTGCAGA detected oligonucleotides of the present invention, referred to here as Genomic Address

TCATGGATAG Messenger 6858 (GAM6858) oligonucleotides modulates expression of respective target genes

AGCTTTCAAG whose function and utility is known in the art.

AAGTTTGTTC GAM6858 is a novel bioinformatically detectable regulatory, non protein coding,

TAGTTCTTCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM6858 was detected is

CCTGAAACTG described with additional reference to Figs. 9-15.

GACCTCCCTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTAGCTTG encoded by the human genome.

GAM6858 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6858

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6858

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6858 precursor RNA is designated SEQ ID:142145, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142145 is located from position 118137371 to position 118137458 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM6858 precursor RNA folds onto itself, forming GAM6858 folded precursor RNA,

herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6858 precursor RNA, designated SEQ ID NO: 142145, and a schematic representation of a predicted secondary folding of GAM6858 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6858 folded precursor RNA yielding a GAM6858 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6858 RNA, hereby incorporated herein.

GAM6858 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6858 target RNA, herein designated GAM TARGET RNA. GAM6858 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6858 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6858 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6858 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6858 RNA, herein designated GAM RNA, to target binding sites on GAM6858 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6858 target RNA into GAM6858 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6858 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6858 target genes. The mRNA of each one of this plurality of GAM6858 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6858 RNA, herein designated GAM RNA, and which when bound by GAM6858 RNA causes inhibition of translation of the GAM6858 target mRNA into a corresponding GAM6858 target protein.

The mechanism of the translational inhibition exerted by GAM6858 RNA, herein designated GAM RNA, on one or more GAM6858 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6858 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6858 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6858 RNA, herein designated GAM RNA, of GAM6858 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6858 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6858 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6858 RNA correlate with, and may be deduced from, the identity of the GAM6858 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6978 142146 CAGGTATGAC Fig. 8 further provides a conceptual description of another novel bioinformatically

ATGTGCCACT detected oligonucleotides of the present invention, referred to here as Genomic Address

GTGTCTGAAA Messenger 6978 (GAM6978) oligonucleotides modulates expression of respective target genes

TTCCTGAGCA whose function and utility is known in the art.

CCGAGGGCCG GAM6978 is a novel bioinformatically detectable regulatory, non protein coding,

CTTCAGGCAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM6978 was detected is

CAGGCACTTT described with additional reference to Figs. 9-15.

GCCAACCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM6978 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6978

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6978

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6978 precursor RNA is designated SEQ ID:142146, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142146 is located from position 140693634 to position 140693712 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM6978 precursor RNA folds onto itself, forming GAM6978 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6978 precursor RNA, designated SEQ ID NO: 142146, and a schematic representation of a predicted secondary folding of GAM6978 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6978 folded precursor RNA yielding a GAM6978 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6978 RNA, hereby incorporated herein.

GAM6978 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6978 target RNA, herein designated GAM TARGET RNA. GAM6978 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6978 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6978 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6978 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6978 RNA, herein designated GAM RNA, to target binding sites on GAM6978 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6978 target RNA into GAM6978 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6978 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM6978 target genes. The mRNA of each one of this plurality of GAM6978 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6978 RNA, herein designated GAM RNA, and which when bound by GAM6978 RNA causes inhibition of translation of the GAM6978 target mRNA into a corresponding GAM6978 target protein.

The mechanism of the translational inhibition exerted by GAM6978 RNA, herein designated GAM RNA, on one or more GAM6978 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6978 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6978 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6978 RNA, herein designated GAM RNA, of GAM6978 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6978 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6978 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6978 RNA correlate with, and may be deduced from, the identity of the GAM6978 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6982 142147 CATGGGGTCG Fig. 8 further provides a conceptual description of another novel bioinformatically

TGTCACTGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

CTCCTCAGGG Messenger 6982 (GAM6982) oligonucleotides modulates expression of respective target genes

AAGGCAGTAG whose function and utility is known in the art.

GTTGTATAGT GAM6982 is a novel bioinformatically detectable regulatory, non protein coding,

TATCTTCCGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM6982 was detected is

GGGGCAACAT described with additional reference to Figs. 9-15.

CACTGCCCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAACCACACA encoded by the human genome.

ACCTACTACC GAM6982 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6982

TCACCCCGCC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6982

AGGCCCGGCC precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

TTGCACTGCG to the nucleotide sequence of GAM6982 precursor RNA is designated SEQ ID:142147, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142147 is located from position 44721785 to position 44721914 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM6982 precursor RNA folds onto itself, forming GAM6982 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6982 precursor RNA, designated SEQ ID NO: 142147, and a schematic representation of a predicted secondary folding of GAM6982 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6982 folded precursor RNA yielding a GAM6982 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6982 RNA, hereby incorporated herein. Expression of GAM6982 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM6982 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6982 target RNA, herein designated GAM TARGET RNA. GAM6982 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6982 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6982 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6982 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6982 RNA, herein designated GAM RNA, to target binding sites on GAM6982 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6982 target RNA into GAM6982 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6982 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6982 target genes. The mRNA of each one of this plurality of GAM6982 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6982 RNA, herein designated GAM RNA, and which when bound by GAM6982 RNA causes inhibition of translation of the GAM6982 target mRNA into a corresponding GAM6982 target protein.

The mechanism of the translational inhibition exerted by GAM6982 RNA, herein designated GAM RNA, on one or more GAM6982 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6982 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6982 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6982 RNA, herein designated GAM RNA, of GAM6982 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6982 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6982 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6982 RNA correlate with, and may be deduced from, the identity of the GAM6982 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6994 142148 TGCTCTGTTG CCTAGGCTGG AGTGCAGTGA TGCAATTTTG GCTCACTGCA ACCTCCACCT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 6994 (GAM6994) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM6994 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM6994 was detected is

CCTGGGTTCA described with additional reference to Figs. 9-15.

AGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM6994 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6994 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6994 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6994 precursor RNA is designated SEQ ID:142148, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142148 is located from position 44650573 to position 44650646 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM6994 precursor RNA folds onto itself, forming GAM6994 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6994 precursor RNA, designated SEQ ID NO: 142148, and a schematic representation of a predicted secondary folding of GAM6994 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6994 folded precursor RNA yielding a GAM6994 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6994 RNA, hereby incorporated herein.

GAM6994 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6994 target RNA, herein designated GAM TARGET RNA. GAM6994 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6994 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM6994 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6994 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6994 RNA, herein designated GAM RNA, to target binding sites on GAM6994 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6994 target RNA into GAM6994 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6994 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6994 target genes. The mRNA of each one of this plurality of GAM6994 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6994 RNA, herein designated GAM RNA, and which when bound by GAM6994 RNA causes inhibition of translation of the GAM6994 target mRNA into a corresponding GAM6994 target protein.

The mechanism of the translational inhibition exerted by GAM6994 RNA, herein designated GAM RNA, on one or more GAM6994 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6994 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6994 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6994 RNA, herein designated GAM RNA, of GAM6994 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6994 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6994 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6994 RNA correlate with, and may be deduced from, the identity of the GAM6994 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM6996 142149 TCCCAGATTC TTCCTGGTGG AGGCATTCGG Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 6996 (GAM6996) oligonucleotides modulates expression of respective target genes

AGAGCAACAC whose function and utility is known in the art.

CCTGGCCTTA GAM6996 is a novel bioinformatically detectable regulatory, non protein coding, ACACACTACA micro RNA (miRNA)-like oligonucleotide. The method by which GAM6996 was detected is

TATCTTTGAA described with additional reference to Figs. 9-15.

TTTCACACGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGGCAGCCTT encoded by the human genome.

CTGGGA GAM6996 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM6996 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM6996 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM6996 precursor RNA is designated SEQ ID:142149, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142149 is located from position 6197081 to position 6197176 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM6996 precursor RNA folds onto itself, forming GAM6996 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM6996 precursor RNA, designated SEQ ID NO: 142149, and a schematic representation of a predicted secondary folding of GAM6996 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM6996 folded precursor RNA yielding a GAM6996 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM6996 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM6996 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM6996 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM6996 target RNA, herein designated GAM TARGET RNA. GAM6996 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM6996 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM6996 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM6996 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM6996 RNA, herein designated GAM RNA, to target binding sites on GAM6996 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM6996 target RNA into GAM6996 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM6996 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM6996 target genes. The mRNA of each one of this plurality of GAM6996 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM6996 RNA, herein designated GAM RNA, and which when bound by GAM6996 RNA causes inhibition of translation of the GAM6996 target mRNA into a corresponding GAM6996 target protein.

The mechanism of the translational inhibition exerted by GAM6996 RNA, herein designated GAM RNA, on one or more GAM6996 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM6996 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM6996 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM6996 RNA, herein designated GAM RNA, of GAM6996 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM6996 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM6996 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM6996 RNA correlate with, and may be deduced from, the identity of the GAM6996 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7017 142150 GAATAAATAA Fig. 8 further provides a conceptual description of another novel bioinformatically

GCTGCTCTAA detected oligonucleotides of the present invention, referred to here as Genomic Address

TTGCCAAGAA Messenger 7017 (GAM7017) oligonucleotides modulates expression of respective target genes

TTCACATGTG whose function and utility is known in the art.

GTTGTATGCA GAM7017 is a novel bioinformatically detectable regulatory, non protein coding,

GCATTACTGG micro RNA (miRNA)-like oligonucleotide. The method by which GAM7017 was detected is

GAAATTGAAG described with additional reference to Figs. 9-15.

TGTATCTGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGTGATTCTG encoded by the human genome.

CTGTGATGGA GAM7017 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7017

CACTTGTAAG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7017

TTTGTTC precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7017 precursor RNA is designated SEQ ID:142150, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142150 is located from position 43025637 to position 43025753 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM7017 precursor RNA folds onto itself, forming GAM7017 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7017 precursor RNA, designated SEQ ID NO: 142150, and a schematic representation of a predicted secondary folding of GAM7017 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7017 folded precursor RNA yielding a GAM7017 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7017 RNA, hereby incorporated herein.

GAM7017 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7017 target RNA, herein designated GAM TARGET RNA. GAM7017 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7017 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7017 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7017 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7017 RNA, herein designated GAM RNA, to target binding sites on GAM7017 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7017 target RNA into GAM7017 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7017 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7017 target genes. The mRNA of each one of this plurality of GAM7017 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7017 RNA, herein designated GAM RNA, and which when bound by GAM7017 RNA causes inhibition of translation of the GAM7017 target mRNA into a corresponding GAM7017 target protein.

The mechanism of the translational inhibition exerted by GAM7017 RNA, herein designated GAM RNA, on one or more GAM7017 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7017 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7017 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7017 RNA, herein designated GAM RNA, of GAM7017 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7017 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7017 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7017 RNA correlate with, and may be deduced from, the identity of the GAM7017 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7022 142151 GGGTGCATGG Fig. 8 further provides a conceptual description of another novel bioinformatically
ACTAGGACCC detected oligonucleotides of the present invention, referred to here as Genomic Address
TGGAGGCAGA Messenger 7022 (GAM7022) oligonucleotides modulates expression of respective target genes
AATAGTTACC whose function and utility is known in the art.

GAGGGGAAGT GAM7022 is a novel bioinformatically detectable regulatory, non protein coding,
TACAGGCCTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM7022 was detected is

AGTGTGAGTC described with additional reference to Figs. 9-15.

CCTGTTTGGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGCTGATGAG encoded by the human genome.

CTTTGAGGTC GAM7022 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7022
CTTGGCCAGA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7022
CACTC precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7022 precursor RNA is designated SEQ ID:142151, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142151 is located from position 47741101 to position 47741215 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM7022 precursor RNA folds onto itself, forming GAM7022 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7022 precursor RNA, designated SEQ ID NO: 142151, and a schematic representation of a predicted secondary folding of GAM7022 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7022 folded precursor RNA yielding a GAM7022 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the

nucleotide sequence of GAM7022 RNA, hereby incorporated herein.

GAM7022 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7022 target RNA, herein designated GAM TARGET RNA. GAM7022 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7022 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7022 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7022 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7022 RNA, herein designated GAM RNA, to target binding sites on GAM7022 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7022 target RNA into GAM7022 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7022 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7022 target genes. The mRNA of each one of this plurality of GAM7022 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7022 RNA, herein designated GAM RNA, and which when bound by GAM7022 RNA causes inhibition of translation of the GAM7022 target mRNA into a corresponding GAM7022 target protein.

The mechanism of the translational inhibition exerted by GAM7022 RNA, herein designated GAM RNA, on one or more GAM7022 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7022 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7022 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7022 RNA, herein designated GAM RNA, of GAM7022 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7022 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7022 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7022 RNA correlate with, and may be deduced from, the identity of the GAM7022 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7067 142152 CCTCAGCAGA Fig. 8 further provides a conceptual description of another novel bioinformatically
CATCAGAAAA detected oligonucleotides of the present invention, referred to here as Genomic Address
TTCATGCTCG Messenger 7067 (GAM7067) oligonucleotides modulates expression of respective target genes
GAAGAATGCC whose function and utility is known in the art.

TACAGGAATG GAM7067 is a novel bioinformatically detectable regulatory, non protein coding,
AAAACTTAAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM7067 was detected is

AATTGTGGGA described with additional reference to Figs. 9-15.

AATACTTGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAAAATATCT encoded by the human genome.

GGTTTCATGG GAM7067 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7067
TATGTAGG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7067
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7067 precursor RNA is designated SEQ ID:142152, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142152 is located from position 42704752 to position 42704859 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM7067 precursor RNA folds onto itself, forming GAM7067 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7067 precursor RNA, designated SEQ ID NO: 142152, and a schematic representation of a predicted secondary folding of GAM7067 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7067 folded precursor RNA

yielding a GAM7067 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7067 RNA, hereby incorporated herein.

GAM7067 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7067 target RNA, herein designated GAM TARGET RNA. GAM7067 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7067 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7067 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7067 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7067 RNA, herein designated GAM RNA, to target binding sites on GAM7067 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7067 target RNA into GAM7067 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7067 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7067 target genes. The mRNA of each one of this plurality of GAM7067 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7067 RNA, herein designated GAM RNA, and which when bound by GAM7067 RNA causes inhibition of translation of the GAM7067 target mRNA into a corresponding GAM7067 target protein.

The mechanism of the translational inhibition exerted by GAM7067 RNA, herein designated GAM RNA, on one or more GAM7067 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7067 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7067 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7067 RNA, herein designated GAM RNA, of GAM7067 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7067 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7067 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7067 RNA correlate with, and may be deduced from, the identity of the GAM7067 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7078 142153 GTGCTAGGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

GTCACCTATG detected oligonucleotides of the present invention, referred to here as Genomic Address

TGGGAGCCAG Messenger 7078 (GAM7078) oligonucleotides modulates expression of respective target genes

CTCTGCCTCC whose function and utility is known in the art.

TGCCCCGAAG GAM7078 is a novel bioinformatically detectable regulatory, non protein coding,

CTCCAGAGAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM7078 was detected is

TTCTCCTACA described with additional reference to Figs. 9-15.

ACTGACTCTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGGACAC encoded by the human genome.

GAM7078 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7078

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7078

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7078 precursor RNA is designated SEQ ID:142153, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142153 is located from position 38614091 to position 38614177 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM7078 precursor RNA folds onto itself, forming GAM7078 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7078 precursor RNA, designated SEQ ID NO: 142153, and

a schematic representation of a predicted secondary folding of GAM7078 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7078 folded precursor RNA yielding a GAM7078 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM7078 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7078 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM7078 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7078 target RNA, herein designated GAM TARGET RNA. GAM7078 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7078 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7078 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7078 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7078 RNA, herein designated GAM RNA, to target binding sites on GAM7078 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7078 target RNA into GAM7078 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7078 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7078 target genes. The mRNA of each one of this plurality of GAM7078 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7078 RNA, herein designated GAM RNA, and which when bound by GAM7078 RNA causes inhibition of translation of the GAM7078 target mRNA into a corresponding GAM7078 target protein.

The mechanism of the translational inhibition exerted by GAM7078 RNA, herein designated GAM RNA, on one or more GAM7078 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7078 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7078 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7078 RNA, herein designated GAM RNA, of GAM7078 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7078 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7078 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7078 RNA correlate with, and may be deduced from, the identity of the GAM7078 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7080 142154 CCATTTTTTT Fig. 8 further provides a conceptual description of another novel bioinformatically

GTAGGTCAGA detected oligonucleotides of the present invention, referred to here as Genomic Address

AGTGGTTGCA Messenger 7080 (GAM7080) oligonucleotides modulates expression of respective target genes

AACTGGATTT whose function and utility is known in the art.

TTAGACTCTT GAM7080 is a novel bioinformatically detectable regulatory, non protein coding,

CCTGTTGGGG micro RNA (miRNA)-like oligonucleotide. The method by which GAM7080 was detected is

GTCTCGGACA described with additional reference to Figs. 9-15.

TTTGCTCTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCCACAGCGG encoded by the human genome.

CCAATTCTTC GAM7080 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7080

AGAGCCACAA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7080

AGAACTGG precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7080 precursor RNA is designated SEQ ID:142154, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142154 is located from position 1047334 to position 1047441 relative to chromosome chr1 on the `-` strand (chr is an abbreviation for chromosome).

GAM7080 precursor RNA folds onto itself, forming GAM7080 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7080 precursor RNA, designated SEQ ID NO: 142154, and a schematic representation of a predicted secondary folding of GAM7080 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7080 folded precursor RNA yielding a GAM7080 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7080 RNA, hereby incorporated herein. Expression of GAM7080 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM7080 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7080 target RNA, herein designated GAM TARGET RNA. GAM7080 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7080 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7080 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7080 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7080 RNA, herein designated GAM RNA, to target binding sites on GAM7080 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7080 target RNA into GAM7080 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7080 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7080 target genes. The mRNA of each one of this plurality of GAM7080 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7080 RNA, herein designated GAM RNA, and which when bound by GAM7080 RNA causes inhibition of translation

of the GAM7080 target mRNA into a corresponding GAM7080 target protein.

The mechanism of the translational inhibition exerted by GAM7080 RNA, herein designated GAM RNA, on one or more GAM7080 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7080 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7080 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7080 RNA, herein designated GAM RNA, of GAM7080 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7080 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7080 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7080 RNA correlate with, and may be deduced from, the identity of the GAM7080 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7095 142155 TCATCTATCC Fig. 8 further provides a conceptual description of another novel bioinformatically
CCTAGGCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address
ATTATCTTAT Messenger 7095 (GAM7095) oligonucleotides modulates expression of respective target genes
CAGCTACTGA whose function and utility is known in the art.

CCCAGTTAGC GAM7095 is a novel bioinformatically detectable regulatory, non protein coding,
TTTCCTACTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM7095 was detected is

CACAACAGGT described with additional reference to Figs. 9-15.

TTCTAATGCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTATGTCAGT encoded by the human genome.

GTGAGAGAAA GAM7095 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7095
TGGCAAGTTG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7095
GGAAAATTTG precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

TGA to the nucleotide sequence of GAM7095 precursor RNA is designated SEQ ID:142155, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142155 is located from position 104082522 to position 104082644 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM7095 precursor RNA folds onto itself, forming GAM7095 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7095 precursor RNA, designated SEQ ID NO: 142155, and a schematic representation of a predicted secondary folding of GAM7095 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7095 folded precursor RNA yielding a GAM7095 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7095 RNA, hereby incorporated herein.

GAM7095 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7095 target RNA, herein designated GAM TARGET RNA. GAM7095 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7095 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7095 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7095 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7095 RNA, herein designated GAM RNA, to target binding sites on GAM7095 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7095 target RNA into GAM7095 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7095 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7095 target genes. The mRNA of each one of this plurality of GAM7095 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7095 RNA, herein designated GAM RNA, and which when bound by GAM7095 RNA causes inhibition of translation of the GAM7095 target mRNA into a corresponding GAM7095 target protein.

The mechanism of the translational inhibition exerted by GAM7095 RNA, herein designated GAM RNA, on one or more GAM7095 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7095 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7095 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7095 RNA, herein designated GAM RNA, of GAM7095 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7095 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7095 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7095 RNA correlate with, and may be deduced from, the identity of the GAM7095 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7102 142156 TCACTCTGTC Fig. 8 further provides a conceptual description of another novel bioinformatically

GCCCAGGCTG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGTGCAGTG Messenger 7102 (GAM7102) oligonucleotides modulates expression of respective target genes

GTACAGCCTC whose function and utility is known in the art.

AGCTCACTGC GAM7102 is a novel bioinformatically detectable regulatory, non protein coding,

AACCTCCACC micro RNA (miRNA)-like oligonucleotide. The method by which GAM7102 was detected is

TCCCGGGCTC described with additional reference to Figs. 9-15.

AAGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM7102 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7102 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7102 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7102 precursor RNA is designated SEQ ID:142156, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142156 is located from position 152542921 to position 152542996 relative to chromosome chr1 on the `+` strand (chr is an abbreviation for chromosome).

GAM7102 precursor RNA folds onto itself, forming GAM7102 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7102 precursor RNA, designated SEQ ID NO: 142156, and a schematic representation of a predicted secondary folding of GAM7102 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7102 folded precursor RNA yielding a GAM7102 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7102 RNA, hereby incorporated herein.

GAM7102 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7102 target RNA, herein designated GAM TARGET RNA. GAM7102 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7102 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7102 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7102 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7102 RNA, herein designated GAM RNA, to target

binding sites on GAM7102 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7102 target RNA into GAM7102 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7102 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7102 target genes. The mRNA of each one of this plurality of GAM7102 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7102 RNA, herein designated GAM RNA, and which when bound by GAM7102 RNA causes inhibition of translation of the GAM7102 target mRNA into a corresponding GAM7102 target protein.

The mechanism of the translational inhibition exerted by GAM7102 RNA, herein designated GAM RNA, on one or more GAM7102 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7102 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7102 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7102 RNA, herein designated GAM RNA, of GAM7102 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7102 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7102 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7102 RNA correlate with, and may be deduced from, the identity of the GAM7102 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7124 142157 AGTGTCTCCA Fig. 8 further provides a conceptual description of another novel bioinformatically

GATTGCACGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACATTTCATT Messenger 7124 (GAM7124) oligonucleotides modulates expression of respective target genes

TTTCACACAG whose function and utility is known in the art.

GGTCACCAGA GAM7124 is a novel bioinformatically detectable regulatory, non protein coding,

ATACCATCAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM7124 was detected is

TTTTTTGGTA described with additional reference to Figs. 9-15.

TCACTGTCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAGTGATCCT encoded by the human genome.

AGCACCTTCT GAM7124 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7124

GAAATAACGT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7124

GAGCTGCCAG precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

ATTCT to the nucleotide sequence of GAM7124 precursor RNA is designated SEQ ID:142157, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142157 is located from position 75288695 to position 75288819 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM7124 precursor RNA folds onto itself, forming GAM7124 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7124 precursor RNA, designated SEQ ID NO: 142157, and a schematic representation of a predicted secondary folding of GAM7124 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7124 folded precursor RNA yielding a GAM7124 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7124 RNA, hereby incorporated herein.

GAM7124 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7124 target RNA, herein designated GAM TARGET RNA. GAM7124 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7124 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7124 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7124 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7124 RNA, herein designated GAM RNA, to target binding sites on GAM7124 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7124 target RNA into GAM7124 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7124 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7124 target genes. The mRNA of each one of this plurality of GAM7124 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7124 RNA, herein designated GAM RNA, and which when bound by GAM7124 RNA causes inhibition of translation of the GAM7124 target mRNA into a corresponding GAM7124 target protein.

The mechanism of the translational inhibition exerted by GAM7124 RNA, herein designated GAM RNA, on one or more GAM7124 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7124 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7124 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7124 RNA, herein designated GAM RNA, of GAM7124 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7124 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7124 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7124 RNA correlate with, and may be deduced from, the identity of the GAM7124 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7135 142158 TGGACTAGGA CCCTGGAGGC AGAAATAGTT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 7135 (GAM7135) oligonucleotides modulates expression of respective target genes

ACCGAGGGGA whose function and utility is known in the art.

AGTTACAGGC GAM7135 is a novel bioinformatically detectable regulatory, non protein coding,
CTGAGTGTGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM7135 was detected is

GTCCCTGTTT described with additional reference to Figs. 9-15.

GGTTGCTGAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGCTTTGAG encoded by the human genome.

GTCCTTGGCC GAM7135 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7135
A precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7135
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7135 precursor RNA is designated SEQ ID:142158, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142158 is located from position 47741108 to position 47741208 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM7135 precursor RNA folds onto itself, forming GAM7135 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7135 precursor RNA, designated SEQ ID NO: 142158, and a schematic representation of a predicted secondary folding of GAM7135 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7135 folded precursor RNA yielding a GAM7135 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7135 RNA, hereby incorporated herein.

GAM7135 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7135 target RNA, herein designated GAM TARGET RNA. GAM7135 target RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7135 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7135 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7135 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7135 RNA, herein designated GAM RNA, to target binding sites on GAM7135 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7135 target RNA into GAM7135 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7135 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7135 target genes. The mRNA of each one of this plurality of GAM7135 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7135 RNA, herein designated GAM RNA, and which when bound by GAM7135 RNA causes inhibition of translation of the GAM7135 target mRNA into a corresponding GAM7135 target protein.

The mechanism of the translational inhibition exerted by GAM7135 RNA, herein designated GAM RNA, on one or more GAM7135 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7135 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7135 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7135 RNA, herein designated GAM RNA, of GAM7135 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7135 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7135 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7135 RNA correlate with, and may be deduced from, the identity of the GAM7135 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7140 142159 GCAGGTCCAT Fig. 8 further provides a conceptual description of another novel bioinformatically
CTTCAGTGGC detected oligonucleotides of the present invention, referred to here as Genomic Address
ATTGGGCCTT Messenger 7140 (GAM7140) oligonucleotides modulates expression of respective target genes
GGCTGGGATG whose function and utility is known in the art.

CTGAGTTATC GAM7140 is a novel bioinformatically detectable regulatory, non protein coding,
CACTGGAGCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM7140 was detected is

TCGGCAGTAC described with additional reference to Figs. 9-15.

AGGCAGGCAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGAGGCAGTG encoded by the human genome.

GATCCATCGG GAM7140 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7140
AGGTGGCAGG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7140
T precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7140 precursor RNA is designated SEQ ID:142159, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142159 is located from position 69762447 to position 69762557 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM7140 precursor RNA folds onto itself, forming GAM7140 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7140 precursor RNA, designated SEQ ID NO: 142159, and a schematic representation of a predicted secondary folding of GAM7140 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7140 folded precursor RNA yielding a GAM7140 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7140 RNA, hereby incorporated herein.

GAM7140 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7140 target RNA, herein designated GAM TARGET RNA. GAM7140 target RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated

region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7140 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7140 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7140 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7140 RNA, herein designated GAM RNA, to target binding sites on GAM7140 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7140 target RNA into GAM7140 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7140 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7140 target genes. The mRNA of each one of this plurality of GAM7140 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7140 RNA, herein designated GAM RNA, and which when bound by GAM7140 RNA causes inhibition of translation of the GAM7140 target mRNA into a corresponding GAM7140 target protein.

The mechanism of the translational inhibition exerted by GAM7140 RNA, herein designated GAM RNA, on one or more GAM7140 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7140 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7140 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7140 RNA, herein designated GAM RNA, of GAM7140 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7140 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7140 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7140 RNA correlate with, and may be deduced from, the identity of the GAM7140 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7146 142160 ATTATGTGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GTAGTATGTA detected oligonucleotides of the present invention, referred to here as Genomic Address

TATAGTATTT Messenger 7146 (GAM7146) oligonucleotides modulates expression of respective target genes

TTAGTGAAAA whose function and utility is known in the art.

TATTCATATA GAM7146 is a novel bioinformatically detectable regulatory, non protein coding,

AAATATTACT micro RNA (miRNA)-like oligonucleotide. The method by which GAM7146 was detected is

TAAATCATTT described with additional reference to Figs. 9-15.

CTACATTGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAAAAT encoded by the human genome.

GAM7146 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7146

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7146

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7146 precursor RNA is designated SEQ ID:142160, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142160 is located from position 35139835 to position 35139920 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM7146 precursor RNA folds onto itself, forming GAM7146 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7146 precursor RNA, designated SEQ ID NO: 142160, and a schematic representation of a predicted secondary folding of GAM7146 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7146 folded precursor RNA yielding a GAM7146 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7146 RNA, hereby incorporated herein.

GAM7146 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7146 target RNA, herein designated GAM TARGET RNA. GAM7146 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7146 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7146 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7146 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7146 RNA, herein designated GAM RNA, to target binding sites on GAM7146 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7146 target RNA into GAM7146 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7146 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7146 target genes. The mRNA of each one of this plurality of GAM7146 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7146 RNA, herein designated GAM RNA, and which when bound by GAM7146 RNA causes inhibition of translation of the GAM7146 target mRNA into a corresponding GAM7146 target protein.

The mechanism of the translational inhibition exerted by GAM7146 RNA, herein designated GAM RNA, on one or more GAM7146 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7146 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7146 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7146 RNA, herein designated GAM RNA, of GAM7146 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM7146 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7146 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7146 RNA correlate with, and may be deduced from, the identity of the GAM7146 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7162 142161 AGTTTAAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
TGTCGCAAAG detected oligonucleotides of the present invention, referred to here as Genomic Address
TCTGGGTGGC Messenger 7162 (GAM7162) oligonucleotides modulates expression of respective target genes
CTTCAGTCCA whose function and utility is known in the art.

TGAAAGAGAA GAM7162 is a novel bioinformatically detectable regulatory, non protein coding,
CACATCTGTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM7162 was detected is

CTATCTCAGG described with additional reference to Figs. 9-15.

CTGAGGTCAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTGCATCCTC encoded by the human genome.

ATCAATAAGC GAM7162 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7162
T precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7162

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7162 precursor RNA is designated SEQ ID:142161, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142161 is located from position 53192373 to position 53192473 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM7162 precursor RNA folds onto itself, forming GAM7162 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7162 precursor RNA, designated SEQ ID NO: 142161, and a schematic representation of a predicted secondary folding of GAM7162 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7162 folded precursor RNA yielding a GAM7162 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt

long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM7162 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7162 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM7162 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7162 target RNA, herein designated GAM TARGET RNA. GAM7162 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7162 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7162 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7162 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7162 RNA, herein designated GAM RNA, to target binding sites on GAM7162 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7162 target RNA into GAM7162 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7162 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7162 target genes. The mRNA of each one of this plurality of GAM7162 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7162 RNA, herein designated GAM RNA, and which when bound by GAM7162 RNA causes inhibition of translation of the GAM7162 target mRNA into a corresponding GAM7162 target protein.

The mechanism of the translational inhibition exerted by GAM7162 RNA, herein designated GAM RNA, on one or more GAM7162 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7162 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7162 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7162 RNA, herein designated GAM RNA, of GAM7162 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7162 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7162 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7162 RNA correlate with, and may be deduced from, the identity of the GAM7162 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7166 142162 GCTGGGGAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

GAGTTTACAT detected oligonucleotides of the present invention, referred to here as Genomic Address

GTTTTCTAAT Messenger 7166 (GAM7166) oligonucleotides modulates expression of respective target genes

GGAGCCATTA whose function and utility is known in the art.

TCTGTTGGAG GAM7166 is a novel bioinformatically detectable regulatory, non protein coding,

GCATTCATTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM7166 was detected is

CCCTCACCAG described with additional reference to Figs. 9-15.

C GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM7166 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7166

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7166

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7166 precursor RNA is designated SEQ ID:142162, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142162 is located from position 109789635 to position 109789705 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM7166 precursor RNA folds onto itself, forming GAM7166 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7166 precursor RNA, designated SEQ ID NO: 142162, and

a schematic representation of a predicted secondary folding of GAM7166 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7166 folded precursor RNA yielding a GAM7166 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM7166 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7166 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM7166 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7166 target RNA, herein designated GAM TARGET RNA. GAM7166 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7166 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7166 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7166 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7166 RNA, herein designated GAM RNA, to target binding sites on GAM7166 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7166 target RNA into GAM7166 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7166 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7166 target genes. The mRNA of each one of this plurality of GAM7166 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7166 RNA, herein designated GAM RNA, and which when bound by GAM7166 RNA causes inhibition of translation of the GAM7166 target mRNA into a corresponding GAM7166 target protein.

The mechanism of the translational inhibition exerted by GAM7166 RNA, herein designated GAM RNA, on one or more GAM7166 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7166 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7166 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7166 RNA, herein designated GAM RNA, of GAM7166 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7166 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7166 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7166 RNA correlate with, and may be deduced from, the identity of the GAM7166 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7169 142163 AATGTAAACC Fig. 8 further provides a conceptual description of another novel bioinformatically

CCTTAAAGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

GATGTGTGTG Messenger 7169 (GAM7169) oligonucleotides modulates expression of respective target genes

GGGCCTTATG whose function and utility is known in the art.

AAGACCAGGA GAM7169 is a novel bioinformatically detectable regulatory, non protein coding,

TTCTGCGGGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM7169 was detected is

GTCAGGGGAT described with additional reference to Figs. 9-15.

TGCCCCTCTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GACAGAGACT encoded by the human genome.

AGGGTTTTAG GAM7169 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7169

ACTGAGGCTT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7169

CCTGCAGGGT precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

GTTCGCATT to the nucleotide sequence of GAM7169 precursor RNA is designated SEQ ID:142163, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142163 is located from position 50572112 to position 50572240 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM7169 precursor RNA folds onto itself, forming GAM7169 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7169 precursor RNA, designated SEQ ID NO: 142163, and a schematic representation of a predicted secondary folding of GAM7169 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7169 folded precursor RNA yielding a GAM7169 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7169 RNA, hereby incorporated herein.

GAM7169 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7169 target RNA, herein designated GAM TARGET RNA. GAM7169 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7169 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7169 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7169 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7169 RNA, herein designated GAM RNA, to target binding sites on GAM7169 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7169 target RNA into GAM7169 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7169 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7169 target genes. The mRNA of each one of this plurality of GAM7169 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7169 RNA, herein designated GAM RNA, and which when bound by GAM7169 RNA causes inhibition of translation

of the GAM7169 target mRNA into a corresponding GAM7169 target protein.

The mechanism of the translational inhibition exerted by GAM7169 RNA, herein designated GAM RNA, on one or more GAM7169 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7169 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7169 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7169 RNA, herein designated GAM RNA, of GAM7169 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7169 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7169 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7169 RNA correlate with, and may be deduced from, the identity of the GAM7169 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7179 142164 ACTAAAATCA Fig. 8 further provides a conceptual description of another novel bioinformatically
ACACAATAAT detected oligonucleotides of the present invention, referred to here as Genomic Address
TGAAATATTT Messenger 7179 (GAM7179) oligonucleotides modulates expression of respective target genes
TCAAGCTGAT whose function and utility is known in the art.

TACACCGCAG GAM7179 is a novel bioinformatically detectable regulatory, non protein coding,
CCCGAGGCTA micro RNA (miRNA)-like oligonucleotide. The method by which GAM7179 was detected is

GCCTGGTTGC described with additional reference to Figs. 9-15.

TAAGGGTGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTCCGCGGTT encoded by the human genome.

GCTAGGGGGA GAM7179 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7179
GTAAATCATC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7179
TTGCATTATT precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

TGATTTTTGT to the nucleotide sequence of GAM7179 precursor RNA is designated SEQ ID:142164, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142164 is located from position 1018984 to position 1019113 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM7179 precursor RNA folds onto itself, forming GAM7179 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7179 precursor RNA, designated SEQ ID NO: 142164, and a schematic representation of a predicted secondary folding of GAM7179 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7179 folded precursor RNA yielding a GAM7179 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7179 RNA, hereby incorporated herein.

GAM7179 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7179 target RNA, herein designated GAM TARGET RNA. GAM7179 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7179 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7179 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7179 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7179 RNA, herein designated GAM RNA, to target binding sites on GAM7179 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7179 target RNA into GAM7179 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7179 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7179 target genes. The mRNA of each one of this plurality of GAM7179 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7179 RNA, herein designated GAM RNA, and which when bound by GAM7179 RNA causes inhibition of translation of the GAM7179 target mRNA into a corresponding GAM7179 target protein.

The mechanism of the translational inhibition exerted by GAM7179 RNA, herein designated GAM RNA, on one or more GAM7179 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7179 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7179 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7179 RNA, herein designated GAM RNA, of GAM7179 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7179 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7179 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7179 RNA correlate with, and may be deduced from, the identity of the GAM7179 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7199 142165 GGATTTGGCA Fig. 8 further provides a conceptual description of another novel bioinformatically
AAGAAGGCAG detected oligonucleotides of the present invention, referred to here as Genomic Address
TACAGTTAAT Messenger 7199 (GAM7199) oligonucleotides modulates expression of respective target genes
CCTGGCTGCA whose function and utility is known in the art.

ACTGCTGGAA GAM7199 is a novel bioinformatically detectable regulatory, non protein coding,
AATTTGCTAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM7199 was detected is

ACCC described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM7199 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7199 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7199 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7199 precursor RNA is designated SEQ ID:142165, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142165 is located from position 48078880 to position 48078943 relative to chromosome chr13 on the `-` strand (chr is an abbreviation for chromosome).

GAM7199 precursor RNA folds onto itself, forming GAM7199 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7199 precursor RNA, designated SEQ ID NO: 142165, and a schematic representation of a predicted secondary folding of GAM7199 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7199 folded precursor RNA yielding a GAM7199 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7199 RNA, hereby incorporated herein.

GAM7199 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7199 target RNA, herein designated GAM TARGET RNA. GAM7199 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7199 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7199 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7199 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7199 RNA, herein designated GAM RNA, to target binding sites on GAM7199 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7199 target RNA into GAM7199 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7199 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7199 target genes. The mRNA of each one of this plurality of GAM7199 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7199 RNA, herein designated GAM RNA, and which when bound by GAM7199 RNA causes inhibition of translation of the GAM7199 target mRNA into a corresponding GAM7199 target protein.

The mechanism of the translational inhibition exerted by GAM7199 RNA, herein designated GAM RNA, on one or more GAM7199 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7199 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7199 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7199 RNA, herein designated GAM RNA, of GAM7199 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7199 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7199 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7199 RNA correlate with, and may be deduced from, the identity of the GAM7199 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7201 142166 ACTCTATTTT ATTCAAATGG CACTATGATA TGAGTTCAAA AAATTTTTGA AACAGTGTCC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 7201 (GAM7201) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM7201 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM7201 was detected is

TTTGTTTTGA described with additional reference to Figs. 9-15.

GATGGAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM7201 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7201

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7201

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7201 precursor RNA is designated SEQ ID:142166, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142166 is located from position 27583817 to position 27583894 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM7201 precursor RNA folds onto itself, forming GAM7201 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7201 precursor RNA, designated SEQ ID NO: 142166, and a schematic representation of a predicted secondary folding of GAM7201 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7201 folded precursor RNA yielding a GAM7201 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7201 RNA, hereby incorporated herein.

GAM7201 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7201 target RNA, herein designated GAM TARGET RNA. GAM7201 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7201 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7201 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7201 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7201 RNA, herein designated GAM RNA, to target binding sites on GAM7201 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7201 target RNA into GAM7201 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7201 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7201 target genes. The mRNA of each one of this plurality of GAM7201 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7201 RNA, herein designated GAM RNA, and which when bound by GAM7201 RNA causes inhibition of translation of the GAM7201 target mRNA into a corresponding GAM7201 target protein.

The mechanism of the translational inhibition exerted by GAM7201 RNA, herein designated GAM RNA, on one or more GAM7201 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7201 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7201 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7201 RNA, herein designated GAM RNA, of GAM7201 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7201 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7201 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7201 RNA correlate with, and may be deduced from, the identity of the GAM7201 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7212 142167 GGCCAGGACT CTTGCAGAAC TGAGACCTGG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 7212 (GAM7212) oligonucleotides modulates expression of respective target genes

GAGCTCCTCC whose function and utility is known in the art.

CTCACCAGGA GAM7212 is a novel bioinformatically detectable regulatory, non protein coding, AGGGACCCGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM7212 was detected is

GGCAGGCGGC described with additional reference to Figs. 9-15.

GGGGGTCTCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGCC encoded by the human genome.

GAM7212 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7212 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7212 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7212 precursor RNA is designated SEQ ID:142167, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142167 is located from position 45164402 to position 45164486 relative to chromosome chr21 on the `-` strand (chr is an abbreviation for chromosome).

GAM7212 precursor RNA folds onto itself, forming GAM7212 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7212 precursor RNA, designated SEQ ID NO: 142167, and a schematic representation of a predicted secondary folding of GAM7212 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7212 folded precursor RNA yielding a GAM7212 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7212 RNA, hereby incorporated herein.

GAM7212 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7212 target RNA, herein designated GAM TARGET RNA. GAM7212 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7212 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7212 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7212 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7212 RNA, herein designated GAM RNA, to target binding sites on GAM7212 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7212 target RNA into GAM7212 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7212 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7212 target genes. The mRNA of each one of this plurality of GAM7212 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7212 RNA, herein designated GAM RNA, and which when bound by GAM7212 RNA causes inhibition of translation of the GAM7212 target mRNA into a corresponding GAM7212 target protein.

The mechanism of the translational inhibition exerted by GAM7212 RNA, herein designated GAM RNA, on one or more GAM7212 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7212 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7212 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7212 RNA, herein designated GAM RNA, of GAM7212 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7212 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7212 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7212 RNA correlate with, and may be deduced from, the identity of the GAM7212 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7241 142168 ATGACTGTGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TGCAGGAGGC detected oligonucleotides of the present invention, referred to here as Genomic Address
GGCTCAGTGT Messenger 7241 (GAM7241) oligonucleotides modulates expression of respective target genes
GAAGAACTAC whose function and utility is known in the art.

GGGTTTCCTG GAM7241 is a novel bioinformatically detectable regulatory, non protein coding,
ATGTTGAAGC micro RNA (miRNA)-like oligonucleotide. The method by which GAM7241 was detected is

TCAGAATTAG described with additional reference to Figs. 9-15.

CCACACTGAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTTCTCAGTC encoded by the human genome.

ATGCAT GAM7241 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7241
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7241
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7241 precursor RNA is designated SEQ ID:142168, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142168 is located from position 46762982 to position 46763077 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM7241 precursor RNA folds onto itself, forming GAM7241 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7241 precursor RNA, designated SEQ ID NO: 142168, and a schematic representation of a predicted secondary folding of GAM7241 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7241 folded precursor RNA yielding a GAM7241 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7241 RNA, hereby incorporated herein.

GAM7241 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7241 target RNA, herein designated GAM TARGET RNA. GAM7241 target RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated

region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7241 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7241 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7241 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7241 RNA, herein designated GAM RNA, to target binding sites on GAM7241 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7241 target RNA into GAM7241 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7241 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7241 target genes. The mRNA of each one of this plurality of GAM7241 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7241 RNA, herein designated GAM RNA, and which when bound by GAM7241 RNA causes inhibition of translation of the GAM7241 target mRNA into a corresponding GAM7241 target protein.

The mechanism of the translational inhibition exerted by GAM7241 RNA, herein designated GAM RNA, on one or more GAM7241 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7241 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7241 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7241 RNA, herein designated GAM RNA, of GAM7241 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7241 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7241 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7241 RNA correlate with, and may be deduced from, the identity of the GAM7241 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7250 142169 CAGGGAGAAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AGCTGTGTGC detected oligonucleotides of the present invention, referred to here as Genomic Address
TGTGATGTGG Messenger 7250 (GAM7250) oligonucleotides modulates expression of respective target genes
TTTATAAATT whose function and utility is known in the art.

ACCATTTGGA GAM7250 is a novel bioinformatically detectable regulatory, non protein coding,
AGGAGCTGCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM7250 was detected is

CAGCACAGCA described with additional reference to Figs. 9-15.

GCCTGCAACT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACTCTTCCTG encoded by the human genome.

GAM7250 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7250

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7250

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7250 precursor RNA is designated SEQ ID:142169, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142169 is located from position 82179628 to position 82179717 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM7250 precursor RNA folds onto itself, forming GAM7250 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7250 precursor RNA, designated SEQ ID NO: 142169, and a schematic representation of a predicted secondary folding of GAM7250 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7250 folded precursor RNA yielding a GAM7250 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7250 RNA, hereby incorporated herein.

GAM7250 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7250 target RNA, herein designated GAM TARGET RNA. GAM7250 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7250 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7250 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7250 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7250 RNA, herein designated GAM RNA, to target binding sites on GAM7250 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7250 target RNA into GAM7250 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7250 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7250 target genes. The mRNA of each one of this plurality of GAM7250 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7250 RNA, herein designated GAM RNA, and which when bound by GAM7250 RNA causes inhibition of translation of the GAM7250 target mRNA into a corresponding GAM7250 target protein.

The mechanism of the translational inhibition exerted by GAM7250 RNA, herein designated GAM RNA, on one or more GAM7250 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7250 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7250 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7250 RNA, herein designated GAM RNA, of GAM7250 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM7250 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7250 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7250 RNA correlate with, and may be deduced from, the identity of the GAM7250 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7255 142170 CTTTGAGATG Fig. 8 further provides a conceptual description of another novel bioinformatically
ACTGGTATTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AATGGAGCAG Messenger 7255 (GAM7255) oligonucleotides modulates expression of respective target genes
TCTTTGAAAG whose function and utility is known in the art.

GCACCAACCC GAM7255 is a novel bioinformatically detectable regulatory, non protein coding,
TTCCTAACTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM7255 was detected is

ATGGTGGTCT described with additional reference to Figs. 9-15.

CTTGAAAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCTCTTCCAA encoded by the human genome.

ATTTGTCTTC GAM7255 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7255
TGAAAG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7255
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7255 precursor RNA is designated SEQ ID:142170, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142170 is located from position 33981298 to position 33981403 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM7255 precursor RNA folds onto itself, forming GAM7255 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7255 precursor RNA, designated SEQ ID NO: 142170, and a schematic representation of a predicted secondary folding of GAM7255 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7255 folded precursor RNA yielding a GAM7255 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt

long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7255 RNA, hereby incorporated herein.

GAM7255 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7255 target RNA, herein designated GAM TARGET RNA. GAM7255 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7255 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7255 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7255 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7255 RNA, herein designated GAM RNA, to target binding sites on GAM7255 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7255 target RNA into GAM7255 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7255 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7255 target genes. The mRNA of each one of this plurality of GAM7255 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7255 RNA, herein designated GAM RNA, and which when bound by GAM7255 RNA causes inhibition of translation of the GAM7255 target mRNA into a corresponding GAM7255 target protein.

The mechanism of the translational inhibition exerted by GAM7255 RNA, herein designated GAM RNA, on one or more GAM7255 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7255 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7255 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7255 RNA, herein designated GAM RNA, of

GAM7255 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7255 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7255 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7255 RNA correlate with, and may be deduced from, the identity of the GAM7255 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7257 142171 GTAGAGGTGG Fig. 8 further provides a conceptual description of another novel bioinformatically

GGTTTCTCCA detected oligonucleotides of the present invention, referred to here as Genomic Address

TGTTGGTCAG Messenger 7257 (GAM7257) oligonucleotides modulates expression of respective target genes

GCTGGTCTTT whose function and utility is known in the art.

AACTCCTGAC GAM7257 is a novel bioinformatically detectable regulatory, non protein coding,

CTCAGGTGAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM7257 was detected is

ACGCCCGCCT described with additional reference to Figs. 9-15.

TGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM7257 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7257

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7257

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7257 precursor RNA is designated SEQ ID:142171, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142171 is located from position 159922811 to position 159922884 relative to chromosome chr6 on the `-` strand (chr is an abbreviation for chromosome).

GAM7257 precursor RNA folds onto itself, forming GAM7257 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7257 precursor RNA, designated SEQ ID NO: 142171, and a schematic representation of a predicted secondary folding of GAM7257 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7257 folded precursor RNA yielding a GAM7257 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM7257 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7257 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM7257 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7257 target RNA, herein designated GAM TARGET RNA. GAM7257 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7257 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7257 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7257 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7257 RNA, herein designated GAM RNA, to target binding sites on GAM7257 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7257 target RNA into GAM7257 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7257 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7257 target genes. The mRNA of each one of this plurality of GAM7257 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7257 RNA, herein designated GAM RNA, and which when bound by GAM7257 RNA causes inhibition of translation of the GAM7257 target mRNA into a corresponding GAM7257 target protein.

The mechanism of the translational inhibition exerted by GAM7257 RNA, herein designated GAM RNA, on one or more GAM7257 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7257 precursor RNA, herein designated GAM PRECURSOR

RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7257 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7257 RNA, herein designated GAM RNA, of GAM7257 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7257 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7257 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7257 RNA correlate with, and may be deduced from, the identity of the GAM7257 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7260 142172 CTGAATCATG Fig. 8 further provides a conceptual description of another novel bioinformatically

CAGTGTATAC detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGATGTCAG Messenger 7260 (GAM7260) oligonucleotides modulates expression of respective target genes

TGAAGAGGTC whose function and utility is known in the art.

TGGCAGGAAT GAM7260 is a novel bioinformatically detectable regulatory, non protein coding,

GCCTCACTCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM7260 was detected is

CTTCCTACTG described with additional reference to Figs. 9-15.

ACTGGTACAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTTATGATGC encoded by the human genome.

AG GAM7260 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7260

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7260

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7260 precursor RNA is designated SEQ ID:142172, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142172 is located from position 61858740 to position 61858831 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM7260 precursor RNA folds onto itself, forming GAM7260 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7260 precursor RNA, designated SEQ ID NO: 142172, and a schematic representation of a predicted secondary folding of GAM7260 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7260 folded precursor RNA yielding a GAM7260 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7260 RNA, hereby incorporated herein.

GAM7260 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7260 target RNA, herein designated GAM TARGET RNA. GAM7260 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7260 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7260 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7260 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7260 RNA, herein designated GAM RNA, to target binding sites on GAM7260 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7260 target RNA into GAM7260 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7260 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7260 target genes. The mRNA of each one of this plurality of GAM7260 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7260 RNA, herein designated GAM RNA, and which when bound by GAM7260 RNA causes inhibition of translation of the GAM7260 target mRNA into a corresponding GAM7260 target protein.

The mechanism of the translational inhibition exerted by GAM7260 RNA, herein

designated GAM RNA, on one or more GAM7260 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7260 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7260 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7260 RNA, herein designated GAM RNA, of GAM7260 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7260 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7260 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7260 RNA correlate with, and may be deduced from, the identity of the GAM7260 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7264 142173 GCTGTCTATT Fig. 8 further provides a conceptual description of another novel bioinformatically
ATGAGTCTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
CTGGCACAGA Messenger 7264 (GAM7264) oligonucleotides modulates expression of respective target genes
CATCTGTCAA whose function and utility is known in the art.

GGAAGAAGGA GAM7264 is a novel bioinformatically detectable regulatory, non protein coding,
TTCTTTGAGC micro RNA (miRNA)-like oligonucleotide. The method by which GAM7264 was detected is

GTATTTGTGT described with additional reference to Figs. 9-15.

CAGTCAACTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CATATATGGA encoded by the human genome.

CCACAACAGA GAM7264 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7264
AAGC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7264
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7264 precursor RNA is designated SEQ ID:142173, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142173 is located from position 78654885 to position 78654988 relative to chromosome

chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM7264 precursor RNA folds onto itself, forming GAM7264 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7264 precursor RNA, designated SEQ ID NO: 142173, and a schematic representation of a predicted secondary folding of GAM7264 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7264 folded precursor RNA yielding a GAM7264 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7264 RNA, hereby incorporated herein.

GAM7264 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7264 target RNA, herein designated GAM TARGET RNA. GAM7264 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7264 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7264 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7264 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7264 RNA, herein designated GAM RNA, to target binding sites on GAM7264 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7264 target RNA into GAM7264 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7264 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7264 target genes. The mRNA of each one of this plurality of GAM7264 target genes comprises one or more target binding sites, each having

a nucleotide sequence which is at least partly complementary to GAM7264 RNA, herein designated GAM RNA, and which when bound by GAM7264 RNA causes inhibition of translation of the GAM7264 target mRNA into a corresponding GAM7264 target protein.

The mechanism of the translational inhibition exerted by GAM7264 RNA, herein designated GAM RNA, on one or more GAM7264 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7264 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7264 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7264 RNA, herein designated GAM RNA, of GAM7264 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7264 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7264 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7264 RNA correlate with, and may be deduced from, the identity of the GAM7264 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7272 142174 CCCTTTCAAA Fig. 8 further provides a conceptual description of another novel bioinformatically

ACAAAGCTTT detected oligonucleotides of the present invention, referred to here as Genomic Address

CCCAGGATAG Messenger 7272 (GAM7272) oligonucleotides modulates expression of respective target genes

CCCTGGGCAG whose function and utility is known in the art.

AACTCCTGGG GAM7272 is a novel bioinformatically detectable regulatory, non protein coding,

ATTGACTGGG micro RNA (miRNA)-like oligonucleotide. The method by which GAM7272 was detected is

CAGTAATGTA described with additional reference to Figs. 9-15.

GTTGAGAGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM7272 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7272

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7272

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7272 precursor RNA is designated SEQ ID:142174, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142174 is located from position 44585164 to position 44585243 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM7272 precursor RNA folds onto itself, forming GAM7272 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7272 precursor RNA, designated SEQ ID NO: 142174, and a schematic representation of a predicted secondary folding of GAM7272 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7272 folded precursor RNA yielding a GAM7272 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM7272 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7272 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM7272 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7272 target RNA, herein designated GAM TARGET RNA. GAM7272 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7272 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7272 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7272 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7272 RNA, herein designated GAM RNA, to target binding sites on GAM7272 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7272 target RNA into GAM7272 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM7272 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7272 target genes. The mRNA of each one of this plurality of GAM7272 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7272 RNA, herein designated GAM RNA, and which when bound by GAM7272 RNA causes inhibition of translation of the GAM7272 target mRNA into a corresponding GAM7272 target protein.

The mechanism of the translational inhibition exerted by GAM7272 RNA, herein designated GAM RNA, on one or more GAM7272 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7272 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7272 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7272 RNA, herein designated GAM RNA, of GAM7272 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7272 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7272 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7272 RNA correlate with, and may be deduced from, the identity of the GAM7272 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7302 142175 CCTCCTGTGT Fig. 8 further provides a conceptual description of another novel bioinformatically

CCCAAAACGA detected oligonucleotides of the present invention, referred to here as Genomic Address

AAACACTCCT Messenger 7302 (GAM7302) oligonucleotides modulates expression of respective target genes

ATATTTTGTA whose function and utility is known in the art.

GCGCCTTCCA GAM7302 is a novel bioinformatically detectable regulatory, non protein coding,

GAATGGGGCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM7302 was detected is

GCGGAAACTA described with additional reference to Figs. 9-15.

GTGTTGGGAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAAGGAGG encoded by the human genome.

GAM7302 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7302 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7302 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7302 precursor RNA is designated SEQ ID:142175, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142175 is located from position 53161341 to position 53161428 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM7302 precursor RNA folds onto itself, forming GAM7302 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7302 precursor RNA, designated SEQ ID NO: 142175, and a schematic representation of a predicted secondary folding of GAM7302 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7302 folded precursor RNA yielding a GAM7302 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM7302 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7302 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM7302 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7302 target RNA, herein designated GAM TARGET RNA. GAM7302 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7302 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7302 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7302 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7302 RNA, herein designated GAM RNA, to target binding sites on GAM7302 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7302 target RNA into GAM7302 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7302 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7302 target genes. The mRNA of each one of this plurality of GAM7302 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7302 RNA, herein designated GAM RNA, and which when bound by GAM7302 RNA causes inhibition of translation of the GAM7302 target mRNA into a corresponding GAM7302 target protein.

The mechanism of the translational inhibition exerted by GAM7302 RNA, herein designated GAM RNA, on one or more GAM7302 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7302 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7302 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7302 RNA, herein designated GAM RNA, of GAM7302 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7302 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7302 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7302 RNA correlate with, and may be deduced from, the identity of the GAM7302 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7320 142176 CTCTTGACCA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAGGTTCTCA detected oligonucleotides of the present invention, referred to here as Genomic Address
AATGAGGGAC Messenger 7320 (GAM7320) oligonucleotides modulates expression of respective target genes
ATTTTACCTG whose function and utility is known in the art.

CCGGGGACAT GAM7320 is a novel bioinformatically detectable regulatory, non protein coding,

TTCCAATGTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM7320 was detected is

TGGGGACACT described with additional reference to Figs. 9-15.

TTTGGTTATC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AG encoded by the human genome.

GAM7320 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7320

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7320

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7320 precursor RNA is designated SEQ ID:142176, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142176 is located from position 69298330 to position 69298411 relative to chromosome chr5 on the `-` strand (chr is an abbreviation for chromosome).

GAM7320 precursor RNA folds onto itself, forming GAM7320 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7320 precursor RNA, designated SEQ ID NO: 142176, and a schematic representation of a predicted secondary folding of GAM7320 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7320 folded precursor RNA yielding a GAM7320 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM7320 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7320 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM7320 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7320 target RNA, herein designated GAM TARGET RNA. GAM7320 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7320 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7320 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7320 RNA is a partial or fully complementary sequence of the

nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7320 RNA, herein designated GAM RNA, to target binding sites on GAM7320 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7320 target RNA into GAM7320 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7320 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7320 target genes. The mRNA of each one of this plurality of GAM7320 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7320 RNA, herein designated GAM RNA, and which when bound by GAM7320 RNA causes inhibition of translation of the GAM7320 target mRNA into a corresponding GAM7320 target protein.

The mechanism of the translational inhibition exerted by GAM7320 RNA, herein designated GAM RNA, on one or more GAM7320 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7320 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7320 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7320 RNA, herein designated GAM RNA, of GAM7320 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7320 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7320 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7320 RNA correlate with, and may be deduced from, the identity of the GAM7320 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7331 142177 GAGGTAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AACTGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACTCAGGAGG Messenger 7331 (GAM7331) oligonucleotides modulates expression of respective target genes
CGGGGGCTGC whose function and utility is known in the art.

AATGAGCTGA GAM7331 is a novel bioinformatically detectable regulatory, non protein coding,
GATCAAGCCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM7331 was detected is

CTGCACTCCA described with additional reference to Figs. 9-15.

GCCTATGGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TAGAGTGAGA encoded by the human genome.

TTCCATCTC GAM7331 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7331
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7331
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7331 precursor RNA is designated SEQ ID:142177, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142177 is located from position 61512957 to position 61513055 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM7331 precursor RNA folds onto itself, forming GAM7331 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7331 precursor RNA, designated SEQ ID NO: 142177, and a schematic representation of a predicted secondary folding of GAM7331 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7331 folded precursor RNA yielding a GAM7331 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7331 RNA, hereby incorporated herein.

GAM7331 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7331 target RNA, herein designated GAM TARGET RNA. GAM7331 target RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7331 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7331 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7331 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7331 RNA, herein designated GAM RNA, to target binding sites on GAM7331 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7331 target RNA into GAM7331 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7331 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7331 target genes. The mRNA of each one of this plurality of GAM7331 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7331 RNA, herein designated GAM RNA, and which when bound by GAM7331 RNA causes inhibition of translation of the GAM7331 target mRNA into a corresponding GAM7331 target protein.

The mechanism of the translational inhibition exerted by GAM7331 RNA, herein designated GAM RNA, on one or more GAM7331 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7331 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7331 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7331 RNA, herein designated GAM RNA, of GAM7331 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7331 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7331 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7331 RNA correlate with, and may be deduced from, the identity of the GAM7331 target gene inhibited

thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7345 142178 GAATAAATAA Fig. 8 further provides a conceptual description of another novel bioinformatically
GCTGCTCTAA detected oligonucleotides of the present invention, referred to here as Genomic Address
TTGCCAAGAA Messenger 7345 (GAM7345) oligonucleotides modulates expression of respective target genes
TTCACATGTG whose function and utility is known in the art.

GTTGTATGCA GAM7345 is a novel bioinformatically detectable regulatory, non protein coding,
GCTTTACTGG micro RNA (miRNA)-like oligonucleotide. The method by which GAM7345 was detected is

GAGACTGAAG described with additional reference to Figs. 9-15.

TGTATCTGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGTGATTCTG encoded by the human genome.

CTGTGATGGA GAM7345 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7345
CACTTGTAAG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7345
TTT precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7345 precursor RNA is designated SEQ ID:142178, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142178 is located from position 62131103 to position 62131215 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM7345 precursor RNA folds onto itself, forming GAM7345 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7345 precursor RNA, designated SEQ ID NO: 142178, and a schematic representation of a predicted secondary folding of GAM7345 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7345 folded precursor RNA yielding a GAM7345 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7345 RNA, hereby incorporated herein.

GAM7345 target gene, herein designated GAM TARGET GENE, encodes a corresponding

messenger RNA, GAM7345 target RNA, herein designated GAM TARGET RNA. GAM7345 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7345 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7345 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7345 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7345 RNA, herein designated GAM RNA, to target binding sites on GAM7345 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7345 target RNA into GAM7345 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7345 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7345 target genes. The mRNA of each one of this plurality of GAM7345 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7345 RNA, herein designated GAM RNA, and which when bound by GAM7345 RNA causes inhibition of translation of the GAM7345 target mRNA into a corresponding GAM7345 target protein.

The mechanism of the translational inhibition exerted by GAM7345 RNA, herein designated GAM RNA, on one or more GAM7345 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7345 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7345 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7345 RNA, herein designated GAM RNA, of GAM7345 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7345 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target

binding sites to GAM7345 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7345 RNA correlate with, and may be deduced from, the identity of the GAM7345 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7349 142179 CTGTCTCTGG Fig. 8 further provides a conceptual description of another novel bioinformatically
GCCCTGTCTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGGCTTCTTA Messenger 7349 (GAM7349) oligonucleotides modulates expression of respective target genes
AGATGTTGTT whose function and utility is known in the art.

ACAATAATCT GAM7349 is a novel bioinformatically detectable regulatory, non protein coding,
ACTATGTGGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM7349 was detected is

GTGTCTGGAG described with additional reference to Figs. 9-15.

GTGTCTCTTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTTCTCTGGC encoded by the human genome.

ATTAAGAGAC GAM7349 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7349
AG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7349
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7349 precursor RNA is designated SEQ ID:142179, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142179 is located from position 43372332 to position 43372433 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM7349 precursor RNA folds onto itself, forming GAM7349 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7349 precursor RNA, designated SEQ ID NO: 142179, and a schematic representation of a predicted secondary folding of GAM7349 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7349 folded precursor RNA yielding a GAM7349 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an

enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7349 RNA, hereby incorporated herein.

GAM7349 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7349 target RNA, herein designated GAM TARGET RNA. GAM7349 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7349 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7349 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7349 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7349 RNA, herein designated GAM RNA, to target binding sites on GAM7349 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7349 target RNA into GAM7349 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7349 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7349 target genes. The mRNA of each one of this plurality of GAM7349 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7349 RNA, herein designated GAM RNA, and which when bound by GAM7349 RNA causes inhibition of translation of the GAM7349 target mRNA into a corresponding GAM7349 target protein.

The mechanism of the translational inhibition exerted by GAM7349 RNA, herein designated GAM RNA, on one or more GAM7349 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7349 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7349 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7349 RNA, herein designated GAM RNA, of GAM7349 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7349 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7349 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7349 RNA correlate with, and may be deduced from, the identity of the GAM7349 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7350 142180 GTCCTTTAGT Fig. 8 further provides a conceptual description of another novel bioinformatically
CTCTATTTTT detected oligonucleotides of the present invention, referred to here as Genomic Address
GCTCCTAATT Messenger 7350 (GAM7350) oligonucleotides modulates expression of respective target genes
GTTCCTGCAG whose function and utility is known in the art.

GTAGTAGGTT GAM7350 is a novel bioinformatically detectable regulatory, non protein coding,
AACATGTAAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM7350 was detected is

GTACTTACAG described with additional reference to Figs. 9-15.

AAGGAAGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTGAACATGG encoded by the human genome.

CATAGATACT GAM7350 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7350
GAAAGAAAGG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7350
GC precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7350 precursor RNA is designated SEQ ID:142180, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142180 is located from position 83600201 to position 83600312 relative to chromosome chr1 on the `+` strand (chr is an abbreviation for chromosome).

GAM7350 precursor RNA folds onto itself, forming GAM7350 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7350 precursor RNA, designated SEQ ID NO: 142180, and a schematic representation of a predicted secondary folding of GAM7350 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7350 folded precursor RNA yielding a GAM7350 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM7350 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7350 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM7350 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7350 target RNA, herein designated GAM TARGET RNA. GAM7350 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7350 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7350 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7350 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7350 RNA, herein designated GAM RNA, to target binding sites on GAM7350 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7350 target RNA into GAM7350 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7350 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7350 target genes. The mRNA of each one of this plurality of GAM7350 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7350 RNA, herein designated GAM RNA, and which when bound by GAM7350 RNA causes inhibition of translation of the GAM7350 target mRNA into a corresponding GAM7350 target protein.

The mechanism of the translational inhibition exerted by GAM7350 RNA, herein designated GAM RNA, on one or more GAM7350 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7350 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7350 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7350 RNA, herein designated GAM RNA, of GAM7350 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7350 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7350 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7350 RNA correlate with, and may be deduced from, the identity of the GAM7350 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7363 142181 AGCAAGGACA Fig. 8 further provides a conceptual description of another novel bioinformatically

AGTTGTGACC detected oligonucleotides of the present invention, referred to here as Genomic Address

TTCCCAGTCC Messenger 7363 (GAM7363) oligonucleotides modulates expression of respective target genes

TCTCTCCATT whose function and utility is known in the art.

TGCAGATCAG GAM7363 is a novel bioinformatically detectable regulatory, non protein coding,

CAAGCTTCTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM7363 was detected is

TCAGCAAGGA described with additional reference to Figs. 9-15.

GGGGTGGACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATGAAACTGG encoded by the human genome.

GTTCAGCTTG GAM7363 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7363

ATTTGTT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7363

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7363 precursor RNA is designated SEQ ID:142181, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142181 is located from position 97689215 to position 97689321 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM7363 precursor RNA folds onto itself, forming GAM7363 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7363 precursor RNA, designated SEQ ID NO: 142181, and a schematic representation of a predicted secondary folding of GAM7363 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7363 folded precursor RNA yielding a GAM7363 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7363 RNA, hereby incorporated herein.

GAM7363 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7363 target RNA, herein designated GAM TARGET RNA. GAM7363 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7363 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7363 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7363 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7363 RNA, herein designated GAM RNA, to target binding sites on GAM7363 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7363 target RNA into GAM7363 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7363 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7363 target genes. The mRNA of each one of this plurality of GAM7363 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7363 RNA, herein designated GAM RNA, and which when bound by GAM7363 RNA causes inhibition of translation of the GAM7363 target mRNA into a corresponding GAM7363 target protein.

The mechanism of the translational inhibition exerted by GAM7363 RNA, herein designated GAM RNA, on one or more GAM7363 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7363 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7363 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7363 RNA, herein designated GAM RNA, of GAM7363 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7363 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7363 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7363 RNA correlate with, and may be deduced from, the identity of the GAM7363 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7366 142182 GGAGAATTGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GTGGCGGAGG Messenger 7366 (GAM7366) oligonucleotides modulates expression of respective target genes

TTGTGGTGAG whose function and utility is known in the art.

TGAAGATTGC GAM7366 is a novel bioinformatically detectable regulatory, non protein coding,

ACTATTGCAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM7366 was detected is

TCCAGCCTGG described with additional reference to Figs. 9-15.

GCAACAAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGAAACTCC encoded by the human genome.

GAM7366 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7366

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7366

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7366 precursor RNA is designated SEQ ID:142182, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142182 is located from position 49033585 to position 49033673 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM7366 precursor RNA folds onto itself, forming GAM7366 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7366 precursor RNA, designated SEQ ID NO: 142182, and a schematic representation of a predicted secondary folding of GAM7366 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7366 folded precursor RNA yielding a GAM7366 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7366 RNA, hereby incorporated herein.

GAM7366 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7366 target RNA, herein designated GAM TARGET RNA. GAM7366 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7366 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7366 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7366 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7366 RNA, herein designated GAM RNA, to target binding sites on GAM7366 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7366 target RNA into GAM7366 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7366 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7366 target genes. The mRNA of each one of this plurality of GAM7366 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7366 RNA, herein designated GAM RNA, and which when bound by GAM7366 RNA causes inhibition of translation

of the GAM7366 target mRNA into a corresponding GAM7366 target protein.

The mechanism of the translational inhibition exerted by GAM7366 RNA, herein designated GAM RNA, on one or more GAM7366 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7366 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7366 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7366 RNA, herein designated GAM RNA, of GAM7366 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7366 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7366 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7366 RNA correlate with, and may be deduced from, the identity of the GAM7366 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7369 142183 TCTCTCTTCC Fig. 8 further provides a conceptual description of another novel bioinformatically
CTCTCATCAT detected oligonucleotides of the present invention, referred to here as Genomic Address
AGATTAATCA Messenger 7369 (GAM7369) oligonucleotides modulates expression of respective target genes
CTTAGTTGCA whose function and utility is known in the art.

AGGGACCAGT GAM7369 is a novel bioinformatically detectable regulatory, non protein coding,
AAATTAACAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM7369 was detected is

AATGGTGAAC described with additional reference to Figs. 9-15.

ATTTTCCTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCTTGGTGCT encoded by the human genome.

TTTGCTGGAT GAM7369 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7369
GACTAGTGGT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7369
TTCTGCTGGA precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

ACAGAGA to the nucleotide sequence of GAM7369 precursor RNA is designated SEQ ID:142183, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142183 is located from position 26088279 to position 26088405 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM7369 precursor RNA folds onto itself, forming GAM7369 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7369 precursor RNA, designated SEQ ID NO: 142183, and a schematic representation of a predicted secondary folding of GAM7369 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7369 folded precursor RNA yielding a GAM7369 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7369 RNA, hereby incorporated herein.

GAM7369 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7369 target RNA, herein designated GAM TARGET RNA. GAM7369 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7369 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7369 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7369 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7369 RNA, herein designated GAM RNA, to target binding sites on GAM7369 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7369 target RNA into GAM7369 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7369 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7369 target genes. The mRNA of each one of this plurality of GAM7369 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7369 RNA, herein designated GAM RNA, and which when bound by GAM7369 RNA causes inhibition of translation of the GAM7369 target mRNA into a corresponding GAM7369 target protein.

The mechanism of the translational inhibition exerted by GAM7369 RNA, herein designated GAM RNA, on one or more GAM7369 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7369 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7369 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7369 RNA, herein designated GAM RNA, of GAM7369 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7369 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7369 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7369 RNA correlate with, and may be deduced from, the identity of the GAM7369 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7371 142184 GGGAAAGCAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AAGGTTGGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

CTGGAGGTCT Messenger 7371 (GAM7371) oligonucleotides modulates expression of respective target genes

GCTGGCAGGC whose function and utility is known in the art.

AGGCAGACAT GAM7371 is a novel bioinformatically detectable regulatory, non protein coding,

TTGGAGCCAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM7371 was detected is

CTTTCCTGCT described with additional reference to Figs. 9-15.

CAGCCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM7371 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7371 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7371 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7371 precursor RNA is designated SEQ ID:142184, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142184 is located from position 127634676 to position 127634751 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM7371 precursor RNA folds onto itself, forming GAM7371 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7371 precursor RNA, designated SEQ ID NO: 142184, and a schematic representation of a predicted secondary folding of GAM7371 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7371 folded precursor RNA yielding a GAM7371 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM7371 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7371 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM7371 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7371 target RNA, herein designated GAM TARGET RNA. GAM7371 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7371 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7371 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7371 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7371 RNA, herein designated GAM RNA, to target binding sites on GAM7371 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7371 target RNA into GAM7371 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7371 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7371 target genes. The mRNA of each one of this plurality of GAM7371 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7371 RNA, herein designated GAM RNA, and which when bound by GAM7371 RNA causes inhibition of translation of the GAM7371 target mRNA into a corresponding GAM7371 target protein.

The mechanism of the translational inhibition exerted by GAM7371 RNA, herein designated GAM RNA, on one or more GAM7371 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7371 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7371 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7371 RNA, herein designated GAM RNA, of GAM7371 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7371 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7371 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7371 RNA correlate with, and may be deduced from, the identity of the GAM7371 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7374 142185 CCTCATTGGT Fig. 8 further provides a conceptual description of another novel bioinformatically
TCATTCGGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
GCTGTTTATT Messenger 7374 (GAM7374) oligonucleotides modulates expression of respective target genes
TAGAACCTGC whose function and utility is known in the art.

CGTGTGCTAG GAM7374 is a novel bioinformatically detectable regulatory, non protein coding,
GGCAGATCTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM7374 was detected is

GGATACAGCT described with additional reference to Figs. 9-15.

GTGGACAAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGGATGAGG encoded by the human genome.

GAM7374 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7374 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7374 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7374 precursor RNA is designated SEQ ID:142185, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142185 is located from position 36127247 to position 36127336 relative to chromosome chr20 on the `-` strand (chr is an abbreviation for chromosome).

GAM7374 precursor RNA folds onto itself, forming GAM7374 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7374 precursor RNA, designated SEQ ID NO: 142185, and a schematic representation of a predicted secondary folding of GAM7374 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7374 folded precursor RNA yielding a GAM7374 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM7374 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7374 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM7374 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7374 target RNA, herein designated GAM TARGET RNA. GAM7374 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7374 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7374 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7374 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7374 RNA, herein designated GAM RNA, to target binding sites on GAM7374 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7374 target RNA into GAM7374 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7374 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7374 target genes. The mRNA of each one of this plurality of GAM7374 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7374 RNA, herein designated GAM RNA, and which when bound by GAM7374 RNA causes inhibition of translation of the GAM7374 target mRNA into a corresponding GAM7374 target protein.

The mechanism of the translational inhibition exerted by GAM7374 RNA, herein designated GAM RNA, on one or more GAM7374 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7374 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7374 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7374 RNA, herein designated GAM RNA, of GAM7374 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7374 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7374 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7374 RNA correlate with, and may be deduced from, the identity of the GAM7374 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7400 142186 GGAGGGGAGG ATACAAGAGG AATGATAAAT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 7400 (GAM7400) oligonucleotides modulates expression of respective target genes

GGCAAGGAAA whose function and utility is known in the art.

ACCACTCACT GAM7400 is a novel bioinformatically detectable regulatory, non protein coding, CTTAATGCTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM7400 was detected is

TTTGTCATAC described with additional reference to Figs. 9-15.

TCATGTCCTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTGTCC encoded by the human genome.

GAM7400 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7400 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7400 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7400 precursor RNA is designated SEQ ID:142186, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142186 is located from position 92806795 to position 92806880 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM7400 precursor RNA folds onto itself, forming GAM7400 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7400 precursor RNA, designated SEQ ID NO: 142186, and a schematic representation of a predicted secondary folding of GAM7400 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7400 folded precursor RNA yielding a GAM7400 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7400 RNA, hereby incorporated herein.

GAM7400 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7400 target RNA, herein designated GAM TARGET RNA. GAM7400 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7400 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7400 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7400 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7400 RNA, herein designated GAM RNA, to target binding sites on GAM7400 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7400 target RNA into GAM7400 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7400 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7400 target genes. The mRNA of each one of this plurality of GAM7400 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7400 RNA, herein designated GAM RNA, and which when bound by GAM7400 RNA causes inhibition of translation of the GAM7400 target mRNA into a corresponding GAM7400 target protein.

The mechanism of the translational inhibition exerted by GAM7400 RNA, herein designated GAM RNA, on one or more GAM7400 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7400 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7400 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7400 RNA, herein designated GAM RNA, of GAM7400 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7400 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7400 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7400 RNA correlate with, and may be deduced from, the identity of the GAM7400 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7415 142187 CCATCTTCAG Fig. 8 further provides a conceptual description of another novel bioinformatically

TGGCATTGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

CCTTGGCTGG Messenger 7415 (GAM7415) oligonucleotides modulates expression of respective target genes

GATGCTGAGT whose function and utility is known in the art.

TATCCACTGG GAM7415 is a novel bioinformatically detectable regulatory, non protein coding,

AGCATCGGCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM7415 was detected is

GTACAGGCAG described with additional reference to Figs. 9-15.

GCACAGAGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGTGGATCCA encoded by the human genome.

TCGGAGGTGG GAM7415 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7415

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7415

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7415 precursor RNA is designated SEQ ID:142187, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142187 is located from position 69762453 to position 69762552 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM7415 precursor RNA folds onto itself, forming GAM7415 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7415 precursor RNA, designated SEQ ID NO: 142187, and a schematic representation of a predicted secondary folding of GAM7415 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7415 folded precursor RNA yielding a GAM7415 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7415 RNA, hereby incorporated herein.

GAM7415 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7415 target RNA, herein designated GAM TARGET RNA. GAM7415 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated

region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7415 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7415 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7415 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7415 RNA, herein designated GAM RNA, to target binding sites on GAM7415 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7415 target RNA into GAM7415 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7415 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7415 target genes. The mRNA of each one of this plurality of GAM7415 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7415 RNA, herein designated GAM RNA, and which when bound by GAM7415 RNA causes inhibition of translation of the GAM7415 target mRNA into a corresponding GAM7415 target protein.

The mechanism of the translational inhibition exerted by GAM7415 RNA, herein designated GAM RNA, on one or more GAM7415 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7415 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7415 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7415 RNA, herein designated GAM RNA, of GAM7415 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7415 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7415 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7415 RNA correlate with, and may be deduced from, the identity of the GAM7415 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7416 142188 GGTACCTTAT Fig. 8 further provides a conceptual description of another novel bioinformatically
TATTGAAAAT detected oligonucleotides of the present invention, referred to here as Genomic Address
CAGATAAACT Messenger 7416 (GAM7416) oligonucleotides modulates expression of respective target genes
TTGGTTGGGT whose function and utility is known in the art.

GGGTATTTGG GAM7416 is a novel bioinformatically detectable regulatory, non protein coding,
AGGAATCTTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM7416 was detected is

TAAGTCTTTT described with additional reference to Figs. 9-15.

CTTAAGCAAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTTTGGACAT encoded by the human genome.

TCTAAAATAA GAM7416 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7416
GGTTGCC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7416

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7416 precursor RNA is designated SEQ ID:142188, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142188 is located from position 34577775 to position 34577881 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GAM7416 precursor RNA folds onto itself, forming GAM7416 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7416 precursor RNA, designated SEQ ID NO: 142188, and a schematic representation of a predicted secondary folding of GAM7416 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7416 folded precursor RNA yielding a GAM7416 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7416 RNA, hereby incorporated herein.

GAM7416 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7416 target RNA, herein designated GAM TARGET RNA. GAM7416 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7416 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7416 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7416 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7416 RNA, herein designated GAM RNA, to target binding sites on GAM7416 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7416 target RNA into GAM7416 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7416 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7416 target genes. The mRNA of each one of this plurality of GAM7416 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7416 RNA, herein designated GAM RNA, and which when bound by GAM7416 RNA causes inhibition of translation of the GAM7416 target mRNA into a corresponding GAM7416 target protein.

The mechanism of the translational inhibition exerted by GAM7416 RNA, herein designated GAM RNA, on one or more GAM7416 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7416 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7416 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7416 RNA, herein designated GAM RNA, of GAM7416 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM7416 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7416 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7416 RNA correlate with, and may be deduced from, the identity of the GAM7416 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7440 142189 CTCAGGTCCT Fig. 8 further provides a conceptual description of another novel bioinformatically
TTAGTGCTTC detected oligonucleotides of the present invention, referred to here as Genomic Address
TCAGTCAACA Messenger 7440 (GAM7440) oligonucleotides modulates expression of respective target genes
GACAGGGAGG whose function and utility is known in the art.

GAGCTTCCCC GAM7440 is a novel bioinformatically detectable regulatory, non protein coding,
TGTGACTGAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM7440 was detected is

GTGCGCATAA described with additional reference to Figs. 9-15.

AGACTGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM7440 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7440

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7440
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7440 precursor RNA is designated SEQ ID:142189, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142189 is located from position 42307485 to position 42307562 relative to chromosome chr21 on the `-` strand (chr is an abbreviation for chromosome).

GAM7440 precursor RNA folds onto itself, forming GAM7440 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7440 precursor RNA, designated SEQ ID NO: 142189, and a schematic representation of a predicted secondary folding of GAM7440 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7440 folded precursor RNA yielding a GAM7440 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt

long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7440 RNA, hereby incorporated herein.

GAM7440 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7440 target RNA, herein designated GAM TARGET RNA. GAM7440 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7440 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7440 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7440 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7440 RNA, herein designated GAM RNA, to target binding sites on GAM7440 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7440 target RNA into GAM7440 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7440 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7440 target genes. The mRNA of each one of this plurality of GAM7440 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7440 RNA, herein designated GAM RNA, and which when bound by GAM7440 RNA causes inhibition of translation of the GAM7440 target mRNA into a corresponding GAM7440 target protein.

The mechanism of the translational inhibition exerted by GAM7440 RNA, herein designated GAM RNA, on one or more GAM7440 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7440 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7440 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7440 RNA, herein designated GAM RNA, of

GAM7440 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7440 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7440 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7440 RNA correlate with, and may be deduced from, the identity of the GAM7440 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7446 142190 AGAGTCTCAT Fig. 8 further provides a conceptual description of another novel bioinformatically

TCTGTTGCCC detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGCAGGAGT Messenger 7446 (GAM7446) oligonucleotides modulates expression of respective target genes

GCAATGGTGT whose function and utility is known in the art.

GACCTCAGGT GAM7446 is a novel bioinformatically detectable regulatory, non protein coding,

CACTGCAACC micro RNA (miRNA)-like oligonucleotide. The method by which GAM7446 was detected is

TCTGCTGCCT described with additional reference to Figs. 9-15.

GGGTTCAAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GATTCT encoded by the human genome.

GAM7446 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7446

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7446

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7446 precursor RNA is designated SEQ ID:142190, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142190 is located from position 45848125 to position 45848210 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM7446 precursor RNA folds onto itself, forming GAM7446 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7446 precursor RNA, designated SEQ ID NO: 142190, and a schematic representation of a predicted secondary folding of GAM7446 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7446 folded precursor RNA yielding a GAM7446 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7446 RNA, hereby incorporated herein. Expression of GAM7446 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM7446 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7446 target RNA, herein designated GAM TARGET RNA. GAM7446 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7446 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7446 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7446 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7446 RNA, herein designated GAM RNA, to target binding sites on GAM7446 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7446 target RNA into GAM7446 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7446 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7446 target genes. The mRNA of each one of this plurality of GAM7446 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7446 RNA, herein designated GAM RNA, and which when bound by GAM7446 RNA causes inhibition of translation of the GAM7446 target mRNA into a corresponding GAM7446 target protein.

The mechanism of the translational inhibition exerted by GAM7446 RNA, herein designated GAM RNA, on one or more GAM7446 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7446 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7446 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7446 RNA, herein designated GAM RNA, of GAM7446 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7446 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7446 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7446 RNA correlate with, and may be deduced from, the identity of the GAM7446 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7449 142191 TGGAGACTGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TAGCTTATTA detected oligonucleotides of the present invention, referred to here as Genomic Address

AAGAAACTCC Messenger 7449 (GAM7449) oligonucleotides modulates expression of respective target genes

GTGTTACTCA whose function and utility is known in the art.

TTCCTGGAGT GAM7449 is a novel bioinformatically detectable regulatory, non protein coding,

TGGGGGTTTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM7449 was detected is

TGTAGGCACT described with additional reference to Figs. 9-15.

TTATTTCTCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

A encoded by the human genome.

GAM7449 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7449

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7449

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7449 precursor RNA is designated SEQ ID:142191, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142191 is located from position 26847818 to position 26847898 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM7449 precursor RNA folds onto itself, forming GAM7449 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7449 precursor RNA, designated SEQ ID NO: 142191, and a schematic representation of a predicted secondary folding of GAM7449 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7449 folded precursor RNA yielding a GAM7449 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM7449 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7449 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM7449 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7449 target RNA, herein designated GAM TARGET RNA. GAM7449 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7449 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7449 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7449 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7449 RNA, herein designated GAM RNA, to target binding sites on GAM7449 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7449 target RNA into GAM7449 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7449 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7449 target genes. The mRNA of each one of this plurality of GAM7449 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7449 RNA, herein designated GAM RNA, and which when bound by GAM7449 RNA causes inhibition of translation of the GAM7449 target mRNA into a corresponding GAM7449 target protein.

The mechanism of the translational inhibition exerted by GAM7449 RNA, herein designated GAM RNA, on one or more GAM7449 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7449 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7449 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7449 RNA, herein designated GAM RNA, of GAM7449 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7449 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7449 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7449 RNA correlate with, and may be deduced from, the identity of the GAM7449 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7464 142192 GCTTACAATT Fig. 8 further provides a conceptual description of another novel bioinformatically

GCTGGTACCT detected oligonucleotides of the present invention, referred to here as Genomic Address

GGTAGCATTT Messenger 7464 (GAM7464) oligonucleotides modulates expression of respective target genes

ATTTTCCCTC whose function and utility is known in the art.

AAGTACCTAG GAM7464 is a novel bioinformatically detectable regulatory, non protein coding,

TAACCTTATG micro RNA (miRNA)-like oligonucleotide. The method by which GAM7464 was detected is

AAGGTAGGGA described with additional reference to Figs. 9-15.

GGGTAGATGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCTACCACAT encoded by the human genome.

TCCTTCAGCT GAM7464 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7464

GTATTGAGT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7464

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7464 precursor RNA is designated SEQ ID:142192, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142192 is located from position 37872487 to position 37872595 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM7464 precursor RNA folds onto itself, forming GAM7464 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7464 precursor RNA, designated SEQ ID NO: 142192, and a schematic representation of a predicted secondary folding of GAM7464 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7464 folded precursor RNA yielding a GAM7464 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM7464 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7464 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM7464 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7464 target RNA, herein designated GAM TARGET RNA. GAM7464 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7464 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7464 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7464 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7464 RNA, herein designated GAM RNA, to target binding sites on GAM7464 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7464 target RNA into GAM7464 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7464 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7464 target genes. The mRNA of each one of this plurality of GAM7464 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7464 RNA, herein designated GAM RNA, and which when bound by GAM7464 RNA causes inhibition of translation of the GAM7464 target mRNA into a corresponding GAM7464 target protein.

The mechanism of the translational inhibition exerted by GAM7464 RNA, herein designated GAM RNA, on one or more GAM7464 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7464 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7464 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7464 RNA, herein designated GAM RNA, of GAM7464 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7464 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7464 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7464 RNA correlate with, and may be deduced from, the identity of the GAM7464 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7473 142193 CTGGAGGATT Fig. 8 further provides a conceptual description of another novel bioinformatically
TGGGGTGCCC detected oligonucleotides of the present invention, referred to here as Genomic Address
CTCTCGGCAG Messenger 7473 (GAM7473) oligonucleotides modulates expression of respective target genes
GGAACAGGAA whose function and utility is known in the art.

GTAGGAATCC GAM7473 is a novel bioinformatically detectable regulatory, non protein coding,
CAGAAGGGTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM7473 was detected is

TGGGGGAACC described with additional reference to Figs. 9-15.

CTAACCCTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCTCAGTCCA encoded by the human genome.

GTTCACCCCT GAM7473 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7473
CACCTCCAG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7473
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7473 precursor RNA is designated SEQ ID:142193, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142193 is located from position 3484360 to position 3484468 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM7473 precursor RNA folds onto itself, forming GAM7473 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7473 precursor RNA, designated SEQ ID NO: 142193, and a schematic representation of a predicted secondary folding of GAM7473 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7473 folded precursor RNA yielding a GAM7473 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7473 RNA, hereby incorporated herein. Expression of GAM7473 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM7473 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7473 target RNA, herein designated GAM TARGET RNA. GAM7473 target RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7473 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7473 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7473 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7473 RNA, herein designated GAM RNA, to target binding sites on GAM7473 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7473 target RNA into GAM7473 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7473 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7473 target genes. The mRNA of each one of this plurality of GAM7473 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7473 RNA, herein designated GAM RNA, and which when bound by GAM7473 RNA causes inhibition of translation of the GAM7473 target mRNA into a corresponding GAM7473 target protein.

The mechanism of the translational inhibition exerted by GAM7473 RNA, herein designated GAM RNA, on one or more GAM7473 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7473 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7473 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7473 RNA, herein designated GAM RNA, of GAM7473 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7473 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7473 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7473 RNA correlate with, and may be deduced from, the identity of the GAM7473 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7477 142194 CAGCGCGGCT CCCGCCACCC TCAATAAATG TTGCTTGGAG TGGACCGAGG CTCTGCAGGA

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 7477 (GAM7477) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM7477 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM7477 was detected is

ATGCAGGGAG described with additional reference to Figs. 9-15.

GGCCGGGCTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CGCCCCAGGG encoded by the human genome.

TTATTTCTAA GAM7477 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7477

GTTGAGGACA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7477

GGAGGTTGTG precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar

AGTTCTGCTG to the nucleotide sequence of GAM7477 precursor RNA is designated SEQ ID:142194, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142194 is located from position 72048231 to position 72048360 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM7477 precursor RNA folds onto itself, forming GAM7477 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7477 precursor RNA, designated SEQ ID NO: 142194, and a schematic representation of a predicted secondary folding of GAM7477 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7477 folded precursor RNA yielding a GAM7477 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7477 RNA, hereby incorporated herein.

GAM7477 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7477 target RNA, herein designated GAM TARGET RNA. GAM7477 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7477 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7477 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7477 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows

three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7477 RNA, herein designated GAM RNA, to target binding sites on GAM7477 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7477 target RNA into GAM7477 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7477 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7477 target genes. The mRNA of each one of this plurality of GAM7477 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7477 RNA, herein designated GAM RNA, and which when bound by GAM7477 RNA causes inhibition of translation of the GAM7477 target mRNA into a corresponding GAM7477 target protein.

The mechanism of the translational inhibition exerted by GAM7477 RNA, herein designated GAM RNA, on one or more GAM7477 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7477 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7477 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7477 RNA, herein designated GAM RNA, of GAM7477 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7477 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7477 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7477 RNA correlate with, and may be deduced from, the identity of the GAM7477 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7520 142195 TCACCCTGTT GCCTAGGCAG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address

GACGGAATGC Messenger 7520 (GAM7520) oligonucleotides modulates expression of respective target genes

AGTGAAGTCA whose function and utility is known in the art.

TCATAGTTTA GAM7520 is a novel bioinformatically detectable regulatory, non protein coding, CTGTAACACT micro RNA (miRNA)-like oligonucleotide. The method by which GAM7520 was detected is

GAACTCCTGG described with additional reference to Figs. 9-15.

GCTCAAGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM7520 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7520

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7520

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7520 precursor RNA is designated SEQ ID:142195, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142195 is located from position 42534098 to position 42534177 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM7520 precursor RNA folds onto itself, forming GAM7520 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7520 precursor RNA, designated SEQ ID NO: 142195, and a schematic representation of a predicted secondary folding of GAM7520 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7520 folded precursor RNA yielding a GAM7520 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7520 RNA, hereby incorporated herein.

GAM7520 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7520 target RNA, herein designated GAM TARGET RNA. GAM7520 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7520 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7520 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7520 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7520 RNA, herein designated GAM RNA, to target binding sites on GAM7520 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7520 target RNA into GAM7520 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7520 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7520 target genes. The mRNA of each one of this plurality of GAM7520 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7520 RNA, herein designated GAM RNA, and which when bound by GAM7520 RNA causes inhibition of translation of the GAM7520 target mRNA into a corresponding GAM7520 target protein.

The mechanism of the translational inhibition exerted by GAM7520 RNA, herein designated GAM RNA, on one or more GAM7520 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7520 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7520 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7520 RNA, herein designated GAM RNA, of GAM7520 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7520 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7520 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7520 RNA correlate with, and may be deduced from, the identity of the GAM7520 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7530 142196 GCTTCCTCAC Fig. 8 further provides a conceptual description of another novel bioinformatically
CACCTTGTGC detected oligonucleotides of the present invention, referred to here as Genomic Address
ACTGCTGCTC Messenger 7530 (GAM7530) oligonucleotides modulates expression of respective target genes
CCACACCACA whose function and utility is known in the art.

GTGACTAGCA GAM7530 is a novel bioinformatically detectable regulatory, non protein coding,
GCACATAATG micro RNA (miRNA)-like oligonucleotide. The method by which GAM7530 was detected is

GTTTGAATTA described with additional reference to Figs. 9-15.

AAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM7530 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7530

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7530
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7530 precursor RNA is designated SEQ ID:142196, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142196 is located from position 3260144 to position 3260217 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM7530 precursor RNA folds onto itself, forming GAM7530 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7530 precursor RNA, designated SEQ ID NO: 142196, and a schematic representation of a predicted secondary folding of GAM7530 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7530 folded precursor RNA yielding a GAM7530 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7530 RNA, hereby incorporated herein. Expression of GAM7530 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM7530 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7530 target RNA, herein designated GAM TARGET RNA. GAM7530 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7530 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7530 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7530 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7530 RNA, herein designated GAM RNA, to target binding sites on GAM7530 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7530 target RNA into GAM7530 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7530 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7530 target genes. The mRNA of each one of this plurality of GAM7530 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7530 RNA, herein designated GAM RNA, and which when bound by GAM7530 RNA causes inhibition of translation of the GAM7530 target mRNA into a corresponding GAM7530 target protein.

The mechanism of the translational inhibition exerted by GAM7530 RNA, herein designated GAM RNA, on one or more GAM7530 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7530 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7530 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7530 RNA, herein designated GAM RNA, of GAM7530 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7530 target RNA, herein designated GAM

TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7530 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7530 RNA correlate with, and may be deduced from, the identity of the GAM7530 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7542 142197 GGCGCTGGTG Fig. 8 further provides a conceptual description of another novel bioinformatically
TCAAACAGTT detected oligonucleotides of the present invention, referred to here as Genomic Address
ATGTGATGCT Messenger 7542 (GAM7542) oligonucleotides modulates expression of respective target genes
TTGAAGCACC whose function and utility is known in the art.

CTCACTGTAG GAM7542 is a novel bioinformatically detectable regulatory, non protein coding,
ATGAGAGTGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM7542 was detected is

CTTGCACTGC described with additional reference to Figs. 9-15.

AAACATAGCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GATCACCCGT encoded by the human genome.

GCC GAM7542 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7542
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7542
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7542 precursor RNA is designated SEQ ID:142197, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142197 is located from position 129239735 to position 129239827 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM7542 precursor RNA folds onto itself, forming GAM7542 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7542 precursor RNA, designated SEQ ID NO: 142197, and a schematic representation of a predicted secondary folding of GAM7542 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7542 folded precursor RNA yielding a GAM7542 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor

product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM7542 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7542 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM7542 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7542 target RNA, herein designated GAM TARGET RNA. GAM7542 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7542 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7542 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7542 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7542 RNA, herein designated GAM RNA, to target binding sites on GAM7542 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7542 target RNA into GAM7542 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7542 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7542 target genes. The mRNA of each one of this plurality of GAM7542 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7542 RNA, herein designated GAM RNA, and which when bound by GAM7542 RNA causes inhibition of translation of the GAM7542 target mRNA into a corresponding GAM7542 target protein.

The mechanism of the translational inhibition exerted by GAM7542 RNA, herein designated GAM RNA, on one or more GAM7542 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7542 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7542 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7542 RNA, herein designated GAM RNA, of

GAM7542 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7542 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7542 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7542 RNA correlate with, and may be deduced from, the identity of the GAM7542 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7546 142198 CCTGCTGTAT GCTAGGCATT GTGCAAGGTG TTAGGGCTGA TGCTTGAGCA CAGTACCTCC ACATCTGCAG TATGG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 7546 (GAM7546) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM7546 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM7546 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM7546 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7546 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7546 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7546 precursor RNA is designated SEQ ID:142198, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142198 is located from position 60900963 to position 60901037 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM7546 precursor RNA folds onto itself, forming GAM7546 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7546 precursor RNA, designated SEQ ID NO: 142198, and a schematic representation of a predicted secondary folding of GAM7546 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7546 folded precursor RNA yielding a GAM7546 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7546 RNA, hereby incorporated herein.

GAM7546 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7546 target RNA, herein designated GAM TARGET RNA. GAM7546 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7546 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7546 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7546 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7546 RNA, herein designated GAM RNA, to target binding sites on GAM7546 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7546 target RNA into GAM7546 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7546 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7546 target genes. The mRNA of each one of this plurality of GAM7546 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7546 RNA, herein designated GAM RNA, and which when bound by GAM7546 RNA causes inhibition of translation of the GAM7546 target mRNA into a corresponding GAM7546 target protein.

The mechanism of the translational inhibition exerted by GAM7546 RNA, herein designated GAM RNA, on one or more GAM7546 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7546 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM7546 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7546 RNA, herein designated GAM RNA, of GAM7546 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7546 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7546 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7546 RNA correlate with, and may be deduced from, the identity of the GAM7546 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7553 142199 AACTGGTCGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TGATTTAGGT detected oligonucleotides of the present invention, referred to here as Genomic Address

AGTTTCCTGT Messenger 7553 (GAM7553) oligonucleotides modulates expression of respective target genes

TGTTGGGATC whose function and utility is known in the art.

CACCTTTCTC GAM7553 is a novel bioinformatically detectable regulatory, non protein coding,

TCGACAGCAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM7553 was detected is

GACACTGCCT described with additional reference to Figs. 9-15.

TCATTACTTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGTT encoded by the human genome.

GAM7553 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7553

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7553

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7553 precursor RNA is designated SEQ ID:142199, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142199 is located from position 26917372 to position 26917455 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM7553 precursor RNA folds onto itself, forming GAM7553 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7553 precursor RNA, designated SEQ ID NO: 142199, and a schematic representation of a predicted secondary folding of GAM7553 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7553 folded precursor RNA yielding a GAM7553 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7553 RNA, hereby incorporated herein. Expression of GAM7553 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM7553 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7553 target RNA, herein designated GAM TARGET RNA. GAM7553 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7553 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7553 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7553 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7553 RNA, herein designated GAM RNA, to target binding sites on GAM7553 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7553 target RNA into GAM7553 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7553 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7553 target genes. The mRNA of each one of this plurality of GAM7553 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7553 RNA, herein designated GAM RNA, and which when bound by GAM7553 RNA causes inhibition of translation of the GAM7553 target mRNA into a corresponding GAM7553 target protein.

The mechanism of the translational inhibition exerted by GAM7553 RNA, herein designated GAM RNA, on one or more GAM7553 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7553 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7553 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7553 RNA, herein designated GAM RNA, of GAM7553 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7553 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7553 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7553 RNA correlate with, and may be deduced from, the identity of the GAM7553 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7559 142200 TGTGGCTCTG Fig. 8 further provides a conceptual description of another novel bioinformatically
CCTCCCTGTC detected oligonucleotides of the present invention, referred to here as Genomic Address
TCACTCTCCC Messenger 7559 (GAM7559) oligonucleotides modulates expression of respective target genes
TATAACTGGC whose function and utility is known in the art.

CTCTCCCTGC GAM7559 is a novel bioinformatically detectable regulatory, non protein coding,
TCAGACCTTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM7559 was detected is

CTGGACGAGC described with additional reference to Figs. 9-15.

TGCATGAGAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGGGCAGCTG encoded by the human genome.

CA GAM7559 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7559
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7559
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7559 precursor RNA is designated SEQ ID:142200, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ

ID:142200 is located from position 49747946 to position 49748037 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM7559 precursor RNA folds onto itself, forming GAM7559 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7559 precursor RNA, designated SEQ ID NO: 142200, and a schematic representation of a predicted secondary folding of GAM7559 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7559 folded precursor RNA yielding a GAM7559 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7559 RNA, hereby incorporated herein.

GAM7559 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7559 target RNA, herein designated GAM TARGET RNA. GAM7559 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7559 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7559 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7559 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7559 RNA, herein designated GAM RNA, to target binding sites on GAM7559 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7559 target RNA into GAM7559 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7559 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7559 target genes. The mRNA of each one of this

plurality of GAM7559 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7559 RNA, herein designated GAM RNA, and which when bound by GAM7559 RNA causes inhibition of translation of the GAM7559 target mRNA into a corresponding GAM7559 target protein.

The mechanism of the translational inhibition exerted by GAM7559 RNA, herein designated GAM RNA, on one or more GAM7559 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7559 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7559 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7559 RNA, herein designated GAM RNA, of GAM7559 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7559 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7559 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7559 RNA correlate with, and may be deduced from, the identity of the GAM7559 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7591 142201 TTTGGAGTAA Fig. 8 further provides a conceptual description of another novel bioinformatically

TTCAGTATAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GTTCGTTTAA Messenger 7591 (GAM7591) oligonucleotides modulates expression of respective target genes

AAGAGATTTT whose function and utility is known in the art.

TATAACTTCA GAM7591 is a novel bioinformatically detectable regulatory, non protein coding,

GA micro RNA (miRNA)-like oligonucleotide. The method by which GAM7591 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM7591 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7591

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7591

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7591 precursor RNA is designated SEQ ID:142201, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142201 is located from position 136686979 to position 136687030 relative to chromosome chr2 on the `-` strand (chr is an abbreviation for chromosome).

GAM7591 precursor RNA folds onto itself, forming GAM7591 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7591 precursor RNA, designated SEQ ID NO: 142201, and a schematic representation of a predicted secondary folding of GAM7591 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7591 folded precursor RNA yielding a GAM7591 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7591 RNA, hereby incorporated herein. Expression of GAM7591 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM7591 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7591 target RNA, herein designated GAM TARGET RNA. GAM7591 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7591 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7591 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7591 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7591 RNA, herein designated GAM RNA, to target binding sites on GAM7591 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7591 target RNA

into GAM7591 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7591 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7591 target genes. The mRNA of each one of this plurality of GAM7591 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7591 RNA, herein designated GAM RNA, and which when bound by GAM7591 RNA causes inhibition of translation of the GAM7591 target mRNA into a corresponding GAM7591 target protein.

The mechanism of the translational inhibition exerted by GAM7591 RNA, herein designated GAM RNA, on one or more GAM7591 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7591 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7591 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7591 RNA, herein designated GAM RNA, of GAM7591 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7591 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7591 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7591 RNA correlate with, and may be deduced from, the identity of the GAM7591 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7592 142202 CATTAGATTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TCATAAGAGC detected oligonucleotides of the present invention, referred to here as Genomic Address

CCAAACCCTA Messenger 7592 (GAM7592) oligonucleotides modulates expression of respective target genes

TTGTGAGCTG whose function and utility is known in the art.

CACATGCAAG GAM7592 is a novel bioinformatically detectable regulatory, non protein coding,

GGATCTAGGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM7592 was detected is

TGTGCGCTCC described with additional reference to Figs. 9-15.

TTATGAGAAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTAATG encoded by the human genome.

GAM7592 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7592 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7592 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7592 precursor RNA is designated SEQ ID:142202, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142202 is located from position 22819631 to position 22819716 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GAM7592 precursor RNA folds onto itself, forming GAM7592 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7592 precursor RNA, designated SEQ ID NO: 142202, and a schematic representation of a predicted secondary folding of GAM7592 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7592 folded precursor RNA yielding a GAM7592 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7592 RNA, hereby incorporated herein.

GAM7592 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7592 target RNA, herein designated GAM TARGET RNA. GAM7592 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7592 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7592 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7592 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7592 RNA, herein designated GAM RNA, to target binding sites on GAM7592 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7592 target RNA into GAM7592 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7592 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7592 target genes. The mRNA of each one of this plurality of GAM7592 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7592 RNA, herein designated GAM RNA, and which when bound by GAM7592 RNA causes inhibition of translation of the GAM7592 target mRNA into a corresponding GAM7592 target protein.

The mechanism of the translational inhibition exerted by GAM7592 RNA, herein designated GAM RNA, on one or more GAM7592 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7592 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7592 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7592 RNA, herein designated GAM RNA, of GAM7592 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7592 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7592 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7592 RNA correlate with, and may be deduced from, the identity of the GAM7592 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7601 142203 ATTATTCTGA TGAAAATCCA CAATGTCTTT GAGCTTCTGG TTGTGTAATG CTGGGGTTTA Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 7601 (GAM7601) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM7601 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM7601 was detected is

AAGTCACCAT described with additional reference to Figs. 9-15.

TTGTGGGTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGCATCAATT encoded by the human genome.

AAT GAM7601 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7601 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7601 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7601 precursor RNA is designated SEQ ID:142203, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142203 is located from position 92812990 to position 92813082 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM7601 precursor RNA folds onto itself, forming GAM7601 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7601 precursor RNA, designated SEQ ID NO: 142203, and a schematic representation of a predicted secondary folding of GAM7601 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7601 folded precursor RNA yielding a GAM7601 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7601 RNA, hereby incorporated herein.

GAM7601 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7601 target RNA, herein designated GAM TARGET RNA. GAM7601 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7601 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7601 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7601 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7601 RNA, herein designated GAM RNA, to target binding sites on GAM7601 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7601 target RNA into GAM7601 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7601 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7601 target genes. The mRNA of each one of this plurality of GAM7601 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7601 RNA, herein designated GAM RNA, and which when bound by GAM7601 RNA causes inhibition of translation of the GAM7601 target mRNA into a corresponding GAM7601 target protein.

The mechanism of the translational inhibition exerted by GAM7601 RNA, herein designated GAM RNA, on one or more GAM7601 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7601 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7601 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7601 RNA, herein designated GAM RNA, of GAM7601 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7601 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7601 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7601 RNA correlate with, and may be deduced from, the identity of the GAM7601 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7636 142204 CTGCCTATAT TACATTCATT TTGATGGTTT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 7636 (GAM7636) oligonucleotides modulates expression of respective target genes

GTATCTCAAA whose function and utility is known in the art.

GGAGTACAGT GAM7636 is a novel bioinformatically detectable regulatory, non protein coding, GAACGAAACT micro RNA (miRNA)-like oligonucleotide. The method by which GAM7636 was detected is

TGTTTAAAGA described with additional reference to Figs. 9-15.

TACACCGGAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGAAAAAGAG encoded by the human genome.

AAGAGGCAG GAM7636 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7636

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7636

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7636 precursor RNA is designated SEQ ID:142204, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142204 is located from position 88520255 to position 88520353 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM7636 precursor RNA folds onto itself, forming GAM7636 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7636 precursor RNA, designated SEQ ID NO: 142204, and a schematic representation of a predicted secondary folding of GAM7636 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7636 folded precursor RNA yielding a GAM7636 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7636 RNA, hereby incorporated herein.

GAM7636 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7636 target RNA, herein designated GAM TARGET RNA. GAM7636 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7636 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7636 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7636 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7636 RNA, herein designated GAM RNA, to target binding sites on GAM7636 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7636 target RNA into GAM7636 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7636 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7636 target genes. The mRNA of each one of this plurality of GAM7636 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7636 RNA, herein designated GAM RNA, and which when bound by GAM7636 RNA causes inhibition of translation of the GAM7636 target mRNA into a corresponding GAM7636 target protein.

The mechanism of the translational inhibition exerted by GAM7636 RNA, herein designated GAM RNA, on one or more GAM7636 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7636 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7636 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7636 RNA, herein designated GAM RNA, of GAM7636 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7636 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7636 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7636 RNA correlate with, and may be deduced from, the identity of the GAM7636 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7645 142205 TGGAAGAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

GCAGCTGTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AAGGCATTCT Messenger 7645 (GAM7645) oligonucleotides modulates expression of respective target genes

TGTATCAAGG whose function and utility is known in the art.

GAGGTAGGAG GAM7645 is a novel bioinformatically detectable regulatory, non protein coding,

GGCCCTCTGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM7645 was detected is

TGCCAAAGGC described with additional reference to Figs. 9-15.

AGCCTTCTCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGCTATTGCT encoded by the human genome.

TTCTTCCA GAM7645 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7645

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7645

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7645 precursor RNA is designated SEQ ID:142205, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142205 is located from position 2683188 to position 2683285 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM7645 precursor RNA folds onto itself, forming GAM7645 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7645 precursor RNA, designated SEQ ID NO: 142205, and a schematic representation of a predicted secondary folding of GAM7645 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7645 folded precursor RNA yielding a GAM7645 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7645 RNA, hereby incorporated herein.

GAM7645 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7645 target RNA, herein designated GAM TARGET RNA. GAM7645 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated

region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7645 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7645 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7645 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7645 RNA, herein designated GAM RNA, to target binding sites on GAM7645 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7645 target RNA into GAM7645 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7645 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7645 target genes. The mRNA of each one of this plurality of GAM7645 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7645 RNA, herein designated GAM RNA, and which when bound by GAM7645 RNA causes inhibition of translation of the GAM7645 target mRNA into a corresponding GAM7645 target protein.

The mechanism of the translational inhibition exerted by GAM7645 RNA, herein designated GAM RNA, on one or more GAM7645 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7645 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7645 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7645 RNA, herein designated GAM RNA, of GAM7645 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7645 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7645 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7645 RNA correlate with, and may be deduced from, the identity of the GAM7645 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7654 142206 CTGGATTCCC Fig. 8 further provides a conceptual description of another novel bioinformatically
CAAAGCTCAC detected oligonucleotides of the present invention, referred to here as Genomic Address
AGTTTGGCAC Messenger 7654 (GAM7654) oligonucleotides modulates expression of respective target genes
TGAATCATAT whose function and utility is known in the art.

ACAATCTCGT GAM7654 is a novel bioinformatically detectable regulatory, non protein coding,
AGTTTGGATG micro RNA (miRNA)-like oligonucleotide. The method by which GAM7654 was detected is

GCTGTGTGTG described with additional reference to Figs. 9-15.

ACTGCAGACT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCTAGACAGC encoded by the human genome.

AGGGCCCACA GAM7654 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7654
TCACAG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7654

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7654 precursor RNA is designated SEQ ID:142206, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142206 is located from position 102859212 to position 102859317 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM7654 precursor RNA folds onto itself, forming GAM7654 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7654 precursor RNA, designated SEQ ID NO: 142206, and a schematic representation of a predicted secondary folding of GAM7654 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7654 folded precursor RNA yielding a GAM7654 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7654 RNA, hereby incorporated herein.

GAM7654 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7654 target RNA, herein designated GAM TARGET RNA. GAM7654 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7654 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7654 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7654 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7654 RNA, herein designated GAM RNA, to target binding sites on GAM7654 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7654 target RNA into GAM7654 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7654 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7654 target genes. The mRNA of each one of this plurality of GAM7654 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7654 RNA, herein designated GAM RNA, and which when bound by GAM7654 RNA causes inhibition of translation of the GAM7654 target mRNA into a corresponding GAM7654 target protein.

The mechanism of the translational inhibition exerted by GAM7654 RNA, herein designated GAM RNA, on one or more GAM7654 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7654 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7654 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7654 RNA, herein designated GAM RNA, of GAM7654 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM7654 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7654 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7654 RNA correlate with, and may be deduced from, the identity of the GAM7654 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7663 142207 CCCCGAGGGT Fig. 8 further provides a conceptual description of another novel bioinformatically
GTGACTGAGA detected oligonucleotides of the present invention, referred to here as Genomic Address
GCCAGTCCCC Messenger 7663 (GAM7663) oligonucleotides modulates expression of respective target genes
AGCACCCTTG whose function and utility is known in the art.

TCCAGATGGG GAM7663 is a novel bioinformatically detectable regulatory, non protein coding,
GACCAGGAGG micro RNA (miRNA)-like oligonucleotide. The method by which GAM7663 was detected is

TGGGTGAAGA described with additional reference to Figs. 9-15.

TATTTGGGGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTGAGCTCTG encoded by the human genome.

TGCTGGTTGC GAM7663 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7663
CCCCGAGGGG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7663
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7663 precursor RNA is designated SEQ ID:142207, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142207 is located from position 68334837 to position 68334946 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM7663 precursor RNA folds onto itself, forming GAM7663 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7663 precursor RNA, designated SEQ ID NO: 142207, and a schematic representation of a predicted secondary folding of GAM7663 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7663 folded precursor RNA yielding a GAM7663 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt

long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7663 RNA, hereby incorporated herein.

GAM7663 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7663 target RNA, herein designated GAM TARGET RNA. GAM7663 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7663 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7663 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7663 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7663 RNA, herein designated GAM RNA, to target binding sites on GAM7663 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7663 target RNA into GAM7663 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7663 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7663 target genes. The mRNA of each one of this plurality of GAM7663 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7663 RNA, herein designated GAM RNA, and which when bound by GAM7663 RNA causes inhibition of translation of the GAM7663 target mRNA into a corresponding GAM7663 target protein.

The mechanism of the translational inhibition exerted by GAM7663 RNA, herein designated GAM RNA, on one or more GAM7663 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7663 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7663 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7663 RNA, herein designated GAM RNA, of

GAM7663 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7663 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7663 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7663 RNA correlate with, and may be deduced from, the identity of the GAM7663 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7664 142208 CCAGAGATAG CACCTTCTGA CCCAGTGCAG ATTGGACGGT TAATTGGTAG GTTGGAGTTG AGTCTCACGT TGAAACAGAA TGAAGTGCTT CCTGG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 7664 (GAM7664) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM7664 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM7664 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM7664 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7664 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7664 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7664 precursor RNA is designated SEQ ID:142208, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142208 is located from position 94797907 to position 94798001 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GAM7664 precursor RNA folds onto itself, forming GAM7664 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7664 precursor RNA, designated SEQ ID NO: 142208, and a schematic representation of a predicted secondary folding of GAM7664 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7664 folded precursor RNA yielding a GAM7664 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7664 RNA, hereby incorporated herein.

GAM7664 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7664 target RNA, herein designated GAM TARGET RNA. GAM7664 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7664 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7664 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7664 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7664 RNA, herein designated GAM RNA, to target binding sites on GAM7664 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7664 target RNA into GAM7664 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7664 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7664 target genes. The mRNA of each one of this plurality of GAM7664 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7664 RNA, herein designated GAM RNA, and which when bound by GAM7664 RNA causes inhibition of translation of the GAM7664 target mRNA into a corresponding GAM7664 target protein.

The mechanism of the translational inhibition exerted by GAM7664 RNA, herein designated GAM RNA, on one or more GAM7664 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7664 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM7664 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7664 RNA, herein designated GAM RNA, of GAM7664 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7664 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7664 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7664 RNA correlate with, and may be deduced from, the identity of the GAM7664 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7674 142209 GAAGTGGAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GTGTAGGAAA detected oligonucleotides of the present invention, referred to here as Genomic Address

TCCACTGCAG Messenger 7674 (GAM7674) oligonucleotides modulates expression of respective target genes

AATGAGGTCT whose function and utility is known in the art.

GCTTGTCATC GAM7674 is a novel bioinformatically detectable regulatory, non protein coding,

CTCTCAGTCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM7674 was detected is

CAACTGCTCT described with additional reference to Figs. 9-15.

CCCTCCTTCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCGCTCTCTG encoded by the human genome.

TTTC GAM7674 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7674

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7674

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7674 precursor RNA is designated SEQ ID:142209, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142209 is located from position 63788378 to position 63788471 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM7674 precursor RNA folds onto itself, forming GAM7674 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7674 precursor RNA, designated SEQ ID NO: 142209, and a schematic representation of a predicted secondary folding of GAM7674 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7674 folded precursor RNA yielding a GAM7674 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7674 RNA, hereby incorporated herein.

GAM7674 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7674 target RNA, herein designated GAM TARGET RNA. GAM7674 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7674 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7674 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7674 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7674 RNA, herein designated GAM RNA, to target binding sites on GAM7674 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7674 target RNA into GAM7674 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7674 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7674 target genes. The mRNA of each one of this plurality of GAM7674 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7674 RNA, herein designated GAM RNA, and which when bound by GAM7674 RNA causes inhibition of translation of the GAM7674 target mRNA into a corresponding GAM7674 target protein.

The mechanism of the translational inhibition exerted by GAM7674 RNA, herein designated GAM RNA, on one or more GAM7674 target genes, herein collectively designated

GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7674 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7674 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7674 RNA, herein designated GAM RNA, of GAM7674 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7674 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7674 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7674 RNA correlate with, and may be deduced from, the identity of the GAM7674 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7700 142210 ATACTTACTA Fig. 8 further provides a conceptual description of another novel bioinformatically

GCATATTATA detected oligonucleotides of the present invention, referred to here as Genomic Address

TAGCTCTAAG Messenger 7700 (GAM7700) oligonucleotides modulates expression of respective target genes

AGTGTAGAGT whose function and utility is known in the art.

TATATGATGT GAM7700 is a novel bioinformatically detectable regulatory, non protein coding,

GCTAGTGAAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM7700 was detected is

TGT described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM7700 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7700

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7700

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7700 precursor RNA is designated SEQ ID:142210, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142210 is located from position 101882286 to position 101882348 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM7700 precursor RNA folds onto itself, forming GAM7700 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7700 precursor RNA, designated SEQ ID NO: 142210, and a schematic representation of a predicted secondary folding of GAM7700 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7700 folded precursor RNA yielding a GAM7700 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7700 RNA, hereby incorporated herein.

GAM7700 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7700 target RNA, herein designated GAM TARGET RNA. GAM7700 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7700 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7700 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7700 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7700 RNA, herein designated GAM RNA, to target binding sites on GAM7700 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7700 target RNA into GAM7700 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7700 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7700 target genes. The mRNA of each one of this plurality of GAM7700 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7700 RNA, herein

designated GAM RNA, and which when bound by GAM7700 RNA causes inhibition of translation of the GAM7700 target mRNA into a corresponding GAM7700 target protein.

The mechanism of the translational inhibition exerted by GAM7700 RNA, herein designated GAM RNA, on one or more GAM7700 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7700 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7700 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7700 RNA, herein designated GAM RNA, of GAM7700 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7700 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7700 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7700 RNA correlate with, and may be deduced from, the identity of the GAM7700 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7707 142211 CTGAAAGTCT Fig. 8 further provides a conceptual description of another novel bioinformatically
ATCTGCTGCC detected oligonucleotides of the present invention, referred to here as Genomic Address
ACGCCTGGGC Messenger 7707 (GAM7707) oligonucleotides modulates expression of respective target genes
ACATACTGCA whose function and utility is known in the art.

TCATTTACAA GAM7707 is a novel bioinformatically detectable regulatory, non protein coding,
AACTGTAGAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM7707 was detected is

CACCTGTTGT described with additional reference to Figs. 9-15.

GTGTGCAGTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTGATTTCTT encoded by the human genome.

ATAGATTTTT GAM7707 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7707
AG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7707

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7707 precursor RNA is designated SEQ ID:142211, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142211 is located from position 68168613 to position 68168714 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM7707 precursor RNA folds onto itself, forming GAM7707 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7707 precursor RNA, designated SEQ ID NO: 142211, and a schematic representation of a predicted secondary folding of GAM7707 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7707 folded precursor RNA yielding a GAM7707 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM7707 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7707 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM7707 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7707 target RNA, herein designated GAM TARGET RNA. GAM7707 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7707 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7707 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7707 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7707 RNA, herein designated GAM RNA, to target binding sites on GAM7707 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7707 target RNA into GAM7707 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM7707 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7707 target genes. The mRNA of each one of this plurality of GAM7707 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7707 RNA, herein designated GAM RNA, and which when bound by GAM7707 RNA causes inhibition of translation of the GAM7707 target mRNA into a corresponding GAM7707 target protein.

The mechanism of the translational inhibition exerted by GAM7707 RNA, herein designated GAM RNA, on one or more GAM7707 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7707 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7707 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7707 RNA, herein designated GAM RNA, of GAM7707 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7707 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7707 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7707 RNA correlate with, and may be deduced from, the identity of the GAM7707 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7729 142212 TGGCCTCTCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GTGCTTCCAT detected oligonucleotides of the present invention, referred to here as Genomic Address

TTCCCCATCT Messenger 7729 (GAM7729) oligonucleotides modulates expression of respective target genes

GTAAGATAGG whose function and utility is known in the art.

AATAACACAT GAM7729 is a novel bioinformatically detectable regulatory, non protein coding,

CTCACAGGAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM7729 was detected is

CATGGAGAGG described with additional reference to Figs. 9-15.

CTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM7729 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7729 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7729 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7729 precursor RNA is designated SEQ ID:142212, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142212 is located from position 37886140 to position 37886212 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM7729 precursor RNA folds onto itself, forming GAM7729 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7729 precursor RNA, designated SEQ ID NO: 142212, and a schematic representation of a predicted secondary folding of GAM7729 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7729 folded precursor RNA yielding a GAM7729 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM7729 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7729 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM7729 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7729 target RNA, herein designated GAM TARGET RNA. GAM7729 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7729 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7729 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7729 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7729 RNA, herein designated GAM RNA, to target binding sites on GAM7729 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7729 target RNA into GAM7729 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7729 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7729 target genes. The mRNA of each one of this plurality of GAM7729 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7729 RNA, herein designated GAM RNA, and which when bound by GAM7729 RNA causes inhibition of translation of the GAM7729 target mRNA into a corresponding GAM7729 target protein.

The mechanism of the translational inhibition exerted by GAM7729 RNA, herein designated GAM RNA, on one or more GAM7729 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7729 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7729 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7729 RNA, herein designated GAM RNA, of GAM7729 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7729 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7729 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7729 RNA correlate with, and may be deduced from, the identity of the GAM7729 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7776 142213 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AATCGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCCAGGAGG Messenger 7776 (GAM7776) oligonucleotides modulates expression of respective target genes
CGGAGGTTGT whose function and utility is known in the art.

GGTGAGCGAA GAM7776 is a novel bioinformatically detectable regulatory, non protein coding,

GATCGTGCCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM7776 was detected is

TTGCACTCCA described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAAGAGCAAA encoded by the human genome.

ACTCTGTCTC GAM7776 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7776

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7776

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7776 precursor RNA is designated SEQ ID:142213, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142213 is located from position 120997504 to position 120997603 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM7776 precursor RNA folds onto itself, forming GAM7776 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7776 precursor RNA, designated SEQ ID NO: 142213, and a schematic representation of a predicted secondary folding of GAM7776 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7776 folded precursor RNA yielding a GAM7776 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7776 RNA, hereby incorporated herein. Expression of GAM7776 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM7776 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7776 target RNA, herein designated GAM TARGET RNA. GAM7776 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7776 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7776 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the

nucleotide sequence of GAM7776 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7776 RNA, herein designated GAM RNA, to target binding sites on GAM7776 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7776 target RNA into GAM7776 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7776 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7776 target genes. The mRNA of each one of this plurality of GAM7776 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7776 RNA, herein designated GAM RNA, and which when bound by GAM7776 RNA causes inhibition of translation of the GAM7776 target mRNA into a corresponding GAM7776 target protein.

The mechanism of the translational inhibition exerted by GAM7776 RNA, herein designated GAM RNA, on one or more GAM7776 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7776 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7776 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7776 RNA, herein designated GAM RNA, of GAM7776 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7776 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7776 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7776 RNA correlate with, and may be deduced from, the identity of the GAM7776 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7777 142214 AGCAGACTGC Fig. 8 further provides a conceptual description of another novel bioinformatically

CCTGTTGACC detected oligonucleotides of the present invention, referred to here as Genomic Address
AGAATTTGTT Messenger 7777 (GAM7777) oligonucleotides modulates expression of respective target
genes
AGATTGCTAT whose function and utility is known in the art.

TACAATGCTG GAM7777 is a novel bioinformatically detectable regulatory, non protein coding,
ATTATATTTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM7777 was detected is

ATAGCAATTA described with additional reference to Figs. 9-15.

CTGACATAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a
humen gene
GTTATACTTT encoded by the human genome.

GGGCAATGGC GAM7777 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAM7777
T precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM7777

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7777 precursor RNA is designated SEQ ID:142214, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142214 is located from position 96304357 to position 96304457 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM7777 precursor RNA folds onto itself, forming GAM7777 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7777 precursor RNA, designated SEQ ID NO: 142214, and a schematic representation of a predicted secondary folding of GAM7777 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7777 folded precursor RNA yielding a GAM7777 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7777 RNA, hereby incorporated herein.

GAM7777 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7777 target RNA, herein designated GAM TARGET RNA. GAM7777 target
RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7777 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7777 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7777 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7777 RNA, herein designated GAM RNA, to target binding sites on GAM7777 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7777 target RNA into GAM7777 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7777 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7777 target genes. The mRNA of each one of this plurality of GAM7777 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7777 RNA, herein designated GAM RNA, and which when bound by GAM7777 RNA causes inhibition of translation of the GAM7777 target mRNA into a corresponding GAM7777 target protein.

The mechanism of the translational inhibition exerted by GAM7777 RNA, herein designated GAM RNA, on one or more GAM7777 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7777 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7777 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7777 RNA, herein designated GAM RNA, of GAM7777 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7777 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7777 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7777 RNA correlate with, and may be deduced from, the identity of the GAM7777 target gene inhibited

thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7784 142215 GTAGTTACCA Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGCCTTTTC detected oligonucleotides of the present invention, referred to here as Genomic Address
TGTGAGCTAT Messenger 7784 (GAM7784) oligonucleotides modulates expression of respective target genes
TTGTTTTGGT whose function and utility is known in the art.

TTGCTGAAAC GAM7784 is a novel bioinformatically detectable regulatory, non protein coding,
TAGTCCAAAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM7784 was detected is

CAGGAAATTT described with additional reference to Figs. 9-15.

AACAGACAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CACAGCCAAA encoded by the human genome.

GAGTGTCATG GAM7784 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7784
TGAATTAC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7784

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7784 precursor RNA is designated SEQ ID:142215, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142215 is located from position 107796034 to position 107796141 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM7784 precursor RNA folds onto itself, forming GAM7784 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7784 precursor RNA, designated SEQ ID NO: 142215, and a schematic representation of a predicted secondary folding of GAM7784 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7784 folded precursor RNA yielding a GAM7784 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM7784 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7784 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM7784 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7784 target RNA, herein designated GAM TARGET RNA. GAM7784 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7784 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7784 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7784 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7784 RNA, herein designated GAM RNA, to target binding sites on GAM7784 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7784 target RNA into GAM7784 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7784 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7784 target genes. The mRNA of each one of this plurality of GAM7784 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7784 RNA, herein designated GAM RNA, and which when bound by GAM7784 RNA causes inhibition of translation of the GAM7784 target mRNA into a corresponding GAM7784 target protein.

The mechanism of the translational inhibition exerted by GAM7784 RNA, herein designated GAM RNA, on one or more GAM7784 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7784 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7784 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7784 RNA, herein designated GAM RNA, of GAM7784 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7784 target RNA, herein designated GAM

TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7784 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7784 RNA correlate with, and may be deduced from, the identity of the GAM7784 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7817 142216 CGCTCTTTCA Fig. 8 further provides a conceptual description of another novel bioinformatically
CCCAGGCTGG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGTGCAGTGG Messenger 7817 (GAM7817) oligonucleotides modulates expression of respective target genes
CATGATCTCA whose function and utility is known in the art.

GCTCACTGCA GAM7817 is a novel bioinformatically detectable regulatory, non protein coding,
ACCTCCATCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM7817 was detected is

CCTGGGTTCA described with additional reference to Figs. 9-15.

AGCG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM7817 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7817

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7817
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7817 precursor RNA is designated SEQ ID:142216, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142216 is located from position 101053737 to position 101053810 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM7817 precursor RNA folds onto itself, forming GAM7817 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7817 precursor RNA, designated SEQ ID NO: 142216, and a schematic representation of a predicted secondary folding of GAM7817 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7817 folded precursor RNA yielding a GAM7817 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor

product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7817 RNA, hereby incorporated herein.

GAM7817 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7817 target RNA, herein designated GAM TARGET RNA. GAM7817 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7817 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7817 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7817 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7817 RNA, herein designated GAM RNA, to target binding sites on GAM7817 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7817 target RNA into GAM7817 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7817 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7817 target genes. The mRNA of each one of this plurality of GAM7817 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7817 RNA, herein designated GAM RNA, and which when bound by GAM7817 RNA causes inhibition of translation of the GAM7817 target mRNA into a corresponding GAM7817 target protein.

The mechanism of the translational inhibition exerted by GAM7817 RNA, herein designated GAM RNA, on one or more GAM7817 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7817 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7817 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7817 RNA, herein designated GAM RNA, of GAM7817 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7817 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7817 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7817 RNA correlate with, and may be deduced from, the identity of the GAM7817 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7837 142217 TTCTATGTTA Fig. 8 further provides a conceptual description of another novel bioinformatically
TACCCTGGAG detected oligonucleotides of the present invention, referred to here as Genomic Address
TCCTGGTTGA Messenger 7837 (GAM7837) oligonucleotides modulates expression of respective target genes
GGGGTGGGGG whose function and utility is known in the art.

AATCAGAAAA GAM7837 is a novel bioinformatically detectable regulatory, non protein coding,
GTAGGTTTAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM7837 was detected is

ATTTAACATT described with additional reference to Figs. 9-15.

TTTCTTAACT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACATTCACTT encoded by the human genome.

CTTAAAAAGG GAM7837 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7837
AACAAGAAGT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7837
GTAAATAAGT precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar
ATGTATAGAG to the nucleotide sequence of GAM7837 precursor RNA is designated SEQ ID:142217, and is
provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142217 is located from position 29387505 to position 29387634 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM7837 precursor RNA folds onto itself, forming GAM7837 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7837 precursor RNA, designated SEQ ID NO: 142217, and a schematic representation of a predicted secondary folding of GAM7837 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7837 folded precursor RNA yielding a GAM7837 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7837 RNA, hereby incorporated herein.

GAM7837 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7837 target RNA, herein designated GAM TARGET RNA. GAM7837 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7837 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7837 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7837 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7837 RNA, herein designated GAM RNA, to target binding sites on GAM7837 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7837 target RNA into GAM7837 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7837 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7837 target genes. The mRNA of each one of this plurality of GAM7837 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7837 RNA, herein designated GAM RNA, and which when bound by GAM7837 RNA causes inhibition of translation of the GAM7837 target mRNA into a corresponding GAM7837 target protein.

The mechanism of the translational inhibition exerted by GAM7837 RNA, herein designated GAM RNA, on one or more GAM7837 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7837 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7837 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7837 RNA, herein designated GAM RNA, of GAM7837 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7837 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7837 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7837 RNA correlate with, and may be deduced from, the identity of the GAM7837 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7845 142218 AGAGGTGTTC Fig. 8 further provides a conceptual description of another novel bioinformatically
CTTAGGCCAC detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCCTGCCCT Messenger 7845 (GAM7845) oligonucleotides modulates expression of respective target genes
CCCTGGACTG whose function and utility is known in the art.

CCTGACCTCG GAM7845 is a novel bioinformatically detectable regulatory, non protein coding,
CTCCAAGGCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM7845 was detected is

CAGGGGAAGG described with additional reference to Figs. 9-15.

TTCTGAGGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGGTGTGAAA encoded by the human genome.

ATGCTTGGAA GAM7845 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7845
TGTCCCT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7845
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7845 precursor RNA is designated SEQ ID:142218, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142218 is located from position 68013714 to position 68013820 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM7845 precursor RNA folds onto itself, forming GAM7845 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7845 precursor RNA, designated SEQ ID NO: 142218, and a schematic representation of a predicted secondary folding of GAM7845 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7845 folded precursor RNA yielding a GAM7845 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7845 RNA, hereby incorporated herein.

GAM7845 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7845 target RNA, herein designated GAM TARGET RNA. GAM7845 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7845 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7845 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7845 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7845 RNA, herein designated GAM RNA, to target binding sites on GAM7845 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7845 target RNA into GAM7845 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7845 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7845 target genes. The mRNA of each one of this plurality of GAM7845 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7845 RNA, herein designated GAM RNA, and which when bound by GAM7845 RNA causes inhibition of translation of the GAM7845 target mRNA into a corresponding GAM7845 target protein.

The mechanism of the translational inhibition exerted by GAM7845 RNA, herein designated GAM RNA, on one or more GAM7845 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7845 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7845 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7845 RNA, herein designated GAM RNA, of GAM7845 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7845 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7845 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7845 RNA correlate with, and may be deduced from, the identity of the GAM7845 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7854 142219 TGGGATTACA Fig. 8 further provides a conceptual description of another novel bioinformatically
GACATGAGCC detected oligonucleotides of the present invention, referred to here as Genomic Address
ACTGTGCCCA Messenger 7854 (GAM7854) oligonucleotides modulates expression of respective target genes
GCCAGGGCTG whose function and utility is known in the art.

TGTGTTATGT GAM7854 is a novel bioinformatically detectable regulatory, non protein coding,
AGTGACAGCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM7854 was detected is

CACTGATACA described with additional reference to Figs. 9-15.

GCTCTCTCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGGACTTAGG encoded by the human genome.

AACCAAGTTT GAM7854 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7854
GACCCCA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7854
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7854 precursor RNA is designated SEQ ID:142219, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142219 is located from position 52841049 to position 52841155 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM7854 precursor RNA folds onto itself, forming GAM7854 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7854 precursor RNA, designated SEQ ID NO: 142219, and a schematic representation of a predicted secondary folding of GAM7854 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7854 folded precursor RNA yielding a GAM7854 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM7854 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7854 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM7854 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7854 target RNA, herein designated GAM TARGET RNA. GAM7854 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7854 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7854 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7854 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7854 RNA, herein designated GAM RNA, to target binding sites on GAM7854 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7854 target RNA into GAM7854 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7854 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7854 target genes. The mRNA of each one of this plurality of GAM7854 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7854 RNA, herein

designated GAM RNA, and which when bound by GAM7854 RNA causes inhibition of translation of the GAM7854 target mRNA into a corresponding GAM7854 target protein.

The mechanism of the translational inhibition exerted by GAM7854 RNA, herein designated GAM RNA, on one or more GAM7854 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7854 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7854 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7854 RNA, herein designated GAM RNA, of GAM7854 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7854 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7854 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7854 RNA correlate with, and may be deduced from, the identity of the GAM7854 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7865 142220 CCTTCAAAAA Fig. 8 further provides a conceptual description of another novel bioinformatically
GTTTGTAGCC detected oligonucleotides of the present invention, referred to here as Genomic Address
TATCGGGGTG Messenger 7865 (GAM7865) oligonucleotides modulates expression of respective target genes
GAGAGATAAG whose function and utility is known in the art.

CCAAGTATCC GAM7865 is a novel bioinformatically detectable regulatory, non protein coding,
AGATAACCAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM7865 was detected is

GGCATAAGGC described with additional reference to Figs. 9-15.

AGAATATTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTGTACTATG encoded by the human genome.

AGAGGTACAA GAM7865 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7865
AGGGGAGG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7865

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7865 precursor RNA is designated SEQ ID:142220, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142220 is located from position 102246140 to position 102246247 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM7865 precursor RNA folds onto itself, forming GAM7865 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7865 precursor RNA, designated SEQ ID NO: 142220, and a schematic representation of a predicted secondary folding of GAM7865 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7865 folded precursor RNA yielding a GAM7865 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7865 RNA, hereby incorporated herein.

GAM7865 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7865 target RNA, herein designated GAM TARGET RNA. GAM7865 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7865 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7865 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7865 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7865 RNA, herein designated GAM RNA, to target binding sites on GAM7865 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7865 target RNA into GAM7865 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7865 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7865 target genes. The mRNA of each one of this plurality of GAM7865 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7865 RNA, herein designated GAM RNA, and which when bound by GAM7865 RNA causes inhibition of translation of the GAM7865 target mRNA into a corresponding GAM7865 target protein.

The mechanism of the translational inhibition exerted by GAM7865 RNA, herein designated GAM RNA, on one or more GAM7865 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7865 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7865 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7865 RNA, herein designated GAM RNA, of GAM7865 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7865 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7865 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7865 RNA correlate with, and may be deduced from, the identity of the GAM7865 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7871 142221 TGGGAAATCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GCTTCCTAGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GCTGTTAGAA Messenger 7871 (GAM7871) oligonucleotides modulates expression of respective target genes

GGAAATTGGT whose function and utility is known in the art.

CTCCTTAAAT GAM7871 is a novel bioinformatically detectable regulatory, non protein coding,

TACGTCAGCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM7871 was detected is

TCTGAGGCAG described with additional reference to Figs. 9-15.

TTTCCTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM7871 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7871 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7871 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7871 precursor RNA is designated SEQ ID:142221, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142221 is located from position 93639176 to position 93639252 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GAM7871 precursor RNA folds onto itself, forming GAM7871 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7871 precursor RNA, designated SEQ ID NO: 142221, and a schematic representation of a predicted secondary folding of GAM7871 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7871 folded precursor RNA yielding a GAM7871 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM7871 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7871 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM7871 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7871 target RNA, herein designated GAM TARGET RNA. GAM7871 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7871 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7871 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7871 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7871 RNA, herein designated GAM RNA, to target binding sites on GAM7871 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7871 target RNA into GAM7871 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7871 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7871 target genes. The mRNA of each one of this plurality of GAM7871 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7871 RNA, herein designated GAM RNA, and which when bound by GAM7871 RNA causes inhibition of translation of the GAM7871 target mRNA into a corresponding GAM7871 target protein.

The mechanism of the translational inhibition exerted by GAM7871 RNA, herein designated GAM RNA, on one or more GAM7871 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7871 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7871 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7871 RNA, herein designated GAM RNA, of GAM7871 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7871 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7871 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7871 RNA correlate with, and may be deduced from, the identity of the GAM7871 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7884 142222 GTGTTTTGCA Fig. 8 further provides a conceptual description of another novel bioinformatically
CTGTAATACC detected oligonucleotides of the present invention, referred to here as Genomic Address
TCGGTCGTAG Messenger 7884 (GAM7884) oligonucleotides modulates expression of respective target genes
CAAAGTGCCG whose function and utility is known in the art.

TGGGACCGAA GAM7884 is a novel bioinformatically detectable regulatory, non protein coding,
GTATTATGGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM7884 was detected is

GCAGTGACTT described with additional reference to Figs. 9-15.

GACGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM7884 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7884

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7884

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7884 precursor RNA is designated SEQ ID:142222, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142222 is located from position 102447082 to position 102447156 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM7884 precursor RNA folds onto itself, forming GAM7884 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7884 precursor RNA, designated SEQ ID NO: 142222, and a schematic representation of a predicted secondary folding of GAM7884 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7884 folded precursor RNA yielding a GAM7884 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7884 RNA, hereby incorporated herein.

GAM7884 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7884 target RNA, herein designated GAM TARGET RNA. GAM7884 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7884 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7884 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7884 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7884 RNA, herein designated GAM RNA, to target binding sites on GAM7884 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7884 target RNA into GAM7884 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7884 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7884 target genes. The mRNA of each one of this plurality of GAM7884 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7884 RNA, herein designated GAM RNA, and which when bound by GAM7884 RNA causes inhibition of translation of the GAM7884 target mRNA into a corresponding GAM7884 target protein.

The mechanism of the translational inhibition exerted by GAM7884 RNA, herein designated GAM RNA, on one or more GAM7884 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7884 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7884 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7884 RNA, herein designated GAM RNA, of GAM7884 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7884 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7884 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7884 RNA correlate with, and may be deduced from, the identity of the GAM7884 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7889 142223 CTTACCCCAG Fig. 8 further provides a conceptual description of another novel bioinformatically
TATCCTATTA detected oligonucleotides of the present invention, referred to here as Genomic Address
TCTCATACCT Messenger 7889 (GAM7889) oligonucleotides modulates expression of respective target genes

AAGGCAGTGA whose function and utility is known in the art.

TGGTTTCTCA GAM7889 is a novel bioinformatically detectable regulatory, non protein coding, GACCTCTTAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM7889 was detected is

ATTGAGAAGA described with additional reference to Figs. 9-15.

TGTGGCATGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTGTAAG encoded by the human genome.

GAM7889 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7889 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7889 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7889 precursor RNA is designated SEQ ID:142223, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142223 is located from position 50175600 to position 50175686 relative to chromosome chr20 on the `-` strand (chr is an abbreviation for chromosome).

GAM7889 precursor RNA folds onto itself, forming GAM7889 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7889 precursor RNA, designated SEQ ID NO: 142223, and a schematic representation of a predicted secondary folding of GAM7889 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7889 folded precursor RNA yielding a GAM7889 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7889 RNA, hereby incorporated herein.

GAM7889 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7889 target RNA, herein designated GAM TARGET RNA. GAM7889 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7889 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7889 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7889 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7889 RNA, herein designated GAM RNA, to target binding sites on GAM7889 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7889 target RNA into GAM7889 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7889 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7889 target genes. The mRNA of each one of this plurality of GAM7889 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7889 RNA, herein designated GAM RNA, and which when bound by GAM7889 RNA causes inhibition of translation of the GAM7889 target mRNA into a corresponding GAM7889 target protein.

The mechanism of the translational inhibition exerted by GAM7889 RNA, herein designated GAM RNA, on one or more GAM7889 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7889 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7889 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7889 RNA, herein designated GAM RNA, of GAM7889 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7889 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7889 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7889 RNA correlate with, and may be deduced from, the identity of the GAM7889 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7898 142224 TTTTAGCATG Fig. 8 further provides a conceptual description of another novel bioinformatically

GCTTGTAATA detected oligonucleotides of the present invention, referred to here as Genomic Address

GCAAACAGTT Messenger 7898 (GAM7898) oligonucleotides modulates expression of respective target genes

TGTAATAGCA whose function and utility is known in the art.

ATGACGTGTT GAM7898 is a novel bioinformatically detectable regulatory, non protein coding,

ATTTATTGCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM7898 was detected is

GCATTGTTTG described with additional reference to Figs. 9-15.

TAATAGCAAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATACTGGAA encoded by the human genome.

GAM7898 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7898 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7898 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7898 precursor RNA is designated SEQ ID:142224, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142224 is located from position 47657707 to position 47657795 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM7898 precursor RNA folds onto itself, forming GAM7898 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7898 precursor RNA, designated SEQ ID NO: 142224, and a schematic representation of a predicted secondary folding of GAM7898 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7898 folded precursor RNA yielding a GAM7898 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7898 RNA, hereby incorporated herein.

GAM7898 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7898 target RNA, herein designated GAM TARGET RNA. GAM7898 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated

region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7898 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7898 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7898 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7898 RNA, herein designated GAM RNA, to target binding sites on GAM7898 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7898 target RNA into GAM7898 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7898 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7898 target genes. The mRNA of each one of this plurality of GAM7898 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7898 RNA, herein designated GAM RNA, and which when bound by GAM7898 RNA causes inhibition of translation of the GAM7898 target mRNA into a corresponding GAM7898 target protein.

The mechanism of the translational inhibition exerted by GAM7898 RNA, herein designated GAM RNA, on one or more GAM7898 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7898 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7898 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7898 RNA, herein designated GAM RNA, of GAM7898 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7898 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7898 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7898 RNA correlate with, and may be deduced from, the identity of the GAM7898 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7902 142225 TTCCCTGAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

CTCTTTAACT detected oligonucleotides of the present invention, referred to here as Genomic Address

TCTTGAAAAA Messenger 7902 (GAM7902) oligonucleotides modulates expression of respective target genes

AGTTGATGCT whose function and utility is known in the art.

GTTTTATTTG GAM7902 is a novel bioinformatically detectable regulatory, non protein coding,

AAAAATCGTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM7902 was detected is

AAGACTATTA described with additional reference to Figs. 9-15.

AAAGGCAAAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGGGGA encoded by the human genome.

GAM7902 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7902

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7902

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7902 precursor RNA is designated SEQ ID:142225, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142225 is located from position 29022047 to position 29022132 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM7902 precursor RNA folds onto itself, forming GAM7902 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7902 precursor RNA, designated SEQ ID NO: 142225, and a schematic representation of a predicted secondary folding of GAM7902 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7902 folded precursor RNA yielding a GAM7902 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7902 RNA, hereby incorporated herein.

GAM7902 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7902 target RNA, herein designated GAM TARGET RNA. GAM7902 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7902 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7902 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7902 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7902 RNA, herein designated GAM RNA, to target binding sites on GAM7902 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7902 target RNA into GAM7902 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7902 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7902 target genes. The mRNA of each one of this plurality of GAM7902 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7902 RNA, herein designated GAM RNA, and which when bound by GAM7902 RNA causes inhibition of translation of the GAM7902 target mRNA into a corresponding GAM7902 target protein.

The mechanism of the translational inhibition exerted by GAM7902 RNA, herein designated GAM RNA, on one or more GAM7902 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7902 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7902 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7902 RNA, herein designated GAM RNA, of GAM7902 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM7902 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7902 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7902 RNA correlate with, and may be deduced from, the identity of the GAM7902 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7911 142226 GAAGCTACCT Fig. 8 further provides a conceptual description of another novel bioinformatically
GAGGTTTAGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ATTCCTTCAG Messenger 7911 (GAM7911) oligonucleotides modulates expression of respective target genes
CCCTAGCTGC whose function and utility is known in the art.

TTTTATTCTG GAM7911 is a novel bioinformatically detectable regulatory, non protein coding,
CTTTTTATTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM7911 was detected is

AAACAAAAAG described with additional reference to Figs. 9-15.

AGGGGGAGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCTGAAGGAA encoded by the human genome.

ACTAGTTTTC GAM7911 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7911
TGTACAAAGG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7911
CTTT precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7911 precursor RNA is designated SEQ ID:142226, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142226 is located from position 25092986 to position 25093099 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM7911 precursor RNA folds onto itself, forming GAM7911 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7911 precursor RNA, designated SEQ ID NO: 142226, and a schematic representation of a predicted secondary folding of GAM7911 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7911 folded precursor RNA yielding a GAM7911 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt

long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7911 RNA, hereby incorporated herein.

GAM7911 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7911 target RNA, herein designated GAM TARGET RNA. GAM7911 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7911 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7911 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7911 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7911 RNA, herein designated GAM RNA, to target binding sites on GAM7911 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7911 target RNA into GAM7911 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7911 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7911 target genes. The mRNA of each one of this plurality of GAM7911 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7911 RNA, herein designated GAM RNA, and which when bound by GAM7911 RNA causes inhibition of translation of the GAM7911 target mRNA into a corresponding GAM7911 target protein.

The mechanism of the translational inhibition exerted by GAM7911 RNA, herein designated GAM RNA, on one or more GAM7911 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7911 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7911 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7911 RNA, herein designated GAM RNA, of

GAM7911 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7911 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7911 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7911 RNA correlate with, and may be deduced from, the identity of the GAM7911 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7915 142227 AGTTCAGACA Fig. 8 further provides a conceptual description of another novel bioinformatically

TTCTAGACTG detected oligonucleotides of the present invention, referred to here as Genomic Address

TTCCGTCAGA Messenger 7915 (GAM7915) oligonucleotides modulates expression of respective target genes

CTCAGTTTCA whose function and utility is known in the art.

AAAGAGAATG GAM7915 is a novel bioinformatically detectable regulatory, non protein coding,

TGTGGGAGAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM7915 was detected is

CAGTCTTTGT described with additional reference to Figs. 9-15.

CCGACT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM7915 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7915

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7915

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7915 precursor RNA is designated SEQ ID:142227, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142227 is located from position 14497507 to position 14497582 relative to chromosome chr4 on the `-` strand (chr is an abbreviation for chromosome).

GAM7915 precursor RNA folds onto itself, forming GAM7915 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7915 precursor RNA, designated SEQ ID NO: 142227, and a schematic representation of a predicted secondary folding of GAM7915 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7915 folded precursor RNA yielding a GAM7915 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM7915 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7915 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM7915 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7915 target RNA, herein designated GAM TARGET RNA. GAM7915 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7915 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7915 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7915 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7915 RNA, herein designated GAM RNA, to target binding sites on GAM7915 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7915 target RNA into GAM7915 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7915 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7915 target genes. The mRNA of each one of this plurality of GAM7915 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7915 RNA, herein designated GAM RNA, and which when bound by GAM7915 RNA causes inhibition of translation of the GAM7915 target mRNA into a corresponding GAM7915 target protein.

The mechanism of the translational inhibition exerted by GAM7915 RNA, herein designated GAM RNA, on one or more GAM7915 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7915 precursor RNA, herein designated GAM PRECURSOR

RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7915 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7915 RNA, herein designated GAM RNA, of GAM7915 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7915 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7915 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7915 RNA correlate with, and may be deduced from, the identity of the GAM7915 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7916 142228 GGAGTCTTAA Fig. 8 further provides a conceptual description of another novel bioinformatically
ACGTGGTAGC detected oligonucleotides of the present invention, referred to here as Genomic Address
TCTGTGCTAG Messenger 7916 (GAM7916) oligonucleotides modulates expression of respective target genes
AGAGTGGTAA whose function and utility is known in the art.

CCTGATGGCT GAM7916 is a novel bioinformatically detectable regulatory, non protein coding,
CCCGGAGGAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM7916 was detected is

GTGGTATTAA described with additional reference to Figs. 9-15.

TCCTTAGCAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGGGCAAAT encoded by the human genome.

CTTGAGACTC GAM7916 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7916
T precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7916

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7916 precursor RNA is designated SEQ ID:142228, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142228 is located from position 94201169 to position 94201269 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM7916 precursor RNA folds onto itself, forming GAM7916 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7916 precursor RNA, designated SEQ ID NO: 142228, and a schematic representation of a predicted secondary folding of GAM7916 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7916 folded precursor RNA yielding a GAM7916 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7916 RNA, hereby incorporated herein.

GAM7916 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7916 target RNA, herein designated GAM TARGET RNA. GAM7916 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7916 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7916 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7916 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7916 RNA, herein designated GAM RNA, to target binding sites on GAM7916 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7916 target RNA into GAM7916 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7916 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7916 target genes. The mRNA of each one of this plurality of GAM7916 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7916 RNA, herein designated GAM RNA, and which when bound by GAM7916 RNA causes inhibition of translation of the GAM7916 target mRNA into a corresponding GAM7916 target protein.

The mechanism of the translational inhibition exerted by GAM7916 RNA, herein

designated GAM RNA, on one or more GAM7916 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7916 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7916 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7916 RNA, herein designated GAM RNA, of GAM7916 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7916 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7916 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7916 RNA correlate with, and may be deduced from, the identity of the GAM7916 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7933 142229 GGCTTCCTCA Fig. 8 further provides a conceptual description of another novel bioinformatically

CCACCTTGTG detected oligonucleotides of the present invention, referred to here as Genomic Address

CACTGCTGCT Messenger 7933 (GAM7933) oligonucleotides modulates expression of respective target genes

CCCACACCAC whose function and utility is known in the art.

AGTGACTAGC GAM7933 is a novel bioinformatically detectable regulatory, non protein coding,

AGCACATAAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM7933 was detected is

GGTTTGAATT described with additional reference to Figs. 9-15.

AAAGCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM7933 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7933

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7933

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7933 precursor RNA is designated SEQ ID:142229, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142229 is located from position 3260143 to position 3260218 relative to chromosome chr7

on the `-` strand (chr is an abbreviation for chromosome).

GAM7933 precursor RNA folds onto itself, forming GAM7933 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7933 precursor RNA, designated SEQ ID NO: 142229, and a schematic representation of a predicted secondary folding of GAM7933 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7933 folded precursor RNA yielding a GAM7933 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7933 RNA, hereby incorporated herein. Expression of GAM7933 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM7933 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7933 target RNA, herein designated GAM TARGET RNA. GAM7933 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7933 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7933 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7933 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7933 RNA, herein designated GAM RNA, to target binding sites on GAM7933 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7933 target RNA into GAM7933 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7933 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM7933 target genes. The mRNA of each one of this plurality of GAM7933 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7933 RNA, herein designated GAM RNA, and which when bound by GAM7933 RNA causes inhibition of translation of the GAM7933 target mRNA into a corresponding GAM7933 target protein.

The mechanism of the translational inhibition exerted by GAM7933 RNA, herein designated GAM RNA, on one or more GAM7933 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7933 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7933 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7933 RNA, herein designated GAM RNA, of GAM7933 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7933 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7933 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7933 RNA correlate with, and may be deduced from, the identity of the GAM7933 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7940 142230 GGGAAATGGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TCAAACACAA detected oligonucleotides of the present invention, referred to here as Genomic Address
TCCAGGGAAG Messenger 7940 (GAM7940) oligonucleotides modulates expression of respective target genes
CTCTCTATGA whose function and utility is known in the art.

TATGTGTTTG GAM7940 is a novel bioinformatically detectable regulatory, non protein coding,
ACATCCCCC micro RNA (miRNA)-like oligonucleotide. The method by which GAM7940 was detected is

described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM7940 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7940

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7940 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7940 precursor RNA is designated SEQ ID:142230, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142230 is located from position 101211038 to position 101211096 relative to chromosome chr13 on the `-` strand (chr is an abbreviation for chromosome).

GAM7940 precursor RNA folds onto itself, forming GAM7940 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7940 precursor RNA, designated SEQ ID NO: 142230, and a schematic representation of a predicted secondary folding of GAM7940 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7940 folded precursor RNA yielding a GAM7940 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7940 RNA, hereby incorporated herein.

GAM7940 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7940 target RNA, herein designated GAM TARGET RNA. GAM7940 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7940 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7940 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7940 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7940 RNA, herein designated GAM RNA, to target binding sites on GAM7940 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7940 target RNA

into GAM7940 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7940 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7940 target genes. The mRNA of each one of this plurality of GAM7940 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7940 RNA, herein designated GAM RNA, and which when bound by GAM7940 RNA causes inhibition of translation of the GAM7940 target mRNA into a corresponding GAM7940 target protein.

The mechanism of the translational inhibition exerted by GAM7940 RNA, herein designated GAM RNA, on one or more GAM7940 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7940 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7940 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7940 RNA, herein designated GAM RNA, of GAM7940 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7940 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7940 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7940 RNA correlate with, and may be deduced from, the identity of the GAM7940 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7954 142231 GGAGGACCTG Fig. 8 further provides a conceptual description of another novel bioinformatically
GCCAAAGTGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GTGGTGCAGG Messenger 7954 (GAM7954) oligonucleotides modulates expression of respective target genes
GGTGGTCTTA whose function and utility is known in the art.

GGAGGGCTTT GAM7954 is a novel bioinformatically detectable regulatory, non protein coding,
CCTGAAGGAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM7954 was detected is

TGGCCAGGGT described with additional reference to Figs. 9-15.

TCACCCATCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTCCACCCAC encoded by the human genome.

GGACCCATCC GAM7954 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7954 TCT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7954 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7954 precursor RNA is designated SEQ ID:142231, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142231 is located from position 43546115 to position 43546217 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM7954 precursor RNA folds onto itself, forming GAM7954 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7954 precursor RNA, designated SEQ ID NO: 142231, and a schematic representation of a predicted secondary folding of GAM7954 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7954 folded precursor RNA yielding a GAM7954 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7954 RNA, hereby incorporated herein.

GAM7954 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7954 target RNA, herein designated GAM TARGET RNA. GAM7954 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7954 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7954 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7954 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7954 RNA, herein designated GAM RNA, to target binding sites on GAM7954 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7954 target RNA into GAM7954 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7954 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7954 target genes. The mRNA of each one of this plurality of GAM7954 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7954 RNA, herein designated GAM RNA, and which when bound by GAM7954 RNA causes inhibition of translation of the GAM7954 target mRNA into a corresponding GAM7954 target protein.

The mechanism of the translational inhibition exerted by GAM7954 RNA, herein designated GAM RNA, on one or more GAM7954 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7954 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7954 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7954 RNA, herein designated GAM RNA, of GAM7954 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7954 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7954 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7954 RNA correlate with, and may be deduced from, the identity of the GAM7954 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7966 142232 CCCAGAACAA Fig. 8 further provides a conceptual description of another novel bioinformatically
AGACCTCTAG detected oligonucleotides of the present invention, referred to here as Genomic Address
CCAACATGTA Messenger 7966 (GAM7966) oligonucleotides modulates expression of respective target genes
AGCACCTAGA whose function and utility is known in the art.

CCATGGTTTC GAM7966 is a novel bioinformatically detectable regulatory, non protein coding,
CCATCCTTAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM7966 was detected is

CATTGTTAAC described with additional reference to Figs. 9-15.

ATTTTGGCTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GATAGTTCTT encoded by the human genome.

TGTTGTGTGG GAM7966 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7966 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7966 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7966 precursor RNA is designated SEQ ID:142232, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142232 is located from position 67546633 to position 67546732 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GAM7966 precursor RNA folds onto itself, forming GAM7966 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7966 precursor RNA, designated SEQ ID NO: 142232, and a schematic representation of a predicted secondary folding of GAM7966 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7966 folded precursor RNA yielding a GAM7966 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7966 RNA, hereby incorporated herein.

GAM7966 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7966 target RNA, herein designated GAM TARGET RNA. GAM7966 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7966 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7966 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7966 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7966 RNA, herein designated GAM RNA, to target binding sites on GAM7966 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7966 target RNA into GAM7966 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7966 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7966 target genes. The mRNA of each one of this plurality of GAM7966 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7966 RNA, herein designated GAM RNA, and which when bound by GAM7966 RNA causes inhibition of translation of the GAM7966 target mRNA into a corresponding GAM7966 target protein.

The mechanism of the translational inhibition exerted by GAM7966 RNA, herein designated GAM RNA, on one or more GAM7966 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7966 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7966 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7966 RNA, herein designated GAM RNA, of GAM7966 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7966 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7966 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7966 RNA correlate with, and may be deduced from, the identity of the GAM7966 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM7980 142233 CACGCGTCTT Fig. 8 further provides a conceptual description of another novel bioinformatically
TGTGGTCACC detected oligonucleotides of the present invention, referred to here as Genomic Address
TGGCTTAGGA Messenger 7980 (GAM7980) oligonucleotides modulates expression of respective target genes

AGCTCACAAG whose function and utility is known in the art.

GTCCTCATCA GAM7980 is a novel bioinformatically detectable regulatory, non protein coding,
TTTGGAGGTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM7980 was detected is

TTTCCCTGTG described with additional reference to Figs. 9-15.

AGTGCCCTCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCCCTAGGCT encoded by the human genome.

TTCTTACGTG GAM7980 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM7980
TG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM7980

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM7980 precursor RNA is designated SEQ ID:142233, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142233 is located from position 55163316 to position 55163417 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM7980 precursor RNA folds onto itself, forming GAM7980 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM7980 precursor RNA, designated SEQ ID NO: 142233, and a schematic representation of a predicted secondary folding of GAM7980 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM7980 folded precursor RNA yielding a GAM7980 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM7980 RNA, hereby incorporated herein.

GAM7980 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM7980 target RNA, herein designated GAM TARGET RNA. GAM7980 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM7980 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM7980 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM7980 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM7980 RNA, herein designated GAM RNA, to target binding sites on GAM7980 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM7980 target RNA into GAM7980 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM7980 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM7980 target genes. The mRNA of each one of this plurality of GAM7980 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM7980 RNA, herein designated GAM RNA, and which when bound by GAM7980 RNA causes inhibition of translation of the GAM7980 target mRNA into a corresponding GAM7980 target protein.

The mechanism of the translational inhibition exerted by GAM7980 RNA, herein designated GAM RNA, on one or more GAM7980 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM7980 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM7980 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM7980 RNA, herein designated GAM RNA, of GAM7980 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM7980 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM7980 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM7980 RNA correlate with, and may be deduced from, the identity of the GAM7980 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8013 142234 GCTCTTGTTG Fig. 8 further provides a conceptual description of another novel bioinformatically

CCCAGGCTGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGTGCAGTGG Messenger 8013 (GAM8013) oligonucleotides modulates expression of respective target genes

CATGATCTCA whose function and utility is known in the art.

GCTCACTGCA GAM8013 is a novel bioinformatically detectable regulatory, non protein coding,

ACCTCTGCCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM8013 was detected is

CCTGGGTTCA described with additional reference to Figs. 9-15.

AGCTGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM8013 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8013

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8013

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8013 precursor RNA is designated SEQ ID:142234, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142234 is located from position 36439313 to position 36439388 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GAM8013 precursor RNA folds onto itself, forming GAM8013 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8013 precursor RNA, designated SEQ ID NO: 142234, and a schematic representation of a predicted secondary folding of GAM8013 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8013 folded precursor RNA yielding a GAM8013 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM8013 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8013 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM8013 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8013 target RNA, herein designated GAM TARGET RNA. GAM8013 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8013 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8013 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8013 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8013 RNA, herein designated GAM RNA, to target binding sites on GAM8013 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8013 target RNA into GAM8013 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8013 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8013 target genes. The mRNA of each one of this plurality of GAM8013 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8013 RNA, herein designated GAM RNA, and which when bound by GAM8013 RNA causes inhibition of translation of the GAM8013 target mRNA into a corresponding GAM8013 target protein.

The mechanism of the translational inhibition exerted by GAM8013 RNA, herein designated GAM RNA, on one or more GAM8013 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8013 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8013 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8013 RNA, herein designated GAM RNA, of GAM8013 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8013 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8013 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8013 RNA correlate with, and may be deduced from, the identity of the GAM8013 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8016 142235 CCATGGGCTC Fig. 8 further provides a conceptual description of another novel bioinformatically
ATTGTGACAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAAAAGTGCC Messenger 8016 (GAM8016) oligonucleotides modulates expression of respective target genes
TGCTGCTGCT whose function and utility is known in the art.

TCTTTACACC GAM8016 is a novel bioinformatically detectable regulatory, non protein coding,
CACCCTGGCC micro RNA (miRNA)-like oligonucleotide. The method by which GAM8016 was detected is

AACAGAAGTA described with additional reference to Figs. 9-15.

CACAGTGCAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTCACCTTCA encoded by the human genome.

AGAATGAAGC GAM8016 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8016
ATCAGG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8016

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8016 precursor RNA is designated SEQ ID:142235, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142235 is located from position 33246239 to position 33246344 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM8016 precursor RNA folds onto itself, forming GAM8016 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8016 precursor RNA, designated SEQ ID NO: 142235, and a schematic representation of a predicted secondary folding of GAM8016 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8016 folded precursor RNA yielding a GAM8016 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the

nucleotide sequence of GAM8016 RNA, hereby incorporated herein.

GAM8016 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8016 target RNA, herein designated GAM TARGET RNA. GAM8016 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8016 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8016 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8016 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8016 RNA, herein designated GAM RNA, to target binding sites on GAM8016 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8016 target RNA into GAM8016 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8016 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8016 target genes. The mRNA of each one of this plurality of GAM8016 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8016 RNA, herein designated GAM RNA, and which when bound by GAM8016 RNA causes inhibition of translation of the GAM8016 target mRNA into a corresponding GAM8016 target protein.

The mechanism of the translational inhibition exerted by GAM8016 RNA, herein designated GAM RNA, on one or more GAM8016 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8016 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8016 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8016 RNA, herein designated GAM RNA, of GAM8016 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8016 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8016 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8016 RNA correlate with, and may be deduced from, the identity of the GAM8016 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8026 142236 TGGTTCATAA Fig. 8 further provides a conceptual description of another novel bioinformatically
TATTCCTTGC detected oligonucleotides of the present invention, referred to here as Genomic Address
AGATGTTGAA Messenger 8026 (GAM8026) oligonucleotides modulates expression of respective target genes
CGATGGGCTG whose function and utility is known in the art.

GATTGTTTTG GAM8026 is a novel bioinformatically detectable regulatory, non protein coding,
GAACCTTGTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM8026 was detected is

CCAGCAGAGC described with additional reference to Figs. 9-15.

CCATGTGTTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATGAAGAAAA encoded by the human genome.

CATTTGCTTA GAM8026 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8026
CAGCTTATGA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8026
CTA precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8026 precursor RNA is designated SEQ ID:142236, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142236 is located from position 58074215 to position 58074327 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM8026 precursor RNA folds onto itself, forming GAM8026 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8026 precursor RNA, designated SEQ ID NO: 142236, and a schematic representation of a predicted secondary folding of GAM8026 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8026 folded precursor RNA

yielding a GAM8026 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM8026 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8026 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM8026 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8026 target RNA, herein designated GAM TARGET RNA. GAM8026 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8026 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8026 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8026 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8026 RNA, herein designated GAM RNA, to target binding sites on GAM8026 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8026 target RNA into GAM8026 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8026 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8026 target genes. The mRNA of each one of this plurality of GAM8026 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8026 RNA, herein designated GAM RNA, and which when bound by GAM8026 RNA causes inhibition of translation of the GAM8026 target mRNA into a corresponding GAM8026 target protein.

The mechanism of the translational inhibition exerted by GAM8026 RNA, herein designated GAM RNA, on one or more GAM8026 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8026 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8026 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8026 RNA, herein designated GAM RNA, of GAM8026 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8026 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8026 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8026 RNA correlate with, and may be deduced from, the identity of the GAM8026 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8031 142237 GCTATCAGTT Fig. 8 further provides a conceptual description of another novel bioinformatically

CTTGCTATTC detected oligonucleotides of the present invention, referred to here as Genomic Address

TCAGAGCACT Messenger 8031 (GAM8031) oligonucleotides modulates expression of respective target genes

CTATCATGTT whose function and utility is known in the art.

TTTAGGTGTA GAM8031 is a novel bioinformatically detectable regulatory, non protein coding,

TATTGTGTAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM8031 was detected is

TCAGGATAGC described with additional reference to Figs. 9-15.

ATTAAAAAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACTGATGGC encoded by the human genome.

GAM8031 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8031

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8031

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8031 precursor RNA is designated SEQ ID:142237, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142237 is located from position 26287592 to position 26287680 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM8031 precursor RNA folds onto itself, forming GAM8031 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8031 precursor RNA, designated SEQ ID NO: 142237, and a schematic representation of a predicted secondary folding of GAM8031 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8031 folded precursor RNA yielding a GAM8031 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM8031 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8031 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM8031 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8031 target RNA, herein designated GAM TARGET RNA. GAM8031 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8031 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8031 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8031 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8031 RNA, herein designated GAM RNA, to target binding sites on GAM8031 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8031 target RNA into GAM8031 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8031 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8031 target genes. The mRNA of each one of this plurality of GAM8031 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8031 RNA, herein designated GAM RNA, and which when bound by GAM8031 RNA causes inhibition of translation of the GAM8031 target mRNA into a corresponding GAM8031 target protein.

The mechanism of the translational inhibition exerted by GAM8031 RNA, herein designated GAM RNA, on one or more GAM8031 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8031 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8031 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8031 RNA, herein designated GAM RNA, of GAM8031 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8031 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8031 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8031 RNA correlate with, and may be deduced from, the identity of the GAM8031 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8047 142238 ACTCTTAAAC Fig. 8 further provides a conceptual description of another novel bioinformatically

CTTTAGAAAT detected oligonucleotides of the present invention, referred to here as Genomic Address

GCTACAGCAT Messenger 8047 (GAM8047) oligonucleotides modulates expression of respective target genes

CTAGCTTCTC whose function and utility is known in the art.

TAGATCAATA GAM8047 is a novel bioinformatically detectable regulatory, non protein coding,

ATCACAGAGG micro RNA (miRNA)-like oligonucleotide. The method by which GAM8047 was detected is

CTTAAGTGCT described with additional reference to Figs. 9-15.

GACCTCATAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGATAAAGAG encoded by the human genome.

T GAM8047 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8047

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8047

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8047 precursor RNA is designated SEQ ID:142238, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142238 is located from position 136594089 to position 136594179 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM8047 precursor RNA folds onto itself, forming GAM8047 folded precursor RNA,

herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8047 precursor RNA, designated SEQ ID NO: 142238, and a schematic representation of a predicted secondary folding of GAM8047 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8047 folded precursor RNA yielding a GAM8047 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8047 RNA, hereby incorporated herein. Expression of GAM8047 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM8047 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8047 target RNA, herein designated GAM TARGET RNA. GAM8047 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8047 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8047 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8047 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8047 RNA, herein designated GAM RNA, to target binding sites on GAM8047 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8047 target RNA into GAM8047 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8047 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8047 target genes. The mRNA of each one of this plurality of GAM8047 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8047 RNA, herein

designated GAM RNA, and which when bound by GAM8047 RNA causes inhibition of translation of the GAM8047 target mRNA into a corresponding GAM8047 target protein.

The mechanism of the translational inhibition exerted by GAM8047 RNA, herein designated GAM RNA, on one or more GAM8047 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8047 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8047 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8047 RNA, herein designated GAM RNA, of GAM8047 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8047 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8047 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8047 RNA correlate with, and may be deduced from, the identity of the GAM8047 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8100 142239 TATGAGGGAC Fig. 8 further provides a conceptual description of another novel bioinformatically
ATGAACACCT detected oligonucleotides of the present invention, referred to here as Genomic Address
GCAGATTTTG Messenger 8100 (GAM8100) oligonucleotides modulates expression of respective target genes
GGGTCCACAG whose function and utility is known in the art.

GGGTCCTGGA GAM8100 is a novel bioinformatically detectable regulatory, non protein coding,
ATTAATTCCC micro RNA (miRNA)-like oligonucleotide. The method by which GAM8100 was detected is

TGTGGATACT described with additional reference to Figs. 9-15.

GAGAGATGAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGGACATCCA encoded by the human genome.

TTCTCCATG GAM8100 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8100
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8100

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8100 precursor RNA is designated SEQ ID:142239, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142239 is located from position 10904327 to position 10904425 relative to chromosome chr18 on the `-` strand (chr is an abbreviation for chromosome).

GAM8100 precursor RNA folds onto itself, forming GAM8100 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8100 precursor RNA, designated SEQ ID NO: 142239, and a schematic representation of a predicted secondary folding of GAM8100 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8100 folded precursor RNA yielding a GAM8100 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM8100 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8100 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM8100 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8100 target RNA, herein designated GAM TARGET RNA. GAM8100 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8100 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8100 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8100 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8100 RNA, herein designated GAM RNA, to target binding sites on GAM8100 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8100 target RNA into GAM8100 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM8100 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8100 target genes. The mRNA of each one of this plurality of GAM8100 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8100 RNA, herein designated GAM RNA, and which when bound by GAM8100 RNA causes inhibition of translation of the GAM8100 target mRNA into a corresponding GAM8100 target protein.

The mechanism of the translational inhibition exerted by GAM8100 RNA, herein designated GAM RNA, on one or more GAM8100 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8100 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8100 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8100 RNA, herein designated GAM RNA, of GAM8100 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8100 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8100 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8100 RNA correlate with, and may be deduced from, the identity of the GAM8100 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8109 142240 GACAGGATTC Fig. 8 further provides a conceptual description of another novel bioinformatically

CAGTACAGGT detected oligonucleotides of the present invention, referred to here as Genomic Address

CTCTCATTTC Messenger 8109 (GAM8109) oligonucleotides modulates expression of respective target genes

CTTCATGATT whose function and utility is known in the art.

AGGAATACTA GAM8109 is a novel bioinformatically detectable regulatory, non protein coding,

CTTTGAAATG micro RNA (miRNA)-like oligonucleotide. The method by which GAM8109 was detected is

AGAGACCTGT described with additional reference to Figs. 9-15.

ACTGTATCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TT encoded by the human genome.

GAM8109 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8109 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8109 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8109 precursor RNA is designated SEQ ID:142240, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142240 is located from position 48231664 to position 48231745 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM8109 precursor RNA folds onto itself, forming GAM8109 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8109 precursor RNA, designated SEQ ID NO: 142240, and a schematic representation of a predicted secondary folding of GAM8109 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8109 folded precursor RNA yielding a GAM8109 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8109 RNA, hereby incorporated herein.

GAM8109 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8109 target RNA, herein designated GAM TARGET RNA. GAM8109 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8109 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8109 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8109 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8109 RNA, herein designated GAM RNA, to target binding sites on GAM8109 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8109 target RNA into GAM8109 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8109 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8109 target genes. The mRNA of each one of this plurality of GAM8109 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8109 RNA, herein designated GAM RNA, and which when bound by GAM8109 RNA causes inhibition of translation of the GAM8109 target mRNA into a corresponding GAM8109 target protein.

The mechanism of the translational inhibition exerted by GAM8109 RNA, herein designated GAM RNA, on one or more GAM8109 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8109 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8109 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8109 RNA, herein designated GAM RNA, of GAM8109 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8109 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8109 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8109 RNA correlate with, and may be deduced from, the identity of the GAM8109 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8145 142241 GGACCAGACT ATTGTGACAT GGAGAATGTA GAGGAATTAT TCAATGTTCA GGATCAACAT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 8145 (GAM8145) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM8145 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM8145 was detected is

GATCTCCTCA described with additional reference to Figs. 9-15.

CTCTAGGATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GATCC encoded by the human genome.

GAM8145 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8145 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8145 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8145 precursor RNA is designated SEQ ID:142241, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142241 is located from position 90807704 to position 90807788 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM8145 precursor RNA folds onto itself, forming GAM8145 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8145 precursor RNA, designated SEQ ID NO: 142241, and a schematic representation of a predicted secondary folding of GAM8145 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8145 folded precursor RNA yielding a GAM8145 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8145 RNA, hereby incorporated herein. Expression of GAM8145 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM8145 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8145 target RNA, herein designated GAM TARGET RNA. GAM8145 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8145 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8145 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8145 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows

three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8145 RNA, herein designated GAM RNA, to target binding sites on GAM8145 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8145 target RNA into GAM8145 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8145 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8145 target genes. The mRNA of each one of this plurality of GAM8145 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8145 RNA, herein designated GAM RNA, and which when bound by GAM8145 RNA causes inhibition of translation of the GAM8145 target mRNA into a corresponding GAM8145 target protein.

The mechanism of the translational inhibition exerted by GAM8145 RNA, herein designated GAM RNA, on one or more GAM8145 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8145 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8145 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8145 RNA, herein designated GAM RNA, of GAM8145 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8145 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8145 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8145 RNA correlate with, and may be deduced from, the identity of the GAM8145 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8164 142242 GGGGCAGAGC GGATGGAAGC Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address

CGGAGATCCC Messenger 8164 (GAM8164) oligonucleotides modulates expression of respective target genes

AGGTTCCCGG whose function and utility is known in the art.

AATACTCCGG GAM8164 is a novel bioinformatically detectable regulatory, non protein coding, CTGGGGCCTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM8164 was detected is

CGGGCTTCTC described with additional reference to Figs. 9-15.

CTGTCCCCTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCTACCCC encoded by the human genome.

GAM8164 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8164 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8164 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8164 precursor RNA is designated SEQ ID:142242, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142242 is located from position 76816710 to position 76816797 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM8164 precursor RNA folds onto itself, forming GAM8164 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8164 precursor RNA, designated SEQ ID NO: 142242, and a schematic representation of a predicted secondary folding of GAM8164 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8164 folded precursor RNA yielding a GAM8164 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8164 RNA, hereby incorporated herein.

GAM8164 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8164 target RNA, herein designated GAM TARGET RNA. GAM8164 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8164 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8164 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8164 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8164 RNA, herein designated GAM RNA, to target binding sites on GAM8164 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8164 target RNA into GAM8164 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8164 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8164 target genes. The mRNA of each one of this plurality of GAM8164 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8164 RNA, herein designated GAM RNA, and which when bound by GAM8164 RNA causes inhibition of translation of the GAM8164 target mRNA into a corresponding GAM8164 target protein.

The mechanism of the translational inhibition exerted by GAM8164 RNA, herein designated GAM RNA, on one or more GAM8164 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8164 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8164 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8164 RNA, herein designated GAM RNA, of GAM8164 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8164 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8164 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8164 RNA correlate with, and may be deduced from, the identity of the GAM8164 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8206 142243 GAGAATCACT Fig. 8 further provides a conceptual description of another novel bioinformatically

TGAACCCAGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGTGGAGGT Messenger 8206 (GAM8206) oligonucleotides modulates expression of respective target genes

TGCAGTGAGC whose function and utility is known in the art.

CAAGATCGTG GAM8206 is a novel bioinformatically detectable regulatory, non protein coding,

CCATTGCACT micro RNA (miRNA)-like oligonucleotide. The method by which GAM8206 was detected is

CCAGCCTGGG described with additional reference to Figs. 9-15.

TAACAGAGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGACTC encoded by the human genome.

GAM8206 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8206 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8206 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8206 precursor RNA is designated SEQ ID:142243, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142243 is located from position 107994686 to position 107994771 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM8206 precursor RNA folds onto itself, forming GAM8206 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8206 precursor RNA, designated SEQ ID NO: 142243, and a schematic representation of a predicted secondary folding of GAM8206 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8206 folded precursor RNA yielding a GAM8206 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8206 RNA, hereby incorporated herein.

GAM8206 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8206 target RNA, herein designated GAM TARGET RNA. GAM8206 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8206 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8206 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8206 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8206 RNA, herein designated GAM RNA, to target binding sites on GAM8206 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8206 target RNA into GAM8206 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8206 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8206 target genes. The mRNA of each one of this plurality of GAM8206 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8206 RNA, herein designated GAM RNA, and which when bound by GAM8206 RNA causes inhibition of translation of the GAM8206 target mRNA into a corresponding GAM8206 target protein.

The mechanism of the translational inhibition exerted by GAM8206 RNA, herein designated GAM RNA, on one or more GAM8206 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8206 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8206 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8206 RNA, herein designated GAM RNA, of GAM8206 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8206 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8206 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8206 RNA correlate with, and may be deduced from, the identity of the GAM8206 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8236 142244 TTATTTGTCA Fig. 8 further provides a conceptual description of another novel bioinformatically
ATATGTGGGG detected oligonucleotides of the present invention, referred to here as Genomic Address
ATAACCTGTA Messenger 8236 (GAM8236) oligonucleotides modulates expression of respective target genes
GCTGCATTCA whose function and utility is known in the art.

TGAGGTAGCA GAM8236 is a novel bioinformatically detectable regulatory, non protein coding,
AATAGCAGTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM8236 was detected is

TTGGCCTGTG described with additional reference to Figs. 9-15.

GGGTGAACAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTAAACAGTG encoded by the human genome.

TTCTGGCATC GAM8236 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8236
AGATAA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8236

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8236 precursor RNA is designated SEQ ID:142244, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142244 is located from position 45732160 to position 45732265 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM8236 precursor RNA folds onto itself, forming GAM8236 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8236 precursor RNA, designated SEQ ID NO: 142244, and a schematic representation of a predicted secondary folding of GAM8236 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8236 folded precursor RNA yielding a GAM8236 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the

nucleotide sequence of GAM8236 RNA, hereby incorporated herein.

GAM8236 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8236 target RNA, herein designated GAM TARGET RNA. GAM8236 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8236 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8236 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8236 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8236 RNA, herein designated GAM RNA, to target binding sites on GAM8236 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8236 target RNA into GAM8236 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8236 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8236 target genes. The mRNA of each one of this plurality of GAM8236 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8236 RNA, herein designated GAM RNA, and which when bound by GAM8236 RNA causes inhibition of translation of the GAM8236 target mRNA into a corresponding GAM8236 target protein.

The mechanism of the translational inhibition exerted by GAM8236 RNA, herein designated GAM RNA, on one or more GAM8236 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8236 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8236 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8236 RNA, herein designated GAM RNA, of GAM8236 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8236 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8236 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8236 RNA correlate with, and may be deduced from, the identity of the GAM8236 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8256 142245 CAGGAGTACG Fig. 8 further provides a conceptual description of another novel bioinformatically
ACGCTGTGGT detected oligonucleotides of the present invention, referred to here as Genomic Address
AGCTATGATC Messenger 8256 (GAM8256) oligonucleotides modulates expression of respective target genes
ATGCCACTGC whose function and utility is known in the art.

ACTCCAGCCT GAM8256 is a novel bioinformatically detectable regulatory, non protein coding,
GGGTGACAGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM8256 was detected is

GCAAGATCTA described with additional reference to Figs. 9-15.

GATAATTACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTCTGTCCTG encoded by the human genome.

CTCCTG GAM8256 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8256
precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8256
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8256 precursor RNA is designated SEQ ID:142245, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142245 is located from position 75797514 to position 75797609 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM8256 precursor RNA folds onto itself, forming GAM8256 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8256 precursor RNA, designated SEQ ID NO: 142245, and a schematic representation of a predicted secondary folding of GAM8256 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8256 folded precursor RNA

yielding a GAM8256 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8256 RNA, hereby incorporated herein.

GAM8256 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8256 target RNA, herein designated GAM TARGET RNA. GAM8256 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8256 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8256 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8256 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8256 RNA, herein designated GAM RNA, to target binding sites on GAM8256 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8256 target RNA into GAM8256 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8256 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8256 target genes. The mRNA of each one of this plurality of GAM8256 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8256 RNA, herein designated GAM RNA, and which when bound by GAM8256 RNA causes inhibition of translation of the GAM8256 target mRNA into a corresponding GAM8256 target protein.

The mechanism of the translational inhibition exerted by GAM8256 RNA, herein designated GAM RNA, on one or more GAM8256 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8256 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8256 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8256 RNA, herein designated GAM RNA, of GAM8256 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8256 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8256 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8256 RNA correlate with, and may be deduced from, the identity of the GAM8256 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8276 142246 AGAATCGCTT Fig. 8 further provides a conceptual description of another novel bioinformatically

GAACCCAGGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GGCGGAGGTT Messenger 8276 (GAM8276) oligonucleotides modulates expression of respective target genes

GCAGTGAGCC whose function and utility is known in the art.

AGGATCACGC GAM8276 is a novel bioinformatically detectable regulatory, non protein coding,

CACTGTACTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM8276 was detected is

CACCCTGGGC described with additional reference to Figs. 9-15.

GACAGAGCGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GACT encoded by the human genome.

GAM8276 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8276

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8276

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8276 precursor RNA is designated SEQ ID:142246, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142246 is located from position 61627070 to position 61627153 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM8276 precursor RNA folds onto itself, forming GAM8276 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8276 precursor RNA, designated SEQ ID NO: 142246, and

a schematic representation of a predicted secondary folding of GAM8276 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8276 folded precursor RNA yielding a GAM8276 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8276 RNA, hereby incorporated herein.

GAM8276 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8276 target RNA, herein designated GAM TARGET RNA. GAM8276 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8276 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8276 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8276 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8276 RNA, herein designated GAM RNA, to target binding sites on GAM8276 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8276 target RNA into GAM8276 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8276 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8276 target genes. The mRNA of each one of this plurality of GAM8276 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8276 RNA, herein designated GAM RNA, and which when bound by GAM8276 RNA causes inhibition of translation of the GAM8276 target mRNA into a corresponding GAM8276 target protein.

The mechanism of the translational inhibition exerted by GAM8276 RNA, herein designated GAM RNA, on one or more GAM8276 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8276 precursor RNA, herein designated GAM PRECURSOR

RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8276 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8276 RNA, herein designated GAM RNA, of GAM8276 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8276 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8276 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8276 RNA correlate with, and may be deduced from, the identity of the GAM8276 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8285 142247 CCAGAGGCTG Fig. 8 further provides a conceptual description of another novel bioinformatically
TGACCATGGC detected oligonucleotides of the present invention, referred to here as Genomic Address
TAGTAGACAG Messenger 8285 (GAM8285) oligonucleotides modulates expression of respective target genes
TGGCAACATA whose function and utility is known in the art.

GTCATCCCCA GAM8285 is a novel bioinformatically detectable regulatory, non protein coding,
AGATGCTAAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM8285 was detected is

CTTCTGCTGG described with additional reference to Figs. 9-15.

AACTGTCATA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CGTTATCATG encoded by the human genome.

GTCAATGTAA GAM8285 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8285
ACCTGG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8285
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8285 precursor RNA is designated SEQ ID:142247, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142247 is located from position 158626692 to position 158626797 relative to chromosome chr1 on the `+` strand (chr is an abbreviation for chromosome).

GAM8285 precursor RNA folds onto itself, forming GAM8285 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8285 precursor RNA, designated SEQ ID NO: 142247, and a schematic representation of a predicted secondary folding of GAM8285 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8285 folded precursor RNA yielding a GAM8285 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8285 RNA, hereby incorporated herein. Expression of GAM8285 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM8285 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8285 target RNA, herein designated GAM TARGET RNA. GAM8285 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8285 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8285 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8285 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8285 RNA, herein designated GAM RNA, to target binding sites on GAM8285 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8285 target RNA into GAM8285 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8285 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8285 target genes. The mRNA of each one of this plurality of GAM8285 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8285 RNA, herein designated GAM RNA, and which when bound by GAM8285 RNA causes inhibition of translation of the GAM8285 target mRNA into a corresponding GAM8285 target protein.

The mechanism of the translational inhibition exerted by GAM8285 RNA, herein designated GAM RNA, on one or more GAM8285 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8285 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8285 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8285 RNA, herein designated GAM RNA, of GAM8285 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8285 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8285 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8285 RNA correlate with, and may be deduced from, the identity of the GAM8285 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8288 142248 TGGGGTGCTC Fig. 8 further provides a conceptual description of another novel bioinformatically

ATCTTCTGTA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACTGTTGGGA Messenger 8288 (GAM8288) oligonucleotides modulates expression of respective target genes

AGGCTCGGTG whose function and utility is known in the art.

GTCCATTTTC GAM8288 is a novel bioinformatically detectable regulatory, non protein coding,

ACCAGTTAAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM8288 was detected is

GAATATGAGG described with additional reference to Figs. 9-15.

CCAGCCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM8288 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8288

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8288

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8288 precursor RNA is designated SEQ ID:142248, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142248 is located from position 54931946 to position 54932023 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM8288 precursor RNA folds onto itself, forming GAM8288 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8288 precursor RNA, designated SEQ ID NO: 142248, and a schematic representation of a predicted secondary folding of GAM8288 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8288 folded precursor RNA yielding a GAM8288 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM8288 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8288 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM8288 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8288 target RNA, herein designated GAM TARGET RNA. GAM8288 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8288 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8288 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8288 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8288 RNA, herein designated GAM RNA, to target binding sites on GAM8288 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8288 target RNA into GAM8288 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8288 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8288 target genes. The mRNA of each one of this plurality of GAM8288 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8288 RNA, herein designated GAM RNA, and which when bound by GAM8288 RNA causes inhibition of translation of the GAM8288 target mRNA into a corresponding GAM8288 target protein.

The mechanism of the translational inhibition exerted by GAM8288 RNA, herein designated GAM RNA, on one or more GAM8288 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8288 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8288 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8288 RNA, herein designated GAM RNA, of GAM8288 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8288 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8288 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8288 RNA correlate with, and may be deduced from, the identity of the GAM8288 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8311 142249 GGAGAATCAC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTTAACCAGA detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGTTGGAGG Messenger 8311 (GAM8311) oligonucleotides modulates expression of respective target genes
TTGCAGGGAG whose function and utility is known in the art.

CCGAGATCGC GAM8311 is a novel bioinformatically detectable regulatory, non protein coding,
ACCACTGCAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM8311 was detected is

TCCAGCCTGG described with additional reference to Figs. 9-15.

GTGACAAAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGACTCC encoded by the human genome.

GAM8311 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8311 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8311 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8311 precursor RNA is designated SEQ ID:142249, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142249 is located from position 96904480 to position 96904567 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM8311 precursor RNA folds onto itself, forming GAM8311 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8311 precursor RNA, designated SEQ ID NO: 142249, and a schematic representation of a predicted secondary folding of GAM8311 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8311 folded precursor RNA yielding a GAM8311 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8311 RNA, hereby incorporated herein.

GAM8311 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8311 target RNA, herein designated GAM TARGET RNA. GAM8311 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8311 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8311 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8311 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8311 RNA, herein designated GAM RNA, to target

binding sites on GAM8311 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8311 target RNA into GAM8311 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8311 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8311 target genes. The mRNA of each one of this plurality of GAM8311 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8311 RNA, herein designated GAM RNA, and which when bound by GAM8311 RNA causes inhibition of translation of the GAM8311 target mRNA into a corresponding GAM8311 target protein.

The mechanism of the translational inhibition exerted by GAM8311 RNA, herein designated GAM RNA, on one or more GAM8311 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8311 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8311 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8311 RNA, herein designated GAM RNA, of GAM8311 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8311 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8311 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8311 RNA correlate with, and may be deduced from, the identity of the GAM8311 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8335 142250 TTCCTCCAGT Fig. 8 further provides a conceptual description of another novel bioinformatically
TTTCAGTCAC detected oligonucleotides of the present invention, referred to here as Genomic Address
TCAGTAGATG Messenger 8335 (GAM8335) oligonucleotides modulates expression of respective target genes
TCTGTACTAT whose function and utility is known in the art.

CATATCCATC GAM8335 is a novel bioinformatically detectable regulatory, non protein coding,
ATATGAATAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM8335 was detected is

ATCACATATG described with additional reference to Figs. 9-15.

ATAGGTACCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACTATCTGAG encoded by the human genome.

TGAAAACTGG GAM8335 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8335

AAGAA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8335

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8335 precursor RNA is designated SEQ ID:142250, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142250 is located from position 30752830 to position 30752934 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM8335 precursor RNA folds onto itself, forming GAM8335 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8335 precursor RNA, designated SEQ ID NO: 142250, and a schematic representation of a predicted secondary folding of GAM8335 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8335 folded precursor RNA yielding a GAM8335 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8335 RNA, hereby incorporated herein.

GAM8335 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8335 target RNA, herein designated GAM TARGET RNA. GAM8335 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8335 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8335 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8335 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8335 RNA, herein designated GAM RNA, to target binding sites on GAM8335 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8335 target RNA into GAM8335 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8335 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8335 target genes. The mRNA of each one of this plurality of GAM8335 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8335 RNA, herein designated GAM RNA, and which when bound by GAM8335 RNA causes inhibition of translation of the GAM8335 target mRNA into a corresponding GAM8335 target protein.

The mechanism of the translational inhibition exerted by GAM8335 RNA, herein designated GAM RNA, on one or more GAM8335 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8335 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8335 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8335 RNA, herein designated GAM RNA, of GAM8335 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8335 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8335 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8335 RNA correlate with, and may be deduced from, the identity of the GAM8335 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8339 142251 CCTAAAACAT Fig. 8 further provides a conceptual description of another novel bioinformatically

AAGTGAAGAT detected oligonucleotides of the present invention, referred to here as Genomic Address

CAGGCTACAG Messenger 8339 (GAM8339) oligonucleotides modulates expression of respective target genes

TGCTTTTCTC whose function and utility is known in the art.

ATGACATGGA GCCTTGTTGT TTGTTCACTC ATTCTAGG

GAM8339 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM8339 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM8339 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8339 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8339 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8339 precursor RNA is designated SEQ ID:142251, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142251 is located from position 107487845 to position 107487922 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM8339 precursor RNA folds onto itself, forming GAM8339 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8339 precursor RNA, designated SEQ ID NO: 142251, and a schematic representation of a predicted secondary folding of GAM8339 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8339 folded precursor RNA yielding a GAM8339 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8339 RNA, hereby incorporated herein.

GAM8339 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8339 target RNA, herein designated GAM TARGET RNA. GAM8339 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8339 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8339 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the

nucleotide sequence of GAM8339 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8339 RNA, herein designated GAM RNA, to target binding sites on GAM8339 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8339 target RNA into GAM8339 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8339 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8339 target genes. The mRNA of each one of this plurality of GAM8339 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8339 RNA, herein designated GAM RNA, and which when bound by GAM8339 RNA causes inhibition of translation of the GAM8339 target mRNA into a corresponding GAM8339 target protein.

The mechanism of the translational inhibition exerted by GAM8339 RNA, herein designated GAM RNA, on one or more GAM8339 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8339 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8339 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8339 RNA, herein designated GAM RNA, of GAM8339 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8339 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8339 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8339 RNA correlate with, and may be deduced from, the identity of the GAM8339 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8349 142252 GTAAATCTCC Fig. 8 further provides a conceptual description of another novel bioinformatically

CTGATACCAT detected oligonucleotides of the present invention, referred to here as Genomic Address
CACTCTTAAA Messenger 8349 (GAM8349) oligonucleotides modulates expression of respective target genes
CCTTTAGAAA whose function and utility is known in the art.

TGCTACAGCA GAM8349 is a novel bioinformatically detectable regulatory, non protein coding,
TCTAGCTTCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM8349 was detected is

CTAGATCAAT described with additional reference to Figs. 9-15.

AATCACAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCTTAAGTGC encoded by the human genome.

TGACCTCATA GAM8349 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8349
AAGATAAAGA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8349
GTTCCCATGA precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar
TTTAC to the nucleotide sequence of GAM8349 precursor RNA is designated SEQ ID:142252, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142252 is located from position 136594068 to position 136594192 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM8349 precursor RNA folds onto itself, forming GAM8349 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8349 precursor RNA, designated SEQ ID NO: 142252, and a schematic representation of a predicted secondary folding of GAM8349 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8349 folded precursor RNA yielding a GAM8349 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8349 RNA, hereby incorporated herein. Expression of GAM8349 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM8349 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8349 target RNA, herein designated GAM TARGET RNA. GAM8349 target RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated

region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8349 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8349 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8349 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8349 RNA, herein designated GAM RNA, to target binding sites on GAM8349 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8349 target RNA into GAM8349 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8349 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8349 target genes. The mRNA of each one of this plurality of GAM8349 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8349 RNA, herein designated GAM RNA, and which when bound by GAM8349 RNA causes inhibition of translation of the GAM8349 target mRNA into a corresponding GAM8349 target protein.

The mechanism of the translational inhibition exerted by GAM8349 RNA, herein designated GAM RNA, on one or more GAM8349 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8349 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8349 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8349 RNA, herein designated GAM RNA, of GAM8349 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8349 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8349 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8349 RNA correlate with, and may be deduced from, the identity of the GAM8349 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8362 142253 GCTCACACAG Fig. 8 further provides a conceptual description of another novel bioinformatically
CAAGTCTTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
TCAAAGCTTA Messenger 8362 (GAM8362) oligonucleotides modulates expression of respective target genes
GGAATGGAAG whose function and utility is known in the art.

TAGGTTGTCC GAM8362 is a novel bioinformatically detectable regulatory, non protein coding,
CCTCCTAGTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM8362 was detected is

ATGGGATCTC described with additional reference to Figs. 9-15.

TCCAACTCAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TAGACAATCT encoded by the human genome.

TGCTTTACGT GAM8362 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8362
GCTGATGAAC precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8362
ATGCTCTGTG precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar
AGC to the nucleotide sequence of GAM8362 precursor RNA is designated SEQ ID:142253, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142253 is located from position 43562099 to position 43562221 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM8362 precursor RNA folds onto itself, forming GAM8362 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8362 precursor RNA, designated SEQ ID NO: 142253, and a schematic representation of a predicted secondary folding of GAM8362 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8362 folded precursor RNA yielding a GAM8362 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8362 RNA, hereby incorporated herein.

GAM8362 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8362 target RNA, herein designated GAM TARGET RNA. GAM8362 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8362 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8362 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8362 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8362 RNA, herein designated GAM RNA, to target binding sites on GAM8362 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8362 target RNA into GAM8362 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8362 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8362 target genes. The mRNA of each one of this plurality of GAM8362 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8362 RNA, herein designated GAM RNA, and which when bound by GAM8362 RNA causes inhibition of translation of the GAM8362 target mRNA into a corresponding GAM8362 target protein.

The mechanism of the translational inhibition exerted by GAM8362 RNA, herein designated GAM RNA, on one or more GAM8362 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8362 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8362 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8362 RNA, herein designated GAM RNA, of GAM8362 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM8362 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8362 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8362 RNA correlate with, and may be deduced from, the identity of the GAM8362 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8380 142254 TGGGCAAAAA Fig. 8 further provides a conceptual description of another novel bioinformatically
GTGAGAAAGT detected oligonucleotides of the present invention, referred to here as Genomic Address
AAGACTGTGG Messenger 8380 (GAM8380) oligonucleotides modulates expression of respective target genes
GAGGTGACTG whose function and utility is known in the art.

TTACAGATCG GAM8380 is a novel bioinformatically detectable regulatory, non protein coding,
GAAAACTCTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM8380 was detected is

ATTGAACCAT described with additional reference to Figs. 9-15.

TCACTTTATT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGCCAGTAAA encoded by the human genome.

CTTTCTCAAC GAM8380 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8380
CCCA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8380
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8380 precursor RNA is designated SEQ ID:142254, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142254 is located from position 23784450 to position 23784553 relative to chromosome chr3 on the `-` strand (chr is an abbreviation for chromosome).

GAM8380 precursor RNA folds onto itself, forming GAM8380 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8380 precursor RNA, designated SEQ ID NO: 142254, and a schematic representation of a predicted secondary folding of GAM8380 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8380 folded precursor RNA yielding a GAM8380 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt

long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM8380 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8380 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM8380 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8380 target RNA, herein designated GAM TARGET RNA. GAM8380 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8380 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8380 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8380 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8380 RNA, herein designated GAM RNA, to target binding sites on GAM8380 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8380 target RNA into GAM8380 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8380 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8380 target genes. The mRNA of each one of this plurality of GAM8380 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8380 RNA, herein designated GAM RNA, and which when bound by GAM8380 RNA causes inhibition of translation of the GAM8380 target mRNA into a corresponding GAM8380 target protein.

The mechanism of the translational inhibition exerted by GAM8380 RNA, herein designated GAM RNA, on one or more GAM8380 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8380 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8380 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8380 RNA, herein designated GAM RNA, of GAM8380 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8380 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8380 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8380 RNA correlate with, and may be deduced from, the identity of the GAM8380 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8386 142255 GGCTTGGGCC GACCCCAGAG AGAGCCCATC ACCTTCTTTT TGGGGTTTGG GGCTTGGCC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 8386 (GAM8386) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM8386 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM8386 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM8386 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8386 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8386 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8386 precursor RNA is designated SEQ ID:142255, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142255 is located from position 18386080 to position 18386138 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM8386 precursor RNA folds onto itself, forming GAM8386 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8386 precursor RNA, designated SEQ ID NO: 142255, and

a schematic representation of a predicted secondary folding of GAM8386 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8386 folded precursor RNA yielding a GAM8386 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8386 RNA, hereby incorporated herein.

GAM8386 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8386 target RNA, herein designated GAM TARGET RNA. GAM8386 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8386 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8386 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8386 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8386 RNA, herein designated GAM RNA, to target binding sites on GAM8386 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8386 target RNA into GAM8386 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8386 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8386 target genes. The mRNA of each one of this plurality of GAM8386 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8386 RNA, herein designated GAM RNA, and which when bound by GAM8386 RNA causes inhibition of translation of the GAM8386 target mRNA into a corresponding GAM8386 target protein.

The mechanism of the translational inhibition exerted by GAM8386 RNA, herein designated GAM RNA, on one or more GAM8386 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8386 precursor RNA, herein designated GAM PRECURSOR

RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8386 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8386 RNA, herein designated GAM RNA, of GAM8386 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8386 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8386 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8386 RNA correlate with, and may be deduced from, the identity of the GAM8386 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8389 142256 AAGTTACCCT Fig. 8 further provides a conceptual description of another novel bioinformatically
GTGACAGTCA detected oligonucleotides of the present invention, referred to here as Genomic Address
TTCATCTGTG Messenger 8389 (GAM8389) oligonucleotides modulates expression of respective target genes
CTCTGGGTGG whose function and utility is known in the art.

CCCATGGGAT GAM8389 is a novel bioinformatically detectable regulatory, non protein coding,
GAGTGTACTA micro RNA (miRNA)-like oligonucleotide. The method by which GAM8389 was detected is

CTGGGCAGGT described with additional reference to Figs. 9-15.

GTAACTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM8389 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8389

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8389
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8389 precursor RNA is designated SEQ ID:142256, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142256 is located from position 147265659 to position 147265735 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM8389 precursor RNA folds onto itself, forming GAM8389 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8389 precursor RNA, designated SEQ ID NO: 142256, and a schematic representation of a predicted secondary folding of GAM8389 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8389 folded precursor RNA yielding a GAM8389 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8389 RNA, hereby incorporated herein.

GAM8389 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8389 target RNA, herein designated GAM TARGET RNA. GAM8389 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8389 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8389 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8389 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8389 RNA, herein designated GAM RNA, to target binding sites on GAM8389 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8389 target RNA into GAM8389 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8389 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8389 target genes. The mRNA of each one of this plurality of GAM8389 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8389 RNA, herein designated GAM RNA, and which when bound by GAM8389 RNA causes inhibition of translation of the GAM8389 target mRNA into a corresponding GAM8389 target protein.

The mechanism of the translational inhibition exerted by GAM8389 RNA, herein

designated GAM RNA, on one or more GAM8389 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8389 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8389 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8389 RNA, herein designated GAM RNA, of GAM8389 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8389 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8389 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8389 RNA correlate with, and may be deduced from, the identity of the GAM8389 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8396 142257 TCCACAGTTT Fig. 8 further provides a conceptual description of another novel bioinformatically

GATCTCTTCT detected oligonucleotides of the present invention, referred to here as Genomic Address

CTGTTCCCTC Messenger 8396 (GAM8396) oligonucleotides modulates expression of respective target genes

CACACTCTTC whose function and utility is known in the art.

TTTTGCTCCT GAM8396 is a novel bioinformatically detectable regulatory, non protein coding,

CTTCCTGTAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM8396 was detected is

TTCAGAGTGG described with additional reference to Figs. 9-15.

TTAAGATCAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGAAGTCAGA encoded by the human genome.

CAAGCTATGG GAM8396 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8396

G precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8396

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8396 precursor RNA is designated SEQ ID:142257, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142257 is located from position 113370917 to position 113371017 relative to chromosome

chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM8396 precursor RNA folds onto itself, forming GAM8396 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8396 precursor RNA, designated SEQ ID NO: 142257, and a schematic representation of a predicted secondary folding of GAM8396 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8396 folded precursor RNA yielding a GAM8396 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8396 RNA, hereby incorporated herein. Expression of GAM8396 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM8396 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8396 target RNA, herein designated GAM TARGET RNA. GAM8396 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8396 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8396 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8396 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8396 RNA, herein designated GAM RNA, to target binding sites on GAM8396 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8396 target RNA into GAM8396 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8396 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM8396 target genes. The mRNA of each one of this plurality of GAM8396 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8396 RNA, herein designated GAM RNA, and which when bound by GAM8396 RNA causes inhibition of translation of the GAM8396 target mRNA into a corresponding GAM8396 target protein.

The mechanism of the translational inhibition exerted by GAM8396 RNA, herein designated GAM RNA, on one or more GAM8396 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8396 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8396 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8396 RNA, herein designated GAM RNA, of GAM8396 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8396 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8396 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8396 RNA correlate with, and may be deduced from, the identity of the GAM8396 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8412 142258 GTTCTCTTGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GACTAGTAGG detected oligonucleotides of the present invention, referred to here as Genomic Address
CATAGAAGAA Messenger 8412 (GAM8412) oligonucleotides modulates expression of respective target genes
AGCAGAAGGA whose function and utility is known in the art.

AAATAAATAG GAM8412 is a novel bioinformatically detectable regulatory, non protein coding,
AAAGAAGGTC micro RNA (miRNA)-like oligonucleotide. The method by which GAM8412 was detected is

TTCTACCTTC described with additional reference to Figs. 9-15.

ATGGCTATTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGGCTCAGGA encoded by the human genome.

GGGT GAM8412 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8412

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8412 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8412 precursor RNA is designated SEQ ID:142258, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142258 is located from position 67981356 to position 67981449 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM8412 precursor RNA folds onto itself, forming GAM8412 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8412 precursor RNA, designated SEQ ID NO: 142258, and a schematic representation of a predicted secondary folding of GAM8412 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8412 folded precursor RNA yielding a GAM8412 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8412 RNA, hereby incorporated herein.

GAM8412 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8412 target RNA, herein designated GAM TARGET RNA. GAM8412 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8412 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8412 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8412 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8412 RNA, herein designated GAM RNA, to target binding sites on GAM8412 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8412 target RNA

into GAM8412 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8412 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8412 target genes. The mRNA of each one of this plurality of GAM8412 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8412 RNA, herein designated GAM RNA, and which when bound by GAM8412 RNA causes inhibition of translation of the GAM8412 target mRNA into a corresponding GAM8412 target protein.

The mechanism of the translational inhibition exerted by GAM8412 RNA, herein designated GAM RNA, on one or more GAM8412 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8412 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8412 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8412 RNA, herein designated GAM RNA, of GAM8412 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8412 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8412 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8412 RNA correlate with, and may be deduced from, the identity of the GAM8412 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8439 142259 TTCCATGGGC Fig. 8 further provides a conceptual description of another novel bioinformatically
AGGGGCCATG detected oligonucleotides of the present invention, referred to here as Genomic Address
ACAGGGAGAT Messenger 8439 (GAM8439) oligonucleotides modulates expression of respective target genes
AGGCCACACC whose function and utility is known in the art.

TTTCCCAGGT GAM8439 is a novel bioinformatically detectable regulatory, non protein coding,
GGAACCTGCA micro RNA (miRNA)-like oligonucleotide. The method by which GAM8439 was detected is

GATGGAG described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM8439 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8439 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8439 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8439 precursor RNA is designated SEQ ID:142259, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142259 is located from position 77528891 to position 77528957 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM8439 precursor RNA folds onto itself, forming GAM8439 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8439 precursor RNA, designated SEQ ID NO: 142259, and a schematic representation of a predicted secondary folding of GAM8439 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8439 folded precursor RNA yielding a GAM8439 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8439 RNA, hereby incorporated herein.

GAM8439 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8439 target RNA, herein designated GAM TARGET RNA. GAM8439 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8439 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8439 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8439 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8439 RNA, herein designated GAM RNA, to target binding sites on GAM8439 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8439 target RNA into GAM8439 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8439 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8439 target genes. The mRNA of each one of this plurality of GAM8439 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8439 RNA, herein designated GAM RNA, and which when bound by GAM8439 RNA causes inhibition of translation of the GAM8439 target mRNA into a corresponding GAM8439 target protein.

The mechanism of the translational inhibition exerted by GAM8439 RNA, herein designated GAM RNA, on one or more GAM8439 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8439 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8439 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8439 RNA, herein designated GAM RNA, of GAM8439 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8439 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8439 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8439 RNA correlate with, and may be deduced from, the identity of the GAM8439 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8447 142260 TGGTGGCATA Fig. 8 further provides a conceptual description of another novel bioinformatically
TGCGTGTAAT detected oligonucleotides of the present invention, referred to here as Genomic Address
CCCAGCTACT Messenger 8447 (GAM8447) oligonucleotides modulates expression of respective target genes
TGGGAGGCTG whose function and utility is known in the art.

AGGCAGGAGA GAM8447 is a novel bioinformatically detectable regulatory, non protein coding,
ATTGCTTGAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM8447 was detected is

CCCAGGAGGT described with additional reference to Figs. 9-15.

GGAGGTTACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTGAGCAGAG encoded by the human genome.

ATTGCACCA GAM8447 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8447 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8447 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8447 precursor RNA is designated SEQ ID:142260, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142260 is located from position 26678132 to position 26678230 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM8447 precursor RNA folds onto itself, forming GAM8447 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8447 precursor RNA, designated SEQ ID NO: 142260, and a schematic representation of a predicted secondary folding of GAM8447 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8447 folded precursor RNA yielding a GAM8447 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM8447 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8447 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM8447 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8447 target RNA, herein designated GAM TARGET RNA. GAM8447 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8447 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8447 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8447 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8447 RNA, herein designated GAM RNA, to target binding sites on GAM8447 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8447 target RNA into GAM8447 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8447 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8447 target genes. The mRNA of each one of this plurality of GAM8447 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8447 RNA, herein designated GAM RNA, and which when bound by GAM8447 RNA causes inhibition of translation of the GAM8447 target mRNA into a corresponding GAM8447 target protein.

The mechanism of the translational inhibition exerted by GAM8447 RNA, herein designated GAM RNA, on one or more GAM8447 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8447 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8447 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8447 RNA, herein designated GAM RNA, of GAM8447 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8447 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8447 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8447 RNA correlate with, and may be deduced from, the identity of the GAM8447 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8452 142261 CCCAGCCCAA GATTGAATTC TGATTAAAGG Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 8452 (GAM8452) oligonucleotides modulates expression of respective target genes

AGGCTGAATT whose function and utility is known in the art.

GCAGAGCCTC GAM8452 is a novel bioinformatically detectable regulatory, non protein coding, CTTTCATCAA micro RNA (miRNA)-like oligonucleotide. The method by which GAM8452 was detected is

ATTCGAGTTT described with additional reference to Figs. 9-15.

TGAATTGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGGG encoded by the human genome.

GAM8452 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8452

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8452

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8452 precursor RNA is designated SEQ ID:142261, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142261 is located from position 10844836 to position 10844919 relative to chromosome chr1 on the `+` strand (chr is an abbreviation for chromosome).

GAM8452 precursor RNA folds onto itself, forming GAM8452 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8452 precursor RNA, designated SEQ ID NO: 142261, and a schematic representation of a predicted secondary folding of GAM8452 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8452 folded precursor RNA yielding a GAM8452 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8452 RNA, hereby incorporated herein.

GAM8452 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8452 target RNA, herein designated GAM TARGET RNA. GAM8452 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8452 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8452 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8452 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8452 RNA, herein designated GAM RNA, to target binding sites on GAM8452 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8452 target RNA into GAM8452 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8452 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8452 target genes. The mRNA of each one of this plurality of GAM8452 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8452 RNA, herein designated GAM RNA, and which when bound by GAM8452 RNA causes inhibition of translation of the GAM8452 target mRNA into a corresponding GAM8452 target protein.

The mechanism of the translational inhibition exerted by GAM8452 RNA, herein designated GAM RNA, on one or more GAM8452 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8452 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8452 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8452 RNA, herein designated GAM RNA, of GAM8452 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8452 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8452 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8452 RNA correlate with, and may be deduced from, the identity of the GAM8452 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8473 142262 GACCAGCCAT Fig. 8 further provides a conceptual description of another novel bioinformatically
CCTGGTTTAC detected oligonucleotides of the present invention, referred to here as Genomic Address
ATGGGACGCA Messenger 8473 (GAM8473) oligonucleotides modulates expression of respective target genes
GGAACTGCCG whose function and utility is known in the art.

TTTTAAAGCT GAM8473 is a novel bioinformatically detectable regulatory, non protein coding,
GGGCTGAGTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM8473 was detected is

GGTC described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM8473 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8473

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8473
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8473 precursor RNA is designated SEQ ID:142262, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142262 is located from position 3585727 to position 3585790 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM8473 precursor RNA folds onto itself, forming GAM8473 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8473 precursor RNA, designated SEQ ID NO: 142262, and a schematic representation of a predicted secondary folding of GAM8473 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8473 folded precursor RNA yielding a GAM8473 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8473 RNA, hereby incorporated herein.

GAM8473 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8473 target RNA, herein designated GAM TARGET RNA. GAM8473 target RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated

region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8473 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8473 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8473 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8473 RNA, herein designated GAM RNA, to target binding sites on GAM8473 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8473 target RNA into GAM8473 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8473 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8473 target genes. The mRNA of each one of this plurality of GAM8473 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8473 RNA, herein designated GAM RNA, and which when bound by GAM8473 RNA causes inhibition of translation of the GAM8473 target mRNA into a corresponding GAM8473 target protein.

The mechanism of the translational inhibition exerted by GAM8473 RNA, herein designated GAM RNA, on one or more GAM8473 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8473 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8473 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8473 RNA, herein designated GAM RNA, of GAM8473 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8473 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8473 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8473 RNA correlate with, and may be deduced from, the identity of the GAM8473 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8489 142263 GCTGTTGGTG Fig. 8 further provides a conceptual description of another novel bioinformatically
AGTATGGAGA detected oligonucleotides of the present invention, referred to here as Genomic Address
TCTCTGCCCT Messenger 8489 (GAM8489) oligonucleotides modulates expression of respective target genes
TGTCAGAGGA whose function and utility is known in the art.

AGGCTTCCTC GAM8489 is a novel bioinformatically detectable regulatory, non protein coding,
ATCACAAGGC micro RNA (miRNA)-like oligonucleotide. The method by which GAM8489 was detected is

AGGGCAGGTG described with additional reference to Figs. 9-15.

TCTGTGCCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGAGC encoded by the human genome.

GAM8489 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8489

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8489

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8489 precursor RNA is designated SEQ ID:142263, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142263 is located from position 49193542 to position 49193626 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM8489 precursor RNA folds onto itself, forming GAM8489 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8489 precursor RNA, designated SEQ ID NO: 142263, and a schematic representation of a predicted secondary folding of GAM8489 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8489 folded precursor RNA yielding a GAM8489 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM8489 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8489 RNA and an

alternative nucleotide sequence thereof, hereby incorporated herein.

GAM8489 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8489 target RNA, herein designated GAM TARGET RNA. GAM8489 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8489 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8489 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8489 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8489 RNA, herein designated GAM RNA, to target binding sites on GAM8489 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8489 target RNA into GAM8489 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8489 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8489 target genes. The mRNA of each one of this plurality of GAM8489 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8489 RNA, herein designated GAM RNA, and which when bound by GAM8489 RNA causes inhibition of translation of the GAM8489 target mRNA into a corresponding GAM8489 target protein.

The mechanism of the translational inhibition exerted by GAM8489 RNA, herein designated GAM RNA, on one or more GAM8489 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8489 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8489 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8489 RNA, herein designated GAM RNA, of GAM8489 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8489 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8489 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8489 RNA correlate with, and may be deduced from, the identity of the GAM8489 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8506 142264 TTGGTTAGGT Fig. 8 further provides a conceptual description of another novel bioinformatically
AGTGGAACCT detected oligonucleotides of the present invention, referred to here as Genomic Address
TCTAAATGAC Messenger 8506 (GAM8506) oligonucleotides modulates expression of respective target genes
GCACTATGTG whose function and utility is known in the art.

ATTCCTGTGT GAM8506 is a novel bioinformatically detectable regulatory, non protein coding,
CATATAGAAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM8506 was detected is

GTTCTATGAT described with additional reference to Figs. 9-15.

TCTTAGCCAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM8506 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8506

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8506
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8506 precursor RNA is designated SEQ ID:142264, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142264 is located from position 80296015 to position 80296094 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM8506 precursor RNA folds onto itself, forming GAM8506 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8506 precursor RNA, designated SEQ ID NO: 142264, and a schematic representation of a predicted secondary folding of GAM8506 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8506 folded precursor RNA

yielding a GAM8506 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8506 RNA, hereby incorporated herein.

GAM8506 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8506 target RNA, herein designated GAM TARGET RNA. GAM8506 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8506 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8506 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8506 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8506 RNA, herein designated GAM RNA, to target binding sites on GAM8506 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8506 target RNA into GAM8506 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8506 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8506 target genes. The mRNA of each one of this plurality of GAM8506 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8506 RNA, herein designated GAM RNA, and which when bound by GAM8506 RNA causes inhibition of translation of the GAM8506 target mRNA into a corresponding GAM8506 target protein.

The mechanism of the translational inhibition exerted by GAM8506 RNA, herein designated GAM RNA, on one or more GAM8506 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8506 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8506 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8506 RNA, herein designated GAM RNA, of GAM8506 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8506 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8506 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8506 RNA correlate with, and may be deduced from, the identity of the GAM8506 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8531 142265 TGATAGCAAC Fig. 8 further provides a conceptual description of another novel bioinformatically

TCTGCTTCCT detected oligonucleotides of the present invention, referred to here as Genomic Address

TGCCTCAGGA Messenger 8531 (GAM8531) oligonucleotides modulates expression of respective target genes

CAGGTTTGTG whose function and utility is known in the art.

GCAAGGAAGA GAM8531 is a novel bioinformatically detectable regulatory, non protein coding,

AAGCAGAAGT micro RNA (miRNA)-like oligonucleotide. The method by which GAM8531 was detected is

TGCTTTCA described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM8531 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8531

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8531

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8531 precursor RNA is designated SEQ ID:142265, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142265 is located from position 80266794 to position 80266861 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM8531 precursor RNA folds onto itself, forming GAM8531 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8531 precursor RNA, designated SEQ ID NO: 142265, and

a schematic representation of a predicted secondary folding of GAM8531 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8531 folded precursor RNA yielding a GAM8531 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8531 RNA, hereby incorporated herein.

GAM8531 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8531 target RNA, herein designated GAM TARGET RNA. GAM8531 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8531 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8531 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8531 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8531 RNA, herein designated GAM RNA, to target binding sites on GAM8531 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8531 target RNA into GAM8531 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8531 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8531 target genes. The mRNA of each one of this plurality of GAM8531 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8531 RNA, herein designated GAM RNA, and which when bound by GAM8531 RNA causes inhibition of translation of the GAM8531 target mRNA into a corresponding GAM8531 target protein.

The mechanism of the translational inhibition exerted by GAM8531 RNA, herein designated GAM RNA, on one or more GAM8531 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8531 precursor RNA, herein designated GAM PRECURSOR

RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8531 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8531 RNA, herein designated GAM RNA, of GAM8531 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8531 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8531 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8531 RNA correlate with, and may be deduced from, the identity of the GAM8531 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8539 142266 TACTTGGGAT Fig. 8 further provides a conceptual description of another novel bioinformatically
CAGTTAGTCT detected oligonucleotides of the present invention, referred to here as Genomic Address
AGAGCCTGCA Messenger 8539 (GAM8539) oligonucleotides modulates expression of respective target genes
AAGCAAGTGG whose function and utility is known in the art.

CTTGGAGAGA GAM8539 is a novel bioinformatically detectable regulatory, non protein coding,
TAGTGATTTA micro RNA (miRNA)-like oligonucleotide. The method by which GAM8539 was detected is

GCTCAAGAGG described with additional reference to Figs. 9-15.

GAGTGAGATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGACTGTTGC encoded by the human genome.

CACATGTTAA GAM8539 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8539
ATGCTTTTCT precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8539
GGGCCTGATT precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar
ATTTAAGGGA to the nucleotide sequence of GAM8539 precursor RNA is designated SEQ ID:142266, and is
provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142266 is located from position 88200943 to position 88201072 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM8539 precursor RNA folds onto itself, forming GAM8539 folded precursor RNA,

herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8539 precursor RNA, designated SEQ ID NO: 142266, and a schematic representation of a predicted secondary folding of GAM8539 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8539 folded precursor RNA yielding a GAM8539 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8539 RNA, hereby incorporated herein.

GAM8539 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8539 target RNA, herein designated GAM TARGET RNA. GAM8539 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8539 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8539 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8539 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8539 RNA, herein designated GAM RNA, to target binding sites on GAM8539 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8539 target RNA into GAM8539 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8539 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8539 target genes. The mRNA of each one of this plurality of GAM8539 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8539 RNA, herein designated GAM RNA, and which when bound by GAM8539 RNA causes inhibition of translation of the GAM8539 target mRNA into a corresponding GAM8539 target protein.

The mechanism of the translational inhibition exerted by GAM8539 RNA, herein designated GAM RNA, on one or more GAM8539 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8539 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8539 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8539 RNA, herein designated GAM RNA, of GAM8539 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8539 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8539 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8539 RNA correlate with, and may be deduced from, the identity of the GAM8539 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8542 142267 GTGGCGTTTA Fig. 8 further provides a conceptual description of another novel bioinformatically
TTCCCTTAGT detected oligonucleotides of the present invention, referred to here as Genomic Address
ATGTAGGTGA Messenger 8542 (GAM8542) oligonucleotides modulates expression of respective target genes
CCCAGGGTGG whose function and utility is known in the art.

CTTTGCTTTG GAM8542 is a novel bioinformatically detectable regulatory, non protein coding,
GCAAGGGAGA micro RNA (miRNA)-like oligonucleotide. The method by which GAM8542 was detected is

AGTCAC described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM8542 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8542

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8542
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8542 precursor RNA is designated SEQ ID:142267, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142267 is located from position 25177054 to position 25177119 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GAM8542 precursor RNA folds onto itself, forming GAM8542 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8542 precursor RNA, designated SEQ ID NO: 142267, and a schematic representation of a predicted secondary folding of GAM8542 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8542 folded precursor RNA yielding a GAM8542 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8542 RNA, hereby incorporated herein.

GAM8542 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8542 target RNA, herein designated GAM TARGET RNA. GAM8542 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8542 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8542 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8542 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8542 RNA, herein designated GAM RNA, to target binding sites on GAM8542 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8542 target RNA into GAM8542 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8542 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM8542 target genes. The mRNA of each one of this plurality of GAM8542 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8542 RNA, herein designated GAM RNA, and which when bound by GAM8542 RNA causes inhibition of translation of the GAM8542 target mRNA into a corresponding GAM8542 target protein.

The mechanism of the translational inhibition exerted by GAM8542 RNA, herein designated GAM RNA, on one or more GAM8542 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8542 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8542 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8542 RNA, herein designated GAM RNA, of GAM8542 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8542 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8542 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8542 RNA correlate with, and may be deduced from, the identity of the GAM8542 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8563 142268 ACATGTCATA Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAGCCTCC detected oligonucleotides of the present invention, referred to here as Genomic Address
TACTGAACTC Messenger 8563 (GAM8563) oligonucleotides modulates expression of respective target genes
AGCCACATAT whose function and utility is known in the art.

GGAAGTTTGA GAM8563 is a novel bioinformatically detectable regulatory, non protein coding,
AGTGGGTCCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM8563 was detected is

CGAAATGCAT described with additional reference to Figs. 9-15.

GT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM8563 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8563

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8563 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8563 precursor RNA is designated SEQ ID:142268, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142268 is located from position 81283739 to position 81283810 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM8563 precursor RNA folds onto itself, forming GAM8563 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8563 precursor RNA, designated SEQ ID NO: 142268, and a schematic representation of a predicted secondary folding of GAM8563 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8563 folded precursor RNA yielding a GAM8563 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM8563 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8563 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM8563 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8563 target RNA, herein designated GAM TARGET RNA. GAM8563 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8563 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8563 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8563 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8563 RNA, herein designated GAM RNA, to target binding sites on GAM8563 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8563 target RNA into GAM8563 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8563 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8563 target genes. The mRNA of each one of this plurality of GAM8563 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8563 RNA, herein designated GAM RNA, and which when bound by GAM8563 RNA causes inhibition of translation of the GAM8563 target mRNA into a corresponding GAM8563 target protein.

The mechanism of the translational inhibition exerted by GAM8563 RNA, herein designated GAM RNA, on one or more GAM8563 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8563 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8563 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8563 RNA, herein designated GAM RNA, of GAM8563 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8563 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8563 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8563 RNA correlate with, and may be deduced from, the identity of the GAM8563 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8573 142269 TCAGACTTGC ATTTCACCAG GCATTCTTTA GCTGCCTGCG GTGCTAAAGA ATGGGTGGCT GGGCTGTGTG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 8573 (GAM8573) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM8573 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM8573 was detected is described with additional reference to Figs. 9-15.

AGATGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM8573 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8573 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8573 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8573 precursor RNA is designated SEQ ID:142269, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142269 is located from position 17266415 to position 17266490 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM8573 precursor RNA folds onto itself, forming GAM8573 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8573 precursor RNA, designated SEQ ID NO: 142269, and a schematic representation of a predicted secondary folding of GAM8573 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8573 folded precursor RNA yielding a GAM8573 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM8573 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8573 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM8573 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8573 target RNA, herein designated GAM TARGET RNA. GAM8573 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8573 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8573 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8573 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8573 RNA, herein designated GAM RNA, to target binding sites on GAM8573 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8573 target RNA into GAM8573 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8573 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8573 target genes. The mRNA of each one of this plurality of GAM8573 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8573 RNA, herein designated GAM RNA, and which when bound by GAM8573 RNA causes inhibition of translation of the GAM8573 target mRNA into a corresponding GAM8573 target protein.

The mechanism of the translational inhibition exerted by GAM8573 RNA, herein designated GAM RNA, on one or more GAM8573 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8573 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8573 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8573 RNA, herein designated GAM RNA, of GAM8573 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8573 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8573 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8573 RNA correlate with, and may be deduced from, the identity of the GAM8573 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8598 142270 TTTTGGCCCT GTGCTCTTGA TAACAGAGTG TTTGAGGGAC Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 8598 (GAM8598) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

AACTTTCACA GAM8598 is a novel bioinformatically detectable regulatory, non protein coding, TTTGAGTTTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM8598 was detected is

TCCAAAATTA described with additional reference to Figs. 9-15.

AAGGTTGTAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAGAGTCACA encoded by the human genome.

GTATCTATTG GAM8598 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8598

TCAAAA precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8598

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8598 precursor RNA is designated SEQ ID:142270, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142270 is located from position 31954902 to position 31955007 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GAM8598 precursor RNA folds onto itself, forming GAM8598 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8598 precursor RNA, designated SEQ ID NO: 142270, and a schematic representation of a predicted secondary folding of GAM8598 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8598 folded precursor RNA yielding a GAM8598 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8598 RNA, hereby incorporated herein.

GAM8598 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8598 target RNA, herein designated GAM TARGET RNA. GAM8598 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8598 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8598 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the

nucleotide sequence of GAM8598 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8598 RNA, herein designated GAM RNA, to target binding sites on GAM8598 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8598 target RNA into GAM8598 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8598 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8598 target genes. The mRNA of each one of this plurality of GAM8598 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8598 RNA, herein designated GAM RNA, and which when bound by GAM8598 RNA causes inhibition of translation of the GAM8598 target mRNA into a corresponding GAM8598 target protein.

The mechanism of the translational inhibition exerted by GAM8598 RNA, herein designated GAM RNA, on one or more GAM8598 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8598 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8598 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8598 RNA, herein designated GAM RNA, of GAM8598 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8598 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8598 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8598 RNA correlate with, and may be deduced from, the identity of the GAM8598 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8601 142271 TAAATTGGAA Fig. 8 further provides a conceptual description of another novel bioinformatically

TGACAGAAGA detected oligonucleotides of the present invention, referred to here as Genomic Address
TGAGAGCTAG Messenger 8601 (GAM8601) oligonucleotides modulates expression of respective target genes
GAAGTGGTAT whose function and utility is known in the art.

ATTTAATTTC GAM8601 is a novel bioinformatically detectable regulatory, non protein coding,
TAGATTTCAG micro RNA (miRNA)-like oligonucleotide. The method by which GAM8601 was detected is

GGCTGGAGTG described with additional reference to Figs. 9-15.

GTGGAGTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM8601 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8601

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8601
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8601 precursor RNA is designated SEQ ID:142271, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142271 is located from position 114561400 to position 114561477 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM8601 precursor RNA folds onto itself, forming GAM8601 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8601 precursor RNA, designated SEQ ID NO: 142271, and a schematic representation of a predicted secondary folding of GAM8601 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8601 folded precursor RNA yielding a GAM8601 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8601 RNA, hereby incorporated herein.

GAM8601 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8601 target RNA, herein designated GAM TARGET RNA. GAM8601 target RNA
comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8601 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8601 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8601 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8601 RNA, herein designated GAM RNA, to target binding sites on GAM8601 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8601 target RNA into GAM8601 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8601 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8601 target genes. The mRNA of each one of this plurality of GAM8601 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8601 RNA, herein designated GAM RNA, and which when bound by GAM8601 RNA causes inhibition of translation of the GAM8601 target mRNA into a corresponding GAM8601 target protein.

The mechanism of the translational inhibition exerted by GAM8601 RNA, herein designated GAM RNA, on one or more GAM8601 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8601 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8601 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8601 RNA, herein designated GAM RNA, of GAM8601 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8601 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8601 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8601 RNA correlate with, and may be deduced from, the identity of the GAM8601 target gene inhibited

thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8611 142272 CTCATAGTGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TAGATAGCTT detected oligonucleotides of the present invention, referred to here as Genomic Address
ATTGGTCAGG Messenger 8611 (GAM8611) oligonucleotides modulates expression of respective target genes
GTAGATAGAG whose function and utility is known in the art.

ATATGTTTTC GAM8611 is a novel bioinformatically detectable regulatory, non protein coding,
TGTGTAACTG micro RNA (miRNA)-like oligonucleotide. The method by which GAM8611 was detected is

TCTAGTTTTT described with additional reference to Figs. 9-15.

GTCCTACCAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCGGAG encoded by the human genome.

GAM8611 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8611

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8611
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8611 precursor RNA is designated SEQ ID:142272, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142272 is located from position 43677892 to position 43677977 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM8611 precursor RNA folds onto itself, forming GAM8611 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8611 precursor RNA, designated SEQ ID NO: 142272, and a schematic representation of a predicted secondary folding of GAM8611 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8611 folded precursor RNA yielding a GAM8611 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8611 RNA, hereby incorporated herein.

GAM8611 target gene, herein designated GAM TARGET GENE, encodes a corresponding

messenger RNA, GAM8611 target RNA, herein designated GAM TARGET RNA. GAM8611 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8611 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8611 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8611 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8611 RNA, herein designated GAM RNA, to target binding sites on GAM8611 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8611 target RNA into GAM8611 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8611 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8611 target genes. The mRNA of each one of this plurality of GAM8611 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8611 RNA, herein designated GAM RNA, and which when bound by GAM8611 RNA causes inhibition of translation of the GAM8611 target mRNA into a corresponding GAM8611 target protein.

The mechanism of the translational inhibition exerted by GAM8611 RNA, herein designated GAM RNA, on one or more GAM8611 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8611 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8611 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8611 RNA, herein designated GAM RNA, of GAM8611 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8611 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target

binding sites to GAM8611 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8611 RNA correlate with, and may be deduced from, the identity of the GAM8611 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8631 142273 TCCCGGAGTT Fig. 8 further provides a conceptual description of another novel bioinformatically
TATGGTCTGG detected oligonucleotides of the present invention, referred to here as Genomic Address
TGAGAAGATC Messenger 8631 (GAM8631) oligonucleotides modulates expression of respective target genes
CCTGCTCTGA whose function and utility is known in the art.

GTCACTGCCA GAM8631 is a novel bioinformatically detectable regulatory, non protein coding,
AGCTCTAGCT micro RNA (miRNA)-like oligonucleotide. The method by which GAM8631 was detected is

ATGTGACTTT described with additional reference to Figs. 9-15.

GAACAGGGAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTTCTGTCCC encoded by the human genome.

TATCTATAAA GAM8631 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8631
ATAAACGGGG precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8631
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8631 precursor RNA is designated SEQ ID:142273, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142273 is located from position 30319063 to position 30319172 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM8631 precursor RNA folds onto itself, forming GAM8631 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8631 precursor RNA, designated SEQ ID NO: 142273, and a schematic representation of a predicted secondary folding of GAM8631 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8631 folded precursor RNA yielding a GAM8631 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an

enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM8631 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8631 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM8631 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8631 target RNA, herein designated GAM TARGET RNA. GAM8631 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8631 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8631 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8631 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8631 RNA, herein designated GAM RNA, to target binding sites on GAM8631 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8631 target RNA into GAM8631 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8631 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8631 target genes. The mRNA of each one of this plurality of GAM8631 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8631 RNA, herein designated GAM RNA, and which when bound by GAM8631 RNA causes inhibition of translation of the GAM8631 target mRNA into a corresponding GAM8631 target protein.

The mechanism of the translational inhibition exerted by GAM8631 RNA, herein designated GAM RNA, on one or more GAM8631 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8631 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8631 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8631 RNA, herein designated GAM RNA, of GAM8631 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8631 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8631 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8631 RNA correlate with, and may be deduced from, the identity of the GAM8631 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8636 142274 GAGGTAGGTG Fig. 8 further provides a conceptual description of another novel bioinformatically
CTTTAACTGT detected oligonucleotides of the present invention, referred to here as Genomic Address
GTGCACCCTG Messenger 8636 (GAM8636) oligonucleotides modulates expression of respective target genes
TGAGGTAGGT whose function and utility is known in the art.

GCTTTAACTG GAM8636 is a novel bioinformatically detectable regulatory, non protein coding,
TGTGCACATT micro RNA (miRNA)-like oligonucleotide. The method by which GAM8636 was detected is

GTGAGGTAGG described with additional reference to Figs. 9-15.

TGCTGAAACT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCTTC encoded by the human genome.

GAM8636 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8636

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8636
precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8636 precursor RNA is designated SEQ ID:142274, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142274 is located from position 93614982 to position 93615066 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM8636 precursor RNA folds onto itself, forming GAM8636 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8636 precursor RNA, designated SEQ ID NO: 142274, and a schematic representation of a predicted secondary folding of GAM8636 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8636 folded precursor RNA yielding a GAM8636 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8636 RNA, hereby incorporated herein.

GAM8636 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8636 target RNA, herein designated GAM TARGET RNA. GAM8636 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8636 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8636 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8636 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8636 RNA, herein designated GAM RNA, to target binding sites on GAM8636 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8636 target RNA into GAM8636 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8636 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8636 target genes. The mRNA of each one of this plurality of GAM8636 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8636 RNA, herein designated GAM RNA, and which when bound by GAM8636 RNA causes inhibition of translation of the GAM8636 target mRNA into a corresponding GAM8636 target protein.

The mechanism of the translational inhibition exerted by GAM8636 RNA, herein designated GAM RNA, on one or more GAM8636 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8636 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8636 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8636 RNA, herein designated GAM RNA, of GAM8636 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8636 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8636 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8636 RNA correlate with, and may be deduced from, the identity of the GAM8636 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8647 142275 TAGCACCCCT Fig. 8 further provides a conceptual description of another novel bioinformatically

TGCCCTGTGT detected oligonucleotides of the present invention, referred to here as Genomic Address

CTGTGGAACA Messenger 8647 (GAM8647) oligonucleotides modulates expression of respective target genes

GAAGCAGCTT whose function and utility is known in the art.

CCTTCAGAGA GAM8647 is a novel bioinformatically detectable regulatory, non protein coding,

AGACTGCAGC micro RNA (miRNA)-like oligonucleotide. The method by which GAM8647 was detected is

TCCCAAGGAC described with additional reference to Figs. 9-15.

ACAAGCTGTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGGATGCTA encoded by the human genome.

GAM8647 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8647

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8647

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8647 precursor RNA is designated SEQ ID:142275, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142275 is located from position 30002913 to position 30003001 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GAM8647 precursor RNA folds onto itself, forming GAM8647 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8647 precursor RNA, designated SEQ ID NO: 142275, and a schematic representation of a predicted secondary folding of GAM8647 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8647 folded precursor RNA yielding a GAM8647 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8647 RNA, hereby incorporated herein.

GAM8647 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8647 target RNA, herein designated GAM TARGET RNA. GAM8647 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8647 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8647 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8647 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8647 RNA, herein designated GAM RNA, to target binding sites on GAM8647 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8647 target RNA into GAM8647 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8647 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8647 target genes. The mRNA of each one of this plurality of GAM8647 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8647 RNA, herein designated GAM RNA, and which when bound by GAM8647 RNA causes inhibition of translation of the GAM8647 target mRNA into a corresponding GAM8647 target protein.

The mechanism of the translational inhibition exerted by GAM8647 RNA, herein designated GAM RNA, on one or more GAM8647 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8647 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8647 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8647 RNA, herein designated GAM RNA, of GAM8647 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8647 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8647 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8647 RNA correlate with, and may be deduced from, the identity of the GAM8647 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8665 142276 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATCACTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCTGGGAG Messenger 8665 (GAM8665) oligonucleotides modulates expression of respective target genes

GCAAGAGGTT whose function and utility is known in the art.

GCAGTGAGCT GAM8665 is a novel bioinformatically detectable regulatory, non protein coding,

GAGATCATAC micro RNA (miRNA)-like oligonucleotide. The method by which GAM8665 was detected is

CACTGCACTC described with additional reference to Figs. 9-15.

TGGCCTGGGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AACAGAGCGA encoded by the human genome.

GACTGTCTCA GAM8665 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8665

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8665

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8665 precursor RNA is designated SEQ ID:142276, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142276 is located from position 10301954 to position 10302053 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM8665 precursor RNA folds onto itself, forming GAM8665 folded precursor RNA,

herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8665 precursor RNA, designated SEQ ID NO: 142276, and a schematic representation of a predicted secondary folding of GAM8665 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8665 folded precursor RNA yielding a GAM8665 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8665 RNA, hereby incorporated herein.

GAM8665 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8665 target RNA, herein designated GAM TARGET RNA. GAM8665 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8665 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8665 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8665 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8665 RNA, herein designated GAM RNA, to target binding sites on GAM8665 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8665 target RNA into GAM8665 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8665 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8665 target genes. The mRNA of each one of this plurality of GAM8665 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8665 RNA, herein designated GAM RNA, and which when bound by GAM8665 RNA causes inhibition of translation of the GAM8665 target mRNA into a corresponding GAM8665 target protein.

The mechanism of the translational inhibition exerted by GAM8665 RNA, herein designated GAM RNA, on one or more GAM8665 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8665 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8665 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8665 RNA, herein designated GAM RNA, of GAM8665 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8665 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8665 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8665 RNA correlate with, and may be deduced from, the identity of the GAM8665 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8678 142277 GTGAGATGTG Fig. 8 further provides a conceptual description of another novel bioinformatically

TTCCAGGAAG detected oligonucleotides of the present invention, referred to here as Genomic Address

TCGTCTTGAG Messenger 8678 (GAM8678) oligonucleotides modulates expression of respective target genes

CACCCATTGC whose function and utility is known in the art.

TCAGAGTTTA GAM8678 is a novel bioinformatically detectable regulatory, non protein coding,

TATTGGACTT micro RNA (miRNA)-like oligonucleotide. The method by which GAM8678 was detected is

GCTTTCTAGC described with additional reference to Figs. 9-15.

ACATACCAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM8678 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8678

precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8678

precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8678 precursor RNA is designated SEQ ID:142277, and is

provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142277 is located from position 62449343 to position 62449421 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM8678 precursor RNA folds onto itself, forming GAM8678 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8678 precursor RNA, designated SEQ ID NO: 142277, and a schematic representation of a predicted secondary folding of GAM8678 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8678 folded precursor RNA yielding a GAM8678 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8678 RNA, hereby incorporated herein. Expression of GAM8678 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM8678 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8678 target RNA, herein designated GAM TARGET RNA. GAM8678 target RNA

comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8678 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8678 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8678 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8678 RNA, herein designated GAM RNA, to target binding sites on GAM8678 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8678 target RNA into GAM8678 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8678 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8678 target genes. The mRNA of each one of this plurality of GAM8678 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8678 RNA, herein designated GAM RNA, and which when bound by GAM8678 RNA causes inhibition of translation of the GAM8678 target mRNA into a corresponding GAM8678 target protein.

The mechanism of the translational inhibition exerted by GAM8678 RNA, herein designated GAM RNA, on one or more GAM8678 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8678 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8678 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8678 RNA, herein designated GAM RNA, of GAM8678 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8678 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8678 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8678 RNA correlate with, and may be deduced from, the identity of the GAM8678 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM8693 142278 AGGTGGCAGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAGGCAATAT detected oligonucleotides of the present invention, referred to here as Genomic Address
CAATCCTTCT Messenger 8693 (GAM8693) oligonucleotides modulates expression of respective target genes
GCATCACACA whose function and utility is known in the art.

GTGGGAAAAG GAM8693 is a novel bioinformatically detectable regulatory, non protein coding,
TTTGTCTCAT micro RNA (miRNA)-like oligonucleotide. The method by which GAM8693 was detected is

TGCAGTTCT described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM8693 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM8693 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM8693 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM8693 precursor RNA is designated SEQ ID:142278, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142278 is located from position 105533389 to position 105533457 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM8693 precursor RNA folds onto itself, forming GAM8693 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM8693 precursor RNA, designated SEQ ID NO: 142278, and a schematic representation of a predicted secondary folding of GAM8693 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM8693 folded precursor RNA yielding a GAM8693 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM8693 RNA, hereby incorporated herein.

GAM8693 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM8693 target RNA, herein designated GAM TARGET RNA. GAM8693 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM8693 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM8693 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM8693 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM8693 RNA, herein designated GAM RNA, to target binding sites on GAM8693 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM8693 target RNA into GAM8693 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM8693 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM8693 target genes. The mRNA of each one of this plurality of GAM8693 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM8693 RNA, herein designated GAM RNA, and which when bound by GAM8693 RNA causes inhibition of translation of the GAM8693 target mRNA into a corresponding GAM8693 target protein.

The mechanism of the translational inhibition exerted by GAM8693 RNA, herein designated GAM RNA, on one or more GAM8693 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM8693 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM8693 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM8693 RNA, herein designated GAM RNA, of GAM8693 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in

Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM8693 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM8693 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM8693 RNA correlate with, and may be deduced from, the identity of the GAM8693 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336121 142279 ACACACGTGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GATGTGTTCC detected oligonucleotides of the present invention, referred to here as Genomic Address
AGGAAGTCGT Messenger 336121 (GAM336121) oligonucleotides modulates expression of respective target
CTTGAGCACC genes whose function and utility is known in the art.

CATTGCTCAG GAM336121 is a novel bioinformatically detectable regulatory, non protein
AGTTTATATT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336121 was detected

GGACTTGCTT is described with additional reference to Figs. 9-15.

TCTAGCACAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACCACAATTG encoded by the human genome.

T GAM336121 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336121 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336121 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336121 precursor RNA is designated SEQ ID:142279, and is provided hereinbelow with reference to the sequence listing part.

GAM336121 precursor RNA folds onto itself, forming GAM336121 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336121 precursor RNA, designated SEQ ID NO: 142279, and a schematic representation of a predicted secondary folding of GAM336121 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336121 folded precursor RNA yielding a GAM336121 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336121 RNA, hereby incorporated herein. Expression of GAM336121 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336121 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336121 target RNA, herein designated GAM TARGET RNA.

GAM336121 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336121 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336121 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336121 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336121 RNA, herein designated GAM RNA, to target binding sites on GAM336121 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336121 target RNA into GAM336121 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336121 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336121 target genes. The mRNA of each one of this plurality of GAM336121 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336121 RNA, herein designated GAM RNA, and which when bound by GAM336121 RNA causes inhibition of translation of the GAM336121 target mRNA into a corresponding GAM336121 target protein.

The mechanism of the translational inhibition exerted by GAM336121 RNA, herein designated GAM RNA, on one or more GAM336121 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336121 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336121 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336121 RNA, herein designated GAM RNA, of GAM336121 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336121 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336121 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336121 RNA correlate with, and may be deduced from, the identity of the GAM336121 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336122 142280 AGGCAGGAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

ATTGCTTGAA detected oligonucleotides of the present invention, referred to here as Genomic Address
CCCAGGAGGT Messenger 336122 (GAM336122) oligonucleotides modulates expression of respective target
GGAGGTTGCA genes whose function and utility is known in the art.

GGGAGTCGAG GAM336122 is a novel bioinformatically detectable regulatory, non protein
ATCGTGCCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336122 was detected
TGCACTCCAG is described with additional reference to Figs. 9-15.

CCTGGGCAAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGAGCAAAA encoded by the human genome.

CTCCATCT GAM336122 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336122 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336122 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336122 precursor RNA is designated SEQ ID:142280, and is provided hereinbelow with reference to the sequence listing part.

GAM336122 precursor RNA folds onto itself, forming GAM336122 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336122 precursor RNA, designated SEQ ID NO: 142280, and a schematic representation of a predicted secondary folding of GAM336122 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336122 folded precursor RNA yielding a GAM336122 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336122 RNA, hereby incorporated herein. Expression of GAM336122 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336122 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336122 target RNA, herein designated GAM TARGET RNA.

GAM336122 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336122 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336122 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336122 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336122 RNA, herein designated GAM RNA, to target binding sites on GAM336122 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336122 target RNA into GAM336122 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336122 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336122 target genes. The mRNA of each one of this plurality of GAM336122 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336122 RNA, herein designated GAM RNA, and which when bound by GAM336122 RNA causes inhibition of translation of the GAM336122 target mRNA into a corresponding GAM336122 target protein.

The mechanism of the translational inhibition exerted by GAM336122 RNA, herein designated GAM RNA, on one or more GAM336122 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336122 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336122 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336122 RNA, herein designated GAM RNA, of GAM336122 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336122 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336122 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336122 RNA correlate with, and may be deduced from, the identity of the GAM336122 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336123 142281 AGGCAGGAGA Fig. 8 further provides a conceptual description of another novel bioinformatically
ATTGCTTGAA detected oligonucleotides of the present invention, referred to here as Genomic Address
CCTGGAAGGC Messenger 336123 (GAM336123) oligonucleotides modulates expression of respective target
GGAGGTTGCA genes whose function and utility is known in the art.

GTGAGCCAAG GAM336123 is a novel bioinformatically detectable regulatory, non protein
ATTGTGCCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336123 was detected
TGCACTCCAG is described with additional reference to Figs. 9-15.

CCTGGGCAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAGCGAGAC encoded by the human genome.

TCTGTCT GAM336123 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336123 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336123 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336123 precursor RNA is designated SEQ ID:142281, and is provided hereinbelow with reference to the sequence listing part.

GAM336123 precursor RNA folds onto itself, forming GAM336123 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336123 precursor RNA, designated SEQ ID NO: 142281, and a schematic representation of a predicted secondary folding of GAM336123 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336123 folded precursor RNA yielding a GAM336123 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336123 RNA, hereby incorporated herein. Expression of GAM336123 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336123 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336123 target RNA, herein designated GAM TARGET RNA.

GAM336123 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336123 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336123 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336123 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336123 RNA, herein designated GAM RNA, to target binding sites on GAM336123 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336123 target RNA into GAM336123 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336123 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336123 target genes. The mRNA of each one of this plurality of GAM336123 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336123 RNA, herein designated GAM RNA, and which when bound by GAM336123 RNA causes inhibition of translation of the GAM336123 target mRNA into a corresponding GAM336123 target protein.

The mechanism of the translational inhibition exerted by GAM336123 RNA, herein designated GAM RNA, on one or more GAM336123 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336123 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336123 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336123 RNA, herein designated GAM RNA, of

GAM336123 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336123 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336123 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336123 RNA correlate with, and may be deduced from, the identity of the GAM336123 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336124 142282 AGGCAGGAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GTCGCTGGAA detected oligonucleotides of the present invention, referred to here as Genomic Address

CCTGAGAGGC Messenger 336124 (GAM336124) oligonucleotides modulates expression of respective target

GGAGCTTGCA genes whose function and utility is known in the art.

GTGAGCCGAG GAM336124 is a novel bioinformatically detectable regulatory, non protein

ATCGCGCCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336124 was detected

TGCACTCCAG is described with additional reference to Figs. 9-15.

CCTGGGCAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAGCGAGAC encoded by the human genome.

TCCGTCT GAM336124 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336124 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336124 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336124 precursor RNA is designated SEQ ID:142282, and is provided hereinbelow with reference to the sequence listing part.

GAM336124 precursor RNA folds onto itself, forming GAM336124 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336124 precursor RNA, designated SEQ ID NO: 142282, and a schematic representation of a predicted secondary folding of GAM336124 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336124 folded precursor RNA yielding a GAM336124 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336124 RNA, hereby incorporated herein. Expression of GAM336124 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336124 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336124 target RNA, herein designated GAM TARGET RNA.

GAM336124 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336124 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336124 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336124 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336124 RNA, herein designated GAM RNA, to target binding sites on GAM336124 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336124 target RNA into GAM336124 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336124 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336124 target genes. The mRNA of each one of this plurality of GAM336124 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336124 RNA, herein designated GAM RNA, and which when bound by GAM336124 RNA causes inhibition of translation of the GAM336124 target mRNA into a corresponding GAM336124 target protein.

The mechanism of the translational inhibition exerted by GAM336124 RNA, herein designated GAM RNA, on one or more GAM336124 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336124 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336124 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336124 RNA, herein designated GAM RNA, of GAM336124 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336124 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336124 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336124 RNA correlate with, and may be deduced from, the identity of the GAM336124 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336125 142283 ATGGCGTGAA Fig. 8 further provides a conceptual description of another novel bioinformatically

CCCGGGAGGC detected oligonucleotides of the present invention, referred to here as Genomic Address

GGAGCTTGCA Messenger 336125 (GAM336125) oligonucleotides modulates expression of respective target

GTGAGCCGAG genes whose function and utility is known in the art.

ATCGAGCCAC GAM336125 is a novel bioinformatically detectable regulatory, non protein

TGCACTCCAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336125 was detected

CCTGGGCAAC is described with additional reference to Figs. 9-15.

AGAGCGAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336125 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336125 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336125 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336125 precursor RNA is designated SEQ ID:142283, and is provided hereinbelow with reference to the sequence listing part.

GAM336125 precursor RNA folds onto itself, forming GAM336125 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336125 precursor RNA, designated SEQ ID NO: 142283, and a schematic representation of a predicted secondary folding of GAM336125 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336125 folded precursor RNA yielding a GAM336125 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336125 RNA, hereby incorporated herein. Expression of GAM336125 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336125 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336125 target RNA, herein designated GAM TARGET RNA.

GAM336125 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336125 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336125 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336125 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336125 RNA, herein designated GAM RNA, to target binding sites on GAM336125 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336125 target RNA into GAM336125 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336125 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336125 target genes. The mRNA of each one of this plurality of GAM336125 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM336125 RNA, herein designated GAM RNA, and which when bound by GAM336125 RNA causes inhibition of translation of the GAM336125 target mRNA into a corresponding GAM336125 target protein.

The mechanism of the translational inhibition exerted by GAM336125 RNA, herein designated GAM RNA, on one or more GAM336125 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336125 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336125 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336125 RNA, herein designated GAM RNA, of GAM336125 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336125 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336125 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336125 RNA correlate with, and may be deduced from, the identity of the GAM336125 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336126 142284 CTACTCTGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GGCTGAGGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
GGAGAATCGC Messenger 336126 (GAM336126) oligonucleotides modulates expression of respective target
TTTAACCCGG genes whose function and utility is known in the art.

GAGGCAGAGG GAM336126 is a novel bioinformatically detectable regulatory, non protein
TTGTGGTGAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336126 was detected
CCGAGATCGC is described with additional reference to Figs. 9-15.

GCCATTGCAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCCAGCCTGG encoded by the human genome.

GCAACAAGAG GAM336126 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CGGAATTCTG GAM336126 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

TCTCAAAAAA GAM336126 precursor RNA does not encode a protein. A nucleotide sequence identical or

AAAAAAGAGA highly similar to the nucleotide sequence of GAM336126 precursor RNA is designated SEQ

G ID:142284, and is provided hereinbelow with reference to the sequence listing part.

GAM336126 precursor RNA folds onto itself, forming GAM336126 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336126 precursor RNA, designated SEQ ID NO: 142284, and a schematic representation of a predicted secondary folding of GAM336126 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336126 folded precursor RNA yielding a GAM336126 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336126 RNA, hereby incorporated herein. Expression of GAM336126 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336126 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336126 target RNA, herein designated GAM TARGET RNA.

GAM336126 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336126 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336126 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336126 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336126 RNA, herein designated GAM RNA, to target binding sites on GAM336126 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336126 target RNA into GAM336126 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336126 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336126 target genes. The mRNA of each one of this plurality of GAM336126 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336126 RNA, herein designated GAM RNA, and which when bound by GAM336126 RNA causes inhibition of translation of the GAM336126 target mRNA into a corresponding GAM336126 target protein.

The mechanism of the translational inhibition exerted by GAM336126 RNA, herein designated GAM RNA, on one or more GAM336126 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336126 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336126 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336126 RNA, herein designated GAM RNA, of GAM336126 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336126 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336126 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336126 RNA correlate with, and may be deduced from, the identity of the GAM336126 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336127 142285 CTCAGGAGGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TGAGGCAGGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GGATCACTTG Messenger 336127 (GAM336127) oligonucleotides modulates expression of respective target

AGCCTGGGAG genes whose function and utility is known in the art.

GTCTAGGCTG GAM336127 is a novel bioinformatically detectable regulatory, non protein
CAGTGAGCCG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336127 was detected
GGACGATGCC is described with additional reference to Figs. 9-15.

ACTGCACTCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGCCTGGGCA encoded by the human genome.

ACAGAGTGAG GAM336127 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
ACCCTGTCCC GAM336127 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
AGCACTCTGG GAM336127 precursor RNA does not encode a protein. A nucleotide sequence identical or

G highly similar to the nucleotide sequence of GAM336127 precursor RNA is designated SEQ ID:142285, and is provided hereinbelow with reference to the sequence listing part.

GAM336127 precursor RNA folds onto itself, forming GAM336127 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336127 precursor RNA, designated SEQ ID NO: 142285, and a schematic representation of a predicted secondary folding of GAM336127 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336127 folded precursor RNA yielding a GAM336127 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336127 RNA, hereby incorporated herein. Expression of GAM336127 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336127 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336127 target RNA, herein designated GAM TARGET RNA.

GAM336127 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336127 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM336127 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336127 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336127 RNA, herein designated GAM RNA, to target binding sites on GAM336127 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336127 target RNA into GAM336127 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336127 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336127 target genes. The mRNA of each one of this plurality of GAM336127 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336127 RNA, herein designated GAM RNA, and which when bound by GAM336127 RNA causes inhibition of translation of the GAM336127 target mRNA into a corresponding GAM336127 target protein.

The mechanism of the translational inhibition exerted by GAM336127 RNA, herein designated GAM RNA, on one or more GAM336127 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336127 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336127 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336127 RNA, herein designated GAM RNA, of GAM336127 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336127 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336127 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336127 RNA correlate with, and may be deduced from, the identity of the GAM336127 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336128 142286 CTGAGGCAGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATCTCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCTGGGAG Messenger 336128 (GAM336128) oligonucleotides modulates expression of respective target
GTGGAGGTTG genes whose function and utility is known in the art.

CAGTGAGCCG GAM336128 is a novel bioinformatically detectable regulatory, non protein
AGATTGTCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336128 was detected
CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGAGTAAGA encoded by the human genome.

CTCTGTCTCA GAM336128 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
G GAM336128 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336128 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336128 precursor RNA is designated SEQ ID:142286, and is provided hereinbelow with reference to the sequence listing part.

GAM336128 precursor RNA folds onto itself, forming GAM336128 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336128 precursor RNA, designated SEQ ID NO: 142286, and a schematic representation of a predicted secondary folding of GAM336128 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336128 folded precursor RNA yielding a GAM336128 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336128 RNA, hereby incorporated herein. Expression of GAM336128 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336128 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336128 target RNA, herein designated GAM TARGET RNA.

GAM336128 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336128 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336128 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336128 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336128 RNA, herein designated GAM RNA, to target binding sites on GAM336128 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336128 target RNA into GAM336128 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336128 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336128 target genes. The mRNA of each one of this plurality of GAM336128 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336128 RNA, herein designated GAM RNA, and which when bound by GAM336128 RNA causes inhibition of translation of the GAM336128 target mRNA into a corresponding GAM336128 target protein.

The mechanism of the translational inhibition exerted by GAM336128 RNA, herein designated GAM RNA, on one or more GAM336128 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336128 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336128 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336128 RNA, herein designated GAM RNA, of GAM336128 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336128 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336128 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336128 RNA correlate with, and may be deduced from, the identity of the GAM336128 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336129 142287 CTGAGGCAGG Fig. 8 further provides a conceptual description of another novel bioinformatically
AGAATCACTT detected oligonucleotides of the present invention, referred to here as Genomic Address
GAACCTGGGA Messenger 336129 (GAM336129) oligonucleotides modulates expression of respective target
AATGGAGGTT genes whose function and utility is known in the art.

GCAGTGAGCC GAM336129 is a novel bioinformatically detectable regulatory, non protein
AAGATTGAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336129 was detected
CACTGCACTC is described with additional reference to Figs. 9-15.

CAGCCTGGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AACAAGAGTG encoded by the human genome.

AAACTCTGTC GAM336129 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TCAG GAM336129 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336129 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336129 precursor RNA is designated SEQ ID:142287, and is provided hereinbelow with reference to the sequence listing part.

GAM336129 precursor RNA folds onto itself, forming GAM336129 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336129 precursor RNA, designated SEQ ID NO: 142287, and a schematic representation of a predicted secondary folding of GAM336129 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336129 folded precursor RNA yielding a GAM336129 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336129 RNA, hereby incorporated herein. Expression of GAM336129 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336129 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336129 target RNA, herein designated GAM TARGET RNA.

GAM336129 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336129 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336129 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336129 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336129 RNA, herein designated GAM RNA, to target binding sites on GAM336129 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336129 target RNA into GAM336129 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336129 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336129 target genes. The mRNA of each one of this plurality of GAM336129 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336129 RNA, herein designated GAM RNA, and which when bound by GAM336129 RNA causes inhibition of translation of the GAM336129 target mRNA into a corresponding GAM336129 target protein.

The mechanism of the translational inhibition exerted by GAM336129 RNA, herein designated GAM RNA, on one or more GAM336129 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336129 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336129 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336129 RNA, herein designated GAM RNA, of GAM336129 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336129 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336129 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336129 RNA correlate with, and may be deduced from, the identity of the GAM336129 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336130 142288 CTGGAACCCA Fig. 8 further provides a conceptual description of another novel bioinformatically

GGAGGAGGAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GTTGTGGTGA Messenger 336130 (GAM336130) oligonucleotides modulates expression of respective target

GCCAAGATCG genes whose function and utility is known in the art.

TGCCACTGCA GAM336130 is a novel bioinformatically detectable regulatory, non protein

CTCCAGCCTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336130 was detected

GGCAACAG is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336130 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336130 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336130 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336130 precursor RNA is designated SEQ ID:142288, and is provided hereinbelow with reference to the sequence listing part.

GAM336130 precursor RNA folds onto itself, forming GAM336130 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336130 precursor RNA, designated SEQ ID NO: 142288, and a schematic representation of a predicted secondary folding of GAM336130 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336130 folded precursor RNA yielding a GAM336130 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336130 RNA, hereby incorporated herein. Expression of GAM336130 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336130 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336130 target RNA, herein designated GAM TARGET RNA.

GAM336130 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336130 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336130 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336130 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336130 RNA, herein designated GAM RNA, to target binding sites on GAM336130 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336130 target RNA into GAM336130 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336130 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336130 target genes. The mRNA of each one of this plurality of GAM336130 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336130 RNA, herein designated GAM RNA, and which when bound by GAM336130 RNA causes inhibition of translation of the GAM336130 target mRNA into a corresponding GAM336130 target protein.

The mechanism of the translational inhibition exerted by GAM336130 RNA, herein designated GAM RNA, on one or more GAM336130 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336130 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336130 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336130 RNA, herein designated GAM RNA, of GAM336130 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336130 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336130 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336130 RNA correlate with, and may be deduced from, the identity of the GAM336130 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336131 142289 CTTGAACCCA Fig. 8 further provides a conceptual description of another novel bioinformatically

GGAGGTGGAG detected oligonucleotides of the present invention, referred to here as Genomic Address

ATTGCAGTGA Messenger 336131 (GAM336131) oligonucleotides modulates expression of respective target

GCCGAGACCA genes whose function and utility is known in the art.

CGCCACTGCA GAM336131 is a novel bioinformatically detectable regulatory, non protein

CTCCAGCCTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336131 was detected

GGCAACAAG is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336131 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336131 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336131 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336131 precursor RNA is designated SEQ

ID:142289, and is provided hereinbelow with reference to the sequence listing part.

GAM336131 precursor RNA folds onto itself, forming GAM336131 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336131 precursor RNA, designated SEQ ID NO: 142289, and a schematic representation of a predicted secondary folding of GAM336131 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336131 folded precursor RNA yielding a GAM336131 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336131 RNA, hereby incorporated herein. Expression of GAM336131 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336131 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336131 target RNA, herein designated GAM TARGET RNA.

GAM336131 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336131 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336131 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336131 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336131 RNA, herein designated GAM RNA, to target binding sites on GAM336131 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336131 target RNA into GAM336131 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM336131 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336131 target genes. The mRNA of each one of this plurality of GAM336131 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336131 RNA, herein designated GAM RNA, and which when bound by GAM336131 RNA causes inhibition of translation of the GAM336131 target mRNA into a corresponding GAM336131 target protein.

The mechanism of the translational inhibition exerted by GAM336131 RNA, herein designated GAM RNA, on one or more GAM336131 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336131 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336131 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336131 RNA, herein designated GAM RNA, of GAM336131 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336131 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336131 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336131 RNA correlate with, and may be deduced from, the identity of the GAM336131 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336132 142290 CTTGAACCCG Fig. 8 further provides a conceptual description of another novel bioinformatically

GGAGGTGGAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GCTGCAGTGA Messenger 336132 (GAM336132) oligonucleotides modulates expression of respective target

ACCCAGACCC genes whose function and utility is known in the art.

TGCCACTGCA GAM336132 is a novel bioinformatically detectable regulatory, non protein

CTCCAGCCTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336132 was detected

GGCAACAAG is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336132 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336132 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336132 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336132 precursor RNA is designated SEQ ID:142290, and is provided hereinbelow with reference to the sequence listing part.

GAM336132 precursor RNA folds onto itself, forming GAM336132 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336132 precursor RNA, designated SEQ ID NO: 142290, and a schematic representation of a predicted secondary folding of GAM336132 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336132 folded precursor RNA yielding a GAM336132 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336132 RNA, hereby incorporated herein. Expression of GAM336132 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336132 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336132 target RNA, herein designated GAM TARGET RNA.

GAM336132 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336132 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336132 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336132 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336132 RNA, herein designated GAM RNA, to target binding sites on GAM336132 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336132 target RNA into GAM336132 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336132 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336132 target genes. The mRNA of each one of this plurality of GAM336132 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336132 RNA, herein designated GAM RNA, and which when bound by GAM336132 RNA causes inhibition of translation of the GAM336132 target mRNA into a corresponding GAM336132 target protein.

The mechanism of the translational inhibition exerted by GAM336132 RNA, herein designated GAM RNA, on one or more GAM336132 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336132 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336132 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336132 RNA, herein designated GAM RNA, of GAM336132 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336132 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336132 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336132 RNA correlate with, and may be deduced from, the identity of the GAM336132 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336133 142291 CTTGAACCTG Fig. 8 further provides a conceptual description of another novel bioinformatically

GGAGGTGGAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GCTACAGTGA Messenger 336133 (GAM336133) oligonucleotides modulates expression of respective target

GCTGAGATCA genes whose function and utility is known in the art.

TGCCACTGCA CTCCAGCCTG GGCAAG

GAM336133 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336133 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336133 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336133 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336133 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336133 precursor RNA is designated SEQ ID:142291, and is provided hereinbelow with reference to the sequence listing part.

GAM336133 precursor RNA folds onto itself, forming GAM336133 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336133 precursor RNA, designated SEQ ID NO: 142291, and a schematic representation of a predicted secondary folding of GAM336133 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336133 folded precursor RNA yielding a GAM336133 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336133 RNA, hereby incorporated herein. Expression of GAM336133 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336133 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336133 target RNA, herein designated GAM TARGET RNA.

GAM336133 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336133 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336133 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336133 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336133 RNA, herein designated GAM RNA, to target binding sites on GAM336133 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336133 target RNA into GAM336133 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336133 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336133 target genes. The mRNA of each one of this plurality of GAM336133 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336133 RNA, herein designated GAM RNA, and which when bound by GAM336133 RNA causes inhibition of translation of the GAM336133 target mRNA into a corresponding GAM336133 target protein.

The mechanism of the translational inhibition exerted by GAM336133 RNA, herein designated GAM RNA, on one or more GAM336133 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336133 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336133 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336133 RNA, herein designated GAM RNA, of GAM336133 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336133 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336133 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336133 RNA correlate with, and may be deduced from, the identity of the GAM336133 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336134 142292 GAATCGCTTG Fig. 8 further provides a conceptual description of another novel bioinformatically
AACCTGGGAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAAGAGGTTG Messenger 336134 (GAM336134) oligonucleotides modulates expression of respective target
CAGTGAGCCG genes whose function and utility is known in the art.

AGATGGCACC GAM336134 is a novel bioinformatically detectable regulatory, non protein
ACTGCACTCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336134 was detected
AGCCTGGGCA is described with additional reference to Figs. 9-15.

ACAGAGCAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATTC encoded by the human genome.

GAM336134 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336134 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336134 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336134 precursor RNA is designated SEQ ID:142292, and is provided hereinbelow with reference to the sequence listing part.

GAM336134 precursor RNA folds onto itself, forming GAM336134 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336134 precursor RNA, designated SEQ ID NO: 142292, and a schematic representation of a predicted secondary folding of GAM336134 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336134 folded precursor RNA yielding a GAM336134 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336134 RNA, hereby incorporated herein. Expression of GAM336134 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336134 target gene, herein designated GAM TARGET GENE, encodes a

corresponding messenger RNA, GAM336134 target RNA, herein designated GAM TARGET RNA.

GAM336134 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336134 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336134 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336134 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336134 RNA, herein designated GAM RNA, to target binding sites on GAM336134 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336134 target RNA into GAM336134 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336134 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336134 target genes. The mRNA of each one of this plurality of GAM336134 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336134 RNA, herein designated GAM RNA, and which when bound by GAM336134 RNA causes inhibition of translation of the GAM336134 target mRNA into a corresponding GAM336134 target protein.

The mechanism of the translational inhibition exerted by GAM336134 RNA, herein designated GAM RNA, on one or more GAM336134 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336134 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336134 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336134 RNA, herein designated GAM RNA, of GAM336134 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336134 target RNA, herein designated

GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336134 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336134 RNA correlate with, and may be deduced from, the identity of the GAM336134 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336135 142293 GACAGCTGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
ATGTTCTGAA detected oligonucleotides of the present invention, referred to here as Genomic Address
GAACTGGGTG Messenger 336135 (GAM336135) oligonucleotides modulates expression of respective target
ATCTTGTGAA genes whose function and utility is known in the art.

ATCTGTGGAC GAM336135 is a novel bioinformatically detectable regulatory, non protein
CCTACATTGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336135 was detected
CACTTAGTGT is described with additional reference to Figs. 9-15.

GTACCTAAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCTAACGTCC encoded by the human genome.

CAAATAAAGT GAM336135 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CATTCAGTGC GAM336135 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
TTTGCAGAAA GAM336135 precursor RNA does not encode a protein. A nucleotide sequence identical or

CAGGTCAAGT highly similar to the nucleotide sequence of GAM336135 precursor RNA is designated SEQ
C ID:142293, and is provided hereinbelow with reference to the sequence listing part.

GAM336135 precursor RNA folds onto itself, forming GAM336135 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336135 precursor RNA, designated SEQ ID NO: 142293, and a schematic representation of a predicted secondary folding of GAM336135 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336135 folded precursor RNA yielding a GAM336135 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336135 RNA, hereby incorporated herein. Expression of GAM336135 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336135 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336135 target RNA, herein designated GAM TARGET RNA.

GAM336135 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336135 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336135 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336135 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336135 RNA, herein designated GAM RNA, to target binding sites on GAM336135 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336135 target RNA into GAM336135 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336135 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336135 target genes. The mRNA of each one of this plurality of GAM336135 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336135 RNA, herein designated GAM RNA, and which when bound by GAM336135 RNA causes inhibition of translation of the GAM336135 target mRNA into a corresponding GAM336135 target protein.

The mechanism of the translational inhibition exerted by GAM336135 RNA, herein designated GAM RNA, on one or more GAM336135 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336135 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336135 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336135 RNA, herein designated GAM RNA, of GAM336135 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336135 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336135 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336135 RNA correlate with, and may be deduced from, the identity of the GAM336135 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336136 142294 GAGAATCGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GGAACCCAGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGAGGAGGT Messenger 336136 (GAM336136) oligonucleotides modulates expression of respective target

TGTGGTGAGC genes whose function and utility is known in the art.

CAAGATCGTG GAM336136 is a novel bioinformatically detectable regulatory, non protein

CCACTGCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336136 was detected

CCAGCCTGGG is described with additional reference to Figs. 9-15.

CAACAGAACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGACTC encoded by the human genome.

GAM336136 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336136 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336136 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336136 precursor RNA is designated SEQ ID:142294, and is provided hereinbelow with reference to the sequence listing part.

GAM336136 precursor RNA folds onto itself, forming GAM336136 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336136 precursor RNA, designated SEQ ID NO: 142294, and a schematic representation of a predicted secondary folding of GAM336136 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336136 folded precursor RNA yielding a GAM336136 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336136 RNA, hereby incorporated herein. Expression of GAM336136 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336136 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336136 target RNA, herein designated GAM TARGET RNA.

GAM336136 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336136 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336136 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336136 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336136 RNA, herein designated GAM RNA, to target binding sites on GAM336136 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336136 target RNA into GAM336136 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336136 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336136 target genes. The mRNA of each one of this plurality of GAM336136 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336136 RNA, herein designated GAM RNA, and which when bound by GAM336136 RNA causes inhibition of translation of the GAM336136 target mRNA into a corresponding GAM336136 target protein.

The mechanism of the translational inhibition exerted by GAM336136 RNA, herein designated GAM RNA, on one or more GAM336136 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336136 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336136 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336136 RNA, herein designated GAM RNA, of GAM336136 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336136 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336136 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336136 RNA correlate with, and may be deduced from, the identity of the GAM336136 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336137 142295 GAGAATCGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GGAACCCAGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGAGGAGGT Messenger 336137 (GAM336137) oligonucleotides modulates expression of respective target

TGTGGTGAGC genes whose function and utility is known in the art.

CAAGATCGTG GAM336137 is a novel bioinformatically detectable regulatory, non protein

CCACTGCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336137 was detected

CCAGCCTGGG is described with additional reference to Figs. 9-15.

CAACAGAACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGACTCCGTC encoded by the human genome.

TC GAM336137 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336137 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336137 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336137 precursor RNA is designated SEQ

ID:142295, and is provided hereinbelow with reference to the sequence listing part.

GAM336137 precursor RNA folds onto itself, forming GAM336137 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336137 precursor RNA, designated SEQ ID NO: 142295, and a schematic representation of a predicted secondary folding of GAM336137 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336137 folded precursor RNA yielding a GAM336137 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336137 RNA, hereby incorporated herein. Expression of GAM336137 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336137 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336137 target RNA, herein designated GAM TARGET RNA.

GAM336137 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336137 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336137 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336137 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336137 RNA, herein designated GAM RNA, to target binding sites on GAM336137 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336137 target RNA into GAM336137 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM336137 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336137 target genes. The mRNA of each one of this plurality of GAM336137 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336137 RNA, herein designated GAM RNA, and which when bound by GAM336137 RNA causes inhibition of translation of the GAM336137 target mRNA into a corresponding GAM336137 target protein.

The mechanism of the translational inhibition exerted by GAM336137 RNA, herein designated GAM RNA, on one or more GAM336137 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336137 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336137 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336137 RNA, herein designated GAM RNA, of GAM336137 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336137 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336137 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336137 RNA correlate with, and may be deduced from, the identity of the GAM336137 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336138 142296 GAGAATCGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

TGAACCCCGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGCAGAGAT Messenger 336138 (GAM336138) oligonucleotides modulates expression of respective target

TGCAGTGAGC genes whose function and utility is known in the art.

CGAGATCATG GAM336138 is a novel bioinformatically detectable regulatory, non protein

CCACTGCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336138 was detected

CCAGCCTGGG is described with additional reference to Figs. 9-15.

CAACAAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAAACTC encoded by the human genome.

GAM336138 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336138 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336138 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336138 precursor RNA is designated SEQ ID:142296, and is provided hereinbelow with reference to the sequence listing part.

GAM336138 precursor RNA folds onto itself, forming GAM336138 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336138 precursor RNA, designated SEQ ID NO: 142296, and a schematic representation of a predicted secondary folding of GAM336138 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336138 folded precursor RNA yielding a GAM336138 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336138 RNA, hereby incorporated herein. Expression of GAM336138 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336138 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336138 target RNA, herein designated GAM TARGET RNA.

GAM336138 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336138 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336138 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336138 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336138 RNA, herein designated GAM RNA, to target binding sites on GAM336138 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336138 target RNA into GAM336138 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336138 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336138 target genes. The mRNA of each one of this plurality of GAM336138 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336138 RNA, herein designated GAM RNA, and which when bound by GAM336138 RNA causes inhibition of translation of the GAM336138 target mRNA into a corresponding GAM336138 target protein.

The mechanism of the translational inhibition exerted by GAM336138 RNA, herein designated GAM RNA, on one or more GAM336138 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336138 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336138 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336138 RNA, herein designated GAM RNA, of GAM336138 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336138 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336138 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336138 RNA correlate with, and may be deduced from, the identity of the GAM336138 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336139 142297 GAGAATTGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

TGAACCCGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGTGGAGGT Messenger 336139 (GAM336139) oligonucleotides modulates expression of respective target

TGTAGTGAGC genes whose function and utility is known in the art.

CGAGATCGCG GAM336139 is a novel bioinformatically detectable regulatory, non protein
CCACTGCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336139 was detected
CCAGCCTGGG is described with additional reference to Figs. 9-15.

CAACAGAGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGACTC encoded by the human genome.

GAM336139 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336139 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336139 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336139 precursor RNA is designated SEQ ID:142297, and is provided hereinbelow with reference to the sequence listing part.

GAM336139 precursor RNA folds onto itself, forming GAM336139 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336139 precursor RNA, designated SEQ ID NO: 142297, and a schematic representation of a predicted secondary folding of GAM336139 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336139 folded precursor RNA yielding a GAM336139 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336139 RNA, hereby incorporated herein. Expression of GAM336139 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336139 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336139 target RNA, herein designated GAM TARGET RNA.

GAM336139 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336139 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336139 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336139 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336139 RNA, herein designated GAM RNA, to target binding sites on GAM336139 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336139 target RNA into GAM336139 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336139 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336139 target genes. The mRNA of each one of this plurality of GAM336139 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336139 RNA, herein designated GAM RNA, and which when bound by GAM336139 RNA causes inhibition of translation of the GAM336139 target mRNA into a corresponding GAM336139 target protein.

The mechanism of the translational inhibition exerted by GAM336139 RNA, herein designated GAM RNA, on one or more GAM336139 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336139 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336139 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336139 RNA, herein designated GAM RNA, of GAM336139 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336139 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336139 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336139 RNA correlate with, and may be deduced from, the identity of the GAM336139 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336140 142298 GAGACAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AATCGCTAGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCCTAGAGG Messenger 336140 (GAM336140) oligonucleotides modulates expression of respective target
CAGAGGTTGC genes whose function and utility is known in the art.

AGTGAGCAGA GAM336140 is a novel bioinformatically detectable regulatory, non protein
GAGAGTGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336140 was detected
CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAAGAGTGAA encoded by the human genome.

ATTCCGTCTC GAM336140 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAM336140 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336140 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336140 precursor RNA is designated SEQ ID:142298, and is provided hereinbelow with reference to the sequence listing part.

GAM336140 precursor RNA folds onto itself, forming GAM336140 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336140 precursor RNA, designated SEQ ID NO: 142298, and a schematic representation of a predicted secondary folding of GAM336140 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336140 folded precursor RNA yielding a GAM336140 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336140 RNA, hereby incorporated herein. Expression of GAM336140 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336140 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336140 target RNA, herein designated GAM TARGET RNA.

GAM336140 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336140 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336140 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336140 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336140 RNA, herein designated GAM RNA, to target binding sites on GAM336140 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336140 target RNA into GAM336140 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336140 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336140 target genes. The mRNA of each one of this plurality of GAM336140 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336140 RNA, herein designated GAM RNA, and which when bound by GAM336140 RNA causes inhibition of translation of the GAM336140 target mRNA into a corresponding GAM336140 target protein.

The mechanism of the translational inhibition exerted by GAM336140 RNA, herein designated GAM RNA, on one or more GAM336140 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336140 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336140 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336140 RNA, herein designated GAM RNA, of GAM336140 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM336140 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336140 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336140 RNA correlate with, and may be deduced from, the identity of the GAM336140 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336141 142299 GAGACAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AATTGCATGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCCAGGAGG Messenger 336141 (GAM336141) oligonucleotides modulates expression of respective target
CAGAGGTTGC genes whose function and utility is known in the art.

AGTGAGCTGA GAM336141 is a novel bioinformatically detectable regulatory, non protein
GCTCGTGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336141 was detected
CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAAAGCGAGA encoded by the human genome.

CTCCGTCTC GAM336141 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336141 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336141 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336141 precursor RNA is designated SEQ ID:142299, and is provided hereinbelow with reference to the sequence listing part.

GAM336141 precursor RNA folds onto itself, forming GAM336141 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336141 precursor RNA, designated SEQ ID NO: 142299, and a schematic representation of a predicted secondary folding of GAM336141 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336141 folded precursor

RNA yielding a GAM336141 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336141 RNA, hereby incorporated herein. Expression of GAM336141 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336141 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336141 target RNA, herein designated GAM TARGET RNA.

GAM336141 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336141 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336141 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336141 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336141 RNA, herein designated GAM RNA, to target binding sites on GAM336141 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336141 target RNA into GAM336141 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336141 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336141 target genes. The mRNA of each one of this plurality of GAM336141 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336141 RNA, herein designated GAM RNA, and which when bound by GAM336141 RNA causes inhibition of translation of the GAM336141 target mRNA into a corresponding GAM336141 target protein.

The mechanism of the translational inhibition exerted by GAM336141 RNA, herein designated GAM RNA, on one or more GAM336141 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336141 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336141 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336141 RNA, herein designated GAM RNA, of GAM336141 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336141 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336141 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336141 RNA correlate with, and may be deduced from, the identity of the GAM336141 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336142 142300 GAGACAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATTGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCTGGCAGG Messenger 336142 (GAM336142) oligonucleotides modulates expression of respective target

CGGAGGTTAC genes whose function and utility is known in the art.

AGTGAGCCAA GAM336142 is a novel bioinformatically detectable regulatory, non protein

GATGGTACCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336142 was detected

CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CATAGCAACA encoded by the human genome.

CTCTGTCTC GAM336142 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336142 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336142 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336142 precursor RNA is designated SEQ ID:142300, and is provided hereinbelow with reference to the sequence listing part.

GAM336142 precursor RNA folds onto itself, forming GAM336142 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336142 precursor RNA, designated SEQ ID NO: 142300, and a schematic representation of a predicted secondary folding of GAM336142 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336142 folded precursor RNA yielding a GAM336142 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336142 RNA, hereby incorporated herein. Expression of GAM336142 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336142 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336142 target RNA, herein designated GAM TARGET RNA.

GAM336142 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336142 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336142 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336142 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336142 RNA, herein designated GAM RNA, to target binding sites on GAM336142 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336142 target RNA into GAM336142 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336142 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336142 target genes. The mRNA of each one of this plurality of GAM336142 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336142 RNA, herein designated GAM RNA, and which when bound by GAM336142 RNA causes inhibition of translation of the GAM336142 target mRNA into a corresponding GAM336142 target protein.

The mechanism of the translational inhibition exerted by GAM336142 RNA, herein designated GAM RNA, on one or more GAM336142 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336142 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336142 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336142 RNA, herein designated GAM RNA, of GAM336142 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336142 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336142 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336142 RNA correlate with, and may be deduced from, the identity of the GAM336142 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336143 142301 GAGATGGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

GTTCACTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCCAGGAGG Messenger 336143 (GAM336143) oligonucleotides modulates expression of respective target

TGGAGGCTGT genes whose function and utility is known in the art.

GGTGAGCCAA GAM336143 is a novel bioinformatically detectable regulatory, non protein

CATCCTGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336143 was detected

CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGAGCCAAA encoded by the human genome.

CTCTGACTC GAM336143 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336143 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336143 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336143 precursor RNA is designated SEQ ID:142301, and is provided hereinbelow with reference to the sequence listing part.

GAM336143 precursor RNA folds onto itself, forming GAM336143 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336143 precursor RNA, designated SEQ ID NO: 142301, and a schematic representation of a predicted secondary folding of GAM336143 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336143 folded precursor RNA yielding a GAM336143 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336143 RNA, hereby incorporated herein. Expression of GAM336143 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336143 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336143 target RNA, herein designated GAM TARGET RNA.

GAM336143 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336143 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336143 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336143 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336143 RNA, herein designated GAM RNA, to target binding sites on GAM336143 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336143 target RNA

into GAM336143 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336143 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336143 target genes. The mRNA of each one of this plurality of GAM336143 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336143 RNA, herein designated GAM RNA, and which when bound by GAM336143 RNA causes inhibition of translation of the GAM336143 target mRNA into a corresponding GAM336143 target protein.

The mechanism of the translational inhibition exerted by GAM336143 RNA, herein designated GAM RNA, on one or more GAM336143 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336143 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336143 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336143 RNA, herein designated GAM RNA, of GAM336143 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336143 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336143 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336143 RNA correlate with, and may be deduced from, the identity of the GAM336143 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336144 142302 GAGGATCCCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GAGTGGGGGT detected oligonucleotides of the present invention, referred to here as Genomic Address

TGAGGCTGCA Messenger 336144 (GAM336144) oligonucleotides modulates expression of respective target

GTGAGCCATG genes whose function and utility is known in the art.

ATCAAGCCAC GAM336144 is a novel bioinformatically detectable regulatory, non protein

TGCACTCCAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336144 was detected

CCTGGGCAAC is described with additional reference to Figs. 9-15.

ACTGAGACAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TC encoded by the human genome.

GAM336144 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336144 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336144 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336144 precursor RNA is designated SEQ ID:142302, and is provided hereinbelow with reference to the sequence listing part.

GAM336144 precursor RNA folds onto itself, forming GAM336144 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336144 precursor RNA, designated SEQ ID NO: 142302, and a schematic representation of a predicted secondary folding of GAM336144 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336144 folded precursor RNA yielding a GAM336144 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336144 RNA, hereby incorporated herein. Expression of GAM336144 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336144 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336144 target RNA, herein designated GAM TARGET RNA.

GAM336144 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336144 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336144 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336144 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336144 RNA, herein designated GAM RNA, to target binding sites on GAM336144 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336144 target RNA into GAM336144 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336144 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336144 target genes. The mRNA of each one of this plurality of GAM336144 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336144 RNA, herein designated GAM RNA, and which when bound by GAM336144 RNA causes inhibition of translation of the GAM336144 target mRNA into a corresponding GAM336144 target protein.

The mechanism of the translational inhibition exerted by GAM336144 RNA, herein designated GAM RNA, on one or more GAM336144 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336144 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336144 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336144 RNA, herein designated GAM RNA, of GAM336144 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336144 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336144 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336144 RNA correlate with, and may be deduced from, the identity of the GAM336144 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336145 142303 GAGGATCCCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GAGTGGGGGT detected oligonucleotides of the present invention, referred to here as Genomic Address

TGAGGCTGCA Messenger 336145 (GAM336145) oligonucleotides modulates expression of respective target

GTGAGCCATG genes whose function and utility is known in the art.

ATCAAGCCAC GAM336145 is a novel bioinformatically detectable regulatory, non protein
TGCACTCCAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336145 was detected
CCTGGGCAAC is described with additional reference to Figs. 9-15.

ACTGAGACAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCTCTC encoded by the human genome.

GAM336145 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336145 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336145 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336145 precursor RNA is designated SEQ ID:142303, and is provided hereinbelow with reference to the sequence listing part.

GAM336145 precursor RNA folds onto itself, forming GAM336145 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336145 precursor RNA, designated SEQ ID NO: 142303, and a schematic representation of a predicted secondary folding of GAM336145 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336145 folded precursor RNA yielding a GAM336145 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336145 RNA, hereby incorporated herein. Expression of GAM336145 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336145 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336145 target RNA, herein designated GAM TARGET RNA.

GAM336145 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336145 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM336145 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336145 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336145 RNA, herein designated GAM RNA, to target binding sites on GAM336145 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336145 target RNA into GAM336145 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336145 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336145 target genes. The mRNA of each one of this plurality of GAM336145 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336145 RNA, herein designated GAM RNA, and which when bound by GAM336145 RNA causes inhibition of translation of the GAM336145 target mRNA into a corresponding GAM336145 target protein.

The mechanism of the translational inhibition exerted by GAM336145 RNA, herein designated GAM RNA, on one or more GAM336145 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336145 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336145 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336145 RNA, herein designated GAM RNA, of GAM336145 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336145 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336145 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336145 RNA correlate with, and may be deduced from, the identity of the GAM336145 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336146 142304 GAGGCAGAAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AATCACTTCA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCTGGGAGG Messenger 336146 (GAM336146) oligonucleotides modulates expression of respective target
TGGAGGTTGC genes whose function and utility is known in the art.

AGTGAGCTGA GAM336146 is a novel bioinformatically detectable regulatory, non protein
CATTGCGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336146 was detected
CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGAGGGACA encoded by the human genome.

CTCTGTCTC GAM336146 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336146 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336146 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336146 precursor RNA is designated SEQ ID:142304, and is provided hereinbelow with reference to the sequence listing part.

GAM336146 precursor RNA folds onto itself, forming GAM336146 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336146 precursor RNA, designated SEQ ID NO: 142304, and a schematic representation of a predicted secondary folding of GAM336146 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336146 folded precursor RNA yielding a GAM336146 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336146 RNA, hereby incorporated herein. Expression of GAM336146 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336146 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336146 target RNA, herein designated GAM TARGET RNA.

GAM336146 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336146 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336146 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336146 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336146 RNA, herein designated GAM RNA, to target binding sites on GAM336146 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336146 target RNA into GAM336146 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336146 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336146 target genes. The mRNA of each one of this plurality of GAM336146 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336146 RNA, herein designated GAM RNA, and which when bound by GAM336146 RNA causes inhibition of translation of the GAM336146 target mRNA into a corresponding GAM336146 target protein.

The mechanism of the translational inhibition exerted by GAM336146 RNA, herein designated GAM RNA, on one or more GAM336146 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336146 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336146 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336146 RNA, herein designated GAM RNA, of GAM336146 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336146 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336146 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336146 RNA correlate with, and may be deduced from, the identity of the GAM336146 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336147 142305 GAGGCAGAAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AATGGCCTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCCAGGAGG Messenger 336147 (GAM336147) oligonucleotides modulates expression of respective target
CGGAGCTTGC genes whose function and utility is known in the art.

AGTGAGCTGA GAM336147 is a novel bioinformatically detectable regulatory, non protein
GATCACGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336147 was detected
CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGAGCAAGA encoded by the human genome.

CTCTGTCTC GAM336147 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336147 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336147 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336147 precursor RNA is designated SEQ ID:142305, and is provided hereinbelow with reference to the sequence listing part.

GAM336147 precursor RNA folds onto itself, forming GAM336147 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336147 precursor RNA, designated SEQ ID NO: 142305, and a schematic representation of a predicted secondary folding of GAM336147 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336147 folded precursor RNA yielding a GAM336147 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336147 RNA, hereby incorporated herein. Expression of GAM336147 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336147 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336147 target RNA, herein designated GAM TARGET RNA.

GAM336147 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336147 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336147 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336147 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336147 RNA, herein designated GAM RNA, to target binding sites on GAM336147 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336147 target RNA into GAM336147 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336147 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336147 target genes. The mRNA of each one of this plurality of GAM336147 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336147 RNA, herein designated GAM RNA, and which when bound by GAM336147 RNA causes inhibition of translation of the GAM336147 target mRNA into a corresponding GAM336147 target protein.

The mechanism of the translational inhibition exerted by GAM336147 RNA, herein designated GAM RNA, on one or more GAM336147 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336147 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336147 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336147 RNA, herein designated GAM RNA, of GAM336147 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336147 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336147 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336147 RNA correlate with, and may be deduced from, the identity of the GAM336147 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336148 142306 GAGGCAGAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

ATTGCTCGAA detected oligonucleotides of the present invention, referred to here as Genomic Address

CCCGGGAGAC Messenger 336148 (GAM336148) oligonucleotides modulates expression of respective target

AGAGGTTGCA genes whose function and utility is known in the art.

GTGAGCCGAG GAM336148 is a novel bioinformatically detectable regulatory, non protein

ATTGTGCCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336148 was detected

TGCACTCCAG is described with additional reference to Figs. 9-15.

CCTGGGCAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGAGCGAGAC encoded by the human genome.

TGCGTC GAM336148 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336148 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336148 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336148 precursor RNA is designated SEQ ID:142306, and is provided hereinbelow with reference to the sequence listing part.

GAM336148 precursor RNA folds onto itself, forming GAM336148 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336148 precursor RNA, designated SEQ ID NO: 142306, and a schematic representation of a predicted secondary folding of GAM336148 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336148 folded precursor RNA yielding a GAM336148 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336148 RNA, hereby incorporated herein. Expression of GAM336148 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336148 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336148 target RNA, herein designated GAM TARGET RNA.

GAM336148 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336148 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336148 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336148 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336148 RNA, herein designated GAM RNA, to target binding sites on GAM336148 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336148 target RNA into GAM336148 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336148 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336148 target genes. The mRNA of each one of this plurality of GAM336148 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336148 RNA, herein designated GAM RNA, and which when bound by GAM336148 RNA causes inhibition of

translation of the GAM336148 target mRNA into a corresponding GAM336148 target protein.

The mechanism of the translational inhibition exerted by GAM336148 RNA, herein designated GAM RNA, on one or more GAM336148 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336148 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336148 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336148 RNA, herein designated GAM RNA, of GAM336148 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336148 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336148 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336148 RNA correlate with, and may be deduced from, the identity of the GAM336148 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336149 142307 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AACAGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCCAGGTGG Messenger 336149 (GAM336149) oligonucleotides modulates expression of respective target

CAGAGGTTGC genes whose function and utility is known in the art.

AGTGAGCTGA GAM336149 is a novel bioinformatically detectable regulatory, non protein

GATCATGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336149 was detected

CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAAGAGCGAG encoded by the human genome.

ACTCCGTCTC GAM336149 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336149 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336149 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336149 precursor RNA is designated SEQ ID:142307, and is provided hereinbelow with reference to the sequence listing part.

GAM336149 precursor RNA folds onto itself, forming GAM336149 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336149 precursor RNA, designated SEQ ID NO: 142307, and a schematic representation of a predicted secondary folding of GAM336149 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336149 folded precursor RNA yielding a GAM336149 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336149 RNA, hereby incorporated herein. Expression of GAM336149 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336149 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336149 target RNA, herein designated GAM TARGET RNA.

GAM336149 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336149 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336149 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336149 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336149 RNA, herein designated GAM RNA, to target binding sites on GAM336149 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336149 target RNA into GAM336149 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336149 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336149 target genes. The mRNA of each one of this plurality of GAM336149 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336149 RNA, herein designated GAM RNA, and which when bound by GAM336149 RNA causes inhibition of translation of the GAM336149 target mRNA into a corresponding GAM336149 target protein.

The mechanism of the translational inhibition exerted by GAM336149 RNA, herein designated GAM RNA, on one or more GAM336149 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336149 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336149 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336149 RNA, herein designated GAM RNA, of GAM336149 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336149 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336149 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336149 RNA correlate with, and may be deduced from, the identity of the GAM336149 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336150 142308 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCACTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCTGGGAAA Messenger 336150 (GAM336150) oligonucleotides modulates expression of respective target

TGGAGGTTGC genes whose function and utility is known in the art.

AGTGAGCCAA GAM336150 is a novel bioinformatically detectable regulatory, non protein

GATTGAGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336150 was detected

CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAAGAGTGAA encoded by the human genome.

ACTCTGTCTC GAM336150 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336150 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336150 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336150 precursor RNA is designated SEQ ID:142308, and is provided hereinbelow with reference to the sequence listing part.

GAM336150 precursor RNA folds onto itself, forming GAM336150 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336150 precursor RNA, designated SEQ ID NO: 142308, and a schematic representation of a predicted secondary folding of GAM336150 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336150 folded precursor RNA yielding a GAM336150 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336150 RNA, hereby incorporated herein. Expression of GAM336150 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336150 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336150 target RNA, herein designated GAM TARGET RNA.

GAM336150 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336150 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336150 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336150 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336150 RNA, herein designated GAM RNA, to target binding sites on GAM336150 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336150 target RNA into GAM336150 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336150 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336150 target genes. The mRNA of each one of this plurality of GAM336150 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336150 RNA, herein designated GAM RNA, and which when bound by GAM336150 RNA causes inhibition of translation of the GAM336150 target mRNA into a corresponding GAM336150 target protein.

The mechanism of the translational inhibition exerted by GAM336150 RNA, herein designated GAM RNA, on one or more GAM336150 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336150 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336150 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336150 RNA, herein designated GAM RNA, of GAM336150 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336150 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336150 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336150 RNA correlate with, and may be deduced from, the identity of the GAM336150 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336151 142309 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCACTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCTGGGAGA Messenger 336151 (GAM336151) oligonucleotides modulates expression of respective target
TGGAGGTTGC genes whose function and utility is known in the art.

GGTGAGCCGA GAM336151 is a novel bioinformatically detectable regulatory, non protein
GATCGCATCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336151 was detected
CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAAGAGCGAA encoded by the human genome.

ACTCTGTCTC GAM336151 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336151 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336151 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336151 precursor RNA is designated SEQ ID:142309, and is provided hereinbelow with reference to the sequence listing part.

GAM336151 precursor RNA folds onto itself, forming GAM336151 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336151 precursor RNA, designated SEQ ID NO: 142309, and a schematic representation of a predicted secondary folding of GAM336151 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336151 folded precursor RNA yielding a GAM336151 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336151 RNA, hereby incorporated herein. Expression of GAM336151 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336151 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336151 target RNA, herein designated GAM TARGET RNA.

GAM336151 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336151 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336151 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336151 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336151 RNA, herein designated GAM RNA, to target binding sites on GAM336151 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336151 target RNA into GAM336151 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336151 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336151 target genes. The mRNA of each one of this plurality of GAM336151 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336151 RNA, herein designated GAM RNA, and which when bound by GAM336151 RNA causes inhibition of translation of the GAM336151 target mRNA into a corresponding GAM336151 target protein.

The mechanism of the translational inhibition exerted by GAM336151 RNA, herein designated GAM RNA, on one or more GAM336151 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336151 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336151 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336151 RNA, herein designated GAM RNA, of GAM336151 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336151 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336151 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336151 RNA correlate with, and may be deduced from, the identity of the GAM336151 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336152 142310 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AATCACTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCTGGGAGG Messenger 336152 (GAM336152) oligonucleotides modulates expression of respective target
TGGAGGTTGC genes whose function and utility is known in the art.

AGTGAGTCGA GAM336152 is a novel bioinformatically detectable regulatory, non protein
GATGGCGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336152 was detected
CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAAGAGTGAA encoded by the human genome.

ACTCCGTCTC GAM336152 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAM336152 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336152 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336152 precursor RNA is designated SEQ ID:142310, and is provided hereinbelow with reference to the sequence listing part.

GAM336152 precursor RNA folds onto itself, forming GAM336152 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336152 precursor RNA, designated SEQ ID NO: 142310, and a schematic representation of a predicted secondary folding of GAM336152 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336152 folded precursor RNA yielding a GAM336152 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336152 RNA, hereby incorporated herein. Expression of GAM336152 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336152 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336152 target RNA, herein designated GAM TARGET RNA.

GAM336152 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336152 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336152 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336152 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336152 RNA, herein designated GAM RNA, to target binding sites on GAM336152 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336152 target RNA into GAM336152 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336152 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336152 target genes. The mRNA of each one of this plurality of GAM336152 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336152 RNA, herein designated GAM RNA, and which when bound by GAM336152 RNA causes inhibition of translation of the GAM336152 target mRNA into a corresponding GAM336152 target protein.

The mechanism of the translational inhibition exerted by GAM336152 RNA, herein designated GAM RNA, on one or more GAM336152 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336152 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336152 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336152 RNA, herein designated GAM RNA, of

GAM336152 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336152 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336152 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336152 RNA correlate with, and may be deduced from, the identity of the GAM336152 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336153 142311 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCCAGGAGA Messenger 336153 (GAM336153) oligonucleotides modulates expression of respective target

TGGAGGTTGC genes whose function and utility is known in the art.

AGTGAGCTGA GAM336153 is a novel bioinformatically detectable regulatory, non protein

GATCACGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336153 was detected

CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGAGTGAGA encoded by the human genome.

CTCCGTCTC GAM336153 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336153 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336153 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336153 precursor RNA is designated SEQ ID:142311, and is provided hereinbelow with reference to the sequence listing part.

GAM336153 precursor RNA folds onto itself, forming GAM336153 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336153 precursor RNA, designated SEQ ID NO: 142311, and a schematic representation of a predicted secondary folding of GAM336153 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336153 folded precursor RNA yielding a GAM336153 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336153 RNA, hereby incorporated herein. Expression of GAM336153 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336153 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336153 target RNA, herein designated GAM TARGET RNA.

GAM336153 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336153 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336153 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336153 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336153 RNA, herein designated GAM RNA, to target binding sites on GAM336153 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336153 target RNA into GAM336153 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336153 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336153 target genes. The mRNA of each one of this plurality of GAM336153 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336153 RNA, herein designated GAM RNA, and which when bound by GAM336153 RNA causes inhibition of translation of the GAM336153 target mRNA into a corresponding GAM336153 target protein.

The mechanism of the translational inhibition exerted by GAM336153 RNA, herein designated GAM RNA, on one or more GAM336153 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336153 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336153 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336153 RNA, herein designated GAM RNA, of GAM336153 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336153 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336153 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336153 RNA correlate with, and may be deduced from, the identity of the GAM336153 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336154 142312 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCCAGGAGG Messenger 336154 (GAM336154) oligonucleotides modulates expression of respective target

CGGAGGTTGC genes whose function and utility is known in the art.

AGTGAGCCAA GAM336154 is a novel bioinformatically detectable regulatory, non protein

GATTGCGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336154 was detected

CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAAAAGCAAA encoded by the human genome.

ACTTCGTCTC GAM336154 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336154 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336154 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336154 precursor RNA is designated SEQ ID:142312, and is provided hereinbelow with reference to the sequence listing part.

GAM336154 precursor RNA folds onto itself, forming GAM336154 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336154 precursor RNA, designated SEQ ID NO: 142312, and a schematic representation of a predicted secondary folding of GAM336154 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336154 folded precursor RNA yielding a GAM336154 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336154 RNA, hereby incorporated herein. Expression of GAM336154 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336154 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336154 target RNA, herein designated GAM TARGET RNA.

GAM336154 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336154 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336154 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336154 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336154 RNA, herein designated GAM RNA, to target binding sites on GAM336154 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336154 target RNA into GAM336154 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336154 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM336154 target genes. The mRNA of each one of this plurality of GAM336154 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336154 RNA, herein designated GAM RNA, and which when bound by GAM336154 RNA causes inhibition of translation of the GAM336154 target mRNA into a corresponding GAM336154 target protein.

The mechanism of the translational inhibition exerted by GAM336154 RNA, herein designated GAM RNA, on one or more GAM336154 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336154 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336154 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336154 RNA, herein designated GAM RNA, of GAM336154 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336154 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336154 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336154 RNA correlate with, and may be deduced from, the identity of the GAM336154 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336155 142313 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCCAGGAGG Messenger 336155 (GAM336155) oligonucleotides modulates expression of respective target

TGGAGGTTGC genes whose function and utility is known in the art.

AGTGTGCCGA GAM336155 is a novel bioinformatically detectable regulatory, non protein

GATCGCGACA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336155 was detected

CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CGGAGTGAAA encoded by the human genome.

TTCTGTCTC GAM336155 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336155 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336155 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336155 precursor RNA is designated SEQ ID:142313, and is provided hereinbelow with reference to the sequence listing part.

GAM336155 precursor RNA folds onto itself, forming GAM336155 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336155 precursor RNA, designated SEQ ID NO: 142313, and a schematic representation of a predicted secondary folding of GAM336155 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336155 folded precursor RNA yielding a GAM336155 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336155 RNA, hereby incorporated herein. Expression of GAM336155 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336155 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336155 target RNA, herein designated GAM TARGET RNA.

GAM336155 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336155 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336155 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336155 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336155 RNA, herein designated GAM RNA, to target binding sites on GAM336155 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336155 target RNA into GAM336155 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336155 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336155 target genes. The mRNA of each one of this plurality of GAM336155 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336155 RNA, herein designated GAM RNA, and which when bound by GAM336155 RNA causes inhibition of translation of the GAM336155 target mRNA into a corresponding GAM336155 target protein.

The mechanism of the translational inhibition exerted by GAM336155 RNA, herein designated GAM RNA, on one or more GAM336155 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336155 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336155 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336155 RNA, herein designated GAM RNA, of GAM336155 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336155 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336155 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336155 RNA correlate with, and may be deduced from, the identity of the GAM336155 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336156 142314 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCCGGGGGG Messenger 336156 (GAM336156) oligonucleotides modulates expression of respective target

AGGAGGTTAC genes whose function and utility is known in the art.

AGTGAGCTGA GAM336156 is a novel bioinformatically detectable regulatory, non protein
GATCGCGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336156 was detected
CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAAGAGTGAA encoded by the human genome.

ACTGTCTC GAM336156 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336156 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336156 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336156 precursor RNA is designated SEQ ID:142314, and is provided hereinbelow with reference to the sequence listing part.

GAM336156 precursor RNA folds onto itself, forming GAM336156 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336156 precursor RNA, designated SEQ ID NO: 142314, and a schematic representation of a predicted secondary folding of GAM336156 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336156 folded precursor RNA yielding a GAM336156 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336156 RNA, hereby incorporated herein. Expression of GAM336156 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336156 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336156 target RNA, herein designated GAM TARGET RNA.

GAM336156 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336156 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336156 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336156 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336156 RNA, herein designated GAM RNA, to target binding sites on GAM336156 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336156 target RNA into GAM336156 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336156 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336156 target genes. The mRNA of each one of this plurality of GAM336156 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336156 RNA, herein designated GAM RNA, and which when bound by GAM336156 RNA causes inhibition of translation of the GAM336156 target mRNA into a corresponding GAM336156 target protein.

The mechanism of the translational inhibition exerted by GAM336156 RNA, herein designated GAM RNA, on one or more GAM336156 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336156 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336156 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336156 RNA, herein designated GAM RNA, of GAM336156 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336156 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336156 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336156 RNA correlate with, and may be deduced from, the identity of the GAM336156 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336157 142315 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AATCGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCTGGGAGG Messenger 336157 (GAM336157) oligonucleotides modulates expression of respective target
TGGAGGTTGC genes whose function and utility is known in the art.

AGTGAGCCGA GAM336157 is a novel bioinformatically detectable regulatory, non protein
GATCATGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336157 was detected
CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGAGCGAGA encoded by the human genome.

CTTCGTCTC GAM336157 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336157 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336157 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336157 precursor RNA is designated SEQ ID:142315, and is provided hereinbelow with reference to the sequence listing part.

GAM336157 precursor RNA folds onto itself, forming GAM336157 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336157 precursor RNA, designated SEQ ID NO: 142315, and a schematic representation of a predicted secondary folding of GAM336157 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336157 folded precursor RNA yielding a GAM336157 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336157 RNA, hereby incorporated herein. Expression of GAM336157 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336157 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336157 target RNA, herein designated GAM TARGET RNA.

GAM336157 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336157 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336157 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336157 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336157 RNA, herein designated GAM RNA, to target binding sites on GAM336157 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336157 target RNA into GAM336157 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336157 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336157 target genes. The mRNA of each one of this plurality of GAM336157 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336157 RNA, herein designated GAM RNA, and which when bound by GAM336157 RNA causes inhibition of translation of the GAM336157 target mRNA into a corresponding GAM336157 target protein.

The mechanism of the translational inhibition exerted by GAM336157 RNA, herein designated GAM RNA, on one or more GAM336157 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336157 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336157 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336157 RNA, herein designated GAM RNA, of GAM336157 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM336157 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336157 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336157 RNA correlate with, and may be deduced from, the identity of the GAM336157 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336158 142316 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AATGGCATGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCCAGGAGG Messenger 336158 (GAM336158) oligonucleotides modulates expression of respective target
CGGAGCTTGC genes whose function and utility is known in the art.

AGTGAGCCGA GAM336158 is a novel bioinformatically detectable regulatory, non protein
GATTGCGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336158 was detected
CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CGGAGCAAGA encoded by the human genome.

CTCCATCTC GAM336158 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336158 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336158 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336158 precursor RNA is designated SEQ ID:142316, and is provided hereinbelow with reference to the sequence listing part.

GAM336158 precursor RNA folds onto itself, forming GAM336158 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336158 precursor RNA, designated SEQ ID NO: 142316, and a schematic representation of a predicted secondary folding of GAM336158 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336158 folded precursor

RNA yielding a GAM336158 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336158 RNA, hereby incorporated herein. Expression of GAM336158 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336158 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336158 target RNA, herein designated GAM TARGET RNA.

GAM336158 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336158 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336158 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336158 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336158 RNA, herein designated GAM RNA, to target binding sites on GAM336158 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336158 target RNA into GAM336158 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336158 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336158 target genes. The mRNA of each one of this plurality of GAM336158 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336158 RNA, herein designated GAM RNA, and which when bound by GAM336158 RNA causes inhibition of translation of the GAM336158 target mRNA into a corresponding GAM336158 target protein.

The mechanism of the translational inhibition exerted by GAM336158 RNA, herein designated GAM RNA, on one or more GAM336158 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336158 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336158 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336158 RNA, herein designated GAM RNA, of GAM336158 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336158 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336158 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336158 RNA correlate with, and may be deduced from, the identity of the GAM336158 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336159 142317 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATGGCCTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCTAGGAGG Messenger 336159 (GAM336159) oligonucleotides modulates expression of respective target

TGGAGCTTGC genes whose function and utility is known in the art.

AGTGAGCCGA GAM336159 is a novel bioinformatically detectable regulatory, non protein

GATAGCGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336159 was detected

CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGAGCGAGA encoded by the human genome.

CTCTGTCTC GAM336159 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336159 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336159 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336159 precursor RNA is designated SEQ ID:142317, and is provided hereinbelow with reference to the sequence listing part.

GAM336159 precursor RNA folds onto itself, forming GAM336159 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336159 precursor RNA, designated SEQ ID NO: 142317, and a schematic representation of a predicted secondary folding of GAM336159 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336159 folded precursor RNA yielding a GAM336159 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336159 RNA, hereby incorporated herein. Expression of GAM336159 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336159 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336159 target RNA, herein designated GAM TARGET RNA.

GAM336159 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336159 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336159 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336159 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336159 RNA, herein designated GAM RNA, to target binding sites on GAM336159 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336159 target RNA into GAM336159 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336159 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336159 target genes. The mRNA of each one of this plurality of GAM336159 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336159 RNA, herein designated GAM RNA, and which when bound by GAM336159 RNA causes inhibition of translation of the GAM336159 target mRNA into a corresponding GAM336159 target protein.

The mechanism of the translational inhibition exerted by GAM336159 RNA, herein designated GAM RNA, on one or more GAM336159 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336159 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336159 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336159 RNA, herein designated GAM RNA, of GAM336159 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336159 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336159 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336159 RNA correlate with, and may be deduced from, the identity of the GAM336159 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336160 142318 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATTACTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCAGGAGG Messenger 336160 (GAM336160) oligonucleotides modulates expression of respective target

TGGAGGTTGC genes whose function and utility is known in the art.

GGTGAGTCGA GAM336160 is a novel bioinformatically detectable regulatory, non protein

GATCGTGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336160 was detected

CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAAGAGCAAA encoded by the human genome.

ACTCCGTCTC GAM336160 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336160 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336160 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336160 precursor RNA is designated SEQ ID:142318, and is provided hereinbelow with reference to the sequence listing part.

GAM336160 precursor RNA folds onto itself, forming GAM336160 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336160 precursor RNA, designated SEQ ID NO: 142318, and a schematic representation of a predicted secondary folding of GAM336160 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336160 folded precursor RNA yielding a GAM336160 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336160 RNA, hereby incorporated herein. Expression of GAM336160 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336160 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336160 target RNA, herein designated GAM TARGET RNA.

GAM336160 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336160 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336160 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336160 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336160 RNA, herein designated GAM RNA, to target binding sites on GAM336160 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336160 target RNA

into GAM336160 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336160 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336160 target genes. The mRNA of each one of this plurality of GAM336160 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336160 RNA, herein designated GAM RNA, and which when bound by GAM336160 RNA causes inhibition of translation of the GAM336160 target mRNA into a corresponding GAM336160 target protein.

The mechanism of the translational inhibition exerted by GAM336160 RNA, herein designated GAM RNA, on one or more GAM336160 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336160 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336160 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336160 RNA, herein designated GAM RNA, of GAM336160 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336160 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336160 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336160 RNA correlate with, and may be deduced from, the identity of the GAM336160 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336161 142319 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATTGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCCAGGAGG Messenger 336161 (GAM336161) oligonucleotides modulates expression of respective target

CAGAAGCTGC genes whose function and utility is known in the art.

AGTGAGCCAA GAM336161 is a novel bioinformatically detectable regulatory, non protein

GATAGTGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336161 was detected

CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGAGCGAGA encoded by the human genome.

CTCCGTCTC GAM336161 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336161 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336161 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336161 precursor RNA is designated SEQ ID:142319, and is provided hereinbelow with reference to the sequence listing part.

GAM336161 precursor RNA folds onto itself, forming GAM336161 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336161 precursor RNA, designated SEQ ID NO: 142319, and a schematic representation of a predicted secondary folding of GAM336161 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336161 folded precursor RNA yielding a GAM336161 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336161 RNA, hereby incorporated herein. Expression of GAM336161 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336161 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336161 target RNA, herein designated GAM TARGET RNA.

GAM336161 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336161 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336161 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336161 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336161 RNA, herein designated GAM RNA, to target binding sites on GAM336161 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336161 target RNA into GAM336161 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336161 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336161 target genes. The mRNA of each one of this plurality of GAM336161 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336161 RNA, herein designated GAM RNA, and which when bound by GAM336161 RNA causes inhibition of translation of the GAM336161 target mRNA into a corresponding GAM336161 target protein.

The mechanism of the translational inhibition exerted by GAM336161 RNA, herein designated GAM RNA, on one or more GAM336161 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336161 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336161 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336161 RNA, herein designated GAM RNA, of GAM336161 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336161 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336161 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336161 RNA correlate with, and may be deduced from, the identity of the GAM336161 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336162 142320 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATTGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCCAGGAGG Messenger 336162 (GAM336162) oligonucleotides modulates expression of respective target
CGGAGGTTGT genes whose function and utility is known in the art.

AGTGAGCTGA GAM336162 is a novel bioinformatically detectable regulatory, non protein
GATCACGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336162 was detected
CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGAGCAAGA encoded by the human genome.

CTGTCTC GAM336162 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336162 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336162 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336162 precursor RNA is designated SEQ ID:142320, and is provided hereinbelow with reference to the sequence listing part.

GAM336162 precursor RNA folds onto itself, forming GAM336162 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336162 precursor RNA, designated SEQ ID NO: 142320, and a schematic representation of a predicted secondary folding of GAM336162 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336162 folded precursor RNA yielding a GAM336162 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336162 RNA, hereby incorporated herein. Expression of GAM336162 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336162 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336162 target RNA, herein designated GAM TARGET RNA.

GAM336162 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336162 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336162 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336162 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336162 RNA, herein designated GAM RNA, to target binding sites on GAM336162 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336162 target RNA into GAM336162 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336162 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336162 target genes. The mRNA of each one of this plurality of GAM336162 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336162 RNA, herein designated GAM RNA, and which when bound by GAM336162 RNA causes inhibition of translation of the GAM336162 target mRNA into a corresponding GAM336162 target protein.

The mechanism of the translational inhibition exerted by GAM336162 RNA, herein designated GAM RNA, on one or more GAM336162 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336162 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336162 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336162 RNA, herein designated GAM RNA, of GAM336162 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336162 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336162 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336162 RNA correlate with, and may be deduced from, the identity of the GAM336162 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336163 142321 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AATTGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCTGGGAGG Messenger 336163 (GAM336163) oligonucleotides modulates expression of respective target
CAGAGGTTGC genes whose function and utility is known in the art.

AGTGAGCTGA GAM336163 is a novel bioinformatically detectable regulatory, non protein
AATCGCGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336163 was detected
CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TAGGGCAAGA encoded by the human genome.

CTCCGTCTC GAM336163 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336163 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336163 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336163 precursor RNA is designated SEQ ID:142321, and is provided hereinbelow with reference to the sequence listing part.

GAM336163 precursor RNA folds onto itself, forming GAM336163 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336163 precursor RNA, designated SEQ ID NO: 142321, and a schematic representation of a predicted secondary folding of GAM336163 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336163 folded precursor RNA yielding a GAM336163 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly

similar to the nucleotide sequence of GAM336163 RNA, hereby incorporated herein. Expression of GAM336163 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336163 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336163 target RNA, herein designated GAM TARGET RNA.

GAM336163 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336163 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336163 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336163 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336163 RNA, herein designated GAM RNA, to target binding sites on GAM336163 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336163 target RNA into GAM336163 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336163 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336163 target genes. The mRNA of each one of this plurality of GAM336163 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336163 RNA, herein designated GAM RNA, and which when bound by GAM336163 RNA causes inhibition of translation of the GAM336163 target mRNA into a corresponding GAM336163 target protein.

The mechanism of the translational inhibition exerted by GAM336163 RNA, herein designated GAM RNA, on one or more GAM336163 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336163 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336163 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336163 RNA, herein designated GAM RNA, of GAM336163 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336163 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336163 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336163 RNA correlate with, and may be deduced from, the identity of the GAM336163 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336164 142322 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AATTGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCTGGGAGG Messenger 336164 (GAM336164) oligonucleotides modulates expression of respective target
TGAAGGTTGC genes whose function and utility is known in the art.

AGTGAGCTGA GAM336164 is a novel bioinformatically detectable regulatory, non protein
GACCATGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336164 was detected
CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGAGCAAAA encoded by the human genome.

CTCCGTCTC GAM336164 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336164 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336164 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336164 precursor RNA is designated SEQ ID:142322, and is provided hereinbelow with reference to the sequence listing part.

GAM336164 precursor RNA folds onto itself, forming GAM336164 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336164 precursor RNA, designated SEQ ID NO: 142322, and a schematic representation of a predicted secondary folding of GAM336164 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336164 folded precursor RNA yielding a GAM336164 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336164 RNA, hereby incorporated herein. Expression of GAM336164 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336164 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336164 target RNA, herein designated GAM TARGET RNA.

GAM336164 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336164 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336164 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336164 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336164 RNA, herein designated GAM RNA, to target binding sites on GAM336164 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336164 target RNA into GAM336164 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336164 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336164 target genes. The mRNA of each one of this plurality of GAM336164 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336164 RNA, herein designated GAM RNA, and which when bound by GAM336164 RNA causes inhibition of translation of the GAM336164 target mRNA into a corresponding GAM336164 target protein.

The mechanism of the translational inhibition exerted by GAM336164 RNA, herein designated GAM RNA, on one or more GAM336164 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336164 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336164 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336164 RNA, herein designated GAM RNA, of GAM336164 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336164 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336164 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336164 RNA correlate with, and may be deduced from, the identity of the GAM336164 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336165 142323 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATTGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACTCAGGGTC Messenger 336165 (GAM336165) oligonucleotides modulates expression of respective target

AGAGGTCGCA genes whose function and utility is known in the art.

GTGAGCCGAG GAM336165 is a novel bioinformatically detectable regulatory, non protein

ATCCCTCCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336165 was detected

TGCACTCCAG is described with additional reference to Figs. 9-15.

CCTGGGCAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGAGTGAGTC encoded by the human genome.

TCTGTCTC GAM336165 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336165 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336165 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336165 precursor RNA is designated SEQ ID:142323, and is provided hereinbelow with reference to the sequence listing part.

GAM336165 precursor RNA folds onto itself, forming GAM336165 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336165 precursor RNA, designated SEQ ID NO: 142323, and a schematic representation of a predicted secondary folding of GAM336165 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336165 folded precursor RNA yielding a GAM336165 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336165 RNA, hereby incorporated herein. Expression of GAM336165 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336165 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336165 target RNA, herein designated GAM TARGET RNA.

GAM336165 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336165 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336165 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336165 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336165 RNA, herein designated GAM RNA, to target binding sites on GAM336165 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336165 target RNA into GAM336165 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336165 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336165 target genes. The mRNA of each one of this plurality of GAM336165 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM336165 RNA, herein designated GAM RNA, and which when bound by GAM336165 RNA causes inhibition of translation of the GAM336165 target mRNA into a corresponding GAM336165 target protein.

The mechanism of the translational inhibition exerted by GAM336165 RNA, herein designated GAM RNA, on one or more GAM336165 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336165 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336165 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336165 RNA, herein designated GAM RNA, of GAM336165 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336165 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336165 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336165 RNA correlate with, and may be deduced from, the identity of the GAM336165 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336166 142324 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

GATCACTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GTGTGGAAGG Messenger 336166 (GAM336166) oligonucleotides modulates expression of respective target

TTGAGGCTGT genes whose function and utility is known in the art.

AGTGAGCCAT GAM336166 is a novel bioinformatically detectable regulatory, non protein

GATTGCACCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336166 was detected

CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGAGAGACA encoded by the human genome.

TCCTTTCTC GAM336166 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336166 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336166 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336166 precursor RNA is designated SEQ ID:142324, and is provided hereinbelow with reference to the sequence listing part.

GAM336166 precursor RNA folds onto itself, forming GAM336166 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336166 precursor RNA, designated SEQ ID NO: 142324, and a schematic representation of a predicted secondary folding of GAM336166 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336166 folded precursor RNA yielding a GAM336166 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336166 RNA, hereby incorporated herein. Expression of GAM336166 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336166 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336166 target RNA, herein designated GAM TARGET RNA.

GAM336166 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336166 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336166 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336166 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336166 RNA, herein designated GAM RNA, to target

binding sites on GAM336166 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336166 target RNA into GAM336166 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336166 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336166 target genes. The mRNA of each one of this plurality of GAM336166 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336166 RNA, herein designated GAM RNA, and which when bound by GAM336166 RNA causes inhibition of translation of the GAM336166 target mRNA into a corresponding GAM336166 target protein.

The mechanism of the translational inhibition exerted by GAM336166 RNA, herein designated GAM RNA, on one or more GAM336166 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336166 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336166 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336166 RNA, herein designated GAM RNA, of GAM336166 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336166 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336166 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336166 RNA correlate with, and may be deduced from, the identity of the GAM336166 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336167 142325 GAGGCAGGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCCAGGAGA Messenger 336167 (GAM336167) oligonucleotides modulates expression of respective target

CAGAGGTTTC genes whose function and utility is known in the art.

AGTGAGCCGA GAM336167 is a novel bioinformatically detectable regulatory, non protein

GATCGTGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336167 was detected

CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGAGTGAGA encoded by the human genome.

CTCTGTCTC GAM336167 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336167 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336167 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336167 precursor RNA is designated SEQ ID:142325, and is provided hereinbelow with reference to the sequence listing part.

GAM336167 precursor RNA folds onto itself, forming GAM336167 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336167 precursor RNA, designated SEQ ID NO: 142325, and a schematic representation of a predicted secondary folding of GAM336167 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336167 folded precursor RNA yielding a GAM336167 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336167 RNA, hereby incorporated herein. Expression of GAM336167 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336167 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336167 target RNA, herein designated GAM TARGET RNA.

GAM336167 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336167 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336167 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336167 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows

three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336167 RNA, herein designated GAM RNA, to target binding sites on GAM336167 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336167 target RNA into GAM336167 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336167 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336167 target genes. The mRNA of each one of this plurality of GAM336167 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336167 RNA, herein designated GAM RNA, and which when bound by GAM336167 RNA causes inhibition of translation of the GAM336167 target mRNA into a corresponding GAM336167 target protein.

The mechanism of the translational inhibition exerted by GAM336167 RNA, herein designated GAM RNA, on one or more GAM336167 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336167 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336167 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336167 RNA, herein designated GAM RNA, of GAM336167 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336167 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336167 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336167 RNA correlate with, and may be deduced from, the identity of the GAM336167 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336168 142326 GAGGCTGAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

CAGGAGAATT detected oligonucleotides of the present invention, referred to here as Genomic Address
GCTTGAACCC Messenger 336168 (GAM336168) oligonucleotides modulates expression of respective target
AGGAGGTGGA genes whose function and utility is known in the art.

GGTTTCAGTG GAM336168 is a novel bioinformatically detectable regulatory, non protein
AGCCAAGATT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336168 was detected
GTACCACTGC is described with additional reference to Figs. 9-15.

ACTCCAGCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGGCAACAGA encoded by the human genome.

GCGAGACTCC GAM336168 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GCCTC GAM336168 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336168 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336168 precursor RNA is designated SEQ ID:142326, and is provided hereinbelow with reference to the sequence listing part.

GAM336168 precursor RNA folds onto itself, forming GAM336168 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336168 precursor RNA, designated SEQ ID NO: 142326, and a schematic representation of a predicted secondary folding of GAM336168 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336168 folded precursor RNA yielding a GAM336168 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336168 RNA, hereby incorporated herein. Expression of GAM336168 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336168 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336168 target RNA, herein designated GAM TARGET RNA.

GAM336168 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336168 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336168 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336168 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336168 RNA, herein designated GAM RNA, to target binding sites on GAM336168 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336168 target RNA into GAM336168 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336168 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336168 target genes. The mRNA of each one of this plurality of GAM336168 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336168 RNA, herein designated GAM RNA, and which when bound by GAM336168 RNA causes inhibition of translation of the GAM336168 target mRNA into a corresponding GAM336168 target protein.

The mechanism of the translational inhibition exerted by GAM336168 RNA, herein designated GAM RNA, on one or more GAM336168 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336168 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336168 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336168 RNA, herein designated GAM RNA, of GAM336168 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336168 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336168 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336168 RNA correlate with, and may be deduced from, the identity of the GAM336168 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336169 142327 GCAGTCTGCG Fig. 8 further provides a conceptual description of another novel bioinformatically
GGACCAGACT detected oligonucleotides of the present invention, referred to here as Genomic Address
ATTGTGACAT Messenger 336169 (GAM336169) oligonucleotides modulates expression of respective target
GGAGAATGTA genes whose function and utility is known in the art.

GAGAAATTAT GAM336169 is a novel bioinformatically detectable regulatory, non protein
TCAATGTTCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336169 was detected
GGATCAACAT is described with additional reference to Figs. 9-15.

GATCTCCTCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTCTAGGATG encoded by the human genome.

GATCCATACA GAM336169 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CATCCCACTC GAM336169 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
AAACTGC GAM336169 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336169 precursor RNA is designated SEQ ID:142327, and is provided hereinbelow with reference to the sequence listing part.

GAM336169 precursor RNA folds onto itself, forming GAM336169 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336169 precursor RNA, designated SEQ ID NO: 142327, and a schematic representation of a predicted secondary folding of GAM336169 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336169 folded precursor RNA yielding a GAM336169 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336169 RNA, hereby incorporated herein. Expression of GAM336169 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336169 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336169 target RNA, herein designated GAM TARGET RNA.

GAM336169 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336169 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336169 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336169 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336169 RNA, herein designated GAM RNA, to target binding sites on GAM336169 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336169 target RNA into GAM336169 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336169 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336169 target genes. The mRNA of each one of this plurality of GAM336169 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336169 RNA, herein designated GAM RNA, and which when bound by GAM336169 RNA causes inhibition of translation of the GAM336169 target mRNA into a corresponding GAM336169 target protein.

The mechanism of the translational inhibition exerted by GAM336169 RNA, herein designated GAM RNA, on one or more GAM336169 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336169 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336169 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336169 RNA, herein designated GAM RNA, of

GAM336169 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336169 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336169 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336169 RNA correlate with, and may be deduced from, the identity of the GAM336169 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336170 142328 GCGTGAACCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GGGAGGCGGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GCTTGCAGTG Messenger 336170 (GAM336170) oligonucleotides modulates expression of respective target

AGCCGAGATC genes whose function and utility is known in the art.

GTGCCACTGC GAM336170 is a novel bioinformatically detectable regulatory, non protein

ACTCCAGCCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336170 was detected

GGGCAACAGA is described with additional reference to Figs. 9-15.

GC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336170 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336170 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336170 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336170 precursor RNA is designated SEQ ID:142328, and is provided hereinbelow with reference to the sequence listing part.

GAM336170 precursor RNA folds onto itself, forming GAM336170 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336170 precursor RNA, designated SEQ ID NO: 142328, and a schematic representation of a predicted secondary folding of GAM336170 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336170 folded precursor RNA yielding a GAM336170 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336170 RNA, hereby incorporated herein. Expression of GAM336170 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336170 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336170 target RNA, herein designated GAM TARGET RNA.

GAM336170 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336170 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336170 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336170 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336170 RNA, herein designated GAM RNA, to target binding sites on GAM336170 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336170 target RNA into GAM336170 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336170 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336170 target genes. The mRNA of each one of this plurality of GAM336170 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336170 RNA, herein designated GAM RNA, and which when bound by GAM336170 RNA causes inhibition of translation of the GAM336170 target mRNA into a corresponding GAM336170 target protein.

The mechanism of the translational inhibition exerted by GAM336170 RNA, herein designated GAM RNA, on one or more GAM336170 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336170 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336170 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336170 RNA, herein designated GAM RNA, of GAM336170 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336170 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336170 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336170 RNA correlate with, and may be deduced from, the identity of the GAM336170 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336171 142329 GCTACTCAGG Fig. 8 further provides a conceptual description of another novel bioinformatically
AGGCTGAGGC detected oligonucleotides of the present invention, referred to here as Genomic Address
AGGAGGATCA Messenger 336171 (GAM336171) oligonucleotides modulates expression of respective target
CTTGAGCCTG genes whose function and utility is known in the art.

GGAGGTCTAG GAM336171 is a novel bioinformatically detectable regulatory, non protein
GCTGCAGTGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336171 was detected
GCCGGGACGA is described with additional reference to Figs. 9-15.

TGCCACTGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTCCAGCCTG encoded by the human genome.

GGCAACAGAG GAM336171 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TGAGACCCTG GAM336171 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
TCCCAGCACT GAM336171 precursor RNA does not encode a protein. A nucleotide sequence identical or

CTGGGAGGC highly similar to the nucleotide sequence of GAM336171 precursor RNA is designated SEQ
ID:142329, and is provided hereinbelow with reference to the sequence listing part.

GAM336171 precursor RNA folds onto itself, forming GAM336171 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336171 precursor RNA, designated SEQ ID NO: 142329, and a schematic representation of a predicted secondary folding of GAM336171 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336171 folded precursor RNA yielding a GAM336171 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336171 RNA, hereby incorporated herein. Expression of GAM336171 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336171 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336171 target RNA, herein designated GAM TARGET RNA.

GAM336171 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336171 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336171 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336171 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336171 RNA, herein designated GAM RNA, to target binding sites on GAM336171 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336171 target RNA into GAM336171 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336171 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336171 target genes. The mRNA of each one of this plurality of GAM336171 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336171 RNA, herein designated GAM RNA, and which when bound by GAM336171 RNA causes inhibition of translation of the GAM336171 target mRNA into a corresponding GAM336171 target protein.

The mechanism of the translational inhibition exerted by GAM336171 RNA, herein designated GAM RNA, on one or more GAM336171 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336171 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336171 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336171 RNA, herein designated GAM RNA, of GAM336171 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336171 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336171 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336171 RNA correlate with, and may be deduced from, the identity of the GAM336171 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336172 142330 GCTCGAACCC Fig. 8 further provides a conceptual description of another novel bioinformatically

AGAAGGTGGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GTTTGCAGTG Messenger 336172 (GAM336172) oligonucleotides modulates expression of respective target

AGCCGAGATC genes whose function and utility is known in the art.

GTGCCACTGC GAM336172 is a novel bioinformatically detectable regulatory, non protein

ACTCCAGCCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336172 was detected

GGGCAACACA is described with additional reference to Figs. 9-15.

GC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336172 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336172 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336172 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336172 precursor RNA is designated SEQ ID:142330, and is provided hereinbelow with reference to the sequence listing part.

GAM336172 precursor RNA folds onto itself, forming GAM336172 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336172 precursor RNA, designated SEQ ID NO: 142330, and a schematic representation of a predicted secondary folding of GAM336172 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336172 folded precursor RNA yielding a GAM336172 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336172 RNA, hereby incorporated herein. Expression of GAM336172 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336172 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336172 target RNA, herein designated GAM TARGET RNA.

GAM336172 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336172 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336172 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336172 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336172 RNA, herein designated GAM RNA, to target binding sites on GAM336172 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336172 target RNA into GAM336172 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336172 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336172 target genes. The mRNA of each one of this plurality of GAM336172 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336172 RNA, herein designated GAM RNA, and which when bound by GAM336172 RNA causes inhibition of translation of the GAM336172 target mRNA into a corresponding GAM336172 target protein.

The mechanism of the translational inhibition exerted by GAM336172 RNA, herein designated GAM RNA, on one or more GAM336172 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336172 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336172 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336172 RNA, herein designated GAM RNA, of GAM336172 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336172 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336172 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336172 RNA correlate with, and may be deduced from, the identity of the GAM336172 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336173 142331 GCTTGAACCC Fig. 8 further provides a conceptual description of another novel bioinformatically

AGGAAGTGGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GGTTGCAGGG Messenger 336173 (GAM336173) oligonucleotides modulates expression of respective target

AGCCATGATC genes whose function and utility is known in the art.

GCACCACTGC GAM336173 is a novel bioinformatically detectable regulatory, non protein
ACTCCAGCCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336173 was detected
GGGCAACAGA is described with additional reference to Figs. 9-15.

GC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336173 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336173 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336173 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336173 precursor RNA is designated SEQ ID:142331, and is provided hereinbelow with reference to the sequence listing part.

GAM336173 precursor RNA folds onto itself, forming GAM336173 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336173 precursor RNA, designated SEQ ID NO: 142331, and a schematic representation of a predicted secondary folding of GAM336173 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336173 folded precursor RNA yielding a GAM336173 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336173 RNA, hereby incorporated herein. Expression of GAM336173 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336173 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336173 target RNA, herein designated GAM TARGET RNA.

GAM336173 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336173 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336173 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336173 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336173 RNA, herein designated GAM RNA, to target binding sites on GAM336173 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336173 target RNA into GAM336173 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336173 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336173 target genes. The mRNA of each one of this plurality of GAM336173 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336173 RNA, herein designated GAM RNA, and which when bound by GAM336173 RNA causes inhibition of translation of the GAM336173 target mRNA into a corresponding GAM336173 target protein.

The mechanism of the translational inhibition exerted by GAM336173 RNA, herein designated GAM RNA, on one or more GAM336173 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336173 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336173 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336173 RNA, herein designated GAM RNA, of GAM336173 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336173 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336173 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336173 RNA correlate with, and may be deduced from, the identity of the GAM336173 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336174 142332 GCTTGAACCC Fig. 8 further provides a conceptual description of another novel bioinformatically
AGGAGGCGGA detected oligonucleotides of the present invention, referred to here as Genomic Address
GGTTGCAGTG Messenger 336174 (GAM336174) oligonucleotides modulates expression of respective target
AGCCAAGATT genes whose function and utility is known in the art.

GCGCCACTGC GAM336174 is a novel bioinformatically detectable regulatory, non protein
ACTCCAGCCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336174 was detected
GGGCAACAAA is described with additional reference to Figs. 9-15.

AGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336174 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336174 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336174 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336174 precursor RNA is designated SEQ ID:142332, and is provided hereinbelow with reference to the sequence listing part.

GAM336174 precursor RNA folds onto itself, forming GAM336174 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336174 precursor RNA, designated SEQ ID NO: 142332, and a schematic representation of a predicted secondary folding of GAM336174 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336174 folded precursor RNA yielding a GAM336174 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336174 RNA, hereby incorporated herein. Expression of GAM336174 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336174 target gene, herein designated GAM TARGET GENE, encodes a

corresponding messenger RNA, GAM336174 target RNA, herein designated GAM TARGET RNA.

GAM336174 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336174 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336174 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336174 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336174 RNA, herein designated GAM RNA, to target binding sites on GAM336174 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336174 target RNA into GAM336174 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336174 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336174 target genes. The mRNA of each one of this plurality of GAM336174 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336174 RNA, herein designated GAM RNA, and which when bound by GAM336174 RNA causes inhibition of translation of the GAM336174 target mRNA into a corresponding GAM336174 target protein.

The mechanism of the translational inhibition exerted by GAM336174 RNA, herein designated GAM RNA, on one or more GAM336174 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336174 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336174 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336174 RNA, herein designated GAM RNA, of GAM336174 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336174 target RNA, herein designated

GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336174 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336174 RNA correlate with, and may be deduced from, the identity of the GAM336174 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336175 142333 GCTTGAACTC Fig. 8 further provides a conceptual description of another novel bioinformatically
GGGGTGGAGG detected oligonucleotides of the present invention, referred to here as Genomic Address
TTGCAGTGAG Messenger 336175 (GAM336175) oligonucleotides modulates expression of respective target
CCAAGATCGC genes whose function and utility is known in the art.
CCCACTGCAC GAM336175 is a novel bioinformatically detectable regulatory, non protein
TCCAGCCTGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336175 was detected
GCAACAATGC is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336175 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336175 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336175 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336175 precursor RNA is designated SEQ ID:142333, and is provided hereinbelow with reference to the sequence listing part.

GAM336175 precursor RNA folds onto itself, forming GAM336175 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336175 precursor RNA, designated SEQ ID NO: 142333, and a schematic representation of a predicted secondary folding of GAM336175 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336175 folded precursor RNA yielding a GAM336175 RNA, herein designated GAM RNA, in the form of a single stranded

~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336175 RNA, hereby incorporated herein. Expression of GAM336175 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336175 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336175 target RNA, herein designated GAM TARGET RNA.

GAM336175 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336175 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336175 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336175 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336175 RNA, herein designated GAM RNA, to target binding sites on GAM336175 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336175 target RNA into GAM336175 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336175 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336175 target genes. The mRNA of each one of this plurality of GAM336175 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336175 RNA, herein designated GAM RNA, and which when bound by GAM336175 RNA causes inhibition of translation of the GAM336175 target mRNA into a corresponding GAM336175 target protein.

The mechanism of the translational inhibition exerted by GAM336175 RNA, herein designated GAM RNA, on one or more GAM336175 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336175 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336175 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336175 RNA, herein designated GAM RNA, of GAM336175 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336175 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336175 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336175 RNA correlate with, and may be deduced from, the identity of the GAM336175 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336176 142334 GGAATGTTCT Fig. 8 further provides a conceptual description of another novel bioinformatically
GAAGAACTGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GTGATCTTGT Messenger 336176 (GAM336176) oligonucleotides modulates expression of respective target
GAAATCTGTG genes whose function and utility is known in the art.

GACCCTACAT GAM336176 is a novel bioinformatically detectable regulatory, non protein
TGGCACTTAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336176 was detected
TGTGTACCTA is described with additional reference to Figs. 9-15.

AGGGCTAACG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCCCAAATAA encoded by the human genome.

AGTCATTCAG GAM336176 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TGCTTTGCAG GAM336176 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
AAACAGGTC GAM336176 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336176 precursor RNA is designated SEQ ID:142334, and is provided hereinbelow with reference to the sequence listing part.

GAM336176 precursor RNA folds onto itself, forming GAM336176 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336176 precursor RNA, designated SEQ ID NO: 142334, and a schematic representation of a predicted secondary folding of GAM336176 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336176 folded precursor RNA yielding a GAM336176 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336176 RNA, hereby incorporated herein. Expression of GAM336176 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336176 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336176 target RNA, herein designated GAM TARGET RNA.

GAM336176 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336176 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336176 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336176 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336176 RNA, herein designated GAM RNA, to target binding sites on GAM336176 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336176 target RNA into GAM336176 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336176 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336176 target genes. The mRNA of each one of this plurality of GAM336176 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336176 RNA, herein designated GAM RNA, and which when bound by GAM336176 RNA causes inhibition of translation of the GAM336176 target mRNA into a corresponding GAM336176 target protein.

The mechanism of the translational inhibition exerted by GAM336176 RNA, herein designated GAM RNA, on one or more GAM336176 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336176 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336176 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336176 RNA, herein designated GAM RNA, of GAM336176 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336176 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336176 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336176 RNA correlate with, and may be deduced from, the identity of the GAM336176 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336177 142335 GGACCAGACT Fig. 8 further provides a conceptual description of another novel bioinformatically

ATTGTGACAT detected oligonucleotides of the present invention, referred to here as Genomic Address

GGAGAATGTA Messenger 336177 (GAM336177) oligonucleotides modulates expression of respective target

GAGAAATTAT genes whose function and utility is known in the art.

TCAATGTTCA GAM336177 is a novel bioinformatically detectable regulatory, non protein

GGATCAACAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336177 was detected

GATCTCCTCA is described with additional reference to Figs. 9-15.

CTCTAGGATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GATCC encoded by the human genome.

GAM336177 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336177 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336177 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336177 precursor RNA is designated SEQ

ID:142335, and is provided hereinbelow with reference to the sequence listing part.

GAM336177 precursor RNA folds onto itself, forming GAM336177 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336177 precursor RNA, designated SEQ ID NO: 142335, and a schematic representation of a predicted secondary folding of GAM336177 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336177 folded precursor RNA yielding a GAM336177 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336177 RNA, hereby incorporated herein. Expression of GAM336177 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336177 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336177 target RNA, herein designated GAM TARGET RNA.

GAM336177 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336177 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336177 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336177 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336177 RNA, herein designated GAM RNA, to target binding sites on GAM336177 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336177 target RNA into GAM336177 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM336177 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336177 target genes. The mRNA of each one of this plurality of GAM336177 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336177 RNA, herein designated GAM RNA, and which when bound by GAM336177 RNA causes inhibition of translation of the GAM336177 target mRNA into a corresponding GAM336177 target protein.

The mechanism of the translational inhibition exerted by GAM336177 RNA, herein designated GAM RNA, on one or more GAM336177 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336177 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336177 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336177 RNA, herein designated GAM RNA, of GAM336177 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336177 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336177 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336177 RNA correlate with, and may be deduced from, the identity of the GAM336177 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336178 142336 GGAGAATCAC Fig. 8 further provides a conceptual description of another novel bioinformatically

TAGAACCTGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AAGGCGAAGG Messenger 336178 (GAM336178) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

CGGAGATCGT GAM336178 is a novel bioinformatically detectable regulatory, non protein

GCCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336178 was detected

TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GATACTCC encoded by the human genome.

GAM336178 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336178 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336178 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336178 precursor RNA is designated SEQ ID:142336, and is provided hereinbelow with reference to the sequence listing part.

GAM336178 precursor RNA folds onto itself, forming GAM336178 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336178 precursor RNA, designated SEQ ID NO: 142336, and a schematic representation of a predicted secondary folding of GAM336178 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336178 folded precursor RNA yielding a GAM336178 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336178 RNA, hereby incorporated herein. Expression of GAM336178 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336178 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336178 target RNA, herein designated GAM TARGET RNA.

GAM336178 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336178 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336178 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336178 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336178 RNA, herein designated GAM RNA, to target binding sites on GAM336178 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336178 target RNA into GAM336178 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336178 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336178 target genes. The mRNA of each one of this plurality of GAM336178 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336178 RNA, herein designated GAM RNA, and which when bound by GAM336178 RNA causes inhibition of translation of the GAM336178 target mRNA into a corresponding GAM336178 target protein.

The mechanism of the translational inhibition exerted by GAM336178 RNA, herein designated GAM RNA, on one or more GAM336178 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336178 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336178 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336178 RNA, herein designated GAM RNA, of GAM336178 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336178 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336178 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336178 RNA correlate with, and may be deduced from, the identity of the GAM336178 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336179 142337 GGAGAATCAC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTGGAGC Messenger 336179 (GAM336179) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

CTGAGATCAC GAM336179 is a novel bioinformatically detectable regulatory, non protein
GCCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336179 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGACTCC encoded by the human genome.

GAM336179 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336179 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336179 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336179 precursor RNA is designated SEQ ID:142337, and is provided hereinbelow with reference to the sequence listing part.

GAM336179 precursor RNA folds onto itself, forming GAM336179 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336179 precursor RNA, designated SEQ ID NO: 142337, and a schematic representation of a predicted secondary folding of GAM336179 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336179 folded precursor RNA yielding a GAM336179 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336179 RNA, hereby incorporated herein. Expression of GAM336179 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336179 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336179 target RNA, herein designated GAM TARGET RNA.

GAM336179 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336179 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336179 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336179 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336179 RNA, herein designated GAM RNA, to target binding sites on GAM336179 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336179 target RNA into GAM336179 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336179 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336179 target genes. The mRNA of each one of this plurality of GAM336179 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336179 RNA, herein designated GAM RNA, and which when bound by GAM336179 RNA causes inhibition of translation of the GAM336179 target mRNA into a corresponding GAM336179 target protein.

The mechanism of the translational inhibition exerted by GAM336179 RNA, herein designated GAM RNA, on one or more GAM336179 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336179 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336179 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336179 RNA, herein designated GAM RNA, of GAM336179 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336179 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336179 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336179 RNA correlate with, and may be deduced from, the identity of the GAM336179 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336180 142338 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address
AAGGCAGAGG Messenger 336180 (GAM336180) oligonucleotides modulates expression of respective target
TTGCAGTGAG genes whose function and utility is known in the art.

CCAAGATGGT GAM336180 is a novel bioinformatically detectable regulatory, non protein
GCCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336180 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGACTCT encoded by the human genome.

GAM336180 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336180 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336180 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336180 precursor RNA is designated SEQ ID:142338, and is provided hereinbelow with reference to the sequence listing part.

GAM336180 precursor RNA folds onto itself, forming GAM336180 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336180 precursor RNA, designated SEQ ID NO: 142338, and a schematic representation of a predicted secondary folding of GAM336180 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336180 folded precursor RNA yielding a GAM336180 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336180 RNA, hereby incorporated herein. Expression of GAM336180 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336180 target gene, herein designated GAM TARGET GENE, encodes a

corresponding messenger RNA, GAM336180 target RNA, herein designated GAM TARGET RNA.

GAM336180 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336180 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336180 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336180 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336180 RNA, herein designated GAM RNA, to target binding sites on GAM336180 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336180 target RNA into GAM336180 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336180 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336180 target genes. The mRNA of each one of this plurality of GAM336180 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336180 RNA, herein designated GAM RNA, and which when bound by GAM336180 RNA causes inhibition of translation of the GAM336180 target mRNA into a corresponding GAM336180 target protein.

The mechanism of the translational inhibition exerted by GAM336180 RNA, herein designated GAM RNA, on one or more GAM336180 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336180 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336180 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336180 RNA, herein designated GAM RNA, of GAM336180 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336180 target RNA, herein designated

GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336180 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336180 RNA correlate with, and may be deduced from, the identity of the GAM336180 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336181 142339 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAAGTGGAGG Messenger 336181 (GAM336181) oligonucleotides modulates expression of respective target
TTGCAGGGAG genes whose function and utility is known in the art.

CCATGATCGC GAM336181 is a novel bioinformatically detectable regulatory, non protein
ACCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336181 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AAGACTCC encoded by the human genome.

GAM336181 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336181 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336181 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336181 precursor RNA is designated SEQ ID:142339, and is provided hereinbelow with reference to the sequence listing part.

GAM336181 precursor RNA folds onto itself, forming GAM336181 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336181 precursor RNA, designated SEQ ID NO: 142339, and a schematic representation of a predicted secondary folding of GAM336181 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336181 folded precursor RNA yielding a GAM336181 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336181 RNA, hereby incorporated herein. Expression of GAM336181 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336181 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336181 target RNA, herein designated GAM TARGET RNA.

GAM336181 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336181 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336181 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336181 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336181 RNA, herein designated GAM RNA, to target binding sites on GAM336181 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336181 target RNA into GAM336181 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336181 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336181 target genes. The mRNA of each one of this plurality of GAM336181 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336181 RNA, herein designated GAM RNA, and which when bound by GAM336181 RNA causes inhibition of translation of the GAM336181 target mRNA into a corresponding GAM336181 target protein.

The mechanism of the translational inhibition exerted by GAM336181 RNA, herein designated GAM RNA, on one or more GAM336181 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336181 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336181 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336181 RNA, herein designated GAM RNA, of GAM336181 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336181 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336181 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336181 RNA correlate with, and may be deduced from, the identity of the GAM336181 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336182 142340 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGATGGAGG Messenger 336182 (GAM336182) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

CTGAGATCAC GAM336182 is a novel bioinformatically detectable regulatory, non protein

GCCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336182 was detected

TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGACTCC encoded by the human genome.

GAM336182 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336182 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336182 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336182 precursor RNA is designated SEQ ID:142340, and is provided hereinbelow with reference to the sequence listing part.

GAM336182 precursor RNA folds onto itself, forming GAM336182 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336182 precursor RNA, designated SEQ ID NO: 142340,

and a schematic representation of a predicted secondary folding of GAM336182 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336182 folded precursor RNA yielding a GAM336182 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336182 RNA, hereby incorporated herein. Expression of GAM336182 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336182 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336182 target RNA, herein designated GAM TARGET RNA.

GAM336182 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336182 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336182 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336182 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336182 RNA, herein designated GAM RNA, to target binding sites on GAM336182 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336182 target RNA into GAM336182 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336182 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336182 target genes. The mRNA of each one of this plurality of GAM336182 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336182 RNA, herein designated GAM RNA, and which when bound by GAM336182 RNA causes inhibition of translation of the GAM336182 target mRNA into a corresponding GAM336182 target protein.

The mechanism of the translational inhibition exerted by GAM336182 RNA, herein designated GAM RNA, on one or more GAM336182 target genes, herein collectively designated

GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336182 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336182 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336182 RNA, herein designated GAM RNA, of GAM336182 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336182 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336182 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336182 RNA correlate with, and may be deduced from, the identity of the GAM336182 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336183 142341 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTGGAGA Messenger 336183 (GAM336183) oligonucleotides modulates expression of respective target

GGTTGCAGGG genes whose function and utility is known in the art.

AGCCGAGATC GAM336183 is a novel bioinformatically detectable regulatory, non protein

ACACACACCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336183 was detected

CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAAGAGCAAA encoded by the human genome.

ACTCC GAM336183 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336183 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336183 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336183 precursor RNA is designated SEQ ID:142341, and is provided hereinbelow with reference to the sequence listing part.

GAM336183 precursor RNA folds onto itself, forming GAM336183 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336183 precursor RNA, designated SEQ ID NO: 142341, and a schematic representation of a predicted secondary folding of GAM336183 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336183 folded precursor RNA yielding a GAM336183 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336183 RNA, hereby incorporated herein. Expression of GAM336183 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336183 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336183 target RNA, herein designated GAM TARGET RNA.

GAM336183 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336183 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336183 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336183 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336183 RNA, herein designated GAM RNA, to target binding sites on GAM336183 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336183 target RNA into GAM336183 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336183 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336183 target genes. The mRNA of each one of this plurality of GAM336183 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336183 RNA, herein designated GAM RNA, and which when bound by GAM336183 RNA causes inhibition of translation of the GAM336183 target mRNA into a corresponding GAM336183 target protein.

The mechanism of the translational inhibition exerted by GAM336183 RNA, herein designated GAM RNA, on one or more GAM336183 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336183 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336183 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336183 RNA, herein designated GAM RNA, of GAM336183 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336183 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336183 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336183 RNA correlate with, and may be deduced from, the identity of the GAM336183 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336184 142342 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTGGAGG Messenger 336184 (GAM336184) oligonucleotides modulates expression of respective target

TTGTGGCGAG genes whose function and utility is known in the art.

CTGAGATCAT GAM336184 is a novel bioinformatically detectable regulatory, non protein

GCCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336184 was detected

TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGACTCC encoded by the human genome.

GAM336184 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336184 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336184 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336184 precursor RNA is designated SEQ ID:142342, and is provided hereinbelow with reference to the sequence listing part.

GAM336184 precursor RNA folds onto itself, forming GAM336184 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336184 precursor RNA, designated SEQ ID NO: 142342, and a schematic representation of a predicted secondary folding of GAM336184 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336184 folded precursor RNA yielding a GAM336184 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336184 RNA, hereby incorporated herein. Expression of GAM336184 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336184 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336184 target RNA, herein designated GAM TARGET RNA.

GAM336184 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336184 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336184 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336184 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336184 RNA, herein designated GAM RNA, to target binding sites on GAM336184 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336184 target RNA into GAM336184 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336184 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336184 target genes. The mRNA of each one of this plurality of GAM336184 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336184 RNA, herein designated GAM RNA, and which when bound by GAM336184 RNA causes inhibition of translation of the GAM336184 target mRNA into a corresponding GAM336184 target protein.

The mechanism of the translational inhibition exerted by GAM336184 RNA, herein designated GAM RNA, on one or more GAM336184 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336184 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336184 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336184 RNA, herein designated GAM RNA, of GAM336184 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336184 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336184 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336184 RNA correlate with, and may be deduced from, the identity of the GAM336184 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336185 142343 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCTGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTGGAGG Messenger 336185 (GAM336185) oligonucleotides modulates expression of respective target

TTGTGGTGAG genes whose function and utility is known in the art.

CTGAGATTGT GAM336185 is a novel bioinformatically detectable regulatory, non protein
GCCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336185 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGATC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGACTCC encoded by the human genome.

GAM336185 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336185 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336185 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336185 precursor RNA is designated SEQ ID:142343, and is provided hereinbelow with reference to the sequence listing part.

GAM336185 precursor RNA folds onto itself, forming GAM336185 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336185 precursor RNA, designated SEQ ID NO: 142343, and a schematic representation of a predicted secondary folding of GAM336185 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336185 folded precursor RNA yielding a GAM336185 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336185 RNA, hereby incorporated herein. Expression of GAM336185 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336185 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336185 target RNA, herein designated GAM TARGET RNA.

GAM336185 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336185 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336185 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the

nucleotide sequence of GAM336185 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336185 RNA, herein designated GAM RNA, to target binding sites on GAM336185 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336185 target RNA into GAM336185 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336185 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336185 target genes. The mRNA of each one of this plurality of GAM336185 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336185 RNA, herein designated GAM RNA, and which when bound by GAM336185 RNA causes inhibition of translation of the GAM336185 target mRNA into a corresponding GAM336185 target protein.

The mechanism of the translational inhibition exerted by GAM336185 RNA, herein designated GAM RNA, on one or more GAM336185 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336185 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336185 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336185 RNA, herein designated GAM RNA, of GAM336185 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336185 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336185 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336185 RNA correlate with, and may be deduced from, the identity of the GAM336185 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336186 142344 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACTCGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGGGAGGC Messenger 336186 (GAM336186) oligonucleotides modulates expression of respective target
TGCAGTGAGC genes whose function and utility is known in the art.

CAAGATCACA GAM336186 is a novel bioinformatically detectable regulatory, non protein
CACCACTGCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336186 was detected
CTCCAGCCTG is described with additional reference to Figs. 9-15.

GGCAACAAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGAGACCC encoded by the human genome.

GAM336186 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336186 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336186 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336186 precursor RNA is designated SEQ ID:142344, and is provided hereinbelow with reference to the sequence listing part.

GAM336186 precursor RNA folds onto itself, forming GAM336186 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336186 precursor RNA, designated SEQ ID NO: 142344, and a schematic representation of a predicted secondary folding of GAM336186 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336186 folded precursor RNA yielding a GAM336186 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336186 RNA, hereby incorporated herein. Expression of GAM336186 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336186 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336186 target RNA, herein designated GAM TARGET RNA.

GAM336186 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336186 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336186 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336186 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336186 RNA, herein designated GAM RNA, to target binding sites on GAM336186 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336186 target RNA into GAM336186 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336186 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336186 target genes. The mRNA of each one of this plurality of GAM336186 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336186 RNA, herein designated GAM RNA, and which when bound by GAM336186 RNA causes inhibition of translation of the GAM336186 target mRNA into a corresponding GAM336186 target protein.

The mechanism of the translational inhibition exerted by GAM336186 RNA, herein designated GAM RNA, on one or more GAM336186 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336186 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336186 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336186 RNA, herein designated GAM RNA, of GAM336186 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336186 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336186 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336186 RNA correlate with, and may be deduced from, the identity of the GAM336186 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336187 142345 GGAGAATGGC Fig. 8 further provides a conceptual description of another novel bioinformatically
ATGAACCTGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGTGGAGC Messenger 336187 (GAM336187) oligonucleotides modulates expression of respective target
TTGCAGTGAG genes whose function and utility is known in the art.

CCCAGATTGC GAM336187 is a novel bioinformatically detectable regulatory, non protein
AACACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336187 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGACTCT encoded by the human genome.

GAM336187 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336187 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336187 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336187 precursor RNA is designated SEQ ID:142345, and is provided hereinbelow with reference to the sequence listing part.

GAM336187 precursor RNA folds onto itself, forming GAM336187 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336187 precursor RNA, designated SEQ ID NO: 142345, and a schematic representation of a predicted secondary folding of GAM336187 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336187 folded precursor RNA yielding a GAM336187 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336187 RNA, hereby incorporated herein. Expression of GAM336187 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336187 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336187 target RNA, herein designated GAM TARGET RNA.

GAM336187 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336187 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336187 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336187 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336187 RNA, herein designated GAM RNA, to target binding sites on GAM336187 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336187 target RNA into GAM336187 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336187 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336187 target genes. The mRNA of each one of this plurality of GAM336187 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336187 RNA, herein designated GAM RNA, and which when bound by GAM336187 RNA causes inhibition of translation of the GAM336187 target mRNA into a corresponding GAM336187 target protein.

The mechanism of the translational inhibition exerted by GAM336187 RNA, herein designated GAM RNA, on one or more GAM336187 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336187 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336187 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336187 RNA, herein designated GAM RNA, of

GAM336187 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336187 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336187 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336187 RNA correlate with, and may be deduced from, the identity of the GAM336187 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336188 142346 GGAGAATGGC Fig. 8 further provides a conceptual description of another novel bioinformatically

GTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTGGAGC Messenger 336188 (GAM336188) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

CCGAGATCGC GAM336188 is a novel bioinformatically detectable regulatory, non protein

GCCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336188 was detected

TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAGACTCC encoded by the human genome.

GAM336188 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336188 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336188 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336188 precursor RNA is designated SEQ ID:142346, and is provided hereinbelow with reference to the sequence listing part.

GAM336188 precursor RNA folds onto itself, forming GAM336188 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336188 precursor RNA, designated SEQ ID NO: 142346, and a schematic representation of a predicted secondary folding of GAM336188 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336188 folded precursor RNA yielding a GAM336188 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336188 RNA, hereby incorporated herein. Expression of GAM336188 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336188 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336188 target RNA, herein designated GAM TARGET RNA.

GAM336188 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336188 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336188 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336188 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336188 RNA, herein designated GAM RNA, to target binding sites on GAM336188 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336188 target RNA into GAM336188 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336188 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336188 target genes. The mRNA of each one of this plurality of GAM336188 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336188 RNA, herein designated GAM RNA, and which when bound by GAM336188 RNA causes inhibition of translation of the GAM336188 target mRNA into a corresponding GAM336188 target protein.

The mechanism of the translational inhibition exerted by GAM336188 RNA, herein designated GAM RNA, on one or more GAM336188 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336188 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336188 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336188 RNA, herein designated GAM RNA, of GAM336188 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336188 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336188 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336188 RNA correlate with, and may be deduced from, the identity of the GAM336188 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336189 142347 GGAGAATTGC Fig. 8 further provides a conceptual description of another novel bioinformatically

CTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

CAGGCAGAGG Messenger 336189 (GAM336189) oligonucleotides modulates expression of respective target

TTGCACCACT genes whose function and utility is known in the art.

GCACTCCAGC GAM336189 is a novel bioinformatically detectable regulatory, non protein

CTGGGCAACA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336189 was detected

GAGCAAGACT is described with additional reference to Figs. 9-15.

CC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336189 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336189 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336189 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336189 precursor RNA is designated SEQ ID:142347, and is provided hereinbelow with reference to the sequence listing part.

GAM336189 precursor RNA folds onto itself, forming GAM336189 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336189 precursor RNA, designated SEQ ID NO: 142347, and a schematic representation of a predicted secondary folding of GAM336189 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336189 folded precursor RNA yielding a GAM336189 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336189 RNA, hereby incorporated herein. Expression of GAM336189 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336189 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336189 target RNA, herein designated GAM TARGET RNA.

GAM336189 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336189 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336189 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336189 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336189 RNA, herein designated GAM RNA, to target binding sites on GAM336189 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336189 target RNA into GAM336189 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336189 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336189 target genes. The mRNA of each one of this plurality of GAM336189 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336189 RNA,

herein designated GAM RNA, and which when bound by GAM336189 RNA causes inhibition of translation of the GAM336189 target mRNA into a corresponding GAM336189 target protein.

The mechanism of the translational inhibition exerted by GAM336189 RNA, herein designated GAM RNA, on one or more GAM336189 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336189 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336189 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336189 RNA, herein designated GAM RNA, of GAM336189 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336189 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336189 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336189 RNA correlate with, and may be deduced from, the identity of the GAM336189 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336190 142348 GGAGAATTGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCAA detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTGGAGG Messenger 336190 (GAM336190) oligonucleotides modulates expression of respective target

CTGCAGTGAG genes whose function and utility is known in the art.

CTGAGATCAT GAM336190 is a novel bioinformatically detectable regulatory, non protein

GCCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336190 was detected

TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAGACTCC encoded by the human genome.

GAM336190 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336190 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336190 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336190 precursor RNA is designated SEQ ID:142348, and is provided hereinbelow with reference to the sequence listing part.

GAM336190 precursor RNA folds onto itself, forming GAM336190 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336190 precursor RNA, designated SEQ ID NO: 142348, and a schematic representation of a predicted secondary folding of GAM336190 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336190 folded precursor RNA yielding a GAM336190 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336190 RNA, hereby incorporated herein. Expression of GAM336190 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336190 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336190 target RNA, herein designated GAM TARGET RNA.

GAM336190 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336190 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336190 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336190 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336190 RNA, herein designated GAM RNA, to target binding sites on GAM336190 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336190 target RNA into GAM336190 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336190 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336190 target genes. The mRNA of each one of this plurality of GAM336190 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336190 RNA, herein designated GAM RNA, and which when bound by GAM336190 RNA causes inhibition of translation of the GAM336190 target mRNA into a corresponding GAM336190 target protein.

The mechanism of the translational inhibition exerted by GAM336190 RNA, herein designated GAM RNA, on one or more GAM336190 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336190 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336190 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336190 RNA, herein designated GAM RNA, of GAM336190 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336190 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336190 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336190 RNA correlate with, and may be deduced from, the identity of the GAM336190 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336191 142349 GGAGAATTGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGCAGAAG Messenger 336191 (GAM336191) oligonucleotides modulates expression of respective target

CTGCAGTGAG genes whose function and utility is known in the art.

CCAAGATAGT GAM336191 is a novel bioinformatically detectable regulatory, non protein

GCCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336191 was detected

TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGACTCC encoded by the human genome.

GAM336191 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336191 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336191 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336191 precursor RNA is designated SEQ ID:142349, and is provided hereinbelow with reference to the sequence listing part.

GAM336191 precursor RNA folds onto itself, forming GAM336191 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336191 precursor RNA, designated SEQ ID NO: 142349, and a schematic representation of a predicted secondary folding of GAM336191 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336191 folded precursor RNA yielding a GAM336191 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336191 RNA, hereby incorporated herein. Expression of GAM336191 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336191 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336191 target RNA, herein designated GAM TARGET RNA.

GAM336191 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336191 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336191 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336191 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336191 RNA, herein designated GAM RNA, to target binding sites on GAM336191 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336191 target RNA into GAM336191 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336191 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336191 target genes. The mRNA of each one of this plurality of GAM336191 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336191 RNA, herein designated GAM RNA, and which when bound by GAM336191 RNA causes inhibition of translation of the GAM336191 target mRNA into a corresponding GAM336191 target protein.

The mechanism of the translational inhibition exerted by GAM336191 RNA, herein designated GAM RNA, on one or more GAM336191 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336191 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336191 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336191 RNA, herein designated GAM RNA, of GAM336191 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336191 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336191 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336191 RNA correlate with, and may be deduced from, the identity of the GAM336191 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336192 142350 GGAGAATTGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTGGAGG Messenger 336192 (GAM336192) oligonucleotides modulates expression of respective target
TTGCAGTGAG genes whose function and utility is known in the art.

CCGAGATTGA GAM336192 is a novel bioinformatically detectable regulatory, non protein
GCCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336192 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAAAACTCC encoded by the human genome.

GAM336192 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336192 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336192 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336192 precursor RNA is designated SEQ ID:142350, and is provided hereinbelow with reference to the sequence listing part.

GAM336192 precursor RNA folds onto itself, forming GAM336192 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336192 precursor RNA, designated SEQ ID NO: 142350, and a schematic representation of a predicted secondary folding of GAM336192 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336192 folded precursor RNA yielding a GAM336192 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336192 RNA, hereby incorporated herein. Expression of GAM336192 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336192 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336192 target RNA, herein designated GAM TARGET RNA.

GAM336192 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336192 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336192 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336192 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336192 RNA, herein designated GAM RNA, to target binding sites on GAM336192 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336192 target RNA into GAM336192 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336192 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336192 target genes. The mRNA of each one of this plurality of GAM336192 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336192 RNA, herein designated GAM RNA, and which when bound by GAM336192 RNA causes inhibition of translation of the GAM336192 target mRNA into a corresponding GAM336192 target protein.

The mechanism of the translational inhibition exerted by GAM336192 RNA, herein designated GAM RNA, on one or more GAM336192 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336192 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336192 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336192 RNA, herein designated GAM RNA, of GAM336192 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336192 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336192 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336192

RNA correlate with, and may be deduced from, the identity of the GAM336192 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336193 142351 GGAGAATTGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGTGGAGG Messenger 336193 (GAM336193) oligonucleotides modulates expression of respective target
TTTCAGTGAG genes whose function and utility is known in the art.

CCAAGATTGT GAM336193 is a novel bioinformatically detectable regulatory, non protein
ACCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336193 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGACTCC encoded by the human genome.

GAM336193 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336193 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336193 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336193 precursor RNA is designated SEQ ID:142351, and is provided hereinbelow with reference to the sequence listing part.

GAM336193 precursor RNA folds onto itself, forming GAM336193 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336193 precursor RNA, designated SEQ ID NO: 142351, and a schematic representation of a predicted secondary folding of GAM336193 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336193 folded precursor RNA yielding a GAM336193 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336193 RNA, hereby incorporated herein. Expression of GAM336193 RNA was experimentally validated in HeLa cells using the methods

described with reference to Figs.22 to 24.

GAM336193 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336193 target RNA, herein designated GAM TARGET RNA.

GAM336193 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336193 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336193 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336193 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336193 RNA, herein designated GAM RNA, to target binding sites on GAM336193 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336193 target RNA into GAM336193 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336193 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336193 target genes. The mRNA of each one of this plurality of GAM336193 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336193 RNA, herein designated GAM RNA, and which when bound by GAM336193 RNA causes inhibition of translation of the GAM336193 target mRNA into a corresponding GAM336193 target protein.

The mechanism of the translational inhibition exerted by GAM336193 RNA, herein designated GAM RNA, on one or more GAM336193 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336193 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336193 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336193 RNA, herein designated GAM RNA, of GAM336193 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336193 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336193 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336193 RNA correlate with, and may be deduced from, the identity of the GAM336193 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336194 142352 GGAGAATTGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACCCTG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGCAGAGG Messenger 336194 (GAM336194) oligonucleotides modulates expression of respective target
TTGCAGTGAG genes whose function and utility is known in the art.

CCGAGATCGT GAM336194 is a novel bioinformatically detectable regulatory, non protein
GCCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336194 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGTGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGACTCC encoded by the human genome.

GAM336194 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336194 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336194 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336194 precursor RNA is designated SEQ ID:142352, and is provided hereinbelow with reference to the sequence listing part.

GAM336194 precursor RNA folds onto itself, forming GAM336194 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336194 precursor RNA, designated SEQ ID NO: 142352, and a schematic representation of a predicted secondary folding of GAM336194 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336194 folded precursor RNA yielding a GAM336194 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336194 RNA, hereby incorporated herein. Expression of GAM336194 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336194 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336194 target RNA, herein designated GAM TARGET RNA.

GAM336194 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336194 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336194 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336194 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336194 RNA, herein designated GAM RNA, to target binding sites on GAM336194 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336194 target RNA into GAM336194 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336194 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336194 target genes. The mRNA of each one of this plurality of GAM336194 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336194 RNA, herein designated GAM RNA, and which when bound by GAM336194 RNA causes inhibition of translation of the GAM336194 target mRNA into a corresponding GAM336194 target protein.

The mechanism of the translational inhibition exerted by GAM336194 RNA, herein designated GAM RNA, on one or more GAM336194 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336194 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336194 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336194 RNA, herein designated GAM RNA, of GAM336194 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336194 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336194 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336194 RNA correlate with, and may be deduced from, the identity of the GAM336194 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336195 142353 GGAGAATTGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCTGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAAGTGGAGG Messenger 336195 (GAM336195) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

CCGAGACTGA GAM336195 is a novel bioinformatically detectable regulatory, non protein

GCACTGCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336195 was detected

CCAGCCTGGG is described with additional reference to Figs. 9-15.

CAACAGAGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGACTCT encoded by the human genome.

GAM336195 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336195 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336195 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336195 precursor RNA is designated SEQ ID:142353, and is provided hereinbelow with reference to the sequence listing part.

GAM336195 precursor RNA folds onto itself, forming GAM336195 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336195 precursor RNA, designated SEQ ID NO: 142353, and a schematic representation of a predicted secondary folding of GAM336195 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336195 folded precursor RNA yielding a GAM336195 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336195 RNA, hereby incorporated herein. Expression of GAM336195 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336195 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336195 target RNA, herein designated GAM TARGET RNA.

GAM336195 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336195 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336195 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336195 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336195 RNA, herein designated GAM RNA, to target binding sites on GAM336195 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336195 target RNA into GAM336195 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336195 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336195 target genes. The mRNA of each one of this plurality of GAM336195 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336195 RNA, herein designated GAM RNA, and which when bound by GAM336195 RNA causes inhibition of translation of the GAM336195 target mRNA into a corresponding GAM336195 target protein.

The mechanism of the translational inhibition exerted by GAM336195 RNA, herein designated GAM RNA, on one or more GAM336195 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336195 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336195 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336195 RNA, herein designated GAM RNA, of GAM336195 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336195 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336195 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336195 RNA correlate with, and may be deduced from, the identity of the GAM336195 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336196 142354 GGAGAATTGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCTGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTGAAGG Messenger 336196 (GAM336196) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

CTGAGACCAT GAM336196 is a novel bioinformatically detectable regulatory, non protein

GCCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336196 was detected

TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAAACTCC encoded by the human genome.

GAM336196 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336196 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336196 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336196 precursor RNA is designated SEQ

ID:142354, and is provided hereinbelow with reference to the sequence listing part.

GAM336196 precursor RNA folds onto itself, forming GAM336196 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336196 precursor RNA, designated SEQ ID NO: 142354, and a schematic representation of a predicted secondary folding of GAM336196 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336196 folded precursor RNA yielding a GAM336196 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336196 RNA, hereby incorporated herein. Expression of GAM336196 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336196 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336196 target RNA, herein designated GAM TARGET RNA.

GAM336196 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336196 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336196 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336196 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336196 RNA, herein designated GAM RNA, to target binding sites on GAM336196 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336196 target RNA into GAM336196 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM336196 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336196 target genes. The mRNA of each one of this plurality of GAM336196 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336196 RNA, herein designated GAM RNA, and which when bound by GAM336196 RNA causes inhibition of translation of the GAM336196 target mRNA into a corresponding GAM336196 target protein.

The mechanism of the translational inhibition exerted by GAM336196 RNA, herein designated GAM RNA, on one or more GAM336196 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336196 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336196 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336196 RNA, herein designated GAM RNA, of GAM336196 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336196 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336196 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336196 RNA correlate with, and may be deduced from, the identity of the GAM336196 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336197 142355 GGAGGATCAC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCTGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGATGGAGG Messenger 336197 (GAM336197) oligonucleotides modulates expression of respective target

TCTCAGTGAG genes whose function and utility is known in the art.

CTGAGATTGC GAM336197 is a novel bioinformatically detectable regulatory, non protein

GTCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336197 was detected

TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAAAAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGACTCC encoded by the human genome.

GAM336197 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336197 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336197 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336197 precursor RNA is designated SEQ ID:142355, and is provided hereinbelow with reference to the sequence listing part.

GAM336197 precursor RNA folds onto itself, forming GAM336197 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336197 precursor RNA, designated SEQ ID NO: 142355, and a schematic representation of a predicted secondary folding of GAM336197 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336197 folded precursor RNA yielding a GAM336197 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336197 RNA, hereby incorporated herein. Expression of GAM336197 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336197 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336197 target RNA, herein designated GAM TARGET RNA.

GAM336197 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336197 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336197 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336197 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336197 RNA, herein designated GAM RNA, to target binding sites on GAM336197 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336197 target RNA into GAM336197 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336197 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336197 target genes. The mRNA of each one of this plurality of GAM336197 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336197 RNA, herein designated GAM RNA, and which when bound by GAM336197 RNA causes inhibition of translation of the GAM336197 target mRNA into a corresponding GAM336197 target protein.

The mechanism of the translational inhibition exerted by GAM336197 RNA, herein designated GAM RNA, on one or more GAM336197 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336197 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336197 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336197 RNA, herein designated GAM RNA, of GAM336197 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336197 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336197 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336197 RNA correlate with, and may be deduced from, the identity of the GAM336197 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336198 142356 GGAGGCTGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

ATGGGAGGTT detected oligonucleotides of the present invention, referred to here as Genomic Address

CACTTGAACC Messenger 336198 (GAM336198) oligonucleotides modulates expression of respective target

CAGGAGGTGG genes whose function and utility is known in the art.

AGGCTGTGGT GAM336198 is a novel bioinformatically detectable regulatory, non protein
GAGCCAACAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336198 was detected
CCTGCCACTG is described with additional reference to Figs. 9-15.

CACTCCAGCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGGGCAACAG encoded by the human genome.

AGCCAAACTC GAM336198 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TGACTCC GAM336198 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336198 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336198 precursor RNA is designated SEQ ID:142356, and is provided hereinbelow with reference to the sequence listing part.

GAM336198 precursor RNA folds onto itself, forming GAM336198 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336198 precursor RNA, designated SEQ ID NO: 142356, and a schematic representation of a predicted secondary folding of GAM336198 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336198 folded precursor RNA yielding a GAM336198 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336198 RNA, hereby incorporated herein. Expression of GAM336198 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336198 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336198 target RNA, herein designated GAM TARGET RNA.

GAM336198 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336198 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM336198 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336198 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336198 RNA, herein designated GAM RNA, to target binding sites on GAM336198 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336198 target RNA into GAM336198 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336198 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336198 target genes. The mRNA of each one of this plurality of GAM336198 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336198 RNA, herein designated GAM RNA, and which when bound by GAM336198 RNA causes inhibition of translation of the GAM336198 target mRNA into a corresponding GAM336198 target protein.

The mechanism of the translational inhibition exerted by GAM336198 RNA, herein designated GAM RNA, on one or more GAM336198 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336198 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336198 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336198 RNA, herein designated GAM RNA, of GAM336198 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336198 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336198 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336198 RNA correlate with, and may be deduced from, the identity of the GAM336198 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336199 142357 GGATCACTTG Fig. 8 further provides a conceptual description of another novel bioinformatically
AGCCCAGGAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GTTGAGGCTG Messenger 336199 (GAM336199) oligonucleotides modulates expression of respective target
CAGTGAGCCA genes whose function and utility is known in the art.

TGTTCCTGCC GAM336199 is a novel bioinformatically detectable regulatory, non protein
ACTGCACTCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336199 was detected
AGCCTGGGCA is described with additional reference to Figs. 9-15.

ACAGAGTGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACC encoded by the human genome.

GAM336199 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336199 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336199 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336199 precursor RNA is designated SEQ ID:142357, and is provided hereinbelow with reference to the sequence listing part.

GAM336199 precursor RNA folds onto itself, forming GAM336199 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336199 precursor RNA, designated SEQ ID NO: 142357, and a schematic representation of a predicted secondary folding of GAM336199 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336199 folded precursor RNA yielding a GAM336199 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336199 RNA, hereby incorporated herein. Expression of GAM336199 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336199 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336199 target RNA, herein designated GAM TARGET RNA.

GAM336199 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336199 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336199 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336199 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336199 RNA, herein designated GAM RNA, to target binding sites on GAM336199 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336199 target RNA into GAM336199 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336199 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336199 target genes. The mRNA of each one of this plurality of GAM336199 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336199 RNA, herein designated GAM RNA, and which when bound by GAM336199 RNA causes inhibition of translation of the GAM336199 target mRNA into a corresponding GAM336199 target protein.

The mechanism of the translational inhibition exerted by GAM336199 RNA, herein designated GAM RNA, on one or more GAM336199 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336199 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336199 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336199 RNA, herein designated GAM RNA, of GAM336199 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM336199 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336199 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336199 RNA correlate with, and may be deduced from, the identity of the GAM336199 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336200 142358 GGCAGGAGAA Fig. 8 further provides a conceptual description of another novel bioinformatically
TCACCTGAAC detected oligonucleotides of the present invention, referred to here as Genomic Address
CCGGGTGGCA Messenger 336200 (GAM336200) oligonucleotides modulates expression of respective target
GAGGTTGCAG genes whose function and utility is known in the art.

GGAGGCGAGA GAM336200 is a novel bioinformatically detectable regulatory, non protein
TCGTGCCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336200 was detected
GCACTCCAGC is described with additional reference to Figs. 9-15.

CTGGGCAACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGTGAGACT encoded by the human genome.

GTC GAM336200 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336200 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336200 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336200 precursor RNA is designated SEQ ID:142358, and is provided hereinbelow with reference to the sequence listing part.

GAM336200 precursor RNA folds onto itself, forming GAM336200 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336200 precursor RNA, designated SEQ ID NO: 142358, and a schematic representation of a predicted secondary folding of GAM336200 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336200 folded precursor RNA yielding a GAM336200 RNA, herein designated GAM RNA, in the form of a single stranded

~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336200 RNA, hereby incorporated herein. Expression of GAM336200 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336200 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336200 target RNA, herein designated GAM TARGET RNA.

GAM336200 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336200 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336200 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336200 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336200 RNA, herein designated GAM RNA, to target binding sites on GAM336200 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336200 target RNA into GAM336200 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336200 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336200 target genes. The mRNA of each one of this plurality of GAM336200 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336200 RNA, herein designated GAM RNA, and which when bound by GAM336200 RNA causes inhibition of translation of the GAM336200 target mRNA into a corresponding GAM336200 target protein.

The mechanism of the translational inhibition exerted by GAM336200 RNA, herein designated GAM RNA, on one or more GAM336200 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336200 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336200 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336200 RNA, herein designated GAM RNA, of GAM336200 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336200 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336200 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336200 RNA correlate with, and may be deduced from, the identity of the GAM336200 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336201 142359 GGCAGGAGAA TCGCTTGAAC CTGGGAGACA GAGGTTGCAG TGAGCCAAGA TCGTGTCACT GCACTCCAGC CTGGGCAACA GAGTGAGACT CTGTC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336201 (GAM336201) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336201 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336201 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336201 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336201 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336201 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336201 precursor RNA is designated SEQ ID:142359, and is provided hereinbelow with reference to the sequence listing part.

GAM336201 precursor RNA folds onto itself, forming GAM336201 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336201 precursor RNA, designated SEQ ID NO: 142359, and a schematic representation of a predicted secondary folding of GAM336201 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336201 folded precursor RNA yielding a GAM336201 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336201 RNA, hereby incorporated herein. Expression of GAM336201 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336201 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336201 target RNA, herein designated GAM TARGET RNA.

GAM336201 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336201 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336201 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336201 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336201 RNA, herein designated GAM RNA, to target binding sites on GAM336201 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336201 target RNA into GAM336201 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336201 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336201 target genes. The mRNA of each one of this plurality of GAM336201 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336201 RNA, herein designated GAM RNA, and which when bound by GAM336201 RNA causes inhibition of translation of the GAM336201 target mRNA into a corresponding GAM336201 target protein.

The mechanism of the translational inhibition exerted by GAM336201 RNA, herein designated GAM RNA, on one or more GAM336201 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336201 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336201 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336201 RNA, herein designated GAM RNA, of GAM336201 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336201 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336201 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336201 RNA correlate with, and may be deduced from, the identity of the GAM336201 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336202 142360 GGCAGGAGAA Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGCTTGAAC detected oligonucleotides of the present invention, referred to here as Genomic Address

CTGGGAGGTG Messenger 336202 (GAM336202) oligonucleotides modulates expression of respective target

GAGGTTGCAG genes whose function and utility is known in the art.

TGAGCCGAGA GAM336202 is a novel bioinformatically detectable regulatory, non protein

TCGCACCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336202 was detected

GCACTCCAGC is described with additional reference to Figs. 9-15.

CTGGGCAACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGTGAGGCT encoded by the human genome.

CTGTC GAM336202 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336202 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336202 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336202 precursor RNA is designated SEQ

ID:142360, and is provided hereinbelow with reference to the sequence listing part.

GAM336202 precursor RNA folds onto itself, forming GAM336202 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336202 precursor RNA, designated SEQ ID NO: 142360, and a schematic representation of a predicted secondary folding of GAM336202 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336202 folded precursor RNA yielding a GAM336202 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336202 RNA, hereby incorporated herein. Expression of GAM336202 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336202 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336202 target RNA, herein designated GAM TARGET RNA.

GAM336202 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336202 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336202 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336202 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336202 RNA, herein designated GAM RNA, to target binding sites on GAM336202 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336202 target RNA into GAM336202 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM336202 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336202 target genes. The mRNA of each one of this plurality of GAM336202 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336202 RNA, herein designated GAM RNA, and which when bound by GAM336202 RNA causes inhibition of translation of the GAM336202 target mRNA into a corresponding GAM336202 target protein.

The mechanism of the translational inhibition exerted by GAM336202 RNA, herein designated GAM RNA, on one or more GAM336202 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336202 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336202 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336202 RNA, herein designated GAM RNA, of GAM336202 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336202 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336202 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336202 RNA correlate with, and may be deduced from, the identity of the GAM336202 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336203 142361 GGGGATGTGA Fig. 8 further provides a conceptual description of another novel bioinformatically
CTCCTGATAT detected oligonucleotides of the present invention, referred to here as Genomic Address
GAAATCCATT Messenger 336203 (GAM336203) oligonucleotides modulates expression of respective target
GCCAAGGCTG genes whose function and utility is known in the art.

ACCTTATCGT GAM336203 is a novel bioinformatically detectable regulatory, non protein
CACTACGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336203 was detected
GAGAAGTGGG is described with additional reference to Figs. 9-15.

ATGGAGTCAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGAAGCTGG encoded by the human genome.

CAAAATAGGA GAM336203 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

ACTATGTTCA GAM336203 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GCAAGTCACT GAM336203 precursor RNA does not encode a protein. A nucleotide sequence identical or

ATTCTC highly similar to the nucleotide sequence of GAM336203 precursor RNA is designated SEQ ID:142361, and is provided hereinbelow with reference to the sequence listing part.

GAM336203 precursor RNA folds onto itself, forming GAM336203 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336203 precursor RNA, designated SEQ ID NO: 142361, and a schematic representation of a predicted secondary folding of GAM336203 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336203 folded precursor RNA yielding a GAM336203 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336203 RNA, hereby incorporated herein. Expression of GAM336203 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336203 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336203 target RNA, herein designated GAM TARGET RNA.

GAM336203 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336203 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336203 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336203 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336203 RNA, herein designated GAM RNA, to target binding sites on GAM336203 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336203 target RNA into GAM336203 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336203 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336203 target genes. The mRNA of each one of this plurality of GAM336203 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336203 RNA, herein designated GAM RNA, and which when bound by GAM336203 RNA causes inhibition of translation of the GAM336203 target mRNA into a corresponding GAM336203 target protein.

The mechanism of the translational inhibition exerted by GAM336203 RNA, herein designated GAM RNA, on one or more GAM336203 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336203 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336203 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336203 RNA, herein designated GAM RNA, of GAM336203 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336203 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336203 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336203 RNA correlate with, and may be deduced from, the identity of the GAM336203 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336204 142362 GTGAACCCGG Fig. 8 further provides a conceptual description of another novel bioinformatically

GAGACGGAGC detected oligonucleotides of the present invention, referred to here as Genomic Address

TTGCAGTGAG Messenger 336204 (GAM336204) oligonucleotides modulates expression of respective target

CTGAGATCGT genes whose function and utility is known in the art.

GCCACTGCAC TCCAGCCTGG GCAAC GAM336204 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336204 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336204 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336204 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336204 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336204 precursor RNA is designated SEQ ID:142362, and is provided hereinbelow with reference to the sequence listing part.

GAM336204 precursor RNA folds onto itself, forming GAM336204 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336204 precursor RNA, designated SEQ ID NO: 142362, and a schematic representation of a predicted secondary folding of GAM336204 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336204 folded precursor RNA yielding a GAM336204 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336204 RNA, hereby incorporated herein. Expression of GAM336204 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336204 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336204 target RNA, herein designated GAM TARGET RNA.

GAM336204 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336204 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM336204 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336204 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336204 RNA, herein designated GAM RNA, to target binding sites on GAM336204 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336204 target RNA into GAM336204 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336204 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336204 target genes. The mRNA of each one of this plurality of GAM336204 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336204 RNA, herein designated GAM RNA, and which when bound by GAM336204 RNA causes inhibition of translation of the GAM336204 target mRNA into a corresponding GAM336204 target protein.

The mechanism of the translational inhibition exerted by GAM336204 RNA, herein designated GAM RNA, on one or more GAM336204 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336204 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336204 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336204 RNA, herein designated GAM RNA, of GAM336204 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336204 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336204 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336204 RNA correlate with, and may be deduced from, the identity of the GAM336204 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336205 142363 TCACTGGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically
CCAGGAGGTG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGTTGCAG Messenger 336205 (GAM336205) oligonucleotides modulates expression of respective target
TGAGTCAAGA genes whose function and utility is known in the art.

TAGTGCCACT GAM336205 is a novel bioinformatically detectable regulatory, non protein
GCACTCCAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336205 was detected
CTGGGCAACA is described with additional reference to Figs. 9-15.

GAGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336205 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336205 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336205 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336205 precursor RNA is designated SEQ ID:142363, and is provided hereinbelow with reference to the sequence listing part.

GAM336205 precursor RNA folds onto itself, forming GAM336205 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336205 precursor RNA, designated SEQ ID NO: 142363, and a schematic representation of a predicted secondary folding of GAM336205 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336205 folded precursor RNA yielding a GAM336205 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336205 RNA, hereby incorporated herein. Expression of GAM336205 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336205 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336205 target RNA, herein designated GAM TARGET RNA.

GAM336205 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336205 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336205 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336205 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336205 RNA, herein designated GAM RNA, to target binding sites on GAM336205 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336205 target RNA into GAM336205 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336205 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336205 target genes. The mRNA of each one of this plurality of GAM336205 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336205 RNA, herein designated GAM RNA, and which when bound by GAM336205 RNA causes inhibition of translation of the GAM336205 target mRNA into a corresponding GAM336205 target protein.

The mechanism of the translational inhibition exerted by GAM336205 RNA, herein designated GAM RNA, on one or more GAM336205 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336205 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336205 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336205 RNA, herein designated GAM RNA, of GAM336205 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM336205 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336205 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336205 RNA correlate with, and may be deduced from, the identity of the GAM336205 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336206 142364 TCACTGGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically
CTGGGAGGTG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGTTGCAG Messenger 336206 (GAM336206) oligonucleotides modulates expression of respective target
TGAGCTGAGA genes whose function and utility is known in the art.

CTGTGCCACT GAM336206 is a novel bioinformatically detectable regulatory, non protein
GCACTCCAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336206 was detected
CTGGGCAACA is described with additional reference to Figs. 9-15.

GAGCAAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336206 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336206 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336206 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336206 precursor RNA is designated SEQ ID:142364, and is provided hereinbelow with reference to the sequence listing part.

GAM336206 precursor RNA folds onto itself, forming GAM336206 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336206 precursor RNA, designated SEQ ID NO: 142364, and a schematic representation of a predicted secondary folding of GAM336206 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336206 folded precursor RNA yielding a GAM336206 RNA, herein designated GAM RNA, in the form of a single stranded

~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336206 RNA, hereby incorporated herein. Expression of GAM336206 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336206 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336206 target RNA, herein designated GAM TARGET RNA.

GAM336206 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336206 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336206 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336206 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336206 RNA, herein designated GAM RNA, to target binding sites on GAM336206 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336206 target RNA into GAM336206 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336206 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336206 target genes. The mRNA of each one of this plurality of GAM336206 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336206 RNA, herein designated GAM RNA, and which when bound by GAM336206 RNA causes inhibition of translation of the GAM336206 target mRNA into a corresponding GAM336206 target protein.

The mechanism of the translational inhibition exerted by GAM336206 RNA, herein designated GAM RNA, on one or more GAM336206 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336206 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336206 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336206 RNA, herein designated GAM RNA, of GAM336206 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336206 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336206 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336206 RNA correlate with, and may be deduced from, the identity of the GAM336206 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336207 142365 TCACTTGAAC CCTGGAGGCA GAGGTTGCAG TGAGCCGATA TCATGCCACT GCACTCCAGC CTGGGCAACA CAGTGA

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336207 (GAM336207) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336207 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336207 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336207 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336207 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336207 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336207 precursor RNA is designated SEQ ID:142365, and is provided hereinbelow with reference to the sequence listing part.

GAM336207 precursor RNA folds onto itself, forming GAM336207 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336207 precursor RNA, designated SEQ ID NO: 142365, and a schematic representation of a predicted secondary folding of GAM336207 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336207 folded precursor RNA yielding a GAM336207 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336207 RNA, hereby incorporated herein. Expression of GAM336207 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336207 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336207 target RNA, herein designated GAM TARGET RNA.

GAM336207 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336207 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336207 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336207 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336207 RNA, herein designated GAM RNA, to target binding sites on GAM336207 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336207 target RNA into GAM336207 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336207 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336207 target genes. The mRNA of each one of this plurality of GAM336207 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336207 RNA, herein designated GAM RNA, and which when bound by GAM336207 RNA causes inhibition of translation of the GAM336207 target mRNA into a corresponding GAM336207 target protein.

The mechanism of the translational inhibition exerted by GAM336207 RNA, herein

designated GAM RNA, on one or more GAM336207 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336207 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336207 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336207 RNA, herein designated GAM RNA, of GAM336207 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336207 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336207 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336207 RNA correlate with, and may be deduced from, the identity of the GAM336207 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336208 142366 TCCATTGCCA Fig. 8 further provides a conceptual description of another novel bioinformatically

AGGCTGACCT detected oligonucleotides of the present invention, referred to here as Genomic Address

TATCGTCACT Messenger 336208 (GAM336208) oligonucleotides modulates expression of respective target

ACGCCAGAGA genes whose function and utility is known in the art.

AGTGGGATGG GAM336208 is a novel bioinformatically detectable regulatory, non protein

AGTCAGCAGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336208 was detected

AGCTGGCAAA is described with additional reference to Figs. 9-15.

ATAGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336208 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336208 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336208 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336208 precursor RNA is designated SEQ ID:142366, and is provided hereinbelow with reference to the sequence listing part.

GAM336208 precursor RNA folds onto itself, forming GAM336208 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336208 precursor RNA, designated SEQ ID NO: 142366, and a schematic representation of a predicted secondary folding of GAM336208 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336208 folded precursor RNA yielding a GAM336208 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336208 RNA, hereby incorporated herein. Expression of GAM336208 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336208 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336208 target RNA, herein designated GAM TARGET RNA.

GAM336208 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336208 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336208 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336208 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336208 RNA, herein designated GAM RNA, to target binding sites on GAM336208 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336208 target RNA into GAM336208 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336208 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336208 target genes. The mRNA of each one of this plurality of GAM336208 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336208 RNA, herein designated GAM RNA, and which when bound by GAM336208 RNA causes inhibition of translation of the GAM336208 target mRNA into a corresponding GAM336208 target protein.

The mechanism of the translational inhibition exerted by GAM336208 RNA, herein designated GAM RNA, on one or more GAM336208 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336208 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336208 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336208 RNA, herein designated GAM RNA, of GAM336208 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336208 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336208 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336208 RNA correlate with, and may be deduced from, the identity of the GAM336208 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336209 142367 TCGCTTGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically

CCCGGAGGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGATTGCAG Messenger 336209 (GAM336209) oligonucleotides modulates expression of respective target

TGAGCCGAGA genes whose function and utility is known in the art.

TCATGCCACT GAM336209 is a novel bioinformatically detectable regulatory, non protein

GCACTCCAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336209 was detected

CTGGGCAACA is described with additional reference to Figs. 9-15.

AGAGCGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336209 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336209 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336209 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336209 precursor RNA is designated SEQ ID:142367, and is provided hereinbelow with reference to the sequence listing part.

GAM336209 precursor RNA folds onto itself, forming GAM336209 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336209 precursor RNA, designated SEQ ID NO: 142367, and a schematic representation of a predicted secondary folding of GAM336209 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336209 folded precursor RNA yielding a GAM336209 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336209 RNA, hereby incorporated herein. Expression of GAM336209 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336209 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336209 target RNA, herein designated GAM TARGET RNA.

GAM336209 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336209 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336209 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336209 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336209 RNA, herein designated GAM RNA, to target binding sites on GAM336209 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336209 target RNA into GAM336209 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336209 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336209 target genes. The mRNA of each one of this plurality of GAM336209 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336209 RNA, herein designated GAM RNA, and which when bound by GAM336209 RNA causes inhibition of translation of the GAM336209 target mRNA into a corresponding GAM336209 target protein.

The mechanism of the translational inhibition exerted by GAM336209 RNA, herein designated GAM RNA, on one or more GAM336209 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336209 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336209 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336209 RNA, herein designated GAM RNA, of GAM336209 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336209 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336209 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336209 RNA correlate with, and may be deduced from, the identity of the GAM336209 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336210 142368 TGAGACAAAA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATTGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCTGGGAG Messenger 336210 (GAM336210) oligonucleotides modulates expression of respective target

GTGGAAGTTG genes whose function and utility is known in the art.

CAGTGAGCCA GAM336210 is a novel bioinformatically detectable regulatory, non protein
AGATTGTGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336210 was detected
ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATAAGGCAAG encoded by the human genome.

ACTCCGTCTC GAM336210 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
A GAM336210 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336210 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336210 precursor RNA is designated SEQ ID:142368, and is provided hereinbelow with reference to the sequence listing part.

GAM336210 precursor RNA folds onto itself, forming GAM336210 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336210 precursor RNA, designated SEQ ID NO: 142368, and a schematic representation of a predicted secondary folding of GAM336210 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336210 folded precursor RNA yielding a GAM336210 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336210 RNA, hereby incorporated herein. Expression of GAM336210 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336210 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336210 target RNA, herein designated GAM TARGET RNA.

GAM336210 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336210 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336210 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336210 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336210 RNA, herein designated GAM RNA, to target binding sites on GAM336210 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336210 target RNA into GAM336210 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336210 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336210 target genes. The mRNA of each one of this plurality of GAM336210 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336210 RNA, herein designated GAM RNA, and which when bound by GAM336210 RNA causes inhibition of translation of the GAM336210 target mRNA into a corresponding GAM336210 target protein.

The mechanism of the translational inhibition exerted by GAM336210 RNA, herein designated GAM RNA, on one or more GAM336210 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336210 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336210 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336210 RNA, herein designated GAM RNA, of GAM336210 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336210 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336210 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336210 RNA correlate with, and may be deduced from, the identity of the GAM336210 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336211 142369 TGAGACAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATTGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCTGGCAG Messenger 336211 (GAM336211) oligonucleotides modulates expression of respective target
GCGGAGGTTA genes whose function and utility is known in the art.

CAGTGAGCCA GAM336211 is a novel bioinformatically detectable regulatory, non protein
AGATGGTACC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336211 was detected
ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACATAGCAAC encoded by the human genome.

ACTCTGTCTC GAM336211 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
A GAM336211 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336211 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336211 precursor RNA is designated SEQ ID:142369, and is provided hereinbelow with reference to the sequence listing part.

GAM336211 precursor RNA folds onto itself, forming GAM336211 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336211 precursor RNA, designated SEQ ID NO: 142369, and a schematic representation of a predicted secondary folding of GAM336211 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336211 folded precursor RNA yielding a GAM336211 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336211 RNA, hereby incorporated herein. Expression of GAM336211 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336211 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336211 target RNA, herein designated GAM TARGET RNA.

GAM336211 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336211 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336211 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336211 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336211 RNA, herein designated GAM RNA, to target binding sites on GAM336211 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336211 target RNA into GAM336211 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336211 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336211 target genes. The mRNA of each one of this plurality of GAM336211 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336211 RNA, herein designated GAM RNA, and which when bound by GAM336211 RNA causes inhibition of translation of the GAM336211 target mRNA into a corresponding GAM336211 target protein.

The mechanism of the translational inhibition exerted by GAM336211 RNA, herein designated GAM RNA, on one or more GAM336211 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336211 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336211 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336211 RNA, herein designated GAM RNA, of GAM336211 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM336211 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336211 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336211 RNA correlate with, and may be deduced from, the identity of the GAM336211 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336212 142370 TGAGACAGTA Fig. 8 further provides a conceptual description of another novel bioinformatically
TCACTTGAAC detected oligonucleotides of the present invention, referred to here as Genomic Address
CCAGGGGGTG Messenger 336212 (GAM336212) oligonucleotides modulates expression of respective target
GAGGTTGCGG genes whose function and utility is known in the art.

TGAGCCGAGA GAM336212 is a novel bioinformatically detectable regulatory, non protein
TTGTGCCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336212 was detected
GCACTCCAGC is described with additional reference to Figs. 9-15.

CTGGGCAACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGTGAGACT encoded by the human genome.

CTGTTTCA GAM336212 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336212 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336212 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336212 precursor RNA is designated SEQ ID:142370, and is provided hereinbelow with reference to the sequence listing part.

GAM336212 precursor RNA folds onto itself, forming GAM336212 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336212 precursor RNA, designated SEQ ID NO: 142370, and a schematic representation of a predicted secondary folding of GAM336212 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336212 folded precursor

RNA yielding a GAM336212 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336212 RNA, hereby incorporated herein. Expression of GAM336212 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336212 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336212 target RNA, herein designated GAM TARGET RNA.

GAM336212 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336212 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336212 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336212 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336212 RNA, herein designated GAM RNA, to target binding sites on GAM336212 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336212 target RNA into GAM336212 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336212 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336212 target genes. The mRNA of each one of this plurality of GAM336212 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336212 RNA, herein designated GAM RNA, and which when bound by GAM336212 RNA causes inhibition of translation of the GAM336212 target mRNA into a corresponding GAM336212 target protein.

The mechanism of the translational inhibition exerted by GAM336212 RNA, herein designated GAM RNA, on one or more GAM336212 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336212 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336212 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336212 RNA, herein designated GAM RNA, of GAM336212 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336212 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336212 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336212 RNA correlate with, and may be deduced from, the identity of the GAM336212 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336213 142371 TGAGAGGACT Fig. 8 further provides a conceptual description of another novel bioinformatically

GCTTGAACTC detected oligonucleotides of the present invention, referred to here as Genomic Address

GGGGTGGAGG Messenger 336213 (GAM336213) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

CCAAGATCGC GAM336213 is a novel bioinformatically detectable regulatory, non protein

CCCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336213 was detected

TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAATGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAGACCCCTC encoded by the human genome.

A GAM336213 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336213 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336213 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336213 precursor RNA is designated SEQ ID:142371, and is provided hereinbelow with reference to the sequence listing part.

GAM336213 precursor RNA folds onto itself, forming GAM336213 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336213 precursor RNA, designated SEQ ID NO: 142371, and a schematic representation of a predicted secondary folding of GAM336213 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336213 folded precursor RNA yielding a GAM336213 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336213 RNA, hereby incorporated herein. Expression of GAM336213 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336213 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336213 target RNA, herein designated GAM TARGET RNA.

GAM336213 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336213 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336213 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336213 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336213 RNA, herein designated GAM RNA, to target binding sites on GAM336213 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336213 target RNA into GAM336213 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336213 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336213 target genes. The mRNA of each one of this plurality of GAM336213 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336213 RNA, herein designated GAM RNA, and which when bound by GAM336213 RNA causes inhibition of translation of the GAM336213 target mRNA into a corresponding GAM336213 target protein.

The mechanism of the translational inhibition exerted by GAM336213 RNA, herein designated GAM RNA, on one or more GAM336213 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336213 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336213 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336213 RNA, herein designated GAM RNA, of GAM336213 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336213 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336213 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336213 RNA correlate with, and may be deduced from, the identity of the GAM336213 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336214 142372 TGAGGCACAA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATTGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCTGGGAG Messenger 336214 (GAM336214) oligonucleotides modulates expression of respective target

GGGGAGGTTT genes whose function and utility is known in the art.

CAGTGAGCCG GAM336214 is a novel bioinformatically detectable regulatory, non protein

AGCCGAGATT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336214 was detected

GTGTCACTGC is described with additional reference to Figs. 9-15.

ACTCCAGCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGGCAACAGA encoded by the human genome.

GTGAGACTCT GAM336214 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GTCTCA GAM336214 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336214 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336214 precursor RNA is designated SEQ

ID:142372, and is provided hereinbelow with reference to the sequence listing part.

GAM336214 precursor RNA folds onto itself, forming GAM336214 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336214 precursor RNA, designated SEQ ID NO: 142372, and a schematic representation of a predicted secondary folding of GAM336214 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336214 folded precursor RNA yielding a GAM336214 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336214 RNA, hereby incorporated herein. Expression of GAM336214 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336214 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336214 target RNA, herein designated GAM TARGET RNA.

GAM336214 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336214 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336214 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336214 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336214 RNA, herein designated GAM RNA, to target binding sites on GAM336214 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336214 target RNA into GAM336214 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM336214 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336214 target genes. The mRNA of each one of this plurality of GAM336214 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336214 RNA, herein designated GAM RNA, and which when bound by GAM336214 RNA causes inhibition of translation of the GAM336214 target mRNA into a corresponding GAM336214 target protein.

The mechanism of the translational inhibition exerted by GAM336214 RNA, herein designated GAM RNA, on one or more GAM336214 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336214 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336214 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336214 RNA, herein designated GAM RNA, of GAM336214 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336214 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336214 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336214 RNA correlate with, and may be deduced from, the identity of the GAM336214 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336215 142373 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

AAATCACTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCCTGGAG Messenger 336215 (GAM336215) oligonucleotides modulates expression of respective target

GCAGAGGTTG genes whose function and utility is known in the art.

CAGTGAGCCG GAM336215 is a novel bioinformatically detectable regulatory, non protein

ATATCATGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336215 was detected

ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACACAGTGAG encoded by the human genome.

ACTCTGTCTT GAM336215 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

A GAM336215 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336215 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336215 precursor RNA is designated SEQ ID:142373, and is provided hereinbelow with reference to the sequence listing part.

GAM336215 precursor RNA folds onto itself, forming GAM336215 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336215 precursor RNA, designated SEQ ID NO: 142373, and a schematic representation of a predicted secondary folding of GAM336215 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336215 folded precursor RNA yielding a GAM336215 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336215 RNA, hereby incorporated herein. Expression of GAM336215 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336215 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336215 target RNA, herein designated GAM TARGET RNA.

GAM336215 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336215 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336215 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336215 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336215 RNA, herein designated GAM RNA, to target binding sites on GAM336215 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336215 target RNA into GAM336215 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336215 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336215 target genes. The mRNA of each one of this plurality of GAM336215 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336215 RNA, herein designated GAM RNA, and which when bound by GAM336215 RNA causes inhibition of translation of the GAM336215 target mRNA into a corresponding GAM336215 target protein.

The mechanism of the translational inhibition exerted by GAM336215 RNA, herein designated GAM RNA, on one or more GAM336215 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336215 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336215 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336215 RNA, herein designated GAM RNA, of GAM336215 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336215 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336215 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336215 RNA correlate with, and may be deduced from, the identity of the GAM336215 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336216 142374 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAACCGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCCAGGAG Messenger 336216 (GAM336216) oligonucleotides modulates expression of respective target

GAGGAGGAGG genes whose function and utility is known in the art.

TTGCAGTGGG GAM336216 is a novel bioinformatically detectable regulatory, non protein
CCGAGATCGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336216 was detected
GCCACTGCAC is described with additional reference to Figs. 9-15.

TCCAGCCTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCAACAGAGT encoded by the human genome.

GAGACTCCAT GAM336216 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CTCA GAM336216 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336216 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336216 precursor RNA is designated SEQ ID:142374, and is provided hereinbelow with reference to the sequence listing part.

GAM336216 precursor RNA folds onto itself, forming GAM336216 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336216 precursor RNA, designated SEQ ID NO: 142374, and a schematic representation of a predicted secondary folding of GAM336216 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336216 folded precursor RNA yielding a GAM336216 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336216 RNA, hereby incorporated herein. Expression of GAM336216 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336216 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336216 target RNA, herein designated GAM TARGET RNA.

GAM336216 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336216 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336216 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336216 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336216 RNA, herein designated GAM RNA, to target binding sites on GAM336216 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336216 target RNA into GAM336216 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336216 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336216 target genes. The mRNA of each one of this plurality of GAM336216 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336216 RNA, herein designated GAM RNA, and which when bound by GAM336216 RNA causes inhibition of translation of the GAM336216 target mRNA into a corresponding GAM336216 target protein.

The mechanism of the translational inhibition exerted by GAM336216 RNA, herein designated GAM RNA, on one or more GAM336216 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336216 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336216 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336216 RNA, herein designated GAM RNA, of GAM336216 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336216 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336216 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336216 RNA correlate with, and may be deduced from, the identity of the GAM336216 target gene

inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336217 142375 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATAGGGTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCCAGGAG Messenger 336217 (GAM336217) oligonucleotides modulates expression of respective target
GTGGAGCTTG genes whose function and utility is known in the art.

CAGTGAGCCG GAM336217 is a novel bioinformatically detectable regulatory, non protein
AGATCGCGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336217 was detected
ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAGAGCGAG encoded by the human genome.

ACTCCGTCTC GAM336217 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
A GAM336217 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336217 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336217 precursor RNA is designated SEQ ID:142375, and is provided hereinbelow with reference to the sequence listing part.

GAM336217 precursor RNA folds onto itself, forming GAM336217 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336217 precursor RNA, designated SEQ ID NO: 142375, and a schematic representation of a predicted secondary folding of GAM336217 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336217 folded precursor RNA yielding a GAM336217 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336217 RNA, hereby incorporated herein. Expression of GAM336217 RNA was experimentally validated in HeLa cells using the methods

described with reference to Figs.22 to 24.

GAM336217 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336217 target RNA, herein designated GAM TARGET RNA.

GAM336217 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336217 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336217 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336217 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336217 RNA, herein designated GAM RNA, to target binding sites on GAM336217 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336217 target RNA into GAM336217 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336217 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336217 target genes. The mRNA of each one of this plurality of GAM336217 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336217 RNA, herein designated GAM RNA, and which when bound by GAM336217 RNA causes inhibition of translation of the GAM336217 target mRNA into a corresponding GAM336217 target protein.

The mechanism of the translational inhibition exerted by GAM336217 RNA, herein designated GAM RNA, on one or more GAM336217 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336217 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336217 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336217 RNA, herein designated GAM RNA, of GAM336217 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336217 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336217 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336217 RNA correlate with, and may be deduced from, the identity of the GAM336217 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336218 142376 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATCACTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCCAAGAG Messenger 336218 (GAM336218) oligonucleotides modulates expression of respective target
GCGGAGGTTG genes whose function and utility is known in the art.

CAGTGAGCTG GAM336218 is a novel bioinformatically detectable regulatory, non protein
AGATCGCGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336218 was detected
ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAAGAGCAA encoded by the human genome.

AACTCCGTCT GAM336218 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CA GAM336218 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336218 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336218 precursor RNA is designated SEQ ID:142376, and is provided hereinbelow with reference to the sequence listing part.

GAM336218 precursor RNA folds onto itself, forming GAM336218 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336218 precursor RNA, designated SEQ ID NO: 142376, and a schematic representation of a predicted secondary folding of GAM336218 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336218 folded precursor RNA yielding a GAM336218 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336218 RNA, hereby incorporated herein. Expression of GAM336218 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336218 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336218 target RNA, herein designated GAM TARGET RNA.

GAM336218 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336218 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336218 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336218 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336218 RNA, herein designated GAM RNA, to target binding sites on GAM336218 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336218 target RNA into GAM336218 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336218 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336218 target genes. The mRNA of each one of this plurality of GAM336218 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336218 RNA, herein designated GAM RNA, and which when bound by GAM336218 RNA causes inhibition of translation of the GAM336218 target mRNA into a corresponding GAM336218 target protein.

The mechanism of the translational inhibition exerted by GAM336218 RNA, herein designated GAM RNA, on one or more GAM336218 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336218 precursor RNA, herein designated GAM PRECURSOR

RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336218 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336218 RNA, herein designated GAM RNA, of GAM336218 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336218 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336218 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336218 RNA correlate with, and may be deduced from, the identity of the GAM336218 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336219 142377 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATCGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCCAGAAG Messenger 336219 (GAM336219) oligonucleotides modulates expression of respective target

GCAGAGGTTG genes whose function and utility is known in the art.

CAGTGAGCCA GAM336219 is a novel bioinformatically detectable regulatory, non protein

AGATGGTGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336219 was detected

ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAGAGCGAG encoded by the human genome.

ACTCTATCTC GAM336219 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

A GAM336219 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336219 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336219 precursor RNA is designated SEQ ID:142377, and is provided hereinbelow with reference to the sequence listing part.

GAM336219 precursor RNA folds onto itself, forming GAM336219 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336219 precursor RNA, designated SEQ ID NO: 142377, and a schematic representation of a predicted secondary folding of GAM336219 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336219 folded precursor RNA yielding a GAM336219 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336219 RNA, hereby incorporated herein. Expression of GAM336219 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336219 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336219 target RNA, herein designated GAM TARGET RNA.

GAM336219 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336219 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336219 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336219 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336219 RNA, herein designated GAM RNA, to target binding sites on GAM336219 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336219 target RNA into GAM336219 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336219 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336219 target genes. The mRNA of each one of this plurality of GAM336219 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336219 RNA,

herein designated GAM RNA, and which when bound by GAM336219 RNA causes inhibition of translation of the GAM336219 target mRNA into a corresponding GAM336219 target protein.

The mechanism of the translational inhibition exerted by GAM336219 RNA, herein designated GAM RNA, on one or more GAM336219 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336219 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336219 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336219 RNA, herein designated GAM RNA, of GAM336219 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336219 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336219 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336219 RNA correlate with, and may be deduced from, the identity of the GAM336219 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336220 142378 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATCGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCCGGGAG Messenger 336220 (GAM336220) oligonucleotides modulates expression of respective target

GCGGAGGTTG genes whose function and utility is known in the art.

TGGTGAGCCG GAM336220 is a novel bioinformatically detectable regulatory, non protein

AGATCTCGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336220 was detected

ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAGAGTGAG encoded by the human genome.

ACTCCGTCTC GAM336220 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

A GAM336220 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336220 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336220 precursor RNA is designated SEQ ID:142378, and is provided hereinbelow with reference to the sequence listing part.

GAM336220 precursor RNA folds onto itself, forming GAM336220 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336220 precursor RNA, designated SEQ ID NO: 142378, and a schematic representation of a predicted secondary folding of GAM336220 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336220 folded precursor RNA yielding a GAM336220 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336220 RNA, hereby incorporated herein. Expression of GAM336220 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336220 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336220 target RNA, herein designated GAM TARGET RNA.

GAM336220 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336220 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336220 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336220 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336220 RNA, herein designated GAM RNA, to target binding sites on GAM336220 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336220 target RNA into GAM336220 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336220 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336220 target genes. The mRNA of each one of this plurality of GAM336220 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336220 RNA, herein designated GAM RNA, and which when bound by GAM336220 RNA causes inhibition of translation of the GAM336220 target mRNA into a corresponding GAM336220 target protein.

The mechanism of the translational inhibition exerted by GAM336220 RNA, herein designated GAM RNA, on one or more GAM336220 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336220 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336220 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336220 RNA, herein designated GAM RNA, of GAM336220 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336220 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336220 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336220 RNA correlate with, and may be deduced from, the identity of the GAM336220 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336221 142379 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATCGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCCGGGGG Messenger 336221 (GAM336221) oligonucleotides modulates expression of respective target

GAGGAGGTTA genes whose function and utility is known in the art.

CAGTGAGCTG GAM336221 is a novel bioinformatically detectable regulatory, non protein

AGATCGCGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336221 was detected

ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAAGAGTGA encoded by the human genome.

AACTGTCTCA GAM336221 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336221 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336221 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336221 precursor RNA is designated SEQ ID:142379, and is provided hereinbelow with reference to the sequence listing part.

GAM336221 precursor RNA folds onto itself, forming GAM336221 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336221 precursor RNA, designated SEQ ID NO: 142379, and a schematic representation of a predicted secondary folding of GAM336221 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336221 folded precursor RNA yielding a GAM336221 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336221 RNA, hereby incorporated herein. Expression of GAM336221 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336221 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336221 target RNA, herein designated GAM TARGET RNA.

GAM336221 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336221 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336221 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336221 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336221 RNA, herein designated GAM RNA, to target binding sites on GAM336221 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336221 target RNA into GAM336221 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336221 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336221 target genes. The mRNA of each one of this plurality of GAM336221 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336221 RNA, herein designated GAM RNA, and which when bound by GAM336221 RNA causes inhibition of translation of the GAM336221 target mRNA into a corresponding GAM336221 target protein.

The mechanism of the translational inhibition exerted by GAM336221 RNA, herein designated GAM RNA, on one or more GAM336221 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336221 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336221 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336221 RNA, herein designated GAM RNA, of GAM336221 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336221 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336221 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336221 RNA correlate with, and may be deduced from, the identity of the GAM336221 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336222 142380 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATCGTTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCTAGGAG Messenger 336222 (GAM336222) oligonucleotides modulates expression of respective target
GCGGAGGTTC genes whose function and utility is known in the art.

CAGTGAGCTG GAM336222 is a novel bioinformatically detectable regulatory, non protein
AGATGGCGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336222 was detected
ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAGAGTGAG encoded by the human genome.

ACTGTCTCA GAM336222 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336222 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336222 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336222 precursor RNA is designated SEQ ID:142380, and is provided hereinbelow with reference to the sequence listing part.

GAM336222 precursor RNA folds onto itself, forming GAM336222 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336222 precursor RNA, designated SEQ ID NO: 142380, and a schematic representation of a predicted secondary folding of GAM336222 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336222 folded precursor RNA yielding a GAM336222 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336222 RNA, hereby incorporated herein. Expression of GAM336222 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336222 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336222 target RNA, herein designated GAM TARGET RNA.

GAM336222 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336222 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336222 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336222 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336222 RNA, herein designated GAM RNA, to target binding sites on GAM336222 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336222 target RNA into GAM336222 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336222 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336222 target genes. The mRNA of each one of this plurality of GAM336222 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336222 RNA, herein designated GAM RNA, and which when bound by GAM336222 RNA causes inhibition of translation of the GAM336222 target mRNA into a corresponding GAM336222 target protein.

The mechanism of the translational inhibition exerted by GAM336222 RNA, herein designated GAM RNA, on one or more GAM336222 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336222 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336222 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336222 RNA, herein designated GAM RNA, of GAM336222 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336222 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336222 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336222 RNA correlate with, and may be deduced from, the identity of the GAM336222 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336223 142381 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATGGCCTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCTAGGAG Messenger 336223 (GAM336223) oligonucleotides modulates expression of respective target
GTGGAGCTTG genes whose function and utility is known in the art.

CAGTGAGCCG GAM336223 is a novel bioinformatically detectable regulatory, non protein
AGATAGCGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336223 was detected
ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAGAGCGAG encoded by the human genome.

ACTCTGTCTC GAM336223 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
A GAM336223 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336223 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336223 precursor RNA is designated SEQ ID:142381, and is provided hereinbelow with reference to the sequence listing part.

GAM336223 precursor RNA folds onto itself, forming GAM336223 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336223 precursor RNA, designated SEQ ID NO: 142381, and a schematic representation of a predicted secondary folding of GAM336223 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336223 folded precursor RNA yielding a GAM336223 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336223 RNA, hereby incorporated herein. Expression of GAM336223 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336223 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336223 target RNA, herein designated GAM TARGET RNA.

GAM336223 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336223 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336223 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336223 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336223 RNA, herein designated GAM RNA, to target binding sites on GAM336223 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336223 target RNA into GAM336223 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336223 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336223 target genes. The mRNA of each one of this plurality of GAM336223 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336223 RNA, herein designated GAM RNA, and which when bound by GAM336223 RNA causes inhibition of translation of the GAM336223 target mRNA into a corresponding GAM336223 target protein.

The mechanism of the translational inhibition exerted by GAM336223 RNA, herein designated GAM RNA, on one or more GAM336223 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336223 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336223 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336223 RNA, herein designated GAM RNA, of

GAM336223 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336223 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336223 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336223 RNA correlate with, and may be deduced from, the identity of the GAM336223 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336224 142382 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATTGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCCAGGAG Messenger 336224 (GAM336224) oligonucleotides modulates expression of respective target

GCAGAAGCTG genes whose function and utility is known in the art.

CAGTGAGCCA GAM336224 is a novel bioinformatically detectable regulatory, non protein

AGATAGTGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336224 was detected

ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAGAGCGAG encoded by the human genome.

ACTCCGTCTC GAM336224 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

A GAM336224 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336224 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336224 precursor RNA is designated SEQ ID:142382, and is provided hereinbelow with reference to the sequence listing part.

GAM336224 precursor RNA folds onto itself, forming GAM336224 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336224 precursor RNA, designated SEQ ID NO: 142382, and a schematic representation of a predicted secondary folding of GAM336224 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336224 folded precursor RNA yielding a GAM336224 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336224 RNA, hereby incorporated herein. Expression of GAM336224 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336224 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336224 target RNA, herein designated GAM TARGET RNA.

GAM336224 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336224 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336224 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336224 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336224 RNA, herein designated GAM RNA, to target binding sites on GAM336224 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336224 target RNA into GAM336224 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336224 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336224 target genes. The mRNA of each one of this plurality of GAM336224 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336224 RNA, herein designated GAM RNA, and which when bound by GAM336224 RNA causes inhibition of translation of the GAM336224 target mRNA into a corresponding GAM336224 target protein.

The mechanism of the translational inhibition exerted by GAM336224 RNA, herein designated GAM RNA, on one or more GAM336224 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336224 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336224 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336224 RNA, herein designated GAM RNA, of GAM336224 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336224 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336224 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336224 RNA correlate with, and may be deduced from, the identity of the GAM336224 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336225 142383 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATTGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCCGGGAG Messenger 336225 (GAM336225) oligonucleotides modulates expression of respective target

GTGGAGGTTG genes whose function and utility is known in the art.

CAGTGAGCCA GAM336225 is a novel bioinformatically detectable regulatory, non protein

AGATTGCGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336225 was detected

ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAAGAGCAA encoded by the human genome.

AACTCTGTCT GAM336225 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CA GAM336225 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336225 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336225 precursor RNA is designated SEQ ID:142383, and is provided hereinbelow with reference to the sequence listing part.

GAM336225 precursor RNA folds onto itself, forming GAM336225 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336225 precursor RNA, designated SEQ ID NO: 142383, and a schematic representation of a predicted secondary folding of GAM336225 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336225 folded precursor RNA yielding a GAM336225 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336225 RNA, hereby incorporated herein. Expression of GAM336225 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336225 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336225 target RNA, herein designated GAM TARGET RNA.

GAM336225 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336225 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336225 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336225 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336225 RNA, herein designated GAM RNA, to target binding sites on GAM336225 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336225 target RNA into GAM336225 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336225 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM336225 target genes. The mRNA of each one of this plurality of GAM336225 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336225 RNA, herein designated GAM RNA, and which when bound by GAM336225 RNA causes inhibition of translation of the GAM336225 target mRNA into a corresponding GAM336225 target protein.

The mechanism of the translational inhibition exerted by GAM336225 RNA, herein designated GAM RNA, on one or more GAM336225 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336225 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336225 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336225 RNA, herein designated GAM RNA, of GAM336225 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336225 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336225 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336225 RNA correlate with, and may be deduced from, the identity of the GAM336225 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336226 142384 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATTGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCTGGGAG Messenger 336226 (GAM336226) oligonucleotides modulates expression of respective target

GCAGAGGTTG genes whose function and utility is known in the art.

CAGTGAGCTG GAM336226 is a novel bioinformatically detectable regulatory, non protein

AAATCGCGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336226 was detected

ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATAGGGCAAG encoded by the human genome.

ACTCCGTCTC GAM336226 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

A GAM336226 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336226 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336226 precursor RNA is designated SEQ ID:142384, and is provided hereinbelow with reference to the sequence listing part.

GAM336226 precursor RNA folds onto itself, forming GAM336226 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336226 precursor RNA, designated SEQ ID NO: 142384, and a schematic representation of a predicted secondary folding of GAM336226 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336226 folded precursor RNA yielding a GAM336226 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336226 RNA, hereby incorporated herein. Expression of GAM336226 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336226 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336226 target RNA, herein designated GAM TARGET RNA.

GAM336226 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336226 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336226 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336226 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336226 RNA, herein designated GAM RNA, to target binding sites on GAM336226 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336226 target RNA into GAM336226 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336226 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336226 target genes. The mRNA of each one of this plurality of GAM336226 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336226 RNA, herein designated GAM RNA, and which when bound by GAM336226 RNA causes inhibition of translation of the GAM336226 target mRNA into a corresponding GAM336226 target protein.

The mechanism of the translational inhibition exerted by GAM336226 RNA, herein designated GAM RNA, on one or more GAM336226 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336226 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336226 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336226 RNA, herein designated GAM RNA, of GAM336226 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336226 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336226 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336226 RNA correlate with, and may be deduced from, the identity of the GAM336226 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336227 142385 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAGTCGCTGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCTGAGAG Messenger 336227 (GAM336227) oligonucleotides modulates expression of respective target

GCGGAGCTTG genes whose function and utility is known in the art.

CAGTGAGCCG GAM336227 is a novel bioinformatically detectable regulatory, non protein
AGATCGCGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336227 was detected
ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACACAGCGAG encoded by the human genome.

ACTCCGTCTC GAM336227 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
A GAM336227 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336227 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336227 precursor RNA is designated SEQ ID:142385, and is provided hereinbelow with reference to the sequence listing part.

GAM336227 precursor RNA folds onto itself, forming GAM336227 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336227 precursor RNA, designated SEQ ID NO: 142385, and a schematic representation of a predicted secondary folding of GAM336227 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336227 folded precursor RNA yielding a GAM336227 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336227 RNA, hereby incorporated herein. Expression of GAM336227 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336227 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336227 target RNA, herein designated GAM TARGET RNA.

GAM336227 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336227 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336227 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336227 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336227 RNA, herein designated GAM RNA, to target binding sites on GAM336227 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336227 target RNA into GAM336227 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336227 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336227 target genes. The mRNA of each one of this plurality of GAM336227 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336227 RNA, herein designated GAM RNA, and which when bound by GAM336227 RNA causes inhibition of translation of the GAM336227 target mRNA into a corresponding GAM336227 target protein.

The mechanism of the translational inhibition exerted by GAM336227 RNA, herein designated GAM RNA, on one or more GAM336227 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336227 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336227 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336227 RNA, herein designated GAM RNA, of GAM336227 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336227 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336227 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336227 RNA correlate with, and may be deduced from, the identity of the GAM336227 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336228 142386 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GGATTGCTTC detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCCAGGAG Messenger 336228 (GAM336228) oligonucleotides modulates expression of respective target
CTGGAGGCTG genes whose function and utility is known in the art.

CAGTGAGCTA GAM336228 is a novel bioinformatically detectable regulatory, non protein
TGATCATGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336228 was detected
ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAGAATAAT encoded by the human genome.

ATCCTGCCTC GAM336228 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
A GAM336228 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336228 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336228 precursor RNA is designated SEQ ID:142386, and is provided hereinbelow with reference to the sequence listing part.

GAM336228 precursor RNA folds onto itself, forming GAM336228 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336228 precursor RNA, designated SEQ ID NO: 142386, and a schematic representation of a predicted secondary folding of GAM336228 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336228 folded precursor RNA yielding a GAM336228 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336228 RNA, hereby incorporated herein. Expression of GAM336228 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336228 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336228 target RNA, herein designated GAM TARGET RNA.

GAM336228 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336228 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336228 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336228 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336228 RNA, herein designated GAM RNA, to target binding sites on GAM336228 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336228 target RNA into GAM336228 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336228 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336228 target genes. The mRNA of each one of this plurality of GAM336228 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336228 RNA, herein designated GAM RNA, and which when bound by GAM336228 RNA causes inhibition of translation of the GAM336228 target mRNA into a corresponding GAM336228 target protein.

The mechanism of the translational inhibition exerted by GAM336228 RNA, herein designated GAM RNA, on one or more GAM336228 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336228 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336228 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336228 RNA, herein designated GAM RNA, of GAM336228 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM336228 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336228 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336228 RNA correlate with, and may be deduced from, the identity of the GAM336228 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336229 142387 TGAGGCAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
AAATCGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCCAGGAG Messenger 336229 (GAM336229) oligonucleotides modulates expression of respective target
ACAGAGGTTT genes whose function and utility is known in the art.

CAGTGAGCCG GAM336229 is a novel bioinformatically detectable regulatory, non protein
AGATCGTGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336229 was detected
ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAGAGTGAG encoded by the human genome.

ACTCTGTCTC GAM336229 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
A GAM336229 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336229 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336229 precursor RNA is designated SEQ ID:142387, and is provided hereinbelow with reference to the sequence listing part.

GAM336229 precursor RNA folds onto itself, forming GAM336229 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336229 precursor RNA, designated SEQ ID NO: 142387, and a schematic representation of a predicted secondary folding of GAM336229 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336229 folded precursor

RNA yielding a GAM336229 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336229 RNA, hereby incorporated herein. Expression of GAM336229 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336229 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336229 target RNA, herein designated GAM TARGET RNA.

GAM336229 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336229 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336229 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336229 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336229 RNA, herein designated GAM RNA, to target binding sites on GAM336229 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336229 target RNA into GAM336229 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336229 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336229 target genes. The mRNA of each one of this plurality of GAM336229 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336229 RNA, herein designated GAM RNA, and which when bound by GAM336229 RNA causes inhibition of translation of the GAM336229 target mRNA into a corresponding GAM336229 target protein.

The mechanism of the translational inhibition exerted by GAM336229 RNA, herein designated GAM RNA, on one or more GAM336229 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336229 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336229 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336229 RNA, herein designated GAM RNA, of GAM336229 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336229 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336229 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336229 RNA correlate with, and may be deduced from, the identity of the GAM336229 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336230 142388 TGAGGCGGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATGGCGTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCCAGGAG Messenger 336230 (GAM336230) oligonucleotides modulates expression of respective target

GTGGAGCTTG genes whose function and utility is known in the art.

CAGTGAGCGG GAM336230 is a novel bioinformatically detectable regulatory, non protein

AGATCTTGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336230 was detected

ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAGAGCGAG encoded by the human genome.

ACTCTGTCTC GAM336230 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

A GAM336230 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336230 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336230 precursor RNA is designated SEQ ID:142388, and is provided hereinbelow with reference to the sequence listing part.

GAM336230 precursor RNA folds onto itself, forming GAM336230 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336230 precursor RNA, designated SEQ ID NO: 142388, and a schematic representation of a predicted secondary folding of GAM336230 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336230 folded precursor RNA yielding a GAM336230 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336230 RNA, hereby incorporated herein. Expression of GAM336230 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336230 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336230 target RNA, herein designated GAM TARGET RNA.

GAM336230 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336230 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336230 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336230 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336230 RNA, herein designated GAM RNA, to target binding sites on GAM336230 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336230 target RNA into GAM336230 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336230 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336230 target genes. The mRNA of each one of this plurality of GAM336230 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336230 RNA, herein designated GAM RNA, and which when bound by GAM336230 RNA causes inhibition of translation of the GAM336230 target mRNA into a corresponding GAM336230 target protein.

The mechanism of the translational inhibition exerted by GAM336230 RNA, herein designated GAM RNA, on one or more GAM336230 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336230 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336230 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336230 RNA, herein designated GAM RNA, of GAM336230 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336230 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336230 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336230 RNA correlate with, and may be deduced from, the identity of the GAM336230 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336231 142389 TGAGGGAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATGGCATG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCTGGGAG Messenger 336231 (GAM336231) oligonucleotides modulates expression of respective target

GTGGAGCTTG genes whose function and utility is known in the art.

CAGTGAGCCC GAM336231 is a novel bioinformatically detectable regulatory, non protein

AGATTGCAAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336231 was detected

ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAGAGCCAG encoded by the human genome.

ACTCTGTCTC GAM336231 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

A GAM336231 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336231 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336231 precursor RNA is designated SEQ ID:142389, and is provided hereinbelow with reference to the sequence listing part.

GAM336231 precursor RNA folds onto itself, forming GAM336231 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336231 precursor RNA, designated SEQ ID NO: 142389, and a schematic representation of a predicted secondary folding of GAM336231 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336231 folded precursor RNA yielding a GAM336231 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336231 RNA, hereby incorporated herein. Expression of GAM336231 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336231 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336231 target RNA, herein designated GAM TARGET RNA.

GAM336231 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336231 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336231 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336231 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336231 RNA, herein designated GAM RNA, to target binding sites on GAM336231 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336231 target RNA

into GAM336231 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336231 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336231 target genes. The mRNA of each one of this plurality of GAM336231 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336231 RNA, herein designated GAM RNA, and which when bound by GAM336231 RNA causes inhibition of translation of the GAM336231 target mRNA into a corresponding GAM336231 target protein.

The mechanism of the translational inhibition exerted by GAM336231 RNA, herein designated GAM RNA, on one or more GAM336231 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336231 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336231 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336231 RNA, herein designated GAM RNA, of GAM336231 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336231 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336231 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336231 RNA correlate with, and may be deduced from, the identity of the GAM336231 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336232 142390 TGAGGTACGA Fig. 8 further provides a conceptual description of another novel bioinformatically

CAATTGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCCAGGAG Messenger 336232 (GAM336232) oligonucleotides modulates expression of respective target

GTGGAGGCTG genes whose function and utility is known in the art.

CAGTGAGTGA GAM336232 is a novel bioinformatically detectable regulatory, non protein

GATCACACCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336232 was detected

CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGAGTGAGA encoded by the human genome.

CCCTATCTCA GAM336232 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336232 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336232 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336232 precursor RNA is designated SEQ ID:142390, and is provided hereinbelow with reference to the sequence listing part.

GAM336232 precursor RNA folds onto itself, forming GAM336232 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336232 precursor RNA, designated SEQ ID NO: 142390, and a schematic representation of a predicted secondary folding of GAM336232 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336232 folded precursor RNA yielding a GAM336232 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336232 RNA, hereby incorporated herein. Expression of GAM336232 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336232 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336232 target RNA, herein designated GAM TARGET RNA.

GAM336232 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336232 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336232 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336232 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336232 RNA, herein designated GAM RNA, to target binding sites on GAM336232 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336232 target RNA into GAM336232 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336232 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336232 target genes. The mRNA of each one of this plurality of GAM336232 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336232 RNA, herein designated GAM RNA, and which when bound by GAM336232 RNA causes inhibition of translation of the GAM336232 target mRNA into a corresponding GAM336232 target protein.

The mechanism of the translational inhibition exerted by GAM336232 RNA, herein designated GAM RNA, on one or more GAM336232 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336232 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336232 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336232 RNA, herein designated GAM RNA, of GAM336232 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336232 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336232 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336232 RNA correlate with, and may be deduced from, the identity of the GAM336232 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336233 142391 TGCTTGAACC Fig. 8 further provides a conceptual description of another novel bioinformatically

CAAAAGGCGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGTTGCAGT Messenger 336233 (GAM336233) oligonucleotides modulates expression of respective target
GAGCCAAGAT genes whose function and utility is known in the art.

TGTGCCACTG GAM336233 is a novel bioinformatically detectable regulatory, non protein
CACTCCAGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336233 was detected
TGGGCAACAG is described with additional reference to Figs. 9-15.

AGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336233 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336233 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336233 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336233 precursor RNA is designated SEQ ID:142391, and is provided hereinbelow with reference to the sequence listing part.

GAM336233 precursor RNA folds onto itself, forming GAM336233 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336233 precursor RNA, designated SEQ ID NO: 142391, and a schematic representation of a predicted secondary folding of GAM336233 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336233 folded precursor RNA yielding a GAM336233 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336233 RNA, hereby incorporated herein. Expression of GAM336233 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336233 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336233 target RNA, herein designated GAM TARGET RNA.

GAM336233 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336233 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336233 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336233 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336233 RNA, herein designated GAM RNA, to target binding sites on GAM336233 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336233 target RNA into GAM336233 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336233 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336233 target genes. The mRNA of each one of this plurality of GAM336233 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336233 RNA, herein designated GAM RNA, and which when bound by GAM336233 RNA causes inhibition of translation of the GAM336233 target mRNA into a corresponding GAM336233 target protein.

The mechanism of the translational inhibition exerted by GAM336233 RNA, herein designated GAM RNA, on one or more GAM336233 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336233 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336233 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336233 RNA, herein designated GAM RNA, of GAM336233 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336233 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336233 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336233

RNA correlate with, and may be deduced from, the identity of the GAM336233 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336234 142392 TGCTTGAACT CGGGGTGGAG GTTGCAGTGA GCCAAGATCG CCCCACTGCA CTCCAGCCTG GGCAACAATG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336234 (GAM336234) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336234 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336234 was detected is described with additional reference to Figs. 9-15.

CA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336234 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336234 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336234 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336234 precursor RNA is designated SEQ ID:142392, and is provided hereinbelow with reference to the sequence listing part.

GAM336234 precursor RNA folds onto itself, forming GAM336234 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336234 precursor RNA, designated SEQ ID NO: 142392, and a schematic representation of a predicted secondary folding of GAM336234 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336234 folded precursor RNA yielding a GAM336234 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336234 RNA, hereby incorporated herein. Expression of GAM336234 RNA was experimentally validated in HeLa cells using the methods

described with reference to Figs.22 to 24.

GAM336234 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336234 target RNA, herein designated GAM TARGET RNA.

GAM336234 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336234 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336234 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336234 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336234 RNA, herein designated GAM RNA, to target binding sites on GAM336234 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336234 target RNA into GAM336234 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336234 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336234 target genes. The mRNA of each one of this plurality of GAM336234 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336234 RNA, herein designated GAM RNA, and which when bound by GAM336234 RNA causes inhibition of translation of the GAM336234 target mRNA into a corresponding GAM336234 target protein.

The mechanism of the translational inhibition exerted by GAM336234 RNA, herein designated GAM RNA, on one or more GAM336234 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336234 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336234 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336234 RNA, herein designated GAM RNA, of GAM336234 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336234 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336234 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336234 RNA correlate with, and may be deduced from, the identity of the GAM336234 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336235 142393 TGGAATGTTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TGAAGAACTG detected oligonucleotides of the present invention, referred to here as Genomic Address

GGTGATCTTG Messenger 336235 (GAM336235) oligonucleotides modulates expression of respective target

TGAAATCTGT genes whose function and utility is known in the art.

GGACCCTACA GAM336235 is a novel bioinformatically detectable regulatory, non protein

TTGGCACTTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336235 was detected

GTGTGTACCT is described with additional reference to Figs. 9-15.

AAGGGCTAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTCCCAAATA encoded by the human genome.

AAGTCATTCA GAM336235 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GTGCTTTGCA GAM336235 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAAACAGGTC GAM336235 precursor RNA does not encode a protein. A nucleotide sequence identical or

AAGTCCA highly similar to the nucleotide sequence of GAM336235 precursor RNA is designated SEQ ID:142393, and is provided hereinbelow with reference to the sequence listing part.

GAM336235 precursor RNA folds onto itself, forming GAM336235 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336235 precursor RNA, designated SEQ ID NO: 142393, and a schematic representation of a predicted secondary folding of GAM336235 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336235 folded precursor RNA yielding a GAM336235 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336235 RNA, hereby incorporated herein. Expression of GAM336235 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336235 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336235 target RNA, herein designated GAM TARGET RNA.

GAM336235 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336235 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336235 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336235 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336235 RNA, herein designated GAM RNA, to target binding sites on GAM336235 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336235 target RNA into GAM336235 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336235 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336235 target genes. The mRNA of each one of this plurality of GAM336235 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336235 RNA, herein designated GAM RNA, and which when bound by GAM336235 RNA causes inhibition of translation of the GAM336235 target mRNA into a corresponding GAM336235 target protein.

The mechanism of the translational inhibition exerted by GAM336235 RNA, herein designated GAM RNA, on one or more GAM336235 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336235 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336235 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336235 RNA, herein designated GAM RNA, of GAM336235 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336235 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336235 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336235 RNA correlate with, and may be deduced from, the identity of the GAM336235 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336236 142394 TGGGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
CGATTGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGCCCAGGAG Messenger 336236 (GAM336236) oligonucleotides modulates expression of respective target
CTTAAAGCTG genes whose function and utility is known in the art.

CAGTAAGTGG GAM336236 is a novel bioinformatically detectable regulatory, non protein
TGACTTGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336236 was detected
CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAAAGCAAGA encoded by the human genome.

CTCTGTCTCA GAM336236 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAM336236 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336236 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336236 precursor RNA is designated SEQ ID:142394, and is provided hereinbelow with reference to the sequence listing part.

GAM336236 precursor RNA folds onto itself, forming GAM336236 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336236 precursor RNA, designated SEQ ID NO: 142394, and a schematic representation of a predicted secondary folding of GAM336236 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336236 folded precursor RNA yielding a GAM336236 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336236 RNA, hereby incorporated herein. Expression of GAM336236 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336236 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336236 target RNA, herein designated GAM TARGET RNA.

GAM336236 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336236 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336236 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336236 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336236 RNA, herein designated GAM RNA, to target binding sites on GAM336236 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336236 target RNA into GAM336236 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336236 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336236 target genes. The mRNA of each one of this plurality of GAM336236 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM336236 RNA, herein designated GAM RNA, and which when bound by GAM336236 RNA causes inhibition of translation of the GAM336236 target mRNA into a corresponding GAM336236 target protein.

The mechanism of the translational inhibition exerted by GAM336236 RNA, herein designated GAM RNA, on one or more GAM336236 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336236 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336236 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336236 RNA, herein designated GAM RNA, of GAM336236 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336236 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336236 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336236 RNA correlate with, and may be deduced from, the identity of the GAM336236 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336237 142395 TTGAACCCTG Fig. 8 further provides a conceptual description of another novel bioinformatically

GAGGCGGAGG detected oligonucleotides of the present invention, referred to here as Genomic Address

TTGCAGTGAG Messenger 336237 (GAM336237) oligonucleotides modulates expression of respective target

CCGAGATGGC genes whose function and utility is known in the art.

ACCACTGCAC GAM336237 is a novel bioinformatically detectable regulatory, non protein

TCCAGCCTGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336237 was detected

GCAACAA is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336237 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336237 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336237 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336237 precursor RNA is designated SEQ ID:142395, and is provided hereinbelow with reference to the sequence listing part.

GAM336237 precursor RNA folds onto itself, forming GAM336237 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336237 precursor RNA, designated SEQ ID NO: 142395, and a schematic representation of a predicted secondary folding of GAM336237 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336237 folded precursor RNA yielding a GAM336237 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336237 RNA, hereby incorporated herein. Expression of GAM336237 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336237 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336237 target RNA, herein designated GAM TARGET RNA.

GAM336237 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336237 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336237 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336237 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336237 RNA, herein designated GAM RNA, to target

binding sites on GAM336237 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336237 target RNA into GAM336237 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336237 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336237 target genes. The mRNA of each one of this plurality of GAM336237 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336237 RNA, herein designated GAM RNA, and which when bound by GAM336237 RNA causes inhibition of translation of the GAM336237 target mRNA into a corresponding GAM336237 target protein.

The mechanism of the translational inhibition exerted by GAM336237 RNA, herein designated GAM RNA, on one or more GAM336237 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336237 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336237 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336237 RNA, herein designated GAM RNA, of GAM336237 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336237 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336237 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336237 RNA correlate with, and may be deduced from, the identity of the GAM336237 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336238 142396 TTGCTTGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically

CCAGGAGGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTTGCAG Messenger 336238 (GAM336238) oligonucleotides modulates expression of respective target

TGAGCCAAGA genes whose function and utility is known in the art.

TTGTGCCACT GAM336238 is a novel bioinformatically detectable regulatory, non protein

GCACTCCAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336238 was detected

CTGGGCAACA is described with additional reference to Figs. 9-15.

GAGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336238 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336238 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336238 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336238 precursor RNA is designated SEQ ID:142396, and is provided hereinbelow with reference to the sequence listing part.

GAM336238 precursor RNA folds onto itself, forming GAM336238 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336238 precursor RNA, designated SEQ ID NO: 142396, and a schematic representation of a predicted secondary folding of GAM336238 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336238 folded precursor RNA yielding a GAM336238 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336238 RNA, hereby incorporated herein. Expression of GAM336238 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336238 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336238 target RNA, herein designated GAM TARGET RNA.

GAM336238 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336238 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336238 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336238 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336238 RNA, herein designated GAM RNA, to target binding sites on GAM336238 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336238 target RNA into GAM336238 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336238 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336238 target genes. The mRNA of each one of this plurality of GAM336238 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336238 RNA, herein designated GAM RNA, and which when bound by GAM336238 RNA causes inhibition of translation of the GAM336238 target mRNA into a corresponding GAM336238 target protein.

The mechanism of the translational inhibition exerted by GAM336238 RNA, herein designated GAM RNA, on one or more GAM336238 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336238 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336238 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336238 RNA, herein designated GAM RNA, of GAM336238 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336238 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336238 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336238 RNA correlate with, and may be deduced from, the identity of the GAM336238 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336239 142397 TTGCTTGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically

CCAGGAGGTG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGTTGCAG Messenger 336239 (GAM336239) oligonucleotides modulates expression of respective target
TGAGCTGAGA genes whose function and utility is known in the art.

CCATGCCATT GAM336239 is a novel bioinformatically detectable regulatory, non protein
GCACTCCAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336239 was detected
CTGGGCAACA is described with additional reference to Figs. 9-15.

GAGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336239 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336239 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336239 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336239 precursor RNA is designated SEQ ID:142397, and is provided hereinbelow with reference to the sequence listing part.

GAM336239 precursor RNA folds onto itself, forming GAM336239 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336239 precursor RNA, designated SEQ ID NO: 142397, and a schematic representation of a predicted secondary folding of GAM336239 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336239 folded precursor RNA yielding a GAM336239 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336239 RNA, hereby incorporated herein. Expression of GAM336239 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336239 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336239 target RNA, herein designated GAM TARGET RNA.

GAM336239 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336239 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336239 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336239 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336239 RNA, herein designated GAM RNA, to target binding sites on GAM336239 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336239 target RNA into GAM336239 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336239 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336239 target genes. The mRNA of each one of this plurality of GAM336239 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336239 RNA, herein designated GAM RNA, and which when bound by GAM336239 RNA causes inhibition of translation of the GAM336239 target mRNA into a corresponding GAM336239 target protein.

The mechanism of the translational inhibition exerted by GAM336239 RNA, herein designated GAM RNA, on one or more GAM336239 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336239 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336239 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336239 RNA, herein designated GAM RNA, of GAM336239 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336239 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336239 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336239 RNA correlate with, and may be deduced from, the identity of the GAM336239 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336240 142398 TTGCTTGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically
CTGGGAGGGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGTTTCAG Messenger 336240 (GAM336240) oligonucleotides modulates expression of respective target
TGAGCCGAGC genes whose function and utility is known in the art.

CGAGATTGTG GAM336240 is a novel bioinformatically detectable regulatory, non protein
TCACTGCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336240 was detected
CCAGCCTGGG is described with additional reference to Figs. 9-15.

CAACAGAGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
A encoded by the human genome.

GAM336240 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336240 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336240 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336240 precursor RNA is designated SEQ ID:142398, and is provided hereinbelow with reference to the sequence listing part.

GAM336240 precursor RNA folds onto itself, forming GAM336240 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336240 precursor RNA, designated SEQ ID NO: 142398, and a schematic representation of a predicted secondary folding of GAM336240 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336240 folded precursor RNA yielding a GAM336240 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336240 RNA, hereby incorporated herein.

Expression of GAM336240 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336240 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336240 target RNA, herein designated GAM TARGET RNA.

GAM336240 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336240 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336240 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336240 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336240 RNA, herein designated GAM RNA, to target binding sites on GAM336240 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336240 target RNA into GAM336240 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336240 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336240 target genes. The mRNA of each one of this plurality of GAM336240 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336240 RNA, herein designated GAM RNA, and which when bound by GAM336240 RNA causes inhibition of translation of the GAM336240 target mRNA into a corresponding GAM336240 target protein.

The mechanism of the translational inhibition exerted by GAM336240 RNA, herein designated GAM RNA, on one or more GAM336240 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336240 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336240 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336240 RNA, herein designated GAM RNA, of GAM336240 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336240 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336240 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336240 RNA correlate with, and may be deduced from, the identity of the GAM336240 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336241 142399 TTGCTTGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically
CTGGGAGGTG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAAGTTGCAG Messenger 336241 (GAM336241) oligonucleotides modulates expression of respective target
TGAGCCAAGA genes whose function and utility is known in the art.

TTGTGCCACT GAM336241 is a novel bioinformatically detectable regulatory, non protein
GCACTCCAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336241 was detected
CTGGGCAATA is described with additional reference to Figs. 9-15.

AGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336241 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336241 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336241 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336241 precursor RNA is designated SEQ ID:142399, and is provided hereinbelow with reference to the sequence listing part.

GAM336241 precursor RNA folds onto itself, forming GAM336241 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336241 precursor RNA, designated SEQ ID NO: 142399, and a schematic representation of a predicted secondary folding of GAM336241 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336241 folded precursor RNA yielding a GAM336241 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336241 RNA, hereby incorporated herein. Expression of GAM336241 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336241 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336241 target RNA, herein designated GAM TARGET RNA.

GAM336241 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336241 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336241 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336241 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336241 RNA, herein designated GAM RNA, to target binding sites on GAM336241 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336241 target RNA into GAM336241 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336241 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336241 target genes. The mRNA of each one of this plurality of GAM336241 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336241 RNA, herein designated GAM RNA, and which when bound by GAM336241 RNA causes inhibition of translation of the GAM336241 target mRNA into a corresponding GAM336241 target protein.

The mechanism of the translational inhibition exerted by GAM336241 RNA, herein designated GAM RNA, on one or more GAM336241 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336241 precursor RNA, herein designated GAM PRECURSOR

RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336241 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336241 RNA, herein designated GAM RNA, of GAM336241 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336241 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336241 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336241 RNA correlate with, and may be deduced from, the identity of the GAM336241 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336242 142400 TTGCTTGAGC Fig. 8 further provides a conceptual description of another novel bioinformatically

CCAGGAGCTT detected oligonucleotides of the present invention, referred to here as Genomic Address

AAAGCTGCAG Messenger 336242 (GAM336242) oligonucleotides modulates expression of respective target

TAAGTGGTGA genes whose function and utility is known in the art.

CTTGCCACTG GAM336242 is a novel bioinformatically detectable regulatory, non protein

CACTCCAGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336242 was detected

TGGGCAACAA is described with additional reference to Figs. 9-15.

AGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336242 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336242 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336242 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336242 precursor RNA is designated SEQ ID:142400, and is provided hereinbelow with reference to the sequence listing part.

GAM336242 precursor RNA folds onto itself, forming GAM336242 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336242 precursor RNA, designated SEQ ID NO: 142400, and a schematic representation of a predicted secondary folding of GAM336242 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336242 folded precursor RNA yielding a GAM336242 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336242 RNA, hereby incorporated herein. Expression of GAM336242 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336242 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336242 target RNA, herein designated GAM TARGET RNA.

GAM336242 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336242 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336242 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336242 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336242 RNA, herein designated GAM RNA, to target binding sites on GAM336242 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336242 target RNA into GAM336242 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336242 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336242 target genes. The mRNA of each one of this plurality of GAM336242 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336242 RNA, herein designated GAM RNA, and which when bound by GAM336242 RNA causes inhibition of

translation of the GAM336242 target mRNA into a corresponding GAM336242 target protein.

The mechanism of the translational inhibition exerted by GAM336242 RNA, herein designated GAM RNA, on one or more GAM336242 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336242 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336242 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336242 RNA, herein designated GAM RNA, of GAM336242 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336242 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336242 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336242 RNA correlate with, and may be deduced from, the identity of the GAM336242 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336243 142401 TTGCTTGAGC Fig. 8 further provides a conceptual description of another novel bioinformatically

CCCAGAGTTT detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGCTGCAG Messenger 336243 (GAM336243) oligonucleotides modulates expression of respective target

TGAGCTGTGA genes whose function and utility is known in the art.

TCACACCACT GAM336243 is a novel bioinformatically detectable regulatory, non protein

GCACTCCAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336243 was detected

CTGGGCAACA is described with additional reference to Figs. 9-15.

GAGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336243 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336243 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336243 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336243 precursor RNA is designated SEQ ID:142401, and is provided hereinbelow with reference to the sequence listing part.

GAM336243 precursor RNA folds onto itself, forming GAM336243 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336243 precursor RNA, designated SEQ ID NO: 142401, and a schematic representation of a predicted secondary folding of GAM336243 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336243 folded precursor RNA yielding a GAM336243 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336243 RNA, hereby incorporated herein. Expression of GAM336243 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336243 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336243 target RNA, herein designated GAM TARGET RNA.

GAM336243 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336243 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336243 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336243 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336243 RNA, herein designated GAM RNA, to target binding sites on GAM336243 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336243 target RNA

into GAM336243 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336243 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336243 target genes. The mRNA of each one of this plurality of GAM336243 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336243 RNA, herein designated GAM RNA, and which when bound by GAM336243 RNA causes inhibition of translation of the GAM336243 target mRNA into a corresponding GAM336243 target protein.

The mechanism of the translational inhibition exerted by GAM336243 RNA, herein designated GAM RNA, on one or more GAM336243 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336243 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336243 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336243 RNA, herein designated GAM RNA, of GAM336243 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336243 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336243 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336243 RNA correlate with, and may be deduced from, the identity of the GAM336243 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336244 142402 TTGGAGCCCA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAAGGTTGAA detected oligonucleotides of the present invention, referred to here as Genomic Address

GCTGCAGTGA Messenger 336244 (GAM336244) oligonucleotides modulates expression of respective target

GCTGTGATCA genes whose function and utility is known in the art.

TGCCACTGCA GAM336244 is a novel bioinformatically detectable regulatory, non protein

CTCCAGCCTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336244 was detected

GGCAACAG is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336244 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336244 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336244 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336244 precursor RNA is designated SEQ ID:142402, and is provided hereinbelow with reference to the sequence listing part.

GAM336244 precursor RNA folds onto itself, forming GAM336244 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336244 precursor RNA, designated SEQ ID NO: 142402, and a schematic representation of a predicted secondary folding of GAM336244 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336244 folded precursor RNA yielding a GAM336244 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336244 RNA, hereby incorporated herein. Expression of GAM336244 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336244 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336244 target RNA, herein designated GAM TARGET RNA.

GAM336244 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336244 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336244 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336244 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336244 RNA, herein designated GAM RNA, to target binding sites on GAM336244 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336244 target RNA into GAM336244 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336244 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336244 target genes. The mRNA of each one of this plurality of GAM336244 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336244 RNA, herein designated GAM RNA, and which when bound by GAM336244 RNA causes inhibition of translation of the GAM336244 target mRNA into a corresponding GAM336244 target protein.

The mechanism of the translational inhibition exerted by GAM336244 RNA, herein designated GAM RNA, on one or more GAM336244 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336244 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336244 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336244 RNA, herein designated GAM RNA, of GAM336244 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336244 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336244 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336244 RNA correlate with, and may be deduced from, the identity of the GAM336244 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336245 142403 GGTCCAGATG Fig. 8 further provides a conceptual description of another novel bioinformatically

TGGCCATGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGACTGAGGG Messenger 336245 (GAM336245) oligonucleotides modulates expression of respective target

GCGGACGTGT genes whose function and utility is known in the art.

TCCTGGGTGC GAM336245 is a novel bioinformatically detectable regulatory, non protein
TTCCTTCATC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336245 was detected
TCAGTCTCCT is described with additional reference to Figs. 9-15.

CACTGAGACC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336245 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336245 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336245 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336245 precursor RNA is designated SEQ ID:142403, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142403 is located from position 253589 to position 253668 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336245 precursor RNA folds onto itself, forming GAM336245 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336245 precursor RNA, designated SEQ ID NO: 142403, and a schematic representation of a predicted secondary folding of GAM336245 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336245 folded precursor RNA yielding a GAM336245 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336245 RNA, hereby incorporated herein.

GAM336245 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336245 target RNA, herein designated GAM TARGET RNA.

GAM336245 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336245 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM336245 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336245 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336245 RNA, herein designated GAM RNA, to target binding sites on GAM336245 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336245 target RNA into GAM336245 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336245 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336245 target genes. The mRNA of each one of this plurality of GAM336245 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336245 RNA, herein designated GAM RNA, and which when bound by GAM336245 RNA causes inhibition of translation of the GAM336245 target mRNA into a corresponding GAM336245 target protein.

The mechanism of the translational inhibition exerted by GAM336245 RNA, herein designated GAM RNA, on one or more GAM336245 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336245 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336245 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336245 RNA, herein designated GAM RNA, of GAM336245 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336245 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336245 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336245 RNA correlate with, and may be deduced from, the identity of the GAM336245 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336246 142404 AGTCACCAGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GTCCATTGTA detected oligonucleotides of the present invention, referred to here as Genomic Address
TTAGTCTTAT Messenger 336246 (GAM336246) oligonucleotides modulates expression of respective target
TTTCATCACC genes whose function and utility is known in the art.

GTGGGCGTAC GAM336246 is a novel bioinformatically detectable regulatory, non protein
CCTGTGGGAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336246 was detected
GATGTTAAAC is described with additional reference to Figs. 9-15.

GTACTCTAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTCTGTTGGC encoded by the human genome.

T GAM336246 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336246 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336246 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336246 precursor RNA is designated SEQ ID:142404, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142404 is located from position 265415 to position 265505 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM336246 precursor RNA folds onto itself, forming GAM336246 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336246 precursor RNA, designated SEQ ID NO: 142404, and a schematic representation of a predicted secondary folding of GAM336246 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336246 folded precursor RNA yielding a GAM336246 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336246 RNA, hereby incorporated herein.

GAM336246 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336246 target RNA, herein designated GAM TARGET RNA.

GAM336246 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336246 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336246 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336246 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336246 RNA, herein designated GAM RNA, to target binding sites on GAM336246 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336246 target RNA into GAM336246 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336246 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336246 target genes. The mRNA of each one of this plurality of GAM336246 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336246 RNA, herein designated GAM RNA, and which when bound by GAM336246 RNA causes inhibition of translation of the GAM336246 target mRNA into a corresponding GAM336246 target protein.

The mechanism of the translational inhibition exerted by GAM336246 RNA, herein designated GAM RNA, on one or more GAM336246 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336246 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336246 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336246 RNA, herein designated GAM RNA, of GAM336246 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM336246 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336246 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336246 RNA correlate with, and may be deduced from, the identity of the GAM336246 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336247 142405 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACCCGA detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGTGGAGG Messenger 336247 (GAM336247) oligonucleotides modulates expression of respective target
TTGCAGTGAG genes whose function and utility is known in the art.

CCAAGATCAC GAM336247 is a novel bioinformatically detectable regulatory, non protein
ATCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336247 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GTGACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AAGACTCC encoded by the human genome.

GAM336247 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336247 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336247 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336247 precursor RNA is designated SEQ ID:142405, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142405 is located from position 377662 to position 377749 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336247 precursor RNA folds onto itself, forming GAM336247 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336247 precursor RNA, designated SEQ ID NO: 142405, and a schematic representation of a predicted secondary folding of GAM336247 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336247 folded precursor RNA yielding a GAM336247 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336247 RNA, hereby incorporated herein.

GAM336247 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336247 target RNA, herein designated GAM TARGET RNA.

GAM336247 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336247 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336247 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336247 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336247 RNA, herein designated GAM RNA, to target binding sites on GAM336247 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336247 target RNA into GAM336247 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336247 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336247 target genes. The mRNA of each one of this plurality of GAM336247 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336247 RNA, herein designated GAM RNA, and which when bound by GAM336247 RNA causes inhibition of translation of the GAM336247 target mRNA into a corresponding GAM336247 target protein.

The mechanism of the translational inhibition exerted by GAM336247 RNA, herein designated GAM RNA, on one or more GAM336247 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336247 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336247 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336247 RNA, herein designated GAM RNA, of GAM336247 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336247 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336247 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336247 RNA correlate with, and may be deduced from, the identity of the GAM336247 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336248 142406 CTTAGGGCTC TTTCAGGTTG GCTGTGCCCT GCTGAATGCC AGCTGGCCTA GCACCAACCT GATCTCTGCC TACCTGAG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336248 (GAM336248) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336248 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336248 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336248 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336248 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336248 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336248 precursor RNA is designated SEQ ID:142406, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142406 is located from position 671425 to position 671502 relative to chromosome chr18 on the `-` strand (chr is an abbreviation for chromosome).

GAM336248 precursor RNA folds onto itself, forming GAM336248 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336248 precursor RNA, designated SEQ ID NO: 142406, and a schematic representation of a predicted secondary folding of GAM336248 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336248 folded precursor RNA yielding a GAM336248 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336248 RNA, hereby incorporated herein.

GAM336248 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336248 target RNA, herein designated GAM TARGET RNA.

GAM336248 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336248 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336248 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336248 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336248 RNA, herein designated GAM RNA, to target binding sites on GAM336248 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336248 target RNA into GAM336248 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336248 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336248 target genes. The mRNA of each one of this plurality of GAM336248 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336248 RNA, herein designated GAM RNA, and which when bound by GAM336248 RNA causes inhibition of translation of the GAM336248 target mRNA into a corresponding GAM336248 target protein.

The mechanism of the translational inhibition exerted by GAM336248 RNA, herein

designated GAM RNA, on one or more GAM336248 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336248 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336248 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336248 RNA, herein designated GAM RNA, of GAM336248 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336248 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336248 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336248 RNA correlate with, and may be deduced from, the identity of the GAM336248 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336249 142407 CTCTGCAAAG Fig. 8 further provides a conceptual description of another novel bioinformatically

GGCAGGACCT detected oligonucleotides of the present invention, referred to here as Genomic Address

GTATCTGTTT Messenger 336249 (GAM336249) oligonucleotides modulates expression of respective target

TATTCAAGTC genes whose function and utility is known in the art.

TGTGACTCCA GAM336249 is a novel bioinformatically detectable regulatory, non protein

ATCCCAGGCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336249 was detected

GAATGCAATG is described with additional reference to Figs. 9-15.

GCATCCAGTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGCCCTCAGT encoded by the human genome.

AAAG GAM336249 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336249 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336249 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336249 precursor RNA is designated SEQ ID:142407, and is provided hereinbelow with reference to the sequence listing part.

Nucleotide sequence SEQ ID:142407 is located from position 673655 to position 673748 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336249 precursor RNA folds onto itself, forming GAM336249 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336249 precursor RNA, designated SEQ ID NO: 142407, and a schematic representation of a predicted secondary folding of GAM336249 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336249 folded precursor RNA yielding a GAM336249 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336249 RNA, hereby incorporated herein.

GAM336249 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336249 target RNA, herein designated GAM TARGET RNA.

GAM336249 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336249 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336249 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336249 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336249 RNA, herein designated GAM RNA, to target binding sites on GAM336249 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336249 target RNA into GAM336249 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336249 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336249 target genes. The mRNA of each one of this plurality of GAM336249 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336249 RNA, herein designated GAM RNA, and which when bound by GAM336249 RNA causes inhibition of translation of the GAM336249 target mRNA into a corresponding GAM336249 target protein.

The mechanism of the translational inhibition exerted by GAM336249 RNA, herein designated GAM RNA, on one or more GAM336249 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336249 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336249 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336249 RNA, herein designated GAM RNA, of GAM336249 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336249 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336249 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336249 RNA correlate with, and may be deduced from, the identity of the GAM336249 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336250 142408 TGCTGTCCTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TCCGGCTTCC detected oligonucleotides of the present invention, referred to here as Genomic Address

TGTCTGCTCT Messenger 336250 (GAM336250) oligonucleotides modulates expression of respective target

GTTCTCACAG genes whose function and utility is known in the art.

GCACAAGGGT GAM336250 is a novel bioinformatically detectable regulatory, non protein

CCCCTACCTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336250 was detected

CGTGTCTACT is described with additional reference to Figs. 9-15.

GCACCCAGCG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GACAGGACCA encoded by the human genome.

GCGGCAGTG GAM336250 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336250 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336250 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336250 precursor RNA is designated SEQ ID:142408, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142408 is located from position 828387 to position 828485 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM336250 precursor RNA folds onto itself, forming GAM336250 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336250 precursor RNA, designated SEQ ID NO: 142408, and a schematic representation of a predicted secondary folding of GAM336250 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336250 folded precursor RNA yielding a GAM336250 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336250 RNA, hereby incorporated herein.

GAM336250 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336250 target RNA, herein designated GAM TARGET RNA.

GAM336250 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336250 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336250 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336250 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336250 RNA, herein designated GAM RNA, to target binding sites on GAM336250 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336250 target RNA into GAM336250 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336250 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336250 target genes. The mRNA of each one of this plurality of GAM336250 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336250 RNA, herein designated GAM RNA, and which when bound by GAM336250 RNA causes inhibition of translation of the GAM336250 target mRNA into a corresponding GAM336250 target protein.

The mechanism of the translational inhibition exerted by GAM336250 RNA, herein designated GAM RNA, on one or more GAM336250 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336250 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336250 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336250 RNA, herein designated GAM RNA, of GAM336250 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336250 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336250 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336250 RNA correlate with, and may be deduced from, the identity of the GAM336250 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336251 142409 TCGCTTGAAC CCAGGAGGTG GAGGTTGCAG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336251 (GAM336251) oligonucleotides modulates expression of respective target

TGAATGAAGA genes whose function and utility is known in the art.

TCGTGCCACT GAM336251 is a novel bioinformatically detectable regulatory, non protein
GCACTCCAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336251 was detected
CTGGGCGATA is described with additional reference to Figs. 9-15.

GAGCGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336251 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336251 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336251 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336251 precursor RNA is designated SEQ ID:142409, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142409 is located from position 851357 to position 851432 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336251 precursor RNA folds onto itself, forming GAM336251 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336251 precursor RNA, designated SEQ ID NO: 142409, and a schematic representation of a predicted secondary folding of GAM336251 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336251 folded precursor RNA yielding a GAM336251 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336251 RNA, hereby incorporated herein.

GAM336251 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336251 target RNA, herein designated GAM TARGET RNA.

GAM336251 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336251 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM336251 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336251 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336251 RNA, herein designated GAM RNA, to target binding sites on GAM336251 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336251 target RNA into GAM336251 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336251 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336251 target genes. The mRNA of each one of this plurality of GAM336251 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336251 RNA, herein designated GAM RNA, and which when bound by GAM336251 RNA causes inhibition of translation of the GAM336251 target mRNA into a corresponding GAM336251 target protein.

The mechanism of the translational inhibition exerted by GAM336251 RNA, herein designated GAM RNA, on one or more GAM336251 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336251 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336251 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336251 RNA, herein designated GAM RNA, of GAM336251 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336251 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336251 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336251 RNA correlate with, and may be deduced from, the identity of the GAM336251 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336252 142410 CTGAGCTTAG Fig. 8 further provides a conceptual description of another novel bioinformatically
CTATCTTTGT detected oligonucleotides of the present invention, referred to here as Genomic Address
GGTTCAATTC Messenger 336252 (GAM336252) oligonucleotides modulates expression of respective target
ACCGGAGTCT genes whose function and utility is known in the art.

CAAAACCTGG GAM336252 is a novel bioinformatically detectable regulatory, non protein
CAGGTGTTAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336252 was detected
CATCTTCCTG is described with additional reference to Figs. 9-15.

AGGCACCGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGTCGGGACT encoded by the human genome.

GCCAGAGGCC GAM336252 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TGCACAG GAM336252 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336252 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336252 precursor RNA is designated SEQ ID:142410, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142410 is located from position 960158 to position 960264 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336252 precursor RNA folds onto itself, forming GAM336252 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336252 precursor RNA, designated SEQ ID NO: 142410, and a schematic representation of a predicted secondary folding of GAM336252 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336252 folded precursor RNA yielding a GAM336252 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336252 RNA, hereby incorporated herein.

GAM336252 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336252 target RNA, herein designated GAM TARGET RNA.

GAM336252 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336252 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336252 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336252 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336252 RNA, herein designated GAM RNA, to target binding sites on GAM336252 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336252 target RNA into GAM336252 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336252 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336252 target genes. The mRNA of each one of this plurality of GAM336252 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336252 RNA, herein designated GAM RNA, and which when bound by GAM336252 RNA causes inhibition of translation of the GAM336252 target mRNA into a corresponding GAM336252 target protein.

The mechanism of the translational inhibition exerted by GAM336252 RNA, herein designated GAM RNA, on one or more GAM336252 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336252 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336252 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336252 RNA, herein designated GAM RNA, of GAM336252 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336252 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336252 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336252 RNA correlate with, and may be deduced from, the identity of the GAM336252 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336253 142411 GGCTGCCACT Fig. 8 further provides a conceptual description of another novel bioinformatically
GTTCCCTCTC detected oligonucleotides of the present invention, referred to here as Genomic Address
TGTCATTCAC Messenger 336253 (GAM336253) oligonucleotides modulates expression of respective target
CCTCTGCTTC genes whose function and utility is known in the art.

TCAACCTTTC GAM336253 is a novel bioinformatically detectable regulatory, non protein
GGGAAAAGCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336253 was detected
GCATTCCTGA is described with additional reference to Figs. 9-15.

GGGCAGAGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAGAAGGTG encoded by the human genome.

TGGGCC GAM336253 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336253 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336253 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336253 precursor RNA is designated SEQ ID:142411, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142411 is located from position 1124872 to position 1124967 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM336253 precursor RNA folds onto itself, forming GAM336253 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336253 precursor RNA, designated SEQ ID NO: 142411, and a schematic representation of a predicted secondary folding of GAM336253 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336253 folded precursor RNA yielding a GAM336253 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336253 RNA, hereby incorporated herein.

GAM336253 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336253 target RNA, herein designated GAM TARGET RNA.

GAM336253 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336253 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336253 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336253 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336253 RNA, herein designated GAM RNA, to target binding sites on GAM336253 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336253 target RNA into GAM336253 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336253 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336253 target genes. The mRNA of each one of this plurality of GAM336253 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336253 RNA, herein designated GAM RNA, and which when bound by GAM336253 RNA causes inhibition of translation of the GAM336253 target mRNA into a corresponding GAM336253 target protein.

The mechanism of the translational inhibition exerted by GAM336253 RNA, herein designated GAM RNA, on one or more GAM336253 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336253 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336253 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336253 RNA, herein designated GAM RNA, of GAM336253 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336253 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336253 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336253 RNA correlate with, and may be deduced from, the identity of the GAM336253 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336254 142412 CCTCTCTGTC ATTCACCCTC TGCTTCTCAA CCTTTCGGGA AAAGCAGCAT TCCTGAGGGC AGAGGGACAG AAGG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336254 (GAM336254) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336254 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336254 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336254 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336254 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336254 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336254 precursor RNA is designated SEQ ID:142412, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142412 is located from position 1124886 to position 1124959 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM336254 precursor RNA folds onto itself, forming GAM336254 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336254 precursor RNA, designated SEQ ID NO: 142412, and a schematic representation of a predicted secondary folding of GAM336254 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336254 folded precursor RNA yielding a GAM336254 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336254 RNA, hereby incorporated herein.

GAM336254 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336254 target RNA, herein designated GAM TARGET RNA.

GAM336254 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336254 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336254 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336254 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336254 RNA, herein designated GAM RNA, to target binding sites on GAM336254 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336254 target RNA into GAM336254 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336254 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336254 target genes. The mRNA of each one of this plurality of GAM336254 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336254 RNA, herein designated GAM RNA, and which when bound by GAM336254 RNA causes inhibition of translation of the GAM336254 target mRNA into a corresponding GAM336254 target protein.

The mechanism of the translational inhibition exerted by GAM336254 RNA, herein designated GAM RNA, on one or more GAM336254 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336254 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336254 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336254 RNA, herein designated GAM RNA, of GAM336254 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336254 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336254 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336254 RNA correlate with, and may be deduced from, the identity of the GAM336254 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336255 142413 GTGTAGCATG Fig. 8 further provides a conceptual description of another novel bioinformatically

CATCAGTACT detected oligonucleotides of the present invention, referred to here as Genomic Address

TCACCTACTG Messenger 336255 (GAM336255) oligonucleotides modulates expression of respective target

TATGGATATA genes whose function and utility is known in the art.

CTATGCTTTA GAM336255 is a novel bioinformatically detectable regulatory, non protein

AAAATCCATT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336255 was detected

CATTAGGCCA is described with additional reference to Figs. 9-15.

GGTGCGGTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTCAC encoded by the human genome.

GAM336255 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336255 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336255 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336255 precursor RNA is designated SEQ

ID:142413, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142413 is located from position 1228075 to position 1228159 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336255 precursor RNA folds onto itself, forming GAM336255 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336255 precursor RNA, designated SEQ ID NO: 142413, and a schematic representation of a predicted secondary folding of GAM336255 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336255 folded precursor RNA yielding a GAM336255 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336255 RNA, hereby incorporated herein.

GAM336255 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336255 target RNA, herein designated GAM TARGET RNA.

GAM336255 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336255 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336255 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336255 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336255 RNA, herein designated GAM RNA, to target binding sites on GAM336255 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336255 target RNA into GAM336255 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM336255 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336255 target genes. The mRNA of each one of this plurality of GAM336255 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336255 RNA, herein designated GAM RNA, and which when bound by GAM336255 RNA causes inhibition of translation of the GAM336255 target mRNA into a corresponding GAM336255 target protein.

The mechanism of the translational inhibition exerted by GAM336255 RNA, herein designated GAM RNA, on one or more GAM336255 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336255 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336255 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336255 RNA, herein designated GAM RNA, of GAM336255 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336255 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336255 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336255 RNA correlate with, and may be deduced from, the identity of the GAM336255 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336256 142414 GTGTAGCATG Fig. 8 further provides a conceptual description of another novel bioinformatically

CATCAGTACT detected oligonucleotides of the present invention, referred to here as Genomic Address

TCACCTACTG Messenger 336256 (GAM336256) oligonucleotides modulates expression of respective target

TATGGATATA genes whose function and utility is known in the art.

CTATGCTTTA GAM336256 is a novel bioinformatically detectable regulatory, non protein

AAAATCCATT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336256 was detected

CATTAGGCCA is described with additional reference to Figs. 9-15.

GGTGCGGTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTCACGC encoded by the human genome.

GAM336256 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336256 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336256 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336256 precursor RNA is designated SEQ ID:142414, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142414 is located from position 1228075 to position 1228161 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336256 precursor RNA folds onto itself, forming GAM336256 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336256 precursor RNA, designated SEQ ID NO: 142414, and a schematic representation of a predicted secondary folding of GAM336256 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336256 folded precursor RNA yielding a GAM336256 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336256 RNA, hereby incorporated herein.

GAM336256 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336256 target RNA, herein designated GAM TARGET RNA.

GAM336256 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336256 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336256 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336256 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336256 RNA, herein designated GAM RNA, to target binding sites on GAM336256 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336256 target RNA into GAM336256 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336256 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336256 target genes. The mRNA of each one of this plurality of GAM336256 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336256 RNA, herein designated GAM RNA, and which when bound by GAM336256 RNA causes inhibition of translation of the GAM336256 target mRNA into a corresponding GAM336256 target protein.

The mechanism of the translational inhibition exerted by GAM336256 RNA, herein designated GAM RNA, on one or more GAM336256 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336256 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336256 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336256 RNA, herein designated GAM RNA, of GAM336256 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336256 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336256 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336256 RNA correlate with, and may be deduced from, the identity of the GAM336256 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336257 142415 GCAGGGATTC Fig. 8 further provides a conceptual description of another novel bioinformatically

ATGGACTAGG detected oligonucleotides of the present invention, referred to here as Genomic Address

TTTGCACCTT Messenger 336257 (GAM336257) oligonucleotides modulates expression of respective target

CTGAACCATG genes whose function and utility is known in the art.

AGCTAGACCA GAM336257 is a novel bioinformatically detectable regulatory, non protein
TGTCTGGAGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336257 was detected
CTGGAACCTG is described with additional reference to Figs. 9-15.

GTGACCCAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTCCCTGC encoded by the human genome.

GAM336257 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336257 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336257 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336257 precursor RNA is designated SEQ ID:142415, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142415 is located from position 1312908 to position 1312995 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336257 precursor RNA folds onto itself, forming GAM336257 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336257 precursor RNA, designated SEQ ID NO: 142415, and a schematic representation of a predicted secondary folding of GAM336257 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336257 folded precursor RNA yielding a GAM336257 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336257 RNA, hereby incorporated herein.

GAM336257 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336257 target RNA, herein designated GAM TARGET RNA.

GAM336257 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336257 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336257 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336257 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336257 RNA, herein designated GAM RNA, to target binding sites on GAM336257 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336257 target RNA into GAM336257 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336257 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336257 target genes. The mRNA of each one of this plurality of GAM336257 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336257 RNA, herein designated GAM RNA, and which when bound by GAM336257 RNA causes inhibition of translation of the GAM336257 target mRNA into a corresponding GAM336257 target protein.

The mechanism of the translational inhibition exerted by GAM336257 RNA, herein designated GAM RNA, on one or more GAM336257 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336257 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336257 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336257 RNA, herein designated GAM RNA, of GAM336257 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336257 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336257 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336257 RNA correlate with, and may be deduced from, the identity of the GAM336257 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336258 142416 GCCGATTGCT Fig. 8 further provides a conceptual description of another novel bioinformatically
GGTCAAGGAG detected oligonucleotides of the present invention, referred to here as Genomic Address
CCAGATATAC Messenger 336258 (GAM336258) oligonucleotides modulates expression of respective target
TCTTAAGACA genes whose function and utility is known in the art.

TGATGTGGGT GAM336258 is a novel bioinformatically detectable regulatory, non protein
TTTATGGGGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336258 was detected
TCCCTGGCTC is described with additional reference to Figs. 9-15.

TGGGAGTGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGTGAGGC encoded by the human genome.

GAM336258 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336258 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336258 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336258 precursor RNA is designated SEQ ID:142416, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142416 is located from position 1318615 to position 1318702 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336258 precursor RNA folds onto itself, forming GAM336258 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336258 precursor RNA, designated SEQ ID NO: 142416, and a schematic representation of a predicted secondary folding of GAM336258 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336258 folded precursor RNA yielding a GAM336258 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336258 RNA, hereby incorporated herein.

GAM336258 target gene, herein designated GAM TARGET GENE, encodes a

corresponding messenger RNA, GAM336258 target RNA, herein designated GAM TARGET RNA.

GAM336258 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336258 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336258 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336258 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336258 RNA, herein designated GAM RNA, to target binding sites on GAM336258 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336258 target RNA into GAM336258 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336258 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336258 target genes. The mRNA of each one of this plurality of GAM336258 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336258 RNA, herein designated GAM RNA, and which when bound by GAM336258 RNA causes inhibition of translation of the GAM336258 target mRNA into a corresponding GAM336258 target protein.

The mechanism of the translational inhibition exerted by GAM336258 RNA, herein designated GAM RNA, on one or more GAM336258 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336258 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336258 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336258 RNA, herein designated GAM RNA, of GAM336258 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336258 target RNA, herein designated

GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336258 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336258 RNA correlate with, and may be deduced from, the identity of the GAM336258 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336259 142417 GCTGTAACAC AGAGCAGGTT TGGAATGGCT CCACCCACAG GGCCACAAGA AACAAACCCA TGGAGAGTTC CAGATCTGTT TGCAGC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336259 (GAM336259) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336259 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336259 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336259 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336259 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336259 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336259 precursor RNA is designated SEQ ID:142417, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142417 is located from position 1889566 to position 1889651 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM336259 precursor RNA folds onto itself, forming GAM336259 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336259 precursor RNA, designated SEQ ID NO: 142417, and a schematic representation of a predicted secondary folding of GAM336259 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336259 folded precursor

RNA yielding a GAM336259 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336259 RNA, hereby incorporated herein.

GAM336259 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336259 target RNA, herein designated GAM TARGET RNA.

GAM336259 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336259 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336259 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336259 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336259 RNA, herein designated GAM RNA, to target binding sites on GAM336259 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336259 target RNA into GAM336259 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336259 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336259 target genes. The mRNA of each one of this plurality of GAM336259 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336259 RNA, herein designated GAM RNA, and which when bound by GAM336259 RNA causes inhibition of translation of the GAM336259 target mRNA into a corresponding GAM336259 target protein.

The mechanism of the translational inhibition exerted by GAM336259 RNA, herein designated GAM RNA, on one or more GAM336259 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336259 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336259 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336259 RNA, herein designated GAM RNA, of GAM336259 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336259 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336259 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336259 RNA correlate with, and may be deduced from, the identity of the GAM336259 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336260 142418 GAGTCAGGAG AATCGCTTGA ACTCGGGAGG TGGAGGTTGT GGTGAGCTAA GATCACACCA TTGCACTCCA GCCTGGGCAA CAAGAGCGAA ACTCCATCTC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336260 (GAM336260) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336260 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336260 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336260 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336260 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336260 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336260 precursor RNA is designated SEQ ID:142418, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142418 is located from position 1984914 to position 1985013 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM336260 precursor RNA folds onto itself, forming GAM336260 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336260 precursor RNA, designated SEQ ID NO: 142418, and a schematic representation of a predicted secondary folding of GAM336260 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336260 folded precursor RNA yielding a GAM336260 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336260 RNA, hereby incorporated herein. Expression of GAM336260 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336260 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336260 target RNA, herein designated GAM TARGET RNA.

GAM336260 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336260 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336260 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336260 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336260 RNA, herein designated GAM RNA, to target binding sites on GAM336260 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336260 target RNA into GAM336260 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336260 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336260 target genes. The mRNA of each one of this plurality of GAM336260 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336260 RNA, herein designated GAM RNA, and which when bound by GAM336260 RNA causes inhibition of translation of the GAM336260 target mRNA into a corresponding GAM336260 target protein.

The mechanism of the translational inhibition exerted by GAM336260 RNA, herein designated GAM RNA, on one or more GAM336260 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336260 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336260 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336260 RNA, herein designated GAM RNA, of GAM336260 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336260 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336260 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336260 RNA correlate with, and may be deduced from, the identity of the GAM336260 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336261 142419 GGCTCCGGTG Fig. 8 further provides a conceptual description of another novel bioinformatically

GTTGCAGTCA detected oligonucleotides of the present invention, referred to here as Genomic Address

GATGGCAGCT Messenger 336261 (GAM336261) oligonucleotides modulates expression of respective target

GGAGGTGGAG genes whose function and utility is known in the art.

CAACCTGATG GAM336261 is a novel bioinformatically detectable regulatory, non protein

TCGTGGTTTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336261 was detected

GCATCCACGA is described with additional reference to Figs. 9-15.

CAGCTTCTCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGACAAGTG encoded by the human genome.

ATCCTAGCC GAM336261 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336261 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336261 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336261 precursor RNA is designated SEQ ID:142419, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142419 is located from position 2004805 to position 2004903 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336261 precursor RNA folds onto itself, forming GAM336261 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336261 precursor RNA, designated SEQ ID NO: 142419, and a schematic representation of a predicted secondary folding of GAM336261 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336261 folded precursor RNA yielding a GAM336261 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336261 RNA, hereby incorporated herein.

GAM336261 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336261 target RNA, herein designated GAM TARGET RNA.

GAM336261 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336261 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336261 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336261 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336261 RNA, herein designated GAM RNA, to target binding sites on GAM336261 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336261 target RNA

into GAM336261 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336261 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336261 target genes. The mRNA of each one of this plurality of GAM336261 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336261 RNA, herein designated GAM RNA, and which when bound by GAM336261 RNA causes inhibition of translation of the GAM336261 target mRNA into a corresponding GAM336261 target protein.

The mechanism of the translational inhibition exerted by GAM336261 RNA, herein designated GAM RNA, on one or more GAM336261 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336261 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336261 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336261 RNA, herein designated GAM RNA, of GAM336261 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336261 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336261 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336261 RNA correlate with, and may be deduced from, the identity of the GAM336261 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336262 142420 CCTGAGGCAG Fig. 8 further provides a conceptual description of another novel bioinformatically

GACCTGTGGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ATCTGCTCTT Messenger 336262 (GAM336262) oligonucleotides modulates expression of respective target

AAGGCTCTTA genes whose function and utility is known in the art.

AGGGAGGTTT GAM336262 is a novel bioinformatically detectable regulatory, non protein

GCAGTCCCTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336262 was detected

AATGCTTCAG is described with additional reference to Figs. 9-15.

G GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336262 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336262 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336262 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336262 precursor RNA is designated SEQ ID:142420, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142420 is located from position 2604826 to position 2604896 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336262 precursor RNA folds onto itself, forming GAM336262 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336262 precursor RNA, designated SEQ ID NO: 142420, and a schematic representation of a predicted secondary folding of GAM336262 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336262 folded precursor RNA yielding a GAM336262 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336262 RNA, hereby incorporated herein.

GAM336262 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336262 target RNA, herein designated GAM TARGET RNA.

GAM336262 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336262 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336262 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336262 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336262 RNA, herein designated GAM RNA, to target binding sites on GAM336262 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336262 target RNA into GAM336262 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336262 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336262 target genes. The mRNA of each one of this plurality of GAM336262 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336262 RNA, herein designated GAM RNA, and which when bound by GAM336262 RNA causes inhibition of translation of the GAM336262 target mRNA into a corresponding GAM336262 target protein.

The mechanism of the translational inhibition exerted by GAM336262 RNA, herein designated GAM RNA, on one or more GAM336262 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336262 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336262 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336262 RNA, herein designated GAM RNA, of GAM336262 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336262 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336262 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336262 RNA correlate with, and may be deduced from, the identity of the GAM336262 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336263 142421 CCTGAGGCAG Fig. 8 further provides a conceptual description of another novel bioinformatically

GACCTGTGGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ATCTGCTCTT Messenger 336263 (GAM336263) oligonucleotides modulates expression of respective target

AAGGCTCTTA genes whose function and utility is known in the art.

AGGGAGGTTT GAM336263 is a novel bioinformatically detectable regulatory, non protein
GCAGTCCCTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336263 was
detected
AATGCTTCAG is described with additional reference to Figs. 9-15.

G GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen
gene
encoded by the human genome.

GAM336263 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336263 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA
genes
GAM336263 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336263 precursor RNA is designated SEQ ID:142421, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142421 is located from position 2665196 to position 2665266 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336263 precursor RNA folds onto itself, forming GAM336263 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336263 precursor RNA, designated SEQ ID NO: 142421, and a schematic representation of a predicted secondary folding of GAM336263 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and
4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336263 folded precursor RNA yielding a GAM336263 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336263 RNA, hereby incorporated herein.

GAM336263 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336263 target RNA, herein designated GAM TARGET RNA.

GAM336263 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336263 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM336263 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336263 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336263 RNA, herein designated GAM RNA, to target binding sites on GAM336263 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336263 target RNA into GAM336263 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336263 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336263 target genes. The mRNA of each one of this plurality of GAM336263 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336263 RNA, herein designated GAM RNA, and which when bound by GAM336263 RNA causes inhibition of translation of the GAM336263 target mRNA into a corresponding GAM336263 target protein.

The mechanism of the translational inhibition exerted by GAM336263 RNA, herein designated GAM RNA, on one or more GAM336263 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336263 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336263 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336263 RNA, herein designated GAM RNA, of GAM336263 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336263 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336263 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336263 RNA correlate with, and may be deduced from, the identity of the GAM336263 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336264 142422 TAGGAATGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
ATGGTTGTTT detected oligonucleotides of the present invention, referred to here as Genomic Address
TAGGTAGGCT Messenger 336264 (GAM336264) oligonucleotides modulates expression of respective target
TGGGAGCCAG genes whose function and utility is known in the art.

GCTGCCCTGA GAM336264 is a novel bioinformatically detectable regulatory, non protein
ACTCTGGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336264 was detected
TCCACACTTC is described with additional reference to Figs. 9-15.

TA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336264 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336264 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336264 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336264 precursor RNA is designated SEQ ID:142422, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142422 is located from position 2764962 to position 2765033 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336264 precursor RNA folds onto itself, forming GAM336264 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336264 precursor RNA, designated SEQ ID NO: 142422, and a schematic representation of a predicted secondary folding of GAM336264 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336264 folded precursor RNA yielding a GAM336264 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336264 RNA, hereby incorporated herein.

GAM336264 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336264 target RNA, herein designated GAM TARGET RNA.

GAM336264 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336264 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336264 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336264 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336264 RNA, herein designated GAM RNA, to target binding sites on GAM336264 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336264 target RNA into GAM336264 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336264 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336264 target genes. The mRNA of each one of this plurality of GAM336264 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336264 RNA, herein designated GAM RNA, and which when bound by GAM336264 RNA causes inhibition of translation of the GAM336264 target mRNA into a corresponding GAM336264 target protein.

The mechanism of the translational inhibition exerted by GAM336264 RNA, herein designated GAM RNA, on one or more GAM336264 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336264 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336264 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336264 RNA, herein designated GAM RNA, of GAM336264 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM336264 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336264 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336264 RNA correlate with, and may be deduced from, the identity of the GAM336264 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336265 142423 ACAGAACATC AGCATGATCC TGGCAGCCCA TAGACCAGAC GTCCTTGAGG TCTTAGCGCC ACCGCCTCCC TGTCTTCCTC ATGTAGGCTG CTTTCATGGG AAACTGATGG T

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336265 (GAM336265) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336265 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336265 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336265 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336265 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336265 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336265 precursor RNA is designated SEQ ID:142423, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142423 is located from position 2928734 to position 2928844 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM336265 precursor RNA folds onto itself, forming GAM336265 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336265 precursor RNA, designated SEQ ID NO: 142423, and a schematic representation of a predicted secondary folding of GAM336265 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336265 folded precursor RNA yielding a GAM336265 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336265 RNA, hereby incorporated herein.

GAM336265 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336265 target RNA, herein designated GAM TARGET RNA.

GAM336265 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336265 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336265 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336265 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336265 RNA, herein designated GAM RNA, to target binding sites on GAM336265 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336265 target RNA into GAM336265 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336265 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336265 target genes. The mRNA of each one of this plurality of GAM336265 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336265 RNA, herein designated GAM RNA, and which when bound by GAM336265 RNA causes inhibition of translation of the GAM336265 target mRNA into a corresponding GAM336265 target protein.

The mechanism of the translational inhibition exerted by GAM336265 RNA, herein designated GAM RNA, on one or more GAM336265 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336265 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336265 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336265 RNA, herein designated GAM RNA, of GAM336265 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336265 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336265 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336265 RNA correlate with, and may be deduced from, the identity of the GAM336265 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336266 142424 CATCAGCATG Fig. 8 further provides a conceptual description of another novel bioinformatically

ATCCTGGCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

CCCATAGACC Messenger 336266 (GAM336266) oligonucleotides modulates expression of respective target

AGACGTCCTT genes whose function and utility is known in the art.

GAGGTCTTAG GAM336266 is a novel bioinformatically detectable regulatory, non protein

CGCCACCGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336266 was detected

TCCCTGTCTT is described with additional reference to Figs. 9-15.

CCTCATGTAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCTGCTTTCA encoded by the human genome.

TGGGAAACTG GAM336266 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

ATG GAM336266 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336266 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336266 precursor RNA is designated SEQ ID:142424, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142424 is located from position 2928736 to position 2928838 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM336266 precursor RNA folds onto itself, forming GAM336266 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336266 precursor RNA, designated SEQ ID NO: 142424, and a schematic representation of a predicted secondary folding of GAM336266 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336266 folded precursor RNA yielding a GAM336266 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336266 RNA, hereby incorporated herein.

GAM336266 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336266 target RNA, herein designated GAM TARGET RNA.

GAM336266 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336266 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336266 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336266 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336266 RNA, herein designated GAM RNA, to target binding sites on GAM336266 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336266 target RNA into GAM336266 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336266 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336266 target genes. The mRNA of each one of this plurality of GAM336266 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336266 RNA, herein designated GAM RNA, and which when bound by GAM336266 RNA causes inhibition of translation of the GAM336266 target mRNA into a corresponding GAM336266 target protein.

The mechanism of the translational inhibition exerted by GAM336266 RNA, herein designated GAM RNA, on one or more GAM336266 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336266 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336266 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336266 RNA, herein designated GAM RNA, of GAM336266 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336266 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336266 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336266 RNA correlate with, and may be deduced from, the identity of the GAM336266 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336267 142425 GAAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAATCCCA detected oligonucleotides of the present invention, referred to here as Genomic Address

AAGGTGGAGG Messenger 336267 (GAM336267) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

CCGAGATCGC GAM336267 is a novel bioinformatically detectable regulatory, non protein

GCCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336267 was detected

TCCAGCCTGG is described with additional reference to Figs. 9-15.

CGACAGAGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGACTCCGTC encoded by the human genome.

GAM336267 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336267 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336267 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336267 precursor RNA is designated SEQ

ID:142425, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142425 is located from position 2999427 to position 2999516 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336267 precursor RNA folds onto itself, forming GAM336267 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336267 precursor RNA, designated SEQ ID NO: 142425, and a schematic representation of a predicted secondary folding of GAM336267 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336267 folded precursor RNA yielding a GAM336267 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336267 RNA, hereby incorporated herein.

GAM336267 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336267 target RNA, herein designated GAM TARGET RNA.

GAM336267 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336267 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336267 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336267 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336267 RNA, herein designated GAM RNA, to target binding sites on GAM336267 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336267 target RNA into GAM336267 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM336267 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336267 target genes. The mRNA of each one of this plurality of GAM336267 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336267 RNA, herein designated GAM RNA, and which when bound by GAM336267 RNA causes inhibition of translation of the GAM336267 target mRNA into a corresponding GAM336267 target protein.

The mechanism of the translational inhibition exerted by GAM336267 RNA, herein designated GAM RNA, on one or more GAM336267 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336267 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336267 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336267 RNA, herein designated GAM RNA, of GAM336267 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336267 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336267 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336267 RNA correlate with, and may be deduced from, the identity of the GAM336267 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336268 142426 AGTAATGACC Fig. 8 further provides a conceptual description of another novel bioinformatically
AAGGAATCAT detected oligonucleotides of the present invention, referred to here as Genomic Address
GCCATCTGGC Messenger 336268 (GAM336268) oligonucleotides modulates expression of respective target
TTGAAGTTAT genes whose function and utility is known in the art.

GCACCAGCTC GAM336268 is a novel bioinformatically detectable regulatory, non protein
AGTGTGAGAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336268 was detected
TAAACTGTGC is described with additional reference to Figs. 9-15.

TATGGCTGCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACTCAAGCCA encoded by the human genome.

ATGGGGCCTT GAM336268 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

AGGCTGAATT GAM336268 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

ACT GAM336268 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336268 precursor RNA is designated SEQ ID:142426, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142426 is located from position 3259659 to position 3259771 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM336268 precursor RNA folds onto itself, forming GAM336268 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336268 precursor RNA, designated SEQ ID NO: 142426, and a schematic representation of a predicted secondary folding of GAM336268 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336268 folded precursor RNA yielding a GAM336268 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336268 RNA, hereby incorporated herein.

GAM336268 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336268 target RNA, herein designated GAM TARGET RNA.

GAM336268 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336268 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336268 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336268 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336268 RNA, herein designated GAM RNA, to target binding sites on GAM336268 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336268 target RNA into GAM336268 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336268 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336268 target genes. The mRNA of each one of this plurality of GAM336268 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336268 RNA, herein designated GAM RNA, and which when bound by GAM336268 RNA causes inhibition of translation of the GAM336268 target mRNA into a corresponding GAM336268 target protein.

The mechanism of the translational inhibition exerted by GAM336268 RNA, herein designated GAM RNA, on one or more GAM336268 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336268 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336268 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336268 RNA, herein designated GAM RNA, of GAM336268 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336268 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336268 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336268 RNA correlate with, and may be deduced from, the identity of the GAM336268 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336269 142427 CCATCTGGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

TGAAGTTATG detected oligonucleotides of the present invention, referred to here as Genomic Address

CACCAGCTCA Messenger 336269 (GAM336269) oligonucleotides modulates expression of respective target

GTGTGAGACT genes whose function and utility is known in the art.

AAACTGTGCT GAM336269 is a novel bioinformatically detectable regulatory, non protein
ATGGCTGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336269 was detected
CTCAAGCCAA is described with additional reference to Figs. 9-15.

TGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336269 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336269 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336269 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336269 precursor RNA is designated SEQ ID:142427, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142427 is located from position 3259680 to position 3259752 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM336269 precursor RNA folds onto itself, forming GAM336269 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336269 precursor RNA, designated SEQ ID NO: 142427, and a schematic representation of a predicted secondary folding of GAM336269 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336269 folded precursor RNA yielding a GAM336269 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336269 RNA, hereby incorporated herein.

GAM336269 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336269 target RNA, herein designated GAM TARGET RNA.

GAM336269 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336269 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM336269 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336269 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336269 RNA, herein designated GAM RNA, to target binding sites on GAM336269 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336269 target RNA into GAM336269 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336269 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336269 target genes. The mRNA of each one of this plurality of GAM336269 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336269 RNA, herein designated GAM RNA, and which when bound by GAM336269 RNA causes inhibition of translation of the GAM336269 target mRNA into a corresponding GAM336269 target protein.

The mechanism of the translational inhibition exerted by GAM336269 RNA, herein designated GAM RNA, on one or more GAM336269 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336269 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336269 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336269 RNA, herein designated GAM RNA, of GAM336269 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336269 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336269 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336269 RNA correlate with, and may be deduced from, the identity of the GAM336269 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336270 142428 CACCCGTGCC Fig. 8 further provides a conceptual description of another novel bioinformatically
TGGGATTCTC detected oligonucleotides of the present invention, referred to here as Genomic Address
TAAGACAAAG Messenger 336270 (GAM336270) oligonucleotides modulates expression of respective target
GAGAAGTCTT genes whose function and utility is known in the art.

AAAGCCTTAC GAM336270 is a novel bioinformatically detectable regulatory, non protein
AGCGTCTTAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336270 was detected
GTCTTAGATC is described with additional reference to Figs. 9-15.

ACATTTAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGACCCGGTA encoded by the human genome.

CAGGTG GAM336270 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336270 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336270 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336270 precursor RNA is designated SEQ ID:142428, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142428 is located from position 3269951 to position 3270046 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336270 precursor RNA folds onto itself, forming GAM336270 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336270 precursor RNA, designated SEQ ID NO: 142428, and a schematic representation of a predicted secondary folding of GAM336270 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336270 folded precursor RNA yielding a GAM336270 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336270 RNA, hereby incorporated herein.

GAM336270 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336270 target RNA, herein designated GAM TARGET RNA.

GAM336270 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336270 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336270 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336270 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336270 RNA, herein designated GAM RNA, to target binding sites on GAM336270 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336270 target RNA into GAM336270 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336270 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336270 target genes. The mRNA of each one of this plurality of GAM336270 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336270 RNA, herein designated GAM RNA, and which when bound by GAM336270 RNA causes inhibition of translation of the GAM336270 target mRNA into a corresponding GAM336270 target protein.

The mechanism of the translational inhibition exerted by GAM336270 RNA, herein designated GAM RNA, on one or more GAM336270 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336270 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336270 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336270 RNA, herein designated GAM RNA, of GAM336270 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336270 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336270 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336270 RNA correlate with, and may be deduced from, the identity of the GAM336270 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336271 142429 AGGCGCTAAA Fig. 8 further provides a conceptual description of another novel bioinformatically
CCTAAGGCTT detected oligonucleotides of the present invention, referred to here as Genomic Address
TTCTGGGAAG Messenger 336271 (GAM336271) oligonucleotides modulates expression of respective target
AGCTGTTAAG genes whose function and utility is known in the art.

ATTAGACTGT GAM336271 is a novel bioinformatically detectable regulatory, non protein
TCTCCCAAAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336271 was detected
AGCCAATAAT is described with additional reference to Figs. 9-15.

TCTGAGTGTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
T encoded by the human genome.

GAM336271 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336271 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336271 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336271 precursor RNA is designated SEQ ID:142429, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142429 is located from position 3307949 to position 3308029 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM336271 precursor RNA folds onto itself, forming GAM336271 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336271 precursor RNA, designated SEQ ID NO: 142429, and a schematic representation of a predicted secondary folding of GAM336271 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336271 folded precursor RNA yielding a GAM336271 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336271 RNA, hereby incorporated herein.

GAM336271 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336271 target RNA, herein designated GAM TARGET RNA.

GAM336271 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336271 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336271 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336271 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336271 RNA, herein designated GAM RNA, to target binding sites on GAM336271 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336271 target RNA into GAM336271 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336271 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336271 target genes. The mRNA of each one of this plurality of GAM336271 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336271 RNA, herein designated GAM RNA, and which when bound by GAM336271 RNA causes inhibition of translation of the GAM336271 target mRNA into a corresponding GAM336271 target protein.

The mechanism of the translational inhibition exerted by GAM336271 RNA, herein designated GAM RNA, on one or more GAM336271 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336271 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336271 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336271 RNA, herein designated GAM RNA, of GAM336271 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336271 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336271 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336271 RNA correlate with, and may be deduced from, the identity of the GAM336271 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336272 142430 TGGTAGGGAA Fig. 8 further provides a conceptual description of another novel bioinformatically

TTAGATGTCT detected oligonucleotides of the present invention, referred to here as Genomic Address

CTCAGAATCT Messenger 336272 (GAM336272) oligonucleotides modulates expression of respective target

TTTGTCTCTG genes whose function and utility is known in the art.

AGAAGATGCC GAM336272 is a novel bioinformatically detectable regulatory, non protein

TAGAGAAAAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336272 was detected

GGAATTCAAT is described with additional reference to Figs. 9-15.

AGGATAAAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCATTCTCCA encoded by the human genome.

GATTCACATT GAM336272 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TATTTTCCTA GAM336272 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

CCA GAM336272 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336272 precursor RNA is designated SEQ ID:142430, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142430 is located from position 3477981 to position 3478093 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM336272 precursor RNA folds onto itself, forming GAM336272 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336272 precursor RNA, designated SEQ ID NO: 142430, and a schematic representation of a predicted secondary folding of GAM336272 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336272 folded precursor RNA yielding a GAM336272 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336272 RNA, hereby incorporated herein.

GAM336272 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336272 target RNA, herein designated GAM TARGET RNA.

GAM336272 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336272 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336272 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336272 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336272 RNA, herein designated GAM RNA, to target binding sites on GAM336272 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336272 target RNA into GAM336272 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336272 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336272 target genes. The mRNA of each one of this plurality of GAM336272 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336272 RNA, herein designated GAM RNA, and which when bound by GAM336272 RNA causes inhibition of translation of the GAM336272 target mRNA into a corresponding GAM336272 target protein.

The mechanism of the translational inhibition exerted by GAM336272 RNA, herein designated GAM RNA, on one or more GAM336272 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336272 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336272 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336272 RNA, herein designated GAM RNA, of GAM336272 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336272 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336272 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336272 RNA correlate with, and may be deduced from, the identity of the GAM336272 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336273 142431 GTAAATGTCT Fig. 8 further provides a conceptual description of another novel bioinformatically

CTAAATTTAT detected oligonucleotides of the present invention, referred to here as Genomic Address

CATGCTTGTT Messenger 336273 (GAM336273) oligonucleotides modulates expression of respective target

GGCTGGTGTC genes whose function and utility is known in the art.

CTGCTGGGCC GAM336273 is a novel bioinformatically detectable regulatory, non protein

CCTTCTCCTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336273 was detected

GCCAGCCCCA is described with additional reference to Figs. 9-15.

GCCACAAGAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACTGAGACTG encoded by the human genome.

CAGCGTGAGA GAM336273 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CAGAGAC GAM336273 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336273 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336273 precursor RNA is designated SEQ ID:142431, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142431 is located from position 3553817 to position 3553923 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM336273 precursor RNA folds onto itself, forming GAM336273 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336273 precursor RNA, designated SEQ ID NO: 142431, and a schematic representation of a predicted secondary folding of GAM336273 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336273 folded precursor RNA yielding a GAM336273 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336273 RNA, hereby incorporated herein.

GAM336273 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336273 target RNA, herein designated GAM TARGET RNA.

GAM336273 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336273 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336273 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336273 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336273 RNA, herein designated GAM RNA, to target binding sites on GAM336273 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336273 target RNA

into GAM336273 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336273 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336273 target genes. The mRNA of each one of this plurality of GAM336273 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336273 RNA, herein designated GAM RNA, and which when bound by GAM336273 RNA causes inhibition of translation of the GAM336273 target mRNA into a corresponding GAM336273 target protein.

The mechanism of the translational inhibition exerted by GAM336273 RNA, herein designated GAM RNA, on one or more GAM336273 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336273 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336273 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336273 RNA, herein designated GAM RNA, of GAM336273 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336273 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336273 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336273 RNA correlate with, and may be deduced from, the identity of the GAM336273 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336274 142432 TCATTTTGAA Fig. 8 further provides a conceptual description of another novel bioinformatically

GATGTTTAAC detected oligonucleotides of the present invention, referred to here as Genomic Address

AAATCATTTG Messenger 336274 (GAM336274) oligonucleotides modulates expression of respective target

GAACACCCTT genes whose function and utility is known in the art.

TGGGGGTGGC GAM336274 is a novel bioinformatically detectable regulatory, non protein

ACAGGTGGCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336274 was detected

TTGGCACAAC is described with additional reference to Figs. 9-15.

TTCAACATTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GG encoded by the human genome.

GAM336274 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336274 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336274 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336274 precursor RNA is designated SEQ ID:142432, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142432 is located from position 3762550 to position 3762631 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM336274 precursor RNA folds onto itself, forming GAM336274 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336274 precursor RNA, designated SEQ ID NO: 142432, and a schematic representation of a predicted secondary folding of GAM336274 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336274 folded precursor RNA yielding a GAM336274 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336274 RNA, hereby incorporated herein.

GAM336274 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336274 target RNA, herein designated GAM TARGET RNA.

GAM336274 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336274 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336274 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336274 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336274 RNA, herein designated GAM RNA, to target binding sites on GAM336274 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336274 target RNA into GAM336274 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336274 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336274 target genes. The mRNA of each one of this plurality of GAM336274 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336274 RNA, herein designated GAM RNA, and which when bound by GAM336274 RNA causes inhibition of translation of the GAM336274 target mRNA into a corresponding GAM336274 target protein.

The mechanism of the translational inhibition exerted by GAM336274 RNA, herein designated GAM RNA, on one or more GAM336274 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336274 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336274 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336274 RNA, herein designated GAM RNA, of GAM336274 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336274 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336274 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336274 RNA correlate with, and may be deduced from, the identity of the GAM336274 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336275 142433 TTGCTTTCTA Fig. 8 further provides a conceptual description of another novel bioinformatically

ATTGGAGTAA detected oligonucleotides of the present invention, referred to here as Genomic Address

CTGGCCTTGG Messenger 336275 (GAM336275) oligonucleotides modulates expression of respective target

AACCTGTAGT genes whose function and utility is known in the art.

CAGTCATTTG GAM336275 is a novel bioinformatically detectable regulatory, non protein
CCTCAGGTTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336275 was detected
ACCTGCCAGT is described with additional reference to Figs. 9-15.

CCCACCAGTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TAAAGCAA encoded by the human genome.

GAM336275 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336275 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336275 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336275 precursor RNA is designated SEQ ID:142433, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142433 is located from position 3861125 to position 3861212 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM336275 precursor RNA folds onto itself, forming GAM336275 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336275 precursor RNA, designated SEQ ID NO: 142433, and a schematic representation of a predicted secondary folding of GAM336275 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336275 folded precursor RNA yielding a GAM336275 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336275 RNA, hereby incorporated herein.

GAM336275 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336275 target RNA, herein designated GAM TARGET RNA.

GAM336275 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336275 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM336275 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336275 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336275 RNA, herein designated GAM RNA, to target binding sites on GAM336275 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336275 target RNA into GAM336275 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336275 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336275 target genes. The mRNA of each one of this plurality of GAM336275 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336275 RNA, herein designated GAM RNA, and which when bound by GAM336275 RNA causes inhibition of translation of the GAM336275 target mRNA into a corresponding GAM336275 target protein.

The mechanism of the translational inhibition exerted by GAM336275 RNA, herein designated GAM RNA, on one or more GAM336275 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336275 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336275 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336275 RNA, herein designated GAM RNA, of GAM336275 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336275 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336275 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336275 RNA correlate with, and may be deduced from, the identity of the GAM336275 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336276 142434 TCACCTGCTA Fig. 8 further provides a conceptual description of another novel bioinformatically
ACCAGGTATC detected oligonucleotides of the present invention, referred to here as Genomic Address
TGTACTCACT Messenger 336276 (GAM336276) oligonucleotides modulates expression of respective target
CAGCGTGCCT genes whose function and utility is known in the art.

GCTTGGCGAA GAM336276 is a novel bioinformatically detectable regulatory, non protein
TCTCAGCTGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336276 was detected
GTCAGTTACA is described with additional reference to Figs. 9-15.

ACAGGTCCCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTTCAGACAG encoded by the human genome.

GTGA GAM336276 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336276 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336276 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336276 precursor RNA is designated SEQ ID:142434, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142434 is located from position 3897658 to position 3897751 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM336276 precursor RNA folds onto itself, forming GAM336276 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336276 precursor RNA, designated SEQ ID NO: 142434, and a schematic representation of a predicted secondary folding of GAM336276 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336276 folded precursor RNA yielding a GAM336276 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336276 RNA, hereby incorporated herein.

GAM336276 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336276 target RNA, herein designated GAM TARGET RNA.

GAM336276 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336276 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336276 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336276 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336276 RNA, herein designated GAM RNA, to target binding sites on GAM336276 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336276 target RNA into GAM336276 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336276 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336276 target genes. The mRNA of each one of this plurality of GAM336276 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336276 RNA, herein designated GAM RNA, and which when bound by GAM336276 RNA causes inhibition of translation of the GAM336276 target mRNA into a corresponding GAM336276 target protein.

The mechanism of the translational inhibition exerted by GAM336276 RNA, herein designated GAM RNA, on one or more GAM336276 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336276 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336276 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336276 RNA, herein designated GAM RNA, of GAM336276 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336276 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336276 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336276 RNA correlate with, and may be deduced from, the identity of the GAM336276 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336277 142435 GGTGATCCAC Fig. 8 further provides a conceptual description of another novel bioinformatically
CCACCTCGGC detected oligonucleotides of the present invention, referred to here as Genomic Address
CTCCCAAAGT Messenger 336277 (GAM336277) oligonucleotides modulates expression of respective target
TGTGGGATTG genes whose function and utility is known in the art.

CAGGCGTGAG GAM336277 is a novel bioinformatically detectable regulatory, non protein
CCACTGCGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336277 was detected
TGGCCTAATT is described with additional reference to Figs. 9-15.

TTTCAATTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTGGTGGAGA encoded by the human genome.

TAGGGTTTCA GAM336277 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CC GAM336277 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336277 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336277 precursor RNA is designated SEQ ID:142435, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142435 is located from position 4301673 to position 4301774 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GAM336277 precursor RNA folds onto itself, forming GAM336277 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336277 precursor RNA, designated SEQ ID NO: 142435, and a schematic representation of a predicted secondary folding of GAM336277 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336277 folded precursor RNA yielding a GAM336277 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336277 RNA, hereby incorporated herein.

GAM336277 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336277 target RNA, herein designated GAM TARGET RNA.

GAM336277 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336277 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336277 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336277 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336277 RNA, herein designated GAM RNA, to target binding sites on GAM336277 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336277 target RNA into GAM336277 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336277 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336277 target genes. The mRNA of each one of this plurality of GAM336277 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336277 RNA, herein designated GAM RNA, and which when bound by GAM336277 RNA causes inhibition of translation of the GAM336277 target mRNA into a corresponding GAM336277 target protein.

The mechanism of the translational inhibition exerted by GAM336277 RNA, herein designated GAM RNA, on one or more GAM336277 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336277 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336277 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336277 RNA, herein designated GAM RNA, of GAM336277 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336277 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336277 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336277 RNA correlate with, and may be deduced from, the identity of the GAM336277 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336278 142436 ATTTGTATGT Fig. 8 further provides a conceptual description of another novel bioinformatically
ATGTGCATGG detected oligonucleotides of the present invention, referred to here as Genomic Address
TGTGTATGAG Messenger 336278 (GAM336278) oligonucleotides modulates expression of respective target
TGTGTCGATG genes whose function and utility is known in the art.

TGTGCTGTTT GAM336278 is a novel bioinformatically detectable regulatory, non protein
TGTACACTTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336278 was detected
TCTGTGCACG is described with additional reference to Figs. 9-15.

AGCATGCACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CCCAACTCAG encoded by the human genome.

GACATGCAGA GAM336278 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
T GAM336278 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336278 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336278 precursor RNA is designated SEQ ID:142436, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142436 is located from position 4317936 to position 4318036 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336278 precursor RNA folds onto itself, forming GAM336278 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336278 precursor RNA, designated SEQ ID NO: 142436, and a schematic representation of a predicted secondary folding of GAM336278 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336278 folded precursor RNA yielding a GAM336278 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336278 RNA, hereby incorporated herein.

GAM336278 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336278 target RNA, herein designated GAM TARGET RNA.

GAM336278 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336278 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336278 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336278 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336278 RNA, herein designated GAM RNA, to target binding sites on GAM336278 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336278 target RNA into GAM336278 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336278 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336278 target genes. The mRNA of each one of this plurality of GAM336278 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336278 RNA, herein designated GAM RNA, and which when bound by GAM336278 RNA causes inhibition of

translation of the GAM336278 target mRNA into a corresponding GAM336278 target protein.

The mechanism of the translational inhibition exerted by GAM336278 RNA, herein designated GAM RNA, on one or more GAM336278 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336278 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336278 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336278 RNA, herein designated GAM RNA, of GAM336278 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336278 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336278 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336278 RNA correlate with, and may be deduced from, the identity of the GAM336278 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336279 142437 TCTCTGAGCC Fig. 8 further provides a conceptual description of another novel bioinformatically

TCTGCTGCTT detected oligonucleotides of the present invention, referred to here as Genomic Address

TTCTTGTGTA Messenger 336279 (GAM336279) oligonucleotides modulates expression of respective target

ACAAAATGAA genes whose function and utility is known in the art.

TAATACCTGC GAM336279 is a novel bioinformatically detectable regulatory, non protein

CCTGAGGGGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336279 was detected

TATGGCAGGT is described with additional reference to Figs. 9-15.

AAAGGAGAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCAGGCAGAG encoded by the human genome.

GTTGCAGAGG GAM336279 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336279 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336279 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336279 precursor RNA is designated SEQ ID:142437, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142437 is located from position 4367585 to position 4367684 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336279 precursor RNA folds onto itself, forming GAM336279 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336279 precursor RNA, designated SEQ ID NO: 142437, and a schematic representation of a predicted secondary folding of GAM336279 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336279 folded precursor RNA yielding a GAM336279 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336279 RNA, hereby incorporated herein.

GAM336279 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336279 target RNA, herein designated GAM TARGET RNA.

GAM336279 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336279 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336279 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336279 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336279 RNA, herein designated GAM RNA, to target binding sites on GAM336279 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336279 target RNA into GAM336279 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336279 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336279 target genes. The mRNA of each one of this plurality of GAM336279 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336279 RNA, herein designated GAM RNA, and which when bound by GAM336279 RNA causes inhibition of translation of the GAM336279 target mRNA into a corresponding GAM336279 target protein.

The mechanism of the translational inhibition exerted by GAM336279 RNA, herein designated GAM RNA, on one or more GAM336279 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336279 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336279 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336279 RNA, herein designated GAM RNA, of GAM336279 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336279 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336279 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336279 RNA correlate with, and may be deduced from, the identity of the GAM336279 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336280 142438 GTGAAACAAA Fig. 8 further provides a conceptual description of another novel bioinformatically

GGACATCTGT detected oligonucleotides of the present invention, referred to here as Genomic Address

AGCAAAGCCT Messenger 336280 (GAM336280) oligonucleotides modulates expression of respective target

TTCAACTCTA genes whose function and utility is known in the art.

GATTGTCCTC GAM336280 is a novel bioinformatically detectable regulatory, non protein

TCCATCCTAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336280 was detected

AAATGGAGGA is described with additional reference to Figs. 9-15.

GGAAGTGATA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCTGAAGTTG encoded by the human genome.

GTTAATTAAA GAM336280 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TGCTCTGATC GAM336280 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

TTCTGTAAAA GAM336280 precursor RNA does not encode a protein. A nucleotide sequence identical or

TAC highly similar to the nucleotide sequence of GAM336280 precursor RNA is designated SEQ ID:142438, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142438 is located from position 4390684 to position 4390806 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336280 precursor RNA folds onto itself, forming GAM336280 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336280 precursor RNA, designated SEQ ID NO: 142438, and a schematic representation of a predicted secondary folding of GAM336280 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336280 folded precursor RNA yielding a GAM336280 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336280 RNA, hereby incorporated herein.

GAM336280 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336280 target RNA, herein designated GAM TARGET RNA.

GAM336280 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336280 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336280 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336280 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows

three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336280 RNA, herein designated GAM RNA, to target binding sites on GAM336280 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336280 target RNA into GAM336280 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336280 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336280 target genes. The mRNA of each one of this plurality of GAM336280 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336280 RNA, herein designated GAM RNA, and which when bound by GAM336280 RNA causes inhibition of translation of the GAM336280 target mRNA into a corresponding GAM336280 target protein.

The mechanism of the translational inhibition exerted by GAM336280 RNA, herein designated GAM RNA, on one or more GAM336280 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336280 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336280 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336280 RNA, herein designated GAM RNA, of GAM336280 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336280 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336280 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336280 RNA correlate with, and may be deduced from, the identity of the GAM336280 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336281 142439 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 336281 (GAM336281) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336281 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336281 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM336281 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336281 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336281 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336281 precursor RNA is designated SEQ ID:142439, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142439 is located from position 4437001 to position 4437082 relative to chromosome chr6 on the `+` strand (chr is an abbreviation for chromosome).

GAM336281 precursor RNA folds onto itself, forming GAM336281 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336281 precursor RNA, designated SEQ ID NO: 142439, and a schematic representation of a predicted secondary folding of GAM336281 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336281 folded precursor RNA yielding a GAM336281 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336281 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336281 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336281 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336281 target RNA, herein designated GAM TARGET RNA.

GAM336281 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336281 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336281 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336281 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336281 RNA, herein designated GAM RNA, to target binding sites on GAM336281 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336281 target RNA into GAM336281 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336281 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336281 target genes. The mRNA of each one of this plurality of GAM336281 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336281 RNA, herein designated GAM RNA, and which when bound by GAM336281 RNA causes inhibition of translation of the GAM336281 target mRNA into a corresponding GAM336281 target protein.

The mechanism of the translational inhibition exerted by GAM336281 RNA, herein designated GAM RNA, on one or more GAM336281 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336281 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336281 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336281 RNA, herein designated GAM RNA, of GAM336281 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336281 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336281 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336281 RNA correlate with, and may be deduced from, the identity of the GAM336281 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336282 142440 CAGAGTCTCG Fig. 8 further provides a conceptual description of another novel bioinformatically

CTCTGTTGCT detected oligonucleotides of the present invention, referred to here as Genomic Address

CAGGCTGGAG Messenger 336282 (GAM336282) oligonucleotides modulates expression of respective target

TGCAGTGGTG genes whose function and utility is known in the art.

CAATCTTGGC GAM336282 is a novel bioinformatically detectable regulatory, non protein

TCACTGCAAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336282 was detected

CTCCATCTCC is described with additional reference to Figs. 9-15.

TGGGTTTAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CGATTCTCAT encoded by the human genome.

G GAM336282 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336282 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336282 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336282 precursor RNA is designated SEQ ID:142440, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142440 is located from position 4444093 to position 4444183 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336282 precursor RNA folds onto itself, forming GAM336282 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336282 precursor RNA, designated SEQ ID NO: 142440, and a schematic representation of a predicted secondary folding of GAM336282 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336282 folded precursor RNA yielding a GAM336282 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336282 RNA, hereby incorporated herein.

GAM336282 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336282 target RNA, herein designated GAM TARGET RNA.

GAM336282 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336282 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336282 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336282 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336282 RNA, herein designated GAM RNA, to target binding sites on GAM336282 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336282 target RNA into GAM336282 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336282 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336282 target genes. The mRNA of each one of this plurality of GAM336282 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336282 RNA, herein designated GAM RNA, and which when bound by GAM336282 RNA causes inhibition of translation of the GAM336282 target mRNA into a corresponding GAM336282 target protein.

The mechanism of the translational inhibition exerted by GAM336282 RNA, herein designated GAM RNA, on one or more GAM336282 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336282 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336282 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336282 RNA, herein designated GAM RNA, of

GAM336282 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336282 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336282 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336282 RNA correlate with, and may be deduced from, the identity of the GAM336282 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336283 142441 GAGTCTCGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

CTGTTGCTCA detected oligonucleotides of the present invention, referred to here as Genomic Address

GGCTGGAGTG Messenger 336283 (GAM336283) oligonucleotides modulates expression of respective target

CAGTGGTGCA genes whose function and utility is known in the art.

ATCTTGGCTC GAM336283 is a novel bioinformatically detectable regulatory, non protein

ACTGCAACCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336283 was detected

CCATCTCCTG is described with additional reference to Figs. 9-15.

GGTTTAAGCG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATTCTC encoded by the human genome.

GAM336283 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336283 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336283 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336283 precursor RNA is designated SEQ ID:142441, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142441 is located from position 4444095 to position 4444180 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336283 precursor RNA folds onto itself, forming GAM336283 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336283 precursor RNA, designated SEQ ID NO: 142441,

and a schematic representation of a predicted secondary folding of GAM336283 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336283 folded precursor RNA yielding a GAM336283 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336283 RNA, hereby incorporated herein.

GAM336283 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336283 target RNA, herein designated GAM TARGET RNA.

GAM336283 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336283 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336283 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336283 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336283 RNA, herein designated GAM RNA, to target binding sites on GAM336283 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336283 target RNA into GAM336283 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336283 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336283 target genes. The mRNA of each one of this plurality of GAM336283 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336283 RNA, herein designated GAM RNA, and which when bound by GAM336283 RNA causes inhibition of translation of the GAM336283 target mRNA into a corresponding GAM336283 target protein.

The mechanism of the translational inhibition exerted by GAM336283 RNA, herein designated GAM RNA, on one or more GAM336283 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336283 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336283 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336283 RNA, herein designated GAM RNA, of GAM336283 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336283 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336283 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336283 RNA correlate with, and may be deduced from, the identity of the GAM336283 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336284 142442 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336284 (GAM336284) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336284 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336284 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336284 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336284 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336284 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336284 precursor RNA is designated SEQ ID:142442, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142442 is located from position 4649605 to position 4649686 relative to chromosome chr6 on the `+` strand (chr is an abbreviation for chromosome).

GAM336284 precursor RNA folds onto itself, forming GAM336284 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336284 precursor RNA, designated SEQ ID NO: 142442, and a schematic representation of a predicted secondary folding of GAM336284 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336284 folded precursor RNA yielding a GAM336284 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336284 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336284 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336284 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336284 target RNA, herein designated GAM TARGET RNA.

GAM336284 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336284 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336284 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336284 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336284 RNA, herein designated GAM RNA, to target binding sites on GAM336284 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336284 target RNA into GAM336284 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336284 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM336284 target genes. The mRNA of each one of this plurality of GAM336284 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336284 RNA, herein designated GAM RNA, and which when bound by GAM336284 RNA causes inhibition of translation of the GAM336284 target mRNA into a corresponding GAM336284 target protein.

The mechanism of the translational inhibition exerted by GAM336284 RNA, herein designated GAM RNA, on one or more GAM336284 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336284 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336284 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336284 RNA, herein designated GAM RNA, of GAM336284 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336284 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336284 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336284 RNA correlate with, and may be deduced from, the identity of the GAM336284 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336285 142443 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336285 (GAM336285) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336285 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336285 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336285 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336285 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336285 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336285 precursor RNA is designated SEQ ID:142443, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142443 is located from position 4756826 to position 4756907 relative to chromosome chr18 on the `-` strand (chr is an abbreviation for chromosome).

GAM336285 precursor RNA folds onto itself, forming GAM336285 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336285 precursor RNA, designated SEQ ID NO: 142443, and a schematic representation of a predicted secondary folding of GAM336285 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336285 folded precursor RNA yielding a GAM336285 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336285 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336285 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336285 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336285 target RNA, herein designated GAM TARGET RNA.

GAM336285 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336285 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336285 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336285 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336285 RNA, herein designated GAM RNA, to target binding sites on GAM336285 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336285 target RNA into GAM336285 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336285 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336285 target genes. The mRNA of each one of this plurality of GAM336285 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336285 RNA, herein designated GAM RNA, and which when bound by GAM336285 RNA causes inhibition of translation of the GAM336285 target mRNA into a corresponding GAM336285 target protein.

The mechanism of the translational inhibition exerted by GAM336285 RNA, herein designated GAM RNA, on one or more GAM336285 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336285 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336285 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336285 RNA, herein designated GAM RNA, of GAM336285 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336285 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336285 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336285 RNA correlate with, and may be deduced from, the identity of the GAM336285 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336286 142444 TCTTGATCTT Fig. 8 further provides a conceptual description of another novel bioinformatically

TCATTTCAAC detected oligonucleotides of the present invention, referred to here as Genomic Address

GTTGAGGTCT Messenger 336286 (GAM336286) oligonucleotides modulates expression of respective target

AGTGCACACA genes whose function and utility is known in the art.

GAACTTGAAA GAM336286 is a novel bioinformatically detectable regulatory, non protein
CACCGCACTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336286 was detected
TGTCAACAGC is described with additional reference to Figs. 9-15.

AATAATCCAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCAGTACTGT encoded by the human genome.

GGGATGGATG GAM336286 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GGTTAATGGA GAM336286 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
TGAGAAAACG GAM336286 precursor RNA does not encode a protein. A nucleotide sequence identical or
GCACCAAGA highly similar to the nucleotide sequence of GAM336286 precursor RNA is designated SEQ ID:142444, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142444 is located from position 4904123 to position 4904251 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM336286 precursor RNA folds onto itself, forming GAM336286 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336286 precursor RNA, designated SEQ ID NO: 142444, and a schematic representation of a predicted secondary folding of GAM336286 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336286 folded precursor RNA yielding a GAM336286 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336286 RNA, hereby incorporated herein.

GAM336286 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336286 target RNA, herein designated GAM TARGET RNA.

GAM336286 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336286 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336286 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336286 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336286 RNA, herein designated GAM RNA, to target binding sites on GAM336286 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336286 target RNA into GAM336286 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336286 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336286 target genes. The mRNA of each one of this plurality of GAM336286 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336286 RNA, herein designated GAM RNA, and which when bound by GAM336286 RNA causes inhibition of translation of the GAM336286 target mRNA into a corresponding GAM336286 target protein.

The mechanism of the translational inhibition exerted by GAM336286 RNA, herein designated GAM RNA, on one or more GAM336286 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336286 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336286 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336286 RNA, herein designated GAM RNA, of GAM336286 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336286 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336286 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336286

RNA correlate with, and may be deduced from, the identity of the GAM336286 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336287 142445 ATTTGTATTG Fig. 8 further provides a conceptual description of another novel bioinformatically
GTAAAAAAGC detected oligonucleotides of the present invention, referred to here as Genomic Address
CAGTGTAGTG Messenger 336287 (GAM336287) oligonucleotides modulates expression of respective target
ATTTAGAATA genes whose function and utility is known in the art.

TGGGCTCTGG GAM336287 is a novel bioinformatically detectable regulatory, non protein
ATTCAGACTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336287 was detected
CGTGGGTGTG is described with additional reference to Figs. 9-15.

AGTTCCAGTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTACCACTAC encoded by the human genome.

CTGGTTGGCC GAM336287 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TTGGGCAAGT GAM336287 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336287 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336287 precursor RNA is designated SEQ ID:142445, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142445 is located from position 5273890 to position 5273999 relative to chromosome chr18 on the `-` strand (chr is an abbreviation for chromosome).

GAM336287 precursor RNA folds onto itself, forming GAM336287 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336287 precursor RNA, designated SEQ ID NO: 142445, and a schematic representation of a predicted secondary folding of GAM336287 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336287 folded precursor RNA yielding a GAM336287 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336287 RNA, hereby incorporated herein.

GAM336287 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336287 target RNA, herein designated GAM TARGET RNA.

GAM336287 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336287 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336287 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336287 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336287 RNA, herein designated GAM RNA, to target binding sites on GAM336287 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336287 target RNA into GAM336287 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336287 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336287 target genes. The mRNA of each one of this plurality of GAM336287 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336287 RNA, herein designated GAM RNA, and which when bound by GAM336287 RNA causes inhibition of translation of the GAM336287 target mRNA into a corresponding GAM336287 target protein.

The mechanism of the translational inhibition exerted by GAM336287 RNA, herein designated GAM RNA, on one or more GAM336287 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336287 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336287 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336287 RNA, herein designated GAM RNA, of GAM336287 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336287 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336287 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336287 RNA correlate with, and may be deduced from, the identity of the GAM336287 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336288 142446 TAGGCCTTTC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTCTCCCAAC detected oligonucleotides of the present invention, referred to here as Genomic Address
CTTTTCAGAT Messenger 336288 (GAM336288) oligonucleotides modulates expression of respective target
CTTGCCACTG genes whose function and utility is known in the art.

GGCAGCTGGT GAM336288 is a novel bioinformatically detectable regulatory, non protein
TTGATGAGAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336288 was detected
TGGGTCGTGA is described with additional reference to Figs. 9-15.

TCTCTGAGGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTA encoded by the human genome.

GAM336288 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336288 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336288 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336288 precursor RNA is designated SEQ ID:142446, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142446 is located from position 5491697 to position 5491779 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM336288 precursor RNA folds onto itself, forming GAM336288 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336288 precursor RNA, designated SEQ ID NO: 142446, and a schematic representation of a predicted secondary folding of GAM336288 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336288 folded precursor RNA yielding a GAM336288 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336288 RNA, hereby incorporated herein.

GAM336288 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336288 target RNA, herein designated GAM TARGET RNA.

GAM336288 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336288 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336288 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336288 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336288 RNA, herein designated GAM RNA, to target binding sites on GAM336288 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336288 target RNA into GAM336288 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336288 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336288 target genes. The mRNA of each one of this plurality of GAM336288 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336288 RNA, herein designated GAM RNA, and which when bound by GAM336288 RNA causes inhibition of translation of the GAM336288 target mRNA into a corresponding GAM336288 target protein.

The mechanism of the translational inhibition exerted by GAM336288 RNA, herein designated GAM RNA, on one or more GAM336288 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336288 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336288 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336288 RNA, herein designated GAM RNA, of GAM336288 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336288 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336288 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336288 RNA correlate with, and may be deduced from, the identity of the GAM336288 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336289 142447 TCTGTGGTTG Fig. 8 further provides a conceptual description of another novel bioinformatically

AAGGAATGGA detected oligonucleotides of the present invention, referred to here as Genomic Address

TGGAAGTGTG Messenger 336289 (GAM336289) oligonucleotides modulates expression of respective target

TGAGCTAGAT genes whose function and utility is known in the art.

TGCACAGATA GAM336289 is a novel bioinformatically detectable regulatory, non protein

GCAAGCAGAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336289 was detected

CATTTCTGGT is described with additional reference to Figs. 9-15.

GAACTTGGAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACACAGA encoded by the human genome.

GAM336289 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336289 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336289 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336289 precursor RNA is designated SEQ ID:142447, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142447 is located from position 5537268 to position 5537354 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336289 precursor RNA folds onto itself, forming GAM336289 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336289 precursor RNA, designated SEQ ID NO: 142447, and a schematic representation of a predicted secondary folding of GAM336289 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336289 folded precursor RNA yielding a GAM336289 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336289 RNA, hereby incorporated herein.

GAM336289 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336289 target RNA, herein designated GAM TARGET RNA.

GAM336289 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336289 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336289 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336289 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336289 RNA, herein designated GAM RNA, to target binding sites on GAM336289 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336289 target RNA into GAM336289 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336289 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336289 target genes. The mRNA of each one of this plurality of GAM336289 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336289 RNA, herein designated GAM RNA, and which when bound by GAM336289 RNA causes inhibition of translation of the GAM336289 target mRNA into a corresponding GAM336289 target protein.

The mechanism of the translational inhibition exerted by GAM336289 RNA, herein designated GAM RNA, on one or more GAM336289 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336289 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336289 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336289 RNA, herein designated GAM RNA, of GAM336289 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336289 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336289 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336289 RNA correlate with, and may be deduced from, the identity of the GAM336289 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336290 142448 CTGTGGTTGA Fig. 8 further provides a conceptual description of another novel bioinformatically

AGGAATGGAT detected oligonucleotides of the present invention, referred to here as Genomic Address

GGAAGTGTGT Messenger 336290 (GAM336290) oligonucleotides modulates expression of respective target

GAGCTAGATT genes whose function and utility is known in the art.

GCACAGATAG GAM336290 is a novel bioinformatically detectable regulatory, non protein

CAAGCAGAAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336290 was detected

ATTTCTGGTG is described with additional reference to Figs. 9-15.

AACTTGGACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CACAG encoded by the human genome.

GAM336290 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336290 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336290 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336290 precursor RNA is designated SEQ

ID:142448, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142448 is located from position 5537269 to position 5537353 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336290 precursor RNA folds onto itself, forming GAM336290 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336290 precursor RNA, designated SEQ ID NO: 142448, and a schematic representation of a predicted secondary folding of GAM336290 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336290 folded precursor RNA yielding a GAM336290 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336290 RNA, hereby incorporated herein.

GAM336290 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336290 target RNA, herein designated GAM TARGET RNA.

GAM336290 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336290 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336290 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336290 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336290 RNA, herein designated GAM RNA, to target binding sites on GAM336290 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336290 target RNA into GAM336290 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM336290 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336290 target genes. The mRNA of each one of this plurality of GAM336290 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336290 RNA, herein designated GAM RNA, and which when bound by GAM336290 RNA causes inhibition of translation of the GAM336290 target mRNA into a corresponding GAM336290 target protein.

The mechanism of the translational inhibition exerted by GAM336290 RNA, herein designated GAM RNA, on one or more GAM336290 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336290 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336290 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336290 RNA, herein designated GAM RNA, of GAM336290 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336290 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336290 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336290 RNA correlate with, and may be deduced from, the identity of the GAM336290 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336291 142449 CGTCTAGGTG Fig. 8 further provides a conceptual description of another novel bioinformatically

AAATGAGCTG detected oligonucleotides of the present invention, referred to here as Genomic Address

TGTAGTCCTT Messenger 336291 (GAM336291) oligonucleotides modulates expression of respective target

TAGAGCCTCT genes whose function and utility is known in the art.

GGACAGAAGG GAM336291 is a novel bioinformatically detectable regulatory, non protein

TAATGCTCTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336291 was detected

AATCCAGTGA is described with additional reference to Figs. 9-15.

TTCTCGAGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGAATGGAG encoded by the human genome.

GATTTGCACT GAM336291 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

AGATG GAM336291 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336291 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336291 precursor RNA is designated SEQ ID:142449, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142449 is located from position 5605037 to position 5605141 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM336291 precursor RNA folds onto itself, forming GAM336291 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336291 precursor RNA, designated SEQ ID NO: 142449, and a schematic representation of a predicted secondary folding of GAM336291 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336291 folded precursor RNA yielding a GAM336291 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336291 RNA, hereby incorporated herein.

GAM336291 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336291 target RNA, herein designated GAM TARGET RNA.

GAM336291 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336291 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336291 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336291 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336291 RNA, herein designated GAM RNA, to target binding sites on GAM336291 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336291 target RNA into GAM336291 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336291 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336291 target genes. The mRNA of each one of this plurality of GAM336291 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336291 RNA, herein designated GAM RNA, and which when bound by GAM336291 RNA causes inhibition of translation of the GAM336291 target mRNA into a corresponding GAM336291 target protein.

The mechanism of the translational inhibition exerted by GAM336291 RNA, herein designated GAM RNA, on one or more GAM336291 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336291 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336291 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336291 RNA, herein designated GAM RNA, of GAM336291 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336291 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336291 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336291 RNA correlate with, and may be deduced from, the identity of the GAM336291 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336292 142450 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336292 (GAM336292) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336292 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336292 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM336292 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336292 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336292 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336292 precursor RNA is designated SEQ ID:142450, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142450 is located from position 5676458 to position 5676539 relative to chromosome chr6 on the `+` strand (chr is an abbreviation for chromosome).

GAM336292 precursor RNA folds onto itself, forming GAM336292 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336292 precursor RNA, designated SEQ ID NO: 142450, and a schematic representation of a predicted secondary folding of GAM336292 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336292 folded precursor RNA yielding a GAM336292 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336292 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336292 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336292 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336292 target RNA, herein designated GAM TARGET RNA.

GAM336292 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336292 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336292 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336292 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336292 RNA, herein designated GAM RNA, to target binding sites on GAM336292 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336292 target RNA into GAM336292 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336292 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336292 target genes. The mRNA of each one of this plurality of GAM336292 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336292 RNA, herein designated GAM RNA, and which when bound by GAM336292 RNA causes inhibition of translation of the GAM336292 target mRNA into a corresponding GAM336292 target protein.

The mechanism of the translational inhibition exerted by GAM336292 RNA, herein designated GAM RNA, on one or more GAM336292 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336292 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336292 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336292 RNA, herein designated GAM RNA, of GAM336292 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336292 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336292 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336292

RNA correlate with, and may be deduced from, the identity of the GAM336292 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336293 142451 GGGTGCCTGG Fig. 8 further provides a conceptual description of another novel bioinformatically
AAGCTACTGC detected oligonucleotides of the present invention, referred to here as Genomic Address
TTCTTCTAGT Messenger 336293 (GAM336293) oligonucleotides modulates expression of respective target
CAAATGGAAA genes whose function and utility is known in the art.

TCTTTCAATG GAM336293 is a novel bioinformatically detectable regulatory, non protein
ATGCCAGGTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336293 was detected
GTGCTGTTAA is described with additional reference to Figs. 9-15.

GAAGCAGAAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCTTCCCCTA encoded by the human genome.

AGCCC GAM336293 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336293 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336293 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336293 precursor RNA is designated SEQ ID:142451, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142451 is located from position 5710623 to position 5710717 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336293 precursor RNA folds onto itself, forming GAM336293 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336293 precursor RNA, designated SEQ ID NO: 142451, and a schematic representation of a predicted secondary folding of GAM336293 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336293 folded precursor RNA yielding a GAM336293 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336293 RNA, hereby incorporated herein.

GAM336293 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336293 target RNA, herein designated GAM TARGET RNA.

GAM336293 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336293 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336293 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336293 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336293 RNA, herein designated GAM RNA, to target binding sites on GAM336293 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336293 target RNA into GAM336293 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336293 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336293 target genes. The mRNA of each one of this plurality of GAM336293 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336293 RNA, herein designated GAM RNA, and which when bound by GAM336293 RNA causes inhibition of translation of the GAM336293 target mRNA into a corresponding GAM336293 target protein.

The mechanism of the translational inhibition exerted by GAM336293 RNA, herein designated GAM RNA, on one or more GAM336293 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336293 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336293 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336293 RNA, herein designated GAM RNA, of GAM336293 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336293 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336293 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336293 RNA correlate with, and may be deduced from, the identity of the GAM336293 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336294 142452 GTAGAGATGG Fig. 8 further provides a conceptual description of another novel bioinformatically
AGTTTTACTA detected oligonucleotides of the present invention, referred to here as Genomic Address
TGTTGCCCAG Messenger 336294 (GAM336294) oligonucleotides modulates expression of respective target
GTTGATCTTG genes whose function and utility is known in the art.

AACTCCTGGG GAM336294 is a novel bioinformatically detectable regulatory, non protein
CTCAAGTGAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336294 was detected
CCTCCCATCT is described with additional reference to Figs. 9-15.

TGAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336294 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336294 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336294 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336294 precursor RNA is designated SEQ ID:142452, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142452 is located from position 5786960 to position 5787033 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM336294 precursor RNA folds onto itself, forming GAM336294 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336294 precursor RNA, designated SEQ ID NO: 142452, and a schematic representation of a predicted secondary folding of GAM336294 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336294 folded precursor RNA yielding a GAM336294 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336294 RNA, hereby incorporated herein.

GAM336294 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336294 target RNA, herein designated GAM TARGET RNA.

GAM336294 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336294 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336294 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336294 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336294 RNA, herein designated GAM RNA, to target binding sites on GAM336294 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336294 target RNA into GAM336294 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336294 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336294 target genes. The mRNA of each one of this plurality of GAM336294 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336294 RNA, herein designated GAM RNA, and which when bound by GAM336294 RNA causes inhibition of translation of the GAM336294 target mRNA into a corresponding GAM336294 target protein.

The mechanism of the translational inhibition exerted by GAM336294 RNA, herein designated GAM RNA, on one or more GAM336294 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336294 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336294 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336294 RNA, herein designated GAM RNA, of GAM336294 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336294 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336294 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336294 RNA correlate with, and may be deduced from, the identity of the GAM336294 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336295 142453 AAGGGGAGGT Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATGTTATT detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGTCCAACC Messenger 336295 (GAM336295) oligonucleotides modulates expression of respective target

TGAAAGGTGC genes whose function and utility is known in the art.

ATATTTCAGG GAM336295 is a novel bioinformatically detectable regulatory, non protein

CAGATAGATA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336295 was detected

GGTGTTTGGC is described with additional reference to Figs. 9-15.

ATCTTATAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGCTCACTTT encoded by the human genome.

CCTTT GAM336295 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336295 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336295 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336295 precursor RNA is designated SEQ ID:142453, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142453 is located from position 5956369 to position 5956463 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM336295 precursor RNA folds onto itself, forming GAM336295 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336295 precursor RNA, designated SEQ ID NO: 142453, and a schematic representation of a predicted secondary folding of GAM336295 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336295 folded precursor RNA yielding a GAM336295 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336295 RNA, hereby incorporated herein.

GAM336295 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336295 target RNA, herein designated GAM TARGET RNA.

GAM336295 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336295 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336295 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336295 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336295 RNA, herein designated GAM RNA, to target binding sites on GAM336295 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336295 target RNA into GAM336295 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336295 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336295 target genes. The mRNA of each one of this plurality of GAM336295 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336295 RNA, herein designated GAM RNA, and which when bound by GAM336295 RNA causes inhibition of

translation of the GAM336295 target mRNA into a corresponding GAM336295 target protein.

The mechanism of the translational inhibition exerted by GAM336295 RNA, herein designated GAM RNA, on one or more GAM336295 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336295 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336295 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336295 RNA, herein designated GAM RNA, of GAM336295 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336295 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336295 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336295 RNA correlate with, and may be deduced from, the identity of the GAM336295 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336296 142454 TTCAAACAGC Fig. 8 further provides a conceptual description of another novel bioinformatically

CTGGGAAGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

ACTGTGCTGA Messenger 336296 (GAM336296) oligonucleotides modulates expression of respective target

TAATTGGCTC genes whose function and utility is known in the art.

TGCTTTCAAA GAM336296 is a novel bioinformatically detectable regulatory, non protein

GAACACTTAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336296 was detected

GAGATAATTA is described with additional reference to Figs. 9-15.

ACCCACAGTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CACCAAGCCC encoded by the human genome.

AGGAATTGAG GAM336296 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336296 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336296 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336296 precursor RNA is designated SEQ ID:142454, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142454 is located from position 6027322 to position 6027421 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336296 precursor RNA folds onto itself, forming GAM336296 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336296 precursor RNA, designated SEQ ID NO: 142454, and a schematic representation of a predicted secondary folding of GAM336296 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336296 folded precursor RNA yielding a GAM336296 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336296 RNA, hereby incorporated herein.

GAM336296 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336296 target RNA, herein designated GAM TARGET RNA.

GAM336296 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336296 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336296 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336296 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336296 RNA, herein designated GAM RNA, to target binding sites on GAM336296 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336296 target RNA into GAM336296 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336296 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336296 target genes. The mRNA of each one of this plurality of GAM336296 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336296 RNA, herein designated GAM RNA, and which when bound by GAM336296 RNA causes inhibition of translation of the GAM336296 target mRNA into a corresponding GAM336296 target protein.

The mechanism of the translational inhibition exerted by GAM336296 RNA, herein designated GAM RNA, on one or more GAM336296 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336296 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336296 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336296 RNA, herein designated GAM RNA, of GAM336296 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336296 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336296 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336296 RNA correlate with, and may be deduced from, the identity of the GAM336296 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336297 142455 TGAGATGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

TTTTGCTCTT detected oligonucleotides of the present invention, referred to here as Genomic Address

GTTGCCCAGG Messenger 336297 (GAM336297) oligonucleotides modulates expression of respective target

CTGTAGTGTA genes whose function and utility is known in the art.

ATGTAGTGCA GAM336297 is a novel bioinformatically detectable regulatory, non protein

ATCTTGGCTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336297 was detected

AGTACAACCT is described with additional reference to Figs. 9-15.

CTGCCTCCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGTTCAAGCC encoded by the human genome.

ATTCTCCTGC GAM336297 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CTCA GAM336297 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336297 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336297 precursor RNA is designated SEQ ID:142455, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142455 is located from position 6079591 to position 6079694 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336297 precursor RNA folds onto itself, forming GAM336297 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336297 precursor RNA, designated SEQ ID NO: 142455, and a schematic representation of a predicted secondary folding of GAM336297 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336297 folded precursor RNA yielding a GAM336297 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336297 RNA, hereby incorporated herein.

GAM336297 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336297 target RNA, herein designated GAM TARGET RNA.

GAM336297 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336297 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336297 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336297 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336297 RNA, herein designated GAM RNA, to target binding sites on GAM336297 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336297 target RNA into GAM336297 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336297 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336297 target genes. The mRNA of each one of this plurality of GAM336297 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336297 RNA, herein designated GAM RNA, and which when bound by GAM336297 RNA causes inhibition of translation of the GAM336297 target mRNA into a corresponding GAM336297 target protein.

The mechanism of the translational inhibition exerted by GAM336297 RNA, herein designated GAM RNA, on one or more GAM336297 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336297 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336297 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336297 RNA, herein designated GAM RNA, of GAM336297 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336297 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336297 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336297 RNA correlate with, and may be deduced from, the identity of the GAM336297 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336298 142456 GAGATGGAGT Fig. 8 further provides a conceptual description of another novel bioinformatically

TTTGCTCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
TTGCCCAGGC Messenger 336298 (GAM336298) oligonucleotides modulates expression of respective target
TGTAGTGTAA genes whose function and utility is known in the art.

TGTAGTGCAA GAM336298 is a novel bioinformatically detectable regulatory, non protein
TCTTGGCTTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336298 was detected
GTACAACCTC is described with additional reference to Figs. 9-15.

TGCCTCCTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTTCAAGCCA encoded by the human genome.

TTCTCCTGCC GAM336298 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TC GAM336298 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336298 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336298 precursor RNA is designated SEQ ID:142456, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142456 is located from position 6079592 to position 6079693 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336298 precursor RNA folds onto itself, forming GAM336298 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336298 precursor RNA, designated SEQ ID NO: 142456, and a schematic representation of a predicted secondary folding of GAM336298 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336298 folded precursor RNA yielding a GAM336298 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336298 RNA, hereby incorporated herein.

GAM336298 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336298 target RNA, herein designated GAM TARGET RNA.

GAM336298 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336298 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336298 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336298 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336298 RNA, herein designated GAM RNA, to target binding sites on GAM336298 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336298 target RNA into GAM336298 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336298 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336298 target genes. The mRNA of each one of this plurality of GAM336298 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336298 RNA, herein designated GAM RNA, and which when bound by GAM336298 RNA causes inhibition of translation of the GAM336298 target mRNA into a corresponding GAM336298 target protein.

The mechanism of the translational inhibition exerted by GAM336298 RNA, herein designated GAM RNA, on one or more GAM336298 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336298 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336298 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336298 RNA, herein designated GAM RNA, of GAM336298 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336298 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336298 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336298 RNA correlate with, and may be deduced from, the identity of the GAM336298 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336299 142457 GGTGACAAGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GTCTCACTCT detected oligonucleotides of the present invention, referred to here as Genomic Address
GTGGTCCAGA Messenger 336299 (GAM336299) oligonucleotides modulates expression of respective target
CTGGAGTATA genes whose function and utility is known in the art.

GTGCTATCAG GAM336299 is a novel bioinformatically detectable regulatory, non protein
AGCTTACTAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336299 was detected
AACTTTAAAC is described with additional reference to Figs. 9-15.

TTCTGGGCTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGGTGATCCT encoded by the human genome.

CCCACC GAM336299 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336299 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336299 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336299 precursor RNA is designated SEQ ID:142457, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142457 is located from position 6225060 to position 6225155 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM336299 precursor RNA folds onto itself, forming GAM336299 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336299 precursor RNA, designated SEQ ID NO: 142457, and a schematic representation of a predicted secondary folding of GAM336299 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336299 folded precursor RNA yielding a GAM336299 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336299 RNA, hereby incorporated herein.

GAM336299 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336299 target RNA, herein designated GAM TARGET RNA.

GAM336299 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336299 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336299 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336299 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336299 RNA, herein designated GAM RNA, to target binding sites on GAM336299 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336299 target RNA into GAM336299 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336299 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336299 target genes. The mRNA of each one of this plurality of GAM336299 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336299 RNA, herein designated GAM RNA, and which when bound by GAM336299 RNA causes inhibition of translation of the GAM336299 target mRNA into a corresponding GAM336299 target protein.

The mechanism of the translational inhibition exerted by GAM336299 RNA, herein designated GAM RNA, on one or more GAM336299 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336299 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336299 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336299 RNA, herein designated GAM RNA, of

GAM336299 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336299 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336299 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336299 RNA correlate with, and may be deduced from, the identity of the GAM336299 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336300 142458 TCACTCTGTG GTCCAGACTG GAGTATAGTG CTATCAGAGC TTACTACAAC TTTAAACTTC TGGGCTCAGG TGA

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336300 (GAM336300) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336300 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336300 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336300 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336300 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336300 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336300 precursor RNA is designated SEQ ID:142458, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142458 is located from position 6225073 to position 6225145 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM336300 precursor RNA folds onto itself, forming GAM336300 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336300 precursor RNA, designated SEQ ID NO: 142458,

and a schematic representation of a predicted secondary folding of GAM336300 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336300 folded precursor RNA yielding a GAM336300 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336300 RNA, hereby incorporated herein.

GAM336300 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336300 target RNA, herein designated GAM TARGET RNA.

GAM336300 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336300 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336300 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336300 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336300 RNA, herein designated GAM RNA, to target binding sites on GAM336300 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336300 target RNA into GAM336300 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336300 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336300 target genes. The mRNA of each one of this plurality of GAM336300 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336300 RNA, herein designated GAM RNA, and which when bound by GAM336300 RNA causes inhibition of translation of the GAM336300 target mRNA into a corresponding GAM336300 target protein.

The mechanism of the translational inhibition exerted by GAM336300 RNA, herein designated GAM RNA, on one or more GAM336300 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336300 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336300 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336300 RNA, herein designated GAM RNA, of GAM336300 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336300 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336300 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336300 RNA correlate with, and may be deduced from, the identity of the GAM336300 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336301 142459 AGGGAGGGGT Fig. 8 further provides a conceptual description of another novel bioinformatically

GTGAGGAAGT detected oligonucleotides of the present invention, referred to here as Genomic Address

CCCACTGATG Messenger 336301 (GAM336301) oligonucleotides modulates expression of respective target

CTTGTGTAGT genes whose function and utility is known in the art.

GCAAGTTTCC GAM336301 is a novel bioinformatically detectable regulatory, non protein

TAGGTGACTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336301 was detected

CTTCCTTTCT is described with additional reference to Figs. 9-15.

CTTCCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336301 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336301 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336301 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336301 precursor RNA is designated SEQ ID:142459, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142459 is located from position 6250271 to position 6250347 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336301 precursor RNA folds onto itself, forming GAM336301 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336301 precursor RNA, designated SEQ ID NO: 142459, and a schematic representation of a predicted secondary folding of GAM336301 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336301 folded precursor RNA yielding a GAM336301 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336301 RNA, hereby incorporated herein.

GAM336301 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336301 target RNA, herein designated GAM TARGET RNA.

GAM336301 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336301 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336301 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336301 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336301 RNA, herein designated GAM RNA, to target binding sites on GAM336301 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336301 target RNA into GAM336301 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336301 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336301 target genes. The mRNA of each one of this plurality of GAM336301 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM336301 RNA, herein designated GAM RNA, and which when bound by GAM336301 RNA causes inhibition of translation of the GAM336301 target mRNA into a corresponding GAM336301 target protein.

The mechanism of the translational inhibition exerted by GAM336301 RNA, herein designated GAM RNA, on one or more GAM336301 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336301 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336301 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336301 RNA, herein designated GAM RNA, of GAM336301 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336301 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336301 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336301 RNA correlate with, and may be deduced from, the identity of the GAM336301 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336302 142460 GCTTTGTCTC Fig. 8 further provides a conceptual description of another novel bioinformatically

CCATTCCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

CAAAGGAATT Messenger 336302 (GAM336302) oligonucleotides modulates expression of respective target

CCAGGCTGTG genes whose function and utility is known in the art.

GGAAGCATGC GAM336302 is a novel bioinformatically detectable regulatory, non protein

TGGGATCCTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336302 was detected

TGATGCGGGC is described with additional reference to Figs. 9-15.

GGGGACAATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GC encoded by the human genome.

GAM336302 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336302 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336302 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336302 precursor RNA is designated SEQ ID:142460, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142460 is located from position 6332575 to position 6332656 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM336302 precursor RNA folds onto itself, forming GAM336302 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336302 precursor RNA, designated SEQ ID NO: 142460, and a schematic representation of a predicted secondary folding of GAM336302 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336302 folded precursor RNA yielding a GAM336302 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336302 RNA, hereby incorporated herein.

GAM336302 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336302 target RNA, herein designated GAM TARGET RNA.

GAM336302 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336302 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336302 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336302 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336302 RNA, herein designated GAM RNA, to target binding sites on GAM336302 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336302 target RNA into GAM336302 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336302 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336302 target genes. The mRNA of each one of this plurality of GAM336302 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336302 RNA, herein designated GAM RNA, and which when bound by GAM336302 RNA causes inhibition of translation of the GAM336302 target mRNA into a corresponding GAM336302 target protein.

The mechanism of the translational inhibition exerted by GAM336302 RNA, herein designated GAM RNA, on one or more GAM336302 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336302 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336302 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336302 RNA, herein designated GAM RNA, of GAM336302 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336302 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336302 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336302 RNA correlate with, and may be deduced from, the identity of the GAM336302 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336303 142461 AGGCGTGAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

ATCGCTTGAA detected oligonucleotides of the present invention, referred to here as Genomic Address

CCTGGAAGGT Messenger 336303 (GAM336303) oligonucleotides modulates expression of respective target

GGTGGTTGCA genes whose function and utility is known in the art.

GTGAGCCGAG GAM336303 is a novel bioinformatically detectable regulatory, non protein

ATCCTGCCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336303 was detected

TGCACTCCAG is described with additional reference to Figs. 9-15.

CCTGGGCAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAAGCGAGAC encoded by the human genome.

TCTGCCT GAM336303 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336303 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336303 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336303 precursor RNA is designated SEQ ID:142461, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142461 is located from position 6623046 to position 6623142 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336303 precursor RNA folds onto itself, forming GAM336303 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336303 precursor RNA, designated SEQ ID NO: 142461, and a schematic representation of a predicted secondary folding of GAM336303 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336303 folded precursor RNA yielding a GAM336303 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336303 RNA, hereby incorporated herein. Expression of GAM336303 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336303 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336303 target RNA, herein designated GAM TARGET RNA.

GAM336303 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336303 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336303 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336303 RNA is a partial or fully complementary sequence of the

nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336303 RNA, herein designated GAM RNA, to target binding sites on GAM336303 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336303 target RNA into GAM336303 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336303 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336303 target genes. The mRNA of each one of this plurality of GAM336303 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336303 RNA, herein designated GAM RNA, and which when bound by GAM336303 RNA causes inhibition of translation of the GAM336303 target mRNA into a corresponding GAM336303 target protein.

The mechanism of the translational inhibition exerted by GAM336303 RNA, herein designated GAM RNA, on one or more GAM336303 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336303 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336303 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336303 RNA, herein designated GAM RNA, of GAM336303 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336303 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336303 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336303 RNA correlate with, and may be deduced from, the identity of the GAM336303 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336304 142462 GAGACGTGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AATCGTTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCTGGGAGG Messenger 336304 (GAM336304) oligonucleotides modulates expression of respective target
TGGAGGTTGT genes whose function and utility is known in the art.

AGTGAGCCCA GAM336304 is a novel bioinformatically detectable regulatory, non protein
AATCATGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336304 was detected
CATGTCACTG is described with additional reference to Figs. 9-15.

CACTCCAGCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TAGGCAACAG encoded by the human genome.

AGCAAGACTC GAM336304 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TGTCTC GAM336304 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336304 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336304 precursor RNA is designated SEQ ID:142462, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142462 is located from position 6644614 to position 6644719 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM336304 precursor RNA folds onto itself, forming GAM336304 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336304 precursor RNA, designated SEQ ID NO: 142462, and a schematic representation of a predicted secondary folding of GAM336304 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336304 folded precursor RNA yielding a GAM336304 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336304 RNA, hereby incorporated herein.

GAM336304 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336304 target RNA, herein designated GAM TARGET RNA.

GAM336304 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336304 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336304 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336304 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336304 RNA, herein designated GAM RNA, to target binding sites on GAM336304 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336304 target RNA into GAM336304 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336304 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336304 target genes. The mRNA of each one of this plurality of GAM336304 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336304 RNA, herein designated GAM RNA, and which when bound by GAM336304 RNA causes inhibition of translation of the GAM336304 target mRNA into a corresponding GAM336304 target protein.

The mechanism of the translational inhibition exerted by GAM336304 RNA, herein designated GAM RNA, on one or more GAM336304 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336304 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336304 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336304 RNA, herein designated GAM RNA, of GAM336304 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336304 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336304 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336304 RNA correlate with, and may be deduced from, the identity of the GAM336304 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336305 142463 TCTCTGTTGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TGTCCTAAGG detected oligonucleotides of the present invention, referred to here as Genomic Address
TTTATTACAC Messenger 336305 (GAM336305) oligonucleotides modulates expression of respective target
CTTTCTACCT genes whose function and utility is known in the art.

CAGCAGGGCA GAM336305 is a novel bioinformatically detectable regulatory, non protein
GCACAATGTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336305 was detected
GTAAGATTTA is described with additional reference to Figs. 9-15.

GGATGTGCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGGGGGA encoded by the human genome.

GAM336305 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336305 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336305 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336305 precursor RNA is designated SEQ ID:142463, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142463 is located from position 6713330 to position 6713416 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM336305 precursor RNA folds onto itself, forming GAM336305 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336305 precursor RNA, designated SEQ ID NO: 142463, and a schematic representation of a predicted secondary folding of GAM336305 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336305 folded precursor RNA yielding a GAM336305 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336305 RNA, hereby incorporated herein.

GAM336305 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336305 target RNA, herein designated GAM TARGET RNA.

GAM336305 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336305 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336305 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336305 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336305 RNA, herein designated GAM RNA, to target binding sites on GAM336305 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336305 target RNA into GAM336305 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336305 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336305 target genes. The mRNA of each one of this plurality of GAM336305 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336305 RNA, herein designated GAM RNA, and which when bound by GAM336305 RNA causes inhibition of translation of the GAM336305 target mRNA into a corresponding GAM336305 target protein.

The mechanism of the translational inhibition exerted by GAM336305 RNA, herein designated GAM RNA, on one or more GAM336305 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336305 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336305 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336305 RNA, herein designated GAM RNA, of

GAM336305 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336305 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336305 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336305 RNA correlate with, and may be deduced from, the identity of the GAM336305 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336306 142464 AGGCTTTAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GTAGCAAAGG detected oligonucleotides of the present invention, referred to here as Genomic Address

CCCCAGGGAA Messenger 336306 (GAM336306) oligonucleotides modulates expression of respective target

TGGGCTCTGT genes whose function and utility is known in the art.

TGGGACAGCT GAM336306 is a novel bioinformatically detectable regulatory, non protein

TGTCTTTGGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336306 was detected

TTCCAGTAGT is described with additional reference to Figs. 9-15.

TACTCCTCCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGAAGGGGTC encoded by the human genome.

AAGGTTGCTT GAM336306 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CCT GAM336306 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336306 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336306 precursor RNA is designated SEQ ID:142464, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142464 is located from position 6790508 to position 6790610 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336306 precursor RNA folds onto itself, forming GAM336306 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336306 precursor RNA, designated SEQ ID NO: 142464, and a schematic representation of a predicted secondary folding of GAM336306 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336306 folded precursor RNA yielding a GAM336306 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336306 RNA, hereby incorporated herein.

GAM336306 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336306 target RNA, herein designated GAM TARGET RNA.

GAM336306 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336306 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336306 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336306 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336306 RNA, herein designated GAM RNA, to target binding sites on GAM336306 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336306 target RNA into GAM336306 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336306 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336306 target genes. The mRNA of each one of this plurality of GAM336306 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336306 RNA, herein designated GAM RNA, and which when bound by GAM336306 RNA causes inhibition of translation of the GAM336306 target mRNA into a corresponding GAM336306 target protein.

The mechanism of the translational inhibition exerted by GAM336306 RNA, herein designated GAM RNA, on one or more GAM336306 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336306 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336306 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336306 RNA, herein designated GAM RNA, of GAM336306 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336306 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336306 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336306 RNA correlate with, and may be deduced from, the identity of the GAM336306 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336307 142465 GAGTAGCAAA Fig. 8 further provides a conceptual description of another novel bioinformatically

GGCCCCAGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AATGGGCTCT Messenger 336307 (GAM336307) oligonucleotides modulates expression of respective target

GTTGGGACAG genes whose function and utility is known in the art.

CTTGTCTTTG GAM336307 is a novel bioinformatically detectable regulatory, non protein

GTTTCCAGTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336307 was detected

GTTACTCCTC is described with additional reference to Figs. 9-15.

CCTGAAGGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCAAGGTTGC encoded by the human genome.

TT GAM336307 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336307 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336307 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336307 precursor RNA is designated SEQ ID:142465, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142465 is located from position 6790516 to position 6790607 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336307 precursor RNA folds onto itself, forming GAM336307 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336307 precursor RNA, designated SEQ ID NO: 142465, and a schematic representation of a predicted secondary folding of GAM336307 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336307 folded precursor RNA yielding a GAM336307 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336307 RNA, hereby incorporated herein.

GAM336307 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336307 target RNA, herein designated GAM TARGET RNA.

GAM336307 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336307 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336307 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336307 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336307 RNA, herein designated GAM RNA, to target binding sites on GAM336307 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336307 target RNA into GAM336307 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336307 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336307 target genes. The mRNA of each one of this

plurality of GAM336307 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336307 RNA, herein designated GAM RNA, and which when bound by GAM336307 RNA causes inhibition of translation of the GAM336307 target mRNA into a corresponding GAM336307 target protein.

The mechanism of the translational inhibition exerted by GAM336307 RNA, herein designated GAM RNA, on one or more GAM336307 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336307 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336307 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336307 RNA, herein designated GAM RNA, of GAM336307 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336307 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336307 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336307 RNA correlate with, and may be deduced from, the identity of the GAM336307 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336308 142466 AGCAGCACAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AAATATTGGC detected oligonucleotides of the present invention, referred to here as Genomic Address

ACAGGGAAGC Messenger 336308 (GAM336308) oligonucleotides modulates expression of respective target

GAGTCTGCCA genes whose function and utility is known in the art.

ATATTGGCTG GAM336308 is a novel bioinformatically detectable regulatory, non protein

TGCTGCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336308 was detected

is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336308 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336308 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336308 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336308 precursor RNA is designated SEQ ID:142466, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142466 is located from position 6865733 to position 6865789 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336308 precursor RNA folds onto itself, forming GAM336308 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336308 precursor RNA, designated SEQ ID NO: 142466, and a schematic representation of a predicted secondary folding of GAM336308 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336308 folded precursor RNA yielding a GAM336308 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336308 RNA, hereby incorporated herein.

GAM336308 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336308 target RNA, herein designated GAM TARGET RNA.

GAM336308 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336308 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336308 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336308 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336308 RNA, herein designated GAM RNA, to target

binding sites on GAM336308 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336308 target RNA into GAM336308 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336308 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336308 target genes. The mRNA of each one of this plurality of GAM336308 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336308 RNA, herein designated GAM RNA, and which when bound by GAM336308 RNA causes inhibition of translation of the GAM336308 target mRNA into a corresponding GAM336308 target protein.

The mechanism of the translational inhibition exerted by GAM336308 RNA, herein designated GAM RNA, on one or more GAM336308 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336308 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336308 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336308 RNA, herein designated GAM RNA, of GAM336308 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336308 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336308 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336308 RNA correlate with, and may be deduced from, the identity of the GAM336308 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336309 142467 GTCCTGGAAG Fig. 8 further provides a conceptual description of another novel bioinformatically

ACATGGTAGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GCTGAAGGAT Messenger 336309 (GAM336309) oligonucleotides modulates expression of respective target

CAGCCAACTT genes whose function and utility is known in the art.

TGAGACTCAG GAM336309 is a novel bioinformatically detectable regulatory, non protein

CTCTAGCTGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336309 was detected

CTGTCTCCAG is described with additional reference to Figs. 9-15.

TGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336309 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336309 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336309 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336309 precursor RNA is designated SEQ ID:142467, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142467 is located from position 6882641 to position 6882714 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM336309 precursor RNA folds onto itself, forming GAM336309 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336309 precursor RNA, designated SEQ ID NO: 142467, and a schematic representation of a predicted secondary folding of GAM336309 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336309 folded precursor RNA yielding a GAM336309 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336309 RNA, hereby incorporated herein.

GAM336309 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336309 target RNA, herein designated GAM TARGET RNA.

GAM336309 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336309 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336309 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336309 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336309 RNA, herein designated GAM RNA, to target binding sites on GAM336309 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336309 target RNA into GAM336309 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336309 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336309 target genes. The mRNA of each one of this plurality of GAM336309 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336309 RNA, herein designated GAM RNA, and which when bound by GAM336309 RNA causes inhibition of translation of the GAM336309 target mRNA into a corresponding GAM336309 target protein.

The mechanism of the translational inhibition exerted by GAM336309 RNA, herein designated GAM RNA, on one or more GAM336309 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336309 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336309 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336309 RNA, herein designated GAM RNA, of GAM336309 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336309 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336309 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336309 RNA correlate with, and may be deduced from, the identity of the GAM336309 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336310 142468 TGCAGATCTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TGTTGGAAAG detected oligonucleotides of the present invention, referred to here as Genomic Address
ATGGCTTTCA Messenger 336310 (GAM336310) oligonucleotides modulates expression of respective target
CACCGATGGA genes whose function and utility is known in the art.

AATTGTCTCA GAM336310 is a novel bioinformatically detectable regulatory, non protein
TCAGTAACTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336310 was detected
CCATCCAAAG is described with additional reference to Figs. 9-15.

GCTATTTTTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CACTTTTTGC encoded by the human genome.

A GAM336310 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336310 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336310 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336310 precursor RNA is designated SEQ ID:142468, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142468 is located from position 6889869 to position 6889959 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM336310 precursor RNA folds onto itself, forming GAM336310 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336310 precursor RNA, designated SEQ ID NO: 142468, and a schematic representation of a predicted secondary folding of GAM336310 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336310 folded precursor RNA yielding a GAM336310 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336310 RNA, hereby incorporated herein.

GAM336310 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336310 target RNA, herein designated GAM TARGET RNA.

GAM336310 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336310 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336310 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336310 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336310 RNA, herein designated GAM RNA, to target binding sites on GAM336310 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336310 target RNA into GAM336310 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336310 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336310 target genes. The mRNA of each one of this plurality of GAM336310 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336310 RNA, herein designated GAM RNA, and which when bound by GAM336310 RNA causes inhibition of translation of the GAM336310 target mRNA into a corresponding GAM336310 target protein.

The mechanism of the translational inhibition exerted by GAM336310 RNA, herein designated GAM RNA, on one or more GAM336310 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336310 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336310 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336310 RNA, herein designated GAM RNA, of GAM336310 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336310 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336310 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336310 RNA correlate with, and may be deduced from, the identity of the GAM336310 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336311 142469 GAGGCAGGAG AATTGCTTCA AACTGGGCAG AGGTTGCAGT GAGCCAAGGT TGACCCACTG CACTCCAGCC TGGGCAACAA GAGCAAAACT CCATCTC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336311 (GAM336311) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336311 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336311 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336311 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336311 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336311 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336311 precursor RNA is designated SEQ ID:142469, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142469 is located from position 7027442 to position 7027538 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336311 precursor RNA folds onto itself, forming GAM336311 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336311 precursor RNA, designated SEQ ID NO: 142469, and a schematic representation of a predicted secondary folding of GAM336311 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336311 folded precursor RNA yielding a GAM336311 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336311 RNA, hereby incorporated herein. Expression of GAM336311 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336311 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336311 target RNA, herein designated GAM TARGET RNA.

GAM336311 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336311 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336311 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336311 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336311 RNA, herein designated GAM RNA, to target binding sites on GAM336311 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336311 target RNA into GAM336311 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336311 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336311 target genes. The mRNA of each one of this plurality of GAM336311 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336311 RNA, herein designated GAM RNA, and which when bound by GAM336311 RNA causes inhibition of translation of the GAM336311 target mRNA into a corresponding GAM336311 target protein.

The mechanism of the translational inhibition exerted by GAM336311 RNA, herein designated GAM RNA, on one or more GAM336311 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336311 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336311 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336311 RNA, herein designated GAM RNA, of GAM336311 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336311 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336311 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336311 RNA correlate with, and may be deduced from, the identity of the GAM336311 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336312 142470 TCTTTTTGGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGGGACCCA detected oligonucleotides of the present invention, referred to here as Genomic Address

GGGGGTTTTC Messenger 336312 (GAM336312) oligonucleotides modulates expression of respective target

TCTCCCTCTG genes whose function and utility is known in the art.

AGTCATCGAT GAM336312 is a novel bioinformatically detectable regulatory, non protein

GAGACCGTAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336312 was detected

CCCCCAGTCC is described with additional reference to Figs. 9-15.

CCAGCCCTAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GA encoded by the human genome.

GAM336312 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336312 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336312 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336312 precursor RNA is designated SEQ ID:142470, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142470 is located from position 7182398 to position 7182479 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM336312 precursor RNA folds onto itself, forming GAM336312 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336312 precursor RNA, designated SEQ ID NO: 142470, and a schematic representation of a predicted secondary folding of GAM336312 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336312 folded precursor RNA yielding a GAM336312 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336312 RNA, hereby incorporated herein.

GAM336312 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336312 target RNA, herein designated GAM TARGET RNA.

GAM336312 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336312 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336312 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336312 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336312 RNA, herein designated GAM RNA, to target binding sites on GAM336312 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336312 target RNA into GAM336312 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336312 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336312 target genes. The mRNA of each one of this plurality of GAM336312 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336312 RNA, herein designated GAM RNA, and which when bound by GAM336312 RNA causes inhibition of translation of the GAM336312 target mRNA into a corresponding GAM336312 target protein.

The mechanism of the translational inhibition exerted by GAM336312 RNA, herein designated GAM RNA, on one or more GAM336312 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336312 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336312 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336312 RNA, herein designated GAM RNA, of GAM336312 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336312 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336312 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336312 RNA correlate with, and may be deduced from, the identity of the GAM336312 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336313 142471 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAATCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTTGCAG Messenger 336313 (GAM336313) oligonucleotides modulates expression of respective target

TGAGCTGAGA genes whose function and utility is known in the art.

TCACGCCACT GAM336313 is a novel bioinformatically detectable regulatory, non protein

GCACTCCAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336313 was detected

CTGGGTGACA is described with additional reference to Figs. 9-15.

GAGCAAGACT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CC encoded by the human genome.

GAM336313 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336313 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336313 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336313 precursor RNA is designated SEQ ID:142471, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142471 is located from position 7192320 to position 7192401 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336313 precursor RNA folds onto itself, forming GAM336313 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336313 precursor RNA, designated SEQ ID NO: 142471, and a schematic representation of a predicted secondary folding of GAM336313 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336313 folded precursor RNA yielding a GAM336313 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336313 RNA, hereby incorporated herein.

GAM336313 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336313 target RNA, herein designated GAM TARGET RNA.

GAM336313 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336313 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336313 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336313 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336313 RNA, herein designated GAM RNA, to target binding sites on GAM336313 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336313 target RNA into GAM336313 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336313 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336313 target genes. The mRNA of each one of this

plurality of GAM336313 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336313 RNA, herein designated GAM RNA, and which when bound by GAM336313 RNA causes inhibition of translation of the GAM336313 target mRNA into a corresponding GAM336313 target protein.

The mechanism of the translational inhibition exerted by GAM336313 RNA, herein designated GAM RNA, on one or more GAM336313 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336313 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336313 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336313 RNA, herein designated GAM RNA, of GAM336313 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336313 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336313 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336313 RNA correlate with, and may be deduced from, the identity of the GAM336313 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336314 142472 AGAAGGAGAA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAGATCTTAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GTCTCTTCGT Messenger 336314 (GAM336314) oligonucleotides modulates expression of respective target

TCCTGTCTAT genes whose function and utility is known in the art.

AGAACAGAGA GAM336314 is a novel bioinformatically detectable regulatory, non protein

CTTAAGATCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336314 was detected

TGCCTCTTCC is described with additional reference to Figs. 9-15.

TTCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336314 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336314 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336314 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336314 precursor RNA is designated SEQ ID:142472, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142472 is located from position 7254793 to position 7254866 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM336314 precursor RNA folds onto itself, forming GAM336314 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336314 precursor RNA, designated SEQ ID NO: 142472, and a schematic representation of a predicted secondary folding of GAM336314 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336314 folded precursor RNA yielding a GAM336314 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336314 RNA, hereby incorporated herein.

GAM336314 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336314 target RNA, herein designated GAM TARGET RNA.

GAM336314 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336314 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336314 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336314 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336314 RNA, herein designated GAM RNA, to target

binding sites on GAM336314 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336314 target RNA into GAM336314 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336314 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336314 target genes. The mRNA of each one of this plurality of GAM336314 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336314 RNA, herein designated GAM RNA, and which when bound by GAM336314 RNA causes inhibition of translation of the GAM336314 target mRNA into a corresponding GAM336314 target protein.

The mechanism of the translational inhibition exerted by GAM336314 RNA, herein designated GAM RNA, on one or more GAM336314 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336314 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336314 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336314 RNA, herein designated GAM RNA, of GAM336314 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336314 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336314 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336314 RNA correlate with, and may be deduced from, the identity of the GAM336314 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336315 142473 TGAGACAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATCGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCCGGGAG Messenger 336315 (GAM336315) oligonucleotides modulates expression of respective target

GCAGAGGTTG genes whose function and utility is known in the art.

CAGTGAGATG GAM336315 is a novel bioinformatically detectable regulatory, non protein

AGATCACACC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336315 was detected

ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAAGAGCGA encoded by the human genome.

AACTCCATCT GAM336315 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CA GAM336315 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336315 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336315 precursor RNA is designated SEQ ID:142473, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142473 is located from position 7755711 to position 7755812 relative to chromosome chr5 on the `+` strand (chr is an abbreviation for chromosome).

GAM336315 precursor RNA folds onto itself, forming GAM336315 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336315 precursor RNA, designated SEQ ID NO: 142473, and a schematic representation of a predicted secondary folding of GAM336315 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336315 folded precursor RNA yielding a GAM336315 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336315 RNA, hereby incorporated herein. Expression of GAM336315 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336315 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336315 target RNA, herein designated GAM TARGET RNA.

GAM336315 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336315 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336315 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the

nucleotide sequence of GAM336315 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336315 RNA, herein designated GAM RNA, to target binding sites on GAM336315 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336315 target RNA into GAM336315 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336315 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336315 target genes. The mRNA of each one of this plurality of GAM336315 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336315 RNA, herein designated GAM RNA, and which when bound by GAM336315 RNA causes inhibition of translation of the GAM336315 target mRNA into a corresponding GAM336315 target protein.

The mechanism of the translational inhibition exerted by GAM336315 RNA, herein designated GAM RNA, on one or more GAM336315 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336315 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336315 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336315 RNA, herein designated GAM RNA, of GAM336315 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336315 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336315 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336315 RNA correlate with, and may be deduced from, the identity of the GAM336315 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336316 142474 GAGACAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCCGGGAGG Messenger 336316 (GAM336316) oligonucleotides modulates expression of respective target

CAGAGGTTGC genes whose function and utility is known in the art.

AGTGAGATGA GAM336316 is a novel bioinformatically detectable regulatory, non protein

GATCACACCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336316 was detected

CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAAGAGCGAA encoded by the human genome.

ACTCCATCTC GAM336316 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336316 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336316 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336316 precursor RNA is designated SEQ ID:142474, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142474 is located from position 7755712 to position 7755811 relative to chromosome chr5 on the `+` strand (chr is an abbreviation for chromosome).

GAM336316 precursor RNA folds onto itself, forming GAM336316 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336316 precursor RNA, designated SEQ ID NO: 142474, and a schematic representation of a predicted secondary folding of GAM336316 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336316 folded precursor RNA yielding a GAM336316 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336316 RNA, hereby incorporated herein. Expression of GAM336316 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336316 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336316 target RNA, herein designated GAM TARGET RNA.

GAM336316 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336316 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336316 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336316 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336316 RNA, herein designated GAM RNA, to target binding sites on GAM336316 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336316 target RNA into GAM336316 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336316 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336316 target genes. The mRNA of each one of this plurality of GAM336316 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336316 RNA, herein designated GAM RNA, and which when bound by GAM336316 RNA causes inhibition of translation of the GAM336316 target mRNA into a corresponding GAM336316 target protein.

The mechanism of the translational inhibition exerted by GAM336316 RNA, herein designated GAM RNA, on one or more GAM336316 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336316 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336316 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336316 RNA, herein designated GAM RNA, of GAM336316 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336316 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336316 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336316 RNA correlate with, and may be deduced from, the identity of the GAM336316 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336317 142475 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACCCGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGCAGAGG Messenger 336317 (GAM336317) oligonucleotides modulates expression of respective target
TTGCAGTGAG genes whose function and utility is known in the art.

ATGAGATCAC GAM336317 is a novel bioinformatically detectable regulatory, non protein
ACCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336317 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CGAAACTCC encoded by the human genome.

GAM336317 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336317 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336317 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336317 precursor RNA is designated SEQ ID:142475, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142475 is located from position 7755718 to position 7755806 relative to chromosome chr5 on the `+` strand (chr is an abbreviation for chromosome).

GAM336317 precursor RNA folds onto itself, forming GAM336317 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336317 precursor RNA, designated SEQ ID NO: 142475, and a schematic representation of a predicted secondary folding of GAM336317 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336317 folded precursor RNA yielding a GAM336317 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336317 RNA, hereby incorporated herein. Expression of GAM336317 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336317 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336317 target RNA, herein designated GAM TARGET RNA.

GAM336317 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336317 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336317 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336317 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336317 RNA, herein designated GAM RNA, to target binding sites on GAM336317 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336317 target RNA into GAM336317 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336317 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336317 target genes. The mRNA of each one of this plurality of GAM336317 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336317 RNA, herein designated GAM RNA, and which when bound by GAM336317 RNA causes inhibition of translation of the GAM336317 target mRNA into a corresponding GAM336317 target protein.

The mechanism of the translational inhibition exerted by GAM336317 RNA, herein designated GAM RNA, on one or more GAM336317 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336317 precursor RNA, herein designated GAM PRECURSOR

RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336317 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336317 RNA, herein designated GAM RNA, of GAM336317 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336317 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336317 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336317 RNA correlate with, and may be deduced from, the identity of the GAM336317 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336318 142476 CTTGAACCCG Fig. 8 further provides a conceptual description of another novel bioinformatically

GGAAGCAGAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GTTGCAGTGA Messenger 336318 (GAM336318) oligonucleotides modulates expression of respective target

GCCGACATCG genes whose function and utility is known in the art.

TGCCACTGCA GAM336318 is a novel bioinformatically detectable regulatory, non protein

CTCCAGCCTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336318 was detected

GGCAACAAG is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336318 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336318 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336318 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336318 precursor RNA is designated SEQ ID:142476, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142476 is located from position 7839733 to position 7839801 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336318 precursor RNA folds onto itself, forming GAM336318 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336318 precursor RNA, designated SEQ ID NO: 142476, and a schematic representation of a predicted secondary folding of GAM336318 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336318 folded precursor RNA yielding a GAM336318 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336318 RNA, hereby incorporated herein. Expression of GAM336318 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336318 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336318 target RNA, herein designated GAM TARGET RNA.

GAM336318 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336318 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336318 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336318 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336318 RNA, herein designated GAM RNA, to target binding sites on GAM336318 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336318 target RNA into GAM336318 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336318 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336318 target genes. The mRNA of each one of this plurality of GAM336318 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM336318 RNA, herein designated GAM RNA, and which when bound by GAM336318 RNA causes inhibition of translation of the GAM336318 target mRNA into a corresponding GAM336318 target protein.

The mechanism of the translational inhibition exerted by GAM336318 RNA, herein designated GAM RNA, on one or more GAM336318 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336318 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336318 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336318 RNA, herein designated GAM RNA, of GAM336318 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336318 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336318 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336318 RNA correlate with, and may be deduced from, the identity of the GAM336318 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336319 142477 TCTCCAACAG Fig. 8 further provides a conceptual description of another novel bioinformatically
TGGCTGCCTG detected oligonucleotides of the present invention, referred to here as Genomic Address
GGGAATGTGA Messenger 336319 (GAM336319) oligonucleotides modulates expression of respective target
GGATTGTCCC genes whose function and utility is known in the art.

AAAGCACAAT GAM336319 is a novel bioinformatically detectable regulatory, non protein
CACTGGCTCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336319 was detected
TCACGGCAAG is described with additional reference to Figs. 9-15.

GCCATGAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336319 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336319 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336319 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336319 precursor RNA is designated SEQ ID:142477, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142477 is located from position 7865496 to position 7865574 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM336319 precursor RNA folds onto itself, forming GAM336319 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336319 precursor RNA, designated SEQ ID NO: 142477, and a schematic representation of a predicted secondary folding of GAM336319 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336319 folded precursor RNA yielding a GAM336319 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336319 RNA, hereby incorporated herein.

GAM336319 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336319 target RNA, herein designated GAM TARGET RNA.

GAM336319 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336319 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336319 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336319 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336319 RNA, herein designated GAM RNA, to target binding sites on GAM336319 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336319 target RNA into GAM336319 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336319 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336319 target genes. The mRNA of each one of this plurality of GAM336319 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336319 RNA, herein designated GAM RNA, and which when bound by GAM336319 RNA causes inhibition of translation of the GAM336319 target mRNA into a corresponding GAM336319 target protein.

The mechanism of the translational inhibition exerted by GAM336319 RNA, herein designated GAM RNA, on one or more GAM336319 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336319 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336319 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336319 RNA, herein designated GAM RNA, of GAM336319 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336319 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336319 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336319 RNA correlate with, and may be deduced from, the identity of the GAM336319 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336320 142478 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATTGCCTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACTCAGGAA Messenger 336320 (GAM336320) oligonucleotides modulates expression of respective target

GCGGAGGTCG genes whose function and utility is known in the art.

CAGTAAGCTG GAM336320 is a novel bioinformatically detectable regulatory, non protein

AGATCATGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336320 was detected

ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAGAGCGAG encoded by the human genome.

ACTCTGTCTC GAM336320 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

A GAM336320 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336320 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336320 precursor RNA is designated SEQ ID:142478, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142478 is located from position 8370724 to position 8370824 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336320 precursor RNA folds onto itself, forming GAM336320 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336320 precursor RNA, designated SEQ ID NO: 142478, and a schematic representation of a predicted secondary folding of GAM336320 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336320 folded precursor RNA yielding a GAM336320 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336320 RNA, hereby incorporated herein. Expression of GAM336320 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336320 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336320 target RNA, herein designated GAM TARGET RNA.

GAM336320 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336320 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336320 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336320 RNA is a partial or fully complementary sequence of the

nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336320 RNA, herein designated GAM RNA, to target binding sites on GAM336320 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336320 target RNA into GAM336320 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336320 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336320 target genes. The mRNA of each one of this plurality of GAM336320 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336320 RNA, herein designated GAM RNA, and which when bound by GAM336320 RNA causes inhibition of translation of the GAM336320 target mRNA into a corresponding GAM336320 target protein.

The mechanism of the translational inhibition exerted by GAM336320 RNA, herein designated GAM RNA, on one or more GAM336320 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336320 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336320 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336320 RNA, herein designated GAM RNA, of GAM336320 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336320 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336320 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336320 RNA correlate with, and may be deduced from, the identity of the GAM336320 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336321 142479 GGAGAATTGC Fig. 8 further provides a conceptual description of another novel bioinformatically
CTGAACTCAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAAGCGGAGG Messenger 336321 (GAM336321) oligonucleotides modulates expression of respective target
TCGCAGTAAG genes whose function and utility is known in the art.

CTGAGATCAT GAM336321 is a novel bioinformatically detectable regulatory, non protein
GCCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336321 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGACTCT encoded by the human genome.

GAM336321 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336321 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336321 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336321 precursor RNA is designated SEQ ID:142479, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142479 is located from position 8370731 to position 8370818 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336321 precursor RNA folds onto itself, forming GAM336321 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336321 precursor RNA, designated SEQ ID NO: 142479, and a schematic representation of a predicted secondary folding of GAM336321 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336321 folded precursor RNA yielding a GAM336321 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336321 RNA, hereby incorporated herein. Expression of GAM336321 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336321 target gene, herein designated GAM TARGET GENE, encodes a

corresponding messenger RNA, GAM336321 target RNA, herein designated GAM TARGET RNA.

GAM336321 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336321 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336321 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336321 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336321 RNA, herein designated GAM RNA, to target binding sites on GAM336321 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336321 target RNA into GAM336321 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336321 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336321 target genes. The mRNA of each one of this plurality of GAM336321 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336321 RNA, herein designated GAM RNA, and which when bound by GAM336321 RNA causes inhibition of translation of the GAM336321 target mRNA into a corresponding GAM336321 target protein.

The mechanism of the translational inhibition exerted by GAM336321 RNA, herein designated GAM RNA, on one or more GAM336321 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336321 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336321 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336321 RNA, herein designated GAM RNA, of GAM336321 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336321 target RNA, herein designated

GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336321 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336321 RNA correlate with, and may be deduced from, the identity of the GAM336321 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336322 142480 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 336322 (GAM336322) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336322 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336322 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM336322 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336322 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336322 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336322 precursor RNA is designated SEQ ID:142480, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142480 is located from position 8383107 to position 8383188 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM336322 precursor RNA folds onto itself, forming GAM336322 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336322 precursor RNA, designated SEQ ID NO: 142480, and a schematic representation of a predicted secondary folding of GAM336322 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336322 folded precursor

RNA yielding a GAM336322 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336322 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336322 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336322 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336322 target RNA, herein designated GAM TARGET RNA.

GAM336322 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336322 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336322 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336322 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336322 RNA, herein designated GAM RNA, to target binding sites on GAM336322 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336322 target RNA into GAM336322 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336322 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336322 target genes. The mRNA of each one of this plurality of GAM336322 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336322 RNA, herein designated GAM RNA, and which when bound by GAM336322 RNA causes inhibition of translation of the GAM336322 target mRNA into a corresponding GAM336322 target protein.

The mechanism of the translational inhibition exerted by GAM336322 RNA, herein designated GAM RNA, on one or more GAM336322 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336322 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336322 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336322 RNA, herein designated GAM RNA, of GAM336322 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336322 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336322 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336322 RNA correlate with, and may be deduced from, the identity of the GAM336322 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336323 142481 AGAATCACTT Fig. 8 further provides a conceptual description of another novel bioinformatically

GAACGTGGGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GGCAGAGGCT Messenger 336323 (GAM336323) oligonucleotides modulates expression of respective target

GCAGTGAGCC genes whose function and utility is known in the art.

GAGATCGTGC GAM336323 is a novel bioinformatically detectable regulatory, non protein

CACTGCACTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336323 was detected

CAGCCTGGGC is described with additional reference to Figs. 9-15.

AACAGAGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GACT encoded by the human genome.

GAM336323 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336323 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336323 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336323 precursor RNA is designated SEQ ID:142481, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142481 is located from position 8427810 to position 8427893 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336323 precursor RNA folds onto itself, forming GAM336323 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336323 precursor RNA, designated SEQ ID NO: 142481, and a schematic representation of a predicted secondary folding of GAM336323 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336323 folded precursor RNA yielding a GAM336323 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336323 RNA, hereby incorporated herein. Expression of GAM336323 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336323 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336323 target RNA, herein designated GAM TARGET RNA.

GAM336323 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336323 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336323 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336323 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336323 RNA, herein designated GAM RNA, to target binding sites on GAM336323 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336323 target RNA into GAM336323 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336323 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336323 target genes. The mRNA of each one of this plurality of GAM336323 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336323 RNA, herein designated GAM RNA, and which when bound by GAM336323 RNA causes inhibition of

translation of the GAM336323 target mRNA into a corresponding GAM336323 target protein.

The mechanism of the translational inhibition exerted by GAM336323 RNA, herein designated GAM RNA, on one or more GAM336323 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336323 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336323 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336323 RNA, herein designated GAM RNA, of GAM336323 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336323 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336323 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336323 RNA correlate with, and may be deduced from, the identity of the GAM336323 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336324 142482 CTTCACCTGA Fig. 8 further provides a conceptual description of another novel bioinformatically
ACTCACTGGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GCTTCTCCAG Messenger 336324 (GAM336324) oligonucleotides modulates expression of respective target
GGATATTAAC genes whose function and utility is known in the art.

CTGGACTTTA GAM336324 is a novel bioinformatically detectable regulatory, non protein
AGAGTCAGAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336324 was detected
TGAGTCCCTG is described with additional reference to Figs. 9-15.

GGACTAGTTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGCCCATCCA encoded by the human genome.

GGATTCAGAC GAM336324 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GGGAAG GAM336324 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336324 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336324 precursor RNA is designated SEQ ID:142482, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142482 is located from position 8553447 to position 8553552 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM336324 precursor RNA folds onto itself, forming GAM336324 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336324 precursor RNA, designated SEQ ID NO: 142482, and a schematic representation of a predicted secondary folding of GAM336324 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336324 folded precursor RNA yielding a GAM336324 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336324 RNA, hereby incorporated herein.

GAM336324 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336324 target RNA, herein designated GAM TARGET RNA.

GAM336324 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336324 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336324 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336324 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336324 RNA, herein designated GAM RNA, to target binding sites on GAM336324 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336324 target RNA into GAM336324 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336324 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336324 target genes. The mRNA of each one of this plurality of GAM336324 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336324 RNA, herein designated GAM RNA, and which when bound by GAM336324 RNA causes inhibition of translation of the GAM336324 target mRNA into a corresponding GAM336324 target protein.

The mechanism of the translational inhibition exerted by GAM336324 RNA, herein designated GAM RNA, on one or more GAM336324 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336324 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336324 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336324 RNA, herein designated GAM RNA, of GAM336324 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336324 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336324 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336324 RNA correlate with, and may be deduced from, the identity of the GAM336324 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336325 142483 GGCATGAGAA Fig. 8 further provides a conceptual description of another novel bioinformatically

TCGCTTGAAC detected oligonucleotides of the present invention, referred to here as Genomic Address

CCGGGAGGCG Messenger 336325 (GAM336325) oligonucleotides modulates expression of respective target

GAGGCTGCAG genes whose function and utility is known in the art.

TGAGCCAAGA GAM336325 is a novel bioinformatically detectable regulatory, non protein

TCGTGCCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336325 was detected

GCACTCCAGC is described with additional reference to Figs. 9-15.

CTGGGCAACC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGTGAGACT encoded by the human genome.

CTGTC GAM336325 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336325 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336325 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336325 precursor RNA is designated SEQ ID:142483, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142483 is located from position 8562574 to position 8562668 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM336325 precursor RNA folds onto itself, forming GAM336325 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336325 precursor RNA, designated SEQ ID NO: 142483, and a schematic representation of a predicted secondary folding of GAM336325 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336325 folded precursor RNA yielding a GAM336325 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336325 RNA, hereby incorporated herein. Expression of GAM336325 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336325 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336325 target RNA, herein designated GAM TARGET RNA.

GAM336325 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336325 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336325 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336325 RNA is a partial or fully complementary sequence of the

nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336325 RNA, herein designated GAM RNA, to target binding sites on GAM336325 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336325 target RNA into GAM336325 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336325 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336325 target genes. The mRNA of each one of this plurality of GAM336325 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336325 RNA, herein designated GAM RNA, and which when bound by GAM336325 RNA causes inhibition of translation of the GAM336325 target mRNA into a corresponding GAM336325 target protein.

The mechanism of the translational inhibition exerted by GAM336325 RNA, herein designated GAM RNA, on one or more GAM336325 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336325 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336325 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336325 RNA, herein designated GAM RNA, of GAM336325 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336325 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336325 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336325 RNA correlate with, and may be deduced from, the identity of the GAM336325 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336326 142484 AGATGTATTA Fig. 8 further provides a conceptual description of another novel bioinformatically

TGTCTGTCCT detected oligonucleotides of the present invention, referred to here as Genomic Address

TGCGGGGGTT Messenger 336326 (GAM336326) oligonucleotides modulates expression of respective target

CTGGTCCCTG genes whose function and utility is known in the art.

TGTCAGTCTT GAM336326 is a novel bioinformatically detectable regulatory, non protein

AACTCTCATG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336326 was detected

AATATAGAGG is described with additional reference to Figs. 9-15.

TAGTGTTAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGGCCAGAAC encoded by the human genome.

CCTAGGGACG GAM336326 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CTTTAAATTC GAM336326 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

ACT GAM336326 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336326 precursor RNA is designated SEQ ID:142484, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142484 is located from position 8745924 to position 8746036 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336326 precursor RNA folds onto itself, forming GAM336326 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336326 precursor RNA, designated SEQ ID NO: 142484, and a schematic representation of a predicted secondary folding of GAM336326 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336326 folded precursor RNA yielding a GAM336326 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336326 RNA, hereby incorporated herein.

GAM336326 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336326 target RNA, herein designated GAM TARGET RNA.

GAM336326 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336326 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336326 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336326 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336326 RNA, herein designated GAM RNA, to target binding sites on GAM336326 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336326 target RNA into GAM336326 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336326 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336326 target genes. The mRNA of each one of this plurality of GAM336326 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336326 RNA, herein designated GAM RNA, and which when bound by GAM336326 RNA causes inhibition of translation of the GAM336326 target mRNA into a corresponding GAM336326 target protein.

The mechanism of the translational inhibition exerted by GAM336326 RNA, herein designated GAM RNA, on one or more GAM336326 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336326 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336326 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336326 RNA, herein designated GAM RNA, of GAM336326 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336326 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336326 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336326 RNA correlate with, and may be deduced from, the identity of the GAM336326 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336327 142485 GCTGAGTCCC Fig. 8 further provides a conceptual description of another novel bioinformatically
CAGGTCAATG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAACTCCCTC Messenger 336327 (GAM336327) oligonucleotides modulates expression of respective target
TAGGAACTAC genes whose function and utility is known in the art.

CCTGCTACAA GAM336327 is a novel bioinformatically detectable regulatory, non protein
GCATGGTTTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336327 was detected
AGGATTGAGT is described with additional reference to Figs. 9-15.

TCCCCAAGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CCAGGACCAG encoded by the human genome.

T GAM336327 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336327 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336327 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336327 precursor RNA is designated SEQ ID:142485, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142485 is located from position 8936622 to position 8936712 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM336327 precursor RNA folds onto itself, forming GAM336327 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336327 precursor RNA, designated SEQ ID NO: 142485, and a schematic representation of a predicted secondary folding of GAM336327 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336327 folded precursor RNA yielding a GAM336327 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336327 RNA, hereby incorporated herein.

GAM336327 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336327 target RNA, herein designated GAM TARGET RNA.

GAM336327 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336327 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336327 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336327 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336327 RNA, herein designated GAM RNA, to target binding sites on GAM336327 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336327 target RNA into GAM336327 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336327 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336327 target genes. The mRNA of each one of this plurality of GAM336327 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336327 RNA, herein designated GAM RNA, and which when bound by GAM336327 RNA causes inhibition of translation of the GAM336327 target mRNA into a corresponding GAM336327 target protein.

The mechanism of the translational inhibition exerted by GAM336327 RNA, herein designated GAM RNA, on one or more GAM336327 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336327 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336327 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336327 RNA, herein designated GAM RNA, of

GAM336327 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336327 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336327 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336327 RNA correlate with, and may be deduced from, the identity of the GAM336327 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336328 142486 GTCCCCAGGT Fig. 8 further provides a conceptual description of another novel bioinformatically

CAATGGAACT detected oligonucleotides of the present invention, referred to here as Genomic Address

CCCTCTAGGA Messenger 336328 (GAM336328) oligonucleotides modulates expression of respective target

ACTACCCTGC genes whose function and utility is known in the art.

TACAAGCATG GAM336328 is a novel bioinformatically detectable regulatory, non protein

GTTTCAGGAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336328 was detected

TGAGTTCCCC is described with additional reference to Figs. 9-15.

AAGGACCAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AC encoded by the human genome.

GAM336328 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336328 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336328 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336328 precursor RNA is designated SEQ ID:142486, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142486 is located from position 8936626 to position 8936707 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM336328 precursor RNA folds onto itself, forming GAM336328 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336328 precursor RNA, designated SEQ ID NO: 142486,

and a schematic representation of a predicted secondary folding of GAM336328 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336328 folded precursor RNA yielding a GAM336328 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336328 RNA, hereby incorporated herein.

GAM336328 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336328 target RNA, herein designated GAM TARGET RNA.

GAM336328 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336328 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336328 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336328 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336328 RNA, herein designated GAM RNA, to target binding sites on GAM336328 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336328 target RNA into GAM336328 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336328 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336328 target genes. The mRNA of each one of this plurality of GAM336328 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336328 RNA, herein designated GAM RNA, and which when bound by GAM336328 RNA causes inhibition of translation of the GAM336328 target mRNA into a corresponding GAM336328 target protein.

The mechanism of the translational inhibition exerted by GAM336328 RNA, herein designated GAM RNA, on one or more GAM336328 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336328 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336328 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336328 RNA, herein designated GAM RNA, of GAM336328 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336328 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336328 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336328 RNA correlate with, and may be deduced from, the identity of the GAM336328 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336329 142487 GTTACCTTCC Fig. 8 further provides a conceptual description of another novel bioinformatically

TCTGCCTCTG detected oligonucleotides of the present invention, referred to here as Genomic Address

CTCCCTTGTC Messenger 336329 (GAM336329) oligonucleotides modulates expression of respective target

TAGGGCGTGG genes whose function and utility is known in the art.

AGATGAGGTG GAM336329 is a novel bioinformatically detectable regulatory, non protein

TCCTTCCTAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336329 was detected

TCACAGGGTT is described with additional reference to Figs. 9-15.

GCTGCGAGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGAGTGAGT encoded by the human genome.

TGGC GAM336329 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336329 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336329 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336329 precursor RNA is designated SEQ ID:142487, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142487 is located from position 9095043 to position 9095136 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336329 precursor RNA folds onto itself, forming GAM336329 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336329 precursor RNA, designated SEQ ID NO: 142487, and a schematic representation of a predicted secondary folding of GAM336329 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336329 folded precursor RNA yielding a GAM336329 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336329 RNA, hereby incorporated herein.

GAM336329 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336329 target RNA, herein designated GAM TARGET RNA.

GAM336329 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336329 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336329 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336329 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336329 RNA, herein designated GAM RNA, to target binding sites on GAM336329 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336329 target RNA into GAM336329 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336329 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336329 target genes. The mRNA of each one of this

plurality of GAM336329 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336329 RNA, herein designated GAM RNA, and which when bound by GAM336329 RNA causes inhibition of translation of the GAM336329 target mRNA into a corresponding GAM336329 target protein.

The mechanism of the translational inhibition exerted by GAM336329 RNA, herein designated GAM RNA, on one or more GAM336329 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336329 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336329 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336329 RNA, herein designated GAM RNA, of GAM336329 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336329 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336329 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336329 RNA correlate with, and may be deduced from, the identity of the GAM336329 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336330 142488 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336330 (GAM336330) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336330 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336330 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336330 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336330 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336330 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336330 precursor RNA is designated SEQ ID:142488, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142488 is located from position 9107249 to position 9107330 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336330 precursor RNA folds onto itself, forming GAM336330 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336330 precursor RNA, designated SEQ ID NO: 142488, and a schematic representation of a predicted secondary folding of GAM336330 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336330 folded precursor RNA yielding a GAM336330 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336330 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336330 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336330 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336330 target RNA, herein designated GAM TARGET RNA.

GAM336330 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336330 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336330 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336330 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336330 RNA, herein designated GAM RNA, to target binding sites on GAM336330 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336330 target RNA into GAM336330 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336330 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336330 target genes. The mRNA of each one of this plurality of GAM336330 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336330 RNA, herein designated GAM RNA, and which when bound by GAM336330 RNA causes inhibition of translation of the GAM336330 target mRNA into a corresponding GAM336330 target protein.

The mechanism of the translational inhibition exerted by GAM336330 RNA, herein designated GAM RNA, on one or more GAM336330 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336330 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336330 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336330 RNA, herein designated GAM RNA, of GAM336330 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336330 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336330 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336330 RNA correlate with, and may be deduced from, the identity of the GAM336330 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336331 142489 CTGGCATACA Fig. 8 further provides a conceptual description of another novel bioinformatically

AGAGCCCGGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACTTCTGCCG Messenger 336331 (GAM336331) oligonucleotides modulates expression of respective target

ATTTGTCACT genes whose function and utility is known in the art.

GCAATCAACA GAM336331 is a novel bioinformatically detectable regulatory, non protein
ATACTCCCCG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336331 was detected
GAACATCGGC is described with additional reference to Figs. 9-15.

AAGGATGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGTTTCAGAT encoded by the human genome.

GCTGGTGTGC GAM336331 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TTGGGAGCCA GAM336331 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
G GAM336331 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336331 precursor RNA is designated SEQ ID:142489, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142489 is located from position 9202641 to position 9202751 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM336331 precursor RNA folds onto itself, forming GAM336331 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336331 precursor RNA, designated SEQ ID NO: 142489, and a schematic representation of a predicted secondary folding of GAM336331 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336331 folded precursor RNA yielding a GAM336331 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336331 RNA, hereby incorporated herein.

GAM336331 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336331 target RNA, herein designated GAM TARGET RNA.

GAM336331 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336331 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336331 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336331 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336331 RNA, herein designated GAM RNA, to target binding sites on GAM336331 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336331 target RNA into GAM336331 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336331 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336331 target genes. The mRNA of each one of this plurality of GAM336331 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336331 RNA, herein designated GAM RNA, and which when bound by GAM336331 RNA causes inhibition of translation of the GAM336331 target mRNA into a corresponding GAM336331 target protein.

The mechanism of the translational inhibition exerted by GAM336331 RNA, herein designated GAM RNA, on one or more GAM336331 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336331 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336331 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336331 RNA, herein designated GAM RNA, of GAM336331 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336331 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336331 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336331 RNA correlate with, and may be deduced from, the identity of the GAM336331 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336332 142490 CTGCTTGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically
CCAGGAGGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGATTGCAG Messenger 336332 (GAM336332) oligonucleotides modulates expression of respective target
TGAGTCAAGA genes whose function and utility is known in the art.

TGGCACTACT GAM336332 is a novel bioinformatically detectable regulatory, non protein
GCACTCCAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336332 was detected
CTGGGCAACA is described with additional reference to Figs. 9-15.

G GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336332 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336332 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336332 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336332 precursor RNA is designated SEQ ID:142490, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142490 is located from position 9215763 to position 9215833 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336332 precursor RNA folds onto itself, forming GAM336332 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin
structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336332 precursor RNA, designated SEQ ID NO: 142490, and a schematic representation of a predicted secondary folding of GAM336332 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336332 folded precursor RNA yielding a GAM336332 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336332 RNA, hereby incorporated herein. Expression of GAM336332 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336332 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336332 target RNA, herein designated GAM TARGET RNA.

GAM336332 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336332 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336332 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336332 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336332 RNA, herein designated GAM RNA, to target binding sites on GAM336332 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336332 target RNA into GAM336332 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336332 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336332 target genes. The mRNA of each one of this plurality of GAM336332 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336332 RNA, herein designated GAM RNA, and which when bound by GAM336332 RNA causes inhibition of translation of the GAM336332 target mRNA into a corresponding GAM336332 target protein.

The mechanism of the translational inhibition exerted by GAM336332 RNA, herein designated GAM RNA, on one or more GAM336332 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336332 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336332 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336332 RNA, herein designated GAM RNA, of GAM336332 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336332 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336332 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336332 RNA correlate with, and may be deduced from, the identity of the GAM336332 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336333 142491 AGCAGGCTAA Fig. 8 further provides a conceptual description of another novel bioinformatically
CTAGGAGTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
ACAAGCTAAG Messenger 336333 (GAM336333) oligonucleotides modulates expression of respective target
AAAGTGAAAC genes whose function and utility is known in the art.

TGTTCTTTCT GAM336333 is a novel bioinformatically detectable regulatory, non protein
TAGTTAACTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336333 was detected
TCTTTCTCTG is described with additional reference to Figs. 9-15.

GAGCTCTGTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336333 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336333 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336333 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336333 precursor RNA is designated SEQ ID:142491, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142491 is located from position 9341437 to position 9341516 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM336333 precursor RNA folds onto itself, forming GAM336333 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336333 precursor RNA, designated SEQ ID NO: 142491, and a schematic representation of a predicted secondary folding of GAM336333 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336333 folded precursor RNA yielding a GAM336333 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336333 RNA, hereby incorporated herein.

GAM336333 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336333 target RNA, herein designated GAM TARGET RNA.

GAM336333 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336333 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336333 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336333 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336333 RNA, herein designated GAM RNA, to target binding sites on GAM336333 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336333 target RNA into GAM336333 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336333 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336333 target genes. The mRNA of each one of this plurality of GAM336333 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336333 RNA, herein designated GAM RNA, and which when bound by GAM336333 RNA causes inhibition of translation of the GAM336333 target mRNA into a corresponding GAM336333 target protein.

The mechanism of the translational inhibition exerted by GAM336333 RNA, herein designated GAM RNA, on one or more GAM336333 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336333 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336333 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336333 RNA, herein designated GAM RNA, of GAM336333 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336333 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336333 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336333 RNA correlate with, and may be deduced from, the identity of the GAM336333 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336334 142492 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATTGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCCGGGAG Messenger 336334 (GAM336334) oligonucleotides modulates expression of respective target

GTGGAGGTTG genes whose function and utility is known in the art.

CGGTGAGCCG GAM336334 is a novel bioinformatically detectable regulatory, non protein

AGGTCGCGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336334 was detected

ATTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAAGAGCGA encoded by the human genome.

AACTCCGTCT GAM336334 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CA GAM336334 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336334 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336334 precursor RNA is designated SEQ ID:142492, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142492 is located from position 9504192 to position 9504293 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336334 precursor RNA folds onto itself, forming GAM336334 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336334 precursor RNA, designated SEQ ID NO: 142492, and a schematic representation of a predicted secondary folding of GAM336334 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336334 folded precursor RNA yielding a GAM336334 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336334 RNA, hereby incorporated herein. Expression of GAM336334 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336334 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336334 target RNA, herein designated GAM TARGET RNA.

GAM336334 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336334 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336334 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336334 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336334 RNA, herein designated GAM RNA, to target binding sites on GAM336334 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336334 target RNA into GAM336334 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336334 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336334 target genes. The mRNA of each one of this plurality of GAM336334 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336334 RNA,

herein designated GAM RNA, and which when bound by GAM336334 RNA causes inhibition of translation of the GAM336334 target mRNA into a corresponding GAM336334 target protein.

The mechanism of the translational inhibition exerted by GAM336334 RNA, herein designated GAM RNA, on one or more GAM336334 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336334 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336334 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336334 RNA, herein designated GAM RNA, of GAM336334 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336334 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336334 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336334 RNA correlate with, and may be deduced from, the identity of the GAM336334 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336335 142493 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATTGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCCGGGAGG Messenger 336335 (GAM336335) oligonucleotides modulates expression of respective target

TGGAGGTTGC genes whose function and utility is known in the art.

GGTGAGCCGA GAM336335 is a novel bioinformatically detectable regulatory, non protein

GGTCGCGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336335 was detected

TTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAAGAGCGAA encoded by the human genome.

ACTCCGTCTC GAM336335 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336335 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336335 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336335 precursor RNA is designated SEQ ID:142493, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142493 is located from position 9504193 to position 9504292 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336335 precursor RNA folds onto itself, forming GAM336335 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336335 precursor RNA, designated SEQ ID NO: 142493, and a schematic representation of a predicted secondary folding of GAM336335 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336335 folded precursor RNA yielding a GAM336335 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336335 RNA, hereby incorporated herein. Expression of GAM336335 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336335 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336335 target RNA, herein designated GAM TARGET RNA.

GAM336335 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336335 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336335 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336335 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336335 RNA, herein designated GAM RNA, to target

binding sites on GAM336335 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336335 target RNA into GAM336335 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336335 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336335 target genes. The mRNA of each one of this plurality of GAM336335 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336335 RNA, herein designated GAM RNA, and which when bound by GAM336335 RNA causes inhibition of translation of the GAM336335 target mRNA into a corresponding GAM336335 target protein.

The mechanism of the translational inhibition exerted by GAM336335 RNA, herein designated GAM RNA, on one or more GAM336335 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336335 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336335 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336335 RNA, herein designated GAM RNA, of GAM336335 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336335 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336335 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336335 RNA correlate with, and may be deduced from, the identity of the GAM336335 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336336 142494 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATCGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCCAGGAG Messenger 336336 (GAM336336) oligonucleotides modulates expression of respective target

GTGGAGGTTG genes whose function and utility is known in the art.

CAGTGAGCCG GAM336336 is a novel bioinformatically detectable regulatory, non protein

AGATCGCGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336336 was detected

ATTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAAGAGCAG encoded by the human genome.

AACTCCGTCT GAM336336 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CA GAM336336 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336336 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336336 precursor RNA is designated SEQ ID:142494, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142494 is located from position 9554905 to position 9555006 relative to chromosome chr2 on the `-` strand (chr is an abbreviation for chromosome).

GAM336336 precursor RNA folds onto itself, forming GAM336336 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336336 precursor RNA, designated SEQ ID NO: 142494, and a schematic representation of a predicted secondary folding of GAM336336 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336336 folded precursor RNA yielding a GAM336336 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336336 RNA, hereby incorporated herein. Expression of GAM336336 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336336 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336336 target RNA, herein designated GAM TARGET RNA.

GAM336336 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336336 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336336 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the

nucleotide sequence of GAM336336 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336336 RNA, herein designated GAM RNA, to target binding sites on GAM336336 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336336 target RNA into GAM336336 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336336 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336336 target genes. The mRNA of each one of this plurality of GAM336336 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336336 RNA, herein designated GAM RNA, and which when bound by GAM336336 RNA causes inhibition of translation of the GAM336336 target mRNA into a corresponding GAM336336 target protein.

The mechanism of the translational inhibition exerted by GAM336336 RNA, herein designated GAM RNA, on one or more GAM336336 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336336 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336336 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336336 RNA, herein designated GAM RNA, of GAM336336 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336336 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336336 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336336 RNA correlate with, and may be deduced from, the identity of the GAM336336 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336337 142495 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGTGGAGG Messenger 336337 (GAM336337) oligonucleotides modulates expression of respective target
TTGCAGTGAG genes whose function and utility is known in the art.

CCGAGATCGC GAM336337 is a novel bioinformatically detectable regulatory, non protein
GCCATTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336337 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGAACTCC encoded by the human genome.

GAM336337 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336337 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336337 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336337 precursor RNA is designated SEQ ID:142495, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142495 is located from position 9554911 to position 9554999 relative to chromosome chr2 on the `-` strand (chr is an abbreviation for chromosome).

GAM336337 precursor RNA folds onto itself, forming GAM336337 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336337 precursor RNA, designated SEQ ID NO: 142495, and a schematic representation of a predicted secondary folding of GAM336337 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336337 folded precursor RNA yielding a GAM336337 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336337 RNA, hereby incorporated herein. Expression of GAM336337 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336337 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336337 target RNA, herein designated GAM TARGET RNA.

GAM336337 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336337 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336337 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336337 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336337 RNA, herein designated GAM RNA, to target binding sites on GAM336337 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336337 target RNA into GAM336337 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336337 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336337 target genes. The mRNA of each one of this plurality of GAM336337 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336337 RNA, herein designated GAM RNA, and which when bound by GAM336337 RNA causes inhibition of translation of the GAM336337 target mRNA into a corresponding GAM336337 target protein.

The mechanism of the translational inhibition exerted by GAM336337 RNA, herein designated GAM RNA, on one or more GAM336337 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336337 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336337 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336337 RNA, herein designated GAM RNA, of GAM336337 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM336337 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336337 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336337 RNA correlate with, and may be deduced from, the identity of the GAM336337 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336338 142496 GTGTGATATA Fig. 8 further provides a conceptual description of another novel bioinformatically
GGTGGTCTGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GATCATGGCT Messenger 336338 (GAM336338) oligonucleotides modulates expression of respective target
GGACAAACAC genes whose function and utility is known in the art.

AATGCAGTAG GAM336338 is a novel bioinformatically detectable regulatory, non protein
GAAGAGTGCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336338 was detected
GGCTCTTGGT is described with additional reference to Figs. 9-15.

CACTGCTGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGACCCAATG encoded by the human genome.

ATCTTGAGCA GAM336338 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TCACCCGTCA GAM336338 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
TAC GAM336338 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336338 precursor RNA is designated SEQ ID:142496, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142496 is located from position 9584579 to position 9584691 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM336338 precursor RNA folds onto itself, forming GAM336338 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336338 precursor RNA, designated SEQ ID NO: 142496, and a schematic representation of a predicted secondary folding of GAM336338 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336338 folded precursor RNA yielding a GAM336338 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336338 RNA, hereby incorporated herein.

GAM336338 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336338 target RNA, herein designated GAM TARGET RNA.

GAM336338 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336338 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336338 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336338 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336338 RNA, herein designated GAM RNA, to target binding sites on GAM336338 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336338 target RNA into GAM336338 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336338 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336338 target genes. The mRNA of each one of this plurality of GAM336338 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336338 RNA, herein designated GAM RNA, and which when bound by GAM336338 RNA causes inhibition of translation of the GAM336338 target mRNA into a corresponding GAM336338 target protein.

The mechanism of the translational inhibition exerted by GAM336338 RNA, herein designated GAM RNA, on one or more GAM336338 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336338 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336338 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336338 RNA, herein designated GAM RNA, of GAM336338 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336338 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336338 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336338 RNA correlate with, and may be deduced from, the identity of the GAM336338 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336339 142497 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AATTGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCTGGTGGG Messenger 336339 (GAM336339) oligonucleotides modulates expression of respective target
GCAGAGGTTG genes whose function and utility is known in the art.

CAGTGAGCCG GAM336339 is a novel bioinformatically detectable regulatory, non protein
AGATAACGCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336339 was detected
ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAGAGTAAA encoded by the human genome.

ACTCCGTCTC GAM336339 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAM336339 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336339 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336339 precursor RNA is designated SEQ ID:142497, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142497 is located from position 9731276 to position 9731375 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM336339 precursor RNA folds onto itself, forming GAM336339 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336339 precursor RNA, designated SEQ ID NO: 142497, and a schematic representation of a predicted secondary folding of GAM336339 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336339 folded precursor RNA yielding a GAM336339 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336339 RNA, hereby incorporated herein. Expression of GAM336339 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336339 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336339 target RNA, herein designated GAM TARGET RNA.

GAM336339 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336339 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336339 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336339 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336339 RNA, herein designated GAM RNA, to target binding sites on GAM336339 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336339 target RNA into GAM336339 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336339 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336339 target genes. The mRNA of each one of this plurality of GAM336339 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336339 RNA,

herein designated GAM RNA, and which when bound by GAM336339 RNA causes inhibition of translation of the GAM336339 target mRNA into a corresponding GAM336339 target protein.

The mechanism of the translational inhibition exerted by GAM336339 RNA, herein designated GAM RNA, on one or more GAM336339 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336339 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336339 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336339 RNA, herein designated GAM RNA, of GAM336339 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336339 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336339 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336339 RNA correlate with, and may be deduced from, the identity of the GAM336339 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336340 142498 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCGTTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCTGGGAAG Messenger 336340 (GAM336340) oligonucleotides modulates expression of respective target

CGGAGGTTGC genes whose function and utility is known in the art.

CGTGAGTCGA GAM336340 is a novel bioinformatically detectable regulatory, non protein

GATCATGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336340 was detected

TTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAAGAGCGAA encoded by the human genome.

ACTCTCTC GAM336340 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336340 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336340 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336340 precursor RNA is designated SEQ ID:142498, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142498 is located from position 9732603 to position 9732700 relative to chromosome chr3 on the `+` strand (chr is an abbreviation for chromosome).

GAM336340 precursor RNA folds onto itself, forming GAM336340 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336340 precursor RNA, designated SEQ ID NO: 142498, and a schematic representation of a predicted secondary folding of GAM336340 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336340 folded precursor RNA yielding a GAM336340 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336340 RNA, hereby incorporated herein. Expression of GAM336340 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336340 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336340 target RNA, herein designated GAM TARGET RNA.

GAM336340 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336340 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336340 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336340 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336340 RNA, herein designated GAM RNA, to target

binding sites on GAM336340 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336340 target RNA into GAM336340 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336340 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336340 target genes. The mRNA of each one of this plurality of GAM336340 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336340 RNA, herein designated GAM RNA, and which when bound by GAM336340 RNA causes inhibition of translation of the GAM336340 target mRNA into a corresponding GAM336340 target protein.

The mechanism of the translational inhibition exerted by GAM336340 RNA, herein designated GAM RNA, on one or more GAM336340 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336340 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336340 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336340 RNA, herein designated GAM RNA, of GAM336340 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336340 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336340 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336340 RNA correlate with, and may be deduced from, the identity of the GAM336340 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336341 142499 AGAATTGCTC Fig. 8 further provides a conceptual description of another novel bioinformatically

GAACCCGGGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GACAGAGGTT Messenger 336341 (GAM336341) oligonucleotides modulates expression of respective target

GCAGTGAGCC genes whose function and utility is known in the art.

GAGATTGTGC GAM336341 is a novel bioinformatically detectable regulatory, non protein

CACTGCACTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336341 was detected

CAGCCTGGGC is described with additional reference to Figs. 9-15.

AACAGAGCGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GACT encoded by the human genome.

GAM336341 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336341 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336341 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336341 precursor RNA is designated SEQ ID:142499, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142499 is located from position 9793682 to position 9793765 relative to chromosome chr3 on the `+` strand (chr is an abbreviation for chromosome).

GAM336341 precursor RNA folds onto itself, forming GAM336341 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336341 precursor RNA, designated SEQ ID NO: 142499, and a schematic representation of a predicted secondary folding of GAM336341 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336341 folded precursor RNA yielding a GAM336341 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336341 RNA, hereby incorporated herein. Expression of GAM336341 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336341 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336341 target RNA, herein designated GAM TARGET RNA.

GAM336341 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336341 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336341 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336341 RNA is a partial or fully complementary sequence of the

nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336341 RNA, herein designated GAM RNA, to target binding sites on GAM336341 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336341 target RNA into GAM336341 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336341 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336341 target genes. The mRNA of each one of this plurality of GAM336341 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336341 RNA, herein designated GAM RNA, and which when bound by GAM336341 RNA causes inhibition of translation of the GAM336341 target mRNA into a corresponding GAM336341 target protein.

The mechanism of the translational inhibition exerted by GAM336341 RNA, herein designated GAM RNA, on one or more GAM336341 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336341 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336341 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336341 RNA, herein designated GAM RNA, of GAM336341 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336341 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336341 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336341 RNA correlate with, and may be deduced from, the identity of the GAM336341 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336342 142500 TTGCTCGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically
CCGGGAGACA detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGTTGCAG Messenger 336342 (GAM336342) oligonucleotides modulates expression of respective target
TGAGCCGAGA genes whose function and utility is known in the art.

TTGTGCCACT GAM336342 is a novel bioinformatically detectable regulatory, non protein
GCACTCCAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336342 was detected
CTGGGCAACA is described with additional reference to Figs. 9-15.

GAGCGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336342 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336342 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336342 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336342 precursor RNA is designated SEQ ID:142500, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142500 is located from position 9793686 to position 9793761 relative to chromosome chr3 on the `+` strand (chr is an abbreviation for chromosome).

GAM336342 precursor RNA folds onto itself, forming GAM336342 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336342 precursor RNA, designated SEQ ID NO: 142500, and a schematic representation of a predicted secondary folding of GAM336342 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336342 folded precursor RNA yielding a GAM336342 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336342 RNA, hereby incorporated herein. Expression of GAM336342 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336342 target gene, herein designated GAM TARGET GENE, encodes a

corresponding messenger RNA, GAM336342 target RNA, herein designated GAM TARGET RNA.

GAM336342 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336342 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336342 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336342 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336342 RNA, herein designated GAM RNA, to target binding sites on GAM336342 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336342 target RNA into GAM336342 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336342 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336342 target genes. The mRNA of each one of this plurality of GAM336342 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336342 RNA, herein designated GAM RNA, and which when bound by GAM336342 RNA causes inhibition of translation of the GAM336342 target mRNA into a corresponding GAM336342 target protein.

The mechanism of the translational inhibition exerted by GAM336342 RNA, herein designated GAM RNA, on one or more GAM336342 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336342 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336342 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336342 RNA, herein designated GAM RNA, of GAM336342 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336342 target RNA, herein designated

GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336342 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336342 RNA correlate with, and may be deduced from, the identity of the GAM336342 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336343 142501 GCTCGAACCC Fig. 8 further provides a conceptual description of another novel bioinformatically
GGGAGACAGA detected oligonucleotides of the present invention, referred to here as Genomic Address
GGTTGCAGTG Messenger 336343 (GAM336343) oligonucleotides modulates expression of respective target
AGCCGAGATT genes whose function and utility is known in the art.

GTGCCACTGC GAM336343 is a novel bioinformatically detectable regulatory, non protein
ACTCCAGCCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336343 was detected
GGGCAACAGA is described with additional reference to Figs. 9-15.

GC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336343 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336343 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336343 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336343 precursor RNA is designated SEQ ID:142501, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142501 is located from position 9793688 to position 9793759 relative to chromosome chr3 on the `+` strand (chr is an abbreviation for chromosome).

GAM336343 precursor RNA folds onto itself, forming GAM336343 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336343 precursor RNA, designated SEQ ID NO: 142501, and a schematic representation of a predicted secondary folding of GAM336343 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336343 folded precursor

RNA yielding a GAM336343 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336343 RNA, hereby incorporated herein. Expression of GAM336343 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336343 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336343 target RNA, herein designated GAM TARGET RNA.

GAM336343 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336343 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336343 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336343 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336343 RNA, herein designated GAM RNA, to target binding sites on GAM336343 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336343 target RNA into GAM336343 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336343 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336343 target genes. The mRNA of each one of this plurality of GAM336343 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336343 RNA, herein designated GAM RNA, and which when bound by GAM336343 RNA causes inhibition of translation of the GAM336343 target mRNA into a corresponding GAM336343 target protein.

The mechanism of the translational inhibition exerted by GAM336343 RNA, herein designated GAM RNA, on one or more GAM336343 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336343 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336343 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336343 RNA, herein designated GAM RNA, of GAM336343 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336343 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336343 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336343 RNA correlate with, and may be deduced from, the identity of the GAM336343 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336344 142502 GGGCGAGTCC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTAACCTTGG detected oligonucleotides of the present invention, referred to here as Genomic Address

CAAAATAAAC Messenger 336344 (GAM336344) oligonucleotides modulates expression of respective target

TTCTGAATTT genes whose function and utility is known in the art.

ATTGAGACCT GAM336344 is a novel bioinformatically detectable regulatory, non protein

GTCTCAGGTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336344 was detected

CTTTTTGGTT is described with additional reference to Figs. 9-15.

TACATGTGCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGTGAGGGCA encoded by the human genome.

GGCACC GAM336344 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336344 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336344 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336344 precursor RNA is designated SEQ ID:142502, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142502 is located from position 9881789 to position 9881884 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336344 precursor RNA folds onto itself, forming GAM336344 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336344 precursor RNA, designated SEQ ID NO: 142502, and a schematic representation of a predicted secondary folding of GAM336344 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336344 folded precursor RNA yielding a GAM336344 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336344 RNA, hereby incorporated herein.

GAM336344 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336344 target RNA, herein designated GAM TARGET RNA.

GAM336344 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336344 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336344 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336344 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336344 RNA, herein designated GAM RNA, to target binding sites on GAM336344 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336344 target RNA into GAM336344 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336344 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336344 target genes. The mRNA of each one of this plurality of GAM336344 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336344 RNA, herein designated GAM RNA, and which when bound by GAM336344 RNA causes inhibition of translation of the GAM336344 target mRNA into a corresponding GAM336344 target protein.

The mechanism of the translational inhibition exerted by GAM336344 RNA, herein designated GAM RNA, on one or more GAM336344 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336344 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336344 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336344 RNA, herein designated GAM RNA, of GAM336344 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336344 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336344 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336344 RNA correlate with, and may be deduced from, the identity of the GAM336344 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336345 142503 GGAAGCATTT Fig. 8 further provides a conceptual description of another novel bioinformatically

AAGGAAAAGG detected oligonucleotides of the present invention, referred to here as Genomic Address

CTTGTTTTTC Messenger 336345 (GAM336345) oligonucleotides modulates expression of respective target

ATTTCAGGGG genes whose function and utility is known in the art.

AGGTTTAGGC GAM336345 is a novel bioinformatically detectable regulatory, non protein

CAAGAGAGTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336345 was detected

GTTGAGTAAA is described with additional reference to Figs. 9-15.

CACACTGCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGAGAGAATG encoded by the human genome.

CCTGGTACTT GAM336345 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

AAATGCCC GAM336345 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336345 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336345 precursor RNA is designated SEQ ID:142503, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142503 is located from position 9906418 to position 9906525 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM336345 precursor RNA folds onto itself, forming GAM336345 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336345 precursor RNA, designated SEQ ID NO: 142503, and a schematic representation of a predicted secondary folding of GAM336345 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336345 folded precursor RNA yielding a GAM336345 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336345 RNA, hereby incorporated herein.

GAM336345 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336345 target RNA, herein designated GAM TARGET RNA.

GAM336345 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336345 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336345 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336345 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336345 RNA, herein designated GAM RNA, to target binding sites on GAM336345 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336345 target RNA

into GAM336345 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336345 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336345 target genes. The mRNA of each one of this plurality of GAM336345 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336345 RNA, herein designated GAM RNA, and which when bound by GAM336345 RNA causes inhibition of translation of the GAM336345 target mRNA into a corresponding GAM336345 target protein.

The mechanism of the translational inhibition exerted by GAM336345 RNA, herein designated GAM RNA, on one or more GAM336345 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336345 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336345 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336345 RNA, herein designated GAM RNA, of GAM336345 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336345 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336345 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336345 RNA correlate with, and may be deduced from, the identity of the GAM336345 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336346 142504 GCATTTAAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

AAAAGGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

TTTTTCATTT Messenger 336346 (GAM336346) oligonucleotides modulates expression of respective target

CAGGGGAGGT genes whose function and utility is known in the art.

TTAGGCCAAG GAM336346 is a novel bioinformatically detectable regulatory, non protein

AGAGTGGTTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336346 was detected

AGTAAACACA is described with additional reference to Figs. 9-15.

CTGCTGTGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGAATGCCTG encoded by the human genome.

GTACTTAAAT GAM336346 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GC GAM336346 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336346 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336346 precursor RNA is designated SEQ ID:142504, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142504 is located from position 9906422 to position 9906523 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM336346 precursor RNA folds onto itself, forming GAM336346 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336346 precursor RNA, designated SEQ ID NO: 142504, and a schematic representation of a predicted secondary folding of GAM336346 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336346 folded precursor RNA yielding a GAM336346 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336346 RNA, hereby incorporated herein.

GAM336346 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336346 target RNA, herein designated GAM TARGET RNA.

GAM336346 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336346 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336346 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336346 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336346 RNA, herein designated GAM RNA, to target binding sites on GAM336346 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336346 target RNA into GAM336346 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336346 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336346 target genes. The mRNA of each one of this plurality of GAM336346 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336346 RNA, herein designated GAM RNA, and which when bound by GAM336346 RNA causes inhibition of translation of the GAM336346 target mRNA into a corresponding GAM336346 target protein.

The mechanism of the translational inhibition exerted by GAM336346 RNA, herein designated GAM RNA, on one or more GAM336346 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336346 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336346 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336346 RNA, herein designated GAM RNA, of GAM336346 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336346 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336346 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336346 RNA correlate with, and may be deduced from, the identity of the GAM336346 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336347 142505 AGAGATGCTA Fig. 8 further provides a conceptual description of another novel bioinformatically

AGTTTAGATT detected oligonucleotides of the present invention, referred to here as Genomic Address

CCAGGGGGCA Messenger 336347 (GAM336347) oligonucleotides modulates expression of respective target

GGACTGGATT genes whose function and utility is known in the art.

TTTAATTTCA GAM336347 is a novel bioinformatically detectable regulatory, non protein

TCTGGCTCCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336347 was detected

GAGTCCTAGC is described with additional reference to Figs. 9-15.

TCCTAATCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336347 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336347 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336347 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336347 precursor RNA is designated SEQ ID:142505, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142505 is located from position 10064670 to position 10064749 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336347 precursor RNA folds onto itself, forming GAM336347 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336347 precursor RNA, designated SEQ ID NO: 142505, and a schematic representation of a predicted secondary folding of GAM336347 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336347 folded precursor RNA yielding a GAM336347 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336347 RNA, hereby incorporated herein.

GAM336347 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336347 target RNA, herein designated GAM TARGET RNA.

GAM336347 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336347 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336347 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336347 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336347 RNA, herein designated GAM RNA, to target binding sites on GAM336347 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336347 target RNA into GAM336347 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336347 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336347 target genes. The mRNA of each one of this plurality of GAM336347 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336347 RNA, herein designated GAM RNA, and which when bound by GAM336347 RNA causes inhibition of translation of the GAM336347 target mRNA into a corresponding GAM336347 target protein.

The mechanism of the translational inhibition exerted by GAM336347 RNA, herein designated GAM RNA, on one or more GAM336347 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336347 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336347 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336347 RNA, herein designated GAM RNA, of GAM336347 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336347 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336347 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336347

RNA correlate with, and may be deduced from, the identity of the GAM336347 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336348 142506 AGTTTTAGGG TACATGTGCA CAACATGCAG GTTTGTTACA TATGTATACA TGTGCCATGT TGGTGTGCTG CACCCATTAA CT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336348 (GAM336348) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336348 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336348 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336348 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336348 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336348 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336348 precursor RNA is designated SEQ ID:142506, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142506 is located from position 10077912 to position 10077993 relative to chromosome chr4 on the `-` strand (chr is an abbreviation for chromosome).

GAM336348 precursor RNA folds onto itself, forming GAM336348 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336348 precursor RNA, designated SEQ ID NO: 142506, and a schematic representation of a predicted secondary folding of GAM336348 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336348 folded precursor RNA yielding a GAM336348 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336348 RNA: a nucleotide sequence

that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336348 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336348 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336348 target RNA, herein designated GAM TARGET RNA.

GAM336348 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336348 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336348 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336348 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336348 RNA, herein designated GAM RNA, to target binding sites on GAM336348 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336348 target RNA into GAM336348 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336348 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336348 target genes. The mRNA of each one of this plurality of GAM336348 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336348 RNA, herein designated GAM RNA, and which when bound by GAM336348 RNA causes inhibition of translation of the GAM336348 target mRNA into a corresponding GAM336348 target protein.

The mechanism of the translational inhibition exerted by GAM336348 RNA, herein designated GAM RNA, on one or more GAM336348 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336348 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336348 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336348 RNA, herein designated GAM RNA, of GAM336348 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336348 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336348 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336348 RNA correlate with, and may be deduced from, the identity of the GAM336348 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336349 142507 TGAATTTGTG Fig. 8 further provides a conceptual description of another novel bioinformatically
ACTTGTCTGG detected oligonucleotides of the present invention, referred to here as Genomic Address
TTTGGCATCT Messenger 336349 (GAM336349) oligonucleotides modulates expression of respective target
CGAAGGGCTT genes whose function and utility is known in the art.

TCTCTACTGG GAM336349 is a novel bioinformatically detectable regulatory, non protein
GTCCAGGGTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336349 was detected
CCACAGAACA is described with additional reference to Figs. 9-15.

GGTCAGCATT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CA encoded by the human genome.

GAM336349 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336349 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336349 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336349 precursor RNA is designated SEQ ID:142507, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142507 is located from position 10202193 to position 10202274 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM336349 precursor RNA folds onto itself, forming GAM336349 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336349 precursor RNA, designated SEQ ID NO: 142507, and a schematic representation of a predicted secondary folding of GAM336349 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336349 folded precursor RNA yielding a GAM336349 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336349 RNA, hereby incorporated herein.

GAM336349 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336349 target RNA, herein designated GAM TARGET RNA.

GAM336349 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336349 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336349 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336349 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336349 RNA, herein designated GAM RNA, to target binding sites on GAM336349 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336349 target RNA into GAM336349 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336349 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336349 target genes. The mRNA of each one of this plurality of GAM336349 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336349 RNA, herein designated GAM RNA, and which when bound by GAM336349 RNA causes inhibition of translation of the GAM336349 target mRNA into a corresponding GAM336349 target protein.

The mechanism of the translational inhibition exerted by GAM336349 RNA, herein designated GAM RNA, on one or more GAM336349 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336349 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336349 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336349 RNA, herein designated GAM RNA, of GAM336349 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336349 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336349 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336349 RNA correlate with, and may be deduced from, the identity of the GAM336349 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336350 142508 GAGGCAGGAG AATCGCTTGA ATCTAGGAAT CAGAGGTTGC AGTGAGCCAA GGTCACACCA CTTGCACTCC ACAGCCTGGG TGACAGAGTG AGACTGCCTC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336350 (GAM336350) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336350 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336350 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336350 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336350 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336350 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336350 precursor RNA is designated SEQ ID:142508, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142508 is located from position 10212232 to position 10212331 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336350 precursor RNA folds onto itself, forming GAM336350 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336350 precursor RNA, designated SEQ ID NO: 142508, and a schematic representation of a predicted secondary folding of GAM336350 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336350 folded precursor RNA yielding a GAM336350 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336350 RNA, hereby incorporated herein.

GAM336350 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336350 target RNA, herein designated GAM TARGET RNA.

GAM336350 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336350 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336350 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336350 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336350 RNA, herein designated GAM RNA, to target binding sites on GAM336350 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336350 target RNA into GAM336350 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336350 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336350 target genes. The mRNA of each one of this plurality of GAM336350 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336350 RNA, herein designated GAM RNA, and which when bound by GAM336350 RNA causes inhibition of

translation of the GAM336350 target mRNA into a corresponding GAM336350 target protein.

The mechanism of the translational inhibition exerted by GAM336350 RNA, herein designated GAM RNA, on one or more GAM336350 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336350 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336350 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336350 RNA, herein designated GAM RNA, of GAM336350 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336350 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336350 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336350 RNA correlate with, and may be deduced from, the identity of the GAM336350 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336351 142509 TTCATCATAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AAATGGAACT detected oligonucleotides of the present invention, referred to here as Genomic Address

GCCGGGTCAA Messenger 336351 (GAM336351) oligonucleotides modulates expression of respective target

GGATATGTAT genes whose function and utility is known in the art.

GTTTATATGG GAM336351 is a novel bioinformatically detectable regulatory, non protein

ACATATGTGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336351 was detected

ATTTTCTTCC is described with additional reference to Figs. 9-15.

TGGCATCCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCCTTTGGGA encoded by the human genome.

A GAM336351 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336351 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336351 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336351 precursor RNA is designated SEQ ID:142509, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142509 is located from position 10330153 to position 10330243 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM336351 precursor RNA folds onto itself, forming GAM336351 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336351 precursor RNA, designated SEQ ID NO: 142509, and a schematic representation of a predicted secondary folding of GAM336351 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336351 folded precursor RNA yielding a GAM336351 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336351 RNA, hereby incorporated herein.

GAM336351 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336351 target RNA, herein designated GAM TARGET RNA.

GAM336351 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336351 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336351 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336351 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336351 RNA, herein designated GAM RNA, to target binding sites on GAM336351 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336351 target RNA

into GAM336351 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336351 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336351 target genes. The mRNA of each one of this plurality of GAM336351 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336351 RNA, herein designated GAM RNA, and which when bound by GAM336351 RNA causes inhibition of translation of the GAM336351 target mRNA into a corresponding GAM336351 target protein.

The mechanism of the translational inhibition exerted by GAM336351 RNA, herein designated GAM RNA, on one or more GAM336351 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336351 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336351 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336351 RNA, herein designated GAM RNA, of GAM336351 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336351 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336351 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336351 RNA correlate with, and may be deduced from, the identity of the GAM336351 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336352 142510 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336352 (GAM336352) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336352 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336352 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336352 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336352 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336352 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336352 precursor RNA is designated SEQ ID:142510, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142510 is located from position 10343377 to position 10343458 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM336352 precursor RNA folds onto itself, forming GAM336352 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336352 precursor RNA, designated SEQ ID NO: 142510, and a schematic representation of a predicted secondary folding of GAM336352 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336352 folded precursor RNA yielding a GAM336352 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336352 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336352 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336352 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336352 target RNA, herein designated GAM TARGET RNA.

GAM336352 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336352 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336352 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336352 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336352 RNA, herein designated GAM RNA, to target binding sites on GAM336352 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336352 target RNA into GAM336352 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336352 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336352 target genes. The mRNA of each one of this plurality of GAM336352 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336352 RNA, herein designated GAM RNA, and which when bound by GAM336352 RNA causes inhibition of translation of the GAM336352 target mRNA into a corresponding GAM336352 target protein.

The mechanism of the translational inhibition exerted by GAM336352 RNA, herein designated GAM RNA, on one or more GAM336352 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336352 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336352 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336352 RNA, herein designated GAM RNA, of GAM336352 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336352 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336352 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336352 RNA correlate with, and may be deduced from, the identity of the GAM336352 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336353 142511 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATGGCGCGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCCGGGAAG Messenger 336353 (GAM336353) oligonucleotides modulates expression of respective target
TGGAGCTTGC genes whose function and utility is known in the art.

AGTGAGCCGA GAM336353 is a novel bioinformatically detectable regulatory, non protein
GATCGCGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336353 was detected
CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGAGCGAAA encoded by the human genome.

CTCCGTCTC GAM336353 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336353 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336353 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336353 precursor RNA is designated SEQ ID:142511, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142511 is located from position 10535996 to position 10536094 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336353 precursor RNA folds onto itself, forming GAM336353 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336353 precursor RNA, designated SEQ ID NO: 142511, and a schematic representation of a predicted secondary folding of GAM336353 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336353 folded precursor RNA yielding a GAM336353 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336353 RNA, hereby incorporated herein. Expression of GAM336353 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336353 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336353 target RNA, herein designated GAM TARGET RNA.

GAM336353 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336353 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336353 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336353 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336353 RNA, herein designated GAM RNA, to target binding sites on GAM336353 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336353 target RNA into GAM336353 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336353 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336353 target genes. The mRNA of each one of this plurality of GAM336353 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336353 RNA, herein designated GAM RNA, and which when bound by GAM336353 RNA causes inhibition of translation of the GAM336353 target mRNA into a corresponding GAM336353 target protein.

The mechanism of the translational inhibition exerted by GAM336353 RNA, herein designated GAM RNA, on one or more GAM336353 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336353 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336353 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336353 RNA, herein designated GAM RNA, of GAM336353 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336353 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336353 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336353 RNA correlate with, and may be deduced from, the identity of the GAM336353 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336354 142512 TGAGACAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATCACTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACTCCGGAG Messenger 336354 (GAM336354) oligonucleotides modulates expression of respective target
GTTGAGGTTT genes whose function and utility is known in the art.

CAGTGGGCCG GAM336354 is a novel bioinformatically detectable regulatory, non protein
AGACCGAGCG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336354 was detected
ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAGAGCGAG encoded by the human genome.

ACTCCATTTC GAM336354 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

A GAM336354 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336354 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336354 precursor RNA is designated SEQ ID:142512, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142512 is located from position 10593137 to position 10593237 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336354 precursor RNA folds onto itself, forming GAM336354 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336354 precursor RNA, designated SEQ ID NO: 142512, and a schematic representation of a predicted secondary folding of GAM336354 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336354 folded precursor RNA yielding a GAM336354 RNA, herein designated GAM RNA, in the form of a single stranded

~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336354 RNA, hereby incorporated herein. Expression of GAM336354 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336354 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336354 target RNA, herein designated GAM TARGET RNA.

GAM336354 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336354 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336354 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336354 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336354 RNA, herein designated GAM RNA, to target binding sites on GAM336354 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336354 target RNA into GAM336354 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336354 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336354 target genes. The mRNA of each one of this plurality of GAM336354 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336354 RNA, herein designated GAM RNA, and which when bound by GAM336354 RNA causes inhibition of translation of the GAM336354 target mRNA into a corresponding GAM336354 target protein.

The mechanism of the translational inhibition exerted by GAM336354 RNA, herein designated GAM RNA, on one or more GAM336354 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336354 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336354 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336354 RNA, herein designated GAM RNA, of GAM336354 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336354 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336354 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336354 RNA correlate with, and may be deduced from, the identity of the GAM336354 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336355 142513 GAACATCTCA AGCACTTCAG GCAATTCACA TTCCTTCAGC AAATATTTGT TGAGCACCTG GAGTGTGCCT GAGATTCTTT CAGGTGTTGG GAATTC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336355 (GAM336355) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336355 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336355 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336355 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336355 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336355 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336355 precursor RNA is designated SEQ ID:142513, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142513 is located from position 10653601 to position 10653696 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM336355 precursor RNA folds onto itself, forming GAM336355 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336355 precursor RNA, designated SEQ ID NO: 142513, and a schematic representation of a predicted secondary folding of GAM336355 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336355 folded precursor RNA yielding a GAM336355 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336355 RNA, hereby incorporated herein.

GAM336355 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336355 target RNA, herein designated GAM TARGET RNA.

GAM336355 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336355 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336355 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336355 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336355 RNA, herein designated GAM RNA, to target binding sites on GAM336355 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336355 target RNA into GAM336355 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336355 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336355 target genes. The mRNA of each one of this plurality of GAM336355 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336355 RNA, herein designated GAM RNA, and which when bound by GAM336355 RNA causes inhibition of translation of the GAM336355 target mRNA into a corresponding GAM336355 target protein.

The mechanism of the translational inhibition exerted by GAM336355 RNA, herein designated GAM RNA, on one or more GAM336355 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336355 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336355 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336355 RNA, herein designated GAM RNA, of GAM336355 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336355 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336355 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336355 RNA correlate with, and may be deduced from, the identity of the GAM336355 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336356 142514 AACATCTCAA Fig. 8 further provides a conceptual description of another novel bioinformatically

GCACTTCAGG detected oligonucleotides of the present invention, referred to here as Genomic Address

CAATTCACAT Messenger 336356 (GAM336356) oligonucleotides modulates expression of respective target

TCCTTCAGCA genes whose function and utility is known in the art.

AATATTTGTT GAM336356 is a novel bioinformatically detectable regulatory, non protein

GAGCACCTGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336356 was detected

AGTGTGCCTG is described with additional reference to Figs. 9-15.

AGATTCTTTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGGTGTT encoded by the human genome.

GAM336356 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336356 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336356 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336356 precursor RNA is designated SEQ ID:142514, and is provided hereinbelow with reference to the sequence listing part.

Nucleotide sequence SEQ ID:142514 is located from position 10653609 to position 10653695 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM336356 precursor RNA folds onto itself, forming GAM336356 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336356 precursor RNA, designated SEQ ID NO: 142514, and a schematic representation of a predicted secondary folding of GAM336356 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336356 folded precursor RNA yielding a GAM336356 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336356 RNA, hereby incorporated herein.

GAM336356 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336356 target RNA, herein designated GAM TARGET RNA.

GAM336356 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336356 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336356 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336356 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336356 RNA, herein designated GAM RNA, to target binding sites on GAM336356 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336356 target RNA into GAM336356 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336356 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336356 target genes. The mRNA of each one of this plurality of GAM336356 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336356 RNA, herein designated GAM RNA, and which when bound by GAM336356 RNA causes inhibition of translation of the GAM336356 target mRNA into a corresponding GAM336356 target protein.

The mechanism of the translational inhibition exerted by GAM336356 RNA, herein designated GAM RNA, on one or more GAM336356 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336356 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336356 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336356 RNA, herein designated GAM RNA, of GAM336356 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336356 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336356 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336356 RNA correlate with, and may be deduced from, the identity of the GAM336356 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336357 142515 TCCTGCATGG Fig. 8 further provides a conceptual description of another novel bioinformatically
CAGTTCCATA detected oligonucleotides of the present invention, referred to here as Genomic Address
TGCAGAGCCA Messenger 336357 (GAM336357) oligonucleotides modulates expression of respective target
GAATCCATCC genes whose function and utility is known in the art.

TTGTTCCTTC GAM336357 is a novel bioinformatically detectable regulatory, non protein
TGCATTGTGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336357 was detected
GAAAATCCAT is described with additional reference to Figs. 9-15.

GGAGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336357 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336357 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336357 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336357 precursor RNA is designated SEQ ID:142515, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142515 is located from position 10669795 to position 10669870 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336357 precursor RNA folds onto itself, forming GAM336357 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336357 precursor RNA, designated SEQ ID NO: 142515, and a schematic representation of a predicted secondary folding of GAM336357 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336357 folded precursor RNA yielding a GAM336357 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336357 RNA, hereby incorporated herein.

GAM336357 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336357 target RNA, herein designated GAM TARGET RNA.

GAM336357 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336357 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336357 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336357 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336357 RNA, herein designated GAM RNA, to target binding sites on GAM336357 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336357 target RNA into GAM336357 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336357 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336357 target genes. The mRNA of each one of this plurality of GAM336357 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336357 RNA, herein designated GAM RNA, and which when bound by GAM336357 RNA causes inhibition of translation of the GAM336357 target mRNA into a corresponding GAM336357 target protein.

The mechanism of the translational inhibition exerted by GAM336357 RNA, herein designated GAM RNA, on one or more GAM336357 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336357 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336357 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336357 RNA, herein designated GAM RNA, of GAM336357 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336357 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336357 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336357 RNA correlate with, and may be deduced from, the identity of the GAM336357 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336358 142516 GGGAAAGAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GGGATGAAGT detected oligonucleotides of the present invention, referred to here as Genomic Address

AAAAACATCT Messenger 336358 (GAM336358) oligonucleotides modulates expression of respective target

GGGAGGTCAG genes whose function and utility is known in the art.

ACAAATGGCC GAM336358 is a novel bioinformatically detectable regulatory, non protein
GTGCAGTTTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336358 was detected
CTAATTCCAT is described with additional reference to Figs. 9-15.

CATGCTTCTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTTCCC encoded by the human genome.

GAM336358 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336358 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336358 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336358 precursor RNA is designated SEQ ID:142516, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142516 is located from position 10670232 to position 10670317 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336358 precursor RNA folds onto itself, forming GAM336358 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336358 precursor RNA, designated SEQ ID NO: 142516, and a schematic representation of a predicted secondary folding of GAM336358 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336358 folded precursor RNA yielding a GAM336358 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336358 RNA, hereby incorporated herein.

GAM336358 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336358 target RNA, herein designated GAM TARGET RNA.

GAM336358 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336358 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336358 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336358 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336358 RNA, herein designated GAM RNA, to target binding sites on GAM336358 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336358 target RNA into GAM336358 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336358 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336358 target genes. The mRNA of each one of this plurality of GAM336358 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336358 RNA, herein designated GAM RNA, and which when bound by GAM336358 RNA causes inhibition of translation of the GAM336358 target mRNA into a corresponding GAM336358 target protein.

The mechanism of the translational inhibition exerted by GAM336358 RNA, herein designated GAM RNA, on one or more GAM336358 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336358 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336358 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336358 RNA, herein designated GAM RNA, of GAM336358 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336358 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336358 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336358 RNA correlate with, and may be deduced from, the identity of the GAM336358 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336359 142517 TGAACCCCGG Fig. 8 further provides a conceptual description of another novel bioinformatically

AGACAGAGGT detected oligonucleotides of the present invention, referred to here as Genomic Address

TGCAGTGAGC Messenger 336359 (GAM336359) oligonucleotides modulates expression of respective target

CGAGATACAT genes whose function and utility is known in the art.

ACATATATAT GAM336359 is a novel bioinformatically detectable regulatory, non protein

GTATATATCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336359 was detected

TGTGCAACTT is described with additional reference to Figs. 9-15.

GGCTCTGCTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTTTGTAAGT encoded by the human genome.

TTGTGGGCTT GAM336359 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

A GAM336359 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336359 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336359 precursor RNA is designated SEQ ID:142517, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142517 is located from position 10822733 to position 10822833 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM336359 precursor RNA folds onto itself, forming GAM336359 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336359 precursor RNA, designated SEQ ID NO: 142517, and a schematic representation of a predicted secondary folding of GAM336359 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336359 folded precursor RNA yielding a GAM336359 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336359 RNA, hereby incorporated herein.

GAM336359 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336359 target RNA, herein designated GAM TARGET RNA.

GAM336359 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336359 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336359 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336359 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336359 RNA, herein designated GAM RNA, to target binding sites on GAM336359 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336359 target RNA into GAM336359 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336359 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336359 target genes. The mRNA of each one of this plurality of GAM336359 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336359 RNA, herein designated GAM RNA, and which when bound by GAM336359 RNA causes inhibition of translation of the GAM336359 target mRNA into a corresponding GAM336359 target protein.

The mechanism of the translational inhibition exerted by GAM336359 RNA, herein designated GAM RNA, on one or more GAM336359 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336359 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336359 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336359 RNA, herein designated GAM RNA, of GAM336359 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM336359 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336359 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336359 RNA correlate with, and may be deduced from, the identity of the GAM336359 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336360 142518 ACAGAGGTTG Fig. 8 further provides a conceptual description of another novel bioinformatically
CAGTGAGCCG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGATACATAC Messenger 336360 (GAM336360) oligonucleotides modulates expression of respective target
ATATATATGT genes whose function and utility is known in the art.

ATATATCATG GAM336360 is a novel bioinformatically detectable regulatory, non protein
TGCAACTTGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336360 was detected
CTCTGCTCCT is described with additional reference to Figs. 9-15.

TTGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336360 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336360 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336360 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336360 precursor RNA is designated SEQ ID:142518, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142518 is located from position 10822748 to position 10822821 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM336360 precursor RNA folds onto itself, forming GAM336360 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin
structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336360 precursor RNA, designated SEQ ID NO: 142518, and a schematic representation of a predicted secondary folding of GAM336360 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336360 folded precursor RNA yielding a GAM336360 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336360 RNA, hereby incorporated herein.

GAM336360 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336360 target RNA, herein designated GAM TARGET RNA.

GAM336360 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336360 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336360 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336360 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336360 RNA, herein designated GAM RNA, to target binding sites on GAM336360 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336360 target RNA into GAM336360 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336360 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336360 target genes. The mRNA of each one of this plurality of GAM336360 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336360 RNA, herein designated GAM RNA, and which when bound by GAM336360 RNA causes inhibition of translation of the GAM336360 target mRNA into a corresponding GAM336360 target protein.

The mechanism of the translational inhibition exerted by GAM336360 RNA, herein designated GAM RNA, on one or more GAM336360 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336360 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336360 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336360 RNA, herein designated GAM RNA, of GAM336360 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336360 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336360 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336360 RNA correlate with, and may be deduced from, the identity of the GAM336360 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336361 142519 GGAGAATTGC TTGAACCCAG GAGGCGGAGG TTGCAGTGAG CCGAGATAGC ACCACTGCAC TCCAGCCTGG GCAACAGAGT GAGACTCC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336361 (GAM336361) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336361 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336361 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336361 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336361 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336361 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336361 precursor RNA is designated SEQ ID:142519, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142519 is located from position 10939875 to position 10939962 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GAM336361 precursor RNA folds onto itself, forming GAM336361 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336361 precursor RNA, designated SEQ ID NO: 142519, and a schematic representation of a predicted secondary folding of GAM336361 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336361 folded precursor RNA yielding a GAM336361 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336361 RNA, hereby incorporated herein. Expression of GAM336361 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336361 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336361 target RNA, herein designated GAM TARGET RNA.

GAM336361 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336361 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336361 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336361 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336361 RNA, herein designated GAM RNA, to target binding sites on GAM336361 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336361 target RNA into GAM336361 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336361 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336361 target genes. The mRNA of each one of this plurality of GAM336361 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336361 RNA, herein designated GAM RNA, and which when bound by GAM336361 RNA causes inhibition of translation of the GAM336361 target mRNA into a corresponding GAM336361 target protein.

The mechanism of the translational inhibition exerted by GAM336361 RNA, herein designated GAM RNA, on one or more GAM336361 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336361 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336361 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336361 RNA, herein designated GAM RNA, of GAM336361 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336361 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336361 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336361 RNA correlate with, and may be deduced from, the identity of the GAM336361 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336362 142520 CCTGACTCTG Fig. 8 further provides a conceptual description of another novel bioinformatically

ATCACAGGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

AAGGAATAAA Messenger 336362 (GAM336362) oligonucleotides modulates expression of respective target

GTCTCATTTC genes whose function and utility is known in the art.

AATCCTGAGC GAM336362 is a novel bioinformatically detectable regulatory, non protein

TTCTCCTAAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336362 was detected

TCTTGTGGAT is described with additional reference to Figs. 9-15.

CAGAGCTGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336362 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336362 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336362 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336362 precursor RNA is designated SEQ

ID:142520, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142520 is located from position 10975636 to position 10975715 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM336362 precursor RNA folds onto itself, forming GAM336362 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336362 precursor RNA, designated SEQ ID NO: 142520, and a schematic representation of a predicted secondary folding of GAM336362 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336362 folded precursor RNA yielding a GAM336362 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336362 RNA, hereby incorporated herein.

GAM336362 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336362 target RNA, herein designated GAM TARGET RNA.

GAM336362 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336362 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336362 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336362 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336362 RNA, herein designated GAM RNA, to target binding sites on GAM336362 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336362 target RNA into GAM336362 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM336362 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336362 target genes. The mRNA of each one of this plurality of GAM336362 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336362 RNA, herein designated GAM RNA, and which when bound by GAM336362 RNA causes inhibition of translation of the GAM336362 target mRNA into a corresponding GAM336362 target protein.

The mechanism of the translational inhibition exerted by GAM336362 RNA, herein designated GAM RNA, on one or more GAM336362 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336362 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336362 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336362 RNA, herein designated GAM RNA, of GAM336362 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336362 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336362 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336362 RNA correlate with, and may be deduced from, the identity of the GAM336362 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336363 142521 AGCAGACTGA Fig. 8 further provides a conceptual description of another novel bioinformatically

ACTAAGACAC detected oligonucleotides of the present invention, referred to here as Genomic Address

CCTCTGCCTG Messenger 336363 (GAM336363) oligonucleotides modulates expression of respective target

TGGTTGTCTT genes whose function and utility is known in the art.

GGCAAAGCCA GAM336363 is a novel bioinformatically detectable regulatory, non protein

GGTAATGCAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336363 was detected

GAGAGGGGTG is described with additional reference to Figs. 9-15.

GACTCAGCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCT encoded by the human genome.

GAM336363 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336363 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336363 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336363 precursor RNA is designated SEQ ID:142521, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142521 is located from position 11000648 to position 11000730 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336363 precursor RNA folds onto itself, forming GAM336363 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336363 precursor RNA, designated SEQ ID NO: 142521, and a schematic representation of a predicted secondary folding of GAM336363 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336363 folded precursor RNA yielding a GAM336363 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336363 RNA, hereby incorporated herein.

GAM336363 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336363 target RNA, herein designated GAM TARGET RNA.

GAM336363 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336363 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336363 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336363 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336363 RNA, herein designated GAM RNA, to target binding sites on GAM336363 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336363 target RNA into GAM336363 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336363 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336363 target genes. The mRNA of each one of this plurality of GAM336363 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336363 RNA, herein designated GAM RNA, and which when bound by GAM336363 RNA causes inhibition of translation of the GAM336363 target mRNA into a corresponding GAM336363 target protein.

The mechanism of the translational inhibition exerted by GAM336363 RNA, herein designated GAM RNA, on one or more GAM336363 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336363 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336363 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336363 RNA, herein designated GAM RNA, of GAM336363 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336363 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336363 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336363 RNA correlate with, and may be deduced from, the identity of the GAM336363 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336364 142522 TTGCTTTAGC Fig. 8 further provides a conceptual description of another novel bioinformatically

CCAGGAATTC detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGTTTGCAG Messenger 336364 (GAM336364) oligonucleotides modulates expression of respective target

TGAGCTATGA genes whose function and utility is known in the art.

TGGTGTCATT GAM336364 is a novel bioinformatically detectable regulatory, non protein
GCACTCCAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336364 was detected
CTGGGCAATC is described with additional reference to Figs. 9-15.

AAGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336364 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336364 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336364 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336364 precursor RNA is designated SEQ ID:142522, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142522 is located from position 11034593 to position 11034668 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM336364 precursor RNA folds onto itself, forming GAM336364 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336364 precursor RNA, designated SEQ ID NO: 142522, and a schematic representation of a predicted secondary folding of GAM336364 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336364 folded precursor RNA yielding a GAM336364 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336364 RNA, hereby incorporated herein.

GAM336364 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336364 target RNA, herein designated GAM TARGET RNA.

GAM336364 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336364 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336364 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336364 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336364 RNA, herein designated GAM RNA, to target binding sites on GAM336364 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336364 target RNA into GAM336364 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336364 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336364 target genes. The mRNA of each one of this plurality of GAM336364 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336364 RNA, herein designated GAM RNA, and which when bound by GAM336364 RNA causes inhibition of translation of the GAM336364 target mRNA into a corresponding GAM336364 target protein.

The mechanism of the translational inhibition exerted by GAM336364 RNA, herein designated GAM RNA, on one or more GAM336364 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336364 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336364 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336364 RNA, herein designated GAM RNA, of GAM336364 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336364 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336364 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336364 RNA correlate with, and may be deduced from, the identity of the GAM336364 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336365 142523 CAGCTGGGAC Fig. 8 further provides a conceptual description of another novel bioinformatically

TGCAGGGGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATCACG Messenger 336365 (GAM336365) oligonucleotides modulates expression of respective target

CCTGGCTAAT genes whose function and utility is known in the art.

TTTTGTATTT GAM336365 is a novel bioinformatically detectable regulatory, non protein

TCTGTAGGGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336365 was detected

TAGGATTTCA is described with additional reference to Figs. 9-15.

CAGTGTTACC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGGCTGGTC encoded by the human genome.

TCAAAATCCT GAM336365 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GGGCTCAAAT GAM336365 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

G GAM336365 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336365 precursor RNA is designated SEQ ID:142523, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142523 is located from position 11079910 to position 11080020 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM336365 precursor RNA folds onto itself, forming GAM336365 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336365 precursor RNA, designated SEQ ID NO: 142523, and a schematic representation of a predicted secondary folding of GAM336365 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336365 folded precursor RNA yielding a GAM336365 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336365 RNA, hereby incorporated herein.

GAM336365 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336365 target RNA, herein designated GAM TARGET RNA.

GAM336365 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336365 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336365 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336365 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336365 RNA, herein designated GAM RNA, to target binding sites on GAM336365 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336365 target RNA into GAM336365 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336365 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336365 target genes. The mRNA of each one of this plurality of GAM336365 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336365 RNA, herein designated GAM RNA, and which when bound by GAM336365 RNA causes inhibition of translation of the GAM336365 target mRNA into a corresponding GAM336365 target protein.

The mechanism of the translational inhibition exerted by GAM336365 RNA, herein designated GAM RNA, on one or more GAM336365 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336365 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336365 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336365 RNA, herein designated GAM RNA, of GAM336365 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM336365 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336365 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336365 RNA correlate with, and may be deduced from, the identity of the GAM336365 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336366 142524 TGGTGAAGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AGTCATGGAG detected oligonucleotides of the present invention, referred to here as Genomic Address
TCAGACATGC Messenger 336366 (GAM336366) oligonucleotides modulates expression of respective target
TGGACTTCTG genes whose function and utility is known in the art.

GCTCTAACCT GAM336366 is a novel bioinformatically detectable regulatory, non protein
TGCTAGCTGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336366 was detected
GTGACTTTGA is described with additional reference to Figs. 9-15.

CCTCTTTGAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
A encoded by the human genome.

GAM336366 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336366 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336366 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336366 precursor RNA is designated SEQ ID:142524, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142524 is located from position 11236576 to position 11236656 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336366 precursor RNA folds onto itself, forming GAM336366 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336366 precursor RNA, designated SEQ ID NO: 142524, and a schematic representation of a predicted secondary folding of GAM336366 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336366 folded precursor RNA yielding a GAM336366 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336366 RNA, hereby incorporated herein.

GAM336366 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336366 target RNA, herein designated GAM TARGET RNA.

GAM336366 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336366 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336366 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336366 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336366 RNA, herein designated GAM RNA, to target binding sites on GAM336366 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336366 target RNA into GAM336366 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336366 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336366 target genes. The mRNA of each one of this plurality of GAM336366 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336366 RNA, herein designated GAM RNA, and which when bound by GAM336366 RNA causes inhibition of translation of the GAM336366 target mRNA into a corresponding GAM336366 target protein.

The mechanism of the translational inhibition exerted by GAM336366 RNA, herein designated GAM RNA, on one or more GAM336366 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336366 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336366 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336366 RNA, herein designated GAM RNA, of GAM336366 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336366 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336366 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336366 RNA correlate with, and may be deduced from, the identity of the GAM336366 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336367 142525 GGTGAAGAGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GTCATGGAGT detected oligonucleotides of the present invention, referred to here as Genomic Address
CAGACATGCT Messenger 336367 (GAM336367) oligonucleotides modulates expression of respective target
GGACTTCTGG genes whose function and utility is known in the art.

CTCTAACCTT GAM336367 is a novel bioinformatically detectable regulatory, non protein
GCTAGCTGTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336367 was detected
TGACTTTGAC is described with additional reference to Figs. 9-15.

CTCTTTGACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTCATC encoded by the human genome.

GAM336367 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336367 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336367 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336367 precursor RNA is designated SEQ ID:142525, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142525 is located from position 11236577 to position 11236662 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336367 precursor RNA folds onto itself, forming GAM336367 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336367 precursor RNA, designated SEQ ID NO: 142525, and a schematic representation of a predicted secondary folding of GAM336367 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336367 folded precursor RNA yielding a GAM336367 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336367 RNA, hereby incorporated herein.

GAM336367 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336367 target RNA, herein designated GAM TARGET RNA.

GAM336367 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336367 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336367 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336367 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336367 RNA, herein designated GAM RNA, to target binding sites on GAM336367 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336367 target RNA into GAM336367 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336367 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336367 target genes. The mRNA of each one of this plurality of GAM336367 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336367 RNA, herein designated GAM RNA, and which when bound by GAM336367 RNA causes inhibition of translation of the GAM336367 target mRNA into a corresponding GAM336367 target protein.

The mechanism of the translational inhibition exerted by GAM336367 RNA, herein

designated GAM RNA, on one or more GAM336367 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336367 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336367 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336367 RNA, herein designated GAM RNA, of GAM336367 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336367 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336367 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336367 RNA correlate with, and may be deduced from, the identity of the GAM336367 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336368 142526 CTGTGACTAT Fig. 8 further provides a conceptual description of another novel bioinformatically

TTCGCTGAAT detected oligonucleotides of the present invention, referred to here as Genomic Address

CTTTGCAACT Messenger 336368 (GAM336368) oligonucleotides modulates expression of respective target

CTGAGAGGTC genes whose function and utility is known in the art.

AGTACTTTTA GAM336368 is a novel bioinformatically detectable regulatory, non protein

TTTTACCCAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336368 was detected

TTTGTAGGTG is described with additional reference to Figs. 9-15.

AGAAAACTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGCTCAGAAA encoded by the human genome.

GGGTAACACA GAM336368 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GTGACACAG GAM336368 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336368 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336368 precursor RNA is designated SEQ ID:142526, and is provided hereinbelow with reference to the sequence listing part.

Nucleotide sequence SEQ ID:142526 is located from position 11301473 to position 11301581 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336368 precursor RNA folds onto itself, forming GAM336368 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336368 precursor RNA, designated SEQ ID NO: 142526, and a schematic representation of a predicted secondary folding of GAM336368 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336368 folded precursor RNA yielding a GAM336368 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336368 RNA, hereby incorporated herein.

GAM336368 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336368 target RNA, herein designated GAM TARGET RNA.

GAM336368 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336368 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336368 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336368 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336368 RNA, herein designated GAM RNA, to target binding sites on GAM336368 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336368 target RNA into GAM336368 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336368 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336368 target genes. The mRNA of each one of this plurality of GAM336368 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336368 RNA, herein designated GAM RNA, and which when bound by GAM336368 RNA causes inhibition of translation of the GAM336368 target mRNA into a corresponding GAM336368 target protein.

The mechanism of the translational inhibition exerted by GAM336368 RNA, herein designated GAM RNA, on one or more GAM336368 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336368 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336368 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336368 RNA, herein designated GAM RNA, of GAM336368 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336368 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336368 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336368 RNA correlate with, and may be deduced from, the identity of the GAM336368 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336369 142527 CTGCCTCCCC Fig. 8 further provides a conceptual description of another novel bioinformatically

ACTCAAGCTC detected oligonucleotides of the present invention, referred to here as Genomic Address

TGTAAGGACG Messenger 336369 (GAM336369) oligonucleotides modulates expression of respective target

CAAAGAGGGC genes whose function and utility is known in the art.

AAGGCCACGA GAM336369 is a novel bioinformatically detectable regulatory, non protein

AGGACTCAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336369 was detected

CTGGCCCATC is described with additional reference to Figs. 9-15.

GTGTCCCTGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCTGCCCCAG encoded by the human genome.

TGCCAGAGCC GAM336369 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

AG GAM336369 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336369 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336369 precursor RNA is designated SEQ ID:142527, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142527 is located from position 11451765 to position 11451866 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336369 precursor RNA folds onto itself, forming GAM336369 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336369 precursor RNA, designated SEQ ID NO: 142527, and a schematic representation of a predicted secondary folding of GAM336369 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336369 folded precursor RNA yielding a GAM336369 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336369 RNA, hereby incorporated herein.

GAM336369 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336369 target RNA, herein designated GAM TARGET RNA.

GAM336369 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336369 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336369 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336369 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336369 RNA, herein designated GAM RNA, to target binding sites on GAM336369 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336369 target RNA into GAM336369 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336369 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336369 target genes. The mRNA of each one of this plurality of GAM336369 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336369 RNA, herein designated GAM RNA, and which when bound by GAM336369 RNA causes inhibition of translation of the GAM336369 target mRNA into a corresponding GAM336369 target protein.

The mechanism of the translational inhibition exerted by GAM336369 RNA, herein designated GAM RNA, on one or more GAM336369 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336369 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336369 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336369 RNA, herein designated GAM RNA, of GAM336369 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336369 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336369 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336369 RNA correlate with, and may be deduced from, the identity of the GAM336369 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336370 142528 GGGGCTGGCC Fig. 8 further provides a conceptual description of another novel bioinformatically

GCCTCAGTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

TGGTGATGCC Messenger 336370 (GAM336370) oligonucleotides modulates expression of respective target

ACCAGCTCCA genes whose function and utility is known in the art.

GCCTGCACGG GAM336370 is a novel bioinformatically detectable regulatory, non protein
ATGGAGCTCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336370 was detected
CTTCCTACCA is described with additional reference to Figs. 9-15.

TCACTTCTGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTTCAGTCTC encoded by the human genome.

GAM336370 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336370 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336370 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336370 precursor RNA is designated SEQ ID:142528, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142528 is located from position 11527773 to position 11527862 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336370 precursor RNA folds onto itself, forming GAM336370 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336370 precursor RNA, designated SEQ ID NO: 142528, and a schematic representation of a predicted secondary folding of GAM336370 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336370 folded precursor RNA yielding a GAM336370 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336370 RNA, hereby incorporated herein.

GAM336370 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336370 target RNA, herein designated GAM TARGET RNA.

GAM336370 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336370 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM336370 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336370 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336370 RNA, herein designated GAM RNA, to target binding sites on GAM336370 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336370 target RNA into GAM336370 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336370 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336370 target genes. The mRNA of each one of this plurality of GAM336370 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336370 RNA, herein designated GAM RNA, and which when bound by GAM336370 RNA causes inhibition of translation of the GAM336370 target mRNA into a corresponding GAM336370 target protein.

The mechanism of the translational inhibition exerted by GAM336370 RNA, herein designated GAM RNA, on one or more GAM336370 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336370 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336370 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336370 RNA, herein designated GAM RNA, of GAM336370 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336370 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336370 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336370 RNA correlate with, and may be deduced from, the identity of the GAM336370 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336371 142529 CTCCTTGATT Fig. 8 further provides a conceptual description of another novel bioinformatically
GAGGCTAGTA detected oligonucleotides of the present invention, referred to here as Genomic Address
GGTTTTTAAG Messenger 336371 (GAM336371) oligonucleotides modulates expression of respective target
ACCTGAATAA genes whose function and utility is known in the art.

TTGAGTTTGC GAM336371 is a novel bioinformatically detectable regulatory, non protein
AGAAACCTAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336371 was detected
TGTGTGCCTT is described with additional reference to Figs. 9-15.

CAGGTAAATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAG encoded by the human genome.

GAM336371 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336371 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336371 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336371 precursor RNA is designated SEQ ID:142529, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142529 is located from position 11563754 to position 11563836 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM336371 precursor RNA folds onto itself, forming GAM336371 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336371 precursor RNA, designated SEQ ID NO: 142529, and a schematic representation of a predicted secondary folding of GAM336371 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336371 folded precursor RNA yielding a GAM336371 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336371 RNA, hereby incorporated herein.

GAM336371 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336371 target RNA, herein designated GAM TARGET RNA.

GAM336371 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336371 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336371 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336371 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336371 RNA, herein designated GAM RNA, to target binding sites on GAM336371 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336371 target RNA into GAM336371 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336371 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336371 target genes. The mRNA of each one of this plurality of GAM336371 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336371 RNA, herein designated GAM RNA, and which when bound by GAM336371 RNA causes inhibition of translation of the GAM336371 target mRNA into a corresponding GAM336371 target protein.

The mechanism of the translational inhibition exerted by GAM336371 RNA, herein designated GAM RNA, on one or more GAM336371 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336371 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336371 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336371 RNA, herein designated GAM RNA, of GAM336371 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM336371 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336371 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336371 RNA correlate with, and may be deduced from, the identity of the GAM336371 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336372 142530 CTTTCTCTCG Fig. 8 further provides a conceptual description of another novel bioinformatically
TGAATGGAGC detected oligonucleotides of the present invention, referred to here as Genomic Address
TGTTTTCTTC Messenger 336372 (GAM336372) oligonucleotides modulates expression of respective target
AGAGCCTTTG genes whose function and utility is known in the art.

CTCTGAAACA GAM336372 is a novel bioinformatically detectable regulatory, non protein
TCACGCTCCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336372 was detected
CTGTATGGGG is described with additional reference to Figs. 9-15.

AGAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336372 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336372 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336372 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336372 precursor RNA is designated SEQ ID:142530, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142530 is located from position 11647684 to position 11647758 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM336372 precursor RNA folds onto itself, forming GAM336372 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin
structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336372 precursor RNA, designated SEQ ID NO: 142530, and a schematic representation of a predicted secondary folding of GAM336372 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336372 folded precursor RNA yielding a GAM336372 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336372 RNA, hereby incorporated herein.

GAM336372 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336372 target RNA, herein designated GAM TARGET RNA.

GAM336372 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336372 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336372 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336372 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336372 RNA, herein designated GAM RNA, to target binding sites on GAM336372 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336372 target RNA into GAM336372 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336372 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336372 target genes. The mRNA of each one of this plurality of GAM336372 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336372 RNA, herein designated GAM RNA, and which when bound by GAM336372 RNA causes inhibition of translation of the GAM336372 target mRNA into a corresponding GAM336372 target protein.

The mechanism of the translational inhibition exerted by GAM336372 RNA, herein designated GAM RNA, on one or more GAM336372 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336372 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336372 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336372 RNA, herein designated GAM RNA, of GAM336372 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336372 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336372 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336372 RNA correlate with, and may be deduced from, the identity of the GAM336372 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336373 142531 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATCGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCCGGGAG Messenger 336373 (GAM336373) oligonucleotides modulates expression of respective target
GCGGAGGTCG genes whose function and utility is known in the art.

TGGTGAGCCA GAM336373 is a novel bioinformatically detectable regulatory, non protein
AAATCGCACC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336373 was detected
ATTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAAGAGTGA encoded by the human genome.

AACTCTGTCT GAM336373 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CA GAM336373 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336373 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336373 precursor RNA is designated SEQ ID:142531, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142531 is located from position 11686899 to position 11687000 relative to chromosome chr1 on the `-` strand (chr is an abbreviation for chromosome).

GAM336373 precursor RNA folds onto itself, forming GAM336373 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336373 precursor RNA, designated SEQ ID NO: 142531, and a schematic representation of a predicted secondary folding of GAM336373 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336373 folded precursor RNA yielding a GAM336373 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336373 RNA, hereby incorporated herein. Expression of GAM336373 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336373 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336373 target RNA, herein designated GAM TARGET RNA.

GAM336373 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336373 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336373 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336373 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336373 RNA, herein designated GAM RNA, to target binding sites on GAM336373 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336373 target RNA into GAM336373 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336373 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336373 target genes. The mRNA of each one of this plurality of GAM336373 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336373 RNA, herein designated GAM RNA, and which when bound by GAM336373 RNA causes inhibition of

translation of the GAM336373 target mRNA into a corresponding GAM336373 target protein.

The mechanism of the translational inhibition exerted by GAM336373 RNA, herein designated GAM RNA, on one or more GAM336373 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336373 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336373 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336373 RNA, herein designated GAM RNA, of GAM336373 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336373 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336373 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336373 RNA correlate with, and may be deduced from, the identity of the GAM336373 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336374 142532 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCCGGGAGG Messenger 336374 (GAM336374) oligonucleotides modulates expression of respective target

CGGAGGTCGT genes whose function and utility is known in the art.

GGTGAGCCAA GAM336374 is a novel bioinformatically detectable regulatory, non protein

AATCGCACCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336374 was detected

TTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAAGAGTGAA encoded by the human genome.

ACTCTGTCTC GAM336374 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336374 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336374 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336374 precursor RNA is designated SEQ ID:142532, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142532 is located from position 11686900 to position 11686999 relative to chromosome chr1 on the `-` strand (chr is an abbreviation for chromosome).

GAM336374 precursor RNA folds onto itself, forming GAM336374 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336374 precursor RNA, designated SEQ ID NO: 142532, and a schematic representation of a predicted secondary folding of GAM336374 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336374 folded precursor RNA yielding a GAM336374 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336374 RNA, hereby incorporated herein. Expression of GAM336374 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336374 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336374 target RNA, herein designated GAM TARGET RNA.

GAM336374 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336374 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336374 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336374 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336374 RNA, herein designated GAM RNA, to target

binding sites on GAM336374 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336374 target RNA into GAM336374 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336374 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336374 target genes. The mRNA of each one of this plurality of GAM336374 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336374 RNA, herein designated GAM RNA, and which when bound by GAM336374 RNA causes inhibition of translation of the GAM336374 target mRNA into a corresponding GAM336374 target protein.

The mechanism of the translational inhibition exerted by GAM336374 RNA, herein designated GAM RNA, on one or more GAM336374 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336374 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336374 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336374 RNA, herein designated GAM RNA, of GAM336374 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336374 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336374 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336374 RNA correlate with, and may be deduced from, the identity of the GAM336374 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336375 142533 ATGCATGGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

GTACACAGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GACACAATGC Messenger 336375 (GAM336375) oligonucleotides modulates expression of respective target

AGTGTTGGTG genes whose function and utility is known in the art.

GGAAATAGTC GAM336375 is a novel bioinformatically detectable regulatory, non protein

ATTGAGCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336375 was detected

TCTCCTTTCC is described with additional reference to Figs. 9-15.

TCTCATGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AATGTTCAGA encoded by the human genome.

GAATCACCAC GAM336375 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CAGACACTCC GAM336375 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

CGTGTGAAAA GAM336375 precursor RNA does not encode a protein. A nucleotide sequence identical or

TTTGTATGCA highly similar to the nucleotide sequence of GAM336375 precursor RNA is designated SEQ

T ID:142533, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142533 is located from position 11850038 to position 11850168 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336375 precursor RNA folds onto itself, forming GAM336375 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336375 precursor RNA, designated SEQ ID NO: 142533, and a schematic representation of a predicted secondary folding of GAM336375 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336375 folded precursor RNA yielding a GAM336375 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336375 RNA, hereby incorporated herein.

GAM336375 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336375 target RNA, herein designated GAM TARGET RNA.

GAM336375 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336375 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336375 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the

nucleotide sequence of GAM336375 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336375 RNA, herein designated GAM RNA, to target binding sites on GAM336375 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336375 target RNA into GAM336375 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336375 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336375 target genes. The mRNA of each one of this plurality of GAM336375 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336375 RNA, herein designated GAM RNA, and which when bound by GAM336375 RNA causes inhibition of translation of the GAM336375 target mRNA into a corresponding GAM336375 target protein.

The mechanism of the translational inhibition exerted by GAM336375 RNA, herein designated GAM RNA, on one or more GAM336375 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336375 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336375 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336375 RNA, herein designated GAM RNA, of GAM336375 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336375 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336375 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336375 RNA correlate with, and may be deduced from, the identity of the GAM336375 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336376 142534 CTGGGATTAC Fig. 8 further provides a conceptual description of another novel bioinformatically
ATGTGTGAGC detected oligonucleotides of the present invention, referred to here as Genomic Address
CACCGCGCCT Messenger 336376 (GAM336376) oligonucleotides modulates expression of respective target
GGCCTCAAAT genes whose function and utility is known in the art.

TGTTTTTGAA GAM336376 is a novel bioinformatically detectable regulatory, non protein
GTAGTTAGGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336376 was detected
TGTAGCTCAT is described with additional reference to Figs. 9-15.

AAGACTGTCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTCAG encoded by the human genome.

GAM336376 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336376 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336376 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336376 precursor RNA is designated SEQ ID:142534, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142534 is located from position 11968201 to position 11968285 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GAM336376 precursor RNA folds onto itself, forming GAM336376 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336376 precursor RNA, designated SEQ ID NO: 142534, and a schematic representation of a predicted secondary folding of GAM336376 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336376 folded precursor RNA yielding a GAM336376 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336376 RNA, hereby incorporated herein.

GAM336376 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336376 target RNA, herein designated GAM TARGET RNA.

GAM336376 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336376 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336376 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336376 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336376 RNA, herein designated GAM RNA, to target binding sites on GAM336376 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336376 target RNA into GAM336376 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336376 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336376 target genes. The mRNA of each one of this plurality of GAM336376 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336376 RNA, herein designated GAM RNA, and which when bound by GAM336376 RNA causes inhibition of translation of the GAM336376 target mRNA into a corresponding GAM336376 target protein.

The mechanism of the translational inhibition exerted by GAM336376 RNA, herein designated GAM RNA, on one or more GAM336376 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336376 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336376 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336376 RNA, herein designated GAM RNA, of GAM336376 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336376 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336376 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336376 RNA correlate with, and may be deduced from, the identity of the GAM336376 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336377 142535 TGTGAGCCAC CGCGCCTGGC CTCAAATTGT TTTTGAAGTA GTTAGGTTGT AGCTCATA

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336377 (GAM336377) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336377 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336377 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336377 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336377 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336377 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336377 precursor RNA is designated SEQ ID:142535, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142535 is located from position 11968215 to position 11968272 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GAM336377 precursor RNA folds onto itself, forming GAM336377 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336377 precursor RNA, designated SEQ ID NO: 142535, and a schematic representation of a predicted secondary folding of GAM336377 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336377 folded precursor RNA yielding a GAM336377 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336377 RNA, hereby incorporated herein.

GAM336377 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336377 target RNA, herein designated GAM TARGET RNA.

GAM336377 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336377 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336377 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336377 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336377 RNA, herein designated GAM RNA, to target binding sites on GAM336377 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336377 target RNA into GAM336377 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336377 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336377 target genes. The mRNA of each one of this plurality of GAM336377 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336377 RNA, herein designated GAM RNA, and which when bound by GAM336377 RNA causes inhibition of translation of the GAM336377 target mRNA into a corresponding GAM336377 target protein.

The mechanism of the translational inhibition exerted by GAM336377 RNA, herein designated GAM RNA, on one or more GAM336377 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336377 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336377 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336377 RNA, herein designated GAM RNA, of

GAM336377 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336377 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336377 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336377 RNA correlate with, and may be deduced from, the identity of the GAM336377 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336378 142536 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336378 (GAM336378) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336378 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336378 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336378 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336378 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336378 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336378 precursor RNA is designated SEQ ID:142536, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142536 is located from position 12026100 to position 12026181 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336378 precursor RNA folds onto itself, forming GAM336378 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336378 precursor RNA, designated SEQ ID NO: 142536,

and a schematic representation of a predicted secondary folding of GAM336378 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336378 folded precursor RNA yielding a GAM336378 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336378 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336378 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336378 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336378 target RNA, herein designated GAM TARGET RNA.

GAM336378 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336378 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336378 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336378 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336378 RNA, herein designated GAM RNA, to target binding sites on GAM336378 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336378 target RNA into GAM336378 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336378 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336378 target genes. The mRNA of each one of this plurality of GAM336378 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336378 RNA, herein designated GAM RNA, and which when bound by GAM336378 RNA causes inhibition of translation of the GAM336378 target mRNA into a corresponding GAM336378 target protein.

The mechanism of the translational inhibition exerted by GAM336378 RNA, herein designated GAM RNA, on one or more GAM336378 target genes, herein collectively designated

GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336378 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336378 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336378 RNA, herein designated GAM RNA, of GAM336378 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336378 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336378 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336378 RNA correlate with, and may be deduced from, the identity of the GAM336378 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336379 142537 CCCCTTCCTA Fig. 8 further provides a conceptual description of another novel bioinformatically

GCGTGTAGGT detected oligonucleotides of the present invention, referred to here as Genomic Address

GTGCACTTTG Messenger 336379 (GAM336379) oligonucleotides modulates expression of respective target

ACCCTGCTGT genes whose function and utility is known in the art.

AGTGTGTAAG GAM336379 is a novel bioinformatically detectable regulatory, non protein

TATGCTCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336379 was detected

GACCTCTGCC is described with additional reference to Figs. 9-15.

CTACTGTATA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCCTGACACA encoded by the human genome.

GGAAGGGG GAM336379 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336379 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336379 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336379 precursor RNA is designated SEQ ID:142537, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142537 is located from position 12028827 to position 12028924

relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336379 precursor RNA folds onto itself, forming GAM336379 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336379 precursor RNA, designated SEQ ID NO: 142537, and a schematic representation of a predicted secondary folding of GAM336379 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336379 folded precursor RNA yielding a GAM336379 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336379 RNA, hereby incorporated herein.

GAM336379 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336379 target RNA, herein designated GAM TARGET RNA.

GAM336379 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336379 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336379 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336379 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336379 RNA, herein designated GAM RNA, to target binding sites on GAM336379 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336379 target RNA into GAM336379 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336379 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336379 target genes. The mRNA of each one of this plurality of GAM336379 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336379 RNA, herein designated GAM RNA, and which when bound by GAM336379 RNA causes inhibition of translation of the GAM336379 target mRNA into a corresponding GAM336379 target protein.

The mechanism of the translational inhibition exerted by GAM336379 RNA, herein designated GAM RNA, on one or more GAM336379 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336379 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336379 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336379 RNA, herein designated GAM RNA, of GAM336379 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336379 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336379 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336379 RNA correlate with, and may be deduced from, the identity of the GAM336379 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336380 142538 CTGGGATGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

ATGGAGCAAG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGTGAAGAT Messenger 336380 (GAM336380) oligonucleotides modulates expression of respective target

CTTGGAGTCT genes whose function and utility is known in the art.

GGAATCAGAC GAM336380 is a novel bioinformatically detectable regulatory, non protein

CACCTGGATT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336380 was detected

TTCATCCTAG is described with additional reference to Figs. 9-15.

TTCCCCGATC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGGG encoded by the human genome.

GAM336380 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336380 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336380 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336380 precursor RNA is designated SEQ ID:142538, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142538 is located from position 12103390 to position 12103473 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336380 precursor RNA folds onto itself, forming GAM336380 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336380 precursor RNA, designated SEQ ID NO: 142538, and a schematic representation of a predicted secondary folding of GAM336380 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336380 folded precursor RNA yielding a GAM336380 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336380 RNA, hereby incorporated herein.

GAM336380 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336380 target RNA, herein designated GAM TARGET RNA.

GAM336380 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336380 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336380 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336380 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336380 RNA, herein designated GAM RNA, to target binding sites on GAM336380 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336380 target RNA into GAM336380 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336380 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336380 target genes. The mRNA of each one of this plurality of GAM336380 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336380 RNA, herein designated GAM RNA, and which when bound by GAM336380 RNA causes inhibition of translation of the GAM336380 target mRNA into a corresponding GAM336380 target protein.

The mechanism of the translational inhibition exerted by GAM336380 RNA, herein designated GAM RNA, on one or more GAM336380 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336380 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336380 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336380 RNA, herein designated GAM RNA, of GAM336380 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336380 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336380 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336380 RNA correlate with, and may be deduced from, the identity of the GAM336380 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336381 142539 GATGGGATGG Fig. 8 further provides a conceptual description of another novel bioinformatically

AGCAAGAGGT detected oligonucleotides of the present invention, referred to here as Genomic Address

GAAGATCTTG Messenger 336381 (GAM336381) oligonucleotides modulates expression of respective target

GAGTCTGGAA genes whose function and utility is known in the art.

TCAGACCACC GAM336381 is a novel bioinformatically detectable regulatory, non protein
TGGATTTTCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336381 was detected
TCCTAGTTCC is described with additional reference to Figs. 9-15.

CCGATC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336381 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336381 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336381 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336381 precursor RNA is designated SEQ ID:142539, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142539 is located from position 12103394 to position 12103469 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336381 precursor RNA folds onto itself, forming GAM336381 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336381 precursor RNA, designated SEQ ID NO: 142539, and a schematic representation of a predicted secondary folding of GAM336381 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336381 folded precursor RNA yielding a GAM336381 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336381 RNA, hereby incorporated herein.

GAM336381 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336381 target RNA, herein designated GAM TARGET RNA.

GAM336381 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336381 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336381 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the

nucleotide sequence of GAM336381 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336381 RNA, herein designated GAM RNA, to target binding sites on GAM336381 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336381 target RNA into GAM336381 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336381 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336381 target genes. The mRNA of each one of this plurality of GAM336381 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336381 RNA, herein designated GAM RNA, and which when bound by GAM336381 RNA causes inhibition of translation of the GAM336381 target mRNA into a corresponding GAM336381 target protein.

The mechanism of the translational inhibition exerted by GAM336381 RNA, herein designated GAM RNA, on one or more GAM336381 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336381 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336381 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336381 RNA, herein designated GAM RNA, of GAM336381 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336381 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336381 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336381 RNA correlate with, and may be deduced from, the identity of the GAM336381 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336382 142540 GGAGAATCAC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACTCGA detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGCGGAGG Messenger 336382 (GAM336382) oligonucleotides modulates expression of respective target
TTGCAGTGAG genes whose function and utility is known in the art.

CTGAGATCCC GAM336382 is a novel bioinformatically detectable regulatory, non protein
GCCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336382 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GTGACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGACTCC encoded by the human genome.

GAM336382 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336382 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336382 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336382 precursor RNA is designated SEQ ID:142540, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142540 is located from position 12118809 to position 12118896 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GAM336382 precursor RNA folds onto itself, forming GAM336382 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336382 precursor RNA, designated SEQ ID NO: 142540, and a schematic representation of a predicted secondary folding of GAM336382 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336382 folded precursor RNA yielding a GAM336382 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336382 RNA, hereby incorporated herein.

GAM336382 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336382 target RNA, herein designated GAM TARGET RNA.

GAM336382 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336382 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336382 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336382 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336382 RNA, herein designated GAM RNA, to target binding sites on GAM336382 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336382 target RNA into GAM336382 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336382 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336382 target genes. The mRNA of each one of this plurality of GAM336382 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336382 RNA, herein designated GAM RNA, and which when bound by GAM336382 RNA causes inhibition of translation of the GAM336382 target mRNA into a corresponding GAM336382 target protein.

The mechanism of the translational inhibition exerted by GAM336382 RNA, herein designated GAM RNA, on one or more GAM336382 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336382 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336382 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336382 RNA, herein designated GAM RNA, of GAM336382 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336382 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336382 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336382 RNA correlate with, and may be deduced from, the identity of the GAM336382 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336383 142541 CTACAGAGAT Fig. 8 further provides a conceptual description of another novel bioinformatically
AAAGGACGGT detected oligonucleotides of the present invention, referred to here as Genomic Address
GACTCTTGTG Messenger 336383 (GAM336383) oligonucleotides modulates expression of respective target
TCAGTTAGTT genes whose function and utility is known in the art.

GTTGTCACAA GAM336383 is a novel bioinformatically detectable regulatory, non protein
AATGCTGCAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336383 was detected
AACAAGTCAC is described with additional reference to Figs. 9-15.

TCCAAATCTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGTGG encoded by the human genome.

GAM336383 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336383 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336383 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336383 precursor RNA is designated SEQ ID:142541, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142541 is located from position 12183748 to position 12183832 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM336383 precursor RNA folds onto itself, forming GAM336383 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336383 precursor RNA, designated SEQ ID NO: 142541, and a schematic representation of a predicted secondary folding of GAM336383 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336383 folded precursor RNA yielding a GAM336383 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336383 RNA, hereby incorporated herein.

GAM336383 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336383 target RNA, herein designated GAM TARGET RNA.

GAM336383 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336383 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336383 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336383 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336383 RNA, herein designated GAM RNA, to target binding sites on GAM336383 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336383 target RNA into GAM336383 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336383 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336383 target genes. The mRNA of each one of this plurality of GAM336383 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336383 RNA, herein designated GAM RNA, and which when bound by GAM336383 RNA causes inhibition of translation of the GAM336383 target mRNA into a corresponding GAM336383 target protein.

The mechanism of the translational inhibition exerted by GAM336383 RNA, herein designated GAM RNA, on one or more GAM336383 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336383 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336383 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336383 RNA, herein designated GAM RNA, of

GAM336383 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336383 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336383 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336383 RNA correlate with, and may be deduced from, the identity of the GAM336383 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336384 142542 TTGTTGATTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TGTTGAGGAT detected oligonucleotides of the present invention, referred to here as Genomic Address

ATATCCCTAT Messenger 336384 (GAM336384) oligonucleotides modulates expression of respective target

GATGTCCCTG genes whose function and utility is known in the art.

GGAAGCGATG GAM336384 is a novel bioinformatically detectable regulatory, non protein

GGGCATTCCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336384 was detected

AGTCATCTGG is described with additional reference to Figs. 9-15.

GATGTGCAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTCTAAATAT encoded by the human genome.

TATCAATGG GAM336384 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336384 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336384 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336384 precursor RNA is designated SEQ ID:142542, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142542 is located from position 12348835 to position 12348933 relative to chromosome chr20 on the `-` strand (chr is an abbreviation for chromosome).

GAM336384 precursor RNA folds onto itself, forming GAM336384 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336384 precursor RNA, designated SEQ ID NO: 142542, and a schematic representation of a predicted secondary folding of GAM336384 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336384 folded precursor RNA yielding a GAM336384 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336384 RNA, hereby incorporated herein.

GAM336384 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336384 target RNA, herein designated GAM TARGET RNA.

GAM336384 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336384 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336384 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336384 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336384 RNA, herein designated GAM RNA, to target binding sites on GAM336384 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336384 target RNA into GAM336384 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336384 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336384 target genes. The mRNA of each one of this plurality of GAM336384 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336384 RNA, herein designated GAM RNA, and which when bound by GAM336384 RNA causes inhibition of translation of the GAM336384 target mRNA into a corresponding GAM336384 target protein.

The mechanism of the translational inhibition exerted by GAM336384 RNA, herein designated GAM RNA, on one or more GAM336384 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336384 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336384 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336384 RNA, herein designated GAM RNA, of GAM336384 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336384 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336384 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336384 RNA correlate with, and may be deduced from, the identity of the GAM336384 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336385 142543 GATTCTGTTG Fig. 8 further provides a conceptual description of another novel bioinformatically

AGGATATATC detected oligonucleotides of the present invention, referred to here as Genomic Address

CCTATGATGT Messenger 336385 (GAM336385) oligonucleotides modulates expression of respective target

CCCTGGGAAG genes whose function and utility is known in the art.

CGATGGGGCA GAM336385 is a novel bioinformatically detectable regulatory, non protein

TTCCCAGTCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336385 was detected

TCTGGGATGT is described with additional reference to Figs. 9-15.

GCAGTTTCTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AATATTATC encoded by the human genome.

GAM336385 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336385 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336385 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336385 precursor RNA is designated SEQ ID:142543, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142543 is located from position 12348840 to position 12348928 relative to chromosome chr20 on the `-` strand (chr is an abbreviation for chromosome).

GAM336385 precursor RNA folds onto itself, forming GAM336385 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336385 precursor RNA, designated SEQ ID NO: 142543, and a schematic representation of a predicted secondary folding of GAM336385 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336385 folded precursor RNA yielding a GAM336385 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336385 RNA, hereby incorporated herein.

GAM336385 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336385 target RNA, herein designated GAM TARGET RNA.

GAM336385 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336385 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336385 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336385 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336385 RNA, herein designated GAM RNA, to target binding sites on GAM336385 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336385 target RNA into GAM336385 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336385 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336385 target genes. The mRNA of each one of this

plurality of GAM336385 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336385 RNA, herein designated GAM RNA, and which when bound by GAM336385 RNA causes inhibition of translation of the GAM336385 target mRNA into a corresponding GAM336385 target protein.

The mechanism of the translational inhibition exerted by GAM336385 RNA, herein designated GAM RNA, on one or more GAM336385 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336385 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336385 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336385 RNA, herein designated GAM RNA, of GAM336385 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336385 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336385 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336385 RNA correlate with, and may be deduced from, the identity of the GAM336385 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336386 142544 ACAAATGTCT Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGGCCTCTG detected oligonucleotides of the present invention, referred to here as Genomic Address

TGCCTTTCCT Messenger 336386 (GAM336386) oligonucleotides modulates expression of respective target

CAGACTTTCA genes whose function and utility is known in the art.

GGCCCATTGT GAM336386 is a novel bioinformatically detectable regulatory, non protein

GAGAGAGCTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336386 was detected

GGAAGATACA is described with additional reference to Figs. 9-15.

GGGTTGTCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTTGACACAT encoded by the human genome.

GT GAM336386 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336386 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336386 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336386 precursor RNA is designated SEQ ID:142544, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142544 is located from position 12401666 to position 12401757 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336386 precursor RNA folds onto itself, forming GAM336386 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336386 precursor RNA, designated SEQ ID NO: 142544, and a schematic representation of a predicted secondary folding of GAM336386 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336386 folded precursor RNA yielding a GAM336386 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336386 RNA, hereby incorporated herein.

GAM336386 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336386 target RNA, herein designated GAM TARGET RNA.

GAM336386 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336386 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336386 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336386 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336386 RNA, herein designated GAM RNA, to target

binding sites on GAM336386 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336386 target RNA into GAM336386 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336386 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336386 target genes. The mRNA of each one of this plurality of GAM336386 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336386 RNA, herein designated GAM RNA, and which when bound by GAM336386 RNA causes inhibition of translation of the GAM336386 target mRNA into a corresponding GAM336386 target protein.

The mechanism of the translational inhibition exerted by GAM336386 RNA, herein designated GAM RNA, on one or more GAM336386 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336386 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336386 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336386 RNA, herein designated GAM RNA, of GAM336386 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336386 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336386 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336386 RNA correlate with, and may be deduced from, the identity of the GAM336386 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336387 142545 TTGCTTGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically

CTTGGAGGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTTGCAG Messenger 336387 (GAM336387) oligonucleotides modulates expression of respective target

TGAGCCAAGA genes whose function and utility is known in the art.

TCATGCCACT GAM336387 is a novel bioinformatically detectable regulatory, non protein

GCACTGTAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336387 was detected

CTCCTGGGTG is described with additional reference to Figs. 9-15.

ACAGAGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336387 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336387 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336387 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336387 precursor RNA is designated SEQ ID:142545, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142545 is located from position 12619567 to position 12619645 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM336387 precursor RNA folds onto itself, forming GAM336387 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336387 precursor RNA, designated SEQ ID NO: 142545, and a schematic representation of a predicted secondary folding of GAM336387 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336387 folded precursor RNA yielding a GAM336387 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336387 RNA, hereby incorporated herein.

GAM336387 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336387 target RNA, herein designated GAM TARGET RNA.

GAM336387 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336387 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336387 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336387 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336387 RNA, herein designated GAM RNA, to target binding sites on GAM336387 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336387 target RNA into GAM336387 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336387 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336387 target genes. The mRNA of each one of this plurality of GAM336387 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336387 RNA, herein designated GAM RNA, and which when bound by GAM336387 RNA causes inhibition of translation of the GAM336387 target mRNA into a corresponding GAM336387 target protein.

The mechanism of the translational inhibition exerted by GAM336387 RNA, herein designated GAM RNA, on one or more GAM336387 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336387 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336387 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336387 RNA, herein designated GAM RNA, of GAM336387 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336387 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336387 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336387 RNA correlate with, and may be deduced from, the identity of the GAM336387 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336388 142546 GTTCCTCTTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TCATTGGCTG detected oligonucleotides of the present invention, referred to here as Genomic Address
ATGTGCTCTG Messenger 336388 (GAM336388) oligonucleotides modulates expression of respective target
TGGCATCTGT genes whose function and utility is known in the art.

CACAGGTTTT GAM336388 is a novel bioinformatically detectable regulatory, non protein
AATTGAAGGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336388 was detected
CAGCAGTGGC is described with additional reference to Figs. 9-15.

AGGTAAGCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CCAGCATCAT encoded by the human genome.

CAGCTTCTTT GAM336388 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CAGCCTTTTG GAM336388 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAAC GAM336388 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336388 precursor RNA is designated SEQ ID:142546, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142546 is located from position 12778141 to position 12778254 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336388 precursor RNA folds onto itself, forming GAM336388 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336388 precursor RNA, designated SEQ ID NO: 142546, and a schematic representation of a predicted secondary folding of GAM336388 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336388 folded precursor RNA yielding a GAM336388 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336388 RNA, hereby incorporated herein.

GAM336388 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336388 target RNA, herein designated GAM TARGET RNA.

GAM336388 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336388 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336388 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336388 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336388 RNA, herein designated GAM RNA, to target binding sites on GAM336388 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336388 target RNA into GAM336388 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336388 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336388 target genes. The mRNA of each one of this plurality of GAM336388 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336388 RNA, herein designated GAM RNA, and which when bound by GAM336388 RNA causes inhibition of translation of the GAM336388 target mRNA into a corresponding GAM336388 target protein.

The mechanism of the translational inhibition exerted by GAM336388 RNA, herein designated GAM RNA, on one or more GAM336388 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336388 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336388 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336388 RNA, herein designated GAM RNA, of GAM336388 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336388 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336388 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336388 RNA correlate with, and may be deduced from, the identity of the GAM336388 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336389 142547 GGCTGATGTG Fig. 8 further provides a conceptual description of another novel bioinformatically
CTCTGTGGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
TCTGTCACAG Messenger 336389 (GAM336389) oligonucleotides modulates expression of respective target
GTTTTAATTG genes whose function and utility is known in the art.

AAGGTCAGCA GAM336389 is a novel bioinformatically detectable regulatory, non protein
GTGGCAGGTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336389 was detected
AGCCACCAGC is described with additional reference to Figs. 9-15.

ATCATCAGCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336389 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336389 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336389 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336389 precursor RNA is designated SEQ ID:142547, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142547 is located from position 12778156 to position 12778235 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336389 precursor RNA folds onto itself, forming GAM336389 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336389 precursor RNA, designated SEQ ID NO: 142547, and a schematic representation of a predicted secondary folding of GAM336389 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336389 folded precursor RNA yielding a GAM336389 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336389 RNA, hereby incorporated herein.

GAM336389 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336389 target RNA, herein designated GAM TARGET RNA.

GAM336389 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336389 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336389 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336389 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336389 RNA, herein designated GAM RNA, to target binding sites on GAM336389 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336389 target RNA into GAM336389 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336389 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336389 target genes. The mRNA of each one of this plurality of GAM336389 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336389 RNA, herein designated GAM RNA, and which when bound by GAM336389 RNA causes inhibition of translation of the GAM336389 target mRNA into a corresponding GAM336389 target protein.

The mechanism of the translational inhibition exerted by GAM336389 RNA, herein designated GAM RNA, on one or more GAM336389 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336389 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336389 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336389 RNA, herein designated GAM RNA, of GAM336389 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336389 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336389 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336389 RNA correlate with, and may be deduced from, the identity of the GAM336389 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336390 142548 TGAGGCAGAA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATCTCTTA detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCCGGGAG Messenger 336390 (GAM336390) oligonucleotides modulates expression of respective target
GCGGAGGTTG genes whose function and utility is known in the art.

CAGTGAGCCG GAM336390 is a novel bioinformatically detectable regulatory, non protein
AGATTGCGTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336390 was detected
ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAGAGCGAG encoded by the human genome.

ACTCCGTTTC GAM336390 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
A GAM336390 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336390 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336390 precursor RNA is designated SEQ ID:142548, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142548 is located from position 12791804 to position 12791904 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM336390 precursor RNA folds onto itself, forming GAM336390 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336390 precursor RNA, designated SEQ ID NO: 142548, and a schematic representation of a predicted secondary folding of GAM336390 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336390 folded precursor RNA yielding a GAM336390 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336390 RNA, hereby incorporated herein. Expression of GAM336390 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336390 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336390 target RNA, herein designated GAM TARGET RNA.

GAM336390 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336390 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336390 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336390 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336390 RNA, herein designated GAM RNA, to target binding sites on GAM336390 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336390 target RNA into GAM336390 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336390 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336390 target genes. The mRNA of each one of this plurality of GAM336390 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336390 RNA, herein designated GAM RNA, and which when bound by GAM336390 RNA causes inhibition of translation of the GAM336390 target mRNA into a corresponding GAM336390 target protein.

The mechanism of the translational inhibition exerted by GAM336390 RNA, herein designated GAM RNA, on one or more GAM336390 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336390 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336390 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336390 RNA, herein designated GAM RNA, of GAM336390 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336390 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336390 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336390 RNA correlate with, and may be deduced from, the identity of the GAM336390 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336391 142549 GAAGAATCTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTAAACCCGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGCGGAGG Messenger 336391 (GAM336391) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

CCGAGATTGC GAM336391 is a novel bioinformatically detectable regulatory, non protein

GTCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336391 was detected

TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGACTCCGT encoded by the human genome.

TTC GAM336391 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336391 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336391 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336391 precursor RNA is designated SEQ ID:142549, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142549 is located from position 12791805 to position 12791897 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM336391 precursor RNA folds onto itself, forming GAM336391 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336391 precursor RNA, designated SEQ ID NO: 142549, and a schematic representation of a predicted secondary folding of GAM336391 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336391 folded precursor RNA yielding a GAM336391 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336391 RNA, hereby incorporated herein. Expression of GAM336391 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336391 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336391 target RNA, herein designated GAM TARGET RNA.

GAM336391 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336391 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336391 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336391 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336391 RNA, herein designated GAM RNA, to target binding sites on GAM336391 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336391 target RNA into GAM336391 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336391 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336391 target genes. The mRNA of each one of this plurality of GAM336391 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336391 RNA, herein designated GAM RNA, and which when bound by GAM336391 RNA causes inhibition of translation of the GAM336391 target mRNA into a corresponding GAM336391 target protein.

The mechanism of the translational inhibition exerted by GAM336391 RNA, herein designated GAM RNA, on one or more GAM336391 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336391 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336391 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336391 RNA, herein designated GAM RNA, of GAM336391 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336391 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336391 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336391 RNA correlate with, and may be deduced from, the identity of the GAM336391 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336392 142550 CTCTTAAACC Fig. 8 further provides a conceptual description of another novel bioinformatically

CGGGAGGCGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGTTGCAGT Messenger 336392 (GAM336392) oligonucleotides modulates expression of respective target

GAGCCGAGAT genes whose function and utility is known in the art.

TGCGTCACTG GAM336392 is a novel bioinformatically detectable regulatory, non protein

CACTCCAGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336392 was detected

TGGGCAACAG is described with additional reference to Figs. 9-15.

AG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336392 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336392 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336392 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336392 precursor RNA is designated SEQ ID:142550, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142550 is located from position 12791819 to position 12791890 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM336392 precursor RNA folds onto itself, forming GAM336392 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336392 precursor RNA, designated SEQ ID NO: 142550, and a schematic representation of a predicted secondary folding of GAM336392 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336392 folded precursor RNA yielding a GAM336392 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336392 RNA, hereby incorporated herein. Expression of GAM336392 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336392 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336392 target RNA, herein designated GAM TARGET RNA.

GAM336392 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336392 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336392 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336392 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336392 RNA, herein designated GAM RNA, to target binding sites on GAM336392 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336392 target RNA into GAM336392 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336392 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336392 target genes. The mRNA of each one of this plurality of GAM336392 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336392 RNA, herein designated GAM RNA, and which when bound by GAM336392 RNA causes inhibition of translation of the GAM336392 target mRNA into a corresponding GAM336392 target protein.

The mechanism of the translational inhibition exerted by GAM336392 RNA, herein designated GAM RNA, on one or more GAM336392 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336392 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336392 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336392 RNA, herein designated GAM RNA, of GAM336392 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336392 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336392 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336392 RNA correlate with, and may be deduced from, the identity of the GAM336392 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336393 142551 TCTTTCACTG Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATCACATC detected oligonucleotides of the present invention, referred to here as Genomic Address

TGCAGCTCCT Messenger 336393 (GAM336393) oligonucleotides modulates expression of respective target

CCCCCTCCGC genes whose function and utility is known in the art.

CCTCCCTCAG GAM336393 is a novel bioinformatically detectable regulatory, non protein
GCTTAGACCG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336393 was detected
TGGAGCTGTA is described with additional reference to Figs. 9-15.

ACAGATCTGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCTTCGTGTG encoded by the human genome.

AGA GAM336393 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336393 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336393 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336393 precursor RNA is designated SEQ ID:142551, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142551 is located from position 12833782 to position 12833874 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336393 precursor RNA folds onto itself, forming GAM336393 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336393 precursor RNA, designated SEQ ID NO: 142551, and a schematic representation of a predicted secondary folding of GAM336393 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336393 folded precursor RNA yielding a GAM336393 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336393 RNA, hereby incorporated herein.

GAM336393 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336393 target RNA, herein designated GAM TARGET RNA.

GAM336393 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336393 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM336393 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336393 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336393 RNA, herein designated GAM RNA, to target binding sites on GAM336393 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336393 target RNA into GAM336393 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336393 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336393 target genes. The mRNA of each one of this plurality of GAM336393 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336393 RNA, herein designated GAM RNA, and which when bound by GAM336393 RNA causes inhibition of translation of the GAM336393 target mRNA into a corresponding GAM336393 target protein.

The mechanism of the translational inhibition exerted by GAM336393 RNA, herein designated GAM RNA, on one or more GAM336393 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336393 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336393 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336393 RNA, herein designated GAM RNA, of GAM336393 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336393 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336393 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336393 RNA correlate with, and may be deduced from, the identity of the GAM336393 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336394 142552 CTGCCAGCCG Fig. 8 further provides a conceptual description of another novel bioinformatically
TCTGTCTCTA detected oligonucleotides of the present invention, referred to here as Genomic Address
GTGTTTTTCC Messenger 336394 (GAM336394) oligonucleotides modulates expression of respective target
AAATGACATC genes whose function and utility is known in the art.

CAGGGCTCTG GAM336394 is a novel bioinformatically detectable regulatory, non protein
GCCGTGGAGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336394 was detected
CCCTGATGTG is described with additional reference to Figs. 9-15.

ATCGCTAAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GACCTCCGGA encoded by the human genome.

GAGGGGCTCG GAM336394 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CAG GAM336394 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336394 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336394 precursor RNA is designated SEQ ID:142552, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142552 is located from position 12908963 to position 12909065 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM336394 precursor RNA folds onto itself, forming GAM336394 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336394 precursor RNA, designated SEQ ID NO: 142552, and a schematic representation of a predicted secondary folding of GAM336394 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336394 folded precursor RNA yielding a GAM336394 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336394 RNA, hereby incorporated herein.

GAM336394 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336394 target RNA, herein designated GAM TARGET RNA.

GAM336394 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336394 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336394 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336394 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336394 RNA, herein designated GAM RNA, to target binding sites on GAM336394 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336394 target RNA into GAM336394 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336394 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336394 target genes. The mRNA of each one of this plurality of GAM336394 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336394 RNA, herein designated GAM RNA, and which when bound by GAM336394 RNA causes inhibition of translation of the GAM336394 target mRNA into a corresponding GAM336394 target protein.

The mechanism of the translational inhibition exerted by GAM336394 RNA, herein designated GAM RNA, on one or more GAM336394 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336394 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336394 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336394 RNA, herein designated GAM RNA, of GAM336394 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336394 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336394 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336394 RNA correlate with, and may be deduced from, the identity of the GAM336394 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336395 142553 GTCTGTCTCT Fig. 8 further provides a conceptual description of another novel bioinformatically
AGTGTTTTTC detected oligonucleotides of the present invention, referred to here as Genomic Address
CAAATGACAT Messenger 336395 (GAM336395) oligonucleotides modulates expression of respective target
CCAGGGCTCT genes whose function and utility is known in the art.

GGCCGTGGAG GAM336395 is a novel bioinformatically detectable regulatory, non protein
TCCCTGATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336395 was detected
GATCGCTAAA is described with additional reference to Figs. 9-15.

GGACCTCCGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGAGGGGC encoded by the human genome.

GAM336395 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336395 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336395 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336395 precursor RNA is designated SEQ ID:142553, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142553 is located from position 12908972 to position 12909059 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM336395 precursor RNA folds onto itself, forming GAM336395 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336395 precursor RNA, designated SEQ ID NO: 142553, and a schematic representation of a predicted secondary folding of GAM336395 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336395 folded precursor RNA yielding a GAM336395 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336395 RNA, hereby incorporated herein.

GAM336395 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336395 target RNA, herein designated GAM TARGET RNA.

GAM336395 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336395 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336395 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336395 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336395 RNA, herein designated GAM RNA, to target binding sites on GAM336395 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336395 target RNA into GAM336395 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336395 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336395 target genes. The mRNA of each one of this plurality of GAM336395 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336395 RNA, herein designated GAM RNA, and which when bound by GAM336395 RNA causes inhibition of translation of the GAM336395 target mRNA into a corresponding GAM336395 target protein.

The mechanism of the translational inhibition exerted by GAM336395 RNA, herein designated GAM RNA, on one or more GAM336395 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336395 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336395 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336395 RNA, herein designated GAM RNA, of GAM336395 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336395 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336395 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336395 RNA correlate with, and may be deduced from, the identity of the GAM336395 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336396 142554 GCACTATTCA Fig. 8 further provides a conceptual description of another novel bioinformatically

CAGTATCAGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GACATGGATC Messenger 336396 (GAM336396) oligonucleotides modulates expression of respective target

AATCCACCGT genes whose function and utility is known in the art.

TGATCACCGG GAM336396 is a novel bioinformatically detectable regulatory, non protein

TGGATTGGAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336396 was detected

GAAGAAATGG is described with additional reference to Figs. 9-15.

TGGATTGGTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CATGTATATC encoded by the human genome.

ATGGAATACT GAM336396 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GTGC GAM336396 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336396 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336396 precursor RNA is designated SEQ ID:142554, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142554 is located from position 13099112 to position 13099215 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM336396 precursor RNA folds onto itself, forming GAM336396 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336396 precursor RNA, designated SEQ ID NO: 142554, and a schematic representation of a predicted secondary folding of GAM336396 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336396 folded precursor RNA yielding a GAM336396 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336396 RNA, hereby incorporated herein.

GAM336396 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336396 target RNA, herein designated GAM TARGET RNA.

GAM336396 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336396 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336396 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336396 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336396 RNA, herein designated GAM RNA, to target binding sites on GAM336396 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336396 target RNA into GAM336396 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336396 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336396 target genes. The mRNA of each one of this plurality of GAM336396 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336396 RNA, herein designated GAM RNA, and which when bound by GAM336396 RNA causes inhibition of translation of the GAM336396 target mRNA into a corresponding GAM336396 target protein.

The mechanism of the translational inhibition exerted by GAM336396 RNA, herein designated GAM RNA, on one or more GAM336396 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336396 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336396 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336396 RNA, herein designated GAM RNA, of GAM336396 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336396 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336396 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336396 RNA correlate with, and may be deduced from, the identity of the GAM336396 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336397 142555 GCGTTCCTGG Fig. 8 further provides a conceptual description of another novel bioinformatically

GAAAACCATT detected oligonucleotides of the present invention, referred to here as Genomic Address

TAGATTTCAT Messenger 336397 (GAM336397) oligonucleotides modulates expression of respective target

TCTCCTTCCT genes whose function and utility is known in the art.

TTCTCTGACA GAM336397 is a novel bioinformatically detectable regulatory, non protein

GAAGCTGCTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336397 was detected

GTGAGGAAGG is described with additional reference to Figs. 9-15.

TAATGATCTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GATCAAACCA encoded by the human genome.

TCCCCAGAAT GAM336397 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GC GAM336397 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336397 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336397 precursor RNA is designated SEQ ID:142555, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142555 is located from position 13120513 to position 13120614 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336397 precursor RNA folds onto itself, forming GAM336397 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336397 precursor RNA, designated SEQ ID NO: 142555, and a schematic representation of a predicted secondary folding of GAM336397 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336397 folded precursor RNA yielding a GAM336397 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336397 RNA, hereby incorporated herein.

GAM336397 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336397 target RNA, herein designated GAM TARGET RNA.

GAM336397 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336397 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336397 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336397 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336397 RNA, herein designated GAM RNA, to target binding sites on GAM336397 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336397 target RNA

into GAM336397 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336397 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336397 target genes. The mRNA of each one of this plurality of GAM336397 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336397 RNA, herein designated GAM RNA, and which when bound by GAM336397 RNA causes inhibition of translation of the GAM336397 target mRNA into a corresponding GAM336397 target protein.

The mechanism of the translational inhibition exerted by GAM336397 RNA, herein designated GAM RNA, on one or more GAM336397 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336397 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336397 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336397 RNA, herein designated GAM RNA, of GAM336397 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336397 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336397 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336397 RNA correlate with, and may be deduced from, the identity of the GAM336397 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336398 142556 AATGCAGGAA Fig. 8 further provides a conceptual description of another novel bioinformatically

TCACAGGGAC detected oligonucleotides of the present invention, referred to here as Genomic Address

AGTCATCGTT Messenger 336398 (GAM336398) oligonucleotides modulates expression of respective target

TTAAAAGAAG genes whose function and utility is known in the art.

CAGGACCCCG GAM336398 is a novel bioinformatically detectable regulatory, non protein

GTATCTTGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336398 was detected

CTTTGAAAAC is described with additional reference to Figs. 9-15.

AGATGATGGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGACTTTGTT encoded by the human genome.

TTGCATT GAM336398 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336398 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336398 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336398 precursor RNA is designated SEQ ID:142556, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142556 is located from position 13443102 to position 13443198 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM336398 precursor RNA folds onto itself, forming GAM336398 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336398 precursor RNA, designated SEQ ID NO: 142556, and a schematic representation of a predicted secondary folding of GAM336398 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336398 folded precursor RNA yielding a GAM336398 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336398 RNA, hereby incorporated herein.

GAM336398 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336398 target RNA, herein designated GAM TARGET RNA.

GAM336398 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336398 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336398 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336398 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336398 RNA, herein designated GAM RNA, to target binding sites on GAM336398 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336398 target RNA into GAM336398 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336398 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336398 target genes. The mRNA of each one of this plurality of GAM336398 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336398 RNA, herein designated GAM RNA, and which when bound by GAM336398 RNA causes inhibition of translation of the GAM336398 target mRNA into a corresponding GAM336398 target protein.

The mechanism of the translational inhibition exerted by GAM336398 RNA, herein designated GAM RNA, on one or more GAM336398 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336398 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336398 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336398 RNA, herein designated GAM RNA, of GAM336398 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336398 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336398 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336398 RNA correlate with, and may be deduced from, the identity of the GAM336398 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336399 142557 CATTTTAGTA Fig. 8 further provides a conceptual description of another novel bioinformatically

ATGCTCAGCT detected oligonucleotides of the present invention, referred to here as Genomic Address

GGACCAGTGT Messenger 336399 (GAM336399) oligonucleotides modulates expression of respective target
TAGTTATATT genes whose function and utility is known in the art.

TGAGTCAGAA GAM336399 is a novel bioinformatically detectable regulatory, non protein
AAATGTTGTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336399 was detected
TTTCAACTTG is described with additional reference to Figs. 9-15.

CTTTATAATC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCCTGCATCT encoded by the human genome.

ATCTCCTGCT GAM336399 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GTAGCATCAC GAM336399 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAAGGTG GAM336399 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336399 precursor RNA is designated SEQ ID:142557, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142557 is located from position 13641031 to position 13641147 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM336399 precursor RNA folds onto itself, forming GAM336399 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336399 precursor RNA, designated SEQ ID NO: 142557, and a schematic representation of a predicted secondary folding of GAM336399 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336399 folded precursor RNA yielding a GAM336399 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336399 RNA, hereby incorporated herein.

GAM336399 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336399 target RNA, herein designated GAM TARGET RNA.

GAM336399 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336399 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336399 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336399 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336399 RNA, herein designated GAM RNA, to target binding sites on GAM336399 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336399 target RNA into GAM336399 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336399 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336399 target genes. The mRNA of each one of this plurality of GAM336399 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336399 RNA, herein designated GAM RNA, and which when bound by GAM336399 RNA causes inhibition of translation of the GAM336399 target mRNA into a corresponding GAM336399 target protein.

The mechanism of the translational inhibition exerted by GAM336399 RNA, herein designated GAM RNA, on one or more GAM336399 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336399 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336399 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336399 RNA, herein designated GAM RNA, of GAM336399 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336399 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336399 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336399 RNA correlate with, and may be deduced from, the identity of the GAM336399 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336400 142558 AGTTTTAGGG

TACATGTGCA

CAACATGCAG

GTTTGTTACA

TATGTATACA

TGTGCCATGT

TGGTGTGCTG

CACCCATTAA

CT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336400 (GAM336400) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336400 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336400 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336400 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336400 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336400 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336400 precursor RNA is designated SEQ ID:142558, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142558 is located from position 13789635 to position 13789716 relative to chromosome chr3 on the `+` strand (chr is an abbreviation for chromosome).

GAM336400 precursor RNA folds onto itself, forming GAM336400 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336400 precursor RNA, designated SEQ ID NO: 142558, and a schematic representation of a predicted secondary folding of GAM336400 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336400 folded precursor RNA yielding a GAM336400 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336400 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336400 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336400 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336400 target RNA, herein designated GAM TARGET RNA.

GAM336400 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336400 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336400 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336400 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336400 RNA, herein designated GAM RNA, to target binding sites on GAM336400 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336400 target RNA into GAM336400 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336400 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336400 target genes. The mRNA of each one of this plurality of GAM336400 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336400 RNA, herein designated GAM RNA, and which when bound by GAM336400 RNA causes inhibition of translation of the GAM336400 target mRNA into a corresponding GAM336400 target protein.

The mechanism of the translational inhibition exerted by GAM336400 RNA, herein designated GAM RNA, on one or more GAM336400 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336400 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336400 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336400 RNA, herein designated GAM RNA, of GAM336400 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336400 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336400 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336400 RNA correlate with, and may be deduced from, the identity of the GAM336400 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336401 142559 TAATTCTCAA Fig. 8 further provides a conceptual description of another novel bioinformatically

TGAAGAAATT detected oligonucleotides of the present invention, referred to here as Genomic Address

CACTGAGGGA Messenger 336401 (GAM336401) oligonucleotides modulates expression of respective target

GTGAGGTTCT genes whose function and utility is known in the art.

TCTCAAACAT GAM336401 is a novel bioinformatically detectable regulatory, non protein

TTTTAGGGCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336401 was detected

GAGAAACTCA is described with additional reference to Figs. 9-15.

CTTCCTGCAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTGGAGATTC encoded by the human genome.

TTCCTTGTGT GAM336401 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TG GAM336401 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336401 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336401 precursor RNA is designated SEQ ID:142559, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142559 is located from position 13863781 to position 13863882 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336401 precursor RNA folds onto itself, forming GAM336401 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336401 precursor RNA, designated SEQ ID NO: 142559, and a schematic representation of a predicted secondary folding of GAM336401 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336401 folded precursor RNA yielding a GAM336401 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336401 RNA, hereby incorporated herein.

GAM336401 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336401 target RNA, herein designated GAM TARGET RNA.

GAM336401 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336401 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336401 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336401 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336401 RNA, herein designated GAM RNA, to target binding sites on GAM336401 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336401 target RNA into GAM336401 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336401 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336401 target genes. The mRNA of each one of this plurality of GAM336401 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336401 RNA, herein designated GAM RNA, and which when bound by GAM336401 RNA causes inhibition of translation of the GAM336401 target mRNA into a corresponding GAM336401 target protein.

The mechanism of the translational inhibition exerted by GAM336401 RNA, herein designated GAM RNA, on one or more GAM336401 target genes, herein collectively designated

GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336401 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336401 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336401 RNA, herein designated GAM RNA, of GAM336401 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336401 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336401 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336401 RNA correlate with, and may be deduced from, the identity of the GAM336401 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336402 142560 CAATGAAGAA Fig. 8 further provides a conceptual description of another novel bioinformatically

ATTCACTGAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GGAGTGAGGT Messenger 336402 (GAM336402) oligonucleotides modulates expression of respective target

TCTTCTCAAA genes whose function and utility is known in the art.

CATTTTTAGG GAM336402 is a novel bioinformatically detectable regulatory, non protein

GCTGAGAAAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336402 was detected

TCACTTCCTG is described with additional reference to Figs. 9-15.

CAGCTGGAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTCTTCCTTG encoded by the human genome.

GAM336402 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336402 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336402 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336402 precursor RNA is designated SEQ ID:142560, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142560 is located from position 13863788 to position 13863877 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336402 precursor RNA folds onto itself, forming GAM336402 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336402 precursor RNA, designated SEQ ID NO: 142560, and a schematic representation of a predicted secondary folding of GAM336402 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336402 folded precursor RNA yielding a GAM336402 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336402 RNA, hereby incorporated herein.

GAM336402 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336402 target RNA, herein designated GAM TARGET RNA.

GAM336402 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336402 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336402 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336402 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336402 RNA, herein designated GAM RNA, to target binding sites on GAM336402 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336402 target RNA into GAM336402 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336402 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM336402 target genes. The mRNA of each one of this plurality of GAM336402 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336402 RNA, herein designated GAM RNA, and which when bound by GAM336402 RNA causes inhibition of translation of the GAM336402 target mRNA into a corresponding GAM336402 target protein.

The mechanism of the translational inhibition exerted by GAM336402 RNA, herein designated GAM RNA, on one or more GAM336402 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336402 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336402 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336402 RNA, herein designated GAM RNA, of GAM336402 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336402 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336402 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336402 RNA correlate with, and may be deduced from, the identity of the GAM336402 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336403 142561 CTTGCCATGC Fig. 8 further provides a conceptual description of another novel bioinformatically
AGCCCTTTTT detected oligonucleotides of the present invention, referred to here as Genomic Address
ATGGAGCAAG Messenger 336403 (GAM336403) oligonucleotides modulates expression of respective target
TCACAATACA genes whose function and utility is known in the art.

GCAGCTTGCT GAM336403 is a novel bioinformatically detectable regulatory, non protein
TCATTAGGGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336403 was detected
AAGCAAGCAA is described with additional reference to Figs. 9-15.

G GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336403 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336403 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336403 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336403 precursor RNA is designated SEQ ID:142561, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142561 is located from position 14113783 to position 14113853 relative to chromosome chrY on the `+` strand (chr is an abbreviation for chromosome).

GAM336403 precursor RNA folds onto itself, forming GAM336403 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336403 precursor RNA, designated SEQ ID NO: 142561, and a schematic representation of a predicted secondary folding of GAM336403 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336403 folded precursor RNA yielding a GAM336403 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336403 RNA, hereby incorporated herein.

GAM336403 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336403 target RNA, herein designated GAM TARGET RNA.

GAM336403 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336403 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336403 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336403 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336403 RNA, herein designated GAM RNA, to target binding sites on GAM336403 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336403 target RNA into GAM336403 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336403 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336403 target genes. The mRNA of each one of this plurality of GAM336403 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336403 RNA, herein designated GAM RNA, and which when bound by GAM336403 RNA causes inhibition of translation of the GAM336403 target mRNA into a corresponding GAM336403 target protein.

The mechanism of the translational inhibition exerted by GAM336403 RNA, herein designated GAM RNA, on one or more GAM336403 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336403 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336403 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336403 RNA, herein designated GAM RNA, of GAM336403 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336403 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336403 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336403 RNA correlate with, and may be deduced from, the identity of the GAM336403 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336404 142562 GGTGAAACTG Fig. 8 further provides a conceptual description of another novel bioinformatically

CCCTTTCCTT detected oligonucleotides of the present invention, referred to here as Genomic Address

TCTGTTCTAT Messenger 336404 (GAM336404) oligonucleotides modulates expression of respective target

GAGTGTGATG genes whose function and utility is known in the art.

GTGTTTGAGA GAM336404 is a novel bioinformatically detectable regulatory, non protein

AAATGTGGGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336404 was detected

CTATGGTTCA is described with additional reference to Figs. 9-15.

GGCGCACTTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACATGTGCAA encoded by the human genome.

AGATGGAGAA GAM336404 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

AGCACTCACC GAM336404 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336404 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336404 precursor RNA is designated SEQ ID:142562, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142562 is located from position 14534146 to position 14534255 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM336404 precursor RNA folds onto itself, forming GAM336404 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336404 precursor RNA, designated SEQ ID NO: 142562, and a schematic representation of a predicted secondary folding of GAM336404 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336404 folded precursor RNA yielding a GAM336404 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336404 RNA, hereby incorporated herein.

GAM336404 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336404 target RNA, herein designated GAM TARGET RNA.

GAM336404 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336404 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336404 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the

nucleotide sequence of GAM336404 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336404 RNA, herein designated GAM RNA, to target binding sites on GAM336404 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336404 target RNA into GAM336404 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336404 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336404 target genes. The mRNA of each one of this plurality of GAM336404 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336404 RNA, herein designated GAM RNA, and which when bound by GAM336404 RNA causes inhibition of translation of the GAM336404 target mRNA into a corresponding GAM336404 target protein.

The mechanism of the translational inhibition exerted by GAM336404 RNA, herein designated GAM RNA, on one or more GAM336404 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336404 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336404 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336404 RNA, herein designated GAM RNA, of GAM336404 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336404 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336404 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336404 RNA correlate with, and may be deduced from, the identity of the GAM336404 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336405 142563 TGGGTACTTT ATCTCACACT CTGATTTCTT GCTTCGTGGG AAACAGACTG TAATATTGTA AGCA

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336405 (GAM336405) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336405 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336405 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336405 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336405 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336405 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336405 precursor RNA is designated SEQ ID:142563, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142563 is located from position 14872165 to position 14872228 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM336405 precursor RNA folds onto itself, forming GAM336405 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336405 precursor RNA, designated SEQ ID NO: 142563, and a schematic representation of a predicted secondary folding of GAM336405 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336405 folded precursor RNA yielding a GAM336405 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336405 RNA, hereby incorporated herein.

GAM336405 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336405 target RNA, herein designated GAM TARGET RNA.

GAM336405 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336405 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336405 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336405 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336405 RNA, herein designated GAM RNA, to target binding sites on GAM336405 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336405 target RNA into GAM336405 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336405 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336405 target genes. The mRNA of each one of this plurality of GAM336405 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336405 RNA, herein designated GAM RNA, and which when bound by GAM336405 RNA causes inhibition of translation of the GAM336405 target mRNA into a corresponding GAM336405 target protein.

The mechanism of the translational inhibition exerted by GAM336405 RNA, herein designated GAM RNA, on one or more GAM336405 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336405 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336405 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336405 RNA, herein designated GAM RNA, of GAM336405 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336405 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336405 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336405 RNA correlate with, and may be deduced from, the identity of the GAM336405 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336406 142564 TGTGCATTCC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTCCAGAGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
TTTGTGAGGA Messenger 336406 (GAM336406) oligonucleotides modulates expression of respective target
GTGTTCAGCT genes whose function and utility is known in the art.

GCTGCAAACA GAM336406 is a novel bioinformatically detectable regulatory, non protein
TCCCATGAAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336406 was detected
CCTCAGCTAC is described with additional reference to Figs. 9-15.

TTGGAACAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGTACA encoded by the human genome.

GAM336406 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336406 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336406 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336406 precursor RNA is designated SEQ ID:142564, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142564 is located from position 14912408 to position 14912493 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336406 precursor RNA folds onto itself, forming GAM336406 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336406 precursor RNA, designated SEQ ID NO: 142564, and a schematic representation of a predicted secondary folding of GAM336406 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336406 folded precursor RNA yielding a GAM336406 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336406 RNA, hereby incorporated herein.

GAM336406 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336406 target RNA, herein designated GAM TARGET RNA.

GAM336406 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336406 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336406 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336406 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336406 RNA, herein designated GAM RNA, to target binding sites on GAM336406 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336406 target RNA into GAM336406 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336406 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336406 target genes. The mRNA of each one of this plurality of GAM336406 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336406 RNA, herein designated GAM RNA, and which when bound by GAM336406 RNA causes inhibition of translation of the GAM336406 target mRNA into a corresponding GAM336406 target protein.

The mechanism of the translational inhibition exerted by GAM336406 RNA, herein designated GAM RNA, on one or more GAM336406 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336406 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336406 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336406 RNA, herein designated GAM RNA, of

GAM336406 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336406 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336406 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336406 RNA correlate with, and may be deduced from, the identity of the GAM336406 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336407 142565 GGGAGGACTG CTTGAGCCCA GGAGGTGGAG TCTGTAGTGA GCTGTGATCC TGCCACTGCA CTCCAGCCTG GGCAACAGAG CAAGACCCTG CC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336407 (GAM336407) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336407 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336407 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336407 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336407 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336407 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336407 precursor RNA is designated SEQ ID:142565, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142565 is located from position 15010865 to position 15010956 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM336407 precursor RNA folds onto itself, forming GAM336407 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336407 precursor RNA, designated SEQ ID NO: 142565,

and a schematic representation of a predicted secondary folding of GAM336407 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336407 folded precursor RNA yielding a GAM336407 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336407 RNA, hereby incorporated herein. Expression of GAM336407 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336407 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336407 target RNA, herein designated GAM TARGET RNA.

GAM336407 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336407 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336407 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336407 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336407 RNA, herein designated GAM RNA, to target binding sites on GAM336407 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336407 target RNA into GAM336407 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336407 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336407 target genes. The mRNA of each one of this plurality of GAM336407 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336407 RNA, herein designated GAM RNA, and which when bound by GAM336407 RNA causes inhibition of translation of the GAM336407 target mRNA into a corresponding GAM336407 target protein.

The mechanism of the translational inhibition exerted by GAM336407 RNA, herein designated GAM RNA, on one or more GAM336407 target genes, herein collectively designated

GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336407 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336407 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336407 RNA, herein designated GAM RNA, of GAM336407 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336407 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336407 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336407 RNA correlate with, and may be deduced from, the identity of the GAM336407 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336408 142566 GGTGGGAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

CTGCTTGAGC detected oligonucleotides of the present invention, referred to here as Genomic Address

CCAGGAGGTG Messenger 336408 (GAM336408) oligonucleotides modulates expression of respective target

GAGTCTGTAG genes whose function and utility is known in the art.

TGAGCTGTGA GAM336408 is a novel bioinformatically detectable regulatory, non protein

TCCTGCCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336408 was detected

GCACTCCAGC is described with additional reference to Figs. 9-15.

CTGGGCAACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGCAAGACC encoded by the human genome.

CTGCC GAM336408 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336408 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336408 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336408 precursor RNA is designated SEQ ID:142566, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142566 is located from position 15010865 to position 15010959

relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM336408 precursor RNA folds onto itself, forming GAM336408 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336408 precursor RNA, designated SEQ ID NO: 142566, and a schematic representation of a predicted secondary folding of GAM336408 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336408 folded precursor RNA yielding a GAM336408 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336408 RNA, hereby incorporated herein. Expression of GAM336408 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336408 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336408 target RNA, herein designated GAM TARGET RNA.

GAM336408 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336408 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336408 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336408 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336408 RNA, herein designated GAM RNA, to target binding sites on GAM336408 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336408 target RNA into GAM336408 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM336408 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336408 target genes. The mRNA of each one of this plurality of GAM336408 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336408 RNA, herein designated GAM RNA, and which when bound by GAM336408 RNA causes inhibition of translation of the GAM336408 target mRNA into a corresponding GAM336408 target protein.

The mechanism of the translational inhibition exerted by GAM336408 RNA, herein designated GAM RNA, on one or more GAM336408 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336408 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336408 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336408 RNA, herein designated GAM RNA, of GAM336408 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336408 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336408 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336408 RNA correlate with, and may be deduced from, the identity of the GAM336408 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336409 142567 GGACTGCTTG Fig. 8 further provides a conceptual description of another novel bioinformatically

AGCCCAGGAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GTGGAGTCTG Messenger 336409 (GAM336409) oligonucleotides modulates expression of respective target

TAGTGAGCTG genes whose function and utility is known in the art.

TGATCCTGCC GAM336409 is a novel bioinformatically detectable regulatory, non protein

ACTGCACTCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336409 was detected

AGCCTGGGCA is described with additional reference to Figs. 9-15.

ACAGAGCAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACC encoded by the human genome.

GAM336409 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336409 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336409 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336409 precursor RNA is designated SEQ ID:142567, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142567 is located from position 15010870 to position 15010952 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM336409 precursor RNA folds onto itself, forming GAM336409 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336409 precursor RNA, designated SEQ ID NO: 142567, and a schematic representation of a predicted secondary folding of GAM336409 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336409 folded precursor RNA yielding a GAM336409 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336409 RNA, hereby incorporated herein. Expression of GAM336409 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336409 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336409 target RNA, herein designated GAM TARGET RNA.

GAM336409 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336409 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336409 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336409 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336409 RNA, herein designated GAM RNA, to target binding sites on GAM336409 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336409 target RNA into GAM336409 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336409 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336409 target genes. The mRNA of each one of this plurality of GAM336409 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336409 RNA, herein designated GAM RNA, and which when bound by GAM336409 RNA causes inhibition of translation of the GAM336409 target mRNA into a corresponding GAM336409 target protein.

The mechanism of the translational inhibition exerted by GAM336409 RNA, herein designated GAM RNA, on one or more GAM336409 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336409 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336409 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336409 RNA, herein designated GAM RNA, of GAM336409 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336409 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336409 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336409 RNA correlate with, and may be deduced from, the identity of the GAM336409 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336410 142568 GAGAGTGTCC Fig. 8 further provides a conceptual description of another novel bioinformatically

TGTCCTCCGT detected oligonucleotides of the present invention, referred to here as Genomic Address

TGTTAATCCC Messenger 336410 (GAM336410) oligonucleotides modulates expression of respective target

AGTCAAGATC genes whose function and utility is known in the art.

ATCTGAGAGT GAM336410 is a novel bioinformatically detectable regulatory, non protein
TGGTCTCCAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336410 was detected
GGAACCTCAG is described with additional reference to Figs. 9-15.

ATCTCTAGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGTTGCACTG encoded by the human genome.

GAAATGGCTG GAM336410 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CAGGATCTTT GAM336410 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

C GAM336410 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336410 precursor RNA is designated SEQ ID:142568, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142568 is located from position 15083193 to position 15083303 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336410 precursor RNA folds onto itself, forming GAM336410 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336410 precursor RNA, designated SEQ ID NO: 142568, and a schematic representation of a predicted secondary folding of GAM336410 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336410 folded precursor RNA yielding a GAM336410 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336410 RNA, hereby incorporated herein.

GAM336410 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336410 target RNA, herein designated GAM TARGET RNA.

GAM336410 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336410 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336410 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336410 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336410 RNA, herein designated GAM RNA, to target binding sites on GAM336410 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336410 target RNA into GAM336410 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336410 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336410 target genes. The mRNA of each one of this plurality of GAM336410 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336410 RNA, herein designated GAM RNA, and which when bound by GAM336410 RNA causes inhibition of translation of the GAM336410 target mRNA into a corresponding GAM336410 target protein.

The mechanism of the translational inhibition exerted by GAM336410 RNA, herein designated GAM RNA, on one or more GAM336410 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336410 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336410 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336410 RNA, herein designated GAM RNA, of GAM336410 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336410 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336410 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336410 RNA correlate with, and may be deduced from, the identity of the GAM336410 target gene

inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336411 142569 GTCCTGTCCT Fig. 8 further provides a conceptual description of another novel bioinformatically
CCGTTGTTAA detected oligonucleotides of the present invention, referred to here as Genomic Address
TCCCAGTCAA Messenger 336411 (GAM336411) oligonucleotides modulates expression of respective target
GATCATCTGA genes whose function and utility is known in the art.

GAGTTGGTCT GAM336411 is a novel bioinformatically detectable regulatory, non protein
CCAGGGAACC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336411 was detected
TCAGATCTCT is described with additional reference to Figs. 9-15.

AGGATGTTGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACTGGAAATG encoded by the human genome.

GCTGCAGGAT GAM336411 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAM336411 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336411 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336411 precursor RNA is designated SEQ ID:142569, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142569 is located from position 15083198 to position 15083297 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336411 precursor RNA folds onto itself, forming GAM336411 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336411 precursor RNA, designated SEQ ID NO: 142569, and a schematic representation of a predicted secondary folding of GAM336411 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336411 folded precursor RNA yielding a GAM336411 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly

similar to the nucleotide sequence of GAM336411 RNA, hereby incorporated herein.

GAM336411 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336411 target RNA, herein designated GAM TARGET RNA.

GAM336411 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336411 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336411 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336411 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336411 RNA, herein designated GAM RNA, to target binding sites on GAM336411 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336411 target RNA into GAM336411 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336411 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336411 target genes. The mRNA of each one of this plurality of GAM336411 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336411 RNA, herein designated GAM RNA, and which when bound by GAM336411 RNA causes inhibition of translation of the GAM336411 target mRNA into a corresponding GAM336411 target protein.

The mechanism of the translational inhibition exerted by GAM336411 RNA, herein designated GAM RNA, on one or more GAM336411 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336411 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336411 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336411 RNA, herein designated GAM RNA, of GAM336411 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336411 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336411 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336411 RNA correlate with, and may be deduced from, the identity of the GAM336411 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336412 142570 CCTGAGACAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AGTTTGCTCT detected oligonucleotides of the present invention, referred to here as Genomic Address
TGTTGCCCAG Messenger 336412 (GAM336412) oligonucleotides modulates expression of respective target
GCTGGAGTTT genes whose function and utility is known in the art.

AATGGCACGA GAM336412 is a novel bioinformatically detectable regulatory, non protein
TCTTGGCTTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336412 was detected
CCACAACCTC is described with additional reference to Figs. 9-15.

TGCCTCCTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTTCAAGCAA encoded by the human genome.

TTCTCCTGCC GAM336412 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TCAGG GAM336412 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336412 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336412 precursor RNA is designated SEQ ID:142570, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142570 is located from position 15155243 to position 15155347 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM336412 precursor RNA folds onto itself, forming GAM336412 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336412 precursor RNA, designated SEQ ID NO: 142570, and a schematic representation of a predicted secondary folding of GAM336412 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336412 folded precursor RNA yielding a GAM336412 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336412 RNA, hereby incorporated herein.

GAM336412 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336412 target RNA, herein designated GAM TARGET RNA.

GAM336412 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336412 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336412 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336412 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336412 RNA, herein designated GAM RNA, to target binding sites on GAM336412 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336412 target RNA into GAM336412 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336412 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336412 target genes. The mRNA of each one of this plurality of GAM336412 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336412 RNA, herein designated GAM RNA, and which when bound by GAM336412 RNA causes inhibition of translation of the GAM336412 target mRNA into a corresponding GAM336412 target protein.

The mechanism of the translational inhibition exerted by GAM336412 RNA, herein designated GAM RNA, on one or more GAM336412 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336412 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336412 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336412 RNA, herein designated GAM RNA, of GAM336412 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336412 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336412 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336412 RNA correlate with, and may be deduced from, the identity of the GAM336412 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336413 142571 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCACTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCCGGGAGA Messenger 336413 (GAM336413) oligonucleotides modulates expression of respective target

TGGAGGTTGC genes whose function and utility is known in the art.

AGTGAGCCGA GAM336413 is a novel bioinformatically detectable regulatory, non protein

GATGGCGCAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336413 was detected

CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAAATGGAGA encoded by the human genome.

CTCTGTCTC GAM336413 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336413 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336413 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336413 precursor RNA is designated SEQ ID:142571, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142571 is located from position 15476401 to position 15476499 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336413 precursor RNA folds onto itself, forming GAM336413 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336413 precursor RNA, designated SEQ ID NO: 142571, and a schematic representation of a predicted secondary folding of GAM336413 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336413 folded precursor RNA yielding a GAM336413 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336413 RNA, hereby incorporated herein. Expression of GAM336413 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336413 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336413 target RNA, herein designated GAM TARGET RNA.

GAM336413 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336413 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336413 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336413 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336413 RNA, herein designated GAM RNA, to target binding sites on GAM336413 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336413 target RNA into GAM336413 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336413 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336413 target genes. The mRNA of each one of this plurality of GAM336413 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM336413 RNA, herein designated GAM RNA, and which when bound by GAM336413 RNA causes inhibition of translation of the GAM336413 target mRNA into a corresponding GAM336413 target protein.

The mechanism of the translational inhibition exerted by GAM336413 RNA, herein designated GAM RNA, on one or more GAM336413 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336413 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336413 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336413 RNA, herein designated GAM RNA, of GAM336413 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336413 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336413 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336413 RNA correlate with, and may be deduced from, the identity of the GAM336413 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336414 142572 AGGAAGAGGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TGGCTGTGTG detected oligonucleotides of the present invention, referred to here as Genomic Address

GATGAGAGCA Messenger 336414 (GAM336414) oligonucleotides modulates expression of respective target

ACTTGCTTTT genes whose function and utility is known in the art.

TACAATAATT GAM336414 is a novel bioinformatically detectable regulatory, non protein

ATTTGTTATT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336414 was detected

GTAAATTAAC is described with additional reference to Figs. 9-15.

AATTTGCTCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCTGGTATTA encoded by the human genome.

TATGGAAGTA GAM336414 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TTTGATCCT GAM336414 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336414 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336414 precursor RNA is designated SEQ ID:142572, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142572 is located from position 15591278 to position 15591386 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM336414 precursor RNA folds onto itself, forming GAM336414 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336414 precursor RNA, designated SEQ ID NO: 142572, and a schematic representation of a predicted secondary folding of GAM336414 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336414 folded precursor RNA yielding a GAM336414 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336414 RNA, hereby incorporated herein.

GAM336414 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336414 target RNA, herein designated GAM TARGET RNA.

GAM336414 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336414 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336414 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336414 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336414 RNA, herein designated GAM RNA, to target

binding sites on GAM336414 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336414 target RNA into GAM336414 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336414 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336414 target genes. The mRNA of each one of this plurality of GAM336414 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336414 RNA, herein designated GAM RNA, and which when bound by GAM336414 RNA causes inhibition of translation of the GAM336414 target mRNA into a corresponding GAM336414 target protein.

The mechanism of the translational inhibition exerted by GAM336414 RNA, herein designated GAM RNA, on one or more GAM336414 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336414 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336414 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336414 RNA, herein designated GAM RNA, of GAM336414 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336414 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336414 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336414 RNA correlate with, and may be deduced from, the identity of the GAM336414 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336415 142573 CCACCCTTGA Fig. 8 further provides a conceptual description of another novel bioinformatically

AAGTACATGT detected oligonucleotides of the present invention, referred to here as Genomic Address

TCTTCCTCTG Messenger 336415 (GAM336415) oligonucleotides modulates expression of respective target

AGCTCAGGGG genes whose function and utility is known in the art.

AGGCCCCGTG GAM336415 is a novel bioinformatically detectable regulatory, non protein

AATACATAGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336415 was detected

GGAGGGAAGC is described with additional reference to Figs. 9-15.

GTGTGTCTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTAGACAGGT encoded by the human genome.

GG GAM336415 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336415 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336415 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336415 precursor RNA is designated SEQ ID:142573, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142573 is located from position 15740561 to position 15740652 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336415 precursor RNA folds onto itself, forming GAM336415 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336415 precursor RNA, designated SEQ ID NO: 142573, and a schematic representation of a predicted secondary folding of GAM336415 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336415 folded precursor RNA yielding a GAM336415 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336415 RNA, hereby incorporated herein.

GAM336415 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336415 target RNA, herein designated GAM TARGET RNA.

GAM336415 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336415 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336415 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336415 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336415 RNA, herein designated GAM RNA, to target binding sites on GAM336415 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336415 target RNA into GAM336415 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336415 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336415 target genes. The mRNA of each one of this plurality of GAM336415 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336415 RNA, herein designated GAM RNA, and which when bound by GAM336415 RNA causes inhibition of translation of the GAM336415 target mRNA into a corresponding GAM336415 target protein.

The mechanism of the translational inhibition exerted by GAM336415 RNA, herein designated GAM RNA, on one or more GAM336415 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336415 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336415 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336415 RNA, herein designated GAM RNA, of GAM336415 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336415 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336415 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336415 RNA correlate with, and may be deduced from, the identity of the GAM336415 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336416 142574 CTTGAAAGTA Fig. 8 further provides a conceptual description of another novel bioinformatically

CATGTTCTTC detected oligonucleotides of the present invention, referred to here as Genomic Address
CTCTGAGCTC Messenger 336416 (GAM336416) oligonucleotides modulates expression of respective target
AGGGGAGGCC genes whose function and utility is known in the art.

CCGTGAATAC GAM336416 is a novel bioinformatically detectable regulatory, non protein
ATAGAGGAGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336416 was detected
GAAGCGTGTG is described with additional reference to Figs. 9-15.

TCTTTCTAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336416 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336416 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336416 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336416 precursor RNA is designated SEQ ID:142574, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142574 is located from position 15740566 to position 15740644 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336416 precursor RNA folds onto itself, forming GAM336416 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336416 precursor RNA, designated SEQ ID NO: 142574, and a schematic representation of a predicted secondary folding of GAM336416 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336416 folded precursor RNA yielding a GAM336416 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336416 RNA, hereby incorporated herein.

GAM336416 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336416 target RNA, herein designated GAM TARGET RNA.

GAM336416 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336416 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336416 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336416 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336416 RNA, herein designated GAM RNA, to target binding sites on GAM336416 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336416 target RNA into GAM336416 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336416 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336416 target genes. The mRNA of each one of this plurality of GAM336416 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336416 RNA, herein designated GAM RNA, and which when bound by GAM336416 RNA causes inhibition of translation of the GAM336416 target mRNA into a corresponding GAM336416 target protein.

The mechanism of the translational inhibition exerted by GAM336416 RNA, herein designated GAM RNA, on one or more GAM336416 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336416 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336416 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336416 RNA, herein designated GAM RNA, of GAM336416 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336416 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336416 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336416 RNA correlate with, and may be deduced from, the identity of the GAM336416 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336417 142575 TCTGATAAAG Fig. 8 further provides a conceptual description of another novel bioinformatically
TTCATATAAT detected oligonucleotides of the present invention, referred to here as Genomic Address
ACAGTGTCAA Messenger 336417 (GAM336417) oligonucleotides modulates expression of respective target
TGACTGAATC genes whose function and utility is known in the art.

CAGGTGGTGG GAM336417 is a novel bioinformatically detectable regulatory, non protein
CCTTAAAGGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336417 was detected
GTTCACCGTA is described with additional reference to Figs. 9-15.

CAATTCTGTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AACTTTGCTG encoded by the human genome.

TGTACTTGGA GAM336417 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
ATTTTACAGA GAM336417 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336417 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336417 precursor RNA is designated SEQ ID:142575, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142575 is located from position 15744832 to position 15744941 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336417 precursor RNA folds onto itself, forming GAM336417 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336417 precursor RNA, designated SEQ ID NO: 142575, and a schematic representation of a predicted secondary folding of GAM336417 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336417 folded precursor RNA yielding a GAM336417 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336417 RNA, hereby incorporated herein.

GAM336417 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336417 target RNA, herein designated GAM TARGET RNA.

GAM336417 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336417 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336417 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336417 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336417 RNA, herein designated GAM RNA, to target binding sites on GAM336417 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336417 target RNA into GAM336417 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336417 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336417 target genes. The mRNA of each one of this plurality of GAM336417 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336417 RNA, herein designated GAM RNA, and which when bound by GAM336417 RNA causes inhibition of translation of the GAM336417 target mRNA into a corresponding GAM336417 target protein.

The mechanism of the translational inhibition exerted by GAM336417 RNA, herein designated GAM RNA, on one or more GAM336417 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336417 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336417 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336417 RNA, herein designated GAM RNA, of GAM336417 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336417 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336417 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336417 RNA correlate with, and may be deduced from, the identity of the GAM336417 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336418 142576 ATTGTGGATG Fig. 8 further provides a conceptual description of another novel bioinformatically
CGTGCACCTG detected oligonucleotides of the present invention, referred to here as Genomic Address
CGCTTCCTGT Messenger 336418 (GAM336418) oligonucleotides modulates expression of respective target
CGAGAACATT genes whose function and utility is known in the art.

CATTATGCAA GAM336418 is a novel bioinformatically detectable regulatory, non protein
AAGTCAGGAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336418 was detected
AGGAGAAACA is described with additional reference to Figs. 9-15.

GAACTGTCAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTGGATTGTG encoded by the human genome.

AAAGTATTCT GAM336418 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CTGGGGAGCT GAM336418 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GCCCTACTGT GAM336418 precursor RNA does not encode a protein. A nucleotide sequence identical or

ATCTATAAT highly similar to the nucleotide sequence of GAM336418 precursor RNA is designated SEQ

ID:142576, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142576 is located from position 15952672 to position 15952800 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM336418 precursor RNA folds onto itself, forming GAM336418 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336418 precursor RNA, designated SEQ ID NO: 142576, and a schematic representation of a predicted secondary folding of GAM336418 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336418 folded precursor RNA yielding a GAM336418 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336418 RNA, hereby incorporated herein.

GAM336418 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336418 target RNA, herein designated GAM TARGET RNA.

GAM336418 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336418 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336418 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336418 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336418 RNA, herein designated GAM RNA, to target binding sites on GAM336418 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336418 target RNA into GAM336418 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336418 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336418 target genes. The mRNA of each one of this plurality of GAM336418 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336418 RNA, herein designated GAM RNA, and which when bound by GAM336418 RNA causes inhibition of translation of the GAM336418 target mRNA into a corresponding GAM336418 target protein.

The mechanism of the translational inhibition exerted by GAM336418 RNA, herein designated GAM RNA, on one or more GAM336418 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336418 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336418 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336418 RNA, herein designated GAM RNA, of GAM336418 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336418 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336418 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336418 RNA correlate with, and may be deduced from, the identity of the GAM336418 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336419 142577 CAGTGACATA Fig. 8 further provides a conceptual description of another novel bioinformatically

TCTTGCTCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

TAGTTTCTTA Messenger 336419 (GAM336419) oligonucleotides modulates expression of respective target

TTCCTGAAGA genes whose function and utility is known in the art.

ACCACAAGCA GAM336419 is a novel bioinformatically detectable regulatory, non protein

TAAAGTGAGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336419 was detected

CCTCAGTGCT is described with additional reference to Figs. 9-15.

GGTGCTCTTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGTATGGGG encoded by the human genome.

AATGTGCAAA GAM336419 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TATTTAACTG GAM336419 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336419 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336419 precursor RNA is designated SEQ ID:142577, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142577 is located from position 16028405 to position 16028514 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM336419 precursor RNA folds onto itself, forming GAM336419 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336419 precursor RNA, designated SEQ ID NO: 142577, and a schematic representation of a predicted secondary folding of GAM336419 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336419 folded precursor RNA yielding a GAM336419 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336419 RNA, hereby incorporated herein.

GAM336419 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336419 target RNA, herein designated GAM TARGET RNA.

GAM336419 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336419 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336419 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336419 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336419 RNA, herein designated GAM RNA, to target binding sites on GAM336419 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336419 target RNA into GAM336419 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336419 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM336419 target genes. The mRNA of each one of this plurality of GAM336419 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336419 RNA, herein designated GAM RNA, and which when bound by GAM336419 RNA causes inhibition of translation of the GAM336419 target mRNA into a corresponding GAM336419 target protein.

The mechanism of the translational inhibition exerted by GAM336419 RNA, herein designated GAM RNA, on one or more GAM336419 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336419 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336419 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336419 RNA, herein designated GAM RNA, of GAM336419 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336419 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336419 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336419 RNA correlate with, and may be deduced from, the identity of the GAM336419 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336420 142578 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336420 (GAM336420) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336420 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336420 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336420 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336420 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336420 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336420 precursor RNA is designated SEQ ID:142578, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142578 is located from position 16256343 to position 16256424 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336420 precursor RNA folds onto itself, forming GAM336420 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336420 precursor RNA, designated SEQ ID NO: 142578, and a schematic representation of a predicted secondary folding of GAM336420 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336420 folded precursor RNA yielding a GAM336420 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336420 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336420 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336420 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336420 target RNA, herein designated GAM TARGET RNA.

GAM336420 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336420 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336420 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336420 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336420 RNA, herein designated GAM RNA, to target binding sites on GAM336420 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336420 target RNA into GAM336420 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336420 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336420 target genes. The mRNA of each one of this plurality of GAM336420 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336420 RNA, herein designated GAM RNA, and which when bound by GAM336420 RNA causes inhibition of translation of the GAM336420 target mRNA into a corresponding GAM336420 target protein.

The mechanism of the translational inhibition exerted by GAM336420 RNA, herein designated GAM RNA, on one or more GAM336420 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336420 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336420 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336420 RNA, herein designated GAM RNA, of GAM336420 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336420 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336420 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336420 RNA correlate with, and may be deduced from, the identity of the GAM336420 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336421 142579 TGGAATGCAT Fig. 8 further provides a conceptual description of another novel bioinformatically

AAGAAATTGC detected oligonucleotides of the present invention, referred to here as Genomic Address

AAACTGGTAG Messenger 336421 (GAM336421) oligonucleotides modulates expression of respective target

CAGGCAGCAA genes whose function and utility is known in the art.

CGTTTGTTTT GAM336421 is a novel bioinformatically detectable regulatory, non protein
GGTCTGTAGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336421 was detected
TTTGTTTTGC is described with additional reference to Figs. 9-15.

TTTTCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336421 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336421 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336421 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336421 precursor RNA is designated SEQ ID:142579, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142579 is located from position 16288832 to position 16288907 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM336421 precursor RNA folds onto itself, forming GAM336421 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336421 precursor RNA, designated SEQ ID NO: 142579, and a schematic representation of a predicted secondary folding of GAM336421 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336421 folded precursor RNA yielding a GAM336421 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336421 RNA, hereby incorporated herein.

GAM336421 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336421 target RNA, herein designated GAM TARGET RNA.

GAM336421 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336421 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336421 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336421 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336421 RNA, herein designated GAM RNA, to target binding sites on GAM336421 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336421 target RNA into GAM336421 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336421 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336421 target genes. The mRNA of each one of this plurality of GAM336421 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336421 RNA, herein designated GAM RNA, and which when bound by GAM336421 RNA causes inhibition of translation of the GAM336421 target mRNA into a corresponding GAM336421 target protein.

The mechanism of the translational inhibition exerted by GAM336421 RNA, herein designated GAM RNA, on one or more GAM336421 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336421 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336421 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336421 RNA, herein designated GAM RNA, of GAM336421 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336421 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336421 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336421 RNA correlate with, and may be deduced from, the identity of the GAM336421 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336422 142580 GAGAATTGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

TGAACCTGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGTGGAGGT Messenger 336422 (GAM336422) oligonucleotides modulates expression of respective target

TGTGGTGAGC genes whose function and utility is known in the art.

CGAAATTGTG GAM336422 is a novel bioinformatically detectable regulatory, non protein

CCATTGCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336422 was detected

CCAGCCTGGG is described with additional reference to Figs. 9-15.

CAACAAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAAACTC encoded by the human genome.

GAM336422 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336422 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336422 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336422 precursor RNA is designated SEQ ID:142580, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142580 is located from position 16344259 to position 16344345 relative to chromosome chr3 on the `+` strand (chr is an abbreviation for chromosome).

GAM336422 precursor RNA folds onto itself, forming GAM336422 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336422 precursor RNA, designated SEQ ID NO: 142580, and a schematic representation of a predicted secondary folding of GAM336422 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336422 folded precursor RNA yielding a GAM336422 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336422 RNA, hereby incorporated herein. Expression of GAM336422 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336422 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336422 target RNA, herein designated GAM TARGET RNA.

GAM336422 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336422 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336422 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336422 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336422 RNA, herein designated GAM RNA, to target binding sites on GAM336422 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336422 target RNA into GAM336422 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336422 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336422 target genes. The mRNA of each one of this plurality of GAM336422 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336422 RNA, herein designated GAM RNA, and which when bound by GAM336422 RNA causes inhibition of translation of the GAM336422 target mRNA into a corresponding GAM336422 target protein.

The mechanism of the translational inhibition exerted by GAM336422 RNA, herein designated GAM RNA, on one or more GAM336422 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336422 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336422 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336422 RNA, herein designated GAM RNA, of GAM336422 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336422 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336422 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336422 RNA correlate with, and may be deduced from, the identity of the GAM336422 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336423 142581 GGGGAGAATT CTATAGACAG AAGGTCAATG TTGTCCCCAT CCATAGGGGT TGAATTACCT TGCTGTTAAG TGGTCTTCCC CC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336423 (GAM336423) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336423 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336423 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336423 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336423 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336423 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336423 precursor RNA is designated SEQ ID:142581, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142581 is located from position 16370465 to position 16370546 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM336423 precursor RNA folds onto itself, forming GAM336423 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336423 precursor RNA, designated SEQ ID NO: 142581, and a schematic representation of a predicted secondary folding of GAM336423 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336423 folded precursor RNA yielding a GAM336423 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336423 RNA, hereby incorporated herein.

GAM336423 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336423 target RNA, herein designated GAM TARGET RNA.

GAM336423 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336423 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336423 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336423 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336423 RNA, herein designated GAM RNA, to target binding sites on GAM336423 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336423 target RNA into GAM336423 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336423 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336423 target genes. The mRNA of each one of this plurality of GAM336423 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336423 RNA, herein designated GAM RNA, and which when bound by GAM336423 RNA causes inhibition of translation of the GAM336423 target mRNA into a corresponding GAM336423 target protein.

The mechanism of the translational inhibition exerted by GAM336423 RNA, herein designated GAM RNA, on one or more GAM336423 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336423 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336423 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336423 RNA, herein designated GAM RNA, of GAM336423 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336423 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336423 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336423 RNA correlate with, and may be deduced from, the identity of the GAM336423 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336424 142582 GAGTAGCTGG Fig. 8 further provides a conceptual description of another novel bioinformatically

GATTACAGGT detected oligonucleotides of the present invention, referred to here as Genomic Address

GTGTGCCACC Messenger 336424 (GAM336424) oligonucleotides modulates expression of respective target

ATGTCTGGCT genes whose function and utility is known in the art.

GATTTTTGTA GAM336424 is a novel bioinformatically detectable regulatory, non protein

TTTTTAGTAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336424 was detected

AGGTGGGGTT is described with additional reference to Figs. 9-15.

TCACCATGTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGCCAGGCTG encoded by the human genome.

GTC GAM336424 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336424 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336424 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336424 precursor RNA is designated SEQ ID:142582, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142582 is located from position 16592675 to position 16592767 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336424 precursor RNA folds onto itself, forming GAM336424 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336424 precursor RNA, designated SEQ ID NO: 142582, and a schematic representation of a predicted secondary folding of GAM336424 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336424 folded precursor RNA yielding a GAM336424 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336424 RNA, hereby incorporated herein.

GAM336424 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336424 target RNA, herein designated GAM TARGET RNA.

GAM336424 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336424 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336424 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336424 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336424 RNA, herein designated GAM RNA, to target binding sites on GAM336424 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336424 target RNA into GAM336424 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336424 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336424 target genes. The mRNA of each one of this plurality of GAM336424 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336424 RNA, herein designated GAM RNA, and which when bound by GAM336424 RNA causes inhibition of translation of the GAM336424 target mRNA into a corresponding GAM336424 target protein.

The mechanism of the translational inhibition exerted by GAM336424 RNA, herein designated GAM RNA, on one or more GAM336424 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336424 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336424 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336424 RNA, herein designated GAM RNA, of GAM336424 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336424 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336424 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336424 RNA correlate with, and may be deduced from, the identity of the GAM336424 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336425 142583 GTTGGTGCAA Fig. 8 further provides a conceptual description of another novel bioinformatically

AAGTCAGTGC detected oligonucleotides of the present invention, referred to here as Genomic Address

GGTTTTTGCT Messenger 336425 (GAM336425) oligonucleotides modulates expression of respective target

ATTAAAAGTA genes whose function and utility is known in the art.

ACGGCAAAAG GAM336425 is a novel bioinformatically detectable regulatory, non protein

TAACTGCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336425 was detected

GACTTCTGCA is described with additional reference to Figs. 9-15.

CCGAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336425 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336425 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336425 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336425 precursor RNA is designated SEQ ID:142583, and is provided hereinbelow with reference to the sequence listing part.

Nucleotide sequence SEQ ID:142583 is located from position 16772471 to position 16772545 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM336425 precursor RNA folds onto itself, forming GAM336425 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336425 precursor RNA, designated SEQ ID NO: 142583, and a schematic representation of a predicted secondary folding of GAM336425 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336425 folded precursor RNA yielding a GAM336425 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336425 RNA, hereby incorporated herein.

GAM336425 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336425 target RNA, herein designated GAM TARGET RNA.

GAM336425 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336425 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336425 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336425 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336425 RNA, herein designated GAM RNA, to target binding sites on GAM336425 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336425 target RNA into GAM336425 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336425 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336425 target genes. The mRNA of each one of this plurality of GAM336425 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336425 RNA, herein designated GAM RNA, and which when bound by GAM336425 RNA causes inhibition of translation of the GAM336425 target mRNA into a corresponding GAM336425 target protein.

The mechanism of the translational inhibition exerted by GAM336425 RNA, herein designated GAM RNA, on one or more GAM336425 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336425 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336425 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336425 RNA, herein designated GAM RNA, of GAM336425 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336425 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336425 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336425 RNA correlate with, and may be deduced from, the identity of the GAM336425 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336426 142584 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336426 (GAM336426) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336426 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336426 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336426 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336426 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336426 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336426 precursor RNA is designated SEQ ID:142584, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142584 is located from position 16815249 to position 16815330 relative to chromosome chr3 on the `-` strand (chr is an abbreviation for chromosome).

GAM336426 precursor RNA folds onto itself, forming GAM336426 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336426 precursor RNA, designated SEQ ID NO: 142584, and a schematic representation of a predicted secondary folding of GAM336426 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336426 folded precursor RNA yielding a GAM336426 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336426 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336426 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336426 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336426 target RNA, herein designated GAM TARGET RNA.

GAM336426 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336426 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336426 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336426 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336426 RNA, herein designated GAM RNA, to target binding sites on GAM336426 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336426 target RNA into GAM336426 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336426 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336426 target genes. The mRNA of each one of this plurality of GAM336426 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336426 RNA, herein designated GAM RNA, and which when bound by GAM336426 RNA causes inhibition of translation of the GAM336426 target mRNA into a corresponding GAM336426 target protein.

The mechanism of the translational inhibition exerted by GAM336426 RNA, herein designated GAM RNA, on one or more GAM336426 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336426 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336426 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336426 RNA, herein designated GAM RNA, of GAM336426 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336426 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336426 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336426 RNA correlate with, and may be deduced from, the identity of the GAM336426 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336427 142585 GGATTATAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

ATTCCATTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GTAAGCTTTG Messenger 336427 (GAM336427) oligonucleotides modulates expression of respective target

AAATGAGGAC genes whose function and utility is known in the art.

ACTAAGATCA GAM336427 is a novel bioinformatically detectable regulatory, non protein
GGGGGCCAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336427 was detected
CCTGAGATCA is described with additional reference to Figs. 9-15.

GATTTCCTTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTTATCTACA encoded by the human genome.

TTGCTTAGTG GAM336427 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CAGTCAGTGA GAM336427 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
TTC GAM336427 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336427 precursor RNA is designated SEQ ID:142585, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142585 is located from position 16838225 to position 16838337 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM336427 precursor RNA folds onto itself, forming GAM336427 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336427 precursor RNA, designated SEQ ID NO: 142585, and a schematic representation of a predicted secondary folding of GAM336427 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336427 folded precursor RNA yielding a GAM336427 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336427 RNA, hereby incorporated herein.

GAM336427 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336427 target RNA, herein designated GAM TARGET RNA.

GAM336427 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336427 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336427 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336427 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336427 RNA, herein designated GAM RNA, to target binding sites on GAM336427 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336427 target RNA into GAM336427 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336427 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336427 target genes. The mRNA of each one of this plurality of GAM336427 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336427 RNA, herein designated GAM RNA, and which when bound by GAM336427 RNA causes inhibition of translation of the GAM336427 target mRNA into a corresponding GAM336427 target protein.

The mechanism of the translational inhibition exerted by GAM336427 RNA, herein designated GAM RNA, on one or more GAM336427 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336427 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336427 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336427 RNA, herein designated GAM RNA, of GAM336427 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336427 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336427 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336427 RNA correlate with, and may be deduced from, the identity of the GAM336427 target gene

inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336428 142586 GTGTTCGAGC Fig. 8 further provides a conceptual description of another novel bioinformatically
ACACACCTCC detected oligonucleotides of the present invention, referred to here as Genomic Address
TTGCAGTGGC Messenger 336428 (GAM336428) oligonucleotides modulates expression of respective target
TTCAGCACCC genes whose function and utility is known in the art.

AGGTCTCCGG GAM336428 is a novel bioinformatically detectable regulatory, non protein
GAGCCAGTGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336428 was detected
AGGAACCAAG is described with additional reference to Figs. 9-15.

TGTTGGATAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336428 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336428 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336428 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336428 precursor RNA is designated SEQ ID:142586, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142586 is located from position 16882174 to position 16882253 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM336428 precursor RNA folds onto itself, forming GAM336428 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336428 precursor RNA, designated SEQ ID NO: 142586, and a schematic representation of a predicted secondary folding of GAM336428 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336428 folded precursor RNA yielding a GAM336428 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336428 RNA, hereby incorporated herein.

GAM336428 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336428 target RNA, herein designated GAM TARGET RNA.

GAM336428 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336428 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336428 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336428 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336428 RNA, herein designated GAM RNA, to target binding sites on GAM336428 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336428 target RNA into GAM336428 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336428 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336428 target genes. The mRNA of each one of this plurality of GAM336428 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336428 RNA, herein designated GAM RNA, and which when bound by GAM336428 RNA causes inhibition of translation of the GAM336428 target mRNA into a corresponding GAM336428 target protein.

The mechanism of the translational inhibition exerted by GAM336428 RNA, herein designated GAM RNA, on one or more GAM336428 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336428 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336428 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336428 RNA, herein designated GAM RNA, of GAM336428 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336428 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336428 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336428 RNA correlate with, and may be deduced from, the identity of the GAM336428 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336429 142587 GGACCTGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
TGCATCAGGA detected oligonucleotides of the present invention, referred to here as Genomic Address
TCTGACCAGA Messenger 336429 (GAM336429) oligonucleotides modulates expression of respective target
TAGGAGTTTT genes whose function and utility is known in the art.

TGCCTCGTGT GAM336429 is a novel bioinformatically detectable regulatory, non protein
CTGGGTGCTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336429 was detected
CGATTTTGTG is described with additional reference to Figs. 9-15.

CCGTTCTCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGGTCC encoded by the human genome.

GAM336429 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336429 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336429 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336429 precursor RNA is designated SEQ ID:142587, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142587 is located from position 17033275 to position 17033360 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336429 precursor RNA folds onto itself, forming GAM336429 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336429 precursor RNA, designated SEQ ID NO: 142587, and a schematic representation of a predicted secondary folding of GAM336429 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336429 folded precursor RNA yielding a GAM336429 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336429 RNA, hereby incorporated herein.

GAM336429 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336429 target RNA, herein designated GAM TARGET RNA.

GAM336429 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336429 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336429 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336429 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336429 RNA, herein designated GAM RNA, to target binding sites on GAM336429 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336429 target RNA into GAM336429 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336429 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336429 target genes. The mRNA of each one of this plurality of GAM336429 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336429 RNA, herein designated GAM RNA, and which when bound by GAM336429 RNA causes inhibition of translation of the GAM336429 target mRNA into a corresponding GAM336429 target protein.

The mechanism of the translational inhibition exerted by GAM336429 RNA, herein designated GAM RNA, on one or more GAM336429 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336429 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336429 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336429 RNA, herein designated GAM RNA, of GAM336429 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336429 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336429 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336429 RNA correlate with, and may be deduced from, the identity of the GAM336429 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336430 142588 GGCCTCCTCC Fig. 8 further provides a conceptual description of another novel bioinformatically

CAGCGTCACG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAATGCTGTC Messenger 336430 (GAM336430) oligonucleotides modulates expression of respective target

CTGATCCCTA genes whose function and utility is known in the art.

GCATTTACTC GAM336430 is a novel bioinformatically detectable regulatory, non protein

ACATGCTGTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336430 was detected

CTTAGTGCTT is described with additional reference to Figs. 9-15.

GACCATGTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGGCAGATTC encoded by the human genome.

TGTGATGTGT GAM336430 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

AAGACGTGGT GAM336430 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

TGCC GAM336430 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336430 precursor RNA is designated SEQ ID:142588, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142588 is located from position 17062054 to position 17062167 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM336430 precursor RNA folds onto itself, forming GAM336430 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336430 precursor RNA, designated SEQ ID NO: 142588, and a schematic representation of a predicted secondary folding of GAM336430 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336430 folded precursor RNA yielding a GAM336430 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336430 RNA, hereby incorporated herein.

GAM336430 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336430 target RNA, herein designated GAM TARGET RNA.

GAM336430 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336430 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336430 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336430 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336430 RNA, herein designated GAM RNA, to target binding sites on GAM336430 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336430 target RNA into GAM336430 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336430 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336430 target genes. The mRNA of each one of this plurality of GAM336430 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336430 RNA, herein designated GAM RNA, and which when bound by GAM336430 RNA causes inhibition of translation of the GAM336430 target mRNA into a corresponding GAM336430 target protein.

The mechanism of the translational inhibition exerted by GAM336430 RNA, herein designated GAM RNA, on one or more GAM336430 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336430 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336430 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336430 RNA, herein designated GAM RNA, of GAM336430 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336430 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336430 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336430 RNA correlate with, and may be deduced from, the identity of the GAM336430 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336431 142589 CTCCCAGCGT Fig. 8 further provides a conceptual description of another novel bioinformatically

CACGGAATGC detected oligonucleotides of the present invention, referred to here as Genomic Address

TGTCCTGATC Messenger 336431 (GAM336431) oligonucleotides modulates expression of respective target

CCTAGCATTT genes whose function and utility is known in the art.

ACTCACATGC GAM336431 is a novel bioinformatically detectable regulatory, non protein

TGTGCTTAGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336431 was detected

GCTTGACCAT is described with additional reference to Figs. 9-15.

GTGGTGGCAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATTCTGTGAT encoded by the human genome.

GTGTAAG GAM336431 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336431 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336431 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336431 precursor RNA is designated SEQ ID:142589, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142589 is located from position 17062060 to position 17062156 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM336431 precursor RNA folds onto itself, forming GAM336431 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336431 precursor RNA, designated SEQ ID NO: 142589, and a schematic representation of a predicted secondary folding of GAM336431 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336431 folded precursor RNA yielding a GAM336431 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336431 RNA, hereby incorporated herein.

GAM336431 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336431 target RNA, herein designated GAM TARGET RNA.

GAM336431 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336431 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336431 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336431 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336431 RNA, herein designated GAM RNA, to target binding sites on GAM336431 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336431 target RNA

into GAM336431 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336431 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336431 target genes. The mRNA of each one of this plurality of GAM336431 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336431 RNA, herein designated GAM RNA, and which when bound by GAM336431 RNA causes inhibition of translation of the GAM336431 target mRNA into a corresponding GAM336431 target protein.

The mechanism of the translational inhibition exerted by GAM336431 RNA, herein designated GAM RNA, on one or more GAM336431 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336431 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336431 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336431 RNA, herein designated GAM RNA, of GAM336431 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336431 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336431 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336431 RNA correlate with, and may be deduced from, the identity of the GAM336431 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336432 142590 GCGTCACGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

ATGCTGTCCT detected oligonucleotides of the present invention, referred to here as Genomic Address

GATCCCTAGC Messenger 336432 (GAM336432) oligonucleotides modulates expression of respective target

ATTTACTCAC genes whose function and utility is known in the art.

ATGCTGTGCT GAM336432 is a novel bioinformatically detectable regulatory, non protein

TAGTGCTTGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336432 was detected

CCATGTGGTG is described with additional reference to Figs. 9-15.

GCAGATTCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGATGT encoded by the human genome.

GAM336432 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336432 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336432 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336432 precursor RNA is designated SEQ ID:142590, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142590 is located from position 17062066 to position 17062151 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM336432 precursor RNA folds onto itself, forming GAM336432 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336432 precursor RNA, designated SEQ ID NO: 142590, and a schematic representation of a predicted secondary folding of GAM336432 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336432 folded precursor RNA yielding a GAM336432 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336432 RNA, hereby incorporated herein.

GAM336432 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336432 target RNA, herein designated GAM TARGET RNA.

GAM336432 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336432 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336432 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336432 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336432 RNA, herein designated GAM RNA, to target binding sites on GAM336432 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336432 target RNA into GAM336432 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336432 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336432 target genes. The mRNA of each one of this plurality of GAM336432 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336432 RNA, herein designated GAM RNA, and which when bound by GAM336432 RNA causes inhibition of translation of the GAM336432 target mRNA into a corresponding GAM336432 target protein.

The mechanism of the translational inhibition exerted by GAM336432 RNA, herein designated GAM RNA, on one or more GAM336432 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336432 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336432 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336432 RNA, herein designated GAM RNA, of GAM336432 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336432 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336432 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336432 RNA correlate with, and may be deduced from, the identity of the GAM336432 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336433 142591 CGTCACGGAA Fig. 8 further provides a conceptual description of another novel bioinformatically

TGCTGTCCTG detected oligonucleotides of the present invention, referred to here as Genomic Address

ATCCCTAGCA Messenger 336433 (GAM336433) oligonucleotides modulates expression of respective target

TTTACTCACA genes whose function and utility is known in the art.

TGCTGTGCTT AGTGCTTGAC CATGTGGTGG CAGATTCTGT GATG

GAM336433 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336433 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336433 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336433 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336433 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336433 precursor RNA is designated SEQ ID:142591, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142591 is located from position 17062067 to position 17062150 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM336433 precursor RNA folds onto itself, forming GAM336433 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336433 precursor RNA, designated SEQ ID NO: 142591, and a schematic representation of a predicted secondary folding of GAM336433 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336433 folded precursor RNA yielding a GAM336433 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336433 RNA, hereby incorporated herein.

GAM336433 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336433 target RNA, herein designated GAM TARGET RNA.

GAM336433 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336433 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM336433 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336433 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336433 RNA, herein designated GAM RNA, to target binding sites on GAM336433 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336433 target RNA into GAM336433 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336433 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336433 target genes. The mRNA of each one of this plurality of GAM336433 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336433 RNA, herein designated GAM RNA, and which when bound by GAM336433 RNA causes inhibition of translation of the GAM336433 target mRNA into a corresponding GAM336433 target protein.

The mechanism of the translational inhibition exerted by GAM336433 RNA, herein designated GAM RNA, on one or more GAM336433 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336433 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336433 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336433 RNA, herein designated GAM RNA, of GAM336433 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336433 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336433 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336433 RNA correlate with, and may be deduced from, the identity of the GAM336433 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336434 142592 GAGAACTGTA Fig. 8 further provides a conceptual description of another novel bioinformatically
GTGCAAGGTT detected oligonucleotides of the present invention, referred to here as Genomic Address
TTGCCAACTT Messenger 336434 (GAM336434) oligonucleotides modulates expression of respective target
TTTGACCAGA genes whose function and utility is known in the art.

ATCCTCGGTG GAM336434 is a novel bioinformatically detectable regulatory, non protein
AGTAATAAAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336434 was detected
TTTGCACTGC is described with additional reference to Figs. 9-15.

AGCTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336434 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336434 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336434 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336434 precursor RNA is designated SEQ ID:142592, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142592 is located from position 17392534 to position 17392608 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336434 precursor RNA folds onto itself, forming GAM336434 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336434 precursor RNA, designated SEQ ID NO: 142592, and a schematic representation of a predicted secondary folding of GAM336434 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336434 folded precursor RNA yielding a GAM336434 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336434 RNA, hereby incorporated herein.

GAM336434 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336434 target RNA, herein designated GAM TARGET RNA.

GAM336434 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336434 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336434 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336434 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336434 RNA, herein designated GAM RNA, to target binding sites on GAM336434 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336434 target RNA into GAM336434 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336434 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336434 target genes. The mRNA of each one of this plurality of GAM336434 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336434 RNA, herein designated GAM RNA, and which when bound by GAM336434 RNA causes inhibition of translation of the GAM336434 target mRNA into a corresponding GAM336434 target protein.

The mechanism of the translational inhibition exerted by GAM336434 RNA, herein designated GAM RNA, on one or more GAM336434 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336434 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336434 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336434 RNA, herein designated GAM RNA, of GAM336434 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM336434 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336434 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336434 RNA correlate with, and may be deduced from, the identity of the GAM336434 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336435 142593 TAGCTGCACA Fig. 8 further provides a conceptual description of another novel bioinformatically
ACACAAGCCC detected oligonucleotides of the present invention, referred to here as Genomic Address
ACAGGCAAAC Messenger 336435 (GAM336435) oligonucleotides modulates expression of respective target
ACACAGACTC genes whose function and utility is known in the art.

CTGCAGTGTC GAM336435 is a novel bioinformatically detectable regulatory, non protein
TAGAGCAGTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336435 was detected
ACTGGGATAT is described with additional reference to Figs. 9-15.

GAAGACTGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGTGGAGGCT encoded by the human genome.

GGGCAGCTA GAM336435 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAM336435 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336435 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336435 precursor RNA is designated SEQ ID:142593, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142593 is located from position 17533127 to position 17533225 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM336435 precursor RNA folds onto itself, forming GAM336435 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336435 precursor RNA, designated SEQ ID NO: 142593, and a schematic representation of a predicted secondary folding of GAM336435 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336435 folded precursor RNA yielding a GAM336435 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336435 RNA, hereby incorporated herein.

GAM336435 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336435 target RNA, herein designated GAM TARGET RNA.

GAM336435 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336435 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336435 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336435 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336435 RNA, herein designated GAM RNA, to target binding sites on GAM336435 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336435 target RNA into GAM336435 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336435 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336435 target genes. The mRNA of each one of this plurality of GAM336435 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336435 RNA, herein designated GAM RNA, and which when bound by GAM336435 RNA causes inhibition of translation of the GAM336435 target mRNA into a corresponding GAM336435 target protein.

The mechanism of the translational inhibition exerted by GAM336435 RNA, herein designated GAM RNA, on one or more GAM336435 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336435 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336435 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336435 RNA, herein designated GAM RNA, of GAM336435 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336435 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336435 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336435 RNA correlate with, and may be deduced from, the identity of the GAM336435 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336436 142594 GACCACAAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

CTGTCTCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

CTTTTTCTAG Messenger 336436 (GAM336436) oligonucleotides modulates expression of respective target

AACAGATGCT genes whose function and utility is known in the art.

GCTGCACCAG GAM336436 is a novel bioinformatically detectable regulatory, non protein

GAAGCAAGGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336436 was detected

ATTGCAGTGT is described with additional reference to Figs. 9-15.

CAGAACTGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GATTCTGGGA encoded by the human genome.

CAGCCAGGTC GAM336436 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336436 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336436 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336436 precursor RNA is designated SEQ ID:142594, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142594 is located from position 17740558 to position 17740657 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM336436 precursor RNA folds onto itself, forming GAM336436 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336436 precursor RNA, designated SEQ ID NO: 142594, and a schematic representation of a predicted secondary folding of GAM336436 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336436 folded precursor RNA yielding a GAM336436 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336436 RNA, hereby incorporated herein.

GAM336436 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336436 target RNA, herein designated GAM TARGET RNA.

GAM336436 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336436 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336436 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336436 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336436 RNA, herein designated GAM RNA, to target binding sites on GAM336436 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336436 target RNA into GAM336436 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336436 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336436 target genes. The mRNA of each one of this plurality of GAM336436 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336436 RNA, herein designated GAM RNA, and which when bound by GAM336436 RNA causes inhibition of translation of the GAM336436 target mRNA into a corresponding GAM336436 target protein.

The mechanism of the translational inhibition exerted by GAM336436 RNA, herein designated GAM RNA, on one or more GAM336436 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336436 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336436 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336436 RNA, herein designated GAM RNA, of GAM336436 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336436 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336436 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336436 RNA correlate with, and may be deduced from, the identity of the GAM336436 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336437 142595 CTGTCTCCAG Fig. 8 further provides a conceptual description of another novel bioinformatically

CTTTTTCTAG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACAGATGCT Messenger 336437 (GAM336437) oligonucleotides modulates expression of respective target

GCTGCACCAG genes whose function and utility is known in the art.

GAAGCAAGGT GAM336437 is a novel bioinformatically detectable regulatory, non protein

ATTGCAGTGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336437 was detected

CAGAACTGAG is described with additional reference to Figs. 9-15.

GATTCTGGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAG encoded by the human genome.

GAM336437 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336437 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336437 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336437 precursor RNA is designated SEQ

ID:142595, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142595 is located from position 17740568 to position 17740650 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM336437 precursor RNA folds onto itself, forming GAM336437 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336437 precursor RNA, designated SEQ ID NO: 142595, and a schematic representation of a predicted secondary folding of GAM336437 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336437 folded precursor RNA yielding a GAM336437 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336437 RNA, hereby incorporated herein.

GAM336437 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336437 target RNA, herein designated GAM TARGET RNA.

GAM336437 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336437 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336437 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336437 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336437 RNA, herein designated GAM RNA, to target binding sites on GAM336437 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336437 target RNA into GAM336437 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM336437 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336437 target genes. The mRNA of each one of this plurality of GAM336437 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336437 RNA, herein designated GAM RNA, and which when bound by GAM336437 RNA causes inhibition of translation of the GAM336437 target mRNA into a corresponding GAM336437 target protein.

The mechanism of the translational inhibition exerted by GAM336437 RNA, herein designated GAM RNA, on one or more GAM336437 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336437 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336437 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336437 RNA, herein designated GAM RNA, of GAM336437 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336437 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336437 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336437 RNA correlate with, and may be deduced from, the identity of the GAM336437 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336438 142596 GTGGGTGAAT Fig. 8 further provides a conceptual description of another novel bioinformatically

AGCGAGAGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

CCCTCTGAGC Messenger 336438 (GAM336438) oligonucleotides modulates expression of respective target

TTTGGTCTGA genes whose function and utility is known in the art.

AAGGCCAGGA GAM336438 is a novel bioinformatically detectable regulatory, non protein

GGGACCAGGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336438 was detected

GCTGTCGCTC is described with additional reference to Figs. 9-15.

AC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336438 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336438 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336438 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336438 precursor RNA is designated SEQ ID:142596, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142596 is located from position 17892665 to position 17892736 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336438 precursor RNA folds onto itself, forming GAM336438 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336438 precursor RNA, designated SEQ ID NO: 142596, and a schematic representation of a predicted secondary folding of GAM336438 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336438 folded precursor RNA yielding a GAM336438 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336438 RNA, hereby incorporated herein.

GAM336438 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336438 target RNA, herein designated GAM TARGET RNA.

GAM336438 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336438 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336438 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336438 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336438 RNA, herein designated GAM RNA, to target binding sites on GAM336438 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336438 target RNA into GAM336438 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336438 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336438 target genes. The mRNA of each one of this plurality of GAM336438 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336438 RNA, herein designated GAM RNA, and which when bound by GAM336438 RNA causes inhibition of translation of the GAM336438 target mRNA into a corresponding GAM336438 target protein.

The mechanism of the translational inhibition exerted by GAM336438 RNA, herein designated GAM RNA, on one or more GAM336438 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336438 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336438 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336438 RNA, herein designated GAM RNA, of GAM336438 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336438 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336438 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336438 RNA correlate with, and may be deduced from, the identity of the GAM336438 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336439 142597 TTGGGGGTTG Fig. 8 further provides a conceptual description of another novel bioinformatically

TTACATGCAT detected oligonucleotides of the present invention, referred to here as Genomic Address

GATGCTGAGG Messenger 336439 (GAM336439) oligonucleotides modulates expression of respective target

TTTGGGAATA genes whose function and utility is known in the art.

TGGATGGTCC CATCACCCAG GTGATGTATG TAGTACCCAA

GAM336439 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336439 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336439 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336439 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336439 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336439 precursor RNA is designated SEQ ID:142597, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142597 is located from position 18148992 to position 18149071 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336439 precursor RNA folds onto itself, forming GAM336439 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336439 precursor RNA, designated SEQ ID NO: 142597, and a schematic representation of a predicted secondary folding of GAM336439 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336439 folded precursor RNA yielding a GAM336439 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336439 RNA, hereby incorporated herein.

GAM336439 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336439 target RNA, herein designated GAM TARGET RNA.

GAM336439 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336439 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336439 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336439 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336439 RNA, herein designated GAM RNA, to target binding sites on GAM336439 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336439 target RNA into GAM336439 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336439 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336439 target genes. The mRNA of each one of this plurality of GAM336439 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336439 RNA, herein designated GAM RNA, and which when bound by GAM336439 RNA causes inhibition of translation of the GAM336439 target mRNA into a corresponding GAM336439 target protein.

The mechanism of the translational inhibition exerted by GAM336439 RNA, herein designated GAM RNA, on one or more GAM336439 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336439 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336439 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336439 RNA, herein designated GAM RNA, of GAM336439 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336439 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336439 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336439 RNA correlate with, and may be deduced from, the identity of the GAM336439 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336440 142598 GGGTTGTTAC Fig. 8 further provides a conceptual description of another novel bioinformatically
ATGCATGATG detected oligonucleotides of the present invention, referred to here as Genomic Address
CTGAGGTTTG Messenger 336440 (GAM336440) oligonucleotides modulates expression of respective target
GGAATATGGA genes whose function and utility is known in the art.

TGGTCCCATC GAM336440 is a novel bioinformatically detectable regulatory, non protein
ACCCAGGTGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336440 was detected
TGTATGTAGT is described with additional reference to Figs. 9-15.

ACCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336440 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336440 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336440 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336440 precursor RNA is designated SEQ ID:142598, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142598 is located from position 18148996 to position 18149069 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336440 precursor RNA folds onto itself, forming GAM336440 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin
structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336440 precursor RNA, designated SEQ ID NO: 142598, and a schematic representation of a predicted secondary folding of GAM336440 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336440 folded precursor RNA yielding a GAM336440 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336440 RNA, hereby incorporated herein.

GAM336440 target gene, herein designated GAM TARGET GENE, encodes a

corresponding messenger RNA, GAM336440 target RNA, herein designated GAM TARGET RNA.

GAM336440 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336440 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336440 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336440 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336440 RNA, herein designated GAM RNA, to target binding sites on GAM336440 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336440 target RNA into GAM336440 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336440 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336440 target genes. The mRNA of each one of this plurality of GAM336440 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336440 RNA, herein designated GAM RNA, and which when bound by GAM336440 RNA causes inhibition of translation of the GAM336440 target mRNA into a corresponding GAM336440 target protein.

The mechanism of the translational inhibition exerted by GAM336440 RNA, herein designated GAM RNA, on one or more GAM336440 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336440 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336440 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336440 RNA, herein designated GAM RNA, of GAM336440 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336440 target RNA, herein designated

GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336440 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336440 RNA correlate with, and may be deduced from, the identity of the GAM336440 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336441 142599 GGCAGGAAAA Fig. 8 further provides a conceptual description of another novel bioinformatically
TTCCTTCACC detected oligonucleotides of the present invention, referred to here as Genomic Address
TGGGAGGTGG Messenger 336441 (GAM336441) oligonucleotides modulates expression of respective target
AGGTTGCAGT genes whose function and utility is known in the art.

GAGCCAAGAT GAM336441 is a novel bioinformatically detectable regulatory, non protein
TGCACCACTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336441 was detected
CACTCCTAGG is described with additional reference to Figs. 9-15.

CAATGGAGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGACCTTGTC encoded by the human genome.

GAM336441 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336441 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336441 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336441 precursor RNA is designated SEQ ID:142599, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142599 is located from position 18229150 to position 18229239 relative to chromosome chrY on the `+` strand (chr is an abbreviation for chromosome).

GAM336441 precursor RNA folds onto itself, forming GAM336441 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336441 precursor RNA, designated SEQ ID NO: 142599, and a schematic representation of a predicted secondary folding of GAM336441 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336441 folded precursor

RNA yielding a GAM336441 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336441 RNA, hereby incorporated herein.

GAM336441 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336441 target RNA, herein designated GAM TARGET RNA.

GAM336441 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336441 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336441 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336441 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336441 RNA, herein designated GAM RNA, to target binding sites on GAM336441 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336441 target RNA into GAM336441 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336441 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336441 target genes. The mRNA of each one of this plurality of GAM336441 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336441 RNA, herein designated GAM RNA, and which when bound by GAM336441 RNA causes inhibition of translation of the GAM336441 target mRNA into a corresponding GAM336441 target protein.

The mechanism of the translational inhibition exerted by GAM336441 RNA, herein designated GAM RNA, on one or more GAM336441 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336441 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336441 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336441 RNA, herein designated GAM RNA, of GAM336441 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336441 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336441 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336441 RNA correlate with, and may be deduced from, the identity of the GAM336441 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336442 142600 GCTCTTTAAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AAGTAAGCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACTGTTTTG Messenger 336442 (GAM336442) oligonucleotides modulates expression of respective target

TTTTCTGTGC genes whose function and utility is known in the art.

TGCTTAGTGC GAM336442 is a novel bioinformatically detectable regulatory, non protein

AGGACAATAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336442 was detected

AGAGCAGATC is described with additional reference to Figs. 9-15.

TGGCTCTGCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCTTAGCAGC encoded by the human genome.

GAM336442 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336442 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336442 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336442 precursor RNA is designated SEQ ID:142600, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142600 is located from position 18307900 to position 18307989 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM336442 precursor RNA folds onto itself, forming GAM336442 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336442 precursor RNA, designated SEQ ID NO: 142600, and a schematic representation of a predicted secondary folding of GAM336442 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336442 folded precursor RNA yielding a GAM336442 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336442 RNA, hereby incorporated herein.

GAM336442 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336442 target RNA, herein designated GAM TARGET RNA.

GAM336442 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336442 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336442 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336442 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336442 RNA, herein designated GAM RNA, to target binding sites on GAM336442 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336442 target RNA into GAM336442 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336442 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336442 target genes. The mRNA of each one of this plurality of GAM336442 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336442 RNA, herein designated GAM RNA, and which when bound by GAM336442 RNA causes inhibition of translation of the GAM336442 target mRNA into a corresponding GAM336442 target protein.

The mechanism of the translational inhibition exerted by GAM336442 RNA, herein designated GAM RNA, on one or more GAM336442 target genes, herein collectively designated

GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336442 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336442 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336442 RNA, herein designated GAM RNA, of GAM336442 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336442 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336442 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336442 RNA correlate with, and may be deduced from, the identity of the GAM336442 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336443 142601 GGCCATATTG Fig. 8 further provides a conceptual description of another novel bioinformatically
GATTGTGTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AAATGTGCAT Messenger 336443 (GAM336443) oligonucleotides modulates expression of respective target
CTATACTGAG genes whose function and utility is known in the art.

ATAAGGGTGA GAM336443 is a novel bioinformatically detectable regulatory, non protein
GAGCCCCTGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336443 was detected
CCACTGTCAG is described with additional reference to Figs. 9-15.

CACAGTCACT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACTAGAAGGC encoded by the human genome.

C GAM336443 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336443 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336443 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336443 precursor RNA is designated SEQ ID:142601, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142601 is located from position 18338801 to position 18338891 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM336443 precursor RNA folds onto itself, forming GAM336443 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336443 precursor RNA, designated SEQ ID NO: 142601, and a schematic representation of a predicted secondary folding of GAM336443 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336443 folded precursor RNA yielding a GAM336443 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336443 RNA, hereby incorporated herein.

GAM336443 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336443 target RNA, herein designated GAM TARGET RNA.

GAM336443 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336443 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336443 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336443 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336443 RNA, herein designated GAM RNA, to target binding sites on GAM336443 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336443 target RNA into GAM336443 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336443 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM336443 target genes. The mRNA of each one of this plurality of GAM336443 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336443 RNA, herein designated GAM RNA, and which when bound by GAM336443 RNA causes inhibition of translation of the GAM336443 target mRNA into a corresponding GAM336443 target protein.

The mechanism of the translational inhibition exerted by GAM336443 RNA, herein designated GAM RNA, on one or more GAM336443 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336443 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336443 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336443 RNA, herein designated GAM RNA, of GAM336443 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336443 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336443 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336443 RNA correlate with, and may be deduced from, the identity of the GAM336443 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336444 142602 GCCTTTTGGC Fig. 8 further provides a conceptual description of another novel bioinformatically
CATATTGGAT detected oligonucleotides of the present invention, referred to here as Genomic Address
TGTGTTGAAA Messenger 336444 (GAM336444) oligonucleotides modulates expression of respective target
TGTGCATCTA genes whose function and utility is known in the art.

TACTGAGATA GAM336444 is a novel bioinformatically detectable regulatory, non protein
AGGGTGAGAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336444 was detected
CCCCTGTCCA is described with additional reference to Figs. 9-15.

CTGTCAGCAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGTCACTACT encoded by the human genome.

AGAAGGC GAM336444 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336444 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336444 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336444 precursor RNA is designated SEQ ID:142602, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142602 is located from position 18338802 to position 18338898 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM336444 precursor RNA folds onto itself, forming GAM336444 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336444 precursor RNA, designated SEQ ID NO: 142602, and a schematic representation of a predicted secondary folding of GAM336444 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336444 folded precursor RNA yielding a GAM336444 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336444 RNA, hereby incorporated herein.

GAM336444 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336444 target RNA, herein designated GAM TARGET RNA.

GAM336444 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336444 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336444 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336444 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336444 RNA, herein designated GAM RNA, to target binding sites on GAM336444 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336444 target RNA into GAM336444 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336444 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336444 target genes. The mRNA of each one of this plurality of GAM336444 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336444 RNA, herein designated GAM RNA, and which when bound by GAM336444 RNA causes inhibition of translation of the GAM336444 target mRNA into a corresponding GAM336444 target protein.

The mechanism of the translational inhibition exerted by GAM336444 RNA, herein designated GAM RNA, on one or more GAM336444 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336444 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336444 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336444 RNA, herein designated GAM RNA, of GAM336444 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336444 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336444 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336444 RNA correlate with, and may be deduced from, the identity of the GAM336444 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336445 142603 CTCAGAGGGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGGTCACCT detected oligonucleotides of the present invention, referred to here as Genomic Address

CTGCCATGAG Messenger 336445 (GAM336445) oligonucleotides modulates expression of respective target

GCTGGACTGC genes whose function and utility is known in the art.

AGCTGTGGTG GAM336445 is a novel bioinformatically detectable regulatory, non protein
GCAAGTGACC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336445 was detected
AGATGTCACT is described with additional reference to Figs. 9-15.

GAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336445 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336445 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336445 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336445 precursor RNA is designated SEQ ID:142603, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142603 is located from position 18488728 to position 18488800 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM336445 precursor RNA folds onto itself, forming GAM336445 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336445 precursor RNA, designated SEQ ID NO: 142603, and a schematic representation of a predicted secondary folding of GAM336445 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336445 folded precursor RNA yielding a GAM336445 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336445 RNA, hereby incorporated herein.

GAM336445 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336445 target RNA, herein designated GAM TARGET RNA.

GAM336445 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336445 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336445 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the

nucleotide sequence of GAM336445 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336445 RNA, herein designated GAM RNA, to target binding sites on GAM336445 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336445 target RNA into GAM336445 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336445 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336445 target genes. The mRNA of each one of this plurality of GAM336445 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336445 RNA, herein designated GAM RNA, and which when bound by GAM336445 RNA causes inhibition of translation of the GAM336445 target mRNA into a corresponding GAM336445 target protein.

The mechanism of the translational inhibition exerted by GAM336445 RNA, herein designated GAM RNA, on one or more GAM336445 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336445 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336445 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336445 RNA, herein designated GAM RNA, of GAM336445 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336445 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336445 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336445 RNA correlate with, and may be deduced from, the identity of the GAM336445 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336446 142604 GTAGAAAGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GGAGTATGAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GATGATATGT Messenger 336446 (GAM336446) oligonucleotides modulates expression of respective target

TTCCTTTGGC genes whose function and utility is known in the art.

AAATCTGTGA GAM336446 is a novel bioinformatically detectable regulatory, non protein

CATGGAAATT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336446 was detected

ACCATGAGCC is described with additional reference to Figs. 9-15.

AAGGAGCCAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGGACATAGC encoded by the human genome.

TTGTAGCTCT GAM336446 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GCTGCCTGC GAM336446 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336446 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336446 precursor RNA is designated SEQ ID:142604, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142604 is located from position 18494947 to position 18495055 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM336446 precursor RNA folds onto itself, forming GAM336446 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336446 precursor RNA, designated SEQ ID NO: 142604, and a schematic representation of a predicted secondary folding of GAM336446 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336446 folded precursor RNA yielding a GAM336446 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336446 RNA, hereby incorporated herein.

GAM336446 target gene, herein designated GAM TARGET GENE, encodes a

corresponding messenger RNA, GAM336446 target RNA, herein designated GAM TARGET RNA.

GAM336446 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336446 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336446 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336446 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336446 RNA, herein designated GAM RNA, to target binding sites on GAM336446 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336446 target RNA into GAM336446 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336446 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336446 target genes. The mRNA of each one of this plurality of GAM336446 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336446 RNA, herein designated GAM RNA, and which when bound by GAM336446 RNA causes inhibition of translation of the GAM336446 target mRNA into a corresponding GAM336446 target protein.

The mechanism of the translational inhibition exerted by GAM336446 RNA, herein designated GAM RNA, on one or more GAM336446 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336446 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336446 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336446 RNA, herein designated GAM RNA, of GAM336446 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336446 target RNA, herein designated

GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336446 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336446 RNA correlate with, and may be deduced from, the identity of the GAM336446 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336447 142605 AGAAAAATTA Fig. 8 further provides a conceptual description of another novel bioinformatically
GTTAATATTT detected oligonucleotides of the present invention, referred to here as Genomic Address
AAAAAACTGT Messenger 336447 (GAM336447) oligonucleotides modulates expression of respective target
ATTGTGCATT genes whose function and utility is known in the art.

TTGGCTTCAC GAM336447 is a novel bioinformatically detectable regulatory, non protein
ATGTTTAACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336447 was detected
TTTTTTAAGA is described with additional reference to Figs. 9-15.

AAAAAGTTGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATGAATGGAA encoded by the human genome.

AAAAAATCTG GAM336447 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TATACAGTAT GAM336447 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
CTGTAAAAAC GAM336447 precursor RNA does not encode a protein. A nucleotide sequence identical or

TGTCTTATCT highly similar to the nucleotide sequence of GAM336447 precursor RNA is designated SEQ

ID:142605, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142605 is located from position 18512666 to position 18512795 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336447 precursor RNA folds onto itself, forming GAM336447 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336447 precursor RNA, designated SEQ ID NO: 142605, and a schematic representation of a predicted secondary folding of GAM336447 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336447 folded precursor RNA yielding a GAM336447 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336447 RNA, hereby incorporated herein.

GAM336447 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336447 target RNA, herein designated GAM TARGET RNA.

GAM336447 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336447 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336447 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336447 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336447 RNA, herein designated GAM RNA, to target binding sites on GAM336447 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336447 target RNA into GAM336447 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336447 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336447 target genes. The mRNA of each one of this plurality of GAM336447 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336447 RNA, herein designated GAM RNA, and which when bound by GAM336447 RNA causes inhibition of translation of the GAM336447 target mRNA into a corresponding GAM336447 target protein.

The mechanism of the translational inhibition exerted by GAM336447 RNA, herein designated GAM RNA, on one or more GAM336447 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336447 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336447 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336447 RNA, herein designated GAM RNA, of GAM336447 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336447 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336447 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336447 RNA correlate with, and may be deduced from, the identity of the GAM336447 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336448 142606 GAGTAGCTGG Fig. 8 further provides a conceptual description of another novel bioinformatically

GATTACAGGT detected oligonucleotides of the present invention, referred to here as Genomic Address

GTGTGCCACC Messenger 336448 (GAM336448) oligonucleotides modulates expression of respective target

ATGTCTGGCT genes whose function and utility is known in the art.

GATTTTTGTA GAM336448 is a novel bioinformatically detectable regulatory, non protein

TTTTTAGTAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336448 was detected

AGGTGGGGTT is described with additional reference to Figs. 9-15.

TCACCATGTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGCCAGGCTG encoded by the human genome.

GTC GAM336448 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336448 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336448 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336448 precursor RNA is designated SEQ ID:142606, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142606 is located from position 18720857 to position 18720949 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GAM336448 precursor RNA folds onto itself, forming GAM336448 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336448 precursor RNA, designated SEQ ID NO: 142606, and a schematic representation of a predicted secondary folding of GAM336448 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336448 folded precursor RNA yielding a GAM336448 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336448 RNA, hereby incorporated herein.

GAM336448 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336448 target RNA, herein designated GAM TARGET RNA.

GAM336448 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336448 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336448 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336448 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336448 RNA, herein designated GAM RNA, to target binding sites on GAM336448 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336448 target RNA into GAM336448 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336448 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336448 target genes. The mRNA of each one of this plurality of GAM336448 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336448 RNA, herein designated GAM RNA, and which when bound by GAM336448 RNA causes inhibition of translation of the GAM336448 target mRNA into a corresponding GAM336448 target protein.

The mechanism of the translational inhibition exerted by GAM336448 RNA, herein designated GAM RNA, on one or more GAM336448 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336448 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336448 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336448 RNA, herein designated GAM RNA, of GAM336448 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336448 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336448 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336448 RNA correlate with, and may be deduced from, the identity of the GAM336448 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336449 142607 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTACA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACGTGCAG Messenger 336449 (GAM336449) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336449 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336449 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336449 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336449 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336449 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336449 precursor RNA is designated SEQ

ID:142607, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142607 is located from position 18810398 to position 18810479 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336449 precursor RNA folds onto itself, forming GAM336449 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336449 precursor RNA, designated SEQ ID NO: 142607, and a schematic representation of a predicted secondary folding of GAM336449 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336449 folded precursor RNA yielding a GAM336449 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336449 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336449 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336449 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336449 target RNA, herein designated GAM TARGET RNA.

GAM336449 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336449 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336449 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336449 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336449 RNA, herein designated GAM RNA, to target binding sites on GAM336449 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336449 target RNA into GAM336449 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336449 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336449 target genes. The mRNA of each one of this plurality of GAM336449 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336449 RNA, herein designated GAM RNA, and which when bound by GAM336449 RNA causes inhibition of translation of the GAM336449 target mRNA into a corresponding GAM336449 target protein.

The mechanism of the translational inhibition exerted by GAM336449 RNA, herein designated GAM RNA, on one or more GAM336449 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336449 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336449 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336449 RNA, herein designated GAM RNA, of GAM336449 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336449 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336449 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336449 RNA correlate with, and may be deduced from, the identity of the GAM336449 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336450 142608 CTCTGTAGTT Fig. 8 further provides a conceptual description of another novel bioinformatically

ATGTGCGGTC detected oligonucleotides of the present invention, referred to here as Genomic Address

TTACACTATT Messenger 336450 (GAM336450) oligonucleotides modulates expression of respective target

TTACATGGTC genes whose function and utility is known in the art.

ACTATCAGCT GAM336450 is a novel bioinformatically detectable regulatory, non protein

TAGTTGTTTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336450 was detected

TCACTTGTTG is described with additional reference to Figs. 9-15.

GTGACTGCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TAAGGTAGAT encoded by the human genome.

TTGAGATGTC GAM336450 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CAGGGACTGC GAM336450 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

AGAG GAM336450 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336450 precursor RNA is designated SEQ ID:142608, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142608 is located from position 18853144 to position 18853257 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336450 precursor RNA folds onto itself, forming GAM336450 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336450 precursor RNA, designated SEQ ID NO: 142608, and a schematic representation of a predicted secondary folding of GAM336450 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336450 folded precursor RNA yielding a GAM336450 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336450 RNA, hereby incorporated herein.

GAM336450 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336450 target RNA, herein designated GAM TARGET RNA.

GAM336450 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336450 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336450 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336450 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336450 RNA, herein designated GAM RNA, to target binding sites on GAM336450 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336450 target RNA into GAM336450 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336450 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336450 target genes. The mRNA of each one of this plurality of GAM336450 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336450 RNA, herein designated GAM RNA, and which when bound by GAM336450 RNA causes inhibition of translation of the GAM336450 target mRNA into a corresponding GAM336450 target protein.

The mechanism of the translational inhibition exerted by GAM336450 RNA, herein designated GAM RNA, on one or more GAM336450 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336450 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336450 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336450 RNA, herein designated GAM RNA, of GAM336450 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336450 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336450 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336450 RNA correlate with, and may be deduced from, the identity of the GAM336450 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336451 142609 GCCCTAAACG Fig. 8 further provides a conceptual description of another novel bioinformatically

AAGGGGGCCT detected oligonucleotides of the present invention, referred to here as Genomic Address
CAAGTTACGA Messenger 336451 (GAM336451) oligonucleotides modulates expression of respective target
CTTCTCAAGG genes whose function and utility is known in the art.

CAGTGACATC GAM336451 is a novel bioinformatically detectable regulatory, non protein
TTCCTCAATT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336451 was detected
GGTATGAGTA is described with additional reference to Figs. 9-15.

GCTGCCAGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AACAAGTACG encoded by the human genome.

TATAAGAGTG GAM336451 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TCCCATATTC GAM336451 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
TGGC GAM336451 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336451 precursor RNA is designated SEQ ID:142609, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142609 is located from position 18960647 to position 18960760 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM336451 precursor RNA folds onto itself, forming GAM336451 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336451 precursor RNA, designated SEQ ID NO: 142609, and a schematic representation of a predicted secondary folding of GAM336451 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336451 folded precursor RNA yielding a GAM336451 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336451 RNA, hereby incorporated herein.

GAM336451 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336451 target RNA, herein designated GAM TARGET RNA.

GAM336451 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336451 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336451 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336451 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336451 RNA, herein designated GAM RNA, to target binding sites on GAM336451 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336451 target RNA into GAM336451 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336451 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336451 target genes. The mRNA of each one of this plurality of GAM336451 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336451 RNA, herein designated GAM RNA, and which when bound by GAM336451 RNA causes inhibition of translation of the GAM336451 target mRNA into a corresponding GAM336451 target protein.

The mechanism of the translational inhibition exerted by GAM336451 RNA, herein designated GAM RNA, on one or more GAM336451 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336451 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336451 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336451 RNA, herein designated GAM RNA, of GAM336451 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336451 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336451 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336451 RNA correlate with, and may be deduced from, the identity of the GAM336451 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336452 142610 GGGGCCTCAA Fig. 8 further provides a conceptual description of another novel bioinformatically
GTTACGACTT detected oligonucleotides of the present invention, referred to here as Genomic Address
CTCAAGGCAG Messenger 336452 (GAM336452) oligonucleotides modulates expression of respective target
TGACATCTTC genes whose function and utility is known in the art.

CTCAATTGGT GAM336452 is a novel bioinformatically detectable regulatory, non protein
ATGAGTAGCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336452 was detected
GCCAGGCAAC is described with additional reference to Figs. 9-15.

AAGTACGTAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AAGAGTGTCC encoded by the human genome.

C GAM336452 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336452 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336452 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336452 precursor RNA is designated SEQ ID:142610, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142610 is located from position 18960660 to position 18960750 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM336452 precursor RNA folds onto itself, forming GAM336452 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336452 precursor RNA, designated SEQ ID NO: 142610, and a schematic representation of a predicted secondary folding of GAM336452 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336452 folded precursor RNA yielding a GAM336452 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336452 RNA, hereby incorporated herein.

GAM336452 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336452 target RNA, herein designated GAM TARGET RNA.

GAM336452 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336452 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336452 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336452 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336452 RNA, herein designated GAM RNA, to target binding sites on GAM336452 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336452 target RNA into GAM336452 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336452 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336452 target genes. The mRNA of each one of this plurality of GAM336452 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336452 RNA, herein designated GAM RNA, and which when bound by GAM336452 RNA causes inhibition of translation of the GAM336452 target mRNA into a corresponding GAM336452 target protein.

The mechanism of the translational inhibition exerted by GAM336452 RNA, herein designated GAM RNA, on one or more GAM336452 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336452 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336452 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336452 RNA, herein designated GAM RNA, of GAM336452 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336452 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336452 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336452 RNA correlate with, and may be deduced from, the identity of the GAM336452 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336453 142611 TGCACCTTCC Fig. 8 further provides a conceptual description of another novel bioinformatically
CTGGGACAAC detected oligonucleotides of the present invention, referred to here as Genomic Address
TTTCTTATTG Messenger 336453 (GAM336453) oligonucleotides modulates expression of respective target
ATGGGTCTTG genes whose function and utility is known in the art.

TGTTTAATTA GAM336453 is a novel bioinformatically detectable regulatory, non protein
ATGAGAGTTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336453 was detected
GTTTTAGGGG is described with additional reference to Figs. 9-15.

TATGGGCCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGTGCA encoded by the human genome.

GAM336453 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336453 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336453 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336453 precursor RNA is designated SEQ ID:142611, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142611 is located from position 19104724 to position 19104809 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM336453 precursor RNA folds onto itself, forming GAM336453 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336453 precursor RNA, designated SEQ ID NO: 142611, and a schematic representation of a predicted secondary folding of GAM336453 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336453 folded precursor RNA yielding a GAM336453 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336453 RNA, hereby incorporated herein.

GAM336453 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336453 target RNA, herein designated GAM TARGET RNA.

GAM336453 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336453 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336453 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336453 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336453 RNA, herein designated GAM RNA, to target binding sites on GAM336453 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336453 target RNA into GAM336453 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336453 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336453 target genes. The mRNA of each one of this plurality of GAM336453 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336453 RNA, herein designated GAM RNA, and which when bound by GAM336453 RNA causes inhibition of translation of the GAM336453 target mRNA into a corresponding GAM336453 target protein.

The mechanism of the translational inhibition exerted by GAM336453 RNA, herein designated GAM RNA, on one or more GAM336453 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336453 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336453 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336453 RNA, herein designated GAM RNA, of GAM336453 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336453 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336453 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336453 RNA correlate with, and may be deduced from, the identity of the GAM336453 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336454 142612 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAAGGCGTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCCAGGAGG Messenger 336454 (GAM336454) oligonucleotides modulates expression of respective target
CGGAGCTTGC genes whose function and utility is known in the art.

AGTGAGCAGA GAM336454 is a novel bioinformatically detectable regulatory, non protein
GATCGTGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336454 was detected
CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGAGCGAGA encoded by the human genome.

CTCCGTCTCA GAM336454 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAM336454 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336454 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336454 precursor RNA is designated SEQ ID:142612, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142612 is located from position 19125660 to position 19125759 relative to chromosome chr1 on the `+` strand (chr is an abbreviation for chromosome).

GAM336454 precursor RNA folds onto itself, forming GAM336454 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336454 precursor RNA, designated SEQ ID NO: 142612, and a schematic representation of a predicted secondary folding of GAM336454 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336454 folded precursor RNA yielding a GAM336454 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336454 RNA, hereby incorporated herein. Expression of GAM336454 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336454 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336454 target RNA, herein designated GAM TARGET RNA.

GAM336454 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336454 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336454 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336454 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336454 RNA, herein designated GAM RNA, to target binding sites on GAM336454 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336454 target RNA into GAM336454 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336454 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336454 target genes. The mRNA of each one of this plurality of GAM336454 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM336454 RNA, herein designated GAM RNA, and which when bound by GAM336454 RNA causes inhibition of translation of the GAM336454 target mRNA into a corresponding GAM336454 target protein.

The mechanism of the translational inhibition exerted by GAM336454 RNA, herein designated GAM RNA, on one or more GAM336454 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336454 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336454 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336454 RNA, herein designated GAM RNA, of GAM336454 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336454 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336454 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336454 RNA correlate with, and may be deduced from, the identity of the GAM336454 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336455 142613 GATGTGTTCA Fig. 8 further provides a conceptual description of another novel bioinformatically

AGAAAATTTA detected oligonucleotides of the present invention, referred to here as Genomic Address

TTGCAGCATT Messenger 336455 (GAM336455) oligonucleotides modulates expression of respective target

GTTTGCAATA genes whose function and utility is known in the art.

GTGAAAAAAC GAM336455 is a novel bioinformatically detectable regulatory, non protein

TGAACTCATC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336455 was detected

is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336455 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336455 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336455 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336455 precursor RNA is designated SEQ ID:142613, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142613 is located from position 19182411 to position 19182470 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336455 precursor RNA folds onto itself, forming GAM336455 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336455 precursor RNA, designated SEQ ID NO: 142613, and a schematic representation of a predicted secondary folding of GAM336455 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336455 folded precursor RNA yielding a GAM336455 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336455 RNA, hereby incorporated herein.

GAM336455 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336455 target RNA, herein designated GAM TARGET RNA.

GAM336455 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336455 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336455 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336455 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336455 RNA, herein designated GAM RNA, to target binding sites on GAM336455 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336455 target RNA into GAM336455 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336455 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336455 target genes. The mRNA of each one of this plurality of GAM336455 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336455 RNA, herein designated GAM RNA, and which when bound by GAM336455 RNA causes inhibition of translation of the GAM336455 target mRNA into a corresponding GAM336455 target protein.

The mechanism of the translational inhibition exerted by GAM336455 RNA, herein designated GAM RNA, on one or more GAM336455 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336455 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336455 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336455 RNA, herein designated GAM RNA, of GAM336455 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336455 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336455 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336455 RNA correlate with, and may be deduced from, the identity of the GAM336455 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336456 142614 GCCTTGGCTT CCCAAAGTGC TAGGAATACA GGTGTGAGCC AACATGCCTG TCCTGTAAGT ATTTTTTAAA

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336456 (GAM336456) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336456 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336456 was detected is described with additional reference to Figs. 9-15.

ACAAGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336456 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336456 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336456 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336456 precursor RNA is designated SEQ ID:142614, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142614 is located from position 19183141 to position 19183217 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM336456 precursor RNA folds onto itself, forming GAM336456 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336456 precursor RNA, designated SEQ ID NO: 142614, and a schematic representation of a predicted secondary folding of GAM336456 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336456 folded precursor RNA yielding a GAM336456 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336456 RNA, hereby incorporated herein.

GAM336456 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336456 target RNA, herein designated GAM TARGET RNA.

GAM336456 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336456 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336456 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336456 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336456 RNA, herein designated GAM RNA, to target binding sites on GAM336456 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336456 target RNA into GAM336456 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336456 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336456 target genes. The mRNA of each one of this plurality of GAM336456 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336456 RNA, herein designated GAM RNA, and which when bound by GAM336456 RNA causes inhibition of translation of the GAM336456 target mRNA into a corresponding GAM336456 target protein.

The mechanism of the translational inhibition exerted by GAM336456 RNA, herein designated GAM RNA, on one or more GAM336456 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336456 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336456 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336456 RNA, herein designated GAM RNA, of GAM336456 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336456 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336456 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336456 RNA correlate with, and may be deduced from, the identity of the GAM336456 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336457 142615 GTCGTCCATA Fig. 8 further provides a conceptual description of another novel bioinformatically

ATATTGCTAA detected oligonucleotides of the present invention, referred to here as Genomic Address

TGACCAGCCT Messenger 336457 (GAM336457) oligonucleotides modulates expression of respective target
TAAACTAGAC genes whose function and utility is known in the art.

AACCACTGAA GAM336457 is a novel bioinformatically detectable regulatory, non protein
GAACCTGGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336457 was detected
TATGAGCTGA is described with additional reference to Figs. 9-15.

GAAACTTGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTCTTTTATG encoded by the human genome.

GCTGGCCATT GAM336457 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
AACGAC GAM336457 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336457 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336457 precursor RNA is designated SEQ ID:142615, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142615 is located from position 19215800 to position 19215905 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM336457 precursor RNA folds onto itself, forming GAM336457 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336457 precursor RNA, designated SEQ ID NO: 142615, and a schematic representation of a predicted secondary folding of GAM336457 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336457 folded precursor RNA yielding a GAM336457 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336457 RNA, hereby incorporated herein.

GAM336457 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336457 target RNA, herein designated GAM TARGET RNA.

GAM336457 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336457 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336457 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336457 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336457 RNA, herein designated GAM RNA, to target binding sites on GAM336457 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336457 target RNA into GAM336457 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336457 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336457 target genes. The mRNA of each one of this plurality of GAM336457 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336457 RNA, herein designated GAM RNA, and which when bound by GAM336457 RNA causes inhibition of translation of the GAM336457 target mRNA into a corresponding GAM336457 target protein.

The mechanism of the translational inhibition exerted by GAM336457 RNA, herein designated GAM RNA, on one or more GAM336457 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336457 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336457 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336457 RNA, herein designated GAM RNA, of GAM336457 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336457 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336457 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336457 RNA correlate with, and may be deduced from, the identity of the GAM336457 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336458 142616 GGAGAATCAC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGTTAGAGG Messenger 336458 (GAM336458) oligonucleotides modulates expression of respective target
TTGCAGTGAG genes whose function and utility is known in the art.

CCCAAAATCA GAM336458 is a novel bioinformatically detectable regulatory, non protein
CACCACTGTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336458 was detected
CTCCAGCCTG is described with additional reference to Figs. 9-15.

CCTGGGTAAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGAGTGAGAT encoded by the human genome.

TCC GAM336458 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336458 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336458 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336458 precursor RNA is designated SEQ ID:142616, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142616 is located from position 19294864 to position 19294956 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM336458 precursor RNA folds onto itself, forming GAM336458 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336458 precursor RNA, designated SEQ ID NO: 142616, and a schematic representation of a predicted secondary folding of GAM336458 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336458 folded precursor RNA yielding a GAM336458 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336458 RNA, hereby incorporated herein.

GAM336458 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336458 target RNA, herein designated GAM TARGET RNA.

GAM336458 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336458 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336458 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336458 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336458 RNA, herein designated GAM RNA, to target binding sites on GAM336458 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336458 target RNA into GAM336458 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336458 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336458 target genes. The mRNA of each one of this plurality of GAM336458 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336458 RNA, herein designated GAM RNA, and which when bound by GAM336458 RNA causes inhibition of translation of the GAM336458 target mRNA into a corresponding GAM336458 target protein.

The mechanism of the translational inhibition exerted by GAM336458 RNA, herein designated GAM RNA, on one or more GAM336458 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336458 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336458 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336458 RNA, herein designated GAM RNA, of GAM336458 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336458 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336458 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336458 RNA correlate with, and may be deduced from, the identity of the GAM336458 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336459 142617 GGGTTGATTG Fig. 8 further provides a conceptual description of another novel bioinformatically
ATCTTATGAC detected oligonucleotides of the present invention, referred to here as Genomic Address
GTTTATTTCT Messenger 336459 (GAM336459) oligonucleotides modulates expression of respective target
TATCATCACT genes whose function and utility is known in the art.

ATTAGGTAAC GAM336459 is a novel bioinformatically detectable regulatory, non protein
CAGATAAACC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336459 was detected
TAATGGTTAG is described with additional reference to Figs. 9-15.

ATGGATGAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGTGAAGTTG encoded by the human genome.

TGGCAGATGC GAM336459 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TATCAGTGCC GAM336459 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
C GAM336459 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336459 precursor RNA is designated SEQ ID:142617, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142617 is located from position 19383933 to position 19384043 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336459 precursor RNA folds onto itself, forming GAM336459 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336459 precursor RNA, designated SEQ ID NO: 142617, and a schematic representation of a predicted secondary folding of GAM336459 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336459 folded precursor RNA yielding a GAM336459 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336459 RNA, hereby incorporated herein.

GAM336459 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336459 target RNA, herein designated GAM TARGET RNA.

GAM336459 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336459 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336459 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336459 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336459 RNA, herein designated GAM RNA, to target binding sites on GAM336459 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336459 target RNA into GAM336459 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336459 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336459 target genes. The mRNA of each one of this plurality of GAM336459 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336459 RNA, herein designated GAM RNA, and which when bound by GAM336459 RNA causes inhibition of translation of the GAM336459 target mRNA into a corresponding GAM336459 target protein.

The mechanism of the translational inhibition exerted by GAM336459 RNA, herein designated GAM RNA, on one or more GAM336459 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336459 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336459 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336459 RNA, herein designated GAM RNA, of GAM336459 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336459 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336459 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336459 RNA correlate with, and may be deduced from, the identity of the GAM336459 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336460 142618 ACCTTGCTGA Fig. 8 further provides a conceptual description of another novel bioinformatically
CAGTGGTAAT detected oligonucleotides of the present invention, referred to here as Genomic Address
TGTAGTGTGA Messenger 336460 (GAM336460) oligonucleotides modulates expression of respective target
AAGGCATAGT genes whose function and utility is known in the art.

GTCCTCTTGC GAM336460 is a novel bioinformatically detectable regulatory, non protein
TTAATCATGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336460 was detected
GATACAGACT is described with additional reference to Figs. 9-15.

GCTCACTTCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TAAATGGTTA encoded by the human genome.

CCTTTGCAGT GAM336460 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TTAAGAGGT GAM336460 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336460 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336460 precursor RNA is designated SEQ ID:142618, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142618 is located from position 19464207 to position 19464315 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336460 precursor RNA folds onto itself, forming GAM336460 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336460 precursor RNA, designated SEQ ID NO: 142618, and a schematic representation of a predicted secondary folding of GAM336460 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336460 folded precursor RNA yielding a GAM336460 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336460 RNA, hereby incorporated herein.

GAM336460 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336460 target RNA, herein designated GAM TARGET RNA.

GAM336460 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336460 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336460 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336460 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336460 RNA, herein designated GAM RNA, to target binding sites on GAM336460 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336460 target RNA into GAM336460 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336460 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336460 target genes. The mRNA of each one of this plurality of GAM336460 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM336460 RNA, herein designated GAM RNA, and which when bound by GAM336460 RNA causes inhibition of translation of the GAM336460 target mRNA into a corresponding GAM336460 target protein.

The mechanism of the translational inhibition exerted by GAM336460 RNA, herein designated GAM RNA, on one or more GAM336460 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336460 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336460 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336460 RNA, herein designated GAM RNA, of GAM336460 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336460 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336460 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336460 RNA correlate with, and may be deduced from, the identity of the GAM336460 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336461 142619 GCCTTGCAGT Fig. 8 further provides a conceptual description of another novel bioinformatically

GAAGGAGGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

TGTGATCACC Messenger 336461 (GAM336461) oligonucleotides modulates expression of respective target

ATCAAAGTCT genes whose function and utility is known in the art.

TCTGCTCTGG GAM336461 is a novel bioinformatically detectable regulatory, non protein

GAAGGATCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336461 was detected

ACAGTCGTCC is described with additional reference to Figs. 9-15.

TTCAGCCTGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTGGGGC encoded by the human genome.

GAM336461 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336461 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336461 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336461 precursor RNA is designated SEQ ID:142619, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142619 is located from position 19661582 to position 19661668 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM336461 precursor RNA folds onto itself, forming GAM336461 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336461 precursor RNA, designated SEQ ID NO: 142619, and a schematic representation of a predicted secondary folding of GAM336461 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336461 folded precursor RNA yielding a GAM336461 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336461 RNA, hereby incorporated herein.

GAM336461 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336461 target RNA, herein designated GAM TARGET RNA.

GAM336461 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336461 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336461 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336461 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336461 RNA, herein designated GAM RNA, to target binding sites on GAM336461 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336461 target RNA into GAM336461 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336461 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336461 target genes. The mRNA of each one of this plurality of GAM336461 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336461 RNA, herein designated GAM RNA, and which when bound by GAM336461 RNA causes inhibition of translation of the GAM336461 target mRNA into a corresponding GAM336461 target protein.

The mechanism of the translational inhibition exerted by GAM336461 RNA, herein designated GAM RNA, on one or more GAM336461 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336461 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336461 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336461 RNA, herein designated GAM RNA, of GAM336461 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336461 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336461 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336461 RNA correlate with, and may be deduced from, the identity of the GAM336461 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336462 142620 GGTGTCTGCC Fig. 8 further provides a conceptual description of another novel bioinformatically

TGGTTGATCT detected oligonucleotides of the present invention, referred to here as Genomic Address

TGAATGATGG Messenger 336462 (GAM336462) oligonucleotides modulates expression of respective target

CAAGTGGGCA genes whose function and utility is known in the art.

CTTTTCAGGT GAM336462 is a novel bioinformatically detectable regulatory, non protein

AACTATTGAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336462 was detected

GATTAACTGA is described with additional reference to Figs. 9-15.

CAAAGATCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGAAGGCTAC encoded by the human genome.

ACTTTGTCAC GAM336462 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TTCAGAGTGC GAM336462 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

CAGAGATACC GAM336462 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336462 precursor RNA is designated SEQ ID:142620, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142620 is located from position 19699736 to position 19699855 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM336462 precursor RNA folds onto itself, forming GAM336462 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336462 precursor RNA, designated SEQ ID NO: 142620, and a schematic representation of a predicted secondary folding of GAM336462 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336462 folded precursor RNA yielding a GAM336462 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336462 RNA, hereby incorporated herein.

GAM336462 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336462 target RNA, herein designated GAM TARGET RNA.

GAM336462 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336462 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336462 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336462 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows

three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336462 RNA, herein designated GAM RNA, to target binding sites on GAM336462 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336462 target RNA into GAM336462 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336462 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336462 target genes. The mRNA of each one of this plurality of GAM336462 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336462 RNA, herein designated GAM RNA, and which when bound by GAM336462 RNA causes inhibition of translation of the GAM336462 target mRNA into a corresponding GAM336462 target protein.

The mechanism of the translational inhibition exerted by GAM336462 RNA, herein designated GAM RNA, on one or more GAM336462 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336462 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336462 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336462 RNA, herein designated GAM RNA, of GAM336462 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336462 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336462 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336462 RNA correlate with, and may be deduced from, the identity of the GAM336462 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336463 142621 CATTAGAAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

AGTAGTGAAA detected oligonucleotides of the present invention, referred to here as Genomic Address
TAAAGATACT Messenger 336463 (GAM336463) oligonucleotides modulates expression of respective target
AAAGATCCAG genes whose function and utility is known in the art.

ACTCAGTGCA GAM336463 is a novel bioinformatically detectable regulatory, non protein
CTTCAAACTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336463 was detected
TTTGAAATAG is described with additional reference to Figs. 9-15.

CTATTCTAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGATGTGAGG encoded by the human genome.

TGACATCTCA GAM336463 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TTCTGGTTTT GAM336463 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
AATTTGCATT GAM336463 precursor RNA does not encode a protein. A nucleotide sequence identical or

TCTCTGATG highly similar to the nucleotide sequence of GAM336463 precursor RNA is designated SEQ

ID:142621, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142621 is located from position 19714759 to position 19714887 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM336463 precursor RNA folds onto itself, forming GAM336463 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336463 precursor RNA, designated SEQ ID NO: 142621, and a schematic representation of a predicted secondary folding of GAM336463 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336463 folded precursor RNA yielding a GAM336463 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336463 RNA, hereby incorporated herein.

GAM336463 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336463 target RNA, herein designated GAM TARGET RNA.

GAM336463 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336463 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336463 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336463 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336463 RNA, herein designated GAM RNA, to target binding sites on GAM336463 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336463 target RNA into GAM336463 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336463 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336463 target genes. The mRNA of each one of this plurality of GAM336463 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336463 RNA, herein designated GAM RNA, and which when bound by GAM336463 RNA causes inhibition of translation of the GAM336463 target mRNA into a corresponding GAM336463 target protein.

The mechanism of the translational inhibition exerted by GAM336463 RNA, herein designated GAM RNA, on one or more GAM336463 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336463 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336463 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336463 RNA, herein designated GAM RNA, of GAM336463 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336463 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336463 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336463 RNA correlate with, and may be deduced from, the identity of the GAM336463 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336464 140920 TTTTGTTTGT Fig. 8 further provides a conceptual description of another novel bioinformatically
TTCTTTGTTC detected oligonucleotides of the present invention, referred to here as Genomic Address
AACTCAGGTA Messenger 336464 (GAM336464) oligonucleotides modulates expression of respective target
ACCACATCAA genes whose function and utility is known in the art.

ATTCAATCAC GAM336464 is a novel bioinformatically detectable regulatory, non protein
CATGTCCCTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336464 was detected
TAATATCTTC is described with additional reference to Figs. 9-15.

TGGTTAATCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGTTTGGGT encoded by the human genome.

TCCTGCTGTC GAM336464 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TTCCCATTGA GAM336464 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
ATATTCTATA GAM336464 precursor RNA does not encode a protein. A nucleotide sequence identical or

AATGAAA highly similar to the nucleotide sequence of GAM336464 precursor RNA is designated SEQ ID:140920, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140920 is located from position 19826795 to position 19826921 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM336464 precursor RNA folds onto itself, forming GAM336464 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336464 precursor RNA, designated SEQ ID NO: 140920, and a schematic representation of a predicted secondary folding of GAM336464 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336464 folded precursor

RNA yielding a GAM336464 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336464 RNA, hereby incorporated herein.

GAM336464 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336464 target RNA, herein designated GAM TARGET RNA.

GAM336464 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336464 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336464 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336464 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336464 RNA, herein designated GAM RNA, to target binding sites on GAM336464 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336464 target RNA into GAM336464 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336464 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336464 target genes. The mRNA of each one of this plurality of GAM336464 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336464 RNA, herein designated GAM RNA, and which when bound by GAM336464 RNA causes inhibition of translation of the GAM336464 target mRNA into a corresponding GAM336464 target protein.

The mechanism of the translational inhibition exerted by GAM336464 RNA, herein designated GAM RNA, on one or more GAM336464 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336464 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336464 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336464 RNA, herein designated GAM RNA, of GAM336464 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336464 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336464 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336464 RNA correlate with, and may be deduced from, the identity of the GAM336464 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336465 140921 GGAGAATCAC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGACGGAGG Messenger 336465 (GAM336465) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

CCCAGATCGC GAM336465 is a novel bioinformatically detectable regulatory, non protein

GCCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336465 was detected

TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAGACTCC encoded by the human genome.

GAM336465 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336465 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336465 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336465 precursor RNA is designated SEQ ID:140921, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140921 is located from position 19884809 to position 19884896 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336465 precursor RNA folds onto itself, forming GAM336465 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336465 precursor RNA, designated SEQ ID NO: 140921, and a schematic representation of a predicted secondary folding of GAM336465 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336465 folded precursor RNA yielding a GAM336465 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336465 RNA, hereby incorporated herein. Expression of GAM336465 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336465 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336465 target RNA, herein designated GAM TARGET RNA.

GAM336465 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336465 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336465 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336465 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336465 RNA, herein designated GAM RNA, to target binding sites on GAM336465 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336465 target RNA into GAM336465 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336465 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336465 target genes. The mRNA of each one of this plurality of GAM336465 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336465 RNA, herein designated GAM RNA, and which when bound by GAM336465 RNA causes inhibition of translation of the GAM336465 target mRNA into a corresponding GAM336465 target protein.

The mechanism of the translational inhibition exerted by GAM336465 RNA, herein designated GAM RNA, on one or more GAM336465 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336465 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336465 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336465 RNA, herein designated GAM RNA, of GAM336465 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336465 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336465 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336465 RNA correlate with, and may be deduced from, the identity of the GAM336465 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336466 140922 TTAAGTAATT Fig. 8 further provides a conceptual description of another novel bioinformatically

CTGAATTGGC detected oligonucleotides of the present invention, referred to here as Genomic Address

TTTTGAAAGT Messenger 336466 (GAM336466) oligonucleotides modulates expression of respective target

CTGCGAGAGG genes whose function and utility is known in the art.

CTGGGCACCA GAM336466 is a novel bioinformatically detectable regulatory, non protein

TGGCTCACAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336466 was detected

CTGTAATCCT is described with additional reference to Figs. 9-15.

AGCACTTTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGGCCAAGG encoded by the human genome.

CCAGAGGGTT GAM336466 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GCTTGA GAM336466 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336466 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336466 precursor RNA is designated SEQ

ID:140922, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140922 is located from position 19890625 to position 19890730 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336466 precursor RNA folds onto itself, forming GAM336466 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336466 precursor RNA, designated SEQ ID NO: 140922, and a schematic representation of a predicted secondary folding of GAM336466 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336466 folded precursor RNA yielding a GAM336466 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336466 RNA, hereby incorporated herein.

GAM336466 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336466 target RNA, herein designated GAM TARGET RNA.

GAM336466 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336466 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336466 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336466 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336466 RNA, herein designated GAM RNA, to target binding sites on GAM336466 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336466 target RNA into GAM336466 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM336466 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336466 target genes. The mRNA of each one of this plurality of GAM336466 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336466 RNA, herein designated GAM RNA, and which when bound by GAM336466 RNA causes inhibition of translation of the GAM336466 target mRNA into a corresponding GAM336466 target protein.

The mechanism of the translational inhibition exerted by GAM336466 RNA, herein designated GAM RNA, on one or more GAM336466 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336466 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336466 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336466 RNA, herein designated GAM RNA, of GAM336466 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336466 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336466 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336466 RNA correlate with, and may be deduced from, the identity of the GAM336466 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336467 140923 AAGTAATTCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATTGGCTT detected oligonucleotides of the present invention, referred to here as Genomic Address

TTGAAAGTCT Messenger 336467 (GAM336467) oligonucleotides modulates expression of respective target

GCGAGAGGCT genes whose function and utility is known in the art.

GGGCACCATG GAM336467 is a novel bioinformatically detectable regulatory, non protein

GCTCACACCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336467 was detected

GTAATCCTAG is described with additional reference to Figs. 9-15.

CACTTTGGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGCCAAGGCC encoded by the human genome.

AGAGGGTTGC GAM336467 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TT GAM336467 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336467 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336467 precursor RNA is designated SEQ ID:140923, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140923 is located from position 19890627 to position 19890728 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336467 precursor RNA folds onto itself, forming GAM336467 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336467 precursor RNA, designated SEQ ID NO: 140923, and a schematic representation of a predicted secondary folding of GAM336467 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336467 folded precursor RNA yielding a GAM336467 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336467 RNA, hereby incorporated herein.

GAM336467 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336467 target RNA, herein designated GAM TARGET RNA.

GAM336467 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336467 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336467 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336467 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336467 RNA, herein designated GAM RNA, to target binding sites on GAM336467 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336467 target RNA into GAM336467 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336467 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336467 target genes. The mRNA of each one of this plurality of GAM336467 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336467 RNA, herein designated GAM RNA, and which when bound by GAM336467 RNA causes inhibition of translation of the GAM336467 target mRNA into a corresponding GAM336467 target protein.

The mechanism of the translational inhibition exerted by GAM336467 RNA, herein designated GAM RNA, on one or more GAM336467 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336467 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336467 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336467 RNA, herein designated GAM RNA, of GAM336467 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336467 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336467 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336467 RNA correlate with, and may be deduced from, the identity of the GAM336467 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336468 140924 TAGAAATGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AGATGAGAGG detected oligonucleotides of the present invention, referred to here as Genomic Address

TCCTCTGGGT Messenger 336468 (GAM336468) oligonucleotides modulates expression of respective target

AAGTGGGGAA genes whose function and utility is known in the art.

CTGTTTGGTC GAM336468 is a novel bioinformatically detectable regulatory, non protein
TCATCGCCTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336468 was detected
CATTTCTACA is described with additional reference to Figs. 9-15.

TCTCTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336468 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336468 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336468 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336468 precursor RNA is designated SEQ ID:140924, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140924 is located from position 19896011 to position 19896086 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM336468 precursor RNA folds onto itself, forming GAM336468 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336468 precursor RNA, designated SEQ ID NO: 140924, and a schematic representation of a predicted secondary folding of GAM336468 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336468 folded precursor RNA yielding a GAM336468 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336468 RNA, hereby incorporated herein.

GAM336468 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336468 target RNA, herein designated GAM TARGET RNA.

GAM336468 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336468 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM336468 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336468 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336468 RNA, herein designated GAM RNA, to target binding sites on GAM336468 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336468 target RNA into GAM336468 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336468 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336468 target genes. The mRNA of each one of this plurality of GAM336468 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336468 RNA, herein designated GAM RNA, and which when bound by GAM336468 RNA causes inhibition of translation of the GAM336468 target mRNA into a corresponding GAM336468 target protein.

The mechanism of the translational inhibition exerted by GAM336468 RNA, herein designated GAM RNA, on one or more GAM336468 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336468 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336468 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336468 RNA, herein designated GAM RNA, of GAM336468 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336468 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336468 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336468 RNA correlate with, and may be deduced from, the identity of the GAM336468 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336469 140925 AGGTCTCATT Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGTTGCCCA detected oligonucleotides of the present invention, referred to here as Genomic Address

GGCTGGGGTA Messenger 336469 (GAM336469) oligonucleotides modulates expression of respective target

CAGTGGTGCA genes whose function and utility is known in the art.

AGTATGGCTC GAM336469 is a novel bioinformatically detectable regulatory, non protein

ACTGCAGCCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336469 was detected

TGAACTCTTT is described with additional reference to Figs. 9-15.

CTGGGCTCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTGATCCT encoded by the human genome.

GAM336469 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336469 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336469 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336469 precursor RNA is designated SEQ ID:140925, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140925 is located from position 20036295 to position 20036382 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336469 precursor RNA folds onto itself, forming GAM336469 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336469 precursor RNA, designated SEQ ID NO: 140925, and a schematic representation of a predicted secondary folding of GAM336469 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336469 folded precursor RNA yielding a GAM336469 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336469 RNA, hereby incorporated herein.

GAM336469 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336469 target RNA, herein designated GAM TARGET RNA.

GAM336469 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336469 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336469 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336469 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336469 RNA, herein designated GAM RNA, to target binding sites on GAM336469 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336469 target RNA into GAM336469 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336469 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336469 target genes. The mRNA of each one of this plurality of GAM336469 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336469 RNA, herein designated GAM RNA, and which when bound by GAM336469 RNA causes inhibition of translation of the GAM336469 target mRNA into a corresponding GAM336469 target protein.

The mechanism of the translational inhibition exerted by GAM336469 RNA, herein designated GAM RNA, on one or more GAM336469 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336469 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336469 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336469 RNA, herein designated GAM RNA, of GAM336469 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM336469 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336469 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336469 RNA correlate with, and may be deduced from, the identity of the GAM336469 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336470 140926 AGGTCTCATT Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGTTGCCCA detected oligonucleotides of the present invention, referred to here as Genomic Address
GGCTGGGGTA Messenger 336470 (GAM336470) oligonucleotides modulates expression of respective target
CAGTGGTGCA genes whose function and utility is known in the art.

AGTATGGCTC GAM336470 is a novel bioinformatically detectable regulatory, non protein
ACTGCAGCCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336470 was detected
TGAACTCTTT is described with additional reference to Figs. 9-15.

CTGGGCTCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTGATCCTCC encoded by the human genome.

T GAM336470 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336470 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336470 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336470 precursor RNA is designated SEQ ID:140926, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140926 is located from position 20036295 to position 20036385 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336470 precursor RNA folds onto itself, forming GAM336470 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336470 precursor RNA, designated SEQ ID NO: 140926, and a schematic representation of a predicted secondary folding of GAM336470 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336470 folded precursor RNA yielding a GAM336470 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336470 RNA, hereby incorporated herein.

GAM336470 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336470 target RNA, herein designated GAM TARGET RNA.

GAM336470 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336470 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336470 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336470 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336470 RNA, herein designated GAM RNA, to target binding sites on GAM336470 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336470 target RNA into GAM336470 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336470 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336470 target genes. The mRNA of each one of this plurality of GAM336470 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336470 RNA, herein designated GAM RNA, and which when bound by GAM336470 RNA causes inhibition of translation of the GAM336470 target mRNA into a corresponding GAM336470 target protein.

The mechanism of the translational inhibition exerted by GAM336470 RNA, herein designated GAM RNA, on one or more GAM336470 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336470 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336470 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336470 RNA, herein designated GAM RNA, of GAM336470 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336470 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336470 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336470 RNA correlate with, and may be deduced from, the identity of the GAM336470 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336471 140927 GTGTATGGTG Fig. 8 further provides a conceptual description of another novel bioinformatically
AGTTGATGTT detected oligonucleotides of the present invention, referred to here as Genomic Address
GTCCCTGACT Messenger 336471 (GAM336471) oligonucleotides modulates expression of respective target
TAGGGAATAT genes whose function and utility is known in the art.

TTATAAACAA GAM336471 is a novel bioinformatically detectable regulatory, non protein
GGGCAGAGGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336471 was detected
ATCCCCTGGA is described with additional reference to Figs. 9-15.

CATGTTAGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAGCGCTTT encoded by the human genome.

AATGGAC GAM336471 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336471 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336471 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336471 precursor RNA is designated SEQ ID:140927, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140927 is located from position 20105273 to position 20105369 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336471 precursor RNA folds onto itself, forming GAM336471 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336471 precursor RNA, designated SEQ ID NO: 140927, and a schematic representation of a predicted secondary folding of GAM336471 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336471 folded precursor RNA yielding a GAM336471 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336471 RNA, hereby incorporated herein.

GAM336471 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336471 target RNA, herein designated GAM TARGET RNA.

GAM336471 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336471 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336471 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336471 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336471 RNA, herein designated GAM RNA, to target binding sites on GAM336471 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336471 target RNA into GAM336471 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336471 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336471 target genes. The mRNA of each one of this plurality of GAM336471 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336471 RNA, herein designated GAM RNA, and which when bound by GAM336471 RNA causes inhibition of translation of the GAM336471 target mRNA into a corresponding GAM336471 target protein.

The mechanism of the translational inhibition exerted by GAM336471 RNA, herein designated GAM RNA, on one or more GAM336471 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336471 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336471 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336471 RNA, herein designated GAM RNA, of GAM336471 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336471 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336471 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336471 RNA correlate with, and may be deduced from, the identity of the GAM336471 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336472 140928 CAGATGCCTC Fig. 8 further provides a conceptual description of another novel bioinformatically

CTTCGGGAGC detected oligonucleotides of the present invention, referred to here as Genomic Address

CACAGGATCC Messenger 336472 (GAM336472) oligonucleotides modulates expression of respective target

AGAGAGTCAA genes whose function and utility is known in the art.

TGAAAGTAAA GAM336472 is a novel bioinformatically detectable regulatory, non protein

ACTTCAGGAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336472 was detected

TGTCTGGATT is described with additional reference to Figs. 9-15.

TATTACGCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGGAGGAAGT encoded by the human genome.

TG GAM336472 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336472 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336472 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336472 precursor RNA is designated SEQ ID:140928, and is provided hereinbelow with reference to the sequence listing part.

Nucleotide sequence SEQ ID:140928 is located from position 20299247 to position 20299338 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM336472 precursor RNA folds onto itself, forming GAM336472 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336472 precursor RNA, designated SEQ ID NO: 140928, and a schematic representation of a predicted secondary folding of GAM336472 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336472 folded precursor RNA yielding a GAM336472 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336472 RNA, hereby incorporated herein.

GAM336472 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336472 target RNA, herein designated GAM TARGET RNA.

GAM336472 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336472 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336472 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336472 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336472 RNA, herein designated GAM RNA, to target binding sites on GAM336472 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336472 target RNA into GAM336472 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336472 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336472 target genes. The mRNA of each one of this plurality of GAM336472 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336472 RNA, herein designated GAM RNA, and which when bound by GAM336472 RNA causes inhibition of translation of the GAM336472 target mRNA into a corresponding GAM336472 target protein.

The mechanism of the translational inhibition exerted by GAM336472 RNA, herein designated GAM RNA, on one or more GAM336472 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336472 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336472 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336472 RNA, herein designated GAM RNA, of GAM336472 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336472 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336472 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336472 RNA correlate with, and may be deduced from, the identity of the GAM336472 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336473 140929 GGGTTAGGAT Fig. 8 further provides a conceptual description of another novel bioinformatically

TTACTTGTGC detected oligonucleotides of the present invention, referred to here as Genomic Address

TGTTTCTGGG Messenger 336473 (GAM336473) oligonucleotides modulates expression of respective target

AATTAACTTG genes whose function and utility is known in the art.

ATTATTAACT GAM336473 is a novel bioinformatically detectable regulatory, non protein

GCCCAGTGAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336473 was detected

ACGGCCAAGG is described with additional reference to Figs. 9-15.

AAGACTGCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336473 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336473 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336473 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336473 precursor RNA is designated SEQ ID:140929, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140929 is located from position 20336018 to position 20336097 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336473 precursor RNA folds onto itself, forming GAM336473 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336473 precursor RNA, designated SEQ ID NO: 140929, and a schematic representation of a predicted secondary folding of GAM336473 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336473 folded precursor RNA yielding a GAM336473 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336473 RNA, hereby incorporated herein.

GAM336473 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336473 target RNA, herein designated GAM TARGET RNA.

GAM336473 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336473 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336473 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336473 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336473 RNA, herein designated GAM RNA, to target binding sites on GAM336473 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336473 target RNA into GAM336473 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336473 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336473 target genes. The mRNA of each one of this plurality of GAM336473 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336473 RNA, herein designated GAM RNA, and which when bound by GAM336473 RNA causes inhibition of translation of the GAM336473 target mRNA into a corresponding GAM336473 target protein.

The mechanism of the translational inhibition exerted by GAM336473 RNA, herein designated GAM RNA, on one or more GAM336473 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336473 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336473 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336473 RNA, herein designated GAM RNA, of GAM336473 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336473 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336473 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336473 RNA correlate with, and may be deduced from, the identity of the GAM336473 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336474 140930 CATAGCTGTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TGGAGGCGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

GTTTTCAGAA Messenger 336474 (GAM336474) oligonucleotides modulates expression of respective target

ACCATAGACA genes whose function and utility is known in the art.

TCTGAGAAAT GAM336474 is a novel bioinformatically detectable regulatory, non protein ATGTTTCTGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336474 was detected CTTTTATG is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336474 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336474 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336474 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336474 precursor RNA is designated SEQ ID:140930, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140930 is located from position 20354510 to position 20354577 relative to chromosome chrY on the `-` strand (chr is an abbreviation for chromosome).

GAM336474 precursor RNA folds onto itself, forming GAM336474 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336474 precursor RNA, designated SEQ ID NO: 140930, and a schematic representation of a predicted secondary folding of GAM336474 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336474 folded precursor RNA yielding a GAM336474 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336474 RNA, hereby incorporated herein.

GAM336474 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336474 target RNA, herein designated GAM TARGET RNA.

GAM336474 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336474 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336474 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336474 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336474 RNA, herein designated GAM RNA, to target binding sites on GAM336474 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336474 target RNA into GAM336474 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336474 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336474 target genes. The mRNA of each one of this plurality of GAM336474 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336474 RNA, herein designated GAM RNA, and which when bound by GAM336474 RNA causes inhibition of translation of the GAM336474 target mRNA into a corresponding GAM336474 target protein.

The mechanism of the translational inhibition exerted by GAM336474 RNA, herein designated GAM RNA, on one or more GAM336474 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336474 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336474 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336474 RNA, herein designated GAM RNA, of GAM336474 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336474 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336474 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336474 RNA correlate with, and may be deduced from, the identity of the GAM336474 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336475 140931 GGAGAATGGC Fig. 8 further provides a conceptual description of another novel bioinformatically
GTGAACCCGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGCGGAGG Messenger 336475 (GAM336475) oligonucleotides modulates expression of respective target
TTGCAGTGAG genes whose function and utility is known in the art.

CCGAGATTGT GAM336475 is a novel bioinformatically detectable regulatory, non protein
GCCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336475 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGACTCC encoded by the human genome.

GAM336475 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336475 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336475 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336475 precursor RNA is designated SEQ ID:140931, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140931 is located from position 20384897 to position 20384984 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM336475 precursor RNA folds onto itself, forming GAM336475 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336475 precursor RNA, designated SEQ ID NO: 140931, and a schematic representation of a predicted secondary folding of GAM336475 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336475 folded precursor RNA yielding a GAM336475 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336475 RNA, hereby incorporated herein. Expression of GAM336475 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336475 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336475 target RNA, herein designated GAM TARGET RNA.

GAM336475 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336475 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336475 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336475 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336475 RNA, herein designated GAM RNA, to target binding sites on GAM336475 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336475 target RNA into GAM336475 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336475 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336475 target genes. The mRNA of each one of this plurality of GAM336475 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336475 RNA, herein designated GAM RNA, and which when bound by GAM336475 RNA causes inhibition of translation of the GAM336475 target mRNA into a corresponding GAM336475 target protein.

The mechanism of the translational inhibition exerted by GAM336475 RNA, herein designated GAM RNA, on one or more GAM336475 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336475 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336475 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336475 RNA, herein designated GAM RNA, of GAM336475 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336475 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336475 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336475 RNA correlate with, and may be deduced from, the identity of the GAM336475 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336476 140932 GTGCACTACA Fig. 8 further provides a conceptual description of another novel bioinformatically
GACTCCAGCC detected oligonucleotides of the present invention, referred to here as Genomic Address
TCCCTTTGAA Messenger 336476 (GAM336476) oligonucleotides modulates expression of respective target
GCCAGGTTCC genes whose function and utility is known in the art.

AGAGCTTCCT GAM336476 is a novel bioinformatically detectable regulatory, non protein
CCCTTTGGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336476 was detected
TGGAACCTCA is described with additional reference to Figs. 9-15.

ACAGCAGGAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGGGATGAGG encoded by the human genome.

ATGGAAGTGT GAM336476 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
AC GAM336476 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336476 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336476 precursor RNA is designated SEQ ID:140932, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140932 is located from position 20417307 to position 20417408 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336476 precursor RNA folds onto itself, forming GAM336476 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336476 precursor RNA, designated SEQ ID NO: 140932, and a schematic representation of a predicted secondary folding of GAM336476 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336476 folded precursor RNA yielding a GAM336476 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336476 RNA, hereby incorporated herein.

GAM336476 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336476 target RNA, herein designated GAM TARGET RNA.

GAM336476 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336476 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336476 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336476 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336476 RNA, herein designated GAM RNA, to target binding sites on GAM336476 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336476 target RNA into GAM336476 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336476 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336476 target genes. The mRNA of each one of this plurality of GAM336476 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336476 RNA, herein designated GAM RNA, and which when bound by GAM336476 RNA causes inhibition of translation of the GAM336476 target mRNA into a corresponding GAM336476 target protein.

The mechanism of the translational inhibition exerted by GAM336476 RNA, herein designated GAM RNA, on one or more GAM336476 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336476 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336476 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336476 RNA, herein designated GAM RNA, of GAM336476 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336476 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336476 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336476 RNA correlate with, and may be deduced from, the identity of the GAM336476 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336477 140933 GTGGACTTTG Fig. 8 further provides a conceptual description of another novel bioinformatically

ATGTGTGTGT detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGAAAATAT Messenger 336477 (GAM336477) oligonucleotides modulates expression of respective target

TAAGGTGGGA genes whose function and utility is known in the art.

TGTGTGGATC GAM336477 is a novel bioinformatically detectable regulatory, non protein

AGTGTCCTAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336477 was detected

CACATTCCCG is described with additional reference to Figs. 9-15.

CAGGGTGTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCCTGGCACT encoded by the human genome.

ATCATAC GAM336477 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336477 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336477 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336477 precursor RNA is designated SEQ ID:140933, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140933 is located from position 20421189 to position 20421285 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336477 precursor RNA folds onto itself, forming GAM336477 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336477 precursor RNA, designated SEQ ID NO: 140933, and a schematic representation of a predicted secondary folding of GAM336477 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336477 folded precursor RNA yielding a GAM336477 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336477 RNA, hereby incorporated herein.

GAM336477 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336477 target RNA, herein designated GAM TARGET RNA.

GAM336477 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336477 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336477 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336477 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336477 RNA, herein designated GAM RNA, to target binding sites on GAM336477 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336477 target RNA into GAM336477 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336477 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336477 target genes. The mRNA of each one of this plurality of GAM336477 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336477 RNA, herein designated GAM RNA, and which when bound by GAM336477 RNA causes inhibition of

translation of the GAM336477 target mRNA into a corresponding GAM336477 target protein.

The mechanism of the translational inhibition exerted by GAM336477 RNA, herein designated GAM RNA, on one or more GAM336477 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336477 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336477 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336477 RNA, herein designated GAM RNA, of GAM336477 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336477 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336477 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336477 RNA correlate with, and may be deduced from, the identity of the GAM336477 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336478 140934 TGATGTGTGT Fig. 8 further provides a conceptual description of another novel bioinformatically
GTAGGAAAAT detected oligonucleotides of the present invention, referred to here as Genomic Address
ATTAAGGTGG Messenger 336478 (GAM336478) oligonucleotides modulates expression of respective target
GATGTGTGGA genes whose function and utility is known in the art.

TCAGTGTCCT GAM336478 is a novel bioinformatically detectable regulatory, non protein
AGCACATTCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336478 was detected
CGCAGGGTGT is described with additional reference to Figs. 9-15.

AAGCCTGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTATCA encoded by the human genome.

GAM336478 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336478 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336478 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336478 precursor RNA is designated SEQ ID:140934, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140934 is located from position 20421197 to position 20421282 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336478 precursor RNA folds onto itself, forming GAM336478 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336478 precursor RNA, designated SEQ ID NO: 140934, and a schematic representation of a predicted secondary folding of GAM336478 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336478 folded precursor RNA yielding a GAM336478 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336478 RNA, hereby incorporated herein.

GAM336478 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336478 target RNA, herein designated GAM TARGET RNA.

GAM336478 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336478 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336478 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336478 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336478 RNA, herein designated GAM RNA, to target binding sites on GAM336478 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336478 target RNA

into GAM336478 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336478 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336478 target genes. The mRNA of each one of this plurality of GAM336478 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336478 RNA, herein designated GAM RNA, and which when bound by GAM336478 RNA causes inhibition of translation of the GAM336478 target mRNA into a corresponding GAM336478 target protein.

The mechanism of the translational inhibition exerted by GAM336478 RNA, herein designated GAM RNA, on one or more GAM336478 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336478 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336478 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336478 RNA, herein designated GAM RNA, of GAM336478 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336478 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336478 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336478 RNA correlate with, and may be deduced from, the identity of the GAM336478 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336479 140935 GTGGACTTTG Fig. 8 further provides a conceptual description of another novel bioinformatically

ATGTGTGTGT detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGAAAATAT Messenger 336479 (GAM336479) oligonucleotides modulates expression of respective target

TAAGGTGGGA genes whose function and utility is known in the art.

TGTGTGGATC GAM336479 is a novel bioinformatically detectable regulatory, non protein

AGTGTCCTAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336479 was detected

CACATTCCCG is described with additional reference to Figs. 9-15.

CAGGGTGTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCCTGGCACT encoded by the human genome.

ATCATAC GAM336479 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336479 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336479 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336479 precursor RNA is designated SEQ ID:140935, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140935 is located from position 20480066 to position 20480162 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GAM336479 precursor RNA folds onto itself, forming GAM336479 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336479 precursor RNA, designated SEQ ID NO: 140935, and a schematic representation of a predicted secondary folding of GAM336479 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336479 folded precursor RNA yielding a GAM336479 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336479 RNA, hereby incorporated herein.

GAM336479 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336479 target RNA, herein designated GAM TARGET RNA.

GAM336479 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336479 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336479 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336479 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336479 RNA, herein designated GAM RNA, to target binding sites on GAM336479 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336479 target RNA into GAM336479 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336479 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336479 target genes. The mRNA of each one of this plurality of GAM336479 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336479 RNA, herein designated GAM RNA, and which when bound by GAM336479 RNA causes inhibition of translation of the GAM336479 target mRNA into a corresponding GAM336479 target protein.

The mechanism of the translational inhibition exerted by GAM336479 RNA, herein designated GAM RNA, on one or more GAM336479 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336479 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336479 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336479 RNA, herein designated GAM RNA, of GAM336479 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336479 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336479 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336479 RNA correlate with, and may be deduced from, the identity of the GAM336479 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336480 140936 TGATGTGTGT Fig. 8 further provides a conceptual description of another novel bioinformatically

GTAGGAAAAT detected oligonucleotides of the present invention, referred to here as Genomic Address

ATTAAGGTGG Messenger 336480 (GAM336480) oligonucleotides modulates expression of respective target
GATGTGTGGA genes whose function and utility is known in the art.

TCAGTGTCCT GAM336480 is a novel bioinformatically detectable regulatory, non protein
AGCACATTCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336480 was detected
CGCAGGGTGT is described with additional reference to Figs. 9-15.

AAGCCTGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTATCA encoded by the human genome.

GAM336480 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336480 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336480 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336480 precursor RNA is designated SEQ ID:140936, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140936 is located from position 20480069 to position 20480154 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GAM336480 precursor RNA folds onto itself, forming GAM336480 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336480 precursor RNA, designated SEQ ID NO: 140936, and a schematic representation of a predicted secondary folding of GAM336480 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336480 folded precursor RNA yielding a GAM336480 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336480 RNA, hereby incorporated herein.

GAM336480 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336480 target RNA, herein designated GAM TARGET RNA.

GAM336480 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336480 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336480 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336480 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336480 RNA, herein designated GAM RNA, to target binding sites on GAM336480 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336480 target RNA into GAM336480 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336480 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336480 target genes. The mRNA of each one of this plurality of GAM336480 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336480 RNA, herein designated GAM RNA, and which when bound by GAM336480 RNA causes inhibition of translation of the GAM336480 target mRNA into a corresponding GAM336480 target protein.

The mechanism of the translational inhibition exerted by GAM336480 RNA, herein designated GAM RNA, on one or more GAM336480 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336480 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336480 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336480 RNA, herein designated GAM RNA, of GAM336480 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336480 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336480 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336480

RNA correlate with, and may be deduced from, the identity of the GAM336480 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336481 140937 AGTGAGTCTC Fig. 8 further provides a conceptual description of another novel bioinformatically
AAGGTCTGAT detected oligonucleotides of the present invention, referred to here as Genomic Address
GTGTATTATA Messenger 336481 (GAM336481) oligonucleotides modulates expression of respective target
AGGGGGAGTT genes whose function and utility is known in the art.

TTCATACACA GAM336481 is a novel bioinformatically detectable regulatory, non protein
AACTCTCTTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336481 was detected
GCCTGCTGCC is described with additional reference to Figs. 9-15.

ATCCATGTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GACATGACTT encoded by the human genome.

GCT GAM336481 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336481 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336481 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336481 precursor RNA is designated SEQ ID:140937, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140937 is located from position 20545221 to position 20545313 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336481 precursor RNA folds onto itself, forming GAM336481 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336481 precursor RNA, designated SEQ ID NO: 140937, and a schematic representation of a predicted secondary folding of GAM336481 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336481 folded precursor RNA yielding a GAM336481 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly

similar to the nucleotide sequence of GAM336481 RNA, hereby incorporated herein.

GAM336481 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336481 target RNA, herein designated GAM TARGET RNA.

GAM336481 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336481 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336481 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336481 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336481 RNA, herein designated GAM RNA, to target binding sites on GAM336481 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336481 target RNA into GAM336481 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336481 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336481 target genes. The mRNA of each one of this plurality of GAM336481 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336481 RNA, herein designated GAM RNA, and which when bound by GAM336481 RNA causes inhibition of translation of the GAM336481 target mRNA into a corresponding GAM336481 target protein.

The mechanism of the translational inhibition exerted by GAM336481 RNA, herein designated GAM RNA, on one or more GAM336481 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336481 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336481 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336481 RNA, herein designated GAM RNA, of GAM336481 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336481 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336481 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336481 RNA correlate with, and may be deduced from, the identity of the GAM336481 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336482 140938 GGGGACCGTG Fig. 8 further provides a conceptual description of another novel bioinformatically
GGGTGCTATA detected oligonucleotides of the present invention, referred to here as Genomic Address
AATTAGGCAG Messenger 336482 (GAM336482) oligonucleotides modulates expression of respective target
CCTCCCTTGT genes whose function and utility is known in the art.

ACCATTGTCT GAM336482 is a novel bioinformatically detectable regulatory, non protein
CAGCTATTGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336482 was detected
TGGACTCTGC is described with additional reference to Figs. 9-15.

TGCCTGTCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CCCCCTGTTC encoded by the human genome.

CTC GAM336482 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336482 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336482 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336482 precursor RNA is designated SEQ ID:140938, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140938 is located from position 20609935 to position 20610027 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM336482 precursor RNA folds onto itself, forming GAM336482 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336482 precursor RNA, designated SEQ ID NO: 140938, and a schematic representation of a predicted secondary folding of GAM336482 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336482 folded precursor RNA yielding a GAM336482 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336482 RNA, hereby incorporated herein.

GAM336482 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336482 target RNA, herein designated GAM TARGET RNA.

GAM336482 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336482 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336482 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336482 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336482 RNA, herein designated GAM RNA, to target binding sites on GAM336482 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336482 target RNA into GAM336482 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336482 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336482 target genes. The mRNA of each one of this plurality of GAM336482 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336482 RNA, herein designated GAM RNA, and which when bound by GAM336482 RNA causes inhibition of translation of the GAM336482 target mRNA into a corresponding GAM336482 target protein.

The mechanism of the translational inhibition exerted by GAM336482 RNA, herein designated GAM RNA, on one or more GAM336482 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336482 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336482 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336482 RNA, herein designated GAM RNA, of GAM336482 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336482 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336482 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336482 RNA correlate with, and may be deduced from, the identity of the GAM336482 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336483 140939 TTGGCCCTCT Fig. 8 further provides a conceptual description of another novel bioinformatically

CTGAGTCTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGAGTAGGT Messenger 336483 (GAM336483) oligonucleotides modulates expression of respective target

GTGCAATAAG genes whose function and utility is known in the art.

AGTTAACATT GAM336483 is a novel bioinformatically detectable regulatory, non protein

TGCTAACTTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336483 was detected

CAGTCTTATG is described with additional reference to Figs. 9-15.

GCTCCTTACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGGCTGA encoded by the human genome.

GAM336483 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336483 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336483 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336483 precursor RNA is designated SEQ ID:140939, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140939 is located from position 20641538 to position 20641624 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM336483 precursor RNA folds onto itself, forming GAM336483 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336483 precursor RNA, designated SEQ ID NO: 140939, and a schematic representation of a predicted secondary folding of GAM336483 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336483 folded precursor RNA yielding a GAM336483 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336483 RNA, hereby incorporated herein.

GAM336483 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336483 target RNA, herein designated GAM TARGET RNA.

GAM336483 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336483 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336483 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336483 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336483 RNA, herein designated GAM RNA, to target binding sites on GAM336483 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336483 target RNA into GAM336483 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336483 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336483 target genes. The mRNA of each one of this plurality of GAM336483 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336483 RNA, herein designated GAM RNA, and which when bound by GAM336483 RNA causes inhibition of translation of the GAM336483 target mRNA into a corresponding GAM336483 target protein.

The mechanism of the translational inhibition exerted by GAM336483 RNA, herein designated GAM RNA, on one or more GAM336483 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336483 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336483 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336483 RNA, herein designated GAM RNA, of GAM336483 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336483 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336483 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336483 RNA correlate with, and may be deduced from, the identity of the GAM336483 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336484 140940 AGATCCGTGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TCCTTGGAGG detected oligonucleotides of the present invention, referred to here as Genomic Address

TTTTAGGGAA Messenger 336484 (GAM336484) oligonucleotides modulates expression of respective target

TGAACAAATA genes whose function and utility is known in the art.

GAGGCCAGTA GAM336484 is a novel bioinformatically detectable regulatory, non protein

TTAGGAGGCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336484 was detected

TAGCTCCAGA is described with additional reference to Figs. 9-15.

GATTCTAGAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTTGGGGTCA encoded by the human genome.

GGGATCT GAM336484 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336484 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336484 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336484 precursor RNA is designated SEQ ID:140940, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140940 is located from position 20790820 to position 20790916 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM336484 precursor RNA folds onto itself, forming GAM336484 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336484 precursor RNA, designated SEQ ID NO: 140940, and a schematic representation of a predicted secondary folding of GAM336484 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336484 folded precursor RNA yielding a GAM336484 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336484 RNA, hereby incorporated herein.

GAM336484 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336484 target RNA, herein designated GAM TARGET RNA.

GAM336484 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336484 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336484 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336484 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336484 RNA, herein designated GAM RNA, to target binding sites on GAM336484 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336484 target RNA

into GAM336484 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336484 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336484 target genes. The mRNA of each one of this plurality of GAM336484 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336484 RNA, herein designated GAM RNA, and which when bound by GAM336484 RNA causes inhibition of translation of the GAM336484 target mRNA into a corresponding GAM336484 target protein.

The mechanism of the translational inhibition exerted by GAM336484 RNA, herein designated GAM RNA, on one or more GAM336484 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336484 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336484 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336484 RNA, herein designated GAM RNA, of GAM336484 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336484 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336484 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336484 RNA correlate with, and may be deduced from, the identity of the GAM336484 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336485 140941 AGTTCTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATATGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336485 (GAM336485) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336485 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336485 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336485 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336485 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336485 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336485 precursor RNA is designated SEQ ID:140941, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140941 is located from position 20851743 to position 20851824 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM336485 precursor RNA folds onto itself, forming GAM336485 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336485 precursor RNA, designated SEQ ID NO: 140941, and a schematic representation of a predicted secondary folding of GAM336485 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336485 folded precursor RNA yielding a GAM336485 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336485 RNA, hereby incorporated herein.

GAM336485 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336485 target RNA, herein designated GAM TARGET RNA.

GAM336485 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336485 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336485 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336485 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336485 RNA, herein designated GAM RNA, to target binding sites on GAM336485 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336485 target RNA into GAM336485 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336485 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336485 target genes. The mRNA of each one of this plurality of GAM336485 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336485 RNA, herein designated GAM RNA, and which when bound by GAM336485 RNA causes inhibition of translation of the GAM336485 target mRNA into a corresponding GAM336485 target protein.

The mechanism of the translational inhibition exerted by GAM336485 RNA, herein designated GAM RNA, on one or more GAM336485 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336485 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336485 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336485 RNA, herein designated GAM RNA, of GAM336485 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336485 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336485 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336485 RNA correlate with, and may be deduced from, the identity of the GAM336485 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336486 140942 AGGTTGGTAA Fig. 8 further provides a conceptual description of another novel bioinformatically

AAGTGGTTTC detected oligonucleotides of the present invention, referred to here as Genomic Address

TAACACAGTA Messenger 336486 (GAM336486) oligonucleotides modulates expression of respective target

TCTCTTCTTT genes whose function and utility is known in the art.

TAGGTGTTCA GAM336486 is a novel bioinformatically detectable regulatory, non protein
GTGGAATCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336486 was detected
ACTTACAAAA is described with additional reference to Figs. 9-15.

TTTGGAGGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTGTGGTGTT encoded by the human genome.

GGCTTTTGCC GAM336486 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
AAATCT GAM336486 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336486 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336486 precursor RNA is designated SEQ ID:140942, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140942 is located from position 21001411 to position 21001516 relative to chromosome chr18 on the `-` strand (chr is an abbreviation for chromosome).

GAM336486 precursor RNA folds onto itself, forming GAM336486 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336486 precursor RNA, designated SEQ ID NO: 140942, and a schematic representation of a predicted secondary folding of GAM336486 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336486 folded precursor RNA yielding a GAM336486 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336486 RNA, hereby incorporated herein.

GAM336486 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336486 target RNA, herein designated GAM TARGET RNA.

GAM336486 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336486 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336486 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336486 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336486 RNA, herein designated GAM RNA, to target binding sites on GAM336486 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336486 target RNA into GAM336486 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336486 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336486 target genes. The mRNA of each one of this plurality of GAM336486 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336486 RNA, herein designated GAM RNA, and which when bound by GAM336486 RNA causes inhibition of translation of the GAM336486 target mRNA into a corresponding GAM336486 target protein.

The mechanism of the translational inhibition exerted by GAM336486 RNA, herein designated GAM RNA, on one or more GAM336486 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336486 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336486 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336486 RNA, herein designated GAM RNA, of GAM336486 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336486 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336486 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336486 RNA correlate with, and may be deduced from, the identity of the GAM336486 target gene

inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336487 140943 AATGGCTAGG TAAGGGAAGA TGCATTCATT TATTCATTCA ACTAATATT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336487 (GAM336487) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336487 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336487 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336487 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336487 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336487 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336487 precursor RNA is designated SEQ ID:140943, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140943 is located from position 21104974 to position 21105023 relative to chromosome chr5 on the `-` strand (chr is an abbreviation for chromosome).

GAM336487 precursor RNA folds onto itself, forming GAM336487 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336487 precursor RNA, designated SEQ ID NO: 140943, and a schematic representation of a predicted secondary folding of GAM336487 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336487 folded precursor RNA yielding a GAM336487 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336487 RNA, hereby incorporated herein. Expression of GAM336487 RNA was experimentally validated in HeLa cells using the methods

described with reference to Figs.22 to 24.

GAM336487 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336487 target RNA, herein designated GAM TARGET RNA.

GAM336487 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336487 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336487 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336487 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336487 RNA, herein designated GAM RNA, to target binding sites on GAM336487 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336487 target RNA into GAM336487 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336487 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336487 target genes. The mRNA of each one of this plurality of GAM336487 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336487 RNA, herein designated GAM RNA, and which when bound by GAM336487 RNA causes inhibition of translation of the GAM336487 target mRNA into a corresponding GAM336487 target protein.

The mechanism of the translational inhibition exerted by GAM336487 RNA, herein designated GAM RNA, on one or more GAM336487 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336487 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336487 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336487 RNA, herein designated GAM RNA, of GAM336487 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336487 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336487 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336487 RNA correlate with, and may be deduced from, the identity of the GAM336487 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336488 140944 AGCCCTAATA Fig. 8 further provides a conceptual description of another novel bioinformatically
TCTATAATTT detected oligonucleotides of the present invention, referred to here as Genomic Address
GAACTGTACT Messenger 336488 (GAM336488) oligonucleotides modulates expression of respective target
GGACCCATAG genes whose function and utility is known in the art.

TTTTAACTGA GAM336488 is a novel bioinformatically detectable regulatory, non protein
AAAGGGCCAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336488 was detected
ACAAGTGGTG is described with additional reference to Figs. 9-15.

TCTGTCCAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCCTGGACTG encoded by the human genome.

GGCT GAM336488 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336488 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336488 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336488 precursor RNA is designated SEQ ID:140944, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140944 is located from position 21165273 to position 21165366 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM336488 precursor RNA folds onto itself, forming GAM336488 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336488 precursor RNA, designated SEQ ID NO: 140944, and a schematic representation of a predicted secondary folding of GAM336488 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336488 folded precursor RNA yielding a GAM336488 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336488 RNA, hereby incorporated herein.

GAM336488 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336488 target RNA, herein designated GAM TARGET RNA.

GAM336488 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336488 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336488 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336488 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336488 RNA, herein designated GAM RNA, to target binding sites on GAM336488 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336488 target RNA into GAM336488 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336488 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336488 target genes. The mRNA of each one of this plurality of GAM336488 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336488 RNA, herein designated GAM RNA, and which when bound by GAM336488 RNA causes inhibition of translation of the GAM336488 target mRNA into a corresponding GAM336488 target protein.

The mechanism of the translational inhibition exerted by GAM336488 RNA, herein designated GAM RNA, on one or more GAM336488 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336488 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336488 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336488 RNA, herein designated GAM RNA, of GAM336488 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336488 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336488 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336488 RNA correlate with, and may be deduced from, the identity of the GAM336488 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336489 140945 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336489 (GAM336489) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336489 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336489 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336489 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336489 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336489 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336489 precursor RNA is designated SEQ ID:140945, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140945 is located from position 21185062 to position 21185143 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM336489 precursor RNA folds onto itself, forming GAM336489 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336489 precursor RNA, designated SEQ ID NO: 140945, and a schematic representation of a predicted secondary folding of GAM336489 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336489 folded precursor RNA yielding a GAM336489 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336489 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336489 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336489 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336489 target RNA, herein designated GAM TARGET RNA.

GAM336489 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336489 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336489 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336489 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336489 RNA, herein designated GAM RNA, to target binding sites on GAM336489 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336489 target RNA into GAM336489 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336489 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336489 target genes. The mRNA of each one of this plurality of GAM336489 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336489 RNA,

herein designated GAM RNA, and which when bound by GAM336489 RNA causes inhibition of translation of the GAM336489 target mRNA into a corresponding GAM336489 target protein.

The mechanism of the translational inhibition exerted by GAM336489 RNA, herein designated GAM RNA, on one or more GAM336489 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336489 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336489 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336489 RNA, herein designated GAM RNA, of GAM336489 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336489 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336489 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336489 RNA correlate with, and may be deduced from, the identity of the GAM336489 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336490 140946 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTGGAGG Messenger 336490 (GAM336490) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

CTGAGGTCAC GAM336490 is a novel bioinformatically detectable regulatory, non protein

ACCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336490 was detected

TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGACTCC encoded by the human genome.

GAM336490 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336490 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336490 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336490 precursor RNA is designated SEQ ID:140946, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140946 is located from position 21350021 to position 21350108 relative to chromosome chr5 on the `-` strand (chr is an abbreviation for chromosome).

GAM336490 precursor RNA folds onto itself, forming GAM336490 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336490 precursor RNA, designated SEQ ID NO: 140946, and a schematic representation of a predicted secondary folding of GAM336490 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336490 folded precursor RNA yielding a GAM336490 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336490 RNA, hereby incorporated herein. Expression of GAM336490 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336490 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336490 target RNA, herein designated GAM TARGET RNA.

GAM336490 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336490 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336490 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336490 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336490 RNA, herein designated GAM RNA, to target

binding sites on GAM336490 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336490 target RNA into GAM336490 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336490 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336490 target genes. The mRNA of each one of this plurality of GAM336490 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336490 RNA, herein designated GAM RNA, and which when bound by GAM336490 RNA causes inhibition of translation of the GAM336490 target mRNA into a corresponding GAM336490 target protein.

The mechanism of the translational inhibition exerted by GAM336490 RNA, herein designated GAM RNA, on one or more GAM336490 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336490 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336490 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336490 RNA, herein designated GAM RNA, of GAM336490 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336490 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336490 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336490 RNA correlate with, and may be deduced from, the identity of the GAM336490 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336491 140947 GCTTGAACCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GGGATGTGGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GGTTGTAGTG Messenger 336491 (GAM336491) oligonucleotides modulates expression of respective target

AGCTGAGATT genes whose function and utility is known in the art.

GGGCCATTGC GAM336491 is a novel bioinformatically detectable regulatory, non protein

ACTCCAGCCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336491 was detected

GGGCAACAAG is described with additional reference to Figs. 9-15.

AGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336491 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336491 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336491 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336491 precursor RNA is designated SEQ ID:140947, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140947 is located from position 21374719 to position 21374791 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GAM336491 precursor RNA folds onto itself, forming GAM336491 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336491 precursor RNA, designated SEQ ID NO: 140947, and a schematic representation of a predicted secondary folding of GAM336491 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336491 folded precursor RNA yielding a GAM336491 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336491 RNA, hereby incorporated herein. Expression of GAM336491 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336491 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336491 target RNA, herein designated GAM TARGET RNA.

GAM336491 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336491 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336491 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336491 RNA is a partial or fully complementary sequence of the

nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336491 RNA, herein designated GAM RNA, to target binding sites on GAM336491 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336491 target RNA into GAM336491 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336491 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336491 target genes. The mRNA of each one of this plurality of GAM336491 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336491 RNA, herein designated GAM RNA, and which when bound by GAM336491 RNA causes inhibition of translation of the GAM336491 target mRNA into a corresponding GAM336491 target protein.

The mechanism of the translational inhibition exerted by GAM336491 RNA, herein designated GAM RNA, on one or more GAM336491 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336491 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336491 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336491 RNA, herein designated GAM RNA, of GAM336491 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336491 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336491 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336491 RNA correlate with, and may be deduced from, the identity of the GAM336491 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336492 140948 GGACTACAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

CACATGCAAC detected oligonucleotides of the present invention, referred to here as Genomic Address

CACGTCTGGC Messenger 336492 (GAM336492) oligonucleotides modulates expression of respective target

TAATTTTCTT genes whose function and utility is known in the art.

GAGTTTTAGT GAM336492 is a novel bioinformatically detectable regulatory, non protein

AGAGACTGGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336492 was detected

TCTCGTTATG is described with additional reference to Figs. 9-15.

TTGTCCAGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGGTCCCGAG encoded by the human genome.

CTCCTGAGTT GAM336492 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

C GAM336492 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336492 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336492 precursor RNA is designated SEQ ID:140948, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140948 is located from position 21380738 to position 21380838 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GAM336492 precursor RNA folds onto itself, forming GAM336492 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336492 precursor RNA, designated SEQ ID NO: 140948, and a schematic representation of a predicted secondary folding of GAM336492 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336492 folded precursor RNA yielding a GAM336492 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336492 RNA, hereby incorporated herein.

GAM336492 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336492 target RNA, herein designated GAM TARGET RNA.

GAM336492 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336492 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336492 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336492 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336492 RNA, herein designated GAM RNA, to target binding sites on GAM336492 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336492 target RNA into GAM336492 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336492 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336492 target genes. The mRNA of each one of this plurality of GAM336492 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336492 RNA, herein designated GAM RNA, and which when bound by GAM336492 RNA causes inhibition of translation of the GAM336492 target mRNA into a corresponding GAM336492 target protein.

The mechanism of the translational inhibition exerted by GAM336492 RNA, herein designated GAM RNA, on one or more GAM336492 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336492 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336492 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336492 RNA, herein designated GAM RNA, of GAM336492 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336492 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336492 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336492 RNA correlate with, and may be deduced from, the identity of the GAM336492 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336493 140949 GGCATGGTGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TGCTCTGATA detected oligonucleotides of the present invention, referred to here as Genomic Address
GCCCTAGCTA Messenger 336493 (GAM336493) oligonucleotides modulates expression of respective target
CTCAGGAGGC genes whose function and utility is known in the art.

TGAGCCTAGT GAM336493 is a novel bioinformatically detectable regulatory, non protein
AGTTAGAGGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336493 was detected
TGCAGTGAAC is described with additional reference to Figs. 9-15.

TATGATTGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CC encoded by the human genome.

GAM336493 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336493 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336493 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336493 precursor RNA is designated SEQ ID:140949, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140949 is located from position 21401896 to position 21401977 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GAM336493 precursor RNA folds onto itself, forming GAM336493 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336493 precursor RNA, designated SEQ ID NO: 140949, and a schematic representation of a predicted secondary folding of GAM336493 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336493 folded precursor RNA yielding a GAM336493 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336493 RNA, hereby incorporated herein.

GAM336493 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336493 target RNA, herein designated GAM TARGET RNA.

GAM336493 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336493 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336493 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336493 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336493 RNA, herein designated GAM RNA, to target binding sites on GAM336493 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336493 target RNA into GAM336493 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336493 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336493 target genes. The mRNA of each one of this plurality of GAM336493 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336493 RNA, herein designated GAM RNA, and which when bound by GAM336493 RNA causes inhibition of translation of the GAM336493 target mRNA into a corresponding GAM336493 target protein.

The mechanism of the translational inhibition exerted by GAM336493 RNA, herein designated GAM RNA, on one or more GAM336493 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336493 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336493 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336493 RNA, herein designated GAM RNA, of

GAM336493 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336493 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336493 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336493 RNA correlate with, and may be deduced from, the identity of the GAM336493 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336494 140950 TCCCTATCAC Fig. 8 further provides a conceptual description of another novel bioinformatically

GTGCAGCTTT detected oligonucleotides of the present invention, referred to here as Genomic Address

GCTGACGTCA Messenger 336494 (GAM336494) oligonucleotides modulates expression of respective target

TTGAGAGATA genes whose function and utility is known in the art.

AATTAGGTAC GAM336494 is a novel bioinformatically detectable regulatory, non protein

AAGTGGGCAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336494 was detected

AGAATTGTAT is described with additional reference to Figs. 9-15.

GTGAGGTTAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGA encoded by the human genome.

GAM336494 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336494 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336494 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336494 precursor RNA is designated SEQ ID:140950, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140950 is located from position 21775643 to position 21775725 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GAM336494 precursor RNA folds onto itself, forming GAM336494 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336494 precursor RNA, designated SEQ ID NO: 140950,

and a schematic representation of a predicted secondary folding of GAM336494 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336494 folded precursor RNA yielding a GAM336494 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336494 RNA, hereby incorporated herein.

GAM336494 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336494 target RNA, herein designated GAM TARGET RNA.

GAM336494 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336494 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336494 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336494 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336494 RNA, herein designated GAM RNA, to target binding sites on GAM336494 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336494 target RNA into GAM336494 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336494 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336494 target genes. The mRNA of each one of this plurality of GAM336494 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336494 RNA, herein designated GAM RNA, and which when bound by GAM336494 RNA causes inhibition of translation of the GAM336494 target mRNA into a corresponding GAM336494 target protein.

The mechanism of the translational inhibition exerted by GAM336494 RNA, herein designated GAM RNA, on one or more GAM336494 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336494 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336494 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336494 RNA, herein designated GAM RNA, of GAM336494 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336494 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336494 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336494 RNA correlate with, and may be deduced from, the identity of the GAM336494 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336495 140951 GGACTACAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

CACATGCAAC detected oligonucleotides of the present invention, referred to here as Genomic Address

CACGTCTGGC Messenger 336495 (GAM336495) oligonucleotides modulates expression of respective target

TAATTTTCTT genes whose function and utility is known in the art.

GAGTTTTAGT GAM336495 is a novel bioinformatically detectable regulatory, non protein

AGAGACTGGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336495 was detected

TCTCGTTATG is described with additional reference to Figs. 9-15.

TTGTCCAGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGGTCCCGAG encoded by the human genome.

CTCCTGAGTT GAM336495 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

C GAM336495 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336495 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336495 precursor RNA is designated SEQ ID:140951, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140951 is located from position 21813001 to position 21813101 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GAM336495 precursor RNA folds onto itself, forming GAM336495 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336495 precursor RNA, designated SEQ ID NO: 140951, and a schematic representation of a predicted secondary folding of GAM336495 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336495 folded precursor RNA yielding a GAM336495 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336495 RNA, hereby incorporated herein.

GAM336495 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336495 target RNA, herein designated GAM TARGET RNA.

GAM336495 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336495 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336495 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336495 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336495 RNA, herein designated GAM RNA, to target binding sites on GAM336495 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336495 target RNA into GAM336495 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336495 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336495 target genes. The mRNA of each one of this

plurality of GAM336495 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336495 RNA, herein designated GAM RNA, and which when bound by GAM336495 RNA causes inhibition of translation of the GAM336495 target mRNA into a corresponding GAM336495 target protein.

The mechanism of the translational inhibition exerted by GAM336495 RNA, herein designated GAM RNA, on one or more GAM336495 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336495 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336495 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336495 RNA, herein designated GAM RNA, of GAM336495 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336495 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336495 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336495 RNA correlate with, and may be deduced from, the identity of the GAM336495 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336496 140952 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336496 (GAM336496) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336496 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336496 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336496 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336496 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336496 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336496 precursor RNA is designated SEQ ID:140952, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140952 is located from position 21821931 to position 21822012 relative to chromosome chr18 on the `-` strand (chr is an abbreviation for chromosome).

GAM336496 precursor RNA folds onto itself, forming GAM336496 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336496 precursor RNA, designated SEQ ID NO: 140952, and a schematic representation of a predicted secondary folding of GAM336496 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336496 folded precursor RNA yielding a GAM336496 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336496 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336496 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336496 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336496 target RNA, herein designated GAM TARGET RNA.

GAM336496 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336496 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336496 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336496 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336496 RNA, herein designated GAM RNA, to target binding sites on GAM336496 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336496 target RNA into GAM336496 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336496 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336496 target genes. The mRNA of each one of this plurality of GAM336496 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336496 RNA, herein designated GAM RNA, and which when bound by GAM336496 RNA causes inhibition of translation of the GAM336496 target mRNA into a corresponding GAM336496 target protein.

The mechanism of the translational inhibition exerted by GAM336496 RNA, herein designated GAM RNA, on one or more GAM336496 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336496 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336496 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336496 RNA, herein designated GAM RNA, of GAM336496 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336496 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336496 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336496 RNA correlate with, and may be deduced from, the identity of the GAM336496 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336497 140953 TTTGATAGAT Fig. 8 further provides a conceptual description of another novel bioinformatically

TTTTCCCTCC detected oligonucleotides of the present invention, referred to here as Genomic Address

AGAATGTTTG Messenger 336497 (GAM336497) oligonucleotides modulates expression of respective target

CATCTATTCA genes whose function and utility is known in the art.

CATGTGCATC GAM336497 is a novel bioinformatically detectable regulatory, non protein
AGCAGTGCAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336497 was detected
TTGTAGTTAA is described with additional reference to Figs. 9-15.

ATGTGTAGTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AACGTTCTGT encoded by the human genome.

TTTTAAAACT GAM336497 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

ATACAAA GAM336497 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336497 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336497 precursor RNA is designated SEQ ID:140953, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140953 is located from position 21935927 to position 21936033 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM336497 precursor RNA folds onto itself, forming GAM336497 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336497 precursor RNA, designated SEQ ID NO: 140953, and a schematic representation of a predicted secondary folding of GAM336497 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336497 folded precursor RNA yielding a GAM336497 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336497 RNA, hereby incorporated herein.

GAM336497 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336497 target RNA, herein designated GAM TARGET RNA.

GAM336497 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336497 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336497 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336497 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336497 RNA, herein designated GAM RNA, to target binding sites on GAM336497 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336497 target RNA into GAM336497 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336497 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336497 target genes. The mRNA of each one of this plurality of GAM336497 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336497 RNA, herein designated GAM RNA, and which when bound by GAM336497 RNA causes inhibition of translation of the GAM336497 target mRNA into a corresponding GAM336497 target protein.

The mechanism of the translational inhibition exerted by GAM336497 RNA, herein designated GAM RNA, on one or more GAM336497 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336497 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336497 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336497 RNA, herein designated GAM RNA, of GAM336497 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336497 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336497 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336497 RNA correlate with, and may be deduced from, the identity of the GAM336497 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336498 140954 CAGAATGTTT Fig. 8 further provides a conceptual description of another novel bioinformatically
GCATCTATTC detected oligonucleotides of the present invention, referred to here as Genomic Address
ACATGTGCAT Messenger 336498 (GAM336498) oligonucleotides modulates expression of respective target
CAGCAGTGCA genes whose function and utility is known in the art.

TTTGTAGTTA GAM336498 is a novel bioinformatically detectable regulatory, non protein
AATGTGTAGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336498 was detected
TAACGTTCTG is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336498 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336498 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336498 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336498 precursor RNA is designated SEQ ID:140954, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140954 is located from position 21935946 to position 21936015 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM336498 precursor RNA folds onto itself, forming GAM336498 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336498 precursor RNA, designated SEQ ID NO: 140954, and a schematic representation of a predicted secondary folding of GAM336498 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336498 folded precursor RNA yielding a GAM336498 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336498 RNA, hereby incorporated herein.

GAM336498 target gene, herein designated GAM TARGET GENE, encodes a

corresponding messenger RNA, GAM336498 target RNA, herein designated GAM TARGET RNA.

GAM336498 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336498 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336498 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336498 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336498 RNA, herein designated GAM RNA, to target binding sites on GAM336498 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336498 target RNA into GAM336498 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336498 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336498 target genes. The mRNA of each one of this plurality of GAM336498 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336498 RNA, herein designated GAM RNA, and which when bound by GAM336498 RNA causes inhibition of translation of the GAM336498 target mRNA into a corresponding GAM336498 target protein.

The mechanism of the translational inhibition exerted by GAM336498 RNA, herein designated GAM RNA, on one or more GAM336498 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336498 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336498 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336498 RNA, herein designated GAM RNA, of GAM336498 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336498 target RNA, herein designated

GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336498 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336498 RNA correlate with, and may be deduced from, the identity of the GAM336498 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336499 140955 GTGGGTATTC Fig. 8 further provides a conceptual description of another novel bioinformatically
AGAGAGAGAA detected oligonucleotides of the present invention, referred to here as Genomic Address
GATAATGAAT Messenger 336499 (GAM336499) oligonucleotides modulates expression of respective target
AGGGAGTGTC genes whose function and utility is known in the art.

AGAATGCCAG GAM336499 is a novel bioinformatically detectable regulatory, non protein
CATCATTTGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336499 was detected
CTCAAATGCC is described with additional reference to Figs. 9-15.

ACTTGTTACG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGCTTCCACT encoded by the human genome.

CTTTTATTCT GAM336499 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CTCTGAGGAC GAM336499 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
AT GAM336499 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336499 precursor RNA is designated SEQ ID:140955, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140955 is located from position 21981294 to position 21981405 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336499 precursor RNA folds onto itself, forming GAM336499 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336499 precursor RNA, designated SEQ ID NO: 140955, and a schematic representation of a predicted secondary folding of GAM336499 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336499 folded precursor RNA yielding a GAM336499 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336499 RNA, hereby incorporated herein.

GAM336499 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336499 target RNA, herein designated GAM TARGET RNA.

GAM336499 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336499 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336499 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336499 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336499 RNA, herein designated GAM RNA, to target binding sites on GAM336499 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336499 target RNA into GAM336499 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336499 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336499 target genes. The mRNA of each one of this plurality of GAM336499 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336499 RNA, herein designated GAM RNA, and which when bound by GAM336499 RNA causes inhibition of translation of the GAM336499 target mRNA into a corresponding GAM336499 target protein.

The mechanism of the translational inhibition exerted by GAM336499 RNA, herein designated GAM RNA, on one or more GAM336499 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336499 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336499 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336499 RNA, herein designated GAM RNA, of GAM336499 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336499 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336499 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336499 RNA correlate with, and may be deduced from, the identity of the GAM336499 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336500 140956 GTGAGCTGGG GTTCCCATCC GATTTTCAAT TCTTCTGTCC ATAGACCTGA AGCAAAGGAT GGGGGGCCCC ACAGCCTTAC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336500 (GAM336500) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336500 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336500 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336500 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336500 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336500 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336500 precursor RNA is designated SEQ ID:140956, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140956 is located from position 22025321 to position 22025400 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM336500 precursor RNA folds onto itself, forming GAM336500 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336500 precursor RNA, designated SEQ ID NO: 140956, and a schematic representation of a predicted secondary folding of GAM336500 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336500 folded precursor RNA yielding a GAM336500 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336500 RNA, hereby incorporated herein.

GAM336500 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336500 target RNA, herein designated GAM TARGET RNA.

GAM336500 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336500 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336500 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336500 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336500 RNA, herein designated GAM RNA, to target binding sites on GAM336500 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336500 target RNA into GAM336500 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336500 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336500 target genes. The mRNA of each one of this plurality of GAM336500 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336500 RNA, herein designated GAM RNA, and which when bound by GAM336500 RNA causes inhibition of translation of the GAM336500 target mRNA into a corresponding GAM336500 target protein.

The mechanism of the translational inhibition exerted by GAM336500 RNA, herein

designated GAM RNA, on one or more GAM336500 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336500 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336500 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336500 RNA, herein designated GAM RNA, of GAM336500 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336500 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336500 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336500 RNA correlate with, and may be deduced from, the identity of the GAM336500 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336501 140957 GCCAGGGGTG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATTAATGTG detected oligonucleotides of the present invention, referred to here as Genomic Address

TAGTGTTTGT Messenger 336501 (GAM336501) oligonucleotides modulates expression of respective target

AAATGTGTGT genes whose function and utility is known in the art.

TTTCCCCCAA GAM336501 is a novel bioinformatically detectable regulatory, non protein

AAATGTGGAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336501 was detected

CCGCATGCCC is described with additional reference to Figs. 9-15.

AGCACAAGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAAGTGTCAG encoded by the human genome.

TTTTCTTGAA GAM336501 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TTCCTGGC GAM336501 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336501 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336501 precursor RNA is designated SEQ ID:140957, and is provided hereinbelow with reference to the sequence listing part.

Nucleotide sequence SEQ ID:140957 is located from position 22297321 to position 22297428 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM336501 precursor RNA folds onto itself, forming GAM336501 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336501 precursor RNA, designated SEQ ID NO: 140957, and a schematic representation of a predicted secondary folding of GAM336501 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336501 folded precursor RNA yielding a GAM336501 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336501 RNA, hereby incorporated herein.

GAM336501 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336501 target RNA, herein designated GAM TARGET RNA.

GAM336501 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336501 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336501 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336501 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336501 RNA, herein designated GAM RNA, to target binding sites on GAM336501 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336501 target RNA into GAM336501 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336501 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336501 target genes. The mRNA of each one of this plurality of GAM336501 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336501 RNA, herein designated GAM RNA, and which when bound by GAM336501 RNA causes inhibition of translation of the GAM336501 target mRNA into a corresponding GAM336501 target protein.

The mechanism of the translational inhibition exerted by GAM336501 RNA, herein designated GAM RNA, on one or more GAM336501 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336501 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336501 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336501 RNA, herein designated GAM RNA, of GAM336501 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336501 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336501 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336501 RNA correlate with, and may be deduced from, the identity of the GAM336501 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336502 140958 CCAGAGAGTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TCTCCAGGTA detected oligonucleotides of the present invention, referred to here as Genomic Address

CGCCACACAG Messenger 336502 (GAM336502) oligonucleotides modulates expression of respective target

TCTTTGAGCT genes whose function and utility is known in the art.

GTGTCAGAGC GAM336502 is a novel bioinformatically detectable regulatory, non protein

TGGATTGTTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336502 was detected

ACCTGGGGCT is described with additional reference to Figs. 9-15.

GGCTGTTTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336502 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336502 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336502 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336502 precursor RNA is designated SEQ ID:140958, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140958 is located from position 22350120 to position 22350199 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM336502 precursor RNA folds onto itself, forming GAM336502 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336502 precursor RNA, designated SEQ ID NO: 140958, and a schematic representation of a predicted secondary folding of GAM336502 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336502 folded precursor RNA yielding a GAM336502 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336502 RNA, hereby incorporated herein.

GAM336502 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336502 target RNA, herein designated GAM TARGET RNA.

GAM336502 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336502 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336502 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336502 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336502 RNA, herein designated GAM RNA, to target binding sites on GAM336502 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336502 target RNA into GAM336502 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336502 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336502 target genes. The mRNA of each one of this plurality of GAM336502 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336502 RNA, herein designated GAM RNA, and which when bound by GAM336502 RNA causes inhibition of translation of the GAM336502 target mRNA into a corresponding GAM336502 target protein.

The mechanism of the translational inhibition exerted by GAM336502 RNA, herein designated GAM RNA, on one or more GAM336502 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336502 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336502 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336502 RNA, herein designated GAM RNA, of GAM336502 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336502 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336502 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336502 RNA correlate with, and may be deduced from, the identity of the GAM336502 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336503 140959 CCACGTGGAT Fig. 8 further provides a conceptual description of another novel bioinformatically

TACTGGGCTC detected oligonucleotides of the present invention, referred to here as Genomic Address

CTCTCAGTGT Messenger 336503 (GAM336503) oligonucleotides modulates expression of respective target

GGAAGCTGAT genes whose function and utility is known in the art.

TTCCAACAAG GAM336503 is a novel bioinformatically detectable regulatory, non protein
GAGCATTCAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336503 was detected
AGATTAGGAG is described with additional reference to Figs. 9-15.

TTCCCAGTGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCATAAGTGG encoded by the human genome.

GAM336503 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336503 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336503 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336503 precursor RNA is designated SEQ ID:140959, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140959 is located from position 22360083 to position 22360172 relative to chromosome chr13 on the `-` strand (chr is an abbreviation for chromosome).

GAM336503 precursor RNA folds onto itself, forming GAM336503 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336503 precursor RNA, designated SEQ ID NO: 140959, and a schematic representation of a predicted secondary folding of GAM336503 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336503 folded precursor RNA yielding a GAM336503 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336503 RNA, hereby incorporated herein.

GAM336503 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336503 target RNA, herein designated GAM TARGET RNA.

GAM336503 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336503 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336503 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336503 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336503 RNA, herein designated GAM RNA, to target binding sites on GAM336503 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336503 target RNA into GAM336503 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336503 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336503 target genes. The mRNA of each one of this plurality of GAM336503 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336503 RNA, herein designated GAM RNA, and which when bound by GAM336503 RNA causes inhibition of translation of the GAM336503 target mRNA into a corresponding GAM336503 target protein.

The mechanism of the translational inhibition exerted by GAM336503 RNA, herein designated GAM RNA, on one or more GAM336503 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336503 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336503 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336503 RNA, herein designated GAM RNA, of GAM336503 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336503 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336503 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336503 RNA correlate with, and may be deduced from, the identity of the GAM336503 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336504 140960 GCATCTTGAC Fig. 8 further provides a conceptual description of another novel bioinformatically

ACATGTTCTG detected oligonucleotides of the present invention, referred to here as Genomic Address

TGCTCCAGGT Messenger 336504 (GAM336504) oligonucleotides modulates expression of respective target

CCCAGTAACT genes whose function and utility is known in the art.

GTGCCCATCC GAM336504 is a novel bioinformatically detectable regulatory, non protein

ATTGTTACCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336504 was detected

CAGGTCACAG is described with additional reference to Figs. 9-15.

TGGCCCTGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCTGGGGCAT encoded by the human genome.

TATACTCTCT GAM336504 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CTTGGTGT GAM336504 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336504 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336504 precursor RNA is designated SEQ ID:140960, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140960 is located from position 22376839 to position 22376946 relative to chromosome chr13 on the `-` strand (chr is an abbreviation for chromosome).

GAM336504 precursor RNA folds onto itself, forming GAM336504 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336504 precursor RNA, designated SEQ ID NO: 140960, and a schematic representation of a predicted secondary folding of GAM336504 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336504 folded precursor RNA yielding a GAM336504 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336504 RNA, hereby incorporated herein.

GAM336504 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336504 target RNA, herein designated GAM TARGET RNA.

GAM336504 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336504 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336504 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336504 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336504 RNA, herein designated GAM RNA, to target binding sites on GAM336504 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336504 target RNA into GAM336504 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336504 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336504 target genes. The mRNA of each one of this plurality of GAM336504 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336504 RNA, herein designated GAM RNA, and which when bound by GAM336504 RNA causes inhibition of translation of the GAM336504 target mRNA into a corresponding GAM336504 target protein.

The mechanism of the translational inhibition exerted by GAM336504 RNA, herein designated GAM RNA, on one or more GAM336504 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336504 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336504 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336504 RNA, herein designated GAM RNA, of GAM336504 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM336504 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336504 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336504 RNA correlate with, and may be deduced from, the identity of the GAM336504 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336505 140961 GGAAGTGAAA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAGGGAAGTC detected oligonucleotides of the present invention, referred to here as Genomic Address
TCTCTCCCCA Messenger 336505 (GAM336505) oligonucleotides modulates expression of respective target
TCCCTCCTCT genes whose function and utility is known in the art.

CAGTTACCAT GAM336505 is a novel bioinformatically detectable regulatory, non protein
GAGGATGGGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336505 was detected
AGTTTCTTCC is described with additional reference to Figs. 9-15.

CTTTCCGTTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTCACTTTC encoded by the human genome.

GAM336505 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336505 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336505 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336505 precursor RNA is designated SEQ ID:140961, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140961 is located from position 22426100 to position 22426188 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM336505 precursor RNA folds onto itself, forming GAM336505 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336505 precursor RNA, designated SEQ ID NO: 140961, and a schematic representation of a predicted secondary folding of GAM336505 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336505 folded precursor RNA yielding a GAM336505 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336505 RNA, hereby incorporated herein.

GAM336505 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336505 target RNA, herein designated GAM TARGET RNA.

GAM336505 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336505 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336505 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336505 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336505 RNA, herein designated GAM RNA, to target binding sites on GAM336505 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336505 target RNA into GAM336505 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336505 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336505 target genes. The mRNA of each one of this plurality of GAM336505 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336505 RNA, herein designated GAM RNA, and which when bound by GAM336505 RNA causes inhibition of translation of the GAM336505 target mRNA into a corresponding GAM336505 target protein.

The mechanism of the translational inhibition exerted by GAM336505 RNA, herein designated GAM RNA, on one or more GAM336505 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336505 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336505 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336505 RNA, herein designated GAM RNA, of GAM336505 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336505 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336505 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336505 RNA correlate with, and may be deduced from, the identity of the GAM336505 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336506 140962 GGACTACAGG CACATGCAAC CACGTCTGGC TAATTTTCTT GAGTTTTAGT AGAGACTGGG TCTCGTTATG TTGTCCAGGC TGGTCCCGAG CTCCTGAGTT C

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336506 (GAM336506) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336506 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336506 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336506 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336506 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336506 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336506 precursor RNA is designated SEQ ID:140962, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140962 is located from position 22435583 to position 22435683 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336506 precursor RNA folds onto itself, forming GAM336506 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336506 precursor RNA, designated SEQ ID NO: 140962, and a schematic representation of a predicted secondary folding of GAM336506 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336506 folded precursor RNA yielding a GAM336506 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336506 RNA, hereby incorporated herein.

GAM336506 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336506 target RNA, herein designated GAM TARGET RNA.

GAM336506 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336506 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336506 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336506 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336506 RNA, herein designated GAM RNA, to target binding sites on GAM336506 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336506 target RNA into GAM336506 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336506 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336506 target genes. The mRNA of each one of this plurality of GAM336506 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336506 RNA, herein designated GAM RNA, and which when bound by GAM336506 RNA causes inhibition of translation of the GAM336506 target mRNA into a corresponding GAM336506 target protein.

The mechanism of the translational inhibition exerted by GAM336506 RNA, herein designated GAM RNA, on one or more GAM336506 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336506 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336506 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336506 RNA, herein designated GAM RNA, of GAM336506 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336506 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336506 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336506 RNA correlate with, and may be deduced from, the identity of the GAM336506 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336507 140963 GTTTGGTGCC Fig. 8 further provides a conceptual description of another novel bioinformatically

TATTGGATTT detected oligonucleotides of the present invention, referred to here as Genomic Address

TAAGCATTGG Messenger 336507 (GAM336507) oligonucleotides modulates expression of respective target

GAGTTGACCT genes whose function and utility is known in the art.

TTATATAAAA GAM336507 is a novel bioinformatically detectable regulatory, non protein

CAAAACCCCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336507 was detected

AAGCTTATAA is described with additional reference to Figs. 9-15.

TTCAGTAGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGAAACAGAC encoded by the human genome.

AGTAAAC GAM336507 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336507 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336507 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336507 precursor RNA is designated SEQ

ID:140963, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140963 is located from position 22440215 to position 22440311 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM336507 precursor RNA folds onto itself, forming GAM336507 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336507 precursor RNA, designated SEQ ID NO: 140963, and a schematic representation of a predicted secondary folding of GAM336507 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336507 folded precursor RNA yielding a GAM336507 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336507 RNA, hereby incorporated herein.

GAM336507 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336507 target RNA, herein designated GAM TARGET RNA.

GAM336507 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336507 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336507 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336507 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336507 RNA, herein designated GAM RNA, to target binding sites on GAM336507 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336507 target RNA into GAM336507 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM336507 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336507 target genes. The mRNA of each one of this plurality of GAM336507 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336507 RNA, herein designated GAM RNA, and which when bound by GAM336507 RNA causes inhibition of translation of the GAM336507 target mRNA into a corresponding GAM336507 target protein.

The mechanism of the translational inhibition exerted by GAM336507 RNA, herein designated GAM RNA, on one or more GAM336507 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336507 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336507 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336507 RNA, herein designated GAM RNA, of GAM336507 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336507 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336507 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336507 RNA correlate with, and may be deduced from, the identity of the GAM336507 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336508 140964 GTTTGGTGCC Fig. 8 further provides a conceptual description of another novel bioinformatically

TATTGGATTT detected oligonucleotides of the present invention, referred to here as Genomic Address

TAAGCATTGG Messenger 336508 (GAM336508) oligonucleotides modulates expression of respective target

GAGTTGACCT genes whose function and utility is known in the art.

TTATATAAAA GAM336508 is a novel bioinformatically detectable regulatory, non protein

CAAAACCCCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336508 was detected

AAGCTTATAA is described with additional reference to Figs. 9-15.

TTCAGTAGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGAAACAGAC encoded by the human genome.

GAM336508 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336508 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336508 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336508 precursor RNA is designated SEQ ID:140964, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140964 is located from position 22440222 to position 22440311 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM336508 precursor RNA folds onto itself, forming GAM336508 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336508 precursor RNA, designated SEQ ID NO: 140964, and a schematic representation of a predicted secondary folding of GAM336508 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336508 folded precursor RNA yielding a GAM336508 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336508 RNA, hereby incorporated herein.

GAM336508 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336508 target RNA, herein designated GAM TARGET RNA.

GAM336508 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336508 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336508 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336508 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336508 RNA, herein designated GAM RNA, to target binding sites on GAM336508 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336508 target RNA into GAM336508 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336508 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336508 target genes. The mRNA of each one of this plurality of GAM336508 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336508 RNA, herein designated GAM RNA, and which when bound by GAM336508 RNA causes inhibition of translation of the GAM336508 target mRNA into a corresponding GAM336508 target protein.

The mechanism of the translational inhibition exerted by GAM336508 RNA, herein designated GAM RNA, on one or more GAM336508 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336508 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336508 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336508 RNA, herein designated GAM RNA, of GAM336508 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336508 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336508 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336508 RNA correlate with, and may be deduced from, the identity of the GAM336508 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336509 140965 TTGCTTGAAC CCGGGAGGTG GAGGTTGTAG TGAGCCGAGA

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336509 (GAM336509) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

TCGCGCCACT GCACTCCAGC CTGGGCAACA

GAM336509 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336509 was detected is described with additional reference to Figs. 9-15.

G GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336509 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336509 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336509 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336509 precursor RNA is designated SEQ ID:140965, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140965 is located from position 22444388 to position 22444458 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM336509 precursor RNA folds onto itself, forming GAM336509 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336509 precursor RNA, designated SEQ ID NO: 140965, and a schematic representation of a predicted secondary folding of GAM336509 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336509 folded precursor RNA yielding a GAM336509 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336509 RNA, hereby incorporated herein. Expression of GAM336509 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336509 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336509 target RNA, herein designated GAM TARGET RNA.

GAM336509 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336509 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336509 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336509 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336509 RNA, herein designated GAM RNA, to target binding sites on GAM336509 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336509 target RNA into GAM336509 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336509 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336509 target genes. The mRNA of each one of this plurality of GAM336509 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336509 RNA, herein designated GAM RNA, and which when bound by GAM336509 RNA causes inhibition of translation of the GAM336509 target mRNA into a corresponding GAM336509 target protein.

The mechanism of the translational inhibition exerted by GAM336509 RNA, herein designated GAM RNA, on one or more GAM336509 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336509 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336509 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336509 RNA, herein designated GAM RNA, of GAM336509 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336509 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336509 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336509 RNA correlate with, and may be deduced from, the identity of the GAM336509 target gene

inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336510 140966 GGACTACAGG Fig. 8 further provides a conceptual description of another novel bioinformatically
CACATGCAAC detected oligonucleotides of the present invention, referred to here as Genomic Address
CACGTCTGGC Messenger 336510 (GAM336510) oligonucleotides modulates expression of respective target
TAATTTTCTT genes whose function and utility is known in the art.

GAGTTTTAGT GAM336510 is a novel bioinformatically detectable regulatory, non protein
AGAGACTGGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336510 was detected
TCTCGTTATG is described with additional reference to Figs. 9-15.

TTGTCCAGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGGTCCCGAG encoded by the human genome.

CTCCTGAGTT GAM336510 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
C GAM336510 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336510 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336510 precursor RNA is designated SEQ ID:140966, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140966 is located from position 22480967 to position 22481067 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336510 precursor RNA folds onto itself, forming GAM336510 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336510 precursor RNA, designated SEQ ID NO: 140966, and a schematic representation of a predicted secondary folding of GAM336510 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336510 folded precursor RNA yielding a GAM336510 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly

similar to the nucleotide sequence of GAM336510 RNA, hereby incorporated herein.

GAM336510 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336510 target RNA, herein designated GAM TARGET RNA.

GAM336510 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336510 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336510 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336510 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336510 RNA, herein designated GAM RNA, to target binding sites on GAM336510 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336510 target RNA into GAM336510 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336510 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336510 target genes. The mRNA of each one of this plurality of GAM336510 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336510 RNA, herein designated GAM RNA, and which when bound by GAM336510 RNA causes inhibition of translation of the GAM336510 target mRNA into a corresponding GAM336510 target protein.

The mechanism of the translational inhibition exerted by GAM336510 RNA, herein designated GAM RNA, on one or more GAM336510 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336510 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336510 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336510 RNA, herein designated GAM RNA, of GAM336510 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336510 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336510 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336510 RNA correlate with, and may be deduced from, the identity of the GAM336510 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336511 140967 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 336511 (GAM336511) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336511 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336511 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM336511 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336511 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336511 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336511 precursor RNA is designated SEQ ID:140967, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140967 is located from position 22524532 to position 22524613 relative to chromosome chr5 on the `+` strand (chr is an abbreviation for chromosome).

GAM336511 precursor RNA folds onto itself, forming GAM336511 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336511 precursor RNA, designated SEQ ID NO: 140967, and a schematic representation of a predicted secondary folding of GAM336511 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336511 folded precursor RNA yielding a GAM336511 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336511 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336511 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336511 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336511 target RNA, herein designated GAM TARGET RNA.

GAM336511 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336511 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336511 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336511 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336511 RNA, herein designated GAM RNA, to target binding sites on GAM336511 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336511 target RNA into GAM336511 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336511 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336511 target genes. The mRNA of each one of this plurality of GAM336511 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336511 RNA, herein designated GAM RNA, and which when bound by GAM336511 RNA causes inhibition of translation of the GAM336511 target mRNA into a corresponding GAM336511 target protein.

The mechanism of the translational inhibition exerted by GAM336511 RNA, herein designated GAM RNA, on one or more GAM336511 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336511 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336511 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336511 RNA, herein designated GAM RNA, of GAM336511 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336511 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336511 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336511 RNA correlate with, and may be deduced from, the identity of the GAM336511 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336512 140968 TATTGGTTTC Fig. 8 further provides a conceptual description of another novel bioinformatically
ATTCTTGGTA detected oligonucleotides of the present invention, referred to here as Genomic Address
AAGAAATCAT Messenger 336512 (GAM336512) oligonucleotides modulates expression of respective target
AAAAGTCCAG genes whose function and utility is known in the art.

GACAGAAAGT GAM336512 is a novel bioinformatically detectable regulatory, non protein
GACCTATAGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336512 was detected
GATGACCTGG is described with additional reference to Figs. 9-15.

CCTCTTGCCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTTTCTTTGC encoded by the human genome.

TTCTGGAAAG GAM336512 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CAGTA GAM336512 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336512 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336512 precursor RNA is designated SEQ ID:140968, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140968 is located from position 22572448 to position 22572552 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM336512 precursor RNA folds onto itself, forming GAM336512 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336512 precursor RNA, designated SEQ ID NO: 140968, and a schematic representation of a predicted secondary folding of GAM336512 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336512 folded precursor RNA yielding a GAM336512 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336512 RNA, hereby incorporated herein.

GAM336512 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336512 target RNA, herein designated GAM TARGET RNA.

GAM336512 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336512 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336512 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336512 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336512 RNA, herein designated GAM RNA, to target binding sites on GAM336512 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336512 target RNA into GAM336512 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336512 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336512 target genes. The mRNA of each one of this plurality of GAM336512 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM336512 RNA, herein designated GAM RNA, and which when bound by GAM336512 RNA causes inhibition of translation of the GAM336512 target mRNA into a corresponding GAM336512 target protein.

The mechanism of the translational inhibition exerted by GAM336512 RNA, herein designated GAM RNA, on one or more GAM336512 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336512 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336512 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336512 RNA, herein designated GAM RNA, of GAM336512 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336512 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336512 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336512 RNA correlate with, and may be deduced from, the identity of the GAM336512 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336513 140969 ATGTTATGAT Fig. 8 further provides a conceptual description of another novel bioinformatically

TGTTTCATTT detected oligonucleotides of the present invention, referred to here as Genomic Address

GTTGGAAATA Messenger 336513 (GAM336513) oligonucleotides modulates expression of respective target

AGGAAAACTT genes whose function and utility is known in the art.

GCATGGTTTG GAM336513 is a novel bioinformatically detectable regulatory, non protein

AATTGTGGAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336513 was detected

CAATAGGTGG is described with additional reference to Figs. 9-15.

TGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336513 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336513 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336513 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336513 precursor RNA is designated SEQ ID:140969, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140969 is located from position 22650373 to position 22650445 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM336513 precursor RNA folds onto itself, forming GAM336513 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336513 precursor RNA, designated SEQ ID NO: 140969, and a schematic representation of a predicted secondary folding of GAM336513 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336513 folded precursor RNA yielding a GAM336513 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336513 RNA, hereby incorporated herein.

GAM336513 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336513 target RNA, herein designated GAM TARGET RNA.

GAM336513 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336513 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336513 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336513 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336513 RNA, herein designated GAM RNA, to target binding sites on GAM336513 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336513 target RNA into GAM336513 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336513 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336513 target genes. The mRNA of each one of this plurality of GAM336513 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336513 RNA, herein designated GAM RNA, and which when bound by GAM336513 RNA causes inhibition of translation of the GAM336513 target mRNA into a corresponding GAM336513 target protein.

The mechanism of the translational inhibition exerted by GAM336513 RNA, herein designated GAM RNA, on one or more GAM336513 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336513 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336513 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336513 RNA, herein designated GAM RNA, of GAM336513 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336513 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336513 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336513 RNA correlate with, and may be deduced from, the identity of the GAM336513 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336514 140970 GAGAATTGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

TGAACCCTGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGTGGAGGT Messenger 336514 (GAM336514) oligonucleotides modulates expression of respective target

TGCAGTGAGC genes whose function and utility is known in the art.

CGAGATTGCA GAM336514 is a novel bioinformatically detectable regulatory, non protein

CCATTGCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336514 was detected

CCACCCTAGG is described with additional reference to Figs. 9-15.

CAACAAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAAACTC encoded by the human genome.

GAM336514 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336514 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336514 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336514 precursor RNA is designated SEQ ID:140970, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140970 is located from position 22660392 to position 22660478 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM336514 precursor RNA folds onto itself, forming GAM336514 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336514 precursor RNA, designated SEQ ID NO: 140970, and a schematic representation of a predicted secondary folding of GAM336514 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336514 folded precursor RNA yielding a GAM336514 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336514 RNA, hereby incorporated herein.

GAM336514 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336514 target RNA, herein designated GAM TARGET RNA.

GAM336514 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336514 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336514 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336514 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336514 RNA, herein designated GAM RNA, to target binding sites on GAM336514 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336514 target RNA into GAM336514 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336514 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336514 target genes. The mRNA of each one of this plurality of GAM336514 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336514 RNA, herein designated GAM RNA, and which when bound by GAM336514 RNA causes inhibition of translation of the GAM336514 target mRNA into a corresponding GAM336514 target protein.

The mechanism of the translational inhibition exerted by GAM336514 RNA, herein designated GAM RNA, on one or more GAM336514 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336514 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336514 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336514 RNA, herein designated GAM RNA, of GAM336514 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336514 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336514 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336514 RNA correlate with, and may be deduced from, the identity of the GAM336514 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336515 140971 TCCAAACCAT Fig. 8 further provides a conceptual description of another novel bioinformatically

ATAATCTTCT detected oligonucleotides of the present invention, referred to here as Genomic Address

GTTGCGGGAA Messenger 336515 (GAM336515) oligonucleotides modulates expression of respective target
GTCAGGGACC genes whose function and utility is known in the art.

CCAAACGGAG GAM336515 is a novel bioinformatically detectable regulatory, non protein
GGACCGGCTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336515 was detected
AAGCCATGAC is described with additional reference to Figs. 9-15.

AGAAGAACGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGATTGTGA encoded by the human genome.

GAM336515 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336515 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336515 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336515 precursor RNA is designated SEQ ID:140971, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140971 is located from position 22661282 to position 22661370 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM336515 precursor RNA folds onto itself, forming GAM336515 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336515 precursor RNA, designated SEQ ID NO: 140971, and a schematic representation of a predicted secondary folding of GAM336515 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336515 folded precursor RNA yielding a GAM336515 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336515 RNA, hereby incorporated herein.

GAM336515 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336515 target RNA, herein designated GAM TARGET RNA.

GAM336515 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336515 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336515 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336515 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336515 RNA, herein designated GAM RNA, to target binding sites on GAM336515 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336515 target RNA into GAM336515 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336515 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336515 target genes. The mRNA of each one of this plurality of GAM336515 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336515 RNA, herein designated GAM RNA, and which when bound by GAM336515 RNA causes inhibition of translation of the GAM336515 target mRNA into a corresponding GAM336515 target protein.

The mechanism of the translational inhibition exerted by GAM336515 RNA, herein designated GAM RNA, on one or more GAM336515 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336515 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336515 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336515 RNA, herein designated GAM RNA, of GAM336515 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336515 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336515 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336515

RNA correlate with, and may be deduced from, the identity of the GAM336515 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336516 140972 AGGAAGATTG TGTGAGTCCA GGAATTGGAG GCTGCAGTGA GCTATAATTG TGCCAACTGT ACTCCAGCCT GGGCAACAGT TAGACCCT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336516 (GAM336516) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336516 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336516 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336516 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336516 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336516 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336516 precursor RNA is designated SEQ ID:140972, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140972 is located from position 22796154 to position 22796241 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM336516 precursor RNA folds onto itself, forming GAM336516 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336516 precursor RNA, designated SEQ ID NO: 140972, and a schematic representation of a predicted secondary folding of GAM336516 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336516 folded precursor RNA yielding a GAM336516 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly

similar to the nucleotide sequence of GAM336516 RNA, hereby incorporated herein.

GAM336516 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336516 target RNA, herein designated GAM TARGET RNA.

GAM336516 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336516 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336516 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336516 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336516 RNA, herein designated GAM RNA, to target binding sites on GAM336516 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336516 target RNA into GAM336516 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336516 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336516 target genes. The mRNA of each one of this plurality of GAM336516 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336516 RNA, herein designated GAM RNA, and which when bound by GAM336516 RNA causes inhibition of translation of the GAM336516 target mRNA into a corresponding GAM336516 target protein.

The mechanism of the translational inhibition exerted by GAM336516 RNA, herein designated GAM RNA, on one or more GAM336516 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336516 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336516 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336516 RNA, herein designated GAM RNA, of GAM336516 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336516 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336516 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336516 RNA correlate with, and may be deduced from, the identity of the GAM336516 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336517 140973 TGGGTTGGCT Fig. 8 further provides a conceptual description of another novel bioinformatically
GCTTGTGAAT detected oligonucleotides of the present invention, referred to here as Genomic Address
TTGTGGGTGA Messenger 336517 (GAM336517) oligonucleotides modulates expression of respective target
GGAGCGGCTG genes whose function and utility is known in the art.

CAGGGTGACT GAM336517 is a novel bioinformatically detectable regulatory, non protein
AGAGAGATCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336517 was detected
GCCGCGGTCA is described with additional reference to Figs. 9-15.

AGATGCTGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTAGCCGCTT encoded by the human genome.

TGTCATTTTA GAM336517 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

ATTTCCACCC GAM336517 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GGGTTGCCAG GAM336517 precursor RNA does not encode a protein. A nucleotide sequence identical or
GCACCGCCAC highly similar to the nucleotide sequence of GAM336517 precursor RNA is designated SEQ
A ID:140973, and is provided hereinbelow with reference to the sequence listing part.
Nucleotide sequence SEQ ID:140973 is located from position 22937369 to position 22937499 relative to chromosome chr13 on the `-` strand (chr is an abbreviation for chromosome).

GAM336517 precursor RNA folds onto itself, forming GAM336517 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336517 precursor RNA, designated SEQ ID NO: 140973,

and a schematic representation of a predicted secondary folding of GAM336517 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336517 folded precursor RNA yielding a GAM336517 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336517 RNA, hereby incorporated herein.

GAM336517 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336517 target RNA, herein designated GAM TARGET RNA.

GAM336517 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336517 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336517 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336517 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336517 RNA, herein designated GAM RNA, to target binding sites on GAM336517 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336517 target RNA into GAM336517 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336517 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336517 target genes. The mRNA of each one of this plurality of GAM336517 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336517 RNA, herein designated GAM RNA, and which when bound by GAM336517 RNA causes inhibition of translation of the GAM336517 target mRNA into a corresponding GAM336517 target protein.

The mechanism of the translational inhibition exerted by GAM336517 RNA, herein designated GAM RNA, on one or more GAM336517 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336517 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336517 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336517 RNA, herein designated GAM RNA, of GAM336517 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336517 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336517 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336517 RNA correlate with, and may be deduced from, the identity of the GAM336517 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336518 140974 GCCCCTGCCC Fig. 8 further provides a conceptual description of another novel bioinformatically

AAGAGATCCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CTTTATTTTC Messenger 336518 (GAM336518) oligonucleotides modulates expression of respective target

ATCTCACCCA genes whose function and utility is known in the art.

GAATATTGAG GAM336518 is a novel bioinformatically detectable regulatory, non protein

GTGATCAGCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336518 was detected

AGGTGGAGTG is described with additional reference to Figs. 9-15.

GTTGGGAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGT encoded by the human genome.

GAM336518 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336518 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336518 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336518 precursor RNA is designated SEQ ID:140974, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140974 is located from position 22950966 to position 22951048 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM336518 precursor RNA folds onto itself, forming GAM336518 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336518 precursor RNA, designated SEQ ID NO: 140974, and a schematic representation of a predicted secondary folding of GAM336518 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336518 folded precursor RNA yielding a GAM336518 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336518 RNA, hereby incorporated herein.

GAM336518 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336518 target RNA, herein designated GAM TARGET RNA.

GAM336518 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336518 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336518 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336518 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336518 RNA, herein designated GAM RNA, to target binding sites on GAM336518 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336518 target RNA into GAM336518 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336518 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336518 target genes. The mRNA of each one of this plurality of GAM336518 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM336518 RNA, herein designated GAM RNA, and which when bound by GAM336518 RNA causes inhibition of translation of the GAM336518 target mRNA into a corresponding GAM336518 target protein.

The mechanism of the translational inhibition exerted by GAM336518 RNA, herein designated GAM RNA, on one or more GAM336518 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336518 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336518 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336518 RNA, herein designated GAM RNA, of GAM336518 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336518 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336518 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336518 RNA correlate with, and may be deduced from, the identity of the GAM336518 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336519 140975 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336519 (GAM336519) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336519 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336519 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336519 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336519 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336519 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336519 precursor RNA is designated SEQ ID:140975, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140975 is located from position 23259601 to position 23259682 relative to chromosome chr18 on the `-` strand (chr is an abbreviation for chromosome).

GAM336519 precursor RNA folds onto itself, forming GAM336519 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336519 precursor RNA, designated SEQ ID NO: 140975, and a schematic representation of a predicted secondary folding of GAM336519 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336519 folded precursor RNA yielding a GAM336519 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336519 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336519 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336519 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336519 target RNA, herein designated GAM TARGET RNA.

GAM336519 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336519 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336519 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336519 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336519 RNA, herein designated GAM RNA, to target

binding sites on GAM336519 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336519 target RNA into GAM336519 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336519 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336519 target genes. The mRNA of each one of this plurality of GAM336519 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336519 RNA, herein designated GAM RNA, and which when bound by GAM336519 RNA causes inhibition of translation of the GAM336519 target mRNA into a corresponding GAM336519 target protein.

The mechanism of the translational inhibition exerted by GAM336519 RNA, herein designated GAM RNA, on one or more GAM336519 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336519 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336519 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336519 RNA, herein designated GAM RNA, of GAM336519 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336519 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336519 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336519 RNA correlate with, and may be deduced from, the identity of the GAM336519 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336520 140976 GCTTCACTTT Fig. 8 further provides a conceptual description of another novel bioinformatically

CAGGGGCAAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GTTTGGGAAA Messenger 336520 (GAM336520) oligonucleotides modulates expression of respective target

TAAGCTGATA genes whose function and utility is known in the art.

GTAAAGTCAT GAM336520 is a novel bioinformatically detectable regulatory, non protein

GTAACACTTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336520 was detected

CTGTGCAGGT is described with additional reference to Figs. 9-15.

TAACATTTCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGACCTTGCT encoded by the human genome.

TTCCTTCTCA GAM336520 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GTGTATGC GAM336520 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336520 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336520 precursor RNA is designated SEQ ID:140976, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140976 is located from position 23264637 to position 23264744 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM336520 precursor RNA folds onto itself, forming GAM336520 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336520 precursor RNA, designated SEQ ID NO: 140976, and a schematic representation of a predicted secondary folding of GAM336520 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336520 folded precursor RNA yielding a GAM336520 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336520 RNA, hereby incorporated herein.

GAM336520 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336520 target RNA, herein designated GAM TARGET RNA.

GAM336520 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336520 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336520 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336520 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows

three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336520 RNA, herein designated GAM RNA, to target binding sites on GAM336520 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336520 target RNA into GAM336520 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336520 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336520 target genes. The mRNA of each one of this plurality of GAM336520 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336520 RNA, herein designated GAM RNA, and which when bound by GAM336520 RNA causes inhibition of translation of the GAM336520 target mRNA into a corresponding GAM336520 target protein.

The mechanism of the translational inhibition exerted by GAM336520 RNA, herein designated GAM RNA, on one or more GAM336520 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336520 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336520 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336520 RNA, herein designated GAM RNA, of GAM336520 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336520 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336520 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336520 RNA correlate with, and may be deduced from, the identity of the GAM336520 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336521 140977 GATTCACATC Fig. 8 further provides a conceptual description of another novel bioinformatically

ACCTGGATAT detected oligonucleotides of the present invention, referred to here as Genomic Address
AAGGCCCGGT Messenger 336521 (GAM336521) oligonucleotides modulates expression of respective target
GATACGTTAC genes whose function and utility is known in the art.

AATTCCCCTG GAM336521 is a novel bioinformatically detectable regulatory, non protein
TGAGCAGCGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336521 was detected
TAAAGCAGAA is described with additional reference to Figs. 9-15.

GAATAGGGTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATATCACCTA encoded by the human genome.

GGGGCTGAGT GAM336521 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CCAGTGATAT GAM336521 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GTC GAM336521 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336521 precursor RNA is designated SEQ ID:140977, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140977 is located from position 23265234 to position 23265346 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM336521 precursor RNA folds onto itself, forming GAM336521 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336521 precursor RNA, designated SEQ ID NO: 140977, and a schematic representation of a predicted secondary folding of GAM336521 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336521 folded precursor RNA yielding a GAM336521 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336521 RNA, hereby incorporated herein.

GAM336521 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336521 target RNA, herein designated GAM TARGET RNA.

GAM336521 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336521 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336521 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336521 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336521 RNA, herein designated GAM RNA, to target binding sites on GAM336521 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336521 target RNA into GAM336521 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336521 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336521 target genes. The mRNA of each one of this plurality of GAM336521 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336521 RNA, herein designated GAM RNA, and which when bound by GAM336521 RNA causes inhibition of translation of the GAM336521 target mRNA into a corresponding GAM336521 target protein.

The mechanism of the translational inhibition exerted by GAM336521 RNA, herein designated GAM RNA, on one or more GAM336521 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336521 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336521 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336521 RNA, herein designated GAM RNA, of GAM336521 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336521 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336521 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336521 RNA correlate with, and may be deduced from, the identity of the GAM336521 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336522 140978 AGGGTGCTGT Fig. 8 further provides a conceptual description of another novel bioinformatically

TGCTTCTAGG detected oligonucleotides of the present invention, referred to here as Genomic Address

TCTTTTGAGA Messenger 336522 (GAM336522) oligonucleotides modulates expression of respective target

GCATAGAGCC genes whose function and utility is known in the art.

AGGAAGCATA GAM336522 is a novel bioinformatically detectable regulatory, non protein

CACACATTTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336522 was detected

TGGCTCCTGA is described with additional reference to Figs. 9-15.

CTTTTTGCTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTTCCCAGGT encoded by the human genome.

TATTGAGTTT GAM336522 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GCCCCT GAM336522 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336522 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336522 precursor RNA is designated SEQ ID:140978, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140978 is located from position 23295481 to position 23295586 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM336522 precursor RNA folds onto itself, forming GAM336522 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336522 precursor RNA, designated SEQ ID NO: 140978, and a schematic representation of a predicted secondary folding of GAM336522 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336522 folded precursor RNA yielding a GAM336522 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336522 RNA, hereby incorporated herein.

GAM336522 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336522 target RNA, herein designated GAM TARGET RNA.

GAM336522 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336522 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336522 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336522 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336522 RNA, herein designated GAM RNA, to target binding sites on GAM336522 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336522 target RNA into GAM336522 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336522 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336522 target genes. The mRNA of each one of this plurality of GAM336522 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336522 RNA, herein designated GAM RNA, and which when bound by GAM336522 RNA causes inhibition of translation of the GAM336522 target mRNA into a corresponding GAM336522 target protein.

The mechanism of the translational inhibition exerted by GAM336522 RNA, herein designated GAM RNA, on one or more GAM336522 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336522 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336522 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336522 RNA, herein designated GAM RNA, of

GAM336522 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336522 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336522 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336522 RNA correlate with, and may be deduced from, the identity of the GAM336522 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336523 140979 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336523 (GAM336523) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336523 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336523 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336523 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336523 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336523 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336523 precursor RNA is designated SEQ ID:140979, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140979 is located from position 23320241 to position 23320322 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM336523 precursor RNA folds onto itself, forming GAM336523 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336523 precursor RNA, designated SEQ ID NO: 140979,

and a schematic representation of a predicted secondary folding of GAM336523 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336523 folded precursor RNA yielding a GAM336523 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336523 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336523 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336523 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336523 target RNA, herein designated GAM TARGET RNA.

GAM336523 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336523 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336523 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336523 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336523 RNA, herein designated GAM RNA, to target binding sites on GAM336523 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336523 target RNA into GAM336523 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336523 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336523 target genes. The mRNA of each one of this plurality of GAM336523 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336523 RNA, herein designated GAM RNA, and which when bound by GAM336523 RNA causes inhibition of translation of the GAM336523 target mRNA into a corresponding GAM336523 target protein.

The mechanism of the translational inhibition exerted by GAM336523 RNA, herein designated GAM RNA, on one or more GAM336523 target genes, herein collectively designated

GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336523 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336523 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336523 RNA, herein designated GAM RNA, of GAM336523 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336523 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336523 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336523 RNA correlate with, and may be deduced from, the identity of the GAM336523 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336524 140980 CGAACCAGGT Fig. 8 further provides a conceptual description of another novel bioinformatically

AGAAGTAATG detected oligonucleotides of the present invention, referred to here as Genomic Address

TGTGCCAGGA Messenger 336524 (GAM336524) oligonucleotides modulates expression of respective target

CAAGAGACGC genes whose function and utility is known in the art.

ACCCAGAGCC GAM336524 is a novel bioinformatically detectable regulatory, non protein

TCTGGCCTTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336524 was detected

GTCTCCTATC is described with additional reference to Figs. 9-15.

CTGGCTCACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGCACACTCC encoded by the human genome.

AAGTTTG GAM336524 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336524 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336524 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336524 precursor RNA is designated SEQ ID:140980, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140980 is located from position 23523635 to position 23523731

relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GAM336524 precursor RNA folds onto itself, forming GAM336524 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336524 precursor RNA, designated SEQ ID NO: 140980, and a schematic representation of a predicted secondary folding of GAM336524 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336524 folded precursor RNA yielding a GAM336524 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336524 RNA, hereby incorporated herein.

GAM336524 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336524 target RNA, herein designated GAM TARGET RNA.

GAM336524 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336524 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336524 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336524 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336524 RNA, herein designated GAM RNA, to target binding sites on GAM336524 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336524 target RNA into GAM336524 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336524 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336524 target genes. The mRNA of each one of this plurality of GAM336524 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336524 RNA, herein designated GAM RNA, and which when bound by GAM336524 RNA causes inhibition of translation of the GAM336524 target mRNA into a corresponding GAM336524 target protein.

The mechanism of the translational inhibition exerted by GAM336524 RNA, herein designated GAM RNA, on one or more GAM336524 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336524 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336524 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336524 RNA, herein designated GAM RNA, of GAM336524 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336524 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336524 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336524 RNA correlate with, and may be deduced from, the identity of the GAM336524 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336525 140981 GTCTAACTAG Fig. 8 further provides a conceptual description of another novel bioinformatically

TCCCAGTGAG detected oligonucleotides of the present invention, referred to here as Genomic Address

ATAAGCCGGG Messenger 336525 (GAM336525) oligonucleotides modulates expression of respective target

TACCTCAGTT genes whose function and utility is known in the art.

TGAAATGCAG GAM336525 is a novel bioinformatically detectable regulatory, non protein

AAATCACTCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336525 was detected

CCTTGTCTGT is described with additional reference to Figs. 9-15.

TGATCTCGCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGGAGCTGCA encoded by the human genome.

GAC GAM336525 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336525 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336525 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336525 precursor RNA is designated SEQ ID:140981, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140981 is located from position 23528063 to position 23528155 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM336525 precursor RNA folds onto itself, forming GAM336525 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336525 precursor RNA, designated SEQ ID NO: 140981, and a schematic representation of a predicted secondary folding of GAM336525 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336525 folded precursor RNA yielding a GAM336525 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336525 RNA, hereby incorporated herein.

GAM336525 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336525 target RNA, herein designated GAM TARGET RNA.

GAM336525 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336525 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336525 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336525 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336525 RNA, herein designated GAM RNA, to target binding sites on GAM336525 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336525 target RNA into GAM336525 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336525 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336525 target genes. The mRNA of each one of this plurality of GAM336525 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336525 RNA, herein designated GAM RNA, and which when bound by GAM336525 RNA causes inhibition of translation of the GAM336525 target mRNA into a corresponding GAM336525 target protein.

The mechanism of the translational inhibition exerted by GAM336525 RNA, herein designated GAM RNA, on one or more GAM336525 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336525 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336525 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336525 RNA, herein designated GAM RNA, of GAM336525 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336525 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336525 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336525 RNA correlate with, and may be deduced from, the identity of the GAM336525 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336526 140982 TATGTCACCA Fig. 8 further provides a conceptual description of another novel bioinformatically

AATTTGGTGT detected oligonucleotides of the present invention, referred to here as Genomic Address

GCTTTCTCCT Messenger 336526 (GAM336526) oligonucleotides modulates expression of respective target

TTGCCTGCTG genes whose function and utility is known in the art.

CTTCTTTCAA GAM336526 is a novel bioinformatically detectable regulatory, non protein
GTAGGACATG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336526 was detected
GAGACAACAG is described with additional reference to Figs. 9-15.

CCAAATTTGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCTTCAGTGA encoded by the human genome.

TGTG GAM336526 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336526 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336526 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336526 precursor RNA is designated SEQ ID:140982, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140982 is located from position 23528432 to position 23528525 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM336526 precursor RNA folds onto itself, forming GAM336526 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336526 precursor RNA, designated SEQ ID NO: 140982, and a schematic representation of a predicted secondary folding of GAM336526 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336526 folded precursor RNA yielding a GAM336526 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336526 RNA, hereby incorporated herein.

GAM336526 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336526 target RNA, herein designated GAM TARGET RNA.

GAM336526 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336526 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336526 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336526 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336526 RNA, herein designated GAM RNA, to target binding sites on GAM336526 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336526 target RNA into GAM336526 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336526 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336526 target genes. The mRNA of each one of this plurality of GAM336526 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336526 RNA, herein designated GAM RNA, and which when bound by GAM336526 RNA causes inhibition of translation of the GAM336526 target mRNA into a corresponding GAM336526 target protein.

The mechanism of the translational inhibition exerted by GAM336526 RNA, herein designated GAM RNA, on one or more GAM336526 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336526 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336526 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336526 RNA, herein designated GAM RNA, of GAM336526 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336526 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336526 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336526 RNA correlate with, and may be deduced from, the identity of the GAM336526 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336527 140983 CAAATTTGGT Fig. 8 further provides a conceptual description of another novel bioinformatically
GTGCTTTCTC detected oligonucleotides of the present invention, referred to here as Genomic Address
CTTTGCCTGC Messenger 336527 (GAM336527) oligonucleotides modulates expression of respective target
TGCTTCTTTC genes whose function and utility is known in the art.

AAGTAGGACA GAM336527 is a novel bioinformatically detectable regulatory, non protein
TGGAGACAAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336527 was detected
AGCCAAATTT is described with additional reference to Figs. 9-15.

G GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336527 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336527 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336527 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336527 precursor RNA is designated SEQ ID:140983, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140983 is located from position 23528447 to position 23528517 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM336527 precursor RNA folds onto itself, forming GAM336527 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin
structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336527 precursor RNA, designated SEQ ID NO: 140983, and a schematic representation of a predicted secondary folding of GAM336527 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336527 folded precursor RNA yielding a GAM336527 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336527 RNA, hereby incorporated herein.

GAM336527 target gene, herein designated GAM TARGET GENE, encodes a

corresponding messenger RNA, GAM336527 target RNA, herein designated GAM TARGET RNA.

GAM336527 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336527 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336527 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336527 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336527 RNA, herein designated GAM RNA, to target binding sites on GAM336527 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336527 target RNA into GAM336527 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336527 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336527 target genes. The mRNA of each one of this plurality of GAM336527 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336527 RNA, herein designated GAM RNA, and which when bound by GAM336527 RNA causes inhibition of translation of the GAM336527 target mRNA into a corresponding GAM336527 target protein.

The mechanism of the translational inhibition exerted by GAM336527 RNA, herein designated GAM RNA, on one or more GAM336527 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336527 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336527 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336527 RNA, herein designated GAM RNA, of GAM336527 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336527 target RNA, herein designated

GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336527 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336527 RNA correlate with, and may be deduced from, the identity of the GAM336527 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336528 140984 CTCCTTAGGT Fig. 8 further provides a conceptual description of another novel bioinformatically
TTTATCAATC detected oligonucleotides of the present invention, referred to here as Genomic Address
CTGGTGCCCT Messenger 336528 (GAM336528) oligonucleotides modulates expression of respective target
TCCATTGTAT genes whose function and utility is known in the art.

CACATCCTTG GAM336528 is a novel bioinformatically detectable regulatory, non protein
GATCACAGTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336528 was detected
ATGGGTTCAG is described with additional reference to Figs. 9-15.

GAATAGACAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATGACCCAAG encoded by the human genome.

GGAG GAM336528 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336528 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336528 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336528 precursor RNA is designated SEQ ID:140984, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140984 is located from position 24199772 to position 24199865 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM336528 precursor RNA folds onto itself, forming GAM336528 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336528 precursor RNA, designated SEQ ID NO: 140984, and a schematic representation of a predicted secondary folding of GAM336528 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336528 folded precursor RNA yielding a GAM336528 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336528 RNA, hereby incorporated herein.

GAM336528 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336528 target RNA, herein designated GAM TARGET RNA.

GAM336528 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336528 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336528 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336528 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336528 RNA, herein designated GAM RNA, to target binding sites on GAM336528 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336528 target RNA into GAM336528 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336528 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336528 target genes. The mRNA of each one of this plurality of GAM336528 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336528 RNA, herein designated GAM RNA, and which when bound by GAM336528 RNA causes inhibition of translation of the GAM336528 target mRNA into a corresponding GAM336528 target protein.

The mechanism of the translational inhibition exerted by GAM336528 RNA, herein designated GAM RNA, on one or more GAM336528 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336528 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336528 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336528 RNA, herein designated GAM RNA, of GAM336528 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336528 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336528 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336528 RNA correlate with, and may be deduced from, the identity of the GAM336528 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336529 140985 CCTTAGGTTT TATCAATCCT GGTGCCCTTC CATTGTATCA CATCCTTGGA TCACAGTGAT GGGTTCAGGA ATAGACACAT GACCCAAGG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336529 (GAM336529) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336529 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336529 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336529 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336529 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336529 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336529 precursor RNA is designated SEQ ID:140985, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140985 is located from position 24199774 to position 24199862 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM336529 precursor RNA folds onto itself, forming GAM336529 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336529 precursor RNA, designated SEQ ID NO: 140985, and a schematic representation of a predicted secondary folding of GAM336529 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336529 folded precursor RNA yielding a GAM336529 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336529 RNA, hereby incorporated herein.

GAM336529 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336529 target RNA, herein designated GAM TARGET RNA.

GAM336529 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336529 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336529 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336529 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336529 RNA, herein designated GAM RNA, to target binding sites on GAM336529 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336529 target RNA into GAM336529 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336529 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336529 target genes. The mRNA of each one of this plurality of GAM336529 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336529 RNA, herein designated GAM RNA, and which when bound by GAM336529 RNA causes inhibition of translation of the GAM336529 target mRNA into a corresponding GAM336529 target protein.

The mechanism of the translational inhibition exerted by GAM336529 RNA, herein

designated GAM RNA, on one or more GAM336529 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336529 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336529 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336529 RNA, herein designated GAM RNA, of GAM336529 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336529 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336529 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336529 RNA correlate with, and may be deduced from, the identity of the GAM336529 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336530 140986 GGCCACACTT Fig. 8 further provides a conceptual description of another novel bioinformatically

GTAACCCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGCATTGAT Messenger 336530 (GAM336530) oligonucleotides modulates expression of respective target

TTTTCTGGTG genes whose function and utility is known in the art.

GCATGGTCTG GAM336530 is a novel bioinformatically detectable regulatory, non protein

CTGGGTGTAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336530 was detected

GATCATGAAG is described with additional reference to Figs. 9-15.

CCACAAGAAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCCAAGTCTG encoded by the human genome.

TCTGCTTTTG GAM336530 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TGTGTC GAM336530 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336530 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336530 precursor RNA is designated SEQ ID:140986, and is provided hereinbelow with reference to the sequence listing part.

Nucleotide sequence SEQ ID:140986 is located from position 24214818 to position 24214923 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM336530 precursor RNA folds onto itself, forming GAM336530 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336530 precursor RNA, designated SEQ ID NO: 140986, and a schematic representation of a predicted secondary folding of GAM336530 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336530 folded precursor RNA yielding a GAM336530 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336530 RNA, hereby incorporated herein.

GAM336530 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336530 target RNA, herein designated GAM TARGET RNA.

GAM336530 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336530 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336530 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336530 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336530 RNA, herein designated GAM RNA, to target binding sites on GAM336530 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336530 target RNA into GAM336530 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336530 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336530 target genes. The mRNA of each one of this plurality of GAM336530 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336530 RNA, herein designated GAM RNA, and which when bound by GAM336530 RNA causes inhibition of translation of the GAM336530 target mRNA into a corresponding GAM336530 target protein.

The mechanism of the translational inhibition exerted by GAM336530 RNA, herein designated GAM RNA, on one or more GAM336530 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336530 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336530 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336530 RNA, herein designated GAM RNA, of GAM336530 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336530 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336530 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336530 RNA correlate with, and may be deduced from, the identity of the GAM336530 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336531 140987 GGCCACACTT Fig. 8 further provides a conceptual description of another novel bioinformatically

GTAACCCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGCATTGAT Messenger 336531 (GAM336531) oligonucleotides modulates expression of respective target

TTTTCTGGTG genes whose function and utility is known in the art.

GCATGGTCTG GAM336531 is a novel bioinformatically detectable regulatory, non protein

CTGGGTGTAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336531 was detected

GATCATGAAG is described with additional reference to Figs. 9-15.

CCACAAGAAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCCAAGTCTG encoded by the human genome.

TCTGCTTTTG GAM336531 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TGTGTCT GAM336531 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336531 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336531 precursor RNA is designated SEQ ID:140987, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140987 is located from position 24214818 to position 24214924 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM336531 precursor RNA folds onto itself, forming GAM336531 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336531 precursor RNA, designated SEQ ID NO: 140987, and a schematic representation of a predicted secondary folding of GAM336531 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336531 folded precursor RNA yielding a GAM336531 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336531 RNA, hereby incorporated herein.

GAM336531 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336531 target RNA, herein designated GAM TARGET RNA.

GAM336531 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336531 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336531 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336531 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336531 RNA, herein designated GAM RNA, to target binding sites on GAM336531 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336531 target RNA into GAM336531 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336531 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336531 target genes. The mRNA of each one of this plurality of GAM336531 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336531 RNA, herein designated GAM RNA, and which when bound by GAM336531 RNA causes inhibition of translation of the GAM336531 target mRNA into a corresponding GAM336531 target protein.

The mechanism of the translational inhibition exerted by GAM336531 RNA, herein designated GAM RNA, on one or more GAM336531 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336531 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336531 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336531 RNA, herein designated GAM RNA, of GAM336531 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336531 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336531 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336531 RNA correlate with, and may be deduced from, the identity of the GAM336531 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336532 140988 GAGCTGTCCG Fig. 8 further provides a conceptual description of another novel bioinformatically

TGACGTAGGT detected oligonucleotides of the present invention, referred to here as Genomic Address

TTGTACGTCA Messenger 336532 (GAM336532) oligonucleotides modulates expression of respective target

ACTCAGCCTT genes whose function and utility is known in the art.

ATTCTGGGAA GAM336532 is a novel bioinformatically detectable regulatory, non protein
ATCATTAATC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336532 was detected
CTTAACTCTG is described with additional reference to Figs. 9-15.

ATGACTGTGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AAAAGTAGTC encoded by the human genome.

ACTGACCACT GAM336532 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
C GAM336532 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336532 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336532 precursor RNA is designated SEQ ID:140988, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140988 is located from position 24278760 to position 24278860 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM336532 precursor RNA folds onto itself, forming GAM336532 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336532 precursor RNA, designated SEQ ID NO: 140988, and a schematic representation of a predicted secondary folding of GAM336532 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336532 folded precursor RNA yielding a GAM336532 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336532 RNA, hereby incorporated herein.

GAM336532 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336532 target RNA, herein designated GAM TARGET RNA.

GAM336532 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336532 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336532 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336532 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336532 RNA, herein designated GAM RNA, to target binding sites on GAM336532 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336532 target RNA into GAM336532 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336532 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336532 target genes. The mRNA of each one of this plurality of GAM336532 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336532 RNA, herein designated GAM RNA, and which when bound by GAM336532 RNA causes inhibition of translation of the GAM336532 target mRNA into a corresponding GAM336532 target protein.

The mechanism of the translational inhibition exerted by GAM336532 RNA, herein designated GAM RNA, on one or more GAM336532 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336532 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336532 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336532 RNA, herein designated GAM RNA, of GAM336532 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336532 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336532 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336532 RNA correlate with, and may be deduced from, the identity of the GAM336532 target gene

inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336533 140989 GTGACGTAGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TTTGTACGTC detected oligonucleotides of the present invention, referred to here as Genomic Address
AACTCAGCCT Messenger 336533 (GAM336533) oligonucleotides modulates expression of respective target
TATTCTGGGA genes whose function and utility is known in the art.

AATCATTAAT GAM336533 is a novel bioinformatically detectable regulatory, non protein
CCTTAACTCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336533 was detected
GATGACTGTG is described with additional reference to Figs. 9-15.

CAAAAGTAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAC encoded by the human genome.

GAM336533 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336533 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336533 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336533 precursor RNA is designated SEQ ID:140989, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140989 is located from position 24278769 to position 24278851 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM336533 precursor RNA folds onto itself, forming GAM336533 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336533 precursor RNA, designated SEQ ID NO: 140989, and a schematic representation of a predicted secondary folding of GAM336533 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336533 folded precursor RNA yielding a GAM336533 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336533 RNA, hereby incorporated herein.

GAM336533 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336533 target RNA, herein designated GAM TARGET RNA.

GAM336533 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336533 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336533 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336533 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336533 RNA, herein designated GAM RNA, to target binding sites on GAM336533 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336533 target RNA into GAM336533 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336533 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336533 target genes. The mRNA of each one of this plurality of GAM336533 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336533 RNA, herein designated GAM RNA, and which when bound by GAM336533 RNA causes inhibition of translation of the GAM336533 target mRNA into a corresponding GAM336533 target protein.

The mechanism of the translational inhibition exerted by GAM336533 RNA, herein designated GAM RNA, on one or more GAM336533 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336533 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336533 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336533 RNA, herein designated GAM RNA, of GAM336533 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336533 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336533 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336533 RNA correlate with, and may be deduced from, the identity of the GAM336533 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336534 140990 GGAGAATTGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACTCAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGCGGAAG Messenger 336534 (GAM336534) oligonucleotides modulates expression of respective target
TTGCAGTGAG genes whose function and utility is known in the art.

CTGAGATCGC GAM336534 is a novel bioinformatically detectable regulatory, non protein
ACCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336534 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGACTCC encoded by the human genome.

GAM336534 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336534 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336534 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336534 precursor RNA is designated SEQ ID:140990, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140990 is located from position 24437886 to position 24437973 relative to chromosome chr13 on the `-` strand (chr is an abbreviation for chromosome).

GAM336534 precursor RNA folds onto itself, forming GAM336534 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336534 precursor RNA, designated SEQ ID NO: 140990, and a schematic representation of a predicted secondary folding of GAM336534 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336534 folded precursor RNA yielding a GAM336534 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336534 RNA, hereby incorporated herein. Expression of GAM336534 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336534 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336534 target RNA, herein designated GAM TARGET RNA.

GAM336534 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336534 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336534 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336534 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336534 RNA, herein designated GAM RNA, to target binding sites on GAM336534 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336534 target RNA into GAM336534 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336534 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336534 target genes. The mRNA of each one of this plurality of GAM336534 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336534 RNA, herein designated GAM RNA, and which when bound by GAM336534 RNA causes inhibition of translation of the GAM336534 target mRNA into a corresponding GAM336534 target protein.

The mechanism of the translational inhibition exerted by GAM336534 RNA, herein designated GAM RNA, on one or more GAM336534 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336534 precursor RNA, herein designated GAM PRECURSOR

RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336534 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336534 RNA, herein designated GAM RNA, of GAM336534 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336534 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336534 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336534 RNA correlate with, and may be deduced from, the identity of the GAM336534 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336535 140991 GGACCATTGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GGAGGTGGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

CAGCAGCAGG Messenger 336535 (GAM336535) oligonucleotides modulates expression of respective target

ACCCCCAGAA genes whose function and utility is known in the art.

CCGAAGCCTG GAM336535 is a novel bioinformatically detectable regulatory, non protein

TGTCTCTGCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336535 was detected

GTCTCATCCC is described with additional reference to Figs. 9-15.

TTCATTCTTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

C encoded by the human genome.

GAM336535 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336535 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336535 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336535 precursor RNA is designated SEQ ID:140991, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140991 is located from position 24538340 to position 24538420 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM336535 precursor RNA folds onto itself, forming GAM336535 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336535 precursor RNA, designated SEQ ID NO: 140991, and a schematic representation of a predicted secondary folding of GAM336535 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336535 folded precursor RNA yielding a GAM336535 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336535 RNA, hereby incorporated herein.

GAM336535 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336535 target RNA, herein designated GAM TARGET RNA.

GAM336535 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336535 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336535 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336535 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336535 RNA, herein designated GAM RNA, to target binding sites on GAM336535 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336535 target RNA into GAM336535 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336535 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336535 target genes. The mRNA of each one of this plurality of GAM336535 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336535 RNA, herein designated GAM RNA, and which when bound by GAM336535 RNA causes inhibition of

translation of the GAM336535 target mRNA into a corresponding GAM336535 target protein.

The mechanism of the translational inhibition exerted by GAM336535 RNA, herein designated GAM RNA, on one or more GAM336535 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336535 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336535 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336535 RNA, herein designated GAM RNA, of GAM336535 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336535 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336535 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336535 RNA correlate with, and may be deduced from, the identity of the GAM336535 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336536 140992 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336536 (GAM336536) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336536 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336536 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336536 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336536 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336536 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336536 precursor RNA is designated SEQ ID:140992, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140992 is located from position 24634603 to position 24634684 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336536 precursor RNA folds onto itself, forming GAM336536 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336536 precursor RNA, designated SEQ ID NO: 140992, and a schematic representation of a predicted secondary folding of GAM336536 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336536 folded precursor RNA yielding a GAM336536 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336536 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336536 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336536 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336536 target RNA, herein designated GAM TARGET RNA.

GAM336536 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336536 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336536 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336536 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336536 RNA, herein designated GAM RNA, to target binding sites on GAM336536 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336536 target RNA into GAM336536 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336536 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336536 target genes. The mRNA of each one of this plurality of GAM336536 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336536 RNA, herein designated GAM RNA, and which when bound by GAM336536 RNA causes inhibition of translation of the GAM336536 target mRNA into a corresponding GAM336536 target protein.

The mechanism of the translational inhibition exerted by GAM336536 RNA, herein designated GAM RNA, on one or more GAM336536 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336536 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336536 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336536 RNA, herein designated GAM RNA, of GAM336536 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336536 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336536 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336536 RNA correlate with, and may be deduced from, the identity of the GAM336536 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336537 140993 AGTTTAAGAA Fig. 8 further provides a conceptual description of another novel bioinformatically

TGGCTCATGT detected oligonucleotides of the present invention, referred to here as Genomic Address

AGTACCCAGC Messenger 336537 (GAM336537) oligonucleotides modulates expression of respective target

TACTCTGGGC genes whose function and utility is known in the art.

GACTGAGCCC GAM336537 is a novel bioinformatically detectable regulatory, non protein

AGGGTACTCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336537 was detected

GGGATCACTT is described with additional reference to Figs. 9-15.

GAGCCCAGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCT encoded by the human genome.

GAM336537 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336537 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336537 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336537 precursor RNA is designated SEQ ID:140993, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140993 is located from position 24755757 to position 24755839 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336537 precursor RNA folds onto itself, forming GAM336537 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336537 precursor RNA, designated SEQ ID NO: 140993, and a schematic representation of a predicted secondary folding of GAM336537 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336537 folded precursor RNA yielding a GAM336537 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336537 RNA, hereby incorporated herein.

GAM336537 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336537 target RNA, herein designated GAM TARGET RNA.

GAM336537 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336537 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336537 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336537 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336537 RNA, herein designated GAM RNA, to target binding sites on GAM336537 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336537 target RNA into GAM336537 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336537 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336537 target genes. The mRNA of each one of this plurality of GAM336537 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336537 RNA, herein designated GAM RNA, and which when bound by GAM336537 RNA causes inhibition of translation of the GAM336537 target mRNA into a corresponding GAM336537 target protein.

The mechanism of the translational inhibition exerted by GAM336537 RNA, herein designated GAM RNA, on one or more GAM336537 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336537 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336537 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336537 RNA, herein designated GAM RNA, of GAM336537 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336537 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336537 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336537 RNA correlate with, and may be deduced from, the identity of the GAM336537 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336538 140994 GTTTAAGAAT Fig. 8 further provides a conceptual description of another novel bioinformatically

GGCTCATGTA detected oligonucleotides of the present invention, referred to here as Genomic Address

GTACCCAGCT Messenger 336538 (GAM336538) oligonucleotides modulates expression of respective target
ACTCTGGGCG genes whose function and utility is known in the art.

ACTGAGCCCA GAM336538 is a novel bioinformatically detectable regulatory, non protein
GGGTACTCTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336538 was detected
GGATCACTTG is described with additional reference to Figs. 9-15.

AGCCCAGGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
C encoded by the human genome.

GAM336538 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336538 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336538 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336538 precursor RNA is designated SEQ ID:140994, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140994 is located from position 24755758 to position 24755838 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336538 precursor RNA folds onto itself, forming GAM336538 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336538 precursor RNA, designated SEQ ID NO: 140994, and a schematic representation of a predicted secondary folding of GAM336538 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336538 folded precursor RNA yielding a GAM336538 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336538 RNA, hereby incorporated herein.

GAM336538 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336538 target RNA, herein designated GAM TARGET RNA.

GAM336538 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336538 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336538 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336538 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336538 RNA, herein designated GAM RNA, to target binding sites on GAM336538 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336538 target RNA into GAM336538 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336538 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336538 target genes. The mRNA of each one of this plurality of GAM336538 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336538 RNA, herein designated GAM RNA, and which when bound by GAM336538 RNA causes inhibition of translation of the GAM336538 target mRNA into a corresponding GAM336538 target protein.

The mechanism of the translational inhibition exerted by GAM336538 RNA, herein designated GAM RNA, on one or more GAM336538 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336538 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336538 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336538 RNA, herein designated GAM RNA, of GAM336538 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336538 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336538 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336538

RNA correlate with, and may be deduced from, the identity of the GAM336538 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336539 140995 GTGCCTAGCC Fig. 8 further provides a conceptual description of another novel bioinformatically
AAGCAGATGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ATGAGGTAGA Messenger 336539 (GAM336539) oligonucleotides modulates expression of respective target
ACAGTCTTGT genes whose function and utility is known in the art.

TCATACATTG GAM336539 is a novel bioinformatically detectable regulatory, non protein
CCATTATATC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336539 was detected
TAGTGCAGTT is described with additional reference to Figs. 9-15.

GAATGAACAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTTCTGTGTC encoded by the human genome.

TGGGCTTAGG GAM336539 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TGC GAM336539 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336539 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336539 precursor RNA is designated SEQ ID:140995, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140995 is located from position 24906581 to position 24906683 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336539 precursor RNA folds onto itself, forming GAM336539 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336539 precursor RNA, designated SEQ ID NO: 140995, and a schematic representation of a predicted secondary folding of GAM336539 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336539 folded precursor RNA yielding a GAM336539 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336539 RNA, hereby incorporated herein.

GAM336539 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336539 target RNA, herein designated GAM TARGET RNA.

GAM336539 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336539 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336539 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336539 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336539 RNA, herein designated GAM RNA, to target binding sites on GAM336539 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336539 target RNA into GAM336539 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336539 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336539 target genes. The mRNA of each one of this plurality of GAM336539 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336539 RNA, herein designated GAM RNA, and which when bound by GAM336539 RNA causes inhibition of translation of the GAM336539 target mRNA into a corresponding GAM336539 target protein.

The mechanism of the translational inhibition exerted by GAM336539 RNA, herein designated GAM RNA, on one or more GAM336539 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336539 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336539 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336539 RNA, herein designated GAM RNA, of GAM336539 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336539 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336539 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336539 RNA correlate with, and may be deduced from, the identity of the GAM336539 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336540 140996 AGGATCACTT Fig. 8 further provides a conceptual description of another novel bioinformatically
GAGCCCAGGA detected oligonucleotides of the present invention, referred to here as Genomic Address
GTTGGAGGCT Messenger 336540 (GAM336540) oligonucleotides modulates expression of respective target
GCAGTGAGCT genes whose function and utility is known in the art.

ATGATTGCAC GAM336540 is a novel bioinformatically detectable regulatory, non protein
TACTGCACTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336540 was detected
CAGCCTGGGC is described with additional reference to Figs. 9-15.

AACAGAGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GATCCT encoded by the human genome.

GAM336540 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336540 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336540 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336540 precursor RNA is designated SEQ ID:140996, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140996 is located from position 24922097 to position 24922182 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336540 precursor RNA folds onto itself, forming GAM336540 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336540 precursor RNA, designated SEQ ID NO: 140996, and a schematic representation of a predicted secondary folding of GAM336540 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336540 folded precursor RNA yielding a GAM336540 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336540 RNA, hereby incorporated herein. Expression of GAM336540 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336540 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336540 target RNA, herein designated GAM TARGET RNA.

GAM336540 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336540 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336540 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336540 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336540 RNA, herein designated GAM RNA, to target binding sites on GAM336540 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336540 target RNA into GAM336540 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336540 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336540 target genes. The mRNA of each one of this plurality of GAM336540 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336540 RNA, herein designated GAM RNA, and which when bound by GAM336540 RNA causes inhibition of translation of the GAM336540 target mRNA into a corresponding GAM336540 target protein.

The mechanism of the translational inhibition exerted by GAM336540 RNA, herein designated GAM RNA, on one or more GAM336540 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336540 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336540 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336540 RNA, herein designated GAM RNA, of GAM336540 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336540 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336540 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336540 RNA correlate with, and may be deduced from, the identity of the GAM336540 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336541 140997 CTCTTGAACC Fig. 8 further provides a conceptual description of another novel bioinformatically

CAGGAAGTGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGTTGCAGT Messenger 336541 (GAM336541) oligonucleotides modulates expression of respective target

GAGCTGAGAT genes whose function and utility is known in the art.

AGCAACACTG GAM336541 is a novel bioinformatically detectable regulatory, non protein

CACTCCAGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336541 was detected

TGGGCAACAA is described with additional reference to Figs. 9-15.

GAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336541 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336541 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336541 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336541 precursor RNA is designated SEQ ID:140997, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140997 is located from position 25258227 to position 25258300 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GAM336541 precursor RNA folds onto itself, forming GAM336541 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336541 precursor RNA, designated SEQ ID NO: 140997, and a schematic representation of a predicted secondary folding of GAM336541 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336541 folded precursor RNA yielding a GAM336541 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336541 RNA, hereby incorporated herein. Expression of GAM336541 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336541 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336541 target RNA, herein designated GAM TARGET RNA.

GAM336541 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336541 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336541 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336541 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336541 RNA, herein designated GAM RNA, to target binding sites on GAM336541 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336541 target RNA into GAM336541 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336541 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336541 target genes. The mRNA of each one of this plurality of GAM336541 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM336541 RNA, herein designated GAM RNA, and which when bound by GAM336541 RNA causes inhibition of translation of the GAM336541 target mRNA into a corresponding GAM336541 target protein.

The mechanism of the translational inhibition exerted by GAM336541 RNA, herein designated GAM RNA, on one or more GAM336541 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336541 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336541 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336541 RNA, herein designated GAM RNA, of GAM336541 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336541 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336541 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336541 RNA correlate with, and may be deduced from, the identity of the GAM336541 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336542 140998 TTGGCTCAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

ATGGGACATG detected oligonucleotides of the present invention, referred to here as Genomic Address

GGACTTTGTA Messenger 336542 (GAM336542) oligonucleotides modulates expression of respective target

ATTAGGTCTA genes whose function and utility is known in the art.

TCCCAGAATT GAM336542 is a novel bioinformatically detectable regulatory, non protein

ACAACCTTTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336542 was detected

CCCATACTAA is described with additional reference to Figs. 9-15.

GCTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336542 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336542 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336542 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336542 precursor RNA is designated SEQ ID:140998, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140998 is located from position 25398398 to position 25398472 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM336542 precursor RNA folds onto itself, forming GAM336542 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336542 precursor RNA, designated SEQ ID NO: 140998, and a schematic representation of a predicted secondary folding of GAM336542 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336542 folded precursor RNA yielding a GAM336542 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336542 RNA, hereby incorporated herein.

GAM336542 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336542 target RNA, herein designated GAM TARGET RNA.

GAM336542 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336542 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336542 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336542 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336542 RNA, herein designated GAM RNA, to target binding sites on GAM336542 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336542 target RNA into GAM336542 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336542 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336542 target genes. The mRNA of each one of this plurality of GAM336542 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336542 RNA, herein designated GAM RNA, and which when bound by GAM336542 RNA causes inhibition of translation of the GAM336542 target mRNA into a corresponding GAM336542 target protein.

The mechanism of the translational inhibition exerted by GAM336542 RNA, herein designated GAM RNA, on one or more GAM336542 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336542 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336542 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336542 RNA, herein designated GAM RNA, of GAM336542 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336542 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336542 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336542 RNA correlate with, and may be deduced from, the identity of the GAM336542 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336543 140999 AAGCATGAAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AGGACGGGGC detected oligonucleotides of the present invention, referred to here as Genomic Address
GCTCAGGTTT Messenger 336543 (GAM336543) oligonucleotides modulates expression of respective target
GGATGAATTA genes whose function and utility is known in the art.

GCTTTTGAAA GAM336543 is a novel bioinformatically detectable regulatory, non protein
GTGAGTTTTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336543 was detected
CACATCTGAT is described with additional reference to Figs. 9-15.

AAATCCTTCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTTTCCCCTT encoded by the human genome.

GAM336543 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336543 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336543 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336543 precursor RNA is designated SEQ ID:140999, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:140999 is located from position 25551677 to position 25551766 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336543 precursor RNA folds onto itself, forming GAM336543 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336543 precursor RNA, designated SEQ ID NO: 140999, and a schematic representation of a predicted secondary folding of GAM336543 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336543 folded precursor RNA yielding a GAM336543 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336543 RNA, hereby incorporated herein.

GAM336543 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336543 target RNA, herein designated GAM TARGET RNA.

GAM336543 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336543 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336543 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336543 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336543 RNA, herein designated GAM RNA, to target binding sites on GAM336543 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336543 target RNA into GAM336543 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336543 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336543 target genes. The mRNA of each one of this plurality of GAM336543 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336543 RNA, herein designated GAM RNA, and which when bound by GAM336543 RNA causes inhibition of translation of the GAM336543 target mRNA into a corresponding GAM336543 target protein.

The mechanism of the translational inhibition exerted by GAM336543 RNA, herein designated GAM RNA, on one or more GAM336543 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336543 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336543 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336543 RNA, herein designated GAM RNA, of GAM336543 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336543 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336543 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336543 RNA correlate with, and may be deduced from, the identity of the GAM336543 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336544 141000 GCTTGACCTT Fig. 8 further provides a conceptual description of another novel bioinformatically

GGGAAGGGTG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGACAGAGA Messenger 336544 (GAM336544) oligonucleotides modulates expression of respective target
AACTAAGGCC genes whose function and utility is known in the art.

ATCCAAATGG GAM336544 is a novel bioinformatically detectable regulatory, non protein
GTGCTCTTGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336544 was detected
CCATGTGACC is described with additional reference to Figs. 9-15.

AACCTCCAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AAAACCCTCA encoded by the human genome.

ACCCCAAGGC GAM336544 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TCAGGT GAM336544 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336544 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336544 precursor RNA is designated SEQ ID:141000, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141000 is located from position 25755465 to position 25755570 relative to chromosome chr20 on the `-` strand (chr is an abbreviation for chromosome).

GAM336544 precursor RNA folds onto itself, forming GAM336544 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336544 precursor RNA, designated SEQ ID NO: 141000, and a schematic representation of a predicted secondary folding of GAM336544 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336544 folded precursor RNA yielding a GAM336544 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336544 RNA, hereby incorporated herein.

GAM336544 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336544 target RNA, herein designated GAM TARGET RNA.

GAM336544 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336544 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336544 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336544 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336544 RNA, herein designated GAM RNA, to target binding sites on GAM336544 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336544 target RNA into GAM336544 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336544 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336544 target genes. The mRNA of each one of this plurality of GAM336544 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336544 RNA, herein designated GAM RNA, and which when bound by GAM336544 RNA causes inhibition of translation of the GAM336544 target mRNA into a corresponding GAM336544 target protein.

The mechanism of the translational inhibition exerted by GAM336544 RNA, herein designated GAM RNA, on one or more GAM336544 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336544 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336544 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336544 RNA, herein designated GAM RNA, of GAM336544 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336544 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336544 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336544 RNA correlate with, and may be deduced from, the identity of the GAM336544 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336545 141001 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACCCGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GGGGTGGAGG Messenger 336545 (GAM336545) oligonucleotides modulates expression of respective target
TAGTGGTGAG genes whose function and utility is known in the art.

CCGAGCTTGC GAM336545 is a novel bioinformatically detectable regulatory, non protein
ACACCATTGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336545 was detected
ACTCCAGCCT is described with additional reference to Figs. 9-15.

GGGCAACAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGAGAAACTC encoded by the human genome.

C GAM336545 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336545 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336545 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336545 precursor RNA is designated SEQ ID:141001, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141001 is located from position 25807898 to position 25807988 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GAM336545 precursor RNA folds onto itself, forming GAM336545 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336545 precursor RNA, designated SEQ ID NO: 141001, and a schematic representation of a predicted secondary folding of GAM336545 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336545 folded precursor RNA yielding a GAM336545 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336545 RNA, hereby incorporated herein. Expression of GAM336545 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336545 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336545 target RNA, herein designated GAM TARGET RNA.

GAM336545 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336545 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336545 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336545 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336545 RNA, herein designated GAM RNA, to target binding sites on GAM336545 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336545 target RNA into GAM336545 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336545 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336545 target genes. The mRNA of each one of this plurality of GAM336545 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336545 RNA, herein designated GAM RNA, and which when bound by GAM336545 RNA causes inhibition of translation of the GAM336545 target mRNA into a corresponding GAM336545 target protein.

The mechanism of the translational inhibition exerted by GAM336545 RNA, herein designated GAM RNA, on one or more GAM336545 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336545 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336545 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336545 RNA, herein designated GAM RNA, of

GAM336545 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336545 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336545 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336545 RNA correlate with, and may be deduced from, the identity of the GAM336545 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336546 141002 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336546 (GAM336546) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336546 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336546 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336546 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336546 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336546 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336546 precursor RNA is designated SEQ ID:141002, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141002 is located from position 25943926 to position 25944007 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336546 precursor RNA folds onto itself, forming GAM336546 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336546 precursor RNA, designated SEQ ID NO: 141002,

and a schematic representation of a predicted secondary folding of GAM336546 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336546 folded precursor RNA yielding a GAM336546 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336546 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336546 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336546 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336546 target RNA, herein designated GAM TARGET RNA.

GAM336546 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336546 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336546 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336546 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336546 RNA, herein designated GAM RNA, to target binding sites on GAM336546 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336546 target RNA into GAM336546 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336546 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336546 target genes. The mRNA of each one of this plurality of GAM336546 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336546 RNA, herein designated GAM RNA, and which when bound by GAM336546 RNA causes inhibition of translation of the GAM336546 target mRNA into a corresponding GAM336546 target protein.

The mechanism of the translational inhibition exerted by GAM336546 RNA, herein designated GAM RNA, on one or more GAM336546 target genes, herein collectively designated

GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336546 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336546 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336546 RNA, herein designated GAM RNA, of GAM336546 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336546 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336546 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336546 RNA correlate with, and may be deduced from, the identity of the GAM336546 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336547 141003 GCTTGACCTT Fig. 8 further provides a conceptual description of another novel bioinformatically

GGGAAGGGTG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGACAGAGA Messenger 336547 (GAM336547) oligonucleotides modulates expression of respective target

AACTAAGGCC genes whose function and utility is known in the art.

ATCCAAATGG GAM336547 is a novel bioinformatically detectable regulatory, non protein

GTGCTCTTGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336547 was detected

CCATGTGACC is described with additional reference to Figs. 9-15.

AACCTCCAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAAACCCTCA encoded by the human genome.

ACCCCAAGGC GAM336547 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TCAGGT GAM336547 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336547 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336547 precursor RNA is designated SEQ ID:141003, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141003 is located from position 25957608 to position 25957713

relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336547 precursor RNA folds onto itself, forming GAM336547 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336547 precursor RNA, designated SEQ ID NO: 141003, and a schematic representation of a predicted secondary folding of GAM336547 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336547 folded precursor RNA yielding a GAM336547 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336547 RNA, hereby incorporated herein.

GAM336547 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336547 target RNA, herein designated GAM TARGET RNA.

GAM336547 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336547 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336547 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336547 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336547 RNA, herein designated GAM RNA, to target binding sites on GAM336547 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336547 target RNA into GAM336547 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336547 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336547 target genes. The mRNA of each one of this plurality of GAM336547 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336547 RNA, herein designated GAM RNA, and which when bound by GAM336547 RNA causes inhibition of translation of the GAM336547 target mRNA into a corresponding GAM336547 target protein.

The mechanism of the translational inhibition exerted by GAM336547 RNA, herein designated GAM RNA, on one or more GAM336547 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336547 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336547 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336547 RNA, herein designated GAM RNA, of GAM336547 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336547 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336547 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336547 RNA correlate with, and may be deduced from, the identity of the GAM336547 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336548 141004 TATCTCATCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GGTTTTAATC detected oligonucleotides of the present invention, referred to here as Genomic Address

CTGAAGGCAT Messenger 336548 (GAM336548) oligonucleotides modulates expression of respective target

ATATGTATGA genes whose function and utility is known in the art.

CATTATCTGT GAM336548 is a novel bioinformatically detectable regulatory, non protein

CTTTAGGGAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336548 was detected

GAGACCCAAC is described with additional reference to Figs. 9-15.

AGAGGTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336548 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336548 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336548 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336548 precursor RNA is designated SEQ ID:141004, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141004 is located from position 26121979 to position 26122055 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM336548 precursor RNA folds onto itself, forming GAM336548 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336548 precursor RNA, designated SEQ ID NO: 141004, and a schematic representation of a predicted secondary folding of GAM336548 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336548 folded precursor RNA yielding a GAM336548 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336548 RNA, hereby incorporated herein.

GAM336548 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336548 target RNA, herein designated GAM TARGET RNA.

GAM336548 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336548 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336548 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336548 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336548 RNA, herein designated GAM RNA, to target binding sites on GAM336548 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336548 target RNA into GAM336548 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336548 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336548 target genes. The mRNA of each one of this plurality of GAM336548 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336548 RNA, herein designated GAM RNA, and which when bound by GAM336548 RNA causes inhibition of translation of the GAM336548 target mRNA into a corresponding GAM336548 target protein.

The mechanism of the translational inhibition exerted by GAM336548 RNA, herein designated GAM RNA, on one or more GAM336548 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336548 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336548 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336548 RNA, herein designated GAM RNA, of GAM336548 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336548 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336548 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336548 RNA correlate with, and may be deduced from, the identity of the GAM336548 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336549 141005 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336549 (GAM336549) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336549 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336549 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM336549 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336549 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336549 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336549 precursor RNA is designated SEQ ID:141005, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141005 is located from position 26362757 to position 26362838 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM336549 precursor RNA folds onto itself, forming GAM336549 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336549 precursor RNA, designated SEQ ID NO: 141005, and a schematic representation of a predicted secondary folding of GAM336549 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336549 folded precursor RNA yielding a GAM336549 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336549 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336549 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336549 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336549 target RNA, herein designated GAM TARGET RNA.

GAM336549 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336549 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM336549 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336549 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336549 RNA, herein designated GAM RNA, to target binding sites on GAM336549 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336549 target RNA into GAM336549 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336549 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336549 target genes. The mRNA of each one of this plurality of GAM336549 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336549 RNA, herein designated GAM RNA, and which when bound by GAM336549 RNA causes inhibition of translation of the GAM336549 target mRNA into a corresponding GAM336549 target protein.

The mechanism of the translational inhibition exerted by GAM336549 RNA, herein designated GAM RNA, on one or more GAM336549 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336549 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336549 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336549 RNA, herein designated GAM RNA, of GAM336549 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336549 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336549 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336549 RNA correlate with, and may be deduced from, the identity of the GAM336549 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336550 141006 ACAGCTCACC Fig. 8 further provides a conceptual description of another novel bioinformatically
TGCAAGGCTT detected oligonucleotides of the present invention, referred to here as Genomic Address
TCAACTCTGC Messenger 336550 (GAM336550) oligonucleotides modulates expression of respective target
TGACCTTCAG genes whose function and utility is known in the art.

AGTGTCAGAG GAM336550 is a novel bioinformatically detectable regulatory, non protein
CAGTGCCGAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336550 was detected
GCCCAGGACA is described with additional reference to Figs. 9-15.

TGGCTGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336550 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336550 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336550 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336550 precursor RNA is designated SEQ ID:141006, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141006 is located from position 26370649 to position 26370725 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM336550 precursor RNA folds onto itself, forming GAM336550 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336550 precursor RNA, designated SEQ ID NO: 141006, and a schematic representation of a predicted secondary folding of GAM336550 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336550 folded precursor RNA yielding a GAM336550 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336550 RNA, hereby incorporated herein.

GAM336550 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336550 target RNA, herein designated GAM TARGET RNA.

GAM336550 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336550 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336550 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336550 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336550 RNA, herein designated GAM RNA, to target binding sites on GAM336550 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336550 target RNA into GAM336550 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336550 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336550 target genes. The mRNA of each one of this plurality of GAM336550 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336550 RNA, herein designated GAM RNA, and which when bound by GAM336550 RNA causes inhibition of translation of the GAM336550 target mRNA into a corresponding GAM336550 target protein.

The mechanism of the translational inhibition exerted by GAM336550 RNA, herein designated GAM RNA, on one or more GAM336550 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336550 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336550 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336550 RNA, herein designated GAM RNA, of GAM336550 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM336550 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336550 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336550 RNA correlate with, and may be deduced from, the identity of the GAM336550 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336551 141007 GGCCTTCTCT Fig. 8 further provides a conceptual description of another novel bioinformatically
CTGAGTTAAG detected oligonucleotides of the present invention, referred to here as Genomic Address
CAAAGAGAGG Messenger 336551 (GAM336551) oligonucleotides modulates expression of respective target
AAGAATGGCA genes whose function and utility is known in the art.

AATAGTTTGA GAM336551 is a novel bioinformatically detectable regulatory, non protein
GTCTTCCCAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336551 was detected
ATCTTTTTAG is described with additional reference to Figs. 9-15.

CATTTGAGAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AAGGCT encoded by the human genome.

GAM336551 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336551 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336551 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336551 precursor RNA is designated SEQ ID:141007, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141007 is located from position 26442598 to position 26442683 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM336551 precursor RNA folds onto itself, forming GAM336551 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336551 precursor RNA, designated SEQ ID NO: 141007, and a schematic representation of a predicted secondary folding of GAM336551 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336551 folded precursor RNA yielding a GAM336551 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336551 RNA, hereby incorporated herein.

GAM336551 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336551 target RNA, herein designated GAM TARGET RNA.

GAM336551 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336551 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336551 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336551 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336551 RNA, herein designated GAM RNA, to target binding sites on GAM336551 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336551 target RNA into GAM336551 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336551 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336551 target genes. The mRNA of each one of this plurality of GAM336551 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336551 RNA, herein designated GAM RNA, and which when bound by GAM336551 RNA causes inhibition of translation of the GAM336551 target mRNA into a corresponding GAM336551 target protein.

The mechanism of the translational inhibition exerted by GAM336551 RNA, herein designated GAM RNA, on one or more GAM336551 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336551 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336551 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336551 RNA, herein designated GAM RNA, of GAM336551 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336551 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336551 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336551 RNA correlate with, and may be deduced from, the identity of the GAM336551 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336552 141008 ACTGAAGCCT CCTGCCAATA GTCACATGAG TGAGTCTGGA AGTGAATCTT TCAGCACCAT CAGATGACTG TATCACTGGC TTACAGT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336552 (GAM336552) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336552 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336552 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336552 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336552 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336552 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336552 precursor RNA is designated SEQ ID:141008, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141008 is located from position 26468156 to position 26468242 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM336552 precursor RNA folds onto itself, forming GAM336552 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336552 precursor RNA, designated SEQ ID NO: 141008, and a schematic representation of a predicted secondary folding of GAM336552 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336552 folded precursor RNA yielding a GAM336552 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336552 RNA, hereby incorporated herein.

GAM336552 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336552 target RNA, herein designated GAM TARGET RNA.

GAM336552 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336552 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336552 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336552 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336552 RNA, herein designated GAM RNA, to target binding sites on GAM336552 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336552 target RNA into GAM336552 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336552 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336552 target genes. The mRNA of each one of this plurality of GAM336552 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336552 RNA, herein designated GAM RNA, and which when bound by GAM336552 RNA causes inhibition of translation of the GAM336552 target mRNA into a corresponding GAM336552 target protein.

The mechanism of the translational inhibition exerted by GAM336552 RNA, herein

designated GAM RNA, on one or more GAM336552 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336552 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336552 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336552 RNA, herein designated GAM RNA, of GAM336552 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336552 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336552 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336552 RNA correlate with, and may be deduced from, the identity of the GAM336552 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336553 141009 TATTCCAGAT Fig. 8 further provides a conceptual description of another novel bioinformatically

TTCTTAGTTT detected oligonucleotides of the present invention, referred to here as Genomic Address

TGCTCAGCAG Messenger 336553 (GAM336553) oligonucleotides modulates expression of respective target

GATGGTTGGA genes whose function and utility is known in the art.

CTGAAGGGGG GAM336553 is a novel bioinformatically detectable regulatory, non protein

CTGGTTTACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336553 was detected

TCTTCAGTGG is described with additional reference to Figs. 9-15.

AAGTGTTCAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTTTGCAAAT encoded by the human genome.

ACTAGTTACT GAM336553 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GGAATA GAM336553 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336553 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336553 precursor RNA is designated SEQ ID:141009, and is provided hereinbelow with reference to the sequence listing part.

Nucleotide sequence SEQ ID:141009 is located from position 26541313 to position 26541418 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM336553 precursor RNA folds onto itself, forming GAM336553 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336553 precursor RNA, designated SEQ ID NO: 141009, and a schematic representation of a predicted secondary folding of GAM336553 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336553 folded precursor RNA yielding a GAM336553 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336553 RNA, hereby incorporated herein.

GAM336553 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336553 target RNA, herein designated GAM TARGET RNA.

GAM336553 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336553 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336553 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336553 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336553 RNA, herein designated GAM RNA, to target binding sites on GAM336553 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336553 target RNA into GAM336553 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336553 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336553 target genes. The mRNA of each one of this plurality of GAM336553 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336553 RNA, herein designated GAM RNA, and which when bound by GAM336553 RNA causes inhibition of translation of the GAM336553 target mRNA into a corresponding GAM336553 target protein.

The mechanism of the translational inhibition exerted by GAM336553 RNA, herein designated GAM RNA, on one or more GAM336553 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336553 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336553 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336553 RNA, herein designated GAM RNA, of GAM336553 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336553 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336553 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336553 RNA correlate with, and may be deduced from, the identity of the GAM336553 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336554 141010 CCAAGTCAAT Fig. 8 further provides a conceptual description of another novel bioinformatically

TCTGGAGACC detected oligonucleotides of the present invention, referred to here as Genomic Address

TGGGTGTGGG Messenger 336554 (GAM336554) oligonucleotides modulates expression of respective target

TCAAGCAACC genes whose function and utility is known in the art.

AGGTAATCTG GAM336554 is a novel bioinformatically detectable regulatory, non protein

AGTTTTGGCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336554 was detected

CTTTGGAAAG is described with additional reference to Figs. 9-15.

CTTGATCTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CGCTCCTTTT encoded by the human genome.

CTAAATAACT GAM336554 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TGG GAM336554 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336554 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336554 precursor RNA is designated SEQ ID:141010, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141010 is located from position 26675760 to position 26675862 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM336554 precursor RNA folds onto itself, forming GAM336554 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336554 precursor RNA, designated SEQ ID NO: 141010, and a schematic representation of a predicted secondary folding of GAM336554 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336554 folded precursor RNA yielding a GAM336554 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336554 RNA, hereby incorporated herein.

GAM336554 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336554 target RNA, herein designated GAM TARGET RNA.

GAM336554 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336554 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336554 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336554 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336554 RNA, herein designated GAM RNA, to target binding sites on GAM336554 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336554 target RNA into GAM336554 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336554 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336554 target genes. The mRNA of each one of this plurality of GAM336554 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336554 RNA, herein designated GAM RNA, and which when bound by GAM336554 RNA causes inhibition of translation of the GAM336554 target mRNA into a corresponding GAM336554 target protein.

The mechanism of the translational inhibition exerted by GAM336554 RNA, herein designated GAM RNA, on one or more GAM336554 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336554 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336554 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336554 RNA, herein designated GAM RNA, of GAM336554 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336554 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336554 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336554 RNA correlate with, and may be deduced from, the identity of the GAM336554 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336555 141011 GAGACTGGTA Fig. 8 further provides a conceptual description of another novel bioinformatically

CAGATGGGGT detected oligonucleotides of the present invention, referred to here as Genomic Address

CTCCTGGATG Messenger 336555 (GAM336555) oligonucleotides modulates expression of respective target

TAACGAGTTC genes whose function and utility is known in the art.

TTGCTGCTTT GAM336555 is a novel bioinformatically detectable regulatory, non protein
AACTGGATCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336555 was detected
GGTTGACTCT is described with additional reference to Figs. 9-15.

GTCTGACCAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTC encoded by the human genome.

GAM336555 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336555 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336555 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336555 precursor RNA is designated SEQ ID:141011, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141011 is located from position 26857983 to position 26858065 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM336555 precursor RNA folds onto itself, forming GAM336555 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336555 precursor RNA, designated SEQ ID NO: 141011, and a schematic representation of a predicted secondary folding of GAM336555 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336555 folded precursor RNA yielding a GAM336555 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336555 RNA, hereby incorporated herein.

GAM336555 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336555 target RNA, herein designated GAM TARGET RNA.

GAM336555 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336555 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM336555 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336555 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336555 RNA, herein designated GAM RNA, to target binding sites on GAM336555 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336555 target RNA into GAM336555 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336555 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336555 target genes. The mRNA of each one of this plurality of GAM336555 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336555 RNA, herein designated GAM RNA, and which when bound by GAM336555 RNA causes inhibition of translation of the GAM336555 target mRNA into a corresponding GAM336555 target protein.

The mechanism of the translational inhibition exerted by GAM336555 RNA, herein designated GAM RNA, on one or more GAM336555 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336555 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336555 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336555 RNA, herein designated GAM RNA, of GAM336555 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336555 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336555 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336555 RNA correlate with, and may be deduced from, the identity of the GAM336555 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336556 141012 CCAGCTGCCA Fig. 8 further provides a conceptual description of another novel bioinformatically

CCCTTCTACC detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACCCCATC Messenger 336556 (GAM336556) oligonucleotides modulates expression of respective target

TCATAGAACT genes whose function and utility is known in the art.

CACAACAACC GAM336556 is a novel bioinformatically detectable regulatory, non protein

TTGTTGGGAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336556 was detected

AAAAGGAGGG is described with additional reference to Figs. 9-15.

GATACAGGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTTAAAGAGG encoded by the human genome.

GGGAAATAAC GAM336556 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CATATAGCTG GAM336556 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

G GAM336556 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336556 precursor RNA is designated SEQ ID:141012, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141012 is located from position 26895579 to position 26895689 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336556 precursor RNA folds onto itself, forming GAM336556 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336556 precursor RNA, designated SEQ ID NO: 141012, and a schematic representation of a predicted secondary folding of GAM336556 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336556 folded precursor RNA yielding a GAM336556 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336556 RNA, hereby incorporated herein.

GAM336556 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336556 target RNA, herein designated GAM TARGET RNA.

GAM336556 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336556 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336556 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336556 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336556 RNA, herein designated GAM RNA, to target binding sites on GAM336556 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336556 target RNA into GAM336556 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336556 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336556 target genes. The mRNA of each one of this plurality of GAM336556 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336556 RNA, herein designated GAM RNA, and which when bound by GAM336556 RNA causes inhibition of translation of the GAM336556 target mRNA into a corresponding GAM336556 target protein.

The mechanism of the translational inhibition exerted by GAM336556 RNA, herein designated GAM RNA, on one or more GAM336556 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336556 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336556 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336556 RNA, herein designated GAM RNA, of GAM336556 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336556 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336556 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336556 RNA correlate with, and may be deduced from, the identity of the GAM336556 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336557 141013 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 336557 (GAM336557) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336557 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336557 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM336557 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336557 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336557 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336557 precursor RNA is designated SEQ ID:141013, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141013 is located from position 26976985 to position 26977066 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM336557 precursor RNA folds onto itself, forming GAM336557 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336557 precursor RNA, designated SEQ ID NO: 141013, and a schematic representation of a predicted secondary folding of GAM336557 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336557 folded precursor RNA yielding a GAM336557 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336557 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336557 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336557 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336557 target RNA, herein designated GAM TARGET RNA.

GAM336557 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336557 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336557 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336557 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336557 RNA, herein designated GAM RNA, to target binding sites on GAM336557 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336557 target RNA into GAM336557 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336557 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336557 target genes. The mRNA of each one of this plurality of GAM336557 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336557 RNA, herein designated GAM RNA, and which when bound by GAM336557 RNA causes inhibition of translation of the GAM336557 target mRNA into a corresponding GAM336557 target protein.

The mechanism of the translational inhibition exerted by GAM336557 RNA, herein designated GAM RNA, on one or more GAM336557 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336557 precursor RNA, herein designated GAM PRECURSOR

RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336557 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336557 RNA, herein designated GAM RNA, of GAM336557 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336557 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336557 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336557 RNA correlate with, and may be deduced from, the identity of the GAM336557 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336558 141014 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTGGAGG Messenger 336558 (GAM336558) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

CTGAGGTCAC GAM336558 is a novel bioinformatically detectable regulatory, non protein

ACCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336558 was detected

TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGACTCC encoded by the human genome.

GAM336558 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336558 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336558 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336558 precursor RNA is designated SEQ ID:141014, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141014 is located from position 26978328 to position 26978415 relative to chromosome chr6 on the `+` strand (chr is an abbreviation for chromosome).

GAM336558 precursor RNA folds onto itself, forming GAM336558 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336558 precursor RNA, designated SEQ ID NO: 141014, and a schematic representation of a predicted secondary folding of GAM336558 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336558 folded precursor RNA yielding a GAM336558 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336558 RNA, hereby incorporated herein. Expression of GAM336558 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336558 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336558 target RNA, herein designated GAM TARGET RNA.

GAM336558 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336558 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336558 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336558 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336558 RNA, herein designated GAM RNA, to target binding sites on GAM336558 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336558 target RNA into GAM336558 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336558 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336558 target genes. The mRNA of each one of this plurality of GAM336558 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM336558 RNA, herein designated GAM RNA, and which when bound by GAM336558 RNA causes inhibition of translation of the GAM336558 target mRNA into a corresponding GAM336558 target protein.

The mechanism of the translational inhibition exerted by GAM336558 RNA, herein designated GAM RNA, on one or more GAM336558 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336558 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336558 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336558 RNA, herein designated GAM RNA, of GAM336558 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336558 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336558 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336558 RNA correlate with, and may be deduced from, the identity of the GAM336558 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336559 141015 ACCCACATTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTAGCTTGGC detected oligonucleotides of the present invention, referred to here as Genomic Address

TTCAGTTTCT Messenger 336559 (GAM336559) oligonucleotides modulates expression of respective target

TTCCGGGTCT genes whose function and utility is known in the art.

TACTGAGAGG GAM336559 is a novel bioinformatically detectable regulatory, non protein

TGAAGCCAGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336559 was detected

CTTCTGGGTG is described with additional reference to Figs. 9-15.

GGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336559 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336559 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336559 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336559 precursor RNA is designated SEQ ID:141015, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141015 is located from position 27187756 to position 27187828 relative to chromosome chrY on the `+` strand (chr is an abbreviation for chromosome).

GAM336559 precursor RNA folds onto itself, forming GAM336559 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336559 precursor RNA, designated SEQ ID NO: 141015, and a schematic representation of a predicted secondary folding of GAM336559 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336559 folded precursor RNA yielding a GAM336559 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336559 RNA, hereby incorporated herein.

GAM336559 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336559 target RNA, herein designated GAM TARGET RNA.

GAM336559 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336559 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336559 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336559 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336559 RNA, herein designated GAM RNA, to target binding sites on GAM336559 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336559 target RNA into GAM336559 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336559 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336559 target genes. The mRNA of each one of this plurality of GAM336559 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336559 RNA, herein designated GAM RNA, and which when bound by GAM336559 RNA causes inhibition of translation of the GAM336559 target mRNA into a corresponding GAM336559 target protein.

The mechanism of the translational inhibition exerted by GAM336559 RNA, herein designated GAM RNA, on one or more GAM336559 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336559 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336559 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336559 RNA, herein designated GAM RNA, of GAM336559 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336559 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336559 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336559 RNA correlate with, and may be deduced from, the identity of the GAM336559 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336560 141016 TTCACCCTCT Fig. 8 further provides a conceptual description of another novel bioinformatically

CAGCCAGGCT detected oligonucleotides of the present invention, referred to here as Genomic Address

GGTCTTGAAC Messenger 336560 (GAM336560) oligonucleotides modulates expression of respective target

TCCTGACTTT genes whose function and utility is known in the art.

GTGATCCACC GAM336560 is a novel bioinformatically detectable regulatory, non protein

TGCCTTGGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336560 was detected

ACCCAAAGTG is described with additional reference to Figs. 9-15.

CTGGTATTAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAGTGTGAGC encoded by the human genome.

CACCGCGCCT GAM336560 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GGCCGGTGAA GAM336560 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336560 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336560 precursor RNA is designated SEQ ID:141016, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141016 is located from position 27457170 to position 27457279 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM336560 precursor RNA folds onto itself, forming GAM336560 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336560 precursor RNA, designated SEQ ID NO: 141016, and a schematic representation of a predicted secondary folding of GAM336560 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336560 folded precursor RNA yielding a GAM336560 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336560 RNA, hereby incorporated herein.

GAM336560 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336560 target RNA, herein designated GAM TARGET RNA.

GAM336560 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336560 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336560 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336560 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336560 RNA, herein designated GAM RNA, to target binding sites on GAM336560 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336560 target RNA into GAM336560 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336560 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336560 target genes. The mRNA of each one of this plurality of GAM336560 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336560 RNA, herein designated GAM RNA, and which when bound by GAM336560 RNA causes inhibition of translation of the GAM336560 target mRNA into a corresponding GAM336560 target protein.

The mechanism of the translational inhibition exerted by GAM336560 RNA, herein designated GAM RNA, on one or more GAM336560 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336560 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336560 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336560 RNA, herein designated GAM RNA, of GAM336560 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336560 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336560 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336560 RNA correlate with, and may be deduced from, the identity of the GAM336560 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336561 141017 GCTCTGTCTT Fig. 8 further provides a conceptual description of another novel bioinformatically

GAGAATCGAG detected oligonucleotides of the present invention, referred to here as Genomic Address
AAATATGGGG Messenger 336561 (GAM336561) oligonucleotides modulates expression of respective target
CTCTTTTCTG genes whose function and utility is known in the art.

TCTTTGCGAT GAM336561 is a novel bioinformatically detectable regulatory, non protein
TTTGGCTATC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336561 was detected
AATTTGTAGC is described with additional reference to Figs. 9-15.

AGAACACTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTCCAGTTTC encoded by the human genome.

TTCATTATCT GAM336561 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CTTTACTGAG GAM336561 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

C GAM336561 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336561 precursor RNA is designated SEQ ID:141017, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141017 is located from position 27480931 to position 27481041 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336561 precursor RNA folds onto itself, forming GAM336561 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336561 precursor RNA, designated SEQ ID NO: 141017, and a schematic representation of a predicted secondary folding of GAM336561 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336561 folded precursor RNA yielding a GAM336561 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336561 RNA, hereby incorporated herein.

GAM336561 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336561 target RNA, herein designated GAM TARGET RNA.

GAM336561 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336561 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336561 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336561 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336561 RNA, herein designated GAM RNA, to target binding sites on GAM336561 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336561 target RNA into GAM336561 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336561 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336561 target genes. The mRNA of each one of this plurality of GAM336561 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336561 RNA, herein designated GAM RNA, and which when bound by GAM336561 RNA causes inhibition of translation of the GAM336561 target mRNA into a corresponding GAM336561 target protein.

The mechanism of the translational inhibition exerted by GAM336561 RNA, herein designated GAM RNA, on one or more GAM336561 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336561 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336561 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336561 RNA, herein designated GAM RNA, of GAM336561 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336561 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336561 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336561 RNA correlate with, and may be deduced from, the identity of the GAM336561 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336562 141018 CCTCCTTGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
TTTTAACAGC detected oligonucleotides of the present invention, referred to here as Genomic Address
AACAAACAGC Messenger 336562 (GAM336562) oligonucleotides modulates expression of respective target
TACTTTCTTC genes whose function and utility is known in the art.

TTGTTGTCTT GAM336562 is a novel bioinformatically detectable regulatory, non protein
TGGTCCCACA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336562 was detected
GCTCATAAAC is described with additional reference to Figs. 9-15.

AGCAGGTAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GATAGCGTTT encoded by the human genome.

TATTGCTGGG GAM336562 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
AGG GAM336562 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336562 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336562 precursor RNA is designated SEQ ID:141018, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141018 is located from position 27652548 to position 27652650 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM336562 precursor RNA folds onto itself, forming GAM336562 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336562 precursor RNA, designated SEQ ID NO: 141018, and a schematic representation of a predicted secondary folding of GAM336562 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336562 folded precursor RNA yielding a GAM336562 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336562 RNA, hereby incorporated herein.

GAM336562 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336562 target RNA, herein designated GAM TARGET RNA.

GAM336562 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336562 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336562 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336562 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336562 RNA, herein designated GAM RNA, to target binding sites on GAM336562 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336562 target RNA into GAM336562 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336562 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336562 target genes. The mRNA of each one of this plurality of GAM336562 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336562 RNA, herein designated GAM RNA, and which when bound by GAM336562 RNA causes inhibition of translation of the GAM336562 target mRNA into a corresponding GAM336562 target protein.

The mechanism of the translational inhibition exerted by GAM336562 RNA, herein designated GAM RNA, on one or more GAM336562 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336562 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336562 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336562 RNA, herein designated GAM RNA, of

GAM336562 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336562 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336562 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336562 RNA correlate with, and may be deduced from, the identity of the GAM336562 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336563 141019 AGGATCACTT Fig. 8 further provides a conceptual description of another novel bioinformatically

AAGGCCCAGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGTTCGAGGC Messenger 336563 (GAM336563) oligonucleotides modulates expression of respective target

TGTAGTGAGC genes whose function and utility is known in the art.

TATGACTGTG GAM336563 is a novel bioinformatically detectable regulatory, non protein

TCACTGCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336563 was detected

TCAGCCTGGG is described with additional reference to Figs. 9-15.

CAATGGAGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGATCCT encoded by the human genome.

GAM336563 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336563 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336563 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336563 precursor RNA is designated SEQ ID:141019, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141019 is located from position 27711245 to position 27711331 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM336563 precursor RNA folds onto itself, forming GAM336563 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336563 precursor RNA, designated SEQ ID NO: 141019,

and a schematic representation of a predicted secondary folding of GAM336563 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336563 folded precursor RNA yielding a GAM336563 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336563 RNA, hereby incorporated herein.

GAM336563 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336563 target RNA, herein designated GAM TARGET RNA.

GAM336563 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336563 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336563 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336563 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336563 RNA, herein designated GAM RNA, to target binding sites on GAM336563 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336563 target RNA into GAM336563 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336563 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336563 target genes. The mRNA of each one of this plurality of GAM336563 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336563 RNA, herein designated GAM RNA, and which when bound by GAM336563 RNA causes inhibition of translation of the GAM336563 target mRNA into a corresponding GAM336563 target protein.

The mechanism of the translational inhibition exerted by GAM336563 RNA, herein designated GAM RNA, on one or more GAM336563 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336563 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336563 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336563 RNA, herein designated GAM RNA, of GAM336563 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336563 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336563 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336563 RNA correlate with, and may be deduced from, the identity of the GAM336563 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336564 141020 GGAGAATAGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCTGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTGGAGC Messenger 336564 (GAM336564) oligonucleotides modulates expression of respective target

TTACAGTGAG genes whose function and utility is known in the art.

CCACCGAGAT GAM336564 is a novel bioinformatically detectable regulatory, non protein

TGTGTCATTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336564 was detected

CACTCCAGCC is described with additional reference to Figs. 9-15.

TGGGCAACAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGCAAATCT encoded by the human genome.

CC GAM336564 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336564 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336564 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336564 precursor RNA is designated SEQ ID:141020, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141020 is located from position 27748402 to position 27748493 relative to chromosome chr6 on the `+` strand (chr is an abbreviation for chromosome).

GAM336564 precursor RNA folds onto itself, forming GAM336564 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336564 precursor RNA, designated SEQ ID NO: 141020, and a schematic representation of a predicted secondary folding of GAM336564 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336564 folded precursor RNA yielding a GAM336564 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336564 RNA, hereby incorporated herein. Expression of GAM336564 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336564 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336564 target RNA, herein designated GAM TARGET RNA.

GAM336564 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336564 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336564 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336564 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336564 RNA, herein designated GAM RNA, to target binding sites on GAM336564 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336564 target RNA into GAM336564 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336564 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM336564 target genes. The mRNA of each one of this plurality of GAM336564 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336564 RNA, herein designated GAM RNA, and which when bound by GAM336564 RNA causes inhibition of translation of the GAM336564 target mRNA into a corresponding GAM336564 target protein.

The mechanism of the translational inhibition exerted by GAM336564 RNA, herein designated GAM RNA, on one or more GAM336564 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336564 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336564 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336564 RNA, herein designated GAM RNA, of GAM336564 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336564 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336564 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336564 RNA correlate with, and may be deduced from, the identity of the GAM336564 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336565 141021 CACCTGTCAT Fig. 8 further provides a conceptual description of another novel bioinformatically
GCCAGTTACT detected oligonucleotides of the present invention, referred to here as Genomic Address
TGGGGGGCTA Messenger 336565 (GAM336565) oligonucleotides modulates expression of respective target
AGGTGGGAGG genes whose function and utility is known in the art.

ATTAGTGAGC GAM336565 is a novel bioinformatically detectable regulatory, non protein
TGTGATTCTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336565 was detected
CCACTGCATT is described with additional reference to Figs. 9-15.

CCAGCCTGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGACAGAGTG encoded by the human genome.

GAM336565 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336565 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336565 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336565 precursor RNA is designated SEQ ID:141021, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141021 is located from position 27947083 to position 27947172 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336565 precursor RNA folds onto itself, forming GAM336565 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336565 precursor RNA, designated SEQ ID NO: 141021, and a schematic representation of a predicted secondary folding of GAM336565 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336565 folded precursor RNA yielding a GAM336565 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336565 RNA, hereby incorporated herein.

GAM336565 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336565 target RNA, herein designated GAM TARGET RNA.

GAM336565 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336565 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336565 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336565 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336565 RNA, herein designated GAM RNA, to target binding sites on GAM336565 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336565 target RNA into GAM336565 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336565 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336565 target genes. The mRNA of each one of this plurality of GAM336565 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336565 RNA, herein designated GAM RNA, and which when bound by GAM336565 RNA causes inhibition of translation of the GAM336565 target mRNA into a corresponding GAM336565 target protein.

The mechanism of the translational inhibition exerted by GAM336565 RNA, herein designated GAM RNA, on one or more GAM336565 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336565 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336565 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336565 RNA, herein designated GAM RNA, of GAM336565 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336565 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336565 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336565 RNA correlate with, and may be deduced from, the identity of the GAM336565 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336566 141022 TGGAGGAAGT Fig. 8 further provides a conceptual description of another novel bioinformatically

AGTGGCTGTG detected oligonucleotides of the present invention, referred to here as Genomic Address

TTAGACTAAC Messenger 336566 (GAM336566) oligonucleotides modulates expression of respective target

CAAGAATCCC genes whose function and utility is known in the art.

TGTAGTTCAC GAM336566 is a novel bioinformatically detectable regulatory, non protein

TCACAGCCTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336566 was detected

TACACTGTCC is described with additional reference to Figs. 9-15.

TTCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336566 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336566 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336566 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336566 precursor RNA is designated SEQ ID:141022, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141022 is located from position 28016321 to position 28016394 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM336566 precursor RNA folds onto itself, forming GAM336566 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336566 precursor RNA, designated SEQ ID NO: 141022, and a schematic representation of a predicted secondary folding of GAM336566 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336566 folded precursor RNA yielding a GAM336566 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336566 RNA, hereby incorporated herein.

GAM336566 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336566 target RNA, herein designated GAM TARGET RNA.

GAM336566 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336566 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336566 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336566 RNA is a partial or fully complementary sequence of the

nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336566 RNA, herein designated GAM RNA, to target binding sites on GAM336566 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336566 target RNA into GAM336566 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336566 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336566 target genes. The mRNA of each one of this plurality of GAM336566 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336566 RNA, herein designated GAM RNA, and which when bound by GAM336566 RNA causes inhibition of translation of the GAM336566 target mRNA into a corresponding GAM336566 target protein.

The mechanism of the translational inhibition exerted by GAM336566 RNA, herein designated GAM RNA, on one or more GAM336566 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336566 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336566 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336566 RNA, herein designated GAM RNA, of GAM336566 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336566 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336566 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336566 RNA correlate with, and may be deduced from, the identity of the GAM336566 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336567 141023 TAGAAGCATC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTTAGTTTTA detected oligonucleotides of the present invention, referred to here as Genomic Address
AGGAAGTGTC Messenger 336567 (GAM336567) oligonucleotides modulates expression of respective target
TCTTGGCTGG genes whose function and utility is known in the art.

CCCCTAGATA GAM336567 is a novel bioinformatically detectable regulatory, non protein
GCTTTAGGAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336567 was detected
GGGAGCTAGT is described with additional reference to Figs. 9-15.

CACCAGAAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACCAATCCTT encoded by the human genome.

GATTAGAAGC GAM336567 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TTGTA GAM336567 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336567 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336567 precursor RNA is designated SEQ ID:141023, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141023 is located from position 28064331 to position 28064435 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336567 precursor RNA folds onto itself, forming GAM336567 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336567 precursor RNA, designated SEQ ID NO: 141023, and a schematic representation of a predicted secondary folding of GAM336567 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336567 folded precursor RNA yielding a GAM336567 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336567 RNA, hereby incorporated herein.

GAM336567 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336567 target RNA, herein designated GAM TARGET RNA.

GAM336567 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336567 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336567 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336567 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336567 RNA, herein designated GAM RNA, to target binding sites on GAM336567 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336567 target RNA into GAM336567 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336567 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336567 target genes. The mRNA of each one of this plurality of GAM336567 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336567 RNA, herein designated GAM RNA, and which when bound by GAM336567 RNA causes inhibition of translation of the GAM336567 target mRNA into a corresponding GAM336567 target protein.

The mechanism of the translational inhibition exerted by GAM336567 RNA, herein designated GAM RNA, on one or more GAM336567 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336567 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336567 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336567 RNA, herein designated GAM RNA, of GAM336567 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336567 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336567 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336567 RNA correlate with, and may be deduced from, the identity of the GAM336567 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336568 141024 CTTTAGTTTT AAGGAAGTGT CTCTTGGCTG GCCCCTAGAT AGCTTTAGGA TGGGAGCTAG TCACCAGAAA CACCAATCCT TGATTAGAAG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336568 (GAM336568) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336568 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336568 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336568 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336568 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336568 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336568 precursor RNA is designated SEQ ID:141024, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141024 is located from position 28064340 to position 28064429 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336568 precursor RNA folds onto itself, forming GAM336568 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336568 precursor RNA, designated SEQ ID NO: 141024, and a schematic representation of a predicted secondary folding of GAM336568 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336568 folded precursor RNA yielding a GAM336568 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336568 RNA, hereby incorporated herein.

GAM336568 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336568 target RNA, herein designated GAM TARGET RNA.

GAM336568 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336568 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336568 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336568 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336568 RNA, herein designated GAM RNA, to target binding sites on GAM336568 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336568 target RNA into GAM336568 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336568 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336568 target genes. The mRNA of each one of this plurality of GAM336568 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336568 RNA, herein designated GAM RNA, and which when bound by GAM336568 RNA causes inhibition of translation of the GAM336568 target mRNA into a corresponding GAM336568 target protein.

The mechanism of the translational inhibition exerted by GAM336568 RNA, herein designated GAM RNA, on one or more GAM336568 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336568 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336568 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336568 RNA, herein designated GAM RNA, of

GAM336568 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336568 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336568 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336568 RNA correlate with, and may be deduced from, the identity of the GAM336568 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336569 141025 TTTAGTTTTA Fig. 8 further provides a conceptual description of another novel bioinformatically

AGGAAGTGTC detected oligonucleotides of the present invention, referred to here as Genomic Address

TCTTGGCTGG Messenger 336569 (GAM336569) oligonucleotides modulates expression of respective target

CCCCTAGATA genes whose function and utility is known in the art.

GCTTTAGGAT GAM336569 is a novel bioinformatically detectable regulatory, non protein

GGGAGCTAGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336569 was detected

CACCAGAAAC is described with additional reference to Figs. 9-15.

ACCAATCCTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GATTAGA encoded by the human genome.

GAM336569 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336569 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336569 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336569 precursor RNA is designated SEQ ID:141025, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141025 is located from position 28064341 to position 28064427 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336569 precursor RNA folds onto itself, forming GAM336569 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336569 precursor RNA, designated SEQ ID NO: 141025,

and a schematic representation of a predicted secondary folding of GAM336569 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336569 folded precursor RNA yielding a GAM336569 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336569 RNA, hereby incorporated herein.

GAM336569 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336569 target RNA, herein designated GAM TARGET RNA.

GAM336569 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336569 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336569 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336569 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336569 RNA, herein designated GAM RNA, to target binding sites on GAM336569 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336569 target RNA into GAM336569 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336569 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336569 target genes. The mRNA of each one of this plurality of GAM336569 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336569 RNA, herein designated GAM RNA, and which when bound by GAM336569 RNA causes inhibition of translation of the GAM336569 target mRNA into a corresponding GAM336569 target protein.

The mechanism of the translational inhibition exerted by GAM336569 RNA, herein designated GAM RNA, on one or more GAM336569 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336569 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336569 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336569 RNA, herein designated GAM RNA, of GAM336569 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336569 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336569 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336569 RNA correlate with, and may be deduced from, the identity of the GAM336569 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336570 141026 GGAACAGTAC Fig. 8 further provides a conceptual description of another novel bioinformatically

ACTCACGGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CCCTGGAGAG Messenger 336570 (GAM336570) oligonucleotides modulates expression of respective target

GAGCGGTCAC genes whose function and utility is known in the art.

TGGTTGCTGA GAM336570 is a novel bioinformatically detectable regulatory, non protein

GTGAATTAAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336570 was detected

CGAATGTTTG is described with additional reference to Figs. 9-15.

CTGCTTTTCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCTGCAACAG encoded by the human genome.

TTCATTATTC GAM336570 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

C GAM336570 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336570 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336570 precursor RNA is designated SEQ ID:141026, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141026 is located from position 28404293 to position 28404393 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM336570 precursor RNA folds onto itself, forming GAM336570 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336570 precursor RNA, designated SEQ ID NO: 141026, and a schematic representation of a predicted secondary folding of GAM336570 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336570 folded precursor RNA yielding a GAM336570 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336570 RNA, hereby incorporated herein.

GAM336570 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336570 target RNA, herein designated GAM TARGET RNA.

GAM336570 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336570 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336570 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336570 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336570 RNA, herein designated GAM RNA, to target binding sites on GAM336570 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336570 target RNA into GAM336570 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336570 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336570 target genes. The mRNA of each one of this

plurality of GAM336570 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336570 RNA, herein designated GAM RNA, and which when bound by GAM336570 RNA causes inhibition of translation of the GAM336570 target mRNA into a corresponding GAM336570 target protein.

The mechanism of the translational inhibition exerted by GAM336570 RNA, herein designated GAM RNA, on one or more GAM336570 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336570 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336570 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336570 RNA, herein designated GAM RNA, of GAM336570 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336570 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336570 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336570 RNA correlate with, and may be deduced from, the identity of the GAM336570 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336571 141027 GCTTCATCAT Fig. 8 further provides a conceptual description of another novel bioinformatically
CCTGGTTCAA detected oligonucleotides of the present invention, referred to here as Genomic Address
GCAGTGTTTC Messenger 336571 (GAM336571) oligonucleotides modulates expression of respective target
TTCTCTATCA genes whose function and utility is known in the art.

GGCCTGGTGG GAM336571 is a novel bioinformatically detectable regulatory, non protein
CTGTTGTTTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336571 was detected
GGGCTCCCCA is described with additional reference to Figs. 9-15.

AGGCGAGAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CGGCCCTGGA encoded by the human genome.

CAAGTGGGTT GAM336571 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GGAAGACACG GAM336571 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GTGACCAGAG GAM336571 precursor RNA does not encode a protein. A nucleotide sequence identical or

AAGAGGGAAG highly similar to the nucleotide sequence of GAM336571 precursor RNA is designated SEQ

C ID:141027, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141027 is located from position 28441207 to position 28441337 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM336571 precursor RNA folds onto itself, forming GAM336571 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336571 precursor RNA, designated SEQ ID NO: 141027, and a schematic representation of a predicted secondary folding of GAM336571 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336571 folded precursor RNA yielding a GAM336571 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336571 RNA, hereby incorporated herein.

GAM336571 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336571 target RNA, herein designated GAM TARGET RNA.

GAM336571 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336571 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336571 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336571 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336571 RNA, herein designated GAM RNA, to target binding sites on GAM336571 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336571 target RNA into GAM336571 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336571 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336571 target genes. The mRNA of each one of this plurality of GAM336571 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336571 RNA, herein designated GAM RNA, and which when bound by GAM336571 RNA causes inhibition of translation of the GAM336571 target mRNA into a corresponding GAM336571 target protein.

The mechanism of the translational inhibition exerted by GAM336571 RNA, herein designated GAM RNA, on one or more GAM336571 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336571 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336571 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336571 RNA, herein designated GAM RNA, of GAM336571 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336571 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336571 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336571 RNA correlate with, and may be deduced from, the identity of the GAM336571 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336572 141028 GAGTGACCCC Fig. 8 further provides a conceptual description of another novel bioinformatically

ATCTCTACAA detected oligonucleotides of the present invention, referred to here as Genomic Address

AAAGTTTTTT Messenger 336572 (GAM336572) oligonucleotides modulates expression of respective target

TAAATTAGCT genes whose function and utility is known in the art.

AGGCATGGTG GAM336572 is a novel bioinformatically detectable regulatory, non protein
GTATACACTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336572 was detected
GTAGTCCTAG is described with additional reference to Figs. 9-15.

CTACTTAGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGCTGAGGCA encoded by the human genome.

GGAGGGTCAC GAM336572 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TT GAM336572 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336572 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336572 precursor RNA is designated SEQ ID:141028, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141028 is located from position 28604728 to position 28604829 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM336572 precursor RNA folds onto itself, forming GAM336572 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336572 precursor RNA, designated SEQ ID NO: 141028, and a schematic representation of a predicted secondary folding of GAM336572 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336572 folded precursor RNA yielding a GAM336572 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336572 RNA, hereby incorporated herein.

GAM336572 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336572 target RNA, herein designated GAM TARGET RNA.

GAM336572 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336572 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336572 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336572 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336572 RNA, herein designated GAM RNA, to target binding sites on GAM336572 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336572 target RNA into GAM336572 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336572 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336572 target genes. The mRNA of each one of this plurality of GAM336572 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336572 RNA, herein designated GAM RNA, and which when bound by GAM336572 RNA causes inhibition of translation of the GAM336572 target mRNA into a corresponding GAM336572 target protein.

The mechanism of the translational inhibition exerted by GAM336572 RNA, herein designated GAM RNA, on one or more GAM336572 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336572 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336572 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336572 RNA, herein designated GAM RNA, of GAM336572 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336572 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336572 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336572 RNA correlate with, and may be deduced from, the identity of the GAM336572 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336573 141029 GGAGAATTGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACCCAA detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGTGGAGG Messenger 336573 (GAM336573) oligonucleotides modulates expression of respective target
TTGCAGTGAG genes whose function and utility is known in the art.

CCACGATTGT GAM336573 is a novel bioinformatically detectable regulatory, non protein
GCCATTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336573 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GTGACAGAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGACTCC encoded by the human genome.

GAM336573 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336573 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336573 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336573 precursor RNA is designated SEQ ID:141029, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141029 is located from position 28680032 to position 28680119 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336573 precursor RNA folds onto itself, forming GAM336573 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336573 precursor RNA, designated SEQ ID NO: 141029, and a schematic representation of a predicted secondary folding of GAM336573 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336573 folded precursor RNA yielding a GAM336573 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336573 RNA, hereby incorporated herein.

GAM336573 target gene, herein designated GAM TARGET GENE, encodes a

corresponding messenger RNA, GAM336573 target RNA, herein designated GAM TARGET RNA.

GAM336573 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336573 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336573 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336573 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336573 RNA, herein designated GAM RNA, to target binding sites on GAM336573 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336573 target RNA into GAM336573 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336573 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336573 target genes. The mRNA of each one of this plurality of GAM336573 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336573 RNA, herein designated GAM RNA, and which when bound by GAM336573 RNA causes inhibition of translation of the GAM336573 target mRNA into a corresponding GAM336573 target protein.

The mechanism of the translational inhibition exerted by GAM336573 RNA, herein designated GAM RNA, on one or more GAM336573 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336573 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336573 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336573 RNA, herein designated GAM RNA, of GAM336573 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336573 target RNA, herein designated

GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336573 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336573 RNA correlate with, and may be deduced from, the identity of the GAM336573 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336574 141030 TTCTGTGATG Fig. 8 further provides a conceptual description of another novel bioinformatically
GGTGTACGAC detected oligonucleotides of the present invention, referred to here as Genomic Address
AGATTATTTT Messenger 336574 (GAM336574) oligonucleotides modulates expression of respective target
GTGACTGCAG genes whose function and utility is known in the art.

TCTGTTCAAA GAM336574 is a novel bioinformatically detectable regulatory, non protein
TCACATCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336574 was detected
AAGCAGCGCT is described with additional reference to Figs. 9-15.

GAGATGATTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTTGGTGCAT encoded by the human genome.

TAAAAGGTTT GAM336574 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TGCATCATGG GAM336574 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
AA GAM336574 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336574 precursor RNA is designated SEQ ID:141030, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141030 is located from position 28740486 to position 28740597 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM336574 precursor RNA folds onto itself, forming GAM336574 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336574 precursor RNA, designated SEQ ID NO: 141030, and a schematic representation of a predicted secondary folding of GAM336574 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336574 folded precursor RNA yielding a GAM336574 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336574 RNA, hereby incorporated herein.

GAM336574 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336574 target RNA, herein designated GAM TARGET RNA.

GAM336574 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336574 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336574 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336574 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336574 RNA, herein designated GAM RNA, to target binding sites on GAM336574 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336574 target RNA into GAM336574 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336574 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336574 target genes. The mRNA of each one of this plurality of GAM336574 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336574 RNA, herein designated GAM RNA, and which when bound by GAM336574 RNA causes inhibition of translation of the GAM336574 target mRNA into a corresponding GAM336574 target protein.

The mechanism of the translational inhibition exerted by GAM336574 RNA, herein designated GAM RNA, on one or more GAM336574 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336574 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336574 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336574 RNA, herein designated GAM RNA, of GAM336574 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336574 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336574 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336574 RNA correlate with, and may be deduced from, the identity of the GAM336574 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336575 141031 GGAGAATTGC TTGAACCCAA GAGGTGGAGG TTGCAGTGAG CCACGATTGT GCCATTGCAC TCCAGCCTGG GTGACAGAGT GAGACTCC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336575 (GAM336575) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336575 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336575 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336575 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336575 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336575 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336575 precursor RNA is designated SEQ ID:141031, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141031 is located from position 28794191 to position 28794278 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336575 precursor RNA folds onto itself, forming GAM336575 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336575 precursor RNA, designated SEQ ID NO: 141031, and a schematic representation of a predicted secondary folding of GAM336575 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336575 folded precursor RNA yielding a GAM336575 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336575 RNA, hereby incorporated herein.

GAM336575 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336575 target RNA, herein designated GAM TARGET RNA.

GAM336575 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336575 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336575 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336575 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336575 RNA, herein designated GAM RNA, to target binding sites on GAM336575 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336575 target RNA into GAM336575 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336575 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336575 target genes. The mRNA of each one of this plurality of GAM336575 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336575 RNA, herein designated GAM RNA, and which when bound by GAM336575 RNA causes inhibition of translation of the GAM336575 target mRNA into a corresponding GAM336575 target protein.

The mechanism of the translational inhibition exerted by GAM336575 RNA, herein

designated GAM RNA, on one or more GAM336575 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336575 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336575 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336575 RNA, herein designated GAM RNA, of GAM336575 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336575 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336575 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336575 RNA correlate with, and may be deduced from, the identity of the GAM336575 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336576 141032 TCCATCAAAG Fig. 8 further provides a conceptual description of another novel bioinformatically

CTCTCCTATC detected oligonucleotides of the present invention, referred to here as Genomic Address

AGCTGGGCGT Messenger 336576 (GAM336576) oligonucleotides modulates expression of respective target

GGTGGCTCAT genes whose function and utility is known in the art.

ACCTGTAATC GAM336576 is a novel bioinformatically detectable regulatory, non protein

CCAGCACTTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336576 was detected

GGGAGGCTGA is described with additional reference to Figs. 9-15.

GGTGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336576 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336576 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336576 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336576 precursor RNA is designated SEQ ID:141032, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141032 is located from position 28892026 to position 28892101

relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336576 precursor RNA folds onto itself, forming GAM336576 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336576 precursor RNA, designated SEQ ID NO: 141032, and a schematic representation of a predicted secondary folding of GAM336576 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336576 folded precursor RNA yielding a GAM336576 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336576 RNA, hereby incorporated herein.

GAM336576 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336576 target RNA, herein designated GAM TARGET RNA.

GAM336576 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336576 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336576 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336576 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336576 RNA, herein designated GAM RNA, to target binding sites on GAM336576 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336576 target RNA into GAM336576 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336576 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336576 target genes. The mRNA of each one of this plurality of GAM336576 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336576 RNA, herein designated GAM RNA, and which when bound by GAM336576 RNA causes inhibition of translation of the GAM336576 target mRNA into a corresponding GAM336576 target protein.

The mechanism of the translational inhibition exerted by GAM336576 RNA, herein designated GAM RNA, on one or more GAM336576 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336576 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336576 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336576 RNA, herein designated GAM RNA, of GAM336576 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336576 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336576 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336576 RNA correlate with, and may be deduced from, the identity of the GAM336576 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336577 141033 GACACTGCTG Fig. 8 further provides a conceptual description of another novel bioinformatically

TGGTTGGAAT detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGTCTTCCA Messenger 336577 (GAM336577) oligonucleotides modulates expression of respective target

AAGCTCATGT genes whose function and utility is known in the art.

GTTGAAAACT GAM336577 is a novel bioinformatically detectable regulatory, non protein

TAATCCCCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336577 was detected

TGCAGTAGTG is described with additional reference to Figs. 9-15.

TT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336577 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336577 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336577 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336577 precursor RNA is designated SEQ ID:141033, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141033 is located from position 28936610 to position 28936681 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM336577 precursor RNA folds onto itself, forming GAM336577 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336577 precursor RNA, designated SEQ ID NO: 141033, and a schematic representation of a predicted secondary folding of GAM336577 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336577 folded precursor RNA yielding a GAM336577 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336577 RNA, hereby incorporated herein.

GAM336577 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336577 target RNA, herein designated GAM TARGET RNA.

GAM336577 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336577 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336577 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336577 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336577 RNA, herein designated GAM RNA, to target binding sites on GAM336577 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336577 target RNA into GAM336577 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336577 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336577 target genes. The mRNA of each one of this plurality of GAM336577 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336577 RNA, herein designated GAM RNA, and which when bound by GAM336577 RNA causes inhibition of translation of the GAM336577 target mRNA into a corresponding GAM336577 target protein.

The mechanism of the translational inhibition exerted by GAM336577 RNA, herein designated GAM RNA, on one or more GAM336577 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336577 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336577 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336577 RNA, herein designated GAM RNA, of GAM336577 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336577 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336577 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336577 RNA correlate with, and may be deduced from, the identity of the GAM336577 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336578 141034 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATTGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACTTGAAAG Messenger 336578 (GAM336578) oligonucleotides modulates expression of respective target

GCAGAGGTTG genes whose function and utility is known in the art.

CAGTGAGCCG GAM336578 is a novel bioinformatically detectable regulatory, non protein
AAATTGCACC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336578 was detected
ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGCGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGAGCAAGA encoded by the human genome.

CTCCATCTCA GAM336578 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAM336578 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336578 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336578 precursor RNA is designated SEQ ID:141034, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141034 is located from position 28958697 to position 28958796 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336578 precursor RNA folds onto itself, forming GAM336578 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336578 precursor RNA, designated SEQ ID NO: 141034, and a schematic representation of a predicted secondary folding of GAM336578 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336578 folded precursor RNA yielding a GAM336578 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336578 RNA, hereby incorporated herein.

GAM336578 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336578 target RNA, herein designated GAM TARGET RNA.

GAM336578 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336578 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336578 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336578 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336578 RNA, herein designated GAM RNA, to target binding sites on GAM336578 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336578 target RNA into GAM336578 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336578 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336578 target genes. The mRNA of each one of this plurality of GAM336578 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336578 RNA, herein designated GAM RNA, and which when bound by GAM336578 RNA causes inhibition of translation of the GAM336578 target mRNA into a corresponding GAM336578 target protein.

The mechanism of the translational inhibition exerted by GAM336578 RNA, herein designated GAM RNA, on one or more GAM336578 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336578 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336578 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336578 RNA, herein designated GAM RNA, of GAM336578 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336578 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336578 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336578 RNA correlate with, and may be deduced from, the identity of the GAM336578 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336579 141035 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATTGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACTTGAAAGG Messenger 336579 (GAM336579) oligonucleotides modulates expression of respective target

CAGAGGTTGC genes whose function and utility is known in the art.

AGTGAGCCGA GAM336579 is a novel bioinformatically detectable regulatory, non protein

AATTGCACCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336579 was detected

CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGCGAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGAGCAAGAC encoded by the human genome.

TCCATCTC GAM336579 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336579 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336579 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336579 precursor RNA is designated SEQ ID:141035, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141035 is located from position 28958698 to position 28958795 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336579 precursor RNA folds onto itself, forming GAM336579 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336579 precursor RNA, designated SEQ ID NO: 141035, and a schematic representation of a predicted secondary folding of GAM336579 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336579 folded precursor RNA yielding a GAM336579 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336579 RNA, hereby incorporated herein.

GAM336579 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336579 target RNA, herein designated GAM TARGET RNA.

GAM336579 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336579 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336579 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336579 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336579 RNA, herein designated GAM RNA, to target binding sites on GAM336579 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336579 target RNA into GAM336579 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336579 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336579 target genes. The mRNA of each one of this plurality of GAM336579 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336579 RNA, herein designated GAM RNA, and which when bound by GAM336579 RNA causes inhibition of translation of the GAM336579 target mRNA into a corresponding GAM336579 target protein.

The mechanism of the translational inhibition exerted by GAM336579 RNA, herein designated GAM RNA, on one or more GAM336579 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336579 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336579 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336579 RNA, herein designated GAM RNA, of GAM336579 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM336579 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336579 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336579 RNA correlate with, and may be deduced from, the identity of the GAM336579 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336580 141036 GGAGAATCAC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAGCCCTG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGCAGAAG Messenger 336580 (GAM336580) oligonucleotides modulates expression of respective target
ATGCAGTGAG genes whose function and utility is known in the art.

CCTGGGTCAT GAM336580 is a novel bioinformatically detectable regulatory, non protein
GCCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336580 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGAGACTCC encoded by the human genome.

GAM336580 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336580 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336580 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336580 precursor RNA is designated SEQ ID:141036, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141036 is located from position 28986610 to position 28986698 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336580 precursor RNA folds onto itself, forming GAM336580 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336580 precursor RNA, designated SEQ ID NO: 141036, and a schematic representation of a predicted secondary folding of GAM336580 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336580 folded precursor RNA yielding a GAM336580 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336580 RNA, hereby incorporated herein. Expression of GAM336580 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336580 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336580 target RNA, herein designated GAM TARGET RNA.

GAM336580 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336580 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336580 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336580 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336580 RNA, herein designated GAM RNA, to target binding sites on GAM336580 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336580 target RNA into GAM336580 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336580 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336580 target genes. The mRNA of each one of this plurality of GAM336580 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336580 RNA, herein designated GAM RNA, and which when bound by GAM336580 RNA causes inhibition of translation of the GAM336580 target mRNA into a corresponding GAM336580 target protein.

The mechanism of the translational inhibition exerted by GAM336580 RNA, herein designated GAM RNA, on one or more GAM336580 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336580 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336580 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336580 RNA, herein designated GAM RNA, of GAM336580 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336580 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336580 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336580 RNA correlate with, and may be deduced from, the identity of the GAM336580 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336581 141037 GCTGTCCTGG Fig. 8 further provides a conceptual description of another novel bioinformatically

AGCTGTTGGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GAAATGGGGA Messenger 336581 (GAM336581) oligonucleotides modulates expression of respective target

AGATCATCTA genes whose function and utility is known in the art.

GATATTCCAG GAM336581 is a novel bioinformatically detectable regulatory, non protein

TTTCTCCTTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336581 was detected

CACTCACCCT is described with additional reference to Figs. 9-15.

ATAGTACCGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATAGC encoded by the human genome.

GAM336581 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336581 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336581 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336581 precursor RNA is designated SEQ ID:141037, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141037 is located from position 29024288 to position 29024372 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM336581 precursor RNA folds onto itself, forming GAM336581 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336581 precursor RNA, designated SEQ ID NO: 141037, and a schematic representation of a predicted secondary folding of GAM336581 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336581 folded precursor RNA yielding a GAM336581 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336581 RNA, hereby incorporated herein.

GAM336581 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336581 target RNA, herein designated GAM TARGET RNA.

GAM336581 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336581 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336581 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336581 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336581 RNA, herein designated GAM RNA, to target binding sites on GAM336581 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336581 target RNA into GAM336581 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336581 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336581 target genes. The mRNA of each one of this plurality of GAM336581 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336581 RNA, herein designated GAM RNA, and which when bound by GAM336581 RNA causes inhibition of translation of the GAM336581 target mRNA into a corresponding GAM336581 target protein.

The mechanism of the translational inhibition exerted by GAM336581 RNA, herein designated GAM RNA, on one or more GAM336581 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336581 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336581 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336581 RNA, herein designated GAM RNA, of GAM336581 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336581 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336581 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336581 RNA correlate with, and may be deduced from, the identity of the GAM336581 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336582 141038 GGAGAATTGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCAA detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTGGAGG Messenger 336582 (GAM336582) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

CCACGATTGT GAM336582 is a novel bioinformatically detectable regulatory, non protein

GCCATTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336582 was detected

TCCAGCCTGG is described with additional reference to Figs. 9-15.

GTGACAGAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGACTCC encoded by the human genome.

GAM336582 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336582 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336582 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336582 precursor RNA is designated SEQ

ID:141038, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141038 is located from position 29073962 to position 29074049 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336582 precursor RNA folds onto itself, forming GAM336582 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336582 precursor RNA, designated SEQ ID NO: 141038, and a schematic representation of a predicted secondary folding of GAM336582 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336582 folded precursor RNA yielding a GAM336582 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336582 RNA, hereby incorporated herein.

GAM336582 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336582 target RNA, herein designated GAM TARGET RNA.

GAM336582 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336582 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336582 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336582 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336582 RNA, herein designated GAM RNA, to target binding sites on GAM336582 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336582 target RNA into GAM336582 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM336582 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336582 target genes. The mRNA of each one of this plurality of GAM336582 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336582 RNA, herein designated GAM RNA, and which when bound by GAM336582 RNA causes inhibition of translation of the GAM336582 target mRNA into a corresponding GAM336582 target protein.

The mechanism of the translational inhibition exerted by GAM336582 RNA, herein designated GAM RNA, on one or more GAM336582 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336582 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336582 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336582 RNA, herein designated GAM RNA, of GAM336582 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336582 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336582 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336582 RNA correlate with, and may be deduced from, the identity of the GAM336582 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336583 141039 GGGTGTGGTG Fig. 8 further provides a conceptual description of another novel bioinformatically

GAGCACGCCT detected oligonucleotides of the present invention, referred to here as Genomic Address

GTTATCCCAG Messenger 336583 (GAM336583) oligonucleotides modulates expression of respective target

CTACTCAGGA genes whose function and utility is known in the art.

GGCTGAGGTG GAM336583 is a novel bioinformatically detectable regulatory, non protein

GGAGAATCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336583 was detected

CTGAGCCCGG is described with additional reference to Figs. 9-15.

GAGGTAGAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTGCAGTGAG encoded by the human genome.

TGGAGATCGT GAM336583 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GTCACCACAC GAM336583 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

TC GAM336583 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336583 precursor RNA is designated SEQ ID:141039, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141039 is located from position 29086596 to position 29086707 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336583 precursor RNA folds onto itself, forming GAM336583 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336583 precursor RNA, designated SEQ ID NO: 141039, and a schematic representation of a predicted secondary folding of GAM336583 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336583 folded precursor RNA yielding a GAM336583 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336583 RNA, hereby incorporated herein.

GAM336583 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336583 target RNA, herein designated GAM TARGET RNA.

GAM336583 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336583 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336583 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336583 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336583 RNA, herein designated GAM RNA, to target binding sites on GAM336583 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336583 target RNA into GAM336583 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336583 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336583 target genes. The mRNA of each one of this plurality of GAM336583 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336583 RNA, herein designated GAM RNA, and which when bound by GAM336583 RNA causes inhibition of translation of the GAM336583 target mRNA into a corresponding GAM336583 target protein.

The mechanism of the translational inhibition exerted by GAM336583 RNA, herein designated GAM RNA, on one or more GAM336583 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336583 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336583 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336583 RNA, herein designated GAM RNA, of GAM336583 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336583 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336583 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336583 RNA correlate with, and may be deduced from, the identity of the GAM336583 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336584 141040 GTGTGGTGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GCACGCCTGT detected oligonucleotides of the present invention, referred to here as Genomic Address

TATCCCAGCT Messenger 336584 (GAM336584) oligonucleotides modulates expression of respective target

ACTCAGGAGG genes whose function and utility is known in the art.

CTGAGGTGGG GAM336584 is a novel bioinformatically detectable regulatory, non protein
AGAATCACCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336584 was
detected
GAGCCCGGGA is described with additional reference to Figs. 9-15.

GGTAGAGGTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a
humen gene
GCAGTGAGTG encoded by the human genome.

GAGATCGTGT GAM336584 precursor DNA, herein designated GAM PRECURSOR DNA, encodes
a
CACCACAC GAM336584 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other
miRNA genes

GAM336584 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336584 precursor RNA is designated SEQ ID:141040, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141040 is located from position 29086598 to position 29086705 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336584 precursor RNA folds onto itself, forming GAM336584 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336584 precursor RNA, designated SEQ ID NO: 141040, and a schematic representation of a predicted secondary folding of GAM336584 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and
4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336584 folded precursor RNA yielding a GAM336584 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336584 RNA, hereby incorporated herein.

GAM336584 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336584 target RNA, herein designated GAM TARGET RNA.

GAM336584 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336584 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336584 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336584 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336584 RNA, herein designated GAM RNA, to target binding sites on GAM336584 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336584 target RNA into GAM336584 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336584 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336584 target genes. The mRNA of each one of this plurality of GAM336584 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336584 RNA, herein designated GAM RNA, and which when bound by GAM336584 RNA causes inhibition of translation of the GAM336584 target mRNA into a corresponding GAM336584 target protein.

The mechanism of the translational inhibition exerted by GAM336584 RNA, herein designated GAM RNA, on one or more GAM336584 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336584 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336584 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336584 RNA, herein designated GAM RNA, of GAM336584 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336584 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336584 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336584 RNA correlate with, and may be deduced from, the identity of the GAM336584 target gene

inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336585 141041 TTGTGGTCTT Fig. 8 further provides a conceptual description of another novel bioinformatically
GCTGATTTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGAATGGAGC Messenger 336585 (GAM336585) oligonucleotides modulates expression of respective target
CCCAGACCTT genes whose function and utility is known in the art.

CCTGGTGTTA GAM336585 is a novel bioinformatically detectable regulatory, non protein
CAGCTCTCAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336585 was detected
AGAAGACAAG is described with additional reference to Figs. 9-15.

GACCCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336585 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336585 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336585 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336585 precursor RNA is designated SEQ ID:141041, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141041 is located from position 29098204 to position 29098280 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM336585 precursor RNA folds onto itself, forming GAM336585 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336585 precursor RNA, designated SEQ ID NO: 141041, and a schematic representation of a predicted secondary folding of GAM336585 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336585 folded precursor RNA yielding a GAM336585 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336585 RNA, hereby incorporated herein.

GAM336585 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336585 target RNA, herein designated GAM TARGET RNA.

GAM336585 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336585 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336585 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336585 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336585 RNA, herein designated GAM RNA, to target binding sites on GAM336585 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336585 target RNA into GAM336585 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336585 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336585 target genes. The mRNA of each one of this plurality of GAM336585 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336585 RNA, herein designated GAM RNA, and which when bound by GAM336585 RNA causes inhibition of translation of the GAM336585 target mRNA into a corresponding GAM336585 target protein.

The mechanism of the translational inhibition exerted by GAM336585 RNA, herein designated GAM RNA, on one or more GAM336585 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336585 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336585 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336585 RNA, herein designated GAM RNA, of GAM336585 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336585 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336585 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336585 RNA correlate with, and may be deduced from, the identity of the GAM336585 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336586 141042 GGAGAATTGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACCTGG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGGCGGAGGT Messenger 336586 (GAM336586) oligonucleotides modulates expression of respective target
TGCAGTGAGC genes whose function and utility is known in the art.

CGAGATTGTG GAM336586 is a novel bioinformatically detectable regulatory, non protein
CCACTGCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336586 was detected
CCAGCCCGGC is described with additional reference to Figs. 9-15.

AACAGAGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GACTCC encoded by the human genome.

GAM336586 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336586 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336586 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336586 precursor RNA is designated SEQ ID:141042, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141042 is located from position 29424019 to position 29424104 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336586 precursor RNA folds onto itself, forming GAM336586 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336586 precursor RNA, designated SEQ ID NO: 141042, and a schematic representation of a predicted secondary folding of GAM336586 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336586 folded precursor RNA yielding a GAM336586 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336586 RNA, hereby incorporated herein.

GAM336586 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336586 target RNA, herein designated GAM TARGET RNA.

GAM336586 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336586 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336586 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336586 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336586 RNA, herein designated GAM RNA, to target binding sites on GAM336586 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336586 target RNA into GAM336586 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336586 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336586 target genes. The mRNA of each one of this plurality of GAM336586 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336586 RNA, herein designated GAM RNA, and which when bound by GAM336586 RNA causes inhibition of translation of the GAM336586 target mRNA into a corresponding GAM336586 target protein.

The mechanism of the translational inhibition exerted by GAM336586 RNA, herein designated GAM RNA, on one or more GAM336586 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336586 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336586 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336586 RNA, herein designated GAM RNA, of GAM336586 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336586 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336586 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336586 RNA correlate with, and may be deduced from, the identity of the GAM336586 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336587 141043 GGATACATAG Fig. 8 further provides a conceptual description of another novel bioinformatically

TGGTCACTTC detected oligonucleotides of the present invention, referred to here as Genomic Address

CATTTAAGAT Messenger 336587 (GAM336587) oligonucleotides modulates expression of respective target

GTTTGCATTT genes whose function and utility is known in the art.

CAGCACTTTT GAM336587 is a novel bioinformatically detectable regulatory, non protein

ATAATTCAAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336587 was detected

TATGGTGCTG is described with additional reference to Figs. 9-15.

TCCCTTGAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTCTTGTTGA encoded by the human genome.

GAGCCACATG GAM336587 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TATCT GAM336587 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336587 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336587 precursor RNA is designated SEQ ID:141043, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141043 is located from position 29435833 to position 29435937 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM336587 precursor RNA folds onto itself, forming GAM336587 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336587 precursor RNA, designated SEQ ID NO: 141043, and a schematic representation of a predicted secondary folding of GAM336587 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336587 folded precursor RNA yielding a GAM336587 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336587 RNA, hereby incorporated herein.

GAM336587 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336587 target RNA, herein designated GAM TARGET RNA.

GAM336587 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336587 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336587 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336587 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336587 RNA, herein designated GAM RNA, to target binding sites on GAM336587 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336587 target RNA into GAM336587 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336587 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336587 target genes. The mRNA of each one of this plurality of GAM336587 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336587 RNA, herein designated GAM RNA, and which when bound by GAM336587 RNA causes inhibition of translation of the GAM336587 target mRNA into a corresponding GAM336587 target protein.

The mechanism of the translational inhibition exerted by GAM336587 RNA, herein designated GAM RNA, on one or more GAM336587 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336587 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336587 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336587 RNA, herein designated GAM RNA, of GAM336587 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336587 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336587 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336587 RNA correlate with, and may be deduced from, the identity of the GAM336587 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336588 141044 GATACATAGT Fig. 8 further provides a conceptual description of another novel bioinformatically

GGTCACTTCC detected oligonucleotides of the present invention, referred to here as Genomic Address

ATTTAAGATG Messenger 336588 (GAM336588) oligonucleotides modulates expression of respective target

TTTGCATTTC genes whose function and utility is known in the art.

AGCACTTTTA GAM336588 is a novel bioinformatically detectable regulatory, non protein

TAATTCAAAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336588 was detected

ATGGTGCTGT is described with additional reference to Figs. 9-15.

CCCTTGAGAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCTTGTTGAG encoded by the human genome.

AGCCACATGT GAM336588 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

ATC GAM336588 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336588 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336588 precursor RNA is designated SEQ ID:141044, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141044 is located from position 29435834 to position 29435936 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM336588 precursor RNA folds onto itself, forming GAM336588 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336588 precursor RNA, designated SEQ ID NO: 141044, and a schematic representation of a predicted secondary folding of GAM336588 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336588 folded precursor RNA yielding a GAM336588 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336588 RNA, hereby incorporated herein.

GAM336588 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336588 target RNA, herein designated GAM TARGET RNA.

GAM336588 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336588 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336588 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336588 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336588 RNA, herein designated GAM RNA, to target binding sites on GAM336588 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336588 target RNA

into GAM336588 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336588 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336588 target genes. The mRNA of each one of this plurality of GAM336588 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336588 RNA, herein designated GAM RNA, and which when bound by GAM336588 RNA causes inhibition of translation of the GAM336588 target mRNA into a corresponding GAM336588 target protein.

The mechanism of the translational inhibition exerted by GAM336588 RNA, herein designated GAM RNA, on one or more GAM336588 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336588 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336588 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336588 RNA, herein designated GAM RNA, of GAM336588 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336588 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336588 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336588 RNA correlate with, and may be deduced from, the identity of the GAM336588 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336589 141045 GGGGGCCACA Fig. 8 further provides a conceptual description of another novel bioinformatically

TTCTCTGGGC detected oligonucleotides of the present invention, referred to here as Genomic Address

ATTCAGAAGC Messenger 336589 (GAM336589) oligonucleotides modulates expression of respective target

CAGGATTTCA genes whose function and utility is known in the art.

TAGGCCATGA GAM336589 is a novel bioinformatically detectable regulatory, non protein

AATCTGCTGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336589 was detected

CTTTTAGAAG is described with additional reference to Figs. 9-15.

TGGGCTCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336589 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336589 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336589 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336589 precursor RNA is designated SEQ ID:141045, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141045 is located from position 29509893 to position 29509970 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM336589 precursor RNA folds onto itself, forming GAM336589 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336589 precursor RNA, designated SEQ ID NO: 141045, and a schematic representation of a predicted secondary folding of GAM336589 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336589 folded precursor RNA yielding a GAM336589 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336589 RNA, hereby incorporated herein.

GAM336589 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336589 target RNA, herein designated GAM TARGET RNA.

GAM336589 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336589 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336589 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336589 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336589 RNA, herein designated GAM RNA, to target binding sites on GAM336589 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336589 target RNA into GAM336589 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336589 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336589 target genes. The mRNA of each one of this plurality of GAM336589 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336589 RNA, herein designated GAM RNA, and which when bound by GAM336589 RNA causes inhibition of translation of the GAM336589 target mRNA into a corresponding GAM336589 target protein.

The mechanism of the translational inhibition exerted by GAM336589 RNA, herein designated GAM RNA, on one or more GAM336589 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336589 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336589 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336589 RNA, herein designated GAM RNA, of GAM336589 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336589 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336589 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336589 RNA correlate with, and may be deduced from, the identity of the GAM336589 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336590 141046 CCCTAAAAGT Fig. 8 further provides a conceptual description of another novel bioinformatically

GACTGAATTG detected oligonucleotides of the present invention, referred to here as Genomic Address

CCCAAGTGCT Messenger 336590 (GAM336590) oligonucleotides modulates expression of respective target

TGAACATGGC genes whose function and utility is known in the art.

AGAGGTAGTT GAM336590 is a novel bioinformatically detectable regulatory, non protein
ACTCCTATTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336590 was detected
TGCAGTTTGT is described with additional reference to Figs. 9-15.

GCACTTAAAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATTCCTACAG encoded by the human genome.

TGATTGTTAC GAM336590 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TTTACTGGGG GAM336590 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336590 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336590 precursor RNA is designated SEQ ID:141046, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141046 is located from position 29554384 to position 29554493 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM336590 precursor RNA folds onto itself, forming GAM336590 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336590 precursor RNA, designated SEQ ID NO: 141046, and a schematic representation of a predicted secondary folding of GAM336590 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336590 folded precursor RNA yielding a GAM336590 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336590 RNA, hereby incorporated herein.

GAM336590 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336590 target RNA, herein designated GAM TARGET RNA.

GAM336590 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336590 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336590 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336590 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336590 RNA, herein designated GAM RNA, to target binding sites on GAM336590 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336590 target RNA into GAM336590 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336590 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336590 target genes. The mRNA of each one of this plurality of GAM336590 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336590 RNA, herein designated GAM RNA, and which when bound by GAM336590 RNA causes inhibition of translation of the GAM336590 target mRNA into a corresponding GAM336590 target protein.

The mechanism of the translational inhibition exerted by GAM336590 RNA, herein designated GAM RNA, on one or more GAM336590 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336590 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336590 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336590 RNA, herein designated GAM RNA, of GAM336590 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336590 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336590 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336590 RNA correlate with, and may be deduced from, the identity of the GAM336590 target gene

inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336591 141047 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 336591 (GAM336591) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336591 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336591 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM336591 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336591 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336591 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336591 precursor RNA is designated SEQ ID:141047, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141047 is located from position 29889968 to position 29890049 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM336591 precursor RNA folds onto itself, forming GAM336591 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336591 precursor RNA, designated SEQ ID NO: 141047, and a schematic representation of a predicted secondary folding of GAM336591 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336591 folded precursor RNA yielding a GAM336591 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336591 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of

GAM336591 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336591 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336591 target RNA, herein designated GAM TARGET RNA.

GAM336591 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336591 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336591 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336591 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336591 RNA, herein designated GAM RNA, to target binding sites on GAM336591 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336591 target RNA into GAM336591 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336591 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336591 target genes. The mRNA of each one of this plurality of GAM336591 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336591 RNA, herein designated GAM RNA, and which when bound by GAM336591 RNA causes inhibition of translation of the GAM336591 target mRNA into a corresponding GAM336591 target protein.

The mechanism of the translational inhibition exerted by GAM336591 RNA, herein designated GAM RNA, on one or more GAM336591 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336591 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336591 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336591 RNA, herein designated GAM RNA, of GAM336591 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336591 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336591 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336591 RNA correlate with, and may be deduced from, the identity of the GAM336591 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336592 141048 GGGACAAGGC Fig. 8 further provides a conceptual description of another novel bioinformatically
AAATGAGAGA detected oligonucleotides of the present invention, referred to here as Genomic Address
GGAAGGCCGT Messenger 336592 (GAM336592) oligonucleotides modulates expression of respective target
AGGGAAGGGC genes whose function and utility is known in the art.

TTCTCTCCTA GAM336592 is a novel bioinformatically detectable regulatory, non protein
CCTCCCACGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336592 was detected
CTTTATCTGT is described with additional reference to Figs. 9-15.

CCAAATCCTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCTATTTCCC encoded by the human genome.

GAM336592 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336592 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336592 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336592 precursor RNA is designated SEQ ID:141048, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141048 is located from position 30010422 to position 30010511 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM336592 precursor RNA folds onto itself, forming GAM336592 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336592 precursor RNA, designated SEQ ID NO: 141048, and a schematic representation of a predicted secondary folding of GAM336592 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336592 folded precursor RNA yielding a GAM336592 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336592 RNA, hereby incorporated herein.

GAM336592 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336592 target RNA, herein designated GAM TARGET RNA.

GAM336592 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336592 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336592 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336592 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336592 RNA, herein designated GAM RNA, to target binding sites on GAM336592 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336592 target RNA into GAM336592 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336592 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336592 target genes. The mRNA of each one of this plurality of GAM336592 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336592 RNA, herein designated GAM RNA, and which when bound by GAM336592 RNA causes inhibition of translation of the GAM336592 target mRNA into a corresponding GAM336592 target protein.

The mechanism of the translational inhibition exerted by GAM336592 RNA, herein designated GAM RNA, on one or more GAM336592 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336592 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336592 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336592 RNA, herein designated GAM RNA, of GAM336592 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336592 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336592 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336592 RNA correlate with, and may be deduced from, the identity of the GAM336592 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336593 141049 TAAATCTGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
CTGAGGGAAA detected oligonucleotides of the present invention, referred to here as Genomic Address
GCATGTCCAC Messenger 336593 (GAM336593) oligonucleotides modulates expression of respective target
ACCAGGTGCC genes whose function and utility is known in the art.

CAGACATCTG GAM336593 is a novel bioinformatically detectable regulatory, non protein
GTTGGCTTTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336593 was detected
GCTGATTTGT is described with additional reference to Figs. 9-15.

CCTGCAGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CCTGCCTTGT encoded by the human genome.

CTGGATTTGC GAM336593 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
ACACTTTCCA GAM336593 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
AGTTGCCCAT GAM336593 precursor RNA does not encode a protein. A nucleotide sequence identical or

TA highly similar to the nucleotide sequence of GAM336593 precursor RNA is designated SEQ ID:141049, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141049 is located from position 30068447 to position 30068568 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM336593 precursor RNA folds onto itself, forming GAM336593 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336593 precursor RNA, designated SEQ ID NO: 141049, and a schematic representation of a predicted secondary folding of GAM336593 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336593 folded precursor RNA yielding a GAM336593 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336593 RNA, hereby incorporated herein.

GAM336593 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336593 target RNA, herein designated GAM TARGET RNA.

GAM336593 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336593 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336593 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336593 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336593 RNA, herein designated GAM RNA, to target binding sites on GAM336593 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336593 target RNA into GAM336593 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336593 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336593 target genes. The mRNA of each one of this plurality of GAM336593 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336593 RNA, herein designated GAM RNA, and which when bound by GAM336593 RNA causes inhibition of

translation of the GAM336593 target mRNA into a corresponding GAM336593 target protein.

The mechanism of the translational inhibition exerted by GAM336593 RNA, herein designated GAM RNA, on one or more GAM336593 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336593 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336593 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336593 RNA, herein designated GAM RNA, of GAM336593 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336593 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336593 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336593 RNA correlate with, and may be deduced from, the identity of the GAM336593 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336594 141050 TGGGCTGAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

GAAAGCATGT detected oligonucleotides of the present invention, referred to here as Genomic Address

CCACACCAGG Messenger 336594 (GAM336594) oligonucleotides modulates expression of respective target

TGCCCAGACA genes whose function and utility is known in the art.

TCTGGTTGGC GAM336594 is a novel bioinformatically detectable regulatory, non protein

TTTGGCTGAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336594 was detected

TTGTCCTGCA is described with additional reference to Figs. 9-15.

GGCACCTGCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTGTCTGGAT encoded by the human genome.

TTGCACACTT GAM336594 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TCCAAGTTGC GAM336594 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

CCA GAM336594 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336594 precursor RNA is designated SEQ ID:141050, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141050 is located from position 30068453 to position 30068565 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM336594 precursor RNA folds onto itself, forming GAM336594 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336594 precursor RNA, designated SEQ ID NO: 141050, and a schematic representation of a predicted secondary folding of GAM336594 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336594 folded precursor RNA yielding a GAM336594 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336594 RNA, hereby incorporated herein.

GAM336594 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336594 target RNA, herein designated GAM TARGET RNA.

GAM336594 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336594 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336594 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336594 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336594 RNA, herein designated GAM RNA, to target binding sites on GAM336594 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336594 target RNA into GAM336594 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336594 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336594 target genes. The mRNA of each one of this plurality of GAM336594 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336594 RNA, herein designated GAM RNA, and which when bound by GAM336594 RNA causes inhibition of translation of the GAM336594 target mRNA into a corresponding GAM336594 target protein.

The mechanism of the translational inhibition exerted by GAM336594 RNA, herein designated GAM RNA, on one or more GAM336594 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336594 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336594 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336594 RNA, herein designated GAM RNA, of GAM336594 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336594 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336594 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336594 RNA correlate with, and may be deduced from, the identity of the GAM336594 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336595 141051 GGGAGCTCTT Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGCAAAACA detected oligonucleotides of the present invention, referred to here as Genomic Address

AAAGATGTCT Messenger 336595 (GAM336595) oligonucleotides modulates expression of respective target

TCTTTTCCCT genes whose function and utility is known in the art.

TAGCCCTTGG GAM336595 is a novel bioinformatically detectable regulatory, non protein

TTTTGTTTGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336595 was detected

CAGATGGTGT is described with additional reference to Figs. 9-15.

AGGTGAAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AACATTAGTT encoded by the human genome.

GTGGAAGAGG GAM336595 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TATGTATGAC GAM336595 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

TCCC GAM336595 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336595 precursor RNA is designated SEQ ID:141051, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141051 is located from position 30119301 to position 30119414 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM336595 precursor RNA folds onto itself, forming GAM336595 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336595 precursor RNA, designated SEQ ID NO: 141051, and a schematic representation of a predicted secondary folding of GAM336595 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336595 folded precursor RNA yielding a GAM336595 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336595 RNA, hereby incorporated herein.

GAM336595 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336595 target RNA, herein designated GAM TARGET RNA.

GAM336595 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336595 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336595 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336595 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336595 RNA, herein designated GAM RNA, to target binding sites on GAM336595 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336595 target RNA into GAM336595 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336595 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336595 target genes. The mRNA of each one of this plurality of GAM336595 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336595 RNA, herein designated GAM RNA, and which when bound by GAM336595 RNA causes inhibition of translation of the GAM336595 target mRNA into a corresponding GAM336595 target protein.

The mechanism of the translational inhibition exerted by GAM336595 RNA, herein designated GAM RNA, on one or more GAM336595 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336595 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336595 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336595 RNA, herein designated GAM RNA, of GAM336595 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336595 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336595 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336595 RNA correlate with, and may be deduced from, the identity of the GAM336595 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336596 141052 CTCTTTTGCA Fig. 8 further provides a conceptual description of another novel bioinformatically

AAACAAAAGA detected oligonucleotides of the present invention, referred to here as Genomic Address
TGTCTTCTTT Messenger 336596 (GAM336596) oligonucleotides modulates expression of respective
target
TCCCTTAGCC genes whose function and utility is known in the art.

CTTGGTTTTG GAM336596 is a novel bioinformatically detectable regulatory, non protein
TTTGGCAGAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336596 was
detected
GGTGTAGGTG is described with additional reference to Figs. 9-15.

AAGAGAACAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a
humen gene
TAGTTGTGGA encoded by the human genome.

AGAG GAM336596 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336596 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA
genes

GAM336596 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336596 precursor RNA is designated SEQ ID:141052, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141052 is located from position 30119306 to position 30119399 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM336596 precursor RNA folds onto itself, forming GAM336596 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336596 precursor RNA, designated SEQ ID NO: 141052, and a schematic representation of a predicted secondary folding of GAM336596 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and
4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336596 folded precursor RNA yielding a GAM336596 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336596 RNA, hereby incorporated herein.

GAM336596 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336596 target RNA, herein designated GAM TARGET RNA.

GAM336596 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336596 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336596 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336596 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336596 RNA, herein designated GAM RNA, to target binding sites on GAM336596 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336596 target RNA into GAM336596 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336596 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336596 target genes. The mRNA of each one of this plurality of GAM336596 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336596 RNA, herein designated GAM RNA, and which when bound by GAM336596 RNA causes inhibition of translation of the GAM336596 target mRNA into a corresponding GAM336596 target protein.

The mechanism of the translational inhibition exerted by GAM336596 RNA, herein designated GAM RNA, on one or more GAM336596 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336596 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336596 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336596 RNA, herein designated GAM RNA, of GAM336596 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336596 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336596 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336596 RNA correlate with, and may be deduced from, the identity of the GAM336596 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336597 141053 CGGTGAGATG GCTGAAAGGT AGACATCGAG AAGTTTTAAT ATTCAGAATC TTTTCTTCTC AAGACGCTGA ATGTAATCTT AGTTGTAAAT ACCCATCACC TGCCAGTCAC CG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336597 (GAM336597) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336597 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336597 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336597 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336597 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336597 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336597 precursor RNA is designated SEQ ID:141053, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141053 is located from position 30195269 to position 30195380 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM336597 precursor RNA folds onto itself, forming GAM336597 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336597 precursor RNA, designated SEQ ID NO: 141053, and a schematic representation of a predicted secondary folding of GAM336597 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336597 folded precursor RNA yielding a GAM336597 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336597 RNA, hereby incorporated herein.

GAM336597 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336597 target RNA, herein designated GAM TARGET RNA.

GAM336597 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336597 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336597 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336597 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336597 RNA, herein designated GAM RNA, to target binding sites on GAM336597 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336597 target RNA into GAM336597 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336597 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336597 target genes. The mRNA of each one of this plurality of GAM336597 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336597 RNA, herein designated GAM RNA, and which when bound by GAM336597 RNA causes inhibition of translation of the GAM336597 target mRNA into a corresponding GAM336597 target protein.

The mechanism of the translational inhibition exerted by GAM336597 RNA, herein designated GAM RNA, on one or more GAM336597 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336597 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336597 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336597 RNA, herein designated GAM RNA, of

GAM336597 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336597 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336597 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336597 RNA correlate with, and may be deduced from, the identity of the GAM336597 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336598 141054 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336598 (GAM336598) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336598 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336598 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336598 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336598 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336598 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336598 precursor RNA is designated SEQ ID:141054, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141054 is located from position 30200618 to position 30200699 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336598 precursor RNA folds onto itself, forming GAM336598 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336598 precursor RNA, designated SEQ ID NO: 141054,

and a schematic representation of a predicted secondary folding of GAM336598 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336598 folded precursor RNA yielding a GAM336598 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336598 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336598 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336598 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336598 target RNA, herein designated GAM TARGET RNA.

GAM336598 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336598 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336598 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336598 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336598 RNA, herein designated GAM RNA, to target binding sites on GAM336598 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336598 target RNA into GAM336598 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336598 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336598 target genes. The mRNA of each one of this plurality of GAM336598 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336598 RNA, herein designated GAM RNA, and which when bound by GAM336598 RNA causes inhibition of translation of the GAM336598 target mRNA into a corresponding GAM336598 target protein.

The mechanism of the translational inhibition exerted by GAM336598 RNA, herein designated GAM RNA, on one or more GAM336598 target genes, herein collectively designated

GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336598 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336598 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336598 RNA, herein designated GAM RNA, of GAM336598 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336598 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336598 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336598 RNA correlate with, and may be deduced from, the identity of the GAM336598 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336599 141055 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATCGCTTT detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCCGGGAG Messenger 336599 (GAM336599) oligonucleotides modulates expression of respective target

GCAGAGGTTG genes whose function and utility is known in the art.

TGGTGAGCCG GAM336599 is a novel bioinformatically detectable regulatory, non protein

AGATCGCGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336599 was detected

ATTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAAGAGCGG encoded by the human genome.

AATTCTGTCT GAM336599 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CA GAM336599 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336599 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336599 precursor RNA is designated SEQ ID:141055, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141055 is located from position 30643328 to position 30643429

relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336599 precursor RNA folds onto itself, forming GAM336599 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336599 precursor RNA, designated SEQ ID NO: 141055, and a schematic representation of a predicted secondary folding of GAM336599 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336599 folded precursor RNA yielding a GAM336599 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336599 RNA, hereby incorporated herein. Expression of GAM336599 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336599 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336599 target RNA, herein designated GAM TARGET RNA.

GAM336599 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336599 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336599 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336599 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336599 RNA, herein designated GAM RNA, to target binding sites on GAM336599 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336599 target RNA into GAM336599 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM336599 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336599 target genes. The mRNA of each one of this plurality of GAM336599 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336599 RNA, herein designated GAM RNA, and which when bound by GAM336599 RNA causes inhibition of translation of the GAM336599 target mRNA into a corresponding GAM336599 target protein.

The mechanism of the translational inhibition exerted by GAM336599 RNA, herein designated GAM RNA, on one or more GAM336599 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336599 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336599 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336599 RNA, herein designated GAM RNA, of GAM336599 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336599 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336599 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336599 RNA correlate with, and may be deduced from, the identity of the GAM336599 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336600 141056 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCGCTTTA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCCGGGAGG Messenger 336600 (GAM336600) oligonucleotides modulates expression of respective target

CAGAGGTTGT genes whose function and utility is known in the art.

GGTGAGCCGA GAM336600 is a novel bioinformatically detectable regulatory, non protein

GATCGCGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336600 was detected

TTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAAGAGCGGA encoded by the human genome.

ATTCTGTCTC GAM336600 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336600 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336600 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336600 precursor RNA is designated SEQ ID:141056, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141056 is located from position 30643329 to position 30643428 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336600 precursor RNA folds onto itself, forming GAM336600 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336600 precursor RNA, designated SEQ ID NO: 141056, and a schematic representation of a predicted secondary folding of GAM336600 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336600 folded precursor RNA yielding a GAM336600 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336600 RNA, hereby incorporated herein. Expression of GAM336600 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336600 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336600 target RNA, herein designated GAM TARGET RNA.

GAM336600 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336600 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336600 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336600 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336600 RNA, herein designated GAM RNA, to target binding sites on GAM336600 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336600 target RNA into GAM336600 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336600 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336600 target genes. The mRNA of each one of this plurality of GAM336600 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336600 RNA, herein designated GAM RNA, and which when bound by GAM336600 RNA causes inhibition of translation of the GAM336600 target mRNA into a corresponding GAM336600 target protein.

The mechanism of the translational inhibition exerted by GAM336600 RNA, herein designated GAM RNA, on one or more GAM336600 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336600 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336600 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336600 RNA, herein designated GAM RNA, of GAM336600 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336600 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336600 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336600 RNA correlate with, and may be deduced from, the identity of the GAM336600 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336601 141057 CAGGCAGCAG Fig. 8 further provides a conceptual description of another novel bioinformatically

GATGATCTCT detected oligonucleotides of the present invention, referred to here as Genomic Address

TGTGGAGTAA Messenger 336601 (GAM336601) oligonucleotides modulates expression of respective target
AATGTCAGGT genes whose function and utility is known in the art.

GTTTTTTTTT GAM336601 is a novel bioinformatically detectable regulatory, non protein
TTAAGAAATC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336601 was detected
GATTTTTAGT is described with additional reference to Figs. 9-15.

TGTGACGTCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTTGGCAGGC encoded by the human genome.

TGTCCACGGT GAM336601 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
ATCACTTTCT GAM336601 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GCTTATTTTT GAM336601 precursor RNA does not encode a protein. A nucleotide sequence identical or

AAAAGGTCTG highly similar to the nucleotide sequence of GAM336601 precursor RNA is designated SEQ
ID:141057, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141057 is located from position 30673441 to position 30673570 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM336601 precursor RNA folds onto itself, forming GAM336601 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336601 precursor RNA, designated SEQ ID NO: 141057, and a schematic representation of a predicted secondary folding of GAM336601 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336601 folded precursor RNA yielding a GAM336601 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336601 RNA, hereby incorporated herein.

GAM336601 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336601 target RNA, herein designated GAM TARGET RNA.

GAM336601 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336601 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336601 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336601 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336601 RNA, herein designated GAM RNA, to target binding sites on GAM336601 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336601 target RNA into GAM336601 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336601 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336601 target genes. The mRNA of each one of this plurality of GAM336601 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336601 RNA, herein designated GAM RNA, and which when bound by GAM336601 RNA causes inhibition of translation of the GAM336601 target mRNA into a corresponding GAM336601 target protein.

The mechanism of the translational inhibition exerted by GAM336601 RNA, herein designated GAM RNA, on one or more GAM336601 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336601 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336601 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336601 RNA, herein designated GAM RNA, of GAM336601 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336601 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336601 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336601 RNA correlate with, and may be deduced from, the identity of the GAM336601 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336602 141058 TGAGGCCTGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATTGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCCAGGAG Messenger 336602 (GAM336602) oligonucleotides modulates expression of respective target
GTAGAGGTTG genes whose function and utility is known in the art.

CAGTGAGCTG GAM336602 is a novel bioinformatically detectable regulatory, non protein
AGATCGCACC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336602 was detected
ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAGAGCTAG encoded by the human genome.

ACTCTGCCTC GAM336602 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
A GAM336602 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336602 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336602 precursor RNA is designated SEQ ID:141058, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141058 is located from position 30748368 to position 30748468 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336602 precursor RNA folds onto itself, forming GAM336602 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336602 precursor RNA, designated SEQ ID NO: 141058, and a schematic representation of a predicted secondary folding of GAM336602 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336602 folded precursor RNA yielding a GAM336602 RNA, herein designated GAM RNA, in the form of a single stranded

~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336602 RNA, hereby incorporated herein. Expression of GAM336602 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336602 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336602 target RNA, herein designated GAM TARGET RNA.

GAM336602 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336602 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336602 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336602 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336602 RNA, herein designated GAM RNA, to target binding sites on GAM336602 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336602 target RNA into GAM336602 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336602 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336602 target genes. The mRNA of each one of this plurality of GAM336602 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336602 RNA, herein designated GAM RNA, and which when bound by GAM336602 RNA causes inhibition of translation of the GAM336602 target mRNA into a corresponding GAM336602 target protein.

The mechanism of the translational inhibition exerted by GAM336602 RNA, herein designated GAM RNA, on one or more GAM336602 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336602 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336602 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336602 RNA, herein designated GAM RNA, of GAM336602 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336602 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336602 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336602 RNA correlate with, and may be deduced from, the identity of the GAM336602 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336603 141059 CCACTGGGCA GCTGGCAATT CTCTGGTAGG GGTAGCCTTC TGCAGAGGCT GGCTAGCAGA CCAGGCACCT CTCCCAGACT GCCTTTTGTT TATAGCTGG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336603 (GAM336603) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336603 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336603 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336603 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336603 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336603 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336603 precursor RNA is designated SEQ ID:141059, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141059 is located from position 31005522 to position 31005620 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336603 precursor RNA folds onto itself, forming GAM336603 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336603 precursor RNA, designated SEQ ID NO: 141059, and a schematic representation of a predicted secondary folding of GAM336603 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336603 folded precursor RNA yielding a GAM336603 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336603 RNA, hereby incorporated herein.

GAM336603 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336603 target RNA, herein designated GAM TARGET RNA.

GAM336603 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336603 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336603 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336603 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336603 RNA, herein designated GAM RNA, to target binding sites on GAM336603 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336603 target RNA into GAM336603 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336603 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336603 target genes. The mRNA of each one of this plurality of GAM336603 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336603 RNA, herein designated GAM RNA, and which when bound by GAM336603 RNA causes inhibition of translation of the GAM336603 target mRNA into a corresponding GAM336603 target protein.

The mechanism of the translational inhibition exerted by GAM336603 RNA, herein designated GAM RNA, on one or more GAM336603 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336603 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336603 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336603 RNA, herein designated GAM RNA, of GAM336603 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336603 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336603 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336603 RNA correlate with, and may be deduced from, the identity of the GAM336603 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336604 141060 CAGCTGGCAA Fig. 8 further provides a conceptual description of another novel bioinformatically

TTCTCTGGTA detected oligonucleotides of the present invention, referred to here as Genomic Address

GGGGTAGCCT Messenger 336604 (GAM336604) oligonucleotides modulates expression of respective target

TCTGCAGAGG genes whose function and utility is known in the art.

CTGGCTAGCA GAM336604 is a novel bioinformatically detectable regulatory, non protein

GACCAGGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336604 was detected

CTCTCCCAGA is described with additional reference to Figs. 9-15.

CTGCCTTTTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTTATAGCTG encoded by the human genome.

GAM336604 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336604 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336604 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336604 precursor RNA is designated SEQ ID:141060, and is provided hereinbelow with reference to the sequence listing part.

Nucleotide sequence SEQ ID:141060 is located from position 31005530 to position 31005619 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336604 precursor RNA folds onto itself, forming GAM336604 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336604 precursor RNA, designated SEQ ID NO: 141060, and a schematic representation of a predicted secondary folding of GAM336604 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336604 folded precursor RNA yielding a GAM336604 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336604 RNA, hereby incorporated herein.

GAM336604 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336604 target RNA, herein designated GAM TARGET RNA.

GAM336604 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336604 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336604 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336604 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336604 RNA, herein designated GAM RNA, to target binding sites on GAM336604 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336604 target RNA into GAM336604 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336604 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336604 target genes. The mRNA of each one of this plurality of GAM336604 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336604 RNA, herein designated GAM RNA, and which when bound by GAM336604 RNA causes inhibition of translation of the GAM336604 target mRNA into a corresponding GAM336604 target protein.

The mechanism of the translational inhibition exerted by GAM336604 RNA, herein designated GAM RNA, on one or more GAM336604 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336604 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336604 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336604 RNA, herein designated GAM RNA, of GAM336604 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336604 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336604 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336604 RNA correlate with, and may be deduced from, the identity of the GAM336604 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336605 141061 TGCTAAAGAA Fig. 8 further provides a conceptual description of another novel bioinformatically

AGAGGGGCTG detected oligonucleotides of the present invention, referred to here as Genomic Address

ATTTGTCAGA Messenger 336605 (GAM336605) oligonucleotides modulates expression of respective target

CTATTTTGTC genes whose function and utility is known in the art.

TATAACTAGG GAM336605 is a novel bioinformatically detectable regulatory, non protein

GTAGCCATAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336605 was detected

ATGCCAATTT is described with additional reference to Figs. 9-15.

CCCCAAGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTCTTGATTA encoded by the human genome.

GCTTCTATTT GAM336605 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TTTGGCA GAM336605 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336605 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336605 precursor RNA is designated SEQ ID:141061, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141061 is located from position 31058191 to position 31058297 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM336605 precursor RNA folds onto itself, forming GAM336605 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336605 precursor RNA, designated SEQ ID NO: 141061, and a schematic representation of a predicted secondary folding of GAM336605 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336605 folded precursor RNA yielding a GAM336605 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336605 RNA, hereby incorporated herein.

GAM336605 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336605 target RNA, herein designated GAM TARGET RNA.

GAM336605 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336605 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336605 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336605 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336605 RNA, herein designated GAM RNA, to target binding sites on GAM336605 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336605 target RNA into GAM336605 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336605 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336605 target genes. The mRNA of each one of this plurality of GAM336605 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336605 RNA, herein designated GAM RNA, and which when bound by GAM336605 RNA causes inhibition of translation of the GAM336605 target mRNA into a corresponding GAM336605 target protein.

The mechanism of the translational inhibition exerted by GAM336605 RNA, herein designated GAM RNA, on one or more GAM336605 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336605 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336605 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336605 RNA, herein designated GAM RNA, of GAM336605 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336605 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336605 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336605 RNA correlate with, and may be deduced from, the identity of the GAM336605 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336606 141062 GGCAGGAGAA Fig. 8 further provides a conceptual description of another novel bioinformatically

TCACTTGAAC detected oligonucleotides of the present invention, referred to here as Genomic Address

CCAGGAGGCA Messenger 336606 (GAM336606) oligonucleotides modulates expression of respective target

GAGGTTGCAG genes whose function and utility is known in the art.

TGAGCCAAGA GAM336606 is a novel bioinformatically detectable regulatory, non protein
TCATGCCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336606 was detected
GCACTCCAGC is described with additional reference to Figs. 9-15.

CTGGGCAACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGAATGAAAC encoded by the human genome.

TCTGTC GAM336606 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336606 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336606 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336606 precursor RNA is designated SEQ ID:141062, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141062 is located from position 31418591 to position 31418686 relative to chromosome chr1 on the `+` strand (chr is an abbreviation for chromosome).

GAM336606 precursor RNA folds onto itself, forming GAM336606 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336606 precursor RNA, designated SEQ ID NO: 141062, and a schematic representation of a predicted secondary folding of GAM336606 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336606 folded precursor RNA yielding a GAM336606 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336606 RNA, hereby incorporated herein. Expression of GAM336606 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336606 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336606 target RNA, herein designated GAM TARGET RNA.

GAM336606 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336606 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336606 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336606 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336606 RNA, herein designated GAM RNA, to target binding sites on GAM336606 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336606 target RNA into GAM336606 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336606 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336606 target genes. The mRNA of each one of this plurality of GAM336606 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336606 RNA, herein designated GAM RNA, and which when bound by GAM336606 RNA causes inhibition of translation of the GAM336606 target mRNA into a corresponding GAM336606 target protein.

The mechanism of the translational inhibition exerted by GAM336606 RNA, herein designated GAM RNA, on one or more GAM336606 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336606 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336606 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336606 RNA, herein designated GAM RNA, of GAM336606 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336606 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336606 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336606 RNA correlate with, and may be deduced from, the identity of the GAM336606 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336607 141063 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATGGCGTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCCGGGAG Messenger 336607 (GAM336607) oligonucleotides modulates expression of respective target
GCAGAGCTTG genes whose function and utility is known in the art.

CAGTGAGCCC GAM336607 is a novel bioinformatically detectable regulatory, non protein
AGATTGCGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336607 was detected
ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAGAGCGAG encoded by the human genome.

ACTCCGTCTC GAM336607 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
A GAM336607 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336607 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336607 precursor RNA is designated SEQ ID:141063, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141063 is located from position 31554609 to position 31554709 relative to chromosome chr6 on the `+` strand (chr is an abbreviation for chromosome).

GAM336607 precursor RNA folds onto itself, forming GAM336607 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336607 precursor RNA, designated SEQ ID NO: 141063, and a schematic representation of a predicted secondary folding of GAM336607 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336607 folded precursor RNA yielding a GAM336607 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336607 RNA, hereby incorporated herein. Expression of GAM336607 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336607 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336607 target RNA, herein designated GAM TARGET RNA.

GAM336607 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336607 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336607 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336607 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336607 RNA, herein designated GAM RNA, to target binding sites on GAM336607 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336607 target RNA into GAM336607 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336607 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336607 target genes. The mRNA of each one of this plurality of GAM336607 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336607 RNA, herein designated GAM RNA, and which when bound by GAM336607 RNA causes inhibition of translation of the GAM336607 target mRNA into a corresponding GAM336607 target protein.

The mechanism of the translational inhibition exerted by GAM336607 RNA, herein designated GAM RNA, on one or more GAM336607 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336607 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336607 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336607 RNA, herein designated GAM RNA, of GAM336607 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336607 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336607 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336607 RNA correlate with, and may be deduced from, the identity of the GAM336607 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336608 141064 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATGGCGTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCCGGGAGG Messenger 336608 (GAM336608) oligonucleotides modulates expression of respective target

CAGAGCTTGC genes whose function and utility is known in the art.

AGTGAGCCCA GAM336608 is a novel bioinformatically detectable regulatory, non protein

GATTGCGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336608 was detected

CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGAGCGAGA encoded by the human genome.

CTCCGTCTC GAM336608 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336608 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336608 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336608 precursor RNA is designated SEQ ID:141064, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141064 is located from position 31554610 to position 31554708 relative to chromosome chr6 on the `+` strand (chr is an abbreviation for chromosome).

GAM336608 precursor RNA folds onto itself, forming GAM336608 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336608 precursor RNA, designated SEQ ID NO: 141064, and a schematic representation of a predicted secondary folding of GAM336608 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336608 folded precursor RNA yielding a GAM336608 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336608 RNA, hereby incorporated herein. Expression of GAM336608 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336608 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336608 target RNA, herein designated GAM TARGET RNA.

GAM336608 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336608 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336608 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336608 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336608 RNA, herein designated GAM RNA, to target binding sites on GAM336608 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336608 target RNA into GAM336608 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336608 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336608 target genes. The mRNA of each one of this plurality of GAM336608 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336608 RNA, herein designated GAM RNA, and which when bound by GAM336608 RNA causes inhibition of translation of the GAM336608 target mRNA into a corresponding GAM336608 target protein.

The mechanism of the translational inhibition exerted by GAM336608 RNA, herein designated GAM RNA, on one or more GAM336608 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336608 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336608 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336608 RNA, herein designated GAM RNA, of GAM336608 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336608 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336608 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336608 RNA correlate with, and may be deduced from, the identity of the GAM336608 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336609 141065 GATCATAAGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TCCCTGAAAA detected oligonucleotides of the present invention, referred to here as Genomic Address

CACGTTGCAT Messenger 336609 (GAM336609) oligonucleotides modulates expression of respective target

CTGTGTCTCT genes whose function and utility is known in the art.

AGCAACTTCC GAM336609 is a novel bioinformatically detectable regulatory, non protein

ACAAATGTTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336609 was detected

GGAGAATAAA is described with additional reference to Figs. 9-15.

TTAATGTGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCAGGGCGCG encoded by the human genome.

GTC GAM336609 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336609 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336609 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336609 precursor RNA is designated SEQ ID:141065, and is provided hereinbelow with reference to the sequence listing part.

Nucleotide sequence SEQ ID:141065 is located from position 31572572 to position 31572664 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM336609 precursor RNA folds onto itself, forming GAM336609 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336609 precursor RNA, designated SEQ ID NO: 141065, and a schematic representation of a predicted secondary folding of GAM336609 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336609 folded precursor RNA yielding a GAM336609 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336609 RNA, hereby incorporated herein.

GAM336609 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336609 target RNA, herein designated GAM TARGET RNA.

GAM336609 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336609 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336609 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336609 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336609 RNA, herein designated GAM RNA, to target binding sites on GAM336609 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336609 target RNA into GAM336609 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336609 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336609 target genes. The mRNA of each one of this plurality of GAM336609 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336609 RNA, herein designated GAM RNA, and which when bound by GAM336609 RNA causes inhibition of translation of the GAM336609 target mRNA into a corresponding GAM336609 target protein.

The mechanism of the translational inhibition exerted by GAM336609 RNA, herein designated GAM RNA, on one or more GAM336609 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336609 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336609 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336609 RNA, herein designated GAM RNA, of GAM336609 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336609 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336609 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336609 RNA correlate with, and may be deduced from, the identity of the GAM336609 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336610 141066 CTGAGGCAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

AGAATGGCAT detected oligonucleotides of the present invention, referred to here as Genomic Address

GAACCCAGGA Messenger 336610 (GAM336610) oligonucleotides modulates expression of respective target

GGTGGAGCTT genes whose function and utility is known in the art.

GCAGTGAGCC GAM336610 is a novel bioinformatically detectable regulatory, non protein

GAGATCACGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336610 was detected

CACTGCACTC is described with additional reference to Figs. 9-15.

CAGCCTGGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AACACAGCGA encoded by the human genome.

GACTCCGTCT GAM336610 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CAG GAM336610 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336610 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336610 precursor RNA is designated SEQ ID:141066, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141066 is located from position 31820024 to position 31820126 relative to chromosome chr6 on the `+` strand (chr is an abbreviation for chromosome).

GAM336610 precursor RNA folds onto itself, forming GAM336610 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336610 precursor RNA, designated SEQ ID NO: 141066, and a schematic representation of a predicted secondary folding of GAM336610 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336610 folded precursor RNA yielding a GAM336610 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336610 RNA, hereby incorporated herein. Expression of GAM336610 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336610 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336610 target RNA, herein designated GAM TARGET RNA.

GAM336610 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336610 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336610 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336610 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336610 RNA, herein designated GAM RNA, to target binding sites on GAM336610 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336610 target RNA into GAM336610 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336610 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336610 target genes. The mRNA of each one of this plurality of GAM336610 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336610 RNA, herein designated GAM RNA, and which when bound by GAM336610 RNA causes inhibition of translation of the GAM336610 target mRNA into a corresponding GAM336610 target protein.

The mechanism of the translational inhibition exerted by GAM336610 RNA, herein designated GAM RNA, on one or more GAM336610 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336610 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336610 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336610 RNA, herein designated GAM RNA, of GAM336610 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336610 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336610 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336610 RNA correlate with, and may be deduced from, the identity of the GAM336610 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336611 141067 GGTCGTTTGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTTTCAGTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

CCAGGTTCTT Messenger 336611 (GAM336611) oligonucleotides modulates expression of respective target

CATACACATG genes whose function and utility is known in the art.

GATGTCTCAC GAM336611 is a novel bioinformatically detectable regulatory, non protein AGATCAGCTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336611 was detected

AGGCCTGTGT is described with additional reference to Figs. 9-15.

TTGAACACCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGGTCACCCC encoded by the human genome.

TGCAAGGAGC GAM336611 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

C GAM336611 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336611 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336611 precursor RNA is designated SEQ ID:141067, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141067 is located from position 32058440 to position 32058540 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM336611 precursor RNA folds onto itself, forming GAM336611 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336611 precursor RNA, designated SEQ ID NO: 141067, and a schematic representation of a predicted secondary folding of GAM336611 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336611 folded precursor RNA yielding a GAM336611 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336611 RNA, hereby incorporated herein.

GAM336611 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336611 target RNA, herein designated GAM TARGET RNA.

GAM336611 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336611 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336611 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336611 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336611 RNA, herein designated GAM RNA, to target binding sites on GAM336611 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336611 target RNA into GAM336611 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336611 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336611 target genes. The mRNA of each one of this plurality of GAM336611 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336611 RNA, herein designated GAM RNA, and which when bound by GAM336611 RNA causes inhibition of translation of the GAM336611 target mRNA into a corresponding GAM336611 target protein.

The mechanism of the translational inhibition exerted by GAM336611 RNA, herein designated GAM RNA, on one or more GAM336611 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336611 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336611 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336611 RNA, herein designated GAM RNA, of GAM336611 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336611 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336611 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336611 RNA correlate with, and may be deduced from, the identity of the GAM336611 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336612 141068 GCAATGTGCC AAGCTTCTCT GTAGGCCCTG GGGTGCCACA GTGAACAAGA CAAATGGGAA CCCTGTTTAC AGGGAGGTTA CTGGTTATTG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336612 (GAM336612) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336612 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336612 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

T GAM336612 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336612 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336612 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336612 precursor RNA is designated SEQ ID:141068, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141068 is located from position 32141176 to position 32141266 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM336612 precursor RNA folds onto itself, forming GAM336612 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336612 precursor RNA, designated SEQ ID NO: 141068, and a schematic representation of a predicted secondary folding of GAM336612 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336612 folded precursor RNA yielding a GAM336612 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336612 RNA, hereby incorporated herein.

GAM336612 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336612 target RNA, herein designated GAM TARGET RNA.

GAM336612 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336612 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336612 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336612 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336612 RNA, herein designated GAM RNA, to target binding sites on GAM336612 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336612 target RNA into GAM336612 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336612 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336612 target genes. The mRNA of each one of this plurality of GAM336612 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336612 RNA, herein designated GAM RNA, and which when bound by GAM336612 RNA causes inhibition of translation of the GAM336612 target mRNA into a corresponding GAM336612 target protein.

The mechanism of the translational inhibition exerted by GAM336612 RNA, herein designated GAM RNA, on one or more GAM336612 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336612 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336612 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336612 RNA, herein designated GAM RNA, of GAM336612 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336612 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336612 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336612 RNA correlate with, and may be deduced from, the identity of the GAM336612 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336613 141069 GCCAAGCTTC Fig. 8 further provides a conceptual description of another novel bioinformatically
TCTGTAGGCC detected oligonucleotides of the present invention, referred to here as Genomic Address
CTGGGGTGCC Messenger 336613 (GAM336613) oligonucleotides modulates expression of respective target
ACAGTGAACA genes whose function and utility is known in the art.

AGACAAATGG GAM336613 is a novel bioinformatically detectable regulatory, non protein
GAACCCTGTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336613 was detected
TACAGGGAGG is described with additional reference to Figs. 9-15.

TTACTGGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336613 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336613 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336613 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336613 precursor RNA is designated SEQ ID:141069, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141069 is located from position 32141182 to position 32141259 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM336613 precursor RNA folds onto itself, forming GAM336613 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336613 precursor RNA, designated SEQ ID NO: 141069, and a schematic representation of a predicted secondary folding of GAM336613 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336613 folded precursor RNA yielding a GAM336613 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336613 RNA, hereby incorporated herein.

GAM336613 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336613 target RNA, herein designated GAM TARGET RNA.

GAM336613 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336613 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336613 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336613 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336613 RNA, herein designated GAM RNA, to target binding sites on GAM336613 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336613 target RNA into GAM336613 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336613 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336613 target genes. The mRNA of each one of this plurality of GAM336613 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336613 RNA, herein designated GAM RNA, and which when bound by GAM336613 RNA causes inhibition of translation of the GAM336613 target mRNA into a corresponding GAM336613 target protein.

The mechanism of the translational inhibition exerted by GAM336613 RNA, herein designated GAM RNA, on one or more GAM336613 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336613 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336613 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336613 RNA, herein designated GAM RNA, of GAM336613 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336613 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336613 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336613 RNA correlate with, and may be deduced from, the identity of the GAM336613 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336614 141070 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336614 (GAM336614) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336614 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336614 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336614 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336614 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336614 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336614 precursor RNA is designated SEQ ID:141070, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141070 is located from position 32152882 to position 32152963 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336614 precursor RNA folds onto itself, forming GAM336614 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336614 precursor RNA, designated SEQ ID NO: 141070, and a schematic representation of a predicted secondary folding of GAM336614 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336614 folded precursor RNA yielding a GAM336614 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336614 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336614 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336614 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336614 target RNA, herein designated GAM TARGET RNA.

GAM336614 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336614 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336614 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336614 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336614 RNA, herein designated GAM RNA, to target binding sites on GAM336614 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336614 target RNA into GAM336614 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336614 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336614 target genes. The mRNA of each one of this plurality of GAM336614 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336614 RNA,

herein designated GAM RNA, and which when bound by GAM336614 RNA causes inhibition of translation of the GAM336614 target mRNA into a corresponding GAM336614 target protein.

The mechanism of the translational inhibition exerted by GAM336614 RNA, herein designated GAM RNA, on one or more GAM336614 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336614 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336614 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336614 RNA, herein designated GAM RNA, of GAM336614 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336614 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336614 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336614 RNA correlate with, and may be deduced from, the identity of the GAM336614 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336615 141071 CAGGCAAAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TGGCTTAATG detected oligonucleotides of the present invention, referred to here as Genomic Address

AAGAGCAAGG Messenger 336615 (GAM336615) oligonucleotides modulates expression of respective target

GGTTTTTAGA genes whose function and utility is known in the art.

TGACATGGTG GAM336615 is a novel bioinformatically detectable regulatory, non protein

GTAGTGTTAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336615 was detected

TAATAAACTC is described with additional reference to Figs. 9-15.

TTTTTCCTCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTATGCAGCT encoded by the human genome.

GGTTCCTG GAM336615 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336615 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336615 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336615 precursor RNA is designated SEQ ID:141071, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141071 is located from position 32235142 to position 32235239 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM336615 precursor RNA folds onto itself, forming GAM336615 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336615 precursor RNA, designated SEQ ID NO: 141071, and a schematic representation of a predicted secondary folding of GAM336615 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336615 folded precursor RNA yielding a GAM336615 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336615 RNA, hereby incorporated herein.

GAM336615 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336615 target RNA, herein designated GAM TARGET RNA.

GAM336615 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336615 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336615 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336615 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336615 RNA, herein designated GAM RNA, to target binding sites on GAM336615 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336615 target RNA into GAM336615 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336615 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336615 target genes. The mRNA of each one of this plurality of GAM336615 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336615 RNA, herein designated GAM RNA, and which when bound by GAM336615 RNA causes inhibition of translation of the GAM336615 target mRNA into a corresponding GAM336615 target protein.

The mechanism of the translational inhibition exerted by GAM336615 RNA, herein designated GAM RNA, on one or more GAM336615 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336615 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336615 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336615 RNA, herein designated GAM RNA, of GAM336615 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336615 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336615 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336615 RNA correlate with, and may be deduced from, the identity of the GAM336615 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336616 141072 TCACGACACA Fig. 8 further provides a conceptual description of another novel bioinformatically

ATTGCAGGGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGCCATTCA Messenger 336616 (GAM336616) oligonucleotides modulates expression of respective target

TGTAAATGAC genes whose function and utility is known in the art.

AATGTCTGTG GAM336616 is a novel bioinformatically detectable regulatory, non protein

GTTCTCCCTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336616 was detected

GAGCTGTGCA is described with additional reference to Figs. 9-15.

GTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336616 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336616 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336616 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336616 precursor RNA is designated SEQ ID:141072, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141072 is located from position 32284055 to position 32284128 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM336616 precursor RNA folds onto itself, forming GAM336616 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336616 precursor RNA, designated SEQ ID NO: 141072, and a schematic representation of a predicted secondary folding of GAM336616 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336616 folded precursor RNA yielding a GAM336616 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336616 RNA, hereby incorporated herein.

GAM336616 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336616 target RNA, herein designated GAM TARGET RNA.

GAM336616 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336616 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336616 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336616 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336616 RNA, herein designated GAM RNA, to target binding sites on GAM336616 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336616 target RNA into GAM336616 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336616 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336616 target genes. The mRNA of each one of this plurality of GAM336616 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336616 RNA, herein designated GAM RNA, and which when bound by GAM336616 RNA causes inhibition of translation of the GAM336616 target mRNA into a corresponding GAM336616 target protein.

The mechanism of the translational inhibition exerted by GAM336616 RNA, herein designated GAM RNA, on one or more GAM336616 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336616 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336616 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336616 RNA, herein designated GAM RNA, of GAM336616 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336616 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336616 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336616 RNA correlate with, and may be deduced from, the identity of the GAM336616 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336617 141073 GAGACAGGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ATCTGCAAGG Messenger 336617 (GAM336617) oligonucleotides modulates expression of respective target
TGGAGGTTGC genes whose function and utility is known in the art.

AGTGAGCTGA GAM336617 is a novel bioinformatically detectable regulatory, non protein
GATTGTGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336617 was detected
CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGCAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGAATGAGAC encoded by the human genome.

TCTATCTC GAM336617 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336617 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336617 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336617 precursor RNA is designated SEQ ID:141073, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141073 is located from position 32403384 to position 32403481 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM336617 precursor RNA folds onto itself, forming GAM336617 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336617 precursor RNA, designated SEQ ID NO: 141073, and a schematic representation of a predicted secondary folding of GAM336617 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336617 folded precursor RNA yielding a GAM336617 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336617 RNA, hereby incorporated herein.

GAM336617 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336617 target RNA, herein designated GAM TARGET RNA.

GAM336617 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336617 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336617 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336617 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336617 RNA, herein designated GAM RNA, to target binding sites on GAM336617 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336617 target RNA into GAM336617 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336617 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336617 target genes. The mRNA of each one of this plurality of GAM336617 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336617 RNA, herein designated GAM RNA, and which when bound by GAM336617 RNA causes inhibition of translation of the GAM336617 target mRNA into a corresponding GAM336617 target protein.

The mechanism of the translational inhibition exerted by GAM336617 RNA, herein designated GAM RNA, on one or more GAM336617 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336617 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336617 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336617 RNA, herein designated GAM RNA, of GAM336617 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336617 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336617 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336617 RNA correlate with, and may be deduced from, the identity of the GAM336617 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336618 141074 CTGGTCTGGC Fig. 8 further provides a conceptual description of another novel bioinformatically
AGCACTAAGA detected oligonucleotides of the present invention, referred to here as Genomic Address
GGCAGGCATT Messenger 336618 (GAM336618) oligonucleotides modulates expression of respective target
CTGGGTATCA genes whose function and utility is known in the art.

GACATAAATC GAM336618 is a novel bioinformatically detectable regulatory, non protein
CCCTCCCAGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336618 was detected
AACTTTTGTG is described with additional reference to Figs. 9-15.

TCCTGACCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGGACTGGC encoded by the human genome.

TCTTGAGAAT GAM336618 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAGAACAG GAM336618 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336618 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336618 precursor RNA is designated SEQ ID:141074, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141074 is located from position 32615342 to position 32615449 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GAM336618 precursor RNA folds onto itself, forming GAM336618 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336618 precursor RNA, designated SEQ ID NO: 141074, and a schematic representation of a predicted secondary folding of GAM336618 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336618 folded precursor RNA yielding a GAM336618 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336618 RNA, hereby incorporated herein.

GAM336618 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336618 target RNA, herein designated GAM TARGET RNA.

GAM336618 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336618 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336618 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336618 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336618 RNA, herein designated GAM RNA, to target binding sites on GAM336618 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336618 target RNA into GAM336618 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336618 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336618 target genes. The mRNA of each one of this plurality of GAM336618 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336618 RNA, herein designated GAM RNA, and which when bound by GAM336618 RNA causes inhibition of translation of the GAM336618 target mRNA into a corresponding GAM336618 target protein.

The mechanism of the translational inhibition exerted by GAM336618 RNA, herein designated GAM RNA, on one or more GAM336618 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336618 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336618 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336618 RNA, herein designated GAM RNA, of GAM336618 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336618 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336618 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336618 RNA correlate with, and may be deduced from, the identity of the GAM336618 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336619 141075 TAAGAGGCAG GCATTCTGGG TATCAGACAT AAATCCCCTC CCAGGAACTT TTGTGTCCTG ACCCAGAGGA CTGGCTCTTG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336619 (GAM336619) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336619 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336619 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336619 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336619 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336619 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336619 precursor RNA is designated SEQ ID:141075, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141075 is located from position 32615357 to position 32615436 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GAM336619 precursor RNA folds onto itself, forming GAM336619 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336619 precursor RNA, designated SEQ ID NO: 141075, and a schematic representation of a predicted secondary folding of GAM336619 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336619 folded precursor RNA yielding a GAM336619 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336619 RNA, hereby incorporated herein.

GAM336619 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336619 target RNA, herein designated GAM TARGET RNA.

GAM336619 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336619 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336619 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336619 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336619 RNA, herein designated GAM RNA, to target binding sites on GAM336619 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336619 target RNA into GAM336619 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336619 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336619 target genes. The mRNA of each one of this plurality of GAM336619 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336619 RNA, herein designated GAM RNA, and which when bound by GAM336619 RNA causes inhibition of translation of the GAM336619 target mRNA into a corresponding GAM336619 target protein.

The mechanism of the translational inhibition exerted by GAM336619 RNA, herein designated GAM RNA, on one or more GAM336619 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336619 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336619 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336619 RNA, herein designated GAM RNA, of GAM336619 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336619 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336619 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336619 RNA correlate with, and may be deduced from, the identity of the GAM336619 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336620 141076 AAGAGGCAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

CATTCTGGGT detected oligonucleotides of the present invention, referred to here as Genomic Address

ATCAGACATA Messenger 336620 (GAM336620) oligonucleotides modulates expression of respective target

AATCCCCTCC genes whose function and utility is known in the art.

CAGGAACTTT GAM336620 is a novel bioinformatically detectable regulatory, non protein

TGTGTCCTGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336620 was detected

CCCAGAGGAC is described with additional reference to Figs. 9-15.

TGGCTCTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336620 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336620 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336620 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336620 precursor RNA is designated SEQ ID:141076, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141076 is located from position 32615358 to position 32615435 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GAM336620 precursor RNA folds onto itself, forming GAM336620 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336620 precursor RNA, designated SEQ ID NO: 141076, and a schematic representation of a predicted secondary folding of GAM336620 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336620 folded precursor RNA yielding a GAM336620 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336620 RNA, hereby incorporated herein.

GAM336620 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336620 target RNA, herein designated GAM TARGET RNA.

GAM336620 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336620 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336620 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336620 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336620 RNA, herein designated GAM RNA, to target binding sites on GAM336620 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336620 target RNA into GAM336620 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336620 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336620 target genes. The mRNA of each one of this plurality of GAM336620 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336620 RNA, herein designated GAM RNA, and which when bound by GAM336620 RNA causes inhibition of translation of the GAM336620 target mRNA into a corresponding GAM336620 target protein.

The mechanism of the translational inhibition exerted by GAM336620 RNA, herein designated GAM RNA, on one or more GAM336620 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336620 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336620 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336620 RNA, herein designated GAM RNA, of GAM336620 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336620 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336620 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336620 RNA correlate with, and may be deduced from, the identity of the GAM336620 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336621 141077 GGATTAGATG Fig. 8 further provides a conceptual description of another novel bioinformatically

ATGGTGACAG detected oligonucleotides of the present invention, referred to here as Genomic Address

CAGTAGCAGC Messenger 336621 (GAM336621) oligonucleotides modulates expression of respective target

AGGAGCAGGT genes whose function and utility is known in the art.

AACATTCATT GAM336621 is a novel bioinformatically detectable regulatory, non protein

TAGAGTTGAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336621 was detected

ATGTGCCACA is described with additional reference to Figs. 9-15.

CCCTGCTCTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AATGCTTTAT encoded by the human genome.

GGATATCAAG GAM336621 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TCC GAM336621 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336621 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336621 precursor RNA is designated SEQ ID:141077, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141077 is located from position 32661984 to position 32662086 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM336621 precursor RNA folds onto itself, forming GAM336621 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336621 precursor RNA, designated SEQ ID NO: 141077, and a schematic representation of a predicted secondary folding of GAM336621 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336621 folded precursor RNA yielding a GAM336621 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336621 RNA, hereby incorporated herein.

GAM336621 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336621 target RNA, herein designated GAM TARGET RNA.

GAM336621 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336621 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336621 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336621 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336621 RNA, herein designated GAM RNA, to target binding sites on GAM336621 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336621 target RNA

into GAM336621 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336621 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336621 target genes. The mRNA of each one of this plurality of GAM336621 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336621 RNA, herein designated GAM RNA, and which when bound by GAM336621 RNA causes inhibition of translation of the GAM336621 target mRNA into a corresponding GAM336621 target protein.

The mechanism of the translational inhibition exerted by GAM336621 RNA, herein designated GAM RNA, on one or more GAM336621 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336621 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336621 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336621 RNA, herein designated GAM RNA, of GAM336621 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336621 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336621 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336621 RNA correlate with, and may be deduced from, the identity of the GAM336621 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336622 141078 GCTGCTTTCC Fig. 8 further provides a conceptual description of another novel bioinformatically

TATCTTACCC detected oligonucleotides of the present invention, referred to here as Genomic Address

TTCCTGCTCT Messenger 336622 (GAM336622) oligonucleotides modulates expression of respective target

CCTTTTTGTA genes whose function and utility is known in the art.

GTGATGAGGA GAM336622 is a novel bioinformatically detectable regulatory, non protein

ACAATGAAAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336622 was detected

AGAGGTAGTG is described with additional reference to Figs. 9-15.

TAAGGAATTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGAGGCTGGG encoded by the human genome.

CATGGTGGC GAM336622 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336622 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336622 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336622 precursor RNA is designated SEQ ID:141078, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141078 is located from position 32800023 to position 32800121 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM336622 precursor RNA folds onto itself, forming GAM336622 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336622 precursor RNA, designated SEQ ID NO: 141078, and a schematic representation of a predicted secondary folding of GAM336622 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336622 folded precursor RNA yielding a GAM336622 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336622 RNA, hereby incorporated herein.

GAM336622 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336622 target RNA, herein designated GAM TARGET RNA.

GAM336622 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336622 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336622 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336622 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336622 RNA, herein designated GAM RNA, to target binding sites on GAM336622 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336622 target RNA into GAM336622 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336622 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336622 target genes. The mRNA of each one of this plurality of GAM336622 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336622 RNA, herein designated GAM RNA, and which when bound by GAM336622 RNA causes inhibition of translation of the GAM336622 target mRNA into a corresponding GAM336622 target protein.

The mechanism of the translational inhibition exerted by GAM336622 RNA, herein designated GAM RNA, on one or more GAM336622 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336622 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336622 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336622 RNA, herein designated GAM RNA, of GAM336622 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336622 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336622 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336622 RNA correlate with, and may be deduced from, the identity of the GAM336622 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336623 141079 AGAGAGAAAA Fig. 8 further provides a conceptual description of another novel bioinformatically

AGTAAGTAGT detected oligonucleotides of the present invention, referred to here as Genomic Address

CTGTAGTCTG Messenger 336623 (GAM336623) oligonucleotides modulates expression of respective target

TAGCTTGTTA genes whose function and utility is known in the art.

AGTGTCAGAG GAM336623 is a novel bioinformatically detectable regulatory, non protein

CCTGGCTTTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336623 was detected

AACCCAGAAC is described with additional reference to Figs. 9-15.

TCTAGCTCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGCTGGCAT encoded by the human genome.

TCCTAACTAC GAM336623 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TCTTTTGCTC GAM336623 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

TCT GAM336623 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336623 precursor RNA is designated SEQ ID:141079, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141079 is located from position 33037321 to position 33037433 relative to chromosome chr13 on the `-` strand (chr is an abbreviation for chromosome).

GAM336623 precursor RNA folds onto itself, forming GAM336623 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336623 precursor RNA, designated SEQ ID NO: 141079, and a schematic representation of a predicted secondary folding of GAM336623 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336623 folded precursor RNA yielding a GAM336623 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336623 RNA, hereby incorporated herein.

GAM336623 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336623 target RNA, herein designated GAM TARGET RNA.

GAM336623 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336623 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336623 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336623 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336623 RNA, herein designated GAM RNA, to target binding sites on GAM336623 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336623 target RNA into GAM336623 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336623 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336623 target genes. The mRNA of each one of this plurality of GAM336623 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336623 RNA, herein designated GAM RNA, and which when bound by GAM336623 RNA causes inhibition of translation of the GAM336623 target mRNA into a corresponding GAM336623 target protein.

The mechanism of the translational inhibition exerted by GAM336623 RNA, herein designated GAM RNA, on one or more GAM336623 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336623 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336623 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336623 RNA, herein designated GAM RNA, of GAM336623 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336623 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336623 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336623 RNA correlate with, and may be deduced from, the identity of the GAM336623 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336624 141080 AGGAGGAGGG GAGAGGCCAG AGAGAGAAGC GGCTTTCGGG AAGGAAAGTG TGATCTAGTA GGTGGAATAG TCCTCTCCAA ACTTTGACCT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336624 (GAM336624) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336624 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336624 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336624 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336624 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336624 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336624 precursor RNA is designated SEQ ID:141080, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141080 is located from position 33064923 to position 33065012 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GAM336624 precursor RNA folds onto itself, forming GAM336624 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336624 precursor RNA, designated SEQ ID NO: 141080, and a schematic representation of a predicted secondary folding of GAM336624 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336624 folded precursor RNA yielding a GAM336624 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336624 RNA, hereby incorporated herein.

GAM336624 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336624 target RNA, herein designated GAM TARGET RNA.

GAM336624 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336624 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336624 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336624 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336624 RNA, herein designated GAM RNA, to target binding sites on GAM336624 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336624 target RNA into GAM336624 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336624 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336624 target genes. The mRNA of each one of this plurality of GAM336624 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336624 RNA, herein designated GAM RNA, and which when bound by GAM336624 RNA causes inhibition of translation of the GAM336624 target mRNA into a corresponding GAM336624 target protein.

The mechanism of the translational inhibition exerted by GAM336624 RNA, herein designated GAM RNA, on one or more GAM336624 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336624 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336624 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336624 RNA, herein designated GAM RNA, of GAM336624 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336624 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336624 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336624 RNA correlate with, and may be deduced from, the identity of the GAM336624 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336625 141081 GGAGGGGAGA GGCCAGAGAG AGAAGCGGCT TTCGGGAAGG AAAGTGTGAT CTAGTAGGTG GAATAGTCCT CTCC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336625 (GAM336625) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336625 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336625 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336625 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336625 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336625 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336625 precursor RNA is designated SEQ ID:141081, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141081 is located from position 33064927 to position 33065000 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GAM336625 precursor RNA folds onto itself, forming GAM336625 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336625 precursor RNA, designated SEQ ID NO: 141081, and a schematic representation of a predicted secondary folding of GAM336625 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336625 folded precursor RNA yielding a GAM336625 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336625 RNA, hereby incorporated herein.

GAM336625 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336625 target RNA, herein designated GAM TARGET RNA.

GAM336625 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336625 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336625 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336625 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336625 RNA, herein designated GAM RNA, to target binding sites on GAM336625 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336625 target RNA into GAM336625 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336625 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336625 target genes. The mRNA of each one of this plurality of GAM336625 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336625 RNA, herein designated GAM RNA, and which when bound by GAM336625 RNA causes inhibition of translation of the GAM336625 target mRNA into a corresponding GAM336625 target protein.

The mechanism of the translational inhibition exerted by GAM336625 RNA, herein designated GAM RNA, on one or more GAM336625 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336625 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336625 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336625 RNA, herein designated GAM RNA, of GAM336625 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336625 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336625 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336625 RNA correlate with, and may be deduced from, the identity of the GAM336625 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336626 141082 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336626 (GAM336626) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336626 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336626 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336626 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336626 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336626 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336626 precursor RNA is designated SEQ ID:141082, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141082 is located from position 33075772 to position 33075853 relative to chromosome chr3 on the `+` strand (chr is an abbreviation for chromosome).

GAM336626 precursor RNA folds onto itself, forming GAM336626 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336626 precursor RNA, designated SEQ ID NO: 141082, and a schematic representation of a predicted secondary folding of GAM336626 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336626 folded precursor RNA yielding a GAM336626 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336626 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336626 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336626 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336626 target RNA, herein designated GAM TARGET RNA.

GAM336626 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336626 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336626 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336626 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336626 RNA, herein designated GAM RNA, to target binding sites on GAM336626 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336626 target RNA into GAM336626 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336626 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336626 target genes. The mRNA of each one of this plurality of GAM336626 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336626 RNA,

herein designated GAM RNA, and which when bound by GAM336626 RNA causes inhibition of translation of the GAM336626 target mRNA into a corresponding GAM336626 target protein.

The mechanism of the translational inhibition exerted by GAM336626 RNA, herein designated GAM RNA, on one or more GAM336626 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336626 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336626 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336626 RNA, herein designated GAM RNA, of GAM336626 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336626 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336626 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336626 RNA correlate with, and may be deduced from, the identity of the GAM336626 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336627 141083 CTGAGGCTGG Fig. 8 further provides a conceptual description of another novel bioinformatically

AGTATAATGG detected oligonucleotides of the present invention, referred to here as Genomic Address

TATGATCTTG Messenger 336627 (GAM336627) oligonucleotides modulates expression of respective target

GCTCACTGCA genes whose function and utility is known in the art.

ACCTCTGCCT GAM336627 is a novel bioinformatically detectable regulatory, non protein

CCAGGATTCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336627 was detected

AGCGATTCTC is described with additional reference to Figs. 9-15.

CTGCCTTAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336627 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336627 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336627 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336627 precursor RNA is designated SEQ ID:141083, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141083 is located from position 33111402 to position 33111480 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM336627 precursor RNA folds onto itself, forming GAM336627 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336627 precursor RNA, designated SEQ ID NO: 141083, and a schematic representation of a predicted secondary folding of GAM336627 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336627 folded precursor RNA yielding a GAM336627 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336627 RNA, hereby incorporated herein.

GAM336627 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336627 target RNA, herein designated GAM TARGET RNA.

GAM336627 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336627 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336627 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336627 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336627 RNA, herein designated GAM RNA, to target binding sites on GAM336627 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336627 target RNA into GAM336627 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336627 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336627 target genes. The mRNA of each one of this plurality of GAM336627 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336627 RNA, herein designated GAM RNA, and which when bound by GAM336627 RNA causes inhibition of translation of the GAM336627 target mRNA into a corresponding GAM336627 target protein.

The mechanism of the translational inhibition exerted by GAM336627 RNA, herein designated GAM RNA, on one or more GAM336627 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336627 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336627 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336627 RNA, herein designated GAM RNA, of GAM336627 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336627 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336627 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336627 RNA correlate with, and may be deduced from, the identity of the GAM336627 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336628 141084 AGAGTCACCT Fig. 8 further provides a conceptual description of another novel bioinformatically
ATGAAGCATT detected oligonucleotides of the present invention, referred to here as Genomic Address
AAAATAATTA Messenger 336628 (GAM336628) oligonucleotides modulates expression of respective target
AAGTGTCTGA genes whose function and utility is known in the art.

GGCCTTCCCC GAM336628 is a novel bioinformatically detectable regulatory, non protein
TTCAATAAAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336628 was detected
CTGGGATTGG is described with additional reference to Figs. 9-15.

GCCCAGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTGTGTTTTT encoded by the human genome.

TAAGCACCCA GAM336628 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GGTTATTCT GAM336628 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336628 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336628 precursor RNA is designated SEQ ID:141084, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141084 is located from position 33138955 to position 33139063 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336628 precursor RNA folds onto itself, forming GAM336628 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336628 precursor RNA, designated SEQ ID NO: 141084, and a schematic representation of a predicted secondary folding of GAM336628 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336628 folded precursor RNA yielding a GAM336628 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336628 RNA, hereby incorporated herein.

GAM336628 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336628 target RNA, herein designated GAM TARGET RNA.

GAM336628 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336628 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336628 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336628 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336628 RNA, herein designated GAM RNA, to target binding sites on GAM336628 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336628 target RNA into GAM336628 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336628 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336628 target genes. The mRNA of each one of this plurality of GAM336628 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336628 RNA, herein designated GAM RNA, and which when bound by GAM336628 RNA causes inhibition of translation of the GAM336628 target mRNA into a corresponding GAM336628 target protein.

The mechanism of the translational inhibition exerted by GAM336628 RNA, herein designated GAM RNA, on one or more GAM336628 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336628 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336628 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336628 RNA, herein designated GAM RNA, of GAM336628 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336628 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336628 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336628 RNA correlate with, and may be deduced from, the identity of the GAM336628 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336629 141085 GCATTAAAAT Fig. 8 further provides a conceptual description of another novel bioinformatically

AATTAAAGTG detected oligonucleotides of the present invention, referred to here as Genomic Address
TCTGAGGCCT Messenger 336629 (GAM336629) oligonucleotides modulates expression of respective target
TCCCCTTCAA genes whose function and utility is known in the art.

TAAATCTGGG GAM336629 is a novel bioinformatically detectable regulatory, non protein
ATTGGGCCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336629 was detected
GGCAACTGTG is described with additional reference to Figs. 9-15.

TTTTTTAAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336629 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336629 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336629 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336629 precursor RNA is designated SEQ ID:141085, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141085 is located from position 33138970 to position 33139049 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336629 precursor RNA folds onto itself, forming GAM336629 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336629 precursor RNA, designated SEQ ID NO: 141085, and a schematic representation of a predicted secondary folding of GAM336629 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336629 folded precursor RNA yielding a GAM336629 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336629 RNA, hereby incorporated herein.

GAM336629 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336629 target RNA, herein designated GAM TARGET RNA.

GAM336629 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336629 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336629 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336629 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336629 RNA, herein designated GAM RNA, to target binding sites on GAM336629 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336629 target RNA into GAM336629 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336629 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336629 target genes. The mRNA of each one of this plurality of GAM336629 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336629 RNA, herein designated GAM RNA, and which when bound by GAM336629 RNA causes inhibition of translation of the GAM336629 target mRNA into a corresponding GAM336629 target protein.

The mechanism of the translational inhibition exerted by GAM336629 RNA, herein designated GAM RNA, on one or more GAM336629 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336629 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336629 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336629 RNA, herein designated GAM RNA, of GAM336629 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336629 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336629 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336629 RNA correlate with, and may be deduced from, the identity of the GAM336629 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336630 141086 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATTGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACTCGGGAG Messenger 336630 (GAM336630) oligonucleotides modulates expression of respective target

GCGGATGTTG genes whose function and utility is known in the art.

CAGTGAGCCA GAM336630 is a novel bioinformatically detectable regulatory, non protein

ATATCGCACC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336630 was detected

ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAGAGCAAG encoded by the human genome.

ACTCCGTCTC GAM336630 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

G GAM336630 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336630 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336630 precursor RNA is designated SEQ ID:141086, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141086 is located from position 33338251 to position 33338351 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM336630 precursor RNA folds onto itself, forming GAM336630 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336630 precursor RNA, designated SEQ ID NO: 141086, and a schematic representation of a predicted secondary folding of GAM336630 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336630 folded precursor RNA yielding a GAM336630 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336630 RNA, hereby incorporated herein. Expression of GAM336630 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336630 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336630 target RNA, herein designated GAM TARGET RNA.

GAM336630 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336630 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336630 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336630 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336630 RNA, herein designated GAM RNA, to target binding sites on GAM336630 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336630 target RNA into GAM336630 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336630 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336630 target genes. The mRNA of each one of this plurality of GAM336630 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336630 RNA, herein designated GAM RNA, and which when bound by GAM336630 RNA causes inhibition of translation of the GAM336630 target mRNA into a corresponding GAM336630 target protein.

The mechanism of the translational inhibition exerted by GAM336630 RNA, herein designated GAM RNA, on one or more GAM336630 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336630 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336630 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336630 RNA, herein designated GAM RNA, of GAM336630 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336630 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336630 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336630 RNA correlate with, and may be deduced from, the identity of the GAM336630 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336631 141087 GGAGAATTGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACTCGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGCGGATG Messenger 336631 (GAM336631) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

CCAATATCGC GAM336631 is a novel bioinformatically detectable regulatory, non protein

ACCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336631 was detected

TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAGACTCC encoded by the human genome.

GAM336631 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336631 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336631 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336631 precursor RNA is designated SEQ ID:141087, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141087 is located from position 33338258 to position 33338345 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM336631 precursor RNA folds onto itself, forming GAM336631 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336631 precursor RNA, designated SEQ ID NO: 141087, and a schematic representation of a predicted secondary folding of GAM336631 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336631 folded precursor RNA yielding a GAM336631 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336631 RNA, hereby incorporated herein. Expression of GAM336631 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336631 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336631 target RNA, herein designated GAM TARGET RNA.

GAM336631 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336631 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336631 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336631 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336631 RNA, herein designated GAM RNA, to target binding sites on GAM336631 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336631 target RNA into GAM336631 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336631 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336631 target genes. The mRNA of each one of this plurality of GAM336631 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336631 RNA, herein designated GAM RNA, and which when bound by GAM336631 RNA causes inhibition of translation of the GAM336631 target mRNA into a corresponding GAM336631 target protein.

The mechanism of the translational inhibition exerted by GAM336631 RNA, herein

designated GAM RNA, on one or more GAM336631 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336631 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336631 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336631 RNA, herein designated GAM RNA, of GAM336631 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336631 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336631 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336631 RNA correlate with, and may be deduced from, the identity of the GAM336631 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336632 141088 CCATGTTAAT Fig. 8 further provides a conceptual description of another novel bioinformatically

TTCCTGGTAG detected oligonucleotides of the present invention, referred to here as Genomic Address

TGATGACAGC Messenger 336632 (GAM336632) oligonucleotides modulates expression of respective target

ACTGTGATTA genes whose function and utility is known in the art.

TATAGGAGTG GAM336632 is a novel bioinformatically detectable regulatory, non protein

TGTCCTTGGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336632 was detected

GTTTGGGAAT is described with additional reference to Figs. 9-15.

TACATGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336632 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336632 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336632 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336632 precursor RNA is designated SEQ ID:141088, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141088 is located from position 33407353 to position 33407429

relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336632 precursor RNA folds onto itself, forming GAM336632 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336632 precursor RNA, designated SEQ ID NO: 141088, and a schematic representation of a predicted secondary folding of GAM336632 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336632 folded precursor RNA yielding a GAM336632 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336632 RNA, hereby incorporated herein.

GAM336632 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336632 target RNA, herein designated GAM TARGET RNA.

GAM336632 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336632 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336632 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336632 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336632 RNA, herein designated GAM RNA, to target binding sites on GAM336632 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336632 target RNA into GAM336632 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336632 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336632 target genes. The mRNA of each one of this plurality of GAM336632 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336632 RNA, herein designated GAM RNA, and which when bound by GAM336632 RNA causes inhibition of translation of the GAM336632 target mRNA into a corresponding GAM336632 target protein.

The mechanism of the translational inhibition exerted by GAM336632 RNA, herein designated GAM RNA, on one or more GAM336632 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336632 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336632 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336632 RNA, herein designated GAM RNA, of GAM336632 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336632 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336632 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336632 RNA correlate with, and may be deduced from, the identity of the GAM336632 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336633 141089 TTGCTTGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically

CCGGGAGGTG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGATTGCAG Messenger 336633 (GAM336633) oligonucleotides modulates expression of respective target

TGAGCTGAGA genes whose function and utility is known in the art.

TCATGCCACT GAM336633 is a novel bioinformatically detectable regulatory, non protein

GCACTCCAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336633 was detected

CTGGGCGACA is described with additional reference to Figs. 9-15.

GAGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336633 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336633 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336633 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336633 precursor RNA is designated SEQ ID:141089, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141089 is located from position 33688439 to position 33688514 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336633 precursor RNA folds onto itself, forming GAM336633 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336633 precursor RNA, designated SEQ ID NO: 141089, and a schematic representation of a predicted secondary folding of GAM336633 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336633 folded precursor RNA yielding a GAM336633 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336633 RNA, hereby incorporated herein.

GAM336633 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336633 target RNA, herein designated GAM TARGET RNA.

GAM336633 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336633 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336633 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336633 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336633 RNA, herein designated GAM RNA, to target binding sites on GAM336633 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336633 target RNA into GAM336633 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336633 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336633 target genes. The mRNA of each one of this plurality of GAM336633 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336633 RNA, herein designated GAM RNA, and which when bound by GAM336633 RNA causes inhibition of translation of the GAM336633 target mRNA into a corresponding GAM336633 target protein.

The mechanism of the translational inhibition exerted by GAM336633 RNA, herein designated GAM RNA, on one or more GAM336633 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336633 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336633 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336633 RNA, herein designated GAM RNA, of GAM336633 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336633 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336633 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336633 RNA correlate with, and may be deduced from, the identity of the GAM336633 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336634 141090 GAGAAGATAA Fig. 8 further provides a conceptual description of another novel bioinformatically

ATGCGTTTTC detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGGATGTCA Messenger 336634 (GAM336634) oligonucleotides modulates expression of respective target

TCTTGGGCCT genes whose function and utility is known in the art.

GCTTTTCTCT GAM336634 is a novel bioinformatically detectable regulatory, non protein
GATCGTGTAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336634 was detected
CGATGGGCTC is described with additional reference to Figs. 9-15.

ATTTTGCAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GATTTATACC encoded by the human genome.

TGATGGCCGT GAM336634 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAACCTATCT GAM336634 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
TCTC GAM336634 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336634 precursor RNA is designated SEQ ID:141090, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141090 is located from position 33692940 to position 33693053 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336634 precursor RNA folds onto itself, forming GAM336634 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336634 precursor RNA, designated SEQ ID NO: 141090, and a schematic representation of a predicted secondary folding of GAM336634 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336634 folded precursor RNA yielding a GAM336634 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336634 RNA, hereby incorporated herein.

GAM336634 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336634 target RNA, herein designated GAM TARGET RNA.

GAM336634 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336634 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336634 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336634 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336634 RNA, herein designated GAM RNA, to target binding sites on GAM336634 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336634 target RNA into GAM336634 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336634 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336634 target genes. The mRNA of each one of this plurality of GAM336634 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336634 RNA, herein designated GAM RNA, and which when bound by GAM336634 RNA causes inhibition of translation of the GAM336634 target mRNA into a corresponding GAM336634 target protein.

The mechanism of the translational inhibition exerted by GAM336634 RNA, herein designated GAM RNA, on one or more GAM336634 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336634 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336634 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336634 RNA, herein designated GAM RNA, of GAM336634 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336634 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336634 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336634 RNA correlate with, and may be deduced from, the identity of the GAM336634 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336635 141091 GAAGGCAGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
TCTTGCTCTG detected oligonucleotides of the present invention, referred to here as Genomic Address
TCACCCAGGG Messenger 336635 (GAM336635) oligonucleotides modulates expression of respective target
TGGAATGCAG genes whose function and utility is known in the art.

TGGCACGATC GAM336635 is a novel bioinformatically detectable regulatory, non protein
TTGGCTCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336635 was detected
GCGACCTCTA is described with additional reference to Figs. 9-15.

TCTCTTGGGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TAAAGCAATT encoded by the human genome.

CTCCTGCCTC GAM336635 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAM336635 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336635 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336635 precursor RNA is designated SEQ ID:141091, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141091 is located from position 33721930 to position 33722029 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336635 precursor RNA folds onto itself, forming GAM336635 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336635 precursor RNA, designated SEQ ID NO: 141091, and a schematic representation of a predicted secondary folding of GAM336635 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336635 folded precursor RNA yielding a GAM336635 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336635 RNA, hereby incorporated herein.

GAM336635 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336635 target RNA, herein designated GAM TARGET RNA.

GAM336635 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336635 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336635 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336635 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336635 RNA, herein designated GAM RNA, to target binding sites on GAM336635 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336635 target RNA into GAM336635 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336635 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336635 target genes. The mRNA of each one of this plurality of GAM336635 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336635 RNA, herein designated GAM RNA, and which when bound by GAM336635 RNA causes inhibition of translation of the GAM336635 target mRNA into a corresponding GAM336635 target protein.

The mechanism of the translational inhibition exerted by GAM336635 RNA, herein designated GAM RNA, on one or more GAM336635 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336635 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336635 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336635 RNA, herein designated GAM RNA, of GAM336635 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM336635 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336635 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336635 RNA correlate with, and may be deduced from, the identity of the GAM336635 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336636 141092 AGGCAGAGTC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGCTCTGTC detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCCAGGGTG Messenger 336636 (GAM336636) oligonucleotides modulates expression of respective target
GAATGCAGTG genes whose function and utility is known in the art.

GCACGATCTT GAM336636 is a novel bioinformatically detectable regulatory, non protein
GGCTCACTGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336636 was detected
GACCTCTATC is described with additional reference to Figs. 9-15.

TCTTGGGTTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AAGCAATTCT encoded by the human genome.

CCTGCCT GAM336636 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336636 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336636 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336636 precursor RNA is designated SEQ ID:141092, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141092 is located from position 33721932 to position 33722028 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336636 precursor RNA folds onto itself, forming GAM336636 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336636 precursor RNA, designated SEQ ID NO: 141092, and a schematic representation of a predicted secondary folding of GAM336636 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336636 folded precursor RNA yielding a GAM336636 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336636 RNA, hereby incorporated herein.

GAM336636 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336636 target RNA, herein designated GAM TARGET RNA.

GAM336636 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336636 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336636 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336636 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336636 RNA, herein designated GAM RNA, to target binding sites on GAM336636 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336636 target RNA into GAM336636 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336636 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336636 target genes. The mRNA of each one of this plurality of GAM336636 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336636 RNA, herein designated GAM RNA, and which when bound by GAM336636 RNA causes inhibition of translation of the GAM336636 target mRNA into a corresponding GAM336636 target protein.

The mechanism of the translational inhibition exerted by GAM336636 RNA, herein designated GAM RNA, on one or more GAM336636 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336636 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336636 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336636 RNA, herein designated GAM RNA, of GAM336636 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336636 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336636 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336636 RNA correlate with, and may be deduced from, the identity of the GAM336636 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336637 141093 GTATGGGGCA Fig. 8 further provides a conceptual description of another novel bioinformatically

ACTTGGGGCG detected oligonucleotides of the present invention, referred to here as Genomic Address

TGATGTCAGC Messenger 336637 (GAM336637) oligonucleotides modulates expression of respective target

CAGAGTCCTT genes whose function and utility is known in the art.

CCACCAAGGC GAM336637 is a novel bioinformatically detectable regulatory, non protein

TTTTATGGTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336637 was detected

TTACGTGATC is described with additional reference to Figs. 9-15.

CACCACCCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTAAC encoded by the human genome.

GAM336637 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336637 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336637 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336637 precursor RNA is designated SEQ ID:141093, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141093 is located from position 33804195 to position 33804279 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336637 precursor RNA folds onto itself, forming GAM336637 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336637 precursor RNA, designated SEQ ID NO: 141093, and a schematic representation of a predicted secondary folding of GAM336637 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336637 folded precursor RNA yielding a GAM336637 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336637 RNA, hereby incorporated herein.

GAM336637 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336637 target RNA, herein designated GAM TARGET RNA.

GAM336637 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336637 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336637 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336637 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336637 RNA, herein designated GAM RNA, to target binding sites on GAM336637 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336637 target RNA into GAM336637 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336637 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336637 target genes. The mRNA of each one of this plurality of GAM336637 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336637 RNA, herein designated GAM RNA, and which when bound by GAM336637 RNA causes inhibition of translation of the GAM336637 target mRNA into a corresponding GAM336637 target protein.

The mechanism of the translational inhibition exerted by GAM336637 RNA, herein designated GAM RNA, on one or more GAM336637 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336637 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336637 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336637 RNA, herein designated GAM RNA, of GAM336637 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336637 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336637 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336637 RNA correlate with, and may be deduced from, the identity of the GAM336637 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336638 141094 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336638 (GAM336638) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336638 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336638 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336638 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336638 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336638 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336638 precursor RNA is designated SEQ ID:141094, and is provided hereinbelow with reference to the sequence listing part.

Nucleotide sequence SEQ ID:141094 is located from position 33909250 to position 33909331 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM336638 precursor RNA folds onto itself, forming GAM336638 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336638 precursor RNA, designated SEQ ID NO: 141094, and a schematic representation of a predicted secondary folding of GAM336638 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336638 folded precursor RNA yielding a GAM336638 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336638 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336638 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336638 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336638 target RNA, herein designated GAM TARGET RNA.

GAM336638 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336638 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336638 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336638 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336638 RNA, herein designated GAM RNA, to target binding sites on GAM336638 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336638 target RNA

into GAM336638 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336638 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336638 target genes. The mRNA of each one of this plurality of GAM336638 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336638 RNA, herein designated GAM RNA, and which when bound by GAM336638 RNA causes inhibition of translation of the GAM336638 target mRNA into a corresponding GAM336638 target protein.

The mechanism of the translational inhibition exerted by GAM336638 RNA, herein designated GAM RNA, on one or more GAM336638 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336638 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336638 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336638 RNA, herein designated GAM RNA, of GAM336638 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336638 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336638 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336638 RNA correlate with, and may be deduced from, the identity of the GAM336638 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336639 141095 GCCCTTAGAA Fig. 8 further provides a conceptual description of another novel bioinformatically

ATTGTTATGA detected oligonucleotides of the present invention, referred to here as Genomic Address

TTGTCCCAGA Messenger 336639 (GAM336639) oligonucleotides modulates expression of respective target

AATCCAGGCT genes whose function and utility is known in the art.

TAAATGATAC GAM336639 is a novel bioinformatically detectable regulatory, non protein

TCAGGTGTAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336639 was detected

TATTCAAGAT is described with additional reference to Figs. 9-15.

AAGGGTCTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGAATATAA encoded by the human genome.

AATATTAATT GAM336639 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TGAGGGT GAM336639 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336639 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336639 precursor RNA is designated SEQ ID:141095, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141095 is located from position 33928191 to position 33928297 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM336639 precursor RNA folds onto itself, forming GAM336639 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336639 precursor RNA, designated SEQ ID NO: 141095, and a schematic representation of a predicted secondary folding of GAM336639 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336639 folded precursor RNA yielding a GAM336639 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336639 RNA, hereby incorporated herein.

GAM336639 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336639 target RNA, herein designated GAM TARGET RNA.

GAM336639 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336639 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336639 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336639 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336639 RNA, herein designated GAM RNA, to target binding sites on GAM336639 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336639 target RNA into GAM336639 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336639 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336639 target genes. The mRNA of each one of this plurality of GAM336639 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336639 RNA, herein designated GAM RNA, and which when bound by GAM336639 RNA causes inhibition of translation of the GAM336639 target mRNA into a corresponding GAM336639 target protein.

The mechanism of the translational inhibition exerted by GAM336639 RNA, herein designated GAM RNA, on one or more GAM336639 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336639 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336639 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336639 RNA, herein designated GAM RNA, of GAM336639 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336639 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336639 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336639 RNA correlate with, and may be deduced from, the identity of the GAM336639 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336640 141096 GGTTGGAATG Fig. 8 further provides a conceptual description of another novel bioinformatically

AGGAAGGGTG detected oligonucleotides of the present invention, referred to here as Genomic Address

TGGTCTTCGG Messenger 336640 (GAM336640) oligonucleotides modulates expression of respective target
CTAAAATTTG genes whose function and utility is known in the art.

CATAAAACGG GAM336640 is a novel bioinformatically detectable regulatory, non protein
AACCCATCCG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336640 was detected
GGCGATTCCA is described with additional reference to Figs. 9-15.

ACT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336640 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336640 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336640 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336640 precursor RNA is designated SEQ ID:141096, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141096 is located from position 33934627 to position 33934699 relative to chromosome chr21 on the `-` strand (chr is an abbreviation for chromosome).

GAM336640 precursor RNA folds onto itself, forming GAM336640 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336640 precursor RNA, designated SEQ ID NO: 141096, and a schematic representation of a predicted secondary folding of GAM336640 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336640 folded precursor RNA yielding a GAM336640 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336640 RNA, hereby incorporated herein.

GAM336640 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336640 target RNA, herein designated GAM TARGET RNA.

GAM336640 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336640 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336640 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336640 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336640 RNA, herein designated GAM RNA, to target binding sites on GAM336640 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336640 target RNA into GAM336640 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336640 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336640 target genes. The mRNA of each one of this plurality of GAM336640 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336640 RNA, herein designated GAM RNA, and which when bound by GAM336640 RNA causes inhibition of translation of the GAM336640 target mRNA into a corresponding GAM336640 target protein.

The mechanism of the translational inhibition exerted by GAM336640 RNA, herein designated GAM RNA, on one or more GAM336640 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336640 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336640 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336640 RNA, herein designated GAM RNA, of GAM336640 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336640 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336640 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336640

RNA correlate with, and may be deduced from, the identity of the GAM336640 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336641 141097 TTCTAAAGCT Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGGTACTAG detected oligonucleotides of the present invention, referred to here as Genomic Address
AATAGTAGAG Messenger 336641 (GAM336641) oligonucleotides modulates expression of respective target
TGATTAAGAG genes whose function and utility is known in the art.

TAGAGGCTTT GAM336641 is a novel bioinformatically detectable regulatory, non protein
GAGATAAATA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336641 was detected
AACCTGGCTT is described with additional reference to Figs. 9-15.

CAAGTCTCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTTTACAACT encoded by the human genome.

TACTATCTGG GAM336641 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GTCATCTTAG GAM336641 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAA GAM336641 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336641 precursor RNA is designated SEQ ID:141097, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141097 is located from position 33939048 to position 33939160 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336641 precursor RNA folds onto itself, forming GAM336641 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336641 precursor RNA, designated SEQ ID NO: 141097, and a schematic representation of a predicted secondary folding of GAM336641 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336641 folded precursor RNA yielding a GAM336641 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336641 RNA, hereby incorporated herein.

GAM336641 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336641 target RNA, herein designated GAM TARGET RNA.

GAM336641 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336641 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336641 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336641 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336641 RNA, herein designated GAM RNA, to target binding sites on GAM336641 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336641 target RNA into GAM336641 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336641 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336641 target genes. The mRNA of each one of this plurality of GAM336641 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336641 RNA, herein designated GAM RNA, and which when bound by GAM336641 RNA causes inhibition of translation of the GAM336641 target mRNA into a corresponding GAM336641 target protein.

The mechanism of the translational inhibition exerted by GAM336641 RNA, herein designated GAM RNA, on one or more GAM336641 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336641 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336641 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336641 RNA, herein designated GAM RNA, of GAM336641 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336641 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336641 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336641 RNA correlate with, and may be deduced from, the identity of the GAM336641 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336642 141098 GGTGGTAAAG Fig. 8 further provides a conceptual description of another novel bioinformatically
CCCTGGAGTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGGCAGGAAC Messenger 336642 (GAM336642) oligonucleotides modulates expression of respective target
CCCAAAGCCC genes whose function and utility is known in the art.

TATGACACCC GAM336642 is a novel bioinformatically detectable regulatory, non protein
CATATAGGTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336642 was detected
CCCCCAAACC is described with additional reference to Figs. 9-15.

TGCCTATACT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCAGGCCAGG encoded by the human genome.

CCCC GAM336642 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336642 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336642 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336642 precursor RNA is designated SEQ ID:141098, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141098 is located from position 34257285 to position 34257378 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GAM336642 precursor RNA folds onto itself, forming GAM336642 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336642 precursor RNA, designated SEQ ID NO: 141098, and a schematic representation of a predicted secondary folding of GAM336642 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336642 folded precursor RNA yielding a GAM336642 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336642 RNA, hereby incorporated herein.

GAM336642 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336642 target RNA, herein designated GAM TARGET RNA.

GAM336642 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336642 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336642 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336642 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336642 RNA, herein designated GAM RNA, to target binding sites on GAM336642 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336642 target RNA into GAM336642 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336642 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336642 target genes. The mRNA of each one of this plurality of GAM336642 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336642 RNA, herein designated GAM RNA, and which when bound by GAM336642 RNA causes inhibition of translation of the GAM336642 target mRNA into a corresponding GAM336642 target protein.

The mechanism of the translational inhibition exerted by GAM336642 RNA, herein designated GAM RNA, on one or more GAM336642 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336642 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336642 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336642 RNA, herein designated GAM RNA, of GAM336642 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336642 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336642 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336642 RNA correlate with, and may be deduced from, the identity of the GAM336642 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336643 141099 GGTGGTAAAG Fig. 8 further provides a conceptual description of another novel bioinformatically

CCCTGGAGTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGCAGGAAC Messenger 336643 (GAM336643) oligonucleotides modulates expression of respective target

CCCAAAGCCC genes whose function and utility is known in the art.

TATGACACCC GAM336643 is a novel bioinformatically detectable regulatory, non protein

CATATAGGTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336643 was detected

CCCCCAAACC is described with additional reference to Figs. 9-15.

TGCCTATACT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCAGGCCAGG encoded by the human genome.

CCCCC GAM336643 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336643 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336643 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336643 precursor RNA is designated SEQ ID:141099, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141099 is located from position 34257285 to position 34257379 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GAM336643 precursor RNA folds onto itself, forming GAM336643 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336643 precursor RNA, designated SEQ ID NO: 141099, and a schematic representation of a predicted secondary folding of GAM336643 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336643 folded precursor RNA yielding a GAM336643 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336643 RNA, hereby incorporated herein.

GAM336643 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336643 target RNA, herein designated GAM TARGET RNA.

GAM336643 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336643 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336643 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336643 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336643 RNA, herein designated GAM RNA, to target binding sites on GAM336643 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336643 target RNA into GAM336643 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336643 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336643 target genes. The mRNA of each one of this plurality of GAM336643 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM336643 RNA, herein designated GAM RNA, and which when bound by GAM336643 RNA causes inhibition of translation of the GAM336643 target mRNA into a corresponding GAM336643 target protein.

The mechanism of the translational inhibition exerted by GAM336643 RNA, herein designated GAM RNA, on one or more GAM336643 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336643 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336643 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336643 RNA, herein designated GAM RNA, of GAM336643 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336643 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336643 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336643 RNA correlate with, and may be deduced from, the identity of the GAM336643 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336644 141100 TGCTACGTTA Fig. 8 further provides a conceptual description of another novel bioinformatically

TTTTGTTTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

ACATTAAAAA Messenger 336644 (GAM336644) oligonucleotides modulates expression of respective target

TGCCATCTCT genes whose function and utility is known in the art.

GTGGTCTCAG GAM336644 is a novel bioinformatically detectable regulatory, non protein

TGCAACATTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336644 was detected

TCTAGAGAAC is described with additional reference to Figs. 9-15.

TTTTGGAGAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGTATGGGGG encoded by the human genome.

TGCATGAAAT GAM336644 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

AGATAAGTGG GAM336644 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

CA GAM336644 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336644 precursor RNA is designated SEQ ID:141100, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141100 is located from position 34587696 to position 34587807 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336644 precursor RNA folds onto itself, forming GAM336644 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336644 precursor RNA, designated SEQ ID NO: 141100, and a schematic representation of a predicted secondary folding of GAM336644 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336644 folded precursor RNA yielding a GAM336644 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336644 RNA, hereby incorporated herein.

GAM336644 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336644 target RNA, herein designated GAM TARGET RNA.

GAM336644 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336644 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336644 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336644 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336644 RNA, herein designated GAM RNA, to target

binding sites on GAM336644 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336644 target RNA into GAM336644 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336644 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336644 target genes. The mRNA of each one of this plurality of GAM336644 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336644 RNA, herein designated GAM RNA, and which when bound by GAM336644 RNA causes inhibition of translation of the GAM336644 target mRNA into a corresponding GAM336644 target protein.

The mechanism of the translational inhibition exerted by GAM336644 RNA, herein designated GAM RNA, on one or more GAM336644 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336644 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336644 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336644 RNA, herein designated GAM RNA, of GAM336644 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336644 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336644 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336644 RNA correlate with, and may be deduced from, the identity of the GAM336644 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336645 141101 GCTACGTTAT Fig. 8 further provides a conceptual description of another novel bioinformatically

TTTGTTTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

CATTAAAAAT Messenger 336645 (GAM336645) oligonucleotides modulates expression of respective target

GCCATCTCTG genes whose function and utility is known in the art.

TGGTCTCAGT GAM336645 is a novel bioinformatically detectable regulatory, non protein

GCAACATTGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336645 was detected

CTAGAGAACT is described with additional reference to Figs. 9-15.

TTTGGAGAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTATGGGGGT encoded by the human genome.

GCATGAAATA GAM336645 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GATAAGTGGC GAM336645 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336645 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336645 precursor RNA is designated SEQ ID:141101, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141101 is located from position 34587697 to position 34587806 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336645 precursor RNA folds onto itself, forming GAM336645 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336645 precursor RNA, designated SEQ ID NO: 141101, and a schematic representation of a predicted secondary folding of GAM336645 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336645 folded precursor RNA yielding a GAM336645 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336645 RNA, hereby incorporated herein.

GAM336645 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336645 target RNA, herein designated GAM TARGET RNA.

GAM336645 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336645 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336645 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336645 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows

three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336645 RNA, herein designated GAM RNA, to target binding sites on GAM336645 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336645 target RNA into GAM336645 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336645 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336645 target genes. The mRNA of each one of this plurality of GAM336645 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336645 RNA, herein designated GAM RNA, and which when bound by GAM336645 RNA causes inhibition of translation of the GAM336645 target mRNA into a corresponding GAM336645 target protein.

The mechanism of the translational inhibition exerted by GAM336645 RNA, herein designated GAM RNA, on one or more GAM336645 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336645 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336645 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336645 RNA, herein designated GAM RNA, of GAM336645 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336645 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336645 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336645 RNA correlate with, and may be deduced from, the identity of the GAM336645 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336646 141102 GGAAAAGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically

CATGGGTTAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GCCTTTTTGG Messenger 336646 (GAM336646) oligonucleotides modulates expression of respective
target
GAAGAGACAG genes whose function and utility is known in the art.

TTCAGCTTTT GAM336646 is a novel bioinformatically detectable regulatory, non protein
GATGTAAAAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336646 was
detected
AGCTGTACCT is described with additional reference to Figs. 9-15.

TCTGAGAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a
humen gene
GTAGCCCCAT encoded by the human genome.

GTCTTCATC GAM336646 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336646 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA
genes

GAM336646 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336646 precursor RNA is designated SEQ ID:141102, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141102 is located from position 34615664 to position 34615762 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336646 precursor RNA folds onto itself, forming GAM336646 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336646 precursor RNA, designated SEQ ID NO: 141102, and a schematic representation of a predicted secondary folding of GAM336646 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and
4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336646 folded precursor RNA yielding a GAM336646 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336646 RNA, hereby incorporated herein.

GAM336646 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336646 target RNA, herein designated GAM TARGET RNA.

GAM336646 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336646 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336646 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336646 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336646 RNA, herein designated GAM RNA, to target binding sites on GAM336646 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336646 target RNA into GAM336646 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336646 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336646 target genes. The mRNA of each one of this plurality of GAM336646 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336646 RNA, herein designated GAM RNA, and which when bound by GAM336646 RNA causes inhibition of translation of the GAM336646 target mRNA into a corresponding GAM336646 target protein.

The mechanism of the translational inhibition exerted by GAM336646 RNA, herein designated GAM RNA, on one or more GAM336646 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336646 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336646 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336646 RNA, herein designated GAM RNA, of GAM336646 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336646 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336646 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336646 RNA correlate with, and may be deduced from, the identity of the GAM336646 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336647 141103 CACTGTGGGG TTTTTCAGCA GTGGAAGAGG GATCTGATTT CCCTGAGAAG GATCTCTTTG TCATGTTGAG AACTGATGCC TAGAAAGTG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336647 (GAM336647) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336647 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336647 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336647 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336647 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336647 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336647 precursor RNA is designated SEQ ID:141103, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141103 is located from position 34690911 to position 34690999 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336647 precursor RNA folds onto itself, forming GAM336647 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336647 precursor RNA, designated SEQ ID NO: 141103, and a schematic representation of a predicted secondary folding of GAM336647 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336647 folded precursor RNA yielding a GAM336647 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336647 RNA, hereby incorporated herein.

GAM336647 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336647 target RNA, herein designated GAM TARGET RNA.

GAM336647 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336647 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336647 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336647 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336647 RNA, herein designated GAM RNA, to target binding sites on GAM336647 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336647 target RNA into GAM336647 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336647 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336647 target genes. The mRNA of each one of this plurality of GAM336647 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336647 RNA, herein designated GAM RNA, and which when bound by GAM336647 RNA causes inhibition of translation of the GAM336647 target mRNA into a corresponding GAM336647 target protein.

The mechanism of the translational inhibition exerted by GAM336647 RNA, herein designated GAM RNA, on one or more GAM336647 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336647 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336647 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336647 RNA, herein designated GAM RNA, of GAM336647 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336647 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336647 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336647 RNA correlate with, and may be deduced from, the identity of the GAM336647 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336648 141104 GGTGTCAGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AGGGACTAGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GCTTCAAGCA Messenger 336648 (GAM336648) oligonucleotides modulates expression of respective target

GACCCTGGAT genes whose function and utility is known in the art.

GGAGATTACT GAM336648 is a novel bioinformatically detectable regulatory, non protein

CTGCTACTGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336648 was detected

ATAAAACCCT is described with additional reference to Figs. 9-15.

AGCTTATTTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCTCTCTGGA encoded by the human genome.

TTTCT GAM336648 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336648 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336648 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336648 precursor RNA is designated SEQ ID:141104, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141104 is located from position 34777096 to position 34777190 relative to chromosome chr20 on the `-` strand (chr is an abbreviation for chromosome).

GAM336648 precursor RNA folds onto itself, forming GAM336648 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336648 precursor RNA, designated SEQ ID NO: 141104, and a schematic representation of a predicted secondary folding of GAM336648 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336648 folded precursor RNA yielding a GAM336648 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336648 RNA, hereby incorporated herein.

GAM336648 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336648 target RNA, herein designated GAM TARGET RNA.

GAM336648 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336648 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336648 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336648 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336648 RNA, herein designated GAM RNA, to target binding sites on GAM336648 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336648 target RNA into GAM336648 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336648 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336648 target genes. The mRNA of each one of this plurality of GAM336648 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336648 RNA, herein designated GAM RNA, and which when bound by GAM336648 RNA causes inhibition of translation of the GAM336648 target mRNA into a corresponding GAM336648 target protein.

The mechanism of the translational inhibition exerted by GAM336648 RNA, herein designated GAM RNA, on one or more GAM336648 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336648 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336648 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336648 RNA, herein designated GAM RNA, of GAM336648 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336648 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336648 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336648 RNA correlate with, and may be deduced from, the identity of the GAM336648 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336649 141105 TCAGAGAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
ACTAGGGCTT detected oligonucleotides of the present invention, referred to here as Genomic Address
CAAGCAGACC Messenger 336649 (GAM336649) oligonucleotides modulates expression of respective target
CTGGATGGAG genes whose function and utility is known in the art.

ATTACTCTGC GAM336649 is a novel bioinformatically detectable regulatory, non protein
TACTGAATAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336649 was detected
AACCCTAGCT is described with additional reference to Figs. 9-15.

TATTTCTCTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCTGG encoded by the human genome.

GAM336649 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336649 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336649 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336649 precursor RNA is designated SEQ ID:141105, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141105 is located from position 34777102 to position 34777186 relative to chromosome chr20 on the `-` strand (chr is an abbreviation for chromosome).

GAM336649 precursor RNA folds onto itself, forming GAM336649 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336649 precursor RNA, designated SEQ ID NO: 141105, and a schematic representation of a predicted secondary folding of GAM336649 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336649 folded precursor RNA yielding a GAM336649 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336649 RNA, hereby incorporated herein.

GAM336649 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336649 target RNA, herein designated GAM TARGET RNA.

GAM336649 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336649 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336649 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336649 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336649 RNA, herein designated GAM RNA, to target binding sites on GAM336649 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336649 target RNA into GAM336649 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336649 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336649 target genes. The mRNA of each one of this plurality of GAM336649 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336649 RNA, herein designated GAM RNA, and which when bound by GAM336649 RNA causes inhibition of

translation of the GAM336649 target mRNA into a corresponding GAM336649 target protein.

The mechanism of the translational inhibition exerted by GAM336649 RNA, herein designated GAM RNA, on one or more GAM336649 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336649 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336649 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336649 RNA, herein designated GAM RNA, of GAM336649 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336649 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336649 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336649 RNA correlate with, and may be deduced from, the identity of the GAM336649 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336650 141106 CAGAGAGGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
CTAGGGCTTC detected oligonucleotides of the present invention, referred to here as Genomic Address
AAGCAGACCC Messenger 336650 (GAM336650) oligonucleotides modulates expression of respective target
TGGATGGAGA genes whose function and utility is known in the art.

TTACTCTGCT GAM336650 is a novel bioinformatically detectable regulatory, non protein
ACTGAATAAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336650 was detected
ACCCTAGCTT is described with additional reference to Figs. 9-15.

ATTTCTCTCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTG encoded by the human genome.

GAM336650 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336650 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336650 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336650 precursor RNA is designated SEQ ID:141106, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141106 is located from position 34777103 to position 34777185 relative to chromosome chr20 on the `-` strand (chr is an abbreviation for chromosome).

GAM336650 precursor RNA folds onto itself, forming GAM336650 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336650 precursor RNA, designated SEQ ID NO: 141106, and a schematic representation of a predicted secondary folding of GAM336650 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336650 folded precursor RNA yielding a GAM336650 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336650 RNA, hereby incorporated herein.

GAM336650 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336650 target RNA, herein designated GAM TARGET RNA.

GAM336650 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336650 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336650 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336650 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336650 RNA, herein designated GAM RNA, to target binding sites on GAM336650 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336650 target RNA

into GAM336650 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336650 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336650 target genes. The mRNA of each one of this plurality of GAM336650 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336650 RNA, herein designated GAM RNA, and which when bound by GAM336650 RNA causes inhibition of translation of the GAM336650 target mRNA into a corresponding GAM336650 target protein.

The mechanism of the translational inhibition exerted by GAM336650 RNA, herein designated GAM RNA, on one or more GAM336650 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336650 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336650 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336650 RNA, herein designated GAM RNA, of GAM336650 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336650 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336650 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336650 RNA correlate with, and may be deduced from, the identity of the GAM336650 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336651 141107 CTCAGACTCA Fig. 8 further provides a conceptual description of another novel bioinformatically

CCAAACAGTC detected oligonucleotides of the present invention, referred to here as Genomic Address

TGCTTCTTAC Messenger 336651 (GAM336651) oligonucleotides modulates expression of respective target

CCCAGTGTAA genes whose function and utility is known in the art.

GCACTGAACA GAM336651 is a novel bioinformatically detectable regulatory, non protein

GGCAGGTGGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336651 was detected

TGTATGGGTC is described with additional reference to Figs. 9-15.

TGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336651 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336651 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336651 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336651 precursor RNA is designated SEQ ID:141107, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141107 is located from position 34790992 to position 34791065 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM336651 precursor RNA folds onto itself, forming GAM336651 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336651 precursor RNA, designated SEQ ID NO: 141107, and a schematic representation of a predicted secondary folding of GAM336651 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336651 folded precursor RNA yielding a GAM336651 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336651 RNA, hereby incorporated herein.

GAM336651 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336651 target RNA, herein designated GAM TARGET RNA.

GAM336651 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336651 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336651 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336651 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336651 RNA, herein designated GAM RNA, to target binding sites on GAM336651 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336651 target RNA into GAM336651 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336651 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336651 target genes. The mRNA of each one of this plurality of GAM336651 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336651 RNA, herein designated GAM RNA, and which when bound by GAM336651 RNA causes inhibition of translation of the GAM336651 target mRNA into a corresponding GAM336651 target protein.

The mechanism of the translational inhibition exerted by GAM336651 RNA, herein designated GAM RNA, on one or more GAM336651 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336651 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336651 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336651 RNA, herein designated GAM RNA, of GAM336651 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336651 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336651 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336651 RNA correlate with, and may be deduced from, the identity of the GAM336651 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336652 141108 AGGGAGAGTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGGGGTGAA detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTTTGAG Messenger 336652 (GAM336652) oligonucleotides modulates expression of respective target

CCTTCTCCTG genes whose function and utility is known in the art.

CTCTGTCCGT GAM336652 is a novel bioinformatically detectable regulatory, non protein
GGAGCAAGTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336652 was detected
AAATAAATGC is described with additional reference to Figs. 9-15.

TGAGACCGTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGCTCCTCAT encoded by the human genome.

TTCTCCTT GAM336652 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336652 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336652 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336652 precursor RNA is designated SEQ ID:141108, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141108 is located from position 34813290 to position 34813387 relative to chromosome chr21 on the `-` strand (chr is an abbreviation for chromosome).

GAM336652 precursor RNA folds onto itself, forming GAM336652 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336652 precursor RNA, designated SEQ ID NO: 141108, and a schematic representation of a predicted secondary folding of GAM336652 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336652 folded precursor RNA yielding a GAM336652 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336652 RNA, hereby incorporated herein.

GAM336652 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336652 target RNA, herein designated GAM TARGET RNA.

GAM336652 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336652 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336652 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336652 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336652 RNA, herein designated GAM RNA, to target binding sites on GAM336652 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336652 target RNA into GAM336652 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336652 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336652 target genes. The mRNA of each one of this plurality of GAM336652 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336652 RNA, herein designated GAM RNA, and which when bound by GAM336652 RNA causes inhibition of translation of the GAM336652 target mRNA into a corresponding GAM336652 target protein.

The mechanism of the translational inhibition exerted by GAM336652 RNA, herein designated GAM RNA, on one or more GAM336652 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336652 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336652 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336652 RNA, herein designated GAM RNA, of GAM336652 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336652 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336652 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336652 RNA correlate with, and may be deduced from, the identity of the GAM336652 target gene

inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336653 141109 GAGGTGGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
GATCGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
GCCCAGGAGG Messenger 336653 (GAM336653) oligonucleotides modulates expression of respective target
TCAAGGCTGC genes whose function and utility is known in the art.

AGTGAGTTGT GAM336653 is a novel bioinformatically detectable regulatory, non protein
GATCATGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336653 was detected
CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAAAGCAAGA encoded by the human genome.

CCCCATCTC GAM336653 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336653 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336653 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336653 precursor RNA is designated SEQ ID:141109, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141109 is located from position 34876504 to position 34876602 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM336653 precursor RNA folds onto itself, forming GAM336653 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336653 precursor RNA, designated SEQ ID NO: 141109, and a schematic representation of a predicted secondary folding of GAM336653 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336653 folded precursor RNA yielding a GAM336653 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly

similar to the nucleotide sequence of GAM336653 RNA, hereby incorporated herein. Expression of GAM336653 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336653 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336653 target RNA, herein designated GAM TARGET RNA.

GAM336653 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336653 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336653 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336653 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336653 RNA, herein designated GAM RNA, to target binding sites on GAM336653 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336653 target RNA into GAM336653 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336653 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336653 target genes. The mRNA of each one of this plurality of GAM336653 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336653 RNA, herein designated GAM RNA, and which when bound by GAM336653 RNA causes inhibition of translation of the GAM336653 target mRNA into a corresponding GAM336653 target protein.

The mechanism of the translational inhibition exerted by GAM336653 RNA, herein designated GAM RNA, on one or more GAM336653 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336653 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336653 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336653 RNA, herein designated GAM RNA, of GAM336653 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336653 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336653 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336653 RNA correlate with, and may be deduced from, the identity of the GAM336653 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336654 141110 ACCTTGAAGG Fig. 8 further provides a conceptual description of another novel bioinformatically
AGTCTGGTCC detected oligonucleotides of the present invention, referred to here as Genomic Address
TGTGCTGGTG Messenger 336654 (GAM336654) oligonucleotides modulates expression of respective target
AAACCCACAG genes whose function and utility is known in the art.

AGACCCTCAC GAM336654 is a novel bioinformatically detectable regulatory, non protein
GCTGACCTGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336654 was detected
ACTCTCTCTG is described with additional reference to Figs. 9-15.

GGTTCTCACT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGCACTTCT encoded by the human genome.

GGAATGGGT GAM336654 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336654 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336654 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336654 precursor RNA is designated SEQ ID:141110, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141110 is located from position 34908023 to position 34908121 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GAM336654 precursor RNA folds onto itself, forming GAM336654 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336654 precursor RNA, designated SEQ ID NO: 141110, and a schematic representation of a predicted secondary folding of GAM336654 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336654 folded precursor RNA yielding a GAM336654 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336654 RNA, hereby incorporated herein.

GAM336654 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336654 target RNA, herein designated GAM TARGET RNA.

GAM336654 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336654 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336654 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336654 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336654 RNA, herein designated GAM RNA, to target binding sites on GAM336654 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336654 target RNA into GAM336654 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336654 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336654 target genes. The mRNA of each one of this plurality of GAM336654 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336654 RNA, herein designated GAM RNA, and which when bound by GAM336654 RNA causes inhibition of translation of the GAM336654 target mRNA into a corresponding GAM336654 target protein.

The mechanism of the translational inhibition exerted by GAM336654 RNA, herein designated GAM RNA, on one or more GAM336654 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336654 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336654 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336654 RNA, herein designated GAM RNA, of GAM336654 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336654 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336654 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336654 RNA correlate with, and may be deduced from, the identity of the GAM336654 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336655 141111 TCTGGTCCTG Fig. 8 further provides a conceptual description of another novel bioinformatically
TGCTGGTGAA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCCACAGAG Messenger 336655 (GAM336655) oligonucleotides modulates expression of respective target
ACCCTCACGC genes whose function and utility is known in the art.

TGACCTGCAC GAM336655 is a novel bioinformatically detectable regulatory, non protein
TCTCTCTGGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336655 was detected
TTCTCACTCA is described with additional reference to Figs. 9-15.

GCACTTCTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
A encoded by the human genome.

GAM336655 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336655 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336655 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336655 precursor RNA is designated SEQ ID:141111, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141111 is located from position 34908029 to position 34908109 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GAM336655 precursor RNA folds onto itself, forming GAM336655 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336655 precursor RNA, designated SEQ ID NO: 141111, and a schematic representation of a predicted secondary folding of GAM336655 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336655 folded precursor RNA yielding a GAM336655 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336655 RNA, hereby incorporated herein.

GAM336655 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336655 target RNA, herein designated GAM TARGET RNA.

GAM336655 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336655 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336655 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336655 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336655 RNA, herein designated GAM RNA, to target binding sites on GAM336655 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336655 target RNA into GAM336655 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336655 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336655 target genes. The mRNA of each one of this plurality of GAM336655 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336655 RNA, herein designated GAM RNA, and which when bound by GAM336655 RNA causes inhibition of

translation of the GAM336655 target mRNA into a corresponding GAM336655 target protein.

The mechanism of the translational inhibition exerted by GAM336655 RNA, herein designated GAM RNA, on one or more GAM336655 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336655 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336655 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336655 RNA, herein designated GAM RNA, of GAM336655 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336655 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336655 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336655 RNA correlate with, and may be deduced from, the identity of the GAM336655 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336656 141112 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336656 (GAM336656) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336656 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336656 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336656 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336656 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336656 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336656 precursor RNA is designated SEQ ID:141112, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141112 is located from position 35023682 to position 35023763 relative to chromosome chr3 on the `+` strand (chr is an abbreviation for chromosome).

GAM336656 precursor RNA folds onto itself, forming GAM336656 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336656 precursor RNA, designated SEQ ID NO: 141112, and a schematic representation of a predicted secondary folding of GAM336656 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336656 folded precursor RNA yielding a GAM336656 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336656 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336656 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336656 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336656 target RNA, herein designated GAM TARGET RNA.

GAM336656 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336656 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336656 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336656 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336656 RNA, herein designated GAM RNA, to target binding sites on GAM336656 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336656 target RNA into GAM336656 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336656 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336656 target genes. The mRNA of each one of this plurality of GAM336656 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336656 RNA, herein designated GAM RNA, and which when bound by GAM336656 RNA causes inhibition of translation of the GAM336656 target mRNA into a corresponding GAM336656 target protein.

The mechanism of the translational inhibition exerted by GAM336656 RNA, herein designated GAM RNA, on one or more GAM336656 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336656 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336656 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336656 RNA, herein designated GAM RNA, of GAM336656 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336656 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336656 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336656 RNA correlate with, and may be deduced from, the identity of the GAM336656 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336657 141113 TGGTTGTTAT Fig. 8 further provides a conceptual description of another novel bioinformatically

GAGTCTGGTT detected oligonucleotides of the present invention, referred to here as Genomic Address

GTTAAGTGCT Messenger 336657 (GAM336657) oligonucleotides modulates expression of respective target

GGTTGTTAGT genes whose function and utility is known in the art.

TGTTAAAGTA GAM336657 is a novel bioinformatically detectable regulatory, non protein

GAGAAAACCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336657 was detected

CTAGCACAGT is described with additional reference to Figs. 9-15.

GCTTGGCACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CACTAAAGCC encoded by the human genome.

ATCATAAACC GAM336657 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

A GAM336657 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336657 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336657 precursor RNA is designated SEQ ID:141113, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141113 is located from position 35289635 to position 35289735 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336657 precursor RNA folds onto itself, forming GAM336657 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336657 precursor RNA, designated SEQ ID NO: 141113, and a schematic representation of a predicted secondary folding of GAM336657 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336657 folded precursor RNA yielding a GAM336657 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336657 RNA, hereby incorporated herein.

GAM336657 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336657 target RNA, herein designated GAM TARGET RNA.

GAM336657 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336657 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336657 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336657 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336657 RNA, herein designated GAM RNA, to target binding sites on GAM336657 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336657 target RNA into GAM336657 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336657 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336657 target genes. The mRNA of each one of this plurality of GAM336657 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336657 RNA, herein designated GAM RNA, and which when bound by GAM336657 RNA causes inhibition of translation of the GAM336657 target mRNA into a corresponding GAM336657 target protein.

The mechanism of the translational inhibition exerted by GAM336657 RNA, herein designated GAM RNA, on one or more GAM336657 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336657 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336657 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336657 RNA, herein designated GAM RNA, of GAM336657 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336657 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336657 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336657 RNA correlate with, and may be deduced from, the identity of the GAM336657 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336658 141114 GGGAAGAACT Fig. 8 further provides a conceptual description of another novel bioinformatically

ACCAATCTAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GGCACACGTC Messenger 336658 (GAM336658) oligonucleotides modulates expression of respective target
TCTCTGAATT genes whose function and utility is known in the art.

GTTGATTATG GAM336658 is a novel bioinformatically detectable regulatory, non protein
CGCTTTATGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336658 was detected
AGAGATTTTT is described with additional reference to Figs. 9-15.

CAATCTCGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGCTTTACTT encoded by the human genome.

TGTGTGGTTT GAM336658 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
AGACCC GAM336658 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336658 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336658 precursor RNA is designated SEQ ID:141114, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141114 is located from position 35608725 to position 35608830 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336658 precursor RNA folds onto itself, forming GAM336658 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336658 precursor RNA, designated SEQ ID NO: 141114, and a schematic representation of a predicted secondary folding of GAM336658 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336658 folded precursor RNA yielding a GAM336658 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336658 RNA, hereby incorporated herein.

GAM336658 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336658 target RNA, herein designated GAM TARGET RNA.

GAM336658 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336658 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336658 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336658 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336658 RNA, herein designated GAM RNA, to target binding sites on GAM336658 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336658 target RNA into GAM336658 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336658 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336658 target genes. The mRNA of each one of this plurality of GAM336658 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336658 RNA, herein designated GAM RNA, and which when bound by GAM336658 RNA causes inhibition of translation of the GAM336658 target mRNA into a corresponding GAM336658 target protein.

The mechanism of the translational inhibition exerted by GAM336658 RNA, herein designated GAM RNA, on one or more GAM336658 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336658 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336658 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336658 RNA, herein designated GAM RNA, of GAM336658 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336658 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336658 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336658 RNA correlate with, and may be deduced from, the identity of the GAM336658 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336659 141115 GAGAATTGCT Fig. 8 further provides a conceptual description of another novel bioinformatically
TTAACCCGGG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGGTGGAGGT Messenger 336659 (GAM336659) oligonucleotides modulates expression of respective target
TGCAGTGACT genes whose function and utility is known in the art.

GAGATCGGGC GAM336659 is a novel bioinformatically detectable regulatory, non protein
CACTGCACTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336659 was detected
CAGCCTGGGC is described with additional reference to Figs. 9-15.

AACAGAGAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GACTC encoded by the human genome.

GAM336659 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336659 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336659 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336659 precursor RNA is designated SEQ ID:141115, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141115 is located from position 35681759 to position 35681843 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM336659 precursor RNA folds onto itself, forming GAM336659 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336659 precursor RNA, designated SEQ ID NO: 141115, and a schematic representation of a predicted secondary folding of GAM336659 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336659 folded precursor RNA yielding a GAM336659 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336659 RNA, hereby incorporated herein. Expression of GAM336659 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336659 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336659 target RNA, herein designated GAM TARGET RNA.

GAM336659 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336659 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336659 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336659 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336659 RNA, herein designated GAM RNA, to target binding sites on GAM336659 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336659 target RNA into GAM336659 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336659 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336659 target genes. The mRNA of each one of this plurality of GAM336659 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336659 RNA, herein designated GAM RNA, and which when bound by GAM336659 RNA causes inhibition of translation of the GAM336659 target mRNA into a corresponding GAM336659 target protein.

The mechanism of the translational inhibition exerted by GAM336659 RNA, herein designated GAM RNA, on one or more GAM336659 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336659 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336659 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336659 RNA, herein designated GAM RNA, of GAM336659 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336659 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336659 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336659 RNA correlate with, and may be deduced from, the identity of the GAM336659 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336660 141116 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336660 (GAM336660) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336660 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336660 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336660 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336660 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336660 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336660 precursor RNA is designated SEQ ID:141116, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141116 is located from position 35708263 to position 35708344 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM336660 precursor RNA folds onto itself, forming GAM336660 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336660 precursor RNA, designated SEQ ID NO: 141116, and a schematic representation of a predicted secondary folding of GAM336660 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336660 folded precursor RNA yielding a GAM336660 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336660 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336660 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336660 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336660 target RNA, herein designated GAM TARGET RNA.

GAM336660 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336660 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336660 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336660 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336660 RNA, herein designated GAM RNA, to target binding sites on GAM336660 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336660 target RNA into GAM336660 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336660 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336660 target genes. The mRNA of each one of this plurality of GAM336660 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336660 RNA, herein designated GAM RNA, and which when bound by GAM336660 RNA causes inhibition of translation of the GAM336660 target mRNA into a corresponding GAM336660 target protein.

The mechanism of the translational inhibition exerted by GAM336660 RNA, herein

designated GAM RNA, on one or more GAM336660 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336660 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336660 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336660 RNA, herein designated GAM RNA, of GAM336660 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336660 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336660 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336660 RNA correlate with, and may be deduced from, the identity of the GAM336660 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336661 141117 GAGGCGGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATTGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCCGGGAGG Messenger 336661 (GAM336661) oligonucleotides modulates expression of respective target

TGGAGGTTGC genes whose function and utility is known in the art.

AGTGAGCCGA GAM336661 is a novel bioinformatically detectable regulatory, non protein

GATCGCGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336661 was detected

TTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGAGCAAGA encoded by the human genome.

CTCTGTCTC GAM336661 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336661 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336661 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336661 precursor RNA is designated SEQ ID:141117, and is provided hereinbelow with reference to the sequence listing part.

Nucleotide sequence SEQ ID:141117 is located from position 35736486 to position 35736584 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336661 precursor RNA folds onto itself, forming GAM336661 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336661 precursor RNA, designated SEQ ID NO: 141117, and a schematic representation of a predicted secondary folding of GAM336661 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336661 folded precursor RNA yielding a GAM336661 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336661 RNA, hereby incorporated herein. Expression of GAM336661 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336661 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336661 target RNA, herein designated GAM TARGET RNA.

GAM336661 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336661 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336661 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336661 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336661 RNA, herein designated GAM RNA, to target binding sites on GAM336661 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336661 target RNA

into GAM336661 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336661 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336661 target genes. The mRNA of each one of this plurality of GAM336661 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336661 RNA, herein designated GAM RNA, and which when bound by GAM336661 RNA causes inhibition of translation of the GAM336661 target mRNA into a corresponding GAM336661 target protein.

The mechanism of the translational inhibition exerted by GAM336661 RNA, herein designated GAM RNA, on one or more GAM336661 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336661 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336661 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336661 RNA, herein designated GAM RNA, of GAM336661 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336661 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336661 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336661 RNA correlate with, and may be deduced from, the identity of the GAM336661 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336662 141118 GGCGGGAGAA Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGCTTGAAC detected oligonucleotides of the present invention, referred to here as Genomic Address

CCGGGAGGTG Messenger 336662 (GAM336662) oligonucleotides modulates expression of respective target

GAGGTTGCAG genes whose function and utility is known in the art.

TGAGCCGAGA GAM336662 is a novel bioinformatically detectable regulatory, non protein

TCGCGCCATT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336662 was detected

GCACTCCAGC is described with additional reference to Figs. 9-15.

CTGGGCAACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGCAAGACT encoded by the human genome.

CTGTC GAM336662 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336662 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336662 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336662 precursor RNA is designated SEQ ID:141118, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141118 is located from position 35736488 to position 35736582 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336662 precursor RNA folds onto itself, forming GAM336662 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336662 precursor RNA, designated SEQ ID NO: 141118, and a schematic representation of a predicted secondary folding of GAM336662 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336662 folded precursor RNA yielding a GAM336662 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336662 RNA, hereby incorporated herein. Expression of GAM336662 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336662 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336662 target RNA, herein designated GAM TARGET RNA.

GAM336662 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336662 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336662 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336662 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows

three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336662 RNA, herein designated GAM RNA, to target binding sites on GAM336662 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336662 target RNA into GAM336662 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336662 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336662 target genes. The mRNA of each one of this plurality of GAM336662 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336662 RNA, herein designated GAM RNA, and which when bound by GAM336662 RNA causes inhibition of translation of the GAM336662 target mRNA into a corresponding GAM336662 target protein.

The mechanism of the translational inhibition exerted by GAM336662 RNA, herein designated GAM RNA, on one or more GAM336662 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336662 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336662 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336662 RNA, herein designated GAM RNA, of GAM336662 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336662 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336662 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336662 RNA correlate with, and may be deduced from, the identity of the GAM336662 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336663 141119 GGAGAATTGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGTGGAGG Messenger 336663 (GAM336663) oligonucleotides modulates expression of respective target
TTGCAGTGAG genes whose function and utility is known in the art.

CCGAGATCGC GAM336663 is a novel bioinformatically detectable regulatory, non protein
GCCATTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336663 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AAGACTCT encoded by the human genome.

GAM336663 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336663 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336663 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336663 precursor RNA is designated SEQ ID:141119, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141119 is located from position 35736492 to position 35736579 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336663 precursor RNA folds onto itself, forming GAM336663 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336663 precursor RNA, designated SEQ ID NO: 141119, and a schematic representation of a predicted secondary folding of GAM336663 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336663 folded precursor RNA yielding a GAM336663 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336663 RNA, hereby incorporated herein. Expression of GAM336663 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336663 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336663 target RNA, herein designated GAM TARGET RNA.

GAM336663 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336663 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336663 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336663 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336663 RNA, herein designated GAM RNA, to target binding sites on GAM336663 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336663 target RNA into GAM336663 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336663 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336663 target genes. The mRNA of each one of this plurality of GAM336663 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336663 RNA, herein designated GAM RNA, and which when bound by GAM336663 RNA causes inhibition of translation of the GAM336663 target mRNA into a corresponding GAM336663 target protein.

The mechanism of the translational inhibition exerted by GAM336663 RNA, herein designated GAM RNA, on one or more GAM336663 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336663 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336663 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336663 RNA, herein designated GAM RNA, of GAM336663 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336663 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336663 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336663 RNA correlate with, and may be deduced from, the identity of the GAM336663 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336664 141120 TTGCTTGAAC CCGGGAGGTG GAGGTTGCAG TGAGCCGAGA TCGCGCCATT GCACTCCAGC CTGGGCAACA GAGCAA

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336664 (GAM336664) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336664 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336664 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336664 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336664 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336664 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336664 precursor RNA is designated SEQ ID:141120, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141120 is located from position 35736498 to position 35736573 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336664 precursor RNA folds onto itself, forming GAM336664 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336664 precursor RNA, designated SEQ ID NO: 141120, and a schematic representation of a predicted secondary folding of GAM336664 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336664 folded precursor RNA yielding a GAM336664 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336664 RNA, hereby incorporated herein. Expression of GAM336664 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336664 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336664 target RNA, herein designated GAM TARGET RNA.

GAM336664 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336664 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336664 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336664 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336664 RNA, herein designated GAM RNA, to target binding sites on GAM336664 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336664 target RNA into GAM336664 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336664 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336664 target genes. The mRNA of each one of this plurality of GAM336664 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336664 RNA, herein designated GAM RNA, and which when bound by GAM336664 RNA causes inhibition of translation of the GAM336664 target mRNA into a corresponding GAM336664 target protein.

The mechanism of the translational inhibition exerted by GAM336664 RNA, herein designated GAM RNA, on one or more GAM336664 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336664 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336664 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336664 RNA, herein designated GAM RNA, of GAM336664 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336664 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336664 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336664 RNA correlate with, and may be deduced from, the identity of the GAM336664 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336665 141121 GCCTCTGGAC Fig. 8 further provides a conceptual description of another novel bioinformatically

AATACTGTTA detected oligonucleotides of the present invention, referred to here as Genomic Address

AAACTAAATA Messenger 336665 (GAM336665) oligonucleotides modulates expression of respective target

CTTGCCAGGT genes whose function and utility is known in the art.

GTGGTGGCTC GAM336665 is a novel bioinformatically detectable regulatory, non protein

ACACCTGTGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336665 was detected

TAGTTCTTTT is described with additional reference to Figs. 9-15.

GGAGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336665 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336665 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336665 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336665 precursor RNA is designated SEQ ID:141121, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141121 is located from position 35840280 to position 35840355 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336665 precursor RNA folds onto itself, forming GAM336665 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336665 precursor RNA, designated SEQ ID NO: 141121, and a schematic representation of a predicted secondary folding of GAM336665 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336665 folded precursor RNA yielding a GAM336665 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336665 RNA, hereby incorporated herein.

GAM336665 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336665 target RNA, herein designated GAM TARGET RNA.

GAM336665 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336665 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336665 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336665 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336665 RNA, herein designated GAM RNA, to target binding sites on GAM336665 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336665 target RNA into GAM336665 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336665 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336665 target genes. The mRNA of each one of this plurality of GAM336665 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336665 RNA, herein designated GAM RNA, and which when bound by GAM336665 RNA causes inhibition of translation of the GAM336665 target mRNA into a corresponding GAM336665 target protein.

The mechanism of the translational inhibition exerted by GAM336665 RNA, herein designated GAM RNA, on one or more GAM336665 target genes, herein collectively designated

GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336665 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336665 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336665 RNA, herein designated GAM RNA, of GAM336665 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336665 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336665 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336665 RNA correlate with, and may be deduced from, the identity of the GAM336665 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336666 141122 GAAGGAGCTT Fig. 8 further provides a conceptual description of another novel bioinformatically

GGGACTTCCA detected oligonucleotides of the present invention, referred to here as Genomic Address

AGCCTCTACC Messenger 336666 (GAM336666) oligonucleotides modulates expression of respective target

TCTTATAGAA genes whose function and utility is known in the art.

AAGGAGATTG GAM336666 is a novel bioinformatically detectable regulatory, non protein

AGGCTCAGAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336666 was detected

AGGGGAAGTG is described with additional reference to Figs. 9-15.

ATTGGTCCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGTCCTTC encoded by the human genome.

GAM336666 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336666 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336666 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336666 precursor RNA is designated SEQ ID:141122, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141122 is located from position 35878691 to position 35878778 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM336666 precursor RNA folds onto itself, forming GAM336666 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336666 precursor RNA, designated SEQ ID NO: 141122, and a schematic representation of a predicted secondary folding of GAM336666 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336666 folded precursor RNA yielding a GAM336666 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336666 RNA, hereby incorporated herein.

GAM336666 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336666 target RNA, herein designated GAM TARGET RNA.

GAM336666 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336666 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336666 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336666 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336666 RNA, herein designated GAM RNA, to target binding sites on GAM336666 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336666 target RNA into GAM336666 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336666 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM336666 target genes. The mRNA of each one of this plurality of GAM336666 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336666 RNA, herein designated GAM RNA, and which when bound by GAM336666 RNA causes inhibition of translation of the GAM336666 target mRNA into a corresponding GAM336666 target protein.

The mechanism of the translational inhibition exerted by GAM336666 RNA, herein designated GAM RNA, on one or more GAM336666 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336666 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336666 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336666 RNA, herein designated GAM RNA, of GAM336666 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336666 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336666 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336666 RNA correlate with, and may be deduced from, the identity of the GAM336666 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336667 141123 CAGACTGGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

ATGGGATGAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GACTTCCATA Messenger 336667 (GAM336667) oligonucleotides modulates expression of respective target

TTACCCCATG genes whose function and utility is known in the art.

CATAGAGATA GAM336667 is a novel bioinformatically detectable regulatory, non protein

CATTAAACAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336667 was detected

CCCTTAAAAG is described with additional reference to Figs. 9-15.

TGGGTGTGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTGGAACATG encoded by the human genome.

CTGGCTGGTT GAM336667 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GGAACTTCCT GAM336667 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

TATCATTCCC GAM336667 precursor RNA does not encode a protein. A nucleotide sequence identical or

TTTG highly similar to the nucleotide sequence of GAM336667 precursor RNA is designated SEQ ID:141123, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141123 is located from position 36291960 to position 36292083 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM336667 precursor RNA folds onto itself, forming GAM336667 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336667 precursor RNA, designated SEQ ID NO: 141123, and a schematic representation of a predicted secondary folding of GAM336667 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336667 folded precursor RNA yielding a GAM336667 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336667 RNA, hereby incorporated herein.

GAM336667 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336667 target RNA, herein designated GAM TARGET RNA.

GAM336667 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336667 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336667 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336667 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336667 RNA, herein designated GAM RNA, to target binding sites on GAM336667 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336667 target RNA into GAM336667 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336667 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336667 target genes. The mRNA of each one of this plurality of GAM336667 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336667 RNA, herein designated GAM RNA, and which when bound by GAM336667 RNA causes inhibition of translation of the GAM336667 target mRNA into a corresponding GAM336667 target protein.

The mechanism of the translational inhibition exerted by GAM336667 RNA, herein designated GAM RNA, on one or more GAM336667 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336667 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336667 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336667 RNA, herein designated GAM RNA, of GAM336667 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336667 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336667 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336667 RNA correlate with, and may be deduced from, the identity of the GAM336667 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336668 141124 GGGAATGGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

TGAGGACTTC detected oligonucleotides of the present invention, referred to here as Genomic Address

CATATTACCC Messenger 336668 (GAM336668) oligonucleotides modulates expression of respective target

CATGCATAGA genes whose function and utility is known in the art.

GATACATTAA GAM336668 is a novel bioinformatically detectable regulatory, non protein
ACATCCCTTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336668 was detected
AAAGTGGGTG is described with additional reference to Figs. 9-15.

TGGCCTGGAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CATGCTGGCT encoded by the human genome.

GGTTGGAACT GAM336668 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TCCTTATCAT GAM336668 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
TCCC GAM336668 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336668 precursor RNA is designated SEQ ID:141124, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141124 is located from position 36291966 to position 36292079 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM336668 precursor RNA folds onto itself, forming GAM336668 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336668 precursor RNA, designated SEQ ID NO: 141124, and a schematic representation of a predicted secondary folding of GAM336668 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336668 folded precursor RNA yielding a GAM336668 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336668 RNA, hereby incorporated herein.

GAM336668 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336668 target RNA, herein designated GAM TARGET RNA.

GAM336668 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336668 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM336668 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336668 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336668 RNA, herein designated GAM RNA, to target binding sites on GAM336668 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336668 target RNA into GAM336668 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336668 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336668 target genes. The mRNA of each one of this plurality of GAM336668 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336668 RNA, herein designated GAM RNA, and which when bound by GAM336668 RNA causes inhibition of translation of the GAM336668 target mRNA into a corresponding GAM336668 target protein.

The mechanism of the translational inhibition exerted by GAM336668 RNA, herein designated GAM RNA, on one or more GAM336668 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336668 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336668 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336668 RNA, herein designated GAM RNA, of GAM336668 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336668 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336668 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336668 RNA correlate with, and may be deduced from, the identity of the GAM336668 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336669 141125 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 336669 (GAM336669) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336669 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336669 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM336669 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336669 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336669 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336669 precursor RNA is designated SEQ ID:141125, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141125 is located from position 36383567 to position 36383648 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GAM336669 precursor RNA folds onto itself, forming GAM336669 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336669 precursor RNA, designated SEQ ID NO: 141125, and a schematic representation of a predicted secondary folding of GAM336669 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336669 folded precursor RNA yielding a GAM336669 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336669 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336669 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336669 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336669 target RNA, herein designated GAM TARGET RNA.

GAM336669 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336669 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336669 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336669 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336669 RNA, herein designated GAM RNA, to target binding sites on GAM336669 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336669 target RNA into GAM336669 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336669 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336669 target genes. The mRNA of each one of this plurality of GAM336669 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336669 RNA, herein designated GAM RNA, and which when bound by GAM336669 RNA causes inhibition of translation of the GAM336669 target mRNA into a corresponding GAM336669 target protein.

The mechanism of the translational inhibition exerted by GAM336669 RNA, herein designated GAM RNA, on one or more GAM336669 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336669 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336669 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336669 RNA, herein designated GAM RNA, of GAM336669 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336669 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336669 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336669 RNA correlate with, and may be deduced from, the identity of the GAM336669 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336670 141126 AAATAGCCAT Fig. 8 further provides a conceptual description of another novel bioinformatically
TCCCTCGTGC detected oligonucleotides of the present invention, referred to here as Genomic Address
TGCGACAGTT Messenger 336670 (GAM336670) oligonucleotides modulates expression of respective target
CCATTCCTAA genes whose function and utility is known in the art.

TGCAGACTTA GAM336670 is a novel bioinformatically detectable regulatory, non protein
CAAAAACTAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336670 was detected
GTGTAAGGCT is described with additional reference to Figs. 9-15.

GGCATTAGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGAGGCCAGG encoded by the human genome.

ATGAGAGCAG GAM336670 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GGCTTTTT GAM336670 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336670 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336670 precursor RNA is designated SEQ ID:141126, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141126 is located from position 36386596 to position 36386703 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM336670 precursor RNA folds onto itself, forming GAM336670 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336670 precursor RNA, designated SEQ ID NO: 141126, and a schematic representation of a predicted secondary folding of GAM336670 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336670 folded precursor RNA yielding a GAM336670 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336670 RNA, hereby incorporated herein.

GAM336670 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336670 target RNA, herein designated GAM TARGET RNA.

GAM336670 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336670 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336670 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336670 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336670 RNA, herein designated GAM RNA, to target binding sites on GAM336670 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336670 target RNA into GAM336670 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336670 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336670 target genes. The mRNA of each one of this plurality of GAM336670 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336670 RNA, herein designated GAM RNA, and which when bound by GAM336670 RNA causes inhibition of translation of the GAM336670 target mRNA into a corresponding GAM336670 target protein.

The mechanism of the translational inhibition exerted by GAM336670 RNA, herein designated GAM RNA, on one or more GAM336670 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336670 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336670 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336670 RNA, herein designated GAM RNA, of GAM336670 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336670 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336670 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336670 RNA correlate with, and may be deduced from, the identity of the GAM336670 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336671 141127 AGCCATTCCC Fig. 8 further provides a conceptual description of another novel bioinformatically
TCGTGCTGCG detected oligonucleotides of the present invention, referred to here as Genomic Address
ACAGTTCCAT Messenger 336671 (GAM336671) oligonucleotides modulates expression of respective target
TCCTAATGCA genes whose function and utility is known in the art.

GACTTACAAA GAM336671 is a novel bioinformatically detectable regulatory, non protein
AACTAGGTGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336671 was detected
AAGGCTGGCA is described with additional reference to Figs. 9-15.

TTAGGGTGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCCAGGATGA encoded by the human genome.

GAGCAGGGCT GAM336671 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAM336671 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336671 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336671 precursor RNA is designated SEQ ID:141127, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141127 is located from position 36386600 to position 36386699 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM336671 precursor RNA folds onto itself, forming GAM336671 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336671 precursor RNA, designated SEQ ID NO: 141127, and a schematic representation of a predicted secondary folding of GAM336671 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336671 folded precursor RNA yielding a GAM336671 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336671 RNA, hereby incorporated herein.

GAM336671 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336671 target RNA, herein designated GAM TARGET RNA.

GAM336671 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336671 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336671 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336671 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336671 RNA, herein designated GAM RNA, to target binding sites on GAM336671 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336671 target RNA into GAM336671 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336671 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336671 target genes. The mRNA of each one of this plurality of GAM336671 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336671 RNA, herein designated GAM RNA, and which when bound by GAM336671 RNA causes inhibition of

translation of the GAM336671 target mRNA into a corresponding GAM336671 target protein.

The mechanism of the translational inhibition exerted by GAM336671 RNA, herein designated GAM RNA, on one or more GAM336671 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336671 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336671 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336671 RNA, herein designated GAM RNA, of GAM336671 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336671 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336671 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336671 RNA correlate with, and may be deduced from, the identity of the GAM336671 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336672 141128 CTCGTGCTGC Fig. 8 further provides a conceptual description of another novel bioinformatically
GACAGTTCCA detected oligonucleotides of the present invention, referred to here as Genomic Address
TTCCTAATGC Messenger 336672 (GAM336672) oligonucleotides modulates expression of respective target
AGACTTACAA genes whose function and utility is known in the art.

AAACTAGGTG GAM336672 is a novel bioinformatically detectable regulatory, non protein
TAAGGCTGGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336672 was detected
ATTAGGGTGA is described with additional reference to Figs. 9-15.

GGCCAGGATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AG encoded by the human genome.

GAM336672 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336672 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336672 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336672 precursor RNA is designated SEQ ID:141128, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141128 is located from position 36386609 to position 36386690 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM336672 precursor RNA folds onto itself, forming GAM336672 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336672 precursor RNA, designated SEQ ID NO: 141128, and a schematic representation of a predicted secondary folding of GAM336672 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336672 folded precursor RNA yielding a GAM336672 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336672 RNA, hereby incorporated herein.

GAM336672 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336672 target RNA, herein designated GAM TARGET RNA.

GAM336672 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336672 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336672 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336672 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336672 RNA, herein designated GAM RNA, to target binding sites on GAM336672 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336672 target RNA

into GAM336672 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336672 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336672 target genes. The mRNA of each one of this plurality of GAM336672 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336672 RNA, herein designated GAM RNA, and which when bound by GAM336672 RNA causes inhibition of translation of the GAM336672 target mRNA into a corresponding GAM336672 target protein.

The mechanism of the translational inhibition exerted by GAM336672 RNA, herein designated GAM RNA, on one or more GAM336672 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336672 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336672 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336672 RNA, herein designated GAM RNA, of GAM336672 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336672 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336672 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336672 RNA correlate with, and may be deduced from, the identity of the GAM336672 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336673 141129 TGACCCTCCA Fig. 8 further provides a conceptual description of another novel bioinformatically

GACCTCACAT detected oligonucleotides of the present invention, referred to here as Genomic Address

TTGTTCTGGA Messenger 336673 (GAM336673) oligonucleotides modulates expression of respective target

GCCCATACTC genes whose function and utility is known in the art.

ACCAATCAGC GAM336673 is a novel bioinformatically detectable regulatory, non protein

TTTAGCTTTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336673 was detected

GGTCGAGATG is described with additional reference to Figs. 9-15.

AGGTTTCTCG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAGGGTCTCT encoded by the human genome.

GCAGGGTCA GAM336673 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336673 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336673 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336673 precursor RNA is designated SEQ ID:141129, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141129 is located from position 36425183 to position 36425281 relative to chromosome chr21 on the `-` strand (chr is an abbreviation for chromosome).

GAM336673 precursor RNA folds onto itself, forming GAM336673 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336673 precursor RNA, designated SEQ ID NO: 141129, and a schematic representation of a predicted secondary folding of GAM336673 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336673 folded precursor RNA yielding a GAM336673 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336673 RNA, hereby incorporated herein.

GAM336673 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336673 target RNA, herein designated GAM TARGET RNA.

GAM336673 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336673 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336673 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336673 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336673 RNA, herein designated GAM RNA, to target binding sites on GAM336673 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336673 target RNA into GAM336673 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336673 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336673 target genes. The mRNA of each one of this plurality of GAM336673 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336673 RNA, herein designated GAM RNA, and which when bound by GAM336673 RNA causes inhibition of translation of the GAM336673 target mRNA into a corresponding GAM336673 target protein.

The mechanism of the translational inhibition exerted by GAM336673 RNA, herein designated GAM RNA, on one or more GAM336673 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336673 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336673 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336673 RNA, herein designated GAM RNA, of GAM336673 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336673 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336673 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336673 RNA correlate with, and may be deduced from, the identity of the GAM336673 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336674 141130 CCTTGGCATT Fig. 8 further provides a conceptual description of another novel bioinformatically

CATTATTTTC detected oligonucleotides of the present invention, referred to here as Genomic Address

ATTCCAGTTC Messenger 336674 (GAM336674) oligonucleotides modulates expression of respective target
TCAGCACAGC genes whose function and utility is known in the art.

GCTTGGCACA GAM336674 is a novel bioinformatically detectable regulatory, non protein
TAGTAGGAAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336674 was detected
TCAGGAAGTG is described with additional reference to Figs. 9-15.

TTTATGGGAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGAATGGGGT encoded by the human genome.

GATGATGTTG GAM336674 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
AGG GAM336674 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336674 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336674 precursor RNA is designated SEQ ID:141130, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141130 is located from position 36639912 to position 36640014 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM336674 precursor RNA folds onto itself, forming GAM336674 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336674 precursor RNA, designated SEQ ID NO: 141130, and a schematic representation of a predicted secondary folding of GAM336674 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336674 folded precursor RNA yielding a GAM336674 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336674 RNA, hereby incorporated herein.

GAM336674 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336674 target RNA, herein designated GAM TARGET RNA.

GAM336674 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336674 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336674 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336674 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336674 RNA, herein designated GAM RNA, to target binding sites on GAM336674 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336674 target RNA into GAM336674 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336674 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336674 target genes. The mRNA of each one of this plurality of GAM336674 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336674 RNA, herein designated GAM RNA, and which when bound by GAM336674 RNA causes inhibition of translation of the GAM336674 target mRNA into a corresponding GAM336674 target protein.

The mechanism of the translational inhibition exerted by GAM336674 RNA, herein designated GAM RNA, on one or more GAM336674 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336674 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336674 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336674 RNA, herein designated GAM RNA, of GAM336674 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336674 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336674 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336674 RNA correlate with, and may be deduced from, the identity of the GAM336674 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336675 141131 GAGACAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AATCACTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ATCTGAGAGG Messenger 336675 (GAM336675) oligonucleotides modulates expression of respective target
TGGAAGTTGC genes whose function and utility is known in the art.

AGTGAGCCGA GAM336675 is a novel bioinformatically detectable regulatory, non protein
GATTGTGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336675 was detected
CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGAGTGAAA encoded by the human genome.

CTCCATCTC GAM336675 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336675 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336675 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336675 precursor RNA is designated SEQ ID:141131, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141131 is located from position 36669197 to position 36669295 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM336675 precursor RNA folds onto itself, forming GAM336675 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336675 precursor RNA, designated SEQ ID NO: 141131, and a schematic representation of a predicted secondary folding of GAM336675 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336675 folded precursor RNA yielding a GAM336675 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336675 RNA, hereby incorporated herein.

GAM336675 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336675 target RNA, herein designated GAM TARGET RNA.

GAM336675 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336675 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336675 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336675 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336675 RNA, herein designated GAM RNA, to target binding sites on GAM336675 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336675 target RNA into GAM336675 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336675 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336675 target genes. The mRNA of each one of this plurality of GAM336675 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336675 RNA, herein designated GAM RNA, and which when bound by GAM336675 RNA causes inhibition of translation of the GAM336675 target mRNA into a corresponding GAM336675 target protein.

The mechanism of the translational inhibition exerted by GAM336675 RNA, herein designated GAM RNA, on one or more GAM336675 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336675 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336675 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336675 RNA, herein designated GAM RNA, of GAM336675 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336675 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336675 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336675 RNA correlate with, and may be deduced from, the identity of the GAM336675 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336676 141132 TGGCTTCCCA Fig. 8 further provides a conceptual description of another novel bioinformatically
AAGTGCTGGC detected oligonucleotides of the present invention, referred to here as Genomic Address
GTTACAGGTG Messenger 336676 (GAM336676) oligonucleotides modulates expression of respective target
TGAGCCACCG genes whose function and utility is known in the art.

CACCTGGCCA GAM336676 is a novel bioinformatically detectable regulatory, non protein
TCCCGGCATT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336676 was detected
TTTCTATTCT is described with additional reference to Figs. 9-15.

GCTGTGAGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TA encoded by the human genome.

GAM336676 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336676 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336676 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336676 precursor RNA is designated SEQ ID:141132, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141132 is located from position 36951386 to position 36951467 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM336676 precursor RNA folds onto itself, forming GAM336676 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336676 precursor RNA, designated SEQ ID NO: 141132, and a schematic representation of a predicted secondary folding of GAM336676 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336676 folded precursor RNA yielding a GAM336676 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336676 RNA, hereby incorporated herein.

GAM336676 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336676 target RNA, herein designated GAM TARGET RNA.

GAM336676 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336676 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336676 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336676 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336676 RNA, herein designated GAM RNA, to target binding sites on GAM336676 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336676 target RNA into GAM336676 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336676 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336676 target genes. The mRNA of each one of this plurality of GAM336676 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336676 RNA, herein designated GAM RNA, and which when bound by GAM336676 RNA causes inhibition of translation of the GAM336676 target mRNA into a corresponding GAM336676 target protein.

The mechanism of the translational inhibition exerted by GAM336676 RNA, herein designated GAM RNA, on one or more GAM336676 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336676 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336676 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336676 RNA, herein designated GAM RNA, of GAM336676 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336676 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336676 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336676 RNA correlate with, and may be deduced from, the identity of the GAM336676 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336677 141133 TCAATACTTT Fig. 8 further provides a conceptual description of another novel bioinformatically

AAAGGCACAC detected oligonucleotides of the present invention, referred to here as Genomic Address

TTGTCTGCTT Messenger 336677 (GAM336677) oligonucleotides modulates expression of respective target

TCTACACTGT genes whose function and utility is known in the art.

TGCCGGAGAA GAM336677 is a novel bioinformatically detectable regulatory, non protein

GGGTCATAAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336677 was detected

GTGAAGTTTG is described with additional reference to Figs. 9-15.

GCAGAAAAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTGGCCATTG encoded by the human genome.

TCTAGTACTG GAM336677 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

A GAM336677 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336677 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336677 precursor RNA is designated SEQ ID:141133, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141133 is located from position 36970296 to position 36970396 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336677 precursor RNA folds onto itself, forming GAM336677 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336677 precursor RNA, designated SEQ ID NO: 141133, and a schematic representation of a predicted secondary folding of GAM336677 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336677 folded precursor RNA yielding a GAM336677 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336677 RNA, hereby incorporated herein.

GAM336677 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336677 target RNA, herein designated GAM TARGET RNA.

GAM336677 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336677 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336677 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336677 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336677 RNA, herein designated GAM RNA, to target binding sites on GAM336677 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336677 target RNA into GAM336677 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336677 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336677 target genes. The mRNA of each one of this plurality of GAM336677 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336677 RNA, herein designated GAM RNA, and which when bound by GAM336677 RNA causes inhibition of

translation of the GAM336677 target mRNA into a corresponding GAM336677 target protein.

The mechanism of the translational inhibition exerted by GAM336677 RNA, herein designated GAM RNA, on one or more GAM336677 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336677 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336677 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336677 RNA, herein designated GAM RNA, of GAM336677 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336677 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336677 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336677 RNA correlate with, and may be deduced from, the identity of the GAM336677 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336678 141134 TACGGGTACT Fig. 8 further provides a conceptual description of another novel bioinformatically

TCCAGGCCAT detected oligonucleotides of the present invention, referred to here as Genomic Address

TTTTGTTGTT Messenger 336678 (GAM336678) oligonucleotides modulates expression of respective target

TCTGTGGAGA genes whose function and utility is known in the art.

ATACTGAAGA GAM336678 is a novel bioinformatically detectable regulatory, non protein

ATATTTCGTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336678 was detected

TCATTGCCAC is described with additional reference to Figs. 9-15.

CTGGGAACCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGGAAGTGTG encoded by the human genome.

GTCCTGGAGC GAM336678 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TCGTG GAM336678 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336678 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336678 precursor RNA is designated SEQ ID:141134, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141134 is located from position 37187787 to position 37187891 relative to chromosome chr21 on the `-` strand (chr is an abbreviation for chromosome).

GAM336678 precursor RNA folds onto itself, forming GAM336678 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336678 precursor RNA, designated SEQ ID NO: 141134, and a schematic representation of a predicted secondary folding of GAM336678 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336678 folded precursor RNA yielding a GAM336678 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336678 RNA, hereby incorporated herein.

GAM336678 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336678 target RNA, herein designated GAM TARGET RNA.

GAM336678 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336678 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336678 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336678 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336678 RNA, herein designated GAM RNA, to target binding sites on GAM336678 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336678 target RNA into GAM336678 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336678 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336678 target genes. The mRNA of each one of this plurality of GAM336678 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336678 RNA, herein designated GAM RNA, and which when bound by GAM336678 RNA causes inhibition of translation of the GAM336678 target mRNA into a corresponding GAM336678 target protein.

The mechanism of the translational inhibition exerted by GAM336678 RNA, herein designated GAM RNA, on one or more GAM336678 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336678 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336678 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336678 RNA, herein designated GAM RNA, of GAM336678 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336678 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336678 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336678 RNA correlate with, and may be deduced from, the identity of the GAM336678 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336679 141135 ACGGGTACTT Fig. 8 further provides a conceptual description of another novel bioinformatically
CCAGGCCATT detected oligonucleotides of the present invention, referred to here as Genomic Address
TTTGTTGTTT Messenger 336679 (GAM336679) oligonucleotides modulates expression of respective target
CTGTGGAGAA genes whose function and utility is known in the art.

TACTGAAGAA GAM336679 is a novel bioinformatically detectable regulatory, non protein
TATTTCGTGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336679 was detected
CATTGCCACC is described with additional reference to Figs. 9-15.

TGGGAACCTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGAAGTGTGG encoded by the human genome.

TCCTGGAGCT GAM336679 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CGT GAM336679 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336679 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336679 precursor RNA is designated SEQ ID:141135, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141135 is located from position 37187788 to position 37187890 relative to chromosome chr21 on the `-` strand (chr is an abbreviation for chromosome).

GAM336679 precursor RNA folds onto itself, forming GAM336679 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336679 precursor RNA, designated SEQ ID NO: 141135, and a schematic representation of a predicted secondary folding of GAM336679 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336679 folded precursor RNA yielding a GAM336679 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336679 RNA, hereby incorporated herein.

GAM336679 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336679 target RNA, herein designated GAM TARGET RNA.

GAM336679 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336679 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336679 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336679 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336679 RNA, herein designated GAM RNA, to target binding sites on GAM336679 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336679 target RNA into GAM336679 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336679 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336679 target genes. The mRNA of each one of this plurality of GAM336679 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336679 RNA, herein designated GAM RNA, and which when bound by GAM336679 RNA causes inhibition of translation of the GAM336679 target mRNA into a corresponding GAM336679 target protein.

The mechanism of the translational inhibition exerted by GAM336679 RNA, herein designated GAM RNA, on one or more GAM336679 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336679 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336679 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336679 RNA, herein designated GAM RNA, of GAM336679 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336679 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336679 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336679 RNA correlate with, and may be deduced from, the identity of the GAM336679 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336680 141136 GACCTTCATG Fig. 8 further provides a conceptual description of another novel bioinformatically

TTCTAGTCCT detected oligonucleotides of the present invention, referred to here as Genomic Address
TTGAGTTTTT Messenger 336680 (GAM336680) oligonucleotides modulates expression of respective target
TACTAGGCTG genes whose function and utility is known in the art.

AAACAAAAGA GAM336680 is a novel bioinformatically detectable regulatory, non protein
AAGCGATTGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336680 was detected
TTGCTAGTAA is described with additional reference to Figs. 9-15.

AAGAACTGAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAAAGGCAGA encoded by the human genome.

CAGGGAGGGT GAM336680 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
T GAM336680 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336680 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336680 precursor RNA is designated SEQ ID:141136, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141136 is located from position 37229431 to position 37229531 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM336680 precursor RNA folds onto itself, forming GAM336680 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336680 precursor RNA, designated SEQ ID NO: 141136, and a schematic representation of a predicted secondary folding of GAM336680 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336680 folded precursor RNA yielding a GAM336680 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336680 RNA, hereby incorporated herein.

GAM336680 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336680 target RNA, herein designated GAM TARGET RNA.

GAM336680 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336680 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336680 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336680 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336680 RNA, herein designated GAM RNA, to target binding sites on GAM336680 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336680 target RNA into GAM336680 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336680 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336680 target genes. The mRNA of each one of this plurality of GAM336680 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336680 RNA, herein designated GAM RNA, and which when bound by GAM336680 RNA causes inhibition of translation of the GAM336680 target mRNA into a corresponding GAM336680 target protein.

The mechanism of the translational inhibition exerted by GAM336680 RNA, herein designated GAM RNA, on one or more GAM336680 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336680 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336680 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336680 RNA, herein designated GAM RNA, of GAM336680 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336680 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336680 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336680 RNA correlate with, and may be deduced from, the identity of the GAM336680 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336681 141137 AGAATCGCTT GAACCCAGGA GGCACAGGTT GCAGTAGGCC GAGATTGTGC CACTGCACTC CAGCCTGGGT GGCAGAGTGA GACT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336681 (GAM336681) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336681 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336681 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336681 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336681 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336681 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336681 precursor RNA is designated SEQ ID:141137, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141137 is located from position 37422585 to position 37422668 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM336681 precursor RNA folds onto itself, forming GAM336681 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336681 precursor RNA, designated SEQ ID NO: 141137, and a schematic representation of a predicted secondary folding of GAM336681 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336681 folded precursor RNA yielding a GAM336681 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336681 RNA, hereby incorporated herein.

GAM336681 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336681 target RNA, herein designated GAM TARGET RNA.

GAM336681 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336681 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336681 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336681 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336681 RNA, herein designated GAM RNA, to target binding sites on GAM336681 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336681 target RNA into GAM336681 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336681 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336681 target genes. The mRNA of each one of this plurality of GAM336681 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336681 RNA, herein designated GAM RNA, and which when bound by GAM336681 RNA causes inhibition of translation of the GAM336681 target mRNA into a corresponding GAM336681 target protein.

The mechanism of the translational inhibition exerted by GAM336681 RNA, herein designated GAM RNA, on one or more GAM336681 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336681 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336681 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336681 RNA, herein designated GAM RNA, of GAM336681 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336681 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336681 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336681 RNA correlate with, and may be deduced from, the identity of the GAM336681 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336682 141138 CTATCGCATC Fig. 8 further provides a conceptual description of another novel bioinformatically
AACACAGTCA detected oligonucleotides of the present invention, referred to here as Genomic Address
TGCGTTGCTT Messenger 336682 (GAM336682) oligonucleotides modulates expression of respective target
AATGACAGGG genes whose function and utility is known in the art.

GCATGTTCTG GAM336682 is a novel bioinformatically detectable regulatory, non protein
AGAATCGTTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336682 was detected
GGCGATTTTG is described with additional reference to Figs. 9-15.

TTGTGTGAAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTCATAG encoded by the human genome.

GAM336682 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336682 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336682 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336682 precursor RNA is designated SEQ ID:141138, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141138 is located from position 37429675 to position 37429761 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM336682 precursor RNA folds onto itself, forming GAM336682 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336682 precursor RNA, designated SEQ ID NO: 141138, and a schematic representation of a predicted secondary folding of GAM336682 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336682 folded precursor RNA yielding a GAM336682 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336682 RNA, hereby incorporated herein.

GAM336682 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336682 target RNA, herein designated GAM TARGET RNA.

GAM336682 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336682 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336682 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336682 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336682 RNA, herein designated GAM RNA, to target binding sites on GAM336682 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336682 target RNA into GAM336682 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336682 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336682 target genes. The mRNA of each one of this plurality of GAM336682 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336682 RNA, herein designated GAM RNA, and which when bound by GAM336682 RNA causes inhibition of translation of the GAM336682 target mRNA into a corresponding GAM336682 target protein.

The mechanism of the translational inhibition exerted by GAM336682 RNA, herein designated GAM RNA, on one or more GAM336682 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336682 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336682 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336682 RNA, herein designated GAM RNA, of GAM336682 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336682 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336682 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336682 RNA correlate with, and may be deduced from, the identity of the GAM336682 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336683 141139 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATGGCGTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCCGGGAG Messenger 336683 (GAM336683) oligonucleotides modulates expression of respective target

GCGGAGCTTG genes whose function and utility is known in the art.

CAGTGAGCCG GAM336683 is a novel bioinformatically detectable regulatory, non protein

AGATCGCGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336683 was detected

ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAGAGTGAG encoded by the human genome.

ACTCCGTCTC GAM336683 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

A GAM336683 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336683 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336683 precursor RNA is designated SEQ ID:141139, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141139 is located from position 37445099 to position 37445199 relative to chromosome chr21 on the `-` strand (chr is an abbreviation for chromosome).

GAM336683 precursor RNA folds onto itself, forming GAM336683 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336683 precursor RNA, designated SEQ ID NO: 141139, and a schematic representation of a predicted secondary folding of GAM336683 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336683 folded precursor RNA yielding a GAM336683 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336683 RNA, hereby incorporated herein. Expression of GAM336683 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336683 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336683 target RNA, herein designated GAM TARGET RNA.

GAM336683 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336683 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336683 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336683 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336683 RNA, herein designated GAM RNA, to target binding sites on GAM336683 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336683 target RNA into GAM336683 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336683 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336683 target genes. The mRNA of each one of this plurality of GAM336683 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM336683 RNA, herein designated GAM RNA, and which when bound by GAM336683 RNA causes inhibition of translation of the GAM336683 target mRNA into a corresponding GAM336683 target protein.

The mechanism of the translational inhibition exerted by GAM336683 RNA, herein designated GAM RNA, on one or more GAM336683 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336683 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336683 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336683 RNA, herein designated GAM RNA, of GAM336683 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336683 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336683 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336683 RNA correlate with, and may be deduced from, the identity of the GAM336683 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336684 141140 ATAAGCCTTG Fig. 8 further provides a conceptual description of another novel bioinformatically
TCTGTCAGTC detected oligonucleotides of the present invention, referred to here as Genomic Address
ATTAACTGTG Messenger 336684 (GAM336684) oligonucleotides modulates expression of respective target
GGCTGATCCC genes whose function and utility is known in the art.

CAGTCTGTCC GAM336684 is a novel bioinformatically detectable regulatory, non protein
GTCATTAATG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336684 was detected
AACTGCAGGA is described with additional reference to Figs. 9-15.

ACTTCGGGCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAT encoded by the human genome.

GAM336684 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336684 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336684 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336684 precursor RNA is designated SEQ ID:141140, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141140 is located from position 37505814 to position 37505896 relative to chromosome chr20 on the `-` strand (chr is an abbreviation for chromosome).

GAM336684 precursor RNA folds onto itself, forming GAM336684 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336684 precursor RNA, designated SEQ ID NO: 141140, and a schematic representation of a predicted secondary folding of GAM336684 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336684 folded precursor RNA yielding a GAM336684 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336684 RNA, hereby incorporated herein.

GAM336684 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336684 target RNA, herein designated GAM TARGET RNA.

GAM336684 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336684 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336684 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336684 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336684 RNA, herein designated GAM RNA, to target binding sites on GAM336684 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336684 target RNA into GAM336684 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336684 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336684 target genes. The mRNA of each one of this plurality of GAM336684 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336684 RNA, herein designated GAM RNA, and which when bound by GAM336684 RNA causes inhibition of translation of the GAM336684 target mRNA into a corresponding GAM336684 target protein.

The mechanism of the translational inhibition exerted by GAM336684 RNA, herein designated GAM RNA, on one or more GAM336684 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336684 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336684 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336684 RNA, herein designated GAM RNA, of GAM336684 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336684 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336684 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336684 RNA correlate with, and may be deduced from, the identity of the GAM336684 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336685 141141 TCTTTCTCTA Fig. 8 further provides a conceptual description of another novel bioinformatically

ATTTGTCCAC detected oligonucleotides of the present invention, referred to here as Genomic Address

CAGTAGTATG Messenger 336685 (GAM336685) oligonucleotides modulates expression of respective target

CATCTTTTTC genes whose function and utility is known in the art.

TCCACTAGCC GAM336685 is a novel bioinformatically detectable regulatory, non protein

AGGGGCTATG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336685 was detected

GAGGCCCTGA is described with additional reference to Figs. 9-15.

ATAGAACAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGAGCAGCTA encoded by the human genome.

GCAAGGGCGG GAM336685 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

AAGGAAGAGA GAM336685 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAGA GAM336685 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336685 precursor RNA is designated SEQ ID:141141, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141141 is located from position 37606073 to position 37606186 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336685 precursor RNA folds onto itself, forming GAM336685 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336685 precursor RNA, designated SEQ ID NO: 141141, and a schematic representation of a predicted secondary folding of GAM336685 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336685 folded precursor RNA yielding a GAM336685 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336685 RNA, hereby incorporated herein.

GAM336685 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336685 target RNA, herein designated GAM TARGET RNA.

GAM336685 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336685 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336685 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336685 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336685 RNA, herein designated GAM RNA, to target binding sites on GAM336685 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336685 target RNA into GAM336685 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336685 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336685 target genes. The mRNA of each one of this plurality of GAM336685 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336685 RNA, herein designated GAM RNA, and which when bound by GAM336685 RNA causes inhibition of translation of the GAM336685 target mRNA into a corresponding GAM336685 target protein.

The mechanism of the translational inhibition exerted by GAM336685 RNA, herein designated GAM RNA, on one or more GAM336685 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336685 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336685 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336685 RNA, herein designated GAM RNA, of GAM336685 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336685 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336685 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336685 RNA correlate with, and may be deduced from, the identity of the GAM336685 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336686 141142 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATCGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCCGGAAG Messenger 336686 (GAM336686) oligonucleotides modulates expression of respective target
GCAGAGGTTG genes whose function and utility is known in the art.

TGGTGAGCTG GAM336686 is a novel bioinformatically detectable regulatory, non protein
AGATTGCACC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336686 was detected
ATTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATAAGAGCAA encoded by the human genome.

AACTCTGTCT GAM336686 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CA GAM336686 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336686 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336686 precursor RNA is designated SEQ ID:141142, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141142 is located from position 37624000 to position 37624101 relative to chromosome chr3 on the `+` strand (chr is an abbreviation for chromosome).

GAM336686 precursor RNA folds onto itself, forming GAM336686 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336686 precursor RNA, designated SEQ ID NO: 141142, and a schematic representation of a predicted secondary folding of GAM336686 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336686 folded precursor RNA yielding a GAM336686 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336686 RNA, hereby incorporated herein. Expression of GAM336686 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336686 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336686 target RNA, herein designated GAM TARGET RNA.

GAM336686 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336686 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336686 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336686 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336686 RNA, herein designated GAM RNA, to target binding sites on GAM336686 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336686 target RNA into GAM336686 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336686 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336686 target genes. The mRNA of each one of this plurality of GAM336686 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336686 RNA, herein designated GAM RNA, and which when bound by GAM336686 RNA causes inhibition of translation of the GAM336686 target mRNA into a corresponding GAM336686 target protein.

The mechanism of the translational inhibition exerted by GAM336686 RNA, herein designated GAM RNA, on one or more GAM336686 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336686 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336686 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336686 RNA, herein designated GAM RNA, of GAM336686 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336686 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336686 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336686 RNA correlate with, and may be deduced from, the identity of the GAM336686 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336687 141143 GATTTTGAGA Fig. 8 further provides a conceptual description of another novel bioinformatically
ACAGCTGGTA detected oligonucleotides of the present invention, referred to here as Genomic Address
ATTCTGATTT Messenger 336687 (GAM336687) oligonucleotides modulates expression of respective target
CCTGTTTCTG genes whose function and utility is known in the art.

CATCCCAAAG GAM336687 is a novel bioinformatically detectable regulatory, non protein
ATCAGTATCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336687 was detected
GTCAGGAATT is described with additional reference to Figs. 9-15.

TGGAAACACT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGTTGTTCCT encoded by the human genome.

CCAGTC GAM336687 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336687 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336687 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336687 precursor RNA is designated SEQ ID:141143, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141143 is located from position 37656044 to position 37656139 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM336687 precursor RNA folds onto itself, forming GAM336687 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336687 precursor RNA, designated SEQ ID NO: 141143, and a schematic representation of a predicted secondary folding of GAM336687 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336687 folded precursor RNA yielding a GAM336687 RNA, herein designated GAM RNA, in the form of a single stranded

~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336687 RNA, hereby incorporated herein.

GAM336687 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336687 target RNA, herein designated GAM TARGET RNA.

GAM336687 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336687 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336687 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336687 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336687 RNA, herein designated GAM RNA, to target binding sites on GAM336687 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336687 target RNA into GAM336687 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336687 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336687 target genes. The mRNA of each one of this plurality of GAM336687 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336687 RNA, herein designated GAM RNA, and which when bound by GAM336687 RNA causes inhibition of translation of the GAM336687 target mRNA into a corresponding GAM336687 target protein.

The mechanism of the translational inhibition exerted by GAM336687 RNA, herein designated GAM RNA, on one or more GAM336687 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336687 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336687 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336687 RNA, herein designated GAM RNA, of GAM336687 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336687 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336687 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336687 RNA correlate with, and may be deduced from, the identity of the GAM336687 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336688 141144 AGGATGGTGG AGAAAAAAGC TAGAAGGAGA CTGGGTACCT GATGTCCGTG GTGCTGCCCT GTTAGCTCTG GACTGCCTTT CTTCAAATTC CT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336688 (GAM336688) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336688 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336688 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336688 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336688 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336688 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336688 precursor RNA is designated SEQ ID:141144, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141144 is located from position 37673268 to position 37673359 relative to chromosome chr20 on the `-` strand (chr is an abbreviation for chromosome).

GAM336688 precursor RNA folds onto itself, forming GAM336688 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336688 precursor RNA, designated SEQ ID NO: 141144, and a schematic representation of a predicted secondary folding of GAM336688 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336688 folded precursor RNA yielding a GAM336688 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336688 RNA, hereby incorporated herein.

GAM336688 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336688 target RNA, herein designated GAM TARGET RNA.

GAM336688 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336688 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336688 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336688 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336688 RNA, herein designated GAM RNA, to target binding sites on GAM336688 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336688 target RNA into GAM336688 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336688 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336688 target genes. The mRNA of each one of this plurality of GAM336688 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336688 RNA, herein designated GAM RNA, and which when bound by GAM336688 RNA causes inhibition of translation of the GAM336688 target mRNA into a corresponding GAM336688 target protein.

The mechanism of the translational inhibition exerted by GAM336688 RNA, herein designated GAM RNA, on one or more GAM336688 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336688 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336688 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336688 RNA, herein designated GAM RNA, of GAM336688 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336688 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336688 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336688 RNA correlate with, and may be deduced from, the identity of the GAM336688 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336689 141145 CTGTTGCCCA Fig. 8 further provides a conceptual description of another novel bioinformatically

GGCTGGAGTG detected oligonucleotides of the present invention, referred to here as Genomic Address

CAGTGGCACC Messenger 336689 (GAM336689) oligonucleotides modulates expression of respective target

ATCTCAGCTC genes whose function and utility is known in the art.

ACTGGAGCGT GAM336689 is a novel bioinformatically detectable regulatory, non protein

CTGCCTCCAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336689 was detected

GTTCAAGTGA is described with additional reference to Figs. 9-15.

TTCTCCTGCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCAGCATCCC encoded by the human genome.

AAGTAGCTGG GAM336689 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GACTACAG GAM336689 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336689 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336689 precursor RNA is designated SEQ ID:141145, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141145 is located from position 37948104 to position 37948211 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM336689 precursor RNA folds onto itself, forming GAM336689 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336689 precursor RNA, designated SEQ ID NO: 141145, and a schematic representation of a predicted secondary folding of GAM336689 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336689 folded precursor RNA yielding a GAM336689 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336689 RNA, hereby incorporated herein.

GAM336689 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336689 target RNA, herein designated GAM TARGET RNA.

GAM336689 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336689 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336689 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336689 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336689 RNA, herein designated GAM RNA, to target binding sites on GAM336689 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336689 target RNA into GAM336689 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336689 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM336689 target genes. The mRNA of each one of this plurality of GAM336689 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336689 RNA, herein designated GAM RNA, and which when bound by GAM336689 RNA causes inhibition of translation of the GAM336689 target mRNA into a corresponding GAM336689 target protein.

The mechanism of the translational inhibition exerted by GAM336689 RNA, herein designated GAM RNA, on one or more GAM336689 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336689 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336689 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336689 RNA, herein designated GAM RNA, of GAM336689 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336689 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336689 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336689 RNA correlate with, and may be deduced from, the identity of the GAM336689 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336690 141146 TGAGAAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

TCTCATTCTG detected oligonucleotides of the present invention, referred to here as Genomic Address

TTGCCTAGGC Messenger 336690 (GAM336690) oligonucleotides modulates expression of respective target

CGGAGTGCAG genes whose function and utility is known in the art.

TGACATGATC GAM336690 is a novel bioinformatically detectable regulatory, non protein

TTGGCTCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336690 was detected

GCAATCTCCA is described with additional reference to Figs. 9-15.

CCTCCAGGTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAAGTGATTC encoded by the human genome.

TCCTGCCTCA GAM336690 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336690 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336690 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336690 precursor RNA is designated SEQ ID:141146, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141146 is located from position 37983831 to position 37983930 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM336690 precursor RNA folds onto itself, forming GAM336690 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336690 precursor RNA, designated SEQ ID NO: 141146, and a schematic representation of a predicted secondary folding of GAM336690 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336690 folded precursor RNA yielding a GAM336690 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336690 RNA, hereby incorporated herein.

GAM336690 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336690 target RNA, herein designated GAM TARGET RNA.

GAM336690 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336690 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336690 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336690 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336690 RNA, herein designated GAM RNA, to target binding sites on GAM336690 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336690 target RNA into GAM336690 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336690 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336690 target genes. The mRNA of each one of this plurality of GAM336690 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336690 RNA, herein designated GAM RNA, and which when bound by GAM336690 RNA causes inhibition of translation of the GAM336690 target mRNA into a corresponding GAM336690 target protein.

The mechanism of the translational inhibition exerted by GAM336690 RNA, herein designated GAM RNA, on one or more GAM336690 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336690 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336690 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336690 RNA, herein designated GAM RNA, of GAM336690 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336690 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336690 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336690 RNA correlate with, and may be deduced from, the identity of the GAM336690 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336691 141147 GTGTGACTTT Fig. 8 further provides a conceptual description of another novel bioinformatically

AGTGCTACTC detected oligonucleotides of the present invention, referred to here as Genomic Address

TGATTTTACT Messenger 336691 (GAM336691) oligonucleotides modulates expression of respective target

GTTCAGGAAA genes whose function and utility is known in the art.

GTGAAGCAGA GAM336691 is a novel bioinformatically detectable regulatory, non protein
GAGGTTCAAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336691 was detected
GTCTTACTCA is described with additional reference to Figs. 9-15.

AGGTCACAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336691 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336691 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336691 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336691 precursor RNA is designated SEQ ID:141147, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141147 is located from position 38081171 to position 38081249 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336691 precursor RNA folds onto itself, forming GAM336691 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336691 precursor RNA, designated SEQ ID NO: 141147, and a schematic representation of a predicted secondary folding of GAM336691 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336691 folded precursor RNA yielding a GAM336691 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336691 RNA, hereby incorporated herein.

GAM336691 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336691 target RNA, herein designated GAM TARGET RNA.

GAM336691 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336691 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336691 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the

nucleotide sequence of GAM336691 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336691 RNA, herein designated GAM RNA, to target binding sites on GAM336691 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336691 target RNA into GAM336691 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336691 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336691 target genes. The mRNA of each one of this plurality of GAM336691 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336691 RNA, herein designated GAM RNA, and which when bound by GAM336691 RNA causes inhibition of translation of the GAM336691 target mRNA into a corresponding GAM336691 target protein.

The mechanism of the translational inhibition exerted by GAM336691 RNA, herein designated GAM RNA, on one or more GAM336691 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336691 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336691 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336691 RNA, herein designated GAM RNA, of GAM336691 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336691 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336691 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336691 RNA correlate with, and may be deduced from, the identity of the GAM336691 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336692 141148 GCCTTGCTTT Fig. 8 further provides a conceptual description of another novel bioinformatically
AAGCCATGTC detected oligonucleotides of the present invention, referred to here as Genomic Address
CTGTTGTGGG Messenger 336692 (GAM336692) oligonucleotides modulates expression of respective target
CACGATAATA genes whose function and utility is known in the art.

GCAACTGAGC GAM336692 is a novel bioinformatically detectable regulatory, non protein
TGTCACAGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336692 was detected
TACCAGCAGG is described with additional reference to Figs. 9-15.

CTGGTAACAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTCCAGGGT encoded by the human genome.

GAM336692 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336692 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336692 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336692 precursor RNA is designated SEQ ID:141148, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141148 is located from position 38197441 to position 38197529 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM336692 precursor RNA folds onto itself, forming GAM336692 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336692 precursor RNA, designated SEQ ID NO: 141148, and a schematic representation of a predicted secondary folding of GAM336692 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336692 folded precursor RNA yielding a GAM336692 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336692 RNA, hereby incorporated herein.

GAM336692 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336692 target RNA, herein designated GAM TARGET RNA.

GAM336692 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336692 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336692 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336692 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336692 RNA, herein designated GAM RNA, to target binding sites on GAM336692 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336692 target RNA into GAM336692 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336692 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336692 target genes. The mRNA of each one of this plurality of GAM336692 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336692 RNA, herein designated GAM RNA, and which when bound by GAM336692 RNA causes inhibition of translation of the GAM336692 target mRNA into a corresponding GAM336692 target protein.

The mechanism of the translational inhibition exerted by GAM336692 RNA, herein designated GAM RNA, on one or more GAM336692 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336692 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336692 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336692 RNA, herein designated GAM RNA, of GAM336692 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336692 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336692 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336692 RNA correlate with, and may be deduced from, the identity of the GAM336692 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336693 141149 CTGTCCTGCT Fig. 8 further provides a conceptual description of another novel bioinformatically
TAACTTCCAC detected oligonucleotides of the present invention, referred to here as Genomic Address
CACGTTGACA Messenger 336693 (GAM336693) oligonucleotides modulates expression of respective target
TAATCAAGTA genes whose function and utility is known in the art.

TCTGTAGTGT GAM336693 is a novel bioinformatically detectable regulatory, non protein
CGCTACTGAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336693 was detected
CTCAGCCTTT is described with additional reference to Figs. 9-15.

TCCATTTGTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGCTGATGGT encoded by the human genome.

AGGAATTAGA GAM336693 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAAAGCTGGG GAM336693 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
CAG GAM336693 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336693 precursor RNA is designated SEQ ID:141149, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141149 is located from position 38235596 to position 38235708 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336693 precursor RNA folds onto itself, forming GAM336693 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336693 precursor RNA, designated SEQ ID NO: 141149, and a schematic representation of a predicted secondary folding of GAM336693 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336693 folded precursor RNA yielding a GAM336693 RNA, herein designated GAM RNA, in the form of a single stranded

~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336693 RNA, hereby incorporated herein.

GAM336693 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336693 target RNA, herein designated GAM TARGET RNA.

GAM336693 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336693 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336693 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336693 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336693 RNA, herein designated GAM RNA, to target binding sites on GAM336693 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336693 target RNA into GAM336693 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336693 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336693 target genes. The mRNA of each one of this plurality of GAM336693 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336693 RNA, herein designated GAM RNA, and which when bound by GAM336693 RNA causes inhibition of translation of the GAM336693 target mRNA into a corresponding GAM336693 target protein.

The mechanism of the translational inhibition exerted by GAM336693 RNA, herein designated GAM RNA, on one or more GAM336693 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336693 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336693 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336693 RNA, herein designated GAM RNA, of GAM336693 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336693 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336693 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336693 RNA correlate with, and may be deduced from, the identity of the GAM336693 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336694 141150 GACGTATGAC Fig. 8 further provides a conceptual description of another novel bioinformatically

TGTATATAGA detected oligonucleotides of the present invention, referred to here as Genomic Address

TATACACATC Messenger 336694 (GAM336694) oligonucleotides modulates expression of respective target

TATCCGCATA genes whose function and utility is known in the art.

TGTGTGACTG GAM336694 is a novel bioinformatically detectable regulatory, non protein

CTATGTGTGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336694 was detected

GATGATTTGT is described with additional reference to Figs. 9-15.

GAGTCTGTGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCATCCATAT encoded by the human genome.

GTC GAM336694 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336694 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336694 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336694 precursor RNA is designated SEQ ID:141150, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141150 is located from position 38352998 to position 38353090 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM336694 precursor RNA folds onto itself, forming GAM336694 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336694 precursor RNA, designated SEQ ID NO: 141150, and a schematic representation of a predicted secondary folding of GAM336694 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336694 folded precursor RNA yielding a GAM336694 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336694 RNA, hereby incorporated herein.

GAM336694 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336694 target RNA, herein designated GAM TARGET RNA.

GAM336694 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336694 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336694 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336694 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336694 RNA, herein designated GAM RNA, to target binding sites on GAM336694 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336694 target RNA into GAM336694 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336694 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336694 target genes. The mRNA of each one of this plurality of GAM336694 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336694 RNA, herein designated GAM RNA, and which when bound by GAM336694 RNA causes inhibition of translation of the GAM336694 target mRNA into a corresponding GAM336694 target protein.

The mechanism of the translational inhibition exerted by GAM336694 RNA, herein designated GAM RNA, on one or more GAM336694 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336694 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336694 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336694 RNA, herein designated GAM RNA, of GAM336694 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336694 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336694 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336694 RNA correlate with, and may be deduced from, the identity of the GAM336694 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336695 141151 GCCTTCTGGG TTTGGTTTGG TGGCATTAAA TGGCAATTTG TGACTGAGAC ACCAGAGGGC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336695 (GAM336695) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336695 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336695 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336695 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336695 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336695 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336695 precursor RNA is designated SEQ ID:141151, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141151 is located from position 38368145 to position 38368204 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336695 precursor RNA folds onto itself, forming GAM336695 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336695 precursor RNA, designated SEQ ID NO: 141151, and a schematic representation of a predicted secondary folding of GAM336695 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336695 folded precursor RNA yielding a GAM336695 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336695 RNA, hereby incorporated herein.

GAM336695 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336695 target RNA, herein designated GAM TARGET RNA.

GAM336695 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336695 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336695 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336695 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336695 RNA, herein designated GAM RNA, to target binding sites on GAM336695 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336695 target RNA into GAM336695 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336695 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336695 target genes. The mRNA of each one of this

plurality of GAM336695 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336695 RNA, herein designated GAM RNA, and which when bound by GAM336695 RNA causes inhibition of translation of the GAM336695 target mRNA into a corresponding GAM336695 target protein.

The mechanism of the translational inhibition exerted by GAM336695 RNA, herein designated GAM RNA, on one or more GAM336695 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336695 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336695 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336695 RNA, herein designated GAM RNA, of GAM336695 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336695 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336695 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336695 RNA correlate with, and may be deduced from, the identity of the GAM336695 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336696 141152 CATAGGAAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

ATTTGTTGTG detected oligonucleotides of the present invention, referred to here as Genomic Address

GATTCACATC Messenger 336696 (GAM336696) oligonucleotides modulates expression of respective target

TGTGATTCAG genes whose function and utility is known in the art.

TGTATACAGG GAM336696 is a novel bioinformatically detectable regulatory, non protein

CCTTCTGTTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336696 was detected

ATACCGGGTT is described with additional reference to Figs. 9-15.

CAAGGTGTTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGTCCCAGTG encoded by the human genome.

GTCACTCTGT GAM336696 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

G GAM336696 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336696 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336696 precursor RNA is designated SEQ ID:141152, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141152 is located from position 38506695 to position 38506795 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336696 precursor RNA folds onto itself, forming GAM336696 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336696 precursor RNA, designated SEQ ID NO: 141152, and a schematic representation of a predicted secondary folding of GAM336696 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336696 folded precursor RNA yielding a GAM336696 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336696 RNA, hereby incorporated herein.

GAM336696 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336696 target RNA, herein designated GAM TARGET RNA.

GAM336696 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336696 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336696 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336696 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336696 RNA, herein designated GAM RNA, to target

binding sites on GAM336696 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336696 target RNA into GAM336696 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336696 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336696 target genes. The mRNA of each one of this plurality of GAM336696 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336696 RNA, herein designated GAM RNA, and which when bound by GAM336696 RNA causes inhibition of translation of the GAM336696 target mRNA into a corresponding GAM336696 target protein.

The mechanism of the translational inhibition exerted by GAM336696 RNA, herein designated GAM RNA, on one or more GAM336696 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336696 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336696 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336696 RNA, herein designated GAM RNA, of GAM336696 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336696 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336696 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336696 RNA correlate with, and may be deduced from, the identity of the GAM336696 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336697 141153 TCACTTGAGC Fig. 8 further provides a conceptual description of another novel bioinformatically

CCAGGAGTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGCTGCAG Messenger 336697 (GAM336697) oligonucleotides modulates expression of respective target

TGAGCTATGA genes whose function and utility is known in the art.

TTGCACCACT GAM336697 is a novel bioinformatically detectable regulatory, non protein

GTACTCCAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336697 was detected

CTGGGTGACA is described with additional reference to Figs. 9-15.

GAGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336697 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336697 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336697 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336697 precursor RNA is designated SEQ ID:141153, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141153 is located from position 38541864 to position 38541939 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM336697 precursor RNA folds onto itself, forming GAM336697 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336697 precursor RNA, designated SEQ ID NO: 141153, and a schematic representation of a predicted secondary folding of GAM336697 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336697 folded precursor RNA yielding a GAM336697 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336697 RNA, hereby incorporated herein.

GAM336697 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336697 target RNA, herein designated GAM TARGET RNA.

GAM336697 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336697 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336697 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336697 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336697 RNA, herein designated GAM RNA, to target binding sites on GAM336697 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336697 target RNA into GAM336697 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336697 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336697 target genes. The mRNA of each one of this plurality of GAM336697 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336697 RNA, herein designated GAM RNA, and which when bound by GAM336697 RNA causes inhibition of translation of the GAM336697 target mRNA into a corresponding GAM336697 target protein.

The mechanism of the translational inhibition exerted by GAM336697 RNA, herein designated GAM RNA, on one or more GAM336697 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336697 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336697 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336697 RNA, herein designated GAM RNA, of GAM336697 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336697 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336697 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336697 RNA correlate with, and may be deduced from, the identity of the GAM336697 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336698 141154 CCTTCCCATC Fig. 8 further provides a conceptual description of another novel bioinformatically

ATTCTCTTAA detected oligonucleotides of the present invention, referred to here as Genomic Address
CATCTGACCA Messenger 336698 (GAM336698) oligonucleotides modulates expression of respective target
AATCTTGACT genes whose function and utility is known in the art.

TGCATTATGT GAM336698 is a novel bioinformatically detectable regulatory, non protein
GGCATAATAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336698 was detected
GATGGCGAGT is described with additional reference to Figs. 9-15.

CCATGGTGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGG encoded by the human genome.

GAM336698 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336698 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336698 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336698 precursor RNA is designated SEQ ID:141154, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141154 is located from position 38593063 to position 38593146 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM336698 precursor RNA folds onto itself, forming GAM336698 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336698 precursor RNA, designated SEQ ID NO: 141154, and a schematic representation of a predicted secondary folding of GAM336698 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336698 folded precursor RNA yielding a GAM336698 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336698 RNA, hereby incorporated herein.

GAM336698 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336698 target RNA, herein designated GAM TARGET RNA.

GAM336698 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336698 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336698 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336698 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336698 RNA, herein designated GAM RNA, to target binding sites on GAM336698 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336698 target RNA into GAM336698 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336698 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336698 target genes. The mRNA of each one of this plurality of GAM336698 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336698 RNA, herein designated GAM RNA, and which when bound by GAM336698 RNA causes inhibition of translation of the GAM336698 target mRNA into a corresponding GAM336698 target protein.

The mechanism of the translational inhibition exerted by GAM336698 RNA, herein designated GAM RNA, on one or more GAM336698 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336698 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336698 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336698 RNA, herein designated GAM RNA, of GAM336698 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336698 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336698 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336698 RNA correlate with, and may be deduced from, the identity of the GAM336698 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336699 141155 CCTATCACAG ACCTGCCAGA TTCCTCTGGT AAACTGCAGG TTCCCTCTGC CTCAGTTGTG GCCAGGGATT CTGACCAGGA GATGATGGG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336699 (GAM336699) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336699 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336699 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336699 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336699 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336699 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336699 precursor RNA is designated SEQ ID:141155, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141155 is located from position 38679676 to position 38679764 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM336699 precursor RNA folds onto itself, forming GAM336699 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336699 precursor RNA, designated SEQ ID NO: 141155, and a schematic representation of a predicted secondary folding of GAM336699 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336699 folded precursor RNA yielding a GAM336699 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336699 RNA, hereby incorporated herein.

GAM336699 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336699 target RNA, herein designated GAM TARGET RNA.

GAM336699 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336699 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336699 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336699 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336699 RNA, herein designated GAM RNA, to target binding sites on GAM336699 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336699 target RNA into GAM336699 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336699 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336699 target genes. The mRNA of each one of this plurality of GAM336699 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336699 RNA, herein designated GAM RNA, and which when bound by GAM336699 RNA causes inhibition of translation of the GAM336699 target mRNA into a corresponding GAM336699 target protein.

The mechanism of the translational inhibition exerted by GAM336699 RNA, herein designated GAM RNA, on one or more GAM336699 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336699 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336699 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336699 RNA, herein designated GAM RNA, of GAM336699 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336699 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336699 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336699 RNA correlate with, and may be deduced from, the identity of the GAM336699 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336700 141156 CTACAAGTCA Fig. 8 further provides a conceptual description of another novel bioinformatically
AGGGGCATGC detected oligonucleotides of the present invention, referred to here as Genomic Address
AGTCTTGAAT Messenger 336700 (GAM336700) oligonucleotides modulates expression of respective target
GGGGGTCCGT genes whose function and utility is known in the art.

TCAGTTGTTT GAM336700 is a novel bioinformatically detectable regulatory, non protein
TAAAGGCCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336700 was detected
CATGCCTTCG is described with additional reference to Figs. 9-15.

TGACATTTGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AG encoded by the human genome.

GAM336700 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336700 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336700 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336700 precursor RNA is designated SEQ ID:141156, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141156 is located from position 38789766 to position 38789847 relative to chromosome chr21 on the `-` strand (chr is an abbreviation for chromosome).

GAM336700 precursor RNA folds onto itself, forming GAM336700 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336700 precursor RNA, designated SEQ ID NO: 141156, and a schematic representation of a predicted secondary folding of GAM336700 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336700 folded precursor RNA yielding a GAM336700 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336700 RNA, hereby incorporated herein.

GAM336700 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336700 target RNA, herein designated GAM TARGET RNA.

GAM336700 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336700 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336700 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336700 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336700 RNA, herein designated GAM RNA, to target binding sites on GAM336700 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336700 target RNA into GAM336700 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336700 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336700 target genes. The mRNA of each one of this plurality of GAM336700 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336700 RNA, herein designated GAM RNA, and which when bound by GAM336700 RNA causes inhibition of translation of the GAM336700 target mRNA into a corresponding GAM336700 target protein.

The mechanism of the translational inhibition exerted by GAM336700 RNA, herein designated GAM RNA, on one or more GAM336700 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336700 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336700 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336700 RNA, herein designated GAM RNA, of GAM336700 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336700 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336700 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336700 RNA correlate with, and may be deduced from, the identity of the GAM336700 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336701 141157 GTTACTTCAG Fig. 8 further provides a conceptual description of another novel bioinformatically
CAAGTAGAAG detected oligonucleotides of the present invention, referred to here as Genomic Address
ATGGATATTT Messenger 336701 (GAM336701) oligonucleotides modulates expression of respective target
TTGATGCCCA genes whose function and utility is known in the art.

GAGTGTTGTC GAM336701 is a novel bioinformatically detectable regulatory, non protein
TTCCCCGTCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336701 was detected
AGGGTATCTC is described with additional reference to Figs. 9-15.

ATTCTGATCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AACCGAATTG encoded by the human genome.

GCCATCCATA GAM336701 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CTGAGAAGTG GAM336701 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GC GAM336701 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336701 precursor RNA is designated SEQ ID:141157, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141157 is located from position 38828150 to position 38828261 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM336701 precursor RNA folds onto itself, forming GAM336701 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336701 precursor RNA, designated SEQ ID NO: 141157, and a schematic representation of a predicted secondary folding of GAM336701 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336701 folded precursor RNA yielding a GAM336701 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336701 RNA, hereby incorporated herein.

GAM336701 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336701 target RNA, herein designated GAM TARGET RNA.

GAM336701 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336701 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336701 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336701 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336701 RNA, herein designated GAM RNA, to target binding sites on GAM336701 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336701 target RNA into GAM336701 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336701 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336701 target genes. The mRNA of each one of this plurality of GAM336701 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336701 RNA, herein designated GAM RNA, and which when bound by GAM336701 RNA causes inhibition of

translation of the GAM336701 target mRNA into a corresponding GAM336701 target protein.

The mechanism of the translational inhibition exerted by GAM336701 RNA, herein designated GAM RNA, on one or more GAM336701 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336701 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336701 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336701 RNA, herein designated GAM RNA, of GAM336701 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336701 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336701 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336701 RNA correlate with, and may be deduced from, the identity of the GAM336701 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336702 141158 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336702 (GAM336702) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336702 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336702 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336702 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336702 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336702 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336702 precursor RNA is designated SEQ ID:141158, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141158 is located from position 38853404 to position 38853485 relative to chromosome chr6 on the `+` strand (chr is an abbreviation for chromosome).

GAM336702 precursor RNA folds onto itself, forming GAM336702 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336702 precursor RNA, designated SEQ ID NO: 141158, and a schematic representation of a predicted secondary folding of GAM336702 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336702 folded precursor RNA yielding a GAM336702 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336702 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336702 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336702 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336702 target RNA, herein designated GAM TARGET RNA.

GAM336702 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336702 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336702 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336702 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336702 RNA, herein designated GAM RNA, to target binding sites on GAM336702 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336702 target RNA into GAM336702 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336702 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336702 target genes. The mRNA of each one of this plurality of GAM336702 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336702 RNA, herein designated GAM RNA, and which when bound by GAM336702 RNA causes inhibition of translation of the GAM336702 target mRNA into a corresponding GAM336702 target protein.

The mechanism of the translational inhibition exerted by GAM336702 RNA, herein designated GAM RNA, on one or more GAM336702 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336702 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336702 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336702 RNA, herein designated GAM RNA, of GAM336702 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336702 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336702 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336702 RNA correlate with, and may be deduced from, the identity of the GAM336702 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336703 141159 GAGATTGCTT Fig. 8 further provides a conceptual description of another novel bioinformatically

GAGCCCAGGT detected oligonucleotides of the present invention, referred to here as Genomic Address

AGTTGAGACT Messenger 336703 (GAM336703) oligonucleotides modulates expression of respective target

GCAGTGAACC genes whose function and utility is known in the art.

ATGATTGTGC GAM336703 is a novel bioinformatically detectable regulatory, non protein

CACTGCACTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336703 was detected

AGCCTGGGTG is described with additional reference to Figs. 9-15.

ACAGTTAAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCCTGTCTC encoded by the human genome.

GAM336703 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336703 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336703 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336703 precursor RNA is designated SEQ ID:141159, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141159 is located from position 39141230 to position 39141318 relative to chromosome chr21 on the `-` strand (chr is an abbreviation for chromosome).

GAM336703 precursor RNA folds onto itself, forming GAM336703 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336703 precursor RNA, designated SEQ ID NO: 141159, and a schematic representation of a predicted secondary folding of GAM336703 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336703 folded precursor RNA yielding a GAM336703 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336703 RNA, hereby incorporated herein.

GAM336703 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336703 target RNA, herein designated GAM TARGET RNA.

GAM336703 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336703 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336703 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336703 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336703 RNA, herein designated GAM RNA, to target binding sites on GAM336703 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336703 target RNA into GAM336703 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336703 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336703 target genes. The mRNA of each one of this plurality of GAM336703 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336703 RNA, herein designated GAM RNA, and which when bound by GAM336703 RNA causes inhibition of translation of the GAM336703 target mRNA into a corresponding GAM336703 target protein.

The mechanism of the translational inhibition exerted by GAM336703 RNA, herein designated GAM RNA, on one or more GAM336703 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336703 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336703 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336703 RNA, herein designated GAM RNA, of GAM336703 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336703 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336703 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336703 RNA correlate with, and may be deduced from, the identity of the GAM336703 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336704 141160 GGAGAATTGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACGCCG detected oligonucleotides of the present invention, referred to here as Genomic Address

GGGTCGGAGG Messenger 336704 (GAM336704) oligonucleotides modulates expression of respective target
TTGCAGTGAG genes whose function and utility is known in the art.

CCATGATCGC GAM336704 is a novel bioinformatically detectable regulatory, non protein
GCCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336704 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGACTCT encoded by the human genome.

GAM336704 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336704 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336704 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336704 precursor RNA is designated SEQ ID:141160, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141160 is located from position 39394031 to position 39394118 relative to chromosome chr1 on the `+` strand (chr is an abbreviation for chromosome).

GAM336704 precursor RNA folds onto itself, forming GAM336704 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336704 precursor RNA, designated SEQ ID NO: 141160, and a schematic representation of a predicted secondary folding of GAM336704 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336704 folded precursor RNA yielding a GAM336704 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336704 RNA, hereby incorporated herein. Expression of GAM336704 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336704 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336704 target RNA, herein designated GAM TARGET RNA.

GAM336704 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336704 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336704 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336704 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336704 RNA, herein designated GAM RNA, to target binding sites on GAM336704 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336704 target RNA into GAM336704 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336704 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336704 target genes. The mRNA of each one of this plurality of GAM336704 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336704 RNA, herein designated GAM RNA, and which when bound by GAM336704 RNA causes inhibition of translation of the GAM336704 target mRNA into a corresponding GAM336704 target protein.

The mechanism of the translational inhibition exerted by GAM336704 RNA, herein designated GAM RNA, on one or more GAM336704 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336704 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336704 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336704 RNA, herein designated GAM RNA, of GAM336704 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336704 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336704 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336704 RNA correlate with, and may be deduced from, the identity of the GAM336704 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336705 141161 GAGAATTGCT Fig. 8 further provides a conceptual description of another novel bioinformatically
TGAACGCCGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GGTCGGAGGT Messenger 336705 (GAM336705) oligonucleotides modulates expression of respective target
TGCAGTGAGC genes whose function and utility is known in the art.

CATGATCGCG GAM336705 is a novel bioinformatically detectable regulatory, non protein
CCACTGCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336705 was detected
CCAGCCTGGG is described with additional reference to Figs. 9-15.

CAACAGAGCG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGACTC encoded by the human genome.

GAM336705 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336705 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336705 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336705 precursor RNA is designated SEQ ID:141161, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141161 is located from position 39394032 to position 39394117 relative to chromosome chr1 on the `+` strand (chr is an abbreviation for chromosome).

GAM336705 precursor RNA folds onto itself, forming GAM336705 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336705 precursor RNA, designated SEQ ID NO: 141161, and a schematic representation of a predicted secondary folding of GAM336705 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336705 folded precursor RNA yielding a GAM336705 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336705 RNA, hereby incorporated herein. Expression of GAM336705 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336705 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336705 target RNA, herein designated GAM TARGET RNA.

GAM336705 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336705 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336705 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336705 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336705 RNA, herein designated GAM RNA, to target binding sites on GAM336705 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336705 target RNA into GAM336705 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336705 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336705 target genes. The mRNA of each one of this plurality of GAM336705 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336705 RNA, herein designated GAM RNA, and which when bound by GAM336705 RNA causes inhibition of translation of the GAM336705 target mRNA into a corresponding GAM336705 target protein.

The mechanism of the translational inhibition exerted by GAM336705 RNA, herein designated GAM RNA, on one or more GAM336705 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336705 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336705 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336705 RNA, herein designated GAM RNA, of GAM336705 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336705 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336705 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336705 RNA correlate with, and may be deduced from, the identity of the GAM336705 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336706 141162 GAGGCAGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTCCAGTGAT detected oligonucleotides of the present invention, referred to here as Genomic Address

TCATTTGGTT Messenger 336706 (GAM336706) oligonucleotides modulates expression of respective target

GTTCATTTTG genes whose function and utility is known in the art.

TTGGGACTGA GAM336706 is a novel bioinformatically detectable regulatory, non protein

GAACAGCCAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336706 was detected

ATGACTGGAT is described with additional reference to Figs. 9-15.

CCACACTGCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TC encoded by the human genome.

GAM336706 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336706 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336706 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336706 precursor RNA is designated SEQ ID:141162, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141162 is located from position 39568547 to position 39568628 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM336706 precursor RNA folds onto itself, forming GAM336706 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336706 precursor RNA, designated SEQ ID NO: 141162, and a schematic representation of a predicted secondary folding of GAM336706 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336706 folded precursor RNA yielding a GAM336706 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336706 RNA, hereby incorporated herein.

GAM336706 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336706 target RNA, herein designated GAM TARGET RNA.

GAM336706 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336706 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336706 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336706 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336706 RNA, herein designated GAM RNA, to target binding sites on GAM336706 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336706 target RNA into GAM336706 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336706 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336706 target genes. The mRNA of each one of this plurality of GAM336706 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336706 RNA, herein designated GAM RNA, and which when bound by GAM336706 RNA causes inhibition of translation of the GAM336706 target mRNA into a corresponding GAM336706 target protein.

The mechanism of the translational inhibition exerted by GAM336706 RNA, herein designated GAM RNA, on one or more GAM336706 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336706 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336706 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336706 RNA, herein designated GAM RNA, of GAM336706 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336706 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336706 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336706 RNA correlate with, and may be deduced from, the identity of the GAM336706 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336707 141163 GCCGTAGAAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AGAGCCAGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

TGGTGTGGCA Messenger 336707 (GAM336707) oligonucleotides modulates expression of respective target

GAAGGCTCTG genes whose function and utility is known in the art.

GATTAGTCCT GAM336707 is a novel bioinformatically detectable regulatory, non protein

GGGTTCTAGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336707 was detected

TCTGGGTCTT is described with additional reference to Figs. 9-15.

CTACAAACCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCTCCATGAA encoded by the human genome.

TTAGGC GAM336707 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336707 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336707 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336707 precursor RNA is designated SEQ ID:141163, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141163 is located from position 39605027 to position 39605122 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM336707 precursor RNA folds onto itself, forming GAM336707 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336707 precursor RNA, designated SEQ ID NO: 141163, and a schematic representation of a predicted secondary folding of GAM336707 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336707 folded precursor RNA yielding a GAM336707 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336707 RNA, hereby incorporated herein.

GAM336707 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336707 target RNA, herein designated GAM TARGET RNA.

GAM336707 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336707 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336707 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336707 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336707 RNA, herein designated GAM RNA, to target binding sites on GAM336707 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336707 target RNA into GAM336707 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336707 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM336707 target genes. The mRNA of each one of this plurality of GAM336707 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336707 RNA, herein designated GAM RNA, and which when bound by GAM336707 RNA causes inhibition of translation of the GAM336707 target mRNA into a corresponding GAM336707 target protein.

The mechanism of the translational inhibition exerted by GAM336707 RNA, herein designated GAM RNA, on one or more GAM336707 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336707 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336707 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336707 RNA, herein designated GAM RNA, of GAM336707 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336707 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336707 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336707 RNA correlate with, and may be deduced from, the identity of the GAM336707 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336708 141164 GGGGTTAGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

GAGAAAATGA detected oligonucleotides of the present invention, referred to here as Genomic Address

TGTGACTCAG Messenger 336708 (GAM336708) oligonucleotides modulates expression of respective target

GAATTCCACA genes whose function and utility is known in the art.

GCTGTTGGTC GAM336708 is a novel bioinformatically detectable regulatory, non protein

AGCCTGGCAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336708 was detected

TTCTGGGCAT is described with additional reference to Figs. 9-15.

ATCTAGTCAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATCGGAGGTC encoded by the human genome.

CCAGTGTCCC GAM336708 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

C GAM336708 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336708 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336708 precursor RNA is designated SEQ ID:141164, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141164 is located from position 39680635 to position 39680735 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM336708 precursor RNA folds onto itself, forming GAM336708 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336708 precursor RNA, designated SEQ ID NO: 141164, and a schematic representation of a predicted secondary folding of GAM336708 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336708 folded precursor RNA yielding a GAM336708 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336708 RNA, hereby incorporated herein.

GAM336708 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336708 target RNA, herein designated GAM TARGET RNA.

GAM336708 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336708 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336708 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336708 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336708 RNA, herein designated GAM RNA, to target binding sites on GAM336708 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336708 target RNA into GAM336708 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336708 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336708 target genes. The mRNA of each one of this plurality of GAM336708 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336708 RNA, herein designated GAM RNA, and which when bound by GAM336708 RNA causes inhibition of translation of the GAM336708 target mRNA into a corresponding GAM336708 target protein.

The mechanism of the translational inhibition exerted by GAM336708 RNA, herein designated GAM RNA, on one or more GAM336708 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336708 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336708 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336708 RNA, herein designated GAM RNA, of GAM336708 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336708 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336708 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336708 RNA correlate with, and may be deduced from, the identity of the GAM336708 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336709 141165 GAGATGAGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

GATTGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ATCCAGGAGG Messenger 336709 (GAM336709) oligonucleotides modulates expression of respective target

TGGAGGCTGT genes whose function and utility is known in the art.

AGTGAGCTAT GAM336709 is a novel bioinformatically detectable regulatory, non protein
GATTGTGGCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336709 was detected
CAGCAGTCCA is described with additional reference to Figs. 9-15.

GCCTGGGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CACAAGGATA encoded by the human genome.

CCCTGTCTT GAM336709 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336709 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336709 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336709 precursor RNA is designated SEQ ID:141165, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141165 is located from position 39769473 to position 39769571 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM336709 precursor RNA folds onto itself, forming GAM336709 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336709 precursor RNA, designated SEQ ID NO: 141165, and a schematic representation of a predicted secondary folding of GAM336709 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336709 folded precursor RNA yielding a GAM336709 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336709 RNA, hereby incorporated herein.

GAM336709 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336709 target RNA, herein designated GAM TARGET RNA.

GAM336709 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336709 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336709 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336709 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336709 RNA, herein designated GAM RNA, to target binding sites on GAM336709 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336709 target RNA into GAM336709 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336709 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336709 target genes. The mRNA of each one of this plurality of GAM336709 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336709 RNA, herein designated GAM RNA, and which when bound by GAM336709 RNA causes inhibition of translation of the GAM336709 target mRNA into a corresponding GAM336709 target protein.

The mechanism of the translational inhibition exerted by GAM336709 RNA, herein designated GAM RNA, on one or more GAM336709 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336709 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336709 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336709 RNA, herein designated GAM RNA, of GAM336709 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336709 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336709 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336709 RNA correlate with, and may be deduced from, the identity of the GAM336709 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336710 141166 CTGGAGGCAG Fig. 8 further provides a conceptual description of another novel bioinformatically

CAAAGATTAT detected oligonucleotides of the present invention, referred to here as Genomic Address

CTTATTTATT Messenger 336710 (GAM336710) oligonucleotides modulates expression of respective target

TTATTTTGTT genes whose function and utility is known in the art.

TTCTGCTATA GAM336710 is a novel bioinformatically detectable regulatory, non protein

TTTAGAGTGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336710 was detected

CAAAAAAATA is described with additional reference to Figs. 9-15.

GAGCAGAGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTTCTGCTGT encoded by the human genome.

CTCCAG GAM336710 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336710 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336710 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336710 precursor RNA is designated SEQ ID:141166, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141166 is located from position 39771457 to position 39771552 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM336710 precursor RNA folds onto itself, forming GAM336710 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336710 precursor RNA, designated SEQ ID NO: 141166, and a schematic representation of a predicted secondary folding of GAM336710 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336710 folded precursor RNA yielding a GAM336710 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336710 RNA, hereby incorporated herein.

GAM336710 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336710 target RNA, herein designated GAM TARGET RNA.

GAM336710 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336710 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336710 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336710 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336710 RNA, herein designated GAM RNA, to target binding sites on GAM336710 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336710 target RNA into GAM336710 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336710 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336710 target genes. The mRNA of each one of this plurality of GAM336710 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336710 RNA, herein designated GAM RNA, and which when bound by GAM336710 RNA causes inhibition of translation of the GAM336710 target mRNA into a corresponding GAM336710 target protein.

The mechanism of the translational inhibition exerted by GAM336710 RNA, herein designated GAM RNA, on one or more GAM336710 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336710 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336710 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336710 RNA, herein designated GAM RNA, of GAM336710 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM336710 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336710 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336710 RNA correlate with, and may be deduced from, the identity of the GAM336710 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336711 141167 GGGGGTTTTG Fig. 8 further provides a conceptual description of another novel bioinformatically

GAACTGGTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GGCCAGGGTT Messenger 336711 (GAM336711) oligonucleotides modulates expression of respective target

TGAATCATGG genes whose function and utility is known in the art.

CTCTAACACC GAM336711 is a novel bioinformatically detectable regulatory, non protein

GACTAGCTGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336711 was detected

GTGAGCAGAA is described with additional reference to Figs. 9-15.

AATTCAATTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTGGGCCTAC encoded by the human genome.

CAAATTGAAG GAM336711 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

ACCAGATCCC GAM336711 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336711 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336711 precursor RNA is designated SEQ ID:141167, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141167 is located from position 39774112 to position 39774221 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336711 precursor RNA folds onto itself, forming GAM336711 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336711 precursor RNA, designated SEQ ID NO: 141167, and a schematic representation of a predicted secondary folding of GAM336711 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336711 folded precursor RNA yielding a GAM336711 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336711 RNA, hereby incorporated herein.

GAM336711 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336711 target RNA, herein designated GAM TARGET RNA.

GAM336711 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336711 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336711 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336711 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336711 RNA, herein designated GAM RNA, to target binding sites on GAM336711 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336711 target RNA into GAM336711 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336711 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336711 target genes. The mRNA of each one of this plurality of GAM336711 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336711 RNA, herein designated GAM RNA, and which when bound by GAM336711 RNA causes inhibition of translation of the GAM336711 target mRNA into a corresponding GAM336711 target protein.

The mechanism of the translational inhibition exerted by GAM336711 RNA, herein designated GAM RNA, on one or more GAM336711 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336711 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336711 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336711 RNA, herein designated GAM RNA, of GAM336711 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336711 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336711 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336711 RNA correlate with, and may be deduced from, the identity of the GAM336711 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336712 141168 GGTTTTGGAA CTGGTGAGGC CAGGGTTTGA ATCATGGCTC TAACACCGAC TAGCTGGGTG AGCAGAAAAT TCAATTTCTG GGCCTACCAA ATTGAAGACC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336712 (GAM336712) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336712 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336712 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336712 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336712 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336712 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336712 precursor RNA is designated SEQ ID:141168, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141168 is located from position 39774119 to position 39774218 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336712 precursor RNA folds onto itself, forming GAM336712 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336712 precursor RNA, designated SEQ ID NO: 141168, and a schematic representation of a predicted secondary folding of GAM336712 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336712 folded precursor RNA yielding a GAM336712 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336712 RNA, hereby incorporated herein.

GAM336712 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336712 target RNA, herein designated GAM TARGET RNA.

GAM336712 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336712 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336712 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336712 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336712 RNA, herein designated GAM RNA, to target binding sites on GAM336712 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336712 target RNA into GAM336712 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336712 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336712 target genes. The mRNA of each one of this plurality of GAM336712 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336712 RNA, herein designated GAM RNA, and which when bound by GAM336712 RNA causes inhibition of translation of the GAM336712 target mRNA into a corresponding GAM336712 target protein.

The mechanism of the translational inhibition exerted by GAM336712 RNA, herein designated GAM RNA, on one or more GAM336712 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336712 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336712 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336712 RNA, herein designated GAM RNA, of GAM336712 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336712 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336712 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336712 RNA correlate with, and may be deduced from, the identity of the GAM336712 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336713 141169 CCCTACTATT Fig. 8 further provides a conceptual description of another novel bioinformatically

TTCTTGGGAA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACATCCAGCA Messenger 336713 (GAM336713) oligonucleotides modulates expression of respective target

CATACTCAAG genes whose function and utility is known in the art.

GTGGGAGGGC GAM336713 is a novel bioinformatically detectable regulatory, non protein

AGTAAGCTTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336713 was detected

ATGGTGGCTA is described with additional reference to Figs. 9-15.

GATGTTTCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAGACAAGAG encoded by the human genome.

TAGGG GAM336713 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336713 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336713 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336713 precursor RNA is designated SEQ ID:141169, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141169 is located from position 39876405 to position 39876499 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM336713 precursor RNA folds onto itself, forming GAM336713 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336713 precursor RNA, designated SEQ ID NO: 141169, and a schematic representation of a predicted secondary folding of GAM336713 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336713 folded precursor RNA yielding a GAM336713 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336713 RNA, hereby incorporated herein.

GAM336713 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336713 target RNA, herein designated GAM TARGET RNA.

GAM336713 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336713 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336713 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336713 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336713 RNA, herein designated GAM RNA, to target binding sites on GAM336713 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336713 target RNA

into GAM336713 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336713 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336713 target genes. The mRNA of each one of this plurality of GAM336713 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336713 RNA, herein designated GAM RNA, and which when bound by GAM336713 RNA causes inhibition of translation of the GAM336713 target mRNA into a corresponding GAM336713 target protein.

The mechanism of the translational inhibition exerted by GAM336713 RNA, herein designated GAM RNA, on one or more GAM336713 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336713 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336713 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336713 RNA, herein designated GAM RNA, of GAM336713 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336713 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336713 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336713 RNA correlate with, and may be deduced from, the identity of the GAM336713 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336714 141170 GTTTAATCCT Fig. 8 further provides a conceptual description of another novel bioinformatically

CGTAGCAATT detected oligonucleotides of the present invention, referred to here as Genomic Address

TTGGCATCGA Messenger 336714 (GAM336714) oligonucleotides modulates expression of respective target

GGTGGTGGAT genes whose function and utility is known in the art.

GACCTCTTGT GAM336714 is a novel bioinformatically detectable regulatory, non protein

TTGTGGTGGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336714 was detected

TGGCTTTAAT is described with additional reference to Figs. 9-15.

GGTTTTACCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCACCTTTAA encoded by the human genome.

TGTTGAGTGC GAM336714 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TATGATGAAA GAM336714 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

AGAC GAM336714 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336714 precursor RNA is designated SEQ ID:141170, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141170 is located from position 39913036 to position 39913149 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336714 precursor RNA folds onto itself, forming GAM336714 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336714 precursor RNA, designated SEQ ID NO: 141170, and a schematic representation of a predicted secondary folding of GAM336714 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336714 folded precursor RNA yielding a GAM336714 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336714 RNA, hereby incorporated herein.

GAM336714 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336714 target RNA, herein designated GAM TARGET RNA.

GAM336714 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336714 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336714 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336714 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336714 RNA, herein designated GAM RNA, to target binding sites on GAM336714 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336714 target RNA into GAM336714 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336714 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336714 target genes. The mRNA of each one of this plurality of GAM336714 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336714 RNA, herein designated GAM RNA, and which when bound by GAM336714 RNA causes inhibition of translation of the GAM336714 target mRNA into a corresponding GAM336714 target protein.

The mechanism of the translational inhibition exerted by GAM336714 RNA, herein designated GAM RNA, on one or more GAM336714 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336714 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336714 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336714 RNA, herein designated GAM RNA, of GAM336714 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336714 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336714 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336714 RNA correlate with, and may be deduced from, the identity of the GAM336714 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336715 141171 GAGAATCTCT Fig. 8 further provides a conceptual description of another novel bioinformatically

TGAACCCAGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGCAGAGGT Messenger 336715 (GAM336715) oligonucleotides modulates expression of respective target
GGTGGTGAGT genes whose function and utility is known in the art.

CGAGATAGCA GAM336715 is a novel bioinformatically detectable regulatory, non protein
CCATTGCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336715 was detected
CCAGCCTGGG is described with additional reference to Figs. 9-15.

CAACAAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAAACTC encoded by the human genome.

GAM336715 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336715 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336715 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336715 precursor RNA is designated SEQ ID:141171, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141171 is located from position 39935490 to position 39935576 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM336715 precursor RNA folds onto itself, forming GAM336715 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336715 precursor RNA, designated SEQ ID NO: 141171, and a schematic representation of a predicted secondary folding of GAM336715 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336715 folded precursor RNA yielding a GAM336715 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336715 RNA, hereby incorporated herein. Expression of GAM336715 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336715 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336715 target RNA, herein designated GAM TARGET RNA.

GAM336715 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336715 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336715 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336715 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336715 RNA, herein designated GAM RNA, to target binding sites on GAM336715 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336715 target RNA into GAM336715 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336715 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336715 target genes. The mRNA of each one of this plurality of GAM336715 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336715 RNA, herein designated GAM RNA, and which when bound by GAM336715 RNA causes inhibition of translation of the GAM336715 target mRNA into a corresponding GAM336715 target protein.

The mechanism of the translational inhibition exerted by GAM336715 RNA, herein designated GAM RNA, on one or more GAM336715 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336715 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336715 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336715 RNA, herein designated GAM RNA, of GAM336715 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336715 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336715 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336715 RNA correlate with, and may be deduced from, the identity of the GAM336715 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336716 141172 GGAGAATCAC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGACGGAGT Messenger 336716 (GAM336716) oligonucleotides modulates expression of respective target
TTGTGGTGAG genes whose function and utility is known in the art.

CCGAGATCAC GAM336716 is a novel bioinformatically detectable regulatory, non protein
ACCATTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336716 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAACAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGAAACTCC encoded by the human genome.

GAM336716 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336716 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336716 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336716 precursor RNA is designated SEQ ID:141172, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141172 is located from position 40002861 to position 40002949 relative to chromosome chr4 on the `+` strand (chr is an abbreviation for chromosome).

GAM336716 precursor RNA folds onto itself, forming GAM336716 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336716 precursor RNA, designated SEQ ID NO: 141172, and a schematic representation of a predicted secondary folding of GAM336716 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336716 folded precursor RNA yielding a GAM336716 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336716 RNA, hereby incorporated herein. Expression of GAM336716 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336716 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336716 target RNA, herein designated GAM TARGET RNA.

GAM336716 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336716 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336716 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336716 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336716 RNA, herein designated GAM RNA, to target binding sites on GAM336716 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336716 target RNA into GAM336716 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336716 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336716 target genes. The mRNA of each one of this plurality of GAM336716 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336716 RNA, herein designated GAM RNA, and which when bound by GAM336716 RNA causes inhibition of translation of the GAM336716 target mRNA into a corresponding GAM336716 target protein.

The mechanism of the translational inhibition exerted by GAM336716 RNA, herein designated GAM RNA, on one or more GAM336716 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336716 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336716 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336716 RNA, herein designated GAM RNA, of GAM336716 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336716 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336716 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336716 RNA correlate with, and may be deduced from, the identity of the GAM336716 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336717 141173 TCACTTGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically

CCAGGAGACG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGTTTGTGG Messenger 336717 (GAM336717) oligonucleotides modulates expression of respective target

TGAGCCGAGA genes whose function and utility is known in the art.

TCACACCATT GAM336717 is a novel bioinformatically detectable regulatory, non protein

GCACTCCAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336717 was detected

CTGGGCAACA is described with additional reference to Figs. 9-15.

ACAGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336717 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336717 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336717 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336717 precursor RNA is designated SEQ ID:141173, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141173 is located from position 40002867 to position 40002943 relative to chromosome chr4 on the `+` strand (chr is an abbreviation for chromosome).

GAM336717 precursor RNA folds onto itself, forming GAM336717 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336717 precursor RNA, designated SEQ ID NO: 141173, and a schematic representation of a predicted secondary folding of GAM336717 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336717 folded precursor RNA yielding a GAM336717 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336717 RNA, hereby incorporated herein. Expression of GAM336717 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336717 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336717 target RNA, herein designated GAM TARGET RNA.

GAM336717 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336717 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336717 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336717 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336717 RNA, herein designated GAM RNA, to target binding sites on GAM336717 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336717 target RNA into GAM336717 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336717 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336717 target genes. The mRNA of each one of this plurality of GAM336717 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336717 RNA, herein designated GAM RNA, and which when bound by GAM336717 RNA causes inhibition of translation of the GAM336717 target mRNA into a corresponding GAM336717 target protein.

The mechanism of the translational inhibition exerted by GAM336717 RNA, herein

designated GAM RNA, on one or more GAM336717 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336717 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336717 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336717 RNA, herein designated GAM RNA, of GAM336717 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336717 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336717 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336717 RNA correlate with, and may be deduced from, the identity of the GAM336717 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336718 141174 AGCTGCAGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

CTTTCTTCCC detected oligonucleotides of the present invention, referred to here as Genomic Address

TATGAGCTTG Messenger 336718 (GAM336718) oligonucleotides modulates expression of respective target

GACACATCAA genes whose function and utility is known in the art.

TCCTAAACTA GAM336718 is a novel bioinformatically detectable regulatory, non protein

GGAGTGTGAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336718 was detected

GGAGGAAGGG is described with additional reference to Figs. 9-15.

AGGAGCAGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGCAGCAGTT encoded by the human genome.

GAM336718 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336718 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336718 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336718 precursor RNA is designated SEQ ID:141174, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141174 is located from position 40074931 to position 40075020

relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM336718 precursor RNA folds onto itself, forming GAM336718 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336718 precursor RNA, designated SEQ ID NO: 141174, and a schematic representation of a predicted secondary folding of GAM336718 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336718 folded precursor RNA yielding a GAM336718 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336718 RNA, hereby incorporated herein.

GAM336718 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336718 target RNA, herein designated GAM TARGET RNA.

GAM336718 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336718 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336718 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336718 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336718 RNA, herein designated GAM RNA, to target binding sites on GAM336718 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336718 target RNA into GAM336718 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336718 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336718 target genes. The mRNA of each one of this plurality of GAM336718 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336718 RNA, herein designated GAM RNA, and which when bound by GAM336718 RNA causes inhibition of translation of the GAM336718 target mRNA into a corresponding GAM336718 target protein.

The mechanism of the translational inhibition exerted by GAM336718 RNA, herein designated GAM RNA, on one or more GAM336718 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336718 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336718 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336718 RNA, herein designated GAM RNA, of GAM336718 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336718 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336718 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336718 RNA correlate with, and may be deduced from, the identity of the GAM336718 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336719 141175 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACCTGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGCGGAGG Messenger 336719 (GAM336719) oligonucleotides modulates expression of respective target
TTGCGGTGAG genes whose function and utility is known in the art.

CCGAGATCGC GAM336719 is a novel bioinformatically detectable regulatory, non protein
GCCATTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336719 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAAAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CGAAACTCC encoded by the human genome.

GAM336719 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336719 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336719 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336719 precursor RNA is designated SEQ ID:141175, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141175 is located from position 40082689 to position 40082777 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM336719 precursor RNA folds onto itself, forming GAM336719 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336719 precursor RNA, designated SEQ ID NO: 141175, and a schematic representation of a predicted secondary folding of GAM336719 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336719 folded precursor RNA yielding a GAM336719 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336719 RNA, hereby incorporated herein. Expression of GAM336719 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336719 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336719 target RNA, herein designated GAM TARGET RNA.

GAM336719 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336719 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336719 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336719 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336719 RNA, herein designated GAM RNA, to target binding sites on GAM336719 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336719 target RNA into GAM336719 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336719 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336719 target genes. The mRNA of each one of this plurality of GAM336719 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336719 RNA, herein designated GAM RNA, and which when bound by GAM336719 RNA causes inhibition of translation of the GAM336719 target mRNA into a corresponding GAM336719 target protein.

The mechanism of the translational inhibition exerted by GAM336719 RNA, herein designated GAM RNA, on one or more GAM336719 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336719 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336719 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336719 RNA, herein designated GAM RNA, of GAM336719 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336719 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336719 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336719 RNA correlate with, and may be deduced from, the identity of the GAM336719 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336720 141176 AGTATCACTT Fig. 8 further provides a conceptual description of another novel bioinformatically

GAACCAGGGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GGCAGAGGCT Messenger 336720 (GAM336720) oligonucleotides modulates expression of respective target

GCATGCAGTG genes whose function and utility is known in the art.

AGCCAAGATT GAM336720 is a novel bioinformatically detectable regulatory, non protein
GCACCACTGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336720 was detected
ACTCTAACCT is described with additional reference to Figs. 9-15.

GGGCAACAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATGATACT encoded by the human genome.

GAM336720 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336720 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336720 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336720 precursor RNA is designated SEQ ID:141176, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141176 is located from position 40086888 to position 40086975 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336720 precursor RNA folds onto itself, forming GAM336720 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336720 precursor RNA, designated SEQ ID NO: 141176, and a schematic representation of a predicted secondary folding of GAM336720 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336720 folded precursor RNA yielding a GAM336720 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336720 RNA, hereby incorporated herein.

GAM336720 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336720 target RNA, herein designated GAM TARGET RNA.

GAM336720 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336720 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM336720 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336720 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336720 RNA, herein designated GAM RNA, to target binding sites on GAM336720 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336720 target RNA into GAM336720 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336720 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336720 target genes. The mRNA of each one of this plurality of GAM336720 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336720 RNA, herein designated GAM RNA, and which when bound by GAM336720 RNA causes inhibition of translation of the GAM336720 target mRNA into a corresponding GAM336720 target protein.

The mechanism of the translational inhibition exerted by GAM336720 RNA, herein designated GAM RNA, on one or more GAM336720 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336720 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336720 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336720 RNA, herein designated GAM RNA, of GAM336720 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336720 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336720 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336720 RNA correlate with, and may be deduced from, the identity of the GAM336720 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336721 141177 GCATCACTGA Fig. 8 further provides a conceptual description of another novel bioinformatically
TGGGCTGTCT detected oligonucleotides of the present invention, referred to here as Genomic Address
TCATTTCCAG Messenger 336721 (GAM336721) oligonucleotides modulates expression of respective target
TCCATTTTCG genes whose function and utility is known in the art.

CTGCGTGGTG GAM336721 is a novel bioinformatically detectable regulatory, non protein
TTTCATCCAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336721 was detected
TCCTAGATGA is described with additional reference to Figs. 9-15.

GATTCTCATT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGGAAGATCA encoded by the human genome.

AAGGCTGCAG GAM336721 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CCCAGAAGGA GAM336721 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GTGC GAM336721 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336721 precursor RNA is designated SEQ ID:141177, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141177 is located from position 40171705 to position 40171818 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM336721 precursor RNA folds onto itself, forming GAM336721 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336721 precursor RNA, designated SEQ ID NO: 141177, and a schematic representation of a predicted secondary folding of GAM336721 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336721 folded precursor RNA yielding a GAM336721 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336721 RNA, hereby incorporated herein.

GAM336721 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336721 target RNA, herein designated GAM TARGET RNA.

GAM336721 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336721 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336721 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336721 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336721 RNA, herein designated GAM RNA, to target binding sites on GAM336721 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336721 target RNA into GAM336721 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336721 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336721 target genes. The mRNA of each one of this plurality of GAM336721 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336721 RNA, herein designated GAM RNA, and which when bound by GAM336721 RNA causes inhibition of translation of the GAM336721 target mRNA into a corresponding GAM336721 target protein.

The mechanism of the translational inhibition exerted by GAM336721 RNA, herein designated GAM RNA, on one or more GAM336721 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336721 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336721 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336721 RNA, herein designated GAM RNA, of GAM336721 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336721 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336721 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336721 RNA correlate with, and may be deduced from, the identity of the GAM336721 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336722 141178 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 336722 (GAM336722) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336722 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336722 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM336722 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336722 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336722 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336722 precursor RNA is designated SEQ ID:141178, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141178 is located from position 40227896 to position 40227977 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM336722 precursor RNA folds onto itself, forming GAM336722 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336722 precursor RNA, designated SEQ ID NO: 141178, and a schematic representation of a predicted secondary folding of GAM336722 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336722 folded precursor RNA yielding a GAM336722 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336722 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336722 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336722 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336722 target RNA, herein designated GAM TARGET RNA.

GAM336722 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336722 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336722 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336722 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336722 RNA, herein designated GAM RNA, to target binding sites on GAM336722 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336722 target RNA into GAM336722 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336722 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336722 target genes. The mRNA of each one of this plurality of GAM336722 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336722 RNA, herein designated GAM RNA, and which when bound by GAM336722 RNA causes inhibition of translation of the GAM336722 target mRNA into a corresponding GAM336722 target protein.

The mechanism of the translational inhibition exerted by GAM336722 RNA, herein designated GAM RNA, on one or more GAM336722 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336722 precursor RNA, herein designated GAM PRECURSOR

RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336722 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336722 RNA, herein designated GAM RNA, of GAM336722 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336722 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336722 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336722 RNA correlate with, and may be deduced from, the identity of the GAM336722 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336723 141179 GAGAATCACT Fig. 8 further provides a conceptual description of another novel bioinformatically

TGAACCCAGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGCAGAGGT Messenger 336723 (GAM336723) oligonucleotides modulates expression of respective target

TGCAGTGAGC genes whose function and utility is known in the art.

TGAGATTATG GAM336723 is a novel bioinformatically detectable regulatory, non protein

CCATTGCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336723 was detected

CCAGCCTGGG is described with additional reference to Figs. 9-15.

TGACAGAGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAACTC encoded by the human genome.

GAM336723 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336723 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336723 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336723 precursor RNA is designated SEQ ID:141179, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141179 is located from position 40285217 to position 40285302 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336723 precursor RNA folds onto itself, forming GAM336723 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336723 precursor RNA, designated SEQ ID NO: 141179, and a schematic representation of a predicted secondary folding of GAM336723 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336723 folded precursor RNA yielding a GAM336723 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336723 RNA, hereby incorporated herein.

GAM336723 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336723 target RNA, herein designated GAM TARGET RNA.

GAM336723 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336723 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336723 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336723 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336723 RNA, herein designated GAM RNA, to target binding sites on GAM336723 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336723 target RNA into GAM336723 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336723 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336723 target genes. The mRNA of each one of this plurality of GAM336723 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336723 RNA, herein designated GAM RNA, and which when bound by GAM336723 RNA causes inhibition of

translation of the GAM336723 target mRNA into a corresponding GAM336723 target protein.

The mechanism of the translational inhibition exerted by GAM336723 RNA, herein designated GAM RNA, on one or more GAM336723 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336723 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336723 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336723 RNA, herein designated GAM RNA, of GAM336723 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336723 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336723 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336723 RNA correlate with, and may be deduced from, the identity of the GAM336723 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336724 141180 GGAATGAATC Fig. 8 further provides a conceptual description of another novel bioinformatically

TCCGGATTGG detected oligonucleotides of the present invention, referred to here as Genomic Address

CCACTCCTGG Messenger 336724 (GAM336724) oligonucleotides modulates expression of respective target

ATTCCCTAGC genes whose function and utility is known in the art.

TCAGGACACA GAM336724 is a novel bioinformatically detectable regulatory, non protein

CATTCAGGTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336724 was detected

CATCATCAAT is described with additional reference to Figs. 9-15.

CTGGGGTCAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCT encoded by the human genome.

GAM336724 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336724 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336724 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336724 precursor RNA is designated SEQ ID:141180, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141180 is located from position 40344023 to position 40344105 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM336724 precursor RNA folds onto itself, forming GAM336724 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336724 precursor RNA, designated SEQ ID NO: 141180, and a schematic representation of a predicted secondary folding of GAM336724 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336724 folded precursor RNA yielding a GAM336724 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336724 RNA, hereby incorporated herein.

GAM336724 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336724 target RNA, herein designated GAM TARGET RNA.

GAM336724 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336724 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336724 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336724 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336724 RNA, herein designated GAM RNA, to target binding sites on GAM336724 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336724 target RNA

into GAM336724 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336724 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336724 target genes. The mRNA of each one of this plurality of GAM336724 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336724 RNA, herein designated GAM RNA, and which when bound by GAM336724 RNA causes inhibition of translation of the GAM336724 target mRNA into a corresponding GAM336724 target protein.

The mechanism of the translational inhibition exerted by GAM336724 RNA, herein designated GAM RNA, on one or more GAM336724 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336724 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336724 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336724 RNA, herein designated GAM RNA, of GAM336724 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336724 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336724 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336724 RNA correlate with, and may be deduced from, the identity of the GAM336724 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336725 141181 AGGGTTCAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

GCTTCTCTGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGCAGATATT Messenger 336725 (GAM336725) oligonucleotides modulates expression of respective target

GTCAAGTTCA genes whose function and utility is known in the art.

TGGCCTTAGG GAM336725 is a novel bioinformatically detectable regulatory, non protein

TAGCATGTAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336725 was detected

CTGGTCTTAA is described with additional reference to Figs. 9-15.

CTCTGATTGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGCAAAAGTT encoded by the human genome.

CTGAGAGGAG GAM336725 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CTGAGCCCT GAM336725 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336725 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336725 precursor RNA is designated SEQ ID:141181, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141181 is located from position 40374392 to position 40374500 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336725 precursor RNA folds onto itself, forming GAM336725 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336725 precursor RNA, designated SEQ ID NO: 141181, and a schematic representation of a predicted secondary folding of GAM336725 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336725 folded precursor RNA yielding a GAM336725 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336725 RNA, hereby incorporated herein.

GAM336725 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336725 target RNA, herein designated GAM TARGET RNA.

GAM336725 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336725 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336725 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336725 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336725 RNA, herein designated GAM RNA, to target binding sites on GAM336725 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336725 target RNA into GAM336725 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336725 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336725 target genes. The mRNA of each one of this plurality of GAM336725 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336725 RNA, herein designated GAM RNA, and which when bound by GAM336725 RNA causes inhibition of translation of the GAM336725 target mRNA into a corresponding GAM336725 target protein.

The mechanism of the translational inhibition exerted by GAM336725 RNA, herein designated GAM RNA, on one or more GAM336725 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336725 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336725 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336725 RNA, herein designated GAM RNA, of GAM336725 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336725 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336725 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336725 RNA correlate with, and may be deduced from, the identity of the GAM336725 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336726 141182 GGGTTCAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

CTTCTCTGGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GCAGATATTG Messenger 336726 (GAM336726) oligonucleotides modulates expression of respective target
TCAAGTTCAT genes whose function and utility is known in the art.

GGCCTTAGGT GAM336726 is a novel bioinformatically detectable regulatory, non protein
AGCATGTATC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336726 was detected
TGGTCTTAAC is described with additional reference to Figs. 9-15.

TCTGATTGTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCAAAAGTTC encoded by the human genome.

TGAGAGGAGC GAM336726 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TGAGCCC GAM336726 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336726 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336726 precursor RNA is designated SEQ ID:141182, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141182 is located from position 40374393 to position 40374499 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336726 precursor RNA folds onto itself, forming GAM336726 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336726 precursor RNA, designated SEQ ID NO: 141182, and a schematic representation of a predicted secondary folding of GAM336726 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336726 folded precursor RNA yielding a GAM336726 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336726 RNA, hereby incorporated herein.

GAM336726 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336726 target RNA, herein designated GAM TARGET RNA.

GAM336726 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336726 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336726 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336726 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336726 RNA, herein designated GAM RNA, to target binding sites on GAM336726 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336726 target RNA into GAM336726 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336726 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336726 target genes. The mRNA of each one of this plurality of GAM336726 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336726 RNA, herein designated GAM RNA, and which when bound by GAM336726 RNA causes inhibition of translation of the GAM336726 target mRNA into a corresponding GAM336726 target protein.

The mechanism of the translational inhibition exerted by GAM336726 RNA, herein designated GAM RNA, on one or more GAM336726 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336726 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336726 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336726 RNA, herein designated GAM RNA, of GAM336726 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336726 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336726 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336726 RNA correlate with, and may be deduced from, the identity of the GAM336726 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336727 141183 GTGGTCATAA Fig. 8 further provides a conceptual description of another novel bioinformatically
GGTCCTTTCT detected oligonucleotides of the present invention, referred to here as Genomic Address
GGCTCTAATA Messenger 336727 (GAM336727) oligonucleotides modulates expression of respective target
ACCTGAGCTT genes whose function and utility is known in the art.

CTGTTATGAA GAM336727 is a novel bioinformatically detectable regulatory, non protein
GCTGGGACCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336727 was detected
TTAGAGCCTC is described with additional reference to Figs. 9-15.

AGGATGATCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCTGTTTGTT encoded by the human genome.

TGTGAAGC GAM336727 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336727 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336727 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336727 precursor RNA is designated SEQ ID:141183, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141183 is located from position 40420544 to position 40420641 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM336727 precursor RNA folds onto itself, forming GAM336727 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336727 precursor RNA, designated SEQ ID NO: 141183, and a schematic representation of a predicted secondary folding of GAM336727 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336727 folded precursor RNA yielding a GAM336727 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336727 RNA, hereby incorporated herein.

GAM336727 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336727 target RNA, herein designated GAM TARGET RNA.

GAM336727 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336727 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336727 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336727 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336727 RNA, herein designated GAM RNA, to target binding sites on GAM336727 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336727 target RNA into GAM336727 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336727 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336727 target genes. The mRNA of each one of this plurality of GAM336727 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336727 RNA, herein designated GAM RNA, and which when bound by GAM336727 RNA causes inhibition of translation of the GAM336727 target mRNA into a corresponding GAM336727 target protein.

The mechanism of the translational inhibition exerted by GAM336727 RNA, herein designated GAM RNA, on one or more GAM336727 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336727 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336727 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336727 RNA, herein designated GAM RNA, of GAM336727 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336727 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336727 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336727 RNA correlate with, and may be deduced from, the identity of the GAM336727 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336728 141184 AGTCTCACTC Fig. 8 further provides a conceptual description of another novel bioinformatically
TGTTGCCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GCTGAAGTCA Messenger 336728 (GAM336728) oligonucleotides modulates expression of respective target
ACGGCATGAT genes whose function and utility is known in the art.

CTCAGCTCAC GAM336728 is a novel bioinformatically detectable regulatory, non protein
TGCAACCTCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336728 was detected
ACCTCCTGGG is described with additional reference to Figs. 9-15.

TTCAAGCAAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCTCGTGCCT encoded by the human genome.

CAGCCTCCCA GAM336728 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
AGTAGCTTGG GAM336728 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
ATT GAM336728 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336728 precursor RNA is designated SEQ ID:141184, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141184 is located from position 40578117 to position 40578229 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336728 precursor RNA folds onto itself, forming GAM336728 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336728 precursor RNA, designated SEQ ID NO: 141184, and a schematic representation of a predicted secondary folding of GAM336728 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336728 folded precursor RNA yielding a GAM336728 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336728 RNA, hereby incorporated herein.

GAM336728 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336728 target RNA, herein designated GAM TARGET RNA.

GAM336728 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336728 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336728 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336728 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336728 RNA, herein designated GAM RNA, to target binding sites on GAM336728 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336728 target RNA into GAM336728 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336728 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336728 target genes. The mRNA of each one of this plurality of GAM336728 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336728 RNA, herein designated GAM RNA, and which when bound by GAM336728 RNA causes inhibition of translation of the GAM336728 target mRNA into a corresponding GAM336728 target protein.

The mechanism of the translational inhibition exerted by GAM336728 RNA, herein designated GAM RNA, on one or more GAM336728 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336728 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336728 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336728 RNA, herein designated GAM RNA, of GAM336728 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336728 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336728 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336728 RNA correlate with, and may be deduced from, the identity of the GAM336728 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336729 141185 GGAGACCCAG Fig. 8 further provides a conceptual description of another novel bioinformatically

GACCCGGGAG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGAGGTAGAG Messenger 336729 (GAM336729) oligonucleotides modulates expression of respective target

GGGAGCAGAG genes whose function and utility is known in the art.

ACAGCCACCA GAM336729 is a novel bioinformatically detectable regulatory, non protein

GCTTCTATCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336729 was detected

TCTGCTCTAA is described with additional reference to Figs. 9-15.

GCACATTCTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCACGAGTTT encoded by the human genome.

AAGTTTCC GAM336729 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336729 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336729 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336729 precursor RNA is designated SEQ ID:141185, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141185 is located from position 40608767 to position 40608864 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM336729 precursor RNA folds onto itself, forming GAM336729 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336729 precursor RNA, designated SEQ ID NO: 141185, and a schematic representation of a predicted secondary folding of GAM336729 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336729 folded precursor RNA yielding a GAM336729 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336729 RNA, hereby incorporated herein.

GAM336729 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336729 target RNA, herein designated GAM TARGET RNA.

GAM336729 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336729 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336729 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336729 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336729 RNA, herein designated GAM RNA, to target binding sites on GAM336729 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336729 target RNA into GAM336729 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336729 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336729 target genes. The mRNA of each one of this plurality of GAM336729 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM336729 RNA, herein designated GAM RNA, and which when bound by GAM336729 RNA causes inhibition of translation of the GAM336729 target mRNA into a corresponding GAM336729 target protein.

The mechanism of the translational inhibition exerted by GAM336729 RNA, herein designated GAM RNA, on one or more GAM336729 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336729 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336729 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336729 RNA, herein designated GAM RNA, of GAM336729 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336729 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336729 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336729 RNA correlate with, and may be deduced from, the identity of the GAM336729 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336730 141186 GATCCCAAAA Fig. 8 further provides a conceptual description of another novel bioinformatically
ACTCATCTCA detected oligonucleotides of the present invention, referred to here as Genomic Address
GTCTATGTCC Messenger 336730 (GAM336730) oligonucleotides modulates expression of respective target
TTGCTATGTA genes whose function and utility is known in the art.

TGTACAAAAA GAM336730 is a novel bioinformatically detectable regulatory, non protein
TGAGAAATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336730 was detected
AAATTGTGTT is described with additional reference to Figs. 9-15.

TAAAAACCTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATCTCATTAC encoded by the human genome.

ATACTTTCTC GAM336730 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

AAACCACTCT GAM336730 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

TTGAGTGTCA GAM336730 precursor RNA does not encode a protein. A nucleotide sequence identical or

TTTTTGGGTC highly similar to the nucleotide sequence of GAM336730 precursor RNA is designated SEQ

ID:141186, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141186 is located from position 40623807 to position 40623936 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM336730 precursor RNA folds onto itself, forming GAM336730 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336730 precursor RNA, designated SEQ ID NO: 141186, and a schematic representation of a predicted secondary folding of GAM336730 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336730 folded precursor RNA yielding a GAM336730 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336730 RNA, hereby incorporated herein.

GAM336730 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336730 target RNA, herein designated GAM TARGET RNA.

GAM336730 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336730 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336730 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336730 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336730 RNA, herein designated GAM RNA, to target binding sites on GAM336730 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336730 target RNA into GAM336730 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336730 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336730 target genes. The mRNA of each one of this plurality of GAM336730 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336730 RNA, herein designated GAM RNA, and which when bound by GAM336730 RNA causes inhibition of translation of the GAM336730 target mRNA into a corresponding GAM336730 target protein.

The mechanism of the translational inhibition exerted by GAM336730 RNA, herein designated GAM RNA, on one or more GAM336730 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336730 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336730 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336730 RNA, herein designated GAM RNA, of GAM336730 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336730 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336730 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336730 RNA correlate with, and may be deduced from, the identity of the GAM336730 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336731 141187 TTGGGCCCAG Fig. 8 further provides a conceptual description of another novel bioinformatically

GAGGCTTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GAAAGCCTTC Messenger 336731 (GAM336731) oligonucleotides modulates expression of respective target

TCTGTGTACT genes whose function and utility is known in the art.

CTGGAGATAG GAM336731 is a novel bioinformatically detectable regulatory, non protein
ATGGAGAAGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336731 was detected
GTTTTCAGAT is described with additional reference to Figs. 9-15.

TCCTGGGAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AG encoded by the human genome.

GAM336731 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336731 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336731 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336731 precursor RNA is designated SEQ ID:141187, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141187 is located from position 40762540 to position 40762621 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336731 precursor RNA folds onto itself, forming GAM336731 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336731 precursor RNA, designated SEQ ID NO: 141187, and a schematic representation of a predicted secondary folding of GAM336731 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336731 folded precursor RNA yielding a GAM336731 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336731 RNA, hereby incorporated herein.

GAM336731 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336731 target RNA, herein designated GAM TARGET RNA.

GAM336731 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336731 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336731 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the

nucleotide sequence of GAM336731 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336731 RNA, herein designated GAM RNA, to target binding sites on GAM336731 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336731 target RNA into GAM336731 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336731 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336731 target genes. The mRNA of each one of this plurality of GAM336731 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336731 RNA, herein designated GAM RNA, and which when bound by GAM336731 RNA causes inhibition of translation of the GAM336731 target mRNA into a corresponding GAM336731 target protein.

The mechanism of the translational inhibition exerted by GAM336731 RNA, herein designated GAM RNA, on one or more GAM336731 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336731 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336731 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336731 RNA, herein designated GAM RNA, of GAM336731 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336731 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336731 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336731 RNA correlate with, and may be deduced from, the identity of the GAM336731 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336732 141188 TGGGCCCAGG AGGCTTTGAG AAAGCCTTCT CTGTGTACTC TGGAGATAGA TGGAGAAGTG TTTTCAGATT CCTGGGAACA

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336732 (GAM336732) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336732 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336732 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336732 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336732 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336732 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336732 precursor RNA is designated SEQ ID:141188, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141188 is located from position 40762541 to position 40762620 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336732 precursor RNA folds onto itself, forming GAM336732 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336732 precursor RNA, designated SEQ ID NO: 141188, and a schematic representation of a predicted secondary folding of GAM336732 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336732 folded precursor RNA yielding a GAM336732 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336732 RNA, hereby incorporated herein.

GAM336732 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336732 target RNA, herein designated GAM TARGET RNA.

GAM336732 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336732 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336732 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336732 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336732 RNA, herein designated GAM RNA, to target binding sites on GAM336732 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336732 target RNA into GAM336732 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336732 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336732 target genes. The mRNA of each one of this plurality of GAM336732 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336732 RNA, herein designated GAM RNA, and which when bound by GAM336732 RNA causes inhibition of translation of the GAM336732 target mRNA into a corresponding GAM336732 target protein.

The mechanism of the translational inhibition exerted by GAM336732 RNA, herein designated GAM RNA, on one or more GAM336732 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336732 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336732 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336732 RNA, herein designated GAM RNA, of GAM336732 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336732 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336732 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336732 RNA correlate with, and may be deduced from, the identity of the GAM336732 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336733 141189 CAGATCTAAT Fig. 8 further provides a conceptual description of another novel bioinformatically
AAGTAGCTAA detected oligonucleotides of the present invention, referred to here as Genomic Address
GCTAGGATTC Messenger 336733 (GAM336733) oligonucleotides modulates expression of respective target
AAATCCAGGC genes whose function and utility is known in the art.

AGTCTGGTTG GAM336733 is a novel bioinformatically detectable regulatory, non protein
CTGAGTCCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336733 was detected
ATTCTTAGCT is described with additional reference to Figs. 9-15.

GCACATGATA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGCCTG encoded by the human genome.

GAM336733 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336733 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336733 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336733 precursor RNA is designated SEQ ID:141189, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141189 is located from position 40848350 to position 40848435 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336733 precursor RNA folds onto itself, forming GAM336733 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336733 precursor RNA, designated SEQ ID NO: 141189, and a schematic representation of a predicted secondary folding of GAM336733 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336733 folded precursor RNA yielding a GAM336733 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336733 RNA, hereby incorporated herein.

GAM336733 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336733 target RNA, herein designated GAM TARGET RNA.

GAM336733 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336733 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336733 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336733 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336733 RNA, herein designated GAM RNA, to target binding sites on GAM336733 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336733 target RNA into GAM336733 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336733 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336733 target genes. The mRNA of each one of this plurality of GAM336733 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336733 RNA, herein designated GAM RNA, and which when bound by GAM336733 RNA causes inhibition of translation of the GAM336733 target mRNA into a corresponding GAM336733 target protein.

The mechanism of the translational inhibition exerted by GAM336733 RNA, herein designated GAM RNA, on one or more GAM336733 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336733 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336733 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336733 RNA, herein designated GAM RNA, of

GAM336733 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336733 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336733 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336733 RNA correlate with, and may be deduced from, the identity of the GAM336733 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336734 141190 GCAGAGGCAG Fig. 8 further provides a conceptual description of another novel bioinformatically

ATGGGACTCT detected oligonucleotides of the present invention, referred to here as Genomic Address

GTGCCCATTG Messenger 336734 (GAM336734) oligonucleotides modulates expression of respective target

AAGAACTTGG genes whose function and utility is known in the art.

GAGTGTATTC GAM336734 is a novel bioinformatically detectable regulatory, non protein

TGGGAACAGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336734 was detected

CACCCATCTT is described with additional reference to Figs. 9-15.

CTCTGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336734 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336734 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336734 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336734 precursor RNA is designated SEQ ID:141190, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141190 is located from position 40925498 to position 40925573 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM336734 precursor RNA folds onto itself, forming GAM336734 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336734 precursor RNA, designated SEQ ID NO: 141190,

and a schematic representation of a predicted secondary folding of GAM336734 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336734 folded precursor RNA yielding a GAM336734 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336734 RNA, hereby incorporated herein.

GAM336734 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336734 target RNA, herein designated GAM TARGET RNA.

GAM336734 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336734 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336734 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336734 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336734 RNA, herein designated GAM RNA, to target binding sites on GAM336734 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336734 target RNA into GAM336734 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336734 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336734 target genes. The mRNA of each one of this plurality of GAM336734 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336734 RNA, herein designated GAM RNA, and which when bound by GAM336734 RNA causes inhibition of translation of the GAM336734 target mRNA into a corresponding GAM336734 target protein.

The mechanism of the translational inhibition exerted by GAM336734 RNA, herein designated GAM RNA, on one or more GAM336734 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336734 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336734 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336734 RNA, herein designated GAM RNA, of GAM336734 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336734 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336734 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336734 RNA correlate with, and may be deduced from, the identity of the GAM336734 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336735 141191 AGTGCTGATG Fig. 8 further provides a conceptual description of another novel bioinformatically

ATGCAACAAG detected oligonucleotides of the present invention, referred to here as Genomic Address

TAATTAACTT Messenger 336735 (GAM336735) oligonucleotides modulates expression of respective target

TCTGTGACGC genes whose function and utility is known in the art.

AAAGCTGGGA GAM336735 is a novel bioinformatically detectable regulatory, non protein

AGGCAGCTGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336735 was detected

GGCTATTTTC is described with additional reference to Figs. 9-15.

CAGTTGTTCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGAAAGCTAG encoded by the human genome.

CGCCTAGGCC GAM336735 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TTTGTCAGCG GAM336735 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

CT GAM336735 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336735 precursor RNA is designated SEQ ID:141191, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141191 is located from position 41029845 to position 41029956 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336735 precursor RNA folds onto itself, forming GAM336735 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336735 precursor RNA, designated SEQ ID NO: 141191, and a schematic representation of a predicted secondary folding of GAM336735 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336735 folded precursor RNA yielding a GAM336735 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336735 RNA, hereby incorporated herein.

GAM336735 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336735 target RNA, herein designated GAM TARGET RNA.

GAM336735 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336735 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336735 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336735 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336735 RNA, herein designated GAM RNA, to target binding sites on GAM336735 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336735 target RNA into GAM336735 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336735 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336735 target genes. The mRNA of each one of this

plurality of GAM336735 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336735 RNA, herein designated GAM RNA, and which when bound by GAM336735 RNA causes inhibition of translation of the GAM336735 target mRNA into a corresponding GAM336735 target protein.

The mechanism of the translational inhibition exerted by GAM336735 RNA, herein designated GAM RNA, on one or more GAM336735 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336735 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336735 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336735 RNA, herein designated GAM RNA, of GAM336735 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336735 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336735 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336735 RNA correlate with, and may be deduced from, the identity of the GAM336735 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336736 141192 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336736 (GAM336736) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336736 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336736 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336736 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336736 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336736 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336736 precursor RNA is designated SEQ ID:141192, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141192 is located from position 41122390 to position 41122471 relative to chromosome chr4 on the `+` strand (chr is an abbreviation for chromosome).

GAM336736 precursor RNA folds onto itself, forming GAM336736 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336736 precursor RNA, designated SEQ ID NO: 141192, and a schematic representation of a predicted secondary folding of GAM336736 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336736 folded precursor RNA yielding a GAM336736 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336736 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336736 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336736 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336736 target RNA, herein designated GAM TARGET RNA.

GAM336736 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336736 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336736 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336736 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336736 RNA, herein designated GAM RNA, to target binding sites on GAM336736 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336736 target RNA into GAM336736 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336736 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336736 target genes. The mRNA of each one of this plurality of GAM336736 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336736 RNA, herein designated GAM RNA, and which when bound by GAM336736 RNA causes inhibition of translation of the GAM336736 target mRNA into a corresponding GAM336736 target protein.

The mechanism of the translational inhibition exerted by GAM336736 RNA, herein designated GAM RNA, on one or more GAM336736 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336736 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336736 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336736 RNA, herein designated GAM RNA, of GAM336736 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336736 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336736 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336736 RNA correlate with, and may be deduced from, the identity of the GAM336736 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336737 141193 TCTTTGTATT Fig. 8 further provides a conceptual description of another novel bioinformatically

TTTAGTAGAG detected oligonucleotides of the present invention, referred to here as Genomic Address

ACGGGGTTTC Messenger 336737 (GAM336737) oligonucleotides modulates expression of respective target

ACTGTGTTAG genes whose function and utility is known in the art.

CCAGGATGGT GAM336737 is a novel bioinformatically detectable regulatory, non protein
CTCGATCCCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336737 was detected
TGACATCGTG is described with additional reference to Figs. 9-15.

ATCCGCTGTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTCGGTCTCC encoded by the human genome.

CAAAGTGCTG GAM336737 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GGA GAM336737 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336737 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336737 precursor RNA is designated SEQ ID:141193, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141193 is located from position 41193723 to position 41193825 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336737 precursor RNA folds onto itself, forming GAM336737 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336737 precursor RNA, designated SEQ ID NO: 141193, and a schematic representation of a predicted secondary folding of GAM336737 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336737 folded precursor RNA yielding a GAM336737 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336737 RNA, hereby incorporated herein.

GAM336737 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336737 target RNA, herein designated GAM TARGET RNA.

GAM336737 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336737 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336737 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336737 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336737 RNA, herein designated GAM RNA, to target binding sites on GAM336737 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336737 target RNA into GAM336737 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336737 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336737 target genes. The mRNA of each one of this plurality of GAM336737 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336737 RNA, herein designated GAM RNA, and which when bound by GAM336737 RNA causes inhibition of translation of the GAM336737 target mRNA into a corresponding GAM336737 target protein.

The mechanism of the translational inhibition exerted by GAM336737 RNA, herein designated GAM RNA, on one or more GAM336737 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336737 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336737 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336737 RNA, herein designated GAM RNA, of GAM336737 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336737 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336737 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336737 RNA correlate with, and may be deduced from, the identity of the GAM336737 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336738 141194 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATCACTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCCGGGAG Messenger 336738 (GAM336738) oligonucleotides modulates expression of respective target
GCAGAGGTTG genes whose function and utility is known in the art.

CAGTGAGCCA GAM336738 is a novel bioinformatically detectable regulatory, non protein
AGATCGCACC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336738 was detected
ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAAGGGCGA encoded by the human genome.

GACTCTGTCT GAM336738 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CA GAM336738 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336738 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336738 precursor RNA is designated SEQ ID:141194, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141194 is located from position 41382416 to position 41382517 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336738 precursor RNA folds onto itself, forming GAM336738 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336738 precursor RNA, designated SEQ ID NO: 141194, and a schematic representation of a predicted secondary folding of GAM336738 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336738 folded precursor RNA yielding a GAM336738 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336738 RNA, hereby incorporated herein. Expression of GAM336738 RNA was experimentally validated in HeLa cells using the methods

described with reference to Figs.22 to 24.

GAM336738 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336738 target RNA, herein designated GAM TARGET RNA.

GAM336738 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336738 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336738 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336738 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336738 RNA, herein designated GAM RNA, to target binding sites on GAM336738 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336738 target RNA into GAM336738 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336738 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336738 target genes. The mRNA of each one of this plurality of GAM336738 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336738 RNA, herein designated GAM RNA, and which when bound by GAM336738 RNA causes inhibition of translation of the GAM336738 target mRNA into a corresponding GAM336738 target protein.

The mechanism of the translational inhibition exerted by GAM336738 RNA, herein designated GAM RNA, on one or more GAM336738 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336738 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336738 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336738 RNA, herein designated GAM RNA, of GAM336738 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336738 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336738 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336738 RNA correlate with, and may be deduced from, the identity of the GAM336738 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336739 141195 CTGGAGGCTC Fig. 8 further provides a conceptual description of another novel bioinformatically
AGGAGTCTTT detected oligonucleotides of the present invention, referred to here as Genomic Address
TATCTGCAAT Messenger 336739 (GAM336739) oligonucleotides modulates expression of respective target
AGGACAATGA genes whose function and utility is known in the art.

TTCTCCTAGC GAM336739 is a novel bioinformatically detectable regulatory, non protein
AGATCTGTGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336739 was detected
CTCCTATGCT is described with additional reference to Figs. 9-15.

CAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336739 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336739 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336739 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336739 precursor RNA is designated SEQ ID:141195, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141195 is located from position 41425604 to position 41425676 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336739 precursor RNA folds onto itself, forming GAM336739 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336739 precursor RNA, designated SEQ ID NO: 141195, and a schematic representation of a predicted secondary folding of GAM336739 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336739 folded precursor RNA yielding a GAM336739 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336739 RNA, hereby incorporated herein.

GAM336739 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336739 target RNA, herein designated GAM TARGET RNA.

GAM336739 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336739 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336739 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336739 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336739 RNA, herein designated GAM RNA, to target binding sites on GAM336739 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336739 target RNA into GAM336739 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336739 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336739 target genes. The mRNA of each one of this plurality of GAM336739 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336739 RNA, herein designated GAM RNA, and which when bound by GAM336739 RNA causes inhibition of translation of the GAM336739 target mRNA into a corresponding GAM336739 target protein.

The mechanism of the translational inhibition exerted by GAM336739 RNA, herein designated GAM RNA, on one or more GAM336739 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336739 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336739 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336739 RNA, herein designated GAM RNA, of GAM336739 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336739 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336739 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336739 RNA correlate with, and may be deduced from, the identity of the GAM336739 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336740 141196 ATCTGCATGT Fig. 8 further provides a conceptual description of another novel bioinformatically

TTTGTTGTCT detected oligonucleotides of the present invention, referred to here as Genomic Address

CTGTGTTGTA Messenger 336740 (GAM336740) oligonucleotides modulates expression of respective target

CAGTGGAGGA genes whose function and utility is known in the art.

GAAACAATGC GAM336740 is a novel bioinformatically detectable regulatory, non protein

ATTTTGGGGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336740 was detected

CAGCTAGGAC is described with additional reference to Figs. 9-15.

CCATGCAGAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336740 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336740 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336740 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336740 precursor RNA is designated SEQ ID:141196, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141196 is located from position 41446302 to position 41446381 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336740 precursor RNA folds onto itself, forming GAM336740 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336740 precursor RNA, designated SEQ ID NO: 141196, and a schematic representation of a predicted secondary folding of GAM336740 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336740 folded precursor RNA yielding a GAM336740 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336740 RNA, hereby incorporated herein.

GAM336740 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336740 target RNA, herein designated GAM TARGET RNA.

GAM336740 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336740 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336740 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336740 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336740 RNA, herein designated GAM RNA, to target binding sites on GAM336740 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336740 target RNA into GAM336740 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336740 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336740 target genes. The mRNA of each one of this plurality of GAM336740 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336740 RNA, herein designated GAM RNA, and which when bound by GAM336740 RNA causes inhibition of translation of the GAM336740 target mRNA into a corresponding GAM336740 target protein.

The mechanism of the translational inhibition exerted by GAM336740 RNA, herein designated GAM RNA, on one or more GAM336740 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336740 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336740 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336740 RNA, herein designated GAM RNA, of GAM336740 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336740 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336740 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336740 RNA correlate with, and may be deduced from, the identity of the GAM336740 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336741 141197 GACTCTATGT Fig. 8 further provides a conceptual description of another novel bioinformatically

TAGTGTTTGC detected oligonucleotides of the present invention, referred to here as Genomic Address

CCTGTTTATC Messenger 336741 (GAM336741) oligonucleotides modulates expression of respective target

AGGCAGCCTT genes whose function and utility is known in the art.

TAGGCATAGC GAM336741 is a novel bioinformatically detectable regulatory, non protein

TATAGTACAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336741 was detected

ACCAAGTTCT is described with additional reference to Figs. 9-15.

GGCATAGAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

C encoded by the human genome.

GAM336741 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336741 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336741 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336741 precursor RNA is designated SEQ

ID:141197, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141197 is located from position 41508964 to position 41509044 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM336741 precursor RNA folds onto itself, forming GAM336741 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336741 precursor RNA, designated SEQ ID NO: 141197, and a schematic representation of a predicted secondary folding of GAM336741 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336741 folded precursor RNA yielding a GAM336741 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336741 RNA, hereby incorporated herein.

GAM336741 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336741 target RNA, herein designated GAM TARGET RNA.

GAM336741 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336741 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336741 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336741 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336741 RNA, herein designated GAM RNA, to target binding sites on GAM336741 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336741 target RNA into GAM336741 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM336741 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336741 target genes. The mRNA of each one of this plurality of GAM336741 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336741 RNA, herein designated GAM RNA, and which when bound by GAM336741 RNA causes inhibition of translation of the GAM336741 target mRNA into a corresponding GAM336741 target protein.

The mechanism of the translational inhibition exerted by GAM336741 RNA, herein designated GAM RNA, on one or more GAM336741 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336741 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336741 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336741 RNA, herein designated GAM RNA, of GAM336741 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336741 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336741 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336741 RNA correlate with, and may be deduced from, the identity of the GAM336741 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336742 141198 CAGATCAGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GCGGCATTAG detected oligonucleotides of the present invention, referred to here as Genomic Address

ATTCTCACAG Messenger 336742 (GAM336742) oligonucleotides modulates expression of respective target

GAGGGCGAGC genes whose function and utility is known in the art.

CCTATTGTGA GAM336742 is a novel bioinformatically detectable regulatory, non protein

ACTGCATGTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336742 was detected

CGTGACCCTT is described with additional reference to Figs. 9-15.

AGGAGAATCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AATGCCTGAT encoded by the human genome.

GATCTG GAM336742 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336742 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336742 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336742 precursor RNA is designated SEQ ID:141198, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141198 is located from position 41515950 to position 41516045 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM336742 precursor RNA folds onto itself, forming GAM336742 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336742 precursor RNA, designated SEQ ID NO: 141198, and a schematic representation of a predicted secondary folding of GAM336742 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336742 folded precursor RNA yielding a GAM336742 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336742 RNA, hereby incorporated herein.

GAM336742 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336742 target RNA, herein designated GAM TARGET RNA.

GAM336742 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336742 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336742 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336742 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336742 RNA, herein designated GAM RNA, to target binding sites on GAM336742 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336742 target RNA into GAM336742 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336742 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336742 target genes. The mRNA of each one of this plurality of GAM336742 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336742 RNA, herein designated GAM RNA, and which when bound by GAM336742 RNA causes inhibition of translation of the GAM336742 target mRNA into a corresponding GAM336742 target protein.

The mechanism of the translational inhibition exerted by GAM336742 RNA, herein designated GAM RNA, on one or more GAM336742 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336742 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336742 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336742 RNA, herein designated GAM RNA, of GAM336742 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336742 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336742 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336742 RNA correlate with, and may be deduced from, the identity of the GAM336742 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336743 141199 CGCACATCTG Fig. 8 further provides a conceptual description of another novel bioinformatically

TTACTCCACA detected oligonucleotides of the present invention, referred to here as Genomic Address

TCAGAGACTT Messenger 336743 (GAM336743) oligonucleotides modulates expression of respective target

CATTTTGTTG genes whose function and utility is known in the art.

ATAAACCCTA GAM336743 is a novel bioinformatically detectable regulatory, non protein
TGAATGTAAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336743 was
detected
GAATGTGGGA is described with additional reference to Figs. 9-15.

AGGCGTTCAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a
humen gene
AGTGCG encoded by the human genome.

GAM336743 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336743 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336743 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336743 precursor RNA is designated SEQ ID:141199, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141199 is located from position 41560746 to position 41560831 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM336743 precursor RNA folds onto itself, forming GAM336743 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336743 precursor RNA, designated SEQ ID NO: 141199, and a schematic representation of a predicted secondary folding of GAM336743 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336743 folded precursor RNA yielding a GAM336743 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336743 RNA, hereby incorporated herein.

GAM336743 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336743 target RNA, herein designated GAM TARGET RNA.

GAM336743 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336743 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM336743 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336743 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336743 RNA, herein designated GAM RNA, to target binding sites on GAM336743 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336743 target RNA into GAM336743 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336743 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336743 target genes. The mRNA of each one of this plurality of GAM336743 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336743 RNA, herein designated GAM RNA, and which when bound by GAM336743 RNA causes inhibition of translation of the GAM336743 target mRNA into a corresponding GAM336743 target protein.

The mechanism of the translational inhibition exerted by GAM336743 RNA, herein designated GAM RNA, on one or more GAM336743 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336743 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336743 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336743 RNA, herein designated GAM RNA, of GAM336743 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336743 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336743 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336743 RNA correlate with, and may be deduced from, the identity of the GAM336743 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336744 141200 TAAGGAATGT Fig. 8 further provides a conceptual description of another novel bioinformatically

GGAAAAACCT detected oligonucleotides of the present invention, referred to here as Genomic Address

TTATTTGTGG Messenger 336744 (GAM336744) oligonucleotides modulates expression of respective target

CTCAGACCTT genes whose function and utility is known in the art.

ACTCGACATC GAM336744 is a novel bioinformatically detectable regulatory, non protein

ACAGAATTCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336744 was detected

CACTGGTGAG is described with additional reference to Figs. 9-15.

AAACCCTATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AATGTAAGGA encoded by the human genome.

ATGTGGGAAA GAM336744 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GCCTTTAGTA GAM336744 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GTGGTTCAAA GAM336744 precursor RNA does not encode a protein. A nucleotide sequence identical or

CTTCACTCGA highly similar to the nucleotide sequence of GAM336744 precursor RNA is designated SEQ

ID:141200, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141200 is located from position 41616369 to position 41616498 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM336744 precursor RNA folds onto itself, forming GAM336744 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336744 precursor RNA, designated SEQ ID NO: 141200, and a schematic representation of a predicted secondary folding of GAM336744 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336744 folded precursor RNA yielding a GAM336744 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336744 RNA, hereby incorporated herein.

GAM336744 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336744 target RNA, herein designated GAM TARGET RNA.

GAM336744 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336744 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336744 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336744 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336744 RNA, herein designated GAM RNA, to target binding sites on GAM336744 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336744 target RNA into GAM336744 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336744 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336744 target genes. The mRNA of each one of this plurality of GAM336744 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336744 RNA, herein designated GAM RNA, and which when bound by GAM336744 RNA causes inhibition of translation of the GAM336744 target mRNA into a corresponding GAM336744 target protein.

The mechanism of the translational inhibition exerted by GAM336744 RNA, herein designated GAM RNA, on one or more GAM336744 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336744 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336744 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336744 RNA, herein designated GAM RNA, of GAM336744 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336744 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336744 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336744 RNA correlate with, and may be deduced from, the identity of the GAM336744 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336745 141201 AGGAATGTGG Fig. 8 further provides a conceptual description of another novel bioinformatically
AAAAACCTTT detected oligonucleotides of the present invention, referred to here as Genomic Address
ATTTGTGGCT Messenger 336745 (GAM336745) oligonucleotides modulates expression of respective target
CAGACCTTAC genes whose function and utility is known in the art.

TCGACATCAC GAM336745 is a novel bioinformatically detectable regulatory, non protein
AGAATTCACA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336745 was detected
CTGGTGAGAA is described with additional reference to Figs. 9-15.

ACCCTATGAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGTAAGGAAT encoded by the human genome.

GTGGGAAAGC GAM336745 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CTTTAGTAGT GAM336745 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GGTTCAAACT GAM336745 precursor RNA does not encode a protein. A nucleotide sequence identical or

TCACT highly similar to the nucleotide sequence of GAM336745 precursor RNA is designated SEQ ID:141201, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141201 is located from position 41616372 to position 41616496 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM336745 precursor RNA folds onto itself, forming GAM336745 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336745 precursor RNA, designated SEQ ID NO: 141201,

and a schematic representation of a predicted secondary folding of GAM336745 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336745 folded precursor RNA yielding a GAM336745 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336745 RNA, hereby incorporated herein.

GAM336745 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336745 target RNA, herein designated GAM TARGET RNA.

GAM336745 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336745 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336745 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336745 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336745 RNA, herein designated GAM RNA, to target binding sites on GAM336745 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336745 target RNA into GAM336745 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336745 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336745 target genes. The mRNA of each one of this plurality of GAM336745 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336745 RNA, herein designated GAM RNA, and which when bound by GAM336745 RNA causes inhibition of translation of the GAM336745 target mRNA into a corresponding GAM336745 target protein.

The mechanism of the translational inhibition exerted by GAM336745 RNA, herein designated GAM RNA, on one or more GAM336745 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336745 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336745 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336745 RNA, herein designated GAM RNA, of GAM336745 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336745 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336745 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336745 RNA correlate with, and may be deduced from, the identity of the GAM336745 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336746 141202 GAGAATCGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

TGAACCCAGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGTGGAGGC Messenger 336746 (GAM336746) oligonucleotides modulates expression of respective target

TGCAGTAAGC genes whose function and utility is known in the art.

CGAGATTGTG GAM336746 is a novel bioinformatically detectable regulatory, non protein

CCACTGCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336746 was detected

CCAGCCTGGG is described with additional reference to Figs. 9-15.

CAACAAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAAACTATCT encoded by the human genome.

C GAM336746 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336746 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336746 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336746 precursor RNA is designated SEQ ID:141202, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141202 is located from position 41616885 to position 41616975 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM336746 precursor RNA folds onto itself, forming GAM336746 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336746 precursor RNA, designated SEQ ID NO: 141202, and a schematic representation of a predicted secondary folding of GAM336746 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336746 folded precursor RNA yielding a GAM336746 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336746 RNA, hereby incorporated herein. Expression of GAM336746 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336746 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336746 target RNA, herein designated GAM TARGET RNA.

GAM336746 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336746 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336746 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336746 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336746 RNA, herein designated GAM RNA, to target binding sites on GAM336746 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336746 target RNA into GAM336746 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336746 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM336746 target genes. The mRNA of each one of this plurality of GAM336746 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336746 RNA, herein designated GAM RNA, and which when bound by GAM336746 RNA causes inhibition of translation of the GAM336746 target mRNA into a corresponding GAM336746 target protein.

The mechanism of the translational inhibition exerted by GAM336746 RNA, herein designated GAM RNA, on one or more GAM336746 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336746 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336746 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336746 RNA, herein designated GAM RNA, of GAM336746 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336746 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336746 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336746 RNA correlate with, and may be deduced from, the identity of the GAM336746 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336747 141203 GCTTGAACCC Fig. 8 further provides a conceptual description of another novel bioinformatically

AGGAGGTGGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GGCTGCAGTA Messenger 336747 (GAM336747) oligonucleotides modulates expression of respective target

AGCCGAGATT genes whose function and utility is known in the art.

GTGCCACTGC GAM336747 is a novel bioinformatically detectable regulatory, non protein

ACTCCAGCCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336747 was detected

GGGCAACAAG is described with additional reference to Figs. 9-15.

AGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336747 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336747 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336747 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336747 precursor RNA is designated SEQ ID:141203, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141203 is located from position 41616892 to position 41616964 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM336747 precursor RNA folds onto itself, forming GAM336747 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336747 precursor RNA, designated SEQ ID NO: 141203, and a schematic representation of a predicted secondary folding of GAM336747 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336747 folded precursor RNA yielding a GAM336747 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336747 RNA, hereby incorporated herein. Expression of GAM336747 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336747 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336747 target RNA, herein designated GAM TARGET RNA.

GAM336747 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336747 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336747 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336747 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336747 RNA, herein designated GAM RNA, to target binding sites on GAM336747 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336747 target RNA into GAM336747 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336747 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336747 target genes. The mRNA of each one of this plurality of GAM336747 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336747 RNA, herein designated GAM RNA, and which when bound by GAM336747 RNA causes inhibition of translation of the GAM336747 target mRNA into a corresponding GAM336747 target protein.

The mechanism of the translational inhibition exerted by GAM336747 RNA, herein designated GAM RNA, on one or more GAM336747 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336747 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336747 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336747 RNA, herein designated GAM RNA, of GAM336747 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336747 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336747 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336747 RNA correlate with, and may be deduced from, the identity of the GAM336747 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336748 141204 CTCCCTTCCT Fig. 8 further provides a conceptual description of another novel bioinformatically

CTGTCCTCCT detected oligonucleotides of the present invention, referred to here as Genomic Address

TGCCTTGGGC Messenger 336748 (GAM336748) oligonucleotides modulates expression of respective target

TGGAATGTGG genes whose function and utility is known in the art.

GCTCACATGG GAM336748 is a novel bioinformatically detectable regulatory, non protein
ATGGTGAGGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336748 was detected
AGCTTCAGCC is described with additional reference to Figs. 9-15.

ATGAAGACAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGACAACACT encoded by the human genome.

CCAGGATGAC GAM336748 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GGAG GAM336748 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336748 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336748 precursor RNA is designated SEQ ID:141204, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141204 is located from position 41700001 to position 41700104 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336748 precursor RNA folds onto itself, forming GAM336748 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336748 precursor RNA, designated SEQ ID NO: 141204, and a schematic representation of a predicted secondary folding of GAM336748 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336748 folded precursor RNA yielding a GAM336748 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336748 RNA, hereby incorporated herein.

GAM336748 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336748 target RNA, herein designated GAM TARGET RNA.

GAM336748 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336748 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM336748 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336748 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336748 RNA, herein designated GAM RNA, to target binding sites on GAM336748 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336748 target RNA into GAM336748 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336748 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336748 target genes. The mRNA of each one of this plurality of GAM336748 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336748 RNA, herein designated GAM RNA, and which when bound by GAM336748 RNA causes inhibition of translation of the GAM336748 target mRNA into a corresponding GAM336748 target protein.

The mechanism of the translational inhibition exerted by GAM336748 RNA, herein designated GAM RNA, on one or more GAM336748 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336748 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336748 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336748 RNA, herein designated GAM RNA, of GAM336748 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336748 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336748 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336748 RNA correlate with, and may be deduced from, the identity of the GAM336748 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336749 141205 GTAGTCCACC Fig. 8 further provides a conceptual description of another novel bioinformatically
TCATAAAATC detected oligonucleotides of the present invention, referred to here as Genomic Address
AGAAAGTATT Messenger 336749 (GAM336749) oligonucleotides modulates expression of respective target
ACTGGTCTCC genes whose function and utility is known in the art.

CACTTTTAGG GAM336749 is a novel bioinformatically detectable regulatory, non protein
CTATTAACGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336749 was detected
TTGTAGTGAG is described with additional reference to Figs. 9-15.

AGTTTGTAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTTCTTGTCG encoded by the human genome.

TGGTTGCCAG GAM336749 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GGGCTGGGGG GAM336749 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
C GAM336749 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336749 precursor RNA is designated SEQ ID:141205, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141205 is located from position 41749003 to position 41749113 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336749 precursor RNA folds onto itself, forming GAM336749 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336749 precursor RNA, designated SEQ ID NO: 141205, and a schematic representation of a predicted secondary folding of GAM336749 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336749 folded precursor RNA yielding a GAM336749 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336749 RNA, hereby incorporated herein.

GAM336749 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336749 target RNA, herein designated GAM TARGET RNA.

GAM336749 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336749 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336749 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336749 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336749 RNA, herein designated GAM RNA, to target binding sites on GAM336749 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336749 target RNA into GAM336749 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336749 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336749 target genes. The mRNA of each one of this plurality of GAM336749 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336749 RNA, herein designated GAM RNA, and which when bound by GAM336749 RNA causes inhibition of translation of the GAM336749 target mRNA into a corresponding GAM336749 target protein.

The mechanism of the translational inhibition exerted by GAM336749 RNA, herein designated GAM RNA, on one or more GAM336749 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336749 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336749 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336749 RNA, herein designated GAM RNA, of GAM336749 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336749 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336749 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336749 RNA correlate with, and may be deduced from, the identity of the GAM336749 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336750 141206 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATGGCGTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCCGGGAG Messenger 336750 (GAM336750) oligonucleotides modulates expression of respective target
GCGGAGCTTG genes whose function and utility is known in the art.

CAGTGAGCCG GAM336750 is a novel bioinformatically detectable regulatory, non protein
AGATCGCGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336750 was detected
ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAGAGTGAG encoded by the human genome.

ACTCCGTCTC GAM336750 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
A GAM336750 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336750 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336750 precursor RNA is designated SEQ ID:141206, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141206 is located from position 41757315 to position 41757415 relative to chromosome chr6 on the `-` strand (chr is an abbreviation for chromosome).

GAM336750 precursor RNA folds onto itself, forming GAM336750 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336750 precursor RNA, designated SEQ ID NO: 141206, and a schematic representation of a predicted secondary folding of GAM336750 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336750 folded precursor RNA yielding a GAM336750 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336750 RNA, hereby incorporated herein. Expression of GAM336750 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336750 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336750 target RNA, herein designated GAM TARGET RNA.

GAM336750 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336750 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336750 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336750 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336750 RNA, herein designated GAM RNA, to target binding sites on GAM336750 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336750 target RNA into GAM336750 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336750 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336750 target genes. The mRNA of each one of this plurality of GAM336750 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336750 RNA, herein designated GAM RNA, and which when bound by GAM336750 RNA causes inhibition of translation of the GAM336750 target mRNA into a corresponding GAM336750 target protein.

The mechanism of the translational inhibition exerted by GAM336750 RNA, herein designated GAM RNA, on one or more GAM336750 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336750 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336750 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336750 RNA, herein designated GAM RNA, of GAM336750 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336750 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336750 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336750 RNA correlate with, and may be deduced from, the identity of the GAM336750 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336751 141207 AGGATCACTT Fig. 8 further provides a conceptual description of another novel bioinformatically

GAGCCTGGTA detected oligonucleotides of the present invention, referred to here as Genomic Address

TGTCGAGGCT Messenger 336751 (GAM336751) oligonucleotides modulates expression of respective target

GCAGTGAGCT genes whose function and utility is known in the art.

ATGATCGTGC GAM336751 is a novel bioinformatically detectable regulatory, non protein

CACTGCACTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336751 was detected

CAACCAGGCT is described with additional reference to Figs. 9-15.

GACCGAGCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GACCCT encoded by the human genome.

GAM336751 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336751 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336751 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336751 precursor RNA is designated SEQ ID:141207, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141207 is located from position 41765141 to position 41765226 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM336751 precursor RNA folds onto itself, forming GAM336751 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336751 precursor RNA, designated SEQ ID NO: 141207, and a schematic representation of a predicted secondary folding of GAM336751 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336751 folded precursor RNA yielding a GAM336751 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336751 RNA, hereby incorporated herein.

GAM336751 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336751 target RNA, herein designated GAM TARGET RNA.

GAM336751 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336751 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336751 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336751 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336751 RNA, herein designated GAM RNA, to target binding sites on GAM336751 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336751 target RNA into GAM336751 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336751 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336751 target genes. The mRNA of each one of this plurality of GAM336751 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336751 RNA, herein designated GAM RNA, and which when bound by GAM336751 RNA causes inhibition of

translation of the GAM336751 target mRNA into a corresponding GAM336751 target protein.

The mechanism of the translational inhibition exerted by GAM336751 RNA, herein designated GAM RNA, on one or more GAM336751 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336751 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336751 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336751 RNA, herein designated GAM RNA, of GAM336751 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336751 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336751 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336751 RNA correlate with, and may be deduced from, the identity of the GAM336751 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336752 141208 ATGCCTAATT Fig. 8 further provides a conceptual description of another novel bioinformatically

TAGCACATAG detected oligonucleotides of the present invention, referred to here as Genomic Address

TTCCTGTCCC Messenger 336752 (GAM336752) oligonucleotides modulates expression of respective target

CAAAATCTAA genes whose function and utility is known in the art.

TAAACTCAGA GAM336752 is a novel bioinformatically detectable regulatory, non protein

AGTAATAAAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336752 was detected

TTTCTGGGTT is described with additional reference to Figs. 9-15.

TTTGTGGGTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGCCCTCTGA encoded by the human genome.

GCTAGGGTAG GAM336752 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TTAAAAGTTG GAM336752 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

CAT GAM336752 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336752 precursor RNA is designated SEQ ID:141208, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141208 is located from position 41880845 to position 41880957 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM336752 precursor RNA folds onto itself, forming GAM336752 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336752 precursor RNA, designated SEQ ID NO: 141208, and a schematic representation of a predicted secondary folding of GAM336752 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336752 folded precursor RNA yielding a GAM336752 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336752 RNA, hereby incorporated herein.

GAM336752 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336752 target RNA, herein designated GAM TARGET RNA.

GAM336752 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336752 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336752 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336752 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336752 RNA, herein designated GAM RNA, to target binding sites on GAM336752 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336752 target RNA into GAM336752 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336752 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336752 target genes. The mRNA of each one of this plurality of GAM336752 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336752 RNA, herein designated GAM RNA, and which when bound by GAM336752 RNA causes inhibition of translation of the GAM336752 target mRNA into a corresponding GAM336752 target protein.

The mechanism of the translational inhibition exerted by GAM336752 RNA, herein designated GAM RNA, on one or more GAM336752 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336752 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336752 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336752 RNA, herein designated GAM RNA, of GAM336752 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336752 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336752 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336752 RNA correlate with, and may be deduced from, the identity of the GAM336752 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336753 141209 TCAGTGAGAA Fig. 8 further provides a conceptual description of another novel bioinformatically

GCTTGTACTC detected oligonucleotides of the present invention, referred to here as Genomic Address

TCAGTGATCA Messenger 336753 (GAM336753) oligonucleotides modulates expression of respective target

TTGCTGTAGT genes whose function and utility is known in the art.

TACGAGATAA GAM336753 is a novel bioinformatically detectable regulatory, non protein

GCTTCTCTGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336753 was detected

ACATGCAGAG is described with additional reference to Figs. 9-15.

CAGTGGTAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TATGAGGAGG encoded by the human genome.

CACAGTCTCT GAM336753 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CCTGA GAM336753 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336753 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336753 precursor RNA is designated SEQ ID:141209, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141209 is located from position 42113260 to position 42113364 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336753 precursor RNA folds onto itself, forming GAM336753 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336753 precursor RNA, designated SEQ ID NO: 141209, and a schematic representation of a predicted secondary folding of GAM336753 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336753 folded precursor RNA yielding a GAM336753 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336753 RNA, hereby incorporated herein.

GAM336753 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336753 target RNA, herein designated GAM TARGET RNA.

GAM336753 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336753 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336753 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336753 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336753 RNA, herein designated GAM RNA, to target binding sites on GAM336753 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336753 target RNA into GAM336753 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336753 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336753 target genes. The mRNA of each one of this plurality of GAM336753 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336753 RNA, herein designated GAM RNA, and which when bound by GAM336753 RNA causes inhibition of translation of the GAM336753 target mRNA into a corresponding GAM336753 target protein.

The mechanism of the translational inhibition exerted by GAM336753 RNA, herein designated GAM RNA, on one or more GAM336753 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336753 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336753 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336753 RNA, herein designated GAM RNA, of GAM336753 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336753 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336753 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336753 RNA correlate with, and may be deduced from, the identity of the GAM336753 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336754 141210 AGTTCTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATATGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 336754 (GAM336754) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336754 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336754 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM336754 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336754 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336754 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336754 precursor RNA is designated SEQ ID:141210, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141210 is located from position 42353513 to position 42353594 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM336754 precursor RNA folds onto itself, forming GAM336754 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336754 precursor RNA, designated SEQ ID NO: 141210, and a schematic representation of a predicted secondary folding of GAM336754 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336754 folded precursor RNA yielding a GAM336754 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336754 RNA, hereby incorporated herein.

GAM336754 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336754 target RNA, herein designated GAM TARGET RNA.

GAM336754 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336754 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336754 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336754 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336754 RNA, herein designated GAM RNA, to target binding sites on GAM336754 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336754 target RNA into GAM336754 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336754 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336754 target genes. The mRNA of each one of this plurality of GAM336754 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336754 RNA, herein designated GAM RNA, and which when bound by GAM336754 RNA causes inhibition of translation of the GAM336754 target mRNA into a corresponding GAM336754 target protein.

The mechanism of the translational inhibition exerted by GAM336754 RNA, herein designated GAM RNA, on one or more GAM336754 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336754 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336754 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336754 RNA, herein designated GAM RNA, of GAM336754 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336754 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336754 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336754 RNA correlate with, and may be deduced from, the identity of the GAM336754 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336755 141211 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATCGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCCAGGAG Messenger 336755 (GAM336755) oligonucleotides modulates expression of respective target
GTGGAGGCTG genes whose function and utility is known in the art.

TGGTGAGCTG GAM336755 is a novel bioinformatically detectable regulatory, non protein
AGATTGCGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336755 was detected
ATTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAAGAGCGA encoded by the human genome.

AACTCCATCT GAM336755 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CA GAM336755 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336755 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336755 precursor RNA is designated SEQ ID:141211, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141211 is located from position 42527933 to position 42528034 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336755 precursor RNA folds onto itself, forming GAM336755 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336755 precursor RNA, designated SEQ ID NO: 141211, and a schematic representation of a predicted secondary folding of GAM336755 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336755 folded precursor RNA yielding a GAM336755 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336755 RNA, hereby incorporated herein. Expression of GAM336755 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336755 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336755 target RNA, herein designated GAM TARGET RNA.

GAM336755 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336755 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336755 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336755 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336755 RNA, herein designated GAM RNA, to target binding sites on GAM336755 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336755 target RNA into GAM336755 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336755 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336755 target genes. The mRNA of each one of this plurality of GAM336755 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336755 RNA, herein designated GAM RNA, and which when bound by GAM336755 RNA causes inhibition of translation of the GAM336755 target mRNA into a corresponding GAM336755 target protein.

The mechanism of the translational inhibition exerted by GAM336755 RNA, herein designated GAM RNA, on one or more GAM336755 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336755 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336755 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336755 RNA, herein designated GAM RNA, of GAM336755 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336755 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336755 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336755 RNA correlate with, and may be deduced from, the identity of the GAM336755 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336756 141212 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTGGAGG Messenger 336756 (GAM336756) oligonucleotides modulates expression of respective target

CTGTGGTGAG genes whose function and utility is known in the art.

CTGAGATTGC GAM336756 is a novel bioinformatically detectable regulatory, non protein

GCCATTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336756 was detected

TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CGAAACTCC encoded by the human genome.

GAM336756 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336756 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336756 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336756 precursor RNA is designated SEQ ID:141212, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141212 is located from position 42527939 to position 42528027 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336756 precursor RNA folds onto itself, forming GAM336756 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336756 precursor RNA, designated SEQ ID NO: 141212, and a schematic representation of a predicted secondary folding of GAM336756 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336756 folded precursor RNA yielding a GAM336756 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336756 RNA, hereby incorporated herein. Expression of GAM336756 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336756 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336756 target RNA, herein designated GAM TARGET RNA.

GAM336756 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336756 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336756 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336756 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336756 RNA, herein designated GAM RNA, to target binding sites on GAM336756 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336756 target RNA into GAM336756 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336756 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336756 target genes. The mRNA of each one of this plurality of GAM336756 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336756 RNA, herein designated GAM RNA, and which when bound by GAM336756 RNA causes inhibition of translation of the GAM336756 target mRNA into a corresponding GAM336756 target protein.

The mechanism of the translational inhibition exerted by GAM336756 RNA, herein

designated GAM RNA, on one or more GAM336756 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336756 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336756 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336756 RNA, herein designated GAM RNA, of GAM336756 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336756 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336756 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336756 RNA correlate with, and may be deduced from, the identity of the GAM336756 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336757 141213 CTCTTTGAGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TCTGTTGTTC detected oligonucleotides of the present invention, referred to here as Genomic Address
AGAAAAATTT Messenger 336757 (GAM336757) oligonucleotides modulates expression of respective target
CTTGGAAAAT genes whose function and utility is known in the art.

ATGATTGTTC GAM336757 is a novel bioinformatically detectable regulatory, non protein
ATGGACAACG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336757 was detected
GACCTCATCA is described with additional reference to Figs. 9-15.

CCCAAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336757 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336757 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336757 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336757 precursor RNA is designated SEQ ID:141213, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141213 is located from position 42675594 to position 42675671

relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM336757 precursor RNA folds onto itself, forming GAM336757 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336757 precursor RNA, designated SEQ ID NO: 141213, and a schematic representation of a predicted secondary folding of GAM336757 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336757 folded precursor RNA yielding a GAM336757 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336757 RNA, hereby incorporated herein.

GAM336757 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336757 target RNA, herein designated GAM TARGET RNA.

GAM336757 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336757 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336757 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336757 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336757 RNA, herein designated GAM RNA, to target binding sites on GAM336757 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336757 target RNA into GAM336757 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336757 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336757 target genes. The mRNA of each one of this plurality of GAM336757 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336757 RNA, herein designated GAM RNA, and which when bound by GAM336757 RNA causes inhibition of translation of the GAM336757 target mRNA into a corresponding GAM336757 target protein.

The mechanism of the translational inhibition exerted by GAM336757 RNA, herein designated GAM RNA, on one or more GAM336757 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336757 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336757 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336757 RNA, herein designated GAM RNA, of GAM336757 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336757 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336757 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336757 RNA correlate with, and may be deduced from, the identity of the GAM336757 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336758 141214 TAGTAGGAAA Fig. 8 further provides a conceptual description of another novel bioinformatically

GGTAACAATA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACAGCAACAC Messenger 336758 (GAM336758) oligonucleotides modulates expression of respective target

TGATTATGGC genes whose function and utility is known in the art.

TAGCAGGCAT GAM336758 is a novel bioinformatically detectable regulatory, non protein

CCAGCCTGAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336758 was detected

CCCTAGCTAC is described with additional reference to Figs. 9-15.

ACACCCTTTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATACAGTGTT encoded by the human genome.

AGCTTTGTCT GAM336758 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CCAGTCTGCT GAM336758 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

G GAM336758 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336758 precursor RNA is designated SEQ ID:141214, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141214 is located from position 42749659 to position 42749769 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GAM336758 precursor RNA folds onto itself, forming GAM336758 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336758 precursor RNA, designated SEQ ID NO: 141214, and a schematic representation of a predicted secondary folding of GAM336758 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336758 folded precursor RNA yielding a GAM336758 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336758 RNA, hereby incorporated herein.

GAM336758 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336758 target RNA, herein designated GAM TARGET RNA.

GAM336758 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336758 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336758 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336758 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336758 RNA, herein designated GAM RNA, to target binding sites on GAM336758 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336758 target RNA into GAM336758 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336758 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336758 target genes. The mRNA of each one of this plurality of GAM336758 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336758 RNA, herein designated GAM RNA, and which when bound by GAM336758 RNA causes inhibition of translation of the GAM336758 target mRNA into a corresponding GAM336758 target protein.

The mechanism of the translational inhibition exerted by GAM336758 RNA, herein designated GAM RNA, on one or more GAM336758 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336758 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336758 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336758 RNA, herein designated GAM RNA, of GAM336758 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336758 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336758 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336758 RNA correlate with, and may be deduced from, the identity of the GAM336758 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336759 141215 GTAGGAAAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TAACAATAAC detected oligonucleotides of the present invention, referred to here as Genomic Address

AGCAACACTG Messenger 336759 (GAM336759) oligonucleotides modulates expression of respective target

ATTATGGCTA genes whose function and utility is known in the art.

GCAGGCATCC GAM336759 is a novel bioinformatically detectable regulatory, non protein
AGCCTGAGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336759 was detected
CTAGCTACAC is described with additional reference to Figs. 9-15.

ACCCTTTGAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAGTGTTAG encoded by the human genome.

CTTTGTCTCC GAM336759 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

AGTCTGC GAM336759 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336759 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336759 precursor RNA is designated SEQ ID:141215, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141215 is located from position 42749661 to position 42749767 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GAM336759 precursor RNA folds onto itself, forming GAM336759 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336759 precursor RNA, designated SEQ ID NO: 141215, and a schematic representation of a predicted secondary folding of GAM336759 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336759 folded precursor RNA yielding a GAM336759 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336759 RNA, hereby incorporated herein.

GAM336759 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336759 target RNA, herein designated GAM TARGET RNA.

GAM336759 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336759 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM336759 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336759 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336759 RNA, herein designated GAM RNA, to target binding sites on GAM336759 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336759 target RNA into GAM336759 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336759 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336759 target genes. The mRNA of each one of this plurality of GAM336759 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336759 RNA, herein designated GAM RNA, and which when bound by GAM336759 RNA causes inhibition of translation of the GAM336759 target mRNA into a corresponding GAM336759 target protein.

The mechanism of the translational inhibition exerted by GAM336759 RNA, herein designated GAM RNA, on one or more GAM336759 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336759 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336759 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336759 RNA, herein designated GAM RNA, of GAM336759 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336759 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336759 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336759 RNA correlate with, and may be deduced from, the identity of the GAM336759 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336760 141216 TTGCTTGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically
CCAAGAGGTG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGTTGCAG Messenger 336760 (GAM336760) oligonucleotides modulates expression of respective target
TGAGCTGAGA genes whose function and utility is known in the art.

TTGCGCCACT GAM336760 is a novel bioinformatically detectable regulatory, non protein
GCACTCCAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336760 was detected
CTGGGCAACA is described with additional reference to Figs. 9-15.

AGAGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336760 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336760 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336760 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336760 precursor RNA is designated SEQ ID:141216, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141216 is located from position 42757406 to position 42757482 relative to chromosome chr6 on the `-` strand (chr is an abbreviation for chromosome).

GAM336760 precursor RNA folds onto itself, forming GAM336760 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336760 precursor RNA, designated SEQ ID NO: 141216, and a schematic representation of a predicted secondary folding of GAM336760 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336760 folded precursor RNA yielding a GAM336760 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336760 RNA, hereby incorporated herein. Expression of GAM336760 RNA was experimentally validated in HeLa cells using the methods

described with reference to Figs.22 to 24.

GAM336760 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336760 target RNA, herein designated GAM TARGET RNA.

GAM336760 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336760 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336760 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336760 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336760 RNA, herein designated GAM RNA, to target binding sites on GAM336760 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336760 target RNA into GAM336760 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336760 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336760 target genes. The mRNA of each one of this plurality of GAM336760 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336760 RNA, herein designated GAM RNA, and which when bound by GAM336760 RNA causes inhibition of translation of the GAM336760 target mRNA into a corresponding GAM336760 target protein.

The mechanism of the translational inhibition exerted by GAM336760 RNA, herein designated GAM RNA, on one or more GAM336760 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336760 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336760 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336760 RNA, herein designated GAM RNA, of GAM336760 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336760 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336760 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336760 RNA correlate with, and may be deduced from, the identity of the GAM336760 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336761 141217 ACCAGAGGCT CAGAGAATGG CACAGCTGTC CTGTTCTCCA CATTTGAATA GGCCGGACTC AGTTTTCTCT GAGTTTTTGG T

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336761 (GAM336761) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336761 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336761 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336761 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336761 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336761 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336761 precursor RNA is designated SEQ ID:141217, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141217 is located from position 42800191 to position 42800271 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GAM336761 precursor RNA folds onto itself, forming GAM336761 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336761 precursor RNA, designated SEQ ID NO: 141217, and a schematic representation of a predicted secondary folding of GAM336761 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336761 folded precursor RNA yielding a GAM336761 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336761 RNA, hereby incorporated herein.

GAM336761 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336761 target RNA, herein designated GAM TARGET RNA.

GAM336761 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336761 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336761 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336761 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336761 RNA, herein designated GAM RNA, to target binding sites on GAM336761 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336761 target RNA into GAM336761 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336761 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336761 target genes. The mRNA of each one of this plurality of GAM336761 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336761 RNA, herein designated GAM RNA, and which when bound by GAM336761 RNA causes inhibition of translation of the GAM336761 target mRNA into a corresponding GAM336761 target protein.

The mechanism of the translational inhibition exerted by GAM336761 RNA, herein designated GAM RNA, on one or more GAM336761 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336761 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336761 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336761 RNA, herein designated GAM RNA, of GAM336761 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336761 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336761 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336761 RNA correlate with, and may be deduced from, the identity of the GAM336761 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336762 141218 TGTTGGCCAG Fig. 8 further provides a conceptual description of another novel bioinformatically

GATTGTCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

ATCTCCTGAC Messenger 336762 (GAM336762) oligonucleotides modulates expression of respective target

CTTGTGATCG genes whose function and utility is known in the art.

GCCCACCTCG GAM336762 is a novel bioinformatically detectable regulatory, non protein

GCCTCCCAAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336762 was detected

GTACTGAGAT is described with additional reference to Figs. 9-15.

TACAGACGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGCCACCA encoded by the human genome.

GAM336762 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336762 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336762 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336762 precursor RNA is designated SEQ ID:141218, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141218 is located from position 42860934 to position 42861021 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM336762 precursor RNA folds onto itself, forming GAM336762 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336762 precursor RNA, designated SEQ ID NO: 141218, and a schematic representation of a predicted secondary folding of GAM336762 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336762 folded precursor RNA yielding a GAM336762 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336762 RNA, hereby incorporated herein.

GAM336762 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336762 target RNA, herein designated GAM TARGET RNA.

GAM336762 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336762 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336762 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336762 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336762 RNA, herein designated GAM RNA, to target binding sites on GAM336762 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336762 target RNA into GAM336762 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336762 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336762 target genes. The mRNA of each one of this plurality of GAM336762 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336762 RNA, herein designated GAM RNA, and which when bound by GAM336762 RNA causes inhibition of translation of the GAM336762 target mRNA into a corresponding GAM336762 target protein.

The mechanism of the translational inhibition exerted by GAM336762 RNA, herein designated GAM RNA, on one or more GAM336762 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336762 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336762 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336762 RNA, herein designated GAM RNA, of GAM336762 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336762 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336762 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336762 RNA correlate with, and may be deduced from, the identity of the GAM336762 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336763 141219 GGAGATGGTT Fig. 8 further provides a conceptual description of another novel bioinformatically

TCCAGTTCAC detected oligonucleotides of the present invention, referred to here as Genomic Address

CGTCAACCCA Messenger 336763 (GAM336763) oligonucleotides modulates expression of respective target

AAAGCTCTCT genes whose function and utility is known in the art.

TCAGGTCATG GAM336763 is a novel bioinformatically detectable regulatory, non protein

GCAAACAGAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336763 was detected

CAGGGCTGTG is described with additional reference to Figs. 9-15.

GGTGTGGCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGCTTGGCAC encoded by the human genome.

TGACTCC GAM336763 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336763 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336763 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336763 precursor RNA is designated SEQ ID:141219, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141219 is located from position 42899850 to position 42899946 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM336763 precursor RNA folds onto itself, forming GAM336763 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336763 precursor RNA, designated SEQ ID NO: 141219, and a schematic representation of a predicted secondary folding of GAM336763 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336763 folded precursor RNA yielding a GAM336763 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336763 RNA, hereby incorporated herein. Expression of GAM336763 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336763 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336763 target RNA, herein designated GAM TARGET RNA.

GAM336763 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336763 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336763 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336763 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336763 RNA, herein designated GAM RNA, to target binding sites on GAM336763 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336763 target RNA into GAM336763 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336763 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336763 target genes. The mRNA of each one of this plurality of GAM336763 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336763 RNA, herein designated GAM RNA, and which when bound by GAM336763 RNA causes inhibition of translation of the GAM336763 target mRNA into a corresponding GAM336763 target protein.

The mechanism of the translational inhibition exerted by GAM336763 RNA, herein designated GAM RNA, on one or more GAM336763 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336763 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336763 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336763 RNA, herein designated GAM RNA, of GAM336763 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336763 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336763 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336763 RNA correlate with, and may be deduced from, the identity of the GAM336763 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336764 141220 GAGGATGGTT Fig. 8 further provides a conceptual description of another novel bioinformatically

TGAGCCCAGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGCAGAAGT Messenger 336764 (GAM336764) oligonucleotides modulates expression of respective target

TGCAGTGAGC genes whose function and utility is known in the art.

TGAAATCATG GAM336764 is a novel bioinformatically detectable regulatory, non protein

CCACTGCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336764 was detected

CCAGCCTGGG is described with additional reference to Figs. 9-15.

TGATAGAGCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAACCTT encoded by the human genome.

GAM336764 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336764 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336764 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336764 precursor RNA is designated SEQ ID:141220, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141220 is located from position 42908008 to position 42908094 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336764 precursor RNA folds onto itself, forming GAM336764 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336764 precursor RNA, designated SEQ ID NO: 141220, and a schematic representation of a predicted secondary folding of GAM336764 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336764 folded precursor RNA yielding a GAM336764 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336764 RNA, hereby incorporated herein.

GAM336764 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336764 target RNA, herein designated GAM TARGET RNA.

GAM336764 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336764 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336764 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336764 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336764 RNA, herein designated GAM RNA, to target binding sites on GAM336764 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336764 target RNA into GAM336764 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336764 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336764 target genes. The mRNA of each one of this plurality of GAM336764 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336764 RNA, herein designated GAM RNA, and which when bound by GAM336764 RNA causes inhibition of translation of the GAM336764 target mRNA into a corresponding GAM336764 target protein.

The mechanism of the translational inhibition exerted by GAM336764 RNA, herein designated GAM RNA, on one or more GAM336764 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336764 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336764 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336764 RNA, herein designated GAM RNA, of GAM336764 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336764 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336764 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336764 RNA correlate with, and may be deduced from, the identity of the GAM336764 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336765 141221 TGGTTTGAGC CCAGGAGGCA Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address

GAAGTTGCAG Messenger 336765 (GAM336765) oligonucleotides modulates expression of respective target

TGAGCTGAAA genes whose function and utility is known in the art.

TCATGCCACT GAM336765 is a novel bioinformatically detectable regulatory, non protein
GCACTCCAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336765 was detected

CTGGGTGATA is described with additional reference to Figs. 9-15.

GAGCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336765 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336765 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336765 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336765 precursor RNA is designated SEQ ID:141221, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141221 is located from position 42908013 to position 42908088 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336765 precursor RNA folds onto itself, forming GAM336765 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336765 precursor RNA, designated SEQ ID NO: 141221, and a schematic representation of a predicted secondary folding of GAM336765 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336765 folded precursor RNA yielding a GAM336765 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336765 RNA, hereby incorporated herein.

GAM336765 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336765 target RNA, herein designated GAM TARGET RNA.

GAM336765 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336765 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336765 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336765 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336765 RNA, herein designated GAM RNA, to target binding sites on GAM336765 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336765 target RNA into GAM336765 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336765 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336765 target genes. The mRNA of each one of this plurality of GAM336765 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336765 RNA, herein designated GAM RNA, and which when bound by GAM336765 RNA causes inhibition of translation of the GAM336765 target mRNA into a corresponding GAM336765 target protein.

The mechanism of the translational inhibition exerted by GAM336765 RNA, herein designated GAM RNA, on one or more GAM336765 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336765 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336765 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336765 RNA, herein designated GAM RNA, of GAM336765 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336765 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336765 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336765

RNA correlate with, and may be deduced from, the identity of the GAM336765 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336766 141222 GGCATGGAAT GATATGTACA CTGTAGGTTC AATATGTTTT CAAAACATAC CTAGCACCTA TGGCTGCCTG TGCC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336766 (GAM336766) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336766 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336766 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336766 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336766 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336766 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336766 precursor RNA is designated SEQ ID:141222, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141222 is located from position 43104743 to position 43104816 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM336766 precursor RNA folds onto itself, forming GAM336766 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336766 precursor RNA, designated SEQ ID NO: 141222, and a schematic representation of a predicted secondary folding of GAM336766 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336766 folded precursor RNA yielding a GAM336766 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly

similar to the nucleotide sequence of GAM336766 RNA, hereby incorporated herein.

GAM336766 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336766 target RNA, herein designated GAM TARGET RNA.

GAM336766 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336766 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336766 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336766 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336766 RNA, herein designated GAM RNA, to target binding sites on GAM336766 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336766 target RNA into GAM336766 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336766 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336766 target genes. The mRNA of each one of this plurality of GAM336766 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336766 RNA, herein designated GAM RNA, and which when bound by GAM336766 RNA causes inhibition of translation of the GAM336766 target mRNA into a corresponding GAM336766 target protein.

The mechanism of the translational inhibition exerted by GAM336766 RNA, herein designated GAM RNA, on one or more GAM336766 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336766 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336766 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336766 RNA, herein designated GAM RNA, of GAM336766 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336766 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336766 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336766 RNA correlate with, and may be deduced from, the identity of the GAM336766 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336767 141223 GGGACCGTTA Fig. 8 further provides a conceptual description of another novel bioinformatically
GCTGAAATGC detected oligonucleotides of the present invention, referred to here as Genomic Address
TGTTGATTTT Messenger 336767 (GAM336767) oligonucleotides modulates expression of respective target
AGTGGCTGTG genes whose function and utility is known in the art.

AGCACACATA GAM336767 is a novel bioinformatically detectable regulatory, non protein
AGGATACAGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336767 was detected
TCATTTCCCT is described with additional reference to Figs. 9-15.

TATAATTAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCCC encoded by the human genome.

GAM336767 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336767 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336767 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336767 precursor RNA is designated SEQ ID:141223, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141223 is located from position 43301518 to position 43301601 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM336767 precursor RNA folds onto itself, forming GAM336767 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336767 precursor RNA, designated SEQ ID NO: 141223, and a schematic representation of a predicted secondary folding of GAM336767 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336767 folded precursor RNA yielding a GAM336767 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336767 RNA, hereby incorporated herein.

GAM336767 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336767 target RNA, herein designated GAM TARGET RNA.

GAM336767 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336767 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336767 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336767 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336767 RNA, herein designated GAM RNA, to target binding sites on GAM336767 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336767 target RNA into GAM336767 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336767 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336767 target genes. The mRNA of each one of this plurality of GAM336767 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336767 RNA, herein designated GAM RNA, and which when bound by GAM336767 RNA causes inhibition of translation of the GAM336767 target mRNA into a corresponding GAM336767 target protein.

The mechanism of the translational inhibition exerted by GAM336767 RNA, herein designated GAM RNA, on one or more GAM336767 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336767 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336767 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336767 RNA, herein designated GAM RNA, of GAM336767 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336767 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336767 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336767 RNA correlate with, and may be deduced from, the identity of the GAM336767 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336768 141224 GAGGCATAAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ATTCGGGAGG Messenger 336768 (GAM336768) oligonucleotides modulates expression of respective target

TGGAGGTTGC genes whose function and utility is known in the art.

AGTGAGCCAA GAM336768 is a novel bioinformatically detectable regulatory, non protein

GATCACACCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336768 was detected

CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGCAAGACT encoded by the human genome.

CTGTCTC GAM336768 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336768 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336768 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336768 precursor RNA is designated SEQ ID:141224, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141224 is located from position 43393809 to position 43393905 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336768 precursor RNA folds onto itself, forming GAM336768 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336768 precursor RNA, designated SEQ ID NO: 141224, and a schematic representation of a predicted secondary folding of GAM336768 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336768 folded precursor RNA yielding a GAM336768 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336768 RNA, hereby incorporated herein.

GAM336768 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336768 target RNA, herein designated GAM TARGET RNA.

GAM336768 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336768 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336768 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336768 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336768 RNA, herein designated GAM RNA, to target binding sites on GAM336768 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336768 target RNA into GAM336768 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336768 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336768 target genes. The mRNA of each one of this plurality of GAM336768 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336768 RNA, herein designated GAM RNA, and which when bound by GAM336768 RNA causes inhibition of

translation of the GAM336768 target mRNA into a corresponding GAM336768 target protein.

The mechanism of the translational inhibition exerted by GAM336768 RNA, herein designated GAM RNA, on one or more GAM336768 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336768 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336768 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336768 RNA, herein designated GAM RNA, of GAM336768 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336768 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336768 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336768 RNA correlate with, and may be deduced from, the identity of the GAM336768 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336769 141225 GGTCCTTCCC Fig. 8 further provides a conceptual description of another novel bioinformatically
CACTCCGAAC detected oligonucleotides of the present invention, referred to here as Genomic Address
CTCAGTTTTC Messenger 336769 (GAM336769) oligonucleotides modulates expression of respective target
TCATCTGCAA genes whose function and utility is known in the art.

CATGGGGAAA GAM336769 is a novel bioinformatically detectable regulatory, non protein
ACTGCGCCTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336769 was detected
TAAACTTCGT is described with additional reference to Figs. 9-15.

GGAGTTGGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGGGACT encoded by the human genome.

GAM336769 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336769 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336769 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336769 precursor RNA is designated SEQ ID:141225, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141225 is located from position 43566779 to position 43566865 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM336769 precursor RNA folds onto itself, forming GAM336769 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336769 precursor RNA, designated SEQ ID NO: 141225, and a schematic representation of a predicted secondary folding of GAM336769 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336769 folded precursor RNA yielding a GAM336769 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336769 RNA, hereby incorporated herein.

GAM336769 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336769 target RNA, herein designated GAM TARGET RNA.

GAM336769 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336769 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336769 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336769 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336769 RNA, herein designated GAM RNA, to target binding sites on GAM336769 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336769 target RNA

into GAM336769 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336769 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336769 target genes. The mRNA of each one of this plurality of GAM336769 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336769 RNA, herein designated GAM RNA, and which when bound by GAM336769 RNA causes inhibition of translation of the GAM336769 target mRNA into a corresponding GAM336769 target protein.

The mechanism of the translational inhibition exerted by GAM336769 RNA, herein designated GAM RNA, on one or more GAM336769 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336769 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336769 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336769 RNA, herein designated GAM RNA, of GAM336769 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336769 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336769 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336769 RNA correlate with, and may be deduced from, the identity of the GAM336769 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336770 141226 TCAAGTCCTG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACTGCTCAA detected oligonucleotides of the present invention, referred to here as Genomic Address

TTCAGTGACC Messenger 336770 (GAM336770) oligonucleotides modulates expression of respective target

ACTAGCCATA genes whose function and utility is known in the art.

TGTGGCTACT GAM336770 is a novel bioinformatically detectable regulatory, non protein

GAGCACTTGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336770 was detected

AATGTGGCTA is described with additional reference to Figs. 9-15.

GTTTGAACTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGATGTGCTC encoded by the human genome.

TAAGTACACT GAM336770 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GGATTTTGA GAM336770 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336770 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336770 precursor RNA is designated SEQ ID:141226, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141226 is located from position 43586567 to position 43586675 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM336770 precursor RNA folds onto itself, forming GAM336770 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336770 precursor RNA, designated SEQ ID NO: 141226, and a schematic representation of a predicted secondary folding of GAM336770 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336770 folded precursor RNA yielding a GAM336770 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336770 RNA, hereby incorporated herein.

GAM336770 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336770 target RNA, herein designated GAM TARGET RNA.

GAM336770 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336770 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336770 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336770 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336770 RNA, herein designated GAM RNA, to target binding sites on GAM336770 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336770 target RNA into GAM336770 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336770 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336770 target genes. The mRNA of each one of this plurality of GAM336770 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336770 RNA, herein designated GAM RNA, and which when bound by GAM336770 RNA causes inhibition of translation of the GAM336770 target mRNA into a corresponding GAM336770 target protein.

The mechanism of the translational inhibition exerted by GAM336770 RNA, herein designated GAM RNA, on one or more GAM336770 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336770 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336770 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336770 RNA, herein designated GAM RNA, of GAM336770 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336770 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336770 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336770 RNA correlate with, and may be deduced from, the identity of the GAM336770 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336771 141227 GTCCTGTACT Fig. 8 further provides a conceptual description of another novel bioinformatically

GCTCAATTCA detected oligonucleotides of the present invention, referred to here as Genomic Address

GTGACCACTA Messenger 336771 (GAM336771) oligonucleotides modulates expression of respective target
GCCATATGTG genes whose function and utility is known in the art.

GCTACTGAGC GAM336771 is a novel bioinformatically detectable regulatory, non protein
ACTTGAAATG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336771 was detected
TGGCTAGTTT is described with additional reference to Figs. 9-15.

GAACTGAGAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTGCTCTAAG encoded by the human genome.

TACACTGGAT GAM336771 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAM336771 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336771 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336771 precursor RNA is designated SEQ ID:141227, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141227 is located from position 43586571 to position 43586670 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM336771 precursor RNA folds onto itself, forming GAM336771 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336771 precursor RNA, designated SEQ ID NO: 141227, and a schematic representation of a predicted secondary folding of GAM336771 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336771 folded precursor RNA yielding a GAM336771 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336771 RNA, hereby incorporated herein.

GAM336771 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336771 target RNA, herein designated GAM TARGET RNA.

GAM336771 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336771 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336771 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336771 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336771 RNA, herein designated GAM RNA, to target binding sites on GAM336771 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336771 target RNA into GAM336771 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336771 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336771 target genes. The mRNA of each one of this plurality of GAM336771 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336771 RNA, herein designated GAM RNA, and which when bound by GAM336771 RNA causes inhibition of translation of the GAM336771 target mRNA into a corresponding GAM336771 target protein.

The mechanism of the translational inhibition exerted by GAM336771 RNA, herein designated GAM RNA, on one or more GAM336771 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336771 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336771 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336771 RNA, herein designated GAM RNA, of GAM336771 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336771 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336771 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336771 RNA correlate with, and may be deduced from, the identity of the GAM336771 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336772 141228 GGAGAATCAT TTGAGCCCAG GAAGCAGAGG TTGCAGTGAG CCAAGATCAC GCCACTGCAC TCCAGCCTGG GCAACAGAGT GAGACTCC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336772 (GAM336772) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336772 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336772 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336772 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336772 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336772 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336772 precursor RNA is designated SEQ ID:141228, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141228 is located from position 43590234 to position 43590321 relative to chromosome chr5 on the `-` strand (chr is an abbreviation for chromosome).

GAM336772 precursor RNA folds onto itself, forming GAM336772 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336772 precursor RNA, designated SEQ ID NO: 141228, and a schematic representation of a predicted secondary folding of GAM336772 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336772 folded precursor RNA yielding a GAM336772 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336772 RNA, hereby incorporated herein. Expression of GAM336772 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336772 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336772 target RNA, herein designated GAM TARGET RNA.

GAM336772 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336772 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336772 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336772 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336772 RNA, herein designated GAM RNA, to target binding sites on GAM336772 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336772 target RNA into GAM336772 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336772 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336772 target genes. The mRNA of each one of this plurality of GAM336772 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336772 RNA, herein designated GAM RNA, and which when bound by GAM336772 RNA causes inhibition of translation of the GAM336772 target mRNA into a corresponding GAM336772 target protein.

The mechanism of the translational inhibition exerted by GAM336772 RNA, herein designated GAM RNA, on one or more GAM336772 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336772 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336772 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336772 RNA, herein designated GAM RNA, of

GAM336772 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336772 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336772 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336772 RNA correlate with, and may be deduced from, the identity of the GAM336772 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336773 141229 GTAGAGGGTA Fig. 8 further provides a conceptual description of another novel bioinformatically

TGCCTGGGAA detected oligonucleotides of the present invention, referred to here as Genomic Address

AACAGGAGTC Messenger 336773 (GAM336773) oligonucleotides modulates expression of respective target

ACAGAAGCTT genes whose function and utility is known in the art.

CTGTGACTGT GAM336773 is a novel bioinformatically detectable regulatory, non protein

ATTTTCCCAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336773 was detected

AGAGGTTTAT is described with additional reference to Figs. 9-15.

TATTTAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336773 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336773 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336773 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336773 precursor RNA is designated SEQ ID:141229, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141229 is located from position 43594076 to position 43594152 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM336773 precursor RNA folds onto itself, forming GAM336773 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336773 precursor RNA, designated SEQ ID NO: 141229,

and a schematic representation of a predicted secondary folding of GAM336773 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336773 folded precursor RNA yielding a GAM336773 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336773 RNA, hereby incorporated herein.

GAM336773 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336773 target RNA, herein designated GAM TARGET RNA.

GAM336773 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336773 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336773 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336773 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336773 RNA, herein designated GAM RNA, to target binding sites on GAM336773 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336773 target RNA into GAM336773 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336773 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336773 target genes. The mRNA of each one of this plurality of GAM336773 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336773 RNA, herein designated GAM RNA, and which when bound by GAM336773 RNA causes inhibition of translation of the GAM336773 target mRNA into a corresponding GAM336773 target protein.

The mechanism of the translational inhibition exerted by GAM336773 RNA, herein designated GAM RNA, on one or more GAM336773 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336773 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336773 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336773 RNA, herein designated GAM RNA, of GAM336773 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336773 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336773 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336773 RNA correlate with, and may be deduced from, the identity of the GAM336773 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336774 141230 GTCTGTTGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

TGTATGGAAG detected oligonucleotides of the present invention, referred to here as Genomic Address

TGAAGGATTG Messenger 336774 (GAM336774) oligonucleotides modulates expression of respective target

GCCAGGCACA genes whose function and utility is known in the art.

GTGGCTCACC GAM336774 is a novel bioinformatically detectable regulatory, non protein

CCTGTAATTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336774 was detected

CAGCACTTAG is described with additional reference to Figs. 9-15.

CGAGAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336774 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336774 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336774 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336774 precursor RNA is designated SEQ ID:141230, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141230 is located from position 43871351 to position 43871426 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM336774 precursor RNA folds onto itself, forming GAM336774 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336774 precursor RNA, designated SEQ ID NO: 141230, and a schematic representation of a predicted secondary folding of GAM336774 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336774 folded precursor RNA yielding a GAM336774 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336774 RNA, hereby incorporated herein.

GAM336774 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336774 target RNA, herein designated GAM TARGET RNA.

GAM336774 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336774 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336774 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336774 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336774 RNA, herein designated GAM RNA, to target binding sites on GAM336774 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336774 target RNA into GAM336774 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336774 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336774 target genes. The mRNA of each one of this plurality of GAM336774 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM336774 RNA, herein designated GAM RNA, and which when bound by GAM336774 RNA causes inhibition of translation of the GAM336774 target mRNA into a corresponding GAM336774 target protein.

The mechanism of the translational inhibition exerted by GAM336774 RNA, herein designated GAM RNA, on one or more GAM336774 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336774 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336774 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336774 RNA, herein designated GAM RNA, of GAM336774 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336774 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336774 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336774 RNA correlate with, and may be deduced from, the identity of the GAM336774 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336775 141231 GTGGCATAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

GTGGGCCTTT detected oligonucleotides of the present invention, referred to here as Genomic Address

AATCCAATGT Messenger 336775 (GAM336775) oligonucleotides modulates expression of respective target

GACTGGTGTC genes whose function and utility is known in the art.

CATATAAGAG GAM336775 is a novel bioinformatically detectable regulatory, non protein

GTGGAGAAAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336775 was detected

GTAGAGACAC is described with additional reference to Figs. 9-15.

AGACACATGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGAAGGCCA encoded by the human genome.

TGTGATGGCA GAM336775 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

C GAM336775 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336775 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336775 precursor RNA is designated SEQ ID:141231, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141231 is located from position 43900231 to position 43900331 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336775 precursor RNA folds onto itself, forming GAM336775 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336775 precursor RNA, designated SEQ ID NO: 141231, and a schematic representation of a predicted secondary folding of GAM336775 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336775 folded precursor RNA yielding a GAM336775 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336775 RNA, hereby incorporated herein.

GAM336775 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336775 target RNA, herein designated GAM TARGET RNA.

GAM336775 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336775 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336775 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336775 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336775 RNA, herein designated GAM RNA, to target

binding sites on GAM336775 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336775 target RNA into GAM336775 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336775 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336775 target genes. The mRNA of each one of this plurality of GAM336775 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336775 RNA, herein designated GAM RNA, and which when bound by GAM336775 RNA causes inhibition of translation of the GAM336775 target mRNA into a corresponding GAM336775 target protein.

The mechanism of the translational inhibition exerted by GAM336775 RNA, herein designated GAM RNA, on one or more GAM336775 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336775 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336775 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336775 RNA, herein designated GAM RNA, of GAM336775 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336775 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336775 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336775 RNA correlate with, and may be deduced from, the identity of the GAM336775 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336776 141232 TAGTGTTCAA Fig. 8 further provides a conceptual description of another novel bioinformatically

GACCTACACT detected oligonucleotides of the present invention, referred to here as Genomic Address

CCATCCTCCT Messenger 336776 (GAM336776) oligonucleotides modulates expression of respective target

TTAATTTGCC genes whose function and utility is known in the art.

CAGTGGCCTG GAM336776 is a novel bioinformatically detectable regulatory, non protein

ACACTTGGCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336776 was detected

GGGCAAGTGC is described with additional reference to Figs. 9-15.

TGTCATATGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAGATCTGTT encoded by the human genome.

TACGTGAACA GAM336776 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TTA GAM336776 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336776 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336776 precursor RNA is designated SEQ ID:141232, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141232 is located from position 44128391 to position 44128493 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336776 precursor RNA folds onto itself, forming GAM336776 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336776 precursor RNA, designated SEQ ID NO: 141232, and a schematic representation of a predicted secondary folding of GAM336776 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336776 folded precursor RNA yielding a GAM336776 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336776 RNA, hereby incorporated herein.

GAM336776 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336776 target RNA, herein designated GAM TARGET RNA.

GAM336776 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336776 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336776 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336776 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows

three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336776 RNA, herein designated GAM RNA, to target binding sites on GAM336776 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336776 target RNA into GAM336776 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336776 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336776 target genes. The mRNA of each one of this plurality of GAM336776 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336776 RNA, herein designated GAM RNA, and which when bound by GAM336776 RNA causes inhibition of translation of the GAM336776 target mRNA into a corresponding GAM336776 target protein.

The mechanism of the translational inhibition exerted by GAM336776 RNA, herein designated GAM RNA, on one or more GAM336776 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336776 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336776 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336776 RNA, herein designated GAM RNA, of GAM336776 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336776 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336776 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336776 RNA correlate with, and may be deduced from, the identity of the GAM336776 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336777 141233 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 336777 (GAM336777) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336777 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336777 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM336777 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336777 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336777 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336777 precursor RNA is designated SEQ ID:141233, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141233 is located from position 44151668 to position 44151749 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM336777 precursor RNA folds onto itself, forming GAM336777 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336777 precursor RNA, designated SEQ ID NO: 141233, and a schematic representation of a predicted secondary folding of GAM336777 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336777 folded precursor RNA yielding a GAM336777 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336777 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336777 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336777 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336777 target RNA, herein designated GAM TARGET RNA.

GAM336777 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336777 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336777 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336777 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336777 RNA, herein designated GAM RNA, to target binding sites on GAM336777 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336777 target RNA into GAM336777 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336777 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336777 target genes. The mRNA of each one of this plurality of GAM336777 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336777 RNA, herein designated GAM RNA, and which when bound by GAM336777 RNA causes inhibition of translation of the GAM336777 target mRNA into a corresponding GAM336777 target protein.

The mechanism of the translational inhibition exerted by GAM336777 RNA, herein designated GAM RNA, on one or more GAM336777 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336777 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336777 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336777 RNA, herein designated GAM RNA, of GAM336777 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336777 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336777 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336777 RNA correlate with, and may be deduced from, the identity of the GAM336777 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336778 141234 TCATACTGTA Fig. 8 further provides a conceptual description of another novel bioinformatically
ATGTTAGTTT detected oligonucleotides of the present invention, referred to here as Genomic Address
GCATGAAAAG Messenger 336778 (GAM336778) oligonucleotides modulates expression of respective target
CTCTGTGGTG genes whose function and utility is known in the art.

CAGTGGCAAA GAM336778 is a novel bioinformatically detectable regulatory, non protein
CAGGGCTAAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336778 was detected
GATGTTTGCT is described with additional reference to Figs. 9-15.

GATGTCGCAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGGA encoded by the human genome.

GAM336778 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336778 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336778 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336778 precursor RNA is designated SEQ ID:141234, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141234 is located from position 44172084 to position 44172167 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336778 precursor RNA folds onto itself, forming GAM336778 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336778 precursor RNA, designated SEQ ID NO: 141234, and a schematic representation of a predicted secondary folding of GAM336778 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336778 folded precursor RNA yielding a GAM336778 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336778 RNA, hereby incorporated herein.

GAM336778 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336778 target RNA, herein designated GAM TARGET RNA.

GAM336778 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336778 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336778 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336778 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336778 RNA, herein designated GAM RNA, to target binding sites on GAM336778 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336778 target RNA into GAM336778 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336778 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336778 target genes. The mRNA of each one of this plurality of GAM336778 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336778 RNA, herein designated GAM RNA, and which when bound by GAM336778 RNA causes inhibition of translation of the GAM336778 target mRNA into a corresponding GAM336778 target protein.

The mechanism of the translational inhibition exerted by GAM336778 RNA, herein designated GAM RNA, on one or more GAM336778 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336778 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336778 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336778 RNA, herein designated GAM RNA, of

GAM336778 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336778 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336778 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336778 RNA correlate with, and may be deduced from, the identity of the GAM336778 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336779 141235 GCTACCAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TAATAGGGCC detected oligonucleotides of the present invention, referred to here as Genomic Address

AAACGAGGAA Messenger 336779 (GAM336779) oligonucleotides modulates expression of respective target

TGGGGTTCCA genes whose function and utility is known in the art.

TTAGGATTCA GAM336779 is a novel bioinformatically detectable regulatory, non protein

ATTTCAGAAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336779 was detected

TTAAGGCTAT is described with additional reference to Figs. 9-15.

TCCTCGTCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGTCAGTGGC encoded by the human genome.

ATAAGTGCCA GAM336779 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TCTTAGT GAM336779 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336779 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336779 precursor RNA is designated SEQ ID:141235, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141235 is located from position 44235656 to position 44235762 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM336779 precursor RNA folds onto itself, forming GAM336779 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336779 precursor RNA, designated SEQ ID NO: 141235, and a schematic representation of a predicted secondary folding of GAM336779 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336779 folded precursor RNA yielding a GAM336779 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336779 RNA, hereby incorporated herein.

GAM336779 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336779 target RNA, herein designated GAM TARGET RNA.

GAM336779 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336779 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336779 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336779 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336779 RNA, herein designated GAM RNA, to target binding sites on GAM336779 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336779 target RNA into GAM336779 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336779 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336779 target genes. The mRNA of each one of this plurality of GAM336779 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336779 RNA, herein designated GAM RNA, and which when bound by GAM336779 RNA causes inhibition of translation of the GAM336779 target mRNA into a corresponding GAM336779 target protein.

The mechanism of the translational inhibition exerted by GAM336779 RNA, herein designated GAM RNA, on one or more GAM336779 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336779 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336779 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336779 RNA, herein designated GAM RNA, of GAM336779 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336779 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336779 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336779 RNA correlate with, and may be deduced from, the identity of the GAM336779 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336780 141236 AAGGAGGGAA Fig. 8 further provides a conceptual description of another novel bioinformatically

GTTTAAATTT detected oligonucleotides of the present invention, referred to here as Genomic Address

TGTAATATGG Messenger 336780 (GAM336780) oligonucleotides modulates expression of respective target

CCTTGGTTGC genes whose function and utility is known in the art.

AGAAGTCCTG GAM336780 is a novel bioinformatically detectable regulatory, non protein

ATACTAAGGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336780 was detected

AATTCTAGCA is described with additional reference to Figs. 9-15.

ACCTTAATAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTTACAGTAG encoded by the human genome.

ATTCCCCCTT GAM336780 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336780 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336780 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336780 precursor RNA is designated SEQ ID:141236, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141236 is located from position 44287793 to position 44287892 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM336780 precursor RNA folds onto itself, forming GAM336780 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336780 precursor RNA, designated SEQ ID NO: 141236, and a schematic representation of a predicted secondary folding of GAM336780 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336780 folded precursor RNA yielding a GAM336780 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336780 RNA, hereby incorporated herein.

GAM336780 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336780 target RNA, herein designated GAM TARGET RNA.

GAM336780 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336780 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336780 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336780 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336780 RNA, herein designated GAM RNA, to target binding sites on GAM336780 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336780 target RNA into GAM336780 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336780 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM336780 target genes. The mRNA of each one of this plurality of GAM336780 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336780 RNA, herein designated GAM RNA, and which when bound by GAM336780 RNA causes inhibition of translation of the GAM336780 target mRNA into a corresponding GAM336780 target protein.

The mechanism of the translational inhibition exerted by GAM336780 RNA, herein designated GAM RNA, on one or more GAM336780 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336780 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336780 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336780 RNA, herein designated GAM RNA, of GAM336780 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336780 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336780 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336780 RNA correlate with, and may be deduced from, the identity of the GAM336780 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336781 141237 AGCCTGGGTC Fig. 8 further provides a conceptual description of another novel bioinformatically

ACTGTATGGT detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCAGTGTCA Messenger 336781 (GAM336781) oligonucleotides modulates expression of respective target

GCTTCCTGTG genes whose function and utility is known in the art.

TTACACGAGA GAM336781 is a novel bioinformatically detectable regulatory, non protein

TGGCACAGTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336781 was detected

GGGTGAAGCT is described with additional reference to Figs. 9-15.

GGTGATGAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTATGTGACC encoded by the human genome.

CCTCT GAM336781 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336781 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336781 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336781 precursor RNA is designated SEQ ID:141237, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141237 is located from position 44376402 to position 44376496 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GAM336781 precursor RNA folds onto itself, forming GAM336781 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336781 precursor RNA, designated SEQ ID NO: 141237, and a schematic representation of a predicted secondary folding of GAM336781 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336781 folded precursor RNA yielding a GAM336781 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336781 RNA, hereby incorporated herein.

GAM336781 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336781 target RNA, herein designated GAM TARGET RNA.

GAM336781 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336781 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336781 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336781 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336781 RNA, herein designated GAM RNA, to target binding sites on GAM336781 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336781 target RNA into GAM336781 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336781 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336781 target genes. The mRNA of each one of this plurality of GAM336781 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336781 RNA, herein designated GAM RNA, and which when bound by GAM336781 RNA causes inhibition of translation of the GAM336781 target mRNA into a corresponding GAM336781 target protein.

The mechanism of the translational inhibition exerted by GAM336781 RNA, herein designated GAM RNA, on one or more GAM336781 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336781 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336781 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336781 RNA, herein designated GAM RNA, of GAM336781 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336781 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336781 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336781 RNA correlate with, and may be deduced from, the identity of the GAM336781 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336782 141238 GGGTCACTGT Fig. 8 further provides a conceptual description of another novel bioinformatically

ATGGTACCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

TGTCAGCTTC Messenger 336782 (GAM336782) oligonucleotides modulates expression of respective target

CTGTGTTACA genes whose function and utility is known in the art.

CGAGATGGCA GAM336782 is a novel bioinformatically detectable regulatory, non protein
CAGTTGGGTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336782 was detected
AAGCTGGTGA is described with additional reference to Figs. 9-15.

TGAAGGTATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGACCC encoded by the human genome.

GAM336782 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336782 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336782 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336782 precursor RNA is designated SEQ ID:141238, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141238 is located from position 44376407 to position 44376492 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GAM336782 precursor RNA folds onto itself, forming GAM336782 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336782 precursor RNA, designated SEQ ID NO: 141238, and a schematic representation of a predicted secondary folding of GAM336782 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336782 folded precursor RNA yielding a GAM336782 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336782 RNA, hereby incorporated herein.

GAM336782 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336782 target RNA, herein designated GAM TARGET RNA.

GAM336782 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336782 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336782 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the

nucleotide sequence of GAM336782 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336782 RNA, herein designated GAM RNA, to target binding sites on GAM336782 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336782 target RNA into GAM336782 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336782 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336782 target genes. The mRNA of each one of this plurality of GAM336782 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336782 RNA, herein designated GAM RNA, and which when bound by GAM336782 RNA causes inhibition of translation of the GAM336782 target mRNA into a corresponding GAM336782 target protein.

The mechanism of the translational inhibition exerted by GAM336782 RNA, herein designated GAM RNA, on one or more GAM336782 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336782 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336782 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336782 RNA, herein designated GAM RNA, of GAM336782 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336782 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336782 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336782 RNA correlate with, and may be deduced from, the identity of the GAM336782 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336783 141239 GAACATCCAG Fig. 8 further provides a conceptual description of another novel bioinformatically
GTCTGGGGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
TGAACCTGGC Messenger 336783 (GAM336783) oligonucleotides modulates expression of respective target
ATACAATGTA genes whose function and utility is known in the art.

GATTTCTGTG GAM336783 is a novel bioinformatically detectable regulatory, non protein
TTCGTTAGGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336783 was detected
AACAGCTACA is described with additional reference to Figs. 9-15.

TTGTCTGCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGTTTCAGGC encoded by the human genome.

TACCTGGAAA GAM336783 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CATGTTC GAM336783 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336783 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336783 precursor RNA is designated SEQ ID:141239, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141239 is located from position 44431916 to position 44432022 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM336783 precursor RNA folds onto itself, forming GAM336783 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336783 precursor RNA, designated SEQ ID NO: 141239, and a schematic representation of a predicted secondary folding of GAM336783 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336783 folded precursor RNA yielding a GAM336783 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336783 RNA, hereby incorporated herein.

GAM336783 target gene, herein designated GAM TARGET GENE, encodes a

corresponding messenger RNA, GAM336783 target RNA, herein designated GAM TARGET RNA.

GAM336783 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336783 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336783 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336783 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336783 RNA, herein designated GAM RNA, to target binding sites on GAM336783 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336783 target RNA into GAM336783 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336783 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336783 target genes. The mRNA of each one of this plurality of GAM336783 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336783 RNA, herein designated GAM RNA, and which when bound by GAM336783 RNA causes inhibition of translation of the GAM336783 target mRNA into a corresponding GAM336783 target protein.

The mechanism of the translational inhibition exerted by GAM336783 RNA, herein designated GAM RNA, on one or more GAM336783 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336783 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336783 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336783 RNA, herein designated GAM RNA, of GAM336783 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336783 target RNA, herein designated

GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336783 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336783 RNA correlate with, and may be deduced from, the identity of the GAM336783 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336784 141240 TCCAGGTCTG Fig. 8 further provides a conceptual description of another novel bioinformatically
GGGCATGAAC detected oligonucleotides of the present invention, referred to here as Genomic Address
CTGGCATACA Messenger 336784 (GAM336784) oligonucleotides modulates expression of respective target
ATGTAGATTT genes whose function and utility is known in the art.

CTGTGTTCGT GAM336784 is a novel bioinformatically detectable regulatory, non protein
TAGGCAACAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336784 was detected
CTACATTGTC is described with additional reference to Figs. 9-15.

TGCTGGGTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGGCTACCT encoded by the human genome.

GGA GAM336784 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336784 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336784 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336784 precursor RNA is designated SEQ ID:141240, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141240 is located from position 44431925 to position 44432017 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM336784 precursor RNA folds onto itself, forming GAM336784 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336784 precursor RNA, designated SEQ ID NO: 141240, and a schematic representation of a predicted secondary folding of GAM336784 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336784 folded precursor

RNA yielding a GAM336784 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336784 RNA, hereby incorporated herein.

GAM336784 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336784 target RNA, herein designated GAM TARGET RNA.

GAM336784 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336784 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336784 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336784 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336784 RNA, herein designated GAM RNA, to target binding sites on GAM336784 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336784 target RNA into GAM336784 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336784 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336784 target genes. The mRNA of each one of this plurality of GAM336784 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336784 RNA, herein designated GAM RNA, and which when bound by GAM336784 RNA causes inhibition of translation of the GAM336784 target mRNA into a corresponding GAM336784 target protein.

The mechanism of the translational inhibition exerted by GAM336784 RNA, herein designated GAM RNA, on one or more GAM336784 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336784 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336784 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336784 RNA, herein designated GAM RNA, of GAM336784 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336784 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336784 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336784 RNA correlate with, and may be deduced from, the identity of the GAM336784 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336785 141241 TGTCTATAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GTATGTGGGC detected oligonucleotides of the present invention, referred to here as Genomic Address

CATTTTCTGC Messenger 336785 (GAM336785) oligonucleotides modulates expression of respective target

CCGTAAAATG genes whose function and utility is known in the art.

TTCAAATGTT GAM336785 is a novel bioinformatically detectable regulatory, non protein

TTCTCTCTCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336785 was detected

AAAGCTTTGT is described with additional reference to Figs. 9-15.

TCATTGTATC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGGTGGAATT encoded by the human genome.

TTGGTTCTCA GAM336785 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GGGAGTAGAC GAM336785 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

A GAM336785 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336785 precursor RNA is designated SEQ ID:141241, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141241 is located from position 44596378 to position 44596488 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336785 precursor RNA folds onto itself, forming GAM336785 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336785 precursor RNA, designated SEQ ID NO: 141241, and a schematic representation of a predicted secondary folding of GAM336785 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336785 folded precursor RNA yielding a GAM336785 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336785 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336785 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336785 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336785 target RNA, herein designated GAM TARGET RNA.

GAM336785 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336785 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336785 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336785 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336785 RNA, herein designated GAM RNA, to target binding sites on GAM336785 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336785 target RNA into GAM336785 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336785 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336785 target genes. The mRNA of each one of this plurality of GAM336785 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336785 RNA, herein designated GAM RNA, and which when bound by GAM336785 RNA causes inhibition of translation of the GAM336785 target mRNA into a corresponding GAM336785 target protein.

The mechanism of the translational inhibition exerted by GAM336785 RNA, herein designated GAM RNA, on one or more GAM336785 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336785 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336785 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336785 RNA, herein designated GAM RNA, of GAM336785 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336785 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336785 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336785 RNA correlate with, and may be deduced from, the identity of the GAM336785 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336786 141242 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336786 (GAM336786) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336786 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336786 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336786 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336786 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336786 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336786 precursor RNA is designated SEQ

ID:141242, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141242 is located from position 44812786 to position 44812867 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336786 precursor RNA folds onto itself, forming GAM336786 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336786 precursor RNA, designated SEQ ID NO: 141242, and a schematic representation of a predicted secondary folding of GAM336786 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336786 folded precursor RNA yielding a GAM336786 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336786 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336786 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336786 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336786 target RNA, herein designated GAM TARGET RNA.

GAM336786 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336786 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336786 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336786 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336786 RNA, herein designated GAM RNA, to target binding sites on GAM336786 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336786 target RNA into GAM336786 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336786 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336786 target genes. The mRNA of each one of this plurality of GAM336786 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336786 RNA, herein designated GAM RNA, and which when bound by GAM336786 RNA causes inhibition of translation of the GAM336786 target mRNA into a corresponding GAM336786 target protein.

The mechanism of the translational inhibition exerted by GAM336786 RNA, herein designated GAM RNA, on one or more GAM336786 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336786 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336786 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336786 RNA, herein designated GAM RNA, of GAM336786 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336786 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336786 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336786 RNA correlate with, and may be deduced from, the identity of the GAM336786 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336787 141243 AGGCAAGGTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TCACTCGGTC detected oligonucleotides of the present invention, referred to here as Genomic Address

ATCCAGGTTG Messenger 336787 (GAM336787) oligonucleotides modulates expression of respective target

GAATGCAGTG genes whose function and utility is known in the art.

GTGTGATCAC GAM336787 is a novel bioinformatically detectable regulatory, non protein

AGTTCACTGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336787 was detected

AAACTCAAAC is described with additional reference to Figs. 9-15.

TCCTGGGCTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAGGAATCTT encoded by the human genome.

CCT GAM336787 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336787 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336787 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336787 precursor RNA is designated SEQ ID:141243, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141243 is located from position 44900341 to position 44900433 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM336787 precursor RNA folds onto itself, forming GAM336787 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336787 precursor RNA, designated SEQ ID NO: 141243, and a schematic representation of a predicted secondary folding of GAM336787 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336787 folded precursor RNA yielding a GAM336787 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336787 RNA, hereby incorporated herein.

GAM336787 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336787 target RNA, herein designated GAM TARGET RNA.

GAM336787 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336787 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336787 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336787 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336787 RNA, herein designated GAM RNA, to target binding sites on GAM336787 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336787 target RNA into GAM336787 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336787 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336787 target genes. The mRNA of each one of this plurality of GAM336787 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336787 RNA, herein designated GAM RNA, and which when bound by GAM336787 RNA causes inhibition of translation of the GAM336787 target mRNA into a corresponding GAM336787 target protein.

The mechanism of the translational inhibition exerted by GAM336787 RNA, herein designated GAM RNA, on one or more GAM336787 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336787 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336787 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336787 RNA, herein designated GAM RNA, of GAM336787 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336787 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336787 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336787 RNA correlate with, and may be deduced from, the identity of the GAM336787 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336788 141244 GGTATTGGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAAAAGTGTG detected oligonucleotides of the present invention, referred to here as Genomic Address

TTATCTAGGT Messenger 336788 (GAM336788) oligonucleotides modulates expression of respective target
AGTCCAGGAA genes whose function and utility is known in the art.

GGTCTTCCTT GAM336788 is a novel bioinformatically detectable regulatory, non protein
TCATGACAAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336788 was detected
ACCCATAGAC is described with additional reference to Figs. 9-15.

ACTTAGTCCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTGACT encoded by the human genome.

GAM336788 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336788 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336788 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336788 precursor RNA is designated SEQ ID:141244, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141244 is located from position 44989605 to position 44989690 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336788 precursor RNA folds onto itself, forming GAM336788 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336788 precursor RNA, designated SEQ ID NO: 141244, and a schematic representation of a predicted secondary folding of GAM336788 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336788 folded precursor RNA yielding a GAM336788 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336788 RNA, hereby incorporated herein.

GAM336788 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336788 target RNA, herein designated GAM TARGET RNA.

GAM336788 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336788 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336788 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336788 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336788 RNA, herein designated GAM RNA, to target binding sites on GAM336788 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336788 target RNA into GAM336788 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336788 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336788 target genes. The mRNA of each one of this plurality of GAM336788 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336788 RNA, herein designated GAM RNA, and which when bound by GAM336788 RNA causes inhibition of translation of the GAM336788 target mRNA into a corresponding GAM336788 target protein.

The mechanism of the translational inhibition exerted by GAM336788 RNA, herein designated GAM RNA, on one or more GAM336788 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336788 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336788 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336788 RNA, herein designated GAM RNA, of GAM336788 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336788 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336788 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336788

RNA correlate with, and may be deduced from, the identity of the GAM336788 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336789 141245 GAGGCCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GTCTGAGATC detected oligonucleotides of the present invention, referred to here as Genomic Address
AGCTTGGGCA Messenger 336789 (GAM336789) oligonucleotides modulates expression of respective target
ACTGATTTAT genes whose function and utility is known in the art.

GGTTTGGATT GAM336789 is a novel bioinformatically detectable regulatory, non protein
TGTGTCCATG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336789 was detected
CCCTTCCTCT is described with additional reference to Figs. 9-15.

TCTGCCATGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTATAAGTTT encoded by the human genome.

CCTGAGGCCT GAM336789 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
C GAM336789 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336789 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336789 precursor RNA is designated SEQ ID:141245, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141245 is located from position 45081110 to position 45081210 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GAM336789 precursor RNA folds onto itself, forming GAM336789 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336789 precursor RNA, designated SEQ ID NO: 141245, and a schematic representation of a predicted secondary folding of GAM336789 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336789 folded precursor RNA yielding a GAM336789 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336789 RNA, hereby incorporated herein.

GAM336789 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336789 target RNA, herein designated GAM TARGET RNA.

GAM336789 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336789 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336789 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336789 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336789 RNA, herein designated GAM RNA, to target binding sites on GAM336789 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336789 target RNA into GAM336789 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336789 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336789 target genes. The mRNA of each one of this plurality of GAM336789 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336789 RNA, herein designated GAM RNA, and which when bound by GAM336789 RNA causes inhibition of translation of the GAM336789 target mRNA into a corresponding GAM336789 target protein.

The mechanism of the translational inhibition exerted by GAM336789 RNA, herein designated GAM RNA, on one or more GAM336789 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336789 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336789 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336789 RNA, herein designated GAM RNA, of GAM336789 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336789 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336789 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336789 RNA correlate with, and may be deduced from, the identity of the GAM336789 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336790 141246 CCTTGGGGGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTAATGATTC detected oligonucleotides of the present invention, referred to here as Genomic Address
AGCGTGGAAT Messenger 336790 (GAM336790) oligonucleotides modulates expression of respective target
GAGTTTTGTT genes whose function and utility is known in the art.

GTTAGGGTGG GAM336790 is a novel bioinformatically detectable regulatory, non protein
ACAGAAAAAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336790 was detected
CCTATGGCAA is described with additional reference to Figs. 9-15.

AGTCACTGAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTCCCTGAGT encoded by the human genome.

GTGCCCTTTG GAM336790 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
G GAM336790 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336790 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336790 precursor RNA is designated SEQ ID:141246, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141246 is located from position 45349110 to position 45349210 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336790 precursor RNA folds onto itself, forming GAM336790 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336790 precursor RNA, designated SEQ ID NO: 141246, and a schematic representation of a predicted secondary folding of GAM336790 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336790 folded precursor RNA yielding a GAM336790 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336790 RNA, hereby incorporated herein.

GAM336790 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336790 target RNA, herein designated GAM TARGET RNA.

GAM336790 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336790 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336790 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336790 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336790 RNA, herein designated GAM RNA, to target binding sites on GAM336790 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336790 target RNA into GAM336790 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336790 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336790 target genes. The mRNA of each one of this plurality of GAM336790 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336790 RNA, herein designated GAM RNA, and which when bound by GAM336790 RNA causes inhibition of translation of the GAM336790 target mRNA into a corresponding GAM336790 target protein.

The mechanism of the translational inhibition exerted by GAM336790 RNA, herein designated GAM RNA, on one or more GAM336790 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336790 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336790 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336790 RNA, herein designated GAM RNA, of GAM336790 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336790 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336790 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336790 RNA correlate with, and may be deduced from, the identity of the GAM336790 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336791 141247 GGTGGGTGAT Fig. 8 further provides a conceptual description of another novel bioinformatically
GCCATCTATA detected oligonucleotides of the present invention, referred to here as Genomic Address
GAAGGGTTTT Messenger 336791 (GAM336791) oligonucleotides modulates expression of respective target
AGGTCATTGT genes whose function and utility is known in the art.

GTTGGTGTCT GAM336791 is a novel bioinformatically detectable regulatory, non protein
TTCCGTCTTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336791 was detected
CCCACTTGAG is described with additional reference to Figs. 9-15.

ACCCTCTTGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AAATATGGAC encoded by the human genome.

TTGACCCACC GAM336791 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAM336791 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336791 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336791 precursor RNA is designated SEQ ID:141247, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141247 is located from position 45356637 to position 45356736 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336791 precursor RNA folds onto itself, forming GAM336791 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336791 precursor RNA, designated SEQ ID NO: 141247, and a schematic representation of a predicted secondary folding of GAM336791 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336791 folded precursor RNA yielding a GAM336791 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336791 RNA, hereby incorporated herein.

GAM336791 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336791 target RNA, herein designated GAM TARGET RNA.

GAM336791 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336791 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336791 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336791 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336791 RNA, herein designated GAM RNA, to target binding sites on GAM336791 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336791 target RNA into GAM336791 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336791 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336791 target genes. The mRNA of each one of this plurality of GAM336791 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM336791 RNA, herein designated GAM RNA, and which when bound by GAM336791 RNA causes inhibition of translation of the GAM336791 target mRNA into a corresponding GAM336791 target protein.

The mechanism of the translational inhibition exerted by GAM336791 RNA, herein designated GAM RNA, on one or more GAM336791 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336791 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336791 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336791 RNA, herein designated GAM RNA, of GAM336791 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336791 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336791 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336791 RNA correlate with, and may be deduced from, the identity of the GAM336791 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336792 141248 AGGCCCTGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TGGCGTGAGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GGGAAGGTGT Messenger 336792 (GAM336792) oligonucleotides modulates expression of respective target

GTGTGTGGGG genes whose function and utility is known in the art.

TGGCAGGGAG GAM336792 is a novel bioinformatically detectable regulatory, non protein

GAGAAGGAAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336792 was detected

CTGCTCTGTG is described with additional reference to Figs. 9-15.

CTTATTCTTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCCCCGTTTC encoded by the human genome.

TTTTGCAGCC GAM336792 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TGCCCACGGC GAM336792 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

TT GAM336792 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336792 precursor RNA is designated SEQ ID:141248, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141248 is located from position 45455573 to position 45455684 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM336792 precursor RNA folds onto itself, forming GAM336792 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336792 precursor RNA, designated SEQ ID NO: 141248, and a schematic representation of a predicted secondary folding of GAM336792 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336792 folded precursor RNA yielding a GAM336792 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336792 RNA, hereby incorporated herein.

GAM336792 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336792 target RNA, herein designated GAM TARGET RNA.

GAM336792 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336792 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336792 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336792 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336792 RNA, herein designated GAM RNA, to target

binding sites on GAM336792 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336792 target RNA into GAM336792 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336792 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336792 target genes. The mRNA of each one of this plurality of GAM336792 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336792 RNA, herein designated GAM RNA, and which when bound by GAM336792 RNA causes inhibition of translation of the GAM336792 target mRNA into a corresponding GAM336792 target protein.

The mechanism of the translational inhibition exerted by GAM336792 RNA, herein designated GAM RNA, on one or more GAM336792 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336792 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336792 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336792 RNA, herein designated GAM RNA, of GAM336792 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336792 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336792 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336792 RNA correlate with, and may be deduced from, the identity of the GAM336792 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336793 141249 TGGGTGGCGT Fig. 8 further provides a conceptual description of another novel bioinformatically

GAGGGGGAAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GTGTGTGTGT Messenger 336793 (GAM336793) oligonucleotides modulates expression of respective target

GGGGTGGCAG genes whose function and utility is known in the art.

GGAGGAGAAG GAM336793 is a novel bioinformatically detectable regulatory, non protein

GAATCTGCTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336793 was detected

TGTGCTTATT is described with additional reference to Figs. 9-15.

CTTGTCCCCG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTTCTTTTGC encoded by the human genome.

AGCCTGCCCA GAM336793 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336793 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336793 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336793 precursor RNA is designated SEQ ID:141249, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141249 is located from position 45455579 to position 45455678 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM336793 precursor RNA folds onto itself, forming GAM336793 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336793 precursor RNA, designated SEQ ID NO: 141249, and a schematic representation of a predicted secondary folding of GAM336793 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336793 folded precursor RNA yielding a GAM336793 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336793 RNA, hereby incorporated herein.

GAM336793 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336793 target RNA, herein designated GAM TARGET RNA.

GAM336793 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336793 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336793 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336793 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows

three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336793 RNA, herein designated GAM RNA, to target binding sites on GAM336793 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336793 target RNA into GAM336793 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336793 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336793 target genes. The mRNA of each one of this plurality of GAM336793 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336793 RNA, herein designated GAM RNA, and which when bound by GAM336793 RNA causes inhibition of translation of the GAM336793 target mRNA into a corresponding GAM336793 target protein.

The mechanism of the translational inhibition exerted by GAM336793 RNA, herein designated GAM RNA, on one or more GAM336793 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336793 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336793 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336793 RNA, herein designated GAM RNA, of GAM336793 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336793 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336793 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336793 RNA correlate with, and may be deduced from, the identity of the GAM336793 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336794 141250 TGGTGGAAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

AAAACCTGTC detected oligonucleotides of the present invention, referred to here as Genomic Address
ATTCCAAGGA Messenger 336794 (GAM336794) oligonucleotides modulates expression of respective target
CAGTCCCATG genes whose function and utility is known in the art.

ACAGGGAAGC GAM336794 is a novel bioinformatically detectable regulatory, non protein
TGACACTTCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336794 was detected
GTGGCAGGTT is described with additional reference to Figs. 9-15.

AATCCCCCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336794 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336794 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336794 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336794 precursor RNA is designated SEQ ID:141250, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141250 is located from position 45732059 to position 45732138 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336794 precursor RNA folds onto itself, forming GAM336794 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336794 precursor RNA, designated SEQ ID NO: 141250, and a schematic representation of a predicted secondary folding of GAM336794 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336794 folded precursor RNA yielding a GAM336794 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336794 RNA, hereby incorporated herein.

GAM336794 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336794 target RNA, herein designated GAM TARGET RNA.

GAM336794 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336794 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336794 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336794 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336794 RNA, herein designated GAM RNA, to target binding sites on GAM336794 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336794 target RNA into GAM336794 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336794 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336794 target genes. The mRNA of each one of this plurality of GAM336794 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336794 RNA, herein designated GAM RNA, and which when bound by GAM336794 RNA causes inhibition of translation of the GAM336794 target mRNA into a corresponding GAM336794 target protein.

The mechanism of the translational inhibition exerted by GAM336794 RNA, herein designated GAM RNA, on one or more GAM336794 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336794 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336794 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336794 RNA, herein designated GAM RNA, of GAM336794 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336794 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336794 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336794 RNA correlate with, and may be deduced from, the identity of the GAM336794 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336795 141251 TCTGCCAGTT Fig. 8 further provides a conceptual description of another novel bioinformatically
TTTATGCCAC detected oligonucleotides of the present invention, referred to here as Genomic Address
ACTGGCTCTG Messenger 336795 (GAM336795) oligonucleotides modulates expression of respective target
TGCTTCTAGT genes whose function and utility is known in the art.

ATCTGCATTT GAM336795 is a novel bioinformatically detectable regulatory, non protein
AATGCTTAGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336795 was detected
TTCTACCAGA is described with additional reference to Figs. 9-15.

GCTAGTTTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCACAAAGTT encoded by the human genome.

TCCAGA GAM336795 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336795 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336795 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336795 precursor RNA is designated SEQ ID:141251, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141251 is located from position 45867956 to position 45868051 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM336795 precursor RNA folds onto itself, forming GAM336795 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336795 precursor RNA, designated SEQ ID NO: 141251, and a schematic representation of a predicted secondary folding of GAM336795 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336795 folded precursor RNA yielding a GAM336795 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336795 RNA, hereby incorporated herein.

GAM336795 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336795 target RNA, herein designated GAM TARGET RNA.

GAM336795 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336795 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336795 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336795 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336795 RNA, herein designated GAM RNA, to target binding sites on GAM336795 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336795 target RNA into GAM336795 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336795 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336795 target genes. The mRNA of each one of this plurality of GAM336795 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336795 RNA, herein designated GAM RNA, and which when bound by GAM336795 RNA causes inhibition of translation of the GAM336795 target mRNA into a corresponding GAM336795 target protein.

The mechanism of the translational inhibition exerted by GAM336795 RNA, herein designated GAM RNA, on one or more GAM336795 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336795 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336795 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336795 RNA, herein designated GAM RNA, of GAM336795 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336795 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336795 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336795 RNA correlate with, and may be deduced from, the identity of the GAM336795 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336796 141252 ATGTTCTGAA Fig. 8 further provides a conceptual description of another novel bioinformatically
GTACTGAGGG detected oligonucleotides of the present invention, referred to here as Genomic Address
TTAGGGCTTC Messenger 336796 (GAM336796) oligonucleotides modulates expression of respective target
AACTTACGAA genes whose function and utility is known in the art.

TTTGGTGAGT GAM336796 is a novel bioinformatically detectable regulatory, non protein
TCACAGTTCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336796 was detected
GCCTGTAACA is described with additional reference to Figs. 9-15.

CATTTCTTCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGATTTCCAG encoded by the human genome.

AGCGT GAM336796 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336796 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336796 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336796 precursor RNA is designated SEQ ID:141252, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141252 is located from position 45983536 to position 45983630 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM336796 precursor RNA folds onto itself, forming GAM336796 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336796 precursor RNA, designated SEQ ID NO: 141252, and a schematic representation of a predicted secondary folding of GAM336796 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336796 folded precursor RNA yielding a GAM336796 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336796 RNA, hereby incorporated herein.

GAM336796 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336796 target RNA, herein designated GAM TARGET RNA.

GAM336796 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336796 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336796 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336796 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336796 RNA, herein designated GAM RNA, to target binding sites on GAM336796 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336796 target RNA into GAM336796 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336796 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336796 target genes. The mRNA of each one of this plurality of GAM336796 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336796 RNA, herein designated GAM RNA, and which when bound by GAM336796 RNA causes inhibition of translation of the GAM336796 target mRNA into a corresponding GAM336796 target protein.

The mechanism of the translational inhibition exerted by GAM336796 RNA, herein designated GAM RNA, on one or more GAM336796 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336796 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336796 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336796 RNA, herein designated GAM RNA, of GAM336796 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336796 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336796 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336796 RNA correlate with, and may be deduced from, the identity of the GAM336796 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336797 141253 TTCATTAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

AAGGGTTTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGTCAGGAC Messenger 336797 (GAM336797) oligonucleotides modulates expression of respective target

ATGGGTATCT genes whose function and utility is known in the art.

GGTGTACATG GAM336797 is a novel bioinformatically detectable regulatory, non protein

GGAGTTTGGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336797 was detected

GGCCTCTATT is described with additional reference to Figs. 9-15.

GTAGGAGGCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTGGAAATGT encoded by the human genome.

GTATTGTTGG GAM336797 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAGGTCCTGA GAM336797 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GGGAGGAAGT GAM336797 precursor RNA does not encode a protein. A nucleotide sequence identical or

TTGGGATGAA highly similar to the nucleotide sequence of GAM336797 precursor RNA is designated SEQ

ID:141253, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141253 is located from position 46014999 to position 46015128 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336797 precursor RNA folds onto itself, forming GAM336797 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336797 precursor RNA, designated SEQ ID NO: 141253, and a schematic representation of a predicted secondary folding of GAM336797 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336797 folded precursor RNA yielding a GAM336797 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336797 RNA, hereby incorporated herein.

GAM336797 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336797 target RNA, herein designated GAM TARGET RNA.

GAM336797 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336797 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336797 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336797 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336797 RNA, herein designated GAM RNA, to target binding sites on GAM336797 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336797 target RNA into GAM336797 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336797 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM336797 target genes. The mRNA of each one of this plurality of GAM336797 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336797 RNA, herein designated GAM RNA, and which when bound by GAM336797 RNA causes inhibition of translation of the GAM336797 target mRNA into a corresponding GAM336797 target protein.

The mechanism of the translational inhibition exerted by GAM336797 RNA, herein designated GAM RNA, on one or more GAM336797 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336797 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336797 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336797 RNA, herein designated GAM RNA, of GAM336797 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336797 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336797 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336797 RNA correlate with, and may be deduced from, the identity of the GAM336797 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336798 141254 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATCGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCTGGGAG Messenger 336798 (GAM336798) oligonucleotides modulates expression of respective target

GCAGAGGTTG genes whose function and utility is known in the art.

TGGTGAGCCG GAM336798 is a novel bioinformatically detectable regulatory, non protein

AGATGAGGTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336798 was detected

ATTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAAGTGTGA encoded by the human genome.

AACTCCGTCT GAM336798 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CA GAM336798 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336798 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336798 precursor RNA is designated SEQ ID:141254, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141254 is located from position 46038899 to position 46039000 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336798 precursor RNA folds onto itself, forming GAM336798 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336798 precursor RNA, designated SEQ ID NO: 141254, and a schematic representation of a predicted secondary folding of GAM336798 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336798 folded precursor RNA yielding a GAM336798 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336798 RNA, hereby incorporated herein. Expression of GAM336798 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336798 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336798 target RNA, herein designated GAM TARGET RNA.

GAM336798 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336798 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336798 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336798 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336798 RNA, herein designated GAM RNA, to target binding sites on GAM336798 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336798 target RNA into GAM336798 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336798 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336798 target genes. The mRNA of each one of this plurality of GAM336798 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336798 RNA, herein designated GAM RNA, and which when bound by GAM336798 RNA causes inhibition of translation of the GAM336798 target mRNA into a corresponding GAM336798 target protein.

The mechanism of the translational inhibition exerted by GAM336798 RNA, herein designated GAM RNA, on one or more GAM336798 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336798 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336798 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336798 RNA, herein designated GAM RNA, of GAM336798 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336798 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336798 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336798 RNA correlate with, and may be deduced from, the identity of the GAM336798 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336799 141255 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCTGGGAGG Messenger 336799 (GAM336799) oligonucleotides modulates expression of respective target

CAGAGGTTGT genes whose function and utility is known in the art.

GGTGAGCCGA GAM336799 is a novel bioinformatically detectable regulatory, non protein
GATGAGGTCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336799 was detected
TTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAAGTGTGAA encoded by the human genome.

ACTCCGTCTC GAM336799 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAM336799 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336799 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336799 precursor RNA is designated SEQ ID:141255, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141255 is located from position 46038900 to position 46038999 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336799 precursor RNA folds onto itself, forming GAM336799 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin
structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336799 precursor RNA, designated SEQ ID NO: 141255, and a schematic representation of a predicted secondary folding of GAM336799 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336799 folded precursor RNA yielding a GAM336799 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336799 RNA, hereby incorporated herein. Expression of GAM336799 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336799 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336799 target RNA, herein designated GAM TARGET RNA.

GAM336799 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336799 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336799 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336799 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336799 RNA, herein designated GAM RNA, to target binding sites on GAM336799 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336799 target RNA into GAM336799 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336799 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336799 target genes. The mRNA of each one of this plurality of GAM336799 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336799 RNA, herein designated GAM RNA, and which when bound by GAM336799 RNA causes inhibition of translation of the GAM336799 target mRNA into a corresponding GAM336799 target protein.

The mechanism of the translational inhibition exerted by GAM336799 RNA, herein designated GAM RNA, on one or more GAM336799 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336799 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336799 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336799 RNA, herein designated GAM RNA, of GAM336799 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336799 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336799 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336799 RNA correlate with, and may be deduced from, the identity of the GAM336799 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336800 141256 CACTCCCTGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GTGAAGGTGT detected oligonucleotides of the present invention, referred to here as Genomic Address
GTGTGTTAGG Messenger 336800 (GAM336800) oligonucleotides modulates expression of respective target
AAATGTGCTT genes whose function and utility is known in the art.

ACTGGGTGAA GAM336800 is a novel bioinformatically detectable regulatory, non protein
CACAACAGAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336800 was detected
GTGTTCCCCA is described with additional reference to Figs. 9-15.

CCTCATGATA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CCCACAGTCT encoded by the human genome.

AGGGAGTG GAM336800 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336800 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336800 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336800 precursor RNA is designated SEQ ID:141256, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141256 is located from position 46120406 to position 46120503 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM336800 precursor RNA folds onto itself, forming GAM336800 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336800 precursor RNA, designated SEQ ID NO: 141256, and a schematic representation of a predicted secondary folding of GAM336800 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336800 folded precursor RNA yielding a GAM336800 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336800 RNA, hereby incorporated herein.

GAM336800 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336800 target RNA, herein designated GAM TARGET RNA.

GAM336800 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336800 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336800 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336800 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336800 RNA, herein designated GAM RNA, to target binding sites on GAM336800 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336800 target RNA into GAM336800 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336800 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336800 target genes. The mRNA of each one of this plurality of GAM336800 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336800 RNA, herein designated GAM RNA, and which when bound by GAM336800 RNA causes inhibition of translation of the GAM336800 target mRNA into a corresponding GAM336800 target protein.

The mechanism of the translational inhibition exerted by GAM336800 RNA, herein designated GAM RNA, on one or more GAM336800 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336800 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336800 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336800 RNA, herein designated GAM RNA, of GAM336800 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336800 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336800 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336800 RNA correlate with, and may be deduced from, the identity of the GAM336800 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336801 141257 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 336801 (GAM336801) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336801 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336801 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM336801 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336801 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336801 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336801 precursor RNA is designated SEQ ID:141257, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141257 is located from position 46150469 to position 46150550 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM336801 precursor RNA folds onto itself, forming GAM336801 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336801 precursor RNA, designated SEQ ID NO: 141257, and a schematic representation of a predicted secondary folding of GAM336801 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336801 folded precursor RNA yielding a GAM336801 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336801 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336801 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336801 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336801 target RNA, herein designated GAM TARGET RNA.

GAM336801 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336801 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336801 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336801 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336801 RNA, herein designated GAM RNA, to target binding sites on GAM336801 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336801 target RNA into GAM336801 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336801 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336801 target genes. The mRNA of each one of this plurality of GAM336801 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336801 RNA, herein designated GAM RNA, and which when bound by GAM336801 RNA causes inhibition of translation of the GAM336801 target mRNA into a corresponding GAM336801 target protein.

The mechanism of the translational inhibition exerted by GAM336801 RNA, herein designated GAM RNA, on one or more GAM336801 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336801 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336801 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336801 RNA, herein designated GAM RNA, of GAM336801 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336801 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336801 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336801 RNA correlate with, and may be deduced from, the identity of the GAM336801 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336802 141258 CTAGGCATTG Fig. 8 further provides a conceptual description of another novel bioinformatically

TAACTCTCAA detected oligonucleotides of the present invention, referred to here as Genomic Address

GTCTTAAATA Messenger 336802 (GAM336802) oligonucleotides modulates expression of respective target

CTCATCAGCT genes whose function and utility is known in the art.

GGTCAGTCCA GAM336802 is a novel bioinformatically detectable regulatory, non protein

TTGGGTCTGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336802 was detected

CAAATTATGT is described with additional reference to Figs. 9-15.

GTATTTAACC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTTGAGAACT encoded by the human genome.

CATGCTTGG GAM336802 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336802 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336802 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336802 precursor RNA is designated SEQ ID:141258, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141258 is located from position 46157389 to position 46157487 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM336802 precursor RNA folds onto itself, forming GAM336802 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336802 precursor RNA, designated SEQ ID NO: 141258, and a schematic representation of a predicted secondary folding of GAM336802 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336802 folded precursor RNA yielding a GAM336802 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336802 RNA, hereby incorporated herein.

GAM336802 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336802 target RNA, herein designated GAM TARGET RNA.

GAM336802 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336802 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336802 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336802 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336802 RNA, herein designated GAM RNA, to target binding sites on GAM336802 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336802 target RNA into GAM336802 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336802 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336802 target genes. The mRNA of each one of this plurality of GAM336802 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM336802 RNA, herein designated GAM RNA, and which when bound by GAM336802 RNA causes inhibition of translation of the GAM336802 target mRNA into a corresponding GAM336802 target protein.

The mechanism of the translational inhibition exerted by GAM336802 RNA, herein designated GAM RNA, on one or more GAM336802 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336802 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336802 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336802 RNA, herein designated GAM RNA, of GAM336802 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336802 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336802 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336802 RNA correlate with, and may be deduced from, the identity of the GAM336802 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336803 141259 GGCATTGTAA Fig. 8 further provides a conceptual description of another novel bioinformatically
CTCTCAAGTC detected oligonucleotides of the present invention, referred to here as Genomic Address
TTAAATACTC Messenger 336803 (GAM336803) oligonucleotides modulates expression of respective target
ATCAGCTGGT genes whose function and utility is known in the art.

CAGTCCATTG GAM336803 is a novel bioinformatically detectable regulatory, non protein
GGTCTGGCAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336803 was detected
ATTATGTGTA is described with additional reference to Figs. 9-15.

TTTAACCCTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGAACTCAT encoded by the human genome.

GCT GAM336803 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAM336803 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336803 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336803 precursor RNA is designated SEQ ID:141259, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141259 is located from position 46157392 to position 46157484 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM336803 precursor RNA folds onto itself, forming GAM336803 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336803 precursor RNA, designated SEQ ID NO: 141259, and a schematic representation of a predicted secondary folding of GAM336803 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336803 folded precursor RNA yielding a GAM336803 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336803 RNA, hereby incorporated herein.

GAM336803 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336803 target RNA, herein designated GAM TARGET RNA.

GAM336803 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336803 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336803 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336803 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336803 RNA, herein designated GAM RNA, to target binding sites on GAM336803 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336803 target RNA into GAM336803 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336803 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336803 target genes. The mRNA of each one of this plurality of GAM336803 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336803 RNA, herein designated GAM RNA, and which when bound by GAM336803 RNA causes inhibition of translation of the GAM336803 target mRNA into a corresponding GAM336803 target protein.

The mechanism of the translational inhibition exerted by GAM336803 RNA, herein designated GAM RNA, on one or more GAM336803 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336803 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336803 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336803 RNA, herein designated GAM RNA, of GAM336803 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336803 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336803 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336803 RNA correlate with, and may be deduced from, the identity of the GAM336803 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336804 141260 GGCTGGGGAA Fig. 8 further provides a conceptual description of another novel bioinformatically

GTTACTTACC detected oligonucleotides of the present invention, referred to here as Genomic Address

TACTCCGTGT Messenger 336804 (GAM336804) oligonucleotides modulates expression of respective target

CTCAGTTTTA genes whose function and utility is known in the art.

CTTATCTCTA GAM336804 is a novel bioinformatically detectable regulatory, non protein

AAAGGGGTAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336804 was detected

AGTAACAGCA is described with additional reference to Figs. 9-15.

CTCACTGGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGGAGTGTGG encoded by the human genome.

TTATGCCTCC GAM336804 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CAGCC GAM336804 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336804 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336804 precursor RNA is designated SEQ ID:141260, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141260 is located from position 46229800 to position 46229904 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336804 precursor RNA folds onto itself, forming GAM336804 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336804 precursor RNA, designated SEQ ID NO: 141260, and a schematic representation of a predicted secondary folding of GAM336804 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336804 folded precursor RNA yielding a GAM336804 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336804 RNA, hereby incorporated herein.

GAM336804 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336804 target RNA, herein designated GAM TARGET RNA.

GAM336804 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336804 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336804 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336804 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336804 RNA, herein designated GAM RNA, to target binding sites on GAM336804 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336804 target RNA into GAM336804 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336804 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336804 target genes. The mRNA of each one of this plurality of GAM336804 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336804 RNA, herein designated GAM RNA, and which when bound by GAM336804 RNA causes inhibition of translation of the GAM336804 target mRNA into a corresponding GAM336804 target protein.

The mechanism of the translational inhibition exerted by GAM336804 RNA, herein designated GAM RNA, on one or more GAM336804 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336804 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336804 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336804 RNA, herein designated GAM RNA, of GAM336804 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336804 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336804 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336804 RNA correlate with, and may be deduced from, the identity of the GAM336804 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336805 141261 CCAGAAATTT Fig. 8 further provides a conceptual description of another novel bioinformatically

CATCCCCACT detected oligonucleotides of the present invention, referred to here as Genomic Address
GGTCAGTAAG Messenger 336805 (GAM336805) oligonucleotides modulates expression of respective target
GAAGCTCGTC genes whose function and utility is known in the art.

TGCTCCCAGA GAM336805 is a novel bioinformatically detectable regulatory, non protein
GTTTCAGTGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336805 was detected
AGACCACGTG is described with additional reference to Figs. 9-15.

GGAATTCTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336805 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336805 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336805 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336805 precursor RNA is designated SEQ ID:141261, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141261 is located from position 46237410 to position 46237489 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM336805 precursor RNA folds onto itself, forming GAM336805 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336805 precursor RNA, designated SEQ ID NO: 141261, and a schematic representation of a predicted secondary folding of GAM336805 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336805 folded precursor RNA yielding a GAM336805 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336805 RNA, hereby incorporated herein.

GAM336805 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336805 target RNA, herein designated GAM TARGET RNA.

GAM336805 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336805 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336805 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336805 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336805 RNA, herein designated GAM RNA, to target binding sites on GAM336805 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336805 target RNA into GAM336805 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336805 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336805 target genes. The mRNA of each one of this plurality of GAM336805 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336805 RNA, herein designated GAM RNA, and which when bound by GAM336805 RNA causes inhibition of translation of the GAM336805 target mRNA into a corresponding GAM336805 target protein.

The mechanism of the translational inhibition exerted by GAM336805 RNA, herein designated GAM RNA, on one or more GAM336805 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336805 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336805 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336805 RNA, herein designated GAM RNA, of GAM336805 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336805 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336805 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336805 RNA correlate with, and may be deduced from, the identity of the GAM336805 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336806 141262 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 336806 (GAM336806) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336806 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336806 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM336806 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336806 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336806 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336806 precursor RNA is designated SEQ ID:141262, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141262 is located from position 46270121 to position 46270202 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GAM336806 precursor RNA folds onto itself, forming GAM336806 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336806 precursor RNA, designated SEQ ID NO: 141262, and a schematic representation of a predicted secondary folding of GAM336806 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336806 folded precursor RNA yielding a GAM336806 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides two possible nucleotide sequences of GAM336806 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336806 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336806 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336806 target RNA, herein designated GAM TARGET RNA.

GAM336806 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336806 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336806 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336806 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336806 RNA, herein designated GAM RNA, to target binding sites on GAM336806 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336806 target RNA into GAM336806 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336806 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336806 target genes. The mRNA of each one of this plurality of GAM336806 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336806 RNA, herein designated GAM RNA, and which when bound by GAM336806 RNA causes inhibition of translation of the GAM336806 target mRNA into a corresponding GAM336806 target protein.

The mechanism of the translational inhibition exerted by GAM336806 RNA, herein designated GAM RNA, on one or more GAM336806 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336806 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336806 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336806 RNA, herein designated GAM RNA, of

GAM336806 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336806 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336806 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336806 RNA correlate with, and may be deduced from, the identity of the GAM336806 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336807 141263 CTGCCTAGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

TAGTGAGGGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ATCCATTCTG Messenger 336807 (GAM336807) oligonucleotides modulates expression of respective target

GCTTCAGACC genes whose function and utility is known in the art.

AGTCTGGGTT GAM336807 is a novel bioinformatically detectable regulatory, non protein

TGAAACCTAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336807 was detected

ACATCCCACT is described with additional reference to Figs. 9-15.

AACTTAGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

G encoded by the human genome.

GAM336807 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336807 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336807 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336807 precursor RNA is designated SEQ ID:141263, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141263 is located from position 46314585 to position 46314665 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336807 precursor RNA folds onto itself, forming GAM336807 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336807 precursor RNA, designated SEQ ID NO: 141263,

and a schematic representation of a predicted secondary folding of GAM336807 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336807 folded precursor RNA yielding a GAM336807 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336807 RNA, hereby incorporated herein.

GAM336807 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336807 target RNA, herein designated GAM TARGET RNA.

GAM336807 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336807 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336807 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336807 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336807 RNA, herein designated GAM RNA, to target binding sites on GAM336807 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336807 target RNA into GAM336807 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336807 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336807 target genes. The mRNA of each one of this plurality of GAM336807 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336807 RNA, herein designated GAM RNA, and which when bound by GAM336807 RNA causes inhibition of translation of the GAM336807 target mRNA into a corresponding GAM336807 target protein.

The mechanism of the translational inhibition exerted by GAM336807 RNA, herein designated GAM RNA, on one or more GAM336807 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336807 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336807 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336807 RNA, herein designated GAM RNA, of GAM336807 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336807 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336807 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336807 RNA correlate with, and may be deduced from, the identity of the GAM336807 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336808 141264 AGTTATGTGA Fig. 8 further provides a conceptual description of another novel bioinformatically

CCCTTAAAGA detected oligonucleotides of the present invention, referred to here as Genomic Address

AACAAATCAG Messenger 336808 (GAM336808) oligonucleotides modulates expression of respective target

AAGTTATGTG genes whose function and utility is known in the art.

ACCCTCTAAC GAM336808 is a novel bioinformatically detectable regulatory, non protein

ACACTGAGAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336808 was detected

AGAGGCACAG is described with additional reference to Figs. 9-15.

TGAAGCTGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTTGGTTTAA encoded by the human genome.

GGTTGCCTAG GAM336808 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CT GAM336808 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336808 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336808 precursor RNA is designated SEQ ID:141264, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141264 is located from position 46513001 to position 46513102 relative to chromosome chr20 on the `-` strand (chr is an abbreviation for chromosome).

GAM336808 precursor RNA folds onto itself, forming GAM336808 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336808 precursor RNA, designated SEQ ID NO: 141264, and a schematic representation of a predicted secondary folding of GAM336808 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336808 folded precursor RNA yielding a GAM336808 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336808 RNA, hereby incorporated herein.

GAM336808 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336808 target RNA, herein designated GAM TARGET RNA.

GAM336808 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336808 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336808 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336808 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336808 RNA, herein designated GAM RNA, to target binding sites on GAM336808 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336808 target RNA into GAM336808 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336808 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336808 target genes. The mRNA of each one of this

plurality of GAM336808 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336808 RNA, herein designated GAM RNA, and which when bound by GAM336808 RNA causes inhibition of translation of the GAM336808 target mRNA into a corresponding GAM336808 target protein.

The mechanism of the translational inhibition exerted by GAM336808 RNA, herein designated GAM RNA, on one or more GAM336808 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336808 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336808 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336808 RNA, herein designated GAM RNA, of GAM336808 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336808 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336808 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336808 RNA correlate with, and may be deduced from, the identity of the GAM336808 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336809 141265 AAGGATGTGT Fig. 8 further provides a conceptual description of another novel bioinformatically

TCACTGAAGC detected oligonucleotides of the present invention, referred to here as Genomic Address

CTACCATACA Messenger 336809 (GAM336809) oligonucleotides modulates expression of respective target

TATGTGACCC genes whose function and utility is known in the art.

TTATTAGTTA GAM336809 is a novel bioinformatically detectable regulatory, non protein

CACATAAGGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336809 was detected

ATTTTTATGG is described with additional reference to Figs. 9-15.

TGGTCTTTGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCCCTTATCT encoded by the human genome.

TT GAM336809 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336809 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336809 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336809 precursor RNA is designated SEQ ID:141265, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141265 is located from position 46540199 to position 46540291 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM336809 precursor RNA folds onto itself, forming GAM336809 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336809 precursor RNA, designated SEQ ID NO: 141265, and a schematic representation of a predicted secondary folding of GAM336809 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336809 folded precursor RNA yielding a GAM336809 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336809 RNA, hereby incorporated herein. Expression of GAM336809 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336809 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336809 target RNA, herein designated GAM TARGET RNA.

GAM336809 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336809 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336809 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336809 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336809 RNA, herein designated GAM RNA, to target binding sites on GAM336809 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336809 target RNA into GAM336809 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336809 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336809 target genes. The mRNA of each one of this plurality of GAM336809 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336809 RNA, herein designated GAM RNA, and which when bound by GAM336809 RNA causes inhibition of translation of the GAM336809 target mRNA into a corresponding GAM336809 target protein.

The mechanism of the translational inhibition exerted by GAM336809 RNA, herein designated GAM RNA, on one or more GAM336809 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336809 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336809 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336809 RNA, herein designated GAM RNA, of GAM336809 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336809 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336809 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336809 RNA correlate with, and may be deduced from, the identity of the GAM336809 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336810 141266 AGGTTCACAC Fig. 8 further provides a conceptual description of another novel bioinformatically

ATTGGTGCCT detected oligonucleotides of the present invention, referred to here as Genomic Address

TTGCTGGGAC Messenger 336810 (GAM336810) oligonucleotides modulates expression of respective target

AAAAAAGAGA genes whose function and utility is known in the art.

CTTTCCTGAG GAM336810 is a novel bioinformatically detectable regulatory, non protein
GGTTGTCTTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336810 was detected
TTCCAGTTTC is described with additional reference to Figs. 9-15.

TCAGCCACTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACCATGTGAT encoded by the human genome.

ACCT GAM336810 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336810 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336810 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336810 precursor RNA is designated SEQ ID:141266, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141266 is located from position 46654581 to position 46654674 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM336810 precursor RNA folds onto itself, forming GAM336810 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336810 precursor RNA, designated SEQ ID NO: 141266, and a schematic representation of a predicted secondary folding of GAM336810 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336810 folded precursor RNA yielding a GAM336810 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336810 RNA, hereby incorporated herein.

GAM336810 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336810 target RNA, herein designated GAM TARGET RNA.

GAM336810 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336810 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336810 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336810 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336810 RNA, herein designated GAM RNA, to target binding sites on GAM336810 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336810 target RNA into GAM336810 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336810 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336810 target genes. The mRNA of each one of this plurality of GAM336810 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336810 RNA, herein designated GAM RNA, and which when bound by GAM336810 RNA causes inhibition of translation of the GAM336810 target mRNA into a corresponding GAM336810 target protein.

The mechanism of the translational inhibition exerted by GAM336810 RNA, herein designated GAM RNA, on one or more GAM336810 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336810 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336810 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336810 RNA, herein designated GAM RNA, of GAM336810 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336810 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336810 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336810 RNA correlate with, and may be deduced from, the identity of the GAM336810 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336811 141267 GGTTCACACA Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGGTGCCTT detected oligonucleotides of the present invention, referred to here as Genomic Address
TGCTGGGACA Messenger 336811 (GAM336811) oligonucleotides modulates expression of respective target
AAAAAGAGAC genes whose function and utility is known in the art.

TTTCCTGAGG GAM336811 is a novel bioinformatically detectable regulatory, non protein
GTTGTCTTGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336811 was detected
TCCAGTTTCT is described with additional reference to Figs. 9-15.

CAGCCACTCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CCATGTGATA encoded by the human genome.

CC GAM336811 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336811 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336811 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336811 precursor RNA is designated SEQ ID:141267, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141267 is located from position 46654582 to position 46654673 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM336811 precursor RNA folds onto itself, forming GAM336811 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336811 precursor RNA, designated SEQ ID NO: 141267, and a schematic representation of a predicted secondary folding of GAM336811 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336811 folded precursor RNA yielding a GAM336811 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336811 RNA, hereby incorporated herein.

GAM336811 target gene, herein designated GAM TARGET GENE, encodes a

corresponding messenger RNA, GAM336811 target RNA, herein designated GAM TARGET RNA.

GAM336811 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336811 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336811 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336811 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336811 RNA, herein designated GAM RNA, to target binding sites on GAM336811 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336811 target RNA into GAM336811 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336811 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336811 target genes. The mRNA of each one of this plurality of GAM336811 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336811 RNA, herein designated GAM RNA, and which when bound by GAM336811 RNA causes inhibition of translation of the GAM336811 target mRNA into a corresponding GAM336811 target protein.

The mechanism of the translational inhibition exerted by GAM336811 RNA, herein designated GAM RNA, on one or more GAM336811 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336811 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336811 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336811 RNA, herein designated GAM RNA, of GAM336811 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336811 target RNA, herein designated

GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336811 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336811 RNA correlate with, and may be deduced from, the identity of the GAM336811 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336812 141268 GCGCTGTCTT Fig. 8 further provides a conceptual description of another novel bioinformatically
CCTGGGCTCA detected oligonucleotides of the present invention, referred to here as Genomic Address
GCATCCTGGG Messenger 336812 (GAM336812) oligonucleotides modulates expression of respective target
ACACAGGACA genes whose function and utility is known in the art.

TTGTAGTGGA GAM336812 is a novel bioinformatically detectable regulatory, non protein
GCATCCCAAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336812 was detected
CTGAAACTTT is described with additional reference to Figs. 9-15.

GTCTCAGTGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGAGACCCAG encoded by the human genome.

AAAGATGGGG GAM336812 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
T GAM336812 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336812 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336812 precursor RNA is designated SEQ ID:141268, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141268 is located from position 46926845 to position 46926945 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GAM336812 precursor RNA folds onto itself, forming GAM336812 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336812 precursor RNA, designated SEQ ID NO: 141268, and a schematic representation of a predicted secondary folding of GAM336812 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336812 folded precursor RNA yielding a GAM336812 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336812 RNA, hereby incorporated herein.

GAM336812 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336812 target RNA, herein designated GAM TARGET RNA.

GAM336812 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336812 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336812 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336812 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336812 RNA, herein designated GAM RNA, to target binding sites on GAM336812 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336812 target RNA into GAM336812 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336812 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336812 target genes. The mRNA of each one of this plurality of GAM336812 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336812 RNA, herein designated GAM RNA, and which when bound by GAM336812 RNA causes inhibition of translation of the GAM336812 target mRNA into a corresponding GAM336812 target protein.

The mechanism of the translational inhibition exerted by GAM336812 RNA, herein designated GAM RNA, on one or more GAM336812 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336812 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336812 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336812 RNA, herein designated GAM RNA, of GAM336812 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336812 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336812 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336812 RNA correlate with, and may be deduced from, the identity of the GAM336812 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336813 141269 AGCTCAAAGT Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGGGGT detected oligonucleotides of the present invention, referred to here as Genomic Address
CTGACCCTGT Messenger 336813 (GAM336813) oligonucleotides modulates expression of respective target
AGGTCTCTAA genes whose function and utility is known in the art.

CCAGAGTGTA GAM336813 is a novel bioinformatically detectable regulatory, non protein
GAGATCTCAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336813 was detected
GACAGACTTT is described with additional reference to Figs. 9-15.

TTGCAGCCAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATGCT encoded by the human genome.

GAM336813 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336813 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336813 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336813 precursor RNA is designated SEQ ID:141269, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141269 is located from position 46977314 to position 46977398 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336813 precursor RNA folds onto itself, forming GAM336813 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336813 precursor RNA, designated SEQ ID NO: 141269, and a schematic representation of a predicted secondary folding of GAM336813 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336813 folded precursor RNA yielding a GAM336813 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336813 RNA, hereby incorporated herein.

GAM336813 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336813 target RNA, herein designated GAM TARGET RNA.

GAM336813 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336813 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336813 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336813 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336813 RNA, herein designated GAM RNA, to target binding sites on GAM336813 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336813 target RNA into GAM336813 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336813 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336813 target genes. The mRNA of each one of this plurality of GAM336813 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336813 RNA, herein designated GAM RNA, and which when bound by GAM336813 RNA causes inhibition of translation of the GAM336813 target mRNA into a corresponding GAM336813 target protein.

The mechanism of the translational inhibition exerted by GAM336813 RNA, herein

designated GAM RNA, on one or more GAM336813 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336813 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336813 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336813 RNA, herein designated GAM RNA, of GAM336813 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336813 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336813 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336813 RNA correlate with, and may be deduced from, the identity of the GAM336813 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336814 141270 GCAGCTGCAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AAAACACAGC detected oligonucleotides of the present invention, referred to here as Genomic Address
CGAGTTGCTA Messenger 336814 (GAM336814) oligonucleotides modulates expression of respective target
GCTAAGGGGA genes whose function and utility is known in the art.

AACAGACGCC GAM336814 is a novel bioinformatically detectable regulatory, non protein
GCTGTGGGAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336814 was detected
AGCACTTGT is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336814 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336814 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336814 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336814 precursor RNA is designated SEQ ID:141270, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141270 is located from position 47053946 to position 47054014

relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336814 precursor RNA folds onto itself, forming GAM336814 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336814 precursor RNA, designated SEQ ID NO: 141270, and a schematic representation of a predicted secondary folding of GAM336814 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336814 folded precursor RNA yielding a GAM336814 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336814 RNA, hereby incorporated herein.

GAM336814 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336814 target RNA, herein designated GAM TARGET RNA.

GAM336814 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336814 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336814 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336814 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336814 RNA, herein designated GAM RNA, to target binding sites on GAM336814 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336814 target RNA into GAM336814 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336814 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336814 target genes. The mRNA of each one of this plurality of GAM336814 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336814 RNA, herein designated GAM RNA, and which when bound by GAM336814 RNA causes inhibition of translation of the GAM336814 target mRNA into a corresponding GAM336814 target protein.

The mechanism of the translational inhibition exerted by GAM336814 RNA, herein designated GAM RNA, on one or more GAM336814 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336814 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336814 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336814 RNA, herein designated GAM RNA, of GAM336814 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336814 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336814 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336814 RNA correlate with, and may be deduced from, the identity of the GAM336814 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336815 141271 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

AGATCACTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGCCCAGGAG Messenger 336815 (GAM336815) oligonucleotides modulates expression of respective target

GTGGAGGCTG genes whose function and utility is known in the art.

CAGTGACCCA GAM336815 is a novel bioinformatically detectable regulatory, non protein

TATTCATGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336815 was detected

ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAGAGTGAG encoded by the human genome.

ACCCTCTCTC GAM336815 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

A GAM336815 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336815 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336815 precursor RNA is designated SEQ ID:141271, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141271 is located from position 47056630 to position 47056730 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM336815 precursor RNA folds onto itself, forming GAM336815 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336815 precursor RNA, designated SEQ ID NO: 141271, and a schematic representation of a predicted secondary folding of GAM336815 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336815 folded precursor RNA yielding a GAM336815 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336815 RNA, hereby incorporated herein. Expression of GAM336815 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336815 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336815 target RNA, herein designated GAM TARGET RNA.

GAM336815 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336815 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336815 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336815 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336815 RNA, herein designated GAM RNA, to target binding sites on GAM336815 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336815 target RNA into GAM336815 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336815 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336815 target genes. The mRNA of each one of this plurality of GAM336815 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336815 RNA, herein designated GAM RNA, and which when bound by GAM336815 RNA causes inhibition of translation of the GAM336815 target mRNA into a corresponding GAM336815 target protein.

The mechanism of the translational inhibition exerted by GAM336815 RNA, herein designated GAM RNA, on one or more GAM336815 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336815 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336815 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336815 RNA, herein designated GAM RNA, of GAM336815 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336815 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336815 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336815 RNA correlate with, and may be deduced from, the identity of the GAM336815 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336816 141272 CTGCAATGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GTTTACTTAT detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGATGAAAC Messenger 336816 (GAM336816) oligonucleotides modulates expression of respective target

TGTATCAGAC genes whose function and utility is known in the art.

TTTGTAGTGG GAM336816 is a novel bioinformatically detectable regulatory, non protein
CTGTGCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336816 was detected
TGATATCCTG is described with additional reference to Figs. 9-15.

GCCAGTAGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGTGCGTGCA encoded by the human genome.

G GAM336816 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336816 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336816 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336816 precursor RNA is designated SEQ ID:141272, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141272 is located from position 47073422 to position 47073512 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336816 precursor RNA folds onto itself, forming GAM336816 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336816 precursor RNA, designated SEQ ID NO: 141272, and a schematic representation of a predicted secondary folding of GAM336816 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336816 folded precursor RNA yielding a GAM336816 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336816 RNA, hereby incorporated herein.

GAM336816 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336816 target RNA, herein designated GAM TARGET RNA.

GAM336816 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336816 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM336816 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336816 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336816 RNA, herein designated GAM RNA, to target binding sites on GAM336816 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336816 target RNA into GAM336816 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336816 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336816 target genes. The mRNA of each one of this plurality of GAM336816 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336816 RNA, herein designated GAM RNA, and which when bound by GAM336816 RNA causes inhibition of translation of the GAM336816 target mRNA into a corresponding GAM336816 target protein.

The mechanism of the translational inhibition exerted by GAM336816 RNA, herein designated GAM RNA, on one or more GAM336816 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336816 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336816 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336816 RNA, herein designated GAM RNA, of GAM336816 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336816 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336816 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336816 RNA correlate with, and may be deduced from, the identity of the GAM336816 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336817 141273 GCAATGCTGT Fig. 8 further provides a conceptual description of another novel bioinformatically
TTACTTATAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GATGAAACTG Messenger 336817 (GAM336817) oligonucleotides modulates expression of respective target
TATCAGACTT genes whose function and utility is known in the art.

TGTAGTGGCT GAM336817 is a novel bioinformatically detectable regulatory, non protein
GTGCATGTTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336817 was detected
ATATCCTGGC is described with additional reference to Figs. 9-15.

CAGTAGGCAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGCGTGC encoded by the human genome.

GAM336817 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336817 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336817 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336817 precursor RNA is designated SEQ ID:141273, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141273 is located from position 47073424 to position 47073510 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336817 precursor RNA folds onto itself, forming GAM336817 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336817 precursor RNA, designated SEQ ID NO: 141273, and a schematic representation of a predicted secondary folding of GAM336817 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336817 folded precursor RNA yielding a GAM336817 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336817 RNA, hereby incorporated herein.

GAM336817 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336817 target RNA, herein designated GAM TARGET RNA.

GAM336817 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336817 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336817 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336817 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336817 RNA, herein designated GAM RNA, to target binding sites on GAM336817 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336817 target RNA into GAM336817 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336817 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336817 target genes. The mRNA of each one of this plurality of GAM336817 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336817 RNA, herein designated GAM RNA, and which when bound by GAM336817 RNA causes inhibition of translation of the GAM336817 target mRNA into a corresponding GAM336817 target protein.

The mechanism of the translational inhibition exerted by GAM336817 RNA, herein designated GAM RNA, on one or more GAM336817 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336817 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336817 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336817 RNA, herein designated GAM RNA, of GAM336817 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM336817 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336817 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336817 RNA correlate with, and may be deduced from, the identity of the GAM336817 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336818 141274 CCCTGGCTGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GGTGGGATCC detected oligonucleotides of the present invention, referred to here as Genomic Address
CGAGGCCTCT Messenger 336818 (GAM336818) oligonucleotides modulates expression of respective target
CCAGTCCCCT genes whose function and utility is known in the art.

GAGGGTGCAC GAM336818 is a novel bioinformatically detectable regulatory, non protein
CACTGGCCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336818 was detected
TCTCACCCAG is described with additional reference to Figs. 9-15.

GG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336818 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336818 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336818 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336818 precursor RNA is designated SEQ ID:141274, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141274 is located from position 47279033 to position 47279105 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336818 precursor RNA folds onto itself, forming GAM336818 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin
structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336818 precursor RNA, designated SEQ ID NO: 141274, and a schematic representation of a predicted secondary folding of GAM336818 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336818 folded precursor RNA yielding a GAM336818 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336818 RNA, hereby incorporated herein. Expression of GAM336818 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336818 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336818 target RNA, herein designated GAM TARGET RNA.

GAM336818 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336818 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336818 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336818 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336818 RNA, herein designated GAM RNA, to target binding sites on GAM336818 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336818 target RNA into GAM336818 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336818 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336818 target genes. The mRNA of each one of this plurality of GAM336818 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336818 RNA, herein designated GAM RNA, and which when bound by GAM336818 RNA causes inhibition of translation of the GAM336818 target mRNA into a corresponding GAM336818 target protein.

The mechanism of the translational inhibition exerted by GAM336818 RNA, herein designated GAM RNA, on one or more GAM336818 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336818 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336818 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336818 RNA, herein designated GAM RNA, of GAM336818 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336818 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336818 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336818 RNA correlate with, and may be deduced from, the identity of the GAM336818 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336819 141275 AAAAGCCATG Fig. 8 further provides a conceptual description of another novel bioinformatically

TTACAGATGG detected oligonucleotides of the present invention, referred to here as Genomic Address

CTCTCCTTGG Messenger 336819 (GAM336819) oligonucleotides modulates expression of respective target

ATGGCTATTC genes whose function and utility is known in the art.

CAGTCGGTTT GAM336819 is a novel bioinformatically detectable regulatory, non protein

CCGGGGCTGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336819 was detected

CTGGCCCACT is described with additional reference to Figs. 9-15.

CCATTTAGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGTGTAGCTG encoded by the human genome.

TGAGTGTATT GAM336819 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TT GAM336819 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336819 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336819 precursor RNA is designated SEQ ID:141275, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141275 is located from position 47313354 to position 47313455 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336819 precursor RNA folds onto itself, forming GAM336819 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336819 precursor RNA, designated SEQ ID NO: 141275, and a schematic representation of a predicted secondary folding of GAM336819 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336819 folded precursor RNA yielding a GAM336819 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336819 RNA, hereby incorporated herein.

GAM336819 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336819 target RNA, herein designated GAM TARGET RNA.

GAM336819 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336819 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336819 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336819 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336819 RNA, herein designated GAM RNA, to target binding sites on GAM336819 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336819 target RNA into GAM336819 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336819 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336819 target genes. The mRNA of each one of this plurality of GAM336819 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336819 RNA, herein designated GAM RNA, and which when bound by GAM336819 RNA causes inhibition of

translation of the GAM336819 target mRNA into a corresponding GAM336819 target protein.

The mechanism of the translational inhibition exerted by GAM336819 RNA, herein designated GAM RNA, on one or more GAM336819 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336819 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336819 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336819 RNA, herein designated GAM RNA, of GAM336819 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336819 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336819 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336819 RNA correlate with, and may be deduced from, the identity of the GAM336819 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336820 141276 TGAGGCAAGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TCAGAAAAGG detected oligonucleotides of the present invention, referred to here as Genomic Address
TCAGGCAATT Messenger 336820 (GAM336820) oligonucleotides modulates expression of respective target
TTTGCCTTGT genes whose function and utility is known in the art.

TCATTGCAAC GAM336820 is a novel bioinformatically detectable regulatory, non protein
ACTCCCTTTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336820 was detected
GAGCTCTGAG is described with additional reference to Figs. 9-15.

TTTAAGCTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAAGTCTGAC encoded by the human genome.

TACCTTGCTG GAM336820 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CCA GAM336820 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336820 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336820 precursor RNA is designated SEQ ID:141276, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141276 is located from position 47490707 to position 47490809 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM336820 precursor RNA folds onto itself, forming GAM336820 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336820 precursor RNA, designated SEQ ID NO: 141276, and a schematic representation of a predicted secondary folding of GAM336820 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336820 folded precursor RNA yielding a GAM336820 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336820 RNA, hereby incorporated herein.

GAM336820 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336820 target RNA, herein designated GAM TARGET RNA.

GAM336820 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336820 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336820 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336820 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336820 RNA, herein designated GAM RNA, to target binding sites on GAM336820 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336820 target RNA into GAM336820 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336820 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336820 target genes. The mRNA of each one of this plurality of GAM336820 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336820 RNA, herein designated GAM RNA, and which when bound by GAM336820 RNA causes inhibition of translation of the GAM336820 target mRNA into a corresponding GAM336820 target protein.

The mechanism of the translational inhibition exerted by GAM336820 RNA, herein designated GAM RNA, on one or more GAM336820 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336820 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336820 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336820 RNA, herein designated GAM RNA, of GAM336820 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336820 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336820 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336820 RNA correlate with, and may be deduced from, the identity of the GAM336820 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336821 141277 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

AGATCACTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGCCCAGGAG Messenger 336821 (GAM336821) oligonucleotides modulates expression of respective target

GTGGAGGCTG genes whose function and utility is known in the art.

CAGTGACCCA GAM336821 is a novel bioinformatically detectable regulatory, non protein

TATTCATGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336821 was detected

ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAGAGTGAG encoded by the human genome.

ACCCTCTCTC GAM336821 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

A GAM336821 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336821 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336821 precursor RNA is designated SEQ ID:141277, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141277 is located from position 47538323 to position 47538423 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336821 precursor RNA folds onto itself, forming GAM336821 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336821 precursor RNA, designated SEQ ID NO: 141277, and a schematic representation of a predicted secondary folding of GAM336821 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336821 folded precursor RNA yielding a GAM336821 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336821 RNA, hereby incorporated herein. Expression of GAM336821 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336821 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336821 target RNA, herein designated GAM TARGET RNA.

GAM336821 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336821 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336821 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336821 RNA is a partial or fully complementary sequence of the

nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336821 RNA, herein designated GAM RNA, to target binding sites on GAM336821 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336821 target RNA into GAM336821 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336821 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336821 target genes. The mRNA of each one of this plurality of GAM336821 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336821 RNA, herein designated GAM RNA, and which when bound by GAM336821 RNA causes inhibition of translation of the GAM336821 target mRNA into a corresponding GAM336821 target protein.

The mechanism of the translational inhibition exerted by GAM336821 RNA, herein designated GAM RNA, on one or more GAM336821 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336821 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336821 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336821 RNA, herein designated GAM RNA, of GAM336821 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336821 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336821 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336821 RNA correlate with, and may be deduced from, the identity of the GAM336821 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336822 141278 CCGTCACAGC Fig. 8 further provides a conceptual description of another novel bioinformatically
ACTTGCCCTC detected oligonucleotides of the present invention, referred to here as Genomic Address
AATGTTCATC Messenger 336822 (GAM336822) oligonucleotides modulates expression of respective target
ACTGAAGACA genes whose function and utility is known in the art.

AGCATGTGAT GAM336822 is a novel bioinformatically detectable regulatory, non protein
TTTCTCATCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336822 was detected
CATCCTCCCA is described with additional reference to Figs. 9-15.

CTTCAAGTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGCAGGGCAG encoded by the human genome.

TGAGG GAM336822 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336822 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336822 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336822 precursor RNA is designated SEQ ID:141278, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141278 is located from position 47560720 to position 47560814 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336822 precursor RNA folds onto itself, forming GAM336822 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336822 precursor RNA, designated SEQ ID NO: 141278, and a schematic representation of a predicted secondary folding of GAM336822 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336822 folded precursor RNA yielding a GAM336822 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336822 RNA, hereby incorporated herein.

GAM336822 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336822 target RNA, herein designated GAM TARGET RNA.

GAM336822 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336822 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336822 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336822 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336822 RNA, herein designated GAM RNA, to target binding sites on GAM336822 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336822 target RNA into GAM336822 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336822 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336822 target genes. The mRNA of each one of this plurality of GAM336822 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336822 RNA, herein designated GAM RNA, and which when bound by GAM336822 RNA causes inhibition of translation of the GAM336822 target mRNA into a corresponding GAM336822 target protein.

The mechanism of the translational inhibition exerted by GAM336822 RNA, herein designated GAM RNA, on one or more GAM336822 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336822 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336822 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336822 RNA, herein designated GAM RNA, of GAM336822 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336822 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336822 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336822 RNA correlate with, and may be deduced from, the identity of the GAM336822 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336823 141279 AGGGTGTGCA Fig. 8 further provides a conceptual description of another novel bioinformatically

CTGGGCAAGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GCAGGGCGGC Messenger 336823 (GAM336823) oligonucleotides modulates expression of respective target

AGGTGTCAGG genes whose function and utility is known in the art.

CCGGCTTGGA GAM336823 is a novel bioinformatically detectable regulatory, non protein

CAATGAAACC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336823 was detected

CTGACCTTGC is described with additional reference to Figs. 9-15.

TGCATTCCTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336823 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336823 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336823 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336823 precursor RNA is designated SEQ ID:141279, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141279 is located from position 47606004 to position 47606083 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM336823 precursor RNA folds onto itself, forming GAM336823 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336823 precursor RNA, designated SEQ ID NO: 141279, and a schematic representation of a predicted secondary folding of GAM336823 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336823 folded precursor RNA yielding a GAM336823 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336823 RNA, hereby incorporated herein.

GAM336823 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336823 target RNA, herein designated GAM TARGET RNA.

GAM336823 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336823 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336823 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336823 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336823 RNA, herein designated GAM RNA, to target binding sites on GAM336823 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336823 target RNA into GAM336823 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336823 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336823 target genes. The mRNA of each one of this plurality of GAM336823 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336823 RNA, herein designated GAM RNA, and which when bound by GAM336823 RNA causes inhibition of translation of the GAM336823 target mRNA into a corresponding GAM336823 target protein.

The mechanism of the translational inhibition exerted by GAM336823 RNA, herein designated GAM RNA, on one or more GAM336823 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336823 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336823 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336823 RNA, herein designated GAM RNA, of

GAM336823 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336823 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336823 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336823 RNA correlate with, and may be deduced from, the identity of the GAM336823 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336824 141280 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGCAGAGG Messenger 336824 (GAM336824) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

CCGAGATCGC GAM336824 is a novel bioinformatically detectable regulatory, non protein

ACTACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336824 was detected

TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGACTCC encoded by the human genome.

GAM336824 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336824 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336824 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336824 precursor RNA is designated SEQ ID:141280, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141280 is located from position 47747389 to position 47747476 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM336824 precursor RNA folds onto itself, forming GAM336824 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336824 precursor RNA, designated SEQ ID NO: 141280,

and a schematic representation of a predicted secondary folding of GAM336824 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336824 folded precursor RNA yielding a GAM336824 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336824 RNA, hereby incorporated herein. Expression of GAM336824 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336824 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336824 target RNA, herein designated GAM TARGET RNA.

GAM336824 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336824 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336824 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336824 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336824 RNA, herein designated GAM RNA, to target binding sites on GAM336824 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336824 target RNA into GAM336824 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336824 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336824 target genes. The mRNA of each one of this plurality of GAM336824 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336824 RNA, herein designated GAM RNA, and which when bound by GAM336824 RNA causes inhibition of translation of the GAM336824 target mRNA into a corresponding GAM336824 target protein.

The mechanism of the translational inhibition exerted by GAM336824 RNA, herein designated GAM RNA, on one or more GAM336824 target genes, herein collectively designated

GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336824 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336824 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336824 RNA, herein designated GAM RNA, of GAM336824 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336824 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336824 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336824 RNA correlate with, and may be deduced from, the identity of the GAM336824 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336825 141281 GAGAATCGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

TGAACCCAGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGACTGAGGT Messenger 336825 (GAM336825) oligonucleotides modulates expression of respective target

TGCAGTGAGC genes whose function and utility is known in the art.

TGAGATCATG GAM336825 is a novel bioinformatically detectable regulatory, non protein

CAACTGCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336825 was detected

CCAGCCTGGG is described with additional reference to Figs. 9-15.

CAACACAGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGACTTCATC encoded by the human genome.

TC GAM336825 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336825 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336825 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336825 precursor RNA is designated SEQ ID:141281, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141281 is located from position 47783494 to position 47783585 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM336825 precursor RNA folds onto itself, forming GAM336825 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336825 precursor RNA, designated SEQ ID NO: 141281, and a schematic representation of a predicted secondary folding of GAM336825 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336825 folded precursor RNA yielding a GAM336825 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336825 RNA, hereby incorporated herein. Expression of GAM336825 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336825 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336825 target RNA, herein designated GAM TARGET RNA.

GAM336825 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336825 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336825 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336825 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336825 RNA, herein designated GAM RNA, to target binding sites on GAM336825 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336825 target RNA into GAM336825 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336825 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336825 target genes. The mRNA of each one of this plurality of GAM336825 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336825 RNA, herein designated GAM RNA, and which when bound by GAM336825 RNA causes inhibition of translation of the GAM336825 target mRNA into a corresponding GAM336825 target protein.

The mechanism of the translational inhibition exerted by GAM336825 RNA, herein designated GAM RNA, on one or more GAM336825 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336825 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336825 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336825 RNA, herein designated GAM RNA, of GAM336825 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336825 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336825 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336825 RNA correlate with, and may be deduced from, the identity of the GAM336825 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336826 141282 GCTTGAACCC Fig. 8 further provides a conceptual description of another novel bioinformatically

AGGAGACTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GGTTGCAGTG Messenger 336826 (GAM336826) oligonucleotides modulates expression of respective target

AGCTGAGATC genes whose function and utility is known in the art.

ATGCAACTGC GAM336826 is a novel bioinformatically detectable regulatory, non protein

ACTCCAGCCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336826 was detected

GGGCAACACA is described with additional reference to Figs. 9-15.

GC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336826 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336826 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336826 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336826 precursor RNA is designated SEQ ID:141282, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141282 is located from position 47783507 to position 47783578 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM336826 precursor RNA folds onto itself, forming GAM336826 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336826 precursor RNA, designated SEQ ID NO: 141282, and a schematic representation of a predicted secondary folding of GAM336826 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336826 folded precursor RNA yielding a GAM336826 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336826 RNA, hereby incorporated herein. Expression of GAM336826 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336826 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336826 target RNA, herein designated GAM TARGET RNA.

GAM336826 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336826 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336826 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336826 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336826 RNA, herein designated GAM RNA, to target binding sites on GAM336826 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336826 target RNA into GAM336826 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336826 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336826 target genes. The mRNA of each one of this plurality of GAM336826 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336826 RNA, herein designated GAM RNA, and which when bound by GAM336826 RNA causes inhibition of translation of the GAM336826 target mRNA into a corresponding GAM336826 target protein.

The mechanism of the translational inhibition exerted by GAM336826 RNA, herein designated GAM RNA, on one or more GAM336826 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336826 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336826 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336826 RNA, herein designated GAM RNA, of GAM336826 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336826 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336826 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336826 RNA correlate with, and may be deduced from, the identity of the GAM336826 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336827 141283 TTCTCTGTCT Fig. 8 further provides a conceptual description of another novel bioinformatically

TCCATTCCCC detected oligonucleotides of the present invention, referred to here as Genomic Address

TCCTACGCCC Messenger 336827 (GAM336827) oligonucleotides modulates expression of respective target

CCAGACTGTG genes whose function and utility is known in the art.

AGGGGTGTAA GAM336827 is a novel bioinformatically detectable regulatory, non protein
GGAAGATGGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336827 was detected
AGATGTTGCG is described with additional reference to Figs. 9-15.

GGAGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336827 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336827 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336827 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336827 precursor RNA is designated SEQ ID:141283, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141283 is located from position 47935242 to position 47935317 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336827 precursor RNA folds onto itself, forming GAM336827 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336827 precursor RNA, designated SEQ ID NO: 141283, and a schematic representation of a predicted secondary folding of GAM336827 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336827 folded precursor RNA yielding a GAM336827 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336827 RNA, hereby incorporated herein.

GAM336827 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336827 target RNA, herein designated GAM TARGET RNA.

GAM336827 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336827 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM336827 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336827 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336827 RNA, herein designated GAM RNA, to target binding sites on GAM336827 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336827 target RNA into GAM336827 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336827 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336827 target genes. The mRNA of each one of this plurality of GAM336827 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336827 RNA, herein designated GAM RNA, and which when bound by GAM336827 RNA causes inhibition of translation of the GAM336827 target mRNA into a corresponding GAM336827 target protein.

The mechanism of the translational inhibition exerted by GAM336827 RNA, herein designated GAM RNA, on one or more GAM336827 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336827 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336827 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336827 RNA, herein designated GAM RNA, of GAM336827 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336827 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336827 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336827 RNA correlate with, and may be deduced from, the identity of the GAM336827 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336828 141284 TCTCTGTCTT Fig. 8 further provides a conceptual description of another novel bioinformatically
CCATTCCCCT detected oligonucleotides of the present invention, referred to here as Genomic Address
CCTACGCCCC Messenger 336828 (GAM336828) oligonucleotides modulates expression of respective target
CAGACTGTGA genes whose function and utility is known in the art.

GGGGTGTAAG GAM336828 is a novel bioinformatically detectable regulatory, non protein
GAAGATGGAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336828 was detected
GATGTTGCGG is described with additional reference to Figs. 9-15.

GAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336828 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336828 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336828 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336828 precursor RNA is designated SEQ ID:141284, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141284 is located from position 47935243 to position 47935316 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336828 precursor RNA folds onto itself, forming GAM336828 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336828 precursor RNA, designated SEQ ID NO: 141284, and a schematic representation of a predicted secondary folding of GAM336828 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336828 folded precursor RNA yielding a GAM336828 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336828 RNA, hereby incorporated herein.

GAM336828 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336828 target RNA, herein designated GAM TARGET RNA.

GAM336828 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336828 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336828 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336828 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336828 RNA, herein designated GAM RNA, to target binding sites on GAM336828 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336828 target RNA into GAM336828 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336828 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336828 target genes. The mRNA of each one of this plurality of GAM336828 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336828 RNA, herein designated GAM RNA, and which when bound by GAM336828 RNA causes inhibition of translation of the GAM336828 target mRNA into a corresponding GAM336828 target protein.

The mechanism of the translational inhibition exerted by GAM336828 RNA, herein designated GAM RNA, on one or more GAM336828 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336828 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336828 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336828 RNA, herein designated GAM RNA, of GAM336828 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM336828 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336828 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336828 RNA correlate with, and may be deduced from, the identity of the GAM336828 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336829 141285 TCTCAACTTC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTTATGTCTC detected oligonucleotides of the present invention, referred to here as Genomic Address
TGTACAGTGG Messenger 336829 (GAM336829) oligonucleotides modulates expression of respective target
GTGTAGGGAC genes whose function and utility is known in the art.

CAGCCACACA GAM336829 is a novel bioinformatically detectable regulatory, non protein
GGGTCGGTGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336829 was detected
GTTTTTCTCC is described with additional reference to Figs. 9-15.

CCGTGTGCAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGATGAGAGA encoded by the human genome.

TTGTAGA GAM336829 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336829 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336829 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336829 precursor RNA is designated SEQ ID:141285, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141285 is located from position 47956679 to position 47956775 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336829 precursor RNA folds onto itself, forming GAM336829 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336829 precursor RNA, designated SEQ ID NO: 141285, and a schematic representation of a predicted secondary folding of GAM336829 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336829 folded precursor RNA yielding a GAM336829 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336829 RNA, hereby incorporated herein.

GAM336829 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336829 target RNA, herein designated GAM TARGET RNA.

GAM336829 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336829 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336829 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336829 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336829 RNA, herein designated GAM RNA, to target binding sites on GAM336829 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336829 target RNA into GAM336829 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336829 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336829 target genes. The mRNA of each one of this plurality of GAM336829 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336829 RNA, herein designated GAM RNA, and which when bound by GAM336829 RNA causes inhibition of translation of the GAM336829 target mRNA into a corresponding GAM336829 target protein.

The mechanism of the translational inhibition exerted by GAM336829 RNA, herein designated GAM RNA, on one or more GAM336829 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336829 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336829 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336829 RNA, herein designated GAM RNA, of GAM336829 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336829 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336829 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336829 RNA correlate with, and may be deduced from, the identity of the GAM336829 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336830 141286 CCCTCAGCAC Fig. 8 further provides a conceptual description of another novel bioinformatically
AGGTTTTGGC detected oligonucleotides of the present invention, referred to here as Genomic Address
TCTTAGAATG Messenger 336830 (GAM336830) oligonucleotides modulates expression of respective target
GGTTTTTTAA genes whose function and utility is known in the art.

AAAAAGGATC GAM336830 is a novel bioinformatically detectable regulatory, non protein
TTTCTTAATT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336830 was detected
CCAGGACTCC is described with additional reference to Figs. 9-15.

TGAGTTGGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
G encoded by the human genome.

GAM336830 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336830 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336830 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336830 precursor RNA is designated SEQ ID:141286, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141286 is located from position 47994779 to position 47994859 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336830 precursor RNA folds onto itself, forming GAM336830 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336830 precursor RNA, designated SEQ ID NO: 141286, and a schematic representation of a predicted secondary folding of GAM336830 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336830 folded precursor RNA yielding a GAM336830 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336830 RNA, hereby incorporated herein.

GAM336830 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336830 target RNA, herein designated GAM TARGET RNA.

GAM336830 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336830 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336830 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336830 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336830 RNA, herein designated GAM RNA, to target binding sites on GAM336830 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336830 target RNA into GAM336830 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336830 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336830 target genes. The mRNA of each one of this plurality of GAM336830 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336830 RNA, herein designated GAM RNA, and which when bound by GAM336830 RNA causes inhibition of translation of the GAM336830 target mRNA into a corresponding GAM336830 target protein.

The mechanism of the translational inhibition exerted by GAM336830 RNA, herein designated GAM RNA, on one or more GAM336830 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336830 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336830 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336830 RNA, herein designated GAM RNA, of GAM336830 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336830 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336830 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336830 RNA correlate with, and may be deduced from, the identity of the GAM336830 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336831 141287 TCATGCGTTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTCATTTCTG detected oligonucleotides of the present invention, referred to here as Genomic Address

TACCTCCCAA Messenger 336831 (GAM336831) oligonucleotides modulates expression of respective target

CTCAATGCTT genes whose function and utility is known in the art.

AGCACCCAGC GAM336831 is a novel bioinformatically detectable regulatory, non protein

AGGGGCTCAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336831 was detected

GACTGTGTGT is described with additional reference to Figs. 9-15.

GGAATGAAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATTCGTGTGA encoded by the human genome.

GAM336831 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336831 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336831 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336831 precursor RNA is designated SEQ ID:141287, and is provided hereinbelow with reference to the sequence listing part.

Nucleotide sequence SEQ ID:141287 is located from position 48094346 to position 48094435 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336831 precursor RNA folds onto itself, forming GAM336831 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336831 precursor RNA, designated SEQ ID NO: 141287, and a schematic representation of a predicted secondary folding of GAM336831 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336831 folded precursor RNA yielding a GAM336831 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336831 RNA, hereby incorporated herein.

GAM336831 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336831 target RNA, herein designated GAM TARGET RNA.

GAM336831 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336831 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336831 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336831 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336831 RNA, herein designated GAM RNA, to target binding sites on GAM336831 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336831 target RNA into GAM336831 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336831 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336831 target genes. The mRNA of each one of this plurality of GAM336831 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336831 RNA, herein designated GAM RNA, and which when bound by GAM336831 RNA causes inhibition of translation of the GAM336831 target mRNA into a corresponding GAM336831 target protein.

The mechanism of the translational inhibition exerted by GAM336831 RNA, herein designated GAM RNA, on one or more GAM336831 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336831 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336831 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336831 RNA, herein designated GAM RNA, of GAM336831 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336831 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336831 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336831 RNA correlate with, and may be deduced from, the identity of the GAM336831 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336832 141288 ATTTCCTGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GCCAGCTTAA detected oligonucleotides of the present invention, referred to here as Genomic Address

TACTCACCAG Messenger 336832 (GAM336832) oligonucleotides modulates expression of respective target

GGCAGATTCA genes whose function and utility is known in the art.

CACCAAGTTG GAM336832 is a novel bioinformatically detectable regulatory, non protein

GGGTTTCAGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336832 was detected

GGCAGTCAGG is described with additional reference to Figs. 9-15.

AAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336832 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336832 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336832 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336832 precursor RNA is designated SEQ ID:141288, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141288 is located from position 48134831 to position 48134904 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336832 precursor RNA folds onto itself, forming GAM336832 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336832 precursor RNA, designated SEQ ID NO: 141288, and a schematic representation of a predicted secondary folding of GAM336832 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336832 folded precursor RNA yielding a GAM336832 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336832 RNA, hereby incorporated herein.

GAM336832 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336832 target RNA, herein designated GAM TARGET RNA.

GAM336832 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336832 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336832 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336832 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336832 RNA, herein designated GAM RNA, to target binding sites on GAM336832 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336832 target RNA into GAM336832 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336832 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336832 target genes. The mRNA of each one of this plurality of GAM336832 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336832 RNA, herein designated GAM RNA, and which when bound by GAM336832 RNA causes inhibition of translation of the GAM336832 target mRNA into a corresponding GAM336832 target protein.

The mechanism of the translational inhibition exerted by GAM336832 RNA, herein designated GAM RNA, on one or more GAM336832 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336832 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336832 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336832 RNA, herein designated GAM RNA, of GAM336832 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336832 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336832 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336832 RNA correlate with, and may be deduced from, the identity of the GAM336832 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336833 141289 GAGATGGCAA Fig. 8 further provides a conceptual description of another novel bioinformatically

TTTAAACTGC detected oligonucleotides of the present invention, referred to here as Genomic Address

TTTGATGACC Messenger 336833 (GAM336833) oligonucleotides modulates expression of respective target

AGGTTTCATT genes whose function and utility is known in the art.

AGGTAAGAAG GAM336833 is a novel bioinformatically detectable regulatory, non protein
GCCCGATTAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336833 was detected
GCAACGGTGG is described with additional reference to Figs. 9-15.

CCCAAATAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTCAGTGGTT encoded by the human genome.

CAGACACTGT GAM336833 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TTTTCAAAGC GAM336833 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
CAGCAGAAGT GAM336833 precursor RNA does not encode a protein. A nucleotide sequence identical or

CTTGCCAAAT highly similar to the nucleotide sequence of GAM336833 precursor RNA is designated SEQ

T ID:141289, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141289 is located from position 48164886 to position 48165016 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GAM336833 precursor RNA folds onto itself, forming GAM336833 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336833 precursor RNA, designated SEQ ID NO: 141289, and a schematic representation of a predicted secondary folding of GAM336833 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336833 folded precursor RNA yielding a GAM336833 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336833 RNA, hereby incorporated herein.

GAM336833 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336833 target RNA, herein designated GAM TARGET RNA.

GAM336833 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336833 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336833 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336833 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336833 RNA, herein designated GAM RNA, to target binding sites on GAM336833 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336833 target RNA into GAM336833 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336833 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336833 target genes. The mRNA of each one of this plurality of GAM336833 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336833 RNA, herein designated GAM RNA, and which when bound by GAM336833 RNA causes inhibition of translation of the GAM336833 target mRNA into a corresponding GAM336833 target protein.

The mechanism of the translational inhibition exerted by GAM336833 RNA, herein designated GAM RNA, on one or more GAM336833 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336833 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336833 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336833 RNA, herein designated GAM RNA, of GAM336833 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336833 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336833 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336833

RNA correlate with, and may be deduced from, the identity of the GAM336833 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336834 141290 GCTTTGATGA CCAGGTTTCA TTAGGTAAGA AGGCCCGATT AAGCAACGGT GGCCCAAATA ACCTCAGTGG TTCAGACACT GTTTTTCAAA GC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336834 (GAM336834) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336834 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336834 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336834 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336834 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336834 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336834 precursor RNA is designated SEQ ID:141290, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141290 is located from position 48164907 to position 48164998 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GAM336834 precursor RNA folds onto itself, forming GAM336834 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336834 precursor RNA, designated SEQ ID NO: 141290, and a schematic representation of a predicted secondary folding of GAM336834 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336834 folded precursor RNA yielding a GAM336834 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly

similar to the nucleotide sequence of GAM336834 RNA, hereby incorporated herein.

GAM336834 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336834 target RNA, herein designated GAM TARGET RNA.

GAM336834 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336834 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336834 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336834 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336834 RNA, herein designated GAM RNA, to target binding sites on GAM336834 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336834 target RNA into GAM336834 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336834 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336834 target genes. The mRNA of each one of this plurality of GAM336834 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336834 RNA, herein designated GAM RNA, and which when bound by GAM336834 RNA causes inhibition of translation of the GAM336834 target mRNA into a corresponding GAM336834 target protein.

The mechanism of the translational inhibition exerted by GAM336834 RNA, herein designated GAM RNA, on one or more GAM336834 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336834 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336834 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336834 RNA, herein designated GAM RNA, of GAM336834 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336834 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336834 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336834 RNA correlate with, and may be deduced from, the identity of the GAM336834 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336835 141291 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
AGATCACTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGCCCAGGAG Messenger 336835 (GAM336835) oligonucleotides modulates expression of respective target
GTGGAGGCTG genes whose function and utility is known in the art.

CAGTGACCCA GAM336835 is a novel bioinformatically detectable regulatory, non protein
TATTCATGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336835 was detected
ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAGAGTGAG encoded by the human genome.

ACCCTCTCTC GAM336835 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
A GAM336835 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336835 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336835 precursor RNA is designated SEQ ID:141291, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141291 is located from position 48175291 to position 48175391 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336835 precursor RNA folds onto itself, forming GAM336835 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336835 precursor RNA, designated SEQ ID NO: 141291, and a schematic representation of a predicted secondary folding of GAM336835 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336835 folded precursor RNA yielding a GAM336835 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336835 RNA, hereby incorporated herein. Expression of GAM336835 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336835 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336835 target RNA, herein designated GAM TARGET RNA.

GAM336835 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336835 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336835 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336835 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336835 RNA, herein designated GAM RNA, to target binding sites on GAM336835 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336835 target RNA into GAM336835 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336835 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336835 target genes. The mRNA of each one of this plurality of GAM336835 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336835 RNA, herein designated GAM RNA, and which when bound by GAM336835 RNA causes inhibition of translation of the GAM336835 target mRNA into a corresponding GAM336835 target protein.

The mechanism of the translational inhibition exerted by GAM336835 RNA, herein designated GAM RNA, on one or more GAM336835 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336835 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336835 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336835 RNA, herein designated GAM RNA, of GAM336835 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336835 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336835 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336835 RNA correlate with, and may be deduced from, the identity of the GAM336835 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336836 141292 TCTTTTTCTC Fig. 8 further provides a conceptual description of another novel bioinformatically

AGTGTCTCTG detected oligonucleotides of the present invention, referred to here as Genomic Address

TTGTGGCAGT Messenger 336836 (GAM336836) oligonucleotides modulates expression of respective target

CATGAATGAG genes whose function and utility is known in the art.

ACTCTGTCAG GAM336836 is a novel bioinformatically detectable regulatory, non protein

ATCTCCATGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336836 was detected

CAGGGACCTG is described with additional reference to Figs. 9-15.

ATTGACAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336836 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336836 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336836 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336836 precursor RNA is designated SEQ ID:141292, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141292 is located from position 48190562 to position 48190640 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336836 precursor RNA folds onto itself, forming GAM336836 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336836 precursor RNA, designated SEQ ID NO: 141292, and a schematic representation of a predicted secondary folding of GAM336836 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336836 folded precursor RNA yielding a GAM336836 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336836 RNA, hereby incorporated herein.

GAM336836 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336836 target RNA, herein designated GAM TARGET RNA.

GAM336836 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336836 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336836 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336836 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336836 RNA, herein designated GAM RNA, to target binding sites on GAM336836 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336836 target RNA into GAM336836 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336836 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336836 target genes. The mRNA of each one of this plurality of GAM336836 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336836 RNA, herein designated GAM RNA, and which when bound by GAM336836 RNA causes inhibition of

translation of the GAM336836 target mRNA into a corresponding GAM336836 target protein.

The mechanism of the translational inhibition exerted by GAM336836 RNA, herein designated GAM RNA, on one or more GAM336836 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336836 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336836 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336836 RNA, herein designated GAM RNA, of GAM336836 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336836 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336836 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336836 RNA correlate with, and may be deduced from, the identity of the GAM336836 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336837 141293 GACCATGAAG Fig. 8 further provides a conceptual description of another novel bioinformatically

CCAGAGTCTC detected oligonucleotides of the present invention, referred to here as Genomic Address

CAGGACTCCT Messenger 336837 (GAM336837) oligonucleotides modulates expression of respective target

CACTCAACCT genes whose function and utility is known in the art.

CGGCCATGGA GAM336837 is a novel bioinformatically detectable regulatory, non protein

CGCAGGTTGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336837 was detected

GTGTGAGGGG is described with additional reference to Figs. 9-15.

GGTCCCAGCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTTCGGTCTT encoded by the human genome.

CTATTTC GAM336837 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336837 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336837 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336837 precursor RNA is designated SEQ ID:141293, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141293 is located from position 48206347 to position 48206443 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336837 precursor RNA folds onto itself, forming GAM336837 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336837 precursor RNA, designated SEQ ID NO: 141293, and a schematic representation of a predicted secondary folding of GAM336837 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336837 folded precursor RNA yielding a GAM336837 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336837 RNA, hereby incorporated herein.

GAM336837 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336837 target RNA, herein designated GAM TARGET RNA.

GAM336837 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336837 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336837 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336837 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336837 RNA, herein designated GAM RNA, to target binding sites on GAM336837 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336837 target RNA into GAM336837 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336837 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336837 target genes. The mRNA of each one of this plurality of GAM336837 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336837 RNA, herein designated GAM RNA, and which when bound by GAM336837 RNA causes inhibition of translation of the GAM336837 target mRNA into a corresponding GAM336837 target protein.

The mechanism of the translational inhibition exerted by GAM336837 RNA, herein designated GAM RNA, on one or more GAM336837 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336837 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336837 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336837 RNA, herein designated GAM RNA, of GAM336837 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336837 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336837 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336837 RNA correlate with, and may be deduced from, the identity of the GAM336837 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336838 141294 GCAGGTATGA Fig. 8 further provides a conceptual description of another novel bioinformatically

TGGCCTTTTC detected oligonucleotides of the present invention, referred to here as Genomic Address

TCTTATCCTG Messenger 336838 (GAM336838) oligonucleotides modulates expression of respective target

GTTCCTGCAG genes whose function and utility is known in the art.

AGCTGACTGC GAM336838 is a novel bioinformatically detectable regulatory, non protein

CATGCTTGGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336838 was detected

AGAGGGAAAA is described with additional reference to Figs. 9-15.

GACTTATTTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCTGT encoded by the human genome.

GAM336838 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336838 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336838 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336838 precursor RNA is designated SEQ ID:141294, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141294 is located from position 48246637 to position 48246721 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM336838 precursor RNA folds onto itself, forming GAM336838 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336838 precursor RNA, designated SEQ ID NO: 141294, and a schematic representation of a predicted secondary folding of GAM336838 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336838 folded precursor RNA yielding a GAM336838 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336838 RNA, hereby incorporated herein.

GAM336838 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336838 target RNA, herein designated GAM TARGET RNA.

GAM336838 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336838 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336838 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336838 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336838 RNA, herein designated GAM RNA, to target binding sites on GAM336838 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336838 target RNA into GAM336838 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336838 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336838 target genes. The mRNA of each one of this plurality of GAM336838 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336838 RNA, herein designated GAM RNA, and which when bound by GAM336838 RNA causes inhibition of translation of the GAM336838 target mRNA into a corresponding GAM336838 target protein.

The mechanism of the translational inhibition exerted by GAM336838 RNA, herein designated GAM RNA, on one or more GAM336838 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336838 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336838 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336838 RNA, herein designated GAM RNA, of GAM336838 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336838 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336838 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336838 RNA correlate with, and may be deduced from, the identity of the GAM336838 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336839 141295 GCATTTACAA Fig. 8 further provides a conceptual description of another novel bioinformatically

TGGGGAAGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

ACAGTGTTCT Messenger 336839 (GAM336839) oligonucleotides modulates expression of respective target

CACCAAAGGA genes whose function and utility is known in the art.

TATTGGGAAA GAM336839 is a novel bioinformatically detectable regulatory, non protein
GCTGGATATC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336839 was detected

CAAGGGCAAG is described with additional reference to Figs. 9-15.

AAGATTGGAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCTTTACCTA encoded by the human genome.

ACACCATGT GAM336839 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336839 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336839 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336839 precursor RNA is designated SEQ ID:141295, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141295 is located from position 48436296 to position 48436394 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336839 precursor RNA folds onto itself, forming GAM336839 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336839 precursor RNA, designated SEQ ID NO: 141295, and a schematic representation of a predicted secondary folding of GAM336839 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336839 folded precursor RNA yielding a GAM336839 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336839 RNA, hereby incorporated herein.

GAM336839 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336839 target RNA, herein designated GAM TARGET RNA.

GAM336839 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336839 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336839 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336839 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336839 RNA, herein designated GAM RNA, to target binding sites on GAM336839 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336839 target RNA into GAM336839 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336839 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336839 target genes. The mRNA of each one of this plurality of GAM336839 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336839 RNA, herein designated GAM RNA, and which when bound by GAM336839 RNA causes inhibition of translation of the GAM336839 target mRNA into a corresponding GAM336839 target protein.

The mechanism of the translational inhibition exerted by GAM336839 RNA, herein designated GAM RNA, on one or more GAM336839 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336839 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336839 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336839 RNA, herein designated GAM RNA, of GAM336839 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336839 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336839 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336839 RNA correlate with, and may be deduced from, the identity of the GAM336839 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336840 141296 GGAGAATTGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACCTGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGCAGTGG Messenger 336840 (GAM336840) oligonucleotides modulates expression of respective target
TTGCAGTGAG genes whose function and utility is known in the art.

CCGAGATTGT GAM336840 is a novel bioinformatically detectable regulatory, non protein
GCCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336840 was detected
TCCACCCTCA is described with additional reference to Figs. 9-15.

GCAACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AAAACTCC encoded by the human genome.

GAM336840 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336840 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336840 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336840 precursor RNA is designated SEQ ID:141296, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141296 is located from position 48506039 to position 48506126 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336840 precursor RNA folds onto itself, forming GAM336840 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336840 precursor RNA, designated SEQ ID NO: 141296, and a schematic representation of a predicted secondary folding of GAM336840 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336840 folded precursor RNA yielding a GAM336840 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336840 RNA, hereby incorporated herein.

GAM336840 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336840 target RNA, herein designated GAM TARGET RNA.

GAM336840 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336840 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336840 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336840 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336840 RNA, herein designated GAM RNA, to target binding sites on GAM336840 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336840 target RNA into GAM336840 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336840 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336840 target genes. The mRNA of each one of this plurality of GAM336840 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336840 RNA, herein designated GAM RNA, and which when bound by GAM336840 RNA causes inhibition of translation of the GAM336840 target mRNA into a corresponding GAM336840 target protein.

The mechanism of the translational inhibition exerted by GAM336840 RNA, herein designated GAM RNA, on one or more GAM336840 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336840 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336840 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336840 RNA, herein designated GAM RNA, of GAM336840 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336840 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336840 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336840 RNA correlate with, and may be deduced from, the identity of the GAM336840 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336841 141297 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATCGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCCCGGGA Messenger 336841 (GAM336841) oligonucleotides modulates expression of respective target
GGTGGAGGTT genes whose function and utility is known in the art.

GCAGTGAGCC GAM336841 is a novel bioinformatically detectable regulatory, non protein
GAGATCGCGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336841 was detected
CATTGCACTC is described with additional reference to Figs. 9-15.

CAGCCTGGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AACAAGAGTG encoded by the human genome.

AAACACTGTC GAM336841 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TCA GAM336841 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336841 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336841 precursor RNA is designated SEQ ID:141297, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141297 is located from position 48685091 to position 48685193 relative to chromosome chr4 on the `+` strand (chr is an abbreviation for chromosome).

GAM336841 precursor RNA folds onto itself, forming GAM336841 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336841 precursor RNA, designated SEQ ID NO: 141297, and a schematic representation of a predicted secondary folding of GAM336841 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336841 folded precursor RNA yielding a GAM336841 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336841 RNA, hereby incorporated herein. Expression of GAM336841 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336841 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336841 target RNA, herein designated GAM TARGET RNA.

GAM336841 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336841 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336841 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336841 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336841 RNA, herein designated GAM RNA, to target binding sites on GAM336841 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336841 target RNA into GAM336841 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336841 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336841 target genes. The mRNA of each one of this plurality of GAM336841 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336841 RNA, herein designated GAM RNA, and which when bound by GAM336841 RNA causes inhibition of translation of the GAM336841 target mRNA into a corresponding GAM336841 target protein.

The mechanism of the translational inhibition exerted by GAM336841 RNA, herein designated GAM RNA, on one or more GAM336841 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336841 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336841 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336841 RNA, herein designated GAM RNA, of GAM336841 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336841 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336841 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336841 RNA correlate with, and may be deduced from, the identity of the GAM336841 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336842 141298 GTGGTGCATA Fig. 8 further provides a conceptual description of another novel bioinformatically

CCTGTAATCT detected oligonucleotides of the present invention, referred to here as Genomic Address

CAGATACTTG Messenger 336842 (GAM336842) oligonucleotides modulates expression of respective target

GGAGGTTGAG genes whose function and utility is known in the art.

GTGGTAGGAT GAM336842 is a novel bioinformatically detectable regulatory, non protein

TGCTTGAGCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336842 was detected

CAGGAGTTTG is described with additional reference to Figs. 9-15.

AGGCTGCAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAGCTATGAT encoded by the human genome.

CAC GAM336842 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336842 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336842 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336842 precursor RNA is designated SEQ ID:141298, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141298 is located from position 48783661 to position 48783753 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM336842 precursor RNA folds onto itself, forming GAM336842 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336842 precursor RNA, designated SEQ ID NO: 141298, and a schematic representation of a predicted secondary folding of GAM336842 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336842 folded precursor RNA yielding a GAM336842 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336842 RNA, hereby incorporated herein.

GAM336842 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336842 target RNA, herein designated GAM TARGET RNA.

GAM336842 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336842 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336842 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336842 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336842 RNA, herein designated GAM RNA, to target binding sites on GAM336842 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336842 target RNA into GAM336842 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336842 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336842 target genes. The mRNA of each one of this

plurality of GAM336842 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336842 RNA, herein designated GAM RNA, and which when bound by GAM336842 RNA causes inhibition of translation of the GAM336842 target mRNA into a corresponding GAM336842 target protein.

The mechanism of the translational inhibition exerted by GAM336842 RNA, herein designated GAM RNA, on one or more GAM336842 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336842 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336842 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336842 RNA, herein designated GAM RNA, of GAM336842 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336842 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336842 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336842 RNA correlate with, and may be deduced from, the identity of the GAM336842 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336843 141299 CTGGGATCTG Fig. 8 further provides a conceptual description of another novel bioinformatically

GAGAGGAGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GCTTCACAAG Messenger 336843 (GAM336843) oligonucleotides modulates expression of respective target

GTCATGCCGA genes whose function and utility is known in the art.

TCTAAGGGAC GAM336843 is a novel bioinformatically detectable regulatory, non protein

GCCCCCTTCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336843 was detected

CTCTACACCA is described with additional reference to Figs. 9-15.

G GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336843 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336843 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336843 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336843 precursor RNA is designated SEQ ID:141299, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141299 is located from position 48912945 to position 48913015 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336843 precursor RNA folds onto itself, forming GAM336843 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336843 precursor RNA, designated SEQ ID NO: 141299, and a schematic representation of a predicted secondary folding of GAM336843 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336843 folded precursor RNA yielding a GAM336843 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336843 RNA, hereby incorporated herein.

GAM336843 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336843 target RNA, herein designated GAM TARGET RNA.

GAM336843 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336843 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336843 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336843 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336843 RNA, herein designated GAM RNA, to target

binding sites on GAM336843 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336843 target RNA into GAM336843 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336843 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336843 target genes. The mRNA of each one of this plurality of GAM336843 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336843 RNA, herein designated GAM RNA, and which when bound by GAM336843 RNA causes inhibition of translation of the GAM336843 target mRNA into a corresponding GAM336843 target protein.

The mechanism of the translational inhibition exerted by GAM336843 RNA, herein designated GAM RNA, on one or more GAM336843 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336843 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336843 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336843 RNA, herein designated GAM RNA, of GAM336843 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336843 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336843 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336843 RNA correlate with, and may be deduced from, the identity of the GAM336843 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336844 141300 CAGGCTGGTT Fig. 8 further provides a conceptual description of another novel bioinformatically

CGTCGTTTCT detected oligonucleotides of the present invention, referred to here as Genomic Address

GCCTCTCCAT Messenger 336844 (GAM336844) oligonucleotides modulates expression of respective target

TCTTGTCTTT genes whose function and utility is known in the art.

TTAATTCTTT GAM336844 is a novel bioinformatically detectable regulatory, non protein

GTGTTATTTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336844 was detected

AGATGGAGTT is described with additional reference to Figs. 9-15.

TGAGAGGGAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TATGAACAAG encoded by the human genome.

CCTG GAM336844 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336844 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336844 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336844 precursor RNA is designated SEQ ID:141300, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141300 is located from position 48973458 to position 48973551 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM336844 precursor RNA folds onto itself, forming GAM336844 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336844 precursor RNA, designated SEQ ID NO: 141300, and a schematic representation of a predicted secondary folding of GAM336844 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336844 folded precursor RNA yielding a GAM336844 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336844 RNA, hereby incorporated herein.

GAM336844 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336844 target RNA, herein designated GAM TARGET RNA.

GAM336844 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336844 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336844 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336844 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows

three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336844 RNA, herein designated GAM RNA, to target binding sites on GAM336844 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336844 target RNA into GAM336844 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336844 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336844 target genes. The mRNA of each one of this plurality of GAM336844 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336844 RNA, herein designated GAM RNA, and which when bound by GAM336844 RNA causes inhibition of translation of the GAM336844 target mRNA into a corresponding GAM336844 target protein.

The mechanism of the translational inhibition exerted by GAM336844 RNA, herein designated GAM RNA, on one or more GAM336844 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336844 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336844 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336844 RNA, herein designated GAM RNA, of GAM336844 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336844 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336844 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336844 RNA correlate with, and may be deduced from, the identity of the GAM336844 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336845 141301 AGGCTGGTTC Fig. 8 further provides a conceptual description of another novel bioinformatically

GTCGTTTCTG detected oligonucleotides of the present invention, referred to here as Genomic Address
CCTCTCCATT Messenger 336845 (GAM336845) oligonucleotides modulates expression of respective target
CTTGTCTTTT genes whose function and utility is known in the art.

TAATTCTTTG GAM336845 is a novel bioinformatically detectable regulatory, non protein
TGTTATTTGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336845 was detected
GATGGAGTTT is described with additional reference to Figs. 9-15.

GAGAGGGAAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATGAACAAGC encoded by the human genome.

CT GAM336845 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336845 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336845 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336845 precursor RNA is designated SEQ ID:141301, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141301 is located from position 48973459 to position 48973550 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM336845 precursor RNA folds onto itself, forming GAM336845 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336845 precursor RNA, designated SEQ ID NO: 141301, and a schematic representation of a predicted secondary folding of GAM336845 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336845 folded precursor RNA yielding a GAM336845 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336845 RNA, hereby incorporated herein.

GAM336845 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336845 target RNA, herein designated GAM TARGET RNA.

GAM336845 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336845 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336845 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336845 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336845 RNA, herein designated GAM RNA, to target binding sites on GAM336845 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336845 target RNA into GAM336845 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336845 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336845 target genes. The mRNA of each one of this plurality of GAM336845 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336845 RNA, herein designated GAM RNA, and which when bound by GAM336845 RNA causes inhibition of translation of the GAM336845 target mRNA into a corresponding GAM336845 target protein.

The mechanism of the translational inhibition exerted by GAM336845 RNA, herein designated GAM RNA, on one or more GAM336845 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336845 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336845 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336845 RNA, herein designated GAM RNA, of GAM336845 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336845 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336845 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336845 RNA correlate with, and may be deduced from, the identity of the GAM336845 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336846 141302 GGGCATTTTG Fig. 8 further provides a conceptual description of another novel bioinformatically
CCTCTGGTAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GGATGGCCAT Messenger 336846 (GAM336846) oligonucleotides modulates expression of respective target
GGTGCCAGCC genes whose function and utility is known in the art.

CTCCTGGGCC GAM336846 is a novel bioinformatically detectable regulatory, non protein
TCATTGGGTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336846 was detected
TCACCTATAC is described with additional reference to Figs. 9-15.

AGAAAGGCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATAGACCC encoded by the human genome.

GAM336846 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336846 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336846 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336846 precursor RNA is designated SEQ ID:141302, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141302 is located from position 49032571 to position 49032658 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM336846 precursor RNA folds onto itself, forming GAM336846 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336846 precursor RNA, designated SEQ ID NO: 141302, and a schematic representation of a predicted secondary folding of GAM336846 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336846 folded precursor RNA yielding a GAM336846 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336846 RNA, hereby incorporated herein.

GAM336846 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336846 target RNA, herein designated GAM TARGET RNA.

GAM336846 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336846 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336846 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336846 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336846 RNA, herein designated GAM RNA, to target binding sites on GAM336846 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336846 target RNA into GAM336846 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336846 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336846 target genes. The mRNA of each one of this plurality of GAM336846 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336846 RNA, herein designated GAM RNA, and which when bound by GAM336846 RNA causes inhibition of translation of the GAM336846 target mRNA into a corresponding GAM336846 target protein.

The mechanism of the translational inhibition exerted by GAM336846 RNA, herein designated GAM RNA, on one or more GAM336846 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336846 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336846 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336846 RNA, herein designated GAM RNA, of GAM336846 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336846 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336846 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336846 RNA correlate with, and may be deduced from, the identity of the GAM336846 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336847 141303 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 336847 (GAM336847) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336847 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336847 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM336847 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336847 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336847 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336847 precursor RNA is designated SEQ ID:141303, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141303 is located from position 49043749 to position 49043830 relative to chromosome chr6 on the `+` strand (chr is an abbreviation for chromosome).

GAM336847 precursor RNA folds onto itself, forming GAM336847 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336847 precursor RNA, designated SEQ ID NO: 141303, and a schematic representation of a predicted secondary folding of GAM336847 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336847 folded precursor RNA yielding a GAM336847 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336847 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336847 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336847 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336847 target RNA, herein designated GAM TARGET RNA.

GAM336847 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336847 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336847 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336847 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336847 RNA, herein designated GAM RNA, to target binding sites on GAM336847 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336847 target RNA into GAM336847 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336847 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336847 target genes. The mRNA of each one of this plurality of GAM336847 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336847 RNA, herein designated GAM RNA, and which when bound by GAM336847 RNA causes inhibition of translation of the GAM336847 target mRNA into a corresponding GAM336847 target protein.

The mechanism of the translational inhibition exerted by GAM336847 RNA, herein designated GAM RNA, on one or more GAM336847 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336847 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336847 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336847 RNA, herein designated GAM RNA, of GAM336847 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336847 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336847 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336847 RNA correlate with, and may be deduced from, the identity of the GAM336847 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336848 141304 TAGGGGCAGT Fig. 8 further provides a conceptual description of another novel bioinformatically
GGCAGAGAAT detected oligonucleotides of the present invention, referred to here as Genomic Address
GAATGTATGT Messenger 336848 (GAM336848) oligonucleotides modulates expression of respective target
GTGGGTTTCT genes whose function and utility is known in the art.

CAGCCTTGAG GAM336848 is a novel bioinformatically detectable regulatory, non protein
GTATAAGGTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336848 was detected
TAAAGGCTCT is described with additional reference to Figs. 9-15.

GGGGATTCAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGCATACACC encoded by the human genome.

ACTTCCAGTT GAM336848 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CAAGCGCCTA GAM336848 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336848 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336848 precursor RNA is designated SEQ ID:141304, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141304 is located from position 49044659 to position 49044768 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM336848 precursor RNA folds onto itself, forming GAM336848 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336848 precursor RNA, designated SEQ ID NO: 141304, and a schematic representation of a predicted secondary folding of GAM336848 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336848 folded precursor RNA yielding a GAM336848 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336848 RNA, hereby incorporated herein.

GAM336848 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336848 target RNA, herein designated GAM TARGET RNA.

GAM336848 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336848 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336848 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336848 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336848 RNA, herein designated GAM RNA, to target binding sites on GAM336848 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336848 target RNA into GAM336848 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336848 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336848 target genes. The mRNA of each one of this plurality of GAM336848 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM336848 RNA, herein designated GAM RNA, and which when bound by GAM336848 RNA causes inhibition of translation of the GAM336848 target mRNA into a corresponding GAM336848 target protein.

The mechanism of the translational inhibition exerted by GAM336848 RNA, herein designated GAM RNA, on one or more GAM336848 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336848 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336848 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336848 RNA, herein designated GAM RNA, of GAM336848 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336848 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336848 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336848 RNA correlate with, and may be deduced from, the identity of the GAM336848 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336849 141305 GGGCAGTGGC Fig. 8 further provides a conceptual description of another novel bioinformatically
AGAGAATGAA detected oligonucleotides of the present invention, referred to here as Genomic Address
TGTATGTGTG Messenger 336849 (GAM336849) oligonucleotides modulates expression of respective target
GGTTTCTCAG genes whose function and utility is known in the art.

CCTTGAGGTA GAM336849 is a novel bioinformatically detectable regulatory, non protein
TAAGGTCTAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336849 was detected
AGGCTCTGGG is described with additional reference to Figs. 9-15.

GATTCACTGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATACACCACT encoded by the human genome.

TCC GAM336849 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAM336849 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336849 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336849 precursor RNA is designated SEQ ID:141305, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141305 is located from position 49044673 to position 49044765 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM336849 precursor RNA folds onto itself, forming GAM336849 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336849 precursor RNA, designated SEQ ID NO: 141305, and a schematic representation of a predicted secondary folding of GAM336849 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336849 folded precursor RNA yielding a GAM336849 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336849 RNA, hereby incorporated herein.

GAM336849 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336849 target RNA, herein designated GAM TARGET RNA.

GAM336849 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336849 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336849 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336849 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336849 RNA, herein designated GAM RNA, to target binding sites on GAM336849 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336849 target RNA into GAM336849 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336849 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336849 target genes. The mRNA of each one of this plurality of GAM336849 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336849 RNA, herein designated GAM RNA, and which when bound by GAM336849 RNA causes inhibition of translation of the GAM336849 target mRNA into a corresponding GAM336849 target protein.

The mechanism of the translational inhibition exerted by GAM336849 RNA, herein designated GAM RNA, on one or more GAM336849 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336849 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336849 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336849 RNA, herein designated GAM RNA, of GAM336849 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336849 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336849 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336849 RNA correlate with, and may be deduced from, the identity of the GAM336849 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336850 141306 TGAGTCACTG Fig. 8 further provides a conceptual description of another novel bioinformatically

GGCCTGGGCC detected oligonucleotides of the present invention, referred to here as Genomic Address

GAAATCATCA Messenger 336850 (GAM336850) oligonucleotides modulates expression of respective target

GTGGAACTTT genes whose function and utility is known in the art.

GATTAGGATC GAM336850 is a novel bioinformatically detectable regulatory, non protein

ATAAAATGGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336850 was detected

AAGTTGGTCA is described with additional reference to Figs. 9-15.

AAATCACAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGGCTGGCGG encoded by the human genome.

GGCACGGTGG GAM336850 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CTCA GAM336850 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336850 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336850 precursor RNA is designated SEQ ID:141306, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141306 is located from position 49099121 to position 49099224 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM336850 precursor RNA folds onto itself, forming GAM336850 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336850 precursor RNA, designated SEQ ID NO: 141306, and a schematic representation of a predicted secondary folding of GAM336850 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336850 folded precursor RNA yielding a GAM336850 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336850 RNA, hereby incorporated herein.

GAM336850 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336850 target RNA, herein designated GAM TARGET RNA.

GAM336850 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336850 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336850 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336850 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336850 RNA, herein designated GAM RNA, to target binding sites on GAM336850 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336850 target RNA into GAM336850 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336850 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336850 target genes. The mRNA of each one of this plurality of GAM336850 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336850 RNA, herein designated GAM RNA, and which when bound by GAM336850 RNA causes inhibition of translation of the GAM336850 target mRNA into a corresponding GAM336850 target protein.

The mechanism of the translational inhibition exerted by GAM336850 RNA, herein designated GAM RNA, on one or more GAM336850 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336850 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336850 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336850 RNA, herein designated GAM RNA, of GAM336850 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336850 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336850 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336850 RNA correlate with, and may be deduced from, the identity of the GAM336850 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336851 141307 GAGTCACTGG Fig. 8 further provides a conceptual description of another novel bioinformatically

GCCTGGGCCG detected oligonucleotides of the present invention, referred to here as Genomic Address
AAATCATCAG Messenger 336851 (GAM336851) oligonucleotides modulates expression of respective target
TGGAACTTTG genes whose function and utility is known in the art.

ATTAGGATCA GAM336851 is a novel bioinformatically detectable regulatory, non protein
TAAAATGGGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336851 was detected
AGTTGGTCAA is described with additional reference to Figs. 9-15.

AATCACAGAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGCTGGCGGG encoded by the human genome.

GCACGGTGGC GAM336851 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TC GAM336851 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336851 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336851 precursor RNA is designated SEQ ID:141307, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141307 is located from position 49099122 to position 49099223 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GAM336851 precursor RNA folds onto itself, forming GAM336851 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336851 precursor RNA, designated SEQ ID NO: 141307, and a schematic representation of a predicted secondary folding of GAM336851 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336851 folded precursor RNA yielding a GAM336851 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336851 RNA, hereby incorporated herein.

GAM336851 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336851 target RNA, herein designated GAM TARGET RNA.

GAM336851 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336851 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336851 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336851 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336851 RNA, herein designated GAM RNA, to target binding sites on GAM336851 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336851 target RNA into GAM336851 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336851 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336851 target genes. The mRNA of each one of this plurality of GAM336851 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336851 RNA, herein designated GAM RNA, and which when bound by GAM336851 RNA causes inhibition of translation of the GAM336851 target mRNA into a corresponding GAM336851 target protein.

The mechanism of the translational inhibition exerted by GAM336851 RNA, herein designated GAM RNA, on one or more GAM336851 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336851 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336851 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336851 RNA, herein designated GAM RNA, of GAM336851 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336851 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336851 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336851 RNA correlate with, and may be deduced from, the identity of the GAM336851 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336852 141308 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
AGATCACTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGCCCAGGAG Messenger 336852 (GAM336852) oligonucleotides modulates expression of respective target
GTGGAGGCTG genes whose function and utility is known in the art.

CAGTGACCCA GAM336852 is a novel bioinformatically detectable regulatory, non protein
TATTCATGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336852 was detected
ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAGAGTGAG encoded by the human genome.

ACCCTCTCTC GAM336852 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
A GAM336852 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336852 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336852 precursor RNA is designated SEQ ID:141308, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141308 is located from position 49108311 to position 49108411 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM336852 precursor RNA folds onto itself, forming GAM336852 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336852 precursor RNA, designated SEQ ID NO: 141308, and a schematic representation of a predicted secondary folding of GAM336852 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336852 folded precursor RNA yielding a GAM336852 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336852 RNA, hereby incorporated herein. Expression of GAM336852 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336852 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336852 target RNA, herein designated GAM TARGET RNA.

GAM336852 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336852 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336852 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336852 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336852 RNA, herein designated GAM RNA, to target binding sites on GAM336852 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336852 target RNA into GAM336852 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336852 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336852 target genes. The mRNA of each one of this plurality of GAM336852 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336852 RNA, herein designated GAM RNA, and which when bound by GAM336852 RNA causes inhibition of translation of the GAM336852 target mRNA into a corresponding GAM336852 target protein.

The mechanism of the translational inhibition exerted by GAM336852 RNA, herein designated GAM RNA, on one or more GAM336852 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336852 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336852 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336852 RNA, herein designated GAM RNA, of GAM336852 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336852 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336852 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336852 RNA correlate with, and may be deduced from, the identity of the GAM336852 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336853 141309 CACGAGCAGT Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGTGTCACA detected oligonucleotides of the present invention, referred to here as Genomic Address

GATGGCCGGA Messenger 336853 (GAM336853) oligonucleotides modulates expression of respective target

AGAGACTCTT genes whose function and utility is known in the art.

TTGCCTGGTT GAM336853 is a novel bioinformatically detectable regulatory, non protein

ACAGGCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336853 was detected

TTTTCTGCCA is described with additional reference to Figs. 9-15.

TCCTGTTGAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTTTCCCATC encoded by the human genome.

AACTCCTTTG GAM336853 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336853 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336853 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336853 precursor RNA is designated SEQ ID:141309, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141309 is located from position 49118815 to position 49118914 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336853 precursor RNA folds onto itself, forming GAM336853 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336853 precursor RNA, designated SEQ ID NO: 141309, and a schematic representation of a predicted secondary folding of GAM336853 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336853 folded precursor RNA yielding a GAM336853 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336853 RNA, hereby incorporated herein.

GAM336853 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336853 target RNA, herein designated GAM TARGET RNA.

GAM336853 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336853 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336853 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336853 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336853 RNA, herein designated GAM RNA, to target binding sites on GAM336853 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336853 target RNA into GAM336853 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336853 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336853 target genes. The mRNA of each one of this plurality of GAM336853 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336853 RNA, herein designated GAM RNA, and which when bound by GAM336853 RNA causes inhibition of translation of the GAM336853 target mRNA into a corresponding GAM336853 target protein.

The mechanism of the translational inhibition exerted by GAM336853 RNA, herein

designated GAM RNA, on one or more GAM336853 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336853 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336853 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336853 RNA, herein designated GAM RNA, of GAM336853 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336853 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336853 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336853 RNA correlate with, and may be deduced from, the identity of the GAM336853 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336854 141310 GAGAATTGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

TAAACCCGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGTGGAGGT Messenger 336854 (GAM336854) oligonucleotides modulates expression of respective target

TGCAGTGAGC genes whose function and utility is known in the art.

CAAGATCACG GAM336854 is a novel bioinformatically detectable regulatory, non protein

CCACTGCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336854 was detected

CCAGCCTGGG is described with additional reference to Figs. 9-15.

CAACAGAGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGACTC encoded by the human genome.

GAM336854 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336854 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336854 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336854 precursor RNA is designated SEQ ID:141310, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141310 is located from position 49184841 to position 49184926

relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336854 precursor RNA folds onto itself, forming GAM336854 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336854 precursor RNA, designated SEQ ID NO: 141310, and a schematic representation of a predicted secondary folding of GAM336854 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336854 folded precursor RNA yielding a GAM336854 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336854 RNA, hereby incorporated herein. Expression of GAM336854 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336854 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336854 target RNA, herein designated GAM TARGET RNA.

GAM336854 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336854 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336854 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336854 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336854 RNA, herein designated GAM RNA, to target binding sites on GAM336854 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336854 target RNA into GAM336854 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM336854 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336854 target genes. The mRNA of each one of this plurality of GAM336854 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336854 RNA, herein designated GAM RNA, and which when bound by GAM336854 RNA causes inhibition of translation of the GAM336854 target mRNA into a corresponding GAM336854 target protein.

The mechanism of the translational inhibition exerted by GAM336854 RNA, herein designated GAM RNA, on one or more GAM336854 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336854 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336854 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336854 RNA, herein designated GAM RNA, of GAM336854 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336854 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336854 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336854 RNA correlate with, and may be deduced from, the identity of the GAM336854 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336855 141311 GCACCAGAAA Fig. 8 further provides a conceptual description of another novel bioinformatically

GTCCAGGAAG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGCTGATTAA Messenger 336855 (GAM336855) oligonucleotides modulates expression of respective target

AGTGTTAGCT genes whose function and utility is known in the art.

GGCTGACACA GAM336855 is a novel bioinformatically detectable regulatory, non protein

TTATGGTGGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336855 was detected

GTGGTAGAAA is described with additional reference to Figs. 9-15.

GTGTCTCATT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTAATAAGTC encoded by the human genome.

ACAGTGCTGC GAM336855 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CTAATCTGTG GAM336855 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

TGC GAM336855 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336855 precursor RNA is designated SEQ ID:141311, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141311 is located from position 49197664 to position 49197776 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GAM336855 precursor RNA folds onto itself, forming GAM336855 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336855 precursor RNA, designated SEQ ID NO: 141311, and a schematic representation of a predicted secondary folding of GAM336855 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336855 folded precursor RNA yielding a GAM336855 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336855 RNA, hereby incorporated herein.

GAM336855 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336855 target RNA, herein designated GAM TARGET RNA.

GAM336855 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336855 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336855 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336855 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336855 RNA, herein designated GAM RNA, to target binding sites on GAM336855 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336855 target RNA into GAM336855 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336855 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336855 target genes. The mRNA of each one of this plurality of GAM336855 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336855 RNA, herein designated GAM RNA, and which when bound by GAM336855 RNA causes inhibition of translation of the GAM336855 target mRNA into a corresponding GAM336855 target protein.

The mechanism of the translational inhibition exerted by GAM336855 RNA, herein designated GAM RNA, on one or more GAM336855 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336855 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336855 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336855 RNA, herein designated GAM RNA, of GAM336855 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336855 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336855 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336855 RNA correlate with, and may be deduced from, the identity of the GAM336855 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336856 141312 GGGAGGGACT Fig. 8 further provides a conceptual description of another novel bioinformatically

TCTTGGCTTC detected oligonucleotides of the present invention, referred to here as Genomic Address

TGAGGGCAAA Messenger 336856 (GAM336856) oligonucleotides modulates expression of respective target

GCTCTACGTG genes whose function and utility is known in the art.

AGTGGTCCTT GAM336856 is a novel bioinformatically detectable regulatory, non protein
GGCTCTTTGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336856 was
detected
CCGAGATGCT is described with additional reference to Figs. 9-15.

CACCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a
humen gene
encoded by the human genome.

GAM336856 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336856 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA
genes
GAM336856 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336856 precursor RNA is designated SEQ ID:141312, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141312 is located from position 49275324 to position 49275398 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336856 precursor RNA folds onto itself, forming GAM336856 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336856 precursor RNA, designated SEQ ID NO: 141312, and a schematic representation of a predicted secondary folding of GAM336856 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and
4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336856 folded precursor RNA yielding a GAM336856 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336856 RNA, hereby incorporated herein.

GAM336856 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336856 target RNA, herein designated GAM TARGET RNA.

GAM336856 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336856 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM336856 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336856 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336856 RNA, herein designated GAM RNA, to target binding sites on GAM336856 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336856 target RNA into GAM336856 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336856 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336856 target genes. The mRNA of each one of this plurality of GAM336856 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336856 RNA, herein designated GAM RNA, and which when bound by GAM336856 RNA causes inhibition of translation of the GAM336856 target mRNA into a corresponding GAM336856 target protein.

The mechanism of the translational inhibition exerted by GAM336856 RNA, herein designated GAM RNA, on one or more GAM336856 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336856 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336856 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336856 RNA, herein designated GAM RNA, of GAM336856 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336856 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336856 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336856 RNA correlate with, and may be deduced from, the identity of the GAM336856 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336857 141313 TCTGTCTCTC Fig. 8 further provides a conceptual description of another novel bioinformatically
TCTCATCTTC detected oligonucleotides of the present invention, referred to here as Genomic Address
CTTTTGCCAC Messenger 336857 (GAM336857) oligonucleotides modulates expression of respective target
CCAGGCTGGA genes whose function and utility is known in the art.

ATGTAGTGGT GAM336857 is a novel bioinformatically detectable regulatory, non protein
GTGATCACAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336857 was detected
CTCACTACAG is described with additional reference to Figs. 9-15.

CCTGGATTCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCACACAGGA encoded by the human genome.

ATCAGAGTCA GAM336857 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GA GAM336857 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336857 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336857 precursor RNA is designated SEQ ID:141313, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141313 is located from position 49351290 to position 49351391 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336857 precursor RNA folds onto itself, forming GAM336857 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336857 precursor RNA, designated SEQ ID NO: 141313, and a schematic representation of a predicted secondary folding of GAM336857 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336857 folded precursor RNA yielding a GAM336857 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336857 RNA, hereby incorporated herein.

GAM336857 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336857 target RNA, herein designated GAM TARGET RNA.

GAM336857 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336857 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336857 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336857 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336857 RNA, herein designated GAM RNA, to target binding sites on GAM336857 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336857 target RNA into GAM336857 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336857 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336857 target genes. The mRNA of each one of this plurality of GAM336857 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336857 RNA, herein designated GAM RNA, and which when bound by GAM336857 RNA causes inhibition of translation of the GAM336857 target mRNA into a corresponding GAM336857 target protein.

The mechanism of the translational inhibition exerted by GAM336857 RNA, herein designated GAM RNA, on one or more GAM336857 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336857 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336857 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336857 RNA, herein designated GAM RNA, of GAM336857 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336857 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336857 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336857 RNA correlate with, and may be deduced from, the identity of the GAM336857 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336858 141314 TCAGGCATAA Fig. 8 further provides a conceptual description of another novel bioinformatically
ATATTCTGAT detected oligonucleotides of the present invention, referred to here as Genomic Address
GGTTAATTTT Messenger 336858 (GAM336858) oligonucleotides modulates expression of respective target
AGACATCTAC genes whose function and utility is known in the art.

TTGACTGGAT GAM336858 is a novel bioinformatically detectable regulatory, non protein
TAAGAGACAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336858 was detected
ACATAGCTGG is described with additional reference to Figs. 9-15.

TCAAACATGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTTCTGACAT encoded by the human genome.

GAATCAGGCA GAM336858 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TAAATATTCT GAM336858 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GA GAM336858 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336858 precursor RNA is designated SEQ ID:141314, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141314 is located from position 49370569 to position 49370680 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM336858 precursor RNA folds onto itself, forming GAM336858 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336858 precursor RNA, designated SEQ ID NO: 141314, and a schematic representation of a predicted secondary folding of GAM336858 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336858 folded precursor RNA yielding a GAM336858 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336858 RNA, hereby incorporated herein.

GAM336858 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336858 target RNA, herein designated GAM TARGET RNA.

GAM336858 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336858 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336858 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336858 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336858 RNA, herein designated GAM RNA, to target binding sites on GAM336858 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336858 target RNA into GAM336858 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336858 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336858 target genes. The mRNA of each one of this plurality of GAM336858 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336858 RNA, herein designated GAM RNA, and which when bound by GAM336858 RNA causes inhibition of translation of the GAM336858 target mRNA into a corresponding GAM336858 target protein.

The mechanism of the translational inhibition exerted by GAM336858 RNA, herein designated GAM RNA, on one or more GAM336858 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336858 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336858 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336858 RNA, herein designated GAM RNA, of GAM336858 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336858 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336858 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336858 RNA correlate with, and may be deduced from, the identity of the GAM336858 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336859 141315 AATATTCTGA Fig. 8 further provides a conceptual description of another novel bioinformatically

TGGTTAATTT detected oligonucleotides of the present invention, referred to here as Genomic Address

TAGACATCTA Messenger 336859 (GAM336859) oligonucleotides modulates expression of respective target

CTTGACTGGA genes whose function and utility is known in the art.

TTAAGAGACA GAM336859 is a novel bioinformatically detectable regulatory, non protein

CACATAGCTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336859 was detected

GTCAAACATG is described with additional reference to Figs. 9-15.

ATTTCTGACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGAATCAGGC encoded by the human genome.

ATAAATATT GAM336859 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336859 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336859 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336859 precursor RNA is designated SEQ ID:141315, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141315 is located from position 49370578 to position 49370676 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GAM336859 precursor RNA folds onto itself, forming GAM336859 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336859 precursor RNA, designated SEQ ID NO: 141315, and a schematic representation of a predicted secondary folding of GAM336859 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336859 folded precursor RNA yielding a GAM336859 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336859 RNA, hereby incorporated herein.

GAM336859 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336859 target RNA, herein designated GAM TARGET RNA.

GAM336859 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336859 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336859 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336859 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336859 RNA, herein designated GAM RNA, to target binding sites on GAM336859 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336859 target RNA into GAM336859 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336859 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336859 target genes. The mRNA of each one of this plurality of GAM336859 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336859 RNA, herein designated GAM RNA, and which when bound by GAM336859 RNA causes inhibition of

translation of the GAM336859 target mRNA into a corresponding GAM336859 target protein.

The mechanism of the translational inhibition exerted by GAM336859 RNA, herein designated GAM RNA, on one or more GAM336859 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336859 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336859 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336859 RNA, herein designated GAM RNA, of GAM336859 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336859 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336859 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336859 RNA correlate with, and may be deduced from, the identity of the GAM336859 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336860 141316 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336860 (GAM336860) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336860 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336860 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336860 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336860 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336860 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336860 precursor RNA is designated SEQ ID:141316, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141316 is located from position 49440469 to position 49440550 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM336860 precursor RNA folds onto itself, forming GAM336860 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336860 precursor RNA, designated SEQ ID NO: 141316, and a schematic representation of a predicted secondary folding of GAM336860 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336860 folded precursor RNA yielding a GAM336860 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336860 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336860 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336860 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336860 target RNA, herein designated GAM TARGET RNA.

GAM336860 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336860 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336860 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336860 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336860 RNA, herein designated GAM RNA, to target binding sites on GAM336860 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336860 target RNA into GAM336860 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336860 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336860 target genes. The mRNA of each one of this plurality of GAM336860 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336860 RNA, herein designated GAM RNA, and which when bound by GAM336860 RNA causes inhibition of translation of the GAM336860 target mRNA into a corresponding GAM336860 target protein.

The mechanism of the translational inhibition exerted by GAM336860 RNA, herein designated GAM RNA, on one or more GAM336860 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336860 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336860 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336860 RNA, herein designated GAM RNA, of GAM336860 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336860 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336860 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336860 RNA correlate with, and may be deduced from, the identity of the GAM336860 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336861 141317 CGGGTGAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

AGTGTTATTG detected oligonucleotides of the present invention, referred to here as Genomic Address

TCAGGGTCTC Messenger 336861 (GAM336861) oligonucleotides modulates expression of respective target

CCTTTCAGAA genes whose function and utility is known in the art.

GGCCTTGGGG GAM336861 is a novel bioinformatically detectable regulatory, non protein

CCAAGGGGAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336861 was detected

GAGCTGGAAT is described with additional reference to Figs. 9-15.

TGCCTTCCAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CGCGTG encoded by the human genome.

GAM336861 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336861 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336861 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336861 precursor RNA is designated SEQ ID:141317, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141317 is located from position 49549736 to position 49549821 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336861 precursor RNA folds onto itself, forming GAM336861 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336861 precursor RNA, designated SEQ ID NO: 141317, and a schematic representation of a predicted secondary folding of GAM336861 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336861 folded precursor RNA yielding a GAM336861 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336861 RNA, hereby incorporated herein.

GAM336861 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336861 target RNA, herein designated GAM TARGET RNA.

GAM336861 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336861 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336861 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336861 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336861 RNA, herein designated GAM RNA, to target binding sites on GAM336861 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336861 target RNA into GAM336861 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336861 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336861 target genes. The mRNA of each one of this plurality of GAM336861 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336861 RNA, herein designated GAM RNA, and which when bound by GAM336861 RNA causes inhibition of translation of the GAM336861 target mRNA into a corresponding GAM336861 target protein.

The mechanism of the translational inhibition exerted by GAM336861 RNA, herein designated GAM RNA, on one or more GAM336861 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336861 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336861 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336861 RNA, herein designated GAM RNA, of GAM336861 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336861 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336861 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336861 RNA correlate with, and may be deduced from, the identity of the GAM336861 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336862 141318 GGTGAGGAAG Fig. 8 further provides a conceptual description of another novel bioinformatically

TGTTATTGTC detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGGTCTCCC Messenger 336862 (GAM336862) oligonucleotides modulates expression of respective target
TTTCAGAAGG genes whose function and utility is known in the art.

CCTTGGGGCC GAM336862 is a novel bioinformatically detectable regulatory, non protein
AAGGGGAGGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336862 was detected
GCTGGAATTG is described with additional reference to Figs. 9-15.

CCTTCCACC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336862 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336862 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336862 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336862 precursor RNA is designated SEQ ID:141318, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141318 is located from position 49549738 to position 49549816 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336862 precursor RNA folds onto itself, forming GAM336862 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336862 precursor RNA, designated SEQ ID NO: 141318, and a schematic representation of a predicted secondary folding of GAM336862 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336862 folded precursor RNA yielding a GAM336862 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336862 RNA, hereby incorporated herein.

GAM336862 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336862 target RNA, herein designated GAM TARGET RNA.

GAM336862 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336862 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336862 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336862 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336862 RNA, herein designated GAM RNA, to target binding sites on GAM336862 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336862 target RNA into GAM336862 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336862 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336862 target genes. The mRNA of each one of this plurality of GAM336862 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336862 RNA, herein designated GAM RNA, and which when bound by GAM336862 RNA causes inhibition of translation of the GAM336862 target mRNA into a corresponding GAM336862 target protein.

The mechanism of the translational inhibition exerted by GAM336862 RNA, herein designated GAM RNA, on one or more GAM336862 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336862 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336862 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336862 RNA, herein designated GAM RNA, of GAM336862 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336862 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336862 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336862

RNA correlate with, and may be deduced from, the identity of the GAM336862 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336863 141319 AGAATCACTT Fig. 8 further provides a conceptual description of another novel bioinformatically
GAACCTGGGA detected oligonucleotides of the present invention, referred to here as Genomic Address
GGTGGAGGTT Messenger 336863 (GAM336863) oligonucleotides modulates expression of respective target
GCAGTGAGCC genes whose function and utility is known in the art.

GAAATTGTGC GAM336863 is a novel bioinformatically detectable regulatory, non protein
CACTGCACTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336863 was detected
CAGTCTAGGT is described with additional reference to Figs. 9-15.

GACAGAGCGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GACT encoded by the human genome.

GAM336863 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336863 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336863 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336863 precursor RNA is designated SEQ ID:141319, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141319 is located from position 49602636 to position 49602719 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336863 precursor RNA folds onto itself, forming GAM336863 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336863 precursor RNA, designated SEQ ID NO: 141319, and a schematic representation of a predicted secondary folding of GAM336863 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336863 folded precursor RNA yielding a GAM336863 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly

similar to the nucleotide sequence of GAM336863 RNA, hereby incorporated herein.

GAM336863 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336863 target RNA, herein designated GAM TARGET RNA.

GAM336863 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336863 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336863 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336863 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336863 RNA, herein designated GAM RNA, to target binding sites on GAM336863 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336863 target RNA into GAM336863 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336863 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336863 target genes. The mRNA of each one of this plurality of GAM336863 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336863 RNA, herein designated GAM RNA, and which when bound by GAM336863 RNA causes inhibition of translation of the GAM336863 target mRNA into a corresponding GAM336863 target protein.

The mechanism of the translational inhibition exerted by GAM336863 RNA, herein designated GAM RNA, on one or more GAM336863 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336863 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336863 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336863 RNA, herein designated GAM RNA, of GAM336863 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336863 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336863 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336863 RNA correlate with, and may be deduced from, the identity of the GAM336863 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336864 141320 GGCGTGAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
AAAGCATGAA detected oligonucleotides of the present invention, referred to here as Genomic Address
AAATCCAGGA Messenger 336864 (GAM336864) oligonucleotides modulates expression of respective target
TAAAATCATC genes whose function and utility is known in the art.

ATCAGGGAAA GAM336864 is a novel bioinformatically detectable regulatory, non protein
CTCCTATGAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336864 was detected
GCTGGAACTG is described with additional reference to Figs. 9-15.

GACAACAGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTTTAGATCC encoded by the human genome.

CTAGTCATGC GAM336864 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
C GAM336864 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336864 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336864 precursor RNA is designated SEQ ID:141320, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141320 is located from position 49753165 to position 49753265 relative to chromosome chr18 on the `-` strand (chr is an abbreviation for chromosome).

GAM336864 precursor RNA folds onto itself, forming GAM336864 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336864 precursor RNA, designated SEQ ID NO: 141320, and a schematic representation of a predicted secondary folding of GAM336864 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336864 folded precursor RNA yielding a GAM336864 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336864 RNA, hereby incorporated herein.

GAM336864 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336864 target RNA, herein designated GAM TARGET RNA.

GAM336864 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336864 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336864 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336864 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336864 RNA, herein designated GAM RNA, to target binding sites on GAM336864 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336864 target RNA into GAM336864 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336864 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336864 target genes. The mRNA of each one of this plurality of GAM336864 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336864 RNA, herein designated GAM RNA, and which when bound by GAM336864 RNA causes inhibition of translation of the GAM336864 target mRNA into a corresponding GAM336864 target protein.

The mechanism of the translational inhibition exerted by GAM336864 RNA, herein designated GAM RNA, on one or more GAM336864 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336864 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336864 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336864 RNA, herein designated GAM RNA, of GAM336864 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336864 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336864 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336864 RNA correlate with, and may be deduced from, the identity of the GAM336864 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336865 141321 AATGGGGTGA Fig. 8 further provides a conceptual description of another novel bioinformatically

TGGTACCTAA detected oligonucleotides of the present invention, referred to here as Genomic Address

TAATACAGTA Messenger 336865 (GAM336865) oligonucleotides modulates expression of respective target

GAGCACTTAA genes whose function and utility is known in the art.

CACAGTAGGT GAM336865 is a novel bioinformatically detectable regulatory, non protein

GGCACATGGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336865 was detected

AAGCCACATA is described with additional reference to Figs. 9-15.

CTGAGTATGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATTTGCTATG encoded by the human genome.

ATTGTTATTG GAM336865 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CTATTATTAC GAM336865 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

TATT GAM336865 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336865 precursor RNA is designated SEQ ID:141321, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141321 is located from position 49839675 to position 49839788 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336865 precursor RNA folds onto itself, forming GAM336865 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336865 precursor RNA, designated SEQ ID NO: 141321, and a schematic representation of a predicted secondary folding of GAM336865 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336865 folded precursor RNA yielding a GAM336865 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336865 RNA, hereby incorporated herein.

GAM336865 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336865 target RNA, herein designated GAM TARGET RNA.

GAM336865 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336865 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336865 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336865 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336865 RNA, herein designated GAM RNA, to target binding sites on GAM336865 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336865 target RNA into GAM336865 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336865 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336865 target genes. The mRNA of each one of this plurality of GAM336865 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336865 RNA, herein designated GAM RNA, and which when bound by GAM336865 RNA causes inhibition of

translation of the GAM336865 target mRNA into a corresponding GAM336865 target protein.

The mechanism of the translational inhibition exerted by GAM336865 RNA, herein designated GAM RNA, on one or more GAM336865 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336865 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336865 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336865 RNA, herein designated GAM RNA, of GAM336865 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336865 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336865 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336865 RNA correlate with, and may be deduced from, the identity of the GAM336865 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336866 141322 GTCAGCACCG Fig. 8 further provides a conceptual description of another novel bioinformatically

AGGTAGCAGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GAATTAACAT Messenger 336866 (GAM336866) oligonucleotides modulates expression of respective target

TCTTGTCAGC genes whose function and utility is known in the art.

AGAGAATGAA GAM336866 is a novel bioinformatically detectable regulatory, non protein

GCAGGAATAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336866 was detected

AATTAAAACT is described with additional reference to Figs. 9-15.

TTGCCCTTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AATAGCTGAT encoded by the human genome.

GAM336866 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336866 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336866 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336866 precursor RNA is designated SEQ ID:141322, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141322 is located from position 50086828 to position 50086917 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336866 precursor RNA folds onto itself, forming GAM336866 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336866 precursor RNA, designated SEQ ID NO: 141322, and a schematic representation of a predicted secondary folding of GAM336866 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336866 folded precursor RNA yielding a GAM336866 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336866 RNA, hereby incorporated herein.

GAM336866 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336866 target RNA, herein designated GAM TARGET RNA.

GAM336866 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336866 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336866 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336866 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336866 RNA, herein designated GAM RNA, to target binding sites on GAM336866 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336866 target RNA

into GAM336866 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336866 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336866 target genes. The mRNA of each one of this plurality of GAM336866 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336866 RNA, herein designated GAM RNA, and which when bound by GAM336866 RNA causes inhibition of translation of the GAM336866 target mRNA into a corresponding GAM336866 target protein.

The mechanism of the translational inhibition exerted by GAM336866 RNA, herein designated GAM RNA, on one or more GAM336866 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336866 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336866 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336866 RNA, herein designated GAM RNA, of GAM336866 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336866 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336866 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336866 RNA correlate with, and may be deduced from, the identity of the GAM336866 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336867 141323 GGGGACATAA Fig. 8 further provides a conceptual description of another novel bioinformatically

CCGTAGGTGG detected oligonucleotides of the present invention, referred to here as Genomic Address

CCGTGCCAAC Messenger 336867 (GAM336867) oligonucleotides modulates expression of respective target

AGGAAACCCC genes whose function and utility is known in the art.

AGGAAGTCTG GAM336867 is a novel bioinformatically detectable regulatory, non protein

GCTTCAGAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336867 was detected

CATTCCCTTT is described with additional reference to Figs. 9-15.

AGCTCTGATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCACACTGTC encoded by the human genome.

TTGTAGTTCA GAM336867 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GTCTTC GAM336867 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336867 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336867 precursor RNA is designated SEQ ID:141323, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141323 is located from position 50178453 to position 50178558 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336867 precursor RNA folds onto itself, forming GAM336867 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336867 precursor RNA, designated SEQ ID NO: 141323, and a schematic representation of a predicted secondary folding of GAM336867 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336867 folded precursor RNA yielding a GAM336867 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336867 RNA, hereby incorporated herein.

GAM336867 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336867 target RNA, herein designated GAM TARGET RNA.

GAM336867 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336867 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336867 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336867 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336867 RNA, herein designated GAM RNA, to target binding sites on GAM336867 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336867 target RNA into GAM336867 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336867 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336867 target genes. The mRNA of each one of this plurality of GAM336867 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336867 RNA, herein designated GAM RNA, and which when bound by GAM336867 RNA causes inhibition of translation of the GAM336867 target mRNA into a corresponding GAM336867 target protein.

The mechanism of the translational inhibition exerted by GAM336867 RNA, herein designated GAM RNA, on one or more GAM336867 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336867 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336867 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336867 RNA, herein designated GAM RNA, of GAM336867 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336867 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336867 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336867 RNA correlate with, and may be deduced from, the identity of the GAM336867 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336868 141324 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTGGAGG Messenger 336868 (GAM336868) oligonucleotides modulates expression of respective target
TTGTGGTGAG genes whose function and utility is known in the art.

CCAAGATCGT GAM336868 is a novel bioinformatically detectable regulatory, non protein
GACATTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336868 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGATTCC encoded by the human genome.

GAM336868 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336868 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336868 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336868 precursor RNA is designated SEQ ID:141324, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141324 is located from position 50244509 to position 50244596 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM336868 precursor RNA folds onto itself, forming GAM336868 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336868 precursor RNA, designated SEQ ID NO: 141324, and a schematic representation of a predicted secondary folding of GAM336868 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336868 folded precursor RNA yielding a GAM336868 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336868 RNA, hereby incorporated herein. Expression of GAM336868 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336868 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336868 target RNA, herein designated GAM TARGET RNA.

GAM336868 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336868 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336868 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336868 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336868 RNA, herein designated GAM RNA, to target binding sites on GAM336868 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336868 target RNA into GAM336868 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336868 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336868 target genes. The mRNA of each one of this plurality of GAM336868 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336868 RNA, herein designated GAM RNA, and which when bound by GAM336868 RNA causes inhibition of translation of the GAM336868 target mRNA into a corresponding GAM336868 target protein.

The mechanism of the translational inhibition exerted by GAM336868 RNA, herein designated GAM RNA, on one or more GAM336868 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336868 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336868 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336868 RNA, herein designated GAM RNA, of GAM336868 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336868 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336868 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336868 RNA correlate with, and may be deduced from, the identity of the GAM336868 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336869 141325 TCACTTGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically

CCGGGAGGCG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTTGCAG Messenger 336869 (GAM336869) oligonucleotides modulates expression of respective target

TGAGCTGAGG genes whose function and utility is known in the art.

TCGTGCCACT GAM336869 is a novel bioinformatically detectable regulatory, non protein

GCACTCCAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336869 was detected

CTGGGCAACA is described with additional reference to Figs. 9-15.

AGAGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336869 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336869 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336869 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336869 precursor RNA is designated SEQ ID:141325, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141325 is located from position 50257437 to position 50257513 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM336869 precursor RNA folds onto itself, forming GAM336869 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336869 precursor RNA, designated SEQ ID NO: 141325, and a schematic representation of a predicted secondary folding of GAM336869 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336869 folded precursor RNA yielding a GAM336869 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336869 RNA, hereby incorporated herein. Expression of GAM336869 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336869 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336869 target RNA, herein designated GAM TARGET RNA.

GAM336869 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336869 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336869 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336869 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336869 RNA, herein designated GAM RNA, to target binding sites on GAM336869 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336869 target RNA into GAM336869 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336869 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336869 target genes. The mRNA of each one of this plurality of GAM336869 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336869 RNA, herein designated GAM RNA, and which when bound by GAM336869 RNA causes inhibition of translation of the GAM336869 target mRNA into a corresponding GAM336869 target protein.

The mechanism of the translational inhibition exerted by GAM336869 RNA, herein designated GAM RNA, on one or more GAM336869 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336869 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336869 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336869 RNA, herein designated GAM RNA, of GAM336869 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336869 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336869 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336869 RNA correlate with, and may be deduced from, the identity of the GAM336869 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336870 141326 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGCGGAGG Messenger 336870 (GAM336870) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

CTGAGATTGC GAM336870 is a novel bioinformatically detectable regulatory, non protein

ACTATTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336870 was detected

TCCAGTCTGG is described with additional reference to Figs. 9-15.

GTGACAGAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGACTCC encoded by the human genome.

GAM336870 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336870 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336870 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336870 precursor RNA is designated SEQ ID:141326, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141326 is located from position 50356669 to position 50356756 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM336870 precursor RNA folds onto itself, forming GAM336870 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336870 precursor RNA, designated SEQ ID NO: 141326, and a schematic representation of a predicted secondary folding of GAM336870 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336870 folded precursor RNA yielding a GAM336870 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336870 RNA, hereby incorporated herein.

GAM336870 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336870 target RNA, herein designated GAM TARGET RNA.

GAM336870 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336870 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336870 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336870 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336870 RNA, herein designated GAM RNA, to target binding sites on GAM336870 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336870 target RNA into GAM336870 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336870 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336870 target genes. The mRNA of each one of this plurality of GAM336870 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336870 RNA, herein designated GAM RNA, and which when bound by GAM336870 RNA causes inhibition of translation of the GAM336870 target mRNA into a corresponding GAM336870 target protein.

The mechanism of the translational inhibition exerted by GAM336870 RNA, herein designated GAM RNA, on one or more GAM336870 target genes, herein collectively designated

GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336870 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336870 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336870 RNA, herein designated GAM RNA, of GAM336870 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336870 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336870 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336870 RNA correlate with, and may be deduced from, the identity of the GAM336870 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336871 141327 TGGCTCACAC Fig. 8 further provides a conceptual description of another novel bioinformatically

CTGTAATCCC detected oligonucleotides of the present invention, referred to here as Genomic Address

CGCTACTCAG Messenger 336871 (GAM336871) oligonucleotides modulates expression of respective target

GAGGTTTAGG genes whose function and utility is known in the art.

CAGGAGAATC GAM336871 is a novel bioinformatically detectable regulatory, non protein

ACTTGAACCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336871 was detected

GAGAGGCAGA is described with additional reference to Figs. 9-15.

GGTTACAGTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTGAGTCA encoded by the human genome.

GAM336871 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336871 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336871 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336871 precursor RNA is designated SEQ ID:141327, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141327 is located from position 50415753 to position 50415840 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM336871 precursor RNA folds onto itself, forming GAM336871 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336871 precursor RNA, designated SEQ ID NO: 141327, and a schematic representation of a predicted secondary folding of GAM336871 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336871 folded precursor RNA yielding a GAM336871 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336871 RNA, hereby incorporated herein.

GAM336871 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336871 target RNA, herein designated GAM TARGET RNA.

GAM336871 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336871 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336871 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336871 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336871 RNA, herein designated GAM RNA, to target binding sites on GAM336871 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336871 target RNA into GAM336871 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336871 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM336871 target genes. The mRNA of each one of this plurality of GAM336871 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336871 RNA, herein designated GAM RNA, and which when bound by GAM336871 RNA causes inhibition of translation of the GAM336871 target mRNA into a corresponding GAM336871 target protein.

The mechanism of the translational inhibition exerted by GAM336871 RNA, herein designated GAM RNA, on one or more GAM336871 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336871 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336871 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336871 RNA, herein designated GAM RNA, of GAM336871 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336871 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336871 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336871 RNA correlate with, and may be deduced from, the identity of the GAM336871 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336872 141328 GGTGGTTATG Fig. 8 further provides a conceptual description of another novel bioinformatically

GTGATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CCTGTAGTCT Messenger 336872 (GAM336872) oligonucleotides modulates expression of respective target

CATCTGCTTT genes whose function and utility is known in the art.

GGAGTTGAGG GAM336872 is a novel bioinformatically detectable regulatory, non protein

CTGCAGTGAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336872 was detected

CTATGATCGT is described with additional reference to Figs. 9-15.

GCCACT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336872 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336872 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336872 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336872 precursor RNA is designated SEQ ID:141328, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141328 is located from position 50638127 to position 50638202 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM336872 precursor RNA folds onto itself, forming GAM336872 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336872 precursor RNA, designated SEQ ID NO: 141328, and a schematic representation of a predicted secondary folding of GAM336872 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336872 folded precursor RNA yielding a GAM336872 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336872 RNA, hereby incorporated herein.

GAM336872 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336872 target RNA, herein designated GAM TARGET RNA.

GAM336872 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336872 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336872 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336872 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336872 RNA, herein designated GAM RNA, to target binding sites on GAM336872 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336872 target RNA into GAM336872 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336872 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336872 target genes. The mRNA of each one of this plurality of GAM336872 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336872 RNA, herein designated GAM RNA, and which when bound by GAM336872 RNA causes inhibition of translation of the GAM336872 target mRNA into a corresponding GAM336872 target protein.

The mechanism of the translational inhibition exerted by GAM336872 RNA, herein designated GAM RNA, on one or more GAM336872 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336872 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336872 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336872 RNA, herein designated GAM RNA, of GAM336872 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336872 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336872 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336872 RNA correlate with, and may be deduced from, the identity of the GAM336872 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336873 141329 TTGGGCTACT Fig. 8 further provides a conceptual description of another novel bioinformatically

TATAGGAGTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AAAATAAACT Messenger 336873 (GAM336873) oligonucleotides modulates expression of respective target

CTGTGATGTG genes whose function and utility is known in the art.

CCAGCACCAG GAM336873 is a novel bioinformatically detectable regulatory, non protein

CACAGGCTCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336873 was detected

TGTAGTTTCC is described with additional reference to Figs. 9-15.

TCCCAACTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGGCTCAG encoded by the human genome.

GAM336873 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336873 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336873 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336873 precursor RNA is designated SEQ ID:141329, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141329 is located from position 50704929 to position 50705016 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM336873 precursor RNA folds onto itself, forming GAM336873 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336873 precursor RNA, designated SEQ ID NO: 141329, and a schematic representation of a predicted secondary folding of GAM336873 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336873 folded precursor RNA yielding a GAM336873 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336873 RNA, hereby incorporated herein.

GAM336873 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336873 target RNA, herein designated GAM TARGET RNA.

GAM336873 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336873 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336873 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336873 RNA is a partial or fully complementary sequence of the

nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336873 RNA, herein designated GAM RNA, to target binding sites on GAM336873 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336873 target RNA into GAM336873 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336873 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336873 target genes. The mRNA of each one of this plurality of GAM336873 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336873 RNA, herein designated GAM RNA, and which when bound by GAM336873 RNA causes inhibition of translation of the GAM336873 target mRNA into a corresponding GAM336873 target protein.

The mechanism of the translational inhibition exerted by GAM336873 RNA, herein designated GAM RNA, on one or more GAM336873 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336873 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336873 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336873 RNA, herein designated GAM RNA, of GAM336873 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336873 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336873 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336873 RNA correlate with, and may be deduced from, the identity of the GAM336873 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336874 141330 GGCTTCCCCA Fig. 8 further provides a conceptual description of another novel bioinformatically
GTCATATATT detected oligonucleotides of the present invention, referred to here as Genomic Address
CTCAGATTCA Messenger 336874 (GAM336874) oligonucleotides modulates expression of respective target
AAGGAACAAA genes whose function and utility is known in the art.

GTGGCCCCAG GAM336874 is a novel bioinformatically detectable regulatory, non protein
TCAGCCTTTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336874 was detected
CCAGAAACCT is described with additional reference to Figs. 9-15.

GTGAGTGTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGGCTGGAAG encoded by the human genome.

CC GAM336874 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336874 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336874 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336874 precursor RNA is designated SEQ ID:141330, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141330 is located from position 50706273 to position 50706364 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM336874 precursor RNA folds onto itself, forming GAM336874 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336874 precursor RNA, designated SEQ ID NO: 141330, and a schematic representation of a predicted secondary folding of GAM336874 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336874 folded precursor RNA yielding a GAM336874 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336874 RNA, hereby incorporated herein.

GAM336874 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336874 target RNA, herein designated GAM TARGET RNA.

GAM336874 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336874 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336874 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336874 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336874 RNA, herein designated GAM RNA, to target binding sites on GAM336874 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336874 target RNA into GAM336874 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336874 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336874 target genes. The mRNA of each one of this plurality of GAM336874 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336874 RNA, herein designated GAM RNA, and which when bound by GAM336874 RNA causes inhibition of translation of the GAM336874 target mRNA into a corresponding GAM336874 target protein.

The mechanism of the translational inhibition exerted by GAM336874 RNA, herein designated GAM RNA, on one or more GAM336874 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336874 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336874 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336874 RNA, herein designated GAM RNA, of GAM336874 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336874 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336874 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336874 RNA correlate with, and may be deduced from, the identity of the GAM336874 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336875 141331 GCTCTTCCCA Fig. 8 further provides a conceptual description of another novel bioinformatically
TACCATGCAT detected oligonucleotides of the present invention, referred to here as Genomic Address
TCCTAGCCCC Messenger 336875 (GAM336875) oligonucleotides modulates expression of respective target
ACAGAAATCC genes whose function and utility is known in the art.

ACTAGTCTGG GAM336875 is a novel bioinformatically detectable regulatory, non protein
GCTTTCTCTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336875 was detected
CGATTGGCTG is described with additional reference to Figs. 9-15.

AGGCAGCAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGGTGAGGCA encoded by the human genome.

CCTGGGCTGT GAM336875 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GCAGGAGC GAM336875 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336875 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336875 precursor RNA is designated SEQ ID:141331, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141331 is located from position 50833625 to position 50833732 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM336875 precursor RNA folds onto itself, forming GAM336875 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336875 precursor RNA, designated SEQ ID NO: 141331, and a schematic representation of a predicted secondary folding of GAM336875 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336875 folded precursor RNA yielding a GAM336875 RNA, herein designated GAM RNA, in the form of a single stranded

~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336875 RNA, hereby incorporated herein.

GAM336875 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336875 target RNA, herein designated GAM TARGET RNA.

GAM336875 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336875 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336875 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336875 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336875 RNA, herein designated GAM RNA, to target binding sites on GAM336875 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336875 target RNA into GAM336875 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336875 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336875 target genes. The mRNA of each one of this plurality of GAM336875 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336875 RNA, herein designated GAM RNA, and which when bound by GAM336875 RNA causes inhibition of translation of the GAM336875 target mRNA into a corresponding GAM336875 target protein.

The mechanism of the translational inhibition exerted by GAM336875 RNA, herein designated GAM RNA, on one or more GAM336875 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336875 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336875 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336875 RNA, herein designated GAM RNA, of GAM336875 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336875 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336875 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336875 RNA correlate with, and may be deduced from, the identity of the GAM336875 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336876 141332 CAAATCAGTG Fig. 8 further provides a conceptual description of another novel bioinformatically

GCATATTAGA detected oligonucleotides of the present invention, referred to here as Genomic Address

TTCTCATAGG Messenger 336876 (GAM336876) oligonucleotides modulates expression of respective target

AATGTGAACC genes whose function and utility is known in the art.

GTGTTGTGAC GAM336876 is a novel bioinformatically detectable regulatory, non protein

CATGCGAGGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336876 was detected

ATCTAGGTTG is described with additional reference to Figs. 9-15.

CATGCTCTTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATGAGAATCT encoded by the human genome.

AATATCTGAT GAM336876 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GATCTG GAM336876 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336876 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336876 precursor RNA is designated SEQ ID:141332, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141332 is located from position 50911119 to position 50911224 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM336876 precursor RNA folds onto itself, forming GAM336876 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336876 precursor RNA, designated SEQ ID NO: 141332, and a schematic representation of a predicted secondary folding of GAM336876 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336876 folded precursor RNA yielding a GAM336876 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336876 RNA, hereby incorporated herein.

GAM336876 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336876 target RNA, herein designated GAM TARGET RNA.

GAM336876 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336876 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336876 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336876 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336876 RNA, herein designated GAM RNA, to target binding sites on GAM336876 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336876 target RNA into GAM336876 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336876 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336876 target genes. The mRNA of each one of this plurality of GAM336876 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336876 RNA, herein designated GAM RNA, and which when bound by GAM336876 RNA causes inhibition of translation of the GAM336876 target mRNA into a corresponding GAM336876 target protein.

The mechanism of the translational inhibition exerted by GAM336876 RNA, herein designated GAM RNA, on one or more GAM336876 target genes, herein collectively designated

GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336876 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336876 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336876 RNA, herein designated GAM RNA, of GAM336876 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336876 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336876 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336876 RNA correlate with, and may be deduced from, the identity of the GAM336876 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336877 141333 ATCAGTGGCA Fig. 8 further provides a conceptual description of another novel bioinformatically

TATTAGATTC detected oligonucleotides of the present invention, referred to here as Genomic Address

TCATAGGAAT Messenger 336877 (GAM336877) oligonucleotides modulates expression of respective target

GTGAACCGTG genes whose function and utility is known in the art.

TTGTGACCAT GAM336877 is a novel bioinformatically detectable regulatory, non protein

GCGAGGGATC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336877 was detected

TAGGTTGCAT is described with additional reference to Figs. 9-15.

GCTCTTCATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGAATCTAAT encoded by the human genome.

ATCTGAT GAM336877 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336877 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336877 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336877 precursor RNA is designated SEQ ID:141333, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141333 is located from position 50911122 to position 50911218

relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM336877 precursor RNA folds onto itself, forming GAM336877 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336877 precursor RNA, designated SEQ ID NO: 141333, and a schematic representation of a predicted secondary folding of GAM336877 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336877 folded precursor RNA yielding a GAM336877 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336877 RNA, hereby incorporated herein.

GAM336877 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336877 target RNA, herein designated GAM TARGET RNA.

GAM336877 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336877 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336877 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336877 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336877 RNA, herein designated GAM RNA, to target binding sites on GAM336877 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336877 target RNA into GAM336877 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336877 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336877 target genes. The mRNA of each one of this plurality of GAM336877 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336877 RNA, herein designated GAM RNA, and which when bound by GAM336877 RNA causes inhibition of translation of the GAM336877 target mRNA into a corresponding GAM336877 target protein.

The mechanism of the translational inhibition exerted by GAM336877 RNA, herein designated GAM RNA, on one or more GAM336877 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336877 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336877 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336877 RNA, herein designated GAM RNA, of GAM336877 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336877 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336877 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336877 RNA correlate with, and may be deduced from, the identity of the GAM336877 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336878 141334 TAGGAGGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

GATTGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GTCCAGGAGT Messenger 336878 (GAM336878) oligonucleotides modulates expression of respective target

TGAAGGCTAC genes whose function and utility is known in the art.

AGTGAGCTTT GAM336878 is a novel bioinformatically detectable regulatory, non protein

GATCACATCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336878 was detected

CTGCACTCTA is described with additional reference to Figs. 9-15.

GCCTGAGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAAAGCAAGA encoded by the human genome.

CCTCATCTCT GAM336878 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TA GAM336878 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336878 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336878 precursor RNA is designated SEQ ID:141334, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141334 is located from position 51269225 to position 51269326 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM336878 precursor RNA folds onto itself, forming GAM336878 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336878 precursor RNA, designated SEQ ID NO: 141334, and a schematic representation of a predicted secondary folding of GAM336878 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336878 folded precursor RNA yielding a GAM336878 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336878 RNA, hereby incorporated herein.

GAM336878 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336878 target RNA, herein designated GAM TARGET RNA.

GAM336878 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336878 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336878 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336878 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336878 RNA, herein designated GAM RNA, to target binding sites on GAM336878 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336878 target RNA into GAM336878 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336878 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336878 target genes. The mRNA of each one of this plurality of GAM336878 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336878 RNA, herein designated GAM RNA, and which when bound by GAM336878 RNA causes inhibition of translation of the GAM336878 target mRNA into a corresponding GAM336878 target protein.

The mechanism of the translational inhibition exerted by GAM336878 RNA, herein designated GAM RNA, on one or more GAM336878 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336878 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336878 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336878 RNA, herein designated GAM RNA, of GAM336878 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336878 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336878 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336878 RNA correlate with, and may be deduced from, the identity of the GAM336878 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336879 141335 TCGCTCTTTG Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGCCCAGGC detected oligonucleotides of the present invention, referred to here as Genomic Address

TAGAGTGCAG Messenger 336879 (GAM336879) oligonucleotides modulates expression of respective target

TGGCATGATC genes whose function and utility is known in the art.

TCGGCTCACT GCAACCTCTG CCTCCTGGGT

GAM336879 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336879 was detected is described with additional reference to Figs. 9-15.

TCAAGCGA

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336879 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336879 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336879 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336879 precursor RNA is designated SEQ ID:141335, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141335 is located from position 51538284 to position 51538361 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM336879 precursor RNA folds onto itself, forming GAM336879 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336879 precursor RNA, designated SEQ ID NO: 141335, and a schematic representation of a predicted secondary folding of GAM336879 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336879 folded precursor RNA yielding a GAM336879 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336879 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336879 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336879 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336879 target RNA, herein designated GAM TARGET RNA.

GAM336879 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336879 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336879 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336879 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336879 RNA, herein designated GAM RNA, to target binding sites on GAM336879 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336879 target RNA into GAM336879 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336879 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336879 target genes. The mRNA of each one of this plurality of GAM336879 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336879 RNA, herein designated GAM RNA, and which when bound by GAM336879 RNA causes inhibition of translation of the GAM336879 target mRNA into a corresponding GAM336879 target protein.

The mechanism of the translational inhibition exerted by GAM336879 RNA, herein designated GAM RNA, on one or more GAM336879 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336879 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336879 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336879 RNA, herein designated GAM RNA, of GAM336879 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336879 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336879 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336879 RNA correlate with, and may be deduced from, the identity of the GAM336879 target gene

inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336880 141336 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AATAACTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCCAGGAGA Messenger 336880 (GAM336880) oligonucleotides modulates expression of respective target
CGGAGGTTGT genes whose function and utility is known in the art.

TGTGAGCCGA GAM336880 is a novel bioinformatically detectable regulatory, non protein
GATCGCGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336880 was detected
TTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CGAGCGAAAC encoded by the human genome.

TCCGTCTC GAM336880 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336880 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336880 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336880 precursor RNA is designated SEQ ID:141336, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141336 is located from position 51698913 to position 51699010 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM336880 precursor RNA folds onto itself, forming GAM336880 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336880 precursor RNA, designated SEQ ID NO: 141336, and a schematic representation of a predicted secondary folding of GAM336880 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336880 folded precursor RNA yielding a GAM336880 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly

similar to the nucleotide sequence of GAM336880 RNA, hereby incorporated herein. Expression of GAM336880 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336880 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336880 target RNA, herein designated GAM TARGET RNA.

GAM336880 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336880 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336880 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336880 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336880 RNA, herein designated GAM RNA, to target binding sites on GAM336880 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336880 target RNA into GAM336880 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336880 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336880 target genes. The mRNA of each one of this plurality of GAM336880 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336880 RNA, herein designated GAM RNA, and which when bound by GAM336880 RNA causes inhibition of translation of the GAM336880 target mRNA into a corresponding GAM336880 target protein.

The mechanism of the translational inhibition exerted by GAM336880 RNA, herein designated GAM RNA, on one or more GAM336880 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336880 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336880 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336880 RNA, herein designated GAM RNA, of GAM336880 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336880 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336880 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336880 RNA correlate with, and may be deduced from, the identity of the GAM336880 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336881 141337 ATAGCACCAA Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAGAACCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CTGCTGCCTA Messenger 336881 (GAM336881) oligonucleotides modulates expression of respective target
TTATAAGGCA genes whose function and utility is known in the art.

ATCAGTTTTT GAM336881 is a novel bioinformatically detectable regulatory, non protein
CCTAGGGAAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336881 was detected
TGTTAT is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336881 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336881 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336881 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336881 precursor RNA is designated SEQ ID:141337, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141337 is located from position 51903169 to position 51903234 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336881 precursor RNA folds onto itself, forming GAM336881 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336881 precursor RNA, designated SEQ ID NO: 141337, and a schematic representation of a predicted secondary folding of GAM336881 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336881 folded precursor RNA yielding a GAM336881 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336881 RNA, hereby incorporated herein.

GAM336881 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336881 target RNA, herein designated GAM TARGET RNA.

GAM336881 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336881 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336881 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336881 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336881 RNA, herein designated GAM RNA, to target binding sites on GAM336881 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336881 target RNA into GAM336881 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336881 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336881 target genes. The mRNA of each one of this plurality of GAM336881 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336881 RNA, herein designated GAM RNA, and which when bound by GAM336881 RNA causes inhibition of translation of the GAM336881 target mRNA into a corresponding GAM336881 target protein.

The mechanism of the translational inhibition exerted by GAM336881 RNA, herein designated GAM RNA, on one or more GAM336881 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336881 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336881 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336881 RNA, herein designated GAM RNA, of GAM336881 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336881 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336881 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336881 RNA correlate with, and may be deduced from, the identity of the GAM336881 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336882 141338 GTCTCTCAGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GGTAGAGTGT detected oligonucleotides of the present invention, referred to here as Genomic Address
GTCTATGGAA Messenger 336882 (GAM336882) oligonucleotides modulates expression of respective target
GGGGTTGTCA genes whose function and utility is known in the art.

TGGTAACAGC GAM336882 is a novel bioinformatically detectable regulatory, non protein
TTCTGTTGGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336882 was detected
TTCTAGCCCT is described with additional reference to Figs. 9-15.

ACCTTTTCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GACACATTCA encoded by the human genome.

TGCTAGAGGG GAM336882 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
AT GAM336882 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336882 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336882 precursor RNA is designated SEQ ID:141338, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141338 is located from position 51927028 to position 51927129 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336882 precursor RNA folds onto itself, forming GAM336882 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336882 precursor RNA, designated SEQ ID NO: 141338, and a schematic representation of a predicted secondary folding of GAM336882 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336882 folded precursor RNA yielding a GAM336882 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336882 RNA, hereby incorporated herein.

GAM336882 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336882 target RNA, herein designated GAM TARGET RNA.

GAM336882 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336882 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336882 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336882 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336882 RNA, herein designated GAM RNA, to target binding sites on GAM336882 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336882 target RNA into GAM336882 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336882 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336882 target genes. The mRNA of each one of this plurality of GAM336882 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336882 RNA, herein designated GAM RNA, and which when bound by GAM336882 RNA causes inhibition of

translation of the GAM336882 target mRNA into a corresponding GAM336882 target protein.

The mechanism of the translational inhibition exerted by GAM336882 RNA, herein designated GAM RNA, on one or more GAM336882 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336882 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336882 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336882 RNA, herein designated GAM RNA, of GAM336882 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336882 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336882 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336882 RNA correlate with, and may be deduced from, the identity of the GAM336882 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336883 141339 CAGATAACCA Fig. 8 further provides a conceptual description of another novel bioinformatically

GACACACCCC detected oligonucleotides of the present invention, referred to here as Genomic Address

TGGGCTGGGC Messenger 336883 (GAM336883) oligonucleotides modulates expression of respective target

ACACAGTTCC genes whose function and utility is known in the art.

TTATTTGGGT GAM336883 is a novel bioinformatically detectable regulatory, non protein

TTTGTGGTTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336883 was detected

TCCCAGGTGG is described with additional reference to Figs. 9-15.

TAGCTGGGAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCTG encoded by the human genome.

GAM336883 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336883 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336883 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336883 precursor RNA is designated SEQ ID:141339, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141339 is located from position 51938752 to position 51938835 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM336883 precursor RNA folds onto itself, forming GAM336883 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336883 precursor RNA, designated SEQ ID NO: 141339, and a schematic representation of a predicted secondary folding of GAM336883 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336883 folded precursor RNA yielding a GAM336883 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336883 RNA, hereby incorporated herein.

GAM336883 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336883 target RNA, herein designated GAM TARGET RNA.

GAM336883 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336883 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336883 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336883 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336883 RNA, herein designated GAM RNA, to target binding sites on GAM336883 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336883 target RNA

into GAM336883 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336883 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336883 target genes. The mRNA of each one of this plurality of GAM336883 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336883 RNA, herein designated GAM RNA, and which when bound by GAM336883 RNA causes inhibition of translation of the GAM336883 target mRNA into a corresponding GAM336883 target protein.

The mechanism of the translational inhibition exerted by GAM336883 RNA, herein designated GAM RNA, on one or more GAM336883 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336883 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336883 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336883 RNA, herein designated GAM RNA, of GAM336883 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336883 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336883 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336883 RNA correlate with, and may be deduced from, the identity of the GAM336883 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336884 141340 TGGATGTGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GGGTGACTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGATAGAA Messenger 336884 (GAM336884) oligonucleotides modulates expression of respective target

TGAGTACCCA genes whose function and utility is known in the art.

TGAATAGCCA GAM336884 is a novel bioinformatically detectable regulatory, non protein

TGATTCCTAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336884 was detected

CCTGTCCCAG is described with additional reference to Figs. 9-15.

TCATCTCTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCTTATCCA encoded by the human genome.

GAM336884 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336884 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336884 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336884 precursor RNA is designated SEQ ID:141340, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141340 is located from position 52042159 to position 52042247 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM336884 precursor RNA folds onto itself, forming GAM336884 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336884 precursor RNA, designated SEQ ID NO: 141340, and a schematic representation of a predicted secondary folding of GAM336884 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336884 folded precursor RNA yielding a GAM336884 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336884 RNA, hereby incorporated herein.

GAM336884 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336884 target RNA, herein designated GAM TARGET RNA.

GAM336884 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336884 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336884 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336884 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336884 RNA, herein designated GAM RNA, to target binding sites on GAM336884 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336884 target RNA into GAM336884 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336884 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336884 target genes. The mRNA of each one of this plurality of GAM336884 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336884 RNA, herein designated GAM RNA, and which when bound by GAM336884 RNA causes inhibition of translation of the GAM336884 target mRNA into a corresponding GAM336884 target protein.

The mechanism of the translational inhibition exerted by GAM336884 RNA, herein designated GAM RNA, on one or more GAM336884 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336884 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336884 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336884 RNA, herein designated GAM RNA, of GAM336884 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336884 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336884 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336884 RNA correlate with, and may be deduced from, the identity of the GAM336884 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336885 141341 TGTCTCCTGG Fig. 8 further provides a conceptual description of another novel bioinformatically

GATGCTGTGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GGTTGACCCT Messenger 336885 (GAM336885) oligonucleotides modulates expression of respective target

GGATAGCATT genes whose function and utility is known in the art.

CACGGTCATT GAM336885 is a novel bioinformatically detectable regulatory, non protein
AGCTCATGGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336885 was detected
GTTCTTGGGA is described with additional reference to Figs. 9-15.

GACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336885 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336885 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336885 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336885 precursor RNA is designated SEQ ID:141341, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141341 is located from position 52576451 to position 52576524 relative to chromosome chr18 on the `-` strand (chr is an abbreviation for chromosome).

GAM336885 precursor RNA folds onto itself, forming GAM336885 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336885 precursor RNA, designated SEQ ID NO: 141341, and a schematic representation of a predicted secondary folding of GAM336885 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336885 folded precursor RNA yielding a GAM336885 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336885 RNA, hereby incorporated herein.

GAM336885 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336885 target RNA, herein designated GAM TARGET RNA.

GAM336885 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336885 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM336885 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336885 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336885 RNA, herein designated GAM RNA, to target binding sites on GAM336885 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336885 target RNA into GAM336885 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336885 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336885 target genes. The mRNA of each one of this plurality of GAM336885 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336885 RNA, herein designated GAM RNA, and which when bound by GAM336885 RNA causes inhibition of translation of the GAM336885 target mRNA into a corresponding GAM336885 target protein.

The mechanism of the translational inhibition exerted by GAM336885 RNA, herein designated GAM RNA, on one or more GAM336885 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336885 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336885 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336885 RNA, herein designated GAM RNA, of GAM336885 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336885 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336885 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336885 RNA correlate with, and may be deduced from, the identity of the GAM336885 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336886 141342 GAGGCAAGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATTGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GCCCGGGAGG Messenger 336886 (GAM336886) oligonucleotides modulates expression of respective target

CGAAGGTTGC genes whose function and utility is known in the art.

AGTGAGCTGA GAM336886 is a novel bioinformatically detectable regulatory, non protein

GATGGTGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336886 was detected

CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGAGCAAGA encoded by the human genome.

CTGTGTCTC GAM336886 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336886 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336886 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336886 precursor RNA is designated SEQ ID:141342, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141342 is located from position 52749150 to position 52749248 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336886 precursor RNA folds onto itself, forming GAM336886 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336886 precursor RNA, designated SEQ ID NO: 141342, and a schematic representation of a predicted secondary folding of GAM336886 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336886 folded precursor RNA yielding a GAM336886 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336886 RNA, hereby incorporated herein.

Expression of GAM336886 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336886 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336886 target RNA, herein designated GAM TARGET RNA.

GAM336886 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336886 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336886 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336886 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336886 RNA, herein designated GAM RNA, to target binding sites on GAM336886 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336886 target RNA into GAM336886 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336886 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336886 target genes. The mRNA of each one of this plurality of GAM336886 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336886 RNA, herein designated GAM RNA, and which when bound by GAM336886 RNA causes inhibition of translation of the GAM336886 target mRNA into a corresponding GAM336886 target protein.

The mechanism of the translational inhibition exerted by GAM336886 RNA, herein designated GAM RNA, on one or more GAM336886 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336886 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336886 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336886 RNA, herein designated GAM RNA, of GAM336886 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336886 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336886 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336886 RNA correlate with, and may be deduced from, the identity of the GAM336886 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336887 141343 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
ACTCGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCCAGGAGG Messenger 336887 (GAM336887) oligonucleotides modulates expression of respective target
CGGAGGTTGC genes whose function and utility is known in the art.

AGTGAGGTGA GAM336887 is a novel bioinformatically detectable regulatory, non protein
GATGGCGCTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336887 was detected
CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGATTGAGA encoded by the human genome.

CTGTCTC GAM336887 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336887 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336887 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336887 precursor RNA is designated SEQ ID:141343, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141343 is located from position 52879973 to position 52880069 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336887 precursor RNA folds onto itself, forming GAM336887 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336887 precursor RNA, designated SEQ ID NO: 141343, and a schematic representation of a predicted secondary folding of GAM336887 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336887 folded precursor RNA yielding a GAM336887 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336887 RNA, hereby incorporated herein. Expression of GAM336887 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336887 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336887 target RNA, herein designated GAM TARGET RNA.

GAM336887 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336887 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336887 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336887 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336887 RNA, herein designated GAM RNA, to target binding sites on GAM336887 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336887 target RNA into GAM336887 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336887 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336887 target genes. The mRNA of each one of this plurality of GAM336887 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336887 RNA, herein designated GAM RNA, and which when bound by GAM336887 RNA causes inhibition of translation of the GAM336887 target mRNA into a corresponding GAM336887 target protein.

The mechanism of the translational inhibition exerted by GAM336887 RNA, herein designated GAM RNA, on one or more GAM336887 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336887 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336887 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336887 RNA, herein designated GAM RNA, of GAM336887 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336887 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336887 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336887 RNA correlate with, and may be deduced from, the identity of the GAM336887 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336888 141344 GAGGTAAAGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TGGGGCTGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GTTCCTTATG Messenger 336888 (GAM336888) oligonucleotides modulates expression of respective target

CAAAGAGAGC genes whose function and utility is known in the art.

TGTCTCTTTA GAM336888 is a novel bioinformatically detectable regulatory, non protein

GTAGGAACTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336888 was detected

TGGATTGGCT is described with additional reference to Figs. 9-15.

CATTTTGCTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

T encoded by the human genome.

GAM336888 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336888 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336888 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336888 precursor RNA is designated SEQ ID:141344, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141344 is located from position 53047643 to position 53047723 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM336888 precursor RNA folds onto itself, forming GAM336888 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336888 precursor RNA, designated SEQ ID NO: 141344, and a schematic representation of a predicted secondary folding of GAM336888 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336888 folded precursor RNA yielding a GAM336888 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336888 RNA, hereby incorporated herein.

GAM336888 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336888 target RNA, herein designated GAM TARGET RNA.

GAM336888 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336888 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336888 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336888 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336888 RNA, herein designated GAM RNA, to target binding sites on GAM336888 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336888 target RNA into GAM336888 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336888 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336888 target genes. The mRNA of each one of this

plurality of GAM336888 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336888 RNA, herein designated GAM RNA, and which when bound by GAM336888 RNA causes inhibition of translation of the GAM336888 target mRNA into a corresponding GAM336888 target protein.

The mechanism of the translational inhibition exerted by GAM336888 RNA, herein designated GAM RNA, on one or more GAM336888 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336888 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336888 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336888 RNA, herein designated GAM RNA, of GAM336888 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336888 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336888 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336888 RNA correlate with, and may be deduced from, the identity of the GAM336888 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336889 141345 ATGCTCAAGT Fig. 8 further provides a conceptual description of another novel bioinformatically

ATACTGATGT detected oligonucleotides of the present invention, referred to here as Genomic Address

CACCAGGCAG Messenger 336889 (GAM336889) oligonucleotides modulates expression of respective target

AATTCAGATA genes whose function and utility is known in the art.

ATGGTGACCA GAM336889 is a novel bioinformatically detectable regulatory, non protein

GAGATCCTGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336889 was detected

CTGAGCAACC is described with additional reference to Figs. 9-15.

TGGTGACATT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGATACCAGA encoded by the human genome.

CAT GAM336889 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336889 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336889 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336889 precursor RNA is designated SEQ ID:141345, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141345 is located from position 53301337 to position 53301429 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM336889 precursor RNA folds onto itself, forming GAM336889 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336889 precursor RNA, designated SEQ ID NO: 141345, and a schematic representation of a predicted secondary folding of GAM336889 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336889 folded precursor RNA yielding a GAM336889 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336889 RNA, hereby incorporated herein.

GAM336889 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336889 target RNA, herein designated GAM TARGET RNA.

GAM336889 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336889 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336889 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336889 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336889 RNA, herein designated GAM RNA, to target

binding sites on GAM336889 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336889 target RNA into GAM336889 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336889 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336889 target genes. The mRNA of each one of this plurality of GAM336889 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336889 RNA, herein designated GAM RNA, and which when bound by GAM336889 RNA causes inhibition of translation of the GAM336889 target mRNA into a corresponding GAM336889 target protein.

The mechanism of the translational inhibition exerted by GAM336889 RNA, herein designated GAM RNA, on one or more GAM336889 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336889 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336889 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336889 RNA, herein designated GAM RNA, of GAM336889 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336889 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336889 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336889 RNA correlate with, and may be deduced from, the identity of the GAM336889 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336890 141346 CCTAAGCCTA Fig. 8 further provides a conceptual description of another novel bioinformatically

GCGCCCTCAC detected oligonucleotides of the present invention, referred to here as Genomic Address

CTGTTCAACA Messenger 336890 (GAM336890) oligonucleotides modulates expression of respective target

GCAATAATCA genes whose function and utility is known in the art.

GGCCTGTCTT GAM336890 is a novel bioinformatically detectable regulatory, non protein

GCCTACCTCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336890 was detected

CTAGATTATT is described with additional reference to Figs. 9-15.

GCAAGCAGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAGGGACGTG encoded by the human genome.

AACAGGCTCT GAM336890 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GG GAM336890 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336890 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336890 precursor RNA is designated SEQ ID:141346, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141346 is located from position 53596776 to position 53596877 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336890 precursor RNA folds onto itself, forming GAM336890 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336890 precursor RNA, designated SEQ ID NO: 141346, and a schematic representation of a predicted secondary folding of GAM336890 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336890 folded precursor RNA yielding a GAM336890 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336890 RNA, hereby incorporated herein.

GAM336890 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336890 target RNA, herein designated GAM TARGET RNA.

GAM336890 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336890 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336890 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336890 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows

three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336890 RNA, herein designated GAM RNA, to target binding sites on GAM336890 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336890 target RNA into GAM336890 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336890 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336890 target genes. The mRNA of each one of this plurality of GAM336890 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336890 RNA, herein designated GAM RNA, and which when bound by GAM336890 RNA causes inhibition of translation of the GAM336890 target mRNA into a corresponding GAM336890 target protein.

The mechanism of the translational inhibition exerted by GAM336890 RNA, herein designated GAM RNA, on one or more GAM336890 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336890 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336890 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336890 RNA, herein designated GAM RNA, of GAM336890 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336890 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336890 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336890 RNA correlate with, and may be deduced from, the identity of the GAM336890 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336891 141347 AGCCTAGCGC Fig. 8 further provides a conceptual description of another novel bioinformatically

CCTCACCTGT detected oligonucleotides of the present invention, referred to here as Genomic Address
TCAACAGCAA Messenger 336891 (GAM336891) oligonucleotides modulates expression of respective target
TAATCAGGCC genes whose function and utility is known in the art.

TGTCTTGCCT GAM336891 is a novel bioinformatically detectable regulatory, non protein
ACCTCACTAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336891 was detected
ATTATTGCAA is described with additional reference to Figs. 9-15.

GCAGTGAAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GACGTGAACA encoded by the human genome.

GGCT GAM336891 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336891 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336891 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336891 precursor RNA is designated SEQ ID:141347, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141347 is located from position 53596780 to position 53596873 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336891 precursor RNA folds onto itself, forming GAM336891 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336891 precursor RNA, designated SEQ ID NO: 141347, and a schematic representation of a predicted secondary folding of GAM336891 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336891 folded precursor RNA yielding a GAM336891 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336891 RNA, hereby incorporated herein.

GAM336891 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336891 target RNA, herein designated GAM TARGET RNA.

GAM336891 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336891 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336891 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336891 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336891 RNA, herein designated GAM RNA, to target binding sites on GAM336891 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336891 target RNA into GAM336891 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336891 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336891 target genes. The mRNA of each one of this plurality of GAM336891 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336891 RNA, herein designated GAM RNA, and which when bound by GAM336891 RNA causes inhibition of translation of the GAM336891 target mRNA into a corresponding GAM336891 target protein.

The mechanism of the translational inhibition exerted by GAM336891 RNA, herein designated GAM RNA, on one or more GAM336891 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336891 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336891 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336891 RNA, herein designated GAM RNA, of GAM336891 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336891 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336891 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336891 RNA correlate with, and may be deduced from, the identity of the GAM336891 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336892 141348 TGAGAAGTCA Fig. 8 further provides a conceptual description of another novel bioinformatically
GTCCTGATGG detected oligonucleotides of the present invention, referred to here as Genomic Address
CAGCTGTGCA Messenger 336892 (GAM336892) oligonucleotides modulates expression of respective target
GAGTGGGGGT genes whose function and utility is known in the art.

GAGGAGGCCA GAM336892 is a novel bioinformatically detectable regulatory, non protein
ACTTACTGCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336892 was detected
TCCTGAACTG is described with additional reference to Figs. 9-15.

GGCAGTGCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCTATGACAT encoded by the human genome.

GGCCA GAM336892 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336892 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336892 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336892 precursor RNA is designated SEQ ID:141348, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141348 is located from position 53823632 to position 53823726 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM336892 precursor RNA folds onto itself, forming GAM336892 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336892 precursor RNA, designated SEQ ID NO: 141348, and a schematic representation of a predicted secondary folding of GAM336892 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336892 folded precursor RNA yielding a GAM336892 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336892 RNA, hereby incorporated herein.

GAM336892 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336892 target RNA, herein designated GAM TARGET RNA.

GAM336892 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336892 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336892 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336892 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336892 RNA, herein designated GAM RNA, to target binding sites on GAM336892 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336892 target RNA into GAM336892 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336892 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336892 target genes. The mRNA of each one of this plurality of GAM336892 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336892 RNA, herein designated GAM RNA, and which when bound by GAM336892 RNA causes inhibition of translation of the GAM336892 target mRNA into a corresponding GAM336892 target protein.

The mechanism of the translational inhibition exerted by GAM336892 RNA, herein designated GAM RNA, on one or more GAM336892 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336892 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336892 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336892 RNA, herein designated GAM RNA, of

GAM336892 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336892 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336892 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336892 RNA correlate with, and may be deduced from, the identity of the GAM336892 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336893 141349 GTCAGTCCTG Fig. 8 further provides a conceptual description of another novel bioinformatically

ATGGCAGCTG detected oligonucleotides of the present invention, referred to here as Genomic Address

TGCAGAGTGG Messenger 336893 (GAM336893) oligonucleotides modulates expression of respective target

GGGTGAGGAG genes whose function and utility is known in the art.

GCCAACTTAC GAM336893 is a novel bioinformatically detectable regulatory, non protein

TGCTTCCTGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336893 was detected

ACTGGGCAGT is described with additional reference to Figs. 9-15.

GCCTTCTATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACATGGC encoded by the human genome.

GAM336893 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336893 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336893 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336893 precursor RNA is designated SEQ ID:141349, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141349 is located from position 53823634 to position 53823720 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM336893 precursor RNA folds onto itself, forming GAM336893 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336893 precursor RNA, designated SEQ ID NO: 141349,

and a schematic representation of a predicted secondary folding of GAM336893 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336893 folded precursor RNA yielding a GAM336893 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336893 RNA, hereby incorporated herein.

GAM336893 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336893 target RNA, herein designated GAM TARGET RNA.

GAM336893 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336893 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336893 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336893 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336893 RNA, herein designated GAM RNA, to target binding sites on GAM336893 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336893 target RNA into GAM336893 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336893 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336893 target genes. The mRNA of each one of this plurality of GAM336893 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336893 RNA, herein designated GAM RNA, and which when bound by GAM336893 RNA causes inhibition of translation of the GAM336893 target mRNA into a corresponding GAM336893 target protein.

The mechanism of the translational inhibition exerted by GAM336893 RNA, herein designated GAM RNA, on one or more GAM336893 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336893 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336893 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336893 RNA, herein designated GAM RNA, of GAM336893 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336893 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336893 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336893 RNA correlate with, and may be deduced from, the identity of the GAM336893 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336894 141350 ACATATGGCA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATGGAAGT detected oligonucleotides of the present invention, referred to here as Genomic Address
GATTTCTCCT Messenger 336894 (GAM336894) oligonucleotides modulates expression of respective target
AATGAAAATG genes whose function and utility is known in the art.

AAGTGCTCTT GAM336894 is a novel bioinformatically detectable regulatory, non protein
TTGAGTATTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336894 was detected
CTTGTTTTAT is described with additional reference to Figs. 9-15.

TGAGATTCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATCTGCCCTT encoded by the human genome.

GT GAM336894 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336894 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336894 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336894 precursor RNA is designated SEQ ID:141350, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141350 is located from position 53863297 to position 53863388 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM336894 precursor RNA folds onto itself, forming GAM336894 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336894 precursor RNA, designated SEQ ID NO: 141350, and a schematic representation of a predicted secondary folding of GAM336894 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336894 folded precursor RNA yielding a GAM336894 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336894 RNA, hereby incorporated herein.

GAM336894 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336894 target RNA, herein designated GAM TARGET RNA.

GAM336894 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336894 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336894 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336894 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336894 RNA, herein designated GAM RNA, to target binding sites on GAM336894 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336894 target RNA into GAM336894 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336894 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336894 target genes. The mRNA of each one of this plurality of GAM336894 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM336894 RNA, herein designated GAM RNA, and which when bound by GAM336894 RNA causes inhibition of translation of the GAM336894 target mRNA into a corresponding GAM336894 target protein.

The mechanism of the translational inhibition exerted by GAM336894 RNA, herein designated GAM RNA, on one or more GAM336894 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336894 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336894 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336894 RNA, herein designated GAM RNA, of GAM336894 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336894 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336894 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336894 RNA correlate with, and may be deduced from, the identity of the GAM336894 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336895 141351 GGCAGAATGG Fig. 8 further provides a conceptual description of another novel bioinformatically

AAGTGATTTC detected oligonucleotides of the present invention, referred to here as Genomic Address

TCCTAATGAA Messenger 336895 (GAM336895) oligonucleotides modulates expression of respective target

AATGAAGTGC genes whose function and utility is known in the art.

TCTTTTGAGT GAM336895 is a novel bioinformatically detectable regulatory, non protein

ATTTCTTGTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336895 was detected

TTATTGAGAT is described with additional reference to Figs. 9-15.

TCCTATCTGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

C encoded by the human genome.

GAM336895 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336895 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336895 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336895 precursor RNA is designated SEQ ID:141351, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141351 is located from position 53863302 to position 53863382 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM336895 precursor RNA folds onto itself, forming GAM336895 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336895 precursor RNA, designated SEQ ID NO: 141351, and a schematic representation of a predicted secondary folding of GAM336895 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336895 folded precursor RNA yielding a GAM336895 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336895 RNA, hereby incorporated herein.

GAM336895 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336895 target RNA, herein designated GAM TARGET RNA.

GAM336895 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336895 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336895 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336895 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336895 RNA, herein designated GAM RNA, to target binding sites on GAM336895 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336895 target RNA into GAM336895 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336895 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336895 target genes. The mRNA of each one of this plurality of GAM336895 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336895 RNA, herein designated GAM RNA, and which when bound by GAM336895 RNA causes inhibition of translation of the GAM336895 target mRNA into a corresponding GAM336895 target protein.

The mechanism of the translational inhibition exerted by GAM336895 RNA, herein designated GAM RNA, on one or more GAM336895 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336895 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336895 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336895 RNA, herein designated GAM RNA, of GAM336895 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336895 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336895 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336895 RNA correlate with, and may be deduced from, the identity of the GAM336895 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336896 141352 AGCAGGATTA Fig. 8 further provides a conceptual description of another novel bioinformatically

GGAAGAGAAG detected oligonucleotides of the present invention, referred to here as Genomic Address

CATTGTGAGA Messenger 336896 (GAM336896) oligonucleotides modulates expression of respective target

AACAGGTTTT genes whose function and utility is known in the art.

GGGTTTTGCT GAM336896 is a novel bioinformatically detectable regulatory, non protein

GAAATTTGCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336896 was detected

TGTCAGCATT is described with additional reference to Figs. 9-15.

GCATCACTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCCTTAACTG encoded by the human genome.

TT GAM336896 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336896 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336896 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336896 precursor RNA is designated SEQ ID:141352, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141352 is located from position 54032470 to position 54032561 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM336896 precursor RNA folds onto itself, forming GAM336896 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336896 precursor RNA, designated SEQ ID NO: 141352, and a schematic representation of a predicted secondary folding of GAM336896 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336896 folded precursor RNA yielding a GAM336896 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336896 RNA, hereby incorporated herein.

GAM336896 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336896 target RNA, herein designated GAM TARGET RNA.

GAM336896 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336896 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336896 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336896 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336896 RNA, herein designated GAM RNA, to target binding sites on GAM336896 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336896 target RNA into GAM336896 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336896 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336896 target genes. The mRNA of each one of this plurality of GAM336896 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336896 RNA, herein designated GAM RNA, and which when bound by GAM336896 RNA causes inhibition of translation of the GAM336896 target mRNA into a corresponding GAM336896 target protein.

The mechanism of the translational inhibition exerted by GAM336896 RNA, herein designated GAM RNA, on one or more GAM336896 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336896 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336896 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336896 RNA, herein designated GAM RNA, of GAM336896 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336896 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336896 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336896 RNA correlate with, and may be deduced from, the identity of the GAM336896 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336897 141353 GCGGGCTAGG CAGTCTCAGT Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address

TGTTGGGTTT Messenger 336897 (GAM336897) oligonucleotides modulates expression of respective target
TCTTAGTGAA genes whose function and utility is known in the art.

ATAAGCAGCA GAM336897 is a novel bioinformatically detectable regulatory, non protein
ACAAACGACA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336897 was detected
ACAAAACCGC is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336897 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336897 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336897 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336897 precursor RNA is designated SEQ ID:141353, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141353 is located from position 54122958 to position 54123027 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM336897 precursor RNA folds onto itself, forming GAM336897 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336897 precursor RNA, designated SEQ ID NO: 141353, and a schematic representation of a predicted secondary folding of GAM336897 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336897 folded precursor RNA yielding a GAM336897 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336897 RNA, hereby incorporated herein.

GAM336897 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336897 target RNA, herein designated GAM TARGET RNA.

GAM336897 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336897 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336897 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336897 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336897 RNA, herein designated GAM RNA, to target binding sites on GAM336897 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336897 target RNA into GAM336897 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336897 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336897 target genes. The mRNA of each one of this plurality of GAM336897 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336897 RNA, herein designated GAM RNA, and which when bound by GAM336897 RNA causes inhibition of translation of the GAM336897 target mRNA into a corresponding GAM336897 target protein.

The mechanism of the translational inhibition exerted by GAM336897 RNA, herein designated GAM RNA, on one or more GAM336897 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336897 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336897 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336897 RNA, herein designated GAM RNA, of GAM336897 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336897 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336897 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336897

RNA correlate with, and may be deduced from, the identity of the GAM336897 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336898 141354 GGAGAATCGC TTGAACCCTG GAGGCAGAGG TTGCGGTGAG CCAAGATCGT GCCATTGCAC TCCAGCCTGG GCAACAAGAG TGAAACTCC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336898 (GAM336898) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336898 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336898 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336898 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336898 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336898 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336898 precursor RNA is designated SEQ ID:141354, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141354 is located from position 54260659 to position 54260747 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM336898 precursor RNA folds onto itself, forming GAM336898 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336898 precursor RNA, designated SEQ ID NO: 141354, and a schematic representation of a predicted secondary folding of GAM336898 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336898 folded precursor RNA yielding a GAM336898 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly

similar to the nucleotide sequence of GAM336898 RNA, hereby incorporated herein.

GAM336898 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336898 target RNA, herein designated GAM TARGET RNA.

GAM336898 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336898 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336898 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336898 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336898 RNA, herein designated GAM RNA, to target binding sites on GAM336898 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336898 target RNA into GAM336898 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336898 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336898 target genes. The mRNA of each one of this plurality of GAM336898 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336898 RNA, herein designated GAM RNA, and which when bound by GAM336898 RNA causes inhibition of translation of the GAM336898 target mRNA into a corresponding GAM336898 target protein.

The mechanism of the translational inhibition exerted by GAM336898 RNA, herein designated GAM RNA, on one or more GAM336898 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336898 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336898 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336898 RNA, herein designated GAM RNA, of GAM336898 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336898 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336898 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336898 RNA correlate with, and may be deduced from, the identity of the GAM336898 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336899 141355 ATGATGGAGG Fig. 8 further provides a conceptual description of another novel bioinformatically
AAGGAGGGGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ATGTTGCAAA Messenger 336899 (GAM336899) oligonucleotides modulates expression of respective target
AACAGAGCAA genes whose function and utility is known in the art.

GAAAAAGGGT GAM336899 is a novel bioinformatically detectable regulatory, non protein
GAAAAAAATA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336899 was detected
ATATTATCAT is described with additional reference to Figs. 9-15.

TCACTTAGTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATCAAGCCTG encoded by the human genome.

AAAATGAAGT GAM336899 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CATTTTGACC GAM336899 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
AAGTTTTCCC GAM336899 precursor RNA does not encode a protein. A nucleotide sequence identical or

CATTAT highly similar to the nucleotide sequence of GAM336899 precursor RNA is designated SEQ ID:141355, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141355 is located from position 54640759 to position 54640884 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM336899 precursor RNA folds onto itself, forming GAM336899 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336899 precursor RNA, designated SEQ ID NO: 141355, and a schematic representation of a predicted secondary folding of GAM336899 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336899 folded precursor RNA yielding a GAM336899 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336899 RNA, hereby incorporated herein.

GAM336899 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336899 target RNA, herein designated GAM TARGET RNA.

GAM336899 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336899 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336899 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336899 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336899 RNA, herein designated GAM RNA, to target binding sites on GAM336899 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336899 target RNA into GAM336899 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336899 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336899 target genes. The mRNA of each one of this plurality of GAM336899 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336899 RNA, herein designated GAM RNA, and which when bound by GAM336899 RNA causes inhibition of translation of the GAM336899 target mRNA into a corresponding GAM336899 target protein.

The mechanism of the translational inhibition exerted by GAM336899 RNA, herein designated GAM RNA, on one or more GAM336899 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336899 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336899 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336899 RNA, herein designated GAM RNA, of GAM336899 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336899 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336899 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336899 RNA correlate with, and may be deduced from, the identity of the GAM336899 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336900 141356 GCTAACAGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
GCAAATCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGTATCTCCA Messenger 336900 (GAM336900) oligonucleotides modulates expression of respective target
GGTGCATAAC genes whose function and utility is known in the art.

AGACTTGTTT GAM336900 is a novel bioinformatically detectable regulatory, non protein
ATGAGAGATT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336900 was detected
GCTCATGATT is described with additional reference to Figs. 9-15.

CTAGCCTCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGC encoded by the human genome.

GAM336900 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336900 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336900 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336900 precursor RNA is designated SEQ ID:141356, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141356 is located from position 54923108 to position 54923190 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM336900 precursor RNA folds onto itself, forming GAM336900 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336900 precursor RNA, designated SEQ ID NO: 141356, and a schematic representation of a predicted secondary folding of GAM336900 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336900 folded precursor RNA yielding a GAM336900 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336900 RNA, hereby incorporated herein.

GAM336900 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336900 target RNA, herein designated GAM TARGET RNA.

GAM336900 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336900 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336900 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336900 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336900 RNA, herein designated GAM RNA, to target binding sites on GAM336900 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336900 target RNA into GAM336900 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336900 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336900 target genes. The mRNA of each one of this plurality of GAM336900 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336900 RNA, herein designated GAM RNA, and which when bound by GAM336900 RNA causes inhibition of

translation of the GAM336900 target mRNA into a corresponding GAM336900 target protein.

The mechanism of the translational inhibition exerted by GAM336900 RNA, herein designated GAM RNA, on one or more GAM336900 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336900 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336900 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336900 RNA, herein designated GAM RNA, of GAM336900 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336900 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336900 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336900 RNA correlate with, and may be deduced from, the identity of the GAM336900 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336901 141357 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336901 (GAM336901) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336901 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336901 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336901 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336901 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336901 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336901 precursor RNA is designated SEQ ID:141357, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141357 is located from position 55006289 to position 55006370 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336901 precursor RNA folds onto itself, forming GAM336901 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336901 precursor RNA, designated SEQ ID NO: 141357, and a schematic representation of a predicted secondary folding of GAM336901 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336901 folded precursor RNA yielding a GAM336901 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336901 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336901 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336901 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336901 target RNA, herein designated GAM TARGET RNA.

GAM336901 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336901 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336901 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336901 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336901 RNA, herein designated GAM RNA, to target binding sites on GAM336901 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336901 target RNA into GAM336901 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336901 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336901 target genes. The mRNA of each one of this plurality of GAM336901 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336901 RNA, herein designated GAM RNA, and which when bound by GAM336901 RNA causes inhibition of translation of the GAM336901 target mRNA into a corresponding GAM336901 target protein.

The mechanism of the translational inhibition exerted by GAM336901 RNA, herein designated GAM RNA, on one or more GAM336901 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336901 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336901 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336901 RNA, herein designated GAM RNA, of GAM336901 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336901 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336901 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336901 RNA correlate with, and may be deduced from, the identity of the GAM336901 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336902 141358 GGAGAGTTAT Fig. 8 further provides a conceptual description of another novel bioinformatically

TTTATGTTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

TGTTTCTGGG Messenger 336902 (GAM336902) oligonucleotides modulates expression of respective target

AATTTCCGAT genes whose function and utility is known in the art.

ACTTCCCAGT GAM336902 is a novel bioinformatically detectable regulatory, non protein

GTATCAGAGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336902 was detected

GTTCCCCTCA is described with additional reference to Figs. 9-15.

CACATGCTAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGGCATCTC encoded by the human genome.

C GAM336902 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336902 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336902 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336902 precursor RNA is designated SEQ ID:141358, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141358 is located from position 55308695 to position 55308785 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336902 precursor RNA folds onto itself, forming GAM336902 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336902 precursor RNA, designated SEQ ID NO: 141358, and a schematic representation of a predicted secondary folding of GAM336902 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336902 folded precursor RNA yielding a GAM336902 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336902 RNA, hereby incorporated herein.

GAM336902 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336902 target RNA, herein designated GAM TARGET RNA.

GAM336902 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336902 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336902 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336902 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336902 RNA, herein designated GAM RNA, to target binding sites on GAM336902 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336902 target RNA into GAM336902 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336902 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336902 target genes. The mRNA of each one of this plurality of GAM336902 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336902 RNA, herein designated GAM RNA, and which when bound by GAM336902 RNA causes inhibition of translation of the GAM336902 target mRNA into a corresponding GAM336902 target protein.

The mechanism of the translational inhibition exerted by GAM336902 RNA, herein designated GAM RNA, on one or more GAM336902 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336902 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336902 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336902 RNA, herein designated GAM RNA, of GAM336902 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336902 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336902 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336902 RNA correlate with, and may be deduced from, the identity of the GAM336902 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336903 141359 TGAGACGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

TTTCGCTCTT detected oligonucleotides of the present invention, referred to here as Genomic Address

GTCCCCCAGG Messenger 336903 (GAM336903) oligonucleotides modulates expression of respective target

CTTTAGTGCA genes whose function and utility is known in the art.

ATGGCGCGAT GAM336903 is a novel bioinformatically detectable regulatory, non protein

CTCGGCTCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336903 was detected

CGCAGCCTCC is described with additional reference to Figs. 9-15.

GCCACCTGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTCAAACGAT encoded by the human genome.

TCTCCTGCCT GAM336903 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CA GAM336903 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336903 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336903 precursor RNA is designated SEQ ID:141359, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141359 is located from position 55618701 to position 55618802 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336903 precursor RNA folds onto itself, forming GAM336903 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336903 precursor RNA, designated SEQ ID NO: 141359, and a schematic representation of a predicted secondary folding of GAM336903 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336903 folded precursor RNA yielding a GAM336903 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336903 RNA, hereby incorporated herein.

GAM336903 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336903 target RNA, herein designated GAM TARGET RNA.

GAM336903 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336903 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336903 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336903 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336903 RNA, herein designated GAM RNA, to target binding sites on GAM336903 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336903 target RNA into GAM336903 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336903 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336903 target genes. The mRNA of each one of this plurality of GAM336903 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336903 RNA, herein designated GAM RNA, and which when bound by GAM336903 RNA causes inhibition of translation of the GAM336903 target mRNA into a corresponding GAM336903 target protein.

The mechanism of the translational inhibition exerted by GAM336903 RNA, herein designated GAM RNA, on one or more GAM336903 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336903 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336903 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336903 RNA, herein designated GAM RNA, of GAM336903 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336903 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336903 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336903 RNA correlate with, and may be deduced from, the identity of the GAM336903 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336904 141360 TCACTGATTT TGTAGAGCTG CTGGGAGAAC TGGAAGAATA ACATCCATTG TCGTACAGCT CCAAACAACT TCAGATGA

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336904 (GAM336904) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336904 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336904 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336904 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336904 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336904 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336904 precursor RNA is designated SEQ ID:141360, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141360 is located from position 55787167 to position 55787244 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM336904 precursor RNA folds onto itself, forming GAM336904 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336904 precursor RNA, designated SEQ ID NO: 141360, and a schematic representation of a predicted secondary folding of GAM336904 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336904 folded precursor RNA yielding a GAM336904 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336904 RNA, hereby incorporated herein.

GAM336904 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336904 target RNA, herein designated GAM TARGET RNA.

GAM336904 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336904 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336904 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336904 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336904 RNA, herein designated GAM RNA, to target binding sites on GAM336904 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336904 target RNA into GAM336904 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336904 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336904 target genes. The mRNA of each one of this plurality of GAM336904 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336904 RNA, herein designated GAM RNA, and which when bound by GAM336904 RNA causes inhibition of translation of the GAM336904 target mRNA into a corresponding GAM336904 target protein.

The mechanism of the translational inhibition exerted by GAM336904 RNA, herein designated GAM RNA, on one or more GAM336904 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336904 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336904 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336904 RNA, herein designated GAM RNA, of GAM336904 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336904 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336904 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336904 RNA correlate with, and may be deduced from, the identity of the GAM336904 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336905 141361 CTGATTTTGT AGAGCTGCTG GGAGAACTGG AAGAATAACA TCCATTGTCG TACAGCTCCA AACAACTTCA

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336905 (GAM336905) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336905 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336905 was detected is described with additional reference to Figs. 9-15.

G GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336905 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336905 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336905 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336905 precursor RNA is designated SEQ ID:141361, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141361 is located from position 55787171 to position 55787241 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM336905 precursor RNA folds onto itself, forming GAM336905 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336905 precursor RNA, designated SEQ ID NO: 141361, and a schematic representation of a predicted secondary folding of GAM336905 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336905 folded precursor RNA yielding a GAM336905 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336905 RNA, hereby incorporated herein.

GAM336905 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336905 target RNA, herein designated GAM TARGET RNA.

GAM336905 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336905 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336905 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336905 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336905 RNA, herein designated GAM RNA, to target binding sites on GAM336905 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336905 target RNA into GAM336905 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336905 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336905 target genes. The mRNA of each one of this plurality of GAM336905 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336905 RNA, herein designated GAM RNA, and which when bound by GAM336905 RNA causes inhibition of translation of the GAM336905 target mRNA into a corresponding GAM336905 target protein.

The mechanism of the translational inhibition exerted by GAM336905 RNA, herein designated GAM RNA, on one or more GAM336905 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336905 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336905 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336905 RNA, herein designated GAM RNA, of GAM336905 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336905 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336905 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336905 RNA correlate with, and may be deduced from, the identity of the GAM336905 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336906 141362 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATCACTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCCGGGAG Messenger 336906 (GAM336906) oligonucleotides modulates expression of respective target

GTGGAGCTTG genes whose function and utility is known in the art.

CGGTGAGCCG GAM336906 is a novel bioinformatically detectable regulatory, non protein

AGATCGCGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336906 was detected

ATTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAAGAGTGA encoded by the human genome.

AACTCCATCT GAM336906 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CA GAM336906 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336906 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336906 precursor RNA is designated SEQ ID:141362, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141362 is located from position 56423119 to position 56423220 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM336906 precursor RNA folds onto itself, forming GAM336906 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336906 precursor RNA, designated SEQ ID NO: 141362, and a schematic representation of a predicted secondary folding of GAM336906 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336906 folded precursor RNA yielding a GAM336906 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336906 RNA, hereby incorporated herein. Expression of GAM336906 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336906 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336906 target RNA, herein designated GAM TARGET RNA.

GAM336906 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336906 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336906 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336906 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336906 RNA, herein designated GAM RNA, to target binding sites on GAM336906 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336906 target RNA into GAM336906 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336906 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336906 target genes. The mRNA of each one of this plurality of GAM336906 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM336906 RNA, herein designated GAM RNA, and which when bound by GAM336906 RNA causes inhibition of translation of the GAM336906 target mRNA into a corresponding GAM336906 target protein.

The mechanism of the translational inhibition exerted by GAM336906 RNA, herein designated GAM RNA, on one or more GAM336906 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336906 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336906 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336906 RNA, herein designated GAM RNA, of GAM336906 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336906 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336906 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336906 RNA correlate with, and may be deduced from, the identity of the GAM336906 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336907 141363 GGAGAATCAC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTGGAGC Messenger 336907 (GAM336907) oligonucleotides modulates expression of respective target

TTGCGGTGAG genes whose function and utility is known in the art.

CCGAGATCGC GAM336907 is a novel bioinformatically detectable regulatory, non protein

GCCATTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336907 was detected

TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGAAACTCC encoded by the human genome.

GAM336907 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336907 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336907 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336907 precursor RNA is designated SEQ ID:141363, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141363 is located from position 56423125 to position 56423213 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM336907 precursor RNA folds onto itself, forming GAM336907 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336907 precursor RNA, designated SEQ ID NO: 141363, and a schematic representation of a predicted secondary folding of GAM336907 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336907 folded precursor RNA yielding a GAM336907 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336907 RNA, hereby incorporated herein. Expression of GAM336907 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336907 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336907 target RNA, herein designated GAM TARGET RNA.

GAM336907 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336907 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336907 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336907 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336907 RNA, herein designated GAM RNA, to target

binding sites on GAM336907 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336907 target RNA into GAM336907 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336907 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336907 target genes. The mRNA of each one of this plurality of GAM336907 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336907 RNA, herein designated GAM RNA, and which when bound by GAM336907 RNA causes inhibition of translation of the GAM336907 target mRNA into a corresponding GAM336907 target protein.

The mechanism of the translational inhibition exerted by GAM336907 RNA, herein designated GAM RNA, on one or more GAM336907 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336907 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336907 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336907 RNA, herein designated GAM RNA, of GAM336907 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336907 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336907 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336907 RNA correlate with, and may be deduced from, the identity of the GAM336907 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336908 141364 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336908 (GAM336908) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336908 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336908 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336908 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336908 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336908 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336908 precursor RNA is designated SEQ ID:141364, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141364 is located from position 56590496 to position 56590577 relative to chromosome chr2 on the `-` strand (chr is an abbreviation for chromosome).

GAM336908 precursor RNA folds onto itself, forming GAM336908 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336908 precursor RNA, designated SEQ ID NO: 141364, and a schematic representation of a predicted secondary folding of GAM336908 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336908 folded precursor RNA yielding a GAM336908 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336908 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336908 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336908 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336908 target RNA, herein designated GAM TARGET RNA.

GAM336908 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336908 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336908 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336908 RNA is a partial or fully complementary sequence of the

nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336908 RNA, herein designated GAM RNA, to target binding sites on GAM336908 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336908 target RNA into GAM336908 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336908 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336908 target genes. The mRNA of each one of this plurality of GAM336908 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336908 RNA, herein designated GAM RNA, and which when bound by GAM336908 RNA causes inhibition of translation of the GAM336908 target mRNA into a corresponding GAM336908 target protein.

The mechanism of the translational inhibition exerted by GAM336908 RNA, herein designated GAM RNA, on one or more GAM336908 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336908 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336908 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336908 RNA, herein designated GAM RNA, of GAM336908 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336908 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336908 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336908 RNA correlate with, and may be deduced from, the identity of the GAM336908 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336909 141365 GGAGGTGGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
TGTGTGTGCT detected oligonucleotides of the present invention, referred to here as Genomic Address
ACTGGCATCT Messenger 336909 (GAM336909) oligonucleotides modulates expression of respective target
AGTGGCTGCT genes whose function and utility is known in the art.

AAACATCCTA GAM336909 is a novel bioinformatically detectable regulatory, non protein
CACTGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336909 was detected
is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336909 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336909 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336909 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336909 precursor RNA is designated SEQ ID:141365, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141365 is located from position 56700933 to position 56700988 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM336909 precursor RNA folds onto itself, forming GAM336909 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336909 precursor RNA, designated SEQ ID NO: 141365, and a schematic representation of a predicted secondary folding of GAM336909 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336909 folded precursor RNA yielding a GAM336909 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336909 RNA, hereby incorporated herein.

GAM336909 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336909 target RNA, herein designated GAM TARGET RNA.

GAM336909 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336909 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336909 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336909 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336909 RNA, herein designated GAM RNA, to target binding sites on GAM336909 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336909 target RNA into GAM336909 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336909 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336909 target genes. The mRNA of each one of this plurality of GAM336909 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336909 RNA, herein designated GAM RNA, and which when bound by GAM336909 RNA causes inhibition of translation of the GAM336909 target mRNA into a corresponding GAM336909 target protein.

The mechanism of the translational inhibition exerted by GAM336909 RNA, herein designated GAM RNA, on one or more GAM336909 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336909 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336909 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336909 RNA, herein designated GAM RNA, of GAM336909 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336909 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336909 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336909 RNA correlate with, and may be deduced from, the identity of the GAM336909 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336910 141366 CGAGGCAGTG Fig. 8 further provides a conceptual description of another novel bioinformatically
AGATTTGGGA detected oligonucleotides of the present invention, referred to here as Genomic Address
TTCCGGGGTC Messenger 336910 (GAM336910) oligonucleotides modulates expression of respective target
TGGAGATCGT genes whose function and utility is known in the art.

GCTTTTTGTG GAM336910 is a novel bioinformatically detectable regulatory, non protein
GACTGCGTTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336910 was detected
GCAGTTCCTA is described with additional reference to Figs. 9-15.

GGGTGCTGCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GATTCACAGG encoded by the human genome.

CCTTCTCTGT GAM336910 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CTTTAAGTGT GAM336910 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
G GAM336910 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336910 precursor RNA is designated SEQ ID:141366, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141366 is located from position 56702050 to position 56702160 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM336910 precursor RNA folds onto itself, forming GAM336910 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336910 precursor RNA, designated SEQ ID NO: 141366, and a schematic representation of a predicted secondary folding of GAM336910 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336910 folded precursor RNA yielding a GAM336910 RNA, herein designated GAM RNA, in the form of a single stranded

~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336910 RNA, hereby incorporated herein.

GAM336910 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336910 target RNA, herein designated GAM TARGET RNA.

GAM336910 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336910 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336910 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336910 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336910 RNA, herein designated GAM RNA, to target binding sites on GAM336910 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336910 target RNA into GAM336910 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336910 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336910 target genes. The mRNA of each one of this plurality of GAM336910 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336910 RNA, herein designated GAM RNA, and which when bound by GAM336910 RNA causes inhibition of translation of the GAM336910 target mRNA into a corresponding GAM336910 target protein.

The mechanism of the translational inhibition exerted by GAM336910 RNA, herein designated GAM RNA, on one or more GAM336910 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336910 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336910 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336910 RNA, herein designated GAM RNA, of GAM336910 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336910 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336910 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336910 RNA correlate with, and may be deduced from, the identity of the GAM336910 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336911 141367 GTGTTAGAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

CCAGTTAAAG detected oligonucleotides of the present invention, referred to here as Genomic Address

TTAAGACACT Messenger 336911 (GAM336911) oligonucleotides modulates expression of respective target

TTCTAAATAG genes whose function and utility is known in the art.

AAGTCTTGTA GAM336911 is a novel bioinformatically detectable regulatory, non protein

TATGGGGCTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336911 was detected

TTGAGAAAGT is described with additional reference to Figs. 9-15.

GTTTTCCCGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GATGCTGGGG encoded by the human genome.

GGAAACAC GAM336911 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336911 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336911 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336911 precursor RNA is designated SEQ ID:141367, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141367 is located from position 56703572 to position 56703669 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336911 precursor RNA folds onto itself, forming GAM336911 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336911 precursor RNA, designated SEQ ID NO: 141367, and a schematic representation of a predicted secondary folding of GAM336911 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336911 folded precursor RNA yielding a GAM336911 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336911 RNA, hereby incorporated herein.

GAM336911 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336911 target RNA, herein designated GAM TARGET RNA.

GAM336911 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336911 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336911 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336911 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336911 RNA, herein designated GAM RNA, to target binding sites on GAM336911 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336911 target RNA into GAM336911 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336911 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336911 target genes. The mRNA of each one of this plurality of GAM336911 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336911 RNA, herein designated GAM RNA, and which when bound by GAM336911 RNA causes inhibition of translation of the GAM336911 target mRNA into a corresponding GAM336911 target protein.

The mechanism of the translational inhibition exerted by GAM336911 RNA, herein designated GAM RNA, on one or more GAM336911 target genes, herein collectively designated

GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336911 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336911 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336911 RNA, herein designated GAM RNA, of GAM336911 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336911 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336911 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336911 RNA correlate with, and may be deduced from, the identity of the GAM336911 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336912 141368 GCGTGGCTTA Fig. 8 further provides a conceptual description of another novel bioinformatically

AAATTGCTTT detected oligonucleotides of the present invention, referred to here as Genomic Address

TACTGTCATA Messenger 336912 (GAM336912) oligonucleotides modulates expression of respective target

CAGCTGGCGA genes whose function and utility is known in the art.

TGAGGAGGTA GAM336912 is a novel bioinformatically detectable regulatory, non protein

CCTATTGTGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336912 was detected

TGAGTAACGG is described with additional reference to Figs. 9-15.

TGATAATTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATACGCTATT encoded by the human genome.

CTGAGCCAGC GAM336912 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336912 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336912 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336912 precursor RNA is designated SEQ ID:141368, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141368 is located from position 56709580 to position 56709679

relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM336912 precursor RNA folds onto itself, forming GAM336912 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336912 precursor RNA, designated SEQ ID NO: 141368, and a schematic representation of a predicted secondary folding of GAM336912 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336912 folded precursor RNA yielding a GAM336912 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336912 RNA, hereby incorporated herein.

GAM336912 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336912 target RNA, herein designated GAM TARGET RNA.

GAM336912 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336912 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336912 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336912 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336912 RNA, herein designated GAM RNA, to target binding sites on GAM336912 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336912 target RNA into GAM336912 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336912 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336912 target genes. The mRNA of each one of this plurality of GAM336912 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336912 RNA, herein designated GAM RNA, and which when bound by GAM336912 RNA causes inhibition of translation of the GAM336912 target mRNA into a corresponding GAM336912 target protein.

The mechanism of the translational inhibition exerted by GAM336912 RNA, herein designated GAM RNA, on one or more GAM336912 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336912 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336912 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336912 RNA, herein designated GAM RNA, of GAM336912 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336912 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336912 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336912 RNA correlate with, and may be deduced from, the identity of the GAM336912 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336913 141369 ACCTCATCTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TACAAAAAAT detected oligonucleotides of the present invention, referred to here as Genomic Address

ACGAAAATTA Messenger 336913 (GAM336913) oligonucleotides modulates expression of respective target

GCTGGGTGTG genes whose function and utility is known in the art.

GTGGCATGTA GAM336913 is a novel bioinformatically detectable regulatory, non protein

CCTGTAGTCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336913 was detected

CAGCTATTTG is described with additional reference to Figs. 9-15.

AGAGACTGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GT encoded by the human genome.

GAM336913 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336913 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336913 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336913 precursor RNA is designated SEQ ID:141369, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141369 is located from position 56716065 to position 56716146 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM336913 precursor RNA folds onto itself, forming GAM336913 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336913 precursor RNA, designated SEQ ID NO: 141369, and a schematic representation of a predicted secondary folding of GAM336913 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336913 folded precursor RNA yielding a GAM336913 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336913 RNA, hereby incorporated herein.

GAM336913 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336913 target RNA, herein designated GAM TARGET RNA.

GAM336913 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336913 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336913 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336913 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336913 RNA, herein designated GAM RNA, to target binding sites on GAM336913 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336913 target RNA into GAM336913 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336913 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336913 target genes. The mRNA of each one of this plurality of GAM336913 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336913 RNA, herein designated GAM RNA, and which when bound by GAM336913 RNA causes inhibition of translation of the GAM336913 target mRNA into a corresponding GAM336913 target protein.

The mechanism of the translational inhibition exerted by GAM336913 RNA, herein designated GAM RNA, on one or more GAM336913 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336913 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336913 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336913 RNA, herein designated GAM RNA, of GAM336913 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336913 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336913 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336913 RNA correlate with, and may be deduced from, the identity of the GAM336913 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336914 141370 CCTCATCTCT Fig. 8 further provides a conceptual description of another novel bioinformatically

ACAAAAAATA detected oligonucleotides of the present invention, referred to here as Genomic Address

CGAAAATTAG Messenger 336914 (GAM336914) oligonucleotides modulates expression of respective target

CTGGGTGTGG genes whose function and utility is known in the art.

TGGCATGTAC CTGTAGTCCC AGCTATTTGA GAGACTGAGG

GAM336914 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336914 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336914 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336914 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336914 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336914 precursor RNA is designated SEQ ID:141370, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141370 is located from position 56716066 to position 56716145 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM336914 precursor RNA folds onto itself, forming GAM336914 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336914 precursor RNA, designated SEQ ID NO: 141370, and a schematic representation of a predicted secondary folding of GAM336914 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336914 folded precursor RNA yielding a GAM336914 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336914 RNA, hereby incorporated herein.

GAM336914 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336914 target RNA, herein designated GAM TARGET RNA.

GAM336914 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336914 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336914 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the

nucleotide sequence of GAM336914 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336914 RNA, herein designated GAM RNA, to target binding sites on GAM336914 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336914 target RNA into GAM336914 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336914 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336914 target genes. The mRNA of each one of this plurality of GAM336914 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336914 RNA, herein designated GAM RNA, and which when bound by GAM336914 RNA causes inhibition of translation of the GAM336914 target mRNA into a corresponding GAM336914 target protein.

The mechanism of the translational inhibition exerted by GAM336914 RNA, herein designated GAM RNA, on one or more GAM336914 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336914 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336914 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336914 RNA, herein designated GAM RNA, of GAM336914 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336914 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336914 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336914 RNA correlate with, and may be deduced from, the identity of the GAM336914 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336915 141371 ACAGTGCAGT Fig. 8 further provides a conceptual description of another novel bioinformatically

CACCCATAAA detected oligonucleotides of the present invention, referred to here as Genomic Address

GTAGAAAGCA Messenger 336915 (GAM336915) oligonucleotides modulates expression of respective target

CTACTAACAG genes whose function and utility is known in the art.

CACTGGAGGG GAM336915 is a novel bioinformatically detectable regulatory, non protein

TGTAGTGTTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336915 was detected

CCTACTTTAT is described with additional reference to Figs. 9-15.

GGATGAGTGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACTGT encoded by the human genome.

GAM336915 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336915 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336915 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336915 precursor RNA is designated SEQ ID:141371, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141371 is located from position 56750673 to position 56750757 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336915 precursor RNA folds onto itself, forming GAM336915 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336915 precursor RNA, designated SEQ ID NO: 141371, and a schematic representation of a predicted secondary folding of GAM336915 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336915 folded precursor RNA yielding a GAM336915 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336915 RNA, hereby incorporated herein.

GAM336915 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336915 target RNA, herein designated GAM TARGET RNA.

GAM336915 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336915 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336915 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336915 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336915 RNA, herein designated GAM RNA, to target binding sites on GAM336915 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336915 target RNA into GAM336915 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336915 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336915 target genes. The mRNA of each one of this plurality of GAM336915 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336915 RNA, herein designated GAM RNA, and which when bound by GAM336915 RNA causes inhibition of translation of the GAM336915 target mRNA into a corresponding GAM336915 target protein.

The mechanism of the translational inhibition exerted by GAM336915 RNA, herein designated GAM RNA, on one or more GAM336915 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336915 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336915 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336915 RNA, herein designated GAM RNA, of GAM336915 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336915 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336915 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336915 RNA correlate with, and may be deduced from, the identity of the GAM336915 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336916 141372 GAATAGCGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGCCCAAGC detected oligonucleotides of the present invention, referred to here as Genomic Address
TCACAAAGTA Messenger 336916 (GAM336916) oligonucleotides modulates expression of respective target
TGTGATGGAG genes whose function and utility is known in the art.

CTAGAGATTC GAM336916 is a novel bioinformatically detectable regulatory, non protein
AAACCCAGGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336916 was detected
CTCTCTGGCT is described with additional reference to Figs. 9-15.

CCTTCTTTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGTGGGCTTG encoded by the human genome.

CTCTGGGAAA GAM336916 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
ATATGCTATT GAM336916 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
T GAM336916 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336916 precursor RNA is designated SEQ ID:141372, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141372 is located from position 56865886 to position 56865996 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM336916 precursor RNA folds onto itself, forming GAM336916 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336916 precursor RNA, designated SEQ ID NO: 141372, and a schematic representation of a predicted secondary folding of GAM336916 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336916 folded precursor RNA yielding a GAM336916 RNA, herein designated GAM RNA, in the form of a single stranded

~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336916 RNA, hereby incorporated herein.

GAM336916 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336916 target RNA, herein designated GAM TARGET RNA.

GAM336916 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336916 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336916 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336916 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336916 RNA, herein designated GAM RNA, to target binding sites on GAM336916 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336916 target RNA into GAM336916 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336916 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336916 target genes. The mRNA of each one of this plurality of GAM336916 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336916 RNA, herein designated GAM RNA, and which when bound by GAM336916 RNA causes inhibition of translation of the GAM336916 target mRNA into a corresponding GAM336916 target protein.

The mechanism of the translational inhibition exerted by GAM336916 RNA, herein designated GAM RNA, on one or more GAM336916 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336916 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336916 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336916 RNA, herein designated GAM RNA, of GAM336916 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336916 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336916 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336916 RNA correlate with, and may be deduced from, the identity of the GAM336916 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336917 141373 CCTTTGCTTT Fig. 8 further provides a conceptual description of another novel bioinformatically
GGCCTTTAAC detected oligonucleotides of the present invention, referred to here as Genomic Address
AACTCAGTGT Messenger 336917 (GAM336917) oligonucleotides modulates expression of respective target
TTTGGTCTAA genes whose function and utility is known in the art.

TCTTCAAGAG GAM336917 is a novel bioinformatically detectable regulatory, non protein
GAATTTGAGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336917 was detected
TTCACTTGAA is described with additional reference to Figs. 9-15.

TAAGTTAGAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TAGTTTGAGG encoded by the human genome.

TGGGTGTAGC GAM336917 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TAGAGG GAM336917 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336917 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336917 precursor RNA is designated SEQ ID:141373, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141373 is located from position 56876889 to position 56876994 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM336917 precursor RNA folds onto itself, forming GAM336917 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336917 precursor RNA, designated SEQ ID NO: 141373, and a schematic representation of a predicted secondary folding of GAM336917 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336917 folded precursor RNA yielding a GAM336917 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336917 RNA, hereby incorporated herein.

GAM336917 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336917 target RNA, herein designated GAM TARGET RNA.

GAM336917 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336917 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336917 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336917 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336917 RNA, herein designated GAM RNA, to target binding sites on GAM336917 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336917 target RNA into GAM336917 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336917 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336917 target genes. The mRNA of each one of this plurality of GAM336917 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336917 RNA, herein designated GAM RNA, and which when bound by GAM336917 RNA causes inhibition of translation of the GAM336917 target mRNA into a corresponding GAM336917 target protein.

The mechanism of the translational inhibition exerted by GAM336917 RNA, herein designated GAM RNA, on one or more GAM336917 target genes, herein collectively designated

GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336917 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336917 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336917 RNA, herein designated GAM RNA, of GAM336917 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336917 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336917 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336917 RNA correlate with, and may be deduced from, the identity of the GAM336917 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336918 141374 GCTTTGGCCT Fig. 8 further provides a conceptual description of another novel bioinformatically
TTAACAACTC detected oligonucleotides of the present invention, referred to here as Genomic Address
AGTGTTTTGG Messenger 336918 (GAM336918) oligonucleotides modulates expression of respective target
TCTAATCTTC genes whose function and utility is known in the art.

AAGAGGAATT GAM336918 is a novel bioinformatically detectable regulatory, non protein
TGAGGTTCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336918 was detected
TTGAATAAGT is described with additional reference to Figs. 9-15.

TAGACTAGTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGAGGTGGGT encoded by the human genome.

GTAGCTAGAG GAM336918 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GATTGAAGT GAM336918 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336918 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336918 precursor RNA is designated SEQ ID:141374, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141374 is located from position 56876894 to position 56877002

relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM336918 precursor RNA folds onto itself, forming GAM336918 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336918 precursor RNA, designated SEQ ID NO: 141374, and a schematic representation of a predicted secondary folding of GAM336918 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336918 folded precursor RNA yielding a GAM336918 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336918 RNA, hereby incorporated herein.

GAM336918 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336918 target RNA, herein designated GAM TARGET RNA.

GAM336918 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336918 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336918 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336918 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336918 RNA, herein designated GAM RNA, to target binding sites on GAM336918 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336918 target RNA into GAM336918 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336918 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336918 target genes. The mRNA of each one of this plurality of GAM336918 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336918 RNA, herein designated GAM RNA, and which when bound by GAM336918 RNA causes inhibition of translation of the GAM336918 target mRNA into a corresponding GAM336918 target protein.

The mechanism of the translational inhibition exerted by GAM336918 RNA, herein designated GAM RNA, on one or more GAM336918 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336918 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336918 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336918 RNA, herein designated GAM RNA, of GAM336918 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336918 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336918 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336918 RNA correlate with, and may be deduced from, the identity of the GAM336918 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336919 141375 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336919 (GAM336919) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336919 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336919 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336919 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336919 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336919 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336919 precursor RNA is designated SEQ ID:141375, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141375 is located from position 56896949 to position 56897030 relative to chromosome chr5 on the `+` strand (chr is an abbreviation for chromosome).

GAM336919 precursor RNA folds onto itself, forming GAM336919 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336919 precursor RNA, designated SEQ ID NO: 141375, and a schematic representation of a predicted secondary folding of GAM336919 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336919 folded precursor RNA yielding a GAM336919 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336919 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336919 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336919 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336919 target RNA, herein designated GAM TARGET RNA.

GAM336919 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336919 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336919 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336919 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336919 RNA, herein designated GAM RNA, to target binding sites on GAM336919 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336919 target RNA into GAM336919 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336919 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336919 target genes. The mRNA of each one of this plurality of GAM336919 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336919 RNA, herein designated GAM RNA, and which when bound by GAM336919 RNA causes inhibition of translation of the GAM336919 target mRNA into a corresponding GAM336919 target protein.

The mechanism of the translational inhibition exerted by GAM336919 RNA, herein designated GAM RNA, on one or more GAM336919 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336919 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336919 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336919 RNA, herein designated GAM RNA, of GAM336919 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336919 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336919 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336919 RNA correlate with, and may be deduced from, the identity of the GAM336919 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336920 141376 TGGGTGCCTG Fig. 8 further provides a conceptual description of another novel bioinformatically

TAATCCCAGC detected oligonucleotides of the present invention, referred to here as Genomic Address

TACTTGGGAG Messenger 336920 (GAM336920) oligonucleotides modulates expression of respective target

GTTGAGGCAG genes whose function and utility is known in the art.

GAGAATCACT GAM336920 is a novel bioinformatically detectable regulatory, non protein
TGAACCCAGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336920 was detected
AGGTGGAGGT is described with additional reference to Figs. 9-15.

TGCAGTGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CCA encoded by the human genome.

GAM336920 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336920 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336920 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336920 precursor RNA is designated SEQ ID:141376, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141376 is located from position 56913348 to position 56913430 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM336920 precursor RNA folds onto itself, forming GAM336920 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336920 precursor RNA, designated SEQ ID NO: 141376, and a schematic representation of a predicted secondary folding of GAM336920 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336920 folded precursor RNA yielding a GAM336920 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336920 RNA, hereby incorporated herein.

GAM336920 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336920 target RNA, herein designated GAM TARGET RNA.

GAM336920 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336920 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM336920 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336920 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336920 RNA, herein designated GAM RNA, to target binding sites on GAM336920 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336920 target RNA into GAM336920 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336920 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336920 target genes. The mRNA of each one of this plurality of GAM336920 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336920 RNA, herein designated GAM RNA, and which when bound by GAM336920 RNA causes inhibition of translation of the GAM336920 target mRNA into a corresponding GAM336920 target protein.

The mechanism of the translational inhibition exerted by GAM336920 RNA, herein designated GAM RNA, on one or more GAM336920 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336920 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336920 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336920 RNA, herein designated GAM RNA, of GAM336920 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336920 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336920 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336920 RNA correlate with, and may be deduced from, the identity of the GAM336920 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336921 141377 TGAGATGGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GGACTGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGCCCAGGAG Messenger 336921 (GAM336921) oligonucleotides modulates expression of respective target
GTTGAGGTTG genes whose function and utility is known in the art.

CAGTGAACCA GAM336921 is a novel bioinformatically detectable regulatory, non protein
TGATCATGTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336921 was detected
ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAGAGTGAG encoded by the human genome.

ACCTTGTTTC GAM336921 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

A GAM336921 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336921 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336921 precursor RNA is designated SEQ ID:141377, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141377 is located from position 57181803 to position 57181903 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336921 precursor RNA folds onto itself, forming GAM336921 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336921 precursor RNA, designated SEQ ID NO: 141377, and a schematic representation of a predicted secondary folding of GAM336921 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336921 folded precursor RNA yielding a GAM336921 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336921 RNA, hereby incorporated herein.

GAM336921 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336921 target RNA, herein designated GAM TARGET RNA.

GAM336921 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336921 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336921 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336921 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336921 RNA, herein designated GAM RNA, to target binding sites on GAM336921 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336921 target RNA into GAM336921 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336921 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336921 target genes. The mRNA of each one of this plurality of GAM336921 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336921 RNA, herein designated GAM RNA, and which when bound by GAM336921 RNA causes inhibition of translation of the GAM336921 target mRNA into a corresponding GAM336921 target protein.

The mechanism of the translational inhibition exerted by GAM336921 RNA, herein designated GAM RNA, on one or more GAM336921 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336921 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336921 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336921 RNA, herein designated GAM RNA, of GAM336921 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336921 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336921 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336921 RNA correlate with, and may be deduced from, the identity of the GAM336921 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336922 141378 GGACTGCTTG Fig. 8 further provides a conceptual description of another novel bioinformatically
AGCCCAGGAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GTTGAGGTTG Messenger 336922 (GAM336922) oligonucleotides modulates expression of respective target
CAGTGAACCA genes whose function and utility is known in the art.

TGATCATGTC GAM336922 is a novel bioinformatically detectable regulatory, non protein
ACTGCACTCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336922 was detected
AGCCTGGGTA is described with additional reference to Figs. 9-15.

ACAGAGTGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACC encoded by the human genome.

GAM336922 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336922 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336922 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336922 precursor RNA is designated SEQ ID:141378, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141378 is located from position 57181813 to position 57181895 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336922 precursor RNA folds onto itself, forming GAM336922 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336922 precursor RNA, designated SEQ ID NO: 141378, and a schematic representation of a predicted secondary folding of GAM336922 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336922 folded precursor RNA yielding a GAM336922 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336922 RNA, hereby incorporated herein.

GAM336922 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336922 target RNA, herein designated GAM TARGET RNA.

GAM336922 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336922 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336922 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336922 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336922 RNA, herein designated GAM RNA, to target binding sites on GAM336922 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336922 target RNA into GAM336922 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336922 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336922 target genes. The mRNA of each one of this plurality of GAM336922 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336922 RNA, herein designated GAM RNA, and which when bound by GAM336922 RNA causes inhibition of translation of the GAM336922 target mRNA into a corresponding GAM336922 target protein.

The mechanism of the translational inhibition exerted by GAM336922 RNA, herein designated GAM RNA, on one or more GAM336922 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336922 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336922 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336922 RNA, herein designated GAM RNA, of GAM336922 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336922 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336922 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336922 RNA correlate with, and may be deduced from, the identity of the GAM336922 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336923 141379 GAGGTGGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
GGTCACTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
GCCCAGAATT Messenger 336923 (GAM336923) oligonucleotides modulates expression of respective target
TCAAGGCTGC genes whose function and utility is known in the art.

AGTGAGCTAT GAM336923 is a novel bioinformatically detectable regulatory, non protein
GATTAAGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336923 was detected
CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGAGTGAGA encoded by the human genome.

CCTCCAACTT GAM336923 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
T GAM336923 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336923 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336923 precursor RNA is designated SEQ ID:141379, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141379 is located from position 57192272 to position 57192372 relative to chromosome chr4 on the `+` strand (chr is an abbreviation for chromosome).

GAM336923 precursor RNA folds onto itself, forming GAM336923 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336923 precursor RNA, designated SEQ ID NO: 141379, and a schematic representation of a predicted secondary folding of GAM336923 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336923 folded precursor RNA yielding a GAM336923 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336923 RNA, hereby incorporated herein. Expression of GAM336923 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336923 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336923 target RNA, herein designated GAM TARGET RNA.

GAM336923 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336923 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336923 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336923 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336923 RNA, herein designated GAM RNA, to target binding sites on GAM336923 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336923 target RNA into GAM336923 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336923 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336923 target genes. The mRNA of each one of this plurality of GAM336923 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336923 RNA,

herein designated GAM RNA, and which when bound by GAM336923 RNA causes inhibition of translation of the GAM336923 target mRNA into a corresponding GAM336923 target protein.

The mechanism of the translational inhibition exerted by GAM336923 RNA, herein designated GAM RNA, on one or more GAM336923 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336923 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336923 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336923 RNA, herein designated GAM RNA, of GAM336923 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336923 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336923 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336923 RNA correlate with, and may be deduced from, the identity of the GAM336923 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336924 141380 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336924 (GAM336924) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336924 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336924 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336924 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336924 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336924 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336924 precursor RNA is designated SEQ ID:141380, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141380 is located from position 57442342 to position 57442423 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM336924 precursor RNA folds onto itself, forming GAM336924 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336924 precursor RNA, designated SEQ ID NO: 141380, and a schematic representation of a predicted secondary folding of GAM336924 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336924 folded precursor RNA yielding a GAM336924 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336924 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336924 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336924 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336924 target RNA, herein designated GAM TARGET RNA.

GAM336924 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336924 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336924 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336924 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336924 RNA, herein designated GAM RNA, to target

binding sites on GAM336924 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336924 target RNA into GAM336924 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336924 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336924 target genes. The mRNA of each one of this plurality of GAM336924 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336924 RNA, herein designated GAM RNA, and which when bound by GAM336924 RNA causes inhibition of translation of the GAM336924 target mRNA into a corresponding GAM336924 target protein.

The mechanism of the translational inhibition exerted by GAM336924 RNA, herein designated GAM RNA, on one or more GAM336924 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336924 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336924 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336924 RNA, herein designated GAM RNA, of GAM336924 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336924 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336924 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336924 RNA correlate with, and may be deduced from, the identity of the GAM336924 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336925 141381 GGGAGACTTG Fig. 8 further provides a conceptual description of another novel bioinformatically

CTTGAACCCA detected oligonucleotides of the present invention, referred to here as Genomic Address

GGAGGCGGAG Messenger 336925 (GAM336925) oligonucleotides modulates expression of respective target

GGTGCAGTGA genes whose function and utility is known in the art.

GTCGACATCA GAM336925 is a novel bioinformatically detectable regulatory, non protein

TGCCACTGCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336925 was detected

CTCCAGCCTG is described with additional reference to Figs. 9-15.

GGCAACAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAAGACCC encoded by the human genome.

GAM336925 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336925 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336925 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336925 precursor RNA is designated SEQ ID:141381, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141381 is located from position 57533860 to position 57533947 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM336925 precursor RNA folds onto itself, forming GAM336925 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336925 precursor RNA, designated SEQ ID NO: 141381, and a schematic representation of a predicted secondary folding of GAM336925 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336925 folded precursor RNA yielding a GAM336925 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336925 RNA, hereby incorporated herein. Expression of GAM336925 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336925 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336925 target RNA, herein designated GAM TARGET RNA.

GAM336925 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336925 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336925 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336925 RNA is a partial or fully complementary sequence of the

nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336925 RNA, herein designated GAM RNA, to target binding sites on GAM336925 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336925 target RNA into GAM336925 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336925 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336925 target genes. The mRNA of each one of this plurality of GAM336925 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336925 RNA, herein designated GAM RNA, and which when bound by GAM336925 RNA causes inhibition of translation of the GAM336925 target mRNA into a corresponding GAM336925 target protein.

The mechanism of the translational inhibition exerted by GAM336925 RNA, herein designated GAM RNA, on one or more GAM336925 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336925 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336925 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336925 RNA, herein designated GAM RNA, of GAM336925 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336925 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336925 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336925 RNA correlate with, and may be deduced from, the identity of the GAM336925 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336926 141382 CTTGCTTGAA Fig. 8 further provides a conceptual description of another novel bioinformatically
CCCAGGAGGC detected oligonucleotides of the present invention, referred to here as Genomic Address
GGAGGGTGCA Messenger 336926 (GAM336926) oligonucleotides modulates expression of respective target
GTGAGTCGAC genes whose function and utility is known in the art.

ATCATGCCAC GAM336926 is a novel bioinformatically detectable regulatory, non protein
TGCACTCCAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336926 was detected
CCTGGGCAAC is described with additional reference to Figs. 9-15.

AGAGCAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336926 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336926 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336926 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336926 precursor RNA is designated SEQ ID:141382, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141382 is located from position 57533866 to position 57533943 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM336926 precursor RNA folds onto itself, forming GAM336926 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336926 precursor RNA, designated SEQ ID NO: 141382, and a schematic representation of a predicted secondary folding of GAM336926 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336926 folded precursor RNA yielding a GAM336926 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336926 RNA, hereby incorporated herein. Expression of GAM336926 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336926 target gene, herein designated GAM TARGET GENE, encodes a

corresponding messenger RNA, GAM336926 target RNA, herein designated GAM TARGET RNA.

GAM336926 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336926 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336926 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336926 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336926 RNA, herein designated GAM RNA, to target binding sites on GAM336926 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336926 target RNA into GAM336926 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336926 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336926 target genes. The mRNA of each one of this plurality of GAM336926 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336926 RNA, herein designated GAM RNA, and which when bound by GAM336926 RNA causes inhibition of translation of the GAM336926 target mRNA into a corresponding GAM336926 target protein.

The mechanism of the translational inhibition exerted by GAM336926 RNA, herein designated GAM RNA, on one or more GAM336926 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336926 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336926 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336926 RNA, herein designated GAM RNA, of GAM336926 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336926 target RNA, herein designated

GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336926 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336926 RNA correlate with, and may be deduced from, the identity of the GAM336926 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336927 141383 TTCCATTTTC Fig. 8 further provides a conceptual description of another novel bioinformatically
TCATTGCCTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AAGATCTCTG Messenger 336927 (GAM336927) oligonucleotides modulates expression of respective target
CTGATGCTCC genes whose function and utility is known in the art.

TGGAGAATGA GAM336927 is a novel bioinformatically detectable regulatory, non protein
CTTTGGGGGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336927 was detected
TTTAGAAAGA is described with additional reference to Figs. 9-15.

ATATTGCCAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCCGTCTCGG encoded by the human genome.

CAAGGAGATG GAM336927 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
ATGGGA GAM336927 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336927 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336927 precursor RNA is designated SEQ ID:141383, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141383 is located from position 57662274 to position 57662379 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336927 precursor RNA folds onto itself, forming GAM336927 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336927 precursor RNA, designated SEQ ID NO: 141383, and a schematic representation of a predicted secondary folding of GAM336927 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336927 folded precursor RNA yielding a GAM336927 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336927 RNA, hereby incorporated herein.

GAM336927 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336927 target RNA, herein designated GAM TARGET RNA.

GAM336927 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336927 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336927 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336927 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336927 RNA, herein designated GAM RNA, to target binding sites on GAM336927 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336927 target RNA into GAM336927 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336927 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336927 target genes. The mRNA of each one of this plurality of GAM336927 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336927 RNA, herein designated GAM RNA, and which when bound by GAM336927 RNA causes inhibition of translation of the GAM336927 target mRNA into a corresponding GAM336927 target protein.

The mechanism of the translational inhibition exerted by GAM336927 RNA, herein designated GAM RNA, on one or more GAM336927 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336927 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336927 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336927 RNA, herein designated GAM RNA, of GAM336927 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336927 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336927 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336927 RNA correlate with, and may be deduced from, the identity of the GAM336927 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336928 141384 GTCACTCCAA Fig. 8 further provides a conceptual description of another novel bioinformatically
CTCTTATAGA detected oligonucleotides of the present invention, referred to here as Genomic Address
CCAGAATTCA Messenger 336928 (GAM336928) oligonucleotides modulates expression of respective target
TTTATAAAGC genes whose function and utility is known in the art.

AGAAAGATAA GAM336928 is a novel bioinformatically detectable regulatory, non protein
GCCAATATGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336928 was detected
GAGAGGTTAT is described with additional reference to Figs. 9-15.

GAAGCTGATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTTGATTTCT encoded by the human genome.

GGTCTCCTGC GAM336928 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GTGGAGCGAT GAM336928 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336928 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336928 precursor RNA is designated SEQ ID:141384, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141384 is located from position 57721907 to position 57722016 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM336928 precursor RNA folds onto itself, forming GAM336928 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336928 precursor RNA, designated SEQ ID NO: 141384, and a schematic representation of a predicted secondary folding of GAM336928 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336928 folded precursor RNA yielding a GAM336928 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336928 RNA, hereby incorporated herein.

GAM336928 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336928 target RNA, herein designated GAM TARGET RNA.

GAM336928 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336928 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336928 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336928 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336928 RNA, herein designated GAM RNA, to target binding sites on GAM336928 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336928 target RNA into GAM336928 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336928 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336928 target genes. The mRNA of each one of this plurality of GAM336928 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336928 RNA, herein designated GAM RNA, and which when bound by GAM336928 RNA causes inhibition of translation of the GAM336928 target mRNA into a corresponding GAM336928 target protein.

The mechanism of the translational inhibition exerted by GAM336928 RNA, herein designated GAM RNA, on one or more GAM336928 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336928 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336928 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336928 RNA, herein designated GAM RNA, of GAM336928 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336928 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336928 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336928 RNA correlate with, and may be deduced from, the identity of the GAM336928 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336929 141385 TTGGGGTGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GAGGTGGGAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GATCACTTGA Messenger 336929 (GAM336929) oligonucleotides modulates expression of respective target

GCCAGAAAGT genes whose function and utility is known in the art.

TGGAGGCTGC GAM336929 is a novel bioinformatically detectable regulatory, non protein

AGTGAGCTCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336929 was detected

GATCTTGCCA is described with additional reference to Figs. 9-15.

CCACACTCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

G encoded by the human genome.

GAM336929 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336929 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336929 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336929 precursor RNA is designated SEQ ID:141385, and is provided hereinbelow with reference to the sequence listing part.

Nucleotide sequence SEQ ID:141385 is located from position 57778075 to position 57778155 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336929 precursor RNA folds onto itself, forming GAM336929 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336929 precursor RNA, designated SEQ ID NO: 141385, and a schematic representation of a predicted secondary folding of GAM336929 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336929 folded precursor RNA yielding a GAM336929 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336929 RNA, hereby incorporated herein.

GAM336929 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336929 target RNA, herein designated GAM TARGET RNA.

GAM336929 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336929 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336929 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336929 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336929 RNA, herein designated GAM RNA, to target binding sites on GAM336929 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336929 target RNA into GAM336929 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336929 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336929 target genes. The mRNA of each one of this plurality of GAM336929 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336929 RNA, herein designated GAM RNA, and which when bound by GAM336929 RNA causes inhibition of translation of the GAM336929 target mRNA into a corresponding GAM336929 target protein.

The mechanism of the translational inhibition exerted by GAM336929 RNA, herein designated GAM RNA, on one or more GAM336929 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336929 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336929 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336929 RNA, herein designated GAM RNA, of GAM336929 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336929 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336929 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336929 RNA correlate with, and may be deduced from, the identity of the GAM336929 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336930 141386 TGGGGTGCTG Fig. 8 further provides a conceptual description of another novel bioinformatically

AGGTGGGAGG detected oligonucleotides of the present invention, referred to here as Genomic Address

ATCACTTGAG Messenger 336930 (GAM336930) oligonucleotides modulates expression of respective target

CCAGAAAGTT genes whose function and utility is known in the art.

GGAGGCTGCA GAM336930 is a novel bioinformatically detectable regulatory, non protein

GTGAGCTCTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336930 was detected

ATCTTGCCAC is described with additional reference to Figs. 9-15.

CACACTCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336930 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336930 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336930 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336930 precursor RNA is designated SEQ ID:141386, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141386 is located from position 57778076 to position 57778154 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336930 precursor RNA folds onto itself, forming GAM336930 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336930 precursor RNA, designated SEQ ID NO: 141386, and a schematic representation of a predicted secondary folding of GAM336930 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336930 folded precursor RNA yielding a GAM336930 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336930 RNA, hereby incorporated herein.

GAM336930 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336930 target RNA, herein designated GAM TARGET RNA.

GAM336930 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336930 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336930 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336930 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336930 RNA, herein designated GAM RNA, to target binding sites on GAM336930 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336930 target RNA into GAM336930 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336930 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336930 target genes. The mRNA of each one of this plurality of GAM336930 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336930 RNA, herein designated GAM RNA, and which when bound by GAM336930 RNA causes inhibition of translation of the GAM336930 target mRNA into a corresponding GAM336930 target protein.

The mechanism of the translational inhibition exerted by GAM336930 RNA, herein designated GAM RNA, on one or more GAM336930 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336930 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336930 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336930 RNA, herein designated GAM RNA, of GAM336930 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336930 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336930 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336930 RNA correlate with, and may be deduced from, the identity of the GAM336930 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336931 141387 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGCGGAGG Messenger 336931 (GAM336931) oligonucleotides modulates expression of respective target

TGGTGGTGAG genes whose function and utility is known in the art.

CCGAGATTGT GAM336931 is a novel bioinformatically detectable regulatory, non protein
GCCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336931 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAAAAACTCC encoded by the human genome.

GAM336931 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336931 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336931 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336931 precursor RNA is designated SEQ ID:141387, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141387 is located from position 57796024 to position 57796113 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336931 precursor RNA folds onto itself, forming GAM336931 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336931 precursor RNA, designated SEQ ID NO: 141387, and a schematic representation of a predicted secondary folding of GAM336931 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336931 folded precursor RNA yielding a GAM336931 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336931 RNA, hereby incorporated herein. Expression of GAM336931 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336931 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336931 target RNA, herein designated GAM TARGET RNA.

GAM336931 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336931 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336931 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336931 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336931 RNA, herein designated GAM RNA, to target binding sites on GAM336931 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336931 target RNA into GAM336931 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336931 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336931 target genes. The mRNA of each one of this plurality of GAM336931 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336931 RNA, herein designated GAM RNA, and which when bound by GAM336931 RNA causes inhibition of translation of the GAM336931 target mRNA into a corresponding GAM336931 target protein.

The mechanism of the translational inhibition exerted by GAM336931 RNA, herein designated GAM RNA, on one or more GAM336931 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336931 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336931 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336931 RNA, herein designated GAM RNA, of GAM336931 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336931 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336931 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336931 RNA correlate with, and may be deduced from, the identity of the GAM336931 target gene

inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336932 141388 CTCTCTTTGG Fig. 8 further provides a conceptual description of another novel bioinformatically
CTACAGACTT detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCTCAGGCT Messenger 336932 (GAM336932) oligonucleotides modulates expression of respective target
GGCTGGAGAG genes whose function and utility is known in the art.

TAAATCAGGT GAM336932 is a novel bioinformatically detectable regulatory, non protein
CTAAAAGAGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336932 was detected
CTCCTTCATA is described with additional reference to Figs. 9-15.

ACAGGCTGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GATACTCCCA encoded by the human genome.

GCAATCTGAA GAM336932 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GCCGGAGAGA GAM336932 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
G GAM336932 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336932 precursor RNA is designated SEQ ID:141388, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141388 is located from position 58065317 to position 58065427 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM336932 precursor RNA folds onto itself, forming GAM336932 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336932 precursor RNA, designated SEQ ID NO: 141388, and a schematic representation of a predicted secondary folding of GAM336932 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336932 folded precursor RNA yielding a GAM336932 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly

similar to the nucleotide sequence of GAM336932 RNA, hereby incorporated herein.

GAM336932 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336932 target RNA, herein designated GAM TARGET RNA.

GAM336932 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336932 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336932 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336932 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336932 RNA, herein designated GAM RNA, to target binding sites on GAM336932 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336932 target RNA into GAM336932 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336932 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336932 target genes. The mRNA of each one of this plurality of GAM336932 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336932 RNA, herein designated GAM RNA, and which when bound by GAM336932 RNA causes inhibition of translation of the GAM336932 target mRNA into a corresponding GAM336932 target protein.

The mechanism of the translational inhibition exerted by GAM336932 RNA, herein designated GAM RNA, on one or more GAM336932 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336932 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336932 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336932 RNA, herein designated GAM RNA, of GAM336932 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336932 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336932 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336932 RNA correlate with, and may be deduced from, the identity of the GAM336932 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336933 141389 GAAGAACTGG Fig. 8 further provides a conceptual description of another novel bioinformatically
GTGATCTTGT detected oligonucleotides of the present invention, referred to here as Genomic Address
GAAATCTGTG Messenger 336933 (GAM336933) oligonucleotides modulates expression of respective target
GACCCTACAT genes whose function and utility is known in the art.

TGGCACTTAG GAM336933 is a novel bioinformatically detectable regulatory, non protein
TGTGTACCTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336933 was detected
AGGGCTAACG is described with additional reference to Figs. 9-15.

TCCCAAATAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGTCATTCAG encoded by the human genome.

TGCTTT GAM336933 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336933 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336933 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336933 precursor RNA is designated SEQ ID:141389, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141389 is located from position 58083077 to position 58083172 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336933 precursor RNA folds onto itself, forming GAM336933 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336933 precursor RNA, designated SEQ ID NO: 141389, and a schematic representation of a predicted secondary folding of GAM336933 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336933 folded precursor RNA yielding a GAM336933 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336933 RNA, hereby incorporated herein. Expression of GAM336933 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336933 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336933 target RNA, herein designated GAM TARGET RNA.

GAM336933 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336933 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336933 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336933 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336933 RNA, herein designated GAM RNA, to target binding sites on GAM336933 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336933 target RNA into GAM336933 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336933 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336933 target genes. The mRNA of each one of this plurality of GAM336933 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336933 RNA, herein designated GAM RNA, and which when bound by GAM336933 RNA causes inhibition of translation of the GAM336933 target mRNA into a corresponding GAM336933 target protein.

The mechanism of the translational inhibition exerted by GAM336933 RNA, herein designated GAM RNA, on one or more GAM336933 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336933 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336933 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336933 RNA, herein designated GAM RNA, of GAM336933 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336933 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336933 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336933 RNA correlate with, and may be deduced from, the identity of the GAM336933 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336934 141390 TGAGGCCGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATCGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCCTAGAG Messenger 336934 (GAM336934) oligonucleotides modulates expression of respective target

GCAGGTTGCA genes whose function and utility is known in the art.

GTGAGCCCAG GAM336934 is a novel bioinformatically detectable regulatory, non protein

ATTGCATCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336934 was detected

CACTGCACTC is described with additional reference to Figs. 9-15.

CAGCCTGGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AACAGAGGGA encoded by the human genome.

GACTCCATCT GAM336934 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CA GAM336934 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336934 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336934 precursor RNA is designated SEQ ID:141390, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141390 is located from position 58103929 to position 58104030 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336934 precursor RNA folds onto itself, forming GAM336934 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336934 precursor RNA, designated SEQ ID NO: 141390, and a schematic representation of a predicted secondary folding of GAM336934 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336934 folded precursor RNA yielding a GAM336934 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336934 RNA, hereby incorporated herein. Expression of GAM336934 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336934 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336934 target RNA, herein designated GAM TARGET RNA.

GAM336934 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336934 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336934 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336934 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336934 RNA, herein designated GAM RNA, to target binding sites on GAM336934 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336934 target RNA into GAM336934 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336934 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM336934 target genes. The mRNA of each one of this plurality of GAM336934 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336934 RNA, herein designated GAM RNA, and which when bound by GAM336934 RNA causes inhibition of translation of the GAM336934 target mRNA into a corresponding GAM336934 target protein.

The mechanism of the translational inhibition exerted by GAM336934 RNA, herein designated GAM RNA, on one or more GAM336934 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336934 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336934 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336934 RNA, herein designated GAM RNA, of GAM336934 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336934 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336934 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336934 RNA correlate with, and may be deduced from, the identity of the GAM336934 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336935 141391 GATCTTTTCC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTTCGATAAG detected oligonucleotides of the present invention, referred to here as Genomic Address
TGGTTTAAAG Messenger 336935 (GAM336935) oligonucleotides modulates expression of respective target
TGAGCAGAGA genes whose function and utility is known in the art.

ATTGAACTCT GAM336935 is a novel bioinformatically detectable regulatory, non protein
GCTTCTTGCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336935 was detected
CCGCATGTTG is described with additional reference to Figs. 9-15.

AGTGGCTGCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GATC encoded by the human genome.

GAM336935 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336935 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336935 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336935 precursor RNA is designated SEQ ID:141391, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141391 is located from position 58205963 to position 58206046 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336935 precursor RNA folds onto itself, forming GAM336935 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336935 precursor RNA, designated SEQ ID NO: 141391, and a schematic representation of a predicted secondary folding of GAM336935 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336935 folded precursor RNA yielding a GAM336935 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336935 RNA, hereby incorporated herein.

GAM336935 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336935 target RNA, herein designated GAM TARGET RNA.

GAM336935 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336935 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336935 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336935 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336935 RNA, herein designated GAM RNA, to target binding sites on GAM336935 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336935 target RNA into GAM336935 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336935 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336935 target genes. The mRNA of each one of this plurality of GAM336935 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336935 RNA, herein designated GAM RNA, and which when bound by GAM336935 RNA causes inhibition of translation of the GAM336935 target mRNA into a corresponding GAM336935 target protein.

The mechanism of the translational inhibition exerted by GAM336935 RNA, herein designated GAM RNA, on one or more GAM336935 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336935 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336935 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336935 RNA, herein designated GAM RNA, of GAM336935 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336935 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336935 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336935 RNA correlate with, and may be deduced from, the identity of the GAM336935 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336936 141392 TCTGAAAGCA Fig. 8 further provides a conceptual description of another novel bioinformatically

TAATAAATTA detected oligonucleotides of the present invention, referred to here as Genomic Address

GCAAAACAGT Messenger 336936 (GAM336936) oligonucleotides modulates expression of respective target

ATTCGCTGCG genes whose function and utility is known in the art.

GGGTCTTGCA GAM336936 is a novel bioinformatically detectable regulatory, non protein

GATTTTATTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336936 was detected

CTTGATACAA is described with additional reference to Figs. 9-15.

CAGCAGGACC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTTGCCTGTG encoded by the human genome.

CCTGTAGTTA GAM336936 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TTATGTTCGG GAM336936 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

G GAM336936 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336936 precursor RNA is designated SEQ ID:141392, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141392 is located from position 58243217 to position 58243327 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336936 precursor RNA folds onto itself, forming GAM336936 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336936 precursor RNA, designated SEQ ID NO: 141392, and a schematic representation of a predicted secondary folding of GAM336936 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336936 folded precursor RNA yielding a GAM336936 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336936 RNA, hereby incorporated herein.

GAM336936 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336936 target RNA, herein designated GAM TARGET RNA.

GAM336936 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336936 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336936 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the

nucleotide sequence of GAM336936 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336936 RNA, herein designated GAM RNA, to target binding sites on GAM336936 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336936 target RNA into GAM336936 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336936 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336936 target genes. The mRNA of each one of this plurality of GAM336936 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336936 RNA, herein designated GAM RNA, and which when bound by GAM336936 RNA causes inhibition of translation of the GAM336936 target mRNA into a corresponding GAM336936 target protein.

The mechanism of the translational inhibition exerted by GAM336936 RNA, herein designated GAM RNA, on one or more GAM336936 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336936 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336936 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336936 RNA, herein designated GAM RNA, of GAM336936 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336936 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336936 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336936 RNA correlate with, and may be deduced from, the identity of the GAM336936 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336937 141393 ATCATCAGGC Fig. 8 further provides a conceptual description of another novel bioinformatically
ATTAGATTCT detected oligonucleotides of the present invention, referred to here as Genomic Address
CATAAGGAGC Messenger 336937 (GAM336937) oligonucleotides modulates expression of respective target
ACACAACCTA genes whose function and utility is known in the art.

GATTGCTAGC GAM336937 is a novel bioinformatically detectable regulatory, non protein
AGGCACAGTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336937 was detected
CACAATAGGG is described with additional reference to Figs. 9-15.

TTCGTTCTCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGTGAGAATG encoded by the human genome.

GCATGCCGCT GAM336937 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GCTGAT GAM336937 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336937 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336937 precursor RNA is designated SEQ ID:141393, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141393 is located from position 58596055 to position 58596160 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336937 precursor RNA folds onto itself, forming GAM336937 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336937 precursor RNA, designated SEQ ID NO: 141393, and a schematic representation of a predicted secondary folding of GAM336937 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336937 folded precursor RNA yielding a GAM336937 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336937 RNA, hereby incorporated herein.

GAM336937 target gene, herein designated GAM TARGET GENE, encodes a

corresponding messenger RNA, GAM336937 target RNA, herein designated GAM TARGET RNA.

GAM336937 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336937 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336937 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336937 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336937 RNA, herein designated GAM RNA, to target binding sites on GAM336937 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336937 target RNA into GAM336937 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336937 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336937 target genes. The mRNA of each one of this plurality of GAM336937 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336937 RNA, herein designated GAM RNA, and which when bound by GAM336937 RNA causes inhibition of translation of the GAM336937 target mRNA into a corresponding GAM336937 target protein.

The mechanism of the translational inhibition exerted by GAM336937 RNA, herein designated GAM RNA, on one or more GAM336937 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336937 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336937 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336937 RNA, herein designated GAM RNA, of GAM336937 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336937 target RNA, herein designated

GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336937 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336937 RNA correlate with, and may be deduced from, the identity of the GAM336937 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336938 141394 GGCATTAGAT Fig. 8 further provides a conceptual description of another novel bioinformatically
TCTCATAAGG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGCACACAAC Messenger 336938 (GAM336938) oligonucleotides modulates expression of respective target
CTAGATTGCT genes whose function and utility is known in the art.

AGCAGGCACA GAM336938 is a novel bioinformatically detectable regulatory, non protein
GTTCACAATA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336938 was detected
GGGTTCGTTC is described with additional reference to Figs. 9-15.

TCCTGTGAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATGGCATGCC encoded by the human genome.

GAM336938 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336938 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336938 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336938 precursor RNA is designated SEQ ID:141394, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141394 is located from position 58596062 to position 58596151 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336938 precursor RNA folds onto itself, forming GAM336938 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336938 precursor RNA, designated SEQ ID NO: 141394, and a schematic representation of a predicted secondary folding of GAM336938 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336938 folded precursor

RNA yielding a GAM336938 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336938 RNA, hereby incorporated herein.

GAM336938 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336938 target RNA, herein designated GAM TARGET RNA.

GAM336938 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336938 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336938 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336938 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336938 RNA, herein designated GAM RNA, to target binding sites on GAM336938 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336938 target RNA into GAM336938 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336938 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336938 target genes. The mRNA of each one of this plurality of GAM336938 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336938 RNA, herein designated GAM RNA, and which when bound by GAM336938 RNA causes inhibition of translation of the GAM336938 target mRNA into a corresponding GAM336938 target protein.

The mechanism of the translational inhibition exerted by GAM336938 RNA, herein designated GAM RNA, on one or more GAM336938 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336938 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336938 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336938 RNA, herein designated GAM RNA, of GAM336938 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336938 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336938 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336938 RNA correlate with, and may be deduced from, the identity of the GAM336938 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336939 141395 GTCTAGGTCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GATAATTTTC detected oligonucleotides of the present invention, referred to here as Genomic Address

ATTCATTTCT Messenger 336939 (GAM336939) oligonucleotides modulates expression of respective target

TTCATGGACA genes whose function and utility is known in the art.

TGGTGACTCT GAM336939 is a novel bioinformatically detectable regulatory, non protein

TTTCTTGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336939 was detected

TCCTTAAGGA is described with additional reference to Figs. 9-15.

GAAAAGCCAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGACACTACA encoded by the human genome.

AAATCTTTGA GAM336939 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GGTTTGAAGT GAM336939 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GGGAACTAGG GAM336939 precursor RNA does not encode a protein. A nucleotide sequence identical or

AGATTCAGGC highly similar to the nucleotide sequence of GAM336939 precursor RNA is designated SEQ

ID:141395, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141395 is located from position 58665635 to position 58665764 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM336939 precursor RNA folds onto itself, forming GAM336939 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336939 precursor RNA, designated SEQ ID NO: 141395, and a schematic representation of a predicted secondary folding of GAM336939 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336939 folded precursor RNA yielding a GAM336939 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336939 RNA, hereby incorporated herein.

GAM336939 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336939 target RNA, herein designated GAM TARGET RNA.

GAM336939 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336939 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336939 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336939 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336939 RNA, herein designated GAM RNA, to target binding sites on GAM336939 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336939 target RNA into GAM336939 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336939 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336939 target genes. The mRNA of each one of this plurality of GAM336939 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336939 RNA, herein designated GAM RNA, and which when bound by GAM336939 RNA causes inhibition of translation of the GAM336939 target mRNA into a corresponding GAM336939 target protein.

The mechanism of the translational inhibition exerted by GAM336939 RNA, herein designated GAM RNA, on one or more GAM336939 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336939 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336939 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336939 RNA, herein designated GAM RNA, of GAM336939 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336939 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336939 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336939 RNA correlate with, and may be deduced from, the identity of the GAM336939 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336940 141396 TGCAAGGCTT Fig. 8 further provides a conceptual description of another novel bioinformatically

CACCTTCAAC detected oligonucleotides of the present invention, referred to here as Genomic Address

TAGGGAAGAA Messenger 336940 (GAM336940) oligonucleotides modulates expression of respective target

TAAAGTGCTA genes whose function and utility is known in the art.

AAGCCCACTT GAM336940 is a novel bioinformatically detectable regulatory, non protein

TGGTTTCTCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336940 was detected

TGAGTTTGTG is described with additional reference to Figs. 9-15.

TATAGCCTTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TA encoded by the human genome.

GAM336940 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336940 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336940 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336940 precursor RNA is designated SEQ

ID:141396, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141396 is located from position 58668503 to position 58668584 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM336940 precursor RNA folds onto itself, forming GAM336940 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336940 precursor RNA, designated SEQ ID NO: 141396, and a schematic representation of a predicted secondary folding of GAM336940 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336940 folded precursor RNA yielding a GAM336940 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336940 RNA, hereby incorporated herein.

GAM336940 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336940 target RNA, herein designated GAM TARGET RNA.

GAM336940 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336940 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336940 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336940 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336940 RNA, herein designated GAM RNA, to target binding sites on GAM336940 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336940 target RNA into GAM336940 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM336940 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336940 target genes. The mRNA of each one of this plurality of GAM336940 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336940 RNA, herein designated GAM RNA, and which when bound by GAM336940 RNA causes inhibition of translation of the GAM336940 target mRNA into a corresponding GAM336940 target protein.

The mechanism of the translational inhibition exerted by GAM336940 RNA, herein designated GAM RNA, on one or more GAM336940 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336940 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336940 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336940 RNA, herein designated GAM RNA, of GAM336940 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336940 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336940 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336940 RNA correlate with, and may be deduced from, the identity of the GAM336940 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336941 141397 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336941 (GAM336941) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336941 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336941 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336941 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336941 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336941 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336941 precursor RNA is designated SEQ ID:141397, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141397 is located from position 59119812 to position 59119893 relative to chromosome chr4 on the `-` strand (chr is an abbreviation for chromosome).

GAM336941 precursor RNA folds onto itself, forming GAM336941 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336941 precursor RNA, designated SEQ ID NO: 141397, and a schematic representation of a predicted secondary folding of GAM336941 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336941 folded precursor RNA yielding a GAM336941 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336941 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336941 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336941 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336941 target RNA, herein designated GAM TARGET RNA.

GAM336941 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336941 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336941 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336941 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336941 RNA, herein designated GAM RNA, to target binding sites on GAM336941 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336941 target RNA into GAM336941 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336941 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336941 target genes. The mRNA of each one of this plurality of GAM336941 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336941 RNA, herein designated GAM RNA, and which when bound by GAM336941 RNA causes inhibition of translation of the GAM336941 target mRNA into a corresponding GAM336941 target protein.

The mechanism of the translational inhibition exerted by GAM336941 RNA, herein designated GAM RNA, on one or more GAM336941 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336941 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336941 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336941 RNA, herein designated GAM RNA, of GAM336941 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336941 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336941 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336941 RNA correlate with, and may be deduced from, the identity of the GAM336941 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336942 141398 TGGGGTACTG Fig. 8 further provides a conceptual description of another novel bioinformatically

AGAGTCAAAG detected oligonucleotides of the present invention, referred to here as Genomic Address

ACTTGGCTGT Messenger 336942 (GAM336942) oligonucleotides modulates expression of respective target

CAGCCCTGAG genes whose function and utility is known in the art.

TCTGCCTCAA GAM336942 is a novel bioinformatically detectable regulatory, non protein
CCTCCAAGGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336942 was detected
TCATAGCCAC is described with additional reference to Figs. 9-15.

GGCTTCACCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCTGTGCCTC encoded by the human genome.

A GAM336942 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336942 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336942 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336942 precursor RNA is designated SEQ ID:141398, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141398 is located from position 59207699 to position 59207789 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336942 precursor RNA folds onto itself, forming GAM336942 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336942 precursor RNA, designated SEQ ID NO: 141398, and a schematic representation of a predicted secondary folding of GAM336942 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336942 folded precursor RNA yielding a GAM336942 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336942 RNA, hereby incorporated herein.

GAM336942 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336942 target RNA, herein designated GAM TARGET RNA.

GAM336942 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336942 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM336942 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336942 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336942 RNA, herein designated GAM RNA, to target binding sites on GAM336942 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336942 target RNA into GAM336942 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336942 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336942 target genes. The mRNA of each one of this plurality of GAM336942 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336942 RNA, herein designated GAM RNA, and which when bound by GAM336942 RNA causes inhibition of translation of the GAM336942 target mRNA into a corresponding GAM336942 target protein.

The mechanism of the translational inhibition exerted by GAM336942 RNA, herein designated GAM RNA, on one or more GAM336942 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336942 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336942 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336942 RNA, herein designated GAM RNA, of GAM336942 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336942 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336942 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336942 RNA correlate with, and may be deduced from, the identity of the GAM336942 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336943 141399 GGGACAAGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AACCTCATGC detected oligonucleotides of the present invention, referred to here as Genomic Address
TGGGCAAGGG Messenger 336943 (GAM336943) oligonucleotides modulates expression of respective target
GCTCTGTTCT genes whose function and utility is known in the art.

CTTCTTGTAC GAM336943 is a novel bioinformatically detectable regulatory, non protein
CAACAAATCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336943 was detected
TTCTCTTGTT is described with additional reference to Figs. 9-15.

TC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336943 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336943 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336943 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336943 precursor RNA is designated SEQ ID:141399, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141399 is located from position 59211995 to position 59212066 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336943 precursor RNA folds onto itself, forming GAM336943 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336943 precursor RNA, designated SEQ ID NO: 141399, and a schematic representation of a predicted secondary folding of GAM336943 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336943 folded precursor RNA yielding a GAM336943 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336943 RNA, hereby incorporated herein.

GAM336943 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336943 target RNA, herein designated GAM TARGET RNA.

GAM336943 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336943 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336943 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336943 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336943 RNA, herein designated GAM RNA, to target binding sites on GAM336943 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336943 target RNA into GAM336943 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336943 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336943 target genes. The mRNA of each one of this plurality of GAM336943 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336943 RNA, herein designated GAM RNA, and which when bound by GAM336943 RNA causes inhibition of translation of the GAM336943 target mRNA into a corresponding GAM336943 target protein.

The mechanism of the translational inhibition exerted by GAM336943 RNA, herein designated GAM RNA, on one or more GAM336943 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336943 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336943 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336943 RNA, herein designated GAM RNA, of GAM336943 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM336943 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336943 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336943 RNA correlate with, and may be deduced from, the identity of the GAM336943 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336944 141400 TCCTTTGCTA Fig. 8 further provides a conceptual description of another novel bioinformatically
GTGGTGGGTC detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCCTCTGTT Messenger 336944 (GAM336944) oligonucleotides modulates expression of respective target
GCTAGGGAAA genes whose function and utility is known in the art.

CGGTTCCCTA GAM336944 is a novel bioinformatically detectable regulatory, non protein
GCAACAGAAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336944 was detected
GCCACTATTT is described with additional reference to Figs. 9-15.

GCTAGGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336944 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336944 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336944 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336944 precursor RNA is designated SEQ ID:141400, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141400 is located from position 59360086 to position 59360163 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM336944 precursor RNA folds onto itself, forming GAM336944 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin
structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336944 precursor RNA, designated SEQ ID NO: 141400, and a schematic representation of a predicted secondary folding of GAM336944 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336944 folded precursor RNA yielding a GAM336944 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336944 RNA, hereby incorporated herein.

GAM336944 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336944 target RNA, herein designated GAM TARGET RNA.

GAM336944 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336944 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336944 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336944 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336944 RNA, herein designated GAM RNA, to target binding sites on GAM336944 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336944 target RNA into GAM336944 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336944 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336944 target genes. The mRNA of each one of this plurality of GAM336944 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336944 RNA, herein designated GAM RNA, and which when bound by GAM336944 RNA causes inhibition of translation of the GAM336944 target mRNA into a corresponding GAM336944 target protein.

The mechanism of the translational inhibition exerted by GAM336944 RNA, herein designated GAM RNA, on one or more GAM336944 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336944 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336944 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336944 RNA, herein designated GAM RNA, of GAM336944 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336944 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336944 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336944 RNA correlate with, and may be deduced from, the identity of the GAM336944 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336945 141401 CTGTAATTCC AGCACTTTGG GATGCCGAGT TGAGAGGATC ACTTGAAGCC GGGAATTTGA GGCTGCAGTG AGCTATGATC ATGCCGGTGT ACTTCAGTCT GGGCAACAG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336945 (GAM336945) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336945 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336945 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336945 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336945 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336945 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336945 precursor RNA is designated SEQ ID:141401, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141401 is located from position 59990343 to position 59990451 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM336945 precursor RNA folds onto itself, forming GAM336945 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336945 precursor RNA, designated SEQ ID NO: 141401, and a schematic representation of a predicted secondary folding of GAM336945 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336945 folded precursor RNA yielding a GAM336945 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336945 RNA, hereby incorporated herein.

GAM336945 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336945 target RNA, herein designated GAM TARGET RNA.

GAM336945 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336945 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336945 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336945 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336945 RNA, herein designated GAM RNA, to target binding sites on GAM336945 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336945 target RNA into GAM336945 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336945 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336945 target genes. The mRNA of each one of this plurality of GAM336945 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336945 RNA, herein designated GAM RNA, and which when bound by GAM336945 RNA causes inhibition of translation of the GAM336945 target mRNA into a corresponding GAM336945 target protein.

The mechanism of the translational inhibition exerted by GAM336945 RNA, herein designated GAM RNA, on one or more GAM336945 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336945 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336945 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336945 RNA, herein designated GAM RNA, of GAM336945 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336945 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336945 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336945 RNA correlate with, and may be deduced from, the identity of the GAM336945 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336946 141402 AGTTCCCACG Fig. 8 further provides a conceptual description of another novel bioinformatically

TGCATGGAGC detected oligonucleotides of the present invention, referred to here as Genomic Address

TGTAGTTTTT Messenger 336946 (GAM336946) oligonucleotides modulates expression of respective target

CCCACATTCC genes whose function and utility is known in the art.

TCTTAGGAGC GAM336946 is a novel bioinformatically detectable regulatory, non protein

TGTGCCTAAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336946 was detected

ATGCTGCGCT is described with additional reference to Figs. 9-15.

AGCAACCTCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTATTGTGAA encoded by the human genome.

GGAACT GAM336946 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336946 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336946 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336946 precursor RNA is designated SEQ

ID:141402, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141402 is located from position 60087508 to position 60087603 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336946 precursor RNA folds onto itself, forming GAM336946 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336946 precursor RNA, designated SEQ ID NO: 141402, and a schematic representation of a predicted secondary folding of GAM336946 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336946 folded precursor RNA yielding a GAM336946 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336946 RNA, hereby incorporated herein.

GAM336946 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336946 target RNA, herein designated GAM TARGET RNA.

GAM336946 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336946 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336946 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336946 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336946 RNA, herein designated GAM RNA, to target binding sites on GAM336946 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336946 target RNA into GAM336946 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM336946 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336946 target genes. The mRNA of each one of this plurality of GAM336946 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336946 RNA, herein designated GAM RNA, and which when bound by GAM336946 RNA causes inhibition of translation of the GAM336946 target mRNA into a corresponding GAM336946 target protein.

The mechanism of the translational inhibition exerted by GAM336946 RNA, herein designated GAM RNA, on one or more GAM336946 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336946 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336946 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336946 RNA, herein designated GAM RNA, of GAM336946 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336946 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336946 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336946 RNA correlate with, and may be deduced from, the identity of the GAM336946 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336947 141403 TCCTTCAGTG Fig. 8 further provides a conceptual description of another novel bioinformatically

GATGATGTTT detected oligonucleotides of the present invention, referred to here as Genomic Address

TCTGTGGTCT Messenger 336947 (GAM336947) oligonucleotides modulates expression of respective target

TGTTCAGGAA genes whose function and utility is known in the art.

TTTACAAACT GAM336947 is a novel bioinformatically detectable regulatory, non protein

AGAGGAAGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336947 was detected

TTATCTCACC is described with additional reference to Figs. 9-15.

AAGGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336947 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336947 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336947 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336947 precursor RNA is designated SEQ ID:141403, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141403 is located from position 60363185 to position 60363260 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM336947 precursor RNA folds onto itself, forming GAM336947 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336947 precursor RNA, designated SEQ ID NO: 141403, and a schematic representation of a predicted secondary folding of GAM336947 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336947 folded precursor RNA yielding a GAM336947 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336947 RNA, hereby incorporated herein.

GAM336947 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336947 target RNA, herein designated GAM TARGET RNA.

GAM336947 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336947 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336947 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336947 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336947 RNA, herein designated GAM RNA, to target binding sites on GAM336947 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336947 target RNA into GAM336947 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336947 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336947 target genes. The mRNA of each one of this plurality of GAM336947 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336947 RNA, herein designated GAM RNA, and which when bound by GAM336947 RNA causes inhibition of translation of the GAM336947 target mRNA into a corresponding GAM336947 target protein.

The mechanism of the translational inhibition exerted by GAM336947 RNA, herein designated GAM RNA, on one or more GAM336947 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336947 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336947 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336947 RNA, herein designated GAM RNA, of GAM336947 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336947 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336947 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336947 RNA correlate with, and may be deduced from, the identity of the GAM336947 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336948 141404 CAGTGTGAAG Fig. 8 further provides a conceptual description of another novel bioinformatically

GTTTTTATAC detected oligonucleotides of the present invention, referred to here as Genomic Address

TTCTGCCAGA Messenger 336948 (GAM336948) oligonucleotides modulates expression of respective target

GGACAACGTA genes whose function and utility is known in the art.

ATATGAAACA GAM336948 is a novel bioinformatically detectable regulatory, non protein
CCGAGTTTTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336948 was detected
TTTGTCTCTA is described with additional reference to Figs. 9-15.

CAGAGAGTAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TAGTGTCTTT encoded by the human genome.

CAGGCTG GAM336948 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336948 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336948 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336948 precursor RNA is designated SEQ ID:141404, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141404 is located from position 60416966 to position 60417062 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336948 precursor RNA folds onto itself, forming GAM336948 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336948 precursor RNA, designated SEQ ID NO: 141404, and a schematic representation of a predicted secondary folding of GAM336948 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336948 folded precursor RNA yielding a GAM336948 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336948 RNA, hereby incorporated herein.

GAM336948 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336948 target RNA, herein designated GAM TARGET RNA.

GAM336948 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336948 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM336948 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336948 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336948 RNA, herein designated GAM RNA, to target binding sites on GAM336948 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336948 target RNA into GAM336948 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336948 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336948 target genes. The mRNA of each one of this plurality of GAM336948 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336948 RNA, herein designated GAM RNA, and which when bound by GAM336948 RNA causes inhibition of translation of the GAM336948 target mRNA into a corresponding GAM336948 target protein.

The mechanism of the translational inhibition exerted by GAM336948 RNA, herein designated GAM RNA, on one or more GAM336948 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336948 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336948 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336948 RNA, herein designated GAM RNA, of GAM336948 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336948 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336948 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336948 RNA correlate with, and may be deduced from, the identity of the GAM336948 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336949 141405 GTACCAGCAT Fig. 8 further provides a conceptual description of another novel bioinformatically

CTGGTGAGGA detected oligonucleotides of the present invention, referred to here as Genomic Address

CTGCAATCGA Messenger 336949 (GAM336949) oligonucleotides modulates expression of respective target

CTTCCAAGAT genes whose function and utility is known in the art.

GACGCCTTGA GAM336949 is a novel bioinformatically detectable regulatory, non protein

ATGCCATACC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336949 was detected

CACCAGAAGG is described with additional reference to Figs. 9-15.

CTGGTAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336949 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336949 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336949 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336949 precursor RNA is designated SEQ ID:141405, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141405 is located from position 60430605 to position 60430681 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM336949 precursor RNA folds onto itself, forming GAM336949 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336949 precursor RNA, designated SEQ ID NO: 141405, and a schematic representation of a predicted secondary folding of GAM336949 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336949 folded precursor RNA yielding a GAM336949 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336949 RNA, hereby incorporated herein.

GAM336949 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336949 target RNA, herein designated GAM TARGET RNA.

GAM336949 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336949 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336949 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336949 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336949 RNA, herein designated GAM RNA, to target binding sites on GAM336949 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336949 target RNA into GAM336949 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336949 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336949 target genes. The mRNA of each one of this plurality of GAM336949 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336949 RNA, herein designated GAM RNA, and which when bound by GAM336949 RNA causes inhibition of translation of the GAM336949 target mRNA into a corresponding GAM336949 target protein.

The mechanism of the translational inhibition exerted by GAM336949 RNA, herein designated GAM RNA, on one or more GAM336949 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336949 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336949 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336949 RNA, herein designated GAM RNA, of GAM336949 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM336949 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336949 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336949 RNA correlate with, and may be deduced from, the identity of the GAM336949 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336950 141406 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 336950 (GAM336950) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336950 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336950 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM336950 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336950 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336950 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336950 precursor RNA is designated SEQ ID:141406, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141406 is located from position 60746489 to position 60746570 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336950 precursor RNA folds onto itself, forming GAM336950 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336950 precursor RNA, designated SEQ ID NO: 141406, and a schematic representation of a predicted secondary folding of GAM336950 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336950 folded precursor RNA yielding a GAM336950 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336950 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336950 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336950 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336950 target RNA, herein designated GAM TARGET RNA.

GAM336950 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336950 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336950 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336950 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336950 RNA, herein designated GAM RNA, to target binding sites on GAM336950 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336950 target RNA into GAM336950 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336950 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336950 target genes. The mRNA of each one of this plurality of GAM336950 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336950 RNA, herein designated GAM RNA, and which when bound by GAM336950 RNA causes inhibition of translation of the GAM336950 target mRNA into a corresponding GAM336950 target protein.

The mechanism of the translational inhibition exerted by GAM336950 RNA, herein designated GAM RNA, on one or more GAM336950 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336950 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336950 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336950 RNA, herein designated GAM RNA, of GAM336950 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336950 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336950 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336950 RNA correlate with, and may be deduced from, the identity of the GAM336950 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336951 141407 CTCCCCCGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AATGTCAGCC detected oligonucleotides of the present invention, referred to here as Genomic Address
CCTTGAAGCT Messenger 336951 (GAM336951) oligonucleotides modulates expression of respective target
GCGGTCTGTC genes whose function and utility is known in the art.

TATGCTGGTC GAM336951 is a novel bioinformatically detectable regulatory, non protein
GTACCCTCAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336951 was detected
AGCCTAAGAT is described with additional reference to Figs. 9-15.

GACACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCAGGAAATG encoded by the human genome.

AACACCCTCG GAM336951 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAGGGGG GAM336951 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336951 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336951 precursor RNA is designated SEQ ID:141407, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141407 is located from position 60952390 to position 60952496 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336951 precursor RNA folds onto itself, forming GAM336951 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336951 precursor RNA, designated SEQ ID NO: 141407, and a schematic representation of a predicted secondary folding of GAM336951 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336951 folded precursor RNA yielding a GAM336951 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336951 RNA, hereby incorporated herein.

GAM336951 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336951 target RNA, herein designated GAM TARGET RNA.

GAM336951 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336951 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336951 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336951 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336951 RNA, herein designated GAM RNA, to target binding sites on GAM336951 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336951 target RNA into GAM336951 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336951 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336951 target genes. The mRNA of each one of this plurality of GAM336951 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336951 RNA, herein designated GAM RNA, and which when bound by GAM336951 RNA causes inhibition of

translation of the GAM336951 target mRNA into a corresponding GAM336951 target protein.

The mechanism of the translational inhibition exerted by GAM336951 RNA, herein designated GAM RNA, on one or more GAM336951 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336951 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336951 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336951 RNA, herein designated GAM RNA, of GAM336951 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336951 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336951 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336951 RNA correlate with, and may be deduced from, the identity of the GAM336951 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336952 141408 GTAAGAAAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

TGTCTGTAGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ATGGAGACTT Messenger 336952 (GAM336952) oligonucleotides modulates expression of respective target

TGTCAAGCTC genes whose function and utility is known in the art.

TTTGCCCTTG GAM336952 is a novel bioinformatically detectable regulatory, non protein

ATGGGGAAGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336952 was detected

GAGCTGTGAT is described with additional reference to Figs. 9-15.

AATCCCTGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAACACATTG encoded by the human genome.

GCTAC GAM336952 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336952 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336952 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336952 precursor RNA is designated SEQ ID:141408, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141408 is located from position 61092534 to position 61092628 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM336952 precursor RNA folds onto itself, forming GAM336952 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336952 precursor RNA, designated SEQ ID NO: 141408, and a schematic representation of a predicted secondary folding of GAM336952 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336952 folded precursor RNA yielding a GAM336952 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336952 RNA, hereby incorporated herein.

GAM336952 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336952 target RNA, herein designated GAM TARGET RNA.

GAM336952 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336952 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336952 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336952 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336952 RNA, herein designated GAM RNA, to target binding sites on GAM336952 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336952 target RNA into GAM336952 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336952 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336952 target genes. The mRNA of each one of this plurality of GAM336952 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336952 RNA, herein designated GAM RNA, and which when bound by GAM336952 RNA causes inhibition of translation of the GAM336952 target mRNA into a corresponding GAM336952 target protein.

The mechanism of the translational inhibition exerted by GAM336952 RNA, herein designated GAM RNA, on one or more GAM336952 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336952 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336952 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336952 RNA, herein designated GAM RNA, of GAM336952 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336952 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336952 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336952 RNA correlate with, and may be deduced from, the identity of the GAM336952 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336953 141409 AGAAAGATGT Fig. 8 further provides a conceptual description of another novel bioinformatically

CTGTAGAATG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGACTTTGT Messenger 336953 (GAM336953) oligonucleotides modulates expression of respective target

CAAGCTCTTT genes whose function and utility is known in the art.

GCCCTTGATG GAM336953 is a novel bioinformatically detectable regulatory, non protein

GGGAAGAGAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336953 was detected

CTGTGATAAT is described with additional reference to Figs. 9-15.

CCCTGCAGAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CACATTGGCT encoded by the human genome.

GAM336953 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336953 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336953 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336953 precursor RNA is designated SEQ ID:141409, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141409 is located from position 61092537 to position 61092626 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM336953 precursor RNA folds onto itself, forming GAM336953 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336953 precursor RNA, designated SEQ ID NO: 141409, and a schematic representation of a predicted secondary folding of GAM336953 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336953 folded precursor RNA yielding a GAM336953 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336953 RNA, hereby incorporated herein.

GAM336953 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336953 target RNA, herein designated GAM TARGET RNA.

GAM336953 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336953 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336953 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336953 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336953 RNA, herein designated GAM RNA, to target binding sites on GAM336953 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336953 target RNA into GAM336953 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336953 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336953 target genes. The mRNA of each one of this plurality of GAM336953 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336953 RNA, herein designated GAM RNA, and which when bound by GAM336953 RNA causes inhibition of translation of the GAM336953 target mRNA into a corresponding GAM336953 target protein.

The mechanism of the translational inhibition exerted by GAM336953 RNA, herein designated GAM RNA, on one or more GAM336953 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336953 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336953 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336953 RNA, herein designated GAM RNA, of GAM336953 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336953 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336953 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336953 RNA correlate with, and may be deduced from, the identity of the GAM336953 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336954 141410 TTCCAGTTCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GCTATAATCA detected oligonucleotides of the present invention, referred to here as Genomic Address

AGACCTTATT Messenger 336954 (GAM336954) oligonucleotides modulates expression of respective target

GTCCATAACT genes whose function and utility is known in the art.

CAATTTAGAG GAM336954 is a novel bioinformatically detectable regulatory, non protein

AAGGTTTAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336954 was detected

TGTCTACCAA is described with additional reference to Figs. 9-15.

CTCTTGTGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGTTTCTGT encoded by the human genome.

GAAGTTTTGT GAM336954 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TTTGGGTTGC GAM336954 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

AAGAATCTGG GAM336954 precursor RNA does not encode a protein. A nucleotide sequence identical or

AA highly similar to the nucleotide sequence of GAM336954 precursor RNA is designated SEQ ID:141410, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141410 is located from position 61355850 to position 61355971 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM336954 precursor RNA folds onto itself, forming GAM336954 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336954 precursor RNA, designated SEQ ID NO: 141410, and a schematic representation of a predicted secondary folding of GAM336954 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336954 folded precursor RNA yielding a GAM336954 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336954 RNA, hereby incorporated herein.

GAM336954 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336954 target RNA, herein designated GAM TARGET RNA.

GAM336954 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336954 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336954 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336954 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336954 RNA, herein designated GAM RNA, to target binding sites on GAM336954 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336954 target RNA into GAM336954 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336954 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336954 target genes. The mRNA of each one of this plurality of GAM336954 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336954 RNA, herein designated GAM RNA, and which when bound by GAM336954 RNA causes inhibition of translation of the GAM336954 target mRNA into a corresponding GAM336954 target protein.

The mechanism of the translational inhibition exerted by GAM336954 RNA, herein designated GAM RNA, on one or more GAM336954 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336954 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336954 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336954 RNA, herein designated GAM RNA, of GAM336954 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336954 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336954 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336954 RNA correlate with, and may be deduced from, the identity of the GAM336954 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336955 141411 TTCCAGTTCT Fig. 8 further provides a conceptual description of another novel bioinformatically
GCTATAATCA detected oligonucleotides of the present invention, referred to here as Genomic Address
AGACCTTATT Messenger 336955 (GAM336955) oligonucleotides modulates expression of respective target
GTCCATAACT genes whose function and utility is known in the art.

CAATTTAGAG GAM336955 is a novel bioinformatically detectable regulatory, non protein
AAGGTTTAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336955 was detected
TGTCTACCAA is described with additional reference to Figs. 9-15.

CTCTTGTGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGTTTCTGT encoded by the human genome.

GAAGTTTTGT GAM336955 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TTTGGGTTGC GAM336955 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
AAGAATCTGG GAM336955 precursor RNA does not encode a protein. A nucleotide sequence identical or

AA highly similar to the nucleotide sequence of GAM336955 precursor RNA is designated SEQ ID:141411, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141411 is located from position 61684372 to position 61684493 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM336955 precursor RNA folds onto itself, forming GAM336955 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336955 precursor RNA, designated SEQ ID NO: 141411, and a schematic representation of a predicted secondary folding of GAM336955 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336955 folded precursor RNA yielding a GAM336955 RNA, herein designated GAM RNA, in the form of a single stranded

~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336955 RNA, hereby incorporated herein.

GAM336955 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336955 target RNA, herein designated GAM TARGET RNA.

GAM336955 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336955 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336955 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336955 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336955 RNA, herein designated GAM RNA, to target binding sites on GAM336955 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336955 target RNA into GAM336955 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336955 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336955 target genes. The mRNA of each one of this plurality of GAM336955 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336955 RNA, herein designated GAM RNA, and which when bound by GAM336955 RNA causes inhibition of translation of the GAM336955 target mRNA into a corresponding GAM336955 target protein.

The mechanism of the translational inhibition exerted by GAM336955 RNA, herein designated GAM RNA, on one or more GAM336955 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336955 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336955 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336955 RNA, herein designated GAM RNA, of GAM336955 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336955 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336955 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336955 RNA correlate with, and may be deduced from, the identity of the GAM336955 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336956 141412 TGAGTAAGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

GAGGTGGGGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACTTTGAGAG Messenger 336956 (GAM336956) oligonucleotides modulates expression of respective target

ACATCGTAAT genes whose function and utility is known in the art.

GGCTGTCCAC GAM336956 is a novel bioinformatically detectable regulatory, non protein

CACAGTCTTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336956 was detected

CTCCGTCCCC is described with additional reference to Figs. 9-15.

ACCTCCCAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GATTCA encoded by the human genome.

GAM336956 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336956 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336956 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336956 precursor RNA is designated SEQ ID:141412, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141412 is located from position 61750038 to position 61750123 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336956 precursor RNA folds onto itself, forming GAM336956 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336956 precursor RNA, designated SEQ ID NO: 141412, and a schematic representation of a predicted secondary folding of GAM336956 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336956 folded precursor RNA yielding a GAM336956 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336956 RNA, hereby incorporated herein.

GAM336956 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336956 target RNA, herein designated GAM TARGET RNA.

GAM336956 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336956 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336956 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336956 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336956 RNA, herein designated GAM RNA, to target binding sites on GAM336956 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336956 target RNA into GAM336956 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336956 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336956 target genes. The mRNA of each one of this plurality of GAM336956 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336956 RNA, herein designated GAM RNA, and which when bound by GAM336956 RNA causes inhibition of translation of the GAM336956 target mRNA into a corresponding GAM336956 target protein.

The mechanism of the translational inhibition exerted by GAM336956 RNA, herein designated GAM RNA, on one or more GAM336956 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336956 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336956 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336956 RNA, herein designated GAM RNA, of GAM336956 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336956 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336956 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336956 RNA correlate with, and may be deduced from, the identity of the GAM336956 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336957 141413 AAGACGGCAA Fig. 8 further provides a conceptual description of another novel bioinformatically

ATATTCTGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GTGAAGGAGG Messenger 336957 (GAM336957) oligonucleotides modulates expression of respective target

TATAATGGGG genes whose function and utility is known in the art.

AAACACATTT GAM336957 is a novel bioinformatically detectable regulatory, non protein

ATTTTCCCCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336957 was detected

TTTAAACTTC is described with additional reference to Figs. 9-15.

CCTGCTGCCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGTCTTTGC encoded by the human genome.

CTTCTT GAM336957 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336957 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336957 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336957 precursor RNA is designated SEQ ID:141413, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141413 is located from position 61814814 to position 61814909 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM336957 precursor RNA folds onto itself, forming GAM336957 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336957 precursor RNA, designated SEQ ID NO: 141413, and a schematic representation of a predicted secondary folding of GAM336957 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336957 folded precursor RNA yielding a GAM336957 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336957 RNA, hereby incorporated herein.

GAM336957 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336957 target RNA, herein designated GAM TARGET RNA.

GAM336957 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336957 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336957 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336957 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336957 RNA, herein designated GAM RNA, to target binding sites on GAM336957 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336957 target RNA into GAM336957 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336957 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM336957 target genes. The mRNA of each one of this plurality of GAM336957 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336957 RNA, herein designated GAM RNA, and which when bound by GAM336957 RNA causes inhibition of translation of the GAM336957 target mRNA into a corresponding GAM336957 target protein.

The mechanism of the translational inhibition exerted by GAM336957 RNA, herein designated GAM RNA, on one or more GAM336957 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336957 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336957 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336957 RNA, herein designated GAM RNA, of GAM336957 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336957 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336957 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336957 RNA correlate with, and may be deduced from, the identity of the GAM336957 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336958 141414 GAAATCCTGG Fig. 8 further provides a conceptual description of another novel bioinformatically
GGTTGCAAGA detected oligonucleotides of the present invention, referred to here as Genomic Address
CTGCCAGCCT Messenger 336958 (GAM336958) oligonucleotides modulates expression of respective target
GTGTGATCAA genes whose function and utility is known in the art.

TCCTGCGGTT GAM336958 is a novel bioinformatically detectable regulatory, non protein
AGGAAGGTGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336958 was detected
AGTTTTGCTT is described with additional reference to Figs. 9-15.

TCCCATCTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TC encoded by the human genome.

GAM336958 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336958 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336958 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336958 precursor RNA is designated SEQ ID:141414, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141414 is located from position 61985320 to position 61985401 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM336958 precursor RNA folds onto itself, forming GAM336958 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336958 precursor RNA, designated SEQ ID NO: 141414, and a schematic representation of a predicted secondary folding of GAM336958 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336958 folded precursor RNA yielding a GAM336958 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336958 RNA, hereby incorporated herein.

GAM336958 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336958 target RNA, herein designated GAM TARGET RNA.

GAM336958 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336958 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336958 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336958 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336958 RNA, herein designated GAM RNA, to target binding sites on GAM336958 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336958 target RNA into GAM336958 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336958 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336958 target genes. The mRNA of each one of this plurality of GAM336958 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336958 RNA, herein designated GAM RNA, and which when bound by GAM336958 RNA causes inhibition of translation of the GAM336958 target mRNA into a corresponding GAM336958 target protein.

The mechanism of the translational inhibition exerted by GAM336958 RNA, herein designated GAM RNA, on one or more GAM336958 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336958 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336958 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336958 RNA, herein designated GAM RNA, of GAM336958 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336958 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336958 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336958 RNA correlate with, and may be deduced from, the identity of the GAM336958 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336959 141415 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336959 (GAM336959) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336959 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336959 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336959 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336959 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336959 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336959 precursor RNA is designated SEQ ID:141415, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141415 is located from position 62004748 to position 62004829 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM336959 precursor RNA folds onto itself, forming GAM336959 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336959 precursor RNA, designated SEQ ID NO: 141415, and a schematic representation of a predicted secondary folding of GAM336959 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336959 folded precursor RNA yielding a GAM336959 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336959 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336959 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336959 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336959 target RNA, herein designated GAM TARGET RNA.

GAM336959 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336959 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336959 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336959 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336959 RNA, herein designated GAM RNA, to target binding sites on GAM336959 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336959 target RNA into GAM336959 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336959 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336959 target genes. The mRNA of each one of this plurality of GAM336959 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336959 RNA, herein designated GAM RNA, and which when bound by GAM336959 RNA causes inhibition of translation of the GAM336959 target mRNA into a corresponding GAM336959 target protein.

The mechanism of the translational inhibition exerted by GAM336959 RNA, herein designated GAM RNA, on one or more GAM336959 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336959 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336959 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336959 RNA, herein designated GAM RNA, of GAM336959 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336959 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336959 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336959 RNA correlate with, and may be deduced from, the identity of the GAM336959 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336960 141416 TTGGCTTCCC Fig. 8 further provides a conceptual description of another novel bioinformatically
TGGTCTCCAT detected oligonucleotides of the present invention, referred to here as Genomic Address
TTCTTCAGCA Messenger 336960 (GAM336960) oligonucleotides modulates expression of respective target
GCCTGACTTC genes whose function and utility is known in the art.

TTTACCAAGC GAM336960 is a novel bioinformatically detectable regulatory, non protein
TGATGTGAAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336960 was detected
AGAATGTGAC is described with additional reference to Figs. 9-15.

CTGGGAATGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGA encoded by the human genome.

GAM336960 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336960 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336960 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336960 precursor RNA is designated SEQ ID:141416, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141416 is located from position 62025267 to position 62025349 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM336960 precursor RNA folds onto itself, forming GAM336960 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336960 precursor RNA, designated SEQ ID NO: 141416, and a schematic representation of a predicted secondary folding of GAM336960 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336960 folded precursor RNA yielding a GAM336960 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336960 RNA, hereby incorporated herein.

GAM336960 target gene, herein designated GAM TARGET GENE, encodes a

corresponding messenger RNA, GAM336960 target RNA, herein designated GAM TARGET RNA.

GAM336960 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336960 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336960 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336960 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336960 RNA, herein designated GAM RNA, to target binding sites on GAM336960 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336960 target RNA into GAM336960 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336960 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336960 target genes. The mRNA of each one of this plurality of GAM336960 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336960 RNA, herein designated GAM RNA, and which when bound by GAM336960 RNA causes inhibition of translation of the GAM336960 target mRNA into a corresponding GAM336960 target protein.

The mechanism of the translational inhibition exerted by GAM336960 RNA, herein designated GAM RNA, on one or more GAM336960 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336960 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336960 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336960 RNA, herein designated GAM RNA, of GAM336960 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336960 target RNA, herein designated

GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336960 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336960 RNA correlate with, and may be deduced from, the identity of the GAM336960 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336961 141417 ATAAGCTGCT Fig. 8 further provides a conceptual description of another novel bioinformatically
CTAATTGCCA detected oligonucleotides of the present invention, referred to here as Genomic Address
AGAATTCACA Messenger 336961 (GAM336961) oligonucleotides modulates expression of respective target
TGTGGTTGTA genes whose function and utility is known in the art.

TGCAGCTTTA GAM336961 is a novel bioinformatically detectable regulatory, non protein
CTGGGAGACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336961 was detected
GAAGTGTATC is described with additional reference to Figs. 9-15.

TGCATGTGAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCTGCTGTGA encoded by the human genome.

TGGACACTTG GAM336961 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TAAGTTTGT GAM336961 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336961 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336961 precursor RNA is designated SEQ ID:141417, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141417 is located from position 62131101 to position 62131209 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM336961 precursor RNA folds onto itself, forming GAM336961 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336961 precursor RNA, designated SEQ ID NO: 141417, and a schematic representation of a predicted secondary folding of GAM336961 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336961 folded precursor RNA yielding a GAM336961 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336961 RNA, hereby incorporated herein.

GAM336961 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336961 target RNA, herein designated GAM TARGET RNA.

GAM336961 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336961 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336961 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336961 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336961 RNA, herein designated GAM RNA, to target binding sites on GAM336961 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336961 target RNA into GAM336961 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336961 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336961 target genes. The mRNA of each one of this plurality of GAM336961 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336961 RNA, herein designated GAM RNA, and which when bound by GAM336961 RNA causes inhibition of translation of the GAM336961 target mRNA into a corresponding GAM336961 target protein.

The mechanism of the translational inhibition exerted by GAM336961 RNA, herein designated GAM RNA, on one or more GAM336961 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336961 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336961 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336961 RNA, herein designated GAM RNA, of GAM336961 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336961 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336961 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336961 RNA correlate with, and may be deduced from, the identity of the GAM336961 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336962 141418 TACATGTGTT Fig. 8 further provides a conceptual description of another novel bioinformatically
ACACTCAGTG detected oligonucleotides of the present invention, referred to here as Genomic Address
TGTAAATAAC Messenger 336962 (GAM336962) oligonucleotides modulates expression of respective target
TGTGAAGAGG genes whose function and utility is known in the art.

CAATTGTCAG GAM336962 is a novel bioinformatically detectable regulatory, non protein
ATAGCAAATT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336962 was detected
GGGCACCTGC is described with additional reference to Figs. 9-15.

TGTGTACGGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATATTGCACT encoded by the human genome.

GGGGCTGACG GAM336962 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GGTGTG GAM336962 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336962 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336962 precursor RNA is designated SEQ ID:141418, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141418 is located from position 62164421 to position 62164526 relative to chromosome chr20 on the `-` strand (chr is an abbreviation for chromosome).

GAM336962 precursor RNA folds onto itself, forming GAM336962 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336962 precursor RNA, designated SEQ ID NO: 141418, and a schematic representation of a predicted secondary folding of GAM336962 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336962 folded precursor RNA yielding a GAM336962 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336962 RNA, hereby incorporated herein.

GAM336962 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336962 target RNA, herein designated GAM TARGET RNA.

GAM336962 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336962 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336962 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336962 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336962 RNA, herein designated GAM RNA, to target binding sites on GAM336962 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336962 target RNA into GAM336962 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336962 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336962 target genes. The mRNA of each one of this plurality of GAM336962 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336962 RNA, herein designated GAM RNA, and which when bound by GAM336962 RNA causes inhibition of translation of the GAM336962 target mRNA into a corresponding GAM336962 target protein.

The mechanism of the translational inhibition exerted by GAM336962 RNA, herein designated GAM RNA, on one or more GAM336962 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336962 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336962 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336962 RNA, herein designated GAM RNA, of GAM336962 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336962 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336962 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336962 RNA correlate with, and may be deduced from, the identity of the GAM336962 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336963 141419 TTAGCCTCCC Fig. 8 further provides a conceptual description of another novel bioinformatically

AGATGTCCTT detected oligonucleotides of the present invention, referred to here as Genomic Address

GTGCTAGTTT Messenger 336963 (GAM336963) oligonucleotides modulates expression of respective target

TAGCTGTTTT genes whose function and utility is known in the art.

CAGGTGTTGA GAM336963 is a novel bioinformatically detectable regulatory, non protein

TAAAAGCTCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336963 was detected

AGGAGCTGGC is described with additional reference to Figs. 9-15.

AGGAGGAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGAGGAAGC encoded by the human genome.

TAG GAM336963 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336963 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336963 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336963 precursor RNA is designated SEQ ID:141419, and is provided hereinbelow with reference to the sequence listing part.

Nucleotide sequence SEQ ID:141419 is located from position 62264330 to position 62264422 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM336963 precursor RNA folds onto itself, forming GAM336963 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336963 precursor RNA, designated SEQ ID NO: 141419, and a schematic representation of a predicted secondary folding of GAM336963 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336963 folded precursor RNA yielding a GAM336963 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336963 RNA, hereby incorporated herein.

GAM336963 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336963 target RNA, herein designated GAM TARGET RNA.

GAM336963 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336963 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336963 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336963 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336963 RNA, herein designated GAM RNA, to target binding sites on GAM336963 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336963 target RNA into GAM336963 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336963 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336963 target genes. The mRNA of each one of this plurality of GAM336963 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336963 RNA, herein designated GAM RNA, and which when bound by GAM336963 RNA causes inhibition of translation of the GAM336963 target mRNA into a corresponding GAM336963 target protein.

The mechanism of the translational inhibition exerted by GAM336963 RNA, herein designated GAM RNA, on one or more GAM336963 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336963 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336963 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336963 RNA, herein designated GAM RNA, of GAM336963 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336963 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336963 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336963 RNA correlate with, and may be deduced from, the identity of the GAM336963 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336964 141420 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336964 (GAM336964) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336964 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336964 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336964 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336964 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336964 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336964 precursor RNA is designated SEQ ID:141420, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141420 is located from position 62270288 to position 62270369 relative to chromosome chr5 on the `+` strand (chr is an abbreviation for chromosome).

GAM336964 precursor RNA folds onto itself, forming GAM336964 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336964 precursor RNA, designated SEQ ID NO: 141420, and a schematic representation of a predicted secondary folding of GAM336964 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336964 folded precursor RNA yielding a GAM336964 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336964 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336964 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336964 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336964 target RNA, herein designated GAM TARGET RNA.

GAM336964 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336964 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336964 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336964 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336964 RNA, herein designated GAM RNA, to target binding sites on GAM336964 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336964 target RNA into GAM336964 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336964 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336964 target genes. The mRNA of each one of this plurality of GAM336964 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336964 RNA, herein designated GAM RNA, and which when bound by GAM336964 RNA causes inhibition of translation of the GAM336964 target mRNA into a corresponding GAM336964 target protein.

The mechanism of the translational inhibition exerted by GAM336964 RNA, herein designated GAM RNA, on one or more GAM336964 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336964 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336964 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336964 RNA, herein designated GAM RNA, of GAM336964 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336964 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336964 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336964 RNA correlate with, and may be deduced from, the identity of the GAM336964 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336965 141421 CTTTTTCCTC Fig. 8 further provides a conceptual description of another novel bioinformatically

CAGTGAACGG detected oligonucleotides of the present invention, referred to here as Genomic Address

TGACTTGACA Messenger 336965 (GAM336965) oligonucleotides modulates expression of respective target

GAGGTACATA genes whose function and utility is known in the art.

GGAGGCTACT GAM336965 is a novel bioinformatically detectable regulatory, non protein
TGTTCTCTTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336965 was detected
TTGGCTGCTT is described with additional reference to Figs. 9-15.

GTATTTGCTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCTGGAAGGT encoded by the human genome.

TATTGTTTTC GAM336965 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

AAGGATCTTA GAM336965 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
AG GAM336965 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336965 precursor RNA is designated SEQ ID:141421, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141421 is located from position 62330677 to position 62330788 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM336965 precursor RNA folds onto itself, forming GAM336965 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336965 precursor RNA, designated SEQ ID NO: 141421, and a schematic representation of a predicted secondary folding of GAM336965 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336965 folded precursor RNA yielding a GAM336965 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336965 RNA, hereby incorporated herein.

GAM336965 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336965 target RNA, herein designated GAM TARGET RNA.

GAM336965 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336965 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336965 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336965 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336965 RNA, herein designated GAM RNA, to target binding sites on GAM336965 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336965 target RNA into GAM336965 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336965 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336965 target genes. The mRNA of each one of this plurality of GAM336965 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336965 RNA, herein designated GAM RNA, and which when bound by GAM336965 RNA causes inhibition of translation of the GAM336965 target mRNA into a corresponding GAM336965 target protein.

The mechanism of the translational inhibition exerted by GAM336965 RNA, herein designated GAM RNA, on one or more GAM336965 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336965 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336965 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336965 RNA, herein designated GAM RNA, of GAM336965 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336965 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336965 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336965 RNA correlate with, and may be deduced from, the identity of the GAM336965 target gene

inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336966 141422 TCCTCCAGTG Fig. 8 further provides a conceptual description of another novel bioinformatically
AACGGTGACT detected oligonucleotides of the present invention, referred to here as Genomic Address
TGACAGAGGT Messenger 336966 (GAM336966) oligonucleotides modulates expression of respective target
ACATAGGAGG genes whose function and utility is known in the art.

CTACTTGTTC GAM336966 is a novel bioinformatically detectable regulatory, non protein
TCTTGTTGGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336966 was detected
TGCTTGTATT is described with additional reference to Figs. 9-15.

TGCTTTCTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AAGGTTATTG encoded by the human genome.

TTTTCAAGGA GAM336966 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336966 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336966 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336966 precursor RNA is designated SEQ ID:141422, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141422 is located from position 62330682 to position 62330781 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM336966 precursor RNA folds onto itself, forming GAM336966 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336966 precursor RNA, designated SEQ ID NO: 141422, and a schematic representation of a predicted secondary folding of GAM336966 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336966 folded precursor RNA yielding a GAM336966 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly

similar to the nucleotide sequence of GAM336966 RNA, hereby incorporated herein.

GAM336966 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336966 target RNA, herein designated GAM TARGET RNA.

GAM336966 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336966 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336966 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336966 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336966 RNA, herein designated GAM RNA, to target binding sites on GAM336966 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336966 target RNA into GAM336966 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336966 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336966 target genes. The mRNA of each one of this plurality of GAM336966 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336966 RNA, herein designated GAM RNA, and which when bound by GAM336966 RNA causes inhibition of translation of the GAM336966 target mRNA into a corresponding GAM336966 target protein.

The mechanism of the translational inhibition exerted by GAM336966 RNA, herein designated GAM RNA, on one or more GAM336966 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336966 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336966 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336966 RNA, herein designated GAM RNA, of GAM336966 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336966 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336966 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336966 RNA correlate with, and may be deduced from, the identity of the GAM336966 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336967 141423 TGTTTTGACT Fig. 8 further provides a conceptual description of another novel bioinformatically
CTCCGCCTTC detected oligonucleotides of the present invention, referred to here as Genomic Address
CCTTAGGTCT Messenger 336967 (GAM336967) oligonucleotides modulates expression of respective target
GGAATGGTAG genes whose function and utility is known in the art.

AGCATTGAGT GAM336967 is a novel bioinformatically detectable regulatory, non protein
ACTGTTATCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336967 was detected
TCCACATCTC is described with additional reference to Figs. 9-15.

AGGAGAAGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGCAGTAGAG encoded by the human genome.

AGACA GAM336967 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM336967 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336967 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336967 precursor RNA is designated SEQ ID:141423, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141423 is located from position 62410126 to position 62410220 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336967 precursor RNA folds onto itself, forming GAM336967 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336967 precursor RNA, designated SEQ ID NO: 141423, and a schematic representation of a predicted secondary folding of GAM336967 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336967 folded precursor RNA yielding a GAM336967 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336967 RNA, hereby incorporated herein.

GAM336967 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336967 target RNA, herein designated GAM TARGET RNA.

GAM336967 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336967 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336967 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336967 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336967 RNA, herein designated GAM RNA, to target binding sites on GAM336967 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336967 target RNA into GAM336967 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336967 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336967 target genes. The mRNA of each one of this plurality of GAM336967 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336967 RNA, herein designated GAM RNA, and which when bound by GAM336967 RNA causes inhibition of translation of the GAM336967 target mRNA into a corresponding GAM336967 target protein.

The mechanism of the translational inhibition exerted by GAM336967 RNA, herein designated GAM RNA, on one or more GAM336967 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336967 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336967 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336967 RNA, herein designated GAM RNA, of GAM336967 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336967 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336967 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336967 RNA correlate with, and may be deduced from, the identity of the GAM336967 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336968 141424 CTCCTGTAGT CCTAGAGCGT TTCTCTTGAA CCCTAATTTT TAGGTCTCAA AGAGTGGGCT TCAGAGATAA AGAGGTTTAG GCAGGGACAG GGCGAGGAG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336968 (GAM336968) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336968 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336968 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336968 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336968 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336968 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336968 precursor RNA is designated SEQ ID:141424, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141424 is located from position 62447485 to position 62447583 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM336968 precursor RNA folds onto itself, forming GAM336968 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336968 precursor RNA, designated SEQ ID NO: 141424, and a schematic representation of a predicted secondary folding of GAM336968 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336968 folded precursor RNA yielding a GAM336968 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336968 RNA, hereby incorporated herein.

GAM336968 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336968 target RNA, herein designated GAM TARGET RNA.

GAM336968 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336968 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336968 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336968 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336968 RNA, herein designated GAM RNA, to target binding sites on GAM336968 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336968 target RNA into GAM336968 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336968 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336968 target genes. The mRNA of each one of this plurality of GAM336968 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336968 RNA, herein designated GAM RNA, and which when bound by GAM336968 RNA causes inhibition of

translation of the GAM336968 target mRNA into a corresponding GAM336968 target protein.

The mechanism of the translational inhibition exerted by GAM336968 RNA, herein designated GAM RNA, on one or more GAM336968 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336968 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336968 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336968 RNA, herein designated GAM RNA, of GAM336968 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336968 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336968 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336968 RNA correlate with, and may be deduced from, the identity of the GAM336968 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336969 141425 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 336969 (GAM336969) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM336969 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336969 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM336969 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336969 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336969 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336969 precursor RNA is designated SEQ ID:141425, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141425 is located from position 62677320 to position 62677401 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM336969 precursor RNA folds onto itself, forming GAM336969 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336969 precursor RNA, designated SEQ ID NO: 141425, and a schematic representation of a predicted secondary folding of GAM336969 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336969 folded precursor RNA yielding a GAM336969 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336969 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336969 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336969 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336969 target RNA, herein designated GAM TARGET RNA.

GAM336969 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336969 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336969 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336969 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336969 RNA, herein designated GAM RNA, to target binding sites on GAM336969 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336969 target RNA into GAM336969 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336969 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336969 target genes. The mRNA of each one of this plurality of GAM336969 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336969 RNA, herein designated GAM RNA, and which when bound by GAM336969 RNA causes inhibition of translation of the GAM336969 target mRNA into a corresponding GAM336969 target protein.

The mechanism of the translational inhibition exerted by GAM336969 RNA, herein designated GAM RNA, on one or more GAM336969 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336969 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336969 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336969 RNA, herein designated GAM RNA, of GAM336969 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336969 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336969 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336969 RNA correlate with, and may be deduced from, the identity of the GAM336969 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336970 141426 AGGCTGGGAA Fig. 8 further provides a conceptual description of another novel bioinformatically

CTGTGACTCG detected oligonucleotides of the present invention, referred to here as Genomic Address

TACTTGTAAT Messenger 336970 (GAM336970) oligonucleotides modulates expression of respective target

CCTAGTGCTT genes whose function and utility is known in the art.

TGAGAGGCTG GAM336970 is a novel bioinformatically detectable regulatory, non protein

AGGCAGGAGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336970 was detected

ATTGCTTGAG is described with additional reference to Figs. 9-15.

ACCAGGAGTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGAGACCAGC encoded by the human genome.

CT GAM336970 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336970 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336970 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336970 precursor RNA is designated SEQ ID:141426, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141426 is located from position 62689480 to position 62689571 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM336970 precursor RNA folds onto itself, forming GAM336970 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336970 precursor RNA, designated SEQ ID NO: 141426, and a schematic representation of a predicted secondary folding of GAM336970 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336970 folded precursor RNA yielding a GAM336970 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336970 RNA, hereby incorporated herein.

GAM336970 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336970 target RNA, herein designated GAM TARGET RNA.

GAM336970 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336970 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336970 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336970 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336970 RNA, herein designated GAM RNA, to target binding sites on GAM336970 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336970 target RNA into GAM336970 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336970 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336970 target genes. The mRNA of each one of this plurality of GAM336970 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336970 RNA, herein designated GAM RNA, and which when bound by GAM336970 RNA causes inhibition of translation of the GAM336970 target mRNA into a corresponding GAM336970 target protein.

The mechanism of the translational inhibition exerted by GAM336970 RNA, herein designated GAM RNA, on one or more GAM336970 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336970 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336970 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336970 RNA, herein designated GAM RNA, of GAM336970 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336970 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336970 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336970 RNA correlate with, and may be deduced from, the identity of the GAM336970 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336971 141427 GGCTGGGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically

TGTGACTCGT detected oligonucleotides of the present invention, referred to here as Genomic Address

ACTTGTAATC Messenger 336971 (GAM336971) oligonucleotides modulates expression of respective target
CTAGTGCTTT genes whose function and utility is known in the art.

GAGAGGCTGA GAM336971 is a novel bioinformatically detectable regulatory, non protein
GGCAGGAGGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336971 was detected
TTGCTTGAGA is described with additional reference to Figs. 9-15.

CCAGGAGTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGACCAGCC encoded by the human genome.

GAM336971 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336971 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336971 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336971 precursor RNA is designated SEQ ID:141427, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141427 is located from position 62689481 to position 62689570 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM336971 precursor RNA folds onto itself, forming GAM336971 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336971 precursor RNA, designated SEQ ID NO: 141427, and a schematic representation of a predicted secondary folding of GAM336971 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336971 folded precursor RNA yielding a GAM336971 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336971 RNA, hereby incorporated herein.

GAM336971 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336971 target RNA, herein designated GAM TARGET RNA.

GAM336971 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336971 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336971 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336971 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336971 RNA, herein designated GAM RNA, to target binding sites on GAM336971 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336971 target RNA into GAM336971 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336971 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336971 target genes. The mRNA of each one of this plurality of GAM336971 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336971 RNA, herein designated GAM RNA, and which when bound by GAM336971 RNA causes inhibition of translation of the GAM336971 target mRNA into a corresponding GAM336971 target protein.

The mechanism of the translational inhibition exerted by GAM336971 RNA, herein designated GAM RNA, on one or more GAM336971 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336971 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336971 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336971 RNA, herein designated GAM RNA, of GAM336971 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336971 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336971 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336971

RNA correlate with, and may be deduced from, the identity of the GAM336971 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336972 141428 AGTTTTAGGG TACATGTGCA CAACATGCAG GTTTGTTACA TATGTATACA TGTGCCATGT TGGTGTGCTG CACCCATTAA CT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336972 (GAM336972) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336972 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336972 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336972 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336972 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336972 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336972 precursor RNA is designated SEQ ID:141428, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141428 is located from position 62708765 to position 62708846 relative to chromosome chr13 on the `-` strand (chr is an abbreviation for chromosome).

GAM336972 precursor RNA folds onto itself, forming GAM336972 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336972 precursor RNA, designated SEQ ID NO: 141428, and a schematic representation of a predicted secondary folding of GAM336972 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336972 folded precursor RNA yielding a GAM336972 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336972 RNA: a nucleotide sequence

that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336972 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336972 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336972 target RNA, herein designated GAM TARGET RNA.

GAM336972 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336972 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336972 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336972 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336972 RNA, herein designated GAM RNA, to target binding sites on GAM336972 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336972 target RNA into GAM336972 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336972 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336972 target genes. The mRNA of each one of this plurality of GAM336972 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336972 RNA, herein designated GAM RNA, and which when bound by GAM336972 RNA causes inhibition of translation of the GAM336972 target mRNA into a corresponding GAM336972 target protein.

The mechanism of the translational inhibition exerted by GAM336972 RNA, herein designated GAM RNA, on one or more GAM336972 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336972 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336972 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336972 RNA, herein designated GAM RNA, of GAM336972 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336972 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336972 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336972 RNA correlate with, and may be deduced from, the identity of the GAM336972 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336973 141429 GGGAAGGGGT Fig. 8 further provides a conceptual description of another novel bioinformatically
AATTGGCAGA detected oligonucleotides of the present invention, referred to here as Genomic Address
GTGGCACAAT Messenger 336973 (GAM336973) oligonucleotides modulates expression of respective target
CATTTGGAGA genes whose function and utility is known in the art.

AAGGCCATAT GAM336973 is a novel bioinformatically detectable regulatory, non protein
ATATGAAACA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336973 was detected
ATGACTTTGC is described with additional reference to Figs. 9-15.

TATCCTGCTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCTCTCGTTC encoded by the human genome.

CT GAM336973 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336973 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336973 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336973 precursor RNA is designated SEQ ID:141429, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141429 is located from position 62724055 to position 62724146 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM336973 precursor RNA folds onto itself, forming GAM336973 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336973 precursor RNA, designated SEQ ID NO: 141429, and a schematic representation of a predicted secondary folding of GAM336973 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336973 folded precursor RNA yielding a GAM336973 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336973 RNA, hereby incorporated herein.

GAM336973 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336973 target RNA, herein designated GAM TARGET RNA.

GAM336973 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336973 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336973 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336973 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336973 RNA, herein designated GAM RNA, to target binding sites on GAM336973 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336973 target RNA into GAM336973 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336973 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336973 target genes. The mRNA of each one of this plurality of GAM336973 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336973 RNA, herein designated GAM RNA, and which when bound by GAM336973 RNA causes inhibition of translation of the GAM336973 target mRNA into a corresponding GAM336973 target protein.

The mechanism of the translational inhibition exerted by GAM336973 RNA, herein designated GAM RNA, on one or more GAM336973 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336973 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM336973 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336973 RNA, herein designated GAM RNA, of GAM336973 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336973 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336973 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336973 RNA correlate with, and may be deduced from, the identity of the GAM336973 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336974 141430 TGATGCGCCA Fig. 8 further provides a conceptual description of another novel bioinformatically
CAGGTATCAG detected oligonucleotides of the present invention, referred to here as Genomic Address
CGTCTGGATC Messenger 336974 (GAM336974) oligonucleotides modulates expression of respective target
GCCACTTCAC genes whose function and utility is known in the art.

GTTTTAGCCA GAM336974 is a novel bioinformatically detectable regulatory, non protein
CAAGTGACTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336974 was detected
AGTGGAAGAT is described with additional reference to Figs. 9-15.

CCAGAGTCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGAGGCTCG encoded by the human genome.

TCA GAM336974 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336974 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336974 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336974 precursor RNA is designated SEQ ID:141430, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141430 is located from position 62725558 to position 62725650 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM336974 precursor RNA folds onto itself, forming GAM336974 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336974 precursor RNA, designated SEQ ID NO: 141430, and a schematic representation of a predicted secondary folding of GAM336974 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336974 folded precursor RNA yielding a GAM336974 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336974 RNA, hereby incorporated herein.

GAM336974 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336974 target RNA, herein designated GAM TARGET RNA.

GAM336974 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336974 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336974 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336974 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336974 RNA, herein designated GAM RNA, to target binding sites on GAM336974 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336974 target RNA into GAM336974 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336974 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336974 target genes. The mRNA of each one of this plurality of GAM336974 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336974 RNA, herein designated GAM RNA, and which when bound by GAM336974 RNA causes inhibition of translation of the GAM336974 target mRNA into a corresponding GAM336974 target protein.

The mechanism of the translational inhibition exerted by GAM336974 RNA, herein designated GAM RNA, on one or more GAM336974 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336974 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336974 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336974 RNA, herein designated GAM RNA, of GAM336974 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336974 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336974 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336974 RNA correlate with, and may be deduced from, the identity of the GAM336974 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336975 141431 TGAGGTAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATCACTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCCGGGAG Messenger 336975 (GAM336975) oligonucleotides modulates expression of respective target

GCAGAGGTTG genes whose function and utility is known in the art.

CGGTGAGCCG GAM336975 is a novel bioinformatically detectable regulatory, non protein

AGATTGTGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336975 was detected

ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAAGAGCGA encoded by the human genome.

AACTCCGTCT GAM336975 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CA GAM336975 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336975 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336975 precursor RNA is designated SEQ ID:141431, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141431 is located from position 62729661 to position 62729762 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336975 precursor RNA folds onto itself, forming GAM336975 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336975 precursor RNA, designated SEQ ID NO: 141431, and a schematic representation of a predicted secondary folding of GAM336975 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336975 folded precursor RNA yielding a GAM336975 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336975 RNA, hereby incorporated herein. Expression of GAM336975 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM336975 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336975 target RNA, herein designated GAM TARGET RNA.

GAM336975 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336975 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336975 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336975 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336975 RNA, herein designated GAM RNA, to target binding sites on GAM336975 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336975 target RNA into GAM336975 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336975 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336975 target genes. The mRNA of each one of this plurality of GAM336975 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336975 RNA, herein designated GAM RNA, and which when bound by GAM336975 RNA causes inhibition of translation of the GAM336975 target mRNA into a corresponding GAM336975 target protein.

The mechanism of the translational inhibition exerted by GAM336975 RNA, herein designated GAM RNA, on one or more GAM336975 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336975 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336975 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336975 RNA, herein designated GAM RNA, of GAM336975 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336975 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336975 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336975 RNA correlate with, and may be deduced from, the identity of the GAM336975 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336976 141432 CCTGGTCTTT Fig. 8 further provides a conceptual description of another novel bioinformatically
AAGAGTGATT detected oligonucleotides of the present invention, referred to here as Genomic Address
GGAGGCTGGG Messenger 336976 (GAM336976) oligonucleotides modulates expression of respective target
CATGGTGGCT genes whose function and utility is known in the art.

TATGCCTGTA GAM336976 is a novel bioinformatically detectable regulatory, non protein
ATCCCAGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336976 was detected
TTTGGGAGGC is described with additional reference to Figs. 9-15.

CAAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336976 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336976 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336976 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336976 precursor RNA is designated SEQ ID:141432, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141432 is located from position 62755250 to position 62755324 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336976 precursor RNA folds onto itself, forming GAM336976 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336976 precursor RNA, designated SEQ ID NO: 141432, and a schematic representation of a predicted secondary folding of GAM336976 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336976 folded precursor RNA yielding a GAM336976 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336976 RNA, hereby incorporated herein.

GAM336976 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336976 target RNA, herein designated GAM TARGET RNA.

GAM336976 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336976 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336976 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336976 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336976 RNA, herein designated GAM RNA, to target binding sites on GAM336976 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336976 target RNA into GAM336976 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336976 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336976 target genes. The mRNA of each one of this plurality of GAM336976 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336976 RNA, herein designated GAM RNA, and which when bound by GAM336976 RNA causes inhibition of translation of the GAM336976 target mRNA into a corresponding GAM336976 target protein.

The mechanism of the translational inhibition exerted by GAM336976 RNA, herein designated GAM RNA, on one or more GAM336976 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336976 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336976 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336976 RNA, herein designated GAM RNA, of GAM336976 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336976 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336976 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336976 RNA correlate with, and may be deduced from, the identity of the GAM336976 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336977 141433 AGATGGGATT Fig. 8 further provides a conceptual description of another novel bioinformatically

ATACCTAGAG detected oligonucleotides of the present invention, referred to here as Genomic Address

CCTCATCCAT Messenger 336977 (GAM336977) oligonucleotides modulates expression of respective target

ATTGGACTTA genes whose function and utility is known in the art.

GACAATTTAG GAM336977 is a novel bioinformatically detectable regulatory, non protein

ATGAAATTGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336977 was detected

AGACTTTAGC is described with additional reference to Figs. 9-15.

TCAGTGTGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGCGCACACC encoded by the human genome.

TGTAGTCCCA GAM336977 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GCT GAM336977 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336977 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336977 precursor RNA is designated SEQ ID:141433, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141433 is located from position 62812241 to position 62812343 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336977 precursor RNA folds onto itself, forming GAM336977 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336977 precursor RNA, designated SEQ ID NO: 141433, and a schematic representation of a predicted secondary folding of GAM336977 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336977 folded precursor RNA yielding a GAM336977 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336977 RNA, hereby incorporated herein.

GAM336977 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336977 target RNA, herein designated GAM TARGET RNA.

GAM336977 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336977 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336977 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336977 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336977 RNA, herein designated GAM RNA, to target binding sites on GAM336977 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336977 target RNA into GAM336977 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336977 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336977 target genes. The mRNA of each one of this plurality of GAM336977 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336977 RNA, herein designated GAM RNA, and which when bound by GAM336977 RNA causes inhibition of translation of the GAM336977 target mRNA into a corresponding GAM336977 target protein.

The mechanism of the translational inhibition exerted by GAM336977 RNA, herein designated GAM RNA, on one or more GAM336977 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336977 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336977 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336977 RNA, herein designated GAM RNA, of GAM336977 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336977 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336977 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336977 RNA correlate with, and may be deduced from, the identity of the GAM336977 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336978 141434 GGACATCAAA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATAAATAA detected oligonucleotides of the present invention, referred to here as Genomic Address
GCTGCTCTAA Messenger 336978 (GAM336978) oligonucleotides modulates expression of respective target
TTGCCAAGAA genes whose function and utility is known in the art.

TTCACATGTG GAM336978 is a novel bioinformatically detectable regulatory, non protein
GTTGTATGCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336978 was detected
GCTTTACTGG is described with additional reference to Figs. 9-15.

GAGACTGAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGTATCTGCA encoded by the human genome.

TGTGATTCTG GAM336978 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CTGTGATGGA GAM336978 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
CACTTGTAAG GAM336978 precursor RNA does not encode a protein. A nucleotide sequence identical or

TTTGTGCC highly similar to the nucleotide sequence of GAM336978 precursor RNA is designated SEQ

ID:141434, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141434 is located from position 62875338 to position 62875465 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM336978 precursor RNA folds onto itself, forming GAM336978 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336978 precursor RNA, designated SEQ ID NO: 141434, and a schematic representation of a predicted secondary folding of GAM336978 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336978 folded precursor RNA yielding a GAM336978 RNA, herein designated GAM RNA, in the form of a single stranded

~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336978 RNA, hereby incorporated herein.

GAM336978 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336978 target RNA, herein designated GAM TARGET RNA.

GAM336978 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336978 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336978 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336978 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336978 RNA, herein designated GAM RNA, to target binding sites on GAM336978 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336978 target RNA into GAM336978 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336978 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336978 target genes. The mRNA of each one of this plurality of GAM336978 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336978 RNA, herein designated GAM RNA, and which when bound by GAM336978 RNA causes inhibition of translation of the GAM336978 target mRNA into a corresponding GAM336978 target protein.

The mechanism of the translational inhibition exerted by GAM336978 RNA, herein designated GAM RNA, on one or more GAM336978 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336978 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336978 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336978 RNA, herein designated GAM RNA, of GAM336978 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336978 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336978 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336978 RNA correlate with, and may be deduced from, the identity of the GAM336978 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336979 141435 ATAAGCTGCT CTAATTGCCA AGAATTCACA TGTGGTTGTA TGCAGCTTTA CTGGGAGACT GAAGTGTATC TGCATGTGAT TCTGCTGTGA TGGACACTTG TAAGTTTGT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336979 (GAM336979) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336979 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336979 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336979 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336979 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336979 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336979 precursor RNA is designated SEQ ID:141435, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141435 is located from position 62875341 to position 62875449 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM336979 precursor RNA folds onto itself, forming GAM336979 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336979 precursor RNA, designated SEQ ID NO: 141435, and a schematic representation of a predicted secondary folding of GAM336979 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336979 folded precursor RNA yielding a GAM336979 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336979 RNA, hereby incorporated herein.

GAM336979 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336979 target RNA, herein designated GAM TARGET RNA.

GAM336979 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336979 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336979 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336979 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336979 RNA, herein designated GAM RNA, to target binding sites on GAM336979 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336979 target RNA into GAM336979 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336979 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336979 target genes. The mRNA of each one of this plurality of GAM336979 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336979 RNA, herein designated GAM RNA, and which when bound by GAM336979 RNA causes inhibition of translation of the GAM336979 target mRNA into a corresponding GAM336979 target protein.

The mechanism of the translational inhibition exerted by GAM336979 RNA, herein designated GAM RNA, on one or more GAM336979 target genes, herein collectively designated

GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336979 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336979 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336979 RNA, herein designated GAM RNA, of GAM336979 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336979 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336979 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336979 RNA correlate with, and may be deduced from, the identity of the GAM336979 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336980 141436 GAATAAATAA Fig. 8 further provides a conceptual description of another novel bioinformatically

GCTGCTCTAA detected oligonucleotides of the present invention, referred to here as Genomic Address

TTGCCAAGAA Messenger 336980 (GAM336980) oligonucleotides modulates expression of respective target

TTCACATGTG genes whose function and utility is known in the art.

GTTGTATGCA GAM336980 is a novel bioinformatically detectable regulatory, non protein

GCTTTACTGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336980 was detected

GAGACTGAAG is described with additional reference to Figs. 9-15.

TGTATCTGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGTGATTCTG encoded by the human genome.

CTGTGATGGA GAM336980 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CACTTGTAAG GAM336980 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

TTT GAM336980 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336980 precursor RNA is designated SEQ ID:141436, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141436 is located from position 62875343 to position 62875455

relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM336980 precursor RNA folds onto itself, forming GAM336980 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336980 precursor RNA, designated SEQ ID NO: 141436, and a schematic representation of a predicted secondary folding of GAM336980 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336980 folded precursor RNA yielding a GAM336980 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336980 RNA, hereby incorporated herein.

GAM336980 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336980 target RNA, herein designated GAM TARGET RNA.

GAM336980 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336980 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336980 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336980 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336980 RNA, herein designated GAM RNA, to target binding sites on GAM336980 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336980 target RNA into GAM336980 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336980 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336980 target genes. The mRNA of each one of this plurality of GAM336980 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336980 RNA, herein designated GAM RNA, and which when bound by GAM336980 RNA causes inhibition of translation of the GAM336980 target mRNA into a corresponding GAM336980 target protein.

The mechanism of the translational inhibition exerted by GAM336980 RNA, herein designated GAM RNA, on one or more GAM336980 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336980 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336980 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336980 RNA, herein designated GAM RNA, of GAM336980 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336980 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336980 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336980 RNA correlate with, and may be deduced from, the identity of the GAM336980 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336981 141437 ATAAGCTGCT Fig. 8 further provides a conceptual description of another novel bioinformatically
CTAATTGCCA detected oligonucleotides of the present invention, referred to here as Genomic Address
AGAATTCACA Messenger 336981 (GAM336981) oligonucleotides modulates expression of respective target
TGTGGTTGTA genes whose function and utility is known in the art.

TGCAGCTTTA GAM336981 is a novel bioinformatically detectable regulatory, non protein
CTGGGAGACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336981 was detected
GAAGTGTATC is described with additional reference to Figs. 9-15.

TGCATGTGAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCTGCTGTGA encoded by the human genome.

TGGACACTTG GAM336981 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

T GAM336981 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336981 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336981 precursor RNA is designated SEQ ID:141437, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141437 is located from position 62875349 to position 62875449 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM336981 precursor RNA folds onto itself, forming GAM336981 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336981 precursor RNA, designated SEQ ID NO: 141437, and a schematic representation of a predicted secondary folding of GAM336981 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336981 folded precursor RNA yielding a GAM336981 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336981 RNA, hereby incorporated herein.

GAM336981 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336981 target RNA, herein designated GAM TARGET RNA.

GAM336981 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336981 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336981 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336981 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336981 RNA, herein designated GAM RNA, to target binding sites on GAM336981 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336981 target RNA into GAM336981 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336981 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336981 target genes. The mRNA of each one of this plurality of GAM336981 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336981 RNA, herein designated GAM RNA, and which when bound by GAM336981 RNA causes inhibition of translation of the GAM336981 target mRNA into a corresponding GAM336981 target protein.

The mechanism of the translational inhibition exerted by GAM336981 RNA, herein designated GAM RNA, on one or more GAM336981 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336981 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336981 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336981 RNA, herein designated GAM RNA, of GAM336981 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336981 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336981 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336981 RNA correlate with, and may be deduced from, the identity of the GAM336981 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336982 141438 GATCATGGCC Fig. 8 further provides a conceptual description of another novel bioinformatically

GTTTTAGTCG detected oligonucleotides of the present invention, referred to here as Genomic Address

TTAGTGCTAC Messenger 336982 (GAM336982) oligonucleotides modulates expression of respective target

TGTAACAAAA genes whose function and utility is known in the art.

TACCGCAGGC GAM336982 is a novel bioinformatically detectable regulatory, non protein
TGGGGGGCTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336982 was detected
GCAAGCAACA is described with additional reference to Figs. 9-15.

GAGGTTCATT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TATGCAGTTC encoded by the human genome.

TGCACGCTGG GAM336982 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CAAGTCGGAG GAM336982 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
ATC GAM336982 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336982 precursor RNA is designated SEQ ID:141438, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141438 is located from position 62897934 to position 62898046 relative to chromosome chr20 on the `-` strand (chr is an abbreviation for chromosome).

GAM336982 precursor RNA folds onto itself, forming GAM336982 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336982 precursor RNA, designated SEQ ID NO: 141438, and a schematic representation of a predicted secondary folding of GAM336982 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336982 folded precursor RNA yielding a GAM336982 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336982 RNA, hereby incorporated herein.

GAM336982 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336982 target RNA, herein designated GAM TARGET RNA.

GAM336982 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336982 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM336982 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336982 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336982 RNA, herein designated GAM RNA, to target binding sites on GAM336982 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336982 target RNA into GAM336982 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336982 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336982 target genes. The mRNA of each one of this plurality of GAM336982 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336982 RNA, herein designated GAM RNA, and which when bound by GAM336982 RNA causes inhibition of translation of the GAM336982 target mRNA into a corresponding GAM336982 target protein.

The mechanism of the translational inhibition exerted by GAM336982 RNA, herein designated GAM RNA, on one or more GAM336982 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336982 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336982 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336982 RNA, herein designated GAM RNA, of GAM336982 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336982 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336982 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336982 RNA correlate with, and may be deduced from, the identity of the GAM336982 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336983 141439 GTGTTTGGAA Fig. 8 further provides a conceptual description of another novel bioinformatically
TAGAGCCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address
TCTGAAATTA Messenger 336983 (GAM336983) oligonucleotides modulates expression of respective target
TAAGCACTGG genes whose function and utility is known in the art.

GGTACTCCTA GAM336983 is a novel bioinformatically detectable regulatory, non protein
TGTGTCTGGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336983 was detected
ACTCTATGCC is described with additional reference to Figs. 9-15.

AAGTAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336983 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336983 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336983 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336983 precursor RNA is designated SEQ ID:141439, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141439 is located from position 62901709 to position 62901784 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336983 precursor RNA folds onto itself, forming GAM336983 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336983 precursor RNA, designated SEQ ID NO: 141439, and a schematic representation of a predicted secondary folding of GAM336983 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336983 folded precursor RNA yielding a GAM336983 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336983 RNA, hereby incorporated herein.

GAM336983 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336983 target RNA, herein designated GAM TARGET RNA.

GAM336983 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336983 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336983 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336983 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336983 RNA, herein designated GAM RNA, to target binding sites on GAM336983 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336983 target RNA into GAM336983 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336983 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336983 target genes. The mRNA of each one of this plurality of GAM336983 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336983 RNA, herein designated GAM RNA, and which when bound by GAM336983 RNA causes inhibition of translation of the GAM336983 target mRNA into a corresponding GAM336983 target protein.

The mechanism of the translational inhibition exerted by GAM336983 RNA, herein designated GAM RNA, on one or more GAM336983 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336983 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336983 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336983 RNA, herein designated GAM RNA, of GAM336983 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM336983 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336983 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336983 RNA correlate with, and may be deduced from, the identity of the GAM336983 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336984 141440 CCAAGTAGAA Fig. 8 further provides a conceptual description of another novel bioinformatically
GCAAACTGTA detected oligonucleotides of the present invention, referred to here as Genomic Address
GTTTGATGCT Messenger 336984 (GAM336984) oligonucleotides modulates expression of respective target
AGAACACTAT genes whose function and utility is known in the art.

TCTTTGAGAG GAM336984 is a novel bioinformatically detectable regulatory, non protein
GGTATGTGTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336984 was detected
ATACTCGAAA is described with additional reference to Figs. 9-15.

TGCAGTCATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCTCACGGCT encoded by the human genome.

TGG GAM336984 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336984 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336984 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336984 precursor RNA is designated SEQ ID:141440, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141440 is located from position 62916210 to position 62916302 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM336984 precursor RNA folds onto itself, forming GAM336984 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336984 precursor RNA, designated SEQ ID NO: 141440, and a schematic representation of a predicted secondary folding of GAM336984 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336984 folded precursor RNA yielding a GAM336984 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336984 RNA, hereby incorporated herein.

GAM336984 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336984 target RNA, herein designated GAM TARGET RNA.

GAM336984 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336984 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336984 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336984 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336984 RNA, herein designated GAM RNA, to target binding sites on GAM336984 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336984 target RNA into GAM336984 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336984 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336984 target genes. The mRNA of each one of this plurality of GAM336984 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336984 RNA, herein designated GAM RNA, and which when bound by GAM336984 RNA causes inhibition of translation of the GAM336984 target mRNA into a corresponding GAM336984 target protein.

The mechanism of the translational inhibition exerted by GAM336984 RNA, herein designated GAM RNA, on one or more GAM336984 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336984 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336984 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336984 RNA, herein designated GAM RNA, of GAM336984 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336984 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336984 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336984 RNA correlate with, and may be deduced from, the identity of the GAM336984 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336985 141441 TGGTGATTGT CTGTGGGTAT TGATAGTTAA TTGTCTGTGA GTACCTGACA GCAACGGGTT ATGGCTATTG ATGACAATTG GTACCTTCAG TGCCCAAGCA TAGCCA

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336985 (GAM336985) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336985 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336985 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336985 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336985 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM336985 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336985 precursor RNA is designated SEQ ID:141441, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141441 is located from position 63045042 to position 63045147 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM336985 precursor RNA folds onto itself, forming GAM336985 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336985 precursor RNA, designated SEQ ID NO: 141441, and a schematic representation of a predicted secondary folding of GAM336985 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336985 folded precursor RNA yielding a GAM336985 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336985 RNA, hereby incorporated herein.

GAM336985 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336985 target RNA, herein designated GAM TARGET RNA.

GAM336985 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336985 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336985 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336985 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336985 RNA, herein designated GAM RNA, to target binding sites on GAM336985 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336985 target RNA into GAM336985 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336985 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336985 target genes. The mRNA of each one of this plurality of GAM336985 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336985 RNA, herein designated GAM RNA, and which when bound by GAM336985 RNA causes inhibition of translation of the GAM336985 target mRNA into a corresponding GAM336985 target protein.

The mechanism of the translational inhibition exerted by GAM336985 RNA, herein designated GAM RNA, on one or more GAM336985 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336985 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336985 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336985 RNA, herein designated GAM RNA, of GAM336985 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336985 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336985 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336985 RNA correlate with, and may be deduced from, the identity of the GAM336985 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336986 141442 TACAGATATT Fig. 8 further provides a conceptual description of another novel bioinformatically

CTGAAAACTT detected oligonucleotides of the present invention, referred to here as Genomic Address

TAAGTTCAGT Messenger 336986 (GAM336986) oligonucleotides modulates expression of respective target

AATATGCCAG genes whose function and utility is known in the art.

GGGTTCCCAA GAM336986 is a novel bioinformatically detectable regulatory, non protein

GACCACTTGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336986 was detected

GACCTGGTAA is described with additional reference to Figs. 9-15.

TTTATTGGAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTCTCTAAGG encoded by the human genome.

GAATCAGAAG GAM336986 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CTGTA GAM336986 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336986 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336986 precursor RNA is designated SEQ

ID:141442, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141442 is located from position 63063288 to position 63063392 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM336986 precursor RNA folds onto itself, forming GAM336986 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336986 precursor RNA, designated SEQ ID NO: 141442, and a schematic representation of a predicted secondary folding of GAM336986 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336986 folded precursor RNA yielding a GAM336986 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336986 RNA, hereby incorporated herein.

GAM336986 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336986 target RNA, herein designated GAM TARGET RNA.

GAM336986 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336986 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336986 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336986 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336986 RNA, herein designated GAM RNA, to target binding sites on GAM336986 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336986 target RNA into GAM336986 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM336986 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336986 target genes. The mRNA of each one of this plurality of GAM336986 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336986 RNA, herein designated GAM RNA, and which when bound by GAM336986 RNA causes inhibition of translation of the GAM336986 target mRNA into a corresponding GAM336986 target protein.

The mechanism of the translational inhibition exerted by GAM336986 RNA, herein designated GAM RNA, on one or more GAM336986 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336986 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336986 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336986 RNA, herein designated GAM RNA, of GAM336986 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336986 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336986 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336986 RNA correlate with, and may be deduced from, the identity of the GAM336986 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336987 141443 TTCTGAAAAC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTTAAGTTCA detected oligonucleotides of the present invention, referred to here as Genomic Address

GTAATATGCC Messenger 336987 (GAM336987) oligonucleotides modulates expression of respective target

AGGGGTTCCC genes whose function and utility is known in the art.

AAGACCACTT GAM336987 is a novel bioinformatically detectable regulatory, non protein

GAGACCTGGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336987 was detected

AATTTATTGG is described with additional reference to Figs. 9-15.

AAGTCTCTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGGAATCAGA encoded by the human genome.

A GAM336987 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336987 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336987 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336987 precursor RNA is designated SEQ ID:141443, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141443 is located from position 63063294 to position 63063384 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM336987 precursor RNA folds onto itself, forming GAM336987 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336987 precursor RNA, designated SEQ ID NO: 141443, and a schematic representation of a predicted secondary folding of GAM336987 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336987 folded precursor RNA yielding a GAM336987 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336987 RNA, hereby incorporated herein.

GAM336987 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336987 target RNA, herein designated GAM TARGET RNA.

GAM336987 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336987 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336987 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336987 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336987 RNA, herein designated GAM RNA, to target binding sites on GAM336987 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336987 target RNA into GAM336987 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336987 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336987 target genes. The mRNA of each one of this plurality of GAM336987 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336987 RNA, herein designated GAM RNA, and which when bound by GAM336987 RNA causes inhibition of translation of the GAM336987 target mRNA into a corresponding GAM336987 target protein.

The mechanism of the translational inhibition exerted by GAM336987 RNA, herein designated GAM RNA, on one or more GAM336987 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336987 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336987 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336987 RNA, herein designated GAM RNA, of GAM336987 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336987 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336987 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336987 RNA correlate with, and may be deduced from, the identity of the GAM336987 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336988 141444 TCTGGCTATG Fig. 8 further provides a conceptual description of another novel bioinformatically

TCTGGAGTTT detected oligonucleotides of the present invention, referred to here as Genomic Address

TTAGAGAGTG Messenger 336988 (GAM336988) oligonucleotides modulates expression of respective target

AGTCCATGTG genes whose function and utility is known in the art.

AGGATGGTTA GAM336988 is a novel bioinformatically detectable regulatory, non protein
GTATGTCTGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336988 was detected
ATCACACACT is described with additional reference to Figs. 9-15.

ACACTCTCTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TAGTTTTCTC encoded by the human genome.

TCTAGAATTT GAM336988 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TTTAAACAGG GAM336988 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336988 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336988 precursor RNA is designated SEQ ID:141444, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141444 is located from position 63146462 to position 63146571 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336988 precursor RNA folds onto itself, forming GAM336988 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336988 precursor RNA, designated SEQ ID NO: 141444, and a schematic representation of a predicted secondary folding of GAM336988 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336988 folded precursor RNA yielding a GAM336988 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336988 RNA, hereby incorporated herein.

GAM336988 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336988 target RNA, herein designated GAM TARGET RNA.

GAM336988 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336988 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM336988 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336988 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336988 RNA, herein designated GAM RNA, to target binding sites on GAM336988 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336988 target RNA into GAM336988 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336988 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336988 target genes. The mRNA of each one of this plurality of GAM336988 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336988 RNA, herein designated GAM RNA, and which when bound by GAM336988 RNA causes inhibition of translation of the GAM336988 target mRNA into a corresponding GAM336988 target protein.

The mechanism of the translational inhibition exerted by GAM336988 RNA, herein designated GAM RNA, on one or more GAM336988 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336988 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336988 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336988 RNA, herein designated GAM RNA, of GAM336988 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336988 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336988 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336988 RNA correlate with, and may be deduced from, the identity of the GAM336988 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336989 141445 CACTGCCAAC Fig. 8 further provides a conceptual description of another novel bioinformatically
TGAGGCAGGA detected oligonucleotides of the present invention, referred to here as Genomic Address
GGGCTCAGGA Messenger 336989 (GAM336989) oligonucleotides modulates expression of respective target
GAGTCTTCGC genes whose function and utility is known in the art.

CTCTTGTACC GAM336989 is a novel bioinformatically detectable regulatory, non protein
CTCCTTGGGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336989 was detected
CTCTCCAAAA is described with additional reference to Figs. 9-15.

CCAGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM336989 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336989 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM336989 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336989 precursor RNA is designated SEQ ID:141445, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141445 is located from position 63216696 to position 63216771 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GAM336989 precursor RNA folds onto itself, forming GAM336989 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336989 precursor RNA, designated SEQ ID NO: 141445, and a schematic representation of a predicted secondary folding of GAM336989 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336989 folded precursor RNA yielding a GAM336989 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336989 RNA, hereby incorporated herein.

GAM336989 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336989 target RNA, herein designated GAM TARGET RNA.

GAM336989 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336989 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336989 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336989 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336989 RNA, herein designated GAM RNA, to target binding sites on GAM336989 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336989 target RNA into GAM336989 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336989 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336989 target genes. The mRNA of each one of this plurality of GAM336989 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336989 RNA, herein designated GAM RNA, and which when bound by GAM336989 RNA causes inhibition of translation of the GAM336989 target mRNA into a corresponding GAM336989 target protein.

The mechanism of the translational inhibition exerted by GAM336989 RNA, herein designated GAM RNA, on one or more GAM336989 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336989 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336989 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336989 RNA, herein designated GAM RNA, of GAM336989 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM336989 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336989 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336989 RNA correlate with, and may be deduced from, the identity of the GAM336989 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336990 141446 CTTGGCTGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TTTTTCCACG detected oligonucleotides of the present invention, referred to here as Genomic Address
TGAGATGGTG Messenger 336990 (GAM336990) oligonucleotides modulates expression of respective target
TCATATTGCT genes whose function and utility is known in the art.

GGGTCCAGCA GAM336990 is a novel bioinformatically detectable regulatory, non protein
CCCAGTTATT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336990 was detected
GTGGCCCAAT is described with additional reference to Figs. 9-15.

TTCCTATACC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTGCCTAG encoded by the human genome.

GAM336990 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336990 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336990 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336990 precursor RNA is designated SEQ ID:141446, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141446 is located from position 63236493 to position 63236580 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM336990 precursor RNA folds onto itself, forming GAM336990 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336990 precursor RNA, designated SEQ ID NO: 141446, and a schematic representation of a predicted secondary folding of GAM336990 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336990 folded precursor RNA yielding a GAM336990 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336990 RNA, hereby incorporated herein.

GAM336990 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336990 target RNA, herein designated GAM TARGET RNA.

GAM336990 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336990 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336990 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336990 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336990 RNA, herein designated GAM RNA, to target binding sites on GAM336990 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336990 target RNA into GAM336990 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336990 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336990 target genes. The mRNA of each one of this plurality of GAM336990 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336990 RNA, herein designated GAM RNA, and which when bound by GAM336990 RNA causes inhibition of translation of the GAM336990 target mRNA into a corresponding GAM336990 target protein.

The mechanism of the translational inhibition exerted by GAM336990 RNA, herein designated GAM RNA, on one or more GAM336990 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336990 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336990 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336990 RNA, herein designated GAM RNA, of GAM336990 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336990 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336990 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336990 RNA correlate with, and may be deduced from, the identity of the GAM336990 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336991 141447 AGTTTTAGGG TACATGTGCA CAACATGCAG GTTTGTTACA TATGTATACA TGTGCCATGT TGGTGTGCTG CACCCATTAA CT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 336991 (GAM336991) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM336991 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336991 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM336991 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336991 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336991 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336991 precursor RNA is designated SEQ ID:141447, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141447 is located from position 63263870 to position 63263951 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM336991 precursor RNA folds onto itself, forming GAM336991 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336991 precursor RNA, designated SEQ ID NO: 141447, and a schematic representation of a predicted secondary folding of GAM336991 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336991 folded precursor RNA yielding a GAM336991 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336991 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336991 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336991 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336991 target RNA, herein designated GAM TARGET RNA.

GAM336991 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336991 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336991 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336991 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336991 RNA, herein designated GAM RNA, to target binding sites on GAM336991 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336991 target RNA into GAM336991 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336991 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336991 target genes. The mRNA of each one of this plurality of GAM336991 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336991 RNA, herein designated GAM RNA, and which when bound by GAM336991 RNA causes inhibition of translation of the GAM336991 target mRNA into a corresponding GAM336991 target protein.

The mechanism of the translational inhibition exerted by GAM336991 RNA, herein designated GAM RNA, on one or more GAM336991 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336991 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336991 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336991 RNA, herein designated GAM RNA, of GAM336991 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336991 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336991 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336991 RNA correlate with, and may be deduced from, the identity of the GAM336991 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336992 141448 TGTCTATAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GTATGTGGGC detected oligonucleotides of the present invention, referred to here as Genomic Address

CATTTTCTGC Messenger 336992 (GAM336992) oligonucleotides modulates expression of respective target

CCGTAAAATG genes whose function and utility is known in the art.

TTCAAATGTT GAM336992 is a novel bioinformatically detectable regulatory, non protein

TTCTCTCTCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336992 was detected

AAAGCTTTGT is described with additional reference to Figs. 9-15.

TCATTGTATC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGGTGGAATT encoded by the human genome.

TTGGTTCTCA GAM336992 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GGGAGTAGAC GAM336992 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

A GAM336992 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM336992 precursor RNA is designated SEQ ID:141448, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141448 is located from position 63315058 to position 63315168 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336992 precursor RNA folds onto itself, forming GAM336992 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336992 precursor RNA, designated SEQ ID NO: 141448, and a schematic representation of a predicted secondary folding of GAM336992 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336992 folded precursor RNA yielding a GAM336992 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM336992 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336992 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM336992 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336992 target RNA, herein designated GAM TARGET RNA.

GAM336992 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336992 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336992 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336992 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336992 RNA, herein designated GAM RNA, to target binding sites on GAM336992 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336992 target RNA into GAM336992 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336992 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336992 target genes. The mRNA of each one of this plurality of GAM336992 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336992 RNA, herein designated GAM RNA, and which when bound by GAM336992 RNA causes inhibition of translation of the GAM336992 target mRNA into a corresponding GAM336992 target protein.

The mechanism of the translational inhibition exerted by GAM336992 RNA, herein designated GAM RNA, on one or more GAM336992 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336992 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336992 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336992 RNA, herein designated GAM RNA, of GAM336992 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336992 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336992 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336992 RNA correlate with, and may be deduced from, the identity of the GAM336992 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336993 141449 AGGTGACTGC Fig. 8 further provides a conceptual description of another novel bioinformatically

ACAGAAATGT detected oligonucleotides of the present invention, referred to here as Genomic Address

CTACACATGT Messenger 336993 (GAM336993) oligonucleotides modulates expression of respective target

GTTTTCACAT genes whose function and utility is known in the art.

ACATATGTCT GAM336993 is a novel bioinformatically detectable regulatory, non protein

ACCCATGCCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336993 was detected

GTGTGGACAC is described with additional reference to Figs. 9-15.

TT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336993 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336993 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336993 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336993 precursor RNA is designated SEQ ID:141449, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141449 is located from position 63382392 to position 63382463 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM336993 precursor RNA folds onto itself, forming GAM336993 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336993 precursor RNA, designated SEQ ID NO: 141449, and a schematic representation of a predicted secondary folding of GAM336993 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336993 folded precursor RNA yielding a GAM336993 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336993 RNA, hereby incorporated herein.

GAM336993 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336993 target RNA, herein designated GAM TARGET RNA.

GAM336993 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336993 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336993 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336993 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336993 RNA, herein designated GAM RNA, to target binding sites on GAM336993 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336993 target RNA into GAM336993 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336993 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336993 target genes. The mRNA of each one of this plurality of GAM336993 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336993 RNA, herein designated GAM RNA, and which when bound by GAM336993 RNA causes inhibition of translation of the GAM336993 target mRNA into a corresponding GAM336993 target protein.

The mechanism of the translational inhibition exerted by GAM336993 RNA, herein designated GAM RNA, on one or more GAM336993 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336993 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336993 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336993 RNA, herein designated GAM RNA, of GAM336993 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336993 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336993 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336993 RNA correlate with, and may be deduced from, the identity of the GAM336993 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336994 141450 CTCTTGGCCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GGCCTCCTGC detected oligonucleotides of the present invention, referred to here as Genomic Address

AGTGCCACGC Messenger 336994 (GAM336994) oligonucleotides modulates expression of respective target
TCCGTGTATT genes whose function and utility is known in the art.

TGACAAGCTG GAM336994 is a novel bioinformatically detectable regulatory, non protein
AGTTGGACAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336994 was detected
TCCATGTGGT is described with additional reference to Figs. 9-15.

AGAGTGTCAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTTGTCAAAT encoded by the human genome.

ACCCCAAGTG GAM336994 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CGGCACATGC GAM336994 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
TTACCAGCTC GAM336994 precursor RNA does not encode a protein. A nucleotide sequence identical or

TAGGCCAGGG highly similar to the nucleotide sequence of GAM336994 precursor RNA is designated SEQ ID:141450, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141450 is located from position 63471930 to position 63472059 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM336994 precursor RNA folds onto itself, forming GAM336994 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336994 precursor RNA, designated SEQ ID NO: 141450, and a schematic representation of a predicted secondary folding of GAM336994 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336994 folded precursor RNA yielding a GAM336994 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336994 RNA, hereby incorporated herein.

GAM336994 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336994 target RNA, herein designated GAM TARGET RNA.

GAM336994 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336994 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336994 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336994 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336994 RNA, herein designated GAM RNA, to target binding sites on GAM336994 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336994 target RNA into GAM336994 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336994 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336994 target genes. The mRNA of each one of this plurality of GAM336994 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336994 RNA, herein designated GAM RNA, and which when bound by GAM336994 RNA causes inhibition of translation of the GAM336994 target mRNA into a corresponding GAM336994 target protein.

The mechanism of the translational inhibition exerted by GAM336994 RNA, herein designated GAM RNA, on one or more GAM336994 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336994 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336994 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336994 RNA, herein designated GAM RNA, of GAM336994 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336994 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336994 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336994 RNA correlate with, and may be deduced from, the identity of the GAM336994 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336995 141451 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAAGTGGAGG Messenger 336995 (GAM336995) oligonucleotides modulates expression of respective target
TTGCAGTGAG genes whose function and utility is known in the art.

CCAATATTGT GAM336995 is a novel bioinformatically detectable regulatory, non protein
GCCATTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336995 was detected
TCCAGCTTGG is described with additional reference to Figs. 9-15.

GCAACAAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CGAAACTCC encoded by the human genome.

GAM336995 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336995 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336995 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336995 precursor RNA is designated SEQ ID:141451, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141451 is located from position 63490699 to position 63490787 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336995 precursor RNA folds onto itself, forming GAM336995 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336995 precursor RNA, designated SEQ ID NO: 141451, and a schematic representation of a predicted secondary folding of GAM336995 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336995 folded precursor RNA yielding a GAM336995 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336995 RNA, hereby incorporated herein.

GAM336995 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336995 target RNA, herein designated GAM TARGET RNA.

GAM336995 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336995 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336995 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336995 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336995 RNA, herein designated GAM RNA, to target binding sites on GAM336995 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336995 target RNA into GAM336995 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336995 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336995 target genes. The mRNA of each one of this plurality of GAM336995 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336995 RNA, herein designated GAM RNA, and which when bound by GAM336995 RNA causes inhibition of translation of the GAM336995 target mRNA into a corresponding GAM336995 target protein.

The mechanism of the translational inhibition exerted by GAM336995 RNA, herein designated GAM RNA, on one or more GAM336995 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336995 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336995 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336995 RNA, herein designated GAM RNA, of

GAM336995 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336995 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336995 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336995 RNA correlate with, and may be deduced from, the identity of the GAM336995 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336996 141452 TCGCTTGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically

CCAGGAAGTG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTTGCAG Messenger 336996 (GAM336996) oligonucleotides modulates expression of respective target

TGAGCCAATA genes whose function and utility is known in the art.

TTGTGCCATT GAM336996 is a novel bioinformatically detectable regulatory, non protein

GCACTCCAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336996 was detected

TTGGGCAACA is described with additional reference to Figs. 9-15.

AGAGCGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336996 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336996 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336996 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336996 precursor RNA is designated SEQ ID:141452, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141452 is located from position 63490705 to position 63490781 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GAM336996 precursor RNA folds onto itself, forming GAM336996 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336996 precursor RNA, designated SEQ ID NO: 141452,

and a schematic representation of a predicted secondary folding of GAM336996 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336996 folded precursor RNA yielding a GAM336996 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336996 RNA, hereby incorporated herein.

GAM336996 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336996 target RNA, herein designated GAM TARGET RNA.

GAM336996 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336996 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336996 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336996 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336996 RNA, herein designated GAM RNA, to target binding sites on GAM336996 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336996 target RNA into GAM336996 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336996 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336996 target genes. The mRNA of each one of this plurality of GAM336996 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336996 RNA, herein designated GAM RNA, and which when bound by GAM336996 RNA causes inhibition of translation of the GAM336996 target mRNA into a corresponding GAM336996 target protein.

The mechanism of the translational inhibition exerted by GAM336996 RNA, herein designated GAM RNA, on one or more GAM336996 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336996 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336996 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336996 RNA, herein designated GAM RNA, of GAM336996 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336996 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336996 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336996 RNA correlate with, and may be deduced from, the identity of the GAM336996 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336997 141453 AGGCATTGTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TCCAACATGT detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCACTGGTC Messenger 336997 (GAM336997) oligonucleotides modulates expression of respective target

TGGCTTTTGT genes whose function and utility is known in the art.

TAGGCCCATT GAM336997 is a novel bioinformatically detectable regulatory, non protein

AATAGTGTAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336997 was detected

ATGTGACAGC is described with additional reference to Figs. 9-15.

CT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM336997 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM336997 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336997 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336997 precursor RNA is designated SEQ ID:141453, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141453 is located from position 63567534 to position 63567605 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336997 precursor RNA folds onto itself, forming GAM336997 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336997 precursor RNA, designated SEQ ID NO: 141453, and a schematic representation of a predicted secondary folding of GAM336997 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336997 folded precursor RNA yielding a GAM336997 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336997 RNA, hereby incorporated herein.

GAM336997 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336997 target RNA, herein designated GAM TARGET RNA.

GAM336997 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336997 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336997 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336997 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336997 RNA, herein designated GAM RNA, to target binding sites on GAM336997 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336997 target RNA into GAM336997 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336997 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336997 target genes. The mRNA of each one of this plurality of GAM336997 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM336997 RNA, herein designated GAM RNA, and which when bound by GAM336997 RNA causes inhibition of translation of the GAM336997 target mRNA into a corresponding GAM336997 target protein.

The mechanism of the translational inhibition exerted by GAM336997 RNA, herein designated GAM RNA, on one or more GAM336997 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336997 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336997 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336997 RNA, herein designated GAM RNA, of GAM336997 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336997 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336997 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336997 RNA correlate with, and may be deduced from, the identity of the GAM336997 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336998 141454 GTTGTGATCC Fig. 8 further provides a conceptual description of another novel bioinformatically

CTGTGCTTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGAAGAGAAC Messenger 336998 (GAM336998) oligonucleotides modulates expression of respective target

ACAGTGCCCA genes whose function and utility is known in the art.

GATTATTTAT GAM336998 is a novel bioinformatically detectable regulatory, non protein

CATTTTTGAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336998 was detected

TTTGGGAATT is described with additional reference to Figs. 9-15.

GTGATTTCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCAACGTAGC encoded by the human genome.

TGAAAAATAG GAM336998 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GGGCTATAGC GAM336998 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM336998 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336998 precursor RNA is designated SEQ ID:141454, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141454 is located from position 63572454 to position 63572563 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GAM336998 precursor RNA folds onto itself, forming GAM336998 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336998 precursor RNA, designated SEQ ID NO: 141454, and a schematic representation of a predicted secondary folding of GAM336998 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336998 folded precursor RNA yielding a GAM336998 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336998 RNA, hereby incorporated herein.

GAM336998 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336998 target RNA, herein designated GAM TARGET RNA.

GAM336998 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336998 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336998 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336998 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336998 RNA, herein designated GAM RNA, to target

binding sites on GAM336998 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336998 target RNA into GAM336998 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336998 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336998 target genes. The mRNA of each one of this plurality of GAM336998 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336998 RNA, herein designated GAM RNA, and which when bound by GAM336998 RNA causes inhibition of translation of the GAM336998 target mRNA into a corresponding GAM336998 target protein.

The mechanism of the translational inhibition exerted by GAM336998 RNA, herein designated GAM RNA, on one or more GAM336998 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336998 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336998 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336998 RNA, herein designated GAM RNA, of GAM336998 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336998 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336998 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336998 RNA correlate with, and may be deduced from, the identity of the GAM336998 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM336999 141455 GGCTCAGTTC Fig. 8 further provides a conceptual description of another novel bioinformatically

GCCAGATAAC detected oligonucleotides of the present invention, referred to here as Genomic Address

TCAACTTTCC Messenger 336999 (GAM336999) oligonucleotides modulates expression of respective target

CATTGGCTAC genes whose function and utility is known in the art.

CTTTGGGTCA GAM336999 is a novel bioinformatically detectable regulatory, non protein

GGTGATCTCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM336999 was detected

ACTAGACCTA is described with additional reference to Figs. 9-15.

TCGCCTATGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTGATGGTGG encoded by the human genome.

GTCACATGGT GAM336999 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GCAAATGTTG GAM336999 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

CC GAM336999 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM336999 precursor RNA is designated SEQ ID:141455, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141455 is located from position 63592442 to position 63592553 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM336999 precursor RNA folds onto itself, forming GAM336999 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM336999 precursor RNA, designated SEQ ID NO: 141455, and a schematic representation of a predicted secondary folding of GAM336999 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM336999 folded precursor RNA yielding a GAM336999 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM336999 RNA, hereby incorporated herein.

GAM336999 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM336999 target RNA, herein designated GAM TARGET RNA.

GAM336999 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM336999 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM336999 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM336999 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows

three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM336999 RNA, herein designated GAM RNA, to target binding sites on GAM336999 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM336999 target RNA into GAM336999 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM336999 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM336999 target genes. The mRNA of each one of this plurality of GAM336999 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM336999 RNA, herein designated GAM RNA, and which when bound by GAM336999 RNA causes inhibition of translation of the GAM336999 target mRNA into a corresponding GAM336999 target protein.

The mechanism of the translational inhibition exerted by GAM336999 RNA, herein designated GAM RNA, on one or more GAM336999 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM336999 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM336999 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM336999 RNA, herein designated GAM RNA, of GAM336999 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM336999 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM336999 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM336999 RNA correlate with, and may be deduced from, the identity of the GAM336999 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337000 141456 ACTACTGGGT Fig. 8 further provides a conceptual description of another novel bioinformatically

GTATAAATGT detected oligonucleotides of the present invention, referred to here as Genomic Address
GTTTGTGTGT Messenger 337000 (GAM337000) oligonucleotides modulates expression of respective target
GTATGTATTT genes whose function and utility is known in the art.

ATAGATGTTC GAM337000 is a novel bioinformatically detectable regulatory, non protein
TTTAAGGTAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337000 was detected
CCTTGAAAAC is described with additional reference to Figs. 9-15.

TCTACATTAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTATGCCACA encoded by the human genome.

TAATGACATT GAM337000 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TCAGTCAGTG GAM337000 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GT GAM337000 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337000 precursor RNA is designated SEQ ID:141456, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141456 is located from position 63919661 to position 63919772 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337000 precursor RNA folds onto itself, forming GAM337000 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337000 precursor RNA, designated SEQ ID NO: 141456, and a schematic representation of a predicted secondary folding of GAM337000 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337000 folded precursor RNA yielding a GAM337000 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337000 RNA, hereby incorporated herein.

GAM337000 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337000 target RNA, herein designated GAM TARGET RNA.

GAM337000 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337000 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337000 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337000 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337000 RNA, herein designated GAM RNA, to target binding sites on GAM337000 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337000 target RNA into GAM337000 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337000 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337000 target genes. The mRNA of each one of this plurality of GAM337000 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337000 RNA, herein designated GAM RNA, and which when bound by GAM337000 RNA causes inhibition of translation of the GAM337000 target mRNA into a corresponding GAM337000 target protein.

The mechanism of the translational inhibition exerted by GAM337000 RNA, herein designated GAM RNA, on one or more GAM337000 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337000 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337000 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337000 RNA, herein designated GAM RNA, of GAM337000 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337000 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337000 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337000 RNA correlate with, and may be deduced from, the identity of the GAM337000 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337001 141457 CCTGAACCCA Fig. 8 further provides a conceptual description of another novel bioinformatically

GGAGGCGGAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GCTGCAGTGG Messenger 337001 (GAM337001) oligonucleotides modulates expression of respective target

GCCAAGATTA genes whose function and utility is known in the art.

AGCCACTGCA GAM337001 is a novel bioinformatically detectable regulatory, non protein

CTCCAGCCTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337001 was detected

GGCAACAGG is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337001 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337001 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337001 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337001 precursor RNA is designated SEQ ID:141457, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141457 is located from position 63948506 to position 63948574 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM337001 precursor RNA folds onto itself, forming GAM337001 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337001 precursor RNA, designated SEQ ID NO: 141457, and a schematic representation of a predicted secondary folding of GAM337001 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337001 folded precursor RNA yielding a GAM337001 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337001 RNA, hereby incorporated herein. Expression of GAM337001 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337001 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337001 target RNA, herein designated GAM TARGET RNA.

GAM337001 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337001 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337001 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337001 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337001 RNA, herein designated GAM RNA, to target binding sites on GAM337001 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337001 target RNA into GAM337001 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337001 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337001 target genes. The mRNA of each one of this plurality of GAM337001 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337001 RNA, herein designated GAM RNA, and which when bound by GAM337001 RNA causes inhibition of translation of the GAM337001 target mRNA into a corresponding GAM337001 target protein.

The mechanism of the translational inhibition exerted by GAM337001 RNA, herein designated GAM RNA, on one or more GAM337001 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337001 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337001 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337001 RNA, herein designated GAM RNA, of GAM337001 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337001 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337001 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337001 RNA correlate with, and may be deduced from, the identity of the GAM337001 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337002 141458 TCAAACAGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GTGGTCATGT detected oligonucleotides of the present invention, referred to here as Genomic Address

CATTTCAGTT Messenger 337002 (GAM337002) oligonucleotides modulates expression of respective target

TGCAGTTTCT genes whose function and utility is known in the art.

CTCACCTCAG GAM337002 is a novel bioinformatically detectable regulatory, non protein

AAAAATAAAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337002 was detected

TGTGTGGGGG is described with additional reference to Figs. 9-15.

AGATGAACTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTTTAAACTG encoded by the human genome.

GAATTTTATT GAM337002 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

AGCTGATTGA GAM337002 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337002 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337002 precursor RNA is designated SEQ ID:141458, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141458 is located from position 64790293 to position 64790402 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM337002 precursor RNA folds onto itself, forming GAM337002 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337002 precursor RNA, designated SEQ ID NO: 141458, and a schematic representation of a predicted secondary folding of GAM337002 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337002 folded precursor RNA yielding a GAM337002 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337002 RNA, hereby incorporated herein.

GAM337002 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337002 target RNA, herein designated GAM TARGET RNA.

GAM337002 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337002 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337002 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337002 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337002 RNA, herein designated GAM RNA, to target binding sites on GAM337002 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337002 target RNA into GAM337002 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337002 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337002 target genes. The mRNA of each one of this plurality of GAM337002 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337002 RNA, herein designated GAM RNA, and which when bound by GAM337002 RNA causes inhibition of translation of the GAM337002 target mRNA into a corresponding GAM337002 target protein.

The mechanism of the translational inhibition exerted by GAM337002 RNA, herein

designated GAM RNA, on one or more GAM337002 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337002 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337002 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337002 RNA, herein designated GAM RNA, of GAM337002 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337002 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337002 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337002 RNA correlate with, and may be deduced from, the identity of the GAM337002 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337003 141459 CTTGAACCTG Fig. 8 further provides a conceptual description of another novel bioinformatically
AAAGGCAGAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GCTGCGGTGA Messenger 337003 (GAM337003) oligonucleotides modulates expression of respective target
GCTGAGATTG genes whose function and utility is known in the art.

CGCCATTGCA GAM337003 is a novel bioinformatically detectable regulatory, non protein
CTCCAGCCTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337003 was detected
GGCAACAAG is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337003 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337003 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337003 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337003 precursor RNA is designated SEQ ID:141459, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141459 is located from position 64886976 to position 64887044

relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337003 precursor RNA folds onto itself, forming GAM337003 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337003 precursor RNA, designated SEQ ID NO: 141459, and a schematic representation of a predicted secondary folding of GAM337003 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337003 folded precursor RNA yielding a GAM337003 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337003 RNA, hereby incorporated herein. Expression of GAM337003 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337003 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337003 target RNA, herein designated GAM TARGET RNA.

GAM337003 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337003 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337003 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337003 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337003 RNA, herein designated GAM RNA, to target binding sites on GAM337003 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337003 target RNA into GAM337003 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM337003 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337003 target genes. The mRNA of each one of this plurality of GAM337003 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337003 RNA, herein designated GAM RNA, and which when bound by GAM337003 RNA causes inhibition of translation of the GAM337003 target mRNA into a corresponding GAM337003 target protein.

The mechanism of the translational inhibition exerted by GAM337003 RNA, herein designated GAM RNA, on one or more GAM337003 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337003 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337003 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337003 RNA, herein designated GAM RNA, of GAM337003 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337003 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337003 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337003 RNA correlate with, and may be deduced from, the identity of the GAM337003 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337004 141460 CGGGGATTCA Fig. 8 further provides a conceptual description of another novel bioinformatically

GTCTGTGAGG detected oligonucleotides of the present invention, referred to here as Genomic Address

CGGGAAGCCC Messenger 337004 (GAM337004) oligonucleotides modulates expression of respective target

ACTAGGAGGA genes whose function and utility is known in the art.

CTCTCACTTT GAM337004 is a novel bioinformatically detectable regulatory, non protein

GCTGAGTCTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337004 was detected

TCTTTCCCTT is described with additional reference to Figs. 9-15.

CTTTCTTCTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CACCCAATAA encoded by the human genome.

ACCCTG GAM337004 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337004 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337004 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337004 precursor RNA is designated SEQ ID:141460, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141460 is located from position 65016569 to position 65016664 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM337004 precursor RNA folds onto itself, forming GAM337004 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337004 precursor RNA, designated SEQ ID NO: 141460, and a schematic representation of a predicted secondary folding of GAM337004 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337004 folded precursor RNA yielding a GAM337004 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337004 RNA, hereby incorporated herein.

GAM337004 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337004 target RNA, herein designated GAM TARGET RNA.

GAM337004 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337004 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337004 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337004 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337004 RNA, herein designated GAM RNA, to target binding sites on GAM337004 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337004 target RNA into GAM337004 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337004 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337004 target genes. The mRNA of each one of this plurality of GAM337004 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337004 RNA, herein designated GAM RNA, and which when bound by GAM337004 RNA causes inhibition of translation of the GAM337004 target mRNA into a corresponding GAM337004 target protein.

The mechanism of the translational inhibition exerted by GAM337004 RNA, herein designated GAM RNA, on one or more GAM337004 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337004 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337004 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337004 RNA, herein designated GAM RNA, of GAM337004 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337004 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337004 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337004 RNA correlate with, and may be deduced from, the identity of the GAM337004 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337005 141461 TTGTTTTGTT Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAGACAGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GTCTCGCTCA Messenger 337005 (GAM337005) oligonucleotides modulates expression of respective target

GCTGCCCTGG genes whose function and utility is known in the art.

CCGGAGTGTA GAM337005 is a novel bioinformatically detectable regulatory, non protein
GTCTCATGAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337005 was detected
CTCAGCTCAC is described with additional reference to Figs. 9-15.

TGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337005 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337005 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337005 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337005 precursor RNA is designated SEQ ID:141461, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141461 is located from position 65020854 to position 65020928 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337005 precursor RNA folds onto itself, forming GAM337005 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337005 precursor RNA, designated SEQ ID NO: 141461, and a schematic representation of a predicted secondary folding of GAM337005 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337005 folded precursor RNA yielding a GAM337005 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337005 RNA, hereby incorporated herein.

GAM337005 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337005 target RNA, herein designated GAM TARGET RNA.

GAM337005 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337005 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM337005 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337005 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337005 RNA, herein designated GAM RNA, to target binding sites on GAM337005 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337005 target RNA into GAM337005 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337005 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337005 target genes. The mRNA of each one of this plurality of GAM337005 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337005 RNA, herein designated GAM RNA, and which when bound by GAM337005 RNA causes inhibition of translation of the GAM337005 target mRNA into a corresponding GAM337005 target protein.

The mechanism of the translational inhibition exerted by GAM337005 RNA, herein designated GAM RNA, on one or more GAM337005 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337005 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337005 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337005 RNA, herein designated GAM RNA, of GAM337005 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337005 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337005 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337005 RNA correlate with, and may be deduced from, the identity of the GAM337005 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337006 141462 GATAGGATAG Fig. 8 further provides a conceptual description of another novel bioinformatically

ATGGTTCTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GTGGCTTTCA Messenger 337006 (GAM337006) oligonucleotides modulates expression of respective target

ACACTGACTA genes whose function and utility is known in the art.

CTATTCTCTT GAM337006 is a novel bioinformatically detectable regulatory, non protein

TTAGCCAGCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337006 was detected

GTGAGTAGCT is described with additional reference to Figs. 9-15.

TACTCAGAAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGTCCCCTAT encoded by the human genome.

C GAM337006 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337006 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337006 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337006 precursor RNA is designated SEQ ID:141462, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141462 is located from position 65021961 to position 65022051 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM337006 precursor RNA folds onto itself, forming GAM337006 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337006 precursor RNA, designated SEQ ID NO: 141462, and a schematic representation of a predicted secondary folding of GAM337006 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337006 folded precursor RNA yielding a GAM337006 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337006 RNA, hereby incorporated herein.

GAM337006 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337006 target RNA, herein designated GAM TARGET RNA.

GAM337006 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337006 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337006 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337006 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337006 RNA, herein designated GAM RNA, to target binding sites on GAM337006 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337006 target RNA into GAM337006 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337006 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337006 target genes. The mRNA of each one of this plurality of GAM337006 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337006 RNA, herein designated GAM RNA, and which when bound by GAM337006 RNA causes inhibition of translation of the GAM337006 target mRNA into a corresponding GAM337006 target protein.

The mechanism of the translational inhibition exerted by GAM337006 RNA, herein designated GAM RNA, on one or more GAM337006 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337006 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337006 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337006 RNA, herein designated GAM RNA, of GAM337006 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM337006 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337006 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337006 RNA correlate with, and may be deduced from, the identity of the GAM337006 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337007 141463 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATCACTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCCAGGAG Messenger 337007 (GAM337007) oligonucleotides modulates expression of respective target

GCAGAGGTTG genes whose function and utility is known in the art.

CAGTGAGCTG GAM337007 is a novel bioinformatically detectable regulatory, non protein

AGATCATGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337007 was detected

ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAGAGTGAG encoded by the human genome.

GCTCCTTCTC GAM337007 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

A GAM337007 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337007 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337007 precursor RNA is designated SEQ ID:141463, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141463 is located from position 65030778 to position 65030878 relative to chromosome chr5 on the `+` strand (chr is an abbreviation for chromosome).

GAM337007 precursor RNA folds onto itself, forming GAM337007 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337007 precursor RNA, designated SEQ ID NO: 141463, and a schematic representation of a predicted secondary folding of GAM337007 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337007 folded precursor RNA yielding a GAM337007 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337007 RNA, hereby incorporated herein. Expression of GAM337007 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337007 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337007 target RNA, herein designated GAM TARGET RNA.

GAM337007 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337007 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337007 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337007 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337007 RNA, herein designated GAM RNA, to target binding sites on GAM337007 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337007 target RNA into GAM337007 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337007 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337007 target genes. The mRNA of each one of this plurality of GAM337007 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337007 RNA, herein designated GAM RNA, and which when bound by GAM337007 RNA causes inhibition of translation of the GAM337007 target mRNA into a corresponding GAM337007 target protein.

The mechanism of the translational inhibition exerted by GAM337007 RNA, herein designated GAM RNA, on one or more GAM337007 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337007 precursor RNA, herein designated GAM PRECURSOR

RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337007 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337007 RNA, herein designated GAM RNA, of GAM337007 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337007 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337007 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337007 RNA correlate with, and may be deduced from, the identity of the GAM337007 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337008 141464 CTCATGGTCT Fig. 8 further provides a conceptual description of another novel bioinformatically
CCAAAGGTCT detected oligonucleotides of the present invention, referred to here as Genomic Address
CTACCCAGAC Messenger 337008 (GAM337008) oligonucleotides modulates expression of respective target
ATTTCAACTT genes whose function and utility is known in the art.

TGTTGTTCTT GAM337008 is a novel bioinformatically detectable regulatory, non protein
TGGCTACAAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337008 was detected
GAACAGGAGA is described with additional reference to Figs. 9-15.

AATGGAGGAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTCTGTGGGA encoded by the human genome.

GTGTGGAGAC GAM337008 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
AGTGAG GAM337008 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337008 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337008 precursor RNA is designated SEQ ID:141464, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141464 is located from position 65050472 to position 65050577 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337008 precursor RNA folds onto itself, forming GAM337008 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337008 precursor RNA, designated SEQ ID NO: 141464, and a schematic representation of a predicted secondary folding of GAM337008 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337008 folded precursor RNA yielding a GAM337008 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337008 RNA, hereby incorporated herein.

GAM337008 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337008 target RNA, herein designated GAM TARGET RNA.

GAM337008 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337008 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337008 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337008 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337008 RNA, herein designated GAM RNA, to target binding sites on GAM337008 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337008 target RNA into GAM337008 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337008 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337008 target genes. The mRNA of each one of this plurality of GAM337008 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337008 RNA, herein designated GAM RNA, and which when bound by GAM337008 RNA causes inhibition of

translation of the GAM337008 target mRNA into a corresponding GAM337008 target protein.

The mechanism of the translational inhibition exerted by GAM337008 RNA, herein designated GAM RNA, on one or more GAM337008 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337008 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337008 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337008 RNA, herein designated GAM RNA, of GAM337008 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337008 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337008 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337008 RNA correlate with, and may be deduced from, the identity of the GAM337008 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337009 141465 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337009 (GAM337009) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337009 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337009 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM337009 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337009 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337009 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM337009 precursor RNA is designated SEQ ID:141465, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141465 is located from position 65068010 to position 65068091 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM337009 precursor RNA folds onto itself, forming GAM337009 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337009 precursor RNA, designated SEQ ID NO: 141465, and a schematic representation of a predicted secondary folding of GAM337009 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337009 folded precursor RNA yielding a GAM337009 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337009 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337009 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337009 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337009 target RNA, herein designated GAM TARGET RNA.

GAM337009 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337009 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337009 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337009 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337009 RNA, herein designated GAM RNA, to target binding sites on GAM337009 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337009 target RNA into GAM337009 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337009 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337009 target genes. The mRNA of each one of this plurality of GAM337009 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337009 RNA, herein designated GAM RNA, and which when bound by GAM337009 RNA causes inhibition of translation of the GAM337009 target mRNA into a corresponding GAM337009 target protein.

The mechanism of the translational inhibition exerted by GAM337009 RNA, herein designated GAM RNA, on one or more GAM337009 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337009 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337009 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337009 RNA, herein designated GAM RNA, of GAM337009 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337009 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337009 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337009 RNA correlate with, and may be deduced from, the identity of the GAM337009 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337010 141466 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337010 (GAM337010) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337010 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337010 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM337010 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337010 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337010 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337010 precursor RNA is designated SEQ ID:141466, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141466 is located from position 65112308 to position 65112389 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM337010 precursor RNA folds onto itself, forming GAM337010 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337010 precursor RNA, designated SEQ ID NO: 141466, and a schematic representation of a predicted secondary folding of GAM337010 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337010 folded precursor RNA yielding a GAM337010 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337010 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337010 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337010 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337010 target RNA, herein designated GAM TARGET RNA.

GAM337010 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337010 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337010 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337010 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows

three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337010 RNA, herein designated GAM RNA, to target binding sites on GAM337010 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337010 target RNA into GAM337010 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337010 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337010 target genes. The mRNA of each one of this plurality of GAM337010 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337010 RNA, herein designated GAM RNA, and which when bound by GAM337010 RNA causes inhibition of translation of the GAM337010 target mRNA into a corresponding GAM337010 target protein.

The mechanism of the translational inhibition exerted by GAM337010 RNA, herein designated GAM RNA, on one or more GAM337010 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337010 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337010 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337010 RNA, herein designated GAM RNA, of GAM337010 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337010 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337010 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337010 RNA correlate with, and may be deduced from, the identity of the GAM337010 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337011 141467 GCAAGGTGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

AGGTTTTTTC detected oligonucleotides of the present invention, referred to here as Genomic Address
CTTTCCCCAC Messenger 337011 (GAM337011) oligonucleotides modulates expression of respective target
CTGTCTCTTA genes whose function and utility is known in the art.

GCCTGGGGAA GAM337011 is a novel bioinformatically detectable regulatory, non protein
TTAAATGAGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337011 was detected
AGCCTTAGAA is described with additional reference to Figs. 9-15.

TGGGTGGCCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTGT encoded by the human genome.

GAM337011 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337011 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337011 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337011 precursor RNA is designated SEQ ID:141467, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141467 is located from position 65182638 to position 65182721 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM337011 precursor RNA folds onto itself, forming GAM337011 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337011 precursor RNA, designated SEQ ID NO: 141467, and a schematic representation of a predicted secondary folding of GAM337011 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337011 folded precursor RNA yielding a GAM337011 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337011 RNA, hereby incorporated herein.

GAM337011 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337011 target RNA, herein designated GAM TARGET RNA.

GAM337011 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337011 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337011 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337011 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337011 RNA, herein designated GAM RNA, to target binding sites on GAM337011 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337011 target RNA into GAM337011 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337011 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337011 target genes. The mRNA of each one of this plurality of GAM337011 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337011 RNA, herein designated GAM RNA, and which when bound by GAM337011 RNA causes inhibition of translation of the GAM337011 target mRNA into a corresponding GAM337011 target protein.

The mechanism of the translational inhibition exerted by GAM337011 RNA, herein designated GAM RNA, on one or more GAM337011 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337011 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337011 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337011 RNA, herein designated GAM RNA, of GAM337011 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337011 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337011 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337011 RNA correlate with, and may be deduced from, the identity of the GAM337011 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337012 141468 TTCTTCACAT GAGGAGGAAT CAGGGTCTTG ACCCCTGGAC ACTTAACCTT AGGACCCATT TCTTCACATG AGGAGGA

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337012 (GAM337012) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337012 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337012 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337012 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337012 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337012 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337012 precursor RNA is designated SEQ ID:141468, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141468 is located from position 65222009 to position 65222085 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337012 precursor RNA folds onto itself, forming GAM337012 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337012 precursor RNA, designated SEQ ID NO: 141468, and a schematic representation of a predicted secondary folding of GAM337012 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337012 folded precursor RNA yielding a GAM337012 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337012 RNA, hereby incorporated herein.

GAM337012 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337012 target RNA, herein designated GAM TARGET RNA.

GAM337012 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337012 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337012 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337012 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337012 RNA, herein designated GAM RNA, to target binding sites on GAM337012 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337012 target RNA into GAM337012 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337012 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337012 target genes. The mRNA of each one of this plurality of GAM337012 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337012 RNA, herein designated GAM RNA, and which when bound by GAM337012 RNA causes inhibition of translation of the GAM337012 target mRNA into a corresponding GAM337012 target protein.

The mechanism of the translational inhibition exerted by GAM337012 RNA, herein designated GAM RNA, on one or more GAM337012 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337012 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337012 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337012 RNA, herein designated GAM RNA, of GAM337012 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337012 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337012 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337012 RNA correlate with, and may be deduced from, the identity of the GAM337012 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337013 141469 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 337013 (GAM337013) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337013 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337013 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337013 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337013 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337013 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337013 precursor RNA is designated SEQ ID:141469, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141469 is located from position 65319486 to position 65319567 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM337013 precursor RNA folds onto itself, forming GAM337013 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337013 precursor RNA, designated SEQ ID NO: 141469, and a schematic representation of a predicted secondary folding of GAM337013 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337013 folded precursor RNA yielding a GAM337013 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337013 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337013 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337013 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337013 target RNA, herein designated GAM TARGET RNA.

GAM337013 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337013 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337013 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337013 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337013 RNA, herein designated GAM RNA, to target binding sites on GAM337013 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337013 target RNA into GAM337013 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337013 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337013 target genes. The mRNA of each one of this plurality of GAM337013 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337013 RNA, herein designated GAM RNA, and which when bound by GAM337013 RNA causes inhibition of translation of the GAM337013 target mRNA into a corresponding GAM337013 target protein.

The mechanism of the translational inhibition exerted by GAM337013 RNA, herein designated GAM RNA, on one or more GAM337013 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337013 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337013 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337013 RNA, herein designated GAM RNA, of GAM337013 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337013 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337013 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337013 RNA correlate with, and may be deduced from, the identity of the GAM337013 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337014 141470 CATGATGCCC Fig. 8 further provides a conceptual description of another novel bioinformatically

CTGAGATGGT detected oligonucleotides of the present invention, referred to here as Genomic Address

ATGCACAATT Messenger 337014 (GAM337014) oligonucleotides modulates expression of respective target

CCATGACAAT genes whose function and utility is known in the art.

ATGCCCTTTC GAM337014 is a novel bioinformatically detectable regulatory, non protein

TGGGGAGATA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337014 was detected

GTCCATAATG is described with additional reference to Figs. 9-15.

TTCTGCTAAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTTCAAATGG encoded by the human genome.

GCTCGTG GAM337014 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337014 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337014 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337014 precursor RNA is designated SEQ ID:141470, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141470 is located from position 65499151 to position 65499247 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM337014 precursor RNA folds onto itself, forming GAM337014 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337014 precursor RNA, designated SEQ ID NO: 141470, and a schematic representation of a predicted secondary folding of GAM337014 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337014 folded precursor RNA yielding a GAM337014 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337014 RNA, hereby incorporated herein.

GAM337014 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337014 target RNA, herein designated GAM TARGET RNA.

GAM337014 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337014 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337014 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337014 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337014 RNA, herein designated GAM RNA, to target binding sites on GAM337014 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337014 target RNA into GAM337014 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337014 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337014 target genes. The mRNA of each one of this plurality of GAM337014 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM337014 RNA, herein designated GAM RNA, and which when bound by GAM337014 RNA causes inhibition of translation of the GAM337014 target mRNA into a corresponding GAM337014 target protein.

The mechanism of the translational inhibition exerted by GAM337014 RNA, herein designated GAM RNA, on one or more GAM337014 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337014 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337014 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337014 RNA, herein designated GAM RNA, of GAM337014 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337014 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337014 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337014 RNA correlate with, and may be deduced from, the identity of the GAM337014 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337015 141471 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AATTGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCTGGGAGG Messenger 337015 (GAM337015) oligonucleotides modulates expression of respective target
CGGAGGTTGT genes whose function and utility is known in the art.

GGTGAGCCAA GAM337015 is a novel bioinformatically detectable regulatory, non protein
GGTCGCGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337015 was detected
TTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAAGGGCAAA encoded by the human genome.

ACTCTGTCTC GAM337015 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337015 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337015 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337015 precursor RNA is designated SEQ ID:141471, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141471 is located from position 65550880 to position 65550979 relative to chromosome chr3 on the `-` strand (chr is an abbreviation for chromosome).

GAM337015 precursor RNA folds onto itself, forming GAM337015 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337015 precursor RNA, designated SEQ ID NO: 141471, and a schematic representation of a predicted secondary folding of GAM337015 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337015 folded precursor RNA yielding a GAM337015 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337015 RNA, hereby incorporated herein. Expression of GAM337015 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337015 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337015 target RNA, herein designated GAM TARGET RNA.

GAM337015 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337015 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337015 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337015 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337015 RNA, herein designated GAM RNA, to target binding sites on GAM337015 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337015 target RNA into GAM337015 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337015 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337015 target genes. The mRNA of each one of this plurality of GAM337015 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337015 RNA, herein designated GAM RNA, and which when bound by GAM337015 RNA causes inhibition of translation of the GAM337015 target mRNA into a corresponding GAM337015 target protein.

The mechanism of the translational inhibition exerted by GAM337015 RNA, herein designated GAM RNA, on one or more GAM337015 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337015 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337015 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337015 RNA, herein designated GAM RNA, of GAM337015 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337015 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337015 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337015 RNA correlate with, and may be deduced from, the identity of the GAM337015 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337016 141472 CAAGTTTGGT Fig. 8 further provides a conceptual description of another novel bioinformatically

CAAGGGGTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GTGTGTCCGA Messenger 337016 (GAM337016) oligonucleotides modulates expression of respective target

CTCCAAGGAG genes whose function and utility is known in the art.

CATCTCCGTT GAM337016 is a novel bioinformatically detectable regulatory, non protein
TCTGAGTGGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337016 was detected
AACTCTCATG is described with additional reference to Figs. 9-15.

ACACTGTGTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CCTTGCCTCA encoded by the human genome.

GGCTTG GAM337016 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337016 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337016 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337016 precursor RNA is designated SEQ ID:141472, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141472 is located from position 65582433 to position 65582528 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337016 precursor RNA folds onto itself, forming GAM337016 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337016 precursor RNA, designated SEQ ID NO: 141472, and a schematic representation of a predicted secondary folding of GAM337016 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337016 folded precursor RNA yielding a GAM337016 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337016 RNA, hereby incorporated herein.

GAM337016 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337016 target RNA, herein designated GAM TARGET RNA.

GAM337016 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337016 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337016 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337016 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337016 RNA, herein designated GAM RNA, to target binding sites on GAM337016 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337016 target RNA into GAM337016 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337016 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337016 target genes. The mRNA of each one of this plurality of GAM337016 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337016 RNA, herein designated GAM RNA, and which when bound by GAM337016 RNA causes inhibition of translation of the GAM337016 target mRNA into a corresponding GAM337016 target protein.

The mechanism of the translational inhibition exerted by GAM337016 RNA, herein designated GAM RNA, on one or more GAM337016 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337016 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337016 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337016 RNA, herein designated GAM RNA, of GAM337016 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337016 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337016 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337016 RNA correlate with, and may be deduced from, the identity of the GAM337016 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337017 141473 TGCGGGCAGG Fig. 8 further provides a conceptual description of another novel bioinformatically
ATCACATATT detected oligonucleotides of the present invention, referred to here as Genomic Address
AGGCAGAAAA Messenger 337017 (GAM337017) oligonucleotides modulates expression of respective target
CAATTCCAAG genes whose function and utility is known in the art.

CAAGGAGAGT GAM337017 is a novel bioinformatically detectable regulatory, non protein
TGCTGGGATT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337017 was detected
ATTCTGCTCT is described with additional reference to Figs. 9-15.

GGTCGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337017 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337017 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337017 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337017 precursor RNA is designated SEQ ID:141473, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141473 is located from position 65582733 to position 65582809 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337017 precursor RNA folds onto itself, forming GAM337017 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337017 precursor RNA, designated SEQ ID NO: 141473, and a schematic representation of a predicted secondary folding of GAM337017 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337017 folded precursor RNA yielding a GAM337017 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337017 RNA, hereby incorporated herein.

GAM337017 target gene, herein designated GAM TARGET GENE, encodes a

corresponding messenger RNA, GAM337017 target RNA, herein designated GAM TARGET RNA.

GAM337017 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337017 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337017 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337017 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337017 RNA, herein designated GAM RNA, to target binding sites on GAM337017 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337017 target RNA into GAM337017 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337017 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337017 target genes. The mRNA of each one of this plurality of GAM337017 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337017 RNA, herein designated GAM RNA, and which when bound by GAM337017 RNA causes inhibition of translation of the GAM337017 target mRNA into a corresponding GAM337017 target protein.

The mechanism of the translational inhibition exerted by GAM337017 RNA, herein designated GAM RNA, on one or more GAM337017 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337017 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337017 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337017 RNA, herein designated GAM RNA, of GAM337017 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337017 target RNA, herein designated

GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337017 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337017 RNA correlate with, and may be deduced from, the identity of the GAM337017 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337018 141474 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 337018 (GAM337018) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337018 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337018 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337018 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337018 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337018 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337018 precursor RNA is designated SEQ ID:141474, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141474 is located from position 65709159 to position 65709240 relative to chromosome chr1 on the `-` strand (chr is an abbreviation for chromosome).

GAM337018 precursor RNA folds onto itself, forming GAM337018 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337018 precursor RNA, designated SEQ ID NO: 141474, and a schematic representation of a predicted secondary folding of GAM337018 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337018 folded precursor

RNA yielding a GAM337018 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337018 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337018 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337018 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337018 target RNA, herein designated GAM TARGET RNA.

GAM337018 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337018 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337018 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337018 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337018 RNA, herein designated GAM RNA, to target binding sites on GAM337018 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337018 target RNA into GAM337018 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337018 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337018 target genes. The mRNA of each one of this plurality of GAM337018 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337018 RNA, herein designated GAM RNA, and which when bound by GAM337018 RNA causes inhibition of translation of the GAM337018 target mRNA into a corresponding GAM337018 target protein.

The mechanism of the translational inhibition exerted by GAM337018 RNA, herein designated GAM RNA, on one or more GAM337018 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337018 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337018 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337018 RNA, herein designated GAM RNA, of GAM337018 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337018 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337018 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337018 RNA correlate with, and may be deduced from, the identity of the GAM337018 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337019 141475 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 337019 (GAM337019) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337019 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337019 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337019 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337019 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337019 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337019 precursor RNA is designated SEQ ID:141475, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141475 is located from position 65710652 to position 65710733 relative to chromosome chr5 on the `+` strand (chr is an abbreviation for chromosome).

GAM337019 precursor RNA folds onto itself, forming GAM337019 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337019 precursor RNA, designated SEQ ID NO: 141475, and a schematic representation of a predicted secondary folding of GAM337019 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337019 folded precursor RNA yielding a GAM337019 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337019 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337019 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337019 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337019 target RNA, herein designated GAM TARGET RNA.

GAM337019 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337019 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337019 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337019 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337019 RNA, herein designated GAM RNA, to target binding sites on GAM337019 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337019 target RNA into GAM337019 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337019 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337019 target genes. The mRNA of each one of this plurality of GAM337019 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337019 RNA, herein designated GAM RNA, and which when bound by GAM337019 RNA causes inhibition of

translation of the GAM337019 target mRNA into a corresponding GAM337019 target protein.

The mechanism of the translational inhibition exerted by GAM337019 RNA, herein designated GAM RNA, on one or more GAM337019 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337019 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337019 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337019 RNA, herein designated GAM RNA, of GAM337019 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337019 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337019 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337019 RNA correlate with, and may be deduced from, the identity of the GAM337019 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337020 141476 GACAGTCTCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GTTCTCTGAC detected oligonucleotides of the present invention, referred to here as Genomic Address

AGCTTAGTCC Messenger 337020 (GAM337020) oligonucleotides modulates expression of respective target

ATGGGAGAGA genes whose function and utility is known in the art.

CAGTCATACC GAM337020 is a novel bioinformatically detectable regulatory, non protein

AATGACCTCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337020 was detected

AGCTCCCAGT is described with additional reference to Figs. 9-15.

GTCCTAAGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCATGAAACA encoded by the human genome.

GAGGGTAGGT GAM337020 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

T GAM337020 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337020 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337020 precursor RNA is designated SEQ ID:141476, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141476 is located from position 65732677 to position 65732777 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337020 precursor RNA folds onto itself, forming GAM337020 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337020 precursor RNA, designated SEQ ID NO: 141476, and a schematic representation of a predicted secondary folding of GAM337020 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337020 folded precursor RNA yielding a GAM337020 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337020 RNA, hereby incorporated herein.

GAM337020 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337020 target RNA, herein designated GAM TARGET RNA.

GAM337020 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337020 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337020 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337020 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337020 RNA, herein designated GAM RNA, to target binding sites on GAM337020 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337020 target RNA into GAM337020 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337020 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337020 target genes. The mRNA of each one of this plurality of GAM337020 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337020 RNA, herein designated GAM RNA, and which when bound by GAM337020 RNA causes inhibition of translation of the GAM337020 target mRNA into a corresponding GAM337020 target protein.

The mechanism of the translational inhibition exerted by GAM337020 RNA, herein designated GAM RNA, on one or more GAM337020 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337020 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337020 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337020 RNA, herein designated GAM RNA, of GAM337020 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337020 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337020 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337020 RNA correlate with, and may be deduced from, the identity of the GAM337020 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337021 141477 TCTCTGTTCT Fig. 8 further provides a conceptual description of another novel bioinformatically

CTGACAGCTT detected oligonucleotides of the present invention, referred to here as Genomic Address

AGTCCATGGG Messenger 337021 (GAM337021) oligonucleotides modulates expression of respective target

AGAGACAGTC genes whose function and utility is known in the art.

ATACCAATGA GAM337021 is a novel bioinformatically detectable regulatory, non protein

CCTCTAGCTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337021 was detected

CCAGTGTCCT is described with additional reference to Figs. 9-15.

AAGTGTCATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAACAGAGG encoded by the human genome.

GAM337021 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337021 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337021 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337021 precursor RNA is designated SEQ ID:141477, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141477 is located from position 65732682 to position 65732770 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337021 precursor RNA folds onto itself, forming GAM337021 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337021 precursor RNA, designated SEQ ID NO: 141477, and a schematic representation of a predicted secondary folding of GAM337021 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337021 folded precursor RNA yielding a GAM337021 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337021 RNA, hereby incorporated herein.

GAM337021 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337021 target RNA, herein designated GAM TARGET RNA.

GAM337021 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337021 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337021 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337021 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337021 RNA, herein designated GAM RNA, to target binding sites on GAM337021 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337021 target RNA into GAM337021 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337021 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337021 target genes. The mRNA of each one of this plurality of GAM337021 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337021 RNA, herein designated GAM RNA, and which when bound by GAM337021 RNA causes inhibition of translation of the GAM337021 target mRNA into a corresponding GAM337021 target protein.

The mechanism of the translational inhibition exerted by GAM337021 RNA, herein designated GAM RNA, on one or more GAM337021 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337021 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337021 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337021 RNA, herein designated GAM RNA, of GAM337021 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337021 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337021 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337021 RNA correlate with, and may be deduced from, the identity of the GAM337021 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337022 141478 TTTTGGTAAA Fig. 8 further provides a conceptual description of another novel bioinformatically

GACATTCATC detected oligonucleotides of the present invention, referred to here as Genomic Address

TCAGTCGTTT Messenger 337022 (GAM337022) oligonucleotides modulates expression of respective target
CTCTCTCCCA genes whose function and utility is known in the art.

GCTTGACCTT GAM337022 is a novel bioinformatically detectable regulatory, non protein
AGGTTAATAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337022 was detected
TTCATTTGGG is described with additional reference to Figs. 9-15.

TCAAGAAAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AATATGTAGG encoded by the human genome.

AGAGCTATGT GAM337022 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TGCTTTAACA GAM337022 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
AGA GAM337022 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337022 precursor RNA is designated SEQ ID:141478, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141478 is located from position 65754862 to position 65754974 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337022 precursor RNA folds onto itself, forming GAM337022 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337022 precursor RNA, designated SEQ ID NO: 141478, and a schematic representation of a predicted secondary folding of GAM337022 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337022 folded precursor RNA yielding a GAM337022 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337022 RNA, hereby incorporated herein.

GAM337022 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337022 target RNA, herein designated GAM TARGET RNA.

GAM337022 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337022 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337022 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337022 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337022 RNA, herein designated GAM RNA, to target binding sites on GAM337022 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337022 target RNA into GAM337022 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337022 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337022 target genes. The mRNA of each one of this plurality of GAM337022 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337022 RNA, herein designated GAM RNA, and which when bound by GAM337022 RNA causes inhibition of translation of the GAM337022 target mRNA into a corresponding GAM337022 target protein.

The mechanism of the translational inhibition exerted by GAM337022 RNA, herein designated GAM RNA, on one or more GAM337022 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337022 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337022 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337022 RNA, herein designated GAM RNA, of GAM337022 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337022 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337022 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337022 RNA correlate with, and may be deduced from, the identity of the GAM337022 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337023 141479 GCTGTCCTGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GGCCTGGAGA detected oligonucleotides of the present invention, referred to here as Genomic Address
TACTAGAGGG Messenger 337023 (GAM337023) oligonucleotides modulates expression of respective target
TAAAGGAATG genes whose function and utility is known in the art.

GAACCATGTC GAM337023 is a novel bioinformatically detectable regulatory, non protein
TGGGGTCCCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337023 was detected
TTAGTAACTT is described with additional reference to Figs. 9-15.

GCAGGGTCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGAATTGACT encoded by the human genome.

GC GAM337023 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337023 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337023 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337023 precursor RNA is designated SEQ ID:141479, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141479 is located from position 65815377 to position 65815468 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337023 precursor RNA folds onto itself, forming GAM337023 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337023 precursor RNA, designated SEQ ID NO: 141479, and a schematic representation of a predicted secondary folding of GAM337023 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337023 folded precursor RNA yielding a GAM337023 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337023 RNA, hereby incorporated herein.

GAM337023 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337023 target RNA, herein designated GAM TARGET RNA.

GAM337023 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337023 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337023 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337023 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337023 RNA, herein designated GAM RNA, to target binding sites on GAM337023 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337023 target RNA into GAM337023 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337023 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337023 target genes. The mRNA of each one of this plurality of GAM337023 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337023 RNA, herein designated GAM RNA, and which when bound by GAM337023 RNA causes inhibition of translation of the GAM337023 target mRNA into a corresponding GAM337023 target protein.

The mechanism of the translational inhibition exerted by GAM337023 RNA, herein designated GAM RNA, on one or more GAM337023 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337023 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337023 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337023 RNA, herein designated GAM RNA, of GAM337023 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337023 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337023 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337023 RNA correlate with, and may be deduced from, the identity of the GAM337023 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337024 141480 TCCTGAGGCC Fig. 8 further provides a conceptual description of another novel bioinformatically
TGGAGATACT detected oligonucleotides of the present invention, referred to here as Genomic Address
AGAGGGTAAA Messenger 337024 (GAM337024) oligonucleotides modulates expression of respective target
GGAATGGAAC genes whose function and utility is known in the art.

CATGTCTGGG GAM337024 is a novel bioinformatically detectable regulatory, non protein
GTCCCTTTAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337024 was detected
TAACTTGCAG is described with additional reference to Figs. 9-15.

GGTCTGGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337024 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337024 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337024 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337024 precursor RNA is designated SEQ ID:141480, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141480 is located from position 65815381 to position 65815459 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337024 precursor RNA folds onto itself, forming GAM337024 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337024 precursor RNA, designated SEQ ID NO: 141480, and a schematic representation of a predicted secondary folding of GAM337024 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337024 folded precursor RNA yielding a GAM337024 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337024 RNA, hereby incorporated herein.

GAM337024 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337024 target RNA, herein designated GAM TARGET RNA.

GAM337024 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337024 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337024 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337024 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337024 RNA, herein designated GAM RNA, to target binding sites on GAM337024 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337024 target RNA into GAM337024 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337024 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337024 target genes. The mRNA of each one of this plurality of GAM337024 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337024 RNA, herein designated GAM RNA, and which when bound by GAM337024 RNA causes inhibition of translation of the GAM337024 target mRNA into a corresponding GAM337024 target protein.

The mechanism of the translational inhibition exerted by GAM337024 RNA, herein designated GAM RNA, on one or more GAM337024 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337024 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM337024 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337024 RNA, herein designated GAM RNA, of GAM337024 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337024 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337024 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337024 RNA correlate with, and may be deduced from, the identity of the GAM337024 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337025 141481 TGGCAGGAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

CCAGCTCTCA detected oligonucleotides of the present invention, referred to here as Genomic Address

TCCTTTTCTG Messenger 337025 (GAM337025) oligonucleotides modulates expression of respective target

CAACCTGTTT genes whose function and utility is known in the art.

GCTCACTGGT GAM337025 is a novel bioinformatically detectable regulatory, non protein

TTATTTGTAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337025 was detected

ATTGGGGCTA is described with additional reference to Figs. 9-15.

TGAGGGTCTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTGCTGTCCC encoded by the human genome.

TGCCA GAM337025 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337025 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337025 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337025 precursor RNA is designated SEQ ID:141481, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141481 is located from position 65938364 to position 65938458 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337025 precursor RNA folds onto itself, forming GAM337025 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337025 precursor RNA, designated SEQ ID NO: 141481, and a schematic representation of a predicted secondary folding of GAM337025 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337025 folded precursor RNA yielding a GAM337025 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337025 RNA, hereby incorporated herein.

GAM337025 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337025 target RNA, herein designated GAM TARGET RNA.

GAM337025 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337025 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337025 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337025 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337025 RNA, herein designated GAM RNA, to target binding sites on GAM337025 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337025 target RNA into GAM337025 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337025 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337025 target genes. The mRNA of each one of this plurality of GAM337025 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337025 RNA, herein designated GAM RNA, and which when bound by GAM337025 RNA causes inhibition of

translation of the GAM337025 target mRNA into a corresponding GAM337025 target protein.

The mechanism of the translational inhibition exerted by GAM337025 RNA, herein designated GAM RNA, on one or more GAM337025 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337025 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337025 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337025 RNA, herein designated GAM RNA, of GAM337025 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337025 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337025 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337025 RNA correlate with, and may be deduced from, the identity of the GAM337025 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337026 141482 AGGCTGCTGA Fig. 8 further provides a conceptual description of another novel bioinformatically

TTCCCTTTAT detected oligonucleotides of the present invention, referred to here as Genomic Address

TTGGTAATGG Messenger 337026 (GAM337026) oligonucleotides modulates expression of respective target

GGTGTGTGCA genes whose function and utility is known in the art.

GTACGTTGAT GAM337026 is a novel bioinformatically detectable regulatory, non protein

TAAAAAATAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337026 was detected

GCATTTCCAT is described with additional reference to Figs. 9-15.

TCCATTGCTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTGAAGGGGG encoded by the human genome.

GCAGTTGTCT GAM337026 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337026 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337026 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337026 precursor RNA is designated SEQ ID:141482, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141482 is located from position 65953766 to position 65953865 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337026 precursor RNA folds onto itself, forming GAM337026 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337026 precursor RNA, designated SEQ ID NO: 141482, and a schematic representation of a predicted secondary folding of GAM337026 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337026 folded precursor RNA yielding a GAM337026 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337026 RNA, hereby incorporated herein.

GAM337026 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337026 target RNA, herein designated GAM TARGET RNA.

GAM337026 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337026 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337026 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337026 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337026 RNA, herein designated GAM RNA, to target binding sites on GAM337026 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337026 target RNA into GAM337026 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337026 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337026 target genes. The mRNA of each one of this plurality of GAM337026 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337026 RNA, herein designated GAM RNA, and which when bound by GAM337026 RNA causes inhibition of translation of the GAM337026 target mRNA into a corresponding GAM337026 target protein.

The mechanism of the translational inhibition exerted by GAM337026 RNA, herein designated GAM RNA, on one or more GAM337026 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337026 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337026 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337026 RNA, herein designated GAM RNA, of GAM337026 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337026 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337026 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337026 RNA correlate with, and may be deduced from, the identity of the GAM337026 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337027 141483 TGAGGTGGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GGATTACTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGCCCAAGAG Messenger 337027 (GAM337027) oligonucleotides modulates expression of respective target

GAGGAGGCTG genes whose function and utility is known in the art.

CAGTGAGTCA GAM337027 is a novel bioinformatically detectable regulatory, non protein

ACATTGCACC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337027 was detected

ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAGAGTGTG encoded by the human genome.

ACCCCATCTC GAM337027 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

A GAM337027 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337027 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337027 precursor RNA is designated SEQ ID:141483, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141483 is located from position 66122717 to position 66122817 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337027 precursor RNA folds onto itself, forming GAM337027 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337027 precursor RNA, designated SEQ ID NO: 141483, and a schematic representation of a predicted secondary folding of GAM337027 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337027 folded precursor RNA yielding a GAM337027 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337027 RNA, hereby incorporated herein. Expression of GAM337027 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337027 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337027 target RNA, herein designated GAM TARGET RNA.

GAM337027 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337027 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337027 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337027 RNA is a partial or fully complementary sequence of the

nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337027 RNA, herein designated GAM RNA, to target binding sites on GAM337027 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337027 target RNA into GAM337027 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337027 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337027 target genes. The mRNA of each one of this plurality of GAM337027 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337027 RNA, herein designated GAM RNA, and which when bound by GAM337027 RNA causes inhibition of translation of the GAM337027 target mRNA into a corresponding GAM337027 target protein.

The mechanism of the translational inhibition exerted by GAM337027 RNA, herein designated GAM RNA, on one or more GAM337027 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337027 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337027 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337027 RNA, herein designated GAM RNA, of GAM337027 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337027 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337027 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337027 RNA correlate with, and may be deduced from, the identity of the GAM337027 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337028 141484 GAGGTGGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
GATTACTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
GCCCAAGAGG Messenger 337028 (GAM337028) oligonucleotides modulates expression of respective target
AGGAGGCTGC genes whose function and utility is known in the art.

AGTGAGTCAA GAM337028 is a novel bioinformatically detectable regulatory, non protein
CATTGCACCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337028 was detected
CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGAGTGTGA encoded by the human genome.

CCCCATCTC GAM337028 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337028 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337028 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337028 precursor RNA is designated SEQ ID:141484, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141484 is located from position 66122718 to position 66122816 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337028 precursor RNA folds onto itself, forming GAM337028 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337028 precursor RNA, designated SEQ ID NO: 141484, and a schematic representation of a predicted secondary folding of GAM337028 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337028 folded precursor RNA yielding a GAM337028 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337028 RNA, hereby incorporated herein. Expression of GAM337028 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337028 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337028 target RNA, herein designated GAM TARGET RNA.

GAM337028 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337028 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337028 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337028 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337028 RNA, herein designated GAM RNA, to target binding sites on GAM337028 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337028 target RNA into GAM337028 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337028 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337028 target genes. The mRNA of each one of this plurality of GAM337028 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337028 RNA, herein designated GAM RNA, and which when bound by GAM337028 RNA causes inhibition of translation of the GAM337028 target mRNA into a corresponding GAM337028 target protein.

The mechanism of the translational inhibition exerted by GAM337028 RNA, herein designated GAM RNA, on one or more GAM337028 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337028 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337028 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337028 RNA, herein designated GAM RNA, of GAM337028 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM337028 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337028 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337028 RNA correlate with, and may be deduced from, the identity of the GAM337028 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337029 141485 TATGGGAAAA AAGGCAGTTT AGAAAAAAGT ACATTTGGTA TACATGCATA GAGATGTGCA TAGCAAATGG TCTGAATGAA TGGCCTTAGA CCACAGTTTT CATA

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337029 (GAM337029) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337029 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337029 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337029 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337029 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337029 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337029 precursor RNA is designated SEQ ID:141485, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141485 is located from position 66268768 to position 66268871 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GAM337029 precursor RNA folds onto itself, forming GAM337029 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337029 precursor RNA, designated SEQ ID NO: 141485, and a schematic representation of a predicted secondary folding of GAM337029 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337029 folded precursor RNA yielding a GAM337029 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337029 RNA, hereby incorporated herein.

GAM337029 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337029 target RNA, herein designated GAM TARGET RNA.

GAM337029 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337029 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337029 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337029 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337029 RNA, herein designated GAM RNA, to target binding sites on GAM337029 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337029 target RNA into GAM337029 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337029 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337029 target genes. The mRNA of each one of this plurality of GAM337029 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337029 RNA, herein designated GAM RNA, and which when bound by GAM337029 RNA causes inhibition of translation of the GAM337029 target mRNA into a corresponding GAM337029 target protein.

The mechanism of the translational inhibition exerted by GAM337029 RNA, herein designated GAM RNA, on one or more GAM337029 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337029 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337029 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337029 RNA, herein designated GAM RNA, of GAM337029 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337029 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337029 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337029 RNA correlate with, and may be deduced from, the identity of the GAM337029 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337030 141486 TGGGAAAAAA Fig. 8 further provides a conceptual description of another novel bioinformatically
GGCAGTTTAG detected oligonucleotides of the present invention, referred to here as Genomic Address
AAAAAAGTAC Messenger 337030 (GAM337030) oligonucleotides modulates expression of respective target
ATTTGGTATA genes whose function and utility is known in the art.

CATGCATAGA GAM337030 is a novel bioinformatically detectable regulatory, non protein
GATGTGCATA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337030 was detected
GCAAATGGTC is described with additional reference to Figs. 9-15.

TGAATGAATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCCTTAGACC encoded by the human genome.

A GAM337030 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337030 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337030 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337030 precursor RNA is designated SEQ ID:141486, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141486 is located from position 66268779 to position 66268869 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GAM337030 precursor RNA folds onto itself, forming GAM337030 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337030 precursor RNA, designated SEQ ID NO: 141486, and a schematic representation of a predicted secondary folding of GAM337030 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337030 folded precursor RNA yielding a GAM337030 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337030 RNA, hereby incorporated herein.

GAM337030 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337030 target RNA, herein designated GAM TARGET RNA.

GAM337030 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337030 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337030 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337030 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337030 RNA, herein designated GAM RNA, to target binding sites on GAM337030 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337030 target RNA into GAM337030 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337030 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337030 target genes. The mRNA of each one of this plurality of GAM337030 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337030 RNA, herein designated GAM RNA, and which when bound by GAM337030 RNA causes inhibition of translation of the GAM337030 target mRNA into a corresponding GAM337030 target protein.

The mechanism of the translational inhibition exerted by GAM337030 RNA, herein designated GAM RNA, on one or more GAM337030 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337030 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337030 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337030 RNA, herein designated GAM RNA, of GAM337030 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337030 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337030 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337030 RNA correlate with, and may be deduced from, the identity of the GAM337030 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337031 141487 AGGCACCTAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AGACTTCACA detected oligonucleotides of the present invention, referred to here as Genomic Address

AGCTAATGGC Messenger 337031 (GAM337031) oligonucleotides modulates expression of respective target

AGTCCCTGGA genes whose function and utility is known in the art.

GCAGGAAGCA GAM337031 is a novel bioinformatically detectable regulatory, non protein

ACTTGTTATT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337031 was detected

CTGCTCAAGA is described with additional reference to Figs. 9-15.

GAATCCACCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCAGCTCTTG encoded by the human genome.

GCCT GAM337031 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337031 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337031 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337031 precursor RNA is designated SEQ

ID:141487, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141487 is located from position 66387514 to position 66387607 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM337031 precursor RNA folds onto itself, forming GAM337031 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337031 precursor RNA, designated SEQ ID NO: 141487, and a schematic representation of a predicted secondary folding of GAM337031 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337031 folded precursor RNA yielding a GAM337031 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337031 RNA, hereby incorporated herein.

GAM337031 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337031 target RNA, herein designated GAM TARGET RNA.

GAM337031 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337031 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337031 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337031 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337031 RNA, herein designated GAM RNA, to target binding sites on GAM337031 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337031 target RNA into GAM337031 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM337031 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337031 target genes. The mRNA of each one of this plurality of GAM337031 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337031 RNA, herein designated GAM RNA, and which when bound by GAM337031 RNA causes inhibition of translation of the GAM337031 target mRNA into a corresponding GAM337031 target protein.

The mechanism of the translational inhibition exerted by GAM337031 RNA, herein designated GAM RNA, on one or more GAM337031 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337031 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337031 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337031 RNA, herein designated GAM RNA, of GAM337031 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337031 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337031 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337031 RNA correlate with, and may be deduced from, the identity of the GAM337031 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337032 141488 TTGGGAAACT Fig. 8 further provides a conceptual description of another novel bioinformatically

GAGGTAGGAG detected oligonucleotides of the present invention, referred to here as Genomic Address

AATCACTTGA Messenger 337032 (GAM337032) oligonucleotides modulates expression of respective target

GCCCCGGAGG genes whose function and utility is known in the art.

CAGGGGTTGC GAM337032 is a novel bioinformatically detectable regulatory, non protein

AGTGAGCTGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337032 was detected

GATTGTGCCA is described with additional reference to Figs. 9-15.

CTGCACTCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCCTGGGCAA encoded by the human genome.

CAGAGTGAAA GAM337032 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CTCCATCATC GAM337032 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

ATCTCAA GAM337032 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337032 precursor RNA is designated SEQ ID:141488, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141488 is located from position 66457769 to position 66457885 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337032 precursor RNA folds onto itself, forming GAM337032 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337032 precursor RNA, designated SEQ ID NO: 141488, and a schematic representation of a predicted secondary folding of GAM337032 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337032 folded precursor RNA yielding a GAM337032 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337032 RNA, hereby incorporated herein. Expression of GAM337032 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337032 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337032 target RNA, herein designated GAM TARGET RNA.

GAM337032 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337032 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337032 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337032 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337032 RNA, herein designated GAM RNA, to target binding sites on GAM337032 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337032 target RNA into GAM337032 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337032 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337032 target genes. The mRNA of each one of this plurality of GAM337032 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337032 RNA, herein designated GAM RNA, and which when bound by GAM337032 RNA causes inhibition of translation of the GAM337032 target mRNA into a corresponding GAM337032 target protein.

The mechanism of the translational inhibition exerted by GAM337032 RNA, herein designated GAM RNA, on one or more GAM337032 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337032 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337032 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337032 RNA, herein designated GAM RNA, of GAM337032 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337032 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337032 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337032 RNA correlate with, and may be deduced from, the identity of the GAM337032 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337033 141489 GGAGAATCAC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAGCCCCG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGCAGGGG Messenger 337033 (GAM337033) oligonucleotides modulates expression of respective target
TTGCAGTGAG genes whose function and utility is known in the art.

CTGAGATTGT GAM337033 is a novel bioinformatically detectable regulatory, non protein
GCCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337033 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAAACTCC encoded by the human genome.

GAM337033 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337033 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337033 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337033 precursor RNA is designated SEQ ID:141489, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141489 is located from position 66457785 to position 66457872 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337033 precursor RNA folds onto itself, forming GAM337033 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337033 precursor RNA, designated SEQ ID NO: 141489, and a schematic representation of a predicted secondary folding of GAM337033 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337033 folded precursor RNA yielding a GAM337033 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337033 RNA, hereby incorporated herein. Expression of GAM337033 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337033 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337033 target RNA, herein designated GAM TARGET RNA.

GAM337033 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337033 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337033 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337033 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337033 RNA, herein designated GAM RNA, to target binding sites on GAM337033 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337033 target RNA into GAM337033 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337033 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337033 target genes. The mRNA of each one of this plurality of GAM337033 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337033 RNA, herein designated GAM RNA, and which when bound by GAM337033 RNA causes inhibition of translation of the GAM337033 target mRNA into a corresponding GAM337033 target protein.

The mechanism of the translational inhibition exerted by GAM337033 RNA, herein designated GAM RNA, on one or more GAM337033 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337033 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337033 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337033 RNA, herein designated GAM RNA, of GAM337033 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337033 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337033 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337033 RNA correlate with, and may be deduced from, the identity of the GAM337033 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337034 141490 AGGTGACTGC Fig. 8 further provides a conceptual description of another novel bioinformatically
ACAGAAATGT detected oligonucleotides of the present invention, referred to here as Genomic Address
CTACACATGT Messenger 337034 (GAM337034) oligonucleotides modulates expression of respective target
GTTTTCACAT genes whose function and utility is known in the art.

ACATATGTCT GAM337034 is a novel bioinformatically detectable regulatory, non protein
ACCCATGCCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337034 was detected
GTGTGGACAC is described with additional reference to Figs. 9-15.

TT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337034 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337034 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337034 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337034 precursor RNA is designated SEQ ID:141490, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141490 is located from position 66717045 to position 66717116 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM337034 precursor RNA folds onto itself, forming GAM337034 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337034 precursor RNA, designated SEQ ID NO: 141490, and a schematic representation of a predicted secondary folding of GAM337034 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337034 folded precursor RNA yielding a GAM337034 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337034 RNA, hereby incorporated herein.

GAM337034 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337034 target RNA, herein designated GAM TARGET RNA.

GAM337034 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337034 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337034 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337034 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337034 RNA, herein designated GAM RNA, to target binding sites on GAM337034 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337034 target RNA into GAM337034 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337034 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337034 target genes. The mRNA of each one of this plurality of GAM337034 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337034 RNA, herein designated GAM RNA, and which when bound by GAM337034 RNA causes inhibition of translation of the GAM337034 target mRNA into a corresponding GAM337034 target protein.

The mechanism of the translational inhibition exerted by GAM337034 RNA, herein designated GAM RNA, on one or more GAM337034 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337034 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337034 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337034 RNA, herein designated GAM RNA, of GAM337034 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337034 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337034 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337034 RNA correlate with, and may be deduced from, the identity of the GAM337034 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337035 141491 CTTAAGTTTG Fig. 8 further provides a conceptual description of another novel bioinformatically
CTTGCAGTGT detected oligonucleotides of the present invention, referred to here as Genomic Address
ATGTGTGTAT Messenger 337035 (GAM337035) oligonucleotides modulates expression of respective target
GTCTGTGTGT genes whose function and utility is known in the art.

GCATGCACGC GAM337035 is a novel bioinformatically detectable regulatory, non protein
ACATGTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337035 was detected
ATGCAGCAGG is described with additional reference to Figs. 9-15.

GAGAGTGGAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTAAG encoded by the human genome.

GAM337035 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337035 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337035 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337035 precursor RNA is designated SEQ ID:141491, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141491 is located from position 66813729 to position 66813813 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337035 precursor RNA folds onto itself, forming GAM337035 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337035 precursor RNA, designated SEQ ID NO: 141491, and a schematic representation of a predicted secondary folding of GAM337035 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337035 folded precursor RNA yielding a GAM337035 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337035 RNA, hereby incorporated herein.

GAM337035 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337035 target RNA, herein designated GAM TARGET RNA.

GAM337035 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337035 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337035 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337035 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337035 RNA, herein designated GAM RNA, to target binding sites on GAM337035 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337035 target RNA into GAM337035 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337035 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337035 target genes. The mRNA of each one of this plurality of GAM337035 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337035 RNA, herein designated GAM RNA, and which when bound by GAM337035 RNA causes inhibition of translation of the GAM337035 target mRNA into a corresponding GAM337035 target protein.

The mechanism of the translational inhibition exerted by GAM337035 RNA, herein designated GAM RNA, on one or more GAM337035 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337035 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM337035 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337035 RNA, herein designated GAM RNA, of GAM337035 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337035 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337035 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337035 RNA correlate with, and may be deduced from, the identity of the GAM337035 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337036 141492 GGGTGTGAAG Fig. 8 further provides a conceptual description of another novel bioinformatically

GAAACATCCT detected oligonucleotides of the present invention, referred to here as Genomic Address

CCCCCTTGTT Messenger 337036 (GAM337036) oligonucleotides modulates expression of respective target

TTCAACCTAG genes whose function and utility is known in the art.

TAGGCCAGTT GAM337036 is a novel bioinformatically detectable regulatory, non protein

TAGAAACAAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337036 was detected

CCACAGGGAA is described with additional reference to Figs. 9-15.

GGTGTTGTCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTCATTACTC encoded by the human genome.

GAM337036 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337036 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337036 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337036 precursor RNA is designated SEQ ID:141492, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141492 is located from position 66902019 to position 66902108 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM337036 precursor RNA folds onto itself, forming GAM337036 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337036 precursor RNA, designated SEQ ID NO: 141492, and a schematic representation of a predicted secondary folding of GAM337036 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337036 folded precursor RNA yielding a GAM337036 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337036 RNA, hereby incorporated herein.

GAM337036 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337036 target RNA, herein designated GAM TARGET RNA.

GAM337036 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337036 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337036 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337036 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337036 RNA, herein designated GAM RNA, to target binding sites on GAM337036 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337036 target RNA into GAM337036 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337036 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337036 target genes. The mRNA of each one of this plurality of GAM337036 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337036 RNA, herein designated GAM RNA, and which when bound by GAM337036 RNA causes inhibition of translation of the GAM337036 target mRNA into a corresponding GAM337036 target protein.

The mechanism of the translational inhibition exerted by GAM337036 RNA, herein designated GAM RNA, on one or more GAM337036 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337036 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337036 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337036 RNA, herein designated GAM RNA, of GAM337036 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337036 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337036 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337036 RNA correlate with, and may be deduced from, the identity of the GAM337036 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337037 141493 GGGAGAGGCA Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGTGAGGGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGAGGTGTC Messenger 337037 (GAM337037) oligonucleotides modulates expression of respective target

AGGAATGAAA genes whose function and utility is known in the art.

GAATGTCTTA GAM337037 is a novel bioinformatically detectable regulatory, non protein

AAATTCTAAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337037 was detected

CAGTCTTTCT is described with additional reference to Figs. 9-15.

TCTTCTTCTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTTATTAACA encoded by the human genome.

GCAATTAACT GAM337037 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CTCTC GAM337037 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337037 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM337037 precursor RNA is designated SEQ ID:141493, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141493 is located from position 66974964 to position 66975068 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337037 precursor RNA folds onto itself, forming GAM337037 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337037 precursor RNA, designated SEQ ID NO: 141493, and a schematic representation of a predicted secondary folding of GAM337037 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337037 folded precursor RNA yielding a GAM337037 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337037 RNA, hereby incorporated herein.

GAM337037 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337037 target RNA, herein designated GAM TARGET RNA.

GAM337037 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337037 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337037 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337037 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337037 RNA, herein designated GAM RNA, to target binding sites on GAM337037 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337037 target RNA

into GAM337037 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337037 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337037 target genes. The mRNA of each one of this plurality of GAM337037 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337037 RNA, herein designated GAM RNA, and which when bound by GAM337037 RNA causes inhibition of translation of the GAM337037 target mRNA into a corresponding GAM337037 target protein.

The mechanism of the translational inhibition exerted by GAM337037 RNA, herein designated GAM RNA, on one or more GAM337037 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337037 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337037 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337037 RNA, herein designated GAM RNA, of GAM337037 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337037 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337037 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337037 RNA correlate with, and may be deduced from, the identity of the GAM337037 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337038 141494 GGAGAGGCAT Fig. 8 further provides a conceptual description of another novel bioinformatically
TGTGAGGGAG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGAGGTGTCA Messenger 337038 (GAM337038) oligonucleotides modulates expression of respective target
GGAATGAAAG genes whose function and utility is known in the art.

AATGTCTTAA GAM337038 is a novel bioinformatically detectable regulatory, non protein
AATTCTAAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337038 was detected
AGTCTTTCTT is described with additional reference to Figs. 9-15.

CTTCTTCTCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTATTAACAG encoded by the human genome.

CAATTAACTC GAM337038 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TCT GAM337038 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337038 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337038 precursor RNA is designated SEQ ID:141494, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141494 is located from position 66974965 to position 66975067 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337038 precursor RNA folds onto itself, forming GAM337038 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337038 precursor RNA, designated SEQ ID NO: 141494, and a schematic representation of a predicted secondary folding of GAM337038 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337038 folded precursor RNA yielding a GAM337038 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337038 RNA, hereby incorporated herein.

GAM337038 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337038 target RNA, herein designated GAM TARGET RNA.

GAM337038 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337038 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337038 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337038 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337038 RNA, herein designated GAM RNA, to target binding sites on GAM337038 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337038 target RNA into GAM337038 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337038 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337038 target genes. The mRNA of each one of this plurality of GAM337038 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337038 RNA, herein designated GAM RNA, and which when bound by GAM337038 RNA causes inhibition of translation of the GAM337038 target mRNA into a corresponding GAM337038 target protein.

The mechanism of the translational inhibition exerted by GAM337038 RNA, herein designated GAM RNA, on one or more GAM337038 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337038 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337038 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337038 RNA, herein designated GAM RNA, of GAM337038 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337038 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337038 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337038 RNA correlate with, and may be deduced from, the identity of the GAM337038 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337039 141495 GAGAGGCATT Fig. 8 further provides a conceptual description of another novel bioinformatically

GTGAGGGAGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTGTCAG Messenger 337039 (GAM337039) oligonucleotides modulates expression of respective target

GAATGAAAGA genes whose function and utility is known in the art.

ATGTCTTAAA GAM337039 is a novel bioinformatically detectable regulatory, non protein
ATTCTAAGCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337039 was detected

GTCTTTCTTC is described with additional reference to Figs. 9-15.

TTCTTCTCTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TATTAACAGC encoded by the human genome.

AATTAACTCT GAM337039 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

C GAM337039 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337039 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337039 precursor RNA is designated SEQ ID:141495, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141495 is located from position 66974966 to position 66975066 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337039 precursor RNA folds onto itself, forming GAM337039 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337039 precursor RNA, designated SEQ ID NO: 141495, and a schematic representation of a predicted secondary folding of GAM337039 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337039 folded precursor RNA yielding a GAM337039 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337039 RNA, hereby incorporated herein.

GAM337039 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337039 target RNA, herein designated GAM TARGET RNA.

GAM337039 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337039 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337039 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337039 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337039 RNA, herein designated GAM RNA, to target binding sites on GAM337039 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337039 target RNA into GAM337039 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337039 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337039 target genes. The mRNA of each one of this plurality of GAM337039 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337039 RNA, herein designated GAM RNA, and which when bound by GAM337039 RNA causes inhibition of translation of the GAM337039 target mRNA into a corresponding GAM337039 target protein.

The mechanism of the translational inhibition exerted by GAM337039 RNA, herein designated GAM RNA, on one or more GAM337039 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337039 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337039 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337039 RNA, herein designated GAM RNA, of GAM337039 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337039 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337039 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337039 RNA correlate with, and may be deduced from, the identity of the GAM337039 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337040 141496 ACAGTATAGT Fig. 8 further provides a conceptual description of another novel bioinformatically

CTTCCACAGT detected oligonucleotides of the present invention, referred to here as Genomic Address

CTCCTGTCTC Messenger 337040 (GAM337040) oligonucleotides modulates expression of respective target

TTTTATAAGG genes whose function and utility is known in the art.

TGTCCTATGA GAM337040 is a novel bioinformatically detectable regulatory, non protein

GACTAATAAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337040 was detected

ATCTTTCTTA is described with additional reference to Figs. 9-15.

GGGGACTGTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGAAGGTGG encoded by the human genome.

AATTTTGCAC GAM337040 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TGT GAM337040 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337040 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337040 precursor RNA is designated SEQ ID:141496, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141496 is located from position 67099546 to position 67099648 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337040 precursor RNA folds onto itself, forming GAM337040 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337040 precursor RNA, designated SEQ ID NO: 141496, and a schematic representation of a predicted secondary folding of GAM337040 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337040 folded precursor RNA yielding a GAM337040 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337040 RNA, hereby incorporated herein.

GAM337040 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337040 target RNA, herein designated GAM TARGET RNA.

GAM337040 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337040 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337040 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337040 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337040 RNA, herein designated GAM RNA, to target binding sites on GAM337040 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337040 target RNA into GAM337040 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337040 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337040 target genes. The mRNA of each one of this plurality of GAM337040 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337040 RNA, herein designated GAM RNA, and which when bound by GAM337040 RNA causes inhibition of translation of the GAM337040 target mRNA into a corresponding GAM337040 target protein.

The mechanism of the translational inhibition exerted by GAM337040 RNA, herein designated GAM RNA, on one or more GAM337040 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337040 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337040 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337040 RNA, herein designated GAM RNA, of GAM337040 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337040 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337040 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337040 RNA correlate with, and may be deduced from, the identity of the GAM337040 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337041 141497 TTGCTTGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically
CCAAGAGGCG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGTTGCAG Messenger 337041 (GAM337041) oligonucleotides modulates expression of respective target
TGAGCTAAGA genes whose function and utility is known in the art.

TCATGCCACT GAM337041 is a novel bioinformatically detectable regulatory, non protein
GCACTCCAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337041 was detected
CTGGGTGACA is described with additional reference to Figs. 9-15.

GAGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337041 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337041 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337041 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337041 precursor RNA is designated SEQ ID:141497, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141497 is located from position 67244014 to position 67244089 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM337041 precursor RNA folds onto itself, forming GAM337041 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337041 precursor RNA, designated SEQ ID NO: 141497, and a schematic representation of a predicted secondary folding of GAM337041 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337041 folded precursor RNA yielding a GAM337041 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337041 RNA, hereby incorporated herein.

GAM337041 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337041 target RNA, herein designated GAM TARGET RNA.

GAM337041 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337041 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337041 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337041 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337041 RNA, herein designated GAM RNA, to target binding sites on GAM337041 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337041 target RNA into GAM337041 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337041 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337041 target genes. The mRNA of each one of this plurality of GAM337041 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337041 RNA, herein designated GAM RNA, and which when bound by GAM337041 RNA causes inhibition of translation of the GAM337041 target mRNA into a corresponding GAM337041 target protein.

The mechanism of the translational inhibition exerted by GAM337041 RNA, herein designated GAM RNA, on one or more GAM337041 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337041 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM337041 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337041 RNA, herein designated GAM RNA, of GAM337041 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337041 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337041 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337041 RNA correlate with, and may be deduced from, the identity of the GAM337041 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337042 141498 GGCCACCTGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TGCCTATTCC detected oligonucleotides of the present invention, referred to here as Genomic Address

CTGGCACTTC Messenger 337042 (GAM337042) oligonucleotides modulates expression of respective target

ATTCTTCTGA genes whose function and utility is known in the art.

TAATGGAGTA GAM337042 is a novel bioinformatically detectable regulatory, non protein

TGAGAGAGAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337042 was detected

TGGGACATGA is described with additional reference to Figs. 9-15.

GGTGGACC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337042 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337042 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337042 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337042 precursor RNA is designated SEQ ID:141498, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141498 is located from position 67268904 to position 67268981 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM337042 precursor RNA folds onto itself, forming GAM337042 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337042 precursor RNA, designated SEQ ID NO: 141498, and a schematic representation of a predicted secondary folding of GAM337042 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337042 folded precursor RNA yielding a GAM337042 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337042 RNA, hereby incorporated herein.

GAM337042 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337042 target RNA, herein designated GAM TARGET RNA.

GAM337042 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337042 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337042 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337042 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337042 RNA, herein designated GAM RNA, to target binding sites on GAM337042 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337042 target RNA into GAM337042 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337042 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337042 target genes. The mRNA of each one of this plurality of GAM337042 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337042 RNA, herein designated GAM RNA, and which when bound by GAM337042 RNA causes inhibition of translation of the GAM337042 target mRNA into a corresponding GAM337042 target protein.

The mechanism of the translational inhibition exerted by GAM337042 RNA, herein designated GAM RNA, on one or more GAM337042 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337042 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337042 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337042 RNA, herein designated GAM RNA, of GAM337042 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337042 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337042 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337042 RNA correlate with, and may be deduced from, the identity of the GAM337042 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337043 141499 GTCCCAAAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

AAAGGAAAAC detected oligonucleotides of the present invention, referred to here as Genomic Address

CCAGCAAGGG Messenger 337043 (GAM337043) oligonucleotides modulates expression of respective target

CATGGTCCAT genes whose function and utility is known in the art.

CTGCTGCCTT GAM337043 is a novel bioinformatically detectable regulatory, non protein

TTCTGGGCTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337043 was detected

CCTTTTCTGC is described with additional reference to Figs. 9-15.

TGAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337043 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337043 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337043 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337043 precursor RNA is designated SEQ

ID:141499, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141499 is located from position 67274771 to position 67274844 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM337043 precursor RNA folds onto itself, forming GAM337043 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337043 precursor RNA, designated SEQ ID NO: 141499, and a schematic representation of a predicted secondary folding of GAM337043 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337043 folded precursor RNA yielding a GAM337043 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337043 RNA, hereby incorporated herein.

GAM337043 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337043 target RNA, herein designated GAM TARGET RNA.

GAM337043 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337043 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337043 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337043 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337043 RNA, herein designated GAM RNA, to target binding sites on GAM337043 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337043 target RNA into GAM337043 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM337043 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337043 target genes. The mRNA of each one of this plurality of GAM337043 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337043 RNA, herein designated GAM RNA, and which when bound by GAM337043 RNA causes inhibition of translation of the GAM337043 target mRNA into a corresponding GAM337043 target protein.

The mechanism of the translational inhibition exerted by GAM337043 RNA, herein designated GAM RNA, on one or more GAM337043 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337043 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337043 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337043 RNA, herein designated GAM RNA, of GAM337043 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337043 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337043 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337043 RNA correlate with, and may be deduced from, the identity of the GAM337043 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337044 141500 TGCTTCTCTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TCAAGTTCTA detected oligonucleotides of the present invention, referred to here as Genomic Address

GTAACTTCAG Messenger 337044 (GAM337044) oligonucleotides modulates expression of respective target

GGTAGTTTTA genes whose function and utility is known in the art.

TTGTCTTTGA GAM337044 is a novel bioinformatically detectable regulatory, non protein

ATAGTTACTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337044 was detected

CTTATACCTT is described with additional reference to Figs. 9-15.

TGTGGGGGAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCA encoded by the human genome.

GAM337044 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337044 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337044 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337044 precursor RNA is designated SEQ ID:141500, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141500 is located from position 67284600 to position 67284682 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM337044 precursor RNA folds onto itself, forming GAM337044 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337044 precursor RNA, designated SEQ ID NO: 141500, and a schematic representation of a predicted secondary folding of GAM337044 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337044 folded precursor RNA yielding a GAM337044 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337044 RNA, hereby incorporated herein.

GAM337044 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337044 target RNA, herein designated GAM TARGET RNA.

GAM337044 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337044 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337044 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337044 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337044 RNA, herein designated GAM RNA, to target binding sites on GAM337044 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337044 target RNA into GAM337044 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337044 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337044 target genes. The mRNA of each one of this plurality of GAM337044 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337044 RNA, herein designated GAM RNA, and which when bound by GAM337044 RNA causes inhibition of translation of the GAM337044 target mRNA into a corresponding GAM337044 target protein.

The mechanism of the translational inhibition exerted by GAM337044 RNA, herein designated GAM RNA, on one or more GAM337044 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337044 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337044 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337044 RNA, herein designated GAM RNA, of GAM337044 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337044 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337044 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337044 RNA correlate with, and may be deduced from, the identity of the GAM337044 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337045 141501 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337045 (GAM337045) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA TGTGCCATGT TGGTGTGCTG CACCCATTAA CT

GAM337045 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337045 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337045 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337045 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337045 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337045 precursor RNA is designated SEQ ID:141501, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141501 is located from position 67383500 to position 67383581 relative to chromosome chr18 on the `-` strand (chr is an abbreviation for chromosome).

GAM337045 precursor RNA folds onto itself, forming GAM337045 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337045 precursor RNA, designated SEQ ID NO: 141501, and a schematic representation of a predicted secondary folding of GAM337045 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337045 folded precursor RNA yielding a GAM337045 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337045 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337045 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337045 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337045 target RNA, herein designated GAM TARGET RNA.

GAM337045 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337045 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337045 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337045 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337045 RNA, herein designated GAM RNA, to target binding sites on GAM337045 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337045 target RNA into GAM337045 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337045 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337045 target genes. The mRNA of each one of this plurality of GAM337045 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337045 RNA, herein designated GAM RNA, and which when bound by GAM337045 RNA causes inhibition of translation of the GAM337045 target mRNA into a corresponding GAM337045 target protein.

The mechanism of the translational inhibition exerted by GAM337045 RNA, herein designated GAM RNA, on one or more GAM337045 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337045 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337045 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337045 RNA, herein designated GAM RNA, of GAM337045 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337045 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337045 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337045 RNA correlate with, and may be deduced from, the identity of the GAM337045 target gene

inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337046 141502 CTTTGTGAGT Fig. 8 further provides a conceptual description of another novel bioinformatically
GGCTTTGAAA detected oligonucleotides of the present invention, referred to here as Genomic Address
CTGTAATGAG Messenger 337046 (GAM337046) oligonucleotides modulates expression of respective target
CGCAGTTTAC genes whose function and utility is known in the art.

TGAGTCATTA GAM337046 is a novel bioinformatically detectable regulatory, non protein
CTAGTCTCGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337046 was detected
CCCATTCGTA is described with additional reference to Figs. 9-15.

GAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337046 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337046 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337046 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337046 precursor RNA is designated SEQ ID:141502, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141502 is located from position 67560293 to position 67560365 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM337046 precursor RNA folds onto itself, forming GAM337046 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337046 precursor RNA, designated SEQ ID NO: 141502, and a schematic representation of a predicted secondary folding of GAM337046 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337046 folded precursor RNA yielding a GAM337046 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337046 RNA, hereby incorporated herein.

GAM337046 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337046 target RNA, herein designated GAM TARGET RNA.

GAM337046 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337046 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337046 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337046 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337046 RNA, herein designated GAM RNA, to target binding sites on GAM337046 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337046 target RNA into GAM337046 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337046 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337046 target genes. The mRNA of each one of this plurality of GAM337046 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337046 RNA, herein designated GAM RNA, and which when bound by GAM337046 RNA causes inhibition of translation of the GAM337046 target mRNA into a corresponding GAM337046 target protein.

The mechanism of the translational inhibition exerted by GAM337046 RNA, herein designated GAM RNA, on one or more GAM337046 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337046 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337046 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337046 RNA, herein designated GAM RNA, of GAM337046 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337046 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337046 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337046 RNA correlate with, and may be deduced from, the identity of the GAM337046 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337047 141503 GTTTGGAGGT Fig. 8 further provides a conceptual description of another novel bioinformatically
CTGTTGCTTC detected oligonucleotides of the present invention, referred to here as Genomic Address
CTTGAGGCAC Messenger 337047 (GAM337047) oligonucleotides modulates expression of respective target
GGTAAGGAGT genes whose function and utility is known in the art.

GGTTCCAATT GAM337047 is a novel bioinformatically detectable regulatory, non protein
TGGGGTGCTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337047 was detected
ACGGGATCCA is described with additional reference to Figs. 9-15.

CAGATCTCTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTTTCTTTCC encoded by the human genome.

TCTGCCTCCC GAM337047 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CATCTCCTGA GAM337047 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
T GAM337047 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337047 precursor RNA is designated SEQ ID:141503, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141503 is located from position 67697723 to position 67697833 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337047 precursor RNA folds onto itself, forming GAM337047 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337047 precursor RNA, designated SEQ ID NO: 141503, and a schematic representation of a predicted secondary folding of GAM337047 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337047 folded precursor RNA yielding a GAM337047 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337047 RNA, hereby incorporated herein.

GAM337047 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337047 target RNA, herein designated GAM TARGET RNA.

GAM337047 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337047 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337047 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337047 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337047 RNA, herein designated GAM RNA, to target binding sites on GAM337047 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337047 target RNA into GAM337047 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337047 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337047 target genes. The mRNA of each one of this plurality of GAM337047 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337047 RNA, herein designated GAM RNA, and which when bound by GAM337047 RNA causes inhibition of translation of the GAM337047 target mRNA into a corresponding GAM337047 target protein.

The mechanism of the translational inhibition exerted by GAM337047 RNA, herein designated GAM RNA, on one or more GAM337047 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337047 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM337047 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337047 RNA, herein designated GAM RNA, of GAM337047 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337047 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337047 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337047 RNA correlate with, and may be deduced from, the identity of the GAM337047 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337048 141504 GTGTCTGGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

TCTCACTCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

CGTGCTGTCT Messenger 337048 (GAM337048) oligonucleotides modulates expression of respective target

CTGAGTGGCC genes whose function and utility is known in the art.

TGTGCTGTCA GAM337048 is a novel bioinformatically detectable regulatory, non protein

TGCACTGGTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337048 was detected

CCACCTTCCT is described with additional reference to Figs. 9-15.

TTTGCACTGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CGAGTGTTCT encoded by the human genome.

CAGTACAC GAM337048 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337048 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337048 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337048 precursor RNA is designated SEQ ID:141504, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141504 is located from position 68072405 to position 68072502 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337048 precursor RNA folds onto itself, forming GAM337048 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337048 precursor RNA, designated SEQ ID NO: 141504, and a schematic representation of a predicted secondary folding of GAM337048 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337048 folded precursor RNA yielding a GAM337048 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337048 RNA, hereby incorporated herein.

GAM337048 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337048 target RNA, herein designated GAM TARGET RNA.

GAM337048 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337048 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337048 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337048 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337048 RNA, herein designated GAM RNA, to target binding sites on GAM337048 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337048 target RNA into GAM337048 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337048 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337048 target genes. The mRNA of each one of this plurality of GAM337048 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337048 RNA, herein designated GAM RNA, and which when bound by GAM337048 RNA causes inhibition of

translation of the GAM337048 target mRNA into a corresponding GAM337048 target protein.

The mechanism of the translational inhibition exerted by GAM337048 RNA, herein designated GAM RNA, on one or more GAM337048 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337048 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337048 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337048 RNA, herein designated GAM RNA, of GAM337048 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337048 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337048 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337048 RNA correlate with, and may be deduced from, the identity of the GAM337048 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337049 141505 GGCAACCACA Fig. 8 further provides a conceptual description of another novel bioinformatically

GCATCAGTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAGCGGCTTC Messenger 337049 (GAM337049) oligonucleotides modulates expression of respective target

TCCCCCGGCT genes whose function and utility is known in the art.

TCCTGGGCTG GAM337049 is a novel bioinformatically detectable regulatory, non protein

AGCCACACTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337049 was detected

TCCTGATGCC is described with additional reference to Figs. 9-15.

ACCAGGTCAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

C encoded by the human genome.

GAM337049 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337049 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337049 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM337049 precursor RNA is designated SEQ ID:141505, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141505 is located from position 68079214 to position 68079294 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337049 precursor RNA folds onto itself, forming GAM337049 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337049 precursor RNA, designated SEQ ID NO: 141505, and a schematic representation of a predicted secondary folding of GAM337049 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337049 folded precursor RNA yielding a GAM337049 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337049 RNA, hereby incorporated herein.

GAM337049 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337049 target RNA, herein designated GAM TARGET RNA.

GAM337049 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337049 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337049 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337049 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337049 RNA, herein designated GAM RNA, to target binding sites on GAM337049 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337049 target RNA

into GAM337049 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337049 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337049 target genes. The mRNA of each one of this plurality of GAM337049 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337049 RNA, herein designated GAM RNA, and which when bound by GAM337049 RNA causes inhibition of translation of the GAM337049 target mRNA into a corresponding GAM337049 target protein.

The mechanism of the translational inhibition exerted by GAM337049 RNA, herein designated GAM RNA, on one or more GAM337049 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337049 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337049 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337049 RNA, herein designated GAM RNA, of GAM337049 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337049 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337049 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337049 RNA correlate with, and may be deduced from, the identity of the GAM337049 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337050 141506 GCGAATCTCT Fig. 8 further provides a conceptual description of another novel bioinformatically

CAGTGCGCCA detected oligonucleotides of the present invention, referred to here as Genomic Address

GTGAGGGGAA Messenger 337050 (GAM337050) oligonucleotides modulates expression of respective target

TGGGAACCTG genes whose function and utility is known in the art.

ACCCCATCTT GAM337050 is a novel bioinformatically detectable regulatory, non protein

TTCATCCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337050 was detected

GAGAGAAAAG is described with additional reference to Figs. 9-15.

C GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337050 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337050 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337050 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337050 precursor RNA is designated SEQ ID:141506, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141506 is located from position 68095237 to position 68095307 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337050 precursor RNA folds onto itself, forming GAM337050 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337050 precursor RNA, designated SEQ ID NO: 141506, and a schematic representation of a predicted secondary folding of GAM337050 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337050 folded precursor RNA yielding a GAM337050 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337050 RNA, hereby incorporated herein.

GAM337050 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337050 target RNA, herein designated GAM TARGET RNA.

GAM337050 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337050 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337050 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337050 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337050 RNA, herein designated GAM RNA, to target binding sites on GAM337050 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337050 target RNA into GAM337050 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337050 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337050 target genes. The mRNA of each one of this plurality of GAM337050 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337050 RNA, herein designated GAM RNA, and which when bound by GAM337050 RNA causes inhibition of translation of the GAM337050 target mRNA into a corresponding GAM337050 target protein.

The mechanism of the translational inhibition exerted by GAM337050 RNA, herein designated GAM RNA, on one or more GAM337050 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337050 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337050 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337050 RNA, herein designated GAM RNA, of GAM337050 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337050 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337050 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337050 RNA correlate with, and may be deduced from, the identity of the GAM337050 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337051 141507 GAGAGAGGAA Fig. 8 further provides a conceptual description of another novel bioinformatically

ATGAGAGGAG detected oligonucleotides of the present invention, referred to here as Genomic Address

TCGGCTGGGG Messenger 337051 (GAM337051) oligonucleotides modulates expression of respective target

CGAGTGTGGA genes whose function and utility is known in the art.

CCGCAGCCCA GAM337051 is a novel bioinformatically detectable regulatory, non protein
GAGTTAGTCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337051 was detected
TGGCTGCAGT is described with additional reference to Figs. 9-15.

GCAACTCTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTAAAATGTT encoded by the human genome.

ATTCTCACGC GAM337051 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CCTTTCTT GAM337051 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337051 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337051 precursor RNA is designated SEQ ID:141507, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141507 is located from position 68096932 to position 68097039 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337051 precursor RNA folds onto itself, forming GAM337051 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337051 precursor RNA, designated SEQ ID NO: 141507, and a schematic representation of a predicted secondary folding of GAM337051 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337051 folded precursor RNA yielding a GAM337051 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337051 RNA, hereby incorporated herein.

GAM337051 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337051 target RNA, herein designated GAM TARGET RNA.

GAM337051 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337051 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337051 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337051 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337051 RNA, herein designated GAM RNA, to target binding sites on GAM337051 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337051 target RNA into GAM337051 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337051 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337051 target genes. The mRNA of each one of this plurality of GAM337051 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337051 RNA, herein designated GAM RNA, and which when bound by GAM337051 RNA causes inhibition of translation of the GAM337051 target mRNA into a corresponding GAM337051 target protein.

The mechanism of the translational inhibition exerted by GAM337051 RNA, herein designated GAM RNA, on one or more GAM337051 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337051 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337051 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337051 RNA, herein designated GAM RNA, of GAM337051 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337051 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337051 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337051 RNA correlate with, and may be deduced from, the identity of the GAM337051 target gene

inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337052 141508 AGAGAGGAAA TGAGAGGAGT CGGCTGGGGC GAGTGTGGAC CGCAGCCCAG AGTTAGTCTT GGCTGCAGTG CAACTCTTTC TAAAATGTTA TTCTCACGCC CTTTCT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337052 (GAM337052) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337052 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337052 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337052 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337052 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337052 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337052 precursor RNA is designated SEQ ID:141508, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141508 is located from position 68096933 to position 68097038 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337052 precursor RNA folds onto itself, forming GAM337052 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337052 precursor RNA, designated SEQ ID NO: 141508, and a schematic representation of a predicted secondary folding of GAM337052 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337052 folded precursor RNA yielding a GAM337052 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly

similar to the nucleotide sequence of GAM337052 RNA, hereby incorporated herein.

GAM337052 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337052 target RNA, herein designated GAM TARGET RNA.

GAM337052 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337052 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337052 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337052 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337052 RNA, herein designated GAM RNA, to target binding sites on GAM337052 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337052 target RNA into GAM337052 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337052 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337052 target genes. The mRNA of each one of this plurality of GAM337052 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337052 RNA, herein designated GAM RNA, and which when bound by GAM337052 RNA causes inhibition of translation of the GAM337052 target mRNA into a corresponding GAM337052 target protein.

The mechanism of the translational inhibition exerted by GAM337052 RNA, herein designated GAM RNA, on one or more GAM337052 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337052 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337052 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337052 RNA, herein designated GAM RNA, of GAM337052 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337052 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337052 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337052 RNA correlate with, and may be deduced from, the identity of the GAM337052 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337053 141509 GGCATTAGGT Fig. 8 further provides a conceptual description of another novel bioinformatically
TTCAGTCACA detected oligonucleotides of the present invention, referred to here as Genomic Address
GCCAAGCAAG Messenger 337053 (GAM337053) oligonucleotides modulates expression of respective target
TGTGGACAGT genes whose function and utility is known in the art.

GAGTAATGTC GAM337053 is a novel bioinformatically detectable regulatory, non protein
TGAAGATTCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337053 was detected
ATAGCTTGAT is described with additional reference to Figs. 9-15.

CACAGCTACT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTTGTCCTGC encoded by the human genome.

TGTCTGAACT GAM337053 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CCATTGTC GAM337053 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337053 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337053 precursor RNA is designated SEQ ID:141509, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141509 is located from position 68550580 to position 68550687 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337053 precursor RNA folds onto itself, forming GAM337053 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337053 precursor RNA, designated SEQ ID NO: 141509, and a schematic representation of a predicted secondary folding of GAM337053 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337053 folded precursor RNA yielding a GAM337053 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337053 RNA, hereby incorporated herein.

GAM337053 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337053 target RNA, herein designated GAM TARGET RNA.

GAM337053 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337053 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337053 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337053 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337053 RNA, herein designated GAM RNA, to target binding sites on GAM337053 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337053 target RNA into GAM337053 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337053 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337053 target genes. The mRNA of each one of this plurality of GAM337053 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337053 RNA, herein designated GAM RNA, and which when bound by GAM337053 RNA causes inhibition of translation of the GAM337053 target mRNA into a corresponding GAM337053 target protein.

The mechanism of the translational inhibition exerted by GAM337053 RNA, herein designated GAM RNA, on one or more GAM337053 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337053 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM337053 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337053 RNA, herein designated GAM RNA, of GAM337053 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337053 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337053 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337053 RNA correlate with, and may be deduced from, the identity of the GAM337053 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337054 141510 GTGGGAAATG Fig. 8 further provides a conceptual description of another novel bioinformatically

TGTTCTGATG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGAGGGAGGC Messenger 337054 (GAM337054) oligonucleotides modulates expression of respective target

AATCCATAAT genes whose function and utility is known in the art.

GTGCCCCTTT GAM337054 is a novel bioinformatically detectable regulatory, non protein

GTATGCAGGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337054 was detected

TGGGCAAAAC is described with additional reference to Figs. 9-15.

ACTGCTTCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACTAGTTACG encoded by the human genome.

TCTAAGATAC GAM337054 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TAGGTTATCC GAM337054 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

CAC GAM337054 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337054 precursor RNA is designated SEQ ID:141510, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141510 is located from position 68565533 to position 68565645 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM337054 precursor RNA folds onto itself, forming GAM337054 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337054 precursor RNA, designated SEQ ID NO: 141510, and a schematic representation of a predicted secondary folding of GAM337054 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337054 folded precursor RNA yielding a GAM337054 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337054 RNA, hereby incorporated herein.

GAM337054 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337054 target RNA, herein designated GAM TARGET RNA.

GAM337054 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337054 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337054 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337054 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337054 RNA, herein designated GAM RNA, to target binding sites on GAM337054 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337054 target RNA into GAM337054 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337054 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337054 target genes. The mRNA of each one of this plurality of GAM337054 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337054 RNA, herein designated GAM RNA, and which when bound by GAM337054 RNA causes inhibition of

translation of the GAM337054 target mRNA into a corresponding GAM337054 target protein.

The mechanism of the translational inhibition exerted by GAM337054 RNA, herein designated GAM RNA, on one or more GAM337054 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337054 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337054 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337054 RNA, herein designated GAM RNA, of GAM337054 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337054 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337054 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337054 RNA correlate with, and may be deduced from, the identity of the GAM337054 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337055 141511 TTCAGGTACT Fig. 8 further provides a conceptual description of another novel bioinformatically
CCATGTGATA detected oligonucleotides of the present invention, referred to here as Genomic Address
TATGGTTCCA Messenger 337055 (GAM337055) oligonucleotides modulates expression of respective target
CAATCCTCAG genes whose function and utility is known in the art.

CGTGTTAACT GAM337055 is a novel bioinformatically detectable regulatory, non protein
GAAGCCTTGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337055 was detected
TGAGTTTAAC is described with additional reference to Figs. 9-15.

AAAGCTGCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTGAAGATCT encoded by the human genome.

GGGGAAAGTG GAM337055 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
AAGAAGTTGC GAM337055 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

AACAGAGTTT GAM337055 precursor RNA does not encode a protein. A nucleotide sequence identical or

TGGG highly similar to the nucleotide sequence of GAM337055 precursor RNA is designated SEQ ID:141511, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141511 is located from position 68796420 to position 68796543 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337055 precursor RNA folds onto itself, forming GAM337055 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337055 precursor RNA, designated SEQ ID NO: 141511, and a schematic representation of a predicted secondary folding of GAM337055 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337055 folded precursor RNA yielding a GAM337055 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337055 RNA, hereby incorporated herein.

GAM337055 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337055 target RNA, herein designated GAM TARGET RNA.

GAM337055 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337055 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337055 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337055 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337055 RNA, herein designated GAM RNA, to target binding sites on GAM337055 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337055 target RNA into GAM337055 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337055 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337055 target genes. The mRNA of each one of this plurality of GAM337055 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337055 RNA, herein designated GAM RNA, and which when bound by GAM337055 RNA causes inhibition of translation of the GAM337055 target mRNA into a corresponding GAM337055 target protein.

The mechanism of the translational inhibition exerted by GAM337055 RNA, herein designated GAM RNA, on one or more GAM337055 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337055 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337055 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337055 RNA, herein designated GAM RNA, of GAM337055 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337055 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337055 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337055 RNA correlate with, and may be deduced from, the identity of the GAM337055 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337056 141512 CAGGTACTCC Fig. 8 further provides a conceptual description of another novel bioinformatically
ATGTGATATA detected oligonucleotides of the present invention, referred to here as Genomic Address
TGGTTCCACA Messenger 337056 (GAM337056) oligonucleotides modulates expression of respective target
ATCCTCAGCG genes whose function and utility is known in the art.

TGTTAACTGA GAM337056 is a novel bioinformatically detectable regulatory, non protein
AGCCTTGTTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337056 was detected
AGTTTAACAA is described with additional reference to Figs. 9-15.

AGCTGCCATT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAAGATCTGG encoded by the human genome.

GGAAAGTGAA GAM337056 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAAGTTGCAA GAM337056 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

CAGAGTTTTG GAM337056 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM337056 precursor RNA is designated SEQ ID:141512, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141512 is located from position 68796422 to position 68796541 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337056 precursor RNA folds onto itself, forming GAM337056 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337056 precursor RNA, designated SEQ ID NO: 141512, and a schematic representation of a predicted secondary folding of GAM337056 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337056 folded precursor RNA yielding a GAM337056 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337056 RNA, hereby incorporated herein.

GAM337056 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337056 target RNA, herein designated GAM TARGET RNA.

GAM337056 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337056 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337056 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337056 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows

three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337056 RNA, herein designated GAM RNA, to target binding sites on GAM337056 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337056 target RNA into GAM337056 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337056 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337056 target genes. The mRNA of each one of this plurality of GAM337056 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337056 RNA, herein designated GAM RNA, and which when bound by GAM337056 RNA causes inhibition of translation of the GAM337056 target mRNA into a corresponding GAM337056 target protein.

The mechanism of the translational inhibition exerted by GAM337056 RNA, herein designated GAM RNA, on one or more GAM337056 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337056 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337056 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337056 RNA, herein designated GAM RNA, of GAM337056 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337056 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337056 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337056 RNA correlate with, and may be deduced from, the identity of the GAM337056 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337057 141513 CACAATCCTC Fig. 8 further provides a conceptual description of another novel bioinformatically

AGCGTGTTAA detected oligonucleotides of the present invention, referred to here as Genomic Address
CTGAAGCCTT Messenger 337057 (GAM337057) oligonucleotides modulates expression of respective target
GTTGAGTTTA genes whose function and utility is known in the art.

ACAAAGCTGC GAM337057 is a novel bioinformatically detectable regulatory, non protein
CATTGAAGAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337057 was detected
CTGGGGAAAG is described with additional reference to Figs. 9-15.

TG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337057 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337057 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337057 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337057 precursor RNA is designated SEQ ID:141513, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141513 is located from position 68796444 to position 68796515 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337057 precursor RNA folds onto itself, forming GAM337057 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337057 precursor RNA, designated SEQ ID NO: 141513, and a schematic representation of a predicted secondary folding of GAM337057 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337057 folded precursor RNA yielding a GAM337057 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337057 RNA, hereby incorporated herein.

GAM337057 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337057 target RNA, herein designated GAM TARGET RNA.

GAM337057 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337057 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337057 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337057 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337057 RNA, herein designated GAM RNA, to target binding sites on GAM337057 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337057 target RNA into GAM337057 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337057 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337057 target genes. The mRNA of each one of this plurality of GAM337057 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337057 RNA, herein designated GAM RNA, and which when bound by GAM337057 RNA causes inhibition of translation of the GAM337057 target mRNA into a corresponding GAM337057 target protein.

The mechanism of the translational inhibition exerted by GAM337057 RNA, herein designated GAM RNA, on one or more GAM337057 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337057 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337057 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337057 RNA, herein designated GAM RNA, of GAM337057 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337057 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337057 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337057 RNA correlate with, and may be deduced from, the identity of the GAM337057 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337058 141514 TCCTCAGCGT Fig. 8 further provides a conceptual description of another novel bioinformatically
GTTAACTGAA detected oligonucleotides of the present invention, referred to here as Genomic Address
GCCTTGTTGA Messenger 337058 (GAM337058) oligonucleotides modulates expression of respective target
GTTTAACAAA genes whose function and utility is known in the art.

GCTGCCATTG GAM337058 is a novel bioinformatically detectable regulatory, non protein
AAGATCTGGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337058 was detected
GA is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337058 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337058 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337058 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337058 precursor RNA is designated SEQ ID:141514, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141514 is located from position 68796449 to position 68796510 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337058 precursor RNA folds onto itself, forming GAM337058 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337058 precursor RNA, designated SEQ ID NO: 141514, and a schematic representation of a predicted secondary folding of GAM337058 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337058 folded precursor RNA yielding a GAM337058 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337058 RNA, hereby incorporated herein.

GAM337058 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337058 target RNA, herein designated GAM TARGET RNA.

GAM337058 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337058 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337058 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337058 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337058 RNA, herein designated GAM RNA, to target binding sites on GAM337058 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337058 target RNA into GAM337058 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337058 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337058 target genes. The mRNA of each one of this plurality of GAM337058 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337058 RNA, herein designated GAM RNA, and which when bound by GAM337058 RNA causes inhibition of translation of the GAM337058 target mRNA into a corresponding GAM337058 target protein.

The mechanism of the translational inhibition exerted by GAM337058 RNA, herein designated GAM RNA, on one or more GAM337058 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337058 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337058 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337058 RNA, herein designated GAM RNA, of GAM337058 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337058 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337058 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337058 RNA correlate with, and may be deduced from, the identity of the GAM337058 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337059 141515 CAGCCTCAAG Fig. 8 further provides a conceptual description of another novel bioinformatically
TGATCCACCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CCTCAGCTTC Messenger 337059 (GAM337059) oligonucleotides modulates expression of respective target
CCAAAGTGCT genes whose function and utility is known in the art.

GGGATTACAG GAM337059 is a novel bioinformatically detectable regulatory, non protein
GCATGATCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337059 was detected
CCACGCCTGG is described with additional reference to Figs. 9-15.

TCCCATTGTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTTTACATCT encoded by the human genome.

GATGGGCTGC GAM337059 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TTTTGGGTTG GAM337059 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337059 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337059 precursor RNA is designated SEQ ID:141515, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141515 is located from position 68875043 to position 68875152 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337059 precursor RNA folds onto itself, forming GAM337059 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337059 precursor RNA, designated SEQ ID NO: 141515, and a schematic representation of a predicted secondary folding of GAM337059 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337059 folded precursor RNA yielding a GAM337059 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337059 RNA, hereby incorporated herein.

GAM337059 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337059 target RNA, herein designated GAM TARGET RNA.

GAM337059 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337059 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337059 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337059 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337059 RNA, herein designated GAM RNA, to target binding sites on GAM337059 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337059 target RNA into GAM337059 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337059 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337059 target genes. The mRNA of each one of this plurality of GAM337059 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337059 RNA, herein designated GAM RNA, and which when bound by GAM337059 RNA causes inhibition of translation of the GAM337059 target mRNA into a corresponding GAM337059 target protein.

The mechanism of the translational inhibition exerted by GAM337059 RNA, herein designated GAM RNA, on one or more GAM337059 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337059 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337059 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337059 RNA, herein designated GAM RNA, of GAM337059 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337059 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337059 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337059 RNA correlate with, and may be deduced from, the identity of the GAM337059 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337060 141516 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

AAATCGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCCAAGGC Messenger 337060 (GAM337060) oligonucleotides modulates expression of respective target

AGAGGTTGCA genes whose function and utility is known in the art.

GTCAGCAGAT GAM337060 is a novel bioinformatically detectable regulatory, non protein

ATTGCACCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337060 was detected

TGCACTCCAG is described with additional reference to Figs. 9-15.

CCTGGGCAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAAGCAAGAC encoded by the human genome.

TCTGCCTCA GAM337060 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337060 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337060 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337060 precursor RNA is designated SEQ ID:141516, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141516 is located from position 69076604 to position 69076702 relative to chromosome chr5 on the `-` strand (chr is an abbreviation for chromosome).

GAM337060 precursor RNA folds onto itself, forming GAM337060 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337060 precursor RNA, designated SEQ ID NO: 141516, and a schematic representation of a predicted secondary folding of GAM337060 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337060 folded precursor RNA yielding a GAM337060 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337060 RNA, hereby incorporated herein. Expression of GAM337060 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337060 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337060 target RNA, herein designated GAM TARGET RNA.

GAM337060 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337060 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337060 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337060 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337060 RNA, herein designated GAM RNA, to target binding sites on GAM337060 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337060 target RNA into GAM337060 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337060 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM337060 target genes. The mRNA of each one of this plurality of GAM337060 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337060 RNA, herein designated GAM RNA, and which when bound by GAM337060 RNA causes inhibition of translation of the GAM337060 target mRNA into a corresponding GAM337060 target protein.

The mechanism of the translational inhibition exerted by GAM337060 RNA, herein designated GAM RNA, on one or more GAM337060 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337060 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337060 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337060 RNA, herein designated GAM RNA, of GAM337060 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337060 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337060 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337060 RNA correlate with, and may be deduced from, the identity of the GAM337060 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337061 141517 CCTTTGAACA Fig. 8 further provides a conceptual description of another novel bioinformatically

GTGGAACTGG detected oligonucleotides of the present invention, referred to here as Genomic Address

ATGAAAGAAA Messenger 337061 (GAM337061) oligonucleotides modulates expression of respective target

TGGGATCTGT genes whose function and utility is known in the art.

GCAGCTACTT GAM337061 is a novel bioinformatically detectable regulatory, non protein

CAGTTAGCTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337061 was detected

GAATCCTACA is described with additional reference to Figs. 9-15.

GTTCTGGTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTTCTTTAAT encoded by the human genome.

GCTAGTTTTC GAM337061 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CCTTTTCAGA GAM337061 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GG GAM337061 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337061 precursor RNA is designated SEQ ID:141517, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141517 is located from position 69104781 to position 69104892 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337061 precursor RNA folds onto itself, forming GAM337061 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337061 precursor RNA, designated SEQ ID NO: 141517, and a schematic representation of a predicted secondary folding of GAM337061 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337061 folded precursor RNA yielding a GAM337061 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337061 RNA, hereby incorporated herein.

GAM337061 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337061 target RNA, herein designated GAM TARGET RNA.

GAM337061 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337061 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337061 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337061 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337061 RNA, herein designated GAM RNA, to target binding sites on GAM337061 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337061 target RNA into GAM337061 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337061 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337061 target genes. The mRNA of each one of this plurality of GAM337061 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337061 RNA, herein designated GAM RNA, and which when bound by GAM337061 RNA causes inhibition of translation of the GAM337061 target mRNA into a corresponding GAM337061 target protein.

The mechanism of the translational inhibition exerted by GAM337061 RNA, herein designated GAM RNA, on one or more GAM337061 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337061 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337061 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337061 RNA, herein designated GAM RNA, of GAM337061 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337061 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337061 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337061 RNA correlate with, and may be deduced from, the identity of the GAM337061 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337062 141518 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTGGAGG Messenger 337062 (GAM337062) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

CTGAGGTCAC GAM337062 is a novel bioinformatically detectable regulatory, non protein
ACCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337062 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGACTCC encoded by the human genome.

GAM337062 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337062 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337062 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337062 precursor RNA is designated SEQ ID:141518, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141518 is located from position 69278504 to position 69278591 relative to chromosome chr5 on the `+` strand (chr is an abbreviation for chromosome).

GAM337062 precursor RNA folds onto itself, forming GAM337062 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337062 precursor RNA, designated SEQ ID NO: 141518, and a schematic representation of a predicted secondary folding of GAM337062 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337062 folded precursor RNA yielding a GAM337062 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337062 RNA, hereby incorporated herein. Expression of GAM337062 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337062 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337062 target RNA, herein designated GAM TARGET RNA.

GAM337062 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337062 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM337062 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337062 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337062 RNA, herein designated GAM RNA, to target binding sites on GAM337062 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337062 target RNA into GAM337062 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337062 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337062 target genes. The mRNA of each one of this plurality of GAM337062 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337062 RNA, herein designated GAM RNA, and which when bound by GAM337062 RNA causes inhibition of translation of the GAM337062 target mRNA into a corresponding GAM337062 target protein.

The mechanism of the translational inhibition exerted by GAM337062 RNA, herein designated GAM RNA, on one or more GAM337062 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337062 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337062 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337062 RNA, herein designated GAM RNA, of GAM337062 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337062 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337062 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337062 RNA correlate with, and may be deduced from, the identity of the GAM337062 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337063 141519 CTCTTGACCA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAGGTTCTCA detected oligonucleotides of the present invention, referred to here as Genomic Address
AATGAGGGAC Messenger 337063 (GAM337063) oligonucleotides modulates expression of respective target
ATTTTACCTG genes whose function and utility is known in the art.

CCGGGGACAT GAM337063 is a novel bioinformatically detectable regulatory, non protein
TTCCAATGTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337063 was detected
TGGGGACACT is described with additional reference to Figs. 9-15.

TTTGGTTATC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AG encoded by the human genome.

GAM337063 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337063 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337063 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337063 precursor RNA is designated SEQ ID:141519, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141519 is located from position 69410140 to position 69410221 relative to chromosome chr5 on the `+` strand (chr is an abbreviation for chromosome).

GAM337063 precursor RNA folds onto itself, forming GAM337063 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337063 precursor RNA, designated SEQ ID NO: 141519, and a schematic representation of a predicted secondary folding of GAM337063 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337063 folded precursor RNA yielding a GAM337063 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337063 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337063 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337063 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337063 target RNA, herein designated GAM TARGET RNA.

GAM337063 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337063 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337063 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337063 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337063 RNA, herein designated GAM RNA, to target binding sites on GAM337063 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337063 target RNA into GAM337063 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337063 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337063 target genes. The mRNA of each one of this plurality of GAM337063 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337063 RNA, herein designated GAM RNA, and which when bound by GAM337063 RNA causes inhibition of translation of the GAM337063 target mRNA into a corresponding GAM337063 target protein.

The mechanism of the translational inhibition exerted by GAM337063 RNA, herein designated GAM RNA, on one or more GAM337063 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337063 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337063 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337063 RNA, herein designated GAM RNA, of GAM337063 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337063 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337063 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337063 RNA correlate with, and may be deduced from, the identity of the GAM337063 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337064 141520 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGTGGAGG Messenger 337064 (GAM337064) oligonucleotides modulates expression of respective target
TTGCAGTGAG genes whose function and utility is known in the art.

CTGAGGTCAC GAM337064 is a novel bioinformatically detectable regulatory, non protein
ACCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337064 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGACTCC encoded by the human genome.

GAM337064 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337064 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337064 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337064 precursor RNA is designated SEQ ID:141520, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141520 is located from position 69429920 to position 69430007 relative to chromosome chr5 on the `-` strand (chr is an abbreviation for chromosome).

GAM337064 precursor RNA folds onto itself, forming GAM337064 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337064 precursor RNA, designated SEQ ID NO: 141520, and a schematic representation of a predicted secondary folding of GAM337064 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337064 folded precursor RNA yielding a GAM337064 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337064 RNA, hereby incorporated herein. Expression of GAM337064 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337064 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337064 target RNA, herein designated GAM TARGET RNA.

GAM337064 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337064 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337064 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337064 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337064 RNA, herein designated GAM RNA, to target binding sites on GAM337064 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337064 target RNA into GAM337064 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337064 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337064 target genes. The mRNA of each one of this plurality of GAM337064 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337064 RNA, herein designated GAM RNA, and which when bound by GAM337064 RNA causes inhibition of translation of the GAM337064 target mRNA into a corresponding GAM337064 target protein.

The mechanism of the translational inhibition exerted by GAM337064 RNA, herein designated GAM RNA, on one or more GAM337064 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337064 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337064 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337064 RNA, herein designated GAM RNA, of GAM337064 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337064 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337064 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337064 RNA correlate with, and may be deduced from, the identity of the GAM337064 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337065 141521 GGCACTTGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
ACCGTCTTGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GGAATATAGC Messenger 337065 (GAM337065) oligonucleotides modulates expression of respective target
TTGGTAATTG genes whose function and utility is known in the art.

AACTGCTTAA GAM337065 is a novel bioinformatically detectable regulatory, non protein
GCTTATTATT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337065 was detected
AATATTTAAG is described with additional reference to Figs. 9-15.

CTATAGTTCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGGCCCATTC encoded by the human genome.

CAGAGGTC GAM337065 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337065 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337065 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337065 precursor RNA is designated SEQ ID:141521, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141521 is located from position 69459978 to position 69460075 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM337065 precursor RNA folds onto itself, forming GAM337065 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337065 precursor RNA, designated SEQ ID NO: 141521, and a schematic representation of a predicted secondary folding of GAM337065 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337065 folded precursor RNA yielding a GAM337065 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337065 RNA, hereby incorporated herein.

GAM337065 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337065 target RNA, herein designated GAM TARGET RNA.

GAM337065 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337065 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337065 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337065 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337065 RNA, herein designated GAM RNA, to target binding sites on GAM337065 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337065 target RNA into GAM337065 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337065 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337065 target genes. The mRNA of each one of this plurality of GAM337065 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM337065 RNA, herein designated GAM RNA, and which when bound by GAM337065 RNA causes inhibition of translation of the GAM337065 target mRNA into a corresponding GAM337065 target protein.

The mechanism of the translational inhibition exerted by GAM337065 RNA, herein designated GAM RNA, on one or more GAM337065 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337065 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337065 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337065 RNA, herein designated GAM RNA, of GAM337065 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337065 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337065 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337065 RNA correlate with, and may be deduced from, the identity of the GAM337065 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337066 141522 TTCACTCCCA Fig. 8 further provides a conceptual description of another novel bioinformatically

AGTGGCTTTT detected oligonucleotides of the present invention, referred to here as Genomic Address

GTCTGGCAGA Messenger 337066 (GAM337066) oligonucleotides modulates expression of respective target

TTCCGGTGGA genes whose function and utility is known in the art.

TTATGCAAAG GAM337066 is a novel bioinformatically detectable regulatory, non protein

AGGGACTGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337066 was detected

AGAGAATCTG is described with additional reference to Figs. 9-15.

AGCTGTTGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGACTTCTGA encoded by the human genome.

A GAM337066 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337066 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337066 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337066 precursor RNA is designated SEQ ID:141522, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141522 is located from position 69498130 to position 69498220 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM337066 precursor RNA folds onto itself, forming GAM337066 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337066 precursor RNA, designated SEQ ID NO: 141522, and a schematic representation of a predicted secondary folding of GAM337066 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337066 folded precursor RNA yielding a GAM337066 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337066 RNA, hereby incorporated herein.

GAM337066 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337066 target RNA, herein designated GAM TARGET RNA.

GAM337066 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337066 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337066 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337066 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337066 RNA, herein designated GAM RNA, to target binding sites on GAM337066 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337066 target RNA into GAM337066 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337066 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337066 target genes. The mRNA of each one of this plurality of GAM337066 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337066 RNA, herein designated GAM RNA, and which when bound by GAM337066 RNA causes inhibition of translation of the GAM337066 target mRNA into a corresponding GAM337066 target protein.

The mechanism of the translational inhibition exerted by GAM337066 RNA, herein designated GAM RNA, on one or more GAM337066 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337066 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337066 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337066 RNA, herein designated GAM RNA, of GAM337066 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337066 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337066 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337066 RNA correlate with, and may be deduced from, the identity of the GAM337066 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337067 141523 ATGGCGACCA Fig. 8 further provides a conceptual description of another novel bioinformatically

TATGACCTTA detected oligonucleotides of the present invention, referred to here as Genomic Address

TTCTTTAGGT Messenger 337067 (GAM337067) oligonucleotides modulates expression of respective target

TTAGACACAA genes whose function and utility is known in the art.

GGGATTTCCT GAM337067 is a novel bioinformatically detectable regulatory, non protein

TGGTTTGGTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337067 was detected

ACAGAAAGGT is described with additional reference to Figs. 9-15.

AAGAGTTATA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTACCATCAA encoded by the human genome.

GGTCACCAT GAM337067 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337067 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337067 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337067 precursor RNA is designated SEQ ID:141523, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141523 is located from position 69566389 to position 69566487 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337067 precursor RNA folds onto itself, forming GAM337067 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337067 precursor RNA, designated SEQ ID NO: 141523, and a schematic representation of a predicted secondary folding of GAM337067 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337067 folded precursor RNA yielding a GAM337067 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337067 RNA, hereby incorporated herein.

GAM337067 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337067 target RNA, herein designated GAM TARGET RNA.

GAM337067 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337067 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337067 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337067 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337067 RNA, herein designated GAM RNA, to target binding sites on GAM337067 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337067 target RNA into GAM337067 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337067 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337067 target genes. The mRNA of each one of this plurality of GAM337067 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337067 RNA, herein designated GAM RNA, and which when bound by GAM337067 RNA causes inhibition of translation of the GAM337067 target mRNA into a corresponding GAM337067 target protein.

The mechanism of the translational inhibition exerted by GAM337067 RNA, herein designated GAM RNA, on one or more GAM337067 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337067 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337067 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337067 RNA, herein designated GAM RNA, of GAM337067 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337067 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337067 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337067 RNA correlate with, and may be deduced from, the identity of the GAM337067 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337068 141524 GAAAAGGGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GATCAGTATT detected oligonucleotides of the present invention, referred to here as Genomic Address
TTCTGATCCT Messenger 337068 (GAM337068) oligonucleotides modulates expression of respective
target
AGTTCAGTGC genes whose function and utility is known in the art.

TAGTCAGGGA GAM337068 is a novel bioinformatically detectable regulatory, non protein
GACTGTCAGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337068 was
detected
AAAGACCTTT is described with additional reference to Figs. 9-15.

TT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen
gene
encoded by the human genome.

GAM337068 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337068 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA
genes
GAM337068 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337068 precursor RNA is designated SEQ ID:141524, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141524 is located from position 69692764 to position 69692835 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM337068 precursor RNA folds onto itself, forming GAM337068 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337068 precursor RNA, designated SEQ ID NO: 141524, and a schematic representation of a predicted secondary folding of GAM337068 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and
4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337068 folded precursor RNA yielding a GAM337068 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337068 RNA, hereby incorporated herein.

GAM337068 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337068 target RNA, herein designated GAM TARGET RNA.

GAM337068 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337068 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337068 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337068 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337068 RNA, herein designated GAM RNA, to target binding sites on GAM337068 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337068 target RNA into GAM337068 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337068 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337068 target genes. The mRNA of each one of this plurality of GAM337068 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337068 RNA, herein designated GAM RNA, and which when bound by GAM337068 RNA causes inhibition of translation of the GAM337068 target mRNA into a corresponding GAM337068 target protein.

The mechanism of the translational inhibition exerted by GAM337068 RNA, herein designated GAM RNA, on one or more GAM337068 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337068 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337068 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337068 RNA, herein designated GAM RNA, of GAM337068 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337068 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337068 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337068 RNA correlate with, and may be deduced from, the identity of the GAM337068 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337069 141525 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
AAATCGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCCAAGGC Messenger 337069 (GAM337069) oligonucleotides modulates expression of respective target
AGAGGTTGCA genes whose function and utility is known in the art.

GTCAGCAGAT GAM337069 is a novel bioinformatically detectable regulatory, non protein
ATTGCACCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337069 was detected
TGCACTCCAG is described with additional reference to Figs. 9-15.

CCTGGGCAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AAAGCAAGAC encoded by the human genome.

TCTGCCTCA GAM337069 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337069 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337069 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337069 precursor RNA is designated SEQ ID:141525, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141525 is located from position 69818313 to position 69818411 relative to chromosome chr5 on the `+` strand (chr is an abbreviation for chromosome).

GAM337069 precursor RNA folds onto itself, forming GAM337069 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337069 precursor RNA, designated SEQ ID NO: 141525, and a schematic representation of a predicted secondary folding of GAM337069 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337069 folded precursor RNA yielding a GAM337069 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337069 RNA, hereby incorporated herein. Expression of GAM337069 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337069 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337069 target RNA, herein designated GAM TARGET RNA.

GAM337069 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337069 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337069 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337069 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337069 RNA, herein designated GAM RNA, to target binding sites on GAM337069 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337069 target RNA into GAM337069 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337069 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337069 target genes. The mRNA of each one of this plurality of GAM337069 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337069 RNA, herein designated GAM RNA, and which when bound by GAM337069 RNA causes inhibition of translation of the GAM337069 target mRNA into a corresponding GAM337069 target protein.

The mechanism of the translational inhibition exerted by GAM337069 RNA, herein designated GAM RNA, on one or more GAM337069 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337069 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337069 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337069 RNA, herein designated GAM RNA, of GAM337069 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337069 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337069 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337069 RNA correlate with, and may be deduced from, the identity of the GAM337069 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337070 141526 GAGGCAGGAA Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCCAAGGCA Messenger 337070 (GAM337070) oligonucleotides modulates expression of respective target

GAGGTTGCAG genes whose function and utility is known in the art.

TCAGCAGATA GAM337070 is a novel bioinformatically detectable regulatory, non protein

TTGCACCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337070 was detected

GCACTCCAGC is described with additional reference to Figs. 9-15.

CTGGGCAACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAGCAAGACT encoded by the human genome.

CTGCCTC GAM337070 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337070 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337070 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337070 precursor RNA is designated SEQ ID:141526, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141526 is located from position 69818314 to position 69818410 relative to chromosome chr5 on the `+` strand (chr is an abbreviation for chromosome).

GAM337070 precursor RNA folds onto itself, forming GAM337070 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337070 precursor RNA, designated SEQ ID NO: 141526, and a schematic representation of a predicted secondary folding of GAM337070 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337070 folded precursor RNA yielding a GAM337070 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337070 RNA, hereby incorporated herein. Expression of GAM337070 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337070 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337070 target RNA, herein designated GAM TARGET RNA.

GAM337070 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337070 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337070 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337070 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337070 RNA, herein designated GAM RNA, to target binding sites on GAM337070 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337070 target RNA into GAM337070 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337070 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337070 target genes. The mRNA of each one of this plurality of GAM337070 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337070 RNA, herein designated GAM RNA, and which when bound by GAM337070 RNA causes inhibition of translation of the GAM337070 target mRNA into a corresponding GAM337070 target protein.

The mechanism of the translational inhibition exerted by GAM337070 RNA, herein designated GAM RNA, on one or more GAM337070 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337070 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337070 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337070 RNA, herein designated GAM RNA, of GAM337070 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337070 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337070 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337070 RNA correlate with, and may be deduced from, the identity of the GAM337070 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337071 141527 AGGCTGAGTG Fig. 8 further provides a conceptual description of another novel bioinformatically

CAGTGGTGTG detected oligonucleotides of the present invention, referred to here as Genomic Address

ATCTCGGCTC Messenger 337071 (GAM337071) oligonucleotides modulates expression of respective target

ACTGCAAGCT genes whose function and utility is known in the art.

CTGCCTCCCA GAM337071 is a novel bioinformatically detectable regulatory, non protein

GGTTCACGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337071 was detected

ATTGTCCTGC is described with additional reference to Figs. 9-15.

CTCAGCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337071 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337071 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337071 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337071 precursor RNA is designated SEQ ID:141527, and is provided hereinbelow with reference to the sequence listing part.

Nucleotide sequence SEQ ID:141527 is located from position 69991881 to position 69991958 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337071 precursor RNA folds onto itself, forming GAM337071 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337071 precursor RNA, designated SEQ ID NO: 141527, and a schematic representation of a predicted secondary folding of GAM337071 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337071 folded precursor RNA yielding a GAM337071 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337071 RNA, hereby incorporated herein.

GAM337071 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337071 target RNA, herein designated GAM TARGET RNA.

GAM337071 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337071 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337071 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337071 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337071 RNA, herein designated GAM RNA, to target binding sites on GAM337071 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337071 target RNA into GAM337071 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337071 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337071 target genes. The mRNA of each one of this plurality of GAM337071 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337071 RNA, herein designated GAM RNA, and which when bound by GAM337071 RNA causes inhibition of translation of the GAM337071 target mRNA into a corresponding GAM337071 target protein.

The mechanism of the translational inhibition exerted by GAM337071 RNA, herein designated GAM RNA, on one or more GAM337071 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337071 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337071 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337071 RNA, herein designated GAM RNA, of GAM337071 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337071 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337071 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337071 RNA correlate with, and may be deduced from, the identity of the GAM337071 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337072 141528 CAGTTAAGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

TATAATGAAA detected oligonucleotides of the present invention, referred to here as Genomic Address

GACTGATCAG Messenger 337072 (GAM337072) oligonucleotides modulates expression of respective target

CATAGAATGG genes whose function and utility is known in the art.

TGATGACTAT GAM337072 is a novel bioinformatically detectable regulatory, non protein

ACCATTTTGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337072 was detected

GCTGGTGTCT is described with additional reference to Figs. 9-15.

TTTGTTGTAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CGTTTTTTG encoded by the human genome.

GAM337072 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337072 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337072 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337072 precursor RNA is designated SEQ ID:141528, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141528 is located from position 69992106 to position 69992194 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337072 precursor RNA folds onto itself, forming GAM337072 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337072 precursor RNA, designated SEQ ID NO: 141528, and a schematic representation of a predicted secondary folding of GAM337072 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337072 folded precursor RNA yielding a GAM337072 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337072 RNA, hereby incorporated herein.

GAM337072 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337072 target RNA, herein designated GAM TARGET RNA.

GAM337072 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337072 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337072 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337072 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337072 RNA, herein designated GAM RNA, to target binding sites on GAM337072 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337072 target RNA into GAM337072 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337072 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337072 target genes. The mRNA of each one of this plurality of GAM337072 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337072 RNA, herein designated GAM RNA, and which when bound by GAM337072 RNA causes inhibition of translation of the GAM337072 target mRNA into a corresponding GAM337072 target protein.

The mechanism of the translational inhibition exerted by GAM337072 RNA, herein designated GAM RNA, on one or more GAM337072 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337072 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337072 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337072 RNA, herein designated GAM RNA, of GAM337072 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337072 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337072 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337072 RNA correlate with, and may be deduced from, the identity of the GAM337072 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337073 141529 GTATAATGAA Fig. 8 further provides a conceptual description of another novel bioinformatically

AGACTGATCA detected oligonucleotides of the present invention, referred to here as Genomic Address

GCATAGAATG Messenger 337073 (GAM337073) oligonucleotides modulates expression of respective target

GTGATGACTA genes whose function and utility is known in the art.

TACCATTTTG GAM337073 is a novel bioinformatically detectable regulatory, non protein
TGCTGGTGTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337073 was detected
TTTTGTTGTA is described with additional reference to Figs. 9-15.

C GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337073 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337073 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337073 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337073 precursor RNA is designated SEQ ID:141529, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141529 is located from position 69992115 to position 69992185 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337073 precursor RNA folds onto itself, forming GAM337073 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin
structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337073 precursor RNA, designated SEQ ID NO: 141529, and a schematic representation of a predicted secondary folding of GAM337073 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337073 folded precursor RNA yielding a GAM337073 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337073 RNA, hereby incorporated herein.

GAM337073 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337073 target RNA, herein designated GAM TARGET RNA.

GAM337073 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337073 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337073 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337073 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337073 RNA, herein designated GAM RNA, to target binding sites on GAM337073 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337073 target RNA into GAM337073 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337073 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337073 target genes. The mRNA of each one of this plurality of GAM337073 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337073 RNA, herein designated GAM RNA, and which when bound by GAM337073 RNA causes inhibition of translation of the GAM337073 target mRNA into a corresponding GAM337073 target protein.

The mechanism of the translational inhibition exerted by GAM337073 RNA, herein designated GAM RNA, on one or more GAM337073 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337073 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337073 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337073 RNA, herein designated GAM RNA, of GAM337073 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337073 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337073 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337073 RNA correlate with, and may be deduced from, the identity of the GAM337073 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337074 141530 TGAGACAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATCGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCCGGGAG Messenger 337074 (GAM337074) oligonucleotides modulates expression of respective target
GTGGAGGTTA genes whose function and utility is known in the art.

CGGTGAGTGA GAM337074 is a novel bioinformatically detectable regulatory, non protein
GATCGCGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337074 was detected
TTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAAGAGCGAA encoded by the human genome.

ACTCCGTCTC GAM337074 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
A GAM337074 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337074 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337074 precursor RNA is designated SEQ ID:141530, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141530 is located from position 70140212 to position 70140312 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM337074 precursor RNA folds onto itself, forming GAM337074 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337074 precursor RNA, designated SEQ ID NO: 141530, and a schematic representation of a predicted secondary folding of GAM337074 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337074 folded precursor RNA yielding a GAM337074 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337074 RNA, hereby incorporated herein. Expression of GAM337074 RNA was experimentally validated in HeLa cells using the methods

described with reference to Figs.22 to 24.

GAM337074 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337074 target RNA, herein designated GAM TARGET RNA.

GAM337074 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337074 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337074 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337074 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337074 RNA, herein designated GAM RNA, to target binding sites on GAM337074 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337074 target RNA into GAM337074 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337074 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337074 target genes. The mRNA of each one of this plurality of GAM337074 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337074 RNA, herein designated GAM RNA, and which when bound by GAM337074 RNA causes inhibition of translation of the GAM337074 target mRNA into a corresponding GAM337074 target protein.

The mechanism of the translational inhibition exerted by GAM337074 RNA, herein designated GAM RNA, on one or more GAM337074 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337074 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337074 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337074 RNA, herein designated GAM RNA, of GAM337074 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337074 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337074 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337074 RNA correlate with, and may be deduced from, the identity of the GAM337074 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337075 141531 GAGACAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AATCGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCCGGGAGG Messenger 337075 (GAM337075) oligonucleotides modulates expression of respective target
TGGAGGTTAC genes whose function and utility is known in the art.

GGTGAGTGAG GAM337075 is a novel bioinformatically detectable regulatory, non protein
ATCGCGCCAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337075 was detected
TGCACTCCAG is described with additional reference to Figs. 9-15.

CCTGGGCAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AAGAGCGAAA encoded by the human genome.

CTCCGTCTC GAM337075 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337075 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337075 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337075 precursor RNA is designated SEQ ID:141531, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141531 is located from position 70140213 to position 70140311 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM337075 precursor RNA folds onto itself, forming GAM337075 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337075 precursor RNA, designated SEQ ID NO: 141531, and a schematic representation of a predicted secondary folding of GAM337075 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337075 folded precursor RNA yielding a GAM337075 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337075 RNA, hereby incorporated herein. Expression of GAM337075 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337075 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337075 target RNA, herein designated GAM TARGET RNA.

GAM337075 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337075 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337075 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337075 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337075 RNA, herein designated GAM RNA, to target binding sites on GAM337075 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337075 target RNA into GAM337075 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337075 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337075 target genes. The mRNA of each one of this plurality of GAM337075 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337075 RNA, herein designated GAM RNA, and which when bound by GAM337075 RNA causes inhibition of translation of the GAM337075 target mRNA into a corresponding GAM337075 target protein.

The mechanism of the translational inhibition exerted by GAM337075 RNA, herein designated GAM RNA, on one or more GAM337075 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337075 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337075 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337075 RNA, herein designated GAM RNA, of GAM337075 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337075 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337075 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337075 RNA correlate with, and may be deduced from, the identity of the GAM337075 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337076 141532 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACCCGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGTGGAGG Messenger 337076 (GAM337076) oligonucleotides modulates expression of respective target
TTACGGTGAG genes whose function and utility is known in the art.

TGAGATCGCG GAM337076 is a novel bioinformatically detectable regulatory, non protein
CCATTGCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337076 was detected
CCAGCCTGGG is described with additional reference to Figs. 9-15.

CAACAAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAAACTCC encoded by the human genome.

GAM337076 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337076 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337076 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337076 precursor RNA is designated SEQ ID:141532, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141532 is located from position 70140219 to position 70140306 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM337076 precursor RNA folds onto itself, forming GAM337076 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337076 precursor RNA, designated SEQ ID NO: 141532, and a schematic representation of a predicted secondary folding of GAM337076 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337076 folded precursor RNA yielding a GAM337076 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337076 RNA, hereby incorporated herein. Expression of GAM337076 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337076 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337076 target RNA, herein designated GAM TARGET RNA.

GAM337076 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337076 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337076 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337076 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337076 RNA, herein designated GAM RNA, to target binding sites on GAM337076 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337076 target RNA into GAM337076 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337076 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337076 target genes. The mRNA of each one of this plurality of GAM337076 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM337076 RNA, herein designated GAM RNA, and which when bound by GAM337076 RNA causes inhibition of translation of the GAM337076 target mRNA into a corresponding GAM337076 target protein.

The mechanism of the translational inhibition exerted by GAM337076 RNA, herein designated GAM RNA, on one or more GAM337076 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337076 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337076 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337076 RNA, herein designated GAM RNA, of GAM337076 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337076 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337076 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337076 RNA correlate with, and may be deduced from, the identity of the GAM337076 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337077 141533 CTCTTGACCA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAGGTTCTCA detected oligonucleotides of the present invention, referred to here as Genomic Address

AATGAGGGAC Messenger 337077 (GAM337077) oligonucleotides modulates expression of respective target

ATTTTACCTG genes whose function and utility is known in the art.

CCGGGGACAT GAM337077 is a novel bioinformatically detectable regulatory, non protein

TTCCAATGTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337077 was detected

TGGGGACACT is described with additional reference to Figs. 9-15.

TTTGGTTATC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AG encoded by the human genome.

GAM337077 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337077 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337077 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337077 precursor RNA is designated SEQ ID:141533, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141533 is located from position 70161182 to position 70161263 relative to chromosome chr5 on the `+` strand (chr is an abbreviation for chromosome).

GAM337077 precursor RNA folds onto itself, forming GAM337077 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337077 precursor RNA, designated SEQ ID NO: 141533, and a schematic representation of a predicted secondary folding of GAM337077 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337077 folded precursor RNA yielding a GAM337077 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337077 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337077 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337077 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337077 target RNA, herein designated GAM TARGET RNA.

GAM337077 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337077 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337077 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337077 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337077 RNA, herein designated GAM RNA, to target

binding sites on GAM337077 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337077 target RNA into GAM337077 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337077 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337077 target genes. The mRNA of each one of this plurality of GAM337077 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337077 RNA, herein designated GAM RNA, and which when bound by GAM337077 RNA causes inhibition of translation of the GAM337077 target mRNA into a corresponding GAM337077 target protein.

The mechanism of the translational inhibition exerted by GAM337077 RNA, herein designated GAM RNA, on one or more GAM337077 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337077 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337077 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337077 RNA, herein designated GAM RNA, of GAM337077 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337077 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337077 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337077 RNA correlate with, and may be deduced from, the identity of the GAM337077 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337078 141534 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTGGAGG Messenger 337078 (GAM337078) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

CTGAGGTCAC GAM337078 is a novel bioinformatically detectable regulatory, non protein

ACCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337078 was detected

TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGACTCC encoded by the human genome.

GAM337078 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337078 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337078 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337078 precursor RNA is designated SEQ ID:141534, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141534 is located from position 70180992 to position 70181079 relative to chromosome chr5 on the `-` strand (chr is an abbreviation for chromosome).

GAM337078 precursor RNA folds onto itself, forming GAM337078 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337078 precursor RNA, designated SEQ ID NO: 141534, and a schematic representation of a predicted secondary folding of GAM337078 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337078 folded precursor RNA yielding a GAM337078 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337078 RNA, hereby incorporated herein. Expression of GAM337078 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337078 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337078 target RNA, herein designated GAM TARGET RNA.

GAM337078 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337078 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337078 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337078 RNA is a partial or fully complementary sequence of the

nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337078 RNA, herein designated GAM RNA, to target binding sites on GAM337078 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337078 target RNA into GAM337078 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337078 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337078 target genes. The mRNA of each one of this plurality of GAM337078 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337078 RNA, herein designated GAM RNA, and which when bound by GAM337078 RNA causes inhibition of translation of the GAM337078 target mRNA into a corresponding GAM337078 target protein.

The mechanism of the translational inhibition exerted by GAM337078 RNA, herein designated GAM RNA, on one or more GAM337078 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337078 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337078 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337078 RNA, herein designated GAM RNA, of GAM337078 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337078 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337078 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337078 RNA correlate with, and may be deduced from, the identity of the GAM337078 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337079 141535 TGAGGCAAGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATCACTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACTCAGGAG Messenger 337079 (GAM337079) oligonucleotides modulates expression of respective target
GTGGAGGTTG genes whose function and utility is known in the art.

CAGTGAGCCA GAM337079 is a novel bioinformatically detectable regulatory, non protein
AGATGCACCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337079 was detected
CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGAGTGAGA encoded by the human genome.

CTCTGTCTCA GAM337079 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAM337079 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337079 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337079 precursor RNA is designated SEQ ID:141535, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141535 is located from position 70204344 to position 70204443 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM337079 precursor RNA folds onto itself, forming GAM337079 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337079 precursor RNA, designated SEQ ID NO: 141535, and a schematic representation of a predicted secondary folding of GAM337079 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337079 folded precursor RNA yielding a GAM337079 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337079 RNA, hereby incorporated herein. Expression of GAM337079 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337079 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337079 target RNA, herein designated GAM TARGET RNA.

GAM337079 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337079 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337079 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337079 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337079 RNA, herein designated GAM RNA, to target binding sites on GAM337079 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337079 target RNA into GAM337079 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337079 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337079 target genes. The mRNA of each one of this plurality of GAM337079 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337079 RNA, herein designated GAM RNA, and which when bound by GAM337079 RNA causes inhibition of translation of the GAM337079 target mRNA into a corresponding GAM337079 target protein.

The mechanism of the translational inhibition exerted by GAM337079 RNA, herein designated GAM RNA, on one or more GAM337079 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337079 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337079 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337079 RNA, herein designated GAM RNA, of GAM337079 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM337079 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337079 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337079 RNA correlate with, and may be deduced from, the identity of the GAM337079 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337080 141536 GGAGGGGCCA Fig. 8 further provides a conceptual description of another novel bioinformatically
GGAGGAAATG detected oligonucleotides of the present invention, referred to here as Genomic Address
ATGAGTCTTA Messenger 337080 (GAM337080) oligonucleotides modulates expression of respective target
GTGATCTGGA genes whose function and utility is known in the art.

AACATTCCAG GAM337080 is a novel bioinformatically detectable regulatory, non protein
ACTAATTTAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337080 was detected
TATCTTCTCT is described with additional reference to Figs. 9-15.

TTTTTCCCTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
C encoded by the human genome.

GAM337080 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337080 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337080 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337080 precursor RNA is designated SEQ ID:141536, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141536 is located from position 70205172 to position 70205252 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM337080 precursor RNA folds onto itself, forming GAM337080 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337080 precursor RNA, designated SEQ ID NO: 141536, and a schematic representation of a predicted secondary folding of GAM337080 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337080 folded precursor RNA yielding a GAM337080 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337080 RNA, hereby incorporated herein.

GAM337080 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337080 target RNA, herein designated GAM TARGET RNA.

GAM337080 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337080 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337080 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337080 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337080 RNA, herein designated GAM RNA, to target binding sites on GAM337080 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337080 target RNA into GAM337080 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337080 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337080 target genes. The mRNA of each one of this plurality of GAM337080 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337080 RNA, herein designated GAM RNA, and which when bound by GAM337080 RNA causes inhibition of translation of the GAM337080 target mRNA into a corresponding GAM337080 target protein.

The mechanism of the translational inhibition exerted by GAM337080 RNA, herein designated GAM RNA, on one or more GAM337080 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337080 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337080 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337080 RNA, herein designated GAM RNA, of GAM337080 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337080 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337080 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337080 RNA correlate with, and may be deduced from, the identity of the GAM337080 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337081 141537 TGAGGCAGGA AAATCGCTTG AACCCAAGGC AGAGGTTGCA GTCAGCAGAT ATTGCACCAC TGCACTCCAG CCTGGGCAAC AAAGCAAGAC TCTGCCTCA

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337081 (GAM337081) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337081 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337081 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337081 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337081 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337081 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337081 precursor RNA is designated SEQ ID:141537, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141537 is located from position 70361144 to position 70361242 relative to chromosome chr5 on the `+` strand (chr is an abbreviation for chromosome).

GAM337081 precursor RNA folds onto itself, forming GAM337081 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337081 precursor RNA, designated SEQ ID NO: 141537, and a schematic representation of a predicted secondary folding of GAM337081 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337081 folded precursor RNA yielding a GAM337081 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337081 RNA, hereby incorporated herein. Expression of GAM337081 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337081 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337081 target RNA, herein designated GAM TARGET RNA.

GAM337081 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337081 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337081 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337081 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337081 RNA, herein designated GAM RNA, to target binding sites on GAM337081 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337081 target RNA into GAM337081 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337081 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337081 target genes. The mRNA of each one of this plurality of GAM337081 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337081 RNA, herein designated GAM RNA, and which when bound by GAM337081 RNA causes inhibition of

translation of the GAM337081 target mRNA into a corresponding GAM337081 target protein.

The mechanism of the translational inhibition exerted by GAM337081 RNA, herein designated GAM RNA, on one or more GAM337081 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337081 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337081 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337081 RNA, herein designated GAM RNA, of GAM337081 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337081 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337081 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337081 RNA correlate with, and may be deduced from, the identity of the GAM337081 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337082 141538 GAGGCAGGAA Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCCAAGGCA Messenger 337082 (GAM337082) oligonucleotides modulates expression of respective target

GAGGTTGCAG genes whose function and utility is known in the art.

TCAGCAGATA GAM337082 is a novel bioinformatically detectable regulatory, non protein

TTGCACCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337082 was detected

GCACTCCAGC is described with additional reference to Figs. 9-15.

CTGGGCAACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAGCAAGACT encoded by the human genome.

CTGCCTC GAM337082 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337082 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337082 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337082 precursor RNA is designated SEQ ID:141538, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141538 is located from position 70361145 to position 70361241 relative to chromosome chr5 on the `+` strand (chr is an abbreviation for chromosome).

GAM337082 precursor RNA folds onto itself, forming GAM337082 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337082 precursor RNA, designated SEQ ID NO: 141538, and a schematic representation of a predicted secondary folding of GAM337082 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337082 folded precursor RNA yielding a GAM337082 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337082 RNA, hereby incorporated herein. Expression of GAM337082 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337082 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337082 target RNA, herein designated GAM TARGET RNA.

GAM337082 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337082 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337082 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337082 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337082 RNA, herein designated GAM RNA, to target

binding sites on GAM337082 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337082 target RNA into GAM337082 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337082 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337082 target genes. The mRNA of each one of this plurality of GAM337082 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337082 RNA, herein designated GAM RNA, and which when bound by GAM337082 RNA causes inhibition of translation of the GAM337082 target mRNA into a corresponding GAM337082 target protein.

The mechanism of the translational inhibition exerted by GAM337082 RNA, herein designated GAM RNA, on one or more GAM337082 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337082 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337082 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337082 RNA, herein designated GAM RNA, of GAM337082 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337082 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337082 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337082 RNA correlate with, and may be deduced from, the identity of the GAM337082 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337083 141539 GGGAGGATTG Fig. 8 further provides a conceptual description of another novel bioinformatically

CTTGAGCCTG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAAGCTGGAG Messenger 337083 (GAM337083) oligonucleotides modulates expression of respective target

CCTGCAGTGA genes whose function and utility is known in the art.

ACTATCATTG GAM337083 is a novel bioinformatically detectable regulatory, non protein

TGCCACTGTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337083 was detected

CTCCAGCCTA is described with additional reference to Figs. 9-15.

GGCAACAAAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGAAATCCTG encoded by the human genome.

TC GAM337083 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337083 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337083 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337083 precursor RNA is designated SEQ ID:141539, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141539 is located from position 70411479 to position 70411570 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337083 precursor RNA folds onto itself, forming GAM337083 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337083 precursor RNA, designated SEQ ID NO: 141539, and a schematic representation of a predicted secondary folding of GAM337083 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337083 folded precursor RNA yielding a GAM337083 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337083 RNA, hereby incorporated herein.

GAM337083 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337083 target RNA, herein designated GAM TARGET RNA.

GAM337083 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337083 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337083 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337083 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337083 RNA, herein designated GAM RNA, to target binding sites on GAM337083 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337083 target RNA into GAM337083 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337083 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337083 target genes. The mRNA of each one of this plurality of GAM337083 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337083 RNA, herein designated GAM RNA, and which when bound by GAM337083 RNA causes inhibition of translation of the GAM337083 target mRNA into a corresponding GAM337083 target protein.

The mechanism of the translational inhibition exerted by GAM337083 RNA, herein designated GAM RNA, on one or more GAM337083 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337083 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337083 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337083 RNA, herein designated GAM RNA, of GAM337083 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337083 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337083 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337083 RNA correlate with, and may be deduced from, the identity of the GAM337083 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337084 141540 AGGATTGCTT Fig. 8 further provides a conceptual description of another novel bioinformatically

GAGCCTGGAA detected oligonucleotides of the present invention, referred to here as Genomic Address
GCTGGAGCCT Messenger 337084 (GAM337084) oligonucleotides modulates expression of respective target
GCAGTGAACT genes whose function and utility is known in the art.

ATCATTGTGC GAM337084 is a novel bioinformatically detectable regulatory, non protein
CACTGTACTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337084 was detected
CAGCCTAGGC is described with additional reference to Figs. 9-15.

AACAAAATGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AATCCT encoded by the human genome.

GAM337084 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337084 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337084 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337084 precursor RNA is designated SEQ ID:141540, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141540 is located from position 70411482 to position 70411567 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337084 precursor RNA folds onto itself, forming GAM337084 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337084 precursor RNA, designated SEQ ID NO: 141540, and a schematic representation of a predicted secondary folding of GAM337084 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337084 folded precursor RNA yielding a GAM337084 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337084 RNA, hereby incorporated herein.

GAM337084 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337084 target RNA, herein designated GAM TARGET RNA.

GAM337084 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337084 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337084 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337084 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337084 RNA, herein designated GAM RNA, to target binding sites on GAM337084 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337084 target RNA into GAM337084 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337084 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337084 target genes. The mRNA of each one of this plurality of GAM337084 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337084 RNA, herein designated GAM RNA, and which when bound by GAM337084 RNA causes inhibition of translation of the GAM337084 target mRNA into a corresponding GAM337084 target protein.

The mechanism of the translational inhibition exerted by GAM337084 RNA, herein designated GAM RNA, on one or more GAM337084 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337084 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337084 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337084 RNA, herein designated GAM RNA, of GAM337084 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337084 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337084 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337084 RNA correlate with, and may be deduced from, the identity of the GAM337084 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337085 141541 AGGAGTACGA Fig. 8 further provides a conceptual description of another novel bioinformatically
CGCTGTGGTA detected oligonucleotides of the present invention, referred to here as Genomic Address
GCTATGATCA Messenger 337085 (GAM337085) oligonucleotides modulates expression of respective target
TGCCACTGCA genes whose function and utility is known in the art.

CTCCAGCCTG GAM337085 is a novel bioinformatically detectable regulatory, non protein
GGTGACAGAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337085 was detected
CAAGATCTAG is described with additional reference to Figs. 9-15.

ATAATTACAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCTGTCCTGC encoded by the human genome.

TCCT GAM337085 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337085 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337085 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337085 precursor RNA is designated SEQ ID:141541, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141541 is located from position 70520489 to position 70520582 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM337085 precursor RNA folds onto itself, forming GAM337085 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337085 precursor RNA, designated SEQ ID NO: 141541, and a schematic representation of a predicted secondary folding of GAM337085 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337085 folded precursor RNA yielding a GAM337085 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337085 RNA, hereby incorporated herein.

GAM337085 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337085 target RNA, herein designated GAM TARGET RNA.

GAM337085 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337085 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337085 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337085 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337085 RNA, herein designated GAM RNA, to target binding sites on GAM337085 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337085 target RNA into GAM337085 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337085 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337085 target genes. The mRNA of each one of this plurality of GAM337085 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337085 RNA, herein designated GAM RNA, and which when bound by GAM337085 RNA causes inhibition of translation of the GAM337085 target mRNA into a corresponding GAM337085 target protein.

The mechanism of the translational inhibition exerted by GAM337085 RNA, herein designated GAM RNA, on one or more GAM337085 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337085 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337085 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337085 RNA, herein designated GAM RNA, of GAM337085 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337085 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337085 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337085 RNA correlate with, and may be deduced from, the identity of the GAM337085 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337086 141542 GGAGTACGAC Fig. 8 further provides a conceptual description of another novel bioinformatically
GCTGTGGTAG detected oligonucleotides of the present invention, referred to here as Genomic Address
CTATGATCAT Messenger 337086 (GAM337086) oligonucleotides modulates expression of respective target
GCCACTGCAC genes whose function and utility is known in the art.

TCCAGCCTGG GAM337086 is a novel bioinformatically detectable regulatory, non protein
GTGACAGAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337086 was detected
AAGATCTAGA is described with additional reference to Figs. 9-15.

TAATTACAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTGTCCTGCT encoded by the human genome.

CC GAM337086 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337086 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337086 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337086 precursor RNA is designated SEQ ID:141542, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141542 is located from position 70520490 to position 70520581 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM337086 precursor RNA folds onto itself, forming GAM337086 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337086 precursor RNA, designated SEQ ID NO: 141542, and a schematic representation of a predicted secondary folding of GAM337086 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337086 folded precursor RNA yielding a GAM337086 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337086 RNA, hereby incorporated herein.

GAM337086 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337086 target RNA, herein designated GAM TARGET RNA.

GAM337086 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337086 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337086 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337086 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337086 RNA, herein designated GAM RNA, to target binding sites on GAM337086 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337086 target RNA into GAM337086 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337086 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337086 target genes. The mRNA of each one of this plurality of GAM337086 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337086 RNA, herein designated GAM RNA, and which when bound by GAM337086 RNA causes inhibition of translation of the GAM337086 target mRNA into a corresponding GAM337086 target protein.

The mechanism of the translational inhibition exerted by GAM337086 RNA, herein designated GAM RNA, on one or more GAM337086 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337086 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM337086 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337086 RNA, herein designated GAM RNA, of GAM337086 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337086 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337086 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337086 RNA correlate with, and may be deduced from, the identity of the GAM337086 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337087 141543 GCAGGAGGAT Fig. 8 further provides a conceptual description of another novel bioinformatically
TGCTTGAGCC detected oligonucleotides of the present invention, referred to here as Genomic Address
CAGGAGTTCA Messenger 337087 (GAM337087) oligonucleotides modulates expression of respective target
AGGCTACAAT genes whose function and utility is known in the art.

GAGCTATGAT GAM337087 is a novel bioinformatically detectable regulatory, non protein
CACACTACTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337087 was detected
CACTCCAGCC is described with additional reference to Figs. 9-15.

TGGGCAACAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGCAAGACCC encoded by the human genome.

TGT GAM337087 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337087 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337087 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337087 precursor RNA is designated SEQ ID:141543, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141543 is located from position 70589904 to position 70589996 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337087 precursor RNA folds onto itself, forming GAM337087 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337087 precursor RNA, designated SEQ ID NO: 141543, and a schematic representation of a predicted secondary folding of GAM337087 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337087 folded precursor RNA yielding a GAM337087 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337087 RNA, hereby incorporated herein.

GAM337087 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337087 target RNA, herein designated GAM TARGET RNA.

GAM337087 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337087 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337087 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337087 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337087 RNA, herein designated GAM RNA, to target binding sites on GAM337087 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337087 target RNA into GAM337087 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337087 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337087 target genes. The mRNA of each one of this plurality of GAM337087 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337087 RNA, herein designated GAM RNA, and which when bound by GAM337087 RNA causes inhibition of translation of the GAM337087 target mRNA into a corresponding GAM337087 target protein.

The mechanism of the translational inhibition exerted by GAM337087 RNA, herein designated GAM RNA, on one or more GAM337087 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337087 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337087 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337087 RNA, herein designated GAM RNA, of GAM337087 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337087 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337087 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337087 RNA correlate with, and may be deduced from, the identity of the GAM337087 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337088 141544 AGTCCTCTTA Fig. 8 further provides a conceptual description of another novel bioinformatically

TGCTGTTGAC detected oligonucleotides of the present invention, referred to here as Genomic Address

ATTTCCCCAT Messenger 337088 (GAM337088) oligonucleotides modulates expression of respective target

GTGATGCTAT genes whose function and utility is known in the art.

TGCTTCTCTT GAM337088 is a novel bioinformatically detectable regulatory, non protein

TGGAGGCTAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337088 was detected

GCAGTAAATG is described with additional reference to Figs. 9-15.

GGGTTAACAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAAGGGCT encoded by the human genome.

GAM337088 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337088 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337088 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337088 precursor RNA is designated SEQ

ID:141544, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141544 is located from position 70649160 to position 70649247 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337088 precursor RNA folds onto itself, forming GAM337088 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337088 precursor RNA, designated SEQ ID NO: 141544, and a schematic representation of a predicted secondary folding of GAM337088 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337088 folded precursor RNA yielding a GAM337088 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337088 RNA, hereby incorporated herein.

GAM337088 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337088 target RNA, herein designated GAM TARGET RNA.

GAM337088 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337088 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337088 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337088 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337088 RNA, herein designated GAM RNA, to target binding sites on GAM337088 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337088 target RNA into GAM337088 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM337088 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337088 target genes. The mRNA of each one of this plurality of GAM337088 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337088 RNA, herein designated GAM RNA, and which when bound by GAM337088 RNA causes inhibition of translation of the GAM337088 target mRNA into a corresponding GAM337088 target protein.

The mechanism of the translational inhibition exerted by GAM337088 RNA, herein designated GAM RNA, on one or more GAM337088 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337088 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337088 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337088 RNA, herein designated GAM RNA, of GAM337088 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337088 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337088 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337088 RNA correlate with, and may be deduced from, the identity of the GAM337088 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337089 141545 TGCTGTTGAC Fig. 8 further provides a conceptual description of another novel bioinformatically

ATTTCCCCAT detected oligonucleotides of the present invention, referred to here as Genomic Address

GTGATGCTAT Messenger 337089 (GAM337089) oligonucleotides modulates expression of respective target

TGCTTCTCTT genes whose function and utility is known in the art.

TGGAGGCTAA GAM337089 is a novel bioinformatically detectable regulatory, non protein

GCAGTAAATG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337089 was detected

GGGTTAACAG is described with additional reference to Figs. 9-15.

CA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337089 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337089 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337089 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337089 precursor RNA is designated SEQ ID:141545, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141545 is located from position 70649166 to position 70649237 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337089 precursor RNA folds onto itself, forming GAM337089 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337089 precursor RNA, designated SEQ ID NO: 141545, and a schematic representation of a predicted secondary folding of GAM337089 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337089 folded precursor RNA yielding a GAM337089 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337089 RNA, hereby incorporated herein.

GAM337089 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337089 target RNA, herein designated GAM TARGET RNA.

GAM337089 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337089 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337089 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337089 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337089 RNA, herein designated GAM RNA, to target binding sites on GAM337089 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337089 target RNA into GAM337089 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337089 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337089 target genes. The mRNA of each one of this plurality of GAM337089 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337089 RNA, herein designated GAM RNA, and which when bound by GAM337089 RNA causes inhibition of translation of the GAM337089 target mRNA into a corresponding GAM337089 target protein.

The mechanism of the translational inhibition exerted by GAM337089 RNA, herein designated GAM RNA, on one or more GAM337089 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337089 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337089 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337089 RNA, herein designated GAM RNA, of GAM337089 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337089 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337089 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337089 RNA correlate with, and may be deduced from, the identity of the GAM337089 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337090 141546 TGTTGATATG Fig. 8 further provides a conceptual description of another novel bioinformatically

TGGCAGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

GGGTTGCAAG Messenger 337090 (GAM337090) oligonucleotides modulates expression of respective target

AGAGAGTAGA genes whose function and utility is known in the art.

AGCATGCAAG GAM337090 is a novel bioinformatically detectable regulatory, non protein
GCCTCCTCAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337090 was detected
GCTTTGACTC is described with additional reference to Figs. 9-15.

AGAAATGGAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CGATGTCACT encoded by the human genome.

TCTGCCATAT GAM337090 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GCTATTGGCA GAM337090 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337090 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337090 precursor RNA is designated SEQ ID:141546, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141546 is located from position 70660876 to position 70660985 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM337090 precursor RNA folds onto itself, forming GAM337090 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337090 precursor RNA, designated SEQ ID NO: 141546, and a schematic representation of a predicted secondary folding of GAM337090 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337090 folded precursor RNA yielding a GAM337090 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337090 RNA, hereby incorporated herein.

GAM337090 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337090 target RNA, herein designated GAM TARGET RNA.

GAM337090 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337090 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM337090 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337090 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337090 RNA, herein designated GAM RNA, to target binding sites on GAM337090 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337090 target RNA into GAM337090 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337090 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337090 target genes. The mRNA of each one of this plurality of GAM337090 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337090 RNA, herein designated GAM RNA, and which when bound by GAM337090 RNA causes inhibition of translation of the GAM337090 target mRNA into a corresponding GAM337090 target protein.

The mechanism of the translational inhibition exerted by GAM337090 RNA, herein designated GAM RNA, on one or more GAM337090 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337090 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337090 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337090 RNA, herein designated GAM RNA, of GAM337090 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337090 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337090 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337090 RNA correlate with, and may be deduced from, the identity of the GAM337090 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337091 141547 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATGGCGTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCCGGGAG Messenger 337091 (GAM337091) oligonucleotides modulates expression of respective target
GCGGAGCTTG genes whose function and utility is known in the art.

CAGTGAGCCG GAM337091 is a novel bioinformatically detectable regulatory, non protein
AGATCGCGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337091 was detected
ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAGAGTGAG encoded by the human genome.

ACTCCGTCTC GAM337091 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
A GAM337091 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337091 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337091 precursor RNA is designated SEQ ID:141547, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141547 is located from position 70793499 to position 70793599 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337091 precursor RNA folds onto itself, forming GAM337091 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337091 precursor RNA, designated SEQ ID NO: 141547, and a schematic representation of a predicted secondary folding of GAM337091 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337091 folded precursor RNA yielding a GAM337091 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337091 RNA, hereby incorporated herein.

Expression of GAM337091 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337091 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337091 target RNA, herein designated GAM TARGET RNA.

GAM337091 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337091 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337091 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337091 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337091 RNA, herein designated GAM RNA, to target binding sites on GAM337091 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337091 target RNA into GAM337091 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337091 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337091 target genes. The mRNA of each one of this plurality of GAM337091 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337091 RNA, herein designated GAM RNA, and which when bound by GAM337091 RNA causes inhibition of translation of the GAM337091 target mRNA into a corresponding GAM337091 target protein.

The mechanism of the translational inhibition exerted by GAM337091 RNA, herein designated GAM RNA, on one or more GAM337091 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337091 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337091 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337091 RNA, herein designated GAM RNA, of GAM337091 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337091 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337091 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337091 RNA correlate with, and may be deduced from, the identity of the GAM337091 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337092 141548 AGTTTTAGGG TACATGTGCA CAACATGCAG GTTTGTTACA TATGTATACA TGTGCCATGT TGGTGTGCTG CACCCATTAA CT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337092 (GAM337092) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337092 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337092 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337092 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337092 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337092 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337092 precursor RNA is designated SEQ ID:141548, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141548 is located from position 70852306 to position 70852387 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM337092 precursor RNA folds onto itself, forming GAM337092 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337092 precursor RNA, designated SEQ ID NO: 141548, and a schematic representation of a predicted secondary folding of GAM337092 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337092 folded precursor RNA yielding a GAM337092 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337092 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337092 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337092 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337092 target RNA, herein designated GAM TARGET RNA.

GAM337092 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337092 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337092 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337092 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337092 RNA, herein designated GAM RNA, to target binding sites on GAM337092 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337092 target RNA into GAM337092 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337092 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337092 target genes. The mRNA of each one of this plurality of GAM337092 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337092 RNA, herein designated GAM RNA, and which when bound by GAM337092 RNA causes inhibition of translation of the GAM337092 target mRNA into a corresponding GAM337092 target protein.

The mechanism of the translational inhibition exerted by GAM337092 RNA, herein designated GAM RNA, on one or more GAM337092 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337092 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337092 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337092 RNA, herein designated GAM RNA, of GAM337092 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337092 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337092 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337092 RNA correlate with, and may be deduced from, the identity of the GAM337092 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337093 141549 GGGGCTTCTT Fig. 8 further provides a conceptual description of another novel bioinformatically

CCCTGGCAGG detected oligonucleotides of the present invention, referred to here as Genomic Address

ATTCCTGGGA Messenger 337093 (GAM337093) oligonucleotides modulates expression of respective target

TTTCAAACTA genes whose function and utility is known in the art.

CCTCACCAAC GAM337093 is a novel bioinformatically detectable regulatory, non protein

AGGACGCTGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337093 was detected

ACCAGGAGCC is described with additional reference to Figs. 9-15.

TGCCACCCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTGGCCCC encoded by the human genome.

GAM337093 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337093 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337093 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337093 precursor RNA is designated SEQ ID:141549, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141549 is located from position 71022428 to position 71022515 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM337093 precursor RNA folds onto itself, forming GAM337093 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337093 precursor RNA, designated SEQ ID NO: 141549, and a schematic representation of a predicted secondary folding of GAM337093 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337093 folded precursor RNA yielding a GAM337093 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337093 RNA, hereby incorporated herein.

GAM337093 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337093 target RNA, herein designated GAM TARGET RNA.

GAM337093 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337093 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337093 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337093 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337093 RNA, herein designated GAM RNA, to target binding sites on GAM337093 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337093 target RNA into GAM337093 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337093 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337093 target genes. The mRNA of each one of this plurality of GAM337093 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337093 RNA, herein designated GAM RNA, and which when bound by GAM337093 RNA causes inhibition of

translation of the GAM337093 target mRNA into a corresponding GAM337093 target protein.

The mechanism of the translational inhibition exerted by GAM337093 RNA, herein designated GAM RNA, on one or more GAM337093 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337093 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337093 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337093 RNA, herein designated GAM RNA, of GAM337093 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337093 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337093 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337093 RNA correlate with, and may be deduced from, the identity of the GAM337093 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337094 141550 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337094 (GAM337094) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337094 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337094 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM337094 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337094 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337094 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM337094 precursor RNA is designated SEQ ID:141550, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141550 is located from position 71135679 to position 71135760 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM337094 precursor RNA folds onto itself, forming GAM337094 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337094 precursor RNA, designated SEQ ID NO: 141550, and a schematic representation of a predicted secondary folding of GAM337094 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337094 folded precursor RNA yielding a GAM337094 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337094 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337094 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337094 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337094 target RNA, herein designated GAM TARGET RNA.

GAM337094 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337094 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337094 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337094 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337094 RNA, herein designated GAM RNA, to target binding sites on GAM337094 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337094 target RNA into GAM337094 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337094 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337094 target genes. The mRNA of each one of this plurality of GAM337094 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337094 RNA, herein designated GAM RNA, and which when bound by GAM337094 RNA causes inhibition of translation of the GAM337094 target mRNA into a corresponding GAM337094 target protein.

The mechanism of the translational inhibition exerted by GAM337094 RNA, herein designated GAM RNA, on one or more GAM337094 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337094 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337094 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337094 RNA, herein designated GAM RNA, of GAM337094 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337094 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337094 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337094 RNA correlate with, and may be deduced from, the identity of the GAM337094 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337095 141551 GCTTGGCATC Fig. 8 further provides a conceptual description of another novel bioinformatically

AGTTTCATTT detected oligonucleotides of the present invention, referred to here as Genomic Address

TGCAAAACAT Messenger 337095 (GAM337095) oligonucleotides modulates expression of respective target

GGCTTTGATA genes whose function and utility is known in the art.

ATTGCATCAG GAM337095 is a novel bioinformatically detectable regulatory, non protein

ATCTGCAAGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337095 was detected

CTGTGTAGGC is described with additional reference to Figs. 9-15.

AGAATTCTTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTGCCAAGT encoded by the human genome.

GAM337095 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337095 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337095 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337095 precursor RNA is designated SEQ ID:141551, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141551 is located from position 71404046 to position 71404134 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM337095 precursor RNA folds onto itself, forming GAM337095 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337095 precursor RNA, designated SEQ ID NO: 141551, and a schematic representation of a predicted secondary folding of GAM337095 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337095 folded precursor RNA yielding a GAM337095 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337095 RNA, hereby incorporated herein.

GAM337095 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337095 target RNA, herein designated GAM TARGET RNA.

GAM337095 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337095 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337095 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337095 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337095 RNA, herein designated GAM RNA, to target binding sites on GAM337095 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337095 target RNA into GAM337095 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337095 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337095 target genes. The mRNA of each one of this plurality of GAM337095 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337095 RNA, herein designated GAM RNA, and which when bound by GAM337095 RNA causes inhibition of translation of the GAM337095 target mRNA into a corresponding GAM337095 target protein.

The mechanism of the translational inhibition exerted by GAM337095 RNA, herein designated GAM RNA, on one or more GAM337095 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337095 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337095 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337095 RNA, herein designated GAM RNA, of GAM337095 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337095 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337095 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337095 RNA correlate with, and may be deduced from, the identity of the GAM337095 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337096 141552 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCACTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCCGGGAGG Messenger 337096 (GAM337096) oligonucleotides modulates expression of respective target
CTGAGGGTAC genes whose function and utility is known in the art.

AGTGAGCCGA GAM337096 is a novel bioinformatically detectable regulatory, non protein
GATCATGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337096 was detected
CTGCACTCTA is described with additional reference to Figs. 9-15.

GCCTCGGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CCGAAGGAGA encoded by the human genome.

CTCTGTCTC GAM337096 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337096 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337096 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337096 precursor RNA is designated SEQ ID:141552, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141552 is located from position 71522779 to position 71522877 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337096 precursor RNA folds onto itself, forming GAM337096 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337096 precursor RNA, designated SEQ ID NO: 141552, and a schematic representation of a predicted secondary folding of GAM337096 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337096 folded precursor RNA yielding a GAM337096 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337096 RNA, hereby incorporated herein.

GAM337096 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337096 target RNA, herein designated GAM TARGET RNA.

GAM337096 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337096 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337096 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337096 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337096 RNA, herein designated GAM RNA, to target binding sites on GAM337096 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337096 target RNA into GAM337096 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337096 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337096 target genes. The mRNA of each one of this plurality of GAM337096 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337096 RNA, herein designated GAM RNA, and which when bound by GAM337096 RNA causes inhibition of translation of the GAM337096 target mRNA into a corresponding GAM337096 target protein.

The mechanism of the translational inhibition exerted by GAM337096 RNA, herein designated GAM RNA, on one or more GAM337096 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337096 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337096 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337096 RNA, herein designated GAM RNA, of GAM337096 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337096 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337096 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337096 RNA correlate with, and may be deduced from, the identity of the GAM337096 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337097 141553 GCTAGTGTGG Fig. 8 further provides a conceptual description of another novel bioinformatically
ACACACAGCT detected oligonucleotides of the present invention, referred to here as Genomic Address
CTTGGAAAGC Messenger 337097 (GAM337097) oligonucleotides modulates expression of respective target
ATGTACATTT genes whose function and utility is known in the art.

GGAGGATATA GAM337097 is a novel bioinformatically detectable regulatory, non protein
GTGTCTTCTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337097 was detected
AATAATTATA is described with additional reference to Figs. 9-15.

CACTTTCTAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGAGTAGGG encoded by the human genome.

TGGCTTACAG GAM337097 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TGGC GAM337097 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337097 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337097 precursor RNA is designated SEQ ID:141553, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141553 is located from position 71688944 to position 71689047 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM337097 precursor RNA folds onto itself, forming GAM337097 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337097 precursor RNA, designated SEQ ID NO: 141553, and a schematic representation of a predicted secondary folding of GAM337097 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337097 folded precursor RNA yielding a GAM337097 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337097 RNA, hereby incorporated herein.

GAM337097 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337097 target RNA, herein designated GAM TARGET RNA.

GAM337097 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337097 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337097 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337097 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337097 RNA, herein designated GAM RNA, to target binding sites on GAM337097 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337097 target RNA into GAM337097 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337097 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337097 target genes. The mRNA of each one of this plurality of GAM337097 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337097 RNA, herein designated GAM RNA, and which when bound by GAM337097 RNA causes inhibition of translation of the GAM337097 target mRNA into a corresponding GAM337097 target protein.

The mechanism of the translational inhibition exerted by GAM337097 RNA, herein designated GAM RNA, on one or more GAM337097 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337097 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337097 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337097 RNA, herein designated GAM RNA, of GAM337097 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337097 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337097 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337097 RNA correlate with, and may be deduced from, the identity of the GAM337097 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337098 141554 TCTTTTCTTT Fig. 8 further provides a conceptual description of another novel bioinformatically
GGTAGGCTAG detected oligonucleotides of the present invention, referred to here as Genomic Address
CCTTCGAGAC Messenger 337098 (GAM337098) oligonucleotides modulates expression of respective target
TGCATTACCC genes whose function and utility is known in the art.

TCCCCAACTT GAM337098 is a novel bioinformatically detectable regulatory, non protein
AAAATCTTTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337098 was detected
GATAACCCAG is described with additional reference to Figs. 9-15.

GCAGCTGGGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TATCCCCAAT encoded by the human genome.

TTAAAGTCTT GAM337098 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TTTGTTGTAG GAM337098 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
CTGTATGGCA GAM337098 precursor RNA does not encode a protein. A nucleotide sequence identical or

TTTATCTAGA highly similar to the nucleotide sequence of GAM337098 precursor RNA is designated SEQ

ID:141554, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141554 is located from position 71710852 to position 71710981 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM337098 precursor RNA folds onto itself, forming GAM337098 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337098 precursor RNA, designated SEQ ID NO: 141554, and a schematic representation of a predicted secondary folding of GAM337098 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337098 folded precursor RNA yielding a GAM337098 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337098 RNA, hereby incorporated herein.

GAM337098 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337098 target RNA, herein designated GAM TARGET RNA.

GAM337098 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337098 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337098 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337098 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337098 RNA, herein designated GAM RNA, to target binding sites on GAM337098 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337098 target RNA into GAM337098 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337098 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337098 target genes. The mRNA of each one of this plurality of GAM337098 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337098 RNA, herein designated GAM RNA, and which when bound by GAM337098 RNA causes inhibition of translation of the GAM337098 target mRNA into a corresponding GAM337098 target protein.

The mechanism of the translational inhibition exerted by GAM337098 RNA, herein designated GAM RNA, on one or more GAM337098 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337098 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337098 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337098 RNA, herein designated GAM RNA, of GAM337098 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337098 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337098 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337098 RNA correlate with, and may be deduced from, the identity of the GAM337098 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337099 141555 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337099 (GAM337099) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337099 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337099 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM337099 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337099 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337099 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337099 precursor RNA is designated SEQ ID:141555, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141555 is located from position 71711305 to position 71711386 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM337099 precursor RNA folds onto itself, forming GAM337099 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337099 precursor RNA, designated SEQ ID NO: 141555, and a schematic representation of a predicted secondary folding of GAM337099 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337099 folded precursor RNA yielding a GAM337099 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337099 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337099 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337099 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337099 target RNA, herein designated GAM TARGET RNA.

GAM337099 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337099 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337099 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337099 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337099 RNA, herein designated GAM RNA, to target binding sites on GAM337099 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337099 target RNA into GAM337099 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337099 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337099 target genes. The mRNA of each one of this plurality of GAM337099 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337099 RNA, herein designated GAM RNA, and which when bound by GAM337099 RNA causes inhibition of translation of the GAM337099 target mRNA into a corresponding GAM337099 target protein.

The mechanism of the translational inhibition exerted by GAM337099 RNA, herein designated GAM RNA, on one or more GAM337099 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337099 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337099 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337099 RNA, herein designated GAM RNA, of GAM337099 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337099 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337099 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337099 RNA correlate with, and may be deduced from, the identity of the GAM337099 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337100 141556 GCTTGGTATG Fig. 8 further provides a conceptual description of another novel bioinformatically

CTCAGAAGCT detected oligonucleotides of the present invention, referred to here as Genomic Address

GCTAAAGTGT Messenger 337100 (GAM337100) oligonucleotides modulates expression of respective target

GTATGGGCAG genes whose function and utility is known in the art.

GTGTGGGGGC GAM337100 is a novel bioinformatically detectable regulatory, non protein

AATTTCTTGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337100 was detected

TCCTAGCACT is described with additional reference to Figs. 9-15.

TCCATATATC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GACTTTCTTT encoded by the human genome.

TCTGGCTGCT GAM337100 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

AAGT GAM337100 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337100 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337100 precursor RNA is designated SEQ ID:141556, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141556 is located from position 71825337 to position 71825440 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM337100 precursor RNA folds onto itself, forming GAM337100 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337100 precursor RNA, designated SEQ ID NO: 141556, and a schematic representation of a predicted secondary folding of GAM337100 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337100 folded precursor RNA yielding a GAM337100 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337100 RNA, hereby incorporated herein.

GAM337100 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337100 target RNA, herein designated GAM TARGET RNA.

GAM337100 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337100 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337100 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337100 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337100 RNA, herein designated GAM RNA, to target binding sites on GAM337100 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337100 target RNA into GAM337100 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337100 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337100 target genes. The mRNA of each one of this plurality of GAM337100 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337100 RNA, herein designated GAM RNA, and which when bound by GAM337100 RNA causes inhibition of translation of the GAM337100 target mRNA into a corresponding GAM337100 target protein.

The mechanism of the translational inhibition exerted by GAM337100 RNA, herein designated GAM RNA, on one or more GAM337100 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337100 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337100 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337100 RNA, herein designated GAM RNA, of GAM337100 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337100 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337100 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337100 RNA correlate with, and may be deduced from, the identity of the GAM337100 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337101 141557 GTAGAGAACC Fig. 8 further provides a conceptual description of another novel bioinformatically

TCATCATGAG detected oligonucleotides of the present invention, referred to here as Genomic Address

ATTTGAGAAT Messenger 337101 (GAM337101) oligonucleotides modulates expression of respective target

AGCTTTAGAG genes whose function and utility is known in the art.

TTACTCTTGG GAM337101 is a novel bioinformatically detectable regulatory, non protein
GATAGTGTCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337101 was detected
CATGGCCCTG is described with additional reference to Figs. 9-15.

TGAGGGAACT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTAC encoded by the human genome.

GAM337101 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337101 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337101 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337101 precursor RNA is designated SEQ ID:141557, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141557 is located from position 71906731 to position 71906814 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337101 precursor RNA folds onto itself, forming GAM337101 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337101 precursor RNA, designated SEQ ID NO: 141557, and a schematic representation of a predicted secondary folding of GAM337101 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337101 folded precursor RNA yielding a GAM337101 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337101 RNA, hereby incorporated herein.

GAM337101 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337101 target RNA, herein designated GAM TARGET RNA.

GAM337101 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337101 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337101 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337101 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337101 RNA, herein designated GAM RNA, to target binding sites on GAM337101 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337101 target RNA into GAM337101 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337101 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337101 target genes. The mRNA of each one of this plurality of GAM337101 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337101 RNA, herein designated GAM RNA, and which when bound by GAM337101 RNA causes inhibition of translation of the GAM337101 target mRNA into a corresponding GAM337101 target protein.

The mechanism of the translational inhibition exerted by GAM337101 RNA, herein designated GAM RNA, on one or more GAM337101 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337101 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337101 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337101 RNA, herein designated GAM RNA, of GAM337101 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337101 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337101 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337101 RNA correlate with, and may be deduced from, the identity of the GAM337101 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337102 141558 CAGGAGTACG Fig. 8 further provides a conceptual description of another novel bioinformatically
ACGCTGTGGT detected oligonucleotides of the present invention, referred to here as Genomic Address
AGCTATGATC Messenger 337102 (GAM337102) oligonucleotides modulates expression of respective target
ATGCCACTGC genes whose function and utility is known in the art.

ACTCCAGCCT GAM337102 is a novel bioinformatically detectable regulatory, non protein
GGGTGACAGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337102 was detected
GCAAGATCTA is described with additional reference to Figs. 9-15.

GATAATTACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTCTGTCCTG encoded by the human genome.

CTCCTG GAM337102 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337102 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337102 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337102 precursor RNA is designated SEQ ID:141558, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141558 is located from position 71953197 to position 71953292 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM337102 precursor RNA folds onto itself, forming GAM337102 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337102 precursor RNA, designated SEQ ID NO: 141558, and a schematic representation of a predicted secondary folding of GAM337102 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337102 folded precursor RNA yielding a GAM337102 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337102 RNA, hereby incorporated herein.

GAM337102 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337102 target RNA, herein designated GAM TARGET RNA.

GAM337102 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337102 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337102 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337102 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337102 RNA, herein designated GAM RNA, to target binding sites on GAM337102 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337102 target RNA into GAM337102 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337102 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337102 target genes. The mRNA of each one of this plurality of GAM337102 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337102 RNA, herein designated GAM RNA, and which when bound by GAM337102 RNA causes inhibition of translation of the GAM337102 target mRNA into a corresponding GAM337102 target protein.

The mechanism of the translational inhibition exerted by GAM337102 RNA, herein designated GAM RNA, on one or more GAM337102 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337102 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337102 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337102 RNA, herein designated GAM RNA, of GAM337102 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM337102 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337102 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337102 RNA correlate with, and may be deduced from, the identity of the GAM337102 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337103 141559 AGGAGTACGA Fig. 8 further provides a conceptual description of another novel bioinformatically
CGCTGTGGTA detected oligonucleotides of the present invention, referred to here as Genomic Address
GCTATGATCA Messenger 337103 (GAM337103) oligonucleotides modulates expression of respective target
TGCCACTGCA genes whose function and utility is known in the art.

CTCCAGCCTG GAM337103 is a novel bioinformatically detectable regulatory, non protein
GGTGACAGAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337103 was detected
CAAGATCTAG is described with additional reference to Figs. 9-15.

ATAATTACAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCTGTCCTGC encoded by the human genome.

TCCT GAM337103 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337103 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337103 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337103 precursor RNA is designated SEQ ID:141559, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141559 is located from position 71953198 to position 71953291 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM337103 precursor RNA folds onto itself, forming GAM337103 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337103 precursor RNA, designated SEQ ID NO: 141559, and a schematic representation of a predicted secondary folding of GAM337103 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337103 folded precursor RNA yielding a GAM337103 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337103 RNA, hereby incorporated herein.

GAM337103 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337103 target RNA, herein designated GAM TARGET RNA.

GAM337103 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337103 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337103 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337103 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337103 RNA, herein designated GAM RNA, to target binding sites on GAM337103 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337103 target RNA into GAM337103 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337103 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337103 target genes. The mRNA of each one of this plurality of GAM337103 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337103 RNA, herein designated GAM RNA, and which when bound by GAM337103 RNA causes inhibition of translation of the GAM337103 target mRNA into a corresponding GAM337103 target protein.

The mechanism of the translational inhibition exerted by GAM337103 RNA, herein designated GAM RNA, on one or more GAM337103 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337103 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337103 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337103 RNA, herein designated GAM RNA, of GAM337103 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337103 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337103 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337103 RNA correlate with, and may be deduced from, the identity of the GAM337103 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337104 141560 GGAGTACGAC Fig. 8 further provides a conceptual description of another novel bioinformatically
GCTGTGGTAG detected oligonucleotides of the present invention, referred to here as Genomic Address
CTATGATCAT Messenger 337104 (GAM337104) oligonucleotides modulates expression of respective target
GCCACTGCAC genes whose function and utility is known in the art.

TCCAGCCTGG GAM337104 is a novel bioinformatically detectable regulatory, non protein
GTGACAGAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337104 was detected
AAGATCTAGA is described with additional reference to Figs. 9-15.

TAATTACAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTGTCCTGCT encoded by the human genome.

CC GAM337104 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337104 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337104 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337104 precursor RNA is designated SEQ ID:141560, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141560 is located from position 71953199 to position 71953290 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM337104 precursor RNA folds onto itself, forming GAM337104 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337104 precursor RNA, designated SEQ ID NO: 141560, and a schematic representation of a predicted secondary folding of GAM337104 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337104 folded precursor RNA yielding a GAM337104 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337104 RNA, hereby incorporated herein.

GAM337104 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337104 target RNA, herein designated GAM TARGET RNA.

GAM337104 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337104 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337104 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337104 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337104 RNA, herein designated GAM RNA, to target binding sites on GAM337104 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337104 target RNA into GAM337104 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337104 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337104 target genes. The mRNA of each one of this plurality of GAM337104 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337104 RNA, herein designated GAM RNA, and which when bound by GAM337104 RNA causes inhibition of translation of the GAM337104 target mRNA into a corresponding GAM337104 target protein.

The mechanism of the translational inhibition exerted by GAM337104 RNA, herein designated GAM RNA, on one or more GAM337104 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337104 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337104 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337104 RNA, herein designated GAM RNA, of GAM337104 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337104 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337104 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337104 RNA correlate with, and may be deduced from, the identity of the GAM337104 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337105 141561 GGGCCAAAAA Fig. 8 further provides a conceptual description of another novel bioinformatically

TTCAAGATGC detected oligonucleotides of the present invention, referred to here as Genomic Address

TCATTTGCAA Messenger 337105 (GAM337105) oligonucleotides modulates expression of respective target

GTTGTCTTCT genes whose function and utility is known in the art.

AGGGTGTTGC GAM337105 is a novel bioinformatically detectable regulatory, non protein

CTGAACCTAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337105 was detected

GCTGCAGTAG is described with additional reference to Figs. 9-15.

AAGTGGGGCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGGAGGTAGG encoded by the human genome.

CGATATTGAA GAM337105 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

ATCCC GAM337105 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337105 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337105 precursor RNA is designated SEQ

ID:141561, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141561 is located from position 71960660 to position 71960764 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM337105 precursor RNA folds onto itself, forming GAM337105 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337105 precursor RNA, designated SEQ ID NO: 141561, and a schematic representation of a predicted secondary folding of GAM337105 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337105 folded precursor RNA yielding a GAM337105 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337105 RNA, hereby incorporated herein.

GAM337105 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337105 target RNA, herein designated GAM TARGET RNA.

GAM337105 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337105 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337105 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337105 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337105 RNA, herein designated GAM RNA, to target binding sites on GAM337105 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337105 target RNA into GAM337105 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM337105 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337105 target genes. The mRNA of each one of this plurality of GAM337105 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337105 RNA, herein designated GAM RNA, and which when bound by GAM337105 RNA causes inhibition of translation of the GAM337105 target mRNA into a corresponding GAM337105 target protein.

The mechanism of the translational inhibition exerted by GAM337105 RNA, herein designated GAM RNA, on one or more GAM337105 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337105 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337105 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337105 RNA, herein designated GAM RNA, of GAM337105 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337105 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337105 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337105 RNA correlate with, and may be deduced from, the identity of the GAM337105 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337106 141562 CAGCTTGCAG Fig. 8 further provides a conceptual description of another novel bioinformatically

CACACACAGC detected oligonucleotides of the present invention, referred to here as Genomic Address

ATTGGTCATG Messenger 337106 (GAM337106) oligonucleotides modulates expression of respective target

AGGTCAGCTG genes whose function and utility is known in the art.

CTCTCTGACC GAM337106 is a novel bioinformatically detectable regulatory, non protein

CACTTGCTCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337106 was detected

GAGTTGTTTG is described with additional reference to Figs. 9-15.

CTGCCTGTTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337106 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337106 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337106 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337106 precursor RNA is designated SEQ ID:141562, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141562 is located from position 72006752 to position 72006831 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM337106 precursor RNA folds onto itself, forming GAM337106 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337106 precursor RNA, designated SEQ ID NO: 141562, and a schematic representation of a predicted secondary folding of GAM337106 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337106 folded precursor RNA yielding a GAM337106 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337106 RNA, hereby incorporated herein.

GAM337106 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337106 target RNA, herein designated GAM TARGET RNA.

GAM337106 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337106 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337106 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337106 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337106 RNA, herein designated GAM RNA, to target binding sites on GAM337106 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337106 target RNA into GAM337106 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337106 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337106 target genes. The mRNA of each one of this plurality of GAM337106 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337106 RNA, herein designated GAM RNA, and which when bound by GAM337106 RNA causes inhibition of translation of the GAM337106 target mRNA into a corresponding GAM337106 target protein.

The mechanism of the translational inhibition exerted by GAM337106 RNA, herein designated GAM RNA, on one or more GAM337106 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337106 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337106 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337106 RNA, herein designated GAM RNA, of GAM337106 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337106 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337106 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337106 RNA correlate with, and may be deduced from, the identity of the GAM337106 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337107 141563 CCTGGGGTCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GACGTGTGTG detected oligonucleotides of the present invention, referred to here as Genomic Address

CGTGTGAGTG Messenger 337107 (GAM337107) oligonucleotides modulates expression of respective target

TGTATACATG genes whose function and utility is known in the art.

CTTAACGTAT GAM337107 is a novel bioinformatically detectable regulatory, non protein
ATCACGTTAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337107 was detected
TTCACCTATG is described with additional reference to Figs. 9-15.

TCAGTAACCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GG encoded by the human genome.

GAM337107 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337107 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337107 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337107 precursor RNA is designated SEQ ID:141563, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141563 is located from position 72014512 to position 72014593 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337107 precursor RNA folds onto itself, forming GAM337107 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337107 precursor RNA, designated SEQ ID NO: 141563, and a schematic representation of a predicted secondary folding of GAM337107 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337107 folded precursor RNA yielding a GAM337107 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337107 RNA, hereby incorporated herein.

GAM337107 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337107 target RNA, herein designated GAM TARGET RNA.

GAM337107 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337107 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337107 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337107 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337107 RNA, herein designated GAM RNA, to target binding sites on GAM337107 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337107 target RNA into GAM337107 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337107 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337107 target genes. The mRNA of each one of this plurality of GAM337107 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337107 RNA, herein designated GAM RNA, and which when bound by GAM337107 RNA causes inhibition of translation of the GAM337107 target mRNA into a corresponding GAM337107 target protein.

The mechanism of the translational inhibition exerted by GAM337107 RNA, herein designated GAM RNA, on one or more GAM337107 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337107 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337107 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337107 RNA, herein designated GAM RNA, of GAM337107 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337107 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337107 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337107 RNA correlate with, and may be deduced from, the identity of the GAM337107 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337108 141564 CAGCTTGCAG Fig. 8 further provides a conceptual description of another novel bioinformatically
CACACACAGC detected oligonucleotides of the present invention, referred to here as Genomic Address
ATTGGTCATG Messenger 337108 (GAM337108) oligonucleotides modulates expression of respective target
AGGTCAGCTG genes whose function and utility is known in the art.

CTCTCTGACC GAM337108 is a novel bioinformatically detectable regulatory, non protein
CACTTGCTCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337108 was detected
GAGTTGTTTG is described with additional reference to Figs. 9-15.

CTGCCTGTTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337108 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337108 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337108 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337108 precursor RNA is designated SEQ ID:141564, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141564 is located from position 72038936 to position 72039015 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM337108 precursor RNA folds onto itself, forming GAM337108 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337108 precursor RNA, designated SEQ ID NO: 141564, and a schematic representation of a predicted secondary folding of GAM337108 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337108 folded precursor RNA yielding a GAM337108 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337108 RNA, hereby incorporated herein.

GAM337108 target gene, herein designated GAM TARGET GENE, encodes a

corresponding messenger RNA, GAM337108 target RNA, herein designated GAM TARGET RNA.

GAM337108 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337108 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337108 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337108 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337108 RNA, herein designated GAM RNA, to target binding sites on GAM337108 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337108 target RNA into GAM337108 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337108 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337108 target genes. The mRNA of each one of this plurality of GAM337108 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337108 RNA, herein designated GAM RNA, and which when bound by GAM337108 RNA causes inhibition of translation of the GAM337108 target mRNA into a corresponding GAM337108 target protein.

The mechanism of the translational inhibition exerted by GAM337108 RNA, herein designated GAM RNA, on one or more GAM337108 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337108 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337108 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337108 RNA, herein designated GAM RNA, of GAM337108 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337108 target RNA, herein designated

GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337108 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337108 RNA correlate with, and may be deduced from, the identity of the GAM337108 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337109 141565 GGGCTGGGCA Fig. 8 further provides a conceptual description of another novel bioinformatically
AGATGGCTCA detected oligonucleotides of the present invention, referred to here as Genomic Address
TGTTTGTAGT Messenger 337109 (GAM337109) oligonucleotides modulates expression of respective target
CTCAGTACTT genes whose function and utility is known in the art.

TGGGAGGCCA GAM337109 is a novel bioinformatically detectable regulatory, non protein
AAGATGGGAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337109 was detected
GATTGCTTGA is described with additional reference to Figs. 9-15.

GCCCGTGAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTGAGACCAG encoded by the human genome.

CCT GAM337109 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337109 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337109 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337109 precursor RNA is designated SEQ ID:141565, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141565 is located from position 72098256 to position 72098348 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337109 precursor RNA folds onto itself, forming GAM337109 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337109 precursor RNA, designated SEQ ID NO: 141565, and a schematic representation of a predicted secondary folding of GAM337109 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337109 folded precursor

RNA yielding a GAM337109 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337109 RNA, hereby incorporated herein.

GAM337109 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337109 target RNA, herein designated GAM TARGET RNA.

GAM337109 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337109 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337109 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337109 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337109 RNA, herein designated GAM RNA, to target binding sites on GAM337109 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337109 target RNA into GAM337109 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337109 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337109 target genes. The mRNA of each one of this plurality of GAM337109 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337109 RNA, herein designated GAM RNA, and which when bound by GAM337109 RNA causes inhibition of translation of the GAM337109 target mRNA into a corresponding GAM337109 target protein.

The mechanism of the translational inhibition exerted by GAM337109 RNA, herein designated GAM RNA, on one or more GAM337109 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337109 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337109 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337109 RNA, herein designated GAM RNA, of GAM337109 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337109 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337109 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337109 RNA correlate with, and may be deduced from, the identity of the GAM337109 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337110 141566 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337110 (GAM337110) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337110 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337110 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM337110 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337110 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337110 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337110 precursor RNA is designated SEQ ID:141566, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141566 is located from position 72187619 to position 72187700 relative to chromosome chr13 on the `-` strand (chr is an abbreviation for chromosome).

GAM337110 precursor RNA folds onto itself, forming GAM337110 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337110 precursor RNA, designated SEQ ID NO: 141566, and a schematic representation of a predicted secondary folding of GAM337110 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337110 folded precursor RNA yielding a GAM337110 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337110 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337110 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337110 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337110 target RNA, herein designated GAM TARGET RNA.

GAM337110 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337110 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337110 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337110 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337110 RNA, herein designated GAM RNA, to target binding sites on GAM337110 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337110 target RNA into GAM337110 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337110 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337110 target genes. The mRNA of each one of this plurality of GAM337110 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337110 RNA, herein designated GAM RNA, and which when bound by GAM337110 RNA causes inhibition of translation of the GAM337110 target mRNA into a corresponding GAM337110 target protein.

The mechanism of the translational inhibition exerted by GAM337110 RNA, herein designated GAM RNA, on one or more GAM337110 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337110 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337110 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337110 RNA, herein designated GAM RNA, of GAM337110 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337110 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337110 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337110 RNA correlate with, and may be deduced from, the identity of the GAM337110 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337111 141567 GAGATGGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCACTTAA detected oligonucleotides of the present invention, referred to here as Genomic Address

GCCCAGGAAT Messenger 337111 (GAM337111) oligonucleotides modulates expression of respective target

TTGAGGCTGC genes whose function and utility is known in the art.

AGTGAGCAAT GAM337111 is a novel bioinformatically detectable regulatory, non protein

GACTGTGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337111 was detected

CTGTACTTCA is described with additional reference to Figs. 9-15.

GCCTGGGTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGAGGGGAC encoded by the human genome.

TTCATTTC GAM337111 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337111 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337111 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337111 precursor RNA is designated SEQ

ID:141567, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141567 is located from position 72274763 to position 72274860 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337111 precursor RNA folds onto itself, forming GAM337111 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337111 precursor RNA, designated SEQ ID NO: 141567, and a schematic representation of a predicted secondary folding of GAM337111 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337111 folded precursor RNA yielding a GAM337111 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337111 RNA, hereby incorporated herein.

GAM337111 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337111 target RNA, herein designated GAM TARGET RNA.

GAM337111 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337111 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337111 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337111 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337111 RNA, herein designated GAM RNA, to target binding sites on GAM337111 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337111 target RNA into GAM337111 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM337111 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337111 target genes. The mRNA of each one of this plurality of GAM337111 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337111 RNA, herein designated GAM RNA, and which when bound by GAM337111 RNA causes inhibition of translation of the GAM337111 target mRNA into a corresponding GAM337111 target protein.

The mechanism of the translational inhibition exerted by GAM337111 RNA, herein designated GAM RNA, on one or more GAM337111 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337111 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337111 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337111 RNA, herein designated GAM RNA, of GAM337111 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337111 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337111 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337111 RNA correlate with, and may be deduced from, the identity of the GAM337111 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337112 141568 GGAGAATCAC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTAAGCCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAATTTGAGG Messenger 337112 (GAM337112) oligonucleotides modulates expression of respective target

CTGCAGTGAG genes whose function and utility is known in the art.

CAATGACTGT GAM337112 is a novel bioinformatically detectable regulatory, non protein

GCCACTGTAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337112 was detected

TTCAGCCTGG is described with additional reference to Figs. 9-15.

GTAACAGAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGACTTC encoded by the human genome.

GAM337112 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337112 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337112 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337112 precursor RNA is designated SEQ ID:141568, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141568 is located from position 72274769 to position 72274855 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337112 precursor RNA folds onto itself, forming GAM337112 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337112 precursor RNA, designated SEQ ID NO: 141568, and a schematic representation of a predicted secondary folding of GAM337112 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337112 folded precursor RNA yielding a GAM337112 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337112 RNA, hereby incorporated herein.

GAM337112 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337112 target RNA, herein designated GAM TARGET RNA.

GAM337112 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337112 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337112 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337112 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337112 RNA, herein designated GAM RNA, to target binding sites on GAM337112 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337112 target RNA into GAM337112 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337112 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337112 target genes. The mRNA of each one of this plurality of GAM337112 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337112 RNA, herein designated GAM RNA, and which when bound by GAM337112 RNA causes inhibition of translation of the GAM337112 target mRNA into a corresponding GAM337112 target protein.

The mechanism of the translational inhibition exerted by GAM337112 RNA, herein designated GAM RNA, on one or more GAM337112 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337112 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337112 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337112 RNA, herein designated GAM RNA, of GAM337112 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337112 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337112 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337112 RNA correlate with, and may be deduced from, the identity of the GAM337112 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337113 141569 GAATCACTTA Fig. 8 further provides a conceptual description of another novel bioinformatically

AGCCCAGGAA detected oligonucleotides of the present invention, referred to here as Genomic Address

TTTGAGGCTG Messenger 337113 (GAM337113) oligonucleotides modulates expression of respective target

CAGTGAGCAA genes whose function and utility is known in the art.

TGACTGTGCC GAM337113 is a novel bioinformatically detectable regulatory, non protein
ACTGTACTTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337113 was detected
AGCCTGGGTA is described with additional reference to Figs. 9-15.

ACAGAGGGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTTC encoded by the human genome.

GAM337113 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337113 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337113 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337113 precursor RNA is designated SEQ ID:141569, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141569 is located from position 72274772 to position 72274855 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337113 precursor RNA folds onto itself, forming GAM337113 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337113 precursor RNA, designated SEQ ID NO: 141569, and a schematic representation of a predicted secondary folding of GAM337113 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337113 folded precursor RNA yielding a GAM337113 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337113 RNA, hereby incorporated herein.

GAM337113 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337113 target RNA, herein designated GAM TARGET RNA.

GAM337113 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337113 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337113 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337113 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337113 RNA, herein designated GAM RNA, to target binding sites on GAM337113 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337113 target RNA into GAM337113 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337113 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337113 target genes. The mRNA of each one of this plurality of GAM337113 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337113 RNA, herein designated GAM RNA, and which when bound by GAM337113 RNA causes inhibition of translation of the GAM337113 target mRNA into a corresponding GAM337113 target protein.

The mechanism of the translational inhibition exerted by GAM337113 RNA, herein designated GAM RNA, on one or more GAM337113 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337113 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337113 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337113 RNA, herein designated GAM RNA, of GAM337113 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337113 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337113 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337113 RNA correlate with, and may be deduced from, the identity of the GAM337113 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337114 141570 TGGTTCCTCG Fig. 8 further provides a conceptual description of another novel bioinformatically
ACAGGCAGAT detected oligonucleotides of the present invention, referred to here as Genomic Address
AATCATGTCT Messenger 337114 (GAM337114) oligonucleotides modulates expression of respective target
TCTTTGTTTA genes whose function and utility is known in the art.

GAGATGAATA GAM337114 is a novel bioinformatically detectable regulatory, non protein
AACACCTAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337114 was detected
ATGGTGCTCT is described with additional reference to Figs. 9-15.

GAATATAGTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGTGCTTAAC encoded by the human genome.

AAATGCTTGT GAM337114 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TGGATTGAAC GAM337114 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
CA GAM337114 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337114 precursor RNA is designated SEQ ID:141570, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141570 is located from position 72469898 to position 72470009 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337114 precursor RNA folds onto itself, forming GAM337114 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337114 precursor RNA, designated SEQ ID NO: 141570, and a schematic representation of a predicted secondary folding of GAM337114 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337114 folded precursor RNA yielding a GAM337114 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337114 RNA, hereby incorporated herein.

GAM337114 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337114 target RNA, herein designated GAM TARGET RNA.

GAM337114 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337114 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337114 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337114 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337114 RNA, herein designated GAM RNA, to target binding sites on GAM337114 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337114 target RNA into GAM337114 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337114 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337114 target genes. The mRNA of each one of this plurality of GAM337114 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337114 RNA, herein designated GAM RNA, and which when bound by GAM337114 RNA causes inhibition of translation of the GAM337114 target mRNA into a corresponding GAM337114 target protein.

The mechanism of the translational inhibition exerted by GAM337114 RNA, herein designated GAM RNA, on one or more GAM337114 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337114 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337114 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337114 RNA, herein designated GAM RNA, of GAM337114 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM337114 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337114 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337114 RNA correlate with, and may be deduced from, the identity of the GAM337114 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337115 141571 AGGCTGGGAA Fig. 8 further provides a conceptual description of another novel bioinformatically
CATTCAGGGC detected oligonucleotides of the present invention, referred to here as Genomic Address
TGCTCAAGCC Messenger 337115 (GAM337115) oligonucleotides modulates expression of respective target
CAGGGTTGGC genes whose function and utility is known in the art.

AACCCCCACT GAM337115 is a novel bioinformatically detectable regulatory, non protein
CCCTCCAACA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337115 was detected
CAAGCAGCTC is described with additional reference to Figs. 9-15.

AAGTCTTCTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGACCT encoded by the human genome.

GAM337115 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337115 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337115 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337115 precursor RNA is designated SEQ ID:141571, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141571 is located from position 72530482 to position 72530568 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM337115 precursor RNA folds onto itself, forming GAM337115 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337115 precursor RNA, designated SEQ ID NO: 141571, and a schematic representation of a predicted secondary folding of GAM337115 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337115 folded precursor RNA yielding a GAM337115 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337115 RNA, hereby incorporated herein.

GAM337115 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337115 target RNA, herein designated GAM TARGET RNA.

GAM337115 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337115 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337115 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337115 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337115 RNA, herein designated GAM RNA, to target binding sites on GAM337115 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337115 target RNA into GAM337115 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337115 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337115 target genes. The mRNA of each one of this plurality of GAM337115 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337115 RNA, herein designated GAM RNA, and which when bound by GAM337115 RNA causes inhibition of translation of the GAM337115 target mRNA into a corresponding GAM337115 target protein.

The mechanism of the translational inhibition exerted by GAM337115 RNA, herein designated GAM RNA, on one or more GAM337115 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337115 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337115 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337115 RNA, herein designated GAM RNA, of GAM337115 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337115 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337115 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337115 RNA correlate with, and may be deduced from, the identity of the GAM337115 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337116 141572 CAACACCTCT Fig. 8 further provides a conceptual description of another novel bioinformatically
GGCCTGGCAG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGGCCCTGAG Messenger 337116 (GAM337116) oligonucleotides modulates expression of respective target
CAGATGTGAG genes whose function and utility is known in the art.

CTGGTTACCA GAM337116 is a novel bioinformatically detectable regulatory, non protein
CGGGGTTATC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337116 was detected
AACTCTGGCA is described with additional reference to Figs. 9-15.

TTTGTTGGTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TATGCGGCAG encoded by the human genome.

TAGGACAGAA GAM337116 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TATTTG GAM337116 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337116 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337116 precursor RNA is designated SEQ ID:141572, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141572 is located from position 72624650 to position 72624755 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM337116 precursor RNA folds onto itself, forming GAM337116 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337116 precursor RNA, designated SEQ ID NO: 141572, and a schematic representation of a predicted secondary folding of GAM337116 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337116 folded precursor RNA yielding a GAM337116 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337116 RNA, hereby incorporated herein.

GAM337116 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337116 target RNA, herein designated GAM TARGET RNA.

GAM337116 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337116 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337116 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337116 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337116 RNA, herein designated GAM RNA, to target binding sites on GAM337116 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337116 target RNA into GAM337116 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337116 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337116 target genes. The mRNA of each one of this plurality of GAM337116 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337116 RNA, herein designated GAM RNA, and which when bound by GAM337116 RNA causes inhibition of translation of the GAM337116 target mRNA into a corresponding GAM337116 target protein.

The mechanism of the translational inhibition exerted by GAM337116 RNA, herein designated GAM RNA, on one or more GAM337116 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337116 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337116 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337116 RNA, herein designated GAM RNA, of GAM337116 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337116 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337116 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337116 RNA correlate with, and may be deduced from, the identity of the GAM337116 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337117 141573 CCTCTGGCCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GGCAGAGGCC detected oligonucleotides of the present invention, referred to here as Genomic Address

CTGAGCAGAT Messenger 337117 (GAM337117) oligonucleotides modulates expression of respective target

GTGAGCTGGT genes whose function and utility is known in the art.

TACCACGGGG GAM337117 is a novel bioinformatically detectable regulatory, non protein

TTATCAACTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337117 was detected

TGGCATTTGT is described with additional reference to Figs. 9-15.

TGGTTTATGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGCAGTAGG encoded by the human genome.

GAM337117 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337117 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337117 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337117 precursor RNA is designated SEQ ID:141573, and is provided hereinbelow with reference to the sequence listing part.

Nucleotide sequence SEQ ID:141573 is located from position 72624662 to position 72624750 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM337117 precursor RNA folds onto itself, forming GAM337117 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337117 precursor RNA, designated SEQ ID NO: 141573, and a schematic representation of a predicted secondary folding of GAM337117 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337117 folded precursor RNA yielding a GAM337117 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337117 RNA, hereby incorporated herein.

GAM337117 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337117 target RNA, herein designated GAM TARGET RNA.

GAM337117 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337117 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337117 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337117 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337117 RNA, herein designated GAM RNA, to target binding sites on GAM337117 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337117 target RNA into GAM337117 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337117 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337117 target genes. The mRNA of each one of this plurality of GAM337117 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337117 RNA, herein designated GAM RNA, and which when bound by GAM337117 RNA causes inhibition of translation of the GAM337117 target mRNA into a corresponding GAM337117 target protein.

The mechanism of the translational inhibition exerted by GAM337117 RNA, herein designated GAM RNA, on one or more GAM337117 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337117 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337117 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337117 RNA, herein designated GAM RNA, of GAM337117 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337117 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337117 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337117 RNA correlate with, and may be deduced from, the identity of the GAM337117 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337118 141574 CTGTCCTGTA Fig. 8 further provides a conceptual description of another novel bioinformatically

GATACATGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GGATGATCAT Messenger 337118 (GAM337118) oligonucleotides modulates expression of respective target

AAGTGAGCTT genes whose function and utility is known in the art.

TTATAAGCGC GAM337118 is a novel bioinformatically detectable regulatory, non protein

AGAGTATTAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337118 was detected

CTATATCACC is described with additional reference to Figs. 9-15.

GTGAAAGTGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATCGCATACA encoded by the human genome.

GGACAG GAM337118 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337118 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337118 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337118 precursor RNA is designated SEQ ID:141574, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141574 is located from position 72678382 to position 72678477 relative to chromosome chr18 on the `-` strand (chr is an abbreviation for chromosome).

GAM337118 precursor RNA folds onto itself, forming GAM337118 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337118 precursor RNA, designated SEQ ID NO: 141574, and a schematic representation of a predicted secondary folding of GAM337118 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337118 folded precursor RNA yielding a GAM337118 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337118 RNA, hereby incorporated herein.

GAM337118 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337118 target RNA, herein designated GAM TARGET RNA.

GAM337118 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337118 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337118 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337118 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337118 RNA, herein designated GAM RNA, to target binding sites on GAM337118 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337118 target RNA into GAM337118 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337118 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337118 target genes. The mRNA of each one of this plurality of GAM337118 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337118 RNA, herein designated GAM RNA, and which when bound by GAM337118 RNA causes inhibition of translation of the GAM337118 target mRNA into a corresponding GAM337118 target protein.

The mechanism of the translational inhibition exerted by GAM337118 RNA, herein designated GAM RNA, on one or more GAM337118 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337118 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337118 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337118 RNA, herein designated GAM RNA, of GAM337118 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337118 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337118 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337118 RNA correlate with, and may be deduced from, the identity of the GAM337118 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337119 141575 GGTCTCCCTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGCCCAGGC detected oligonucleotides of the present invention, referred to here as Genomic Address

TGGAGTGCAG Messenger 337119 (GAM337119) oligonucleotides modulates expression of respective target

TGATGCAATC genes whose function and utility is known in the art.

ATAGTTCACT GAM337119 is a novel bioinformatically detectable regulatory, non protein
GCAACCTTCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337119 was detected
GGGTTCAAGT is described with additional reference to Figs. 9-15.

GATTTTCCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CCTCAGCCTC encoded by the human genome.

CCAAGTAGTT GAM337119 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAGACT GAM337119 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337119 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337119 precursor RNA is designated SEQ ID:141575, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141575 is located from position 73042551 to position 73042656 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337119 precursor RNA folds onto itself, forming GAM337119 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337119 precursor RNA, designated SEQ ID NO: 141575, and a schematic representation of a predicted secondary folding of GAM337119 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337119 folded precursor RNA yielding a GAM337119 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337119 RNA, hereby incorporated herein.

GAM337119 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337119 target RNA, herein designated GAM TARGET RNA.

GAM337119 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337119 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337119 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337119 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337119 RNA, herein designated GAM RNA, to target binding sites on GAM337119 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337119 target RNA into GAM337119 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337119 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337119 target genes. The mRNA of each one of this plurality of GAM337119 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337119 RNA, herein designated GAM RNA, and which when bound by GAM337119 RNA causes inhibition of translation of the GAM337119 target mRNA into a corresponding GAM337119 target protein.

The mechanism of the translational inhibition exerted by GAM337119 RNA, herein designated GAM RNA, on one or more GAM337119 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337119 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337119 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337119 RNA, herein designated GAM RNA, of GAM337119 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337119 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337119 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337119 RNA correlate with, and may be deduced from, the identity of the GAM337119 target gene

inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337120 141576 CAGGAGTACG Fig. 8 further provides a conceptual description of another novel bioinformatically
ACGCTGTGGT detected oligonucleotides of the present invention, referred to here as Genomic Address
AGCTATGATC Messenger 337120 (GAM337120) oligonucleotides modulates expression of respective target
ATGCCACTGC genes whose function and utility is known in the art.

ACTCCAGCCT GAM337120 is a novel bioinformatically detectable regulatory, non protein
GGGTGACAGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337120 was detected
GCAAGATCTA is described with additional reference to Figs. 9-15.

GATAATTACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTCTGTCCTG encoded by the human genome.

CTCCTG GAM337120 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337120 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337120 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337120 precursor RNA is designated SEQ ID:141576, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141576 is located from position 73124348 to position 73124443 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM337120 precursor RNA folds onto itself, forming GAM337120 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337120 precursor RNA, designated SEQ ID NO: 141576, and a schematic representation of a predicted secondary folding of GAM337120 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337120 folded precursor RNA yielding a GAM337120 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly

similar to the nucleotide sequence of GAM337120 RNA, hereby incorporated herein.

GAM337120 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337120 target RNA, herein designated GAM TARGET RNA.

GAM337120 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337120 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337120 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337120 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337120 RNA, herein designated GAM RNA, to target binding sites on GAM337120 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337120 target RNA into GAM337120 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337120 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337120 target genes. The mRNA of each one of this plurality of GAM337120 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337120 RNA, herein designated GAM RNA, and which when bound by GAM337120 RNA causes inhibition of translation of the GAM337120 target mRNA into a corresponding GAM337120 target protein.

The mechanism of the translational inhibition exerted by GAM337120 RNA, herein designated GAM RNA, on one or more GAM337120 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337120 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337120 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337120 RNA, herein designated GAM RNA, of GAM337120 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337120 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337120 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337120 RNA correlate with, and may be deduced from, the identity of the GAM337120 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337121 141577 AGGAGTACGA Fig. 8 further provides a conceptual description of another novel bioinformatically
CGCTGTGGTA detected oligonucleotides of the present invention, referred to here as Genomic Address
GCTATGATCA Messenger 337121 (GAM337121) oligonucleotides modulates expression of respective target
TGCCACTGCA genes whose function and utility is known in the art.

CTCCAGCCTG GAM337121 is a novel bioinformatically detectable regulatory, non protein
GGTGACAGAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337121 was detected
CAAGATCTAG is described with additional reference to Figs. 9-15.

ATAATTACAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCTGTCCTGC encoded by the human genome.

TCCT GAM337121 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337121 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337121 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337121 precursor RNA is designated SEQ ID:141577, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141577 is located from position 73124349 to position 73124442 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM337121 precursor RNA folds onto itself, forming GAM337121 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337121 precursor RNA, designated SEQ ID NO: 141577, and a schematic representation of a predicted secondary folding of GAM337121 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337121 folded precursor RNA yielding a GAM337121 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337121 RNA, hereby incorporated herein.

GAM337121 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337121 target RNA, herein designated GAM TARGET RNA.

GAM337121 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337121 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337121 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337121 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337121 RNA, herein designated GAM RNA, to target binding sites on GAM337121 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337121 target RNA into GAM337121 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337121 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337121 target genes. The mRNA of each one of this plurality of GAM337121 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337121 RNA, herein designated GAM RNA, and which when bound by GAM337121 RNA causes inhibition of translation of the GAM337121 target mRNA into a corresponding GAM337121 target protein.

The mechanism of the translational inhibition exerted by GAM337121 RNA, herein designated GAM RNA, on one or more GAM337121 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337121 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM337121 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337121 RNA, herein designated GAM RNA, of GAM337121 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337121 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337121 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337121 RNA correlate with, and may be deduced from, the identity of the GAM337121 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337122 141578 GGAGTACGAC Fig. 8 further provides a conceptual description of another novel bioinformatically
GCTGTGGTAG detected oligonucleotides of the present invention, referred to here as Genomic Address
CTATGATCAT Messenger 337122 (GAM337122) oligonucleotides modulates expression of respective target
GCCACTGCAC genes whose function and utility is known in the art.

TCCAGCCTGG GAM337122 is a novel bioinformatically detectable regulatory, non protein
GTGACAGAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337122 was detected
AAGATCTAGA is described with additional reference to Figs. 9-15.

TAATTACAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTGTCCTGCT encoded by the human genome.

CC GAM337122 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337122 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337122 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337122 precursor RNA is designated SEQ ID:141578, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141578 is located from position 73124350 to position 73124441 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM337122 precursor RNA folds onto itself, forming GAM337122 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337122 precursor RNA, designated SEQ ID NO: 141578, and a schematic representation of a predicted secondary folding of GAM337122 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337122 folded precursor RNA yielding a GAM337122 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337122 RNA, hereby incorporated herein.

GAM337122 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337122 target RNA, herein designated GAM TARGET RNA.

GAM337122 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337122 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337122 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337122 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337122 RNA, herein designated GAM RNA, to target binding sites on GAM337122 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337122 target RNA into GAM337122 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337122 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337122 target genes. The mRNA of each one of this plurality of GAM337122 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337122 RNA, herein designated GAM RNA, and which when bound by GAM337122 RNA causes inhibition of translation of the GAM337122 target mRNA into a corresponding GAM337122 target protein.

The mechanism of the translational inhibition exerted by GAM337122 RNA, herein designated GAM RNA, on one or more GAM337122 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337122 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337122 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337122 RNA, herein designated GAM RNA, of GAM337122 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337122 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337122 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337122 RNA correlate with, and may be deduced from, the identity of the GAM337122 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337123 141579 CAGGAGTACG Fig. 8 further provides a conceptual description of another novel bioinformatically

ACGCTGTGGT detected oligonucleotides of the present invention, referred to here as Genomic Address

AGCTATGATC Messenger 337123 (GAM337123) oligonucleotides modulates expression of respective target

ATGCCACTGC genes whose function and utility is known in the art.

ACTCCAGCCT GAM337123 is a novel bioinformatically detectable regulatory, non protein

GGGTGACAGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337123 was detected

GCAAGATCTA is described with additional reference to Figs. 9-15.

GATAATTACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTCTGTCCTG encoded by the human genome.

CTCCTG GAM337123 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337123 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337123 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM337123 precursor RNA is designated SEQ ID:141579, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141579 is located from position 73148625 to position 73148720 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM337123 precursor RNA folds onto itself, forming GAM337123 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337123 precursor RNA, designated SEQ ID NO: 141579, and a schematic representation of a predicted secondary folding of GAM337123 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337123 folded precursor RNA yielding a GAM337123 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337123 RNA, hereby incorporated herein.

GAM337123 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337123 target RNA, herein designated GAM TARGET RNA.

GAM337123 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337123 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337123 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337123 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337123 RNA, herein designated GAM RNA, to target binding sites on GAM337123 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337123 target RNA

into GAM337123 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337123 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337123 target genes. The mRNA of each one of this plurality of GAM337123 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337123 RNA, herein designated GAM RNA, and which when bound by GAM337123 RNA causes inhibition of translation of the GAM337123 target mRNA into a corresponding GAM337123 target protein.

The mechanism of the translational inhibition exerted by GAM337123 RNA, herein designated GAM RNA, on one or more GAM337123 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337123 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337123 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337123 RNA, herein designated GAM RNA, of GAM337123 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337123 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337123 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337123 RNA correlate with, and may be deduced from, the identity of the GAM337123 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337124 141580 AGGAGTACGA Fig. 8 further provides a conceptual description of another novel bioinformatically

CGCTGTGGTA detected oligonucleotides of the present invention, referred to here as Genomic Address

GCTATGATCA Messenger 337124 (GAM337124) oligonucleotides modulates expression of respective target

TGCCACTGCA genes whose function and utility is known in the art.

CTCCAGCCTG GAM337124 is a novel bioinformatically detectable regulatory, non protein

GGTGACAGAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337124 was detected

CAAGATCTAG is described with additional reference to Figs. 9-15.

ATAATTACAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCTGTCCTGC encoded by the human genome.

TCCT GAM337124 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337124 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337124 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337124 precursor RNA is designated SEQ ID:141580, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141580 is located from position 73148626 to position 73148719 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM337124 precursor RNA folds onto itself, forming GAM337124 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337124 precursor RNA, designated SEQ ID NO: 141580, and a schematic representation of a predicted secondary folding of GAM337124 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337124 folded precursor RNA yielding a GAM337124 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337124 RNA, hereby incorporated herein.

GAM337124 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337124 target RNA, herein designated GAM TARGET RNA.

GAM337124 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337124 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337124 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337124 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337124 RNA, herein designated GAM RNA, to target binding sites on GAM337124 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337124 target RNA into GAM337124 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337124 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337124 target genes. The mRNA of each one of this plurality of GAM337124 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337124 RNA, herein designated GAM RNA, and which when bound by GAM337124 RNA causes inhibition of translation of the GAM337124 target mRNA into a corresponding GAM337124 target protein.

The mechanism of the translational inhibition exerted by GAM337124 RNA, herein designated GAM RNA, on one or more GAM337124 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337124 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337124 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337124 RNA, herein designated GAM RNA, of GAM337124 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337124 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337124 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337124 RNA correlate with, and may be deduced from, the identity of the GAM337124 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337125 141581 GGAGTACGAC Fig. 8 further provides a conceptual description of another novel bioinformatically

GCTGTGGTAG detected oligonucleotides of the present invention, referred to here as Genomic Address

CTATGATCAT Messenger 337125 (GAM337125) oligonucleotides modulates expression of respective target

GCCACTGCAC genes whose function and utility is known in the art.

TCCAGCCTGG GAM337125 is a novel bioinformatically detectable regulatory, non protein

GTGACAGAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337125 was detected

AAGATCTAGA is described with additional reference to Figs. 9-15.

TAATTACAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTGTCCTGCT encoded by the human genome.

CC GAM337125 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337125 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337125 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337125 precursor RNA is designated SEQ ID:141581, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141581 is located from position 73148627 to position 73148718 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM337125 precursor RNA folds onto itself, forming GAM337125 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337125 precursor RNA, designated SEQ ID NO: 141581, and a schematic representation of a predicted secondary folding of GAM337125 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337125 folded precursor RNA yielding a GAM337125 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337125 RNA, hereby incorporated herein.

GAM337125 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337125 target RNA, herein designated GAM TARGET RNA.

GAM337125 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337125 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337125 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337125 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337125 RNA, herein designated GAM RNA, to target binding sites on GAM337125 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337125 target RNA into GAM337125 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337125 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337125 target genes. The mRNA of each one of this plurality of GAM337125 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337125 RNA, herein designated GAM RNA, and which when bound by GAM337125 RNA causes inhibition of translation of the GAM337125 target mRNA into a corresponding GAM337125 target protein.

The mechanism of the translational inhibition exerted by GAM337125 RNA, herein designated GAM RNA, on one or more GAM337125 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337125 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337125 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337125 RNA, herein designated GAM RNA, of GAM337125 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337125 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337125 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337125

RNA correlate with, and may be deduced from, the identity of the GAM337125 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337126 141582 GAGCCATTAA Fig. 8 further provides a conceptual description of another novel bioinformatically
TCTCGGGGTC detected oligonucleotides of the present invention, referred to here as Genomic Address
TCAGCCTCTC Messenger 337126 (GAM337126) oligonucleotides modulates expression of respective target
TTAACGGACC genes whose function and utility is known in the art.

TTCCAGGCAC GAM337126 is a novel bioinformatically detectable regulatory, non protein
TGCTGAGAAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337126 was detected
ACCAGGTTAA is described with additional reference to Figs. 9-15.

TGGTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337126 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337126 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337126 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337126 precursor RNA is designated SEQ ID:141582, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141582 is located from position 73205614 to position 73205689 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337126 precursor RNA folds onto itself, forming GAM337126 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337126 precursor RNA, designated SEQ ID NO: 141582, and a schematic representation of a predicted secondary folding of GAM337126 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337126 folded precursor RNA yielding a GAM337126 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly

similar to the nucleotide sequence of GAM337126 RNA, hereby incorporated herein.

GAM337126 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337126 target RNA, herein designated GAM TARGET RNA.

GAM337126 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337126 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337126 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337126 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337126 RNA, herein designated GAM RNA, to target binding sites on GAM337126 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337126 target RNA into GAM337126 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337126 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337126 target genes. The mRNA of each one of this plurality of GAM337126 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337126 RNA, herein designated GAM RNA, and which when bound by GAM337126 RNA causes inhibition of translation of the GAM337126 target mRNA into a corresponding GAM337126 target protein.

The mechanism of the translational inhibition exerted by GAM337126 RNA, herein designated GAM RNA, on one or more GAM337126 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337126 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337126 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337126 RNA, herein designated GAM RNA, of GAM337126 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337126 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337126 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337126 RNA correlate with, and may be deduced from, the identity of the GAM337126 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337127 141583 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATCGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCTGGCAG Messenger 337127 (GAM337127) oligonucleotides modulates expression of respective target
GTGGAGGTTG genes whose function and utility is known in the art.

CAGTGAGCCG GAM337127 is a novel bioinformatically detectable regulatory, non protein
AGATCGCACC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337127 was detected
ATTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAAGCACAA encoded by the human genome.

AACTGTCTCA GAM337127 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAM337127 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337127 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337127 precursor RNA is designated SEQ ID:141583, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141583 is located from position 73215042 to position 73215141 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337127 precursor RNA folds onto itself, forming GAM337127 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337127 precursor RNA, designated SEQ ID NO: 141583, and a schematic representation of a predicted secondary folding of GAM337127 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337127 folded precursor RNA yielding a GAM337127 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337127 RNA, hereby incorporated herein. Expression of GAM337127 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337127 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337127 target RNA, herein designated GAM TARGET RNA.

GAM337127 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337127 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337127 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337127 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337127 RNA, herein designated GAM RNA, to target binding sites on GAM337127 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337127 target RNA into GAM337127 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337127 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337127 target genes. The mRNA of each one of this plurality of GAM337127 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337127 RNA, herein designated GAM RNA, and which when bound by GAM337127 RNA causes inhibition of translation of the GAM337127 target mRNA into a corresponding GAM337127 target protein.

The mechanism of the translational inhibition exerted by GAM337127 RNA, herein designated GAM RNA, on one or more GAM337127 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337127 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337127 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337127 RNA, herein designated GAM RNA, of GAM337127 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337127 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337127 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337127 RNA correlate with, and may be deduced from, the identity of the GAM337127 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337128 141584 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCTGGCAGG Messenger 337128 (GAM337128) oligonucleotides modulates expression of respective target

TGGAGGTTGC genes whose function and utility is known in the art.

AGTGAGCCGA GAM337128 is a novel bioinformatically detectable regulatory, non protein

GATCGCACCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337128 was detected

TTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAAGCACAAA encoded by the human genome.

ACTGTCTC GAM337128 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337128 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337128 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337128 precursor RNA is designated SEQ ID:141584, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141584 is located from position 73215043 to position 73215140 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337128 precursor RNA folds onto itself, forming GAM337128 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337128 precursor RNA, designated SEQ ID NO: 141584, and a schematic representation of a predicted secondary folding of GAM337128 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337128 folded precursor RNA yielding a GAM337128 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337128 RNA, hereby incorporated herein. Expression of GAM337128 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337128 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337128 target RNA, herein designated GAM TARGET RNA.

GAM337128 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337128 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337128 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337128 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337128 RNA, herein designated GAM RNA, to target binding sites on GAM337128 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337128 target RNA into GAM337128 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337128 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM337128 target genes. The mRNA of each one of this plurality of GAM337128 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337128 RNA, herein designated GAM RNA, and which when bound by GAM337128 RNA causes inhibition of translation of the GAM337128 target mRNA into a corresponding GAM337128 target protein.

The mechanism of the translational inhibition exerted by GAM337128 RNA, herein designated GAM RNA, on one or more GAM337128 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337128 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337128 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337128 RNA, herein designated GAM RNA, of GAM337128 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337128 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337128 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337128 RNA correlate with, and may be deduced from, the identity of the GAM337128 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337129 141585 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATGGCGTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCCGGGAGG Messenger 337129 (GAM337129) oligonucleotides modulates expression of respective target

CGGAGCTTGC genes whose function and utility is known in the art.

AGTGAGCCGA GAM337129 is a novel bioinformatically detectable regulatory, non protein

GATCATGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337129 was detected

CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGAGCGAGA encoded by the human genome.

CTCCGTCTC GAM337129 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337129 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337129 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337129 precursor RNA is designated SEQ ID:141585, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141585 is located from position 73257733 to position 73257831 relative to chromosome chr3 on the `-` strand (chr is an abbreviation for chromosome).

GAM337129 precursor RNA folds onto itself, forming GAM337129 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337129 precursor RNA, designated SEQ ID NO: 141585, and a schematic representation of a predicted secondary folding of GAM337129 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337129 folded precursor RNA yielding a GAM337129 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337129 RNA, hereby incorporated herein. Expression of GAM337129 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337129 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337129 target RNA, herein designated GAM TARGET RNA.

GAM337129 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337129 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337129 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337129 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337129 RNA, herein designated GAM RNA, to target binding sites on GAM337129 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337129 target RNA into GAM337129 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337129 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337129 target genes. The mRNA of each one of this plurality of GAM337129 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337129 RNA, herein designated GAM RNA, and which when bound by GAM337129 RNA causes inhibition of translation of the GAM337129 target mRNA into a corresponding GAM337129 target protein.

The mechanism of the translational inhibition exerted by GAM337129 RNA, herein designated GAM RNA, on one or more GAM337129 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337129 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337129 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337129 RNA, herein designated GAM RNA, of GAM337129 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337129 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337129 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337129 RNA correlate with, and may be deduced from, the identity of the GAM337129 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337130 141586 GGAGAATCAC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTGGAGG Messenger 337130 (GAM337130) oligonucleotides modulates expression of respective target

TTGTAGTGAG genes whose function and utility is known in the art.

CTGAGATTGC GAM337130 is a novel bioinformatically detectable regulatory, non protein
ACCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337130 was
detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCGATAAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a
humen gene
TGAAACTCC encoded by the human genome.

GAM337130 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337130 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337130 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337130 precursor RNA is designated SEQ ID:141586, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141586 is located from position 73327088 to position 73327176 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM337130 precursor RNA folds onto itself, forming GAM337130 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337130 precursor RNA, designated SEQ ID NO: 141586, and a schematic representation of a predicted secondary folding of GAM337130 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337130 folded precursor RNA yielding a GAM337130 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337130 RNA, hereby incorporated herein.

GAM337130 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337130 target RNA, herein designated GAM TARGET RNA.

GAM337130 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337130 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM337130 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337130 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337130 RNA, herein designated GAM RNA, to target binding sites on GAM337130 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337130 target RNA into GAM337130 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337130 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337130 target genes. The mRNA of each one of this plurality of GAM337130 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337130 RNA, herein designated GAM RNA, and which when bound by GAM337130 RNA causes inhibition of translation of the GAM337130 target mRNA into a corresponding GAM337130 target protein.

The mechanism of the translational inhibition exerted by GAM337130 RNA, herein designated GAM RNA, on one or more GAM337130 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337130 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337130 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337130 RNA, herein designated GAM RNA, of GAM337130 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337130 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337130 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337130 RNA correlate with, and may be deduced from, the identity of the GAM337130 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337131 141587 TGAGGCGCCC Fig. 8 further provides a conceptual description of another novel bioinformatically
TGAAAACATA detected oligonucleotides of the present invention, referred to here as Genomic Address
GGCTGGGCTT Messenger 337131 (GAM337131) oligonucleotides modulates expression of respective target
GTGTGAGATG genes whose function and utility is known in the art.

GGAGAAAGAC GAM337131 is a novel bioinformatically detectable regulatory, non protein
CAGAAGTATC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337131 was detected
GTCTAAACTT is described with additional reference to Figs. 9-15.

CTCCCTGCCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACACATCCAG encoded by the human genome.

CTTCATGGCA GAM337131 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CTGTGCTACA GAM337131 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337131 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337131 precursor RNA is designated SEQ ID:141587, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141587 is located from position 73549131 to position 73549240 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM337131 precursor RNA folds onto itself, forming GAM337131 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337131 precursor RNA, designated SEQ ID NO: 141587, and a schematic representation of a predicted secondary folding of GAM337131 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337131 folded precursor RNA yielding a GAM337131 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337131 RNA, hereby incorporated herein.

GAM337131 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337131 target RNA, herein designated GAM TARGET RNA.

GAM337131 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337131 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337131 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337131 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337131 RNA, herein designated GAM RNA, to target binding sites on GAM337131 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337131 target RNA into GAM337131 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337131 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337131 target genes. The mRNA of each one of this plurality of GAM337131 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337131 RNA, herein designated GAM RNA, and which when bound by GAM337131 RNA causes inhibition of translation of the GAM337131 target mRNA into a corresponding GAM337131 target protein.

The mechanism of the translational inhibition exerted by GAM337131 RNA, herein designated GAM RNA, on one or more GAM337131 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337131 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337131 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337131 RNA, herein designated GAM RNA, of GAM337131 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337131 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337131 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337131 RNA correlate with, and may be deduced from, the identity of the GAM337131 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337132 141588 CCTGGGGTCT Fig. 8 further provides a conceptual description of another novel bioinformatically
GACGTGTGTG detected oligonucleotides of the present invention, referred to here as Genomic Address
CGTGTGAGTG Messenger 337132 (GAM337132) oligonucleotides modulates expression of respective target
TGTATACATG genes whose function and utility is known in the art.

CTTAACGTAT GAM337132 is a novel bioinformatically detectable regulatory, non protein
ATCACGTTAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337132 was detected
TTCACCTATG is described with additional reference to Figs. 9-15.

TCAGTAACCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GG encoded by the human genome.

GAM337132 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337132 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337132 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337132 precursor RNA is designated SEQ ID:141588, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141588 is located from position 73568193 to position 73568274 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337132 precursor RNA folds onto itself, forming GAM337132 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337132 precursor RNA, designated SEQ ID NO: 141588, and a schematic representation of a predicted secondary folding of GAM337132 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337132 folded precursor RNA yielding a GAM337132 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337132 RNA, hereby incorporated herein.

GAM337132 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337132 target RNA, herein designated GAM TARGET RNA.

GAM337132 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337132 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337132 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337132 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337132 RNA, herein designated GAM RNA, to target binding sites on GAM337132 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337132 target RNA into GAM337132 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337132 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337132 target genes. The mRNA of each one of this plurality of GAM337132 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337132 RNA, herein designated GAM RNA, and which when bound by GAM337132 RNA causes inhibition of translation of the GAM337132 target mRNA into a corresponding GAM337132 target protein.

The mechanism of the translational inhibition exerted by GAM337132 RNA, herein designated GAM RNA, on one or more GAM337132 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337132 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337132 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337132 RNA, herein designated GAM RNA, of GAM337132 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337132 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337132 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337132 RNA correlate with, and may be deduced from, the identity of the GAM337132 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337133 141589 CAGCGCGGCT Fig. 8 further provides a conceptual description of another novel bioinformatically
CCCGCCACCC detected oligonucleotides of the present invention, referred to here as Genomic Address
TCAATAAATG Messenger 337133 (GAM337133) oligonucleotides modulates expression of respective target
TTGCTTGGAG genes whose function and utility is known in the art.

TGGACCGAGG GAM337133 is a novel bioinformatically detectable regulatory, non protein
CTCTGCAGGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337133 was detected
ATGCAGGGAG is described with additional reference to Figs. 9-15.

GGCCGGGCTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CGCCCCAGGG encoded by the human genome.

TTATTTCTAA GAM337133 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GTTGAGGACA GAM337133 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GGAGGTTGTG GAM337133 precursor RNA does not encode a protein. A nucleotide sequence identical or
AGTTCTGCTG highly similar to the nucleotide sequence of GAM337133 precursor RNA is designated SEQ
ID:141589, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141589 is located from position 73601903 to position 73602032 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337133 precursor RNA folds onto itself, forming GAM337133 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337133 precursor RNA, designated SEQ ID NO: 141589, and a schematic representation of a predicted secondary folding of GAM337133 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337133 folded precursor RNA yielding a GAM337133 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337133 RNA, hereby incorporated herein.

GAM337133 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337133 target RNA, herein designated GAM TARGET RNA.

GAM337133 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337133 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337133 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337133 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337133 RNA, herein designated GAM RNA, to target binding sites on GAM337133 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337133 target RNA into GAM337133 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337133 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337133 target genes. The mRNA of each one of this plurality of GAM337133 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337133 RNA, herein designated GAM RNA, and which when bound by GAM337133 RNA causes inhibition of

translation of the GAM337133 target mRNA into a corresponding GAM337133 target protein.

The mechanism of the translational inhibition exerted by GAM337133 RNA, herein designated GAM RNA, on one or more GAM337133 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337133 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337133 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337133 RNA, herein designated GAM RNA, of GAM337133 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337133 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337133 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337133 RNA correlate with, and may be deduced from, the identity of the GAM337133 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337134 141590 TCGGGAGGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

TGGTGAGTTC detected oligonucleotides of the present invention, referred to here as Genomic Address

CTGTCATCCT Messenger 337134 (GAM337134) oligonucleotides modulates expression of respective target

CTAACTCACA genes whose function and utility is known in the art.

TTAAAGGACA GAM337134 is a novel bioinformatically detectable regulatory, non protein

AATGAGAGGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337134 was detected

GCAGGGTGGC is described with additional reference to Figs. 9-15.

AGGTGGCCAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGATTGTTGT encoded by the human genome.

CCCAACTGA GAM337134 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337134 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337134 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337134 precursor RNA is designated SEQ ID:141590, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141590 is located from position 73634121 to position 73634219 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337134 precursor RNA folds onto itself, forming GAM337134 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337134 precursor RNA, designated SEQ ID NO: 141590, and a schematic representation of a predicted secondary folding of GAM337134 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337134 folded precursor RNA yielding a GAM337134 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337134 RNA, hereby incorporated herein.

GAM337134 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337134 target RNA, herein designated GAM TARGET RNA.

GAM337134 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337134 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337134 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337134 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337134 RNA, herein designated GAM RNA, to target binding sites on GAM337134 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337134 target RNA into GAM337134 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337134 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337134 target genes. The mRNA of each one of this plurality of GAM337134 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337134 RNA, herein designated GAM RNA, and which when bound by GAM337134 RNA causes inhibition of translation of the GAM337134 target mRNA into a corresponding GAM337134 target protein.

The mechanism of the translational inhibition exerted by GAM337134 RNA, herein designated GAM RNA, on one or more GAM337134 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337134 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337134 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337134 RNA, herein designated GAM RNA, of GAM337134 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337134 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337134 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337134 RNA correlate with, and may be deduced from, the identity of the GAM337134 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337135 141591 GCTAGGATTG Fig. 8 further provides a conceptual description of another novel bioinformatically

CACCACTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CTCCAACCTG Messenger 337135 (GAM337135) oligonucleotides modulates expression of respective target

GACAACAGAG genes whose function and utility is known in the art.

CAAGACCCTG GAM337135 is a novel bioinformatically detectable regulatory, non protein

TCTCTAGGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337135 was detected

AGGTGCAGTG is described with additional reference to Figs. 9-15.

GCTCACACCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTAATCCCAG encoded by the human genome.

C GAM337135 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337135 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337135 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337135 precursor RNA is designated SEQ ID:141591, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141591 is located from position 73747698 to position 73747788 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337135 precursor RNA folds onto itself, forming GAM337135 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337135 precursor RNA, designated SEQ ID NO: 141591, and a schematic representation of a predicted secondary folding of GAM337135 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337135 folded precursor RNA yielding a GAM337135 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337135 RNA, hereby incorporated herein.

GAM337135 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337135 target RNA, herein designated GAM TARGET RNA.

GAM337135 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337135 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337135 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337135 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337135 RNA, herein designated GAM RNA, to target binding sites on GAM337135 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337135 target RNA into GAM337135 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337135 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337135 target genes. The mRNA of each one of this plurality of GAM337135 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337135 RNA, herein designated GAM RNA, and which when bound by GAM337135 RNA causes inhibition of translation of the GAM337135 target mRNA into a corresponding GAM337135 target protein.

The mechanism of the translational inhibition exerted by GAM337135 RNA, herein designated GAM RNA, on one or more GAM337135 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337135 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337135 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337135 RNA, herein designated GAM RNA, of GAM337135 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337135 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337135 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337135 RNA correlate with, and may be deduced from, the identity of the GAM337135 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337136 141592 TCACATTCTC Fig. 8 further provides a conceptual description of another novel bioinformatically

CATAACTGGA detected oligonucleotides of the present invention, referred to here as Genomic Address

TATGAGGGAA Messenger 337136 (GAM337136) oligonucleotides modulates expression of respective target
GCATGGGACC genes whose function and utility is known in the art.

ATGATCCCTG GAM337136 is a novel bioinformatically detectable regulatory, non protein
GAGGGACTGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337136 was detected
AGGGATTGCC is described with additional reference to Figs. 9-15.

CACGCTAGTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATCTCACTGT encoded by the human genome.

ACAGCTGGAG GAM337136 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
AAACTGA GAM337136 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337136 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337136 precursor RNA is designated SEQ ID:141592, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141592 is located from position 73803663 to position 73803769 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337136 precursor RNA folds onto itself, forming GAM337136 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337136 precursor RNA, designated SEQ ID NO: 141592, and a schematic representation of a predicted secondary folding of GAM337136 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337136 folded precursor RNA yielding a GAM337136 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337136 RNA, hereby incorporated herein.

GAM337136 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337136 target RNA, herein designated GAM TARGET RNA.

GAM337136 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337136 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337136 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337136 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337136 RNA, herein designated GAM RNA, to target binding sites on GAM337136 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337136 target RNA into GAM337136 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337136 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337136 target genes. The mRNA of each one of this plurality of GAM337136 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337136 RNA, herein designated GAM RNA, and which when bound by GAM337136 RNA causes inhibition of translation of the GAM337136 target mRNA into a corresponding GAM337136 target protein.

The mechanism of the translational inhibition exerted by GAM337136 RNA, herein designated GAM RNA, on one or more GAM337136 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337136 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337136 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337136 RNA, herein designated GAM RNA, of GAM337136 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337136 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337136 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337136 RNA correlate with, and may be deduced from, the identity of the GAM337136 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337137 141593 AGAATTGAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TTTGTGGCTT detected oligonucleotides of the present invention, referred to here as Genomic Address

CGCTGTTCCT Messenger 337137 (GAM337137) oligonucleotides modulates expression of respective target

GTAGGGTGCA genes whose function and utility is known in the art.

TGACAAGATC GAM337137 is a novel bioinformatically detectable regulatory, non protein

CCTTCTCTTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337137 was detected

AGAAAGGAAA is described with additional reference to Figs. 9-15.

AAATTGATCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCCTAGCAGC encoded by the human genome.

AGTGATGCAT GAM337137 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

AGAAACCTAA GAM337137 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

TTTT GAM337137 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337137 precursor RNA is designated SEQ ID:141593, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141593 is located from position 73903433 to position 73903546 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM337137 precursor RNA folds onto itself, forming GAM337137 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337137 precursor RNA, designated SEQ ID NO: 141593, and a schematic representation of a predicted secondary folding of GAM337137 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337137 folded precursor RNA yielding a GAM337137 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337137 RNA, hereby incorporated herein.

GAM337137 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337137 target RNA, herein designated GAM TARGET RNA.

GAM337137 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337137 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337137 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337137 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337137 RNA, herein designated GAM RNA, to target binding sites on GAM337137 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337137 target RNA into GAM337137 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337137 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337137 target genes. The mRNA of each one of this plurality of GAM337137 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337137 RNA, herein designated GAM RNA, and which when bound by GAM337137 RNA causes inhibition of translation of the GAM337137 target mRNA into a corresponding GAM337137 target protein.

The mechanism of the translational inhibition exerted by GAM337137 RNA, herein designated GAM RNA, on one or more GAM337137 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337137 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337137 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337137 RNA, herein designated GAM RNA, of GAM337137 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337137 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337137 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337137 RNA correlate with, and may be deduced from, the identity of the GAM337137 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337138 141594 GAGACCTCTA Fig. 8 further provides a conceptual description of another novel bioinformatically
TCTATAAAAA detected oligonucleotides of the present invention, referred to here as Genomic Address
ATGAGGCAGG Messenger 337138 (GAM337138) oligonucleotides modulates expression of respective target
AGTTGGCAAG genes whose function and utility is known in the art.

AGGTCAAGAC GAM337138 is a novel bioinformatically detectable regulatory, non protein
TGCAATGAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337138 was detected
CATGATCCTG is described with additional reference to Figs. 9-15.

CCACTATACT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CCTGCCTGGG encoded by the human genome.

TGATGGGAGA GAM337138 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CCCTGTCTC GAM337138 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337138 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337138 precursor RNA is designated SEQ ID:141594, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141594 is located from position 73912141 to position 73912249 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM337138 precursor RNA folds onto itself, forming GAM337138 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337138 precursor RNA, designated SEQ ID NO: 141594, and a schematic representation of a predicted secondary folding of GAM337138 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337138 folded precursor RNA yielding a GAM337138 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337138 RNA, hereby incorporated herein.

GAM337138 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337138 target RNA, herein designated GAM TARGET RNA.

GAM337138 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337138 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337138 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337138 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337138 RNA, herein designated GAM RNA, to target binding sites on GAM337138 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337138 target RNA into GAM337138 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337138 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337138 target genes. The mRNA of each one of this plurality of GAM337138 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337138 RNA, herein designated GAM RNA, and which when bound by GAM337138 RNA causes inhibition of translation of the GAM337138 target mRNA into a corresponding GAM337138 target protein.

The mechanism of the translational inhibition exerted by GAM337138 RNA, herein designated GAM RNA, on one or more GAM337138 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337138 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337138 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337138 RNA, herein designated GAM RNA, of GAM337138 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337138 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337138 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337138 RNA correlate with, and may be deduced from, the identity of the GAM337138 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337139 141595 TCGGGAGGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
TGGTGAGTTC detected oligonucleotides of the present invention, referred to here as Genomic Address
CTGTCATCCT Messenger 337139 (GAM337139) oligonucleotides modulates expression of respective target
CTAACTCACA genes whose function and utility is known in the art.

TTAAAGGACA GAM337139 is a novel bioinformatically detectable regulatory, non protein
AATGAGAGGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337139 was detected
GCAGGGTGGC is described with additional reference to Figs. 9-15.

AGGTGGCCAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGATTGTTGT encoded by the human genome.

CCCAACTGA GAM337139 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337139 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337139 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337139 precursor RNA is designated SEQ ID:141595, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141595 is located from position 73938625 to position 73938723 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337139 precursor RNA folds onto itself, forming GAM337139 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337139 precursor RNA, designated SEQ ID NO: 141595, and a schematic representation of a predicted secondary folding of GAM337139 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337139 folded precursor RNA yielding a GAM337139 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337139 RNA, hereby incorporated herein.

GAM337139 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337139 target RNA, herein designated GAM TARGET RNA.

GAM337139 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337139 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337139 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337139 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337139 RNA, herein designated GAM RNA, to target binding sites on GAM337139 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337139 target RNA into GAM337139 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337139 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337139 target genes. The mRNA of each one of this plurality of GAM337139 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM337139 RNA, herein designated GAM RNA, and which when bound by GAM337139 RNA causes inhibition of translation of the GAM337139 target mRNA into a corresponding GAM337139 target protein.

The mechanism of the translational inhibition exerted by GAM337139 RNA, herein designated GAM RNA, on one or more GAM337139 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337139 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337139 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337139 RNA, herein designated GAM RNA, of GAM337139 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337139 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337139 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337139 RNA correlate with, and may be deduced from, the identity of the GAM337139 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337140 141596 CAGCGCGGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

CCCGCCACCC detected oligonucleotides of the present invention, referred to here as Genomic Address

TCAATAAATG Messenger 337140 (GAM337140) oligonucleotides modulates expression of respective target

TTGCTTGGAG genes whose function and utility is known in the art.

TGGACCGAGG GAM337140 is a novel bioinformatically detectable regulatory, non protein

CTCTGCAGGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337140 was detected

ATGCAGGGAG is described with additional reference to Figs. 9-15.

GGCCGGGCTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CGCCCCAGGG encoded by the human genome.

TTATTTCTAA GAM337140 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GTTGAGGACA GAM337140 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GGAGGTTGTG GAM337140 precursor RNA does not encode a protein. A nucleotide sequence identical or

AGTTCTGCTG highly similar to the nucleotide sequence of GAM337140 precursor RNA is designated SEQ

ID:141596, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141596 is located from position 73970646 to position 73970775 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337140 precursor RNA folds onto itself, forming GAM337140 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337140 precursor RNA, designated SEQ ID NO: 141596, and a schematic representation of a predicted secondary folding of GAM337140 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337140 folded precursor RNA yielding a GAM337140 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337140 RNA, hereby incorporated herein.

GAM337140 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337140 target RNA, herein designated GAM TARGET RNA.

GAM337140 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337140 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337140 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337140 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337140 RNA, herein designated GAM RNA, to target binding sites on GAM337140 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337140 target RNA into GAM337140 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337140 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337140 target genes. The mRNA of each one of this plurality of GAM337140 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337140 RNA, herein designated GAM RNA, and which when bound by GAM337140 RNA causes inhibition of translation of the GAM337140 target mRNA into a corresponding GAM337140 target protein.

The mechanism of the translational inhibition exerted by GAM337140 RNA, herein designated GAM RNA, on one or more GAM337140 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337140 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337140 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337140 RNA, herein designated GAM RNA, of GAM337140 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337140 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337140 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337140 RNA correlate with, and may be deduced from, the identity of the GAM337140 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337141 141597 CCTGGGGTCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GACGTGTGTG detected oligonucleotides of the present invention, referred to here as Genomic Address

CGTGTGAGTG Messenger 337141 (GAM337141) oligonucleotides modulates expression of respective target

TGTATACATG genes whose function and utility is known in the art.

CTTAACGTAT GAM337141 is a novel bioinformatically detectable regulatory, non protein
ATCACGTTAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337141 was detected
TTCACCTATG is described with additional reference to Figs. 9-15.

TCAGTAACCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GG encoded by the human genome.

GAM337141 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337141 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337141 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337141 precursor RNA is designated SEQ ID:141597, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141597 is located from position 74004427 to position 74004508 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337141 precursor RNA folds onto itself, forming GAM337141 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337141 precursor RNA, designated SEQ ID NO: 141597, and a schematic representation of a predicted secondary folding of GAM337141 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337141 folded precursor RNA yielding a GAM337141 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337141 RNA, hereby incorporated herein.

GAM337141 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337141 target RNA, herein designated GAM TARGET RNA.

GAM337141 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337141 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337141 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the

nucleotide sequence of GAM337141 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337141 RNA, herein designated GAM RNA, to target binding sites on GAM337141 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337141 target RNA into GAM337141 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337141 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337141 target genes. The mRNA of each one of this plurality of GAM337141 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337141 RNA, herein designated GAM RNA, and which when bound by GAM337141 RNA causes inhibition of translation of the GAM337141 target mRNA into a corresponding GAM337141 target protein.

The mechanism of the translational inhibition exerted by GAM337141 RNA, herein designated GAM RNA, on one or more GAM337141 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337141 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337141 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337141 RNA, herein designated GAM RNA, of GAM337141 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337141 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337141 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337141 RNA correlate with, and may be deduced from, the identity of the GAM337141 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337142 141598 CCATGGCCTG Fig. 8 further provides a conceptual description of another novel bioinformatically
GTGAGGAAAT detected oligonucleotides of the present invention, referred to here as Genomic Address
CAGAGTGTGT Messenger 337142 (GAM337142) oligonucleotides modulates expression of respective target
TTTGCTTTGT genes whose function and utility is known in the art.

ATTCTATTCC GAM337142 is a novel bioinformatically detectable regulatory, non protein
CACCTCAAAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337142 was detected
GCAGGATTAA is described with additional reference to Figs. 9-15.

AGTAGCACTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTTGTCACGT encoded by the human genome.

CTCATTATGG GAM337142 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
AAATCGG GAM337142 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337142 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337142 precursor RNA is designated SEQ ID:141598, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141598 is located from position 74020789 to position 74020895 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM337142 precursor RNA folds onto itself, forming GAM337142 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337142 precursor RNA, designated SEQ ID NO: 141598, and a schematic representation of a predicted secondary folding of GAM337142 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337142 folded precursor RNA yielding a GAM337142 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337142 RNA, hereby incorporated herein.

GAM337142 target gene, herein designated GAM TARGET GENE, encodes a

corresponding messenger RNA, GAM337142 target RNA, herein designated GAM TARGET RNA.

GAM337142 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337142 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337142 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337142 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337142 RNA, herein designated GAM RNA, to target binding sites on GAM337142 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337142 target RNA into GAM337142 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337142 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337142 target genes. The mRNA of each one of this plurality of GAM337142 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337142 RNA, herein designated GAM RNA, and which when bound by GAM337142 RNA causes inhibition of translation of the GAM337142 target mRNA into a corresponding GAM337142 target protein.

The mechanism of the translational inhibition exerted by GAM337142 RNA, herein designated GAM RNA, on one or more GAM337142 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337142 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337142 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337142 RNA, herein designated GAM RNA, of GAM337142 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337142 target RNA, herein designated

GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337142 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337142 RNA correlate with, and may be deduced from, the identity of the GAM337142 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337143 141599 GCTAGGATTG Fig. 8 further provides a conceptual description of another novel bioinformatically
CACCACTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CTCCAACCTG Messenger 337143 (GAM337143) oligonucleotides modulates expression of respective target
GACAACAGAG genes whose function and utility is known in the art.

CAAGACCCTG GAM337143 is a novel bioinformatically detectable regulatory, non protein
TCTCTAGGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337143 was detected
AGGTGCAGTG is described with additional reference to Figs. 9-15.

GCTCACACCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTAATCCCAG encoded by the human genome.

C GAM337143 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337143 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337143 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337143 precursor RNA is designated SEQ ID:141599, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141599 is located from position 74080872 to position 74080962 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337143 precursor RNA folds onto itself, forming GAM337143 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337143 precursor RNA, designated SEQ ID NO: 141599, and a schematic representation of a predicted secondary folding of GAM337143 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337143 folded precursor

RNA yielding a GAM337143 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337143 RNA, hereby incorporated herein.

GAM337143 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337143 target RNA, herein designated GAM TARGET RNA.

GAM337143 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337143 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337143 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337143 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337143 RNA, herein designated GAM RNA, to target binding sites on GAM337143 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337143 target RNA into GAM337143 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337143 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337143 target genes. The mRNA of each one of this plurality of GAM337143 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337143 RNA, herein designated GAM RNA, and which when bound by GAM337143 RNA causes inhibition of translation of the GAM337143 target mRNA into a corresponding GAM337143 target protein.

The mechanism of the translational inhibition exerted by GAM337143 RNA, herein designated GAM RNA, on one or more GAM337143 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337143 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337143 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337143 RNA, herein designated GAM RNA, of GAM337143 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337143 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337143 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337143 RNA correlate with, and may be deduced from, the identity of the GAM337143 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337144 141600 CCCACAGGTG Fig. 8 further provides a conceptual description of another novel bioinformatically

ATTCTGTTGT detected oligonucleotides of the present invention, referred to here as Genomic Address

GCAGCCATGG Messenger 337144 (GAM337144) oligonucleotides modulates expression of respective target

TTGGCAGGCT genes whose function and utility is known in the art.

GTTCACGGTG GAM337144 is a novel bioinformatically detectable regulatory, non protein

CTGTTCAACA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337144 was detected

GGTCCTGCTG is described with additional reference to Figs. 9-15.

TGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337144 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337144 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337144 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337144 precursor RNA is designated SEQ ID:141600, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141600 is located from position 74099672 to position 74099745 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GAM337144 precursor RNA folds onto itself, forming GAM337144 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337144 precursor RNA, designated SEQ ID NO: 141600, and a schematic representation of a predicted secondary folding of GAM337144 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337144 folded precursor RNA yielding a GAM337144 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337144 RNA, hereby incorporated herein.

GAM337144 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337144 target RNA, herein designated GAM TARGET RNA.

GAM337144 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337144 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337144 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337144 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337144 RNA, herein designated GAM RNA, to target binding sites on GAM337144 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337144 target RNA into GAM337144 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337144 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337144 target genes. The mRNA of each one of this plurality of GAM337144 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337144 RNA, herein designated GAM RNA, and which when bound by GAM337144 RNA causes inhibition of translation of the GAM337144 target mRNA into a corresponding GAM337144 target protein.

The mechanism of the translational inhibition exerted by GAM337144 RNA, herein designated GAM RNA, on one or more GAM337144 target genes, herein collectively designated

GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337144 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337144 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337144 RNA, herein designated GAM RNA, of GAM337144 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337144 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337144 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337144 RNA correlate with, and may be deduced from, the identity of the GAM337144 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337145 141601 TGTGCCTGCC Fig. 8 further provides a conceptual description of another novel bioinformatically

CCAATCTTGT detected oligonucleotides of the present invention, referred to here as Genomic Address

GTTTTATTGC Messenger 337145 (GAM337145) oligonucleotides modulates expression of respective target

TGGCCACCTG genes whose function and utility is known in the art.

TAGCCAGGCA GAM337145 is a novel bioinformatically detectable regulatory, non protein

CTGTGCAGGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337145 was detected

TGATGGGATC is described with additional reference to Figs. 9-15.

CAGCAGTGTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CA encoded by the human genome.

GAM337145 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337145 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337145 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337145 precursor RNA is designated SEQ ID:141601, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141601 is located from position 74141948 to position 74142029 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM337145 precursor RNA folds onto itself, forming GAM337145 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337145 precursor RNA, designated SEQ ID NO: 141601, and a schematic representation of a predicted secondary folding of GAM337145 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337145 folded precursor RNA yielding a GAM337145 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337145 RNA, hereby incorporated herein.

GAM337145 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337145 target RNA, herein designated GAM TARGET RNA.

GAM337145 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337145 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337145 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337145 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337145 RNA, herein designated GAM RNA, to target binding sites on GAM337145 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337145 target RNA into GAM337145 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337145 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM337145 target genes. The mRNA of each one of this plurality of GAM337145 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337145 RNA, herein designated GAM RNA, and which when bound by GAM337145 RNA causes inhibition of translation of the GAM337145 target mRNA into a corresponding GAM337145 target protein.

The mechanism of the translational inhibition exerted by GAM337145 RNA, herein designated GAM RNA, on one or more GAM337145 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337145 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337145 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337145 RNA, herein designated GAM RNA, of GAM337145 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337145 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337145 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337145 RNA correlate with, and may be deduced from, the identity of the GAM337145 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337146 141602 TGAGACAGAA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATCGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACTCGGGCG Messenger 337146 (GAM337146) oligonucleotides modulates expression of respective target

GCGGAAGTTG genes whose function and utility is known in the art.

CAGTGAGCTG GAM337146 is a novel bioinformatically detectable regulatory, non protein

AGATTGCACC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337146 was detected

ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAGTGAGAC encoded by the human genome.

TCTGTCTCA GAM337146 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337146 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337146 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337146 precursor RNA is designated SEQ ID:141602, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141602 is located from position 74273377 to position 74273475 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GAM337146 precursor RNA folds onto itself, forming GAM337146 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337146 precursor RNA, designated SEQ ID NO: 141602, and a schematic representation of a predicted secondary folding of GAM337146 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337146 folded precursor RNA yielding a GAM337146 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337146 RNA, hereby incorporated herein. Expression of GAM337146 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337146 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337146 target RNA, herein designated GAM TARGET RNA.

GAM337146 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337146 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337146 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337146 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337146 RNA, herein designated GAM RNA, to target binding sites on GAM337146 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337146 target RNA into GAM337146 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337146 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337146 target genes. The mRNA of each one of this plurality of GAM337146 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337146 RNA, herein designated GAM RNA, and which when bound by GAM337146 RNA causes inhibition of translation of the GAM337146 target mRNA into a corresponding GAM337146 target protein.

The mechanism of the translational inhibition exerted by GAM337146 RNA, herein designated GAM RNA, on one or more GAM337146 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337146 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337146 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337146 RNA, herein designated GAM RNA, of GAM337146 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337146 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337146 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337146 RNA correlate with, and may be deduced from, the identity of the GAM337146 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337147 141603 GAGACAGAAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACTCGGGCGG Messenger 337147 (GAM337147) oligonucleotides modulates expression of respective target

CGGAAGTTGC genes whose function and utility is known in the art.

AGTGAGCTGA GAM337147 is a novel bioinformatically detectable regulatory, non protein
GATTGCACCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337147 was detected
CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGTGAGACT encoded by the human genome.

CTGTCTC GAM337147 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337147 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337147 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337147 precursor RNA is designated SEQ ID:141603, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141603 is located from position 74273378 to position 74273474 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GAM337147 precursor RNA folds onto itself, forming GAM337147 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337147 precursor RNA, designated SEQ ID NO: 141603, and a schematic representation of a predicted secondary folding of GAM337147 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337147 folded precursor RNA yielding a GAM337147 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337147 RNA, hereby incorporated herein. Expression of GAM337147 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337147 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337147 target RNA, herein designated GAM TARGET RNA.

GAM337147 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337147 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337147 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337147 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337147 RNA, herein designated GAM RNA, to target binding sites on GAM337147 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337147 target RNA into GAM337147 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337147 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337147 target genes. The mRNA of each one of this plurality of GAM337147 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337147 RNA, herein designated GAM RNA, and which when bound by GAM337147 RNA causes inhibition of translation of the GAM337147 target mRNA into a corresponding GAM337147 target protein.

The mechanism of the translational inhibition exerted by GAM337147 RNA, herein designated GAM RNA, on one or more GAM337147 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337147 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337147 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337147 RNA, herein designated GAM RNA, of GAM337147 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337147 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337147 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337147 RNA correlate with, and may be deduced from, the identity of the GAM337147 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337148 141604 TCGCTTGAAC TCGGGCGGCG GAAGTTGCAG TGAGCTGAGA TTGCACCACT GCACTCCAGC CTGGGCAACA GTGA

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337148 (GAM337148) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337148 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337148 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337148 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337148 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337148 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337148 precursor RNA is designated SEQ ID:141604, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141604 is located from position 74273390 to position 74273463 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GAM337148 precursor RNA folds onto itself, forming GAM337148 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337148 precursor RNA, designated SEQ ID NO: 141604, and a schematic representation of a predicted secondary folding of GAM337148 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337148 folded precursor RNA yielding a GAM337148 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337148 RNA, hereby incorporated herein. Expression of GAM337148 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337148 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337148 target RNA, herein designated GAM TARGET RNA.

GAM337148 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337148 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337148 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337148 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337148 RNA, herein designated GAM RNA, to target binding sites on GAM337148 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337148 target RNA into GAM337148 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337148 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337148 target genes. The mRNA of each one of this plurality of GAM337148 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337148 RNA, herein designated GAM RNA, and which when bound by GAM337148 RNA causes inhibition of translation of the GAM337148 target mRNA into a corresponding GAM337148 target protein.

The mechanism of the translational inhibition exerted by GAM337148 RNA, herein designated GAM RNA, on one or more GAM337148 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337148 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337148 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337148 RNA, herein designated GAM RNA, of

GAM337148 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337148 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337148 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337148 RNA correlate with, and may be deduced from, the identity of the GAM337148 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337149 141605 AAATTTTGGG GGAATTTTAC TGCCCTAGAG GACTGGTTCT AGCCACTTTC CCAGGGCAGT GGATCTCTGC AAAGTTT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337149 (GAM337149) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337149 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337149 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337149 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337149 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337149 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337149 precursor RNA is designated SEQ ID:141605, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141605 is located from position 74455579 to position 74455655 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM337149 precursor RNA folds onto itself, forming GAM337149 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337149 precursor RNA, designated SEQ ID NO: 141605,

and a schematic representation of a predicted secondary folding of GAM337149 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337149 folded precursor RNA yielding a GAM337149 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337149 RNA, hereby incorporated herein.

GAM337149 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337149 target RNA, herein designated GAM TARGET RNA.

GAM337149 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337149 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337149 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337149 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337149 RNA, herein designated GAM RNA, to target binding sites on GAM337149 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337149 target RNA into GAM337149 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337149 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337149 target genes. The mRNA of each one of this plurality of GAM337149 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337149 RNA, herein designated GAM RNA, and which when bound by GAM337149 RNA causes inhibition of translation of the GAM337149 target mRNA into a corresponding GAM337149 target protein.

The mechanism of the translational inhibition exerted by GAM337149 RNA, herein designated GAM RNA, on one or more GAM337149 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337149 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337149 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337149 RNA, herein designated GAM RNA, of GAM337149 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337149 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337149 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337149 RNA correlate with, and may be deduced from, the identity of the GAM337149 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337150 141606 GCTAGGATTG Fig. 8 further provides a conceptual description of another novel bioinformatically
CACCACTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CTCCAACCTG Messenger 337150 (GAM337150) oligonucleotides modulates expression of respective target
GACAACAGAG genes whose function and utility is known in the art.

CAAGACCCTG GAM337150 is a novel bioinformatically detectable regulatory, non protein
TCTCTAGGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337150 was detected
AGGTGCAGTG is described with additional reference to Figs. 9-15.

GCTCACACCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTAATCCCAG encoded by the human genome.

C GAM337150 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337150 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337150 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337150 precursor RNA is designated SEQ ID:141606, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141606 is located from position 74495125 to position 74495215 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337150 precursor RNA folds onto itself, forming GAM337150 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337150 precursor RNA, designated SEQ ID NO: 141606, and a schematic representation of a predicted secondary folding of GAM337150 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337150 folded precursor RNA yielding a GAM337150 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337150 RNA, hereby incorporated herein.

GAM337150 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337150 target RNA, herein designated GAM TARGET RNA.

GAM337150 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337150 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337150 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337150 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337150 RNA, herein designated GAM RNA, to target binding sites on GAM337150 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337150 target RNA into GAM337150 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337150 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337150 target genes. The mRNA of each one of this plurality of GAM337150 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM337150 RNA, herein designated GAM RNA, and which when bound by GAM337150 RNA causes inhibition of translation of the GAM337150 target mRNA into a corresponding GAM337150 target protein.

The mechanism of the translational inhibition exerted by GAM337150 RNA, herein designated GAM RNA, on one or more GAM337150 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337150 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337150 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337150 RNA, herein designated GAM RNA, of GAM337150 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337150 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337150 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337150 RNA correlate with, and may be deduced from, the identity of the GAM337150 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337151 141607 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AATCATTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCTGGGAAG Messenger 337151 (GAM337151) oligonucleotides modulates expression of respective target
TGGAGGTTGC genes whose function and utility is known in the art.

AGTGAGCCAA GAM337151 is a novel bioinformatically detectable regulatory, non protein
GATCGTGTCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337151 was detected
CTGCACTCTA is described with additional reference to Figs. 9-15.

GCCTAGGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TAAAGCGAGA encoded by the human genome.

CTCAGTCTC GAM337151 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337151 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337151 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337151 precursor RNA is designated SEQ ID:141607, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141607 is located from position 74600951 to position 74601049 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337151 precursor RNA folds onto itself, forming GAM337151 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337151 precursor RNA, designated SEQ ID NO: 141607, and a schematic representation of a predicted secondary folding of GAM337151 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337151 folded precursor RNA yielding a GAM337151 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337151 RNA, hereby incorporated herein.

GAM337151 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337151 target RNA, herein designated GAM TARGET RNA.

GAM337151 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337151 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337151 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337151 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337151 RNA, herein designated GAM RNA, to target

binding sites on GAM337151 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337151 target RNA into GAM337151 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337151 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337151 target genes. The mRNA of each one of this plurality of GAM337151 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337151 RNA, herein designated GAM RNA, and which when bound by GAM337151 RNA causes inhibition of translation of the GAM337151 target mRNA into a corresponding GAM337151 target protein.

The mechanism of the translational inhibition exerted by GAM337151 RNA, herein designated GAM RNA, on one or more GAM337151 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337151 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337151 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337151 RNA, herein designated GAM RNA, of GAM337151 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337151 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337151 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337151 RNA correlate with, and may be deduced from, the identity of the GAM337151 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337152 141608 GCACAGTGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AGAAACAGAC detected oligonucleotides of the present invention, referred to here as Genomic Address

TCCACCACAC Messenger 337152 (GAM337152) oligonucleotides modulates expression of respective target

CTTCTTGGCT genes whose function and utility is known in the art.

GTGCAAGGAA GAM337152 is a novel bioinformatically detectable regulatory, non protein

GTCAGATGAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337152 was detected

GTTGGAGTCT is described with additional reference to Figs. 9-15.

GTGCTACTGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GC encoded by the human genome.

GAM337152 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337152 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337152 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337152 precursor RNA is designated SEQ ID:141608, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141608 is located from position 74682720 to position 74682801 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM337152 precursor RNA folds onto itself, forming GAM337152 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337152 precursor RNA, designated SEQ ID NO: 141608, and a schematic representation of a predicted secondary folding of GAM337152 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337152 folded precursor RNA yielding a GAM337152 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337152 RNA, hereby incorporated herein.

GAM337152 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337152 target RNA, herein designated GAM TARGET RNA.

GAM337152 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337152 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337152 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337152 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337152 RNA, herein designated GAM RNA, to target binding sites on GAM337152 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337152 target RNA into GAM337152 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337152 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337152 target genes. The mRNA of each one of this plurality of GAM337152 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337152 RNA, herein designated GAM RNA, and which when bound by GAM337152 RNA causes inhibition of translation of the GAM337152 target mRNA into a corresponding GAM337152 target protein.

The mechanism of the translational inhibition exerted by GAM337152 RNA, herein designated GAM RNA, on one or more GAM337152 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337152 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337152 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337152 RNA, herein designated GAM RNA, of GAM337152 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337152 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337152 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337152 RNA correlate with, and may be deduced from, the identity of the GAM337152 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337153 141609 GAGGCTGAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

AAAGAAGATT detected oligonucleotides of the present invention, referred to here as Genomic Address
GCTTGAGCCC Messenger 337153 (GAM337153) oligonucleotides modulates expression of respective target
AGGAATTAGA genes whose function and utility is known in the art.

GGCTGCAATG GAM337153 is a novel bioinformatically detectable regulatory, non protein
AGCTATGATC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337153 was detected
ATGCCACTGC is described with additional reference to Figs. 9-15.

ACTCCATCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGGGAGCAGA encoded by the human genome.

GCTAGACTCT GAM337153 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GTCTC GAM337153 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337153 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337153 precursor RNA is designated SEQ ID:141609, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141609 is located from position 74726081 to position 74726185 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337153 precursor RNA folds onto itself, forming GAM337153 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337153 precursor RNA, designated SEQ ID NO: 141609, and a schematic representation of a predicted secondary folding of GAM337153 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337153 folded precursor RNA yielding a GAM337153 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337153 RNA, hereby incorporated herein.

GAM337153 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337153 target RNA, herein designated GAM TARGET RNA.

GAM337153 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337153 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337153 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337153 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337153 RNA, herein designated GAM RNA, to target binding sites on GAM337153 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337153 target RNA into GAM337153 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337153 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337153 target genes. The mRNA of each one of this plurality of GAM337153 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337153 RNA, herein designated GAM RNA, and which when bound by GAM337153 RNA causes inhibition of translation of the GAM337153 target mRNA into a corresponding GAM337153 target protein.

The mechanism of the translational inhibition exerted by GAM337153 RNA, herein designated GAM RNA, on one or more GAM337153 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337153 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337153 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337153 RNA, herein designated GAM RNA, of GAM337153 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337153 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337153 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337153 RNA correlate with, and may be deduced from, the identity of the GAM337153 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337154 141610 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATCACTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCCGGGAG Messenger 337154 (GAM337154) oligonucleotides modulates expression of respective target
GTGGAGGTTG genes whose function and utility is known in the art.

CAGTGAGCTG GAM337154 is a novel bioinformatically detectable regulatory, non protein
AGATTGCGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337154 was detected
ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAGAGCGAG encoded by the human genome.

ACTCCATCTC GAM337154 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
A GAM337154 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337154 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337154 precursor RNA is designated SEQ ID:141610, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141610 is located from position 74733011 to position 74733111 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337154 precursor RNA folds onto itself, forming GAM337154 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337154 precursor RNA, designated SEQ ID NO: 141610, and a schematic representation of a predicted secondary folding of GAM337154 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337154 folded precursor RNA yielding a GAM337154 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337154 RNA, hereby incorporated herein. Expression of GAM337154 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337154 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337154 target RNA, herein designated GAM TARGET RNA.

GAM337154 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337154 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337154 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337154 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337154 RNA, herein designated GAM RNA, to target binding sites on GAM337154 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337154 target RNA into GAM337154 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337154 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337154 target genes. The mRNA of each one of this plurality of GAM337154 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337154 RNA, herein designated GAM RNA, and which when bound by GAM337154 RNA causes inhibition of translation of the GAM337154 target mRNA into a corresponding GAM337154 target protein.

The mechanism of the translational inhibition exerted by GAM337154 RNA, herein designated GAM RNA, on one or more GAM337154 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337154 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337154 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337154 RNA, herein designated GAM RNA, of GAM337154 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337154 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337154 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337154 RNA correlate with, and may be deduced from, the identity of the GAM337154 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337155 141611 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCACTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCCGGGAGG Messenger 337155 (GAM337155) oligonucleotides modulates expression of respective target

TGGAGGTTGC genes whose function and utility is known in the art.

AGTGAGCTGA GAM337155 is a novel bioinformatically detectable regulatory, non protein

GATTGCGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337155 was detected

CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGAGCGAGA encoded by the human genome.

CTCCATCTC GAM337155 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337155 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337155 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337155 precursor RNA is designated SEQ ID:141611, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141611 is located from position 74733012 to position 74733110 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337155 precursor RNA folds onto itself, forming GAM337155 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337155 precursor RNA, designated SEQ ID NO: 141611, and a schematic representation of a predicted secondary folding of GAM337155 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337155 folded precursor RNA yielding a GAM337155 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337155 RNA, hereby incorporated herein. Expression of GAM337155 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337155 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337155 target RNA, herein designated GAM TARGET RNA.

GAM337155 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337155 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337155 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337155 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337155 RNA, herein designated GAM RNA, to target binding sites on GAM337155 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337155 target RNA into GAM337155 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337155 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337155 target genes. The mRNA of each one of this plurality of GAM337155 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337155 RNA, herein designated GAM RNA, and which when bound by GAM337155 RNA causes inhibition of translation of the GAM337155 target mRNA into a corresponding GAM337155 target protein.

The mechanism of the translational inhibition exerted by GAM337155 RNA, herein designated GAM RNA, on one or more GAM337155 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337155 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337155 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337155 RNA, herein designated GAM RNA, of GAM337155 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337155 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337155 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337155 RNA correlate with, and may be deduced from, the identity of the GAM337155 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337156 141612 GGAGAATCAC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTGGAGG Messenger 337156 (GAM337156) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

CTGAGATTGC GAM337156 is a novel bioinformatically detectable regulatory, non protein

GCCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337156 was detected

TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGACTCC encoded by the human genome.

GAM337156 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337156 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337156 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337156 precursor RNA is designated SEQ

ID:141612, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141612 is located from position 74733018 to position 74733105 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337156 precursor RNA folds onto itself, forming GAM337156 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337156 precursor RNA, designated SEQ ID NO: 141612, and a schematic representation of a predicted secondary folding of GAM337156 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337156 folded precursor RNA yielding a GAM337156 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337156 RNA, hereby incorporated herein. Expression of GAM337156 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337156 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337156 target RNA, herein designated GAM TARGET RNA.

GAM337156 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337156 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337156 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337156 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337156 RNA, herein designated GAM RNA, to target binding sites on GAM337156 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337156 target RNA into GAM337156 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337156 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337156 target genes. The mRNA of each one of this plurality of GAM337156 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337156 RNA, herein designated GAM RNA, and which when bound by GAM337156 RNA causes inhibition of translation of the GAM337156 target mRNA into a corresponding GAM337156 target protein.

The mechanism of the translational inhibition exerted by GAM337156 RNA, herein designated GAM RNA, on one or more GAM337156 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337156 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337156 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337156 RNA, herein designated GAM RNA, of GAM337156 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337156 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337156 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337156 RNA correlate with, and may be deduced from, the identity of the GAM337156 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337157 141613 GGAGAATTGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGCACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGCAGAGG Messenger 337157 (GAM337157) oligonucleotides modulates expression of respective target
TTGTGGTGAG genes whose function and utility is known in the art.

CTGAGATCGT GAM337157 is a novel bioinformatically detectable regulatory, non protein
CCCATTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337157 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GTGACAGGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAAACTCC encoded by the human genome.

GAM337157 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337157 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337157 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337157 precursor RNA is designated SEQ ID:141613, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141613 is located from position 74841732 to position 74841819 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM337157 precursor RNA folds onto itself, forming GAM337157 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337157 precursor RNA, designated SEQ ID NO: 141613, and a schematic representation of a predicted secondary folding of GAM337157 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337157 folded precursor RNA yielding a GAM337157 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337157 RNA, hereby incorporated herein.

GAM337157 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337157 target RNA, herein designated GAM TARGET RNA.

GAM337157 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337157 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337157 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337157 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337157 RNA, herein designated GAM RNA, to target binding sites on GAM337157 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337157 target RNA into GAM337157 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337157 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337157 target genes. The mRNA of each one of this plurality of GAM337157 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337157 RNA, herein designated GAM RNA, and which when bound by GAM337157 RNA causes inhibition of translation of the GAM337157 target mRNA into a corresponding GAM337157 target protein.

The mechanism of the translational inhibition exerted by GAM337157 RNA, herein designated GAM RNA, on one or more GAM337157 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337157 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337157 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337157 RNA, herein designated GAM RNA, of GAM337157 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337157 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337157 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337157 RNA correlate with, and may be deduced from, the identity of the GAM337157 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337158 141614 GGATGGTTTG Fig. 8 further provides a conceptual description of another novel bioinformatically

GGGAAGAGAA detected oligonucleotides of the present invention, referred to here as Genomic Address

TGTGCATGGA Messenger 337158 (GAM337158) oligonucleotides modulates expression of respective target
TCGCTCAGAA genes whose function and utility is known in the art.

CTGACCCAGA GAM337158 is a novel bioinformatically detectable regulatory, non protein
GGCAATGAGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337158 was detected
ATTTGTGTGC is described with additional reference to Figs. 9-15.

CATGTGGATT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTCTCCAAAA encoded by the human genome.

TGTCC GAM337158 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337158 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337158 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337158 precursor RNA is designated SEQ ID:141614, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141614 is located from position 74959089 to position 74959183 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM337158 precursor RNA folds onto itself, forming GAM337158 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337158 precursor RNA, designated SEQ ID NO: 141614, and a schematic representation of a predicted secondary folding of GAM337158 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337158 folded precursor RNA yielding a GAM337158 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337158 RNA, hereby incorporated herein.

GAM337158 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337158 target RNA, herein designated GAM TARGET RNA.

GAM337158 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337158 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337158 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337158 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337158 RNA, herein designated GAM RNA, to target binding sites on GAM337158 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337158 target RNA into GAM337158 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337158 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337158 target genes. The mRNA of each one of this plurality of GAM337158 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337158 RNA, herein designated GAM RNA, and which when bound by GAM337158 RNA causes inhibition of translation of the GAM337158 target mRNA into a corresponding GAM337158 target protein.

The mechanism of the translational inhibition exerted by GAM337158 RNA, herein designated GAM RNA, on one or more GAM337158 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337158 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337158 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337158 RNA, herein designated GAM RNA, of GAM337158 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337158 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337158 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337158 RNA correlate with, and may be deduced from, the identity of the GAM337158 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337159 141615 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 337159 (GAM337159) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337159 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337159 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337159 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337159 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337159 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337159 precursor RNA is designated SEQ ID:141615, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141615 is located from position 75061068 to position 75061149 relative to chromosome chr18 on the `-` strand (chr is an abbreviation for chromosome).

GAM337159 precursor RNA folds onto itself, forming GAM337159 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337159 precursor RNA, designated SEQ ID NO: 141615, and a schematic representation of a predicted secondary folding of GAM337159 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337159 folded precursor RNA yielding a GAM337159 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides two possible nucleotide sequences of GAM337159 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337159 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337159 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337159 target RNA, herein designated GAM TARGET RNA.

GAM337159 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337159 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337159 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337159 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337159 RNA, herein designated GAM RNA, to target binding sites on GAM337159 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337159 target RNA into GAM337159 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337159 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337159 target genes. The mRNA of each one of this plurality of GAM337159 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337159 RNA, herein designated GAM RNA, and which when bound by GAM337159 RNA causes inhibition of translation of the GAM337159 target mRNA into a corresponding GAM337159 target protein.

The mechanism of the translational inhibition exerted by GAM337159 RNA, herein designated GAM RNA, on one or more GAM337159 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337159 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337159 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337159 RNA, herein designated GAM RNA, of

GAM337159 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337159 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337159 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337159 RNA correlate with, and may be deduced from, the identity of the GAM337159 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337160 141616 GAGACAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCACTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ATCCGGGAGG Messenger 337160 (GAM337160) oligonucleotides modulates expression of respective target

CAAAGGTTGC genes whose function and utility is known in the art.

AGTGTGTCAA GAM337160 is a novel bioinformatically detectable regulatory, non protein

GATCACACCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337160 was detected

CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGAGTGAGA encoded by the human genome.

CTTCATCTC GAM337160 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337160 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337160 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337160 precursor RNA is designated SEQ ID:141616, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141616 is located from position 75203402 to position 75203500 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM337160 precursor RNA folds onto itself, forming GAM337160 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337160 precursor RNA, designated SEQ ID NO: 141616, and a schematic representation of a predicted secondary folding of GAM337160 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337160 folded precursor RNA yielding a GAM337160 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337160 RNA, hereby incorporated herein. Expression of GAM337160 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337160 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337160 target RNA, herein designated GAM TARGET RNA.

GAM337160 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337160 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337160 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337160 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337160 RNA, herein designated GAM RNA, to target binding sites on GAM337160 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337160 target RNA into GAM337160 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337160 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337160 target genes. The mRNA of each one of this plurality of GAM337160 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337160 RNA, herein designated GAM RNA, and which when bound by GAM337160 RNA causes inhibition of translation of the GAM337160 target mRNA into a corresponding GAM337160 target protein.

The mechanism of the translational inhibition exerted by GAM337160 RNA, herein

designated GAM RNA, on one or more GAM337160 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337160 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337160 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337160 RNA, herein designated GAM RNA, of GAM337160 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337160 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337160 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337160 RNA correlate with, and may be deduced from, the identity of the GAM337160 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337161 141617 GTTATGAAGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGTAGGGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

TTTAGCTCCA Messenger 337161 (GAM337161) oligonucleotides modulates expression of respective target

CAGGGTCAGA genes whose function and utility is known in the art.

CCTGCAGGTG GAM337161 is a novel bioinformatically detectable regulatory, non protein

CAAACAGGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337161 was detected

CTAGGCGAAC is described with additional reference to Figs. 9-15.

CCCCTGGAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAACGTTGAC encoded by the human genome.

GAM337161 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337161 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337161 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337161 precursor RNA is designated SEQ ID:141617, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141617 is located from position 75209026 to position 75209115

relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GAM337161 precursor RNA folds onto itself, forming GAM337161 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337161 precursor RNA, designated SEQ ID NO: 141617, and a schematic representation of a predicted secondary folding of GAM337161 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337161 folded precursor RNA yielding a GAM337161 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337161 RNA, hereby incorporated herein.

GAM337161 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337161 target RNA, herein designated GAM TARGET RNA.

GAM337161 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337161 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337161 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337161 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337161 RNA, herein designated GAM RNA, to target binding sites on GAM337161 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337161 target RNA into GAM337161 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337161 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337161 target genes. The mRNA of each one of this plurality of GAM337161 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337161 RNA, herein designated GAM RNA, and which when bound by GAM337161 RNA causes inhibition of translation of the GAM337161 target mRNA into a corresponding GAM337161 target protein.

The mechanism of the translational inhibition exerted by GAM337161 RNA, herein designated GAM RNA, on one or more GAM337161 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337161 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337161 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337161 RNA, herein designated GAM RNA, of GAM337161 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337161 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337161 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337161 RNA correlate with, and may be deduced from, the identity of the GAM337161 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337162 141618 GGAGAATGGC Fig. 8 further provides a conceptual description of another novel bioinformatically

ATGAACCCGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTGGAGC Messenger 337162 (GAM337162) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

CAGAGATCAC GAM337162 is a novel bioinformatically detectable regulatory, non protein

GCCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337162 was detected

TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGACTCC encoded by the human genome.

GAM337162 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337162 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337162 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337162 precursor RNA is designated SEQ ID:141618, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141618 is located from position 75245669 to position 75245756 relative to chromosome chr3 on the `-` strand (chr is an abbreviation for chromosome).

GAM337162 precursor RNA folds onto itself, forming GAM337162 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337162 precursor RNA, designated SEQ ID NO: 141618, and a schematic representation of a predicted secondary folding of GAM337162 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337162 folded precursor RNA yielding a GAM337162 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337162 RNA, hereby incorporated herein. Expression of GAM337162 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337162 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337162 target RNA, herein designated GAM TARGET RNA.

GAM337162 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337162 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337162 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337162 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337162 RNA, herein designated GAM RNA, to target binding sites on GAM337162 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337162 target RNA into GAM337162 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337162 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337162 target genes. The mRNA of each one of this plurality of GAM337162 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337162 RNA, herein designated GAM RNA, and which when bound by GAM337162 RNA causes inhibition of translation of the GAM337162 target mRNA into a corresponding GAM337162 target protein.

The mechanism of the translational inhibition exerted by GAM337162 RNA, herein designated GAM RNA, on one or more GAM337162 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337162 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337162 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337162 RNA, herein designated GAM RNA, of GAM337162 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337162 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337162 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337162 RNA correlate with, and may be deduced from, the identity of the GAM337162 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337163 141619 AGAGAGGGAC Fig. 8 further provides a conceptual description of another novel bioinformatically

CAGCTCTTGG detected oligonucleotides of the present invention, referred to here as Genomic Address

CAATCAATGG Messenger 337163 (GAM337163) oligonucleotides modulates expression of respective target

GGTCTCTTGC genes whose function and utility is known in the art.

ACCAACCTCT GAM337163 is a novel bioinformatically detectable regulatory, non protein
CCCATGCCAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337163 was detected
TGCCATGAGC is described with additional reference to Figs. 9-15.

CTCATCGATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CCTCAGGAAA encoded by the human genome.

TCAGCTTGTC GAM337163 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CTCACT GAM337163 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337163 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337163 precursor RNA is designated SEQ ID:141619, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141619 is located from position 75306320 to position 75306425 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM337163 precursor RNA folds onto itself, forming GAM337163 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337163 precursor RNA, designated SEQ ID NO: 141619, and a schematic representation of a predicted secondary folding of GAM337163 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337163 folded precursor RNA yielding a GAM337163 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337163 RNA, hereby incorporated herein.

GAM337163 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337163 target RNA, herein designated GAM TARGET RNA.

GAM337163 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337163 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337163 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337163 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337163 RNA, herein designated GAM RNA, to target binding sites on GAM337163 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337163 target RNA into GAM337163 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337163 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337163 target genes. The mRNA of each one of this plurality of GAM337163 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337163 RNA, herein designated GAM RNA, and which when bound by GAM337163 RNA causes inhibition of translation of the GAM337163 target mRNA into a corresponding GAM337163 target protein.

The mechanism of the translational inhibition exerted by GAM337163 RNA, herein designated GAM RNA, on one or more GAM337163 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337163 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337163 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337163 RNA, herein designated GAM RNA, of GAM337163 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337163 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337163 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337163 RNA correlate with, and may be deduced from, the identity of the GAM337163 target gene

inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337164 141620 GGACCAGCTC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGGCAATCA detected oligonucleotides of the present invention, referred to here as Genomic Address
ATGGGGTCTC Messenger 337164 (GAM337164) oligonucleotides modulates expression of respective target
TTGCACCAAC genes whose function and utility is known in the art.

CTCTCCCATG GAM337164 is a novel bioinformatically detectable regulatory, non protein
CCAGTGCCAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337164 was detected
GAGCCTCATC is described with additional reference to Figs. 9-15.

GATGCCTCAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAAATCAGCT encoded by the human genome.

TGTCC GAM337164 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337164 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337164 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337164 precursor RNA is designated SEQ ID:141620, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141620 is located from position 75306325 to position 75306419 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM337164 precursor RNA folds onto itself, forming GAM337164 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337164 precursor RNA, designated SEQ ID NO: 141620, and a schematic representation of a predicted secondary folding of GAM337164 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337164 folded precursor RNA yielding a GAM337164 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly

similar to the nucleotide sequence of GAM337164 RNA, hereby incorporated herein.

GAM337164 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337164 target RNA, herein designated GAM TARGET RNA.

GAM337164 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337164 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337164 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337164 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337164 RNA, herein designated GAM RNA, to target binding sites on GAM337164 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337164 target RNA into GAM337164 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337164 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337164 target genes. The mRNA of each one of this plurality of GAM337164 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337164 RNA, herein designated GAM RNA, and which when bound by GAM337164 RNA causes inhibition of translation of the GAM337164 target mRNA into a corresponding GAM337164 target protein.

The mechanism of the translational inhibition exerted by GAM337164 RNA, herein designated GAM RNA, on one or more GAM337164 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337164 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337164 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337164 RNA, herein designated GAM RNA, of GAM337164 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337164 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337164 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337164 RNA correlate with, and may be deduced from, the identity of the GAM337164 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337165 141621 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTACA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACGTGCAG Messenger 337165 (GAM337165) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337165 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337165 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337165 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337165 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337165 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337165 precursor RNA is designated SEQ ID:141621, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141621 is located from position 75615894 to position 75615975 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM337165 precursor RNA folds onto itself, forming GAM337165 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337165 precursor RNA, designated SEQ ID NO: 141621, and a schematic representation of a predicted secondary folding of GAM337165 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337165 folded precursor RNA yielding a GAM337165 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337165 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337165 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337165 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337165 target RNA, herein designated GAM TARGET RNA.

GAM337165 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337165 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337165 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337165 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337165 RNA, herein designated GAM RNA, to target binding sites on GAM337165 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337165 target RNA into GAM337165 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337165 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337165 target genes. The mRNA of each one of this plurality of GAM337165 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337165 RNA, herein designated GAM RNA, and which when bound by GAM337165 RNA causes inhibition of translation of the GAM337165 target mRNA into a corresponding GAM337165 target protein.

The mechanism of the translational inhibition exerted by GAM337165 RNA, herein designated GAM RNA, on one or more GAM337165 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337165 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337165 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337165 RNA, herein designated GAM RNA, of GAM337165 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337165 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337165 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337165 RNA correlate with, and may be deduced from, the identity of the GAM337165 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337166 141622 GAGGCTGAGG Fig. 8 further provides a conceptual description of another novel bioinformatically
AAAGAAGATT detected oligonucleotides of the present invention, referred to here as Genomic Address
GCTTGAGCCC Messenger 337166 (GAM337166) oligonucleotides modulates expression of respective target
AGGAATTAGA genes whose function and utility is known in the art.

GGCTGCAATG GAM337166 is a novel bioinformatically detectable regulatory, non protein
AGCTATGATC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337166 was detected
ATGCCACTGC is described with additional reference to Figs. 9-15.

ACTCCATCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGGGAGCAGA encoded by the human genome.

GCTAGACTCT GAM337166 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GTCTC GAM337166 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337166 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337166 precursor RNA is designated SEQ ID:141622, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141622 is located from position 75764518 to position 75764622 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337166 precursor RNA folds onto itself, forming GAM337166 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337166 precursor RNA, designated SEQ ID NO: 141622, and a schematic representation of a predicted secondary folding of GAM337166 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337166 folded precursor RNA yielding a GAM337166 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337166 RNA, hereby incorporated herein.

GAM337166 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337166 target RNA, herein designated GAM TARGET RNA.

GAM337166 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337166 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337166 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337166 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337166 RNA, herein designated GAM RNA, to target binding sites on GAM337166 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337166 target RNA into GAM337166 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337166 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337166 target genes. The mRNA of each one of this plurality of GAM337166 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM337166 RNA, herein designated GAM RNA, and which when bound by GAM337166 RNA causes inhibition of translation of the GAM337166 target mRNA into a corresponding GAM337166 target protein.

The mechanism of the translational inhibition exerted by GAM337166 RNA, herein designated GAM RNA, on one or more GAM337166 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337166 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337166 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337166 RNA, herein designated GAM RNA, of GAM337166 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337166 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337166 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337166 RNA correlate with, and may be deduced from, the identity of the GAM337166 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337167 141623 GGAATAAGAA Fig. 8 further provides a conceptual description of another novel bioinformatically

AGGCAACGTT detected oligonucleotides of the present invention, referred to here as Genomic Address

TTGCAGCTTC Messenger 337167 (GAM337167) oligonucleotides modulates expression of respective target

CAAATTTCTG genes whose function and utility is known in the art.

AAGAAACTAA GAM337167 is a novel bioinformatically detectable regulatory, non protein

TCTCAGATTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337167 was detected

GCAGTTAAAG is described with additional reference to Figs. 9-15.

TCAAAATGTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCCAAATATT encoded by the human genome.

TATTCC GAM337167 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337167 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337167 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337167 precursor RNA is designated SEQ ID:141623, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141623 is located from position 75774294 to position 75774389 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM337167 precursor RNA folds onto itself, forming GAM337167 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337167 precursor RNA, designated SEQ ID NO: 141623, and a schematic representation of a predicted secondary folding of GAM337167 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337167 folded precursor RNA yielding a GAM337167 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337167 RNA, hereby incorporated herein.

GAM337167 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337167 target RNA, herein designated GAM TARGET RNA.

GAM337167 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337167 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337167 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337167 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337167 RNA, herein designated GAM RNA, to target

binding sites on GAM337167 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337167 target RNA into GAM337167 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337167 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337167 target genes. The mRNA of each one of this plurality of GAM337167 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337167 RNA, herein designated GAM RNA, and which when bound by GAM337167 RNA causes inhibition of translation of the GAM337167 target mRNA into a corresponding GAM337167 target protein.

The mechanism of the translational inhibition exerted by GAM337167 RNA, herein designated GAM RNA, on one or more GAM337167 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337167 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337167 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337167 RNA, herein designated GAM RNA, of GAM337167 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337167 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337167 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337167 RNA correlate with, and may be deduced from, the identity of the GAM337167 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337168 141624 GTCTGGCATT Fig. 8 further provides a conceptual description of another novel bioinformatically

CCCTAGTGAG detected oligonucleotides of the present invention, referred to here as Genomic Address

ATGAACCCGG Messenger 337168 (GAM337168) oligonucleotides modulates expression of respective target

TACCTCAGAT genes whose function and utility is known in the art.

GGAAATGCAG GAM337168 is a novel bioinformatically detectable regulatory, non protein

AAATCACCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337168 was detected

TCTTCTGTGT is described with additional reference to Figs. 9-15.

CGCTCATGCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGGAGCTGTA encoded by the human genome.

GAC GAM337168 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337168 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337168 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337168 precursor RNA is designated SEQ ID:141624, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141624 is located from position 75794832 to position 75794924 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337168 precursor RNA folds onto itself, forming GAM337168 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337168 precursor RNA, designated SEQ ID NO: 141624, and a schematic representation of a predicted secondary folding of GAM337168 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337168 folded precursor RNA yielding a GAM337168 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337168 RNA, hereby incorporated herein.

GAM337168 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337168 target RNA, herein designated GAM TARGET RNA.

GAM337168 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337168 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337168 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337168 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337168 RNA, herein designated GAM RNA, to target binding sites on GAM337168 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337168 target RNA into GAM337168 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337168 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337168 target genes. The mRNA of each one of this plurality of GAM337168 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337168 RNA, herein designated GAM RNA, and which when bound by GAM337168 RNA causes inhibition of translation of the GAM337168 target mRNA into a corresponding GAM337168 target protein.

The mechanism of the translational inhibition exerted by GAM337168 RNA, herein designated GAM RNA, on one or more GAM337168 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337168 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337168 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337168 RNA, herein designated GAM RNA, of GAM337168 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337168 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337168 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337168 RNA correlate with, and may be deduced from, the identity of the GAM337168 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337169 141625 GAATGATTTG Fig. 8 further provides a conceptual description of another novel bioinformatically

AAGGGGGCAG detected oligonucleotides of the present invention, referred to here as Genomic Address
TCAGAGAAGT Messenger 337169 (GAM337169) oligonucleotides modulates expression of respective target
AGGAATATCA genes whose function and utility is known in the art.

GGAGTGGTGG GAM337169 is a novel bioinformatically detectable regulatory, non protein
TCTGATTACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337169 was detected
CTGAGATGTG is described with additional reference to Figs. 9-15.

TCTTGATTCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATTTTGTTTT encoded by the human genome.

CTTTGAAATT GAM337169 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

C GAM337169 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337169 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337169 precursor RNA is designated SEQ ID:141625, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141625 is located from position 75944727 to position 75944827 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337169 precursor RNA folds onto itself, forming GAM337169 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337169 precursor RNA, designated SEQ ID NO: 141625, and a schematic representation of a predicted secondary folding of GAM337169 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337169 folded precursor RNA yielding a GAM337169 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337169 RNA, hereby incorporated herein.

GAM337169 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337169 target RNA, herein designated GAM TARGET RNA.

GAM337169 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337169 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337169 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337169 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337169 RNA, herein designated GAM RNA, to target binding sites on GAM337169 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337169 target RNA into GAM337169 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337169 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337169 target genes. The mRNA of each one of this plurality of GAM337169 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337169 RNA, herein designated GAM RNA, and which when bound by GAM337169 RNA causes inhibition of translation of the GAM337169 target mRNA into a corresponding GAM337169 target protein.

The mechanism of the translational inhibition exerted by GAM337169 RNA, herein designated GAM RNA, on one or more GAM337169 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337169 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337169 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337169 RNA, herein designated GAM RNA, of GAM337169 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337169 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337169 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337169 RNA correlate with, and may be deduced from, the identity of the GAM337169 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337170 141626 CTGTTGTTAA Fig. 8 further provides a conceptual description of another novel bioinformatically
AACCTGCTTC detected oligonucleotides of the present invention, referred to here as Genomic Address
CCCACTGCTC Messenger 337170 (GAM337170) oligonucleotides modulates expression of respective target
AGCCTGCCAT genes whose function and utility is known in the art.

CAGCCATCCA GAM337170 is a novel bioinformatically detectable regulatory, non protein
GCTGCAGAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337170 was detected
AGTGGAGAGT is described with additional reference to Figs. 9-15.

AGGTCTCACC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AG encoded by the human genome.

GAM337170 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337170 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337170 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337170 precursor RNA is designated SEQ ID:141626, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141626 is located from position 76136262 to position 76136343 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337170 precursor RNA folds onto itself, forming GAM337170 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337170 precursor RNA, designated SEQ ID NO: 141626, and a schematic representation of a predicted secondary folding of GAM337170 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337170 folded precursor RNA yielding a GAM337170 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337170 RNA, hereby incorporated herein.

GAM337170 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337170 target RNA, herein designated GAM TARGET RNA.

GAM337170 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337170 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337170 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337170 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337170 RNA, herein designated GAM RNA, to target binding sites on GAM337170 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337170 target RNA into GAM337170 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337170 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337170 target genes. The mRNA of each one of this plurality of GAM337170 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337170 RNA, herein designated GAM RNA, and which when bound by GAM337170 RNA causes inhibition of translation of the GAM337170 target mRNA into a corresponding GAM337170 target protein.

The mechanism of the translational inhibition exerted by GAM337170 RNA, herein designated GAM RNA, on one or more GAM337170 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337170 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337170 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337170 RNA, herein designated GAM RNA, of GAM337170 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337170 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337170 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337170 RNA correlate with, and may be deduced from, the identity of the GAM337170 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337171 141627 GAGGCTGAGG Fig. 8 further provides a conceptual description of another novel bioinformatically
AAAGAAGATT detected oligonucleotides of the present invention, referred to here as Genomic Address
GCTTGAGCCC Messenger 337171 (GAM337171) oligonucleotides modulates expression of respective target
AGGAATTAGA genes whose function and utility is known in the art.

GGCTGCAATG GAM337171 is a novel bioinformatically detectable regulatory, non protein
AGCTATGATC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337171 was detected
ATGCCACTGC is described with additional reference to Figs. 9-15.

ACTCCATCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGGGAGCAGA encoded by the human genome.

GCTAGACTCT GAM337171 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GTCTC GAM337171 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337171 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337171 precursor RNA is designated SEQ ID:141627, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141627 is located from position 76283582 to position 76283686 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337171 precursor RNA folds onto itself, forming GAM337171 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337171 precursor RNA, designated SEQ ID NO: 141627, and a schematic representation of a predicted secondary folding of GAM337171 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337171 folded precursor RNA yielding a GAM337171 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337171 RNA, hereby incorporated herein.

GAM337171 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337171 target RNA, herein designated GAM TARGET RNA.

GAM337171 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337171 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337171 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337171 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337171 RNA, herein designated GAM RNA, to target binding sites on GAM337171 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337171 target RNA into GAM337171 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337171 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337171 target genes. The mRNA of each one of this plurality of GAM337171 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337171 RNA, herein designated GAM RNA, and which when bound by GAM337171 RNA causes inhibition of translation of the GAM337171 target mRNA into a corresponding GAM337171 target protein.

The mechanism of the translational inhibition exerted by GAM337171 RNA, herein designated GAM RNA, on one or more GAM337171 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337171 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337171 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337171 RNA, herein designated GAM RNA, of GAM337171 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337171 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337171 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337171 RNA correlate with, and may be deduced from, the identity of the GAM337171 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337172 141628 TGGTTGAGGC Fig. 8 further provides a conceptual description of another novel bioinformatically

CAGGAATTCG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGACAAGTCT Messenger 337172 (GAM337172) oligonucleotides modulates expression of respective target

GGGCAACAAA genes whose function and utility is known in the art.

GTGAGATCCC GAM337172 is a novel bioinformatically detectable regulatory, non protein

ATCTCTACAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337172 was detected

AAAATTAGCC is described with additional reference to Figs. 9-15.

AGACTGGTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCTCCCTTAG encoded by the human genome.

CCTCAGCTA GAM337172 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337172 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337172 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337172 precursor RNA is designated SEQ ID:141628, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141628 is located from position 76484385 to position 76484483 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337172 precursor RNA folds onto itself, forming GAM337172 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337172 precursor RNA, designated SEQ ID NO: 141628, and a schematic representation of a predicted secondary folding of GAM337172 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337172 folded precursor RNA yielding a GAM337172 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337172 RNA, hereby incorporated herein.

GAM337172 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337172 target RNA, herein designated GAM TARGET RNA.

GAM337172 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337172 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337172 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337172 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337172 RNA, herein designated GAM RNA, to target binding sites on GAM337172 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337172 target RNA into GAM337172 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337172 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337172 target genes. The mRNA of each one of this plurality of GAM337172 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM337172 RNA, herein designated GAM RNA, and which when bound by GAM337172 RNA causes inhibition of translation of the GAM337172 target mRNA into a corresponding GAM337172 target protein.

The mechanism of the translational inhibition exerted by GAM337172 RNA, herein designated GAM RNA, on one or more GAM337172 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337172 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337172 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337172 RNA, herein designated GAM RNA, of GAM337172 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337172 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337172 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337172 RNA correlate with, and may be deduced from, the identity of the GAM337172 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337173 141629 CAATGGGGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
CATTTGCCAA detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGTTGAGAA Messenger 337173 (GAM337173) oligonucleotides modulates expression of respective target
TGCTGTAATT genes whose function and utility is known in the art.

GGAGGCCTGA GAM337173 is a novel bioinformatically detectable regulatory, non protein
GAGGTGGGTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337173 was detected
CCAATTCTTA is described with additional reference to Figs. 9-15.

CATTTTCCAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCCACAAACT encoded by the human genome.

GTCTCCTTTT GAM337173 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

G GAM337173 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337173 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337173 precursor RNA is designated SEQ ID:141629, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141629 is located from position 76490700 to position 76490800 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM337173 precursor RNA folds onto itself, forming GAM337173 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337173 precursor RNA, designated SEQ ID NO: 141629, and a schematic representation of a predicted secondary folding of GAM337173 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337173 folded precursor RNA yielding a GAM337173 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337173 RNA, hereby incorporated herein.

GAM337173 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337173 target RNA, herein designated GAM TARGET RNA.

GAM337173 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337173 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337173 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337173 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337173 RNA, herein designated GAM RNA, to target

binding sites on GAM337173 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337173 target RNA into GAM337173 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337173 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337173 target genes. The mRNA of each one of this plurality of GAM337173 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337173 RNA, herein designated GAM RNA, and which when bound by GAM337173 RNA causes inhibition of translation of the GAM337173 target mRNA into a corresponding GAM337173 target protein.

The mechanism of the translational inhibition exerted by GAM337173 RNA, herein designated GAM RNA, on one or more GAM337173 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337173 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337173 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337173 RNA, herein designated GAM RNA, of GAM337173 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337173 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337173 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337173 RNA correlate with, and may be deduced from, the identity of the GAM337173 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337174 141630 AGTGGCAGGT Fig. 8 further provides a conceptual description of another novel bioinformatically

GTGCAAATCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACTTGGCC Messenger 337174 (GAM337174) oligonucleotides modulates expression of respective target

TCCCAAACTA genes whose function and utility is known in the art.

AGGTACAAAG GAM337174 is a novel bioinformatically detectable regulatory, non protein

TTGTGAGTCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337174 was detected

CACGTCTGCC is described with additional reference to Figs. 9-15.

ACT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337174 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337174 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337174 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337174 precursor RNA is designated SEQ ID:141630, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141630 is located from position 76516598 to position 76516670 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337174 precursor RNA folds onto itself, forming GAM337174 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337174 precursor RNA, designated SEQ ID NO: 141630, and a schematic representation of a predicted secondary folding of GAM337174 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337174 folded precursor RNA yielding a GAM337174 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337174 RNA, hereby incorporated herein.

GAM337174 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337174 target RNA, herein designated GAM TARGET RNA.

GAM337174 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337174 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337174 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337174 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337174 RNA, herein designated GAM RNA, to target binding sites on GAM337174 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337174 target RNA into GAM337174 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337174 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337174 target genes. The mRNA of each one of this plurality of GAM337174 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337174 RNA, herein designated GAM RNA, and which when bound by GAM337174 RNA causes inhibition of translation of the GAM337174 target mRNA into a corresponding GAM337174 target protein.

The mechanism of the translational inhibition exerted by GAM337174 RNA, herein designated GAM RNA, on one or more GAM337174 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337174 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337174 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337174 RNA, herein designated GAM RNA, of GAM337174 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337174 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337174 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337174 RNA correlate with, and may be deduced from, the identity of the GAM337174 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337175 141631 CCTTTAATGA Fig. 8 further provides a conceptual description of another novel bioinformatically

AGCTGAACGC detected oligonucleotides of the present invention, referred to here as Genomic Address
TGTCCCAGCA Messenger 337175 (GAM337175) oligonucleotides modulates expression of respective target
ATTCCCTCCA genes whose function and utility is known in the art.

CAGAAGACCT GAM337175 is a novel bioinformatically detectable regulatory, non protein
ACTGTCACCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337175 was detected
CCTCTGGAGG is described with additional reference to Figs. 9-15.

GGCAATTCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGAGGAACCA encoded by the human genome.

AGTCAGCCAA GAM337175 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TCGAAGG GAM337175 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337175 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337175 precursor RNA is designated SEQ ID:141631, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141631 is located from position 76652860 to position 76652966 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337175 precursor RNA folds onto itself, forming GAM337175 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337175 precursor RNA, designated SEQ ID NO: 141631, and a schematic representation of a predicted secondary folding of GAM337175 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337175 folded precursor RNA yielding a GAM337175 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337175 RNA, hereby incorporated herein.

GAM337175 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337175 target RNA, herein designated GAM TARGET RNA.

GAM337175 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337175 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337175 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337175 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337175 RNA, herein designated GAM RNA, to target binding sites on GAM337175 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337175 target RNA into GAM337175 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337175 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337175 target genes. The mRNA of each one of this plurality of GAM337175 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337175 RNA, herein designated GAM RNA, and which when bound by GAM337175 RNA causes inhibition of translation of the GAM337175 target mRNA into a corresponding GAM337175 target protein.

The mechanism of the translational inhibition exerted by GAM337175 RNA, herein designated GAM RNA, on one or more GAM337175 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337175 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337175 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337175 RNA, herein designated GAM RNA, of GAM337175 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337175 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337175 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337175 RNA correlate with, and may be deduced from, the identity of the GAM337175 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337176 141632 TGCAAAGAGC Fig. 8 further provides a conceptual description of another novel bioinformatically
CCTCACACTG detected oligonucleotides of the present invention, referred to here as Genomic Address
GTGAGTATAA Messenger 337176 (GAM337176) oligonucleotides modulates expression of respective target
ATGTGCTATG genes whose function and utility is known in the art.

TGAGCAACTC GAM337176 is a novel bioinformatically detectable regulatory, non protein
TAAAACCCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337176 was detected
AATACTCAAC is described with additional reference to Figs. 9-15.

CACTGTGGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGATGATTGC encoded by the human genome.

G GAM337176 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337176 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337176 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337176 precursor RNA is designated SEQ ID:141632, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141632 is located from position 76740959 to position 76741049 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM337176 precursor RNA folds onto itself, forming GAM337176 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337176 precursor RNA, designated SEQ ID NO: 141632, and a schematic representation of a predicted secondary folding of GAM337176 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337176 folded precursor RNA yielding a GAM337176 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337176 RNA, hereby incorporated herein.

GAM337176 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337176 target RNA, herein designated GAM TARGET RNA.

GAM337176 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337176 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337176 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337176 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337176 RNA, herein designated GAM RNA, to target binding sites on GAM337176 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337176 target RNA into GAM337176 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337176 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337176 target genes. The mRNA of each one of this plurality of GAM337176 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337176 RNA, herein designated GAM RNA, and which when bound by GAM337176 RNA causes inhibition of translation of the GAM337176 target mRNA into a corresponding GAM337176 target protein.

The mechanism of the translational inhibition exerted by GAM337176 RNA, herein designated GAM RNA, on one or more GAM337176 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337176 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337176 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337176 RNA, herein designated GAM RNA, of GAM337176 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337176 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337176 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337176 RNA correlate with, and may be deduced from, the identity of the GAM337176 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337177 141633 GGGCTGACTT Fig. 8 further provides a conceptual description of another novel bioinformatically
GGACTCTGAA detected oligonucleotides of the present invention, referred to here as Genomic Address
ATGTTAAGCA Messenger 337177 (GAM337177) oligonucleotides modulates expression of respective target
ACTTGCTCTC genes whose function and utility is known in the art.

CAGGAGTCCT GAM337177 is a novel bioinformatically detectable regulatory, non protein
GTGAAGAAGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337177 was detected
TGCTTCATCC is described with additional reference to Figs. 9-15.

TTTTGAAGTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGCCC encoded by the human genome.

GAM337177 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337177 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337177 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337177 precursor RNA is designated SEQ ID:141633, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141633 is located from position 76741418 to position 76741502 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM337177 precursor RNA folds onto itself, forming GAM337177 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337177 precursor RNA, designated SEQ ID NO: 141633, and a schematic representation of a predicted secondary folding of GAM337177 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337177 folded precursor RNA yielding a GAM337177 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337177 RNA, hereby incorporated herein.

GAM337177 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337177 target RNA, herein designated GAM TARGET RNA.

GAM337177 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337177 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337177 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337177 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337177 RNA, herein designated GAM RNA, to target binding sites on GAM337177 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337177 target RNA into GAM337177 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337177 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337177 target genes. The mRNA of each one of this plurality of GAM337177 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337177 RNA, herein designated GAM RNA, and which when bound by GAM337177 RNA causes inhibition of translation of the GAM337177 target mRNA into a corresponding GAM337177 target protein.

The mechanism of the translational inhibition exerted by GAM337177 RNA, herein designated GAM RNA, on one or more GAM337177 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337177 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM337177 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337177 RNA, herein designated GAM RNA, of GAM337177 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337177 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337177 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337177 RNA correlate with, and may be deduced from, the identity of the GAM337177 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337178 141634 GCGAGAGGTG Fig. 8 further provides a conceptual description of another novel bioinformatically
ATGGTTTTAA detected oligonucleotides of the present invention, referred to here as Genomic Address
AGCGCGGCAC Messenger 337178 (GAM337178) oligonucleotides modulates expression of respective target
TTCCTCATTC genes whose function and utility is known in the art.

TCGCACACAC GAM337178 is a novel bioinformatically detectable regulatory, non protein
GCCCTCCTGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337178 was detected
TGCCCATGAA is described with additional reference to Figs. 9-15.

GAAGGTGTCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCTTTCCCTT encoded by the human genome.

CGCCTTCCGC GAM337178 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAM337178 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337178 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337178 precursor RNA is designated SEQ ID:141634, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141634 is located from position 76977853 to position 76977952 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337178 precursor RNA folds onto itself, forming GAM337178 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337178 precursor RNA, designated SEQ ID NO: 141634, and a schematic representation of a predicted secondary folding of GAM337178 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337178 folded precursor RNA yielding a GAM337178 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337178 RNA, hereby incorporated herein.

GAM337178 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337178 target RNA, herein designated GAM TARGET RNA.

GAM337178 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337178 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337178 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337178 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337178 RNA, herein designated GAM RNA, to target binding sites on GAM337178 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337178 target RNA into GAM337178 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337178 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337178 target genes. The mRNA of each one of this plurality of GAM337178 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337178 RNA, herein designated GAM RNA, and which when bound by GAM337178 RNA causes inhibition of

translation of the GAM337178 target mRNA into a corresponding GAM337178 target protein.

The mechanism of the translational inhibition exerted by GAM337178 RNA, herein designated GAM RNA, on one or more GAM337178 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337178 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337178 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337178 RNA, herein designated GAM RNA, of GAM337178 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337178 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337178 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337178 RNA correlate with, and may be deduced from, the identity of the GAM337178 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337179 141635 TGGAGCTGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
ATTCTGTGGG detected oligonucleotides of the present invention, referred to here as Genomic Address
TGAGAGAGTG Messenger 337179 (GAM337179) oligonucleotides modulates expression of respective target
GGAGAGTGTC genes whose function and utility is known in the art.

TGTGGGCTGA GAM337179 is a novel bioinformatically detectable regulatory, non protein
GCACTGGTCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337179 was detected
TTTCTGACTC is described with additional reference to Figs. 9-15.

ACAGCTCTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGCCCA encoded by the human genome.

GAM337179 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337179 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337179 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM337179 precursor RNA is designated SEQ ID:141635, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141635 is located from position 77038644 to position 77038729 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337179 precursor RNA folds onto itself, forming GAM337179 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337179 precursor RNA, designated SEQ ID NO: 141635, and a schematic representation of a predicted secondary folding of GAM337179 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337179 folded precursor RNA yielding a GAM337179 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337179 RNA, hereby incorporated herein.

GAM337179 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337179 target RNA, herein designated GAM TARGET RNA.

GAM337179 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337179 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337179 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337179 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337179 RNA, herein designated GAM RNA, to target binding sites on GAM337179 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337179 target RNA

into GAM337179 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337179 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337179 target genes. The mRNA of each one of this plurality of GAM337179 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337179 RNA, herein designated GAM RNA, and which when bound by GAM337179 RNA causes inhibition of translation of the GAM337179 target mRNA into a corresponding GAM337179 target protein.

The mechanism of the translational inhibition exerted by GAM337179 RNA, herein designated GAM RNA, on one or more GAM337179 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337179 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337179 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337179 RNA, herein designated GAM RNA, of GAM337179 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337179 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337179 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337179 RNA correlate with, and may be deduced from, the identity of the GAM337179 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337180 141636 CCAATCCCCA Fig. 8 further provides a conceptual description of another novel bioinformatically

ACCCCTGCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

TGCTTTGATT Messenger 337180 (GAM337180) oligonucleotides modulates expression of respective target

ATGAGAAAGT genes whose function and utility is known in the art.

TCTGCATGAC GAM337180 is a novel bioinformatically detectable regulatory, non protein

TTAGCATAAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337180 was detected

TGCTCTTTTC is described with additional reference to Figs. 9-15.

TAAAAGCCTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGCAATTAGA encoded by the human genome.

TCCAAAGGGT GAM337180 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TGGGGTTTGG GAM337180 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337180 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337180 precursor RNA is designated SEQ ID:141636, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141636 is located from position 77109458 to position 77109567 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM337180 precursor RNA folds onto itself, forming GAM337180 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337180 precursor RNA, designated SEQ ID NO: 141636, and a schematic representation of a predicted secondary folding of GAM337180 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337180 folded precursor RNA yielding a GAM337180 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337180 RNA, hereby incorporated herein.

GAM337180 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337180 target RNA, herein designated GAM TARGET RNA.

GAM337180 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337180 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337180 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337180 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337180 RNA, herein designated GAM RNA, to target binding sites on GAM337180 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337180 target RNA into GAM337180 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337180 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337180 target genes. The mRNA of each one of this plurality of GAM337180 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337180 RNA, herein designated GAM RNA, and which when bound by GAM337180 RNA causes inhibition of translation of the GAM337180 target mRNA into a corresponding GAM337180 target protein.

The mechanism of the translational inhibition exerted by GAM337180 RNA, herein designated GAM RNA, on one or more GAM337180 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337180 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337180 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337180 RNA, herein designated GAM RNA, of GAM337180 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337180 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337180 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337180 RNA correlate with, and may be deduced from, the identity of the GAM337180 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337181 141637 CCCAACCCCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GCAGTGCTTT detected oligonucleotides of the present invention, referred to here as Genomic Address

GATTATGAGA Messenger 337181 (GAM337181) oligonucleotides modulates expression of respective target

AAGTTCTGCA genes whose function and utility is known in the art.

TGACTTAGCA GAM337181 is a novel bioinformatically detectable regulatory, non protein

TAACTGCTCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337181 was detected

TTTCTAAAAG is described with additional reference to Figs. 9-15.

CCTCTGCAAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TAGATCCAAA encoded by the human genome.

GGGTTGGG GAM337181 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337181 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337181 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337181 precursor RNA is designated SEQ ID:141637, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141637 is located from position 77109464 to position 77109561 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM337181 precursor RNA folds onto itself, forming GAM337181 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337181 precursor RNA, designated SEQ ID NO: 141637, and a schematic representation of a predicted secondary folding of GAM337181 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337181 folded precursor RNA yielding a GAM337181 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337181 RNA, hereby incorporated herein.

GAM337181 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337181 target RNA, herein designated GAM TARGET RNA.

GAM337181 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337181 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337181 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337181 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337181 RNA, herein designated GAM RNA, to target binding sites on GAM337181 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337181 target RNA into GAM337181 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337181 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337181 target genes. The mRNA of each one of this plurality of GAM337181 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337181 RNA, herein designated GAM RNA, and which when bound by GAM337181 RNA causes inhibition of translation of the GAM337181 target mRNA into a corresponding GAM337181 target protein.

The mechanism of the translational inhibition exerted by GAM337181 RNA, herein designated GAM RNA, on one or more GAM337181 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337181 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337181 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337181 RNA, herein designated GAM RNA, of GAM337181 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337181 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337181 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337181 RNA correlate with, and may be deduced from, the identity of the GAM337181 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337182 141638 AGTTTTAGGG TACATGTACA CAACGTGCAG TATGTATACA TGTGCCATGT TGGTGTGCTG CACCCATTAA CT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337182 (GAM337182) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337182 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337182 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337182 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337182 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337182 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337182 precursor RNA is designated SEQ ID:141638, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141638 is located from position 77473343 to position 77473424 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337182 precursor RNA folds onto itself, forming GAM337182 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337182 precursor RNA, designated SEQ ID NO: 141638, and a schematic representation of a predicted secondary folding of GAM337182 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337182 folded precursor RNA yielding a GAM337182 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides two possible nucleotide sequences of GAM337182 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337182 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337182 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337182 target RNA, herein designated GAM TARGET RNA.

GAM337182 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337182 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337182 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337182 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337182 RNA, herein designated GAM RNA, to target binding sites on GAM337182 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337182 target RNA into GAM337182 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337182 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337182 target genes. The mRNA of each one of this plurality of GAM337182 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337182 RNA, herein designated GAM RNA, and which when bound by GAM337182 RNA causes inhibition of translation of the GAM337182 target mRNA into a corresponding GAM337182 target protein.

The mechanism of the translational inhibition exerted by GAM337182 RNA, herein designated GAM RNA, on one or more GAM337182 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337182 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337182 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337182 RNA, herein designated GAM RNA, of

GAM337182 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337182 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337182 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337182 RNA correlate with, and may be deduced from, the identity of the GAM337182 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337183 141639 GGAGAATTGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCTGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGCAGAGG Messenger 337183 (GAM337183) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

CTGAGATCAC GAM337183 is a novel bioinformatically detectable regulatory, non protein

GCCATTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337183 was detected

TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGAATCC encoded by the human genome.

GAM337183 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337183 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337183 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337183 precursor RNA is designated SEQ ID:141639, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141639 is located from position 77738565 to position 77738652 relative to chromosome chr1 on the `+` strand (chr is an abbreviation for chromosome).

GAM337183 precursor RNA folds onto itself, forming GAM337183 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337183 precursor RNA, designated SEQ ID NO: 141639,

and a schematic representation of a predicted secondary folding of GAM337183 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337183 folded precursor RNA yielding a GAM337183 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337183 RNA, hereby incorporated herein. Expression of GAM337183 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337183 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337183 target RNA, herein designated GAM TARGET RNA.

GAM337183 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337183 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337183 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337183 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337183 RNA, herein designated GAM RNA, to target binding sites on GAM337183 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337183 target RNA into GAM337183 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337183 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337183 target genes. The mRNA of each one of this plurality of GAM337183 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337183 RNA, herein designated GAM RNA, and which when bound by GAM337183 RNA causes inhibition of translation of the GAM337183 target mRNA into a corresponding GAM337183 target protein.

The mechanism of the translational inhibition exerted by GAM337183 RNA, herein designated GAM RNA, on one or more GAM337183 target genes, herein collectively designated

GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337183 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337183 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337183 RNA, herein designated GAM RNA, of GAM337183 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337183 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337183 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337183 RNA correlate with, and may be deduced from, the identity of the GAM337183 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337184 141640 GTCCATCCTT Fig. 8 further provides a conceptual description of another novel bioinformatically
TGAACATGAC detected oligonucleotides of the present invention, referred to here as Genomic Address
TCCTGGTGTG Messenger 337184 (GAM337184) oligonucleotides modulates expression of respective target
TTAGTCTAGT genes whose function and utility is known in the art.

CTGTTCTCAT GAM337184 is a novel bioinformatically detectable regulatory, non protein
GCTGCTAATA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337184 was detected
AAGACATACC is described with additional reference to Figs. 9-15.

TGAGACTGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TAATTTATAA encoded by the human genome.

AGGAAAGAGG GAM337184 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TTTAATGGAC GAM337184 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337184 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337184 precursor RNA is designated SEQ ID:141640, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141640 is located from position 78244320 to position 78244429

relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM337184 precursor RNA folds onto itself, forming GAM337184 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337184 precursor RNA, designated SEQ ID NO: 141640, and a schematic representation of a predicted secondary folding of GAM337184 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337184 folded precursor RNA yielding a GAM337184 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337184 RNA, hereby incorporated herein.

GAM337184 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337184 target RNA, herein designated GAM TARGET RNA.

GAM337184 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337184 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337184 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337184 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337184 RNA, herein designated GAM RNA, to target binding sites on GAM337184 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337184 target RNA into GAM337184 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337184 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337184 target genes. The mRNA of each one of this plurality of GAM337184 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337184 RNA, herein designated GAM RNA, and which when bound by GAM337184 RNA causes inhibition of translation of the GAM337184 target mRNA into a corresponding GAM337184 target protein.

The mechanism of the translational inhibition exerted by GAM337184 RNA, herein designated GAM RNA, on one or more GAM337184 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337184 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337184 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337184 RNA, herein designated GAM RNA, of GAM337184 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337184 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337184 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337184 RNA correlate with, and may be deduced from, the identity of the GAM337184 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337185 141641 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCCGGGAAG Messenger 337185 (GAM337185) oligonucleotides modulates expression of respective target

TGGAGGTTGC genes whose function and utility is known in the art.

AGTGAGCCGA GAM337185 is a novel bioinformatically detectable regulatory, non protein

GATCTTGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337185 was detected

TTGTTCTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAAGAGTGAA encoded by the human genome.

ACTCCATCTC GAM337185 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337185 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337185 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337185 precursor RNA is designated SEQ ID:141641, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141641 is located from position 78245362 to position 78245461 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM337185 precursor RNA folds onto itself, forming GAM337185 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337185 precursor RNA, designated SEQ ID NO: 141641, and a schematic representation of a predicted secondary folding of GAM337185 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337185 folded precursor RNA yielding a GAM337185 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337185 RNA, hereby incorporated herein.

GAM337185 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337185 target RNA, herein designated GAM TARGET RNA.

GAM337185 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337185 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337185 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337185 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337185 RNA, herein designated GAM RNA, to target binding sites on GAM337185 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337185 target RNA into GAM337185 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337185 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337185 target genes. The mRNA of each one of this plurality of GAM337185 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337185 RNA, herein designated GAM RNA, and which when bound by GAM337185 RNA causes inhibition of translation of the GAM337185 target mRNA into a corresponding GAM337185 target protein.

The mechanism of the translational inhibition exerted by GAM337185 RNA, herein designated GAM RNA, on one or more GAM337185 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337185 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337185 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337185 RNA, herein designated GAM RNA, of GAM337185 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337185 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337185 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337185 RNA correlate with, and may be deduced from, the identity of the GAM337185 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337186 141642 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAAGTGGAGG Messenger 337186 (GAM337186) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

CCGAGATCTT GAM337186 is a novel bioinformatically detectable regulatory, non protein
GCCATTGTTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337186 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCGACAAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGAAACTCC encoded by the human genome.

GAM337186 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337186 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337186 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337186 precursor RNA is designated SEQ ID:141642, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141642 is located from position 78245368 to position 78245456 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM337186 precursor RNA folds onto itself, forming GAM337186 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337186 precursor RNA, designated SEQ ID NO: 141642, and a schematic representation of a predicted secondary folding of GAM337186 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337186 folded precursor RNA yielding a GAM337186 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337186 RNA, hereby incorporated herein.

GAM337186 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337186 target RNA, herein designated GAM TARGET RNA.

GAM337186 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337186 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337186 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337186 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337186 RNA, herein designated GAM RNA, to target binding sites on GAM337186 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337186 target RNA into GAM337186 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337186 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337186 target genes. The mRNA of each one of this plurality of GAM337186 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337186 RNA, herein designated GAM RNA, and which when bound by GAM337186 RNA causes inhibition of translation of the GAM337186 target mRNA into a corresponding GAM337186 target protein.

The mechanism of the translational inhibition exerted by GAM337186 RNA, herein designated GAM RNA, on one or more GAM337186 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337186 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337186 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337186 RNA, herein designated GAM RNA, of GAM337186 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337186 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337186 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337186 RNA correlate with, and may be deduced from, the identity of the GAM337186 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337187 141643 GAGGGAGCCA Fig. 8 further provides a conceptual description of another novel bioinformatically

CGGTCAGATT detected oligonucleotides of the present invention, referred to here as Genomic Address

TCAAGTGGTC Messenger 337187 (GAM337187) oligonucleotides modulates expression of respective target

ATTTCACTCT genes whose function and utility is known in the art.

TTCTCCCTCT GAM337187 is a novel bioinformatically detectable regulatory, non protein

GGGGGACTGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337187 was detected

GACATGATTA is described with additional reference to Figs. 9-15.

ACTTGCAATA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATTGTGACTC encoded by the human genome.

CCTC GAM337187 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337187 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337187 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337187 precursor RNA is designated SEQ ID:141643, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141643 is located from position 78638936 to position 78639029 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM337187 precursor RNA folds onto itself, forming GAM337187 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337187 precursor RNA, designated SEQ ID NO: 141643, and a schematic representation of a predicted secondary folding of GAM337187 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337187 folded precursor RNA yielding a GAM337187 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337187 RNA, hereby incorporated herein.

GAM337187 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337187 target RNA, herein designated GAM TARGET RNA.

GAM337187 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337187 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337187 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337187 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337187 RNA, herein designated GAM RNA, to target binding sites on GAM337187 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337187 target RNA into GAM337187 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337187 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337187 target genes. The mRNA of each one of this plurality of GAM337187 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337187 RNA, herein designated GAM RNA, and which when bound by GAM337187 RNA causes inhibition of translation of the GAM337187 target mRNA into a corresponding GAM337187 target protein.

The mechanism of the translational inhibition exerted by GAM337187 RNA, herein designated GAM RNA, on one or more GAM337187 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337187 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337187 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337187 RNA, herein designated GAM RNA, of GAM337187 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM337187 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337187 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337187 RNA correlate with, and may be deduced from, the identity of the GAM337187 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337188 141644 GGCTAAGTCA Fig. 8 further provides a conceptual description of another novel bioinformatically
TGAGAATTGC detected oligonucleotides of the present invention, referred to here as Genomic Address
TTGAACCCAG Messenger 337188 (GAM337188) oligonucleotides modulates expression of respective target
GCATCGGAGG genes whose function and utility is known in the art.

TTGCAGTGAG GAM337188 is a novel bioinformatically detectable regulatory, non protein
CCGAGATTGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337188 was detected
ACCAATGCAC is described with additional reference to Figs. 9-15.

TCCAGCCTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCGACAGAGC encoded by the human genome.

GAGACTCCGT GAM337188 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
C GAM337188 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337188 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337188 precursor RNA is designated SEQ ID:141644, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141644 is located from position 78652714 to position 78652814 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337188 precursor RNA folds onto itself, forming GAM337188 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337188 precursor RNA, designated SEQ ID NO: 141644, and a schematic representation of a predicted secondary folding of GAM337188 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337188 folded precursor RNA yielding a GAM337188 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337188 RNA, hereby incorporated herein.

GAM337188 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337188 target RNA, herein designated GAM TARGET RNA.

GAM337188 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337188 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337188 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337188 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337188 RNA, herein designated GAM RNA, to target binding sites on GAM337188 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337188 target RNA into GAM337188 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337188 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337188 target genes. The mRNA of each one of this plurality of GAM337188 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337188 RNA, herein designated GAM RNA, and which when bound by GAM337188 RNA causes inhibition of translation of the GAM337188 target mRNA into a corresponding GAM337188 target protein.

The mechanism of the translational inhibition exerted by GAM337188 RNA, herein designated GAM RNA, on one or more GAM337188 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337188 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337188 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337188 RNA, herein designated GAM RNA, of GAM337188 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337188 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337188 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337188 RNA correlate with, and may be deduced from, the identity of the GAM337188 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337189 141645 GAGAATTGCT Fig. 8 further provides a conceptual description of another novel bioinformatically
TGAACCCAGG detected oligonucleotides of the present invention, referred to here as Genomic Address
CATCGGAGGT Messenger 337189 (GAM337189) oligonucleotides modulates expression of respective target
TGCAGTGAGC genes whose function and utility is known in the art.

CGAGATTGCA GAM337189 is a novel bioinformatically detectable regulatory, non protein
CCAATGCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337189 was detected
CCAGCCTGGG is described with additional reference to Figs. 9-15.

CGACAGAGCG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGACTC encoded by the human genome.

GAM337189 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337189 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337189 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337189 precursor RNA is designated SEQ ID:141645, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141645 is located from position 78652725 to position 78652810 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337189 precursor RNA folds onto itself, forming GAM337189 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337189 precursor RNA, designated SEQ ID NO: 141645, and a schematic representation of a predicted secondary folding of GAM337189 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337189 folded precursor RNA yielding a GAM337189 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337189 RNA, hereby incorporated herein.

GAM337189 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337189 target RNA, herein designated GAM TARGET RNA.

GAM337189 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337189 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337189 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337189 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337189 RNA, herein designated GAM RNA, to target binding sites on GAM337189 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337189 target RNA into GAM337189 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337189 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337189 target genes. The mRNA of each one of this plurality of GAM337189 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337189 RNA, herein designated GAM RNA, and which when bound by GAM337189 RNA causes inhibition of translation of the GAM337189 target mRNA into a corresponding GAM337189 target protein.

The mechanism of the translational inhibition exerted by GAM337189 RNA, herein designated GAM RNA, on one or more GAM337189 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337189 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337189 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337189 RNA, herein designated GAM RNA, of GAM337189 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337189 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337189 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337189 RNA correlate with, and may be deduced from, the identity of the GAM337189 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337190 141646 TTCTGCTGTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TATTATGAGT detected oligonucleotides of the present invention, referred to here as Genomic Address

CTGACTGGCA Messenger 337190 (GAM337190) oligonucleotides modulates expression of respective target

CAGACATCTG genes whose function and utility is known in the art.

TCAAGGAAGA GAM337190 is a novel bioinformatically detectable regulatory, non protein

AGGATTCTTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337190 was detected

GAGCGTATTT is described with additional reference to Figs. 9-15.

GTGTCAGTCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACTGCATATA encoded by the human genome.

TGGACCACAA GAM337190 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CAGAA GAM337190 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337190 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337190 precursor RNA is designated SEQ

ID:141646, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141646 is located from position 78654888 to position 78654992 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM337190 precursor RNA folds onto itself, forming GAM337190 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337190 precursor RNA, designated SEQ ID NO: 141646, and a schematic representation of a predicted secondary folding of GAM337190 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337190 folded precursor RNA yielding a GAM337190 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337190 RNA, hereby incorporated herein.

GAM337190 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337190 target RNA, herein designated GAM TARGET RNA.

GAM337190 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337190 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337190 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337190 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337190 RNA, herein designated GAM RNA, to target binding sites on GAM337190 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337190 target RNA into GAM337190 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM337190 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337190 target genes. The mRNA of each one of this plurality of GAM337190 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337190 RNA, herein designated GAM RNA, and which when bound by GAM337190 RNA causes inhibition of translation of the GAM337190 target mRNA into a corresponding GAM337190 target protein.

The mechanism of the translational inhibition exerted by GAM337190 RNA, herein designated GAM RNA, on one or more GAM337190 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337190 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337190 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337190 RNA, herein designated GAM RNA, of GAM337190 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337190 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337190 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337190 RNA correlate with, and may be deduced from, the identity of the GAM337190 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337191 141647 GGTCAGTGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

TTAAGTGAAT detected oligonucleotides of the present invention, referred to here as Genomic Address

CTACTCAGAG Messenger 337191 (GAM337191) oligonucleotides modulates expression of respective target

CTGTGAAATC genes whose function and utility is known in the art.

TTGGGGGAAT GAM337191 is a novel bioinformatically detectable regulatory, non protein

TTGACCCAGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337191 was detected

CACAGTTGAG is described with additional reference to Figs. 9-15.

AGAAGGTTCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGAAGGATAT encoded by the human genome.

GGGCT GAM337191 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337191 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337191 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337191 precursor RNA is designated SEQ ID:141647, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141647 is located from position 79303486 to position 79303580 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM337191 precursor RNA folds onto itself, forming GAM337191 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337191 precursor RNA, designated SEQ ID NO: 141647, and a schematic representation of a predicted secondary folding of GAM337191 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337191 folded precursor RNA yielding a GAM337191 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337191 RNA, hereby incorporated herein.

GAM337191 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337191 target RNA, herein designated GAM TARGET RNA.

GAM337191 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337191 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337191 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337191 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337191 RNA, herein designated GAM RNA, to target binding sites on GAM337191 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337191 target RNA into GAM337191 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337191 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337191 target genes. The mRNA of each one of this plurality of GAM337191 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337191 RNA, herein designated GAM RNA, and which when bound by GAM337191 RNA causes inhibition of translation of the GAM337191 target mRNA into a corresponding GAM337191 target protein.

The mechanism of the translational inhibition exerted by GAM337191 RNA, herein designated GAM RNA, on one or more GAM337191 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337191 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337191 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337191 RNA, herein designated GAM RNA, of GAM337191 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337191 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337191 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337191 RNA correlate with, and may be deduced from, the identity of the GAM337191 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337192 141648 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337192 (GAM337192) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337192 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337192 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337192 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337192 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337192 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337192 precursor RNA is designated SEQ ID:141648, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141648 is located from position 79485331 to position 79485412 relative to chromosome chr6 on the `+` strand (chr is an abbreviation for chromosome).

GAM337192 precursor RNA folds onto itself, forming GAM337192 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337192 precursor RNA, designated SEQ ID NO: 141648, and a schematic representation of a predicted secondary folding of GAM337192 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337192 folded precursor RNA yielding a GAM337192 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337192 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337192 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337192 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337192 target RNA, herein designated GAM TARGET RNA.

GAM337192 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337192 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337192 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337192 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337192 RNA, herein designated GAM RNA, to target binding sites on GAM337192 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337192 target RNA into GAM337192 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337192 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337192 target genes. The mRNA of each one of this plurality of GAM337192 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337192 RNA, herein designated GAM RNA, and which when bound by GAM337192 RNA causes inhibition of translation of the GAM337192 target mRNA into a corresponding GAM337192 target protein.

The mechanism of the translational inhibition exerted by GAM337192 RNA, herein designated GAM RNA, on one or more GAM337192 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337192 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337192 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337192 RNA, herein designated GAM RNA, of GAM337192 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337192 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337192 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337192

RNA correlate with, and may be deduced from, the identity of the GAM337192 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337193 141649 TCCCTGTCCT Fig. 8 further provides a conceptual description of another novel bioinformatically
GTCTTCGAGT detected oligonucleotides of the present invention, referred to here as Genomic Address
ATTTGTTTTT Messenger 337193 (GAM337193) oligonucleotides modulates expression of respective target
AATGCTGGGT genes whose function and utility is known in the art.

GTCGATCGAG GAM337193 is a novel bioinformatically detectable regulatory, non protein
ACAACAAGCG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337193 was detected
CTCAGAGCAA is described with additional reference to Figs. 9-15.

AGCAAGGATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CATTACGGGG encoded by the human genome.

G GAM337193 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337193 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337193 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337193 precursor RNA is designated SEQ ID:141649, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141649 is located from position 79931894 to position 79931984 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GAM337193 precursor RNA folds onto itself, forming GAM337193 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337193 precursor RNA, designated SEQ ID NO: 141649, and a schematic representation of a predicted secondary folding of GAM337193 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337193 folded precursor RNA yielding a GAM337193 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly

similar to the nucleotide sequence of GAM337193 RNA, hereby incorporated herein.

GAM337193 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337193 target RNA, herein designated GAM TARGET RNA.

GAM337193 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337193 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337193 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337193 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337193 RNA, herein designated GAM RNA, to target binding sites on GAM337193 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337193 target RNA into GAM337193 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337193 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337193 target genes. The mRNA of each one of this plurality of GAM337193 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337193 RNA, herein designated GAM RNA, and which when bound by GAM337193 RNA causes inhibition of translation of the GAM337193 target mRNA into a corresponding GAM337193 target protein.

The mechanism of the translational inhibition exerted by GAM337193 RNA, herein designated GAM RNA, on one or more GAM337193 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337193 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337193 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337193 RNA, herein designated GAM RNA, of GAM337193 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337193 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337193 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337193 RNA correlate with, and may be deduced from, the identity of the GAM337193 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337194 141650 TGCTGCATCC Fig. 8 further provides a conceptual description of another novel bioinformatically
TGCCTGGCTC detected oligonucleotides of the present invention, referred to here as Genomic Address
CCAGGAGGCC Messenger 337194 (GAM337194) oligonucleotides modulates expression of respective target
TCTCTCAGCA genes whose function and utility is known in the art.

TTTTCTGACA GAM337194 is a novel bioinformatically detectable regulatory, non protein
ACAAAGCCGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337194 was detected
GGCTGCAGAT is described with additional reference to Figs. 9-15.

CCCTGGTGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATTCCAGGCT encoded by the human genome.

AGCATCAGCA GAM337194 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAM337194 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337194 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337194 precursor RNA is designated SEQ ID:141650, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141650 is located from position 80018909 to position 80019008 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM337194 precursor RNA folds onto itself, forming GAM337194 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337194 precursor RNA, designated SEQ ID NO: 141650, and a schematic representation of a predicted secondary folding of GAM337194 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337194 folded precursor RNA yielding a GAM337194 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337194 RNA, hereby incorporated herein.

GAM337194 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337194 target RNA, herein designated GAM TARGET RNA.

GAM337194 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337194 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337194 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337194 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337194 RNA, herein designated GAM RNA, to target binding sites on GAM337194 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337194 target RNA into GAM337194 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337194 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337194 target genes. The mRNA of each one of this plurality of GAM337194 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337194 RNA, herein designated GAM RNA, and which when bound by GAM337194 RNA causes inhibition of translation of the GAM337194 target mRNA into a corresponding GAM337194 target protein.

The mechanism of the translational inhibition exerted by GAM337194 RNA, herein designated GAM RNA, on one or more GAM337194 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337194 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM337194 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337194 RNA, herein designated GAM RNA, of GAM337194 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337194 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337194 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337194 RNA correlate with, and may be deduced from, the identity of the GAM337194 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337195 141651 GCTGCATCCT Fig. 8 further provides a conceptual description of another novel bioinformatically
GCCTGGCTCC detected oligonucleotides of the present invention, referred to here as Genomic Address
CAGGAGGCCT Messenger 337195 (GAM337195) oligonucleotides modulates expression of respective target
CTCTCAGCAT genes whose function and utility is known in the art.

TTTCTGACAA GAM337195 is a novel bioinformatically detectable regulatory, non protein
CAAAGCCGGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337195 was detected
GCTGCAGATC is described with additional reference to Figs. 9-15.

CCTGGTGAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTCCAGGCTA encoded by the human genome.

GCATCAGC GAM337195 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337195 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337195 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337195 precursor RNA is designated SEQ ID:141651, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141651 is located from position 80018910 to position 80019007 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM337195 precursor RNA folds onto itself, forming GAM337195 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337195 precursor RNA, designated SEQ ID NO: 141651, and a schematic representation of a predicted secondary folding of GAM337195 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337195 folded precursor RNA yielding a GAM337195 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337195 RNA, hereby incorporated herein.

GAM337195 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337195 target RNA, herein designated GAM TARGET RNA.

GAM337195 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337195 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337195 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337195 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337195 RNA, herein designated GAM RNA, to target binding sites on GAM337195 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337195 target RNA into GAM337195 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337195 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337195 target genes. The mRNA of each one of this plurality of GAM337195 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337195 RNA, herein designated GAM RNA, and which when bound by GAM337195 RNA causes inhibition of

translation of the GAM337195 target mRNA into a corresponding GAM337195 target protein.

The mechanism of the translational inhibition exerted by GAM337195 RNA, herein designated GAM RNA, on one or more GAM337195 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337195 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337195 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337195 RNA, herein designated GAM RNA, of GAM337195 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337195 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337195 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337195 RNA correlate with, and may be deduced from, the identity of the GAM337195 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337196 141652 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337196 (GAM337196) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337196 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337196 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM337196 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337196 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337196 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM337196 precursor RNA is designated SEQ ID:141652, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141652 is located from position 80622214 to position 80622295 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM337196 precursor RNA folds onto itself, forming GAM337196 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337196 precursor RNA, designated SEQ ID NO: 141652, and a schematic representation of a predicted secondary folding of GAM337196 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337196 folded precursor RNA yielding a GAM337196 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337196 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337196 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337196 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337196 target RNA, herein designated GAM TARGET RNA.

GAM337196 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337196 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337196 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337196 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337196 RNA, herein designated GAM RNA, to target binding sites on GAM337196 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337196 target RNA into GAM337196 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337196 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337196 target genes. The mRNA of each one of this plurality of GAM337196 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337196 RNA, herein designated GAM RNA, and which when bound by GAM337196 RNA causes inhibition of translation of the GAM337196 target mRNA into a corresponding GAM337196 target protein.

The mechanism of the translational inhibition exerted by GAM337196 RNA, herein designated GAM RNA, on one or more GAM337196 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337196 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337196 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337196 RNA, herein designated GAM RNA, of GAM337196 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337196 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337196 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337196 RNA correlate with, and may be deduced from, the identity of the GAM337196 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337197 141653 GGAGAATTGT Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCAC detected oligonucleotides of the present invention, referred to here as Genomic Address

ATGGCGGAGA Messenger 337197 (GAM337197) oligonucleotides modulates expression of respective target

CTGCGGTGAG genes whose function and utility is known in the art.

CTGATACCGC GAM337197 is a novel bioinformatically detectable regulatory, non protein

GTCATTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337197 was detected

TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAAAACTCC encoded by the human genome.

GAM337197 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337197 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337197 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337197 precursor RNA is designated SEQ ID:141653, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141653 is located from position 81064708 to position 81064796 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM337197 precursor RNA folds onto itself, forming GAM337197 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337197 precursor RNA, designated SEQ ID NO: 141653, and a schematic representation of a predicted secondary folding of GAM337197 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337197 folded precursor RNA yielding a GAM337197 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337197 RNA, hereby incorporated herein. Expression of GAM337197 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337197 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337197 target RNA, herein designated GAM TARGET RNA.

GAM337197 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337197 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337197 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337197 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows

three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337197 RNA, herein designated GAM RNA, to target binding sites on GAM337197 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337197 target RNA into GAM337197 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337197 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337197 target genes. The mRNA of each one of this plurality of GAM337197 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337197 RNA, herein designated GAM RNA, and which when bound by GAM337197 RNA causes inhibition of translation of the GAM337197 target mRNA into a corresponding GAM337197 target protein.

The mechanism of the translational inhibition exerted by GAM337197 RNA, herein designated GAM RNA, on one or more GAM337197 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337197 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337197 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337197 RNA, herein designated GAM RNA, of GAM337197 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337197 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337197 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337197 RNA correlate with, and may be deduced from, the identity of the GAM337197 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337198 141654 TCTGAGAGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AGCTGGTCTT detected oligonucleotides of the present invention, referred to here as Genomic Address
GTGATCGTGG Messenger 337198 (GAM337198) oligonucleotides modulates expression of respective target
GCTGGAAGAT genes whose function and utility is known in the art.

TGGCTATTAC GAM337198 is a novel bioinformatically detectable regulatory, non protein
TATCTAACTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337198 was detected
ATCTACAGTC is described with additional reference to Figs. 9-15.

AGTGTGATCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGCTAACCT encoded by the human genome.

CTCAGA GAM337198 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337198 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337198 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337198 precursor RNA is designated SEQ ID:141654, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141654 is located from position 81109906 to position 81110001 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GAM337198 precursor RNA folds onto itself, forming GAM337198 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337198 precursor RNA, designated SEQ ID NO: 141654, and a schematic representation of a predicted secondary folding of GAM337198 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337198 folded precursor RNA yielding a GAM337198 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337198 RNA, hereby incorporated herein.

GAM337198 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337198 target RNA, herein designated GAM TARGET RNA.

GAM337198 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337198 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337198 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337198 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337198 RNA, herein designated GAM RNA, to target binding sites on GAM337198 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337198 target RNA into GAM337198 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337198 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337198 target genes. The mRNA of each one of this plurality of GAM337198 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337198 RNA, herein designated GAM RNA, and which when bound by GAM337198 RNA causes inhibition of translation of the GAM337198 target mRNA into a corresponding GAM337198 target protein.

The mechanism of the translational inhibition exerted by GAM337198 RNA, herein designated GAM RNA, on one or more GAM337198 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337198 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337198 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337198 RNA, herein designated GAM RNA, of GAM337198 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337198 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337198 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337198 RNA correlate with, and may be deduced from, the identity of the GAM337198 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337199 141655 AGGGAAAAAA Fig. 8 further provides a conceptual description of another novel bioinformatically
TTCATAATTC detected oligonucleotides of the present invention, referred to here as Genomic Address
AGACAGGCTC Messenger 337199 (GAM337199) oligonucleotides modulates expression of respective target
TCGGGGCTTC genes whose function and utility is known in the art.

ACCATACAAC GAM337199 is a novel bioinformatically detectable regulatory, non protein
GCCTTTCTTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337199 was detected
TATTTGGTTA is described with additional reference to Figs. 9-15.

GTTTTATGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CCTGGAGTGT encoded by the human genome.

TGACCATGTA GAM337199 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TTAATTTTCT GAM337199 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
CT GAM337199 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337199 precursor RNA is designated SEQ ID:141655, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141655 is located from position 81438779 to position 81438890 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM337199 precursor RNA folds onto itself, forming GAM337199 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337199 precursor RNA, designated SEQ ID NO: 141655, and a schematic representation of a predicted secondary folding of GAM337199 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337199 folded precursor RNA yielding a GAM337199 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337199 RNA, hereby incorporated herein.

GAM337199 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337199 target RNA, herein designated GAM TARGET RNA.

GAM337199 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337199 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337199 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337199 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337199 RNA, herein designated GAM RNA, to target binding sites on GAM337199 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337199 target RNA into GAM337199 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337199 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337199 target genes. The mRNA of each one of this plurality of GAM337199 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337199 RNA, herein designated GAM RNA, and which when bound by GAM337199 RNA causes inhibition of translation of the GAM337199 target mRNA into a corresponding GAM337199 target protein.

The mechanism of the translational inhibition exerted by GAM337199 RNA, herein designated GAM RNA, on one or more GAM337199 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337199 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337199 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337199 RNA, herein designated GAM RNA, of

GAM337199 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337199 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337199 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337199 RNA correlate with, and may be deduced from, the identity of the GAM337199 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337200 141656 AGAGGATTGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAGCCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GGAGGTCAAG Messenger 337200 (GAM337200) oligonucleotides modulates expression of respective target

GCTGCAGTGA genes whose function and utility is known in the art.

TCCATGATTG GAM337200 is a novel bioinformatically detectable regulatory, non protein

CGCCCCTGTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337200 was detected

CTCTGGGCAA is described with additional reference to Figs. 9-15.

CAGAGCAAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCCT encoded by the human genome.

GAM337200 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337200 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337200 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337200 precursor RNA is designated SEQ ID:141656, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141656 is located from position 81629047 to position 81629130 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM337200 precursor RNA folds onto itself, forming GAM337200 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337200 precursor RNA, designated SEQ ID NO: 141656,

and a schematic representation of a predicted secondary folding of GAM337200 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337200 folded precursor RNA yielding a GAM337200 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337200 RNA, hereby incorporated herein.

GAM337200 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337200 target RNA, herein designated GAM TARGET RNA.

GAM337200 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337200 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337200 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337200 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337200 RNA, herein designated GAM RNA, to target binding sites on GAM337200 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337200 target RNA into GAM337200 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337200 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337200 target genes. The mRNA of each one of this plurality of GAM337200 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337200 RNA, herein designated GAM RNA, and which when bound by GAM337200 RNA causes inhibition of translation of the GAM337200 target mRNA into a corresponding GAM337200 target protein.

The mechanism of the translational inhibition exerted by GAM337200 RNA, herein designated GAM RNA, on one or more GAM337200 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337200 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337200 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337200 RNA, herein designated GAM RNA, of GAM337200 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337200 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337200 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337200 RNA correlate with, and may be deduced from, the identity of the GAM337200 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337201 141657 CAGCTTTGCA Fig. 8 further provides a conceptual description of another novel bioinformatically

GCTAAAATAC detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCAGGGACA Messenger 337201 (GAM337201) oligonucleotides modulates expression of respective target

TGGCTTGCTC genes whose function and utility is known in the art.

ACATCACACG GAM337201 is a novel bioinformatically detectable regulatory, non protein

GGTGTGGCGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337201 was detected

AGAGGGTCCA is described with additional reference to Figs. 9-15.

TGGTAGAGCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGGCCTGCAG encoded by the human genome.

GCAGCTG GAM337201 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337201 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337201 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337201 precursor RNA is designated SEQ ID:141657, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141657 is located from position 82074475 to position 82074571 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337201 precursor RNA folds onto itself, forming GAM337201 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337201 precursor RNA, designated SEQ ID NO: 141657, and a schematic representation of a predicted secondary folding of GAM337201 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337201 folded precursor RNA yielding a GAM337201 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337201 RNA, hereby incorporated herein.

GAM337201 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337201 target RNA, herein designated GAM TARGET RNA.

GAM337201 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337201 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337201 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337201 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337201 RNA, herein designated GAM RNA, to target binding sites on GAM337201 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337201 target RNA into GAM337201 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337201 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337201 target genes. The mRNA of each one of this

plurality of GAM337201 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337201 RNA, herein designated GAM RNA, and which when bound by GAM337201 RNA causes inhibition of translation of the GAM337201 target mRNA into a corresponding GAM337201 target protein.

The mechanism of the translational inhibition exerted by GAM337201 RNA, herein designated GAM RNA, on one or more GAM337201 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337201 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337201 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337201 RNA, herein designated GAM RNA, of GAM337201 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337201 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337201 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337201 RNA correlate with, and may be deduced from, the identity of the GAM337201 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337202 141658 CCAGTATTGT Fig. 8 further provides a conceptual description of another novel bioinformatically

GTGGGGAGTG detected oligonucleotides of the present invention, referred to here as Genomic Address

TTTTGAGGTC Messenger 337202 (GAM337202) oligonucleotides modulates expression of respective target

ATCTAATGGT genes whose function and utility is known in the art.

GTTGTCTATT GAM337202 is a novel bioinformatically detectable regulatory, non protein

CTTCAGTAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337202 was detected

AACTCCAACA is described with additional reference to Figs. 9-15.

CCCTCTACAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTGCTATCAC encoded by the human genome.

CACACAACCT GAM337202 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GG GAM337202 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337202 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337202 precursor RNA is designated SEQ ID:141658, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141658 is located from position 82178830 to position 82178931 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337202 precursor RNA folds onto itself, forming GAM337202 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337202 precursor RNA, designated SEQ ID NO: 141658, and a schematic representation of a predicted secondary folding of GAM337202 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337202 folded precursor RNA yielding a GAM337202 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337202 RNA, hereby incorporated herein.

GAM337202 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337202 target RNA, herein designated GAM TARGET RNA.

GAM337202 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337202 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337202 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337202 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337202 RNA, herein designated GAM RNA, to target

binding sites on GAM337202 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337202 target RNA into GAM337202 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337202 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337202 target genes. The mRNA of each one of this plurality of GAM337202 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337202 RNA, herein designated GAM RNA, and which when bound by GAM337202 RNA causes inhibition of translation of the GAM337202 target mRNA into a corresponding GAM337202 target protein.

The mechanism of the translational inhibition exerted by GAM337202 RNA, herein designated GAM RNA, on one or more GAM337202 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337202 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337202 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337202 RNA, herein designated GAM RNA, of GAM337202 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337202 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337202 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337202 RNA correlate with, and may be deduced from, the identity of the GAM337202 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337203 141659 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGCAGAGG Messenger 337203 (GAM337203) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

CCGAGATCGC GAM337203 is a novel bioinformatically detectable regulatory, non protein

ACTACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337203 was detected

TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGACTCC encoded by the human genome.

GAM337203 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337203 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337203 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337203 precursor RNA is designated SEQ ID:141659, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141659 is located from position 82201058 to position 82201145 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337203 precursor RNA folds onto itself, forming GAM337203 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337203 precursor RNA, designated SEQ ID NO: 141659, and a schematic representation of a predicted secondary folding of GAM337203 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337203 folded precursor RNA yielding a GAM337203 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337203 RNA, hereby incorporated herein. Expression of GAM337203 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337203 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337203 target RNA, herein designated GAM TARGET RNA.

GAM337203 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337203 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337203 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337203 RNA is a partial or fully complementary sequence of the

nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337203 RNA, herein designated GAM RNA, to target binding sites on GAM337203 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337203 target RNA into GAM337203 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337203 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337203 target genes. The mRNA of each one of this plurality of GAM337203 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337203 RNA, herein designated GAM RNA, and which when bound by GAM337203 RNA causes inhibition of translation of the GAM337203 target mRNA into a corresponding GAM337203 target protein.

The mechanism of the translational inhibition exerted by GAM337203 RNA, herein designated GAM RNA, on one or more GAM337203 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337203 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337203 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337203 RNA, herein designated GAM RNA, of GAM337203 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337203 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337203 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337203 RNA correlate with, and may be deduced from, the identity of the GAM337203 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337204 141660 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 337204 (GAM337204) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337204 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337204 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337204 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337204 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337204 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337204 precursor RNA is designated SEQ ID:141660, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141660 is located from position 82464706 to position 82464787 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337204 precursor RNA folds onto itself, forming GAM337204 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337204 precursor RNA, designated SEQ ID NO: 141660, and a schematic representation of a predicted secondary folding of GAM337204 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337204 folded precursor RNA yielding a GAM337204 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337204 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337204 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337204 target gene, herein designated GAM TARGET GENE, encodes a

corresponding messenger RNA, GAM337204 target RNA, herein designated GAM TARGET RNA.

GAM337204 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337204 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337204 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337204 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337204 RNA, herein designated GAM RNA, to target binding sites on GAM337204 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337204 target RNA into GAM337204 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337204 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337204 target genes. The mRNA of each one of this plurality of GAM337204 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337204 RNA, herein designated GAM RNA, and which when bound by GAM337204 RNA causes inhibition of translation of the GAM337204 target mRNA into a corresponding GAM337204 target protein.

The mechanism of the translational inhibition exerted by GAM337204 RNA, herein designated GAM RNA, on one or more GAM337204 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337204 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337204 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337204 RNA, herein designated GAM RNA, of GAM337204 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337204 target RNA, herein designated

GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337204 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337204 RNA correlate with, and may be deduced from, the identity of the GAM337204 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337205 141661 TAATGGGGCC Fig. 8 further provides a conceptual description of another novel bioinformatically
TCGTTCTTCT detected oligonucleotides of the present invention, referred to here as Genomic Address
GCCACAAGTG Messenger 337205 (GAM337205) oligonucleotides modulates expression of respective target
CATCCCACCT genes whose function and utility is known in the art.

TTATCTTTCA GAM337205 is a novel bioinformatically detectable regulatory, non protein
GGGAAGAGGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337205 was detected
TGGTTGCACG is described with additional reference to Figs. 9-15.

TTGTTAGGCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AAGAGACTGG encoded by the human genome.

CCCTCCATTA GAM337205 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAM337205 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337205 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337205 precursor RNA is designated SEQ ID:141661, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141661 is located from position 82910996 to position 82911095 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM337205 precursor RNA folds onto itself, forming GAM337205 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337205 precursor RNA, designated SEQ ID NO: 141661, and a schematic representation of a predicted secondary folding of GAM337205 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337205 folded precursor RNA yielding a GAM337205 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337205 RNA, hereby incorporated herein.

GAM337205 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337205 target RNA, herein designated GAM TARGET RNA.

GAM337205 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337205 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337205 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337205 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337205 RNA, herein designated GAM RNA, to target binding sites on GAM337205 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337205 target RNA into GAM337205 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337205 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337205 target genes. The mRNA of each one of this plurality of GAM337205 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337205 RNA, herein designated GAM RNA, and which when bound by GAM337205 RNA causes inhibition of translation of the GAM337205 target mRNA into a corresponding GAM337205 target protein.

The mechanism of the translational inhibition exerted by GAM337205 RNA, herein designated GAM RNA, on one or more GAM337205 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337205 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337205 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337205 RNA, herein designated GAM RNA, of GAM337205 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337205 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337205 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337205 RNA correlate with, and may be deduced from, the identity of the GAM337205 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337206 141662 AGTTTTAGGG TACATGTGCA CAACATGCAG GTTTGTTACA TATGTATACA TGTGCCATGT TGGTGTGCTG CACCCATTAA CT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337206 (GAM337206) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337206 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337206 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337206 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337206 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337206 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337206 precursor RNA is designated SEQ ID:141662, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141662 is located from position 83433939 to position 83434020 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM337206 precursor RNA folds onto itself, forming GAM337206 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337206 precursor RNA, designated SEQ ID NO: 141662, and a schematic representation of a predicted secondary folding of GAM337206 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337206 folded precursor RNA yielding a GAM337206 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337206 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337206 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337206 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337206 target RNA, herein designated GAM TARGET RNA.

GAM337206 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337206 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337206 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337206 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337206 RNA, herein designated GAM RNA, to target binding sites on GAM337206 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337206 target RNA into GAM337206 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337206 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337206 target genes. The mRNA of each one of this plurality of GAM337206 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337206 RNA, herein designated GAM RNA, and which when bound by GAM337206 RNA causes inhibition of translation of the GAM337206 target mRNA into a corresponding GAM337206 target protein.

The mechanism of the translational inhibition exerted by GAM337206 RNA, herein designated GAM RNA, on one or more GAM337206 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337206 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337206 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337206 RNA, herein designated GAM RNA, of GAM337206 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337206 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337206 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337206 RNA correlate with, and may be deduced from, the identity of the GAM337206 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337207 141663 TCCACTACTG Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGTGGCTTT detected oligonucleotides of the present invention, referred to here as Genomic Address

TGCAAATTAC Messenger 337207 (GAM337207) oligonucleotides modulates expression of respective target

TAAATTTCTC genes whose function and utility is known in the art.

TGTGACTACT GAM337207 is a novel bioinformatically detectable regulatory, non protein

TTTCCATTTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337207 was detected

TTAAGTAATT is described with additional reference to Figs. 9-15.

TGGTTGGTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCAAAAGTCA encoded by the human genome.

ATAATGTGGA GAM337207 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337207 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337207 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM337207 precursor RNA is designated SEQ ID:141663, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141663 is located from position 84223987 to position 84224086 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337207 precursor RNA folds onto itself, forming GAM337207 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337207 precursor RNA, designated SEQ ID NO: 141663, and a schematic representation of a predicted secondary folding of GAM337207 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337207 folded precursor RNA yielding a GAM337207 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337207 RNA, hereby incorporated herein.

GAM337207 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337207 target RNA, herein designated GAM TARGET RNA.

GAM337207 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337207 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337207 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337207 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337207 RNA, herein designated GAM RNA, to target binding sites on GAM337207 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337207 target RNA

into GAM337207 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337207 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337207 target genes. The mRNA of each one of this plurality of GAM337207 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337207 RNA, herein designated GAM RNA, and which when bound by GAM337207 RNA causes inhibition of translation of the GAM337207 target mRNA into a corresponding GAM337207 target protein.

The mechanism of the translational inhibition exerted by GAM337207 RNA, herein designated GAM RNA, on one or more GAM337207 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337207 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337207 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337207 RNA, herein designated GAM RNA, of GAM337207 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337207 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337207 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337207 RNA correlate with, and may be deduced from, the identity of the GAM337207 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337208 141664 CTACTGTTGT Fig. 8 further provides a conceptual description of another novel bioinformatically

GGCTTTTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

AATTACTAAA Messenger 337208 (GAM337208) oligonucleotides modulates expression of respective target

TTTCTCTGTG genes whose function and utility is known in the art.

ACTACTTTTC GAM337208 is a novel bioinformatically detectable regulatory, non protein

CATTTCTTAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337208 was detected

GTAATTTGGT is described with additional reference to Figs. 9-15.

TGGTTTCCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAGTCAATAA encoded by the human genome.

TGTGG GAM337208 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337208 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337208 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337208 precursor RNA is designated SEQ ID:141664, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141664 is located from position 84223991 to position 84224085 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337208 precursor RNA folds onto itself, forming GAM337208 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337208 precursor RNA, designated SEQ ID NO: 141664, and a schematic representation of a predicted secondary folding of GAM337208 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337208 folded precursor RNA yielding a GAM337208 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337208 RNA, hereby incorporated herein.

GAM337208 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337208 target RNA, herein designated GAM TARGET RNA.

GAM337208 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337208 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337208 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337208 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337208 RNA, herein designated GAM RNA, to target binding sites on GAM337208 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337208 target RNA into GAM337208 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337208 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337208 target genes. The mRNA of each one of this plurality of GAM337208 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337208 RNA, herein designated GAM RNA, and which when bound by GAM337208 RNA causes inhibition of translation of the GAM337208 target mRNA into a corresponding GAM337208 target protein.

The mechanism of the translational inhibition exerted by GAM337208 RNA, herein designated GAM RNA, on one or more GAM337208 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337208 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337208 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337208 RNA, herein designated GAM RNA, of GAM337208 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337208 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337208 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337208 RNA correlate with, and may be deduced from, the identity of the GAM337208 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337209 141665 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337209 (GAM337209) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337209 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337209 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337209 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337209 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337209 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337209 precursor RNA is designated SEQ ID:141665, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141665 is located from position 84490971 to position 84491052 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM337209 precursor RNA folds onto itself, forming GAM337209 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337209 precursor RNA, designated SEQ ID NO: 141665, and a schematic representation of a predicted secondary folding of GAM337209 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337209 folded precursor RNA yielding a GAM337209 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337209 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337209 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337209 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337209 target RNA, herein designated GAM TARGET RNA.

GAM337209 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337209 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337209 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337209 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337209 RNA, herein designated GAM RNA, to target binding sites on GAM337209 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337209 target RNA into GAM337209 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337209 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337209 target genes. The mRNA of each one of this plurality of GAM337209 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337209 RNA, herein designated GAM RNA, and which when bound by GAM337209 RNA causes inhibition of translation of the GAM337209 target mRNA into a corresponding GAM337209 target protein.

The mechanism of the translational inhibition exerted by GAM337209 RNA, herein designated GAM RNA, on one or more GAM337209 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337209 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337209 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337209 RNA, herein designated GAM RNA, of GAM337209 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337209 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337209 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337209 RNA correlate with, and may be deduced from, the identity of the GAM337209 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337210 141666 AGTTTTAGGG TACATGTGCA CAACATGCAG GTTTGTTACA TATGTATACA TGTGCCATGT TGGTGTGCTG CACCCATTAA CT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337210 (GAM337210) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337210 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337210 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337210 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337210 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337210 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337210 precursor RNA is designated SEQ ID:141666, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141666 is located from position 84536421 to position 84536502 relative to chromosome chr5 on the `+` strand (chr is an abbreviation for chromosome).

GAM337210 precursor RNA folds onto itself, forming GAM337210 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337210 precursor RNA, designated SEQ ID NO: 141666, and a schematic representation of a predicted secondary folding of GAM337210 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337210 folded precursor RNA yielding a GAM337210 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337210 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337210 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337210 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337210 target RNA, herein designated GAM TARGET RNA.

GAM337210 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337210 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337210 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337210 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337210 RNA, herein designated GAM RNA, to target binding sites on GAM337210 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337210 target RNA into GAM337210 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337210 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337210 target genes. The mRNA of each one of this plurality of GAM337210 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337210 RNA, herein designated GAM RNA, and which when bound by GAM337210 RNA causes inhibition of translation of the GAM337210 target mRNA into a corresponding GAM337210 target protein.

The mechanism of the translational inhibition exerted by GAM337210 RNA, herein designated GAM RNA, on one or more GAM337210 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337210 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337210 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337210 RNA, herein designated GAM RNA, of GAM337210 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337210 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337210 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337210 RNA correlate with, and may be deduced from, the identity of the GAM337210 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337211 141667 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337211 (GAM337211) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337211 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337211 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM337211 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337211 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337211 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337211 precursor RNA is designated SEQ ID:141667, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141667 is located from position 84648170 to position 84648251 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337211 precursor RNA folds onto itself, forming GAM337211 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337211 precursor RNA, designated SEQ ID NO: 141667, and a schematic representation of a predicted secondary folding of GAM337211 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337211 folded precursor RNA yielding a GAM337211 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337211 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337211 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337211 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337211 target RNA, herein designated GAM TARGET RNA.

GAM337211 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337211 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337211 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337211 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337211 RNA, herein designated GAM RNA, to target binding sites on GAM337211 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337211 target RNA into GAM337211 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337211 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337211 target genes. The mRNA of each one of this plurality of GAM337211 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337211 RNA, herein designated GAM RNA, and which when bound by GAM337211 RNA causes inhibition of translation of the GAM337211 target mRNA into a corresponding GAM337211 target protein.

The mechanism of the translational inhibition exerted by GAM337211 RNA, herein

designated GAM RNA, on one or more GAM337211 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337211 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337211 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337211 RNA, herein designated GAM RNA, of GAM337211 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337211 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337211 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337211 RNA correlate with, and may be deduced from, the identity of the GAM337211 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337212 141668 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337212 (GAM337212) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337212 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337212 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM337212 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337212 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337212 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337212 precursor RNA is designated SEQ ID:141668, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141668 is located from position 84939391 to position 84939472

relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337212 precursor RNA folds onto itself, forming GAM337212 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337212 precursor RNA, designated SEQ ID NO: 141668, and a schematic representation of a predicted secondary folding of GAM337212 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337212 folded precursor RNA yielding a GAM337212 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337212 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337212 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337212 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337212 target RNA, herein designated GAM TARGET RNA.

GAM337212 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337212 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337212 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337212 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337212 RNA, herein designated GAM RNA, to target binding sites on GAM337212 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337212 target RNA into GAM337212 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM337212 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337212 target genes. The mRNA of each one of this plurality of GAM337212 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337212 RNA, herein designated GAM RNA, and which when bound by GAM337212 RNA causes inhibition of translation of the GAM337212 target mRNA into a corresponding GAM337212 target protein.

The mechanism of the translational inhibition exerted by GAM337212 RNA, herein designated GAM RNA, on one or more GAM337212 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337212 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337212 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337212 RNA, herein designated GAM RNA, of GAM337212 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337212 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337212 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337212 RNA correlate with, and may be deduced from, the identity of the GAM337212 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337213 141669 AGGCAGGAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

ATCACGTGAG detected oligonucleotides of the present invention, referred to here as Genomic Address

CCCAGGAGGT Messenger 337213 (GAM337213) oligonucleotides modulates expression of respective target

GAAGGCTACA genes whose function and utility is known in the art.

GTGAAGTGAG GAM337213 is a novel bioinformatically detectable regulatory, non protein

ATCATGCAAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337213 was detected

TGTACTTCAG is described with additional reference to Figs. 9-15.

CCTGGGCAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGAGCAAGAT encoded by the human genome.

TCTCTTTCT GAM337213 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337213 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337213 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337213 precursor RNA is designated SEQ ID:141669, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141669 is located from position 85256084 to position 85256182 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337213 precursor RNA folds onto itself, forming GAM337213 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337213 precursor RNA, designated SEQ ID NO: 141669, and a schematic representation of a predicted secondary folding of GAM337213 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337213 folded precursor RNA yielding a GAM337213 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337213 RNA, hereby incorporated herein.

GAM337213 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337213 target RNA, herein designated GAM TARGET RNA.

GAM337213 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337213 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337213 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337213 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337213 RNA, herein designated GAM RNA, to target binding sites on GAM337213 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337213 target RNA into GAM337213 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337213 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337213 target genes. The mRNA of each one of this plurality of GAM337213 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337213 RNA, herein designated GAM RNA, and which when bound by GAM337213 RNA causes inhibition of translation of the GAM337213 target mRNA into a corresponding GAM337213 target protein.

The mechanism of the translational inhibition exerted by GAM337213 RNA, herein designated GAM RNA, on one or more GAM337213 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337213 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337213 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337213 RNA, herein designated GAM RNA, of GAM337213 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337213 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337213 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337213 RNA correlate with, and may be deduced from, the identity of the GAM337213 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337214 141670 GGAGGATCAC Fig. 8 further provides a conceptual description of another novel bioinformatically

GTGAGCCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTGAAGG Messenger 337214 (GAM337214) oligonucleotides modulates expression of respective target

CTACAGTGAA genes whose function and utility is known in the art.

GTGAGATCAT GAM337214 is a novel bioinformatically detectable regulatory, non protein
GCAACTGTAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337214 was detected
TTCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AAGATTCTCT encoded by the human genome.

GAM337214 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337214 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337214 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337214 precursor RNA is designated SEQ ID:141670, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141670 is located from position 85256089 to position 85256178 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337214 precursor RNA folds onto itself, forming GAM337214 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337214 precursor RNA, designated SEQ ID NO: 141670, and a schematic representation of a predicted secondary folding of GAM337214 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337214 folded precursor RNA yielding a GAM337214 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337214 RNA, hereby incorporated herein.

GAM337214 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337214 target RNA, herein designated GAM TARGET RNA.

GAM337214 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337214 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM337214 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337214 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337214 RNA, herein designated GAM RNA, to target binding sites on GAM337214 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337214 target RNA into GAM337214 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337214 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337214 target genes. The mRNA of each one of this plurality of GAM337214 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337214 RNA, herein designated GAM RNA, and which when bound by GAM337214 RNA causes inhibition of translation of the GAM337214 target mRNA into a corresponding GAM337214 target protein.

The mechanism of the translational inhibition exerted by GAM337214 RNA, herein designated GAM RNA, on one or more GAM337214 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337214 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337214 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337214 RNA, herein designated GAM RNA, of GAM337214 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337214 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337214 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337214 RNA correlate with, and may be deduced from, the identity of the GAM337214 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337215 141671 GAGGATCACG Fig. 8 further provides a conceptual description of another novel bioinformatically
TGAGCCCAGG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGGTGAAGGC Messenger 337215 (GAM337215) oligonucleotides modulates expression of respective target
TACAGTGAAG genes whose function and utility is known in the art.

TGAGATCATG GAM337215 is a novel bioinformatically detectable regulatory, non protein
CAACTGTACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337215 was detected
TCAGCCTGGG is described with additional reference to Figs. 9-15.

CAACAGAGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGATTCTC encoded by the human genome.

GAM337215 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337215 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337215 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337215 precursor RNA is designated SEQ ID:141671, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141671 is located from position 85256090 to position 85256177 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337215 precursor RNA folds onto itself, forming GAM337215 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337215 precursor RNA, designated SEQ ID NO: 141671, and a schematic representation of a predicted secondary folding of GAM337215 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337215 folded precursor RNA yielding a GAM337215 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337215 RNA, hereby incorporated herein.

GAM337215 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337215 target RNA, herein designated GAM TARGET RNA.

GAM337215 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337215 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337215 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337215 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337215 RNA, herein designated GAM RNA, to target binding sites on GAM337215 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337215 target RNA into GAM337215 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337215 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337215 target genes. The mRNA of each one of this plurality of GAM337215 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337215 RNA, herein designated GAM RNA, and which when bound by GAM337215 RNA causes inhibition of translation of the GAM337215 target mRNA into a corresponding GAM337215 target protein.

The mechanism of the translational inhibition exerted by GAM337215 RNA, herein designated GAM RNA, on one or more GAM337215 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337215 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337215 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337215 RNA, herein designated GAM RNA, of GAM337215 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM337215 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337215 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337215 RNA correlate with, and may be deduced from, the identity of the GAM337215 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337216 141672 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 337216 (GAM337216) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337216 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337216 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337216 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337216 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337216 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337216 precursor RNA is designated SEQ ID:141672, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141672 is located from position 85369298 to position 85369379 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337216 precursor RNA folds onto itself, forming GAM337216 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337216 precursor RNA, designated SEQ ID NO: 141672, and a schematic representation of a predicted secondary folding of GAM337216 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337216 folded precursor RNA yielding a GAM337216 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337216 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337216 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337216 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337216 target RNA, herein designated GAM TARGET RNA.

GAM337216 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337216 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337216 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337216 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337216 RNA, herein designated GAM RNA, to target binding sites on GAM337216 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337216 target RNA into GAM337216 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337216 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337216 target genes. The mRNA of each one of this plurality of GAM337216 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337216 RNA, herein designated GAM RNA, and which when bound by GAM337216 RNA causes inhibition of translation of the GAM337216 target mRNA into a corresponding GAM337216 target protein.

The mechanism of the translational inhibition exerted by GAM337216 RNA, herein designated GAM RNA, on one or more GAM337216 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337216 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM337216 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337216 RNA, herein designated GAM RNA, of GAM337216 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337216 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337216 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337216 RNA correlate with, and may be deduced from, the identity of the GAM337216 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337217 141673 CCCTGTCAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GCTCTCCAGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ATATGCTTGT Messenger 337217 (GAM337217) oligonucleotides modulates expression of respective target

TGGAGATCCT genes whose function and utility is known in the art.

TCAGGCAGTA GAM337217 is a novel bioinformatically detectable regulatory, non protein

AGGGAGAGTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337217 was detected

TTGCCTCCTT is described with additional reference to Figs. 9-15.

ACACAGTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337217 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337217 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337217 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337217 precursor RNA is designated SEQ ID:141673, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141673 is located from position 86608510 to position 86608588 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM337217 precursor RNA folds onto itself, forming GAM337217 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337217 precursor RNA, designated SEQ ID NO: 141673, and a schematic representation of a predicted secondary folding of GAM337217 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337217 folded precursor RNA yielding a GAM337217 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337217 RNA, hereby incorporated herein.

GAM337217 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337217 target RNA, herein designated GAM TARGET RNA.

GAM337217 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337217 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337217 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337217 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337217 RNA, herein designated GAM RNA, to target binding sites on GAM337217 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337217 target RNA into GAM337217 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337217 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337217 target genes. The mRNA of each one of this plurality of GAM337217 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337217 RNA, herein designated GAM RNA, and which when bound by GAM337217 RNA causes inhibition of translation of the GAM337217 target mRNA into a corresponding GAM337217 target protein.

The mechanism of the translational inhibition exerted by GAM337217 RNA, herein designated GAM RNA, on one or more GAM337217 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337217 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337217 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337217 RNA, herein designated GAM RNA, of GAM337217 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337217 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337217 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337217 RNA correlate with, and may be deduced from, the identity of the GAM337217 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337218 141674 AGGCCATCTT Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCGGGGCC detected oligonucleotides of the present invention, referred to here as Genomic Address

AGAGATGACA Messenger 337218 (GAM337218) oligonucleotides modulates expression of respective target

CTCTCCCCCT genes whose function and utility is known in the art.

GTAACTCAGC GAM337218 is a novel bioinformatically detectable regulatory, non protein

CTGGCTCTGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337218 was detected

CTATTGGGAT is described with additional reference to Figs. 9-15.

GTGCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337218 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337218 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337218 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337218 precursor RNA is designated SEQ

ID:141674, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141674 is located from position 86923030 to position 86923105 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM337218 precursor RNA folds onto itself, forming GAM337218 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337218 precursor RNA, designated SEQ ID NO: 141674, and a schematic representation of a predicted secondary folding of GAM337218 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337218 folded precursor RNA yielding a GAM337218 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337218 RNA, hereby incorporated herein.

GAM337218 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337218 target RNA, herein designated GAM TARGET RNA.

GAM337218 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337218 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337218 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337218 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337218 RNA, herein designated GAM RNA, to target binding sites on GAM337218 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337218 target RNA into GAM337218 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM337218 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337218 target genes. The mRNA of each one of this plurality of GAM337218 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337218 RNA, herein designated GAM RNA, and which when bound by GAM337218 RNA causes inhibition of translation of the GAM337218 target mRNA into a corresponding GAM337218 target protein.

The mechanism of the translational inhibition exerted by GAM337218 RNA, herein designated GAM RNA, on one or more GAM337218 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337218 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337218 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337218 RNA, herein designated GAM RNA, of GAM337218 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337218 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337218 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337218 RNA correlate with, and may be deduced from, the identity of the GAM337218 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337219 141675 GGAAAGGAGT Fig. 8 further provides a conceptual description of another novel bioinformatically

GGTCCAGACC detected oligonucleotides of the present invention, referred to here as Genomic Address

CTGAAGGAAG Messenger 337219 (GAM337219) oligonucleotides modulates expression of respective target

CAGACAGGGT genes whose function and utility is known in the art.

ACCTGGGCTT GAM337219 is a novel bioinformatically detectable regulatory, non protein

CCTTGGTTTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337219 was detected

CAAGACTCAC is described with additional reference to Figs. 9-15.

CCTCTCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337219 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337219 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337219 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337219 precursor RNA is designated SEQ ID:141675, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141675 is located from position 87034877 to position 87034953 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM337219 precursor RNA folds onto itself, forming GAM337219 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337219 precursor RNA, designated SEQ ID NO: 141675, and a schematic representation of a predicted secondary folding of GAM337219 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337219 folded precursor RNA yielding a GAM337219 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337219 RNA, hereby incorporated herein.

GAM337219 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337219 target RNA, herein designated GAM TARGET RNA.

GAM337219 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337219 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337219 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337219 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337219 RNA, herein designated GAM RNA, to target binding sites on GAM337219 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337219 target RNA into GAM337219 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337219 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337219 target genes. The mRNA of each one of this plurality of GAM337219 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337219 RNA, herein designated GAM RNA, and which when bound by GAM337219 RNA causes inhibition of translation of the GAM337219 target mRNA into a corresponding GAM337219 target protein.

The mechanism of the translational inhibition exerted by GAM337219 RNA, herein designated GAM RNA, on one or more GAM337219 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337219 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337219 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337219 RNA, herein designated GAM RNA, of GAM337219 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337219 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337219 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337219 RNA correlate with, and may be deduced from, the identity of the GAM337219 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337220 141676 GACCTCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

AAGCTGGGTT detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGCTGGGCT Messenger 337220 (GAM337220) oligonucleotides modulates expression of respective target

GAGACAATTA genes whose function and utility is known in the art.

ATGTCTGTCA GAM337220 is a novel bioinformatically detectable regulatory, non protein
GCCCAAACCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337220 was detected
GGCACTCTGA is described with additional reference to Figs. 9-15.

CCTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337220 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337220 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337220 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337220 precursor RNA is designated SEQ ID:141676, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141676 is located from position 87035430 to position 87035503 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM337220 precursor RNA folds onto itself, forming GAM337220 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337220 precursor RNA, designated SEQ ID NO: 141676, and a schematic representation of a predicted secondary folding of GAM337220 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337220 folded precursor RNA yielding a GAM337220 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337220 RNA, hereby incorporated herein.

GAM337220 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337220 target RNA, herein designated GAM TARGET RNA.

GAM337220 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337220 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337220 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337220 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337220 RNA, herein designated GAM RNA, to target binding sites on GAM337220 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337220 target RNA into GAM337220 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337220 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337220 target genes. The mRNA of each one of this plurality of GAM337220 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337220 RNA, herein designated GAM RNA, and which when bound by GAM337220 RNA causes inhibition of translation of the GAM337220 target mRNA into a corresponding GAM337220 target protein.

The mechanism of the translational inhibition exerted by GAM337220 RNA, herein designated GAM RNA, on one or more GAM337220 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337220 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337220 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337220 RNA, herein designated GAM RNA, of GAM337220 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337220 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337220 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337220 RNA correlate with, and may be deduced from, the identity of the GAM337220 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337221 141677 GGTACATGTC Fig. 8 further provides a conceptual description of another novel bioinformatically
ACTACTGTTC detected oligonucleotides of the present invention, referred to here as Genomic Address
ATAGTCTCTT Messenger 337221 (GAM337221) oligonucleotides modulates expression of respective target
TGCTGGAACT genes whose function and utility is known in the art.

TGGTCCTATG GAM337221 is a novel bioinformatically detectable regulatory, non protein
GCCCTACTGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337221 was detected
CAGAGAGGAA is described with additional reference to Figs. 9-15.

GGCTATGAAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CCCAGTCTAG encoded by the human genome.

GCCTGCGCC GAM337221 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAM337221 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337221 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337221 precursor RNA is designated SEQ ID:141677, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141677 is located from position 87449030 to position 87449128 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM337221 precursor RNA folds onto itself, forming GAM337221 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337221 precursor RNA, designated SEQ ID NO: 141677, and a schematic representation of a predicted secondary folding of GAM337221 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337221 folded precursor RNA yielding a GAM337221 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337221 RNA, hereby incorporated herein.

GAM337221 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337221 target RNA, herein designated GAM TARGET RNA.

GAM337221 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337221 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337221 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337221 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337221 RNA, herein designated GAM RNA, to target binding sites on GAM337221 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337221 target RNA into GAM337221 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337221 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337221 target genes. The mRNA of each one of this plurality of GAM337221 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337221 RNA, herein designated GAM RNA, and which when bound by GAM337221 RNA causes inhibition of translation of the GAM337221 target mRNA into a corresponding GAM337221 target protein.

The mechanism of the translational inhibition exerted by GAM337221 RNA, herein designated GAM RNA, on one or more GAM337221 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337221 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337221 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337221 RNA, herein designated GAM RNA, of GAM337221 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM337221 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337221 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337221 RNA correlate with, and may be deduced from, the identity of the GAM337221 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337222 141678 CAGAAGGCTG Fig. 8 further provides a conceptual description of another novel bioinformatically

CATTTGGCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

TTTCCCTTAC Messenger 337222 (GAM337222) oligonucleotides modulates expression of respective target

TTCTGACCCA genes whose function and utility is known in the art.

AGCCTCATGC GAM337222 is a novel bioinformatically detectable regulatory, non protein

AGGGCTGTGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337222 was detected

GGGTGCTGCC is described with additional reference to Figs. 9-15.

TGCAGCCTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TG encoded by the human genome.

GAM337222 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337222 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337222 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337222 precursor RNA is designated SEQ ID:141678, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141678 is located from position 87564276 to position 87564357 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM337222 precursor RNA folds onto itself, forming GAM337222 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337222 precursor RNA, designated SEQ ID NO: 141678, and a schematic representation of a predicted secondary folding of GAM337222 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337222 folded precursor RNA yielding a GAM337222 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337222 RNA, hereby incorporated herein.

GAM337222 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337222 target RNA, herein designated GAM TARGET RNA.

GAM337222 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337222 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337222 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337222 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337222 RNA, herein designated GAM RNA, to target binding sites on GAM337222 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337222 target RNA into GAM337222 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337222 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337222 target genes. The mRNA of each one of this plurality of GAM337222 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337222 RNA, herein designated GAM RNA, and which when bound by GAM337222 RNA causes inhibition of translation of the GAM337222 target mRNA into a corresponding GAM337222 target protein.

The mechanism of the translational inhibition exerted by GAM337222 RNA, herein designated GAM RNA, on one or more GAM337222 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337222 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337222 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337222 RNA, herein designated GAM RNA, of GAM337222 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337222 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337222 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337222 RNA correlate with, and may be deduced from, the identity of the GAM337222 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337223 141679 CCTCACAGCC Fig. 8 further provides a conceptual description of another novel bioinformatically
ATGAACACAC detected oligonucleotides of the present invention, referred to here as Genomic Address
CTGGGATTCC Messenger 337223 (GAM337223) oligonucleotides modulates expression of respective target
AGGAATAGGA genes whose function and utility is known in the art.

TACCTGAAGT GAM337223 is a novel bioinformatically detectable regulatory, non protein
TACTATTCTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337223 was detected
TAATCCCGGG is described with additional reference to Figs. 9-15.

GTCCCATTAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CATTGGGG encoded by the human genome.

GAM337223 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337223 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337223 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337223 precursor RNA is designated SEQ ID:141679, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141679 is located from position 87851079 to position 87851166 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM337223 precursor RNA folds onto itself, forming GAM337223 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337223 precursor RNA, designated SEQ ID NO: 141679, and a schematic representation of a predicted secondary folding of GAM337223 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337223 folded precursor RNA yielding a GAM337223 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337223 RNA, hereby incorporated herein.

GAM337223 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337223 target RNA, herein designated GAM TARGET RNA.

GAM337223 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337223 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337223 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337223 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337223 RNA, herein designated GAM RNA, to target binding sites on GAM337223 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337223 target RNA into GAM337223 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337223 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337223 target genes. The mRNA of each one of this plurality of GAM337223 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337223 RNA, herein designated GAM RNA, and which when bound by GAM337223 RNA causes inhibition of translation of the GAM337223 target mRNA into a corresponding GAM337223 target protein.

The mechanism of the translational inhibition exerted by GAM337223 RNA, herein

designated GAM RNA, on one or more GAM337223 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337223 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337223 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337223 RNA, herein designated GAM RNA, of GAM337223 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337223 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337223 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337223 RNA correlate with, and may be deduced from, the identity of the GAM337223 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337224 141680 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337224 (GAM337224) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337224 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337224 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM337224 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337224 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337224 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337224 precursor RNA is designated SEQ ID:141680, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141680 is located from position 88198417 to position 88198498

relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337224 precursor RNA folds onto itself, forming GAM337224 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337224 precursor RNA, designated SEQ ID NO: 141680, and a schematic representation of a predicted secondary folding of GAM337224 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337224 folded precursor RNA yielding a GAM337224 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337224 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337224 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337224 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337224 target RNA, herein designated GAM TARGET RNA.

GAM337224 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337224 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337224 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337224 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337224 RNA, herein designated GAM RNA, to target binding sites on GAM337224 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337224 target RNA into GAM337224 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM337224 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337224 target genes. The mRNA of each one of this plurality of GAM337224 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337224 RNA, herein designated GAM RNA, and which when bound by GAM337224 RNA causes inhibition of translation of the GAM337224 target mRNA into a corresponding GAM337224 target protein.

The mechanism of the translational inhibition exerted by GAM337224 RNA, herein designated GAM RNA, on one or more GAM337224 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337224 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337224 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337224 RNA, herein designated GAM RNA, of GAM337224 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337224 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337224 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337224 RNA correlate with, and may be deduced from, the identity of the GAM337224 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337225 141681 CTGAGAGGCA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAGGCTTCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

TGAGCCGAGG Messenger 337225 (GAM337225) oligonucleotides modulates expression of respective target

CCACACCACT genes whose function and utility is known in the art.

GCACTCCGGC GAM337225 is a novel bioinformatically detectable regulatory, non protein

CTTGGTGACA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337225 was detected

GAGACTCTGC is described with additional reference to Figs. 9-15.

CTCGAAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337225 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337225 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337225 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337225 precursor RNA is designated SEQ ID:141681, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141681 is located from position 88408163 to position 88408240 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM337225 precursor RNA folds onto itself, forming GAM337225 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337225 precursor RNA, designated SEQ ID NO: 141681, and a schematic representation of a predicted secondary folding of GAM337225 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337225 folded precursor RNA yielding a GAM337225 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337225 RNA, hereby incorporated herein.

GAM337225 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337225 target RNA, herein designated GAM TARGET RNA.

GAM337225 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337225 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337225 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337225 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337225 RNA, herein designated GAM RNA, to target binding sites on GAM337225 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337225 target RNA into GAM337225 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337225 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337225 target genes. The mRNA of each one of this plurality of GAM337225 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337225 RNA, herein designated GAM RNA, and which when bound by GAM337225 RNA causes inhibition of translation of the GAM337225 target mRNA into a corresponding GAM337225 target protein.

The mechanism of the translational inhibition exerted by GAM337225 RNA, herein designated GAM RNA, on one or more GAM337225 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337225 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337225 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337225 RNA, herein designated GAM RNA, of GAM337225 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337225 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337225 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337225 RNA correlate with, and may be deduced from, the identity of the GAM337225 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337226 141682 GTATAACGCA Fig. 8 further provides a conceptual description of another novel bioinformatically

AAACACAATT detected oligonucleotides of the present invention, referred to here as Genomic Address

TCTAAATAGT Messenger 337226 (GAM337226) oligonucleotides modulates expression of respective target

CAAAAGTTTT genes whose function and utility is known in the art.

TCCTGGCAAG GAM337226 is a novel bioinformatically detectable regulatory, non protein
GAGACTTTTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337226 was detected
TAGACACCTA is described with additional reference to Figs. 9-15.

CCCTGTGATC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATCTGTGTGC encoded by the human genome.

GAM337226 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337226 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337226 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337226 precursor RNA is designated SEQ ID:141682, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141682 is located from position 88578225 to position 88578314 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337226 precursor RNA folds onto itself, forming GAM337226 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337226 precursor RNA, designated SEQ ID NO: 141682, and a schematic representation of a predicted secondary folding of GAM337226 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337226 folded precursor RNA yielding a GAM337226 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337226 RNA, hereby incorporated herein.

GAM337226 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337226 target RNA, herein designated GAM TARGET RNA.

GAM337226 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337226 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337226 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337226 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337226 RNA, herein designated GAM RNA, to target binding sites on GAM337226 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337226 target RNA into GAM337226 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337226 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337226 target genes. The mRNA of each one of this plurality of GAM337226 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337226 RNA, herein designated GAM RNA, and which when bound by GAM337226 RNA causes inhibition of translation of the GAM337226 target mRNA into a corresponding GAM337226 target protein.

The mechanism of the translational inhibition exerted by GAM337226 RNA, herein designated GAM RNA, on one or more GAM337226 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337226 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337226 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337226 RNA, herein designated GAM RNA, of GAM337226 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337226 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337226 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337226 RNA correlate with, and may be deduced from, the identity of the GAM337226 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337227 141683 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
AGATCACTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGCCCAGGAG Messenger 337227 (GAM337227) oligonucleotides modulates expression of respective target
GTGGAGGCTG genes whose function and utility is known in the art.

CAGTGACCCA GAM337227 is a novel bioinformatically detectable regulatory, non protein
TATTCATGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337227 was detected
ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAGAGTGAG encoded by the human genome.

ACCCTCTCTC GAM337227 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
A GAM337227 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337227 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337227 precursor RNA is designated SEQ ID:141683, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141683 is located from position 88903075 to position 88903175 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337227 precursor RNA folds onto itself, forming GAM337227 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337227 precursor RNA, designated SEQ ID NO: 141683, and a schematic representation of a predicted secondary folding of GAM337227 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337227 folded precursor RNA yielding a GAM337227 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337227 RNA, hereby incorporated herein. Expression of GAM337227 RNA was experimentally validated in HeLa cells using the methods

described with reference to Figs.22 to 24.

GAM337227 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337227 target RNA, herein designated GAM TARGET RNA.

GAM337227 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337227 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337227 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337227 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337227 RNA, herein designated GAM RNA, to target binding sites on GAM337227 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337227 target RNA into GAM337227 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337227 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337227 target genes. The mRNA of each one of this plurality of GAM337227 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337227 RNA, herein designated GAM RNA, and which when bound by GAM337227 RNA causes inhibition of translation of the GAM337227 target mRNA into a corresponding GAM337227 target protein.

The mechanism of the translational inhibition exerted by GAM337227 RNA, herein designated GAM RNA, on one or more GAM337227 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337227 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337227 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337227 RNA, herein designated GAM RNA, of GAM337227 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337227 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337227 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337227 RNA correlate with, and may be deduced from, the identity of the GAM337227 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337228 141684 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 337228 (GAM337228) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337228 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337228 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337228 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337228 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337228 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337228 precursor RNA is designated SEQ ID:141684, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141684 is located from position 88997770 to position 88997851 relative to chromosome chr3 on the `+` strand (chr is an abbreviation for chromosome).

GAM337228 precursor RNA folds onto itself, forming GAM337228 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337228 precursor RNA, designated SEQ ID NO: 141684, and a schematic representation of a predicted secondary folding of GAM337228 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337228 folded precursor RNA yielding a GAM337228 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337228 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337228 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337228 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337228 target RNA, herein designated GAM TARGET RNA.

GAM337228 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337228 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337228 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337228 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337228 RNA, herein designated GAM RNA, to target binding sites on GAM337228 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337228 target RNA into GAM337228 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337228 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337228 target genes. The mRNA of each one of this plurality of GAM337228 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337228 RNA, herein designated GAM RNA, and which when bound by GAM337228 RNA causes inhibition of translation of the GAM337228 target mRNA into a corresponding GAM337228 target protein.

The mechanism of the translational inhibition exerted by GAM337228 RNA, herein designated GAM RNA, on one or more GAM337228 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337228 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337228 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337228 RNA, herein designated GAM RNA, of GAM337228 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337228 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337228 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337228 RNA correlate with, and may be deduced from, the identity of the GAM337228 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337229 141685 TGCTTCTAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

AACCTCCATC detected oligonucleotides of the present invention, referred to here as Genomic Address

TCATGCCATG Messenger 337229 (GAM337229) oligonucleotides modulates expression of respective target

GTGCTTCGAG genes whose function and utility is known in the art.

GAGCGTACCA GAM337229 is a novel bioinformatically detectable regulatory, non protein

GCCTTGCAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337229 was detected

ACCACAACAG is described with additional reference to Figs. 9-15.

GGACTGGGCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGAGGCA encoded by the human genome.

GAM337229 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337229 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337229 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337229 precursor RNA is designated SEQ ID:141685, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141685 is located from position 89060884 to position 89060970 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GAM337229 precursor RNA folds onto itself, forming GAM337229 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337229 precursor RNA, designated SEQ ID NO: 141685, and a schematic representation of a predicted secondary folding of GAM337229 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337229 folded precursor RNA yielding a GAM337229 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337229 RNA, hereby incorporated herein.

GAM337229 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337229 target RNA, herein designated GAM TARGET RNA.

GAM337229 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337229 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337229 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337229 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337229 RNA, herein designated GAM RNA, to target binding sites on GAM337229 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337229 target RNA into GAM337229 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337229 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337229 target genes. The mRNA of each one of this plurality of GAM337229 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337229 RNA, herein designated GAM RNA, and which when bound by GAM337229 RNA causes inhibition of

translation of the GAM337229 target mRNA into a corresponding GAM337229 target protein.

The mechanism of the translational inhibition exerted by GAM337229 RNA, herein designated GAM RNA, on one or more GAM337229 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337229 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337229 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337229 RNA, herein designated GAM RNA, of GAM337229 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337229 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337229 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337229 RNA correlate with, and may be deduced from, the identity of the GAM337229 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337230 141686 CCTGCCCACC Fig. 8 further provides a conceptual description of another novel bioinformatically
AACTCCCAGG detected oligonucleotides of the present invention, referred to here as Genomic Address
CTTATTCACC Messenger 337230 (GAM337230) oligonucleotides modulates expression of respective target
AACCACTCCA genes whose function and utility is known in the art.

CCAGCTCTGA GAM337230 is a novel bioinformatically detectable regulatory, non protein
CCCTGACTTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337230 was detected
TGGGGTTCCC is described with additional reference to Figs. 9-15.

ATCTCAGTCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCAGCCTGTG encoded by the human genome.

CTGCTGCCCC GAM337230 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CTGAAGAGCA GAM337230 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

TCCTTCCAGG GAM337230 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337230 precursor RNA is designated SEQ ID:141686, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141686 is located from position 89181165 to position 89181284 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM337230 precursor RNA folds onto itself, forming GAM337230 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337230 precursor RNA, designated SEQ ID NO: 141686, and a schematic representation of a predicted secondary folding of GAM337230 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337230 folded precursor RNA yielding a GAM337230 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337230 RNA, hereby incorporated herein.

GAM337230 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337230 target RNA, herein designated GAM TARGET RNA.

GAM337230 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337230 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337230 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337230 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337230 RNA, herein designated GAM RNA, to target binding sites on GAM337230 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337230 target RNA into GAM337230 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337230 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337230 target genes. The mRNA of each one of this plurality of GAM337230 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337230 RNA, herein designated GAM RNA, and which when bound by GAM337230 RNA causes inhibition of translation of the GAM337230 target mRNA into a corresponding GAM337230 target protein.

The mechanism of the translational inhibition exerted by GAM337230 RNA, herein designated GAM RNA, on one or more GAM337230 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337230 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337230 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337230 RNA, herein designated GAM RNA, of GAM337230 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337230 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337230 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337230 RNA correlate with, and may be deduced from, the identity of the GAM337230 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337231 141687 GAGGCCCCAA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAAGTTAAAT detected oligonucleotides of the present invention, referred to here as Genomic Address

AACTTGCTTA Messenger 337231 (GAM337231) oligonucleotides modulates expression of respective target

AGATCACAGA genes whose function and utility is known in the art.

GCTAATGAGT GAM337231 is a novel bioinformatically detectable regulatory, non protein

GGCAGAACAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337231 was detected

TTATTCTAGC is described with additional reference to Figs. 9-15.

TCTGATTTTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGGGATTTAC encoded by the human genome.

TTAACTTTTA GAM337231 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CTTGGAATTC GAM337231 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337231 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337231 precursor RNA is designated SEQ ID:141687, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141687 is located from position 89182591 to position 89182700 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337231 precursor RNA folds onto itself, forming GAM337231 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337231 precursor RNA, designated SEQ ID NO: 141687, and a schematic representation of a predicted secondary folding of GAM337231 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337231 folded precursor RNA yielding a GAM337231 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337231 RNA, hereby incorporated herein.

GAM337231 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337231 target RNA, herein designated GAM TARGET RNA.

GAM337231 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337231 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337231 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337231 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337231 RNA, herein designated GAM RNA, to target binding sites on GAM337231 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337231 target RNA into GAM337231 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337231 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337231 target genes. The mRNA of each one of this plurality of GAM337231 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337231 RNA, herein designated GAM RNA, and which when bound by GAM337231 RNA causes inhibition of translation of the GAM337231 target mRNA into a corresponding GAM337231 target protein.

The mechanism of the translational inhibition exerted by GAM337231 RNA, herein designated GAM RNA, on one or more GAM337231 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337231 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337231 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337231 RNA, herein designated GAM RNA, of GAM337231 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337231 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337231 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337231 RNA correlate with, and may be deduced from, the identity of the GAM337231 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337232 141688 CTGAGTTTCC Fig. 8 further provides a conceptual description of another novel bioinformatically

ATAGGGAACT detected oligonucleotides of the present invention, referred to here as Genomic Address
ATTGGGTTTA Messenger 337232 (GAM337232) oligonucleotides modulates expression of respective target
AAGTCACCGT genes whose function and utility is known in the art.

TGGAACTACA GAM337232 is a novel bioinformatically detectable regulatory, non protein
CTGTGTGATC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337232 was detected
TTATAAACTT is described with additional reference to Figs. 9-15.

ATGTTCCCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCTATCATAT encoded by the human genome.

TCTTGGCTCA GAM337232 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
G GAM337232 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337232 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337232 precursor RNA is designated SEQ ID:141688, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141688 is located from position 89243160 to position 89243260 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM337232 precursor RNA folds onto itself, forming GAM337232 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337232 precursor RNA, designated SEQ ID NO: 141688, and a schematic representation of a predicted secondary folding of GAM337232 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337232 folded precursor RNA yielding a GAM337232 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337232 RNA, hereby incorporated herein.

GAM337232 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337232 target RNA, herein designated GAM TARGET RNA.

GAM337232 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337232 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337232 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337232 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337232 RNA, herein designated GAM RNA, to target binding sites on GAM337232 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337232 target RNA into GAM337232 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337232 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337232 target genes. The mRNA of each one of this plurality of GAM337232 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337232 RNA, herein designated GAM RNA, and which when bound by GAM337232 RNA causes inhibition of translation of the GAM337232 target mRNA into a corresponding GAM337232 target protein.

The mechanism of the translational inhibition exerted by GAM337232 RNA, herein designated GAM RNA, on one or more GAM337232 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337232 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337232 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337232 RNA, herein designated GAM RNA, of GAM337232 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337232 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337232 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337232 RNA correlate with, and may be deduced from, the identity of the GAM337232 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337233 141689 GGATCGCTTG AGCCCAGGAG TTCGAGGCTG CAGTGAGCTG TGATCACACC ACTGCACTCC AGCCTGGGCA ACAGAGCGAG ACC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337233 (GAM337233) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337233 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337233 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337233 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337233 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337233 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337233 precursor RNA is designated SEQ ID:141689, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141689 is located from position 89325453 to position 89325535 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GAM337233 precursor RNA folds onto itself, forming GAM337233 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337233 precursor RNA, designated SEQ ID NO: 141689, and a schematic representation of a predicted secondary folding of GAM337233 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337233 folded precursor RNA yielding a GAM337233 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337233 RNA, hereby incorporated herein. Expression of GAM337233 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337233 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337233 target RNA, herein designated GAM TARGET RNA.

GAM337233 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337233 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337233 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337233 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337233 RNA, herein designated GAM RNA, to target binding sites on GAM337233 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337233 target RNA into GAM337233 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337233 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337233 target genes. The mRNA of each one of this plurality of GAM337233 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337233 RNA, herein designated GAM RNA, and which when bound by GAM337233 RNA causes inhibition of translation of the GAM337233 target mRNA into a corresponding GAM337233 target protein.

The mechanism of the translational inhibition exerted by GAM337233 RNA, herein designated GAM RNA, on one or more GAM337233 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337233 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337233 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337233 RNA, herein designated GAM RNA, of GAM337233 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337233 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337233 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337233 RNA correlate with, and may be deduced from, the identity of the GAM337233 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337234 141690 TCGCTTGAGC Fig. 8 further provides a conceptual description of another novel bioinformatically

CCAGGAGTTC detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGCTGCAG Messenger 337234 (GAM337234) oligonucleotides modulates expression of respective target

TGAGCTGTGA genes whose function and utility is known in the art.

TCACACCACT GAM337234 is a novel bioinformatically detectable regulatory, non protein

GCACTCCAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337234 was detected

CTGGGCAACA is described with additional reference to Figs. 9-15.

GAGCGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337234 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337234 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337234 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337234 precursor RNA is designated SEQ ID:141690, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141690 is located from position 89325457 to position 89325532 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GAM337234 precursor RNA folds onto itself, forming GAM337234 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337234 precursor RNA, designated SEQ ID NO: 141690, and a schematic representation of a predicted secondary folding of GAM337234 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337234 folded precursor RNA yielding a GAM337234 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337234 RNA, hereby incorporated herein. Expression of GAM337234 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337234 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337234 target RNA, herein designated GAM TARGET RNA.

GAM337234 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337234 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337234 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337234 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337234 RNA, herein designated GAM RNA, to target binding sites on GAM337234 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337234 target RNA into GAM337234 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337234 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337234 target genes. The mRNA of each one of this plurality of GAM337234 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337234 RNA, herein designated GAM RNA, and which when bound by GAM337234 RNA causes inhibition of translation of the GAM337234 target mRNA into a corresponding GAM337234 target protein.

The mechanism of the translational inhibition exerted by GAM337234 RNA, herein

designated GAM RNA, on one or more GAM337234 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337234 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337234 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337234 RNA, herein designated GAM RNA, of GAM337234 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337234 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337234 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337234 RNA correlate with, and may be deduced from, the identity of the GAM337234 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337235 141691 CGCTTGAGCC Fig. 8 further provides a conceptual description of another novel bioinformatically

CAGGAGTTCG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGCTGCAGT Messenger 337235 (GAM337235) oligonucleotides modulates expression of respective target

GAGCTGTGAT genes whose function and utility is known in the art.

CACACCACTG GAM337235 is a novel bioinformatically detectable regulatory, non protein

CACTCCAGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337235 was detected

TGGGCAACAG is described with additional reference to Figs. 9-15.

AGCG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337235 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337235 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337235 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337235 precursor RNA is designated SEQ ID:141691, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141691 is located from position 89325458 to position 89325531

relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GAM337235 precursor RNA folds onto itself, forming GAM337235 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337235 precursor RNA, designated SEQ ID NO: 141691, and a schematic representation of a predicted secondary folding of GAM337235 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337235 folded precursor RNA yielding a GAM337235 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337235 RNA, hereby incorporated herein. Expression of GAM337235 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337235 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337235 target RNA, herein designated GAM TARGET RNA.

GAM337235 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337235 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337235 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337235 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337235 RNA, herein designated GAM RNA, to target binding sites on GAM337235 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337235 target RNA into GAM337235 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM337235 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337235 target genes. The mRNA of each one of this plurality of GAM337235 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337235 RNA, herein designated GAM RNA, and which when bound by GAM337235 RNA causes inhibition of translation of the GAM337235 target mRNA into a corresponding GAM337235 target protein.

The mechanism of the translational inhibition exerted by GAM337235 RNA, herein designated GAM RNA, on one or more GAM337235 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337235 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337235 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337235 RNA, herein designated GAM RNA, of GAM337235 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337235 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337235 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337235 RNA correlate with, and may be deduced from, the identity of the GAM337235 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337236 141692 GAGGCCCCAA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAAGTTAAAT detected oligonucleotides of the present invention, referred to here as Genomic Address

AACTTGCTTA Messenger 337236 (GAM337236) oligonucleotides modulates expression of respective target

AGATCACAGA genes whose function and utility is known in the art.

GCTAATGAGT GAM337236 is a novel bioinformatically detectable regulatory, non protein

GGCAGAACAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337236 was detected

TTATTCTAGC is described with additional reference to Figs. 9-15.

TCTGATTTTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGGGATTTAC encoded by the human genome.

TTAACTTTTA GAM337236 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CTTGGAATTC GAM337236 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337236 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337236 precursor RNA is designated SEQ ID:141692, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141692 is located from position 89337220 to position 89337329 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM337236 precursor RNA folds onto itself, forming GAM337236 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337236 precursor RNA, designated SEQ ID NO: 141692, and a schematic representation of a predicted secondary folding of GAM337236 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337236 folded precursor RNA yielding a GAM337236 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337236 RNA, hereby incorporated herein.

GAM337236 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337236 target RNA, herein designated GAM TARGET RNA.

GAM337236 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337236 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337236 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337236 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337236 RNA, herein designated GAM RNA, to target binding sites on GAM337236 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337236 target RNA into GAM337236 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337236 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337236 target genes. The mRNA of each one of this plurality of GAM337236 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337236 RNA, herein designated GAM RNA, and which when bound by GAM337236 RNA causes inhibition of translation of the GAM337236 target mRNA into a corresponding GAM337236 target protein.

The mechanism of the translational inhibition exerted by GAM337236 RNA, herein designated GAM RNA, on one or more GAM337236 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337236 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337236 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337236 RNA, herein designated GAM RNA, of GAM337236 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337236 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337236 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337236 RNA correlate with, and may be deduced from, the identity of the GAM337236 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337237 141693 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATTGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCCAGGAAG Messenger 337237 (GAM337237) oligonucleotides modulates expression of respective target

CAGAGGTTGC genes whose function and utility is known in the art.

GGTGAGCTGA GAM337237 is a novel bioinformatically detectable regulatory, non protein
ATCATGCCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337237 was detected
TGCACTCCAG is described with additional reference to Figs. 9-15.

CCTGGGCAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGAGCAGCAC encoded by the human genome.

TTCGTCTC GAM337237 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337237 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337237 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337237 precursor RNA is designated SEQ ID:141693, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141693 is located from position 89368234 to position 89368331 relative to chromosome chr4 on the `+` strand (chr is an abbreviation for chromosome).

GAM337237 precursor RNA folds onto itself, forming GAM337237 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337237 precursor RNA, designated SEQ ID NO: 141693, and a schematic representation of a predicted secondary folding of GAM337237 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337237 folded precursor RNA yielding a GAM337237 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337237 RNA, hereby incorporated herein. Expression of GAM337237 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337237 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337237 target RNA, herein designated GAM TARGET RNA.

GAM337237 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337237 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337237 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337237 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337237 RNA, herein designated GAM RNA, to target binding sites on GAM337237 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337237 target RNA into GAM337237 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337237 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337237 target genes. The mRNA of each one of this plurality of GAM337237 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337237 RNA, herein designated GAM RNA, and which when bound by GAM337237 RNA causes inhibition of translation of the GAM337237 target mRNA into a corresponding GAM337237 target protein.

The mechanism of the translational inhibition exerted by GAM337237 RNA, herein designated GAM RNA, on one or more GAM337237 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337237 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337237 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337237 RNA, herein designated GAM RNA, of GAM337237 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337237 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337237 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337237 RNA correlate with, and may be deduced from, the identity of the GAM337237 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337238 141694 GGAGAATTGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAAGCAGAGG Messenger 337238 (GAM337238) oligonucleotides modulates expression of respective target
TTGCGGTGAG genes whose function and utility is known in the art.

CTGAATCATG GAM337238 is a novel bioinformatically detectable regulatory, non protein
CCACTGCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337238 was detected
CCAGCCTGGG is described with additional reference to Figs. 9-15.

CAACAGAGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCACTTC encoded by the human genome.

GAM337238 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337238 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337238 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337238 precursor RNA is designated SEQ ID:141694, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141694 is located from position 89368240 to position 89368326 relative to chromosome chr4 on the `+` strand (chr is an abbreviation for chromosome).

GAM337238 precursor RNA folds onto itself, forming GAM337238 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337238 precursor RNA, designated SEQ ID NO: 141694, and a schematic representation of a predicted secondary folding of GAM337238 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337238 folded precursor RNA yielding a GAM337238 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337238 RNA, hereby incorporated herein. Expression of GAM337238 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337238 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337238 target RNA, herein designated GAM TARGET RNA.

GAM337238 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337238 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337238 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337238 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337238 RNA, herein designated GAM RNA, to target binding sites on GAM337238 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337238 target RNA into GAM337238 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337238 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337238 target genes. The mRNA of each one of this plurality of GAM337238 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337238 RNA, herein designated GAM RNA, and which when bound by GAM337238 RNA causes inhibition of translation of the GAM337238 target mRNA into a corresponding GAM337238 target protein.

The mechanism of the translational inhibition exerted by GAM337238 RNA, herein designated GAM RNA, on one or more GAM337238 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337238 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337238 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337238 RNA, herein designated GAM RNA, of

GAM337238 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337238 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337238 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337238 RNA correlate with, and may be deduced from, the identity of the GAM337238 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337239 141695 GAGAAGAGTT GTTCTCATGG AGGGCCTTCA GATGAGTGCT ATAGACTCTC TAGGCAACTC CAAGAGGCTT CTC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337239 (GAM337239) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337239 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337239 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337239 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337239 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337239 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337239 precursor RNA is designated SEQ ID:141695, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141695 is located from position 89508105 to position 89508177 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM337239 precursor RNA folds onto itself, forming GAM337239 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337239 precursor RNA, designated SEQ ID NO: 141695,

and a schematic representation of a predicted secondary folding of GAM337239 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337239 folded precursor RNA yielding a GAM337239 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337239 RNA, hereby incorporated herein.

GAM337239 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337239 target RNA, herein designated GAM TARGET RNA.

GAM337239 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337239 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337239 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337239 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337239 RNA, herein designated GAM RNA, to target binding sites on GAM337239 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337239 target RNA into GAM337239 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337239 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337239 target genes. The mRNA of each one of this plurality of GAM337239 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337239 RNA, herein designated GAM RNA, and which when bound by GAM337239 RNA causes inhibition of translation of the GAM337239 target mRNA into a corresponding GAM337239 target protein.

The mechanism of the translational inhibition exerted by GAM337239 RNA, herein designated GAM RNA, on one or more GAM337239 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337239 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337239 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337239 RNA, herein designated GAM RNA, of GAM337239 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337239 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337239 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337239 RNA correlate with, and may be deduced from, the identity of the GAM337239 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337240 141696 CATGTCTGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

CATCTGTTTA detected oligonucleotides of the present invention, referred to here as Genomic Address

TTCCCATCAT Messenger 337240 (GAM337240) oligonucleotides modulates expression of respective target

CTAACAGAGT genes whose function and utility is known in the art.

GCTCAACACA GAM337240 is a novel bioinformatically detectable regulatory, non protein

TTTGCTTGAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337240 was detected

GAATACGTTT is described with additional reference to Figs. 9-15.

TGAGCACTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGATGATCA encoded by the human genome.

CAGAAGAGCT GAM337240 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

AAGAAGTG GAM337240 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337240 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337240 precursor RNA is designated SEQ ID:141696, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141696 is located from position 89578295 to position 89578402 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM337240 precursor RNA folds onto itself, forming GAM337240 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337240 precursor RNA, designated SEQ ID NO: 141696, and a schematic representation of a predicted secondary folding of GAM337240 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337240 folded precursor RNA yielding a GAM337240 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337240 RNA, hereby incorporated herein.

GAM337240 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337240 target RNA, herein designated GAM TARGET RNA.

GAM337240 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337240 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337240 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337240 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337240 RNA, herein designated GAM RNA, to target binding sites on GAM337240 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337240 target RNA into GAM337240 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337240 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337240 target genes. The mRNA of each one of this

plurality of GAM337240 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337240 RNA, herein designated GAM RNA, and which when bound by GAM337240 RNA causes inhibition of translation of the GAM337240 target mRNA into a corresponding GAM337240 target protein.

The mechanism of the translational inhibition exerted by GAM337240 RNA, herein designated GAM RNA, on one or more GAM337240 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337240 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337240 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337240 RNA, herein designated GAM RNA, of GAM337240 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337240 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337240 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337240 RNA correlate with, and may be deduced from, the identity of the GAM337240 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337241 141697 GCTCATCTGT Fig. 8 further provides a conceptual description of another novel bioinformatically

TTATTCCCAT detected oligonucleotides of the present invention, referred to here as Genomic Address

CATCTAACAG Messenger 337241 (GAM337241) oligonucleotides modulates expression of respective target

AGTGCTCAAC genes whose function and utility is known in the art.

ACATTTGCTT GAM337241 is a novel bioinformatically detectable regulatory, non protein

GATGAATACG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337241 was detected

TTTTGAGCAC is described with additional reference to Figs. 9-15.

TGGGAGATGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCACAGAAGA encoded by the human genome.

GC GAM337241 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337241 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337241 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337241 precursor RNA is designated SEQ ID:141697, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141697 is located from position 89578302 to position 89578393 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM337241 precursor RNA folds onto itself, forming GAM337241 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337241 precursor RNA, designated SEQ ID NO: 141697, and a schematic representation of a predicted secondary folding of GAM337241 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337241 folded precursor RNA yielding a GAM337241 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337241 RNA, hereby incorporated herein.

GAM337241 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337241 target RNA, herein designated GAM TARGET RNA.

GAM337241 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337241 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337241 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337241 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337241 RNA, herein designated GAM RNA, to target

binding sites on GAM337241 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337241 target RNA into GAM337241 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337241 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337241 target genes. The mRNA of each one of this plurality of GAM337241 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337241 RNA, herein designated GAM RNA, and which when bound by GAM337241 RNA causes inhibition of translation of the GAM337241 target mRNA into a corresponding GAM337241 target protein.

The mechanism of the translational inhibition exerted by GAM337241 RNA, herein designated GAM RNA, on one or more GAM337241 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337241 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337241 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337241 RNA, herein designated GAM RNA, of GAM337241 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337241 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337241 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337241 RNA correlate with, and may be deduced from, the identity of the GAM337241 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337242 141698 TGCATGCTGG Fig. 8 further provides a conceptual description of another novel bioinformatically

GTAAATCATT detected oligonucleotides of the present invention, referred to here as Genomic Address

CTGTCTCATT Messenger 337242 (GAM337242) oligonucleotides modulates expression of respective target

TGTCTGTTGG genes whose function and utility is known in the art.

AAATACAGTT GAM337242 is a novel bioinformatically detectable regulatory, non protein

CTGGCACTAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337242 was detected

GATATGGTGA is described with additional reference to Figs. 9-15.

ACAGACAGAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGAGGCCACA encoded by the human genome.

ACATTCA GAM337242 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337242 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337242 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337242 precursor RNA is designated SEQ ID:141698, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141698 is located from position 89742768 to position 89742864 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337242 precursor RNA folds onto itself, forming GAM337242 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337242 precursor RNA, designated SEQ ID NO: 141698, and a schematic representation of a predicted secondary folding of GAM337242 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337242 folded precursor RNA yielding a GAM337242 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337242 RNA, hereby incorporated herein.

GAM337242 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337242 target RNA, herein designated GAM TARGET RNA.

GAM337242 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337242 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337242 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337242 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows

three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337242 RNA, herein designated GAM RNA, to target binding sites on GAM337242 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337242 target RNA into GAM337242 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337242 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337242 target genes. The mRNA of each one of this plurality of GAM337242 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337242 RNA, herein designated GAM RNA, and which when bound by GAM337242 RNA causes inhibition of translation of the GAM337242 target mRNA into a corresponding GAM337242 target protein.

The mechanism of the translational inhibition exerted by GAM337242 RNA, herein designated GAM RNA, on one or more GAM337242 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337242 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337242 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337242 RNA, herein designated GAM RNA, of GAM337242 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337242 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337242 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337242 RNA correlate with, and may be deduced from, the identity of the GAM337242 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337243 141699 GTTCTCTATG Fig. 8 further provides a conceptual description of another novel bioinformatically

GCTAGGCAGT detected oligonucleotides of the present invention, referred to here as Genomic Address
AAAGAAACAG Messenger 337243 (GAM337243) oligonucleotides modulates expression of respective target
CACCCTTCAT genes whose function and utility is known in the art.

ATTTTAAGGG GAM337243 is a novel bioinformatically detectable regulatory, non protein
ACTGTGCTAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337243 was detected
ATTTCTTCAT is described with additional reference to Figs. 9-15.

TCTTGGCGAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTTGAGAAT encoded by the human genome.

GAM337243 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337243 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337243 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337243 precursor RNA is designated SEQ ID:141699, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141699 is located from position 89931751 to position 89931839 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM337243 precursor RNA folds onto itself, forming GAM337243 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337243 precursor RNA, designated SEQ ID NO: 141699, and a schematic representation of a predicted secondary folding of GAM337243 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337243 folded precursor RNA yielding a GAM337243 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337243 RNA, hereby incorporated herein.

GAM337243 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337243 target RNA, herein designated GAM TARGET RNA.

GAM337243 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337243 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337243 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337243 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337243 RNA, herein designated GAM RNA, to target binding sites on GAM337243 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337243 target RNA into GAM337243 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337243 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337243 target genes. The mRNA of each one of this plurality of GAM337243 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337243 RNA, herein designated GAM RNA, and which when bound by GAM337243 RNA causes inhibition of translation of the GAM337243 target mRNA into a corresponding GAM337243 target protein.

The mechanism of the translational inhibition exerted by GAM337243 RNA, herein designated GAM RNA, on one or more GAM337243 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337243 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337243 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337243 RNA, herein designated GAM RNA, of GAM337243 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337243 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337243 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337243 RNA correlate with, and may be deduced from, the identity of the GAM337243 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337244 141700 TGGTGCATGC Fig. 8 further provides a conceptual description of another novel bioinformatically
CTGTAGTCTC detected oligonucleotides of the present invention, referred to here as Genomic Address
AGTTACTCTT Messenger 337244 (GAM337244) oligonucleotides modulates expression of respective target
GAGGCTGAAG genes whose function and utility is known in the art.

TGAAAGACTC GAM337244 is a novel bioinformatically detectable regulatory, non protein
TCTTGGGTCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337244 was detected
AGGAGCTTGA is described with additional reference to Figs. 9-15.

GGCTGCACTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGCCA encoded by the human genome.

GAM337244 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337244 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337244 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337244 precursor RNA is designated SEQ ID:141700, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141700 is located from position 90065436 to position 90065520 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM337244 precursor RNA folds onto itself, forming GAM337244 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337244 precursor RNA, designated SEQ ID NO: 141700, and a schematic representation of a predicted secondary folding of GAM337244 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337244 folded precursor RNA yielding a GAM337244 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337244 RNA, hereby incorporated herein.

GAM337244 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337244 target RNA, herein designated GAM TARGET RNA.

GAM337244 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337244 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337244 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337244 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337244 RNA, herein designated GAM RNA, to target binding sites on GAM337244 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337244 target RNA into GAM337244 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337244 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337244 target genes. The mRNA of each one of this plurality of GAM337244 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337244 RNA, herein designated GAM RNA, and which when bound by GAM337244 RNA causes inhibition of translation of the GAM337244 target mRNA into a corresponding GAM337244 target protein.

The mechanism of the translational inhibition exerted by GAM337244 RNA, herein designated GAM RNA, on one or more GAM337244 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337244 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337244 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337244 RNA, herein designated GAM RNA, of GAM337244 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337244 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337244 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337244 RNA correlate with, and may be deduced from, the identity of the GAM337244 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337245 141701 GTTTTTACTA Fig. 8 further provides a conceptual description of another novel bioinformatically
TAACATATTT detected oligonucleotides of the present invention, referred to here as Genomic Address
TAGAAAGCTA Messenger 337245 (GAM337245) oligonucleotides modulates expression of respective target
ACAAGCTAGA genes whose function and utility is known in the art.

GAGAGCGGTG GAM337245 is a novel bioinformatically detectable regulatory, non protein
AAGGGCTCTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337245 was detected
TCAGCATGTT is described with additional reference to Figs. 9-15.

CCTCTCTGTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGTGTGTTAG encoded by the human genome.

TTTTGC GAM337245 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337245 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337245 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337245 precursor RNA is designated SEQ ID:141701, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141701 is located from position 90083877 to position 90083972 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337245 precursor RNA folds onto itself, forming GAM337245 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337245 precursor RNA, designated SEQ ID NO: 141701, and a schematic representation of a predicted secondary folding of GAM337245 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337245 folded precursor RNA yielding a GAM337245 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337245 RNA, hereby incorporated herein.

GAM337245 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337245 target RNA, herein designated GAM TARGET RNA.

GAM337245 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337245 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337245 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337245 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337245 RNA, herein designated GAM RNA, to target binding sites on GAM337245 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337245 target RNA into GAM337245 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337245 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337245 target genes. The mRNA of each one of this plurality of GAM337245 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337245 RNA, herein designated GAM RNA, and which when bound by GAM337245 RNA causes inhibition of translation of the GAM337245 target mRNA into a corresponding GAM337245 target protein.

The mechanism of the translational inhibition exerted by GAM337245 RNA, herein designated GAM RNA, on one or more GAM337245 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337245 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337245 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337245 RNA, herein designated GAM RNA, of GAM337245 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337245 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337245 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337245 RNA correlate with, and may be deduced from, the identity of the GAM337245 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337246 141702 TAACATATTT Fig. 8 further provides a conceptual description of another novel bioinformatically
TAGAAAGCTA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACAAGCTAGA Messenger 337246 (GAM337246) oligonucleotides modulates expression of respective target
GAGAGCGGTG genes whose function and utility is known in the art.

AAGGGCTCTC GAM337246 is a novel bioinformatically detectable regulatory, non protein
TCAGCATGTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337246 was detected
CCTCTCTGTC is described with additional reference to Figs. 9-15.

TGTGTGTTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337246 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337246 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337246 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337246 precursor RNA is designated SEQ ID:141702, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141702 is located from position 90083887 to position 90083965 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337246 precursor RNA folds onto itself, forming GAM337246 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337246 precursor RNA, designated SEQ ID NO: 141702, and a schematic representation of a predicted secondary folding of GAM337246 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337246 folded precursor RNA yielding a GAM337246 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337246 RNA, hereby incorporated herein.

GAM337246 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337246 target RNA, herein designated GAM TARGET RNA.

GAM337246 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337246 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337246 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337246 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337246 RNA, herein designated GAM RNA, to target binding sites on GAM337246 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337246 target RNA into GAM337246 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337246 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337246 target genes. The mRNA of each one of this plurality of GAM337246 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337246 RNA, herein designated GAM RNA, and which when bound by GAM337246 RNA causes inhibition of

translation of the GAM337246 target mRNA into a corresponding GAM337246 target protein.

The mechanism of the translational inhibition exerted by GAM337246 RNA, herein designated GAM RNA, on one or more GAM337246 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337246 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337246 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337246 RNA, herein designated GAM RNA, of GAM337246 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337246 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337246 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337246 RNA correlate with, and may be deduced from, the identity of the GAM337246 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337247 141703 GTCCCCTTTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TCTTTCTACC detected oligonucleotides of the present invention, referred to here as Genomic Address

ATACCCCCAG Messenger 337247 (GAM337247) oligonucleotides modulates expression of respective target

TAAAGCTACT genes whose function and utility is known in the art.

TAAAATCCTC GAM337247 is a novel bioinformatically detectable regulatory, non protein

TGTAGGAAAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337247 was detected

AGCTGAGTAA is described with additional reference to Figs. 9-15.

TTGGGGGCAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGATGGAGGA encoded by the human genome.

C GAM337247 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337247 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337247 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM337247 precursor RNA is designated SEQ ID:141703, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141703 is located from position 90114587 to position 90114677 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM337247 precursor RNA folds onto itself, forming GAM337247 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337247 precursor RNA, designated SEQ ID NO: 141703, and a schematic representation of a predicted secondary folding of GAM337247 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337247 folded precursor RNA yielding a GAM337247 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337247 RNA, hereby incorporated herein.

GAM337247 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337247 target RNA, herein designated GAM TARGET RNA.

GAM337247 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337247 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337247 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337247 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337247 RNA, herein designated GAM RNA, to target binding sites on GAM337247 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337247 target RNA

into GAM337247 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337247 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337247 target genes. The mRNA of each one of this plurality of GAM337247 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337247 RNA, herein designated GAM RNA, and which when bound by GAM337247 RNA causes inhibition of translation of the GAM337247 target mRNA into a corresponding GAM337247 target protein.

The mechanism of the translational inhibition exerted by GAM337247 RNA, herein designated GAM RNA, on one or more GAM337247 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337247 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337247 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337247 RNA, herein designated GAM RNA, of GAM337247 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337247 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337247 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337247 RNA correlate with, and may be deduced from, the identity of the GAM337247 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337248 141704 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337248 (GAM337248) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337248 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337248 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM337248 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337248 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337248 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337248 precursor RNA is designated SEQ ID:141704, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141704 is located from position 90495199 to position 90495280 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337248 precursor RNA folds onto itself, forming GAM337248 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337248 precursor RNA, designated SEQ ID NO: 141704, and a schematic representation of a predicted secondary folding of GAM337248 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337248 folded precursor RNA yielding a GAM337248 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337248 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337248 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337248 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337248 target RNA, herein designated GAM TARGET RNA.

GAM337248 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337248 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337248 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337248 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337248 RNA, herein designated GAM RNA, to target binding sites on GAM337248 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337248 target RNA into GAM337248 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337248 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337248 target genes. The mRNA of each one of this plurality of GAM337248 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337248 RNA, herein designated GAM RNA, and which when bound by GAM337248 RNA causes inhibition of translation of the GAM337248 target mRNA into a corresponding GAM337248 target protein.

The mechanism of the translational inhibition exerted by GAM337248 RNA, herein designated GAM RNA, on one or more GAM337248 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337248 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337248 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337248 RNA, herein designated GAM RNA, of GAM337248 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337248 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337248 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337248 RNA correlate with, and may be deduced from, the identity of the GAM337248 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337249 141705 AAAATAGGAC Fig. 8 further provides a conceptual description of another novel bioinformatically

GTGTCTGGAA detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCATAAGG Messenger 337249 (GAM337249) oligonucleotides modulates expression of respective target
CTACTTGGGA genes whose function and utility is known in the art.

TACTGTCCCA GAM337249 is a novel bioinformatically detectable regulatory, non protein
TTAGCATTGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337249 was detected
TGTTTCCATG is described with additional reference to Figs. 9-15.

ACAAACCCTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTTT encoded by the human genome.

GAM337249 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337249 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337249 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337249 precursor RNA is designated SEQ ID:141705, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141705 is located from position 90497615 to position 90497698 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337249 precursor RNA folds onto itself, forming GAM337249 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337249 precursor RNA, designated SEQ ID NO: 141705, and a schematic representation of a predicted secondary folding of GAM337249 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337249 folded precursor RNA yielding a GAM337249 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337249 RNA, hereby incorporated herein.

GAM337249 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337249 target RNA, herein designated GAM TARGET RNA.

GAM337249 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337249 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337249 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337249 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337249 RNA, herein designated GAM RNA, to target binding sites on GAM337249 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337249 target RNA into GAM337249 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337249 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337249 target genes. The mRNA of each one of this plurality of GAM337249 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337249 RNA, herein designated GAM RNA, and which when bound by GAM337249 RNA causes inhibition of translation of the GAM337249 target mRNA into a corresponding GAM337249 target protein.

The mechanism of the translational inhibition exerted by GAM337249 RNA, herein designated GAM RNA, on one or more GAM337249 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337249 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337249 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337249 RNA, herein designated GAM RNA, of GAM337249 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337249 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337249 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337249 RNA correlate with, and may be deduced from, the identity of the GAM337249 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337250 141706 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 337250 (GAM337250) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337250 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337250 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337250 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337250 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337250 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337250 precursor RNA is designated SEQ ID:141706, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141706 is located from position 91509421 to position 91509502 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GAM337250 precursor RNA folds onto itself, forming GAM337250 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337250 precursor RNA, designated SEQ ID NO: 141706, and a schematic representation of a predicted secondary folding of GAM337250 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337250 folded precursor RNA yielding a GAM337250 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides two possible nucleotide sequences of GAM337250 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337250 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337250 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337250 target RNA, herein designated GAM TARGET RNA.

GAM337250 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337250 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337250 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337250 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337250 RNA, herein designated GAM RNA, to target binding sites on GAM337250 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337250 target RNA into GAM337250 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337250 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337250 target genes. The mRNA of each one of this plurality of GAM337250 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337250 RNA, herein designated GAM RNA, and which when bound by GAM337250 RNA causes inhibition of translation of the GAM337250 target mRNA into a corresponding GAM337250 target protein.

The mechanism of the translational inhibition exerted by GAM337250 RNA, herein designated GAM RNA, on one or more GAM337250 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337250 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337250 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337250 RNA, herein designated GAM RNA, of

GAM337250 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337250 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337250 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337250 RNA correlate with, and may be deduced from, the identity of the GAM337250 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337251 141707 GGTCGAGGTG Fig. 8 further provides a conceptual description of another novel bioinformatically

GGTGTATCGC detected oligonucleotides of the present invention, referred to here as Genomic Address

TTGAGCCCAG Messenger 337251 (GAM337251) oligonucleotides modulates expression of respective target

GAGTTTGAGT genes whose function and utility is known in the art.

CCAGCCTGGG GAM337251 is a novel bioinformatically detectable regulatory, non protein

CAACATAGTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337251 was detected

AGACCTTGTC is described with additional reference to Figs. 9-15.

TTGACC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337251 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337251 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337251 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337251 precursor RNA is designated SEQ ID:141707, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141707 is located from position 91699065 to position 91699140 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337251 precursor RNA folds onto itself, forming GAM337251 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337251 precursor RNA, designated SEQ ID NO: 141707,

and a schematic representation of a predicted secondary folding of GAM337251 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337251 folded precursor RNA yielding a GAM337251 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337251 RNA, hereby incorporated herein.

GAM337251 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337251 target RNA, herein designated GAM TARGET RNA.

GAM337251 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337251 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337251 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337251 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337251 RNA, herein designated GAM RNA, to target binding sites on GAM337251 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337251 target RNA into GAM337251 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337251 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337251 target genes. The mRNA of each one of this plurality of GAM337251 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337251 RNA, herein designated GAM RNA, and which when bound by GAM337251 RNA causes inhibition of translation of the GAM337251 target mRNA into a corresponding GAM337251 target protein.

The mechanism of the translational inhibition exerted by GAM337251 RNA, herein designated GAM RNA, on one or more GAM337251 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337251 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337251 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337251 RNA, herein designated GAM RNA, of GAM337251 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337251 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337251 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337251 RNA correlate with, and may be deduced from, the identity of the GAM337251 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337252 141708 TGGGTTACCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GCAAAGATGT detected oligonucleotides of the present invention, referred to here as Genomic Address

TGCTTGGTTG Messenger 337252 (GAM337252) oligonucleotides modulates expression of respective target

TATATCTTAG genes whose function and utility is known in the art.

AAAAAACTCT GAM337252 is a novel bioinformatically detectable regulatory, non protein

AAGTATTTTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337252 was detected

ACCAGCAACC is described with additional reference to Figs. 9-15.

CAACTTTGGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGCCACA encoded by the human genome.

GAM337252 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337252 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337252 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337252 precursor RNA is designated SEQ ID:141708, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141708 is located from position 91709202 to position 91709288 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM337252 precursor RNA folds onto itself, forming GAM337252 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337252 precursor RNA, designated SEQ ID NO: 141708, and a schematic representation of a predicted secondary folding of GAM337252 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337252 folded precursor RNA yielding a GAM337252 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337252 RNA, hereby incorporated herein.

GAM337252 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337252 target RNA, herein designated GAM TARGET RNA.

GAM337252 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337252 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337252 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337252 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337252 RNA, herein designated GAM RNA, to target binding sites on GAM337252 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337252 target RNA into GAM337252 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337252 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337252 target genes. The mRNA of each one of this plurality of GAM337252 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM337252 RNA, herein designated GAM RNA, and which when bound by GAM337252 RNA causes inhibition of translation of the GAM337252 target mRNA into a corresponding GAM337252 target protein.

The mechanism of the translational inhibition exerted by GAM337252 RNA, herein designated GAM RNA, on one or more GAM337252 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337252 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337252 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337252 RNA, herein designated GAM RNA, of GAM337252 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337252 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337252 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337252 RNA correlate with, and may be deduced from, the identity of the GAM337252 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337253 141709 GCCTTTCTGT Fig. 8 further provides a conceptual description of another novel bioinformatically

TTTCCCTTTC detected oligonucleotides of the present invention, referred to here as Genomic Address

TGTGTGGTAG Messenger 337253 (GAM337253) oligonucleotides modulates expression of respective target

AGACTTCACT genes whose function and utility is known in the art.

TAAATCATAA GAM337253 is a novel bioinformatically detectable regulatory, non protein

ACTCAATGTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337253 was detected

TTTATATCTC is described with additional reference to Figs. 9-15.

CTCAACCTCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTAGCACAGA encoded by the human genome.

TCCCCAAGGC GAM337253 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337253 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337253 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337253 precursor RNA is designated SEQ ID:141709, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141709 is located from position 91720686 to position 91720785 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM337253 precursor RNA folds onto itself, forming GAM337253 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337253 precursor RNA, designated SEQ ID NO: 141709, and a schematic representation of a predicted secondary folding of GAM337253 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337253 folded precursor RNA yielding a GAM337253 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337253 RNA, hereby incorporated herein.

GAM337253 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337253 target RNA, herein designated GAM TARGET RNA.

GAM337253 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337253 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337253 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337253 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337253 RNA, herein designated GAM RNA, to target

binding sites on GAM337253 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337253 target RNA into GAM337253 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337253 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337253 target genes. The mRNA of each one of this plurality of GAM337253 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337253 RNA, herein designated GAM RNA, and which when bound by GAM337253 RNA causes inhibition of translation of the GAM337253 target mRNA into a corresponding GAM337253 target protein.

The mechanism of the translational inhibition exerted by GAM337253 RNA, herein designated GAM RNA, on one or more GAM337253 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337253 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337253 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337253 RNA, herein designated GAM RNA, of GAM337253 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337253 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337253 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337253 RNA correlate with, and may be deduced from, the identity of the GAM337253 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337254 141710 AGGAATTTGT Fig. 8 further provides a conceptual description of another novel bioinformatically

CAGAAACTCT detected oligonucleotides of the present invention, referred to here as Genomic Address

TTCCTGTTTT Messenger 337254 (GAM337254) oligonucleotides modulates expression of respective target

GGTTTGGAGA genes whose function and utility is known in the art.

GTAGTTCTCT GAM337254 is a novel bioinformatically detectable regulatory, non protein

CTAACTAGAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337254 was detected

ACAGGAGTGG is described with additional reference to Figs. 9-15.

CCTTGAAATT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTCCT encoded by the human genome.

GAM337254 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337254 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337254 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337254 precursor RNA is designated SEQ ID:141710, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141710 is located from position 91841622 to position 91841706 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337254 precursor RNA folds onto itself, forming GAM337254 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337254 precursor RNA, designated SEQ ID NO: 141710, and a schematic representation of a predicted secondary folding of GAM337254 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337254 folded precursor RNA yielding a GAM337254 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337254 RNA, hereby incorporated herein.

GAM337254 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337254 target RNA, herein designated GAM TARGET RNA.

GAM337254 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337254 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337254 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337254 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337254 RNA, herein designated GAM RNA, to target binding sites on GAM337254 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337254 target RNA into GAM337254 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337254 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337254 target genes. The mRNA of each one of this plurality of GAM337254 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337254 RNA, herein designated GAM RNA, and which when bound by GAM337254 RNA causes inhibition of translation of the GAM337254 target mRNA into a corresponding GAM337254 target protein.

The mechanism of the translational inhibition exerted by GAM337254 RNA, herein designated GAM RNA, on one or more GAM337254 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337254 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337254 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337254 RNA, herein designated GAM RNA, of GAM337254 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337254 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337254 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337254 RNA correlate with, and may be deduced from, the identity of the GAM337254 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337255 141711 TACCTTCTTT Fig. 8 further provides a conceptual description of another novel bioinformatically

GCTGCCTGGG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGATGCTGCT Messenger 337255 (GAM337255) oligonucleotides modulates expression of respective target
ATGGGCGTTT genes whose function and utility is known in the art.

ATTTGATCTG GAM337255 is a novel bioinformatically detectable regulatory, non protein
CTTGTGGCTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337255 was detected
AGTTTGCTCA is described with additional reference to Figs. 9-15.

GCAGTGAAAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAAGGTG encoded by the human genome.

GAM337255 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337255 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337255 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337255 precursor RNA is designated SEQ ID:141711, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141711 is located from position 92455725 to position 92455811 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM337255 precursor RNA folds onto itself, forming GAM337255 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337255 precursor RNA, designated SEQ ID NO: 141711, and a schematic representation of a predicted secondary folding of GAM337255 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337255 folded precursor RNA yielding a GAM337255 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337255 RNA, hereby incorporated herein.

GAM337255 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337255 target RNA, herein designated GAM TARGET RNA.

GAM337255 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337255 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337255 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337255 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337255 RNA, herein designated GAM RNA, to target binding sites on GAM337255 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337255 target RNA into GAM337255 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337255 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337255 target genes. The mRNA of each one of this plurality of GAM337255 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337255 RNA, herein designated GAM RNA, and which when bound by GAM337255 RNA causes inhibition of translation of the GAM337255 target mRNA into a corresponding GAM337255 target protein.

The mechanism of the translational inhibition exerted by GAM337255 RNA, herein designated GAM RNA, on one or more GAM337255 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337255 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337255 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337255 RNA, herein designated GAM RNA, of GAM337255 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337255 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337255 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337255 RNA correlate with, and may be deduced from, the identity of the GAM337255 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337256 141712 ACCTTCTTTG CTGCCTGGGA GATGCTGCTA TGGGCGTTTA TTTGATCTGC TTGTGGCTCA GTTTGCTCAG CAGTGAAATG AAGGT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337256 (GAM337256) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337256 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337256 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337256 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337256 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337256 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337256 precursor RNA is designated SEQ ID:141712, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141712 is located from position 92455726 to position 92455810 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM337256 precursor RNA folds onto itself, forming GAM337256 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337256 precursor RNA, designated SEQ ID NO: 141712, and a schematic representation of a predicted secondary folding of GAM337256 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337256 folded precursor RNA yielding a GAM337256 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337256 RNA, hereby incorporated herein.

GAM337256 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337256 target RNA, herein designated GAM TARGET RNA.

GAM337256 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337256 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337256 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337256 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337256 RNA, herein designated GAM RNA, to target binding sites on GAM337256 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337256 target RNA into GAM337256 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337256 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337256 target genes. The mRNA of each one of this plurality of GAM337256 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337256 RNA, herein designated GAM RNA, and which when bound by GAM337256 RNA causes inhibition of translation of the GAM337256 target mRNA into a corresponding GAM337256 target protein.

The mechanism of the translational inhibition exerted by GAM337256 RNA, herein designated GAM RNA, on one or more GAM337256 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337256 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337256 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337256 RNA, herein designated GAM RNA, of GAM337256 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337256 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337256 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337256 RNA correlate with, and may be deduced from, the identity of the GAM337256 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337257 141713 CTTACCCTGT Fig. 8 further provides a conceptual description of another novel bioinformatically
ATTTCATGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
ATACAAAGGA Messenger 337257 (GAM337257) oligonucleotides modulates expression of respective target
AGATGGCTGT genes whose function and utility is known in the art.

TTGGGGTTGC GAM337257 is a novel bioinformatically detectable regulatory, non protein
CGTGTCTCTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337257 was detected
AGCAATTAAG is described with additional reference to Figs. 9-15.

GAGATGGCTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGCCAAGCA encoded by the human genome.

GTGTGAAGTG GAM337257 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
ACAGCACCAG GAM337257 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337257 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337257 precursor RNA is designated SEQ ID:141713, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141713 is located from position 92938874 to position 92938983 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337257 precursor RNA folds onto itself, forming GAM337257 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337257 precursor RNA, designated SEQ ID NO: 141713, and a schematic representation of a predicted secondary folding of GAM337257 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337257 folded precursor RNA yielding a GAM337257 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337257 RNA, hereby incorporated herein.

GAM337257 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337257 target RNA, herein designated GAM TARGET RNA.

GAM337257 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337257 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337257 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337257 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337257 RNA, herein designated GAM RNA, to target binding sites on GAM337257 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337257 target RNA into GAM337257 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337257 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337257 target genes. The mRNA of each one of this plurality of GAM337257 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337257 RNA, herein designated GAM RNA, and which when bound by GAM337257 RNA causes inhibition of translation of the GAM337257 target mRNA into a corresponding GAM337257 target protein.

The mechanism of the translational inhibition exerted by GAM337257 RNA, herein designated GAM RNA, on one or more GAM337257 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337257 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337257 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337257 RNA, herein designated GAM RNA, of GAM337257 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337257 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337257 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337257 RNA correlate with, and may be deduced from, the identity of the GAM337257 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337258 141714 CTGTATTTCA Fig. 8 further provides a conceptual description of another novel bioinformatically
TGCAATACAA detected oligonucleotides of the present invention, referred to here as Genomic Address
AGGAAGATGG Messenger 337258 (GAM337258) oligonucleotides modulates expression of respective target
CTGTTTGGGG genes whose function and utility is known in the art.

TTGCCGTGTC GAM337258 is a novel bioinformatically detectable regulatory, non protein
TCTTAGCAAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337258 was detected
TAAGGAGATG is described with additional reference to Figs. 9-15.

GCTACAGCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGCAGTGTGA encoded by the human genome.

AGTGACAG GAM337258 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337258 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337258 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337258 precursor RNA is designated SEQ ID:141714, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141714 is located from position 92938880 to position 92938977 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337258 precursor RNA folds onto itself, forming GAM337258 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337258 precursor RNA, designated SEQ ID NO: 141714, and a schematic representation of a predicted secondary folding of GAM337258 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337258 folded precursor RNA yielding a GAM337258 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337258 RNA, hereby incorporated herein.

GAM337258 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337258 target RNA, herein designated GAM TARGET RNA.

GAM337258 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337258 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337258 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337258 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337258 RNA, herein designated GAM RNA, to target binding sites on GAM337258 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337258 target RNA into GAM337258 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337258 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337258 target genes. The mRNA of each one of this plurality of GAM337258 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM337258 RNA, herein designated GAM RNA, and which when bound by GAM337258 RNA causes inhibition of translation of the GAM337258 target mRNA into a corresponding GAM337258 target protein.

The mechanism of the translational inhibition exerted by GAM337258 RNA, herein designated GAM RNA, on one or more GAM337258 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337258 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337258 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337258 RNA, herein designated GAM RNA, of GAM337258 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337258 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337258 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337258 RNA correlate with, and may be deduced from, the identity of the GAM337258 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337259 141715 TGGCTCACAA Fig. 8 further provides a conceptual description of another novel bioinformatically
AGGGCTTCCC detected oligonucleotides of the present invention, referred to here as Genomic Address
TGGTTATTTA Messenger 337259 (GAM337259) oligonucleotides modulates expression of respective target
CTTCTGACTC genes whose function and utility is known in the art.

TTGAAAGCTT GAM337259 is a novel bioinformatically detectable regulatory, non protein
AAAGAAATTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337259 was detected
TGCCTGAGAG is described with additional reference to Figs. 9-15.

GTTCAGTACC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTGTCCAGGG encoded by the human genome.

ACACCCAGTT GAM337259 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TGTGCAGAGC GAM337259 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

CG GAM337259 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337259 precursor RNA is designated SEQ ID:141715, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141715 is located from position 92941110 to position 92941221 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337259 precursor RNA folds onto itself, forming GAM337259 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337259 precursor RNA, designated SEQ ID NO: 141715, and a schematic representation of a predicted secondary folding of GAM337259 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337259 folded precursor RNA yielding a GAM337259 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337259 RNA, hereby incorporated herein.

GAM337259 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337259 target RNA, herein designated GAM TARGET RNA.

GAM337259 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337259 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337259 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337259 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337259 RNA, herein designated GAM RNA, to target

binding sites on GAM337259 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337259 target RNA into GAM337259 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337259 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337259 target genes. The mRNA of each one of this plurality of GAM337259 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337259 RNA, herein designated GAM RNA, and which when bound by GAM337259 RNA causes inhibition of translation of the GAM337259 target mRNA into a corresponding GAM337259 target protein.

The mechanism of the translational inhibition exerted by GAM337259 RNA, herein designated GAM RNA, on one or more GAM337259 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337259 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337259 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337259 RNA, herein designated GAM RNA, of GAM337259 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337259 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337259 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337259 RNA correlate with, and may be deduced from, the identity of the GAM337259 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337260 141716 GGCTCACAAA Fig. 8 further provides a conceptual description of another novel bioinformatically

GGGCTTCCCT detected oligonucleotides of the present invention, referred to here as Genomic Address

GGTTATTTAC Messenger 337260 (GAM337260) oligonucleotides modulates expression of respective target

TTCTGACTCT genes whose function and utility is known in the art.

TGAAAGCTTA GAM337260 is a novel bioinformatically detectable regulatory, non protein

AAGAAATTGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337260 was detected

GCCTGAGAGG is described with additional reference to Figs. 9-15.

TTCAGTACCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGTCCAGGGA encoded by the human genome.

CACCCAGTTT GAM337260 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GTGCAGAGCC GAM337260 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337260 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337260 precursor RNA is designated SEQ ID:141716, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141716 is located from position 92941111 to position 92941220 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337260 precursor RNA folds onto itself, forming GAM337260 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337260 precursor RNA, designated SEQ ID NO: 141716, and a schematic representation of a predicted secondary folding of GAM337260 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337260 folded precursor RNA yielding a GAM337260 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337260 RNA, hereby incorporated herein.

GAM337260 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337260 target RNA, herein designated GAM TARGET RNA.

GAM337260 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337260 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337260 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337260 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows

three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337260 RNA, herein designated GAM RNA, to target binding sites on GAM337260 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337260 target RNA into GAM337260 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337260 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337260 target genes. The mRNA of each one of this plurality of GAM337260 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337260 RNA, herein designated GAM RNA, and which when bound by GAM337260 RNA causes inhibition of translation of the GAM337260 target mRNA into a corresponding GAM337260 target protein.

The mechanism of the translational inhibition exerted by GAM337260 RNA, herein designated GAM RNA, on one or more GAM337260 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337260 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337260 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337260 RNA, herein designated GAM RNA, of GAM337260 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337260 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337260 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337260 RNA correlate with, and may be deduced from, the identity of the GAM337260 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337261 141717 CTCACAAAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

GCTTCCCTGG detected oligonucleotides of the present invention, referred to here as Genomic Address
TTATTTACTT Messenger 337261 (GAM337261) oligonucleotides modulates expression of respective target
CTGACTCTTG genes whose function and utility is known in the art.

AAAGCTTAAA GAM337261 is a novel bioinformatically detectable regulatory, non protein
GAAATTGTGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337261 was detected
CTGAGAGGTT is described with additional reference to Figs. 9-15.

CAGTACCTTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCCAGGGACA encoded by the human genome.

CCCAGTTTGT GAM337261 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GCAG GAM337261 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337261 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337261 precursor RNA is designated SEQ ID:141717, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141717 is located from position 92941113 to position 92941216 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337261 precursor RNA folds onto itself, forming GAM337261 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337261 precursor RNA, designated SEQ ID NO: 141717, and a schematic representation of a predicted secondary folding of GAM337261 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337261 folded precursor RNA yielding a GAM337261 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337261 RNA, hereby incorporated herein.

GAM337261 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337261 target RNA, herein designated GAM TARGET RNA.

GAM337261 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337261 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337261 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337261 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337261 RNA, herein designated GAM RNA, to target binding sites on GAM337261 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337261 target RNA into GAM337261 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337261 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337261 target genes. The mRNA of each one of this plurality of GAM337261 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337261 RNA, herein designated GAM RNA, and which when bound by GAM337261 RNA causes inhibition of translation of the GAM337261 target mRNA into a corresponding GAM337261 target protein.

The mechanism of the translational inhibition exerted by GAM337261 RNA, herein designated GAM RNA, on one or more GAM337261 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337261 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337261 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337261 RNA, herein designated GAM RNA, of GAM337261 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337261 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337261 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337261 RNA correlate with, and may be deduced from, the identity of the GAM337261 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337262 141718 CACAAAGGGC TTCCCTGGTT ATTTACTTCT GACTCTTGAA AGCTTAAAGA AATTGTGCCT GAGAGGTTCA GTACCTTGTC CAGGGACACC CAGTTTGTG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337262 (GAM337262) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337262 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337262 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337262 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337262 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337262 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337262 precursor RNA is designated SEQ ID:141718, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141718 is located from position 92941115 to position 92941213 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337262 precursor RNA folds onto itself, forming GAM337262 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337262 precursor RNA, designated SEQ ID NO: 141718, and a schematic representation of a predicted secondary folding of GAM337262 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337262 folded precursor RNA yielding a GAM337262 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337262 RNA, hereby incorporated herein.

GAM337262 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337262 target RNA, herein designated GAM TARGET RNA.

GAM337262 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337262 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337262 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337262 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337262 RNA, herein designated GAM RNA, to target binding sites on GAM337262 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337262 target RNA into GAM337262 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337262 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337262 target genes. The mRNA of each one of this plurality of GAM337262 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337262 RNA, herein designated GAM RNA, and which when bound by GAM337262 RNA causes inhibition of translation of the GAM337262 target mRNA into a corresponding GAM337262 target protein.

The mechanism of the translational inhibition exerted by GAM337262 RNA, herein designated GAM RNA, on one or more GAM337262 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337262 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337262 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337262 RNA, herein designated GAM RNA, of

GAM337262 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337262 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337262 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337262 RNA correlate with, and may be deduced from, the identity of the GAM337262 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337263 141719 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337263 (GAM337263) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337263 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337263 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM337263 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337263 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337263 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337263 precursor RNA is designated SEQ ID:141719, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141719 is located from position 93264106 to position 93264187 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM337263 precursor RNA folds onto itself, forming GAM337263 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337263 precursor RNA, designated SEQ ID NO: 141719,

and a schematic representation of a predicted secondary folding of GAM337263 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337263 folded precursor RNA yielding a GAM337263 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337263 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337263 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337263 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337263 target RNA, herein designated GAM TARGET RNA.

GAM337263 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337263 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337263 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337263 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337263 RNA, herein designated GAM RNA, to target binding sites on GAM337263 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337263 target RNA into GAM337263 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337263 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337263 target genes. The mRNA of each one of this plurality of GAM337263 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337263 RNA, herein designated GAM RNA, and which when bound by GAM337263 RNA causes inhibition of translation of the GAM337263 target mRNA into a corresponding GAM337263 target protein.

The mechanism of the translational inhibition exerted by GAM337263 RNA, herein designated GAM RNA, on one or more GAM337263 target genes, herein collectively designated

GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337263 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337263 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337263 RNA, herein designated GAM RNA, of GAM337263 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337263 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337263 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337263 RNA correlate with, and may be deduced from, the identity of the GAM337263 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337264 141720 TGCCTCTCTG Fig. 8 further provides a conceptual description of another novel bioinformatically

GCACTTCCAA detected oligonucleotides of the present invention, referred to here as Genomic Address

TCTCCTACCT Messenger 337264 (GAM337264) oligonucleotides modulates expression of respective target

GTGATAGACG genes whose function and utility is known in the art.

TCTAAGTGAA GAM337264 is a novel bioinformatically detectable regulatory, non protein

AGTACTAGCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337264 was detected

TAGTTGTTTG is described with additional reference to Figs. 9-15.

GGATTGGTAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGACAGAGAA encoded by the human genome.

AACAGCA GAM337264 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337264 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337264 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337264 precursor RNA is designated SEQ ID:141720, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141720 is located from position 93648456 to position 93648552

relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337264 precursor RNA folds onto itself, forming GAM337264 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337264 precursor RNA, designated SEQ ID NO: 141720, and a schematic representation of a predicted secondary folding of GAM337264 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337264 folded precursor RNA yielding a GAM337264 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337264 RNA, hereby incorporated herein.

GAM337264 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337264 target RNA, herein designated GAM TARGET RNA.

GAM337264 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337264 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337264 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337264 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337264 RNA, herein designated GAM RNA, to target binding sites on GAM337264 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337264 target RNA into GAM337264 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337264 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337264 target genes. The mRNA of each one of this plurality of GAM337264 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337264 RNA, herein designated GAM RNA, and which when bound by GAM337264 RNA causes inhibition of translation of the GAM337264 target mRNA into a corresponding GAM337264 target protein.

The mechanism of the translational inhibition exerted by GAM337264 RNA, herein designated GAM RNA, on one or more GAM337264 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337264 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337264 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337264 RNA, herein designated GAM RNA, of GAM337264 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337264 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337264 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337264 RNA correlate with, and may be deduced from, the identity of the GAM337264 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337265 141721 TCTCTGGCAC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTCCAATCTC detected oligonucleotides of the present invention, referred to here as Genomic Address

CTACCTGTGA Messenger 337265 (GAM337265) oligonucleotides modulates expression of respective target

TAGACGTCTA genes whose function and utility is known in the art.

AGTGAAAGTA GAM337265 is a novel bioinformatically detectable regulatory, non protein

CTAGCTTAGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337265 was detected

TGTTTGGGAT is described with additional reference to Figs. 9-15.

TGGTAGTGAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGAGA encoded by the human genome.

GAM337265 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337265 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337265 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337265 precursor RNA is designated SEQ ID:141721, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141721 is located from position 93648460 to position 93648544 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337265 precursor RNA folds onto itself, forming GAM337265 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337265 precursor RNA, designated SEQ ID NO: 141721, and a schematic representation of a predicted secondary folding of GAM337265 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337265 folded precursor RNA yielding a GAM337265 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337265 RNA, hereby incorporated herein.

GAM337265 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337265 target RNA, herein designated GAM TARGET RNA.

GAM337265 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337265 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337265 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337265 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337265 RNA, herein designated GAM RNA, to target binding sites on GAM337265 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337265 target RNA into GAM337265 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337265 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337265 target genes. The mRNA of each one of this plurality of GAM337265 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337265 RNA, herein designated GAM RNA, and which when bound by GAM337265 RNA causes inhibition of translation of the GAM337265 target mRNA into a corresponding GAM337265 target protein.

The mechanism of the translational inhibition exerted by GAM337265 RNA, herein designated GAM RNA, on one or more GAM337265 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337265 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337265 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337265 RNA, herein designated GAM RNA, of GAM337265 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337265 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337265 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337265 RNA correlate with, and may be deduced from, the identity of the GAM337265 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337266 141722 CTCTGGCACT Fig. 8 further provides a conceptual description of another novel bioinformatically

TCCAATCTCC detected oligonucleotides of the present invention, referred to here as Genomic Address

TACCTGTGAT Messenger 337266 (GAM337266) oligonucleotides modulates expression of respective target

AGACGTCTAA genes whose function and utility is known in the art.

GTGAAAGTAC GAM337266 is a novel bioinformatically detectable regulatory, non protein
TAGCTTAGTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337266 was detected
GTTTGGGATT is described with additional reference to Figs. 9-15.

GGTAGTGACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAG encoded by the human genome.

GAM337266 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337266 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337266 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337266 precursor RNA is designated SEQ ID:141722, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141722 is located from position 93648461 to position 93648543 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337266 precursor RNA folds onto itself, forming GAM337266 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337266 precursor RNA, designated SEQ ID NO: 141722, and a schematic representation of a predicted secondary folding of GAM337266 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337266 folded precursor RNA yielding a GAM337266 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337266 RNA, hereby incorporated herein.

GAM337266 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337266 target RNA, herein designated GAM TARGET RNA.

GAM337266 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337266 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337266 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the

nucleotide sequence of GAM337266 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337266 RNA, herein designated GAM RNA, to target binding sites on GAM337266 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337266 target RNA into GAM337266 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337266 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337266 target genes. The mRNA of each one of this plurality of GAM337266 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337266 RNA, herein designated GAM RNA, and which when bound by GAM337266 RNA causes inhibition of translation of the GAM337266 target mRNA into a corresponding GAM337266 target protein.

The mechanism of the translational inhibition exerted by GAM337266 RNA, herein designated GAM RNA, on one or more GAM337266 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337266 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337266 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337266 RNA, herein designated GAM RNA, of GAM337266 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337266 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337266 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337266 RNA correlate with, and may be deduced from, the identity of the GAM337266 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337267 141723 CTATGCCCAG Fig. 8 further provides a conceptual description of another novel bioinformatically
CATTGGAAAG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGTAGAGGCC Messenger 337267 (GAM337267) oligonucleotides modulates expression of respective target
CTTACTAGCA genes whose function and utility is known in the art.

CACCTCAAAT GAM337267 is a novel bioinformatically detectable regulatory, non protein
CAAACTGGGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337267 was detected
TTGCAGCAGA is described with additional reference to Figs. 9-15.

CCTTTTGCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCTTTAGAGG encoded by the human genome.

CTGGAAATAG GAM337267 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAM337267 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337267 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337267 precursor RNA is designated SEQ ID:141723, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141723 is located from position 93666704 to position 93666803 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM337267 precursor RNA folds onto itself, forming GAM337267 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337267 precursor RNA, designated SEQ ID NO: 141723, and a schematic representation of a predicted secondary folding of GAM337267 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337267 folded precursor RNA yielding a GAM337267 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337267 RNA, hereby incorporated herein.

GAM337267 target gene, herein designated GAM TARGET GENE, encodes a

corresponding messenger RNA, GAM337267 target RNA, herein designated GAM TARGET RNA.

GAM337267 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337267 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337267 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337267 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337267 RNA, herein designated GAM RNA, to target binding sites on GAM337267 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337267 target RNA into GAM337267 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337267 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337267 target genes. The mRNA of each one of this plurality of GAM337267 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337267 RNA, herein designated GAM RNA, and which when bound by GAM337267 RNA causes inhibition of translation of the GAM337267 target mRNA into a corresponding GAM337267 target protein.

The mechanism of the translational inhibition exerted by GAM337267 RNA, herein designated GAM RNA, on one or more GAM337267 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337267 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337267 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337267 RNA, herein designated GAM RNA, of GAM337267 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337267 target RNA, herein designated

GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337267 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337267 RNA correlate with, and may be deduced from, the identity of the GAM337267 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337268 141724 ACTAGTCAGA Fig. 8 further provides a conceptual description of another novel bioinformatically
AAGGATAATG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGAAGGCAT Messenger 337268 (GAM337268) oligonucleotides modulates expression of respective target
CTGTGTCCCC genes whose function and utility is known in the art.

TGTTACCTGT GAM337268 is a novel bioinformatically detectable regulatory, non protein
AGTAACAGCG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337268 was detected
TATAGTCTGT is described with additional reference to Figs. 9-15.

CTCTCTCCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATCTCATCTC encoded by the human genome.

CTAGT GAM337268 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337268 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337268 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337268 precursor RNA is designated SEQ ID:141724, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141724 is located from position 94241824 to position 94241918 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337268 precursor RNA folds onto itself, forming GAM337268 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337268 precursor RNA, designated SEQ ID NO: 141724, and a schematic representation of a predicted secondary folding of GAM337268 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337268 folded precursor RNA yielding a GAM337268 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337268 RNA, hereby incorporated herein.

GAM337268 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337268 target RNA, herein designated GAM TARGET RNA.

GAM337268 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337268 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337268 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337268 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337268 RNA, herein designated GAM RNA, to target binding sites on GAM337268 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337268 target RNA into GAM337268 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337268 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337268 target genes. The mRNA of each one of this plurality of GAM337268 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337268 RNA, herein designated GAM RNA, and which when bound by GAM337268 RNA causes inhibition of translation of the GAM337268 target mRNA into a corresponding GAM337268 target protein.

The mechanism of the translational inhibition exerted by GAM337268 RNA, herein designated GAM RNA, on one or more GAM337268 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337268 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337268 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337268 RNA, herein designated GAM RNA, of GAM337268 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337268 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337268 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337268 RNA correlate with, and may be deduced from, the identity of the GAM337268 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337269 141725 TCTGATCCTG Fig. 8 further provides a conceptual description of another novel bioinformatically

GAACTGCATT detected oligonucleotides of the present invention, referred to here as Genomic Address

GCTTGGTGGT Messenger 337269 (GAM337269) oligonucleotides modulates expression of respective target

CAGGAGGGGT genes whose function and utility is known in the art.

TCTTAGTAAG GAM337269 is a novel bioinformatically detectable regulatory, non protein

CAAACTCAGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337269 was detected

TTAATCCCAG is described with additional reference to Figs. 9-15.

AGTCGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337269 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337269 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337269 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337269 precursor RNA is designated SEQ ID:141725, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141725 is located from position 94289451 to position 94289527 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM337269 precursor RNA folds onto itself, forming GAM337269 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337269 precursor RNA, designated SEQ ID NO: 141725, and a schematic representation of a predicted secondary folding of GAM337269 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337269 folded precursor RNA yielding a GAM337269 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337269 RNA, hereby incorporated herein.

GAM337269 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337269 target RNA, herein designated GAM TARGET RNA.

GAM337269 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337269 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337269 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337269 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337269 RNA, herein designated GAM RNA, to target binding sites on GAM337269 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337269 target RNA into GAM337269 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337269 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337269 target genes. The mRNA of each one of this plurality of GAM337269 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337269 RNA, herein designated GAM RNA, and which when bound by GAM337269 RNA causes inhibition of translation of the GAM337269 target mRNA into a corresponding GAM337269 target protein.

The mechanism of the translational inhibition exerted by GAM337269 RNA, herein

designated GAM RNA, on one or more GAM337269 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337269 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337269 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337269 RNA, herein designated GAM RNA, of GAM337269 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337269 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337269 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337269 RNA correlate with, and may be deduced from, the identity of the GAM337269 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337270 141726 GCGATCTCTT Fig. 8 further provides a conceptual description of another novel bioinformatically

AACAATTTCC detected oligonucleotides of the present invention, referred to here as Genomic Address

GGGCTGAACA Messenger 337270 (GAM337270) oligonucleotides modulates expression of respective target

GCCTCACCAG genes whose function and utility is known in the art.

CATGCCATGT GAM337270 is a novel bioinformatically detectable regulatory, non protein

ACTACCTCCG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337270 was detected

CTTGCTGATG is described with additional reference to Figs. 9-15.

ACTGAAGTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCTGGACTAA encoded by the human genome.

AGATGAGTTA GAM337270 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

AAAGAAGC GAM337270 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337270 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337270 precursor RNA is designated SEQ ID:141726, and is provided hereinbelow with reference to the sequence listing part.

Nucleotide sequence SEQ ID:141726 is located from position 94365822 to position 94365929 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM337270 precursor RNA folds onto itself, forming GAM337270 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337270 precursor RNA, designated SEQ ID NO: 141726, and a schematic representation of a predicted secondary folding of GAM337270 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337270 folded precursor RNA yielding a GAM337270 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337270 RNA, hereby incorporated herein.

GAM337270 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337270 target RNA, herein designated GAM TARGET RNA.

GAM337270 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337270 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337270 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337270 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337270 RNA, herein designated GAM RNA, to target binding sites on GAM337270 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337270 target RNA into GAM337270 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337270 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337270 target genes. The mRNA of each one of this plurality of GAM337270 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337270 RNA, herein designated GAM RNA, and which when bound by GAM337270 RNA causes inhibition of translation of the GAM337270 target mRNA into a corresponding GAM337270 target protein.

The mechanism of the translational inhibition exerted by GAM337270 RNA, herein designated GAM RNA, on one or more GAM337270 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337270 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337270 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337270 RNA, herein designated GAM RNA, of GAM337270 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337270 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337270 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337270 RNA correlate with, and may be deduced from, the identity of the GAM337270 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337271 141727 TCTCTTAACA Fig. 8 further provides a conceptual description of another novel bioinformatically

ATTTCCGGGC detected oligonucleotides of the present invention, referred to here as Genomic Address

TGAACAGCCT Messenger 337271 (GAM337271) oligonucleotides modulates expression of respective target

CACCAGCATG genes whose function and utility is known in the art.

CCATGTACTA GAM337271 is a novel bioinformatically detectable regulatory, non protein

CCTCCGCTTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337271 was detected

CTGATGACTG is described with additional reference to Figs. 9-15.

AAGTGGCCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GACTAAAGAT encoded by the human genome.

GAGTTAAAAG GAM337271 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

A GAM337271 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337271 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337271 precursor RNA is designated SEQ ID:141727, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141727 is located from position 94365825 to position 94365925 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM337271 precursor RNA folds onto itself, forming GAM337271 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337271 precursor RNA, designated SEQ ID NO: 141727, and a schematic representation of a predicted secondary folding of GAM337271 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337271 folded precursor RNA yielding a GAM337271 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337271 RNA, hereby incorporated herein.

GAM337271 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337271 target RNA, herein designated GAM TARGET RNA.

GAM337271 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337271 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337271 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337271 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337271 RNA, herein designated GAM RNA, to target binding sites on GAM337271 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337271 target RNA into GAM337271 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337271 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337271 target genes. The mRNA of each one of this plurality of GAM337271 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337271 RNA, herein designated GAM RNA, and which when bound by GAM337271 RNA causes inhibition of translation of the GAM337271 target mRNA into a corresponding GAM337271 target protein.

The mechanism of the translational inhibition exerted by GAM337271 RNA, herein designated GAM RNA, on one or more GAM337271 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337271 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337271 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337271 RNA, herein designated GAM RNA, of GAM337271 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337271 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337271 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337271 RNA correlate with, and may be deduced from, the identity of the GAM337271 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337272 141728 GGACACCATG Fig. 8 further provides a conceptual description of another novel bioinformatically

ATATGTAATG detected oligonucleotides of the present invention, referred to here as Genomic Address

CGGGGTCTGG Messenger 337272 (GAM337272) oligonucleotides modulates expression of respective target

AGGTTGGAAT genes whose function and utility is known in the art.

GCCTCCATAA GAM337272 is a novel bioinformatically detectable regulatory, non protein
AACACCTGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337272 was detected
ATATTTTTTG is described with additional reference to Figs. 9-15.

GTCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337272 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337272 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337272 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337272 precursor RNA is designated SEQ ID:141728, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141728 is located from position 94583041 to position 94583114 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337272 precursor RNA folds onto itself, forming GAM337272 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337272 precursor RNA, designated SEQ ID NO: 141728, and a schematic representation of a predicted secondary folding of GAM337272 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337272 folded precursor RNA yielding a GAM337272 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337272 RNA, hereby incorporated herein.

GAM337272 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337272 target RNA, herein designated GAM TARGET RNA.

GAM337272 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337272 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM337272 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337272 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337272 RNA, herein designated GAM RNA, to target binding sites on GAM337272 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337272 target RNA into GAM337272 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337272 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337272 target genes. The mRNA of each one of this plurality of GAM337272 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337272 RNA, herein designated GAM RNA, and which when bound by GAM337272 RNA causes inhibition of translation of the GAM337272 target mRNA into a corresponding GAM337272 target protein.

The mechanism of the translational inhibition exerted by GAM337272 RNA, herein designated GAM RNA, on one or more GAM337272 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337272 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337272 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337272 RNA, herein designated GAM RNA, of GAM337272 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337272 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337272 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337272 RNA correlate with, and may be deduced from, the identity of the GAM337272 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337273 141729 CGCTTGAGCC Fig. 8 further provides a conceptual description of another novel bioinformatically
CAGGAGGCAG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGGTTGCAGT Messenger 337273 (GAM337273) oligonucleotides modulates expression of respective target
GAGCCAAGAT genes whose function and utility is known in the art.

GGCACCACTG GAM337273 is a novel bioinformatically detectable regulatory, non protein
CACTCCAGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337273 was detected
TGGGCAACAG is described with additional reference to Figs. 9-15.

TG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337273 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337273 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337273 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337273 precursor RNA is designated SEQ ID:141729, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141729 is located from position 94706874 to position 94706945 relative to chromosome chr1 on the `+` strand (chr is an abbreviation for chromosome).

GAM337273 precursor RNA folds onto itself, forming GAM337273 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337273 precursor RNA, designated SEQ ID NO: 141729, and a schematic representation of a predicted secondary folding of GAM337273 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337273 folded precursor RNA yielding a GAM337273 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337273 RNA, hereby incorporated herein. Expression of GAM337273 RNA was experimentally validated in HeLa cells using the methods

described with reference to Figs.22 to 24.

GAM337273 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337273 target RNA, herein designated GAM TARGET RNA.

GAM337273 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337273 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337273 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337273 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337273 RNA, herein designated GAM RNA, to target binding sites on GAM337273 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337273 target RNA into GAM337273 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337273 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337273 target genes. The mRNA of each one of this plurality of GAM337273 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337273 RNA, herein designated GAM RNA, and which when bound by GAM337273 RNA causes inhibition of translation of the GAM337273 target mRNA into a corresponding GAM337273 target protein.

The mechanism of the translational inhibition exerted by GAM337273 RNA, herein designated GAM RNA, on one or more GAM337273 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337273 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337273 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337273 RNA, herein designated GAM RNA, of GAM337273 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337273 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337273 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337273 RNA correlate with, and may be deduced from, the identity of the GAM337273 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337274 141730 GAGACTCACC Fig. 8 further provides a conceptual description of another novel bioinformatically
CGTTCTACTG detected oligonucleotides of the present invention, referred to here as Genomic Address
GCAACTGGAG Messenger 337274 (GAM337274) oligonucleotides modulates expression of respective target
TTTGTTCAAG genes whose function and utility is known in the art.

AAATACCTGA GAM337274 is a novel bioinformatically detectable regulatory, non protein
GTTGGTTCTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337274 was detected
TAACTGTCGA is described with additional reference to Figs. 9-15.

GTTCGATTGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CCAAGTGGAA encoded by the human genome.

GGGTGGGAGT GAM337274 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CTC GAM337274 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337274 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337274 precursor RNA is designated SEQ ID:141730, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141730 is located from position 94819576 to position 94819678 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM337274 precursor RNA folds onto itself, forming GAM337274 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337274 precursor RNA, designated SEQ ID NO: 141730, and a schematic representation of a predicted secondary folding of GAM337274 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337274 folded precursor RNA yielding a GAM337274 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337274 RNA, hereby incorporated herein.

GAM337274 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337274 target RNA, herein designated GAM TARGET RNA.

GAM337274 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337274 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337274 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337274 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337274 RNA, herein designated GAM RNA, to target binding sites on GAM337274 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337274 target RNA into GAM337274 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337274 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337274 target genes. The mRNA of each one of this plurality of GAM337274 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337274 RNA, herein designated GAM RNA, and which when bound by GAM337274 RNA causes inhibition of translation of the GAM337274 target mRNA into a corresponding GAM337274 target protein.

The mechanism of the translational inhibition exerted by GAM337274 RNA, herein designated GAM RNA, on one or more GAM337274 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337274 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM337274 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337274 RNA, herein designated GAM RNA, of GAM337274 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337274 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337274 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337274 RNA correlate with, and may be deduced from, the identity of the GAM337274 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337275 141731 CTCACCCGTT Fig. 8 further provides a conceptual description of another novel bioinformatically

CTACTGGCAA detected oligonucleotides of the present invention, referred to here as Genomic Address

CTGGAGTTTG Messenger 337275 (GAM337275) oligonucleotides modulates expression of respective target

TTCAAGAAAT genes whose function and utility is known in the art.

ACCTGAGTTG GAM337275 is a novel bioinformatically detectable regulatory, non protein

GTTCTTTAAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337275 was detected

TGTCGAGTTC is described with additional reference to Figs. 9-15.

GATTGTCCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTGGAAGGGT encoded by the human genome.

GGG GAM337275 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337275 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337275 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337275 precursor RNA is designated SEQ ID:141731, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141731 is located from position 94819582 to position 94819674 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GAM337275 precursor RNA folds onto itself, forming GAM337275 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337275 precursor RNA, designated SEQ ID NO: 141731, and a schematic representation of a predicted secondary folding of GAM337275 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337275 folded precursor RNA yielding a GAM337275 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337275 RNA, hereby incorporated herein.

GAM337275 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337275 target RNA, herein designated GAM TARGET RNA.

GAM337275 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337275 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337275 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337275 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337275 RNA, herein designated GAM RNA, to target binding sites on GAM337275 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337275 target RNA into GAM337275 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337275 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337275 target genes. The mRNA of each one of this plurality of GAM337275 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337275 RNA, herein designated GAM RNA, and which when bound by GAM337275 RNA causes inhibition of

translation of the GAM337275 target mRNA into a corresponding GAM337275 target protein.

The mechanism of the translational inhibition exerted by GAM337275 RNA, herein designated GAM RNA, on one or more GAM337275 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337275 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337275 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337275 RNA, herein designated GAM RNA, of GAM337275 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337275 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337275 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337275 RNA correlate with, and may be deduced from, the identity of the GAM337275 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337276 141732 GTAGCTGCTG Fig. 8 further provides a conceptual description of another novel bioinformatically

GTAAGGGGCC detected oligonucleotides of the present invention, referred to here as Genomic Address

CAGACTTGGA Messenger 337276 (GAM337276) oligonucleotides modulates expression of respective target

GATGGGGGCC genes whose function and utility is known in the art.

TGGAGTTCTA GAM337276 is a novel bioinformatically detectable regulatory, non protein

TTCTACCTCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337276 was detected

ATTCACAGCT is described with additional reference to Figs. 9-15.

GGCTGAGAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTAGCGGTCA encoded by the human genome.

C GAM337276 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337276 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337276 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM337276 precursor RNA is designated SEQ ID:141732, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141732 is located from position 94850123 to position 94850213 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337276 precursor RNA folds onto itself, forming GAM337276 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337276 precursor RNA, designated SEQ ID NO: 141732, and a schematic representation of a predicted secondary folding of GAM337276 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337276 folded precursor RNA yielding a GAM337276 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337276 RNA, hereby incorporated herein.

GAM337276 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337276 target RNA, herein designated GAM TARGET RNA.

GAM337276 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337276 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337276 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337276 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337276 RNA, herein designated GAM RNA, to target binding sites on GAM337276 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337276 target RNA

into GAM337276 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337276 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337276 target genes. The mRNA of each one of this plurality of GAM337276 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337276 RNA, herein designated GAM RNA, and which when bound by GAM337276 RNA causes inhibition of translation of the GAM337276 target mRNA into a corresponding GAM337276 target protein.

The mechanism of the translational inhibition exerted by GAM337276 RNA, herein designated GAM RNA, on one or more GAM337276 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337276 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337276 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337276 RNA, herein designated GAM RNA, of GAM337276 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337276 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337276 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337276 RNA correlate with, and may be deduced from, the identity of the GAM337276 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337277 141733 CCTGGAGGCC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTTCCATATT detected oligonucleotides of the present invention, referred to here as Genomic Address

AGATATGTCC Messenger 337277 (GAM337277) oligonucleotides modulates expression of respective target

CCTTCTATAA genes whose function and utility is known in the art.

GTGCAATACA GAM337277 is a novel bioinformatically detectable regulatory, non protein

CTTAATGGTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337277 was detected

CCCTCTGTGC is described with additional reference to Figs. 9-15.

TTAGGGAGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAGTAATCTA encoded by the human genome.

AGCAGAAGGT GAM337277 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TTTTAAGG GAM337277 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337277 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337277 precursor RNA is designated SEQ ID:141733, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141733 is located from position 94888202 to position 94888309 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM337277 precursor RNA folds onto itself, forming GAM337277 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337277 precursor RNA, designated SEQ ID NO: 141733, and a schematic representation of a predicted secondary folding of GAM337277 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337277 folded precursor RNA yielding a GAM337277 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337277 RNA, hereby incorporated herein.

GAM337277 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337277 target RNA, herein designated GAM TARGET RNA.

GAM337277 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337277 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337277 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337277 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337277 RNA, herein designated GAM RNA, to target binding sites on GAM337277 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337277 target RNA into GAM337277 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337277 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337277 target genes. The mRNA of each one of this plurality of GAM337277 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337277 RNA, herein designated GAM RNA, and which when bound by GAM337277 RNA causes inhibition of translation of the GAM337277 target mRNA into a corresponding GAM337277 target protein.

The mechanism of the translational inhibition exerted by GAM337277 RNA, herein designated GAM RNA, on one or more GAM337277 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337277 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337277 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337277 RNA, herein designated GAM RNA, of GAM337277 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337277 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337277 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337277 RNA correlate with, and may be deduced from, the identity of the GAM337277 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337278 141734 CACGGCTATT Fig. 8 further provides a conceptual description of another novel bioinformatically

AAGTAGCAGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACTGGGCTTG Messenger 337278 (GAM337278) oligonucleotides modulates expression of respective target
AATTCAGATC genes whose function and utility is known in the art.

TGCTTCTCAG GAM337278 is a novel bioinformatically detectable regulatory, non protein
TCCAGTGTTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337278 was detected
TCTGCTCTGT is described with additional reference to Figs. 9-15.

AACTGGCTGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
G encoded by the human genome.

GAM337278 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337278 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337278 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337278 precursor RNA is designated SEQ ID:141734, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141734 is located from position 94917186 to position 94917266 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM337278 precursor RNA folds onto itself, forming GAM337278 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337278 precursor RNA, designated SEQ ID NO: 141734, and a schematic representation of a predicted secondary folding of GAM337278 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337278 folded precursor RNA yielding a GAM337278 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337278 RNA, hereby incorporated herein.

GAM337278 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337278 target RNA, herein designated GAM TARGET RNA.

GAM337278 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337278 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337278 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337278 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337278 RNA, herein designated GAM RNA, to target binding sites on GAM337278 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337278 target RNA into GAM337278 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337278 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337278 target genes. The mRNA of each one of this plurality of GAM337278 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337278 RNA, herein designated GAM RNA, and which when bound by GAM337278 RNA causes inhibition of translation of the GAM337278 target mRNA into a corresponding GAM337278 target protein.

The mechanism of the translational inhibition exerted by GAM337278 RNA, herein designated GAM RNA, on one or more GAM337278 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337278 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337278 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337278 RNA, herein designated GAM RNA, of GAM337278 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337278 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337278 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337278

RNA correlate with, and may be deduced from, the identity of the GAM337278 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337279 141735 AGGTGATGGA TGGGCATGCA GTGAGGTCAC TGTTGGATGT CAGACTGGAG CCCGACCTCA GTGACTCTCA CCAGGGCCTC AGACTGTGAG CCTGGCACCT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337279 (GAM337279) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337279 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337279 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337279 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337279 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337279 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337279 precursor RNA is designated SEQ ID:141735, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141735 is located from position 95196288 to position 95196387 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337279 precursor RNA folds onto itself, forming GAM337279 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337279 precursor RNA, designated SEQ ID NO: 141735, and a schematic representation of a predicted secondary folding of GAM337279 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337279 folded precursor RNA yielding a GAM337279 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337279 RNA, hereby incorporated herein.

GAM337279 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337279 target RNA, herein designated GAM TARGET RNA.

GAM337279 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337279 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337279 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337279 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337279 RNA, herein designated GAM RNA, to target binding sites on GAM337279 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337279 target RNA into GAM337279 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337279 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337279 target genes. The mRNA of each one of this plurality of GAM337279 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337279 RNA, herein designated GAM RNA, and which when bound by GAM337279 RNA causes inhibition of translation of the GAM337279 target mRNA into a corresponding GAM337279 target protein.

The mechanism of the translational inhibition exerted by GAM337279 RNA, herein designated GAM RNA, on one or more GAM337279 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337279 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337279 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337279 RNA, herein designated GAM RNA, of GAM337279 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337279 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337279 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337279 RNA correlate with, and may be deduced from, the identity of the GAM337279 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337280 141736 CTTGCCCATG Fig. 8 further provides a conceptual description of another novel bioinformatically
CTCTGTTAGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GTCTCAACAG Messenger 337280 (GAM337280) oligonucleotides modulates expression of respective target
GAAGCAGATG genes whose function and utility is known in the art.

ACATAATTCC GAM337280 is a novel bioinformatically detectable regulatory, non protein
AAATAGGGTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337280 was detected
ATTTGAGGAA is described with additional reference to Figs. 9-15.

GGTTATTTGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AATGAGACTA encoded by the human genome.

TTTACAACGG GAM337280 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TGTTGGGGGT GAM337280 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
AGG GAM337280 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337280 precursor RNA is designated SEQ ID:141736, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141736 is located from position 95251817 to position 95251929 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM337280 precursor RNA folds onto itself, forming GAM337280 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337280 precursor RNA, designated SEQ ID NO: 141736, and a schematic representation of a predicted secondary folding of GAM337280 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337280 folded precursor RNA yielding a GAM337280 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337280 RNA, hereby incorporated herein.

GAM337280 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337280 target RNA, herein designated GAM TARGET RNA.

GAM337280 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337280 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337280 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337280 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337280 RNA, herein designated GAM RNA, to target binding sites on GAM337280 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337280 target RNA into GAM337280 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337280 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337280 target genes. The mRNA of each one of this plurality of GAM337280 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337280 RNA, herein designated GAM RNA, and which when bound by GAM337280 RNA causes inhibition of translation of the GAM337280 target mRNA into a corresponding GAM337280 target protein.

The mechanism of the translational inhibition exerted by GAM337280 RNA, herein designated GAM RNA, on one or more GAM337280 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337280 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337280 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337280 RNA, herein designated GAM RNA, of GAM337280 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337280 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337280 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337280 RNA correlate with, and may be deduced from, the identity of the GAM337280 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337281 141737 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATCACTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCCAGGAA Messenger 337281 (GAM337281) oligonucleotides modulates expression of respective target

GAGGAGGTTG genes whose function and utility is known in the art.

CAGTAAGCCG GAM337281 is a novel bioinformatically detectable regulatory, non protein

AGATCGTGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337281 was detected

ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAAAGTGAG encoded by the human genome.

ATTCCCTCTC GAM337281 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

A GAM337281 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337281 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337281 precursor RNA is designated SEQ ID:141737, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141737 is located from position 95469300 to position 95469400 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337281 precursor RNA folds onto itself, forming GAM337281 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337281 precursor RNA, designated SEQ ID NO: 141737, and a schematic representation of a predicted secondary folding of GAM337281 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337281 folded precursor RNA yielding a GAM337281 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337281 RNA, hereby incorporated herein. Expression of GAM337281 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337281 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337281 target RNA, herein designated GAM TARGET RNA.

GAM337281 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337281 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337281 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337281 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337281 RNA, herein designated GAM RNA, to target binding sites on GAM337281 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337281 target RNA into GAM337281 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337281 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM337281 target genes. The mRNA of each one of this plurality of GAM337281 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337281 RNA, herein designated GAM RNA, and which when bound by GAM337281 RNA causes inhibition of translation of the GAM337281 target mRNA into a corresponding GAM337281 target protein.

The mechanism of the translational inhibition exerted by GAM337281 RNA, herein designated GAM RNA, on one or more GAM337281 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337281 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337281 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337281 RNA, herein designated GAM RNA, of GAM337281 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337281 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337281 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337281 RNA correlate with, and may be deduced from, the identity of the GAM337281 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337282 141738 GGAGAATCAC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAAGAGGAGG Messenger 337282 (GAM337282) oligonucleotides modulates expression of respective target

TTGCAGTAAG genes whose function and utility is known in the art.

CCGAGATCGT GAM337282 is a novel bioinformatically detectable regulatory, non protein

GCCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337282 was detected

TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAAAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGATTCC encoded by the human genome.

GAM337282 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337282 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337282 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337282 precursor RNA is designated SEQ ID:141738, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141738 is located from position 95469307 to position 95469394 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337282 precursor RNA folds onto itself, forming GAM337282 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337282 precursor RNA, designated SEQ ID NO: 141738, and a schematic representation of a predicted secondary folding of GAM337282 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337282 folded precursor RNA yielding a GAM337282 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337282 RNA, hereby incorporated herein. Expression of GAM337282 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337282 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337282 target RNA, herein designated GAM TARGET RNA.

GAM337282 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337282 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337282 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337282 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337282 RNA, herein designated GAM RNA, to target binding sites on GAM337282 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337282 target RNA into GAM337282 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337282 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337282 target genes. The mRNA of each one of this plurality of GAM337282 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337282 RNA, herein designated GAM RNA, and which when bound by GAM337282 RNA causes inhibition of translation of the GAM337282 target mRNA into a corresponding GAM337282 target protein.

The mechanism of the translational inhibition exerted by GAM337282 RNA, herein designated GAM RNA, on one or more GAM337282 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337282 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337282 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337282 RNA, herein designated GAM RNA, of GAM337282 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337282 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337282 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337282 RNA correlate with, and may be deduced from, the identity of the GAM337282 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337283 141739 GGGGTATAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

CACTGAGAAG detected oligonucleotides of the present invention, referred to here as Genomic Address

CAAACAGGAT Messenger 337283 (GAM337283) oligonucleotides modulates expression of respective target

TCATCTGAGA genes whose function and utility is known in the art.

ACATCGGTTG GAM337283 is a novel bioinformatically detectable regulatory, non protein
CATGTCTCTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337283 was detected
TGCTTCAGTG is described with additional reference to Figs. 9-15.

TTCAAGTCTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CC encoded by the human genome.

GAM337283 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337283 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337283 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337283 precursor RNA is designated SEQ ID:141739, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141739 is located from position 96090585 to position 96090666 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM337283 precursor RNA folds onto itself, forming GAM337283 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337283 precursor RNA, designated SEQ ID NO: 141739, and a schematic representation of a predicted secondary folding of GAM337283 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337283 folded precursor RNA yielding a GAM337283 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337283 RNA, hereby incorporated herein.

GAM337283 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337283 target RNA, herein designated GAM TARGET RNA.

GAM337283 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337283 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337283 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337283 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337283 RNA, herein designated GAM RNA, to target binding sites on GAM337283 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337283 target RNA into GAM337283 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337283 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337283 target genes. The mRNA of each one of this plurality of GAM337283 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337283 RNA, herein designated GAM RNA, and which when bound by GAM337283 RNA causes inhibition of translation of the GAM337283 target mRNA into a corresponding GAM337283 target protein.

The mechanism of the translational inhibition exerted by GAM337283 RNA, herein designated GAM RNA, on one or more GAM337283 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337283 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337283 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337283 RNA, herein designated GAM RNA, of GAM337283 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337283 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337283 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337283 RNA correlate with, and may be deduced from, the identity of the GAM337283 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337284 141740 GGTCCTACTT Fig. 8 further provides a conceptual description of another novel bioinformatically
CCAAGCTCCA detected oligonucleotides of the present invention, referred to here as Genomic Address
GGAACTTACA Messenger 337284 (GAM337284) oligonucleotides modulates expression of respective target
TTCCTTCATC genes whose function and utility is known in the art.

AAGAGGGTTT GAM337284 is a novel bioinformatically detectable regulatory, non protein
TAGAACGACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337284 was detected
GGAAAATGTC is described with additional reference to Figs. 9-15.

TAGCATGGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGTAGGCT encoded by the human genome.

GAM337284 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337284 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337284 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337284 precursor RNA is designated SEQ ID:141740, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141740 is located from position 96193605 to position 96193692 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337284 precursor RNA folds onto itself, forming GAM337284 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337284 precursor RNA, designated SEQ ID NO: 141740, and a schematic representation of a predicted secondary folding of GAM337284 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337284 folded precursor RNA yielding a GAM337284 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337284 RNA, hereby incorporated herein.

GAM337284 target gene, herein designated GAM TARGET GENE, encodes a

corresponding messenger RNA, GAM337284 target RNA, herein designated GAM TARGET RNA.

GAM337284 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337284 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337284 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337284 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337284 RNA, herein designated GAM RNA, to target binding sites on GAM337284 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337284 target RNA into GAM337284 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337284 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337284 target genes. The mRNA of each one of this plurality of GAM337284 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337284 RNA, herein designated GAM RNA, and which when bound by GAM337284 RNA causes inhibition of translation of the GAM337284 target mRNA into a corresponding GAM337284 target protein.

The mechanism of the translational inhibition exerted by GAM337284 RNA, herein designated GAM RNA, on one or more GAM337284 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337284 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337284 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337284 RNA, herein designated GAM RNA, of GAM337284 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337284 target RNA, herein designated

GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337284 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337284 RNA correlate with, and may be deduced from, the identity of the GAM337284 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337285 141741 TGCTGTGGCC Fig. 8 further provides a conceptual description of another novel bioinformatically
TAACAGTTGT detected oligonucleotides of the present invention, referred to here as Genomic Address
TTTCTGAGTA Messenger 337285 (GAM337285) oligonucleotides modulates expression of respective target
TATTTTCATG genes whose function and utility is known in the art.

TCAAATAGCA GAM337285 is a novel bioinformatically detectable regulatory, non protein
AAAGTAGAAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337285 was detected
TTTTGGAGGA is described with additional reference to Figs. 9-15.

GGTGTGAAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AATGAAGAGT encoded by the human genome.

GACTAGAGGA GAM337285 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
AAATAGAGAG GAM337285 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
TCAGAAGTTG GAM337285 precursor RNA does not encode a protein. A nucleotide sequence identical or

CAGTA highly similar to the nucleotide sequence of GAM337285 precursor RNA is designated SEQ ID:141741, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141741 is located from position 96668219 to position 96668343 relative to chromosome chr13 on the `-` strand (chr is an abbreviation for chromosome).

GAM337285 precursor RNA folds onto itself, forming GAM337285 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337285 precursor RNA, designated SEQ ID NO: 141741, and a schematic representation of a predicted secondary folding of GAM337285 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337285 folded precursor RNA yielding a GAM337285 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337285 RNA, hereby incorporated herein.

GAM337285 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337285 target RNA, herein designated GAM TARGET RNA.

GAM337285 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337285 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337285 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337285 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337285 RNA, herein designated GAM RNA, to target binding sites on GAM337285 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337285 target RNA into GAM337285 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337285 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337285 target genes. The mRNA of each one of this plurality of GAM337285 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337285 RNA, herein designated GAM RNA, and which when bound by GAM337285 RNA causes inhibition of translation of the GAM337285 target mRNA into a corresponding GAM337285 target protein.

The mechanism of the translational inhibition exerted by GAM337285 RNA, herein designated GAM RNA, on one or more GAM337285 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337285 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337285 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337285 RNA, herein designated GAM RNA, of GAM337285 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337285 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337285 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337285 RNA correlate with, and may be deduced from, the identity of the GAM337285 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337286 141742 CCTAACAGTT Fig. 8 further provides a conceptual description of another novel bioinformatically
GTTTTCTGAG detected oligonucleotides of the present invention, referred to here as Genomic Address
TATATTTTCA Messenger 337286 (GAM337286) oligonucleotides modulates expression of respective target
TGTCAAATAG genes whose function and utility is known in the art.

CAAAAGTAGA GAM337286 is a novel bioinformatically detectable regulatory, non protein
ACTTTTGGAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337286 was detected
GAGGTGTGAA is described with additional reference to Figs. 9-15.

GAAATGAAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTGACTAGAG encoded by the human genome.

G GAM337286 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337286 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337286 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337286 precursor RNA is designated SEQ ID:141742, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141742 is located from position 96668245 to position 96668335 relative to chromosome chr13 on the `-` strand (chr is an abbreviation for chromosome).

GAM337286 precursor RNA folds onto itself, forming GAM337286 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337286 precursor RNA, designated SEQ ID NO: 141742, and a schematic representation of a predicted secondary folding of GAM337286 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337286 folded precursor RNA yielding a GAM337286 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337286 RNA, hereby incorporated herein.

GAM337286 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337286 target RNA, herein designated GAM TARGET RNA.

GAM337286 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337286 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337286 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337286 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337286 RNA, herein designated GAM RNA, to target binding sites on GAM337286 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337286 target RNA into GAM337286 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337286 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337286 target genes. The mRNA of each one of this plurality of GAM337286 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337286 RNA, herein designated GAM RNA, and which when bound by GAM337286 RNA causes inhibition of translation of the GAM337286 target mRNA into a corresponding GAM337286 target protein.

The mechanism of the translational inhibition exerted by GAM337286 RNA, herein designated GAM RNA, on one or more GAM337286 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337286 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337286 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337286 RNA, herein designated GAM RNA, of GAM337286 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337286 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337286 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337286 RNA correlate with, and may be deduced from, the identity of the GAM337286 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337287 141743 CCCCCTCCTG Fig. 8 further provides a conceptual description of another novel bioinformatically

CTGCACTCAC detected oligonucleotides of the present invention, referred to here as Genomic Address

AACAGCTTCC Messenger 337287 (GAM337287) oligonucleotides modulates expression of respective target

CCTCTCCTGT genes whose function and utility is known in the art.

TTAGAGGTGG GAM337287 is a novel bioinformatically detectable regulatory, non protein

AAGCATGTAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337287 was detected

GAATGCGTTT is described with additional reference to Figs. 9-15.

GAGGGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337287 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337287 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337287 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337287 precursor RNA is designated SEQ ID:141743, and is provided hereinbelow with reference to the sequence listing part.

Nucleotide sequence SEQ ID:141743 is located from position 96675690 to position 96675766 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337287 precursor RNA folds onto itself, forming GAM337287 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337287 precursor RNA, designated SEQ ID NO: 141743, and a schematic representation of a predicted secondary folding of GAM337287 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337287 folded precursor RNA yielding a GAM337287 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337287 RNA, hereby incorporated herein.

GAM337287 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337287 target RNA, herein designated GAM TARGET RNA.

GAM337287 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337287 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337287 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337287 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337287 RNA, herein designated GAM RNA, to target binding sites on GAM337287 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337287 target RNA into GAM337287 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337287 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337287 target genes. The mRNA of each one of this plurality of GAM337287 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337287 RNA, herein designated GAM RNA, and which when bound by GAM337287 RNA causes inhibition of translation of the GAM337287 target mRNA into a corresponding GAM337287 target protein.

The mechanism of the translational inhibition exerted by GAM337287 RNA, herein designated GAM RNA, on one or more GAM337287 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337287 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337287 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337287 RNA, herein designated GAM RNA, of GAM337287 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337287 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337287 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337287 RNA correlate with, and may be deduced from, the identity of the GAM337287 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337288 141744 CCCGCCTCAG Fig. 8 further provides a conceptual description of another novel bioinformatically

CCTCTCGAGT detected oligonucleotides of the present invention, referred to here as Genomic Address

CACTGGGATT Messenger 337288 (GAM337288) oligonucleotides modulates expression of respective target

ACAGATGTGA genes whose function and utility is known in the art.

GCCACCATGC GAM337288 is a novel bioinformatically detectable regulatory, non protein

CCAGTTGGAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337288 was detected

GCTCTAAACA is described with additional reference to Figs. 9-15.

TTAAATTCTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGCAAAGAGA encoded by the human genome.

TGATGAGGCT GAM337288 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GGG GAM337288 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337288 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337288 precursor RNA is designated SEQ ID:141744, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141744 is located from position 96681277 to position 96681379 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337288 precursor RNA folds onto itself, forming GAM337288 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337288 precursor RNA, designated SEQ ID NO: 141744, and a schematic representation of a predicted secondary folding of GAM337288 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337288 folded precursor RNA yielding a GAM337288 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337288 RNA, hereby incorporated herein.

GAM337288 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337288 target RNA, herein designated GAM TARGET RNA.

GAM337288 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337288 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337288 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337288 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337288 RNA, herein designated GAM RNA, to target binding sites on GAM337288 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337288 target RNA into GAM337288 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337288 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337288 target genes. The mRNA of each one of this plurality of GAM337288 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337288 RNA, herein designated GAM RNA, and which when bound by GAM337288 RNA causes inhibition of translation of the GAM337288 target mRNA into a corresponding GAM337288 target protein.

The mechanism of the translational inhibition exerted by GAM337288 RNA, herein designated GAM RNA, on one or more GAM337288 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337288 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337288 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337288 RNA, herein designated GAM RNA, of GAM337288 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337288 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337288 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337288 RNA correlate with, and may be deduced from, the identity of the GAM337288 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337289 141745 CCCGCCTCAG Fig. 8 further provides a conceptual description of another novel bioinformatically

CCTCTCGAGT detected oligonucleotides of the present invention, referred to here as Genomic Address

CACTGGGATT Messenger 337289 (GAM337289) oligonucleotides modulates expression of respective target

ACAGATGTGA genes whose function and utility is known in the art.

GCCACCATGC GAM337289 is a novel bioinformatically detectable regulatory, non protein
CCAGTTGGAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337289 was detected
GCTCTAAACA is described with additional reference to Figs. 9-15.

TTAAATTCTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGCAAAGAGA encoded by the human genome.

TGATGAGGCT GAM337289 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GG GAM337289 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337289 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337289 precursor RNA is designated SEQ ID:141745, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141745 is located from position 96681278 to position 96681379 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337289 precursor RNA folds onto itself, forming GAM337289 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337289 precursor RNA, designated SEQ ID NO: 141745, and a schematic representation of a predicted secondary folding of GAM337289 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337289 folded precursor RNA yielding a GAM337289 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337289 RNA, hereby incorporated herein.

GAM337289 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337289 target RNA, herein designated GAM TARGET RNA.

GAM337289 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337289 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337289 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337289 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337289 RNA, herein designated GAM RNA, to target binding sites on GAM337289 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337289 target RNA into GAM337289 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337289 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337289 target genes. The mRNA of each one of this plurality of GAM337289 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337289 RNA, herein designated GAM RNA, and which when bound by GAM337289 RNA causes inhibition of translation of the GAM337289 target mRNA into a corresponding GAM337289 target protein.

The mechanism of the translational inhibition exerted by GAM337289 RNA, herein designated GAM RNA, on one or more GAM337289 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337289 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337289 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337289 RNA, herein designated GAM RNA, of GAM337289 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337289 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337289 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337289 RNA correlate with, and may be deduced from, the identity of the GAM337289 target gene

inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337290 141746 TCATAGTCTG Fig. 8 further provides a conceptual description of another novel bioinformatically
CGTTTGTTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
TGCCCATCTT Messenger 337290 (GAM337290) oligonucleotides modulates expression of respective target
TTTTGGGAAG genes whose function and utility is known in the art.

TCTTTCCAGG GAM337290 is a novel bioinformatically detectable regulatory, non protein
TATTCACAGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337290 was detected
GACTTGGGCC is described with additional reference to Figs. 9-15.

TCAAACTGAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGATGCTGTG encoded by the human genome.

G GAM337290 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337290 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337290 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337290 precursor RNA is designated SEQ ID:141746, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141746 is located from position 96688012 to position 96688102 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM337290 precursor RNA folds onto itself, forming GAM337290 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337290 precursor RNA, designated SEQ ID NO: 141746, and a schematic representation of a predicted secondary folding of GAM337290 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337290 folded precursor RNA yielding a GAM337290 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337290 RNA, hereby incorporated herein.

GAM337290 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337290 target RNA, herein designated GAM TARGET RNA.

GAM337290 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337290 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337290 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337290 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337290 RNA, herein designated GAM RNA, to target binding sites on GAM337290 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337290 target RNA into GAM337290 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337290 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337290 target genes. The mRNA of each one of this plurality of GAM337290 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337290 RNA, herein designated GAM RNA, and which when bound by GAM337290 RNA causes inhibition of translation of the GAM337290 target mRNA into a corresponding GAM337290 target protein.

The mechanism of the translational inhibition exerted by GAM337290 RNA, herein designated GAM RNA, on one or more GAM337290 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337290 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337290 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337290 RNA, herein designated GAM RNA, of GAM337290 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337290 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337290 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337290 RNA correlate with, and may be deduced from, the identity of the GAM337290 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337291 141747 CTGCATCACC Fig. 8 further provides a conceptual description of another novel bioinformatically
TGTGAGAGGA detected oligonucleotides of the present invention, referred to here as Genomic Address
AAGAACCTTG Messenger 337291 (GAM337291) oligonucleotides modulates expression of respective target
TTTTTATAGC genes whose function and utility is known in the art.

AGAGAAATAT GAM337291 is a novel bioinformatically detectable regulatory, non protein
AAGCACAGGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337291 was detected
AGGTTCTGTC is described with additional reference to Figs. 9-15.

ACTTGCCAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GATGATCCCA encoded by the human genome.

G GAM337291 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337291 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337291 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337291 precursor RNA is designated SEQ ID:141747, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141747 is located from position 97011857 to position 97011947 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM337291 precursor RNA folds onto itself, forming GAM337291 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337291 precursor RNA, designated SEQ ID NO: 141747, and a schematic representation of a predicted secondary folding of GAM337291 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337291 folded precursor RNA yielding a GAM337291 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337291 RNA, hereby incorporated herein.

GAM337291 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337291 target RNA, herein designated GAM TARGET RNA.

GAM337291 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337291 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337291 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337291 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337291 RNA, herein designated GAM RNA, to target binding sites on GAM337291 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337291 target RNA into GAM337291 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337291 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337291 target genes. The mRNA of each one of this plurality of GAM337291 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337291 RNA, herein designated GAM RNA, and which when bound by GAM337291 RNA causes inhibition of translation of the GAM337291 target mRNA into a corresponding GAM337291 target protein.

The mechanism of the translational inhibition exerted by GAM337291 RNA, herein designated GAM RNA, on one or more GAM337291 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337291 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337291 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337291 RNA, herein designated GAM RNA, of GAM337291 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337291 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337291 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337291 RNA correlate with, and may be deduced from, the identity of the GAM337291 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337292 141748 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337292 (GAM337292) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337292 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337292 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM337292 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337292 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337292 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337292 precursor RNA is designated SEQ ID:141748, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141748 is located from position 97029751 to position 97029832 relative to chromosome chr5 on the `+` strand (chr is an abbreviation for chromosome).

GAM337292 precursor RNA folds onto itself, forming GAM337292 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337292 precursor RNA, designated SEQ ID NO: 141748, and a schematic representation of a predicted secondary folding of GAM337292 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337292 folded precursor RNA yielding a GAM337292 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337292 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337292 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337292 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337292 target RNA, herein designated GAM TARGET RNA.

GAM337292 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337292 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337292 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337292 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337292 RNA, herein designated GAM RNA, to target binding sites on GAM337292 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337292 target RNA into GAM337292 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337292 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337292 target genes. The mRNA of each one of this plurality of GAM337292 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337292 RNA, herein designated GAM RNA, and which when bound by GAM337292 RNA causes inhibition of

translation of the GAM337292 target mRNA into a corresponding GAM337292 target protein.

The mechanism of the translational inhibition exerted by GAM337292 RNA, herein designated GAM RNA, on one or more GAM337292 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337292 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337292 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337292 RNA, herein designated GAM RNA, of GAM337292 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337292 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337292 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337292 RNA correlate with, and may be deduced from, the identity of the GAM337292 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337293 141749 GTGTGTCTGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TTTCCAGGAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GCAGGCGTGC Messenger 337293 (GAM337293) oligonucleotides modulates expression of respective target

TGTCTGAAGA genes whose function and utility is known in the art.

GGCTTTGGAA GAM337293 is a novel bioinformatically detectable regulatory, non protein

GTACCCCAAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337293 was detected

TAATTCAGTT is described with additional reference to Figs. 9-15.

CTTGACCTGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCCAGGGCCA encoded by the human genome.

CACACAT GAM337293 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337293 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337293 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337293 precursor RNA is designated SEQ ID:141749, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141749 is located from position 97153223 to position 97153319 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM337293 precursor RNA folds onto itself, forming GAM337293 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337293 precursor RNA, designated SEQ ID NO: 141749, and a schematic representation of a predicted secondary folding of GAM337293 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337293 folded precursor RNA yielding a GAM337293 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337293 RNA, hereby incorporated herein.

GAM337293 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337293 target RNA, herein designated GAM TARGET RNA.

GAM337293 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337293 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337293 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337293 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337293 RNA, herein designated GAM RNA, to target binding sites on GAM337293 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337293 target RNA into GAM337293 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337293 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337293 target genes. The mRNA of each one of this plurality of GAM337293 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337293 RNA, herein designated GAM RNA, and which when bound by GAM337293 RNA causes inhibition of translation of the GAM337293 target mRNA into a corresponding GAM337293 target protein.

The mechanism of the translational inhibition exerted by GAM337293 RNA, herein designated GAM RNA, on one or more GAM337293 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337293 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337293 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337293 RNA, herein designated GAM RNA, of GAM337293 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337293 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337293 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337293 RNA correlate with, and may be deduced from, the identity of the GAM337293 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337294 141750 GTGTCTGGTT Fig. 8 further provides a conceptual description of another novel bioinformatically
TCCAGGAGGC detected oligonucleotides of the present invention, referred to here as Genomic Address
AGGCGTGCTG Messenger 337294 (GAM337294) oligonucleotides modulates expression of respective target
TCTGAAGAGG genes whose function and utility is known in the art.

CTTTGGAAGT GAM337294 is a novel bioinformatically detectable regulatory, non protein
ACCCCAAATA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337294 was detected
ATTCAGTTCT is described with additional reference to Figs. 9-15.

TGACCTGCCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGGGCCACA encoded by the human genome.

CAC GAM337294 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337294 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337294 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337294 precursor RNA is designated SEQ ID:141750, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141750 is located from position 97153225 to position 97153317 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM337294 precursor RNA folds onto itself, forming GAM337294 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337294 precursor RNA, designated SEQ ID NO: 141750, and a schematic representation of a predicted secondary folding of GAM337294 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337294 folded precursor RNA yielding a GAM337294 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337294 RNA, hereby incorporated herein.

GAM337294 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337294 target RNA, herein designated GAM TARGET RNA.

GAM337294 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337294 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337294 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337294 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337294 RNA, herein designated GAM RNA, to target binding sites on GAM337294 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337294 target RNA into GAM337294 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337294 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337294 target genes. The mRNA of each one of this plurality of GAM337294 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337294 RNA, herein designated GAM RNA, and which when bound by GAM337294 RNA causes inhibition of translation of the GAM337294 target mRNA into a corresponding GAM337294 target protein.

The mechanism of the translational inhibition exerted by GAM337294 RNA, herein designated GAM RNA, on one or more GAM337294 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337294 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337294 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337294 RNA, herein designated GAM RNA, of GAM337294 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337294 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337294 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337294 RNA correlate with, and may be deduced from, the identity of the GAM337294 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337295 141751 CAGTAAGATG Fig. 8 further provides a conceptual description of another novel bioinformatically

AAATAAAAAG detected oligonucleotides of the present invention, referred to here as Genomic Address

CTCATGCTCT Messenger 337295 (GAM337295) oligonucleotides modulates expression of respective target

TTTCTGCTGG genes whose function and utility is known in the art.

ACTTTAACCT GAM337295 is a novel bioinformatically detectable regulatory, non protein
GGGTAAGCGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337295 was detected

ATGTCAAGAG is described with additional reference to Figs. 9-15.

CTTTTTGTTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTGTTTTGCT encoded by the human genome.

G GAM337295 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337295 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337295 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337295 precursor RNA is designated SEQ ID:141751, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141751 is located from position 97478811 to position 97478901 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337295 precursor RNA folds onto itself, forming GAM337295 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337295 precursor RNA, designated SEQ ID NO: 141751, and a schematic representation of a predicted secondary folding of GAM337295 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337295 folded precursor RNA yielding a GAM337295 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337295 RNA, hereby incorporated herein.

GAM337295 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337295 target RNA, herein designated GAM TARGET RNA.

GAM337295 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337295 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337295 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337295 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337295 RNA, herein designated GAM RNA, to target binding sites on GAM337295 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337295 target RNA into GAM337295 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337295 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337295 target genes. The mRNA of each one of this plurality of GAM337295 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337295 RNA, herein designated GAM RNA, and which when bound by GAM337295 RNA causes inhibition of translation of the GAM337295 target mRNA into a corresponding GAM337295 target protein.

The mechanism of the translational inhibition exerted by GAM337295 RNA, herein designated GAM RNA, on one or more GAM337295 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337295 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337295 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337295 RNA, herein designated GAM RNA, of GAM337295 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337295 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337295 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337295

RNA correlate with, and may be deduced from, the identity of the GAM337295 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337296 141752 GAAAGGGAGT CCACGGAAGC GTGAGAATGG AGGAAGAACA GTGCTTTGAG TGACTGCTGC AGGGTCTTCC TATTATTTTT AGTTCTGAGG ATTCTCGTTC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337296 (GAM337296) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337296 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337296 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337296 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337296 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337296 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337296 precursor RNA is designated SEQ ID:141752, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141752 is located from position 97963174 to position 97963273 relative to chromosome chr13 on the `-` strand (chr is an abbreviation for chromosome).

GAM337296 precursor RNA folds onto itself, forming GAM337296 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337296 precursor RNA, designated SEQ ID NO: 141752, and a schematic representation of a predicted secondary folding of GAM337296 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337296 folded precursor RNA yielding a GAM337296 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337296 RNA, hereby incorporated herein.

GAM337296 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337296 target RNA, herein designated GAM TARGET RNA.

GAM337296 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337296 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337296 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337296 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337296 RNA, herein designated GAM RNA, to target binding sites on GAM337296 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337296 target RNA into GAM337296 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337296 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337296 target genes. The mRNA of each one of this plurality of GAM337296 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337296 RNA, herein designated GAM RNA, and which when bound by GAM337296 RNA causes inhibition of translation of the GAM337296 target mRNA into a corresponding GAM337296 target protein.

The mechanism of the translational inhibition exerted by GAM337296 RNA, herein designated GAM RNA, on one or more GAM337296 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337296 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337296 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337296 RNA, herein designated GAM RNA, of GAM337296 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337296 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337296 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337296 RNA correlate with, and may be deduced from, the identity of the GAM337296 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337297 141753 GGGAGTCCAC Fig. 8 further provides a conceptual description of another novel bioinformatically

GGAAGCGTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GAATGGAGGA Messenger 337297 (GAM337297) oligonucleotides modulates expression of respective target

AGAACAGTGC genes whose function and utility is known in the art.

TTTGAGTGAC GAM337297 is a novel bioinformatically detectable regulatory, non protein

TGCTGCAGGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337297 was detected

TCTTCCTATT is described with additional reference to Figs. 9-15.

ATTTTTAGTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTGAGGATTC encoded by the human genome.

TC GAM337297 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337297 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337297 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337297 precursor RNA is designated SEQ ID:141753, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141753 is located from position 97963178 to position 97963269 relative to chromosome chr13 on the `-` strand (chr is an abbreviation for chromosome).

GAM337297 precursor RNA folds onto itself, forming GAM337297 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337297 precursor RNA, designated SEQ ID NO: 141753, and a schematic representation of a predicted secondary folding of GAM337297 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337297 folded precursor RNA yielding a GAM337297 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337297 RNA, hereby incorporated herein.

GAM337297 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337297 target RNA, herein designated GAM TARGET RNA.

GAM337297 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337297 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337297 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337297 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337297 RNA, herein designated GAM RNA, to target binding sites on GAM337297 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337297 target RNA into GAM337297 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337297 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337297 target genes. The mRNA of each one of this plurality of GAM337297 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337297 RNA, herein designated GAM RNA, and which when bound by GAM337297 RNA causes inhibition of translation of the GAM337297 target mRNA into a corresponding GAM337297 target protein.

The mechanism of the translational inhibition exerted by GAM337297 RNA, herein designated GAM RNA, on one or more GAM337297 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337297 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM337297 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337297 RNA, herein designated GAM RNA, of GAM337297 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337297 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337297 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337297 RNA correlate with, and may be deduced from, the identity of the GAM337297 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337298 141754 GGCCATGCCT TTGTCACCCT AAATACTGCA CGGCCATGCC TTTGTCAGGC AGGCTGAGTG ACTGGGAGTT AGGAGGGTGG CC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337298 (GAM337298) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337298 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337298 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337298 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337298 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337298 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337298 precursor RNA is designated SEQ ID:141754, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141754 is located from position 98182570 to position 98182651 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM337298 precursor RNA folds onto itself, forming GAM337298 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337298 precursor RNA, designated SEQ ID NO: 141754, and a schematic representation of a predicted secondary folding of GAM337298 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337298 folded precursor RNA yielding a GAM337298 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337298 RNA, hereby incorporated herein.

GAM337298 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337298 target RNA, herein designated GAM TARGET RNA.

GAM337298 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337298 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337298 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337298 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337298 RNA, herein designated GAM RNA, to target binding sites on GAM337298 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337298 target RNA into GAM337298 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337298 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337298 target genes. The mRNA of each one of this plurality of GAM337298 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337298 RNA, herein designated GAM RNA, and which when bound by GAM337298 RNA causes inhibition of translation of the GAM337298 target mRNA into a corresponding GAM337298 target protein.

The mechanism of the translational inhibition exerted by GAM337298 RNA, herein designated GAM RNA, on one or more GAM337298 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337298 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337298 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337298 RNA, herein designated GAM RNA, of GAM337298 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337298 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337298 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337298 RNA correlate with, and may be deduced from, the identity of the GAM337298 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337299 141755 TGAGAATTGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGCAGAGG Messenger 337299 (GAM337299) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

CCGAGATCGT GAM337299 is a novel bioinformatically detectable regulatory, non protein

GCCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337299 was detected

TCCATCCTGA is described with additional reference to Figs. 9-15.

GTGACAAAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAGACTGTCT encoded by the human genome.

CA GAM337299 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337299 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337299 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337299 precursor RNA is designated SEQ

ID:141755, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141755 is located from position 98227794 to position 98227885 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337299 precursor RNA folds onto itself, forming GAM337299 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337299 precursor RNA, designated SEQ ID NO: 141755, and a schematic representation of a predicted secondary folding of GAM337299 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337299 folded precursor RNA yielding a GAM337299 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337299 RNA, hereby incorporated herein.

GAM337299 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337299 target RNA, herein designated GAM TARGET RNA.

GAM337299 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337299 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337299 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337299 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337299 RNA, herein designated GAM RNA, to target binding sites on GAM337299 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337299 target RNA into GAM337299 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM337299 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337299 target genes. The mRNA of each one of this plurality of GAM337299 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337299 RNA, herein designated GAM RNA, and which when bound by GAM337299 RNA causes inhibition of translation of the GAM337299 target mRNA into a corresponding GAM337299 target protein.

The mechanism of the translational inhibition exerted by GAM337299 RNA, herein designated GAM RNA, on one or more GAM337299 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337299 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337299 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337299 RNA, herein designated GAM RNA, of GAM337299 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337299 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337299 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337299 RNA correlate with, and may be deduced from, the identity of the GAM337299 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337300 141756 TTGCTTGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically

CCAGGAGGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTTGCAG Messenger 337300 (GAM337300) oligonucleotides modulates expression of respective target

TGAGCCGAGA genes whose function and utility is known in the art.

TCGTGCCACT GAM337300 is a novel bioinformatically detectable regulatory, non protein

GCACTCCATC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337300 was detected

CTGAGTGACA is described with additional reference to Figs. 9-15.

AAGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337300 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337300 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337300 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337300 precursor RNA is designated SEQ ID:141756, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141756 is located from position 98227800 to position 98227875 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337300 precursor RNA folds onto itself, forming GAM337300 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337300 precursor RNA, designated SEQ ID NO: 141756, and a schematic representation of a predicted secondary folding of GAM337300 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337300 folded precursor RNA yielding a GAM337300 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337300 RNA, hereby incorporated herein.

GAM337300 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337300 target RNA, herein designated GAM TARGET RNA.

GAM337300 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337300 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337300 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337300 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337300 RNA, herein designated GAM RNA, to target binding sites on GAM337300 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337300 target RNA into GAM337300 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337300 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337300 target genes. The mRNA of each one of this plurality of GAM337300 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337300 RNA, herein designated GAM RNA, and which when bound by GAM337300 RNA causes inhibition of translation of the GAM337300 target mRNA into a corresponding GAM337300 target protein.

The mechanism of the translational inhibition exerted by GAM337300 RNA, herein designated GAM RNA, on one or more GAM337300 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337300 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337300 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337300 RNA, herein designated GAM RNA, of GAM337300 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337300 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337300 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337300 RNA correlate with, and may be deduced from, the identity of the GAM337300 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337301 141757 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337301 (GAM337301) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA TGTGCCATGT TGGTGTGCTG CACCCATTAA CT

GAM337301 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337301 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337301 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337301 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337301 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337301 precursor RNA is designated SEQ ID:141757, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141757 is located from position 98287751 to position 98287832 relative to chromosome chr1 on the `-` strand (chr is an abbreviation for chromosome).

GAM337301 precursor RNA folds onto itself, forming GAM337301 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337301 precursor RNA, designated SEQ ID NO: 141757, and a schematic representation of a predicted secondary folding of GAM337301 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337301 folded precursor RNA yielding a GAM337301 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337301 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337301 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337301 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337301 target RNA, herein designated GAM TARGET RNA.

GAM337301 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337301 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337301 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337301 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337301 RNA, herein designated GAM RNA, to target binding sites on GAM337301 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337301 target RNA into GAM337301 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337301 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337301 target genes. The mRNA of each one of this plurality of GAM337301 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337301 RNA, herein designated GAM RNA, and which when bound by GAM337301 RNA causes inhibition of translation of the GAM337301 target mRNA into a corresponding GAM337301 target protein.

The mechanism of the translational inhibition exerted by GAM337301 RNA, herein designated GAM RNA, on one or more GAM337301 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337301 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337301 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337301 RNA, herein designated GAM RNA, of GAM337301 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337301 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337301 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337301 RNA correlate with, and may be deduced from, the identity of the GAM337301 target gene

inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337302 141758 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 337302 (GAM337302) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337302 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337302 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337302 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337302 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337302 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337302 precursor RNA is designated SEQ ID:141758, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141758 is located from position 98298734 to position 98298815 relative to chromosome chr2 on the `-` strand (chr is an abbreviation for chromosome).

GAM337302 precursor RNA folds onto itself, forming GAM337302 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337302 precursor RNA, designated SEQ ID NO: 141758, and a schematic representation of a predicted secondary folding of GAM337302 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337302 folded precursor RNA yielding a GAM337302 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337302 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of

GAM337302 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337302 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337302 target RNA, herein designated GAM TARGET RNA.

GAM337302 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337302 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337302 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337302 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337302 RNA, herein designated GAM RNA, to target binding sites on GAM337302 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337302 target RNA into GAM337302 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337302 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337302 target genes. The mRNA of each one of this plurality of GAM337302 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337302 RNA, herein designated GAM RNA, and which when bound by GAM337302 RNA causes inhibition of translation of the GAM337302 target mRNA into a corresponding GAM337302 target protein.

The mechanism of the translational inhibition exerted by GAM337302 RNA, herein designated GAM RNA, on one or more GAM337302 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337302 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337302 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337302 RNA, herein designated GAM RNA, of GAM337302 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337302 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337302 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337302 RNA correlate with, and may be deduced from, the identity of the GAM337302 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337303 141759 GGAGAATTGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACCCGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGTGGAGG Messenger 337303 (GAM337303) oligonucleotides modulates expression of respective target
TTGCAGTGAG genes whose function and utility is known in the art.

CCGAGATCGC GAM337303 is a novel bioinformatically detectable regulatory, non protein
CCACTGCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337303 was detected
CCAGCCTGGG is described with additional reference to Figs. 9-15.

CAACAGAGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGACTCT encoded by the human genome.

GAM337303 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337303 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337303 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337303 precursor RNA is designated SEQ ID:141759, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141759 is located from position 98459191 to position 98459277 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM337303 precursor RNA folds onto itself, forming GAM337303 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337303 precursor RNA, designated SEQ ID NO: 141759, and a schematic representation of a predicted secondary folding of GAM337303 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337303 folded precursor RNA yielding a GAM337303 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337303 RNA, hereby incorporated herein. Expression of GAM337303 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337303 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337303 target RNA, herein designated GAM TARGET RNA.

GAM337303 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337303 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337303 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337303 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337303 RNA, herein designated GAM RNA, to target binding sites on GAM337303 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337303 target RNA into GAM337303 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337303 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337303 target genes. The mRNA of each one of this plurality of GAM337303 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337303 RNA, herein designated GAM RNA, and which when bound by GAM337303 RNA causes inhibition of translation of the GAM337303 target mRNA into a corresponding GAM337303 target protein.

The mechanism of the translational inhibition exerted by GAM337303 RNA, herein designated GAM RNA, on one or more GAM337303 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337303 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337303 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337303 RNA, herein designated GAM RNA, of GAM337303 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337303 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337303 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337303 RNA correlate with, and may be deduced from, the identity of the GAM337303 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337304 141760 TTGCTTGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically
CCGGGAGGTG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGTTGCAG Messenger 337304 (GAM337304) oligonucleotides modulates expression of respective target
TGAGCCGAGA genes whose function and utility is known in the art.

TCGCCCACTG GAM337304 is a novel bioinformatically detectable regulatory, non protein
CACTCCAGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337304 was detected
TGGGCAACAG is described with additional reference to Figs. 9-15.

AGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337304 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337304 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337304 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337304 precursor RNA is designated SEQ ID:141760, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141760 is located from position 98459197 to position 98459271 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM337304 precursor RNA folds onto itself, forming GAM337304 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337304 precursor RNA, designated SEQ ID NO: 141760, and a schematic representation of a predicted secondary folding of GAM337304 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337304 folded precursor RNA yielding a GAM337304 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337304 RNA, hereby incorporated herein. Expression of GAM337304 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337304 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337304 target RNA, herein designated GAM TARGET RNA.

GAM337304 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337304 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337304 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337304 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337304 RNA, herein designated GAM RNA, to target binding sites on GAM337304 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337304 target RNA into GAM337304 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337304 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337304 target genes. The mRNA of each one of this plurality of GAM337304 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM337304 RNA, herein designated GAM RNA, and which when bound by GAM337304 RNA causes inhibition of translation of the GAM337304 target mRNA into a corresponding GAM337304 target protein.

The mechanism of the translational inhibition exerted by GAM337304 RNA, herein designated GAM RNA, on one or more GAM337304 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337304 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337304 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337304 RNA, herein designated GAM RNA, of GAM337304 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337304 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337304 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337304 RNA correlate with, and may be deduced from, the identity of the GAM337304 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337305 141761 TTATGAATCC Fig. 8 further provides a conceptual description of another novel bioinformatically

GTTTTTATGA detected oligonucleotides of the present invention, referred to here as Genomic Address

AATGTCCAAA Messenger 337305 (GAM337305) oligonucleotides modulates expression of respective target

ATAGGCAAAT genes whose function and utility is known in the art.

CTATGGACAG GAM337305 is a novel bioinformatically detectable regulatory, non protein

AAAGTAGAAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337305 was detected

GCAGATTCGT is described with additional reference to Figs. 9-15.

GG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337305 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337305 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337305 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337305 precursor RNA is designated SEQ ID:141761, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141761 is located from position 98645765 to position 98645836 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337305 precursor RNA folds onto itself, forming GAM337305 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337305 precursor RNA, designated SEQ ID NO: 141761, and a schematic representation of a predicted secondary folding of GAM337305 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337305 folded precursor RNA yielding a GAM337305 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337305 RNA, hereby incorporated herein.

GAM337305 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337305 target RNA, herein designated GAM TARGET RNA.

GAM337305 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337305 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337305 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337305 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337305 RNA, herein designated GAM RNA, to target binding sites on GAM337305 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337305 target RNA into GAM337305 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337305 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337305 target genes. The mRNA of each one of this plurality of GAM337305 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337305 RNA, herein designated GAM RNA, and which when bound by GAM337305 RNA causes inhibition of translation of the GAM337305 target mRNA into a corresponding GAM337305 target protein.

The mechanism of the translational inhibition exerted by GAM337305 RNA, herein designated GAM RNA, on one or more GAM337305 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337305 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337305 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337305 RNA, herein designated GAM RNA, of GAM337305 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337305 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337305 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337305 RNA correlate with, and may be deduced from, the identity of the GAM337305 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337306 141762 ATGAATCCGT Fig. 8 further provides a conceptual description of another novel bioinformatically

TTTTATGAAA detected oligonucleotides of the present invention, referred to here as Genomic Address

TGTCCAAAAT Messenger 337306 (GAM337306) oligonucleotides modulates expression of respective target

AGGCAAATCT genes whose function and utility is known in the art.

ATGGACAGAA GAM337306 is a novel bioinformatically detectable regulatory, non protein

AGTAGAAAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337306 was detected

AGATTCGT is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337306 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337306 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337306 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337306 precursor RNA is designated SEQ ID:141762, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141762 is located from position 98645767 to position 98645834 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337306 precursor RNA folds onto itself, forming GAM337306 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337306 precursor RNA, designated SEQ ID NO: 141762, and a schematic representation of a predicted secondary folding of GAM337306 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337306 folded precursor RNA yielding a GAM337306 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337306 RNA, hereby incorporated herein.

GAM337306 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337306 target RNA, herein designated GAM TARGET RNA.

GAM337306 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337306 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337306 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337306 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337306 RNA, herein designated GAM RNA, to target binding sites on GAM337306 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337306 target RNA into GAM337306 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337306 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337306 target genes. The mRNA of each one of this plurality of GAM337306 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337306 RNA, herein designated GAM RNA, and which when bound by GAM337306 RNA causes inhibition of translation of the GAM337306 target mRNA into a corresponding GAM337306 target protein.

The mechanism of the translational inhibition exerted by GAM337306 RNA, herein designated GAM RNA, on one or more GAM337306 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337306 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337306 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337306 RNA, herein designated GAM RNA, of GAM337306 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337306 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337306 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337306 RNA correlate with, and may be deduced from, the identity of the GAM337306 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337307 141763 ACACTGTGTT Fig. 8 further provides a conceptual description of another novel bioinformatically

AGCACCCTGT detected oligonucleotides of the present invention, referred to here as Genomic Address

GATATTATTC Messenger 337307 (GAM337307) oligonucleotides modulates expression of respective target
ATAATATCCA genes whose function and utility is known in the art.

TGATATTACT GAM337307 is a novel bioinformatically detectable regulatory, non protein
ACTGACATCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337307 was detected
AGGGTGATAA is described with additional reference to Figs. 9-15.

TGCAGTGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337307 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337307 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337307 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337307 precursor RNA is designated SEQ ID:141763, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141763 is located from position 98790680 to position 98790757 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337307 precursor RNA folds onto itself, forming GAM337307 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337307 precursor RNA, designated SEQ ID NO: 141763, and a schematic representation of a predicted secondary folding of GAM337307 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337307 folded precursor RNA yielding a GAM337307 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337307 RNA, hereby incorporated herein.

GAM337307 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337307 target RNA, herein designated GAM TARGET RNA.

GAM337307 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337307 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337307 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337307 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337307 RNA, herein designated GAM RNA, to target binding sites on GAM337307 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337307 target RNA into GAM337307 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337307 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337307 target genes. The mRNA of each one of this plurality of GAM337307 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337307 RNA, herein designated GAM RNA, and which when bound by GAM337307 RNA causes inhibition of translation of the GAM337307 target mRNA into a corresponding GAM337307 target protein.

The mechanism of the translational inhibition exerted by GAM337307 RNA, herein designated GAM RNA, on one or more GAM337307 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337307 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337307 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337307 RNA, herein designated GAM RNA, of GAM337307 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337307 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337307 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337307

RNA correlate with, and may be deduced from, the identity of the GAM337307 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337308 141764 TCCCTGAATT CCCAGAAGAG CATGCTCAAG ACACCTCCAA GGAGGAGTGT GTGAGATGTC TACTGAGAGT ATAAGGGA

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337308 (GAM337308) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337308 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337308 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337308 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337308 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337308 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337308 precursor RNA is designated SEQ ID:141764, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141764 is located from position 98847001 to position 98847078 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337308 precursor RNA folds onto itself, forming GAM337308 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337308 precursor RNA, designated SEQ ID NO: 141764, and a schematic representation of a predicted secondary folding of GAM337308 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337308 folded precursor RNA yielding a GAM337308 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly

similar to the nucleotide sequence of GAM337308 RNA, hereby incorporated herein.

GAM337308 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337308 target RNA, herein designated GAM TARGET RNA.

GAM337308 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337308 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337308 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337308 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337308 RNA, herein designated GAM RNA, to target binding sites on GAM337308 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337308 target RNA into GAM337308 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337308 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337308 target genes. The mRNA of each one of this plurality of GAM337308 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337308 RNA, herein designated GAM RNA, and which when bound by GAM337308 RNA causes inhibition of translation of the GAM337308 target mRNA into a corresponding GAM337308 target protein.

The mechanism of the translational inhibition exerted by GAM337308 RNA, herein designated GAM RNA, on one or more GAM337308 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337308 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337308 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337308 RNA, herein designated GAM RNA, of GAM337308 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337308 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337308 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337308 RNA correlate with, and may be deduced from, the identity of the GAM337308 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337309 141765 GAGTGTTACA Fig. 8 further provides a conceptual description of another novel bioinformatically
TAAGCTAGGC detected oligonucleotides of the present invention, referred to here as Genomic Address
ATGGTAACAC Messenger 337309 (GAM337309) oligonucleotides modulates expression of respective target
ACGCCTGTAG genes whose function and utility is known in the art.

TCCCGGCTTG GAM337309 is a novel bioinformatically detectable regulatory, non protein
AGACCAGGAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337309 was detected
GTTGAGGCTG is described with additional reference to Figs. 9-15.

CGGTGAGTTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CCATCATGCC encoded by the human genome.

ACTGCACTC GAM337309 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337309 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337309 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337309 precursor RNA is designated SEQ ID:141765, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141765 is located from position 98872917 to position 98873015 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM337309 precursor RNA folds onto itself, forming GAM337309 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337309 precursor RNA, designated SEQ ID NO: 141765, and a schematic representation of a predicted secondary folding of GAM337309 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337309 folded precursor RNA yielding a GAM337309 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337309 RNA, hereby incorporated herein.

GAM337309 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337309 target RNA, herein designated GAM TARGET RNA.

GAM337309 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337309 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337309 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337309 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337309 RNA, herein designated GAM RNA, to target binding sites on GAM337309 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337309 target RNA into GAM337309 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337309 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337309 target genes. The mRNA of each one of this plurality of GAM337309 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337309 RNA, herein designated GAM RNA, and which when bound by GAM337309 RNA causes inhibition of translation of the GAM337309 target mRNA into a corresponding GAM337309 target protein.

The mechanism of the translational inhibition exerted by GAM337309 RNA, herein designated GAM RNA, on one or more GAM337309 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337309 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM337309 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337309 RNA, herein designated GAM RNA, of GAM337309 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337309 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337309 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337309 RNA correlate with, and may be deduced from, the identity of the GAM337309 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337310 141766 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 337310 (GAM337310) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337310 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337310 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337310 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337310 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337310 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337310 precursor RNA is designated SEQ ID:141766, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141766 is located from position 98924324 to position 98924405 relative to chromosome chr5 on the `+` strand (chr is an abbreviation for chromosome).

GAM337310 precursor RNA folds onto itself, forming GAM337310 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337310 precursor RNA, designated SEQ ID NO: 141766, and a schematic representation of a predicted secondary folding of GAM337310 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337310 folded precursor RNA yielding a GAM337310 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337310 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337310 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337310 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337310 target RNA, herein designated GAM TARGET RNA.

GAM337310 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337310 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337310 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337310 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337310 RNA, herein designated GAM RNA, to target binding sites on GAM337310 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337310 target RNA into GAM337310 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337310 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337310 target genes. The mRNA of each one of this plurality of GAM337310 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337310 RNA,

herein designated GAM RNA, and which when bound by GAM337310 RNA causes inhibition of translation of the GAM337310 target mRNA into a corresponding GAM337310 target protein.

The mechanism of the translational inhibition exerted by GAM337310 RNA, herein designated GAM RNA, on one or more GAM337310 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337310 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337310 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337310 RNA, herein designated GAM RNA, of GAM337310 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337310 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337310 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337310 RNA correlate with, and may be deduced from, the identity of the GAM337310 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337311 141767 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCCGGGAGG Messenger 337311 (GAM337311) oligonucleotides modulates expression of respective target

CGGAGGTTGT genes whose function and utility is known in the art.

GGTGAGCCAA GAM337311 is a novel bioinformatically detectable regulatory, non protein

GATTGCGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337311 was detected

TTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAACAGCGAA encoded by the human genome.

ACTCTGTCTC GAM337311 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337311 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337311 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337311 precursor RNA is designated SEQ ID:141767, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141767 is located from position 98930879 to position 98930978 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337311 precursor RNA folds onto itself, forming GAM337311 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337311 precursor RNA, designated SEQ ID NO: 141767, and a schematic representation of a predicted secondary folding of GAM337311 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337311 folded precursor RNA yielding a GAM337311 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337311 RNA, hereby incorporated herein. Expression of GAM337311 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337311 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337311 target RNA, herein designated GAM TARGET RNA.

GAM337311 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337311 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337311 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337311 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337311 RNA, herein designated GAM RNA, to target

binding sites on GAM337311 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337311 target RNA into GAM337311 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337311 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337311 target genes. The mRNA of each one of this plurality of GAM337311 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337311 RNA, herein designated GAM RNA, and which when bound by GAM337311 RNA causes inhibition of translation of the GAM337311 target mRNA into a corresponding GAM337311 target protein.

The mechanism of the translational inhibition exerted by GAM337311 RNA, herein designated GAM RNA, on one or more GAM337311 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337311 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337311 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337311 RNA, herein designated GAM RNA, of GAM337311 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337311 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337311 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337311 RNA correlate with, and may be deduced from, the identity of the GAM337311 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337312 141768 GGCAGGAGAA Fig. 8 further provides a conceptual description of another novel bioinformatically

TCGCTTGAAC detected oligonucleotides of the present invention, referred to here as Genomic Address

CCGGGAGGCG Messenger 337312 (GAM337312) oligonucleotides modulates expression of respective target

GAGGTTGTGG genes whose function and utility is known in the art.

TGAGCCAAGA GAM337312 is a novel bioinformatically detectable regulatory, non protein

TTGCGCCATT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337312 was detected

GCACTCCAGC is described with additional reference to Figs. 9-15.

CTGGGCAACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAGCGAAAC encoded by the human genome.

TCTGTC GAM337312 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337312 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337312 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337312 precursor RNA is designated SEQ ID:141768, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141768 is located from position 98930881 to position 98930976 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337312 precursor RNA folds onto itself, forming GAM337312 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337312 precursor RNA, designated SEQ ID NO: 141768, and a schematic representation of a predicted secondary folding of GAM337312 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337312 folded precursor RNA yielding a GAM337312 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337312 RNA, hereby incorporated herein. Expression of GAM337312 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337312 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337312 target RNA, herein designated GAM TARGET RNA.

GAM337312 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337312 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337312 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the

nucleotide sequence of GAM337312 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337312 RNA, herein designated GAM RNA, to target binding sites on GAM337312 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337312 target RNA into GAM337312 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337312 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337312 target genes. The mRNA of each one of this plurality of GAM337312 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337312 RNA, herein designated GAM RNA, and which when bound by GAM337312 RNA causes inhibition of translation of the GAM337312 target mRNA into a corresponding GAM337312 target protein.

The mechanism of the translational inhibition exerted by GAM337312 RNA, herein designated GAM RNA, on one or more GAM337312 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337312 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337312 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337312 RNA, herein designated GAM RNA, of GAM337312 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337312 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337312 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337312 RNA correlate with, and may be deduced from, the identity of the GAM337312 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337313 141769 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACCCGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGCGGAGG Messenger 337313 (GAM337313) oligonucleotides modulates expression of respective target
TTGTGGTGAG genes whose function and utility is known in the art.

CCAAGATTGC GAM337313 is a novel bioinformatically detectable regulatory, non protein
GCCATTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337313 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAACAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CGAAACTCT encoded by the human genome.

GAM337313 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337313 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337313 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337313 precursor RNA is designated SEQ ID:141769, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141769 is located from position 98930885 to position 98930973 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337313 precursor RNA folds onto itself, forming GAM337313 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337313 precursor RNA, designated SEQ ID NO: 141769, and a schematic representation of a predicted secondary folding of GAM337313 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337313 folded precursor RNA yielding a GAM337313 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337313 RNA, hereby incorporated herein. Expression of GAM337313 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337313 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337313 target RNA, herein designated GAM TARGET RNA.

GAM337313 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337313 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337313 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337313 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337313 RNA, herein designated GAM RNA, to target binding sites on GAM337313 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337313 target RNA into GAM337313 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337313 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337313 target genes. The mRNA of each one of this plurality of GAM337313 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337313 RNA, herein designated GAM RNA, and which when bound by GAM337313 RNA causes inhibition of translation of the GAM337313 target mRNA into a corresponding GAM337313 target protein.

The mechanism of the translational inhibition exerted by GAM337313 RNA, herein designated GAM RNA, on one or more GAM337313 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337313 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337313 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337313 RNA, herein designated GAM RNA, of GAM337313 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM337313 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337313 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337313 RNA correlate with, and may be deduced from, the identity of the GAM337313 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337314 141770 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACCCGG detected oligonucleotides of the present invention, referred to here as Genomic Address
CAGGCAGAAG Messenger 337314 (GAM337314) oligonucleotides modulates expression of respective target
TTGCAGTGAG genes whose function and utility is known in the art.

CCGAGATCAC GAM337314 is a novel bioinformatically detectable regulatory, non protein
GCCATTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337314 was detected
TTCAGCCTGG is described with additional reference to Figs. 9-15.

GTGACAGAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGGACTCC encoded by the human genome.

GAM337314 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337314 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337314 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337314 precursor RNA is designated SEQ ID:141770, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141770 is located from position 98985382 to position 98985469 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM337314 precursor RNA folds onto itself, forming GAM337314 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337314 precursor RNA, designated SEQ ID NO: 141770, and a schematic representation of a predicted secondary folding of GAM337314 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337314 folded precursor RNA yielding a GAM337314 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337314 RNA, hereby incorporated herein.

GAM337314 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337314 target RNA, herein designated GAM TARGET RNA.

GAM337314 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337314 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337314 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337314 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337314 RNA, herein designated GAM RNA, to target binding sites on GAM337314 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337314 target RNA into GAM337314 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337314 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337314 target genes. The mRNA of each one of this plurality of GAM337314 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337314 RNA, herein designated GAM RNA, and which when bound by GAM337314 RNA causes inhibition of translation of the GAM337314 target mRNA into a corresponding GAM337314 target protein.

The mechanism of the translational inhibition exerted by GAM337314 RNA, herein designated GAM RNA, on one or more GAM337314 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337314 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337314 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337314 RNA, herein designated GAM RNA, of GAM337314 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337314 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337314 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337314 RNA correlate with, and may be deduced from, the identity of the GAM337314 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337315 141771 TGGTCCACAT TCTACATAGT AGCACCCTCC ACACAGTGGA CAATGTCAAG AGGTGGCACT GTGTGGGGTG GGGCCA

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337315 (GAM337315) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337315 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337315 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337315 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337315 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337315 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337315 precursor RNA is designated SEQ ID:141771, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141771 is located from position 99006060 to position 99006135 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM337315 precursor RNA folds onto itself, forming GAM337315 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337315 precursor RNA, designated SEQ ID NO: 141771, and a schematic representation of a predicted secondary folding of GAM337315 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337315 folded precursor RNA yielding a GAM337315 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337315 RNA, hereby incorporated herein.

GAM337315 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337315 target RNA, herein designated GAM TARGET RNA.

GAM337315 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337315 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337315 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337315 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337315 RNA, herein designated GAM RNA, to target binding sites on GAM337315 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337315 target RNA into GAM337315 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337315 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337315 target genes. The mRNA of each one of this plurality of GAM337315 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337315 RNA, herein designated GAM RNA, and which when bound by GAM337315 RNA causes inhibition of translation of the GAM337315 target mRNA into a corresponding GAM337315 target protein.

The mechanism of the translational inhibition exerted by GAM337315 RNA, herein

designated GAM RNA, on one or more GAM337315 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337315 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337315 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337315 RNA, herein designated GAM RNA, of GAM337315 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337315 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337315 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337315 RNA correlate with, and may be deduced from, the identity of the GAM337315 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337316 141772 ACGGAACCTG Fig. 8 further provides a conceptual description of another novel bioinformatically

ATGAACTAAT detected oligonucleotides of the present invention, referred to here as Genomic Address

TCTGTACTCA Messenger 337316 (GAM337316) oligonucleotides modulates expression of respective target

GAAATTACTG genes whose function and utility is known in the art.

ACGGCATTTT GAM337316 is a novel bioinformatically detectable regulatory, non protein

ACTTGAGAGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337316 was detected

CATGCGTGTC is described with additional reference to Figs. 9-15.

AGCCATTTCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCCACGGGGG encoded by the human genome.

TTCTTCTGAT GAM337316 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GCTGT GAM337316 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337316 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337316 precursor RNA is designated SEQ ID:141772, and is provided hereinbelow with reference to the sequence listing part.

Nucleotide sequence SEQ ID:141772 is located from position 99016945 to position 99017049 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GAM337316 precursor RNA folds onto itself, forming GAM337316 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337316 precursor RNA, designated SEQ ID NO: 141772, and a schematic representation of a predicted secondary folding of GAM337316 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337316 folded precursor RNA yielding a GAM337316 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337316 RNA, hereby incorporated herein.

GAM337316 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337316 target RNA, herein designated GAM TARGET RNA.

GAM337316 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337316 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337316 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337316 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337316 RNA, herein designated GAM RNA, to target binding sites on GAM337316 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337316 target RNA into GAM337316 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337316 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337316 target genes. The mRNA of each one of this plurality of GAM337316 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337316 RNA, herein designated GAM RNA, and which when bound by GAM337316 RNA causes inhibition of translation of the GAM337316 target mRNA into a corresponding GAM337316 target protein.

The mechanism of the translational inhibition exerted by GAM337316 RNA, herein designated GAM RNA, on one or more GAM337316 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337316 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337316 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337316 RNA, herein designated GAM RNA, of GAM337316 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337316 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337316 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337316 RNA correlate with, and may be deduced from, the identity of the GAM337316 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337317 141773 GCAGGCAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

AGAGGGAGGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GGTGAAGGAA Messenger 337317 (GAM337317) oligonucleotides modulates expression of respective target

CAAATGCTGA genes whose function and utility is known in the art.

ACACCTGTTA GAM337317 is a novel bioinformatically detectable regulatory, non protein

TTTATGAAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337317 was detected

ACTCTACATA is described with additional reference to Figs. 9-15.

TGTTCTTTCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTTCACTCCT encoded by the human genome.

GGTGAAAACC GAM337317 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TGC GAM337317 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337317 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337317 precursor RNA is designated SEQ ID:141773, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141773 is located from position 99096789 to position 99096891 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337317 precursor RNA folds onto itself, forming GAM337317 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337317 precursor RNA, designated SEQ ID NO: 141773, and a schematic representation of a predicted secondary folding of GAM337317 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337317 folded precursor RNA yielding a GAM337317 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337317 RNA, hereby incorporated herein.

GAM337317 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337317 target RNA, herein designated GAM TARGET RNA.

GAM337317 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337317 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337317 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337317 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337317 RNA, herein designated GAM RNA, to target binding sites on GAM337317 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337317 target RNA into GAM337317 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337317 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337317 target genes. The mRNA of each one of this plurality of GAM337317 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337317 RNA, herein designated GAM RNA, and which when bound by GAM337317 RNA causes inhibition of translation of the GAM337317 target mRNA into a corresponding GAM337317 target protein.

The mechanism of the translational inhibition exerted by GAM337317 RNA, herein designated GAM RNA, on one or more GAM337317 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337317 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337317 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337317 RNA, herein designated GAM RNA, of GAM337317 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337317 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337317 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337317 RNA correlate with, and may be deduced from, the identity of the GAM337317 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337318 141774 GCAGGGAGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

GGAGGAGGTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AAGGAACAAA Messenger 337318 (GAM337318) oligonucleotides modulates expression of respective target

TGCTGAACAC genes whose function and utility is known in the art.

CTGTTATTTA GAM337318 is a novel bioinformatically detectable regulatory, non protein
TGAAGCACTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337318 was detected
TACATATGTT is described with additional reference to Figs. 9-15.

CTTTCATTTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACTCCTGGTG encoded by the human genome.

AAAACCTGC GAM337318 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337318 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337318 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337318 precursor RNA is designated SEQ ID:141774, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141774 is located from position 99096793 to position 99096891 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337318 precursor RNA folds onto itself, forming GAM337318 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337318 precursor RNA, designated SEQ ID NO: 141774, and a schematic representation of a predicted secondary folding of GAM337318 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337318 folded precursor RNA yielding a GAM337318 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337318 RNA, hereby incorporated herein.

GAM337318 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337318 target RNA, herein designated GAM TARGET RNA.

GAM337318 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337318 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337318 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337318 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337318 RNA, herein designated GAM RNA, to target binding sites on GAM337318 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337318 target RNA into GAM337318 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337318 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337318 target genes. The mRNA of each one of this plurality of GAM337318 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337318 RNA, herein designated GAM RNA, and which when bound by GAM337318 RNA causes inhibition of translation of the GAM337318 target mRNA into a corresponding GAM337318 target protein.

The mechanism of the translational inhibition exerted by GAM337318 RNA, herein designated GAM RNA, on one or more GAM337318 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337318 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337318 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337318 RNA, herein designated GAM RNA, of GAM337318 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337318 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337318 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337318 RNA correlate with, and may be deduced from, the identity of the GAM337318 target gene

inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337319 141775 GGGAGGAGGT Fig. 8 further provides a conceptual description of another novel bioinformatically
GAAGGAACAA detected oligonucleotides of the present invention, referred to here as Genomic Address
ATGCTGAACA Messenger 337319 (GAM337319) oligonucleotides modulates expression of respective target
CCTGTTATTT genes whose function and utility is known in the art.

ATGAAGCACT GAM337319 is a novel bioinformatically detectable regulatory, non protein
CTACATATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337319 was detected
TCTTTCATTT is described with additional reference to Figs. 9-15.

CACTCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337319 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337319 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337319 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337319 precursor RNA is designated SEQ ID:141775, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141775 is located from position 99096802 to position 99096878 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337319 precursor RNA folds onto itself, forming GAM337319 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337319 precursor RNA, designated SEQ ID NO: 141775, and a schematic representation of a predicted secondary folding of GAM337319 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337319 folded precursor RNA yielding a GAM337319 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337319 RNA, hereby incorporated herein.

GAM337319 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337319 target RNA, herein designated GAM TARGET RNA.

GAM337319 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337319 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337319 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337319 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337319 RNA, herein designated GAM RNA, to target binding sites on GAM337319 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337319 target RNA into GAM337319 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337319 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337319 target genes. The mRNA of each one of this plurality of GAM337319 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337319 RNA, herein designated GAM RNA, and which when bound by GAM337319 RNA causes inhibition of translation of the GAM337319 target mRNA into a corresponding GAM337319 target protein.

The mechanism of the translational inhibition exerted by GAM337319 RNA, herein designated GAM RNA, on one or more GAM337319 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337319 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337319 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337319 RNA, herein designated GAM RNA, of GAM337319 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337319 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337319 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337319 RNA correlate with, and may be deduced from, the identity of the GAM337319 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337320 141776 AACGTGTGGT GATTGATGCT TTCATGGACT CTGTTGCCCC AAGTCCCCAA GCCTTGTACC AGCGTT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337320 (GAM337320) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337320 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337320 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337320 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337320 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337320 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337320 precursor RNA is designated SEQ ID:141776, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141776 is located from position 99149261 to position 99149326 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM337320 precursor RNA folds onto itself, forming GAM337320 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337320 precursor RNA, designated SEQ ID NO: 141776, and a schematic representation of a predicted secondary folding of GAM337320 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337320 folded precursor RNA yielding a GAM337320 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337320 RNA, hereby incorporated herein.

GAM337320 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337320 target RNA, herein designated GAM TARGET RNA.

GAM337320 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337320 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337320 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337320 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337320 RNA, herein designated GAM RNA, to target binding sites on GAM337320 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337320 target RNA into GAM337320 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337320 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337320 target genes. The mRNA of each one of this plurality of GAM337320 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337320 RNA, herein designated GAM RNA, and which when bound by GAM337320 RNA causes inhibition of translation of the GAM337320 target mRNA into a corresponding GAM337320 target protein.

The mechanism of the translational inhibition exerted by GAM337320 RNA, herein designated GAM RNA, on one or more GAM337320 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337320 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337320 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337320 RNA, herein designated GAM RNA, of GAM337320 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337320 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337320 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337320 RNA correlate with, and may be deduced from, the identity of the GAM337320 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337321 141777 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAATCAGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGTTGGAGG Messenger 337321 (GAM337321) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

CTGAGGTCAC GAM337321 is a novel bioinformatically detectable regulatory, non protein

CTGCATTCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337321 was detected

GCCTGCTGAC is described with additional reference to Figs. 9-15.

AGCGAGACTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

C encoded by the human genome.

GAM337321 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337321 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337321 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337321 precursor RNA is designated SEQ ID:141777, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141777 is located from position 99258727 to position 99258807 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337321 precursor RNA folds onto itself, forming GAM337321 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337321 precursor RNA, designated SEQ ID NO: 141777, and a schematic representation of a predicted secondary folding of GAM337321 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337321 folded precursor RNA yielding a GAM337321 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337321 RNA, hereby incorporated herein.

GAM337321 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337321 target RNA, herein designated GAM TARGET RNA.

GAM337321 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337321 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337321 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337321 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337321 RNA, herein designated GAM RNA, to target binding sites on GAM337321 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337321 target RNA into GAM337321 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337321 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337321 target genes. The mRNA of each one of this plurality of GAM337321 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337321 RNA, herein designated GAM RNA, and which when bound by GAM337321 RNA causes inhibition of translation of the GAM337321 target mRNA into a corresponding GAM337321 target protein.

The mechanism of the translational inhibition exerted by GAM337321 RNA, herein designated GAM RNA, on one or more GAM337321 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337321 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337321 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337321 RNA, herein designated GAM RNA, of GAM337321 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337321 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337321 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337321 RNA correlate with, and may be deduced from, the identity of the GAM337321 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337322 141778 TCGGTCAGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

TCCCCACTAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GCTGTGAGTT Messenger 337322 (GAM337322) oligonucleotides modulates expression of respective target

ACTGAATGGC genes whose function and utility is known in the art.

GAAGAGTGTG GAM337322 is a novel bioinformatically detectable regulatory, non protein

TCTTATTCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337322 was detected

ATCTGGATTC is described with additional reference to Figs. 9-15.

TAGTAGTTAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCTAGTACCT encoded by the human genome.

GGTAAGTGAG GAM337322 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CGA GAM337322 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337322 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337322 precursor RNA is designated SEQ

ID:141778, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141778 is located from position 99272359 to position 99272461 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337322 precursor RNA folds onto itself, forming GAM337322 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337322 precursor RNA, designated SEQ ID NO: 141778, and a schematic representation of a predicted secondary folding of GAM337322 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337322 folded precursor RNA yielding a GAM337322 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337322 RNA, hereby incorporated herein.

GAM337322 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337322 target RNA, herein designated GAM TARGET RNA.

GAM337322 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337322 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337322 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337322 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337322 RNA, herein designated GAM RNA, to target binding sites on GAM337322 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337322 target RNA into GAM337322 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM337322 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337322 target genes. The mRNA of each one of this plurality of GAM337322 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337322 RNA, herein designated GAM RNA, and which when bound by GAM337322 RNA causes inhibition of translation of the GAM337322 target mRNA into a corresponding GAM337322 target protein.

The mechanism of the translational inhibition exerted by GAM337322 RNA, herein designated GAM RNA, on one or more GAM337322 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337322 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337322 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337322 RNA, herein designated GAM RNA, of GAM337322 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337322 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337322 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337322 RNA correlate with, and may be deduced from, the identity of the GAM337322 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337323 141779 GGTCATGGCC Fig. 8 further provides a conceptual description of another novel bioinformatically

TGGAGTTGCT detected oligonucleotides of the present invention, referred to here as Genomic Address

GATAATTTAG Messenger 337323 (GAM337323) oligonucleotides modulates expression of respective target

GTGGGATAGA genes whose function and utility is known in the art.

TACTTGGTCT GAM337323 is a novel bioinformatically detectable regulatory, non protein

ACTTAAGCTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337323 was detected

AATGTAACCC is described with additional reference to Figs. 9-15.

AGAGCCCACC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337323 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337323 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337323 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337323 precursor RNA is designated SEQ ID:141779, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141779 is located from position 99320583 to position 99320662 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337323 precursor RNA folds onto itself, forming GAM337323 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337323 precursor RNA, designated SEQ ID NO: 141779, and a schematic representation of a predicted secondary folding of GAM337323 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337323 folded precursor RNA yielding a GAM337323 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337323 RNA, hereby incorporated herein.

GAM337323 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337323 target RNA, herein designated GAM TARGET RNA.

GAM337323 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337323 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337323 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337323 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337323 RNA, herein designated GAM RNA, to target binding sites on GAM337323 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337323 target RNA into GAM337323 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337323 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337323 target genes. The mRNA of each one of this plurality of GAM337323 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337323 RNA, herein designated GAM RNA, and which when bound by GAM337323 RNA causes inhibition of translation of the GAM337323 target mRNA into a corresponding GAM337323 target protein.

The mechanism of the translational inhibition exerted by GAM337323 RNA, herein designated GAM RNA, on one or more GAM337323 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337323 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337323 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337323 RNA, herein designated GAM RNA, of GAM337323 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337323 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337323 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337323 RNA correlate with, and may be deduced from, the identity of the GAM337323 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337324 141780 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGCCGGAGG Messenger 337324 (GAM337324) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

TCGAGATCAT GAM337324 is a novel bioinformatically detectable regulatory, non protein
GCCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337324 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGAGACTCC encoded by the human genome.

GAM337324 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337324 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337324 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337324 precursor RNA is designated SEQ ID:141780, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141780 is located from position 99463318 to position 99463406 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM337324 precursor RNA folds onto itself, forming GAM337324 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337324 precursor RNA, designated SEQ ID NO: 141780, and a schematic representation of a predicted secondary folding of GAM337324 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337324 folded precursor RNA yielding a GAM337324 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337324 RNA, hereby incorporated herein. Expression of GAM337324 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337324 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337324 target RNA, herein designated GAM TARGET RNA.

GAM337324 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337324 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337324 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337324 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337324 RNA, herein designated GAM RNA, to target binding sites on GAM337324 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337324 target RNA into GAM337324 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337324 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337324 target genes. The mRNA of each one of this plurality of GAM337324 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337324 RNA, herein designated GAM RNA, and which when bound by GAM337324 RNA causes inhibition of translation of the GAM337324 target mRNA into a corresponding GAM337324 target protein.

The mechanism of the translational inhibition exerted by GAM337324 RNA, herein designated GAM RNA, on one or more GAM337324 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337324 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337324 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337324 RNA, herein designated GAM RNA, of GAM337324 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337324 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337324 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337324 RNA correlate with, and may be deduced from, the identity of the GAM337324 target gene

inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337325 141781 TGGTACCTGA Fig. 8 further provides a conceptual description of another novel bioinformatically
AAAGAAGTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
CCCATGTTAT Messenger 337325 (GAM337325) oligonucleotides modulates expression of respective target
TTTCGCTTTA genes whose function and utility is known in the art.

TATGTGACGA GAM337325 is a novel bioinformatically detectable regulatory, non protein
AACAAACATG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337325 was detected
GTGCACTTCT is described with additional reference to Figs. 9-15.

TTTTCGGTAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CA encoded by the human genome.

GAM337325 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337325 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337325 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337325 precursor RNA is designated SEQ ID:141781, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141781 is located from position 99490133 to position 99490214 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM337325 precursor RNA folds onto itself, forming GAM337325 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337325 precursor RNA, designated SEQ ID NO: 141781, and a schematic representation of a predicted secondary folding of GAM337325 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337325 folded precursor RNA yielding a GAM337325 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337325 RNA, hereby incorporated herein.

GAM337325 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337325 target RNA, herein designated GAM TARGET RNA.

GAM337325 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337325 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337325 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337325 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337325 RNA, herein designated GAM RNA, to target binding sites on GAM337325 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337325 target RNA into GAM337325 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337325 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337325 target genes. The mRNA of each one of this plurality of GAM337325 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337325 RNA, herein designated GAM RNA, and which when bound by GAM337325 RNA causes inhibition of translation of the GAM337325 target mRNA into a corresponding GAM337325 target protein.

The mechanism of the translational inhibition exerted by GAM337325 RNA, herein designated GAM RNA, on one or more GAM337325 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337325 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337325 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337325 RNA, herein designated GAM RNA, of GAM337325 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337325 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337325 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337325 RNA correlate with, and may be deduced from, the identity of the GAM337325 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337326 141782 TCATGGTTCC Fig. 8 further provides a conceptual description of another novel bioinformatically
TGGAAGGTAA detected oligonucleotides of the present invention, referred to here as Genomic Address
GATTGGTGGC Messenger 337326 (GAM337326) oligonucleotides modulates expression of respective target
CACCACATTC genes whose function and utility is known in the art.

AGTCTCCTTC GAM337326 is a novel bioinformatically detectable regulatory, non protein
ACAGCTAAGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337326 was detected
GTAGCCACAT is described with additional reference to Figs. 9-15.

AACTATGCTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGGCCACGGG encoded by the human genome.

GATATGAATG GAM337326 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CTACTACTAA GAM337326 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
TTTTTTCCCT GAM337326 precursor RNA does not encode a protein. A nucleotide sequence identical or

TGAAACAATG highly similar to the nucleotide sequence of GAM337326 precursor RNA is designated SEQ
G ID:141782, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141782 is located from position 99654607 to position 99654737 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337326 precursor RNA folds onto itself, forming GAM337326 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337326 precursor RNA, designated SEQ ID NO: 141782, and a schematic representation of a predicted secondary folding of GAM337326 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337326 folded precursor RNA yielding a GAM337326 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337326 RNA, hereby incorporated herein.

GAM337326 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337326 target RNA, herein designated GAM TARGET RNA.

GAM337326 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337326 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337326 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337326 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337326 RNA, herein designated GAM RNA, to target binding sites on GAM337326 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337326 target RNA into GAM337326 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337326 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337326 target genes. The mRNA of each one of this plurality of GAM337326 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337326 RNA, herein designated GAM RNA, and which when bound by GAM337326 RNA causes inhibition of translation of the GAM337326 target mRNA into a corresponding GAM337326 target protein.

The mechanism of the translational inhibition exerted by GAM337326 RNA, herein designated GAM RNA, on one or more GAM337326 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337326 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337326 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337326 RNA, herein designated GAM RNA, of GAM337326 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337326 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337326 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337326 RNA correlate with, and may be deduced from, the identity of the GAM337326 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337327 141783 GGTAAGATTG Fig. 8 further provides a conceptual description of another novel bioinformatically

GTGGCCACCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CATTCAGTCT Messenger 337327 (GAM337327) oligonucleotides modulates expression of respective target

CCTTCACAGC genes whose function and utility is known in the art.

TAAGTGTAGC GAM337327 is a novel bioinformatically detectable regulatory, non protein

CACATAACTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337327 was detected

TGCTTTGGCC is described with additional reference to Figs. 9-15.

ACGGGGATAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAATGCTACT encoded by the human genome.

ACTAATTTTT GAM337327 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TCC GAM337327 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337327 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337327 precursor RNA is designated SEQ ID:141783, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141783 is located from position 99654622 to position 99654724 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337327 precursor RNA folds onto itself, forming GAM337327 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337327 precursor RNA, designated SEQ ID NO: 141783, and a schematic representation of a predicted secondary folding of GAM337327 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337327 folded precursor RNA yielding a GAM337327 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337327 RNA, hereby incorporated herein.

GAM337327 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337327 target RNA, herein designated GAM TARGET RNA.

GAM337327 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337327 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337327 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337327 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337327 RNA, herein designated GAM RNA, to target binding sites on GAM337327 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337327 target RNA into GAM337327 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337327 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337327 target genes. The mRNA of each one of this plurality of GAM337327 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM337327 RNA, herein designated GAM RNA, and which when bound by GAM337327 RNA causes inhibition of translation of the GAM337327 target mRNA into a corresponding GAM337327 target protein.

The mechanism of the translational inhibition exerted by GAM337327 RNA, herein designated GAM RNA, on one or more GAM337327 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337327 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337327 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337327 RNA, herein designated GAM RNA, of GAM337327 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337327 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337327 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337327 RNA correlate with, and may be deduced from, the identity of the GAM337327 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337328 141784 AAGATTGGTG Fig. 8 further provides a conceptual description of another novel bioinformatically

GCCACCACAT detected oligonucleotides of the present invention, referred to here as Genomic Address

TCAGTCTCCT Messenger 337328 (GAM337328) oligonucleotides modulates expression of respective target

TCACAGCTAA genes whose function and utility is known in the art.

GTGTAGCCAC GAM337328 is a novel bioinformatically detectable regulatory, non protein

ATAACTATGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337328 was detected

TTTGGCCACG is described with additional reference to Figs. 9-15.

GGGATATGAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGCTACTACT encoded by the human genome.

AATTTT GAM337328 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337328 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337328 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337328 precursor RNA is designated SEQ ID:141784, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141784 is located from position 99654625 to position 99654720 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337328 precursor RNA folds onto itself, forming GAM337328 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337328 precursor RNA, designated SEQ ID NO: 141784, and a schematic representation of a predicted secondary folding of GAM337328 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337328 folded precursor RNA yielding a GAM337328 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337328 RNA, hereby incorporated herein.

GAM337328 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337328 target RNA, herein designated GAM TARGET RNA.

GAM337328 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337328 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337328 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337328 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337328 RNA, herein designated GAM RNA, to target

binding sites on GAM337328 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337328 target RNA into GAM337328 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337328 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337328 target genes. The mRNA of each one of this plurality of GAM337328 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337328 RNA, herein designated GAM RNA, and which when bound by GAM337328 RNA causes inhibition of translation of the GAM337328 target mRNA into a corresponding GAM337328 target protein.

The mechanism of the translational inhibition exerted by GAM337328 RNA, herein designated GAM RNA, on one or more GAM337328 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337328 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337328 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337328 RNA, herein designated GAM RNA, of GAM337328 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337328 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337328 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337328 RNA correlate with, and may be deduced from, the identity of the GAM337328 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337329 141785 AAGAAGAAAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AAAGCTGGCT detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGGACCTCA Messenger 337329 (GAM337329) oligonucleotides modulates expression of respective target

GGATCTCAAG genes whose function and utility is known in the art.

AACATCATGG GAM337329 is a novel bioinformatically detectable regulatory, non protein

AATTGAGTTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337329 was detected

CCTGGGTTTT is described with additional reference to Figs. 9-15.

CTTTTTGCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

T encoded by the human genome.

GAM337329 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337329 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337329 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337329 precursor RNA is designated SEQ ID:141785, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141785 is located from position 99733672 to position 99733752 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM337329 precursor RNA folds onto itself, forming GAM337329 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337329 precursor RNA, designated SEQ ID NO: 141785, and a schematic representation of a predicted secondary folding of GAM337329 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337329 folded precursor RNA yielding a GAM337329 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337329 RNA, hereby incorporated herein.

GAM337329 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337329 target RNA, herein designated GAM TARGET RNA.

GAM337329 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337329 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337329 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337329 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337329 RNA, herein designated GAM RNA, to target binding sites on GAM337329 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337329 target RNA into GAM337329 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337329 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337329 target genes. The mRNA of each one of this plurality of GAM337329 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337329 RNA, herein designated GAM RNA, and which when bound by GAM337329 RNA causes inhibition of translation of the GAM337329 target mRNA into a corresponding GAM337329 target protein.

The mechanism of the translational inhibition exerted by GAM337329 RNA, herein designated GAM RNA, on one or more GAM337329 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337329 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337329 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337329 RNA, herein designated GAM RNA, of GAM337329 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337329 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337329 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337329 RNA correlate with, and may be deduced from, the identity of the GAM337329 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337330 141786 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 337330 (GAM337330) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337330 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337330 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337330 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337330 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337330 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337330 precursor RNA is designated SEQ ID:141786, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141786 is located from position 100140600 to position 100140681 relative to chromosome chr6 on the `-` strand (chr is an abbreviation for chromosome).

GAM337330 precursor RNA folds onto itself, forming GAM337330 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337330 precursor RNA, designated SEQ ID NO: 141786, and a schematic representation of a predicted secondary folding of GAM337330 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337330 folded precursor RNA yielding a GAM337330 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337330 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337330 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337330 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337330 target RNA, herein designated GAM TARGET RNA.

GAM337330 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337330 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337330 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337330 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337330 RNA, herein designated GAM RNA, to target binding sites on GAM337330 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337330 target RNA into GAM337330 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337330 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337330 target genes. The mRNA of each one of this plurality of GAM337330 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337330 RNA, herein designated GAM RNA, and which when bound by GAM337330 RNA causes inhibition of translation of the GAM337330 target mRNA into a corresponding GAM337330 target protein.

The mechanism of the translational inhibition exerted by GAM337330 RNA, herein designated GAM RNA, on one or more GAM337330 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337330 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337330 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337330 RNA, herein designated GAM RNA, of GAM337330 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337330 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337330 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337330 RNA correlate with, and may be deduced from, the identity of the GAM337330 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337331 141787 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATCATTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCCAGGAG Messenger 337331 (GAM337331) oligonucleotides modulates expression of respective target
GTGGAAGTTG genes whose function and utility is known in the art.

CAGTGAGCTC GAM337331 is a novel bioinformatically detectable regulatory, non protein
AGATCGCACC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337331 was detected
ATTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAAGAATGA encoded by the human genome.

AACTCCATCT GAM337331 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CA GAM337331 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337331 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337331 precursor RNA is designated SEQ ID:141787, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141787 is located from position 100281287 to position 100281388 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337331 precursor RNA folds onto itself, forming GAM337331 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337331 precursor RNA, designated SEQ ID NO: 141787, and a schematic representation of a predicted secondary folding of GAM337331 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337331 folded precursor RNA yielding a GAM337331 RNA, herein designated GAM RNA, in the form of a single stranded

~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337331 RNA, hereby incorporated herein.

GAM337331 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337331 target RNA, herein designated GAM TARGET RNA.

GAM337331 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337331 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337331 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337331 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337331 RNA, herein designated GAM RNA, to target binding sites on GAM337331 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337331 target RNA into GAM337331 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337331 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337331 target genes. The mRNA of each one of this plurality of GAM337331 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337331 RNA, herein designated GAM RNA, and which when bound by GAM337331 RNA causes inhibition of translation of the GAM337331 target mRNA into a corresponding GAM337331 target protein.

The mechanism of the translational inhibition exerted by GAM337331 RNA, herein designated GAM RNA, on one or more GAM337331 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337331 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337331 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337331 RNA, herein designated GAM RNA, of GAM337331 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337331 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337331 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337331 RNA correlate with, and may be deduced from, the identity of the GAM337331 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337332 141788 CTTTGTGAAG Fig. 8 further provides a conceptual description of another novel bioinformatically

GTTAAGGTGT detected oligonucleotides of the present invention, referred to here as Genomic Address

CACTTAGCCT Messenger 337332 (GAM337332) oligonucleotides modulates expression of respective target

CTCCGAGTCA genes whose function and utility is known in the art.

CGGTAAAATG GAM337332 is a novel bioinformatically detectable regulatory, non protein

GAACAATGGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337332 was detected

ACCTGCCCTC is described with additional reference to Figs. 9-15.

ACAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337332 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337332 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337332 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337332 precursor RNA is designated SEQ ID:141788, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141788 is located from position 100300657 to position 100300732 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM337332 precursor RNA folds onto itself, forming GAM337332 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337332 precursor RNA, designated SEQ ID NO: 141788, and a schematic representation of a predicted secondary folding of GAM337332 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337332 folded precursor RNA yielding a GAM337332 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337332 RNA, hereby incorporated herein.

GAM337332 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337332 target RNA, herein designated GAM TARGET RNA.

GAM337332 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337332 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337332 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337332 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337332 RNA, herein designated GAM RNA, to target binding sites on GAM337332 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337332 target RNA into GAM337332 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337332 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337332 target genes. The mRNA of each one of this plurality of GAM337332 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337332 RNA, herein designated GAM RNA, and which when bound by GAM337332 RNA causes inhibition of translation of the GAM337332 target mRNA into a corresponding GAM337332 target protein.

The mechanism of the translational inhibition exerted by GAM337332 RNA, herein designated GAM RNA, on one or more GAM337332 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337332 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337332 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337332 RNA, herein designated GAM RNA, of GAM337332 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337332 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337332 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337332 RNA correlate with, and may be deduced from, the identity of the GAM337332 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337333 141789 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337333 (GAM337333) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337333 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337333 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM337333 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337333 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337333 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337333 precursor RNA is designated SEQ ID:141789, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141789 is located from position 100558408 to position 100558489 relative to chromosome chr1 on the `+` strand (chr is an abbreviation for chromosome).

GAM337333 precursor RNA folds onto itself, forming GAM337333 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337333 precursor RNA, designated SEQ ID NO: 141789, and a schematic representation of a predicted secondary folding of GAM337333 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337333 folded precursor RNA yielding a GAM337333 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337333 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337333 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337333 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337333 target RNA, herein designated GAM TARGET RNA.

GAM337333 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337333 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337333 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337333 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337333 RNA, herein designated GAM RNA, to target binding sites on GAM337333 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337333 target RNA into GAM337333 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337333 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337333 target genes. The mRNA of each one of this plurality of GAM337333 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337333 RNA, herein designated GAM RNA, and which when bound by GAM337333 RNA causes inhibition of translation of the GAM337333 target mRNA into a corresponding GAM337333 target protein.

The mechanism of the translational inhibition exerted by GAM337333 RNA, herein designated GAM RNA, on one or more GAM337333 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337333 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337333 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337333 RNA, herein designated GAM RNA, of GAM337333 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337333 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337333 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337333 RNA correlate with, and may be deduced from, the identity of the GAM337333 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337334 141790 GTGGACTTAG Fig. 8 further provides a conceptual description of another novel bioinformatically

GAGGTAGAGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GTGCTTTGGG Messenger 337334 (GAM337334) oligonucleotides modulates expression of respective target

TGTAGGCCAG genes whose function and utility is known in the art.

GTAAGTTTCT GAM337334 is a novel bioinformatically detectable regulatory, non protein

GGTCTGCCTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337334 was detected

CATTAGGCAC is described with additional reference to Figs. 9-15.

TTGGTAGCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTAGCTAT encoded by the human genome.

GAM337334 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337334 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337334 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337334 precursor RNA is designated SEQ ID:141790, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141790 is located from position 100644251 to position 100644338 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM337334 precursor RNA folds onto itself, forming GAM337334 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337334 precursor RNA, designated SEQ ID NO: 141790, and a schematic representation of a predicted secondary folding of GAM337334 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337334 folded precursor RNA yielding a GAM337334 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337334 RNA, hereby incorporated herein.

GAM337334 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337334 target RNA, herein designated GAM TARGET RNA.

GAM337334 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337334 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337334 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337334 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337334 RNA, herein designated GAM RNA, to target binding sites on GAM337334 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337334 target RNA into GAM337334 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337334 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337334 target genes. The mRNA of each one of this plurality of GAM337334 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337334 RNA, herein designated GAM RNA, and which when bound by GAM337334 RNA causes inhibition of translation of the GAM337334 target mRNA into a corresponding GAM337334 target protein.

The mechanism of the translational inhibition exerted by GAM337334 RNA, herein designated GAM RNA, on one or more GAM337334 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337334 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337334 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337334 RNA, herein designated GAM RNA, of GAM337334 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337334 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337334 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337334 RNA correlate with, and may be deduced from, the identity of the GAM337334 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337335 141791 GTTCATTGGC Fig. 8 further provides a conceptual description of another novel bioinformatically

ACCATATCTG detected oligonucleotides of the present invention, referred to here as Genomic Address

TCAGTGGAAA Messenger 337335 (GAM337335) oligonucleotides modulates expression of respective target

CATATCTCTT genes whose function and utility is known in the art.

GTTTCTCCTG GAM337335 is a novel bioinformatically detectable regulatory, non protein AGGAGAATGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337335 was detected ATGTCTTCAT is described with additional reference to Figs. 9-15.

GAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337335 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337335 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337335 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337335 precursor RNA is designated SEQ ID:141791, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141791 is located from position 100902207 to position 100902280 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM337335 precursor RNA folds onto itself, forming GAM337335 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337335 precursor RNA, designated SEQ ID NO: 141791, and a schematic representation of a predicted secondary folding of GAM337335 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337335 folded precursor RNA yielding a GAM337335 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337335 RNA, hereby incorporated herein.

GAM337335 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337335 target RNA, herein designated GAM TARGET RNA.

GAM337335 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337335 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337335 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the

nucleotide sequence of GAM337335 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337335 RNA, herein designated GAM RNA, to target binding sites on GAM337335 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337335 target RNA into GAM337335 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337335 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337335 target genes. The mRNA of each one of this plurality of GAM337335 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337335 RNA, herein designated GAM RNA, and which when bound by GAM337335 RNA causes inhibition of translation of the GAM337335 target mRNA into a corresponding GAM337335 target protein.

The mechanism of the translational inhibition exerted by GAM337335 RNA, herein designated GAM RNA, on one or more GAM337335 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337335 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337335 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337335 RNA, herein designated GAM RNA, of GAM337335 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337335 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337335 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337335 RNA correlate with, and may be deduced from, the identity of the GAM337335 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337336 141792 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 337336 (GAM337336) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337336 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337336 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337336 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337336 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337336 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337336 precursor RNA is designated SEQ ID:141792, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141792 is located from position 100912899 to position 100912980 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337336 precursor RNA folds onto itself, forming GAM337336 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337336 precursor RNA, designated SEQ ID NO: 141792, and a schematic representation of a predicted secondary folding of GAM337336 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337336 folded precursor RNA yielding a GAM337336 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337336 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337336 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337336 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337336 target RNA, herein designated GAM TARGET RNA.

GAM337336 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337336 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337336 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337336 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337336 RNA, herein designated GAM RNA, to target binding sites on GAM337336 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337336 target RNA into GAM337336 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337336 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337336 target genes. The mRNA of each one of this plurality of GAM337336 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337336 RNA, herein designated GAM RNA, and which when bound by GAM337336 RNA causes inhibition of translation of the GAM337336 target mRNA into a corresponding GAM337336 target protein.

The mechanism of the translational inhibition exerted by GAM337336 RNA, herein designated GAM RNA, on one or more GAM337336 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337336 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337336 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337336 RNA, herein designated GAM RNA, of GAM337336 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM337336 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337336 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337336 RNA correlate with, and may be deduced from, the identity of the GAM337336 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337337 141793 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
GATCGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCCGGGAGG Messenger 337337 (GAM337337) oligonucleotides modulates expression of respective target
CAGAGGTTGC genes whose function and utility is known in the art.

AGTGAGCCAA GAM337337 is a novel bioinformatically detectable regulatory, non protein
GATTGCGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337337 was detected
CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGAGTGAGA encoded by the human genome.

CTCTGTCTC GAM337337 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337337 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337337 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337337 precursor RNA is designated SEQ ID:141793, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141793 is located from position 100953716 to position 100953814 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337337 precursor RNA folds onto itself, forming GAM337337 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337337 precursor RNA, designated SEQ ID NO: 141793, and a schematic representation of a predicted secondary folding of GAM337337 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337337 folded precursor RNA yielding a GAM337337 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337337 RNA, hereby incorporated herein. Expression of GAM337337 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337337 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337337 target RNA, herein designated GAM TARGET RNA.

GAM337337 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337337 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337337 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337337 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337337 RNA, herein designated GAM RNA, to target binding sites on GAM337337 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337337 target RNA into GAM337337 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337337 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337337 target genes. The mRNA of each one of this plurality of GAM337337 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337337 RNA, herein designated GAM RNA, and which when bound by GAM337337 RNA causes inhibition of translation of the GAM337337 target mRNA into a corresponding GAM337337 target protein.

The mechanism of the translational inhibition exerted by GAM337337 RNA, herein designated GAM RNA, on one or more GAM337337 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337337 precursor RNA, herein designated GAM PRECURSOR

RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337337 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337337 RNA, herein designated GAM RNA, of GAM337337 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337337 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337337 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337337 RNA correlate with, and may be deduced from, the identity of the GAM337337 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337338 141794 AGTACAATGA Fig. 8 further provides a conceptual description of another novel bioinformatically

TTCAGTGGCC detected oligonucleotides of the present invention, referred to here as Genomic Address

AGAACAGGAG Messenger 337338 (GAM337338) oligonucleotides modulates expression of respective target

CAGTTATTAG genes whose function and utility is known in the art.

CACTAGCACG GAM337338 is a novel bioinformatically detectable regulatory, non protein

CATGGCTAAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337338 was detected

ACCACTGCTT is described with additional reference to Figs. 9-15.

CTCCTCTGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCTTGTAGTG encoded by the human genome.

GTATT GAM337338 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337338 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337338 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337338 precursor RNA is designated SEQ ID:141794, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141794 is located from position 101025636 to position 101025730 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337338 precursor RNA folds onto itself, forming GAM337338 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337338 precursor RNA, designated SEQ ID NO: 141794, and a schematic representation of a predicted secondary folding of GAM337338 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337338 folded precursor RNA yielding a GAM337338 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337338 RNA, hereby incorporated herein.

GAM337338 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337338 target RNA, herein designated GAM TARGET RNA.

GAM337338 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337338 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337338 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337338 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337338 RNA, herein designated GAM RNA, to target binding sites on GAM337338 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337338 target RNA into GAM337338 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337338 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337338 target genes. The mRNA of each one of this plurality of GAM337338 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337338 RNA, herein designated GAM RNA, and which when bound by GAM337338 RNA causes inhibition of

translation of the GAM337338 target mRNA into a corresponding GAM337338 target protein.

The mechanism of the translational inhibition exerted by GAM337338 RNA, herein designated GAM RNA, on one or more GAM337338 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337338 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337338 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337338 RNA, herein designated GAM RNA, of GAM337338 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337338 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337338 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337338 RNA correlate with, and may be deduced from, the identity of the GAM337338 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337339 141795 ATGATTCAGT Fig. 8 further provides a conceptual description of another novel bioinformatically

GGCCAGAACA detected oligonucleotides of the present invention, referred to here as Genomic Address

GGAGCAGTTA Messenger 337339 (GAM337339) oligonucleotides modulates expression of respective target

TTAGCACTAG genes whose function and utility is known in the art.

CACGCATGGC GAM337339 is a novel bioinformatically detectable regulatory, non protein

TAATACCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337339 was detected

GCTTCTCCTC is described with additional reference to Figs. 9-15.

TGGCTCTTGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGTGGT encoded by the human genome.

GAM337339 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337339 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337339 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM337339 precursor RNA is designated SEQ ID:141795, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141795 is located from position 101025642 to position 101025727 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337339 precursor RNA folds onto itself, forming GAM337339 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337339 precursor RNA, designated SEQ ID NO: 141795, and a schematic representation of a predicted secondary folding of GAM337339 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337339 folded precursor RNA yielding a GAM337339 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337339 RNA, hereby incorporated herein.

GAM337339 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337339 target RNA, herein designated GAM TARGET RNA.

GAM337339 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337339 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337339 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337339 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337339 RNA, herein designated GAM RNA, to target binding sites on GAM337339 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337339 target RNA

into GAM337339 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337339 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337339 target genes. The mRNA of each one of this plurality of GAM337339 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337339 RNA, herein designated GAM RNA, and which when bound by GAM337339 RNA causes inhibition of translation of the GAM337339 target mRNA into a corresponding GAM337339 target protein.

The mechanism of the translational inhibition exerted by GAM337339 RNA, herein designated GAM RNA, on one or more GAM337339 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337339 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337339 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337339 RNA, herein designated GAM RNA, of GAM337339 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337339 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337339 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337339 RNA correlate with, and may be deduced from, the identity of the GAM337339 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337340 141796 CAGTGGCCAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AACAGGAGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

GTTATTAGCA Messenger 337340 (GAM337340) oligonucleotides modulates expression of respective target

CTAGCACGCA genes whose function and utility is known in the art.

TGGCTAATAC GAM337340 is a novel bioinformatically detectable regulatory, non protein

CACTGCTTCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337340 was detected

CCTCTGGCTC is described with additional reference to Figs. 9-15.

TTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337340 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337340 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337340 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337340 precursor RNA is designated SEQ ID:141796, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141796 is located from position 101025648 to position 101025720 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337340 precursor RNA folds onto itself, forming GAM337340 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337340 precursor RNA, designated SEQ ID NO: 141796, and a schematic representation of a predicted secondary folding of GAM337340 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337340 folded precursor RNA yielding a GAM337340 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337340 RNA, hereby incorporated herein.

GAM337340 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337340 target RNA, herein designated GAM TARGET RNA.

GAM337340 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337340 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337340 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337340 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337340 RNA, herein designated GAM RNA, to target binding sites on GAM337340 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337340 target RNA into GAM337340 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337340 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337340 target genes. The mRNA of each one of this plurality of GAM337340 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337340 RNA, herein designated GAM RNA, and which when bound by GAM337340 RNA causes inhibition of translation of the GAM337340 target mRNA into a corresponding GAM337340 target protein.

The mechanism of the translational inhibition exerted by GAM337340 RNA, herein designated GAM RNA, on one or more GAM337340 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337340 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337340 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337340 RNA, herein designated GAM RNA, of GAM337340 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337340 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337340 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337340 RNA correlate with, and may be deduced from, the identity of the GAM337340 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337341 141797 GTGACTCCTG Fig. 8 further provides a conceptual description of another novel bioinformatically

ATATGAAATC detected oligonucleotides of the present invention, referred to here as Genomic Address

CATTGCCAAG Messenger 337341 (GAM337341) oligonucleotides modulates expression of respective target

GCTGACCTTA genes whose function and utility is known in the art.

TCGTCACTAC GAM337341 is a novel bioinformatically detectable regulatory, non protein
GCCAGAGAAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337341 was detected
TGGGATGGAG is described with additional reference to Figs. 9-15.

TCAGCAGAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTGGCAAAAT encoded by the human genome.

AGGAACTATG GAM337341 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TTCAGCAAGT GAM337341 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
CAC GAM337341 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337341 precursor RNA is designated SEQ ID:141797, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141797 is located from position 101077081 to position 101077193 relative to chromosome chr6 on the `-` strand (chr is an abbreviation for chromosome).

GAM337341 precursor RNA folds onto itself, forming GAM337341 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337341 precursor RNA, designated SEQ ID NO: 141797, and a schematic representation of a predicted secondary folding of GAM337341 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337341 folded precursor RNA yielding a GAM337341 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337341 RNA, hereby incorporated herein. Expression of GAM337341 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337341 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337341 target RNA, herein designated GAM TARGET RNA.

GAM337341 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337341 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337341 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337341 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337341 RNA, herein designated GAM RNA, to target binding sites on GAM337341 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337341 target RNA into GAM337341 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337341 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337341 target genes. The mRNA of each one of this plurality of GAM337341 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337341 RNA, herein designated GAM RNA, and which when bound by GAM337341 RNA causes inhibition of translation of the GAM337341 target mRNA into a corresponding GAM337341 target protein.

The mechanism of the translational inhibition exerted by GAM337341 RNA, herein designated GAM RNA, on one or more GAM337341 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337341 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337341 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337341 RNA, herein designated GAM RNA, of GAM337341 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337341 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337341 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337341 RNA correlate with, and may be deduced from, the identity of the GAM337341 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337342 141798 TCATTTGCTA Fig. 8 further provides a conceptual description of another novel bioinformatically
TTAGACATCT detected oligonucleotides of the present invention, referred to here as Genomic Address
TGTGGCTTGA Messenger 337342 (GAM337342) oligonucleotides modulates expression of respective target
CATCCTCGAA genes whose function and utility is known in the art.

GGCTCAGCCA GAM337342 is a novel bioinformatically detectable regulatory, non protein
CCCCTGGGTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337342 was detected
TGTTTGGTTA is described with additional reference to Figs. 9-15.

ATACAGCAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGA encoded by the human genome.

GAM337342 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337342 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337342 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337342 precursor RNA is designated SEQ ID:141798, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141798 is located from position 101086880 to position 101086962 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337342 precursor RNA folds onto itself, forming GAM337342 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337342 precursor RNA, designated SEQ ID NO: 141798, and a schematic representation of a predicted secondary folding of GAM337342 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337342 folded precursor RNA yielding a GAM337342 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337342 RNA, hereby incorporated herein.

GAM337342 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337342 target RNA, herein designated GAM TARGET RNA.

GAM337342 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337342 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337342 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337342 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337342 RNA, herein designated GAM RNA, to target binding sites on GAM337342 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337342 target RNA into GAM337342 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337342 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337342 target genes. The mRNA of each one of this plurality of GAM337342 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337342 RNA, herein designated GAM RNA, and which when bound by GAM337342 RNA causes inhibition of translation of the GAM337342 target mRNA into a corresponding GAM337342 target protein.

The mechanism of the translational inhibition exerted by GAM337342 RNA, herein designated GAM RNA, on one or more GAM337342 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337342 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337342 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337342 RNA, herein designated GAM RNA, of GAM337342 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337342 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337342 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337342 RNA correlate with, and may be deduced from, the identity of the GAM337342 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337343 141799 AAAGGGGGGT Fig. 8 further provides a conceptual description of another novel bioinformatically
GTAGTTATAA detected oligonucleotides of the present invention, referred to here as Genomic Address
CCAGGGTCAT Messenger 337343 (GAM337343) oligonucleotides modulates expression of respective target
CTTTGATCTC genes whose function and utility is known in the art.

ATTTGGAAAA GAM337343 is a novel bioinformatically detectable regulatory, non protein
CTTCATTTCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337343 was detected
AGATGGAGTT is described with additional reference to Figs. 9-15.

GCAGGTGGTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTTGGGGACT encoded by the human genome.

GATTCTGCAA GAM337343 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GCCCCTTT GAM337343 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337343 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337343 precursor RNA is designated SEQ ID:141799, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141799 is located from position 101399275 to position 101399382 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337343 precursor RNA folds onto itself, forming GAM337343 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337343 precursor RNA, designated SEQ ID NO: 141799, and a schematic representation of a predicted secondary folding of GAM337343 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337343 folded precursor RNA yielding a GAM337343 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337343 RNA, hereby incorporated herein.

GAM337343 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337343 target RNA, herein designated GAM TARGET RNA.

GAM337343 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337343 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337343 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337343 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337343 RNA, herein designated GAM RNA, to target binding sites on GAM337343 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337343 target RNA into GAM337343 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337343 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337343 target genes. The mRNA of each one of this plurality of GAM337343 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337343 RNA, herein designated GAM RNA, and which when bound by GAM337343 RNA causes inhibition of translation of the GAM337343 target mRNA into a corresponding GAM337343 target protein.

The mechanism of the translational inhibition exerted by GAM337343 RNA, herein designated GAM RNA, on one or more GAM337343 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337343 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337343 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337343 RNA, herein designated GAM RNA, of GAM337343 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337343 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337343 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337343 RNA correlate with, and may be deduced from, the identity of the GAM337343 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337344 141800 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 337344 (GAM337344) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337344 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337344 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337344 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337344 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337344 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337344 precursor RNA is designated SEQ ID:141800, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141800 is located from position 101536725 to position 101536806 relative to chromosome chr13 on the `-` strand (chr is an abbreviation for chromosome).

GAM337344 precursor RNA folds onto itself, forming GAM337344 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337344 precursor RNA, designated SEQ ID NO: 141800, and a schematic representation of a predicted secondary folding of GAM337344 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337344 folded precursor RNA yielding a GAM337344 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337344 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337344 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337344 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337344 target RNA, herein designated GAM TARGET RNA.

GAM337344 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337344 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337344 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337344 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337344 RNA, herein designated GAM RNA, to target binding sites on GAM337344 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337344 target RNA into GAM337344 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337344 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337344 target genes. The mRNA of each one of this plurality of GAM337344 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM337344 RNA, herein designated GAM RNA, and which when bound by GAM337344 RNA causes inhibition of translation of the GAM337344 target mRNA into a corresponding GAM337344 target protein.

The mechanism of the translational inhibition exerted by GAM337344 RNA, herein designated GAM RNA, on one or more GAM337344 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337344 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337344 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337344 RNA, herein designated GAM RNA, of GAM337344 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337344 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337344 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337344 RNA correlate with, and may be deduced from, the identity of the GAM337344 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337345 141801 GAGGCTGAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

AAAGAAGATT detected oligonucleotides of the present invention, referred to here as Genomic Address

GCTTGAGCCC Messenger 337345 (GAM337345) oligonucleotides modulates expression of respective target

AGGAATTAGA genes whose function and utility is known in the art.

GGCTGCAATG GAM337345 is a novel bioinformatically detectable regulatory, non protein

AGCTATGATC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337345 was detected

ATGCCACTGC is described with additional reference to Figs. 9-15.

ACTCCATCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGGGAGCAGA encoded by the human genome.

GCTAGACTCT GAM337345 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GTCTC GAM337345 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337345 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337345 precursor RNA is designated SEQ ID:141801, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141801 is located from position 101538287 to position 101538391 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337345 precursor RNA folds onto itself, forming GAM337345 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337345 precursor RNA, designated SEQ ID NO: 141801, and a schematic representation of a predicted secondary folding of GAM337345 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337345 folded precursor RNA yielding a GAM337345 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337345 RNA, hereby incorporated herein.

GAM337345 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337345 target RNA, herein designated GAM TARGET RNA.

GAM337345 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337345 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337345 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337345 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337345 RNA, herein designated GAM RNA, to target

binding sites on GAM337345 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337345 target RNA into GAM337345 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337345 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337345 target genes. The mRNA of each one of this plurality of GAM337345 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337345 RNA, herein designated GAM RNA, and which when bound by GAM337345 RNA causes inhibition of translation of the GAM337345 target mRNA into a corresponding GAM337345 target protein.

The mechanism of the translational inhibition exerted by GAM337345 RNA, herein designated GAM RNA, on one or more GAM337345 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337345 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337345 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337345 RNA, herein designated GAM RNA, of GAM337345 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337345 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337345 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337345 RNA correlate with, and may be deduced from, the identity of the GAM337345 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337346 141802 GAGGCGAAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

ATTGCTTGAA detected oligonucleotides of the present invention, referred to here as Genomic Address

CCCAGGAGGT Messenger 337346 (GAM337346) oligonucleotides modulates expression of respective target

GGAGGTTGCA genes whose function and utility is known in the art.

GTGAGCCAAG GAM337346 is a novel bioinformatically detectable regulatory, non protein

ATCATGCCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337346 was detected

TGCACTCCAG is described with additional reference to Figs. 9-15.

CCTGGGCAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGAGCAAGAC encoded by the human genome.

TCTGTCTC GAM337346 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337346 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337346 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337346 precursor RNA is designated SEQ ID:141802, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141802 is located from position 101601185 to position 101601282 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337346 precursor RNA folds onto itself, forming GAM337346 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337346 precursor RNA, designated SEQ ID NO: 141802, and a schematic representation of a predicted secondary folding of GAM337346 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337346 folded precursor RNA yielding a GAM337346 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337346 RNA, hereby incorporated herein. Expression of GAM337346 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337346 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337346 target RNA, herein designated GAM TARGET RNA.

GAM337346 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337346 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337346 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the

nucleotide sequence of GAM337346 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337346 RNA, herein designated GAM RNA, to target binding sites on GAM337346 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337346 target RNA into GAM337346 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337346 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337346 target genes. The mRNA of each one of this plurality of GAM337346 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337346 RNA, herein designated GAM RNA, and which when bound by GAM337346 RNA causes inhibition of translation of the GAM337346 target mRNA into a corresponding GAM337346 target protein.

The mechanism of the translational inhibition exerted by GAM337346 RNA, herein designated GAM RNA, on one or more GAM337346 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337346 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337346 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337346 RNA, herein designated GAM RNA, of GAM337346 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337346 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337346 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337346 RNA correlate with, and may be deduced from, the identity of the GAM337346 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337347 141803 TAGGGTAGTG Fig. 8 further provides a conceptual description of another novel bioinformatically
CAAAAGTAAT detected oligonucleotides of the present invention, referred to here as Genomic Address
TGAGGGTTTT Messenger 337347 (GAM337347) oligonucleotides modulates expression of respective target
GCCATTTAAA genes whose function and utility is known in the art.

GTAATGGCAA GAM337347 is a novel bioinformatically detectable regulatory, non protein
GAGCTGCGAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337347 was detected
TACTTTTGCA is described with additional reference to Figs. 9-15.

CCAACCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337347 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337347 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337347 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337347 precursor RNA is designated SEQ ID:141803, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141803 is located from position 101602637 to position 101602714 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM337347 precursor RNA folds onto itself, forming GAM337347 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337347 precursor RNA, designated SEQ ID NO: 141803, and a schematic representation of a predicted secondary folding of GAM337347 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337347 folded precursor RNA yielding a GAM337347 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337347 RNA, hereby incorporated herein.

GAM337347 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337347 target RNA, herein designated GAM TARGET RNA.

GAM337347 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337347 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337347 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337347 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337347 RNA, herein designated GAM RNA, to target binding sites on GAM337347 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337347 target RNA into GAM337347 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337347 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337347 target genes. The mRNA of each one of this plurality of GAM337347 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337347 RNA, herein designated GAM RNA, and which when bound by GAM337347 RNA causes inhibition of translation of the GAM337347 target mRNA into a corresponding GAM337347 target protein.

The mechanism of the translational inhibition exerted by GAM337347 RNA, herein designated GAM RNA, on one or more GAM337347 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337347 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337347 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337347 RNA, herein designated GAM RNA, of GAM337347 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337347 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337347 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337347 RNA correlate with, and may be deduced from, the identity of the GAM337347 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337348 141804 AGTGCTTACC Fig. 8 further provides a conceptual description of another novel bioinformatically
TGTATTTTTT detected oligonucleotides of the present invention, referred to here as Genomic Address
CTCAATAATC Messenger 337348 (GAM337348) oligonucleotides modulates expression of respective target
TTAGAGGTCT genes whose function and utility is known in the art.

CTGCCTTACA GAM337348 is a novel bioinformatically detectable regulatory, non protein
GGTGAGATAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337348 was detected
CTGAATCATT is described with additional reference to Figs. 9-15.

GAGATTAAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGTTCACACG encoded by the human genome.

GTGTATAGTG GAM337348 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CT GAM337348 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337348 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337348 precursor RNA is designated SEQ ID:141804, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141804 is located from position 101608011 to position 101608112 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM337348 precursor RNA folds onto itself, forming GAM337348 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337348 precursor RNA, designated SEQ ID NO: 141804, and a schematic representation of a predicted secondary folding of GAM337348 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337348 folded precursor RNA yielding a GAM337348 RNA, herein designated GAM RNA, in the form of a single stranded

~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337348 RNA, hereby incorporated herein.

GAM337348 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337348 target RNA, herein designated GAM TARGET RNA.

GAM337348 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337348 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337348 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337348 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337348 RNA, herein designated GAM RNA, to target binding sites on GAM337348 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337348 target RNA into GAM337348 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337348 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337348 target genes. The mRNA of each one of this plurality of GAM337348 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337348 RNA, herein designated GAM RNA, and which when bound by GAM337348 RNA causes inhibition of translation of the GAM337348 target mRNA into a corresponding GAM337348 target protein.

The mechanism of the translational inhibition exerted by GAM337348 RNA, herein designated GAM RNA, on one or more GAM337348 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337348 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337348 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337348 RNA, herein designated GAM RNA, of GAM337348 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337348 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337348 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337348 RNA correlate with, and may be deduced from, the identity of the GAM337348 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337349 141805 GTCAGCCAGC Fig. 8 further provides a conceptual description of another novel bioinformatically

CCACATTTTA detected oligonucleotides of the present invention, referred to here as Genomic Address

TGACAATTGG Messenger 337349 (GAM337349) oligonucleotides modulates expression of respective target

AAGAGTAGAT genes whose function and utility is known in the art.

GTTACGGACG GAM337349 is a novel bioinformatically detectable regulatory, non protein

CCAGGTTAAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337349 was detected

TCCATCTACA is described with additional reference to Figs. 9-15.

CTTCGAGTTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCTTTTACAG encoded by the human genome.

GCTACTGCTG GAM337349 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

AC GAM337349 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337349 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337349 precursor RNA is designated SEQ ID:141805, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141805 is located from position 101618765 to position 101618866 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337349 precursor RNA folds onto itself, forming GAM337349 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337349 precursor RNA, designated SEQ ID NO: 141805, and a schematic representation of a predicted secondary folding of GAM337349 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337349 folded precursor RNA yielding a GAM337349 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337349 RNA, hereby incorporated herein.

GAM337349 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337349 target RNA, herein designated GAM TARGET RNA.

GAM337349 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337349 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337349 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337349 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337349 RNA, herein designated GAM RNA, to target binding sites on GAM337349 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337349 target RNA into GAM337349 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337349 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337349 target genes. The mRNA of each one of this plurality of GAM337349 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337349 RNA, herein designated GAM RNA, and which when bound by GAM337349 RNA causes inhibition of translation of the GAM337349 target mRNA into a corresponding GAM337349 target protein.

The mechanism of the translational inhibition exerted by GAM337349 RNA, herein designated GAM RNA, on one or more GAM337349 target genes, herein collectively designated

GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337349 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337349 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337349 RNA, herein designated GAM RNA, of GAM337349 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337349 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337349 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337349 RNA correlate with, and may be deduced from, the identity of the GAM337349 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337350 141806 GGGAGGCTGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GGGGGAGGAT detected oligonucleotides of the present invention, referred to here as Genomic Address
CACTTGAGCC Messenger 337350 (GAM337350) oligonucleotides modulates expression of respective target
CAGGAGTTCA genes whose function and utility is known in the art.

AGGCTGCAGT GAM337350 is a novel bioinformatically detectable regulatory, non protein
GAGCCATGAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337350 was detected
TGCGCCACTG is described with additional reference to Figs. 9-15.

CACTCCAGCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGGGCAACAG encoded by the human genome.

AGCAAGACCC GAM337350 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TGCCCCGCCG GAM337350 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
CCT GAM337350 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337350 precursor RNA is designated SEQ ID:141806, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141806 is located from position 101642187 to position 101642299

relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337350 precursor RNA folds onto itself, forming GAM337350 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337350 precursor RNA, designated SEQ ID NO: 141806, and a schematic representation of a predicted secondary folding of GAM337350 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337350 folded precursor RNA yielding a GAM337350 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337350 RNA, hereby incorporated herein. Expression of GAM337350 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337350 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337350 target RNA, herein designated GAM TARGET RNA.

GAM337350 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337350 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337350 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337350 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337350 RNA, herein designated GAM RNA, to target binding sites on GAM337350 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337350 target RNA into GAM337350 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM337350 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337350 target genes. The mRNA of each one of this plurality of GAM337350 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337350 RNA, herein designated GAM RNA, and which when bound by GAM337350 RNA causes inhibition of translation of the GAM337350 target mRNA into a corresponding GAM337350 target protein.

The mechanism of the translational inhibition exerted by GAM337350 RNA, herein designated GAM RNA, on one or more GAM337350 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337350 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337350 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337350 RNA, herein designated GAM RNA, of GAM337350 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337350 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337350 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337350 RNA correlate with, and may be deduced from, the identity of the GAM337350 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337351 141807 GGCTGAGGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

GAGGATCACT detected oligonucleotides of the present invention, referred to here as Genomic Address

TGAGCCCAGG Messenger 337351 (GAM337351) oligonucleotides modulates expression of respective target

AGTTCAAGGC genes whose function and utility is known in the art.

TGCAGTGAGC GAM337351 is a novel bioinformatically detectable regulatory, non protein

CATGATTGCG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337351 was detected

CCACTGCACT is described with additional reference to Figs. 9-15.

CCAGCCTGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAACAGAGCA encoded by the human genome.

AGACCCTGCC GAM337351 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CCGCCGCC GAM337351 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337351 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337351 precursor RNA is designated SEQ ID:141807, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141807 is located from position 101642191 to position 101642298 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337351 precursor RNA folds onto itself, forming GAM337351 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337351 precursor RNA, designated SEQ ID NO: 141807, and a schematic representation of a predicted secondary folding of GAM337351 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337351 folded precursor RNA yielding a GAM337351 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337351 RNA, hereby incorporated herein. Expression of GAM337351 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337351 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337351 target RNA, herein designated GAM TARGET RNA.

GAM337351 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337351 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337351 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337351 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337351 RNA, herein designated GAM RNA, to target binding sites on GAM337351 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337351 target RNA into GAM337351 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337351 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337351 target genes. The mRNA of each one of this plurality of GAM337351 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337351 RNA, herein designated GAM RNA, and which when bound by GAM337351 RNA causes inhibition of translation of the GAM337351 target mRNA into a corresponding GAM337351 target protein.

The mechanism of the translational inhibition exerted by GAM337351 RNA, herein designated GAM RNA, on one or more GAM337351 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337351 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337351 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337351 RNA, herein designated GAM RNA, of GAM337351 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337351 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337351 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337351 RNA correlate with, and may be deduced from, the identity of the GAM337351 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337352 141808 GGGGGAGGAT Fig. 8 further provides a conceptual description of another novel bioinformatically

CACTTGAGCC detected oligonucleotides of the present invention, referred to here as Genomic Address

CAGGAGTTCA Messenger 337352 (GAM337352) oligonucleotides modulates expression of respective target
AGGCTGCAGT genes whose function and utility is known in the art.

GAGCCATGAT GAM337352 is a novel bioinformatically detectable regulatory, non protein
TGCGCCACTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337352 was detected
CACTCCAGCC is described with additional reference to Figs. 9-15.

TGGGCAACAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGCAAGACCC encoded by the human genome.

TGCCCC GAM337352 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337352 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337352 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337352 precursor RNA is designated SEQ ID:141808, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141808 is located from position 101642197 to position 101642292 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337352 precursor RNA folds onto itself, forming GAM337352 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337352 precursor RNA, designated SEQ ID NO: 141808, and a schematic representation of a predicted secondary folding of GAM337352 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337352 folded precursor RNA yielding a GAM337352 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337352 RNA, hereby incorporated herein. Expression of GAM337352 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337352 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337352 target RNA, herein designated GAM TARGET RNA.

GAM337352 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337352 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337352 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337352 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337352 RNA, herein designated GAM RNA, to target binding sites on GAM337352 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337352 target RNA into GAM337352 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337352 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337352 target genes. The mRNA of each one of this plurality of GAM337352 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337352 RNA, herein designated GAM RNA, and which when bound by GAM337352 RNA causes inhibition of translation of the GAM337352 target mRNA into a corresponding GAM337352 target protein.

The mechanism of the translational inhibition exerted by GAM337352 RNA, herein designated GAM RNA, on one or more GAM337352 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337352 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337352 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337352 RNA, herein designated GAM RNA, of GAM337352 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337352 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337352 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337352 RNA correlate with, and may be deduced from, the identity of the GAM337352 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337353 141809 GCCCTTCAGT CTCAGTAGCC ACATTTCAAG TGCTCAATAG TTACATGTGC CCAGTGGCTG CTGGACTGGG TGGT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337353 (GAM337353) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337353 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337353 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337353 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337353 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337353 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337353 precursor RNA is designated SEQ ID:141809, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141809 is located from position 101658818 to position 101658891 relative to chromosome chr13 on the `-` strand (chr is an abbreviation for chromosome).

GAM337353 precursor RNA folds onto itself, forming GAM337353 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337353 precursor RNA, designated SEQ ID NO: 141809, and a schematic representation of a predicted secondary folding of GAM337353 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337353 folded precursor RNA yielding a GAM337353 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337353 RNA, hereby incorporated herein.

GAM337353 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337353 target RNA, herein designated GAM TARGET RNA.

GAM337353 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337353 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337353 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337353 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337353 RNA, herein designated GAM RNA, to target binding sites on GAM337353 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337353 target RNA into GAM337353 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337353 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337353 target genes. The mRNA of each one of this plurality of GAM337353 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337353 RNA, herein designated GAM RNA, and which when bound by GAM337353 RNA causes inhibition of translation of the GAM337353 target mRNA into a corresponding GAM337353 target protein.

The mechanism of the translational inhibition exerted by GAM337353 RNA, herein designated GAM RNA, on one or more GAM337353 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337353 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337353 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337353 RNA, herein designated GAM RNA, of

GAM337353 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337353 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337353 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337353 RNA correlate with, and may be deduced from, the identity of the GAM337353 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337354 141810 CCCTTCAGTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TCAGTAGCCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CATTTCAAGT Messenger 337354 (GAM337354) oligonucleotides modulates expression of respective target

GCTCAATAGT genes whose function and utility is known in the art.

TACATGTGCC GAM337354 is a novel bioinformatically detectable regulatory, non protein

CAGTGGCTGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337354 was detected

TGGACTGGGT is described with additional reference to Figs. 9-15.

GG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337354 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337354 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337354 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337354 precursor RNA is designated SEQ ID:141810, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141810 is located from position 101658819 to position 101658890 relative to chromosome chr13 on the `-` strand (chr is an abbreviation for chromosome).

GAM337354 precursor RNA folds onto itself, forming GAM337354 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337354 precursor RNA, designated SEQ ID NO: 141810,

and a schematic representation of a predicted secondary folding of GAM337354 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337354 folded precursor RNA yielding a GAM337354 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337354 RNA, hereby incorporated herein.

GAM337354 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337354 target RNA, herein designated GAM TARGET RNA.

GAM337354 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337354 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337354 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337354 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337354 RNA, herein designated GAM RNA, to target binding sites on GAM337354 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337354 target RNA into GAM337354 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337354 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337354 target genes. The mRNA of each one of this plurality of GAM337354 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337354 RNA, herein designated GAM RNA, and which when bound by GAM337354 RNA causes inhibition of translation of the GAM337354 target mRNA into a corresponding GAM337354 target protein.

The mechanism of the translational inhibition exerted by GAM337354 RNA, herein designated GAM RNA, on one or more GAM337354 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337354 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337354 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337354 RNA, herein designated GAM RNA, of GAM337354 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337354 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337354 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337354 RNA correlate with, and may be deduced from, the identity of the GAM337354 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337355 141811 GAGGCTGAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

AAAGAAGATT detected oligonucleotides of the present invention, referred to here as Genomic Address

GCTTGAGCCC Messenger 337355 (GAM337355) oligonucleotides modulates expression of respective target

AGGAATTAGA genes whose function and utility is known in the art.

GGCTGCAATG GAM337355 is a novel bioinformatically detectable regulatory, non protein

AGCTATGATC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337355 was detected

ATGCCACTGC is described with additional reference to Figs. 9-15.

ACTCCATCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGGGAGCAGA encoded by the human genome.

GCTAGACTCT GAM337355 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GTCTC GAM337355 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337355 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337355 precursor RNA is designated SEQ ID:141811, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141811 is located from position 101744915 to position 101745019 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337355 precursor RNA folds onto itself, forming GAM337355 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337355 precursor RNA, designated SEQ ID NO: 141811, and a schematic representation of a predicted secondary folding of GAM337355 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337355 folded precursor RNA yielding a GAM337355 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337355 RNA, hereby incorporated herein.

GAM337355 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337355 target RNA, herein designated GAM TARGET RNA.

GAM337355 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337355 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337355 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337355 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337355 RNA, herein designated GAM RNA, to target binding sites on GAM337355 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337355 target RNA into GAM337355 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337355 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337355 target genes. The mRNA of each one of this

plurality of GAM337355 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337355 RNA, herein designated GAM RNA, and which when bound by GAM337355 RNA causes inhibition of translation of the GAM337355 target mRNA into a corresponding GAM337355 target protein.

The mechanism of the translational inhibition exerted by GAM337355 RNA, herein designated GAM RNA, on one or more GAM337355 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337355 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337355 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337355 RNA, herein designated GAM RNA, of GAM337355 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337355 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337355 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337355 RNA correlate with, and may be deduced from, the identity of the GAM337355 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337356 141812 TCAGTTCTGT Fig. 8 further provides a conceptual description of another novel bioinformatically

TTATCTGAAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GCTCCTACCC Messenger 337356 (GAM337356) oligonucleotides modulates expression of respective target

AGAGATTCTA genes whose function and utility is known in the art.

CCCAGTGAAA GAM337356 is a novel bioinformatically detectable regulatory, non protein

CTCCCACAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337356 was detected

AGCGCAGGTA is described with additional reference to Figs. 9-15.

GATGGGGCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

A encoded by the human genome.

GAM337356 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337356 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337356 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337356 precursor RNA is designated SEQ ID:141812, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141812 is located from position 101746098 to position 101746178 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337356 precursor RNA folds onto itself, forming GAM337356 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337356 precursor RNA, designated SEQ ID NO: 141812, and a schematic representation of a predicted secondary folding of GAM337356 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337356 folded precursor RNA yielding a GAM337356 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337356 RNA, hereby incorporated herein.

GAM337356 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337356 target RNA, herein designated GAM TARGET RNA.

GAM337356 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337356 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337356 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337356 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337356 RNA, herein designated GAM RNA, to target

binding sites on GAM337356 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337356 target RNA into GAM337356 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337356 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337356 target genes. The mRNA of each one of this plurality of GAM337356 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337356 RNA, herein designated GAM RNA, and which when bound by GAM337356 RNA causes inhibition of translation of the GAM337356 target mRNA into a corresponding GAM337356 target protein.

The mechanism of the translational inhibition exerted by GAM337356 RNA, herein designated GAM RNA, on one or more GAM337356 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337356 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337356 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337356 RNA, herein designated GAM RNA, of GAM337356 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337356 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337356 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337356 RNA correlate with, and may be deduced from, the identity of the GAM337356 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337357 141813 GAGGCTGAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

AAAGAAGATT detected oligonucleotides of the present invention, referred to here as Genomic Address

GCTTGAGCCC Messenger 337357 (GAM337357) oligonucleotides modulates expression of respective target

AGGAATTAGA genes whose function and utility is known in the art.

GGCTGCAATG GAM337357 is a novel bioinformatically detectable regulatory, non protein

AGCTATGATC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337357 was detected

ATGCCACTGC is described with additional reference to Figs. 9-15.

ACTCCATCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGGGAGCAGA encoded by the human genome.

GCTAGACTCT GAM337357 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GTCTC GAM337357 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337357 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337357 precursor RNA is designated SEQ ID:141813, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141813 is located from position 101843971 to position 101844075 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337357 precursor RNA folds onto itself, forming GAM337357 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337357 precursor RNA, designated SEQ ID NO: 141813, and a schematic representation of a predicted secondary folding of GAM337357 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337357 folded precursor RNA yielding a GAM337357 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337357 RNA, hereby incorporated herein.

GAM337357 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337357 target RNA, herein designated GAM TARGET RNA.

GAM337357 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337357 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337357 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337357 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows

three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337357 RNA, herein designated GAM RNA, to target binding sites on GAM337357 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337357 target RNA into GAM337357 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337357 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337357 target genes. The mRNA of each one of this plurality of GAM337357 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337357 RNA, herein designated GAM RNA, and which when bound by GAM337357 RNA causes inhibition of translation of the GAM337357 target mRNA into a corresponding GAM337357 target protein.

The mechanism of the translational inhibition exerted by GAM337357 RNA, herein designated GAM RNA, on one or more GAM337357 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337357 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337357 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337357 RNA, herein designated GAM RNA, of GAM337357 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337357 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337357 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337357 RNA correlate with, and may be deduced from, the identity of the GAM337357 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337358 141814 AAAATAAAAT Fig. 8 further provides a conceptual description of another novel bioinformatically

AGAAATCATT detected oligonucleotides of the present invention, referred to here as Genomic Address
ATTGTCTAGG Messenger 337358 (GAM337358) oligonucleotides modulates expression of respective target
CTTTTGGAGA genes whose function and utility is known in the art.

AGCATATGCT GAM337358 is a novel bioinformatically detectable regulatory, non protein
GTGAAAATGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337358 was detected
TCACGGCTGT is described with additional reference to Figs. 9-15.

GCTCCTAAAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCCAGTCATG encoded by the human genome.

TTTCTGTAAC GAM337358 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

AGTTTT GAM337358 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337358 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337358 precursor RNA is designated SEQ ID:141814, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141814 is located from position 101964516 to position 101964621 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GAM337358 precursor RNA folds onto itself, forming GAM337358 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337358 precursor RNA, designated SEQ ID NO: 141814, and a schematic representation of a predicted secondary folding of GAM337358 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337358 folded precursor RNA yielding a GAM337358 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337358 RNA, hereby incorporated herein.

GAM337358 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337358 target RNA, herein designated GAM TARGET RNA.

GAM337358 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337358 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337358 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337358 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337358 RNA, herein designated GAM RNA, to target binding sites on GAM337358 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337358 target RNA into GAM337358 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337358 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337358 target genes. The mRNA of each one of this plurality of GAM337358 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337358 RNA, herein designated GAM RNA, and which when bound by GAM337358 RNA causes inhibition of translation of the GAM337358 target mRNA into a corresponding GAM337358 target protein.

The mechanism of the translational inhibition exerted by GAM337358 RNA, herein designated GAM RNA, on one or more GAM337358 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337358 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337358 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337358 RNA, herein designated GAM RNA, of GAM337358 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337358 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337358 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337358 RNA correlate with, and may be deduced from, the identity of the GAM337358 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337359 141815 ATAGAAATCA Fig. 8 further provides a conceptual description of another novel bioinformatically
TTATTGTCTA detected oligonucleotides of the present invention, referred to here as Genomic Address
GGCTTTTGGA Messenger 337359 (GAM337359) oligonucleotides modulates expression of respective target
GAAGCATATG genes whose function and utility is known in the art.

CTGTGAAAAT GAM337359 is a novel bioinformatically detectable regulatory, non protein
GATCACGGCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337359 was detected
GTGCTCCTAA is described with additional reference to Figs. 9-15.

AAGCCAGTCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGTTTCTGT encoded by the human genome.

GAM337359 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337359 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337359 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337359 precursor RNA is designated SEQ ID:141815, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141815 is located from position 101964525 to position 101964613 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GAM337359 precursor RNA folds onto itself, forming GAM337359 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337359 precursor RNA, designated SEQ ID NO: 141815, and a schematic representation of a predicted secondary folding of GAM337359 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337359 folded precursor RNA yielding a GAM337359 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337359 RNA, hereby incorporated herein.

GAM337359 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337359 target RNA, herein designated GAM TARGET RNA.

GAM337359 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337359 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337359 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337359 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337359 RNA, herein designated GAM RNA, to target binding sites on GAM337359 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337359 target RNA into GAM337359 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337359 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337359 target genes. The mRNA of each one of this plurality of GAM337359 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337359 RNA, herein designated GAM RNA, and which when bound by GAM337359 RNA causes inhibition of translation of the GAM337359 target mRNA into a corresponding GAM337359 target protein.

The mechanism of the translational inhibition exerted by GAM337359 RNA, herein designated GAM RNA, on one or more GAM337359 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337359 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337359 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337359 RNA, herein designated GAM RNA, of GAM337359 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337359 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337359 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337359 RNA correlate with, and may be deduced from, the identity of the GAM337359 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337360 141816 CATGTTTATG Fig. 8 further provides a conceptual description of another novel bioinformatically
GCCTAGGATA detected oligonucleotides of the present invention, referred to here as Genomic Address
ATGGGCTACC Messenger 337360 (GAM337360) oligonucleotides modulates expression of respective target
ATACAGCCTA genes whose function and utility is known in the art.

GGTGTATGGT GAM337360 is a novel bioinformatically detectable regulatory, non protein
AGGCTGTATC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337360 was detected
ATCTAGGTTT is described with additional reference to Figs. 9-15.

GCACAATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337360 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337360 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337360 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337360 precursor RNA is designated SEQ ID:141816, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141816 is located from position 103421790 to position 103421867 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM337360 precursor RNA folds onto itself, forming GAM337360 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337360 precursor RNA, designated SEQ ID NO: 141816, and a schematic representation of a predicted secondary folding of GAM337360 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337360 folded precursor RNA yielding a GAM337360 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337360 RNA, hereby incorporated herein.

GAM337360 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337360 target RNA, herein designated GAM TARGET RNA.

GAM337360 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337360 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337360 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337360 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337360 RNA, herein designated GAM RNA, to target binding sites on GAM337360 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337360 target RNA into GAM337360 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337360 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337360 target genes. The mRNA of each one of this plurality of GAM337360 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337360 RNA, herein designated GAM RNA, and which when bound by GAM337360 RNA causes inhibition of translation of the GAM337360 target mRNA into a corresponding GAM337360 target protein.

The mechanism of the translational inhibition exerted by GAM337360 RNA, herein designated GAM RNA, on one or more GAM337360 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337360 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM337360 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337360 RNA, herein designated GAM RNA, of GAM337360 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337360 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337360 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337360 RNA correlate with, and may be deduced from, the identity of the GAM337360 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337361 141817 CTGTGATGGT Fig. 8 further provides a conceptual description of another novel bioinformatically

TGTGTTCTAT detected oligonucleotides of the present invention, referred to here as Genomic Address

TATAAAGTGG Messenger 337361 (GAM337361) oligonucleotides modulates expression of respective target

CACCATTGGA genes whose function and utility is known in the art.

GTCTAAGGGT GAM337361 is a novel bioinformatically detectable regulatory, non protein

GCTTGTTTGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337361 was detected

CCTTACACTA is described with additional reference to Figs. 9-15.

AATGGTCCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGTGTTTATG encoded by the human genome.

TGGTTCTGAC GAM337361 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

ACTGCCGTCC GAM337361 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

AG GAM337361 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337361 precursor RNA is designated SEQ ID:141817, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141817 is located from position 103489943 to position 103490054 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337361 precursor RNA folds onto itself, forming GAM337361 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337361 precursor RNA, designated SEQ ID NO: 141817, and a schematic representation of a predicted secondary folding of GAM337361 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337361 folded precursor RNA yielding a GAM337361 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337361 RNA, hereby incorporated herein.

GAM337361 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337361 target RNA, herein designated GAM TARGET RNA.

GAM337361 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337361 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337361 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337361 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337361 RNA, herein designated GAM RNA, to target binding sites on GAM337361 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337361 target RNA into GAM337361 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337361 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337361 target genes. The mRNA of each one of this plurality of GAM337361 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337361 RNA, herein designated GAM RNA, and which when bound by GAM337361 RNA causes inhibition of

translation of the GAM337361 target mRNA into a corresponding GAM337361 target protein.

The mechanism of the translational inhibition exerted by GAM337361 RNA, herein designated GAM RNA, on one or more GAM337361 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337361 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337361 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337361 RNA, herein designated GAM RNA, of GAM337361 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337361 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337361 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337361 RNA correlate with, and may be deduced from, the identity of the GAM337361 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337362 141818 CACTTCATAT Fig. 8 further provides a conceptual description of another novel bioinformatically
ACCAGAAGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CCTCAGCCCT Messenger 337362 (GAM337362) oligonucleotides modulates expression of respective target
GAGGTCTTGG genes whose function and utility is known in the art.

GGACATAGAT GAM337362 is a novel bioinformatically detectable regulatory, non protein
AGGTTCTTCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337362 was detected
TCTCACGTGA is described with additional reference to Figs. 9-15.

TGGGGACTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCTCTTTTTG encoded by the human genome.

GTGGGTAAAG GAM337362 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TG GAM337362 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337362 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337362 precursor RNA is designated SEQ ID:141818, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141818 is located from position 103586370 to position 103586471 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM337362 precursor RNA folds onto itself, forming GAM337362 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337362 precursor RNA, designated SEQ ID NO: 141818, and a schematic representation of a predicted secondary folding of GAM337362 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337362 folded precursor RNA yielding a GAM337362 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337362 RNA, hereby incorporated herein.

GAM337362 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337362 target RNA, herein designated GAM TARGET RNA.

GAM337362 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337362 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337362 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337362 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337362 RNA, herein designated GAM RNA, to target binding sites on GAM337362 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337362 target RNA into GAM337362 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337362 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337362 target genes. The mRNA of each one of this plurality of GAM337362 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337362 RNA, herein designated GAM RNA, and which when bound by GAM337362 RNA causes inhibition of translation of the GAM337362 target mRNA into a corresponding GAM337362 target protein.

The mechanism of the translational inhibition exerted by GAM337362 RNA, herein designated GAM RNA, on one or more GAM337362 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337362 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337362 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337362 RNA, herein designated GAM RNA, of GAM337362 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337362 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337362 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337362 RNA correlate with, and may be deduced from, the identity of the GAM337362 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337363 141819 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337363 (GAM337363) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337363 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337363 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM337363 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337363 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337363 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337363 precursor RNA is designated SEQ ID:141819, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141819 is located from position 103632887 to position 103632968 relative to chromosome chr3 on the `+` strand (chr is an abbreviation for chromosome).

GAM337363 precursor RNA folds onto itself, forming GAM337363 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337363 precursor RNA, designated SEQ ID NO: 141819, and a schematic representation of a predicted secondary folding of GAM337363 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337363 folded precursor RNA yielding a GAM337363 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337363 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337363 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337363 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337363 target RNA, herein designated GAM TARGET RNA.

GAM337363 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337363 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337363 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337363 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows

three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337363 RNA, herein designated GAM RNA, to target binding sites on GAM337363 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337363 target RNA into GAM337363 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337363 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337363 target genes. The mRNA of each one of this plurality of GAM337363 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337363 RNA, herein designated GAM RNA, and which when bound by GAM337363 RNA causes inhibition of translation of the GAM337363 target mRNA into a corresponding GAM337363 target protein.

The mechanism of the translational inhibition exerted by GAM337363 RNA, herein designated GAM RNA, on one or more GAM337363 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337363 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337363 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337363 RNA, herein designated GAM RNA, of GAM337363 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337363 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337363 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337363 RNA correlate with, and may be deduced from, the identity of the GAM337363 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337364 141820 CTAGGGTGCA Fig. 8 further provides a conceptual description of another novel bioinformatically

CAGTTTTTAA detected oligonucleotides of the present invention, referred to here as Genomic Address
GAAGGCTCGC Messenger 337364 (GAM337364) oligonucleotides modulates expression of respective target
TCTCTCAGGG genes whose function and utility is known in the art.

GGACCATCCC GAM337364 is a novel bioinformatically detectable regulatory, non protein
GCACTTGCAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337364 was detected
GCCCTTGAGA is described with additional reference to Figs. 9-15.

ATGAGGTCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CCTTAAATAT encoded by the human genome.

TCACTCTGG GAM337364 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337364 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337364 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337364 precursor RNA is designated SEQ ID:141820, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141820 is located from position 103784499 to position 103784597 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337364 precursor RNA folds onto itself, forming GAM337364 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337364 precursor RNA, designated SEQ ID NO: 141820, and a schematic representation of a predicted secondary folding of GAM337364 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337364 folded precursor RNA yielding a GAM337364 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337364 RNA, hereby incorporated herein.

GAM337364 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337364 target RNA, herein designated GAM TARGET RNA.

GAM337364 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337364 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337364 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337364 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337364 RNA, herein designated GAM RNA, to target binding sites on GAM337364 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337364 target RNA into GAM337364 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337364 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337364 target genes. The mRNA of each one of this plurality of GAM337364 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337364 RNA, herein designated GAM RNA, and which when bound by GAM337364 RNA causes inhibition of translation of the GAM337364 target mRNA into a corresponding GAM337364 target protein.

The mechanism of the translational inhibition exerted by GAM337364 RNA, herein designated GAM RNA, on one or more GAM337364 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337364 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337364 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337364 RNA, herein designated GAM RNA, of GAM337364 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337364 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337364 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337364 RNA correlate with, and may be deduced from, the identity of the GAM337364 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337365 141821 GAGGGGCTTA AGCTACTACT TTCAGGCTGT GCTGAGTGAT ATACATACAA TGCCTCATTG ACAATCCTGA AGGATGGTAT TTTGCTTCTC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337365 (GAM337365) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337365 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337365 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337365 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337365 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337365 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337365 precursor RNA is designated SEQ ID:141821, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141821 is located from position 104150741 to position 104150830 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337365 precursor RNA folds onto itself, forming GAM337365 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337365 precursor RNA, designated SEQ ID NO: 141821, and a schematic representation of a predicted secondary folding of GAM337365 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337365 folded precursor RNA yielding a GAM337365 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337365 RNA, hereby incorporated herein.

GAM337365 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337365 target RNA, herein designated GAM TARGET RNA.

GAM337365 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337365 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337365 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337365 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337365 RNA, herein designated GAM RNA, to target binding sites on GAM337365 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337365 target RNA into GAM337365 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337365 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337365 target genes. The mRNA of each one of this plurality of GAM337365 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337365 RNA, herein designated GAM RNA, and which when bound by GAM337365 RNA causes inhibition of translation of the GAM337365 target mRNA into a corresponding GAM337365 target protein.

The mechanism of the translational inhibition exerted by GAM337365 RNA, herein designated GAM RNA, on one or more GAM337365 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337365 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337365 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337365 RNA, herein designated GAM RNA, of GAM337365 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337365 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337365 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337365 RNA correlate with, and may be deduced from, the identity of the GAM337365 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337366 141822 GCATTGCTTG Fig. 8 further provides a conceptual description of another novel bioinformatically
AGTCCAGGAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GTCAAGGCTG Messenger 337366 (GAM337366) oligonucleotides modulates expression of respective target
CAGTGAGTCA genes whose function and utility is known in the art.

AGGTCATGCC GAM337366 is a novel bioinformatically detectable regulatory, non protein
ACTGCACTCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337366 was detected
ATCCTGGGAC is described with additional reference to Figs. 9-15.

AGAGCAAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337366 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337366 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337366 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337366 precursor RNA is designated SEQ ID:141822, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141822 is located from position 104305997 to position 104306075 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337366 precursor RNA folds onto itself, forming GAM337366 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337366 precursor RNA, designated SEQ ID NO: 141822, and a schematic representation of a predicted secondary folding of GAM337366 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337366 folded precursor RNA yielding a GAM337366 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337366 RNA, hereby incorporated herein.

GAM337366 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337366 target RNA, herein designated GAM TARGET RNA.

GAM337366 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337366 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337366 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337366 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337366 RNA, herein designated GAM RNA, to target binding sites on GAM337366 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337366 target RNA into GAM337366 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337366 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337366 target genes. The mRNA of each one of this plurality of GAM337366 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337366 RNA, herein designated GAM RNA, and which when bound by GAM337366 RNA causes inhibition of translation of the GAM337366 target mRNA into a corresponding GAM337366 target protein.

The mechanism of the translational inhibition exerted by GAM337366 RNA, herein designated GAM RNA, on one or more GAM337366 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337366 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM337366 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337366 RNA, herein designated GAM RNA, of GAM337366 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337366 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337366 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337366 RNA correlate with, and may be deduced from, the identity of the GAM337366 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337367 141823 CCAGGCCTGC Fig. 8 further provides a conceptual description of another novel bioinformatically

CGGTAGGTTT detected oligonucleotides of the present invention, referred to here as Genomic Address

AGAATGAGGT Messenger 337367 (GAM337367) oligonucleotides modulates expression of respective target

CTGTGTCACT genes whose function and utility is known in the art.

GTGGTATTAC GAM337367 is a novel bioinformatically detectable regulatory, non protein

GATATTTTGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337367 was detected

CTGGTTATTA is described with additional reference to Figs. 9-15.

TAACCACAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTCACAGAGT encoded by the human genome.

CCATCAAAAA GAM337367 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CCCATGCCTG GAM337367 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

G GAM337367 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337367 precursor RNA is designated SEQ ID:141823, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141823 is located from position 104342178 to position 104342288 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GAM337367 precursor RNA folds onto itself, forming GAM337367 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337367 precursor RNA, designated SEQ ID NO: 141823, and a schematic representation of a predicted secondary folding of GAM337367 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337367 folded precursor RNA yielding a GAM337367 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337367 RNA, hereby incorporated herein.

GAM337367 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337367 target RNA, herein designated GAM TARGET RNA.

GAM337367 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337367 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337367 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337367 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337367 RNA, herein designated GAM RNA, to target binding sites on GAM337367 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337367 target RNA into GAM337367 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337367 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337367 target genes. The mRNA of each one of this plurality of GAM337367 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337367 RNA, herein designated GAM RNA, and which when bound by GAM337367 RNA causes inhibition of

translation of the GAM337367 target mRNA into a corresponding GAM337367 target protein.

The mechanism of the translational inhibition exerted by GAM337367 RNA, herein designated GAM RNA, on one or more GAM337367 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337367 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337367 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337367 RNA, herein designated GAM RNA, of GAM337367 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337367 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337367 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337367 RNA correlate with, and may be deduced from, the identity of the GAM337367 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337368 141824 GGTAGGTTTA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATGAGGTC detected oligonucleotides of the present invention, referred to here as Genomic Address

TGTGTCACTG Messenger 337368 (GAM337368) oligonucleotides modulates expression of respective target

TGGTATTACG genes whose function and utility is known in the art.

ATATTTTGAC GAM337368 is a novel bioinformatically detectable regulatory, non protein

TGGTTATTAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337368 was detected

AACCACAGTG is described with additional reference to Figs. 9-15.

TCACAGAGTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CATCAAAAAC encoded by the human genome.

CCATGCC GAM337368 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337368 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337368 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337368 precursor RNA is designated SEQ ID:141824, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141824 is located from position 104342181 to position 104342277 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GAM337368 precursor RNA folds onto itself, forming GAM337368 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337368 precursor RNA, designated SEQ ID NO: 141824, and a schematic representation of a predicted secondary folding of GAM337368 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337368 folded precursor RNA yielding a GAM337368 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337368 RNA, hereby incorporated herein.

GAM337368 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337368 target RNA, herein designated GAM TARGET RNA.

GAM337368 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337368 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337368 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337368 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337368 RNA, herein designated GAM RNA, to target binding sites on GAM337368 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337368 target RNA into GAM337368 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337368 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337368 target genes. The mRNA of each one of this plurality of GAM337368 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337368 RNA, herein designated GAM RNA, and which when bound by GAM337368 RNA causes inhibition of translation of the GAM337368 target mRNA into a corresponding GAM337368 target protein.

The mechanism of the translational inhibition exerted by GAM337368 RNA, herein designated GAM RNA, on one or more GAM337368 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337368 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337368 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337368 RNA, herein designated GAM RNA, of GAM337368 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337368 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337368 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337368 RNA correlate with, and may be deduced from, the identity of the GAM337368 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337369 141825 TGTGATGACA Fig. 8 further provides a conceptual description of another novel bioinformatically
CAGCAAGAAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GTCCTCGCCA Messenger 337369 (GAM337369) oligonucleotides modulates expression of respective target
GATGCTCCTG genes whose function and utility is known in the art.

GACTTGCTTT GAM337369 is a novel bioinformatically detectable regulatory, non protein
GGACTTTCCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337369 was detected
TTGCTCTTGG is described with additional reference to Figs. 9-15.

ACTTGCTCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCACCTGTGC encoded by the human genome.

TCTTGGACTT GAM337369 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CACA GAM337369 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337369 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337369 precursor RNA is designated SEQ ID:141825, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141825 is located from position 104360063 to position 104360166 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM337369 precursor RNA folds onto itself, forming GAM337369 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337369 precursor RNA, designated SEQ ID NO: 141825, and a schematic representation of a predicted secondary folding of GAM337369 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337369 folded precursor RNA yielding a GAM337369 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337369 RNA, hereby incorporated herein.

GAM337369 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337369 target RNA, herein designated GAM TARGET RNA.

GAM337369 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337369 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337369 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337369 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337369 RNA, herein designated GAM RNA, to target binding sites on GAM337369 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337369 target RNA into GAM337369 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337369 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337369 target genes. The mRNA of each one of this plurality of GAM337369 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337369 RNA, herein designated GAM RNA, and which when bound by GAM337369 RNA causes inhibition of translation of the GAM337369 target mRNA into a corresponding GAM337369 target protein.

The mechanism of the translational inhibition exerted by GAM337369 RNA, herein designated GAM RNA, on one or more GAM337369 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337369 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337369 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337369 RNA, herein designated GAM RNA, of GAM337369 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337369 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337369 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337369 RNA correlate with, and may be deduced from, the identity of the GAM337369 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337370 141826 GGGACAGCAT Fig. 8 further provides a conceptual description of another novel bioinformatically

CCTTTTTTGG detected oligonucleotides of the present invention, referred to here as Genomic Address
CATTTGTTTG Messenger 337370 (GAM337370) oligonucleotides modulates expression of respective target
TTGCGGGTGG genes whose function and utility is known in the art.

GGAGAGGATT GAM337370 is a novel bioinformatically detectable regulatory, non protein
GAACCCTTAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337370 was detected
CCTCACCTCG is described with additional reference to Figs. 9-15.

CTCGCAAGTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCAAGAAAGG encoded by the human genome.

GAACCTGACC GAM337370 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
C GAM337370 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337370 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337370 precursor RNA is designated SEQ ID:141826, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141826 is located from position 104509126 to position 104509226 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337370 precursor RNA folds onto itself, forming GAM337370 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337370 precursor RNA, designated SEQ ID NO: 141826, and a schematic representation of a predicted secondary folding of GAM337370 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337370 folded precursor RNA yielding a GAM337370 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337370 RNA, hereby incorporated herein.

GAM337370 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337370 target RNA, herein designated GAM TARGET RNA.

GAM337370 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337370 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337370 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337370 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337370 RNA, herein designated GAM RNA, to target binding sites on GAM337370 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337370 target RNA into GAM337370 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337370 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337370 target genes. The mRNA of each one of this plurality of GAM337370 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337370 RNA, herein designated GAM RNA, and which when bound by GAM337370 RNA causes inhibition of translation of the GAM337370 target mRNA into a corresponding GAM337370 target protein.

The mechanism of the translational inhibition exerted by GAM337370 RNA, herein designated GAM RNA, on one or more GAM337370 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337370 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337370 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337370 RNA, herein designated GAM RNA, of GAM337370 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337370 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337370 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337370 RNA correlate with, and may be deduced from, the identity of the GAM337370 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337371 141827 TCCCCTTCCT Fig. 8 further provides a conceptual description of another novel bioinformatically

CTTTCCCTCC detected oligonucleotides of the present invention, referred to here as Genomic Address

CAGTTGTAAA Messenger 337371 (GAM337371) oligonucleotides modulates expression of respective target

TAACATTTTT genes whose function and utility is known in the art.

TAGCAGCAAT GAM337371 is a novel bioinformatically detectable regulatory, non protein

GTAATCTGCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337371 was detected

AAATGTTAGT is described with additional reference to Figs. 9-15.

TGTTTAGGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGTCCTGAGA encoded by the human genome.

AAAGGGGA GAM337371 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337371 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337371 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337371 precursor RNA is designated SEQ ID:141827, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141827 is located from position 104616032 to position 104616129 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337371 precursor RNA folds onto itself, forming GAM337371 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337371 precursor RNA, designated SEQ ID NO: 141827, and a schematic representation of a predicted secondary folding of GAM337371 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337371 folded precursor RNA yielding a GAM337371 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337371 RNA, hereby incorporated herein.

GAM337371 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337371 target RNA, herein designated GAM TARGET RNA.

GAM337371 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337371 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337371 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337371 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337371 RNA, herein designated GAM RNA, to target binding sites on GAM337371 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337371 target RNA into GAM337371 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337371 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337371 target genes. The mRNA of each one of this plurality of GAM337371 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337371 RNA, herein designated GAM RNA, and which when bound by GAM337371 RNA causes inhibition of translation of the GAM337371 target mRNA into a corresponding GAM337371 target protein.

The mechanism of the translational inhibition exerted by GAM337371 RNA, herein designated GAM RNA, on one or more GAM337371 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337371 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337371 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337371 RNA, herein designated GAM RNA, of

GAM337371 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337371 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337371 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337371 RNA correlate with, and may be deduced from, the identity of the GAM337371 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337372 141828 CCCTGGAGGC Fig. 8 further provides a conceptual description of another novel bioinformatically

AGGTGCAGAT detected oligonucleotides of the present invention, referred to here as Genomic Address

GGAGGCTGTT Messenger 337372 (GAM337372) oligonucleotides modulates expression of respective target

TCCTGTCAGG genes whose function and utility is known in the art.

ATGTGGGACT GAM337372 is a novel bioinformatically detectable regulatory, non protein

TTGTCTTCTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337372 was detected

CTGACAGTTC is described with additional reference to Figs. 9-15.

CCCAGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337372 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337372 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337372 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337372 precursor RNA is designated SEQ ID:141828, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141828 is located from position 104762497 to position 104762573 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GAM337372 precursor RNA folds onto itself, forming GAM337372 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337372 precursor RNA, designated SEQ ID NO: 141828,

and a schematic representation of a predicted secondary folding of GAM337372 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337372 folded precursor RNA yielding a GAM337372 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337372 RNA, hereby incorporated herein.

GAM337372 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337372 target RNA, herein designated GAM TARGET RNA.

GAM337372 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337372 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337372 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337372 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337372 RNA, herein designated GAM RNA, to target binding sites on GAM337372 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337372 target RNA into GAM337372 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337372 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337372 target genes. The mRNA of each one of this plurality of GAM337372 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337372 RNA, herein designated GAM RNA, and which when bound by GAM337372 RNA causes inhibition of translation of the GAM337372 target mRNA into a corresponding GAM337372 target protein.

The mechanism of the translational inhibition exerted by GAM337372 RNA, herein designated GAM RNA, on one or more GAM337372 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337372 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337372 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337372 RNA, herein designated GAM RNA, of GAM337372 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337372 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337372 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337372 RNA correlate with, and may be deduced from, the identity of the GAM337372 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337373 141829 CCCTGGAGGC Fig. 8 further provides a conceptual description of another novel bioinformatically

AGGTGCAGAT detected oligonucleotides of the present invention, referred to here as Genomic Address

GGAGGCTGTT Messenger 337373 (GAM337373) oligonucleotides modulates expression of respective target

TCCTGTCAGG genes whose function and utility is known in the art.

ATGTGGGACT GAM337373 is a novel bioinformatically detectable regulatory, non protein

TTGTCTTCTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337373 was detected

CTGACAGTTC is described with additional reference to Figs. 9-15.

CCCAGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337373 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337373 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337373 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337373 precursor RNA is designated SEQ ID:141829, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141829 is located from position 104787214 to position 104787290 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GAM337373 precursor RNA folds onto itself, forming GAM337373 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337373 precursor RNA, designated SEQ ID NO: 141829, and a schematic representation of a predicted secondary folding of GAM337373 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337373 folded precursor RNA yielding a GAM337373 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337373 RNA, hereby incorporated herein.

GAM337373 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337373 target RNA, herein designated GAM TARGET RNA.

GAM337373 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337373 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337373 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337373 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337373 RNA, herein designated GAM RNA, to target binding sites on GAM337373 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337373 target RNA into GAM337373 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337373 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337373 target genes. The mRNA of each one of this plurality of GAM337373 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM337373 RNA, herein designated GAM RNA, and which when bound by GAM337373 RNA causes inhibition of translation of the GAM337373 target mRNA into a corresponding GAM337373 target protein.

The mechanism of the translational inhibition exerted by GAM337373 RNA, herein designated GAM RNA, on one or more GAM337373 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337373 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337373 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337373 RNA, herein designated GAM RNA, of GAM337373 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337373 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337373 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337373 RNA correlate with, and may be deduced from, the identity of the GAM337373 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337374 141830 GGGATGCCAA Fig. 8 further provides a conceptual description of another novel bioinformatically
ACCCTCTCCC detected oligonucleotides of the present invention, referred to here as Genomic Address
TGTGTTACAT Messenger 337374 (GAM337374) oligonucleotides modulates expression of respective target
TAGTGCTATG genes whose function and utility is known in the art.

ACTGAACATA GAM337374 is a novel bioinformatically detectable regulatory, non protein
AACACTGCTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337374 was detected
TAATGGACGG is described with additional reference to Figs. 9-15.

TGAGATCTTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTGTCATCCT encoded by the human genome.

GAM337374 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337374 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337374 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337374 precursor RNA is designated SEQ ID:141830, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141830 is located from position 104818818 to position 104818907 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337374 precursor RNA folds onto itself, forming GAM337374 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337374 precursor RNA, designated SEQ ID NO: 141830, and a schematic representation of a predicted secondary folding of GAM337374 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337374 folded precursor RNA yielding a GAM337374 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337374 RNA, hereby incorporated herein.

GAM337374 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337374 target RNA, herein designated GAM TARGET RNA.

GAM337374 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337374 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337374 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337374 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337374 RNA, herein designated GAM RNA, to target binding sites on GAM337374 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337374 target RNA into GAM337374 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337374 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337374 target genes. The mRNA of each one of this plurality of GAM337374 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337374 RNA, herein designated GAM RNA, and which when bound by GAM337374 RNA causes inhibition of translation of the GAM337374 target mRNA into a corresponding GAM337374 target protein.

The mechanism of the translational inhibition exerted by GAM337374 RNA, herein designated GAM RNA, on one or more GAM337374 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337374 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337374 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337374 RNA, herein designated GAM RNA, of GAM337374 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337374 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337374 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337374 RNA correlate with, and may be deduced from, the identity of the GAM337374 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337375 141831 CTCTTGAACC Fig. 8 further provides a conceptual description of another novel bioinformatically

CAGGAGGTGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGTTGGGGT Messenger 337375 (GAM337375) oligonucleotides modulates expression of respective target

GAGCTGAGAT genes whose function and utility is known in the art.

CACTCCATTG GAM337375 is a novel bioinformatically detectable regulatory, non protein

CACTCCAGTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337375 was detected

TGGGCAACGA is described with additional reference to Figs. 9-15.

GAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337375 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337375 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337375 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337375 precursor RNA is designated SEQ ID:141831, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141831 is located from position 104911214 to position 104911286 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM337375 precursor RNA folds onto itself, forming GAM337375 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337375 precursor RNA, designated SEQ ID NO: 141831, and a schematic representation of a predicted secondary folding of GAM337375 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337375 folded precursor RNA yielding a GAM337375 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337375 RNA, hereby incorporated herein.

GAM337375 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337375 target RNA, herein designated GAM TARGET RNA.

GAM337375 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337375 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337375 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337375 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337375 RNA, herein designated GAM RNA, to target binding sites on GAM337375 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337375 target RNA into GAM337375 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337375 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337375 target genes. The mRNA of each one of this plurality of GAM337375 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337375 RNA, herein designated GAM RNA, and which when bound by GAM337375 RNA causes inhibition of translation of the GAM337375 target mRNA into a corresponding GAM337375 target protein.

The mechanism of the translational inhibition exerted by GAM337375 RNA, herein designated GAM RNA, on one or more GAM337375 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337375 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337375 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337375 RNA, herein designated GAM RNA, of GAM337375 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337375 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337375 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337375 RNA correlate with, and may be deduced from, the identity of the GAM337375 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337376 141832 GAGCTGCCAG Fig. 8 further provides a conceptual description of another novel bioinformatically

CATGGCTAGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ATGAAGCAGG Messenger 337376 (GAM337376) oligonucleotides modulates expression of respective target
TAGGAGAAAT genes whose function and utility is known in the art.

TGGAGAGACT GAM337376 is a novel bioinformatically detectable regulatory, non protein
AGACTTGTTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337376 was detected
AGTCTTCCAG is described with additional reference to Figs. 9-15.

CCTCCATCTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCTCCCATGC encoded by the human genome.

TGGATGCTT GAM337376 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337376 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337376 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337376 precursor RNA is designated SEQ ID:141832, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141832 is located from position 104932380 to position 104932478 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GAM337376 precursor RNA folds onto itself, forming GAM337376 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337376 precursor RNA, designated SEQ ID NO: 141832, and a schematic representation of a predicted secondary folding of GAM337376 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337376 folded precursor RNA yielding a GAM337376 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337376 RNA, hereby incorporated herein.

GAM337376 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337376 target RNA, herein designated GAM TARGET RNA.

GAM337376 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337376 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337376 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337376 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337376 RNA, herein designated GAM RNA, to target binding sites on GAM337376 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337376 target RNA into GAM337376 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337376 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337376 target genes. The mRNA of each one of this plurality of GAM337376 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337376 RNA, herein designated GAM RNA, and which when bound by GAM337376 RNA causes inhibition of translation of the GAM337376 target mRNA into a corresponding GAM337376 target protein.

The mechanism of the translational inhibition exerted by GAM337376 RNA, herein designated GAM RNA, on one or more GAM337376 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337376 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337376 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337376 RNA, herein designated GAM RNA, of GAM337376 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337376 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337376 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337376 RNA correlate with, and may be deduced from, the identity of the GAM337376 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337377 141833 GGAATCTTGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTTGTAGCCC detected oligonucleotides of the present invention, referred to here as Genomic Address
AGGCTGGAGT Messenger 337377 (GAM337377) oligonucleotides modulates expression of respective target
GCAGTGGTGT genes whose function and utility is known in the art.

GATCTTGGCT GAM337377 is a novel bioinformatically detectable regulatory, non protein
CACGGCAACC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337377 was detected
TCTGCCTCCC is described with additional reference to Figs. 9-15.

GGGTCTAGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCAAGCAGTT encoded by the human genome.

CTCC GAM337377 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337377 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337377 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337377 precursor RNA is designated SEQ ID:141833, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141833 is located from position 105033873 to position 105033966 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM337377 precursor RNA folds onto itself, forming GAM337377 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337377 precursor RNA, designated SEQ ID NO: 141833, and a schematic representation of a predicted secondary folding of GAM337377 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337377 folded precursor RNA yielding a GAM337377 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337377 RNA, hereby incorporated herein.

GAM337377 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337377 target RNA, herein designated GAM TARGET RNA.

GAM337377 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337377 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337377 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337377 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337377 RNA, herein designated GAM RNA, to target binding sites on GAM337377 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337377 target RNA into GAM337377 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337377 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337377 target genes. The mRNA of each one of this plurality of GAM337377 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337377 RNA, herein designated GAM RNA, and which when bound by GAM337377 RNA causes inhibition of translation of the GAM337377 target mRNA into a corresponding GAM337377 target protein.

The mechanism of the translational inhibition exerted by GAM337377 RNA, herein designated GAM RNA, on one or more GAM337377 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337377 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337377 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337377 RNA, herein designated GAM RNA, of GAM337377 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337377 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337377 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337377 RNA correlate with, and may be deduced from, the identity of the GAM337377 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337378 141834 GGAATCTTGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTTGTAGCCC detected oligonucleotides of the present invention, referred to here as Genomic Address
AGGCTGGAGT Messenger 337378 (GAM337378) oligonucleotides modulates expression of respective target
GCAGTGGTGT genes whose function and utility is known in the art.

GATCTTGGCT GAM337378 is a novel bioinformatically detectable regulatory, non protein
CACGGCAACC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337378 was detected
TCTGCCTCCC is described with additional reference to Figs. 9-15.

GGGTCTAGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCAAGCAGTT encoded by the human genome.

CT GAM337378 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337378 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337378 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337378 precursor RNA is designated SEQ ID:141834, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141834 is located from position 105033875 to position 105033966 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM337378 precursor RNA folds onto itself, forming GAM337378 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337378 precursor RNA, designated SEQ ID NO: 141834, and a schematic representation of a predicted secondary folding of GAM337378 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337378 folded precursor RNA yielding a GAM337378 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337378 RNA, hereby incorporated herein.

GAM337378 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337378 target RNA, herein designated GAM TARGET RNA.

GAM337378 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337378 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337378 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337378 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337378 RNA, herein designated GAM RNA, to target binding sites on GAM337378 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337378 target RNA into GAM337378 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337378 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337378 target genes. The mRNA of each one of this plurality of GAM337378 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337378 RNA, herein designated GAM RNA, and which when bound by GAM337378 RNA causes inhibition of translation of the GAM337378 target mRNA into a corresponding GAM337378 target protein.

The mechanism of the translational inhibition exerted by GAM337378 RNA, herein designated GAM RNA, on one or more GAM337378 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337378 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM337378 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337378 RNA, herein designated GAM RNA, of GAM337378 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337378 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337378 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337378 RNA correlate with, and may be deduced from, the identity of the GAM337378 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337379 141835 TCCTCTCCAC Fig. 8 further provides a conceptual description of another novel bioinformatically
GCTTTACTTT detected oligonucleotides of the present invention, referred to here as Genomic Address
TAGGTAACTG Messenger 337379 (GAM337379) oligonucleotides modulates expression of respective target
CTTTTGTTGT genes whose function and utility is known in the art.

GCAGGGACTG GAM337379 is a novel bioinformatically detectable regulatory, non protein
GTGTACCACA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337379 was detected
GCACACCTCC is described with additional reference to Figs. 9-15.

TCCCGCCTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGTAAAGCAG encoded by the human genome.

CTGACCGCGT GAM337379 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAAGGGGA GAM337379 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337379 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337379 precursor RNA is designated SEQ ID:141835, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141835 is located from position 105338344 to position 105338451 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM337379 precursor RNA folds onto itself, forming GAM337379 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337379 precursor RNA, designated SEQ ID NO: 141835, and a schematic representation of a predicted secondary folding of GAM337379 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337379 folded precursor RNA yielding a GAM337379 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337379 RNA, hereby incorporated herein.

GAM337379 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337379 target RNA, herein designated GAM TARGET RNA.

GAM337379 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337379 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337379 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337379 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337379 RNA, herein designated GAM RNA, to target binding sites on GAM337379 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337379 target RNA into GAM337379 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337379 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337379 target genes. The mRNA of each one of this plurality of GAM337379 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337379 RNA, herein designated GAM RNA, and which when bound by GAM337379 RNA causes inhibition of

translation of the GAM337379 target mRNA into a corresponding GAM337379 target protein.

The mechanism of the translational inhibition exerted by GAM337379 RNA, herein designated GAM RNA, on one or more GAM337379 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337379 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337379 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337379 RNA, herein designated GAM RNA, of GAM337379 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337379 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337379 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337379 RNA correlate with, and may be deduced from, the identity of the GAM337379 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337380 141836 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGCGGAGG Messenger 337380 (GAM337380) oligonucleotides modulates expression of respective target

TTGCGGGGAG genes whose function and utility is known in the art.

CCAAGATCGC GAM337380 is a novel bioinformatically detectable regulatory, non protein

ACCATTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337380 was detected

TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CGAAACTCC encoded by the human genome.

GAM337380 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337380 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337380 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM337380 precursor RNA is designated SEQ ID:141836, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141836 is located from position 105566898 to position 105566986 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GAM337380 precursor RNA folds onto itself, forming GAM337380 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337380 precursor RNA, designated SEQ ID NO: 141836, and a schematic representation of a predicted secondary folding of GAM337380 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337380 folded precursor RNA yielding a GAM337380 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337380 RNA, hereby incorporated herein. Expression of GAM337380 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337380 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337380 target RNA, herein designated GAM TARGET RNA.

GAM337380 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337380 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337380 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337380 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337380 RNA, herein designated GAM RNA, to target binding sites on GAM337380 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337380 target RNA into GAM337380 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337380 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337380 target genes. The mRNA of each one of this plurality of GAM337380 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337380 RNA, herein designated GAM RNA, and which when bound by GAM337380 RNA causes inhibition of translation of the GAM337380 target mRNA into a corresponding GAM337380 target protein.

The mechanism of the translational inhibition exerted by GAM337380 RNA, herein designated GAM RNA, on one or more GAM337380 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337380 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337380 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337380 RNA, herein designated GAM RNA, of GAM337380 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337380 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337380 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337380 RNA correlate with, and may be deduced from, the identity of the GAM337380 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337381 141837 AGTTTGCATC Fig. 8 further provides a conceptual description of another novel bioinformatically
TGTGCAATAT detected oligonucleotides of the present invention, referred to here as Genomic Address
TATTATGAAG Messenger 337381 (GAM337381) oligonucleotides modulates expression of respective target
GTCTTTAGTG genes whose function and utility is known in the art.

GCAGAGTCTA GAM337381 is a novel bioinformatically detectable regulatory, non protein
GGTCTTTTCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337381 was detected
TTACTCTGTA is described with additional reference to Figs. 9-15.

ATTCTGAAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACCTGGAGTA encoded by the human genome.

CTATCAGGCA GAM337381 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TGTGCTTGTT GAM337381 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

ACT GAM337381 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337381 precursor RNA is designated SEQ ID:141837, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141837 is located from position 106014326 to position 106014438 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337381 precursor RNA folds onto itself, forming GAM337381 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337381 precursor RNA, designated SEQ ID NO: 141837, and a schematic representation of a predicted secondary folding of GAM337381 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337381 folded precursor RNA yielding a GAM337381 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337381 RNA, hereby incorporated herein.

GAM337381 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337381 target RNA, herein designated GAM TARGET RNA.

GAM337381 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337381 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337381 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337381 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337381 RNA, herein designated GAM RNA, to target binding sites on GAM337381 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337381 target RNA into GAM337381 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337381 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337381 target genes. The mRNA of each one of this plurality of GAM337381 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337381 RNA, herein designated GAM RNA, and which when bound by GAM337381 RNA causes inhibition of translation of the GAM337381 target mRNA into a corresponding GAM337381 target protein.

The mechanism of the translational inhibition exerted by GAM337381 RNA, herein designated GAM RNA, on one or more GAM337381 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337381 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337381 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337381 RNA, herein designated GAM RNA, of GAM337381 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337381 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337381 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337381 RNA correlate with, and may be deduced from, the identity of the GAM337381 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337382 141838 TGGGAGTTTT Fig. 8 further provides a conceptual description of another novel bioinformatically

CTAACACATG detected oligonucleotides of the present invention, referred to here as Genomic Address
GTCTGATCAA Messenger 337382 (GAM337382) oligonucleotides modulates expression of respective
target
GTCAATGCTA genes whose function and utility is known in the art.

ACGGGCTGCA GAM337382 is a novel bioinformatically detectable regulatory, non protein
TTGCTTGGTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337382 was
detected
GAGAGCTTCC is described with additional reference to Figs. 9-15.

A GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen
gene
encoded by the human genome.

GAM337382 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337382 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA
genes
GAM337382 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337382 precursor RNA is designated SEQ ID:141838, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141838 is located from position 106230905 to position 106230975 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337382 precursor RNA folds onto itself, forming GAM337382 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337382 precursor RNA, designated SEQ ID NO: 141838, and a schematic representation of a predicted secondary folding of GAM337382 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and
4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337382 folded precursor RNA yielding a GAM337382 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337382 RNA, hereby incorporated herein.

GAM337382 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337382 target RNA, herein designated GAM TARGET RNA.

GAM337382 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337382 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337382 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337382 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337382 RNA, herein designated GAM RNA, to target binding sites on GAM337382 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337382 target RNA into GAM337382 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337382 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337382 target genes. The mRNA of each one of this plurality of GAM337382 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337382 RNA, herein designated GAM RNA, and which when bound by GAM337382 RNA causes inhibition of translation of the GAM337382 target mRNA into a corresponding GAM337382 target protein.

The mechanism of the translational inhibition exerted by GAM337382 RNA, herein designated GAM RNA, on one or more GAM337382 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337382 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337382 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337382 RNA, herein designated GAM RNA, of GAM337382 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337382 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337382 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337382 RNA correlate with, and may be deduced from, the identity of the GAM337382 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337383 141839 TCCTACAACT Fig. 8 further provides a conceptual description of another novel bioinformatically
TGAGTCTTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
ATACTGGTGT Messenger 337383 (GAM337383) oligonucleotides modulates expression of respective target
CACTTTCAGG genes whose function and utility is known in the art.

AGCTCTAAGA GAM337383 is a novel bioinformatically detectable regulatory, non protein
ATACGTCAAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337383 was detected
TCTCGCTTCT is described with additional reference to Figs. 9-15.

GAGTTGGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CCCCTCAACC encoded by the human genome.

AAGAAAGGA GAM337383 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337383 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337383 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337383 precursor RNA is designated SEQ ID:141839, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141839 is located from position 106366445 to position 106366543 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM337383 precursor RNA folds onto itself, forming GAM337383 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337383 precursor RNA, designated SEQ ID NO: 141839, and a schematic representation of a predicted secondary folding of GAM337383 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337383 folded precursor RNA yielding a GAM337383 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337383 RNA, hereby incorporated herein.

GAM337383 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337383 target RNA, herein designated GAM TARGET RNA.

GAM337383 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337383 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337383 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337383 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337383 RNA, herein designated GAM RNA, to target binding sites on GAM337383 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337383 target RNA into GAM337383 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337383 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337383 target genes. The mRNA of each one of this plurality of GAM337383 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337383 RNA, herein designated GAM RNA, and which when bound by GAM337383 RNA causes inhibition of translation of the GAM337383 target mRNA into a corresponding GAM337383 target protein.

The mechanism of the translational inhibition exerted by GAM337383 RNA, herein designated GAM RNA, on one or more GAM337383 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337383 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337383 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337383 RNA, herein designated GAM RNA, of GAM337383 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337383 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337383 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337383 RNA correlate with, and may be deduced from, the identity of the GAM337383 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337384 141840 GGGAGCAAGT Fig. 8 further provides a conceptual description of another novel bioinformatically
TTAGGGGTCA detected oligonucleotides of the present invention, referred to here as Genomic Address
GGTAGTGCTC Messenger 337384 (GAM337384) oligonucleotides modulates expression of respective target
CTCTTTTCCC genes whose function and utility is known in the art.

CTGAAATCAC GAM337384 is a novel bioinformatically detectable regulatory, non protein
ACAAGAATGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337384 was detected
GGAGGGCTTT is described with additional reference to Figs. 9-15.

CCCTGACTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCAAAGACTC encoded by the human genome.

CCTCCC GAM337384 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337384 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337384 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337384 precursor RNA is designated SEQ ID:141840, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141840 is located from position 106504624 to position 106504719 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337384 precursor RNA folds onto itself, forming GAM337384 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337384 precursor RNA, designated SEQ ID NO: 141840, and a schematic representation of a predicted secondary folding of GAM337384 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337384 folded precursor RNA yielding a GAM337384 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337384 RNA, hereby incorporated herein.

GAM337384 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337384 target RNA, herein designated GAM TARGET RNA.

GAM337384 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337384 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337384 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337384 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337384 RNA, herein designated GAM RNA, to target binding sites on GAM337384 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337384 target RNA into GAM337384 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337384 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337384 target genes. The mRNA of each one of this plurality of GAM337384 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337384 RNA, herein designated GAM RNA, and which when bound by GAM337384 RNA causes inhibition of translation of the GAM337384 target mRNA into a corresponding GAM337384 target protein.

The mechanism of the translational inhibition exerted by GAM337384 RNA, herein designated GAM RNA, on one or more GAM337384 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337384 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337384 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337384 RNA, herein designated GAM RNA, of GAM337384 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337384 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337384 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337384 RNA correlate with, and may be deduced from, the identity of the GAM337384 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337385 141841 TGAGGTAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATCGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACTCGGGAG Messenger 337385 (GAM337385) oligonucleotides modulates expression of respective target
GGGAGGCTGC genes whose function and utility is known in the art.

AGTGAGCCAA GAM337385 is a novel bioinformatically detectable regulatory, non protein
GATCACACAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337385 was detected
CACTGCACTC is described with additional reference to Figs. 9-15.

CAGCCTGGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AACAAAGTGA encoded by the human genome.

GACCCCCATC GAM337385 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TCA GAM337385 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337385 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337385 precursor RNA is designated SEQ ID:141841, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141841 is located from position 106622467 to position 106622569 relative to chromosome chr2 on the `-` strand (chr is an abbreviation for chromosome).

GAM337385 precursor RNA folds onto itself, forming GAM337385 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337385 precursor RNA, designated SEQ ID NO: 141841, and a schematic representation of a predicted secondary folding of GAM337385 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337385 folded precursor RNA yielding a GAM337385 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337385 RNA, hereby incorporated herein. Expression of GAM337385 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337385 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337385 target RNA, herein designated GAM TARGET RNA.

GAM337385 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337385 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337385 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337385 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337385 RNA, herein designated GAM RNA, to target binding sites on GAM337385 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337385 target RNA into GAM337385 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337385 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM337385 target genes. The mRNA of each one of this plurality of GAM337385 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337385 RNA, herein designated GAM RNA, and which when bound by GAM337385 RNA causes inhibition of translation of the GAM337385 target mRNA into a corresponding GAM337385 target protein.

The mechanism of the translational inhibition exerted by GAM337385 RNA, herein designated GAM RNA, on one or more GAM337385 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337385 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337385 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337385 RNA, herein designated GAM RNA, of GAM337385 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337385 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337385 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337385 RNA correlate with, and may be deduced from, the identity of the GAM337385 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337386 141842 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACTCGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGGGAGGC Messenger 337386 (GAM337386) oligonucleotides modulates expression of respective target

TGCAGTGAGC genes whose function and utility is known in the art.

CAAGATCACA GAM337386 is a novel bioinformatically detectable regulatory, non protein

CACCACTGCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337386 was detected

CTCCAGCCTG is described with additional reference to Figs. 9-15.

GGCAACAAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGAGACC encoded by the human genome.

GAM337386 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337386 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337386 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337386 precursor RNA is designated SEQ ID:141842, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141842 is located from position 106622476 to position 106622562 relative to chromosome chr2 on the `-` strand (chr is an abbreviation for chromosome).

GAM337386 precursor RNA folds onto itself, forming GAM337386 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337386 precursor RNA, designated SEQ ID NO: 141842, and a schematic representation of a predicted secondary folding of GAM337386 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337386 folded precursor RNA yielding a GAM337386 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337386 RNA, hereby incorporated herein. Expression of GAM337386 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337386 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337386 target RNA, herein designated GAM TARGET RNA.

GAM337386 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337386 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337386 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337386 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337386 RNA, herein designated GAM RNA, to target binding sites on GAM337386 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337386 target RNA into GAM337386 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337386 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337386 target genes. The mRNA of each one of this plurality of GAM337386 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337386 RNA, herein designated GAM RNA, and which when bound by GAM337386 RNA causes inhibition of translation of the GAM337386 target mRNA into a corresponding GAM337386 target protein.

The mechanism of the translational inhibition exerted by GAM337386 RNA, herein designated GAM RNA, on one or more GAM337386 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337386 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337386 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337386 RNA, herein designated GAM RNA, of GAM337386 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337386 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337386 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337386 RNA correlate with, and may be deduced from, the identity of the GAM337386 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337387 141843 TCGCTTGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically

TCGGGAGGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGCTGCAGT Messenger 337387 (GAM337387) oligonucleotides modulates expression of respective target

GAGCCAAGAT genes whose function and utility is known in the art.

CACACACCAC TGCACTCCAG CCTGGGCAAC AAAGTGA

GAM337387 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337387 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337387 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337387 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337387 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337387 precursor RNA is designated SEQ ID:141843, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141843 is located from position 106622480 to position 106622556 relative to chromosome chr2 on the `-` strand (chr is an abbreviation for chromosome).

GAM337387 precursor RNA folds onto itself, forming GAM337387 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337387 precursor RNA, designated SEQ ID NO: 141843, and a schematic representation of a predicted secondary folding of GAM337387 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337387 folded precursor RNA yielding a GAM337387 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337387 RNA, hereby incorporated herein. Expression of GAM337387 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337387 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337387 target RNA, herein designated GAM TARGET RNA.

GAM337387 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337387 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337387 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337387 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337387 RNA, herein designated GAM RNA, to target binding sites on GAM337387 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337387 target RNA into GAM337387 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337387 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337387 target genes. The mRNA of each one of this plurality of GAM337387 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337387 RNA, herein designated GAM RNA, and which when bound by GAM337387 RNA causes inhibition of translation of the GAM337387 target mRNA into a corresponding GAM337387 target protein.

The mechanism of the translational inhibition exerted by GAM337387 RNA, herein designated GAM RNA, on one or more GAM337387 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337387 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337387 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337387 RNA, herein designated GAM RNA, of GAM337387 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337387 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337387 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337387 RNA correlate with, and may be deduced from, the identity of the GAM337387 target gene

inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337388 141844 CATAATGAGT Fig. 8 further provides a conceptual description of another novel bioinformatically
CCACAGCCTC detected oligonucleotides of the present invention, referred to here as Genomic Address
GGGGGACGAT Messenger 337388 (GAM337388) oligonucleotides modulates expression of respective target
TGTTCCTGTT genes whose function and utility is known in the art.

TCTGTAGAAT GAM337388 is a novel bioinformatically detectable regulatory, non protein
TGATTTGAAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337388 was detected
CTTGAATAAT is described with additional reference to Figs. 9-15.

GTCCCACTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGGCAAGGT encoded by the human genome.

GATCATAAAT GAM337388 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

G GAM337388 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337388 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337388 precursor RNA is designated SEQ ID:141844, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141844 is located from position 106717983 to position 106718083 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM337388 precursor RNA folds onto itself, forming GAM337388 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337388 precursor RNA, designated SEQ ID NO: 141844, and a schematic representation of a predicted secondary folding of GAM337388 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337388 folded precursor RNA yielding a GAM337388 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly

similar to the nucleotide sequence of GAM337388 RNA, hereby incorporated herein.

GAM337388 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337388 target RNA, herein designated GAM TARGET RNA.

GAM337388 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337388 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337388 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337388 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337388 RNA, herein designated GAM RNA, to target binding sites on GAM337388 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337388 target RNA into GAM337388 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337388 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337388 target genes. The mRNA of each one of this plurality of GAM337388 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337388 RNA, herein designated GAM RNA, and which when bound by GAM337388 RNA causes inhibition of translation of the GAM337388 target mRNA into a corresponding GAM337388 target protein.

The mechanism of the translational inhibition exerted by GAM337388 RNA, herein designated GAM RNA, on one or more GAM337388 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337388 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337388 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337388 RNA, herein designated GAM RNA, of GAM337388 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337388 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337388 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337388 RNA correlate with, and may be deduced from, the identity of the GAM337388 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337389 141845 ATGAGTCCAC Fig. 8 further provides a conceptual description of another novel bioinformatically
AGCCTCGGGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GACGATTGTT Messenger 337389 (GAM337389) oligonucleotides modulates expression of respective target
CCTGTTTCTG genes whose function and utility is known in the art.

TAGAATTGAT GAM337389 is a novel bioinformatically detectable regulatory, non protein
TTGAAACTTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337389 was detected
AATAATGTCC is described with additional reference to Figs. 9-15.

CACTGGGAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAAGGTGATC encoded by the human genome.

AT GAM337389 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337389 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337389 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337389 precursor RNA is designated SEQ ID:141845, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141845 is located from position 106717988 to position 106718079 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM337389 precursor RNA folds onto itself, forming GAM337389 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337389 precursor RNA, designated SEQ ID NO: 141845, and a schematic representation of a predicted secondary folding of GAM337389 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337389 folded precursor RNA yielding a GAM337389 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337389 RNA, hereby incorporated herein.

GAM337389 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337389 target RNA, herein designated GAM TARGET RNA.

GAM337389 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337389 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337389 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337389 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337389 RNA, herein designated GAM RNA, to target binding sites on GAM337389 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337389 target RNA into GAM337389 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337389 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337389 target genes. The mRNA of each one of this plurality of GAM337389 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337389 RNA, herein designated GAM RNA, and which when bound by GAM337389 RNA causes inhibition of translation of the GAM337389 target mRNA into a corresponding GAM337389 target protein.

The mechanism of the translational inhibition exerted by GAM337389 RNA, herein designated GAM RNA, on one or more GAM337389 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337389 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM337389 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337389 RNA, herein designated GAM RNA, of GAM337389 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337389 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337389 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337389 RNA correlate with, and may be deduced from, the identity of the GAM337389 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337390 141846 CCATGCTAAA Fig. 8 further provides a conceptual description of another novel bioinformatically

TAAAGGAGAG detected oligonucleotides of the present invention, referred to here as Genomic Address

CTTAGGTAGA Messenger 337390 (GAM337390) oligonucleotides modulates expression of respective target

CAGACTTGAC genes whose function and utility is known in the art.

CTTGGAGAGG GAM337390 is a novel bioinformatically detectable regulatory, non protein

CCAGAGAAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337390 was detected

CTTCTCTGAG is described with additional reference to Figs. 9-15.

GACAGAAAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTGTGCTGAA encoded by the human genome.

GTCTGAAGTG GAM337390 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TAAGTAGG GAM337390 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337390 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337390 precursor RNA is designated SEQ ID:141846, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141846 is located from position 106800362 to position 106800469 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337390 precursor RNA folds onto itself, forming GAM337390 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337390 precursor RNA, designated SEQ ID NO: 141846, and a schematic representation of a predicted secondary folding of GAM337390 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337390 folded precursor RNA yielding a GAM337390 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337390 RNA, hereby incorporated herein.

GAM337390 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337390 target RNA, herein designated GAM TARGET RNA.

GAM337390 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337390 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337390 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337390 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337390 RNA, herein designated GAM RNA, to target binding sites on GAM337390 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337390 target RNA into GAM337390 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337390 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337390 target genes. The mRNA of each one of this plurality of GAM337390 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337390 RNA, herein designated GAM RNA, and which when bound by GAM337390 RNA causes inhibition of

translation of the GAM337390 target mRNA into a corresponding GAM337390 target protein.

The mechanism of the translational inhibition exerted by GAM337390 RNA, herein designated GAM RNA, on one or more GAM337390 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337390 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337390 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337390 RNA, herein designated GAM RNA, of GAM337390 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337390 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337390 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337390 RNA correlate with, and may be deduced from, the identity of the GAM337390 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337391 141847 AGAGCTTAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TAGACAGACT detected oligonucleotides of the present invention, referred to here as Genomic Address

TGACCTTGGA Messenger 337391 (GAM337391) oligonucleotides modulates expression of respective target

GAGGCCAGAG genes whose function and utility is known in the art.

AAGCCTTCTC GAM337391 is a novel bioinformatically detectable regulatory, non protein

TGAGGACAGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337391 was detected

AAGTTTGTGC is described with additional reference to Figs. 9-15.

TGAAGTCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337391 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337391 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337391 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM337391 precursor RNA is designated SEQ ID:141847, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141847 is located from position 106800378 to position 106800455 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337391 precursor RNA folds onto itself, forming GAM337391 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337391 precursor RNA, designated SEQ ID NO: 141847, and a schematic representation of a predicted secondary folding of GAM337391 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337391 folded precursor RNA yielding a GAM337391 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337391 RNA, hereby incorporated herein.

GAM337391 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337391 target RNA, herein designated GAM TARGET RNA.

GAM337391 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337391 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337391 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337391 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337391 RNA, herein designated GAM RNA, to target binding sites on GAM337391 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337391 target RNA

into GAM337391 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337391 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337391 target genes. The mRNA of each one of this plurality of GAM337391 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337391 RNA, herein designated GAM RNA, and which when bound by GAM337391 RNA causes inhibition of translation of the GAM337391 target mRNA into a corresponding GAM337391 target protein.

The mechanism of the translational inhibition exerted by GAM337391 RNA, herein designated GAM RNA, on one or more GAM337391 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337391 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337391 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337391 RNA, herein designated GAM RNA, of GAM337391 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337391 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337391 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337391 RNA correlate with, and may be deduced from, the identity of the GAM337391 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337392 141848 TAGTTTTTAC Fig. 8 further provides a conceptual description of another novel bioinformatically
CTTGTAGACC detected oligonucleotides of the present invention, referred to here as Genomic Address
CCCTGAAATG Messenger 337392 (GAM337392) oligonucleotides modulates expression of respective target
GTCTTCGGCA genes whose function and utility is known in the art.

TCTGTAGTGG GAM337392 is a novel bioinformatically detectable regulatory, non protein
TCCCAGACCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337392 was detected
TACCTTGAAA is described with additional reference to Figs. 9-15.

ACTACTGCAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTTACGAAGA encoded by the human genome.

AGATTGTTTC GAM337392 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GGTAATGACT GAM337392 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

G GAM337392 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337392 precursor RNA is designated SEQ ID:141848, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141848 is located from position 107297330 to position 107297440 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337392 precursor RNA folds onto itself, forming GAM337392 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337392 precursor RNA, designated SEQ ID NO: 141848, and a schematic representation of a predicted secondary folding of GAM337392 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337392 folded precursor RNA yielding a GAM337392 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337392 RNA, hereby incorporated herein.

GAM337392 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337392 target RNA, herein designated GAM TARGET RNA.

GAM337392 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337392 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337392 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337392 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337392 RNA, herein designated GAM RNA, to target binding sites on GAM337392 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337392 target RNA into GAM337392 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337392 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337392 target genes. The mRNA of each one of this plurality of GAM337392 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337392 RNA, herein designated GAM RNA, and which when bound by GAM337392 RNA causes inhibition of translation of the GAM337392 target mRNA into a corresponding GAM337392 target protein.

The mechanism of the translational inhibition exerted by GAM337392 RNA, herein designated GAM RNA, on one or more GAM337392 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337392 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337392 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337392 RNA, herein designated GAM RNA, of GAM337392 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337392 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337392 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337392 RNA correlate with, and may be deduced from, the identity of the GAM337392 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337393 141849 GGAGAATTGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GACGTGGAGG Messenger 337393 (GAM337393) oligonucleotides modulates expression of respective target
TTGCCATGAG genes whose function and utility is known in the art.

CTGAGATCAC GAM337393 is a novel bioinformatically detectable regulatory, non protein
GCCATTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337393 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CGAAACTCC encoded by the human genome.

GAM337393 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337393 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337393 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337393 precursor RNA is designated SEQ ID:141849, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141849 is located from position 107416407 to position 107416495 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM337393 precursor RNA folds onto itself, forming GAM337393 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337393 precursor RNA, designated SEQ ID NO: 141849, and a schematic representation of a predicted secondary folding of GAM337393 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337393 folded precursor RNA yielding a GAM337393 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337393 RNA, hereby incorporated herein. Expression of GAM337393 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337393 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337393 target RNA, herein designated GAM TARGET RNA.

GAM337393 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337393 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337393 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337393 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337393 RNA, herein designated GAM RNA, to target binding sites on GAM337393 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337393 target RNA into GAM337393 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337393 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337393 target genes. The mRNA of each one of this plurality of GAM337393 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337393 RNA, herein designated GAM RNA, and which when bound by GAM337393 RNA causes inhibition of translation of the GAM337393 target mRNA into a corresponding GAM337393 target protein.

The mechanism of the translational inhibition exerted by GAM337393 RNA, herein designated GAM RNA, on one or more GAM337393 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337393 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337393 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337393 RNA, herein designated GAM RNA, of GAM337393 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337393 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337393 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337393 RNA correlate with, and may be deduced from, the identity of the GAM337393 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337394 141850 CACTTGAACC TGGAAGGCAG GGGTTGCAGT GAGCTGAGAT TGTGCCATTG CACTCCAGCC TGGGCAACAA GTG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337394 (GAM337394) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337394 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337394 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337394 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337394 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337394 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337394 precursor RNA is designated SEQ ID:141850, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141850 is located from position 107752512 to position 107752584 relative to chromosome chr5 on the `+` strand (chr is an abbreviation for chromosome).

GAM337394 precursor RNA folds onto itself, forming GAM337394 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337394 precursor RNA, designated SEQ ID NO: 141850, and a schematic representation of a predicted secondary folding of GAM337394 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337394 folded precursor RNA yielding a GAM337394 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337394 RNA, hereby incorporated herein. Expression of GAM337394 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337394 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337394 target RNA, herein designated GAM TARGET RNA.

GAM337394 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337394 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337394 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337394 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337394 RNA, herein designated GAM RNA, to target binding sites on GAM337394 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337394 target RNA into GAM337394 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337394 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337394 target genes. The mRNA of each one of this plurality of GAM337394 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337394 RNA, herein designated GAM RNA, and which when bound by GAM337394 RNA causes inhibition of translation of the GAM337394 target mRNA into a corresponding GAM337394 target protein.

The mechanism of the translational inhibition exerted by GAM337394 RNA, herein designated GAM RNA, on one or more GAM337394 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337394 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337394 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337394 RNA, herein designated GAM RNA, of GAM337394 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337394 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337394 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337394 RNA correlate with, and may be deduced from, the identity of the GAM337394 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337395 141851 TGAGGTAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATCGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACTCGGGAG Messenger 337395 (GAM337395) oligonucleotides modulates expression of respective target

GGGAGGCTGC genes whose function and utility is known in the art.

AGTGAGCCAA GAM337395 is a novel bioinformatically detectable regulatory, non protein

GATCACACAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337395 was detected

CACTGCACTC is described with additional reference to Figs. 9-15.

CAGCCTGGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AACAAAGTGA encoded by the human genome.

GACCCCCATC GAM337395 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TCA GAM337395 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337395 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337395 precursor RNA is designated SEQ ID:141851, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141851 is located from position 108115430 to position 108115532 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GAM337395 precursor RNA folds onto itself, forming GAM337395 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337395 precursor RNA, designated SEQ ID NO: 141851, and a schematic representation of a predicted secondary folding of GAM337395 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337395 folded precursor RNA yielding a GAM337395 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337395 RNA, hereby incorporated herein. Expression of GAM337395 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337395 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337395 target RNA, herein designated GAM TARGET RNA.

GAM337395 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337395 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337395 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337395 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337395 RNA, herein designated GAM RNA, to target binding sites on GAM337395 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337395 target RNA into GAM337395 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337395 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337395 target genes. The mRNA of each one of this plurality of GAM337395 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337395 RNA, herein designated GAM RNA, and which when bound by GAM337395 RNA causes inhibition of translation of the GAM337395 target mRNA into a corresponding GAM337395 target protein.

The mechanism of the translational inhibition exerted by GAM337395 RNA, herein designated GAM RNA, on one or more GAM337395 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337395 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337395 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337395 RNA, herein designated GAM RNA, of GAM337395 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337395 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337395 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337395 RNA correlate with, and may be deduced from, the identity of the GAM337395 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337396 141852 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACTCGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGGGAGGC Messenger 337396 (GAM337396) oligonucleotides modulates expression of respective target

TGCAGTGAGC genes whose function and utility is known in the art.

CAAGATCACA GAM337396 is a novel bioinformatically detectable regulatory, non protein

CACCACTGCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337396 was detected

CTCCAGCCTG is described with additional reference to Figs. 9-15.

GGCAACAAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGAGACC encoded by the human genome.

GAM337396 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337396 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337396 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337396 precursor RNA is designated SEQ ID:141852, and is provided hereinbelow with reference to the sequence listing part.

Nucleotide sequence SEQ ID:141852 is located from position 108115437 to position 108115523 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GAM337396 precursor RNA folds onto itself, forming GAM337396 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337396 precursor RNA, designated SEQ ID NO: 141852, and a schematic representation of a predicted secondary folding of GAM337396 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337396 folded precursor RNA yielding a GAM337396 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337396 RNA, hereby incorporated herein. Expression of GAM337396 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337396 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337396 target RNA, herein designated GAM TARGET RNA.

GAM337396 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337396 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337396 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337396 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337396 RNA, herein designated GAM RNA, to target binding sites on GAM337396 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337396 target RNA

into GAM337396 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337396 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337396 target genes. The mRNA of each one of this plurality of GAM337396 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337396 RNA, herein designated GAM RNA, and which when bound by GAM337396 RNA causes inhibition of translation of the GAM337396 target mRNA into a corresponding GAM337396 target protein.

The mechanism of the translational inhibition exerted by GAM337396 RNA, herein designated GAM RNA, on one or more GAM337396 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337396 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337396 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337396 RNA, herein designated GAM RNA, of GAM337396 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337396 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337396 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337396 RNA correlate with, and may be deduced from, the identity of the GAM337396 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337397 141853 TCGCTTGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically

TCGGGAGGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGCTGCAGT Messenger 337397 (GAM337397) oligonucleotides modulates expression of respective target

GAGCCAAGAT genes whose function and utility is known in the art.

CACACACCAC GAM337397 is a novel bioinformatically detectable regulatory, non protein

TGCACTCCAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337397 was detected

CCTGGGCAAC is described with additional reference to Figs. 9-15.

AAAGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337397 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337397 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337397 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337397 precursor RNA is designated SEQ ID:141853, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141853 is located from position 108115443 to position 108115519 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GAM337397 precursor RNA folds onto itself, forming GAM337397 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337397 precursor RNA, designated SEQ ID NO: 141853, and a schematic representation of a predicted secondary folding of GAM337397 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337397 folded precursor RNA yielding a GAM337397 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337397 RNA, hereby incorporated herein. Expression of GAM337397 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337397 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337397 target RNA, herein designated GAM TARGET RNA.

GAM337397 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337397 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337397 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337397 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337397 RNA, herein designated GAM RNA, to target binding sites on GAM337397 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337397 target RNA into GAM337397 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337397 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337397 target genes. The mRNA of each one of this plurality of GAM337397 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337397 RNA, herein designated GAM RNA, and which when bound by GAM337397 RNA causes inhibition of translation of the GAM337397 target mRNA into a corresponding GAM337397 target protein.

The mechanism of the translational inhibition exerted by GAM337397 RNA, herein designated GAM RNA, on one or more GAM337397 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337397 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337397 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337397 RNA, herein designated GAM RNA, of GAM337397 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337397 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337397 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337397 RNA correlate with, and may be deduced from, the identity of the GAM337397 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337398 141854 GGAAGGCCAT Fig. 8 further provides a conceptual description of another novel bioinformatically

GTTAGACGGC detected oligonucleotides of the present invention, referred to here as Genomic Address
AAAATGGTTT Messenger 337398 (GAM337398) oligonucleotides modulates expression of respective target
TCTAGAACAT genes whose function and utility is known in the art.

GAAATGGAAT GAM337398 is a novel bioinformatically detectable regulatory, non protein
ATACATTGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337398 was detected
CTCATTTCTA is described with additional reference to Figs. 9-15.

TAAACCAGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTCTAACAAG encoded by the human genome.

GGCTTCC GAM337398 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337398 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337398 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337398 precursor RNA is designated SEQ ID:141854, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141854 is located from position 108481444 to position 108481540 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337398 precursor RNA folds onto itself, forming GAM337398 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337398 precursor RNA, designated SEQ ID NO: 141854, and a schematic representation of a predicted secondary folding of GAM337398 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337398 folded precursor RNA yielding a GAM337398 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337398 RNA, hereby incorporated herein.

GAM337398 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337398 target RNA, herein designated GAM TARGET RNA.

GAM337398 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337398 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337398 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337398 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337398 RNA, herein designated GAM RNA, to target binding sites on GAM337398 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337398 target RNA into GAM337398 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337398 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337398 target genes. The mRNA of each one of this plurality of GAM337398 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337398 RNA, herein designated GAM RNA, and which when bound by GAM337398 RNA causes inhibition of translation of the GAM337398 target mRNA into a corresponding GAM337398 target protein.

The mechanism of the translational inhibition exerted by GAM337398 RNA, herein designated GAM RNA, on one or more GAM337398 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337398 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337398 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337398 RNA, herein designated GAM RNA, of GAM337398 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337398 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337398 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337398 RNA correlate with, and may be deduced from, the identity of the GAM337398 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337399 141855 TGAGGTAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATCACTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACTCGGGAG Messenger 337399 (GAM337399) oligonucleotides modulates expression of respective target
GGGAGGCTGC genes whose function and utility is known in the art.

AGTGAGCCAA GAM337399 is a novel bioinformatically detectable regulatory, non protein
GATCACACAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337399 was detected
CACTGCACTC is described with additional reference to Figs. 9-15.

CAGCCTGGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AACAAAGTGA encoded by the human genome.

GACCCCCATC GAM337399 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TCA GAM337399 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337399 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337399 precursor RNA is designated SEQ ID:141855, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141855 is located from position 108732269 to position 108732371 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GAM337399 precursor RNA folds onto itself, forming GAM337399 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337399 precursor RNA, designated SEQ ID NO: 141855, and a schematic representation of a predicted secondary folding of GAM337399 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337399 folded precursor RNA yielding a GAM337399 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337399 RNA, hereby incorporated herein. Expression of GAM337399 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337399 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337399 target RNA, herein designated GAM TARGET RNA.

GAM337399 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337399 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337399 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337399 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337399 RNA, herein designated GAM RNA, to target binding sites on GAM337399 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337399 target RNA into GAM337399 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337399 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337399 target genes. The mRNA of each one of this plurality of GAM337399 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337399 RNA, herein designated GAM RNA, and which when bound by GAM337399 RNA causes inhibition of translation of the GAM337399 target mRNA into a corresponding GAM337399 target protein.

The mechanism of the translational inhibition exerted by GAM337399 RNA, herein designated GAM RNA, on one or more GAM337399 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337399 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337399 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337399 RNA, herein designated GAM RNA, of GAM337399 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337399 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337399 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337399 RNA correlate with, and may be deduced from, the identity of the GAM337399 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337400 141856 GGAGAATCAC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACTCGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGGGAGGC Messenger 337400 (GAM337400) oligonucleotides modulates expression of respective target

TGCAGTGAGC genes whose function and utility is known in the art.

CAAGATCACA GAM337400 is a novel bioinformatically detectable regulatory, non protein

CACCACTGCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337400 was detected

CTCCAGCCTG is described with additional reference to Figs. 9-15.

GGCAACAAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGAGACC encoded by the human genome.

GAM337400 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337400 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337400 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337400 precursor RNA is designated SEQ ID:141856, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141856 is located from position 108732276 to position 108732362 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GAM337400 precursor RNA folds onto itself, forming GAM337400 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337400 precursor RNA, designated SEQ ID NO: 141856, and a schematic representation of a predicted secondary folding of GAM337400 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337400 folded precursor RNA yielding a GAM337400 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337400 RNA, hereby incorporated herein. Expression of GAM337400 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337400 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337400 target RNA, herein designated GAM TARGET RNA.

GAM337400 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337400 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337400 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337400 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337400 RNA, herein designated GAM RNA, to target binding sites on GAM337400 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337400 target RNA into GAM337400 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337400 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337400 target genes. The mRNA of each one of this plurality of GAM337400 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337400 RNA, herein designated GAM RNA, and which when bound by GAM337400 RNA causes inhibition of translation of the GAM337400 target mRNA into a corresponding GAM337400 target protein.

The mechanism of the translational inhibition exerted by GAM337400 RNA, herein designated GAM RNA, on one or more GAM337400 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337400 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337400 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337400 RNA, herein designated GAM RNA, of GAM337400 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337400 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337400 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337400 RNA correlate with, and may be deduced from, the identity of the GAM337400 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337401 141857 GGAGAATCAC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACTCGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGGGAGGC Messenger 337401 (GAM337401) oligonucleotides modulates expression of respective target

TGCAGTGAGC genes whose function and utility is known in the art.

CAAGATCACA GAM337401 is a novel bioinformatically detectable regulatory, non protein

CACCACTGCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337401 was detected

CTCCAGCCTG is described with additional reference to Figs. 9-15.

GGCAACAAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGAGACCC encoded by the human genome.

GAM337401 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337401 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337401 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337401 precursor RNA is designated SEQ ID:141857, and is provided hereinbelow with reference to the sequence listing part.

Nucleotide sequence SEQ ID:141857 is located from position 108732276 to position 108732363 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GAM337401 precursor RNA folds onto itself, forming GAM337401 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337401 precursor RNA, designated SEQ ID NO: 141857, and a schematic representation of a predicted secondary folding of GAM337401 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337401 folded precursor RNA yielding a GAM337401 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337401 RNA, hereby incorporated herein. Expression of GAM337401 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337401 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337401 target RNA, herein designated GAM TARGET RNA.

GAM337401 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337401 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337401 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337401 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337401 RNA, herein designated GAM RNA, to target binding sites on GAM337401 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337401 target RNA

into GAM337401 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337401 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337401 target genes. The mRNA of each one of this plurality of GAM337401 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337401 RNA, herein designated GAM RNA, and which when bound by GAM337401 RNA causes inhibition of translation of the GAM337401 target mRNA into a corresponding GAM337401 target protein.

The mechanism of the translational inhibition exerted by GAM337401 RNA, herein designated GAM RNA, on one or more GAM337401 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337401 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337401 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337401 RNA, herein designated GAM RNA, of GAM337401 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337401 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337401 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337401 RNA correlate with, and may be deduced from, the identity of the GAM337401 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337402 141858 TCACTTGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically

TCGGGAGGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGCTGCAGT Messenger 337402 (GAM337402) oligonucleotides modulates expression of respective target

GAGCCAAGAT genes whose function and utility is known in the art.

CACACACCAC GAM337402 is a novel bioinformatically detectable regulatory, non protein

TGCACTCCAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337402 was detected

CCTGGGCAAC is described with additional reference to Figs. 9-15.

AAAGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337402 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337402 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337402 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337402 precursor RNA is designated SEQ ID:141858, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141858 is located from position 108732282 to position 108732358 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GAM337402 precursor RNA folds onto itself, forming GAM337402 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337402 precursor RNA, designated SEQ ID NO: 141858, and a schematic representation of a predicted secondary folding of GAM337402 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337402 folded precursor RNA yielding a GAM337402 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337402 RNA, hereby incorporated herein. Expression of GAM337402 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337402 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337402 target RNA, herein designated GAM TARGET RNA.

GAM337402 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337402 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337402 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337402 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337402 RNA, herein designated GAM RNA, to target binding sites on GAM337402 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337402 target RNA into GAM337402 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337402 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337402 target genes. The mRNA of each one of this plurality of GAM337402 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337402 RNA, herein designated GAM RNA, and which when bound by GAM337402 RNA causes inhibition of translation of the GAM337402 target mRNA into a corresponding GAM337402 target protein.

The mechanism of the translational inhibition exerted by GAM337402 RNA, herein designated GAM RNA, on one or more GAM337402 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337402 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337402 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337402 RNA, herein designated GAM RNA, of GAM337402 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337402 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337402 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337402 RNA correlate with, and may be deduced from, the identity of the GAM337402 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337403 141859 TCAGTCCCTT Fig. 8 further provides a conceptual description of another novel bioinformatically

TGGGTGTGAC detected oligonucleotides of the present invention, referred to here as Genomic Address
TGCTGTACAC Messenger 337403 (GAM337403) oligonucleotides modulates expression of respective target
ATTTTCATGT genes whose function and utility is known in the art.

TACCATTGAC GAM337403 is a novel bioinformatically detectable regulatory, non protein
ATCTTCAGTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337403 was detected
TTTCAATGTG is described with additional reference to Figs. 9-15.

ATGTGTAATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CATATAAGCA encoded by the human genome.

GCATATGTAG GAM337403 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TGGTTGA GAM337403 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337403 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337403 precursor RNA is designated SEQ ID:141859, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141859 is located from position 109155677 to position 109155783 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM337403 precursor RNA folds onto itself, forming GAM337403 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337403 precursor RNA, designated SEQ ID NO: 141859, and a schematic representation of a predicted secondary folding of GAM337403 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337403 folded precursor RNA yielding a GAM337403 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337403 RNA, hereby incorporated herein.

GAM337403 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337403 target RNA, herein designated GAM TARGET RNA.

GAM337403 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337403 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337403 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337403 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337403 RNA, herein designated GAM RNA, to target binding sites on GAM337403 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337403 target RNA into GAM337403 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337403 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337403 target genes. The mRNA of each one of this plurality of GAM337403 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337403 RNA, herein designated GAM RNA, and which when bound by GAM337403 RNA causes inhibition of translation of the GAM337403 target mRNA into a corresponding GAM337403 target protein.

The mechanism of the translational inhibition exerted by GAM337403 RNA, herein designated GAM RNA, on one or more GAM337403 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337403 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337403 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337403 RNA, herein designated GAM RNA, of GAM337403 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337403 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337403 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337403 RNA correlate with, and may be deduced from, the identity of the GAM337403 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337404 141860 GGAGTATCCT GGGGATCAGT TCAAATGCAG ATTCAGGAGT TCTGGGGCCA GGCCTGAGAC TCTGCATTTA TAGCAAGCCC CCAGGTGACG CC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337404 (GAM337404) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337404 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337404 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337404 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337404 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337404 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337404 precursor RNA is designated SEQ ID:141860, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141860 is located from position 109909022 to position 109909113 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM337404 precursor RNA folds onto itself, forming GAM337404 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337404 precursor RNA, designated SEQ ID NO: 141860, and a schematic representation of a predicted secondary folding of GAM337404 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337404 folded precursor RNA yielding a GAM337404 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337404 RNA, hereby incorporated herein.

GAM337404 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337404 target RNA, herein designated GAM TARGET RNA.

GAM337404 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337404 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337404 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337404 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337404 RNA, herein designated GAM RNA, to target binding sites on GAM337404 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337404 target RNA into GAM337404 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337404 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337404 target genes. The mRNA of each one of this plurality of GAM337404 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337404 RNA, herein designated GAM RNA, and which when bound by GAM337404 RNA causes inhibition of translation of the GAM337404 target mRNA into a corresponding GAM337404 target protein.

The mechanism of the translational inhibition exerted by GAM337404 RNA, herein designated GAM RNA, on one or more GAM337404 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337404 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337404 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337404 RNA, herein designated GAM RNA, of GAM337404 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337404 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337404 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337404 RNA correlate with, and may be deduced from, the identity of the GAM337404 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337405 141861 CTGAGGCAGG Fig. 8 further provides a conceptual description of another novel bioinformatically
AGAATTGCTT detected oligonucleotides of the present invention, referred to here as Genomic Address
GTACCCGGGA Messenger 337405 (GAM337405) oligonucleotides modulates expression of respective target
GGTGAAGGTT genes whose function and utility is known in the art.

GCAGTGAGCC GAM337405 is a novel bioinformatically detectable regulatory, non protein
GAGATGGTGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337405 was detected
CACTGCACTC is described with additional reference to Figs. 9-15.

CAGCCTGGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AACAGAGCAA encoded by the human genome.

GGCCCTGTTT GAM337405 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CAG GAM337405 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337405 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337405 precursor RNA is designated SEQ ID:141861, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141861 is located from position 109967299 to position 109967401 relative to chromosome chr4 on the `+` strand (chr is an abbreviation for chromosome).

GAM337405 precursor RNA folds onto itself, forming GAM337405 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337405 precursor RNA, designated SEQ ID NO: 141861, and a schematic representation of a predicted secondary folding of GAM337405 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337405 folded precursor RNA yielding a GAM337405 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337405 RNA, hereby incorporated herein. Expression of GAM337405 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337405 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337405 target RNA, herein designated GAM TARGET RNA.

GAM337405 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337405 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337405 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337405 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337405 RNA, herein designated GAM RNA, to target binding sites on GAM337405 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337405 target RNA into GAM337405 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337405 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337405 target genes. The mRNA of each one of this plurality of GAM337405 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337405 RNA, herein designated GAM RNA, and which when bound by GAM337405 RNA causes inhibition of translation of the GAM337405 target mRNA into a corresponding GAM337405 target protein.

The mechanism of the translational inhibition exerted by GAM337405 RNA, herein designated GAM RNA, on one or more GAM337405 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337405 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337405 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337405 RNA, herein designated GAM RNA, of GAM337405 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337405 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337405 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337405 RNA correlate with, and may be deduced from, the identity of the GAM337405 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337406 141862 TTGGAATAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

GTCCCGTCCC detected oligonucleotides of the present invention, referred to here as Genomic Address

GATAAATTCA Messenger 337406 (GAM337406) oligonucleotides modulates expression of respective target

TTGTAAGATG genes whose function and utility is known in the art.

AAGATACTAT GAM337406 is a novel bioinformatically detectable regulatory, non protein

AAGTTGAAAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337406 was detected

TGCGTTTTCA is described with additional reference to Figs. 9-15.

ATTTATGATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGTTTATCTG encoded by the human genome.

GATGTAACCC GAM337406 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CACCAA GAM337406 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337406 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337406 precursor RNA is designated SEQ ID:141862, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141862 is located from position 109997900 to position 109998005 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM337406 precursor RNA folds onto itself, forming GAM337406 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337406 precursor RNA, designated SEQ ID NO: 141862, and a schematic representation of a predicted secondary folding of GAM337406 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337406 folded precursor RNA yielding a GAM337406 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337406 RNA, hereby incorporated herein.

GAM337406 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337406 target RNA, herein designated GAM TARGET RNA.

GAM337406 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337406 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337406 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337406 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337406 RNA, herein designated GAM RNA, to target binding sites on GAM337406 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337406 target RNA into GAM337406 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337406 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM337406 target genes. The mRNA of each one of this plurality of GAM337406 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337406 RNA, herein designated GAM RNA, and which when bound by GAM337406 RNA causes inhibition of translation of the GAM337406 target mRNA into a corresponding GAM337406 target protein.

The mechanism of the translational inhibition exerted by GAM337406 RNA, herein designated GAM RNA, on one or more GAM337406 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337406 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337406 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337406 RNA, herein designated GAM RNA, of GAM337406 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337406 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337406 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337406 RNA correlate with, and may be deduced from, the identity of the GAM337406 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337407 141863 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337407 (GAM337407) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337407 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337407 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM337407 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337407 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337407 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337407 precursor RNA is designated SEQ ID:141863, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141863 is located from position 110039924 to position 110040005 relative to chromosome chr5 on the `-` strand (chr is an abbreviation for chromosome).

GAM337407 precursor RNA folds onto itself, forming GAM337407 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337407 precursor RNA, designated SEQ ID NO: 141863, and a schematic representation of a predicted secondary folding of GAM337407 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337407 folded precursor RNA yielding a GAM337407 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337407 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337407 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337407 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337407 target RNA, herein designated GAM TARGET RNA.

GAM337407 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337407 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337407 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337407 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337407 RNA, herein designated GAM RNA, to target binding sites on GAM337407 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337407 target RNA into GAM337407 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337407 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337407 target genes. The mRNA of each one of this plurality of GAM337407 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337407 RNA, herein designated GAM RNA, and which when bound by GAM337407 RNA causes inhibition of translation of the GAM337407 target mRNA into a corresponding GAM337407 target protein.

The mechanism of the translational inhibition exerted by GAM337407 RNA, herein designated GAM RNA, on one or more GAM337407 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337407 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337407 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337407 RNA, herein designated GAM RNA, of GAM337407 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337407 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337407 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337407 RNA correlate with, and may be deduced from, the identity of the GAM337407 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337408 141864 TTAGGAAAGT Fig. 8 further provides a conceptual description of another novel bioinformatically

AGTTTTAATC detected oligonucleotides of the present invention, referred to here as Genomic Address

TCATAGGCCC Messenger 337408 (GAM337408) oligonucleotides modulates expression of respective target

CCAGTGGGGA genes whose function and utility is known in the art.

TCCCCTGGGA GAM337408 is a novel bioinformatically detectable regulatory, non protein
TCCTCTGGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337408 was detected
ATGCTGTGAG is described with additional reference to Figs. 9-15.

AACTGCTAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTAG encoded by the human genome.

GAM337408 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337408 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337408 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337408 precursor RNA is designated SEQ ID:141864, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141864 is located from position 110149400 to position 110149483 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337408 precursor RNA folds onto itself, forming GAM337408 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337408 precursor RNA, designated SEQ ID NO: 141864, and a schematic representation of a predicted secondary folding of GAM337408 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337408 folded precursor RNA yielding a GAM337408 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337408 RNA, hereby incorporated herein.

GAM337408 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337408 target RNA, herein designated GAM TARGET RNA.

GAM337408 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337408 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337408 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337408 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337408 RNA, herein designated GAM RNA, to target binding sites on GAM337408 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337408 target RNA into GAM337408 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337408 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337408 target genes. The mRNA of each one of this plurality of GAM337408 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337408 RNA, herein designated GAM RNA, and which when bound by GAM337408 RNA causes inhibition of translation of the GAM337408 target mRNA into a corresponding GAM337408 target protein.

The mechanism of the translational inhibition exerted by GAM337408 RNA, herein designated GAM RNA, on one or more GAM337408 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337408 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337408 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337408 RNA, herein designated GAM RNA, of GAM337408 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337408 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337408 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337408 RNA correlate with, and may be deduced from, the identity of the GAM337408 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337409 141865 TGAGGTAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATCGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACTCGGGAG Messenger 337409 (GAM337409) oligonucleotides modulates expression of respective target
GGGAGGCTGC genes whose function and utility is known in the art.

AGTGAGCCAA GAM337409 is a novel bioinformatically detectable regulatory, non protein
GATCACACAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337409 was detected
CACTGCACTC is described with additional reference to Figs. 9-15.

CAGCCTGGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AACAAAGTGA encoded by the human genome.

GACCCCCATC GAM337409 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TCA GAM337409 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337409 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337409 precursor RNA is designated SEQ ID:141865, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141865 is located from position 110164979 to position 110165081 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GAM337409 precursor RNA folds onto itself, forming GAM337409 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337409 precursor RNA, designated SEQ ID NO: 141865, and a schematic representation of a predicted secondary folding of GAM337409 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337409 folded precursor RNA yielding a GAM337409 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337409 RNA, hereby incorporated herein. Expression of GAM337409 RNA was experimentally validated in HeLa cells using the methods

described with reference to Figs.22 to 24.

GAM337409 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337409 target RNA, herein designated GAM TARGET RNA.

GAM337409 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337409 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337409 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337409 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337409 RNA, herein designated GAM RNA, to target binding sites on GAM337409 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337409 target RNA into GAM337409 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337409 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337409 target genes. The mRNA of each one of this plurality of GAM337409 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337409 RNA, herein designated GAM RNA, and which when bound by GAM337409 RNA causes inhibition of translation of the GAM337409 target mRNA into a corresponding GAM337409 target protein.

The mechanism of the translational inhibition exerted by GAM337409 RNA, herein designated GAM RNA, on one or more GAM337409 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337409 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337409 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337409 RNA, herein designated GAM RNA, of GAM337409 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337409 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337409 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337409 RNA correlate with, and may be deduced from, the identity of the GAM337409 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337410 141866 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACTCGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGGGAGGC Messenger 337410 (GAM337410) oligonucleotides modulates expression of respective target
TGCAGTGAGC genes whose function and utility is known in the art.

CAAGATCACA GAM337410 is a novel bioinformatically detectable regulatory, non protein
CACCACTGCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337410 was detected
CTCCAGCCTG is described with additional reference to Figs. 9-15.

GGCAACAAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGAGACC encoded by the human genome.

GAM337410 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337410 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337410 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337410 precursor RNA is designated SEQ ID:141866, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141866 is located from position 110164986 to position 110165072 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GAM337410 precursor RNA folds onto itself, forming GAM337410 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337410 precursor RNA, designated SEQ ID NO: 141866, and a schematic representation of a predicted secondary folding of GAM337410 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337410 folded precursor RNA yielding a GAM337410 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337410 RNA, hereby incorporated herein. Expression of GAM337410 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337410 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337410 target RNA, herein designated GAM TARGET RNA.

GAM337410 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337410 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337410 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337410 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337410 RNA, herein designated GAM RNA, to target binding sites on GAM337410 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337410 target RNA into GAM337410 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337410 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337410 target genes. The mRNA of each one of this plurality of GAM337410 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337410 RNA, herein designated GAM RNA, and which when bound by GAM337410 RNA causes inhibition of translation of the GAM337410 target mRNA into a corresponding GAM337410 target protein.

The mechanism of the translational inhibition exerted by GAM337410 RNA, herein designated GAM RNA, on one or more GAM337410 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337410 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337410 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337410 RNA, herein designated GAM RNA, of GAM337410 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337410 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337410 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337410 RNA correlate with, and may be deduced from, the identity of the GAM337410 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337411 141867 TCGCTTGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically
TCGGGAGGGG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGGCTGCAGT Messenger 337411 (GAM337411) oligonucleotides modulates expression of respective target
GAGCCAAGAT genes whose function and utility is known in the art.

CACACACCAC GAM337411 is a novel bioinformatically detectable regulatory, non protein
TGCACTCCAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337411 was detected
CCTGGGCAAC is described with additional reference to Figs. 9-15.

AAAGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337411 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337411 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337411 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337411 precursor RNA is designated SEQ ID:141867, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141867 is located from position 110164992 to position 110165068 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GAM337411 precursor RNA folds onto itself, forming GAM337411 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337411 precursor RNA, designated SEQ ID NO: 141867, and a schematic representation of a predicted secondary folding of GAM337411 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337411 folded precursor RNA yielding a GAM337411 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337411 RNA, hereby incorporated herein. Expression of GAM337411 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337411 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337411 target RNA, herein designated GAM TARGET RNA.

GAM337411 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337411 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337411 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337411 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337411 RNA, herein designated GAM RNA, to target binding sites on GAM337411 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337411 target RNA into GAM337411 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337411 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337411 target genes. The mRNA of each one of this plurality of GAM337411 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM337411 RNA, herein designated GAM RNA, and which when bound by GAM337411 RNA causes inhibition of translation of the GAM337411 target mRNA into a corresponding GAM337411 target protein.

The mechanism of the translational inhibition exerted by GAM337411 RNA, herein designated GAM RNA, on one or more GAM337411 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337411 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337411 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337411 RNA, herein designated GAM RNA, of GAM337411 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337411 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337411 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337411 RNA correlate with, and may be deduced from, the identity of the GAM337411 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337412 141868 TCCTGAAAGT Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATTGAGAT detected oligonucleotides of the present invention, referred to here as Genomic Address
TAATCAATTG Messenger 337412 (GAM337412) oligonucleotides modulates expression of respective target
TCATGATCTG genes whose function and utility is known in the art.

ACCATGGTTA GAM337412 is a novel bioinformatically detectable regulatory, non protein
TTCAGAAACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337412 was detected
TTGAATAAGT is described with additional reference to Figs. 9-15.

TCATGAGAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATCATTCTGA encoded by the human genome.

TCTGAATACA GAM337412 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GGTTTCAAGA GAM337412 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

AACTCAACTG GAM337412 precursor RNA does not encode a protein. A nucleotide sequence identical or

GA highly similar to the nucleotide sequence of GAM337412 precursor RNA is designated SEQ ID:141868, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141868 is located from position 110273545 to position 110273666 relative to chromosome chr13 on the `-` strand (chr is an abbreviation for chromosome).

GAM337412 precursor RNA folds onto itself, forming GAM337412 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337412 precursor RNA, designated SEQ ID NO: 141868, and a schematic representation of a predicted secondary folding of GAM337412 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337412 folded precursor RNA yielding a GAM337412 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337412 RNA, hereby incorporated herein.

GAM337412 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337412 target RNA, herein designated GAM TARGET RNA.

GAM337412 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337412 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337412 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337412 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337412 RNA, herein designated GAM RNA, to target binding sites on GAM337412 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337412 target RNA into GAM337412 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337412 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337412 target genes. The mRNA of each one of this plurality of GAM337412 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337412 RNA, herein designated GAM RNA, and which when bound by GAM337412 RNA causes inhibition of translation of the GAM337412 target mRNA into a corresponding GAM337412 target protein.

The mechanism of the translational inhibition exerted by GAM337412 RNA, herein designated GAM RNA, on one or more GAM337412 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337412 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337412 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337412 RNA, herein designated GAM RNA, of GAM337412 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337412 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337412 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337412 RNA correlate with, and may be deduced from, the identity of the GAM337412 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337413 141869 TGAGGCACGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATCGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCCAGGAG Messenger 337413 (GAM337413) oligonucleotides modulates expression of respective target

GCGGAGGCTG genes whose function and utility is known in the art.

CAGTGAGCAG GAM337413 is a novel bioinformatically detectable regulatory, non protein

AGATCACGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337413 was detected

ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAGAGGGAG encoded by the human genome.

ACTCTGTCTC GAM337413 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

A GAM337413 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337413 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337413 precursor RNA is designated SEQ ID:141869, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141869 is located from position 110356261 to position 110356361 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337413 precursor RNA folds onto itself, forming GAM337413 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337413 precursor RNA, designated SEQ ID NO: 141869, and a schematic representation of a predicted secondary folding of GAM337413 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337413 folded precursor RNA yielding a GAM337413 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337413 RNA, hereby incorporated herein. Expression of GAM337413 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337413 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337413 target RNA, herein designated GAM TARGET RNA.

GAM337413 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337413 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM337413 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337413 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337413 RNA, herein designated GAM RNA, to target binding sites on GAM337413 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337413 target RNA into GAM337413 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337413 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337413 target genes. The mRNA of each one of this plurality of GAM337413 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337413 RNA, herein designated GAM RNA, and which when bound by GAM337413 RNA causes inhibition of translation of the GAM337413 target mRNA into a corresponding GAM337413 target protein.

The mechanism of the translational inhibition exerted by GAM337413 RNA, herein designated GAM RNA, on one or more GAM337413 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337413 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337413 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337413 RNA, herein designated GAM RNA, of GAM337413 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337413 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337413 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337413 RNA correlate with, and may be deduced from, the identity of the GAM337413 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337414 141870 CATGTTGGCC Fig. 8 further provides a conceptual description of another novel bioinformatically
AGACTGGTCT detected oligonucleotides of the present invention, referred to here as Genomic Address
GTAACTCCAG Messenger 337414 (GAM337414) oligonucleotides modulates expression of respective target
ACTTCAGGTG genes whose function and utility is known in the art.

ATCTGCCCAC GAM337414 is a novel bioinformatically detectable regulatory, non protein
CTTGGCCTCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337414 was detected
CAAAGTGCTG is described with additional reference to Figs. 9-15.

GGATTACAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CCTGAGCCAC encoded by the human genome.

CATG GAM337414 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337414 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337414 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337414 precursor RNA is designated SEQ ID:141870, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141870 is located from position 110439070 to position 110439163 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM337414 precursor RNA folds onto itself, forming GAM337414 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337414 precursor RNA, designated SEQ ID NO: 141870, and a schematic representation of a predicted secondary folding of GAM337414 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337414 folded precursor RNA yielding a GAM337414 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337414 RNA, hereby incorporated herein.

GAM337414 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337414 target RNA, herein designated GAM TARGET RNA.

GAM337414 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337414 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337414 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337414 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337414 RNA, herein designated GAM RNA, to target binding sites on GAM337414 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337414 target RNA into GAM337414 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337414 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337414 target genes. The mRNA of each one of this plurality of GAM337414 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337414 RNA, herein designated GAM RNA, and which when bound by GAM337414 RNA causes inhibition of translation of the GAM337414 target mRNA into a corresponding GAM337414 target protein.

The mechanism of the translational inhibition exerted by GAM337414 RNA, herein designated GAM RNA, on one or more GAM337414 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337414 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337414 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337414 RNA, herein designated GAM RNA, of GAM337414 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337414 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337414 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337414 RNA correlate with, and may be deduced from, the identity of the GAM337414 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337415 141871 TGAGGTAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATCGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACTCGGGAG Messenger 337415 (GAM337415) oligonucleotides modulates expression of respective target
GGGAGGCTGC genes whose function and utility is known in the art.

AGTGAGCCAA GAM337415 is a novel bioinformatically detectable regulatory, non protein
GATCACACAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337415 was detected
CACTGCACTC is described with additional reference to Figs. 9-15.

CAGCCTGGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AACAAAGTGA encoded by the human genome.

GACCCCCATC GAM337415 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TCA GAM337415 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337415 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337415 precursor RNA is designated SEQ ID:141871, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141871 is located from position 110894746 to position 110894848 relative to chromosome chr2 on the `-` strand (chr is an abbreviation for chromosome).

GAM337415 precursor RNA folds onto itself, forming GAM337415 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337415 precursor RNA, designated SEQ ID NO: 141871, and a schematic representation of a predicted secondary folding of GAM337415 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337415 folded precursor RNA yielding a GAM337415 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337415 RNA, hereby incorporated herein. Expression of GAM337415 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337415 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337415 target RNA, herein designated GAM TARGET RNA.

GAM337415 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337415 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337415 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337415 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337415 RNA, herein designated GAM RNA, to target binding sites on GAM337415 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337415 target RNA into GAM337415 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337415 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337415 target genes. The mRNA of each one of this plurality of GAM337415 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337415 RNA, herein designated GAM RNA, and which when bound by GAM337415 RNA causes inhibition of translation of the GAM337415 target mRNA into a corresponding GAM337415 target protein.

The mechanism of the translational inhibition exerted by GAM337415 RNA, herein designated GAM RNA, on one or more GAM337415 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337415 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337415 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337415 RNA, herein designated GAM RNA, of GAM337415 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337415 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337415 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337415 RNA correlate with, and may be deduced from, the identity of the GAM337415 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337416 141872 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACTCGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGGGAGGC Messenger 337416 (GAM337416) oligonucleotides modulates expression of respective target
TGCAGTGAGC genes whose function and utility is known in the art.

CAAGATCACA GAM337416 is a novel bioinformatically detectable regulatory, non protein
CACCACTGCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337416 was detected
CTCCAGCCTG is described with additional reference to Figs. 9-15.

GGCAACAAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGAGACC encoded by the human genome.

GAM337416 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337416 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337416 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337416 precursor RNA is designated SEQ ID:141872, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141872 is located from position 110894755 to position 110894841 relative to chromosome chr2 on the `-` strand (chr is an abbreviation for chromosome).

GAM337416 precursor RNA folds onto itself, forming GAM337416 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337416 precursor RNA, designated SEQ ID NO: 141872, and a schematic representation of a predicted secondary folding of GAM337416 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337416 folded precursor RNA yielding a GAM337416 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337416 RNA, hereby incorporated herein. Expression of GAM337416 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337416 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337416 target RNA, herein designated GAM TARGET RNA.

GAM337416 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337416 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337416 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337416 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337416 RNA, herein designated GAM RNA, to target binding sites on GAM337416 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337416 target RNA into GAM337416 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337416 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337416 target genes. The mRNA of each one of this plurality of GAM337416 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM337416 RNA, herein designated GAM RNA, and which when bound by GAM337416 RNA causes inhibition of translation of the GAM337416 target mRNA into a corresponding GAM337416 target protein.

The mechanism of the translational inhibition exerted by GAM337416 RNA, herein designated GAM RNA, on one or more GAM337416 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337416 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337416 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337416 RNA, herein designated GAM RNA, of GAM337416 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337416 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337416 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337416 RNA correlate with, and may be deduced from, the identity of the GAM337416 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337417 141873 TCGCTTGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically

TCGGGAGGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGCTGCAGT Messenger 337417 (GAM337417) oligonucleotides modulates expression of respective target

GAGCCAAGAT genes whose function and utility is known in the art.

CACACACCAC GAM337417 is a novel bioinformatically detectable regulatory, non protein

TGCACTCCAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337417 was detected

CCTGGGCAAC is described with additional reference to Figs. 9-15.

AAAGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337417 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337417 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337417 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337417 precursor RNA is designated SEQ ID:141873, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141873 is located from position 110894759 to position 110894835 relative to chromosome chr2 on the `-` strand (chr is an abbreviation for chromosome).

GAM337417 precursor RNA folds onto itself, forming GAM337417 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337417 precursor RNA, designated SEQ ID NO: 141873, and a schematic representation of a predicted secondary folding of GAM337417 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337417 folded precursor RNA yielding a GAM337417 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337417 RNA, hereby incorporated herein. Expression of GAM337417 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337417 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337417 target RNA, herein designated GAM TARGET RNA.

GAM337417 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337417 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337417 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337417 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337417 RNA, herein designated GAM RNA, to target

binding sites on GAM337417 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337417 target RNA into GAM337417 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337417 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337417 target genes. The mRNA of each one of this plurality of GAM337417 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337417 RNA, herein designated GAM RNA, and which when bound by GAM337417 RNA causes inhibition of translation of the GAM337417 target mRNA into a corresponding GAM337417 target protein.

The mechanism of the translational inhibition exerted by GAM337417 RNA, herein designated GAM RNA, on one or more GAM337417 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337417 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337417 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337417 RNA, herein designated GAM RNA, of GAM337417 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337417 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337417 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337417 RNA correlate with, and may be deduced from, the identity of the GAM337417 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337418 141874 CTCTGTCACC Fig. 8 further provides a conceptual description of another novel bioinformatically

CAGGCTGGAG detected oligonucleotides of the present invention, referred to here as Genomic Address

TGAGTGTGAT Messenger 337418 (GAM337418) oligonucleotides modulates expression of respective target

CTTGGCTCAC genes whose function and utility is known in the art.

GGCAACCTTT GAM337418 is a novel bioinformatically detectable regulatory, non protein

GCCTCCTGGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337418 was detected

TTCAAGCAAT is described with additional reference to Figs. 9-15.

TCTCCTGCCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TAGCCTCCCG encoded by the human genome.

AGTAGCAGAG GAM337418 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337418 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337418 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337418 precursor RNA is designated SEQ ID:141874, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141874 is located from position 111066449 to position 111066548 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337418 precursor RNA folds onto itself, forming GAM337418 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337418 precursor RNA, designated SEQ ID NO: 141874, and a schematic representation of a predicted secondary folding of GAM337418 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337418 folded precursor RNA yielding a GAM337418 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337418 RNA, hereby incorporated herein.

GAM337418 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337418 target RNA, herein designated GAM TARGET RNA.

GAM337418 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337418 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337418 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337418 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows

three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337418 RNA, herein designated GAM RNA, to target binding sites on GAM337418 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337418 target RNA into GAM337418 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337418 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337418 target genes. The mRNA of each one of this plurality of GAM337418 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337418 RNA, herein designated GAM RNA, and which when bound by GAM337418 RNA causes inhibition of translation of the GAM337418 target mRNA into a corresponding GAM337418 target protein.

The mechanism of the translational inhibition exerted by GAM337418 RNA, herein designated GAM RNA, on one or more GAM337418 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337418 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337418 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337418 RNA, herein designated GAM RNA, of GAM337418 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337418 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337418 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337418 RNA correlate with, and may be deduced from, the identity of the GAM337418 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337419 141875 TTCAGGTTTT Fig. 8 further provides a conceptual description of another novel bioinformatically

CAGACACCTG detected oligonucleotides of the present invention, referred to here as Genomic Address
CAGTAGTAGA Messenger 337419 (GAM337419) oligonucleotides modulates expression of respective target
ACAGAATATT genes whose function and utility is known in the art.

TTAGCTCTGA GAM337419 is a novel bioinformatically detectable regulatory, non protein
GGACAATCTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337419 was detected
AGTTATGAAT is described with additional reference to Figs. 9-15.

AGTCTGGTTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TGTAAGGATT encoded by the human genome.

TGCATAGTTT GAM337419 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GGAGAAATGA GAM337419 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

A GAM337419 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337419 precursor RNA is designated SEQ ID:141875, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141875 is located from position 111125711 to position 111125821 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337419 precursor RNA folds onto itself, forming GAM337419 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337419 precursor RNA, designated SEQ ID NO: 141875, and a schematic representation of a predicted secondary folding of GAM337419 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337419 folded precursor RNA yielding a GAM337419 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337419 RNA, hereby incorporated herein.

GAM337419 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337419 target RNA, herein designated GAM TARGET RNA.

GAM337419 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337419 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337419 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337419 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337419 RNA, herein designated GAM RNA, to target binding sites on GAM337419 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337419 target RNA into GAM337419 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337419 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337419 target genes. The mRNA of each one of this plurality of GAM337419 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337419 RNA, herein designated GAM RNA, and which when bound by GAM337419 RNA causes inhibition of translation of the GAM337419 target mRNA into a corresponding GAM337419 target protein.

The mechanism of the translational inhibition exerted by GAM337419 RNA, herein designated GAM RNA, on one or more GAM337419 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337419 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337419 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337419 RNA, herein designated GAM RNA, of GAM337419 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337419 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337419 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337419 RNA correlate with, and may be deduced from, the identity of the GAM337419 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337420 141876 GGCCCAGCGT Fig. 8 further provides a conceptual description of another novel bioinformatically
GGCTCCTGAC detected oligonucleotides of the present invention, referred to here as Genomic Address
CTGGAGGATA Messenger 337420 (GAM337420) oligonucleotides modulates expression of respective target
ACAATGATAA genes whose function and utility is known in the art.

TGGAAGTGCT GAM337420 is a novel bioinformatically detectable regulatory, non protein
GTTAAAAGTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337420 was detected
AGAATGACTA is described with additional reference to Figs. 9-15.

TGAGTTATTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGTTTTTCAT encoded by the human genome.

CTGCTCAGGC GAM337420 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
ACCGTGCTGG GAM337420 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GCC GAM337420 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337420 precursor RNA is designated SEQ ID:141876, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141876 is located from position 111321485 to position 111321597 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM337420 precursor RNA folds onto itself, forming GAM337420 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337420 precursor RNA, designated SEQ ID NO: 141876, and a schematic representation of a predicted secondary folding of GAM337420 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337420 folded precursor RNA yielding a GAM337420 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337420 RNA, hereby incorporated herein.

GAM337420 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337420 target RNA, herein designated GAM TARGET RNA.

GAM337420 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337420 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337420 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337420 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337420 RNA, herein designated GAM RNA, to target binding sites on GAM337420 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337420 target RNA into GAM337420 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337420 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337420 target genes. The mRNA of each one of this plurality of GAM337420 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337420 RNA, herein designated GAM RNA, and which when bound by GAM337420 RNA causes inhibition of translation of the GAM337420 target mRNA into a corresponding GAM337420 target protein.

The mechanism of the translational inhibition exerted by GAM337420 RNA, herein designated GAM RNA, on one or more GAM337420 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337420 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337420 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337420 RNA, herein designated GAM RNA, of

GAM337420 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337420 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337420 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337420 RNA correlate with, and may be deduced from, the identity of the GAM337420 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337421 141877 TCTTCATTAT Fig. 8 further provides a conceptual description of another novel bioinformatically

CCTCTATATC detected oligonucleotides of the present invention, referred to here as Genomic Address

ATTGCTATGC Messenger 337421 (GAM337421) oligonucleotides modulates expression of respective target

CCTGGTGTTG genes whose function and utility is known in the art.

TGCCCGGGGT GAM337421 is a novel bioinformatically detectable regulatory, non protein

ACAACACGTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337421 was detected

GTAGGTGTTC is described with additional reference to Figs. 9-15.

GATAAACTTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGTTGGATAA encoded by the human genome.

ATGGAAGA GAM337421 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337421 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337421 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337421 precursor RNA is designated SEQ ID:141877, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141877 is located from position 111340859 to position 111340956 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337421 precursor RNA folds onto itself, forming GAM337421 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337421 precursor RNA, designated SEQ ID NO: 141877, and a schematic representation of a predicted secondary folding of GAM337421 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337421 folded precursor RNA yielding a GAM337421 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337421 RNA, hereby incorporated herein.

GAM337421 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337421 target RNA, herein designated GAM TARGET RNA.

GAM337421 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337421 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337421 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337421 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337421 RNA, herein designated GAM RNA, to target binding sites on GAM337421 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337421 target RNA into GAM337421 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337421 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337421 target genes. The mRNA of each one of this plurality of GAM337421 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337421 RNA, herein designated GAM RNA, and which when bound by GAM337421 RNA causes inhibition of translation of the GAM337421 target mRNA into a corresponding GAM337421 target protein.

The mechanism of the translational inhibition exerted by GAM337421 RNA, herein designated GAM RNA, on one or more GAM337421 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337421 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337421 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337421 RNA, herein designated GAM RNA, of GAM337421 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337421 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337421 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337421 RNA correlate with, and may be deduced from, the identity of the GAM337421 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337422 141878 GAGTCTAGTT Fig. 8 further provides a conceptual description of another novel bioinformatically

ACTAGGCAGT detected oligonucleotides of the present invention, referred to here as Genomic Address

GTAGTTAGCT Messenger 337422 (GAM337422) oligonucleotides modulates expression of respective target

GATTGCTAAT genes whose function and utility is known in the art.

AGTACCAATC GAM337422 is a novel bioinformatically detectable regulatory, non protein

ACTAACCACA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337422 was detected

CGGCCAGGTA is described with additional reference to Figs. 9-15.

AAAAGATTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337422 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337422 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337422 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337422 precursor RNA is designated SEQ ID:141878, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141878 is located from position 111418113 to position 111418191 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337422 precursor RNA folds onto itself, forming GAM337422 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337422 precursor RNA, designated SEQ ID NO: 141878, and a schematic representation of a predicted secondary folding of GAM337422 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337422 folded precursor RNA yielding a GAM337422 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337422 RNA, hereby incorporated herein.

GAM337422 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337422 target RNA, herein designated GAM TARGET RNA.

GAM337422 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337422 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337422 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337422 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337422 RNA, herein designated GAM RNA, to target binding sites on GAM337422 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337422 target RNA into GAM337422 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337422 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337422 target genes. The mRNA of each one of this

plurality of GAM337422 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337422 RNA, herein designated GAM RNA, and which when bound by GAM337422 RNA causes inhibition of translation of the GAM337422 target mRNA into a corresponding GAM337422 target protein.

The mechanism of the translational inhibition exerted by GAM337422 RNA, herein designated GAM RNA, on one or more GAM337422 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337422 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337422 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337422 RNA, herein designated GAM RNA, of GAM337422 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337422 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337422 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337422 RNA correlate with, and may be deduced from, the identity of the GAM337422 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337423 141879 TTACTAGGCA Fig. 8 further provides a conceptual description of another novel bioinformatically

GTGTAGTTAG detected oligonucleotides of the present invention, referred to here as Genomic Address

CTGATTGCTA Messenger 337423 (GAM337423) oligonucleotides modulates expression of respective target

ATAGTACCAA genes whose function and utility is known in the art.

TCACTAACCA GAM337423 is a novel bioinformatically detectable regulatory, non protein

CACGGCCAGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337423 was detected

TAA is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337423 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337423 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337423 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337423 precursor RNA is designated SEQ ID:141879, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141879 is located from position 111418121 to position 111418183 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337423 precursor RNA folds onto itself, forming GAM337423 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337423 precursor RNA, designated SEQ ID NO: 141879, and a schematic representation of a predicted secondary folding of GAM337423 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337423 folded precursor RNA yielding a GAM337423 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337423 RNA, hereby incorporated herein.

GAM337423 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337423 target RNA, herein designated GAM TARGET RNA.

GAM337423 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337423 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337423 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337423 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337423 RNA, herein designated GAM RNA, to target

binding sites on GAM337423 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337423 target RNA into GAM337423 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337423 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337423 target genes. The mRNA of each one of this plurality of GAM337423 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337423 RNA, herein designated GAM RNA, and which when bound by GAM337423 RNA causes inhibition of translation of the GAM337423 target mRNA into a corresponding GAM337423 target protein.

The mechanism of the translational inhibition exerted by GAM337423 RNA, herein designated GAM RNA, on one or more GAM337423 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337423 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337423 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337423 RNA, herein designated GAM RNA, of GAM337423 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337423 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337423 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337423 RNA correlate with, and may be deduced from, the identity of the GAM337423 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337424 141880 GGATGGCTTG Fig. 8 further provides a conceptual description of another novel bioinformatically

AGTCCAGGAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GTGGAGGTTG Messenger 337424 (GAM337424) oligonucleotides modulates expression of respective target

CAGTGAACAG genes whose function and utility is known in the art.

AGATTGTGTC GAM337424 is a novel bioinformatically detectable regulatory, non protein

ACTGCACTCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337424 was detected

AGCCTGGGCA is described with additional reference to Figs. 9-15.

ACAGAGCGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACC encoded by the human genome.

GAM337424 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337424 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337424 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337424 precursor RNA is designated SEQ ID:141880, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141880 is located from position 111702787 to position 111702869 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337424 precursor RNA folds onto itself, forming GAM337424 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337424 precursor RNA, designated SEQ ID NO: 141880, and a schematic representation of a predicted secondary folding of GAM337424 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337424 folded precursor RNA yielding a GAM337424 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337424 RNA, hereby incorporated herein.

GAM337424 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337424 target RNA, herein designated GAM TARGET RNA.

GAM337424 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337424 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337424 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337424 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337424 RNA, herein designated GAM RNA, to target binding sites on GAM337424 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337424 target RNA into GAM337424 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337424 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337424 target genes. The mRNA of each one of this plurality of GAM337424 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337424 RNA, herein designated GAM RNA, and which when bound by GAM337424 RNA causes inhibition of translation of the GAM337424 target mRNA into a corresponding GAM337424 target protein.

The mechanism of the translational inhibition exerted by GAM337424 RNA, herein designated GAM RNA, on one or more GAM337424 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337424 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337424 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337424 RNA, herein designated GAM RNA, of GAM337424 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337424 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337424 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337424 RNA correlate with, and may be deduced from, the identity of the GAM337424 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337425 141881 GCTTGAGTCC Fig. 8 further provides a conceptual description of another novel bioinformatically

AGGAGGTGGA detected oligonucleotides of the present invention, referred to here as Genomic Address GGTTGCAGTG Messenger 337425 (GAM337425) oligonucleotides modulates expression of respective target AACAGAGATT genes whose function and utility is known in the art.

GTGTCACTGC GAM337425 is a novel bioinformatically detectable regulatory, non protein ACTCTAGCCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337425 was detected GGGCAACAGA is described with additional reference to Figs. 9-15.

GC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337425 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337425 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337425 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337425 precursor RNA is designated SEQ ID:141881, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141881 is located from position 111702792 to position 111702863 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337425 precursor RNA folds onto itself, forming GAM337425 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337425 precursor RNA, designated SEQ ID NO: 141881, and a schematic representation of a predicted secondary folding of GAM337425 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337425 folded precursor RNA yielding a GAM337425 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337425 RNA, hereby incorporated herein.

GAM337425 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337425 target RNA, herein designated GAM TARGET RNA.

GAM337425 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337425 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337425 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337425 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337425 RNA, herein designated GAM RNA, to target binding sites on GAM337425 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337425 target RNA into GAM337425 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337425 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337425 target genes. The mRNA of each one of this plurality of GAM337425 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337425 RNA, herein designated GAM RNA, and which when bound by GAM337425 RNA causes inhibition of translation of the GAM337425 target mRNA into a corresponding GAM337425 target protein.

The mechanism of the translational inhibition exerted by GAM337425 RNA, herein designated GAM RNA, on one or more GAM337425 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337425 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337425 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337425 RNA, herein designated GAM RNA, of GAM337425 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337425 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337425 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337425 RNA correlate with, and may be deduced from, the identity of the GAM337425 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337426 141882 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 337426 (GAM337426) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337426 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337426 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337426 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337426 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337426 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337426 precursor RNA is designated SEQ ID:141882, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141882 is located from position 111728469 to position 111728550 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337426 precursor RNA folds onto itself, forming GAM337426 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337426 precursor RNA, designated SEQ ID NO: 141882, and a schematic representation of a predicted secondary folding of GAM337426 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337426 folded precursor RNA yielding a GAM337426 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides two possible nucleotide sequences of GAM337426 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337426 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337426 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337426 target RNA, herein designated GAM TARGET RNA.

GAM337426 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337426 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337426 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337426 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337426 RNA, herein designated GAM RNA, to target binding sites on GAM337426 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337426 target RNA into GAM337426 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337426 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337426 target genes. The mRNA of each one of this plurality of GAM337426 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337426 RNA, herein designated GAM RNA, and which when bound by GAM337426 RNA causes inhibition of translation of the GAM337426 target mRNA into a corresponding GAM337426 target protein.

The mechanism of the translational inhibition exerted by GAM337426 RNA, herein designated GAM RNA, on one or more GAM337426 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337426 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337426 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337426 RNA, herein designated GAM RNA, of

GAM337426 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337426 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337426 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337426 RNA correlate with, and may be deduced from, the identity of the GAM337426 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337427 141883 TTAAAAATTG Fig. 8 further provides a conceptual description of another novel bioinformatically

CTGATGCCTG detected oligonucleotides of the present invention, referred to here as Genomic Address

GGTCCCACCC Messenger 337427 (GAM337427) oligonucleotides modulates expression of respective target

TTAAAAATGC genes whose function and utility is known in the art.

TGATTTAATT GAM337427 is a novel bioinformatically detectable regulatory, non protein

GGTCTGGAGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337427 was detected

AGTGCTCGCT is described with additional reference to Figs. 9-15.

TCGGCAGCAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATATGCTAAT encoded by the human genome.

TGGTCTGGAG GAM337427 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TATGCCCGAG GAM337427 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

CATTAGGTTT GAM337427 precursor RNA does not encode a protein. A nucleotide sequence identical or

TTTGA highly similar to the nucleotide sequence of GAM337427 precursor RNA is designated SEQ ID:141883, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141883 is located from position 111814576 to position 111814700 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337427 precursor RNA folds onto itself, forming GAM337427 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337427 precursor RNA, designated SEQ ID NO: 141883, and a schematic representation of a predicted secondary folding of GAM337427 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337427 folded precursor RNA yielding a GAM337427 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337427 RNA, hereby incorporated herein.

GAM337427 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337427 target RNA, herein designated GAM TARGET RNA.

GAM337427 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337427 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337427 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337427 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337427 RNA, herein designated GAM RNA, to target binding sites on GAM337427 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337427 target RNA into GAM337427 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337427 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337427 target genes. The mRNA of each one of this plurality of GAM337427 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337427 RNA, herein designated GAM RNA, and which when bound by GAM337427 RNA causes inhibition of translation of the GAM337427 target mRNA into a corresponding GAM337427 target protein.

The mechanism of the translational inhibition exerted by GAM337427 RNA, herein designated GAM RNA, on one or more GAM337427 target genes, herein collectively designated

GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337427 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337427 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337427 RNA, herein designated GAM RNA, of GAM337427 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337427 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337427 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337427 RNA correlate with, and may be deduced from, the identity of the GAM337427 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337428 141884 GAGACAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AATCGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCTGGGAGG Messenger 337428 (GAM337428) oligonucleotides modulates expression of respective target
CAGAGGTTGC genes whose function and utility is known in the art.

GGTTAGCCAA GAM337428 is a novel bioinformatically detectable regulatory, non protein
GATTGTGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337428 was detected
CTGCACTCCA is described with additional reference to Figs. 9-15.

TGGGTGACAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGAGAGACTC encoded by the human genome.

TGTCTC GAM337428 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337428 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337428 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337428 precursor RNA is designated SEQ ID:141884, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141884 is located from position 112035396 to position 112035491

relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337428 precursor RNA folds onto itself, forming GAM337428 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337428 precursor RNA, designated SEQ ID NO: 141884, and a schematic representation of a predicted secondary folding of GAM337428 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337428 folded precursor RNA yielding a GAM337428 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337428 RNA, hereby incorporated herein.

GAM337428 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337428 target RNA, herein designated GAM TARGET RNA.

GAM337428 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337428 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337428 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337428 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337428 RNA, herein designated GAM RNA, to target binding sites on GAM337428 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337428 target RNA into GAM337428 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337428 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337428 target genes. The mRNA of each one of this plurality of GAM337428 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337428 RNA, herein designated GAM RNA, and which when bound by GAM337428 RNA causes inhibition of translation of the GAM337428 target mRNA into a corresponding GAM337428 target protein.

The mechanism of the translational inhibition exerted by GAM337428 RNA, herein designated GAM RNA, on one or more GAM337428 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337428 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337428 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337428 RNA, herein designated GAM RNA, of GAM337428 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337428 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337428 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337428 RNA correlate with, and may be deduced from, the identity of the GAM337428 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337429 141885 CTAGAGTCCC Fig. 8 further provides a conceptual description of another novel bioinformatically

CCTCAGCTGT detected oligonucleotides of the present invention, referred to here as Genomic Address

GGGGGAGCTT Messenger 337429 (GAM337429) oligonucleotides modulates expression of respective target

TCAAATTTGA genes whose function and utility is known in the art.

AATCAGGAGA GAM337429 is a novel bioinformatically detectable regulatory, non protein

CTCGAATTCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337429 was detected

AGTTTTTCCT is described with additional reference to Figs. 9-15.

ACCCCTTAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCTGTGGGAC encoded by the human genome.

TTTAG GAM337429 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337429 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337429 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337429 precursor RNA is designated SEQ ID:141885, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141885 is located from position 112396737 to position 112396831 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337429 precursor RNA folds onto itself, forming GAM337429 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337429 precursor RNA, designated SEQ ID NO: 141885, and a schematic representation of a predicted secondary folding of GAM337429 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337429 folded precursor RNA yielding a GAM337429 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337429 RNA, hereby incorporated herein.

GAM337429 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337429 target RNA, herein designated GAM TARGET RNA.

GAM337429 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337429 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337429 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337429 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337429 RNA, herein designated GAM RNA, to target binding sites on GAM337429 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337429 target RNA into GAM337429 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337429 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337429 target genes. The mRNA of each one of this plurality of GAM337429 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337429 RNA, herein designated GAM RNA, and which when bound by GAM337429 RNA causes inhibition of translation of the GAM337429 target mRNA into a corresponding GAM337429 target protein.

The mechanism of the translational inhibition exerted by GAM337429 RNA, herein designated GAM RNA, on one or more GAM337429 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337429 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337429 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337429 RNA, herein designated GAM RNA, of GAM337429 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337429 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337429 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337429 RNA correlate with, and may be deduced from, the identity of the GAM337429 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337430 141886 GTGATTCAGC Fig. 8 further provides a conceptual description of another novel bioinformatically

CAGACGTGAT detected oligonucleotides of the present invention, referred to here as Genomic Address

GGAGGAAATG Messenger 337430 (GAM337430) oligonucleotides modulates expression of respective target

GTGGTATCTT genes whose function and utility is known in the art.

GTGTTATTAA GAM337430 is a novel bioinformatically detectable regulatory, non protein
GCACTTGAAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337430 was detected
TTGGTTGATG is described with additional reference to Figs. 9-15.

CACTGCAGTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCTAATAAAT encoded by the human genome.

TTCCAATATC GAM337430 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

AAGAAGAACA GAM337430 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
TGCTGAAGAA GAM337430 precursor RNA does not encode a protein. A nucleotide sequence identical or

T highly similar to the nucleotide sequence of GAM337430 precursor RNA is designated SEQ ID:141886, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141886 is located from position 112469045 to position 112469165 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337430 precursor RNA folds onto itself, forming GAM337430 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337430 precursor RNA, designated SEQ ID NO: 141886, and a schematic representation of a predicted secondary folding of GAM337430 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337430 folded precursor RNA yielding a GAM337430 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337430 RNA, hereby incorporated herein.

GAM337430 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337430 target RNA, herein designated GAM TARGET RNA.

GAM337430 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337430 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337430 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337430 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337430 RNA, herein designated GAM RNA, to target binding sites on GAM337430 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337430 target RNA into GAM337430 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337430 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337430 target genes. The mRNA of each one of this plurality of GAM337430 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337430 RNA, herein designated GAM RNA, and which when bound by GAM337430 RNA causes inhibition of translation of the GAM337430 target mRNA into a corresponding GAM337430 target protein.

The mechanism of the translational inhibition exerted by GAM337430 RNA, herein designated GAM RNA, on one or more GAM337430 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337430 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337430 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337430 RNA, herein designated GAM RNA, of GAM337430 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337430 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337430 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337430 RNA correlate with, and may be deduced from, the identity of the GAM337430 target gene

inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337431 141887 TTCAGCCAGA Fig. 8 further provides a conceptual description of another novel bioinformatically
CGTGATGGAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAAATGGTGG Messenger 337431 (GAM337431) oligonucleotides modulates expression of respective target
TATCTTGTGT genes whose function and utility is known in the art.

TATTAAGCAC GAM337431 is a novel bioinformatically detectable regulatory, non protein
TTGAACTTGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337431 was detected
TTGATGCACT is described with additional reference to Figs. 9-15.

GCAGTCTCTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATAAATTTCC encoded by the human genome.

AATATCAAGA GAM337431 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

AGAACATGCT GAM337431 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAA GAM337431 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337431 precursor RNA is designated SEQ ID:141887, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141887 is located from position 112469049 to position 112469161 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337431 precursor RNA folds onto itself, forming GAM337431 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337431 precursor RNA, designated SEQ ID NO: 141887, and a schematic representation of a predicted secondary folding of GAM337431 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337431 folded precursor RNA yielding a GAM337431 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly

similar to the nucleotide sequence of GAM337431 RNA, hereby incorporated herein.

GAM337431 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337431 target RNA, herein designated GAM TARGET RNA.

GAM337431 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337431 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337431 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337431 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337431 RNA, herein designated GAM RNA, to target binding sites on GAM337431 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337431 target RNA into GAM337431 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337431 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337431 target genes. The mRNA of each one of this plurality of GAM337431 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337431 RNA, herein designated GAM RNA, and which when bound by GAM337431 RNA causes inhibition of translation of the GAM337431 target mRNA into a corresponding GAM337431 target protein.

The mechanism of the translational inhibition exerted by GAM337431 RNA, herein designated GAM RNA, on one or more GAM337431 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337431 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337431 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337431 RNA, herein designated GAM RNA, of GAM337431 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337431 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337431 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337431 RNA correlate with, and may be deduced from, the identity of the GAM337431 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337432 141888 TCAGCCAGAC Fig. 8 further provides a conceptual description of another novel bioinformatically
GTGATGGAGG detected oligonucleotides of the present invention, referred to here as Genomic Address
AAATGGTGGT Messenger 337432 (GAM337432) oligonucleotides modulates expression of respective target
ATCTTGTGTT genes whose function and utility is known in the art.

ATTAAGCACT GAM337432 is a novel bioinformatically detectable regulatory, non protein
TGAACTTGGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337432 was detected
TGATGCACTG is described with additional reference to Figs. 9-15.

CAGTCTCTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TAAATTTCCA encoded by the human genome.

ATATCAAGAA GAM337432 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAACATGCTG GAM337432 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
A GAM337432 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337432 precursor RNA is designated SEQ ID:141888, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141888 is located from position 112469050 to position 112469160 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337432 precursor RNA folds onto itself, forming GAM337432 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337432 precursor RNA, designated SEQ ID NO: 141888, and a schematic representation of a predicted secondary folding of GAM337432 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337432 folded precursor RNA yielding a GAM337432 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337432 RNA, hereby incorporated herein.

GAM337432 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337432 target RNA, herein designated GAM TARGET RNA.

GAM337432 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337432 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337432 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337432 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337432 RNA, herein designated GAM RNA, to target binding sites on GAM337432 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337432 target RNA into GAM337432 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337432 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337432 target genes. The mRNA of each one of this plurality of GAM337432 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337432 RNA, herein designated GAM RNA, and which when bound by GAM337432 RNA causes inhibition of translation of the GAM337432 target mRNA into a corresponding GAM337432 target protein.

The mechanism of the translational inhibition exerted by GAM337432 RNA, herein designated GAM RNA, on one or more GAM337432 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337432 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM337432 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337432 RNA, herein designated GAM RNA, of GAM337432 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337432 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337432 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337432 RNA correlate with, and may be deduced from, the identity of the GAM337432 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337433 141889 TGATGGAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
AATGGTGGTA detected oligonucleotides of the present invention, referred to here as Genomic Address
TCTTGTGTTA Messenger 337433 (GAM337433) oligonucleotides modulates expression of respective target
TTAAGCACTT genes whose function and utility is known in the art.

GAACTTGGTT GAM337433 is a novel bioinformatically detectable regulatory, non protein
GATGCACTGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337433 was detected
AGTCTCTAAT is described with additional reference to Figs. 9-15.

AAATTTCCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TATCA encoded by the human genome.

GAM337433 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337433 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337433 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337433 precursor RNA is designated SEQ ID:141889, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141889 is located from position 112469065 to position 112469149 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337433 precursor RNA folds onto itself, forming GAM337433 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337433 precursor RNA, designated SEQ ID NO: 141889, and a schematic representation of a predicted secondary folding of GAM337433 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337433 folded precursor RNA yielding a GAM337433 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337433 RNA, hereby incorporated herein.

GAM337433 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337433 target RNA, herein designated GAM TARGET RNA.

GAM337433 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337433 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337433 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337433 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337433 RNA, herein designated GAM RNA, to target binding sites on GAM337433 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337433 target RNA into GAM337433 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337433 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337433 target genes. The mRNA of each one of this plurality of GAM337433 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337433 RNA, herein designated GAM RNA, and which when bound by GAM337433 RNA causes inhibition of translation of the GAM337433 target mRNA into a corresponding GAM337433 target protein.

The mechanism of the translational inhibition exerted by GAM337433 RNA, herein designated GAM RNA, on one or more GAM337433 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337433 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337433 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337433 RNA, herein designated GAM RNA, of GAM337433 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337433 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337433 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337433 RNA correlate with, and may be deduced from, the identity of the GAM337433 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337434 141890 TCAGCGGGGT Fig. 8 further provides a conceptual description of another novel bioinformatically

CCATCACCAC detected oligonucleotides of the present invention, referred to here as Genomic Address

ATGTGCATAG Messenger 337434 (GAM337434) oligonucleotides modulates expression of respective target

CTCTGGGTCA genes whose function and utility is known in the art.

CTTTAAAGAT GAM337434 is a novel bioinformatically detectable regulatory, non protein

CGCATTACCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337434 was detected

GAGTGCTCAG is described with additional reference to Figs. 9-15.

TGTTGCTGTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGGAAATGTC encoded by the human genome.

CTGCTGA GAM337434 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337434 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337434 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM337434 precursor RNA is designated SEQ ID:141890, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141890 is located from position 112606392 to position 112606488 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM337434 precursor RNA folds onto itself, forming GAM337434 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337434 precursor RNA, designated SEQ ID NO: 141890, and a schematic representation of a predicted secondary folding of GAM337434 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337434 folded precursor RNA yielding a GAM337434 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337434 RNA, hereby incorporated herein.

GAM337434 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337434 target RNA, herein designated GAM TARGET RNA.

GAM337434 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337434 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337434 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337434 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337434 RNA, herein designated GAM RNA, to target binding sites on GAM337434 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337434 target RNA

into GAM337434 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337434 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337434 target genes. The mRNA of each one of this plurality of GAM337434 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337434 RNA, herein designated GAM RNA, and which when bound by GAM337434 RNA causes inhibition of translation of the GAM337434 target mRNA into a corresponding GAM337434 target protein.

The mechanism of the translational inhibition exerted by GAM337434 RNA, herein designated GAM RNA, on one or more GAM337434 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337434 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337434 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337434 RNA, herein designated GAM RNA, of GAM337434 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337434 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337434 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337434 RNA correlate with, and may be deduced from, the identity of the GAM337434 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337435 141891 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337435 (GAM337435) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337435 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337435 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM337435 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337435 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337435 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337435 precursor RNA is designated SEQ ID:141891, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141891 is located from position 112801451 to position 112801532 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337435 precursor RNA folds onto itself, forming GAM337435 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337435 precursor RNA, designated SEQ ID NO: 141891, and a schematic representation of a predicted secondary folding of GAM337435 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337435 folded precursor RNA yielding a GAM337435 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337435 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337435 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337435 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337435 target RNA, herein designated GAM TARGET RNA.

GAM337435 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337435 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337435 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337435 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337435 RNA, herein designated GAM RNA, to target binding sites on GAM337435 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337435 target RNA into GAM337435 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337435 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337435 target genes. The mRNA of each one of this plurality of GAM337435 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337435 RNA, herein designated GAM RNA, and which when bound by GAM337435 RNA causes inhibition of translation of the GAM337435 target mRNA into a corresponding GAM337435 target protein.

The mechanism of the translational inhibition exerted by GAM337435 RNA, herein designated GAM RNA, on one or more GAM337435 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337435 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337435 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337435 RNA, herein designated GAM RNA, of GAM337435 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337435 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337435 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337435 RNA correlate with, and may be deduced from, the identity of the GAM337435 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337436 141892 TGGGCACCAG Fig. 8 further provides a conceptual description of another novel bioinformatically

CCAAAGCACA detected oligonucleotides of the present invention, referred to here as Genomic Address
GCTTATTTTA Messenger 337436 (GAM337436) oligonucleotides modulates expression of respective target
TGCCATTACC genes whose function and utility is known in the art.

GCTATTGGAA GAM337436 is a novel bioinformatically detectable regulatory, non protein
TAGTACAAAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337436 was detected
TGTGCCTACA is described with additional reference to Figs. 9-15.

GTGGGCTGTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGACCTGCTC encoded by the human genome.

A GAM337436 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337436 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337436 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337436 precursor RNA is designated SEQ ID:141892, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141892 is located from position 112917187 to position 112917277 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM337436 precursor RNA folds onto itself, forming GAM337436 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337436 precursor RNA, designated SEQ ID NO: 141892, and a schematic representation of a predicted secondary folding of GAM337436 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337436 folded precursor RNA yielding a GAM337436 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337436 RNA, hereby incorporated herein.

GAM337436 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337436 target RNA, herein designated GAM TARGET RNA.

GAM337436 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337436 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337436 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337436 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337436 RNA, herein designated GAM RNA, to target binding sites on GAM337436 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337436 target RNA into GAM337436 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337436 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337436 target genes. The mRNA of each one of this plurality of GAM337436 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337436 RNA, herein designated GAM RNA, and which when bound by GAM337436 RNA causes inhibition of translation of the GAM337436 target mRNA into a corresponding GAM337436 target protein.

The mechanism of the translational inhibition exerted by GAM337436 RNA, herein designated GAM RNA, on one or more GAM337436 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337436 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337436 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337436 RNA, herein designated GAM RNA, of GAM337436 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337436 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337436 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337436 RNA correlate with, and may be deduced from, the identity of the GAM337436 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337437 141893 TGGAGCTGCT Fig. 8 further provides a conceptual description of another novel bioinformatically
GGGTAAAATA detected oligonucleotides of the present invention, referred to here as Genomic Address
ATGTGTACTT Messenger 337437 (GAM337437) oligonucleotides modulates expression of respective target
GTCTTAGTTT genes whose function and utility is known in the art.

GCTCTTTTCC GAM337437 is a novel bioinformatically detectable regulatory, non protein
AAGTTGAAGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337437 was detected
CTGGCAGATT is described with additional reference to Figs. 9-15.

TCACCAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAGTGTCTG encoded by the human genome.

CCCCCACCTC GAM337437 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CA GAM337437 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337437 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337437 precursor RNA is designated SEQ ID:141893, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141893 is located from position 112997384 to position 112997485 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM337437 precursor RNA folds onto itself, forming GAM337437 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337437 precursor RNA, designated SEQ ID NO: 141893, and a schematic representation of a predicted secondary folding of GAM337437 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337437 folded precursor RNA yielding a GAM337437 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337437 RNA, hereby incorporated herein.

GAM337437 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337437 target RNA, herein designated GAM TARGET RNA.

GAM337437 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337437 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337437 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337437 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337437 RNA, herein designated GAM RNA, to target binding sites on GAM337437 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337437 target RNA into GAM337437 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337437 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337437 target genes. The mRNA of each one of this plurality of GAM337437 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337437 RNA, herein designated GAM RNA, and which when bound by GAM337437 RNA causes inhibition of translation of the GAM337437 target mRNA into a corresponding GAM337437 target protein.

The mechanism of the translational inhibition exerted by GAM337437 RNA, herein designated GAM RNA, on one or more GAM337437 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337437 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337437 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337437 RNA, herein designated GAM RNA, of GAM337437 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337437 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337437 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337437 RNA correlate with, and may be deduced from, the identity of the GAM337437 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337438 141894 TGAGGTAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATCGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACTCGGGAG Messenger 337438 (GAM337438) oligonucleotides modulates expression of respective target
GGGAGGCTGC genes whose function and utility is known in the art.

AGTGAGCCAA GAM337438 is a novel bioinformatically detectable regulatory, non protein
GATCACACAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337438 was detected
CACTGCACTC is described with additional reference to Figs. 9-15.

CAGCCTGGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AACAAAGTGA encoded by the human genome.

GACCCCCATC GAM337438 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TCA GAM337438 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337438 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337438 precursor RNA is designated SEQ ID:141894, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141894 is located from position 113030916 to position 113031018 relative to chromosome chr2 on the `-` strand (chr is an abbreviation for chromosome).

GAM337438 precursor RNA folds onto itself, forming GAM337438 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337438 precursor RNA, designated SEQ ID NO: 141894, and a schematic representation of a predicted secondary folding of GAM337438 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337438 folded precursor RNA yielding a GAM337438 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337438 RNA, hereby incorporated herein. Expression of GAM337438 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337438 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337438 target RNA, herein designated GAM TARGET RNA.

GAM337438 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337438 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337438 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337438 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337438 RNA, herein designated GAM RNA, to target binding sites on GAM337438 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337438 target RNA into GAM337438 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337438 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337438 target genes. The mRNA of each one of this plurality of GAM337438 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337438 RNA, herein designated GAM RNA, and which when bound by GAM337438 RNA causes inhibition of translation of the GAM337438 target mRNA into a corresponding GAM337438 target protein.

The mechanism of the translational inhibition exerted by GAM337438 RNA, herein designated GAM RNA, on one or more GAM337438 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337438 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337438 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337438 RNA, herein designated GAM RNA, of GAM337438 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337438 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337438 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337438 RNA correlate with, and may be deduced from, the identity of the GAM337438 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337439 141895 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACTCGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGGGAGGC Messenger 337439 (GAM337439) oligonucleotides modulates expression of respective target

TGCAGTGAGC genes whose function and utility is known in the art.

CAAGATCACA GAM337439 is a novel bioinformatically detectable regulatory, non protein

CACCACTGCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337439 was detected

CTCCAGCCTG is described with additional reference to Figs. 9-15.

GGCAACAAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGAGACC encoded by the human genome.

GAM337439 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337439 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337439 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337439 precursor RNA is designated SEQ ID:141895, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141895 is located from position 113030925 to position 113031011 relative to chromosome chr2 on the `-` strand (chr is an abbreviation for chromosome).

GAM337439 precursor RNA folds onto itself, forming GAM337439 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337439 precursor RNA, designated SEQ ID NO: 141895, and a schematic representation of a predicted secondary folding of GAM337439 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337439 folded precursor RNA yielding a GAM337439 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337439 RNA, hereby incorporated herein. Expression of GAM337439 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337439 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337439 target RNA, herein designated GAM TARGET RNA.

GAM337439 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337439 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337439 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337439 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337439 RNA, herein designated GAM RNA, to target binding sites on GAM337439 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337439 target RNA into GAM337439 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337439 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337439 target genes. The mRNA of each one of this plurality of GAM337439 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337439 RNA, herein designated GAM RNA, and which when bound by GAM337439 RNA causes inhibition of translation of the GAM337439 target mRNA into a corresponding GAM337439 target protein.

The mechanism of the translational inhibition exerted by GAM337439 RNA, herein designated GAM RNA, on one or more GAM337439 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337439 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337439 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337439 RNA, herein designated GAM RNA, of GAM337439 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337439 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337439 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337439 RNA correlate with, and may be deduced from, the identity of the GAM337439 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337440 141896 TCGCTTGAAC Fig. 8 further provides a conceptual description of another novel bioinformatically

TCGGGAGGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGCTGCAGT Messenger 337440 (GAM337440) oligonucleotides modulates expression of respective target

GAGCCAAGAT genes whose function and utility is known in the art.

CACACACCAC GAM337440 is a novel bioinformatically detectable regulatory, non protein

TGCACTCCAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337440 was detected

CCTGGGCAAC is described with additional reference to Figs. 9-15.

AAAGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337440 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337440 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337440 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337440 precursor RNA is designated SEQ ID:141896, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141896 is located from position 113030929 to position 113031005 relative to chromosome chr2 on the `-` strand (chr is an abbreviation for chromosome).

GAM337440 precursor RNA folds onto itself, forming GAM337440 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337440 precursor RNA, designated SEQ ID NO: 141896, and a schematic representation of a predicted secondary folding of GAM337440 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337440 folded precursor RNA yielding a GAM337440 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337440 RNA, hereby incorporated herein. Expression of GAM337440 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337440 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337440 target RNA, herein designated GAM TARGET RNA.

GAM337440 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337440 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337440 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337440 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337440 RNA, herein designated GAM RNA, to target binding sites on GAM337440 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337440 target RNA into GAM337440 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337440 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337440 target genes. The mRNA of each one of this plurality of GAM337440 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337440 RNA, herein designated GAM RNA, and which when bound by GAM337440 RNA causes inhibition of translation of the GAM337440 target mRNA into a corresponding GAM337440 target protein.

The mechanism of the translational inhibition exerted by GAM337440 RNA, herein designated GAM RNA, on one or more GAM337440 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337440 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337440 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337440 RNA, herein designated GAM RNA, of GAM337440 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337440 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337440 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337440 RNA correlate with, and may be deduced from, the identity of the GAM337440 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337441 141897 AGGGGTTGTC Fig. 8 further provides a conceptual description of another novel bioinformatically

CTTAAGTTCC detected oligonucleotides of the present invention, referred to here as Genomic Address

CTCTGCCTGC Messenger 337441 (GAM337441) oligonucleotides modulates expression of respective target

AGTCCTGCTT genes whose function and utility is known in the art.

TGTTTTGGAC GAM337441 is a novel bioinformatically detectable regulatory, non protein
AAGTAGGAGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337441 was detected
GACAAGCAGG is described with additional reference to Figs. 9-15.

TCAGCACAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CCTT encoded by the human genome.

GAM337441 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337441 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337441 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337441 precursor RNA is designated SEQ ID:141897, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141897 is located from position 113128395 to position 113128478 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337441 precursor RNA folds onto itself, forming GAM337441 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337441 precursor RNA, designated SEQ ID NO: 141897, and a schematic representation of a predicted secondary folding of GAM337441 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337441 folded precursor RNA yielding a GAM337441 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337441 RNA, hereby incorporated herein.

GAM337441 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337441 target RNA, herein designated GAM TARGET RNA.

GAM337441 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337441 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM337441 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337441 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337441 RNA, herein designated GAM RNA, to target binding sites on GAM337441 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337441 target RNA into GAM337441 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337441 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337441 target genes. The mRNA of each one of this plurality of GAM337441 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337441 RNA, herein designated GAM RNA, and which when bound by GAM337441 RNA causes inhibition of translation of the GAM337441 target mRNA into a corresponding GAM337441 target protein.

The mechanism of the translational inhibition exerted by GAM337441 RNA, herein designated GAM RNA, on one or more GAM337441 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337441 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337441 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337441 RNA, herein designated GAM RNA, of GAM337441 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337441 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337441 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337441 RNA correlate with, and may be deduced from, the identity of the GAM337441 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337442 141898 GGGGTTGTCC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTAAGTTCCC detected oligonucleotides of the present invention, referred to here as Genomic Address
TCTGCCTGCA Messenger 337442 (GAM337442) oligonucleotides modulates expression of respective target
GTCCTGCTTT genes whose function and utility is known in the art.

GTTTTGGACA GAM337442 is a novel bioinformatically detectable regulatory, non protein
AGTAGGAGTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337442 was detected
ACAAGCAGGT is described with additional reference to Figs. 9-15.

CAGCACAGCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337442 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337442 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337442 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337442 precursor RNA is designated SEQ ID:141898, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141898 is located from position 113128396 to position 113128477 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337442 precursor RNA folds onto itself, forming GAM337442 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337442 precursor RNA, designated SEQ ID NO: 141898, and a schematic representation of a predicted secondary folding of GAM337442 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337442 folded precursor RNA yielding a GAM337442 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337442 RNA, hereby incorporated herein.

GAM337442 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337442 target RNA, herein designated GAM TARGET RNA.

GAM337442 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337442 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337442 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337442 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337442 RNA, herein designated GAM RNA, to target binding sites on GAM337442 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337442 target RNA into GAM337442 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337442 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337442 target genes. The mRNA of each one of this plurality of GAM337442 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337442 RNA, herein designated GAM RNA, and which when bound by GAM337442 RNA causes inhibition of translation of the GAM337442 target mRNA into a corresponding GAM337442 target protein.

The mechanism of the translational inhibition exerted by GAM337442 RNA, herein designated GAM RNA, on one or more GAM337442 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337442 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337442 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337442 RNA, herein designated GAM RNA, of GAM337442 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM337442 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337442 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337442 RNA correlate with, and may be deduced from, the identity of the GAM337442 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337443 141899 GGGTTGTCCT TAAGTTCCCT CTGCCTGCAG TCCTGCTTTG TTTTGGACAA GTAGGAGTGA CAAGCAGGTC AGCACAGCCC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337443 (GAM337443) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337443 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337443 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337443 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337443 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337443 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337443 precursor RNA is designated SEQ ID:141899, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141899 is located from position 113128397 to position 113128476 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337443 precursor RNA folds onto itself, forming GAM337443 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337443 precursor RNA, designated SEQ ID NO: 141899, and a schematic representation of a predicted secondary folding of GAM337443 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337443 folded precursor RNA yielding a GAM337443 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337443 RNA, hereby incorporated herein.

GAM337443 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337443 target RNA, herein designated GAM TARGET RNA.

GAM337443 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337443 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337443 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337443 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337443 RNA, herein designated GAM RNA, to target binding sites on GAM337443 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337443 target RNA into GAM337443 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337443 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337443 target genes. The mRNA of each one of this plurality of GAM337443 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337443 RNA, herein designated GAM RNA, and which when bound by GAM337443 RNA causes inhibition of translation of the GAM337443 target mRNA into a corresponding GAM337443 target protein.

The mechanism of the translational inhibition exerted by GAM337443 RNA, herein designated GAM RNA, on one or more GAM337443 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337443 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337443 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337443 RNA, herein designated GAM RNA, of GAM337443 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337443 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337443 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337443 RNA correlate with, and may be deduced from, the identity of the GAM337443 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337444 141900 CATGGGGCCC Fig. 8 further provides a conceptual description of another novel bioinformatically
CTTTGCTCAT detected oligonucleotides of the present invention, referred to here as Genomic Address
TTTTGGACTA Messenger 337444 (GAM337444) oligonucleotides modulates expression of respective target
TTTATACAGC genes whose function and utility is known in the art.

AGGTTTGGAT GAM337444 is a novel bioinformatically detectable regulatory, non protein
CATGTTTTTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337444 was detected
TACTAATAAG is described with additional reference to Figs. 9-15.

AATGCTAACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTGTTGTGTA encoded by the human genome.

GATAATCAGT GAM337444 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAGGGCTTTA GAM337444 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
TG GAM337444 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337444 precursor RNA is designated SEQ ID:141900, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141900 is located from position 113169670 to position 113169781 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337444 precursor RNA folds onto itself, forming GAM337444 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337444 precursor RNA, designated SEQ ID NO: 141900, and a schematic representation of a predicted secondary folding of GAM337444 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337444 folded precursor RNA yielding a GAM337444 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337444 RNA, hereby incorporated herein.

GAM337444 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337444 target RNA, herein designated GAM TARGET RNA.

GAM337444 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337444 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337444 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337444 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337444 RNA, herein designated GAM RNA, to target binding sites on GAM337444 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337444 target RNA into GAM337444 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337444 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337444 target genes. The mRNA of each one of this plurality of GAM337444 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337444 RNA, herein designated GAM RNA, and which when bound by GAM337444 RNA causes inhibition of translation of the GAM337444 target mRNA into a corresponding GAM337444 target protein.

The mechanism of the translational inhibition exerted by GAM337444 RNA, herein designated GAM RNA, on one or more GAM337444 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337444 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337444 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337444 RNA, herein designated GAM RNA, of GAM337444 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337444 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337444 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337444 RNA correlate with, and may be deduced from, the identity of the GAM337444 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337445 141901 TCCTGACGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

GTCCTCTGGC detected oligonucleotides of the present invention, referred to here as Genomic Address

TGCATTTAGG Messenger 337445 (GAM337445) oligonucleotides modulates expression of respective target

AACAAGGAGC genes whose function and utility is known in the art.

TCCCCGAGTA GAM337445 is a novel bioinformatically detectable regulatory, non protein

ACCTGAAGTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337445 was detected

CACTCTGCCC is described with additional reference to Figs. 9-15.

AGAGGCCCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAACTTACAG encoded by the human genome.

GA GAM337445 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337445 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337445 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337445 precursor RNA is designated SEQ ID:141901, and is provided hereinbelow with reference to the sequence listing part.

Nucleotide sequence SEQ ID:141901 is located from position 113838652 to position 113838743 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GAM337445 precursor RNA folds onto itself, forming GAM337445 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337445 precursor RNA, designated SEQ ID NO: 141901, and a schematic representation of a predicted secondary folding of GAM337445 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337445 folded precursor RNA yielding a GAM337445 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337445 RNA, hereby incorporated herein.

GAM337445 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337445 target RNA, herein designated GAM TARGET RNA.

GAM337445 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337445 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337445 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337445 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337445 RNA, herein designated GAM RNA, to target binding sites on GAM337445 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337445 target RNA into GAM337445 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337445 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337445 target genes. The mRNA of each one of this plurality of GAM337445 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337445 RNA, herein designated GAM RNA, and which when bound by GAM337445 RNA causes inhibition of translation of the GAM337445 target mRNA into a corresponding GAM337445 target protein.

The mechanism of the translational inhibition exerted by GAM337445 RNA, herein designated GAM RNA, on one or more GAM337445 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337445 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337445 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337445 RNA, herein designated GAM RNA, of GAM337445 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337445 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337445 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337445 RNA correlate with, and may be deduced from, the identity of the GAM337445 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337446 141902 GGAGAATCAC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAAGGCGGAG Messenger 337446 (GAM337446) oligonucleotides modulates expression of respective target

GTTGCAGTGA genes whose function and utility is known in the art.

GCCGAGATCG GAM337446 is a novel bioinformatically detectable regulatory, non protein

TGCCACTGCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337446 was detected

CTCCAGCCTG is described with additional reference to Figs. 9-15.

GGCAACAAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTGAGACTCC encoded by the human genome.

GAM337446 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337446 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337446 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337446 precursor RNA is designated SEQ ID:141902, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141902 is located from position 113861407 to position 113861496 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337446 precursor RNA folds onto itself, forming GAM337446 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337446 precursor RNA, designated SEQ ID NO: 141902, and a schematic representation of a predicted secondary folding of GAM337446 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337446 folded precursor RNA yielding a GAM337446 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337446 RNA, hereby incorporated herein. Expression of GAM337446 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337446 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337446 target RNA, herein designated GAM TARGET RNA.

GAM337446 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337446 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337446 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337446 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337446 RNA, herein designated GAM RNA, to target binding sites on GAM337446 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337446 target RNA into GAM337446 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337446 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337446 target genes. The mRNA of each one of this plurality of GAM337446 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337446 RNA, herein designated GAM RNA, and which when bound by GAM337446 RNA causes inhibition of translation of the GAM337446 target mRNA into a corresponding GAM337446 target protein.

The mechanism of the translational inhibition exerted by GAM337446 RNA, herein designated GAM RNA, on one or more GAM337446 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337446 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337446 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337446 RNA, herein designated GAM RNA, of GAM337446 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337446 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337446 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337446 RNA correlate with, and may be deduced from, the identity of the GAM337446 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337447 141903 TCACTTGAAC CCGGGAAGGC GGAGGTTGCA Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337447 (GAM337447) oligonucleotides modulates expression of respective target

GTGAGCCGAG genes whose function and utility is known in the art.

ATCGTGCCAC GAM337447 is a novel bioinformatically detectable regulatory, non protein
TGCACTCCAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337447 was detected
CCTGGGCAAC is described with additional reference to Figs. 9-15.

AAGAGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337447 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337447 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337447 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337447 precursor RNA is designated SEQ ID:141903, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141903 is located from position 113861413 to position 113861490 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337447 precursor RNA folds onto itself, forming GAM337447 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337447 precursor RNA, designated SEQ ID NO: 141903, and a schematic representation of a predicted secondary folding of GAM337447 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337447 folded precursor RNA yielding a GAM337447 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337447 RNA, hereby incorporated herein. Expression of GAM337447 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337447 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337447 target RNA, herein designated GAM TARGET RNA.

GAM337447 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337447 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337447 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337447 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337447 RNA, herein designated GAM RNA, to target binding sites on GAM337447 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337447 target RNA into GAM337447 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337447 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337447 target genes. The mRNA of each one of this plurality of GAM337447 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337447 RNA, herein designated GAM RNA, and which when bound by GAM337447 RNA causes inhibition of translation of the GAM337447 target mRNA into a corresponding GAM337447 target protein.

The mechanism of the translational inhibition exerted by GAM337447 RNA, herein designated GAM RNA, on one or more GAM337447 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337447 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337447 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337447 RNA, herein designated GAM RNA, of GAM337447 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337447 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337447 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337447

RNA correlate with, and may be deduced from, the identity of the GAM337447 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337448 141904 CTTGAACCCG GGAAGGCGGA GGTTGCAGTG AGCCGAGATC GTGCCACTGC ACTCCAGCCT GGGCAACAAG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337448 (GAM337448) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337448 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337448 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337448 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337448 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337448 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337448 precursor RNA is designated SEQ ID:141904, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141904 is located from position 113861416 to position 113861485 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337448 precursor RNA folds onto itself, forming GAM337448 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337448 precursor RNA, designated SEQ ID NO: 141904, and a schematic representation of a predicted secondary folding of GAM337448 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337448 folded precursor RNA yielding a GAM337448 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly

similar to the nucleotide sequence of GAM337448 RNA, hereby incorporated herein. Expression of GAM337448 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337448 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337448 target RNA, herein designated GAM TARGET RNA.

GAM337448 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337448 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337448 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337448 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337448 RNA, herein designated GAM RNA, to target binding sites on GAM337448 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337448 target RNA into GAM337448 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337448 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337448 target genes. The mRNA of each one of this plurality of GAM337448 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337448 RNA, herein designated GAM RNA, and which when bound by GAM337448 RNA causes inhibition of translation of the GAM337448 target mRNA into a corresponding GAM337448 target protein.

The mechanism of the translational inhibition exerted by GAM337448 RNA, herein designated GAM RNA, on one or more GAM337448 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337448 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337448 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337448 RNA, herein designated GAM RNA, of GAM337448 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337448 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337448 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337448 RNA correlate with, and may be deduced from, the identity of the GAM337448 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337449 141905 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 337449 (GAM337449) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337449 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337449 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337449 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337449 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337449 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337449 precursor RNA is designated SEQ ID:141905, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141905 is located from position 114300062 to position 114300143 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM337449 precursor RNA folds onto itself, forming GAM337449 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337449 precursor RNA, designated SEQ ID NO: 141905, and a schematic representation of a predicted secondary folding of GAM337449 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337449 folded precursor RNA yielding a GAM337449 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337449 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337449 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337449 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337449 target RNA, herein designated GAM TARGET RNA.

GAM337449 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337449 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337449 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337449 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337449 RNA, herein designated GAM RNA, to target binding sites on GAM337449 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337449 target RNA into GAM337449 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337449 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337449 target genes. The mRNA of each one of this plurality of GAM337449 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337449 RNA, herein designated GAM RNA, and which when bound by GAM337449 RNA causes inhibition of translation of the GAM337449 target mRNA into a corresponding GAM337449 target protein.

The mechanism of the translational inhibition exerted by GAM337449 RNA, herein designated GAM RNA, on one or more GAM337449 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337449 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337449 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337449 RNA, herein designated GAM RNA, of GAM337449 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337449 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337449 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337449 RNA correlate with, and may be deduced from, the identity of the GAM337449 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337450 141906 TGCCTGAATA Fig. 8 further provides a conceptual description of another novel bioinformatically

AAGCTAGACG detected oligonucleotides of the present invention, referred to here as Genomic Address

TTCATTGACC Messenger 337450 (GAM337450) oligonucleotides modulates expression of respective target

AGCAGAGTCT genes whose function and utility is known in the art.

TTTATAACTA GAM337450 is a novel bioinformatically detectable regulatory, non protein

CCCCAGTTCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337450 was detected

GTGGAAAACT is described with additional reference to Figs. 9-15.

TGGGCTGGTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TAAGTACTGT encoded by the human genome.

CCAGGCA GAM337450 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337450 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337450 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337450 precursor RNA is designated SEQ ID:141906, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141906 is located from position 114520290 to position 114520386 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337450 precursor RNA folds onto itself, forming GAM337450 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337450 precursor RNA, designated SEQ ID NO: 141906, and a schematic representation of a predicted secondary folding of GAM337450 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337450 folded precursor RNA yielding a GAM337450 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337450 RNA, hereby incorporated herein.

GAM337450 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337450 target RNA, herein designated GAM TARGET RNA.

GAM337450 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337450 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337450 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337450 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337450 RNA, herein designated GAM RNA, to target binding sites on GAM337450 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337450 target RNA into GAM337450 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337450 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337450 target genes. The mRNA of each one of this plurality of GAM337450 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM337450 RNA, herein designated GAM RNA, and which when bound by GAM337450 RNA causes inhibition of translation of the GAM337450 target mRNA into a corresponding GAM337450 target protein.

The mechanism of the translational inhibition exerted by GAM337450 RNA, herein designated GAM RNA, on one or more GAM337450 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337450 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337450 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337450 RNA, herein designated GAM RNA, of GAM337450 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337450 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337450 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337450 RNA correlate with, and may be deduced from, the identity of the GAM337450 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337451 141907 CTCTGACCTG Fig. 8 further provides a conceptual description of another novel bioinformatically

TGCTCCCAAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GTGAATGACC Messenger 337451 (GAM337451) oligonucleotides modulates expression of respective target

TTGTTGGGGT genes whose function and utility is known in the art.

TGACTAAGTC GAM337451 is a novel bioinformatically detectable regulatory, non protein

TTTTCCAGGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337451 was detected

AGGTCAACAT is described with additional reference to Figs. 9-15.

CACCTCAGCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATTTCAAAAC encoded by the human genome.

AGAG GAM337451 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337451 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337451 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337451 precursor RNA is designated SEQ ID:141907, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141907 is located from position 115464771 to position 115464864 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337451 precursor RNA folds onto itself, forming GAM337451 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337451 precursor RNA, designated SEQ ID NO: 141907, and a schematic representation of a predicted secondary folding of GAM337451 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337451 folded precursor RNA yielding a GAM337451 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337451 RNA, hereby incorporated herein.

GAM337451 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337451 target RNA, herein designated GAM TARGET RNA.

GAM337451 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337451 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337451 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337451 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337451 RNA, herein designated GAM RNA, to target

binding sites on GAM337451 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337451 target RNA into GAM337451 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337451 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337451 target genes. The mRNA of each one of this plurality of GAM337451 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337451 RNA, herein designated GAM RNA, and which when bound by GAM337451 RNA causes inhibition of translation of the GAM337451 target mRNA into a corresponding GAM337451 target protein.

The mechanism of the translational inhibition exerted by GAM337451 RNA, herein designated GAM RNA, on one or more GAM337451 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337451 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337451 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337451 RNA, herein designated GAM RNA, of GAM337451 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337451 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337451 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337451 RNA correlate with, and may be deduced from, the identity of the GAM337451 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337452 141908 GGGCTTTTGC Fig. 8 further provides a conceptual description of another novel bioinformatically

CCTAGATGGA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAAGTTCAAA Messenger 337452 (GAM337452) oligonucleotides modulates expression of respective target

TCCTGGCTCA genes whose function and utility is known in the art.

GTCACTTAGG GAM337452 is a novel bioinformatically detectable regulatory, non protein

AAATTTGGCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337452 was detected

GTTTGTCTTG is described with additional reference to Figs. 9-15.

GGCAAGTTGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TC encoded by the human genome.

GAM337452 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337452 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337452 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337452 precursor RNA is designated SEQ ID:141908, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141908 is located from position 115482747 to position 115482828 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM337452 precursor RNA folds onto itself, forming GAM337452 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337452 precursor RNA, designated SEQ ID NO: 141908, and a schematic representation of a predicted secondary folding of GAM337452 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337452 folded precursor RNA yielding a GAM337452 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337452 RNA, hereby incorporated herein.

GAM337452 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337452 target RNA, herein designated GAM TARGET RNA.

GAM337452 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337452 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337452 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337452 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337452 RNA, herein designated GAM RNA, to target binding sites on GAM337452 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337452 target RNA into GAM337452 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337452 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337452 target genes. The mRNA of each one of this plurality of GAM337452 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337452 RNA, herein designated GAM RNA, and which when bound by GAM337452 RNA causes inhibition of translation of the GAM337452 target mRNA into a corresponding GAM337452 target protein.

The mechanism of the translational inhibition exerted by GAM337452 RNA, herein designated GAM RNA, on one or more GAM337452 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337452 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337452 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337452 RNA, herein designated GAM RNA, of GAM337452 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337452 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337452 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337452 RNA correlate with, and may be deduced from, the identity of the GAM337452 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337453 141909 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATCGGTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCCAGGAG Messenger 337453 (GAM337453) oligonucleotides modulates expression of respective target
GCAGAGGTTG genes whose function and utility is known in the art.

TGGTGAGCCG GAM337453 is a novel bioinformatically detectable regulatory, non protein
AGATCGTACC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337453 was detected
ATTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAAGAGCAA encoded by the human genome.

AACTCCGTCT GAM337453 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CA GAM337453 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337453 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337453 precursor RNA is designated SEQ ID:141909, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141909 is located from position 116189890 to position 116189991 relative to chromosome chr1 on the `-` strand (chr is an abbreviation for chromosome).

GAM337453 precursor RNA folds onto itself, forming GAM337453 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337453 precursor RNA, designated SEQ ID NO: 141909, and a schematic representation of a predicted secondary folding of GAM337453 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337453 folded precursor RNA yielding a GAM337453 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337453 RNA, hereby incorporated herein. Expression of GAM337453 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337453 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337453 target RNA, herein designated GAM TARGET RNA.

GAM337453 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337453 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337453 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337453 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337453 RNA, herein designated GAM RNA, to target binding sites on GAM337453 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337453 target RNA into GAM337453 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337453 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337453 target genes. The mRNA of each one of this plurality of GAM337453 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337453 RNA, herein designated GAM RNA, and which when bound by GAM337453 RNA causes inhibition of translation of the GAM337453 target mRNA into a corresponding GAM337453 target protein.

The mechanism of the translational inhibition exerted by GAM337453 RNA, herein designated GAM RNA, on one or more GAM337453 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337453 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337453 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337453 RNA, herein designated GAM RNA, of GAM337453 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337453 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337453 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337453 RNA correlate with, and may be deduced from, the identity of the GAM337453 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337454 141910 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AATCGGTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCCAGGAGG Messenger 337454 (GAM337454) oligonucleotides modulates expression of respective target
CAGAGGTTGT genes whose function and utility is known in the art.

GGTGAGCCGA GAM337454 is a novel bioinformatically detectable regulatory, non protein
GATCGTACCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337454 was detected
TTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAAGAGCAAA encoded by the human genome.

ACTCCGTCTC GAM337454 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAM337454 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337454 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337454 precursor RNA is designated SEQ ID:141910, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141910 is located from position 116189891 to position 116189990 relative to chromosome chr1 on the `-` strand (chr is an abbreviation for chromosome).

GAM337454 precursor RNA folds onto itself, forming GAM337454 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337454 precursor RNA, designated SEQ ID NO: 141910, and a schematic representation of a predicted secondary folding of GAM337454 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337454 folded precursor RNA yielding a GAM337454 RNA, herein designated GAM RNA, in the form of a single stranded

~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337454 RNA, hereby incorporated herein. Expression of GAM337454 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337454 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337454 target RNA, herein designated GAM TARGET RNA.

GAM337454 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337454 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337454 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337454 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337454 RNA, herein designated GAM RNA, to target binding sites on GAM337454 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337454 target RNA into GAM337454 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337454 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337454 target genes. The mRNA of each one of this plurality of GAM337454 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337454 RNA, herein designated GAM RNA, and which when bound by GAM337454 RNA causes inhibition of translation of the GAM337454 target mRNA into a corresponding GAM337454 target protein.

The mechanism of the translational inhibition exerted by GAM337454 RNA, herein designated GAM RNA, on one or more GAM337454 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337454 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337454 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337454 RNA, herein designated GAM RNA, of GAM337454 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337454 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337454 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337454 RNA correlate with, and may be deduced from, the identity of the GAM337454 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337455 141911 AGTGCACAGC TCTTGGAGTC AGGGCACCTG GATAATCTGC AGACAAATGT GCCACTGCTC CAAGGCTCAG CACT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337455 (GAM337455) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337455 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337455 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337455 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337455 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337455 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337455 precursor RNA is designated SEQ ID:141911, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141911 is located from position 116458112 to position 116458185 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337455 precursor RNA folds onto itself, forming GAM337455 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337455 precursor RNA, designated SEQ ID NO: 141911, and a schematic representation of a predicted secondary folding of GAM337455 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337455 folded precursor RNA yielding a GAM337455 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337455 RNA, hereby incorporated herein.

GAM337455 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337455 target RNA, herein designated GAM TARGET RNA.

GAM337455 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337455 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337455 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337455 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337455 RNA, herein designated GAM RNA, to target binding sites on GAM337455 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337455 target RNA into GAM337455 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337455 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337455 target genes. The mRNA of each one of this plurality of GAM337455 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337455 RNA, herein designated GAM RNA, and which when bound by GAM337455 RNA causes inhibition of translation of the GAM337455 target mRNA into a corresponding GAM337455 target protein.

The mechanism of the translational inhibition exerted by GAM337455 RNA, herein

designated GAM RNA, on one or more GAM337455 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337455 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337455 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337455 RNA, herein designated GAM RNA, of GAM337455 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337455 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337455 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337455 RNA correlate with, and may be deduced from, the identity of the GAM337455 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337456 141912 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

CAATCACTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCCAGGAG Messenger 337456 (GAM337456) oligonucleotides modulates expression of respective target

TTTGAGGCTG genes whose function and utility is known in the art.

CAGTGAGCCG GAM337456 is a novel bioinformatically detectable regulatory, non protein

AGATCACGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337456 was detected

ACTGCACTCC is described with additional reference to Figs. 9-15.

ACCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAGAGCAAG encoded by the human genome.

ATCTTGTCTC GAM337456 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

G GAM337456 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337456 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337456 precursor RNA is designated SEQ ID:141912, and is provided hereinbelow with reference to the sequence listing part.

Nucleotide sequence SEQ ID:141912 is located from position 116582532 to position 116582632 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337456 precursor RNA folds onto itself, forming GAM337456 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337456 precursor RNA, designated SEQ ID NO: 141912, and a schematic representation of a predicted secondary folding of GAM337456 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337456 folded precursor RNA yielding a GAM337456 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337456 RNA, hereby incorporated herein.

GAM337456 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337456 target RNA, herein designated GAM TARGET RNA.

GAM337456 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337456 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337456 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337456 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337456 RNA, herein designated GAM RNA, to target binding sites on GAM337456 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337456 target RNA into GAM337456 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337456 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337456 target genes. The mRNA of each one of this plurality of GAM337456 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337456 RNA, herein designated GAM RNA, and which when bound by GAM337456 RNA causes inhibition of translation of the GAM337456 target mRNA into a corresponding GAM337456 target protein.

The mechanism of the translational inhibition exerted by GAM337456 RNA, herein designated GAM RNA, on one or more GAM337456 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337456 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337456 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337456 RNA, herein designated GAM RNA, of GAM337456 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337456 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337456 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337456 RNA correlate with, and may be deduced from, the identity of the GAM337456 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337457 141913 GAGGCAGGAC Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCACTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCCAGGAGT Messenger 337457 (GAM337457) oligonucleotides modulates expression of respective target

TTGAGGCTGC genes whose function and utility is known in the art.

AGTGAGCCGA GAM337457 is a novel bioinformatically detectable regulatory, non protein

GATCACGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337457 was detected

CTGCACTCCA is described with additional reference to Figs. 9-15.

CCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGAGCAAGA encoded by the human genome.

TCTTGTCTC GAM337457 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337457 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337457 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337457 precursor RNA is designated SEQ ID:141913, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141913 is located from position 116582533 to position 116582631 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337457 precursor RNA folds onto itself, forming GAM337457 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337457 precursor RNA, designated SEQ ID NO: 141913, and a schematic representation of a predicted secondary folding of GAM337457 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337457 folded precursor RNA yielding a GAM337457 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337457 RNA, hereby incorporated herein.

GAM337457 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337457 target RNA, herein designated GAM TARGET RNA.

GAM337457 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337457 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337457 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337457 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337457 RNA, herein designated GAM RNA, to target binding sites on GAM337457 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337457 target RNA into GAM337457 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337457 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337457 target genes. The mRNA of each one of this plurality of GAM337457 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337457 RNA, herein designated GAM RNA, and which when bound by GAM337457 RNA causes inhibition of translation of the GAM337457 target mRNA into a corresponding GAM337457 target protein.

The mechanism of the translational inhibition exerted by GAM337457 RNA, herein designated GAM RNA, on one or more GAM337457 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337457 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337457 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337457 RNA, herein designated GAM RNA, of GAM337457 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337457 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337457 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337457 RNA correlate with, and may be deduced from, the identity of the GAM337457 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337458 141914 ATGAAGTGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

TCACATTGGC detected oligonucleotides of the present invention, referred to here as Genomic Address

TACTGGTGAG Messenger 337458 (GAM337458) oligonucleotides modulates expression of respective target

GAAGGAGCAG genes whose function and utility is known in the art.

AGTTGTGGGC GAM337458 is a novel bioinformatically detectable regulatory, non protein
TGAGACTGAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337458 was detected
GCTGTTCAGC is described with additional reference to Figs. 9-15.

ATCTGTCTTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTTGTCACCA encoded by the human genome.

ACATAGATGA GAM337458 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CCACTAGCAT GAM337458 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337458 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337458 precursor RNA is designated SEQ ID:141914, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141914 is located from position 116689623 to position 116689732 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM337458 precursor RNA folds onto itself, forming GAM337458 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337458 precursor RNA, designated SEQ ID NO: 141914, and a schematic representation of a predicted secondary folding of GAM337458 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337458 folded precursor RNA yielding a GAM337458 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337458 RNA, hereby incorporated herein.

GAM337458 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337458 target RNA, herein designated GAM TARGET RNA.

GAM337458 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337458 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337458 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337458 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337458 RNA, herein designated GAM RNA, to target binding sites on GAM337458 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337458 target RNA into GAM337458 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337458 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337458 target genes. The mRNA of each one of this plurality of GAM337458 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337458 RNA, herein designated GAM RNA, and which when bound by GAM337458 RNA causes inhibition of translation of the GAM337458 target mRNA into a corresponding GAM337458 target protein.

The mechanism of the translational inhibition exerted by GAM337458 RNA, herein designated GAM RNA, on one or more GAM337458 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337458 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337458 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337458 RNA, herein designated GAM RNA, of GAM337458 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337458 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337458 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337458 RNA correlate with, and may be deduced from, the identity of the GAM337458 target gene

inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337459 141915 AGTGAGTCAC Fig. 8 further provides a conceptual description of another novel bioinformatically
ATTGGCTACT detected oligonucleotides of the present invention, referred to here as Genomic Address
GGTGAGGAAG Messenger 337459 (GAM337459) oligonucleotides modulates expression of respective target
GAGCAGAGTT genes whose function and utility is known in the art.

GTGGGCTGAG GAM337459 is a novel bioinformatically detectable regulatory, non protein
ACTGATGCTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337459 was detected
TTCAGCATCT is described with additional reference to Figs. 9-15.

GTCTTCCTTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCACCAACAT encoded by the human genome.

AGATGACCAC GAM337459 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
T GAM337459 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337459 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337459 precursor RNA is designated SEQ ID:141915, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141915 is located from position 116689628 to position 116689728 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM337459 precursor RNA folds onto itself, forming GAM337459 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337459 precursor RNA, designated SEQ ID NO: 141915, and a schematic representation of a predicted secondary folding of GAM337459 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337459 folded precursor RNA yielding a GAM337459 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly

similar to the nucleotide sequence of GAM337459 RNA, hereby incorporated herein.

GAM337459 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337459 target RNA, herein designated GAM TARGET RNA.

GAM337459 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337459 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337459 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337459 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337459 RNA, herein designated GAM RNA, to target binding sites on GAM337459 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337459 target RNA into GAM337459 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337459 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337459 target genes. The mRNA of each one of this plurality of GAM337459 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337459 RNA, herein designated GAM RNA, and which when bound by GAM337459 RNA causes inhibition of translation of the GAM337459 target mRNA into a corresponding GAM337459 target protein.

The mechanism of the translational inhibition exerted by GAM337459 RNA, herein designated GAM RNA, on one or more GAM337459 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337459 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337459 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337459 RNA, herein designated GAM RNA, of GAM337459 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337459 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337459 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337459 RNA correlate with, and may be deduced from, the identity of the GAM337459 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337460 141916 TCACTTAAAC Fig. 8 further provides a conceptual description of another novel bioinformatically
CCGGGAGGTG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGTTGCAG Messenger 337460 (GAM337460) oligonucleotides modulates expression of respective target
TGAGTGGAGA genes whose function and utility is known in the art.

TGGTGCCACT GAM337460 is a novel bioinformatically detectable regulatory, non protein
GCACTCCAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337460 was detected
CTGGGTGACA is described with additional reference to Figs. 9-15.

GAGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337460 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337460 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337460 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337460 precursor RNA is designated SEQ ID:141916, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141916 is located from position 116939053 to position 116939128 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337460 precursor RNA folds onto itself, forming GAM337460 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337460 precursor RNA, designated SEQ ID NO: 141916, and a schematic representation of a predicted secondary folding of GAM337460 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337460 folded precursor RNA yielding a GAM337460 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337460 RNA, hereby incorporated herein.

GAM337460 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337460 target RNA, herein designated GAM TARGET RNA.

GAM337460 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337460 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337460 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337460 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337460 RNA, herein designated GAM RNA, to target binding sites on GAM337460 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337460 target RNA into GAM337460 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337460 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337460 target genes. The mRNA of each one of this plurality of GAM337460 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337460 RNA, herein designated GAM RNA, and which when bound by GAM337460 RNA causes inhibition of translation of the GAM337460 target mRNA into a corresponding GAM337460 target protein.

The mechanism of the translational inhibition exerted by GAM337460 RNA, herein designated GAM RNA, on one or more GAM337460 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337460 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM337460 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337460 RNA, herein designated GAM RNA, of GAM337460 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337460 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337460 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337460 RNA correlate with, and may be deduced from, the identity of the GAM337460 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337461 141917 GGCATCTGTA Fig. 8 further provides a conceptual description of another novel bioinformatically

ATCCCAGCTA detected oligonucleotides of the present invention, referred to here as Genomic Address

CTCGGGAGGC Messenger 337461 (GAM337461) oligonucleotides modulates expression of respective target

TGAGGCACGA genes whose function and utility is known in the art.

GAATTGCTTG GAM337461 is a novel bioinformatically detectable regulatory, non protein

AGCCTGGGAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337461 was detected

GTGGAGATTG is described with additional reference to Figs. 9-15.

CAGTGAGTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337461 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337461 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337461 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337461 precursor RNA is designated SEQ ID:141917, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141917 is located from position 116942975 to position 116943053 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM337461 precursor RNA folds onto itself, forming GAM337461 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337461 precursor RNA, designated SEQ ID NO: 141917, and a schematic representation of a predicted secondary folding of GAM337461 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337461 folded precursor RNA yielding a GAM337461 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337461 RNA, hereby incorporated herein.

GAM337461 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337461 target RNA, herein designated GAM TARGET RNA.

GAM337461 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337461 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337461 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337461 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337461 RNA, herein designated GAM RNA, to target binding sites on GAM337461 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337461 target RNA into GAM337461 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337461 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337461 target genes. The mRNA of each one of this plurality of GAM337461 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337461 RNA, herein designated GAM RNA, and which when bound by GAM337461 RNA causes inhibition of translation of the GAM337461 target mRNA into a corresponding GAM337461 target protein.

The mechanism of the translational inhibition exerted by GAM337461 RNA, herein designated GAM RNA, on one or more GAM337461 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337461 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337461 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337461 RNA, herein designated GAM RNA, of GAM337461 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337461 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337461 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337461 RNA correlate with, and may be deduced from, the identity of the GAM337461 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337462 141918 GGAGAATTGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTTGCAG Messenger 337462 (GAM337462) oligonucleotides modulates expression of respective target

TGAGCCGAGG genes whose function and utility is known in the art.

TTGCGCCATT GAM337462 is a novel bioinformatically detectable regulatory, non protein

GCACTCCAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337462 was detected

CTGGGCAACA is described with additional reference to Figs. 9-15.

AGAGCGAAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCC encoded by the human genome.

GAM337462 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337462 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337462 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337462 precursor RNA is designated SEQ

ID:141918, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141918 is located from position 117189825 to position 117189907 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337462 precursor RNA folds onto itself, forming GAM337462 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337462 precursor RNA, designated SEQ ID NO: 141918, and a schematic representation of a predicted secondary folding of GAM337462 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337462 folded precursor RNA yielding a GAM337462 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337462 RNA, hereby incorporated herein.

GAM337462 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337462 target RNA, herein designated GAM TARGET RNA.

GAM337462 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337462 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337462 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337462 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337462 RNA, herein designated GAM RNA, to target binding sites on GAM337462 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337462 target RNA into GAM337462 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM337462 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337462 target genes. The mRNA of each one of this plurality of GAM337462 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337462 RNA, herein designated GAM RNA, and which when bound by GAM337462 RNA causes inhibition of translation of the GAM337462 target mRNA into a corresponding GAM337462 target protein.

The mechanism of the translational inhibition exerted by GAM337462 RNA, herein designated GAM RNA, on one or more GAM337462 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337462 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337462 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337462 RNA, herein designated GAM RNA, of GAM337462 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337462 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337462 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337462 RNA correlate with, and may be deduced from, the identity of the GAM337462 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337463 141919 CGAAGGCAGC Fig. 8 further provides a conceptual description of another novel bioinformatically

ATGGAAGAAT detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGCAGTATT Messenger 337463 (GAM337463) oligonucleotides modulates expression of respective target

GGATTTGAAA genes whose function and utility is known in the art.

TCAGGAGACT GAM337463 is a novel bioinformatically detectable regulatory, non protein

TGGAATTGAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337463 was detected

TTCTGCCTCT is described with additional reference to Figs. 9-15.

TCCACTACCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCTGTGAAAT encoded by the human genome.

TG GAM337463 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337463 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337463 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337463 precursor RNA is designated SEQ ID:141919, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141919 is located from position 117327121 to position 117327212 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337463 precursor RNA folds onto itself, forming GAM337463 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337463 precursor RNA, designated SEQ ID NO: 141919, and a schematic representation of a predicted secondary folding of GAM337463 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337463 folded precursor RNA yielding a GAM337463 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337463 RNA, hereby incorporated herein.

GAM337463 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337463 target RNA, herein designated GAM TARGET RNA.

GAM337463 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337463 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337463 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337463 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337463 RNA, herein designated GAM RNA, to target binding sites on GAM337463 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337463 target RNA into GAM337463 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337463 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337463 target genes. The mRNA of each one of this plurality of GAM337463 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337463 RNA, herein designated GAM RNA, and which when bound by GAM337463 RNA causes inhibition of translation of the GAM337463 target mRNA into a corresponding GAM337463 target protein.

The mechanism of the translational inhibition exerted by GAM337463 RNA, herein designated GAM RNA, on one or more GAM337463 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337463 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337463 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337463 RNA, herein designated GAM RNA, of GAM337463 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337463 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337463 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337463 RNA correlate with, and may be deduced from, the identity of the GAM337463 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337464 141920 GCAGCATGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

AGAATAGGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

GTATTGGATT Messenger 337464 (GAM337464) oligonucleotides modulates expression of respective target

TGAAATCAGG genes whose function and utility is known in the art.

AGACTTGGAA TTGAATTCTG CCTCTTCCAC TACCAGCTGT

GAM337464 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337464 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337464 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337464 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337464 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337464 precursor RNA is designated SEQ ID:141920, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141920 is located from position 117327126 to position 117327205 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337464 precursor RNA folds onto itself, forming GAM337464 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337464 precursor RNA, designated SEQ ID NO: 141920, and a schematic representation of a predicted secondary folding of GAM337464 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337464 folded precursor RNA yielding a GAM337464 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337464 RNA, hereby incorporated herein.

GAM337464 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337464 target RNA, herein designated GAM TARGET RNA.

GAM337464 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337464 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337464 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337464 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337464 RNA, herein designated GAM RNA, to target binding sites on GAM337464 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337464 target RNA into GAM337464 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337464 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337464 target genes. The mRNA of each one of this plurality of GAM337464 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337464 RNA, herein designated GAM RNA, and which when bound by GAM337464 RNA causes inhibition of translation of the GAM337464 target mRNA into a corresponding GAM337464 target protein.

The mechanism of the translational inhibition exerted by GAM337464 RNA, herein designated GAM RNA, on one or more GAM337464 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337464 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337464 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337464 RNA, herein designated GAM RNA, of GAM337464 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337464 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337464 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337464 RNA correlate with, and may be deduced from, the identity of the GAM337464 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337465 141921 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 337465 (GAM337465) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337465 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337465 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337465 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337465 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337465 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337465 precursor RNA is designated SEQ ID:141921, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141921 is located from position 117891472 to position 117891553 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337465 precursor RNA folds onto itself, forming GAM337465 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337465 precursor RNA, designated SEQ ID NO: 141921, and a schematic representation of a predicted secondary folding of GAM337465 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337465 folded precursor RNA yielding a GAM337465 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337465 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337465 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337465 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337465 target RNA, herein designated GAM TARGET RNA.

GAM337465 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337465 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337465 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337465 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337465 RNA, herein designated GAM RNA, to target binding sites on GAM337465 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337465 target RNA into GAM337465 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337465 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337465 target genes. The mRNA of each one of this plurality of GAM337465 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337465 RNA, herein designated GAM RNA, and which when bound by GAM337465 RNA causes inhibition of translation of the GAM337465 target mRNA into a corresponding GAM337465 target protein.

The mechanism of the translational inhibition exerted by GAM337465 RNA, herein designated GAM RNA, on one or more GAM337465 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337465 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337465 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337465 RNA, herein designated GAM RNA, of GAM337465 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337465 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337465 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337465 RNA correlate with, and may be deduced from, the identity of the GAM337465 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337466 141922 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 337466 (GAM337466) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337466 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337466 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337466 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337466 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337466 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337466 precursor RNA is designated SEQ ID:141922, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141922 is located from position 118241872 to position 118241953 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM337466 precursor RNA folds onto itself, forming GAM337466 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337466 precursor RNA, designated SEQ ID NO: 141922, and a schematic representation of a predicted secondary folding of GAM337466 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337466 folded precursor RNA yielding a GAM337466 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337466 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337466 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337466 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337466 target RNA, herein designated GAM TARGET RNA.

GAM337466 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337466 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337466 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337466 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337466 RNA, herein designated GAM RNA, to target binding sites on GAM337466 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337466 target RNA into GAM337466 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337466 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337466 target genes. The mRNA of each one of this plurality of GAM337466 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337466 RNA, herein designated GAM RNA, and which when bound by GAM337466 RNA causes inhibition of translation of the GAM337466 target mRNA into a corresponding GAM337466 target protein.

The mechanism of the translational inhibition exerted by GAM337466 RNA, herein designated GAM RNA, on one or more GAM337466 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337466 precursor RNA, herein designated GAM PRECURSOR

RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337466 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337466 RNA, herein designated GAM RNA, of GAM337466 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337466 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337466 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337466 RNA correlate with, and may be deduced from, the identity of the GAM337466 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337467 141923 GCCTGGGGTT Fig. 8 further provides a conceptual description of another novel bioinformatically
TGGAGGAGGT detected oligonucleotides of the present invention, referred to here as Genomic Address
AGCTAAGTAA Messenger 337467 (GAM337467) oligonucleotides modulates expression of respective target
TACTAGAGAA genes whose function and utility is known in the art.

ATTACAATCT GAM337467 is a novel bioinformatically detectable regulatory, non protein
TTATGTCTAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337467 was detected
AATCTCAGCC is described with additional reference to Figs. 9-15.

AGTAGTTGCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGGATCCACA encoded by the human genome.

GGACCTCAGG GAM337467 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
T GAM337467 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337467 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337467 precursor RNA is designated SEQ ID:141923, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141923 is located from position 118456636 to position 118456736 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337467 precursor RNA folds onto itself, forming GAM337467 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337467 precursor RNA, designated SEQ ID NO: 141923, and a schematic representation of a predicted secondary folding of GAM337467 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337467 folded precursor RNA yielding a GAM337467 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337467 RNA, hereby incorporated herein.

GAM337467 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337467 target RNA, herein designated GAM TARGET RNA.

GAM337467 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337467 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337467 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337467 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337467 RNA, herein designated GAM RNA, to target binding sites on GAM337467 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337467 target RNA into GAM337467 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337467 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337467 target genes. The mRNA of each one of this plurality of GAM337467 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337467 RNA, herein designated GAM RNA, and which when bound by GAM337467 RNA causes inhibition of

translation of the GAM337467 target mRNA into a corresponding GAM337467 target protein.

The mechanism of the translational inhibition exerted by GAM337467 RNA, herein designated GAM RNA, on one or more GAM337467 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337467 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337467 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337467 RNA, herein designated GAM RNA, of GAM337467 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337467 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337467 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337467 RNA correlate with, and may be deduced from, the identity of the GAM337467 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337468 141924 TACCTTGGCC Fig. 8 further provides a conceptual description of another novel bioinformatically

AAGGAACTAC detected oligonucleotides of the present invention, referred to here as Genomic Address

TTCTCCAGAC Messenger 337468 (GAM337468) oligonucleotides modulates expression of respective target

ATCTGCCGCT genes whose function and utility is known in the art.

ATGCTTTGGG GAM337468 is a novel bioinformatically detectable regulatory, non protein

AATCAGAATG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337468 was detected

GGGTGTAGTT is described with additional reference to Figs. 9-15.

TCTCCAGTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TA encoded by the human genome.

GAM337468 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337468 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337468 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM337468 precursor RNA is designated SEQ ID:141924, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141924 is located from position 118778956 to position 118779037 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337468 precursor RNA folds onto itself, forming GAM337468 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337468 precursor RNA, designated SEQ ID NO: 141924, and a schematic representation of a predicted secondary folding of GAM337468 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337468 folded precursor RNA yielding a GAM337468 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337468 RNA, hereby incorporated herein.

GAM337468 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337468 target RNA, herein designated GAM TARGET RNA.

GAM337468 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337468 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337468 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337468 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337468 RNA, herein designated GAM RNA, to target binding sites on GAM337468 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337468 target RNA

into GAM337468 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337468 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337468 target genes. The mRNA of each one of this plurality of GAM337468 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337468 RNA, herein designated GAM RNA, and which when bound by GAM337468 RNA causes inhibition of translation of the GAM337468 target mRNA into a corresponding GAM337468 target protein.

The mechanism of the translational inhibition exerted by GAM337468 RNA, herein designated GAM RNA, on one or more GAM337468 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337468 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337468 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337468 RNA, herein designated GAM RNA, of GAM337468 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337468 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337468 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337468 RNA correlate with, and may be deduced from, the identity of the GAM337468 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337469 141925 GAGGTCATAA Fig. 8 further provides a conceptual description of another novel bioinformatically

TGTGAATGTT detected oligonucleotides of the present invention, referred to here as Genomic Address

GTATGCAGTG Messenger 337469 (GAM337469) oligonucleotides modulates expression of respective target

GCCATGTCAT genes whose function and utility is known in the art.

CAGAACAGGT GAM337469 is a novel bioinformatically detectable regulatory, non protein

GTGCCAGCCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337469 was detected

CCTGCATGGA is described with additional reference to Figs. 9-15.

ACATGTACAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GCTTC encoded by the human genome.

GAM337469 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337469 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337469 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337469 precursor RNA is designated SEQ ID:141925, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141925 is located from position 118785414 to position 118785498 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM337469 precursor RNA folds onto itself, forming GAM337469 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337469 precursor RNA, designated SEQ ID NO: 141925, and a schematic representation of a predicted secondary folding of GAM337469 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337469 folded precursor RNA yielding a GAM337469 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337469 RNA, hereby incorporated herein.

GAM337469 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337469 target RNA, herein designated GAM TARGET RNA.

GAM337469 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337469 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337469 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337469 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337469 RNA, herein designated GAM RNA, to target binding sites on GAM337469 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337469 target RNA into GAM337469 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337469 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337469 target genes. The mRNA of each one of this plurality of GAM337469 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337469 RNA, herein designated GAM RNA, and which when bound by GAM337469 RNA causes inhibition of translation of the GAM337469 target mRNA into a corresponding GAM337469 target protein.

The mechanism of the translational inhibition exerted by GAM337469 RNA, herein designated GAM RNA, on one or more GAM337469 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337469 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337469 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337469 RNA, herein designated GAM RNA, of GAM337469 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337469 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337469 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337469 RNA correlate with, and may be deduced from, the identity of the GAM337469 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337470 141926 CTGAGAGGTG Fig. 8 further provides a conceptual description of another novel bioinformatically

AGATTCCACA detected oligonucleotides of the present invention, referred to here as Genomic Address

TCCCAAGTTG Messenger 337470 (GAM337470) oligonucleotides modulates expression of respective target

CACAGCTGGG genes whose function and utility is known in the art.

GAGAGACAGT GAM337470 is a novel bioinformatically detectable regulatory, non protein
GTCAGGACAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337470 was detected
TATCGCCTGT is described with additional reference to Figs. 9-15.

GCTGAGGTCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGCTCCCCAG encoded by the human genome.

CTAGACTGAA GAM337470 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GCTTTATGAG GAM337470 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GATTTTATTC GAM337470 precursor RNA does not encode a protein. A nucleotide sequence identical or

ATTTCAAG highly similar to the nucleotide sequence of GAM337470 precursor RNA is designated SEQ

ID:141926, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141926 is located from position 119479486 to position 119479613 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337470 precursor RNA folds onto itself, forming GAM337470 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337470 precursor RNA, designated SEQ ID NO: 141926, and a schematic representation of a predicted secondary folding of GAM337470 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337470 folded precursor RNA yielding a GAM337470 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337470 RNA, hereby incorporated herein.

GAM337470 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337470 target RNA, herein designated GAM TARGET RNA.

GAM337470 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337470 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337470 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337470 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337470 RNA, herein designated GAM RNA, to target binding sites on GAM337470 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337470 target RNA into GAM337470 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337470 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337470 target genes. The mRNA of each one of this plurality of GAM337470 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337470 RNA, herein designated GAM RNA, and which when bound by GAM337470 RNA causes inhibition of translation of the GAM337470 target mRNA into a corresponding GAM337470 target protein.

The mechanism of the translational inhibition exerted by GAM337470 RNA, herein designated GAM RNA, on one or more GAM337470 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337470 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337470 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337470 RNA, herein designated GAM RNA, of GAM337470 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337470 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337470 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337470 RNA correlate with, and may be deduced from, the identity of the GAM337470 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337471 141927 AGTTTTAGGG TACATGTACA CAACGTGCAG TATGTATACA TGTGCCATGT TGGTGTGCTG CACCCATTAA CT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337471 (GAM337471) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337471 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337471 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337471 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337471 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337471 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337471 precursor RNA is designated SEQ ID:141927, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141927 is located from position 119659619 to position 119659700 relative to chromosome chr5 on the `+` strand (chr is an abbreviation for chromosome).

GAM337471 precursor RNA folds onto itself, forming GAM337471 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337471 precursor RNA, designated SEQ ID NO: 141927, and a schematic representation of a predicted secondary folding of GAM337471 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337471 folded precursor RNA yielding a GAM337471 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides two possible nucleotide sequences of GAM337471 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337471 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337471 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337471 target RNA, herein designated GAM TARGET RNA.

GAM337471 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337471 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337471 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337471 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337471 RNA, herein designated GAM RNA, to target binding sites on GAM337471 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337471 target RNA into GAM337471 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337471 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337471 target genes. The mRNA of each one of this plurality of GAM337471 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337471 RNA, herein designated GAM RNA, and which when bound by GAM337471 RNA causes inhibition of translation of the GAM337471 target mRNA into a corresponding GAM337471 target protein.

The mechanism of the translational inhibition exerted by GAM337471 RNA, herein designated GAM RNA, on one or more GAM337471 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337471 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337471 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337471 RNA, herein designated GAM RNA, of

GAM337471 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337471 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337471 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337471 RNA correlate with, and may be deduced from, the identity of the GAM337471 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337472 141928 GAACTGGGTC Fig. 8 further provides a conceptual description of another novel bioinformatically

ATTTATCAAA detected oligonucleotides of the present invention, referred to here as Genomic Address

CTCTGTGTTT Messenger 337472 (GAM337472) oligonucleotides modulates expression of respective target

ATGTGGCCTT genes whose function and utility is known in the art.

TAGAATATTA GAM337472 is a novel bioinformatically detectable regulatory, non protein

TCCCTCAGTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337472 was detected

AGTTAGAGGC is described with additional reference to Figs. 9-15.

ACAGATTAAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGAGTTTGAA encoded by the human genome.

GGTTGTCACT GAM337472 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TGGTTT GAM337472 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337472 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337472 precursor RNA is designated SEQ ID:141928, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141928 is located from position 120043180 to position 120043285 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337472 precursor RNA folds onto itself, forming GAM337472 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337472 precursor RNA, designated SEQ ID NO: 141928, and a schematic representation of a predicted secondary folding of GAM337472 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337472 folded precursor RNA yielding a GAM337472 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337472 RNA, hereby incorporated herein.

GAM337472 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337472 target RNA, herein designated GAM TARGET RNA.

GAM337472 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337472 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337472 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337472 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337472 RNA, herein designated GAM RNA, to target binding sites on GAM337472 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337472 target RNA into GAM337472 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337472 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337472 target genes. The mRNA of each one of this plurality of GAM337472 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337472 RNA, herein designated GAM RNA, and which when bound by GAM337472 RNA causes inhibition of translation of the GAM337472 target mRNA into a corresponding GAM337472 target protein.

The mechanism of the translational inhibition exerted by GAM337472 RNA, herein designated GAM RNA, on one or more GAM337472 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337472 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337472 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337472 RNA, herein designated GAM RNA, of GAM337472 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337472 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337472 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337472 RNA correlate with, and may be deduced from, the identity of the GAM337472 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337473 141929 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337473 (GAM337473) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337473 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337473 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM337473 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337473 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337473 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337473 precursor RNA is designated SEQ ID:141929, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141929 is located from position 120076221 to position 120076302 relative to chromosome chr6 on the `+` strand (chr is an abbreviation for chromosome).

GAM337473 precursor RNA folds onto itself, forming GAM337473 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337473 precursor RNA, designated SEQ ID NO: 141929, and a schematic representation of a predicted secondary folding of GAM337473 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337473 folded precursor RNA yielding a GAM337473 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337473 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337473 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337473 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337473 target RNA, herein designated GAM TARGET RNA.

GAM337473 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337473 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337473 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337473 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337473 RNA, herein designated GAM RNA, to target binding sites on GAM337473 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337473 target RNA into GAM337473 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337473 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337473 target genes. The mRNA of each one of this plurality of GAM337473 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337473 RNA, herein designated GAM RNA, and which when bound by GAM337473 RNA causes inhibition of translation of the GAM337473 target mRNA into a corresponding GAM337473 target protein.

The mechanism of the translational inhibition exerted by GAM337473 RNA, herein designated GAM RNA, on one or more GAM337473 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337473 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337473 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337473 RNA, herein designated GAM RNA, of GAM337473 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337473 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337473 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337473 RNA correlate with, and may be deduced from, the identity of the GAM337473 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337474 141930 AGTCAGGTTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TGGTGAGGGC detected oligonucleotides of the present invention, referred to here as Genomic Address

CCTCTTCTGG Messenger 337474 (GAM337474) oligonucleotides modulates expression of respective target

GTTGCAGACT genes whose function and utility is known in the art.

GTTGACTTTT GAM337474 is a novel bioinformatically detectable regulatory, non protein

TGTACCCTCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337474 was detected

CACGGCTCAA is described with additional reference to Figs. 9-15.

AGAGGGTCCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTTAATAAAG encoded by the human genome.

GCACTAACT GAM337474 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337474 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337474 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337474 precursor RNA is designated SEQ ID:141930, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141930 is located from position 120488806 to position 120488904 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337474 precursor RNA folds onto itself, forming GAM337474 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337474 precursor RNA, designated SEQ ID NO: 141930, and a schematic representation of a predicted secondary folding of GAM337474 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337474 folded precursor RNA yielding a GAM337474 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337474 RNA, hereby incorporated herein.

GAM337474 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337474 target RNA, herein designated GAM TARGET RNA.

GAM337474 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337474 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337474 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337474 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337474 RNA, herein designated GAM RNA, to target binding sites on GAM337474 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337474 target RNA into GAM337474 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337474 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337474 target genes. The mRNA of each one of this plurality of GAM337474 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337474 RNA, herein designated GAM RNA, and which when bound by GAM337474 RNA causes inhibition of translation of the GAM337474 target mRNA into a corresponding GAM337474 target protein.

The mechanism of the translational inhibition exerted by GAM337474 RNA, herein designated GAM RNA, on one or more GAM337474 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337474 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337474 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337474 RNA, herein designated GAM RNA, of GAM337474 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337474 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337474 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337474 RNA correlate with, and may be deduced from, the identity of the GAM337474 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337475 141931 GGCTCTACAC Fig. 8 further provides a conceptual description of another novel bioinformatically

CTCTGAAATT detected oligonucleotides of the present invention, referred to here as Genomic Address

GCATACCTTG Messenger 337475 (GAM337475) oligonucleotides modulates expression of respective target

AAGAAGAGTC genes whose function and utility is known in the art.

ATCAGAAGTG TGCACAACAG AGTGTGGTGG AGTC

GAM337475 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337475 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337475 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337475 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337475 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337475 precursor RNA is designated SEQ ID:141931, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141931 is located from position 120794871 to position 120794944 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337475 precursor RNA folds onto itself, forming GAM337475 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337475 precursor RNA, designated SEQ ID NO: 141931, and a schematic representation of a predicted secondary folding of GAM337475 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337475 folded precursor RNA yielding a GAM337475 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337475 RNA, hereby incorporated herein.

GAM337475 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337475 target RNA, herein designated GAM TARGET RNA.

GAM337475 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337475 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337475 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337475 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337475 RNA, herein designated GAM RNA, to target binding sites on GAM337475 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337475 target RNA into GAM337475 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337475 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337475 target genes. The mRNA of each one of this plurality of GAM337475 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337475 RNA, herein designated GAM RNA, and which when bound by GAM337475 RNA causes inhibition of translation of the GAM337475 target mRNA into a corresponding GAM337475 target protein.

The mechanism of the translational inhibition exerted by GAM337475 RNA, herein designated GAM RNA, on one or more GAM337475 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337475 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337475 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337475 RNA, herein designated GAM RNA, of GAM337475 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337475 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337475 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337475 RNA correlate with, and may be deduced from, the identity of the GAM337475 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337476 141932 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATCGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCCAGGAG Messenger 337476 (GAM337476) oligonucleotides modulates expression of respective target
GCGGAGGTTG genes whose function and utility is known in the art.

TGGTGAGCGA GAM337476 is a novel bioinformatically detectable regulatory, non protein
AGATCGTGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337476 was detected
ATTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAAGAGCAA encoded by the human genome.

AACTCTGTCT GAM337476 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CA GAM337476 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337476 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337476 precursor RNA is designated SEQ ID:141932, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141932 is located from position 120997503 to position 120997604 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM337476 precursor RNA folds onto itself, forming GAM337476 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337476 precursor RNA, designated SEQ ID NO: 141932, and a schematic representation of a predicted secondary folding of GAM337476 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337476 folded precursor RNA yielding a GAM337476 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337476 RNA, hereby incorporated herein. Expression of GAM337476 RNA was experimentally validated in HeLa cells using the methods

described with reference to Figs.22 to 24.

GAM337476 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337476 target RNA, herein designated GAM TARGET RNA.

GAM337476 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337476 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337476 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337476 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337476 RNA, herein designated GAM RNA, to target binding sites on GAM337476 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337476 target RNA into GAM337476 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337476 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337476 target genes. The mRNA of each one of this plurality of GAM337476 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337476 RNA, herein designated GAM RNA, and which when bound by GAM337476 RNA causes inhibition of translation of the GAM337476 target mRNA into a corresponding GAM337476 target protein.

The mechanism of the translational inhibition exerted by GAM337476 RNA, herein designated GAM RNA, on one or more GAM337476 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337476 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337476 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337476 RNA, herein designated GAM RNA, of GAM337476 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337476 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337476 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337476 RNA correlate with, and may be deduced from, the identity of the GAM337476 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337477 141933 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 337477 (GAM337477) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337477 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337477 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337477 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337477 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337477 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337477 precursor RNA is designated SEQ ID:141933, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141933 is located from position 121175114 to position 121175195 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM337477 precursor RNA folds onto itself, forming GAM337477 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337477 precursor RNA, designated SEQ ID NO: 141933, and a schematic representation of a predicted secondary folding of GAM337477 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337477 folded precursor RNA yielding a GAM337477 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337477 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337477 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337477 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337477 target RNA, herein designated GAM TARGET RNA.

GAM337477 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337477 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337477 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337477 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337477 RNA, herein designated GAM RNA, to target binding sites on GAM337477 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337477 target RNA into GAM337477 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337477 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337477 target genes. The mRNA of each one of this plurality of GAM337477 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337477 RNA, herein designated GAM RNA, and which when bound by GAM337477 RNA causes inhibition of translation of the GAM337477 target mRNA into a corresponding GAM337477 target protein.

The mechanism of the translational inhibition exerted by GAM337477 RNA, herein designated GAM RNA, on one or more GAM337477 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337477 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337477 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337477 RNA, herein designated GAM RNA, of GAM337477 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337477 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337477 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337477 RNA correlate with, and may be deduced from, the identity of the GAM337477 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337478 141934 AATCAAAAAG Fig. 8 further provides a conceptual description of another novel bioinformatically
GTTTGAGCAA detected oligonucleotides of the present invention, referred to here as Genomic Address
AGGATGAACA Messenger 337478 (GAM337478) oligonucleotides modulates expression of respective target
CAATCTACAG genes whose function and utility is known in the art.

TCAGATTATG GAM337478 is a novel bioinformatically detectable regulatory, non protein
TCACTCCTTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337478 was detected
GCCCAGACCT is described with additional reference to Figs. 9-15.

TCTTGATT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337478 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337478 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337478 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337478 precursor RNA is designated SEQ ID:141934, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141934 is located from position 121180039 to position 121180116 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM337478 precursor RNA folds onto itself, forming GAM337478 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337478 precursor RNA, designated SEQ ID NO: 141934, and a schematic representation of a predicted secondary folding of GAM337478 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337478 folded precursor RNA yielding a GAM337478 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337478 RNA, hereby incorporated herein.

GAM337478 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337478 target RNA, herein designated GAM TARGET RNA.

GAM337478 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337478 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337478 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337478 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337478 RNA, herein designated GAM RNA, to target binding sites on GAM337478 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337478 target RNA into GAM337478 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337478 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337478 target genes. The mRNA of each one of this plurality of GAM337478 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337478 RNA, herein designated GAM RNA, and which when bound by GAM337478 RNA causes inhibition of

translation of the GAM337478 target mRNA into a corresponding GAM337478 target protein.

The mechanism of the translational inhibition exerted by GAM337478 RNA, herein designated GAM RNA, on one or more GAM337478 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337478 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337478 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337478 RNA, herein designated GAM RNA, of GAM337478 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337478 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337478 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337478 RNA correlate with, and may be deduced from, the identity of the GAM337478 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337479 141935 CTGAGCAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
AGAATCTCGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GATCCCAGGA Messenger 337479 (GAM337479) oligonucleotides modulates expression of respective target
GGTCAAGGCT genes whose function and utility is known in the art.

GCAGTGAGCC GAM337479 is a novel bioinformatically detectable regulatory, non protein
ACAATTTTGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337479 was detected
CACTGCACTC is described with additional reference to Figs. 9-15.

CAGCCTGGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AACAGAGCAA encoded by the human genome.

GACCCTGTCT GAM337479 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CAG GAM337479 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337479 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337479 precursor RNA is designated SEQ ID:141935, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141935 is located from position 121585232 to position 121585334 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337479 precursor RNA folds onto itself, forming GAM337479 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337479 precursor RNA, designated SEQ ID NO: 141935, and a schematic representation of a predicted secondary folding of GAM337479 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337479 folded precursor RNA yielding a GAM337479 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337479 RNA, hereby incorporated herein. Expression of GAM337479 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337479 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337479 target RNA, herein designated GAM TARGET RNA.

GAM337479 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337479 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337479 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337479 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337479 RNA, herein designated GAM RNA, to target

binding sites on GAM337479 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337479 target RNA into GAM337479 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337479 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337479 target genes. The mRNA of each one of this plurality of GAM337479 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337479 RNA, herein designated GAM RNA, and which when bound by GAM337479 RNA causes inhibition of translation of the GAM337479 target mRNA into a corresponding GAM337479 target protein.

The mechanism of the translational inhibition exerted by GAM337479 RNA, herein designated GAM RNA, on one or more GAM337479 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337479 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337479 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337479 RNA, herein designated GAM RNA, of GAM337479 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337479 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337479 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337479 RNA correlate with, and may be deduced from, the identity of the GAM337479 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337480 141936 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337480 (GAM337480) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337480 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337480 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM337480 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337480 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337480 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337480 precursor RNA is designated SEQ ID:141936, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141936 is located from position 121875870 to position 121875951 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337480 precursor RNA folds onto itself, forming GAM337480 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337480 precursor RNA, designated SEQ ID NO: 141936, and a schematic representation of a predicted secondary folding of GAM337480 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337480 folded precursor RNA yielding a GAM337480 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337480 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337480 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337480 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337480 target RNA, herein designated GAM TARGET RNA.

GAM337480 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337480 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337480 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337480 RNA is a partial or fully complementary sequence of the

nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337480 RNA, herein designated GAM RNA, to target binding sites on GAM337480 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337480 target RNA into GAM337480 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337480 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337480 target genes. The mRNA of each one of this plurality of GAM337480 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337480 RNA, herein designated GAM RNA, and which when bound by GAM337480 RNA causes inhibition of translation of the GAM337480 target mRNA into a corresponding GAM337480 target protein.

The mechanism of the translational inhibition exerted by GAM337480 RNA, herein designated GAM RNA, on one or more GAM337480 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337480 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337480 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337480 RNA, herein designated GAM RNA, of GAM337480 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337480 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337480 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337480 RNA correlate with, and may be deduced from, the identity of the GAM337480 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337481 141937 AAAAATGAAA Fig. 8 further provides a conceptual description of another novel bioinformatically
GGAAAAGGAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GGGAGGCAGA Messenger 337481 (GAM337481) oligonucleotides modulates expression of respective target
TGGGAAGATG genes whose function and utility is known in the art.

ACCCTTTTAC GAM337481 is a novel bioinformatically detectable regulatory, non protein
AAATGTTTCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337481 was detected
TCTCCTTTTT is described with additional reference to Figs. 9-15.

CTTTCTGTTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TT encoded by the human genome.

GAM337481 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337481 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337481 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337481 precursor RNA is designated SEQ ID:141937, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141937 is located from position 122005663 to position 122005744 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337481 precursor RNA folds onto itself, forming GAM337481 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337481 precursor RNA, designated SEQ ID NO: 141937, and a schematic representation of a predicted secondary folding of GAM337481 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337481 folded precursor RNA yielding a GAM337481 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337481 RNA, hereby incorporated herein.

GAM337481 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337481 target RNA, herein designated GAM TARGET RNA.

GAM337481 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337481 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337481 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337481 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337481 RNA, herein designated GAM RNA, to target binding sites on GAM337481 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337481 target RNA into GAM337481 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337481 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337481 target genes. The mRNA of each one of this plurality of GAM337481 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337481 RNA, herein designated GAM RNA, and which when bound by GAM337481 RNA causes inhibition of translation of the GAM337481 target mRNA into a corresponding GAM337481 target protein.

The mechanism of the translational inhibition exerted by GAM337481 RNA, herein designated GAM RNA, on one or more GAM337481 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337481 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337481 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337481 RNA, herein designated GAM RNA, of GAM337481 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337481 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337481 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337481 RNA correlate with, and may be deduced from, the identity of the GAM337481 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337482 141938 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACCTGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GGGGCGGACG Messenger 337482 (GAM337482) oligonucleotides modulates expression of respective target
TTGCAGTGAG genes whose function and utility is known in the art.

CCAAGATCGC GAM337482 is a novel bioinformatically detectable regulatory, non protein
ACCATTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337482 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAAATCTCC encoded by the human genome.

GAM337482 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337482 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337482 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337482 precursor RNA is designated SEQ ID:141938, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141938 is located from position 122221602 to position 122221690 relative to chromosome chr4 on the `+` strand (chr is an abbreviation for chromosome).

GAM337482 precursor RNA folds onto itself, forming GAM337482 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337482 precursor RNA, designated SEQ ID NO: 141938, and a schematic representation of a predicted secondary folding of GAM337482 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337482 folded precursor RNA yielding a GAM337482 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337482 RNA, hereby incorporated herein. Expression of GAM337482 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337482 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337482 target RNA, herein designated GAM TARGET RNA.

GAM337482 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337482 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337482 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337482 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337482 RNA, herein designated GAM RNA, to target binding sites on GAM337482 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337482 target RNA into GAM337482 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337482 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337482 target genes. The mRNA of each one of this plurality of GAM337482 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337482 RNA, herein designated GAM RNA, and which when bound by GAM337482 RNA causes inhibition of translation of the GAM337482 target mRNA into a corresponding GAM337482 target protein.

The mechanism of the translational inhibition exerted by GAM337482 RNA, herein designated GAM RNA, on one or more GAM337482 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337482 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337482 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337482 RNA, herein designated GAM RNA, of GAM337482 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337482 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337482 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337482 RNA correlate with, and may be deduced from, the identity of the GAM337482 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337483 141939 TAAAAGAAGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TGTTCTTTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

GCTCATGCAG Messenger 337483 (GAM337483) oligonucleotides modulates expression of respective target

TGTGTCGATC genes whose function and utility is known in the art.

TCTGTCTCTC GAM337483 is a novel bioinformatically detectable regulatory, non protein

CCAAGCATTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337483 was detected

TTAGACTTTA is described with additional reference to Figs. 9-15.

TGCCAGAGAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CACCTGGAGG encoded by the human genome.

CAAAAGACAC GAM337483 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CATTTATTTA GAM337483 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337483 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337483 precursor RNA is designated SEQ ID:141939, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141939 is located from position 122223589 to position 122223698 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM337483 precursor RNA folds onto itself, forming GAM337483 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337483 precursor RNA, designated SEQ ID NO: 141939, and a schematic representation of a predicted secondary folding of GAM337483 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337483 folded precursor RNA yielding a GAM337483 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337483 RNA, hereby incorporated herein.

GAM337483 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337483 target RNA, herein designated GAM TARGET RNA.

GAM337483 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337483 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337483 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337483 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337483 RNA, herein designated GAM RNA, to target binding sites on GAM337483 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337483 target RNA into GAM337483 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337483 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337483 target genes. The mRNA of each one of this plurality of GAM337483 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337483 RNA, herein designated GAM RNA, and which when bound by GAM337483 RNA causes inhibition of translation of the GAM337483 target mRNA into a corresponding GAM337483 target protein.

The mechanism of the translational inhibition exerted by GAM337483 RNA, herein

designated GAM RNA, on one or more GAM337483 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337483 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337483 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337483 RNA, herein designated GAM RNA, of GAM337483 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337483 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337483 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337483 RNA correlate with, and may be deduced from, the identity of the GAM337483 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337484 141940 GGTGTTCTTT Fig. 8 further provides a conceptual description of another novel bioinformatically
TGGCTCATGC detected oligonucleotides of the present invention, referred to here as Genomic Address
AGTGTGTCGA Messenger 337484 (GAM337484) oligonucleotides modulates expression of respective target
TCTCTGTCTC genes whose function and utility is known in the art.

TCCCAAGCAT GAM337484 is a novel bioinformatically detectable regulatory, non protein
TTTTAGACTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337484 was detected
TATGCCAGAG is described with additional reference to Figs. 9-15.

ACCACCTGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGCAAAAGAC encoded by the human genome.

ACC GAM337484 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337484 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337484 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337484 precursor RNA is designated SEQ ID:141940, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141940 is located from position 122223598 to position 122223690

relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM337484 precursor RNA folds onto itself, forming GAM337484 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337484 precursor RNA, designated SEQ ID NO: 141940, and a schematic representation of a predicted secondary folding of GAM337484 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337484 folded precursor RNA yielding a GAM337484 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337484 RNA, hereby incorporated herein.

GAM337484 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337484 target RNA, herein designated GAM TARGET RNA.

GAM337484 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337484 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337484 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337484 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337484 RNA, herein designated GAM RNA, to target binding sites on GAM337484 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337484 target RNA into GAM337484 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337484 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337484 target genes. The mRNA of each one of this plurality of GAM337484 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337484 RNA, herein designated GAM RNA, and which when bound by GAM337484 RNA causes inhibition of translation of the GAM337484 target mRNA into a corresponding GAM337484 target protein.

The mechanism of the translational inhibition exerted by GAM337484 RNA, herein designated GAM RNA, on one or more GAM337484 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337484 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337484 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337484 RNA, herein designated GAM RNA, of GAM337484 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337484 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337484 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337484 RNA correlate with, and may be deduced from, the identity of the GAM337484 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337485 141941 TCTGAGTCAG Fig. 8 further provides a conceptual description of another novel bioinformatically

TGGGCTGAGA detected oligonucleotides of the present invention, referred to here as Genomic Address

AAGGCTGCCC Messenger 337485 (GAM337485) oligonucleotides modulates expression of respective target

ACCTTTCATC genes whose function and utility is known in the art.

TAGGTGGGCA GAM337485 is a novel bioinformatically detectable regulatory, non protein

CAACGTAATC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337485 was detected

AGCTGCCAGC is described with additional reference to Figs. 9-15.

TTGACCAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337485 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337485 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337485 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337485 precursor RNA is designated SEQ ID:141941, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141941 is located from position 122598663 to position 122598741 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337485 precursor RNA folds onto itself, forming GAM337485 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337485 precursor RNA, designated SEQ ID NO: 141941, and a schematic representation of a predicted secondary folding of GAM337485 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337485 folded precursor RNA yielding a GAM337485 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337485 RNA, hereby incorporated herein.

GAM337485 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337485 target RNA, herein designated GAM TARGET RNA.

GAM337485 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337485 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337485 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337485 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337485 RNA, herein designated GAM RNA, to target binding sites on GAM337485 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337485 target RNA into GAM337485 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337485 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337485 target genes. The mRNA of each one of this plurality of GAM337485 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337485 RNA, herein designated GAM RNA, and which when bound by GAM337485 RNA causes inhibition of translation of the GAM337485 target mRNA into a corresponding GAM337485 target protein.

The mechanism of the translational inhibition exerted by GAM337485 RNA, herein designated GAM RNA, on one or more GAM337485 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337485 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337485 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337485 RNA, herein designated GAM RNA, of GAM337485 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337485 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337485 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337485 RNA correlate with, and may be deduced from, the identity of the GAM337485 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337486 141942 TGAGATTTCT Fig. 8 further provides a conceptual description of another novel bioinformatically

AAGGCACTGC detected oligonucleotides of the present invention, referred to here as Genomic Address

TTCTAAGTAG Messenger 337486 (GAM337486) oligonucleotides modulates expression of respective target

GAATCACACT genes whose function and utility is known in the art.

GCAGTGGGTT GAM337486 is a novel bioinformatically detectable regulatory, non protein
AGTGACACCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337486 was detected
TGCTCAGAAA is described with additional reference to Figs. 9-15.

TGGTGCCTGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCAAAATGTT encoded by the human genome.

TCA GAM337486 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337486 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337486 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337486 precursor RNA is designated SEQ ID:141942, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141942 is located from position 122851359 to position 122851451 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM337486 precursor RNA folds onto itself, forming GAM337486 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337486 precursor RNA, designated SEQ ID NO: 141942, and a schematic representation of a predicted secondary folding of GAM337486 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337486 folded precursor RNA yielding a GAM337486 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337486 RNA, hereby incorporated herein.

GAM337486 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337486 target RNA, herein designated GAM TARGET RNA.

GAM337486 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337486 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337486 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the

nucleotide sequence of GAM337486 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337486 RNA, herein designated GAM RNA, to target binding sites on GAM337486 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337486 target RNA into GAM337486 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337486 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337486 target genes. The mRNA of each one of this plurality of GAM337486 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337486 RNA, herein designated GAM RNA, and which when bound by GAM337486 RNA causes inhibition of translation of the GAM337486 target mRNA into a corresponding GAM337486 target protein.

The mechanism of the translational inhibition exerted by GAM337486 RNA, herein designated GAM RNA, on one or more GAM337486 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337486 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337486 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337486 RNA, herein designated GAM RNA, of GAM337486 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337486 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337486 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337486 RNA correlate with, and may be deduced from, the identity of the GAM337486 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337487 141943 GGTGGGTTAG Fig. 8 further provides a conceptual description of another novel bioinformatically

GAGTGAGAGT detected oligonucleotides of the present invention, referred to here as Genomic Address

TACGGGAATG Messenger 337487 (GAM337487) oligonucleotides modulates expression of respective target

AGAATGACAC genes whose function and utility is known in the art.

AGGAACTAGC GAM337487 is a novel bioinformatically detectable regulatory, non protein

AGAGATTCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337487 was detected

AGGTAAAAGC is described with additional reference to Figs. 9-15.

TGGGCTGTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCATTTTGAC encoded by the human genome.

ATTAATTCTC GAM337487 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CCCACTAACC GAM337487 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

ACT GAM337487 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337487 precursor RNA is designated SEQ ID:141943, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141943 is located from position 122871572 to position 122871684 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337487 precursor RNA folds onto itself, forming GAM337487 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337487 precursor RNA, designated SEQ ID NO: 141943, and a schematic representation of a predicted secondary folding of GAM337487 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337487 folded precursor RNA yielding a GAM337487 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337487 RNA, hereby incorporated herein.

GAM337487 target gene, herein designated GAM TARGET GENE, encodes a

corresponding messenger RNA, GAM337487 target RNA, herein designated GAM TARGET RNA.

GAM337487 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337487 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337487 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337487 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337487 RNA, herein designated GAM RNA, to target binding sites on GAM337487 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337487 target RNA into GAM337487 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337487 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337487 target genes. The mRNA of each one of this plurality of GAM337487 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337487 RNA, herein designated GAM RNA, and which when bound by GAM337487 RNA causes inhibition of translation of the GAM337487 target mRNA into a corresponding GAM337487 target protein.

The mechanism of the translational inhibition exerted by GAM337487 RNA, herein designated GAM RNA, on one or more GAM337487 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337487 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337487 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337487 RNA, herein designated GAM RNA, of GAM337487 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337487 target RNA, herein designated

GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337487 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337487 RNA correlate with, and may be deduced from, the identity of the GAM337487 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337488 141944 ACATTATTAG Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATTTCAAG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGCTGGGCAT Messenger 337488 (GAM337488) oligonucleotides modulates expression of respective target

GTTGGAGTAT genes whose function and utility is known in the art.

GCCTGTGATC GAM337488 is a novel bioinformatically detectable regulatory, non protein

TCAGTTACTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337488 was detected

AGGAGGCTGA is described with additional reference to Figs. 9-15.

GGCAGAAGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTACTTGAGG encoded by the human genome.

CCAGGAGTTT GAM337488 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAGTCTGTAG GAM337488 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

TGT GAM337488 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337488 precursor RNA is designated SEQ ID:141944, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141944 is located from position 123179192 to position 123179304 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337488 precursor RNA folds onto itself, forming GAM337488 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337488 precursor RNA, designated SEQ ID NO: 141944, and a schematic representation of a predicted secondary folding of GAM337488 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337488 folded precursor RNA yielding a GAM337488 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337488 RNA, hereby incorporated herein.

GAM337488 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337488 target RNA, herein designated GAM TARGET RNA.

GAM337488 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337488 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337488 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337488 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337488 RNA, herein designated GAM RNA, to target binding sites on GAM337488 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337488 target RNA into GAM337488 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337488 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337488 target genes. The mRNA of each one of this plurality of GAM337488 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337488 RNA, herein designated GAM RNA, and which when bound by GAM337488 RNA causes inhibition of translation of the GAM337488 target mRNA into a corresponding GAM337488 target protein.

The mechanism of the translational inhibition exerted by GAM337488 RNA, herein designated GAM RNA, on one or more GAM337488 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337488 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337488 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337488 RNA, herein designated GAM RNA, of GAM337488 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337488 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337488 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337488 RNA correlate with, and may be deduced from, the identity of the GAM337488 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337489 141945 TGGAGGAGGA GGCTGGTGCT GGTTAAATAC AACCTAAATC AAACCACAGT TGACCAACCA CCACATCCAG CTTCTCCTTC CA

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337489 (GAM337489) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337489 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337489 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337489 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337489 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337489 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337489 precursor RNA is designated SEQ ID:141945, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141945 is located from position 123330334 to position 123330415 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM337489 precursor RNA folds onto itself, forming GAM337489 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337489 precursor RNA, designated SEQ ID NO: 141945, and a schematic representation of a predicted secondary folding of GAM337489 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337489 folded precursor RNA yielding a GAM337489 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337489 RNA, hereby incorporated herein.

GAM337489 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337489 target RNA, herein designated GAM TARGET RNA.

GAM337489 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337489 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337489 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337489 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337489 RNA, herein designated GAM RNA, to target binding sites on GAM337489 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337489 target RNA into GAM337489 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337489 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337489 target genes. The mRNA of each one of this plurality of GAM337489 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337489 RNA, herein designated GAM RNA, and which when bound by GAM337489 RNA causes inhibition of translation of the GAM337489 target mRNA into a corresponding GAM337489 target protein.

The mechanism of the translational inhibition exerted by GAM337489 RNA, herein

designated GAM RNA, on one or more GAM337489 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337489 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337489 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337489 RNA, herein designated GAM RNA, of GAM337489 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337489 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337489 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337489 RNA correlate with, and may be deduced from, the identity of the GAM337489 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337490 141946 GAGACAGGAC Fig. 8 further provides a conceptual description of another novel bioinformatically

CTGGCTTCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GACTGTGGAC Messenger 337490 (GAM337490) oligonucleotides modulates expression of respective target

TGGGCTGCTG genes whose function and utility is known in the art.

GCCTGCTTGC GAM337490 is a novel bioinformatically detectable regulatory, non protein

TTCCTCCCTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337490 was detected

CCCCATTCCT is described with additional reference to Figs. 9-15.

AGCAGGGCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGGCCCTCC encoded by the human genome.

TCTTCTC GAM337490 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337490 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337490 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337490 precursor RNA is designated SEQ ID:141946, and is provided hereinbelow with reference to the sequence listing part.

Nucleotide sequence SEQ ID:141946 is located from position 123435499 to position 123435595 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337490 precursor RNA folds onto itself, forming GAM337490 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337490 precursor RNA, designated SEQ ID NO: 141946, and a schematic representation of a predicted secondary folding of GAM337490 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337490 folded precursor RNA yielding a GAM337490 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337490 RNA, hereby incorporated herein.

GAM337490 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337490 target RNA, herein designated GAM TARGET RNA.

GAM337490 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337490 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337490 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337490 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337490 RNA, herein designated GAM RNA, to target binding sites on GAM337490 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337490 target RNA into GAM337490 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337490 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337490 target genes. The mRNA of each one of this plurality of GAM337490 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337490 RNA, herein designated GAM RNA, and which when bound by GAM337490 RNA causes inhibition of translation of the GAM337490 target mRNA into a corresponding GAM337490 target protein.

The mechanism of the translational inhibition exerted by GAM337490 RNA, herein designated GAM RNA, on one or more GAM337490 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337490 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337490 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337490 RNA, herein designated GAM RNA, of GAM337490 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337490 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337490 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337490 RNA correlate with, and may be deduced from, the identity of the GAM337490 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337491 141947 AAGGTAGAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

TTCAAACAGT detected oligonucleotides of the present invention, referred to here as Genomic Address

GGACTGGTGA Messenger 337491 (GAM337491) oligonucleotides modulates expression of respective target

CAAAGCAGCT genes whose function and utility is known in the art.

GATAAAAGCA GAM337491 is a novel bioinformatically detectable regulatory, non protein

CTCTCATCTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337491 was detected

CATCCTTTGT is described with additional reference to Figs. 9-15.

CTGGGAGTCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CGCCTT encoded by the human genome.

GAM337491 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337491 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337491 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337491 precursor RNA is designated SEQ ID:141947, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141947 is located from position 123535682 to position 123535767 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337491 precursor RNA folds onto itself, forming GAM337491 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337491 precursor RNA, designated SEQ ID NO: 141947, and a schematic representation of a predicted secondary folding of GAM337491 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337491 folded precursor RNA yielding a GAM337491 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337491 RNA, hereby incorporated herein.

GAM337491 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337491 target RNA, herein designated GAM TARGET RNA.

GAM337491 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337491 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337491 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337491 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337491 RNA, herein designated GAM RNA, to target binding sites on GAM337491 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337491 target RNA into GAM337491 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337491 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337491 target genes. The mRNA of each one of this plurality of GAM337491 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337491 RNA, herein designated GAM RNA, and which when bound by GAM337491 RNA causes inhibition of translation of the GAM337491 target mRNA into a corresponding GAM337491 target protein.

The mechanism of the translational inhibition exerted by GAM337491 RNA, herein designated GAM RNA, on one or more GAM337491 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337491 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337491 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337491 RNA, herein designated GAM RNA, of GAM337491 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337491 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337491 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337491 RNA correlate with, and may be deduced from, the identity of the GAM337491 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337492 141948 TGGCATGATA Fig. 8 further provides a conceptual description of another novel bioinformatically

CAGTGACTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAAATGCTGA Messenger 337492 (GAM337492) oligonucleotides modulates expression of respective target

AGGGCTAAAC genes whose function and utility is known in the art.

TGCTCGTAGG GAM337492 is a novel bioinformatically detectable regulatory, non protein
ATTTCTCAGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337492 was detected
CTTACTGTCT is described with additional reference to Figs. 9-15.

TACCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337492 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337492 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337492 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337492 precursor RNA is designated SEQ ID:141948, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141948 is located from position 123546853 to position 123546928 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM337492 precursor RNA folds onto itself, forming GAM337492 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337492 precursor RNA, designated SEQ ID NO: 141948, and a schematic representation of a predicted secondary folding of GAM337492 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337492 folded precursor RNA yielding a GAM337492 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337492 RNA, hereby incorporated herein.

GAM337492 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337492 target RNA, herein designated GAM TARGET RNA.

GAM337492 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337492 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337492 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337492 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337492 RNA, herein designated GAM RNA, to target binding sites on GAM337492 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337492 target RNA into GAM337492 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337492 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337492 target genes. The mRNA of each one of this plurality of GAM337492 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337492 RNA, herein designated GAM RNA, and which when bound by GAM337492 RNA causes inhibition of translation of the GAM337492 target mRNA into a corresponding GAM337492 target protein.

The mechanism of the translational inhibition exerted by GAM337492 RNA, herein designated GAM RNA, on one or more GAM337492 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337492 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337492 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337492 RNA, herein designated GAM RNA, of GAM337492 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337492 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337492 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337492 RNA correlate with, and may be deduced from, the identity of the GAM337492 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337493 141949 CACAAGCCTG Fig. 8 further provides a conceptual description of another novel bioinformatically
GCTGACTTCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CCATCTACTG Messenger 337493 (GAM337493) oligonucleotides modulates expression of respective target
ATTGTATAGA genes whose function and utility is known in the art.

CCTAGTGCCT GAM337493 is a novel bioinformatically detectable regulatory, non protein
TCAGTGAACA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337493 was detected
TAGGTGGTAG is described with additional reference to Figs. 9-15.

CCAGGAAGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337493 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337493 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337493 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337493 precursor RNA is designated SEQ ID:141949, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141949 is located from position 123550478 to position 123550557 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM337493 precursor RNA folds onto itself, forming GAM337493 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337493 precursor RNA, designated SEQ ID NO: 141949, and a schematic representation of a predicted secondary folding of GAM337493 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337493 folded precursor RNA yielding a GAM337493 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337493 RNA, hereby incorporated herein.

GAM337493 target gene, herein designated GAM TARGET GENE, encodes a

corresponding messenger RNA, GAM337493 target RNA, herein designated GAM TARGET RNA.

GAM337493 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337493 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337493 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337493 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337493 RNA, herein designated GAM RNA, to target binding sites on GAM337493 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337493 target RNA into GAM337493 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337493 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337493 target genes. The mRNA of each one of this plurality of GAM337493 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337493 RNA, herein designated GAM RNA, and which when bound by GAM337493 RNA causes inhibition of translation of the GAM337493 target mRNA into a corresponding GAM337493 target protein.

The mechanism of the translational inhibition exerted by GAM337493 RNA, herein designated GAM RNA, on one or more GAM337493 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337493 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337493 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337493 RNA, herein designated GAM RNA, of GAM337493 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337493 target RNA, herein designated

GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337493 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337493 RNA correlate with, and may be deduced from, the identity of the GAM337493 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337494 141950 CTTTAATAGA CTGATTTTAT TTATCCTCAC ATTCACTTCG TGAGCCTTTG TTTTGGTTCC ACCACTGAGG GAAACTGAGG CTCAGGGTGA TCGAGTCAGT GGTTGAAG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337494 (GAM337494) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337494 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337494 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337494 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337494 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337494 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337494 precursor RNA is designated SEQ ID:141950, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141950 is located from position 123732628 to position 123732735 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337494 precursor RNA folds onto itself, forming GAM337494 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337494 precursor RNA, designated SEQ ID NO: 141950, and a schematic representation of a predicted secondary folding of GAM337494 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337494 folded precursor RNA yielding a GAM337494 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337494 RNA, hereby incorporated herein.

GAM337494 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337494 target RNA, herein designated GAM TARGET RNA.

GAM337494 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337494 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337494 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337494 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337494 RNA, herein designated GAM RNA, to target binding sites on GAM337494 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337494 target RNA into GAM337494 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337494 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337494 target genes. The mRNA of each one of this plurality of GAM337494 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337494 RNA, herein designated GAM RNA, and which when bound by GAM337494 RNA causes inhibition of translation of the GAM337494 target mRNA into a corresponding GAM337494 target protein.

The mechanism of the translational inhibition exerted by GAM337494 RNA, herein designated GAM RNA, on one or more GAM337494 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337494 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337494 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337494 RNA, herein designated GAM RNA, of GAM337494 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337494 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337494 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337494 RNA correlate with, and may be deduced from, the identity of the GAM337494 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337495 141951 GGGAGGCCAA Fig. 8 further provides a conceptual description of another novel bioinformatically

GGTGGGAAGA detected oligonucleotides of the present invention, referred to here as Genomic Address

TTGCTTGAGC Messenger 337495 (GAM337495) oligonucleotides modulates expression of respective target

CCTGGAGGTT genes whose function and utility is known in the art.

GAGACAAGCC GAM337495 is a novel bioinformatically detectable regulatory, non protein

TGGGCAACAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337495 was detected

AGCAATACCC is described with additional reference to Figs. 9-15.

CATTTGTTTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TT encoded by the human genome.

GAM337495 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337495 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337495 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337495 precursor RNA is designated SEQ ID:141951, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141951 is located from position 123734213 to position 123734294 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337495 precursor RNA folds onto itself, forming GAM337495 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337495 precursor RNA, designated SEQ ID NO: 141951, and a schematic representation of a predicted secondary folding of GAM337495 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337495 folded precursor RNA yielding a GAM337495 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337495 RNA, hereby incorporated herein.

GAM337495 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337495 target RNA, herein designated GAM TARGET RNA.

GAM337495 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337495 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337495 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337495 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337495 RNA, herein designated GAM RNA, to target binding sites on GAM337495 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337495 target RNA into GAM337495 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337495 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337495 target genes. The mRNA of each one of this plurality of GAM337495 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337495 RNA, herein designated GAM RNA, and which when bound by GAM337495 RNA causes inhibition of translation of the GAM337495 target mRNA into a corresponding GAM337495 target protein.

The mechanism of the translational inhibition exerted by GAM337495 RNA, herein

designated GAM RNA, on one or more GAM337495 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337495 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337495 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337495 RNA, herein designated GAM RNA, of GAM337495 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337495 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337495 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337495 RNA correlate with, and may be deduced from, the identity of the GAM337495 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337496 141952 GGAGAATCAC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGCGAAGG Messenger 337496 (GAM337496) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

CTAAGATCGC GAM337496 is a novel bioinformatically detectable regulatory, non protein

ACCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337496 was detected

TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GACATTCT encoded by the human genome.

GAM337496 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337496 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337496 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337496 precursor RNA is designated SEQ ID:141952, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141952 is located from position 124130227 to position 124130314

relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337496 precursor RNA folds onto itself, forming GAM337496 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337496 precursor RNA, designated SEQ ID NO: 141952, and a schematic representation of a predicted secondary folding of GAM337496 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337496 folded precursor RNA yielding a GAM337496 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337496 RNA, hereby incorporated herein. Expression of GAM337496 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337496 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337496 target RNA, herein designated GAM TARGET RNA.

GAM337496 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337496 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337496 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337496 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337496 RNA, herein designated GAM RNA, to target binding sites on GAM337496 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337496 target RNA into GAM337496 target protein, herein designated GAM TARGET PROTEIN,, which is shown

surrounded by a broken line.

It is appreciated that GAM337496 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337496 target genes. The mRNA of each one of this plurality of GAM337496 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337496 RNA, herein designated GAM RNA, and which when bound by GAM337496 RNA causes inhibition of translation of the GAM337496 target mRNA into a corresponding GAM337496 target protein.

The mechanism of the translational inhibition exerted by GAM337496 RNA, herein designated GAM RNA, on one or more GAM337496 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337496 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337496 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337496 RNA, herein designated GAM RNA, of GAM337496 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337496 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337496 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337496 RNA correlate with, and may be deduced from, the identity of the GAM337496 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337497 141953 CTGAGCTTAG Fig. 8 further provides a conceptual description of another novel bioinformatically

ATCTTATGTG detected oligonucleotides of the present invention, referred to here as Genomic Address

GCCTTTCTGG Messenger 337497 (GAM337497) oligonucleotides modulates expression of respective target

TCTGTGTATC genes whose function and utility is known in the art.

CCAGGACTGT GAM337497 is a novel bioinformatically detectable regulatory, non protein

TCATCTCCTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337497 was detected

TGTGATGCTG is described with additional reference to Figs. 9-15.

AAGACCAAGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGTGACCAA encoded by the human genome.

GAAGGCTCAG GAM337497 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337497 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337497 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337497 precursor RNA is designated SEQ ID:141953, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141953 is located from position 124151674 to position 124151773 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM337497 precursor RNA folds onto itself, forming GAM337497 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337497 precursor RNA, designated SEQ ID NO: 141953, and a schematic representation of a predicted secondary folding of GAM337497 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337497 folded precursor RNA yielding a GAM337497 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337497 RNA, hereby incorporated herein.

GAM337497 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337497 target RNA, herein designated GAM TARGET RNA.

GAM337497 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337497 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337497 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337497 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337497 RNA, herein designated GAM RNA, to target binding sites on GAM337497 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337497 target RNA into GAM337497 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337497 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337497 target genes. The mRNA of each one of this plurality of GAM337497 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337497 RNA, herein designated GAM RNA, and which when bound by GAM337497 RNA causes inhibition of translation of the GAM337497 target mRNA into a corresponding GAM337497 target protein.

The mechanism of the translational inhibition exerted by GAM337497 RNA, herein designated GAM RNA, on one or more GAM337497 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337497 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337497 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337497 RNA, herein designated GAM RNA, of GAM337497 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337497 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337497 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337497 RNA correlate with, and may be deduced from, the identity of the GAM337497 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337498 141954 CCCTGAACTC Fig. 8 further provides a conceptual description of another novel bioinformatically

AGGGGCTTCG detected oligonucleotides of the present invention, referred to here as Genomic Address

CCACTGATTG Messenger 337498 (GAM337498) oligonucleotides modulates expression of respective target

TCCAAACGCA genes whose function and utility is known in the art.

ATTCTTGTAC GAM337498 is a novel bioinformatically detectable regulatory, non protein
GAGTCTGCGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337498 was detected
CCAACCGAGA is described with additional reference to Figs. 9-15.

ATTGTGGCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GACATCTGTG encoded by the human genome.

GCTGAGCTCC GAM337498 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GGGCGCAACA GAM337498 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GGG GAM337498 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337498 precursor RNA is designated SEQ ID:141954, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141954 is located from position 124608557 to position 124608669 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM337498 precursor RNA folds onto itself, forming GAM337498 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337498 precursor RNA, designated SEQ ID NO: 141954, and a schematic representation of a predicted secondary folding of GAM337498 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337498 folded precursor RNA yielding a GAM337498 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337498 RNA, hereby incorporated herein.

GAM337498 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337498 target RNA, herein designated GAM TARGET RNA.

GAM337498 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337498 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337498 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337498 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337498 RNA, herein designated GAM RNA, to target binding sites on GAM337498 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337498 target RNA into GAM337498 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337498 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337498 target genes. The mRNA of each one of this plurality of GAM337498 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337498 RNA, herein designated GAM RNA, and which when bound by GAM337498 RNA causes inhibition of translation of the GAM337498 target mRNA into a corresponding GAM337498 target protein.

The mechanism of the translational inhibition exerted by GAM337498 RNA, herein designated GAM RNA, on one or more GAM337498 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337498 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337498 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337498 RNA, herein designated GAM RNA, of GAM337498 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337498 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337498 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337498 RNA correlate with, and may be deduced from, the identity of the GAM337498 target gene

inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337499 141955 GCCCTGAACT Fig. 8 further provides a conceptual description of another novel bioinformatically
CAGGGGCTTC detected oligonucleotides of the present invention, referred to here as Genomic Address
GCCACTGATT Messenger 337499 (GAM337499) oligonucleotides modulates expression of respective target
GTCCAAACGC genes whose function and utility is known in the art.

AATTCTTGTA GAM337499 is a novel bioinformatically detectable regulatory, non protein
CGAGTCTGCG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337499 was detected
GCCAACCGAG is described with additional reference to Figs. 9-15.

AATTGTGGCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGACATCTGT encoded by the human genome.

GGCTGAGCTC GAM337499 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CGGGC GAM337499 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337499 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337499 precursor RNA is designated SEQ ID:141955, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141955 is located from position 124608566 to position 124608670 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM337499 precursor RNA folds onto itself, forming GAM337499 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337499 precursor RNA, designated SEQ ID NO: 141955, and a schematic representation of a predicted secondary folding of GAM337499 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337499 folded precursor RNA yielding a GAM337499 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly

similar to the nucleotide sequence of GAM337499 RNA, hereby incorporated herein.

GAM337499 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337499 target RNA, herein designated GAM TARGET RNA.

GAM337499 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337499 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337499 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337499 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337499 RNA, herein designated GAM RNA, to target binding sites on GAM337499 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337499 target RNA into GAM337499 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337499 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337499 target genes. The mRNA of each one of this plurality of GAM337499 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337499 RNA, herein designated GAM RNA, and which when bound by GAM337499 RNA causes inhibition of translation of the GAM337499 target mRNA into a corresponding GAM337499 target protein.

The mechanism of the translational inhibition exerted by GAM337499 RNA, herein designated GAM RNA, on one or more GAM337499 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337499 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337499 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337499 RNA, herein designated GAM RNA, of GAM337499 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337499 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337499 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337499 RNA correlate with, and may be deduced from, the identity of the GAM337499 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337500 141956 CTCAGGGGCT Fig. 8 further provides a conceptual description of another novel bioinformatically
TCGCCACTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
TTGTCCAAAC Messenger 337500 (GAM337500) oligonucleotides modulates expression of respective target
GCAATTCTTG genes whose function and utility is known in the art.

TACGAGTCTG GAM337500 is a novel bioinformatically detectable regulatory, non protein
CGGCCAACCG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337500 was detected
AGAATTGTGG is described with additional reference to Figs. 9-15.

CTGGACATCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTGGCTGAGC encoded by the human genome.

TCCGGG GAM337500 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337500 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337500 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337500 precursor RNA is designated SEQ ID:141956, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141956 is located from position 124608567 to position 124608662 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM337500 precursor RNA folds onto itself, forming GAM337500 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337500 precursor RNA, designated SEQ ID NO: 141956, and a schematic representation of a predicted secondary folding of GAM337500 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337500 folded precursor RNA yielding a GAM337500 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337500 RNA, hereby incorporated herein.

GAM337500 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337500 target RNA, herein designated GAM TARGET RNA.

GAM337500 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337500 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337500 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337500 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337500 RNA, herein designated GAM RNA, to target binding sites on GAM337500 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337500 target RNA into GAM337500 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337500 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337500 target genes. The mRNA of each one of this plurality of GAM337500 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337500 RNA, herein designated GAM RNA, and which when bound by GAM337500 RNA causes inhibition of translation of the GAM337500 target mRNA into a corresponding GAM337500 target protein.

The mechanism of the translational inhibition exerted by GAM337500 RNA, herein designated GAM RNA, on one or more GAM337500 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337500 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM337500 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337500 RNA, herein designated GAM RNA, of GAM337500 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337500 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337500 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337500 RNA correlate with, and may be deduced from, the identity of the GAM337500 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337501 141957 GGGGCTTCGC Fig. 8 further provides a conceptual description of another novel bioinformatically

CACTGATTGT detected oligonucleotides of the present invention, referred to here as Genomic Address

CCAAACGCAA Messenger 337501 (GAM337501) oligonucleotides modulates expression of respective target

TTCTTGTACG genes whose function and utility is known in the art.

AGTCTGCGGC GAM337501 is a novel bioinformatically detectable regulatory, non protein

CAACCGAGAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337501 was detected

TTGTGGCTGG is described with additional reference to Figs. 9-15.

ACATCTGTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTGAGCTCC encoded by the human genome.

GAM337501 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337501 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337501 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337501 precursor RNA is designated SEQ ID:141957, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141957 is located from position 124608570 to position 124608658 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM337501 precursor RNA folds onto itself, forming GAM337501 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337501 precursor RNA, designated SEQ ID NO: 141957, and a schematic representation of a predicted secondary folding of GAM337501 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337501 folded precursor RNA yielding a GAM337501 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337501 RNA, hereby incorporated herein.

GAM337501 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337501 target RNA, herein designated GAM TARGET RNA.

GAM337501 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337501 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337501 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337501 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337501 RNA, herein designated GAM RNA, to target binding sites on GAM337501 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337501 target RNA into GAM337501 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337501 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337501 target genes. The mRNA of each one of this plurality of GAM337501 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337501 RNA, herein designated GAM RNA, and which when bound by GAM337501 RNA causes inhibition of translation of the GAM337501 target mRNA into a corresponding GAM337501 target protein.

The mechanism of the translational inhibition exerted by GAM337501 RNA, herein designated GAM RNA, on one or more GAM337501 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337501 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337501 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337501 RNA, herein designated GAM RNA, of GAM337501 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337501 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337501 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337501 RNA correlate with, and may be deduced from, the identity of the GAM337501 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337502 141958 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337502 (GAM337502) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337502 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337502 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM337502 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337502 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337502 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337502 precursor RNA is designated SEQ

ID:141958, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141958 is located from position 124663501 to position 124663582 relative to chromosome chr6 on the `+` strand (chr is an abbreviation for chromosome).

GAM337502 precursor RNA folds onto itself, forming GAM337502 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337502 precursor RNA, designated SEQ ID NO: 141958, and a schematic representation of a predicted secondary folding of GAM337502 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337502 folded precursor RNA yielding a GAM337502 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337502 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337502 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337502 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337502 target RNA, herein designated GAM TARGET RNA.

GAM337502 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337502 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337502 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337502 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337502 RNA, herein designated GAM RNA, to target binding sites on GAM337502 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337502 target RNA into GAM337502 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337502 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337502 target genes. The mRNA of each one of this plurality of GAM337502 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337502 RNA, herein designated GAM RNA, and which when bound by GAM337502 RNA causes inhibition of translation of the GAM337502 target mRNA into a corresponding GAM337502 target protein.

The mechanism of the translational inhibition exerted by GAM337502 RNA, herein designated GAM RNA, on one or more GAM337502 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337502 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337502 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337502 RNA, herein designated GAM RNA, of GAM337502 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337502 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337502 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337502 RNA correlate with, and may be deduced from, the identity of the GAM337502 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337503 141959 CCTTGAGCCA Fig. 8 further provides a conceptual description of another novel bioinformatically
GTCACTCAGC detected oligonucleotides of the present invention, referred to here as Genomic Address
CTCTCTGTGC Messenger 337503 (GAM337503) oligonucleotides modulates expression of respective target
CTGTTTCCTT genes whose function and utility is known in the art.

CTCTAAAATG GAM337503 is a novel bioinformatically detectable regulatory, non protein
GGGAGGATAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337503 was detected
TAATGATAGA is described with additional reference to Figs. 9-15.

GAGGCCCTCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGCGTGTTAA encoded by the human genome.

ACATACTCCT GAM337503 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CCAGG GAM337503 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337503 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337503 precursor RNA is designated SEQ ID:141959, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141959 is located from position 124954903 to position 124955007 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337503 precursor RNA folds onto itself, forming GAM337503 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337503 precursor RNA, designated SEQ ID NO: 141959, and a schematic representation of a predicted secondary folding of GAM337503 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337503 folded precursor RNA yielding a GAM337503 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337503 RNA, hereby incorporated herein.

GAM337503 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337503 target RNA, herein designated GAM TARGET RNA.

GAM337503 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337503 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337503 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337503 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337503 RNA, herein designated GAM RNA, to target binding sites on GAM337503 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337503 target RNA into GAM337503 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337503 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337503 target genes. The mRNA of each one of this plurality of GAM337503 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337503 RNA, herein designated GAM RNA, and which when bound by GAM337503 RNA causes inhibition of translation of the GAM337503 target mRNA into a corresponding GAM337503 target protein.

The mechanism of the translational inhibition exerted by GAM337503 RNA, herein designated GAM RNA, on one or more GAM337503 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337503 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337503 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337503 RNA, herein designated GAM RNA, of GAM337503 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337503 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337503 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337503 RNA correlate with, and may be deduced from, the identity of the GAM337503 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337504 141960 TCTCCCTGTT Fig. 8 further provides a conceptual description of another novel bioinformatically

TCATTCCTCT detected oligonucleotides of the present invention, referred to here as Genomic Address
TGCTTCACGA Messenger 337504 (GAM337504) oligonucleotides modulates expression of respective target
TGTTACAATA genes whose function and utility is known in the art.

AGAATGCATT GAM337504 is a novel bioinformatically detectable regulatory, non protein
CCTAGTTGTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337504 was detected
GACCTAAGGA is described with additional reference to Figs. 9-15.

GCAGTGTAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCAGGGAGG encoded by the human genome.

GAM337504 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337504 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337504 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337504 precursor RNA is designated SEQ ID:141960, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141960 is located from position 124959304 to position 124959392 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337504 precursor RNA folds onto itself, forming GAM337504 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337504 precursor RNA, designated SEQ ID NO: 141960, and a schematic representation of a predicted secondary folding of GAM337504 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337504 folded precursor RNA yielding a GAM337504 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337504 RNA, hereby incorporated herein.

GAM337504 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337504 target RNA, herein designated GAM TARGET RNA.

GAM337504 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337504 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337504 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337504 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337504 RNA, herein designated GAM RNA, to target binding sites on GAM337504 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337504 target RNA into GAM337504 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337504 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337504 target genes. The mRNA of each one of this plurality of GAM337504 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337504 RNA, herein designated GAM RNA, and which when bound by GAM337504 RNA causes inhibition of translation of the GAM337504 target mRNA into a corresponding GAM337504 target protein.

The mechanism of the translational inhibition exerted by GAM337504 RNA, herein designated GAM RNA, on one or more GAM337504 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337504 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337504 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337504 RNA, herein designated GAM RNA, of GAM337504 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337504 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337504 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337504 RNA correlate with, and may be deduced from, the identity of the GAM337504 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337505 141961 CCTAGGAAAG Fig. 8 further provides a conceptual description of another novel bioinformatically
GTGGTGTGAA detected oligonucleotides of the present invention, referred to here as Genomic Address
TCTCAAGGAC Messenger 337505 (GAM337505) oligonucleotides modulates expression of respective target
AAGTGTCTGG genes whose function and utility is known in the art.

GAAGGACGGT GAM337505 is a novel bioinformatically detectable regulatory, non protein
TTTCCTTCCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337505 was detected
GCATGCATGC is described with additional reference to Figs. 9-15.

CGAGATGACT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CCAGGCTTTC encoded by the human genome.

TTAGG GAM337505 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337505 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337505 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337505 precursor RNA is designated SEQ ID:141961, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141961 is located from position 125073070 to position 125073164 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337505 precursor RNA folds onto itself, forming GAM337505 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337505 precursor RNA, designated SEQ ID NO: 141961, and a schematic representation of a predicted secondary folding of GAM337505 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337505 folded precursor RNA yielding a GAM337505 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex

comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337505 RNA, hereby incorporated herein.

GAM337505 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337505 target RNA, herein designated GAM TARGET RNA.

GAM337505 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337505 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337505 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337505 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337505 RNA, herein designated GAM RNA, to target binding sites on GAM337505 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337505 target RNA into GAM337505 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337505 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337505 target genes. The mRNA of each one of this plurality of GAM337505 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337505 RNA, herein designated GAM RNA, and which when bound by GAM337505 RNA causes inhibition of translation of the GAM337505 target mRNA into a corresponding GAM337505 target protein.

The mechanism of the translational inhibition exerted by GAM337505 RNA, herein designated GAM RNA, on one or more GAM337505 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337505 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337505 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337505 RNA, herein designated GAM RNA, of GAM337505 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337505 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337505 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337505 RNA correlate with, and may be deduced from, the identity of the GAM337505 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337506 141962 GATGCTAATG Fig. 8 further provides a conceptual description of another novel bioinformatically
AATTTCAGTT detected oligonucleotides of the present invention, referred to here as Genomic Address
TTGGTGTTGG Messenger 337506 (GAM337506) oligonucleotides modulates expression of respective target
TCTAAGTAGC genes whose function and utility is known in the art.

CAAATGTATT GAM337506 is a novel bioinformatically detectable regulatory, non protein
TTATTTGACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337506 was detected
ATTTGGAGCC is described with additional reference to Figs. 9-15.

AGTACTCATA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AACTGTGGCA encoded by the human genome.

GACTTAGCAT GAM337506 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
C GAM337506 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337506 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337506 precursor RNA is designated SEQ ID:141962, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141962 is located from position 125865072 to position 125865172 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM337506 precursor RNA folds onto itself, forming GAM337506 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337506 precursor RNA, designated SEQ ID NO: 141962, and a schematic representation of a predicted secondary folding of GAM337506 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337506 folded precursor RNA yielding a GAM337506 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337506 RNA, hereby incorporated herein.

GAM337506 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337506 target RNA, herein designated GAM TARGET RNA.

GAM337506 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337506 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337506 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337506 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337506 RNA, herein designated GAM RNA, to target binding sites on GAM337506 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337506 target RNA into GAM337506 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337506 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337506 target genes. The mRNA of each one of this plurality of GAM337506 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337506 RNA, herein designated GAM RNA, and which when bound by GAM337506 RNA causes inhibition of translation of the GAM337506 target mRNA into a corresponding GAM337506 target protein.

The mechanism of the translational inhibition exerted by GAM337506 RNA, herein designated GAM RNA, on one or more GAM337506 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337506 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337506 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337506 RNA, herein designated GAM RNA, of GAM337506 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337506 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337506 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337506 RNA correlate with, and may be deduced from, the identity of the GAM337506 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337507 141963 CCCAGTGACC Fig. 8 further provides a conceptual description of another novel bioinformatically
CACAGGTAAG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCTTGTGT Messenger 337507 (GAM337507) oligonucleotides modulates expression of respective target
TTTCCAGATT genes whose function and utility is known in the art.

CTGAGTGTGG GAM337507 is a novel bioinformatically detectable regulatory, non protein
CTCAGCTCGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337507 was detected
GAATGCAGTG is described with additional reference to Figs. 9-15.

GCACAAGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTCTGTGGGA encoded by the human genome.

GTGGATCTTG GAM337507 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GG GAM337507 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337507 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337507 precursor RNA is designated SEQ ID:141963, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141963 is located from position 126234545 to position 126234646 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337507 precursor RNA folds onto itself, forming GAM337507 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337507 precursor RNA, designated SEQ ID NO: 141963, and a schematic representation of a predicted secondary folding of GAM337507 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337507 folded precursor RNA yielding a GAM337507 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337507 RNA, hereby incorporated herein.

GAM337507 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337507 target RNA, herein designated GAM TARGET RNA.

GAM337507 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337507 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337507 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337507 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337507 RNA, herein designated GAM RNA, to target binding sites on GAM337507 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337507 target RNA into GAM337507 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337507 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337507 target genes. The mRNA of each one of this plurality of GAM337507 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM337507 RNA, herein designated GAM RNA, and which when bound by GAM337507 RNA causes inhibition of translation of the GAM337507 target mRNA into a corresponding GAM337507 target protein.

The mechanism of the translational inhibition exerted by GAM337507 RNA, herein designated GAM RNA, on one or more GAM337507 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337507 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337507 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337507 RNA, herein designated GAM RNA, of GAM337507 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337507 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337507 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337507 RNA correlate with, and may be deduced from, the identity of the GAM337507 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337508 141964 CCCACAGGTA Fig. 8 further provides a conceptual description of another novel bioinformatically

AGAACCTTGT detected oligonucleotides of the present invention, referred to here as Genomic Address

GTTTTCCAGA Messenger 337508 (GAM337508) oligonucleotides modulates expression of respective target

TTCTGAGTGT genes whose function and utility is known in the art.

GGCTCAGCTC GAM337508 is a novel bioinformatically detectable regulatory, non protein

GTGAATGCAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337508 was detected

TGGCACAAGG is described with additional reference to Figs. 9-15.

CACTCTGTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

G encoded by the human genome.

GAM337508 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337508 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337508 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337508 precursor RNA is designated SEQ ID:141964, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141964 is located from position 126234553 to position 126234633 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337508 precursor RNA folds onto itself, forming GAM337508 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337508 precursor RNA, designated SEQ ID NO: 141964, and a schematic representation of a predicted secondary folding of GAM337508 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337508 folded precursor RNA yielding a GAM337508 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337508 RNA, hereby incorporated herein.

GAM337508 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337508 target RNA, herein designated GAM TARGET RNA.

GAM337508 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337508 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337508 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337508 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337508 RNA, herein designated GAM RNA, to target binding sites on GAM337508 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337508 target RNA into GAM337508 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337508 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337508 target genes. The mRNA of each one of this plurality of GAM337508 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337508 RNA, herein designated GAM RNA, and which when bound by GAM337508 RNA causes inhibition of translation of the GAM337508 target mRNA into a corresponding GAM337508 target protein.

The mechanism of the translational inhibition exerted by GAM337508 RNA, herein designated GAM RNA, on one or more GAM337508 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337508 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337508 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337508 RNA, herein designated GAM RNA, of GAM337508 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337508 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337508 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337508 RNA correlate with, and may be deduced from, the identity of the GAM337508 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337509 141965 GCAGAAAAAG Fig. 8 further provides a conceptual description of another novel bioinformatically

GAGTTGAGAA detected oligonucleotides of the present invention, referred to here as Genomic Address

GGGAGTAGCC Messenger 337509 (GAM337509) oligonucleotides modulates expression of respective target

TCTGATATGT genes whose function and utility is known in the art.

AGTCAGCATG GAM337509 is a novel bioinformatically detectable regulatory, non protein

AATCAGCCTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337509 was detected

AGGTTCCCTG is described with additional reference to Figs. 9-15.

CCTCCATACC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAATTCTTCT encoded by the human genome.

GC GAM337509 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337509 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337509 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337509 precursor RNA is designated SEQ ID:141965, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141965 is located from position 126431165 to position 126431256 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM337509 precursor RNA folds onto itself, forming GAM337509 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337509 precursor RNA, designated SEQ ID NO: 141965, and a schematic representation of a predicted secondary folding of GAM337509 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337509 folded precursor RNA yielding a GAM337509 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337509 RNA, hereby incorporated herein.

GAM337509 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337509 target RNA, herein designated GAM TARGET RNA.

GAM337509 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337509 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337509 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337509 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337509 RNA, herein designated GAM RNA, to target binding sites on GAM337509 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337509 target RNA into GAM337509 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337509 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337509 target genes. The mRNA of each one of this plurality of GAM337509 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337509 RNA, herein designated GAM RNA, and which when bound by GAM337509 RNA causes inhibition of translation of the GAM337509 target mRNA into a corresponding GAM337509 target protein.

The mechanism of the translational inhibition exerted by GAM337509 RNA, herein designated GAM RNA, on one or more GAM337509 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337509 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337509 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337509 RNA, herein designated GAM RNA, of GAM337509 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337509 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337509 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337509 RNA correlate with, and may be deduced from, the identity of the GAM337509 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337510 141966 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATTGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCCAGGAGG Messenger 337510 (GAM337510) oligonucleotides modulates expression of respective target
CAGAAGTTGC genes whose function and utility is known in the art.

AGTGAGCCGA GAM337510 is a novel bioinformatically detectable regulatory, non protein
GATCGCATCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337510 was detected
TTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGAGCGAGA encoded by the human genome.

CTCTGTCTC GAM337510 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337510 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337510 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337510 precursor RNA is designated SEQ ID:141966, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141966 is located from position 126518661 to position 126518759 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337510 precursor RNA folds onto itself, forming GAM337510 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337510 precursor RNA, designated SEQ ID NO: 141966, and a schematic representation of a predicted secondary folding of GAM337510 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337510 folded precursor RNA yielding a GAM337510 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337510 RNA, hereby incorporated herein. Expression of GAM337510 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337510 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337510 target RNA, herein designated GAM TARGET RNA.

GAM337510 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337510 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337510 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337510 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337510 RNA, herein designated GAM RNA, to target binding sites on GAM337510 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337510 target RNA into GAM337510 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337510 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337510 target genes. The mRNA of each one of this plurality of GAM337510 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337510 RNA, herein designated GAM RNA, and which when bound by GAM337510 RNA causes inhibition of translation of the GAM337510 target mRNA into a corresponding GAM337510 target protein.

The mechanism of the translational inhibition exerted by GAM337510 RNA, herein designated GAM RNA, on one or more GAM337510 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337510 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337510 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337510 RNA, herein designated GAM RNA, of GAM337510 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337510 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337510 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337510 RNA correlate with, and may be deduced from, the identity of the GAM337510 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337511 141967 CAGGTGTGCG Fig. 8 further provides a conceptual description of another novel bioinformatically
CCACCACACG detected oligonucleotides of the present invention, referred to here as Genomic Address
TGACTGGGAA Messenger 337511 (GAM337511) oligonucleotides modulates expression of respective target
GCCTTCTGGT genes whose function and utility is known in the art.

TTTAAGATGG GAM337511 is a novel bioinformatically detectable regulatory, non protein
CTTTAGAATG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337511 was detected
AAAGGCAGTT is described with additional reference to Figs. 9-15.

CCTAGCACCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTGGTCAATC encoded by the human genome.

ACATCTG GAM337511 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337511 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337511 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337511 precursor RNA is designated SEQ ID:141967, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141967 is located from position 126721975 to position 126722071 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337511 precursor RNA folds onto itself, forming GAM337511 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337511 precursor RNA, designated SEQ ID NO: 141967, and a schematic representation of a predicted secondary folding of GAM337511 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337511 folded precursor RNA yielding a GAM337511 RNA, herein designated GAM RNA, in the form of a single stranded

~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337511 RNA, hereby incorporated herein.

GAM337511 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337511 target RNA, herein designated GAM TARGET RNA.

GAM337511 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337511 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337511 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337511 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337511 RNA, herein designated GAM RNA, to target binding sites on GAM337511 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337511 target RNA into GAM337511 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337511 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337511 target genes. The mRNA of each one of this plurality of GAM337511 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337511 RNA, herein designated GAM RNA, and which when bound by GAM337511 RNA causes inhibition of translation of the GAM337511 target mRNA into a corresponding GAM337511 target protein.

The mechanism of the translational inhibition exerted by GAM337511 RNA, herein designated GAM RNA, on one or more GAM337511 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337511 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337511 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337511 RNA, herein designated GAM RNA, of GAM337511 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337511 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337511 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337511 RNA correlate with, and may be deduced from, the identity of the GAM337511 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337512 141968 GGAACGAGAA Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGCTTGAAC detected oligonucleotides of the present invention, referred to here as Genomic Address

CCAGGAGGCA Messenger 337512 (GAM337512) oligonucleotides modulates expression of respective target

AAGGTTGCAG genes whose function and utility is known in the art.

TGAGTCAAGA GAM337512 is a novel bioinformatically detectable regulatory, non protein

TCATGCCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337512 was detected

GCACTCCTGC is described with additional reference to Figs. 9-15.

CTGGGTGACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGTGAGACC encoded by the human genome.

TTGTCTC GAM337512 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337512 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337512 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337512 precursor RNA is designated SEQ ID:141968, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141968 is located from position 126808650 to position 126808746 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337512 precursor RNA folds onto itself, forming GAM337512 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337512 precursor RNA, designated SEQ ID NO: 141968, and a schematic representation of a predicted secondary folding of GAM337512 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337512 folded precursor RNA yielding a GAM337512 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337512 RNA, hereby incorporated herein.

GAM337512 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337512 target RNA, herein designated GAM TARGET RNA.

GAM337512 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337512 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337512 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337512 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337512 RNA, herein designated GAM RNA, to target binding sites on GAM337512 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337512 target RNA into GAM337512 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337512 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337512 target genes. The mRNA of each one of this plurality of GAM337512 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337512 RNA, herein designated GAM RNA, and which when bound by GAM337512 RNA causes inhibition of translation of the GAM337512 target mRNA into a corresponding GAM337512 target protein.

The mechanism of the translational inhibition exerted by GAM337512 RNA, herein designated GAM RNA, on one or more GAM337512 target genes, herein collectively designated

GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337512 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337512 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337512 RNA, herein designated GAM RNA, of GAM337512 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337512 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337512 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337512 RNA correlate with, and may be deduced from, the identity of the GAM337512 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337513 141969 GGTCAGGGTT Fig. 8 further provides a conceptual description of another novel bioinformatically

CACAGGGTCA detected oligonucleotides of the present invention, referred to here as Genomic Address

TGGGTCAGTA Messenger 337513 (GAM337513) oligonucleotides modulates expression of respective target

GCCTTGTAAA genes whose function and utility is known in the art.

GAACAAGTTT GAM337513 is a novel bioinformatically detectable regulatory, non protein

TATCCTTTTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337513 was detected

CTCCAAGGAG is described with additional reference to Figs. 9-15.

ACTGACTTTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACCAGAAGAG encoded by the human genome.

CCCCTCC GAM337513 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337513 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337513 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337513 precursor RNA is designated SEQ ID:141969, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141969 is located from position 126930158 to position 126930254

relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337513 precursor RNA folds onto itself, forming GAM337513 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337513 precursor RNA, designated SEQ ID NO: 141969, and a schematic representation of a predicted secondary folding of GAM337513 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337513 folded precursor RNA yielding a GAM337513 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337513 RNA, hereby incorporated herein.

GAM337513 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337513 target RNA, herein designated GAM TARGET RNA.

GAM337513 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337513 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337513 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337513 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337513 RNA, herein designated GAM RNA, to target binding sites on GAM337513 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337513 target RNA into GAM337513 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337513 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337513 target genes. The mRNA of each one of this plurality of GAM337513 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337513 RNA, herein designated GAM RNA, and which when bound by GAM337513 RNA causes inhibition of translation of the GAM337513 target mRNA into a corresponding GAM337513 target protein.

The mechanism of the translational inhibition exerted by GAM337513 RNA, herein designated GAM RNA, on one or more GAM337513 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337513 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337513 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337513 RNA, herein designated GAM RNA, of GAM337513 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337513 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337513 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337513 RNA correlate with, and may be deduced from, the identity of the GAM337513 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337514 141970 TGACAGTTTG Fig. 8 further provides a conceptual description of another novel bioinformatically
AGATGACACT detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGAGTGTG Messenger 337514 (GAM337514) oligonucleotides modulates expression of respective target
AAAGAGAGCC genes whose function and utility is known in the art.

TGGACCTTCA GAM337514 is a novel bioinformatically detectable regulatory, non protein
AAGCTTGCAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337514 was detected
ACGGCCCGGG is described with additional reference to Figs. 9-15.

CTATTTCTCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACCTCTTCGC encoded by the human genome.

TACTCAAAGC GAM337514 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GCTGGCA GAM337514 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337514 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337514 precursor RNA is designated SEQ ID:141970, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141970 is located from position 127448460 to position 127448566 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337514 precursor RNA folds onto itself, forming GAM337514 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337514 precursor RNA, designated SEQ ID NO: 141970, and a schematic representation of a predicted secondary folding of GAM337514 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337514 folded precursor RNA yielding a GAM337514 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337514 RNA, hereby incorporated herein.

GAM337514 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337514 target RNA, herein designated GAM TARGET RNA.

GAM337514 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337514 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337514 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337514 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337514 RNA, herein designated GAM RNA, to target binding sites on GAM337514 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337514 target RNA into GAM337514 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337514 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337514 target genes. The mRNA of each one of this plurality of GAM337514 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337514 RNA, herein designated GAM RNA, and which when bound by GAM337514 RNA causes inhibition of translation of the GAM337514 target mRNA into a corresponding GAM337514 target protein.

The mechanism of the translational inhibition exerted by GAM337514 RNA, herein designated GAM RNA, on one or more GAM337514 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337514 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337514 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337514 RNA, herein designated GAM RNA, of GAM337514 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337514 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337514 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337514 RNA correlate with, and may be deduced from, the identity of the GAM337514 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337515 141971 CCTGCTGTAT Fig. 8 further provides a conceptual description of another novel bioinformatically

GCTAGGCATT detected oligonucleotides of the present invention, referred to here as Genomic Address

GTGCAAGGTG Messenger 337515 (GAM337515) oligonucleotides modulates expression of respective target

TTAGGGCTGA genes whose function and utility is known in the art.

TGCTTGAGCA CAGTACCTCC ACATCTGCAG TATGG

GAM337515 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337515 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337515 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337515 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337515 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337515 precursor RNA is designated SEQ ID:141971, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141971 is located from position 127715522 to position 127715596 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337515 precursor RNA folds onto itself, forming GAM337515 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337515 precursor RNA, designated SEQ ID NO: 141971, and a schematic representation of a predicted secondary folding of GAM337515 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337515 folded precursor RNA yielding a GAM337515 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337515 RNA, hereby incorporated herein.

GAM337515 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337515 target RNA, herein designated GAM TARGET RNA.

GAM337515 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337515 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337515 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337515 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337515 RNA, herein designated GAM RNA, to target binding sites on GAM337515 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337515 target RNA into GAM337515 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337515 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337515 target genes. The mRNA of each one of this plurality of GAM337515 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337515 RNA, herein designated GAM RNA, and which when bound by GAM337515 RNA causes inhibition of translation of the GAM337515 target mRNA into a corresponding GAM337515 target protein.

The mechanism of the translational inhibition exerted by GAM337515 RNA, herein designated GAM RNA, on one or more GAM337515 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337515 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337515 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337515 RNA, herein designated GAM RNA, of GAM337515 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337515 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337515 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337515 RNA correlate with, and may be deduced from, the identity of the GAM337515 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337516 141972 CGCTTGCAAC Fig. 8 further provides a conceptual description of another novel bioinformatically
TGAAAGGCGG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGGTTGCAGT Messenger 337516 (GAM337516) oligonucleotides modulates expression of respective target
GAACCAAGAT genes whose function and utility is known in the art.

CGCACCACTG GAM337516 is a novel bioinformatically detectable regulatory, non protein
CACTCCAGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337516 was detected
TGGGCAACAA is described with additional reference to Figs. 9-15.

AAGCG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337516 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337516 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337516 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337516 precursor RNA is designated SEQ ID:141972, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141972 is located from position 127763749 to position 127763823 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337516 precursor RNA folds onto itself, forming GAM337516 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337516 precursor RNA, designated SEQ ID NO: 141972, and a schematic representation of a predicted secondary folding of GAM337516 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337516 folded precursor RNA yielding a GAM337516 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337516 RNA, hereby incorporated herein. Expression of GAM337516 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337516 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337516 target RNA, herein designated GAM TARGET RNA.

GAM337516 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337516 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337516 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337516 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337516 RNA, herein designated GAM RNA, to target binding sites on GAM337516 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337516 target RNA into GAM337516 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337516 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337516 target genes. The mRNA of each one of this plurality of GAM337516 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337516 RNA, herein designated GAM RNA, and which when bound by GAM337516 RNA causes inhibition of translation of the GAM337516 target mRNA into a corresponding GAM337516 target protein.

The mechanism of the translational inhibition exerted by GAM337516 RNA, herein designated GAM RNA, on one or more GAM337516 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337516 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337516 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337516 RNA, herein designated GAM RNA, of GAM337516 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337516 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337516 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337516 RNA correlate with, and may be deduced from, the identity of the GAM337516 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337517 141973 GGTCCCTGAA Fig. 8 further provides a conceptual description of another novel bioinformatically
GTCTTATTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
TTGGTGCAGG Messenger 337517 (GAM337517) oligonucleotides modulates expression of respective target
TCACTGATTT genes whose function and utility is known in the art.

TTTTAATGAA GAM337517 is a novel bioinformatically detectable regulatory, non protein
CTCCTGTTCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337517 was detected
ATACAGAATA is described with additional reference to Figs. 9-15.

TGAGTGGCCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TCTATTGATT encoded by the human genome.

CAAGTTCAAT GAM337517 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TTCAAGGGAT GAM337517 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
C GAM337517 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337517 precursor RNA is designated SEQ ID:141973, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141973 is located from position 127799785 to position 127799895 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337517 precursor RNA folds onto itself, forming GAM337517 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337517 precursor RNA, designated SEQ ID NO: 141973, and a schematic representation of a predicted secondary folding of GAM337517 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337517 folded precursor RNA yielding a GAM337517 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337517 RNA, hereby incorporated herein.

GAM337517 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337517 target RNA, herein designated GAM TARGET RNA.

GAM337517 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337517 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337517 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337517 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337517 RNA, herein designated GAM RNA, to target binding sites on GAM337517 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337517 target RNA into GAM337517 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337517 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337517 target genes. The mRNA of each one of this plurality of GAM337517 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337517 RNA, herein designated GAM RNA, and which when bound by GAM337517 RNA causes inhibition of translation of the GAM337517 target mRNA into a corresponding GAM337517 target protein.

The mechanism of the translational inhibition exerted by GAM337517 RNA, herein designated GAM RNA, on one or more GAM337517 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337517 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM337517 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337517 RNA, herein designated GAM RNA, of GAM337517 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337517 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337517 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337517 RNA correlate with, and may be deduced from, the identity of the GAM337517 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337518 141974 CACTAGGCTA Fig. 8 further provides a conceptual description of another novel bioinformatically

GACATACAAA detected oligonucleotides of the present invention, referred to here as Genomic Address

GACCCCTTGC Messenger 337518 (GAM337518) oligonucleotides modulates expression of respective target

CCGTGGCTCC genes whose function and utility is known in the art.

CATTTCAAAT GAM337518 is a novel bioinformatically detectable regulatory, non protein

ATATCTCATG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337518 was detected

ACCAGGGTGT is described with additional reference to Figs. 9-15.

GGGAGCACGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGAGGAGGT encoded by the human genome.

AAGAGTTTAA GAM337518 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

ACTGTG GAM337518 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337518 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337518 precursor RNA is designated SEQ ID:141974, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141974 is located from position 127854074 to position 127854179 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337518 precursor RNA folds onto itself, forming GAM337518 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337518 precursor RNA, designated SEQ ID NO: 141974, and a schematic representation of a predicted secondary folding of GAM337518 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337518 folded precursor RNA yielding a GAM337518 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337518 RNA, hereby incorporated herein.

GAM337518 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337518 target RNA, herein designated GAM TARGET RNA.

GAM337518 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337518 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337518 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337518 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337518 RNA, herein designated GAM RNA, to target binding sites on GAM337518 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337518 target RNA into GAM337518 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337518 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337518 target genes. The mRNA of each one of this plurality of GAM337518 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337518 RNA, herein designated GAM RNA, and which when bound by GAM337518 RNA causes inhibition of

translation of the GAM337518 target mRNA into a corresponding GAM337518 target protein.

The mechanism of the translational inhibition exerted by GAM337518 RNA, herein designated GAM RNA, on one or more GAM337518 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337518 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337518 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337518 RNA, herein designated GAM RNA, of GAM337518 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337518 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337518 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337518 RNA correlate with, and may be deduced from, the identity of the GAM337518 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337519 141975 CAGACTGAAG Fig. 8 further provides a conceptual description of another novel bioinformatically

TCTTTTGCTT detected oligonucleotides of the present invention, referred to here as Genomic Address

ATTTTGGTGA Messenger 337519 (GAM337519) oligonucleotides modulates expression of respective target

TAAAAGCTGA genes whose function and utility is known in the art.

ACATGGTTTG GAM337519 is a novel bioinformatically detectable regulatory, non protein

TGCTGAAGTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337519 was detected

CCAGCTGGTT is described with additional reference to Figs. 9-15.

ATCGGAGTGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTGACCAGGT encoded by the human genome.

CAGTCTG GAM337519 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337519 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337519 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337519 precursor RNA is designated SEQ ID:141975, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141975 is located from position 127955257 to position 127955353 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM337519 precursor RNA folds onto itself, forming GAM337519 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337519 precursor RNA, designated SEQ ID NO: 141975, and a schematic representation of a predicted secondary folding of GAM337519 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337519 folded precursor RNA yielding a GAM337519 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337519 RNA, hereby incorporated herein.

GAM337519 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337519 target RNA, herein designated GAM TARGET RNA.

GAM337519 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337519 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337519 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337519 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337519 RNA, herein designated GAM RNA, to target binding sites on GAM337519 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337519 target RNA into GAM337519 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337519 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337519 target genes. The mRNA of each one of this plurality of GAM337519 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337519 RNA, herein designated GAM RNA, and which when bound by GAM337519 RNA causes inhibition of translation of the GAM337519 target mRNA into a corresponding GAM337519 target protein.

The mechanism of the translational inhibition exerted by GAM337519 RNA, herein designated GAM RNA, on one or more GAM337519 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337519 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337519 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337519 RNA, herein designated GAM RNA, of GAM337519 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337519 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337519 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337519 RNA correlate with, and may be deduced from, the identity of the GAM337519 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337520 141976 CCCTTATGGG ATTCTGGAAG TGGTGGCTAC ACGGATGTAC ATGAGTGTGA AAAAATCATT AAACTGTATG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337520 (GAM337520) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337520 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337520 was detected is described with additional reference to Figs. 9-15.

CTCTGTGAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CTTACTGTAT encoded by the human genome.

CTGTTATCCT GAM337520 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TCCTAATGGG GAM337520 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337520 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337520 precursor RNA is designated SEQ ID:141976, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141976 is located from position 128242511 to position 128242620 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337520 precursor RNA folds onto itself, forming GAM337520 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337520 precursor RNA, designated SEQ ID NO: 141976, and a schematic representation of a predicted secondary folding of GAM337520 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337520 folded precursor RNA yielding a GAM337520 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337520 RNA, hereby incorporated herein.

GAM337520 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337520 target RNA, herein designated GAM TARGET RNA.

GAM337520 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337520 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337520 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337520 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337520 RNA, herein designated GAM RNA, to target binding sites on GAM337520 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337520 target RNA into GAM337520 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337520 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337520 target genes. The mRNA of each one of this plurality of GAM337520 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337520 RNA, herein designated GAM RNA, and which when bound by GAM337520 RNA causes inhibition of translation of the GAM337520 target mRNA into a corresponding GAM337520 target protein.

The mechanism of the translational inhibition exerted by GAM337520 RNA, herein designated GAM RNA, on one or more GAM337520 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337520 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337520 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337520 RNA, herein designated GAM RNA, of GAM337520 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337520 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337520 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337520 RNA correlate with, and may be deduced from, the identity of the GAM337520 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337521 141977 CAGACCCTCT Fig. 8 further provides a conceptual description of another novel bioinformatically

CTCTTTCCCA detected oligonucleotides of the present invention, referred to here as Genomic Address
GGCTTCCTGT Messenger 337521 (GAM337521) oligonucleotides modulates expression of respective target
CCTTCAGCAA genes whose function and utility is known in the art.

GGCCACCTGA GAM337521 is a novel bioinformatically detectable regulatory, non protein
GAACTGAATT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337521 was detected
GTAAATTCCA is described with additional reference to Figs. 9-15.

GCCTTGCAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAAGGGGAGG encoded by the human genome.

AGGCTGAAAG GAM337521 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
ACAAGATAAA GAM337521 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
TG GAM337521 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337521 precursor RNA is designated SEQ ID:141977, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141977 is located from position 128399235 to position 128399346 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337521 precursor RNA folds onto itself, forming GAM337521 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337521 precursor RNA, designated SEQ ID NO: 141977, and a schematic representation of a predicted secondary folding of GAM337521 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337521 folded precursor RNA yielding a GAM337521 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337521 RNA, hereby incorporated herein.

GAM337521 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337521 target RNA, herein designated GAM TARGET RNA.

GAM337521 target RNA comprises three regions, as is typical of mRNA of a protein coding

gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337521 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337521 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337521 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337521 RNA, herein designated GAM RNA, to target binding sites on GAM337521 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337521 target RNA into GAM337521 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337521 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337521 target genes. The mRNA of each one of this plurality of GAM337521 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337521 RNA, herein designated GAM RNA, and which when bound by GAM337521 RNA causes inhibition of translation of the GAM337521 target mRNA into a corresponding GAM337521 target protein.

The mechanism of the translational inhibition exerted by GAM337521 RNA, herein designated GAM RNA, on one or more GAM337521 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337521 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337521 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337521 RNA, herein designated GAM RNA, of GAM337521 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337521 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337521 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337521 RNA correlate with, and may be deduced from, the identity of the GAM337521 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337522 141978 TCTCTCTTTC Fig. 8 further provides a conceptual description of another novel bioinformatically
CCAGGCTTCC detected oligonucleotides of the present invention, referred to here as Genomic Address
TGTCCTTCAG Messenger 337522 (GAM337522) oligonucleotides modulates expression of respective target
CAAGGCCACC genes whose function and utility is known in the art.

TGAGAACTGA GAM337522 is a novel bioinformatically detectable regulatory, non protein
ATTGTAAATT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337522 was detected
CCAGCCTTGC is described with additional reference to Figs. 9-15.

AAGGAAGGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGGAGGCTGA encoded by the human genome.

AAGACAAGA GAM337522 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337522 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337522 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337522 precursor RNA is designated SEQ ID:141978, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141978 is located from position 128399242 to position 128399340 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337522 precursor RNA folds onto itself, forming GAM337522 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337522 precursor RNA, designated SEQ ID NO: 141978, and a schematic representation of a predicted secondary folding of GAM337522 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337522 folded precursor RNA yielding a GAM337522 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337522 RNA, hereby incorporated herein.

GAM337522 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337522 target RNA, herein designated GAM TARGET RNA.

GAM337522 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337522 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337522 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337522 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337522 RNA, herein designated GAM RNA, to target binding sites on GAM337522 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337522 target RNA into GAM337522 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337522 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337522 target genes. The mRNA of each one of this plurality of GAM337522 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337522 RNA, herein designated GAM RNA, and which when bound by GAM337522 RNA causes inhibition of translation of the GAM337522 target mRNA into a corresponding GAM337522 target protein.

The mechanism of the translational inhibition exerted by GAM337522 RNA, herein designated GAM RNA, on one or more GAM337522 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337522 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337522 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337522 RNA, herein designated GAM RNA, of

GAM337522 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337522 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337522 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337522 RNA correlate with, and may be deduced from, the identity of the GAM337522 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337523 141979 TCTTTCCCAG Fig. 8 further provides a conceptual description of another novel bioinformatically

GCTTCCTGTC detected oligonucleotides of the present invention, referred to here as Genomic Address

CTTCAGCAAG Messenger 337523 (GAM337523) oligonucleotides modulates expression of respective target

GCCACCTGAG genes whose function and utility is known in the art.

AACTGAATTG GAM337523 is a novel bioinformatically detectable regulatory, non protein

TAAATTCCAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337523 was detected

CCTTGCAAGG is described with additional reference to Figs. 9-15.

AAGGGGAGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGCTGAAAGA encoded by the human genome.

GAM337523 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337523 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337523 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337523 precursor RNA is designated SEQ ID:141979, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141979 is located from position 128399246 to position 128399335 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337523 precursor RNA folds onto itself, forming GAM337523 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337523 precursor RNA, designated SEQ ID NO: 141979,

and a schematic representation of a predicted secondary folding of GAM337523 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337523 folded precursor RNA yielding a GAM337523 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337523 RNA, hereby incorporated herein.

GAM337523 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337523 target RNA, herein designated GAM TARGET RNA.

GAM337523 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337523 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337523 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337523 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337523 RNA, herein designated GAM RNA, to target binding sites on GAM337523 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337523 target RNA into GAM337523 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337523 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337523 target genes. The mRNA of each one of this plurality of GAM337523 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337523 RNA, herein designated GAM RNA, and which when bound by GAM337523 RNA causes inhibition of translation of the GAM337523 target mRNA into a corresponding GAM337523 target protein.

The mechanism of the translational inhibition exerted by GAM337523 RNA, herein designated GAM RNA, on one or more GAM337523 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337523 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337523 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337523 RNA, herein designated GAM RNA, of GAM337523 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337523 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337523 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337523 RNA correlate with, and may be deduced from, the identity of the GAM337523 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337524 141980 GGGATTACAG Fig. 8 further provides a conceptual description of another novel bioinformatically

GCACCTGCTG detected oligonucleotides of the present invention, referred to here as Genomic Address

CCAAGTCTGG Messenger 337524 (GAM337524) oligonucleotides modulates expression of respective target

CTAATTTTTG genes whose function and utility is known in the art.

TATTTTTAAT GAM337524 is a novel bioinformatically detectable regulatory, non protein

AGAGACGGGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337524 was detected

TTTCGCTATG is described with additional reference to Figs. 9-15.

TTGGCCAGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGGTCTCGAA encoded by the human genome.

CTCCTGATCT GAM337524 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

C GAM337524 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337524 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337524 precursor RNA is designated SEQ ID:141980, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141980 is located from position 128497045 to position 128497145 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM337524 precursor RNA folds onto itself, forming GAM337524 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337524 precursor RNA, designated SEQ ID NO: 141980, and a schematic representation of a predicted secondary folding of GAM337524 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337524 folded precursor RNA yielding a GAM337524 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337524 RNA, hereby incorporated herein.

GAM337524 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337524 target RNA, herein designated GAM TARGET RNA.

GAM337524 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337524 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337524 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337524 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337524 RNA, herein designated GAM RNA, to target binding sites on GAM337524 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337524 target RNA into GAM337524 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337524 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337524 target genes. The mRNA of each one of this

plurality of GAM337524 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337524 RNA, herein designated GAM RNA, and which when bound by GAM337524 RNA causes inhibition of translation of the GAM337524 target mRNA into a corresponding GAM337524 target protein.

The mechanism of the translational inhibition exerted by GAM337524 RNA, herein designated GAM RNA, on one or more GAM337524 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337524 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337524 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337524 RNA, herein designated GAM RNA, of GAM337524 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337524 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337524 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337524 RNA correlate with, and may be deduced from, the identity of the GAM337524 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337525 141981 GCTCCTGCTT Fig. 8 further provides a conceptual description of another novel bioinformatically

GCATATGCAT detected oligonucleotides of the present invention, referred to here as Genomic Address

GGGTACACAG Messenger 337525 (GAM337525) oligonucleotides modulates expression of respective target

CCTGTAACTA genes whose function and utility is known in the art.

CATGTGTGTG GAM337525 is a novel bioinformatically detectable regulatory, non protein

AGCCTGTGGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337525 was detected

TATGTGAGGG is described with additional reference to Figs. 9-15.

GAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337525 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337525 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337525 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337525 precursor RNA is designated SEQ ID:141981, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141981 is located from position 128533191 to position 128533264 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM337525 precursor RNA folds onto itself, forming GAM337525 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337525 precursor RNA, designated SEQ ID NO: 141981, and a schematic representation of a predicted secondary folding of GAM337525 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337525 folded precursor RNA yielding a GAM337525 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337525 RNA, hereby incorporated herein.

GAM337525 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337525 target RNA, herein designated GAM TARGET RNA.

GAM337525 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337525 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337525 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337525 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337525 RNA, herein designated GAM RNA, to target

binding sites on GAM337525 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337525 target RNA into GAM337525 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337525 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337525 target genes. The mRNA of each one of this plurality of GAM337525 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337525 RNA, herein designated GAM RNA, and which when bound by GAM337525 RNA causes inhibition of translation of the GAM337525 target mRNA into a corresponding GAM337525 target protein.

The mechanism of the translational inhibition exerted by GAM337525 RNA, herein designated GAM RNA, on one or more GAM337525 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337525 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337525 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337525 RNA, herein designated GAM RNA, of GAM337525 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337525 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337525 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337525 RNA correlate with, and may be deduced from, the identity of the GAM337525 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337526 141982 GAACCTTTGA Fig. 8 further provides a conceptual description of another novel bioinformatically

TGTTACTCTA detected oligonucleotides of the present invention, referred to here as Genomic Address

TCGTCTGGAT Messenger 337526 (GAM337526) oligonucleotides modulates expression of respective target

CTCTTTTGCC genes whose function and utility is known in the art.

TGTGAGGGAG GAM337526 is a novel bioinformatically detectable regulatory, non protein

GCAGAGAGGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337526 was detected

ATTTAGGCAT is described with additional reference to Figs. 9-15.

GAGGCAGCAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGGTTT encoded by the human genome.

GAM337526 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337526 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337526 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337526 precursor RNA is designated SEQ ID:141982, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141982 is located from position 128779961 to position 128780046 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337526 precursor RNA folds onto itself, forming GAM337526 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337526 precursor RNA, designated SEQ ID NO: 141982, and a schematic representation of a predicted secondary folding of GAM337526 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337526 folded precursor RNA yielding a GAM337526 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337526 RNA, hereby incorporated herein.

GAM337526 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337526 target RNA, herein designated GAM TARGET RNA.

GAM337526 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337526 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337526 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337526 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337526 RNA, herein designated GAM RNA, to target binding sites on GAM337526 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337526 target RNA into GAM337526 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337526 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337526 target genes. The mRNA of each one of this plurality of GAM337526 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337526 RNA, herein designated GAM RNA, and which when bound by GAM337526 RNA causes inhibition of translation of the GAM337526 target mRNA into a corresponding GAM337526 target protein.

The mechanism of the translational inhibition exerted by GAM337526 RNA, herein designated GAM RNA, on one or more GAM337526 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337526 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337526 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337526 RNA, herein designated GAM RNA, of GAM337526 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337526 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337526 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337526 RNA correlate with, and may be deduced from, the identity of the GAM337526 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337527 141983 GGTGGAATCA Fig. 8 further provides a conceptual description of another novel bioinformatically

AAGGTAGGAG detected oligonucleotides of the present invention, referred to here as Genomic Address AGAGGCAGTA Messenger 337527 (GAM337527) oligonucleotides modulates expression of respective target GCTTCTGATT genes whose function and utility is known in the art.

TGAATATTGC GAM337527 is a novel bioinformatically detectable regulatory, non protein CTTTCCCTAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337527 was detected GTTTGAAGCC is described with additional reference to Figs. 9-15.

CT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337527 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337527 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337527 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337527 precursor RNA is designated SEQ ID:141983, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141983 is located from position 128874975 to position 128875046 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM337527 precursor RNA folds onto itself, forming GAM337527 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337527 precursor RNA, designated SEQ ID NO: 141983, and a schematic representation of a predicted secondary folding of GAM337527 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337527 folded precursor RNA yielding a GAM337527 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337527 RNA, hereby incorporated herein.

GAM337527 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337527 target RNA, herein designated GAM TARGET RNA.

GAM337527 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337527 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337527 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337527 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337527 RNA, herein designated GAM RNA, to target binding sites on GAM337527 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337527 target RNA into GAM337527 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337527 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337527 target genes. The mRNA of each one of this plurality of GAM337527 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337527 RNA, herein designated GAM RNA, and which when bound by GAM337527 RNA causes inhibition of translation of the GAM337527 target mRNA into a corresponding GAM337527 target protein.

The mechanism of the translational inhibition exerted by GAM337527 RNA, herein designated GAM RNA, on one or more GAM337527 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337527 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337527 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337527 RNA, herein designated GAM RNA, of GAM337527 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337527 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337527 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337527 RNA correlate with, and may be deduced from, the identity of the GAM337527 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337528 141984 GGAACAGCAG GGCTAGAAAG CCAGAGAGAC AGGGGCTCTG GCCCTTTCTG ATGCTGTTTT TAGCACCTGC TTTCC

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337528 (GAM337528) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337528 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337528 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337528 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337528 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337528 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337528 precursor RNA is designated SEQ ID:141984, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141984 is located from position 129138656 to position 129138730 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337528 precursor RNA folds onto itself, forming GAM337528 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337528 precursor RNA, designated SEQ ID NO: 141984, and a schematic representation of a predicted secondary folding of GAM337528 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337528 folded precursor RNA yielding a GAM337528 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337528 RNA, hereby incorporated herein.

GAM337528 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337528 target RNA, herein designated GAM TARGET RNA.

GAM337528 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337528 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337528 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337528 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337528 RNA, herein designated GAM RNA, to target binding sites on GAM337528 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337528 target RNA into GAM337528 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337528 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337528 target genes. The mRNA of each one of this plurality of GAM337528 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337528 RNA, herein designated GAM RNA, and which when bound by GAM337528 RNA causes inhibition of translation of the GAM337528 target mRNA into a corresponding GAM337528 target protein.

The mechanism of the translational inhibition exerted by GAM337528 RNA, herein designated GAM RNA, on one or more GAM337528 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337528 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337528 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337528 RNA, herein designated GAM RNA, of GAM337528 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337528 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337528 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337528 RNA correlate with, and may be deduced from, the identity of the GAM337528 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337529 141985 AGCGGTGAAG Fig. 8 further provides a conceptual description of another novel bioinformatically
ACCAAGGCCA detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGCTTAAAC Messenger 337529 (GAM337529) oligonucleotides modulates expression of respective target
TCATAGGGGT genes whose function and utility is known in the art.

CATTCAACTC GAM337529 is a novel bioinformatically detectable regulatory, non protein
TGTTTTTATT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337529 was detected
AGTTGTCCTT is described with additional reference to Figs. 9-15.

GGTTTATACT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTT encoded by the human genome.

GAM337529 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337529 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337529 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337529 precursor RNA is designated SEQ ID:141985, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141985 is located from position 129198494 to position 129198576 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337529 precursor RNA folds onto itself, forming GAM337529 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337529 precursor RNA, designated SEQ ID NO: 141985, and a schematic representation of a predicted secondary folding of GAM337529 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337529 folded precursor RNA yielding a GAM337529 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337529 RNA, hereby incorporated herein.

GAM337529 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337529 target RNA, herein designated GAM TARGET RNA.

GAM337529 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337529 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337529 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337529 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337529 RNA, herein designated GAM RNA, to target binding sites on GAM337529 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337529 target RNA into GAM337529 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337529 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337529 target genes. The mRNA of each one of this plurality of GAM337529 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337529 RNA, herein designated GAM RNA, and which when bound by GAM337529 RNA causes inhibition of translation of the GAM337529 target mRNA into a corresponding GAM337529 target protein.

The mechanism of the translational inhibition exerted by GAM337529 RNA, herein designated GAM RNA, on one or more GAM337529 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337529 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM337529 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337529 RNA, herein designated GAM RNA, of GAM337529 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337529 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337529 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337529 RNA correlate with, and may be deduced from, the identity of the GAM337529 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337530 141986 CCTCCTCCAT Fig. 8 further provides a conceptual description of another novel bioinformatically
CCGTCTCCCA detected oligonucleotides of the present invention, referred to here as Genomic Address
GGGTGCCTTT Messenger 337530 (GAM337530) oligonucleotides modulates expression of respective target
GTTTTGAATC genes whose function and utility is known in the art.

ATTTTTGATT GAM337530 is a novel bioinformatically detectable regulatory, non protein
TCAATTTAAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337530 was detected
AAGAGAAAGA is described with additional reference to Figs. 9-15.

AGAGGCTGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACGAAGGAAG encoded by the human genome.

GAGG GAM337530 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337530 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337530 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337530 precursor RNA is designated SEQ ID:141986, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141986 is located from position 129432365 to position 129432458 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337530 precursor RNA folds onto itself, forming GAM337530 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337530 precursor RNA, designated SEQ ID NO: 141986, and a schematic representation of a predicted secondary folding of GAM337530 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337530 folded precursor RNA yielding a GAM337530 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337530 RNA, hereby incorporated herein.

GAM337530 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337530 target RNA, herein designated GAM TARGET RNA.

GAM337530 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337530 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337530 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337530 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337530 RNA, herein designated GAM RNA, to target binding sites on GAM337530 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337530 target RNA into GAM337530 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337530 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337530 target genes. The mRNA of each one of this plurality of GAM337530 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337530 RNA, herein designated GAM RNA, and which when bound by GAM337530 RNA causes inhibition of

translation of the GAM337530 target mRNA into a corresponding GAM337530 target protein.

The mechanism of the translational inhibition exerted by GAM337530 RNA, herein designated GAM RNA, on one or more GAM337530 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337530 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337530 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337530 RNA, herein designated GAM RNA, of GAM337530 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337530 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337530 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337530 RNA correlate with, and may be deduced from, the identity of the GAM337530 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337531 141987 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337531 (GAM337531) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337531 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337531 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM337531 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337531 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337531 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM337531 precursor RNA is designated SEQ ID:141987, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141987 is located from position 129487964 to position 129488045 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GAM337531 precursor RNA folds onto itself, forming GAM337531 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337531 precursor RNA, designated SEQ ID NO: 141987, and a schematic representation of a predicted secondary folding of GAM337531 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337531 folded precursor RNA yielding a GAM337531 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337531 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337531 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337531 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337531 target RNA, herein designated GAM TARGET RNA.

GAM337531 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337531 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337531 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337531 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337531 RNA, herein designated GAM RNA, to target binding sites on GAM337531 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337531 target RNA into GAM337531 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337531 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337531 target genes. The mRNA of each one of this plurality of GAM337531 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337531 RNA, herein designated GAM RNA, and which when bound by GAM337531 RNA causes inhibition of translation of the GAM337531 target mRNA into a corresponding GAM337531 target protein.

The mechanism of the translational inhibition exerted by GAM337531 RNA, herein designated GAM RNA, on one or more GAM337531 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337531 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337531 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337531 RNA, herein designated GAM RNA, of GAM337531 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337531 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337531 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337531 RNA correlate with, and may be deduced from, the identity of the GAM337531 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337532 141988 AGGCTGGTCT Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATGGCAGT detected oligonucleotides of the present invention, referred to here as Genomic Address

GGGATGTCAG Messenger 337532 (GAM337532) oligonucleotides modulates expression of respective target

AACTAATTAA genes whose function and utility is known in the art.

CCTTAGTGTC GAM337532 is a novel bioinformatically detectable regulatory, non protein

ACTATAGTTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337532 was detected

GCATTCGACC is described with additional reference to Figs. 9-15.

CCCACACTGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TAAATTTGAC encoded by the human genome.

TGCCT GAM337532 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337532 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337532 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337532 precursor RNA is designated SEQ ID:141988, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141988 is located from position 129558238 to position 129558332 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM337532 precursor RNA folds onto itself, forming GAM337532 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337532 precursor RNA, designated SEQ ID NO: 141988, and a schematic representation of a predicted secondary folding of GAM337532 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337532 folded precursor RNA yielding a GAM337532 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337532 RNA, hereby incorporated herein.

GAM337532 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337532 target RNA, herein designated GAM TARGET RNA.

GAM337532 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337532 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337532 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337532 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337532 RNA, herein designated GAM RNA, to target binding sites on GAM337532 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337532 target RNA into GAM337532 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337532 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337532 target genes. The mRNA of each one of this plurality of GAM337532 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337532 RNA, herein designated GAM RNA, and which when bound by GAM337532 RNA causes inhibition of translation of the GAM337532 target mRNA into a corresponding GAM337532 target protein.

The mechanism of the translational inhibition exerted by GAM337532 RNA, herein designated GAM RNA, on one or more GAM337532 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337532 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337532 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337532 RNA, herein designated GAM RNA, of GAM337532 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337532 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337532 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337532 RNA correlate with, and may be deduced from, the identity of the GAM337532 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337533 141989 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 337533 (GAM337533) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337533 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337533 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337533 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337533 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337533 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337533 precursor RNA is designated SEQ ID:141989, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141989 is located from position 129681005 to position 129681086 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337533 precursor RNA folds onto itself, forming GAM337533 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337533 precursor RNA, designated SEQ ID NO: 141989, and a schematic representation of a predicted secondary folding of GAM337533 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337533 folded precursor RNA yielding a GAM337533 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337533 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337533 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337533 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337533 target RNA, herein designated GAM TARGET RNA.

GAM337533 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337533 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337533 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337533 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337533 RNA, herein designated GAM RNA, to target binding sites on GAM337533 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337533 target RNA into GAM337533 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337533 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337533 target genes. The mRNA of each one of this plurality of GAM337533 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337533 RNA, herein designated GAM RNA, and which when bound by GAM337533 RNA causes inhibition of translation of the GAM337533 target mRNA into a corresponding GAM337533 target protein.

The mechanism of the translational inhibition exerted by GAM337533 RNA, herein designated GAM RNA, on one or more GAM337533 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337533 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337533 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337533 RNA, herein designated GAM RNA, of GAM337533 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337533 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337533 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337533 RNA correlate with, and may be deduced from, the identity of the GAM337533 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337534 141990 AGTTTTAGGG TACATGTGCA CAACATGCAG GTTTGTTACA TATGTATACA TGTGCCATGT TGGTGTGCTG CACCCATTAA CT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337534 (GAM337534) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337534 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337534 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337534 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337534 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337534 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337534 precursor RNA is designated SEQ ID:141990, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141990 is located from position 129687004 to position 129687085 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337534 precursor RNA folds onto itself, forming GAM337534 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337534 precursor RNA, designated SEQ ID NO: 141990, and a schematic representation of a predicted secondary folding of GAM337534 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337534 folded precursor RNA yielding a GAM337534 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337534 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337534 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337534 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337534 target RNA, herein designated GAM TARGET RNA.

GAM337534 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337534 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337534 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337534 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337534 RNA, herein designated GAM RNA, to target binding sites on GAM337534 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337534 target RNA into GAM337534 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337534 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337534 target genes. The mRNA of each one of this plurality of GAM337534 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337534 RNA, herein designated GAM RNA, and which when bound by GAM337534 RNA causes inhibition of translation of the GAM337534 target mRNA into a corresponding GAM337534 target protein.

The mechanism of the translational inhibition exerted by GAM337534 RNA, herein designated GAM RNA, on one or more GAM337534 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337534 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337534 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337534 RNA, herein designated GAM RNA, of GAM337534 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337534 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337534 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337534 RNA correlate with, and may be deduced from, the identity of the GAM337534 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337535 141991 GCCTTCTTTG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACTAGTCTG detected oligonucleotides of the present invention, referred to here as Genomic Address
TCACCTTTGC Messenger 337535 (GAM337535) oligonucleotides modulates expression of respective target
TTGGCTTTGG genes whose function and utility is known in the art.

GAAGCTTCAA GAM337535 is a novel bioinformatically detectable regulatory, non protein
ACTAGGGCAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337535 was detected
TTTATGTTTG is described with additional reference to Figs. 9-15.

GGAGTGACCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTCAAATAGC encoded by the human genome.

AAGACAGACA GAM337535 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TAGGCAAGGA GAM337535 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
TGT GAM337535 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337535 precursor RNA is designated SEQ ID:141991, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141991 is located from position 130018501 to position 130018613 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337535 precursor RNA folds onto itself, forming GAM337535 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337535 precursor RNA, designated SEQ ID NO: 141991, and a schematic representation of a predicted secondary folding of GAM337535 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337535 folded precursor RNA yielding a GAM337535 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337535 RNA, hereby incorporated herein.

GAM337535 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337535 target RNA, herein designated GAM TARGET RNA.

GAM337535 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337535 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337535 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337535 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337535 RNA, herein designated GAM RNA, to target binding sites on GAM337535 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337535 target RNA into GAM337535 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337535 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337535 target genes. The mRNA of each one of this plurality of GAM337535 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337535 RNA, herein designated GAM RNA, and which when bound by GAM337535 RNA causes inhibition of translation of the GAM337535 target mRNA into a corresponding GAM337535 target protein.

The mechanism of the translational inhibition exerted by GAM337535 RNA, herein

designated GAM RNA, on one or more GAM337535 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337535 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337535 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337535 RNA, herein designated GAM RNA, of GAM337535 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337535 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337535 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337535 RNA correlate with, and may be deduced from, the identity of the GAM337535 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337536 141992 TCTTTGTACT Fig. 8 further provides a conceptual description of another novel bioinformatically

AGTCTGTCAC detected oligonucleotides of the present invention, referred to here as Genomic Address

CTTTGCTTGG Messenger 337536 (GAM337536) oligonucleotides modulates expression of respective target

CTTTGGGAAG genes whose function and utility is known in the art.

CTTCAAACTA GAM337536 is a novel bioinformatically detectable regulatory, non protein

GGGCAGTTTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337536 was detected

TGTTTGGGAG is described with additional reference to Figs. 9-15.

TGACCAGTCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AATAGCAAGA encoded by the human genome.

CAGACATAGG GAM337536 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CAAGGA GAM337536 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337536 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337536 precursor RNA is designated SEQ ID:141992, and is provided hereinbelow with reference to the sequence listing part.

Nucleotide sequence SEQ ID:141992 is located from position 130018504 to position 130018609 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337536 precursor RNA folds onto itself, forming GAM337536 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337536 precursor RNA, designated SEQ ID NO: 141992, and a schematic representation of a predicted secondary folding of GAM337536 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337536 folded precursor RNA yielding a GAM337536 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337536 RNA, hereby incorporated herein.

GAM337536 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337536 target RNA, herein designated GAM TARGET RNA.

GAM337536 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337536 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337536 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337536 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337536 RNA, herein designated GAM RNA, to target binding sites on GAM337536 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337536 target RNA into GAM337536 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337536 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337536 target genes. The mRNA of each one of this plurality of GAM337536 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337536 RNA, herein designated GAM RNA, and which when bound by GAM337536 RNA causes inhibition of translation of the GAM337536 target mRNA into a corresponding GAM337536 target protein.

The mechanism of the translational inhibition exerted by GAM337536 RNA, herein designated GAM RNA, on one or more GAM337536 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337536 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337536 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337536 RNA, herein designated GAM RNA, of GAM337536 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337536 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337536 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337536 RNA correlate with, and may be deduced from, the identity of the GAM337536 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337537 141993 GTCTGTCACC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTTGCTTGGC detected oligonucleotides of the present invention, referred to here as Genomic Address

TTTGGGAAGC Messenger 337537 (GAM337537) oligonucleotides modulates expression of respective target

TTCAAACTAG genes whose function and utility is known in the art.

GGCAGTTTAT GAM337537 is a novel bioinformatically detectable regulatory, non protein

GTTTGGGAGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337537 was detected

GACCAGTCAA is described with additional reference to Figs. 9-15.

ATAGCAAGAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGAC encoded by the human genome.

GAM337537 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337537 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337537 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337537 precursor RNA is designated SEQ ID:141993, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141993 is located from position 130018515 to position 130018598 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337537 precursor RNA folds onto itself, forming GAM337537 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337537 precursor RNA, designated SEQ ID NO: 141993, and a schematic representation of a predicted secondary folding of GAM337537 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337537 folded precursor RNA yielding a GAM337537 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337537 RNA, hereby incorporated herein.

GAM337537 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337537 target RNA, herein designated GAM TARGET RNA.

GAM337537 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337537 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337537 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337537 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region

or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337537 RNA, herein designated GAM RNA, to target binding sites on GAM337537 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337537 target RNA into GAM337537 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337537 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337537 target genes. The mRNA of each one of this plurality of GAM337537 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337537 RNA, herein designated GAM RNA, and which when bound by GAM337537 RNA causes inhibition of translation of the GAM337537 target mRNA into a corresponding GAM337537 target protein.

The mechanism of the translational inhibition exerted by GAM337537 RNA, herein designated GAM RNA, on one or more GAM337537 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337537 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337537 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337537 RNA, herein designated GAM RNA, of GAM337537 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337537 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337537 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337537 RNA correlate with, and may be deduced from, the identity of the GAM337537 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337538 141994 TTCCACATAG Fig. 8 further provides a conceptual description of another novel bioinformatically

CAGCTGCTGG detected oligonucleotides of the present invention, referred to here as Genomic Address

CAATAAACCC Messenger 337538 (GAM337538) oligonucleotides modulates expression of respective target

ACGCGGAGCA genes whose function and utility is known in the art.

AACTGGCGTC GAM337538 is a novel bioinformatically detectable regulatory, non protein
CGAGAGATTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337538 was detected
TTCGCCAGTG is described with additional reference to Figs. 9-15.

CCTGCTTGGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
A encoded by the human genome.

GAM337538 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337538 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337538 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337538 precursor RNA is designated SEQ ID:141994, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141994 is located from position 130102174 to position 130102254 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337538 precursor RNA folds onto itself, forming GAM337538 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337538 precursor RNA, designated SEQ ID NO: 141994, and a schematic representation of a predicted secondary folding of GAM337538 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337538 folded precursor RNA yielding a GAM337538 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337538 RNA, hereby incorporated herein.

GAM337538 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337538 target RNA, herein designated GAM TARGET RNA.

GAM337538 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337538 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337538 target RNA, herein

designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337538 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337538 RNA, herein designated GAM RNA, to target binding sites on GAM337538 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337538 target RNA into GAM337538 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337538 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337538 target genes. The mRNA of each one of this plurality of GAM337538 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337538 RNA, herein designated GAM RNA, and which when bound by GAM337538 RNA causes inhibition of translation of the GAM337538 target mRNA into a corresponding GAM337538 target protein.

The mechanism of the translational inhibition exerted by GAM337538 RNA, herein designated GAM RNA, on one or more GAM337538 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337538 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337538 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337538 RNA, herein designated GAM RNA, of GAM337538 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337538 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337538 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337538 RNA correlate with, and may be deduced from, the identity of the GAM337538 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337539 141995 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTACA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACGTGCAG Messenger 337539 (GAM337539) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337539 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337539 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337539 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337539 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337539 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337539 precursor RNA is designated SEQ ID:141995, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141995 is located from position 130335493 to position 130335574 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM337539 precursor RNA folds onto itself, forming GAM337539 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337539 precursor RNA, designated SEQ ID NO: 141995, and a schematic representation of a predicted secondary folding of GAM337539 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337539 folded precursor RNA yielding a GAM337539 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337539 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337539 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337539 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337539 target RNA, herein designated GAM TARGET RNA.

GAM337539 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337539 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337539 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337539 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337539 RNA, herein designated GAM RNA, to target binding sites on GAM337539 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337539 target RNA into GAM337539 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337539 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337539 target genes. The mRNA of each one of this plurality of GAM337539 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337539 RNA, herein designated GAM RNA, and which when bound by GAM337539 RNA causes inhibition of translation of the GAM337539 target mRNA into a corresponding GAM337539 target protein.

The mechanism of the translational inhibition exerted by GAM337539 RNA, herein designated GAM RNA, on one or more GAM337539 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337539 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337539 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337539 RNA, herein designated GAM RNA, of GAM337539 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337539 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337539 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337539 RNA correlate with, and may be deduced from, the identity of the GAM337539 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337540 141996 GGGGGCTCAG Fig. 8 further provides a conceptual description of another novel bioinformatically
CCATGTTGAA detected oligonucleotides of the present invention, referred to here as Genomic Address
GCATGTATGT Messenger 337540 (GAM337540) oligonucleotides modulates expression of respective target
CAAACTGATG genes whose function and utility is known in the art.

TAAGAGTTTG GAM337540 is a novel bioinformatically detectable regulatory, non protein
ACAGAAATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337540 was detected
ATTTGCATGA is described with additional reference to Figs. 9-15.

ATTGCTGAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGCCTCC encoded by the human genome.

GAM337540 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337540 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337540 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337540 precursor RNA is designated SEQ ID:141996, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141996 is located from position 130897559 to position 130897645 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GAM337540 precursor RNA folds onto itself, forming GAM337540 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337540 precursor RNA, designated SEQ ID NO: 141996, and a schematic representation of a predicted secondary folding of GAM337540 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337540 folded precursor RNA yielding a GAM337540 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337540 RNA, hereby incorporated herein.

GAM337540 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337540 target RNA, herein designated GAM TARGET RNA.

GAM337540 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337540 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337540 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337540 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337540 RNA, herein designated GAM RNA, to target binding sites on GAM337540 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337540 target RNA into GAM337540 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337540 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337540 target genes. The mRNA of each one of this plurality of GAM337540 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337540 RNA, herein designated GAM RNA, and which when bound by GAM337540 RNA causes inhibition of translation of the GAM337540 target mRNA into a corresponding GAM337540 target protein.

The mechanism of the translational inhibition exerted by GAM337540 RNA, herein designated GAM RNA, on one or more GAM337540 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337540 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337540 folded precursor RNA, herein

designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337540 RNA, herein designated GAM RNA, of GAM337540 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337540 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337540 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337540 RNA correlate with, and may be deduced from, the identity of the GAM337540 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337541 141997 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATTGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCCAGGAGG Messenger 337541 (GAM337541) oligonucleotides modulates expression of respective target

TGGAGGTTGC genes whose function and utility is known in the art.

AGTGAGCTGA GAM337541 is a novel bioinformatically detectable regulatory, non protein

GACCATGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337541 was detected

TTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAGAGTGAGA encoded by the human genome.

CTTGGTGTC GAM337541 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337541 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337541 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337541 precursor RNA is designated SEQ ID:141997, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141997 is located from position 130940694 to position 130940792 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337541 precursor RNA folds onto itself, forming GAM337541 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337541 precursor RNA, designated SEQ ID NO: 141997, and a schematic representation of a predicted secondary folding of GAM337541 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337541 folded precursor RNA yielding a GAM337541 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337541 RNA, hereby incorporated herein. Expression of GAM337541 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337541 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337541 target RNA, herein designated GAM TARGET RNA.

GAM337541 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337541 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337541 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337541 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337541 RNA, herein designated GAM RNA, to target binding sites on GAM337541 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337541 target RNA into GAM337541 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337541 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337541 target genes. The mRNA of each one of this plurality of GAM337541 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337541 RNA,

herein designated GAM RNA, and which when bound by GAM337541 RNA causes inhibition of translation of the GAM337541 target mRNA into a corresponding GAM337541 target protein.

The mechanism of the translational inhibition exerted by GAM337541 RNA, herein designated GAM RNA, on one or more GAM337541 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337541 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337541 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337541 RNA, herein designated GAM RNA, of GAM337541 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337541 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337541 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337541 RNA correlate with, and may be deduced from, the identity of the GAM337541 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337542 141998 GAGAATTGCT Fig. 8 further provides a conceptual description of another novel bioinformatically

TGAACCCAGG detected oligonucleotides of the present invention, referred to here as Genomic Address

AGGTGGAGGT Messenger 337542 (GAM337542) oligonucleotides modulates expression of respective target

TGCAGTGAGC genes whose function and utility is known in the art.

TGAGACCATG GAM337542 is a novel bioinformatically detectable regulatory, non protein

CCATTGCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337542 was detected

CCAGCCTGGG is described with additional reference to Figs. 9-15.

CAACAGAGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGACTT encoded by the human genome.

GAM337542 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337542 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337542 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337542 precursor RNA is designated SEQ ID:141998, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141998 is located from position 130940701 to position 130940786 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337542 precursor RNA folds onto itself, forming GAM337542 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337542 precursor RNA, designated SEQ ID NO: 141998, and a schematic representation of a predicted secondary folding of GAM337542 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337542 folded precursor RNA yielding a GAM337542 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337542 RNA, hereby incorporated herein. Expression of GAM337542 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337542 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337542 target RNA, herein designated GAM TARGET RNA.

GAM337542 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337542 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337542 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337542 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337542 RNA, herein designated GAM RNA, to target

binding sites on GAM337542 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337542 target RNA into GAM337542 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337542 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337542 target genes. The mRNA of each one of this plurality of GAM337542 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337542 RNA, herein designated GAM RNA, and which when bound by GAM337542 RNA causes inhibition of translation of the GAM337542 target mRNA into a corresponding GAM337542 target protein.

The mechanism of the translational inhibition exerted by GAM337542 RNA, herein designated GAM RNA, on one or more GAM337542 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337542 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337542 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337542 RNA, herein designated GAM RNA, of GAM337542 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337542 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337542 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337542 RNA correlate with, and may be deduced from, the identity of the GAM337542 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337543 141999 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337543 (GAM337543) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337543 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337543 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM337543 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337543 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337543 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337543 precursor RNA is designated SEQ ID:141999, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:141999 is located from position 131254288 to position 131254369 relative to chromosome chr5 on the `+` strand (chr is an abbreviation for chromosome).

GAM337543 precursor RNA folds onto itself, forming GAM337543 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337543 precursor RNA, designated SEQ ID NO: 141999, and a schematic representation of a predicted secondary folding of GAM337543 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337543 folded precursor RNA yielding a GAM337543 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337543 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337543 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337543 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337543 target RNA, herein designated GAM TARGET RNA.

GAM337543 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337543 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337543 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337543 RNA is a partial or fully complementary sequence of the

nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337543 RNA, herein designated GAM RNA, to target binding sites on GAM337543 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337543 target RNA into GAM337543 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337543 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337543 target genes. The mRNA of each one of this plurality of GAM337543 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337543 RNA, herein designated GAM RNA, and which when bound by GAM337543 RNA causes inhibition of translation of the GAM337543 target mRNA into a corresponding GAM337543 target protein.

The mechanism of the translational inhibition exerted by GAM337543 RNA, herein designated GAM RNA, on one or more GAM337543 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337543 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337543 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337543 RNA, herein designated GAM RNA, of GAM337543 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337543 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337543 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337543 RNA correlate with, and may be deduced from, the identity of the GAM337543 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337544 142000 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 337544 (GAM337544) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337544 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337544 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337544 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337544 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337544 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337544 precursor RNA is designated SEQ ID:142000, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142000 is located from position 131317013 to position 131317094 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337544 precursor RNA folds onto itself, forming GAM337544 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337544 precursor RNA, designated SEQ ID NO: 142000, and a schematic representation of a predicted secondary folding of GAM337544 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337544 folded precursor RNA yielding a GAM337544 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337544 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337544 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337544 target gene, herein designated GAM TARGET GENE, encodes a

corresponding messenger RNA, GAM337544 target RNA, herein designated GAM TARGET RNA.

GAM337544 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337544 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337544 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337544 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337544 RNA, herein designated GAM RNA, to target binding sites on GAM337544 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337544 target RNA into GAM337544 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337544 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337544 target genes. The mRNA of each one of this plurality of GAM337544 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337544 RNA, herein designated GAM RNA, and which when bound by GAM337544 RNA causes inhibition of translation of the GAM337544 target mRNA into a corresponding GAM337544 target protein.

The mechanism of the translational inhibition exerted by GAM337544 RNA, herein designated GAM RNA, on one or more GAM337544 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337544 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337544 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337544 RNA, herein designated GAM RNA, of GAM337544 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337544 target RNA, herein designated

GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337544 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337544 RNA correlate with, and may be deduced from, the identity of the GAM337544 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337545 142001 GGAGAATCAC Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGAACCTGG detected oligonucleotides of the present invention, referred to here as Genomic Address
GAGGCGGAGG Messenger 337545 (GAM337545) oligonucleotides modulates expression of respective target
TTGCAGTGAG genes whose function and utility is known in the art.

CCGAGATTGA GAM337545 is a novel bioinformatically detectable regulatory, non protein
GCCATTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337545 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

ACATCAGGGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGACTCC encoded by the human genome.

GAM337545 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337545 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337545 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337545 precursor RNA is designated SEQ ID:142001, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142001 is located from position 131445968 to position 131446055 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM337545 precursor RNA folds onto itself, forming GAM337545 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337545 precursor RNA, designated SEQ ID NO: 142001, and a schematic representation of a predicted secondary folding of GAM337545 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337545 folded precursor

RNA yielding a GAM337545 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337545 RNA, hereby incorporated herein.

GAM337545 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337545 target RNA, herein designated GAM TARGET RNA.

GAM337545 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337545 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337545 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337545 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337545 RNA, herein designated GAM RNA, to target binding sites on GAM337545 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337545 target RNA into GAM337545 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337545 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337545 target genes. The mRNA of each one of this plurality of GAM337545 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337545 RNA, herein designated GAM RNA, and which when bound by GAM337545 RNA causes inhibition of translation of the GAM337545 target mRNA into a corresponding GAM337545 target protein.

The mechanism of the translational inhibition exerted by GAM337545 RNA, herein designated GAM RNA, on one or more GAM337545 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337545 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337545 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337545 RNA, herein designated GAM RNA, of GAM337545 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337545 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337545 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337545 RNA correlate with, and may be deduced from, the identity of the GAM337545 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337546 142002 GCAGATAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

AAAAAAGCTT detected oligonucleotides of the present invention, referred to here as Genomic Address

GATGCAGAGT Messenger 337546 (GAM337546) oligonucleotides modulates expression of respective target

CAGGGAGAGC genes whose function and utility is known in the art.

AGCTCCCTTG GAM337546 is a novel bioinformatically detectable regulatory, non protein

TTCCTTCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337546 was detected

CTGCACTTAA is described with additional reference to Figs. 9-15.

GTAATCAACC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTATCAGC encoded by the human genome.

GAM337546 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337546 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337546 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337546 precursor RNA is designated SEQ ID:142002, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142002 is located from position 131510220 to position 131510307 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337546 precursor RNA folds onto itself, forming GAM337546 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337546 precursor RNA, designated SEQ ID NO: 142002, and a schematic representation of a predicted secondary folding of GAM337546 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337546 folded precursor RNA yielding a GAM337546 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337546 RNA, hereby incorporated herein.

GAM337546 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337546 target RNA, herein designated GAM TARGET RNA.

GAM337546 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337546 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337546 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337546 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337546 RNA, herein designated GAM RNA, to target binding sites on GAM337546 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337546 target RNA into GAM337546 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337546 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337546 target genes. The mRNA of each one of this plurality of GAM337546 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337546 RNA, herein designated GAM RNA, and which when bound by GAM337546 RNA causes inhibition of translation of the GAM337546 target mRNA into a corresponding GAM337546 target protein.

The mechanism of the translational inhibition exerted by GAM337546 RNA, herein designated GAM RNA, on one or more GAM337546 target genes, herein collectively designated

GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337546 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337546 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337546 RNA, herein designated GAM RNA, of GAM337546 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337546 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337546 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337546 RNA correlate with, and may be deduced from, the identity of the GAM337546 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337547 142003 CCCAGGTTTC Fig. 8 further provides a conceptual description of another novel bioinformatically
AGTTTGGTAG detected oligonucleotides of the present invention, referred to here as Genomic Address
CATGAATCCT Messenger 337547 (GAM337547) oligonucleotides modulates expression of respective target
TAGCATTTAG genes whose function and utility is known in the art.

TGACTCCAGT GAM337547 is a novel bioinformatically detectable regulatory, non protein
TTTGGTCTGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337547 was detected
TGTCTTTCTT is described with additional reference to Figs. 9-15.

AAATGGATGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATGAGGCAAC encoded by the human genome.

CATTGGGTAC GAM337547 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TGGG GAM337547 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337547 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337547 precursor RNA is designated SEQ ID:142003, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142003 is located from position 131841260 to position 131841363

relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337547 precursor RNA folds onto itself, forming GAM337547 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337547 precursor RNA, designated SEQ ID NO: 142003, and a schematic representation of a predicted secondary folding of GAM337547 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337547 folded precursor RNA yielding a GAM337547 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337547 RNA, hereby incorporated herein.

GAM337547 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337547 target RNA, herein designated GAM TARGET RNA.

GAM337547 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337547 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337547 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337547 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337547 RNA, herein designated GAM RNA, to target binding sites on GAM337547 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337547 target RNA into GAM337547 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337547 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337547 target genes. The mRNA of each one of this plurality of GAM337547 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337547 RNA, herein designated GAM RNA, and which when bound by GAM337547 RNA causes inhibition of translation of the GAM337547 target mRNA into a corresponding GAM337547 target protein.

The mechanism of the translational inhibition exerted by GAM337547 RNA, herein designated GAM RNA, on one or more GAM337547 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337547 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337547 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337547 RNA, herein designated GAM RNA, of GAM337547 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337547 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337547 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337547 RNA correlate with, and may be deduced from, the identity of the GAM337547 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337548 142004 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATCGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCCAGGTG Messenger 337548 (GAM337548) oligonucleotides modulates expression of respective target

GCAAGGCTTG genes whose function and utility is known in the art.

CAGTGAGCTG GAM337548 is a novel bioinformatically detectable regulatory, non protein

AGATCGCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337548 was detected

ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAGAGCGAG encoded by the human genome.

ACTCCAGCTC GAM337548 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

A GAM337548 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337548 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337548 precursor RNA is designated SEQ ID:142004, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142004 is located from position 131845700 to position 131845800 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GAM337548 precursor RNA folds onto itself, forming GAM337548 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337548 precursor RNA, designated SEQ ID NO: 142004, and a schematic representation of a predicted secondary folding of GAM337548 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337548 folded precursor RNA yielding a GAM337548 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337548 RNA, hereby incorporated herein. Expression of GAM337548 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337548 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337548 target RNA, herein designated GAM TARGET RNA.

GAM337548 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337548 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337548 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337548 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337548 RNA, herein designated GAM RNA, to target binding sites on GAM337548 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337548 target RNA into GAM337548 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337548 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337548 target genes. The mRNA of each one of this plurality of GAM337548 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337548 RNA, herein designated GAM RNA, and which when bound by GAM337548 RNA causes inhibition of translation of the GAM337548 target mRNA into a corresponding GAM337548 target protein.

The mechanism of the translational inhibition exerted by GAM337548 RNA, herein designated GAM RNA, on one or more GAM337548 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337548 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337548 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337548 RNA, herein designated GAM RNA, of GAM337548 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337548 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337548 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337548 RNA correlate with, and may be deduced from, the identity of the GAM337548 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337549 142005 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GTGGCAAGGC Messenger 337549 (GAM337549) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

CTGAGATCGC GAM337549 is a novel bioinformatically detectable regulatory, non protein
ACTACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337549 was
detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is
a humen gene
GAGACTCC encoded by the human genome.

GAM337549 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337549 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA
genes

GAM337549 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337549 precursor RNA is designated SEQ ID:142005, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142005 is located from position 131845707 to position 131845794 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GAM337549 precursor RNA folds onto itself, forming GAM337549 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337549 precursor RNA, designated SEQ ID NO: 142005, and a schematic representation of a predicted secondary folding of GAM337549 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and
4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337549 folded precursor RNA yielding a GAM337549 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337549 RNA, hereby incorporated herein. Expression of GAM337549 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337549 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337549 target RNA, herein designated GAM TARGET RNA.

GAM337549 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337549 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337549 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337549 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337549 RNA, herein designated GAM RNA, to target binding sites on GAM337549 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337549 target RNA into GAM337549 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337549 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337549 target genes. The mRNA of each one of this plurality of GAM337549 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337549 RNA, herein designated GAM RNA, and which when bound by GAM337549 RNA causes inhibition of translation of the GAM337549 target mRNA into a corresponding GAM337549 target protein.

The mechanism of the translational inhibition exerted by GAM337549 RNA, herein designated GAM RNA, on one or more GAM337549 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337549 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337549 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337549 RNA, herein designated GAM RNA, of GAM337549 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337549 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337549 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337549

RNA correlate with, and may be deduced from, the identity of the GAM337549 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337550 142006 CCCGGGGAGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GGTACTGTCT detected oligonucleotides of the present invention, referred to here as Genomic Address
ATAGGTCAGG Messenger 337550 (GAM337550) oligonucleotides modulates expression of respective target
GTAAGGCAGC genes whose function and utility is known in the art.

ATACCTGGAG GAM337550 is a novel bioinformatically detectable regulatory, non protein
CTTGCAGAGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337550 was detected
AGTACCCTTG is described with additional reference to Figs. 9-15.

AGACTCAGGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGTGACTCC encoded by the human genome.

AGGG GAM337550 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337550 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337550 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337550 precursor RNA is designated SEQ ID:142006, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142006 is located from position 132122953 to position 132123046 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GAM337550 precursor RNA folds onto itself, forming GAM337550 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337550 precursor RNA, designated SEQ ID NO: 142006, and a schematic representation of a predicted secondary folding of GAM337550 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337550 folded precursor RNA yielding a GAM337550 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337550 RNA, hereby incorporated herein.

GAM337550 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337550 target RNA, herein designated GAM TARGET RNA.

GAM337550 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337550 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337550 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337550 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337550 RNA, herein designated GAM RNA, to target binding sites on GAM337550 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337550 target RNA into GAM337550 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337550 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337550 target genes. The mRNA of each one of this plurality of GAM337550 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337550 RNA, herein designated GAM RNA, and which when bound by GAM337550 RNA causes inhibition of translation of the GAM337550 target mRNA into a corresponding GAM337550 target protein.

The mechanism of the translational inhibition exerted by GAM337550 RNA, herein designated GAM RNA, on one or more GAM337550 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337550 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337550 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337550 RNA, herein designated GAM RNA, of GAM337550 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337550 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337550 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337550 RNA correlate with, and may be deduced from, the identity of the GAM337550 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337551 142007 TATAAAGCAG Fig. 8 further provides a conceptual description of another novel bioinformatically
GCAGAGAAAT detected oligonucleotides of the present invention, referred to here as Genomic Address
GTGAACTATT Messenger 337551 (GAM337551) oligonucleotides modulates expression of respective target
GAGACGGGCC genes whose function and utility is known in the art.

TGGCCTCCTA GAM337551 is a novel bioinformatically detectable regulatory, non protein
GTCTACATCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337551 was detected
TTCTCCCCTG is described with additional reference to Figs. 9-15.

CTGGATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337551 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337551 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337551 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337551 precursor RNA is designated SEQ ID:142007, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142007 is located from position 132474200 to position 132474276 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM337551 precursor RNA folds onto itself, forming GAM337551 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337551 precursor RNA, designated SEQ ID NO: 142007, and a schematic representation of a predicted secondary folding of GAM337551 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337551 folded precursor RNA yielding a GAM337551 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337551 RNA, hereby incorporated herein.

GAM337551 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337551 target RNA, herein designated GAM TARGET RNA.

GAM337551 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337551 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337551 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337551 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337551 RNA, herein designated GAM RNA, to target binding sites on GAM337551 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337551 target RNA into GAM337551 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337551 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337551 target genes. The mRNA of each one of this plurality of GAM337551 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337551 RNA, herein designated GAM RNA, and which when bound by GAM337551 RNA causes inhibition of translation of the GAM337551 target mRNA into a corresponding GAM337551 target protein.

The mechanism of the translational inhibition exerted by GAM337551 RNA, herein designated GAM RNA, on one or more GAM337551 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337551 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM337551 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337551 RNA, herein designated GAM RNA, of GAM337551 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337551 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337551 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337551 RNA correlate with, and may be deduced from, the identity of the GAM337551 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337552 142008 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
AAATGGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCCGGGAG Messenger 337552 (GAM337552) oligonucleotides modulates expression of respective target
GTGGAGGTTG genes whose function and utility is known in the art.

CAGTGAGCTG GAM337552 is a novel bioinformatically detectable regulatory, non protein
AGATTGCGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337552 was detected
ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAAGAGCAA encoded by the human genome.

AACTCCGTCT GAM337552 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CA GAM337552 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337552 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337552 precursor RNA is designated SEQ ID:142008, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142008 is located from position 132503685 to position 132503786 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337552 precursor RNA folds onto itself, forming GAM337552 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337552 precursor RNA, designated SEQ ID NO: 142008, and a schematic representation of a predicted secondary folding of GAM337552 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337552 folded precursor RNA yielding a GAM337552 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337552 RNA, hereby incorporated herein. Expression of GAM337552 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337552 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337552 target RNA, herein designated GAM TARGET RNA.

GAM337552 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337552 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337552 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337552 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337552 RNA, herein designated GAM RNA, to target binding sites on GAM337552 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337552 target RNA into GAM337552 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337552 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337552 target genes. The mRNA of each one of this plurality of GAM337552 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM337552 RNA, herein designated GAM RNA, and which when bound by GAM337552 RNA causes inhibition of translation of the GAM337552 target mRNA into a corresponding GAM337552 target protein.

The mechanism of the translational inhibition exerted by GAM337552 RNA, herein designated GAM RNA, on one or more GAM337552 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337552 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337552 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337552 RNA, herein designated GAM RNA, of GAM337552 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337552 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337552 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337552 RNA correlate with, and may be deduced from, the identity of the GAM337552 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337553 142009 ACCAGTGGTT Fig. 8 further provides a conceptual description of another novel bioinformatically
AGCAGATGAG detected oligonucleotides of the present invention, referred to here as Genomic Address
GTGAAAGAGA Messenger 337553 (GAM337553) oligonucleotides modulates expression of respective target
TGGGACAGTG genes whose function and utility is known in the art.

ACTGTATCTG GAM337553 is a novel bioinformatically detectable regulatory, non protein
TTCTGATGAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337553 was detected
GGAGATTGTG is described with additional reference to Figs. 9-15.

CAGTTACATG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CGTAACGTCA encoded by the human genome.

TTAAACTTCA GAM337553 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TTCTTCCAGG GAM337553 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

T GAM337553 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337553 precursor RNA is designated SEQ ID:142009, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142009 is located from position 132744616 to position 132744726 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM337553 precursor RNA folds onto itself, forming GAM337553 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337553 precursor RNA, designated SEQ ID NO: 142009, and a schematic representation of a predicted secondary folding of GAM337553 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337553 folded precursor RNA yielding a GAM337553 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337553 RNA, hereby incorporated herein.

GAM337553 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337553 target RNA, herein designated GAM TARGET RNA.

GAM337553 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337553 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337553 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337553 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337553 RNA, herein designated GAM RNA, to target

binding sites on GAM337553 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337553 target RNA into GAM337553 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337553 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337553 target genes. The mRNA of each one of this plurality of GAM337553 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337553 RNA, herein designated GAM RNA, and which when bound by GAM337553 RNA causes inhibition of translation of the GAM337553 target mRNA into a corresponding GAM337553 target protein.

The mechanism of the translational inhibition exerted by GAM337553 RNA, herein designated GAM RNA, on one or more GAM337553 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337553 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337553 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337553 RNA, herein designated GAM RNA, of GAM337553 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337553 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337553 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337553 RNA correlate with, and may be deduced from, the identity of the GAM337553 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337554 142010 GATGAGGTGA Fig. 8 further provides a conceptual description of another novel bioinformatically

AAGAGATGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

ACAGTGACTG Messenger 337554 (GAM337554) oligonucleotides modulates expression of respective target

TATCTGTTCT genes whose function and utility is known in the art.

GATGAAGGAG GAM337554 is a novel bioinformatically detectable regulatory, non protein

ATTGTGCAGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337554 was detected

TACATGCGTA is described with additional reference to Figs. 9-15.

ACGTCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACTTCATT encoded by the human genome.

GAM337554 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337554 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337554 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337554 precursor RNA is designated SEQ ID:142010, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142010 is located from position 132744625 to position 132744712 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM337554 precursor RNA folds onto itself, forming GAM337554 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337554 precursor RNA, designated SEQ ID NO: 142010, and a schematic representation of a predicted secondary folding of GAM337554 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337554 folded precursor RNA yielding a GAM337554 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337554 RNA, hereby incorporated herein.

GAM337554 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337554 target RNA, herein designated GAM TARGET RNA.

GAM337554 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337554 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337554 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337554 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING

SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337554 RNA, herein designated GAM RNA, to target binding sites on GAM337554 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337554 target RNA into GAM337554 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337554 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337554 target genes. The mRNA of each one of this plurality of GAM337554 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337554 RNA, herein designated GAM RNA, and which when bound by GAM337554 RNA causes inhibition of translation of the GAM337554 target mRNA into a corresponding GAM337554 target protein.

The mechanism of the translational inhibition exerted by GAM337554 RNA, herein designated GAM RNA, on one or more GAM337554 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337554 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337554 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337554 RNA, herein designated GAM RNA, of GAM337554 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337554 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337554 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337554 RNA correlate with, and may be deduced from, the identity of the GAM337554 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337555 142011 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AGTTGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
ACCCAGGAAG Messenger 337555 (GAM337555) oligonucleotides modulates expression of respective target
CGGAGGTTGC genes whose function and utility is known in the art.

AGTGAGCTGA GAM337555 is a novel bioinformatically detectable regulatory, non protein
GATTGCCTCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337555 was detected
CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGAGTGAAA encoded by the human genome.

CAATGTCTC GAM337555 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337555 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337555 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337555 precursor RNA is designated SEQ ID:142011, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142011 is located from position 132911257 to position 132911355 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337555 precursor RNA folds onto itself, forming GAM337555 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337555 precursor RNA, designated SEQ ID NO: 142011, and a schematic representation of a predicted secondary folding of GAM337555 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337555 folded precursor RNA yielding a GAM337555 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337555 RNA, hereby incorporated herein. Expression of GAM337555 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337555 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337555 target RNA, herein designated GAM TARGET RNA.

GAM337555 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337555 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337555 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337555 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337555 RNA, herein designated GAM RNA, to target binding sites on GAM337555 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337555 target RNA into GAM337555 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337555 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337555 target genes. The mRNA of each one of this plurality of GAM337555 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337555 RNA, herein designated GAM RNA, and which when bound by GAM337555 RNA causes inhibition of translation of the GAM337555 target mRNA into a corresponding GAM337555 target protein.

The mechanism of the translational inhibition exerted by GAM337555 RNA, herein designated GAM RNA, on one or more GAM337555 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337555 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337555 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337555 RNA, herein designated GAM RNA, of GAM337555 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337555 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337555 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337555 RNA correlate with, and may be deduced from, the identity of the GAM337555 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337556 142012 CTTGAACCCA GGAAGCGGAG GTTGCAGTGA GCTGAGATTG CCTCACTGCA CTCCAGCCTG GGCAACAGAG

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337556 (GAM337556) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337556 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337556 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337556 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337556 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337556 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337556 precursor RNA is designated SEQ ID:142012, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142012 is located from position 132911271 to position 132911340 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GAM337556 precursor RNA folds onto itself, forming GAM337556 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337556 precursor RNA, designated SEQ ID NO: 142012, and a schematic representation of a predicted secondary folding of GAM337556 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337556 folded precursor RNA yielding a GAM337556 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337556 RNA, hereby incorporated herein. Expression of GAM337556 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337556 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337556 target RNA, herein designated GAM TARGET RNA.

GAM337556 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337556 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337556 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337556 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337556 RNA, herein designated GAM RNA, to target binding sites on GAM337556 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337556 target RNA into GAM337556 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337556 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337556 target genes. The mRNA of each one of this plurality of GAM337556 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337556 RNA, herein designated GAM RNA, and which when bound by GAM337556 RNA causes inhibition of translation of the GAM337556 target mRNA into a corresponding GAM337556 target protein.

The mechanism of the translational inhibition exerted by GAM337556 RNA, herein designated GAM RNA, on one or more GAM337556 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337556 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337556 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337556 RNA, herein designated GAM RNA, of GAM337556 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337556 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337556 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337556 RNA correlate with, and may be deduced from, the identity of the GAM337556 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337557 142013 AATGAGCAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GGTGGGCATT detected oligonucleotides of the present invention, referred to here as Genomic Address

GAAGCAGTCG Messenger 337557 (GAM337557) oligonucleotides modulates expression of respective target

TTTTTGCTGT genes whose function and utility is known in the art.

ATTCCCTCTG GAM337557 is a novel bioinformatically detectable regulatory, non protein

TTCAGAAGTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337557 was detected

AAGTAGAACC is described with additional reference to Figs. 9-15.

ACAGCTCGAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GTCCCCTCAG encoded by the human genome.

GCTCATT GAM337557 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337557 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337557 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337557 precursor RNA is designated SEQ ID:142013, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142013 is located from position 132975492 to position 132975588 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM337557 precursor RNA folds onto itself, forming GAM337557 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337557 precursor RNA, designated SEQ ID NO: 142013, and a schematic representation of a predicted secondary folding of GAM337557 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337557 folded precursor RNA yielding a GAM337557 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337557 RNA, hereby incorporated herein.

GAM337557 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337557 target RNA, herein designated GAM TARGET RNA.

GAM337557 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337557 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337557 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337557 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337557 RNA, herein designated GAM RNA, to target binding sites on GAM337557 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337557 target RNA into GAM337557 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337557 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337557 target genes. The mRNA of each one of this plurality of GAM337557 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337557 RNA, herein designated GAM RNA, and which when bound by GAM337557 RNA causes inhibition of translation of the GAM337557 target mRNA into a corresponding GAM337557 target protein.

The mechanism of the translational inhibition exerted by GAM337557 RNA, herein

designated GAM RNA, on one or more GAM337557 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337557 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337557 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337557 RNA, herein designated GAM RNA, of GAM337557 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337557 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337557 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337557 RNA correlate with, and may be deduced from, the identity of the GAM337557 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337558 142014 AGGCAGGAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

ATTGCTTGAA detected oligonucleotides of the present invention, referred to here as Genomic Address

CCTGTGAGGC Messenger 337558 (GAM337558) oligonucleotides modulates expression of respective target

AGAGGTTGCA genes whose function and utility is known in the art.

GTGAGCTGAG GAM337558 is a novel bioinformatically detectable regulatory, non protein

ATCATGCCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337558 was detected

AGCACTTCAG is described with additional reference to Figs. 9-15.

CCTGAGCGAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGAGCGAGAC encoded by the human genome.

TCCACCT GAM337558 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337558 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337558 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337558 precursor RNA is designated SEQ ID:142014, and is provided hereinbelow with reference to the sequence listing part.

Nucleotide sequence SEQ ID:142014 is located from position 133234415 to position 133234511 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337558 precursor RNA folds onto itself, forming GAM337558 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337558 precursor RNA, designated SEQ ID NO: 142014, and a schematic representation of a predicted secondary folding of GAM337558 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337558 folded precursor RNA yielding a GAM337558 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337558 RNA, hereby incorporated herein.

GAM337558 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337558 target RNA, herein designated GAM TARGET RNA.

GAM337558 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337558 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337558 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337558 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337558 RNA, herein designated GAM RNA, to target binding sites on GAM337558 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337558 target RNA into GAM337558 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337558 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337558 target genes. The mRNA of each one of this plurality of GAM337558 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337558 RNA, herein designated GAM RNA, and which when bound by GAM337558 RNA causes inhibition of translation of the GAM337558 target mRNA into a corresponding GAM337558 target protein.

The mechanism of the translational inhibition exerted by GAM337558 RNA, herein designated GAM RNA, on one or more GAM337558 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337558 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337558 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337558 RNA, herein designated GAM RNA, of GAM337558 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337558 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337558 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337558 RNA correlate with, and may be deduced from, the identity of the GAM337558 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337559 142015 GTCCCAACCA Fig. 8 further provides a conceptual description of another novel bioinformatically

CTGCATTTAG detected oligonucleotides of the present invention, referred to here as Genomic Address

TGGATCTCGC Messenger 337559 (GAM337559) oligonucleotides modulates expression of respective target

CATGTGGCTC genes whose function and utility is known in the art.

TGCTCATCTT GAM337559 is a novel bioinformatically detectable regulatory, non protein

CTTAAGTTTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337559 was detected

GGGGGTTACA is described with additional reference to Figs. 9-15.

TTTGGGATTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTAGAAATGC encoded by the human genome.

TTTTTCTGGC GAM337559 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TGGGCAC GAM337559 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337559 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337559 precursor RNA is designated SEQ ID:142015, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142015 is located from position 133258750 to position 133258856 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GAM337559 precursor RNA folds onto itself, forming GAM337559 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337559 precursor RNA, designated SEQ ID NO: 142015, and a schematic representation of a predicted secondary folding of GAM337559 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337559 folded precursor RNA yielding a GAM337559 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337559 RNA, hereby incorporated herein.

GAM337559 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337559 target RNA, herein designated GAM TARGET RNA.

GAM337559 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337559 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337559 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337559 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337559 RNA, herein designated GAM RNA, to target binding sites on GAM337559 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337559 target RNA into GAM337559 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337559 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337559 target genes. The mRNA of each one of this plurality of GAM337559 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337559 RNA, herein designated GAM RNA, and which when bound by GAM337559 RNA causes inhibition of translation of the GAM337559 target mRNA into a corresponding GAM337559 target protein.

The mechanism of the translational inhibition exerted by GAM337559 RNA, herein designated GAM RNA, on one or more GAM337559 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337559 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337559 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337559 RNA, herein designated GAM RNA, of GAM337559 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337559 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337559 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337559 RNA correlate with, and may be deduced from, the identity of the GAM337559 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337560 142016 AGTTCTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATATGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337560 (GAM337560) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337560 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337560 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337560 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337560 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337560 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337560 precursor RNA is designated SEQ ID:142016, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142016 is located from position 133320885 to position 133320966 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GAM337560 precursor RNA folds onto itself, forming GAM337560 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337560 precursor RNA, designated SEQ ID NO: 142016, and a schematic representation of a predicted secondary folding of GAM337560 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337560 folded precursor RNA yielding a GAM337560 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337560 RNA, hereby incorporated herein.

GAM337560 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337560 target RNA, herein designated GAM TARGET RNA.

GAM337560 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337560 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM337560 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337560 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337560 RNA, herein designated GAM RNA, to target binding sites on GAM337560 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337560 target RNA into GAM337560 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337560 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337560 target genes. The mRNA of each one of this plurality of GAM337560 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337560 RNA, herein designated GAM RNA, and which when bound by GAM337560 RNA causes inhibition of translation of the GAM337560 target mRNA into a corresponding GAM337560 target protein.

The mechanism of the translational inhibition exerted by GAM337560 RNA, herein designated GAM RNA, on one or more GAM337560 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337560 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337560 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337560 RNA, herein designated GAM RNA, of GAM337560 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337560 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337560 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337560 RNA correlate with, and may be deduced from, the identity of the GAM337560 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337561 142017 AGCTGACGTT Fig. 8 further provides a conceptual description of another novel bioinformatically

TTTCTGGGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GACTGAACTG Messenger 337561 (GAM337561) oligonucleotides modulates expression of respective target

GGAGACTTTG genes whose function and utility is known in the art.

CGACTGCATT GAM337561 is a novel bioinformatically detectable regulatory, non protein

CGTACAGTAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337561 was detected

TCCTGGCAGC is described with additional reference to Figs. 9-15.

CCTGCAGAAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGGTGCT encoded by the human genome.

GAM337561 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337561 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337561 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337561 precursor RNA is designated SEQ ID:142017, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142017 is located from position 133380539 to position 133380625 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GAM337561 precursor RNA folds onto itself, forming GAM337561 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337561 precursor RNA, designated SEQ ID NO: 142017, and a schematic representation of a predicted secondary folding of GAM337561 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337561 folded precursor RNA yielding a GAM337561 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337561 RNA, hereby incorporated herein.

GAM337561 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337561 target RNA, herein designated GAM TARGET RNA.

GAM337561 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337561 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337561 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337561 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337561 RNA, herein designated GAM RNA, to target binding sites on GAM337561 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337561 target RNA into GAM337561 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337561 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337561 target genes. The mRNA of each one of this plurality of GAM337561 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337561 RNA, herein designated GAM RNA, and which when bound by GAM337561 RNA causes inhibition of translation of the GAM337561 target mRNA into a corresponding GAM337561 target protein.

The mechanism of the translational inhibition exerted by GAM337561 RNA, herein designated GAM RNA, on one or more GAM337561 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337561 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337561 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337561 RNA, herein designated GAM RNA, of GAM337561 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING

SITE-II and BINDING SITE-III of Fig. 8, found on GAM337561 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337561 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337561 RNA correlate with, and may be deduced from, the identity of the GAM337561 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337562 142018 GGGCTAAGTA Fig. 8 further provides a conceptual description of another novel bioinformatically
GCATTAACAG detected oligonucleotides of the present invention, referred to here as Genomic Address
AGATGTCTGA Messenger 337562 (GAM337562) oligonucleotides modulates expression of respective target
AAGGGCACTG genes whose function and utility is known in the art.

GCCTGGGGCT GAM337562 is a novel bioinformatically detectable regulatory, non protein
GCCTGTGACA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337562 was detected
TGCTCTGTTT is described with additional reference to Figs. 9-15.

GCGGCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
encoded by the human genome.

GAM337562 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337562 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337562 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337562 precursor RNA is designated SEQ ID:142018, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142018 is located from position 133531260 to position 133531336 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337562 precursor RNA folds onto itself, forming GAM337562 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin
structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337562 precursor RNA, designated SEQ ID NO: 142018, and a schematic representation of a predicted secondary folding of GAM337562 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4
incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337562 folded precursor RNA yielding a GAM337562 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337562 RNA, hereby incorporated herein.

GAM337562 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337562 target RNA, herein designated GAM TARGET RNA.

GAM337562 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337562 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337562 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337562 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337562 RNA, herein designated GAM RNA, to target binding sites on GAM337562 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337562 target RNA into GAM337562 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337562 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337562 target genes. The mRNA of each one of this plurality of GAM337562 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337562 RNA, herein designated GAM RNA, and which when bound by GAM337562 RNA causes inhibition of translation of the GAM337562 target mRNA into a corresponding GAM337562 target protein.

The mechanism of the translational inhibition exerted by GAM337562 RNA, herein designated GAM RNA, on one or more GAM337562 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337562 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337562 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337562 RNA, herein designated GAM RNA, of GAM337562 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337562 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337562 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337562 RNA correlate with, and may be deduced from, the identity of the GAM337562 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337563 142019 GGGGAAAGTG Fig. 8 further provides a conceptual description of another novel bioinformatically

TGAAGATTTC detected oligonucleotides of the present invention, referred to here as Genomic Address

AAAGCCCAGG Messenger 337563 (GAM337563) oligonucleotides modulates expression of respective target

GTCCTTCACG genes whose function and utility is known in the art.

GAGCCACACG GAM337563 is a novel bioinformatically detectable regulatory, non protein

GCTCTCCTTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337563 was detected

GCACTTAATC is described with additional reference to Figs. 9-15.

TTCAAGCTCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCTC encoded by the human genome.

GAM337563 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337563 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337563 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337563 precursor RNA is designated SEQ ID:142019, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142019 is located from position 133738183 to position 133738266 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM337563 precursor RNA folds onto itself, forming GAM337563 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of

the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337563 precursor RNA, designated SEQ ID NO: 142019, and a schematic representation of a predicted secondary folding of GAM337563 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337563 folded precursor RNA yielding a GAM337563 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337563 RNA, hereby incorporated herein.

GAM337563 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337563 target RNA, herein designated GAM TARGET RNA.

GAM337563 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337563 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337563 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337563 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337563 RNA, herein designated GAM RNA, to target binding sites on GAM337563 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337563 target RNA into GAM337563 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337563 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337563 target genes. The mRNA of each one of this plurality of GAM337563 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337563 RNA, herein designated GAM RNA, and which when bound by GAM337563 RNA causes inhibition of translation of the GAM337563 target mRNA into a corresponding GAM337563 target protein.

The mechanism of the translational inhibition exerted by GAM337563 RNA, herein

designated GAM RNA, on one or more GAM337563 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337563 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337563 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337563 RNA, herein designated GAM RNA, of GAM337563 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337563 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337563 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337563 RNA correlate with, and may be deduced from, the identity of the GAM337563 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337564 142020 TCCTTGAAAA Fig. 8 further provides a conceptual description of another novel bioinformatically

ACCTTTCAAG detected oligonucleotides of the present invention, referred to here as Genomic Address

TGCCAGAGGC Messenger 337564 (GAM337564) oligonucleotides modulates expression of respective target

AGAAAAGTGG genes whose function and utility is known in the art.

GTGAGAGGTC GAM337564 is a novel bioinformatically detectable regulatory, non protein

TACAGGTCCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337564 was detected

ATCTCTGGTC is described with additional reference to Figs. 9-15.

AACATGATTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAGCATTTTT encoded by the human genome.

TAGGGA GAM337564 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337564 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337564 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337564 precursor RNA is designated SEQ ID:142020, and is provided hereinbelow with reference to the sequence listing part.

Nucleotide sequence SEQ ID:142020 is located from position 134274363 to position 134274458 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337564 precursor RNA folds onto itself, forming GAM337564 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337564 precursor RNA, designated SEQ ID NO: 142020, and a schematic representation of a predicted secondary folding of GAM337564 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337564 folded precursor RNA yielding a GAM337564 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337564 RNA, hereby incorporated herein.

GAM337564 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337564 target RNA, herein designated GAM TARGET RNA.

GAM337564 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337564 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337564 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337564 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337564 RNA, herein designated GAM RNA, to target binding sites on GAM337564 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337564 target RNA into GAM337564 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337564 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337564 target genes. The mRNA of each one of this plurality of GAM337564 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337564 RNA, herein designated GAM RNA, and which when bound by GAM337564 RNA causes inhibition of translation of the GAM337564 target mRNA into a corresponding GAM337564 target protein.

The mechanism of the translational inhibition exerted by GAM337564 RNA, herein designated GAM RNA, on one or more GAM337564 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337564 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337564 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337564 RNA, herein designated GAM RNA, of GAM337564 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337564 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337564 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337564 RNA correlate with, and may be deduced from, the identity of the GAM337564 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337565 142021 TCCGTGTACA Fig. 8 further provides a conceptual description of another novel bioinformatically

TTTAATCTCT detected oligonucleotides of the present invention, referred to here as Genomic Address

TTTTCTGTGC Messenger 337565 (GAM337565) oligonucleotides modulates expression of respective target

CTTATTTCGG genes whose function and utility is known in the art.

GGGCTGGGAC GAM337565 is a novel bioinformatically detectable regulatory, non protein

CCTTCAGTCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337565 was detected

AGTGTTGAAG is described with additional reference to Figs. 9-15.

AGAGGCAGCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AGTGGAGGTC encoded by the human genome.

TTGTCTCATT GAM337565 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CAAGGA GAM337565 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337565 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337565 precursor RNA is designated SEQ ID:142021, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142021 is located from position 135198066 to position 135198171 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GAM337565 precursor RNA folds onto itself, forming GAM337565 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337565 precursor RNA, designated SEQ ID NO: 142021, and a schematic representation of a predicted secondary folding of GAM337565 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337565 folded precursor RNA yielding a GAM337565 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337565 RNA, hereby incorporated herein.

GAM337565 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337565 target RNA, herein designated GAM TARGET RNA.

GAM337565 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337565 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337565 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337565 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337565 RNA, herein designated GAM RNA, to target binding sites on GAM337565 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337565 target RNA into GAM337565 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337565 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337565 target genes. The mRNA of each one of this plurality of GAM337565 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337565 RNA, herein designated GAM RNA, and which when bound by GAM337565 RNA causes inhibition of translation of the GAM337565 target mRNA into a corresponding GAM337565 target protein.

The mechanism of the translational inhibition exerted by GAM337565 RNA, herein designated GAM RNA, on one or more GAM337565 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337565 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337565 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337565 RNA, herein designated GAM RNA, of GAM337565 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337565 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337565 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337565 RNA correlate with, and may be deduced from, the identity of the GAM337565 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337566 142022 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337566 (GAM337566) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337566 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337566 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337566 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337566 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337566 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337566 precursor RNA is designated SEQ ID:142022, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142022 is located from position 135316221 to position 135316302 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GAM337566 precursor RNA folds onto itself, forming GAM337566 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337566 precursor RNA, designated SEQ ID NO: 142022, and a schematic representation of a predicted secondary folding of GAM337566 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337566 folded precursor RNA yielding a GAM337566 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337566 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337566 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337566 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337566 target RNA, herein designated GAM TARGET RNA.

GAM337566 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337566 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337566 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337566 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337566 RNA, herein designated GAM RNA, to target binding sites on GAM337566 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337566 target RNA into GAM337566 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337566 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337566 target genes. The mRNA of each one of this plurality of GAM337566 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337566 RNA, herein designated GAM RNA, and which when bound by GAM337566 RNA causes inhibition of translation of the GAM337566 target mRNA into a corresponding GAM337566 target protein.

The mechanism of the translational inhibition exerted by GAM337566 RNA, herein designated GAM RNA, on one or more GAM337566 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337566 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337566 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337566 RNA, herein designated GAM RNA, of GAM337566 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337566 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337566 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337566

RNA correlate with, and may be deduced from, the identity of the GAM337566 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337567 142023 TGTTCAGAAA Fig. 8 further provides a conceptual description of another novel bioinformatically
GTCTGTTGTT detected oligonucleotides of the present invention, referred to here as Genomic Address
GTAAACATCC Messenger 337567 (GAM337567) oligonucleotides modulates expression of respective target
CCGACTGGAA genes whose function and utility is known in the art.

GCTGTAAGAC GAM337567 is a novel bioinformatically detectable regulatory, non protein
ACAGCTAAGC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337567 was detected
TTTCAGTCAG is described with additional reference to Figs. 9-15.

ATGTTTGCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CTACCGGCTA encoded by the human genome.

TTCACAGACA GAM337567 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GAM337567 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337567 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337567 precursor RNA is designated SEQ ID:142023, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142023 is located from position 135501500 to position 135501599 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM337567 precursor RNA folds onto itself, forming GAM337567 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337567 precursor RNA, designated SEQ ID NO: 142023, and a schematic representation of a predicted secondary folding of GAM337567 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337567 folded precursor RNA yielding a GAM337567 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337567 RNA, hereby incorporated herein.

GAM337567 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337567 target RNA, herein designated GAM TARGET RNA.

GAM337567 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337567 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337567 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337567 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337567 RNA, herein designated GAM RNA, to target binding sites on GAM337567 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337567 target RNA into GAM337567 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337567 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337567 target genes. The mRNA of each one of this plurality of GAM337567 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337567 RNA, herein designated GAM RNA, and which when bound by GAM337567 RNA causes inhibition of translation of the GAM337567 target mRNA into a corresponding GAM337567 target protein.

The mechanism of the translational inhibition exerted by GAM337567 RNA, herein designated GAM RNA, on one or more GAM337567 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337567 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337567 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337567 RNA, herein designated GAM RNA, of GAM337567 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337567 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337567 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337567 RNA correlate with, and may be deduced from, the identity of the GAM337567 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337568 142024 GAAAGTCTGT Fig. 8 further provides a conceptual description of another novel bioinformatically
TGTTGTAAAC detected oligonucleotides of the present invention, referred to here as Genomic Address
ATCCCCGACT Messenger 337568 (GAM337568) oligonucleotides modulates expression of respective target
GGAAGCTGTA genes whose function and utility is known in the art.

AGACACAGCT GAM337568 is a novel bioinformatically detectable regulatory, non protein
AAGCTTTCAG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337568 was detected
TCAGATGTTT is described with additional reference to Figs. 9-15.

GCTGCTACCG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCTATTC encoded by the human genome.

GAM337568 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337568 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337568 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337568 precursor RNA is designated SEQ ID:142024, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142024 is located from position 135501507 to position 135501593 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM337568 precursor RNA folds onto itself, forming GAM337568 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337568 precursor RNA, designated SEQ ID NO: 142024, and a schematic representation of a predicted secondary folding of GAM337568 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337568 folded precursor RNA yielding a GAM337568 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337568 RNA, hereby incorporated herein.

GAM337568 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337568 target RNA, herein designated GAM TARGET RNA.

GAM337568 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337568 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337568 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337568 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337568 RNA, herein designated GAM RNA, to target binding sites on GAM337568 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337568 target RNA into GAM337568 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337568 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337568 target genes. The mRNA of each one of this plurality of GAM337568 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337568 RNA, herein designated GAM RNA, and which when bound by GAM337568 RNA causes inhibition of translation of the GAM337568 target mRNA into a corresponding GAM337568 target protein.

The mechanism of the translational inhibition exerted by GAM337568 RNA, herein designated GAM RNA, on one or more GAM337568 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337568 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM337568 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337568 RNA, herein designated GAM RNA, of GAM337568 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337568 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337568 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337568 RNA correlate with, and may be deduced from, the identity of the GAM337568 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337569 142025 AGTCTGTTGT Fig. 8 further provides a conceptual description of another novel bioinformatically

TGTAAACATC detected oligonucleotides of the present invention, referred to here as Genomic Address

CCCGACTGGA Messenger 337569 (GAM337569) oligonucleotides modulates expression of respective target

AGCTGTAAGA genes whose function and utility is known in the art.

CACAGCTAAG GAM337569 is a novel bioinformatically detectable regulatory, non protein

CTTTCAGTCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337569 was detected

GATGTTTGCT is described with additional reference to Figs. 9-15.

GCTACCGGCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337569 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337569 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337569 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337569 precursor RNA is designated SEQ ID:142025, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142025 is located from position 135501511 to position 135501590 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM337569 precursor RNA folds onto itself, forming GAM337569 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337569 precursor RNA, designated SEQ ID NO: 142025, and a schematic representation of a predicted secondary folding of GAM337569 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337569 folded precursor RNA yielding a GAM337569 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337569 RNA, hereby incorporated herein.

GAM337569 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337569 target RNA, herein designated GAM TARGET RNA.

GAM337569 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337569 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337569 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337569 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337569 RNA, herein designated GAM RNA, to target binding sites on GAM337569 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337569 target RNA into GAM337569 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337569 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337569 target genes. The mRNA of each one of this plurality of GAM337569 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337569 RNA, herein designated GAM RNA, and which when bound by GAM337569 RNA causes inhibition of translation of the GAM337569 target mRNA into a corresponding GAM337569 target protein.

The mechanism of the translational inhibition exerted by GAM337569 RNA, herein designated GAM RNA, on one or more GAM337569 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337569 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337569 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337569 RNA, herein designated GAM RNA, of GAM337569 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337569 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337569 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337569 RNA correlate with, and may be deduced from, the identity of the GAM337569 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337570 142026 GGGTACCAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

TGTGCTTCCT detected oligonucleotides of the present invention, referred to here as Genomic Address

GTCCTCAGTA Messenger 337570 (GAM337570) oligonucleotides modulates expression of respective target

AAGAACTTGG genes whose function and utility is known in the art.

AGTATGTTGT GAM337570 is a novel bioinformatically detectable regulatory, non protein

TCCTCAAATA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337570 was detected

TCTTTTGATG is described with additional reference to Figs. 9-15.

AATGGGTGCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCAGGAGTTT encoded by the human genome.

CTACTGACAG GAM337570 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GCTACATTTT GAM337570 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

ATCC GAM337570 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM337570 precursor RNA is designated SEQ ID:142026, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142026 is located from position 137087025 to position 137087138 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337570 precursor RNA folds onto itself, forming GAM337570 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337570 precursor RNA, designated SEQ ID NO: 142026, and a schematic representation of a predicted secondary folding of GAM337570 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337570 folded precursor RNA yielding a GAM337570 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337570 RNA, hereby incorporated herein.

GAM337570 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337570 target RNA, herein designated GAM TARGET RNA.

GAM337570 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337570 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337570 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337570 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337570 RNA, herein designated GAM RNA, to target binding sites on GAM337570 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337570 target RNA

into GAM337570 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337570 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337570 target genes. The mRNA of each one of this plurality of GAM337570 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337570 RNA, herein designated GAM RNA, and which when bound by GAM337570 RNA causes inhibition of translation of the GAM337570 target mRNA into a corresponding GAM337570 target protein.

The mechanism of the translational inhibition exerted by GAM337570 RNA, herein designated GAM RNA, on one or more GAM337570 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337570 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337570 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337570 RNA, herein designated GAM RNA, of GAM337570 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337570 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337570 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337570 RNA correlate with, and may be deduced from, the identity of the GAM337570 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337571 142027 AGATGTGCTT Fig. 8 further provides a conceptual description of another novel bioinformatically

CCTGTCCTCA detected oligonucleotides of the present invention, referred to here as Genomic Address

GTAAAGAACT Messenger 337571 (GAM337571) oligonucleotides modulates expression of respective target

TGGAGTATGT genes whose function and utility is known in the art.

TGTTCCTCAA GAM337571 is a novel bioinformatically detectable regulatory, non protein

ATATCTTTTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337571 was detected

ATGAATGGGT is described with additional reference to Figs. 9-15.

GCTCCAGGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TTTCTACTGA encoded by the human genome.

CAGGCTACAT GAM337571 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TT GAM337571 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337571 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337571 precursor RNA is designated SEQ ID:142027, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142027 is located from position 137087030 to position 137087131 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337571 precursor RNA folds onto itself, forming GAM337571 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337571 precursor RNA, designated SEQ ID NO: 142027, and a schematic representation of a predicted secondary folding of GAM337571 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337571 folded precursor RNA yielding a GAM337571 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337571 RNA, hereby incorporated herein.

GAM337571 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337571 target RNA, herein designated GAM TARGET RNA.

GAM337571 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337571 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337571 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337571 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337571 RNA, herein designated GAM RNA, to target binding sites on GAM337571 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337571 target RNA into GAM337571 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337571 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337571 target genes. The mRNA of each one of this plurality of GAM337571 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337571 RNA, herein designated GAM RNA, and which when bound by GAM337571 RNA causes inhibition of translation of the GAM337571 target mRNA into a corresponding GAM337571 target protein.

The mechanism of the translational inhibition exerted by GAM337571 RNA, herein designated GAM RNA, on one or more GAM337571 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337571 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337571 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337571 RNA, herein designated GAM RNA, of GAM337571 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337571 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337571 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337571 RNA correlate with, and may be deduced from, the identity of the GAM337571 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337572 142028 CCTGTCCTCA Fig. 8 further provides a conceptual description of another novel bioinformatically

GTAAAGAACT detected oligonucleotides of the present invention, referred to here as Genomic Address

TGGAGTATGT Messenger 337572 (GAM337572) oligonucleotides modulates expression of respective target
TGTTCCTCAA genes whose function and utility is known in the art.

ATATCTTTTG GAM337572 is a novel bioinformatically detectable regulatory, non protein
ATGAATGGGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337572 was detected
GCTCCAGGAG is described with additional reference to Figs. 9-15.

TTTCTACTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGG encoded by the human genome.

GAM337572 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337572 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337572 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337572 precursor RNA is designated SEQ ID:142028, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142028 is located from position 137087038 to position 137087121 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337572 precursor RNA folds onto itself, forming GAM337572 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337572 precursor RNA, designated SEQ ID NO: 142028, and a schematic representation of a predicted secondary folding of GAM337572 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337572 folded precursor RNA yielding a GAM337572 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337572 RNA, hereby incorporated herein.

GAM337572 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337572 target RNA, herein designated GAM TARGET RNA.

GAM337572 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337572 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337572 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337572 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337572 RNA, herein designated GAM RNA, to target binding sites on GAM337572 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337572 target RNA into GAM337572 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337572 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337572 target genes. The mRNA of each one of this plurality of GAM337572 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337572 RNA, herein designated GAM RNA, and which when bound by GAM337572 RNA causes inhibition of translation of the GAM337572 target mRNA into a corresponding GAM337572 target protein.

The mechanism of the translational inhibition exerted by GAM337572 RNA, herein designated GAM RNA, on one or more GAM337572 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337572 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337572 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337572 RNA, herein designated GAM RNA, of GAM337572 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337572 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337572 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337572

RNA correlate with, and may be deduced from, the identity of the GAM337572 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337573 142029 AGTTTTAGGG TACATGTGCA CAACATGCAG GTTTGTTACA TATGTATACA TGTGCCATGT TGGTGTGCTG CACCCATTAA CT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337573 (GAM337573) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337573 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337573 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337573 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337573 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337573 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337573 precursor RNA is designated SEQ ID:142029, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142029 is located from position 137116843 to position 137116924 relative to chromosome chr6 on the `-` strand (chr is an abbreviation for chromosome).

GAM337573 precursor RNA folds onto itself, forming GAM337573 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337573 precursor RNA, designated SEQ ID NO: 142029, and a schematic representation of a predicted secondary folding of GAM337573 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337573 folded precursor RNA yielding a GAM337573 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337573 RNA: a nucleotide sequence

that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337573 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337573 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337573 target RNA, herein designated GAM TARGET RNA.

GAM337573 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337573 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337573 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337573 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337573 RNA, herein designated GAM RNA, to target binding sites on GAM337573 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337573 target RNA into GAM337573 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337573 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337573 target genes. The mRNA of each one of this plurality of GAM337573 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337573 RNA, herein designated GAM RNA, and which when bound by GAM337573 RNA causes inhibition of translation of the GAM337573 target mRNA into a corresponding GAM337573 target protein.

The mechanism of the translational inhibition exerted by GAM337573 RNA, herein designated GAM RNA, on one or more GAM337573 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337573 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337573 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337573 RNA, herein designated GAM RNA, of GAM337573 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337573 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337573 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337573 RNA correlate with, and may be deduced from, the identity of the GAM337573 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337574 142030 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATAGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCCAGGAG Messenger 337574 (GAM337574) oligonucleotides modulates expression of respective target
GTGGAGGTTG genes whose function and utility is known in the art.

CAGTGAGTCG GAM337574 is a novel bioinformatically detectable regulatory, non protein
AGATTGCACC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337574 was detected
ATTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAAGAGCAA encoded by the human genome.

AACTCTGTCT GAM337574 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CA GAM337574 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337574 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337574 precursor RNA is designated SEQ ID:142030, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142030 is located from position 137674434 to position 137674535 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337574 precursor RNA folds onto itself, forming GAM337574 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337574 precursor RNA, designated SEQ ID NO: 142030, and a schematic representation of a predicted secondary folding of GAM337574 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337574 folded precursor RNA yielding a GAM337574 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337574 RNA, hereby incorporated herein. Expression of GAM337574 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337574 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337574 target RNA, herein designated GAM TARGET RNA.

GAM337574 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337574 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337574 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337574 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337574 RNA, herein designated GAM RNA, to target binding sites on GAM337574 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337574 target RNA into GAM337574 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337574 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337574 target genes. The mRNA of each one of this plurality of GAM337574 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337574 RNA, herein designated GAM RNA, and which when bound by GAM337574 RNA causes inhibition of translation of the GAM337574 target mRNA into a corresponding GAM337574 target protein.

The mechanism of the translational inhibition exerted by GAM337574 RNA, herein designated GAM RNA, on one or more GAM337574 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337574 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337574 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337574 RNA, herein designated GAM RNA, of GAM337574 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337574 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337574 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337574 RNA correlate with, and may be deduced from, the identity of the GAM337574 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337575 142031 GAGACAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCCCAGAGG Messenger 337575 (GAM337575) oligonucleotides modulates expression of respective target

TGGAGGTTGT genes whose function and utility is known in the art.

GGTGAGCCGA GAM337575 is a novel bioinformatically detectable regulatory, non protein

GATTGCACCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337575 was detected

TTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAAGAGCGAA encoded by the human genome.

ACTCCGTCTC GAM337575 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337575 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337575 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337575 precursor RNA is designated SEQ ID:142031, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142031 is located from position 138359964 to position 138360063 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337575 precursor RNA folds onto itself, forming GAM337575 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337575 precursor RNA, designated SEQ ID NO: 142031, and a schematic representation of a predicted secondary folding of GAM337575 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337575 folded precursor RNA yielding a GAM337575 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337575 RNA, hereby incorporated herein. Expression of GAM337575 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337575 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337575 target RNA, herein designated GAM TARGET RNA.

GAM337575 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337575 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337575 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337575 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337575 RNA, herein designated GAM RNA, to target binding sites on GAM337575 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337575 target RNA into GAM337575 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337575 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337575 target genes. The mRNA of each one of this plurality of GAM337575 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337575 RNA, herein designated GAM RNA, and which when bound by GAM337575 RNA causes inhibition of translation of the GAM337575 target mRNA into a corresponding GAM337575 target protein.

The mechanism of the translational inhibition exerted by GAM337575 RNA, herein designated GAM RNA, on one or more GAM337575 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337575 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337575 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337575 RNA, herein designated GAM RNA, of GAM337575 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337575 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337575 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337575 RNA correlate with, and may be deduced from, the identity of the GAM337575 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337576 142032 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337576 (GAM337576) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337576 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337576 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM337576 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337576 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337576 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337576 precursor RNA is designated SEQ ID:142032, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142032 is located from position 138611911 to position 138611992 relative to chromosome chr6 on the `+` strand (chr is an abbreviation for chromosome).

GAM337576 precursor RNA folds onto itself, forming GAM337576 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337576 precursor RNA, designated SEQ ID NO: 142032, and a schematic representation of a predicted secondary folding of GAM337576 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337576 folded precursor RNA yielding a GAM337576 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337576 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337576 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337576 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337576 target RNA, herein designated GAM TARGET RNA.

GAM337576 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337576 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337576 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337576 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337576 RNA, herein designated GAM RNA, to target binding sites on GAM337576 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337576 target RNA into GAM337576 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337576 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337576 target genes. The mRNA of each one of this plurality of GAM337576 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337576 RNA, herein designated GAM RNA, and which when bound by GAM337576 RNA causes inhibition of translation of the GAM337576 target mRNA into a corresponding GAM337576 target protein.

The mechanism of the translational inhibition exerted by GAM337576 RNA, herein designated GAM RNA, on one or more GAM337576 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337576 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337576 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337576 RNA, herein designated GAM RNA, of GAM337576 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337576 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337576 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337576 RNA correlate with, and may be deduced from, the identity of the GAM337576 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337577 142033 GTGACTGCAG Fig. 8 further provides a conceptual description of another novel bioinformatically

GCGACCCTTA detected oligonucleotides of the present invention, referred to here as Genomic Address

CCGAGGATTT Messenger 337577 (GAM337577) oligonucleotides modulates expression of respective target

TATTCAAGTA genes whose function and utility is known in the art.

TCCAGGGGAG GAM337577 is a novel bioinformatically detectable regulatory, non protein
GCTTCTGCTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337577 was detected
AACAGCACAT is described with additional reference to Figs. 9-15.

TGTATAAGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCGTTTTCCT encoded by the human genome.

TCTTTAATCC GAM337577 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

TGTAATCAAT GAM337577 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
ACCTCTCTGC GAM337577 precursor RNA does not encode a protein. A nucleotide sequence identical or

CTTTAC highly similar to the nucleotide sequence of GAM337577 precursor RNA is designated SEQ ID:142033, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142033 is located from position 138668882 to position 138669007 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337577 precursor RNA folds onto itself, forming GAM337577 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337577 precursor RNA, designated SEQ ID NO: 142033, and a schematic representation of a predicted secondary folding of GAM337577 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337577 folded precursor RNA yielding a GAM337577 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337577 RNA, hereby incorporated herein.

GAM337577 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337577 target RNA, herein designated GAM TARGET RNA.

GAM337577 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337577 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337577 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337577 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337577 RNA, herein designated GAM RNA, to target binding sites on GAM337577 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337577 target RNA into GAM337577 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337577 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337577 target genes. The mRNA of each one of this plurality of GAM337577 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337577 RNA, herein designated GAM RNA, and which when bound by GAM337577 RNA causes inhibition of translation of the GAM337577 target mRNA into a corresponding GAM337577 target protein.

The mechanism of the translational inhibition exerted by GAM337577 RNA, herein designated GAM RNA, on one or more GAM337577 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337577 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337577 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337577 RNA, herein designated GAM RNA, of GAM337577 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337577 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337577 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337577

RNA correlate with, and may be deduced from, the identity of the GAM337577 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337578 142034 AGTTTTAGGG TACATGTGCA CAACATGCAG GTTTGTTACA TATGTATACA TGTGCCATGT TGGTGTGCTG CACCCATTAA CT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337578 (GAM337578) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337578 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337578 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337578 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337578 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337578 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337578 precursor RNA is designated SEQ ID:142034, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142034 is located from position 138845677 to position 138845758 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM337578 precursor RNA folds onto itself, forming GAM337578 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337578 precursor RNA, designated SEQ ID NO: 142034, and a schematic representation of a predicted secondary folding of GAM337578 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337578 folded precursor RNA yielding a GAM337578 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337578 RNA: a nucleotide sequence

that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337578 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337578 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337578 target RNA, herein designated GAM TARGET RNA.

GAM337578 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337578 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337578 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337578 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337578 RNA, herein designated GAM RNA, to target binding sites on GAM337578 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337578 target RNA into GAM337578 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337578 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337578 target genes. The mRNA of each one of this plurality of GAM337578 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337578 RNA, herein designated GAM RNA, and which when bound by GAM337578 RNA causes inhibition of translation of the GAM337578 target mRNA into a corresponding GAM337578 target protein.

The mechanism of the translational inhibition exerted by GAM337578 RNA, herein designated GAM RNA, on one or more GAM337578 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337578 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337578 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337578 RNA, herein designated GAM RNA, of GAM337578 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337578 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337578 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337578 RNA correlate with, and may be deduced from, the identity of the GAM337578 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337579 142035 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically
AATTGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address
GCCCAGGAGG Messenger 337579 (GAM337579) oligonucleotides modulates expression of respective target
CGGAGATTGC genes whose function and utility is known in the art.

AGTGAGCCGA GAM337579 is a novel bioinformatically detectable regulatory, non protein
GATCGTGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337579 was detected
CTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAGAGTGAGA encoded by the human genome.

CTCTGTCTC GAM337579 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337579 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337579 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337579 precursor RNA is designated SEQ ID:142035, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142035 is located from position 139758518 to position 139758616 relative to chromosome chr5 on the `-` strand (chr is an abbreviation for chromosome).

GAM337579 precursor RNA folds onto itself, forming GAM337579 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337579 precursor RNA, designated SEQ ID NO: 142035, and a schematic representation of a predicted secondary folding of GAM337579 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337579 folded precursor RNA yielding a GAM337579 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337579 RNA, hereby incorporated herein. Expression of GAM337579 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337579 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337579 target RNA, herein designated GAM TARGET RNA.

GAM337579 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337579 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337579 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337579 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337579 RNA, herein designated GAM RNA, to target binding sites on GAM337579 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337579 target RNA into GAM337579 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337579 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337579 target genes. The mRNA of each one of this plurality of GAM337579 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337579 RNA, herein designated GAM RNA, and which when bound by GAM337579 RNA causes inhibition of translation of the GAM337579 target mRNA into a corresponding GAM337579 target protein.

The mechanism of the translational inhibition exerted by GAM337579 RNA, herein designated GAM RNA, on one or more GAM337579 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337579 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337579 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337579 RNA, herein designated GAM RNA, of GAM337579 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337579 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337579 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337579 RNA correlate with, and may be deduced from, the identity of the GAM337579 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337580 142036 TAGACTTGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

AGGGAACCTT detected oligonucleotides of the present invention, referred to here as Genomic Address

ACAGTCCTCT Messenger 337580 (GAM337580) oligonucleotides modulates expression of respective target

ACTCCAGCTC genes whose function and utility is known in the art.

CCTGATTTTA GAM337580 is a novel bioinformatically detectable regulatory, non protein

CAGATCGGGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337580 was detected

ACCCACCATT is described with additional reference to Figs. 9-15.

CAGGGCTGAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AACAAACTCA encoded by the human genome.

GGTCTCTTCA GAM337580 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CCCTCAGTCT GAM337580 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

G GAM337580 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337580 precursor RNA is designated SEQ ID:142036, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142036 is located from position 140494572 to position 140494682 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337580 precursor RNA folds onto itself, forming GAM337580 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337580 precursor RNA, designated SEQ ID NO: 142036, and a schematic representation of a predicted secondary folding of GAM337580 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337580 folded precursor RNA yielding a GAM337580 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337580 RNA, hereby incorporated herein.

GAM337580 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337580 target RNA, herein designated GAM TARGET RNA.

GAM337580 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337580 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337580 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337580 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337580 RNA, herein designated GAM RNA, to target binding sites on GAM337580 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337580 target RNA into GAM337580 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337580 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM337580 target genes. The mRNA of each one of this plurality of GAM337580 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337580 RNA, herein designated GAM RNA, and which when bound by GAM337580 RNA causes inhibition of translation of the GAM337580 target mRNA into a corresponding GAM337580 target protein.

The mechanism of the translational inhibition exerted by GAM337580 RNA, herein designated GAM RNA, on one or more GAM337580 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337580 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337580 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337580 RNA, herein designated GAM RNA, of GAM337580 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337580 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337580 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337580 RNA correlate with, and may be deduced from, the identity of the GAM337580 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337581 142037 AAGAGGCCTA Fig. 8 further provides a conceptual description of another novel bioinformatically

AAAGTTTAAT detected oligonucleotides of the present invention, referred to here as Genomic Address

GCCAGACCTT Messenger 337581 (GAM337581) oligonucleotides modulates expression of respective target

AGGGGCAGGA genes whose function and utility is known in the art.

TGGAGCAGGG GAM337581 is a novel bioinformatically detectable regulatory, non protein

CTAAAAGATG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337581 was detected

TCTCTTTGGG is described with additional reference to Figs. 9-15.

CCTGTCTGCC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGCTTTCCTT encoded by the human genome.

CCTTCCTTTT GAM337581 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CTTTCCTTTT GAM337581 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337581 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337581 precursor RNA is designated SEQ ID:142037, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142037 is located from position 140505904 to position 140506013 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337581 precursor RNA folds onto itself, forming GAM337581 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337581 precursor RNA, designated SEQ ID NO: 142037, and a schematic representation of a predicted secondary folding of GAM337581 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337581 folded precursor RNA yielding a GAM337581 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337581 RNA, hereby incorporated herein.

GAM337581 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337581 target RNA, herein designated GAM TARGET RNA.

GAM337581 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337581 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337581 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337581 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337581 RNA, herein designated GAM RNA, to target binding sites on GAM337581 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337581 target RNA into GAM337581 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337581 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337581 target genes. The mRNA of each one of this plurality of GAM337581 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337581 RNA, herein designated GAM RNA, and which when bound by GAM337581 RNA causes inhibition of translation of the GAM337581 target mRNA into a corresponding GAM337581 target protein.

The mechanism of the translational inhibition exerted by GAM337581 RNA, herein designated GAM RNA, on one or more GAM337581 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337581 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337581 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337581 RNA, herein designated GAM RNA, of GAM337581 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337581 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337581 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337581 RNA correlate with, and may be deduced from, the identity of the GAM337581 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337582 142038 ATGCTTCCTG Fig. 8 further provides a conceptual description of another novel bioinformatically

GCATCCCTTC detected oligonucleotides of the present invention, referred to here as Genomic Address

CCTAAGCACT Messenger 337582 (GAM337582) oligonucleotides modulates expression of respective target

AGCTCTGTGC genes whose function and utility is known in the art.

AAACCCTTTT GAM337582 is a novel bioinformatically detectable regulatory, non protein
CTCAGGCTCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337582 was detected
GCTTTCTGGG is described with additional reference to Figs. 9-15.

GGGATCCCAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCTAACACAT encoded by the human genome.

GAM337582 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337582 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337582 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337582 precursor RNA is designated SEQ ID:142038, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142038 is located from position 140688702 to position 140688791 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM337582 precursor RNA folds onto itself, forming GAM337582 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337582 precursor RNA, designated SEQ ID NO: 142038, and a schematic representation of a predicted secondary folding of GAM337582 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337582 folded precursor RNA yielding a GAM337582 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337582 RNA, hereby incorporated herein.

GAM337582 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337582 target RNA, herein designated GAM TARGET RNA.

GAM337582 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337582 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337582 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the

nucleotide sequence of GAM337582 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337582 RNA, herein designated GAM RNA, to target binding sites on GAM337582 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337582 target RNA into GAM337582 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337582 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337582 target genes. The mRNA of each one of this plurality of GAM337582 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337582 RNA, herein designated GAM RNA, and which when bound by GAM337582 RNA causes inhibition of translation of the GAM337582 target mRNA into a corresponding GAM337582 target protein.

The mechanism of the translational inhibition exerted by GAM337582 RNA, herein designated GAM RNA, on one or more GAM337582 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337582 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337582 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337582 RNA, herein designated GAM RNA, of GAM337582 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337582 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337582 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337582 RNA correlate with, and may be deduced from, the identity of the GAM337582 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337583 142039 CTGTTAGACC Fig. 8 further provides a conceptual description of another novel bioinformatically
GAGACCAAAG detected oligonucleotides of the present invention, referred to here as Genomic Address
CCATCTGTAT Messenger 337583 (GAM337583) oligonucleotides modulates expression of respective target
TTAGGACATG genes whose function and utility is known in the art.

GGCTGAACCC GAM337583 is a novel bioinformatically detectable regulatory, non protein
AGATGTCACA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337583 was detected
CTTGGTGGTT is described with additional reference to Figs. 9-15.

TTGGTCTCCT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GATGG encoded by the human genome.

GAM337583 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337583 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337583 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337583 precursor RNA is designated SEQ ID:142039, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142039 is located from position 140915938 to position 140916022 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337583 precursor RNA folds onto itself, forming GAM337583 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337583 precursor RNA, designated SEQ ID NO: 142039, and a schematic representation of a predicted secondary folding of GAM337583 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337583 folded precursor RNA yielding a GAM337583 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337583 RNA, hereby incorporated herein.

GAM337583 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337583 target RNA, herein designated GAM TARGET RNA.

GAM337583 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337583 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337583 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337583 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337583 RNA, herein designated GAM RNA, to target binding sites on GAM337583 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337583 target RNA into GAM337583 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337583 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337583 target genes. The mRNA of each one of this plurality of GAM337583 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337583 RNA, herein designated GAM RNA, and which when bound by GAM337583 RNA causes inhibition of translation of the GAM337583 target mRNA into a corresponding GAM337583 target protein.

The mechanism of the translational inhibition exerted by GAM337583 RNA, herein designated GAM RNA, on one or more GAM337583 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337583 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337583 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337583 RNA, herein designated GAM RNA, of GAM337583 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337583 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337583 RNA, herein designated GAM RNA, are set forth in Tables

6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337583 RNA correlate with, and may be deduced from, the identity of the GAM337583 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337584 142040 CTTGACACCT Fig. 8 further provides a conceptual description of another novel bioinformatically

CCTGTCCAGT detected oligonucleotides of the present invention, referred to here as Genomic Address

ACTGTCTTGA Messenger 337584 (GAM337584) oligonucleotides modulates expression of respective target

TGCCTGCCCC genes whose function and utility is known in the art.

ATAAAGTGAC GAM337584 is a novel bioinformatically detectable regulatory, non protein

TCTGCGATGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337584 was detected

GCAAGTGTTA is described with additional reference to Figs. 9-15.

TGATCAGATT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGAGGGTGTA encoded by the human genome.

AAG GAM337584 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337584 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337584 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337584 precursor RNA is designated SEQ ID:142040, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142040 is located from position 141088822 to position 141088914 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM337584 precursor RNA folds onto itself, forming GAM337584 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337584 precursor RNA, designated SEQ ID NO: 142040, and a schematic representation of a predicted secondary folding of GAM337584 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337584 folded precursor RNA yielding a GAM337584 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA

precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337584 RNA, hereby incorporated herein.

GAM337584 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337584 target RNA, herein designated GAM TARGET RNA.

GAM337584 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337584 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337584 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337584 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337584 RNA, herein designated GAM RNA, to target binding sites on GAM337584 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337584 target RNA into GAM337584 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337584 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337584 target genes. The mRNA of each one of this plurality of GAM337584 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337584 RNA, herein designated GAM RNA, and which when bound by GAM337584 RNA causes inhibition of translation of the GAM337584 target mRNA into a corresponding GAM337584 target protein.

The mechanism of the translational inhibition exerted by GAM337584 RNA, herein designated GAM RNA, on one or more GAM337584 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337584 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337584 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337584 RNA, herein designated GAM RNA, of

GAM337584 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337584 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337584 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337584 RNA correlate with, and may be deduced from, the identity of the GAM337584 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337585 142041 ACACCTCCTG Fig. 8 further provides a conceptual description of another novel bioinformatically

TCCAGTACTG detected oligonucleotides of the present invention, referred to here as Genomic Address

TCTTGATGCC Messenger 337585 (GAM337585) oligonucleotides modulates expression of respective target

TGCCCCATAA genes whose function and utility is known in the art.

AGTGACTCTG GAM337585 is a novel bioinformatically detectable regulatory, non protein

CGATGGGCAA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337585 was detected

GTGTTATGAT is described with additional reference to Figs. 9-15.

CAGATTGGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GGTGT encoded by the human genome.

GAM337585 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337585 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337585 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337585 precursor RNA is designated SEQ ID:142041, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142041 is located from position 141088826 to position 141088910 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM337585 precursor RNA folds onto itself, forming GAM337585 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337585 precursor RNA, designated SEQ ID NO: 142041,

and a schematic representation of a predicted secondary folding of GAM337585 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337585 folded precursor RNA yielding a GAM337585 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337585 RNA, hereby incorporated herein.

GAM337585 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337585 target RNA, herein designated GAM TARGET RNA.

GAM337585 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337585 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337585 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337585 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337585 RNA, herein designated GAM RNA, to target binding sites on GAM337585 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337585 target RNA into GAM337585 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337585 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337585 target genes. The mRNA of each one of this plurality of GAM337585 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337585 RNA, herein designated GAM RNA, and which when bound by GAM337585 RNA causes inhibition of translation of the GAM337585 target mRNA into a corresponding GAM337585 target protein.

The mechanism of the translational inhibition exerted by GAM337585 RNA, herein designated GAM RNA, on one or more GAM337585 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337585 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337585 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337585 RNA, herein designated GAM RNA, of GAM337585 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337585 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337585 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337585 RNA correlate with, and may be deduced from, the identity of the GAM337585 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337586 142042 GAGTTTGAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

TCTGTCTGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCTG Messenger 337586 (GAM337586) oligonucleotides modulates expression of respective target

AAACCCCAGC genes whose function and utility is known in the art.

TCTGTAAACA GAM337586 is a novel bioinformatically detectable regulatory, non protein

ATACAAAAAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337586 was detected

TAGCTGGGCG is described with additional reference to Figs. 9-15.

TGGCGGTCTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGCCTACAGT encoded by the human genome.

CCCAGCTACT GAM337586 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

C GAM337586 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337586 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337586 precursor RNA is designated SEQ ID:142042, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142042 is located from position 141572888 to position 141572988 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM337586 precursor RNA folds onto itself, forming GAM337586 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337586 precursor RNA, designated SEQ ID NO: 142042, and a schematic representation of a predicted secondary folding of GAM337586 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337586 folded precursor RNA yielding a GAM337586 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337586 RNA, hereby incorporated herein.

GAM337586 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337586 target RNA, herein designated GAM TARGET RNA.

GAM337586 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337586 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337586 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337586 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337586 RNA, herein designated GAM RNA, to target binding sites on GAM337586 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337586 target RNA into GAM337586 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337586 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337586 target genes. The mRNA of each one of this

plurality of GAM337586 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337586 RNA, herein designated GAM RNA, and which when bound by GAM337586 RNA causes inhibition of translation of the GAM337586 target mRNA into a corresponding GAM337586 target protein.

The mechanism of the translational inhibition exerted by GAM337586 RNA, herein designated GAM RNA, on one or more GAM337586 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337586 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337586 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337586 RNA, herein designated GAM RNA, of GAM337586 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337586 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337586 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337586 RNA correlate with, and may be deduced from, the identity of the GAM337586 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337587 142043 CTGTCTGGGC Fig. 8 further provides a conceptual description of another novel bioinformatically

AACATGCTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCCCAGCT Messenger 337587 (GAM337587) oligonucleotides modulates expression of respective target

CTGTAAACAA genes whose function and utility is known in the art.

TACAAAAATT GAM337587 is a novel bioinformatically detectable regulatory, non protein

AGCTGGGCGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337587 was detected

GGCGGTCTGT is described with additional reference to Figs. 9-15.

GCCTACAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337587 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337587 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337587 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337587 precursor RNA is designated SEQ ID:142043, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142043 is located from position 141572899 to position 141572976 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GAM337587 precursor RNA folds onto itself, forming GAM337587 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337587 precursor RNA, designated SEQ ID NO: 142043, and a schematic representation of a predicted secondary folding of GAM337587 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337587 folded precursor RNA yielding a GAM337587 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337587 RNA, hereby incorporated herein.

GAM337587 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337587 target RNA, herein designated GAM TARGET RNA.

GAM337587 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337587 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337587 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337587 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337587 RNA, herein designated GAM RNA, to target

binding sites on GAM337587 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337587 target RNA into GAM337587 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337587 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337587 target genes. The mRNA of each one of this plurality of GAM337587 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337587 RNA, herein designated GAM RNA, and which when bound by GAM337587 RNA causes inhibition of translation of the GAM337587 target mRNA into a corresponding GAM337587 target protein.

The mechanism of the translational inhibition exerted by GAM337587 RNA, herein designated GAM RNA, on one or more GAM337587 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337587 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337587 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337587 RNA, herein designated GAM RNA, of GAM337587 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337587 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337587 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337587 RNA correlate with, and may be deduced from, the identity of the GAM337587 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337588 142044 TTCACGCTTG Fig. 8 further provides a conceptual description of another novel bioinformatically

AACCTGGGAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GTGGAGGTTG Messenger 337588 (GAM337588) oligonucleotides modulates expression of respective target

CAGTGAGCCG genes whose function and utility is known in the art.

AGATCATGCC GAM337588 is a novel bioinformatically detectable regulatory, non protein

ATTGCACTCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337588 was detected

AGCCTGGGCA is described with additional reference to Figs. 9-15.

ACAAGAGTGA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

A encoded by the human genome.

GAM337588 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337588 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337588 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337588 precursor RNA is designated SEQ ID:142044, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142044 is located from position 142629616 to position 142629696 relative to chromosome chr1 on the `-` strand (chr is an abbreviation for chromosome).

GAM337588 precursor RNA folds onto itself, forming GAM337588 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337588 precursor RNA, designated SEQ ID NO: 142044, and a schematic representation of a predicted secondary folding of GAM337588 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337588 folded precursor RNA yielding a GAM337588 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337588 RNA, hereby incorporated herein. Expression of GAM337588 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337588 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337588 target RNA, herein designated GAM TARGET RNA.

GAM337588 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337588 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337588 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337588 RNA is a partial or fully complementary sequence of the

nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337588 RNA, herein designated GAM RNA, to target binding sites on GAM337588 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337588 target RNA into GAM337588 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337588 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337588 target genes. The mRNA of each one of this plurality of GAM337588 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337588 RNA, herein designated GAM RNA, and which when bound by GAM337588 RNA causes inhibition of translation of the GAM337588 target mRNA into a corresponding GAM337588 target protein.

The mechanism of the translational inhibition exerted by GAM337588 RNA, herein designated GAM RNA, on one or more GAM337588 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337588 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337588 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337588 RNA, herein designated GAM RNA, of GAM337588 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337588 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337588 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337588 RNA correlate with, and may be deduced from, the identity of the GAM337588 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337589 142045 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 337589 (GAM337589) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337589 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337589 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337589 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337589 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337589 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337589 precursor RNA is designated SEQ ID:142045, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142045 is located from position 142638211 to position 142638292 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GAM337589 precursor RNA folds onto itself, forming GAM337589 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337589 precursor RNA, designated SEQ ID NO: 142045, and a schematic representation of a predicted secondary folding of GAM337589 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337589 folded precursor RNA yielding a GAM337589 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337589 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337589 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337589 target gene, herein designated GAM TARGET GENE, encodes a

corresponding messenger RNA, GAM337589 target RNA, herein designated GAM TARGET RNA.

GAM337589 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337589 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337589 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337589 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337589 RNA, herein designated GAM RNA, to target binding sites on GAM337589 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337589 target RNA into GAM337589 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337589 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337589 target genes. The mRNA of each one of this plurality of GAM337589 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337589 RNA, herein designated GAM RNA, and which when bound by GAM337589 RNA causes inhibition of translation of the GAM337589 target mRNA into a corresponding GAM337589 target protein.

The mechanism of the translational inhibition exerted by GAM337589 RNA, herein designated GAM RNA, on one or more GAM337589 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337589 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337589 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337589 RNA, herein designated GAM RNA, of GAM337589 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337589 target RNA, herein designated

GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337589 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337589 RNA correlate with, and may be deduced from, the identity of the GAM337589 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337590 142046 TGAGGTAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATCACATG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCCGGGAG Messenger 337590 (GAM337590) oligonucleotides modulates expression of respective target
GTGGAGGTTG genes whose function and utility is known in the art.

CAGTGAGCCG GAM337590 is a novel bioinformatically detectable regulatory, non protein
AGACCACGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337590 was detected
ATTGCACACC is described with additional reference to Figs. 9-15.

AACCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAGACTGAG encoded by the human genome.

ACTCTGTCTC GAM337590 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
A GAM337590 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337590 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337590 precursor RNA is designated SEQ ID:142046, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142046 is located from position 142719208 to position 142719308 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337590 precursor RNA folds onto itself, forming GAM337590 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337590 precursor RNA, designated SEQ ID NO: 142046, and a schematic representation of a predicted secondary folding of GAM337590 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337590 folded precursor RNA yielding a GAM337590 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337590 RNA, hereby incorporated herein.

GAM337590 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337590 target RNA, herein designated GAM TARGET RNA.

GAM337590 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337590 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337590 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337590 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337590 RNA, herein designated GAM RNA, to target binding sites on GAM337590 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337590 target RNA into GAM337590 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337590 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337590 target genes. The mRNA of each one of this plurality of GAM337590 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337590 RNA, herein designated GAM RNA, and which when bound by GAM337590 RNA causes inhibition of translation of the GAM337590 target mRNA into a corresponding GAM337590 target protein.

The mechanism of the translational inhibition exerted by GAM337590 RNA, herein designated GAM RNA, on one or more GAM337590 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337590 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337590 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337590 RNA, herein designated GAM RNA, of GAM337590 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337590 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337590 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337590 RNA correlate with, and may be deduced from, the identity of the GAM337590 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337591 142047 TTCCGATAAA Fig. 8 further provides a conceptual description of another novel bioinformatically
AGAGTTGCCA detected oligonucleotides of the present invention, referred to here as Genomic Address
AGACCCTTGG Messenger 337591 (GAM337591) oligonucleotides modulates expression of respective target
AAGCTCCACA genes whose function and utility is known in the art.

GTAATGGGTG GAM337591 is a novel bioinformatically detectable regulatory, non protein
TCTTTCGGTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337591 was detected
TCCTGATGAG is described with additional reference to Figs. 9-15.

ATGACTGGTG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GCTGGGGGCC encoded by the human genome.

TCGAGGAGAG GAM337591 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TTTCAAGTTG GAM337591 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAG GAM337591 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337591 precursor RNA is designated SEQ ID:142047, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142047 is located from position 143679711 to position 143679823 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337591 precursor RNA folds onto itself, forming GAM337591 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first

half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337591 precursor RNA, designated SEQ ID NO: 142047, and a schematic representation of a predicted secondary folding of GAM337591 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337591 folded precursor RNA yielding a GAM337591 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337591 RNA, hereby incorporated herein.

GAM337591 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337591 target RNA, herein designated GAM TARGET RNA.

GAM337591 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337591 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337591 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337591 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337591 RNA, herein designated GAM RNA, to target binding sites on GAM337591 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337591 target RNA into GAM337591 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337591 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337591 target genes. The mRNA of each one of this plurality of GAM337591 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337591 RNA, herein designated GAM RNA, and which when bound by GAM337591 RNA causes inhibition of translation of the GAM337591 target mRNA into a corresponding GAM337591 target protein.

The mechanism of the translational inhibition exerted by GAM337591 RNA, herein designated GAM RNA, on one or more GAM337591 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337591 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337591 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337591 RNA, herein designated GAM RNA, of GAM337591 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337591 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337591 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337591 RNA correlate with, and may be deduced from, the identity of the GAM337591 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337592 142048 GTGTTGAGAT Fig. 8 further provides a conceptual description of another novel bioinformatically

CCTTTCACAG detected oligonucleotides of the present invention, referred to here as Genomic Address

TTGTGGTTAC Messenger 337592 (GAM337592) oligonucleotides modulates expression of respective target

AATTACGTTC genes whose function and utility is known in the art.

ACAAGCTACA GAM337592 is a novel bioinformatically detectable regulatory, non protein

CCTGCCATGA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337592 was detected

GAGAATACTT is described with additional reference to Figs. 9-15.

GGCAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337592 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337592 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337592 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337592 precursor RNA is designated SEQ ID:142048, and is provided hereinbelow with reference to the sequence listing part.

Nucleotide sequence SEQ ID:142048 is located from position 143693599 to position 143693673 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337592 precursor RNA folds onto itself, forming GAM337592 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337592 precursor RNA, designated SEQ ID NO: 142048, and a schematic representation of a predicted secondary folding of GAM337592 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337592 folded precursor RNA yielding a GAM337592 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337592 RNA, hereby incorporated herein.

GAM337592 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337592 target RNA, herein designated GAM TARGET RNA.

GAM337592 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337592 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337592 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337592 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337592 RNA, herein designated GAM RNA, to target binding sites on GAM337592 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337592 target RNA into GAM337592 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337592 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337592 target genes. The mRNA of each one of this plurality of GAM337592 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337592 RNA, herein designated GAM RNA, and which when bound by GAM337592 RNA causes inhibition of translation of the GAM337592 target mRNA into a corresponding GAM337592 target protein.

The mechanism of the translational inhibition exerted by GAM337592 RNA, herein designated GAM RNA, on one or more GAM337592 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337592 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337592 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337592 RNA, herein designated GAM RNA, of GAM337592 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337592 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337592 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337592 RNA correlate with, and may be deduced from, the identity of the GAM337592 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337593 142049 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337593 (GAM337593) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337593 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337593 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM337593 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337593 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337593 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337593 precursor RNA is designated SEQ ID:142049, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142049 is located from position 144215955 to position 144216036 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM337593 precursor RNA folds onto itself, forming GAM337593 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337593 precursor RNA, designated SEQ ID NO: 142049, and a schematic representation of a predicted secondary folding of GAM337593 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337593 folded precursor RNA yielding a GAM337593 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337593 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337593 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337593 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337593 target RNA, herein designated GAM TARGET RNA.

GAM337593 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337593 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337593 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337593 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be

present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337593 RNA, herein designated GAM RNA, to target binding sites on GAM337593 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337593 target RNA into GAM337593 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337593 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337593 target genes. The mRNA of each one of this plurality of GAM337593 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337593 RNA, herein designated GAM RNA, and which when bound by GAM337593 RNA causes inhibition of translation of the GAM337593 target mRNA into a corresponding GAM337593 target protein.

The mechanism of the translational inhibition exerted by GAM337593 RNA, herein designated GAM RNA, on one or more GAM337593 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337593 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337593 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337593 RNA, herein designated GAM RNA, of GAM337593 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337593 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337593 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337593 RNA correlate with, and may be deduced from, the identity of the GAM337593 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337594 142050 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337594 (GAM337594) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337594 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337594 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337594 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337594 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337594 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337594 precursor RNA is designated SEQ ID:142050, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142050 is located from position 145082321 to position 145082402 relative to chromosome chr6 on the `-` strand (chr is an abbreviation for chromosome).

GAM337594 precursor RNA folds onto itself, forming GAM337594 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337594 precursor RNA, designated SEQ ID NO: 142050, and a schematic representation of a predicted secondary folding of GAM337594 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337594 folded precursor RNA yielding a GAM337594 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337594 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337594 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337594 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337594 target RNA, herein designated GAM TARGET RNA.

GAM337594 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337594 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337594 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337594 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337594 RNA, herein designated GAM RNA, to target binding sites on GAM337594 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337594 target RNA into GAM337594 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337594 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337594 target genes. The mRNA of each one of this plurality of GAM337594 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337594 RNA, herein designated GAM RNA, and which when bound by GAM337594 RNA causes inhibition of translation of the GAM337594 target mRNA into a corresponding GAM337594 target protein.

The mechanism of the translational inhibition exerted by GAM337594 RNA, herein designated GAM RNA, on one or more GAM337594 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337594 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337594 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337594 RNA, herein designated GAM RNA, of GAM337594 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337594 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337594 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337594

RNA correlate with, and may be deduced from, the identity of the GAM337594 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337595 142051 AGTTTTAGGG TACATGTGCA CAACATGCAG GTTTGTTACA TATGTATACA TGTGCCATGT TGGTGTGCTG CACCCATTAA CT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337595 (GAM337595) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337595 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337595 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337595 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337595 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337595 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337595 precursor RNA is designated SEQ ID:142051, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142051 is located from position 146634571 to position 146634652 relative to chromosome chr4 on the `+` strand (chr is an abbreviation for chromosome).

GAM337595 precursor RNA folds onto itself, forming GAM337595 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337595 precursor RNA, designated SEQ ID NO: 142051, and a schematic representation of a predicted secondary folding of GAM337595 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337595 folded precursor RNA yielding a GAM337595 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337595 RNA: a nucleotide sequence

that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337595 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337595 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337595 target RNA, herein designated GAM TARGET RNA.

GAM337595 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337595 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337595 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337595 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337595 RNA, herein designated GAM RNA, to target binding sites on GAM337595 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337595 target RNA into GAM337595 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337595 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337595 target genes. The mRNA of each one of this plurality of GAM337595 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337595 RNA, herein designated GAM RNA, and which when bound by GAM337595 RNA causes inhibition of translation of the GAM337595 target mRNA into a corresponding GAM337595 target protein.

The mechanism of the translational inhibition exerted by GAM337595 RNA, herein designated GAM RNA, on one or more GAM337595 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337595 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337595 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337595 RNA, herein designated GAM RNA, of GAM337595 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337595 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337595 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337595 RNA correlate with, and may be deduced from, the identity of the GAM337595 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337596 142052 TCTCCTGTTA Fig. 8 further provides a conceptual description of another novel bioinformatically
GTTCTGTCCT detected oligonucleotides of the present invention, referred to here as Genomic Address
TCTAGGGAAC Messenger 337596 (GAM337596) oligonucleotides modulates expression of respective target
CTTGACTAAC genes whose function and utility is known in the art.

ACACAAGTAT GAM337596 is a novel bioinformatically detectable regulatory, non protein
ACCAGTTAGG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337596 was detected
TTAGTTAGGT is described with additional reference to Figs. 9-15.

TTGTTGTCGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GGTTCAGATA encoded by the human genome.

GTGATAGTGG GAM337596 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CCCACTGGAG GAM337596 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
A GAM337596 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337596 precursor RNA is designated SEQ ID:142052, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142052 is located from position 147792103 to position 147792213 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337596 precursor RNA folds onto itself, forming GAM337596 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337596 precursor RNA, designated SEQ ID NO: 142052, and a schematic representation of a predicted secondary folding of GAM337596 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337596 folded precursor RNA yielding a GAM337596 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337596 RNA, hereby incorporated herein.

GAM337596 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337596 target RNA, herein designated GAM TARGET RNA.

GAM337596 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337596 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337596 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337596 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337596 RNA, herein designated GAM RNA, to target binding sites on GAM337596 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337596 target RNA into GAM337596 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337596 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337596 target genes. The mRNA of each one of this plurality of GAM337596 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337596 RNA, herein designated GAM RNA, and which when bound by GAM337596 RNA causes inhibition of translation of the GAM337596 target mRNA into a corresponding GAM337596 target protein.

The mechanism of the translational inhibition exerted by GAM337596 RNA, herein designated GAM RNA, on one or more GAM337596 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337596 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337596 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337596 RNA, herein designated GAM RNA, of GAM337596 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337596 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337596 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337596 RNA correlate with, and may be deduced from, the identity of the GAM337596 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337597 142053 TGAGGCAAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATCGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AACCCAGGAG Messenger 337597 (GAM337597) oligonucleotides modulates expression of respective target

GCAGAGGTTG genes whose function and utility is known in the art.

AAGTGAGCCG GAM337597 is a novel bioinformatically detectable regulatory, non protein

AGATCGTGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337597 was detected

ATTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAAGAGCGA encoded by the human genome.

AACTCCGTCT GAM337597 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CA GAM337597 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337597 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337597 precursor RNA is designated SEQ ID:142053, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142053 is located from position 148136535 to position 148136636 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337597 precursor RNA folds onto itself, forming GAM337597 folded precursor

RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337597 precursor RNA, designated SEQ ID NO: 142053, and a schematic representation of a predicted secondary folding of GAM337597 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337597 folded precursor RNA yielding a GAM337597 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337597 RNA, hereby incorporated herein. Expression of GAM337597 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337597 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337597 target RNA, herein designated GAM TARGET RNA.

GAM337597 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337597 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337597 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337597 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337597 RNA, herein designated GAM RNA, to target binding sites on GAM337597 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337597 target RNA into GAM337597 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337597 target gene, herein designated GAM TARGET GENE,

in fact represents a plurality of GAM337597 target genes. The mRNA of each one of this plurality of GAM337597 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337597 RNA, herein designated GAM RNA, and which when bound by GAM337597 RNA causes inhibition of translation of the GAM337597 target mRNA into a corresponding GAM337597 target protein.

The mechanism of the translational inhibition exerted by GAM337597 RNA, herein designated GAM RNA, on one or more GAM337597 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337597 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337597 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337597 RNA, herein designated GAM RNA, of GAM337597 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337597 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337597 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337597 RNA correlate with, and may be deduced from, the identity of the GAM337597 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337598 142054 GAGGCAAGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCCAGGAGG Messenger 337598 (GAM337598) oligonucleotides modulates expression of respective target

CAGAGGTTGA genes whose function and utility is known in the art.

AGTGAGCCGA GAM337598 is a novel bioinformatically detectable regulatory, non protein

GATCGTGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337598 was detected

TTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CAAGAGCGAA encoded by the human genome.

ACTCCGTCTC GAM337598 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337598 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337598 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337598 precursor RNA is designated SEQ ID:142054, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142054 is located from position 148136536 to position 148136635 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337598 precursor RNA folds onto itself, forming GAM337598 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337598 precursor RNA, designated SEQ ID NO: 142054, and a schematic representation of a predicted secondary folding of GAM337598 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337598 folded precursor RNA yielding a GAM337598 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337598 RNA, hereby incorporated herein. Expression of GAM337598 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337598 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337598 target RNA, herein designated GAM TARGET RNA.

GAM337598 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337598 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337598 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337598 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337598 RNA, herein designated GAM RNA, to target binding sites on GAM337598 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337598 target RNA into GAM337598 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337598 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337598 target genes. The mRNA of each one of this plurality of GAM337598 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337598 RNA, herein designated GAM RNA, and which when bound by GAM337598 RNA causes inhibition of translation of the GAM337598 target mRNA into a corresponding GAM337598 target protein.

The mechanism of the translational inhibition exerted by GAM337598 RNA, herein designated GAM RNA, on one or more GAM337598 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337598 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337598 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337598 RNA, herein designated GAM RNA, of GAM337598 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337598 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337598 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337598 RNA correlate with, and may be deduced from, the identity of the GAM337598 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337599 142055 TACTTGTGCA Fig. 8 further provides a conceptual description of another novel bioinformatically

GGTTTGTTAA detected oligonucleotides of the present invention, referred to here as Genomic Address

ATGGGTTTAT Messenger 337599 (GAM337599) oligonucleotides modulates expression of respective target

TGTGTAATGC genes whose function and utility is known in the art.

TGAGATTTGG GAM337599 is a novel bioinformatically detectable regulatory, non protein
GCTTCTAATG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337599 was detected
ATCCCATTGC is described with additional reference to Figs. 9-15.

CCAAGTAGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AACATAGTAC encoded by the human genome.

CTAATAGAAT GAM337599 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CAATAGGTA GAM337599 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337599 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337599 precursor RNA is designated SEQ ID:142055, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142055 is located from position 148237793 to position 148237901 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM337599 precursor RNA folds onto itself, forming GAM337599 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337599 precursor RNA, designated SEQ ID NO: 142055, and a schematic representation of a predicted secondary folding of GAM337599 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337599 folded precursor RNA yielding a GAM337599 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337599 RNA, hereby incorporated herein.

GAM337599 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337599 target RNA, herein designated GAM TARGET RNA.

GAM337599 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337599 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337599 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337599 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337599 RNA, herein designated GAM RNA, to target binding sites on GAM337599 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337599 target RNA into GAM337599 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337599 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337599 target genes. The mRNA of each one of this plurality of GAM337599 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337599 RNA, herein designated GAM RNA, and which when bound by GAM337599 RNA causes inhibition of translation of the GAM337599 target mRNA into a corresponding GAM337599 target protein.

The mechanism of the translational inhibition exerted by GAM337599 RNA, herein designated GAM RNA, on one or more GAM337599 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337599 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337599 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337599 RNA, herein designated GAM RNA, of GAM337599 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337599 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337599 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337599 RNA correlate with, and may be deduced from, the identity of the GAM337599 target gene

inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337600 142056 GATGATGCTG Fig. 8 further provides a conceptual description of another novel bioinformatically
GCTCTGGGGC detected oligonucleotides of the present invention, referred to here as Genomic Address
TTTGTAGTCA Messenger 337600 (GAM337600) oligonucleotides modulates expression of respective target
CTAGGGCACC genes whose function and utility is known in the art.

ATTTTGAAAC GAM337600 is a novel bioinformatically detectable regulatory, non protein
AATGCACAAT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337600 was detected
CATCTACTAA is described with additional reference to Figs. 9-15.

ACGGAACCAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TAGTGACTTG encoded by the human genome.

AAAGCCCCTG GAM337600 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
GGCCTTATCT GAM337600 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
TC GAM337600 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337600 precursor RNA is designated SEQ ID:142056, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142056 is located from position 148875142 to position 148875253 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM337600 precursor RNA folds onto itself, forming GAM337600 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337600 precursor RNA, designated SEQ ID NO: 142056, and a schematic representation of a predicted secondary folding of GAM337600 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337600 folded precursor RNA yielding a GAM337600 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly

similar to the nucleotide sequence of GAM337600 RNA, hereby incorporated herein.

GAM337600 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337600 target RNA, herein designated GAM TARGET RNA.

GAM337600 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337600 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337600 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337600 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337600 RNA, herein designated GAM RNA, to target binding sites on GAM337600 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337600 target RNA into GAM337600 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337600 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337600 target genes. The mRNA of each one of this plurality of GAM337600 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337600 RNA, herein designated GAM RNA, and which when bound by GAM337600 RNA causes inhibition of translation of the GAM337600 target mRNA into a corresponding GAM337600 target protein.

The mechanism of the translational inhibition exerted by GAM337600 RNA, herein designated GAM RNA, on one or more GAM337600 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337600 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337600 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337600 RNA, herein designated GAM RNA, of GAM337600 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337600 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337600 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337600 RNA correlate with, and may be deduced from, the identity of the GAM337600 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337601 142057 GCAAAGCACT Fig. 8 further provides a conceptual description of another novel bioinformatically
TACTTCTTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
CAGATGAGAC Messenger 337601 (GAM337601) oligonucleotides modulates expression of respective target
TGAGACATAG genes whose function and utility is known in the art.

TTACAAAGTC GAM337601 is a novel bioinformatically detectable regulatory, non protein
TCAGTTTCCT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337601 was detected
CTGCAAACAG is described with additional reference to Figs. 9-15.

TTGTAAGTGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
TTAGC encoded by the human genome.

GAM337601 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337601 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337601 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337601 precursor RNA is designated SEQ ID:142057, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142057 is located from position 148876208 to position 148876292 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM337601 precursor RNA folds onto itself, forming GAM337601 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337601 precursor RNA, designated SEQ ID NO: 142057, and a schematic representation of a predicted secondary folding of GAM337601 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337601 folded precursor RNA yielding a GAM337601 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337601 RNA, hereby incorporated herein.

GAM337601 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337601 target RNA, herein designated GAM TARGET RNA.

GAM337601 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337601 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337601 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337601 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337601 RNA, herein designated GAM RNA, to target binding sites on GAM337601 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337601 target RNA into GAM337601 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337601 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337601 target genes. The mRNA of each one of this plurality of GAM337601 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337601 RNA, herein designated GAM RNA, and which when bound by GAM337601 RNA causes inhibition of translation of the GAM337601 target mRNA into a corresponding GAM337601 target protein.

The mechanism of the translational inhibition exerted by GAM337601 RNA, herein designated GAM RNA, on one or more GAM337601 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337601 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic

representation of a predicted secondary folding of GAM337601 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337601 RNA, herein designated GAM RNA, of GAM337601 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337601 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337601 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337601 RNA correlate with, and may be deduced from, the identity of the GAM337601 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337602 142058 AAGCACTTAC TTCTTTGCAG ATGAGACTGA GACATAGTTA CAAAGTCTCA GTTTCCTCTG CAAACAGTTG TAAGTGCTT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337602 (GAM337602) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337602 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337602 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337602 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337602 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337602 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337602 precursor RNA is designated SEQ ID:142058, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142058 is located from position 148876211 to position 148876289 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM337602 precursor RNA folds onto itself, forming GAM337602 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA

encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337602 precursor RNA, designated SEQ ID NO: 142058, and a schematic representation of a predicted secondary folding of GAM337602 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337602 folded precursor RNA yielding a GAM337602 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337602 RNA, hereby incorporated herein.

GAM337602 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337602 target RNA, herein designated GAM TARGET RNA.

GAM337602 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337602 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337602 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337602 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337602 RNA, herein designated GAM RNA, to target binding sites on GAM337602 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337602 target RNA into GAM337602 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337602 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337602 target genes. The mRNA of each one of this plurality of GAM337602 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337602 RNA, herein designated GAM RNA, and which when bound by GAM337602 RNA causes inhibition of translation of the GAM337602 target mRNA into a corresponding GAM337602 target protein.

The mechanism of the translational inhibition exerted by GAM337602 RNA, herein designated GAM RNA, on one or more GAM337602 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337602 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337602 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337602 RNA, herein designated GAM RNA, of GAM337602 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337602 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337602 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337602 RNA correlate with, and may be deduced from, the identity of the GAM337602 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337603 142059 ATCAGTGCCA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAAATTCCTT detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCTAAAGTG Messenger 337603 (GAM337603) oligonucleotides modulates expression of respective target

GCATATGCGA genes whose function and utility is known in the art.

CGGCCATGGA GAM337603 is a novel bioinformatically detectable regulatory, non protein

CTGGTTCATA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337603 was detected

GCCGTCTGTT is described with additional reference to Figs. 9-15.

ATGCCTTTGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ATTTTCTGCA encoded by the human genome.

CTGAT GAM337603 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337603 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337603 precursor RNA does not encode a protein. A nucleotide sequence identical or

highly similar to the nucleotide sequence of GAM337603 precursor RNA is designated SEQ ID:142059, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142059 is located from position 149106392 to position 149106486 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GAM337603 precursor RNA folds onto itself, forming GAM337603 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337603 precursor RNA, designated SEQ ID NO: 142059, and a schematic representation of a predicted secondary folding of GAM337603 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337603 folded precursor RNA yielding a GAM337603 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337603 RNA, hereby incorporated herein.

GAM337603 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337603 target RNA, herein designated GAM TARGET RNA.

GAM337603 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337603 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337603 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337603 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337603 RNA, herein designated GAM RNA, to target binding sites on GAM337603 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337603 target RNA

into GAM337603 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337603 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337603 target genes. The mRNA of each one of this plurality of GAM337603 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337603 RNA, herein designated GAM RNA, and which when bound by GAM337603 RNA causes inhibition of translation of the GAM337603 target mRNA into a corresponding GAM337603 target protein.

The mechanism of the translational inhibition exerted by GAM337603 RNA, herein designated GAM RNA, on one or more GAM337603 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337603 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337603 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337603 RNA, herein designated GAM RNA, of GAM337603 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337603 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337603 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337603 RNA correlate with, and may be deduced from, the identity of the GAM337603 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337604 142060 TCCTATTCCA Fig. 8 further provides a conceptual description of another novel bioinformatically

TCTGCATTTT detected oligonucleotides of the present invention, referred to here as Genomic Address

AGAGGTGAAG Messenger 337604 (GAM337604) oligonucleotides modulates expression of respective target

AATAACGTAC genes whose function and utility is known in the art.

AAGGGATTCA GAM337604 is a novel bioinformatically detectable regulatory, non protein

GTGATTAGCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337604 was detected

AGGGACCCCT is described with additional reference to Figs. 9-15.

CACTAAGTGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGATGGAGTT encoded by the human genome.

AGGA GAM337604 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337604 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337604 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337604 precursor RNA is designated SEQ ID:142060, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142060 is located from position 150249155 to position 150249248 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337604 precursor RNA folds onto itself, forming GAM337604 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337604 precursor RNA, designated SEQ ID NO: 142060, and a schematic representation of a predicted secondary folding of GAM337604 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337604 folded precursor RNA yielding a GAM337604 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337604 RNA, hereby incorporated herein.

GAM337604 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337604 target RNA, herein designated GAM TARGET RNA.

GAM337604 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337604 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337604 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337604 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in

Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337604 RNA, herein designated GAM RNA, to target binding sites on GAM337604 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337604 target RNA into GAM337604 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337604 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337604 target genes. The mRNA of each one of this plurality of GAM337604 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337604 RNA, herein designated GAM RNA, and which when bound by GAM337604 RNA causes inhibition of translation of the GAM337604 target mRNA into a corresponding GAM337604 target protein.

The mechanism of the translational inhibition exerted by GAM337604 RNA, herein designated GAM RNA, on one or more GAM337604 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337604 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337604 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337604 RNA, herein designated GAM RNA, of GAM337604 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337604 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337604 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337604 RNA correlate with, and may be deduced from, the identity of the GAM337604 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337605 142061 TTGGAGTTAG Fig. 8 further provides a conceptual description of another novel bioinformatically

GATCCCCAGG detected oligonucleotides of the present invention, referred to here as Genomic Address

TTCTAGTCCT Messenger 337605 (GAM337605) oligonucleotides modulates expression of respective target
GAGTCTGGAC genes whose function and utility is known in the art.

TCTGGGTAAG GAM337605 is a novel bioinformatically detectable regulatory, non protein
TGACTCAGCG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337605 was detected
ATTCTGAACC is described with additional reference to Figs. 9-15.

TTGTTTCCTT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ATCTTTGA encoded by the human genome.

GAM337605 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337605 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337605 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337605 precursor RNA is designated SEQ ID:142061, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142061 is located from position 150253092 to position 150253179 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337605 precursor RNA folds onto itself, forming GAM337605 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337605 precursor RNA, designated SEQ ID NO: 142061, and a schematic representation of a predicted secondary folding of GAM337605 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337605 folded precursor RNA yielding a GAM337605 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337605 RNA, hereby incorporated herein.

GAM337605 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337605 target RNA, herein designated GAM TARGET RNA.

GAM337605 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337605 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337605 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337605 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337605 RNA, herein designated GAM RNA, to target binding sites on GAM337605 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337605 target RNA into GAM337605 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337605 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337605 target genes. The mRNA of each one of this plurality of GAM337605 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337605 RNA, herein designated GAM RNA, and which when bound by GAM337605 RNA causes inhibition of translation of the GAM337605 target mRNA into a corresponding GAM337605 target protein.

The mechanism of the translational inhibition exerted by GAM337605 RNA, herein designated GAM RNA, on one or more GAM337605 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337605 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337605 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337605 RNA, herein designated GAM RNA, of GAM337605 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337605 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337605 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337605

RNA correlate with, and may be deduced from, the identity of the GAM337605 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337606 142062 ATTACTAGGT TTAAATAAGA ACAGATGCTT GCTTTGGTTC AAGTTAGGCA TGCCTCTGAT GCATTTCTTA ATACCAAGGC AAATCTCTGA GGGCTTAGAC TTAGTAGT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337606 (GAM337606) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337606 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337606 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337606 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337606 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337606 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337606 precursor RNA is designated SEQ ID:142062, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142062 is located from position 150584218 to position 150584325 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337606 precursor RNA folds onto itself, forming GAM337606 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337606 precursor RNA, designated SEQ ID NO: 142062, and a schematic representation of a predicted secondary folding of GAM337606 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337606 folded precursor RNA yielding a GAM337606 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337606 RNA, hereby incorporated herein.

GAM337606 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337606 target RNA, herein designated GAM TARGET RNA.

GAM337606 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337606 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337606 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337606 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337606 RNA, herein designated GAM RNA, to target binding sites on GAM337606 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337606 target RNA into GAM337606 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337606 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337606 target genes. The mRNA of each one of this plurality of GAM337606 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337606 RNA, herein designated GAM RNA, and which when bound by GAM337606 RNA causes inhibition of translation of the GAM337606 target mRNA into a corresponding GAM337606 target protein.

The mechanism of the translational inhibition exerted by GAM337606 RNA, herein designated GAM RNA, on one or more GAM337606 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337606 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337606 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337606 RNA, herein designated GAM RNA, of GAM337606 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337606 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337606 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337606 RNA correlate with, and may be deduced from, the identity of the GAM337606 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337607 142063 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATCGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCTGGGAG Messenger 337607 (GAM337607) oligonucleotides modulates expression of respective target
GTGGAGGTTG genes whose function and utility is known in the art.

TGGTGAGCCG GAM337607 is a novel bioinformatically detectable regulatory, non protein
AGATCGCGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337607 was detected
ATTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGAGCAAAAC encoded by the human genome.

TCTGTCTCA GAM337607 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337607 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337607 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337607 precursor RNA is designated SEQ ID:142063, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142063 is located from position 151095622 to position 151095720 relative to chromosome chr1 on the `+` strand (chr is an abbreviation for chromosome).

GAM337607 precursor RNA folds onto itself, forming GAM337607 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337607 precursor RNA, designated SEQ ID NO: 142063, and a schematic representation of a predicted secondary folding of GAM337607 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337607 folded precursor RNA yielding a GAM337607 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337607 RNA, hereby incorporated herein. Expression of GAM337607 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337607 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337607 target RNA, herein designated GAM TARGET RNA.

GAM337607 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337607 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337607 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337607 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337607 RNA, herein designated GAM RNA, to target binding sites on GAM337607 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337607 target RNA into GAM337607 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337607 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337607 target genes. The mRNA of each one of this plurality of GAM337607 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337607 RNA, herein designated GAM RNA, and which when bound by GAM337607 RNA causes inhibition of translation of the GAM337607 target mRNA into a corresponding GAM337607 target protein.

The mechanism of the translational inhibition exerted by GAM337607 RNA, herein designated GAM RNA, on one or more GAM337607 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337607 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337607 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337607 RNA, herein designated GAM RNA, of GAM337607 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337607 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337607 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337607 RNA correlate with, and may be deduced from, the identity of the GAM337607 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337608 142064 GAGGCAGGAG Fig. 8 further provides a conceptual description of another novel bioinformatically

AATCGCTTGA detected oligonucleotides of the present invention, referred to here as Genomic Address

ACCTGGGAGG Messenger 337608 (GAM337608) oligonucleotides modulates expression of respective target

TGGAGGTTGT genes whose function and utility is known in the art.

GGTGAGCCGA GAM337608 is a novel bioinformatically detectable regulatory, non protein

GATCGCGCCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337608 was detected

TTGCACTCCA is described with additional reference to Figs. 9-15.

GCCTGGGCAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

GAGCAAAACT encoded by the human genome.

CTGTCTC GAM337608 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337608 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337608 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337608 precursor RNA is designated SEQ ID:142064, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142064 is located from position 151095623 to position 151095719 relative to chromosome chr1 on the `+` strand (chr is an abbreviation for chromosome).

GAM337608 precursor RNA folds onto itself, forming GAM337608 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337608 precursor RNA, designated SEQ ID NO: 142064, and a schematic representation of a predicted secondary folding of GAM337608 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337608 folded precursor RNA yielding a GAM337608 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337608 RNA, hereby incorporated herein. Expression of GAM337608 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337608 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337608 target RNA, herein designated GAM TARGET RNA.

GAM337608 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337608 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337608 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337608 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337608 RNA, herein designated GAM RNA, to target binding sites on GAM337608 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337608 target RNA into GAM337608 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337608 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337608 target genes. The mRNA of each one of this plurality of GAM337608 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337608 RNA, herein designated GAM RNA, and which when bound by GAM337608 RNA causes inhibition of translation of the GAM337608 target mRNA into a corresponding GAM337608 target protein.

The mechanism of the translational inhibition exerted by GAM337608 RNA, herein designated GAM RNA, on one or more GAM337608 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337608 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337608 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337608 RNA, herein designated GAM RNA, of GAM337608 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337608 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337608 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337608 RNA correlate with, and may be deduced from, the identity of the GAM337608 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337609 142065 AAGTATCATT Fig. 8 further provides a conceptual description of another novel bioinformatically

TAGGCAGGGC detected oligonucleotides of the present invention, referred to here as Genomic Address

GATTCCAAAG Messenger 337609 (GAM337609) oligonucleotides modulates expression of respective target

AAAACAATTA genes whose function and utility is known in the art.

GGCACATTAC GAM337609 is a novel bioinformatically detectable regulatory, non protein

TCAGTGGCTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337609 was detected

TTGGGGTTTC is described with additional reference to Figs. 9-15.

CTCTGCCTGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CCAAAGAAAA encoded by the human genome.

CACACCAATG GAM337609 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

ATATTT GAM337609 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337609 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337609 precursor RNA is designated SEQ ID:142065, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142065 is located from position 151157892 to position 151157997 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337609 precursor RNA folds onto itself, forming GAM337609 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337609 precursor RNA, designated SEQ ID NO: 142065, and a schematic representation of a predicted secondary folding of GAM337609 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337609 folded precursor RNA yielding a GAM337609 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337609 RNA, hereby incorporated herein.

GAM337609 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337609 target RNA, herein designated GAM TARGET RNA.

GAM337609 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337609 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337609 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337609 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337609 RNA, herein designated GAM RNA, to target binding sites on GAM337609 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337609 target RNA into GAM337609 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337609 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337609 target genes. The mRNA of each one of this plurality of GAM337609 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337609 RNA, herein designated GAM RNA, and which when bound by GAM337609 RNA causes inhibition of translation of the GAM337609 target mRNA into a corresponding GAM337609 target protein.

The mechanism of the translational inhibition exerted by GAM337609 RNA, herein designated GAM RNA, on one or more GAM337609 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337609 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337609 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337609 RNA, herein designated GAM RNA, of GAM337609 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337609 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337609 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337609 RNA correlate with, and may be deduced from, the identity of the GAM337609 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337610 142066 AGTATCATTT AGGCAGGGCG ATTCCAAAGA Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337610 (GAM337610) oligonucleotides modulates expression of respective target

AAACAATTAG genes whose function and utility is known in the art.

GCACATTACT GAM337610 is a novel bioinformatically detectable regulatory, non protein
CAGTGGCTTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337610 was detected
TGGGGTTTCC is described with additional reference to Figs. 9-15.

TCTGCCTGTC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAAAGAAAAC encoded by the human genome.

ACACCAATGA GAM337610 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
TATT GAM337610 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337610 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337610 precursor RNA is designated SEQ ID:142066, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142066 is located from position 151157893 to position 151157996 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337610 precursor RNA folds onto itself, forming GAM337610 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337610 precursor RNA, designated SEQ ID NO: 142066, and a schematic representation of a predicted secondary folding of GAM337610 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337610 folded precursor RNA yielding a GAM337610 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337610 RNA, hereby incorporated herein.

GAM337610 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337610 target RNA, herein designated GAM TARGET RNA.

GAM337610 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337610 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337610 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337610 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337610 RNA, herein designated GAM RNA, to target binding sites on GAM337610 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337610 target RNA into GAM337610 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337610 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337610 target genes. The mRNA of each one of this plurality of GAM337610 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337610 RNA, herein designated GAM RNA, and which when bound by GAM337610 RNA causes inhibition of translation of the GAM337610 target mRNA into a corresponding GAM337610 target protein.

The mechanism of the translational inhibition exerted by GAM337610 RNA, herein designated GAM RNA, on one or more GAM337610 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337610 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337610 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337610 RNA, herein designated GAM RNA, of GAM337610 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337610 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337610 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337610 RNA correlate with, and may be deduced from, the identity of the GAM337610 target gene

inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337611 142067 AGCTCATCAC Fig. 8 further provides a conceptual description of another novel bioinformatically
AGTCTAGCTT detected oligonucleotides of the present invention, referred to here as Genomic Address
CTTGTCTTTT Messenger 337611 (GAM337611) oligonucleotides modulates expression of respective target
CATTTCTTTT genes whose function and utility is known in the art.

TATGGTATTT GAM337611 is a novel bioinformatically detectable regulatory, non protein
CTTTTGACTA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337611 was detected
AGAAATACTT is described with additional reference to Figs. 9-15.

TTAATGTAAT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GTCGATCTTT encoded by the human genome.

TCCTGTATGG GAM337611 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
CT GAM337611 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337611 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337611 precursor RNA is designated SEQ ID:142067, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142067 is located from position 151495188 to position 151495289 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GAM337611 precursor RNA folds onto itself, forming GAM337611 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337611 precursor RNA, designated SEQ ID NO: 142067, and a schematic representation of a predicted secondary folding of GAM337611 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337611 folded precursor RNA yielding a GAM337611 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly

similar to the nucleotide sequence of GAM337611 RNA, hereby incorporated herein.

GAM337611 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337611 target RNA, herein designated GAM TARGET RNA.

GAM337611 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337611 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337611 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337611 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337611 RNA, herein designated GAM RNA, to target binding sites on GAM337611 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337611 target RNA into GAM337611 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337611 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337611 target genes. The mRNA of each one of this plurality of GAM337611 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337611 RNA, herein designated GAM RNA, and which when bound by GAM337611 RNA causes inhibition of translation of the GAM337611 target mRNA into a corresponding GAM337611 target protein.

The mechanism of the translational inhibition exerted by GAM337611 RNA, herein designated GAM RNA, on one or more GAM337611 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337611 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337611 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337611 RNA, herein designated GAM RNA, of GAM337611 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337611 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337611 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337611 RNA correlate with, and may be deduced from, the identity of the GAM337611 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337612 142068 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTACA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACGTGCAG Messenger 337612 (GAM337612) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337612 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337612 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337612 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337612 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337612 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337612 precursor RNA is designated SEQ ID:142068, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142068 is located from position 152514926 to position 152515007 relative to chromosome chr3 on the `-` strand (chr is an abbreviation for chromosome).

GAM337612 precursor RNA folds onto itself, forming GAM337612 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337612 precursor RNA, designated SEQ ID NO: 142068, and a schematic representation of a predicted secondary folding of GAM337612 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337612 folded precursor RNA yielding a GAM337612 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337612 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337612 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337612 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337612 target RNA, herein designated GAM TARGET RNA.

GAM337612 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337612 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337612 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337612 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337612 RNA, herein designated GAM RNA, to target binding sites on GAM337612 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337612 target RNA into GAM337612 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337612 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337612 target genes. The mRNA of each one of this plurality of GAM337612 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337612 RNA, herein designated GAM RNA, and which when bound by GAM337612 RNA causes inhibition of translation of the GAM337612 target mRNA into a corresponding GAM337612 target protein.

The mechanism of the translational inhibition exerted by GAM337612 RNA, herein designated GAM RNA, on one or more GAM337612 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337612 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337612 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337612 RNA, herein designated GAM RNA, of GAM337612 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337612 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337612 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337612 RNA correlate with, and may be deduced from, the identity of the GAM337612 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337613 142069 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337613 (GAM337613) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337613 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337613 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM337613 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337613 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337613 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337613 precursor RNA is designated SEQ ID:142069, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142069 is located from position 152750152 to position 152750233 relative to chromosome chr5 on the `-` strand (chr is an abbreviation for chromosome).

GAM337613 precursor RNA folds onto itself, forming GAM337613 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337613 precursor RNA, designated SEQ ID NO: 142069, and a schematic representation of a predicted secondary folding of GAM337613 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337613 folded precursor RNA yielding a GAM337613 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337613 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337613 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337613 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337613 target RNA, herein designated GAM TARGET RNA.

GAM337613 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337613 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337613 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337613 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337613 RNA, herein designated GAM RNA, to target binding sites on GAM337613 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337613 target RNA into GAM337613 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337613 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337613 target genes. The mRNA of each one of this plurality of GAM337613 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM337613 RNA, herein designated GAM RNA, and which when bound by GAM337613 RNA causes inhibition of translation of the GAM337613 target mRNA into a corresponding GAM337613 target protein.

The mechanism of the translational inhibition exerted by GAM337613 RNA, herein designated GAM RNA, on one or more GAM337613 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337613 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337613 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337613 RNA, herein designated GAM RNA, of GAM337613 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337613 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337613 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337613 RNA correlate with, and may be deduced from, the identity of the GAM337613 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337614 142070 GGTGGTGAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GGGGCCTGGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GCGTGGTGTG Messenger 337614 (GAM337614) oligonucleotides modulates expression of respective target

GAGGGTCGAG genes whose function and utility is known in the art.

TTCTTTGTCG GAM337614 is a novel bioinformatically detectable regulatory, non protein

TCCCACAGTC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337614 was detected

ACCCCCAGGA is described with additional reference to Figs. 9-15.

CCACCTTGCG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AAGCC encoded by the human genome.

GAM337614 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337614 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337614 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337614 precursor RNA is designated SEQ ID:142070, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142070 is located from position 155774514 to position 155774598 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GAM337614 precursor RNA folds onto itself, forming GAM337614 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337614 precursor RNA, designated SEQ ID NO: 142070, and a schematic representation of a predicted secondary folding of GAM337614 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337614 folded precursor RNA yielding a GAM337614 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337614 RNA, hereby incorporated herein.

GAM337614 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337614 target RNA, herein designated GAM TARGET RNA.

GAM337614 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337614 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337614 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337614 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337614 RNA, herein designated GAM RNA, to target

binding sites on GAM337614 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337614 target RNA into GAM337614 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337614 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337614 target genes. The mRNA of each one of this plurality of GAM337614 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337614 RNA, herein designated GAM RNA, and which when bound by GAM337614 RNA causes inhibition of translation of the GAM337614 target mRNA into a corresponding GAM337614 target protein.

The mechanism of the translational inhibition exerted by GAM337614 RNA, herein designated GAM RNA, on one or more GAM337614 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337614 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337614 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337614 RNA, herein designated GAM RNA, of GAM337614 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337614 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337614 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337614 RNA correlate with, and may be deduced from, the identity of the GAM337614 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337615 142071 TTCCAAGTGA Fig. 8 further provides a conceptual description of another novel bioinformatically

AAATAGACTT detected oligonucleotides of the present invention, referred to here as Genomic Address

TCTGGAGGAG Messenger 337615 (GAM337615) oligonucleotides modulates expression of respective target

CAGAAAGGAC genes whose function and utility is known in the art.

AGCTCTTGGT GAM337615 is a novel bioinformatically detectable regulatory, non protein

ATCTTGCTGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337615 was detected

CCTGAGAACT is described with additional reference to Figs. 9-15.

GCTCCAGTTA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

AATATATTTG encoded by the human genome.

TATTTAGAGG GAM337615 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

AA GAM337615 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337615 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337615 precursor RNA is designated SEQ ID:142071, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142071 is located from position 156346946 to position 156347047 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337615 precursor RNA folds onto itself, forming GAM337615 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337615 precursor RNA, designated SEQ ID NO: 142071, and a schematic representation of a predicted secondary folding of GAM337615 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337615 folded precursor RNA yielding a GAM337615 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337615 RNA, hereby incorporated herein.

GAM337615 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337615 target RNA, herein designated GAM TARGET RNA.

GAM337615 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337615 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337615 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337615 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows

three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337615 RNA, herein designated GAM RNA, to target binding sites on GAM337615 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337615 target RNA into GAM337615 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337615 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337615 target genes. The mRNA of each one of this plurality of GAM337615 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337615 RNA, herein designated GAM RNA, and which when bound by GAM337615 RNA causes inhibition of translation of the GAM337615 target mRNA into a corresponding GAM337615 target protein.

The mechanism of the translational inhibition exerted by GAM337615 RNA, herein designated GAM RNA, on one or more GAM337615 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337615 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337615 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337615 RNA, herein designated GAM RNA, of GAM337615 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337615 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337615 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337615 RNA correlate with, and may be deduced from, the identity of the GAM337615 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337616 142072 GTGCATTTCT Fig. 8 further provides a conceptual description of another novel bioinformatically

ATTTCTAGTT detected oligonucleotides of the present invention, referred to here as Genomic Address
TTTCACGGAA Messenger 337616 (GAM337616) oligonucleotides modulates expression of respective target
CTGACCAGGC genes whose function and utility is known in the art.

AATTCAGTCA GAM337616 is a novel bioinformatically detectable regulatory, non protein
GTAGCTGTCA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337616 was detected
AAACTGGAGT is described with additional reference to Figs. 9-15.

CCAGAACAGG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CAC encoded by the human genome.

GAM337616 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337616 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337616 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337616 precursor RNA is designated SEQ ID:142072, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142072 is located from position 156956195 to position 156956277 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337616 precursor RNA folds onto itself, forming GAM337616 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337616 precursor RNA, designated SEQ ID NO: 142072, and a schematic representation of a predicted secondary folding of GAM337616 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337616 folded precursor RNA yielding a GAM337616 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337616 RNA, hereby incorporated herein.

GAM337616 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337616 target RNA, herein designated GAM TARGET RNA.

GAM337616 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region,

designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337616 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337616 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337616 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337616 RNA, herein designated GAM RNA, to target binding sites on GAM337616 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337616 target RNA into GAM337616 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337616 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337616 target genes. The mRNA of each one of this plurality of GAM337616 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337616 RNA, herein designated GAM RNA, and which when bound by GAM337616 RNA causes inhibition of translation of the GAM337616 target mRNA into a corresponding GAM337616 target protein.

The mechanism of the translational inhibition exerted by GAM337616 RNA, herein designated GAM RNA, on one or more GAM337616 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337616 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337616 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337616 RNA, herein designated GAM RNA, of GAM337616 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337616 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337616 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337616 RNA correlate with, and may be deduced from, the identity of the GAM337616 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337617 142073 TTGCTTGAAC CCGGGAGGCA GAGGTTGCAG TGAGCTGAGA TGGTGCCACT GCACTCCAGC CTGGGCAACA GAGCAA

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337617 (GAM337617) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337617 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337617 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337617 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337617 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes GAM337617 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337617 precursor RNA is designated SEQ ID:142073, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142073 is located from position 157286075 to position 157286150 relative to chromosome chr1 on the `-` strand (chr is an abbreviation for chromosome).

GAM337617 precursor RNA folds onto itself, forming GAM337617 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337617 precursor RNA, designated SEQ ID NO: 142073, and a schematic representation of a predicted secondary folding of GAM337617 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337617 folded precursor RNA yielding a GAM337617 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins.

Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337617 RNA, hereby incorporated herein. Expression of GAM337617 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337617 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337617 target RNA, herein designated GAM TARGET RNA.

GAM337617 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337617 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337617 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337617 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337617 RNA, herein designated GAM RNA, to target binding sites on GAM337617 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337617 target RNA into GAM337617 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337617 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337617 target genes. The mRNA of each one of this plurality of GAM337617 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337617 RNA, herein designated GAM RNA, and which when bound by GAM337617 RNA causes inhibition of translation of the GAM337617 target mRNA into a corresponding GAM337617 target protein.

The mechanism of the translational inhibition exerted by GAM337617 RNA, herein designated GAM RNA, on one or more GAM337617 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337617 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337617 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337617 RNA, herein designated GAM RNA, of

GAM337617 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337617 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337617 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337617 RNA correlate with, and may be deduced from, the identity of the GAM337617 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337618 142074 TGTCTGTGTA Fig. 8 further provides a conceptual description of another novel bioinformatically

AGAACACGTT detected oligonucleotides of the present invention, referred to here as Genomic Address

TGAATGCTGT Messenger 337618 (GAM337618) oligonucleotides modulates expression of respective target

ACAAGGCACA genes whose function and utility is known in the art.

TATGTGAACA GAM337618 is a novel bioinformatically detectable regulatory, non protein

TTGTACCACA coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337618 was detected

TGTACAGCTT is described with additional reference to Figs. 9-15.

TCAAACATGC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TCTTATATTC encoded by the human genome.

TCCCA GAM337618 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337618 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337618 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337618 precursor RNA is designated SEQ ID:142074, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142074 is located from position 157686938 to position 157687032 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GAM337618 precursor RNA folds onto itself, forming GAM337618 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337618 precursor RNA, designated SEQ ID NO: 142074, and a schematic representation of a predicted secondary folding of GAM337618 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337618 folded precursor RNA yielding a GAM337618 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337618 RNA, hereby incorporated herein.

GAM337618 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337618 target RNA, herein designated GAM TARGET RNA.

GAM337618 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337618 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337618 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337618 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337618 RNA, herein designated GAM RNA, to target binding sites on GAM337618 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337618 target RNA into GAM337618 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337618 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337618 target genes. The mRNA of each one of this plurality of GAM337618 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337618 RNA, herein designated GAM RNA, and which when bound by GAM337618 RNA causes inhibition of translation of the GAM337618 target mRNA into a corresponding GAM337618 target protein.

The mechanism of the translational inhibition exerted by GAM337618 RNA, herein designated GAM RNA, on one or more GAM337618 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337618 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337618 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337618 RNA, herein designated GAM RNA, of GAM337618 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337618 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337618 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337618 RNA correlate with, and may be deduced from, the identity of the GAM337618 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337619 142075 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337619 (GAM337619) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337619 is a novel bioinformatically detectable regulatory, non protein

TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337619 was detected

TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

CT encoded by the human genome.

GAM337619 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337619 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337619 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337619 precursor RNA is designated SEQ ID:142075, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142075 is located from position 158225419 to position 158225500 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GAM337619 precursor RNA folds onto itself, forming GAM337619 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337619 precursor RNA, designated SEQ ID NO: 142075, and a schematic representation of a predicted secondary folding of GAM337619 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337619 folded precursor RNA yielding a GAM337619 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337619 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337619 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337619 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337619 target RNA, herein designated GAM TARGET RNA.

GAM337619 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337619 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337619 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337619 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337619 RNA, herein designated GAM RNA, to target binding sites on GAM337619 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337619 target RNA into GAM337619 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337619 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337619 target genes. The mRNA of each one of this plurality of GAM337619 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337619 RNA, herein designated GAM RNA, and which when bound by GAM337619 RNA causes inhibition of translation of the GAM337619 target mRNA into a corresponding GAM337619 target protein.

The mechanism of the translational inhibition exerted by GAM337619 RNA, herein designated GAM RNA, on one or more GAM337619 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337619 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337619 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337619 RNA, herein designated GAM RNA, of GAM337619 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337619 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337619 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337619 RNA correlate with, and may be deduced from, the identity of the GAM337619 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337620 142076 CATGAAATTT Fig. 8 further provides a conceptual description of another novel bioinformatically

AGTGTGATTA detected oligonucleotides of the present invention, referred to here as Genomic Address

TTTTTTCTAC Messenger 337620 (GAM337620) oligonucleotides modulates expression of respective target

TTTTTAATCA genes whose function and utility is known in the art.

TCATTATTTT GAM337620 is a novel bioinformatically detectable regulatory, non protein

GAAGTTTATG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337620 was detected

is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337620 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337620 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337620 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337620 precursor RNA is designated SEQ ID:142076, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142076 is located from position 159014706 to position 159014766 relative to chromosome chr4 on the `+` strand (chr is an abbreviation for chromosome).

GAM337620 precursor RNA folds onto itself, forming GAM337620 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337620 precursor RNA, designated SEQ ID NO: 142076, and a schematic representation of a predicted secondary folding of GAM337620 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337620 folded precursor RNA yielding a GAM337620 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337620 RNA, hereby incorporated herein. Expression of GAM337620 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337620 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337620 target RNA, herein designated GAM TARGET RNA.

GAM337620 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337620 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337620 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337620 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in

the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337620 RNA, herein designated GAM RNA, to target binding sites on GAM337620 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337620 target RNA into GAM337620 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337620 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337620 target genes. The mRNA of each one of this plurality of GAM337620 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337620 RNA, herein designated GAM RNA, and which when bound by GAM337620 RNA causes inhibition of translation of the GAM337620 target mRNA into a corresponding GAM337620 target protein.

The mechanism of the translational inhibition exerted by GAM337620 RNA, herein designated GAM RNA, on one or more GAM337620 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337620 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337620 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337620 RNA, herein designated GAM RNA, of GAM337620 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337620 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337620 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337620 RNA correlate with, and may be deduced from, the identity of the GAM337620 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337621 142077 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically

TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address

CAACATGCAG Messenger 337621 (GAM337621) oligonucleotides modulates expression of respective target

GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337621 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337621 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337621 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337621 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337621 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337621 precursor RNA is designated SEQ ID:142077, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142077 is located from position 162284736 to position 162284817 relative to chromosome chr1 on the `-` strand (chr is an abbreviation for chromosome).

GAM337621 precursor RNA folds onto itself, forming GAM337621 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337621 precursor RNA, designated SEQ ID NO: 142077, and a schematic representation of a predicted secondary folding of GAM337621 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337621 folded precursor RNA yielding a GAM337621 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337621 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337621 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337621 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337621 target RNA, herein designated GAM TARGET RNA.

GAM337621 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337621 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337621 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337621 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337621 RNA, herein designated GAM RNA, to target binding sites on GAM337621 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337621 target RNA into GAM337621 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337621 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337621 target genes. The mRNA of each one of this plurality of GAM337621 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337621 RNA, herein designated GAM RNA, and which when bound by GAM337621 RNA causes inhibition of translation of the GAM337621 target mRNA into a corresponding GAM337621 target protein.

The mechanism of the translational inhibition exerted by GAM337621 RNA, herein designated GAM RNA, on one or more GAM337621 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337621 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337621 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337621 RNA, herein designated GAM RNA, of GAM337621 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337621 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337621 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337621

RNA correlate with, and may be deduced from, the identity of the GAM337621 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337622 142078 AGTTTTAGGG TACATGTGCA CAACATGCAG GTTTGTTACA TATGTATACA TGTGCCATGT TGGTGTGCTG CACCCATTAA CT

Fig. 8 further provides a conceptual description of another novel bioinformatically detected oligonucleotides of the present invention, referred to here as Genomic Address Messenger 337622 (GAM337622) oligonucleotides modulates expression of respective target genes whose function and utility is known in the art.

GAM337622 is a novel bioinformatically detectable regulatory, non protein coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337622 was detected is described with additional reference to Figs. 9-15.

GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene encoded by the human genome.

GAM337622 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337622 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337622 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337622 precursor RNA is designated SEQ ID:142078, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142078 is located from position 164286556 to position 164286637 relative to chromosome chr6 on the `+` strand (chr is an abbreviation for chromosome).

GAM337622 precursor RNA folds onto itself, forming GAM337622 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337622 precursor RNA, designated SEQ ID NO: 142078, and a schematic representation of a predicted secondary folding of GAM337622 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337622 folded precursor RNA yielding a GAM337622 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337622 RNA: a nucleotide sequence

that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337622 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337622 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337622 target RNA, herein designated GAM TARGET RNA.

GAM337622 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337622 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337622 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337622 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337622 RNA, herein designated GAM RNA, to target binding sites on GAM337622 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337622 target RNA into GAM337622 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337622 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337622 target genes. The mRNA of each one of this plurality of GAM337622 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337622 RNA, herein designated GAM RNA, and which when bound by GAM337622 RNA causes inhibition of translation of the GAM337622 target mRNA into a corresponding GAM337622 target protein.

The mechanism of the translational inhibition exerted by GAM337622 RNA, herein designated GAM RNA, on one or more GAM337622 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337622 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337622 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337622 RNA, herein designated GAM RNA, of GAM337622 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337622 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337622 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337622 RNA correlate with, and may be deduced from, the identity of the GAM337622 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337623 142079 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 337623 (GAM337623) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337623 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337623 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337623 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337623 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337623 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337623 precursor RNA is designated SEQ ID:142079, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142079 is located from position 165593729 to position 165593810 relative to chromosome chr3 on the `+` strand (chr is an abbreviation for chromosome).

GAM337623 precursor RNA folds onto itself, forming GAM337623 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337623 precursor RNA, designated SEQ ID NO: 142079, and a schematic representation of a predicted secondary folding of GAM337623 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337623 folded precursor RNA yielding a GAM337623 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337623 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337623 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337623 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337623 target RNA, herein designated GAM TARGET RNA.

GAM337623 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337623 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337623 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337623 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337623 RNA, herein designated GAM RNA, to target binding sites on GAM337623 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337623 target RNA into GAM337623 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337623 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337623 target genes. The mRNA of each one of this plurality of GAM337623 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337623 RNA, herein designated GAM RNA, and which when bound by GAM337623 RNA causes inhibition of translation of the GAM337623 target mRNA into a corresponding GAM337623 target protein.

The mechanism of the translational inhibition exerted by GAM337623 RNA, herein designated GAM RNA, on one or more GAM337623 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337623 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337623 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337623 RNA, herein designated GAM RNA, of GAM337623 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337623 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337623 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337623 RNA correlate with, and may be deduced from, the identity of the GAM337623 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337624 142080 CTTTTCCACC Fig. 8 further provides a conceptual description of another novel bioinformatically

ATCTAAGAGA detected oligonucleotides of the present invention, referred to here as Genomic Address

AAGGAAGTTC Messenger 337624 (GAM337624) oligonucleotides modulates expression of respective target

AGAGCCTTAG genes whose function and utility is known in the art.

CTTCAACACC GAM337624 is a novel bioinformatically detectable regulatory, non protein

ACAATTTCTT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337624 was detected

AACTGGAAAA is described with additional reference to Figs. 9-15.

G GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

encoded by the human genome.

GAM337624 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337624 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337624 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337624 precursor RNA is designated SEQ ID:142080, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142080 is located from position 168691834 to position 168691904 relative to chromosome chr1 on the `-` strand (chr is an abbreviation for chromosome).

GAM337624 precursor RNA folds onto itself, forming GAM337624 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337624 precursor RNA, designated SEQ ID NO: 142080, and a schematic representation of a predicted secondary folding of GAM337624 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337624 folded precursor RNA yielding a GAM337624 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337624 RNA, hereby incorporated herein. Expression of GAM337624 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337624 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337624 target RNA, herein designated GAM TARGET RNA.

GAM337624 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337624 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337624 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337624 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337624 RNA, herein designated GAM RNA, to target binding sites on GAM337624 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337624 target RNA into GAM337624 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337624 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337624 target genes. The mRNA of each one of this plurality of GAM337624 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM337624 RNA, herein designated GAM RNA, and which when bound by GAM337624 RNA causes inhibition of translation of the GAM337624 target mRNA into a corresponding GAM337624 target protein.

The mechanism of the translational inhibition exerted by GAM337624 RNA, herein designated GAM RNA, on one or more GAM337624 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337624 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337624 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337624 RNA, herein designated GAM RNA, of GAM337624 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337624 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337624 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337624 RNA correlate with, and may be deduced from, the identity of the GAM337624 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337625 142081 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically

GAATCGCTTG detected oligonucleotides of the present invention, referred to here as Genomic Address

AAGCCGTGAG Messenger 337625 (GAM337625) oligonucleotides modulates expression of respective target

GTGGAGGTTT genes whose function and utility is known in the art.

TGGTGAGCTG GAM337625 is a novel bioinformatically detectable regulatory, non protein

AGATCGCGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337625 was detected

ATTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAAGAGCGA encoded by the human genome.

AACTCTGTCT GAM337625 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

CA GAM337625 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337625 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337625 precursor RNA is designated SEQ ID:142081, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142081 is located from position 171453855 to position 171453956 relative to chromosome chr1 on the `+` strand (chr is an abbreviation for chromosome).

GAM337625 precursor RNA folds onto itself, forming GAM337625 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337625 precursor RNA, designated SEQ ID NO: 142081, and a schematic representation of a predicted secondary folding of GAM337625 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337625 folded precursor RNA yielding a GAM337625 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337625 RNA, hereby incorporated herein. Expression of GAM337625 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337625 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337625 target RNA, herein designated GAM TARGET RNA.

GAM337625 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337625 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337625 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337625 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337625 RNA, herein designated GAM RNA, to target binding sites on GAM337625 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337625 target RNA into GAM337625 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337625 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337625 target genes. The mRNA of each one of this plurality of GAM337625 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337625 RNA, herein designated GAM RNA, and which when bound by GAM337625 RNA causes inhibition of translation of the GAM337625 target mRNA into a corresponding GAM337625 target protein.

The mechanism of the translational inhibition exerted by GAM337625 RNA, herein designated GAM RNA, on one or more GAM337625 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337625 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337625 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337625 RNA, herein designated GAM RNA, of GAM337625 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337625 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337625 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337625 RNA correlate with, and may be deduced from, the identity of the GAM337625 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337626 142082 GGAGTATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCTGC detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGCGGAGG Messenger 337626 (GAM337626) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

CCGGGATCGC GAM337626 is a novel bioinformatically detectable regulatory, non protein
ACCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337626 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGACTCC encoded by the human genome.

GAM337626 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337626 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337626 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337626 precursor RNA is designated SEQ ID:142082, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142082 is located from position 176442690 to position 176442777 relative to chromosome chr1 on the `-` strand (chr is an abbreviation for chromosome).

GAM337626 precursor RNA folds onto itself, forming GAM337626 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337626 precursor RNA, designated SEQ ID NO: 142082, and a schematic representation of a predicted secondary folding of GAM337626 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337626 folded precursor RNA yielding a GAM337626 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337626 RNA, hereby incorporated herein. Expression of GAM337626 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337626 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337626 target RNA, herein designated GAM TARGET RNA.

GAM337626 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337626 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM337626 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337626 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337626 RNA, herein designated GAM RNA, to target binding sites on GAM337626 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337626 target RNA into GAM337626 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337626 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337626 target genes. The mRNA of each one of this plurality of GAM337626 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337626 RNA, herein designated GAM RNA, and which when bound by GAM337626 RNA causes inhibition of translation of the GAM337626 target mRNA into a corresponding GAM337626 target protein.

The mechanism of the translational inhibition exerted by GAM337626 RNA, herein designated GAM RNA, on one or more GAM337626 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337626 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337626 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337626 RNA, herein designated GAM RNA, of GAM337626 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337626 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337626 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337626 RNA correlate with, and may be deduced from, the identity of the GAM337626 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337627 142083 TGAGGCAGGA Fig. 8 further provides a conceptual description of another novel bioinformatically
GAATGGCGTG detected oligonucleotides of the present invention, referred to here as Genomic Address
AACCCGGGAG Messenger 337627 (GAM337627) oligonucleotides modulates expression of respective target
GCGGAGCTTG genes whose function and utility is known in the art.

CAGTGAGCCG GAM337627 is a novel bioinformatically detectable regulatory, non protein
AGATCGCGCC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337627 was detected
ACTGCACTCC is described with additional reference to Figs. 9-15.

AGCCTGGGCA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
ACAGAGTGAG encoded by the human genome.

ACTCCGTCTC GAM337627 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a
A GAM337627 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337627 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337627 precursor RNA is designated SEQ ID:142083, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142083 is located from position 177506687 to position 177506787 relative to chromosome chr1 on the `+` strand (chr is an abbreviation for chromosome).

GAM337627 precursor RNA folds onto itself, forming GAM337627 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337627 precursor RNA, designated SEQ ID NO: 142083, and a schematic representation of a predicted secondary folding of GAM337627 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337627 folded precursor RNA yielding a GAM337627 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337627 RNA, hereby incorporated herein.

Expression of GAM337627 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337627 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337627 target RNA, herein designated GAM TARGET RNA.

GAM337627 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337627 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337627 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337627 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337627 RNA, herein designated GAM RNA, to target binding sites on GAM337627 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337627 target RNA into GAM337627 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337627 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337627 target genes. The mRNA of each one of this plurality of GAM337627 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337627 RNA, herein designated GAM RNA, and which when bound by GAM337627 RNA causes inhibition of translation of the GAM337627 target mRNA into a corresponding GAM337627 target protein.

The mechanism of the translational inhibition exerted by GAM337627 RNA, herein designated GAM RNA, on one or more GAM337627 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337627 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337627 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337627 RNA, herein designated GAM RNA, of GAM337627 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337627 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337627 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337627 RNA correlate with, and may be deduced from, the identity of the GAM337627 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337628 142084 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 337628 (GAM337628) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337628 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337628 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337628 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337628 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337628 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337628 precursor RNA is designated SEQ ID:142084, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142084 is located from position 182133354 to position 182133435 relative to chromosome chr1 on the `-` strand (chr is an abbreviation for chromosome).

GAM337628 precursor RNA folds onto itself, forming GAM337628 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337628 precursor RNA, designated SEQ ID NO: 142084, and a schematic representation of a predicted secondary folding of GAM337628 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337628 folded precursor RNA yielding a GAM337628 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337628 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337628 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337628 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337628 target RNA, herein designated GAM TARGET RNA.

GAM337628 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337628 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337628 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337628 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337628 RNA, herein designated GAM RNA, to target binding sites on GAM337628 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337628 target RNA into GAM337628 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337628 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337628 target genes. The mRNA of each one of this plurality of GAM337628 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337628 RNA, herein designated GAM RNA, and which when bound by GAM337628 RNA causes inhibition of translation of the GAM337628 target mRNA into a corresponding GAM337628 target protein.

The mechanism of the translational inhibition exerted by GAM337628 RNA, herein designated GAM RNA, on one or more GAM337628 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337628 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337628 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337628 RNA, herein designated GAM RNA, of GAM337628 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth
in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337628 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337628 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337628 RNA correlate with, and may be deduced from, the identity of the GAM337628 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337629 142085 AGTTTTAGGG Fig. 8 further provides a conceptual description of another novel bioinformatically
TACATGTGCA detected oligonucleotides of the present invention, referred to here as Genomic Address
CAACATGCAG Messenger 337629 (GAM337629) oligonucleotides modulates expression of respective target
GTTTGTTACA genes whose function and utility is known in the art.

TATGTATACA GAM337629 is a novel bioinformatically detectable regulatory, non protein
TGTGCCATGT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337629 was detected
TGGTGTGCTG is described with additional reference to Figs. 9-15.

CACCCATTAA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
CT encoded by the human genome.

GAM337629 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337629 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes
GAM337629 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337629 precursor RNA is designated SEQ ID:142085, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142085 is located from position 186079835 to position 186079916 relative to chromosome chr4 on the `+` strand (chr is an abbreviation for chromosome).

GAM337629 precursor RNA folds onto itself, forming GAM337629 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337629 precursor RNA, designated SEQ ID NO: 142085, and a schematic representation of a predicted secondary folding of GAM337629 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337629 folded precursor RNA yielding a GAM337629 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides two possible nucleotide sequences of GAM337629 RNA: a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337629 RNA and an alternative nucleotide sequence thereof, hereby incorporated herein.

GAM337629 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337629 target RNA, herein designated GAM TARGET RNA.

GAM337629 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337629 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337629 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337629 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337629 RNA, herein designated GAM RNA, to target binding sites on GAM337629 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337629 target RNA into GAM337629 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337629 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337629 target genes. The mRNA of each one of this plurality of GAM337629 target genes comprises one or more target binding sites, each

having a nucleotide sequence which is at least partly complementary to GAM337629 RNA, herein designated GAM RNA, and which when bound by GAM337629 RNA causes inhibition of translation of the GAM337629 target mRNA into a corresponding GAM337629 target protein.

The mechanism of the translational inhibition exerted by GAM337629 RNA, herein designated GAM RNA, on one or more GAM337629 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337629 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337629 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337629 RNA, herein designated GAM RNA, of GAM337629 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337629 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337629 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337629 RNA correlate with, and may be deduced from, the identity of the GAM337629 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337630 142086 AGGCAGAAGA Fig. 8 further provides a conceptual description of another novel bioinformatically

ATTGCTGGAA detected oligonucleotides of the present invention, referred to here as Genomic Address

TCTAGGAGGC Messenger 337630 (GAM337630) oligonucleotides modulates expression of respective target

GGAGGTTGCA genes whose function and utility is known in the art.

GTGAGCCAAG GAM337630 is a novel bioinformatically detectable regulatory, non protein

ATCGCGCCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337630 was detected

TGCACTCCAG is described with additional reference to Figs. 9-15.

CCTGGGCAAC GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

ACAGCGAGAC encoded by the human genome.

TCTGTCT GAM337630 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337630 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337630 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337630 precursor RNA is designated SEQ ID:142086, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142086 is located from position 199201991 to position 199202087 relative to chromosome chr1 on the `+` strand (chr is an abbreviation for chromosome).

GAM337630 precursor RNA folds onto itself, forming GAM337630 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337630 precursor RNA, designated SEQ ID NO: 142086, and a schematic representation of a predicted secondary folding of GAM337630 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337630 folded precursor RNA yielding a GAM337630 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337630 RNA, hereby incorporated herein. Expression of GAM337630 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337630 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337630 target RNA, herein designated GAM TARGET RNA.

GAM337630 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337630 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337630 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337630 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337630 RNA, herein designated GAM RNA, to target binding sites on GAM337630 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337630 target RNA into GAM337630 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337630 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337630 target genes. The mRNA of each one of this plurality of GAM337630 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337630 RNA, herein designated GAM RNA, and which when bound by GAM337630 RNA causes inhibition of translation of the GAM337630 target mRNA into a corresponding GAM337630 target protein.

The mechanism of the translational inhibition exerted by GAM337630 RNA, herein designated GAM RNA, on one or more GAM337630 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337630 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337630 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337630 RNA, herein designated GAM RNA, of GAM337630 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337630 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337630 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337630 RNA correlate with, and may be deduced from, the identity of the GAM337630 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337631 142087 GGAGAATCGC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCAG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGCAGAGG Messenger 337631 (GAM337631) oligonucleotides modulates expression of respective target

TTGCAGTGAG genes whose function and utility is known in the art.

CCAAGATCAT GAM337631 is a novel bioinformatically detectable regulatory, non protein
GCCACTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337631 was detected
TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAGAGT GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGACTCC encoded by the human genome.

GAM337631 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337631 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337631 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337631 precursor RNA is designated SEQ ID:142087, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142087 is located from position 208756916 to position 208757003 relative to chromosome chr1 on the `+` strand (chr is an abbreviation for chromosome).

GAM337631 precursor RNA folds onto itself, forming GAM337631 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337631 precursor RNA, designated SEQ ID NO: 142087, and a schematic representation of a predicted secondary folding of GAM337631 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337631 folded precursor RNA yielding a GAM337631 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337631 RNA, hereby incorporated herein. Expression of GAM337631 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337631 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337631 target RNA, herein designated GAM TARGET RNA.

GAM337631 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337631 RNA, herein designated GAM RNA, binds complementarily to one or more

target binding sites located in untranslated regions of GAM337631 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337631 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337631 RNA, herein designated GAM RNA, to target binding sites on GAM337631 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337631 target RNA into GAM337631 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337631 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337631 target genes. The mRNA of each one of this plurality of GAM337631 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337631 RNA, herein designated GAM RNA, and which when bound by GAM337631 RNA causes inhibition of translation of the GAM337631 target mRNA into a corresponding GAM337631 target protein.

The mechanism of the translational inhibition exerted by GAM337631 RNA, herein designated GAM RNA, on one or more GAM337631 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337631 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337631 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337631 RNA, herein designated GAM RNA, of GAM337631 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337631 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337631 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337631 RNA correlate with, and may be deduced from, the identity of the GAM337631 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337632 142088 AGAGGGAGAA Fig. 8 further provides a conceptual description of another novel bioinformatically
TTGCTTGAGC detected oligonucleotides of the present invention, referred to here as Genomic Address
CCAGGATTTC Messenger 337632 (GAM337632) oligonucleotides modulates expression of respective target
GAGGCTGCAG genes whose function and utility is known in the art.

TGAGCTATGA GAM337632 is a novel bioinformatically detectable regulatory, non protein
TCACACCACT coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337632 was detected
GCACTCCAGC is described with additional reference to Figs. 9-15.

CTGGGCAACA GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
GAGCAAGACT encoded by the human genome.

CTGTCT GAM337632 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337632 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337632 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337632 precursor RNA is designated SEQ ID:142088, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142088 is located from position 222613184 to position 222613279 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GAM337632 precursor RNA folds onto itself, forming GAM337632 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337632 precursor RNA, designated SEQ ID NO: 142088, and a schematic representation of a predicted secondary folding of GAM337632 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4

incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337632 folded precursor RNA yielding a GAM337632 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337632 RNA, hereby incorporated herein.

Expression of GAM337632 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337632 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337632 target RNA, herein designated GAM TARGET RNA.

GAM337632 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337632 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337632 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337632 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337632 RNA, herein designated GAM RNA, to target binding sites on GAM337632 target RNA, herein designated GAM TARGET RNA, such as BINDING

SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337632 target RNA into GAM337632 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337632 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337632 target genes. The mRNA of each one of this plurality of GAM337632 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337632 RNA, herein designated GAM RNA, and which when bound by GAM337632 RNA causes inhibition of translation of the GAM337632 target mRNA into a corresponding GAM337632 target protein.

The mechanism of the translational inhibition exerted by GAM337632 RNA, herein designated GAM RNA, on one or more GAM337632 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337632 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337632 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337632 RNA, herein designated GAM RNA, of GAM337632 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set

forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337632 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337632 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337632 RNA correlate with, and may be deduced from, the identity of the GAM337632 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337633 142089 GAGGGAGAAT Fig. 8 further provides a conceptual description of another novel bioinformatically
TGCTTGAGCC detected oligonucleotides of the present invention, referred to here as Genomic Address
CAGGATTTCG Messenger 337633 (GAM337633) oligonucleotides modulates expression of respective target
AGGCTGCAGT genes whose function and utility is known in the art.

GAGCTATGAT GAM337633 is a novel bioinformatically detectable regulatory, non protein
CACACCACTG coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337633 was detected
CACTCCAGCC is described with additional reference to Figs. 9-15.

TGGGCAACAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene
AGCAAGACTC encoded by the human genome.

TGTC GAM337633 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a

GAM337633 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337633 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337633 precursor RNA is designated SEQ ID:142089, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142089 is located from position 222613185 to position 222613278 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GAM337633 precursor RNA folds onto itself, forming GAM337633 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin

structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337633 precursor RNA, designated SEQ ID NO: 142089, and a schematic representation of a predicted secondary folding of GAM337633 folded

precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337633 folded precursor RNA yielding a GAM337633 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337633 RNA, hereby incorporated herein. Expression of GAM337633 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337633 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337633 target RNA, herein designated GAM TARGET RNA.

GAM337633 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337633 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337633 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337633 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337633 RNA, herein designated GAM RNA, to target binding sites on GAM337633 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337633 target RNA into GAM337633 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337633 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337633 target genes. The mRNA of each one of this plurality of GAM337633 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337633 RNA, herein designated GAM RNA, and which when bound by GAM337633 RNA causes inhibition of translation of the GAM337633 target mRNA into a corresponding GAM337633 target protein.

The mechanism of the translational inhibition exerted by GAM337633 RNA, herein designated GAM RNA, on one or more GAM337633 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational

inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337633 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337633 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337633 RNA, herein designated GAM RNA, of GAM337633 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337633 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337633 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337633 RNA correlate with, and may be deduced from, the identity of the GAM337633 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM337634 142090 GGAGAATCTC Fig. 8 further provides a conceptual description of another novel bioinformatically

TTGAACCCGG detected oligonucleotides of the present invention, referred to here as Genomic Address

GAGGTGGAGG Messenger 337634 (GAM337634) oligonucleotides modulates expression of respective target

TTGGGGTGAG genes whose function and utility is known in the art.

CCGAGACCGC GAM337634 is a novel bioinformatically detectable regulatory, non protein

GCCATTGCAC coding, micro RNA (miRNA)-like oligonucleotide. The method by which GAM337634 was detected

TCCAGCCTGG is described with additional reference to Figs. 9-15.

GCAACAAGAG GAM PRECURSOR DNA is encoded by the human genome. GAM TARGET GENE is a humen gene

TGAGACTCC encoded by the human genome.

GAM337634 precursor DNA, herein designated GAM PRECURSOR DNA, encodes a GAM337634 precursor RNA, herein designated GAM PRECURSOR RNA. Similar to other miRNA genes

GAM337634 precursor RNA does not encode a protein. A nucleotide sequence identical or highly similar to the nucleotide sequence of GAM337634 precursor RNA is designated SEQ ID:142090, and is provided hereinbelow with reference to the sequence listing part. Nucleotide sequence SEQ ID:142090 is located from position 231956115 to position 231956203 relative to chromosome chr1 on the `+` strand (chr is an abbreviation for chromosome).

GAM337634 precursor RNA folds onto itself, forming GAM337634 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, which has a two-dimensional `hairpin structure`. As is well known in the art, this `hairpin structure`, is typical of RNA encoded by miRNA genes, and is due to the fact that the nucleotide sequence of the first half of the RNA encoded by a miRNA gene is a fully or partially complementary sequence of the nucleotide sequence of the second half thereof.

Nucleotide sequence of GAM337634 precursor RNA, designated SEQ ID NO: 142090, and a schematic representation of a predicted secondary folding of GAM337634 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4 incorporated herein.

An enzyme complex designated DICER COMPLEX, `dices` the GAM337634 folded precursor RNA yielding a GAM337634 RNA, herein designated GAM RNA, in the form of a single stranded ~22nt long RNA segment. As is known in the art, `dicing` of a hairpin structured RNA precursor product to yield a short ~22nt RNA segment is catalyzed by an enzyme complex comprising an enzyme called Dicer RNase III together with other necessary proteins. Table 5 provides a nucleotide sequence that is highly likely to be identical or highly similar to the nucleotide sequence of GAM337634 RNA, hereby incorporated herein. Expression of GAM337634 RNA was experimentally validated in HeLa cells using the methods described with reference to Figs.22 to 24.

GAM337634 target gene, herein designated GAM TARGET GENE, encodes a corresponding messenger RNA, GAM337634 target RNA, herein designated GAM TARGET RNA.

GAM337634 target RNA comprises three regions, as is typical of mRNA of a protein coding gene: a 5` untranslated region, a protein coding region and a 3` untranslated region, designated 5`UTR, PROTEIN CODING and 3`UTR respectively.

GAM337634 RNA, herein designated GAM RNA, binds complementarily to one or more target binding sites located in untranslated regions of GAM337634 target RNA, herein designated GAM TARGET RNA. This complementary binding is due to the fact that the nucleotide sequence of GAM337634 RNA is a partial or fully complementary sequence of the nucleotide sequence of each of the target binding sites. As an illustration, Fig. 8 shows three such target binding sites, designated BINDING SITE I, BINDING SITE II and BINDING SITE III respectively. It is appreciated that the number of target binding sites shown in Fig. 8 is only illustrative and that any suitable number of target binding sites may be present. It is further appreciated that although Fig. 8 shows target binding sites only in the 3`UTR region, these target binding sites may be located instead in the 5`UTR region or in both 3`UTR and 5`UTR regions

The complementary binding of GAM337634 RNA, herein designated GAM RNA, to target binding sites on GAM337634 target RNA, herein designated GAM TARGET RNA, such as BINDING SITE I, BINDING SITE II and BINDING SITE III, inhibits translation of GAM337634 target RNA into GAM337634 target protein, herein designated GAM TARGET PROTEIN,, which is shown surrounded by a broken line.

It is appreciated that GAM337634 target gene, herein designated GAM TARGET GENE, in fact represents a plurality of GAM337634 target genes. The mRNA of each one of this plurality of GAM337634 target genes comprises one or more target binding sites, each having a nucleotide sequence which is at least partly complementary to GAM337634 RNA, herein designated GAM RNA, and which when bound by GAM337634 RNA causes inhibition of translation of the GAM337634 target mRNA into a corresponding GAM337634 target protein.

The mechanism of the translational inhibition exerted by GAM337634 RNA, herein designated GAM RNA, on one or more GAM337634 target genes, herein collectively designated GAM TARGET GENE, may be similar or identical to the known mechanism of translational inhibition exerted byknown miRNA genes.

Nucleotide sequence of GAM337634 precursor RNA, herein designated GAM PRECURSOR RNA, , their respective genomic sources and chromosomal locations and a schematic representation of a predicted secondary folding of GAM337634 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth in Tables 3 and 4, incorporated herein.

Nucleotide sequences of a `diced` GAM337634 RNA, herein designated GAM RNA, of GAM337634 folded precursor RNA, herein designated GAM FOLDED PRECURSOR RNA, are set forth

in Table 5, incorporated herein

Nucleotide sequences of target binding sites, such as BINDING SITE-I, BINDING SITE-II and BINDING SITE-III of Fig. 8, found on GAM337634 target RNA, herein designated GAM TARGET RNA, and a schematic representation of the complementarity of each of these target binding sites to GAM337634 RNA, herein designated GAM RNA, are set forth in Tables 6 and 7, incorporated herein.

It is appreciated that specific functions, and accordingly utilities, of GAM337634 RNA correlate with, and may be deduced from, the identity of the GAM337634 target gene inhibited thereby, whose functions are set forth in Table 8, incorporated herein.

GAM NAME	PRECUR SEQ-ID	ORGANISM AND OFFSET	CHR	STR	CHR-START OFFSET	CHR-END OFFSET	SOURCE REF-ID
GAM25	273523	hsa	chrX	-	52222126	52222224	
GAM31	273744	hsa	chr12	-	57935139	57935222	
GAM44	273449	hsa	chr11	+	48222380	48222439	THC1430784
GAM55	272760	hsa	chr16	+	69071144	69071235	THC1550782
GAM66	272840	hsa	chr10	-	82042982	82043055	THC1596213
GAM83	272944	hsa	chr11	+	48222373	48222451	THC1430784
GAM99	273933	hsa	chr10	+	102246140	102246248	THC1481711
GAM100	272845	hsa	chr7	+	1018990	1019120	THC1436384
GAM106	273342	hsa	chr20	-	13445760	13445858	THC1578040
GAM112	273787	hsa	chrX	+	47490562	47490653	
GAM144	273906	hsa	chr22	-	29007729	29007806	THC1576207
GAM175	274095	hsa	chrX	+	94175190	94175299	THC1505396
GAM189	273463	hsa	chr4	+	95450005	95450076	
GAM193	273269	hsa	chr7	-	150223538	150223636	THC1461697
GAM205	274048	hsa	chr19	+	34136693	34136794	THC1489754
GAM206	272970	hsa	chr8	+	63676328	63676430	THC1555962
GAM240	273358	hsa	chr11	-	73803662	73803768	THC1514987
GAM259	272864	hsa	chr9	+	97689223	97689314	THC1497034
GAM269	273213	hsa	chr10	+	75439944	75440030	
GAM270	273672	hsa	chr12	+	46553863	46553949	THC1472192
GAM281	273218	hsa	chr12	-	51464300	51464397	THC1476894
GAM282	274291	hsa	chr9	+	117492532	117492617	THC1528843
GAM291	273339	hsa	chrX	+	9780990	9781067	
GAM317	273717	hsa	chr19	+	4462631	4462733	THC1503708
GAM329	273876	hsa	chr9	+	37420113	37420180	
GAM330	273477	hsa	chr7	-	102423230	102423315	THC1430517
GAM335	272863	hsa	chr22	+	22176932	22177032	THC1525711
GAM347	273634	hsa	chr19	-	37269373	37269456	THC1459051
GAM353	274431	hsa	chr9	+	61973580	61973684	THC1592449
GAM354	273716	hsa	chr19	+	50818302	50818390	
GAM361	273282	hsa	chrX	+	94524959	94525060	
GAM367	273295	hsa	chr10	+	121833627	121833742	THC1534183
GAM372	274154	hsa	chr12	-	551191	551299	THC1539620
GAM388	273653	hsa	chr1	-	16098435	16098516	THC1432163
GAM401	272772	hsa	chr10	+	14110787	14110879	
GAM408	273571	hsa	chr14	-	62113790	62113884	THC1542346
GAM411	272948	hsa	chr11	-	18080171	18080267	THC1589235
GAM426	273022	hsa	chr17	-	6961619	6961701	THC1532849
GAM492	274601	hsa	chr17	-	43642880	43642990	THC1425133
GAM495	272930	hsa					
GAM500	272731	hsa	chr17	+	66755215	66755287	THC1498690
GAM507	274301	hsa	chr15	+	40608766	40608865	THC1464659
GAM519	272753	hsa	chr18	-	32800605	32800693	THC1560312
GAM520	273886	hsa	chr17	+	43020516	43020604	THC1534497
GAM550	274424	hsa	chr15	-	28205837	28205958	
GAM556	274002	hsa	chr19	-	16838063	16838153	THC1504884
GAM569	273220	hsa	chr19	+	50818294	50818397	

GAM572	272762	hsa	chr10	-	14718325	14718418	THC1456344
GAM584	273082	hsa	chr11	+	67800165	67800260	THC1588098
GAM588	273679	hsa	chr11	-	45420375	45420453	THC1541093
GAM593	273613	hsa	chr15	+	43562097	43562226	
GAM604	273945	hsa	chr17	-	39106109	39106181	THC1442048
GAM640	274172	hsa	chr2	-	74052253	74052365	THC1549049
GAM643	274571	hsa	chr20	+	59545007	59545080	THC1599947
GAM667	274393	hsa	chr7	+	44371974	44372104	
GAM674	273763	hsa	chr17	+	43395844	43395930	THC1521438
GAM689	273183	hsa	chr5	-	69076605	69076701	
GAM704	273533	hsa	chr10	+	81421650	81421759	THC1563143
GAM744	273632	hsa					
GAM750	272972	hsa	chr20	-	46615364	46615467	THC1599270
GAM760	274491	hsa	chr10	+	15036029	15036118	THC1446951
GAM770	274092	hsa	chr9	+	87327369	87327489	
GAM772	273331	hsa	chr17	+	26891775	26891870	THC1436688
GAM779	272937	hsa	chr10	+	131264455	131264575	THC1409862
GAM785	273830	hsa	chr17	+	30319064	30319171	THC1539612
GAM801	273140	hsa	chr12	+	53583235	53583337	THC1464135
GAM802	274590	hsa	chr17	+	75549611	75549691	THC1477598
GAM807	274098	hsa	chr15	-	53974897	53974997	THC1542535
GAM821	273043	hsa	chr19	+	50818309	50818384	
GAM823	273892	hsa	chr17	-	12551748	12551844	THC1443136
GAM828	272989	hsa	chrY	-	14758025	14758108	THC1555358
GAM834	273242	hsa	chr14	+	90514756	90514845	THC1432704
GAM840	273586	hsa	chr7	+	100281294	100281382	THC1486985
GAM842	273103	hsa	chr17	-	1319182	1319274	THC1537468
GAM846	274066	hsa	chr9	+	127720318	127720391	THC1424524
GAM869	274196	hsa	chr20	-	43962141	43962221	THC1463637
GAM892	274578	hsa	chr10	+	101743922	101744004	THC1541391
GAM933	272754	hsa	chr14	+	86637069	86637139	THC1526006
GAM965	273346	hsa	chr12	+	46553864	46553948	THC1472192
GAM973	272735	hsa	chr7	-	150223532	150223640	THC1461697
GAM999	272996	hsa	chr11	+	93949150	93949235	
GAM1017	274239	hsa	chr20	+	18499225	18499309	
GAM1032	273256	hsa	chr8	-	141427052	141427182	
GAM1033	273211	hsa	chrX	-	126882804	126882896	THC1559611
GAM1084	273803	hsa	chr11	-	44004344	44004437	THC1416534
GAM1087	272821	hsa	chr10	-	105533378	105533457	THC1524354
GAM1088	273916	hsa	chr7	-	82179625	82179720	THC1555889
GAM1089	274381	hsa	chr12	-	114030793	114030873	THC1563805
GAM1099	274026	hsa	chr21	+	46973081	46973189	THC1440523
GAM1120	272949	hsa	chr17	+	9493748	9493844	
GAM1144	273065	hsa	chr13	+	26088289	26088404	THC1419952
GAM1163	273990	hsa	chr9	+	92946370	92946462	THC1486696
GAM1191	273319	hsa	chr13	+	24390494	24390598	
GAM1193	273177	hsa	chr7	-	138504313	138504410	
GAM1197	273003	hsa	chr19	+	62494484	62494596	THC1581606
GAM1216	273384	hsa	chr16	+	69762458	69762538	
GAM1217	272979	hsa	chr9	+	88520253	88520356	

GAM1221	274097	hsa	chr10	+	26323250	26323341	THC1586339
GAM1234	274607	hsa	chr7	-	138312903	138312981	THC1407182
GAM1238	273580	hsa	chr20	-	56600621	56600711	THC1430578
GAM1293	273993	hsa	chr12	-	56453734	56453830	THC1439723
GAM1294	273104	hsa	chr16	-	74684805	74684878	THC1560089
GAM1295	274074	hsa	chr15	+	40608762	40608868	THC1464659
GAM1300	273317	hsa	chr16	+	82918189	82918283	
GAM1310	273736	hsa	chr14	+	51215356	51215446	
GAM1313	273365	hsa	chr17	-	2260318	2260392	THC1418844
GAM1332	274130	hsa	chr14	+	93614973	93615063	THC1518532
GAM1338	273681	hsa	chr11	+	62757693	62757780	THC1439776
GAM1351	272992	hsa	chr16	+	24488980	24489084	THC1448138
GAM1361	273774	hsa	chrX	+	40576956	40577066	
GAM1363	272774	hsa	chr7	+	54861174	54861256	THC1506114
GAM1372	274168	hsa	chr7	+	71938248	71938338	THC1481651
GAM1423	273491	hsa	chr9	+	97689214	97689322	THC1497034
GAM1431	273471	hsa	chr14	-	62113797	62113875	THC1542346
GAM1439	272839	hsa	chr1	+	170985685	170985766	
GAM1440	273129	hsa	chr11	-	45420363	45420458	THC1541093
GAM1443	273964	hsa	chr10	+	79169031	79169146	
GAM1445	273391	hsa	chr9	+	61973588	61973678	THC1592449
GAM1447	274366	hsa	chrX	+	84120401	84120475	THC1585180
GAM1456	274010	hsa	chr10	+	27561775	27561847	
GAM1461	274602	hsa	chr16	+	11377024	11377118	THC1576092
GAM1469	273891	hsa	chr14	-	51978690	51978799	THC1499663
GAM1479	274296	hsa	chr22	-	44721810	44721887	THC1562390
GAM1484	274597	hsa	chr10	-	63061687	63061792	THC1535408
GAM1490	273493	hsa	chr12	+	132157864	132157951	
GAM1500	274149	hsa	chr11	+	111417608	111417699	
GAM1502	272898	hsa	chr13	-	37916875	37916940	
GAM1523	272922	hsa	chr10	-	102859224	102859309	THC1426270
GAM1543	273686	hsa	chr16	-	28383578	28383665	THC1588979
GAM1550	273375	hsa	chr9	+	35798284	35798384	THC1590719
GAM1602	273459	hsa	chr19	-	33016836	33016966	THC1595133
GAM1607	274435	hsa	chr21	+	25868151	25868239	THC1591841
GAM1616	273782	hsa	chr15	-	70520488	70520583	THC1407403
GAM1617	273656	hsa	chr16	+	48119610	48119709	
GAM1650	273355	hsa	chrX	+	108489391	108489499	THC1441934
GAM1653	273871	hsa	chr17	+	38591310	38591381	
GAM1664	274616	hsa	chr7	+	19042832	19042947	
GAM1698	274405	hsa	chr16	+	30012807	30012915	
GAM1735	274376	hsa	chr8	+	16961669	16961761	
GAM1748	274495	hsa	chr19	-	17342458	17342534	THC1450994
GAM1770	273870	hsa	chr17	+	38591310	38591380	
GAM1782	273075	hsa	chrX	+	136594090	136594178	THC1478628
GAM1786	274212	hsa	chr22	-	43677889	43677980	THC1497330
GAM1820	273119	hsa	chr14	+	79670256	79670329	
GAM1835	274429	hsa	chr9	+	115193597	115193726	THC1442512
GAM1860	273303	hsa	chr11	+	92812997	92813076	THC1457396
GAM1863	273383	hsa	chrX	+	65182629	65182729	THC1408667

GAM1864	272925	hsa	chr1	-	89090896	89090997	THC1465567
GAM1887	273038	hsa	chr20	-	46615376	46615449	THC1599270
GAM1896	273814	hsa	chr20	+	21174682	21174776	THC1424734
GAM1914	273552	hsa	chr10	-	93938738	93938848	THC1548235
GAM1934	273650	hsa	chr10	-	124624947	124625028	
GAM1937	272740	hsa	chr9	+	35798279	35798392	THC1590719
GAM1942	274335	hsa	chr7	+	133099401	133099514	
GAM1961	273733	hsa	chr12	+	111433254	111433332	THC1587276
GAM1975	272850	hsa	chrX	-	55606620	55606695	THC1498867
GAM1976	274195	hsa	chr21	+	35292418	35292494	
GAM1997	273897	hsa	chr4	+	79802871	79802957	THC1410841
GAM2010	272746	hsa	chr15	+	22660388	22660481	THC1453894
GAM2014	274273	hsa	chr17	-	76816688	76816817	THC1469417
GAM2022	273468	hsa	chr10	+	47568406	47568502	THC1596797
GAM2027	274167	hsa	chr17	-	3662454	3662549	THC1430335
GAM2033	273458	hsa	chr1	+	52243579	52243654	THC1566321
GAM2051	272876	hsa	chr11	+	27725973	27726056	
GAM2058	274192	hsa	chr15	-	89111973	89112050	THC1440062
GAM2062	274583	hsa	chr13	+	97732458	97732539	THC1486208
GAM2098	273430	hsa	chr15	+	64216383	64216457	
GAM2171	273059	hsa	chr8	+	54026270	54026338	
GAM2221	272857	hsa	chr20	+	13327337	13327414	
GAM2223	274087	hsa	chr20	-	50175599	50175687	THC1449211
GAM2233	273636	hsa	chr6	-	167487173	167487264	THC1555864
GAM2251	274576	hsa	chr7	+	17124868	17124962	THC1481584
GAM2260	274201	hsa	chr10	+	29926532	29926658	
GAM2262	273614	hsa	chr20	+	42901138	42901220	
GAM2263	272963	hsa	chr22	-	40238503	40238607	THC1454581
GAM2270	274386	hsa	chrX	-	19237261	19237358	X
GAM2272	273655	hsa	chr9	-	62131109	62131209	THC1581432
GAM2290	272742	hsa	chrX	+	148621116	148621208	THC1489192
GAM2300	272769	hsa	chr22	-	22354493	22354605	THC1524612
GAM2306	274649	hsa	chr9	+	78004552	78004643	
GAM2309	272928	hsa	chr9	+	124008737	124008820	THC1531218
GAM2350	272718	hsa	chr11	+	47322081	47322157	THC1583940
GAM2384	274467	hsa	chr7	+	35442640	35442723	THC1476644
GAM2391	274395	hsa	chr22	-	22354497	22354600	THC1524612
GAM2393	273652	hsa	chr3	+	99981233	99981339	THC1456561
GAM2398	272955	hsa	chr11	-	63185944	63186032	THC1481765
GAM2423	274396	hsa	chr17	+	31809450	31809520	THC1435512
GAM2424	274494	hsa				BE300452	
GAM2440	274631	hsa	chr14	+	29072015	29072090	
GAM2514	273323	hsa	chr1	+	93198982	93199071	THC1442456
GAM2519	272855	hsa	chr10	+	80675207	80675297	
GAM2543	273320	hsa	chr21	+	25868146	25868248	
GAM2565	273492	hsa	chr22	-	17811037	17811137	THC1413987
GAM2578	273789	hsa	chr7	-	82178126	82178204	THC1555889
GAM2591	273917	hsa	chr14	-	104342178	104342279	THC1523079
GAM2608	273125	hsa	chrX	-	131249037	131249167	X
GAM2618	273368	hsa	chr19	+	10351230	10351307	

GAM2624	272849	hsa	chrX	-	128731509	128731586	THC1408939
GAM2628	274390	hsa	chr17	-	15653139	15653240	THC1504686
GAM2631	274565	hsa	chr8	+	8927224	8927320	THC1574137
GAM2640	274599	hsa	chr10	-	13483969	13484042	THC1446810
GAM2669	274588	hsa	chr16	+	35740046	35740150	THC1506080
GAM2672	273245	hsa	chr13	+	97817966	97818053	
GAM2732	274342	hsa	chr7	-	49257580	49257709	THC1524958
GAM2762	273116	hsa	chr13	-	110144402	110144531	THC1427725
GAM2767	272870	hsa	chr11	-	129765262	129765344	THC1552000
GAM2770	274211	hsa	chr16	-	69984108	69984208	THC1566227
GAM2780	273983	hsa	chr11	+	101905422	101905503	THC1434204
GAM2799	273635	hsa	chr17	+	67595564	67595647	
GAM2807	273676	hsa	chr14	-	79828330	79828454	
GAM2808	273259	hsa	chr15	-	53974898	53975004	THC1542535
GAM2817	273556	hsa	chr16	-	15101514	15101592	THC1503496
GAM2827	273765	hsa	chrX	-	54864223	54864327	THC1458957
GAM2839	273960	hsa	chr5	+	21329921	21330005	THC1414413
GAM2846	273951	hsa	chr7	+	143268257	143268368	THC1460148
GAM2868	273919	hsa	chr17	+	78873561	78873655	THC1479162
GAM2887	273868	hsa	chr11	-	69517026	69517123	THC1565280
GAM2908	273720	hsa	chr19	+	51977188	51977290	THC1551777
GAM2911	273097	hsa	chr19	+	50818311	50818382	
GAM2920	273741	hsa	chr17	-	1319193	1319269	THC1537468
GAM2927	272915	hsa	chr10	-	12168404	12168496	THC1533857
GAM2931	274266	hsa	chr8	+	97874565	97874649	
GAM2950	272918	hsa	chr5	-	170095979	170096085	THC1595210
GAM3001	273812	hsa	chr7	+	55877656	55877771	
GAM3004	273912	hsa	chr17	-	79931895	79931983	THC1562045
GAM3028	273626	hsa	chr18	+	1293547	1293665	
GAM3057	273445	hsa	chr19	+	8202273	8202402	THC1540352
GAM3061	273139	hsa	chr9	+	94124802	94124909	
GAM3064	274269	hsa	chr16	+	69459978	69460083	THC1413273
GAM3065	273698	hsa	chr11	+	120332544	120332655	THC1561193
GAM3077	272894	hsa	chr7	+	127843803	127843891	THC1482310
GAM3081	273018	hsa	chr19	+	23059753	23059842	THC1486336
GAM3089	274517	hsa	chr19	+	39513226	39513338	
GAM3091	273142	hsa	chr9	+	96671073	96671162	THC1583417
GAM3119	273073	hsa	chr6	+	54740907	54741015	THC1534163
GAM3123	273923	hsa	chr17	+	63390513	63390591	THC1538938
GAM3126	273363	hsa	chr17	+	43395837	43395937	THC1521438
GAM3132	273009	hsa	chr15	-	53974892	53975005	THC1542535
GAM3138	272987	hsa	chr15	+	33981295	33981406	
GAM3140	273644	hsa	chr17	+	38591279	38591401	
GAM3143	274281	hsa	chr15	+	81003842	81003937	THC1438390
GAM3157	273409	hsa	chr14	-	21733645	21733720	THC1518042
GAM3160	274050	hsa	chr7	+	55877663	55877771	
GAM3163	274509	hsa	chr9	-	28262669	28262778	THC1420983
GAM3174	272990	hsa	chr13	+	42623627	42623725	THC1562314
GAM3183	272851	hsa	chr17	+	36044102	36044188	THC1514025
GAM3190	273551	hsa	chr4	+	95449990	95450087	

GAM3195	274000	hsa	chr11	+	68013720	68013814	
GAM3211	274064	hsa	chr19	+	55666192	55666299	THC1551612
GAM3227	273684	hsa				AA654979	
GAM3236	274136	hsa	chr15	+	48954882	48954962	
GAM3246	274313	hsa	chr20	+	33339251	33339352	THC1592390
GAM3263	273915	hsa	chr7	-	127750640	127750740	THC1429789
GAM3266	273930	hsa	chr20	+	3852982	3853067	THC1510126
GAM3271	273225	hsa	chr10	-	93938749	93938835	THC1548235
GAM3278	273313	hsa	chr22	+	25101178	25101273	THC1477266
GAM3293	273809	hsa	chr11	-	72746540	72746636	THC1557011
GAM3298	273406	hsa	chrX	-	131248823	131248915	X
GAM3311	273753	hsa	chr18	+	47179504	47179580	THC1457365
GAM3323	273541	hsa	chr7	-	72490894	72490989	THC1494864
GAM3330	273922	hsa	chr20	-	62164417	62164528	THC1502484
GAM3350	274006	hsa	chr8	+	9289824	9289923	THC1572440
GAM3368	274046	hsa	chr16	-	72291796	72291909	THC1586053
GAM3414	273670	hsa	chr7	+	50214299	50214399	
GAM3422	274325	hsa	chr11	-	122969346	122969432	THC1481240
GAM3426	273658	hsa	chr7	+	98551385	98551453	
GAM3431	273837	hsa	chr12	+	6952114	6952199	
GAM3452	272984	hsa	chr9	-	124136937	124137028	THC1456154
GAM3461	273764	hsa	chr9	+	88520252	88520357	
GAM3463	273834	hsa	chr7	+	131571664	131571754	THC1586887
GAM3479	274369	hsa	chr16	+	69762451	69762553	
GAM3486	272916	hsa	chr20	+	59248137	59248211	THC1542580
GAM3487	273322	hsa	chr17	-	2260320	2260390	THC1418844
GAM3494	272736	hsa	chr11	+	113157626	113157705	THC1602557
GAM3513	273452	hsa	chr11	+	130044291	130044389	THC1415145
GAM3535	273126	hsa	chr13	+	22420611	22420710	THC1508870
GAM3564	274433	hsa	chr14	-	94797902	94798011	THC1478646
GAM3593	272834	hsa	chr3	+	190505666	190505747	THC1542980
GAM3595	272780	hsa	chr14	+	79670251	79670336	
GAM3605	273046	hsa	chr8	+	30275106	30275196	THC1564243
GAM3630	274378	hsa	chr11	-	78654898	78654985	THC1472355
GAM3640	274353	hsa	chr11	-	47669037	47669118	THC1553582
GAM3646	272917	hsa	chr12	-	120850862	120850962	THC1419306
GAM3666	273260	hsa	chr1	+	143019237	143019346	THC1455892
GAM3691	273966	hsa	chr11	+	8085889	8085960	THC1538463
GAM3712	273312	hsa	chr11	-	129765258	129765348	THC1552000
GAM3747	272999	hsa	chr10	-	117953553	117953667	THC1561414
GAM3768	274423	hsa	chrX	+	47243042	47243137	
GAM3781	273231	hsa	chr19	-	23264656	23264729	THC1525505
GAM3788	273770	hsa	chr12	-	50069896	50069970	THC1556506
GAM3810	274139	hsa	chr11	-	119579263	119579351	THC1452347
GAM3851	274462	hsa	chr22	+	25455342	25455440	THC1464874
GAM3888	272715	hsa	chr11	-	86844505	86844606	THC1425917
GAM3890	273369	hsa	chr8	+	92752551	92752652	
GAM3892	273268	hsa	chr12	-	34242096	34242169	THC1547385
GAM3946	274380	hsa	chr11	+	44652554	44652629	THC1586614
GAM3978	273839	hsa	chr12	+	118768041	118768121	

GAM3990	273638	hsa	chr19	+	44650568	44650651	
GAM4008	274458	hsa	chr14	+	86637061	86637147	THC1526006
GAM4011	272832	hsa	chr22	+	45149119	45149212	THC1541347
GAM4020	272732	hsa	chr11	-	62871608	62871701	THC1452346
GAM4027	274587	hsa	chr17	-	6197075	6197180	THC1482663
GAM4064	273825	hsa	chr7	-	1197566	1197640	THC1476990
GAM4074	273080	hsa	chr7	+	69300375	69300459	
GAM4085	273016	hsa	chr11	+	71416467	71416564	
GAM4107	273548	hsa	chr17	+	71299506	71299629	
GAM4130	273115	hsa	chrX	+	77528890	77528958	
GAM4136	272770	hsa	chr19	-	58315712	58315841	THC1588241
GAM4142	273039	hsa	chrX	-	145175426	145175506	THC1445449
GAM4147	273359	hsa	chr14	-	79828332	79828452	
GAM4152	273089	hsa	chr22	+	25256625	25256741	
GAM4188	273661	hsa	chr11	+	113971971	113972049	
GAM4189	272995	hsa	chr19	-	32944216	32944301	THC1493174
GAM4199	273100	hsa	chr22	-	35997845	35997924	THC1472943
GAM4205	274179	hsa	chr13	-	110102091	110102175	THC1562945
GAM4238	273954	hsa	chr9	-	42216969	42217067	THC1595205
GAM4243	272720	hsa	chr15	+	62347057	62347119	THC1535339
GAM4298	274389	hsa	chr12	-	111675686	111675769	THC1441053
GAM4315	272885	hsa	chr16	+	75288703	75288810	
GAM4364	272968	hsa	chrX	+	98918395	98918498	THC1454247
GAM4376	273184	hsa	chr18	+	182465	182565	THC1549027
GAM4377	274478	hsa	chr20	-	49418894	49419004	THC1566325
GAM4382	273797	hsa	chr10	+	98489976	98490054	
GAM4398	274595	hsa	chr16	+	50452834	50452936	THC1449412
GAM4408	273629	hsa	chr8	-	138777302	138777407	THC1595183
GAM4423	274174	hsa	chr17	+	40086542	40086631	THC1488043
GAM4426	273408	hsa	chr1	-	77432988	77433078	THC1456099
GAM4429	274397	hsa	chr12	-	55937832	55937908	THC1500843
GAM4432	272862	hsa	chr9	+	27028798	27028895	THC1504877
GAM4446	274473	hsa	chrX	-	117986909	117986983	THC1555513
GAM4448	273772	hsa	chr10	+	33327986	33328081	THC1463380
GAM4459	273460	hsa	chr7	+	18267651	18267780	
GAM4516	274256	hsa	chr12	+	50034558	50034663	THC1428232
GAM4538	274060	hsa	chr15	-	53161338	53161430	THC1501655
GAM4544	274031	hsa	chr9	+	100974291	100974366	THC1553853
GAM4557	273376	hsa	chr9	+	88520248	88520362	
GAM4561	273806	hsa	chr1	+	158626687	158626806	THC1510400
GAM4571	272835	hsa	chr19	+	54394158	54394243	THC1427370
GAM4633	273311	hsa	chrX	-	71710862	71710951	THC1437961
GAM4650	274217	hsa	chr17	+	66913128	66913215	
GAM4656	274027	hsa	chr5	+	142589577	142589675	THC1539180
GAM4671	273832	hsa	chr10	-	840148	840239	THC1472112
GAM4685	273414	hsa	chr17	+	26788414	26788525	
GAM4687	273978	hsa	chr12	+	125235787	125235863	THC1588246
GAM4690	274419	hsa	chr20	+	42013351	42013450	
GAM4707	273519	hsa	chrX	+	94524960	94525059	
GAM4709	273976	hsa	chr9	+	97691104	97691181	THC1534017

GAM4733	272719	hsa	chr13	+	99149260	99149327	THC1586272
GAM4738	273617	hsa	chr21	+	25868152	25868238	
GAM4769	273984	hsa	chr8	+	128497043	128497147	THC1416609
GAM4796	274008	hsa	chr19	+	37551256	37551383	THC1471744
GAM4800	274276	hsa	chr15	-	90601712	90601792	THC1585438
GAM4803	274573	hsa	chr7	-	128048648	128048743	THC1452742
GAM4814	274069	hsa	chr10	+	51241197	51241274	THC1564358
GAM4821	274444	hsa	chr20	+	52745273	52745386	THC1410801
GAM4844	273370	hsa	chr16	-	15101510	15101596	THC1503496
GAM4895	273955	hsa	chr11	-	119323982	119324097	THC1589309
GAM4904	273872	hsa	chr9	-	118036640	118036725	THC1585612
GAM4913	272723	hsa	chr18	+	52918008	52918100	
GAM4932	273366	hsa	chr9	-	116757833	116757940	THC1429106
GAM4946	274439	hsa	chr9	-	129644	129766	THC1592088
GAM4955	273274	hsa	chr12	-	31053381	31053455	THC1565490
GAM4969	274176	hsa	chr20	-	43463077	43463178	THC1501266
GAM4971	274471	hsa	chr15	+	37937921	37938008	THC1443612
GAM4975	272907	hsa	chr8	+	142992769	142992862	THC1536309
GAM4986	272899	hsa	chr9	-	43025631	43025760	THC1581432
GAM4996	273300	hsa	chr15	-	32850080	32850167	THC1567626
GAM5000	273561	hsa	chr12	-	116259939	116260015	THC1507051
GAM5008	273975	hsa	chr19	+	54394162	54394238	THC1427370
GAM5011	273902	hsa	chr15	+	45580563	45580638	THC1482318
GAM5016	272791	hsa	chr16	-	71500624	71500722	THC1475552
GAM5035	274367	hsa	chr9	+	71813551	71813660	THC1549688
GAM5048	274190	hsa	chr12	+	118768043	118768119	
GAM5058	274254	hsa	chr12	+	122025582	122025669	THC1529894
GAM5074	272820	hsa	chr18	-	44470838	44470930	THC1497731
GAM5082	274336	hsa	chr8	+	101882283	101882351	
GAM5085	274298	hsa	chr9	-	43025636	43025764	THC1581432
GAM5086	274591	hsa	chr16	-	34577774	34577882	THC1489698
GAM5090	273092	hsa	chr16	+	58268693	58268792	THC1554616
GAM5127	274304	hsa	chr13	+	43743986	43744090	THC1558776
GAM5142	272826	hsa	chr20	+	4104693	4104774	THC1502117
GAM5209	273563	hsa	chr11	-	72669608	72669737	THC1457464
GAM5217	272743	hsa	chr7	-	22848134	22848223	THC1519376
GAM5222	272844	hsa	chr17	+	34060088	34060194	THC1412192
GAM5254	273302	hsa	chrX	+	107483900	107484000	
GAM5266	274038	hsa	chr6	+	28924785	28924860	
GAM5270	273822	hsa	chr10	+	99045264	99045350	
GAM5272	274300	hsa	chr12	-	93734228	93734316	THC1504618
GAM5278	274482	hsa	chr16	+	58433646	58433739	
GAM5280	273067	hsa	chr2	-	233414375	233414476	THC1433887
GAM5292	274558	hsa	chr11	-	96304363	96304450	THC1549749
GAM5324	274456	hsa	chr19	-	51118141	51118216	THC1448850
GAM5329	273306	hsa	chr7	+	133099409	133099504	
GAM5340	272805	hsa	chr8	+	65014377	65014480	THC1540166
GAM5342	272947	hsa	chr19	-	9563450	9563548	THC1551467
GAM5354	274608	hsa	chr11	-	68147756	68147845	THC1577776
GAM5370	272848	hsa	chr11	-	26652582	26652656	THC1411839

GAM5371	272828	hsa	chr19	-	17214638	17214719	THC1471364
GAM5374	272902	hsa	chr19	+	37551253	37551383	THC1471744
GAM5385	273791	hsa	chr3	+	35621432	35621507	
GAM5415	273962	hsa	chr18	+	41537048	41537144	THC1528226
GAM5422	273988	hsa	chrX	+	47243046	47243133	
GAM5444	273462	hsa	chr9	+	127094099	127094175	
GAM5454	274215	hsa	chrX	+	101393105	101393197	THC1409470
GAM5486	273440	hsa	chr11	-	71909012	71909130	
GAM5498	273647	hsa	chr16	+	3674783	3674841	
GAM5512	272797	hsa	chr19	+	54100819	54100904	
GAM5514	274351	hsa	chr22	+	25442199	25442285	THC1597098
GAM5526	273538	hsa	chr14	-	79906276	79906371	THC1592424
GAM5560	274498	hsa	chr11	+	86570029	86570141	
GAM5597	273645	hsa	chr17	-	42550378	42550491	THC1599964
GAM5615	273956	hsa	chr12	-	51339544	51339646	THC1518024
GAM5617	274283	hsa	chrX	-	47865219	47865324	THC1507537
GAM5623	272788	hsa	chr11	+	113971966	113972053	
GAM5640	273630	hsa	chr19	-	16837776	16837864	THC1504884
GAM5653	273697	hsa	chr8	+	77350810	77350897	
GAM5654	272722	hsa	chr16	+	21698933	21699004	
GAM5657	274306	hsa	chr12	+	1344537	1344626	
GAM5673	273642	hsa	chrX	-	7772009	7772132	THC1569880
GAM5691	273748	hsa	chr19	+	54100823	54100899	
GAM5697	273662	hsa	chr16	+	31719324	31719406	THC1425734
GAM5703	273467	hsa	chr19	-	32944217	32944300	THC1493174
GAM5723	272914	hsa	chr14	+	71679220	71679300	THC1476985
GAM5728	273066	hsa	chr10	+	79169049	79169129	
GAM5744	274441	hsa	chr18	+	901080	901209	THC1440500
GAM5749	272833	hsa	chr16	-	18721900	18721984	THC1544080
GAM5764	273567	hsa	chr9	-	62131098	62131225	THC1581432
GAM5798	273811	hsa	chrX	+	52222704	52222792	
GAM5800	274610	hsa	chr22	+	35297121	35297239	
GAM5806	274604	hsa	chr16	+	23608784	23608886	THC1418882
GAM5809	274627	hsa	chr10	+	114373899	114373992	THC1448987
GAM5814	272994	hsa	chr20	+	58108888	58108966	THC1515190
GAM5823	274018	hsa	chrX	-	7772036	7772111	THC1569880
GAM5826	273742	hsa	chr16	+	492716	492803	THC1479316
GAM5836	273651	hsa	chr2	+	232531653	232531737	THC1429623
GAM5859	273210	hsa	chr8	+	120684537	120684620	
GAM5868	273795	hsa	chr12	-	56320934	56321064	THC1416629
GAM5872	274417	hsa	chr7	+	78069309	78069439	
GAM5874	273425	hsa	chr21	+	31954910	31954992	THC1562547
GAM5884	274310	hsa	chr14	+	65430589	65430697	
GAM5886	274292	hsa	chr10	+	101743923	101744003	THC1541391
GAM5910	274515	hsa	chr22	-	24156183	24156291	THC1550693
GAM5913	273882	hsa	chr15	-	32850069	32850177	THC1567626
GAM5916	273419	hsa	chr20	+	3852983	3853066	THC1510126
GAM5958	272739	hsa	chr15	-	90601847	90601948	THC1585438
GAM5963	272960	hsa	chrX	-	126883041	126883119	THC1559611
GAM5971	273769	hsa	chr9	-	10754212	10754308	THC1420615

GAM5973	273329	hsa	chr22	+	42645831	42645952	
GAM5990	273343	hsa	chr6	+	30850318	30850400	
GAM5998	273035	hsa	chr16	+	30012813	30012908	
GAM6014	273724	hsa	chr9	+	21850242	21850306	THC1506353
GAM6024	273453	hsa	chr9	-	116757829	116757944	THC1429106
GAM6051	272986	hsa	chr14	-	62941952	62942035	THC1548739
GAM6055	274401	hsa	chr19	+	43546131	43546204	THC1565950
GAM6083	272871	hsa	chr11	-	69517032	69517115	THC1565280
GAM6102	273334	hsa	chr7	+	43773501	43773597	THC1502537
GAM6105	273869	hsa	chr18	-	44470840	44470929	THC1497731
GAM6113	272926	hsa	chr16	-	75001000	75001074	THC1426415
GAM6121	273971	hsa	chr18	+	182463	182567	THC1549027
GAM6161	274584	hsa	chr15	-	28205840	28205952	
GAM6172	274479	hsa	chr13	-	73791102	73791195	THC1564754
GAM6195	274363	hsa	chr14	+	22753017	22753087	
GAM6234	274626	hsa	chr10	+	80342962	80343085	THC1435926
GAM6250	273412	hsa	chr20	+	36468581	36468697	THC1549599
GAM6265	273415	hsa	chr9	+	78004551	78004658	
GAM6271	273230	hsa	chr7	+	133099410	133099503	
GAM6296	274481	hsa	chr17	-	40099114	40099186	THC1585293
GAM6306	273360	hsa	chr12	-	56453736	56453829	THC1439723
GAM6307	272969	hsa	chr7	+	1018996	1019113	THC1436384
GAM6329	274391	hsa	chr11	-	26729102	26729184	THC1470567
GAM6361	273235	hsa	chr17	-	77134484	77134572	THC1480218
GAM6366	272778	hsa	chr14	+	102138768	102138891	
GAM6388	273432	hsa	chr8	+	9805117	9805208	
GAM6414	274005	hsa	chr10	+	98886813	98886898	THC1477135
GAM6417	274197	hsa	chr9	-	116757828	116757945	THC1429106
GAM6431	274282	hsa	chr19	+	12904884	12904956	THC1445246
GAM6440	274475	hsa	chr7	+	104082529	104082634	
GAM6459	272730	hsa	chr6	+	30850314	30850404	
GAM6466	273619	hsa	chr17	+	78873540	78873668	THC1479162
GAM6467	273958	hsa	chr13	+	23774919	23775049	
GAM6506	274360	hsa	chr17	+	29270291	29270364	THC1527322
GAM6509	272939	hsa	chr21	+	16592351	16592462	THC1520849
GAM6531	274500	hsa	chr8	+	54026269	54026339	
GAM6541	273820	hsa	chr13	+	99881835	99881928	
GAM6564	273713	hsa	chr17	+	78873542	78873672	THC1479162
GAM6567	274126	hsa	chr11	+	88200970	88201046	
GAM6618	274438	hsa	chr7	-	140693627	140693722	THC1433860
GAM6638	273093	hsa	chr3	-	51855487	51855582	THC1491817
GAM6674	272785	hsa	chr16	-	4506790	4506860	THC1597694
GAM6700	272951	hsa	chr1	+	156731865	156731959	THC1411123
GAM6773	273894	hsa	chr1	+	203719518	203719616	
GAM6774	273974	hsa	chr5	+	175687263	175687360	THC1576455
GAM6799	274449	hsa	chr12	-	56320939	56321062	THC1416629
GAM6807	273041	hsa	chr10	+	121833616	121833746	THC1534183
GAM6811	273427	hsa	chr13	-	110102077	110102190	THC1562945
GAM6818	274330	hsa	chr7	-	122713355	122713419	THC1456310
GAM6836	273506	hsa	chr7	-	71860457	71860555	THC1516956

GAM6840	274057	hsa	chr19	+	40508403	40508488	THC1410381
GAM6842	274451	hsa	chr18	-	22646286	22646415	THC1587491
GAM6858	273761	hsa	chrX	+	118137371	118137458	THC1589537
GAM6978	273785	hsa	chr7	-	140693634	140693712	THC1433860
GAM6982	273801	hsa	chr22	-	44721785	44721914	THC1562390
GAM6994	273318	hsa	chr19	+	44650573	44650646	
GAM6996	274474	hsa	chr17	-	6197081	6197176	THC1482663
GAM7017	273136	hsa	chr9	-	43025637	43025753	THC1581432
GAM7022	274327	hsa	chrX	-	47741101	47741215	THC1416555
GAM7067	273924	hsa	chr19	+	42704752	42704859	THC1564785
GAM7078	274394	hsa	chr17	-	38614091	38614177	THC1513966
GAM7080	272921	hsa	chr1	-	1047334	1047441	
GAM7095	274466	hsa	chr7	+	104082522	104082644	
GAM7102	274037	hsa	chr1	+	152542921	152542996	
GAM7124	273643	hsa	chr16	+	75288695	75288819	
GAM7135	274570	hsa	chrX	-	47741108	47741208	THC1416555
GAM7140	273238	hsa	chr16	+	69762447	69762557	
GAM7146	272859	hsa	chr13	+	35139835	35139920	
GAM7162	272837	hsa	chr20	+	53192373	53192473	THC1579830
GAM7166	274177	hsa	chr10	-	109789635	109789705	THC1458161
GAM7169	272967	hsa	chr16	+	50572112	50572240	THC1553866
GAM7179	272756	hsa	chr7	+	1018984	1019113	THC1436384
GAM7199	274267	hsa	chr13	-	48078880	48078943	THC1599986
GAM7201	272985	hsa	chr17	+	27583817	27583894	
GAM7212	274277	hsa	chr21	-	45164402	45164486	THC1562047
GAM7241	272854	hsa	chr12	-	46762982	46763077	THC1530062
GAM7250	272893	hsa	chr7	-	82179628	82179717	THC1555889
GAM7255	273123	hsa	chr15	+	33981298	33981403	
GAM7257	274358	hsa	chr6	-	159922811	159922884	THC1453470
GAM7260	273965	hsa	chrX	+	61858740	61858831	THC1520561
GAM7264	273271	hsa	chr11	-	78654885	78654988	THC1472355
GAM7272	273914	hsa	chr20	+	44585164	44585243	THC1485240
GAM7302	273023	hsa	chr15	-	53161341	53161428	THC1501655
GAM7320	273961	hsa	chr5	-	69298330	69298411	THC1414413
GAM7331	273540	hsa	chr20	+	61512957	61513055	THC1457355
GAM7345	273137	hsa	chr9	-	62131103	62131215	THC1581432
GAM7349	273108	hsa	chr12	-	43372332	43372433	THC1564824
GAM7350	274374	hsa	chr1	+	83600201	83600312	THC1413248
GAM7363	273004	hsa	chr9	+	97689215	97689321	THC1497034
GAM7366	273692	hsa	chr12	+	49033585	49033673	
GAM7369	274078	hsa	chr13	+	26088279	26088405	THC1419952
GAM7371	273747	hsa	chr7	-	127634676	127634751	THC1471217
GAM7374	273020	hsa	chr20	-	36127247	36127336	THC1530397
GAM7400	274260	hsa	chr13	+	92806795	92806880	
GAM7415	272919	hsa	chr16	+	69762453	69762552	
GAM7416	274333	hsa	chr16	-	34577775	34577881	THC1489698
GAM7440	273952	hsa	chr21	-	42307485	42307562	THC1502578
GAM7446	273001	hsa	chr19	+	45848125	45848210	THC1523801
GAM7449	273326	hsa	chr7	+	26847818	26847898	
GAM7464	274181	hsa	chr8	-	37872487	37872595	THC1446607

GAM7473	273099	hsa	chr19	-	3484360	3484468	
GAM7477	273780	hsa	chr7	+	72048231	72048360	THC1461329
GAM7520	274035	hsa	chr17	+	42534098	42534177	THC1467464
GAM7530	274183	hsa	chr7	-	3260144	3260217	
GAM7542	273735	hsa	chr12	+	129239735	129239827	THC1466501
GAM7546	273028	hsa	chr17	+	60900963	60901037	THC1551816
GAM7553	272726	hsa	chr7	-	26917372	26917455	
GAM7559	273367	hsa	chr12	+	49747946	49748037	THC1494932
GAM7591	273413	hsa	chr2	-	136686979	136687030	
GAM7592	272904	hsa	chr21	+	22819631	22819716	THC1466992
GAM7601	273675	hsa	chr11	+	92812990	92813082	THC1457396
GAM7636	273095	hsa	chr9	+	88520255	88520353	
GAM7645	273324	hsa	chr20	+	2683188	2683285	
GAM7654	273981	hsa	chr10	-	102859212	102859317	THC1426270
GAM7663	273826	hsa	chr11	+	68334837	68334946	
GAM7664	272911	hsa	chr14	-	94797907	94798001	THC1478646
GAM7674	273135	hsa	chr9	+	63788378	63788471	THC1419349
GAM7700	272842	hsa	chr8	+	101882286	101882348	
GAM7707	273079	hsa	chr9	+	68168613	68168714	THC1445488
GAM7729	274575	hsa	chr22	-	37886140	37886212	THC1421992
GAM7776	273509	hsa	chrX	+	120997504	120997603	THC1453918
GAM7777	272784	hsa	chr11	-	96304357	96304457	THC1549749
GAM7784	273888	hsa	chr13	+	107796034	107796141	THC1462983
GAM7817	273042	hsa	chr14	+	101053737	101053810	
GAM7837	274625	hsa	chr12	+	29387505	29387634	THC1496165
GAM7845	273000	hsa	chr11	+	68013714	68013820	
GAM7854	274581	hsa	chr19	-	52841049	52841155	THC1466094
GAM7865	273932	hsa	chr10	+	102246140	102246247	
GAM7871	274580	hsa	chr14	-	93639176	93639252	THC1410715
GAM7884	274411	hsa	chr12	+	102447082	102447156	
GAM7889	273113	hsa	chr20	-	50175600	50175686	THC1449211
GAM7898	274651	hsa	chr11	+	47657707	47657795	THC1551035
GAM7902	273388	hsa	chr10	+	29022047	29022132	THC1551030
GAM7911	273133	hsa	chr8	+	25092986	25093099	THC1518415
GAM7915	273648	hsa	chr4	-	14497507	14497582	THC1479780
GAM7916	273707	hsa	chr9	-	94201169	94201269	THC1504257
GAM7933	274290	hsa	chr7	-	3260143	3260218	
GAM7940	274294	hsa	chr13	-	101211038	101211096	THC1511046
GAM7954	273703	hsa	chr19	+	43546115	43546217	THC1565950
GAM7966	272924	hsa	chr14	-	67546633	67546732	THC1566842
GAM7980	272875	hsa	chr15	+	55163316	55163417	THC1506760
GAM8013	274173	hsa	chr21	+	36439313	36439388	THC1440331
GAM8016	273817	hsa	chr9	+	33246239	33246344	
GAM8026	274596	hsa	chr19	-	58074215	58074327	THC1495667
GAM8031	273258	hsa	chr12	+	26287592	26287680	THC1546633
GAM8047	272759	hsa	chrX	+	136594089	136594179	THC1478628
GAM8100	274032	hsa	chr18	-	10904327	10904425	THC1429003
GAM8109	273144	hsa	chr15	+	48231664	48231745	THC1589068
GAM8145	274209	hsa	chr10	+	90807704	90807788	THC1510482
GAM8164	273843	hsa	chr17	-	76816710	76816797	THC1469417

GAM8206	273474	hsa	chr11	+	107994686	107994771	
GAM8236	273379	hsa	chr17	+	45732160	45732265	THC1546057
GAM8256	272890	hsa	chr15	+	75797514	75797609	THC1407403
GAM8276	272766	hsa	chr19	-	61627070	61627153	THC1409031
GAM8285	272912	hsa	chr1	+	158626692	158626797	THC1510400
GAM8288	273344	hsa	chr18	+	54931946	54932023	THC1578650
GAM8311	273585	hsa	chr15	+	96904480	96904567	THC1513521
GAM8335	274624	hsa	chr16	+	30752830	30752934	THC1509731
GAM8339	273920	hsa	chrX	+	107487845	107487922	
GAM8349	273879	hsa	chrX	+	136594068	136594192	THC1478628
GAM8362	274169	hsa	chr15	+	43562099	43562221	
GAM8380	274582	hsa	chr3	-	23784450	23784553	THC1462671
GAM8386	273746	hsa	chr19	+	18386080	18386138	THC1520594
GAM8389	272961	hsa	chr7	+	147265659	147265735	
GAM8396	274470	hsa	chr9	-	113370917	113371017	THC1490929
GAM8412	274415	hsa	chr17	+	67981356	67981449	
GAM8439	274622	hsa	chrX	+	77528891	77528957	
GAM8447	273354	hsa	chr15	+	26678132	26678230	THC1453010
GAM8452	273823	hsa	chr1	+	10844836	10844919	
GAM8473	273147	hsa	chr16	+	3585727	3585790	
GAM8489	273272	hsa	chr15	+	49193542	49193626	THC1577110
GAM8506	273407	hsa	chr14	+	80296015	80296094	THC1473700
GAM8531	274555	hsa	chr12	+	80266794	80266861	THC1449666
GAM8539	274016	hsa	chr11	+	88200943	88201072	
GAM8542	273987	hsa	chr16	-	25177054	25177119	THC1540035
GAM8563	272749	hsa	chr8	-	81283739	81283810	THC1550510
GAM8573	274457	hsa	chr22	-	17266415	17266490	THC1565479
GAM8598	273416	hsa	chr21	+	31954902	31955007	
GAM8601	274425	hsa	chr9	+	114561400	114561477	
GAM8611	273057	hsa	chr22	-	43677892	43677977	THC1497330
GAM8631	274476	hsa	chr17	+	30319063	30319172	THC1539612
GAM8636	273214	hsa	chr14	+	93614982	93615066	THC1518532
GAM8647	274434	hsa	chr16	-	30002913	30003001	THC1439119
GAM8665	274538	hsa	chr11	+	10301954	10302053	
GAM8678	274387	hsa	chr19	+	62449343	62449421	THC1568419
GAM8693	273624	hsa	chr10	-	105533389	105533457	THC1524354
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GAM336126	273943	hsa					
GAM336127	273055	hsa					
GAM336128	273083	hsa					
GAM336129	273972	hsa					
GAM336130	273098	hsa					
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GAM336132	273118	hsa					
GAM336133	273438	hsa					
GAM336134	273465	hsa					

GAM336135	273143	hsa	
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GAM336137	273476	hsa	
GAM336138	273154	hsa	
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GAM336140	273164	hsa	
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GAM336147	273499	hsa	
GAM336148	273500	hsa	
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GAM336152	273188	hsa	
GAM336153	273507	hsa	
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GAM336242	274640	hsa					
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GAM336246	273631	hsa	chr12	-	265415	265505	
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GAM336249	273070	hsa	chr17	+	673655	673748	
GAM336250	274562	hsa	chr8	+	828387	828485	
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GAM336252	273970	hsa	chr17	+	960158	960264	
GAM336253	274288	hsa	chrX	+	1124872	1124967	
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GAM336270	272872	hsa	chr10	+	3269951	3270046	
GAM336271	272808	hsa	chr12	+	3307949	3308029	
GAM336272	273351	hsa	chr12	+	3477981	3478093	
GAM336273	273880	hsa	chr19	-	3553817	3553923	THC1448745
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GAM336278	272861	hsa	chr17	+	4317936	4318036	
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GAM336280	273903	hsa	chr11	+	4390684	4390806	
GAM336281	273653	hsa	chr6	+	4437001	4437082	THC1432163
GAM336282	272882	hsa	chr17	+	4444093	4444183	
GAM336283	273223	hsa	chr17	+	4444095	4444180	
GAM336284	273653	hsa	chr6	+	4649605	4649686	THC1432163

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GAM336288	274024	hsa	chr7	+	5491697	5491779	
GAM336289	274510	hsa	chr11	+	5537268	5537354	
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GAM336291	273942	hsa	chr11	-	5605037	5605141	
GAM336292	273653	hsa	chr6	+	5676458	5676539	THC1432163
GAM336293	273852	hsa	chr17	+	5710623	5710717	
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GAM336302	273278	hsa	chr10	-	6332575	6332656	THC1600051
GAM336303	273612	hsa	chr17	+	6623046	6623142	THC1486168
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GAM336312	274094	hsa	chr12	+	7182398	7182479	
GAM336313	274238	hsa	chr19	+	7192320	7192401	
GAM336314	272763	hsa	chr12	+	7254793	7254866	THC1510880
GAM336315	274520	hsa	chr5	+	7755711	7755812	
GAM336316	273165	hsa	chr5	+	7755712	7755811	
GAM336317	273596	hsa	chr5	+	7755718	7755806	
GAM336318	273117	hsa	chr17	-	7839733	7839801	
GAM336319	274499	hsa	chr7	-	7865496	7865574	THC1491131
GAM336320	273284	hsa	chr17	+	8370724	8370824	
GAM336321	274242	hsa	chr17	+	8370731	8370818	
GAM336322	273653	hsa	chr11	-	8383107	8383188	THC1432163
GAM336323	272993	hsa	chr19	+	8427810	8427893	THC1529920
GAM336324	273431	hsa	chr19	-	8553447	8553552	THC1569262
GAM336325	273722	hsa	chr8	+	8562574	8562668	
GAM336326	272782	hsa	chr11	+	8745924	8746036	THC1422230
GAM336327	273266	hsa	chr19	-	8936622	8936712	
GAM336328	274370	hsa	chr19	-	8936626	8936707	
GAM336329	273998	hsa	chr17	-	9095043	9095136	
GAM336330	273653	hsa	chr10	+	9107249	9107330	THC1432163
GAM336331	273982	hsa	chr11	-	9202641	9202751	THC1509380
GAM336332	273977	hsa	chr11	+	9215763	9215833	
GAM336333	273006	hsa	chr11	-	9341437	9341516	THC1438257
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GAM336336	274541	hsa	chr2	-	9554905	9555006	THC1537102
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GAM336338	274406	hsa	chr18	+	9584579	9584691	
GAM336339	273202	hsa	chr18	+	9731276	9731375	THC1544485
GAM336340	273518	hsa	chr3	+	9732603	9732700	
GAM336341	272768	hsa	chr3	+	9793682	9793765	
GAM336342	273393	hsa	chr3	+	9793686	9793761	
GAM336343	274171	hsa	chr3	+	9793688	9793759	
GAM336344	274315	hsa	chr11	+	9881789	9881884	
GAM336345	274202	hsa	chr18	+	9906418	9906525	THC1426625
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GAM336347	272998	hsa	chr19	+	10064670	10064749	
GAM336348	273653	hsa	chr4	-	10077912	10077993	THC1432163
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GAM336350	273515	hsa	chr19	+	10212232	10212331	
GAM336351	274619	hsa	chr11	-	10330153	10330243	THC1458569
GAM336352	273653	hsa	chr8	-	10343377	10343458	THC1432163
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GAM336354	274104	hsa	chr19	+	10593137	10593237	
GAM336355	273130	hsa	chrX	-	10653601	10653696	
GAM336356	272724	hsa	chrX	-	10653609	10653695	
GAM336357	274489	hsa	chr17	-	10669795	10669870	THC1569888
GAM336358	274293	hsa	chr17	+	10670232	10670317	
GAM336359	274096	hsa	chr8	-	10822733	10822833	
GAM336360	272745	hsa	chr8	-	10822748	10822821	
GAM336361	273689	hsa	chr2	+	10939875	10939962	
GAM336362	273027	hsa	chrX	-	10975636	10975715	
GAM336363	273005	hsa	chr16	+	11000648	11000730	
GAM336364	273399	hsa	chr12	-	11034593	11034668	
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GAM336366	274592	hsa	chr17	+	11236576	11236656	
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GAM336368	273424	hsa	chr11	+	11301473	11301581	
GAM336369	273096	hsa	chr19	+	11451765	11451866	
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GAM336372	273122	hsa	chr10	-	11647684	11647758	
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GAM336374	273189	hsa	chr1	-	11686900	11686999	
GAM336375	273666	hsa	chr19	+	11850038	11850168	
GAM336376	273985	hsa	chr16	-	11968201	11968285	
GAM336377	274603	hsa	chr16	-	11968215	11968272	
GAM336378	273653	hsa	chr17	+	12026100	12026181	THC1432163
GAM336379	273827	hsa	chr10	+	12028827	12028924	THC1413460
GAM336380	273102	hsa	chr16	+	12103390	12103473	
GAM336381	273229	hsa	chr16	+	12103394	12103469	
GAM336382	274222	hsa	chr16	-	12118809	12118896	
GAM336383	273050	hsa	chr8	-	12183748	12183832	
GAM336384	274648	hsa	chr20	-	12348835	12348933	

GAM336385	273559	hsa	chr20	-	12348840	12348928	
GAM336386	272741	hsa	chr16	+	12401666	12401757	
GAM336387	274639	hsa	chrX	+	12619567	12619645	
GAM336388	274414	hsa	chr10	+	12778141	12778254	THC1449659
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GAM336390	274110	hsa	chr19	-	12791804	12791904	
GAM336391	273132	hsa	chr19	-	12791805	12791897	
GAM336392	273074	hsa	chr19	-	12791819	12791890	
GAM336393	274513	hsa	chr17	+	12833782	12833874	THC1466980
GAM336394	273091	hsa	chr8	+	12908963	12909065	
GAM336395	274383	hsa	chr8	+	12908972	12909059	
GAM336396	274131	hsa	chr18	+	13099112	13099215	THC1482711
GAM336397	273254	hsa	chr16	+	13120513	13120614	
GAM336398	272738	hsa	chr18	+	13443102	13443198	
GAM336399	272905	hsa	chr18	+	13641031	13641147	
GAM336400	273653	hsa	chr3	+	13789635	13789716	THC1432163
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GAM336402	272865	hsa	chr16	+	13863788	13863877	
GAM336403	273441	hsa	chrY	+	14113783	14113853	
GAM336404	273864	hsa	chr22	-	14534146	14534255	
GAM336405	274586	hsa	chr18	+	14872165	14872228	
GAM336406	273364	hsa	chr17	+	14912408	14912493	
GAM336407	273756	hsa	chr10	-	15010865	15010956	THC1457141
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GAM336413	273186	hsa	chr16	+	15476401	15476499	
GAM336414	273012	hsa	chr7	-	15591278	15591386	
GAM336415	272908	hsa	chr16	+	15740561	15740652	
GAM336416	273433	hsa	chr16	+	15740566	15740644	
GAM336417	274507	hsa	chr16	+	15744832	15744941	THC1415222
GAM336418	272860	hsa	chr22	+	15952672	15952800	THC1477133
GAM336419	272895	hsa	chr11	-	16028405	16028514	
GAM336420	273653	hsa	chr10	+	16256343	16256424	THC1432163
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GAM336422	273160	hsa	chr3	+	16344259	16344345	
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GAM336424	273221	hsa	chr16	+	16592675	16592767	
GAM336425	274416	hsa	chr22	-	16772471	16772545	
GAM336426	273653	hsa	chr3	-	16815249	16815330	THC1432163
GAM336427	273712	hsa	chr8	+	16838225	16838337	
GAM336428	273996	hsa	chr22	+	16882174	16882253	
GAM336429	273569	hsa	chr17	+	17033275	17033360	
GAM336430	273734	hsa	chr7	+	17062054	17062167	
GAM336431	273953	hsa	chr7	+	17062060	17062156	
GAM336432	274163	hsa	chr7	+	17062066	17062151	THC1579034
GAM336433	273941	hsa	chr7	+	17062067	17062150	THC1579034
GAM336434	273472	hsa	chr20	+	17392534	17392608	

GAM336435	274021	hsa	chr10	-	17533127	17533225	
GAM336436	273146	hsa	chr22	+	17740558	17740657	
GAM336437	273422	hsa	chr22	+	17740568	17740650	
GAM336438	274400	hsa	chr19	+	17892665	17892736	
GAM336439	274646	hsa	chr11	+	18148992	18149071	
GAM336440	274331	hsa	chr11	+	18148996	18149069	
GAM336441	274270	hsa	chrY	+	18229150	18229239	
GAM336442	273265	hsa	chr9	+	18307900	18307989	
GAM336443	273731	hsa	chr11	-	18338801	18338891	
GAM336444	274161	hsa	chr11	-	18338802	18338898	
GAM336445	273950	hsa	chr22	+	18488728	18488800	THC1431185
GAM336446	274356	hsa	chr8	-	18494947	18495055	THC1497955
GAM336447	272991	hsa	chr17	-	18512666	18512795	
GAM336448	273221	hsa	chr16	-	18720857	18720949	
GAM336449	272839	hsa	chr10	+	18810398	18810479	
GAM336450	273072	hsa	chr10	+	18853144	18853257	
GAM336451	273243	hsa	chr18	+	18960647	18960760	
GAM336452	274321	hsa	chr18	+	18960660	18960750	
GAM336453	273308	hsa	chr15	-	19104724	19104809	
GAM336454	274531	hsa	chr1	+	19125660	19125759	THC1500671
GAM336455	273557	hsa	chr17	+	19182411	19182470	
GAM336456	273247	hsa	chr13	+	19183141	19183217	
GAM336457	274375	hsa	chr15	+	19215800	19215905	
GAM336458	273579	hsa	chr12	+	19294864	19294956	
GAM336459	273855	hsa	chr20	+	19383933	19384043	THC1536079
GAM336460	272981	hsa	chr16	+	19464207	19464315	THC1457170
GAM336461	273246	hsa	chr18	+	19661582	19661668	THC1541259
GAM336462	274349	hsa	chr13	+	19699736	19699855	
GAM336463	272903	hsa	chr19	-	19714759	19714887	
GAM336464	273418	hsa	chr15	-	19826795	19826921	
GAM336465	273575	hsa	chr20	+	19884809	19884896	
GAM336466	273373	hsa	chr20	+	19890625	19890730	THC1512879
GAM336467	272733	hsa	chr20	+	19890627	19890728	THC1512879
GAM336468	274432	hsa	chr8	+	19896011	19896086	
GAM336469	272817	hsa	chr20	+	20036295	20036382	
GAM336470	272818	hsa	chr20	+	20036295	20036385	
GAM336471	273992	hsa	chr11	+	20105273	20105369	
GAM336472	272884	hsa	chr15	+	20299247	20299338	
GAM336473	273854	hsa	chr20	+	20336018	20336097	
GAM336474	272896	hsa	chrY	-	20354510	20354577	
GAM336475	273683	hsa	chr15	+	20384897	20384984	
GAM336476	274390	hsa	chr17	-	20417307	20417408	THC1504686
GAM336477	273910	hsa	chr16	+	20421189	20421285	THC1552118
GAM336478	274556	hsa	chr16	+	20421197	20421282	THC1552118
GAM336479	273910	hsa	chr16	-	20480066	20480162	THC1552118
GAM336480	274556	hsa	chr16	-	20480069	20480154	THC1552118
GAM336481	272829	hsa	chr11	+	20545221	20545313	
GAM336482	273840	hsa	chr8	-	20609935	20610027	
GAM336483	274643	hsa	chr8	+	20641538	20641624	
GAM336484	273002	hsa	chr12	+	20790820	20790916	

GAM336485	273650	hsa	chr22	+	20851743	20851824	
GAM336486	273627	hsa	chr18	-	21001411	21001516	THC1531401
GAM336487	272965	hsa	chr5	-	21104974	21105023	
GAM336488	273007	hsa	chr22	-	21165273	21165366	
GAM336489	273653	hsa	chr12	+	21185062	21185143	THC1432163
GAM336490	274227	hsa	chr5	-	21350021	21350108	
GAM336491	274186	hsa	chr21	+	21374719	21374791	
GAM336492	273570	hsa	chr16	-	21380738	21380838	
GAM336493	274275	hsa	chr14	-	21401896	21401977	
GAM336494	274477	hsa	chr21	+	21775643	21775725	
GAM336495	273570	hsa	chr16	-	21813001	21813101	
GAM336496	273653	hsa	chr18	-	21821931	21822012	THC1432163
GAM336497	274650	hsa	chr8	+	21935927	21936033	
GAM336498	273775	hsa	chr8	+	21935946	21936015	
GAM336499	274399	hsa	chr10	+	21981294	21981405	
GAM336500	274388	hsa	chr14	+	22025321	22025400	
GAM336501	273241	hsa	chr22	-	22297321	22297428	
GAM336502	272910	hsa	chr22	-	22350120	22350199	
GAM336503	272909	hsa	chr13	-	22360083	22360172	
GAM336504	274144	hsa	chr13	-	22376839	22376946	
GAM336505	274204	hsa	chr14	+	22426100	22426188	
GAM336506	273570	hsa	chr16	+	22435583	22435683	
GAM336507	274422	hsa	chr10	-	22440215	22440311	THC1586362
GAM336508	274421	hsa	chr10	-	22440222	22440311	THC1586362
GAM336509	274637	hsa	chr22	+	22444388	22444458	
GAM336510	273570	hsa	chr16	+	22480967	22481067	
GAM336511	273653	hsa	chr5	+	22524532	22524613	THC1432163
GAM336512	274446	hsa	chr18	+	22572448	22572552	
GAM336513	273673	hsa	chr15	+	22650373	22650445	
GAM336514	273159	hsa	chr15	+	22660392	22660478	
GAM336515	274469	hsa	chr14	+	22661282	22661370	
GAM336516	272795	hsa	chr22	+	22796154	22796241	
GAM336517	274589	hsa	chr13	-	22937369	22937499	
GAM336518	274148	hsa	chr15	+	22950966	22951048	THC1441640
GAM336519	273653	hsa	chr18	-	23259601	23259682	THC1432163
GAM336520	273273	hsa	chr19	-	23264637	23264744	
GAM336521	273558	hsa	chr19	-	23265234	23265346	
GAM336522	273621	hsa	chrX	+	23295481	23295586	THC1553039
GAM336523	273653	hsa	chr12	-	23320241	23320322	THC1432163
GAM336524	273936	hsa	chr16	-	23523635	23523731	THC1533234
GAM336525	273899	hsa	chr7	+	23528063	23528155	
GAM336526	274443	hsa	chrX	-	23528432	23528525	THC1529129
GAM336527	273759	hsa	chrX	-	23528447	23528517	THC1529129
GAM336528	273062	hsa	chr22	+	24199772	24199865	
GAM336529	273931	hsa	chr22	+	24199774	24199862	
GAM336530	273728	hsa	chr13	+	24214818	24214923	THC1472714
GAM336531	273729	hsa	chr13	+	24214818	24214924	THC1472714
GAM336532	273495	hsa	chr15	-	24278760	24278860	THC1473420
GAM336533	273905	hsa	chr15	-	24278769	24278851	THC1473420
GAM336534	274252	hsa	chr13	-	24437886	24437973	

GAM336535	273568	hsa	chr13	+	24538340	24538420	
GAM336536	273653	hsa	chr11	+	24634603	24634684	THC1432163
GAM336537	272836	hsa	chr16	+	24755757	24755839	THC1428340
GAM336538	274418	hsa	chr16	+	24755758	24755838	THC1428340
GAM336539	273908	hsa	chr10	+	24906581	24906683	THC1540601
GAM336540	272800	hsa	chr10	+	24922097	24922182	
GAM336541	273076	hsa	chr14	-	25258227	25258300	AA676592
GAM336542	273402	hsa	chr7	-	25398398	25398472	THC1499311
GAM336543	272954	hsa	chr20	+	25551677	25551766	
GAM336544	274188	hsa	chr20	-	25755465	25755570	
GAM336545	273600	hsa	chr2	+	25807898	25807988	
GAM336546	273653	hsa	chr11	+	25943926	25944007	THC1432163
GAM336547	274188	hsa	chr20	+	25957608	25957713	
GAM336548	274030	hsa	chr12	+	26121979	26122055	THC1502105
GAM336549	273653	hsa	chr14	+	26362757	26362838	THC1432163
GAM336550	272975	hsa	chr12	+	26370649	26370725	
GAM336551	274279	hsa	chr7	+	26442598	26442683	
GAM336552	272988	hsa	chr9	+	26468156	26468242	
GAM336553	274445	hsa	chrX	-	26541313	26541418	
GAM336554	272906	hsa	chr15	+	26675760	26675862	
GAM336555	273169	hsa	chr15	+	26857983	26858065	
GAM336556	272913	hsa	chr17	+	26895579	26895689	
GAM336557	273653	hsa	chr18	+	26976985	26977066	THC1432163
GAM336558	274227	hsa	chr6	+	26978328	26978415	
GAM336559	272977	hsa	chrY	+	27187756	27187828	
GAM336560	273380	hsa	chr8	+	27457170	27457279	
GAM336561	273263	hsa	chr11	+	27480931	27481041	
GAM336562	273024	hsa	chr8	+	27652548	27652650	
GAM336563	272799	hsa	chr12	+	27711245	27711331	
GAM336564	273572	hsa	chr6	+	27748402	27748493	
GAM336565	272873	hsa	chr10	+	27947083	27947172	
GAM336566	274572	hsa	chr22	+	28016321	28016394	
GAM336567	274019	hsa	chr17	+	28064331	28064435	
GAM336568	273121	hsa	chr17	+	28064340	28064429	
GAM336569	273411	hsa	chr17	+	28064341	28064427	
GAM336570	274199	hsa	chr22	+	28404293	28404393	THC1518713
GAM336571	274182	hsa	chr15	-	28441207	28441337	
GAM336572	273545	hsa	chr8	-	28604728	28604829	
GAM336573	273686	hsa	chr16	+	28680032	28680119	THC1588979
GAM336574	274628	hsa	chr8	+	28740486	28740597	
GAM336575	273686	hsa	chr16	+	28794191	28794278	THC1588979
GAM336576	274472	hsa	chr17	+	28892026	28892101	
GAM336577	273141	hsa	chr18	+	28936610	28936681	
GAM336578	274550	hsa	chr17	-	28958697	28958796	
GAM336579	273203	hsa	chr17	-	28958698	28958795	
GAM336580	273584	hsa	chr10	+	28986610	28986698	
GAM336581	273270	hsa	chr8	-	29024288	29024372	THC1457456
GAM336582	273686	hsa	chr16	+	29073962	29074049	THC1588979
GAM336583	273853	hsa	chr17	+	29086596	29086707	
GAM336584	274407	hsa	chr17	+	29086598	29086705	

GAM336585	274647	hsa	chr15	+	29098204	29098280	
GAM336586	274248	hsa	chr17	+	29424019	29424104	
GAM336587	274264	hsa	chr7	+	29435833	29435937	
GAM336588	273224	hsa	chr7	+	29435834	29435936	
GAM336589	273845	hsa	chr22	+	29509893	29509970	THC1542768
GAM336590	272932	hsa	chr12	-	29554384	29554493	
GAM336591	273653	hsa	chr18	+	29889968	29890049	THC1432163
GAM336592	273751	hsa	chr22	+	30010422	30010511	
GAM336593	274424	hsa	chr15	+	30068447	30068568	
GAM336594	274584	hsa	chr15	+	30068453	30068565	
GAM336595	274303	hsa	chr8	+	30119301	30119414	THC1577621
GAM336596	273078	hsa	chr8	+	30119306	30119399	THC1577621
GAM336597	273048	hsa	chr7	-	30195269	30195380	THC1409997
GAM336598	273653	hsa	chr11	+	30200618	30200699	THC1432163
GAM336599	273280	hsa	chr16	+	30643328	30643429	
GAM336600	273516	hsa	chr16	+	30643329	30643428	
GAM336601	273783	hsa	chr13	+	30673441	30673570	
GAM336602	273291	hsa	chr10	+	30748368	30748468	
GAM336603	273807	hsa	chr20	+	31005522	31005620	
GAM336604	272887	hsa	chr20	+	31005530	31005619	
GAM336605	274559	hsa	chr8	+	31058191	31058297	
GAM336606	273718	hsa	chr1	+	31418591	31418686	
GAM336607	274547	hsa	chr6	+	31554609	31554709	
GAM336608	273195	hsa	chr6	+	31554610	31554708	
GAM336609	273226	hsa	chr10	-	31572572	31572664	THC1528632
GAM336610	273084	hsa	chr6	+	31820024	31820126	
GAM336611	274340	hsa	chr18	+	32058440	32058540	
GAM336612	273232	hsa	chr22	-	32141176	32141266	THC1565100
GAM336613	274147	hsa	chr22	-	32141182	32141259	THC1565100
GAM336614	273653	hsa	chr10	+	32152882	32152963	THC1432163
GAM336615	272891	hsa	chr7	-	32235142	32235239	THC1495052
GAM336616	274450	hsa	chr7	+	32284055	32284128	
GAM336617	273168	hsa	chr9	+	32403384	32403481	THC1540659
GAM336618	273105	hsa	chr21	+	32615342	32615449	
GAM336619	274427	hsa	chr21	+	32615357	32615436	
GAM336620	272952	hsa	chr21	+	32615358	32615435	
GAM336621	273711	hsa	chr7	+	32661984	32662086	
GAM336622	274175	hsa	chr12	-	32800023	32800121	THC1580990
GAM336623	272771	hsa	chr13	-	33037321	33037433	THC1429099
GAM336624	273014	hsa	chr21	+	33064923	33065012	
GAM336625	274259	hsa	chr21	+	33064927	33065000	
GAM336626	273653	hsa	chr3	+	33075772	33075853	THC1432163
GAM336627	273973	hsa	chr9	+	33111402	33111480	
GAM336628	272779	hsa	chr17	+	33138955	33139063	
GAM336629	274145	hsa	chr17	+	33138970	33139049	
GAM336630	274549	hsa	chr9	+	33338251	33338351	THC1456106
GAM336631	274253	hsa	chr9	+	33338258	33338345	THC1456106
GAM336632	273818	hsa	chr17	-	33407353	33407429	
GAM336633	274635	hsa	chr20	+	33688439	33688514	
GAM336634	273473	hsa	chr10	+	33692940	33693053	

GAM336635	273134	hsa	chr10	+	33721930	33722029	
GAM336636	273605	hsa	chr10	+	33721932	33722028	
GAM336637	274362	hsa	chr11	+	33804195	33804279	
GAM336638	273653	hsa	chr13	+	33909250	33909331	THC1432163
GAM336639	274151	hsa	chr11	-	33928191	33928297	THC1577473
GAM336640	274352	hsa	chr21	-	33934627	33934699	
GAM336641	273389	hsa	chr11	+	33939048	33939160	
GAM336642	274347	hsa	chr21	+	34257285	34257378	THC1483407
GAM336643	273874	hsa	chr21	+	34257285	34257379	THC1483407
GAM336644	274560	hsa	chr10	+	34587696	34587807	
GAM336645	274166	hsa	chr10	+	34587697	34587806	
GAM336646	273560	hsa	chr17	+	34615664	34615762	
GAM336647	272878	hsa	chr19	+	34690911	34690999	
GAM336648	273877	hsa	chr20	-	34777096	34777190	THC1592717
GAM336649	274459	hsa	chr20	-	34777102	34777186	THC1592717
GAM336650	273777	hsa	chr20	-	34777103	34777185	THC1592717
GAM336651	273949	hsa	chr7	+	34790992	34791065	THC1534750
GAM336652	272814	hsa	chr21	-	34813290	34813387	THC1475522
GAM336653	273216	hsa	chr19	-	34876504	34876602	THC1455164
GAM336654	272980	hsa	chr16	-	34908023	34908121	
GAM336655	274085	hsa	chr16	-	34908029	34908109	
GAM336656	273653	hsa	chr3	+	35023682	35023763	THC1432163
GAM336657	274598	hsa	chr11	+	35289635	35289735	
GAM336658	274295	hsa	chr17	-	35608725	35608830	
GAM336659	273161	hsa	chr22	-	35681759	35681843	
GAM336660	273653	hsa	chrX	-	35708263	35708344	THC1432163
GAM336661	273534	hsa	chr20	+	35736486	35736584	THC1407133
GAM336662	274280	hsa	chr20	+	35736488	35736582	THC1407133
GAM336663	274247	hsa	chr20	+	35736492	35736579	THC1407133
GAM336664	273396	hsa	chr20	+	35736498	35736573	THC1407133
GAM336665	273244	hsa	chr17	+	35840280	35840355	
GAM336666	273461	hsa	chr22	+	35878691	35878778	
GAM336667	272881	hsa	chr7	+	36291960	36292083	
GAM336668	274297	hsa	chr7	+	36291966	36292079	
GAM336669	273653	hsa	chr2	+	36383567	36383648	THC1432163
GAM336670	272945	hsa	chr10	-	36386596	36386703	
GAM336671	272789	hsa	chr10	-	36386600	36386699	
GAM336672	273064	hsa	chr10	-	36386609	36386690	
GAM336673	274100	hsa	chr21	-	36425183	36425281	
GAM336674	273034	hsa	chr22	+	36639912	36640014	
GAM336675	273163	hsa	chr9	+	36669197	36669295	
GAM336676	274577	hsa	chr22	+	36951386	36951467	
GAM336677	274448	hsa	chr17	+	36970296	36970396	
GAM336678	274015	hsa	chr21	-	37187787	37187891	THC1580012
GAM336679	272983	hsa	chr21	-	37187788	37187890	THC1580012
GAM336680	273469	hsa	chr9	+	37229431	37229531	
GAM336681	272765	hsa	chr9	+	37422585	37422668	
GAM336682	273053	hsa	chr22	+	37429675	37429761	
GAM336683	273283	hsa	chr21	-	37445099	37445199	
GAM336684	273654	hsa	chr20	-	37505814	37505896	

GAM336685	274089	hsa	chr20	+	37606073	37606186	
GAM336686	274121	hsa	chr3	+	37624000	37624101	
GAM336687	274125	hsa	chr15	+	37656044	37656139	
GAM336688	272802	hsa	chr20	-	37673268	37673359	
GAM336689	273112	hsa	chr7	+	37948104	37948211	THC1454222
GAM336690	274101	hsa	chr7	-	37983831	37983930	
GAM336691	273995	hsa	chr20	+	38081171	38081249	
GAM336692	274159	hsa	chr15	+	38197441	38197529	
GAM336693	273421	hsa	chr17	+	38235596	38235708	
GAM336694	273470	hsa	chr9	+	38352998	38353090	
GAM336695	274157	hsa	chr17	+	38368145	38368204	
GAM336696	272897	hsa	chr10	+	38506695	38506795	
GAM336697	274045	hsa	chr8	+	38541864	38541939	
GAM336698	273032	hsa	chr8	+	38593063	38593146	
GAM336699	272941	hsa	chr15	+	38679676	38679764	
GAM336700	273049	hsa	chr21	-	38789766	38789847	THC1595746
GAM336701	273999	hsa	chr22	+	38828150	38828261	
GAM336702	273653	hsa	chr6	+	38853404	38853485	THC1432163
GAM336703	273175	hsa	chr21	-	39141230	39141318	
GAM336704	274251	hsa	chr1	+	39394031	39394118	THC1444871
GAM336705	273479	hsa	chr1	+	39394032	39394117	THC1444871
GAM336706	273181	hsa	chrX	+	39568547	39568628	
GAM336707	274155	hsa	chr22	+	39605027	39605122	THC1562223
GAM336708	274326	hsa	chr15	+	39680635	39680735	
GAM336709	273171	hsa	chr22	+	39769473	39769571	
GAM336710	273979	hsa	chr15	-	39771457	39771552	
GAM336711	273847	hsa	chr17	-	39774112	39774221	
GAM336712	274354	hsa	chr17	-	39774119	39774218	
GAM336713	272933	hsa	chr19	-	39876405	39876499	
GAM336714	274004	hsa	chr17	+	39913036	39913149	THC1511429
GAM336715	273155	hsa	chrX	+	39935490	39935576	
GAM336716	273576	hsa	chr4	+	40002861	40002949	
GAM336717	274454	hsa	chr4	+	40002867	40002943	
GAM336718	273011	hsa	chr22	+	40074931	40075020	
GAM336719	273601	hsa	chr22	-	40082689	40082777	
GAM336720	273628	hsa	chr17	+	40086888	40086975	THC1488043
GAM336721	274143	hsa	chr22	-	40171705	40171818	THC1476388
GAM336722	273653	hsa	chr8	+	40227896	40227977	THC1432163
GAM336723	273151	hsa	chr19	+	40285217	40285302	
GAM336724	274206	hsa	chr14	+	40344023	40344105	
GAM336725	272816	hsa	chr17	-	40374392	40374500	
GAM336726	274329	hsa	chr17	-	40374393	40374499	
GAM336727	274402	hsa	chr22	+	40420544	40420641	THC1489438
GAM336728	272827	hsa	chr19	+	40578117	40578229	
GAM336729	273699	hsa	chr15	+	40608767	40608864	
GAM336730	273227	hsa	chr11	-	40623807	40623936	
GAM336731	274645	hsa	chr17	-	40762540	40762621	THC1510028
GAM336732	273340	hsa	chr17	-	40762541	40762620	THC1510028
GAM336733	273779	hsa	chr20	+	40848350	40848435	
GAM336734	274133	hsa	chr8	-	40925498	40925573	

GAM336735	273641	hsa	chr17	-	41029845	41029956	THC1567420
GAM336736	273653	hsa	chr4	+	41122390	41122471	THC1432163
GAM336737	274091	hsa	chr17	+	41193723	41193825	THC1472954
GAM336738	274536	hsa	chr17	+	41382416	41382517	THC1510611
GAM336739	273980	hsa	chr20	+	41425604	41425676	
GAM336740	273660	hsa	chr17	-	41446302	41446381	
GAM336741	273149	hsa	chr22	-	41508964	41509044	THC1478778
GAM336742	272883	hsa	chr15	+	41515950	41516045	
GAM336743	273938	hsa	chr19	-	41560746	41560831	
GAM336744	274428	hsa	chr19	-	41616369	41616498	
GAM336745	272796	hsa	chr19	-	41616372	41616496	
GAM336746	273153	hsa	chr8	+	41616885	41616975	
GAM336747	273276	hsa	chr8	+	41616892	41616964	
GAM336748	273061	hsa	chr17	+	41700001	41700104	THC1451039
GAM336749	273887	hsa	chr19	+	41749003	41749113	
GAM336750	273283	hsa	chr6	-	41757315	41757415	
GAM336751	272801	hsa	chr8	+	41765141	41765226	
GAM336752	273667	hsa	chr7	-	41880845	41880957	THC1602167
GAM336753	274463	hsa	chr17	-	42113260	42113364	
GAM336754	273650	hsa	chrX	+	42353513	42353594	
GAM336755	274540	hsa	chr17	-	42527933	42528034	THC1572973
GAM336756	273592	hsa	chr17	-	42527939	42528027	THC1572973
GAM336757	273077	hsa	chr8	+	42675594	42675671	
GAM336758	274025	hsa	chr21	+	42749659	42749769	
GAM336759	273885	hsa	chr21	+	42749661	42749767	
GAM336760	274632	hsa	chr6	-	42757406	42757482	
GAM336761	272751	hsa	chr21	+	42800191	42800271	
GAM336762	273371	hsa	chr19	-	42860934	42861021	
GAM336763	273702	hsa	chr22	-	42899850	42899946	THC1597091
GAM336764	273498	hsa	chr20	+	42908008	42908094	
GAM336765	274600	hsa	chr20	+	42908013	42908088	
GAM336766	273723	hsa	chr10	-	43104743	43104816	
GAM336767	274299	hsa	chr13	+	43301518	43301601	
GAM336768	273207	hsa	chr17	-	43393809	43393905	
GAM336769	273862	hsa	chr22	-	43566779	43566865	THC1562416
GAM336770	274447	hsa	chr13	+	43586567	43586675	
GAM336771	274373	hsa	chr13	+	43586571	43586670	
GAM336772	273587	hsa	chr5	-	43590234	43590321	
GAM336773	273884	hsa	chr7	+	43594076	43594152	
GAM336774	273901	hsa	chr22	-	43871351	43871426	THC1528591
GAM336775	273986	hsa	chr10	+	43900231	43900331	
GAM336776	274440	hsa	chr17	+	44128391	44128493	
GAM336777	273653	hsa	chr12	+	44151668	44151749	THC1432163
GAM336778	274465	hsa	chr10	+	44172084	44172167	
GAM336779	274165	hsa	chr7	-	44235656	44235762	THC1526785
GAM336780	272956	hsa	chr18	+	44287793	44287892	
GAM336781	272790	hsa	chr21	+	44376402	44376496	
GAM336782	273851	hsa	chr21	+	44376407	44376492	
GAM336783	273454	hsa	chrX	-	44431916	44432022	
GAM336784	274056	hsa	chrX	-	44431925	44432017	

GAM336785	274601	hsa	chr17	+	44596378	44596488	THC1425133
GAM336786	273653	hsa	chr10	+	44812786	44812867	THC1432163
GAM336787	272804	hsa	chr22	+	44900341	44900433	THC1553978
GAM336788	273858	hsa	chr20	+	44989605	44989690	
GAM336789	273532	hsa	chr21	+	45081110	45081210	
GAM336790	273036	hsa	chr17	+	45349110	45349210	
GAM336791	273873	hsa	chr17	+	45356637	45356736	
GAM336792	273611	hsa	chr19	-	45455573	45455684	THC1519988
GAM336793	273348	hsa	chr19	-	45455579	45455678	THC1519988
GAM336794	273353	hsa	chr10	+	45732059	45732138	
GAM336795	274083	hsa	chr22	+	45867956	45868051	
GAM336796	273674	hsa	chr18	+	45983536	45983630	
GAM336797	274620	hsa	chr19	+	46014999	46015128	
GAM336798	274123	hsa	chr17	+	46038899	46039000	THC1452989
GAM336799	273513	hsa	chr17	+	46038900	46038999	
GAM336800	273768	hsa	chr13	+	46120406	46120503	THC1592477
GAM336801	273653	hsa	chr19	-	46150469	46150550	THC1432163
GAM336802	273052	hsa	chr11	-	46157389	46157487	THC1459075
GAM336803	273727	hsa	chr11	-	46157392	46157484	THC1459075
GAM336804	273743	hsa	chr11	+	46229800	46229904	
GAM336805	273808	hsa	chr13	+	46237410	46237489	
GAM336806	273653	hsa	chr16	-	46270121	46270202	THC1432163
GAM336807	273094	hsa	chr17	-	46314585	46314665	
GAM336808	273646	hsa	chr20	-	46513001	46513102	THC1538916
GAM336809	272957	hsa	chr14	+	46540199	46540291	
GAM336810	273625	hsa	chr11	-	46654581	46654674	
GAM336811	274350	hsa	chr11	-	46654582	46654673	
GAM336812	274162	hsa	chr21	+	46926845	46926945	
GAM336813	272793	hsa	chr17	-	46977314	46977398	THC1587611
GAM336814	273236	hsa	chr20	+	47053946	47054014	
GAM336815	274530	hsa	chr10	-	47056630	47056730	
GAM336816	273088	hsa	chr16	+	47073422	47073512	
GAM336817	274129	hsa	chr16	+	47073424	47073510	
GAM336818	272935	hsa	chr16	+	47279033	47279105	
GAM336819	272716	hsa	chr17	+	47313354	47313455	THC1423222
GAM336820	274109	hsa	chr15	+	47490707	47490809	
GAM336821	274530	hsa	chr10	+	47538323	47538423	
GAM336822	273918	hsa	chr10	+	47560720	47560814	THC1596798
GAM336823	273622	hsa	chrX	-	47606004	47606083	THC1553812
GAM336824	273597	hsa	chr19	-	47747389	47747476	
GAM336825	273152	hsa	chrX	-	47783494	47783585	THC1466914
GAM336826	273275	hsa	chrX	-	47783507	47783578	THC1466914
GAM336827	273390	hsa	chr17	+	47935242	47935317	
GAM336828	274503	hsa	chr17	+	47935243	47935316	
GAM336829	274075	hsa	chr19	+	47956679	47956775	
GAM336830	272934	hsa	chr17	+	47994779	47994859	
GAM336831	274052	hsa	chr11	+	48094346	48094435	THC1448842
GAM336832	273677	hsa	chr17	-	48134831	48134904	THC1542103
GAM336833	273490	hsa	chr16	-	48164886	48165016	
GAM336834	274193	hsa	chr16	-	48164907	48164998	

GAM336835	274530	hsa	chr10	+	48175291	48175391	
GAM336836	274093	hsa	chr19	+	48190562	48190640	
GAM336837	273468	hsa	chr10	+	48206347	48206443	THC1596797
GAM336838	273237	hsa	chr19	-	48246637	48246721	
GAM336839	274146	hsa	chr19	+	48436296	48436394	
GAM336840	273695	hsa	chr17	+	48506039	48506126	
GAM336841	274120	hsa	chr4	+	48685091	48685193	
GAM336842	273989	hsa	chr14	+	48783661	48783753	
GAM336843	273101	hsa	chr19	+	48912945	48913015	
GAM336844	272892	hsa	chr22	+	48973458	48973551	THC1511796
GAM336845	273616	hsa	chr22	+	48973459	48973550	THC1511796
GAM336846	273835	hsa	chr12	-	49032571	49032658	THC1486982
GAM336847	273653	hsa	chr6	+	49043749	49043830	THC1432163
GAM336848	274436	hsa	chr12	-	49044659	49044768	
GAM336849	274314	hsa	chr12	-	49044673	49044765	
GAM336850	273301	hsa	chr22	-	49099121	49099224	THC1461343
GAM336851	273222	hsa	chr22	-	49099122	49099223	
GAM336852	274530	hsa	chr10	-	49108311	49108411	
GAM336853	272874	hsa	chr20	+	49118815	49118914	
GAM336854	273156	hsa	chr19	+	49184841	49184926	THC1521345
GAM336855	273234	hsa	chr14	-	49197664	49197776	THC1563278
GAM336856	274309	hsa	chr19	+	49275324	49275398	
GAM336857	274086	hsa	chr17	-	49351290	49351391	
GAM336858	274461	hsa	chr22	+	49370569	49370680	
GAM336859	272737	hsa	chr22	+	49370578	49370676	
GAM336860	273653	hsa	chrX	+	49440469	49440550	THC1432163
GAM336861	273940	hsa	chr20	+	49549736	49549821	
GAM336862	273866	hsa	chr20	+	49549738	49549816	
GAM336863	272764	hsa	chr17	-	49602636	49602719	
GAM336864	273737	hsa	chr18	-	49753165	49753265	
GAM336865	272966	hsa	chr19	+	49839675	49839788	
GAM336866	273890	hsa	chr20	+	50086828	50086917	
GAM336867	274320	hsa	chr16	+	50178453	50178558	
GAM336868	274228	hsa	chr12	+	50244509	50244596	
GAM336869	274043	hsa	chr19	-	50257437	50257513	
GAM336870	274226	hsa	chr12	+	50356669	50356756	
GAM336871	273336	hsa	chr12	+	50415753	50415840	
GAM336872	274348	hsa	chr12	+	50638127	50638202	
GAM336873	273404	hsa	chr8	+	50704929	50705016	
GAM336874	273745	hsa	chr10	-	50706273	50706364	
GAM336875	273264	hsa	chr10	-	50833625	50833732	
GAM336876	273680	hsa	chr12	+	50911119	50911224	
GAM336877	272847	hsa	chr12	+	50911122	50911218	
GAM336878	274023	hsa	chr13	+	51269225	51269326	
GAM336879	274069	hsa	chr10	-	51538284	51538361	THC1564358
GAM336880	273502	hsa	chr10	-	51698913	51699010	THC1569688
GAM336881	273657	hsa	chr20	+	51903169	51903234	
GAM336882	274379	hsa	chr19	+	51927028	51927129	
GAM336883	273778	hsa	chr12	+	51938752	51938835	
GAM336884	273330	hsa	chrX	-	52042159	52042247	

GAM336885	273361	hsa	chr18	-	52576451	52576524	
GAM336886	273180	hsa	chr20	+	52749150	52749248	
GAM336887	273530	hsa	chr19	+	52879973	52880069	
GAM336888	273212	hsa	chr10	+	53047643	53047723	
GAM336889	273668	hsa	chr14	+	53301337	53301429	
GAM336890	273921	hsa	chr17	+	53596776	53596877	
GAM336891	273008	hsa	chr17	+	53596780	53596873	
GAM336892	274518	hsa	chr12	-	53823632	53823726	THC1462250
GAM336893	273893	hsa	chr12	-	53823634	53823720	THC1462250
GAM336894	272748	hsa	chr8	-	53863297	53863388	
GAM336895	273715	hsa	chr8	-	53863302	53863382	
GAM336896	272787	hsa	chr15	-	54032470	54032561	
GAM336897	273251	hsa	chr12	-	54122958	54123027	
GAM336898	274234	hsa	chr12	-	54260659	54260747	
GAM336899	273664	hsa	chr10	-	54640759	54640884	
GAM336900	274164	hsa	chrX	-	54923108	54923190	
GAM336901	273653	hsa	chr16	+	55006289	55006370	THC1432163
GAM336902	273701	hsa	chr17	+	55308695	55308785	
GAM336903	274107	hsa	chr20	+	55618701	55618802	
GAM336904	274453	hsa	chr7	-	55787167	55787244	
GAM336905	273087	hsa	chr7	-	55787171	55787241	
GAM336906	274537	hsa	chr12	-	56423119	56423220	THC1487590
GAM336907	274220	hsa	chr12	-	56423125	56423213	THC1487590
GAM336908	273653	hsa	chr2	-	56590496	56590577	THC1432163
GAM336909	274261	hsa	chr12	+	56700933	56700988	
GAM336910	273040	hsa	chr14	+	56702050	56702160	THC1441152
GAM336911	274409	hsa	chr16	+	56703572	56703669	
GAM336912	273253	hsa	chr8	-	56709580	56709679	THC1536804
GAM336913	272978	hsa	chr12	-	56716065	56716146	THC1509286
GAM336914	273019	hsa	chr12	-	56716066	56716145	THC1509286
GAM336915	272747	hsa	chr17	-	56750673	56750757	
GAM336916	273464	hsa	chr19	-	56865886	56865996	
GAM336917	273935	hsa	chr15	+	56876889	56876994	
GAM336918	274194	hsa	chr15	+	56876894	56877002	
GAM336919	273653	hsa	chr5	+	56896949	56897030	THC1432163
GAM336920	273347	hsa	chr16	+	56913348	56913430	
GAM336921	274524	hsa	chr17	+	57181803	57181903	
GAM336922	274214	hsa	chr17	+	57181813	57181895	
GAM336923	273219	hsa	chr4	+	57192272	57192372	
GAM336924	273653	hsa	chr8	+	57442342	57442423	THC1432163
GAM336925	273754	hsa	chr12	+	57533860	57533947	
GAM336926	273443	hsa	chr12	+	57533866	57533943	
GAM336927	273387	hsa	chr20	+	57662274	57662379	
GAM336928	274364	hsa	chr14	+	57721907	57722016	
GAM336929	273405	hsa	chr19	+	57778075	57778155	
GAM336930	273345	hsa	chr19	+	57778076	57778154	
GAM336931	273598	hsa	chr19	+	57796024	57796113	
GAM336932	273068	hsa	chr14	+	58065317	58065427	
GAM336933	273457	hsa	chr17	+	58083077	58083172	THC1437587
GAM336934	273290	hsa	chr17	+	58103929	58104030	

GAM336935	273228	hsa	chr20	+	58205963	58206046	THC1441445
GAM336936	274081	hsa	chr20	+	58243217	58243327	
GAM336937	273659	hsa	chr17	+	58596055	58596160	
GAM336938	273725	hsa	chr17	+	58596062	58596151	
GAM336939	274377	hsa	chr12	+	58665635	58665764	
GAM336940	274557	hsa	chr17	+	58668503	58668584	
GAM336941	273653	hsa	chr4	-	59119812	59119893	THC1432163
GAM336942	274585	hsa	chr11	+	59207699	59207789	
GAM336943	273750	hsa	chr20	+	59211995	59212066	THC1436692
GAM336944	274490	hsa	chr19	-	59360086	59360163	THC1416250
GAM336945	273106	hsa	chr18	+	59990343	59990451	
GAM336946	273649	hsa	chr20	+	60087508	60087603	
GAM336947	274067	hsa	chr15	+	60363185	60363260	
GAM336948	273792	hsa	chr17	-	60416966	60417062	THC1479326
GAM336949	274355	hsa	chr13	+	60430605	60430681	
GAM336950	273653	hsa	chr17	-	60746489	60746570	THC1432163
GAM336951	273060	hsa	chr11	+	60952390	60952496	
GAM336952	273881	hsa	chr18	+	61092534	61092628	
GAM336953	272761	hsa	chr18	+	61092537	61092626	
GAM336954	273386	hsa	chr9	-	61355850	61355971	
GAM336955	273386	hsa	chr9	+	61684372	61684493	
GAM336956	273299	hsa	chr19	+	61750038	61750123	
GAM336957	272950	hsa	chr11	-	61814814	61814909	
GAM336958	273451	hsa	chr11	-	61985320	61985401	THC1422166
GAM336959	273653	hsa	chrX	+	62004748	62004829	THC1432163
GAM336960	273403	hsa	chr15	+	62025267	62025349	
GAM336961	272841	hsa	chr9	-	62131101	62131209	
GAM336962	274012	hsa	chr20	-	62164421	62164526	
GAM336963	273377	hsa	chr8	-	62264330	62264422	THC1526730
GAM336964	273653	hsa	chr5	+	62270288	62270369	THC1432163
GAM336965	273448	hsa	chr14	+	62330677	62330788	THC1552175
GAM336966	274485	hsa	chr14	+	62330682	62330781	THC1552175
GAM336967	273372	hsa	chr11	+	62410126	62410220	
GAM336968	273954	hsa	chr9	+	62447485	62447583	THC1595205
GAM336969	273653	hsa	chr12	-	62677320	62677401	THC1432163
GAM336970	272811	hsa	chr12	+	62689480	62689571	
GAM336971	274289	hsa	chr12	+	62689481	62689570	
GAM336972	273653	hsa	chr13	-	62708765	62708846	THC1432163
GAM336973	273749	hsa	chr11	-	62724055	62724146	THC1464950
GAM336974	273304	hsa	chr11	-	62725558	62725650	THC1408122
GAM336975	274552	hsa	chr11	+	62729661	62729762	
GAM336976	273030	hsa	chr11	+	62755250	62755324	
GAM336977	272781	hsa	chr19	+	62812241	62812343	
GAM336978	273567	hsa	chr9	-	62875338	62875465	THC1581432
GAM336979	272841	hsa	chr9	-	62875341	62875449	
GAM336980	273137	hsa	chr9	-	62875343	62875455	THC1581432
GAM336981	273655	hsa	chr9	-	62875349	62875449	THC1581432
GAM336982	273550	hsa	chr20	-	62897934	62898046	
GAM336983	273997	hsa	chr11	+	62901709	62901784	
GAM336984	273804	hsa	chr14	+	62916210	62916302	

GAM336985	274593	hsa	chrX	+	63045042	63045147	
GAM336986	274431	hsa	chr9	-	63063288	63063392	THC1592449
GAM336987	273391	hsa	chr9	-	63063294	63063384	THC1592449
GAM336988	274084	hsa	chr19	+	63146462	63146571	
GAM336989	272877	hsa	chr19	-	63216696	63216771	
GAM336990	273120	hsa	chr7	+	63236493	63236580	
GAM336991	273653	hsa	chr11	+	63263870	63263951	THC1432163
GAM336992	274601	hsa	chr17	-	63315058	63315168	THC1425133
GAM336993	273623	hsa	chr17	-	63382392	63382463	THC1591084
GAM336994	273963	hsa	chrX	+	63471930	63472059	
GAM336995	274225	hsa	chr19	+	63490699	63490787	
GAM336996	274492	hsa	chr19	+	63490705	63490781	
GAM336997	273609	hsa	chr20	+	63567534	63567605	
GAM336998	274003	hsa	chr20	+	63572454	63572563	
GAM336999	274285	hsa	chr11	-	63592442	63592553	
GAM337000	272757	hsa	chr12	+	63919661	63919772	
GAM337001	273026	hsa	chr17	+	63948506	63948574	
GAM337002	274033	hsa	chr11	-	64790293	64790402	THC1501399
GAM337003	273437	hsa	chr7	-	64886976	64887044	
GAM337004	273047	hsa	chr17	+	65016569	65016664	
GAM337005	273410	hsa	chr10	+	65020854	65020928	
GAM337006	273549	hsa	chr14	+	65021961	65022051	
GAM337007	274535	hsa	chr5	+	65030778	65030878	
GAM337008	273058	hsa	chr9	+	65050472	65050577	
GAM337009	273653	hsa	chr8	+	65068010	65068091	THC1432163
GAM337010	273653	hsa	chrX	+	65112308	65112389	THC1432163
GAM337011	274128	hsa	chrX	+	65182638	65182721	
GAM337012	274629	hsa	chr7	+	65222009	65222085	THC1409556
GAM337013	273653	hsa	chr15	+	65319486	65319567	THC1432163
GAM337014	273799	hsa	chrX	-	65499151	65499247	
GAM337015	273527	hsa	chr3	-	65550880	65550979	
GAM337016	273762	hsa	chr9	+	65582433	65582528	
GAM337017	273316	hsa	chr9	+	65582733	65582809	
GAM337018	273653	hsa	chr1	-	65709159	65709240	THC1432163
GAM337019	273653	hsa	chr5	+	65710652	65710733	THC1432163
GAM337020	273145	hsa	chr11	+	65732677	65732777	THC1510013
GAM337021	274504	hsa	chr11	+	65732682	65732770	THC1510013
GAM337022	273417	hsa	chr12	+	65754862	65754974	
GAM337023	274180	hsa	chr7	+	65815377	65815468	
GAM337024	274488	hsa	chr7	+	65815381	65815459	
GAM337025	273332	hsa	chr11	+	65938364	65938458	THC1461556
GAM337026	273615	hsa	chr12	+	65953766	65953865	
GAM337027	273298	hsa	chr7	-	66122717	66122817	
GAM337028	273217	hsa	chr7	-	66122718	66122816	
GAM337029	274442	hsa	chr14	-	66268768	66268871	
GAM337030	274579	hsa	chr14	-	66268779	66268869	
GAM337031	273015	hsa	chr16	+	66387514	66387607	
GAM337032	274644	hsa	chr12	+	66457769	66457885	
GAM337033	274223	hsa	chr12	+	66457785	66457872	
GAM337034	273623	hsa	chr17	+	66717045	66717116	THC1591084

GAM337035	273428	hsa	chr12	+	66813729	66813813	
GAM337036	274328	hsa	chr16	+	66902019	66902108	THC1432572
GAM337037	273755	hsa	chr9	+	66974964	66975068	
GAM337038	273700	hsa	chr9	+	66974965	66975067	
GAM337039	273489	hsa	chr9	+	66974966	66975066	
GAM337040	272976	hsa	chr12	-	67099546	67099648	
GAM337041	274631	hsa	chr17	-	67244014	67244089	
GAM337042	273730	hsa	chr16	+	67268904	67268981	
GAM337043	273895	hsa	chr11	-	67274771	67274844	
GAM337044	274567	hsa	chr10	-	67284600	67284682	
GAM337045	273653	hsa	chr18	-	67383500	67383581	THC1432163
GAM337046	273447	hsa	chr8	-	67560293	67560365	
GAM337047	274420	hsa	chr12	+	67697723	67697833	
GAM337048	274404	hsa	chr11	+	68072405	68072502	
GAM337049	274268	hsa	chr11	+	68079214	68079294	
GAM337050	273248	hsa	chr9	+	68095237	68095307	
GAM337051	273488	hsa	chr9	+	68096932	68097039	THC1547991
GAM337052	272997	hsa	chr9	+	68096933	68097038	THC1547991
GAM337053	273726	hsa	chr12	-	68550580	68550687	
GAM337054	274398	hsa	chr16	+	68565533	68565645	THC1449058
GAM337055	274618	hsa	chr12	-	68796420	68796543	
GAM337056	273784	hsa	chr12	-	68796422	68796541	
GAM337057	272869	hsa	chr12	-	68796444	68796515	
GAM337058	274063	hsa	chr12	-	68796449	68796510	
GAM337059	272886	hsa	chr12	+	68875043	68875152	
GAM337060	274112	hsa	chr5	-	69076604	69076702	
GAM337061	273037	hsa	chr9	+	69104781	69104892	
GAM337062	274227	hsa	chr5	+	69278504	69278591	
GAM337063	273961	hsa	chr5	+	69410140	69410221	THC1414413
GAM337064	274227	hsa	chr5	-	69429920	69430007	
GAM337065	273714	hsa	chr16	+	69459978	69460075	THC1413273
GAM337066	273381	hsa	chr11	-	69498130	69498220	
GAM337067	273671	hsa	chr7	+	69566389	69566487	
GAM337068	273127	hsa	chr16	+	69692764	69692835	
GAM337069	274112	hsa	chr5	+	69818313	69818411	
GAM337070	273183	hsa	chr5	+	69818314	69818410	
GAM337071	272809	hsa	chr10	+	69991881	69991958	
GAM337072	273793	hsa	chr10	+	69992106	69992194	
GAM337073	273889	hsa	chr10	+	69992115	69992185	
GAM337074	274521	hsa	chr16	+	70140212	70140312	
GAM337075	273166	hsa	chr16	+	70140213	70140311	
GAM337076	273599	hsa	chr16	+	70140219	70140306	
GAM337077	273961	hsa	chr5	+	70161182	70161263	THC1414413
GAM337078	274227	hsa	chr5	-	70180992	70181079	
GAM337079	274526	hsa	chr15	-	70204344	70204443	
GAM337080	273705	hsa	chr8	+	70205172	70205252	
GAM337081	274112	hsa	chr5	+	70361144	70361242	
GAM337082	273183	hsa	chr5	+	70361145	70361241	
GAM337083	273757	hsa	chr10	+	70411479	70411570	THC1598106
GAM337084	272803	hsa	chr10	+	70411482	70411567	THC1598106

GAM337085	272798	hsa	chr15	-	70520489	70520582	
GAM337086	274262	hsa	chr15	-	70520490	70520581	
GAM337087	274137	hsa	chr7	+	70589904	70589996	
GAM337088	273633	hsa	chr12	-	70649160	70649247	THC1456820
GAM337089	274564	hsa	chr12	-	70649166	70649237	THC1456820
GAM337090	274611	hsa	chr15	-	70660876	70660985	
GAM337091	273283	hsa	chr9	+	70793499	70793599	
GAM337092	273653	hsa	chr14	+	70852306	70852387	THC1432163
GAM337093	274324	hsa	chr14	+	71022428	71022515	
GAM337094	273653	hsa	chr15	+	71135679	71135760	THC1432163
GAM337095	273277	hsa	chr17	+	71404046	71404134	
GAM337096	273503	hsa	chr7	+	71522779	71522877	
GAM337097	273257	hsa	chr17	+	71688944	71689047	
GAM337098	274514	hsa	chrX	-	71710852	71710981	
GAM337099	273653	hsa	chr13	+	71711305	71711386	THC1432163
GAM337100	274191	hsa	chr16	+	71825337	71825440	
GAM337101	274357	hsa	chr12	+	71906731	71906814	
GAM337102	273782	hsa	chr15	+	71953197	71953292	THC1407403
GAM337103	272798	hsa	chr15	+	71953198	71953291	
GAM337104	274262	hsa	chr15	+	71953199	71953290	
GAM337105	273836	hsa	chr11	-	71960660	71960764	THC1421005
GAM337106	272889	hsa	chr14	+	72006752	72006831	
GAM337107	273029	hsa	chr7	+	72014512	72014593	THC1530625
GAM337108	272889	hsa	chr14	+	72038936	72039015	
GAM337109	274317	hsa	chr7	-	72098256	72098348	
GAM337110	273653	hsa	chr13	-	72187619	72187700	THC1432163
GAM337111	273173	hsa	chr7	+	72274763	72274860	
GAM337112	273573	hsa	chr7	+	72274769	72274855	
GAM337113	273138	hsa	chr7	+	72274772	72274855	
GAM337114	273356	hsa	chr10	+	72469898	72470009	THC1414310
GAM337115	272810	hsa	chr17	+	72530482	72530568	
GAM337116	273760	hsa	chr11	-	72624650	72624755	THC1551655
GAM337117	273925	hsa	chr11	-	72624662	72624750	THC1551655
GAM337118	273107	hsa	chr18	-	72678382	72678477	THC1458230
GAM337119	274341	hsa	chr7	-	73042551	73042656	
GAM337120	273782	hsa	chr15	-	73124348	73124443	THC1407403
GAM337121	272798	hsa	chr15	-	73124349	73124442	
GAM337122	274262	hsa	chr15	-	73124350	73124441	
GAM337123	273782	hsa	chr15	-	73148625	73148720	THC1407403
GAM337124	272798	hsa	chr15	-	73148626	73148719	
GAM337125	274262	hsa	chr15	-	73148627	73148718	
GAM337126	273176	hsa	chr11	+	73205614	73205689	
GAM337127	274122	hsa	chr7	+	73215042	73215141	
GAM337128	273191	hsa	chr7	+	73215043	73215140	
GAM337129	273521	hsa	chr3	-	73257733	73257831	THC1552388
GAM337130	273578	hsa	chr15	+	73327088	73327176	
GAM337131	273292	hsa	chr17	+	73549131	73549240	
GAM337132	273029	hsa	chr7	+	73568193	73568274	THC1530625
GAM337133	273780	hsa	chr7	+	73601903	73602032	THC1461329
GAM337134	274496	hsa	chr7	-	73634121	73634219	

GAM337135	274168	hsa	chr7	+	73747698	73747788	THC1481651
GAM337136	274034	hsa	chr7	+	73803663	73803769	
GAM337137	272767	hsa	chr9	-	73903433	73903546	
GAM337138	273485	hsa	chr9	-	73912141	73912249	THC1595134
GAM337139	274496	hsa	chr7	+	73938625	73938723	
GAM337140	273780	hsa	chr7	-	73970646	73970775	THC1461329
GAM337141	273029	hsa	chr7	-	74004427	74004508	THC1530625
GAM337142	273816	hsa	chr18	+	74020789	74020895	THC1491519
GAM337143	274168	hsa	chr7	-	74080872	74080962	THC1481651
GAM337144	273821	hsa	chr18	+	74099672	74099745	
GAM337145	274606	hsa	chr16	+	74141948	74142029	
GAM337146	274103	hsa	chr2	+	74273377	74273475	THC1594763
GAM337147	273480	hsa	chr2	+	74273378	74273474	THC1594763
GAM337148	274072	hsa	chr2	+	74273390	74273463	THC1594763
GAM337149	272946	hsa	chr8	+	74455579	74455655	
GAM337150	274168	hsa	chr7	-	74495125	74495215	THC1481651
GAM337151	273506	hsa	chr7	+	74600951	74601049	THC1516956
GAM337152	273233	hsa	chr8	-	74682720	74682801	
GAM337153	273209	hsa	chr7	-	74726081	74726185	
GAM337154	274116	hsa	chr10	+	74733011	74733111	
GAM337155	273187	hsa	chr10	+	74733012	74733110	
GAM337156	274221	hsa	chr10	+	74733018	74733105	
GAM337157	273696	hsa	chr17	-	74841732	74841819	
GAM337158	273710	hsa	chr15	-	74959089	74959183	
GAM337159	273653	hsa	chr18	-	75061068	75061149	THC1432163
GAM337160	273481	hsa	chrX	-	75203402	75203500	
GAM337161	274412	hsa	chr14	-	75209026	75209115	
GAM337162	273681	hsa	chr3	-	75245669	75245756	THC1439776
GAM337163	272773	hsa	chr10	-	75306320	75306425	
GAM337164	274210	hsa	chr10	-	75306325	75306419	
GAM337165	272839	hsa	chrX	+	75615894	75615975	
GAM337166	273209	hsa	chr7	+	75764518	75764622	
GAM337167	274205	hsa	chr10	-	75774294	75774389	
GAM337168	274382	hsa	chr7	+	75794832	75794924	
GAM337169	273466	hsa	chr11	+	75944727	75944827	
GAM337170	273426	hsa	chr12	+	76136262	76136343	
GAM337171	273209	hsa	chr7	+	76283582	76283686	
GAM337172	273357	hsa	chr12	+	76484385	76484483	
GAM337173	272866	hsa	chr15	-	76490700	76490800	
GAM337174	272831	hsa	chr7	+	76516598	76516670	
GAM337175	273934	hsa	chr7	+	76652860	76652966	
GAM337176	273307	hsa	chr17	-	76740959	76741049	
GAM337177	274316	hsa	chr17	-	76741418	76741502	
GAM337178	273249	hsa	chr11	+	76977853	76977952	
GAM337179	273327	hsa	chr11	+	77038644	77038729	THC1577906
GAM337180	273805	hsa	chr16	+	77109458	77109567	
GAM337181	273819	hsa	chr16	+	77109464	77109561	
GAM337182	272839	hsa	chr12	-	77473343	77473424	
GAM337183	274249	hsa	chr1	+	77738565	77738652	
GAM337184	274368	hsa	chr14	+	78244320	78244429	

GAM337185	273511	hsa	chr16	+	78245362	78245461	THC1433804
GAM337186	274231	hsa	chr16	+	78245368	78245456	THC1433804
GAM337187	273537	hsa	chr16	+	78638936	78639029	
GAM337188	273738	hsa	chr7	+	78652714	78652814	
GAM337189	273478	hsa	chr7	+	78652725	78652810	
GAM337190	273392	hsa	chr11	-	78654888	78654992	
GAM337191	274338	hsa	chr11	-	79303486	79303580	
GAM337192	273653	hsa	chr6	+	79485331	79485412	THC1432163
GAM337193	274480	hsa	chr17	-	79931894	79931984	
GAM337194	274561	hsa	chr17	+	80018909	80019008	
GAM337195	273267	hsa	chr17	+	80018910	80019007	
GAM337196	273653	hsa	chr13	+	80622214	80622295	THC1432163
GAM337197	274255	hsa	chr17	+	81064708	81064796	
GAM337198	274506	hsa	chr17	+	81109906	81110001	
GAM337199	273618	hsa	chr16	+	81438779	81438890	
GAM337200	272776	hsa	chr8	-	81629047	81629130	THC1482911
GAM337201	273781	hsa	chr10	+	82074475	82074571	
GAM337202	273813	hsa	chr7	-	82178830	82178931	
GAM337203	273597	hsa	chr9	+	82201058	82201145	
GAM337204	273653	hsa	chr9	+	82464706	82464787	THC1432163
GAM337205	274430	hsa	chr11	-	82910996	82911095	
GAM337206	273653	hsa	chr9	-	83433939	83434020	THC1432163
GAM337207	274055	hsa	chr7	+	84223987	84224086	
GAM337208	273944	hsa	chr7	+	84223991	84224085	
GAM337209	273653	hsa	chr8	-	84490971	84491052	THC1432163
GAM337210	273653	hsa	chr5	+	84536421	84536502	THC1432163
GAM337211	273653	hsa	chr12	-	84648170	84648251	THC1432163
GAM337212	273653	hsa	chr12	+	84939391	84939472	THC1432163
GAM337213	273608	hsa	chr12	+	85256084	85256182	
GAM337214	274257	hsa	chr12	+	85256089	85256178	
GAM337215	273496	hsa	chr12	+	85256090	85256177	
GAM337216	273653	hsa	chr7	-	85369298	85369379	THC1432163
GAM337217	273911	hsa	chr15	+	86608510	86608588	THC1418799
GAM337218	273610	hsa	chr14	+	86923030	86923105	
GAM337219	273562	hsa	chr15	+	87034877	87034953	
GAM337220	273148	hsa	chr15	+	87035430	87035503	
GAM337221	274332	hsa	chr10	-	87449030	87449128	
GAM337222	273773	hsa	chr16	+	87564276	87564357	
GAM337223	272942	hsa	chr14	+	87851079	87851166	
GAM337224	273653	hsa	chr7	-	88198417	88198498	THC1432163
GAM337225	273967	hsa	chr15	+	88408163	88408240	
GAM337226	274361	hsa	chr9	+	88578225	88578314	
GAM337227	274530	hsa	chr10	+	88903075	88903175	
GAM337228	273653	hsa	chr3	+	88997770	88997851	THC1432163
GAM337229	274566	hsa	chr16	+	89060884	89060970	
GAM337230	273928	hsa	chr9	-	89181165	89181284	
GAM337231	273533	hsa	chr10	+	89182591	89182700	THC1563143
GAM337232	273086	hsa	chr11	-	89243160	89243260	
GAM337233	273708	hsa	chr14	-	89325453	89325535	THC1449162
GAM337234	274073	hsa	chr14	-	89325457	89325532	THC1449162

GAM337235	273044	hsa	chr14	-	89325458	89325531	THC1449162
GAM337236	273533	hsa	chr10	-	89337220	89337329	THC1563143
GAM337237	273197	hsa	chr4	+	89368234	89368331	THC1415671
GAM337238	273687	hsa	chr4	+	89368240	89368326	THC1415671
GAM337239	273150	hsa	chr9	-	89508105	89508177	
GAM337240	272900	hsa	chr14	+	89578295	89578402	THC1572194
GAM337241	273261	hsa	chr14	+	89578302	89578393	THC1572194
GAM337242	273310	hsa	chr7	+	89742768	89742864	
GAM337243	274001	hsa	chr14	+	89931751	89931839	
GAM337244	274594	hsa	chr8	-	90065436	90065520	
GAM337245	274007	hsa	chr11	+	90083877	90083972	
GAM337246	274426	hsa	chr11	+	90083887	90083965	
GAM337247	274371	hsa	chr11	-	90114587	90114677	
GAM337248	273653	hsa	chr11	+	90495199	90495280	THC1432163
GAM337249	272717	hsa	chr7	+	90497615	90497698	
GAM337250	273653	hsa	chr14	-	91509421	91509502	THC1432163
GAM337251	273863	hsa	chr10	+	91699065	91699140	
GAM337252	273349	hsa	chr8	+	91709202	91709288	
GAM337253	274160	hsa	chr15	-	91720686	91720785	
GAM337254	273013	hsa	chr7	-	91841622	91841706	
GAM337255	274013	hsa	chr14	+	92455725	92455811	THC1601591
GAM337256	272755	hsa	chr14	+	92455726	92455810	THC1601591
GAM337257	273114	hsa	chr10	+	92938874	92938983	
GAM337258	273420	hsa	chr10	+	92938880	92938977	
GAM337259	273335	hsa	chr9	+	92941110	92941221	
GAM337260	274284	hsa	chr9	+	92941111	92941220	
GAM337261	273054	hsa	chr9	+	92941113	92941216	
GAM337262	272867	hsa	chr9	+	92941115	92941213	
GAM337263	273653	hsa	chr10	-	93264106	93264187	THC1432163
GAM337264	273314	hsa	chr9	+	93648456	93648552	
GAM337265	274502	hsa	chr9	+	93648460	93648544	
GAM337266	273071	hsa	chr9	+	93648461	93648543	
GAM337267	273947	hsa	chrX	+	93666704	93666803	
GAM337268	272758	hsa	chr10	+	94241824	94241918	
GAM337269	274508	hsa	chr15	-	94289451	94289527	THC1525813
GAM337270	273250	hsa	chr10	-	94365822	94365929	THC1531347
GAM337271	274080	hsa	chr10	-	94365825	94365925	THC1531347
GAM337272	274207	hsa	chr12	+	94583041	94583114	THC1482278
GAM337273	273939	hsa	chr1	+	94706874	94706945	
GAM337274	273487	hsa	chr15	-	94819576	94819678	THC1426889
GAM337275	273948	hsa	chr15	-	94819582	94819674	THC1426889
GAM337276	274359	hsa	chr7	+	94850123	94850213	
GAM337277	273929	hsa	chr11	-	94888202	94888309	THC1453966
GAM337278	273766	hsa	chr8	-	94917186	94917266	
GAM337279	272819	hsa	chr9	+	95196288	95196387	
GAM337280	273442	hsa	chr14	+	95251817	95251929	
GAM337281	274534	hsa	chr10	+	95469300	95469400	
GAM337282	273574	hsa	chr10	+	95469307	95469394	
GAM337283	273848	hsa	chr14	+	96090585	96090666	
GAM337284	273861	hsa	chr11	+	96193605	96193692	

GAM337285	274563	hsa	chr13	-	96668219	96668343	
GAM337286	272938	hsa	chr13	-	96668245	96668335	
GAM337287	272929	hsa	chr9	+	96675690	96675766	THC1537454
GAM337288	273829	hsa	chr12	-	96681277	96681379	THC1498750
GAM337289	273828	hsa	chr12	-	96681278	96681379	THC1498750
GAM337290	274051	hsa	chrX	+	96688012	96688102	
GAM337291	273090	hsa	chr8	+	97011857	97011947	
GAM337292	273653	hsa	chr5	+	97029751	97029832	THC1432163
GAM337293	274408	hsa	chr15	+	97153223	97153319	
GAM337294	273994	hsa	chr15	+	97153225	97153317	
GAM337295	273788	hsa	chr12	-	97478811	97478901	
GAM337296	273450	hsa	chr13	-	97963174	97963273	THC1450795
GAM337297	273758	hsa	chr13	-	97963178	97963269	THC1450795
GAM337298	274278	hsa	chr15	+	98182570	98182651	
GAM337299	274519	hsa	chr7	+	98227794	98227885	
GAM337300	274633	hsa	chr7	+	98227800	98227875	
GAM337301	273653	hsa	chr1	-	98287751	98287832	THC1432163
GAM337302	273653	hsa	chr2	-	98298734	98298815	THC1432163
GAM337303	274246	hsa	chrX	+	98459191	98459277	
GAM337304	274636	hsa	chrX	+	98459197	98459271	
GAM337305	274613	hsa	chr10	+	98645765	98645836	
GAM337306	272853	hsa	chr10	+	98645767	98645834	
GAM337307	272744	hsa	chr7	-	98790680	98790757	
GAM337308	274061	hsa	chr7	+	98847001	98847078	
GAM337309	273546	hsa	chr15	+	98872917	98873015	
GAM337310	273653	hsa	chr5	+	98924324	98924405	THC1432163
GAM337311	273190	hsa	chr12	+	98930879	98930978	THC1552841
GAM337312	273719	hsa	chr12	+	98930881	98930976	
GAM337313	274233	hsa	chr12	+	98930885	98930973	
GAM337314	274230	hsa	chr15	+	98985382	98985469	
GAM337315	273352	hsa	chr14	+	99006060	99006135	
GAM337316	272982	hsa	chr15	+	99016945	99017049	THC1513400
GAM337317	274138	hsa	chr12	+	99096789	99096891	
GAM337318	274140	hsa	chr12	+	99096793	99096891	
GAM337319	274305	hsa	chr12	+	99096802	99096878	
GAM337320	272725	hsa	chr13	+	99149261	99149326	
GAM337321	273604	hsa	chr7	+	99258727	99258807	
GAM337322	274497	hsa	chr7	+	99272359	99272461	
GAM337323	273859	hsa	chr7	+	99320583	99320662	
GAM337324	274232	hsa	chr14	+	99463318	99463406	
GAM337325	273350	hsa	chr14	+	99490133	99490214	
GAM337326	274053	hsa	chr11	+	99654607	99654737	
GAM337327	273857	hsa	chr11	+	99654622	99654724	
GAM337328	272953	hsa	chr11	+	99654625	99654720	
GAM337329	272727	hsa	chr14	+	99733672	99733752	
GAM337330	273653	hsa	chr6	-	100140600	100140681	THC1432163
GAM337331	274539	hsa	chr7	+	100281287	100281388	
GAM337332	273446	hsa	chr10	-	100300657	100300732	THC1422355
GAM337333	273653	hsa	chr1	+	100558408	100558489	THC1432163
GAM337334	273909	hsa	chr14	+	100644251	100644338	

GAM337335	274413	hsa	chr8	+	100902207	100902280	
GAM337336	273653	hsa	chr10	+	100912899	100912980	THC1432163
GAM337337	273205	hsa	chr12	+	100953716	100953814	
GAM337338	272823	hsa	chr11	+	101025636	101025730	
GAM337339	273665	hsa	chr11	+	101025642	101025727	
GAM337340	273790	hsa	chr11	+	101025648	101025720	
GAM337341	274384	hsa	chr6	-	101077081	101077193	THC1455312
GAM337342	274468	hsa	chr7	+	101086880	101086962	
GAM337343	272721	hsa	chr7	+	101399275	101399382	
GAM337344	273653	hsa	chr13	-	101536725	101536806	THC1432163
GAM337345	273209	hsa	chr7	+	101538287	101538391	
GAM337346	273208	hsa	chr9	+	101601185	101601282	
GAM337347	274437	hsa	chr8	-	101602637	101602714	THC1526083
GAM337348	272830	hsa	chr8	-	101608011	101608112	THC1501764
GAM337349	274365	hsa	chr7	-	101618765	101618866	
GAM337350	274308	hsa	chr7	+	101642187	101642299	
GAM337351	274286	hsa	chr7	+	101642191	101642298	
GAM337352	273844	hsa	chr7	+	101642197	101642292	
GAM337353	274152	hsa	chr13	-	101658818	101658891	
GAM337354	273913	hsa	chr13	-	101658819	101658890	
GAM337355	273209	hsa	chr7	-	101744915	101745019	
GAM337356	274464	hsa	chr9	+	101746098	101746178	THC1584357
GAM337357	273209	hsa	chr7	-	101843971	101844075	
GAM337358	272943	hsa	chr14	-	101964516	101964621	
GAM337359	272843	hsa	chr14	-	101964525	101964613	
GAM337360	273802	hsa	chr11	-	103421790	103421867	
GAM337361	273109	hsa	chr10	+	103489943	103490054	THC1544958
GAM337362	273771	hsa	chr8	+	103586370	103586471	
GAM337363	273653	hsa	chr3	+	103632887	103632968	THC1432163
GAM337364	273946	hsa	chr9	+	103784499	103784597	
GAM337365	273539	hsa	chr7	+	104150741	104150830	
GAM337366	273239	hsa	chr7	+	104305997	104306075	
GAM337367	273810	hsa	chr14	-	104342178	104342288	
GAM337368	274334	hsa	chr14	-	104342181	104342277	
GAM337369	274605	hsa	chr14	+	104360063	104360166	
GAM337370	273752	hsa	chr10	+	104509126	104509226	
GAM337371	274059	hsa	chr12	+	104616032	104616129	
GAM337372	273833	hsa	chr14	-	104762497	104762573	
GAM337373	273833	hsa	chr14	-	104787214	104787290	
GAM337374	274311	hsa	chr10	+	104818818	104818907	
GAM337375	273959	hsa	chr8	+	104911214	104911286	
GAM337376	273494	hsa	chr14	+	104932380	104932478	
GAM337377	273565	hsa	chr10	-	105033873	105033966	THC1559539
GAM337378	273564	hsa	chr10	-	105033875	105033966	THC1559539
GAM337379	274486	hsa	chr9	-	105338344	105338451	THC1521015
GAM337380	274235	hsa	chr2	+	105566898	105566986	
GAM337381	272838	hsa	chr10	+	106014326	106014438	THC1598797
GAM337382	273337	hsa	chr12	-	106230905	106230975	
GAM337383	274483	hsa	chr10	-	106366445	106366543	
GAM337384	274302	hsa	chr12	+	106504624	106504719	

GAM337385	274554	hsa	chr2	-	106622467	106622569	THC1505172
GAM337386	273603	hsa	chr2	-	106622476	106622562	THC1505172
GAM337387	274071	hsa	chr2	-	106622480	106622556	THC1505172
GAM337388	273794	hsa	chr8	-	106717983	106718083	
GAM337389	273663	hsa	chr8	-	106717988	106718079	
GAM337390	272920	hsa	chr9	+	106800362	106800469	
GAM337391	272775	hsa	chr9	+	106800378	106800455	
GAM337392	274028	hsa	chr12	+	107297330	107297440	
GAM337393	274244	hsa	chr11	-	107416407	107416495	THC1408193
GAM337394	272879	hsa	chr5	+	107752512	107752584	
GAM337395	274554	hsa	chr2	+	108115430	108115532	THC1505172
GAM337396	273603	hsa	chr2	+	108115437	108115523	THC1505172
GAM337397	274071	hsa	chr2	+	108115443	108115519	THC1505172
GAM337398	274203	hsa	chr7	-	108481444	108481540	
GAM337399	274553	hsa	chr2	+	108732269	108732371	
GAM337400	273582	hsa	chr2	+	108732276	108732362	
GAM337401	273583	hsa	chr2	+	108732276	108732363	
GAM337402	274044	hsa	chr2	+	108732282	108732358	
GAM337403	274049	hsa	chr8	+	109155677	109155783	THC1506053
GAM337404	274263	hsa	chr13	+	109909022	109909113	
GAM337405	273085	hsa	chr4	+	109967299	109967401	THC1458309
GAM337406	274641	hsa	chr13	+	109997900	109998005	
GAM337407	273653	hsa	chr5	-	110039924	110040005	THC1432163
GAM337408	273378	hsa	chr7	+	110149400	110149483	
GAM337409	274554	hsa	chr2	+	110164979	110165081	THC1505172
GAM337410	273603	hsa	chr2	+	110164986	110165072	THC1505172
GAM337411	274071	hsa	chr2	+	110164992	110165068	THC1505172
GAM337412	274487	hsa	chr13	-	110273545	110273666	
GAM337413	274528	hsa	chr12	+	110356261	110356361	
GAM337414	272901	hsa	chr10	-	110439070	110439163	
GAM337415	274554	hsa	chr2	-	110894746	110894848	THC1505172
GAM337416	273603	hsa	chr2	-	110894755	110894841	THC1505172
GAM337417	274071	hsa	chr2	-	110894759	110894835	THC1505172
GAM337418	273957	hsa	chr12	+	111066449	111066548	
GAM337419	273382	hsa	chr9	+	111125711	111125821	
GAM337420	273732	hsa	chr11	-	111321485	111321597	
GAM337421	274511	hsa	chr12	+	111340859	111340956	
GAM337422	273544	hsa	chr11	+	111418113	111418191	
GAM337423	273374	hsa	chr11	+	111418121	111418183	
GAM337424	273709	hsa	chr11	+	111702787	111702869	
GAM337425	274189	hsa	chr11	+	111702792	111702863	
GAM337426	273653	hsa	chr7	+	111728469	111728550	THC1432163
GAM337427	274612	hsa	chr11	+	111814576	111814700	
GAM337428	273167	hsa	chr12	+	112035396	112035491	
GAM337429	273051	hsa	chr9	+	112396737	112396831	
GAM337430	273907	hsa	chr12	-	112469045	112469165	
GAM337431	274617	hsa	chr12	-	112469049	112469161	
GAM337432	274047	hsa	chr12	-	112469050	112469160	
GAM337433	273305	hsa	chr12	-	112469065	112469149	
GAM337434	274460	hsa	chr13	+	112606392	112606488	

GAM337435	273653	hsa	chr11	+	112801451	112801532	THC1432163
GAM337436	273338	hsa	chrX	+	112917187	112917277	
GAM337437	273328	hsa	chr13	+	112997384	112997485	
GAM337438	274554	hsa	chr2	-	113030916	113031018	THC1505172
GAM337439	273603	hsa	chr2	-	113030925	113031011	THC1505172
GAM337440	274071	hsa	chr2	-	113030929	113031005	THC1505172
GAM337441	273620	hsa	chr11	+	113128395	113128478	THC1413356
GAM337442	273849	hsa	chr11	+	113128396	113128477	THC1413356
GAM337443	273856	hsa	chr11	+	113128397	113128476	THC1413356
GAM337444	273800	hsa	chr11	+	113169670	113169781	THC1576567
GAM337445	274065	hsa	chr13	+	113838652	113838743	
GAM337446	274218	hsa	chr7	+	113861407	113861496	
GAM337447	274042	hsa	chr7	+	113861413	113861490	
GAM337448	273436	hsa	chr7	+	113861416	113861485	
GAM337449	273653	hsa	chrX	-	114300062	114300143	THC1432163
GAM337450	273315	hsa	chr12	+	114520290	114520386	
GAM337451	273069	hsa	chr7	-	115464771	115464864	THC1435186
GAM337452	274318	hsa	chr10	-	115482747	115482828	THC1584751
GAM337453	273281	hsa	chr1	-	116189890	116189991	
GAM337454	273517	hsa	chr1	-	116189891	116189990	
GAM337455	273640	hsa	chr10	+	116458112	116458185	
GAM337456	274113	hsa	chr12	-	116582532	116582632	
GAM337457	273501	hsa	chr12	-	116582533	116582631	
GAM337458	272852	hsa	chr11	-	116689623	116689732	THC1572618
GAM337459	273639	hsa	chr11	-	116689628	116689728	THC1572618
GAM337460	274041	hsa	chr9	+	116939053	116939128	
GAM337461	274274	hsa	chrX	-	116942975	116943053	
GAM337462	274245	hsa	chr9	+	117189825	117189907	
GAM337463	273937	hsa	chr9	+	117327121	117327212	
GAM337464	274135	hsa	chr9	+	117327126	117327205	
GAM337465	273653	hsa	chr7	-	117891472	117891553	THC1432163
GAM337466	273653	hsa	chr8	+	118241872	118241953	THC1432163
GAM337467	274156	hsa	chr11	+	118456636	118456736	
GAM337468	274014	hsa	chr10	+	118778956	118779037	
GAM337469	273215	hsa	chr8	-	118785414	118785498	THC1564919
GAM337470	273968	hsa	chr12	-	119479486	119479613	
GAM337471	272839	hsa	chr5	+	119659619	119659700	
GAM337472	273456	hsa	chr12	-	120043180	120043285	
GAM337473	273653	hsa	chr6	+	120076221	120076302	THC1432163
GAM337474	272825	hsa	chr12	+	120488806	120488904	
GAM337475	273740	hsa	chr7	+	120794871	120794944	
GAM337476	274118	hsa	chrX	+	120997503	120997604	THC1453916
GAM337477	273653	hsa	chr9	-	121175114	121175195	THC1432163
GAM337478	272962	hsa	chr8	+	121180039	121180116	
GAM337479	273969	hsa	chr12	+	121585232	121585334	
GAM337480	273653	hsa	chr10	+	121875870	121875951	THC1432163
GAM337481	272714	hsa	chr11	+	122005663	122005744	
GAM337482	273602	hsa	chr4	+	122221602	122221690	
GAM337483	274009	hsa	chrX	-	122223589	122223698	
GAM337484	273878	hsa	chrX	-	122223598	122223690	

GAM337485	274082	hsa	chr12	+	122598663	122598741		
GAM337486	274525	hsa	chr8	-	122851359	122851451		
GAM337487	274346	hsa	chr7	+	122871572	122871684		
GAM337488	272750	hsa	chr7	+	123179192	123179304		
GAM337489	274574	hsa	chr11	-	123330334	123330415		
GAM337490	273162	hsa	chr9	+	123435499	123435595		
GAM337491	272959	hsa	chr12	+	123535682	123535767		
GAM337492	273333	hsa	chr10	-	123546853	123546928		
GAM337493	272868	hsa	chrX	+	123550478	123550557		
GAM337494	273444	hsa	chr12	-	123732628	123732735		
GAM337495	274307	hsa	chr12	-	123734213	123734294		
GAM337496	273577	hsa	chr12	-	124130227	124130314		
GAM337497	273081	hsa	chr9	-	124151674	124151773	THC1583612	
GAM337498	273831	hsa	chr9	-	124608557	124608669	THC1555969	
GAM337499	274150	hsa	chr9	-	124608566	124608670	THC1555969	
GAM337500	273056	hsa	chr9	-	124608567	124608662	THC1555969	
GAM337501	274323	hsa	chr9	-	124608570	124608658	THC1555969	
GAM337502	273653	hsa	chr6	+	124663501	124663582	THC1432163	
GAM337503	273033	hsa	chr12	+	124954903	124955007		
GAM337504	274076	hsa	chr11	+	124959304	124959392		
GAM337505	272940	hsa	chr10	+	125073070	125073164		
GAM337506	273555	hsa	chr8	+	125865072	125865172		
GAM337507	273824	hsa	chr11	+	126234545	126234646		
GAM337508	272923	hsa	chr11	+	126234553	126234633		
GAM337509	274132	hsa	chr8	-	126431165	126431256	THC1478876	
GAM337510	273198	hsa	chr12	+	126518661	126518759		
GAM337511	273786	hsa	chr10	+	126721975	126722071		
GAM337512	274200	hsa	chr10	+	126808650	126808746		
GAM337513	274337	hsa	chr9	+	126930158	126930254		
GAM337514	274099	hsa	chr10	+	127448460	127448566		
GAM337515	273028	hsa	chr7	+	127715522	127715596	THC1551816	
GAM337516	273045	hsa	chr7	-	127763749	127763823		
GAM337517	274339	hsa	chr12	-	127799785	127799895		
GAM337518	273767	hsa	chr10	+	127854074	127854179		
GAM337519	272880	hsa	chr10	-	127955257	127955353	THC1549388	
GAM337520	272936	hsa	chr9	+	128242511	128242620		
GAM337521	273776	hsa	chr9	+	128399235	128399346	THC1599871	
GAM337522	274079	hsa	chr9	+	128399242	128399340	THC1599871	
GAM337523	274088	hsa	chr9	+	128399246	128399335	THC1599871	
GAM337524	274312	hsa	chr8	+	128497045	128497145		
GAM337525	273262	hsa	chr8	+	128533191	128533264		
GAM337526	273455	hsa	chr11	+	128779961	128780046		
GAM337527	274344	hsa	chr11	-	128874975	128875046	THC1597631	
GAM337528	274198	hsa	chr12	+	129138656	129138730	THC1528702	
GAM337529	272792	hsa	chr7	-	129198494	129198576	THC1490071	
GAM337530	273021	hsa	chr12	+	129432365	129432458		
GAM337531	273653	hsa	chr2	+	129487964	129488045	THC1432163	
GAM337532	272812	hsa	chr9	-	129558238	129558332		
GAM337533	273653	hsa	chr12	-	129681005	129681086	THC1432163	
GAM337534	273653	hsa	chr12	+	129687004	129687085	THC1432163	

GAM337535	274158	hsa	chr7	-	130018501	130018613	
GAM337536	274090	hsa	chr7	-	130018504	130018609	
GAM337537	273900	hsa	chr7	-	130018515	130018598	
GAM337538	274621	hsa	chr9	+	130102174	130102254	
GAM337539	272839	hsa	chr8	+	130335493	130335574	
GAM337540	273846	hsa	chr11	-	130897559	130897645	THC1505717
GAM337541	273526	hsa	chr10	+	130940694	130940792	
GAM337542	273157	hsa	chr10	+	130940701	130940786	
GAM337543	273653	hsa	chr5	+	131254288	131254369	THC1432163
GAM337544	273653	hsa	chr9	+	131317013	131317094	THC1432163
GAM337545	273581	hsa	chrX	+	131445968	131446055	
GAM337546	274134	hsa	chr9	+	131510220	131510307	
GAM337547	272927	hsa	chr10	+	131841260	131841363	
GAM337548	274119	hsa	chr2	+	131845700	131845800	
GAM337549	274229	hsa	chr2	+	131845707	131845794	
GAM337550	272931	hsa	chr12	+	132122953	132123046	THC1503945
GAM337551	274029	hsa	chrX	+	132474200	132474276	
GAM337552	274529	hsa	chr12	-	132503685	132503786	
GAM337553	272752	hsa	chr8	-	132744616	132744726	
GAM337554	273553	hsa	chr8	-	132744625	132744712	
GAM337555	273531	hsa	chr12	-	132911257	132911355	
GAM337556	273434	hsa	chr12	-	132911271	132911340	
GAM337557	272964	hsa	chr9	-	132975492	132975588	
GAM337558	272807	hsa	chr7	+	133234415	133234511	
GAM337559	273896	hsa	chr9	+	133258750	133258856	
GAM337560	273650	hsa	chr11	+	133320885	133320966	
GAM337561	273010	hsa	chr9	-	133380539	133380625	THC1558043
GAM337562	273838	hsa	chr7	+	133531260	133531336	
GAM337563	274319	hsa	chr8	+	133738183	133738266	
GAM337564	274068	hsa	chr7	+	134274363	134274458	
GAM337565	274062	hsa	chr10	+	135198066	135198171	
GAM337566	273653	hsa	chr10	-	135316221	135316302	THC1432163
GAM337567	274609	hsa	chr8	-	135501500	135501599	
GAM337568	273128	hsa	chr8	-	135501507	135501593	
GAM337569	273637	hsa	chr8	-	135501511	135501590	
GAM337570	273850	hsa	chr7	-	137087025	137087138	THC1472957
GAM337571	272783	hsa	chr7	-	137087030	137087131	THC1472957
GAM337572	273031	hsa	chr7	-	137087038	137087121	THC1472957
GAM337573	273653	hsa	chr6	-	137116843	137116924	THC1432163
GAM337574	274532	hsa	chr7	+	137674434	137674535	
GAM337575	273482	hsa	chr7	+	138359964	138360063	
GAM337576	273653	hsa	chr6	+	138611911	138611992	THC1432163
GAM337577	274385	hsa	chr7	-	138668882	138669007	THC1447584
GAM337578	273653	hsa	chr8	-	138845677	138845758	THC1432163
GAM337579	273529	hsa	chr5	-	139758518	139758616	
GAM337580	274020	hsa	chr7	+	140494572	140494682	
GAM337581	272728	hsa	chr7	+	140505904	140506013	
GAM337582	273669	hsa	chr8	-	140688702	140688791	
GAM337583	273111	hsa	chr7	+	140915938	140916022	
GAM337584	273439	hsa	chr8	-	141088822	141088914	

GAM337585	272973	hsa	chr8	-	141088826	141088910	
GAM337586	273547	hsa	chr8	+	141572888	141572988	
GAM337587	273423	hsa	chr8	+	141572899	141572976	
GAM337588	274615	hsa	chr1	-	142629616	142629696	THC1553567
GAM337589	273653	hsa	chr8	-	142638211	142638292	THC1432163
GAM337590	273297	hsa	chr7	+	142719208	142719308	
GAM337591	274623	hsa	chr7	+	143679711	143679823	
GAM337592	274410	hsa	chr7	+	143693599	143693673	
GAM337593	273653	hsa	chrX	-	144215955	144216036	THC1432163
GAM337594	273653	hsa	chr6	-	145082321	145082402	THC1432163
GAM337595	273653	hsa	chr4	+	146634571	146634652	THC1432163
GAM337596	274077	hsa	chr7	+	147792103	147792213	THC1558553
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GAM337599	274017	hsa	chrX	+	148237793	148237901	
GAM337600	273554	hsa	chrX	+	148875142	148875253	
GAM337601	274127	hsa	chrX	+	148876208	148876292	
GAM337602	272729	hsa	chrX	+	148876211	148876289	
GAM337603	272846	hsa	chrX	-	149106392	149106486	THC1456470
GAM337604	274484	hsa	chr7	+	150249155	150249248	THC1565921
GAM337605	274642	hsa	chr7	-	150253092	150253179	THC1523723
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GAM337609	272734	hsa	chr7	+	151157892	151157997	
GAM337610	272824	hsa	chr7	+	151157893	151157996	
GAM337611	272794	hsa	chrX	+	151495188	151495289	
GAM337612	272839	hsa	chr3	-	152514926	152515007	
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GAM337618	273362	hsa	chr7	+	157686938	157687032	
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GAM337620	273798	hsa	chr4	+	159014706	159014766	
GAM337621	273653	hsa	chr1	-	162284736	162284817	THC1432163
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GAM337623	273653	hsa	chr3	+	165593729	165593810	THC1432163
GAM337624	273124	hsa	chr1	-	168691834	168691904	
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GAM337626	273706	hsa	chr1	-	176442690	176442777	
GAM337627	273283	hsa	chr1	+	177506687	177506787	
GAM337628	273653	hsa	chr1	-	182133354	182133435	THC1432163
GAM337629	273653	hsa	chr4	+	186079835	186079916	THC1432163
GAM337630	273017	hsa	chr1	+	199201991	199202087	
GAM337631	273590	hsa	chr1	+	208756916	208757003	
GAM337632	272777	hsa	chr2	+	222613184	222613279	THC1529741
GAM337633	273536	hsa	chr2	+	222613185	222613278	THC1529741
GAM337634	274240	hsa	chr1	+	231956115	231956203	

GAM NAME PRECUR PRECURSOR-SEQUENCE GAM FOLDED PRECURSOR RNA
SEQ-ID

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GAM31 273744 GGCTGTGGCTGGATTCAAGT GG TG TT C GTTTCCATCTGTGA
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A GT A GT-- -------
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TCAGGTGCAAAATT - ------ TCC ----
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ACTTTTTGCTGAATCCTTT AGTCG A GT A GT-- -------
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GCCT
GCAGCCCGAGGCTAGCCTGG TAG TGTT TTAG TTTAT GTTC ACTAA TG GG CGTTGG GC
CGA TGGG
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GAM189 273463 GAAGTTCCAGGCTGTAGTGC GT- T CT A- A ACGT
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CCTGGGCAATTC AAC C -- CG A ----
GAM193 273269 GCTGGATATTGCTAAGAATT - G AGAA AG CG AGA CCATACTA
CAGGTAGTCTCGGGATCTCC GCTGGAT ATT CTA TTCAGGT TCT GGATCTCC GTCT
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GGAGATCTTCAGAACCTGGA A A AAGG -- CT A-- --------
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TGT
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TACATTA
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CCAGCCTGGGTGACAGAGTG GAGTG AG GA A- T -- -----
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GCACTACC GA G AAATA TT -------
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G
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TTCT
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CTGTA
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CA
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GGCAGCAGC
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TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
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GAM408 273571 GGACTGAAAGAGAACTGGGA A AAA A- AG A A GTG TGTTTC
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TCCCCTGATCTTGCTATCCC A C-- AC G- - C AGA ------
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GAM411 272948 AACGAACTCCTGGATGTCTA G GATG- A TCTCATAATTTAG - CT TACAA
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ATGTGGCATCATCCACATAG - AAGTA C TA---------- G TT -----
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CAGGAGAGTGAAGCGAGTTG GG GG TGA TCGA GACC GG T CGAAGTGAGAG
GGCCAGAGCTGAGAGTCTGG T TC GAG - - GT GAG ---
TGG
GAM492 274601 TGTCTATAGAGTATGTGGGC AGAGTA T TT- TG C- A TT T CTCTCTCT
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AAGCTGTGGTTCTGG
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CGATGGCCCACCCACCCTTC TTCTCCTTCT TAC CTTCCC CC GGTA CT
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GAM507 274301 GGGAGACCCAGGACCCGGGA CCA C G GTAGAGG - C--- CACCA
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GAM550 274424 TAAATCTGGGCTGAGGGAAA ATC TGAG- ---- T C ---- -- - TCT TG
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GGT GC
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TTA CG
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TA

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TCCATGGCCATCACTATGGC GT ACC GTATCA CCT T ----------
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GATC
GAM572 272762 AGAACAAGGGCTAAATTCAA GG AA AA--- - T TAC GAAAAATAA
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CCTGGGTTTCATGGAAAGAA GAC CCG ATCG GGGAAAC ACTCC GTGT GAA GG AC
TGTGCCCTCACCAAAGGGTG C GAACAA-- T C C AA A- T -----
CTAAACAAGGCCCCAG
GAM588 273679 CAAAGAGGTGTAGAATCTGG -- AGAAT TT T TTCAA A TCATT
GTTGGTCCTTCAAGGCAGCT CAAAGAGG TGT CTGGG GG CC GGC GC
CATTGCAGCTACTGGCCTCC GTTTCTCT ACA GACCT CC GG TCG CG
AGTGAAACAGGTCTCTTTG GG AAGT- -- - TCA-- A -----
GAM593 273613 AGGCTCACACAGCAAGTCTT --- C A CT TG AA TTAGGAATG - CCCTCC CA-
TGTCAAAGCTTAGGAATGGA AGGC TCACA AGCA GT T TCA GC GAAGTA GGTTGTC
TAGT
AGTAGGTTGTCCCCTCCTAG TCCG AGTGT TCGT CA A AGT CG TTTCGT CTAACAG ATCA

TCATGGGATCTCTCCAACTC ACG C A -- GT -- TGCA----- T ------ CTC
ACTAGACAATCTTGCTTTAC - ATCTC
GTGCTGATGAACATGCTCTG TGGG
TGAGCAGCCT ACCT
A -----
GAM604 273945 CTAGCTGCTGCCAGCCAAGC C TG G GC C A C TGC
TGCTACCAGACCAGCTCCTG CTAG TGC CCA CCAA TGCTAC AG CCAG TCC
CGGAACTGGCTGTGGCATTG GGTT ACG GGT GGTT ACGGTG TC GGTC AGG
GTGGTGGCATTGG - GT - -- - - A ---
GAM640 274172 GCTCGTTGCCCAGGCTGGAG TC TG- -- -- T AAT TCTTG CACCAC
CCACTTCCC
TGCAATGGCGTGATCTTGGC GC GT CCCAG GCT GGAG GC GGCGTGA GCT AACCT
TCACCACAACCTCCACTTCC CG CA GGGTC TGA CCTC CG CCGTACT CGA TTGGA
CAGGTTCAAGCGATTCTCAT GA TTA GA AC - ATT CTTAG AC---- ---------
GCCTTAGCCTCCCAAGTAGC
TGGGATTACAGGC
GAM643 274571 TGGACTTCATTTTCTTTCAC -------- TCAC - TT AGT
GCTGCTGCTTGCCCAGTGGG TGGACT TCATTTTCTT GCTG CTGC GCCC
TGTAGACAGCAAGAAAATGA ACCTGA AGTAAAAGAA CGAC GATG TGGG
AGAAAATCAGTCCA CTAAAAGA ---- A -- ---
GAM667 274393 GTGCCTCATCTGTAGGTGGT TGCC TCT TGGTT A- GAAA--- - ---- A A CA
TGAGAGAATGAAAGGAGGTA G TCA GTAGG GAG GAAT GGAGGTA GCA TG GC
GGGCACT G
GCATGAGCAGGGCACTCAGC T AGT CATCC TTC TTTA CTTCTAT CGT AC CG TCCGTGA
C
TCGGAGGCAGTGCCTAGCCA TCTA TCT TTTT- GG AGTGTCA T TACA - A --
ACATTGCTTATCTTCACTGT CGGA
GAATTTGGCTTTTTTCCTAC CT
TCTTGAATCTT GG

GAM674 273763 CACAGCCAGTTTCTTTGATG ---- T ---- - ACGTA T GATCTT
ACTCAAAACGTACTTTGTGA CACAGCCA GTT CTT TGATGA CTCAAA CTT GT
TCTTGCCAAGCTTTGAGATC GTGTTGGT CGA GAA GCTACT GAGTTT GAA CG
ATCGTTACAAGCAGCATTTT TTTA C CATT A C---- C ------
GGTTGTG
GAM689 273183 GAGGCAGGAAAATCGCTTGA AAAATC GAA-- A A- GT CA- ATA
ACCCAAGGCAGAGGTTGCAG GAGGCAGG GCTT CCCA GGC GAG TGCAGT GCAG
TCAGCAGATATTGCACCACT CTCCGTCT CGAA GGGT CCG CTC ACGTCA CGTT
GCACTCCAGCCTGGGCAACA CAGAA- ACAAC - AC -- CCA ---
AAGCAAGACTCTGCCTC
GAM704 273533 GAGGCCCCAAGAAGTTAAAT GCC --- A C G CA AT CAGAACAA
AACTTGCTTAAGATCACAGA GAG CCAAG AAGTTAA TAA TT CTTAAGATCA GAGCTA GAGTGG

GCTAATGAGTGGCAGAACAA CTT GGTTC TTCAATT ATT AG GAATTTTAGT CTCGAT CTTATT

TTATTCTAGCTCTGATTTTA AA- ATT C T G -- -- --------
AGGGATTTACTTAACTTTTA
CTTGGAATTC
GAM744 273632 AGTCACTGGAAAATGCTTAC T - AA AGGCA A CATCAT
AGGCAGTAGCCACCATCATG AG CACT GGA ATGCTTAC GT GCCAC

TGGCACAAAGTGGGCATCAT TC GTGA CCT TACGGGTG CA CGGTG
CCTAGTGTCT T T AC AAA-- - ------
GAM750 272972 ACACCTCCAACCTCCCTGCC CTC-- CCCTGCCTTTGAA TTAA G T ATTTGA

TTTGAACCCTGTGTTAACAA ACAC CAACCT CCCTGTG CAATGAGAA CT GTTT
TGAGAAGCTTGTTTATTTGA TGTG GTTGGA GGGACAC GTTACTCTT GG CGGA
AGGCTGGGTTCTCATTGGCC TTAAT TG---------- CCG- G T ------
CACAGGGGTAGGTTGTAATT
GTGT
GAM760 274491 TCGCAGTCAGACGTTTGGCA C A G CAAC GGAA- AA GCTTTTCA
ACAGCAGTGGAAGAGGCAAC TCG AGTCAG C TTTGG AGCAGT GAGGC CTGGT
TGGTGCTTTTCAGCTAGGCC AGC TTAGTT G AGACT TCGTTA TTCCG GATCG
TTGAAAAATTGCTTCAGAGG T - G ---- AAAAG -- --------
TTGATTTCGA
GAM770 274092 TCTTTTATAGTTTATGTTTT - TGTTT TT GAAGCCTTAAAAT GACAA TCA
CATTTTGGTGAAGCCTTAAA TCTTTTATA GTTTA TCATT GGT GAGAAGGCAGAT TGC
ATGAGAAGGCAGATGACAAT AGGAAATAT CGAAT AGTAA CCG TTCTTTCGTCTG ATG

GCTCAGTAACTAGTCTGCTT T TTTT- TT AGACCCAG----- ATCA- ---
TCTTGACCCAGAGCCTTAAT
GATTTTTAAGCTTATAAAGG
A
GAM772 273331 TGGCACCAGCTTCCAAAGCC C TTCCAA A-- AGA A AG TG CCAC
AGGATGAAGAGGAGGAGAAA TGGCA CAGC AGCC GGATGA GG GGAGAA GA GGGT

GGATGGGGTCCACACCTTGT ATCGT GTCG TCGG CCTACT CC CCTCTT TT TCCA
TTTCTCCACCATCATCCAGG C TC---- GGA A-- A -- GT ----
GGCTCTGCTGCTGCTA
GAM779 272937 CCGATGAACCCAGGGCCGTT T GCC CC-- AC TT TTAGTAG A-
TTGATTAAGG
CCCTTCATACCCTTTCATTA CCGA GAACCCAGG GTTC TTCAT CC TCA CTCT AGATGT
GTAGCTCTAAGATGTTTGAT GGCT CTTGGGTTT CAAG GAGTA GG GGT GAGA TTTGCA

TAAGGTGTACGTTTACAGAG T A-- TTAC GT TT TGAG--- CA ----------
GAGTTGGTTGGTGATGAGCA TGT
TTGAACATTTGGGTTCTTCG
G

GAM785 273830 CCCGGAGTTTATGGTCTGGT GAG-- TCT- TG A C T TGCCA TCTA
GAGAAGATCCCTGCTCTGAG CCCG TTTATGG GG AGAAG TCCCTG TC GAGTCAC AGC

TCACTGCCAAGCTCTAGCTA GGGC AAATATC CC TCTTT AGGGAC AG TTCAGTG TCG

TGTGACTTTGAACAGGGAAT AAATA TATC TG A A T TA--- ----
TTCTGTCCCTATCTATAAAA
TAAACGGG
GAM801 273140 GAATTCCTAAGTATGTGGTC ATTC AGTAT--- C A- T T ---- - TATA
TGTATTGTGCTTGTACTGAC GA CTA GTGGT TGT TTG GCT GTACT GACCAT GTA
CATGTATATATGCTATGGTT CT GAT TACCA ACA AAT CGA CGTGA TTGGTA CGT
ATTTAGTGCTAGCTAAGAAC GAC- GACCCCTT T AG - T TTTA T ----

ATACCATTTCCCCAGTAGCA
GTC
GAM802 274590 TGGGTTTTGAATTTGCAGTA AA A G TG G CT AGCA
ACAGGTGTGAGCATTCTAGC TGGGTTTTG TTTGCAGTA CA G TGA CATT AGC
AGCAGTTTGATGATCATGTA ATCCAGGAC AAACGTCAT GT T ACT GTAG TTG
TGATACTGCAAACAGGACCT -- A A GT A T- ----
A
GAM807 274098 TGACAATCTTGGTTACCATC ACAA GTTA TCCATTAA GCTGAT CATGAAAAAC

CATTAAGTGCTGCTGATTTT TG TCTTG CCA GTGCT TTTGGAAAGAT
GGAAAGATCATGAAAAACGT AC AGAAC GGT CACGG AAACCTTTCTG
CTTTCCAAACATGAAGGCAC GG-- ACG- TTGCTG-- AAGTAC ----------
GTCGTTTGGGCACAAGAGGC
A
GAM821 273043 CGCTGCCTCTCTGCAGGCCG CA G - T- G TGATCTT
TGTGCTTTGCTCGGTTGATC CGCTGCCTCTCTG GGCC TGTG CTT GCTC GT
TTGCAGAGCCTAAGACACAG GTGACGGAGAGAC CCGG ACAC GAA CGAG CG
GCCCAGAGAGGCAGTG -- - A TC A -------
GAM823 273892 GTCAGGGGTGCCCATAATGA C G CA- - T TAC ACAAA CTACAT
ATTGTGTTTACCCTGAGAAC GT AGGGGT CC TAATGA ATTG GTT CCTGAGA TCCA
AAATCCACTACATTGGAATT CG TCCCCG GG ATTACT TGAC CAA GGATTTT AGGT
TTAGGCATAACCAGTATCAT T A AAA A - TAC A---- ------
TAAAAGGAGCCCCTTGC
GAM828 272989 ACTGGAGACACATCTAATGG - AATG -- TCAAG ACTTTCTAA
CTGTGCTGATGTCAAGGGAC ACTGGAGACA CATCT GCTGT GCTGATG GG
TTTCTAATCATGTTCATCAG TGACCTTTGT GTAGA CGATA TGACTAC CT
TTGATAGCAGATGCTGTTTC C ---- GT TTGTA ---------
CAGT
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GCAGGATCATAGCTCACTGC GCCCAGG AG CAG GGCAGGA AT GCT TG AGCCT
AGCCTCGAACTCCTAGGCTC TGGGTCC TC GTC TCGTCCT TA CGA AC TCGGA
AAGCAATCCTCCTGCTTCTG -- C--- T CC A --- - ---------
CCTCCTGGGT
GAM840 273586 GGAGAATCATTTGAACCCAG AA GA--- AGG A T A- TCAGATC
GAGGTGGAAGTTGCAGTGAG GGAG TCATTT ACCCAGG TGGA GT GCAGTG GC
CTCAGATCGCACCATTGCAC CCTC AGTAAG TGGGTCC ACCT CA CGTTAC CG
TCCAGCCTGGGTAACAAGAA AA AACAA G-- - - CA -------
TGAAACTCC
GAM842 273103 CTGGGGGCTGAGACCACCCT ------ - A CT - CCCTTCT--- GCCTTA
TGCCTGCCCCCTTCTTTCTG CTGGGG GC TGAG CCACC TGCCT GCC TTCT
CCTTAAGAATGTCCTTTTAG GACCCC CG ACTC GGTGG ACGGG CGG AAGA
GCTGGGCATGGTGGCTCACG AATGTC C - T- T ATTTTCCTGT ------
CCTGTAACCCCAG
GAM846 274066 TCCTGTGCTGCAGTAGAAAT C TG G T A TGT TTTAT
TAGAGCATGTCCTGCTTTAT TC TG CT CAG AGAA TTAGAGCA CCTGC
GCAGGCTTTGCTTTAGTTCT AG AT GA GTC TCTT GATTTCGT GGACG
TCTGAAGTGTATGA T GT A T - TTC -----
GAM869 274196 GGAAAGAATAAAGGCTTGGA GA AAT GA - C T TACTGCAT
CTCAGCCTAGGTTCAAGTAC G AAG AAAGGCTTG CT CAG CTAGGT CAAG
TGCATCTTGACCTGGCCTGT C TTC TTTCTGAAC GA GTC GGTCCA GTTC

AGGCAAGTCTTTTCACTTCT TC ACT G- T C - --------
C
GAM892 274578 TGGCTTTATCTCTTGCCTTG ---- T- CC C C A ACAAAG
ACCTCCTACATTATCAACAA TGGCTTT ATCTCTTGCCT GA TC TA ATT TCA
AGTGAGAGTTTAAGATCTCC ACCGAAG TAGAGGACGGG CT AG AT TGA AGT
TGGGCAGGAGATTTCAGAAG ACTT TC CT A T G ------
CCA
GAM933 272754 ACCTCTCATTTCTCCTCAAT TCAT C A AC A T AACT
GCCACTGCACTGATGTCAAC ACCTC TTCTC TCA TGCC TGC CTGA GTC
TGACTTAGGGCAGGCATGAG TGGAG AAGAG AGT ACGG ACG GATT CAG
AGAACTGAGGT TC-- - - -- G - ----
GAM965 273346 TGGGTAGCATGAACTAAGGT CAT A A- AAAG C G TTTGG
AGATAAAGGCTTCACGTGGT TGGGTAG GAACT AGGT GAT GCTT ACGT GTG
GTTTGGCATGGCGTAGGTGT ACCCGTC TTTGA TCCA TTA TGGA TGCG TAC
AGATTGGACCTCAGTTTTCT T-- C GG GATG - G -----
GCCCA
GAM973 272735 AAGTGCTGGATATTGCTAAG -- - G AGAA AG CG AGA CCATACTA
AATTCAGGTAGTCTCGGGAT AAGT GCTGGAT ATT CTA TTCAGGT TCT GGATCTCC GTCT

CTCCAGAGTCTCCATACTAG TTCG TGATCTG TAA GGT AGGTCCA AGA TCTAGAGG CAGG

GACAGGAGATCTTCAGAACC AC A A AAGG -- CT A-- --------
TGGAGGAATGGAAATAGTCT
AGTCAGCTT
GAM999 272996 AGACCACCTTATTCTTTTCT CCTTA T- TA---- ------ - TGAA
TATGGGTATGTGGCATGAAT AGACCA TTCTTT CT TGGGTA TG TGGCA
GCCATCATTTATTTACCCAG TCTGGT AAGAAG GA ACCCAT AC ACCGT
CTGCCAGTTGAAGAACATTT TTTAC TT CCGTCG TTATTT T ----
TGGTCT
GAM1017 274239 GGAGAATCGCTTGAATCTGG AA TGAA T G - GT A- TGAGATC
GAGGCGGAGGTTGCAGTGAG GGAG TCGCT TC GG AGGC GGAG TGCAGTG GC
CTGAGATCGCACCACTGCAC CCTT AGCGA AG TT TCCG CCTC ACGTCAC CG
TCCAGCCTGTTGACAGCGAG AG C--- - G A -- CA -------
ATTCC
GAM1032 273256 GCTAGTCACTGGGGCAAAGA TAGT CAAAG AAACACTT C CA TGT
TGACTAAAACACTTTTCCTG GC CACTGGGG ATGACTA TTCCTG CCTCGAGGAGCT
CAGTCTAGTA
CCCTCGAGGAGCTCACAGTC CG GTGGCTCC TACTGGT AGGGAC GGAGTTCCTCGA
GTCAGATCAT
TAGTATGTCTCATCCCCTAC TT-- ACTCA -------- A A- ---
TAGACTGAAGCTCCTTGAGG CTCATCCCC
ACAGGGATGGTCATACTCAC
CTCGGTGTTGC

GAM1033 273211 GAGGGGAGATTAAAGAATCA TTAAA AT A C- GGG G TTAAATTGTTT
ATGTTCCCAGGGGAAAAGGG GAGGGGAGA GA CA TGTT CCA GAAAAGG CC
CCTTAAATTGTTTGGTCTTT TTCCCCTCT CT GT ACAG GGT CTTTTCT GG
TCAATGGCTGACACTGTCTC CAAC- CT C TC AA- - ----------
CAACTCTCCCCTT
GAM1084 273803 CCAAAGTCCCAACGGCCACG AA - AA - --- A AAA TG AGCGA

CCTAACAATTATAAAAGTGT CCA GT CCC CGGC CACGCCTA ACA TTAT AG TTC
TCAGCGAGAGTGTTGGCGTG GGT CA GGG GTCG GTGTGGGT TGT AGTG TT GAG
AGTGTGAATGGGTGTGCGCT GG C GG C AAG G CGG GT -----
GGGGGGCACGGTGG
GAM1087 272821 AGGTGGCAGAGAGGCAATAT -- C -- AT-- ----- T CATCACA
CAATCCTTCTGCATCACACA AGGT GG AGAGAG GCAAT CAA TCCT CTG
GTGGGAAAAGTTTGTCTCAT TCCG CC TCTCTT CGTTA GTT AGGG GAC
TGCAGTTCTCTTCCAAGCCT AA T GA CTCT TGAAA T -------
GAM1088 273916 CCGCAGGGAGAAGAGCTGTG G -------- A - AT---------- TTATAAATT
TGCTGTGATGTGGTTTATAA CC CAGGGAGA AG GCTG TGTGCTGTG GTGGT
ATTACCATTTGGAAGGAGCT GG GTCCTTCT TC CGAC ACACGACAC TACCA
GCACAGCACAGCAGCCTGCA A CATCAACG - G GTCGAGGAAGGTT ---------
ACTACTCTTCCTGAGG
GAM1089 274381 GTCTGAAATCCAGGTGTGGG G TCC G CC G CC AGGC
CAGGGCCGTGCTCCCTCCGA GTCT AAA AGGT TGGGCAGGG GT CTCCCT GA
AGGCTCTAGGGGAGGATCCT CAGA TTT TTCA ACTCGTTCC TA GAGGGG CT
TGCTCAACTTATTTTTGAGA G TTA - -- G AT ----
C
GAM1099 274026 TAGTATGTTGAGCATCTTTT T - TT T TTGCC -- - TTTGGT
TGTAAGTGTACTTGCCATCT TAGTA GTTGAGCA TCT TTG AAGTGTAC ATCTG TAGAT CTTC

GTAGATCTTCTTTGGTGAAG GTTAT CAATTTGT GGG AAT TTTACGTG TAGAC GTCTG GAAG

TGTCTGTTCAGATCTGTGTG T T TT T TGTC- TT T ------
CATTTTTAATTGGGTTGTTT
AACTTATTG
GAM1120 272949 AAGAAAGAGGCAGTATAGTA AG A TATAG-- TAAGAG-- TCTGGAGTTTTGT

TAGTGGTTAAGAGCAAGGTC AAGAAAG GC GTATAG TGGT CAAGGTC
TCTGGAGTTTTGTGACCTTG TTCTTTC CG CGTGTC ACCA GTTCCAG
AGCAAGTTACCAGATCTCTC AA C TCTCTAG TTGAACGA ----------
TGTGCCGCAACTTTCTT
GAM1144 273065 CTCTCATCATAGATTAATCA CA- - TT T ----- - T TTAAC GTGAA
CTTAGTTGCAAGGGACCAGT CTCT TCA TAGA AATCACT AGTT GCAAGGG ACCAG AAA
AGAATG
AAATTAACAGAATGGTGAAC GAGA GGT GTCT TTGGTGA TCAG CGTTTTC TGGTT TTT
TTTTAC
ATTTTCCTTTTCTTGGTGCT CAA C -- - TAGGT G C TCC-- -----
TTTGCTGGATGACTAGTGGT
TTCTGCTGGAACAGAG
GAM1163 273990 GTGGTGTATGGGATCTGCAT T GATC -- TG A AA AACCCCAGTGAG
GGAGGTGGTCTATGAGAAAG GTGG GTATGG TGCA TGGAGG GTCT TGAG AGCA
CAAACCCCAGTGAGTGCTGC CATC CGTACC ACGT ACCTCT TAGG GCTT TCGT
TTCGGGATTCTCTCCAACTG - A--- CA CT - CG ----------
CAACCATGCCTAC
GAM1191 273319 TGCTGGGCGTGTGAGGCGGC GGC A CTG CTGT A GA GG TACACC
TGTGCTGTGCCTGTGAGACA TGCTG GTGTG GGCGG TG GCCTGTGAG CAG AT TTCCAT

GGAATGGTTCCATTACACCA ACGAC TACAC CCGTC AC TGGATATTT GTC TA AGGGTA

TGGGAAATCACTGATTTATA --- A AA- CC-- A AC A- ------
GGTCCCAAACTGCCACACAT
CAGCA
GAM1193 273177 GAGCTGGAGTCTCGCTCTGT CT- TCTC C T- CC C -- T GATCTTG
CACCCAGGCTGGAGTGCAGT GAG GGAG GCT TG CAC AGG TGGAG TGCAGTGG GC

GGTGCGATCTTGGCTCACTG CTC CCTC CGA AC GTG TCC ACCTC ACGTCACT CG
CAACCTCCACCTTTGTGTTC CTT TTAA - TT TT - CA - -------
AAGCAATTCTCCTTCCTC
GAM1197 273003 AGATTTTTTCTGATACTACA TTT C- TGT- TTTTTAA C TTG TA AGAAAACA
TATTGTCAGTTTTTTAAATA AGATTT CTGATA TACATAT CAGT ATA TCAGT TGC AA
CTCAGTTTGTGCTAAAAGAA TTTAGA GACTGT ATGTATG GTCG TAT AGTCA ACG TT
AACATTCGGCAACTGATATC CCT CT TCTT TC----- - --- GC --------
TGCTGTTCTGTATGTATCTG
TCAGTCCAGATTT
GAM1216 273384 TTCAGTGGCATTGGGCCTTG G GCA G T G GGA GTTA ACT
GCTGGGATGCTGAGTTATCC TTCA TG TTG GCCT G CTG TGCTGA TCC
ACTGGAGCATCGGCAGTACA AGGT AC GAC CGGA C GAC ACGGCT AGG
GGCAGGCACAGAGGCAGTGG G GGA A - G ATG ACG- ---
A
GAM1217 272979 ACCTGCCTATATTACATTCA - ATATTACA CA GA TT C- G ACAGTGAACGAA

TTTTGATGGTTTGTATCTCA AC CTGCCT TT TTTT TGGT GTATCT AAA GAGT
AAGGAGTACAGTGAACGAAA TG GACGGA AA AGAA GCCA CATAGA TTT TTCA
CTTGTTTAAAGATACACCGG A GAAGAG-- AA AG -- AA G ----------
AAAGAAAAAGAGAAGAGGCA
GAGT
GAM1221 274097 TGAAGACTCCATCACAGTTC CTCCAT -- T- GGA AGGGCTGGG
CAGATGGGTAGGAATACCTT TGAAGA CACAGT TCCAGA GGGTA ATACCTTGC
GCAGGGCTGGGGCAAGGTAT ACTTCT GTGTCG AGGTCT TCCGT TATGGAACG
TGCCTTCTCTGGAAGGCTGT CTTAC- GA CT --- ---------
GCATTCTCTTCA
GAM1234 274607 TGTGGGGATCTGGTGCTGTG GA TG TGC- GC- GTAACGG
GTTCTGCATGAAGACAGTAA TGTGGG TC G TGTGGTTCT ATGAAGACA
CGGTGTCTTCATCCAGGAAC ACATCC AG C ACACCAAGG TACTTCTGT
CACATTGTCTGGACCTACA -- GT TGTT ACC -------
GAM1238 273580 GGAGAATCACTTGAACCTGG AA GA-- ---- - A TGTT GAGCCGAG
GAGGCAGAGGTTGTTGCAGT GGAG TCACTT ACCTG GGAG GCAG GGT GCAGT
GAGCCGAGATTGCACCACTG CCTC AGTGAG TGGGT CCTC CGTC CCA CGTTA
CACTCCAGCCTGGGTGACAG AG ACAG CCGA A A ---- --------
AGTGAGACTCC
GAM1293 273993 GTGTCCCTTCCAAGCTGTGT - CAAG- ACTG AA AG GT ACTC
TAACTGTTCAAACTCAGGCC GT GTCCCTTC CTGTGTTA TTCA CTC GCCT GTG
TGTGTGACTCCATTGGGGTG CA CAGGGGAG GGTACAAT AAGT GAG TGGG TAC
AGAGGTGAAAGCATAACATG A ACATG ACGA G- AG GT ----
GGTACAGAGGGGACAAC
GAM1294 273104 CTGGGTTCCCAAATTCTCCT - CCCAA - C T TG ATTGTCTA
TGCTGTTCTGCATCATTGTC CTGG GTT ATTCT C TTGCTG TC CATC
TAGATGGATTAGTAAAGAAG GACC CAA TAAGA G AATGAT AG GTAG
AATGAAAACTCCAG T AAG-- A A T -- --------

GAM1295 274074 TCTAGGGAGACCCAGGACCC ACCCA C G GTAGAGG - C--- CACCA
GGGAGAGAGGTAGAGGGGAG TCTAGGGAG GGAC CG GAGAGAG GGAGCAGA GA AGC

CAGAGACAGCCACCAGCTTC AGATCCTTT TTTG GC CTTTCTT TCTCGTCT CT TCG
TATCTTCTGCTCTAAGCACA GAA-- A A ACACGAA T ATCT -----
TTCTTTCACGAGTTTAAGTT
TCCTAGA
GAM1300 273317 TGCTAGGCTTATTCTCTTCC G TA C TTCA CT CAAT - ACT
TCATTCAGTCTCTCAATCAA TGCTAG CT TTCT TTCCTCA GTCT CAAT CAA TACTT
TCAATACTTACTGAGTACTT ACGATC GG GAGA AAGGAGT CAGA GTTA GTT ATGAG
GTCATTGCAAGACCTGAGGA G -- T C--- AC CT-- C ---
ATAGAGGGGCTAGCA
GAM1310 273736 GGCGTCTTGCTCTATTGGCA TC---- CTA-- C T A - T GATCTCA
GGCTGGAGTGCAGTGGTGCG GGCG TTGCT TTGG AGGC GG GT GCAGTGG GC
ATCTCAGCTCACTGCAACCC CCGT AACGA GACC TCCG CC CA CGTCACT CG
CCGCCTCCCAGATTCAAGCA CCTCTT ACTTA C C C A - -------
ATTCTCCTGCC
GAM1313 273365 TGTGGAAACTTTTGGCTGTG G AA TGT - CAT CTGATGAT
GGGACCCCATTTCACTGATG T TGGA CTTTTGGC GG GGACCC TTCA
ATTGAATGGGTCCACCTCTG A ACTT GGAAACTG CC CCTGGG AAGT
TCAAAGGAATTCAGA G AA TCT A T-- --------
GAM1332 274130 GCACCCTGTGAGGTAGGTGC CCCT GA- GG ACT CCTG- AGGT
TTTAACTGTGTGCACCCTGT GCA GT GGTA TGCTTTA GTGTGCAC TGAGGT
GAGGTAGGTGCTTTAACTGT CGT CA TCGT ATGGAGT TACACGTG ATTTCG
GTGCACATTGTGAGGTAGGT ---- AAG GG GT- TGTCA ----
GCTGAAACTGC
GAM1338 273681 GGAGAATGGCATGAACCCGG AATG A- AA- AGG CT A AGAGATCAC
GAGGTGGAGCTTGCAGTGAG GGAG GC TG CCCGGG TGGAG TGCAGTG GC
CAGAGATCACGCCACTGCAC CCTC CG AC GGGTCC ACCTC ACGTCAC CG
TCCAGCCTGGGCAACAGAGC AGAG AG AAC G-- -- - ---------
GAGACTCC
GAM1351 272992 AGAATATCTGAACATTGGAC A TG - GT-- T ATA GCC TTGTG
TTGTTCTTTAGAGTATATGG AGAAT TC AACATTG GACTT TCTT AGAGT TG TTTAGTTC
CCTTTAGTTCTTGTGGAACT TTTTG GG TTGTGAT CTGAA AGAA TCTTA AC AAATCAAG
AAATACAGTGATTCTAAGAT - GT T AACT - GTG AT- -----
CAAAAGTCTTAGTGTTTGGG
GTTTT
GAM1361 273774 CAGAAGGGGTTTTTATCAAA AG- TTTA GTAG---- - AA AG AAAGA
AATATGTAGATTCTACTACA CAGA GGGTT TCAAAAATAT ATT CTACTAC TATTTT CT
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GAAGTAGTAGTAGCAGTAGT CAA TCCC ACTGATGA C -- AA -----
AGTCAGTATTTTTGACCCTG
ACCCAACTCTG
GAM1363 272774 AGAGCTGGTGTGTAGCGGGT T- ---------- TC TGCT
ACCTTCTGTCTGCTGGCACT AGAGCTGGTGTG AGCGGGT ACCT TGTC
AGGTATTTTACACATTAAAT TCTCGACTACAC TTGCTCG TGGA ACGG
CAGCTCGTTCTCACATCAGC TC ACTAAATTACACATTTTA TC ----
TCT
GAM1372 274168 GCTAGGATTGCACCACTGCA A -------- CCAA CA AGCAAGACC
CTCCAACCTGGACAACAGAG GCT GGATTGCA CCACTGCACT CCTGGA ACAG

CAAGACCCTGTCTCTAGGCC CGA CCTAATGT GGTGACGTGG GGATCT TGTC
AGGTGCAGTGGCTCACACCT C CCACACTC ACC- C- ---------
GTAATCCCAGC
GAM1423 273491 GAGCAAGGACAAGTTGTGAC GA T ---- CCA - AT A T CAAGCTT
CTTCCCAGTCCTCTCTCCAT GAGCAAG CAAGTTG GACCT TC GTCC TCTCTCC TTGC GA CAG

TTGCAGATCAGCAAGCTTCT TTTGTTT GTTCGAC TTGGG AG CAGG GGGGAGG AACG CT GTC

GTCAGCAAGGAGGGGTGGAC A- - TCAA TAA T -- A - -------
AATGAAACTGGGTTCAGCTT
GATTTGTTT
GAM1431 273471 GAGAACTGGGATGGAGGAGA A- AG A A GTG TGTTTC
ATTAGAGGATGGTGTGGTGT GAGA CTGGGATGG GAGA TTAG GGATG TGG
TTCCCAAGACATCCCCTGAT CTCT GACCCTATC TTCT AGTC CCTAC ACC
CTTGCTATCCCAGCATCTC AC G- - C AGA ------
GAM1439 272839 AGTTTTAGGGTACATGTACA TTA A T - - G T T ATAT
CAACGTGCAGGTTTGTTACA AGTT GGGT CA GTACAC AACGTG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT CGTGTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - G C G C - ----
CT
GAM1440 273129 GAACACAAAGAGGTGTAGAA ------- -- AGAAT TT T TTCAA A TCATT
TCTGGGTTGGTCCTTCAAGG GAACA CAAAGAGG TGT CTGGG GG CC GGC GC
CAGCTCATTGCAGCTACTGG CTTGT GTTTCTCT ACA GACCT CC GG TCG CG
CCTCCAGTGAAACAGGTCTC TTATCGA GG AAGT- -- - TCA-- A -----
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GAM1443 273964 CTGAAGGGTGGAGAGGGCCT GAAGGGTGGAGAGGG T -- G GAG- C-- G G
TGAG
CTCATGCAGGCATGTGTGAG CT CC CTCAT GCAGGCAT TGT CAG TGCA GT TG
CAGCTGCAGGTGTGTGAGCA GG GG GAGTA TGTCTGTG ACA GTC ACGT TA AC
AATGTGCATCACTGGGGAAC AGTGGGAGTGAAGGA - GG G AGGG ACT G A ----
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GGAAGTGAGGGTGAGG
GAM1445 273391 TTCTGAAAACTTTAAGTTCA AAA - --- TA GGT C ACCA
GTAATATGCCAGGGGTTCCC TTCTGA CTTTA AG TTCAGTAA TGCCAGG TC CAAG
AAGACCACTTGAGACCTGGT AAGACT GGAAT TC AGGTTATT ATGGTCC AG GTTC
AATTTATTGGAAGTCTCTAA AAG C TGA TA --- A ----
GGGAATCAGAA
GAM1447 274366 GTCCACACTGACCTTCTGTG CAC - GT-- T A CATGTCA
TCATGGCATATGCCCATGTC GTCCA TGA CCTTCT G CATGGCAT TGCC
AGGCAGTGCTGTGCTAAAGG CAGGT ATT GGAAGG C GTGTCGTG ACGG
AAGGATTACATGGAC AC- A AAAT - - -------
GAM1456 274010 TAAGATGAGTTGATATTCAA TG GATA AAATA - TA- A AAAA
ATATCCAGTTAGTAATGAAA TAAGA AGTT TTC TC CAGT GTA TG
ACAATACAATACTGAGAGAA GTTCT TCGA AAG AG GTCA CAT AC
AAAGCTTGTCTTG GT AA-- ----- A TAA A ----
GAM1461 274602 TGTGAAACCATTATGCAGAT T AA A A T A- - A AGA- ATGAAACA
GAAGAAGATGAAGCCCGAGA TG GA CC TTATGC GA GA GAAGA TGA GCCCG GGTT
GGTTATGAAACAGACCCAAG GC CT GG AATACG CT CT CTTCT GCT CGGGT CCAG
TGGGCTCGCTCTTCAGTCTC - AA - G - GA C - GAAC --------
GGCATAAGGAATCCG

GAM1469 273891 GTCAGGACTGTTGGCTAAGG G CTAAGG A T CT T CAAT CCAACTA
GAATGTCTGCTTGGACTGAT GTCA GACTGTTGG GA TG CTGCTTGGA GATCAT GAA CTTT

CATTGAACAATCTTTCCAAC TAGT TTGACAGCC CT AC GATGAATCT TTAGTA CTT GAAA

TAAAAGCTTCTATGATTCTC A ACGA-- A - C- T C--- -------
TAAGTAGCAATCAGCACCGA
CAGTTATGAT
GAM1479 274296 GGGAAGGCAGTAGGTTGTAT GA C ATA A TTCCGA ACATCAC
AGTTATCTTCCGAGGGGCAA GG AGG AGTAGGTTGT GTT TC GGGGCA
CATCACTGCCCTGAAACCAC CC TCC TCATCCAACA CAA AG TCCCGT
ACAACCTACTACCTCACC AC A CAC - ------ -------
GAM1484 274597 TGGTTGCAAGGCAGGAAATA TGC -------- A A G CAAT TACTCT
TTGGTGAAATGCTAGCAAAG TGGT AAGGCAGG AAATATTGGTGAA TGCT GCAAA TCA TTC

TCACAATTTCTACTCTGAAC ACCA TTTCGTCC TTTATGACTACTT GTGA CGTTT AGT AAG

ATGATTTGCAGTGTTCATCA --- CAAGTCTT - - - AC-- ------
GTATTTTTCTGAACCCTGCT
TTACCA
GAM1490 273493 GAGCTCCCACGGCTTTTCTA ---------- C C T AGAA GG AA CCAA
GAAATTGGCACACAAACTCC GAG CTCCCA GG TT TCT ATT CACACA CT
AAAGCGTGTGTGGAAATGCA CTC GAGGGT CC AG AGA TAA GTGTGT GA
GATGACCTGGGAGACCCAAA CAACAAAACCCA - - T CG-- AG GC ----
ACAACCTC
GAM1500 274149 GCCCGGTGCTCGGTTTGTAG CCG CG GTA- TCA C - GTGGT
GCAGTGTCATTAGCTGATTG GC GTGCT GTTT GGCAGTG TTAG TGATTGTA CT
TACTGTGGTGGTTACAATCA CG CACGG CAAA CCGTCAC AATC ACTAACAT GG
CTAACTCCACTGCCATCAAA A-- AA ACTA CTC - T -----
ACAAGGCACAGC
GAM1502 272898 CATATATGTCTGGTATTCTT -- ATTCT GG-- - TAGT
GGGGTCTAGTAGTCTAGTAT CATATATGTCT GGT TG GT CTAG
AATACACATAGCCTAGGACA GTATGTACAGG CCG AC TA GATC
TGTATG AT ATAC- ATAA T ----
GAM1523 272922 CCCAAAGCTCACAGTTTGGC AAA CACA -- AA- AT - GTAGTTTG
ACTGAATCATATACAATCTC CCC GCT GTTTGGCA CTG TCATATACA C TC
GTAGTTTGGATGGCTGTGTG GGG CGA CAGATCGT GAC AGTGTGTGT G AG
TGACTGCAGACTGCTAGACA A-- ---- CA GTC CG T --------
GCAGGG
GAM1543 273686 GGAGAATTGCTTGAACCCAA AA TG GA-- AGA - GT A - CGAT
GAGGTGGAGGTTGCAGTGAG GGAG T CTT ACCCA GG TGGAG TGCAGTG GC CA
CCACGATTGTGCCATTGCAC CCTC A GAG TGGGT CC ACCTC ACGTTAC CG GT
TCCAGCCTGGGTGACAGAGT AG GT ACAG --- G -- - T ----
GAGACTCC
GAM1550 273375 TTACTGAGTATTCACCAGGT CT TTCA - G ----- A- AGA TAAAGATTCCCT
GCTGGGTGGAGAAAGAAGAC TTA GAGTA CCA GGT CTGGGT GGAGA AGA CT
TTAAAGATTCCCTAGACATC GAT TTTAT GGT CCA GACTCA CCTCT TCT GA
TCCTCTCCCCTAGACTCAGG CT TCAC A G GATCC CC ACA ----------
ACCATGGCACTTATTTTCTA
G

GAM1602 273459 GAAGAAGTAGATTGGGCTGC A AGA A ACACAAT - ACCAG- GACA GTA -
AATCACACAATGGGTGCATC GA GAAGT TTGGGCTGCA TC GGGTG CATC TGCG
CCTAGGC CA
ACCAGTGCGGACACCTAGGC CT TTTTA GACTTGACGT AG CCCAT GTAG ATGT GGGTTCG
GT
GTACAGGGAACCATGGCTTG A ACA - GAC---- T GAAGAA GAG- --- A
GGGAGTGTAAAGAAGGATGT GAA
TACCCCAGGATGCAGTTCAG GG
ACAATTTTATC CC

GAM1607 274435 TAGGCTGTATGCTGTTAATG T-- C A T- CCTC
CTAATCGTGATAGGGGTTTT TAGGC GTATGCTGTTAATGCTAAT GTG TAGGGGTT TTG

TGCCTCCAACTGACTCCTAC GTCCG TATGTGACAATTACGATTA TAC ATCCTCAG AAC

ATATTAGCATTAACAGTGTA TAG - - TC ----
TGATGCCTG
GAM1616 273782 CAGGAGTACGACGCTGTGGT C -- AG- T A CA - CAGCCT
AGCTATGATCATGCCACTGC CAGGAGTA GAC GCTGTGGT CTA GATC TGC CTG CACTC

ACTCCAGCCTGGGTGACAGA GTCCTCGT CTG TGACATTA GAT CTAG ACG GAC GTGGG

GCAAGATCTAGATAATTACA C TC ATA - A A- A ------
GTCTGTCCTGCTCCTG
GAM1617 273656 ATAGACAGGTCTCACTCTGT TC-- A C TT - - AGT A TGACTGTAGCT
TGCCCAGGCTGGAGTGCAGT ATAGACAGG TC CT TG GCCCAGG CT GG GC GTGGTG

GGTGTGACTGTAGCTCACTA TATCTGTCC AG GA AC CGGGTCC GA CC CG TATCAC
TAGCCACCAAGTCCTGGGCT TCCT C - T- T A AC- A ----------
CAAGCGATCCTCCTGTCTAT
GAM1650 273355 TGGTGGCTTGGTTTGTGTAC T GG TG C-- G GTA G CTTTTA
CTATTTTTCTGCATTTGTAT TGG GGCTT TTTG TAC TATTTTTCT CATTT TTGGAAAA GTTT

TGGAAAAGGTTTCTTTTAAG ACT TCGGG GGAC GTG ATAAGGAGA GTGAA AACCTTTT CAGA

ACATTTTCCAAAAGTGGAGA T AA TT TGT G --- A ------
GGAATATGTGTGTTCAGGAA
GGGCTTTCA
GAM1653 273871 GGTGGAGCAGAAAGGCAGGA T A AA-- A A CC C CACCA
GTCCTGCTCCCTGGCACCAT GG GG GCAGA GGC GG GT TGCTCC TGG
CATGGAGCATGCCCAGCCCA CC CC CGTCT CCG CC CG ACGAGG ACT
GATCTGCCCCCC - C AGAC A - T- T -----
GAM1664 274616 TTCACTGGATATGGTGGTGG C A G G- T TG T G A--- T GGTAGAAGA
GTGCTTGTAGTTGCAGCTTA TTCA TGG TATGGT GTGG TGCT GTAGT CAGCT A TCAG AGGC GT

GTCAGAAGGCTGTGGTAGAA AAGT ACC GTACTA TACC GTGA CGTCG GTTGA T AGTC TCCG TA

GAATCGCCTGAACCTGAGTA C - G GA - GA - G CAAG C ---------
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TGATCATGCCACTGAA

GAM1698 274405 GTGTGACCTTGGCCCTGTGA G G- GAG TCA AGC G A GA GTAC
GGCTTCACCTCTTGAGCCTG GTGT ACCTT GCCCTGT GCT CCTCTTG CTGAGAA CAG GGT CA

AGAAGCAGAGGTGACAGTAC CGCG TGGGG TGGGACG CGG GGGGGAC GATTCTT GTC CCG
GT
TGGCCCTGGTTCTTAGCAGG G GA GG- TG- --- G - -- ----
GGGGTGGCGGGCAGGGTAGG
GGGTGGCGC
GAM1735 274376 GTCTAACCAGTCCCAGTGAG AAC - T G -------- - C A TGGAAAT
ATGAACCAGGTATCTCAGCT GTCT CAG TCCCAG GAGAT AAC CAGGT AT TC GC
GGAAATGCAGAAATCACCTG CAGA GTC AGGGTC CTCTG TTG GTCCA TA AG CG
CCTTCTCTGTTGGTCTCCCT C-- G C G TCTCTTCC C A A -------
GGGAGCTGCAGAC
GAM1748 274495 TCGCTTGAACCCTGGAGGTG GA-- T GG GT A AGATCG
GAGGTTGCAGTGAGCTGAGA TCGCTT ACCC GGA TGGAG TGCAGTG GCTG
TCGTAGCCACTGCACTCCAG AGTGAG TGGG TCT ACCTC ACGTCAC CGAT
TCTGGGTGACAGAGTGA ACAG - G- -- - ------
GAM1770 273870 GGTGGAGCAGAAAGGCAGGA T A AA-- A A CC C CACCA
GTCCTGCTCCCTGGCACCAT GG GG GCAGA GGC GG GT TGCTCC TGG
CATGGAGCATGCCCAGCCCA CC CC CGTCT CCG CC CG ACGAGG ACT
GATCTGCCCCC - - AGAC A - T- T -----
GAM1782 273075 CTCTTAAACCTTTAGAAATG AAAC GAAATGCTA CT- CTA CAATA
CTACAGCATCTAGCTTCTCT CTCTT CTTTA CAGCAT AGCTTCT GAT
AGATCAATAATCACAGAGGC GAGAA GAAAT GTCGTG TCGGAGA CTA
TTAAGTGCTGACCTCATAAA ATA- ACTCCA--- AAT CA- -----
GATAAAGAG
GAM1786 274212 GGACTCATAGTGGTAGATAG A AT - CTT T GG G TATGT
CTTATTGGTCAGGGTAGATA GG CTC AGTGGTAG ATAG ATTGG CAG TA ATAGAGA
GAGATATGTTTTCTGTGTAA TC GAG TTACCATC TGTT TGATC GTC AT TGTCTTT
CTGTCTAGTTTTTGTCCTAC A GC C TT- T A- G -----
CATTCGGAGACT
GAM1820 273119 CTTGATCTGTCACCCAGGCT TCTGTC CT AG---- - A ATCT
GCAGTGTAGTGGCATGATCT CTTGA ACCCAGG GC TGTAGTG GC TG
CGGCTCACTGCAACCCCCGC GAACT TGGGTCC CG ACGTCAC CG GC
CTCCTGGGTTCAAG ------ TC CCCCCA T - ----
GAM1835 274429 TAATCTTAACATTCTCAACT AA AA-- TTCTC TTACCAAA - AAA- AAA A TCAC
CT
ATGATTACCAAAGCAGAAAA T TCTT CA AACTATGA GC AGA ATA CAC TTAAA ATG
ATAAAACACATTAAATCACA A AGAA GT TTGATACT TG TCT TGT GTG AATTT TAC
TGCTGGCTTATGAAAGCCTC -- ACCG TAC-- -------- C CACG ACA - C--- CT
CATCTTTAAGTGACATGTGC ATGA
ACTCTCGTTCATAGTTCATT GGCTT
GGCCAAAGAA CCGAA

GAM1860 273303 TGATGAAAATCCACAATGTC A- ---- T T TG TGTGTAAT
TTTGAGCTTCTGGTTGTGTA TGATG AAATCCACAA TG CTTTGAGCT C GT
ATGCTGGGGTTTAAAGTCAC ACTAC TTTGGGTGTT AC GAAATTTGG G CG
CATTTGTGGGTTTGGCATCA GG TACC T - GT --------
GAM1863 273383 TTCAGTATAGCAAGGTGCTA TATA T ---------- CCT--- C- TCTCT
GGTTTTTTCCTTTCCCCACC TTCAG GCAAGG GCT AGGTTTTTT TTCCCCA CTG

TGTCTCTTAGCCTGGGGAAT AAGTC TGTTCC CGG TCCGAAGAG AAGGGGT GAT
TAAATGAGAAGCCTTAGAAT CAG- - TGGGTAAGAT TAAATT CC -----
GGGTGGCCCTTGTGACCTGA
A
GAM1864 272925 CCCAGCATGATTCATACCTG GA TACCT ATCTT TGAT A- TTGG
TAATCTTACCCATTCTTGAT CCCAGCAT TTCA GTA ACCCATTCT TTAG TGAGAT
TTAGATGAGATTTGGATTTC GGGTTGTA GAGT CAT TGGGTAAGA AGTT GCTTTA
GAGTTGATGCTAGAATGGGT G- TTT-- AAT-- TCGT GA ----
TAATACTTTTGAGGATGTTG
GG
GAM1887 273038 CCTTTGAACCCTGTGTTAAC TTGAA TTAA G T ATTTGA
AATGAGAAGCTTGTTTATTT CCT CCCTGTG CAATGAGAA CT GTTT
GAAGGCTGGGTTCTCATTGG GGA GGGACAC GTTACTCTT GG CGGA
CCCACAGGGGTAGG TG--- CCG- G T ------
GAM1896 273814 CCATCTCTGCTTATTCCTCT T TATT G G- - - CCTC GCTCTCATAA
GCCACGTCTTTCCCTTCTCC CCATCTC GCT CCTCT CCAC TC TTTCCC TTCT TCT
TCTCTGCTCTCATAAAGAAG GGTGGAG CGA GGGGA GGTG AG AGAGGG AAGA AGA

AATGGGAGATGAAAGTGGAG T C--- - AA T T ---- ----------
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GAM1914 273552 GATCCAGATAGATGATATGT T ATAGAT -- A - G - TTTCAG CGCT
TTCTACTAGTGGTTGATGGC GA CCAG GATAT GTTTCT CT AGT GTTGATGG CCTC CTCCAT

CTCTTTCAGCTCCATCGCTA CT GGTT CTGTG CAAAGA GA TCA TAACTACT GGAG GAGGTA

TGGAGGCGAGGTTCATCAAT - GAGAC- TT - C A T CG---- ----
AACTCAGAGAAACTTGTGTC
CAGAGTTGGTC
GAM1934 273650 AGTTCTAGGGTACATATGCA CTA A - A - G T T ATAT
CAACATGCAGGTTTGTTACA AGTT GGGT CA TATGC CAACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT GTGTG GTTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C C - C G C - ----
CT
GAM1937 272740 AATGTTTACTGAGTATTCAC T --- TTCA - G ----- A- AGA TAAAGATTCCCT
CAGGTGCTGGGTGGAGAAAG AATGTT ACT GAGTA CCA GGT CTGGGT GGAGA AGA CT

AAGACTTAAAGATTCCCTAG TTATAA TGA TTTAT GGT CCA GACTCA CCTCT TCT GA
ACATCTCCTCTCCCCTAGAC C TCT TCAC A G GATCC CC ACA ----------
TCAGGACCATGGCACTTATT
TTCTAGTCAATATT

GAM1942 274335 GGTAGTGGTGATTCAAAGCA AGTGG-- AA- GA-- G A TG AGAGGA GT
AGATGA
AGATGGTAGCATTGGAGAGG GGT TGATTC AGCAA TG TAGC T G TGAGATATG C
ATGAGATATGGTCAGATGAG CCA ACTAAG TCGTT AC ATCG A T ATTTTATAT G
GATATATTTTAAAAGTTGAG AGTGAAG GAG TAGG A - GT GAAA-- AG ------
CTAACAGGATTTGCTGAGGA
ATCAGAAGTGAACC
GAM1961 273733 GGCCTCCCAAAGTGCTGAGA CTC - -- TAC TGA CTGCACC

TTACAGGCATGAGCCACTGC GGC CCAAAGT GCT GAGAT AGGCA GCCA
ACCTGGCCCTTGCCTCTATT CCG GGTTTCA CGA CTTTA TCCGT CGGT
TCAAAGCTACTTTGGTGCC T-- T AA TC- TCC -------
GAM1975 272850 ATCTGTCTTTCCAAGCCTTC GT - GGG GTT TAAG
CCCGGGATCAGAGTTTTTAA ATCT CTTTCCAAGCCT TCCCC ATCAGA TT
GGATAATTTGGTGGGGAGAG TGGG GAAGGGTTCGGA AGGGG TGGTTT AG
GCTTGGGAAGTGGGGT GT G --- AAT ----
GAM1976 274195 GGAAAATGAGTGGAAGACCT AAATGAGT T CTCCCTC T CTC- GTTA
GGCTCCCTCTCTTCTCTCCC GGA GGAAGACC GG TC TCT CC
GTTAGGCACAAGACGGTGTA CCT CCTTCTGG CC GG AGA GG
AATCCTGGTCTTCCTCC -------- T TAAATGT C ACAC ----
GAM1997 273897 GTCCCTATCACTCGGAGCGG - C CG ACC A A ---- AGTGA
AGACCTGAGCTATGAGTCAT GTCC CTAT ACT GAGCGGAG TG GCT TGAGT CATC
CAGTGAGGTGCTATACTCAG CAGG GGTA TGG CTCGCCTT AC CGA ACTCA GTGG
AGCCATTCCGCTCAGGTCAT A C A- --- - G TATC -----
GGAGGAC
GAM2010 272746 ACAGGAGAATTGCTTGAACC G AA GAAC-- A GT A- CGAGATT
CTGGAGGTGGAGGTTGCAGT ACAG AG TTGCTT CCTGG GGTGGAG TGCAGTG GC
GAGCCGAGATTGCACCATTG TGTC TC AACGAG GGATC CCACCTC ACGTTAC CG
CACTCCACCCTAGGCAACAA - AA AACAAC - -- CA -------
GAGCAAAACTCTGT
GAM2014 274273 GGCAGGGAGGTGACGAGGTA C TGA- - CA--- C --- - AT GTTC
GGGGCAGAGCGGATGGAAGC GG AGGGAGG CGAGGTA GGGG GAG GGAT GGAAGCC GGAG
CCCAG CCG
CGGAGATCCCAGGTTCCCGG CC TCCCTCT GCTCCGT CCCC CTC CCTG TCTTCGG CTTC
GGGTC GGC
AATACTCCGGCTGGGGCCTT - TTGG G CATCC C TCC G CG ----
CGGGCTTCTCCTGTCCCCTC ATAC
CCTACCCCCGTGCCTCGGGT GA
TTCTCCCTCC CT

GAM2022 273468 GACCATGAAGCCAGAGTCTC CCAT - - T CCA ---- - GCCATGGA
CAGGACTCCTCACTCAACCT GA GAAG CC AGAG CT GGACTCCT CACTCAACCT CG
CGGCCATGGACGCAGGTTGG CT CTTC GG TTTC GA CCTGGGGG GTGGGTTGGA GC

GTGTGAGGGGGGTCCCAGCC TTAT T C C C-- GAGT C --------
TTTCGGTCTTCTATTTC
GAM2027 274167 GCTACTTCTATGTGTCCCAT T TATG- CCAT - AC -- CAGCTCTCTCCA
GGTACTGCCACAGAAGAGTC GC ACTTC TGTC GGTACTG CC AGAA GAGTCT
TCAGCTCTCTCCAGGATTCA TG TGAGG ATAG CCGTGAC GG TCTT CTTAGG
GTTCTAAGGTCAGTGCCTAA - TAAAA AAT- T AA GA ----------
GATAAAAATGGAGTGT
GAM2033 273458 GAAGAAGAAGAATGGGTTTG ---- A TGAGA CCAATATTAAC
GTGAGAGGGTTCCAATATTA GAAGA AGA GAATGGGTTTGG GGGTT
ACAACCCAACTTCAAGCTCA CTTCT TCT CTTACTCGAACT CCCAA
TTCCTCTAACCTCTTC CCAA C TCAA- ----------
GAM2051 272876 CACTCTGTAATAAAGAACTT - AATAAAGAA - AAG -- CAAG GGCCAA
GGAAAGGGAGGTTCCAAGAT CACTC TGT CT TGGA GGAG GTTC AT
GGCCAAATATGAACAGCTCC GTGAG GCG GA ATCT CCTC CAAG TA
AGTCTACAGCCCCCAGCGTG T ACCCCC--- C GA- GA TA-- ------

AGTG
GAM2058 274192 GCTTTGAAAGAGATGTGGTG GAAAGAGA - TG AGA---- GCCTTTTGTTT
TGTGAAGACGAAGATGCCTT GCTTT TGTGGTGT G A CGAAGAT
TTGTTTGTCTTTGGAGAATA TGAAA ACATCACA C T GTTTCTG
TTGCAACACTACAAAAGT -------- A GT ATAAGAG ----------
GAM2062 274583 TGGGCGCCTGTAATCTCAGC GC- A A --- TGAGACAGAGAATT
TACTTGGGAGGCTGAGACAG TGGGC CTGTAATCTC GCT CTTGGG AGGC
AGAATTGCTTGAACCCAGGA ATCCG GACGTTGGAG CGG GGACCC TTCG
GGCGGAGGTTGCAGTGAGCC AGT G A AAG ----------
TA
GAM2098 273430 CTTCACCAAGTTGTCATTTG A AAG C GAG C AG- G TAAGA
AGCACAGTTTGAGGAGTGTA CTTC CC TTGT ATTT CA AGTTTG GA TG
AGACAGTCATGCGGACTTGA GAAG GG AACA TGGG GT TCAGGC CT AC
GGGGTACAAGGGAAG - --- - GA- - GTA G -----
GAM2171 273059 CTCCCAGGCAATATTCCAGG CAATA - TA G -- TTGGA
ATAGGCTGCCAGTTGGACTA CTCCCAGG TTC CAGGA GGCT CC AG
AGGAAGCCACTCCTGCGGAA GAGGGTCC AGG GTCCT CCGA GG TC
CCCTGGGAG CA--- C CA A AA -----
GAM2221 272857 ATGTCCAAAGACTCAACAGT - - ACAGT TAC CCACTCATTTTA
TAGACTACTTTTCTTCCACT ATGTCCAAAG ACT CA TAGAC TTTTCTT
CATTTTAAAGAAAAATGTCT TATAGGTTTT TGA GT ATCTG AAAAGAA
ATGAAGTGTTTTGGATAT G A ----- TA- ----------
GAM2223 274087 TCTTACCCCAGTATCCTATT - GTAT - A TAC CAGTGAT TCTCA
ATCTCATACCTAAGGCAGTG TCTTAC CCCA CC TATT TCTCA CTAAGG GGTT
ATGGTTTCTCAGACCTCTTA GGAATG GGGT GG GTAG AGAGT GATTCT CCAG
GATTGAGAAGATGTGGCATG T AC-- T A TA- ------- -----
GGTGTAAGG
GAM2233 273636 AGTCTCTCTCTGGCTGGACC CTC - GG - TCACACTCT CTC
TGGACTGCAGTCACACTCTA AGT TCTCTGGCTGGAC CT ACTG CAG AAGAG
AGAGCTCCTCTTTCTACACC TCG AGAGACTGGCTTG GG TGAC GTC TTCTC
TCTGCCAGTGGGCGTTCGGT AAC C G- C TCCACATCT ---
CAGAGACAAGCT
GAM2251 274576 TGGCCTCTGGGACTCAGATT GC ---- GGA GAT-- TTTAAAAT-- ATAA
CCTCCTCTTTAAAATGGTGC TG CTC TG CTCA TCCTCCTC GGTGCTA
TAATAATAGCACCCACCCTC AC GAG AC GAGT AGGAGGAG CCACGAT
TGTGAGGAGGATGCTGTGAG TA TAAA AG- GTCGT TGTCTCCCAC ----
GACAAAATGAGATCA
GAM2260 274201 GGAAGCATCCCTGCTGCGGA TCCCT GGAC T ------- - GAG T AATAAGAGT
CGCTTTCACTTCTAAAGAGT GGAAGCA GCTGC GCT TCA C TTCTAAA TCTTG CTGCT
G
CTTGTCTGCTAATAAGAGTG CTTTCGT CGGCG CGG AGT G AAGATTT GGGAC GACGG
T
CCCATGGCCCAGGGTGGCAG ----- ATCA T AGTACGG A AGG - ---------
CAGGGGGATTTAGAAAGGGC ATGGCCCA
ATGATGATGGCACTAGCGGC CCC
TGCTTTC GGG

GAM2262 273614 AGGCTGAGGTAGGATGATTG - - -- - C AG---- AGGAGTTCA
CTAGCTAGAGTCCAGGAGTT AGGCTG AG GTA GG ATGATTG TAGCT AGTCC
CAGGATTAAAATGAGCTATG TCCGAC TC CGT CC TACTAGT ATCGA TTAGG

ATCATACCACTGCACTCCAG C A CA A - GTAAAA ---------
CCT
GAM2263 272963 AATGAAGTGGAATCAAGGTG - TC G - AAGAAAA - CT ACTTTC
GCAAGAAAATTTAGAATCGT AATGA AGTGGAA AA GTG GC TTTAGAAT CGTTT GATAGGG

TTCTGATAGGGACTTTCCCT TTACT TTACCTT TT CAC CG AAGTTTTG GTAAA CTATTCC

TATCCTAAATGTGTTTTGAA G TA G A G------ T TC ------
GGCACACGTTATTTCCATTG
TCATT
GAM2270 274386 GTGACTTTCCAGGTGTCACA G A-- - A-- -- - --- AA- GTACAA
CAGTGAGTGGCATAATCAGA GT ACTTTCC GGTG TCAC CA GTGA GT GGCAT TCAGA
GTACAATTTGAGTCATGCCC CA TGAAAGG CCAT AGTG GT CACT CA CCGTA AGTTT
ATACATCACATTGCCAGTGA G AAC T ACC TA A TAC CTG ------
TTACCCAAGGAAAGTGAC
GAM2272 273655 ATAAGCTGCTCTAATTGCCA C C A TG CA- T TG TTGT G ACT GAGA
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TGCAGCTTTACTGGGAGACT TGTTC AC AGGT A G TCTTA GTGTAC C TATGT GAAG TC
GAAGTGTATCTGCATGTGAT - - - GT TCG - GT ---- - --- ----
TCTGCTGTGATGGACACTTG
T
GAM2290 272742 ACACTGCCTCTAGATTGTTA - CT TTGTTATTTTGTCC G A- ATG A TCTCT
TTTTGTCCAAGAGAGAGATC ACAC TGC CTAGA AAGA AGAG TC GAG GAG
ATGGAGAGAGTCTCTCTCGC TGTG ATG GATCT TTCT TCTC AG CTC CTC
TCACGGAGGCTCTGTCTTTC T AG ---------- G GG GCA G -----
TAGGAGTATGTGT
GAM2300 272769 AGACAGTGCTGGGTCAAACA CA GT AAC TTA - T- A CCTTT
GCCTTTATTTTAGCAGTTGT AGA GTGCTGG CA AGCCTTTATT GCA GTTG GAGACCCTAGAG
ACT
GAGACCCTAGAGAACTCCTT TCT TACGATC GT TTGGGGGTAA CGT CGAC CTCTGGGGTTTT
TGG
TGGTGTTTTGGGGTCTCCCC C- -- A-- CA- A CC G -----
AGCATGCACAATGGGGGTTA
TGCTAGCATCTCT
GAM2306 274649 TTTGAGATTTTATTGAGTAC AGATT G GT TG - TT GT GCACCA
TACTAATCTTGACATATTTT TTTG TTATT A ACTACTAATCT AC ATATT G TG
GGTTGGCACCACATTCTTGG AGAC GATAA T TGGTGATTGGG TG TATGG C AC
TATAGTGGGTTAGTGGTTGA GTTT- G -- -- A TT TT ------
ATAGTTTGCAGA
GAM2309 272928 CCCCACCCCAGTGGAGCTCA -- ---------- CCTT-- AGGTCTAA
CCTTCCAGTAGGTCTAAACT CCCC ACCCCA GTGGAGCTCA CCAGT
GGTTTGATTGAGTTCCATGG GGGG TGGGGT TACCTTGAGT GGTCA
AAAACAACAAAGTGGGGTAA AA GAAACAACAAAAGG TAGTTT --------
GGGG
GAM2350 272718 AAACGGATGGGCCTGGGGGC - TG- CC CACTT CA TCCA
CACTTTGCACAGGGTTCTCC AAAC GGA GG TGGGGGC TG CAGGGTTC
AGAGCCCTGCCCATCCTGCC TTTG CCT CC ACCTCCG AC GTCCCGAG
TCCACCACTTCCTGTTT T TCA -- TCCT- CC ----
GAM2384 274467 TCATTCCTCTTAATCTTCAC TTA - AAA A CATTGAGCACCT
TAAAATGGACAAGTATTCAT TCATTCCTC ATCTTC ACTA TGGACA GTATT

TGAGCACCTAATGCGTGTTC AGTAGGGAG TAGAGG TGGT ACTTGT CGTAA
AGTATGGTGGGAGATGAGGG --- G ATG G ----------
ATGA
GAM2391 274395 GTGCTGGGTCAAACAGCCTT GT AAC TTA - T- A CCTTT
TATTTTAGCAGTTGTGAGAC GTGCTGG CA AGCCTTTATT GCA GTTG GAGACCCTAGAG ACT

CCTAGAGAACTCCTTTGGTG TACGATC GT TTGGGGGTAA CGT CGAC CTCTGGGGTTTT TGG

TTTTGGGGTCTCCCCAGCAT -- A-- CA- A CC G -----
GCACAATGGGGGTTATGCTA
GCAT
GAM2393 273652 AGTTTGGGTAATGAAGCCAC T TA---------- ATTT GATACATTT CACGACT
AGAGATTTGCTGATACATTT AGTT GGG ATGAAGCCACAGAG GCT GCTAGG
GCTAGGCACGACTTCTGGTC TCGA CCC TACTTCGGTGTTTT CGA TGGTCT
ATTTAGAAAGCTATTTTGTG C TTATGGAATAAC AT-- AAGATTTAC -------
GCTTCATCAATAAGGTATTC
CCCAGCT
GAM2398 272955 AAGCCCTTGACTGGGGCTGC CCTT G -- CTCAG GC G CAGTGA
TGCCTTTCTCTCAGAGATGC AAGC GACTG GGCT GCTGCCTTTCT AGAT CCT CC
CCTGCCCAGTGAGGAGGAAT TTCG TTGAC CCGG TGACGGAGAGA TCTA GGA GG
CTAGAGAGGCAGTCTGGCCA ---- A TC ----- A- - ------
CAGTTGCTT
GAM2423 274396 GTGGCAGTTCCAGCCTTATC TC-- - A CTC CACAA
CTCAGGGTCTGACACAATCG GTGGCAGT CA GCCTT TC AGGGTCTGA
GGCTTTTACGAAAGGCATGT CACCGTCA GT CGGAA AG TTTCGGGCT
TTTACTGCCAC TTTT A - CAT -----
GAM2424 274494 TCGCTTGAACCCGGGAGGCA GAA-- AGGCA - A A- TGAA
GAGGTAGTAGTGAGCTGAAG TCGCTT CCCGGG GAG GTAGT GTG GC
TCCCGCCACTGCACTCCAGC AGCGAG GGGTCC CTC CGTCA CGC TG
CTGGGCAACAGAGCGA ACAAC GAC-- A C CC ----
GAM2440 274631 TTGCTTGAACCCAAGAGGCG GA-- AGA - GT A TAAGATCAT
GAGGTTGCAGTGAGCTAAGA TTGCTT ACCCA GGC GGAG TGCAGTG GC
TCATGCCACTGCACTCCAGC AACGAG TGGGT CCG CCTC ACGTCAC CG
CTGGGTGACAGAGCAA ACAG --- A -- - ---------
GAM2514 273323 TGGAACTGGAGGAGCTGTCC AC GAGCTG CA AATCAAA CAAAA
TGTGTCAGCCTGAAATAATC TGGA TGGAG TCCTGTGT GCCTGAAAT AGGAT
AAAAGGATCAAAAATCCTGT ATCT ACCTC AGGATACA CGGATTTTG TCCTA
TTTAGGCAACATAGGAAGAC CA AGA--- A- ------- -----
TCCAACTCTA
GAM2519 272855 ATGATGCCAGGACTGCAGCT AT CA ------- CTT GG T AGG
TCAGGGACTTGTGGCAGATG ATG GC GGACTGCA GCTTCAGGGA GT CAGA GCAC
CACAGGGTGCCTCTGGCTCC TGT CG CCTGACGT CGAGGTCCCT CG GTCT CGTG
CTGGAGCTCCACACTGCAGT CT AC CACACCT --- -- C ---
CCCAGCTCTGT
GAM2543 273320 TGCTGTAGGCTGTATGCTGT ---- T-- C A T- CCTC
TAATGCTAATCGTGATAGGG TGCTG TAGGC GTATGCTGTTAATGCTAAT GTG TAGGGGTT TTG

GTTTTTGCCTCCAACTGACT ACGAT GTCCG TATGTGACAATTACGATTA TAC ATCCTCAG AAC

CCTACATATTAGCATTAACA CATT TAG - - TC ----

GTGTATGATGCCTGTTACTA
GCA
GAM2565 273492 GAGCCTTTTAATGACACAGT TT- T -- T --------- TT---- CAC CCTG
GGGGCCAGTTGGAGCACTGA GAGCCT TAA GACAC AG GG GGCCAG GGAG TGAT
TCCTGGTCATTACTCCTGCA TTCGGG ATT CTGTG TC CC CCGGTC CCTC ACTG
CCCTGGCCTGCAGCCTTCCT TTT - AC T TTCCGACGT CCACGT ATT ----
CTCAGTGTCTTATTTGGGCT
T
GAM2578 273789 CAGTATAACTATGACCCTTC ACTA C TG C - CACAAACCACTACA
TGGAACTGCTTCTCCACAAA CAGTATA TGACC TTC GAA TGCTT CTC
CCACTACAGAGCAGGCAATT GTCGTAT ACTGG AAG TTT ACGGA GAG
TTGGAAGGTCAGTATGCTG G--- - GT A C ----------
GAM2591 273917 CCGGTAGGTTTAGAATGAGG - -- AGA A - T AT CG TTTTGACTGGT
TCTGTGTCACTGTGGTATTA CC GGTA GGTTT ATG GG TCTGTG CACTGTGGT TA ATA
CGATATTTTGACTGGTTATT GG CCGT CCAAA TAC CT AGACAC GTGACACCA AT TAT
ATAACCACAGTGTCACAGAG T AC AAC - G T -- AT ----------
TCCATCAAAAACCCATGCCT
GG
GAM2608 273125 CTTTTGAGCTGCTTCTTATA C TCT A T CT -- T C T TA GAAGCAG
ATGTGTCTCTTGTGTTAAGG CTTTTGAG TGCT TATA TG GT CTTGTGTTA AGG GCAT TAG GCAGT
GT
TGCATCTAGTGCAGTTAGTG GAAAATTT ACGA ATAT AT CG GGACACGGT TCC CGTA ATC
CGTCA TA
AAGCAGCTTAGAATCTACTG T C-- A C TC CT C A C TC -------
CCCTAAATGCCCCTTCTGGC CTTAGA
ACAGGCTGCCTAATATACAG
CATTTTAAAAG

GAM2618 273368 TGTGGGAAGATGCTGGCAAG AAG CT- GCT A GGAGGCAA
GTGCTGGAGGGCCCTGGAGG TGTGGG ATG GGCAAGGT GG GGGCCCT
CAAAGGGCCTGCCTCGACCT ACACCC TAC CCGTTCCA CC TCCGGGA
TGCCCCCCATAACCCACA AA- CCC GCT G --------
GAM2624 272849 ATCGTCTGAGCCCAGGAGTT - - AG - TGCA-- GCTACAA
TGAGGCTGCAGTGAGCTACA ATCG TCTG AGCCCAGG TTTGAG GC GTGA
ATCACACCCCTGCACTCAAG TAGT AGAC TTGGGTCC GAACTC CG CACT
CCTGGGTTACAGAGTGAT G A -- A TCCCCA -------
GAM2628 274390 GTGCACTACAGACTCCAGCC A- GA CAG C-- - AAGCC A TCCTCCCTTT
TCCCTTTGAAGCCAGGTTCC GTGCACT CA CTC CCT CCT TTG AGGTTCCAG GCT
AGAGCTTCCTCCCTTTGGCC CATGTGA GT GAG GGG GGA GAC TCCAAGGTC CGG
TGGAACCTCAACAGCAGGAT AG AG TA- TTA C AAC-- - ----------
TGGGATGAGGATGGAAGTGT
AC
GAM2631 274565 TGCTTCCTTACCTACAAGAA TA CAAGAAAATTTAGAAGTT C - TTTC-- TACTT

AATTTAGAAGTTGGTGCAAA TGCTTCCT CCTA GGTG AAATG GCA CATGAG
TGGCATTTCCATGAGTACTT ACGAAGGG GGGT CCAC TTTAT CGT GTACTC
CTCATGCATCTTTGCATATT -- ---------- - A TTCTAC -----
TCACCTGGGGGGAAGCA
GAM2640 274599 TGGTTTCATTAAAATGTGTA A GTAA TT---- - GCAGTA
AGGTTGGCTGGGTGCAGTAA TGGTTTC TTAAAATGT GG GGC TGGGT

CTCATGCCTGTAATCCCAGC ACCAGAG GATTTTACG CC CCG ACTCA
ATTTTAGGAGACCA - AC-- TAATGT T ------
GAM2669 274588 TGGGTGAGGAACAGGTAGAG A- ACA AA TG AA G AACTTCC GCCA
AAGTGTAAGTGAGACAAACT TGGGTG GGA GGTAGAG G T GTGA ACA CTGCCATTT
TCCCTGCCATTTGCCAAAGT ACCTAT TCT CCATCTC C G TACT TGT GACGGTGAA
GGCAGCACATAATGTATCAT AG C-- -- GT AG A AATACAC ----
GAGTGCCTCTACCCTCTGAT
ATCCA
GAM2672 273245 GCCTGCGGGGTATTGTAGAA -- A----- --- C - TGCCT AGCTT
ACGCTGCGCTGCCTATCACA GCCT GCGGGGT TTGTAGAA ACG TG CGC ATCAC
GCTTGTGATGTGACACGTTC TGGA CGCTTCA AACGTCTT TGC AC GTG TAGTG
ATTCTGCAAGTTTAAACTTC TC AATTTG ACT - A ----- -----
GCCTAGGT
GAM2732 274342 GGTCTGTGTGAAGCATCACT T T TG A ACT GC TAATG G- GC TCT A- TT
TTGCAGGGATTACTAATGGT GG CTG G A GCATC TT AGGGATTAC GTG GGCA AGG GTGA
TTAAG
GGGGCAGCAGGTCTGTGAAT TC GAC C T CGTAG AA TCCTTAATG CAC CTGT TCC CACT
AGTTC
TAAGTTATCTCTTGACCTCA T - GT A AAC A- TAAA- AA AC --- CC --
CCCTCATGTCAACACAAATG ATCT
TAATTCCTAAACAAGATGCA
TTGCCAGTCT

GAM2762 273116 CTTCTCACTTTCCCTTCACA CT- TTCC TCAC GT- TTT- C T G TAATCTCTT
TC
CACAGTCGTGTAGTTTTGCG CTT CACT CT ACACAGTCGT AG TG GCT GCTT AT GGCC

CTTGCTTGATTAATCTCTTG GGG GTGA GA TGTGTCGGTA TC AC TGG TGAG TA TTGG
GCCTCAGTCGGTTTTCTACC TGT CCT- ---- AGC TCTT T T G TACCATCTT --
ATATGGAGTTGGTTCATTCT AGTC
CTCGAATGGCTGTGTAGTCC
AGTGTGTGGG

GAM2767 272870 CACATTCCTGTTAGCTGAGG A AG AG - C AC C TTTT
TCACCTGACTCTGCTTGTCG CAC TTCCTGTT CTG GT CAC TG TCTGCTTGT GT
TTTTTGCACAGGCAGACGTG GTG AGGGACGA GGT TA GTG GC AGACGGACA CG
TGCATTCTGGAGAGCAGGGA - GA CT C T -- - ----
GTG
GAM2770 274211 GGACTACAGGCACATGCAAC A CACA CA CA C TTTCT T AGAG
CACATCTGGCTAATTTTCTT GGACT CAGG TG ACCA TCTGG TAAT TGAG TTTAGT
GAGTTTTAGTAGAGACTGGG CTTGA GTCC AC TGGT GGACC GTTG ACTC GGGTCA
TCTCATTATGTTGTCCAGGC - TCGA CC C- T TATT- T ----
TGGTCCCAAGCTCCTGAGTT
C
GAM2780 273983 CTGGGAGGCAGAGGTTGCAG GG- - A-- G - AATT- CACT
TGATCAGGAATTGTGCCACT CT GAGGCAGAG GTTGC GT A TCAGG GTGC
GCACTCCAACCTGAGTGACA GA TTCTGTCTC CAACG CA T AGTCC CACG
GAGCAACACTCTGTCTTAAA AAA A AGA G G AACCT ----
AG
GAM2799 273635 AGTCTCACTCTGTTGCCCAG TC C TT C-- -- T GATCTCA

GCTGGAGTGCAGTGGTGCGA AG TCACT TG GCCCAGG TGGAG TGCAGTGG GC
TCTCAGCTCACTGCAACCTC TC AGTGA AC TGGGTCC ACCTC ACGTCACT CG
CACCTCCTGGGTTCAAGTGA TT - T- TCC CA - -------
TTCT
GAM2807 273676 ATTGTATTGCAGCAGGTTGG - C G --- - A AAATCTCCAT AAATG-- A C A
CAGCCTCAGTAAATCTCCAT ATTGTAT TG AGCA GT TGGCA GCCTC GT TTGT TGAC GT
AGC
TTGTAAATGTGACAGTCAGC TGATATA AC TTGT CA ACCGT CGGGG CG AACG ACTG CA
TTG
AGAATCTCCAGTTACAGTCA T - A TAC A A ---------- AAACTCA A - -
ACTCAAAGCAAGCAGGGGCA GAATCTCCA
TGCCACATACATGTTCATAT
ATAGT

GAM2808 273259 GCTATTGTGACAATCTTGGT ATTGTGACAA GTTA TCCATTAA GCTGAT
CATGAAAAAC
TACCATCCATTAAGTGCTGC GCT TCTTG CCA GTGCT TTTGGAAAGAT
TGATTTTGGAAAGATCATGA CGG AGAAC GGT CACGG AAACCTTTCTG
AAAACGTCTTTCCAAACATG ---------- ACG- TTGCTG-- AAGTAC ----------
AAGGCACGTCGTTTGGGCAC
AAGAGGC
GAM2817 273556 GATGGTCTCATAACTGAATA T- ACTGA - AA TTGTATAC
TATTAAAAACTTAAATTGTA GATGG CTCATA ATATA TTA AACTTAAA
TACTTTAAGTTGGTGATTGT CTATT GAGTAT TATGT AGT TTGAATTT
ATGATATATGAGTTTTATC TT ATAG- T GG --------
GAM2827 273765 CACGCGAGTCAGAACCTAAA CG GA AAAGTG C- AACCTG - - T-- TCC
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GTGGGTAGAGTGATTCCGTC GTGC TCAGT TGGA GAGG ACCCG TCG CCCG TCTC CTG

TTTCTCTGGCCCTGCTAGGC TA G- ------ AA GA---- T G TTT ---
CCAAAGGAGAGGTGTGACTA
TCGTG
GAM2839 273960 CTCTTGACCAGAGGGTCTCA -- - - AG C T TA TGCCA
AATGAGGGACATTTTACCTG CTCT TGACCAGAGG GTCTC AAATG GGA AT T CC
CCAGGGGACATTTCCAATGT GAGA ATTGGTTTTC CAGGG TTTGT CCT TA A GG
TTGGGGACACTTTTGGTTAT CT A G AA T C GG -----
CAGAG
GAM2846 273951 CTCAGCCTCTCCCTGATGTA A CCTGATG ---- TGTGG - A-- AAGAAAGGA
ATCTGGGTTCCTTGTGTGGC CTC GCCTCTC TAATCT GGGTTCCTTG CAAC AGTA TGGG

AACAGTAATGGGAAGAAAGG GAG CGGAGAG ATTGGA CCCAGGGAAC GTTG TTAT GTCC

ACCTGAAATATTAGTTGATT A ------- ATCT CTTA- A AAA ---------
CCAAGGGACCCTCTAAGGTT
AGAGAGGCAGAG

GAM2868 273919 CCGTGGCCCGTGTTCTCTCC TG - TT --------- T C-- T GTGAC GCCA
TTTTGTCCCCATAGTGTGAC CCG G CCCGTG CTCTC CTTT GTC CCA AGT TCC

TCCGCCAGGAACTTGGAATG GGT C GGGTAC GAGAG GAAG CGG GGT TCA AGG
GCTGAAGACTGTGAATGAGA GT T T- TAAGTGTCA T TAA - ----- ----
GTCATGGGTCTGTGG
GAM2887 273868 GGTGCAAACACCCCGTTCAT CAAA CC ACAC C A CAGTAGAG AGTATT

GTAACACGGGCCTGAGGTCA GGTG CA CCGTTCATGTA GGGC TG GGTCAG GACC
GCAGTAGAGGACCAGTATTG CCGC GT GGTAGGTGCGT TCCG AC CCGGTT TTGG
GTTTTGGCCCCAGCCTCTGC AA-- TA C--- - C -------- ------
GTGGATGGATTGAACGCC
GAM2908 273720 GGCAGGAGAATTGCTTGAAC GAA GAA A------ - A- AT A T AGATCA
ACAGGAGGCAGAGATTGCAG GGCAGGA TTGCTT CAC GGAG GC GAG TGCAGTG G CA

TGAGTCAAGATCATGCCACT TTGTCCT AACGAG GTG CCTC CG CTC ACGTCAC C GT
GCACTCCAGCACTCCAGCCT AG- ACA AATCCGA A AC -- - - ------
AAGTGACAGAGCAAGATCCT
GTT
GAM2911 273097 CTGCCTCTCTGCAGGCCGTG CA G - T- G TGATCTT
TGCTTTGCTCGGTTGATCTT CTGCCTCTCTG GGCC TGTG CTT GCTC GT
GCAGAGCCTAAGACACAGGC GACGGAGAGAC CCGG ACAC GAA CGAG CG
CCAGAGAGGCAG -- - A TC A -------
GAM2920 273741 GGCTGAGACCACCCTTGCCT - A CT - CCCTTCT--- GCCTTA
GCCCCCTTCTTTCTGCCTTA GGC TGAG CCACC TGCCT GCC TTCT
AGAATGTCCTTTTAGGCTGG CCG ACTC GGTGG ACGGG CGG AAGA
GCATGGTGGCTCACGCC C - T- T ATTTTCCTGT ------
GAM2927 272915 CCAGTATATTTCTGCAGTCT - - --------- GTA CCC A AAC
GGTATGTTTTTCCCCCTAAG CCAGT ATATTTC TGCAGT CTG TGTTTTTC CT AG
AACCTCAGCTGAGAAATAAA GGTCA TGTAAAG ATGTCG GAC ATAAAGAG GA TC
GCAGGTTAACAAAGCTGTAT C T AAACAATTG GAA TC- C ---
GAAATGTCACTGG
GAM2931 274266 GGATTAGTTCTGGAGAGAGC GTTC GC TT T A AAT TCTTC
AGGTTGCTAAGAAGAATCTG GGATTA TGGAGAGA AGG GC AAGA G CTGGCT
GCTTCTTCAGTCAGCGCTCT TCTAGT ACCTCTCT TCC CG TTCT C GACTGA
TGCTTCCTATCTCTCCATGT GT-- A- TT - - GC- -----
GATCT
GAM2950 272918 CCATCTGGCAGAACACTGGG CTG ACAC C - GA GTTACT T- ACAA
CAAAAGAGGTTCTGATTCTG CCAT GCAGA TGGG AAAAGAG GTTCT TTCTGGCCT TGC GT

GCCTGTTACTTGCTGTACAA GGTG CGTCT ACCC TTTTCTC CAGGA GAGACCGGA ACG CA

ACTTGCACAAGGCCAGAGAG AAA ---- - T -- AC---- TT ----
GACTCTCTTTTCCCATCTGC
AAAGTGG
GAM3001 273812 CCAGGTATCAGTCTTTTTGT GTATCA T CT C TTT AAACAGAA
TATTCGCAGC
CTATTCCTGGATTTTGGTGA CCAG GTCTT TTGT ATT CTGGAT GGTGA TCTAATCTTA
AAACAGAATCTAATCTTATA GGTC TAGAA GACA TAA GACCTA TCACT AGATTGGAAT
TTCGCAGCCTTAAGGTTAGA ------ T C- T CAT GGA----- ----------
AGGTCACTTACATCCAGTAA CT
TCACAGTAAGATCTGG

--
GAM3004 273912 CCCTGTCCTGTCTTCGAGTA CC C GA A TAA GGG GATCGA
TTTGTTTTTAATGCTGGGTG CCCTGT TGT TTC GT TTTGTTTT TGCT TGTC
TCGATCGAGACAACAAGCGC GGGGCA ACG AGG CG AAACGAGA GCGA ACAG
TCAGAGCAAAGCAAGGATGC TT T AA - CTC ACA ------
ATTACGGGG
GAM3028 273626 AGGTTCTGGTGAATTCAGGA T ---- A T TATTTTT TTT TAG TT G TT ATAGT
TGGTATTTTTGTCTTTGAAT AGGT CT GGTGA TTCAGGA GG GTC GAA T CTGGTT CAT CT

AGTTTCTGGTTGCATTTCTA TCCG GA TCACT GAGTCCT TC TAG CTT G GATCGA GTG GG

TAGTGGGGGTGAAGCTAGGG T AACT G - ------- TGT CAA GG A GG -----
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AGGTCACTTCAAAGTGCCT

GAM3057 273445 CTTTCTGTGCCACTCAGGAA TT---- CCAC A AA G - A CA A A--- TTT AA
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AG
GAGGAGAGGAGAGTTTAGAA GA GACAC AGTCCT CG ACC GT AC AA CGTC CCTC CCTCTT
TC
CTGGTTATGCTTCCTTCTCC CAGAAT TAC- - -- G C A AA - CCAA CCT --
AACCCTCCCTGCAAAAACAC CTGGTTATG
TGGCCAGCTCCTGACATCAC
AGTAAGACAG

GAM3061 273139 GAATCTGGTTGGTTCCTTAA T TCCT G A ATG GG
GAAAACTATTTGATCATTA
AGATCACTTGACATGGACAG GAATCTGGT GGT TAAA ATC CTTGAC GACAG TTTG
GGTTTGGAAAACTATTTGAT TTTGGATTA CTA ATTT TGG GAACTG CTGTC AGGC
CATTACGGAGACTGTCACCG - TT-- G A CCA AG ----------
TCAAGAGGTGTTTATTATCA
TTAGGTTT
GAM3064 274269 GGCACTTGGAACCGTCTTGG ACTT A G TGG ATA T AACT C- TTAT
GGAATATAGCTTGGTAATTG GGC GGA CC TCT GGAAT GCTTGG AATTG GCTTAAG TTA

AACTGCTTAAGCTTATTATT CCG CCT GG AGA CCTTA CGGACC TTGAT CGAATTT AAT
AATATTTAAGCTATAGTTCC ACCC - - --- CC- - AT-- AT ----
AGGCCCATTCCAGAGGTCCC
CCAGCC
GAM3065 273698 GGAGACATGATGTAGCAGAT C AG- AT GGG---- C ATA G TA ACTA
GATGGGACTGTCTTACATAA GGAGA ATGATGT CAG GAT ACTGT TTAC ACT GATCTTT GA

CTGGATCTTTTAGAACTATC CCTTT TATTGTA GTT TTG TGGTA AATG TGA TTAGAAG CT

GAAGATTAAGTAGTAAAATG - ACA CT AAAAATA A A-- A -- ----
GTATAAAAAGTTTCTTGACA
ATGTTATTTTCC
GAM3077 272894 CAGGTGTGGACTACCATGCC T GGACT T TTTTGTATTTT ACAGGG
TGGCTAATTTTTGTATTTTT CAGG GT ACCA GCCTGGCTAAT TGGTAGAA

GGTAGAAACAGGGTTTTACC GTCT CA TGGT CGGACCGGTTG ACCATTTT
ATGTTGGCCAGGCTGGTCTT T AGTTC - T---------- ------
GAACTTCTG
GAM3081 273018 CCTCAGCCTCCCAAAGTGCT G CCCAAAGT A AC T C CA CCG
GGGATTACAGGTGTGAACCA CCTCA CCT GCTGGG TT AGG GTGAA CAC TGC
CCATGCCCGGCAGTGATTCA GGAGT GGA CGACCC AA TCT TACTT GTG ACG
TTTCTAAACCCAGCTTGTTA - AAATTGTT A -- T A -- ---
AAAGGTGAGG
GAM3089 274517 TGACACTTTCTGTAAACGCC C ---------- T CATCT TTTCTCCCATT TGCC
ATCTGTGCTTTTCTCCCATT TGA ACTTT CTG AAACGC GTGCT TGTAC
TGTACTGCCCTGTATATCCC ACT TGAAG GAC TTTGTG TACGA ATATG
CGTTCAGCATTGCCAGTGTT T TCTTACGAAATTCTCCACC C ACCGT CTTGCCCCT-- ----
TCCAGCCACCTCTTAAAGCA CT
TTCTGAAGTTTCA

--
GAM3091 273142 GACAGCAGAACTTTTCTATC GA TTTCTATCC AAT- G T A TGG
CAAATGAATGCCGTCCCATG GACAGCA ACT AAATG GCC TCCCA GGA AG
GAAAGTGGCTGTCCTGGGAG TTGTCGT TGG TTTGC CGG AGGGT CCT TC
GCTACACGTTTCTCCAATGG AG TAACCTC-- ACAT - - G ---
TGATGCTGTT
GAM3119 273073 CTCTGTTTCCTAATTCTAGG TT AG CTT GAG AA AC TG AAA
CTAGCTTTTTTTGTGAGATG CTCTG TCCTAATTCT GCTAG TTTTTGT ATGTG TCTT TCT TG

TGAATCTTACTCTTGTGAAA GAGAC AGGATTAAGA TGATC GAAAACG TACAC AGAA AGG AT

TATGGGATCAAGACACATAA -- G- T-- AA- -- CT GT ---
GCAAAAGTCTAGTGAGAATT
AGGACAGAG
GAM3123 273923 CCTACCATGACTGTTCTCAA CAT GT A - ----- A- ACCG
AGTTTGAAGTTGAGCATACC CCTAC GACT TCTCAA GT TTGAAGT TG GCAT
GATGCGCCACTCCTGCTTCA GGATG CTGA AGAGTT CG AACTTCG AC CGTA
ATGCTTGAGAAGTCGTAGG --- -- - T TCCTC CG ----
GAM3126 273363 TGTGAAACACAGCCAGTTTC GAAA ---- T ---- - ACGTA T GATCTT
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TTTGTGATCTTGCCAAGCTT ACA GTGTTGGT CGA GAA GCTACT GAGTTT GAA CG
TGAGATCATCGTTACAAGCA AAAA TTTA C CATT A C---- C ------
GCATTTTGGTTGTGAAAAAC
A
GAM3132 273009 AGCTATTGTGACAATCTTGG CTA GACAA GTTA TCCATTAA GCTGAT
CATGAAAAAC
TTACCATCCATTAAGTGCTG AG TTGT TCTTG CCA GTGCT TTTGGAAAGAT
CTGATTTTGGAAAGATCATG TC AACG AGAAC GGT CACGG AAACCTTTCTG
AAAAACGTCTTTCCAAACAT TA- G---- ACG- TTGCTG-- AAGTAC ----------
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CAAGAGGCAAATCT
GAM3138 272987 ACTCTTTGAGATGACTGGTA T G T TG A AAT AG G AG C A CT CTAACT
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AAGGCACCAACCCTTCCTAA TG GAAA TCT CTG TA AAC TCTCG AGAAA TT C TGGT GG AG

CTGATGGTGGTCTCTTGAAA T G T TT - CT- G- G CT - - T- ------
GAGGCTCTTCCAAATTTGTC
TTCTGAAAGTGT
GAM3140 273644 AGTGTGAAGACAAAAGCCAC GAA AAAGCCACT TAA T T A AA-- A A CC C
C
TTTCTAAGGATGGTGGAGCA AGTGT GACA TTC GGA GG GG GCAGA GGC GG GT
TGCTCC TGG
GAAAGGCAGGAGTCCTGCTC TTACG TTGT AAG TCT CC CC CGTCT CCG CC CG ACGAGG
ACT
CCTGGCACCATCATGGAGCA --- CCTTT---- --- C - - AGAC A - T- T -
TGCCCAGCCCAGATCTGCCC ACCA
CCCTCTGAATTTCCTGTTGC
ATT

GAM3143 274281 GGCGTATCAGGTTTCAGAGG ATC G TT - G A GA A TGAGGGG
ATGCGGCTGGGAACGGGAGT GGCGT AG T CAGAGGATGCG GCTG GA CGG GTAG GG

AGAGGTGAGGGGTCGTTGCA CCGCG TT G GTTTTCTATGT TGGC CT GTC CGTT CT
TCTGTCGCGGTGTGTATCTT AC- G GG G G - TA G -------
TTGGGGGTTCAGCGCC
GAM3157 273409 TTGTTGAAGGGCAGTGAAGG TG A-- T A GTTT GTTTTA
TAGGTTTCAGGTTTGGTTTT TTGT A GGGCAG GA GGTAG CAGGTTTG
ACAAACCTGTTAACTACCTC GACA T CCTGTC CT CCATC GTCCAAAC
CTGTCCAGCTTGACAG GT CGA - - AATT ------
GAM3160 274050 TCAGTCTTTTTGTCTATTCC - T CT C TTT AAACAGAA TATTCGCAGCCT
TGGATTTTGGTGAAAACAGA TCAG TCTT TTGT ATT CTGGAT GGTGA TCTAATCTTA
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CCTTAAGGTTAGAAGGTCAC T T C- T CAT GGA----- ----------
TTACATCCAGTAATCACAGT
AAGATCTGG
GAM3163 274509 TCTGCTCATGATTACTGGGC A TTA G -- CC TGAC C CTTGTGAA
CAATACCACTGCAATGACTG TCTGCTC TGA CT GGC CAATA ACTGCAA TGT AGAACAATT

TCAGAACAATTCTTGTGAAA AGACGGG ACT GA TTG GTTGT TGATGTT ATA TTTTGTTGA

GTTGTTTTTATAAGCCTTGT A TG- G AA T- CCGA T --------
AGTTTGTTGAAGTTGAGGTT
CAAGGGCAGA
GAM3174 272990 ACTTTTGGCTCATTTTTTGA G TTTTT - - G ATAAA ATTAGG
TGCATGTGACCTGGGATTAT ACTTTT GCTCA TGATGCATG TGAC CTGG ATT TGTGAA

AAATGTGAAATTAGGTTTAC TGAGGA CGGGT ACTACGTGT ACTG GACC TAG GCATTT

GAAAGGATCCAGTGTCATTG A ----- T T - GAAA- ------
TGCATCATGGGCAAGGAGT
GAM3183 272851 ATCTTGTACATTTTCCCCAC C ------ CA - A C TCCAG
ACTTGGAATCAGCCATTCCT ATCTTGTA ATTTTC CCCA CTTG GAATC GC ATTCC
CCAGGGAGTGCAGGTTCACA TGGAATAT TAAGAG GGGT GGAC CTTGG CG TGAGG

GGCTGGGCTCTAAGAGAATT - AATCTC C- A A - -----

ATAAGGT
GAM3190 273551 GATCATTTGAGACCAGAAGT CA AGACCA GT- T CT A- A ACGT
TCCAGGCTGTAGTGCACTAT GAT TTTG GAA TCCAGGCTG AGTGCA ATG TG TCGT
GATGATCGTACGTATGAACA CTA GAAC CTT GGGTCCGAC TCACGT TAC AC AGTA
GCCATTGCACTCCAGCCTGG CA GA---- AAC C -- CG A ----
GCAATTCAGCAAGACATC
GAM3195 274000 GTTCCTTAGGCCACACCCTG TT ----- C CCT G--- - CGCTCCA
CCCTCCCTGGACTGCCTGAC GTTCC AGGC CACACC TGCCCTC GGACT CCTGA CCT

CTCGCTCCAAGGCTCAGGGG TAAGG TTCG GTGTGG ACGGGAG CTTGG GGACT GGA

AAGGTTCTGAGGGCAGGTGT -- TAAAA - T-- AAGG C -------
GAAAATGCTTGGAAT
GAM3211 274064 TCCTCCCCCAGGCATTCTGG -------- - A TTC-- TCA T- TT - T TCTCG
TCACTGTTCCTTTTTGTTGA TCCTC CC CC GGCA TGG CTGT CCT TTGT TGAGA CAT
GATCATTCTCGGTGTCTCAT AGGAG GG GG CCGT GCC GACG GGG GATA ACTCT GTG

ATAGCTGGGTTGCAGCTCCG ATAATGGT A A TTCTT TC- TT TC T - -----
TTCTTTGCCAGGAGGTGGTA
ATAGAGGA
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GCCGAGATTGCACCACTGCA CCTC CG GAC GGGTCC CCT CA CGTCAC CG
CTCCAGCCTGGGCAACAGAG AGAG- A AAC GA-- - - CA -------
CGAGACTCC
GAM3236 274136 GCAGCGACGCTGAGTTTCAA GACG G C AAA AAGA C CACA
GAAAGCCAAGATGGCTGAGT GCAGC CT AGTTT AAG GCC TGG TGAGTC
CCACAGGCTCACCCACGGGT CGTCG GG TCAGA TTT TGG ACC ACTCGG
GCGTTTAGACTGGGATGCTG TA-- G - GCG GC-- C ----
C
GAM3246 274313 GGGCAGCAAAAACATCCATT CAAAAACATCCAT C G A G TT AACA AAAACTC

CCGCTGCGCAACAGTTGTCA GGGCAG TCCG TGC CA CA TTGTCATT TCT TCTG
TTTTTCTAACATCTGAAAAC TCCGTC AGGC ATG GT GT AATAGTGG AGA AGAC
TCCAGAAGGAGATGGTGATA TT---------- C - - A T- GGA- -------
AATGTGGTACCGGATTCTGC
CT
GAM3263 273915 CCGAGGCTACGTGAAGGAAC A- TAC - - TTTGCCT CATTTC - ACCAATG
ACTTTGCCTGGAGACATTTC CCG GGC GTGAAGG AA CAC GGAGA TACTGG TACCTT

TACTGGTACCTTACCAATGA GGC CCG TACTTCC TT GTG CCTCT ATGACC ATGGGA
GGGTATCCAGTATCTCCGTG CC TC- A A ------- ------ T -------
ATTACCTTCATCTGCCCCCG
G
GAM3266 273930 CCTGTACAAAGCAGCCTTGG T AAA CA AAAACCCCA CTGC
ACCAGGAGGGAAAACCCCAA CCTG AC GCAGCCTTGGAC GGAGGG AGGCT
GGCTCTGCAGCCTCCCTGCT GGAC TG TGTCGGAATTTG CCTCCC TCCGA
CCCCTCCGTTTAAGGCTGTG - G-- -- CTCGTCCC- ----
GTCAGG
GAM3271 273225 GATATGTTTCTACTAGTGGT -- A - G - TTTCAG CGCT

TGATGGCCTCTTTCAGCTCC GATAT GTTTCT CT AGT GTTGATGG CCTC CTCCAT
ATCGCTATGGAGGCGAGGTT CTGTG CAAAGA GA TCA TAACTACT GGAG GAGGTA
CATCAATAACTCAGAGAAAC TT - C A T CG---- ----
TTGTGTC
GAM3278 273313 TGCCCATGATGTTTTCAGTA ATGT- TA T C- T- GG GGAA
CAAATCTAAGTCCCAAGATT TGCCCATG TTTCAG CAAA CTAAGTC CAAGA TA TT
AGGTTGGAAAGGGTATTTCT ATGGGTAC AAGGTT GTTT GATTCGG GTTCT AT GA
TGTTGGCTTAGTTTGGGTTG GATTT GG - TT TT GG ----
GAATTTAGCATGGGTA
GAM3293 273809 CCAGGCCTGACCTGTCTCTT - C-- A- AA AGTATTTG- AG GGTGGTAA
GAAGGAGTATTTGTGTTGAA CCA GG CTG CCTGTCTCTTG GG TGTTGA ATG
GATGGGTGGTAACGTTCAGC GGT CC GAC GGACAGAGGAC CC ACGACT TGC
AAAAGCCATGCCCAGGAGAC A CAT AC -- GTACCGAAA -- --------
AGGCACAGTACCCATGG
GAM3298 273406 TTGGGTCCTAGTAGTACCAA G- T T CA- G GT- TTGGCAT
AGTGCTCATAGTGCAGGTAG TTG GTCC AG AGTAC AAGTGCTCATA TGCAG AGTT
TTTTGGCATGACTCTACTGT AAC TAGG TC TCATG TTCACGGGTAT ATGTC TCAG
AGTATGGGCACTTCCAGTAC AA T - ACC G ATC -------
TCTTGGATAACAA
GAM3311 273753 GGGACTGCTGTCTGCTGTCT GCT C ACAC TACT- CTGC
ACACTACACACTACTACACT GGGACT GTCTG TGTCT TACACAC ACA
GCTGTCTGCTGTGTGTGATA TCCTGA TAGAC ACAGG GTGTGTG TGT
AGGACACAGATAGTCCT --- - AATA TCGTC ----
GAM3323 273541 GAGGTCCAGCTTGCAGCCGT - TG --- GT T TG AAGC T TGTCC
CGTGGTTTTGTGCAAAGCAG GAGGTCCAG CT CAGC C CGTGGTTT G CA AGC GAG
CTGAGTGTCCCTCTGTTAAT CTCTAGGTC GA GTCG G GTACCAAA C GT TTG CTC
GTGTGCAAACCATGGTGAGA C -- AGA TG - GT GTAA T -----
GCTGAGCCTGGATCTC
GAM3330 273922 CCTACATGTGTTACACTCAG TG -- CA GTA - AAGA AT A AGCAA
TGTGTAAATAACTGTGAAGA CCTACA T GTTA CTCAGTGT AATA ACTGTG GGCA TGTC GAT

GGCAATTGTCAGATAGCAAA GGATGT G CAGT GGGTCACG TTAT TGGCAT TCGT ACGG TTA

TTGGGCACCTGCTGTGTACG GT GG CG --- A GTG- CC G -----
GTATATTGCACTGGGGCTGA
CGGGTGTGTAGG
GAM3350 274006 GTTTTGACAAATGCAGATAC TT A-- C CAT- AACT A- C- CTTATA
ATGTGTAACTGAACTTATGA GT TGACAA TG AGATA GTGT GAACTT TGA TTTC
CTTTCCTTATAGAAACTTCA CA ACTGTT AC TCTAT CATA CTTGAA ACT AAAG
GAAAGTTCCCTCATACCCCT TC CTA - TCCC CTCC AG TC ------
TATCTCAATCTTGTCACTAC
GAM3368 274046 TCAGATCAGTAGTGACATGA G TGA G A--- GA ----- A AACTCCAAA
GATTTTCATAGGAGCAGAAA TCAGATCA TAG CAT AGATTTTCATAGG GCA AACC CT TTGTG

CCCTATTGTGAACTCCAAAC AGTCTAGT GTC GTA TCTAAGAGTATTC CGT TTGG GG AACAC

ACAAGGGATCTAGGTTATGC A C-- A ATCA A- ATCTA G ---------
ACTACTTATGAGAATCTAAT
GCCTGATGATCTGA
GAM3414 273670 ATGGCATGCACGTGTTGGAA A ACG GG GCT- C C -- GT AAAGGA

GTTAGTGGAGGCTATCTCCC ATGGC TGC TGTT AAGTTAGTGGAG AT TC CCAGT G C
CAGTGGTCAAAGGAGGTCTT TGTCG ACG ACGA TTCAATCATTTT TA AG GGTCG C G
GCTGGAGAAATTATATTTTA - --- AG ATAT A A TT TG ------
CTAACTTGAAGCAGCAGCTG
T
GAM3422 274325 GGGGGACAGAGCGAGACTCC GG A - A A CT ---- ATTG
ATCTTTTCTGGGAGACTCCA GGG AC GAG CG GACTCC TCTTTT GGGAGAC TCC
TTGGGAGACTGTCTTTTTTG CCC TG TTC GT CTGAGG AGAGGG TTTTCTG AGG
GGAGACGGAGTCGTGCCTTA TT A C G C TT TCAG ----
GTTTCCC
GAM3426 273658 ATCAATCACACTGGGTGACC ATC----- C C- TGTCA
TTTACTCCCTGTCAGGTCAG ATCA ACACTGGGTGAC TTTACT CC
TAAGAGTCACCCAGTGTAAA TAGT TGTGACCCACTG GAATGA GG
CAGCATGAT ACGACAAA A CT -----
GAM3431 273837 GGGCGGGGGCCCTCGTCTTA CT - A T T GGTTGGGA
CCCAGCAGTGTTTGGGTGCG GGGCGGGGGCC CGTC TTACCC GCAGTGTT GGG GC

GTTGGGAGTCTCTAATACTG CCTGTCCCCGG GTAG AATGGG CGTCATAA CTC TG
CCGGGTAATGATGGAGGCCC AG T C T - --------
CTGTCC
GAM3452 272984 ACTCCAGCCTGGCCTCTGAC TC T T CCC AATCC CCAT AA CCAA
CCCAGTTCAATCCGACCATG AC CAGCC GGCCTC GA CAGTTC GA GCCC GC
CCCAAGCCCAAGCGGGCCTT TG GTCGG CCGGGG CT GTCAAG CT CGGG CG
TCCTCCAGAACTGCTCCGGG T- T C C-- ACCTC TTC- -- ----
GCCTGGCTGTGT
GAM3461 273764 CACCTGCCTATATTACATTC - ATATTACA CA GA TT C- G ACAGTGAACGAA

ATTTTGATGGTTTGTATCTC CAC CTGCCT TT TTTT TGGT GTATCT AAA GAGT
AAAGGAGTACAGTGAACGAA GTG GACGGA AA AGAA GCCA CATAGA TTT TTCA
ACTTGTTTAAAGATACACCG A GAAGAG-- AA AG -- AA G ----------
GAAAGAAAAAGAGAAGAGGC
AGAGTG
GAM3463 273834 GGGATGGAAAATGCAGACAC T A CACAATAT AATAG --- -- TGTCAT
AATATAGCAAATAGAGGGTC GGGA GGAAA TGCAGA AGCA AGGGT CT TTTCC
TTTTCCTGTCATGGAAATCG CCCT TCTTT ACGTCT TCGT TCCCG GG AAAGG
GTCAGCCCTGATGCTTCTGC T - -------- AG--- ACT CT ------
ATTTCTTTCCC
GAM3479 274369 GTCCATCTTCAGTGGCATTG T A --- G------ T G GGA GTTA ACT
GGCCTTGGCTGGGATGCTGA G CCATCTTC GTGG CATTG GCCT G CTG TGCTGA TCC

GTTATCCACTGGAGCATCGG C GGTGGAGG TACC GTGAC CGGA C GAC ACGGCT AGG

CAGTACAGGCAGGCACAGAG - C TAG GGAGACA - G ATG ACG- ---
GCAGTGGATCCATCGGAGGT
GGC
GAM3486 272916 CCAGTTCTCCTTTAGTGTTC T TT T CTCAAA--- GCCA
AGGCTCAAATGAAAGGCCAC CCAGT CTCC TAGTGT CAGG TGAAAG
TTTCAGCAAGTTTTCCTGAC GGTCA GAGG GTTACA GTCC ACTTTC
ATTGTCGGAGACTGG - CT - TTTTGAACG ----
GAM3487 273322 TGGAAACTTTTGGCTGTGGG AA TGT - CAT CTGATGAT

GACCCCATTTCACTGATGAT TGGA CTTTTGGC GG GGACCC TTCA
TGAATGGGTCCACCTCTGTC ACTT GGAAACTG CC CCTGGG AAGT
AAAGGAATTCA AA TCT A T-- --------
GAM3494 272736 AATACACACATATCAGAGTA C--- TC- AGAC- GATAAAA
CTGTGATAGACTCAGATAAA AATACA ACATA AGAGTACTGTGAT TCA
ATGATACAAATTATAGTGTT TTGTGT TGTAT TCTTGTGATATTA AGT
CTAACTATGTCAAATGTGTT AAAC CAA AACAT -------
GAM3513 273452 GAAATGGAGTCTTGCTTTGT AAT- TCTT TT TCA -- C -- - TGATCTC
CACCGAGGCTGGAGTGCAGT GA GGAG GC TG CC GAGG TGGAGT GCAGTG GCA
GGCATGATCTCTGCTCACTG CT CCTC CG AC GG CTCC ACCTCG CGTCAC CGT
CAAGCTCCACCTCCCGGGTT CCGT TTAC C- TTG CC - AA T -------
CACGCCATTCTCCTGCCTC
GAM3535 273126 CTTTTTCTCTGCCCTTCGTC ---- CTTC -- T A G T GGGAA
ATTATGCAGCCTGTGAACAG CTTTTTCTCT GCC GTCA TTATGCAGCC GTGA CA CG CT

CGTCTGGGAAAGTGGTGGTC GGAAAGGAGG CGG TAGT AATACGTTGG TACT GT GT GA

ATTGGTTGCATAATTTGATC TATT AGTC TT T G G - -----
TGAGGCTTATGGAGGAAAGG
GAM3564 274433 TAGAAATTTACCAGAGATAG AAATTTA A T C--- ACCCA-- C G GG GGTA
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ATTGGACGGTTAATTGGTAG ATC GGTC CT TCGTG AAGAC CAC TCTGA TTG GGTTGG

GTTGGAGTTGAGTCTCACGT GA----- - - AAGT AAAGTTG - G A- ----
TGAAACAGAATGAAGTGCTT
CCTGGAGCTA
GAM3593 272834 AGTTCTAGGGTACATGTGCA CTA A T TG - - G T T ATAG
CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACAT GCA GT TGT AC
TAGGTATACATGTGCTATGT TCAA CCCA GT C GTG TTGTA CGT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G T G C - ----
CT
GAM3595 272780 AGAGTCTTGATCTGTCACCC -- TCTGTC CT AG---- - A ATCT
AGGCTGCAGTGTAGTGGCAT AGAGT CTTGA ACCCAGG GC TGTAGTG GC TG
GATCTCGGCTCACTGCAACC TCTTA GAACT TGGGTCC CG ACGTCAC CG GC
CCCGCCTCCTGGGTTCAAGC CC ------ TC CCCCCA T - ----
CATTCT
GAM3605 273046 CGGACCCTGCTGTGAGCAGC - - - TGAGC T -- A- TGTT GCTC
TCCCTATTCCATGACAGTGT CGG ACC CT GCTG AGC CCCTATT CC TGACAGTG GA
GTTGAGCTCTCCATTGTCAG GCC TGG GA CGAC TTG GGGATGG GG ACTGTTAC CT
AGGCTGGTAGGGTGTTCAGC G A T ----- T TC AG ---- ----
TAGAGGTGCCG
GAM3630 274378 GTCTATTATGAGTCTGACTG - - C C CTG GAAGGA
GCACAGACATCTGTCAAGGA GTCTAT TATG AGT TGACTGGCACAGA AT TCAAGGAA

AGAAGGATTCTTTGAGCGTA CAGGTA ATAC TCA ACTGACTGTGTTT TG AGTTTCTT
TTTGTGTCAGTCAACTGCAT T G - A CG- ------
ATATGGAC
GAM3640 274353 GGTTTCCTGGAACTTTGGGG TG ACT G- CATTATAAAAA AAAAAAGCA
GATCATTATAAAAATACTAG GGTTTCC GA TTG GGGAT TACTAGGGT

GGTAAAAAAGCAACCTTAGT CCGGAGG TT AAC CCCTA ATGATTCCA
AATCCCAGCAATTTGGGAGG GT --- GA ---------- ---------
CC
GAM3646 272917 CCATCTGCCAATTCCTCAGG C CCAA AG- AA A --- AG AGATTAGA
AGGACAGAACAAACCAGTGA CCAT TG TTCCTC GAGGACAG CAA CC AGTG GCATGA

GGCATGAAGATTAGATTATG GGTA AC AAGGAG CTTTTGTC GTT GG TCGC TGTATT
TAACGCTCGAGGATTGCTGT A A--- AAA -- A AGC AA --------
TTTCAAAGAGGAAACAAATG
G
GAM3666 273260 GCTCACAAAACCTAGGTGGG CACAAAACCT GA AA C AA C G TTC GATCA

GATGAAAGCTGAGAAAGCGA GCT AGGTGGG TGA G TGAGA G GAA AGGTGG AGGG

AGAGGTGGTTCAGGGGATCA CGA TCCACTC ACT C ACTCT C CTT TTCATC TCTC
CTCTTTCCTACTTGTTCCTC CACGTCATCT AA -- C -- - G CTT -----
TCACCTCAAACTCACCTTCT
ACTGCACAGC
GAM3691 273966 CTGAATGACCTGCAGTCAGG AAT - A T GACTCTATA
GCCCAGAGTTGGGACTCTAT CTG GACCTGCAG TCAGGGCCCAG GT GG
ACTACCCTGGGCTCTGGTCT GAT TTGGATGTC GGTCTCGGGTC CA TC
GTAGGTTTGTAG GT- T C - ---------
GAM3712 273312 TGCCCACATTCCTGTTAGCT C A AG AG - C AC C TTTT
GAGGTCACCTGACTCTGCTT TGC CAC TTCCTGTT CTG GT CAC TG TCTGCTTGT GT
GTCGTTTTTGCACAGGCAGA GTG GTG AGGGACGA GGT TA GTG GC AGACGGACA CG

CGTGTGCATTCTGGAGAGCA A - GA CT C T -- - ----
GGGAGTGAGTG
GAM3747 272999 AGAGGGTTGACATTAGGTTT TGACATT TT A A - TT A CA AGAA---- GACC
GGTGAGATGAGTTGCTTGGC AGAGGGT AGG TGGTGAG TG GTT GC GGC CAGAT GC
CAG
ACAGATCAGCAGAACAGGAC TCTCTTA TCT ACTATTC AC CAA CG TCG GTCTA CG GTC

CCTGGTGATAAGGCATCTGG TTACCT- -- - - T TT - -- GAATAGTG ----
CTTTGCTAACCACTTATCAT
CTTCCATTATTCTCT
GAM3768 274423 GTTTGTGGGAGGAGGACTGG T A C CAA A A A A TG CTTG
CAAAAATATGAGAGTAGGAG GTT GTGGG GGAGGA TGG AAAT TGAG GT GG GTT GGCT

TTTGGGCTCTTGAGCTTGGG CGA CACTC CTTTCT ACC TTTA ACTT CG TC CGG TCGA
CCTGGCCTTCAAATTTCCAC T A C --- A C G - GT ----
TCTTTCACTCACTAGC
GAM3781 273231 GCAAGGTTTGGGAAATAAGC TG A-- G - T CATGTAAC
TGATAGTAAAGTCATGTAAC GCAAGGTT GGAA TAA CTG ATAG AAAGT
ACTTTCTGTGCAGGTTAACA CGTTCCAG CTTT ATT GAC TGTC TTTCA
TTTCTGGACCTTGC GT ACA G G - --------
GAM3788 273770 CACTGTGTGATTTGATTCCA GATTC CT CA AGAAACCCAGAC
AGCTACCCATGAAGAAACCC CACTGTGTGATTT CAAG ACC TGA
AGACTCAGAGGTCACTTGCC GTGACACACTGGG GTTC TGG ACT
TAGGGTCACACAGTG ATCC- AC AG ----------

GAM3810 274139 GCAGGGAGACTGGAGAGAAA GG A G A GA A ---- C CATAGT
GCGAAGATGTAGCCCAAAGC GCAG AG CTG AG GAAAGC AG TGTAG C CAAAGC
CATAGTGCTTTGTGTGCCCT TGTC TC GAC TC CTTTCG TC ACGTC G GTTTCG
GCAACTGAGCTTTCCCTGCA TT - G C AG A CCGT T ------
GCTTTCTGT
GAM3851 274462 TCAGGGAAGTGAAGGAAGTC AA ------- AG - G GAGAG A GAGAGAA
CAGTCTGGTGAGAGTGTTAA TCAGGG GTGAA GGA TCC AGTCT GT TGTT AGTCT
GTCTGAGAGAAAGACTAGAT AGTCCC TACTT TCT AGG TCGGA CA ATAG TCAGA
AGAACGAGGCTCGGAGGTCT C- TTAATCC GG C G AG--- A -------
CCTAATTTTCATCCCCTGA
GAM3888 272715 AAAACCAAAAACCTTTCTCC CA- T-- C GTC AA GGAAAACAAA
CACTCTAATAGATGAGTCAC AAAAC AAAACC TTCTCCCACT TAATAGATGA ACAT TG
ATAATGGGAAAACAAACAAA TTTTG TTTTGG AAGAGGGTGA ATTATCTACT TGTA AC
TGTATCATCTATTAAAGTGG ATG TTC A A-- A- ----------
GAGAACTTGGTTTTGTAGTT
TT
GAM3890 273369 TGTGGTCCACAAGGGGAGAG T - ACAAG--- A GG---- CACAGCA - CCTCAAA

CAGGGGACACAGCATTGGCA TG GGT CC GGGAG GCA GGA TTGG CAGGAA
GGAACCTCAAATTCCTGACC AC CCA GG CCCTC CGT CCT AACC GTCCTT
AAACCCTCTTCCACACAATG - A AAAGAAAG - AACACA TCTCCCA A -------
CCTCCCGAAAGAAAGGAACC
CA
GAM3892 273268 GCTGCTGCTGAAGTCACCTG T GA C A- A A AAAG
AAAACTCAACTAAGCTAAAG GC GCTGCT AGTCA CTGA AACTCA CTA GCT
AGCCTAGATGGGTTACTCAG CG TGACGG TCAGT GACT TTGGGT GAT CGA
ATGACTGGCAGTGC - -- A CA A C ----
GAM3946 274380 GTCTCTGTTGCCCAGGCTGG T GTT C-- -- C AATCTCA
AGTGCAGTGGCGCAATCTCA GTC CT GCCCAGG TGGAG TGCAGTGG GC
GCTCACTGCAACCTCCACCT TAG GA TGGGTCC ACCTC ACGTCACT CG
CCTGGGTTCAAGCGAT C ACT TCC CA - -------
GAM3978 273839 GGGCTTGCTGGGTTTACAGA TG -- ACAGA- AAAGATCT AAATTAAAAATA

TGGCAAAGATCTGGCAAATT GGGCT CT GGGTTT TGGC GGC
AAAAATAGCCTTAGGCCAAA TTCGG GG CCCAAA ACCG CCG
GATCAAACCCAAGGTGGGCT GT AA CTAGAA GATT---- ----------
T
GAM3990 273638 AGTCTTGCTCTGTTGCCTAG TCT C TT C-- -- T AATTTTG
GCTGGAGTGCAGTGATGCAA AG TGCT TG GCCTAGG TGGAG TGCAGTGA GC
TTTTGGCTCACTGCAACCTC TC ACGA AC TGGGTCC ACCTC ACGTCACT CG
CACCTCCTGGGTTCAAGCAT TTT - T- TCC CA - -------
TTCT
GAM4008 274458 TCAGAGACACCTCTCATTTC GAGAC TCAT C A AC A T AACT
TCCTCAATGCCACTGCACTG TCA ACCTC TTCTC TCA TGCC TGC CTGA GTC
ATGTCAACTGACTTAGGGCA GGT TGGAG AAGAG AGT ACGG ACG GATT CAG
GGCATGAGAGAACTGAGGTT ACATT TC-- - - -- G - ----
TACATGG
GAM4011 272832 AGTTCAAGGCTGCCTCCTCT C -- -- T T T ATTGAA GTCA
CTGTCTTCATTATGTGAATT AGTT AAGGCTGC CTCCT CTCTG CTTCA TATG GA TGTG
GAATGTGGTCACACATCTGT TCGA TTTCGACG GGGGA GAGAC GAGGT GTGT CT ACAC

GTTGGAGCAGAGGCAGGGGC C TC CG - T - ------ ----
TGCAGCTTTCAGCT
GAM4020 272732 AAGGTATTTTCTGAGCTGTG T A-- - G CC A TCTAAAAATT
AGCCTGCCTTCCAGTGACAT AAGG ATTTTCTG GCTGTGA GCCT CCTT AGTGAC TGT
GTTCTAAAAATTGCAAGTTA TTCT TGAAGGAT CGACATT CGGA GGAG TTATTG ACG
TTTGAGGAGGCTTTACAGCC - AAC T - T- A ----------
AATAGGAAGTTCTT
GAM4027 274587 TGGGTCCCAGATTCTTCCTG G-- TT- - G GA C GCAACACCC GCCTTAA
GTGGAGGCATTCGGAGAGCA TGG TCCCAGA CT TCCT GTG GG ATTCGGAGA TG
ACACCCTGGCCTTAACACAC ACC AGGGTCT GA GGGG CAC CT TAAGTTTCT AC
TACATATCTTTGAATTTCAC AAA TCC C G A- T ATACATCAC -------
ACGGGGGCAGCCTTCTGGGA
AAACCA
GAM4064 273825 CCCCAGCCCGGAAGCCTCCA A-- GGAAG ACTA CCA - ACAAACC
CTATCTCCAGCCCAGACAAA CCCC GCCC CCTCC TCT GCC CAG
CCCTGTGGTCCAGAGGAGGA GGGG TGGG GGAGG AGA TGG GTC
ATGAGGGTGCAGGGG ACG AGTAA ---- CC- T -------
GAM4074 273080 CTGACATGTGCATTATCCAT TG T G T TTTAAA A - ATGGAA
GTCATTTTAAACAAAGTGAC C ACA GT CATTA CCATGTCAT CA AGTG ACCT
CTATGGAAGGGTACGCTGTG G TGT CG GTAAT GGTACAGTG GT TCGC TGGG
CTGTGACATGGTAATGGGCT GT - G - TC---- G A ------
GTTGG
GAM4085 273016 AGGCACCTGGGGGTGTAGAC - G AGACC GAGCC G-- G GGTGTAGA
CGGGGTGGAGCCGCATGGGC AGG CACCTGGG GTGT GGGGTG GCATGG CACCT GG

ACCTGGGGGTGTAGACCGGG TTC GTGGACTC CACA CCCTAC TGTATC GTGGG CC

GTGGAACTATGTAAACATCC A A ----- AAA-- AAG G --------
CACACACTCAGGTGACTT
GAM4107 273548 GATAACATGGAGTTATGATA --- A AG ATA-- A CA AAA CCCAT ATA GAT
GCAGTGGAGGCAGGCAGGGG GATA AC TGG TTATG GCAGTGG GG GGCAGGGGA GGG
GAG TG
AAAAGGGCCCATGAGATATG TTAT TG ATC AATAT CGTCACC CC CCGTCCCTT CCC CTC
AC
GATGGCAGCACTCTCCCCCA AAA A G- GTACA - TA A-- CCT-- ACG ---
TTCCCTGCCATCCCCACTGC GG
ACATGTATAAGCTAAGTAAA
TATT
--
GAM4130 273115 CTTCCATGGGCAGGGGCCAT GG GG GACA AT CCACA
GACAGGGAGATAGGCCACAC CTTCCAT GCAGG CCAT GGGAG AGG
CTTTCCCAGGTGGAACCTGC GGAGGTA CGTCC GGTG CCCTT TCC
AGATGGAGG GA AA GA-- -- -----
GAM4136 272770 AGACGTGGGGTCTCGCTATG TG TC--- - - - -- A- C CCTC ATTC
TTGGCCAGGTTGGTCTTGAA AGACG GGGTC GCTA TGTTGGC CA GGTTG GTCTTG ACT TTGG
AAGC
CTCTTGGCCTCAAGCATTCC TTTGT TTCAG TGAT ATAACCG GT CCGAC TAGGAT TGA AACC
TTCG
TCCTGCCTCAGCTTCCCAAA TT TAAAA G A A AT CG - C--- ----
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AGCCAATAGTAGTAAAATGA
CTTTTTGTTT

GAM4142 273039 CGAATGGACCACTGGAGGGG T- A A T TTCCA AATATG
TTCAAAGATTCCAGTTCTAA CGAA GG CC CTGGAGGGG TCAAAGA GTTCT
TATGGGAATGAGCCTCTTTG GCTT TC GG GGCCTTCTC AGTTTCT TAAGG
ATCTCTTCCGGGGCTTTTTC TT - - T CCGAG ------
G
GAM4147 273359 TGTATTGCAGCAGGTTGGCA - C G --- - A AAATCTCCAT TAAA
AGTCAGCAGAAT
GCCTCAGTAAATCTCCATTT TGTAT TG AGCA GT TGGCA GCCTC GT TTG TGTGAC
GTAAATGTGACAGTCAGCAG ATATA AC TTGT CA ACCGT CGGGG CG AAC ACATTG
AATCTCCAGTTACAGTCAAC T - A TAC A A AACGAAACTC TG-- ----------
TCAAAGCAAGCAGGGGCATG CTCCA
CCACATACATGTTCATATAT
A

GAM4152 273089 CTGCAGCCCAAGCAAAATGG G CAA AAAAT ACAAG A ATG A T C A
CAGGAACAAA
AAATACAAGCAATCATGTAG CT CAGCC GC GGAAAT CA TC TAGTTC CTG GTC ATC GA
TTCACTGTGTCCATCAGACA GA GTCGG TG CCTTTA GT AG GTTAAG GAC CAG TAG CT

GGAACAAATCAGATGACCAG G --- GACT- CAA-- C AGA - - - A ----------
GAATTGAGAGACTGAACATT
TCCTCAGGTGGCTGGAG

GAM4188 273661 ATGACAGCAAGACACTGGCC TG - TGGC-- GAAT--- TC TCA
CTGGAATCCTCCGTGTCACA A ACAGCAAGA CAC CCTG CC CGTG
TGTGGGCTGCTGACAGGAAG T TGTTGTTTT GTG GGAC GG GTAC
AATGTGCTTTTGTTGTTGT GT C TAAGAA AGTCGTC GT ---
GAM4189 272995 AGACATGTCAAGGCAGGAGC -- AA - CAT ATCGACCTTA AAGCTGGTG
CATCTGATCGACCTTAGACT AGACA TGTC GGCAG GAGC CTG GACTTGGC
TGGCAAGCTGGTGGCTAAGT TCTGT ACAG CCGTC CTCG GAC CTGAATCG
CCAGTGCTCACTGCCGACAT CT -- A T-- ---------- ---------
CTGTCT
GAM4199 273100 CTGGCTGCTCCTCTCCATGT CCTCTCCATGTACC TT---- CAAGCCACAC

ACCCATTCCCCTTGGGGTGC CTGGCTGCT CATTCCCC GGGGTG
AAGCCACACCACCCTTCACT GACCGACGA GTAGGGGG TCCCAC
TGGGGGATGATAGCAGCCAG TA---------- TTCACT ----------
GAM4205 274179 GCTGTCAGATCAGGTTCCTG TGT- T T --- T- TGCTCT
ATTGGAGTTCTCTTATCTGC GC CAGA CAGGTTCCTGA TGG AGTTCTCT ATC
TCTGGTTTGGAGGGCTGCCC CG GTTT GTCTAAGGGCT ACC TCGGGAGG TGG
CATTCGGGAATCTGTTTTGT TTTT T T CCG TT ------
TTTGC
GAM4238 273954 CTCCTGTAGTCCTAGAGCGT GTA AGAGC TT - - A- - CAAAGAGT
TTCTCTTGAACCCTAATTTT CTCCT GTCCT GT CT CTTGAACC CT ATTTTT AGGTCT
TAGGTCTCAAAGAGTGGGCT GAGGA CGGGA CA GA GGATTTGG GA TAGAGA TTCGGG

TCAGAGATAAAGAGGTTTAG G-- ----- GG C A AA C --------
GCAGGGACAGGGCGAGGAG
GAM4243 272720 AAAGGCAGACGGTGAATGCC AC AA - ---- ATTG
TTGAGAAATTGTTCAGATTC AAAGGCAG GGTG TG CCTTGA GAA
AAGGACAAGCATTTGTTGCC TTTCCGTT TTAC AC GGAACT CTT
TTT GT GA A TAGA ----
GAM4298 274389 GTGAGGCTCTGGCAAGGTGT AG --- - GGG - C CT AGTT
GGGCTAGAGATGCGACTCAG GTG GCTCTG GCAAGGT GT CT AGAGATG GA C
TTGGATCTATCTCTCAGAAG CAC TGAGAT TGTTCCA CG GA TCTCTAT CT G
GCTACCTTGTAAGTAGAGTT CT GAA T GAA C - AG ----
CCAC
GAM4315 272885 CAGATTGCACGAACATTTCA ATTG AAC TTTTTCACAC ------ A- TCAATTTTT
TTTTTCACACAGGGTCACCA CAG CACG ATTTCA AGGGTCAC CAG ATACCA
GAATACCATCAATTTTTTGG GTC GTGC TAAAGT TCCTAGTG GTC TATGGT
TATCACTGTCAAAAGTGATC GA-- AA- CTTCCACGA- AAAACT AC ---------
CTAGCACCTTCTGAAATAAC
GTGAGCTG
GAM4364 272968 AATGTTCTGGCACATAGTAA TG C- TAA ATCG - TA ACCTAG
TTAATTAAGAAAATCGAGCA AATGTTC GCA ATAG TTAATTAAGAAA AGCA CCCT ATT
CCCTTAATTACCTAGAATGC TTACGGG CGT TGTT AGTTGGTTTTTT TTGT GGGA TAA
AGGGTTGTTAGTTTTTTGGT GT TT TTC GA-- T CG ------
TGACTTTTGTTTTGCTGGGG
CATT
GAM4376 273184 GAGGCAGGAGAAATTGCTTG G AAA GAA--- AGGTA GT A T AGATCA
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CAGTGAGTCAAGATCATGCC CTCTGTC TC AACGAG GGGTCC CTC ACGTTAC C GT
ATTGCACTCCAACCTGGGCG - AA- AACAGC AAC-- -- - - ------
ACAAGAGCAAAACTCTGTCT
C
GAM4377 274478 TCCCTCTGCTAGTGAGTACA ------ - --- TG A A- T CAA A GAGGAGCA
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AAGGAGCGAGGAGCAGTTTC AGGG AGAT GA TC TCA GTTTGT TCGGGT CCCG GT CTTTG

CTGGAAGCCCTGGGCTGGTG TAAATA A GTT GT - GG - AAG C --------
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AATAAATGGGA
GAM4382 273797 CATCAGCTATTCCTGTTCTA CA AT G AGAA GG GG G- AATGT
GAAAGGGCACTCTGGCTGCA CAT GCT TCCT TTCT AG CACTCT CT C
ATGTGGAGGAGGGAGTGACT GTG TGG AGGG AGGA TC GTGAGG GG G
GGAGGAAGGGAGGTAAGTG AA -- A GG-- A- GA AG -----
GAM4398 274595 TGGTGGGACACAGAGCCAGT - CACA GC GAC A- T - G G A TACA
GACTGACATAGAAGAGCAGT TGGTGG GA GA CAGT TG CA AGAAGAG CA T GGGT GAAT

GGGGTAGAATTACAGTTCCA ACCACC CT CT GTCG AC GT TCTTTTC GT G TCTA CTTG
TCTGGTGCCTTTTCTCTGAG A AC-- AT AA- GA C C - G C ----
CAAAGCTGTATCCATCACCA
CCA
GAM4408 273629 AGTATCTGGAATTCTATTGT ATTCTATTGTGTGT - GC A AT T GAAAAAA

GTGTGAGTCTGTGCAGGAAC AGTATCTGGA GAGT CTGT AGGAAC CA GAGTC CAAAGT

ACAATGAGTCTCAAAGTGAA TCATAGACTT TTCA GACA TCCTTG GT CTTAG GTTTCA
AAAAACTTTGGATTCCTGGT GTT---------- C -- - C- - -------
TCCTACAGCACTTTTGTTCA
GATACT
GAM4423 274174 GCTGCAGTGGAAAGGAGTTT C GAA-- - --- A A TT AG GAAA
GTGACATTGACATTGACAGC GCTG AGTG AGG AGTTT GTG CATTG CA GAC CAT
ATGAAAATGGGTCTTGCCAG CGAC TCAC TCC TCAGA TAC GTGAC GT CTG GTA
TGCATGTGAGACTGCCTCCC - AACCC G GTG - C T- G- ----
AACACTCAGC
GAM4426 273408 TTGTGGATATTGAAGTTTGA ------ C GTTG-- TAGATGCAC
AGCCTGTTGTTCATCTATAG TTGTGGA TATTGAAGTTTGAAG CT TTCATCTA
ATGCACTGGATGGGATTGGA AACACCT ATGACTTTAGACTTC GA GGGTAGGT
AGTCTTCAGATTTCAGTAGG TTTGGG T AGGTTA ---------
GTTTTCCACAA
GAM4429 274397 GTGGCTCGACTCTTGACCAT - AC- CT C-- GAGGATG
GGCTGGGGTTCCTGAGGATG GTGGC TCGACTCTTG CATGG GGGGTT CT
AGCTAAACCCTTTCCATGTA CACCG AGTTGGGGGT GTACC TCCCAA GA
CTGGGGGTTGAGGCCAC G CAT TT ATC -------
GAM4432 272862 CAACAGGTGCAAGTGTTAAA AGG A AAA ----- - GA AAAGCCTCC
GGGTATGATCCTTCAGTGGA CAAC TGCA GTGTT GGGTATG ATCCTTCAG TG AC
ACAAAGCCTCCGTGTCACCT GTTG ACGT CACGA TCCGTAC TAGGGAGTC AC TG
GAGGGATAGCAACATGCCTA AGA - ACA AACGA C TG ---------
CAAGCACTGCAAGAGTTG
GAM4446 274473 TCCCACAGTCGGGAGGAAAA --- G AA TC TTGTT
GAAAGAAGACTCTGTTGTTC TCCCACAG TC GGAGGAAAAGA GAAGAC TG
ATTGTTTTTATCTTTTTCTC AGGGTGTC AG CCTCTTTTTCT TTTTTG AC
CAGATGCCTGTGGGA CGT A A- TT -----
GAM4448 273772 CACTTTCATGTCTGCCTTCT C - TCTTTGC AGGTG T TAT A CTTTGGA
TTGCTGGAAGGTGCCTCCCT CA TTTCAT GTCTGCCT TGGA CC CCC TCCAC GA
ATTCCACAGACTTTGGATCA GT AAAGTA CAGACGGA ACCT GG GGG GGGTG CT
GTGGGTGTGGGGGAATCCAA - C ------- AA--- - TGT A -------
GGCAGACCATGAAATG
GAM4459 273460 GAAGAGGCCTTTACTCCTGT GGC---- -- TT -- C - ------ TCTG AG
TTTCTTCCATTCTCACCCCT GAAGA CTTTACT CCTGT TCT TC ATTCT CAC CCC
TTTCTGCC
CTGTTTCTGCCAGAATTGTG CTTCT GAAGTGA GGACA AGA AG TGAGA GTG GGG
AAAGACGG
ACAGCAGGGCAGAAAATGGG AAGAACA TG T- AC T C CTTTTC TA-- --
CTTTTCGTGCAGAGTTGACA AA GACA
AGATACAGGGTAGTGAAGAC TTGT
AAGAATCTTC GACG
-- ----
GAM4516 274256 GGAGACGAACACATACACAG A AACACATACA A AGA A GCA--- AT- GATTC

AAGATTCAGACACACTTGCA GGAG CG CAGA GATTC CAC CTT ATGT TGCTGGG
ATGTATTGCTGGGGATTCTC CCTC GC GTTT CTAAG GTG GAG TACG ACGACCT
CAGCATTGGCATGATGGAGA C CA-------- A AG- G AGGTAG GTT -----
GGGTGGAGAATCATTTGACC

GCCTCC
GAM4538 274060 TCCCTCCTGTGTCCCAAAAC - G AAACGAAA CCTATA A G TTCCAGAAT
GAAAACACTCCTATATTTTG TC CCTCCT TGTCCCA ACACT TTTTGT GC CC
TAGCGCCTTCCAGAATGGGG AG GGAGGA ACAGGGT TGTGA AAGGCG CG GG
CAGCGGAAACTAGTGTTGGG C A -------- TCA--- A G ---------
ACAAAGGAGGCGA
GAM4544 274031 TATGAACTGGCCACTTTTCA G A C AA-- G TG CCAGC
GATGAAACCTGGTGGGCCAG TATGAACTG CC CTTTT AGATG ACCT G GG
CTCTGTGGGGTGATGCATTT GTACTTGAC GG GAAAA TTTAC TGGG T CT
AAAAGGGCAGTTCATG - - - GTAG G GT -----
GAM4557 273376 TTAGCACCTGCCTATATTAC T - - ATATTACA CA GA TT C- G
ACAGTGAACGAA
ATTCATTTTGATGGTTTGTA T AGC AC CTGCCT TT TTTT TGGT GTATCT AAA GAGT
TCTCAAAGGAGTACAGTGAA G TCG TG GACGGA AA AGAA GCCA CATAGA TTT TTCA
CGAAACTTGTTTAAAGATAC T G A GAAGAG-- AA AG -- AA G ----------
ACCGGAAAGAAAAAGAGAAG
AGGCAGAGTGGCTTG
GAM4561 273806 CCACACCAGAGGCTGTGACC ---- AG-- TG CTA- - --- ACA--- T CCC
ATGGCTAGTAGACAGTGGCA CCAC ACCAG GC TGACCATGG GTA GACAGT GGCA TAG
CATC
ACATAGTCATCCCCAAGATG GGTG TGGTC TG ACTGGTACT CAT CTGTCA TCGT ATC
GTAG
CTAATCTTCTGCTGGAACTG TGTT CAAA TA ATTG A AGG CTTCTA - ---
TCATACGTTATCATGGTCAA AA
TGTAAACCTGGTTTGTGTGG

--
GAM4571 272835 AGTTCTGCAGGGCTGCTGCC T- G T CAA TT TAGCTGTATTC
TCAACATTTTAGGTTCTGAT AGT CTGCAGG CTGC GCCT CATTTTAGG CTGA
AGCTGTATTCTCAGTCCTGG TCA GACGTCC GATG TGGA GTGAGGTCC GACT
AGTGACAGGTGTAGCCTGCA TT - - CA- T- ----------
GTTACT
GAM4633 273311 TGCATTACCCTCCCCAACTT AT CCTCCC TT AT T------- GCAG
AAAATCTTTTGATAACCCAG TGC TAC CAAC AAA CTTT GATAACCCAG
GCAGCTGGGTTATCCCCAAT ACG ATG GTTG TTT GAAA CTATTGGGTC
TTAAAGTCTTTTTGTTGTAG GT TCGAT- TT CT TTTAACCC ----
CTGTATGGCA
GAM4650 274217 GGAGAATCACTTGAACCCAG AATCA GA-- AGG GT A CAAGATCGT
GAGGTGGAGGTTGCAGTGAG GGAG CTT ACCCAGG TGGAG TGCAGTG GC
CCAAGATCGTGCCACTGCAC CCTC GAG TGGGTCC ACCTC ACGTCAC CG
TCCAGCCTGGGTGATAGAGC AGAAC ATAG G-- -- - ---------
AAGACTCC
GAM4656 274027 TAGTGACAAGGGCATCCCAA T A- C CCC A G A-- A T TGTGC
GGCACTTGCCCAGAGCTGCA TAG GAC AGGG AT AAGGC CTT CCC GAGCTGCAG GT GTG

GAGTTGTGTGTGCCATACCT ATC TTG TCCC TA TTCCG GAA GGG CTCGGCGTC CA TAC

GCGGCTCAAAGGGAAGGCCT T AG C TC- - - AAA - - -----
TCTATCCCCTGAGTTTCTA
GAM4671 273832 CCCTGCCGCAGGAGAGCCAC CT - G CAC------ - A C- A ATCGT

TTTCAGAGATGCCCTGAGTG CC GCCGCAGG A AGC TTT CAG GATGC CTG GTG
ATCGTCACCAGCTGCATCCT GG CGGTGTCC T TCG AAA GTC CTACG GAC CAC
GCAAACTTCATCTTGCTGTC TT C G TTCTACTTC C - TC - -----
CCTGTGGCTTGG
GAM4685 273414 TTTTCAATTTTTAAAAATTA T-- AATTAGATTTATTGC A CTCA- --------- A T
GATTTATTGCAGACTGGCCT TTTTCAA TTTTAAA AG CTGGC AGCTCC CAG CTA
CAAGCTCCCAGACTATATTT AAAAGTT AGAGTTT TC GACCG TTGGGG GTC GAT
TTTAGCTGCATTATTTAGGG TTC ---------- - TAAAG ATTTATTAC - -
GTTGAAATGCCAGCTTTTGA ATTTTT
GACTTTTGAAAA

GAM4687 273978 CTGGAGAGTTCCATTCACTT GG GT T TTC --- TTT
CCTGAAACGTGCACCTGTTT CT AGA TCCAT CAC CTGAA ACGTGCACCTG
CAGGTGCATGTTTATTCAGT GA TTT AGGTA GTG GACTT TGTACGTGGAC
GTGCATGGATATTTAAG A- AT C T-- ATT ---
GAM4690 274419 GTTTCCCACTTTTCTCCCAT CTC A TCA T CCATAAAAAGC GTGA
CTGTCATTTTTCTCTTTCCA GTTTCCCACTTTT CC TCTG TTTTTC CTTT TAATG
TAAAAAGCTAATGGTGACGT CAAGGGGTGGGAA GG AGAC AGGAAG GAGA ATTGC

TATCAAAGAGTGAAGGAGTC TC- - TG- T AACT------- ----
AGAGGCTAAGGGTGGGGAAC
GAM4707 273519 GAGGCAGGAGAATCGTTTGA CA AA GAA--- AGGC - T T CCGAGAT
ACCTGGGAGGCGGAGGTTGT GAGG GGAG TCGTTT CCTGGG GGAG GT GTG TGAG

GTTGAGCCGAGATCTCGCCA CTCT CCTC AGCGAG GGATCC CCTC CG TAC GCTC
TTGCACTCCAGCCTAGGCAA A- AA AACAAC GA-- A T C -------
CAAGAGCGAAACTCCATCTC
GAM4709 273976 CTGCAGTGGTGATGTGTTGT T ---------- T C ACACCCCACTA
CACTTCAGGACACCCCACTA CTGCAG GGTGATG TGTTG CA TTCAGG
CCTGAATTGCAGCAGTGTTG GACGTC TCACTAC ACGAC GT AAGTCC
CGAATCATCACTCTGCAG - TAAGCGTTGTG - T ----------
GAM4733 272719 AAACGTGTGGTGATTGATGC G ATTGAT TCAT C TTGCCC
TTTCATGGACTCTGTTGCCC AAACGT TGGTG GCTT GGACT TG
CAAGTCCCCAAGCCTTGTAC TTTGCG ACCAT CGAA CCTGA AC
CAGCGTTT - GTTC-- CC-- - ------
GAM4738 273617 AGGCTGTATGCTGTTAATGC T-- C A T- CCTC
TAATCGTGATAGGGGTTTTT AGGC GTATGCTGTTAATGCTAAT GTG TAGGGGTT TTG

GCCTCCAACTGACTCCTACA TCCG TATGTGACAATTACGATTA TAC ATCCTCAG AAC
TATTAGCATTAACAGTGTAT TAG - - TC ----
GATGCCT
GAM4769 273984 CTGGGATTACAGGCACCTGC TA CACC CT A TTTT ATTTTTAATA GGG
TGCCAAGTCTGGCTAATTTT CTGGGAT CAGG TG GCCA GTCTGGCTAAT GT GAGAC
TGTATTTTTAATAGAGACGG GACTCTA GTCC GC TGGT CGGACCGGTTG CG CTTTG
GGTTTCGCTATGTTGGCCAG -- TCAA TC - TAT- ---------- ---
GCTGGTCTCGAACTCCTGAT
CTCAG
GAM4796 274008 TAAAACTCACCATCAAATAG TCAC C A T TTATT ---------- A AA
ATGTAATCTTATTAATTACA TAAAAC CAT AAAT GA GTAATC AATTAC ACATTTTGT TTTT
TTA

CATTTTGTATTTTAATTATT GTTTTG GTA TTTA CT CATTAG TTGATG TGTGGGACA AAGA
AGT
TCAAGGAGTGAAGAAAACAG TTAC - - - TC--- TTTTTGTTTT A --
GGTGTTTTTGTTTTTGTAGT CAAG
TCTGATTACTCATTTATGCA TTT
TTGTTTTG GAG

GAM4800 274276 GGCCACTTCCACCTTCCAGG - C--------- ---------- TGACC
GCATAGGTGACCCCTGTGGA GG CCACTTCCAC TTCCAGGG CATAGG
AAACAAGTACCCCTGGAACA CC GGTGGAGGTG AAGGTCCC GTGTCC
TCCTAGAAGTGGAGGTGGAC A AAGATCCTAC CATGAACAAAAG -----
C
GAM4803 274573 TGGAGGAATGGGAGCTATGG ATG- T CA AC G C GA CCAGGATA
GCAAATACTGGGAGCTGGCT TGGAGGA GGAGCTA GGG AAT TGG AG TGGCTG TG
GGATGCCAGGATACAGCAGC ATCTCCT CTTCGAT CCC TTA ACC TC ACCGAC AC
CATCTGCCATCATTACCCTA AGGA - A- CT G T G- --------
GCTTCAGGATCCTCTA
GAM4814 274069 TCGCTCTTTGTTGCCCAGGC CTT TT C-- -- - A ATCT
TAGAGTGCAGTGGCATGATC TCGCT TG GCCCAGG TAGAG TGCAGTG GC TG
TCGGCTCACTGCAACCTCTG AGCGA AC TGGGTCC GTCTC ACGTCAC CG GC
CCTCCTGGGTTCAAGCGA --- T- TCC CA T - ----
GAM4821 274444 TATTATTGGGCACCTGTTAT A CAC TA TGTC--- AC- -
ATAACAACAGCAAACA
GTGAGACACTGTCCTAGGCA TATT TTGGG CTGT TGTGAGACAC CTAGGC TGTG GG

CTGTGGGATAACAACAGCAA ATAG AATCC GACA ACATTTTGTG GGTCCG ACAC CT
ACACTTCACACAACAGCCTG A TC- -- TCCTTCC ACA A ----------
GCCTTCCTGTGTTTTACAAC CT
AGCTCCTAAAGATA

--
GAM4844 273370 TGTTGATGGTCTCATAACTG T- ACTGA - AA TTGTATAC
AATATATTAAAAACTTAAAT TGTTGATGG CTCATA ATATA TTA AACTTAAA
TGTATACTTTAAGTTGGTGA ATAACTATT GAGTAT TATGT AGT TTGAATTT
TTGTATGATATATGAGTTTT TT ATAG- T GG --------
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GAM4895 273955 CTCGTGGCTGCTGCTGCTCC GTG CT ---- - C CT TCC-- T GC -- TTCAT
TGCTCTCCCTCTCCCTCCTC CTC GCTG GCT GCT CCTG TCTCC C CTCC CCAG CAC GGAT

CAGGCCACGGATTTCATGTC GAG TGAC TGA CGA GGAC AGAGG G GGGG GGTC GTG
CCTG
CCTGTGACTGGTGGGGCCCA ACG CT ACTC A - AG TACCC T A- TC -----
TGGAGGAGACAGGAAGCCTC
AAGTTCCAGTGCAGAG
GAM4904 273872 GGTGGCACTGGCAGGATGTG T C - AG - TGA G A TTCTC
CCTCCTGAGGTGTGTCGAGT GG GG ACTG GC GATG TGCCTCC GGTGT TCG GTG
GTTCTCTACATGGGGCACTG CC CC TGAC CG CTAC GTGGAGG TCACG GGT CAT
TGGAGGTGTCATCGGCTCAG - T T G- T TG- G A -----
TTCCCC
GAM4913 272723 AAATCTCTCAACCACTGCAA ------ CT AA T ---------- T CGCAT

GCTTTTAAAAGTCTGGCGCA AAATCTCTCAA CCA GC GCT TTA AAAGTC GG
TCTTGACTTTCTTTTCACCT TTTAGAGAGTT GGT CG CGA AAT TTTCAG TC
ATAACAGCCAGCTTGGATTC TACTTA T- AC C ATCCACTTTTC T -----
ATTTGAGAGATTT
GAM4932 273366 TGTGGAGAATTAAAAAGGGT T ATTAA -- T CATTTATAGA TGTATTGGGT
AGTGAGGCTGGCATTTATAG TG GGAGA AAAGGGT AG GAGGCTGG ATCTGGCTTTCT

AATCTGGCTTTCTTGTATTG AC CCTCT TTTTCCG TC CTTTGACC TAGATCGAAAGG
GGTGGAAAGCTAGATGAAAC T C---- AC T AAAG------ ----------
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TCTCCTCA
GAM4946 274439 TAGTGAGATGAACCCGGTAC T- T ACCC TA TC -- A ATC - TCT T AC
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CTCTC
TCGCCTGTCTTCTGCGTCTC GTC CTCT CT CC GG TCTACC TTTATC CTT CG GGC AGATGT
GAGGG
TCACGCTGGGAGCTGTAGAC TC - ---- TC T- GG - GT- A C-- C --
CGGAGCTGTTCCTATTTGGC GCT
CATCTTGGCTCCTCTCTCCT
CTG

GAM4955 273274 GCTTCCCCATGCCTCAGTTT A- C ---------- - - TTAG
GCTCTGGGTTAGCTCAGCAG GCTTCCCC TGC TC AGT TTGCT CTGGG
CAGCACTCAATATTCCACAG CGAAGGGG ACG AG TCA GACGA GACTC
AAGCAAGGGGGAAGC GA A ACACCTTATAAC C C ----
GAM4969 274176 GCTGGATGATGAATCCTTGT GA AA C TT CA CAAAAAGAATGTTGCATG
ACCATC
TTTTCAGGTGGCTCCAAAAA GCTGGAT TG TC TTG TTT GGTGGCTC TGTTCAG
GAATGTTGCATGTGTTCAGA CGATCTG AC AG GAT AAA CCACCGAG ACGAGTC
CCATCCTGAGCAGAGCCACC TG -- T TT -- ---------- ------
AAATTTAGTGACAGTGTCTA
GC
GAM4971 274471 TCCAGACACTTTCTTCCTTC ACACTT C GAAC - ACA-- GTAAGAA
AGTTCAGGGAACCCTCAATA TCCAG TCTTCCTT AGTTCAGG CCT CAAT CA
CACAGTAAGAATGAAGAGGT AGGTC AGGAGGAG TCGAGTCT GGA GTTG GT
TGCAGGTCTGAGCTTGAGGA ------ T ---- C GAGAA -------
GGACTGGA
GAM4975 272907 CCACAGTGGGGGTGCCCGGG A TG TGC G CCCACT--- CT A CAGC
CTGGGTCCCACTGGGGAAGC CCAC G GGGG CC GGCTGGGT GGGGAAG CA GG
TCAAGGCAGCCCTGGCCTTT GGTG C CCCC GG CTGACCCA CCCTTTC GT CC
CCCTCATTCTCCACCCAGTC - GT --- A CCTCTTACT CG - ----
AGGCCCCTGCGTGG
GAM4986 272899 CATCAAAGAATAAATAAGCT A AAA ---- C C A TG CA- T TG TT AG TTA
GCTCTAATTGCCAAGAATTC C TC GAATAA ATAAG TG TCTA T C AGAAT CACATG G GTATGC
CA
ACATGTGGTTGTATGCAGCA G AG CTTGTT TGTTC AC AGGT A G TCTTA GTGTAC C TATGTG
GT
TTACTGGGAAATTGAAGTGT - GTC TGAA - - - GT TCG - GT -- AA ---
ATCTGCATGTGATTCTGCTG CTGGGAAAT
TGATGGACACTTGTAAGTTT

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        GTTCCTGGAG
                  ---------
GAM4996  273300 TGAGTATACTTGGATTTTTG       C  GA            ---   GG---  ACGGT
        GTATCTGTGGGTTGGGGGGA TGAGTATA TTG  TTTTTGGTATCTGTGGG  TTGG   GG
        CGGTCCAGGAACCAATACCC ATTCATGT AAC  GGGAACCATAGGTACCC  AACC   CC
        CATGGATACCAAGGGACAAC       C  A-            CAT   AAGGA  -----
        TGTACTTA
GAM5000  273561 GGAAACTGGGGCCTTCTTTG   A  TG     CT---  G    A  GA    ACAT
        AGTACTAGTGAGTAAGACAT GGA AC  GGGCCTT    TT AGTACT GT  GTAAG
        TTTGCAACAGTGCTGAGTAT TCT TG  CCCGGAA    GA TCGTGA CA  CGTTT
        GAAAGGCCCTGGTCTCT     C  GT     AGTAT  G    - A-    ----
GAM5008  273975 CTGCAGGGCTGCTGCCTCAA      G   T   CAA       TT   TAGCTGTATTC
        CATTTTAGGTTCTGATAGCT CTGCAGG CTGC GCCT   CATTTTAGG  CTGA
        GTATTCTCAGTCCTGGAGTG GACGTCC GATG TGGA   GTGAGGTCC  GACT
        ACAGGTGTAGCCTGCAG        -  -   CA-       T-   -----------
GAM5011  273902 GTCTTCATATCTCCAGGTTC     CA-    C       CT    AATTACCTCCCCCATCTG
        TGCTGGAGCAATTACCTCCC GTCTT   TATCTC AGGTTCTG  GGAGC
        CCATCTGGCTCCTTAGGACC CGGAA   ATGGAG TCCAGGAT  CCTCG
        TAGAGGTAGTAAAGGC        ATG    A      T-    ------------------
GAM5016  272791 AGCCTTTACTTAAAATCTTC       C  AAAAT     GTC      ------------     -   TAT
        AGTGTCTTGTCAAATCTAGC AGCCTTTA TT    CTTCAGT   TTGTCAAA          TCTAGC TCTG
        TCTGTATCAGATGCTGGAAT TCGGAAAT AA    GAGGTCA   AACAGTTT          AGGTCG AGAC
        ATTCCTAACATTTGACAAAC       C  GTT--      ---       ACAATCCTTATA     T   ---
        TGGAGTTGAACTAAAGGCT
GAM5035  274367 GTCCACTGGCCCTTCTTGTC  TC     C-    T   TAG--- T    ACA-   T   TCA   AATCACCCA
        TTAGGTCCTCACACACAGCT G  CACTGGC  CTTCT GTCT    G CCTCAC   CAGC CTGC   GTTC

        CTGCTCAGTTCAATCACCCA C  GTGACTG  GAAGA CAGG    C GGAGTG   GTCG GACG   TAAG

        GAATGCAGGCTGGTTGGTGA  CT     AA    -   TTTAAA -    GTTG   -   ---   ---------
        GGCAAATTTGGACAGAAGAA
        GTCAGTGTCC
GAM5048  274190 GCTTGCTGGGTTTACAGATG   TG  --     ACAGA-   AAAGATCT   AAATTAAAAATA

        GCAAAGATCTGGCAAATTAA GCT  CT  GGGTTT     TGGC       GGC
        AAATAGCCTTAGGCCAAAGA CGG  GG  CCCAAA     ACCG       CCG
        TCAAACCCAAGGTGGGC      GT  AA     CTAGAA    GATT----  ------------
GAM5058  274254 GGAGAATTGCTTGAATCCAG    AA TG   GA--      AGGCA   GT      A  -  AGAT
        GAGGCAGAGGTTGCAGTGAG GGAG  T  CTT    ATCCAGG     GAG  TGCAGTG GC TG
        CTGAGATCATGCCACTGCAC CCTC  A  GAG    TGGGTCC     CTC  ACGTCAC CG AC
        TCCAGCCTGGGTGACAGAGT    AC GT   ACAG      GAC--   --      -  T  ----
        GACACTCC
GAM5074  272820 AGGTGCACCCTGTGGAATTT   T   -   G     TTG   - A   C-  A-      TTAG
        GGCAGAAAAGGCCCAATCGC AGG GCAC CCT TGGAAT   GCAG AA AGGC  CA  TCGCCCT

        CCTTTAGAGGGTGAACTGAA TCC CGTG GGA ATCTTG   CGTC TT TCCG  GT  AGTGGGA
        GCCTGTTCCTGCAATGTTCT   C   A   -    TAA   C  G   AA  CA      ----
        AAGGAGTGCCCCT
GAM5082  274336 GGTATACTTACTAGCATATT       -                AGAGTG
        ATATAGCTCTAAGAGTGTAG GGTATACT TACTAGCATATTATATAGCTCTA
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AGTTATATGATGTGCTAGTG TTATGTGA GTGATCGTGTAGTATATTGAGAT
AAGTGTATT A ------
GAM5085 274298 GGGACATCAAAGAATAAATA TCAAAG AA C C A TG CA- T TG TT AG TTA
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CA
ATTCACATGTGGTTGTATGC CCTTGT TTG TGTTC AC AGGT A G TCTTA GTGTAC C TATGTG
GT
AGCATTACTGGGAAATTGAA ------ AA - - - GT TCG - GT -- AA ---
GTGTATCTGCATGTGATTCT CTGGGAAAT
GCTGTGATGGACACTTGTAA
GTTTGTTCC

GAM5086 274591 TGGTACCTTATTATTGAAAA - ATT AA AGA G T- T AAT
TCAGATAAACTTTGGTTGGG TGGTA CCTTATT GAA TC TAAACTTTG TTGGG GGG ATTTGGAGG

TGGGTATTTGGAGGAATCTT ACCGT GGAATAA CTT AG GTTTGAAAC AATTC TTC TGAATTTTC

TTAAGTCTTTTCTTAAGCAA T AAT AC --- G TT - ---
AGTTTGGACATTCTAAAATA
AGGTTGCCA
GAM5090 273092 CTGCCCCCGCCCTCTGGACC GC C C AC----- T----- AG TTTGT TTCCT
CGAGTGACTCAGGCCTTTGT CT CCC GC CTCTGG CCGAG GACTC GCCTTTG CC
TTGTCCTTCCTGGTAGAGGC GG GGG CG GAGGCC GGCTC TTGGG CGGAGAT GG
GGGTTCCCTCCCTCGGCAAG TA T T GTAGAAC CCTCCC -- ----- -----
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GAM5127 274304 GGGAGGAGAGAAGGAACCAT ---- G ACCAT AT AAA A A GA AGGCCTGG
AGATTCTGAGAAACACACCA GGGAGG AGA AAGGA AG TCTGAG CAC CC GGAT CT
GGATGACTAGGCCTGGAGGA CCCTCC TCT TTCTT TC AGACTC GTG GG CCTG GA
GTCCAGGGTGGGCCTCAGAC ACGG G CAC-- CC CGG - A AG --------
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CTCCC
GAM5142 272826 AGTCTCACTCTGTCACCCAG ACTC TCA -- T -- -- TGATCT
GCTGGAGTGCAGTGGCATGA AGTCTC TG CCCAG GC GGAG TGCAGTGG CA
TCTTGGTTCACTGCAACCTC TTAGAG AC GGGTC CG TCTC ACGTCACT GT
TGCTTCTGGGATTCAAGAGA A--- TTA TT - CA TG ------
TT
GAM5209 273563 GGAAGCCTTCCCTTACCTCA CTTC- TT - TTGAG C TG CTGT CT AT- TAT
GCCTGGTTGAGGGCCCCCTG GGAAGC CC ACCTCAG CCTGG GGCCC C GG TTTCA
GGTTG GG
GGCTGTTTTCACTGGTTGAT CCTTCG GG TGGAGTC GGACC CCGGG G CC GGAGT CCGAC
CC
GGTATCTGATCCCTTCCAGC TACTT TC T TGA-- A GT TT-- -- CTT ---
CTGAGGTTCCTGGAGGGCCA CTGATC
GTCCAGGTCTGAGGTCTGGT
TCATGCTTCC

GAM5217 272743 ACACTGGACAGATGGATGTT GA GGAT A- G- GCAG TACT
GATGAGCTTGTGTGCAGCAG ACACTG CAGAT GTTG TGAGCTT TGTGCA TTC
TTCTACTGGAAGTATGTACA TGTGGC GTTTA CGAC ACTCGGG ACATGT AGG
AGGGGCTCAGCCAGCCAATT AG AC-- CG GA ATGA ----

TGGACGGTGT
GAM5222 272844 ATATGCTGAGTTGGGACAGG TG T C A-- AA -- AACCC GACAACAGCGACA

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AAACCCGCAGACAACAGCGA TGTGTG TC ACCTT TCC CGA CCTG TTTCTACTCCT CGT

CATGCTCCTCATCTTTGAGT TG - - AAG C- AG ----- ----------
CCCAGCGAACCTTTCCACTG
TGTGTGT
GAM5254 273302 TGAGTGTATGTGTGAGAGAG T - A TTATGTTTATCAC-- TTCCCATTGTTTCATT

AATGTTATGTTTATCACTGA TGAGTG ATGTGTG AGAGAG ATG TGAG
GTTCCCATTGTTTCATTCTC GCTCAT TACACAT TCTTTC TAC ACTC
ATAGCACTTATTTCTTCATA T A A TTCTTTATTCACGAT ----------
CTTTCTATACACATTTACTC
G
GAM5266 274038 TCACTCTGTTGCCCAGGCTG C TT --- C -- T AATCTTG
GAGTGCAGTGGTGCAATCTT TCACT TG GCCC AGG TGGAG TGCAGTGG GC
GGCTCACTGCAACCTCCACC AGTGA AC TGGG TCC ACCTC ACGTCACT CG
TCCCGGGTTCAAGTGA - T- CCC - CA - -------
GAM5270 273822 CCCAGACAGTGCCCGTTTTG A -- - TG ATG AC T CCAAATGCCT
AGATGTGACCTGGTGGCCAC CCCAG CAGT GCCC GTTT AG TG CTGG GGCCA
CAAATGCCTTGGCCTCAGTG GGGTC GTCA CGGG CGAA TC AC GACT CCGGT
CAAACTAAGCAGGGCACACT C CA A -- AA- GT - ----------
GCCTGGG
GAM5272 274300 GGGACTTAACTGAGAGGATC ----- - GAT A - C CCCTAAGAGCATGTCAT
TGAGTAGCAGACACCCTAAG GGGACTT AACTG AGAG CTG GT AG AGACA
AGCATGTCATTGTCTTCTCA CCCTGAG TTGAC TCTC GAC CA TC TCTGT
CCAGTTACTCTCCAGTTGGC ATCGG C ATT - C T ----------
TAGAGTCCC
GAM5278 274482 TCCCTTTTATTAACCATCTT T TA AA TTC A- A- AAGTAGAAAAGAAACA
CCCTTTCTCGAGTATACACA TCCC TT TT CCATCTTCCCT TCG GTAT CAC
AGTAGAAAAGAAACAGTGAA AGGG AG GA GGTGGGAGGGA AGC CATG GTG
GTACCCCGATAGGGAGGGTG T GA GG T-- CC AA ----------
GGGAGAGGATGGGA
GAM5280 273067 CTCTCCTATAACCAGGATTC TAT GATTCAC G GAATCAA AA AG TGGTTC

ACGGGTCCAGGAATCAAGGG CTCTCC AACCAG GG TCCAG GGGATAG GT GAG
ATAGAAGTAGGAGTGGTTCC GGGAGG TTGGTC TT AGGTC CCCTGTC CA CTC
TCTCACCTGTCCCCTCAACT T-- ATC---- G AACTC-- -- CT ------
GGAGTTCTACTGGTTTGGAG
GG
GAM5292 274558 TGCCCTGTTGACCAGAATTT TGT--- AGAATT -- TAC CTGATTA
GTTAGATTGCTATTACAATG TGCCC TGACC TGTTAG ATTGCTAT AATG
CTGATTATATTTTATAGCAA ACGGG ATTGG ACAGTC TAACGATA TTAT
TTACTGACATAAGGTTATAC TTTCAT AAT--- AT TT- -------
TTTGGGCA
GAM5324 274456 TCACTTTGGTGATATCATGG C AG T C- TGATG
GAAGGTGTACTTCCGGTGAT TCA TTTGGTGATATCATGGGA GTG ACTTC GG

GCCTAGAGGTCACGTCCTGT AGT GGATTACTGTAGTGTCCT CAC TGGAG CC
GATGTCATTAGGCTGA C G- - AT -----
GAM5329 273306 TGATTCAAAGCAAGATGGTA AA- GA-- G A TG AGAGGA GT AGATGA
GCATTGGAGAGGATGAGATA TGATTC AGCAA TG TAGC T G TGAGATATG C
TGGTCAGATGAGGATATATT ACTAAG TCGTT AC ATCG A T ATTTTATAT G
TTAAAAGTTGAGCTAACAGG GAG TAGG A - GT GAAA-- AG ------
ATTTGCTGAGGAATCA
GAM5340 272805 AGGCACACACGCATGGTTTT C A ATG- T-- T ----- ATT CC- ACAG
CTCTTTTATATGCTAGATTT AGG AC CACGC GT TTCTCT TTATA TGCTAG TCAT CTG
CATCCCTGACAGCAGAAAAT TCC TG GTGCG CG AAGAGG AGTAT ACGGTT AGTA GAC

GATTGGCAATGGTTATGACG - - ATAA TAC C TGGTA --- AAA ----
GAGAACATGCAATAGCGTGG
TCCT
GAM5342 272947 AACCTCCAGCACACCACCAA C A CCA T--- - ATAC T TCTG
TGAATAGCAGTAATACCAGC AACCT CAGC CA CCAATGAA AGCA GTA CAGCA AATTG

ATAATTGTCTGCAGTTCTGC TTGGA GTCG GT GGTTATTT TCGT CAT GTCGT TTGAC
TGAGATACGTGCTCTATTTT T - TC- TATC G AGA- C ----
ATTGGCTTGGCTGTAGGTT
GAM5354 274608 TGTGTCAGTCAGGATAGGTC C - TCAACT ACAAA-- - CAAATCTC
AACTGCTGTAACAAACAGCC TGTGT AGTCAGGA TAGG GCTGTA CAGCC CT
CTCAAATCTCAGTGGCTGAA ACACA TCGGTCTT GTCT CGACAT GTCGG GA
CACCATACAGCTCTGCTTCT C C ------ ACCACAA T --------
GGCTCACACA
GAM5370 272848 ATCCTGGGAAGGACCCTACC TGGGA C - TCT CCAACCAT
CAGTCATTTTATCTACCCCA ATCC AGGAC CTAC CCAGTCATTTTA ACC
ACCATGGTTAAAGTGGCTGG TAGG TTCTG GGTG GGTCGGTGAAAT TGG
AGTGGAGTCTTGGAT ----- A A --- --------
GAM5371 272828 AGTCTTGCTCTGTCACCCAG -- CT TCACCC T -- T ATCTT
GCTGGAGTGCAGTGGTGCCA AGTC TTG CTG AGGC GGAG TGCAGTGG GCC
TCTTGGCTCACTGCAACCTC TTAG AAC GAC TCCG CCTC ACGTCACT CGG
CGCCTCCCCAGTTCAAGTGA TG TT CCC--- - CA - -----
TT
GAM5374 272902 CATTAAAACTCACCATCAAA TTA TCAC C A T TTATT ---------- A AA
TAGATGTAATCTTATTAATT CA AAAC CAT AAAT GA GTAATC AATTAC ACATTTTGT TTTT
ACACATTTTGTATTTTAATT GT TTTG GTA TTTA CT CATTAG TTGATG TGTGGGACA AAGA

ATTTCAAGGAGTGAAGAAAA --- TTAC - - - TC--- TTTTTGTTTT A --
CAGGGTGTTTTTGTTTTTGT CAAG
AGTTCTGATTACTCATTTAT TTATTT
GCATTGTTTTG AGTGAG

GAM5385 273791 CAGTGGGAAGGGGGGCCGAT A ATA AC G- AGTAG
ACACTGTACGAGAGTGAGTA CAGTGGG AGGGGGGCCG CACTGT GAGA TG
GCAGGTCTCACAGTGAACCG GTCATCC TTTCTCTGGC GTGACA CTCT AC
GTCTCTTTCCCTACTG C CAA -- GG -----
GAM5415 273962 CTCTTGCCCAGGCTGGAGTT - CCC T T TATG AACTC AGCCTCAAACACC

CAGTGGTATGATCACAACTC CT CTTG AGGCTGGAGT CAG GG ATCAC TCCTA

TCCTAAGCCTCAAACACCTG GA GAAC TCCGACTTCG GTC CC TAGTG AGGGT
GGATCAAGTGATCCTCTGGC T CC- - T ---- AACT- ----------
TTCAGCCTCCCAAGTAG
GAM5422 273988 GTGGGAGGAGGACTGGCAAA A C CAA A A A A TG CTTG
AATATGAGAGTAGGAGTTTG GTGGG GGAGGA TGG AAAT TGAG GT GG GTT GGCT
GGCTCTTGAGCTTGGGCCTG CACTC CTTTCT ACC TTTA ACTT CG TC CGG TCGA
GCCTTCAAATTTCCACTCTT A C --- A C G - GT ----
TCACTCAC
GAM5444 273462 GAAGGGTACCTGCTGGAGAC TG GG CCTGT TT TGGGTT
CTGTGTGGTTTGTGGGGTGG GAAGGGTACC CT AGA GTGGT GTGGGG
GTTTCTTATATCACTGAATC CTTTCCGTGG GA TCT CACTA TATTCT
TAAAGTGGGTGCCTTTC GT AA AAGT- -- ------
GAM5454 274215 GGAGAAGAGGTCTTGCATAC G GT GCATA C T --- AT-- TGTGA
CAGCACAGTGGATGGGGAAT GGAGAA AG CTT CCAGCA AG GGA TGGGGA GG
GGTGTGACCTCTGTCCCTGC CCTCTT TC GGA GGTCGT TC TCT GTCCCT CC
TCTCTTCTCTGCTGGCTTAA A TG ATTC- C T CTC GTCT -----
GGGTCTATTCTCC
GAM5486 273440 CTTGAGAAAAGACAACTAGT G AA- CTAGT A AA-- GAGAA G AAA--
GTAGATGAG
ATTTGAGGAAGGTGTGAGAA CTT AGAA GACAA ATTTG GG GGTGT AT AGCCT GAG
ATGAGCCTAAAGAGGTAGAT GAA TCTT TTGTT TGAAC TC CCATA TA TCGGA CTC
GAGACTCAAAGGAGGCTGAT G ATA TT--- A GACA GAAA- G GGAAA ---------
AAAGATACCACAGCTACAAG A
TTTTTGTTATATTCTGAAG

-
GAM5498 273647 AGTTCACAGTGGCTGAAGCT T AAGCT CCATAAGACCCT
GTTCCCATAAGACCCTGAAT AGT CACAGTGGCTG GTTC
CTAGCAGCCACTGTGTACT TCA GTGTCACCGAC TAAG
T GATC- ----------
GAM5512 272797 AGGAGGGAAAGGCCCAGGAG GA- AAAG CCA- G AAGGCAGA G GGGA

GGGGAGAAAGGCAGACTCAG AG GGG GC GGA GGGGAGA CTCA CCA
CCAGGGATGGGTGAGGGTTT TC CCC CG CCT TCCCTTT GAGT GGT
CCCTGTCCCAAAGCAAGACC GAA AGAA AAAC G GG------ G ----
CAAGCT
GAM5514 274351 GGTTGCCGTGATTGAGGAGG - - - A A CTAC- G GCAGAGA
TGCTACCAGCGTCTGCTGGG GGTTG CC GTG ATTG GG GGTG CAGCGTCT CTGG
CAGAGACCAGGGATGCTGCT CTAAC GG CAC TAAC CC CTAC GTCGTAGG GACC
CCACATCCCACAATGCACAG A A G A - ACCTC - -------
GACAATC
GAM5526 273538 GAGGGCTTTAGAAATGCTGT AGAA - AGA C C-- CCAACAAAATCAGAC
GCCAGAGCTGCACCCCAGAC GAGGGCTTT ATGCTG TGCC GCTGCA CC AGA
CAACAAAATCAGACTCTCCA CTTTCGAAA TATGAC ACGG CGGCGT GG TCT
GGATGCGGCCAAGGCATCAG GGTG T AAC A ACC ----------
TATGTGGAAAGCTTTC
GAM5560 274498 TCTATATGAGACTAACTAAG A ACTAACTA-- TT CC TG - ------ TAAAAT
GTATTTGCCCCTTGGAGCTT TCT TATGAG AGGTA TG CCT GAGC TTTTATAG TCTT
TTATAGTCTTTAAAATGAGA AGA GTACTC TCCGT AC GGA TTCG AAAGTGTC AGAG
TAATGTCTGTGAAATGCTTT A ACAAATACGG C- A- TT T TGTAAT ------

TAGGACACTGCCTGGCATAA
ACACTCATGAAGA
GAM5597 273645 AGTGTTGGGTTGACTTGAAT --- TGA TGAT AGAA TC CTAGATTTGC
GGAGGTGATTGTTTTAGAAG AGTGT TGGGT CTTGAATGGAGG TGTTTTAGA GG AGAAGA

AAGGTCAGAAGACTAGATTT TTACA ACCCA GAGCTTATCTTC ATAAAGTTT CC TCTTTT

GCTTTTCTCTCCAATTTGAA AGG CAG TCC- AA-- TC ----------
ATACCTCTTCTATTCGAGGA
CACCCAGGAACATT
GAM5615 273956 CTCTCACCCCTCTAGCCTTA AC-- T CTTAAA TCTAGA---- TG ATG GAATG
AATCCAGAATCTAGACTGAA CTCTC CCCTC AGC TCCAGAA C AAT GACT
TATGGACTGAATGGGTCAGA GAGAG GGGAG TCG GGGTCTT G TTA CTGG
TTTGGGGAAATGTGTTTCTG ACCA - ACAG-- TGTGTAAAGG GT GA- -----
GGGACAGCTGAGGGACCAGA
GAG
GAM5617 274283 GGCTAAGAGTAACAGGTGCT TAACAGGT T CCA C-- C- TCTACCAATTT
GGAGCCAGACTTCCTGGGTT GGCTAAGAG GC GGAG GA TTCCTGGGTTCATAT CTGGT

CATATCCTGGTTCTACCAAT TTGATTCTC CG CCTC CT AAGGATTCAAGTGTG GACCA

TTACCAGCTGTGTGAACTTA -------- - TC- TAA TC ----------
GGAAAATTCCTCTCCGCCTC
TTAGTT
GAM5623 272788 AGCATATGACAGCAAGACAC T TG - TGGC-- GAAT--- TC TCA
TGGCCCTGGAATCCTCCGTG AGCA A ACAGCAAGA CAC CCTG CC CGTG
TCACATGTGGGCTGCTGACA TTGT T TGTTGTTTT GTG GGAC GG GTAC
GGAAGAATGTGCTTTTGTTG - GT C TAAGAA AGTCGTC GT ---
TTGTTGTT
GAM5640 273630 AGTATTATTAAGACTTTTCC TATT A GGTC T C GCTGCCTCTGA
TGGGTCTGGGCTGTGCCTGT AG ATTAAG CTTTTCCTG TGGGCTG GC TGTT
TGCTGCCTCTGAGACAAGTC TC TAATTC GAAAAGGAC ATCCGAC TG ACAG
AGCCTAATACAGGAAAAGCT TCT- - ATA- - A ----------
TAATTCTCT
GAM5653 273697 GGAGAATTTCTTGAACCCAG AAT-- TGAA AGG GT A - AGAT
GAGGTGGAGGTTGCAGTGAG GGAG TTCT CCCAGG TGGAG TGCAGTG GC CG
CCGAGATTGCGCCACTGCAC CCTC AAGA GGGTCC ACCTC ACGTCAC CG GT
TCCAGCCTGGGCAACAGAAC AGAAC CAAC G-- -- - C ----
AAGACTCC
GAM5654 272722 AAATACAAATTCCTGGGTCT A T C CTTG AAATC
CCTGGCAGACTTGCTAAATC AAATAC AATTCC GGGTCTCCTGG AGA CT
AGAATCTCCAGGGGATCCTG TTTGTG TTAAGG CCTAGGGGACC TCT GA
GAATTGGTGTTT G T - AA-- -----
GAM5657 274306 GGGAGGATCGCTTGAGCCTA G GA GA-- - TCAA C AGC AGAT
GGAGGTCAAGGCTGCAGTGA GG AG TCGCTT GCCTAGG AGG GG TGCAGTG TG
GCTGAGATCACACCACTGCA CT TC AGTGAA TGGATCC TCC TC ACGTCAC AC
CTCCTGCCTAGGTGACAAAG G AG ACAG G ---- - CAC ----
TGAGACTGTC
GAM5673 273642 AGTGGTAATGCCGTGTGTTG ATG T ------ A AA - GATC- TG G- AATT
ATAGAAATATGTAATCGATC AGTGGTA CCG GTGT TG TAG ATATGTA ATC TTTTCTT GTG
GC

TTTTCTTTGGTGGGCAATTA TTACCGT GGT CACA AC ATC TATGTAT TAG GAAAGGA TAT
CG
GCAATATTGAGGAAAGTTAA AAA C AAGTTC C CC G AAATT GT AA ----
AGATGTATGTATCCCTACCA A
CTTGAAACACCTGGAAATGC
CATT
-
GAM5691 273748 GGGAAAGGCCCAGGAGGGGG AAAG CCA- G AAAG AGA G GGGA
AGAAAGGCAGACTCAGCCAG GGG GC GGA GGGGAG GC CTCA CCA
GGATGGGTGAGGGTTTCCCT CCC CG CCT TCCCTT TG GAGT GGT
GTCCCAAAGCAAGACCC AGAA AAAC G ---- G-- G ----
GAM5697 273662 ATGAGTATTGATCTGTCCCA AT TCT GC C AGG GTTC
GCCTGTGCATTGCTCCGAGG ATGAGT TGA GTCCCA CTGTGCATTG TCCG CA
CAGTTCTGAGTGGATGATGT TACTCG ACT TAGGGT GACATGTAGT AGGT GT
ACAGATGGGATTCCTCAGCT -- CCT A- - GA- ----
CAT
GAM5703 273467 GACATGTCAAGGCAGGAGCC -- AA - CAT ATCGACCTTA AAGCTGGTG
ATCTGATCGACCTTAGACTT GACA TGTC GGCAG GAGC CTG GACTTGGC
GGCAAGCTGGTGGCTAAGTC CTGT ACAG CCGTC CTCG GAC CTGAATCG
CAGTGCTCACTGCCGACATC CT -- A T-- ---------- ---------
TGTC
GAM5723 272914 CCAGGGTTAGATGACTGCGG G ---------- GG TGATCCCAACCCCC
GAAGCCTTTGATCCCAACCC CCAGGGTTAGAT AC TGC GAAGCCTT
CCAAGGCTTTGTATATTTGA GGTCCCAATCTA TG ATG TTTCGGAA
TCATTTGTGATCTAACCCTG G TTTACTAGTTTAT -- ----------
G
GAM5728 273066 CTCTCATGCAGGCATGTGTG -- G GAG- C-- G G TGAG
AGCAGCTGCAGGTGTGTGAG CTCTCAT GCAGGCAT TGT CAG TGCA GT TG
CAAATGTGCATCACTGGGGA GGGAGTA TGTCTGTG ACA GTC ACGT TA AC
ACAGGTGTCTGTGGATGAGG GG G AGGG ACT G A ----
G
GAM5744 274441 TAGTGTTCACATGTTGCTCA T A ----- CTC T A GATAAATCATTTAA - CT T
GTTTTGCTAACTGATAAATC TAG GTTC CA TGTTG AG TTTGCT ACT TC CTCTT TCATA G
ATTTAATCCTCTTCTTCATA ATC CAAG GT ACAAC TC GAACGA TGG AG GAGAA GGTGT
T
TGTATGAGTACTATCTTATA - A CCCAG C-- - A ---------- T CT C
TCTGTGGTCAAGAGTGAGGT TACTAT
AAGCAAGCTCCAACAGACCC TATGAG
TGAGAACCTA ATATTC

GAM5749 272833 AGTTCCTATGTGCCCCACAG C- - CCA----- CCC C GATG
GAAAGCGCCCTTAACCACTG AGTTC TAT GTGCC CAGGAAAGCG TTAAC ACT
ATGAGTGTTGATGTTTTTCT TCAAG GTA CACGG GTCTTTTTGT AGTTG TGA
GCACTAGAAGGCACTATGTT TT T AAGATCAC --- - ----
GAACT
GAM5764 273567 GGACATCAAAGAATAAATAA A CAAA AA C C A TG CA- T TG TTGT G AC
GCTGCTCTAATTGCCAAGAA GG CAT GAAT ATAAG TG TCTA T C AGAAT CACATG G ATGCA
CTTT
TTCACATGTGGTTGTATGCA CC GTG TTTG TGTTC AC AGGT A G TCTTA GTGTAC C TATGT
GAAG

GCTTTACTGGGAGACTGAAG - ---- AA - - - GT TCG - GT ---- - --
TGTATCTGCATGTGATTCTG T GAGA
CTGTGATGGACACTTGTAAG GG
TTTGTGCC TC
- ----

GAM5798 273811 CCAGGGAAAGTAGTAAGTTG AAA- A ATCTTCTAAT CCTAATATCCCTA
TATAGTTATCTTCTAATTGG CCAGGG GTAGTAAGTTGTAT GTT TGGGG
GGCCTAATATCCCTACCCCA GGTCCC CATCATTCAACATA CAA ACCCC
CAACAATACAACTTACTACC ACTC A C--------- ----------
TCACCCTGG

GAM5800 274610 TGTTCCTCTAAGGTTGTCAT - CTA --- A G A TAC - ATTA GTA TTG
AATAAGTGCATCATTACCAA TGTT CCT AGGTTG TC TAATAA TGC TCAT CAA GT CAGCAG
CTGGT
GTATTACAGCAGGTACTGGT ACAA GGG TCTAAC AG ATTGTT ACG GGTG GTT CA GTCGTC
GACTA
TTGCATCAGGGCTGCTGACG A --- CAA A - - TCT G ---- GG- ---
TTGTCTGTGGGCATTGTTAA C
GAAACCAATCTGGGAAACA

-

GAM5806 274604 TGTGAGCTCCTGAGGAGTCA AGCTCC A CA CC TCT GT- - -- C TAAT
GGCCTGAGTCTGTGGGTCAT TGTG TGAGG GT GG TGAG GTGG CATCTAG CA CAT CT

CTAGCACATCCTTAATAGAA ACAC ACTCC CA CC ACTC CACC GTAGGTC GT GTA GA
TGATTGCCTGGATGTGACCA ------ - AC CC C-- AGT C TA A ----
CCCTCACCCCCAACCCTCAC
ACA

GAM5809 274627 TTCTGTCTTTTGAATTCTGT G GAA--- C GA GG AAACAAC GGCA
CGTGACTGGGGCTAAACAAC TTCT TCTTTT TTCTGT GT CTG GCT TGTCACT
TGTCACTGGCAAGTGACAAG AAGA AGAAAA GGGACG CA GAC CGG ACAGTGA
AGGCACAGACAGCAGGGGAA G ATAAAG A -- A- AGA---- ----
ATAAAAAGAGAGAA

GAM5814 272994 AGACACTGAATTGGACATTG T -- A ATTTC CT CGAA
ATTTCCTTTTCTCTGCGTCG AGACAC GAATT GGAC TTG CTTTTCT GCGT
AAATGTCAAGGAAAGTTGCA TTTGTG TTTAG TCTG AAC GAAAGGA TGTA
AGTCTGTGATTTTGTGTTT T TG - GTT-- AC ----

GAM5823 274018 TAGAAATATGTAATCGATCT AA - GATC- TG G- AATTA
TTTCTTTGGTGGGCAATTAG TAG ATATGTA ATC TTTTCTT GTG GC
CAATATTGAGGAAAGTTAAA ATC TATGTAT TAG GAAAGGA TAT CG
GATGTATGTATCCCTA CC G AAATT GT AA -----

GAM5826 273742 GGCTGGGACTGAGGTCATGT CTG--- A CA CCAA CGCCAGGAAGA
TCTGTCAGGTTCCAAAGAGC GGCTGGGA AGGTC TGTTCTGT GGTT AGAG
GCCAGGAAGACTCTGAGACC CCGACCCT TCCGG ACGAGACA CCAG TCTC
ACAGAGCACGGCCTGCTTTC CTTTCG C -- AG-- ----------
TCCCAGCC

GAM5836 273651 AGTTTCACTCTTGTCACCCA TT ACT TCACC-- T -- T ATCTT
GGCTGGAGTGCAGTGGTGCC AG TC CTTG CAGGC GGAG TGCAGTGG GCC
ATCTTGGCTCACTGCAACCT TC AG GAAC GTCCG CCTC ACGTCACT CGG
CCGCCTGCCGAGTTCAAGCG TT C-- TTGAGCC - CA - -----
ATTCT

GAM5859 273210 GAGGGCTGTCACCATTAGCA G -------- TT - A -- GAAG
CTCTCGGAGCTGGGAGAAGT GAG GCTGTCA CCA AGCACTCT CGG GCT GGGA
CCCTGAGCCCTGAAGGGTGT CTC TGACAGT GGT TTGTGGGA GTC CGA CCCT
TTTGGGCAGTATGTGACAGT G GTATGACG T- A C GT ----
GCTC
GAM5868 273795 CATCACCCAGTGGTTCTCTC A--- CCAGT TC - AACA-- - A- A TA TGAC T
AGCAACAGACATGTCCAGTG C TCAC GGT TCT CAGC GACATGT CC GTGG CCG GTGTTG
GG
GACCGTAGTGTTGTGACGGT G AGTG CCG AGA GTCG TTGTACA GG TACT GGC CATGAC
CC
CGCCCATCTGCGCCCAGTAC CAAC T---- TT C AAACTG A CG A TC ---- -
CTCGGATCATGCGGAACATG CCATCT
TTGTCAAAGCTGCAGATTGC CGC
CTGTGACAACG GCG

GAM5872 274417 GTTTAAATGGTTATCCGGGA TTAAAT TCC TTGTGT --------- T C TTCTTCA
GAATTCCTGTTGTGTGGAAG GT GGTTA GGGAGAATTCCTG GGAAGAT GCT TG CCT
ATGCTTTGCCCTTTCTTCAT CA CCAGT TCTTTTTAAGGAC CCTTTTA CGA AC GGA
CTGGAAATCATTTTTCCATC ------ C-- ------ GTACAAATT C T TTTCCT-
CTTTAGGTCACAGCTTAAAC TC TCATT
ATGATTTTCCCAGGAATTTT TGGAAA
TCTCTGACCAC ACCTTT
-- -----
GAM5874 273425 CTGTGCTCTTGATAACAGAG - G- AGAGT GA C TCACATTT
TGTTTGAGGGACAACTTTCA CTGTG CTCTT ATAAC GTTT GGGA AACTT
CATTTGAGTTTTTCCAAAAT GACAC GAGAA TGTTG TAAA CCTT TTGAG
TAAAGGTTGTAGAAGAGTCA T GA GAAAT A- T --------
CAG
GAM5884 274310 GGGATAGCTCATTTTTGAAA A TCATT--- AATCAG CATTT AAT GG A -
AATAAAAA
TCAGTTTAGAACATTTAAAA GGG TAGC TTTGA TTTAGAA AA GTG AA TT CA
TGTGGGAAATTCAAATAAAA CCC GTCG AGACT AAATCTT TT CAC TT AA GT
ATGCAAATTTTCACTGTTTT G TTACAACT GAA--- ----- GT- TT A C --------
CTAAAAAGTCAGATCAACAT
TGCTGGCCC
GAM5886 274292 GGCTTTATCTCTTGCCTTGA ---- T- CC C C A ACAAAG
CCTCCTACATTATCAACAAA GGCTTT ATCTCTTGCCT GA TC TA ATT TCA
GTGAGAGTTTAAGATCTCCT CCGAAG TAGAGGACGGG CT AG AT TGA AGT
GGGCAGGAGATTTCAGAAGC ACTT TC CT A T G ------
C
GAM5910 274515 TGAATCACTGTGGAAAACAT ATCAC- AAA- AA- AC -------- CCTCTTAT
CAGTAATTCAACAACCTTGC TGA TGTGGA CATCAGT TTCAACA CTTGCT GCTGA
TGCTGACCTCTTATTCAGTT ACT ACACTT GTGGTCG AAGTTGT GAACGA TGACT
AAATGAGAGCAAGTGTTGAA AAAACT GGTG ACA -- GAGTAAAT --------
ACAGCTGGTGGTGGTTCACA
TCAAAATCA
GAM5913 273882 GTAAGGGACTTGAGTATACT ACT- C GA --- GG--- ACGGT
TGGATTTTTGGTATCTGTGG GTAAGGG TGAGTATA TTG TTTTTGGTATCTGTGGG TTGG GG

GTTGGGGGGACGGTCCAGGA TATTTCC ATTCATGT AAC GGGAACCATAGGTACCC AACC CC

ACCAATACCCCATGGATACC ATTT C A- CAT AAGGA -----
AAGGGACAACTGTACTTATT
TACCTTTAT
GAM5916 273419 CTGTACAAAGCAGCCTTGGA T AAA CA AAAACCCCA CTGC
CCAGGAGGGAAAACCCCAAG CTG AC GCAGCCTTGGAC GGAGGG AGGCT
GCTCTGCAGCCTCCCTGCTC GAC TG TGTCGGAATTTG CCTCCC TCCGA
CCCTCCGTTTAAGGCTGTGG - G-- -- CTCGTCCC- ----
TCAG
GAM5958 272739 AATGCTGGACATTTATCTGG C GA TTA A G- G A T TC G AAAT
AGCTGCAGGGGGTAAAGTGT AATG TG CAT TCTGG GCT CAG GGGTA AG GTCA CTT GG

CATCCTTGGGAAATTCAAAG TTAC AC GTA GGACC CGA GTC TCCAT TC CGGT GAA CT

CTGGCCTGTACCTGCTGAGA - TG TAG A GA G G - C- A ----
GCACCAGGGATATGGTCACA
TT
GAM5963 272960 AAGTGTTCTCCTGAGGACCC TG-- TC GAG AG- C GCT
TTAGGTCAGACAGAGAAGCT AAG TTC CT GACCCTT GTCAGA AGAGAA
TTCTCTTTCTGATGGGAAGG TTC AAG GA CTGGGAA TAGTCT TCTCTT
GTCAAAGTGGAAATCTCTT TCTA GT AA- GGG T ---
GAM5971 273769 CACTGTAGGGCAGTAAGGAA - TAAG TTTT G TG GCCAA
AGAATGTTCTTTTTCAAAAA CAC TGTAGGGCAG GAAAGAATGTTCT CAAAAATA TC A
TAGTCTGAGCCAATTGGATG GTG ACGTCCCGTT TTTTTTTATAAGG GTTTTTGT AG T
TTTTTGTGGAATATTTTTTT T TAA- T--- - GT -----
AATTTGCCCTGCATGTG
GAM5973 273329 TGGAGTATTTAAGAGTGACT - ATTT T TAAA ATGT TAC T G- GG AAAGT
TAAACAACAGATGTTCATAC TG GAGT AAGAG GACT CAACAG TCA TCTGCCAGT CT GA
TTGG
TCTGCCAGTTCTGGAGGTTG AC CTCG TTCTC TTGG GTTGTC GGT AGACGGTCG GG CT
AACC
GAAAGTCCAAGATCAGGGTG G GTTC - ---- GTT- TT- T GA AG -----
CTGGCAGATTTGGTTGCTGT
TGGGTTCTCTTCTTGGCTCG
CA

GAM5990 273343 TGGGGGCACTGGCTTCTGCT CT CTTCT TT- TCT A TTATTC
CTTGCTCTTTCTTCTGGAAA TGGGGGCA GG GCTCTTGCTC TCT GGAA CA
CATTATTCTGTTCCTTTGGA ATCCCTGT CC TGGGAACGGG AGG CCTT GT
CATGGGCAAGGGTCCTGTCC -- ----- TAC TTT - ------
CTA
GAM5998 273035 CCTTGGCCCTGTGAGGCTTC TG GAG TCA AGC G A GA GTAC
ACCTCTTGAGCCTGAGAAGC CCT GCCCTGT GCT CCTCTTG CTGAGAA CAG GGT CA

AGAGGTGACAGTACTGGCCC GGG TGGGACG CGG GGGGGAC GATTCTT GTC CCG GT

TGGTTCTTAGCAGGGGGGTG GA GG- TG- --- G - -- ----
GCGGGCAGGGTAGGGG
GAM6014 273724 GGCATGGCAGAGCCTTGATT ATG A- - - - TGTTTGCTAAT
TGTAATGTTTGCTAATTTAC GGC GC GAGC CTTG ATT TGTAA
GTGGTACAAGTGCTCCAGTA CCG TG CTCG GAAC TGG GCATT

CGGCC GCA AC T A T ----------
GAM6024 273453 GAAATGTGGAGAATTAAAAA AA T ATTAA -- T CATTTATAGA
TGTATTGGG
GGGTAGTGAGGCTGGCATTT GA TG GGAGA AAAGGGT AG GAGGCTGG ATCTGGCTTTCT

ATAGAATCTGGCTTTCTTGT CT AC CCTCT TTTTCCG TC CTTTGACC TAGATCGAAAGG

ATTGGGTGGAAAGCTAGATG GG T C---- AC T AAAG------ ---------
AAACCAGTTTCTCTCAGCCT T
TTTCTCTCCTCAGGTC

-
GAM6051 272986 ACTCTTGAGCTCCCTCCACT - ACTTC -- TC-- ACACATTCAA
TCTGAGGACGTTTCCTGACA ACTCTT GAGCTCCCTCC TGA GGACGTT CTG
CATTCAACAGCATCAGCGTC TGAGAA CTCGAGGGAGG ACT CCTGCGA GAC
CAATCAGGAGGGAGCTCAAA A ----- AA CTAC ----------
GAGT
GAM6055 274401 GTGGGTGGTGCAGGGGTGGT TGCAG- GT TAGGAG - TGAA
CTTAGGAGGGCTTTCCTGAA GTGGGTGG GGGTG CT GGCT TTCC
GGAGTGGCCAGGGTTCACCC CACCCACC CCCAC GG CCGG GAGG
ATCTTTCCACCCAC TTTCTA TT GA---- T ----
GAM6083 272871 CACCCCGTTCATGTAACACG CC ACAC C A CAGTAGAG AGTATT
GGCCTGAGGTCAGCAGTAGA CA CCGTTCATGTA GGGC TG GGTCAG GACC
GGACCAGTATTGGTTTTGGC GT GGTAGGTGCGT TCCG AC CCGGTT TTGG
CCCAGCCTCTGCGTGGATGG TA C--- - C -------- ------
ATTG
GAM6102 273334 TGGCCATGCACAGTGGCTCG T ACAG - C GTA- CACTT G A- CAAG
CAACTGTAATCTCAGCACTT TGGCCA GC TGG CTCG AACT ATCTCAG TC GA GC
TCGGAAGCCAAGGCGGTCAG ACCGGT TG ACC GAGC TTGA TGGAGTC AG CT CG
ATCACCTGAGGTCAGGAGTT C ---- A - GGAC CACT- A GG ----
CGAGACCAGTCTGGCCA
GAM6105 273869 GGTGCACCCTGTGGAATTTG T - G TTG - A C- A- TTAG
GCAGAAAAGGCCCAATCGCC GG GCAC CCT TGGAAT GCAG AA AGGC CA TCGCCCT

CTTTAGAGGGTGAACTGAAG CC CGTG GGA ATCTTG CGTC TT TCCG GT AGTGGGA
CCTGTTCCTGCAATGTTCTA - A - TAA C G AA CA ----
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ATATGAACATGGGCCTTGGT CCCAGCCCTG CC TTCT CATATG ATGGG
TTCCCCATCTGTATGAAGAA GGGTCGGGAT GG AAGA GTATGT TACCC
GGGAGTAGGGCTGGG GA G A C-- ----------
GAM6121 273971 CTGAGGCAGGAGAAATTGCT G AAA GAA--- AGGTA GT A T AGATCA
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CCATTGCACTCCAACCTGGG - AA- AACAGC AAC-- -- - - ------
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CTCAG
GAM6161 274584 TGGGCTGAGGGAAAGCATGT TGAG- ---- T C ---- -- - TCT TG TTTG

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GC
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TTGTCCTGCAGGCACCTGCC TTGAA CACA T C TTCC AC C --- GT ----
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TCCAAGTTGCCCA
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TGTTTAACCTGTTTCCAGTG AGG AC TGTGGG GTCTTCAGG CTTTG TGAC TT
GTTTCAGGGACTTCTGTATT A GA- TTAT- GA G- CT- ----
GGGTGTAGCAAGGA
GAM6195 274363 GTCACCCATATTAAAATGCA A TATTA ACA C-- TGGC
CAGGGGCCAGGCATGGTGGC GTC CCCA AAATGC GGGG CAGGCATGG
TTATGCCTGTAATCCCAGCA CGG GGGT TTTACG CCCT GTCCGTATT
TTTTGGGAGGC A ----- A-- AAT ----
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TT
CAAGGAATTTGAGGTTGTTT CA GT GT -------- CAA- TATT -- TTTTG T
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AGTGTCTGGCTGCTGAGACC
AGAG

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GTCTTGAATGGAAAAAA

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GTATAGTGGGTTAGTGGTTG --- T GACGTTTGATAAGT -- A TT TT ------
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GAM6271 273230 GATTCAAAGCAAGATGGTAG AA- GA-- G A TG AGAGGA GT AGATGA
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GGATCTGGAGGGA AG - TAC--------- ----
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CGAGGCTAGCCTGGTTGCTA TGTT TTAG TTTAT GTTC ACTAA TG GG CGTTGG GC CGA TGGG

AGGGTGAGCTCCGCGGTTGC T - TAC- T A A GGGAT C CT G ---------
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GCATTATTTGATTTTTGT

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AGTGACAAGTTCCATCCATA GTGC GT CAAAGACAGTT ACAAGTT ATCC
CCATGGAAGAGGGTTAAACT TACG CA GTTTTTGTCGG TGTTCAA TGGG
TGTGGCTGTTTTTGCCACAG A CC ----- AT ----------
CAT
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CTTTGG
ATCCCACCACTTTGGGAGGC TCTCA GGGTAC CCGG CGAC GAGT GAT ATTGG GGTGG
GGAACC
CAAGGCGGGTGGATCATTTG AAG AA- TT CA- TT- G AGTTTACTA GC
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CTCT

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GAM6417 274197 GGAAATGTGGAGAATTAAAA AA T ATTAA -- T CATTTATAGA TGTATTGG

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ATCTGGCTTTCT
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        TTTTCTCTCCTCAGGTCT

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        CGGTTGGGAAGGCAAAACCT GGC   GTCACTGCCC   GGGC   T  GG  AGG
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        AGTGATTCTAGCC        ATCT       TT--   AAA GT  CG   -----
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        AGCTTTCCTACTTCACAACA AGGG    CGGT    AGAGTG    TGACTG    TCG     TGGA
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        GAAACATTATTCTGTTCCTT TTC ATCCCTGT  CC    TGGGAACGGG   AGG   CCTT GT
        TGGACATGGGCAAGGGTCCT   A     -- -----       TAC   TTT   - ------
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GAM6466  273619 AGGGCAAGATCCTCGCTCCA    CAA  TCCT  C    ACCGT      TT    ---------   T  C--  T  G
        ACCGTGGCCCGTGTTCTCTC AGGG   GA    CG TCCA    GGCCCGTG  CTCTC       CTTT GTC   CCA
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        CTTTTGTCCCCATAGTGTGA TCCC   CT    GC AGGT    CTGGGTAC  GAGAG       GAAG CGG   GGT
TCA
        CTCCGCCAGGAACTTGGAAT    TA-  C---  A    GT---      T-    TAAGTGTCA    T   TAA   -   -
        GGCTGAAGACTGTGAATGAG TGAC   GCCA
        AGTCATGGGTCTGTGGAACG    TCC
        CTCATCCCT             AGG
                  ----   ----
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        GGCTCCTCGGTCACACCCCA C   GTGA  GCTT    CCGG CTCC  GGTC       GTC CT CTCT
GGTTGCCGTT T
        GTCCTGCTCTGAAGGTTGCC G   CACT  CGAA    GGTC GAGG  TTAG       TAG GG GAGA
TCGATGGTAG A
        GTTTTCCAAACAGAAGGATG  TT-   TC    A----    T    TC    AACGA---  A  G   ---        G
        GTAGCTAGAGGGGAGATAGC   CAAACA
        AAGATTCTGGAGTCTGGAAA TC
        GCCTTCACTTG         AG
                  ------
GAM6506  274360 GTAGTCCCAGCTATTCAGGA     C----     AT    AG    A   G    GATCA
        GCTTGAGGTGGGAGGATCAC GTAGT    CCAGCT  TCAGG  CTTG GGT GGAG
        TTCGGCCCAGGAGTCTGAGG TATCG    GGTCGG  AGTCT  GGAC CCG CTTC
        CTGGAGTGAGCTAT         AGTGA     --    GA   -  G   -----
GAM6509  272939 CCTAGATGGGATCTGCTGCA   A  TG   TC    C   CAA  TATTCCC    TCA    C  A       CTTCT
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ATCTTCTTAAGG
GAM6531 274500 TCTCCCAGGCAATATTCCAG CAATA - TA G -- TTGGA
GATAGGCTGCCAGTTGGACT TCTCCCAGG TTC CAGGA GGCT CC AG
AAGGAAGCCACTCCTGCGGA AGAGGGTCC AGG GTCCT CCGA GG TC
ACCCTGGGAGA CA--- C CA A AA -----
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TGCTTCTCTTTTTACTAAGG A TCTTCTGGAA - C CAG ----
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CGTGGCCCGTGTTCTCTCCT GG CA GAT CG TCCA GGCCCGTG CTCTC CTTT GTC CCA
AGT
TTTGTCCCCATAGTGTGACT CC GT CTA GC AGGT CTGGGTAC GAGAG GAAG CGG GGT
TCA
CCGCCAGGAACTTGGAATGG A CC CTC A GT--- T- TAAGTGTCA T TAA - -
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TCATGGGTCTGTGGAACGCT TCC
CATCCCTGACC AGG
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AGGGAGTGAGATGTGACTGT CGT TTGT CACCG TTGTCA TG TGAG
TGCCACATGTTAAATGC AAA A ------- G TAGAG ------
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ATGTGCCACTGTGTCTGAAA TAG CTC CAGGT TG CA GTGCC GTGTCTGAA TCCT
TTCCTGAGCACCGAGGGCCG GTC GAG GTCCA AC GT CACGG CACGGACTT GGGA

CTTCAGGCACCAGGCACTTT - A-- - C TT AC- CGCC --------
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GAM6638 273093 CTGCCTAATGATGGTGTATG TAAT- -- AT CTGTA- T CCTGCCAACT
GAAGCTGTAGCATTTCTGGC CTGCC GAT GGTGT GGAAG GCA TTCTGGCA
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TGCCTTTCCCTTCCTGGCAC TGTAT TT GT CCTTTC C ----------
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GGTTCTGCTCTCACTGAATG AGCA AGGCTGGG TGGGGGTTC CTCACT
GTGGGGAACCTTCAACTGCT TCGT TCCGATTC ACTTCCAAG GGGTGG
TAGCCTGTGCT G GTCA ---- ----
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TTGGGAGATTATCCTGGATT TTC CTGAGA ACACTAAT TAGTTC GA GA ACT G CCT
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GAM6774 273974 CTGCAGCTCCAATAAAATTG AG- TGC G- G G GTGCT ACATT
CCGAGATGATGTTTGGGTTT CTGC CTCCAATAAAAT CGAGAT AT TTTGG TTT GG
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GAGCCAGAGGTGAGTCTTGA AGA --- AG G G AGAGT -----
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CGC
CCGTAGTGTTGTGACGGTCG AGTG CCG AGA GTCG TTGTACA GG TACT GGC CATGAC CC
GCG
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GTCAAAGCTGCAGATTGCCT
GTGA

GAM6807 273041 CGAGTGATTTTTGAGGTAAG ATTTT GTAAGTA A TG AAG TG TATATAGAA A T
AAA
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ATGTATTTGAAATAGTAACT G GG
CACAGCATTTG C CC
G -----
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TCAAATACACTCAG
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TTTAGAAGGGGAAAATCATC CCC AAAAGG GGAAGATTTG
CTCCC TCCTACT - ----------
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CTGCACTCTAGCCTAGGTGA A- AG CG AG G-- -- G -------
TAAAGCGAGACTCAGTCTC
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AATGGCAGGCTTCTGGGGAA TCCAGT TCTTCTGGG AGA AAAAT GGC GGCTT CT
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GCTGGG
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TG TA
TTTTGAAAGCTGAGTGGATA AGT CA AG CGT CA CACTAA CAAG TGTAGTAAGGCTT TCGA
AC AT
GATTTAAATAGCAAGAGCTT A T - CC GA--- GACC GTG GTT GA- G-
TGTTCGGAATGATGTGTGGA GATTTAAA
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CGATACATGA

GAM6858 273761 CAAGCAGTGAAGGGTGCAGA - T A-- G A- T T- TTCA GTTTG
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AAGTTTGTTCTAGTTCTTCT GTTCG TC CT TCCA GTC AGT CCT TCTTGA TCTT
CCTGAAACTGGACCTCCCTC A - CCC G AA - CT ---- -----
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TCCCGT
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TCACCCCGCCAGGCCCGGCC
TTGCACTGCG

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AGTGCAGTGATGCAATTTTG TGCT TG GCCTAGG TGGAG TGCAGTGA GC
GCTCACTGCAACCTCCACCT ACGA AC TGGGTCC ACCTC ACGTCACT CG
CCTGGGTTCAAGCA - T- TCC CA - -------
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TATCTTTGAATTTCACACGG TCC C G A- T ATACATCAC -------
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CACTTGTAAGTTTGTTC

--
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CTTGGCCAGACACTC
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TATGTAGG
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CT
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TGGCAAGTTGGGAAAATTTG
TGA

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TCCCGGGCTCAAGTGA - T- CCC - CA ---- ----
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ACATTTCATTTTTCACACAG AG GTCT CAG CACG ATTTCA AGGGTCAC CAG ATACCA
GGTCACCAGAATACCATCAA TC TAGA GTC GTGC TAAAGT TCCTAGTG GTC TATGGT
TTTTTTGGTATCACTGTCAA T CC GA-- AA- CTTCCACGA- AAAACT AC ----
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ATTCT

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GTCCCTGTTTGGTTGCTGAT - CT G AGTA- T TG G- --------
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T
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CGGG
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GTTC
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GTTCGCATT TCCCC

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GCT G
TACACCGCAGCCCGAGGCTA TG TTTTAGT TTATTA GTTC ACTAA TG GG CGTTGG GC
CGA T
GCCTGGTTGCTAAGGGTGAG T ---- C---------- T A A GGGAT C CT G
CTCCGCGGTTGCTAGGGGGA GGTTGCTAA
GTAAATCATCTTGCATTATT CCT
TGATTTTTGT GGG

GAM7199 274267 GGATTTGGCAAAGAAGGCAG ATT GAA--- A- ATCC
TACAGTTAATCCTGGCTGCA GG TGGCAAA GGCAGT CAGTTA

ACTGCTGGAAAATTTGCTAC CC ATCGTTT TCGTCA GTCGGT
ACCC CAC AAAAGG AC ----
GAM7201 272985 ACTCTATTTTATTCAAATGG TT- T ATGATATGAG AAT
CACTATGATATGAGTTCAAA ACTCTATTTTA CAAA GGCACT TTCAAAA
AAATTTTTGAAACAGTGTCC TGAGGTAGAGT GTTT CTGTGA AAGTTTT
TTTGTTTTGAGATGGAGT TTT C CA-------- ---
GAM7212 274277 GGCCAGGACTCTTGCAGAAC - - AGAA AGA G AG T C CACC
TGAGACCTGGGAGCTCCTCC GGC CAG GACTCTTGC CTG CCT GG C CCT CCT
CTCACCAGGAAGGGACCCGA CCG GTC CTGGGGGCG GAC GGA CC G GGA GGA
GGCAGGCGGCGGGGGTCTCT A T GCG- --- G CA - A ----
GAGCC
GAM7241 272854 ATGACTGTGCTGCAGGAGGC AC T C CGGC AAGAACTAC CTGATGTT

GGCTCAGTGTGAAGAACTAC ATG TG GCTG AGGAGG TCAGTGTG GGGTTTC
GGGTTTCCTGATGTTGAAGC TAC AC TGAC TCTTCC AGTCACAC CTCGAAG
TCAGAATTAGCCACACTGAC GT - - ---- CGATTAAGA --------
CTTCTCAGTCATGCAT
GAM7250 272893 CAGGGAGAAGAGCTGTGTGC -------- A - AT---------- TTATAAATT
TGTGATGTGGTTTATAAATT CAGGGAGA AG GCTG TGTGCTGTG GTGGT
ACCATTTGGAAGGAGCTGCA GTCCTTCT TC CGAC ACACGACAC TACCA
CAGCACAGCAGCCTGCAACT CATCAACG - G GTCGAGGAAGGTT ---------
ACTCTTCCTG
GAM7255 273123 CTTTGAGATGACTGGTATTG G T TG A AAT AG G AG C A CT CTAACT
AATGGAGCAGTCTTTGAAAG CTTT AGA GAC GT TTG GGAGC TCTTT AA G ACCA CC TC
GCACCAACCCTTCCTAACTG GAAA TCT CTG TA AAC TCTCG AGAAA TT C TGGT GG AG
ATGGTGGTCTCTTGAAAGAG G T TT - CT- G- G CT - - T- ------
GCTCTTCCAAATTTGTCTTC
TGAAAG
GAM7257 274358 GTAGAGGTGGGGTTTCTCCA A - T T A TT CT CTTTA
TGTTGGTCAGGCTGGTCTTT GT GAGGTGGG GT TC CC TG GGTCAGG GGT
AACTCCTGACCTCAGGTGAT CG TTCCGCCC CA AG GG AC CCAGTCC TCA
ACGCCCGCCTTGGC G G T T - T- -- -----
GAM7260 273965 CTGAATCATGCAGTGTATAC A CA ACAGGAT -- - CT GGAA
AGGATGTCAGTGAAGAGGTC CTG ATCATG GTGTAT GTCAGT GAAGAG GT GGCA
TGGCAGGAATGCCTCACTCT GAC TAGTAT TACATG CAGTCA CTTCTC CA CCGT
CTTCCTACTGACTGGTACAT G TG GT----- TC T CT ----
GTTATGATGCAG
GAM7264 273271 GCTGTCTATTATGAGTCTGA ---------- - - C C CTG GAAGGA
CTGGCACAGACATCTGTCAA GCT GTCTAT TATG AGT TGACTGGCACAGA AT TCAAGGAA

GGAAGAAGGATTCTTTGAGC CGA CAGGTA ATAC TCA ACTGACTGTGTTT TG AGTTTCTT

GTATTTGTGTCAGTCAACTG AAGACAACAC T G - A CG- ------
CATATATGGACCACAACAGA
AAGC
GAM7272 273914 CCCTTTCAAAACAAAGCTTT A- AA TT GATAG T CAGAAC
CCCAGGATAGCCCTGGGCAG CCCTTTCAA ACA GCT CCCAG CCC GGG
AACTCCTGGGATTGACTGGG GGGAGAGTT TGT TGA GGGTC GGG CCT
CAGTAATGTAGTTGAGAGGG GA AA C- AGTTA T ------
GAM7302 273023 CCTCCTGTGTCCCAAAACGA G AAACGAAA CCTATA A G TTCCAGAAT

AAACACTCCTATATTTTGTA CCTCCT TGTCCCA ACACT TTTTGT GC CC
GCGCCTTCCAGAATGGGGCA GGAGGA ACAGGGT TGTGA AAGGCG CG GG
GCGGAAACTAGTGTTGGGAC A -------- TCA--- A G ---------
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GAM7320 273961 CTCTTGACCAGAGGTTCTCA CT - - AG C T TA TGCC
AATGAGGGACATTTTACCTG CT TGACCAGA G GTTCTCAAATG GGA AT T CC
CCGGGGACATTTCCAATGTT GA ATTGGTTT C CAGGGGTTTGT CCT TA A GG
TGGGGACACTTTTGGTTATC CT T A AA T C GG ----
AG
GAM7331 273540 GAGGTAGGAGAACTGCTTGA A AAC GAA GG G C A A GAGATCA
ACTCAGGAGGCGGGGGCTGC GAGGT GGAG TGCTT CTCA AGGC GGGG TGCA TG GCT

AATGAGCTGAGATCAAGCCA CTCTA CCTT GTGAG GGGT TCCG CCTC ACGT AC CGA

CTGCACTCCAGCCTATGGGA - AGA ATA A- A - C - -------
TAGAGTGAGATTCCATCTC
GAM7345 273137 GAATAAATAAGCTGCTCTAA AA C C A TG CA- T TG TTGT G ACT GAGA
TTGCCAAGAATTCACATGTG GAAT ATAAG TG TCTA T C AGAAT CACATG G ATGCA CTTT GG

GTTGTATGCAGCTTTACTGG TTTG TGTTC AC AGGT A G TCTTA GTGTAC C TATGT GAAG TC

GAGACTGAAGTGTATCTGCA AA - - - GT TCG - GT ---- - --- ----
TGTGATTCTGCTGTGATGGA
CACTTGTAAGTTT
GAM7349 273108 CTGTCTCTGGGCCCTGTCTG GG-- CT---- CT T A TG G ATAATCTACTA
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ACAATAATCTACTATGTGGA GACAGAGA CGG CA CTCTG GGAG TCT GA GGTGT
GTGTCTGGAGGTGTCTCTTA ATTA TCTCTT TT T G GT - ----------
CTTCTCTGGCATTAAGAGAC
AG
GAM7350 274374 GTCCTTTAGTCTCTATTTTT AG- TC T CC--- - GCAG - G ACATG
GCTCCTAATTGTTCCTGCAG GTCCTTT TC TATTT TGCT TAATTGTT CCT GTA GTA GTTA

GTAGTAGGTTAACATGTAAC CGGGAAA AG ATAGA ACGG GTTAACGA GGA CAT CAT CAAT

GTACTTACAGAAGGAAGCAA GAA TC T TACAA A AGA- T G -----
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GAAAGAAAGGGC
GAM7363 273004 AGCAAGGACAAGTTGTGACC GA T ---- CCA - AT A T CAAGCTT
TTCCCAGTCCTCTCTCCATT AGCAAG CAAGTTG GACCT TC GTCC TCTCTCC TTGC GA CAG

TGCAGATCAGCAAGCTTCTG TTGTTT GTTCGAC TTGGG AG CAGG GGGGAGG AACG CT GTC

TCAGCAAGGAGGGGTGGACA A- - TCAA TAA T -- A - -------
ATGAAACTGGGTTCAGCTTG
ATTTGTT
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GTGGCGGAGGTTGTGGTGAG GGAG T CTT CCCGGGT GGAG GT GTGGTG AGT
TGAAGATTGCACTATTGCAC CCTC A GAG GGGTCCG CCTC CG TATCAC TTA
TCCAGCCTGGGCAACAAGAG AA GT AACAAC A-- A T G ----

TGAAACTCC
GAM7369 274078 TCTCTCTTCCCTCTCATCAT C CTCTCATCA TT T ----- - T TTAAC
AGATTAATCACTTAGTTGCA TCTCT TTCC TAGA AATCACT AGTT GCAAGGG ACCAG AAA
AGAA
AGGGACCAGTAAATTAACAG AGAGA AAGG GTCT TTGGTGA TCAG CGTTTTC TGGTT TTT
TTTT
AATGGTGAACATTTTCCTTT C TC------- -- - TAGGT G C TCC--
TCTTGGTGCTTTTGCTGGAT GTGAA
GACTAGTGGTTTCTGCTGGA TG
ACAGAGA AC

GAM7371 273747 GGGAAAGCAGAAGGTTGGGG AA- - GG TG G GGCAGGCA
CTGGAGGTCTGCTGGCAGGC GGG AGCAG AAGGTTGG C GA GTCTGCT
AGGCAGACATTTGGAGCCAA CCC TCGTC TTTCAACC G TT CAGACGG
CTTTCCTGCTCAGCCC GAC C GA GT A --------
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CGTGTGCTAGGGCAGATCTG GGAGTAG GGG AG TGTCGACA GGGTCT GACGG AT
GGATACAGCTGTGGACAAGG GA AAC G TA- A- G ---
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GAM7400 274260 GGAGGGGAGGATACAAGAGG G CAA GA T -- AAACCACTCAC
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TTTGTCATACTCATGTCCTC G A-- A- T AA ----------
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GAM7415 272919 CCATCTTCAGTGGCATTGGG A --- G------ T G GGA GTTA ACT
CCTTGGCTGGGATGCTGAGT CCATCTTC GTGG CATTG GCCT G CTG TGCTGA TCC
TATCCACTGGAGCATCGGCA GGTGGAGG TACC GTGAC CGGA C GAC ACGGCT AGG

GTACAGGCAGGCACAGAGGC C TAG GGAGACA - G ATG ACG- ---
AGTGGATCCATCGGAGGTGG
GAM7416 274333 GGTACCTTATTATTGAAAAT - ATT AA AGA G T- T AAT
CAGATAAACTTTGGTTGGGT GGTA CCTTATT GAA TC TAAACTTTG TTGGG GGG ATTTGGAGG

GGGTATTTGGAGGAATCTTT CCGT GGAATAA CTT AG GTTTGAAAC AATTC TTC TGAATTTTC

TAAGTCTTTTCTTAAGCAAA T AAT AC --- G TT - ---
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GGTTGCC
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GTGCGCATAAAGACTGAG A-- A T - --- ---
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GACCTCAGGTCACTGCAACC TCTTAG GA TGGGTCCGTC TC ACGT CACTGG
TCTGCTGCCTGGGTTCAAGC C---- ACT G TCCA ----- ---
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GAM7449 273326 TGGAGACTGGTAGCTTATTA CT--- A TAA GTGTT ATTCCTG
AAGAAACTCCGTGTTACTCA TGGAGA GGT GCTTAT AGAAACTCC ACTC

TTCCTGGAGTTGGGGGTTTC ACCTCT TCA CGGATG TCTTTGGGG TGAG
TGTAGGCACTTTATTTCTCC TTATT - --- GT--- -------
A
GAM7464 274181 GCTTACAATTGCTGGTACCT CAATT TACC--- -- CAAGT A- ACCT
GGTAGCATTTATTTTCCCTC GCTTA GCTGG TGGT AGCATTTATTTTCCCT ACCT GTA
AAGTACCTAGTAACCTTATG TGAGT CGACT ACCA TCGTAGATGGGAGGGA TGGA TAT

AAGGTAGGGAGGGTAGATGC TATGT TCCTTAC TC ----- AG ----
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GTATTGAGT
GAM7473 273099 CTGGAGGATTTGGGGTGCCC ATTT CCCCT C A AA AAG AA-- AGGG
CTCTCGGCAGGGAACAGGAA CTGGAGG GGGGTG CT GGC GGG CAGG TAGG TCCCAGA

GTAGGAATCCCAGAAGGGTC GACCTCC CCCCAC GA CTG CTC GTCC ATCC GGGGTCT

TGGGGGAACCCTAACCCTGA ACT- TT--- C A GA CA- CAAG ----
GCTCAGTCCAGTTCACCCCT
CACCTCCAG
GAM7477 273780 CAGCGCGGCTCCCGCCACCC CG ---- G AC- ---- TTG A - GA ----
TCAATAAATGTTGCTTGGAG CAGCG GCTC CC CC CCTCAAT AAATG CTTGG GTGGA CC
GGCT CT
TGGACCGAGGCTCTGCAGGA GTCGT TGAG GG GG GGAGTTG TTTAT GGACC CGCCT GG
CCGG GA
ATGCAGGGAGGGCCGGGCTC CT TGTT A ACA AATC TG- C C G- GAGG
CGCCCCAGGGTTATTTCTAA GGAA
GTTGAGGACAGGAGGTTGTG GCA
AGTTCTGCTG CGT

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GACGGAATGCAGTGAAGTCA TCAC TG GCCTAGG AG CGG TGCAGTGAA
TCATAGTTTACTGTAACACT AGTG AC CGGGTCC TC GTC ATGTCATTT
GAACTCCTGGGCTCAAGTGA A- T- - AA ACA ----------
GAM7530 274183 GCTTCCTCACCACCTTGTGC CC-- CC - CAC CC- ACCACA
ACTGCTGCTCCCACACCACA GCTT TCA ACC TTGTG TGCTGCT CAC
GTGACTAGCAGCACATAATG CGAA AGT TGG AATAC ACGACGA GTG
GTTTGAATTAAAGC ATTA T- T --- TCA ------
GAM7542 273735 GGCGCTGGTGTCAAACAGTT T - AAACA GA TT - - C CTGTAGA
ATGTGATGCTTTGAAGCACC GGCGC GGTG TC GTTATGT TGC TG AAG CAC CTCA
CTCACTGTAGATGAGAGTGT CCGTG CCAC AG CGATACA ACG AC TTC GTG GAGT
CTTGCACTGCAAACATAGCC C T C---- A- TC G T A -------
GATCACCCGTGCC
GAM7546 273028 CCTGCTGTATGCTAGGCATT - -- CT- C A- GGGC
GTGCAAGGTGTTAGGGCTGA CC TGCTGT ATG AGG ATTGTGC AGGTGTTA
TGCTTGAGCACAGTACCTCC GG ATGACG TAC TCC TGACACG TTCGTAGT
ACATCTGCAGTATGG T TC ACC A AG ----
GAM7553 272726 AACTGGTCGGTGATTTAGGT TC TT T C TCCACCTTTC
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CACCTTTCTCTCGACAGCAC TTGACT TCATTA TCCGTCA AG ACGACAGCTCT
GACACTGCCTTCATTACTTC -- CT C C ----------
AGTT

GAM7559 273367 TGTGGCTCTGCCTCCCTGTC TG CTGCCT ----- - CTATAA-- - CTCTCCCT
TCACTCTCCCTATAACTGGC TG GCT CCCTGTCTCA CTC TCC CTG GC
CTCTCCCTGCTCAGACCTTC AC CGA GGGACAGAGT GAG AGG GAC CG
CTGGACGAGCTGCATGAGAC GT C----- ACGTC C TCCTTCCA T --------
AGGGCAGCTGCA
GAM7591 273413 TTTGGAGTAATTCAGTATAG AATTCAG --- GTTTAAAA
GTTCGTTTAAAAGAGATTTT TTTGGAGT TATAGG TTC
TATAACTTCAGA AGACTTCA ATATTT GAG
------- TTA --------
GAM7592 272904 CATTAGATTCTCATAAGAGC - C AAC TTGTGAGC ACAT
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CACATGCAAGGGATCTAGGT GTAATCTAAGAGTATTC TCG GT GGAT ACG
TGTGCGCTCCTTATGAGAAT C C GTT CTAGGGA- ----
CTAATG
GAM7601 273675 ATTATTCTGATGAAAATCCA TTC A- ---- T T TG TGTGTAAT
CAATGTCTTTGAGCTTCTGG ATTA TGATG AAATCCACAA TG CTTTGAGCT C GT
TTGTGTAATGCTGGGGTTTA TAAT ACTAC TTTGGGTGTT AC GAAATTTGG G CG
AAGTCACCATTTGTGGGTTT TA- GG TACC T - GT --------
GGCATCAATTAAT
GAM7636 273095 CTGCCTATATTACATTCATT ATATTACA CA GA TT C- G ACAGTGAACGAA

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TGTTTAAAGATACACCGGAA GAAGAG-- AA AG -- AA G ----------
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GAM7645 273324 TGGAAGAGGGGCAGCTGTTG GC-- GTT AT -- A A AGGAGG
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GAGGTAGGAGGGCCCTCTGA ACCTTCTTTC TCGG CTTCCG GGAA CGTAGT CTC CCG

TGCCAAAGGCAGCCTTCTCA GTTA ACT AC AC - - ------
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GAM7654 273981 CTGGATTCCCCAAAGCTCAC - TC--- AAA CACA -- AA- AT - GTAGTTTG
AGTTTGGCACTGAATCATAT CTG GAT CCC GCT GTTTGGCA CTG TCATATACA C TC
ACAATCTCGTAGTTTGGATG GAC CTA GGG CGA CAGATCGT GAC AGTGTGTGT G AG

GCTGTGTGTGACTGCAGACT A CACCC A-- ---- CA GTC CG T --------
GCTAGACAGCAGGGCCCACA
TCACAG
GAM7663 273826 CCCCGAGGGTGTGACTGAGA GA T TG ---- - T ---------- - - AGATGG
GCCAGTCCCCAGCACCCTTG CCCC GGG G ACTG AGAGC CAG CCCCAG CACC CTTG TCC

TCCAGATGGGGACCAGGAGG GGGG CCC C TGGT TCTCG GTC GGGGTT GTGG GGAC
AGG
TGGGTGAAGATATTTGGGGT AG C GT CGTG A T TATAGAAGTGG A C ------
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CCCCGAGGGG
GAM7664 272911 CCAGAGATAGCACCTTCTGA A T C--- ACCCA-- C G GG GGTA
CCCAGTGCAGATTGGACGGT CCAG GA AGCAC TTCTG GTG AGATT GAC TTAATT
TAATTGGTAGGTTGGAGTTG GGTC CT TCGTG AAGAC CAC TCTGA TTG GGTTGG

AGTCTCACGTTGAAACAGAA - - AAGT AAAGTTG - G A- ----
TGAAGTGCTTCCTGG
GAM7674 273135 GAAGTGGAGAGTGTAGGAAA TG T--- AATCCACT AA T CTTGTCATCCTCT

TCCACTGCAGAATGAGGTCT GAAG GAGAGTG AGGA GCAG TGAGG CTG
GCTTGTCATCCTCTCAGTCT CTTT CTCTCGC TCCT CGTC ACTCT GAC
CAACTGCTCTCCCTCCTTCA GT TACT CCCTCT-- A- - ----------
TCGCTCTCTGTTTC
GAM7700 272842 ATACTTACTAGCATATTATA - AGAGTG
TAGCTCTAAGAGTGTAGAGT ATACT TACTAGCATATTATATAGCTCTA
TATATGATGTGCTAGTGAAG TGTGA GTGATCGTGTAGTATATTGAGAT
TGT A ------
GAM7707 273079 CTGAAAGTCTATCTGCTGCC CTGCTGC C G CT TCA-- AAAC
ACGCCTGGGCACATACTGCA CTGAAAGTCTAT CACG CTG GCACATA GCA TTTACA
TCATTTACAAAACTGTAGAG GATTTTTAGATA GTGT GAC TGTGTGT TGT AGATGT
CACCTGTTGTGTGTGCAGTT TTCTTTA T G -- CCACG ----
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AG
GAM7729 274575 TGGCCTCTCTGTGCTTCCAT CCATTTCCCCAT A AGGAATAACAC
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AATAACACATCTCACAGGAG ATCGGAGAGGTACGAG GACA TCTA
CATGGAGAGGCTA ---------- C ----------
GAM7776 273509 GAGGCAGGAGAATCGCTTGA G AATC GAA--- AGGC - T GA AAGAT
ACCCAGGAGGCGGAGGTTGT GAGGCAG AG GCTT CCCAGG GGAG GT GTGGT GCG

GGTGAGCGAAGATCGTGCCA CTCTGTC TC CGAG GGGTCC CCTC CG TACCG TGC
TTGCACTCCAGCCTGGGCAA - AAAA AACAAC GA-- A T -- -----
CAAGAGCAAAACTCTGTCTC
GAM7777 272784 AGCAGACTGCCCTGTTGACC AGAC TGT--- AGAATT -- TAC CTGATTA
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TACAATGCTGATTATATTTT TCG ACGGG ATTGG ACAGTC TAACGATA TTAT
ATAGCAATTACTGACATAAG GTA- TTTCAT AAT--- AT TT- -------
GTTATACTTTGGGCAATGGC
T
GAM7784 273888 GTAGTTACCATTGCCTTTTC AC T - --- A A TT G AAACTAGTCCAAAA
TGTGAGCTATTTGTTTTGGT GTAGTT CAT GC CTTTT CTGTG GCT TTTGTT GGTTT CTG
TTGCTGAAACTAGTCCAAAA CATTAA GTA TG GAGAA GACAC CGA AGACAA TTAAA GAC

CAGGAAATTTAACAGACAGC GT C T ACC - C T- G ----------
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TGAATTAC
GAM7817 273042 CGCTCTTTCACCCAGGCTGG CTTTC C-- -- - A ATCT
AGTGCAGTGGCATGATCTCA CGCT ACCCAGG TGGAG TGCAGTG GC TG
GCTCACTGCAACCTCCATCT GCGA TGGGTCC ACCTC ACGTCAC CG AC
CCTGGGTTCAAGCG ACT-- TCT CA T - ----
GAM7837 274625 TTCTATGTTATACCCTGGAG --------- C- GGAG GG GGAATC-- AG
TCCTGGTTGAGGGGTGGGGG TTCTATG TTATAC CT TCCT TTGAGGGGTGGG
AGAAAAGT GT
AATCAGAAAAGTAGGTTTAC GAGATAT AATGTG GA AGGA AATTCTTCACTT TCTTTTTA
CA

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        ACATTCACTTCTTAAAAAGG  TACATTT
        AACAAGAAGTGTAAATAAGT T
        ATGTATAGAG         A
                  -------
GAM7845  273000 AGAGGTGTTCCTTAGGCCAC  A TG   TT   -----    C     CCT    G---   -  CGCTCCA
        ACCCTGCCCTCCCTGGACTG AG GG  TTCC  AGGC    CACACC TGCCCTC   GGACT    CCTGA CCT

        CCTGACCTCGCTCCAAGGCT TC CT  AAGG  TTCG    GTGTGG ACGGGAG   CTTGG    GGACT GGA

        CAGGGGAAGGTTCTGAGGGC  C GT   --   TAAAA    -     T--    AAGG    C -------
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        TGTCCCT
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        ACTGTGCCCAGCCAGGGCTG TGGG    CAGAC TG   CC   GT CCCAG  AGGGCTGTGT     TAGTGA

        TGTGTTATGTAGTGACAGCT ACCC    GTTTG AC   GG   CA GGGTC  TCTCGACATA     GTCACT

        CACTGATACAGCTCTCTCTG    CA--    A  CAA  ATT  G    TC        ------     ----
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        GACCCCA
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        TATCGGGGTGGAGAGATAAG CCTTC      TTTGTA CCT TCG GGTG AGAGA      GCC   TAT CCA
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        AGGGGAGG
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        TCTGAGGCAGTTTCCTA         -      --  A    TGCATTAAA     --------
GAM7884  274411 GTGTTTTGCACTGTAATACC      ------           C     G  --  AAAGT
        TCGGTCGTAGCAAAGTGCCG GTGTT      TTGCACTGTAATAC TCGGTC TA  GC
        TGGGACCGAAGTATTATGGT CGCAG      GACGTGGTATTATG AGCCAG GT  CG
        GCAGTGACTTGACGC          TTCAGT           A     G  GC  -----
GAM7889  273113 CTTACCCCAGTATCCTATTA     -  GTAT  -   A    TAC     CAGTGAT    TCTCA
        TCTCATACCTAAGGCAGTGA CTTAC CCCA    CC TATT TCTCA   CTAAGG      GGTT
        TGGTTTCTCAGACCTCTTAG GAATG GGGT    GG GTAG AGAGT   GATTCT      CCAG
        ATTGAGAAGATGTGGCATGG     T    AC--  T    A     TA-     -------    -----
        GTGTAAG
GAM7898  274651 TTTTAGCATGGCTTGTAATA      CA  GC    A  A       -       GC     CGTG
        GCAAACAGTTTGTAATAGCA TTTTAG  TG  TTGT AT GCAAACAGT TTGTAATA  AATGA
        ATGACGTGTTATTTATTGCA AAGGTC  AT  AACG TA TGTTTGTTA GACGTTAT  TTATT
        GCATTGTTTGTAATAGCAAA      --  AA    A  A        C       --     ----
        ATACTGGAA
GAM7902  273388 TTCCCTGAGACTCTTTAACT       AGA- TC     CT-      AAAAAG- TG TGCTGTTTTAT
        TCTTGAAAAAAGTTGATGCT TTCCCTG    C  TTTAA   TCTTGA      T  A
        GTTTTATTTGAAAAATCGTC AGGGGAT    G  AAATT   AGAACT      A  T
        AAGACTATTAAAAGGCAAAT       AAAC GA     ATC      GCTAAAA GT -----------
        AGGGGA
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ATTCCTTCAGCCCTAGCTGC GAAGCT AC GAGG TTAG TTCCTTCAG CCT CT CTTTT TG TTT

TTTTATTCTGCTTTTTATTT TTTCGG TG CTTT GATC AAGGAAGTC GGA GG GAGAA AC AAA

AAACAAAAAGAGGGGGAGGA AAACA T- T A- TA G- G AA-- - ------
TCTGAAGGAAACTAGTTTTC
TGTACAAAGGCTTT
GAM7915 273648 AGTTCAGACATTCTAGACTG CA TTCT CG G TCAG AAAA
TTCCGTCAGACTCAGTTTCA AGTT GACA AGACTGTTC TCA AC TTTC
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CAGTCTTTGTCCGACT C- T--- AG G TA-- ----
GAM7916 273707 GGAGTCTTAAACGTGGTAGC ACGT A- - A G A TGAT G CGGA
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CCTGATGGCTCCCGGAGGAG TCTCAGAGTT CTA CGGGAC ACGATT CT ATTAT GG T GAGG

GTGGTATTAATCCTTAGCAT ---- AA T C A - ---- G ----
CAGGGCAAATCTTGAGACTC
T
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CACTGCTGCTCCCACACCAC GGCTT TCA ACC TTGTG TGCTGCT CAC
AGTGACTAGCAGCACATAAT TCGAA AGT TGG AATAC ACGACGA GTG
GGTTTGAATTAAAGCT ATTA T- T --- TCA ------
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TATGTGTTTGACATCCCCC CCC TAC AGTTTGTGT TAG TCTC
CC -- A TA -----
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GGAGGGCTTTCCTGAAGGAG TCTCCT CC GG CACCCACC CCCAC GG CCGG GAGG

TGGCCAGGGTTCACCCATCT AC- A --- TTTCTA TT GA---- T ----
TTCCACCCACGGACCCATCC
TCT
GAM7966 272924 CCCAGAACAAAGACCTCTAG - G C -- C A CCTAGACC- TTTC
CCAACATGTAAGCACCTAGA CC CA AACAAAGA C TCTAGCCAA ATGT AGCA ATGG
CCATGGTTTCCCATCCTTAT GG GT TTGTTTCT G AGATCGGTT TACA TTGT TACC
CATTGTTAACATTTTGGCTA T G T AT T A TACTATTCC ----
GATAGTTCTTTGTTGTGTGG
GAM7980 272875 CACGCGTCTTTGTGGTCACC CTTTGT ACCT T AA A T---- ATCATTTG
TGGCTTAGGAAGCTCACAAG CACGCGT GGTC GGCT AGG GCTCACA GG CCTC
GTCCTCATCATTTGGAGGTG GTGTGCA TCGG CCGA TCC TGAGTGT CC GGAG
TTTCCCTGTGAGTGCCCTCA TTCTT- ATC- C CG C TTTGT --------
GCCCTAGGCTTTCTTACGTG
TG
GAM8013 274173 GCTCTTGTTGCCCAGGCTGG T- TT C - ---- - A ATCT
AGTGCAGTGGCATGATCTCA GC CTTG GCCCAGG TGG AG TGCAGTG GC TG
GCTCACTGCAACCTCTGCCA TG GAAC TGGGTCC ACC TC ACGTCAC CG AC

CCTGGGTTCAAGCTGT TC T- - G TCCA T - ----
GAM8016 273817 CCATGGGCTCATTGTGACAG A - - G- C AA G - C C TTACAC ACCCT
GAAAAGTGCCTGCTGCTGCT CC TGG GCT CATT TGA AGG AA TGC CTG TG TGCTTCT CC

TCTTTACACCCACCCTGGCC GG ACT CGA GTAA ACT TCC TT ACG GAC AC ATGAAGA GG

AACAGAAGTACACAGTGCAG - A A GA - AC G T - - CAACC- -----
TTCACCTTCAAGAATGAAGC
ATCAGG
GAM8026 274596 TGGTTCATAATATTCCTTGC T TATTCCTT -------- - GGA TT CTT
AGATGTTGAACGATGGGCTG TGGT CATAA GCAGATGT TGAACG ATGGGCT TTGT
TGGAAC
GATTGTTTTGGAACCTTGTT ATCA GTATT CGTTTACA ACTTGT TACCCGA GACG ACCTTG

CCAGCAGAGCCCATGTGTTC - CGACATT- AAAGAAGT G --- -- ---
ATGAAGAAAACATTTGCTTA
CAGCTTATGACTA
GAM8031 273258 GCTATCAGTTCTTGCTATTC ------ C A TC - GTTTTTAG
TCAGAGCACTCTATCATGTT GCTATCAGTTCT TGCTATTCT AG GCAC TAT CAT
TTTAGGTGTATATTGTGTAT CGGTAGTCAAGA ACGATAGGA TT TGTG ATA GTG
TCAGGATAGCATTAAAAAGA AAAATT C A TT T --------
ACTGATGGC
GAM8047 272759 ACTCTTAAACCTTTAGAAAT AAAC GAAATGCTA CT- CTA CAATA
GCTACAGCATCTAGCTTCTC ACTCTT CTTTA CAGCAT AGCTTCT GAT
TAGATCAATAATCACAGAGG TGAGAA GAAAT GTCGTG TCGGAGA CTA
CTTAAGTGCTGACCTCATAA ATA- ACTCCA--- AAT CA- -----
AGATAAAGAGT
GAM8100 274032 TATGAGGGACATGAACACCT A C AACA- TG- GA TG GG TCCTGGAATTAAT

GCAGATTTTGGGGTCCACAG TATG GGGA ATG CC CA TTT G TCCACAGGGG
GGGTCCTGGAATTAATTCCC GTAC CTCT TAC GG GT AGA C AGGTGTCCCT
TGTGGATACTGAGAGATGAC - - CTACA TCA AG GT AT ----------
TGGACATCCATTCTCCATG
GAM8109 273144 GACAGGATTCCAGTACAGGT ATTC CTTCAT T GAATA
CTCTCATTTCCTTCATGATT GACAGG CAGTACAGGTCTCTCATTTC GA TAG
AGGAATACTACTTTGAAATG TTGTCT GTCATGTCCAGAGAGTAAAG TT ATC
AGAGACCTGTACTGTATCTG AT-- T----- C -----
TT
GAM8145 274209 GGACCAGACTATTGTGACAT - GA TT CAT -- A G--- TATTCAAT
GGAGAATGTAGAGGAATTAT GGA CCA CTA GTGA GGAGA ATGT GA GAAT
TCAATGTTCAGGATCAACAT CCT GGT GAT CACT CCTCT TACA CT CTTG
GATCTCCTCACTCTAGGATG A AG CT --- AG A AGGA --------
GATCC
GAM8164 273843 GGGGCAGAGCGGATGGAAGC CA-- C --- - AT GTTC ATAC
CGGAGATCCCAGGTTCCCGG GGGG GAG GGAT GGAAGCC GGAG CCCAG CCGGA

AATACTCCGGCTGGGGCCTT CCCC CTC CCTG TCTTCGG CTTC GGGTC GGCCT
CGGGCTTCTCCTGTCCCCTC ATCC C TCC G CG ---- ----
CCTACCCC
GAM8206 273474 GAGAATCACTTGAACCCAGG AA GA-- AGG GT A CAAGATCGT

AGGTGGAGGTTGCAGTGAGC GAG TCACTT ACCCAGG TGGAG TGCAGTG GC
CAAGATCGTGCCATTGCACT CTC GGTGAG TGGGTCC ACCTC ACGTTAC CG
CCAGCCTGGGTAACAGAGTG AG ACAA G-- -- - ---------
GGACTC
GAM8236 273379 TTATTTGTCAATATGTGGGG TCAAT G ACCTG -- ATG AG TAGCAGT
ATAACCTGTAGCTGCATTCA TTATTTG ATGT GGGATA TAGCTG CATTC AGGT CAAA
TGAGGTAGCAAATAGCAGTT AATAGAC TACG TCTTGT ATCGAC GTGGG TCCG GTTT
TTGGCCTGTGGGGTGAACAG ----- G GACAA AA GTG -- -------
CTAAACAGTGTTCTGGCATC
AGATAA
GAM8256 272890 CAGGAGTACGACGCTGTGGT C CT GTAG--- T A CA - CAGCCT
AGCTATGATCATGCCACTGC CAGGAGTA GACG GTG CTA GATC TGC CTG CACTC
ACTCCAGCCTGGGTGACAGA GTCCTCGT CTGT CAC GAT CTAG ACG GAC GTGGG
GCAAGATCTAGATAATTACA C CT ATTAATA - A A- A ------
CTCTGTCCTGCTCCTG
GAM8276 272766 AGAATCGCTTGAACCCAGGA AA GAA-- AG C GT A CAGGATCAC
GGCGGAGGTTGCAGTGAGCC AG TCGCTT CCCAGG G GGAG TGCAGTG GC
AGGATCACGCCACTGTACTC TC AGCGAG GGGTCC C CCTC ATGTCAC CG
CACCCTGGGCGACAGAGCGA AG ACAGC -- A -- - ---------
GACT
GAM8285 272912 CCAGAGGCTGTGACCATGGC AG-- TG CTA- - --- ACA--- T CCCAA
TAGTAGACAGTGGCAACATA CCAG GC TGACCATGG GTA GACAGT GGCA TAG CATC

GTCATCCCCAAGATGCTAAT GGTC TG ACTGGTACT CAT CTGTCA TCGT ATC GTAG
CTTCTGCTGGAACTGTCATA CAAA TA ATTG A AGG CTTCTA - -----
CGTTATCATGGTCAATGTAA
ACCTGG
GAM8288 273344 TGGGGTGCTCATCTTCTGTA G -- C G T GG - - CGGT
ACTGTTGGGAAGGCTCGGTG TGGG TG CTCAT TTCT TAACTG TG AA GG CT
GTCCATTTTCACCAGTTAAA ACCC AC GAGTA AAGA ATTGAC AC TT CC GG
GAATATGAGGCCAGCCCA G CG T A C TT A T ----
GAM8311 273585 GGAGAATCACTTTAACCAGA AA A A-- AG A GT - A C AGAT
GAGTTGGAGGTTGCAGGGAG GGAG TC CTTT ACC AG GTTGGAG TGCAG GG GC G
CCGAGATCGCACCACTGCAC CCTC AG GAAA TGG TC CGACCTC ACGTC CC CG C
TCCAGCCTGGGTGACAAAGC AG C CAG G- - -- A A - ----
GAGACTCC
GAM8335 274624 TTCCTCCAGTTTTCAGTCAC C TCAG - A TCT - CCATC GAAT
TCAGTAGATGTCTGTACTAT TTC TCCAGTTT TCACTCAG TAG TG GTAC TATCATAT ATAT

CATATCCATCATATGAATAT AAG AGGTCAAA AGTGAGTC ATC AC CATG ATAGTATA TATA

ATCACATATGATAGGTACCA A ---- T A --- G CAC-- ----
ACTATCTGAGTGAAAACTGG
AAGAA
GAM8339 273920 CCTAAAACATAAGTGAAGAT AAAC A GAT T T --- TCAT
CAGGCTACAGTGCTTTTCTC CCTA AT AGTGAA CAGGC ACAG GCTTT TC
ATGACATGGAGCCTTGTTGT GGAT TA TCACTT GTTTG TGTT CGAGG AG
TTGTTCACTCATTCTAGG CT-- C --- T C TAC ----
GAM8349 273879 GTAAATCTCCCTGATACCAT TCCCT TACCATC AAAC GAAATGCTA CT-
CTA C

CACTCTTAAACCTTTAGAAA GTAAATC GA ACTCTT CTTTA CAGCAT AGCTTCT GAT
TGCTACAGCATCTAGCTTCT CATTTAG CT TGAGAA GAAAT GTCGTG TCGGAGA CTA
CTAGATCAATAATCACAGAG TACC- ------- ATA- ACTCCA--- AAT CA- -
GCTTAAGTGCTGACCTCATA AATA
AAGATAAAGAGTTCCCATGA
TTTAC

GAM8362 274169 GCTCACACAGCAAGTCTTTG C A CT TG AA TTAGGAATG - CCCTCC CA--
TCAAAGCTTAGGAATGGAAG GCTCACA AGCA GT T TCA GC GAAGTA GGTTGTC TAGT
TGGG
TAGGTTGTCCCCTCCTAGTC CGAGTGT TCGT CA A AGT CG TTTCGT CTAACAG ATCA
ACCT
ATGGGATCTCTCCAACTCAC C A -- GT -- TGCA----- T ------ CTCA
TAGACAATCTTGCTTTACGT ATCTC
GCTGATGAACATGCTCTGTG
AGC

GAM8380 274582 TGGGCAAAAAGTGAGAAAGT CAAAAAG AAG - GG-- C TTACA AAAC
AAGACTGTGGGAGGTGACTG TGGG TGAGAAAGT ACTG T GAGGTGA TG GATCGGA

TTACAGATCGGAAAACTCTG ACCC ACTCTTTCA TGAC G TTTCACT AC TTAGTCT
ATTGAACCATTCACTTTATT CA----- AA- C ATTA T CAAG- ----
AGCCAGTAAACTTTCTCAAC
CCCA
GAM8386 273746 GGCTTGGGCCGACCCCAGAG T G -- CCCATCACC
AGAGCCCATCACCTTCTTTT GGCT GG CC GACCCCAGAGAGAG
TGGGGTTTGGGGCTTGGCC CCGG TC GG TTGGGGTTTTTCTT
T G GT ---------
GAM8389 272961 AAGTTACCCTGTGACAGTCA - GA ---- TGTG C TGG
TTCATCTGTGCTCTGGGTGG AAGTTAC CCTGT CAGT CATTCATC CT TGGG
CCCATGGGATGAGTGTACTA TTCAATG GGACG GTCA GTGAGTAG GG ACCC
CTGGGCAGGTGTAACTT T G- TCAT ---- T ---
GAM8396 274470 TCCACAGTTTGATCTCTTCT C A -- C T CCTCCA TCTTT TCCTCTTCCT
CTGTTCCCTCCACACTCTTC TCCA AGTTTG TCT CTTCT TG TC CACTCT TGC
TTTTGCTCCTCTTCCTGTAT GGGT TCGAAC AGA GAAGG AC AG GTGAGA ATG
TTCAGAGTGGTTAAGATCAT A - CT T T AATTG- CTTT- ----------
GGAAGTCAGACAAGCTATGG
G
GAM8412 274415 GTTCTCTTGAGACTAGTAGG TT A - G A AAAGC AAAATAAATAGAAAGAAGG

CATAGAAGAAAGCAGAAGGA G CTCTTGAG CT AGTAG CAT GAAG AGAAGG
AAATAAATAGAAAGAAGGTC T GAGGACTC GA TTATC GTA CTTC TCTTCT
TTCTACCTTCATGGCTATTC GG G C G - CA--- ----------
AGGCTCAGGAGGGT
GAM8439 274622 TTCCATGGGCAGGGGCCATG GG GG GACA AT CCACA
ACAGGGAGATAGGCCACACC TTCCAT GCAGG CCAT GGGAG AGG
TTTCCCAGGTGGAACCTGCA GAGGTA CGTCC GGTG CCCTT TCC
GATGGAG GA AA GA-- -- -----
GAM8447 273354 TGGTGGCATATGCGTGTAAT G TA--- G--- - G A --- TGAGGCAGGAGAATT
CCCAGCTACTTGGGAGGCTG TGGT GCA TGC TGTAATC CCA CT CTTGGG AGGC

AGGCAGGAGAATTGCTTGAA ACCA CGT ACG ACATTGG GGT GA GGACCC TTCG
CCCAGGAGGTGGAGGTTACA - TAGAG AGTG A G - AAG ----------
GTGAGCAGAGATTGCACCA
GAM8452 273823 CCCAGCCCAAGATTGAATTC C GA------ C T GAATTGCAG
TGATTAAAGGAGGCTGAATT CCCAGC CAA TTGAATT TGAT AAAGGAGGCT
GCAGAGCCTCCTTTCATCAA GGGTCG GTT AGCTTAA ACTA TTTCCTCCGA
ATTCGAGTTTTGAATTGAGC A AAGTTTTG - C ---------
TGGG
GAM8473 273147 GACCAGCCATCCTGGTTTAC - T TG ACA - GAA
ATGGGACGCAGGAACTGCCG GACCAGC CA CC GTTT TGGGACG CAG
TTTTAAAGCTGGGCTGAGTT CTGGTTG GT GG CGAA ATTTTGC GTC
GGTC A C GT --- C ---
GAM8489 273272 GCTGTTGGTGAGTATGGAGA G TGA G --- C CA- GGC
TCTCTGCCCTTGTCAGAGGA GCT TTGG GTATGGA ATCT CTGCC TTGT GAGGAA
AGGCTTCCTCATCACAAGGC CGA AACC CGTGTCT TGGA GACGG AACA CTCCTT
AGGGCAGGTGTCTGTGCCCA G --- G CGG - CTA ---
AGAGC
GAM8506 273407 TTGGTTAGGTAGTGGAACCT TA-- C A CTATGTGATTCC
TCTAAATGACGCACTATGTG TTGGTTAGG GTGGAAC TTCTA ATGACGCA
ATTCCTGTGTCATATAGAAT GACCGATTC TATCTTG AAGAT TACTGTGT
GTTCTATGATTCTTAGCCAG TTAG T A ----------
GAM8531 274555 TGATAGCAACTCTGCTTCCT T - ---- T ACAGG
TGCCTCAGGACAGGTTTGTG TGA AGCAACT CTGCT TCCTTGCC CAGG
GCAAGGAAGAAAGCAGAAGT ACT TCGTTGA GACGA AGGAACGG GTTT
TGCTTTCA T A AAGA T -----
GAM8539 274016 TACTTGGGATCAGTTAGTCT A- -- TTA CCT A-- A TTGGAGA G TTA--
AGAGCCTGCAAAGCAAGTGG T CTTGG GATCAG GTCTAGAG GCA AGCA GTGGC GATAGT
AT G
CTTGGAGAGATAGTGATTTA A GAATT TTAGTC CGGGTCTT CGT TTGT CACCG TTGTCA TG
T
GCTCAAGAGGGAGTGAGATG GG TA --- TT- AAA A ------- G TAGAG
TGACTGTTGCCACATGTTAA AAGAGG
ATGCTTTTCTGGGCCTGATT CTC
ATTTAAGGGA GAG

GAM8542 273987 GTGGCGTTTATTCCCTTAGT GTTTA A AT-- - G CAG
ATGTAGGTGACCCAGGGTGG GTGGC TTCCCTT GT GTAG GT ACC
CTTTGCTTTGGCAAGGGAGA CACTG GAGGGAA CG CGTT CG TGG
AGTCAC AA--- - GTTT T G ---
GAM8563 272749 ACATGTCATATTGAGCCTCC T A CCT -- CAG CATA
TACTGAACTCAGCCACATAT ACATG CAT TTGAG CCTACT GAACT CCA
GGAAGTTTGAAGTGGGTCCT TGTAC GTA AGCTC GGGTGA TTTGA GGT
CGAAATGCATGT - A CT- AG A-- ----
GAM8573 274457 TCAGACTTGCATTTCACCAG GA TG -- - GG T TGC
GCATTCTTTAGCTGCCTGCG TCA CT CAT TTCA CCA CATTCTTTAGC GCC
GTGCTAAAGAATGGGTGGCT AGT GA GTG GGGT GGT GTAAGAAATCG TGG
GGGCTGTGTGAGATGA A- GT TC C GG - ---
GAM8598 273416 TTTTGGCCCTGTGCTCTTGA C------- - G- AGAGT GA C TCACATTT
TAACAGAGTGTTTGAGGGAC TTTTGGC CTGTG CTCTT ATAAC GTTT GGGA AACTT
AACTTTCACATTTGAGTTTT AAAACTG GACAC GAGAA TGTTG TAAA CCTT TTGAG

TCCAAAATTAAAGGTTGTAG TTATCTAT T GA GAAAT A- T --------
AAGAGTCACAGTATCTATTG
TCAAAA
GAM8601 274425 TAAATTGGAATGACAGAAGA AATTGGA GA AAGA G G TATAT
TGAGAGCTAGGAAGTGGTAT TA AT CAG TGAGA CTAGGAA TGG
ATTTAATTTCTAGATTTCAG AT TG GTC ACTTT GATCTTT ATT
GGCTGGAGTGGTGGAGTA GAGGTGG AG GGG- A A -----
GAM8611 273057 CTCATAGTGGTAGATAGCTT AT - CTT T GG G TATGT
ATTGGTCAGGGTAGATAGAG CTC AGTGGTAG ATAG ATTGG CAG TA ATAGAGA
ATATGTTTTCTGTGTAACTG GAG TTACCATC TGTT TGATC GTC AT TGTCTTT
TCTAGTTTTTGTCCTACCAT GC C TT- T A- G -----
TCGGAG
GAM8631 274476 TCCCGGAGTTTATGGTCTGG GAG-- TCT- TG A C T TGCCA TCTA
TGAGAAGATCCCTGCTCTGA TCCCG TTTATGG GG AGAAG TCCCTG TC GAGTCAC AGC

GTCACTGCCAAGCTCTAGCT GGGGC AAATATC CC TCTTT AGGGAC AG TTCAGTG TCG

ATGTGACTTTGAACAGGGAA AAATA TATC TG A A T TA--- ----
TTTCTGTCCCTATCTATAAA
ATAAACGGGG
GAM8636 273214 GAGGTAGGTGCTTTAACTGT ----- TG TA--- T CCTG- AGGT
GTGCACCCTGTGAGGTAGGT GAGGTAG G CTT AC GTGTGCAC TGAGGT
GCTTTAACTGTGTGCACATT CTTCGTC C GGA TG TACACGTG ATTTCG
GTGAGGTAGGTGCTGAAACT AAAGT GT TGGAG T TGTCA ----
GCTTC
GAM8647 274434 TAGCACCCCTTGCCCTGTGT C TT-- CC G AAC AA - CTTCAGA
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CCTTCAGAGAAGACTGCAGC ATCGT GGG CG ACACAGG ACC TC CGTC GAAG
TCCCAAGGACACAAGCTGTT A TTGT A- A C-- GA A -------
GGGATGCTA
GAM8665 274538 TGAGGCAGGAGAATCACTTG GAGAA A GA-- GGG A GT AGC AGAT
AACCTGGGAGGCAAGAGGTT TGAGGCAG TC CTT ACCT AGGC AGAG TGCAGTG TG

GCAGTGAGCTGAGATCATAC ACTCTGTC AG GAG TGGG TCCG TCTC ACGTCAC AC
CACTGCACTCTGGCCTGGGT AG--- C ACAA --- G -- CAT ----
AACAGAGCGAGACTGTCTCA
GAM8678 274387 GTGAGATGTGTTCCAGGAAG AG CC C- ---------- CCCAT
TCGTCTTGAGCACCCATTGC GTG ATGTGTT AGGAAGT GTCT TGAGCA
TCAGAGTTTATATTGGACTT CAC TACACGA TCTTTCG CAGG ACTCGT
GCTTTCTAGCACATACCAC CA -- TT TTATATTTGAG -----
GAM8693 273624 AGGTGGCAGAGAGGCAATAT TG- A TATCAA T CATCACA
CAATCCTTCTGCATCACACA AGG GCAG GAGGCAA TCCT CTG
GTGGGAAAAGTTTGTCTCAT TCT CGTT CTCTGTT AGGG GAC
TGCAGTTCT TGA A TGAAA- T -------
GAM33612 272971 ACACACGTGAGATGTGTTCC CAC AG CC C- ---------- CCCAT
1 AGGAAGTCGTCTTGAGCACC ACA GTG ATGTGTT AGGAAGT GTCT TGAGCA
CATTGCTCAGAGTTTATATT TGT CAC TACACGA TCTTTCG CAGG ACTCGT
GGACTTGCTTTCTAGCACAT TAA CA -- TT TTATATTTGAG -----
ACCACAATTGT
GAM33612 273606 AGGCAGGAGAATTGCTTGAA CA AA GAA--- AGG GT - AGT AGAT

2 CCCAGGAGGTGGAGGTTGCA AGG GGAG TTGCTT CCCAGG TGGAG TGCAG GG CG

GGGAGTCGAGATCGTGCCAC TCT CCTC AACGAG GGGTCC ACCTC ACGTC CC GC
TGCACTCCAGCCTGGGCAAT A- AA AGTAAC G-- -- A GT- ----
GAGAGCAAAACTCCATCT
GAM33612 272806 AGGCAGGAGAATTGCTTGAA G AA - AA- GGA - GT A - AGAT
3 CCTGGAAGGCGGAGGTTGCA AGGCAG AG TTGCT TG CCT AGGC GGAG TGCAGTG GC CA

GTGAGCCAAGATTGTGCCAC TCTGTC TC AGCGA AC GGG TCCG CCTC ACGTCAC CG GT

TGCACTCCAGCCTGGGCAAC - AG C AAC --- A -- - T ----
ACAGCGAGACTCTGTCT
GAM33612 273607 AGGCAGGAGAGTCGCTGGAA A AG GAA-- GAG - CT A - AGAT
4 CCTGAGAGGCGGAGCTTGCA AGGC GGAG TCGCTG CCT AGGC GGAG TGCAGTG GC CG

GTGAGCCGAGATCGCGCCAC TCTG CCTC AGCGAC GGG TCCG CCTC ACGTCAC CG GC

TGCACTCCAGCCTGGGCAAC - AG ACAAC --- A -- - C ----
ACAGCGAGACTCCGTCT
GAM33612 272856 ATGGCGTGAACCCGGGAGGC G G- AA- AGGC CT A - AGAT
5 GGAGCTTGCAGTGAGCCGAG AT GC TG CCCGGG GGAG TGCAGTG GC CG
ATCGAGCCACTGCACTCCAG TA CG AC GGGTCC CCTC ACGTCAC CG GC
CCTGGGCAACAGAGCGAT G AG AAC GA-- -- - A ----
GAM33612 273943 CTACTCTGGAGGCTGAGGCA A GGAGGC---- GAA AA--- AGGCA GT TG A
6 GGAGAATCGCTTTAACCCGG CT CTCT TGAGGCAGGA TCGCTTT CCCGGG GAG TG
GTG GC
GAGGCAGAGGTTGTGGTGAG GA GAGA ACTCTGTCTT GGCGAGA GGGTCC CTC AC
TAC CG
CCGAGATCGCGCCATTGCAC - AAAAAAAAAA AA- ACAAC GAC-- -- GT -
TCCAGCCTGGGCAACAAGAG - AGAT
CGGAATTCTGTCTCAAAAAA CG
AAAAAAGAGAG GC
C ----
GAM33612 273055 CTCAGGAGGCTGAGGCAGGA AG A AGGA TGAGC GGAG C AGCCG
ACGATG
7 GGATCACTTGAGCCTGGGAG CTCAGG GCTG GGCAGG TCACT CTG GTCTAGGCTG AGTG
GG
GTCTAGGCTGCAGTGAGCCG GGGTCT CGAC CTGTCC AGTGA GAC CGGGTCCGAC TCAC
CC
GGACGATGCCACTGCACTCC CA C CAG- ----- AA-- C GTCA- ------
AGCCTGGGCAACAGAGTGAG
ACCCTGTCCCAGCACTCTGG
G

GAM33612 273083 CTGAGGCAGAGAATCTCTTG AAT-- TGAA TG AGG GT AG CGAGATT
8 AACCTGGGAGGTGGAGGTTG CTGAGGCAGAG CTCT CC GG TGGAG TGCAGTG C
CAGTGAGCCGAGATTGTCCA GACTCTGTCTC GAGA GG CC ACCTC ACGTCAC G
CTGCACTCCAGCCTGGGCAA AGAAT CAAC GT G-- -- CT -------
CAGAGTAAGACTCTGTCTCA
G

GAM33612 273972 CTGAGGCAGGAGAATCACTT G AA GAA--- TG AAA GT A - AGAT
9 GAACCTGGGAAATGGAGGTT CTGAGGCAG AG TCACTT CC GG TGGAG TGCAGTG GC CA

GCAGTGAGCCAAGATTGAGC GACTCTGTC TC AGTGAG GG CC ACCTC ACGTCAC CG GT

CACTGCACTCCAGCCTGGGC - AA AACAAC GT G-- -- - A ----
AACAAGAGTGAAACTCTGTC
TCAG
GAM33613 273098 CTGGAACCCAGGAGGAGGAG GAA AGGA - T -- GCCAAGA
0 GTTGTGGTGAGCCAAGATCG CTG CCCAGG GGAG GT GTGGT GA
TGCCACTGCACTCCAGCCTG GAC GGGTCC CCTC CG CACCG CT
GGCAACAG AAC GA-- A T TG -------
GAM33613 273435 CTTGAACCCAGGAGGTGGAG AA- AGG AT A CGAGACCAC
1 ATTGCAGTGAGCCGAGACCA CTTG CCCAGG TGGAG TGCAGTG GC
CGCCACTGCACTCCAGCCTG GAAC GGGTCC ACCTC ACGTCAC CG
GGCAACAAG AAC G-- -- - ---------
GAM33613 273118 CTTGAACCCGGGAGGTGGAG AA- AGG GC AACC ACC
2 GCTGCAGTGAACCCAGACCC CTTG CCCGGG TGGAG TGCAGTG CAG
TGCCACTGCACTCCAGCCTG GAAC GGGTCC ACCTC ACGTCAC GTC
GGCAACAAG AAC G-- -- C--- ---
GAM33613 273438 CTTGAACCTGGGAGGTGGAG AA TG AGG GCTA A - AGAT
3 GCTACAGTGAGCTGAGATCA CTTG CC GG TGGAG CAGTG GC TG
TGCCACTGCACTCCAGCCTG GAAC GG CC ACCTC GTCAC CG AC
GGCAAG -- GT G-- AC-- - T ----
GAM33613 273465 GAATCGCTTGAACCTGGGAG -- GAA-- TG AGGAA GT A- GAGAT
4 GAAGAGGTTGCAGTGAGCCG GAATC GCTT CC GG GAG TGCAGTG GCC
AGATGGCACCACTGCACTCC CTTAG CGAG GG CC CTC ACGTCAC CGG
AGCCTGGGCAACAGAGCAAG AA ACAAC GT GAC-- -- CA -----
ATTC
GAM33613 273143 GACAGCTGGAATGTTCTGAA AGC AA - -- A TC GAAATCTG- A ACATTG T
5 GAACTGGGTGATCTTGTGAA GAC TGG TGTT CTG AAG ACTGGGTGA TTGT TGG CCCT
GCAC
ATCTGTGGACCCTACATTGG CTG ACT ACAA GAC TTC TGACTTACT AATA ATC GGGA
TGTG
CACTTAGTGTGTACCTAAGG A-- GG A GT G GA AACCCTGCA - ATCCA- -
GCTAACGTCCCAAATAAAGT TAGT
CATTCAGTGCTTTGCAGAAA
CAGGTCAAGTC

GAM33613 273475 GAGAATCGCTGGAACCCAGG AATCG-- GAA AGGA - T -- GCCAAGA
6 AGGAGGAGGTTGTGGTGAGC GAG CTG CCCAGG GGAG GT GTGGT GA
CAAGATCGTGCCACTGCACT CTC GAC GGGTCC CCTC CG CACCG CT
CCAGCCTGGGCAACAGAACA AGAACAA AAC GA-- A T TG -------
AGACTC
GAM33613 273476 GAGAATCGCTGGAACCCAGG ATCG-------- GAA AGGA - T -- GCCAAGA
7 AGGAGGAGGTTGTGGTGAGC GAGA CTG CCCAGG GGAG GT GTGGT GA
CAAGATCGTGCCACTGCACT CTCT GAC GGGTCC CCTC CG CACCG CT
CCAGCCTGGGCAACAGAACA GCCTCAGAACAA AAC GA-- A T TG -------
AGACTCCGTCTC
GAM33613 273154 GAGAATCGCTTGAACCCCGG AA GAAC-- GG A- AT A CGAGATCAT

8 AGGCAGAGATTGCAGTGAGC GAG TCGCTT CCC AGGC GAG TGCAGTG GC
CGAGATCATGCCACTGCACT CTC AGCGAG GGG TCCG CTC ACGTCAC CG
CCAGCCTGGGCAACAAGAGC AA AACAAC -- AC -- - ---------
GAAACTC
GAM33613 273158 GAGAATTGCTTGAACCCGGG AA TG GAA-- AGG GT A - AGAT
9 AGGTGGAGGTTGTAGTGAGC GAG T CTT CCCGGG TGGAG TGTAGTG GC CG
CGAGATCGCGCCACTGCACT CTC A GAG GGGTCC ACCTC ACGTCAC CG GC
CCAGCCTGGGCAACAGAGTG AG GT ACAAC G-- -- - C ----
AGACTC
GAM33614 273164 GAGACAGGAGAATCGCTAGA A AA AGAA--- TAG A- GT A GAGAGAG
0 ACCCTAGAGGCAGAGGTTGC GAGAC GGAG TCGCT CCC AGGC GAG TGCAGTG GCA

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CTGCACTCCAGCCTGGGCAA - AA GAACAAC --- AC -- - -------
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GAM33614 273483 GAGACAGGAGAATTGCATGA A AA A- AA- AGGCA GT A - AGCT
1 ACCCAGGAGGCAGAGGTTGC GAGAC GGAG TTGC TG CCCAGG GAG TGCAGTG GC TG

AGTGAGCTGAGCTCGTGCCA CTCTG CCTC AGCG AC GGGTCC CTC ACGTCAC CG GC

CTGCACTCCAGCCTGGGCAA - AG AA AAC GAC-- -- - T ----
CAAAGCGAGACTCCGTCTC
GAM33614 273484 GAGACAGGAGAATTGCTTGA G AA - AA- TGG - GTTA A- AAGAT
2 ACCTGGCAGGCGGAGGTTAC GAGACAG AG TTGCT TG CC CAGGC GGAG CAGTG GCC

AGTGAGCCAAGATGGTACCA CTCTGTC TC AACGA AC GG GTCCG CCTC GTCAC TGG

CTGCACTCCAGCCTGGGCAA - AC T AAC --- A AC-- CA -----
CATAGCAACACTCTGTCTC
GAM33614 273174 GAGATGGGAGGTTCACTTGA AT- A-- AC AA AGG - T G CCAACATC
3 ACCCAGGAGGTGGAGGCTGT GAG GGG GGTTC TTG CCCAGG TGGAG GC GTGGT AG

GGTGAGCCAACATCCTGCCA CTC CTC CCGAG AAC GGGTCC ACCTC CG CACCG TC

CTGCACTCCAGCCTGGGCAA AGT AAA AC -- G-- A T - --------
CAGAGCCAAACTCTGACTC
GAM33614 273178 GAGGATCCCTGAGTGGGGGT GATCC G GGG G ----- A CATGATCAA
4 TGAGGCTGCAGTGAGCCATG GAG CT AGTG GTT AGGCT GCAGTG GC
ATCAAGCCACTGCACTCCAG CTC GA TCAC CGG TCCGA CGTCAC CG
CCTGGGCAACACTGAGACAC ACA-- G AA- G CCTCA - ---------
TC
GAM33614 273497 GAGGATCCCTGAGTGGGGGT - TCC- G GGG G ----- A CATGATCAA
5 TGAGGCTGCAGTGAGCCATG GAG GA CT AGTG GTT AGGCT GCAGTG GC
ATCAAGCCACTGCACTCCAG CTC CT GA TCAC CGG TCCGA CGTCAC CG
CCTGGGCAACACTGAGACAC T CACA G AA- G CCTCA - ---------
TCTCTC
GAM33614 273182 GAGGCAGAAGAATCACTTCA A AA A AA--- TG AGG GT A- TGACATT
6 ACCTGGGAGGTGGAGGTTGC GAGGCAGA G TC CTTC CC GG TGGAG TGCAGTG GC

AGTGAGCTGACATTGCGCCA CTCTGTCT C AG GGAG GG CC ACCTC ACGTCAC CG

CTGCACTCCAGCCTGGGCAA - AC - ACAAC GT G-- -- CG -------
CAGAGGGACACTCTGTCTC
GAM33614 273499 GAGGCAGAAGAATGGCCTGA AGAATG - AA- AGGC CT A - AGAT
7 ACCCAGGAGGCGGAGCTTGC GAGGCAGA GC CTG CCCAGG GGAG TGCAGTG GC TG

AGTGAGCTGAGATCACGCCA CTCTGTCT CG GAC GGGTCC CCTC ACGTCAC CG AC
CTGCACTCCAGCCTGGGCAA CAGAA- A AAC GA-- -- - C ----
CAGAGCAAGACTCTGTCTC
GAM33614 273500 GAGGCAGAGAATTGCTCGAA G AGAA GAA-- AGACA GT A - AGAT
8 CCCGGGAGACAGAGGTTGCA GA GCAG TTGCTC CCCGGG GAG TGCAGTG GC CG

GTGAGCCGAGATTGTGCCAC CT CGTC AGCGAG GGGTCC CTC ACGTCAC CG GT
TGCACTCCAGCCTGGGCAAC G AG-- ACAAC GAC-- -- - T ----
AGAGCGAGACTGCGTC
GAM33614 273185 GAGGCAGGAGAACAGCTTGA A AACA GAA--- GGCA GT A - AGAT
9 ACCCAGGTGGCAGAGGTTGC GAGGC GGAG GCTT CCCAGGT GAG TGCAGTG GC TG

AGTGAGCTGAGATCATGCCA CTCTG CCTC CGAG GGGTCCG CTC ACGTCAC CG AC

CTGCACTCCAGCCTGGGCAA - AGAG AACAAC AC-- -- - T ----
CAAGAGCGAGACTCCGTCTC
GAM33615 273504 GAGGCAGGAGAATCACTTGA G AA GAA--- TG AAA GT A - AGAT
0 ACCTGGGAAATGGAGGTTGC GAGGCAG AG TCACTT CC GG TGGAG TGCAGTG GC CA

AGTGAGCCAAGATTGAGCCA CTCTGTC TC AGTGAG GG CC ACCTC ACGTCAC CG GT

CTGCACTCCAGCCTGGGCAA - AA AACAAC GT G-- -- - A ----
CAAGAGTGAAACTCTGTCTC
GAM33615 273505 GAGGCAGGAGAATCACTTGA G AA A GAA--- TG AGA GT GC AGAT
1 ACCTGGGAGATGGAGGTTGC GAGGCAG AG TC CTT CC GG TGGAG TGCGGTGA CG

GGTGAGCCGAGATCGCATCA CTCTGTC TC AG GAG GG CC ACCTC ACGTCACT GC
CTGCACTCCAGCCTGGGCAA - AA C AACAAC GT G-- -- AC ----
CAAGAGCGAAACTCTGTCTC
GAM33615 273188 GAGGCAGGAGAATCACTTGA A AA GAA--- TG AGG GT A- GAGAT
2 ACCTGGGAGGTGGAGGTTGC GAGGC GGAG TCACTT CC GG TGGAG TGCAGTG GTC

AGTGAGTCGAGATGGCGCCA CTCTG CCTC AGTGAG GG CC ACCTC ACGTCAC CGG

CTGCACTCCAGCCTGGGCAA - AA AACAAC GT G-- -- CG -----
CAAGAGTGAAACTCCGTCTC
GAM33615 273507 GAGGCAGGAGAATCGCTTGA A AA GAA-- AGA GT A - AGAT
3 ACCCAGGAGATGGAGGTTGC GAGGC GGAG TCGCTT CCCAGG TGGAG TGCAGTG GC TG

AGTGAGCTGAGATCACGCCA CTCTG CCTC AGTGAG GGGTCC ACCTC ACGTCAC CG AC

CTGCACTCCAGCCTGGGCAA - AG ACAAC G-- -- - C ----
CAGAGTGAGACTCCGTCTC
GAM33615 273508 GAGGCAGGAGAATCGCTTGA A AATC GAA--- AGGC GT A - AGAT
4 ACCCAGGAGGCGGAGGTTGC GAGGC GGAG GCTT CCCAGG GGAG TGCAGTG GC CA

AGTGAGCCAAGATTGCGCCA CTCTG CTTC CGAA GGGTCC CCTC ACGTCAC CG GT
CTGCACTCCAGCCTGGGCAA - AAAA AACAAC GA-- -- - C ----
CAAAAGCAAAACTTCGTCTC
GAM33615 273510 GAGGCAGGAGAATCGCTTGA GAA GAA-- AGG GT GC AGAT
5 ACCCAGGAGGTGGAGGTTGC GAGGCAGGA TCGCTT CCCAGG TGGAG TGCAGTGT CG

AGTGTGCCGAGATCGCGACA CTCTGTCTT AGTGAG GGGTCC ACCTC ACGTCACA GC

CTGCACTCCAGCCTGGGCAA AA- GCAAC G-- -- GC ----
CGGAGTGAAATTCTGTCTC
GAM33615 273512 GAGGCAGGAGAATCGCTTGA GAGAA GAA--- G- GAGGTTA A - AGAT
6 ACCCGGGGGGAGGAGGTTAC GAGGCAG TCGCTT CCCGGG GGAG CAGTG GC TG

AGTGAGCTGAGATCGCGCCA CTCTGTC AGTGAG GGGTCC CCTC GTCAC CG GC
CTGCACTCCAGCCTGGGCAA AA--- AACAAC GA AC----- - C ----
CAAGAGTGAAACTGTCTC
GAM33615 273514 GAGGCAGGAGAATCGCTTGA A AA GAA-- TG AGG GT A CGAGATCAT
7 ACCTGGGAGGTGGAGGTTGC GAGGC GGAG TCGCTT CC GG TGGAG TGCAGTG GC

AGTGAGCCGAGATCATGCCA CTCTG CTTC AGCGAG GG CC ACCTC ACGTCAC CG
CTGCACTCCAGCCTGGGCAA - AG ACAAC GT G-- -- - ---------
CAGAGCGAGACTTCGTCTC
GAM33615 273193 GAGGCAGGAGAATGGCATGA CA AATG A- AA- AGGC CT A - AGAT
8 ACCCAGGAGGCGGAGCTTGC GAGG GGAG GC TG CCCAGG GGAG TGCAGTG GC CG

AGTGAGCCGAGATTGCGCCA CTCT CCTC CG GC GGGTCC CCTC ACGTCAC CG GT
CTGCACTCCAGCCTGGGCAA A- AGAA AG AAC GA-- -- - C ----
CGGAGCAAGACTCCATCTC
GAM33615 273520 GAGGCAGGAGAATGGCCTGA G AATG - AA- AGG CT A- CGAGATA
9 ACCTAGGAGGTGGAGCTTGC GAGGCAG AG GC CTG CCTAGG TGGAG TGCAGTG GC

AGTGAGCCGAGATAGCGCCA CTCTGTC TC CG GAC GGGTCC ACCTC ACGTCAC CG

CTGCACTCCAGCCTGGGCAA - AGAG A AAC G-- -- CG -------
CAGAGCGAGACTCTGTCTC
GAM33616 273196 GAGGCAGGAGAATTACTTGA A AATTA-- AAA- AGG GT A - AGAT
0 AACCAGGAGGTGGAGGTTGC GAGGC GGAG CTTG CCAGG TGGAG TGCGGTG GT CG

GGTGAGTCGAGATCGTGCCA CTCTG CCTC GAAC GGTCC ACCTC ACGTCAC CG GC

CTGCACTCCAGCCTGGGCAA - AAAACGA AACG G-- -- - T ----
CAAGAGCAAAACTCCGTCTC
GAM33616 273524 GAGGCAGGAGAATTGCTTGA A AA GAA-- A- C AAGC A CAAGATAGT
1 ACCCAGGAGGCAGAAGCTGC GAGGC GGAG TTGCTT CCCAGG GG AG TGCAGTG GC

AGTGAGCCAAGATAGTGCCA CTCTG CCTC AGCGAG GGGTCC CC TC ACGTCAC CG

CTGCACTCCAGCCTGGGCAA - AG ACAAC GA - ---- - ---------
CAGAGCGAGACTCCGTCTC
GAM33616 273525 GAGGCAGGAGAATTGCTTGA GAGAA GAA-- AGGC GT A - AGAT

2 ACCCAGGAGGCGGAGGTTGT GAGGCAG TTGCTT CCCAGG GGAG TGTAGTG GC TG

AGTGAGCTGAGATCACGCCA CTCTGTC AACGAG GGGTCC CCTC ACGTCAC CG AC
CTGCACTCCAGCCTGGGCAA AG--- ACAAC GA-- -- - C ----
CAGAGCAAGACTGTCTC
GAM33616 273200 GAGGCAGGAGAATTGCTTGA A AA GAA-- TG AGGCA GT A - AAAT
3 ACCTGGGAGGCAGAGGTTGC GAGGC GGAG TTGCTT CC GG GAG TGCAGTG GC TG

AGTGAGCTGAAATCGCGCCA CTCTG CCTC AACGGG GG CC CTC ACGTCAC CG GC
CTGCACTCCAGCCTGGGCAA - AG ATAAC GT GAC-- -- - C ----
TAGGGCAAGACTCCGTCTC
GAM33616 273201 GAGGCAGGAGAATTGCTTGA A AA GAA-- TG A- TGAA T A - AGAC
4 ACCTGGGAGGTGAAGGTTGC GAGGC GGAG TTGCTT CC GG GG GGT GCAGTG GC TG

AGTGAGCTGAGACCATGCCA CTCTG CCTC AACGAG GG CC CC TCA CGTCAC CG AC

CTGCACTCCAGCCTGGGCAA - AA ACAAC GT GA ---- - - T ----
CAGAGCAAAACTCCGTCTC
GAM33616 273528 GAGGCAGGAGAATTGCTTGA G A TG GAA-- GTCA GTC AGCC ATCC
5 ACTCAGGGTCAGAGGTCGCA GAGGCAG AGA T CTT CTCAGG GAG GCAGTG GAG
GTGAGCCGAGATCCCTCCAC CTCTGTC TCT A GAG GGGTCC CTC CGTCAC CTC
TGCACTCCAGCCTGGGCAAC - G GT ACAAC GAC- A-- ---- ----
AGAGTGAGTCTCTGTCTC
GAM33616 273204 GAGGCAGGAGGATCACTTGA C GGA A GAG GGA AG C A- CATGATT
6 GTGTGGAAGGTTGAGGCTGT GAGG AGGA TC CTT TGT AGGTTG G TGTAGTG GC
AGTGAGCCATGATTGCACCA CTCT TCCT AG GAG ACG TCCGAC C ACGTCAC CG
CTGCACTCCAGCCTGGGCAA T AC- A ACA GG- CT - CA -------
CAGAGAGACATCCTTTCTC
GAM33616 273206 GAGGCAGGGAAATCGCTTGA AAA GAA-- AGACA GTTT A - AGAT
7 ACCCAGGAGACAGAGGTTTC GAGGCAGGG TCGCTT CCCAGG GAG CAGTG GC CG

AGTGAGCCGAGATCGTGCCA CTCTGTCTC AGTGAG GGGTCC CTC GTCAC CG GC
CTGCACTCCAGCCTGGGCAA AG- ACAAC GAC-- AC-- - T ----
CAGAGTGAGACTCTGTCTC
GAM33616 273535 GAGGCTGAGACAGGAGAATT TGAGACA AA GAA-- AGG GTTT AGC AGAT

8 GCTTGAACCCAGGAGGTGGA GAGGC GGAG TTGCTT CCCAGG TGGAG CAGTG CA

GGTTTCAGTGAGCCAAGATT CTCCG CCTC AGCGAG GGGTCC ACCTC GTCAC GT
GTACCACTGCACTCCAGCCT ------- AG ACAAC G-- AC-- CAT ----
GGGCAACAGAGCGAGACTCC
GCCTC
GAM33616 274142 GCAGTCTGCGGGACCAGACT C C-- ---------- GA TT CAT -- A GAAATT TCA
9 ATTGTGACATGGAGAATGTA GCAGT TG GGGA CCA CTA GTGA GGAGA ATGT GA AT
GAGAAATTATTCAATGTTCA CGTCA AC CCCT GGT GAT CACT CCTCT TACA CT TG
GGATCAACATGATCTCCTCA A TCA ACACATACCTA AG CT --- AG A AGGACT ---
CTCTAGGATGGATCCATACA AT
CATCCCACTCAAACTGC

--

GAM33617 273252 GCGTGAACCTGGGAGGCGGA G- AA- TG AGGC CT A - AGAT
0 GCTTGCAGTGAGCCGAGATC GC TG CC GG GGAG TGCAGTG GC CG
GTGCCACTGCACTCCAGCCT CG AC GG CC CCTC ACGTCAC CG GC
GGGCAACAGAGC AG AAC GT GA-- -- - T ----
GAM33617 273255 GCTACTCAGGAGGCTGAGGC A AG A AGGA TGAGC GGAG C AGCCG
AC
1 AGGAGGATCACTTGAGCCTG GCT CTCAGG GCTG GGCAGG TCACT CTG GTCTAGGCTG
AGTG GG
GGAGGTCTAGGCTGCAGTGA CGG GGGTCT CGAC CTGTCC AGTGA GAC CGGGTCCGAC
TCAC CC
GCCGGGACGATGCCACTGCA A CA C CAG- ----- AA-- C GTCA- --
CTCCAGCCTGGGCAACAGAG GATG
TGAGACCCTGTCCCAGCACT
CTGGGAGGC

GAM33617 274170 GCTCGAACCCAGAAGGTGGA CGAA-- AAGG TT A - AGAT
2 GTTTGCAGTGAGCCGAGATC GCT CCCAG TGGAGT GCAGTG GC CG
GTGCCACTGCACTCCAGCCT CGA GGGTC ACCTCA CGTCAC CG GC
GGGCAACACAGC CACAAC CG-- -- - T ----
GAM33617 274184 GCTTGAACCCAGGAAGTGGA GAA-- AAG GT - A CATGATC
3 GGTTGCAGGGAGCCATGATC GCTT CCCAGG TGGAG TGCAG GG GC
GCACCACTGCACTCCAGCCT CGAG GGGTCC ACCTC ACGTC CC CG
GGGCAACAGAGC ACAAC G-- -- A A -------
GAM33617 274185 GCTTGAACCCAGGAGGCGGA GAA--- AGGC GT A - AGAT
4 GGTTGCAGTGAGCCAAGATT GCTT CCCAGG GGAG TGCAGTG GC CA
GCGCCACTGCACTCCAGCCT CGAA GGGTCC CCTC ACGTCAC CG GT
GGGCAACAAAAGC AACAAC GA-- -- - C ----
GAM33617 274187 GCTTGAACTCGGGGTGGAGG - AA- G GT A- CAAGATC
5 TTGCAGTGAGCCAAGATCGC GC TTG CTCGGG TGGAG TGCAGTG GC
CCCACTGCACTCCAGCCTGG CG AAC GGGTCC ACCTC ACGTCAC CG
GCAACAATGC T AAC G -- CC -------
GAM33617 273566 GGAATGTTCTGAAGAACTGG AA - -- A TC GAAATCTG- A ACATTG TTAGT
6 GTGATCTTGTGAAATCTGTG GG TGTT CTG AAG ACTGGGTGA TTGT TGG CCCT GCAC

GACCCTACATTGGCACTTAG CT ACAA GAC TTC TGACTTACT AATA ATC GGGA TGTG
TGTGTACCTAAGGGCTAACG GG A GT G GA AACCCTGCA - ATCCA- -----
TCCCAAATAAAGTCATTCAG
TGCTTTGCAGAAACAGGTC
GAM33617 274208 GGACCAGACTATTGTGACAT - GA TT CAT -- A GAAATT TCAAT
7 GGAGAATGTAGAGAAATTAT GGA CCA CTA GTGA GGAGA ATGT GA AT
TCAATGTTCAGGATCAACAT CCT GGT GAT CACT CCTCT TACA CT TG
GATCTCCTCACTCTAGGATG A AG CT --- AG A AGGACT -----
GATCC
GAM33617 274216 GGAGAATCACTAGAACCTGG A A AGAA-- GGA GAA T A- GAGAT
8 AAGGCGAAGGTTGCAGTGAG GGAG ATC CT CCT AGGC GGT GCAGTG GCG
CGGAGATCGTGCCACTGCAC CCTC TAG GA GGG TCCG TCA CGTCAC TGC
TCCAGCCTGGGCAACAGAGC A C GACAAC --- ACC - CG -----
GATACTCC
GAM33617 274219 GGAGAATCACTTGAACCCGG AATCA GAA-- AGG CT A - AGAT
9 GAGGTGGAGCTTGCAGTGAG GGAG CTT CCCGGG TGGAG TGCAGTG GC TG

CTGAGATCACGCCACTGCAC CCTC GAG GGGTCC ACCTC ACGTCAC CG AC
TCCAGCCTGGGCAACAGAGC AGACC ACAAC G-- -- - C ----
CAGACTCC
GAM33618 273588 GGAGAATCGCTTGAACCCAG AA GAA-- GAA A- GT A- AAGAT
0 AAGGCAGAGGTTGCAGTGAG GGAG TCGCTT CCCA GGC GAG TGCAGTG GCC
CCAAGATGGTGCCACTGCAC TCTC AGCGAG GGGT CCG CTC ACGTCAC TGG
TCCAGCCTGGGCAACAGAGC AG ACAAC --- AC -- CG -----
GAGACTCT
GAM33618 274224 GGAGAATCGCTTGAACCCAG AATC GAA-- AAG GT - A CATGATC
1 GAAGTGGAGGTTGCAGGGAG GGAG GCTT CCCAGG TGGAG TGCAG GG GC
CCATGATCGCACCACTGCAC CCTC CGAG GGGTCC ACCTC ACGTC CC CG
TCCAGCCTGGGCAACAGAGC AGAA ACAAC G-- -- A A -------
AAGACTCC
GAM33618 273589 GGAGAATCGCTTGAACCCAG AA GAA-- AGA GT A - AGAT
2 GAGATGGAGGTTGCAGTGAG GGAG TCGCTT CCCAGG TGGAG TGCAGTG GC TG
CTGAGATCACGCCACTGCAC CCTC AGTGAG GGGTCC ACCTC ACGTCAC CG AC
TCCAGCCTGGGCAACAGAGT AG ACAAC G-- -- - C ----
GAGACTCC
GAM33618 273591 GGAGAATCGCTTGAACCCAG AATC GAA--- AGG AGGT -
AGCCGAGATCACACACA
3 GAGGTGGAGAGGTTGCAGGG GGAG GCTT CCCAGG TGGAG TGCAG GG
AGCCGAGATCACACACACCA CCTC CGAG GGGTCC ACCTC ACGTC CC
CTGCACTCCAGCCTGGGCAA AAAA AACAAC G-- ---- A ----------
CAAGAGCAAAACTCC
GAM33618 273594 GGAGAATCGCTTGAACCCAG AA GAA-- AGG - T AGC AGAT
4 GAGGTGGAGGTTGTGGCGAG GGAG TCGCTT CCCAGG TGGAG GT GTGGCG TG
CTGAGATCATGCCACTGCAC CCTC AGTGAG GGGTCC ACCTC CG CACCGT AC
TCCAGCCTGGGCAACAGAGT AG ACAAC G-- A T --- ----
GAGACTCC
GAM33618 274236 GGAGAATCGCTTGAACCTGG AA C- AA- TG AGG GT TG A TGAGATTGT
5 GAGGTGGAGGTTGTGGTGAG GGAG TCG TTG CC GG TGGAG TG GTG GC
CTGAGATTGTGCCACTGCAC CCTC AGC GAC GG CC ACCTC AC CAC CG
TCCAGCCTGGGCAACAGATC AG TA AAC GT G-- -- GT - ---------
GAGACTCC
GAM33618 274237 GGAGAATCGCTTGAACTCGG AGAA GAA-- AGG GC AGCCAAGATCACACAC

6 GAGGGGAGGCTGCAGTGAGC GG TCGCTT CTCGGG GGAG TGCAGTG
CAAGATCACACACCACTGCA CC AGTGAA GGGTCC CCTC ACGTCAC
CTCCAGCCTGGGCAACAAAG CAG- ACAAC GA- -- ----------
TGAGACCC
GAM33618 273682 GGAGAATGGCATGAACCTGG AA A- AA- TG AGG CT A- CCAGATT
7 GAGGTGGAGCTTGCAGTGAG GGAG TGGC TG CC GG TGGAG TGCAGTG GC
CCCAGATTGCAACACTGCAC TCTC ACCG AC GG CC ACCTC ACGTCAC CG
TCCAGCCTGGGCAACAGAGC AG AG AAC GT G-- -- AA -------
CAGACTCT
GAM33618 274241 GGAGAATGGCGTGAACCCAG AATG G- AA- AGG CT A - AGAT
8 GAGGTGGAGCTTGCAGTGAG GGAG GC TG CCCAGG TGGAG TGCAGTG GC CG
CCGAGATCGCGCCACTGCAC CCTC CG AC GGGTCC ACCTC ACGTCAC CG GC
TCCAGCCTGGGCAACAGAGC AGAA AG AAC G-- -- - C ----
AAGACTCC

GAM33618 273685 GGAGAATTGCCTGAACCCAG AA - AA- - --- - A TTGCA
9 CAGGCAGAGGTTGCACCACT GGAG TTGC CTG CCCAG C AG GCAG GG
GCACTCCAGCCTGGGCAACA CCTC AACG GAC GGGTC G TC CGTC CC
GAGCAAGACTCC AG A AAC C ACC A A -----
GAM33619 274243 GGAGAATTGCTTGAACCCAA AA GAA-- AGA - GC A - AGAT
0 GAGGTGGAGGCTGCAGTGAG GGAG TTGCTT CCCA GG TGGAG TGCAGTG GC TG
CTGAGATCATGCCACTGCAC CCTC AACGAG GGGT CC ACCTC ACGTCAC CG AC
TCCAGCCTGGGCAACAGAGC AG ACAAC --- G -- - T ----
AAGACTCC
GAM33619 273688 GGAGAATTGCTTGAACCCAG AA GAA-- A- C AAGC A CAAGATAGT
1 GAGGCAGAAGCTGCAGTGAG GGAG TTGCTT CCCAGG GG AG TGCAGTG GC
CCAAGATAGTGCCACTGCAC CCTC AGCGAG GGGTCC CC TC ACGTCAC CG
TCCAGCCTGGGCAACAGAGC AG ACAAC GA - ---- - ---------
GAGACTCC
GAM33619 273690 GGAGAATTGCTTGAACCCAG AA GAA--- AGG GT A - AGAT
2 GAGGTGGAGGTTGCAGTGAG GGAG TTGCTT CCCAGG TGGAG TGCAGTG GC CG
CCGAGATTGAGCCACTGCAC CCTC AACGAG GGGTCC ACCTC ACGTCAC CG GT
TCCAGCCTGGGCAACAAGAG AA AACAAC G-- -- - A ----
CAAAACTCC
GAM33619 273691 GGAGAATTGCTTGAACCCAG AA GAA-- AGG GTTT AGC AGAT
3 GAGGTGGAGGTTTCAGTGAG GGAG TTGCTT CCCAGG TGGAG CAGTG CA
CCAAGATTGTACCACTGCAC CCTC AGCGAG GGGTCC ACCTC GTCAC GT
TCCAGCCTGGGCAACAGAGC AG ACAAC G-- AC-- CAT ----
GAGACTCC
GAM33619 273693 GGAGAATTGCTTGAACCCTG AA - AA- TGG A- GT A - AGAT
4 GAGGCAGAGGTTGCAGTGAG GGAG TTGC TTG CCC AGGC GAG TGCAGTG GC CG

CCGAGATCGTGCCACTGCAC CCTC AGCG GAC GGG TCCG CTC ACGTCAC CG GC
TCCAGCCTGGGCAACAGTGC AG T AAC --- AC -- - T ----
GAGACTCC
GAM33619 273694 GGAGAATTGCTTGAACCTGG AA TG GAA-- TG AAG GT AGC AGAC
5 GAAGTGGAGGTTGCAGTGAG GGAG T CTT CC GG TGGAG TGCAGTG CG
CCGAGACTGAGCACTGCACT TCTC A GAG GG CC ACCTC ACGTCAC GT
CCAGCCTGGGCAACAGAGTG AG GT ACAAC GT G-- -- GA- ----
AGACTCT
GAM33619 274250 GGAGAATTGCTTGAACCTGG AA GAA-- TG A- TGAA T A - AGAC
6 GAGGTGAAGGTTGCAGTGAG GGAG TTGCTT CC GG GG GGT GCAGTG GC TG
CTGAGACCATGCCACTGCAC CCTC AACGAG GG CC CC TCA CGTCAC CG AC
TCCAGCCTGGGCAACAGAGC AA ACAAC GT GA ---- - - T ----
AAAACTCC
GAM33619 273704 GGAGGATCACTTGAACCTGG GA C- AA- TG AGA GTCT - TGAGATT
7 GAGATGGAGGTCTCAGTGAG GGAG TCA TTG CC GG TGGAG CAGTGA GC
CTGAGATTGCGTCACTGCAC CCTC AGT AAC GG CC ACCTC GTCACT CG
TCCAGCCTGGGCAACAAAAT AG AA AAC GT G-- AC-- G -------
GAGACTCC
GAM33619 274258 GGAGGCTGAGATGGGAGGTT GCT ATGGGA AC AA AGG - T G CCAACATC

8 CACTTGAACCCAGGAGGTGG GGAG GAG GGTTC TTG CCCAGG TGGAG GC GTGGT AG

AGGCTGTGGTGAGCCAACAT CCTC CTC CCGAG AAC GGGTCC ACCTC CG CACCG TC

CCTGCCACTGCACTCCAGCC AGT AAA--- AC -- G-- A T - --------
TGGGCAACAGAGCCAAACTC
TGACTCC
GAM33619 274265 GGATCACTTGAGCCCAGGAG A- GA-- GGA AG C A CATGTTCCT
9 GTTGAGGCTGCAGTGAGCCA GG TCACTT GCCCA GGTTG G TGCAGTG GC
TGTTCCTGCCACTGCACTCC CC AGTGAG CGGGT CCGAC C ACGTCAC CG
AGCCTGGGCAACAGAGTGAG AG ACAA --- CT - - ---------
ACC
GAM33620 274271 GGCAGGAGAATCACCTGAAC GAGAA - AA- GGCA GT - AG AGAT
0 CCGGGTGGCAGAGGTTGCAG GGCAG TCAC CTG CCCGGGT GAG TGCAG GG GCG

GGAGGCGAGATCGTGCCACT CTGTC AGTG GAC GGGTCCG CTC ACGTC CC TGC
GCACTCCAGCCTGGGCAACA AG--- A AAC AC-- -- A G- ----
GAGTGAGACTGTC
GAM33620 274272 GGCAGGAGAATCGCTTGAAC G AA GAA-- TG AGACA GT - CAAGATC
1 CTGGGAGACAGAGGTTGCAG GGCA GAG TCGCTT CC GG GAG TGCAGTGA GC
TGAGCCAAGATCGTGTCACT CTGT CTC AGTGAG GG CC CTC ACGTCACT TG
GCACTCCAGCCTGGGCAACA - AG ACAAC GT GAC-- -- G -------
GAGTGAGACTCTGTC
GAM33620 273721 GGCAGGAGAATTGCTTGAAC G AA TG GAA-- TG AGG GT AGC AGAT
2 CTGGGAGGTGGAGGTTGCAG GGCAG AG T CTT CC GG TGGAG TGCAGTG CG
TGAGCCGAGATCGCACCACT CTGTC TC A GAG GG CC ACCTC ACGTCAC GC
GCACTCCAGCCTGGGCAACA - GG GT ACAAC GT G-- -- CAC ----
GAGTGAGGCTCTGTC
GAM33620 273842 GGGGATGTGACTCCTGATAT - C- - AAA A--- AG---- CT G ACGC
3 GAAATCCATTGCCAAGGCTG GGGGAT GTGACT CTGA TATG TCC TTGCCA GCTGAC TATC
TCACT
ACCTTATCGTCACTACGCCA CTCTTA CACTGA GACT GTAT AGG AACGGT CGACTG GTAG
GGTGA
GAGAAGTGGGATGGAGTCAG T AC T CA- ATAA CGAAGA AG - ----
CAGAAGCTGGCAAAATAGGA CAGAGA
ACTATGTTCAGCAAGTCACT
ATTCTC

GAM33620 273904 GTGAACCCGGGAGACGGAGC GAA AGAC CT A - AGAT
4 TTGCAGTGAGCTGAGATCGT GT CCCGGG GGAG TGCAGTG GC TG
GCCACTGCACTCCAGCCTGG CA GGGTCC CCTC ACGTCAC CG GC
GCAAC AC- GA-- -- - T ----
GAM33620 274039 TCACTGGAACCCAGGAGGTG -- GAA AGG GT A T AGATAG
5 GAGGTTGCAGTGAGTCAAGA TCACT G CCCAGG TGGAG TGCAGTG G CA
TAGTGCCACTGCACTCCAGC AGTGA C GGGTCC ACCTC ACGTCAC C GT
CTGGGCAACAGAGTGA GA AAC G-- -- - - ------
GAM33620 274040 TCACTGGAACCTGGGAGGTG A---- GAA TG AGG GT A TGAGACTGT
6 GAGGTTGCAGTGAGCTGAGA TC CTG CC GG TGGAG TGCAGTG GC
CTGTGCCACTGCACTCCAGC AG GAC GG CC ACCTC ACGTCAC CG
CTGGGCAACAGAGCAAGA AACGA AAC GT G-- -- - ---------
GAM33620 274455 TCACTTGAACCCTGGAGGCA - AA- TGG A- GT A CGATATCAT
7 GAGGTTGCAGTGAGCCGATA TCACT TG CCC AGGC GAG TGCAGTG GC
TCATGCCACTGCACTCCAGC AGTGA AC GGG TCCG CTC ACGTCAC CG
CTGGGCAACACAGTGA C AAC --- AC -- - ---------

GAM33620 274058 TCCATTGCCAAGGCTGACCT A--- AG---- CT G ACGCCAGAGA
8 TATCGTCACTACGCCAGAGA TCC TTGCCA GCTGAC TATC TCACT
AGTGGGATGGAGTCAGCAGA AGG AACGGT CGACTG GTAG GGTGA
AGCTGGCAAAATAGGA ATAA CGAAGA AG - ----------
GAM33620 274070 TCGCTTGAACCCCGGAGGCA GAAC-- GG A- AT A CGAGATCAT
9 GAGATTGCAGTGAGCCGAGA TCGCTT CCC AGGC GAG TGCAGTG GC
TCATGCCACTGCACTCCAGC AGCGAG GGG TCCG CTC ACGTCAC CG
CTGGGCAACAAGAGCGA AACAAC -- AC -- - ---------
GAM33621 274102 TGAGACAAAAGAATTGCTTG AAA AA GAA-- TG AGG A T A - AGAT
0 AACCTGGGAGGTGGAAGTTG TGAGAC AG TTGCTT CC GG TGGA GT GCAGTG GC CA

CAGTGAGCCAAGATTGTGCC ACTCTG TC AACGGA GG CC ACCT CA CGTCAC CG GT
ACTGCACTCCAGCCTGGGCA CC- AG ATAAC GT G-- - - - T ----
ATAAGGCAAGACTCCGTCTC
A
GAM33621 274105 TGAGACAGGAGAATTGCTTG G AA - AA- TGG - GTTA A- AAGAT
1 AACCTGGCAGGCGGAGGTTA TGAGACAG AG TTGCT TG CC CAGGC GGAG CAGTG GCC

CAGTGAGCCAAGATGGTACC ACTCTGTC TC AACGA AC GG GTCCG CCTC GTCAC TGG

ACTGCACTCCAGCCTGGGCA - AC T AAC --- A AC-- CA -----
ACATAGCAACACTCTGTCTC
A
GAM33621 274106 TGAGACAGTATCACTTGAAC TA-- GAA-- GGG GT A - AGAT
2 CCAGGGGGTGGAGGTTGCGG TGAGACAG TCACTT CCCAGG TGGAG TGCGGTG GC CG

TGAGCCGAGATTGTGCCACT ACTTTGTC AGTGAG GGGTCC ACCTC ACGTCAC CG GT

GCACTCCAGCCTGGGCAACA TCAG ACAAC G-- -- - T ----
GAGTGAGACTCTGTTTCA
GAM33621 274522 TGAGAGGACTGCTTGAACTC A A - - AA- G GT A- CAAGATC
3 GGGGTGGAGGTTGCAGTGAG TGAG GG CT GC TTG CTCGGG TGGAG TGCAGTG GC

CCAAGATCGCCCCACTGCAC ACTC CC GA CG AAC GGGTCC ACCTC ACGTCAC CG
TCCAGCCTGGGCAACAATGC C A A T AAC G -- CC -------
AAGACCCCTCA
GAM33621 274527 TGAGGCACAAGAATTGCTTG CA AA TG GAA-- TG AGGG GTTT GC GCCGAGA

4 AACCTGGGAGGGGGAGGTTT TGAGGCA AG T CTT CC GG GGAG CAGTGA CGA
CAGTGAGCCGAGCCGAGATT ACTCTGT TC A GAG GG CC CCTC GTCACT GTT
GTGTCACTGCACTCCAGCCT C- AG GT ACAAC GT GA-- AC-- GT -------
GGGCAACAGAGTGAGACTCT
GTCTCA
GAM33621 274111 TGAGGCAGGAAAATCACTTG AAAA - AA- TGG A- GT A CGATATCAT
5 AACCCTGGAGGCAGAGGTTG TGAGGCAGG TCACT TG CCC AGGC GAG TGCAGTG GC

CAGTGAGCCGATATCATGCC ATTCTGTCT AGTGA AC GGG TCCG CTC ACGTCAC CG

ACTGCACTCCAGCCTGGGCA CAG- C AAC --- AC -- - ---------
ACACAGTGAGACTCTGTCTT

A
GAM33621 274114 TGAGGCAGGAGAACCGCTTG CA AAC GAA-- AGGA GAGGT GC AGAT

6 AACCCAGGAGGAGGAGGAGG TGAGG GGAG CGCTT CCCAGG GGAG TGCAGTGG CG

TTGCAGTGGGCCGAGATCGA ACTCT CCTC GTGAG GGGTCC CCTC ACGTCACC GC

GCCACTGCACTCCAGCCTGG A- AGA ACAAC GA-- ----- GA ----
GCAACAGAGTGAGACTCCAT
CTCA
GAM33621 274533 TGAGGCAGGAGAATAGGGTG A AATAGG--- GAA AGG CT A - AGAT
7 AACCCAGGAGGTGGAGCTTG TGAGGC GGAG GT CCCAGG TGGAG TGCAGTG GC CG

CAGTGAGCCGAGATCGCGCC ACTCTG CCTC CA GGGTCC ACCTC ACGTCAC CG GC

ACTGCACTCCAGCCTGGGCA - AGAGCGAGA AC- G-- -- - C ----
ACAGAGCGAGACTCCGTCTC
A
GAM33621 274115 TGAGGCAGGAGAATCACTTG A AATCA-- AA- AGA - GT A - AGAT
8 AACCCAAGAGGCGGAGGTTG TGAGGC GGAG CTTG CCCA GGC GGAG TGCAGTG GC TG

CAGTGAGCTGAGATCGCGCC ACTCTG CCTC GAAC GGGT CCG CCTC ACGTCAC CG GC

ACTGCACTCCAGCCTGGGCA - AAAACGA AAC --- A -- - C ----
ACAAGAGCAAAACTCCGTCT
CA
GAM33621 274117 TGAGGCAGGAGAATCGCTTG CA AA GAA-- GAA A- GT A- AAGAT
9 AACCCAGAAGGCAGAGGTTG TGAGG GGAG TCGCTT CCCA GGC GAG TGCAGTG GCC

CAGTGAGCCAAGATGGTGCC ACTCT TCTC AGCGAG GGGT CCG CTC ACGTCAC TGG

ACTGCACTCCAGCCTGGGCA A- AG ACAAC --- AC -- CG -----
ACAGAGCGAGACTCTATCTC
A
GAM33622 274543 TGAGGCAGGAGAATCGCTTG A AA GAA-- AGGC - T CCGAGAT
0 AACCCGGGAGGCGGAGGTTG TGAGGC GGAG TCGCTT CCCGGG GGAG GT GTGGTGAG

TGGTGAGCCGAGATCTCGCC ACTCTG CCTC AGTGAG GGGTCC CCTC CG CACCGCTC

ACTGCACTCCAGCCTGGGCA - AG ACAAC GA-- A T -------
ACAGAGTGAGACTCCGTCTC
A
GAM33622 274544 TGAGGCAGGAGAATCGCTTG GAGAA GAA--- G- GAGGTTA A - AGAT
1 AACCCGGGGGGAGGAGGTTA TGAGGCAG TCGCTT CCCGGG GGAG CAGTG GC TG

CAGTGAGCTGAGATCGCGCC ACTCTGTC AGTGAG GGGTCC CCTC GTCAC CG GC
ACTGCACTCCAGCCTGGGCA AA--- AACAAC GA AC----- - C ----
ACAAGAGTGAAACTGTCTCA
GAM33622 274545 TGAGGCAGGAGAATCGTTTG GAGAA - AA- AGGC GTTC A- GAGAT
2 AACCTAGGAGGCGGAGGTTC TGAGGCAG TCG TTTG CCTAGG GGAG CAGTG GCT

CAGTGAGCTGAGATGGCGCC ACTCTGTC AGT AGAC GGGTCC CCTC GTCAC CGG
ACTGCACTCCAGCCTGGGCA AG--- G AAC GA-- AC-- CG -----
ACAGAGTGAGACTGTCTCA
GAM33622 274546 TGAGGCAGGAGAATGGCCTG G AATG - AA- AGG CT A- CGAGATA
3 AACCTAGGAGGTGGAGCTTG TGAGGCAG AG GC CTG CCTAGG TGGAG TGCAGTG GC

CAGTGAGCCGAGATAGCGCC ACTCTGTC TC CG GAC GGGTCC ACCTC ACGTCAC CG

ACTGCACTCCAGCCTGGGCA - AGAG A AAC G-- -- CG -------
ACAGAGCGAGACTCTGTCTC
A
GAM33622 273285 TGAGGCAGGAGAATTGCTTG A AA GAA-- A- C AAGC A CAAGATAGT
4 AACCCAGGAGGCAGAAGCTG TGAGGC GGAG TTGCTT CCCAGG GG AG TGCAGTG GC

CAGTGAGCCAAGATAGTGCC ACTCTG CCTC AGCGAG GGGTCC CC TC ACGTCAC CG

ACTGCACTCCAGCCTGGGCA - AG ACAAC GA - ---- - ---------
ACAGAGCGAGACTCCGTCTC
A
GAM33622 273286 TGAGGCAGGAGAATTGCTTG G AA GAA--- AGG GT A - AGAT
5 AACCCGGGAGGTGGAGGTTG TGAGGCAG AG TTGCTT CCCGGG TGGAG TGCAGTG GC CA

CAGTGAGCCAAGATTGCGCC ACTCTGTC TC AACGAG GGGTCC ACCTC ACGTCAC CG GT

ACTGCACTCCAGCCTGGGCA - AA AACAAC G-- -- - C ----
ACAAGAGCAAAACTCTGTCT
CA
GAM33622 273287 TGAGGCAGGAGAATTGCTTG A AA GAA-- TG AGGCA GT A - AAAT
6 AACCTGGGAGGCAGAGGTTG TGAGGC GGAG TTGCTT CC GG GAG TGCAGTG GC TG

CAGTGAGCTGAAATCGCGCC ACTCTG CCTC AACGGG GG CC CTC ACGTCAC CG GC

ACTGCACTCCAGCCTGGGCA - AG ATAAC GT GAC-- -- - C ----
ATAGGGCAAGACTCCGTCTC
A
GAM33622 274551 TGAGGCAGGAGAGTCGCTGG A AG GAA-- GAG - CT A - AGAT
7 AACCTGAGAGGCGGAGCTTG TGAGGC GGAG TCGCTG CCT AGGC GGAG TGCAGTG GC CG

CAGTGAGCCGAGATCGCGCC ACTCTG CCTC AGCGAC GGG TCCG CCTC ACGTCAC CG GC

ACTGCACTCCAGCCTGGGCA - AG ACAAC --- A -- - C ----
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A
GAM33622 273288 TGAGGCAGGAGGATTGCTTC GG C AA--- GA GC A TATGATCAT
8 AACCCAGGAGCTGGAGGCTG TGAGGCAGGA ATTG TTC CCCAG GCTGGAG TGCAGTG GC

CAGTGAGCTATGATCATGCC ACTCCGTCCT TAAT AAG GGGTC CGACCTC ACGTCAC CG

ACTGCACTCCAGCCTGGGCA A- - ACAAC -- -- - ---------
ACAGAATAATATCCTGCCTC

```
          A
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9          AACCCAGGAGACAGAGGTTT TGAGGCAGGG   TCGCTT    CCCAGG    GAG   CAGTG GC CG

          CAGTGAGCCGAGATCGTGCC ACTCTGTCTC   AGTGAG    GGGTCC    CTC   GTCAC CG GC

          ACTGCACTCCAGCCTGGGCA         AG-     ACAAC     GAC--  AC--    -  T  ----
          ACAGAGTGAGACTCTGTCTC
          A
GAM33623 273293 TGAGGCGGGAGAATGGCGTG       G  AATG  G-  AA-     AGG    CT     A   AGATC
0          AACCCAGGAGGTGGAGCTTG TGAGGCGG AG   GC  TG   CCCAGG   TGGAG  TGCAGTG GCGG

          CAGTGAGCGGAGATCTTGCC ACTCTGTC TC   CG  AC   GGGTCC   ACCTC  ACGTCAC CGTT

          ACTGCACTCCAGCCTGGGCA       -  AGAG  AG  AAC     G--    --     -   -----
          ACAGAGCGAGACTCTGTCTC
          A
GAM33623 273294 TGAGGGAGGAGAATGGCATG     GA   AA   A-  AA-  TG  AGG    CT     A-  CCAGATT
1          AACCTGGGAGGTGGAGCTTG TGAGG  GGAG  TGGC  TG   CC  GG   TGGAG  TGCAGTG  GC

          CAGTGAGCCCAGATTGCAAC ACTCT  TCTC  ACCG  AC   GG  CC   ACCTC  ACGTCAC  CG
          ACTGCACTCCAGCCTGGGCA     G-   AG   AG  AAC  GT  G--    --      AA -------
          ACAGAGCCAGACTCTGTCTC
          A
GAM33623 273296 TGAGGTACGACAATTGCTTG       CGACAA TG   GAA--     AGG    GC      A  AGATCA
2          AACCCAGGAGGTGGAGGCTG TGAGGTA     T  CTT    CCCAGG   TGGAG  TGCAGTG GTG
          CAGTGAGTGAGATCACACCA ACTCTAT     A  GAG    GGGTCC   ACCTC  ACGTCAC CAC
          CTGCACTCCAGCCTGGGCAA       CCCAG- GT   ACAAC     G--    --      -  ------
          CAGAGTGAGACCCTATCTCA
GAM33623 274568 TGCTTGAACCCAAAAGGCGG     GAA--    AAA   -   GT      A  -  AGAT
3          AGGTTGCAGTGAGCCAAGAT TGCTT     CCCA   GGC GGAG   TGCAGTG GC CA
          TGTGCCACTGCACTCCAGCC ACGAG     GGGT   CCG CCTC   ACGTCAC CG GT
          TGGGCAACAGAGCA          ACAAC    ---  A   --      -  T  ----
GAM33623 273321 TGCTTGAACTCGGGGTGGAG    -  AA-     G    GT      A-  CAAGATC
4          GTTGCAGTGAGCCAAGATCG TGC TTG   CTCGGG TGGAG  TGCAGTG  GC
          CCCCACTGCACTCCAGCCTG ACG AAC   GGGTCC ACCTC  ACGTCAC  CG
          GGCAACAATGCA          T  AAC     G    --      CC  -------
GAM33623 274569 TGGAATGTTCTGAAGAACTG    ATG-------    --  A       TC    GAAATCTG-  A   ACATTG   T
5          GGTGATCTTGTGAAATCTGT TGGA        TTCTG  AAG ACTGGGTGA  TTGT        TGG CCCT
GCAC
          GGACCCTACATTGGCACTTA ACCT        AAGAC  TTC TGACTTACT  AATA        ATC GGGA     TGTG
          GTGTGTACCTAAGGGCTAAC    GAACTGGACA    GT  G       GA    AACCCTGCA  -  ATCCA-   -
          GTCCCAAATAAAGTCATTCA TAGT
          GTGCTTTGCAGAAACAGGTC
          AAGTCCA
                    ----
GAM33623 273341 TGGGGCAGGACGATTGCTTG        ACGA    GA--    GAGCTTAAA   C  A-    GACTT
6          AGCCCAGGAGCTTAAAGCTG TGGGGCAGG    TTGCTT   GCCCAG       GCTG AGT  AGTGGT

          CAGTAAGTGGTGACTTGCCA ACTCTGTCT    AACGAA    CGGGTC       CGAC TCA  TCACCG
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CTGCACTCCAGCCTGGGCAA CAG- ACAA --------- C CG -----
CAAAGCAAGACTCTGTCTCA
GAM33623 274630 TTGAACCCTGGAGGCGGAGG AA- TGG - GT A- GAGAT
7 TTGCAGTGAGCCGAGATGGC TTG CCC AGGC GGAG TGCAGTG GCC
ACCACTGCACTCCAGCCTGG AAC GGG TCCG CCTC ACGTCAC CGG
GCAACAA AAC --- A -- CA -----
GAM33623 273394 TTGCTTGAACCCAGGAGGCA TG GAA-- AGGCA GT A - AGAT
8 GAGGTTGCAGTGAGCCAAGA T CTT CCCAGG GAG TGCAGTG GC CA
TTGTGCCACTGCACTCCAGC A GAG GGGTCC CTC ACGTCAC CG GT
CTGGGCAACAGAGTGA GT ACAAC GAC-- -- - T ----
GAM33623 274634 TTGCTTGAACCCAGGAGGTG TG GAA-- AGG GT A - AGAC
9 GAGGTTGCAGTGAGCTGAGA T CTT CCCAGG TGGAG TGCAGTG GC TG
CCATGCCATTGCACTCCAGC A GAG GGGTCC ACCTC ACGTTAC CG AC
CTGGGCAACAGAGTGA GT ACAAC G-- -- - T ----
GAM33624 274638 TTGCTTGAACCTGGGAGGGG TG GAA-- TG AGGG GTTT GC GCCGAGA

0 GAGGTTTCAGTGAGCCGAGC T CTT CC GG GGAG CAGTGA CGA
CGAGATTGTGTCACTGCACT A GAG GG CC CCTC GTCACT GTT
CCAGCCTGGGCAACAGAGTG GT ACAAC GT GA-- AC-- GT -------
A
GAM33624 273397 TTGCTTGAACCTGGGAGGTG GAA-- TG AGG A T A - AGAT
1 GAAGTTGCAGTGAGCCAAGA TTGCTT CC GG TGGA GT GCAGTG GC CA
TTGTGCCACTGCACTCCAGC AACGGA GG CC ACCT CA CGTCAC CG GT
CTGGGCAATAAGGCAA ATAAC GT G-- - - - T ----
GAM33624 274640 TTGCTTGAGCCCAGGAGCTT GA-- GAGCTTAAA C A- GACTT
2 AAAGCTGCAGTAAGTGGTGA TTGCTT GCCCAG GCTG AGT AGTGGT
CTTGCCACTGCACTCCAGCC AACGAA CGGGTC CGAC TCA TCACCG
TGGGCAACAAAGCAA ACAA --------- C CG -----
GAM33624 273398 TTGCTTGAGCCCCAGAGTTT TG GAGC- A T GC AGC GATC
3 GAGGCTGCAGTGAGCTGTGA T CTT CCCAG GTT GAG TGCAGTG TGT
TCACACCACTGCACTCCAGC A GAG GGGTC CGA CTC ACGTCAC ACA
CTGGGCAACAGAGTGA GT ACAAC - C -- C-- ----
GAM33624 273401 TTGGAGCCCAGAAGGTTGAA GA GAA A C A - TGAT
4 GCTGCAGTGAGCTGTGATCA TTG GCCCA GGTTG AG TGCAGTG GC TG
TGCCACTGCACTCCAGCCTG GAC CGGGT CCGAC TC ACGTCAC CG AC
GGCAACAG AA --- C - - T ----
GAM33624 273860 GGTCCAGATGTGGCCATGGG - A TGGCCAT - C C TG CCTG
5 AGACTGAGGGGCGGACGTGT GGTC CAG TG GGGAGACTGAGG GG GGA G TT
TCCTGGGTGCTTCCTTCATC CCAG GTC AC TCCTCTGACTCT CT CCT C GG
TCAGTCTCCTCACTGAGACC A - ------- A T T GT ----
GAM33624 273631 AGTCACCAGAGTCCATTGTA C CATT TA C TTT A TG CGTAC
6 TTAGTCTTATTTTCATCACC AGTCA CAGAGTC GTAT GT TTA TCATC CCG GG
GTGGGCGTACCCTGTGGGAT TCGGT GTCTCAG CATG CA AAT AGTAG GGT CC
GATGTTAAACGTACTCTAGA T ATCT -- - TGT - GT -----
CTCTGTTGGCT
GAM33624 273595 GGAGAATCGCTTGAACCCGA AATC GA-- GAG - GT GCCAAGATCACA
7 GAGGTGGAGGTTGCAGTGAG GGAG GCTT ACCC AGG TGGAG TGCAGTGA
CCAAGATCACATCACTGCAC CCTC CGAG TGGG TCC ACCTC ACGTCACT
TCCAGCCTGGGTGACAGAGC AGAA ACAG --- G -- ----------
AAGACTCC

GAM33624 273429 CTTAGGGCTCTTTCAGGTTG --- TCTT- C --- CT AATGC
8 GCTGTGCCCTGCTGAATGCC CTTAGG GC TCAGGTTGG TGT GCC GCTG
AGCTGGCCTAGCACCAACCT GAGTCC CG AGTCCAACC ACG CGG CGAC
GATCTCTGCCTACCTGAG ATC TCTCT - ATC T- -----
GAM33624 273070 CTCTGCAAAGGGCAGGACCT C AA AG C T - T AA T CTCCAA
9 GTATCTGTTTTATTCAAGTC CT TGC AGGGC GAC TG AT CTGTT TATTC GTCTG GA
TGTGACTCCAATCCCAGGCA GA ATG TCCCG CTG AC TA GGTAA GTAAG CGGAC CT
GAATGCAATGGCATCCAGTC A AC A- - C C C A- C ------
AGCCCTCAGTAAAG
GAM33625 274562 TGCTGTCCTCTCCGGCTTCC T T CC CT C-- TCTCAC AA CCCCT
0 TGTCTGCTCTGTTCTCACAG TGCTG CC CT GG TCCTGTCTGCT TGT AGGCAC GGGT

GCACAAGGGTCCCCTACCTC GTGAC GG GA CC AGGACAGGCGA ACG TCTGTG TCCA

CGTGTCTACTGCACCCAGCG - C -- -- CCC TCA--- CC -----
GACAGGACCAGCGGCAGTG
GAM33625 274493 TCGCTTGAACCCAGGAGGTG GAA-- AGG GT A- AAGAT
1 GAGGTTGCAGTGAATGAAGA TCGCTT CCCAGG TGGAG TGCAGTG ATG
TCGTGCCACTGCACTCCAGC AGCGAG GGGTCC ACCTC ACGTCAC TGC
CTGGGCGATAGAGCGA ATAGC G-- -- CG -----
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2 GGTTCAATTCACCGGAGTCT CTG GC GCT TCT G GTTC ATTC CGG GTCTCA GG AGGTG

CAAAACCTGGCAGGTGTTAT GAC CG CGG AGA C CAGG TGAG GCC CGGAGT CC TCTAC

CATCTTCCTGAGGCACCGAG A TC- - C- GT GC A- A ------ T ----
AGTCGGGACTGCCAGAGGCC
TGCACAG
GAM33625 274288 GGCTGCCACTGTTCCCTCTC TG TGTTC C CATTCA TCTCAACCT
AAGCAGCA
3 TGTCATTCACCCTCTGCTTC GGC CCAC CCT TCTGT CCCTCTGCT TTCGGGAA
TCAACCTTTCGGGAAAAGCA CCG GGTG GGA AGACA GGGAGACGG GAGTCCTT
GCATTCCTGAGGGCAGAGGG -- T---- - ------ --------- --------
ACAGAAGGTGTGGGCC
GAM33625 273025 CCTCTCTGTCATTCACCCTC C CATTCA TCTCAACCT AAGCAGCA
4 TGCTTCTCAACCTTTCGGGA CCT TCTGT CCCTCTGCT TTCGGGAA
AAAGCAGCATTCCTGAGGGC GGA AGACA GGGAGACGG GAGTCCTT
AGAGGGACAGAAGG - ------ --------- --------
GAM33625 273991 GTGTAGCATGCATCAGTACT T ATG A CA C T ATACTATGCTTTAAAA
5 TCACCTACTGTATGGATATA GTG AGC CATC GTACTT CCTA TG ATGGAT
CTATGCTTTAAAAATCCATT CAC TCG GTGG CGTGGA GGAT AC TACCTA
CATTAGGCCAGGTGCGGTGG - --- - CC T T ----------
CTCAC
GAM33625 274403 GTGTAGCATGCATCAGTACT - ATG A CA C T ATACTATGCTTTAAAA
6 TCACCTACTGTATGGATATA GTGT AGC CATC GTACTT CCTA TG ATGGAT
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CATTAGGCCAGGTGCGGTGG C --- - CC T T ----------
CTCACGC
GAM33625 274141 GCAGGGATTCATGGACTAGG TT A --- G - T AC AGCTAGAC
7 TTTGCACCTTCTGAACCATG GCAGGGA C TGG ACTAGGTTT CA CCTTC GA CATG

AGCTAGACCATGTCTGGAGG CGTCCCT G ACC TGGTCCAAG GT GGAGG CT GTAC
CTGGAACCTGGTGACCCAGG CG - CAG - C T -- --------
CTCCCTGC
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8 CCAGATATACTCTTAAGACA GCC ATTGCTG TC GGAGCCAG CTC TAAGAC
TGATGTGGGTTTTATGGGGC CGG TGACGGT AG TCTCGGTC GGG ATTTTG
TCCCTGGCTCTGGGAGTGGC AG G GG CCTCG T ---------
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GAM33625 274178 GCTGTAACACAGAGCAGGTT CACAGA GG CCCACA CCACAAGAAACAAA

9 TGGAATGGCTCCACCCACAG GCTGTAA GCAGGTTTGGAAT CTCCA GGG
GGCCACAAGAAACAAACCCA CGACGTT TGTCTAGACCTTG GAGGT CCC
TGGAGAGTTCCAGATCTGTT ------ A- A----- ----------
TGCAGC
GAM33626 273543 GAGTCAGGAGAATCGCTTGA TCA AA GAA--- AGG - T AGCTAAGATCA
0 ACTCGGGAGGTGGAGGTTGT GAG GGAG TCGCTT CTCGGG TGGAG GT GTGGTG
GGTGAGCTAAGATCACACCA CTC CCTC AGCGAG GGGTCC ACCTC CG TACCAC
TTGCACTCCAGCCTGGGCAA TA- AA AACAAC G-- A T ----------
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GAM33626 273739 GGCTCCGGTGGTTGCAGTCA CC T TG A- A T C GAG - -- - ATGT
1 GATGGCAGCTGGAGGTGGAG GGCT GG GGT C GTC GA GG AGCTG GTGGA GCA ACC TG

CAACCTGATGTCGTGGTTTT CCGA TC CTA G CAG CT TC TCGAC CACCT CGT TGG GC
GCATCCACGACAGCTTCTCT -- - GT AA A C T AG- A TT T ----
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2 ATCTGCTCTTAAGGCTCTTA CCTGAGGCA GGAC TG GA TCT CTCTTAAG
AGGGAGGTTTGCAGTCCCTA GGACTTCGT CCTG AC TT GGA GGGAATTC
AATGCTTCAGG AAATC - GT - - ---
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3 ATCTGCTCTTAAGGCTCTTA CCTGAGGCA GGAC TG GA TCT CTCTTAAG
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AATGCTTCAGG AAATC - GT - - ---
GAM33626 274022 TAGGAATGGGATGGTTGTTT A - T-- TA GAG
4 TAGGTAGGCTTGGGAGCCAG TAGGA TG GGATGGTTG TTTAGG GGCTTGG
GCTGCCCTGAACTCTGGCCA ATCTT AC CCTACCGGT AAGTCC TCGGACC
TCCACACTTCTA C A CTC CG ---
GAM33626 272974 ACAGAACATCAGCATGATCC AGAA ----- TCCT C - CC- TCCTT
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5 TGGCAGCCCATAGACCAGAC AC CATCAG CATGA GGCAGCC ATA GA AGACG GAGGT

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ACCGCCTCCCTGTCTTCCTC ---- AAAGG T--- A A CCT CC--- ----------
ATGTAGGCTGCTTTCATGGG CC
AAACTGATGGT

--
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6 CCCATAGACCAGACGTCCTT CATCAG CATGA GGCAGCC ATA GA AGACG GAGGT

GAGGTCTTAGCGCCACCGCC GTAGTC GTACT TCGTCGG TGT CT TCTGT CTCCG
TCCCTGTCTTCCTCATGTAG AAAGG T--- A A CCT CC--- ----------
GCTGCTTTCATGGGAAACTG
ATG
GAM33626 273131 GAAGAATCGCTTGAATCCCA A- A -- GAA - AA - GT A - AGAT
7 AAGGTGGAGGTTGCAGTGAG GA GA TC GCTT TC CCA GG TGGAG TGCAGTG GC CG

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TCCAGCCTGGCGACAGAGCA GC C AA AC- C -- G -- - C ----
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8 GCCATCTGGCTTGAAGTTAT AGTAAT CC AAGG TCAT TGGCTTGA GT GCA CCA GC CAGT

GCACCAGCTCAGTGTGAGAC TCATTA GG TTCC GGTA ACCGAACT CA CGT GGT CG GTCA

TAAACTGTGCTATGGCTGCC AGTC A GG ------ - C-- C AT T ---------
ACTCAAGCCAATGGGGCCTT A
AGGCTGAATTACT

-
GAM33626 273815 CCATCTGGCTTGAAGTTATG C A TAT - -- T GTGAGACTAA
9 CACCAGCTCAGTGTGAGACT CCAT TGGCTTGA GT GCA CCA GC CAGT
AAACTGTGCTATGGCTGCCA GGTA ACCGAACT CA CGT GGT CG GTCA
CTCAAGCCAATGG - - C-- C AT T ----------
GAM33627 272872 CACCCGTGCCTGGGATTCTC C T A ACAAAGGAG T AG - TTACA
0 TAAGACAAAGGAGAAGTCTT CACC GTGCC GGG TTCTCTAAG AAG CTTAA C C
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GTCTTAGATCACATTTAGAG A - A ACACTAGA- T CT C -----
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GAM33627 272808 AGGCGCTAAACCTAAGGCTT AAACCTAA-- C A T AAGATTA
1 TTCTGGGAAGAGCTGTTAAG AGGCGCT GGCTTTT TGGGA GAGC GTT
ATTAGACTGTTCTCCCAAAA TCTGTGA CCGAAAA ACCCT CTTG CAG
AGCCAATAATTCTGAGTGTC GTCTTAATAA - - T -------
T
GAM33627 273351 TGGTAGGGAATTAGATGTCT T C-- C- -- T A- GATG AGAGAAAA
2 CTCAGAATCTTTTGTCTCTG TGGTAGGGAA TAGATGT TCT AGAAT CTTTTGTC CTG GAA CCT

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GGAATTCAATAGGATAAAAG T CTT CC CT - AA AA-- --------
TCATTCTCCAGATTCACATT
TATTTTCCTACCA
GAM33627 273880 GTAAATGTCTCTAAATTTAT AAA TAAATTTA--- - - T T CCT TG CCCCTTCT
3 CATGCTTGTTGGCTGGTGTC GT TGTCTC TCA TG CTTGT GGCTGG GT GC GG
CTGCTGGGCCCCTTCTCCTG CA ACAGAG AGT AC GAACA CCGACC CG CG CC
GCCAGCCCCAGCCACAAGAC GAG TGCGACGTCAG C A - C AC- GT --------
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CAGAGAC
GAM33627 274054 TCATTTTGAAGATGTTTAAC TT-- A TTAA - GAA TTTGG
4 AAATCATTTGGAACACCCTT TCA TTGAAG TGT CAAA TCATTTG CACCC

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GG
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5 CTGGCCTTGGAACCTGTAGT TTGCTTT ATTGG ACTGGC GAACCTG AG CAG
CAGTCATTTGCCTCAGGTTT AACGAAA TGACC TGACCG TTTGGAC TC GTT
ACCTGCCAGTCCCACCAGTC TC- ACCC TCCA - C ----
TAAAGCAA
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6 TGTACTCACTCAGCGTGCCT TCACCTG CT GG ATCTGT ACT ACTCAGC GCC
GCTTGGCGAATCTCAGCTGA AGTGGAC GA CC TGGACA TGA TGAGTCG CGG
GTCAGTTACAACAGGTCCCC A CTTTC C ACAT C ACTCTAAG -----
TTTCAGACAGGTGA
GAM33627 273867 GGTGATCCACCCACCTCGGC TCC AC- G TCCC TG --- GAGCCACT
7 CTCCCAAAGTTGTGGGATTG GGTGA ACCC CTC GCC AAAGTTG GGATTG CAGGCGT

CAGGCGTGAGCCACTGCGCC CCACT TGGG GAG TGG TTTTAAC TTTAAT GTCCGCG

TGGCCTAATTTTTCAATTTT T-- ATA G TT-- TT CCG --------
TTGGTGGAGATAGGGTTTCA
CC
GAM33627 272861 ATTTGTATGTATGTGCATGG A- TGCAT AG C-- -- TGTTTT
8 TGTGTATGAGTGTGTCGATG ATTTGTATGT TG GGTGTGTATG TGTGT GAT GTGTGC

TGTGCTGTTTTGTACACTTA TAGACGTACA AC CCACACGTAC GCACG CTA CACATG
TCTGTGCACGAGCATGCACA GG TCAAC GA TGT TT ------
CCCAACTCAGGACATGCAGA
T
GAM33627 274501 TCTCTGAGCCTCTGCTGCTT - --- GTGTAACAAAATGAATAA C AGGGGC

9 TTCTTGTGTAACAAAATGAA TCTCTG AGCCTCTGCT GCTTTTCTT TACCTGCC TG
TAATACCTGCCCTGAGGGGC GGAGAC TTGGAGACGG TGAGAGGAA ATGGACGG AT

TATGGCAGGTAAAGGAGAGT G ACG ---------- T ------
GCAGGCAGAGGTTGCAGAGG
GAM33628 273903 GTGAAACAAAGGACATCTGT AAACAA C TGT AAGCCTT-- C A - -- A
TAGAAA
0 AGCAAAGCCTTTCAACTCTA GTG AGGA ATC AGCA TCAACT TAG TTGTC CT CTCC TCC

GATTGTCCTCTCCATCCTAG CAT TCTT TAG TCGT GGTTGA GTC GATAG GA GAGG AGG

AAATGGAGGAGGAAGTGATA AAAATG C TC- AAATTAATT A - T AG - ------
GCTGAAGTTGGTTAATTAAA T
TGCTCTGATCTTCTGTAAAA
TAC
-
GAM33628 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
1 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----

CT
GAM33628 272882 CAGAGTCTCGCTCTGTTGCT - TC CTGTT C-- -- T AATCTTG
2 CAGGCTGGAGTGCAGTGGTG CA GAG TCGCT GCTCAGG TGGAG TGCAGTGG GC

CAATCTTGGCTCACTGCAAC GT CTC AGCGA TGGGTCC ACCTC ACGTCACT CG
CTCCATCTCCTGGGTTTAAG A TT ATT-- TCT CA - -------
CGATTCTCATG
GAM33628 273223 GAGTCTCGCTCTGTTGCTCA TC CTGTT C-- -- T AATCTTG
3 GGCTGGAGTGCAGTGGTGCA GAG TCGCT GCTCAGG TGGAG TGCAGTGG GC
ATCTTGGCTCACTGCAACCT CTC AGCGA TGGGTCC ACCTC ACGTCACT CG
CCATCTCCTGGGTTTAAGCG TT ATT-- TCT CA - -------
ATTCTC
GAM33628 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
4 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33628 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
5 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33628 274512 TCTTGATCTTTCATTTCAAC AT- TTCA A- G-- GTGCA A T AACACCGCACT
TC
6 GTTGAGGTCTAGTGCACACA TCTTG CT TTTCA CGTTGA GTCTA CACAG ACT GA CTG

GAACTTGAAACACCGCACTC AGAAC GG AGAGT GTAATT TAGGT GTGTC TGA CT GAC

TGTCAACAGCAATAATCCAC CAC CAAA AG GGG AGG-- A - CACCTAATAAC --
TCAGTACTGTGGGATGGATG AA
GGTTAATGGATGAGAAAACG
GCACCAAGA
--
GAM33628 273678 ATTTGTATTGGTAAAAAAGC ATT- AAAAAA T ATT TATGGGCT - G GCGTG

7 CAGTGTAGTGATTTAGAATA ATTTGT GGT GCCAG GTAGTG TAGAA CTGGA TTCA ACT

TGGGCTCTGGATTCAGACTG TGAACG CCG TGGTC CATCAC ATCTT GACCT GAGT TGG

CGTGGGTGTGAGTTCCAGTT GGTT GT---- - C-- -------- T G -----
CTACCACTACCTGGTTGGCC
TTGGGCAAGT
GAM33628 274024 TAGGCCTTTCTTCTCCCAAC ----- TTCT C T -- ACTG
8 CTTTTCAGATCTTGCCACTG TAGGCCTT TC CCCAA CTT TCAGATC TTGCC
GGCAGCTGGTTTGATGAGAT ATTTGGAG AG GGGTT GAG AGTTTGG GACGG
TGGGTCGTGATCTCTGAGGT TCTCT TGCT A T TC ----
TTA
GAM33628 274510 TCTGTGGTTGAAGGAATGGA - G GAATGGA GTGA AGAT ACAGATA
9 TGGAAGTGTGTGAGCTAGAT TCTGTG GTT AAG TGGAAGTGT GCT TGC
TGCACAGATAGCAAGCAGAA AGACAC CAG TTC GTCTTTACA CGA ACG

CATTTCTGGTGAACTTGGAC A G AAGTG-- AGA- ---- -------
ACACAGA
GAM33629 273110 CTGTGGTTGAAGGAATGGAT - G GAATGGA GTGA AGAT ACAGATA
0 GGAAGTGTGTGAGCTAGATT CTGTG GTT AAG TGGAAGTGT GCT TGC
GCACAGATAGCAAGCAGAAC GACAC CAG TTC GTCTTTACA CGA ACG
ATTTCTGGTGAACTTGGACA A G AAGTG-- AGA- ---- -------
CACAG
GAM33629 273942 CGTCTAGGTGAAATGAGCTG - TG ATGAG GTA T CCT CAG TAATGC
1 TGTAGTCCTTTAGAGCCTCT CGTCTAG G AA CTGT GTCCTT AGAG CTGGA AAGG
GGACAGAAGGTAATGCTCTT GTAGATC C TT GGTA CGGGAG TCTT GACCT TTCT
AATCCAGTGATTCTCGAGGG A GT AGGA- AGA C AGT AA- ------
CAGAATGGAGGATTTGCACT
AGATG
GAM33629 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
2 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33629 273852 GGGTGCCTGGAAGCTACTGC GCCT- CTA- C- -- AA AA TTTCAAT
3 TTCTTCTAGTCAAATGGAAA GGGT GGAAG CTGCTTCTT TAGT CA TGG ATC
TCTTTCAATGATGCCAGGTG CCCG CCTTC GACGAAGAA GTCG GT ACC TAG
GTGCTGTTAAGAAGCAGAAT AATCC TTAA TT TG GG G- -------
TCTTCCCCTAAGCCC
GAM33629 273883 GTAGAGATGGAGTTTTACTA A - TT A TT TTGATCTTGAACT
4 TGTTGCCCAGGTTGATCTTG GT GAGATGG AG TTACT TG GCCCAGG
AACTCCTGGGCTCAAGTGAT CA TTCTACC TC AGTGA AC CGGGTCC
CCTCCCATCTTGAC G C CT - T- ----------
GAM33629 272958 AAGGGGAGGTGAATGTTATT AT- T - ---------- GGTGCATA
5 AGGTCCAACCTGAAAGGTGC AAGGGGAGGTGA GTTAT AGGT CCAA CCTGAAA
ATATTTCAGGCAGATAGATA TTTCCTTTCACT CAATA TCTA GGTT GGACTTT
GGTGTTTGGCATCTTATAAC CGT T C TGTGGATAGATAGAC --------
TGCTCACTTTCCTTT
GAM33629 274614 TTCAAACAGCCTGGGAAGGG ACAG AAG--- CTGA G
GCTTTCAAAGAACACTTA
6 ACTGTGCTGATAATTGGCTC TTCAA CCTGGG GGACTGTG TAATTG CTCT
TGCTTTCAAAGAACACTTAG GAGTT GGACCC CCTGACAC ATTAAT GAGG
GAGATAATTAACCCACAGTC AA-- GAACCA CCA- A ----------
CACCAAGCCCAGGAATTGAG
GAM33629 274523 TGAGATGGAGTTTTGCTCTT AT- TTT CT TT CT T- AA G -- AATCTTG
7 GTTGCCCAGGCTGTAGTGTA TGAG GGAG TG CTTG GCCCAGG GTAG GT TGTA T GC

ATGTAGTGCAATCTTGGCTT ACTC CCTC AC GAAC TGGGTCC CGTC CA ACAT A CG
AGTACAACCTCTGCCTCCTG CGT TT- C- T- TC TC -- G TT -------
GGTTCAAGCCATTCTCCTGC
CTCA
GAM33629 273172 GAGATGGAGTTTTGCTCTTG AT- TTT CT TT CT T- AA G -- AATCTTG
8 TTGCCCAGGCTGTAGTGTAA GAG GGAG TG CTTG GCCCAGG GTAG GT TGTA T GC
TGTAGTGCAATCTTGGCTTA CTC CCTC AC GAAC TGGGTCC CGTC CA ACAT A CG
GTACAACCTCTGCCTCCTGG CGT TT- C- T- TC TC -- G TT -------
GTTCAAGCCATTCTCCTGCC

TC
GAM33629 273865 GGTGACAAGAGTCTCACTCT ACAA TC T T C--- A- -- ATCAG
9 GTGGTCCAGACTGGAGTATA GGTG GAG TCAC CTG GGTCCAGA TGGAGT TAGT GCT

GTGCTATCAGAGCTTACTAC CCAC CTC AGTG GAC TCGGGTCT ATTTCA ATCA CGA
AACTTTAAACTTCTGGGCTC C--- CT - - TCAA AC TT -----
AGGTGATCCTCCCACC
GAM33630 274452 TCACTCTGTGGTCCAGACTG T T C--- A- -- ATCAG
0 GAGTATAGTGCTATCAGAGC TCAC CTG GGTCCAGA TGGAGT TAGT GCT
TTACTACAACTTTAAACTTC AGTG GAC TCGGGTCT ATTTCA ATCA CGA
TGGGCTCAGGTGA - - TCAA AC TT -----
GAM33630 272815 AGGGAGGGGTGTGAGGAAGT TGT- A - ACT T GTAGT
1 CCCACTGATGCTTGTGTAGT AGGGAGGGGG GAGG AGTC CC GA GCTTGT
GCAAGTTTCCTAGGTGACTC TCCCTTCTC CTTC TCAG GG CT TGAACG
CTTCCTTTCTCTTCCCT TTTC C T ATC T -----
GAM33630 273278 GCTTTGTCTCCCATTCCCAG - CAT - G A --- GTGGGA
2 CAAAGGAATTCCAGGCTGTG GCT TTGTCTCC TCC CA CAAAGGA TTCCAG GCT
GGAAGCATGCTGGGATCCTT CGG AACAGGGG GGG GT GTTTCCT AGGGTC CGA
TGATGCGGGCGGGGACAATG T C-- C A - GTA ------
GC
GAM33630 273612 AGGCGTGAGAATCGCTTGAA T AA AA-- GGA GG T- A CGAGATCCT
3 CCTGGAAGGTGGTGGTTGCA AGGCG GAG TCGCTTG CCT AGGT TGG TGCAGTG GC

GTGAGCCGAGATCCTGCCAC TCCGT CTC AGCGAAC GGG TCCG ACC ACGTCAC CG

TGCACTCCAGCCTGGGCAAC - AG CAAC --- -- TC - ---------
CAAGCGAGACTCTGCCT
GAM33630 273486 GAGACGTGAGAATCGTTTGA T AATC GAA-- AGG GT GCCCAAAT CCA
4 ACCTGGGAGGTGGAGGTTGT GAGACG GAG GTTT CCTGGG TGGAG TGTAGTGA CATG

AGTGAGCCCAAATCATGCCA CTCTGT CTC CGAG GGATCC ACCTC ACGTCACT GTAC

CATGTCACTGCACTCCAGCC - AGAA ACAAC G-- -- -------- ---
TAGGCAACAGAGCAAGACTC
TGTCTC
GAM33630 274505 TCTCTGTTGGTGTCCTAAGG G -- G CCTTT A CAGCA
5 TTTATTACACCTTTCTACCT TCTCT TTGGT GTCCTAAG TTTATTACA CT CCT
CAGCAGGGCAGCACAATGTA AGGGG GACCG TAGGATTT GAATGATGT GA GGG
GTAAGATTTAGGATGTGCCA G TG A AACAC C -----
GGGGGGA
GAM33630 272813 AGGCTTTAGAGTAGCAAAGG CTTTA AAA --- AT GCT CA TGTCTTT
6 CCCCAGGGAATGGGCTCTGT AGG GAGTAGC GGCCCC AGGGA GG CTGTTGGGA GCT

TGGGACAGCTTGTCTTTGGT TCC TTCGTTG CTGGGG TCCCT TC GATGACCTT TGG
TTCCAGTAGTTACTCCTCCC ----- GAA AAG CC ATT -- -------
TGAAGGGGTCAAGGTTGCTT
CCT
GAM33630 273542 GAGTAGCAAAGGCCCCAGGG AAA --- AT GCT CA TGTCTTT
7 AATGGGCTCTGTTGGGACAG GAGTAGC GGCCCC AGGGA GG CTGTTGGGA GCT
CTTGTCTTTGGTTTCCAGTA TTCGTTG CTGGGG TCCCT TC GATGACCTT TGG

GTTACTCCTCCCTGAAGGGG GAA AAG CC ATT -- -------
TCAAGGTTGCTT
GAM33630 272786 AGCAGCACAGAAATATTGGC A- CAG AAGCGAG
8 ACAGGGAAGCGAGTCTGCCA AGCAGCACAG AATATTGGCA GG
ATATTGGCTGTGCTGCT TCGTCGTGTC TTATAACCGT CT
GG --- -------
GAM33630 274372 GTCCTGGAAGACATGGTAGA - A T ---- A GA CCAACT
9 GCTGAAGGATCAGCCAACTT GTC CTGGA GACA GGT AGAGCTGA G TCAG
TGAGACTCAGCTCTAGCTGC CGG GACCT CTGT CCG TCTCGACT C AGTT
CTGTCTCCAGTGGC T - - TCGA - AG ------
GAM33631 273309 TGCAGATCTCTGTTGGAAAG TCTCT T CACACC --- TCTCAT
0 ATGGCTTTCACACCGATGGA TGCAGA GT GGAAAGATGGCTTT GATGGAA ATTG
AATTGTCTCATCAGTAACTT ACGTTT CA CCTTTTTATCGGAA CTACCTT TGAC
CCATCCAAAGGCTATTTTTC TT--- - AC---- CAA ------
CACTTTTTGCA
GAM33631 273522 GAGGCAGGAGAATTGCTTCA CA AA CAAA--- TG A- GT ---- CAAG
1 AACTGGGCAGAGGTTGCAGT GAGG GGAG TTGCTT C GGC GAG TGCAGTG AGC
GAGCCAAGGTTGACCCACTG CTCT CCTC AACGAG G CCG CTC ACGTCAC TTG
CACTCCAGCCTGGGCAACAA A- AA AACAACG GT AC -- CCAG ----
GAGCAAAACTCCATCTC
GAM33631 274094 TCTTTTTGGCTTGGGACCCA TTT T CCA TTC- CC T GTCA
2 GGGGGTTTTCTCTCCCTCTG TCTT GGCT GGGAC GGGGGTT TCTC TC GA
AGTCATCGATGAGACCGTAA AGGA CCGA CCCTG CCCCCAA AGAG AG CT
CCCCCAGTCCCCAGCCCTAG TC- C A-- TGCC T- - ----
GA
GAM33631 274238 GGAGAATCGCTTGAATCCAG AATC GA-- A- T- A - AGAT
3 GAGGTTGCAGTGAGCTGAGA GGAG GCTT ATCCAGG GG TGCAGTG GC TG
TCACGCCACTGCACTCCAGC CCTC CGAG TGGGTCC CC ACGTCAC CG AC
CTGGGTGACAGAGCAAGACT AGAA ACAG GA TC - C ----
CC
GAM33631 272763 AGAAGGAGAAGAGATCTTAG - --- A TC CTGTCTATA
4 GTCTCTTCGTTCCTGTCTAT AGAAGGA GA AG GATCTTAGGTCTCT GTTC
AGAACAGAGACTTAAGATCC TCTTCCT CT TC CTAGAATTCAGAGA CAAG
TGCCTCTTCCTTCT T CCG - -- ---------
GAM33631 274520 TGAGACAGGAGAATCGCTTG CA AA GAA--- AGGCA GT AGA AGAT
5 AACCCGGGAGGCAGAGGTTG TGAGA GGAG TCGCTT CCCGGG GAG TGCAGTG TG

CAGTGAGATGAGATCACACC ACTCT CCTC AGCGAG GGGTCC CTC ACGTCAC AC
ACTGCACTCCAGCCTGGGCA A- AA AACAAC GAC-- -- CAC ----
ACAAGAGCGAAACTCCATCT
CA
GAM33631 273165 GAGACAGGAGAATCGCTTGA CA AA GAA--- AGGCA GT AGA AGAT
6 ACCCGGGAGGCAGAGGTTGC GAGA GGAG TCGCTT CCCGGG GAG TGCAGTG TG

AGTGAGATGAGATCACACCA CTCT CCTC AGCGAG GGGTCC CTC ACGTCAC AC
CTGCACTCCAGCCTGGGCAA A- AA AACAAC GAC-- -- CAC ----
CAAGAGCGAAACTCCATCTC
GAM33631 273596 GGAGAATCGCTTGAACCCGG AA GAA--- AGGCA GT AGA AGAT
7 GAGGCAGAGGTTGCAGTGAG GGAG TCGCTT CCCGGG GAG TGCAGTG TG
ATGAGATCACACCACTGCAC CCTC AGCGAG GGGTCC CTC ACGTCAC AC

TCCAGCCTGGGCAACAAGAG AA AACAAC GAC-- -- CAC ----
CGAAACTCC
GAM33631 273117 CTTGAACCCGGGAAGCAGAG AA- AAGCA GT A - ACAT
8 GTTGCAGTGAGCCGACATCG CTTG CCCGGG GAG TGCAGTG GC CG
TGCCACTGCACTCCAGCCTG GAAC GGGTCC CTC ACGTCAC CG GC
GGCAACAAG AAC GAC-- -- - T ----
GAM33631 274499 TCTCCAACAGTGGCTGCCTG CAACA -- - AT G - CCCAAAGC
9 GGGAATGTGAGGATTGTCCC TCTC GTGGCT GCC TGGGGA GT AG GATTGT
AAAGCACAATCACTGGCTCC AGAG TACCGG CGG ACTCCT CG TC CTAACA
TCACGGCAAGGCCATGAGA ----- AA C -- G A --------
GAM33632 273284 TGAGGCAGGAGAATTGCCTG G AA - AA- AAGC GTC AA - AGAT
0 AACTCAGGAAGCGGAGGTCG TGAGGCAG AG TTGC CTG CTCAGG GGAG GCAGT GC TG

CAGTAAGCTGAGATCATGCC ACTCTGTC TC AGCG GAC GGGTCC CCTC CGTCA CG AC

ACTGCACTCCAGCCTGGGCA - AG A AAC GA-- A-- C- T ----
ACAGAGCGAGACTCTGTCTC
A
GAM33632 274242 GGAGAATTGCCTGAACTCAG AA - AA- AAGC GTC AA - AGAT
1 GAAGCGGAGGTCGCAGTAAG GGAG TTGC CTG CTCAGG GGAG GCAGT GC TG
CTGAGATCATGCCACTGCAC TCTC AGCG GAC GGGTCC CCTC CGTCA CG AC
TCCAGCCTGGGCAACAGAGC AG A AAC GA-- A-- C- T ----
GAGACTCT
GAM33632 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
2 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33632 272993 AGAATCACTTGAACGTGGGA AA GAACG GGAG AG ----- A - AGAT
3 GGCAGAGGCTGCAGTGAGCC AG TCACTT TG GC AGGCT GCAGTG GC CG
GAGATCGTGCCACTGCACTC TC AGTGAG AC CG TCCGA CGTCAC CG GC
CAGCCTGGGCAACAGAGTGA AG ----- AA-- GG CCTCA - T ----
GACT
GAM33632 273431 CTTCACCTGAACTCACTGGG AC-- C A --- ------- T A AC G TAA
4 GCTTCTCCAGGGATATTAAC CTTC CTGAA TC CTGG GGCT TC CCAGGGAT TTA CTG ACTT

CTGGACTTTAAGAGTCAGAG GAAG GACTT AG GACC CCGA AG GGTCCCTG AGT GAC TGAG

TGAGTCCCTGGGACTAGTTC GGCA - - TAC CTTGATC - - GA - ---
AGCCCATCCAGGATTCAGAC
GGGAAG
GAM33632 273722 GGCATGAGAATCGCTTGAAC T AA AA-- AGGC GC A CAAGATCGT
5 CCGGGAGGCGGAGGCTGCAG GGCA GAG TCGCTTG CCCGGG GGAG TGCAGTG GC

TGAGCCAAGATCGTGCCACT CTGT CTC AGTGAGC GGGTCC CCTC ACGTCAC CG
GCACTCCAGCCTGGGCAACC - AG CAAC GA-- -- - ---------
GAGTGAGACTCTGTC
GAM33632 272782 AGATGTATTATGTCTGTCCT A T ATGTC GCG CCTGTGTCAG ----
ATGAATA
6 TGCGGGGGTTCTGGTCCCTG AG TG ATT TGTCCTT GGGGTTCTGGTC TCTTAAC TCTC

```
          TGTCAGTCTTAACTCTCATG TC AC TAA    GCAGGGA  TCCCAAGACCGG       AGAATTG   GGAG

          AATATAGAGGTAGTGTTAAG  - T  ATTTC     ---        ----------     TGAT   -------
          AGGCCAGAACCCTAGGGACG TA
          CTTTAAATTCACT

                        --
GAM33632 273266 GCTGAGTCCCCAGGTCAATG    A   CCA   AAT--     CC  A     CCC  TACAA
7         GAACTCCCTCTAGGAACTAC GCTG GTCC  GGTC   GGAACTC  TCT GGAACTA  TGC
          CCTGCTACAAGCATGGTTTC TGAC CAGG  CCAG   CCTTGAG  AGG CTTTGGT  ACG
          AGGATTGAGTTCCCCAAGGA   -  A--   GAACC     TT  A     ---  -----
          CCAGGACCAGT
GAM33632 274370 GTCCCCAGGTCAATGGAACT    CCA   AAT--     CC  A     CCC  TACAA
8         CCCTCTAGGAACTACCCTGC GTCC  GGTC   GGAACTC  TCT GGAACTA  TGC
          TACAAGCATGGTTTCAGGAT CAGG  CCAG   CCTTGAG  AGG CTTTGGT  ACG
          TGAGTTCCCCAAGGACCAGG   A--   GAACC     TT  A     ---  -----
          AC
GAM33632 273998 GTTACCTTCCTCTGCCTCTG    C  TC   -  T-- TC    C--   CGT  G  GAG
9         CTCCCTTGTCTAGGGCGTGG GTTA CT  CTCTG CCTC  GC  CCTTGT  TAGGG  GGA AT
          AGATGAGGTGTCCTTCCTAT CGGT GA  GAGAC GGAG  CG  GGGACA  ATCCT  CCT TG
          TCACAGGGTTGCTGCGAGGA   T  GT   A   CGT  TT    CTT   T--  G  ---
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GAM33633 273653 AGTTTTAGGGTACATGTGCA    TTA   A  T TG  -    - G  T   T  ATAT
0         CAACATGCAGGTTTGTTACA AGTT  GGGT CA G  CAC AACATG CA GT TGT AC
          TATGTATACATGTGCCATGT TCAA  CCCA GT C  GTG TTGTAC GT TA ATA TG
          TGGTGTGCTGCACCCATTAA   TTA   C - GT  G    C  G  C  -  ----
          CT
GAM33633 273982 CTGGCATACAAGAGCCCGGA    ATA   A -  AACT   CC      CTGCAATCAACAATAC  ---
GAAC
1         ACTTCTGCCGATTTGTCACT CTGGC  CAAG GC CCGG   TCTG  GATTTGTCA          TCC  CCG
          GCAATCAACAATACTCCCCG GACCG  GTTC TG GGTC   AGAC  TTGAACGGT          AGG  GGC
          GAACATCGGCAAGGATGGCA    AGG   G  T   GT--   T-      ----------------  AAC  ----
          AGTTTCAGATGCTGGTGTGC AT
          TTGGGAGCCAG

                        --
GAM33633 273977 CTGCTTGAACCCAGGAGGCA   C  AA    AGGCA  AT     A-  AAGAT
2         GAGATTGCAGTGAGTCAAGA CTG TTG  CCCAGG    GAG  TGCAGTG  GTC
          TGGCACTACTGCACTCCAGC GAC AAC  GGGTCC    CTC  ACGTCAT  CGG
          CTGGGCAACAG          -  --     GAC--  --     CA  -----
GAM33633 273006 AGCAGGCTAACTAGGAGTTG    -  AACTA   TT-   ---        TGAAACTGTT
3         ACAAGCTAAGAAAGTGAAAC AGCAG GCT    GGAG   GACA   AGCTAAGAAAG
          TGTTCTTTCTTAGTTAACTG TTGTC CGA    TCTC   CTGT   TTGATTCTTTC
          TCTTTCTCTGGAGCTCTGTT    T  GG---   TTT    CAA        ----------
GAM33633 274548 TGAGGCAGGAGAATTGCTTG     A   AA    GAA---    AGG    GT     A  -  AGGT
4         AACCCGGGAGGTGGAGGTTG TGAGGC GGAG  TTGCTT     CCCGGG   TGGAG  TGCGGTG GC CG

          CGGTGAGCCGAGGTCGCGCC ACTCTG CCTC  AGCGAG     GGGTCC   ACCTC  ACGTTAC CG GC

          ATTGCACTCCAGCCTGGGCA     -   AA     AACAAC     G--    --      -  C  ----
```

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CA
GAM33633 273199 GAGGCAGGAGAATTGCTTGA A AA GAA--- AGG GT A - AGGT
5 ACCCGGGAGGTGGAGGTTGC GAGGC GGAG TTGCTT CCCGGG TGGAG TGCGGTG GC CG

GGTGAGCCGAGGTCGCGCCA CTCTG CCTC AGCGAG GGGTCC ACCTC ACGTTAC CG GC

TTGCACTCCAGCCTGGGCAA - AA AACAAC G-- -- - C ----
CAAGAGCGAAACTCCGTCTC
GAM33633 274541 TGAGGCAGGAGAATCGCTTG A AA - GAA--- AGG GT A - AGAT
6 AACCCAGGAGGTGGAGGTTG TGAGGC GGAG TC GCTT CCCAGG TGGAG TGCAGTG GC CG

CAGTGAGCCGAGATCGCGCC ACTCTG CCTC AG CGAG GGGTCC ACCTC ACGTTAC CG GC

ATTGCACTCCAGCCTGGGCA - A- A AACAAC G-- -- - C ----
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CA
GAM33633 273593 GGAGAATCGCTTGAACCCAG AA - GAA--- AGG GT A - AGAT
7 GAGGTGGAGGTTGCAGTGAG GGAG TC GCTT CCCAGG TGGAG TGCAGTG GC CG

CCGAGATCGCGCCATTGCAC CCTC AG CGAG GGGTCC ACCTC ACGTTAC CG GC
TCCAGCCTGGGCAACAAGAG A- A AACAAC G-- -- - C ----
CAGAACTCC
GAM33633 274406 GTGTGATATAGGTGGTCTGG ATA - - GGC ACAA AT A -- GCTG
8 GATCATGGCTGGACAAACAC GTGTGAT GGTGGT CT GGGATCAT TGG ACACA GCAGT GG
AAGAGT
AATGCAGTAGGAAGAGTGCT CATACTG CCACTA GA TTCTAGTA ACC TGTGT CGTCA CT
TTCTCG
GGCTCTTGGTCACTGCTGTG C-- C G --- CAG- -- - GG ----
TGACCCAATGATCTTGAGCA
TCACCCGTCATAC
GAM33633 273202 GAGGCAGGAGAATTGCTTGA A AA GAA--- T - CAGAGGT G CGAGATAAC

9 ACCTGGTGGGGCAGAGGTTG GAGGC GGAG TTGCTT CC GG TGGGG TGCAGT AGC

CAGTGAGCCGAGATAACGCT CTCTG CCTC AATGAG GG CC ACCTC ACGTCA TCG
ACTGCACTCCAGCCTGGGCA - AA ACAACG T G ------- - ---------
ACAGAGTAAAACTCCGTCTC
GAM33634 273518 GAGGCAGGAGAATCGTTTGA GCA AA GAA--- TG AAGC - -- C GTCGAGA
0 ACCTGGGAAGCGGAGGTTGC GAG GGAG TCGTTT CC GG GGAG GT TG CGTGA
CGTGAGTCGAGATCATGCCA CTC TCTC AGCGAG GG CC CCTC CG AC GTACT
TTGCACTCCAGCCTGGGCAA --- AA AACAAC GT GA-- A TT C -------
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GAM33634 272768 AGAATTGCTCGAACCCGGGA AA GAA-- AGACA GT A - AGAT
1 GACAGAGGTTGCAGTGAGCC AG TTGCTC CCCGGG GAG TGCAGTG GC CG
GAGATTGTGCCACTGCACTC TC AGCGAG GGGTCC CTC ACGTCAC CG GT
CAGCCTGGGCAACAGAGCGA AG ACAAC GAC-- -- - T ----
GACT
GAM33634 273393 TTGCTCGAACCCGGGAGACA GAA-- AGACA GT A - AGAT
2 GAGGTTGCAGTGAGCCGAGA TTGCTC CCCGGG GAG TGCAGTG GC CG

TTGTGCCACTGCACTCCAGC AGCGAG GGGTCC CTC ACGTCAC CG GT
CTGGGCAACAGAGCGA ACAAC GAC-- -- - T ----
GAM33634 274171 GCTCGAACCCGGGAGACAGA GAA-- AGACA GT A - AGAT
3 GGTTGCAGTGAGCCGAGATT GCTC CCCGGG GAG TGCAGTG GC CG
GTGCCACTGCACTCCAGCCT CGAG GGGTCC CTC ACGTCAC CG GT
GGGCAACAGAGC ACAAC GAC-- -- - T ----
GAM33634 274315 GGGCGAGTCCTTAACCTTGG - GA ACCTT AAA- TCT TTTA CCTG
4 CAAAATAAACTTCTGAATTT GG GC GTCCTTA GGCA TAAACT GAA TTGAGA
ATTGAGACCTGTCTCAGGTA CC CG CGGGAGT TCGT ATTTGG TTT GACTCT
CTTTTTGGTTTACATGTGCT A GA GT--- GTAC TT- CATG ----
TGTGAGGGCAGGCACC
GAM33634 274202 GGAAGCATTTAAGGAAAAGG AA GAAA TTG TT GGGAG --- AGAGAG
5 CTTGTTTTTCATTTCAGGGG GG GCATTTAAG AGGC TTTTTCAT CAG GTTTA GGCCA
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GTTGAGTAAACACACTGCTG -- ATGG TA- TC ACA-- GAG ------
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AAATGCCC
GAM33634 273240 GCATTTAAGGAAAAGGCTTG GAAA TTG TT GGGAG --- AGAGAG
6 TTTTTCATTTCAGGGGAGGT GCATTTAAG AGGC TTTTTCAT CAG GTTTA GGCCA
TTAGGCCAAGAGAGTGGTTG CGTAAATTC TCCG AGAGAGTG GTC CAAAT TTGGT
AGTAAACACACTGCTGTGAG ATGG TA- TC ACA-- GAG ------
AGAATGCCTGGTACTTAAAT
GC
GAM33634 272998 AGAGATGCTAAGTTTAGATT A GCTA TA C G AC TTTTTAAT
7 CCAGGGGGCAGGACTGGATT AG GAT AGTT GATTC AGGGG CAGG TGGA
TTTAATTTCATCTGGCTCCT TC CTA TCGA CTGAG TCCTC GTCT ACTT
GAGTCCTAGCTCCTAATCCT - ATCC TC - G -- --------
GAM33634 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
8 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33634 274516 TGAATTTGTGACTTGTCTGG TTG - GTT CGAA TCTCTACT
9 TTTGGCATCTCGAAGGGCTT TGAAT TGACTTGT CTG TGGCATCT GGGCTT
TCTCTACTGGGTCCAGGGTG ACTTA ACTGGACA GAC ACCGTGGG CCTGGG
CCACAGAACAGGTCAGCATT CG- A --- A--- --------
CA
GAM33635 273515 GAGGCAGGAGAATCGCTTGA GAGAA GA-- AATCA GT - A---- CAAG
0 ATCTAGGAATCAGAGGTTGC GAGGCAG TCGCTT ATCTAGG GAG TGCA GTG GC
AGTGAGCCAAGGTCACACCA CTCCGTC AGTGAG TGGGTCC CTC ACGT CAC TG
CTTGCACTCCACAGCCTGGG AG--- ACAG GACAC -- T CACAC ----
TGACAGAGTGAGACTGCCTC
GAM33635 274619 TTCATCATAGAAATGGAACT A T A T AC TC ---- ATAT
1 GCCGGGTCAAGGATATGTAT TTC TCA AG AA GGA TGCCGGG AAGGA TATGTATGTTT

GTTTATATGGACATATGTGA AAG GGT TC TT CCT ACGGTCC TTCTT GTGTATACAGG
ATTTTCTTCCTGGCATCCCT - T C C -- -- TTAA ----
TCCTTTGGGAA
GAM33635 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT

2 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33635 273194 GAGGCAGGAGAATGGCGCGA A AATGG GAA---- AAG CT A - AGAT
3 ACCCGGGAAGTGGAGCTTGC GAGGC GGAG CGC CCCGGG TGGAG TGCAGTG GC CG

AGTGAGCCGAGATCGCGCCA CTCTG CCTC GCG GGGTCC ACCTC ACGTCAC CG GC

CTGCACTCCAGCCTGGGCAA - AAA-- AGACAAC G-- -- - C ----
CAGAGCGAAACTCCGTCTC
GAM33635 274104 TGAGACAGGAGAATCACTTG CA AA A GAAC- GG AG TT GG - AGAC
4 AACTCCGGAGGTTGAGGTTT TGAGA GGAG TC CTT TCC AGGTTG GT CAGT GC CG
CAGTGGGCCGAGACCGAGCG ACTTT CCTC AG GAG GGG TCCGAC CA GTCA CG GC

ACTGCACTCCAGCCTGGGCA A- AG C ACAAC -- CT C- G- A ----
ACAGAGCGAGACTCCATTTC
A
GAM33635 273130 GAACATCTCAAGCACTTCAG CA A ---------- AATTC ----- ATAT
5 GCAATTCACATTCCTTCAGC GAA TCTC AGCACT TCAGGC ACATTCC TTCAGCAA
AAATATTTGTTGAGCACCTG CTT AGGG TTGTGG AGTCCG TGTGAGG GAGTTGTT
GAGTGTGCCTGAGATTCTTT A- - ACTTTCTTAG ----- TCCAC ----
CAGGTGTTGGGAATTC
GAM33635 272724 AACATCTCAAGCACTTCAGG C- CAC AATTC ----- ATAT
6 CAATTCACATTCCTTCAGCA AACATCT AAG TTCAGGC ACATTCC TTCAGCAA
AATATTTGTTGAGCACCTGG TTGTGGA TTC GAGTCCG TGTGAGG GAGTTGTT
AGTGTGCCTGAGATTCTTTC CT TTA ----- TCCAC ----
AGGTGTT
GAM33635 274489 TCCTGCATGGCAGTTCCATA G CAG - - CCA CCATCCTT
7 TGCAGAGCCAGAATCCATCC TCCT CATGG TTC CATA TGCAGAG GAAT
TTGTTCCTTCTGCATTGTGA AGGA GTACC AAG GTGT ACGTCTT CTTG
GAAAATCCATGGAGGA G TAA A T C-- --------
GAM33635 274293 GGGAAAGAGAGGGATGAAGT A G AGTAAAAACAT-- GGA GACAAA
8 AAAAACATCTGGGAGGTCAG GGGAA GAGAGG ATGA CTG GGTCA
ACAAATGGCCGTGCAGTTTC CCCTT CTCTTC TACT GAC CCGGT
CTAATTCCATCATGCTTCTC C G ACCTTAATCCTTT GTG ------
CTTCCC
GAM33635 274096 TGAACCCCGGAGACAGAGGT A - G-- TT GT A-- AC ATGT
9 TGCAGTGAGCCGAGATACAT TGA CCC CGGA ACAGAGG GCA GAGCCGAG TACAT ATATAT

ACATATATATGTATATATCA ATT GGG GTTT TGTTTCC CGT CTCGGTTC GTGTA TATATA

TGTGCAACTTGGCTCTGCTC C T GAA T- -- AAC C- ----
CTTTGTAAGTTTGTGGGCTT
A
GAM33636 272745 ACAGAGGTTGCAGTGAGCCG TT GT A-- AC ATGT
0 AGATACATACATATATATGT ACAGAGG GCA GAGCCGAG TACAT ATATAT
ATATATCATGTGCAACTTGG TGTTTCC CGT CTCGGTTC GTGTA TATATA
CTCTGCTCCTTTGT T- -- AAC C- ----
GAM33636 273689 GGAGAATTGCTTGAACCCAG AA TG GAA-- AGGC GT A- CGAGATA

1 GAGGCGGAGGTTGCAGTGAG GGAG T CTT CCCAGG GGAG TGCAGTG GC
CCGAGATAGCACCACTGCAC CCTC A GAG GGGTCC CCTC ACGTCAC CG
TCCAGCCTGGGCAACAGAGT AG GT ACAAC GA-- -- CA -------
GAGACTCC
GAM33636 273027 CCTGACTCTGATCACAGGCA GA - CAA- ATA T TTTCAATCC
2 AAGGAATAAAGTCTCATTTC CCT CTCTGATC ACAGG AGGA AAG CTCA
AATCCTGAGCTTCTCCTAAT GGG GAGACTAG TGTTC TCCT TTC GAGT
TCTTGTGGATCAGAGCTGGG TC G TTAA C-- - ---------
GAM33636 273005 AGCAGACTGAACTAAGACAC A ACTAAG A G G T AAA
3 CCTCTGCCTGTGGTTGTCTT AGCAG CTGA AC CCCTCT CCTGTG TTG CTTGGC
GGCAAAGCCAGGTAATGCAG TCGTC GACT TG GGGAGA GGACGT AAT GGACCG
GAGAGGGGTGGACTCAGCCT C CAGG-- - - - - - ---
GCT
GAM33636 273399 TTGCTTTAGCCCAGGAATTC TA-- AATTC TT - ATGAT
4 GAGTTTGCAGTGAGCTATGA TTGCTT GCCCAGG GAGT GCAGTGA GCT
TGGTGTCATTGCACTCCAGC AACGAA CGGGTCC CTCA CGTTACT TGG
CTGGGCAATCAAGCAA CTAA GAC-- -- G -----
GAM33636 272888 CAGCTGGGACTGCAGGGGCA GC A G GCACAAC C C TT ATT- TAGGGC

5 CAACATCACGCCTGGCTAAT CA TGGG CT CAGGG ATCA GCCTGG TAAT TTGT TTCTG

TTTTGTATTTTCTGTAGGGC GT ACTC GG GTCCT TGGT CGGACC ATTG GACA AGGAT
TAGGATTTCACAGTGTTACC AA - - AAAACTC - C T- CTTT ------
CAGGCTGGTCTCAAAATCCT
GGGCTCAAATG
GAM33636 274592 TGGTGAAGAGAGTCATGGAG GT A TG G T ACTTCT CTCTAA
6 TCAGACATGCTGGACTTCTG TG GAAGAG GTCA GAGTCA ACA GCTGG GG
GCTCTAACCTTGCTAGCTGT AC TTTCTC CAGT TTCAGT TGT CGATC CC
GTGACTTTGACCTCTTTGAC AG - -- G - GTT--- ------
A
GAM33636 274343 GGTGAAGAGAGTCATGGAGT ------- A TG G T ACTTCT CTCTAA
7 CAGACATGCTGGACTTCTGG GGTGA AGAG GTCA GAGTCA ACA GCTGG GG
CTCTAACCTTGCTAGCTGTG CTACT TCTC CAGT TTCAGT TGT CGATC CC
TGACTTTGACCTCTTTGACA TACAGTT - -- G - GTT--- ------
TTCATC
GAM33636 273424 CTGTGACTATTTCGCTGAAT ACTATT AATCT AAC- AGG AC T CCATTTT
8 CTTTGCAACTCTGAGAGGTC CTGTG TCGCTG TTGC TCTGAG TCAGT TTTTATTT AC
AGTACTTTTATTTTACCCAT GACAC AGTGAC AATG AGACTC AGTCA AGAGTGGA TG
TTTGTAGGTGAGAAAACTGA ------ AC--- GGAA GG- AA - -------
GGCTCAGAAAGGGTAACACA
GTGACACAG
GAM33636 273096 CTGCCTCCCCACTCAAGCTC C CC- CAA TCT A AAA - A CAC AGGAC
9 TGTAAGGACGCAAAGAGGGC CTG CTC CACT GC GTA GGACGC GA GGGC AGGC GA

AAGGCCACGAAGGACTCAGC GAC GAG GTGA CG CGT CCTGTG CT CCCG TCCG CT
CTGGCCCATCGTGTCCCTGC C ACC CCC TCT C --- A G A-- -----
TCTGCCCCAGTGCCAGAGCC
AG
GAM33637 274322 GGGGCTGGCCGCCTCAGTGA CC CTC ATGCCACC G TGCAC
0 TGGTGATGCCACCAGCTCCA GGGGCTGG GC AGTGATGGTG AGCTCCA CC

GCCTGCACGGATGGAGCTCA CTCTGACT CG TCACTACCAT TCGAGGT GG
CTTCCTACCATCACTTCTGC TT TCT CCTTCAC- A -----
TTTCAGTCTC
GAM33637 273063 CTCCTTGATTGAGGCTAGTA - GA- - --- A- CT ATAA
1 GGTTTTTAAGACCTGAATAA CTCC TT TTGA GGC TAGTAGGTTTTT AGAC GA
TTGAGTTTGCAGAAACCTAC GAGG AA GACT CCG GTCATCCAAAGA TTTG TT
TGTGTGCCTTCAGGTAAATG T ATG T TGT CG AG ----
GAG
GAM33637 273122 CTTTCTCTCGTGAATGGAGC CT AAT- - TTTTC CTTT
2 TGTTTTCTTCAGAGCCTTTG CTTT CTCGTG GGAGC TG TTCAGAGC
CTCTGAAACATCACGCTCCC GAAG GGGTAT CCTCG AC AAGTCTCG
CTGTATGGGGAGAAG AG GTCC C TACA- ----
GAM33637 274542 TGAGGCAGGAGAATCGCTTG G AA GAA--- AGGC - C AGCCAAAATCG
3 AACCCGGGAGGCGGAGGTCG TGAGGCAG AG TCGCTT CCCGGG GGAG GT GTGGTG

TGGTGAGCCAAAATCGCACC ACTCTGTC TC AGTGAG GGGTCC CCTC CG TACCAC
ATTGCACTCCAGCCTGGGCA - AA AACAAC GA-- A T ----------
ACAAGAGTGAAACTCTGTCT
CA
GAM33637 273189 GAGGCAGGAGAATCGCTTGA G AA GAA--- AGGC - C AGCCAAAATCG
4 ACCCGGGAGGCGGAGGTCGT GAGGCAG AG TCGCTT CCCGGG GGAG GT GTGGTG

GGTGAGCCAAAATCGCACCA CTCTGTC TC AGTGAG GGGTCC CCTC CG TACCAC
TTGCACTCCAGCCTGGGCAA - AA AACAAC GA-- A T ----------
CAAGAGTGAAACTCTGTCTC
GAM33637 273666 ATGCATGGGGGTACACAGGG G A-- G CACAATGCA - GAAATAG A C
TCC
5 GACACAATGCAGTGTTGGTG ATGCATG GGGT CACA GGGA GTGT TGGTGG TC TTGAGCA
TTC
GGAAATAGTCATTGAGCACT TACGTAT TTTA GTGT CCCT CACA ACCACC AG GACTTGT
AAG
TCTCCTTTCCTCTCATGTGA G AAA G --------- G ACTA--- A A ---
AATGTTCAGAGAATCACCAC TTTCCTCTCATGT
CAGACACTCCCGTGTGAAAA
TTTGTATGCAT

GAM33637 273985 CTGGGATTACATGTGTGAGC GG TT TG-- C CGC C--- TTGTT
6 CACCGCGCCTGGCCTCAAAT CTG A ACA TGTGAGC AC GCCTGGC TCAAA
TGTTTTTGAAGTAGTTAGGT GAC T TGT ATACTCG TG TGGATTG AGTTT
TGTAGCTCATAAGACTGTCT TT C- CAGA A T-- ATGA -----
TTCAG
GAM33637 274603 TGTGAGCCACCGCGCCTGGC C CGC C--- TTGTT
7 CTCAAATTGTTTTTGAAGTA TGTGAGC AC GCCTGGC TCAAA
GTTAGGTTGTAGCTCATA ATACTCG TG TGGATTG AGTTT
A T-- ATGA -----
GAM33637 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
8 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT

GAM33637 273827 CCCCTTCCTAGCGTGTAGGT AGC - - CTTTGACCCTGCTG T AGTA
9 GTGCACTTTGACCCTGCTGT CCCCTTCCT GTGT AGG TGTGCA TAGTG GTA
AGTGTGTAAGTATGCTCACT GGGGAAGGA CACA TCC ATATGT GTCAC CGT
GACCTCTGCCCTACTGTATA --- G T CATCCCGTCTCCA- T ----
TCCTGACACAGGAAGGGG
GAM33638 273102 CTGGGATGGGATGGAGCAAG G G AT A A T A- GAAT
0 AGGTGAAGATCTTGGAGTCT CT GGAT GG GGAGC AG GGTGAAGATCT GG GTCTG
GGAATCAGACCACCTGGATT GG TCTA CC CCTTG TC CTACTTTTAGG CC CAGAC
TTCATCCTAGTTCCCCGATC G G -- A - T AC ----
TGGG
GAM33638 273229 GATGGGATGGAGCAAGAGGT G AT A A T A- GAAT
1 GAAGATCTTGGAGTCTGGAA GAT GG GGAGC AG GGTGAAGATCT GG GTCTG
TCAGACCACCTGGATTTTCA CTA CC CCTTG TC CTACTTTTAGG CC CAGAC
TCCTAGTTCCCCGATC G -- A - T AC ----
GAM33638 274222 GGAGAATCACTTGAACTCGA AA A GA-- GAG - GT A TGAGATCCC
2 GAGGCGGAGGTTGCAGTGAG GGAG TC CTT ACTC AGGC GGAG TGCAGTG GC
CTGAGATCCCGCCACTGCAC CCTC AG GAG TGGG TCCG CCTC ACGTCAC CG
TCCAGCCTGGGTGACAGAGC AG C ACAG --- A -- - ---------
GAGACTCC
GAM33638 273050 CTACAGAGATAAAGGACGGT A AAA CG C- T TAG TGTC
3 GACTCTTGTGTCAGTTAGTT CTAC GAGAT GGA GTGACT TTGTG CAGT TTGT
GTTGTCACAAAATGCTGCAT GGTG CTCTA CCT CACTGA AATAC GTCG AACA
AACAAGTCACTCCAAATCTC A AA- -- AC - TAA ----
AGTGG
GAM33638 274648 TTGTTGATTCTGTTGAGGAT TG TC G ---- TAT TCC - GATGGG
4 ATATCCCTATGATGTCCCTG T TTGAT TGTT AGGA TATATCCC GATG CTGGGAA GC
GGAAGCGATGGGGCATTCCC G AACTA ATAA TCTT GTGTAGGG CTAC GACCCTT CG

AGTCATCTGGGATGTGCAGT GT TT A TGAC T-- T-- A ------
TTCTAAATATTATCAATGG
GAM33638 273559 GATTCTGTTGAGGATATATC TC G ---- TAT TCC - GATGGG
5 CCTATGATGTCCCTGGGAAG GAT TGTT AGGA TATATCCC GATG CTGGGAA GC
CGATGGGGCATTCCCAGTCA CTA ATAA TCTT GTGTAGGG CTAC GACCCTT CG
TCTGGGATGTGCAGTTTCTA TT A TGAC T-- T-- A ------
AATATTATC
GAM33638 272741 ACAAATGTCTTTGGCCTCTG AA -- -- CC C A AG CCATT
6 TGCCTTTCCTCAGACTTTCA ACA TGTC TTTGGC CTCTGTG TTTCCT AG CTTTC GC
GGCCCATTGTGAGAGAGCTA TGT ACAG GAACTG GGGACAT GAAGGA TC GAGAG TG

GGAAGATACAGGGTTGTCAA AC TT TT A- - - AG -----
GTTGACACATGT
GAM33638 274639 TTGCTTGAACCTTGGAGGCA TG GA-- T AGA T A CAAGATCAT
7 GAGGTTGCAGTGAGCCAAGA T CTT ACCT GGAGGC GGT GCAGTG GC
TCATGCCACTGCACTGTAGC A GAG TGGG CCTCCG TCA CGTCAC CG
CTCCTGGGTGACAGAGTGA GT ACAG T ATG - - ---------
GAM33638 274414 GTTCCTCTTCTCATTGGCTG TCTTCTCATT---- - CT -- A--- GT AATTG
8 ATGTGCTCTGTGGCATCTGT GTTCC GGCTGATG TGCT GTGGC ATCTGTCAC G TTT
CACAGGTTTTAATTGAAGGT CAAGG TCGACTAC ACGA CACCG TGGACGGTG C GAA

CAGCAGTGGCAGGTAAGCCA TTTTCCGACTTTCT T C- AA ACGA TG -----

CCAGCATCATCAGCTTCTTT
CAGCCTTTTGGAAC
GAM33638 274287 GGCTGATGTGCTCTGTGGCA - CT -- A--- GT AATTG
9 TCTGTCACAGGTTTTAATTG GGCTGATG TGCT GTGGC ATCTGTCAC G TTT
AAGGTCAGCAGTGGCAGGTA TCGACTAC ACGA CACCG TGGACGGTG C GAA
AGCCACCAGCATCATCAGCT T C- AA ACGA TG -----
GAM33639 274110 TGAGGCAGAAGAATCTCTTA A AGAAT- TAAA AGGC GT - CGAGATT
0 AACCCGGGAGGCGGAGGTTG TGAGGC GA CTCT CCCGGG GGAG TGCAGTGA GC

CAGTGAGCCGAGATTGCGTC ACTTTG CT GAGA GGGTCC CCTC ACGTCACT CG
ACTGCACTCCAGCCTGGGCA C CAGAGC CAAC GA-- -- G -------
ACAGAGCGAGACTCCGTTTC
A
GAM33639 273132 GAAGAATCTCTTAAACCCGG --- A - AAA--- AGGC GT - CGAGATT
1 GAGGCGGAGGTTGCAGTGAG GAA GA TCTC TT CCCGGG GGAG TGCAGTGA GC
CCGAGATTGCGTCACTGCAC CTT CT AGAG GA GGGTCC CCTC ACGTCACT CG
TCCAGCCTGGGCAACAGAGC TGC C C GACAAC GA-- -- G -------
GAGACTCCGTTTC
GAM33639 273074 CTCTTAAACCCGGGAGGCGG TAAA AGGC GT - CGAGATT
2 AGGTTGCAGTGAGCCGAGAT CTCT CCCGGG GGAG TGCAGTGA GC
TGCGTCACTGCACTCCAGCC GAGA GGGTCC CCTC ACGTCACT CG
TGGGCAACAGAG CAAC GA-- -- G -------
GAM33639 274513 TCTTTCACTGGAATCACATC T T- T C --- TCCCC CC CTCCCTCA
3 TGCAGCTCCTCCCCCTCCGC TCTT CAC GGAA CA ATCTG CAGCTCC CT GCC
CCTCCCTCAGGCTTAGACCG AGAG GTG TCTT GT TAGAC GTCGAGG GA CGG
TGGAGCTGTAACAGATCTGT T CT - C AAT TGCCA TT --------
TCTTCGTGTGAGA
GAM33639 273091 CTGCCAGCCGTCTGTCTCTA C G G CT T CCAA- G C - GGCCGT
4 GTGTTTTTCCAAATGACATC CTGC AGCC TCT TCT AG GTTTTT AT ACATC AGGG CTCT
CAGGGCTCTGGCCGTGGAGT GACG TCGG GGA AGG TC CAGGAA TA TGTAG TCCC GAGG

CCCTGATGTGATCGCTAAAG C - G CC - ATCGC G - T ------
GACCTCCGGAGAGGGGCTCG
CAG
GAM33639 274383 GTCTGTCTCTAGTGTTTTTC G -- T CCAA- G C - GGCCGT
5 CAAATGACATCCAGGGCTCT GTCT TCTCT AG GTTTTT AT ACATC AGGG CTCT
GGCCGTGGAGTCCCTGATGT CGGG AGAGG TC CAGGAA TA TGTAG TCCC GAGG
GATCGCTAAAGGACCTCCGG G CC - ATCGC G - T ------
AGAGGGGC
GAM33639 274131 GCACTATTCACAGTATCAGA -- A GTATCAGAG G GA- - TGGA
6 GACATGGATCAATCCACCGT GCAC TATTC CA ACATG ATCAATCCACCGTT TCA CCGG

TGATCACCGGTGGATTGGAT CGTG ATAAG GT TGTAC TGGTTAGGTGGTAA AGT GGTT

GAAGAAATGGTGGATTGGTA TC - ACTATA--- A AGA A ----
CATGTATATCATGGAATACT
GTGC
GAM33639 273254 GCGTTCCTGGGAAAACCATT CT AAACC-- T TT CT TCT GA AAG
7 TAGATTTCATTCTCCTTCCT GCGTTC GGGA ATT AGA TCATT CCTTCCTT CT CAG
TTCTCTGACAGAAGCTGCTG CGTAAG CCCT TAG TCT AGTAA GGAAGGAG GG GTC

GTGAGGAAGGTAATGATCTT AC ACCAAAC T -- T- T-- TC ---
GATCAAACCATCCCCAGAAT
GC
GAM33639 272738 AATGCAGGAATCACAGGGAC ATCAC GA -- - A AA CCCCGGTA
8 AGTCATCGTTTTAAAAGAAG AATGCAGGA AGG CA GTCATC GTTTT AAAG GCAGGA
CAGGACCCCGGTATCTTGCC TTACGTTTT TTC GT TAGTAG CAAAA TTTC CGTTCT
CTTTGAAAACAGATGATGGT GT--- AG GG A G C- --------
GGACTTTGTTTTGCATT
GAM33639 272905 CATTTTAGTAATGCTCAGCT A A - T CC- - TA--- TT- CA GTT
9 GGACCAGTGTTAGTTATATT CATTTT GT ATGCT CAGC GGA AG TGT GTTATA TGAGT
GAAAAAT
TGAGTCAGAAAAATGTTGTT GTGGAA CA TACGA GTCG CCT TC ACG TAATAT GTTCA
CTTTTTG
TTTCAACTTGCTTTATAATC G C T T CTA T TCCTC TTC A- ---
TCCTGCATCTATCTCCTGCT
GTAGCATCACGAAGGTG
GAM33640 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
0 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33640 274011 TAATTCTCAATGAAGAAATT TCT T A- - - G -- AAACATTTTTA
1 CACTGAGGGAGTGAGGTTCT TAAT CAA GAAGAA TTCA CTG AGGGAGTGAG TTCTT CTC

TCTCAAACATTTTTAGGGCT GTTG GTT CTTCTT AGGT GAC TCCTTCACTC AAGAG GGG

GAGAAACTCACTTCCTGCAG T-- C AG C G A TC ----------
CTGGAGATTCTTCCTTGTGT
TG
GAM33640 272865 CAATGAAGAAATTCACTGAG T A- - - G -- AAACATTTTTA
2 GGAGTGAGGTTCTTCTCAAA CAA GAAGAA TTCA CTG AGGGAGTGAG TTCTT CTC
CATTTTTAGGGCTGAGAAAC GTT CTTCTT AGGT GAC TCCTTCACTC AAGAG GGG
TCACTTCCTGCAGCTGGAGA C AG C G A TC ----------
TTCTTCCTTG
GAM33640 273441 CTTGCCATGCAGCCCTTTTT CA A- TTTT CACAATACAGCA
3 ATGGAGCAAGTCACAATACA CTTGC TGC GCCCT ATGGAGCAAGT
GCAGCTTGCTTCATTAGGGC GAACG ACG CGGGA TACTTCGTTCG
AAGCAAGCAAG A- AA T--- ----------
GAM33640 273864 GGTGAAACTGCCCTTTCCTT AAC CC TT GTTCTATGA TG- AAA TGGGGC

4 TCTGTTCTATGAGTGTGATG GGTGA TGC TTTCC TCT GTGTGA GTGTTTGAG ATG
GTGTTTGAGAAAATGTGGGG CCACT ACG AGAGG AGA TACACT CGCGGACTT TAT
CTATGGTTCAGGCGCACTTC C-- AA T- AACGTG--- TCA GG- ------
ACATGTGCAAAGATGGAGAA
AGCACTCACC
GAM33640 274586 TGGGTACTTTATCTCACACT GG TT CTC C A TG TTC
5 CTGATTTCTTGCTTCGTGGG TG TAC TAT ACA TCTG TTTCT C
AAACAGACTGTAATATTGTA AC ATG ATA TGT AGAC AAAGG G
AGCA GA TT A-- C - GT ---
GAM33640 273364 TGTGCATTCCTTCCAGAGCA CC ------- C TG A G CA TGCT

6 TTTGTGAGGAGTGTTCAGCT TGTGCATT TTCCA GAG ATT TG GGA TGTT GC
GCTGCAAACATCCCATGAAT ACATGTGG AAGGT CTC TAA AC CCT ACAA CG
CCTCAGCTACTTGGAACAGG AC TCATCGA C GT - - A- ----
TGTACA
GAM33640 273756 GGGAGGACTGCTTGAGCCCA G AC-- GA-- AGG CT A TGTGATCCT
7 GGAGGTGGAGTCTGTAGTGA GG AGG TGCTT GCCCAGG TGGAGT GTAGTG GC
GCTGTGATCCTGCCACTGCA CC TCC ACGAG CGGGTCC ACCTCA CGTCAC CG
CTCCAGCCTGGGCAACAGAG G CAGA ACAA G-- -- - ---------
CAAGACCCTGCC
GAM33640 274345 GGTGGGAGGACTGCTTGAGC TG AGGAC GA-- AGG CT A TGTGATCCT

8 CCAGGAGGTGGAGTCTGTAG GG GG TGCTT GCCCAGG TGGAGT GTAGTG GC
TGAGCTGTGATCCTGCCACT CC CC ACGAG CGGGTCC ACCTCA CGTCAC CG
GCACTCCAGCCTGGGCAACA GT CAGA- ACAA G-- -- - ---------
GAGCAAGACCCTGCC
GAM33640 274213 GGACTGCTTGAGCCCAGGAG A - GA-- AGG CT A TGTGATCCT
9 GTGGAGTCTGTAGTGAGCTG GG CT GCTT GCCCAGG TGGAGT GTAGTG GC
TGATCCTGCCACTGCACTCC CC GA CGAG CGGGTCC ACCTCA CGTCAC CG
AGCCTGGGCAACAGAGCAAG A A ACAA G-- -- - ---------
ACC
GAM33641 273170 GAGAGTGTCCTGTCCTCCGT T CCT GTTAATC - G ATCT GTT-- - CCAG
0 TGTTAATCCCAGTCAAGATC GAGAG GTCCTGT CCGTT CCAGT CAA ATC GAGA GGT CT

ATCTGAGAGTTGGTCTCCAG CTTTC TAGGACG GGTAA GGTCA GTT TAG CTCT CCA GG

GGAACCTCAGATCTCTAGGA - TC- A------ C G GAT- AGACT A ----
TGTTGCACTGGAAATGGCTG
CAGGATCTTTC
GAM33641 273898 GTCCTGTCCTCCGTTGTTAA CCT GTTAATC - G ATCT GTT-- - CCAG
1 TCCCAGTCAAGATCATCTGA GTCCTGT CCGTT CCAGT CAA ATC GAGA GGT CT
GAGTTGGTCTCCAGGGAACC TAGGACG GGTAA GGTCA GTT TAG CTCT CCA GG
TCAGATCTCTAGGATGTTGC TC- A------ C G GAT- AGACT A ----
ACTGGAAATGGCTGCAGGAT
GAM33641 273926 CCTGAGACAGAGTTTGCTCT A - T- CT TT CTGGAGTTTAAT C TC
GCTTACCA
2 TGTTGCCCAGGCTGGAGTTT CCTGAG CAG AG TTGCT TG GCCCAGG GGCA GA TTG

AATGGCACGATCTTGGCTTA GGACTC GTC TC AACGA AC TGGGTCC CCGT CT AAC
CCACAACCTCTGCCTCCTGG C C TT -- T- T---------- - CC --------
GTTCAAGCAATTCTCCTGCC
TCAGG
GAM33641 273186 GAGGCAGGAGAATCACTTGA G AA AC- AA- AGA GT GA- GAGAT
3 ACCCGGGAGATGGAGGTTGC GAGGCAG AG TC TTG CCCGGG TGGAG TGCAGT GCC

AGTGAGCCGAGATGGCGCAA CTCTGTC TC AG AAC GGGTCC ACCTC ACGTCA CGG

CTGCACTCCAGCCTGGGCAA - AG GTA AAC G-- -- ACG -----
CAAATGGAGACTCTGTCTC
GAM33641 273012 AGGAAGAGGCTGGCTGTGTG -- G GG - --- C CTT- TATTT
4 GATGAGAGCAACTTGCTTTT AGGA AGA GCT CTGTGTGG AT GAGAGCAA TTG TTTACAATAAT

TACAATAATTATTTGTTATT TCCT TTT TGA GGTATATT TG TTCTCGTT AAC AAATGTTATTG

GTAAATTAACAATTTGCTCT AG A A- A GTC T AATT -----
TCTGGTATTATATGGAAGTA
TTTGATCCT
GAM33641 272908 CCACCCTTGAAAGTACATGT --- T - -- AGC-- G AGGC
5 TCTTCCTCTGAGCTCAGGGG CCACC CT GAAAG TACATGT TCTTCCTCTG TCA GGG

AGGCCCCGTGAATACATAGA GGTGG GA CTTTC GTGTGCG GGGAGGAGAT AGT CCC

GGAGGGAAGCGTGTGTCTTT ACA T T AA ACATA G ----
CTAGACAGGTGG
GAM33641 273433 CTTGAAAGTACATGTTCTTC T - -- AGC-- G AGGC
6 CTCTGAGCTCAGGGGAGGCC CT GAAAG TACATGT TCTTCCTCTG TCA GGG
CCGTGAATACATAGAGGAGG GA CTTTC GTGTGCG GGGAGGAGAT AGT CCC
GAAGCGTGTGTCTTTCTAG T T AA ACATA G ----
GAM33641 274507 TCTGATAAAGTTCATATAAT A ATATA TCAA T CCA-- TG TTAAA
7 ACAGTGTCAATGACTGAATC TCTG TAAAGTTC ATACAGTG TGAC GAAT GGTGG GCC

CAGGTGGTGGCCTTAAAGGT AGAC ATTTTAAG TGTGTCGT ACTG CTTA CCACT TGG
GTTCACCGTACAATTCTGTC - GTTCA TTCA T ACATG TG -----
AACTTTGCTGTGTACTTGGA
ATTTTACAGA
GAM33641 272860 ATTGTGGATGCGTGCACCTG - CACCT - GTC -- A T G AGT GAAAGGA
8 CGCTTCCTGTCGAGAACATT ATTGTGGATGC GTG GC GCTTCCT GAGA AC TTCAT AT CAAA
CAG
CATTATGCAAAAGTCAGGAA TAATATCTATG CAT CG CGAGGGG CTCT TG AAGTG TA GTTT
GTC
AGGAGAAACAGAACTGTCAT T CC--- T T-- TA A T G ACT -------
TTGGATTGTGAAAGTATTCT GAAACAGAA
CTGGGGAGCTGCCCTACTGT
ATCTATAAT

GAM33641 272895 CAGTGACATATCTTGCTCAG GAC C T GTAG TT T TG AC A AAAG GGCC
9 TAGTTTCTTATTCCTGAAGA CAGT ATAT TTGC CA T C TATTCC AAGA CAC AGCAT TGA
ACCACAAGCATAAAGTGAGG GTCA TATA AACG GT G G ATGAGG TTCT GTG TCGTG ACT

CCTCAGTGCTGGTGCTCTTG ATT - T AA-- GG T -- C- G ---- ----
GAGTATGGGGAATGTGCAAA
TATTTAACTG
GAM33642 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
0 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33642 273325 TGGAATGCATAAGAAATTGC T TAA- A TG T AGCAAC
1 AAACTGGTAGCAGGCAGCAA TGGAA GCA GAAATTGCA AC G AGCAGGC
CGTTTGTTTTGGTCTGTAGT ACTTT CGT TTTTGATGT TG T TTGTTTG
TTTGTTTTGCTTTTCA T TTTG C GT - ------
GAM33642 273160 GAGAATTGCTTGAACCTGGG AA GAA--- TG AGG GT TG A - AAAT

2 AGGTGGAGGTTGTGGTGAGC GAG TTGCTT CC GG TGGAG TG GTG GC CG
CGAAATTGTGCCATTGCACT CTC AGCGAG GG CC ACCTC AC TAC CG GT
CCAGCCTGGGCAACAAGAGC AA AACAAC GT G-- -- GT - T ----
GAAACTC
GAM33642 273841 GGGGAGAATTCTATAGACAG A TT A- - C GTTGT ATCCATA
3 AAGGTCAATGTTGTCCCCAT GGGG GAA CTAT GACAG AAGGT AAT CCCC
CCATAGGGGTTGAATTACCT CCCC CTT GGTG TTGTC TTCCA TTA GGGG
TGCTGTTAAGTGGTCTTCCC - CT AA G - AGTT- -------
CC
GAM33642 273221 GAGTAGCTGGGATTACAGGT G G ATT - TGT A G G TTTTTGTATTT
4 GTGTGCCACCATGTCTGGCT GA TAGCT GG ACA GGTG GCC CCAT TCTG CTGA
GATTTTTGTATTTTTAGTAG CT GTCGG CC TGT CCAC TGG GGTG AGAT GATT
AGGTGGGGTTTCACCATGTT G A GGT A TT- - G - ----------
GGCCAGGCTGGTC
GAM33642 274416 GTTGGTGCAAAAGTCAGTGC A --- TA AAAG
5 GGTTTTTGCTATTAAAAGTA GTTGGTGCA AAGTCAGTGCGGTT TTTGC TTA
ACGGCAAAAGTAACTGCACT CAGCCACGT TTCAGTCACGTCAA AAACG AAT
GACTTCTGCACCGAC C TGA GC ----
GAM33642 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
6 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33642 273712 GGATTATAGGATTCCATTGA AG C GCTTTG- CACTAA AG CCAG
7 GTAAGCTTTGAAATGAGGAC GGATTAT GATT CATTGAGTAA AAATGAGGA GATC GGGG

ACTAAGATCAGGGGGCCAGC CTTAGTG CTGA GTGATTCGTT TTTATTCCT CTAG TCCC

CCTGAGATCAGATTTCCTTA A- C ACATCTA TTAGA- AG ----
TTTATCTACATTGCTTAGTG
CAGTCAGTGATTC
GAM33642 273996 GTGTTCGAGCACACACCTCC G ACACC G G AGC-- CCAG
8 TTGCAGTGGCTTCAGCACCC GTGTTC AGCAC TCCTT CA TGGCTTC AC
AGGTCTCCGGGAGCCAGTGA CATAGG TTGTG AGGAA GT ACCGAGG TG
AGGAACCAAGTGTTGGATAC - AACCA - G GCCTC ----
GAM33642 273569 GGACCTGGAGTGCATCAGGA - T--- T TGA---- G TTTTTGC
9 TCTGACCAGATAGGAGTTTT GGACCT GGAG GCA CAGGATC CCAGATA GAG
TGCCTCGTGTCTGGGTGCTA CCTGGA TCTC CGT GTTTTAG GGTCTGT CTC
CGATTTTGTGCCGTTCTCTG G TTGC - CATCGTG G -------
AGGTCC
GAM33643 273734 GGCCTCCTCCCAGCGTCACG CT --- CCA- G - ATCCCT-- TACT ATGCT
0 GAATGCTGTCCTGATCCCTA GGC CC TC GCGTCACGGAAT CTGTC CTG AGCATT CAC

GCATTTACTCACATGCTGTG CCG GG AG TGTAGTGTCTTA GACGG GGT TCGTGA GTG

CTTAGTGCTTGACCATGTGG TT TGC AATG - T GTACCAGT TTC- -----
TGGCAGATTCTGTGATGTGT
AAGACGTGGTTGCC
GAM33643 273953 CTCCCAGCGTCACGGAATGC CC G G - ATCCCT-- TACT ATGCT
1 TGTCCTGATCCCTAGCATTT CT CA CGTCACGGAAT CTGTC CTG AGCATT CAC

ACTCACATGCTGTGCTTAGT GA GT GTAGTGTCTTA GACGG GGT TCGTGA GTG
GCTTGACCATGTGGTGGCAG AT - - T GTACCAGT TTC- -----
ATTCTGTGATGTGTAAG
GAM33643 274163 GCGTCACGGAATGCTGTCCT G - ATCCCT-- TACT ATGCT
2 GATCCCTAGCATTTACTCAC GCGTCACGGAAT CTGTC CTG AGCATT CAC
ATGCTGTGCTTAGTGCTTGA TGTAGTGTCTTA GACGG GGT TCGTGA GTG
CCATGTGGTGGCAGATTCTG - T GTACCAGT TTC- -----
TGATGT
GAM33643 273941 CGTCACGGAATGCTGTCCTG G - ATCCCT-- TACT ATGCT
3 ATCCCTAGCATTTACTCACA CGTCACGGAAT CTGTC CTG AGCATT CAC
TGCTGTGCTTAGTGCTTGAC GTAGTGTCTTA GACGG GGT TCGTGA GTG
CATGTGGTGGCAGATTCTGT - T GTACCAGT TTC- -----
GATG
GAM33643 273472 GAGAACTGTAGTGCAAGGTT AA TGCCA TTTG - AATC
4 TTGCCAACTTTTTGACCAGA GAG CTGTAGTGCAAGGTTT ACTT ACC AG
ATCCTCGGTGAGTAATAAAT CTC GACGTCACGTTTTAAA TGAG TGG TC
TTTGCACTGCAGCTC -- TAA-- ---- C ----
GAM33643 274021 TAGCTGCACAACACAAGCCC ACAACACA CA AGGCAA A ------ TG T AGAGC

5 ACAGGCAAACACACAGACTC TAGCTGC AGCC C ACACACAG C TCC CAGTG CT
CTGCAGTGTCTAGAGCAGTC ATCGACG TCGG G TGTGTGTC G AGG GTCAC GA
ACTGGGATATGAAGACTGTG GG------ AG ------ A AAGTAT -- T -----
TGTGGAGGCTGGGCAGCTA
GAM33643 273146 GACCACAAGACTGTCTCCAG ACAAGA T CT T AACA TGC AGGAAGCAA

6 CTTTTTCTAGAACAGATGCT GACC CTGTC CCAG TTTTC AG GATGCTGC ACC
GCTGCACCAGGAAGCAAGGT CTGG GACAG GGTC AGGAG TC CTGTGACG TGG
ATTGCAGTGTCAGAACTGAG ACC--- - TT - AAGA TTA ---------
GATTCTGGGACAGCCAGGTC
GAM33643 273422 CTGTCTCCAGCTTTTTCTAG T CT T AACA TGC AGGAAGCAA
7 AACAGATGCTGCTGCACCAG CTGTC CCAG TTTTC AG GATGCTGC ACC
GAAGCAAGGTATTGCAGTGT GACAG GGTC AGGAG TC CTGTGACG TGG
CAGAACTGAGGATTCTGGGA - TT - AAGA TTA ---------
CAG
GAM33643 274400 GTGGGTGAATAGCGAGAGGG A AGAG - GA GGTCTGA
8 CCCTCTGAGCTTTGGTCTGA GTGGGTGA TAGCG GG CCCTCT GCTTT
AAGGCCAGGAGGGACCAGGC CACTCGCT GTCGC CC GGGAGG CGGAA
GCTGTCGCTCAC - GGA- A AC -------
GAM33643 274646 TTGGGGGTTGTTACATGCAT GGTTG G G A T- A TGGA
9 GATGCTGAGGTTTGGGAATA TTGGG TTACATGCAT AT CTG GGT TGGGA TA
TGGATGGTCCCATCACCCAG AACCC GATGTATGTA TG GAC CCA ACCCT GT
GTGATGTATGTAGTACCCAA AT--- G - - CT G ----
GAM33644 274331 GGGTTGTTACATGCATGATG TGT G G A T- A TGGA
0 CTGAGGTTTGGGAATATGGA GGGT TACATGCAT AT CTG GGT TGGGA TA
TGGTCCCATCACCCAGGTGA CCCA ATGTATGTA TG GAC CCA ACCCT GT
TGTATGTAGTACCC TG- G - - CT G ----
GAM33644 274270 GGCAGGAAAATTCCTTCACC AAA-- TTCA - A T GAGCCAAG
1 TGGGAGGTGGAGGTTGCAGT GGCAGG ATTCC CCTGGGAG GTGG GGT GCAGT
GAGCCAAGATTGCACCACTA CTGTTC TGAGG GGATCCTC CATC CCA CGTTA
CACTCCTAGGCAATGGAGTG CAGAG TAAC A A - --------

AGACCTTGTC
GAM33644 273265 GCTCTTTAAGAAGTAAGCAG CT AA - - A TTTC G TTAGT
2 AACTGTTTTGTTTTCTGTGC GCT TTAAG GTA AGC AGA CTGTTTTGT TGT CTGC
TGCTTAGTGCAGGACAATAT CGA GATTC CGT TCG TCT GACGAGATA ACA GACG
AGAGCAGATCTGGCTCTGCC C- CC C G A TA-- G -----
CCTTAGCAGC
GAM33644 273731 GGCCATATTGGATTGTGTTG A-- TTG-- AAT CATCTATACTGA A GAGA
3 AAATGTGCATCTATACTGAG GGCC TA GATTGTGTTGA GTG GATA GGGT
ATAAGGGTGAGAGCCCCTGT CCGG AT CTGACACGACT CAC CTGT CCCG
CCACTGTCAGCACAGTCACT AAG CATCA GT- ---------- C ----
ACTAGAAGGCC
GAM33644 274161 GCCTTTTGGCCATATTGGAT CCATATTG AAT CATCTATACTGA A GAGA

4 TGTGTTGAAATGTGCATCTA GCCTTTTGG GATTGTGTTGA GTG GATA GGGT
TACTGAGATAAGGGTGAGAG CGGAAGATC CTGACACGACT CAC CTGT CCCG
CCCCTGTCCACTGTCAGCAC ATCA---- GT- ---------- C ----
AGTCACTACTAGAAGGC
GAM33644 273950 CTCAGAGGGCTTGGTCACCT AG -- CTC GA- GACTG
5 CTGCCATGAGGCTGGACTGC CTCAG GGC TTGGTCAC TGCCAT GGCTG
AGCTGTGGTGGCAAGTGACC GAGTC CTG GACCAGTG ACGGTG TCGAC
AGATGTCACTGAG A- TA A-- GTG -----
GAM33644 274356 GTAGAAAGCTGGAGTATGAG AA T - TG G- ATATGTT AAA G A-- AAATTA
6 GATGATATGTTTCCTTTGGC GTAG AGC GGAGT A AG ATG TCCTTTGGC TCT TG CATGG

AAATCTGTGACATGGAAATT CGTC TCG TCTCG T TC TAC AGGAGACCG AGG AC GTACC

ACCATGAGCCAAGGAGCCAG CG - A GT GA ------- --- A CGA ------
AGGACATAGCTTGTAGCTCT
GCTGCCTGC
GAM33644 272991 AGAAAAATTAGTTAATATTT A AT AATA AAAA- TGTGC GGC -- TT
7 AAAAAACTGTATTGTGCATT AGA AA TAGTT TTTA ACTGTAT ATTTT TTCA CATGT
AACTTTTTT
TTGGCTTCACATGTTTAACT TCT TT GTCAA AAAT TGACATA TAAAA AGGT GTACG
TTGAAAAAA
TTTTTTAAGAAAAAAGTTGC A CT ---- GTCTA TGTC- AAA AA --
ATGAATGGAAAAAAAATCTG TAAG
TATACAGTATCTGTAAAAAC
TGTCTTATCT

GAM33644 273221 GAGTAGCTGGGATTACAGGT G G ATT - TGT A G G TTTTTGTATTT
8 GTGTGCCACCATGTCTGGCT GA TAGCT GG ACA GGTG GCC CCAT TCTG CTGA
GATTTTTGTATTTTTAGTAG CT GTCGG CC TGT CCAC TGG GGTG AGAT GATT
AGGTGGGGTTTCACCATGTT G A GGT A TT- - G - ----------
GGCCAGGCTGGTC
GAM33644 272839 AGTTTTAGGGTACATGTACA TTA A T - - G T T ATAT
9 CAACGTGCAGGTTTGTTACA AGTT GGGT CA GTACAC AACGTG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT CGTGTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - G C G C - ----
CT
GAM33645 273072 CTCTGTAGTTATGTGCGGTC A- TG G CA- - TAT TT TGTTTGTC

0 TTACACTATTTTACATGGTC CTCTGTAGTT TG CG TCTTA CTATTTTACA TGGTCAC CAGC AGT

ACTATCAGCTTAGTTGTTTG GAGACGTCAG AC GT AGAGT GATGGAATGT GTCAGTG GTTG TCA

TCACTTGTTGGTGACTGCTG GG CT - TTA C --- T- --------
TAAGGTAGATTTGAGATGTC
CAGGGACTGCAGAG

GAM33645 273243 GCCCTAAACGAAGGGGGCCT CTAAACGAAG - AAGT - CTCAA-- G A TT-
TCAATT

1 CAAGTTACGACTTCTCAAGG GCC GGGGC CTC TACG ACTT GGCAGT AC TC CC
CAGTGACATCTTCCTCAATT CGG CCCTG GAG ATGC TGAA CCGTCG TG AG GG
GGTATGAGTAGCTGCCAGGC TCTTATA--- T AAT- A CAACGGA A - TAT ------
AACAAGTACGTATAAGAGTG
TCCCATATTCTGGC

GAM33645 274321 GGGGCCTCAAGTTACGACTT - AAGT - CTCAA-- G A TT- TCAATT

2 CTCAAGGCAGTGACATCTTC GGGGC CTC TACG ACTT GGCAGT AC TC CC
CTCAATTGGTATGAGTAGCT CCCTG GAG ATGC TGAA CCGTCG TG AG GG
GCCAGGCAACAAGTACGTAT T AAT- A CAACGGA A - TAT ------
AAGAGTGTCCC

GAM33645 273308 TGCACCTTCCCTGGGACAAC --------- CT GG TCTTGTGT

3 TTTCTTATTGATGGGTCTTG TGCACCT TCCCTGGGACAA TTCTTATTGAT G
TGTTTAATTAATGAGAGTTT ACGTGGA GGGGATTTTGTT GAGAGTAATTA T
GTTTTAGGGGTATGGGCCCA CCCGGGTAT T- AT --------
GGTGCA

GAM33645 274531 TGAGGCAGGAGAAGGCGTGA A AAGG GAA---- AGGC CT A GAGATCG

4 ACCCAGGAGGCGGAGCTTGC TGAGGC GGAG CGT CCCAGG GGAG TGCAGTG GCA

AGTGAGCAGAGATCGTGCCA ACTCTG CCTC GCG GGGTCC CCTC ACGTCAC CGT
CTGCACTCCAGCCTGGGCAA - AGA- AGACAAC GA-- -- - -------
CAGAGCGAGACTCCGTCTCA

GAM33645 273557 GATGTGTTCAAGAAAATTTA T AGAAAAT-- CATTGT

5 TTGCAGCATTGTTTGCAATA GATG GTTCA TTATTGCAG
GTGAAAAAACTGAACTCATC CTAC CAAGT GATAACGTT
T CAAAAAAGT ------

GAM33645 273247 GCCTTGGCTTCCCAAAGTGC GC CCC --- ATA AGCCAA

6 TAGGAATACAGGTGTGAGCC GCCTTG TT AAAGTGCT AGGA CAGGTGTG
AACATGCCTGTCCTGTAAGT CGGAAC AA TTTTATGA TCCT GTCCGTAC
ATTTTTTAAAACAAGGC AA TT- ATG --- ------

GAM33645 274375 GTCGTCCATAATATTGCTAA CCATAATATTGC A TTAAACTAGACAACCACT -----
---

7 TGACCAGCCTTAAACTAGAC GTCGT TAATG CCAGCC GAAGAACCT GGC
AACCACTGAAGAACCTGGCC CAGCA ATTAC GGTCGG TTTCTTGGG TCG
TATGAGCTGAGAAACTTGGG ---------- C TAT---------- TTCAAAGAG
TTCTTTTATGGCTGGCCATT CTATGA
AACGAC

GAM33645 273579 GGAGAATCACTTGAACCCAG AA GA-- A-- A GT AGCCCAAAATCACAC

8 GAGTTAGAGGTTGCAGTGAG GGAG TCACTT ACCCAGG GTT GAG TGCAGTG
CCCAAAATCACACCACTGTA CCTT AGTGAG TGGGTCC CGA CTC ATGTCAC

CTCCAGCCTGCCTGGGTAAT AG ATAA GTC C -- ----------
AGAGTGAGATTCC
GAM33645 273855 GGGTTGATTGATCTTATGAC -- TG- -- TG G T - -- AACCAGATAA
9 GTTTATTTCTTATCATCACT GGGT TGAT ATCT TA AC TTTAT TCTTATC ATC ACTATTAGGT

ATTAGGTAACCAGATAAACC CCCG ACTA TAGA GT TG AAGTG AGAGTAG TAG TGGTAATCCA

TAATGGTTAGATGGATGAGA TG TCG CG GT - T G AT ----------
TGTGAAGTTGTGGCAGATGC
TATCAGTGCCC
GAM33646 272981 ACCTTGCTGACAGTGGTAAT ---- A T TG --- T- AAG TA-- CT CTTAAT
0 TGTAGTGTGAAAGGCATAGT ACCTT GCTG CAG GGTAAT T AG GTGA GCA GTGTCCT TG

GTCCTCTTGCTTAATCATGG TGGAG TGAC GTT CCATTG A TC CACT CGT CATAGGG AC

GATACAGACTGCTCACTTCT AATT - T GT AAT TT --- CAGA T- ------
TAAATGGTTACCTTTGCAGT
TTAAGAGGT
GAM33646 273246 GCCTTGCAGTGAAGGAGGCA -- -- - A- ACCA A CTTCT
1 TGTGATCACCATCAAAGTCT GCCTT GCAG TGAAGGA GGC TGTGATC TCA AGT
TCTGCTCTGGGAAGGATCAC CGGGG CGTC ACTTCCT CTG ACACTAG GGT TCG
ACAGTCGTCCTTCAGCCTGC TC CG G AC GAAG C -----
CTGGGGC
GAM33646 274349 GGTGTCTGCCTGGTTGATCT GC TGA T TGA - - A T AACTA ATGATTAA
2 TGAATGATGGCAAGTGGGCA GGTGTCT CTGGT TCT GAA TGGCAA GTG GGC CTTT CAGGT
TTG
CTTTTCAGGTAACTATTGAT CCATAGA GACCG AGA CTT ACTGTT CAC TCG GAAG GTCTA AAC

GATTAACTGACAAAGATCTG -- TG- - C-- T A - T GA--- --------
TGAAGGCTACACTTTGTCAC CTGA
TTCAGAGTGCCAGAGATACC

GAM33646 272903 CATTAGAAGAAGTAGTGAAA A A TG A ATACTAAAGAT CTC - - AA- T T
3 TAAAGATACTAAAGATCCAG CATTAGA GAAGT G AA TAAAG CCAGA AG TG CACTTCA CT
TT GA
ACTCAGTGCACTTCAAACTT GTAGTCT CTTTA C TT ATTTT GGTCT TC AC GTGGAGT GA AA
CT
TTTGAAATAGCTATTCTAAC - - GT A ---------- TAC T A GTA C T
AGATGTGAGGTGACATCTCA ATAGCTA
TTCTGGTTTTAATTTGCATT A
TCTCTGATG T

GAM33646 273418 TTTTGTTTGTTTCTTTGTTC TG TTCTT -------- T- T ACAT CAATC-- TGTCC
4 AACTCAGGTAACCACATCAA TTT TTTGT TGTTCA AC CAGG AACC CAAATT ACCA
ATTCAATCACCATGTCCCTC AAA AAATA ATAAGT TG GTCC TTGG GTTTGA TGGT
TAATATCTTCTGGTTAATCA GT TCTT- TACCCTTC TC - ---- CACTAAT -----
CAGTTTGGGTTCCTGCTGTC CTCTAATATCTTC
TTCCCATTGAATATTCTATA
AATGAAA

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                    ----------
GAM33646 273575 GGAGAATCACTTGAACCCAG    AATCAC-  AA-     AGAC   GT     A-  CCAGATC
5          GAGACGGAGGTTGCAGTGAG GGAG     TTG   CCCAGG   GGAG  TGCAGTG  GC
           CCCAGATCGCGCCACTGCAC CCTC      GAC   GGGTCC   CCTC  ACGTCAC  CG
           TCCAGCCTGGGCAACAGAAT    AGAATAA  AAC     GA--   --      CG -------
           AAGACTCC
GAM33646 273373 TTAAGTAATTCTGAATTGGC        --   AA-       G    -  C  G---  C-    ACCATG
6          TTTTGAAAGTCTGCGAGAGG TTAAGTAAT  TCTG   TTGGCTTTT AAAGT CTG GA    AGG  TGGGC

           CTGGGCACCATGGCTCACAC AGTTCGTTG  AGAC   AACCGGAGG TTTCA GAT CT    TCC  ACTCG

           CTGTAATCCTAGCACTTTGG        GG    CGG       G    C   C  AATG   AC    ------
           GAGGCCAAGGCCAGAGGGTT
           GCTTGA
GAM33646 272733 AAGTAATTCTGAATTGGCTT      --   AA-       G    -  C  G---  C-    ACCATG
7          TTGAAAGTCTGCGAGAGGCT AAGTAAT  TCTG   TTGGCTTTT AAAGT CTG GA    AGG  TGGGC

           GGGCACCATGGCTCACACCT TTCGTTG  AGAC   AACCGGAGG TTTCA GAT CT    TCC  ACTCG

           GTAATCCTAGCACTTTGGGA      GG    CGG       G    C   C  AATG   AC    ------
           GGCCAAGGCCAGAGGGTTGC
           TT
GAM33646 274432 TAGAAATGAGAGATGAGAGG    A  -      A    CCTCT  G    TG GGAA
8          TCCTCTGGGTAAGTGGGGAA TAGA ATG AGAGATG GAGGT    GG TAAG  G
           CTGTTTGGTCTCATCGCCTC ATCT TAC TCTTTAC CTCCG    CT GTTT  C
           CATTTCTACATCTCTA       C   A      -    CTACT  G    GT ----
GAM33646 272817 AGGTCTCATTTTGTTGCCCA    TC     T TT      CT     A   T  -   A  ATGGCTC
9          GGCTGGGGTACAGTGGTGCA AGG  TCATTT G  GCCCAGG  GGGGT CAG GG TGCA GT

           AGTATGGCTCACTGCAGCCT TCC  AGTGAA C  CGGGTCT  TCTCA GTT CC ACGT CA
           TGAACTCTTTCTGGGCTCAA    T-     - T-      T-     A   -  G    -  -------
           GTGATCCT
GAM33647 272818 AGGTCTCATTTTGTTGCCCA    TC--   T    TT      CT     A   T  -   A  ATGGCTC
0          GGCTGGGGTACAGTGGTGCA AGG    TCA TTTG  GCCCAGG  GGGGT CAG GG TGCA GT

           AGTATGGCTCACTGCAGCCT TCC    AGT GAAC  CGGGTCT  TCTCA GTT CC ACGT CA
           TGAACTCTTTCTGGGCTCAA    TCCT   -   T-      T-     A   -  G    -  -------
           GTGATCCTCCT
GAM33647 273992 GTGTATGGTGAGTTGATGTT   G   GGT    TGAT          ----      A     ATAAACAAGGGCAG
1          GTCCCTGACTTAGGGAATAT GT TAT   GAGT    GTTGTCCCTGAC    TTAGGG ATATTT
           TTATAAACAAGGGCAGAGGT CA GTA   TTCG    CGACAGGGATTG    GGTCCC TATGGA
           ATCCCCTGGACATGTTAGGG  G  AT-   ----          TACA     C     ----------
           ACAGCGCTTTAATGGAC
GAM33647 272884 CAGATGCCTCCTTCGGGAGC    ATG      CG  AGCCACA       G    AA    AGTAAAAC
2          CACAGGATCCAGAGAGTCAA CAG   CCTCCTT  GG      GGATCCAGA AGTC  TGAA
           TGAAAGTAAAACTTCAGGAC GTT   GGAGGGA  CC      TTTAGGTCT TCAG  ACTT
           TGTCTGGATTTATTACGCCA    GAA      -- GCATTA-       G    G-   --------
           GGGAGGAAGTTG
GAM33647 273854 GGGTTAGGATTTACTTGTGC    T  GA   A    T      --    AA-    CTTGATTA
3          TGTTTCTGGGAATTAACTTG GGGT AG  TTT CTTG GCTGTTTC  TGGG   TTAA
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ATTATTAACTGCCCAGTGAA TCCG TC AAG GAAC CGGCAAAG ACCC AATT
ACGGCCAAGGAAGACTGCCT - AG - - TG GTC --------
GAM33647 272896 CATAGCTGTCTGGAGGCGCA CT T TG CAG AACCATAGACA
4 GTTTTCAGAAACCATAGACA CATAG G C GAGGCG TTTTCAGA
TCTGAGAAATATGTTTCTGG GTATT C G CTTTGT AAGAGTCT
CTTTTATG TT - GT ATA ----------
GAM33647 273683 GGAGAATGGCGTGAACCCGG AATG G- AA- AGGC GT A - AGAT
5 GAGGCGGAGGTTGCAGTGAG GGAG GC TG CCCGGG GGAG TGCAGTG GC CG
CCGAGATTGTGCCACTGCAC CCTC CG AC GGGTCC CCTC ACGTCAC CG GT
TCCAGCCTGGGCAACAGAGC AGAG AG AAC GA-- -- - T ----
GAGACTCC
GAM33647 274390 GTGCACTACAGACTCCAGCC A- GA CAG C-- - AAGCC A TCCTCCCTTT
6 TCCCTTTGAAGCCAGGTTCC GTGCACT CA CTC CCT CCT TTG AGGTTCCAG GCT
AGAGCTTCCTCCCTTTGGCC CATGTGA GT GAG GGG GGA GAC TCCAAGGTC CGG
TGGAACCTCAACAGCAGGAT AG AG TA- TTA C AAC-- - ----------
TGGGATGAGGATGGAAGTGT
AC
GAM33647 273910 GTGGACTTTGATGTGTGTGT GACTT T G AAA AAG - -- CAGT
7 AGGAAAATATTAAGGTGGGA GTG TGATG GTGT TAGG ATATT GTGGGA TGTGT GGAT

TGTGTGGATCAGTGTCCTAG CAT ACTAT CACG GTCC TGTGG CGCCCT ACACG CCTG

CACATTCCCGCAGGGTGTAA ----- - - GAA GA- T AT ----
GCCTGGCACTATCATAC
GAM33647 274556 TGATGTGTGTGTAGGAAAAT T G AAA AAG - -- CAGT
8 ATTAAGGTGGGATGTGTGGA TGATG GTGT TAGG ATATT GTGGGA TGTGT GGAT
TCAGTGTCCTAGCACATTCC ACTAT CACG GTCC TGTGG CGCCCT ACACG CCTG
CGCAGGGTGTAAGCCTGGCA - - GAA GA- T AT ----
CTATCA
GAM33647 273910 GTGGACTTTGATGTGTGTGT GACTT T G AAA AAG - -- CAGT
9 AGGAAAATATTAAGGTGGGA GTG TGATG GTGT TAGG ATATT GTGGGA TGTGT GGAT

TGTGTGGATCAGTGTCCTAG CAT ACTAT CACG GTCC TGTGG CGCCCT ACACG CCTG

CACATTCCCGCAGGGTGTAA ----- - - GAA GA- T AT ----
GCCTGGCACTATCATAC
GAM33648 274556 TGATGTGTGTGTAGGAAAAT T G AAA AAG - -- CAGT
0 ATTAAGGTGGGATGTGTGGA TGATG GTGT TAGG ATATT GTGGGA TGTGT GGAT
TCAGTGTCCTAGCACATTCC ACTAT CACG GTCC TGTGG CGCCCT ACACG CCTG
CGCAGGGTGTAAGCCTGGCA - - GAA GA- T AT ----
CTATCA
GAM33648 272829 AGTGAGTCTCAAGGTCTGAT TG TCAAG ------ T T TA- TCATACAC
1 GTGTATTATAAGGGGGAGTT AG AGTC GTCT GATG GTA TA AGGGGGAGTTT
TTCATACACAAACTCTCTTT TC TCAG CAGA CTAC CGT GT TTTCTCTCAAA
GCCTGCTGCCATCCATGTAA GT TA--- ATGTAC - C CCG --------
GACATGACTTGCT
GAM33648 273840 GGGGACCGTGGGGTGCTATA C T T TATAAAT CTCCCTTGTACCATT T TATT

2 AATTAGGCAGCCTCCCTTGT GGGGA CG GGGG GC TAGGCAGC GTC CAGC
ACCATTGTCTCAGCTATTGC CTCCT GT CCCC CG GTCCGTCG CAG GTCG

TGGACTCTGCTGCCTGTCTG T - - TCT---- TCT---------- - ----
CCCCCTGTTCCTC
GAM33648 274643 TTGGCCCTCTCTGAGTCTGA TG CTCT- - GA GT TAAGAGTTAACAT
3 GAGAGTAGGTGTGCAATAAG T GCCCT GAGTC TGAGA GTAGGT GCAA
AGTTAACATTTGCTAACTTG A CGGGA CTCGG ATTCT CGTTCA CGTT
CAGTCTTATGGCTCCTTACA GT CATTC T GA AT ----------
GGGCTGA
GAM33648 273002 AGATCCGTGGTCCTTGGAGG G GT TG TAG GAACAAATAG AGTATTAGGA

4 TTTTAGGGAATGAACAAATA AGATCC TG CCT GAGGTTT GGAAT AGGCC
GAGGCCAGTATTAGGAGGCT TCTAGG AC GGG TTCCAGA TCTTA TTCGG
TAGCTCCAGAGATTCTAGAC G TG -- --- GAGACCTCGA ----------
CTTGGGGTCAGGGATCT
GAM33648 273650 AGTTCTAGGGTACATATGCA CTA A - A - G T T ATAT
5 CAACATGCAGGTTTGTTACA AGTT GGGT CA TATGC CAACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT GTGTG GTTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C C - C G C - ----
CT
GAM33648 273627 AGGTTGGTAAAAGTGGTTTC - TGGTTT AGT- TTTTAGG TC GAATCA
6 TAACACAGTATCTCTTCTTT AGGTT GGTAAAAG CTAACAC ATCTCTTC TGT AGTG
TAGGTGTTCAGTGGAATCAC TCTAA CCGTTTTC GGTTGTG TAGGGAGG ACA TCAC
ACTTACAAAATTTGGAGGGA A ------ GTGT TTTAAA- T- ------
TTGTGGTGTTGGCTTTTGCC
AAATCT
GAM33648 272965 AATGGCTAGGTAAGGGAAGA GC GTAAG- - CATT
7 TGCATTCATTTATTCATTCA AATG TAG GGA AGATG
ACTAATATT TTAT ATC CTT TTTAC
A- AACTTA A ----
GAM33648 273007 AGCCCTAATATCTATAATTT TAATA TAATTT T T - A- TAA- GAAA
8 GAACTGTACTGGACCCATAG AGCCC TCTA GAACTG AC GGAC CCAT GTTT CT
TTTTAACTGAAAAGGGCCAA TCGGG AGGT CTTGAC TG TCTG GGTG CAAA GA
ACAAGTGGTGTCTGTCCAGT TC--- C----- C - T AA CCGG ----
TCCTGGACTGGGCT
GAM33648 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
9 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33649 274227 GGAGAATCGCTTGAACCCAG AA GAA-- AGG GT AGC AGGT
0 GAGGTGGAGGTTGCAGTGAG GGAG TCGCTT CCCAGG TGGAG TGCAGTG TG
CTGAGGTCACACCACTGCAC CCTC AGCGAG GGGTCC ACCTC ACGTCAC AC
TCCAGCCTGGGCAACAGAGC AG ACAAC G-- -- CAC ----
GAGACTCC
GAM33649 274186 GCTTGAACCTGGGATGTGGA GAA--- TG ATG GT A GAGATTG
1 GGTTGTAGTGAGCTGAGATT GCTT CC GG TGGAG TGTAGTG GCT
GGGCCATTGCACTCCAGCCT CGAG GG CC ACCTC ACGTTAC CGG
GGGCAACAAGAGC AACAAC GT G-- -- - -------
GAM33649 273570 GGACTACAGGCACATGCAAC A CACA CA C C TTTCT T AGAG
2 CACGTCTGGCTAATTTTCTT GGACT CAGG TG ACCA GTCTGG TAAT TGAG TTTAGT
GAGTTTTAGTAGAGACTGGG CTTGA GTCC GC TGGT CGGACC GTTG GCTC GGGTCA

TCTCGTTATGTTGTCCAGGC - TCGA CC - T TATT- T ----
TGGTCCCGAGCTCCTGAGTT
C
GAM33649 274275 GGCATGGTGGTGCTCTGATA TG --- GCT A - C AGGCTGAG
3 GCCCTAGCTACTCAGGAGGC GGCA GT GGT CTG TAGCC CTAGCTACT AGG
TGAGCCTAGTAGTTAGAGGC CCGT TA TCA GAC GTCGG GATTGATGA TCC
TGCAGTGAACTATGATTGTG GT GTA AGT - A - --------
CC
GAM33649 274477 TCCCTATCACGTGCAGCTTT --- -- G GTCA-- GAGATAAA
4 GCTGACGTCATTGAGAGATA TCCCTA TCACGTGCAG CTTTGCT AC TTGA
AATTAGGTACAAGTGGGCAG AGGGAT AGTGTATGTT GAGACGG TG GATT
AGAATTGTATGTGAGGTTAG TGG AA G AACATG --------
GGA
GAM33649 273570 GGACTACAGGCACATGCAAC A CACA CA C C TTTCT T AGAG
5 CACGTCTGGCTAATTTTCTT GGACT CAGG TG ACCA GTCTGG TAAT TGAG TTTAGT
GAGTTTTAGTAGAGACTGGG CTTGA GTCC GC TGGT CGGACC GTTG GCTC GGGTCA

TCTCGTTATGTTGTCCAGGC - TCGA CC - T TATT- T ----
TGGTCCCGAGCTCCTGAGTT
C
GAM33649 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
6 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33649 274650 TTTGATAGATTTTTCCCTCC - A TCCCTC --- CT--- C T CAGCA
7 AGAATGTTTGCATCTATTCA TTTG ATAG TTTT CAGAATGTT TGCAT ATT ACA GTGCAT
CATGTGCATCAGCAGTGCAT AAAC TATC AAAA GTCTTGCAA ATGTG TGA TGT TACGTG

TTGTAGTTAAATGTGTAGTT A - TTTTT- TTG TAAAT - T -----
AACGTTCTGTTTTTAAAACT
ATACAAA
GAM33649 273775 CAGAATGTTTGCATCTATTC --- CT--- C T CAGCA
8 ACATGTGCATCAGCAGTGCA CAGAATGTT TGCAT ATT ACA GTGCAT
TTTGTAGTTAAATGTGTAGT GTCTTGCAA ATGTG TGA TGT TACGTG
TAACGTTCTG TTG TAAAT - T -----
GAM33649 274399 GTGGGTATTCAGAGAGAGAA GGTA AAGATAATGAAT TC A CC T---- CCT

9 GATAATGAATAGGGAGTGTC GTG TTCAGAGAGAG AGGGAGTG AG ATG AGCA CATTTG

AGAATGCCAGCATCATTTGC TAC GAGTCTCTCTT TTTCTCAC TC TGC TTGT GTAAAC
CTCAAATGCCACTTGTTACG AG-- AT---------- CT G A- TCACC ---
TGCTTCCACTCTTTTATTCT
CTCTGAGGACAT
GAM33650 274388 GTGAGCTGGGGTTCCCATCC - -- - GAT- AT TCTGTCCAT
0 GATTTTCAATTCTTCTGTCC GTGAG CT GGGGTTCCC ATCC TTTCA TCT
ATAGACCTGAAGCAAAGGAT CATTC GA CCCCGGGGG TAGG GAAGT AGA
GGGGGGCCCCACAGCCTTAC C CA G AAAC CC ---------
GAM33650 273241 GCCAGGGGTGAATTAATGTG GAATTAATGTGTA TG AA GTTTTCCCCCAAAA
GACC

1 TAGTGTTTGTAAATGTGTGT GCCAGGGGT G TTTGTA TGTGT ATGTG
TTTCCCCCAAAAATGTGGAC CGGTCCTTA T GAACGT ACACG TACGC
CCGCATGCCCAGCACAAGTG AGTTCTTTTGAC- GT GA ACCCG--------- ----
CAAGTGTCAGTTTTCTTGAA
TTCCTGGC
GAM33650 272910 CCAGAGAGTCTCTCCAGGTA G T- C CACA T GCTGTG
2 CGCCACACAGTCTTTGAGCT CCAGA AGTC CTCCAGGTA GC CAG CTTTGA
GTGTCAGAGCTGGATTGTTT GGTTT TCGG GGGGTCCAT TG GTC GAGACT
ACCTGGGGCTGGCTGTTTGG G TC T TTAG - ------
GAM33650 272909 CCACGTGGATTACTGGGCTC -- T -- ---------- AG - CTGA
3 CTCTCAGTGTGGAAGCTGAT CCAC GTGGAT ACTGGG CTCCT CTC TGT GGAAG
TTCCAACAAGGAGCATTCAA GGTG TACTTG TGACCC GAGGA GAG ACA CCTTT
AGATTAGGAGTTCCCAGTGT AA - TT TTAGAAACTTAC GA A ----
TCATAAGTGG
GAM33650 274144 GCATCTTGACACATGTTCTG TT CACAT TCT TC TA-- C
ATCCATTGTTACCACA
4 TGCTCCAGGTCCCAGTAACT GCATC GA GT GTGCTCCAGG CCAG ACTGTG CC
GTGCCCATCCATTGTTACCA TGTGG CT CA TACGGGGTCC GGTC TGACAC GG
CAGGTCACAGTGGCCCTGGC TT CTCT- TAT C- CCGG T ----------
CCTGGGGCATTATACTCTCT
CTTGGTGT
GAM33650 274204 GGAAGTGAAAGAGGGAAGTC ------ TCTCT C CTCCTC GTTACCA
5 TCTCTCCCCATCCCTCCTCT GGAAGTGAA AGAGGGAAG CT CCCATCC TCA
CAGTTACCATGAGGATGGGC CTTTCACTT TTTCCCTTC GA GGGTAGG AGT
AGTTTCTTCCCTTTCCGTTC CTTGCC TTT-- C ------ -------
TTCACTTTC
GAM33650 273570 GGACTACAGGCACATGCAAC A CACA CA C C TTTCT T AGAG
6 CACGTCTGGCTAATTTTCTT GGACT CAGG TG ACCA GTCTGG TAAT TGAG TTTAGT
GAGTTTTAGTAGAGACTGGG CTTGA GTCC GC TGGT CGGACC GTTG GCTC GGGTCA

TCTCGTTATGTTGTCCAGGC - TCGA CC - T TATT- T ----
TGGTCCCGAGCTCCTGAGTT
C
GAM33650 274422 GTTTGGTGCCTATTGGATTT G ---------- T A A GACCTTTATATAAAACAA
7 TAAGCATTGGGAGTTGACCT GTTTG TG CCTATTGGATT TAAGC TTGGG GTT
TTATATAAAACAAAACCCCT CAAAT AC GGATGACTTAA ATTCG AATCC CAA
AAGCTTATAATTCAGTAGGG G AGACAAAGAG T - C ----------
AGAAACAGACAGTAAAC
GAM33650 274421 GTTTGGTGCCTATTGGATTT GTG--- T A A GACCTTTATATAAAACAA
8 TAAGCATTGGGAGTTGACCT GTTTG CCTATTGGATT TAAGC TTGGG GTT
TTATATAAAACAAAACCCCT CAGAC GGATGACTTAA ATTCG AATCC CAA
AAGCTTATAATTCAGTAGGG AAAGAG T - C ----------
AGAAACAGAC
GAM33650 274637 TTGCTTGAACCCGGGAGGTG C AA AGG GT A - AGAT
9 GAGGTTGTAGTGAGCCGAGA TTG TTG CCCGGG TGGAG TGTAGTG GC CG
TCGCGCCACTGCACTCCAGC GAC AAC GGGTCC ACCTC ACGTCAC CG GC
CTGGGCAACAG - -- G-- -- - C ----
GAM33651 273570 GGACTACAGGCACATGCAAC A CACA CA C C TTTCT T AGAG
0 CACGTCTGGCTAATTTTCTT GGACT CAGG TG ACCA GTCTGG TAAT TGAG TTTAGT
GAGTTTTAGTAGAGACTGGG CTTGA GTCC GC TGGT CGGACC GTTG GCTC GGGTCA

TCTCGTTATGTTGTCCAGGC - TCGA CC - T TATT- T ----
TGGTCCCGAGCTCCTGAGTT
C
GAM33651 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
1 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33651 274446 TATTGGTTTCATTCTTGGTA G ATTCTT TCA- A T A GAAAGTGA TATA
2 AAGAAATCATAAAAGTCCAG TATTG TTTC GGTAAAGAAA TAA AG CCAGG CA CC
GACAGAAAGTGACCTATAGG ATGAC AAAG TCGTTTCTTT GTT TC GGTCC GT GG
GATGACCTGGCCTCTTGCCC G GTCT-- TCCC C C A AG------ ----
TTTTCTTTGCTTCTGGAAAG
CAGTA
GAM33651 273673 ATGTTATGATTGTTTCATTT TG G- TTG TG AA--- GAAAA
3 GTTGGAAATAAGGAAAACTT A TTAT ATTGTTTCAT T GA TAAG
GCATGGTTTGAATTGTGGAA T GGTG TAACAAGGTG A TT GTTC
CAATAGGTGGTGT GT GA TTA GT GGTAC -----
GAM33651 273159 GAGAATTGCTTGAACCCTGG AA GAAC-- A GT A- CGAGATT
4 AGGTGGAGGTTGCAGTGAGC GAG TTGCTT CCTGG GGTGGAG TGCAGTG GC
CGAGATTGCACCATTGCACT CTC AACGAG GGATC CCACCTC ACGTTAC CG
CCACCCTAGGCAACAAGAGC AA AACAAC - -- CA -------
AAAACTC
GAM33651 274469 TCCAAACCATATAATCTTCT - A ATAA GC GA-- A GA - AAAC
5 GTTGCGGGAAGTCAGGGACC TC CAA CCAT TCTTCTGTT GG AGTC GG CC CC
CCAAACGGAGGGACCGGCTG AG GTT GGTG AGAAGACAG CC TCGG CC GG GG
AAGCCATGACAGAAGAACGT T A CA-- TA GAAG - AG A ----
GGATTGTGA
GAM33651 272795 AGGAAGATTGTGTGAGTCCA AA-- GTGA AA GC GA TATAATTGT
6 GGAATTGGAGGCTGCAGTGA AGG GATTGT GTCCAGG TTGGAG TGCAGT GC
GCTATAATTGTGCCAACTGT TCC TTGACA CGGGTCC GACCTC ATGTCA CG
ACTCCAGCCTGGGCAACAGT CAGA A--- -- -- AC ---------
TAGACCCT
GAM33651 274589 TGGGTTGGCTGCTTGTGAAT - T C TG -- -------- - ------ GGG
7 TTGTGGGTGAGGAGCGGCTG TG GGT GG TGCTTG AATTT GTGG GTGA GGAGCGGCT
GCA TGACT
CAGGGTGACTAGAGAGATCT AC CCG CC ACGGAC TTGGG CACC TACT TTTCGCCGA CGT
ACTGG
GCCGCGGTCAAGATGCTGGA A - - CG CC TTTAATTT G TCAGGT AGA
CTAGCCGCTTTGTCATTTTA ----- GAGA
ATTTCCACCCGGGTTGCCAG AGA
GCACCGCCACA TCT
CGCCG ----
GAM33651 274148 GCCCCTGCCCAAGAGATCCA - G GAGA ATTT- CCCAGAATAT
8 CTTTATTTTCATCTCACCCA GCCC CT CCCAA TCCACTTT TCATCTCA
GAATATTGAGGTGATCAGCA TGGG GA GGGTT AGGTGGAA AGTGGAGT
AGGTGGAGTGGTTGGGAGAG A - GGTG CGACT ----------
GGT
GAM33651 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
9 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC

TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33652 273273 GCTTCACTTTCAGGGGCAAG TT- TTC- -- TG A-- G - T CATGTAAC
0 GTTTGGGAAATAAGCTGATA GC CACT AGG GGCAAGGTT GGAA TAA CTG ATAG AAAGT

GTAAAGTCATGTAACACTTT CG GTGA TCC TCGTTCCAG CTTT ATT GAC TGTC TTTCA
CTGTGCAGGTTAACATTTCT TAT CTCT TT GT ACA G G - --------
GGACCTTGCTTTCCTTCTCA
GTGTATGC
GAM33652 273558 GATTCACATCACCTGGATAT TCAC C ATAA --- AC A-- CC G-- AGC
1 AAGGCCCGGTGATACGTTAC GAT ATCAC TGGAT GGCCC GGTGAT GTTAC ATTC CTGT
AGC
AATTCCCCTGTGAGCAGCGC CTG TAGTG ACCTG TCGGG CCACTA TAATG TAAG GACG
TCG
TAAAGCAGAAGAATAGGGTA TA-- - AG-- GAT -- GGA AA AAA ---
ATATCACCTAGGGGCTGAGT
CCAGTGATATGTC
GAM33652 273621 AGGGTGCTGTTGCTTCTAGG T TGTT CTA GT TTT- T C A
ATACACACATTTTTG
2 TCTTTTGAGAGCATAGAGCC AGGG GC GCTT G CT GAGAGCA AGAG CAGGA GC
AGGAAGCATACACACATTTT TCCC CG TGAG T GA TTCTCGT TTTC GTCCT CG
TGGCTCCTGACTTTTTGCTC - TT-- TTA TG CCCT T A - ----------
TTTCCCAGGTTATTGAGTTT
GCCCCT
GAM33652 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
3 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33652 273936 CGAACCAGGTAGAAGTAATG CA T AAGTAA T CAA G C-- AGCCT
4 TGTGCCAGGACAAGAGACGC CGAAC GG AG TGTG GCCAGGA GAGAC CA CCAG
ACCCAGAGCCTCTGGCCTTG GTTTG CC TC ACAC CGGTCCT CTCTG GT GGTC
GTCTCCTATCCTGGCTCACA AA - ACACGA T ATC - TCC -----
AGCACACTCCAAGTTTG
GAM33652 273899 GTCTAACTAGTCCCAGTGAG AAC - AA---- C ACCTCAG- AAATG
5 ATAAGCCGGGTACCTCAGTT GTCT TAG TCCCAGTGAGAT GC GGGT TTTG
TGAAATGCAGAAATCACTCA CAGA GTC AGGGTCGCTCTA TG TCCA AGAC
CCTTGTCTGTTGATCTCGCT C-- G GTTGTC T CTCACTAA -----
GGGAGCTGCAGAC
GAM33652 274443 TATGTCACCAAATTTGGTGT ------- - GCTT TT - GCTTCTTTCA
6 GCTTTCTCCTTTGCCTGCTG TATGTCAC CAAATTTGG TGT TCTCC TG CCTGCT
CTTCTTTCAAGTAGGACATG GTGTAGTG GTTTAAACC ACA AGAGG AC GGATGA
GAGACAACAGCCAAATTTGT ACTTCGT G AC-- T- A ----------
GCTTCAGTGATGTG
GAM33652 273759 CAAATTTGGTGTGCTTTCTC - GCTT TT - GCTTCTTTCA
7 CTTTGCCTGCTGCTTCTTTC CAAATTTGG TGT TCTCC TG CCTGCT
AAGTAGGACATGGAGACAAC GTTTAAACC ACA AGAGG AC GGATGA
AGCCAAATTTG G AC-- T- A ----------
GAM33652 273062 CTCCTTAGGTTTTATCAATC A- TTA-- AA- T TTC - A TCCT

8 CTGGTGCCCTTCCATTGTAT CTCCTT GGTT TC TCCTGG GCCC CATTGT ATC CA
CACATCCTTGGATCACAGTG GAGGGA CCAG AG AGGACT TGGG GTGACA TAG GT
ATGGGTTCAGGAATAGACAC AC TACAC ATA - TA- C - ----
ATGACCCAAGGGAG
GAM33652 273931 CCTTAGGTTTTATCAATCCT A TTA-- AA- T TTC - A TCCT
9 GGTGCCCTTCCATTGTATCA CCTT GGTT TC TCCTGG GCCC CATTGT ATC CA
CATCCTTGGATCACAGTGAT GGAA CCAG AG AGGACT TGGG GTGACA TAG GT
GGGTTCAGGAATAGACACAT C TACAC ATA - TA- C - ----
GACCCAAGG
GAM33653 273728 GGCCACACTTGTAACCCCAG - CTT ACCC GGCATT C GG - TGGGT
0 AGGCATTGATTTTTCTGGTG GGC CACA GTA CAGA GATTTTT TGGT CATGGTC TGC
GCATGGTCTGCTGGGTGTAT CTG GTGT CGT GTCT CTAAGAA ACCG GTACTAG ATG
GATCATGAAGCCACAAGAAT T TTT CT-- GAACC- C AA T -----
CCCAAGTCTGTCTGCTTTTG
TGTGTC
GAM33653 273729 GGCCACACTTGTAACCCCAG C TT-- ACCC GGCATT C GG - TGGGT
1 AGGCATTGATTTTTCTGGTG GG CACAC GTA CAGA GATTTTT TGGT CATGGTC TGC
GCATGGTCTGCTGGGTGTAT TC GTGTG CGT GTCT CTAAGAA ACCG GTACTAG ATG
GATCATGAAGCCACAAGAAT T TTTT CT-- GAACC- C AA T -----
CCCAAGTCTGTCTGCTTTTG
TGTGTCT
GAM33653 273495 GAGCTGTCCGTGACGTAGGT CT C G GG - AC CC TTCT AATCATTAA
2 TTGTACGTCAACTCAGCCTT GAG GTC GTGAC TA TTTGTAC GTCA TCAG TTA GGGA
ATTCTGGGAAATCATTAATC CTC CAG CACTG AT AAACGTG CAGT AGTC AAT TCCT
CTTAACTCTGATGACTGTGC AC T - GA T -- TC ---- ---------
AAAAGTAGTCACTGACCACT
C
GAM33653 273905 GTGACGTAGGTTTGTACGTC G GG - AC CC TTCT AATCATTAA
3 AACTCAGCCTTATTCTGGGA GTGAC TA TTTGTAC GTCA TCAG TTA GGGA
AATCATTAATCCTTAACTCT CACTG AT AAACGTG CAGT AGTC AAT TCCT
GATGACTGTGCAAAAGTAGT - GA T -- TC ---- ---------
CAC
GAM33653 274252 GGAGAATTGCTTGAACTCAG AA TG GAA-- AGGC A T A- TGAGATC
4 GAGGCGGAAGTTGCAGTGAG GGAG T CTT CTCAGG GGA GT GCAGTG GC
CTGAGATCGCACCACTGCAC CCTC A GAG GGGTCC CCT CA CGTCAC CG
TCCAGCCTGGGCAACAGAGT AG GT ACAAC GA-- - - CA -------
GAGACTCC
GAM33653 273568 GGACCATTGAGGAGGTGGGG CCAT A CA CCC AACCGAAGC
5 CAGCAGCAGGACCCCCAGAA GGA TGAGG GGTGGGGCAGCAG GGAC CAG
CCGAAGCCTGTGTCTCTGCT CCT ACTTC CTACTCTGTCGTC TCTG GTC
GTCTCATCCCTTCATTCTTC TCTT C -- T-- ---------
C
GAM33653 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
6 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33653 272836 AGTTTAAGAATGGCTCATGT AAGAAT T A A C- GACTGA
7 AGTACCCAGCTACTCTGGGC AGTTT GGCTCA GT GT CCCAG TACTCTGGGC
GACTGAGCCCAGGGTACTCT TCGAG CCGAGT CA TA GGGTC ATGGGACCCG

GGGATCACTTGAGCCCAGGA GAC--- T C - TC ------
GCT
GAM33653 274418 GTTTAAGAATGGCTCATGTA AAGAAT T A A C- GACTGA
8 GTACCCAGCTACTCTGGGCG GTTT GGCTCA GT GT CCCAG TACTCTGGGC
ACTGAGCCCAGGGTACTCTG CGAG CCGAGT CA TA GGGTC ATGGGACCCG
GGATCACTTGAGCCCAGGAG GAC--- T C - TC ------
C
GAM33653 273908 GTGCCTAGCCAAGCAGATGA TG - AAG GAATGAGGTAGA TCT- A - C TATC

9 ATGAGGTAGAACAGTCTTGT G CCTA GCC CAGAT ACAG TGTTCAT CA TTGC ATTA
TCATACATTGCCATTATATC C GGAT CGG GTCTG TGTC ACAAGTA GT GACG TGAT
TAGTGCAGTTGAATGAACAT GT T --- ---------- TTTT A T - ----
TTTCTGTGTCTGGGCTTAGG
TGC
GAM33654 272800 AGGATCACTTGAGCCCAGGA A-- GA-- AG GC A- TATGATT
0 GTTGGAGGCTGCAGTGAGCT AGGATC CTT GCCCAGG TTGGAG TGCAGTG GC
ATGATTGCACTACTGCACTC TCCTAG GAG CGGGTCC GACCTC ACGTCAT CG
CAGCCTGGGCAACAGAGCAA AAC ACAA -- -- CA -------
GATCCT
GAM33654 273076 CTCTTGAACCCAGGAAGTGG AA- AAG GT A- AGA
1 AGGTTGCAGTGAGCTGAGAT CTCTTG CCCAGG TGGAG TGCAGTG GCTG
AGCAACACTGCACTCCAGCC GAGAAC GGGTCC ACCTC ACGTCAC CGAT
TGGGCAACAAGAG AAC G-- -- AA ---
GAM33654 273402 TTGGCTCAGAATGGGACATG TG C A A T ACT A- TCTATC
2 GGACTTTGTAATTAGGTCTA T GCT AG ATGGG CA GGG TTGTAATT GG
TCCCAGAATTACAACCTTTG G CGA TC TACCC GT TCC AACATTAA CC
CCCATACTAAGCTGG GT A A - T --- GA ------
GAM33654 272954 AAGCATGAAGAGGACGGGGC CAT A C GCGC T T A TTGA
3 GCTCAGGTTTGGATGAATTA AAG GAAG GGA GGG TCAGGT TGGA GAATT GCTT
GCTTTTGAAAGTGAGTTTTC TTC TTTC CCT CCT AGTCTA ACCT TTTGA TGAA
CACATCTGATAAATCCTTCC CCC - T AAAT C - G ----
CTTTCCCCTT
GAM33654 274188 GCTTGACCTTGGGAAGGGTG - A--- ------ ------- GA AAC GC AAAT
4 GAGACAGAGAAACTAAGGCC GCTTGA CCTTGGG AGGGT GGAG ACA GA TAAG CATCC

ATCCAAATGGGTGCTCTTGT TGGACT GGAACCC TCCCA CCTC TGT CT GTTC GTGGG

CCATGTGACCAACCTCCAGT C CAAC AAATGA CAACCAG AC --- TC ----
AAAACCCTCAACCCCAAGGC
TCAGGT
GAM33654 273600 GGAGAATCGCTTGAACCCGG AA-- G AA- GGG - A CGAGCTT
5 GGGGTGGAGGTAGTGGTGAG GGAG TC CTTG CCCGGG TGGAG GTAGTGGTG GC

CCGAGCTTGCACACCATTGC CCTC AG GAAC GGGTCC ACCTC CGTTACCAC CG
ACTCCAGCCTGGGCAACAAG AAAG A AAC G-- A A -------
AGAGAAACTCC
GAM33654 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
6 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----

CT
GAM33654 274188 GCTTGACCTTGGGAAGGGTG - A--- ------ ------- GA AAC GC AAAT
7 GAGACAGAGAAACTAAGGCC GCTTGA CCTTGGG AGGGT GGAG ACA GA TAAG CATCC

ATCCAAATGGGTGCTCTTGT TGGACT GGAACCC TCCCA CCTC TGT CT GTTC GTGGG

CCATGTGACCAACCTCCAGT C CAAC AAATGA CAACCAG AC --- TC ----
AAAACCCTCAACCCCAAGGC
TCAGGT
GAM33654 274030 TATCTCATCTGGTTTTAATC ATCT- AA T - TATGA
8 CTGAAGGCATATATGTATGA TATCTC GGTTTT TCCTGAAGGCA ATA TG
CATTATCTGTCTTTAGGGAG ATGGAG CCAGAG GGGATTTCTGT TAT AC
GAGACCCAACAGAGGTA ACAAC GA C T -----
GAM33654 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
9 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33655 272975 ACAGCTCACCTGCAAGGCTT CA-- CAA CA- - G - TCAG
0 TCAACTCTGCTGACCTTCAG ACAGCT CCTG GGCTTT ACT CT CTGAC CT
AGTGTCAGAGCAGTGCCGAA TGTCGG GGAC CCGAAG TGA GA GACTG GA
GCCCAGGACATGGCTGT TACA --- CCG C - T ----
GAM33655 274279 GGCCTTCTCTCTGAGTTAAG C T - GC GA-- AT-- AAATA
1 CAAAGAGAGGAAGAATGGCA GGCCTT TCTC GA GTTAA AAAGA GGAAGA GGC
AATAGTTTGAGTCTTCCCAA TCGGAA AGAG TT CGATT TTTCT CCTTCT TTG
ATCTTTTTAGCATTTGAGAA A T A -- AAAC GAGT -----
AAGGCT
GAM33655 272988 ACTGAAGCCTCCTGCCAATA - TCC CCA CA G A - TGAAT
2 GTCACATGAGTGAGTCTGGA ACTG AAGCC TG ATAGTCA TGA TG GT CTGGAAG
AGTGAATCTTTCAGCACCAT TGAC TTCGG AC TGTCAGT ACT AC CA GACTTTC
CAGATGACTGTATCACTGGC A TC- TA- AG - - C -----
TTACAGT
GAM33655 274445 TATTCCAGATTTCTTAGTTT ATTTC - TCAGCA G GG GCTGGTTTA
3 TGCTCAGCAGGATGGTTGGA TATTCCAG TTAGT TTTGC GGATG TT ACTGAAGGGG

CTGAAGGGGGCTGGTTTACT ATAAGGTC GATCA AAACG CTTGT AA TGACTTCTTC
TCTTCAGTGGAAGTGTTCAT ATT-- T TTTTTA G GG ---------
TTTTGCAAATACTAGTTACT
GGAATA
GAM33655 272906 CCAAGTCAATTCTGGAGACC CA C CCT - AA- TAA TGAGTTTT
4 TGGGTGTGGGTCAAGCAACC CCAAGT ATT TGGAGA GGGTGT GGGTCAAGC CCAGG TC

AGGTAATCTGAGTTTTGGCA GGTTCA TAA ATCTTT CTCGCA TCTAGTTCG GGTTT GG
CTTTGGAAAGCTTGATCTGA A- - TC- G AAA CAC --------
CGCTCCTTTTCTAAATAACT
TGG
GAM33655 273169 GAGACTGGTACAGATGGGGT A A TC G AC-- TCTTGCT
5 CTCCTGGATGTAACGAGTTC GAG CTGGT CAGATGGGGTC CTGGAT TA GAGT
TTGCTGCTTTAACTGGATCC CTC GACCA GTCTGTCTCAG GGCCTA GT TTCG
GGTTGACTCTGTCTGACCAG - - TT G CAAT -------

CTC
GAM33655 272913 CCAGCTGCCACCCTTCTACC CCA--------- ACCCAA --- ATAGAA-- A ACCT
6 CAACCCCATCTCATAGAACT CCAGCTG CCCTTCT CCCC ATCTC CTC CAACA
CACAACAACCTTGTTGGGAG GGTCGAT GGGGAGA GGGG TAGGG GAG GTTGT
AAAAGGAGGGGATACAGGGG ATACCAATAAAG AATTC- ACA GAGGAAAA G ----
CTTAAAGAGGGGGAAATAAC
CATATAGCTGG
GAM33655 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
7 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33655 274227 GGAGAATCGCTTGAACCCAG AA GAA-- AGG GT AGC AGGT
8 GAGGTGGAGGTTGCAGTGAG GGAG TCGCTT CCCAGG TGGAG TGCAGTG TG
CTGAGGTCACACCACTGCAC CCTC AGCGAG GGGTCC ACCTC ACGTCAC AC
TCCAGCCTGGGCAACAGAGC AG ACAAC G-- -- CAC ----
GAGACTCC
GAM33655 272977 ACCCACATTCTTAGCTTGGC ATTCTT GTT C GTCTTA
9 TTCAGTTTCTTTCCGGGTCT ACCCAC AGCTTGGCTTCA TCTTTC GG
TACTGAGAGGTGAAGCCAGG TGGGTG TCGGACCGAAGT GGAGAG TC
CTTCTGGGTGGGT GGTCT- --- - ------
GAM33656 273380 TTCACCCTCTCAGCCAGGCT CTCTCA - CTTGAACTC G - CC T - - CCAC
0 GGTCTTGAACTCCTGACTTT TTCACC GCCAGGC TGGT CT AC TTTGTGAT ACC GC CTT GG
GTGATCCACCTGCCTTGGCC AAGTGG CGGTCCG GCCA GA TG GAACATTA TGG CG GAA
CC
ACCCAAAGTGCTGGTATTAC C----- C CC------- G T -- T T A ----
AAGTGTGAGCCACCGCGCCT
GGCCGGTGAA
GAM33656 273263 GCTCTGTCTTGAGAATCGAG T CTT -- C ATG TT-- CTT TT GCTAT
1 AAATATGGGGCTCTTTTCTG GCTC GT GAGA AT GAGAAAT GGGCTC TTCTGT TGCGA TTG
TCTTTGCGATTTTGGCTATC CGAG CA CTCT TA TTCTTTG CCTGGG AAGACG ATGTT AAC
AATTTGTAGCAGAACACTGG T TTT AT C A-- TCAC --- T- -----
GTCCAGTTTCTTCATTATCT
CTTTACTGAGC
GAM33656 273024 CCTCCTTGAGTTTTAACAGC TTGAGTTTTAA C- A C T CTT - CCCACA
2 AACAAACAGCTACTTTCTTC CCTCC CAGCAA AAAC GCTA TTTCT CTTGTTGT TG GT
TTGTTGTCTTTGGTCCCACA GGAGG GTCGTT TTTG CGAT AGAGA GGACGACA AC CG
GCTCATAAACAGCAGGTAGA ---------- AT - - T AAT T ------
GATAGCGTTTTATTGCTGGG
AGG
GAM33656 272799 AGGATCACTTAAGGCCCAGG A-- AAG- AGTTC C - TATGACT
3 AGTTCGAGGCTGTAGTGAGC AGGATC CTT GCCCAGG GAGG TGTAGTGA GC
TATGACTGTGTCACTGCACT TCCTAG GAG CGGGTCC CTTC ACGTCACT TG
TCAGCCTGGGCAATGGAGCA AAC GTAA GA--- - G -------
AGATCCT
GAM33656 273572 GGAGAATAGCTTGAACCTGG ATA GAA--- TG AGG CTTA GC CGAGATT

4 GAGGTGGAGCTTACAGTGAG GGAGA GCTT CC GG TGGAG CAGTGA CAC
CCACCGAGATTGTGTCATTG CCTCT CGAG GG CC ACCTC GTTACT GTG
CACTCCAGCCTGGGCAACAA AAA AACAAC GT G-- AC-- -- -------
GAGCAAATCTCC
GAM33656 272873 CACCTGTCATGCCAGTTACT - G TTAC G TAA G GTGAGCTG
5 TGGGGGGCTAAGGTGGGAGG CAC CTGTCAT CCAG TTGGGG GC GGTGG AGGATTA

ATTAGTGAGCTGTGATTCTG GTG GACAGTG GGTC GACCTT CG TCACC TCTTAGT
CCACTGCATTCCAGCCTGGG A - C--- A --- G --------
TGACAGAGTG
GAM33656 274572 TGGAGGAAGTAGTGGCTGTG - A --- TTA- AC AGAATCCC
6 TTAGACTAACCAAGAATCCC TGGAGGA AGT GT GGCTGTG GACTA CA
TGTAGTTCACTCACAGCCTG ACTTCCT TCA CA CCGACAC TTGAT GT
TACACTGTCCTTCA G - TGT TCAC -- --------
GAM33656 274019 TAGAAGCATCTTTAGTTTTA G A TTAGTT A-- C -- - TAGATAGCTTTAGGAT
7 AGGAAGTGTCTCTTGGCTGG TA AAGC TCT TTAAGGA GTGT TCT TGGCTGGC CCC
CCCCTAGATAGCTTTAGGAT AT TTCG AGA AGTTCCT CACA AGA ACTGATCG GGG
GGGAGCTAGTCACCAGAAAC G A TT---- AAC A CC A ----------
ACCAATCCTTGATTAGAAGC
TTGTA
GAM33656 273121 CTTTAGTTTTAAGGAAGTGT AGTT A-- C -- - TAGATAGCTTTAGGAT
8 CTCTTGGCTGGCCCCTAGAT CTTT TTAAGGA GTGT TCT TGGCTGGC CCC
AGCTTTAGGATGGGAGCTAG GAAG AGTTCCT CACA AGA ACTGATCG GGG
TCACCAGAAACACCAATCCT ATT- AAC A CC A ----------
TGATTAGAAG
GAM33656 273411 TTTAGTTTTAAGGAAGTGTC TT A-- C -- - TAGATAGCTTTAGGAT
9 TCTTGGCTGGCCCCTAGATA TTTAGTT AAGGA GTGT TCT TGGCTGGC CCC
GCTTTAGGATGGGAGCTAGT AGATTAG TTCCT CACA AGA ACTGATCG GGG
CACCAGAAACACCAATCCTT -- AAC A CC A ----------
GATTAGA
GAM33657 274199 GGAACAGTACACTCACGGCA C AC CACG CCCT C- --- CTGAGTGAAT
0 CCCTGGAGAGGAGCGGTCAC GGAA AGT ACT GCA GGAGAGGAGCGGT AC TGGTTG

TGGTTGCTGAGTGAATTAAC CCTT TTA TGA CGT CCTCTTTTCGTCG TG GCCAAT
CGAATGTTTGCTGCTTTTCT A CT CAA- ---- TT TAA ----------
CCTGCAACAGTTCATTATTC
C
GAM33657 274182 GCTTCATCATCCTGGTTCAA A- A - CAA A - TC CAGG T- G G-
1 GCAGTGTTTCTTCTCTATCA GCTTC TC TC CTGGTT GC GTGTTT CT TCTAT CC GGT GCT
TTGTTTTGGG
GGCCTGGTGGCTGTTGTTTT CGAAG AG AG GACCAG TG CACAGA GG GGGTG GG CCG CGG
AGCGGAACCC
GGGCTCCCCAAGGCGAGAGG GG A A --- G A TT AACA TC G AG
CGGCCCTGGACAAGTGGGTT CTC
GGAAGACACGGTGACCAGAG
AAGAGGGAAGC

GAM33657 273545 GAGTGACCCCATCTCTACAA CATC ACAAAA TAAAT - AT-- GTATA
2 AAAGTTTTTTTAAATTAGCT GAGTGACCC TCT AGTTTTTT TAGCTAGG C GGTG
AGGCATGGTGGTATACACTT TTCACTGGG AGG TCGAAGGA ATCGATCC G TCAC

GTAGTCCTAGCTACTTAGGA ---- ACGGAG TTC-- T ATGT -----
AGCTGAGGCAGGAGGGTCAC
TT
GAM33657 273686 GGAGAATTGCTTGAACCCAA AA TG GA-- AGA - GT A - CGAT
3 GAGGTGGAGGTTGCAGTGAG GGAG T CTT ACCCA GG TGGAG TGCAGTG GC CA
CCACGATTGTGCCATTGCAC CCTC A GAG TGGGT CC ACCTC ACGTTAC CG GT
TCCAGCCTGGGTGACAGAGT AG GT ACAG --- G -- - T ----
GAGACTCC
GAM33657 274628 TTCTGTGATGGGTGTACGAC ---------- - - A -- C- TCAAATC
4 AGATTATTTTGTGACTGCAG TTCTGTGATG GGTGTAC GACAGATTATTTT GTG CTGC AGT
TGT
TCTGTTCAAATCACATCACT AAGGTACTAC TTACGTG TTGTTTAGTAGAG CGC GACG TCA
ACA
AAGCAGCGCTGAGATGATTT GTTTTGGAAAA G T - AA CT -------
GTTGGTGCATTAAAAGGTTT
TGCATCATGGAA

GAM33657 273686 GGAGAATTGCTTGAACCCAA AA TG GA-- AGA - GT A - CGAT
5 GAGGTGGAGGTTGCAGTGAG GGAG T CTT ACCCA GG TGGAG TGCAGTG GC CA
CCACGATTGTGCCATTGCAC CCTC A GAG TGGGT CC ACCTC ACGTTAC CG GT
TCCAGCCTGGGTGACAGAGT AG GT ACAG --- G -- - T ----
GAGACTCC
GAM33657 274472 TCCATCAAAGCTCTCCTATC AA T TCA- CGT--- GCTCA
6 AGCTGGGCGTGGTGGCTCAT TCCATC AGC CTCCTA GCTGGG GGTG
ACCTGTAATCCCAGCACTTT GGGTGG TCG GAGGGT CGACCC CCAT
GGGAGGCTGAGGTGGG AG - TTCA TAATGT -----
GAM33657 273141 GACACTGCTGTGGTTGGAAT TG T- A C CAAA TCAT
7 AGGTCTTCCAAAGCTCATGT GACACTGCTG GT GGA TAGGT TTC GC
GTTGAAAACTTAATCCCCAC TTGTGATGAC CA CCT ATTCA AAG TG
TGCAGTAGTGTT GT CC A A TTG- ----
GAM33657 274550 TGAGGCAGGAGAATTGCTTG CA AA GAAC AA A- GT A- CGAAATT
8 AACTTGAAAGGCAGAGGTTG TGAGG GGAG TTGCTT TTG AGGC GAG TGCAGTG GC

CAGTGAGCCGAAATTGCACC ACTCT CCTC AACGAG AGC TCCG CTC ACGTCAC CG
ACTGCACTCCAGCCTGGCGA A- AG AC-- GG AC -- CA -------
CAGAGCAAGACTCCATCTCA
GAM33657 273203 GAGGCAGGAGAATTGCTTGA CA AA GAAC AA A- GT A- CGAAATT
9 ACTTGAAAGGCAGAGGTTGC GAGG GGAG TTGCTT TTG AGGC GAG TGCAGTG GC

AGTGAGCCGAAATTGCACCA CTCT CCTC AACGAG AGC TCCG CTC ACGTCAC CG
CTGCACTCCAGCCTGGCGAC A- AG AC-- GG AC -- CA -------
AGAGCAAGACTCCATCTC
GAM33658 273584 GGAGAATCACTTGAGCCCTG AA GA--- TGG AGA A A C GGT
0 GAGGCAGAAGATGCAGTGAG GGAG TCACTT GCCC AGGC AG TGCAGTG GC TG
CCTGGGTCATGCCACTGCAC CCTC AGTGAG CGGG TCCG TC ACGTCAC CG AC
TCCAGCCTGGGCAACAAGAG AG AACAA --- ACC - - T ---
TGAGACTCC
GAM33658 273270 GCTGTCCTGGAGCTGTTGGA T A T---------- GG G ATCTA
1 GAAATGGGGAAGATCATCTA GCTGTCC GG GCTGT GGAGAAAT GGAA ATC

GATATTCCAGTTTCTCCTTC CGATAGG CC TGATA CCTCTTTG CCTT TAG
CACTCACCCTATAGTACCGG - A TCCCACTCACCTT A- A -----
ATAGC
GAM33658 273686 GGAGAATTGCTTGAACCCAA AA TG GA-- AGA - GT A - CGAT
2 GAGGTGGAGGTTGCAGTGAG GGAG T CTT ACCCA GG TGGAG TGCAGTG GC CA
CCACGATTGTGCCATTGCAC CCTC A GAG TGGGT CC ACCTC ACGTTAC CG GT
TCCAGCCTGGGTGACAGAGT AG GT ACAG --- G -- - T ----
GAGACTCC
GAM33658 273853 GGGTGTGGTGGAGCACGCCT GA ---- TG CC A---- AGGA G GAGAA
3 GTTATCCCAGCTACTCAGGA GGGTGTGGTG GCACG CC TTAT CAGCT CTC GGCT AGGTGG

GGCTGAGGTGGGAGAATCAC CTCACACCAC TGTGC GG AGTG GTTGG GAG CCGA TCCACT

CTGAGCCCGGGAGGTAGAGG -- TAGA TG AC AGATG GGC- G -----
TTGCAGTGAGTGGAGATCGT
GTCACCACACTC
GAM33658 274407 GTGTGGTGGAGCACGCCTGT GA ---- TG CC A---- AGGA G GAGAA
4 TATCCCAGCTACTCAGGAGG GTGTGGTG GCACG CC TTAT CAGCT CTC GGCT AGGTGG

CTGAGGTGGGAGAATCACCT CACACCAC TGTGC GG AGTG GTTGG GAG CCGA TCCACT

GAGCCCGGGAGGTAGAGGTT -- TAGA TG AC AGATG GGC- G -----
GCAGTGAGTGGAGATCGTGT
CACCACAC
GAM33658 274647 TTGTGGTCTTGCTGATTTTG T - - GA A- G C ACCTTC
5 AGAATGGAGCCCCAGACCTT TTG GGTC TTG CT TTTTGAGA TG AGC CCAG
CCTGGTGTTACAGCTCTCAA AAC CCAG AAC GA GAAACTCT AC TTG GGTC
AGAAGACAAGGACCCAA - G A A- CG A T ------
GAM33658 274248 GGAGAATTGCTTGAACCTGG AA GAAC- AG - GT A - AGAT
6 AGGCGGAGGTTGCAGTGAGC GGAG TTGCTT CTGG GC GGAG TGCAGTG GC CG
CGAGATTGTGCCACTGCACT CCTC AACGAG GGCC CG CCTC ACGTCAC CG GT
CCAGCCCGGCAACAGAGCAA AG ACAAC -- A -- - T ----
GACTCC
GAM33658 274264 GGATACATAGTGGTCACTTC A TCA TC TT T G TTT-- TT AATTCAA
7 CATTTAAGATGTTTGCATTT GGATACAT GTGG CT CA TAAGA GTTT CA CAGCACT TAT
CAGCACTTTTATAATTCAAA TCTATGTA CACC GA GT GTTCT CAGA GT GTCGTGG ATA
TATGGTGCTGTCCCTTGAGA - --- GA T- - - TCCCT T- -------
CTCTTGTTGAGAGCCACATG
TATCT
GAM33658 273224 GATACATAGTGGTCACTTCC A TCA TC TT T G TTT-- TT AATTCAA
8 ATTTAAGATGTTTGCATTTC GATACAT GTGG CT CA TAAGA GTTT CA CAGCACT TAT
AGCACTTTTATAATTCAAAT CTATGTA CACC GA GT GTTCT CAGA GT GTCGTGG ATA
ATGGTGCTGTCCCTTGAGAC - --- GA T- - - TCCCT T- -------
TCTTGTTGAGAGCCACATGT
ATC
GAM33658 273845 GGGGGCCACATTCTCTGGGC G A CT- TTCAGAA CA AGGCC
9 ATTCAGAAGCCAGGATTTCA GGGG CCAC TTCT GGGCA GC GGATTTCAT
TAGGCCATGAAATCTGCTGT CCTC GGTG AAGA TCTGT CG TCTAAAGTA
CTTTTAGAAGTGGGCTCC G - TTT ------- -- -----
GAM33659 272932 CCCTAAAAGTGACTGAATTG -- T---------- GCCC T ATG G TTACTC

0 CCCAAGTGCTTGAACATGGC CCCTA AAAGTGAC GAATT AAGTGC TGAAC GCAGAG TAG

AGAGGTAGTTACTCCTATTT GGGGT TTTCATTG CTTAA TTCACG GTTTG CGTTTT ATC
TGCAGTTTGTGCACTTAAAA CA TTAGTGACATC AAA- T A-- - ------
ATTCCTACAGTGATTGTTAC
TTTACTGGGG
GAM33659 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
1 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33659 273751 GGGACAAGGCAAATGAGAGA ----- CAAAT G G C A --- CTTCTC
2 GGAAGGCCGTAGGGAAGGGC GGGA CAAGG GA AGA GAAGGC GT GGGA AGGG
TTCTCTCCTACCTCCCACGT CCCT GTTCC CT TCT TTTCTG CA CCCT TCCT
CTTTATCTGTCCAAATCCTT TTATC TAAAC G A - - CCA ------
GCTATTTCCC
GAM33659 274424 TAAATCTGGGCTGAGGGAAA ATC TGAG- ---- T C ---- -- - TCT TG
3 GCATGTCCACACCAGGTGCC TAA TGGGC GGAAA GCA GTCCA AC CAGGTGCC CAG ACA
GGT GC
CAGACATCTGGTTGGCTTTG ATT ACCCG CCTTT CGT TAGGT TG GTCCACGG GTC TGT
TTA CG
GCTGATTTGTCCTGCAGGCA --- TTGAA CACA T C TTCC AC C --- GT
CCTGCCTTGTCTGGATTTGC TTTG
ACACTTTCCAAGTTGCCCAT
TA

GAM33659 274584 TGGGCTGAGGGAAAGCATGT TGAG- ---- T C ---- -- - TCT TG TTTG
4 CCACACCAGGTGCCCAGACA TGGGC GGAAA GCA GTCCA AC CAGGTGCC CAG ACA GGT
GC
TCTGGTTGGCTTTGGCTGAT ACCCG CCTTT CGT TAGGT TG GTCCACGG GTC TGT TTA CG

TTGTCCTGCAGGCACCTGCC TTGAA CACA T C TTCC AC C --- GT ----
TTGTCTGGATTTGCACACTT
TCCAAGTTGCCCA
GAM33659 274303 GGGAGCTCTTTTGCAAAACA ---------- TG AACAAAA CT - TA C G TTGTT
5 AAAGATGTCTTCTTTTCCCT GGGAG CTCTTT CAA GATGT TCTTTTC CCT GCC TT GTT
TAGCCCTTGGTTTTGTTTGG CCCTC GAGAAG GTT TTACA AGAGAAG GGA TGG AG CGG

CAGATGGTGTAGGTGAAGAG AGTATGTATG GT GA----- -- T TG T A -----
AACATTAGTTGTGGAAGAGG T
TATGTATGACTCCC

-
GAM33659 273078 CTCTTTTGCAAAACAAAAGA TG AACAAAA CT - TA C G TTGTTT
6 TGTCTTCTTTTCCCTTAGCC CTCTTT CAA GATGT TCTTTTC CCT GCC TT GTT
CTTGGTTTTGTTTGGCAGAT GAGAAG GTT TTACA AGAGAAG GGA TGG AG CGG
GGTGTAGGTGAAGAGAACAT GT GA----- -- T TG T A ------
TAGTTGTGGAAGAG
GAM33659 273048 CGGTGAGATGGCTGAAAGGT GA --- AA GACAT G- TTTTA AA TTCTTCTC
7 AGACATCGAGAAGTTTTAAT CGGTGA TGGC TGA GGTA CGA AAG ATATTCAG TCTT

ATTCAGAATCTTTTCTTCTC GCCACT ACCG ACT CCAT GTT TTC TGTAAGTC AGAA
AAGACGCTGAATGTAATCTT G- TCC AC AAAT- GA TAA-- GC --------
AGTTGTAAATACCCATCACC
TGCCAGTCACCG
GAM33659 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
8 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33659 273280 TGAGGCAGGAGAATCGCTTT GAA AA--- AGGCA GT TG A - AGAT
9 AACCCGGGAGGCAGAGGTTG TGAGGCAGGA TCGCTTT CCCGGG GAG TG GTG GC CG

TGGTGAGCCGAGATCGCGCC ACTCTGTCTT GGCGAGA GGGTCC CTC AC TAC CG GC

ATTGCACTCCAGCCTGGGCA AA- ACAAC GAC-- -- GT - C ----
ACAAGAGCGGAATTCTGTCT
CA
GAM33660 273516 GAGGCAGGAGAATCGCTTTA GAA AA--- AGGCA GT TG A - AGAT
0 ACCCGGGAGGCAGAGGTTGT GAGGCAGGA TCGCTTT CCCGGG GAG TG GTG GC CG

GGTGAGCCGAGATCGCGCCA CTCTGTCTT GGCGAGA GGGTCC CTC AC TAC CG GC

TTGCACTCCAGCCTGGGCAA AA- ACAAC GAC-- -- GT - C ----
CAAGAGCGGAATTCTGTCTC
GAM33660 273783 CAGGCAGCAGGATGATCTCT ---------- -- CTC GTAAAA TTTTTTTTT
1 TGTGGAGTAAAATGTCAGGT CAGGC AGCAGGA TGAT TTGTGGA TGTCAGGTG
TTAA
GTTTTTTTTTTTAAGAAATC GTCTG TCGTCTT ACTA GGCACCT ACGGTTTAC GATT
GATTTTTAGTTGTGACGTCA GAAAATTTTTAT TC T-- GTCGG- TGCAGTGTT
TTTGGCAGGCTGTCCACGGT ATCGA
ATCACTTTCTGCTTATTTTT GAA
AAAAGGTCTG TTT

GAM33660 273291 TGAGGCCTGAGAATTGCTTG CT AATT GAA-- AGGTA GT A- TGAGATC
2 AACCCAGGAGGTAGAGGTTG TGAGGC GAG GCTT CCCAGG GAG TGCAGTG GC
CAGTGAGCTGAGATCGCACC ACTCCG CTC CGAG GGGTCC CTC ACGTCAC CG
ACTGCACTCCAGCCTGGGCA T- AGAT ACAAC GAC-- -- CA -------
ACAGAGCTAGACTCTGCCTC
A
GAM33660 273807 CCACTGGGCAGCTGGCAATT - -- CT ATTC T A -- - AGGCTGG
3 CTCTGGTAGGGGTAGCCTTC CCA CTG GGCAG GGCA TCTGG AGGGGT GCCT TCTGC AG

TGCAGAGGCTGGCTAGCAGA GGT GAT TTGTT CCGT AGACC TCTCCA CGGA AGACG TC

CCAGGCACCTCTCCCAGACT C AT TT C--- C - CC A -------
GCCTTTTGTTTATAGCTGG
GAM33660 272887 CAGCTGGCAATTCTCTGGTA ---------- ATTC T A -- - AGGCTGG
4 GGGGTAGCCTTCTGCAGAGG CAGCT GGCA TCTGG AGGGGT GCCT TCTGC AG
CTGGCTAGCAGACCAGGCAC GTCGA CCGT AGACC TCTCCA CGGA AGACG TC
CTCTCCCAGACTGCCTTTTG TATTTGTTTT C--- C - CC A -------

TTTATAGCTG
GAM33660 274559 TGCTAAAGAAAGAGGGGCTG AG TGTC A TCTATAACTAG GCCATATA

5 ATTTGTCAGACTATTTTGTC TGCTAAAGAA AGGGGCTGATT AGACT TTTTG GGTA
TATAACTAGGGTAGCCATAT ACGGTTTTTT TCTTCGATTAG TCTGA GGAAC CCGT
ATGCCAATTTCCCCAAGGCA A- T--- C CCCTTTAA--- --------
GTCTTGATTAGCTTCTATTT
TTTGGCA
GAM33660 273718 GGCAGGAGAATCACTTGAAC G AA -- AA- AGGCA GT A CAAGATCAT
6 CCAGGAGGCAGAGGTTGCAG GGCAG AG TCA CTTG CCCAGG GAG TGCAGTG GC

TGAGCCAAGATCATGCCACT CTGTC TC AGT GAAC GGGTCC CTC ACGTCAC CG
GCACTCCAGCCTGGGCAACA - AA AA AAC GAC-- -- - ---------
AGAATGAAACTCTGTC
GAM33660 274547 TGAGGCAGGAGAATGGCGTG A AATG G- AA- AGGCA CT A C AGATT
7 AACCCGGGAGGCAGAGCTTG TGAGGC GGAG GC TG CCCGGG GAG TGCAGTG GC C

CAGTGAGCCCAGATTGCGCC ACTCTG CCTC CG AC GGGTCC CTC ACGTCAC CG G
ACTGCACTCCAGCCTGGGCA - AGAG AG AAC GAC-- -- - C -----
ACAGAGCGAGACTCCGTCTC
A
GAM33660 273195 GAGGCAGGAGAATGGCGTGA A AATG G- AA- AGGCA CT A C AGATT
8 ACCCGGGAGGCAGAGCTTGC GAGGC GGAG GC TG CCCGGG GAG TGCAGTG GC C

AGTGAGCCCAGATTGCGCCA CTCTG CCTC CG AC GGGTCC CTC ACGTCAC CG G
CTGCACTCCAGCCTGGGCAA - AGAG AG AAC GAC-- -- - C -----
CAGAGCGAGACTCCGTCTC
GAM33660 273226 GATCATAAGCTCCCTGAAAA ATAA T AAA C C G - ACTTCCACAAA
9 CACGTTGCATCTGTGTCTCT GATC GC CCCTG ACACGTTG AT TGT TCTCTAG CA
AGCAACTTCCACAAATGTTT CTGG CG GGGAC TGTGTAAT TA ATA AGAGGTT GT
GGAGAATAAATTAATGTGTG ---- C GG- - A - T ----------
GCAGGGCGCGGTC
GAM33661 273084 CTGAGGCAGGAGAATGGCAT A AATG A- AA- AGG CT A CGAGATCAC
0 GAACCCAGGAGGTGGAGCTT CTGAGGC GGAG GC TG CCCAGG TGGAG TGCAGTG GC

GCAGTGAGCCGAGATCACGC GACTCTG CCTC CG AC GGGTCC ACCTC ACGTCAC CG

CACTGCACTCCAGCCTGGGC - AGAG AC AAC G-- -- - ---------
AACACAGCGAGACTCCGTCT
CAG
GAM33661 274340 GGTCGTTTGCTTTTCAGTGA CG TTTTCA - TC T T AT------- TCACA
1 CCAGGTTCTTCATACACATG GGT TTTGC GTGACCA GGT TTCA ACACA GG GTC
GATGTCTCACAGATCAGCTA CCG GAACG CACTGGT CCA AAGT TGTGT CC TAG
AGGCCTGTGTTTGAACACCT AG TCCC-- T C- T - GGAATCGAC -----
TGGTCACCCCTGCAAGGAGC
C
GAM33661 273232 GCAATGTGCCAAGCTTCTCT T -- CCT G ACAG AACAAGA
2 GTAGGCCCTGGGGTGCCACA GCAATG GCCA AGCTTCTCTGTAGGC GGGGT CC TG

GTGAACAAGACAAATGGGAA TGTTAT TGGT TTGGAGGGACATTTG TCCCA GG AC

CCCTGTTTACAGGGAGGTTA - CA --- A GTAA -------
CTGGTTATTGT
GAM33661 274147 GCCAAGCTTCTCTGTAGGCC -- CCT G ACAG AACAAGA
3 CTGGGGTGCCACAGTGAACA GCCA AGCTTCTCTGTAGGC GGGGT CC TG
AGACAAATGGGAACCCTGTT TGGT TTGGAGGGACATTTG TCCCA GG AC
TACAGGGAGGTTACTGGT CA --- A GTAA -------
GAM33661 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
4 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33661 272891 CAGGCAAAGGTGGCTTAATG CAA G TA C-- TTA GGTGGTA
5 AAGAGCAAGGGGTTTTTAGA CAGG AG TGGCT ATGAAGAG AAGGGGTTT GATGACAT

TGACATGGTGGTAGTGTTAT GTCC TT GTCGA TATTTCTC TTTCTCAAA TTATTGTG
TAATAAACTCTTTTTCCTCT --- G CG CTT TAA -------
TTATGCAGCTGGTTCCTG
GAM33661 274450 TCACGACACAATTGCAGGGA GA A G -------- GTAA
6 GAGCCATTCATGTAAATGAC TCAC CACA TT CAGGGAGAGCCAT TCAT
AATGTCTGTGGTTCTCCCTG AGTG GTGT GA GTCCCTCTTGGTG AGTA
GAGCTGTGCAGTGA AC C G TCTGTAAC ----
GAM33661 273168 GAGACAGGGGAATCGCTTGA C GAA C GAATC A - GT A TGAGATTGT
7 ATCTGCAAGGTGGAGGTTGC GAGA AGGG TCG TT TGC AGG TGGAG TGCAGTG GC

AGTGAGCTGAGATTGTGCCA CTCT TCTC AGT AG ACG TCC ACCTC ACGTCAC CG
CTGCACTCCAGCCTGGCAAC A AG- A ACA-- G G -- - ---------
AGAATGAGACTCTATCTC
GAM33661 273105 CTGGTCTGGCAGCACTAAGA G GG GCAC G GCA ATCA TCC- TCCCA
8 GGCAGGCATTCTGGGTATCA CTG TCT CA TAAGAG CAG TTCTGGGT GACATAAA CC

GACATAAATCCCCTCCCAGG GAC AGA GT GTTCTC GTC GAGACCCA CTGTGTTT GG
AACTTTTGTGTCCTGACCCA A -- AAGA G AG- GTC- TCAA -----
GAGGACTGGCTCTTGAGAAT
GAGAACAG
GAM33661 274427 TAAGAGGCAGGCATTCTGGG G GCA ATCA TCC- TCCCA
9 TATCAGACATAAATCCCCTC TAAGAG CAG TTCTGGGT GACATAAA CC
CCAGGAACTTTTGTGTCCTG GTTCTC GTC GAGACCCA CTGTGTTT GG
ACCCAGAGGACTGGCTCTTG G AG- GTC- TCAA -----
GAM33662 272952 AAGAGGCAGGCATTCTGGGT G GCA ATCA TCC- TCCCA
0 ATCAGACATAAATCCCCTCC AAGAG CAG TTCTGGGT GACATAAA CC
CAGGAACTTTTGTGTCCTGA TTCTC GTC GAGACCCA CTGTGTTT GG
CCCAGAGGACTGGCTCTT G AG- GTC- TCAA -----
GAM33662 273711 GGATTAGATGATGGTGACAG A ATG C G- C AGCA A - TTTAGAGT
1 CAGTAGCAGCAGGAGCAGGT GGATT GATG GTGA AGCA TAG AGCAGG GGTA CAT TCA

AACATTCATTTAGAGTTGAG CCTGA CTAT TATT TCGT ATC TCGTCC CCGT GTA AGT
ATGTGCCACACCCTGCTCTA A AGG - AA - CACA - G --------
AATGCTTTATGGATATCAAG
TCC
GAM33662 274175 GCTGCTTTCCTATCTTACCC TG TT- - CC - T - GTAG- ATGAGGAA

2 TTCCTGCTCTCCTTTTTGTA GC CT CCTA TCTTAC TTCCT GC CT CCTTTTT TG
GTGATGAGGAACAATGAAAA CG GG GGGT GGAGTG AAGGA TG GA GGAGAAA AC
AGAGGTAGTGTAAGGAATTG GT TAC C TT A T T AAGTA --------
TGAGGCTGGGCATGGTGGC
GAM33662 272771 AGAGAGAAAAAGTAAGTAGT A TA CTG TC- - T TA GTC C- CTTTGAAC
3 CTGTAGTCTGTAGCTTGTTA AGAGAG AAAAG AGTAGT TAG TGT AGCT GT AGT AGAG CTGG

AGTGTCAGAGCCTGGCTTTG TCTCTC TTTTC TCATCA ATC ACG TCGA CA TCG TCTC GACC

AACCCAGAACTCTAGCTCCA G -- --- CTT G - CC A-- AA --------
CAGCTGGCATTCCTAACTAC
TCTTTTGCTCTCT
GAM33662 273014 AGGAGGAGGGGAGAGGCCAG A- G-- ------ GAG--- GAA G GGGAAG
4 AGAGAGAAGCGGCTTTCGGG AGG GGAG GGAGAGG CCA AGA GCG CTTTC
AAGGAAAGTGTGATCTAGTA TCC TTTC CCTCTCC GGT TCT TGT GAAAG
GGTGGAATAGTCCTCTCCAA AG AAA TGATAA GGATGA AG- - ------
ACTTTGACCT
GAM33662 274259 GGAGGGGAGAGGCCAGAGAG GAGG- GAG--- GAA G GGGAAG
5 AGAAGCGGCTTTCGGGAAGG GGAGGGGA CCA AGA GCG CTTTC
AAAGTGTGATCTAGTAGGTG CCTCTCCT GGT TCT TGT GAAAG
GAATAGTCCTCTCC GATAA GGATGA AG- - ------
GAM33662 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
6 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33662 273973 CTGAGGCTGGAGTATAATGG T TAT G A - CTCACT ACCTC
7 TATGATCTTGGCTCACTGCA CTGAGGC GGAG AAT GT TGA TCTTGG GCA
ACCTCTGCCTCCAGGATTCA GATTCCG CCTC TTA CG ACT AGGACC CGT
AGCGATTCTCCTGCCTTAG T --- G A T TC---- -----
GAM33662 272779 AGAGTCACCTATGAAGCATT C ATGAA A T TAA - A TC- TTCAATAAATCT
8 AAAATAATTAAAGTGTCTGA AGAGT ACCT GC TTAAAA AAT AGT GTCTG GGCCT CCC
GGCCTTCCCCTTCAATAAAT TCTTA TGGA CG AATTTT TTG TCA CGGAC CCGGG GGG

CTGGGATTGGGCCCAGGCAA T CCCA- - - TG- A - TTA ----------
CTGTGTTTTTTAAGCACCCA
GGTTATTCT
GAM33662 274145 GCATTAAAATAATTAAAGTG A T TAA - A TC- TTCAATAAATCT
9 TCTGAGGCCTTCCCCTTCAA GC TTAAAA AAT AGT GTCTG GGCCT CCC
TAAATCTGGGATTGGGCCCA CG AATTTT TTG TCA CGGAC CCGGG GGG
GGCAACTGTGTTTTTTAAGC - - TG- A - TTA ----------
GAM33663 274549 TGAGGCAGGAGAATTGCTTG A AA GAA-- AGGC T T A- CAATATC
0 AACTCGGGAGGCGGATGTTG TGAGGC GGAG TTGCTT CTCGGG GGA GT GCAGTG GC

CAGTGAGCCAATATCGCACC GCTCTG CCTC AACGAG GGGTCC CCT CA CGTCAC CG

ACTGCACTCCAGCCTGGGCA - AG ACAAC GA-- - - CA -------
ACAGAGCAAGACTCCGTCTC
G
GAM33663 274253 GGAGAATTGCTTGAACTCGG AA GAA-- AGGC T T A- CAATATC

1 GAGGCGGATGTTGCAGTGAG GGAG TTGCTT CTCGGG GGA GT GCAGTG GC
CCAATATCGCACCACTGCAC CCTC AACGAG GGGTCC CCT CA CGTCAC CG
TCCAGCCTGGGCAACAGAGC AG ACAAC GA-- - - CA -------
AAGACTCC
GAM33663 273818 CCATGTTAATTTCCTGGTAG T TG G T G GTGATTATATAGG
2 TGATGACAGCACTGTGATTA CCATGT AATTTCC GTA TGA GACA CACT
TATAGGAGTGTGTCCTTGGT GGTACA TTAAGGG TGT GTT CTGT GTGA
GTTTGGGAATTACATGG - TT G C - ----------
GAM33663 274635 TTGCTTGAACCCGGGAGGTG GAA-- AGG AT A - AGAT
3 GAGATTGCAGTGAGCTGAGA TTGCTT CCCGGG TGGAG TGCAGTG GC TG
TCATGCCACTGCACTCCAGC AACGAG GGGTCC ACCTC ACGTCAC CG AC
CTGGGCGACAGAGCAA ACAGC G-- -- - T ----
GAM33663 273473 GAGAAGATAAATGCGTTTTC A---- C TT GAT-- CT----- GCTTTTCTCTG TG
4 AGGGATGTCATCTTGGGCCT GAGAAGATA ATG GT TCAGG GTCAT TGGGCCT ATCG

GCTTTTCTCTGATCGTGTAG CTCTTCTAT TGC CG AGTCC TAGTG ACTCGGG TAGC
CGATGGGCTCATTTTGCAGT CCAAG - GT ATATT ACGTTTT ---------- --
GATTTATACCTGATGGCCGT TAG
GAACCTATCTTCTC

GAM33663 273134 GAAGGCAGAGTCTTGCTCTG A - TC C TC -- A-- - A ATCT
5 TCACCCAGGGTGGAATGCAG GA GGCAG AG TTGCT TG ACCCA GGGTGGA TGCAGTG GC CG

TGGCACGATCTTGGCTCACT CT CCGTC TC AACGA AT TGGGT TCTATCT GCGTCAC CG GT

GCGACCTCTATCTCTTGGGT - C TT A -- TC CCA T - ----
TAAAGCAATTCTCCTGCCTC
GAM33663 273605 AGGCAGAGTCTTGCTCTGTC - TC C TC -- A-- - A ATCT
6 ACCCAGGGTGGAATGCAGTG AGGCAG AG TTGCT TG ACCCA GGGTGGA TGCAGTG GC CG

GCACGATCTTGGCTCACTGC TCCGTC TC AACGA AT TGGGT TCTATCT GCGTCAC CG GT

GACCTCTATCTCTTGGGTTA C TT A -- TC CCA T - ----
AAGCAATTCTCCTGCCT
GAM33663 274362 GTATGGGGCAACTTGGGGCG -- CAACT -- GT GCC T CCACC
7 TGATGTCAGCCAGAGTCCTT GT ATGGGG TGGG GCGTGAT CA AGAG CCTT
CCACCAAGGCTTTTATGGTG CA TACCCC ACCT TGCATTG GT TTTC GGAA
TTACGTGATCCACCACCCCA AT ACC-- AG TG AT- - -----
TTAAC
GAM33663 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
8 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33663 274151 GCCCTTAGAAATTGTTATGA -- TG- A G AA AGG- A A TCAGGT
9 TTGTCCCAGAAATCCAGGCT GCCCTTAGA AAT TTATG TT TCCCAGA TCC CTT AATG TAC

TAAATGATACTCAGGTGTAA TGGGAGTTT TTA AATAT AA AGGGTCT GGG GAA TTAT ATG

TATTCAAGATAAGGGTCTGG AA TAA - G -- AATA C A ------
GAGAATATAAAATATTAATT
TGAGGGT
GAM33664 274352 GGTTGGAATGAGGAAGGGTG GA--- A GTG CTTCG TAAAATTT
0 TGGTCTTCGGCTAAAATTTG GGTTGGAAT GGA GGGT GT GC
CATAAAACGGAACCCATCCG TCAACCTTA CCT CCCA CA CG
GGCGATTCCAACT GCGGG A AGG AAATA --------
GAM33664 273389 TTCTAAAGCTTTGGTACTAG A CTT GTA A A GATTA T A AATAAACC
1 AATAGTAGAGTGATTAAGAG TTCT AAG TG CTAGA TAGT GAGT AGAGTAGAGGCTT GAG TA

TAGAGGCTTTGAGATAAATA AAGG TTC AC GGTCT ATCA TTCA TTTCGTCTCTGAA TTC GT

AACCTGGCTTCAAGTCTCTG A T-- TG- - - ACA-- C G --------
CTTTACAACTTACTATCTGG
GTCATCTTAGGAA
GAM33664 274347 GGTGGTAAAGCCCTGGAGTG T AAA C - AACCCCAAA C- ACACCC
2 AGGCAGGAACCCCAAAGCCC GG GGT GCC TGGAGTG AGGCAGG GCC TATG
TATGACACCCCATATAGGTA CC CCG CGG ACTTCAT TCCGTCC TGG ATAC
CCCCCAAACCTGCCTATACT - GAC - A AAACCCCCA AT ------
TCAGGCCAGGCCCC
GAM33664 273874 GGTGGTAAAGCCCTGGAGTG T AAA C - AACCCCAAA C- ACACCC
3 AGGCAGGAACCCCAAAGCCC GG GGT GCC TGGAGTG AGGCAGG GCC TATG
TATGACACCCCATATAGGTA CC CCG CGG ACTTCAT TCCGTCC TGG ATAC
CCCCCAAACCTGCCTATACT C GAC - A AAACCCCCA AT ------
TCAGGCCAGGCCCCC
GAM33664 274560 TGCTACGTTATTTTGTTTTG G TG- T A AAAA A T- - - T ACAT
4 ACATTAAAAATGCCATCTCT TGCTAC TTATTT TT TG CATT ATGCC TCTCTG GGT CTC AG GCA

GTGGTCTCAGTGCAACATTG ACGGTG AATAGA AG AC GTGG TATGG AGAGGT TCA GAG TC
TGT
TCTAGAGAACTTTTGGAGAA - TAA T - GGG- A TT A A - ----
GGTATGGGGGTGCATGAAAT
AGATAAGTGGCA
GAM33664 274166 GCTACGTTATTTTGTTTTGA G TG- T A AAAA A T- - - T ACAT
5 CATTAAAAATGCCATCTCTG GCTAC TTATTT TT TG CATT ATGCC TCTCTG GGT CTC AG GCA

TGGTCTCAGTGCAACATTGT CGGTG AATAGA AG AC GTGG TATGG AGAGGT TCA GAG TC TGT

CTAGAGAACTTTTGGAGAAG - TAA T - GGG- A TT A A - ----
GTATGGGGGTGCATGAAATA
GATAAGTGGC
GAM33664 273560 GGAAAAGAACCATGGGTTAG AA AC TTAG G AG CA--- TTTTGAT
6 GCCTTTTTGGGAAGAGACAG GG AAGA CATGGG GCCTTTTT GGAAG ACAGTT GC
TTCAGCTTTTGATGTAAAAC CT TTCT GTACCC TGGAGAGA TCTTC TGTCGA TG
AGCTGTACCTTCTGAGAGAG AC -- CGA- G CA CAAAA -------
GTAGCCCCATGTCTTCATC
GAM33664 272878 CACTGTGGGGTTTTTCAGCA GTG- ----- G GA GA CCT
7 GTGGAAGAGGGATCTGATTT CACT GGGT TTTTCAGCA TG AGAGGGATCT TTTC
CCCTGAGAAGGATCTCTTTG GTGA TCCG AAGAGTTGT AC TTTCTCTAGG AGAG
TCATGTTGAGAACTGATGCC AAGA TAGTC - TG A- ---

TAGAAAGTG
GAM33664 273877 GGTGTCAGAGAGGGACTAGG TG-- ------ C---- -- C------ TGGAT
8 GCTTCAAGCAGACCCTGGAT GG TCAGAGAGGGA CTAGGG TTCA AGCAGA CC
GGAGATTACTCTGCTACTGA TC GGTCTCTCTCT GATCCC AAGT TCGTCT GG
ATAAAACCCTAGCTTATTTC TTTA TTATTC AAAAT CA CATTAGA -----
TCTCTCTGGATTTCT
GAM33664 274459 TCAGAGAGGGACTAGGGCTT ------ C---- -- C------ TGGAT
9 CAAGCAGACCCTGGATGGAG TCAGAGAGGGA CTAGGG TTCA AGCAGA CC
ATTACTCTGCTACTGAATAA GGTCTCTCTCT GATCCC AAGT TCGTCT GG
AACCCTAGCTTATTTCTCTC TTATTC AAAAT CA CATTAGA -----
TCTGG
GAM33665 273777 CAGAGAGGGACTAGGGCTTC ------ C---- -- C------ TGGAT
0 AAGCAGACCCTGGATGGAGA CAGAGAGGGA CTAGGG TTCA AGCAGA CC
TTACTCTGCTACTGAATAAA GTCTCTCTCT GATCCC AAGT TCGTCT GG
ACCCTAGCTTATTTCTCTCT TTATTC AAAAT CA CATTAGA -----
CTG
GAM33665 273949 CTCAGACTCACCAAACAGTC C- AA G C ACCC TAAG
1 TGCTTCTTACCCCAGTGTAA CTCAGACTCA CA CA TCTGCTT TT CAGTG
GCACTGAACAGGCAGGTGGG GAGTCTGGGT GT GT GGACGGA AA GTCAC
TGTATGGGTCTGAG AT GG - C ---- ----
GAM33665 272814 AGGGAGAGTCTTGGGGTGAA TCTT GAAGA G CTTCTCC----- GTCCGT
2 GAGGTTTGAGCCTTCTCCTG AGGGAGAG GGGGT GGTTT AGC TGCTCT
CTCTGTCCGTGGAGCAAGTC TTCCTCTT CCTCG CCAGA TCG ACGAGG
AAATAAATGCTGAGACCGTC TACT ACTG- G TAAATAAACTGA ------
AGCTCCTCATTTCTCCTT
GAM33665 273216 GAGGTGGGAGGATCGCTTGA AGGATC GA-- A- TCAA C A - TGAT
3 GCCCAGGAGGTCAAGGCTGC GAGGTGGG GCTT GCCCAGG GG GG TGCAGTG GT TG

AGTGAGTTGTGATCATGCCA CTCTACCC CGAA CGGGTCC CC TC ACGTCAC CG AC
CTGCACTCCAGCCTGGGCAA CAGAA- ACAA GA ---- - - T ----
CAAAGCAAGACCCCATCTC
GAM33665 272980 ACCTTGAAGGAGTCTGGTCC TGAAGGAG TG TCCT - - C CCCTCAC TGACCT

4 TGTGCTGGTGAAACCCACAG ACCT TC G GTGCTG GTGA AACCCA AGAGA GC
AGACCCTCACGCTGACCTGC TGGG AG C CACGAC CACT TTGGGT TCTCT CG
ACTCTCTCTGGGTTCTCACT TA------ GT TT-- T C C CA----- ------
CAGCACTTCTGGAATGGGT
GAM33665 274085 TCTGGTCCTGTGCTGGTGAA TG TCCT - - C CCCTCAC TGACCT
5 ACCCACAGAGACCCTCACGC TC G GTGCTG GTGA AACCCA AGAGA GC
TGACCTGCACTCTCTCTGGG AG C CACGAC CACT TTGGGT TCTCT CG
TTCTCACTCAGCACTTCTGG GT TT-- T C C CA----- ------
A
GAM33665 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
6 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33665 274598 TGGTTGTTATGAGTCTGGTT GT GTC --------- TG GT TT AAAGTAGAGAA
7 GTTAAGTGCTGGTTGTTAGT TGGTT TATGA TGGT TGTTAAG CTG TGTTAG GTT
TGTTAAAGTAGAGAAAACCC ACCAA ATACT ACCG ACGGTTC GAC ACGATC CAA

CTAGCACAGTGCTTGGCACA -- --- AAATCACAC GT -- CC ----------
CACTAAAGCCATCATAAACC
A
GAM33665 274295 GGGAAGAACTACCAATCTAG AA- - TC ---------- - - T TGATTAT
8 GGCACACGTCTCTCTGAATT GGG GAACTAC CAA TAGGGCACACG TCTCT C TGAA TGT

GTTGATTATGCGCTTTATGA CCC TTTGGTG GTT ATTTCGTGTGC AGAGA G ATTT GCG

AGAGATTTTTCAATCTCGTG AGA T TC TCTAACTTTTT A T C -------
TGCTTTACTTTGTGTGGTTT
AGACCC
GAM33665 273161 GAGAATTGCTTTAACCCGGG AA TG AA-- AGG GT A- AGAT
9 AGGTGGAGGTTGCAGTGACT GAG T CTTT CCCGGG TGGAG TGCAGTG CTG
GAGATCGGGCCACTGCACTC CTC A GAGA GGGTCC ACCTC ACGTCAC GGC
CAGCCTGGGCAACAGAGAGA AG GA CAAC G-- -- CG ----
GACTC
GAM33666 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
0 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33666 273534 GAGGCGGGAGAATTGCTTGA G AA GAA-- AGG GT A - AGAT
1 ACCCGGGAGGTGGAGGTTGC GAGGCGG AG TTGCTT CCCGGG TGGAG TGCAGTG GC CG

AGTGAGCCGAGATCGCGCCA CTCTGTC TC AACGAG GGGTCC ACCTC ACGTTAC CG GC

TTGCACTCCAGCCTGGGCAA - AG ACAAC G-- -- - C ----
CAGAGCAAGACTCTGTCTC
GAM33666 274280 GGCGGGAGAATTGCTTGAAC G AA GAA-- AGG GT A - AGAT
2 CCGGGAGGTGGAGGTTGCAG GGCGG AG TTGCTT CCCGGG TGGAG TGCAGTG GC CG

TGAGCCGAGATCGCGCCATT CTGTC TC AACGAG GGGTCC ACCTC ACGTTAC CG GC

GCACTCCAGCCTGGGCAACA - AG ACAAC G-- -- - C ----
GAGCAAGACTCTGTC
GAM33666 274247 GGAGAATTGCTTGAACCCGG AA GAA-- AGG GT A - AGAT
3 GAGGTGGAGGTTGCAGTGAG GGAG TTGCTT CCCGGG TGGAG TGCAGTG GC CG

CCGAGATCGCGCCATTGCAC TCTC AACGAG GGGTCC ACCTC ACGTTAC CG GC
TCCAGCCTGGGCAACAGAGC AG ACAAC G-- -- - C ----
AAGACTCT
GAM33666 273396 TTGCTTGAACCCGGGAGGTG GAA-- AGG GT A - AGAT
4 GAGGTTGCAGTGAGCCGAGA TTGCTT CCCGGG TGGAG TGCAGTG GC CG
TCGCGCCATTGCACTCCAGC AACGAG GGGTCC ACCTC ACGTTAC CG GC
CTGGGCAACAGAGCAA ACAAC G-- -- - C ----
GAM33666 273244 GCCTCTGGACAATACTGTTA TG CAAT AAACTAAATACTTGC TGGC
5 AAACTAAATACTTGCCAGGT GCCTC GA ACTGTTA CAGGTGTGG
GTGGTGGCTCACACCTGTGA CGGAG TT TGATAGT GTCCACACT
TAGTTCTTTTGGAGGC GT TCT- ---------- ----
GAM33666 273461 GAAGGAGCTTGGGACTTCCA G ------ A------- TAC ATAGAAA

6 AGCCTCTACCTCTTATAGAA GAAGGA CTTGGG ACTTCC AGCCTC CTCTT
AAGGAGATTGAGGCTCAGAG CTTCCT GAACCT TGAAGG TCGGAG GAGGA
AGGGGAAGTGATTGGTCCAA G GGTTAG GGAGAGAC TTA -------
GGTCCTTC
GAM33666 272881 CAGACTGGGAATGGGATGAG CT GG C- TATT -- T AGAGATA TTAA -
7 GACTTCCATATTACCCCATG CAGA GGGAAT GATGAGGA TTCCA ACC CCA GCAT CA
ACATCC CT
CATAGAGATACATTAAACAT GTTT CCCTTA CTATTCCT AAGGT TGG GGT CGTA GT
TGTGGG GA
CCCTTAAAAGTGGGTGTGGC -- -- TC ---- TC - CAAG--- CCGG T
CTGGAACATGCTGGCTGGTT TAAA
GGAACTTCCTTATCATTCCC
TTTG

GAM33666 274297 GGGAATGGGATGAGGACTTC GG C- TATT -- T AGAGATA TTAA - TAAA
8 CATATTACCCCATGCATAGA GGGAAT GATGAGGA TTCCA ACC CCA GCAT CA ACATCC CT

GATACATTAAACATCCCTTA CCCTTA CTATTCCT AAGGT TGG GGT CGTA GT TGTGGG GA

AAAGTGGGTGTGGCCTGGAA -- TC ---- TC - CAAG--- CCGG T ----
CATGCTGGCTGGTTGGAACT
TCCTTATCATTCCC
GAM33666 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
9 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33667 272945 AAATAGCCATTCCCTCGTGC T ATTCC G CGACA TC T - A AAAACTAGG
0 TGCGACAGTTCCATTCCTAA AAA AGCC CTCGT CTG GT CAT CCTAATGC AG CTTACA

TGCAGACTTACAAAAACTAG TTT TCGG GAGTA GAC CG GTG GGATTACG TC GAATGT

GTGTAAGGCTGGCATTAGGG T GACGA G ----- GA - G G ---------
TGAGGCCAGGATGAGAGCAG
GGCTTTTT
GAM33667 272789 AGCCATTCCCTCGTGCTGCG ATTCC G CGACA TC T - A AAAACTAGG
1 ACAGTTCCATTCCTAATGCA AGCC CTCGT CTG GT CAT CCTAATGC AG CTTACA
GACTTACAAAAACTAGGTGT TCGG GAGTA GAC CG GTG GGATTACG TC GAATGT
AAGGCTGGCATTAGGGTGAG GACGA G ----- GA - G G ---------
GCCAGGATGAGAGCAGGGCT
GAM33667 273064 CTCGTGCTGCGACAGTTCCA G CGACA TC T - A AAAACTAGG
2 TTCCTAATGCAGACTTACAA CTCGT CTG GT CAT CCTAATGC AG CTTACA
AAACTAGGTGTAAGGCTGGC GAGTA GAC CG GTG GGATTACG TC GAATGT
ATTAGGGTGAGGCCAGGATG G ----- GA - G G ---------
AG
GAM33667 274100 TGACCCTCCAGACCTCACAT C -- CACATTTG T- - A - TC TTTA
3 TTGTTCTGGAGCCCATACTC TGACCCT CA GACCT TTC GGAGCC CAT CTC ACCAA AGC

ACCAATCAGCTTTAGCTTTT ACTGGGA GT CTGGG AAG CTTTGG GTA GAG TGGTT TCG

GGTCGAGATGAGGTTTCTCG C CT -------- CT A - C T- ----
AAGGGTCTCTGCAGGGTCA
GAM33667 273034 CCTTGGCATTCATTATTTTC TG T T TT GT GCAC GGCACAT AGGA
4 ATTCCAGTTCTCAGCACAGC CCT GCAT CATTA T CATTCCA TCTCA AGCGCTT AGT
GCTTGGCACATAGTAGGAAC GGA TGTA GTAGT G GTAAGGT AGGGT TTGTGAA TCA
TCAGGAAGTGTTTATGGGAT GT - - GG -- AT-- GGAC--- ----
GGAATGGGGTGATGATGTTG
AGG
GAM33667 273163 GAGACAGGAGAATCACTTGA CA AA GA-- GAG - A T A - AGAT
5 ATCTGAGAGGTGGAAGTTGC GAGA GGAG TCACTT ATCT AGG TGGA GT GCAGTG GC CG

AGTGAGCCGAGATTGTGCCA CTCT CCTC AGTGAG TGGG TCC ACCT CA CGTCAC CG GT

CTGCACTCCAGCCTGGGTGA A- AA ACAG --- G - - - T ----
CAGAGTGAAACTCCATCTC
GAM33667 274577 TGGCTTCCCAAAGTGCTGGC C ---------- C TA- AGCCAC
6 GTTACAGGTGTGAGCCACCG TGGCTTC CA AAGTGCTGG GT CAGGTGTG
CACCTGGCCATCCCGGCATT ATCGGAG GT TTTACGGCC TA GTCCACGC
TTTCTATTCTGCTGTGAGGC T CGTCTTATCTT C CCG ------
TA
GAM33667 274448 TCAATACTTTAAAGGCACAC A TTA- - AC- G TT- A GT- - GGAGAAG
7 TTGTCTGCTTTCTACACTGT TCA TACT AA GGC ACTT TCTGCT CT CACT TG CC
TGCCGGAGAAGGGTCATAAA AGT ATGA TT CCG TGAA AGACGG GA GTGA AC GG
GTGAAGTTTGGCAGAAAAGT C TCTG A GTT A TTT A AAT T -------
TTGGCCATTGTCTAGTACTG
A
GAM33667 274015 TACGGGTACTTCCAGGCCAT ACT - -- TT TT -- AGA-- T AATA
8 TTTTGTTGTTTCTGTGGAGA TACGGGT TCCAGG CCAT TT G GTTTCT GTGG ATAC GAAG

ATACTGAAGAATATTTCGTG GTGCTCG AGGTCC GGTG AA T CAAGGG CACC TGTG CTTT

TCATTGCCACCTGGGAACCT --- T TG GG TC TC GTTAC - ----
TGGAAGTGTGGTCCTGGAGC
TCGTG
GAM33667 272983 ACGGGTACTTCCAGGCCATT ACT - -- TT TT -- AGA-- T AATA
9 TTTGTTGTTTCTGTGGAGAA ACGGGT TCCAGG CCAT TT G GTTTCT GTGG ATAC GAAG

TACTGAAGAATATTTCGTGT TGCTCG AGGTCC GGTG AA T CAAGGG CACC TGTG CTTT

CATTGCCACCTGGGAACCTT --- T TG GG TC TC GTTAC - ----
GGAAGTGTGGTCCTGGAGCT
CGT
GAM33668 273469 GACCTTCATGTTCTAGTCCT A- T A T --- - -- TG AACAAAAGAAAGCGA
0 TTGAGTTTTTTACTAGGCTG GACCTTC TGT CT G CCTTTG AGTTTTTT ACTAG GC A
AAACAAAAGAAAGCGATTGG TTGGGAG ACA GA C GGAAAC TCAAGAAA TGATC TG T
TTGCTAGTAAAAGAACTGAA GG - - - AAG A GT GT ----------
CAAAGGCAGACAGGGAGGGT
T
GAM33668 272765 AGAATCGCTTGAACCCAGGA AA GA-- A- CACA T A - AGAT
1 GGCACAGGTTGCAGTAGGCC AG TCGCTT ACCCAGG GG GGT GCAGT GGC CG

GAGATTGTGCCACTGCACTC TC AGTGAG TGGGTCC CC TCA CGTCA CCG GT
CAGCCTGGGTGGCAGAGTGA AG ACGG GA ---- - - T ----
GACT
GAM33668 273053 CTATCGCATCAACACAGTCA C CA T TGC ---- GCATG
2 TGCGTTGCTTAATGACAGGG CTAT GCAT ACACAG CA GTTGCTTAATGA CAGGG
GCATGTTCTGAGAATCGTTA GATA TGTA TGTGTT GT TAGCGGATTGCT GTCTT
GGCGATTTTGTTGTGTGAAT C AG - TT- AAGA -----
GTCATAG
GAM33668 273283 TGAGGCAGGAGAATGGCGTG A AATG G- AA- AGGC CT A - AGAT
3 AACCCGGGAGGCGGAGCTTG TGAGGC GGAG GC TG CCCGGG GGAG TGCAGTG GC CG

CAGTGAGCCGAGATCGCGCC ACTCTG CCTC TG AC GGGTCC CCTC ACGTCAC CG GC

ACTGCACTCCAGCCTGGGCA - AGAG AG AAC GA-- -- - C ----
ACAGAGTGAGACTCCGTCTC
A
GAM33668 273654 ATAAGCCTTGTCTGTCAGTC A TG---- T - C - T CCCCA
4 ATTAACTGTGGGCTGATCCC AT AGCCT TCTG CAGT CATTAA TG TGGGC GAT
CAGTCTGTCCGTCATTAATG TA TCGGG GGAC GTCA GTAATT AC GCCTG CTG
AACTGCAGGAACTTCGGGCT G CTTCAA - A - T T -----
GAT
GAM33668 274089 TCTTTCTCTAATTTGTCCAC AA TG A AG--- A A TCTCCA GC G ATGG
5 CAGTAGTATGCATCTTTTTC TCTTTCTCT TT TCC CC TAGT TGC TCTTTT CTA CAGGG CT

TCCACTAGCCAGGGGCTATG AGAGAGAGA AG AGG GG ATCG ACG AGAAGA GAT GTCCC
GA
GAGGCCCTGAATAGAACAGA -- GA C GAACG - - CAA--- AA G ----
AGAGCAGCTAGCAAGGGCGG
AAGGAAGAGAGAGA
GAM33668 274121 TGAGGCAGGAGAATCGCTTG G AATC GAA--- GGA A- - T AGCTGAGATTG

6 AACCCGGAAGGCAGAGGTTG TGAGGCAG AG GCTT CCC AGGC GAG GT GTGGTG

TGGTGAGCTGAGATTGCACC ACTCTGTC TC CGAG GGG TCCG CTC CG TACCAC
ATTGCACTCCAGCCTGGGCA - AAAA AATAAC --- AC A T ----------
ATAAGAGCAAAACTCTGTCT
CA
GAM33668 274125 GATTTTGAGAACAGCTGGTA TT - T AA TG T TTT---- C CCAAA
7 ATTCTGATTTCCTGTTTCTG GATT GAG AACAGC GGT TTC A TTCCTG CTG ATC
CATCCCAAAGATCAGTATCT CTGA CTC TTGTTG TCA AAG T AAGGAC GAC TAG
GTCAGGAATTTGGAAACACT C- C T CA GT T TGTCTAT - -----
TGTTGTTCCTCCAGTC
GAM33668 272802 AGGATGGTGGAGAAAAAAGC TGG AA- - A GA T --- - ATGTC
8 TAGAAGGAGACTGGGTACCT AGGA TGGAGAAA AG CTAGA G GAC GGGT ACC TG
GATGTCCGTGGTGCTGCCCT TCCT ACTTCTTT TC GGTCT C TTG CCCG TGG GC
GTTAGCTCTGGACTGCCTTT TAA CCG A - GA T TCG T -----
CTTCAAATTCCT
GAM33668 273112 CTGTTGCCCAGGCTGGAGTG TG- -- - AG AGT CC--- TCAGCTCA - GTCT
9 CAGTGGCACCATCTCAGCTC CTGT CCCAG GC TGG TGC GGCA ATC CTGGAG C
ACTGGAGCGTCTGCCTCCAG GACA GGGTC TG ACC ACG CCGT TAG GACCTC G

GTTCAAGTGATTCTCCTGCC TCA GA A CT ACT CCTCT TGAACTTG C ----
TCAGCATCCCAAGTAGCTGG
GACTACAG
GAM33669 274101 TGAGAAGGAGTCTCATTCTG A- TC C TT -- CC -- -- TGATCT
0 TTGCCTAGGCCGGAGTGCAG TGAG AGGAG TCATT TG GCCT AGG GGAG TGCAGTGA CA

TGACATGATCTTGGCTCACT ACTC TCCTC AGTGA AC TGGA TCC CCTC ACGTCACT GT

GCAATCTCCACCTCCAGGTT CG TT - T- CC A- TA CG ------
CAAGTGATTCTCCTGCCTCA
GAM33669 273995 GTGTGACTTTAGTGCTACTC - ---------- A A GTTCAGGAA
1 TGATTTTACTGTTCAGGAAA GTGTGACTTT AGT GCT CTCTG TTTTACT
GTGAAGCAGAGAGGTTCAAT CACACTGGAA TCA TGG GAGAC GAAGTGA
GTCTTACTCAAGGTCACAC C TTCTGTAACT A - ---------
GAM33669 274159 GCCTTGCTTTAAGCCATGTC CTTTAA-- T T - ACGATA AACTGA
2 CTGTTGTGGGCACGATAATA GCCTTG GCCA G CCTGTTG TGGGC ATAGC
GCAACTGAGCTGTCACAGCC TGGGAC TGGT C GGACGAC ATCCG TGTCG
TACCAGCAGGCTGGTAACAC CTCCACAA - - C ACAC-- ------
CTCCAGGGT
GAM33669 273421 CTGTCCTGCTTAACTTCCAC T AAC---- - - - TAATCAAGTAT T G CTAC
3 CACGTTGACATAATCAAGTA CTGTCC GCTT TTCC ACCA C GTTGACA CTG AGT TCG
TCTGTAGTGTCGCTACTGAA GACGGG CGAA AAGG TGGT G CGACTGT GAC TCA AGT

CTCAGCCTTTTCCATTTGTC T AGAGATT A A T TTACCTTTTCC - - ----
AGCTGATGGTAGGAATTAGA
GAAAGCTGGGCAG
GAM33669 273470 GACGTATGACTGTATATAGA AC A C T - T GACT
4 TATACACATCTATCCGCATA GACGTATG TGTATATAGAT TACA ATC ATC CGCATATG GT

TGTGTGACTGCTATGTGTGT CTGTATAC ACGTGTGTCTG GTGT TAG TAG GTGTGTAT CG

GATGATTTGTGAGTCTGTGT CT A T - T - ----
GCATCCATATGTC
GAM33669 274157 GCCTTCTGGGTTTGGTTTGG - - TGG--- G TAA
5 TGGCATTAAATGGCAATTTG GCCTTCTGG GTTT GGTT TG CAT
TGACTGAGACACCAGAGGGC CGGGAGACC CAGA TCAG AC GTA
A G TGTTTA G ---
GAM33669 272897 CATAGGAAGGATTTGTTGTG AAG T TG T - GT A AT GCCTT
6 GATTCACATCTGTGATTCAG CATAGG GA T TTG GGATTCA CATCT GATTC GTGT ACAG

TGTATACAGGCCTTCTGTTG GTGTCT CT G GAC CCTGAGT GTGGA TTGGG CATA TGTC

ATACCGGGTTCAAGGTGTTG CA- - GT - T AC C GT -----
AGTCCCAGTGGTCACTCTGT
G
GAM33669 274045 TCACTTGAGCCCAGGAGTTG GA-- AG GC A- TATGATT
7 GAGGCTGCAGTGAGCTATGA TCACTT GCCCAGG TTGGAG TGCAGTG GC
TTGCACCACTGTACTCCAGC AGTGAG TGGGTCC GACCTC ATGTCAC CG
CTGGGTGACAGAGTGA ACAG -- -- CA -------
GAM33669 273032 CCTTCCCATCATTCTCTTAA TCT AA GA----- A CT ACTTG

8 CATCTGACCAAATCTTGACT CCTTCCCATCAT CTT CATCT CCA AT TG
TGCATTATGTGGCATAATAG GGAGGGGTGGTA GAG GTAGG GGT TA AC
GATGGCGAGTCCATGGTGGG CCT CG ATAATAC G TT -----
GAGG
GAM33669 272941 CCTATCACAGACCTGCCAGA CAGA C- T T A-- C TCCCTCT
9 TTCCTCTGGTAAACTGCAGG CCTATCA CCTG CAGA TCC CTGGT AACTG AGGT
TTCCCTCTGCCTCAGTTGTG GGGTAGT GGAC GTCT AGG GACCG TTGAC TCCG
GCCAGGGATTCTGACCAGGA AGA- CA T - GTG - -------
GATGATGGG
GAM33670 273049 CTACAAGTCAAGGGGCATGC -- A- CA- ---------- GGGT
0 AGTCTTGAATGGGGGTCCGT CTACAA GTCA GGGGCATG GTCT TGAATGG
TCAGTTGTTTTAAAGGCCAC GATGTT CAGT TTCCGTAC CGGA ACTTGCC
CATGCCTTCGTGACATTTGT TA GC CAC AATTTTGTTG ----
AG
GAM33670 273999 GTTACTTCAGCAAGTAGAAG AGCA GAA AT- --- GCC TTGTCTT CGTCCA

1 ATGGATATTTTTGATGCCCA GTTACTTC AGTA GATGG ATTT TTGAT CAGAGTG CCC
GAGTGTTGTCTTCCCCGTCC CGGTGAAG TCAT CTACC TAAG AACTA GTCTTAC GGG

AGGGTATCTCATTCTGATCA AG-- AC- GGT CCA --- TCTAT-- ------
AACCGAATTGGCCATCCATA
CTGAGAAGTGGC
GAM33670 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
2 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33670 273175 GAGATTGCTTGAGCCCAGGT TG--- ----- AGT AC AAC GATT
3 AGTTGAGACTGCAGTGAACC GAGAT CTTGA GCCCAGGT TGAG TGCAGTG CAT
ATGATTGTGCCACTGCACTC CTCTG GAATT TGGGTCCG ACTC ACGTCAC GTG
AGCCTGGGTGACAGTTAAGA TCCCA GACAG --- -- C-- ----
CCCTGTCTC
GAM33670 274251 GGAGAATTGCTTGAACGCCG AA GAAC G C GT A- CATGATC
4 GGGTCGGAGGTTGCAGTGAG GGAG TTGCTT GCC GGGT GGAG TGCAGTG GC
CCATGATCGCGCCACTGCAC TCTC AGCGAG CGG TCCG CCTC ACGTCAC CG
TCCAGCCTGGGCAACAGAGC AG ACAA G A -- CG -------
GAGACTCT
GAM33670 273479 GAGAATTGCTTGAACGCCGG AA GAAC G C GT A- CATGATC
5 GGTCGGAGGTTGCAGTGAGC GAG TTGCTT GCC GGGT GGAG TGCAGTG GC
CATGATCGCGCCACTGCACT CTC AGCGAG CGG TCCG CCTC ACGTCAC CG
CCAGCCTGGGCAACAGAGCG AG ACAA G A -- CG -------
AGACTC
GAM33670 273181 GAGGCAGAACTTCCAGTGAT AACT-- TGAT A TT TGGG
6 TCATTTGGTTGTTCATTTTG GAGGCAG TCCAG TCATTTGGTTGTTC TT GT
TTGGGACTGAGAACAGCCAG CTCCGTC AGGTC AGTAGACCGACAAG AG CA
ATGACTGGATCCACACTGCC ACACCT ---- - T- ----
TC
GAM33670 274155 GCCGTAGAAGAGAGCCAGCA GTAGAAGA- CAGCA G GC T TCCTGGGTT

7 TGGTGTGGCAGAAGGCTCTG GCC GAGC TGGT TG AGAAGGCTC GGATTAG

GATTAGTCCTGGGTTCTAGT CGG CTCG ACCA AC TCTTCTGGG CTTGATC
TCTGGGTCTTCTACAAACCA ATTAAGTAC ----- A A- T ---------
GCTCCATGAATTAGGC
GAM33670 274326 GGGGTTAGAGGAGAAAATGA T GA A AAA- C A - C TG TCAGC
8 TGTGACTCAGGAATTCCACA GGGG TA GG GA TGATGTGACT AGG AT TCCA AGCTGT G

GCTGTTGGTCAGCCTGGCAG CCCC GT CC CT GCTACACTGA TCT TA GGGT TTGACG C

TTCTGGGCATATCTAGTCAC T GA - GGAG - A C C GT -----
ATCGGAGGTCCCAGTGTCCC
C
GAM33670 273171 GAGATGAGAGGATTGCTTGA G A - G A--- AGG G- AGTGA GATT
9 ATCCAGGAGGTGGAGGCTGT GAGAT AG GG ATT CTTG ATCCAGG TGGA GCTGT GCTAT

AGTGAGCTATGATTGTGGCA TTCTG TC CC TAG GAAC TGGGTCC ACCT CGACA CGGTG

CAGCAGTCCAGCCTGGGTGA - - A - ACAG G-- GA ----- ----
CACAAGGATACCCTGTCTT
GAM33671 273979 CTGGAGGCAGCAAAGATTAT A TA TA AT TT G TATT
0 CTTATTTATTTTATTTTGTT CTGGAGGCAGCA AGAT TCT TTTATTTT TTTGTT CT CTA
TTCTGCTATATTTAGAGTGG GACCTCTGTCGT TTTG AGA AGATAAAA AAACGG GA GAT

CAAAAAAATAGAGCAGAGGG C GG CG -- T- - ----
TTTCTGCTGTCTCCAG
GAM33671 273847 GGGGGTTTTGGAACTGGTGA ---- G AC G - T CATG- TA A ACTAGC
1 GGCCAGGGTTTGAATCATGG GGG GGTTTT GA TGGT AGGCC AGGG TTGAAT GCTC AC CCG

CTCTAACACCGACTAGCTGG CCC CCAGAA TT ACCA TCCGG TCTT AACTTA CGAG TG GGT

GTGAGCAGAAAATTCAATTT TAGA G AA - G T AAAGA -- - ------
CTGGGCCTACCAAATTGAAG
ACCAGATCCC
GAM33671 274354 GGTTTTGGAACTGGTGAGGC G AC G - T CATG- TA A ACTAGC
2 CAGGGTTTGAATCATGGCTC GGTTTT GA TGGT AGGCC AGGG TTGAAT GCTC AC CCG

TAACACCGACTAGCTGGGTG CCAGAA TT ACCA TCCGG TCTT AACTTA CGAG TG GGT

AGCAGAAAATTCAATTTCTG G AA - G T AAAGA -- - ------
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GAM33671 272933 CCCTACTATTTTCTTGGGAA A T G C A AC GTGGGAGGGCAGTAAG
3 ACATCCAGCACATACTCAAG CCCTACT TT TCTT GGAAACATC AGC CAT TCAAG
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ATGGTGGCTAGATGTTTCTG G C G A - GT ----------
AAGACAAGAGTAGGG
GAM33671 274004 GTTTAATCCTCGTAGCAATT AA C AT TG C- AT- TCTT TGT GGGTG
4 TTGGCATCGAGGTGGTGGAT GTTT TC TCGTAGCA TT GCAT GAGGTGGTGG GACC GTT GGT

GACCTCTTGTTTGTGGTGGG CAGA AG AGTATCGT GA TGTA TTCCACCACC TTGG TAA TCG

TGGCTTTAATGGTTTTACCA AA T -- GT AT ATT ---- TT- -----

CCACCTTTAATGTTGAGTGC
TATGATGAAAAGAC
GAM33671 273155 GAGAATCTCTTGAACCCAGG AAT-- AA- AGGCA - TG AGTCGAGATAG
5 AGGCAGAGGTGGTGGTGAGT GAG CTCTTG CCCAGG GAG G GTGGTG
CGAGATAGCACCATTGCACT CTC GAGAAC GGGTCC CTC C TACCAC
CCAGCCTGGGCAACAAGAGC AAAGC AAC GAC-- A GT ----------
GAAACTC
GAM33671 273576 GGAGAATCACTTGAACCCAG AA -- AA- AGAC TT- AGCCGAGATCA
6 GAGACGGAGTTTGTGGTGAG GGAG TCACT TG CCCAGG GGAGT GTGGTG
CCGAGATCACACCATTGCAC CCTC AGTGA AC GGGTCC CCTCA TACCAC
TCCAGCCTGGGCAACAACAG AA CA AAC GA-- CGT ----------
TGAAACTCC
GAM33671 274454 TCACTTGAACCCAGGAGACG -- AA- AGAC TT- AGCCGAGATCA
7 GAGTTTGTGGTGAGCCGAGA TCACT TG CCCAGG GGAGT GTGGTG
TCACACCATTGCACTCCAGC AGTGA AC GGGTCC CCTCA TACCAC
CTGGGCAACAACAGTGA CA AAC GA-- CGT ----------
GAM33671 273011 AGCTGCAGCTCTTTCTTCCC A --- ATGAG GG ATCAA AAC
8 TATGAGCTTGGACACATCAA AGCTGC GCTCT TTCTTCCCT CTT ACAC TCCTA
TCCTAAACTAGGAGTGTGAA TTGACG CGAGG GAGGAGGGA GGA TGTG AGGAT
GGAGGAAGGGAGGAGCAGGG A GAC AGGA- AG ----- ---
AGCAGCAGTT
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9 GAGGCGGAGGTTGCGGTGAG GGAG TCG TTG CC GG GGAG TGCGGTG GC CG
CCGAGATCGCGCCATTGCAC CCTC AGC AAC GG CC CCTC ACGTTAC CG GC
TCCAGCCTGGGCAACAAAAC AA CAA AAC GT GA-- -- - C ----
CGAAACTCC
GAM33672 273628 AGTATCACTTGAACCAGGGA C GAA--- --- - A CTGCA GAGCCAAG
0 GGCAGAGGCTGCATGCAGTG AGTATCA TT CCAGG GAG GCAG GG TGCAGT
AGCCAAGATTGCACCACTGC TCATAGT AG GGTCC CTC CGTC CC ACGTTA
ACTCTAACCTGGGCAACAGA A ACAACG AAT A A ----- --------
ATGATACT
GAM33672 274143 GCATCACTGATGGGCTGTCT CA GA TCTTCATTTC C--- G C - T CATTCCT
1 TCATTTCCAGTCCATTTTCG GCAT CT TGGGCTG CAGTC ATTTTC CTG GTG G GTTTCATC

CTGCGTGGTGTTTCATCCAT CGTG GA ACCCGAC GTCGG TAGAAG GGT TAC C TAGAGTAG

TCCTAGATGAGATTCTCATT AG AG ---------- AAAC - - T T -------
GGGAAGATCAAAGGCTGCAG A
CCCAGAAGGAGTGC

-
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2 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
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TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33672 273151 GAGAATCACTTGAACCCAGG AA GA-- AGGCA GT A TGAGATTAT
3 AGGCAGAGGTTGCAGTGAGC GAG TCACTT ACCCAGG GAG TGCAGTG GC
TGAGATTATGCCATTGCACT CTC AGTGAG TGGGTCC CTC ACGTTAC CG
CCAGCCTGGGTGACAGAGTG AA ACAG GAC-- -- - ---------

AAACTC
GAM33672 274206 GGAATGAATCTCCGGATTGG AT CCACT-- ----- CTAGCTCA
4 CCACTCCTGGATTCCCTAGC GGAATGA CTCCGGATTGG CCTGGAT TCC
TCAGGACACACATTCAGGTG TCTTACT GGGGTCTAACT GGACTTA AGG
CATCATCAATCTGGGGTCAT -- ACTACGT CACAC --------
TCT
GAM33672 272816 AGGGTTCAGGGCTTCTCTGG GG T AGA--- T - CAT TT GCATG
5 AGCAGATATTGTCAAGTTCA AGGGTTCAG CTTCTC GGAGC TAT GTCA AGTT GGCC AGGTA

TGGCCTTAGGTAGCATGTAT TCCCGAGTC GGAGAG TCTTG ATG TAGT TCAA CTGG TCTAT

CTGGTCTTAACTCTGATTGT GA - AAAACG T C TT- -- -----
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CTGAGCCCT
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6 GCAGATATTGTCAAGTTCAT GGGTTCAG CTTCTC GGAGC TAT GTCA AGTT GGCC AGGTA

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TGGTCTTAACTCTGATTGTA GA - AAAACG T C TT- -- -----
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TGAGCCC
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7 GGCTCTAATAACCTGAGCTT GT TCATAAG GTCCT GGCTCTAA CT AGCTTC
CTGTTATGAAGCTGGGACCC CG AGTGTTT TAGGA CCGAGATT GG TCGAAG
TTAGAGCCTCAGGATGATCC A- GTTTGTCTCCTAG CT-- CCCA G ------
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CCACCTCCT
8 GCTGAAGTCAACGGCATGAT AGTC CA CTG TTG AGGCTGA GGCATGA GCT TG AACCT

CTCAGCTCACTGCAACCTCC TTAG GT GAT AAC TCCGACT CCGTGCT CGA AC TTGGG

ACCTCCTGGGTTCAAGCAAT - TC G CC- ------- CTTAA --- - ---------
TCTCGTGCCTCAGCCTCCCA
AGTAGCTTGGATT

GAM33672 273699 GGAGACCCAGGACCCGGGAG CCA C G GTAGAGG - C--- CACCA
9 AGAGGTAGAGGGGAGCAGAG GGAGAC GGAC CG GAGAGAG GGAGCAGA GA AGC

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TCTGCTCTAAGCACATTCTT AA- A A ACACGAA T ATCT -----
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0 GTCTATGTCCTTGCTATGTA GA CCCAAAAA CA CTCAG TG TTG GTATGTA ATGAGA
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TTTTTGGGTC

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1 GAAAGCCTTCTCTGTGTACT TTG CCCAGGAG CT GAAAGC CTTCTCTGT TA CT
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2 AAAGCCTTCTCTGTGTACTC TG CCCAGGAG CT GAAAGC CTTCTCTGT TA CT
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3 GCTAGGATTCAAATCCAGGC CAG CTA TA GTAGCTAAG GGATTCA CCAG
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4 GTGCCCATTGAAGAACTTGG GCAGAGG AGATGGG TCTGT CCCA GAA ACT
GAGTGTATTCTGGGAACAGG CGTCTCT TCTACCC GGACA GGGT CTT TGA
CACCCATCTTCTCTGC - AC A -- ATG ----
GAM33673 273641 AGTGCTGATGATGCAACAAG TG T- AACAA AA A T CAAA GC TGTG
5 TAATTAACTTTCTGTGACGC AGTGCTGA A GC GT TTA CTTTCTG GACG GCTGGGAAG AGC

AAAGCTGGGAAGGCAGCTGT TCGCGACT T CG CG GAT GAAAGAT TTGT TGACCTTTT TCG

GGCTATTTTCCAGTTGTTCT GT TC GATC- C- C C ---- A- ----
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TTTGTCAGCGCT
GAM33673 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
6 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
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TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33673 274091 TCTTTGTATTTTTAGTAGAG TT T-- TA- - - TT T CCA GGTCTCG
7 ACGGGGTTTCACTGTGTTAG TCT GTATTTT AG GAG ACGG GG TCAC GTGTTAG GGAT

CCAGGATGGTCTCGATCCCC AGG CGTGAAA TC CTC TGTC CC AGTG TACAGTC CCTA

TGACATCGTGATCCGCTGTC GT CCC TGG C G T- C C-- -------
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GGA
GAM33673 274536 TGAGGCAGGAGAATCACTTG G AA A-- AA- AGGCA GT A- CAAGATC
8 AACCCGGGAGGCAGAGGTTG TGAGGCAG AG TC CTTG CCCGGG GAG TGCAGTG GC

CAGTGAGCCAAGATCGCACC ACTCTGTC TC AG GAAC GGGTCC CTC ACGTCAC CG
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CA

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9         TATCTGCAATAGGACAATGA CTG  GGC  AGGAGTC   ATCTGC  TAGGA
          TTCTCCTAGCAGATCTGTGA GAC  TCG  TCCTCAG   TAGACG  ATCCT
          CTCCTATGCTCAG       --  TA    TGTC   --   ---------
GAM33674 273660 ATCTGCATGTTTTGTTGTCT      --   -       TGT   CA  GGAGGAGAA
0         CTGTGTTGTACAGTGGAGGA ATCTGCAT  GTTTT GTTGTCTCTG  TGTA  GT
          GAAACAATGCATTTTGGGGA TAGACGTA  CAGGA CGACAGGGGT  ACGT  CA
          CAGCTAGGACCCATGCAGAT      CC   T       TTT   AA ---------
GAM33674 273149 GACTCTATGTTAGTGTTTGC         TG   CC   -   CA  A--  TTTA
1         CCTGTTTATCAGGCAGCCTT GACTCTATGTTAG  TTTG  CTGT TTAT  GGC  GCC
          TAGGCATAGCTATAGTACAG CTGAGATACGGTC  GAAC  GACA GATA  TCG  CGG
          ACCAAGTTCTGGCATAGAGT          TT   CA   T   --  ATA  ----
          C
GAM33674 272883 CAGATCAGCTGCGGCATTAG      GCTGC         ACAG   - A  CCTAT  GAACT
2         ATTCTCACAGGAGGGCGAGC CAGATCA   GGCATTAGATTCTC   GAGGG CG GC   TGT
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          CGTGACCCTTAGGAGAATCT      AGT--         GA--    A  G  TGT--  -----
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GAM33674 273938 CGCACATCTGTTACTCCACA    A   TTA-- --    - AGAG -   TTT  GATA
3         TCAGAGACTTCATTTTGTTG CGCAC TCTG   CT  CCACAT C   AC TTCAT  GTT
          ATAAACCCTATGAATGTAAG GCGTG AGAC   GA  GGTGTA G   TG AAGTA  CAA
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4         TTATTTGTGGCTCAGACCTT T  AG GAA GT   AACC TTATT  GGCT   CA  CCTTAC  CAT    TTCA
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GAGT
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          GCCTTTAGTAGTGGTTCAAA C
          CTTCACTCGA        G
                    ----
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AC
5         ATTTGTGGCTCAGACCTTAC AG GAA GT   AACC TTATT  GGCT   CA  CCTTAC  CAT    TTCAC
          TCGACATCACAGAATTCACA TC CTT CA   TTGG GATGA  CCGA   GT  GGAATG  GTA    GAGTG

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          CTTTAGTAGTGGTTCAAACT
          TCACT
                    --
GAM33674 273153 GAGAATCGCTTGAACCCAGG   ATC----  GAA---   AGG   GC    AA  -  AGAT
6         AGGTGGAGGCTGCAGTAAGC GAGA     GCTT    CCCAGG  TGGAG  TGCAGT  GC CG
          CGAGATTGTGCCACTGCACT CTCT     CGAG    GGGTCC  ACCTC  ACGTCA  CG GT
          CCAGCCTGGGCAACAAGAGC   ATCAAAA   AACAAC    G--   --    C-  T ----
          AAAACTATCTC
GAM33674 273276 GCTTGAACCCAGGAGGTGGA   GAA---    AGG   GC    AA  -  AGAT
7         GGCTGCAGTAAGCCGAGATT GCTT    CCCAGG  TGGAG  TGCAGT  GC CG
          GTGCCACTGCACTCCAGCCT CGAG    GGGTCC  ACCTC  ACGTCA  CG GT
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GGGCAACAAGAGC AACAAC G-- -- C- T ----
GAM33674 273061 CTCCCTTCCTCTGTCCTCCT CT-- C--- CC C G-- AT GGG ATGGATG
8 TGCCTTGGGCTGGAATGTGG CTCC TCCT TGT TCCTTG CTT GGCTGGA GT CTCAC
GCTCACATGGATGGTGAGGT GAGG AGGA ACA AGGAAC GAA CCGACTT CG GAGTG

AGCTTCAGCCATGAAGACAA CAGT CCTC AC A GTA -- ATG -------
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GGAG
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9 AGAAAGTATTACTGGTCTCC GT TCCA CCTC AATCA GA AAG TTAC CTC CACT TAGGC
CACTTTTAGGCTATTAACGC CG GGGT GGGG TTGGT CT TTC GATG GAG GTGA GTTCG

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GGGCTGGGGGC
GAM33675 273283 TGAGGCAGGAGAATGGCGTG A AATG G- AA- AGGC CT A - AGAT
0 AACCCGGGAGGCGGAGCTTG TGAGGC GGAG GC TG CCCGGG GGAG TGCAGTG GC CG

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ACAGAGTGAGACTCCGTCTC
A
GAM33675 272801 AGGATCACTTGAGCCTGGTA A A-- --- A TC GC A TATGATCGT
1 TGTCGAGGCTGCAGTGAGCT AGG TC CTTG AGCCTGGT TG GAG TGCAGTG GC
ATGATCGTGCCACTGCACTC TCC AG GAGC TCGGACCA AC CTC ACGTCAC CG
CAACCAGGCTGACCGAGCCA C ACC CAG - -- -- - ---------
GACCCT
GAM33675 273667 ATGCCTAATTTAGCACATAG CTAA - A- CTGTCCCCA AT- TAATAAAT
2 TTCCTGTCCCCAAAATCTAA ATGC TTTAGC AC TAGTTC AAATCTA AAACTCAGAAG
TAAACTCAGAAGTAATAAAT TACG AAATTG TG ATCGAG TTTGGGT TTTGGGTCTTT
TTTCTGGGTTTTTGTGGGTT TTGA A GG TCTCCCG-- GTT --------
TGCCCTCTGAGCTAGGGTAG
TTAAAAGTTGCAT
GAM33675 274463 TCAGTGAGAAGCTTGTACTC T AG - AC GTG-- -- - AC TAAGCT
3 TCAGTGATCATTGCTGTAGT TCAG GAGA CT TGT TCTCA ATCATTGCT GTA GTT GAGA

TACGAGATAAGCTTCTCTGA AGTC CTCT GA ACG GGAGT TGGTGACGA CGT CAA CTCT

ACATGCAGAGCAGTGGTAAC - CT C GA ATCAA GA A GT ------
TATGAGGAGGCACAGTCTCT
CCTGA
GAM33675 273650 AGTTCTAGGGTACATATGCA CTA A - A - G T T ATAT
4 CAACATGCAGGTTTGTTACA AGTT GGGT CA TATGC CAACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT GTGTG GTTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C C - C G C - ----
CT
GAM33675 274540 TGAGGCAGGAGAATCGCTTG CA AA GAA--- AGG - T GA TGAGATT
5 AACCCAGGAGGTGGAGGCTG TGAGG GGAG TCGCTT CCCAGG TGGAG GC GTGGT GC

TGGTGAGCTGAGATTGCGCC ACTCT CCTC AGCGAG GGGTCC ACCTC CG TACCG CG

ATTGCACTCCAGCCTGGGCA A- AA AACAAC G-- A T -- -------
ACAAGAGCGAAACTCCATCT
CA

GAM33675 273592 GGAGAATCGCTTGAACCCAG AA GAA--- AGG - T GA TGAGATT
6 GAGGTGGAGGCTGTGGTGAG GGAG TCGCTT CCCAGG TGGAG GC GTGGT GC
CTGAGATTGCGCCATTGCAC CCTC AGCGAG GGGTCC ACCTC CG TACCG CG
TCCAGCCTGGGCAACAAGAG AA AACAAC G-- A T -- -------
CGAAACTCC

GAM33675 273077 CTCTTTGAGGTCTGTTGTTC ------ - A TC- GGAA
7 AGAAAAATTTCTTGGAAAAT CTCTT TGAGGTCTGTTGTTCA GAA AATT TT
ATGATTGTTCATGGACAACG GAGAA ACTCCAGGCAACAGGT CTT TTAG AA
GACCTCATCACCCAAGAG CCCACT A G TAT ----

GAM33675 274025 TAGTAGGAAAGGTAACAATA AAA TA TAAC - - --------- ---- ATCCA
8 ACAGCAACACTGATTATGGC TAGTAGG GG ACAA AGC AACACTG ATTA TGGCTAG
CAGGC
TAGCAGGCATCCAGCCTGAG GTCGTCT CC TGTT TCG TTGTGAC TAGT ATCGATC
GTCCG
CCCTAGCTACACACCCTTTG GA- TC ---- A A TTCCCACAC CCGA -----
ATACAGTGTTAGCTTTGTCT
CCAGTCTGCTG

GAM33675 273885 GTAGGAAAGGTAACAATAAC AAA TA TAAC - - --------- ---- ATCCA
9 AGCAACACTGATTATGGCTA GTAGG GG ACAA AGC AACACTG ATTA TGGCTAG CAGGC

GCAGGCATCCAGCCTGAGCC CGTCT CC TGTT TCG TTGTGAC TAGT ATCGATC GTCCG

CTAGCTACACACCCTTTGAT GA- TC ---- A A TTCCCACAC CCGA -----
ACAGTGTTAGCTTTGTCTCC
AGTCTGC

GAM33676 274632 TTGCTTGAACCCAAGAGGTG GAA--- AGA - GT A- TGAGATT
0 GAGGTTGCAGTGAGCTGAGA TTGCTT CCCA GG TGGAG TGCAGTG GC
TTGCGCCACTGCACTCCAGC AACGAG GGGT CC ACCTC ACGTCAC CG
CTGGGCAACAAGAGCAA AACAAC --- G -- CG -------

GAM33676 272751 ACCAGAGGCTCAGAGAATGG T AC - T TCCACATTT
1 CACAGCTGTCCTGTTCTCCA ACCAGAGGCTCAGAGAA GGC AG CTG CCTGTTC
CATTTGAATAGGCCGGACTC TGGTTTTTGAGTCTCTT TTG TC GGC GGATAAG
AGTTTTCTCTGAGTTTTTGG - AC A C ---------
T

GAM33676 273371 TGTTGGCCAGGATTGTCTTG T - GGAT - CTG C T TC CACCTC
2 ATCTCCTGACCTTGTGATCG TG TGGC CA TGTCT TGATCTC AC TTG GA GGCC
GCCCACCTCGGCCTCCCAAA AC ACCG GT GCAGA ATTAGAG TG AAC CT CCGG
GTACTGAGATTACAGACGTG C A ---- C TCA A C -- ------
AGCCACCA

GAM33676 273702 GGAGATGGTTTCCAGTTCAC A TT TT C - AA CTTCA A GCAAA
3 CGTCAACCCAAAAGCTCTCT GGAG TGGT CCAG CAC GTCA ACCCA AGCTCT GGTC TG

TCAGGTCATGGCAAACAGAC CCTC GTCA GGTT GTG CGGT TGGGT TCGGGA CCAG AC

CAGGGCTGTGGGTGTGGCTG A C- C- T G G- ----- - -----
TGCTTGGCACTGACTCC
GAM33676 273498 GAGGATGGTTTGAGCCCAGG A- GA-- A- C AAGT A - AAAT
4 AGGCAGAAGTTGCAGTGAGC GAGG TGGTTT GCCCAGG GG AG TGCAGTG GC TG
TGAAATCATGCCACTGCACT TTCC ACCGAG TGGGTCC CC TC ACGTCAC CG AC
CCAGCCTGGGTGATAGAGCC AA ATAG GA - ---- - T ----
AAACCTT
GAM33676 274600 TGGTTTGAGCCCAGGAGGCA GA-- A- C AAGT A - AAAT
5 GAAGTTGCAGTGAGCTGAAA TGGTTT GCCCAGG GG AG TGCAGTG GC TG
TCATGCCACTGCACTCCAGC ACCGAG TGGGTCC CC TC ACGTCAC CG AC
CTGGGTGATAGAGCCA ATAG GA - ---- - T ----
GAM33676 273723 GGCATGGAATGATATGTACA AATGATAT CA TCAA-- TCA
6 CTGTAGGTTCAATATGTTTT GGCATGG GTA CTGTAGGT TATGTTT
CAAAACATACCTAGCACCTA CCGTGTC CGT GGTATCCA ATACAAA
TGGCTGCCTGTGCC -------- C- CGATCC ---
GAM33676 274299 GGGACCGTTAGCTGAAATGC -- GCT-- -- TGA - - TGTGA
7 TGTTGATTTTAGTGGCTGTG GGGACC GTTA GAAATG CTGT TTTTA GTG GC
AGCACACATAAGGATACAGG CCCTGG TAAT CTTTAC GACA GGAAT CAC CG
TCATTTCCCTTATAATTAGG AT ATTCC TG TA- A A -----
TCCC
GAM33676 273207 GAGGCATAAGAATCGCTTGA TAA A -- TGA AGG GT AGCCAAGATCACAC

8 ATTCGGGAGGTGGAGGTTGC GAGGCA GA TC GCT ATTCGGG TGGAG TGCAGTG
AGTGAGCCAAGATCACACCA CTCTGT CT AG CGA TGGGTCC ACCTC ACGTCAC
CTGCACTCCAGCCTGGGTGA --- C AA CAG G-- -- ----------
CAGCAAGACTCTGTCTC
GAM33676 273862 GGTCCTTCCCCACTCCGAAC - C AACCT---------- ATCTGCAACATG
9 CTCAGTTTTCTCATCTGCAA GGTCCTTC CC ACTCCG CAGTTTTCTC
CATGGGGAAAACTGCGCCTG TCAGGGAG GG TGAGGT GTCAAAAGGG
TAAACTTCGTGGAGTTGGTG T T GCTTCAAATGTCCGC ----------
AGGGACT
GAM33677 274447 TCAAGTCCTGTACTGCTCAA - -- ---- T A GACC GTG---- ACTG
0 TTCAGTGACCACTAGCCATA TCAAG TCC TGTACT GC CA TTCAGT ACTAGCCATAT GCT

TGTGGCTACTGAGCACTTGA AGTTT AGG ACATGA CG GT GAGTCA TGATCGGTGTA CGA

AATGTGGCTAGTTTGAACTG T TC ATCT T A AGTT AAGTTCA ----
AGATGTGCTCTAAGTACACT
GGATTTTGA
GAM33677 274373 GTCCTGTACTGCTCAATTCA -- ---- T A GACC GTG---- ACTG
1 GTGACCACTAGCCATATGTG GTCC TGTACT GC CA TTCAGT ACTAGCCATAT GCT
GCTACTGAGCACTTGAAATG TAGG ACATGA CG GT GAGTCA TGATCGGTGTA CGA
TGGCTAGTTTGAACTGAGAT TC ATCT T A AGTT AAGTTCA ----
GTGCTCTAAGTACACTGGAT
GAM33677 273587 GGAGAATCATTTGAGCCCAG AA GA-- AAGCA GT A CAAGATCAC
2 GAAGCAGAGGTTGCAGTGAG GGAG TCATTT GCCCAGG GAG TGCAGTG GC
CCAAGATCACGCCACTGCAC CCTC AGTGAG CGGGTCC CTC ACGTCAC CG
TCCAGCCTGGGCAACAGAGT AG ACAA GAC-- -- - ---------
GAGACTCC
GAM33677 273884 GTAGAGGGTATGCCTGGGAA GG T ---- CAGG AGCT

3 AACAGGAGTCACAGAAGCTT GTAGA GTA GCCT GGGAAAA AGTCACAGA
CTGTGACTGTATTTTCCCAA TATTT TAT TGGA CCCTTTT TCAGTGTCT
AGAGGTTTATTATTTAT AT T GAAA ATG- ----
GAM33677 273901 GTCTGTTGAGTGTATGGAAG - A GTGA AT - GGCACAG
4 TGAAGGATTGGCCAGGCACA GTCT GTTGAGTGT TGGAA AGG TG GCCA
GTGGCTCACCCCTGTAATTC CAGA CGATTCACG ACCTT TCC AC CGGT
CAGCACTTAGCGAGAC G - AATG CC T -------
GAM33677 273986 GTGGCATAGGGTGGGCCTTT G AGGGTG AA A A G CA AGAGGTGGAGAAA

5 AATCCAATGTGACTGGTGTC GTG CAT GGCCTTT TCC ATGTG CTG TGTC TATA
CATATAAGAGGTGGAGAAAT CAC GTA CCGGAAG AGG TACAC GAC ACAG ATGT
GTAGAGACACAGACACATGG G GTGTA- -- G A - AG ----------
GAGAAGGCCATGTGATGGCA
C
GAM33677 274440 TAGTGTTCAAGACCTACACT --- CTACAC CCTCCTTTA AGTG TGACACTT

6 CCATCCTCCTTTAATTTGCC TAGTGTTCA AGAC TCCAT ATTTGCCC GCC
CAGTGGCCTGACACTTGGCA ATTACAAGT TTTG AGGTA TGAACGGG CGG
GGGCAAGTGCTGTCATATGG GCA TCTAGA TACTGTCG- A--- --------
AAGATCTGTTTACGTGAACA
TTA
GAM33677 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
7 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33677 274465 TCATACTGTAATGTTAGTTT A TA TT GAAA GG AGTG
8 GCATGAAAAGCTCTGTGGTG TC TACTG ATGTTAGT GCAT AGCTCTGT TGC
CAGTGGCAAACAGGGCTAAG AG GTGAC TGTAGTCG TGTA TCGGGACA ACG
GATGTTTGCTGATGTCGCAG - GC TT GGAA A- ----
TGGA
GAM33677 274165 GCTACCAGGGTAATAGGGCC CCAG ATAGG A-- AT- T- A A AATTTCA
9 AAACGAGGAATGGGGTTCCA GCTA GGTA GCCA ACGAGGA GGGGT CC TTAGG TTC

TTAGGATTCAATTTCAGAAC TGAT CCGT CGGT TGTTCCT CCTTA GG AATTC AAG
TTAAGGCTATTCCTCGTCCT TCTA GAATA GAC GCT TC - - -------
TGTCAGTGGCATAAGTGCCA
TCTTAGT
GAM33678 272956 AAGGAGGGAAGTTTAAATTT A G AATT T GCCTT - GT- GATACTA
0 TGTAATATGGCCTTGGTTGC AAGG GGGAA TTTA TTGTAA ATG GGTTGC AGAA CCT
AGAAGTCCTGATACTAAGGT TTCC CCCTT AGAT GACATT TAT CCAACG TCTT GGA
AATTCTAGCAACCTTAATAT - - ---- T AATT- A AAT -------
TTTACAGTAGATTCCCCCTT
GAM33678 272790 AGCCTGGGTCACTGTATGGT CCT T GG---- G G TC CACGAGA
1 ACCAGTGTCAGCTTCCTGTG AG GGGTCAC GTAT TACCAGT TCA CT CTGTGTTA
TTACACGAGATGGCACAGTT TC CCCAGTG TATG GTGGTCG AGT GG GACACGGT
GGGTGAAGCTGGTGATGAAG TC- - GAAGTA A G TT -------
GTATGTGACCCCTCT
GAM33678 273851 GGGTCACTGTATGGTACCAG T GG---- G G TC CACGAGA
2 TGTCAGCTTCCTGTGTTACA GGGTCAC GTAT TACCAGT TCA CT CTGTGTTA

CGAGATGGCACAGTTGGGTG CCCAGTG TATG GTGGTCG AGT GG GACACGGT
AAGCTGGTGATGAAGGTATG - GAAGTA A G TT -------
TGACCC
GAM33678 273454 GAACATCCAGGTCTGGGGCA ---- CTGG A - TG T ATTT - CGTTA
3 TGAACCTGGCATACAATGTA GAACA TCCAGGT GGC TGAA CC GCA ACAATGTAG CTGT GTT

GATTTCTGTGTTCGTTAGGC CTTGT AGGTCCA TCG ACTT GG CGT TGTTACATC GACA CGG

AACAGCTACATTGTCTGCTG ACAA ---- G T GT C ---- A -----
GGTTTCAGGCTACCTGGAAA
CATGTTC
GAM33678 274056 TCCAGGTCTGGGGCATGAAC CTGG A - TG T ATTT - CGTTA
4 CTGGCATACAATGTAGATTT TCCAGGT GGC TGAA CC GCA ACAATGTAG CTGT GTT
CTGTGTTCGTTAGGCAACAG AGGTCCA TCG ACTT GG CGT TGTTACATC GACA CGG
CTACATTGTCTGCTGGGTTT ---- G T GT C ---- A -----
CAGGCTACCTGGA
GAM33678 274601 TGTCTATAGAGTATGTGGGC AGAGTA T TT- TG C- A TT T CTCTCTCT
5 CATTTTCTGCCCGTAAAATG TGTCTAT TG GGGCCA TTC CC GTA AATG CAAA GTTTT
TTCAAATGTTTTCTCTCTCT ACAGATG AC CTTGGT AAG GG TAT TTAC GTTT CGAAA
AAAGCTTTGTTCATTGTATC AGGG-- T TTT GT TC G TT - --------
TGGTGGAATTTTGGTTCTCA
GGGAGTAGACA
GAM33678 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
6 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33678 272804 AGGCAAGGTCTCACTCGGTC C C A C TCA --- AA- -- GATC
7 ATCCAGGTTGGAATGCAGTG AGG AAGGT TC CT GG TCCAGG TTGG TGCAGTGG TGT

GTGTGATCACAGTTCACTGT TCC TTCTA AG GA CT GGGTCC AACT ATGTCACT ACA
AAACTCAAACTCCTGGGCTC - - - A C-- TCA CAA TG ----
AAGGAATCTTCCT
GAM33678 273858 GGTATTGGGAGAAAAGTGTG ATT GAA G CTA -- CA TCTT
8 TTATCTAGGTAGTCCAGGAA GGT GGGA AAGTGT TTAT GGTA GTC GGAAGG
GGTCTTCCTTTCATGACAAT TCA CCCT TTCACA GATA CCAT CAG CTTTCC
ACCCATAGACACTTAGTCCC GTT GA- - C-- AA TA ----
TTGACT
GAM33678 273532 GAGGCCAGGAGTCTGAGATC -- T GA- GCTTG ACT TTTAT T TTGT
9 AGCTTGGGCAACTGATTTAT GAGGCC AGGAG CT GATCA GGCA GA GGT TGGAT
GGTTTGGATTTGTGTCCATG CTCCGG TCCTT GA TTAGT CCGT CT CCG ACCTG
CCCTTCCTCTTCTGCCATGA AG T ATA A---- CTT CCTTC T ----
TTATAAGTTTCCTGAGGCCT
C
GAM33679 273036 CCTTGGGGGCTTAATGATTC TT TTAATG CGT G --- TG T GGACAGAAAA
0 AGCGTGGAATGAGTTTTGTT CC GGGGGC ATTCAG GGAAT AGT TTTGT T AGGGT
GTTAGGGTGGACAGAAAAAC GG TTCCCG TGAGTC CTTTA TCA AAACG A TCCCA
CCTATGGCAAAGTCACTGAT T- TG---- C-- G CTG GT - ----------
TTCCCTGAGTGTGCCCTTTG
G

GAM33679 273873 GGTGGGTGATGCCATCTATA GATG- C-- GA CATTGTGT TGTCTTT
1 GAAGGGTTTTAGGTCATTGT GGTGGGT CCAT TATA AGGGTTTTAGGT TGG
GTTGGTGTCTTTCCGTCTTT CCACCCA GGTA ATGT TCCCAGAGTTCA GCC
CCCACTTGAGACCCTCTTGT GTTCA TAA TC CCCTTTCT -------
AAATATGGACTTGACCCACC
GAM33679 273611 AGGCCCTGGGTGGCGTGAGG C - - TG GG A TGTGTGTGT - G G AGGAA

2 GGGAAGGTGTGTGTGTGGGG AGGCC TGGGT GGC G AGGG A GG GGGGTG GCA GGAG
AGA
TGGCAGGGAGGAGAAGGAAT TTCGG ACCCG CCG C TTTC T CC TCTTAT CGT TCTC TCT

CTGCTCTGTGCTTATTCTTG C T A GT TT G CCTGT---- T G G -----
TCCCCGTTTCTTTTGCAGCC
TGCCCACGGCTT
GAM33679 273348 TGGGTGGCGTGAGGGGGAAG - - TG GG A TGTGTGTGT - G G AGGAA
3 GTGTGTGTGTGGGGTGGCAG TGGGT GGC G AGGG A GG GGGGTG GCA GGAG AGA

GGAGGAGAAGGAATCTGCTC ACCCG CCG C TTTC T CC TCTTAT CGT TCTC TCT
TGTGCTTATTCTTGTCCCCG T A GT TT G CCTGT---- T G G -----
TTTCTTTTGCAGCCTGCCCA
GAM33679 273353 TGGTGGAAGGAAAACCTGTC T AA A- CC GA- -- ATGACA
4 ATTCCAAGGACAGTCCCATG TGG GG GGA AACCTGTCATT AAG CAGT CCC
ACAGGGAAGCTGACACTTCA ACC CC CCT TTGGACGGTGA TTC GTCG GGG
GTGGCAGGTTAATCCCCCCA - -- AA C- ACA AA ------
GAM33679 274083 TCTGCCAGTTTTTATGCCAC CCAGT A AC- TGCTTC T -- TTA
5 ACTGGCTCTGTGCTTCTAGT TCTG TTTT TGCC ACTGGCTCTG TAG ATCT GCAT
ATCTGCATTTAATGCTTAGA AGAC GAAA ACGG TGATCGAGAC ATC TAGA CGTA
TTCTACCAGAGCTAGTTTGG CTTT- C GTT C----- T TT ---
GCACAAAGTTTCCAGA
GAM33679 273674 ATGTTCTGAAGTACTGAGGG - A ------ - TC TAC GGT
6 TTAGGGCTTCAACTTACGAA ATGTTCTG AAGT CTGAGG GTTA GGGCT AACT GAATTT

TTTGGTGAGTTCACAGTTCA TGCGAGAC TTTA GACTTC CAAT TCCGA TTGA CTTGAG
GCCTGTAACACATTTCTTCA C G TTTACA G C- CA- ---
GGATTTCCAGAGCGT
GAM33679 274620 TTCATTAGGAAAGGGTTTTG AGGAA G GAGG ATGGGTA TGGT GGAG TG T
A
7 AGGTCAGGACATGGGTATCT TTCATT AGG TTTT TCAGGAC TC GTACATG TT G
GGCCTCT
GGTGTACATGGGAGTTTGGT AAGTAG TTT AAGG AGTCCTG GG TATGTGT AG T
TCGGAGG
GGCCTCTATTGTAGGAGGCT GG--- G AGGG GAG---- TTGT AA-- GT - -
TTGGAAATGTGTATTGTTGG TTGTA
GAGGTCCTGAGGGAGGAAGT
TTGGGATGAA

GAM33679 274123 TGAGGCAGGAGAATCGCTTG A AAT-- AA- TG AGGCA GT TG G GAGATGA

8 AACCTGGGAGGCAGAGGTTG TGAGGC GGAG CGCTTG CC GG GAG TG GTGA CC
TGGTGAGCCGAGATGAGGTC ACTCTG CCTC GTGAAC GG CC CTC AC TACT GG

ATTGCACTCCAGCCTGGGCA - AAAGT AAC GT GAC-- -- GT - -------
ACAAGTGTGAAACTCCGTCT
CA
GAM33679 273513 GAGGCAGGAGAATCGCTTGA A AAT-- AA- TG AGGCA GT TG G GAGATGA

9 ACCTGGGAGGCAGAGGTTGT GAGGC GGAG CGCTTG CC GG GAG TG GTGA CC
GGTGAGCCGAGATGAGGTCA CTCTG CCTC GTGAAC GG CC CTC AC TACT GG
TTGCACTCCAGCCTGGGCAA - AAAGT AAC GT GAC-- -- GT - -------
CAAGTGTGAAACTCCGTCTC
GAM33680 273768 CACTCCCTGAGTGAAGGTGT - G AA G TT AAATGTGCTTAC T AACAGAG

0 GTGTGTTAGGAAATGTGCTT CACTCCCT GA TG GGTGT TGTG AGG TGGG GAACAC
ACTGGGTGAACACAACAGAG GTGAGGGA CT AC CCATA GTAC TCC ACCC CTTGTG
GTGTTCCCCACCTCATGATA T G AC - -- ---------- - -------
CCCACAGTCTAGGGAGTG
GAM33680 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
1 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33680 273052 CTAGGCATTGTAACTCTCAA T TAAC TC T CAGCTG T ATTG
2 GTCTTAAATACTCATCAGCT CTAGGCAT G TCTCAAG TTAAATAC CAT GTCAG CC
GGTCAGTCCATTGGGTCTGG GGTTCGTA C AGAGTTC AATTTATG GTA CGGTC GG
CAAATTATGTGTATTTAACC - TCA- CC T TTAAA- T ----
CTTGAGAACTCATGCTTGG
GAM33680 273727 GGCATTGTAACTCTCAAGTC T TAAC TC T CAGCTG T ATTG
3 TTAAATACTCATCAGCTGGT GGCAT G TCTCAAG TTAAATAC CAT GTCAG CC
CAGTCCATTGGGTCTGGCAA TCGTA C AGAGTTC AATTTATG GTA CGGTC GG
ATTATGTGTATTTAACCCTT - TCA- CC T TTAAA- T ----
GAGAACTCATGCT
GAM33680 273743 GGCTGGGGAAGTTACTTACC AA- T - - - TCTCA - - TAAAA
4 TACTCCGTGTCTCAGTTTTA GGCTGGGG GT ACT TAC CTACTCC GTG GTT TTACTT ATCTC

CTTATCTCTAAAAGGGGTAG CCGACCCT TA TGG GTG GGTGAGG CAC CGA AATGAG TGGGG

AGTAACAGCACTCACTGGAG CCG T T A T TCA-- C A -----
TGGAGTGTGGTTATGCCTCC
CAGCC
GAM33680 273808 CCAGAAATTTCATCCCCACT ATTTCATC - AG AG GTCTGCTCCCA
5 GGTCAGTAAGGAAGCTCGTC CCAGAA CCCAC TGGTC TA GAAGCTC
TGCTCCCAGAGTTTCAGTGG GGTCTT GGGTG ACCAG GT CTTTGAG
AGACCACGTGGGAATTCTGG AA------ C AG GA ----------
GAM33680 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
6 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33680 273094 CTGCCTAGCTTAGTGAGGGA C A AATCCATTCT C AGTCTG
7 ATCCATTCTGGCTTCAGACC CTGCCTAG TTAGTG GGG GG TTCAGACC
AGTCTGGGTTTGAAACCTAC GACGGATT AATCAC CCT CC AAGTTTGG

ACATCCCACTAACTTAGGCA C - ACACAT---- A ------
G
GAM33680 273646 AGTTATGTGACCCTTAAAGA T TG C GAAA - AAG - A - AA ACACT
8 AACAAATCAGAAGTTATGTG AGTTA G ACC TTAAA CAAAT CAG TTA TGTG CC CTCT C
ACCCTCTAACACACTGAGAG TCGAT C TGG AATTT GTTTG GTC AGT ACAC GG GAGA G

AGAGGCACAGTGAAGCTGTG C GT - G--- T GA- G - A GA -----
TTTGGTTTAAGGTTGCCTAG
CT
GAM33680 272957 AAGGATGTGTTCACTGAAGC TGTTCACT C CAT TGAC TAGTTACAC
9 CTACCATACATATGTGACCC AAGGATG GAAG CTACCATA ATG CCTTAT
TTATTAGTTACACATAAGGC TTTCTAT TTTC GGTGGTAT TAC GGAATA
ATTTTTATGGTGGTCTTTGC TCCCCCG- T TTT ---- ---------
CCCCTTATCTTT
GAM33681 273625 AGGTTCACACATTGGTGCCT - CAT CCTTT CAAAAAA-- TT TGA
0 TTGCTGGGACAAAAAAGAGA AGGT TCACA TGGTG GCTGGGA GAGAC TCC
CTTTCCTGAGGGTTGTCTTG TCCA AGTGT ACCAC CGACTCT TTCTG GGG
TTCCAGTTTCTCAGCCACTC T --- TCAC- TTGACCTTG TT ---
ACCATGTGATACCT
GAM33681 274350 GGTTCACACATTGGTGCCTT - CAT CCTTT CAAAAAA-- TT TGA
1 TGCTGGGACAAAAAAGAGAC GGT TCACA TGGTG GCTGGGA GAGAC TCC
TTTCCTGAGGGTTGTCTTGT CCA AGTGT ACCAC CGACTCT TTCTG GGG
TCCAGTTTCTCAGCCACTCA T --- TCAC- TTGACCTTG TT ---
CCATGTGATACC
GAM33681 274162 GCGCTGTCTTCCTGGGCTCA G C - A TC C GACATTGTAG AGCATC
2 GCATCCTGGGACACAGGACA GC CTGTCTT CTGGG CTC GCA CTGGGACA AG TGG

TTGTAGTGGAGCATCCCAAC TG GGTAGAA GACCC GAG TGT GACTCTGT TC ACC
CTGAAACTTTGTCTCAGTGT G A A A -- T AAAGTCCA-- ------
AGAGACCCAGAAAGATGGGG
T
GAM33681 272793 AGCTCAAAGTTACATGGGGT TCAAA A TG AC T - CAGA
3 CTGACCCTGTAGGTCTCTAA AGC GTT CA GGGTCTG CCTG AGGTCTCTA AC
CCAGAGTGTAGAGATCTCAG TCG CGA GT TTCAGAC GGAC TCTAGAGAT TG
GACAGACTTTTTGCAGCCAC TACAC C TT A- - G ----
ATGCT
GAM33681 273236 GCAGCTGCAGAAAACACAGC C AGAAAA CGA GCTAG AAGG
4 CGAGTTGCTAGCTAAGGGGA GCAG TGC CACAGC GTT CT
AACAGACGCCGCTGTGGGAA TGTT ACG GTGTCG CAG GG
AGCACTTGT C AAAGG- CCG ACAAA ----
GAM33681 274530 TGAGGCAGGAAGATCACTTG C AAGA GA-- AGG GC ACC ATTC
5 AGCCCAGGAGGTGGAGGCTG TGAGG AGG TCACTT GCCCAGG TGGAG TGCAGTG CAT

CAGTGACCCATATTCATGCC ACTCT TCC AGTGAG CGGGTCC ACCTC ACGTCAC GTA

ACTGCACTCCAGCCTGGGCA C CAG- ACAA G-- -- C-- ----
ACAGAGTGAGACCCTCTCTC
A
GAM33681 273088 CTGCAATGCTGTTTACTTAT AT- TA- A- - T A TTGTAGT
6 AGGATGAAACTGTATCAGAC CTGCA GCTGTTTACT TAGGATG AAC TGTA CAG CT

TTTGTAGTGGCTGTGCATGT GACGT TGACGGATGA GTCCTAT TTG ACGT GTC GG
TGATATCCTGGCCAGTAGGC GCG CCG AG T - - -------
AGTGCGTGCAG
GAM33681 274129 GCAATGCTGTTTACTTATAG AT- TA- A- - T A TTGTAGT
7 GATGAAACTGTATCAGACTT GCA GCTGTTTACT TAGGATG AAC TGTA CAG CT
TGTAGTGGCTGTGCATGTTG CGT TGACGGATGA GTCCTAT TTG ACGT GTC GG
ATATCCTGGCCAGTAGGCAG GCG CCG AG T - - -------
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GAM33681 272935 CCCTGGCTGAGGTGGGATCC C ATCCCGAG - C TCCC
8 CGAGGCCTCTCCAGTCCCCT CCCTGG TGAGGTGGG GC CTCTC AG
GAGGGTGCACCACTGGCCCA GGGACC ACTCTACCC CG GGGAG TC
TCTCACCCAGGG C GGTCACCA T - ----
GAM33681 272716 AAAAGCCATGTTACAGATGG GC G ATG TCT CTATT- TCCGG
9 CTCTCCTTGGATGGCTATTC AAAA CAT TTACAG GC CCTTGGATGG CCAGTCGGTT
CAGTCGGTTTCCGGGGCTGA TTTT GTG AGTGTC TG GGGATTTACC GGTCAGTCGG

CTGGCCCACTCCATTTAGGG AT - GA- TGT TCACCC -----
TGTGTAGCTGTGAGTGTATT
TT
GAM33682 274109 TGAGGCAAGGTCAGAAAAGG A- CAGAAAA AA C -- TT AA CTCCCTT
0 TCAGGCAATTTTTGCCTTGT TG GGCAAGGT GGTCAGGC TTTTTG CTTG TTCA GC CA

TCATTGCAACACTCCCTTTG AC TCGTTCCA TCAGTCTG AAGAAT GAAT GAGT CG GT
GAGCTCTGAGTTTAAGCTAA CG ------- -- C TT CT AG -------
GAAGTCTGACTACCTTGCTG
CCA
GAM33682 274530 TGAGGCAGGAAGATCACTTG C AAGA GA-- AGG GC ACC ATTC
1 AGCCCAGGAGGTGGAGGCTG TGAGG AGG TCACTT GCCCAGG TGGAG TGCAGTG CAT

CAGTGACCCATATTCATGCC ACTCT TCC AGTGAG CGGGTCC ACCTC ACGTCAC GTA

ACTGCACTCCAGCCTGGGCA C CAG- ACAA G-- -- C-- ----
ACAGAGTGAGACCCTCTCTC
A
GAM33682 273918 CCGTCACAGCACTTGCCCTC G A A TCAATGTTCAT - ACA- C TTTCTC
2 AATGTTCATCACTGAAGACA CC TCAC GC CTTGCCC CACT GAAG AG ATGTGAT
AGCATGTGATTTTCTCATCA GG AGTG CG GGACGGG GTGA CTTC TC TACACTA
CATCCTCCCACTTCAAGTGG - A - ---------- A ACCC C ------
GGCAGGGCAGTGAGG
GAM33682 273622 AGGGTGTGCACTGGGCAAGG T CTGG G CGG GG - CCGG
3 GCAGGGCGGCAGGTGTCAGG AGGG GTGCA GCAAGG CAGGG CA TGTC AGG
CCGGCTTGGACAATGAAACC TTCC TACGT CGTTCC GTCCC GT ACAG TTC
CTGACCTTGCTGCATTCCTT T ---- A AAA A- G ----
GAM33682 273597 GGAGAATCGCTTGAACCCGG AA GAA-- AGGCA GT AGC AGAT
4 GAGGCAGAGGTTGCAGTGAG GGAG TCGCTT CCCGGG GAG TGCAGTG CG
CCGAGATCGCACTACTGCAC CCTC AGTGAG GGGTCC CTC ACGTCAT GC
TCCAGCCTGGGCAACAGAGT AG ACAAC GAC-- -- CAC ----
GAGACTCC
GAM33682 273152 GAGAATCGCTTGAACCCAGG ATCG-- AA------ AGA AG T GA - AGAT
5 AGACTGAGGTTGCAGTGAGC GAGA CTTG CCCAGG CTG GT GCAGT GC TG

TGAGATCATGCAACTGCACT CTCT GAAC GGGTCC GAC CA CGTCA CG AC
CCAGCCTGGGCAACACAGCA ACTTCA GACACAAC --- CT - A- T ----
AGACTTCATCTC
GAM33682 273275 GCTTGAACCCAGGAGACTGA - AA- AGA AG T GA - AGAT
6 GGTTGCAGTGAGCTGAGATC GCT TG CCCAGG CTG GT GCAGT GC TG
ATGCAACTGCACTCCAGCCT CGA AC GGGTCC GAC CA CGTCA CG AC
GGGCAACACAGC C AAC --- CT - A- T ----
GAM33682 273390 TTCTCTGTCTTCCATTCCCC ------ CC CC - GACTG
7 TCCTACGCCCCCAGACTGTG TTCTCT GTCTTCCATT CCT TACGCCCC CA
AGGGGTGTAAGGAAGATGGA GGGAGG TAGAAGGTAG GGA ATGTGGGG GT
AGATGTTGCGGGAGGG GCGTTG AA -- A -----
GAM33682 274503 TCTCTGTCTTCCATTCCCCT ------ CC CC - GACTG
8 CCTACGCCCCCAGACTGTGA TCTCT GTCTTCCATT CCT TACGCCCC CA
GGGGTGTAAGGAAGATGGAA GGAGG TAGAAGGTAG GGA ATGTGGGG GT
GATGTTGCGGGAGG GCGTTG AA -- A -----
GAM33682 274075 TCTCAACTTCTTTATGTCTC - C TAT G TGT A - ACAGG
9 TGTACAGTGGGTGTAGGGAC TCT CAA TTCTT GTCTCTGTACA TGGG AGGGACC GCC AC

CAGCCACACAGGGTCGGTGG AGA GTT GAGAG TAGAGACGTGT GCCC TTTTTGG TGG TG

GTTTTTCTCCCCGTGTGCAG T A --- - CTC G C -----
AGATGAGAGATTGTAGA
GAM33683 272934 CCCTCAGCACAGGTTTTGGC A -- CTCTT T AAAA
0 TCTTAGAATGGGTTTTTTAA CCCTCAGC CAGG TTTTGG AGAA GGGTTTTTT
AAAAAGGATCTTTCTTAATT GGGGGTTG GTCC AGGACC TCTT TCTAGGAAA
CCAGGACTCCTGAGTTGGGG A TC TTAAT - ----
G
GAM33683 274052 TCATGCGTTCTTCATTTCTG -- TGTACCTCCCA T ATG - A AGCA
1 TACCTCCCAACTCAATGCTT TCATGCG TTCTTCATTTC AC CA CTT AGC CCC
AGCACCCAGCAGGGGCTCAA AGTGTGC AGGAAGTAAGG TG GT GAA TCG GGG
GACTGTGTGTGGAATGAAGG TT TG--------- T CA- C - ----
ATTCGTGTGA
GAM33683 273677 ATTTCCTGCTGCCAGCTTAA - G T TA - CA GCAGATTCACA
2 TACTCACCAGGGCAGATTCA ATTTCCTG CTGCCA CT AA CTCA C GG
CACCAAGTTGGGGTTTCAGT TGAAGGAC GACGGT GA TT GGGT G CC
GGCAGTCAGGAAGT T - C TG T AA ----------
GAM33683 273490 GAGATGGCAATTTAAACTGC GA -- AAA - T C - ---- - AAGAA- -- A
3 TTTGATGACCAGGTTTCATT GA TGGCA ATTT CTG CTTTGA GA CAG GTT TCATT AGGT
GGCC CG
AGGTAAGAAGGCCCGATTAA TT ACCGT TGAA GAC GAAACT TT GTC CAG GGTGA TCCA
CCGG GC
GCAACGGTGGCCCAAATAAC AA TC GAC C T T A ACTT C ATAAAC TG -
CTCAGTGGTTCAGACACTGT TTAAGCAA
TTTTCAAAGCCAGCAGAAGT
CTTGCCAAATT

GAM33683 274193 GCTTTGATGACCAGGTTTCA T C - ---- - AAGAA- -- ATTAAGCAA
4 TTAGGTAAGAAGGCCCGATT GCTTTGA GA CAG GTT TCATT AGGT GGCC CG
AAGCAACGGTGGCCCAAATA CGAAACT TT GTC CAG GGTGA TCCA CCGG GC
ACCTCAGTGGTTCAGACACT T T A ACTT C ATAAAC TG ---------

GTTTTTCAAAGC
GAM33683 274530 TGAGGCAGGAAGATCACTTG C AAGA GA-- AGG GC ACC ATTC
5 AGCCCAGGAGGTGGAGGCTG TGAGG AGG TCACTT GCCCAGG TGGAG TGCAGTG CAT

CAGTGACCCATATTCATGCC ACTCT TCC AGTGAG CGGGTCC ACCTC ACGTCAC GTA

ACTGCACTCCAGCCTGGGCA C CAG- ACAA G-- -- C-- ----
ACAGAGTGAGACCCTCTCTC
A
GAM33683 274093 TCTTTTTCTCAGTGTCTCTG T TC T TG CA A AT AGACT
6 TTGTGGCAGTCATGAATGAG TCT TT TCAG GTCTCTGT TGG GTC TGA G
ACTCTGTCAGATCTCCATGG AGA AG AGTC CAGGGACG ACC TAG ACT C
CAGGGACCTGATTGACAGA C TT - GT TC - GT -----
GAM33683 273468 GACCATGAAGCCAGAGTCTC CCAT - - T CCA ---- - GCCATGGA
7 CAGGACTCCTCACTCAACCT GA GAAG CC AGAG CT GGACTCCT CACTCAACCT CG
CGGCCATGGACGCAGGTTGG CT CTTC GG TTTC GA CCTGGGGG GTGGGTTGGA GC

GTGTGAGGGGGGTCCCAGCC TTAT T C C C-- GAGT C --------
TTTCGGTCTTCTATTTC
GAM33683 273237 GCAGGTATGATGGCCTTTTC TGAT C A T TCCT AGCTGA
8 TCTTATCCTGGTTCCTGCAG GCAGGTA GG CTTTTCTCTT TCC GGT GCAG
AGCTGACTGCCATGCTTGGG TGTCCGT TC GAAAAGGGAG GGG TCG CGTC
AGAGGGAAAAGACTTATTTG TTAT A A T TAC- ------
CCTGT
GAM33683 274146 GCATTTACAATGGGGAAGGG TTACAAT GG GA- G CA AAA G AAAG
9 ACAGTGTTCTCACCAAAGGA GCAT GG AAGG CAGT TTCT CC GGATATT GG
TATTGGGAAAGCTGGATATC TGTA CC TTCC GTTA AAGA GG CCTATAG TC
CAAGGGCAAGAAGATTGGAA CCACAAT AT AAG G AC GAA G ----
CCTTTACCTAACACCATGT
GAM33684 273695 GGAGAATTGCTTGAACCTGG AA GAACCTGG CA T- A - AGAT
0 GAGGCAGTGGTTGCAGTGAG GGAG TTGCTT GAGG GTGG TGCAGTG GC CG
CCGAGATTGTGCCACTGCAC CCTC AACGAG CTCC CACC ACGTCAC CG GT
TCCACCCTCAGCAACAGAGC AA ACAACGA- -- TC - T ----
AAAACTCC
GAM33684 274120 TGAGGCAGGAGAATCGCTTG GAGAA GAAC-- AGG GT A - AGAT
1 AACCCCGGGAGGTGGAGGTT TGAGGCAG TCGCTT CCCGGG TGGAG TGCAGTG GC CG

GCAGTGAGCCGAGATCGCGC ACTCTGTC AGTGAG GGGTCC ACCTC ACGTTAC CG GC

CATTGCACTCCAGCCTGGGC ACAA- AACAAC G-- -- - C ----
AACAAGAGTGAAACACTGTC
TCA
GAM33684 273989 GTGGTGCATACCTGTAATCT G C---- AT A GGA G TG AGG
2 CAGATACTTGGGAGGTTGAG GTGGT CATA CTGTA CTCAGAT CTTG GGTT AGG GT
GTGGTAGGATTGCTTGAGCT CACTA GTAT GACGT GAGTTTG GGAC TCGA TTC TA
CAGGAGTTTGAGGCTGCAGT - CGAAT CG A --- G GT ---
AAGCTATGATCAC
GAM33684 273101 CTGGGATCTGGAGAGGAGGG GATC - - ACA ATGCC
3 GCTTCACAAGGTCATGCCGA CTGG TGGAGAGGAGGGG C TTC AGGTC
TCTAAGGGACGCCCCCTTCT GACC ATCTCTCTTCCCC G AGG TCTAG

CTCTACACCAG AC-- C C GAA -----
GAM33684 272892 CAGGCTGGTTCGTCGTTTCT G C CTG C- T TT- TCTTTGT
4 GCCTCTCCATTCTTGTCTTT CAGGCT GTTCGT GTTT CCTCTC ATTCT GTCTT TAAT
TTAATTCTTTGTGTTATTTG GTCCGA CAAGTA TAAG GGAGAG TGAGG TAGAG ATTG
AGATGGAGTTTGAGAGGGAA A - --- TT - TTT -------
TATGAACAAGCCTG
GAM33684 273616 AGGCTGGTTCGTCGTTTCTG G C CTG C- T TT- TCTTTGT
5 CCTCTCCATTCTTGTCTTTT AGGCT GTTCGT GTTT CCTCTC ATTCT GTCTT TAAT
TAATTCTTTGTGTTATTTGA TCCGA CAAGTA TAAG GGAGAG TGAGG TAGAG ATTG
GATGGAGTTTGAGAGGGAAT A - --- TT - TTT -------
ATGAACAAGCCT
GAM33684 273835 GGGCATTTTGCCTCTGGTAG CAT- T -- - - G TG CCA TCCT
6 GGATGGCCATGGTGCCAGCC GGG TT GCC TCTG GTAGG GATG CCA GTG GCCC
CTCCTGGGCCTCATTGGGTA CCC AA CGG AGAC TATCC CTAT GGT TAC CGGG
TCACCTATACAGAAAGGCCA AGAT C AA A A G -- TC- ----
ATAGACCC
GAM33684 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
7 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33684 274436 TAGGGGCAGTGGCAGAGAAT G ---------- CAGAGAATGAA - TT C- G TATAA
8 GAATGTATGTGTGGGTTTCT TAGG GC AGTGG TGTATGT GTGGGT CT AGCCTT AGG

CAGCCTTGAGGTATAAGGTC ATCC CG TCACC ACATACG CACTTA GG TCGGAA TCT
TAAAGGCTCTGGGGATTCAC G AACTTGACCT ---------- T GG TC A -----
TGCATACACCACTTCCAGTT GG
CAAGCGCCTA

--
GAM33684 274314 GGGCAGTGGCAGAGAATGAA C CAGAGAATGAA - TT C- G TATAAGG
9 TGTATGTGTGGGTTTCTCAG GGG AGTGG TGTATGT GTGGGT CT AGCCTT AGG
CCTTGAGGTATAAGGTCTAA CCT TCACC ACATACG CACTTA GG TCGGAA TCT
AGGCTCTGGGGATTCACTGC - ---------- T GG TC A -------
ATACACCACTTCC
GAM33685 273301 TGAGTCACTGGGCCTGGGCC G GG AAA A AAC GA ATAAAATGG
0 GAAATCATCAGTGGAACTTT TGAGTCACTG GCCT GCCG TCATC GTGG TTTGATTAG TC

GATTAGGATCATAAAATGGG ACTCGGTGGC CGGG CGGT GGTAG CACT AAACTGGTT AG

AAGTTGGTCAAAATCACAGA A G- C-- A A-- GA ---------
TGGCTGGCGGGGCACGGTGG
CTCA
GAM33685 273222 GAGTCACTGGGCCTGGGCCG G GG AAA A AAC GA ATAAAATGG
1 AAATCATCAGTGGAACTTTG GAGTCACTG GCCT GCCG TCATC GTGG TTTGATTAG TC

ATTAGGATCATAAAATGGGA CTCGGTGGC CGGG CGGT GGTAG CACT AAACTGGTT AG

AGTTGGTCAAAATCACAGAT A G- C-- A A-- GA ---------
GGCTGGCGGGGCACGGTGGC

TC
GAM33685 274530 TGAGGCAGGAAGATCACTTG C AAGA GA-- AGG GC ACC ATTC
2 AGCCCAGGAGGTGGAGGCTG TGAGG AGG TCACTT GCCCAGG TGGAG TGCAGTG CAT

CAGTGACCCATATTCATGCC ACTCT TCC AGTGAG CGGGTCC ACCTC ACGTCAC GTA

ACTGCACTCCAGCCTGGGCA C CAG- ACAA G-- -- C-- ----
ACAGAGTGAGACCCTCTCTC
A
GAM33685 272874 CACGAGCAGTTTGTGTCACA C C T ------- - - C ACTCTTT GTTA
3 GATGGCCGGAAGAGACTCTT CA GAG AGTT GTG TCA CAG ATGGC GGAAGAG TGCCTG

TTGCCTGGTTACAGGCATGT GT TTC TCAA TAC AGT GTC TACCG TCTTTTT ACGGAC
TTTTCTGCCATCCTGTTGAA - C C CCTTTTA T C - GT----- ----
TTTTCCCATCAACTCCTTTG
GAM33685 273156 GAGAATTGCTTAAACCCGGG AA TG AAA-- AGG GT A CAAGATCAC
4 AGGTGGAGGTTGCAGTGAGC GAG T CTT CCCGGG TGGAG TGCAGTG GC
CAAGATCACGCCACTGCACT CTC A GAG GGGTCC ACCTC ACGTCAC CG
CCAGCCTGGGCAACAGAGTG AG GT ACAAC G-- -- - ---------
AGACTC
GAM33685 273234 GCACCAGAAAGTCCAGGAAG - AAGTCC A A ------ TTA- GG A ATGGT
5 AGCTGATTAAAGTGTTAGCT GCAC CAGA AGG AG GCTG ATTAAAGTG GCT CTG CACATT

GGCTGACACATTATGGTGGT CGTG GTCT TCC TC TGAC TAATTTTAC TGA GAT GTGTGG

GTGGTAGAAAGTGTCTCATT T AA---- G G ACTGAA TCTG AA G -----
TTAATAAGTCACAGTGCTGC
CTAATCTGTGTGC
GAM33685 274309 GGGAGGGACTTCTTGGCTTC A ACT CT T A CT GTGA
6 TGAGGGCAAAGCTCTACGTG GGG GGG TCTTGG TC GAGGGC AAG CTAC
AGTGGTCCTTGGCTCTTTGA CCC CTC AGAGCC AG TTCTCG TTC GGTG
CCGAGATGCTCACCC A GT- -- T G CT ----
GAM33685 274086 TCTGTCTCTCTCTCATCTTC T CTCTCATC TT- CAC-- GAA T G TGAT
7 CTTTTGCCACCCAGGCTGGA TCTG CTCT TTCCT TGC CCAGGCTG TG AGT GTG
ATGTAGTGGTGTGATCACAG AGAC GAGA AAGGA ACG GGTCCGAC AC TCG CAC
CTCACTACAGCCTGGATTCA T CT------ CAC ACTTA ATC - A ----
GCACACAGGAATCAGAGTCA
GA
GAM33685 274461 TCAGGCATAAATATTCTGAT C AA - GGTTA T C TAC- TG A AGAGACACACA

8 GGTTAATTTTAGACATCTAC TCAGG ATA TAT TCTGAT AT TTAGA ATC TTGAC G TTA
TTGACTGGATTAAGAGACAC AGTCT TAT ATA GGACTA TA AGTCT TAG AACTG C GAT
ACATAGCTGGTCAAACATGA - AA C AG--- C T TACA GT - ----------
TTTCTGACATGAATCAGGCA
TAAATATTCTGA
GAM33685 272737 AATATTCTGATGGTTAATTT C- A- A T C TAC- TG A AGAGACACACA
9 TAGACATCTACTTGACTGGA AATATT TG TGGTT AT TTAGA ATC TTGAC G TTA
TTAAGAGACACACATAGCTG TTATAA AC ACTAA TA AGTCT TAG AACTG C GAT
GTCAAACATGATTTCTGACA AT GG G C T TACA GT - ----------
TGAATCAGGCATAAATATT

GAM33686 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
0 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33686 273940 CGGGTGAGGAAGTGTTATTG G A- T T G GG CAGAA TTGG
1 TCAGGGTCTCCCTTTCAGAA CG GTG GGAAG GT ATT TCAG TCTCCCTTT GGCC
GGCCTTGGGGCCAAGGGGAG GT CGC CCTTC CG TAA GGTC GGAGGGGAA CCGG

GAGCTGGAATTGCCTTCCAC G CA - T - GA ----- ----
CGCGTG
GAM33686 273866 GGTGAGGAAGTGTTATTGTC GA T T G GG CAGAA TTGG
2 AGGGTCTCCCTTTCAGAAGG GGT GGAAG GT ATT TCAG TCTCCCTTT GGCC
CCTTGGGGCCAAGGGGAGGA CCA CCTTC CG TAA GGTC GGAGGGGAA CCGG
GCTGGAATTGCCTTCCACC -- - T - GA ----- ----
GAM33686 272764 AGAATCACTTGAACCTGGGA AA A GA-- AGG GT A - AAAT
3 GGTGGAGGTTGCAGTGAGCC AG TC CTT ACCTGGG TGGAG TGCAGTG GC CG
GAAATTGTGCCACTGCACTC TC AG GAG TGGATCT ACCTC ACGTCAC CG GT
CAGTCTAGGTGACAGAGCGA AG C ACAG G-- -- - T ----
GACT
GAM33686 273737 GGCGTGAGGGAAAGCATGAA --- ---- GAAAAA GATAAAAT C AAAC
4 AAATCCAGGATAAAATCATC GGCGTGA GGGA AAGCAT TCCAG CATCAT AGGG
ATCAGGGAAACTCCTATGAT CCGTACT CCCT TTTGTG AGGTC GTAGTA TCCT
GCTGGAACTGGACAACAGTG GAT AGAT ACAAC- AAGGTC-- - ----
TTTTAGATCCCTAGTCATGC
C
GAM33686 272966 AATGGGGTGATGGTACCTAA - CC AC- GC TTA A G ACATGGTAA
5 TAATACAGTAGAGCACTTAA AATGG GGTGATGGTA TAATAAT AGTAGA AC AC CAGTA GTGGC

CACAGTAGGTGGCACATGGT TTATC TTATTATCGT ATTGTTA TCGTTT TG TG GTCAT CACCG

AAGCCACATACTGAGTATGT A T- GTA A- TA- A A ---------
ATTTGCTATGATTGTTATTG
CTATTATTACTATT
GAM33686 273890 GTCAGCACCGAGGTAGCAGA A--- TA ---- AC CAG GAGAA
6 GAATTAACATTCTTGTCAGC GTCAGC CCGAGG GCAGAG AATTA ATTCTTGT CA
AGAGAATGAAGCAGGAATAT TAGTCG GGTTCC CGTTTC TTAAT TAAGGACG GT
AATTAAAACTTTGCCCTTGG ATAA -- AAAA A- AA- -----
AATAGCTGAT
GAM33686 274320 GGGGACATAACCGTAGGTGG AT CG - CC A AAACCCCA GTC TCAG
7 CCGTGCCAACAGGAAACCCC GGGGAC AAC TAGG TGG GTGCCA CAGG GGAA TGGCT

AGGAAGTCTGGCTTCAGAGC CTTCTG TTG GTTC GTC CACGGT GTCT CCTT ACCGA
CATTCCCTTTAGCTCTGATG AC AT T A- A CGATTTC- --- ----
GCACACTGTCTTGTAGTTCA
GTCTTC
GAM33686 274228 GGAGAATCGCTTGAACCCAG AA GAA-- AGG GT TG A- CAAGATC
8 GAGGTGGAGGTTGTGGTGAG GGAG TCGCTT CCCAGG TGGAG TG GTG GC
CCAAGATCGTGACATTGCAC CCTT AGCGAG GGGTCC ACCTC AC TAC TG
TCCAGCCTGGGCAACAGAGC AG ACAAC G-- -- GT AG -------

GAGATTCC
GAM33686 274043 TCACTTGAACCCGGGAGGCG GAA--- AGGC GT A - AGGT
9 GAGGTTGCAGTGAGCTGAGG TCACTT CCCGGG GGAG TGCAGTG GC TG
TCGTGCCACTGCACTCCAGC AGTGAG GGGTCC CCTC ACGTCAC CG GC
CTGGGCAACAAGAGTGA AACAAC GA-- -- - T ----
GAM33687 274226 GGAGAATCGCTTGAACCCAG AA GA-- AGGC GT A- TGAGATT
0 GAGGCGGAGGTTGCAGTGAG GGAG TCGCTT ACCCAGG GGAG TGCAGTG GC
CTGAGATTGCACTATTGCAC CCTC AGTGAG TGGGTCT CCTC ACGTTAT CG
TCCAGTCTGGGTGACAGAGT AG ACAG GA-- -- CA -------
GAGACTCC
GAM33687 273336 TGGCTCACACCTGTAATCCC AC CCC A AGGA CAGGAGAATCA
1 CGCTACTCAGGAGGTTTAGG TGGCTCAC CTGTAATC GCT CTC GGTTTAGG
CAGGAGAATCACTTGAACCC ACTGAGTG GACATTGG CGG GAG CCAAGTTC
GAGAGGCAGAGGTTACAGTA AT AGA A C--- ----------
GTGAGTCA
GAM33687 274348 GGTGGTTATGGTGATGTGCA T G - G C T GCTTTGG
2 CCTGTAGTCTCATCTGCTTT GGTGGT ATGGT AT GT CAC TGTAGTCTCA CT
GGAGTTGAGGCTGCAGTGAA TCACCG TGCTA TA CA GTG ACGTCGGAGT GA
CTATGATCGTGCCACT - G T A - T -------
GAM33687 273404 TTGGGCTACTTATAGGAGTG ACTTATA- T -- AC- AT- CCAG
3 AAAATAAACTCTGTGATGTG TTGGGCT GGAG GAAA ATAA TCTGTG GTG
CCAGCACCAGCACAGGCTCT GACTCGG CCTC CTTT TGTT GGACAC CAC
TGTAGTTTCCTCCCAACTTT GTTTCAAC - GA CTC GAC ----
GGGCTCAG
GAM33687 273745 GGCTTCCCCAGTCATATATT CC - T A- AAA CAAAG CCCA
4 CTCAGATTCAAAGGAACAAA GGCTTCC AGTCAT ATATTC CAG TTC GGAA TGGC
GTGGCCCCAGTCAGCCTTTC CCGAAGG TCGGTG TGTGAG GTC AAG CCTT ACTG
CCAGAAACCTGTGAGTGTGG -- G T CA AC- TCCG- ----
TGGCTGGAAGCC
GAM33687 273264 GCTCTTCCCATACCATGCAT TCCCATACCA TCCT CAC AAA - CTGG T T
GATTG
5 TCCTAGCCCCACAGAAATCC GCTCT TGCAT AGCCC AG TC CACTAGT GCT TCTC GC

ACTAGTCTGGGCTTTCTCTG CGAGG ACGTG TCGGG TC GG GTGGTCA CGA GGAG CG

CGATTGGCTGAGGCAGCAAC ---------- ---- --- CAC A A--- C T -----
TGGTGAGGCACCTGGGCTGT
GCAGGAGC
GAM33687 273680 CAAATCAGTGGCATATTAGA A GT C - AT - GTGTTGTGA ATGCGA
6 TTCTCATAGGAATGTGAACC CA ATCA GG ATATTAGATTCTCAT AGGA GTG AACC CC
GTGTTGTGACCATGCGAGGG GT TAGT TC TATAATCTAAGAGTA TTCT TAC TTGG GG
ATCTAGGTTGCATGCTCTTC C AG - C CG G ATCTAG--- ------
ATGAGAATCTAATATCTGAT
GATCTG
GAM33687 272847 ATCAGTGGCATATTAGATTC TGGC - AT - GTGTTGTGA ATGCGA
7 TCATAGGAATGTGAACCGTG ATCAG ATATTAGATTCTCAT AGGA GTG AACC CC
TTGTGACCATGCGAGGGATC TAGTC TATAATCTAAGAGTA TTCT TAC TTGG GG
TAGGTTGCATGCTCTTCATG ---- C CG G ATCTAG--- ------
AGAATCTAATATCTGAT
GAM33687 274023 TAGGAGGGAGGATTGCTTGA - A- GA-- TC AGTT AG TAC GCTTTGATCACA

8 GTCCAGGAGTTGAAGGCTAC TAGGAGG GAGG TTGCTT G CAGG GA GC AGTGA
AGTGAGCTTTGATCACATCA ATTCTCT CTCC AACGAA C GTCC CT CG TCACT
CTGCACTCTAGCCTGAGCAA A AG ACAA GA GAT- CA --- ----------
CAAAGCAAGACCTCATCTCT
TA
GAM33687 274069 TCGCTCTTTGTTGCCCAGGC CTT TT C-- -- - A ATCT
9 TAGAGTGCAGTGGCATGATC TCGCT TG GCCCAGG TAGAG TGCAGTG GC TG
TCGGCTCACTGCAACCTCTG AGCGA AC TGGGTCC GTCTC ACGTCAC CG GC
CCTCCTGGGTTCAAGCGA --- T- TCC CA T - ----
GAM33688 273502 GAGGCAGGAGAATAACTTGA A AATAA AA- AGAC GT T A - AGAT
0 ACCCAGGAGACGGAGGTTGT GAGGC GGAG CTTG CCCAGG GGAG TGT GTG GC CG

TGTGAGCCGAGATCGCGCCA CTCTG CCTC GAGC GGGTCC CCTC ACG TAC CG GC
TTGCACTCCAGCCTGGGCAA - AAAGC AAC GA-- -- T - C ----
CGAGCGAAACTCCGTCTC
GAM33688 273657 ATAGCACCAATTGAGAACCA CAA- A CC C- ATTATA
1 CTGCTGCCTATTATAAGGCA ATAGCAC TTG GAA ACTG TGCCT
ATCAGTTTTTCCTAGGGAAG TATTGTG GAT CTT TGAC ACGGA
TGTTAT AAGG C TT TA ------
GAM33688 274379 GTCTCTCAGAGGTAGAGTGT AGA - AT TGTCA TAA- TTCT
2 GTCTATGGAAGGGGTTGTCA GTCTCTC GGTA GAGTGTGTCT GGAAGGGGT TGG CAGC

TGGTAACAGCTTCTGTTGGC TAGGGAG TCGT CTTACACAGG TCTTTTCCA ATC GTTG

TTCTAGCCCTACCTTTTCTG A-- A -- TCCCG TTCG ----
GACACATTCATGCTAGAGGG
AT
GAM33688 273778 CAGATAACCAGACACACCCC TAA ACAC - CT A TT TATTT
3 TGGGCTGGGCACACAGTTCC CAGA CCAG ACC CCTGGG GGGC CACAG CCT
TTATTTGGGTTTTGTGGTTT GTCT GGTC TGG GGACCC TTTG GTGTT GGG
TCCCAGGTGGTAGCTGGGAC CAG GA-- T T- - TT -----
TCTG
GAM33688 273330 TGGATGTGGAGGGTGACTGA T --- AGA AATG TACC AATAGC
4 GAGGATAGAATGAGTACCCA TGGATG GGA GGGTGACTG GGATAG AG CATG
TGAATAGCCATGATTCCTAC ACCTAT CCT TCTACTGAC CCTGTC TC GTAC
CCTGTCCCAGTCATCTCTTT T TTC --- CCA- CTTA ------
CCTTATCCA
GAM33688 273361 TGTCTCCTGGGATGCTGTGG TG - GT-- C AGC
5 GGTTGACCCTGGATAGCATT TGTCTCC GGA TGCTGTGGG TGACC TGGAT
CACGGTCATTAGCTCATGGT ACAGAGG TCT GTGGTACTC ACTGG ACTTA
GTTCTTGGGAGACA GT T GATT C ---
GAM33688 273180 GAGGCAAGAGAATTGCTTGA AG AA GA-- A- CGAA T A TGAGATGGT
6 GCCCGGGAGGCGAAGGTTGC GAGGCA AG TTGCTT GCCCGGG GG GGT GCAGTG GC

AGTGAGCTGAGATGGTGCCA CTCTGT TC AACGAG CGGGTCC CC TCA CGTCAC CG
CTGCACTCCAGCCTGGGCAA G- AG ACAA GA ---- - - ---------
CAGAGCAAGACTGTGTCTC
GAM33688 273530 GAGGCAGGAGACTCGCTTGA GAGA C GAA-- AGGC GT GA AGATGG
7 ACCCAGGAGGCGGAGGTTGC GAGGCAG CTCG TT CCCAGG GGAG TGCAGT GGTG

AGTGAGGTGAGATGGCGCTA CTCTGTC GAGT AG GGGTCC CCTC ACGTCA TCGC
CTGCACTCCAGCCTGGGCAA A--- T ACAAC GA-- -- -- ------
CAGATTGAGACTGTCTC
GAM33688 273212 GAGGTAAAGCTGGGGCTGGG ---- TG GG TG T GC GCTG
8 GTTCCTTATGCAAAGAGAGC GAGGTAA AGC G C GGGTTCCT AT AAAGAGA
TGTCTCTTTAGTAGGAACTC TTTCGTT TCG T G CTCAAGGA TG TTTCTCT
TGGATTGGCTCATTTTGCTT TTAC GT A- GT - A- ----
T
GAM33688 273668 ATGCTCAAGTATACTGATGT C AA A CAGAA AT GACCAGAG
9 CACCAGGCAGAATTCAGATA ATG TC GTAT CTGATGTCACCAGG TTCAGATA GGT
ATGGTGACCAGAGATCCTGT TAC AG CATA GATTACAGTGGTCC GAGTCTGT CTA
CTGAGCAACCTGGTGACATT - AC - AAC-- C- --------
AGATACCAGACAT
GAM33689 273921 CCTAAGCCTAGCGCCCTCAC TA A--- - - C CAACA --------- CTGTCTT
0 CTGTTCAACAGCAATAATCA CC AGCCT GCG CCCT CAC TGTT GCAATAATC AGGC
GGCCTGTCTTGCCTACCTCA GG TCGGA TGC GGGA GTG ACGA CGTTATTAG TCCG
CTAGATTATTGCAAGCAGTG TC CAAG A A - A---- ATCACTCCA -------
AAGGGACGTGAACAGGCTCT
GG
GAM33689 273008 AGCCTAGCGCCCTCACCTGT A--- - - C CAACA --------- CTGTCTT
1 TCAACAGCAATAATCAGGCC AGCCT GCG CCCT CAC TGTT GCAATAATC AGGC
TGTCTTGCCTACCTCACTAG TCGGA TGC GGGA GTG ACGA CGTTATTAG TCCG
ATTATTGCAAGCAGTGAAGG CAAG A A - A---- ATCACTCCA -------
GACGTGAACAGGCT
GAM33689 274518 TGAGAAGTCAGTCCTGATGG AGAA - CT- T G G AGT- AG GCCAA
2 CAGCTGTGCAGAGTGGGGGT TG GTCA GTC GA GGCA CTGT CAG GGGGGTG GAG

GAGGAGGCCAACTTACTGCT AC CGGT CAG CT CCGT GACG GTC CCTTCGT TTC
TCCTGAACTGGGCAGTGCCT ---- A TAT T - G AAGT CA -----
TCTATGACATGGCCA
GAM33689 273893 GTCAGTCCTGATGGCAGCTG - CT- T G G AGT- AG GCCAA
3 TGCAGAGTGGGGGTGAGGAG GTCA GTC GA GGCA CTGT CAG GGGGGTG GAG
GCCAACTTACTGCTTCCTGA CGGT CAG CT CCGT GACG GTC CCTTCGT TTC
ACTGGGCAGTGCCTTCTATG A TAT T - G AAGT CA -----
ACATGGC
GAM33689 272748 ACATATGGCAGAATGGAAGT TAT AT GTGATT CT AT- TTTT
4 GATTTCTCCTAATGAAAATG ACA GGCAGA GGAA TCTC AATGAAA GAAGTGCTC
AAGTGCTCTTTTGAGTATTT TGT CCGTCT CCTT AGAG TTATTTT CTTTATGAG
CTTGTTTTATTGAGATTCCT TC- AT ------ -- GTT ----
ATCTGCCCTTGT
GAM33689 273715 GGCAGAATGGAAGTGATTTC AT GTGATT CT AT- TTTT
5 TCCTAATGAAAATGAAGTGC GGCAGA GGAA TCTC AATGAAA GAAGTGCTC
TCTTTTGAGTATTTCTTGTT CCGTCT CCTT AGAG TTATTTT CTTTATGAG
TTATTGAGATTCCTATCTGC AT ------ -- GTT ----
C
GAM33689 272787 AGCAGGATTAGGAAGAGAAG GATT AA-- T - G A TG GTTTTG
6 CATTGTGAGAAACAGGTTTT AGCAG AGGAAGAG GCA TG TGA AA CAGGTTT G
GGGTTTTGCTGAAATTTGCT TTGTC TCCTTTTC CGT AC ACT TT GTTTAAA C
TGTCAGCATTGCATCACTTT AAT- ACTA T G G C GT ------
TCCTTAACTGTT

GAM33689 273251 GCGGGCTAGGCAGTCTCAGT GCTAGGCA TCA- GGT- TTAGT
7 TGTTGGGTTTTCTTAGTGAA GCGG GTC GTTGTTG TTTC
ATAAGCAGCAACAAACGACA CGCC CAG CAACGAC AAAG
ACAAAACCGC AAAACAA- CAAA GAAT -----
GAM33689 274234 GGAGAATCGCTTGAACCCTG AA GAA---- --- - A T GAGCCAAG
8 GAGGCAGAGGTTGCGGTGAG GGAG TCGCTT CC CTGGAG GCAG GGT GCGGT
CCAAGATCGTGCCATTGCAC CCTC AGTGAG GG GACCTC CGTT CCG TGCTA
TCCAGCCTGGGCAACAAGAG AA AACAACG TCC A A - --------
TGAAACTCC
GAM33689 273664 ATGATGGAGGAAGGAGGGGA A AG- --- TTG- AAAA A AA AAAA-
AAAAATAAT
9 ATGTTGCAAAAACAGAGCAA ATGATGG GGAAGG GG GAATG CA CAG GC GA GGGTGAA

GAAAAAGGGTGAAAAAAATA TATTACC CCTTTT CC TTTAC GT GTC CG CT TTCACTT
ATATTATCATTCACTTAGTC - GAA AGT TGAA AAAA - AA ACTGA ---------
ATCAAGCCTGAAAATGAAGT ATTATCA
CATTTTGACCAAGTTTTCCC
CATTAT

GAM33690 274164 GCTAACAGAGGCAAATCTTG AACA A-- T - - GGT TAACAGACT
0 AGTATCTCCAGGTGCATAAC GCT GAGGC AATC TGAGTA TCTC CA GCA
AGACTTGTTTATGAGAGATT CGA CTCCG TTAG ACTCGT AGAG GT TGT
GCTCATGATTCTAGCCTCAA AA-- ATC T T A ATT ---------
AGC
GAM33690 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
1 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33690 273701 GGAGAGTTATTTTATGTTTG - ATT T T TTCT - C TTCCCAGT
2 TGTTTCTGGGAATTTCCGAT GGAGA GTT TTA GT TGTGT GGGAAT TTC GATAC
ACTTCCCAGTGTATCAGAGT CCTCT CGG GAT CG ACACA CCCTTG GAG CTATG
GTTCCCCTCACACATGCTAG A AC- - T CTC- T A --------
CAGGCATCTCC
GAM33690 274107 TGAGACGGAGTTTCGCTCTT A - TT CTC TCC CTTTAGTGCAA C TCTC
CACCGC
3 GTCCCCCAGGCTTTAGTGCA TGAG C GGAG TCG TTG CCCAGG TGGCG GA GGCT
ATGGCGCGATCTCGGCTCAC ACTC G CCTC AGC AAC GGGTCC ACCGC CT CCGA
CGCAGCCTCCGCCACCTGGG C T TT A-- TT- ---------- - ---- ------
TTCAAACGATTCTCCTGCCT
CA
GAM33690 274453 TCACTGATTTTGTAGAGCTG - TT A-- C G G C AGAATAACA
4 CTGGGAGAACTGGAAGAATA TCA CTGA TTGT GAGCTG TG GA AA TGGA
ACATCCATTGTCGTACAGCT AGT GACT AACA CTCGAC AT CT TT ACCT
CCAAACAACTTCAGATGA A TC AAC - G G - ---------
GAM33690 273087 CTGATTTTGTAGAGCTGCTG TT A-- C G G C AGAATAACA
5 GGAGAACTGGAAGAATAACA CTGA TTGT GAGCTG TG GA AA TGGA
TCCATTGTCGTACAGCTCCA GACT AACA CTCGAC AT CT TT ACCT
AACAACTTCAG TC AAC - G G - ---------
GAM33690 274537 TGAGGCAGGAGAATCACTTG CA AA GAA--- AGG CT A - AGAT

6 AACCCGGGAGGTGGAGCTTG TGAGG GGAG TCACTT CCCGGG TGGAG TGCGGTG GC CG

CGGTGAGCCGAGATCGCGCC ACTCT CCTC AGTGAG GGGTCC ACCTC ACGTTAC CG GC

ATTGCACTCCAGCCTGGGCA A- AA AACAAC G-- -- - C ----
ACAAGAGTGAAACTCCATCT
CA

GAM33690 274220 GGAGAATCACTTGAACCCGG AA GAA--- AGG CT A - AGAT

7 GAGGTGGAGCTTGCGGTGAG GGAG TCACTT CCCGGG TGGAG TGCGGTG GC CG

CCGAGATCGCGCCATTGCAC CCTC AGTGAG GGGTCC ACCTC ACGTTAC CG GC
TCCAGCCTGGGCAACAAGAG AA AACAAC G-- -- - C ----
TGAAACTCC

GAM33690 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT

8 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT

GAM33690 274261 GGAGGTGGGATGTGTGTGCT G - GT- - CAT

9 ACTGGCATCTAGTGGCTGCT G AG GTGGGATGT GT GCTACTGG
AAACATCCTACACTGC C TC CATCCTACA CG CGGTGATC
G A AAT T ---

GAM33691 273040 CGAGGCAGTGAGATTTGGGA AG AGT TT TTCCG GA - - T T GTTT

0 TTCCGGGGTCTGGAGATCGT CG GC GAGAT GGGA GGGTCTG GATC GT GC TTTTG
GGACTGC
GCTTTTTGTGGACTGCGTTT GT TG TTCTG CTCT TCCGGAC TTAG CG CG GGGAT CTTGACG

GCAGTTCCTAGGGTGCTGCT G- AAT T- ----- AC T T T C ----
GATTCACAGGCCTTCTCTGT
CTTTAAGTGTG

GAM33691 274409 GTGTTAGAGACCAGTTAAAG AGAGA TAAAGTT- AAA GTATAT

1 TTAAGACACTTTCTAAATAG GTGTT CCAGT AAGACACTTTCT TAGAAGTCTT
AAGTCTTGTATATGGGGCTT CACAA GGTCG TTTTGTGAAAGA GTTTTCGGGG
TTGAGAAAGTGTTTTCCCGT AGGGG TAGTGCCC --- ------
GATGCTGGGGGGAAACAC

GAM33691 273253 GCGTGGCTTAAAATTGCTTT G A T TT--------- C A TG G AGGTA

2 TACTGTCATACAGCTGGCGA GC TGGCTTA AAT GC TTACTGT AT CAGC GCGAT AGG

TGAGGAGGTACCTATTGTGT CG ACCGAGT TTA CG AGTGGCA TG GTTG TGTTA TCC
TGAGTAACGGTGATAATTTT - C T CATATTTTAAT A A -- - -----
ATACGCTATTCTGAGCCAGC

GAM33691 272978 ACCTCATCTCTACAAAAAAT - A AAATACGAAAAT TGT--- GCATG

3 ACGAAAATTAGCTGGGTGTG ACCTCA TCTCT CAAA TAGCTGGG GGTG
GTGGCATGTACCTGTAGTCC TGGAGT AGAGA GTTT ATCGACCC CCAT
CAGCTATTTGAGAGACTGAG C - ---------- TGATGT -----
GT

GAM33691 273019 CCTCATCTCTACAAAAAATA - A AAATACGAAAAT TGT--- GCATG

4 CGAAAATTAGCTGGGTGTGG CCTCA TCTCT CAAA TAGCTGGG GGTG
TGGCATGTACCTGTAGTCCC GGAGT AGAGA GTTT ATCGACCC CCAT
AGCTATTTGAGAGACTGAGG C - ---------- TGATGT -----

GAM33691 272747 ACAGTGCAGTCACCCATAAA G C A TAA--- GCAC
5 GTAGAAAGCACTACTAACAG ACAGTGCA TCA CCATAAAGTAG AAGCACTAC CA
CACTGGAGGGTGTAGTGTTT TGTCATGT AGT GGTATTTCATC TTTGTGATG GT
CCTACTTTATGGATGAGTGT G A C TGGGAG ----
ACTGT
GAM33691 273464 GAATAGCGAGTTGCCCAAGC A G- ----- AAAGTATGT T
TTCAAACCCAGGCC
6 TCACAAAGTATGTGATGGAG GAATAGCG GTT CCCA AGCTCAC GA GGAGCTAGAGA

CTAGAGATTCAAACCCAGGC TTTATCGT TAA GGGT TCGGGTG CT CCTCGGTCTCT
CTCTCTGGCTCCTTCTTTGG A AA CTCGT GGGTTT--- T ----------
GGTGGGCTTGCTCTGGGAAA
ATATGCTATTT
GAM33691 273935 CCTTTGCTTTGGCCTTTAAC - TTG TTAACAA TGTT C-- AG TTGAG
7 AACTCAGTGTTTTGGTCTAA CCTTT GCT GCCT CTCAG TTGGTCTAAT TTCAAG GAAT
TCTTCAAGAGGAATTTGAGG GGAGA CGA TGGG GAGTT GATCAGATTG AAGTTC CTTG

TTCACTTGAATAAGTTAGAC T TG- TG----- T--- AAT A- -----
TAGTTTGAGGTGGGTGTAGC
TAGAGG
GAM33691 274194 GCTTTGGCCTTTAACAACTC TG - ACA-- GTGTT-- C-- AG TTGAG
8 AGTGTTTTGGTCTAATCTTC GCTT G CCTTTA ACTCA TTGGTCTAAT TTCAAG GAAT
AAGAGGAATTTGAGGTTCAC TGAA T GGAGAT TGGGT GATCAGATTG AAGTTC CTTG
TTGAATAAGTTAGACTAGTT GT A CGATG GGAGTTT AAT A- -----
TGAGGTGGGTGTAGCTAGAG
GATTGAAGT
GAM33691 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
9 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33692 273347 TGGGTGCCTGTAATCCCAGC GC- - G A AGG TG GCAGGAGAATCA
0 TACTTGGGAGGTTGAGGCAG TGGGT CTGTAATC CCA CT CTTGGG T AG
GAGAATCACTTGAACCCAGG ACCCG GACGTTGG GGT GA GGACCC A TC
AGGTGGAGGTTGCAGTGAGC AGT A G - A-- GT ----------
CCA
GAM33692 274524 TGAGATGGGAGGACTGCTTG GG A - GA-- GGA AG T AC GATC
1 AGCCCAGGAGGTTGAGGTTG TGAGAT GAGG CT GCTT GCCCA GGTTG GT GCAGTGA CAT

CAGTGAACCATGATCATGTC ACTTTG TTCC GA TGAG TGGGT CCGAC CA CGTCACT GTA

ACTGCACTCCAGCCTGGGTA -- A G ACAA --- CT - -- ----
ACAGAGTGAGACCTTGTTTC
A
GAM33692 274214 GGACTGCTTGAGCCCAGGAG A - GA-- GGA AG T AC GATC
2 GTTGAGGTTGCAGTGAACCA GG CT GCTT GCCCA GGTTG GT GCAGTGA CAT
TGATCATGTCACTGCACTCC CC GA TGAG TGGGT CCGAC CA CGTCACT GTA
AGCCTGGGTAACAGAGTGAG A G ACAA --- CT - -- ----
ACC
GAM33692 273219 GAGGTGGGAGGGTCACTTGA G G- GA-- AATTTCAA C A ATGATTA

3 GCCCAGAATTTCAAGGCTGC GAGGT GGAGG TCACTT GCCCAG GG TGCAGTG GCT

AGTGAGCTATGATTAAGCCA TTTCA CCTCC AGTGAG CGGGTC TC ACGTCAC CGA
CTGCACTCCAGCCTGGGCAA A AG ACAA CGACC--- - - - -------
CAGAGTGAGACCTCCAACTT
T
GAM33692 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
4 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33692 273754 GGGAGACTTGCTTGAACCCA AGA GAA-- AGGC GG A CGACATCAT
5 GGAGGCGGAGGGTGCAGTGA GGG CTTGCTT CCCAGG GGA GTGCAGTG GT
GTCGACATCATGCCACTGCA CCC GAACGAG GGGTCC CCT CACGTCAC CG
CTCCAGCCTGGGCAACAGAG A-- ACAAC GA-- -- - ---------
CAAGACCC
GAM33692 273443 CTTGCTTGAACCCAGGAGGC GAA-- AGGC GG A CGACATCAT
6 GGAGGGTGCAGTGAGTCGAC CTTGCTT CCCAGG GGA GTGCAGTG GT
ATCATGCCACTGCACTCCAG GAACGAG GGGTCC CCT CACGTCAC CG
CCTGGGCAACAGAGCAAG ACAAC GA-- -- - ---------
GAM33692 273387 TTCCATTTTCTCATTGCCTG T A T A CT- ---------- T TG AATGA
7 AAGATCTCTGCTGATGCTCC TTCCATT TCTC TTGCC GA GAT CTG CTGA GCTCC GAG

TGGAGAATGACTTTGGGGGC AGGGTAG AGAG AACGG CT CTG GAC GATT CGGGG TTC

TTTAGAAAGAATATTGCCAG T G - - CCT CGTTATAAGAAA T GT -----
TCCGTCTCGGCAAGGAGATG
ATGGGA
GAM33692 274364 GTCACTCCAACTCTTATAGA A ACTCTTAT T TT AAAG AAAGATA
AATATGAGAGA
8 CCAGAATTCATTTATAAAGC GTC CTCCA AGACCAGAA TCA TAT CAG AGCC
AGAAAGATAAGCCAATATGA TAG GAGGT TCTGGTCTT AGT GTA GTC TTGG
GAGAGGTTATGAAGCTGATG C GCGTCC-- T TT ---- GAAGTA- ----------
TTTGATTTCTGGTCTCCTGC
GTGGAGCGAT
GAM33692 273405 TTGGGGTGCTGAGGTGGGAG CTGA G CTT - GAA- TGGAG
9 GATCACTTGAGCCAGAAAGT TTGGGGTG GGTGG AGGATCA GAGC CA AGT
TGGAGGCTGCAGTGAGCTCT GACCTCAC CCACC TTCTAGT CTCG GT TCG
GATCTTGCCACCACACTCCA A--- G --- A GACG -----
G
GAM33693 273345 TGGGGTGCTGAGGTGGGAGG CTGA G CTT - GAA- TGGAG
0 ATCACTTGAGCCAGAAAGTT TGGGGTG GGTGG AGGATCA GAGC CA AGT
GGAGGCTGCAGTGAGCTCTG ACCTCAC CCACC TTCTAGT CTCG GT TCG
ATCTTGCCACCACACTCCA A--- G --- A GACG -----
GAM33693 273598 GGAGAATCGCTTGAACCCGG AATC- GAA--- AGGC - TG GAGCCGAGATTGT

1 GAGGCGGAGGTGGTGGTGAG GGAG GCTT CCCGGG GGAG G GTGGT
CCGAGATTGTGCCACTGCAC CCTC CGAG GGGTCC CCTC C CACCG
TCCAGCCTGGGCAACAAGAG AAAAA AACAAC GA-- A GT ----------
CAAAAACTCC

GAM33693 273068 CTCTCTTTGGCTACAGACTT ACAGACTTACC CTG A AA- G AAAA- TCTCC

2 ACCTCAGGCTGGCTGGAGAG CTCTCTTTGGCT TCAGG GCTGG GAGTA TCAG TCT GAG

TAAATCAGGTCTAAAAGAGT GAGAGAGGCCGA AGTCT CGACC CTCAT AGTC GGA CTT

CTCCTTCATAACAGGCTGAG ---------- AA- - AGG - CAATA -----
GATACTCCCAGCAATCTGAA
GCCGGAGAGAG

GAM33693 273457 GAAGAACTGGGTGATCTTGT A TC GAAATCTG- A ACATTG TTAGT

3 GAAATCTGTGGACCCTACAT GAAG ACTGGGTGA TTGT TGG CCCT GCAC
TGGCACTTAGTGTGTACCTA TTTC TGACTTACT AATA ATC GGGA TGTG
AGGGCTAACGTCCCAAATAA G GA AACCCTGCA - ATCCA- -----
AGTCATTCAGTGCTTT

GAM33693 273290 TGAGGCCGGAGAATCGCTTG CC AA G GAA-- TAG A T-
AGCCCAGATTGCATCAC

4 AACCCTAGAGGCAGGTTGCA TGAGG GGAG TC CTT CCC AGGC GG TGCAGTG
GTGAGCCCAGATTGCATCAC ACTCT CCTC AG GAG GGG TCCG CC ACGTCAC
CACTGCACTCCAGCCTGGGC A- AG G ACAAC --- A TC ----------
AACAGAGGGAGACTCCATCT
CA

GAM33693 273228 GATCTTTTCCTTTCGATAAG TTTT- T A TTA T AATTGAA

5 TGGTTTAAAGTGAGCAGAGA GATC CC TTCGATA GTGGT AAG GAGCAGAG
ATTGAACTCTGCTTCTTGCA CTAG GG GAGTTGT CGCCA TTC TTCGTCTC
CCGCATGTTGAGTGGCTGCT TCGTC T A CG- - -------
GATC

GAM33693 274081 TCTGAAAGCATAATAAATTA AA ATTA AA- TATTCGCT - AGA T GCTT

6 GCAAAACAGTATTCGCTGCG TCTGA GCATAATAA GCA ACAG GCG GGGTCTTGC TT TATT

GGGTCTTGCAGATTTTATTG GGGCT TGTATTATT TGT TGTC CGT CCCAGGACG AA ATAG

CTTGATACAACAGCAGGACC -- GA-- CCG -------- T AC- C ----
CTTGCCTGTGCCTGTAGTTA
TTATGTTCGGG

GAM33693 273659 ATCATCAGGCATTAGATTCT T -- TAG A C AC AG CT AGGCACA

7 CATAAGGAGCACACAACCTA ATCA CA GGCAT ATTCTCATA GGAG AC AACCT ATTG AGC

GATTGCTAGCAGGCACAGTT TAGT GT CCGTA TAAGAGTGT CCTC TG TTGGG TAAC TTG

CACAATAGGGTTCGTTCTCC C CG CGG - T C- A- AC -------
TGTGAGAATGGCATGCCGCT
GCTGAT

GAM33693 273725 GGCATTAGATTCTCATAAGG TAG A C AC AG CT AGGCACA

8 AGCACACAACCTAGATTGCT GGCAT ATTCTCATA GGAG AC AACCT ATTG AGC
AGCAGGCACAGTTCACAATA CCGTA TAAGAGTGT CCTC TG TTGGG TAAC TTG
GGGTTCGTTCTCCTGTGAGA CGG - T C- A- AC -------
ATGGCATGCC

GAM33693 274377 GTCTAGGTCTGATAATTTTC AG GA A TT - TT TCA---------- GA GA-- TCT

9 ATTCATTTCTTTCATGGACA GTCT GTCT TA TT CATT CA TCTT TG CATGGT CTCTTT
TGGTGACTCTTTTCTTGCCA CGGA TAGA AT AA GTGA GT GGAG AC GTACCG GAGGAA

TCCTTAAGGAGAAAAGCCAT CT GG C GG A TT TTTCTAAAACATC AG AAAA ---
GGACACTACAAAATCTTTGA TGCCATCCTT
GGTTTGAAGTGGGAACTAGG
AGATTCAGGC

GAM33694 274557 TGCAAGGCTTCACCTTCAAC T-- CTTC A AG - CTAAAGCC
0 TAGGGAAGAATAAAGTGCTA TGCAAGGCT CAC AACT GGGA AAT AAAGTG
AAGCCCACTTTGGTTTCTCC ATGTTCCGA GTG TTGA TCCT TTG TTTCAC
TGAGTTTGTGTATAGCCTTG TAT T--- G CT G --------
TA
GAM33694 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
1 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33694 274585 TGGGGTACTGAGAGTCAAAG T A CA A - CA -- TC CCT
2 ACTTGGCTGTCAGCCCTGAG TGGGGTAC GAG GT AAG CT TGGCTGT GCCCT GAG TG

TCTGCCTCAACCTCCAAGGG ACTCCGTG CTC CA TTC GG ACCGATA TGGGA CTC AC

TCATAGCCACGGCTTCACCC T C C- - C C- AC CA ---
TCTGTGCCTCA
GAM33694 273750 GGGACAAGAGAACCTCATGC GG CCTCA C - GCTCTGTTCTC
3 TGGGCAAGGGGCTCTGTTCT G ACAAGAGAA TG TGG GCAAGGG
CTTCTTGTACCAACAAATCT C TGTTCTCTT AC ACC TGTTCTT
TTCTCTTGTTTC TT TCTAA A A ----------
GAM33694 274490 TCCTTTGCTAGTGGTGGGTC T T - CACCC ACGG
4 ACCCTCTGTTGCTAGGGAAA TCCTT GC AGTGGTGG GT TCTGTTGCTAGGGAA
CGGTTCCCTAGCAACAGAAC AGGGA CG TTATCACC CA AGACAACGATCCCTT
GCCACTATTTGCTAGGGA T T G ----- ----
GAM33694 273106 CTGTAATTCCAGCACTTTGG AAT C TT G A - GA-- A TGA GGGAATTTGA
5 GATGCCGAGTTGAGAGGATC CTGT TCCAG ACT GG ATGCCG GT TGA GG TCACT AGCC

ACTTGAAGCCGGGAATTTGA GACA GGGTC TGA TC TGTGGC CG ACT TC AGTGA TCGG

GGCTGCAGTGAGCTATGATC AC- - CT A - T AGTA G CG- ----------
ATGCCGGTGTACTTCAGTCT
GGGCAACAG
GAM33694 273649 AGTTCCCACGTGCATGGAGC -- - T- ----- T - CC- - TCTTA
6 TGTAGTTTTTCCCACATTCC AGTTCC CACG TGCA GG AGC GTAGT TTTT CACA TTCC
TCTTAGGAGCTGTGCCTAAG TCAAGG GTGT ATGT CC TCG CGTCG AGAA GTGT GAGG

ATGCTGCGCTAGCAACCTCT AA T CT AACGA - T TCC C -----
GTATTGTGAAGGAACT
GAM33694 274067 TCCTTCAGTGGATGATGTTT CA - T G C TCAGGAATTT
7 TCTGTGGTCTTGTTCAGGAA TCCTT GTG GATGA GTTTTCT TGGT TTGT
TTTACAAACTAGAGGAAGCC AGGGA CAC CTATT CGAAGGA ATCA AACA
TTATCTCACCAAGGGA AC T C G - ----------
GAM33694 273792 CAGTGTGAAGGTTTTTATAC G TTT - - CC G CGTAAT ACCGA
8 TTCTGCCAGAGGACAACGTA CAGT TGAAGG TTAT ACT TCTG AGAG ACAA ATGAAAC

ATATGAAACACCGAGTTTTA GTCG ACTTTC GATG TGA AGAC TCTC TGTT TATTTTG
TTTGTCTCTACAGAGAGTAG G TGT A G A- - ------ -----
TAGTGTCTTTCAGGCTG
GAM33694 274355 GTACCAGCATCTGGTGAGGA A- A ACT- A CT-- CAAGAT
9 CTGCAATCGACTTCCAAGAT GTACCAGC TCTGGTG GG GCA TCGA TC
GACGCCTTGAATGCCATACC CATGGTCG AGACCAC CC CGT AGTT AG
CACCAGAAGGCTGGTAC GA - ATAC A CCGC ------
GAM33695 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
0 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33695 273060 CTCCCCCGAGAATGTCAGCC - AA - GCCC A GCG- T AT- ----- TCGTA
1 CCTTGAAGCTGCGGTCTGTC CTCCC CCGAG TGT CA CTTGA GCT GTC GTCT GCT GG

TATGCTGGTCGTACCCTCAG GGGGG GGCTC ACA GT GGACT CGA CAG TAGA CGA CC

AGCCTAAGATGACACAGAGC A CC A AAA- - GACA - ATC GACTC -----
TCAGGAAATGAACACCCTCG
GAGGGGG
GAM33695 273881 GTAAGAAAGATGTCTGTAGA A AAA --- AAT GACT - G TGAT
2 ATGGAGACTTTGTCAAGCTC GTA G GATG TCTGTAG GGA TTGTCA AGCTCTTT CCCT

TTTGCCCTTGATGGGGAAGA CAT C TTAC AGACGTC CCT AATAGT TCGAGAGA GGGG

GAGCTGTGATAATCCCTGCA - GG- ACA --- ---- G A ----
GAACACATTGGCTAC
GAM33695 272761 AGAAAGATGTCTGTAGAATG AAA --- AAT GACT - G TGAT
3 GAGACTTTGTCAAGCTCTTT AG GATG TCTGTAG GGA TTGTCA AGCTCTTT CCCT
GCCCTTGATGGGGAAGAGAG TC TTAC AGACGTC CCT AATAGT TCGAGAGA GGGG
CTGTGATAATCCCTGCAGAA GG- ACA --- ---- G A ----
CACATTGGCT
GAM33695 273386 TTCCAGTTCTGCTATAATCA - - TATAA CTT G - T- AATTT- AA TTAGCTGT
4 AGACCTTATTGTCCATAACT TTCCAG TTCT GC TCAAGAC ATT TC CA AACTC AGAG GGT

CAATTTAGAGAAGGTTTAGC AAGGTC AAGA CG GGTTTTG TGA AG GT TTGAG TCTC CCA

TGTCTACCAACTCTTGTGCA T A TTG-- TTT - T CT ACGTGT AA --------
GAGTTTCTGTGAAGTTTTGT CT
TTTGGGTTGCAAGAATCTGG
AA
--
GAM33695 273386 TTCCAGTTCTGCTATAATCA - - TATAA CTT G - T- AATTT- AA TTAGCTGT
5 AGACCTTATTGTCCATAACT TTCCAG TTCT GC TCAAGAC ATT TC CA AACTC AGAG GGT

CAATTTAGAGAAGGTTTAGC AAGGTC AAGA CG GGTTTTG TGA AG GT TTGAG TCTC CCA

TGTCTACCAACTCTTGTGCA T A TTG-- TTT - T CT ACGTGT AA --------
GAGTTTCTGTGAAGTTTTGT CT
TTTGGGTTGCAAGAATCTGG

AA

--

GAM33695 273299 TGAGTAAGAGGAGGTGGGGA AAGA- ACTTT -- ATC AA CTGT
6 ACTTTGAGAGACATCGTAAT TGAGT GGAGGTGGGGA GAG AGAC GT TGG
GGCTGTCCACCACAGTCTTC ACTTA CCTCCACCCCT CTC TCTG CA ACC
CTCCGTCCCCACCTCCCAGT GTGAC GC--- CT A-- CC ----
GATTCA
GAM33695 272950 AAGACGGCAAATATTCTGGG C TATT AA-- A T- CACATTTAT
7 GTGAAGGAGGTATAATGGGG AAGA GGCAAA CTGGGGTG GGAGGT TAA GGGGAAA

AAACACATTTATTTTCCCCT TTCT CCGTTT GACCCCGT CCTTCA ATT CCCCTTT
TTTAAACTTCCCTGCTGCCC T CT-- CGTC A TT ---------
CAGTCTTTGCCTTCTT
GAM33695 273451 GAAATCCTGGGGTTGCAAGA TCC TT G G GTG AATCCTGC
8 CTGCCAGCCTGTGTGATCAA GAAA TGGGG GCAAGACT CCA CCT TGATC
TCCTGCGGTTAGGAAGGTGG CTTT ACCCT CGTTTTGA GGT GGA ATTGG
AGTTTTGCTTTCCCATCTTT TCT TT - - AGG --------
TC
GAM33695 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
9 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33696 273403 TTGGCTTCCCTGGTCTCCAT G - T TC C- G-- C ACTTCTTTAC
0 TTCTTCAGCAGCCTGACTTC TT GC TTCCC GGTC CATTT TTCA CAGC TG
TTTACCAAGCTGATGTGAAA AG CG AAGGG CCAG GTAAG AAGT GTCG AC
AGAATGTGACCTGGGAATGC G T T T- AA GTA A ----------
GGA
GAM33696 272841 ATAAGCTGCTCTAATTGCCA GCTC T - AGAAT T TG -- TG CTT -- GAGA
1 AGAATTCACATGTGGTTGTA ATAAGCT TAA TG CCA TCACA G G T TATGCAG TACT GG
TGCAGCTTTACTGGGAGACT TGTTTGA GTT AC GGT AGTGT C C A GTACGTC GTGA TC

GAAGTGTATCTGCATGTGAT AT-- C A ----- - GT TT GT TAT AG ----
TCTGCTGTGATGGACACTTG
TAAGTTTGT
GAM33696 274012 TACATGTGTTACACTCAGTG G CA GTA - AAGA AT A AGCAA
2 TGTAAATAACTGTGAAGAGG TACAT TGTTA CTCAGTGT AATA ACTGTG GGCA TGTC GAT

CAATTGTCAGATAGCAAATT GTGTG GCAGT GGGTCACG TTAT TGGCAT TCGT ACGG TTA

GGGCACCTGCTGTGTACGGT G CG --- A GTG- CC G -----
ATATTGCACTGGGGCTGACG
GGTGTG
GAM33696 273377 TTAGCCTCCCAGATGTCCTT C CAGATG- G --- GTTT GTG
3 GTGCTAGTTTTAGCTGTTTT TTAGC TCC TCCTT TGCTAGTTTT AGCT TCAG
CAGGTGTTGATAAAAGCTCC GATCG AGG AGGAG ACGGTCGAGG TCGA AGTT
AGGAGCTGGCAGGAGGAGAG A AGACGAG G ACC AAAT ---
CAGAGGAAGCTAG
GAM33696 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
4 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC

TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33696 273448 CTTTTTCCTCCAGTGAACGG TT-- CCAGT GA - C-- A - TTGTTCTCTT
5 TGACTTGACAGAGGTACATA CTT TCCT GAACGGTGACTT CAGAG GTA ATAGG GGCTA C

GGAGGCTACTTGTTCTCTTG GAA AGGA TTTGTTATTGGA GTCTT CGT TGTTC TCGGT G

TTGGCTGCTTGTATTTGCTT TTCT ACT-- AG T TTA G T ----------
TCTGGAAGGTTATTGTTTTC
AAGGATCTTAAG
GAM33696 274485 TCCTCCAGTGAACGGTGACT CCAGT GA - C-- A - TTGTTCTCTT
6 TGACAGAGGTACATAGGAGG TCCT GAACGGTGACTT CAGAG GTA ATAGG GGCTA C

CTACTTGTTCTCTTGTTGGC AGGA TTTGTTATTGGA GTCTT CGT TGTTC TCGGT G
TGCTTGTATTTGCTTTCTGG ACT-- AG T TTA G T ----------
AAGGTTATTGTTTTCAAGGA
GAM33696 273372 TGTTTTGACTCTCCGCCTTC GA - - G - T C T GA TTGAGTAC
7 CCTTAGGTCTGGAATGGTAG TGTTTT CT CT CC CCTTC CCT AGGT TGGAA GGTA GCA

AGCATTGAGTACTGTTATCT ACAGAG GA GA GG GGAAG GGA TCTA ACCTT CTAT TGT
TCCACATCTCAGGAGAAGGG A- T C G A C C - -- --------
GGCAGTAGAGAGACA
GAM33696 273954 CTCCTGTAGTCCTAGAGCGT GTA AGAGC TT - - A- - CAAAGAGT
8 TTCTCTTGAACCCTAATTTT CTCCT GTCCT GT CT CTTGAACC CT ATTTTT AGGTCT
TAGGTCTCAAAGAGTGGGCT GAGGA CGGGA CA GA GGATTTGG GA TAGAGA TTCGGG

TCAGAGATAAAGAGGTTTAG G-- ----- GG C A AA C --------
GCAGGGACAGGGCGAGGAG
GAM33696 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
9 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33697 272811 AGGCTGGGAACTGTGACTCG GAACTGT --- A -- AG GAGAGGCT
0 TACTTGTAATCCTAGTGCTT AGGCTGG GACTC GT CTT GTAATCCT TGCTTT
TGAGAGGCTGAGGCAGGAGG TCCGACC TTGAG CA GAG CGTTAGGA ACGGAG
ATTGCTTGAGACCAGGAGTT AGAGT-- GAC - TT GG --------
TGAGACCAGCCT
GAM33697 274289 GGCTGGGAACTGTGACTCGT GAACTGT --- A -- AG GAGAGGCT
1 ACTTGTAATCCTAGTGCTTT GGCTGG GACTC GT CTT GTAATCCT TGCTTT
GAGAGGCTGAGGCAGGAGGA CCGACC TTGAG CA GAG CGTTAGGA ACGGAG
TTGCTTGAGACCAGGAGTTT AGAGT-- GAC - TT GG --------
GAGACCAGCC
GAM33697 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
2 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33697 273749 GGGAAGGGGTAATTGGCAGA G TAAT AG CAA ---------- AGAAAGG

3 GTGGCACAATCATTTGGAGA GGGAA GGG TGGCAG TGGCA TCATT TGG
AAGGCCATATATATGAAACA TCCTT CTC ATCGTC ATCGT AGTAA ACC
ATGACTTTGCTATCCTGCTA G TCT- CT TTC CAAAGTATATAT -------
TCTCTCGTTCCT
GAM33697 273304 TGATGCGCCACAGGTATCAG C ACAG ATCA G G- --- GTTTTAGCCACAA

4 CGTCTGGATCGCCACTTCAC TGATG GCC GT GC TCTGGATC CCACT TCAC
GTTTTAGCCACAAGTGACTC ACTGC CGG CA TG AGACCTAG GGTGA AGTG
AGTGGAAGATCCAGAGTCAA T AGA- AC-- - AA CTC ----------
CAGAGGCTCGTCA
GAM33697 274552 TGAGGTAGGAGAATCACTTG GTA AA A GAA--- AGGCA GT A - AGAT
5 AACCCGGGAGGCAGAGGTTG TGAG GGAG TC CTT CCCGGG GAG TGCGGTG GC CG

CGGTGAGCCGAGATTGTGCC ACTC CCTC AG GAG GGGTCC CTC ACGTCAC CG GT
ACTGCACTCCAGCCTGGGCA TG- AA C AACAAC GAC-- -- - T ----
ACAAGAGCGAAACTCCGTCT
CA
GAM33697 273030 CCTGGTCTTTAAGAGTGATT - TA A AG-- T TGGC
6 GGAGGCTGGGCATGGTGGCT CCT GGTCTT AGAGTG TTGG GC GGGCATGG
TATGCCTGTAATCCCAGCAC GGA CCGGAG TTTCAC GACC TG TCCGTATT
TTTGGGAGGCCAAGG A GG - CTAA - ----
GAM33697 272781 AGATGGGATTATACCTAGAG A CCTAGA- TCA GA TAGA---- AGATG
7 CCTCATCCATATTGGACTTA AG TGGGATTATA GCC TCCATATTG CT CAATTT
GACAATTTAGATGAAATTGG TC ACCCTGATGT CGG AGGTGTGAC GA GTTAAA
AGACTTTAGCTCAGTGTGGA G CCACACG --- TC TTTCAGAG -----
GGCGCACACCTGTAGTCCCA
GCT
GAM33697 273567 GGACATCAAAGAATAAATAA A CAAA AA C C A TG CA- T TG TTGT G AC
8 GCTGCTCTAATTGCCAAGAA GG CAT GAAT ATAAG TG TCTA T C AGAAT CACATG G ATGCA
CTTT
TTCACATGTGGTTGTATGCA CC GTG TTTG TGTTC AC AGGT A G TCTTA GTGTAC C TATGT
GAAG
GCTTTACTGGGAGACTGAAG - ---- AA - - - GT TCG - GT ---- - --
TGTATCTGCATGTGATTCTG T GAGA
CTGTGATGGACACTTGTAAG GG
TTTGTGCC TC
- ----
GAM33697 272841 ATAAGCTGCTCTAATTGCCA GCTC T - AGAAT T TG -- TG CTT -- GAGA
9 AGAATTCACATGTGGTTGTA ATAAGCT TAA TG CCA TCACA G G T TATGCAG TACT GG
TGCAGCTTTACTGGGAGACT TGTTTGA GTT AC GGT AGTGT C C A GTACGTC GTGA TC

GAAGTGTATCTGCATGTGAT AT-- C A ----- - GT TT GT TAT AG ----
TCTGCTGTGATGGACACTTG
TAAGTTTGT
GAM33698 273137 GAATAAATAAGCTGCTCTAA AA C C A TG CA- T TG TTGT G ACT GAGA
0 TTGCCAAGAATTCACATGTG GAAT ATAAG TG TCTA T C AGAAT CACATG G ATGCA CTTT GG

GTTGTATGCAGCTTTACTGG TTTG TGTTC AC AGGT A G TCTTA GTGTAC C TATGT GAAG TC

GAGACTGAAGTGTATCTGCA AA - - - GT TCG - GT ---- - --- ----

TGTGATTCTGCTGTGATGGA
CACTTGTAAGTTT
GAM33698 273655 ATAAGCTGCTCTAATTGCCA C C A TG CA- T TG TTGT G ACT GAGA
1 AGAATTCACATGTGGTTGTA ATAAG TG TCTA T C AGAAT CACATG G ATGCA CTTT GG
TGCAGCTTTACTGGGAGACT TGTTC AC AGGT A G TCTTA GTGTAC C TATGT GAAG TC
GAAGTGTATCTGCATGTGAT - - - GT TCG - GT ---- - --- ----
TCTGCTGTGATGGACACTTG
T
GAM33698 273550 GATCATGGCCGTTTTAGTCG ATGG T A TTA T-- ACAAAAT ---------- GGGG
2 TTAGTGCTACTGTAACAAAA GATC CCG TTT GTCG GTGC ACTGTA ACC GCAGGCT
TACCGCAGGCTGGGGGGCTT CTAG GGC GAA CGGT CACG TGACGT TGG CGTTCGG

GCAAGCAACAGAGGTTCATT A--- T - CG- TCT ATTTACT AGACAACGAA ----
TATGCAGTTCTGCACGCTGG
CAAGTCGGAGATC
GAM33698 273997 GTGTTTGGAATAGAGCCCAG A - TCTGAAATTATAA - TAC
3 TCTGAAATTATAAGCACTGG GTGTTTGG ATAGAG CCCAG GCAC TGGGG
GGTACTCCTATGTGTCTGGG TATGAACC TATCTC GGGTC TGTG ATCCT
ACTCTATGCCAAGTAT G A ---------- T ---
GAM33698 273804 CCAAGTAGAAGCAAACTGTA AGA- AA-- G TGC GA - TGA
4 GTTTGATGCTAGAACACTAT CCAAGT AGC ACTGTA TTTGA TA ACAC TATTCTT
TCTTTGAGAGGGTATGTGTG GGTTCG TCG TGACGT AAGCT AT TGTG ATGGGAG
ATACTCGAAATGCAGTCATG GCAC GTAC A C-- AG T ---
GCTCACGGCTTGG
GAM33698 274593 TGGTGATTGTCTGTGGGTAT GAT T G TA -- T G - - AGCAACGG
5 TGATAGTTAATTGTCTGTGA TGGT TG CT TGGGTATTGA GT TAATTGTC GT AGTA CC TGAC

GTACCTGACAGCAACGGGTT ACCG AC GA ACCCGTGACT CA GTTAACAG TA TTAT GG ATTG

ATGGCTATTGATGACAATTG AT- - - TC TG - G C T --------
GTACCTTCAGTGCCCAAGCA
TAGCCA
GAM33698 274431 TACAGATATTCTGAAAACTT ATA AAA - --- TA GGT C ACCA
6 TAAGTTCAGTAATATGCCAG TACAG TTCTGA CTTTA AG TTCAGTAA TGCCAGG TC CAAG

GGGTTCCCAAGACCACTTGA ATGTC AAGACT GGAAT TC AGGTTATT ATGGTCC AG GTTC

GACCTGGTAATTTATTGGAA G-- AAG C TGA TA --- A ----
GTCTCTAAGGGAATCAGAAG
CTGTA
GAM33698 273391 TTCTGAAAACTTTAAGTTCA AAA - --- TA GGT C ACCA
7 GTAATATGCCAGGGGTTCCC TTCTGA CTTTA AG TTCAGTAA TGCCAGG TC CAAG
AAGACCACTTGAGACCTGGT AAGACT GGAAT TC AGGTTATT ATGGTCC AG GTTC
AATTTATTGGAAGTCTCTAA AAG C TGA TA --- A ----
GGGAATCAGAA
GAM33698 274084 TCTGGCTATGTCTGGAGTTT GC TG---- TTTT----- - CCA --- GTTAGTA
8 TTAGAGAGTGAGTCCATGTG TCTG TA TCTGGAG TAGAGAGTG AGT TGTGA GGATG

AGGATGGTTAGTATGTCTGA GGAC AT AGATCTC ATCTCTCAC TCA ACACT TCTGT
ATCACACACTACACTCTCTA AA TTTTTA TCTTTTGAT A C-- AAG -------

TAGTTTTCTCTCTAGAATTT
TTTAAACAGG
GAM33698 272877 CACTGCCAACTGAGGCAGGA CCAACT-- --- CT A CTTC
9 GGGCTCAGGAGAGTCTTCGC CACTG GAGGC AGGAGGG CAGGAG GT
CTCTTGTACCCTCCTTGGGC GTGAC CTCCG TCCTCCC GTTCTC CG
CTCTCCAAAACCAGTG CAAAACCT GGT AT - ----
GAM33699 273120 CTTGGCTGGGTTTTTCCACG T T TTTTCCACGT - T TT- CCAGC
0 TGAGATGGTGTCATATTGCT CT GGC GGGT GAGAT GG GTCATA GCTGGGT
GGGTCCAGCACCCAGTTATT GA CCG CCCA CTTTA CC CGGTGT TGACCCA
GTGGCCCAATTTCCTATACC T T TATC------ A - TAT -----
CTGCCTAG
GAM33699 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
1 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33699 274601 TGTCTATAGAGTATGTGGGC AGAGTA T TT- TG C- A TT T CTCTCTCT
2 CATTTTCTGCCCGTAAAATG TGTCTAT TG GGGCCA TTC CC GTA AATG CAAA GTTTT
TTCAAATGTTTTCTCTCTCT ACAGATG AC CTTGGT AAG GG TAT TTAC GTTT CGAAA
AAAGCTTTGTTCATTGTATC AGGG-- T TTT GT TC G TT - --------
TGGTGGAATTTTGGTTCTCA
GGGAGTAGACA
GAM33699 273623 AGGTGACTGCACAGAAATGT A TG AA TC C TTTCACAT
3 CTACACATGTGTTTTCACAT AGGTG C CACAG ATG TA ACATGTGT
ACATATGTCTACCCATGCCT TTCAC G GTGTC TAC AT TGTATACA
GTGTGGACACTT A GT CG CC C --------
GAM33699 273963 CTCTTGGCCTGGCCTCCTGC T C- CCT-- - A CCGT GAGTTG CA
4 AGTGCCACGCTCCGTGTATT C CTTGGCCTGG CT GCA GTGCC CGCT GTATTTGACAAGCT
GACACTC
TGACAAGCTGAGTTGGACAC G GGACCGGATC GA CGT CACGG GTGA CATAAACTGTTTGA
CTGTGAG
TCCATGTGGTAGAGTGTCAG - TC CCATT A C ACCC ------ --
TTTGTCAAATACCCCAAGTG TGTGGTA
CGGCACATGCTTACCAGCTC
TAGGCCAGGG

GAM33699 274225 GGAGAATCGCTTGAACCCAG AA GAA--- AAG GT A - ATAT
5 GAAGTGGAGGTTGCAGTGAG GGAG TCGCTT CCCAGG TGGAG TGCAGTG GC CA
CCAATATTGTGCCATTGCAC CCTC AGCGAG GGGTTC ACCTC ACGTTAC CG GT
TCCAGCTTGGGCAACAAGAG AA AACAAC G-- -- - T ----
CGAAACTCC
GAM33699 274492 TCGCTTGAACCCAGGAAGTG GAA--- AAG GT A - ATAT
6 GAGGTTGCAGTGAGCCAATA TCGCTT CCCAGG TGGAG TGCAGTG GC CA
TTGTGCCATTGCACTCCAGC AGCGAG GGGTTC ACCTC ACGTTAC CG GT
TTGGGCAACAAGAGCGA AACAAC G-- -- - T ----
GAM33699 273609 AGGCATTGTCTCCAACATGT AT TCCA C ------- TTTT
7 ACCACTGGTCTGGCTTTTGT AGGC TGTC ACATGTAC ACT GGTCTGGC
TAGGCCCATTAATAGTGTAC TCCG ACAG TGTACATG TGA CCGGATTG
ATGTGACAGCCT -- ---- - TAATTAC ----
GAM33699 274003 GTTGTGATCCCTGTGCTTTG AT ------ --- A A A G ATTTATCATTTTTG

8 AGAAGAGAACACAGTGCCCA GTTGTG CCCTGT GCT TTG GA GAGA CACAGT CCCAGATT

GATTATTTATCATTTTTGAA CGATAT GGGATA CGA AAC CT CTTT GTGTTA GGGTTTAA
TTTGGGAATTGTGATTTCCT CG AAAAGT TGC - C A A ----------
CCAACGTAGCTGAAAAATAG
GGGCTATAGC
GAM33699 274285 GGCTCAGTTCGCCAGATAAC T- G - GATA ACTTTC - TACCTT-- A ATCTC
9 TCAACTTTCCCATTGGCTAC GGC CA TT CGCCA ACTCA CCATT GGC TGGGTC GGTG

CTTTGGGTCAGGTGATCTCC CCG GT AA GTGGT TGGGT GGTAG CCG ATCCAG TCAC

ACTAGACCTATCGCCTATGC TT A C ACAC ------ T TATCCGCT A -----
CTGATGGTGGGTCACATGGT
GCAAATGTTGCC
GAM33700 272757 ACTACTGGGTGTATAAATGT G TAT GT T TTA- T C TAC
0 GTTTGTGTGTGTATGTATTT ACTACTGG TG AAATGT TTGTGTG GTATGTAT TAGA GTT
TTTAAGG
ATAGATGTTCTTTAAGGTAC TGGTGACT AC TTTACA AATACAC CGTATGTA ATCT CAA AAGTTCC

CCTTGAAAACTCTACATTAT G --- GT - TTAC - - ---
GTATGCCACATAATGACATT
TCAGTCAGTGGT
GAM33700 273026 CCTGAACCCAGGAGGCGGAG AA- AGGC GC GCCAAGATTAAG
1 GCTGCAGTGGGCCAAGATTA CCTG CCCAGG GGAG TGCAGTGG
AGCCACTGCACTCCAGCCTG GGAC GGGTCC CCTC ACGTCACC
GGCAACAGG AAC GA-- -- ----------
GAM33700 274033 TCAAACAGCTGTGGTCATGT A TGGTC TC C--- C A GAAAAATAAATTGTG

2 CATTTCAGTTTGCAGTTTCT TCAA CAGCTG ATG ATTTCAGTTTG AGTTT TCTC CCTCA

CTCACCTCAGAAAAATAAAT AGTT GTCGAT TAT TAAGGTCAAAT TCAAG AGAG GGGGT

TGTGTGGGGGAGATGAACTT A ----- TT TTTT T - ----------
TTTTAAACTGGAATTTTATT
AGCTGATTGA
GAM33700 273437 CTTGAACCTGAAAGGCAGAG AA- GAA A- GC A- TGAGATT
3 GCTGCGGTGAGCTGAGATTG CTTG CCT AGGC GAG TGCGGTG GC
CGCCATTGCACTCCAGCCTG GAAC GGG TCCG CTC ACGTTAC CG
GGCAACAAG AAC --- AC -- CG -------
GAM33700 273047 CGGGGATTCAGTCTGTGAGG ATTCAGTCT C CCCACT - TCACTTTGCT

4 CGGGAAGCCCACTAGGAGGA CGGGG GTGAGG GGGAAG AGGAG GACTC
CTCTCACTTTGCTGAGTCTC GTCCC CACTTC TCTTTC TTCTC CTGAG
TCTTTCCCTTCTTTCTTCTT AAATAACC- T TTCCCT T ----------
CACCCAATAAACCCTG
GAM33700 273410 TTGTTTTGTTTTGAGACAGA TT TT - - T - A- GCCCT
5 GTCTCGCTCAGCTGCCCTGG TTGT TG TTGAGA CA GAG CT CGCTC GCT
CCGGAGTGTAGTCTCATGAT AACG AC GACTCT GT CTC GA GTGAG CGG
CTCAGCTCACTGCAA TC TC A A T T GC -----
GAM33700 273549 GATAGGATAGATGGTTCTGA ATA TG - TTCAA A A- TTCTCTTT

6 GTGGCTTTCAACACTGACTA GATAGG GA GTTCTGAGTG GCT CACTG CT CTA
CTATTCTCTTTTAGCCAGCA CTATCC CT TAAGACTCAT CGA GTGAC GA GAT
GTGAGTAGCTTACTCAGAAT C-- GT T TGA-- - CC --------
TGTCCCCTATC
GAM33700 274535 TGAGGCAGGAGAATCACTTG C AA GAA-- AGGCA GT A - AGAT
7 AACCCAGGAGGCAGAGGTTG TGAGG AGGAG TCACTT CCCAGG GAG TGCAGTG GC TG

CAGTGAGCTGAGATCATGCC ACTCT TCCTC AGTGAG GGGTCC CTC ACGTCAC CG AC

ACTGCACTCCAGCCTGGGCA - GG ACAAC GAC-- -- - T ----
ACAGAGTGAGGCTCCTTCTC
A
GAM33700 273058 CTCATGGTCTCCAAAGGTCT G AAGGT ACC CA-- AC G GCTA
8 CTACCCAGACATTTCAACTT CTCAT GTCTCCA CTCT CAGA TTTCA TTT TTGTTCTTTG
TGTTGTTCTTTGGCTACAAA GAGTG CAGAGGT GAGG GTCT GAGGT AGA GACAAGAAAC

GAACAGGAGAAATGGAGGAC A GT--- GT- TCAG AA G ----
TTCTGTGGGAGTGTGGAGAC
AGTGAG
GAM33700 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
9 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33701 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
0 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33701 274128 GCAAGGTGCTAGGTTTTTTC T ---------- CCT--- C- TCTCT
1 CTTTCCCCACCTGTCTCTTA GCAAGG GCT AGGTTTTTT TTCCCCA CTG
GCCTGGGGAATTAAATGAGA TGTTCC CGG TCCGAAGAG AAGGGGT GAT
AGCCTTAGAATGGGTGGCCC - TGGGTAAGAT TAAATT CC -----
TTGT
GAM33701 274629 TTCTTCACATGAGGAGGAAT A A CA CCCCT ACACTTAA
2 CAGGGTCTTGACCCCTGGAC TTCTTC CATG GGAGGAAT GGGTCTTGA GG
ACTTAACCTTAGGACCCATT AGGAGG GTAC CTTCTTTA CCCAGGATT CC
TCTTCACATGAGGAGGA A A -- ----- --------
GAM33701 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
3 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33701 273799 CATGATGCCCCTGAGATGGT T C-- GGTAT C TCCAT- A ATG TTCT
4 ATGCACAATTCCATGACAAT CATGA GCCC TGAGAT GCA AAT GAC AT CCCT
ATGCCCTTTCTGGGGAGATA GTGCT CGGG ACTTTA CGT TTG CTG TA GGGG
GTCCATAATGTTCTGCTAAA - TAA AAT-- C TAATAC A GA- ----
TTTCAAATGGGCTCGTG
GAM33701 273527 GAGGCAGGAGAATTGCTTGA G AA GAA--- TG AGGC - T A- CAAG
5 ACCTGGGAGGCGGAGGTTGT GAGGCAG AG TTGCTT CC GG GGAG GT GTGGTG GC

GGTGAGCCAAGGTCGCGCCA CTCTGTC TC AACGGG GG CC CCTC CG TACCGC TG
TTGCACTCCAGCCTGGGCAA - AA AACAAC GT GA-- A T GC ----
CAAGGGCAAAACTCTGTCTC
GAM33701 273762 CAAGTTTGGTCAAGGGGTGA - T ---------- T G G CA ATCTCC
6 GTGTGTCCGACTCCAAGGAG CAAGTTTG G CAAGGG GTGAG GT TCC ACTC AGGAGC

CATCTCCGTTTCTGAGTGGG GTTCGGAC C GTTCCC TACTC CA AGG TGAG TCTTTG
AACTCTCATGACACTGTGTC T C TGTGTCACAG T - G -- ------
CCTTGCCTCAGGCTTG
GAM33701 273316 TGCGGGCAGGATCACATATT G ATCACATATTAG AAC A GGAGAG
7 AGGCAGAAAACAATTCCAAG TGCGG CAGG GCAGAA AATTCCA GCAA
CAAGGAGAGTTGCTGGGATT ACGCT GTCT CGTCTT TTAGGGT CGTT
ATTCTGCTCTGGTCGCA G ---------- A-- - ------
GAM33701 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
8 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33701 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
9 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33702 273145 GACAGTCTCTGTTCTCTGAC AG-- C - G TC - -- CA ACCA
0 AGCTTAGTCCATGGGAGAGA GAC TCTCTGTT TC TGACA CTTAG CA TGGGAG AGA GTCAT

CAGTCATACCAATGACCTCT TTG GGAGACAA AG ACTGT GAATC GT ACCCTC TCT CAGTA

AGCTCCCAGTGTCCTAAGTG GATG - T - CT G GA C- ----
TCATGAAACAGAGGGTAGGT
T
GAM33702 274504 TCTCTGTTCTCTGACAGCTT C - G TC - -- CA ACCA
1 AGTCCATGGGAGAGACAGTC TCTCTGTT TC TGACA CTTAG CA TGGGAG AGA GTCAT

ATACCAATGACCTCTAGCTC GGAGACAA AG ACTGT GAATC GT ACCCTC TCT CAGTA
CCAGTGTCCTAAGTGTCATG - T - CT G GA C- ----
AAACAGAGG
GAM33702 273417 TTTTGGTAAAGACATTCATC G -- TCA AGT TTC CTCCCAG TA-- TTAATATT
2 TCAGTCGTTTCTCTCTCCCA TTTTG TAAAG ACAT TCTC CGT TCT CTTGACCT GG
GCTTGACCTTAGGTTAATAT AGAAC ATTTC TGTA AGAG GTA AGA GAACTGGG CT
TTCATTTGGGTCAAGAAAAG A GT TCG GAT TA- AAA---- TTTA --------
AATATGTAGGAGAGCTATGT
TGCTTTAACAAGA
GAM33702 274180 GCTGTCCTGAGGCCTGGAGA T ---- G - - A TAA-- GA GAAC
3 TACTAGAGGGTAAAGGAATG GC GTC CT AGGCC TG GAG TACTAGAGGG AG ATG
GAACCATGTCTGGGGTCCCT CG CAG GG TCTGG AC TTC ATGATTTCCC TC TAC
TTAGTAACTTGCAGGGTCTG T TTAA G G G A TGGGG TG ----
GGAATTGACTGC
GAM33702 274488 TCCTGAGGCCTGGAGATACT G - - A TAA-- GA GAAC
4 AGAGGGTAAAGGAATGGAAC TCCT AGGCC TG GAG TACTAGAGGG AG ATG

CATGTCTGGGGTCCCTTTAG AGGG TCTGG AC TTC ATGATTTCCC TC TAC
TAACTTGCAGGGTCTGGGA - G G A TGGGG TG ----
GAM33702 273332 TGGCAGGAGGCCAGCTCTCA A C TCTC- TTCT AA T TCACTGGTTTATTT

5 TCCTTTTCTGCAACCTGTTT TGGCAGG GGC AGC ATCCTT GC CC GTTTGC
GCTCACTGGTTTATTTGTAA ACCGTCC CTG TCG TGGGAG CG GG TAAATG
ATTGGGGCTATGAGGGTCTA - - TCATC TAT- G- T ----------
CTGCTGTCCCTGCCA
GAM33702 273615 AGGCTGCTGATTCCCTTTAT T A TTT T-- GTACG GATTA
6 TTGGTAATGGGGTGTGTGCA AGGC GCTG TTCCCTTTA GGTAATGGGGTG GTGCA TT

GTACGTTGATTAAAAAATAT TCTG TGAC GGGGGAAGT TCGTTACCTTAC TACGT AA
GCATTTCCATTCCATTGCTT T G TT- CTT ATAAA -----
TTGAAGGGGGGCAGTTGTCT
GAM33702 273298 TGAGGTGGGAGGATTACTTG AGGAT GA-- AGA A- GC A - ACAT
7 AGCCCAAGAGGAGGAGGCTG TGAGGTGGG TACTT GCCCA GG GGAG TGCAGTG GT CA

CAGTGAGTCAACATTGCACC ACTCTACCC GTGAG CGGGT CC CCTC ACGTCAC CA GT

ACTGCACTCCAGCCTGGGCA CAGT- ACAA --- GA -- - C ----
ACAGAGTGTGACCCCATCTC
A
GAM33702 273217 GAGGTGGGAGGATTACTTGA AGGAT GA-- AGA A- GC A - ACAT
8 GCCCAAGAGGAGGAGGCTGC GAGGTGGG TACTT GCCCA GG GGAG TGCAGTG GT CA

AGTGAGTCAACATTGCACCA CTCTACCC GTGAG CGGGT CC CCTC ACGTCAC CA GT

CTGCACTCCAGCCTGGGCAA CAGT- ACAA --- GA -- - C ----
CAGAGTGTGACCCCATCTC
GAM33702 274442 TATGGGAAAAAAGGCAGTTT GG AA------- A GAAAAA TA G TACA GAGA
9 AGAAAAAAGTACATTTGGTA TATG AA AAGGC GTTTA AG CATTTG TA TGCATA
TACATGCATAGAGATGTGCA ATAC TT TTCCG TAAGT TC GTAAAC AT ACGTGT
TAGCAAATGGTCTGAATGAA TT GACACCAGA G AAG--- TG G ---- ----
TGGCCTTAGACCACAGTTTT
CATA
GAM33703 274579 TGGGAAAAAAGGCAGTTTAG GAAAA A GAAAAA TA G TACA GAGA
0 AAAAAAGTACATTTGGTATA TGG AAGGC GTTTA AG CATTTG TA TGCATA
CATGCATAGAGATGTGCATA ACC TTCCG TAAGT TC GTAAAC AT ACGTGT
GCAAATGGTCTGAATGAATG AGA-- G AAG--- TG G ---- ----
GCCTTAGACCA
GAM33703 273015 AGGCACCTAGAGACTTCACA ACCT A TCACAA AA CAG C G - AACTT
1 AGCTAATGGCAGTCCCTGGA AGGC AGAG CT GCT TGG TC CT GAGCAGGA AGC
GCAGGAAGCAACTTGTTATT TCCG TCTC GA CGA ACC AG GA CTCGTCTT TTG
CTGCTCAAGAGAATCCACCA GT-- - ------ CC TA- A A A -----
GCAGCTCTTGGCCT
GAM33703 274644 TTGGGAAACTGAGGTAGGAG AAC - A AA GA-- CGG A T A TGAGATTG
2 AATCACTTGAGCCCCGGAGG TTGGGA TGA GGT GGAG TCACTT GCCC AGGC GGGGT
GCAGTG GC
CAGGGGTTGCAGTGAGCTGA AACTCT ACT CTA CCTC AGTGAG CGGG TCCG CCTCA CGTCAC
CG

GATTGTGCCACTGCACTCCA --- A - AA ACAA --- A - - --------
GCCTGGGCAACAGAGTGAAA T
CTCCATCATCATCTCAA

-

GAM33703 274223 GGAGAATCACTTGAGCCCCG AA GA-- CGG A T A TGAGATTGT
3 GAGGCAGGGGTTGCAGTGAG GGAG TCACTT GCCC AGGC GGGGT GCAGTG GC
CTGAGATTGTGCCACTGCAC CCTC AGTGAG CGGG TCCG CCTCA CGTCAC CG
TCCAGCCTGGGCAACAGAGT AA ACAA --- A - - ---------
GAAACTCC
GAM33703 273623 AGGTGACTGCACAGAAATGT A TG AA TC C TTTCACAT
4 CTACACATGTGTTTTCACAT AGGTG C CACAG ATG TA ACATGTGT
ACATATGTCTACCCATGCCT TTCAC G GTGTC TAC AT TGTATACA
GTGTGGACACTT A GT CG CC C --------
GAM33703 273428 CTTAAGTTTGCTTGCAGTGT G TG ----- AG TG CT GCAT
5 ATGTGTGTATGTCTGTGTGT CTTAA TT CT TGC TGTATGTG TATGT GTGTGT
GCATGCACGCACATGTGCAC GAATT AG GA ACG ACGTACAC GTACA CGCACG
ATGCAGCAGGGAGAGTGGAA A GT GAGGG -- GT -- ----
TTAAG
GAM33703 274328 GGGTGTGAAGGAAACATCCT - AG - C C---- TC C AGTAGGCC
6 CCCCCTTGTTTTCAACCTAG GGGTG TGA GA AACATC TCCC CTTGTTT AA CT
TAGGCCAGTTTAGAAACAAG CTCAT ACT CT TTGTGG AGGG GAACAAA TT GA
CCACAGGGAAGGTGTTGTCA T GA G A ACACC GA T --------
GTCATTACTC
GAM33703 273755 GGGAGAGGCATTGTGAGGGA GC- GAG---- TGTC T A T AAATTC
7 GAGAGGTGTCAGGAATGAAA GGGAGAG ATTGT GGAGAGAGG AGGAA GAAAGA TG CTTA

GAATGTCTTAAAATTCTAAG CTCTCTC TAACG TTTCTCTTC TTCTT CTTTCT AC GAAT
CAGTCTTTCTTCTTCTTCTC AAT ACAATTA ---- - G - ------
TTTATTAACAGCAATTAACT
CTCTC
GAM33703 273700 GGAGAGGCATTGTGAGGGAG GC- GAG---- TGTC T A T AAATTC
8 AGAGGTGTCAGGAATGAAAG GGAGAG ATTGT GGAGAGAGG AGGAA GAAAGA TG CTTA

AATGTCTTAAAATTCTAAGC TCTCTC TAACG TTTCTCTTC TTCTT CTTTCT AC GAAT
AGTCTTTCTTCTTCTTCTCT AAT ACAATTA ---- - G - ------
TTATTAACAGCAATTAACTC
TCT
GAM33703 273489 GAGAGGCATTGTGAGGGAGA GC- GAG---- TGTC T A T AAATTC
9 GAGGTGTCAGGAATGAAAGA GAGAG ATTGT GGAGAGAGG AGGAA GAAAGA TG CTTA

ATGTCTTAAAATTCTAAGCA CTCTC TAACG TTTCTCTTC TTCTT CTTTCT AC GAAT
GTCTTTCTTCTTCTTCTCTT AAT ACAATTA ---- - G - ------
TATTAACAGCAATTAACTCT
C
GAM33704 272976 ACAGTATAGTCTTCCACAGT A TC AG CT-- TTAT CC GAGACTA
0 CTCCTGTCTCTTTTATAAGG ACAGT TAG TTCCAC TCTC GTCTCTT AAGGTGT TAT
TGTCCTATGAGACTAATAAT TGTCA GTT AAGGTG AGAG CAGGGGA TTCTATA ATA
ATCTTTCTTAGGGGACTGTT C TT GA TTGT TTCT -- -------
GAGAAGGTGGAATTTTGCAC

TGT
GAM33704 274631 TTGCTTGAACCCAAGAGGCG GA-- AGA - GT A TAAGATCAT
1 GAGGTTGCAGTGAGCTAAGA TTGCTT ACCCA GGC GGAG TGCAGTG GC
TCATGCCACTGCACTCCAGC AACGAG TGGGT CCG CCTC ACGTCAC CG
CTGGGTGACAGAGCAA ACAG --- A -- - ---------
GAM33704 273730 GGCCACCTGCTGCCTATTCC - GC - C GG -- CTTCTGAT
2 CTGGCACTTCATTCTTCTGA GG CCACCT TG CCTATTC CT C ACTTCATT
TAATGGAGTATGAGAGAGAA CC GGTGGA AC GGGTAAG GA G TGAGGTAA
TGGGACATGAGGTGGACC A GT A A GA TA --------
GAM33704 273895 GTCCCAAAGAAAAGGAAAAC CCAA AAAA C - TCCAT
3 CCAGCAAGGGCATGGTCCAT GTC AGAAAAGG CCCAG AAGGGCA TGG
CTGCTGCCTTTTCTGGGCTC CAG TCTTTTCC GGGTC TTTCCGT GTC
CCTTTTCTGCTGAC TCG- CTC- T C -----
GAM33704 274567 TGCTTCTCTCTCAAGTTCTA T -- TC--- -- - TTT
4 GTAACTTCAGGGTAGTTTTA TGCTTCTCTC CAA GT TAGTAACT TCAGGG TAGT
TTGTCTTTGAATAGTTACTG ACGAAGGGGG GTT CA GTCATTGA AGTTTC GTTA
CTTATACCTTTGTGGGGGAA T TC TATTC TA T ---
GCA
GAM33704 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
5 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33704 273447 CTTTGTGAGTGGCTTTGAAA CT A - G G TTTA
6 CTGTAATGAGCGCAGTTTAC CTTTGTGAGTGG TTGA ACT GTAATGA C CAG
TGAGTCATTACTAGTCTCGA GAGATGCTTACC AGCT TGA CATTACT G GTC
CCCATTCGTAGAG C- C T - A ----
GAM33704 274420 GTTTGGAGGTCTGTTGCTTC T CTGTTGCTTCCTT C T T TTCCA - G TCACG

7 CTTGAGGCACGGTAAGGAGT GTT GGAGGT GAGGCA GG AAGGAG GG ATTTG GGGT C

GGTTCCAATTTGGGGTGCTC TAG CCTCTA CTCCGT TC TTTCTT CC TAGAC CCTA G
ACGGGATCCACAGATCTCTC T CCC---------- C C T TCTC- A G -----
CTTTCTTTCCTCTGCCTCCC
CATCTCCTGAT
GAM33704 274404 GTGTCTGGCTTCTCACTCAG - CTTCT A - TGTCTCTGA - - TGTCAT
8 CGTGCTGTCTCTGAGTGGCC GTGT CTGG CACTC GC GTGC GTGGC CT GTGC
TGTGCTGTCATGCACTGGTG CACA GACT GTGAG CG CACG CACCG GG CACG
CCACCTTCCTTTTGCACTGC T CTT-- C T TTTTCCTTC T T ------
CGAGTGTTCTCAGTACAC
GAM33704 274268 GGCAACCACAGCATCAGTGA CA ACA-- T C-- CTCC CTTC
9 CAGCGGCTTCTCCCCCGGCT GG ACC GCATCAG GACAG GGCTT CCCGG
TCCTGGGCTGAGCCACACTG CC TGG CGTAGTC CTGTC CCGAG GGGTC
TCCTGATGCCACCAGGTCAC AC ACCAC - ACA TC-- ----
C
GAM33705 273248 GCGAATCTCTCAGTGCGCCA GAA CGCCA A AACCTGAC
0 GTGAGGGGAATGGGAACCTG GC TCTCTCAGTG GTGAGGGGA TGGG
ACCCCATCTTTTCATCCACT CG AGAGAGTCAC TACTTTTCT ACCC
GAGAGAAAAGC AAA C---- - --------
GAM33705 273488 GAGAGAGGAAATGAGAGGAG AAA GAGT GC- C G G C C GTTAG

```
1          TCGGCTGGGGCGAGTGTGGA GAGAGAGG  TGAGAG   CG  TGGGG GAGT TG AC GCAGCC AGA

           CCGCAGCCCAGAGTTAGTCT TTCTTTCC  ACTCTT   GT  ATCTT CTCA AC TG CGTCGG TCT

           TGGCTGCAGTGCAACTCTTT      CGC    ATT- AAA   T  - G A    T -----
           CTAAAATGTTATTCTCACGC
           CCTTTCTT
GAM33705 272997 AGAGAGGAAATGAGAGGAGT      AAA    GAGT GC-   C  G G C    C GTTAG
2          CGGCTGGGGCGAGTGTGGAC AGAGAGG  TGAGAG   CG  TGGGG GAGT TG AC GCAGCC AGA

           CGCAGCCCAGAGTTAGTCTT TCTTTCC  ACTCTT   GT  ATCTT CTCA AC TG CGTCGG TCT
           GGCTGCAGTGCAACTCTTTC      CGC    ATT- AAA   T  - G A    T -----
           TAAAATGTTATTCTCACGCC
           CTTTCT
GAM33705 273726 GGCATTAGGTTTCAGTCACA   TTA T-   TC   CAA   T  ACA  G  T C- AAGATTC
3          GCCAAGCAAGTGTGGACAGT GGCA  GG  TTCAG  ACAGC  GCAAG GTGG  GTGA TAA GT  TG

           GAGTAATGTCTGAAGATTCC CTGT  CC  AAGTC  TGTCG  TGTTT CATC  CACT GTT CG  AC
           ATAGCTTGATCACAGCTACT   TA- TC   --   TCC   T  GA-  A  - AT -------
           TTTGTCCTGCTGTCTGAACT
           CCATTGTC
GAM33705 274398 GTGGGAAATGTGTTCTGATG    - ---   CT-   ----- AG     ATCCATAATG   -   TATG
4          AGAGGGAGGCAATCCATAAT GTGGGA AAT  GTGTT  GATG   AG  GGAGGCA       TGCCC CTTTG

           GTGCCCCTTTGTATGCAGGG CACCCT TTG  CATAG  CTGC   TC  CCTTCGT       ACGGG GGGAC

           TGGGCAAAACACTGCTTCCA    A  GAT   AAT   ATTGA AA    CACAAA----   T   ----
           ACTAGTTACGTCTAAGATAC
           TAGGTTATCCCAC
GAM33705 274618 TTCAGGTACTCCATGTGATA    T  CA- TG ATATGG  --  AA    CGTG   C A-  C    AG
5          TATGGTTCCACAATCCTCAG TTCAGG ACTC  TG AT    TTC CAC  TCCTCAG   TTAA TG AGC
TTGTTG
           CGTGTTAACTGAAGCCTTGT GGGTTT TGAG  AC TG    AAG GTG  AGGGGTC   AGTT AC TCG
AACAAT
           TGAGTTTAACAAAGCTGCCA    -  ACA GT ------  AA  AA    TAGA   - CG  A    --
           TTGAAGATCTGGGGAAAGTG TT
           AAGAAGTTGCAACAGAGTTT
           TGGG
                     --
GAM33705 273784 CAGGTACTCCATGTGATATA    T  CA- TG ATATGG  --  AA    CGTG   C A-  C    AGTT
6          TGGTTCCACAATCCTCAGCG CAGG ACTC  TG AT    TTC CAC  TCCTCAG   TTAA TG AGC
TTGTTG
           TGTTAACTGAAGCCTTGTTG GTTT TGAG  AC TG    AAG GTG  AGGGGTC   AGTT AC TCG
AACAAT
           AGTTTAACAAAGCTGCCATT    -  ACA GT ------  AA  AA    TAGA   - CG  A    ----
           GAAGATCTGGGGAAAGTGAA
           GAAGTTGCAACAGAGTTTTG


GAM33705 272869 CACAATCCTCAGCGTGTTAA   AA    CGTG   C A-  C    AGTT
```

7 CTGAAGCCTTGTTGAGTTTA CAC TCCTCAG TTAA TG AGC TTGTTG
ACAAAGCTGCCATTGAAGAT GTG AGGGGTC AGTT AC TCG AACAAT
CTGGGGAAAGTG AA TAGA - CG A ----
GAM33705 274063 TCCTCAGCGTGTTAACTGAA CGTG C A- C AGTT
8 GCCTTGTTGAGTTTAACAAA TCCTCAG TTAA TG AGC TTGTTG
GCTGCCATTGAAGATCTGGG AGGGGTC AGTT AC TCG AACAAT
GA TAGA - CG A ----
GAM33705 272886 CAGCCTCAAGTGATCCACCA C- AT CCACC CTTCCC T -- TA A ATCCAC
9 CCTCAGCTTCCCAAAGTGCT CAGCCT AAGTG CCA TCAG AAAG GC TGGGAT CAGGC TG

GGGATTACAGGCATGATCCA GTTGGG TTCGT GGT AGTC TTTC TG ACCCTG GTCCG AC

CCACGCCTGGTCCCATTGTT TT CG ----- TACA-- T TT -- C ------
CTTTACATCTGATGGGCTGC
TTTTGGGTTG
GAM33706 274112 TGAGGCAGGAAAATCGCTTG AAAATC GAA-- A A- GT CA- ATA
0 AACCCAAGGCAGAGGTTGCA TGAGGCAGG GCTT CCCA GGC GAG TGCAGT GCAG

GTCAGCAGATATTGCACCAC ACTCCGTCT CGAA GGGT CCG CTC ACGTCA CGTT
TGCACTCCAGCCTGGGCAAC CAGAA- ACAAC - AC -- CCA ---
AAAGCAAGACTCTGCCTCA
GAM33706 273037 CCTTTGAACAGTGGAACTGG C T -- AT--- - G T ------ - TTCA
1 ATGAAAGAAATGGGATCTGT CCTTTGAA AG GGA ACTGG GA AAGAAAT GGA CTGTG
CAGCTA C
GCAGCTACTTCAGTTAGCTG GGAGACTT TC CCT TGATC TT TTCTTTG TCT GACAT GTCGAT
G
GAATCCTACAGTTCTGGTTT T - TT GTAAT C G T CCTAAG T ----
CTTCTTTAATGCTAGTTTTC
CCTTTTCAGAGG
GAM33706 274227 GGAGAATCGCTTGAACCCAG AA GAA-- AGG GT AGC AGGT
2 GAGGTGGAGGTTGCAGTGAG GGAG TCGCTT CCCAGG TGGAG TGCAGTG TG
CTGAGGTCACACCACTGCAC CCTC AGCGAG GGGTCC ACCTC ACGTCAC AC
TCCAGCCTGGGCAACAGAGC AG ACAAC G-- -- CAC ----
GAGACTCC
GAM33706 273961 CTCTTGACCAGAGGTTCTCA CT - - AG C T TA TGCC
3 AATGAGGGACATTTTACCTG CT TGACCAGA G GTTCTCAAATG GGA AT T CC
CCGGGGACATTTCCAATGTT GA ATTGGTTT C CAGGGGTTTGT CCT TA A GG
TGGGGACACTTTTGGTTATC CT T A AA T C GG ----
AG
GAM33706 274227 GGAGAATCGCTTGAACCCAG AA GAA-- AGG GT AGC AGGT
4 GAGGTGGAGGTTGCAGTGAG GGAG TCGCTT CCCAGG TGGAG TGCAGTG TG
CTGAGGTCACACCACTGCAC CCTC AGCGAG GGGTCC ACCTC ACGTCAC AC
TCCAGCCTGGGCAACAGAGC AG ACAAC G-- -- CAC ----
GAGACTCC
GAM33706 273714 GGCACTTGGAACCGTCTTGG AC CC- TG A TA ACT--- TTAA
5 GGAATATAGCTTGGTAATTG GGC TTGGAA GTCT GGGA TATAGCTTGG ATTGA GC
AACTGCTTAAGCTTATTATT CTG GACCTT CGGA CCTT ATATCGAATT TAATT CG
AATATTTAAGCTATAGTTCC GA ACC -- G TA ATTATT ----
AGGCCCATTCCAGAGGTC
GAM33706 273381 TTCACTCCCAAGTGGCTTTT ----- C G --- G A GG-- GATTATG

6 GTCTGGCAGATTCCGGTGGA TTCA CT CCAA TGGCTT TT TCTGGCAG TTCC TG
TTATGCAAAGAGGGACTGCC AAGT GA GGTT GTCGAG AA AGACCGTC AGGG AC
AGAGAATCTGAGCTGTTGGA CTTCA A - TCT G - AGAA -------
AGACTTCTGAA
GAM33706 273671 ATGGCGACCATATGACCTTA C --------- - T AG -- A ATT
7 TTCTTTAGGTTTAGACACAA ATGG GACC ATATGAC CTTAT CTTT GTT TAGAC CAAGGG

GGGATTTCCTTGGTTTGGTG TACC CTGG TATATTG GAATG GAAA CAG GTTTG GTTCCT

ACAGAAAGGTAAGAGTTATA A AACTACCAT A - GA TG - ---
TTACCATCAAGGTCACCAT
GAM33706 273127 GAAAAGGGCTGATCAGTATT ----- T A TT TC TCAGT
8 TTCTGATCCTAGTTCAGTGC GAAAAGG GCTGA CAGT TT CTGA CTAGT
TAGTCAGGGAGACTGTCAGT TTTTTCC TGACT GTCA GA GACT GATCG
AAAGACCTTTTT AGAAA - - GG -- -----
GAM33706 274112 TGAGGCAGGAAAATCGCTTG AAAATC GAA-- A A- GT CA- ATA
9 AACCCAAGGCAGAGGTTGCA TGAGGCAGG GCTT CCCA GGC GAG TGCAGT GCAG

GTCAGCAGATATTGCACCAC ACTCCGTCT CGAA GGGT CCG CTC ACGTCA CGTT
TGCACTCCAGCCTGGGCAAC CAGAA- ACAAC - AC -- CCA ---
AAAGCAAGACTCTGCCTCA
GAM33707 273183 GAGGCAGGAAAATCGCTTGA AAAATC GAA-- A A- GT CA- ATA
0 ACCCAAGGCAGAGGTTGCAG GAGGCAGG GCTT CCCA GGC GAG TGCAGT GCAG

TCAGCAGATATTGCACCACT CTCCGTCT CGAA GGGT CCG CTC ACGTCA CGTT
GCACTCCAGCCTGGGCAACA CAGAA- ACAAC - AC -- CCA ---
AAGCAAGACTCTGCCTC
GAM33707 272809 AGGCTGAGTGCAGTGGTGTG T ----- T TC CTCACT AGCTC
1 ATCTCGGCTCACTGCAAGCT AGGCTGAG GCAG TGGTGTGA C GG GCA
CTGCCTCCCAGGTTCACGCC TCCGACTC CGTC ACCGCACT G CC CGT
ATTGTCCTGCCTCAGCCT - CTGTT T GA CTC--- -----
GAM33707 273793 CAGTTAAGAGTATAATGAAA TT GA TG TG ATGACTA
2 GACTGATCAGCATAGAATGG CAG AA GTATAA AAAGAC ATCAGCATAGAATGGTG
TGATGACTATACCATTTTGT GTT TT CATGTT TTTCTG TGGTCGTGTTTTACCAT
GCTGGTGTCTTTTGTTGTAC TT GC GT -- -------
CGTTTTTTG
GAM33707 273889 GTATAATGAAAGACTGATCA TG TG ATGACTA
3 GCATAGAATGGTGATGACTA GTATAA AAAGAC ATCAGCATAGAATGGTG
TACCATTTTGTGCTGGTGTC CATGTT TTTCTG TGGTCGTGTTTTACCAT
TTTTGTTGTAC GT -- -------
GAM33707 274521 TGAGACAGGAGAATCGCTTG A AA GAA--- AGG GTTA A- AGAT
4 AACCCGGGAGGTGGAGGTTA TGAGAC GGAG TCGCTT CCCGGG TGGAG CGGTG GTG

CGGTGAGTGAGATCGCGCCA ACTCTG CCTC AGCGAG GGGTCC ACCTC GTTAC CGC

TTGCACTCCAGCCTGGGCAA - AA AACAAC G-- AC-- CG ----
CAAGAGCGAAACTCCGTCTC
A
GAM33707 273166 GAGACAGGAGAATCGCTTGA A AA GAA--- AGG GTTA A- AGAT
5 ACCCGGGAGGTGGAGGTTAC GAGAC GGAG TCGCTT CCCGGG TGGAG CGGTG GTG

GGTGAGTGAGATCGCGCCAT CTCTG CCTC AGCGAG GGGTCC ACCTC GTTAC CGC

TGCACTCCAGCCTGGGCAAC - AA AACAAC G-- AC-- CG ----
AAGAGCGAAACTCCGTCTC
GAM33707 273599 GGAGAATCGCTTGAACCCGG AA GAA--- AGG GTTA A- AGAT
6 GAGGTGGAGGTTACGGTGAG GGAG TCGCTT CCCGGG TGGAG CGGTG GTG
TGAGATCGCGCCATTGCACT CCTC AGCGAG GGGTCC ACCTC GTTAC CGC
CCAGCCTGGGCAACAAGAGC AA AACAAC G-- AC-- CG ----
GAAACTCC
GAM33707 273961 CTCTTGACCAGAGGTTCTCA CT - - AG C T TA TGCC
7 AATGAGGGACATTTTACCTG CT TGACCAGA G GTTCTCAAATG GGA AT T CC
CCGGGGACATTTCCAATGTT GA ATTGGTTT C CAGGGGTTTGT CCT TA A GG
TGGGGACACTTTTGGTTATC CT T A AA T C GG ----
AG
GAM33707 274227 GGAGAATCGCTTGAACCCAG AA GAA-- AGG GT AGC AGGT
8 GAGGTGGAGGTTGCAGTGAG GGAG TCGCTT CCCAGG TGGAG TGCAGTG TG
CTGAGGTCACACCACTGCAC CCTC AGCGAG GGGTCC ACCTC ACGTCAC AC
TCCAGCCTGGGCAACAGAGC AG ACAAC G-- -- CAC ----
GAGACTCC
GAM33707 274526 TGAGGCAAGAGAATCACTTG A AA GAA-- AGG GT A- CAAGAT
9 AACTCAGGAGGTGGAGGTTG TGAGGCA GAG TCACTT CTCAGG TGGAG TGCAGTG GC

CAGTGAGCCAAGATGCACCA ACTCTGT CTC AGTGAG GGGTCC ACCTC ACGTCAC CG

CTGCACTCCAGCCTGGGCAA - AG ACAAC G-- -- CA ------
CAGAGTGAGACTCTGTCTCA
GAM33708 273705 GGAGGGGCCAGGAGGAAATG CC- A CT TGA ACA
0 ATGAGTCTTAGTGATCTGGA GGAGGGG AGGAGGA ATGATGAGT TAG TCTGGAA
AACATTCCAGACTAATTTAT CTTCCCT TTCTCTT TATTATTTA ATC AGACCTT
TATCTTCTCTTTTTTCCCTT TTT C -- --- ---
C
GAM33708 274112 TGAGGCAGGAAAATCGCTTG AAAATC GAA-- A A- GT CA- ATA
1 AACCCAAGGCAGAGGTTGCA TGAGGCAGG GCTT CCCA GGC GAG TGCAGT GCAG

GTCAGCAGATATTGCACCAC ACTCCGTCT CGAA GGGT CCG CTC ACGTCA CGTT
TGCACTCCAGCCTGGGCAAC CAGAA- ACAAC - AC -- CCA ---
AAAGCAAGACTCTGCCTCA
GAM33708 273183 GAGGCAGGAAAATCGCTTGA AAAATC GAA-- A A- GT CA- ATA
2 ACCCAAGGCAGAGGTTGCAG GAGGCAGG GCTT CCCA GGC GAG TGCAGT GCAG

TCAGCAGATATTGCACCACT CTCCGTCT CGAA GGGT CCG CTC ACGTCA CGTT
GCACTCCAGCCTGGGCAACA CAGAA- ACAAC - AC -- CCA ---
AAGCAAGACTCTGCCTC
GAM33708 273757 GGGAGGATTGCTTGAGCCTG G GC--- A- AA CC A- TATCATT
3 GAAGCTGGAGCCTGCAGTGA GG AGGATT TTG GCCTGG GCTGGAG TGCAGTG AC

ACTATCATTGTGCCACTGTA CT TCCTAA AAC CGGATC CGACCTC ATGTCAC TG
CTCCAGCCTAGGCAACAAAA G AGTAA AA -- -- CG -------
TGAAATCCTGTC
GAM33708 272803 AGGATTGCTTGAGCCTGGAA GC--- A- AA CC A- TATCATT

4 GCTGGAGCCTGCAGTGAACT AGGATT TTG GCCTGG GCTGGAG TGCAGTG AC
ATCATTGTGCCACTGTACTC TCCTAA AAC CGGATC CGACCTC ATGTCAC TG
CAGCCTAGGCAACAAAATGA AGTAA AA -- -- CG -------
AATCCT
GAM33708 272798 AGGAGTACGACGCTGTGGTA C -- AG- T A CA - CAGCCT
5 GCTATGATCATGCCACTGCA AGGAGTA GAC GCTGTGGT CTA GATC TGC CTG CACTC

CTCCAGCCTGGGTGACAGAG TCCTCGT CTG TGACATTA GAT CTAG ACG GAC GTGGG

CAAGATCTAGATAATTACAG C TC ATA - A A- A ------
TCTGTCCTGCTCCT
GAM33708 274262 GGAGTACGACGCTGTGGTAG C -- AG- T A CA - CAGCCT
6 CTATGATCATGCCACTGCAC GGAGTA GAC GCTGTGGT CTA GATC TGC CTG CACTC

TCCAGCCTGGGTGACAGAGC CCTCGT CTG TGACATTA GAT CTAG ACG GAC GTGGG

AAGATCTAGATAATTACAGT C TC ATA - A A- A ------
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GAM33708 274137 GCAGGAGGATTGCTTGAGCC AGGA GA-- AGT---------- A ACAATG
7 CAGGAGTTCAAGGCTACAAT GCAGG TTGCTT GCCCAGG TCA GGCT
GAGCTATGATCACACTACTA TGTCC AACGAG CGGGTCC AGT TCGA
CACTCCAGCCTGGGCAACAG CAG- ACAA GACCTCACATCATCACACT A ------
AGCAAGACCCTGT
GAM33708 273633 AGTCCTCTTATGCTGTTGAC CTTA CATTT GTGA ATT CTTT
8 ATTTCCCCATGTGATGCTAT AGTCCT TGCTGTTGA CCCCAT TGCT GCTTCT
TGCTTCTCTTTGGAGGCTAA TCGGGA ACGACAATT GGGGTA ACGA CGGAGG
GCAGTAAATGGGGTTAACAG ---- ----- AATG AT- ----
CAAGGGCT
GAM33708 274564 TGCTGTTGACATTTCCCCAT CATTT GTGA ATT CTTT
9 GTGATGCTATTGCTTCTCTT TGCTGTTGA CCCCAT TGCT GCTTCT
TGGAGGCTAAGCAGTAAATG ACGACAATT GGGGTA ACGA CGGAGG
GGGTTAACAGCA ----- AATG AT- ----
GAM33709 274611 TGTTGATATGTGGCAGTGCA TG --- --- - GG G AGAGA AGAAGCATG CCTC

0 GGGTTGCAAGAGAGAGTAGA TGT ATA TGTGGCA GTG CA GTT CA GAGT CAAGGCCT

AGCATGCAAGGCCTCCTCAG ACG TAT ATACCGT CAC GT CAA GT CTCA GTTTCGGA
GCTTTGACTCAGAAATGGAA GT CGT CTT T AG G AAAGA --------- ----
CGATGTCACTTCTGCCATAT
GCTATTGGCA
GAM33709 273283 TGAGGCAGGAGAATGGCGTG A AATG G- AA- AGGC CT A - AGAT
1 AACCCGGGAGGCGGAGCTTG TGAGGC GGAG GC TG CCCGGG GGAG TGCAGTG GC CG

CAGTGAGCCGAGATCGCGCC ACTCTG CCTC TG AC GGGTCC CCTC ACGTCAC CG GC

ACTGCACTCCAGCCTGGGCA - AGAG AG AAC GA-- -- - C ----
ACAGAGTGAGACTCCGTCTC
A
GAM33709 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
2 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC

TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33709 274324 GGGGCTTCTTCCCTGGCAGG TCTTCCC A GAT AACTA CACCAAC
3 ATTCCTGGGATTTCAAACTA GGGGCT TGGCAGG TTCCTGG TTCA CCT
CCTCACCAACAGGACGCTGA CCCCGG ACCGTCC GAGGACC AAGT GGA
ACCAGGAGCCTGCCACCCAA TCAACCC - --- CGCA- -------
CTGGCCCC
GAM33709 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
4 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33709 273277 GCTTGGCATCAGTTTCATTT TCAGTTTC AAA ATA GCATCA
5 TGCAAAACATGGCTTTGATA GCTTGGCA ATTTTGC ACATGGCTTTG ATT
ATTGCATCAGATCTGCAAGG TGAACCGT TAAGACG TGTGTCGGAAC TAG
CTGTGTAGGCAGAATTCTTA TATTCT-- GA- GTC ------
TTGCCAAGT
GAM33709 273503 GAGGCAGGAGAATCACTTGA G AA A GA--- CGG G A A CGAGATCAT
6 ACCCGGGAGGCTGAGGGTAC GAGGCAG AG TC CTT ACC GAGGCT AGGGT CAGTG GC

AGTGAGCCGAGATCATGCCA CTCTGTC TC AG GAA TGG CTCCGA TCTCA GTCAC CG

CTGCACTCTAGCCTCGGTGA - AG - GCCAG --- - C - ---------
CCGAAGGAGACTCTGTCTC
GAM33709 273257 GCTAGTGTGGACACACAGCT G A- ACA -- CA C-- ATAGT
7 CTTGGAAAGCATGTACATTT GCTA TGTGG CAC GCTCTT GGAAAG TGTA ATTTGGAGGAT

GGAGGATATAGTGTCTTCTA CGGT ACATT GTG TGAGAG TCTTTC ATAT TAAATCTTCTG

AATAATTATACACTTTCTAT G CG GGA TA AC TAA -----
GAGAGTAGGGTGGCTTACAG
TGGC
GAM33709 274514 TCTTTTCTTTGGTAGGCTAG TTTCTTT CTA TTCG A TTACCCTCCCCA A CTTTT

8 CCTTCGAGACTGCATTACCC TCT GGTAGG GCC AG CTGCA ACTT AAAT GATAACCC
TCCCCAACTTAAAATCTTTT AGA CTATTT CGG TC GATGT TGAA TTTA CTATTGGG
GATAACCCAGGCAGCTGGGT T------ A-- TATG - TGTTTTTC---- A ACCC-
TATCCCCAATTTAAAGTCTT GCAG
TTTGTTGTAGCTGTATGGCA AG
TTTATCTAGA TC

GAM33709 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
9 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33710 274191 GCTTGGTATGCTCAGAAGCT T T CTGCT -- CA G AATTTCTTG
0 GCTAAAGTGTGTATGGGCAG GCTTGGTA GC CAGAAG AAAGT GTGTATGGG GGTGT GGGGC

GTGTGGGGGCAATTTCTTGG TGAATCGT CG GTCTTT TTTCA TATATACCT TCACG TCCTG

TCCTAGCACTTCCATATATC - - TC--- GC -- A ---------
GACTTTCTTTTCTGGCTGCT
AAGT
GAM33710 274357 GTAGAGAACCTCATCATGAG AA- ----- ------ TG A TTAG
1 ATTTGAGAATAGCTTTAGAG GTAGAG CCTCAT CATGAGAT T AGA TAGCT
TTACTCTTGGGATAGTGTCT CATCTC GGAGTG GTACTCTG G TCT ATTGA
CATGGCCCTGTGAGGGAACT AAG TCCCG TGATAG GT C ----
CTAC
GAM33710 273782 CAGGAGTACGACGCTGTGGT C -- AG- T A CA - CAGCCT
2 AGCTATGATCATGCCACTGC CAGGAGTA GAC GCTGTGGT CTA GATC TGC CTG CACTC

ACTCCAGCCTGGGTGACAGA GTCCTCGT CTG TGACATTA GAT CTAG ACG GAC GTGGG

GCAAGATCTAGATAATTACA C TC ATA - A A- A ------
GTCTGTCCTGCTCCTG
GAM33710 272798 AGGAGTACGACGCTGTGGTA C -- AG- T A CA - CAGCCT
3 GCTATGATCATGCCACTGCA AGGAGTA GAC GCTGTGGT CTA GATC TGC CTG CACTC

CTCCAGCCTGGGTGACAGAG TCCTCGT CTG TGACATTA GAT CTAG ACG GAC GTGGG

CAAGATCTAGATAATTACAG C TC ATA - A A- A ------
TCTGTCCTGCTCCT
GAM33710 274262 GGAGTACGACGCTGTGGTAG C -- AG- T A CA - CAGCCT
4 CTATGATCATGCCACTGCAC GGAGTA GAC GCTGTGGT CTA GATC TGC CTG CACTC

TCCAGCCTGGGTGACAGAGC CCTCGT CTG TGACATTA GAT CTAG ACG GAC GTGGG

AAGATCTAGATAATTACAGT C TC ATA - A A- A ------
CTGTCCTGCTCC
GAM33710 273836 GGGCCAAAAATTCAAGATGC CCAAAAA GA- TC G GT- GGG T AACC
5 TCATTTGCAAGTTGTCTTCT GGG TTCAA TGC ATTT CAAGTT CTTCTA TGT GCCTG
AGGGTGTTGCCTGAACCTAG CCC AAGTT GCG TGGA GTTCGG GAAGAT ACG CGGAT

GCTGCAGTAGAAGTGGGGCT TA----- ATA GA G GGT G-- T ----
TGGAGGTAGGCGATATTGAA
ATCCC
GAM33710 272889 CAGCTTGCAGCACACACAGC TT CAC A GT -- A CTGCTCT
6 ATTGGTCATGAGGTCAGCTG CAGC GCAGCA ACAGC TTG CA TG GGTCAG
CTCTCTGACCCACTTGCTCA GTTG CGTCGT TGTTG GAC GT AC CCAGTC
GAGTTGTTTGCTGCCTGTTG TC T-- A TC TC - -------
GAM33710 273029 CCTGGGGTCTGACGTGTGTG GGT T CGT - T ATGCTTAAC
7 CGTGTGAGTGTGTATACATG CCTGG CTGACGTG GTG GTGA GTG GTATAC
CTTAACGTATATCACGTTAC GGACC GACTGTAT CAC CATT CAC TATATG
TTCACCTATGTCAGTAACCA AAT C TT- G - ---------
GG
GAM33710 272889 CAGCTTGCAGCACACACAGC TT CAC A GT -- A CTGCTCT
8 ATTGGTCATGAGGTCAGCTG CAGC GCAGCA ACAGC TTG CA TG GGTCAG
CTCTCTGACCCACTTGCTCA GTTG CGTCGT TGTTG GAC GT AC CCAGTC

GAGTTGTTTGCTGCCTGTTG TC T-- A TC TC - -------
GAM33710 274317 GGGCTGGGCAAGATGGCTCA GCA- ----- T TT AG GTA GAGG
9 TGTTTGTAGTCTCAGTACTT GGGCTGG AGAT GGCTCA GT GT TCTCA CTTTGG
TGGGAGGCCAAAGATGGGAG TCCGACC TTTG CCGAGT CG TA AGGGT GAAACC
GATTGCTTGAGCCCGTGAGT AGAG AGTGC T T- GG A-- ----
TTGAGACCAGCCT
GAM33711 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
0 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33711 273173 GAGATGGGAGAATCACTTAA G AA A AA-- AAT C A ATGACTG
1 GCCCAGGAATTTGAGGCTGC GAGATGG AG TC CTT GCCCAGG TTGAGG TGCAGTG GCA

AGTGAGCAATGACTGTGCCA CTTTACT TC GG GAG TGGGTCC GACTTC ATGTCAC CGT

CTGTACTTCAGCCTGGGTAA - AG - ACAA --- - - -------
CAGAGGGGACTTCATTTC
GAM33711 273573 GGAGAATCACTTAAGCCCAG AA A AA-- AAT C A ATGACTG
2 GAATTTGAGGCTGCAGTGAG GGAG TC CTT GCCCAGG TTGAGG TGCAGTG GCA
CAATGACTGTGCCACTGTAC CTTC GG GAG TGGGTCC GACTTC ATGTCAC CGT
TTCAGCCTGGGTAACAGAGG AG - ACAA --- - - -------
GGACTTC
GAM33711 273138 GAATCACTTAAGCCCAGGAA - A- AA-- AAT C A ATGACTG
3 TTTGAGGCTGCAGTGAGCAA GAA TC CTT GCCCAGG TTGAGG TGCAGTG GCA
TGACTGTGCCACTGTACTTC CTT AG GAG TGGGTCC GACTTC ATGTCAC CGT
AGCCTGGGTAACAGAGGGGA C GG ACAA --- - - -------
CTTC
GAM33711 273356 TGGTTCCTCGACAGGCAGAT C-- GA--- T CTT T ATGAATAAA TAGCAT
4 AATCATGTCTTCTTTGTTTA TGGTTC TCGACAGGCA TAA CATGT CT TGTTTAGAG CACC

GAGATGAATAAACACCTAGC ACCAAG GGTTGTTCGT ATT GTGTA GA ATAAGTCTC GTGG

ATGGTGCTCTGAATATAGTA TTA AAACA C T-- T --------- ------
TGTGCTTAACAAATGCTTGT
TGGATTGAACCA
GAM33711 272810 AGGCTGGGAACATTCAGGGC - - C CA CAAGCCC- T- CAACCC
5 TGCTCAAGCCCAGGGTTGGC AGG CTGG GAA ATT GGGCTGCT AGGG TGG
AACCCCCACTCCCTCCAACA TCC GACC CTT TGA CTCGACGA TCCC ACC
CAAGCAGCTCAAGTCTTCTC A T C A- ACACAACC TC ------
CAGACCT
GAM33711 273760 CAACACCTCTGGCCTGGCAG CACC G ----- G CTG -- C T ACGG
6 AGGCCCTGAGCAGATGTGAG CAA TCTG CCTG GCA AGGCC AGCAGATGT GAG TGGT ACC

CTGGTTACCACGGGGTTATC GTT AGAC GGAT CGT TTTGG TTGTTTACG CTC ACTA TGG

AACTCTGGCATTTGTTGGTT TATA A GACGG A --- GT A T ----
TATGCGGCAGTAGGACAGAA
TATTTG
GAM33711 273925 CCTCTGGCCTGGCAGAGGCC - G TG G CTG -- C T ACGG

7 CTGAGCAGATGTGAGCTGGT CCT CTG CC GCA AGGCC AGCAGATGT GAG TGGT ACC

TACCACGGGGTTATCAACTC GGA GAC GG CGT TTTGG TTGTTTACG CTC ACTA TGG
TGGCATTTGTTGGTTTATGC T - -- A --- GT A T ----
GGCAGTAGG
GAM33711 273107 CTGTCCTGTAGATACATGGG --- GGG--- A C A - TATAAGCGC
8 GGATGATCATAAGTGAGCTT CTGTCCTGTA GATACAT GG TGAT ATA GTGA GCTTT
TTATAAGCGCAGAGTATTAC GACAGGACAT CTATGTG CC ACTA TAT CATT TGAGA
CTATATCACCGTGAAAGTGT ACG AAAGTG - - C A ---------
ATCGCATACAGGACAG
GAM33711 274341 GGTCTCCCTCTTGCCCAGGC C- - CCC G T T TGCAATCATAGT GC TTCTG

9 TGGAGTGCAGTGATGCAATC GGTCTC CT CTTG AGGCTG AG GCAG GA TCACT AACC

ATAGTTCACTGCAACCTTCT TCAGAG GA GAAC TCCGAC TC CGTC CT AGTGA TTGG
GGGTTCAAGTGATTTTCCTG TT T CC- - - - TTT--------- AC -----
CCTCAGCCTCCCAAGTAGTT
GAGACT
GAM33712 273782 CAGGAGTACGACGCTGTGGT C -- AG- T A CA - CAGCCT
0 AGCTATGATCATGCCACTGC CAGGAGTA GAC GCTGTGGT CTA GATC TGC CTG CACTC

ACTCCAGCCTGGGTGACAGA GTCCTCGT CTG TGACATTA GAT CTAG ACG GAC GTGGG

GCAAGATCTAGATAATTACA C TC ATA - A A- A ------
GTCTGTCCTGCTCCTG
GAM33712 272798 AGGAGTACGACGCTGTGGTA C -- AG- T A CA - CAGCCT
1 GCTATGATCATGCCACTGCA AGGAGTA GAC GCTGTGGT CTA GATC TGC CTG CACTC

CTCCAGCCTGGGTGACAGAG TCCTCGT CTG TGACATTA GAT CTAG ACG GAC GTGGG

CAAGATCTAGATAATTACAG C TC ATA - A A- A ------
TCTGTCCTGCTCCT
GAM33712 274262 GGAGTACGACGCTGTGGTAG C -- AG- T A CA - CAGCCT
2 CTATGATCATGCCACTGCAC GGAGTA GAC GCTGTGGT CTA GATC TGC CTG CACTC

TCCAGCCTGGGTGACAGAGC CCTCGT CTG TGACATTA GAT CTAG ACG GAC GTGGG

AAGATCTAGATAATTACAGT C TC ATA - A A- A ------
CTGTCCTGCTCC
GAM33712 273782 CAGGAGTACGACGCTGTGGT C -- AG- T A CA - CAGCCT
3 AGCTATGATCATGCCACTGC CAGGAGTA GAC GCTGTGGT CTA GATC TGC CTG CACTC

ACTCCAGCCTGGGTGACAGA GTCCTCGT CTG TGACATTA GAT CTAG ACG GAC GTGGG

GCAAGATCTAGATAATTACA C TC ATA - A A- A ------
GTCTGTCCTGCTCCTG
GAM33712 272798 AGGAGTACGACGCTGTGGTA C -- AG- T A CA - CAGCCT
4 GCTATGATCATGCCACTGCA AGGAGTA GAC GCTGTGGT CTA GATC TGC CTG CACTC

CTCCAGCCTGGGTGACAGAG TCCTCGT CTG TGACATTA GAT CTAG ACG GAC GTGGG

CAAGATCTAGATAATTACAG C TC ATA - A A- A ------
TCTGTCCTGCTCCT
GAM33712 274262 GGAGTACGACGCTGTGGTAG C -- AG- T A CA - CAGCCT
5 CTATGATCATGCCACTGCAC GGAGTA GAC GCTGTGGT CTA GATC TGC CTG CACTC

TCCAGCCTGGGTGACAGAGC CCTCGT CTG TGACATTA GAT CTAG ACG GAC GTGGG

AAGATCTAGATAATTACAGT C TC ATA - A A- A ------
CTGTCCTGCTCC
GAM33712 273176 GAGCCATTAATCTCGGGGTC C GG- CTCT AAC ACCTT
6 TCAGCCTCTCTTAACGGACC GAGCCATTAATCT GG TCTCAGC CTT GG
TTCCAGGCACTGCTGAGAAA TTTGGTAATTGGA CC AGAGTCG GGA CC
ACCAGGTTAATGGTTT - AAA TCAC --- -----
GAM33712 274122 TGAGGCAGGAGAATCGCTTG GAGAATC AA-- T AGG GT AGC AGAT
7 AACCTGGCAGGTGGAGGTTG TGAGGCAG GCTTG CC GGC TGGAG TGCAGTG CG

CAGTGAGCCGAGATCGCACC ACTCTGTC CGAAC GG CCG ACCTC ACGTTAC GC
ATTGCACTCCAGCCTGGGCA AAAACA- AACG T --- -- CAC ----
ACAAGCACAAAACTGTCTCA
GAM33712 273191 GAGGCAGGAGAATCGCTTGA GAGAATC AA-- T AGG GT AGC AGAT
8 ACCTGGCAGGTGGAGGTTGC GAGGCAG GCTTG CC GGC TGGAG TGCAGTG CG
AGTGAGCCGAGATCGCACCA CTCTGTC CGAAC GG CCG ACCTC ACGTTAC GC
TTGCACTCCAGCCTGGGCAA AAAACA- AACG T --- -- CAC ----
CAAGCACAAAACTGTCTC
GAM33712 273521 GAGGCAGGAGAATGGCGTGA A AATG G- AA- AGGC CT A CGAGATCAT

9 ACCCGGGAGGCGGAGCTTGC GAGGC GGAG GC TG CCCGGG GGAG TGCAGTG GC

AGTGAGCCGAGATCATGCCA CTCTG CCTC CG AC GGGTCC CCTC ACGTCAC CG
CTGCACTCCAGCCTGGGCAA - AGAG AG AAC GA-- -- - ---------
CAGAGCGAGACTCCGTCTC
GAM33713 273578 GGAGAATCACTTGAACCCAG AA GAA--- AGG GT A- TGAGATT
0 GAGGTGGAGGTTGTAGTGAG GGAG TCACTT CCCAGG TGGAG TGTAGTG GC
CTGAGATTGCACCACTGCAC CCTC AGTGAG GGGTCC ACCTC ACGTCAC CG
TCCAGCCTGGGCGATAAGAG AA AATAGC G-- -- CA -------
TGAAACTCC
GAM33713 273292 TGAGGCGCCCTGAAAACATA A CC AAAA - CT AGAT ---- CAGAAGTATC
1 GGCTGGGCTTGTGTGAGATG TG GGCGC TG CAT AGGCTGGG TGTGTG GGGAGAA AGAC

GGAGAAAGACCAGAAGTATC AC TCGTG AC GTA TTCGACCT ACACAC CCCTCTT TCTG

GTCTAAACTTCTCCCTGCCC A TC G--- C -- CCGT CAAA ----------
ACACATCCAGCTTCATGGCA
CTGTGCTACA
GAM33713 273029 CCTGGGGTCTGACGTGTGTG GGT T CGT - T ATGCTTAAC
2 CGTGTGAGTGTGTATACATG CCTGG CTGACGTG GTG GTGA GTG GTATAC
CTTAACGTATATCACGTTAC GGACC GACTGTAT CAC CATT CAC TATATG
TTCACCTATGTCAGTAACCA AAT C TT- G - ---------
GG
GAM33713 273780 CAGCGCGGCTCCCGCCACCC CG ---- G AC- ---- TTG A - GA ----

3 TCAATAAATGTTGCTTGGAG CAGCG GCTC CC CC CCTCAAT AAATG CTTGG GTGGA CC
GGCT CT
TGGACCGAGGCTCTGCAGGA GTCGT TGAG GG GG GGAGTTG TTTAT GGACC CGCCT GG
CCGG GA
ATGCAGGGAGGGCCGGGCTC CT TGTT A ACA AATC TG- C C G- GAGG
CGCCCCAGGGTTATTTCTAA GGAA
GTTGAGGACAGGAGGTTGTG GCA
AGTTCTGCTG CGT

GAM33713 274496 TCGGGAGGGATGGTGAGTTC GA TG TG ------ - - AA A AAAGGACA
4 CTGTCATCCTCTAACTCACA TCGG GGGA G A GTT CCTGTCATCCT CT CTC CATT
TTAAAGGACAAATGAGAGGG AGTC CCCT T T CGG GGACGGTGGGA GG GAG GTAA
GCAGGGTGGCAGGTGGCCAT AA GT GT AGGTAC T C G- A --------
GGATTGTTGTCCCAACTGA
GAM33713 274168 GCTAGGATTGCACCACTGCA A -------- CCAA CA AGCAAGACC
5 CTCCAACCTGGACAACAGAG GCT GGATTGCA CCACTGCACT CCTGGA ACAG
CAAGACCCTGTCTCTAGGCC CGA CCTAATGT GGTGACGTGG GGATCT TGTC
AGGTGCAGTGGCTCACACCT C CCACACTC ACC- C- ---------
GTAATCCCAGC
GAM33713 274034 TCACATTCTCCATAACTGGA CA TAA G - - -- A ACCA G GGA
6 TATGAGGGAAGCATGGGACC TCA TTCTCCA CTG ATA TGAGG GA AGC TGGG TGATCCCTG AG

ATGATCCCTGGAGGGACTGC AGT AAGAGGT GAC TGT ACTCT CT TCG ACCC GTTAGGGAC TC

AGGGATTGCCCACGCTAGTC CA C-- A C A GA C ---- G ---
ATCTCACTGTACAGCTGGAG
AAACTGA
GAM33713 272767 AGAATTGAGGTTTGTGGCTT G G - T TTC - CATGACAAGA C CTTG
7 CGCTGTTCCTGTAGGGTGCA AGAATT AGGTTT TG GC TCGCTG CTGT AGGGTG TCC TTCT

TGACAAGATCCCTTCTCTTG TTTTAA TCCAAA AT CG AGTGAC GACG TCCCAC AGG AAGA

AGAAAGGAAAAAATTGATCA - G A T --- A TAGTTAAAAA A ----
CCCTAGCAGCAGTGATGCAT
AGAAACCTAATTTT
GAM33713 273485 GAGACCTCTATCTATAAAAA C--- A AAAAAATG ---- A A AGACT AATGA
8 ATGAGGCAGGAGTTGGCAAG GAGAC TCT TCTAT AGGCAGGAGT TGGCA G GGTCA GC

AGGTCAAGACTGCAATGAGC CTCTG AGA GGGTA TCCGTCCTCA ACCGT C CTAGT CG

CATGATCCTGCCACTATACT TCCC - GTGGG--- TATC - - AC--- -----
CCTGCCTGGGTGATGGGAGA
CCCTGTCTC
GAM33713 274496 TCGGGAGGGATGGTGAGTTC GA TG TG ------ - - AA A AAAGGACA
9 CTGTCATCCTCTAACTCACA TCGG GGGA G A GTT CCTGTCATCCT CT CTC CATT
TTAAAGGACAAATGAGAGGG AGTC CCCT T T CGG GGACGGTGGGA GG GAG GTAA
GCAGGGTGGCAGGTGGCCAT AA GT GT AGGTAC T C G- A --------
GGATTGTTGTCCCAACTGA
GAM33714 273780 CAGCGCGGCTCCCGCCACCC CG ---- G AC- ---- TTG A - GA ----
0 TCAATAAATGTTGCTTGGAG CAGCG GCTC CC CC CCTCAAT AAATG CTTGG GTGGA CC
GGCT CT

TGGACCGAGGCTCTGCAGGA GTCGT TGAG GG GG GGAGTTG TTTAT GGACC CGCCT GG
CCGG GA
ATGCAGGGAGGGCCGGGCTC CT TGTT A ACA AATC TG- C C G- GAGG
CGCCCCAGGGTTATTTCTAA GGAA
GTTGAGGACAGGAGGTTGTG GCA
AGTTCTGCTG CGT

GAM33714 273029 CCTGGGGTCTGACGTGTGTG GGT T CGT - T ATGCTTAAC
1 CGTGTGAGTGTGTATACATG CCTGG CTGACGTG GTG GTGA GTG GTATAC
CTTAACGTATATCACGTTAC GGACC GACTGTAT CAC CATT CAC TATATG
TTCACCTATGTCAGTAACCA AAT C TT- G - ---------
GG
GAM33714 273816 CCATGGCCTGGTGAGGAAAT - GG - AAATCA - TT T ATTC ACCTCAAA
2 CAGAGTGTGTTTTGCTTTGT CC AT CC TGGTGAGG GAGT GTGT TGCTTTG ATTCT CC

ATTCTATTCCCACCTCAAAG GG TA GG ATTACTCT TTCG CACG ATGAAAT TAGGA GG
GCAGGATTAAAGTAGCACTG C AA T GCACTG T -- - C--- --------
CTTGTCACGTCTCATTATGG
AAATCGG
GAM33714 274168 GCTAGGATTGCACCACTGCA A -------- CCAA CA AGCAAGACC
3 CTCCAACCTGGACAACAGAG GCT GGATTGCA CCACTGCACT CCTGGA ACAG
CAAGACCCTGTCTCTAGGCC CGA CCTAATGT GGTGACGTGG GGATCT TGTC
AGGTGCAGTGGCTCACACCT C CCACACTC ACC- C- ---------
GTAATCCCAGC
GAM33714 273821 CCCACAGGTGATTCTGTTGT GT- T T C G TG AGGCT
4 GCAGCCATGGTTGGCAGGCT CCCACAG GAT CTGTTG GCAGC AT GT GC
GTTCACGGTGCTGTTCAACA GGGTGTC CTG GACAAC TGTCG TG CA TG
GGTCCTGCTGTGGG GTC - T - G CT -----
GAM33714 274606 TGTGCCTGCCCCAATCTTGT - ----- -- TG TTTAT - CACCTGTA
5 GTTTTATTGCTGGCCACCTG TGTGC CTGC CCCA ATCTTG T TGC TGGC
TAGCCAGGCACTGTGCAGGA ACATG GACG GGGT TAGGAC G ACG ACCG
TGATGGGATCCAGCAGTGTA T ACCTA AG GT TC--- G --------
CA
GAM33714 274103 TGAGACAGAAGAATCGCTTG A AA TGAA GGC A T A- TGAGATT
6 AACTCGGGCGGCGGAAGTTG TGAGACAGA G TCGCT CTCGGGC GGA GT GCAGTG GC

CAGTGAGCTGAGATTGCACC ACTCTGTCT C AGTGA GGGTCCG CCT CA CGTCAC CG

ACTGCACTCCAGCCTGGGCA - AG CAAC A-- - - CA -------
ACAGTGAGACTCTGTCTCA
GAM33714 273480 GAGACAGAAGAATCGCTTGA A AA TGAA GGC A T A- TGAGATT
7 ACTCGGGCGGCGGAAGTTGC GAGACAGA G TCGCT CTCGGGC GGA GT GCAGTG GC

AGTGAGCTGAGATTGCACCA CTCTGTCT C AGTGA GGGTCCG CCT CA CGTCAC CG
CTGCACTCCAGCCTGGGCAA - AG CAAC A-- - - CA -------
CAGTGAGACTCTGTCTC
GAM33714 274072 TCGCTTGAACTCGGGCGGCG TGAA GGC A T A- TGAGATT
8 GAAGTTGCAGTGAGCTGAGA TCGCT CTCGGGC GGA GT GCAGTG GC
TTGCACCACTGCACTCCAGC AGTGA GGGTCCG CCT CA CGTCAC CG
CTGGGCAACAGTGA CAAC A-- - - CA -------

GAM33714 272946 AAATTTTGGGGGAATTTTAC - AT AGA C-- TCTA
9 TGCCCTAGAGGACTGGTTCT AAATTTTG GGGGA TTTACTGCCCT GGA TGGT
AGCCACTTTCCCAGGGCAGT TTTGAAAC TCTCT AGGTGACGGGA CCT ACCG
GGATCTCTGCAAAGTTT G -- C-- TTC ----
GAM33715 274168 GCTAGGATTGCACCACTGCA A -------- CCAA CA AGCAAGACC
0 CTCCAACCTGGACAACAGAG GCT GGATTGCA CCACTGCACT CCTGGA ACAG
CAAGACCCTGTCTCTAGGCC CGA CCTAATGT GGTGACGTGG GGATCT TGTC
AGGTGCAGTGGCTCACACCT C CCACACTC ACC- C- ---------
GTAATCCCAGC
GAM33715 273506 GAGGCAGGAGAATCATTTGA AG AA A- A- AAG GT - CAAGATC
1 ACCTGGGAAGTGGAGGTTGC GAGGC GAG TC TTTG ACCTGGG TGGAG TGCAGTGA GC

AGTGAGCCAAGATCGTGTCA CTCTG CTC AG AAAT TGGATCC ATCTC ACGTCACT TG
CTGCACTCTAGCCTAGGTGA A- AG CG AG G-- -- G -------
TAAAGCGAGACTCAGTCTC
GAM33715 273233 GCACAGTGAGAGAAACAGAC AGAGAA CC CCT T GTGCAAGGA
2 TCCACCACACCTTCTTGGCT GCACAGTG ACAGACTCCA ACA TCT GGCT
GTGCAAGGAAGTCAGATGAT CGTGTCAT TGTCTGAGGT TGT AGA CTGA
GTTGGAGTCTGTGCTACTGT CG---- -- AGT - ---------
GC
GAM33715 273209 GAGGCTGAGGAAAGAAGATT T GAA AAGA GAG ATTA GC A A TATGATCAT

3 GCTTGAGCCCAGGAATTAGA GAGGC GAG AG TTGCTT CCCAGGA GAG TGCA TG GC

GGCTGCAATGAGCTATGATC CTCTG CTC TC GACGAG GGGTCCT CTC ACGT AC CG
ATGCCACTGCACTCCATCCT T AGA GA-- --- AC-- -- C - ---------
GGGGAGCAGAGCTAGACTCT
GTCTC
GAM33715 274116 TGAGGCAGGAGAATCACTTG CA AA A GAA-- AGG GT A- TGAGATT
4 AACCCGGGAGGTGGAGGTTG TGAGG GGAG TC CTT CCCGGG TGGAG TGCAGTG GC

CAGTGAGCTGAGATTGCGCC ACTCT CCTC AG GAG GGGTCC ACCTC ACGTCAC CG

ACTGCACTCCAGCCTGGGCA A- AG C ACAAC G-- -- CG -------
ACAGAGCGAGACTCCATCTC
A
GAM33715 273187 GAGGCAGGAGAATCACTTGA CA AA A GAA-- AGG GT A- TGAGATT
5 ACCCGGGAGGTGGAGGTTGC GAGG GGAG TC CTT CCCGGG TGGAG TGCAGTG GC

AGTGAGCTGAGATTGCGCCA CTCT CCTC AG GAG GGGTCC ACCTC ACGTCAC CG
CTGCACTCCAGCCTGGGCAA A- AG C ACAAC G-- -- CG -------
CAGAGCGAGACTCCATCTC
GAM33715 274221 GGAGAATCACTTGAACCCGG AA A GAA-- AGG GT A- TGAGATT
6 GAGGTGGAGGTTGCAGTGAG GGAG TC CTT CCCGGG TGGAG TGCAGTG GC
CTGAGATTGCGCCACTGCAC CCTC AG GAG GGGTCC ACCTC ACGTCAC CG
TCCAGCCTGGGCAACAGAGC AG C ACAAC G-- -- CG -------
GAGACTCC
GAM33715 273696 GGAGAATTGCTTGCACCCAG AA - - AGGCA - T T GC AGAT
7 GAGGCAGAGGTTGTGGTGAG GGAG TTGCT TG CACCCAGG GAG GT GTGG GA TG
CTGAGATCGTCCCATTGCAC CCTC AGCGG AC GTGGGTCC CTC CG TACC CT GC

TCCAGCCTGGGTGACAGGGC AA G A GAC-- A T - -- ----
GAAACTCC
GAM33715 273710 GGATGGTTTGGGGAAGAGAA GG GGA G AT T - GA--- CAGA
8 TGTGCATGGATCGCTCAGAA GGAT TTTGG AGAGAAT TGCATGG CGC CAGA ACT CC

CTGACCCAGAGGCAATGAGT CCTG AAACC TCTCTTA GTGTACC GTG GTTT TGA GG
ATTTGTGTGCCATGTGGATT TA --- G -- T A GTAAC ----
CTCTCCAAAATGTCC
GAM33715 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
9 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33716 273481 GAGACAGGAGAATCACTTGA CA AA GAA-- A- CAAA T - CAAGATC
0 ATCCGGGAGGCAAAGGTTGC GAGA GGAG TCACTT TCCGGG GG GGT GCAGTG TGT

AGTGTGTCAAGATCACACCA CTCT CTTC AGTGAG GGGTCC CC TCA CGTCAC ACA
CTGCACTCCAGCCTGGGCAA A- AG ACAAC GA ---- - C -------
CAGAGTGAGACTTCATCTC
GAM33716 274412 GTTATGAAGCTTGTAGGGGG - AAG G A CCAC AGACC AGGT
1 TTTAGCTCCACAGGGTCAGA GTT ATG CTT TAGGGGGTTT GCT AGGGTC TGC
CCTGCAGGTGCAAACAGGCC CAG TGC GGA GTCCCCCAAG CGG TCCCGG ACG
CTAGGCGAACCCCCTGGAGG T AAA G - A--- ACAA- ----
AAACGTTGAC
GAM33716 273681 GGAGAATGGCATGAACCCGG AATG A- AA- AGG CT A AGAGATCAC
2 GAGGTGGAGCTTGCAGTGAG GGAG GC TG CCCGGG TGGAG TGCAGTG GC
CAGAGATCACGCCACTGCAC CCTC CG AC GGGTCC ACCTC ACGTCAC CG
TCCAGCCTGGGCAACAGAGC AGAG AG AAC G-- -- - ---------
GAGACTCC
GAM33716 272773 AGAGAGGGACCAGCTCTTGG A G C ----- -- A A T TT-
CAACCTCTCCCATGCCA
3 CAATCAATGGGGTCTCTTGC AG GAGG AC AGC TCTT GGCA TC ATGGGG CTC GCAC

ACCAACCTCTCCCATGCCAG TC CTCC TG TCG AGGA CCGT AG TACTCC GAG CGTG
TGCCATGAGCCTCATCGATG A - T ACTAA CT - C - TAC ----------
CCTCAGGAAATCAGCTTGTC
CTCACT
GAM33716 274210 GGACCAGCTCTTGGCAATCA C ----- -- A A T TT- CAACCTCTCCCATGCCA
4 ATGGGGTCTCTTGCACCAAC GGAC AGC TCTT GGCA TC ATGGGG CTC GCAC
CTCTCCCATGCCAGTGCCAT CCTG TCG AGGA CCGT AG TACTCC GAG CGTG
GAGCCTCATCGATGCCTCAG T ACTAA CT - C - TAC ----------
GAAATCAGCTTGTCC
GAM33716 272839 AGTTTTAGGGTACATGTACA TTA A T - - G T T ATAT
5 CAACGTGCAGGTTTGTTACA AGTT GGGT CA GTACAC AACGTG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT CGTGTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - G C G C - ----
CT
GAM33716 273209 GAGGCTGAGGAAAGAAGATT T GAA AAGA GAG ATTA GC A A TATGATCAT

6 GCTTGAGCCCAGGAATTAGA GAGGC GAG AG TTGCTT CCCAGGA GAG TGCA TG GC

GGCTGCAATGAGCTATGATC CTCTG CTC TC GACGAG GGGTCCT CTC ACGT AC CG
ATGCCACTGCACTCCATCCT T AGA GA-- --- AC-- -- C - ---------
GGGGAGCAGAGCTAGACTCT
GTCTC
GAM33716 274205 GGAATAAGAAAGGCAACGTT AAA-- - --- T ATT A AACTAA
7 TTGCAGCTTCCAAATTTCTG GGAATAAG GGCAACGTTTTG C AGCT CCAA TCTGA GA

AAGAAACTAATCTCAGATTG CCTTATTT CCGTTGTAAAAC G TTGA GGTT AGACT CT
GCAGTTAAAGTCAAAATGTT ATAAA T AAA C --- - ------
GCCAAATATTTATTCC
GAM33716 274382 GTCTGGCATTCCCTAGTGAG G - TA- ATGAACC GT CTC AAATGCAGAAATCAC

8 ATGAACCCGGTACCTCAGAT GTCTG CA TTCCC GTGAG CG AC AGATGG
GGAAATGCAGAAATCACCCA CAGAT GT GAGGG TACTC GC TG TCTACC
TCTTCTGTGTCGCTCATGCT - C TCG ------- TG TCT ----------
GGGAGCTGTAGAC
GAM33716 273466 GAATGATTTGAAGGGGGCAG GA TG GG TCAG G - A- GGTCTG
9 TCAGAGAAGTAGGAATATCA GAAT TT AAG GGCAG AGAA TAGGA ATATC GGAGTGGT

GGAGTGGTGGTCTGATTACT CTTA AA TTC TTGTT TCTT GTTCT TGTAG TCTCATTA
CTGAGATGTGTCTTGATTCT -- GT TT TTA- A G AG ------
ATTTTGTTTTCTTTGAAATT
C
GAM33717 273426 CTGTTGTTAAAACCTGCTTC T TTAAA CC A CT CATCAGCCATCCA
0 CCCACTGCTCAGCCTGCCAT CTG TG ACCTGCTT CCACTGCTC GC GC
CAGCCATCCAGCTGCAGAGC GAC AC TGGATGAG GGTGACGAG CG CG
AGTGGAGAGTAGGTCTCACC C TC--- A- A T- ----------
AG
GAM33717 273209 GAGGCTGAGGAAAGAAGATT T GAA AAGA GAG ATTA GC A A TATGATCAT

1 GCTTGAGCCCAGGAATTAGA GAGGC GAG AG TTGCTT CCCAGGA GAG TGCA TG GC

GGCTGCAATGAGCTATGATC CTCTG CTC TC GACGAG GGGTCCT CTC ACGT AC CG
ATGCCACTGCACTCCATCCT T AGA GA-- --- AC-- -- C - ---------
GGGGAGCAGAGCTAGACTCT
GTCTC
GAM33717 273357 TGGTTGAGGCCAGGAATTCG CA-- A AGACA GCAACAAA-- - TCCCA
2 AGACAAGTCTGGGCAACAAA TGGTTGAGGC GGA TTCG AGTCTGG GT GAGA
GTGAGATCCCATCTCTACAA ATCGACTCCG CCT GGGT TCAGACC CA CTCT
AAAATTAGCCAGACTGGTGG ATTC C GG--- GATTAAAAAA T -----
GCTCCCTTAGCCTCAGCTA
GAM33717 272866 CAATGGGGGACATTTGCCAA T - CCAA T CTGT A GAGAGGT
3 GAGTTGAGAATGCTGTAATT CAA GGGGGACA TTTG GAGT GAGAATG AATTGG GGCCT

GGAGGCCTGAGAGGTGGGTC GTT TCCTCTGT AAAC CTTA CTTTTAC TTAACC CTGGG

CCAATTCTTACATTTTCCAT T C AC-- C ATTC - -------
TCCACAAACTGTCTCCTTTT
G
GAM33717 272831 AGTGGCAGGTGTGCAAATCA GT CAAA - - CCCAAACTA

4 CAACTTGGCCTCCCAAACTA AGTGGCAG GTG TCACAACTT G GCCT
AGGTACAAAGTTGTGAGTCA TCACCGTC CAC AGTGTTGAA C TGGA
CACGTCTGCCACT TG ACTG A A ---------
GAM33717 273934 CCTTTAATGAAGCTGAACGC TA GAA ACGCTG- - C -- C AA--- CTACT
5 TGTCCCAGCAATTCCCTCCA CCTT AT GCTGA TC CCAG AAT TCCCTCCA AG GAC
CAGAAGACCTACTGTCACCA GGAA TA CGACT GG GGTC TTA GGGGAGGT TC CTG
CCTCTGGAGGGGCAATTCCT GC AC- GAACCAA A C AC C CACCA -----
GGAGGAACCAAGTCAGCCAA
TCGAAGG
GAM33717 273307 TGCAAAGAGCCCTCACACTG AGAG - C - AAA CTATGT- CAA
6 GTGAGTATAAATGTGCTATG TGCAA CCC TCACA TGGT GAGTAT TGTG GAG
TGAGCAACTCTAAAACCCAC GCGTT GGG GGTGT ACCA CTCATA ACAC CTC
AATACTCAACCACTGTGGTG AGTA T C A --- CCAAAAT ---
GGATGATTGCG
GAM33717 274316 GGGCTGACTTGGACTCTGAA T G CTCTGAA TT G C - AGT
7 ATGTTAAGCAACTTGCTCTC GGGC GACTT GA ATG AAGCAACTT CT TC CAGG
CAGGAGTCCTGTGAAGAAGT CCCG CTGAA TT TAC TTCGTTGAA GA AG GTCC
TGCTTCATCCTTTTGAAGTC T G TTCC--- -- - - T ---
TGCCC
GAM33717 273249 GCGAGAGGTGATGGTTTTAA AG T TTTT C - C TCTC CACAC CCTCCT
8 AGCGCGGCACTTCCTCATTC GCG AGGTGA GG AAAGCG GGCAC TTC TCAT GCA GC

TCGCACACACGCCCTCCTGC CGC TCCGCT CC TTTCGT CTGTG AAG AGTA CGT CG
TGCCCATGAAGAAGGTGTCT CT T C--- - G A CC-- ----- ------
GCTTTCCCTTCGCCTTCCGC
GAM33717 273327 TGGAGCTGAGATTCTGTGGG AG G TT G GT AG - TGTGGGCT
9 TGAGAGAGTGGGAGAGTGTC TGG CT AGA CTGTGGGT AGAGA GGG AGTG TC
TGTGGGCTGAGCACTGGTCC ACC GG TCT GACACTCA TCTTT CCT TCAC AG
TTTCTGACTCACAGCTCTGG CG G C- G -- GG G --------
GGCCCA
GAM33718 273805 CCAATCCCCAACCCCTGCAG T C---------- T- GATTAT A- C ATGACTTA
0 TGCTTTGATTATGAGAAAGT CCAA CCCCAACCC TGCAG GCTTT GAGA AGTT TGC
TCTGCATGACTTAGCATAAC GGTT GGGGTTGGG ACGTC CGAAA TTCT TCAA ACG
TGCTCTTTTCTAAAAGCCTC T AAACCTAGATTA TC ATCTT- CG T --------
TGCAATTAGATCCAAAGGGT
TGGGGTTTGG
GAM33718 273819 CCCAACCCCTGCAGTGCTTT C---------- T- GATTAT A- C ATGACTTA
1 GATTATGAGAAAGTTCTGCA CCCAACCC TGCAG GCTTT GAGA AGTT TGC
TGACTTAGCATAACTGCTCT GGGTTGGG ACGTC CGAAA TTCT TCAA ACG
TTTCTAAAAGCCTCTGCAAT AAACCTAGATTA TC ATCTT- CG T --------
TAGATCCAAAGGGTTGGG
GAM33718 272839 AGTTTTAGGGTACATGTACA TTA A T - - G T T ATAT
2 CAACGTGCAGGTTTGTTACA AGTT GGGT CA GTACAC AACGTG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT CGTGTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - G C G C - ----
CT
GAM33718 274249 GGAGAATTGCTTGAACCTGG GAA GAA-- TG AGGCA GT A - AGAT
3 GAGGCAGAGGTTGCAGTGAG GGA TTGCTT CC GG GAG TGCAGTG GC TG
CTGAGATCACGCCATTGCAC CCT AGCGAG GG CC CTC ACGTTAC CG AC
TCCAGCCTGGGCAACAGAGC AAG ACAAC GT GAC-- -- - C ----

GAGAATCC
GAM33718 274368 GTCCATCCTTTGAACATGAC CCTT ATGAC G- T T GTTCTC - GCTAATAA
4 TCCTGGTGTGTTAGTCTAGT GTCCAT TGAAC TCCT GTG GTTAG CTAGTCT ATG CT
CTGTTCTCATGCTGCTAATA CAGGTA ATTTG AGGA TAT TAATC GGTCAGA TAC GA
AAGACATACCTGAGACTGGC ---- GAGAA AA T - GTCCA- A --------
TAATTTATAAAGGAAAGAGG
TTTAATGGAC
GAM33718 273511 GAGGCAGGAGAATCGCTTGA CA AA GAA--- AAG TT A C GATC
5 ACCCGGGAAGTGGAGGTTGC GAGG GGAG TCGCTT CCCGGG TGGAGG GCAGTG GC GA

AGTGAGCCGAGATCTTGCCA CTCT CCTC AGTGAG GGGTCC ACCTCT TGTTAC CG TT

TTGTTCTCCAGCCTGGGCGA A- AA AACAGC G-- -- - - ----
CAAGAGTGAAACTCCATCTC
GAM33718 274231 GGAGAATCGCTTGAACCCGG AA GAA--- AAG TT A C GATC
6 GAAGTGGAGGTTGCAGTGAG GGAG TCGCTT CCCGGG TGGAGG GCAGTG GC GA

CCGAGATCTTGCCATTGTTC CCTC AGTGAG GGGTCC ACCTCT TGTTAC CG TT
TCCAGCCTGGGCGACAAGAG AA AACAGC G-- -- - - ----
TGAAACTCC
GAM33718 273537 GAGGGAGCCACGGTCAGATT C CAG T - TTCA TT TCT
7 TCAAGTGGTCATTTCACTCT GAGGGAG CACGGT ATT CAAGT GGTCAT CTC TCTCCC

TTCTCCCTCTGGGGGACTGA CTCCCTC GTGTTA TAA GTTCA TTAGTA GAG AGGGGG

GACATGATTAACTTGCAATA A A-- C A CA-- TC ---
ATTGTGACTCCCTC
GAM33718 273738 GGCTAAGTCATGAGAATTGC TA ATGAGAA GAA-- ATC - ----- GAGCCGAG
8 TTGAACCCAGGCATCGGAGG GGC AGTC TTGCTT CCCAGGC GGAG GT TGCAGT
TTGCAGTGAGCCGAGATTGC CTG TCAG AGCGAG GGGTCCG CCTC CG ACGTTA
ACCAATGCACTCCAGCCTGG CC ------- ACAGC A-- A TAACC --------
GCGACAGAGCGAGACTCCGT
C
GAM33718 273478 GAGAATTGCTTGAACCCAGG AA GAA-- ATC - ----- GAGCCGAG
9 CATCGGAGGTTGCAGTGAGC GAG TTGCTT CCCAGGC GGAG GT TGCAGT
CGAGATTGCACCAATGCACT CTC AGCGAG GGGTCCG CCTC CG ACGTTA
CCAGCCTGGGCGACAGAGCG AG ACAGC A-- A TAACC --------
AGACTC
GAM33719 273392 TTCTGCTGTCTATTATGAGT CT--- - - C C CTG GAAGGA
0 CTGACTGGCACAGACATCTG TTCTG GTCTAT TATG AGT TGACTGGCACAGA AT TCAAGGAA

TCAAGGAAGAAGGATTCTTT AAGAC CAGGTA ATAC TCA ACTGACTGTGTTT TG AGTTTCTT

GAGCGTATTTGTGTCAGTCA AACAC T G - A CG- ------
ACTGCATATATGGACCACAA
CAGAA
GAM33719 274338 GGTCAGTGCTTTAAGTGAAT A - AAGT A AG AATC GGAATTTGA
1 CTACTCAGAGCTGTGAAATC GGTC GTG CTTT GAATCT CTC AGCTGTGA TTGGG
TTGGGGGAATTTGACCCAGT TCGG TAT GGAA CTTGGA GAG TTGACACT GACCC
CACAGTTGAGAGAAGGTTCT G A GGT- A AG ---- ---------

GGAAGGATATGGGCT
GAM33719 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
2 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33719 274480 TCCCTGTCCTGTCTTCGAGT CC C GA A TAA GGG GATCGA
3 ATTTGTTTTTAATGCTGGGT TCCCTGT TGT TTC GT TTTGTTTT TGCT TGTC
GTCGATCGAGACAACAAGCG GGGGGCA ACG AGG CG AAACGAGA GCGA ACAG
CTCAGAGCAAAGCAAGGATG TT T AA - CTC ACA ------
CATTACGGGGG
GAM33719 274561 TGCTGCATCCTGCCTGGCTC C C - --- - A CCTC - ATTTT GACAACAA
4 CCAGGAGGCCTCTCTCAGCA TGCTG AT CT GCCTGG CTC CCAGG GG TCT CAGC CT

TTTTCTGACAACAAAGCCGG ACGAC TA GA CGGACC GAG GGTCC CT AGA GTCG GA
GGCTGCAGATCCCTGGTGAG - C T TTA T - ---- C GGGCC --------
ATTCCAGGCTAGCATCAGCA
GAM33719 273267 GCTGCATCCTGCCTGGCTCC C C - --- - A CCTC - ATTTT GACAACAA
5 CAGGAGGCCTCTCTCAGCAT GCTG AT CT GCCTGG CTC CCAGG GG TCT CAGC CT
TTTCTGACAACAAAGCCGGG CGAC TA GA CGGACC GAG GGTCC CT AGA GTCG GA
GCTGCAGATCCCTGGTGAGA - C T TTA T - ---- C GGGCC --------
TTCCAGGCTAGCATCAGC
GAM33719 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
6 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33719 274255 GGAGAATTGTTTGAACCCAC AA GAA--- CAT - AC - TGATACC
7 ATGGCGGAGACTGCGGTGAG GGAG TTGTTT CCCA GGC GGAG TGCGGTGA GC
CTGATACCGCGTCATTGCAC CCTC AACGAG GGGT CCG CCTC ACGTTACT CG
TCCAGCCTGGGCAACAAGAG AA AACAAC --- A -- G -------
CAAAACTCC
GAM33719 274506 TCTGAGAGAGAGCTGGTCTT AG- GGTCTT TG-- GA T C TTACTATC
8 GTGATCGTGGGCTGGAAGAT TCTGAGAG AGCT GTGATCG GGCTG AGAT GG TA
TGGCTATTACTATCTAACTC AGACTCTC TCGA CACTAGT CTGAC TCTA TC AT
ATCTACAGTCAGTGTGATCA CAA ------ GTGA A- C A --------
CAGCTAACCTCTCAGA
GAM33719 273618 AGGGAAAAAATTCATAATTC -- T AAT GA---- TC TC -- CGCCTTTC
9 AGACAGGCTCTCGGGGCTTC AGGGAAAA AAT CAT TCA CAGGCTC GGGGCT ACCA TACAA

ACCATACAACGCCTTTCTTG TCTCTTTT TTA GTA AGT GTCCGGG TTTTGA TGGT ATGTT

TATTTGGTTAGTTTTATGGG AA T CC- TGTGAG TA T- TT --------
CCTGGAGTGTTGACCATGTA
TTAATTTTCTCT
GAM33720 272776 AGAGGATTGCTTGAGCCCAG A A- GA-- --- TCAA T GATCCATG
0 GGAGGTCAAGGCTGCAGTGA AG GG TTGCTT GCCCAGGG AGG GGC GCAGT
TCCATGATTGCGCCCCTGTA TC CC AACGAG CGGGTCTC TCC CCG CGTTA
CTCTGGGCAACAGAGCAAGA - AG ACAA ATG ---- - --------
CCCT

GAM33720 273781 CAGCTTTGCAGCTAAAATAC -- - AATAC G ATGG - T ACACG
1 ACCAGGGACATGGCTTGCTC CAGCT TTGCAG CTAA ACCA GGAC CTT GC CACATC
ACATCACACGGGTGTGGCGG GTCGA GACGTC GGTT TGGT CCTG GAG CG GTGTGG

AGAGGGTCCATGGTAGAGCT CG C CGAGA A GGA- G - -----
TGGCCTGCAGGCAGCTG
GAM33720 273813 CCAGTATTGTGTGGGGAGTG TA - - TTTT-- TCATCTAA T T TCTTCA
2 TTTTGAGGTCATCTAATGGT CCAG TTGTGTGG GG AGTG GAGG TGG GTTG CTAT
GTTGTCTATTCTTCAGTAGC GGTC AACACACC CT TCGT CTCC ACC CAAC GATG
AACTCCAACACCCTCTACAT C- A A TTACAT CACA---- T - ------
TTGCTATCACCACACAACCT
GG
GAM33720 273597 GGAGAATCGCTTGAACCCGG AA GAA-- AGGCA GT AGC AGAT
3 GAGGCAGAGGTTGCAGTGAG GGAG TCGCTT CCCGGG GAG TGCAGTG CG
CCGAGATCGCACTACTGCAC CCTC AGTGAG GGGTCC CTC ACGTCAT GC
TCCAGCCTGGGCAACAGAGT AG ACAAC GAC-- -- CAC ----
GAGACTCC
GAM33720 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
4 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33720 274430 TAATGGGGCCTCGTTCTTCT -- TCG CT -- - T C A TTCA
5 GCCACAAGTGCATCCCACCT TAATGG GGCC TTCTT GCC ACAA GTGCA CC ACCTTT TCT

TTATCTTTCAGGGAAGAGGT ATTACC CCGG GAGAA CGG TGTT CACGT GG TGGAGA GGG

TGGTTGCACGTTGTTAGGCC TC TCA C- AT G T T A ----
AAGAGACTGGCCCTCCATTA
GAM33720 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
6 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33720 274055 TCCACTACTGTTGTGGCTTT TACT - C - T CT---- ACTACTTTTC
7 TGCAAATTACTAAATTTCTC TCCAC GTTGT GGCTTTTG AAATTA CTAAATT CT GTG
TGTGACTACTTTTCCATTTC AGGTG TAATA CTGAAAAC TTTGGT GGTTTAA GA TAC
TTAAGTAATTTGGTTGGTTT ---- A C T T ATTCTT ----------
CCAAAAGTCAATAATGTGGA
GAM33720 273944 CTACTGTTGTGGCTTTTGCA TGTTG C - T CT---- ACTACTTTTC
8 AATTACTAAATTTCTCTGTG CTAC TGGCTTTTG AAATTA CTAAATT CT GTG
ACTACTTTTCCATTTCTTAA GGTG ACTGAAAAC TTTGGT GGTTTAA GA TAC
GTAATTTGGTTGGTTTCCAA TAATA C T T ATTCTT ----------
AAGTCAATAATGTGG
GAM33720 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
9 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33721 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT

0 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33721 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
1 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33721 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
2 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33721 273608 AGGCAGGAGGATCACGTGAG C AC GA---- AGG GC GAA AGAT
3 CCCAGGAGGTGAAGGCTACA AGG AGGAGGATC GT GCCCAGG TGAAG TACAGT GTG

GTGAAGTGAGATCATGCAAC TCT TTCTCTTAG CG CGGGTCC ACTTC ATGTCA TAC
TGTACTTCAGCCTGGGCAAC - AA AGACAA G-- -- ACG ----
AGAGCAAGATTCTCTTTCT
GAM33721 274257 GGAGGATCACGTGAGCCCAG AC GA---- AGG GC GAA AGAT
4 GAGGTGAAGGCTACAGTGAA GGAGGATC GT GCCCAGG TGAAG TACAGT GTG
GTGAGATCATGCAACTGTAC TCTCTTAG CG CGGGTCC ACTTC ATGTCA TAC
TTCAGCCTGGGCAACAGAGC AA AGACAA G-- -- ACG ----
AAGATTCTCT
GAM33721 273496 GAGGATCACGTGAGCCCAGG AC GA---- AGG GC GAA AGAT
5 AGGTGAAGGCTACAGTGAAG GAGGATC GT GCCCAGG TGAAG TACAGT GTG
TGAGATCATGCAACTGTACT CTCTTAG CG CGGGTCC ACTTC ATGTCA TAC
TCAGCCTGGGCAACAGAGCA AA AGACAA G-- -- ACG ----
AGATTCTC
GAM33721 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
6 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33721 273911 CCCTGTCAGAGCTCTCCAGA - --------- AGAATA TT AGAT
7 ATATGCTTGTTGGAGATCCT CC CTGT CAGAGCTCTCC TGCTTG GG
TCAGGCAGTAAGGGAGAGTT GG GACA GTTTTGAGAGG ACGGAC CC
TTGCCTCCTTACACAGTGG T CATTCCTCC GAATG- TT ----
GAM33721 273610 AGGCCATCTTAATCGGGGCC - --- AGA C-- TCTCCCCCT
8 AGAGATGACACTCTCCCCCT AGGC CATCTTAAT CGGGGCCAG TGA AC
GTAACTCAGCCTGGCTCTGT TCCG GTAGGGTTA GTCTCGGTC ACT TG
CTATTGGGATGTGCCT T TCT CG- CAA ---------
GAM33721 273562 GGAAAGGAGTGGTCCAGACC A A - --- CTG AGA GTA
9 CTGAAGGAAGCAGACAGGGT GGA AGG GTG GTC CAGACC AAGGAAGC CAGG
ACCTGGGCTTCCTTGGTTTG TCT TCC CAC CAG GTTTGG TTCCTTCG GTCC
CAAGACTCACCCTCTCT C - T AAC --- G-- ---
GAM33722 273148 GACCTCAGGAAAGCTGGGTT CC AAA GAGC -- ATTAA
0 GAGCTGGGCTGAGACAATTA GA TCAGG GCTGGGTT TGGGCTGA GACA
ATGTCTGTCAGCCCAAACCC CT AGTCT CGGCCCAA ACCCGACT CTGT

GGCACTCTGACCTC CC CA- ---- GT -----
GAM33722 274332 GGTACATGTCACTACTGTTC TA T ACT --- ---- TG AACTT CTAT
1 ATAGTCTCTTTGCTGGAACT GG CA GTC ACTG TTCATAGT CTCTTTGC G GGTC
TGGTCCTATGGCCCTACTGG CC GT CGG TGAC AAGTATCG GAGAGACG C CCGG
CAGAGAGGAAGGCTATGAAA GC C ATC CCA GAAG GT ATC-- ----
CCCAGTCTAGGCCTGCGCC
GAM33722 273773 CAGAAGGCTGCATTTGGCAG TTT TT T TTCTGACCCA CATGCA
2 TTTCCCTTACTTCTGACCCA CAGAAGGCTGCA GGCAGT CCC TAC AGCCT
AGCCTCATGCAGGGCTGTGT GTTTTCCGACGT CCGTCG GGG GTG TCGGG
GGGTGCTGCCTGCAGCCTTT --- T- T ---------- ------
TG
GAM33722 272942 CCTCACAGCCATGAACACAC CA C- AAC A CCA GAT CTGAA
3 CTGGGATTCCAGGAATAGGA CCTCA GC ATG AC CCTGGGATT GGAATAG AC
TACCTGAAGTTACTATTCTC GGGGT CG TAC TG GGGCCCTAA TCTTATC TG
TAATCCCGGGGTCCCATTAG TA AT CC- - TC- AT- -----
CATTGGGG
GAM33722 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
4 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33722 273967 CTGAGAGGCAGAGGCTTCAG GA- GC A GA ACACCACTGCACTCC
5 TGAGCCGAGGCCACACCACT CT GAGGCAGAG TTC GT GCCGAGGCC
GCACTCCGGCCTTGGTGACA GA CTCCGTCTC GAG CA TGGTTCCGG
GAGACTCTGCCTCGAAAG AAG A- A G- ----------
GAM33722 274361 GTATAACGCAAAACACAATT ACGCAAAA ATTTCTAAATAGT TT GGCA

6 TCTAAATAGTCAAAAGTTTT GTATA CACA CAAAAGTT TCCT
TCCTGGCAAGGAGACTTTTG CGTGT GTGT GTTTTCAG AGGA
TAGACACCTACCCTGTGATC GTCTACTA CCCATCCACAGAT -- ----
ATCTGTGTGC
GAM33722 274530 TGAGGCAGGAAGATCACTTG C AAGA GA-- AGG GC ACC ATTC
7 AGCCCAGGAGGTGGAGGCTG TGAGG AGG TCACTT GCCCAGG TGGAG TGCAGTG CAT

CAGTGACCCATATTCATGCC ACTCT TCC AGTGAG CGGGTCC ACCTC ACGTCAC GTA

ACTGCACTCCAGCCTGGGCA C CAG- ACAA G-- -- C-- ----
ACAGAGTGAGACCCTCTCTC
A
GAM33722 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
8 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33722 274566 TGCTTCTAGGAACCTCCATC GAACC - A CCA T AGCGTACCAG
9 TCATGCCATGGTGCTTCGAG TGCTTCTAG TCCA TCTC TG TGGTGCT CGAGG
GAGCGTACCAGCCTTGCAGC ACGGAGGTC GGGT AGGG AC ACCACGA GTTCC
ACCACAACAGGGACTGGGCT ----- C - AAC C ----------
GGAGGCA
GAM33723 273928 CCTGCCCACCAACTCCCAGG CCCACCAA C- CTTATTCACCAACCACTC C
TCTGACC CTT TT

```
0          CTTATTCACCAACCACTCCA CCTG      CTC  CAGG            CA CAGC     CTGA  CTGGGG
           CCAGCTCTGACCCTGACTTC GGAC      GAG  GTCC            GT GTCG     GACT  GACTCT
           TGGGGTTCCCATCTCAGTCC   CTTCCTAC  AA   CCC---------- C   TGTCC--   CCT    --
           TCAGCCTGTGCTGCTGCCCC CCCA
           CTGAAGAGCATCCTTCCAGG

                      ----
GAM33723 273533 GAGGCCCCAAGAAGTTAAAT   GCC   ---     A  C  G       CA    AT    CAGAACAA
1          AACTTGCTTAAGATCACAGA GAG   CCAAG   AAGTTAA TAA TT CTTAAGATCA  GAGCTA  GAGTGG

           GCTAATGAGTGGCAGAACAA CTT   GGTTC   TTCAATT ATT AG GAATTTTAGT  CTCGAT  CTTATT

           TTATTCTAGCTCTGATTTTA   AA-    ATT     C  T  G       --     --     --------
           AGGGATTTACTTAACTTTTA
           CTTGGAATTC
GAM33723 273086 CTGAGTTTCCATAGGGAACT      TCCA----------      TAT      -  -   - T  GAACTA
2          ATTGGGTTTAAAGTCACCGT CTGAGTT          TAGGGAAC   TGGGTTTA AAG TCAC CG TG
           TGGAACTACACTGTGTGATC GACTCGG           GTCCCTTG   ATTCAAAT TTC AGTG GT AC
           TTATAAACTTATGTTCCCTG      TTCTTATACTATCG      T--      A  T   T  C ------
           GCTATCATATTCTTGGCTCA
           G
GAM33723 273708 GGATCGCTTGAGCCCAGGAG  A-     GA--     AGTTC  GC     AGC  GATC
3          TTCGAGGCTGCAGTGAGCTG GG  TCGCTT   GCCCAGG    GAG  TGCAGTG   TGT
           TGATCACACCACTGCACTCC CC  AGCGAG   CGGGTCC    CTC  ACGTCAC   ACA
           AGCCTGGGCAACAGAGCGAG  AG    ACAA     GAC--  --     C--  ----
           ACC
GAM33723 274073 TCGCTTGAGCCCAGGAGTTC     GA--     AGTTC  GC     AGC  GATC
4          GAGGCTGCAGTGAGCTGTGA TCGCTT   GCCCAGG    GAG  TGCAGTG   TGT
           TCACACCACTGCACTCCAGC AGCGAG   CGGGTCC    CTC  ACGTCAC   ACA
           CTGGGCAACAGAGCGA        ACAA     GAC--  --     C--  ----
GAM33723 273044 CGCTTGAGCCCAGGAGTTCG    GA--     AGTTC  GC     AGC  GATC
5          AGGCTGCAGTGAGCTGTGAT CGCTT   GCCCAGG    GAG  TGCAGTG   TGT
           CACACCACTGCACTCCAGCC GCGAG   CGGGTCC    CTC  ACGTCAC   ACA
           TGGGCAACAGAGCG        ACAA     GAC--  --     C--  ----
GAM33723 273533 GAGGCCCCAAGAAGTTAAAT   GCC   ---     A  C  G       CA    AT    CAGAACAA
6          AACTTGCTTAAGATCACAGA GAG   CCAAG   AAGTTAA TAA TT CTTAAGATCA  GAGCTA  GAGTGG

           GCTAATGAGTGGCAGAACAA CTT   GGTTC   TTCAATT ATT AG GAATTTTAGT  CTCGAT  CTTATT

           TTATTCTAGCTCTGATTTTA   AA-    ATT     C  T  G       --     --     --------
           AGGGATTTACTTAACTTTTA
           CTTGGAATTC
GAM33723 273197 GAGGCAGGAGAATTGCTTGA    A   AA    GAA--    AAGCA  GT     A  TGAATCAT
7          ACCCAGGAAGCAGAGGTTGC GAGGC GGAG  TTGCTT    CCCAGG    GAG  TGCGGTG GC

           GGTGAGCTGAATCATGCCAC CTCTG CTTC  GACGAG    GGGTCC    CTC  ACGTCAC CG
           TGCACTCCAGCCTGGGCAAC    -  AC    ACAAC    GAC--  --     -  --------
           AGAGCAGCACTTCGTCTC
GAM33723 273687 GGAGAATTGCTTGAACCCAG    AA    GAA--    AAGCA  GT     A  TGAATCAT
8          GAAGCAGAGGTTGCGGTGAG GGAG  TTGCTT    CCCAGG    GAG  TGCGGTG GC
```

CTGAATCATGCCACTGCACT CTTC GACGAG GGGTCC CTC ACGTCAC CG
CCAGCCTGGGCAACAGAGCA AC ACAAC GAC-- -- - --------
GCACTTC
GAM33723 273150 GAGAAGAGTTGTTCTCATGG AGTTGT A G- TC T GCTATAG
9 AGGGCCTTCAGATGAGTGCT GAGAAG TCTC TGGAG GCCT AGA GAGT
ATAGACTCTCTAGGCAACTC CTCTTC GGAG ACCTC CGGA TCT CTCA
CAAGAGGCTTCTC ------ A AA -- - -------
GAM33724 272900 CATGTCTGCTCATCTGTTTA G -- A TTATTCCC AA GA C -- GCTTGAT
0 TTCCCATCATCTAACAGAGT CAT TCT GCTC TCTGT ATCATCT CA GTGCTCAA AC ATTT

GCTCAACACATTTGCTTGAT GTG AGA CGAG AGACA TAGTAGA GT CACGAGTT TG TAAG

GAATACGTTTTGAGCACTGG A AT A C------- GG -- T CA -------
GAGATGATCACAGAAGAGCT
AAGAAGTG
GAM33724 273261 GCTCATCTGTTTATTCCCAT A TTATTCCC AA GA C -- GCTTGAT
1 CATCTAACAGAGTGCTCAAC GCTC TCTGT ATCATCT CA GTGCTCAA AC ATTT
ACATTTGCTTGATGAATACG CGAG AGACA TAGTAGA GT CACGAGTT TG TAAG
TTTTGAGCACTGGGAGATGA A C------- GG -- T CA -------
TCACAGAAGAGC
GAM33724 273310 TGCATGCTGGGTAAATCATT C C - AAA T --- - ---- TG ATACAG
2 CTGTCTCATTTGTCTGTTGG TG ATG TG GGT TCAT CTGTC TCATT TGTCT GT GAA
AAATACAGTTCTGGCACTAA AC TAC AC CCG GGTA GACAG AGTGG ATAGA CG CTT
GATATGGTGAACAGACAGAT T A A GA- - ACA T ATCA GT ------
GGAGGCCACAACATTCA
GAM33724 274001 GTTCTCTATGGCTAGGCAGT T-- G C A C-- ---- CATATTTT
3 AAAGAAACAGCACCCTTCAT GTTCTC AT GCTAGG AGT AAGAAA AGCA CCCTT
ATTTTAAGGGACTGTGCTAC TAAGAG TA CGGTTC TTA TTCTTT TCGT GGGAA
ATTTCTTCATTCTTGGCGAT TTT G - C ACA GTCA --------
TTTGAGAAT
GAM33724 274594 TGGTGCATGCCTGTAGTCTC G TGCC TTA A G T AAGAC
4 AGTTACTCTTGAGGCTGAAG TGGT CA TGTAGTCTCAG CTCTTG GGCT AAG GA
TGAAAGACTCTCTTGGGTCC ACCG GT ACGTCGGAGTT GAGGAC CTGG TTC CT
AGGAGCTTGAGGCTGCACTG A C--- C-- - G T -----
AGCCA
GAM33724 274007 GTTTTTACTATAACATATTT TTTT TA TT- A CT A A GGTGAAGG
5 TAGAAAGCTAACAAGCTAGA GT ACTA ACATAT TAGA AG AACA GCT GAGAGAGC
GAGAGCGGTGAAGGGCTCTC CG TGAT TGTGTG GTCT TC TTGT CGA CTCTCTCG
TCAGCATGTTCCTCTCTGTC TTT- -- TCT C C- A - --------
TGTGTGTTAGTTTTGC
GAM33724 274426 TAACATATTTTAGAAAGCTA TT- A CT A A GGTGAAGG
6 ACAAGCTAGAGAGAGCGGTG TAACATAT TAGA AG AACA GCT GAGAGAGC
AAGGGCTCTCTCAGCATGTT ATTGTGTG GTCT TC TTGT CGA CTCTCTCG
CCTCTCTGTCTGTGTGTTA TCT C C- A - --------
GAM33724 274371 GTCCCCTTTCTCTTTCTACC - TT TTCTACCATA AA--- A AAAA CTGT
7 ATACCCCCAGTAAAGCTACT GTCC CC TCTCT CCCCCAGT AGCT CTT TCCT
TAAAATCCTCTGTAGGAAAG CAGG GG AGAGA GGGGGTTA TCGA GAA AGGA
AGCTGAGTAATTGGGGGCAG A T- C--------- ATGAG - ---- ----
AGATGGAGGAC
GAM33724 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT

8 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33724 272717 AAAATAGGACGTGTCTGGAA ACG - AC- TAAG CT ACT
9 AACCATAAGGCTACTTGGGA AAAATAGG TGTC TGGAAA CA GCTA TGGGAT
TACTGTCCCATTAGCATTGC TTTTATCC ACAG ACCTTT GT CGAT ACCCTG
TGTTTCCATGACAAACCCTA CAA T GTC TA-- T- ---
TTTT
GAM33725 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
0 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33725 273863 GGTCGAGGTGGGTGTATCGC TG T A - A- AGT AGTC
1 TTGAGCCCAGGAGTTTGAGT GGTCGAGG GG GT TCGCT TG GCCCAGG TTG
CCAGCCTGGGCAACATAGTG CCAGTTCT TC CA AGTGA AC CGGGTCC GAC
AGACCTTGTCTTGACC GT - G T AA --- ----
GAM33725 273349 TGGGTTACCTGCAAAGATGT - TGC AT-- T TATAT AAAAAC
2 TGCTTGGTTGTATATCTTAG TG GGTTACC AAAG GTTGCT GGTTG CTTAGA
AAAAAACTCTAAGTATTTTA AC CCGATGG TTTC CAACGA CCAAT GAATCT
ACCAGCAACCCAACTTTGGT A --- AACC - TTTAT ------
AGCCACA
GAM33725 274160 GCCTTTCTGTTTTCCCTTTC ----- TTTCCCTTT - T A ACTTCACT T- AAACTCA
3 TGTGTGGTAGAGACTTCACT GCCTT TCTGT CT GTG GGT GAG TAAA CAT
TAAATCATAAACTCAATGTC CGGAA AGACA GA CAC CCA CTC ATTT GTA
TTTATATCTCCTCAACCTCA CCCCT C-------- T T A CTCTAT-- CT -------
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GAM33725 273013 AGGAATTTGTCAGAAACTCT TTTG AAA CT GGT TAGTT
4 TTCCTGTTTTGGTTTGGAGA AGGAA TCAG CT TTCCTGTTTT TTGGAGAG
GTAGTTCTCTCTAACTAGAG TCCTT AGTT GG GAGGACAGAG AATCTCTC
ACAGGAGTGGCCTTGAAATT TTAA CC- T- ATC -----
TTCCT
GAM33725 274013 TACCTTCTTTGCTGCCTGGG -- TG C - GCT TG TTTATTTGATC
5 AGATGCTGCTATGGGCGTTT TACCTTC TT CTGC TGGG AGAT GCTA GGCG
ATTTGATCTGCTTGTGGCTC GTGGAAG AA GACG ACTC TTTG CGGT TCGT
AGTTTGCTCAGCAGTGAAAT TA GT - G ACT GT ----------
GAAGGTG
GAM33725 272755 ACCTTCTTTGCTGCCTGGGA -- TG C - GCT TG TTTATTTGATC
6 GATGCTGCTATGGGCGTTTA ACCTTC TT CTGC TGGG AGAT GCTA GGCG
TTTGATCTGCTTGTGGCTCA TGGAAG AA GACG ACTC TTTG CGGT TCGT
GTTTGCTCAGCAGTGAAATG TA GT - G ACT GT ----------
AAGGT
GAM33725 273114 CTTACCCTGTATTTCATGCA TACC - GCAATACAAAGGAAGATG G- T G T
CAA
7 ATACAAAGGAAGATGGCTGT CT CTGT ATTTCAT GCTGTTTGG GT GCCGT TC CTTAG

TTGGGGTTGCCGTGTCTCTT GA GACA TGAAGTG TGACGAACC CA CGGTA AG GAATT

AGCAATTAAGGAGATGGCTA CCAC G ---------- GA T G - ---

CAGCCAAGCAGTGTGAAGTG
ACAGCACCAG
GAM33725 273420 CTGTATTTCATGCAATACAA - GCAATACAAAGGAAGATG G- T G T CAA
8 AGGAAGATGGCTGTTTGGGG CTG TATTTCAT GCTGTTTGG GT GCCGT TC CTTAG
TTGCCGTGTCTCTTAGCAAT GAC GTGAAGTG TGACGAACC CA CGGTA AG GAATT
TAAGGAGATGGCTACAGCCA A ---------- GA T G - ---
AGCAGTGTGAAGTGACAG
GAM33725 273335 TGGCTCACAAAGGGCTTCCC --- -- CT TTATTTACTT CT GAAA TTA GAAA
9 TGGTTATTTACTTCTGACTC TGGCTC ACAAA GGG TCCCTGG CTGA CTT GC AA
TTGAAAGCTTAAAGAAATTG GCCGAG TGTTT CCC AGGGACC GACT GAG CG TT
TGCCTGAGAGGTTCAGTACC ACG GA AC TGTTCCAT-- TG AGTC TG- ----
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TGTGCAGAGCCG
GAM33726 274284 GGCTCACAAAGGGCTTCCCT --- -- CT TTATTTACTT CT GAAA TTA GAAA
0 GGTTATTTACTTCTGACTCT GGCTC ACAAA GGG TCCCTGG CTGA CTT GC AA
TGAAAGCTTAAAGAAATTGT CCGAG TGTTT CCC AGGGACC GACT GAG CG TT
GCCTGAGAGGTTCAGTACCT ACG GA AC TGTTCCAT-- TG AGTC TG- ----
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GTGCAGAGCC
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1 TTATTTACTTCTGACTCTTG CT CACAAA GGG TCCCTGG CTGA CTT GC AA
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GCAG
GAM33726 272867 CACAAAGGGCTTCCCTGGTT -- CT TTATTTACTT CT GAAA TTA GAAA
2 ATTTACTTCTGACTCTTGAA CACAAA GGG TCCCTGG CTGA CTT GC AA
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GAGAGGTTCAGTACCTTGTC GA AC TGTTCCAT-- TG AGTC TG- ----
CAGGGACACCCAGTTTGTG
GAM33726 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
3 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
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TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33726 273314 TGCCTCTCTGGCACTTCCAA C---- G T CTACCTGTGAT T GAAAGTACTA
4 TCTCCTACCTGTGATAGACG TGC TCTCTG CACT CCAATCTC AGACG CTAAGT
TCTAAGTGAAAGTACTAGCT ACG AGAGAC GTGA GGTTAGGG TTTGT GATTCG
TAGTTGTTTGGGATTGGTAG ACAAA A T ---------- T ----------
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GAM33726 274502 TCTCTGGCACTTCCAATCTC G T CTACCTGTGAT T GAAAGTACTA
5 CTACCTGTGATAGACGTCTA TCTCTG CACT CCAATCTC AGACG CTAAGT
AGTGAAAGTACTAGCTTAGT AGAGAC GTGA GGTTAGGG TTTGT GATTCG
TGTTTGGGATTGGTAGTGAC A T ---------- T ----------
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GAM33726 273071 CTCTGGCACTTCCAATCTCC G T CTACCTGTGAT T GAAAGTACTA
6 TACCTGTGATAGACGTCTAA CTCTG CACT CCAATCTC AGACG CTAAGT
GTGAAAGTACTAGCTTAGTT GAGAC GTGA GGTTAGGG TTTGT GATTCG
GTTTGGGATTGGTAGTGACA A T ---------- T ----------
GAG

GAM33726 273947 CTATGCCCAGCATTGGAAAG GC ATTGG -- CC TA A C AATCAAAC
7 AGTAGAGGCCCTTACTAGCA CTAT CCAGC AAAGA GTAGAGG CT CT GCA ACCTCA
CACCTCAAATCAAACTGGGG GATA GGTCG TTTCT CGTTTTC GA GA CGT TGGGGT
TTGCAGCAGACCTTTTGCCT AA GAGA- TC CA C- - - --------
TCTTTAGAGGCTGGAAATAG
GAM33726 272758 ACTAGTCAGAAAGGATAATG TC AA AT - T- TCCC CTGTA
8 GAGAAGGCATCTGTGTCCCC ACTAG AGA GGATA GGAGA AGGCA CTGTG CTGTTAC

TGTTACCTGTAGTAACAGCG TGATC TCT TCTAT CCTCT TCTGT GATAT GACAATG
TATAGTCTGTCTCTCTCCCT C- AC C- C CT GC-- -----
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GAM33726 274508 TCTGATCCTGGAACTGCATT TC ----- CA- G GTC GGGG
9 GCTTGGTGGTCAGGAGGGGT TCTGA CTGG AACTG TTGCTTG TG AGGA
TCTTAGTAAGCAAACTCAGT AGGCT GACC TTGAC AACGAAT AT TCTT
TTAATCCCAGAGTCGGA GA CTAAT TCA G --- ----
GAM33727 273250 GCGATCTCTTAACAATTTCC GA C A- ----- AA- CC C T CATGTACTACCTCC
0 GGGCTGAACAGCCTCACCAG GC TCT TTAAC ATT TCCGGGCTG CAG TCA CAGCA GC

CATGCCATGTACTACCTCCG CG AGA AATTG TAG AGGTCCGGT GTC AGT GTCGT CG

CTTGCTGATGACTGAAGTGG A- A AG AAATC GAA -- A T ----------
CCTGGACTAAAGATGAGTTA
AAAGAAGC
GAM33727 274080 TCTCTTAACAATTTCCGGGC C A- ----- AA- CC C T CATGTACTACCTCC
1 TGAACAGCCTCACCAGCATG TCT TTAAC ATT TCCGGGCTG CAG TCA CAGCA GC
CCATGTACTACCTCCGCTTG AGA AATTG TAG AGGTCCGGT GTC AGT GTCGT CG
CTGATGACTGAAGTGGCCTG A AG AAATC GAA -- A T ----------
GACTAAAGATGAGTTAAAAG
A
GAM33727 274207 GGACACCATGATATGTAATG ACCAT TAAT - C--- TGGAAT
2 CGGGGTCTGGAGGTTGGAAT GGAC GATATG GCGGG GT TGGAGGT
GCCTCCATAAAACACCTGCC CCTG TTATAC CGTCC CA ACCTCCG
ATATTTTTTGGTCC GTTTT ---- A AAAT ------
GAM33727 273939 CGCTTGAGCCCAGGAGGCAG TGA AGGCA GT A- AAGAT
3 AGGTTGCAGTGAGCCAAGAT CGCT GCCCAGG GAG TGCAGTG GCC
GGCACCACTGCACTCCAGCC GTGA CGGGTCC CTC ACGTCAC CGG
TGGGCAACAGTG CAA GAC-- -- CA -----
GAM33727 273487 GAGACTCACCCGTTCTACTG -- G - - C G T--- C AAT TGAGTT
4 GCAACTGGAGTTTGTTCAAG GAGACTC ACCC TTCTACT GG CAA TGGA TT GTT AAGA ACC

AAATACCTGAGTTGGTTCTT CTCTGAG TGGG AAGGTGA CC GTT GCTT AG CAA TTCT TGG

TAACTGTCGAGTTCGATTGT GG - A T A G CTGT T --- ------
CCAAGTGGAAGGGTGGGAGT
CTC
GAM33727 273948 CTCACCCGTTCTACTGGCAA G - - C G T--- C AAT TGAGTT
5 CTGGAGTTTGTTCAAGAAAT CTCACCC TTCTACT GG CAA TGGA TT GTT AAGA ACC
ACCTGAGTTGGTTCTTTAAC GGGTGGG AAGGTGA CC GTT GCTT AG CAA TTCT TGG
TGTCGAGTTCGATTGTCCAA - A T A G CTGT T --- ------
GTGGAAGGGTGGG

GAM33727 274359 GTAGCTGCTGGTAAGGGGCC AG AAGG- C A T GA CC TCT
6 CAGACTTGGAGATGGGGGCC GT CTGCTGGT GGCC AG CT G GATGGGGG TGGAGT

TGGAGTTCTATTCTACCTCC CA GGCGATCA TCGG TC GA C TTACCTCC ATCTTA
ATTCACAGCTGGCTGAGAGA CT GAGAG - - - AC -- ---
CTAGCGGTCAC
GAM33727 273929 CCTGGAGGCCTTTCCATATT - CCATA - GTC A TG ATAC-- TAAT
7 AGATATGTCCCCTTCTATAA CCT GGAGGCCTTT TTAGAT AT CCCTTCT TAAG CA ACT
GTGCAATACACTTAATGGTT GGA TTTTTGGAAG AATCTA TG GGGAGGG ATTC GT TGG

CCCTCTGTGCTTAGGGAGGG A ACG-- A AA- - GT CTCCCT ----
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TTTTAAGG
GAM33727 273766 CACGGCTATTAAGTAGCAGA - - T ---- T- TT GATC
8 ACTGGGCTTGAATTCAGATC CACGGCTA TTA AG AGCAGA ACTGGGCT GAA CA
TGCTTCTCAGTCCAGTGTTC GTGTCGGT AAT TC TCGTCT TGACCTGA CTT GT
TCTGCTCTGTAACTGGCTGT C G - CTTG CT C- ----
G
GAM33727 272819 AGGTGATGGATGGGCATGCA ATGGAT A -- A T AT AG G CCCGAC
9 GTGAGGTCACTGTTGGATGT AGGTG GGGC TGCAGT GAGGTC CTG TGG GTC ACTG AG

CAGACTGGAGCCCGACCTCA TCCAC TCCG GTGTCA CTCCGG GAC ACT CAG TGAC TC

GTGACTCTCACCAGGGCCTC GG---- A GA - C CT -- - ------
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GAM33728 273442 CTTGCCCATGCTCTGTTAGG AT- T AG---- ACAGGAA ATAA - AGGGTA
0 GTCTCAACAGGAAGCAGATG CTTGCCC GC CTGTT GGTCTCA GCAGATGAC TTC CAAAT

ACATAATTCCAAATAGGGTA GGATGGG TG GGCAA TCAGAGT CGTTTATTG AGG GTTTA

ATTTGAGGAAGGTTATTTGC GGT T CATTTA AA----- GA-- A ------
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TGTTGGGGGTAGG
GAM33728 274534 TGAGGCAGGAGAATCACTTG CA AA GAA-- AAGA GT AA - AGAT
1 AACCCAGGAAGAGGAGGTTG TGAGG GGAG TCACTT CCCAGG GGAG TGCAGT GC CG

CAGTAAGCCGAGATCGTGCC ACTCT CCTT AGTGAA GGGTCC CCTC ACGTCA CG GC

ACTGCACTCCAGCCTGGGCA C- AG ACAAC GA-- -- C- T ----
ACAAAGTGAGATTCCCTCTC
A
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2 GAAGAGGAGGTTGCAGTAAG GGAG TCACTT CCCAGG GGAG TGCAGT GC CG
CCGAGATCGTGCCACTGCAC CCTT AGTGAA GGGTCC CCTC ACGTCA CG GC
TCCAGCCTGGGCAACAAAGT AG ACAAC GA-- -- C- T ----
GAGATTCC
GAM33728 273848 GGGGTATAGGCACTGAGAAG GT A-- GA AA - T-- T GAACA
3 CAAACAGGATTCATCTGAGA GGG AT GGCACTGA AGC ACAG GAT CA CTGA
ACATCGGTTGCATGTCTCTG CCC TG TTGTGACT TCG TGTC CTG GT GGCT
TGCTTCAGTGTTCAAGTCTC TC AAC -- -- T TAC T -----

CC
GAM33728 273861 GGTCCTACTTCCAAGCTCCA T - A --------- GAACTTACATT ATCAA
4 GGAACTTACATTCCTTCATC GG CCTACTT CCA GC TCCAG CCTTC
AAGAGGGTTTTAGAACGACT TC GGATGAG GGT CG AGGTC GGGAG
GGAAAATGTCTAGCATGGTG - T A ATCTGTAAA AGCAAGATTTT -----
AGTAGGCT
GAM33728 274563 TGCTGTGGCCTAACAGTTGT TG -- A AG- G-- ATA G--- A AG---- TA
5 TTTCTGAGTATATTTTCATG TGCTG GC CT AC TTGTTTTCT AGT TTTTCAT TCA AT
CAAAAG
TCAAATAGCAAAAGTAGAAC ATGAC TG GA TG GATAAAAGG TCA AGAAGTA AGT TG
GTTTTC
TTTTGGAGGAGGTGTGAAGA GT AA C AGA AGA GTG AAGA G GAGGAG --
AATGAAGAGTGACTAGAGGA GAA
AAATAGAGAGTCAGAAGTTG
CAGTA

GAM33728 272938 CCTAACAGTTGTTTTCTGAG AAC TG TCTGAG A GT AAATAG TAGAA
6 TATATTTTCATGTCAAATAG CCT AGT TTT TAT TTTTCAT C CAAAAG
CAAAAGTAGAACTTTTGGAG GGA TCA GAG GTA AGAAGTG G GTTTTC
GAGGTGTGAAGAAATGAAGA GA- GT AA---- A TG AGGAG- -----
GTGACTAGAGG
GAM33728 272929 CCCCCTCCTGCTGCACTCAC CT T C ACA - - CCTGTTT
7 AACAGCTTCCCCTCTCCTGT CCCCCTC GC GCA TC ACA GCTTCC CCTCT
TTAGAGGTGGAAGCATGTAA GGGGGAG TG CGT AG TGT CGAAGG GGAGA
GAATGCGTTTGAGGGGG TT - A AA- A T -------
GAM33728 273829 CCCGCCTCAGCCTCTCGAGT - GCC GA- CAC ACA --- CA TGCCCAGT
8 CACTGGGATTACAGATGTGA CCC GCCTCA TCTC GT TGGGATT GATGT GAGC CCA
GCCACCATGCCCAGTTGGAT GGG CGGAGT AGAG CG ATCTTAA TTACA CTCG GGT
GCTCTAAACATTAAATTCTA T AGT AAA A-- A-- AAT TA --------
AGCAAAGAGATGATGAGGCT
GGG
GAM33728 273828 CCCGCCTCAGCCTCTCGAGT C GCC GA- CAC ACA --- CA TGCCCAGT
9 CACTGGGATTACAGATGTGA CC GCCTCA TCTC GT TGGGATT GATGT GAGC CCA
GCCACCATGCCCAGTTGGAT GG CGGAGT AGAG CG ATCTTAA TTACA CTCG GGT
GCTCTAAACATTAAATTCTA T AGT AAA A-- A-- AAT TA --------
AGCAAAGAGATGATGAGGCT
GG
GAM33729 274051 TCATAGTCTGCGTTTGTTTG CTG - T- TCT - AG TTCC
0 TGCCCATCTTTTTTGGGAAG TCATAGT CGTTT GTTTG GCCCA TTTTTG GGA TCT
TCTTTCCAGGTATTCACAGA GGTGTCG GTAAG CAAAC CGGGT AGAGAC CTT GGA
GACTTGGGCCTCAAACTGAA TA- T TC TC- A AT ----
TGATGCTGTGG
GAM33729 273090 CTGCATCACCTGTGAGAGGA ---- CT TG AG A --- T GCAGAGAAA
1 AAGAACCTTGTTTTTATAGC CTG CATCAC G AG GA AGAACCT TGT TTTATA
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AGGTTCTGTCACTTGCCAGT CCTA AC GT A- G GGG C ---------
GATGATCCCAG
GAM33729 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
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TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33729 274408 GTGTGTCTGGTTTCCAGGAG C TT A A - TGCTGT GAGGC AAGTACC
3 GCAGGCGTGCTGTCTGAAGA GTGTGT TGGT CC GG GGCAGG CG CTGAA TTTGG
GGCTTTGGAAGTACCCCAAA TACACA ACCG GG CC CCGTCC GT GACTT AAACC
TAATTCAGTTCTTGACCTGC C -- A - A TCTT-- AAT-- -------
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4 AGGCGTGCTGTCTGAAGAGG GTGT TGGT CC GG GGCAGG CG CTGAA TTTGG
CTTTGGAAGTACCCCAAATA CACA ACCG GG CC CCGTCC GT GACTT AAACC
ATTCAGTTCTTGACCTGCCC C -- A - A TCTT-- AAT-- -------
CAGGGCCACACAC
GAM33729 273788 CAGTAAGATGAAATAAAAAG TG - ----- T T GCT ACTTTAA
5 CTCATGCTCTTTTCTGCTGG CAGTAAGA A AATAAAAAGCTC ATGC CTT TCT GG
ACTTTAACCTGGGTAAGCGC GTCGTTTT T TTGTTTTTCGAG TACG GAA GGG CC
ATGTCAAGAGCTTTTTGTTG GT G AACTG C T T-- -------
TTGTTTTGCTG
GAM33729 273450 GAAAGGGAGTCCACGGAAGC A A G G - A AG TTTG GACT
6 GTGAGAATGGAGGAAGAACA GAA GGGAGTCC CGGAA C TGAGAATGG AGGAAGA C TGC AGT

GTGCTTTGAGTGACTGCTGC CTT CTCTTAGG GTCTT G ATTTTTATT TCCTTCT G ACG TCG

AGGGTCTTCCTATTATTTTT G A - - A - GG ---- ----
AGTTCTGAGGATTCTCGTTC
GAM33729 273758 GGGAGTCCACGGAAGCGTGA A G G - A AG TTTG GACT
7 GAATGGAGGAAGAACAGTGC GGGAGTCC CGGAA C TGAGAATGG AGGAAGA C TGC AGT

TTTGAGTGACTGCTGCAGGG CTCTTAGG GTCTT G ATTTTTATT TCCTTCT G ACG TCG
TCTTCCTATTATTTTTAGTT A - - A - GG ---- ----
CTGAGGATTCTC
GAM33729 274278 GGCCATGCCTTTGTCACCCT G GTC - AA GCA A TTGTC
8 AAATACTGCACGGCCATGCC GGCCAT CCTTT AC CCTA TACT CGGCC TGCCT
TTTGTCAGGCAGGCTGAGTG CCGGTG GGAGG TG GGGT GTGA GTCGG ACGGA
ACTGGGAGTTAGGAGGGTGG - AT- A CA --- - -----
CC
GAM33729 274519 TGAGAATTGCTTGAACCCAG A---- GA-- C GGCA GT A - AGAT
9 GAGGCAGAGGTTGCAGTGAG TGAGA TTGCTT AC CAGGA GAG TGCAGTG GC CG
CCGAGATCGTGCCACTGCAC ACTCT AACGAA TG GTCCT CTC ACGTCAC CG GC
TCCATCCTGAGTGACAAAGC GTCAG ACAG A AC-- -- - T ----
AAGACTGTCTCA
GAM33730 274633 TTGCTTGAACCCAGGAGGCA GA-- C GGCA GT A - AGAT
0 GAGGTTGCAGTGAGCCGAGA TTGCTT AC CAGGA GAG TGCAGTG GC CG
TCGTGCCACTGCACTCCATC AACGAA TG GTCCT CTC ACGTCAC CG GC
CTGAGTGACAAAGCAA ACAG A AC-- -- - T ----
GAM33730 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
1 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33730 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT

2 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33730 274246 GGAGAATTGCTTGAACCCGG AA GAA-- AGG GT A C AGAT
3 GAGGTGGAGGTTGCAGTGAG GGAG TTGCTT CCCGGG TGGAG TGCAGTG GC G
CCGAGATCGCCCACTGCACT TCTC AACGAG GGGTCC ACCTC ACGTCAC CG C
CCAGCCTGGGCAACAGAGCA AG ACAAC G-- -- C - ----
AGACTCT
GAM33730 274636 TTGCTTGAACCCGGGAGGTG GAA-- AGG GT A C AGAT
4 GAGGTTGCAGTGAGCCGAGA TTGCTT CCCGGG TGGAG TGCAGTG GC G
TCGCCCACTGCACTCCAGCC AACGAG GGGTCC ACCTC ACGTCAC CG C
TGGGCAACAGAGCAA ACAAC G-- -- C - ----
GAM33730 274613 TTATGAATCCGTTTTTATGA C - GAAA AAA CAAA
5 AATGTCCAAAATAGGCAAAT TTATGAATC GTTTTT AT TGTCCA TAGG
CTATGGACAGAAAGTAGAAA GGTGCTTAG CGAAAG TG ACAGGT ATCT
GCAGATTCGTGG A A AAAG --- ----
GAM33730 272853 ATGAATCCGTTTTTATGAAA C - GAAA AAA CAAA
6 TGTCCAAAATAGGCAAATCT ATGAATC GTTTTT AT TGTCCA TAGG
ATGGACAGAAAGTAGAAAGC TGCTTAG CGAAAG TG ACAGGT ATCT
AGATTCGT A A AAAG --- ----
GAM33730 272744 ACACTGTGTTAGCACCCTGT G T A TTCA CAT
7 GATATTATTCATAATATCCA ACACTGTGTTA CACCCTG GAT TTA TAATATC
TGATATTACTACTGACATCC TGTGACGTAAT GTGGGAC CTA AGT ATTATAG
AGGGTGATAATGCAGTGT A - C CATC ---
GAM33730 274061 TCCCTGAATTCCCAGAAGAG GA- C A G G AG- A CAAG
8 CATGCTCAAGACACCTCCAA TCCCT ATTC CAG AGA CAT CTCA AC CCTC
GGAGGAGTGTGTGAGATGTC AGGGA TGAG GTC TCT GTA GAGT TG GGAG
TACTGAGAGTATAAGGGA ATA A A - - GTG A ----
GAM33730 273546 GAGTGTTACATAAGCTAGGC TACATAAGCTA --- ACA T C GAGACCAGG

9 ATGGTAACACACGCCTGTAG GAGTGT GGCA TGGTAAC CGCC GTAGTC CGGCTT
TCCCGGCTTGAGACCAGGAG CTCACG CCGT ACCATTG GTGG CGTCGG GTTGGA
GTTGAGGCTGCGGTGAGTTA TCA-------- ACT A-- - A ---------
CCATCATGCCACTGCACTC
GAM33731 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
0 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33731 273190 GAGGCAGGAGAATCGCTTGA G AA -- AA- AGGC - T AGCCAAGATTG
1 ACCCGGGAGGCGGAGGTTGT GAGGCAG AG TCGCT TG CCCGGG GGAG GT GTGGTG

GGTGAGCCAAGATTGCGCCA CTCTGTC TC AGCGA AC GGGTCC CCTC CG TACCGC

TTGCACTCCAGCCTGGGCAA - AA CA AAC GA-- A T ----------
CAACAGCGAAACTCTGTCTC
GAM33731 273719 GGCAGGAGAATCGCTTGAAC G AA -- AA- AGGC - T AGCCAAGATTG
2 CCGGGAGGCGGAGGTTGTGG GGCAG AG TCGCT TG CCCGGG GGAG GT GTGGTG

TGAGCCAAGATTGCGCCATT CTGTC TC AGCGA AC GGGTCC CCTC CG TACCGC
GCACTCCAGCCTGGGCAACA - AA CA AAC GA-- A T ----------
ACAGCGAAACTCTGTC
GAM33731 274233 GGAGAATCGCTTGAACCCGG AA -- AA- AGGC - T AGCCAAGATTG
3 GAGGCGGAGGTTGTGGTGAG GGAG TCGCT TG CCCGGG GGAG GT GTGGTG
CCAAGATTGCGCCATTGCAC TCTC AGCGA AC GGGTCC CCTC CG TACCGC
TCCAGCCTGGGCAACAACAG AA CA AAC GA-- A T ----------
CGAAACTCT
GAM33731 274230 GGAGAATCGCTTGAACCCGG AA G GA-- GGC A T A CGAGATCAC
4 CAGGCAGAAGTTGCAGTGAG GGAG TC CTT ACCC AGGC GAAGT GCAGTG GC
CCGAGATCACGCCATTGCAC CCTC GG GAG TGGG TCCG CTTCA CGTTAC CG
TTCAGCCTGGGTGACAGAGG AG G ACAG --- A - - ---------
GGGACTCC
GAM33731 273352 TGGTCCACATTCTACATAGT A A AC CAC GTGGACAA
5 AGCACCCTCCACACAGTGGA TGGTCC CATTCTACATAGT GC CCTC ACA
CAATGTCAAGAGGTGGCACT ACCGGG GTGGGGTGTGTCA CG GGAG TGT
GTGTGGGGTGGGGCCA - - GT AAC --------
GAM33731 272982 ACGGAACCTGATGAACTAAT AACCT T AAT ACT TA - T ACTTGAGA
6 TCTGTACTCAGAAATTACTG ACGG GA GAACT TCTGT CAGAAAT CTGACG GCAT TT
ACGGCATTTTACTTGAGAGA TGTC CT CTTGG GGGCA GTCTTTA GACTGT CGTA AG
CATGCGTGTCAGCCATTTCT GTAGT T --- CC- CC G C --------
GCCACGGGGGTTCTTCTGAT
GCTGT
GAM33731 274138 GCAGGCAGGGAGAGGGAGGA CAGGGAGA - A CT ACACC ATTTATGA

7 GGTGAAGGAACAAATGCTGA GCAGG GGGAG GAGGTGAAGGAACA ATG GA TGTT

ACACCTGTTATTTATGAAGC CGTCC TCCTC CTTTACTTTCTTGT TAC CT ACGA
ACTCTACATATGTTCTTTCA AAAAGTGG A A AT C---- --------
TTTCACTCCTGGTGAAAACC
TGC
GAM33731 274140 GCAGGGAGAGGGAGGAGGTG GAGA---- - A CT ACACC ATTTATGA
8 AAGGAACAAATGCTGAACAC GCAGG GGGAG GAGGTGAAGGAACA ATG GA TGTT
CTGTTATTTATGAAGCACTC CGTCC TCCTC CTTTACTTTCTTGT TAC CT ACGA
TACATATGTTCTTTCATTTC AAAAGTGG A A AT C---- --------
ACTCCTGGTGAAAACCTGC
GAM33731 274305 GGGAGGAGGTGAAGGAACAA - A CT ACACC ATTTATGA
9 ATGCTGAACACCTGTTATTT GGGAG GAGGTGAAGGAACA ATG GA TGTT
ATGAAGCACTCTACATATGT TCCTC CTTTACTTTCTTGT TAC CT ACGA
TCTTTCATTTCACTCCT A A AT C---- --------
GAM33732 272725 AACGTGTGGTGATTGATGCT G ATTGAT TCAT C TTGCCC
0 TTCATGGACTCTGTTGCCCC AACGT TGGTG GCTT GGACT TG
AAGTCCCCAAGCCTTGTACC TTGCG ACCAT CGAA CCTGA AC
AGCGTT - GTTC-- CC-- - ------
GAM33732 273604 GGAGAATCGCTTGAATCAGG AA TGAA - A GT - G TGAG
1 GAGTTGGAGGTTGCAGTGAG GGAG TCGCT TCAG GG GTTGGAG TGCAG TGA C
CTGAGGTCACCTGCATTCCA CCTC AGCGA AGTC TC CGACCTT ACGTC ACT G
GCCTGCTGACAGCGAGACTC AG C--- G - -- C - ----
C
GAM33732 274497 TCGGTCAGCTTCCCCACTAG G G - CC-- TGAG - GGCGA G TCTTATT

2 GCTGTGAGTTACTGAATGGC TCG TCA CTT CC ACTAGGCTG TTACT GAAT AGA TGTG

GAAGAGTGTGTCTTATTCAC AGC AGT GAA GG TGATCCGAT GATGA CTTA TCT ACAC
ATCTGGATTCTAGTAGTTAG G - T TCCA T--- T GG--- - -------
CCTAGTACCTGGTAAGTGAG
CGA

GAM33732 273859 GGTCATGGCCTGGAGTTGCT CAT - A TGATAA ATAGATACTTGG

3 GATAATTTAGGTGGGATAGA GGT GGC CTGG GTTGC TTTAGGTGGG
TACTTGGTCTACTTAAGCTC CCA CCG GACC CAATG GAATTCATCT
AATGTAACCCAGAGCCCACC C-- A - TAACTC ----------

GAM33732 274232 GGAGAATCGCTTGAACCCGG AA GAA--- AGCC GT A CGAGATCAT

4 GAGCCGGAGGTTGCAGTGAG GGAG TCGCTT CCCGGG GGAG TGCAGTG GT
TCGAGATCATGCCACTGCAC CCTC AGTGAG GGGTCC CCTC ACGTCAC CG
TCCAGCCTGGGCAACAAGAG AG AACAAC GA-- -- - ---------
TGAGACTCC

GAM33732 273350 TGGTACCTGAAAAGAAGTTG T T - AT C TATATGT

5 CCCATGTTATTTTCGCTTTA TGGTACC GAAAAGAAGT GC CCATGTT TTTCG TT
TATGTGACGAAACAAACATG ACTATGG TTTTTCTTCA CG GGTACAA AAAGC AG
GTGCACTTCTTTTTCGGTAT C - T AC - -------
CA

GAM33732 274053 TCATGGTTCCTGGAAGGTAA GG- CT- GGT CCACCA - TTCACA -

6 GATTGGTGGCCACCACATTC TCAT TTC GGAA AAGATTGGTGG CATTCA GTCTCC GCTAA
GTGTAG
AGTCTCCTTCACAGCTAAGT GGTA AAG CCTT TTTTAATCATC GTAAGT TAGGGG CGGTT
CGTATC
GTAGCCACATAACTATGCTT ACA TTC --- ATC--- A CAC--- T
TGGCCACGGGGATATGAATG CCACATAA
CTACTACTAATTTTTTCCCT
TGAAACAATGG

GAM33732 273857 GGTAAGATTGGTGGCCACCA T- CCACCA - TTCACA - CCACATAA

7 CATTCAGTCTCCTTCACAGC GG AAGATTGGTGG CATTCA GTCTCC GCTAA GTGTAG

TAAGTGTAGCCACATAACTA CC TTTTAATCATC GTAAGT TAGGGG CGGTT CGTATC
TGCTTTGGCCACGGGGATAT TT ATC--- A CAC--- T --------
GAATGCTACTACTAATTTTT
TCC

GAM33732 272953 AAGATTGGTGGCCACCACAT CCACCA - TTCACA - CCACATAA

8 TCAGTCTCCTTCACAGCTAA AAGATTGGTGG CATTCA GTCTCC GCTAA GTGTAG
GTGTAGCCACATAACTATGC TTTTAATCATC GTAAGT TAGGGG CGGTT CGTATC
TTTGGCCACGGGGATATGAA ATC--- A CAC--- T --------
TGCTACTACTAATTTT

GAM33732 272727 AAGAAGAAAGAAAGCTGGCT A- TGG C GA T A AACAT

9 AGGGACCTCAGGATCTCAAG AAG AGAAAGAAAGC CTAGGGA CTCAG TC CA G
AACATCATGGAATTGAGTTC TTC TTTTTCTTTTG GGTCCCT GAGTT AG GT C
CCTGGGTTTTCTTTTTGCCT CG --- T A- - A -----
T

GAM33733 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT

0 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG

TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33733 274539 TGAGGCAGGAGAATCATTTG CA AA GA--- AGG A T A- TCAGATC
1 AACCCAGGAGGTGGAAGTTG TGAGG GGAG TCATTT ACCCAGG TGGA GT GCAGTG GC

CAGTGAGCTCAGATCGCACC ACTCT CCTC AGTAAG TGGGTCC ACCT CA CGTTAC CG

ATTGCACTCCAGCCTGGGTA A- AA AACAA G-- - - CA -------
ACAAGAATGAAACTCCATCT
CA
GAM33733 273446 CTTTGTGAAGGTTAAGGTGT A TA CTTAG TCT--- AGTCA
2 CACTTAGCCTCTCCGAGTCA CTTTGTGA GGT AGGTGTCA CC CCG
CGGTAAAATGGAACAATGGC GAGACACT CCG TCCACGGT GG GGC
ACCTGCCCTCACAGAG C -- AACAA TAAAAT -----
GAM33733 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
3 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33733 273909 GTGGACTTAGGAGGTAGAGA A T G G GA TGG -- TAAGTT
4 GTGCTTTGGGTGTAGGCCAG GTGG CT AG AG TA GAGTGCTT GT GTAGGCCAGG
GTAAGTTTCTGGTCTGCCTG TATC GA TT TC AT TTCACGGA CG CGTCTGGTCT
CATTAGGCACTTGGTAGCTG - - G G GG TTA TC ------
TTAGCTAT
GAM33733 274413 GTTCATTGGCACCATATCTG T-- - A- G TG TATCTCT
5 TCAGTGGAAACATATCTCTT GTTCAT GGCA CCAT TCT TCAG GAAACA
GTTTCTCCTGAGGAGAATGG CGAGTA CTGT GGTA AGG AGTC CTTTGT
ATGTCTTCATGAGC CTT A AG - CT -------
GAM33733 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
6 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33733 273205 GAGGCAGGAGGATCGCTTGA G GA GAA-- AGGCA GT A - AGAT
7 ACCCGGGAGGCAGAGGTTGC GAGGCAG AG TCGCTT CCCGGG GAG TGCAGTG GC CA

AGTGAGCCAAGATTGCGCCA CTCTGTC TC AGTGAG GGGTCC CTC ACGTCAC CG GT

CTGCACTCCAGCCTGGGCAA - AG ACAAC GAC-- -- - C ----
CAGAGTGAGACTCTGTCTC
GAM33733 272823 AGTACAATGATTCAGTGGCC A GATT T AC -- ACTAGCACGCATG
8 AGAACAGGAGCAGTTATTAG AGTAC AT CAG GGCCAGA AGGAGCAGT TATTAGC
CACTAGCACGCATGGCTAAT TTATG TG GTT TCGGTCT TCTTCGTCA ATAATCG
ACCACTGCTTCTCCTCTGGC G AT-- C CC CC ----------
TCTTGTAGTGGTATT
GAM33733 273665 ATGATTCAGTGGCCAGAACA G - T AC -- ACTAGCACGCATG
9 GGAGCAGTTATTAGCACTAG AT ATT CAG GGCCAGA AGGAGCAGT TATTAGC
CACGCATGGCTAATACCACT TG TGA GTT TCGGTCT TCTTCGTCA ATAATCG
GCTTCTCCTCTGGCTCTTGT G T C CC CC ----------
AGTGGT

GAM33734 273790 CAGTGGCCAGAACAGGAGCA T AC -- ACTAGCACGCATG
0 GTTATTAGCACTAGCACGCA CAG GGCCAGA AGGAGCAGT TATTAGC
TGGCTAATACCACTGCTTCT GTT TCGGTCT TCTTCGTCA ATAATCG
CCTCTGGCTCTTG C CC CC ----------
GAM33734 274384 GTGACTCCTGATATGAAATC C- - AAA A--- AG---- CT G ACGCCAGAGA
1 CATTGCCAAGGCTGACCTTA GTGACT CTGA TATG TCC TTGCCA GCTGAC TATC TCACT

TCGTCACTACGCCAGAGAAG CACTGA GACT GTAT AGG AACGGT CGACTG GTAG GGTGA

TGGGATGGAGTCAGCAGAAG AC T CA- ATAA CGAAGA AG - ----------
CTGGCAAAATAGGAACTATG
TTCAGCAAGTCAC
GAM33734 274468 TCATTTGCTATTAGACATCT ------ - ---- T CAT TCGAA
2 TGTGGCTTGACATCCTCGAA TCATTTGCT ATTAGACAT CTT GTGGCT GA CC
GGCTCAGCCACCCCTGGGTG AGTGAACGA TGGTTTGTG GGG CACCGA CT GG
TGTTTGGTTAATACAGCAAG CATAAT T TCCC - C-- -----
TGA
GAM33734 272721 AAAGGGGGGTGTAGTTATAA GG TTATAA--- - T CT G ACTTCA
3 CCAGGGTCATCTTTGATCTC AAAGGGG TGTAG CCAGGG TCATCT TGAT CATTT GAAA

ATTTGGAAAACTTCATTTCA TTTCCCC ACGTC GGTTCC GGTGGA GTTG GTAGA CTTT
AGATGGAGTTGCAGGTGGTC GA TTAGTCAGG T C AG A ------
CTTGGGGACTGATTCTGCAA
GCCCCTTT
GAM33734 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
4 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33734 273209 GAGGCTGAGGAAAGAAGATT T GAA AAGA GAG ATTA GC A A TATGATCAT

5 GCTTGAGCCCAGGAATTAGA GAGGC GAG AG TTGCTT CCCAGGA GAG TGCA TG GC

GGCTGCAATGAGCTATGATC CTCTG CTC TC GACGAG GGGTCCT CTC ACGT AC CG
ATGCCACTGCACTCCATCCT T AGA GA-- --- AC-- -- C - ---------
GGGGAGCAGAGCTAGACTCT
GTCTC
GAM33734 273208 GAGGCGAAGAATTGCTTGAA A AA GAA-- AGG GT A CAAGATCAT
6 CCCAGGAGGTGGAGGTTGCA GAGGCG AG TTGCTT CCCAGG TGGAG TGCAGTG GC

GTGAGCCAAGATCATGCCAC CTCTGT TC AACGAG GGGTCC ACCTC ACGTCAC CG
TGCACTCCAGCCTGGGCAAC C AG ACAAC G-- -- - ---------
AGAGCAAGACTCTGTCTC
GAM33734 274437 TAGGGTAGTGCAAAAGTAAT GTA A G TAAAGT
7 TGAGGGTTTTGCCATTTAAA TAGG GTGCAAAAGTAATTG GG TTTTGCCATT
GTAATGGCAAGAGCTGCGAT GTCC CACGTTTTCATTAGC TC AGAACGGTAA
TACTTTTGCACCAACCTG AAC G G ------
GAM33734 272830 AGTGCTTACCTGTATTTTTT TG - - ------- TT A C AG T TTACA
8 CTCAATAATCTTAGAGGTCT AG CT TAC CTGT ATTT TCTCAAT AT TTAG GTCTC GCC
CTGCCTTACAGGTGAGATAA TC GA ATG GGCA TGAA AGAGTTA TA AGTC TAGAG TGG

CTGAATCATTGAGATTAAGT GT T T CACTTGA TT C - AA - -----
AGTTCACACGGTGTATAGTG
CT
GAM33734 274365 GTCAGCCAGCCCACATTTTA C-- CACATTTTAT G A TTACG GCCAG
9 TGACAATTGGAAGAGTAGAT GTCAGC AGCC GACAATT GAAG GTAGATG GAC
GTTACGGACGCCAGGTTAAA CAGTCG TCGG CTGTTGA CTTC CATCTAC TTG
TCCATCTACACTTCGAGTTG TCA ACATTTT--- G A CTAAA -----
TCTTTTACAGGCTACTGCTG
AC
GAM33735 274308 GGGAGGCTGAGGGGGAGGAT A TGA G A A-- GA-- AGTTCAA C A - TGAT
0 CACTTGAGCCCAGGAGTTCA GGG GGC GGGG AGG TC CTT GCCCAGG GG TGCAGTG GC
CA
AGGCTGCAGTGAGCCATGAT TCC CCG CCCC TCC AG GAG CGGGTCC TC ACGTCAC CG
GT
TGCGCCACTGCACTCCAGCC G --- G C AAC ACAA GACC--- - - C ----
TGGGCAACAGAGCAAGACCC
TGCCCCGCCGCCT
GAM33735 274286 GGCTGAGGGGGAGGATCACT TGA G A A-- GA-- AGTTCAA C A - TGAT
1 TGAGCCCAGGAGTTCAAGGC GGC GGGG AGG TC CTT GCCCAGG GG TGCAGTG GC CA

TGCAGTGAGCCATGATTGCG CCG CCCC TCC AG GAG CGGGTCC TC ACGTCAC CG GT

CCACTGCACTCCAGCCTGGG CCG G C AAC ACAA GACC--- - - C ----
CAACAGAGCAAGACCCTGCC
CCGCCGCC
GAM33735 273844 GGGGGAGGATCACTTGAGCC G A A-- GA-- AGTTCAA C A - TGAT
2 CAGGAGTTCAAGGCTGCAGT GGGG AGG TC CTT GCCCAGG GG TGCAGTG GC CA
GAGCCATGATTGCGCCACTG CCCC TCC AG GAG CGGGTCC TC ACGTCAC CG GT
CACTCCAGCCTGGGCAACAG G C AAC ACAA GACC--- - - C ----
AGCAAGACCCTGCCCC
GAM33735 274152 GCCCTTCAGTCTCAGTAGCC C T ATTT-- A - CAAT
3 ACATTTCAAGTGCTCAATAG GCC TTCAGTC CAGTAGCCAC CA GTG CT
TTACATGTGCCCAGTGGCTG TGG GGGTCAG GTCGTCGGTG GT CAT GA
CTGGACTGGGTGGT T - ACCCGT A T ----
GAM33735 273913 CCCTTCAGTCTCAGTAGCCA C T ATTT-- A - CAAT
4 CATTTCAAGTGCTCAATAGT CC TTCAGTC CAGTAGCCAC CA GTG CT
TACATGTGCCCAGTGGCTGC GG GGGTCAG GTCGTCGGTG GT CAT GA
TGGACTGGGTGG T - ACCCGT A T ----
GAM33735 273209 GAGGCTGAGGAAAGAAGATT T GAA AAGA GAG ATTA GC A A TATGATCAT

5 GCTTGAGCCCAGGAATTAGA GAGGC GAG AG TTGCTT CCCAGGA GAG TGCA TG GC

GGCTGCAATGAGCTATGATC CTCTG CTC TC GACGAG GGGTCCT CTC ACGT AC CG
ATGCCACTGCACTCCATCCT T AGA GA-- --- AC-- -- C - ---------
GGGGAGCAGAGCTAGACTCT
GTCTC
GAM33735 274464 TCAGTTCTGTTTATCTGAAG AAG C ACCCA A TACCCAGT
6 GCTCCTACCCAGAGATTCTA TCAGTTCTGTTTATCTG GCT CT GAG TTC
CCCAGTGAAACTCCCACAGC AGTCGGGGTAGATGGAC CGA GA CTC AAG
AGCGCAGGTAGATGGGGCTG G-- C CACC- A --------

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          A
GAM33735 273209 GAGGCTGAGGAAAGAAGATT    T  GAA  AAGA    GAG     ATTA  GC   A  A  TATGATCAT

7         GCTTGAGCCCAGGAATTAGA GAGGC GAG  AG   TTGCTT  CCCAGGA   GAG  TGCA TG GC

          GGCTGCAATGAGCTATGATC CTCTG CTC  TC   GACGAG  GGGTCCT   CTC  ACGT AC CG
          ATGCCACTGCACTCCATCCT    T  AGA  GA--    ---     AC--  --   C  -  ---------
          GGGGAGCAGAGCTAGACTCT
          GTCTC
GAM33735 272943 AAAATAAAATAGAAATCATT    AAA-     T  TTAT  T  A      A  A   T     AAATGA
8         ATTGTCTAGGCTTTTGGAGA AAAAT   ATAGAAA CA   TG CT GGCTTTTGG GA GCATA GCTGTGA

          AGCATATGCTGTGAAAATGA TTTTG   TGTCTTT GT   AC GA CCGAAAATC CT CGTGT CGGCACT

          TCACGGCTGTGCTCCTAAAA    ACAA     -  ----  T  -      -  -   -     ------
          GCCAGTCATGTTTCTGTAAC
          AGTTTT
GAM33735 272843 ATAGAAATCATTATTGTCTA      T  TTAT  T  A      A  A   T     AAATGA
9         GGCTTTTGGAGAAGCATATG ATAGAAA CA   TG CT GGCTTTTGG GA GCATA GCTGTGA

          CTGTGAAAATGATCACGGCT TGTCTTT GT   AC GA CCGAAAATC CT CGTGT CGGCACT
          GTGCTCCTAAAAGCCAGTCA     -  ----  T  -      -  -   -     ------
          TGTTTCTGT
GAM33736 273802 CATGTTTATGGCCTAGGATA   GTTTAT     --  A  G       G CTAG
0         ATGGGCTACCATACAGCCTA CAT    GGCCTAG  GATA TGG CTACCATACA C
          GGTGTATGGTAGGCTGTATC GTA    TTGGATC  CTAT GTC GATGGTATGT G
          ATCTAGGTTTGCACAATG    ACACGT     TA  -  G       - ----
GAM33736 273109 CTGTGATGGTTGTGTTCTAT   T    T   ----   T   G---  C    GG  C     GCTTGTTT
1         TATAAAGTGGCACCATTGGA CTG GATGGT GTGTT   CTAT ATAAA   TGG ACCATT  AGT TAAGGGT

          GTCTAAGGGTGCTTGTTTGC GAC CTGCCG CACAG   GGTG TATTT   ACC TGGTAA  TCA ATTCCCG

          CCTTACACTAAATGGTCCCA   -    T    TCTT   -   GTGA  C    A-  C     --------
          AGTGTTTATGTGGTTCTGAC
          ACTGCCGTCCAG
GAM33736 273771 CACTTCATATACCAGAAGCA    C  A      CAC    -   GAG  T  -   CAT   TAGGT
2         CCTCAGCCCTGAGGTCTTGG CACTT AT TACCAGAAG  CTCAG CCCT  GTC TG GGGA  AGA

          GGACATAGATAGGTTCTTCA GTGAA TG GTGGTTTTT  GAGTC GGGG  TAG GC CTCT  TCT

          TCTCACGTGATGGGGACTGA    A  G      CTC    A   ---  T  A   ACT   -----
          GCTCTTTTTGGTGGGTAAAG
          TG
GAM33736 273653 AGTTTTAGGGTACATGTGCA    TTA   A  T TG  -    -  G  T   T  ATAT
3         CAACATGCAGGTTTGTTACA AGTT   GGGT CA G  CAC AACATG CA GT TGT AC
          TATGTATACATGTGCCATGT TCAA   CCCA GT C  GTG TTGTAC GT TA ATA TG
          TGGTGTGCTGCACCCATTAA    TTA   C  - GT   G    C  G  C   -  ----
          CT
GAM33736 273946 CTAGGGTGCACAGTTTTTAA      CAC  T    A   --   CTC      GAC   CCC  ACTT
4         GAAGGCTCGCTCTCTCAGGG CTAGGGTG   AGT TTTAAG AGG  CTCG   TCTCAGGGG   CAT   GC
```

GGACCATCCCGCACTTGCAT GGTCTCAC TTA AAATTC TCC GAGT AGAGTTCCC GTA CG

GCCCTTGAGAATGAGGTCCT --- T C TG A-- --- --- ----
CCTTAAATATTCACTCTGG
GAM33736 273539 GAGGGGCTTAAGCTACTACT TT C - C- GC- TG ATACATACA
5 TTCAGGCTGTGCTGAGTGAT GAGGGGC AAG TACTA CTTTCAGG TGT TGAG AT
ATACATACAATGCCTCATTG CTCTTCG TTT ATGGT GGAAGTCC ACA ACTC TA
ACAATCCTGAAGGATGGTAT T- - A TA GTT CG ---------
TTTGCTTCTC
GAM33736 273239 GCATTGCTTGAGTCCAGGAG A GAG - TCAA C A T AGGTCA
6 GTCAAGGCTGCAGTGAGTCA GC TTGCTT TCCAGGA GG GG TGCAGTG G CA
AGGTCATGCCACTGCACTCC CG AACGAG GGGTCCT CC TC ACGTCAC C GT
ATCCTGGGACAGAGCAAGC - ACA A ---- - - - ------
GAM33736 273810 CCAGGCCTGCCGGTAGGTTT C CCGGTA AGA A - T AT CG
TTTTGACTGGT
7 AGAATGAGGTCTGTGTCACT CCAGGC TG GGTTT ATG GG TCTGTG CACTGTGGT TA ATA

GTGGTATTACGATATTTTGA GGTCCG AC CCAAA TAC CT AGACAC GTGACACCA AT TAT

CTGGTTATTATAACCACAGT T ------ AAC - G T -- AT ----------
GTCACAGAGTCCATCAAAAA
CCCATGCCTGG
GAM33736 274334 GGTAGGTTTAGAATGAGGTC -- AGA A - T AT CG TTTTGACTGGT
8 TGTGTCACTGTGGTATTACG GGTA GGTTT ATG GG TCTGTG CACTGTGGT TA ATA
ATATTTTGACTGGTTATTAT CCGT CCAAA TAC CT AGACAC GTGACACCA AT TAT
AACCACAGTGTCACAGAGTC AC AAC - G T -- AT ----------
CATCAAAAACCCATGCC
GAM33736 274605 TGTGATGACACAGCAAGAAG TGA- C- AGA CCTC T --- T CTT TTT ACTTTC
9 GTCCTCGCCAGATGCTCCTG TGTGA CA AGCA AGGT GCCAGA GC TCC GGA GC GG

GACTTGCTTTGGACTTTCCC ACACT GT TCGT TCCA CGGTCT CG AGG TCT CG CC
TTGCTCTTGGACTTGCTCTG TCAG TC G-- ---- - TTC T --- TT- ------
GCACCTGTGCTCTTGGACTT
CACA
GAM33737 273752 GGGACAGCATCCTTTTTTGG A CA- GC TTGTTTG A A ACCC
0 CATTTGTTTGTTGCGGGTGG GGG CAG TCCTTTTTTG AT TTGCGGGTGGGG GAGG TTGA

GGAGAGGATTGAACCCTTAA CCC GTC GGGAAAGAAC TG AACGCTCGCTCC CTCC AATT

CCTCACCTCGCTCGCAAGTA A CAA TA ------- A - ----
TCAAGAAAGGGAACCTGACC
C
GAM33737 274059 TCCCCTTCCTCTTTCCCTCC C- TTTCCC AGTTG ATTT- CAATGTAAT
1 CAGTTGTAAATAACATTTTT TCCCCTT CTC TCCC TAAATAAC TTTAGCAG
TAGCAGCAATGTAATCTGCT AGGGGAA GAG AGGG ATTTGTTG AAATCGTC
AAATGTTAGTTGTTTAGGGA AA TCCTGA ----- ATTGT ---------
AGTCCTGAGAAAAGGGGA
GAM33737 273833 CCCTGGAGGCAGGTGCAGAT A C G - T TGTT TG CAGGAT
2 GGAGGCTGTTTCCTGTCAGG CCCTGG GG AG TG CAGA GGAGGC TCC T
ATGTGGGACTTTGTCTTCTT GGGACC CC TT AC GTCT CTTCTG AGG G

CTGACAGTTCCCCAGGG - - G A T TTTC GT ------
GAM33737 273833 CCCTGGAGGCAGGTGCAGAT A C G - T TGTT TG CAGGAT
3 GGAGGCTGTTTCCTGTCAGG CCCTGG GG AG TG CAGA GGAGGC TCC T
ATGTGGGACTTTGTCTTCTT GGGACC CC TT AC GTCT CTTCTG AGG G
CTGACAGTTCCCCAGGG - - G A T TTTC GT ------
GAM33737 274311 GGGATGCCAAACCCTCTCCC C AACCC- C -- T C- ACTGAA
4 TGTGTTACATTAGTGCTATG GGGATG CA TCTC CTGT GTTACA TAGTG TATG
ACTGAACATAAACACTGCTG TCCTAC GT AGAG GGCA TAATGT GTCAC ATAC
TAATGGACGGTGAGATCTTC T GCTTCT T GG C AA ------
GTGTCATCCT
GAM33737 273959 CTCTTGAACCCAGGAGGTGG AA- AGG - -- GCTGAGA
5 AGGTTGGGGTGAGCTGAGAT CTCTTG CCCAGG TGGAG GT TGGGGTGA
CACTCCATTGCACTCCAGTC GAGAGC GGGTCT ACCTC CG ACCTCACT
TGGGCAACGAGAG AAC G-- A TT -------
GAM33737 273494 GAGCTGCCAGCATGGCTAGA TG CT TGAAGC A AAA G A CTTG
6 ATGAAGCAGGTAGGAGAAAT GAGC CCAGCATGG AGAA AGGT GGAG TTGGA AGACT GA

TGGAGAGACTAGACTTGTTG TTCG GGTCGTACC TCTT TCTA CCTC GACCT TCTGA TT

AGTCTTCCAGCCTCCATCTT TA C- ------ - C-- - G ----
TCTCCCATGCTGGATGCTT
GAM33737 273565 GGAATCTTGCTTTGTAGCCC ATC T T C -- T T ---- TCTTGGC
7 AGGCTGGAGTGCAGTGGTGT GGA TTGCTT G AGCC AGGCT GGAG GCAG GGT GTGA

GATCTTGGCTCACGGCAACC CCT GACGAA C TCGG TCTGG CCTC CGTC CCA CACT
TCTGCCTCCCGGGTCTAGGC CTT - - A GC - T ACGG -------
TCAAGCAGTTCTCC
GAM33737 273564 GGAATCTTGCTTTGTAGCCC CT T T C -- T T ---- TCTTGGC
8 AGGCTGGAGTGCAGTGGTGT GGAAT TGCTT G AGCC AGGCT GGAG GCAG GGT GTGA

GATCTTGGCTCACGGCAACC TCTTG ACGAA C TCGG TCTGG CCTC CGTC CCA CACT

TCTGCCTCCCGGGTCTAGGC -- - - A GC - T ACGG -------
TCAAGCAGTTCT
GAM33737 274486 TCCTCTCCACGCTTTACTTT C TTTACTTTTA AA- TG- T A CT- ACCACAGC
9 TAGGTAACTGCTTTTGTTGT TCCTCT CACGC GGT CTGCTTT TTG GC GGGA GGTGT
GCAGGGACTGGTGTACCACA AGGGGA GTGCG CCA GACGAAA GGT CG CCCT CCACA

GCACACCTCCTCCCGCCTGG A ---------- GTC TGA C - CCT --------
AGTAAAGCAGCTGACCGCGT
GAAGGGGA
GAM33738 274235 GGAGAATCGCTTGAACCTGA AA GAA--- GAG - GT - A CAAGATC
0 GAGGCGGAGGTTGCGGGGAG GGAG TCGCTT CCT AGGC GGAG TGCGG GG GC
CCAAGATCGCACCATTGCAC CCTC AGCGAG GGG TCCG CCTC ACGTT CC CG
TCCAGCCTGGGCAACAAGAG AA AACAAC --- A -- A A -------
CGAAACTCC
GAM33738 272838 AGTTTGCATCTGTGCAATAT TT--- CT AATAT T GA- - TG-- CT TCTTTT
1 TATTATGAAGGTCTTTAGTG AGT GCAT GTGC TA TAT AGGT CTTTAG GCAGAGT AGG
GCAGAGTCTAGGTCTTTTCC TCA CGTG TACG AT ATG TCCA GAAGTC TGTCTCA TCC
TTACTCTGTAATTCTGAAGC TTGTT -- GACT- C AGG C TTAA T- ------

ACCTGGAGTACTATCAGGCA
TGTGCTTGTTACT
GAM33738 273337 TGGGAGTTTTCTAACACATG TAACACATGGTCT T TAACGGGCT
2 GTCTGATCAAGTCAATGCTA TGGGAGTTTTC GATCAAG CAATGC
ACGGGCTGCATTGCTTGGTT ACCTTCGAGAG TTGGTTC GTTACG
GAGAGCTTCCA ---------- - ---------
GAM33738 274483 TCCTACAACTTGAGTCTTTG ACAA A CTT TACT T -- TCTA ATACGTCAAC
3 ATACTGGTGTCACTTTCAGG TCCT CTTG GT TGA GG GTCACT TTCAGGAGC AGA
AGCTCTAAGAATACGTCAAC AGGA GAAC CA ACT CC CAGTGG GAGTCTTCG TCT
TCTCGCTTCTGAGTTGGTGA AA-- - --- C--- - TT C--- ----------
CCCCTCAACCAAGAAAGGA
GAM33738 274302 GGGAGCAAGTTTAGGGGTCA CA TA--- T-- G TT CCC AAATCA
4 GGTAGTGCTCCTCTTTTCCC GGGAG AGTT GGGGTCAGG AGT CTCCTC TTC TG
CTGAAATCACACAAGAATGA CCCTC TCAG TTTCAGTCC TCG GAGGAG AAG AC
GGAGGGCTTTCCCTGACTTT CC AAACG CTT G T- AAC ------
GCAAAGACTCCCTCCC
GAM33738 274554 TGAGGTAGGAGAATCGCTTG A AGAA GAA-- AGG GC
AGCCAAGATCACACAC
5 AACTCGGGAGGGGAGGCTGC TGAGGT GG TCGCTT CTCGGG GGAG TGCAGTG
AGTGAGCCAAGATCACACAC ACTCTA CC AGTGAA GGGTCC CCTC ACGTCAC
CACTGCACTCCAGCCTGGGC C CCAG ACAAC GA- -- ----------
AACAAAGTGAGACCCCCATC
TCA
GAM33738 273603 GGAGAATCGCTTGAACTCGG AGAA GAA-- AGG GC AGCCAAGATCACACAC

6 GAGGGGAGGCTGCAGTGAGC GG TCGCTT CTCGGG GGAG TGCAGTG
CAAGATCACACACCACTGCA CC AGTGAA GGGTCC CCTC ACGTCAC
CTCCAGCCTGGGCAACAAAG AG-- ACAAC GA- -- ----------
TGAGACC
GAM33738 274071 TCGCTTGAACTCGGGAGGGG GAA-- AGG GC AGCCAAGATCACACAC

7 AGGCTGCAGTGAGCCAAGAT TCGCTT CTCGGG GGAG TGCAGTG
CACACACCACTGCACTCCAG AGTGAA GGGTCC CCTC ACGTCAC
CCTGGGCAACAAAGTGA ACAAC GA- -- ----------
GAM33738 273794 CATAATGAGTCCACAGCCTC A- GT- ACA -- - G CT TGTAGAATTGATTT
8 GGGGGACGATTGTTCCTGTT CAT ATGA CC GCCTC GG GGGAC ATTGTTC GTTTC
TCTGTAGAATTGATTTGAAA GTA TACT GG CGGAG TC CCCTG TAATAAG CAAAG
CTTGAATAATGTCCCACTGG AA AGT AA- GG A - TT ----------
GAGGCAAGGTGATCATAAAT
G
GAM33738 273663 ATGAGTCCACAGCCTCGGGG GT- ACA -- - G CT TGTAGAATTGATTT
9 GACGATTGTTCCTGTTTCTG ATGA CC GCCTC GG GGGAC ATTGTTC GTTTC
TAGAATTGATTTGAAACTTG TACT GG CGGAG TC CCCTG TAATAAG CAAAG
AATAATGTCCCACTGGGAGG AGT AA- GG A - TT ----------
CAAGGTGATCAT
GAM33739 272920 CCATGCTAAATAAAGGAGAG A AA AAGG G A AG GA--- TG - CAGAGAA
0 CTTAGGTAGACAGACTTGAC CC TGCT ATA AGA CTT GGT ACAGACTT CCT GAGA GGC

CTTGGAGAGGCCAGAGAAGC GG ATGA TGT TCT GAA TCG TGTTTGAA GGA CTCT CCG

CTTCTCTGAGGACAGAAAGT - A- GAAG - G -- AGACA GT T -------
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TAAGTAGG
GAM33739 272775 AGAGCTTAGGTAGACAGACT G A AG GA--- TG - CAGAGAA
1 TGACCTTGGAGAGGCCAGAG AGA CTT GGT ACAGACTT CCT GAGA GGC
AAGCCTTCTCTGAGGACAGA TCT GAA TCG TGTTTGAA GGA CTCT CCG
AAGTTTGTGCTGAAGTCT - G -- AGACA GT T -------
GAM33739 274028 TAGTTTTTACCTTGTAGACC T TTGTAGACCCCCT TG GGCATC--- CC-
ACCATACC
2 CCCTGAAATGGTCTTCGGCA TAGTT TTACC GAAA GTCTTC TGTAGTGGT CAG
TCTGTAGTGGTCCCAGACCA GTCAG AATGG CTTT TAGAAG ACGTCATCA GTT
TACCTTGAAAACTACTGCAT T ---------- GT AAGCATTTT AAA --------
TTTACGAAGAAGATTGTTTC
GGTAATGACTG

GAM33739 274244 GGAGAATTGCTTGAACCCAG AA GAA--- ACG GT C A - AGAT
3 GACGTGGAGGTTGCCATGAG GGAG TTGCTT CCCAGG TGGAG TGC ATG GC TG
CTGAGATCACGCCATTGCAC CCTC AGCGAG GGGTCC ACCTC ACG TAC CG AC
TCCAGCCTGGGCAACAAGAG AA AACAAC G-- -- T - C ----
CGAAACTCC
GAM33739 272879 CACTTGAACCTGGAAGGCAG AA- GGA A T A TGAGATTGT
4 GGGTTGCAGTGAGCTGAGAT CACTTG CCT AGGC GGGGT GCAGTG GC
TGTGCCATTGCACTCCAGCC GTGAAC GGG TCCG CCTCA CGTTAC CG
TGGGCAACAAGTG AAC --- A - - ---------
GAM33739 274554 TGAGGTAGGAGAATCGCTTG A AGAA GAA-- AGG GC
AGCCAAGATCACACAC
5 AACTCGGGAGGGGAGGCTGC TGAGGT GG TCGCTT CTCGGG GGAG TGCAGTG
AGTGAGCCAAGATCACACAC ACTCTA CC AGTGAA GGGTCC CCTC ACGTCAC
CACTGCACTCCAGCCTGGGC C CCAG ACAAC GA- -- ----------
AACAAAGTGAGACCCCCATC
TCA
GAM33739 273603 GGAGAATCGCTTGAACTCGG AGAA GAA-- AGG GC AGCCAAGATCACACAC

6 GAGGGGAGGCTGCAGTGAGC GG TCGCTT CTCGGG GGAG TGCAGTG
CAAGATCACACACCACTGCA CC AGTGAA GGGTCC CCTC ACGTCAC
CTCCAGCCTGGGCAACAAAG AG-- ACAAC GA- -- ----------
TGAGACC
GAM33739 274071 TCGCTTGAACTCGGGAGGGG GAA-- AGG GC AGCCAAGATCACACAC

7 AGGCTGCAGTGAGCCAAGAT TCGCTT CTCGGG GGAG TGCAGTG
CACACACCACTGCACTCCAG AGTGAA GGGTCC CCTC ACGTCAC
CCTGGGCAACAAAGTGA ACAAC GA- -- ----------
GAM33739 274203 GGAAGGCCATGTTAGACGGC G A CGGCAAAA TC C ---- GAATATA
8 AAAATGGTTTTCTAGAACAT GGAAG CC TGTTAGA TGGTTT TAGAA ATGA AATG
GAAATGGAATATACATTGCC CCTTC GG ACAATCT ACCAAA ATCTT TACT TTAC
CTCATTTCTATAAACCAGGA G A CAGG---- T- - CCCG -------
CTCTAACAAGGGCTTCC
GAM33739 274553 TGAGGTAGGAGAATCACTTG A AGAA GAA-- AGG GC
AGCCAAGATCACACAC

```
9          AACTCGGGAGGGGAGGCTGC TGAGGT GG   TCACTT   CTCGGG  GGAG  TGCAGTG
           AGTGAGCCAAGATCACACAC ACTCTA CC   AGTGAA   GGGTCC  CCTC  ACGTCAC
           CACTGCACTCCAGCCTGGGC     C CCAG    ACAAC    GA-  --     ----------
           AACAAAGTGAGACCCCCATC
           TCA
GAM33740 273582 GGAGAATCACTTGAACTCGG  AGAA    GAA--    AGG   GC     AGCCAAGATCACACAC

0          GAGGGGAGGCTGCAGTGAGC GG   TCACTT   CTCGGG  GGAG  TGCAGTG
           CAAGATCACACACCACTGCA CC   AGTGAA   GGGTCC  CCTC  ACGTCAC
           CTCCAGCCTGGGCAACAAAG  AG--    ACAAC    GA-  --     ----------
           TGAGACC
GAM33740 273583 GGAGAATCACTTGAACTCGG  AGAA    GAA--    AGG   GC     AGCCAAGATCACACAC

1          GAGGGGAGGCTGCAGTGAGC GG   TCACTT   CTCGGG  GGAG  TGCAGTG
           CAAGATCACACACCACTGCA CC   AGTGAA   GGGTCC  CCTC  ACGTCAC
           CTCCAGCCTGGGCAACAAAG  CAG-    ACAAC    GA-  --     ----------
           TGAGACCC
GAM33740 274044 TCACTTGAACTCGGGAGGGG     GAA--    AGG   GC     AGCCAAGATCACACAC

2          AGGCTGCAGTGAGCCAAGAT TCACTT   CTCGGG  GGAG  TGCAGTG
           CACACACCACTGCACTCCAG AGTGAA   GGGTCC  CCTC  ACGTCAC
           CCTGGGCAACAAAGTGA       ACAAC    GA-  --     ----------
GAM33740 274049 TCAGTCCCTTTGGGTGTGAC   T CT  G   A   - CA  TT     C   CATCTTCAGTTTT
3          TGCTGTACACATTTTCATGT TCAG CC  TTG GTGTG CTGCT GTA  CATT  CATGTTAC ATTGA

           TACCATTGACATCTTCAGTT AGTT GG  GAT TATAC GACGA TAT  GTAA  GTGTAGTG TAACT

           TTTCAATGTGATGTGTAATG   - T-  G   -   A  AC   T-     -   ----------
           CATATAAGCAGCATATGTAG
           TGGTTGA
GAM33740 274263 GGAGTATCCTGGGGATCAGT   A  AT     ATCA  C-      --    AGT   GGGC
4          TCAAATGCAGATTCAGGAGT GG GT  CCTGGGG   GTT  AAATGCAGA  TTCAGG  TCTG
           TCTGGGGCCAGGCCTGAGAC CC CA  GGACCCC   CGA  TTTACGTCT  GAGTCC  GGAC
           TCTGCATTTATAGCAAGCCC  G  GT     CGAA  TA      CA    ---   ----
           CCAGGTGACGCC
GAM33740 273085 CTGAGGCAGGAGAATTGCTT        AGAA   -  A-    A- TGAA  T    A-  GAGAT
5          GTACCCGGGAGGTGAAGGTT CTGAGGCAGG   TTGCT TGT  CCCGGG  GG   GGT GCAGTG  GCC

           GCAGTGAGCCGAGATGGTGC GACTTTGTCC   AACGA ACA  GGGTCC  CC   TCA CGTCAC  TGG

           CACTGCACTCCAGCCTGGGC        CGG-   G  AC    GA ----  -    CG  -----
           AACAGAGCAAGGCCCTGTTT
           CAG
GAM33740 274641 TTGGAATAGGGTCCCGTCCC   AATA   CC   C       TG   A    -- ATAAGTTGAA
6          GATAAATTCATTGTAAGATG TTGG   GGGT  CGTCC GATAAATTCAT  TAAG TGAAGAT  ACT

           AAGATACTATAAGTTGAAAG AACC   CCCA  GTAGG CTATTTGGGTA  ATTT ACTTTTG  TGA

           TGCGTTTTCAATTTATGATG   AC--   AT   T       GT   A    CG  ----------
           GGTTTATCTGGATGTAACCC
```

CACCAA
GAM33740 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
7 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33740 273378 TTAGGAAAGTAGTTTTAATC AA TTTAA GCCC- TG CCTG
8 TCATAGGCCCCCAGTGGGGA TTAGG AGTAGT TCTCATAG CCAG GGGATCC
TCCCCTGGGATCCTCTGGCC GATCC TCGTCA AGAGTGTC GGTC TCCTAGG
ATGCTGTGAGAACTGCTAGC GA ----- GTACC -- ----
CTAG
GAM33740 274554 TGAGGTAGGAGAATCGCTTG A AGAA GAA-- AGG GC
AGCCAAGATCACACAC
9 AACTCGGGAGGGGAGGCTGC TGAGGT GG TCGCTT CTCGGG GGAG TGCAGTG
AGTGAGCCAAGATCACACAC ACTCTA CC AGTGAA GGGTCC CCTC ACGTCAC
CACTGCACTCCAGCCTGGGC C CCAG ACAAC GA- -- ----------
AACAAAGTGAGACCCCCATC
TCA
GAM33741 273603 GGAGAATCGCTTGAACTCGG AGAA GAA-- AGG GC AGCCAAGATCACACAC

0 GAGGGGAGGCTGCAGTGAGC GG TCGCTT CTCGGG GGAG TGCAGTG
CAAGATCACACACCACTGCA CC AGTGAA GGGTCC CCTC ACGTCAC
CTCCAGCCTGGGCAACAAAG AG-- ACAAC GA- -- ----------
TGAGACC
GAM33741 274071 TCGCTTGAACTCGGGAGGGG GAA-- AGG GC AGCCAAGATCACACAC

1 AGGCTGCAGTGAGCCAAGAT TCGCTT CTCGGG GGAG TGCAGTG
CACACACCACTGCACTCCAG AGTGAA GGGTCC CCTC ACGTCAC
CCTGGGCAACAAAGTGA ACAAC GA- -- ----------
GAM33741 274487 TCCTGAAAGTGAATTGAGAT TGAA- GAA AA--- - TC GAC -- AAC
2 TAATCAATTGTCATGATCTG TCC AGT TTGAGATT TCA ATTG ATGATCT CATGG
TTATTCAGA
ACCATGGTTATTCAGAAACT AGG TCA AACTTTGG AGT TAGT TACTAGA GTACT
AATAAGTTT
TTGAATAAGTTCATGAGAAG TCAAC AAG ACATA C CT AGA TG ---
ATCATTCTGATCTGAATACA
GGTTTCAAGAAACTCAACTG
GA
GAM33741 274528 TGAGGCACGAGAATCGCTTG C AA G GAA-- AGGC GC A AGAGATCAC
3 AACCCAGGAGGCGGAGGCTG TGAGGCA GAG TC CTT CCCAGG GGAG TGCAGTG GC

CAGTGAGCAGAGATCACGCC ACTCTGT CTC AG GAG GGGTCC CCTC ACGTCAC CG

ACTGCACTCCAGCCTGGGCA - AG G ACAAC GA-- -- - ---------
ACAGAGGGAGACTCTGTCTC
A
GAM33741 272901 CATGTTGGCCAGACTGGTCT T - GACT CT - CA T TCT CACCTT
4 GTAACTCCAGACTTCAGGTG CATG TGGC CA GGTCTGTAA CCAG ACTT GG GA GCC

ATCTGCCCACCTTGGCCTCC GTAC ACCG GT CCGGACATT GGTC TGAA CC CT CGG

CAAAGTGCTGGGATTACAGG C A ---- AG G A- - C-- ------
CCTGAGCCACCATG
GAM33741 274554 TGAGGTAGGAGAATCGCTTG A AGAA GAA-- AGG GC
AGCCAAGATCACACAC
5 AACTCGGGAGGGGAGGCTGC TGAGGT GG TCGCTT CTCGGG GGAG TGCAGTG
AGTGAGCCAAGATCACACAC ACTCTA CC AGTGAA GGGTCC CCTC ACGTCAC
CACTGCACTCCAGCCTGGGC C CCAG ACAAC GA- -- ----------
AACAAAGTGAGACCCCCATC
TCA
GAM33741 273603 GGAGAATCGCTTGAACTCGG AGAA GAA-- AGG GC AGCCAAGATCACACAC

6 GAGGGGAGGCTGCAGTGAGC GG TCGCTT CTCGGG GGAG TGCAGTG
CAAGATCACACACCACTGCA CC AGTGAA GGGTCC CCTC ACGTCAC
CTCCAGCCTGGGCAACAAAG AG-- ACAAC GA- -- ----------
TGAGACC
GAM33741 274071 TCGCTTGAACTCGGGAGGGG GAA-- AGG GC AGCCAAGATCACACAC

7 AGGCTGCAGTGAGCCAAGAT TCGCTT CTCGGG GGAG TGCAGTG
CACACACCACTGCACTCCAG AGTGAA GGGTCC CCTC ACGTCAC
CCTGGGCAACAAAGTGA ACAAC GA- -- ----------
GAM33741 273957 CTCTGTCACCCAGGCTGGAG TC CC--- A -- T GAT - C-- CCT
8 TGAGTGTGATCTTGGCTCAC CTCTG AC AGGCTGG GT GAG GT CTTGG CTCA GGCAA

GGCAACCTTTGCCTCCTGGG GAGAC TG TCCGATC CG CTC TA GAACT GGGT CCGTT

TTCAAGCAATTCTCCTGCCC GA AGCCC C TC T AC- T CCT ---
TAGCCTCCCGAGTAGCAGAG
GAM33741 273382 TTCAGGTTTTCAGACACCTG GG ACC TAG---- - A - CT GGACAA
9 CAGTAGTAGAACAGAATATT TTCA TTTTCAGAC TGCAG TAGAAC AGA TATTT TAGCT GA

TTAGCTCTGAGGACAATCTA AAGT AGAGGTTTG ACGTT GTCTTG TCT ATAAG ATTGA CT

AGTTATGAATAGTCTGGTTC AA AT- TAGGAAT G G T AT ------
TGTAAGGATTTGCATAGTTT
GGAGAAATGAA
GAM33742 273732 GGCCCAGCGTGGCTCCTGAC CT CC--- AA A- AAG---- GTTAAA
0 CTGGAGGATAACAATGATAA GGCCCAGCGTGG CCTGA TGGAGGAT CAATGAT ATGG TGCT

TGGAAGTGCTGTTAAAAGTA CCGGGTCGTGCC GGACT ACTTTTTG GTTATTG TATC ATGA

AGAATGACTATGAGTTATTG AC CGTCT A- AG AGTAAGA ------
AGTTTTTCATCTGCTCAGGC
ACCGTGCTGGGCC
GAM33742 274511 TCTTCATTATCCTCTATATC A-- -- TATC- CT -- - CGG
1 ATTGCTATGCCCTGGTGTTG TCTTC TTATCC TCTA ATTG ATGCC CTG GTGTTGTGCC

TGCCCGGGGTACAACACGTA AGAAG AATAGG GGGT TAGC TGTGG GAT CACAACATGG

GTAGGTGTTCGATAAACTTG GTA TT TCAAA T- AT G ---
GGTTGGATAAATGGAAGA

GAM33742 273544 GAGTCTAGTTACTAGGCAGT AG A A A C C ATAG
2 GTAGTTAGCTGATTGCTAAT GAGTCT TTACT GGC GTGT GTTAG TGATTG TA
AGTACCAATCACTAACCACA TTTAGA AATGG CCG CACA CAATC ACTAAC AT
CGGCCAGGTAAAAAGATTT AA A G C - C ----
GAM33742 273374 TTACTAGGCAGTGTAGTTAG A A A C C ATAG
3 CTGATTGCTAATAGTACCAA TTACT GGC GTGT GTTAG TGATTG TA
TCACTAACCACACGGCCAGG AATGG CCG CACA CAATC ACTAAC AT
TAA A G C - C ----
GAM33742 273709 GGATGGCTTGAGTCCAGGAG ATG- GA-- AGG GT - AGA
4 GTGGAGGTTGCAGTGAACAG GG GCTT GTCCAGG TGGAG TGCAGTGA ACAG
AGATTGTGTCACTGCACTCT CC CGAG CGGGTCC ATCTC ACGTCACT TGTT
AGCCTGGGCAACAGAGCGAG AGAG ACAA G-- -- G ---
ACC
GAM33742 274189 GCTTGAGTCCAGGAGGTGGA GA-- AGG GT - AGA
5 GGTTGCAGTGAACAGAGATT GCTT GTCCAGG TGGAG TGCAGTGA ACAG
GTGTCACTGCACTCTAGCCT CGAG CGGGTCC ATCTC ACGTCACT TGTT
GGGCAACAGAGC ACAA G-- -- G ---
GAM33742 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
6 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33742 274612 TTAAAAATTGCTGATGCCTG TTG C CCCACCCTTAAAA --- T CTGGA -
7 GGTCCCACCCTTAAAAATGC TTAAAAA CTGATGC TGGGT ATGCT GATT AATTGGT GTA
GTG
TGATTTAATTGGTCTGGAGT AGTTTTT GATTACG GCCCG TATGA CTGG TTAATCG TAT
CAC
AGTGCTCGCTTCGGCAGCAC TG- A ---------- GGT - ----- A
ATATGCTAATTGGTCTGGAG C TTCG
TATGCCCGAGCATTAGGTTT CT GC
TTTGA GA CG
- ----
GAM33742 273167 GAGACAGGAGAATCGCTTGA G AA G - A- - - A T AGCCAA
8 ACCTGGGAGGCAGAGGTTGC GAGACAG AG TC CT TG ACCTG GGAG GCAG GGT GCGGTT

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CTGCACTCCATGGGTGACAC - AG A C AG A A A - ------
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9 GGGGGAGCTTTCAAATTTGA CTAGAGTCCC CAGC GGGGG AG AAATT GAA TC AG
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GAM33743 273907 GTGATTCAGCCAGACGTGAT GA CAGACG---- GA GG-- TAT T-- T G
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0 GGAGGAAATGGTGGTATCTT GT TTCAGC TGATG GGAAAT TGG CT GTGT ATTAA CA
GTGTTATTAAGCACTTGAAC TA AAGTCG ACTAT CCTTTA ATC GA CACG TAGTT GT
TTGGTTGATGCACTGCAGTC AG TACAAGAAGA AA AATA TCT CGT - G -------
TCTAATAAATTTCCAATATC T

AAGAAGAACATGCTGAAGAA
T
-
GAM33743 274617 TTCAGCCAGACGTGATGGAG CAGACG---- GA GG-- TAT T-- T G CTTGAACT

1 GAAATGGTGGTATCTTGTGT TTCAGC TGATG GGAAAT TGG CT GTGT ATTAA CA
TATTAAGCACTTGAACTTGG AAGTCG ACTAT CCTTTA ATC GA CACG TAGTT GT
TTGATGCACTGCAGTCTCTA TACAAGAAGA AA AATA TCT CGT - G --------
ATAAATTTCCAATATCAAGA
AGAACATGCTGAA
GAM33743 274047 TCAGCCAGACGTGATGGAGG CAGACG---- GA GG-- TAT T-- T G CTTGAACT

2 AAATGGTGGTATCTTGTGTT TCAGC TGATG GGAAAT TGG CT GTGT ATTAA CA
ATTAAGCACTTGAACTTGGT AGTCG ACTAT CCTTTA ATC GA CACG TAGTT GT
TGATGCACTGCAGTCTCTAA TACAAGAAGA AA AATA TCT CGT - G --------
TAAATTTCCAATATCAAGAA
GAACATGCTGA
GAM33743 273305 TGATGGAGGAAATGGTGGTA GA GG-- TAT T-- T G CTTGAACT
3 TCTTGTGTTATTAAGCACTT TGATG GGAAAT TGG CT GTGT ATTAA CA
GAACTTGGTTGATGCACTGC ACTAT CCTTTA ATC GA CACG TAGTT GT
AGTCTCTAATAAATTTCCAA AA AATA TCT CGT - G --------
TATCA
GAM33743 274460 TCAGCGGGGTCCATCACCAC TC CA ACATG - T T TAAAGATCGCATTACCT

4 ATGTGCATAGCTCTGGGTCA TCAGCGGGG CAT CC TGCA TAGC CTGGG CACTT
CTTTAAAGATCGCATTACCT AGTCGTCCT GTA GG ATGT GTTG GACTC GTGAG
GAGTGCTCAGTGTTGCTGTA -- AA A---- C T - ----------
AGGAAATGTCCTGCTGA
GAM33743 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
5 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33743 273338 TGGGCACCAGCCAAAGCACA CCAG AAGC T T - ACC- TGGA
6 GCTTATTTTATGCCATTACC TGGGCA CCA ACAGCTTATT TA GC CATT GCTAT
GCTATTGGAATAGTACAAAA ACTCGT GGT TGTCGGGTGA AT CG GTAA TGATA
TGTGCCTACAGTGGGCTGTT CCA- ---- C C T AACA ----
GGACCTGCTCA
GAM33743 273328 TGGAGCTGCTGGGTAAAATA C CT AA A A T CTT CT- CAAGTT
7 ATGTGTACTTGTCTTAGTTT TGGAG TG GGGTA ATA TGTGT CT GT AGTTTGCT TTTC
GCTCTTTTCCAAGTTGAAGT ACCTC AC CCCGT TGT ACACG GA CA TTAGACGG GAAG

CTGGCAGATTTCACCAGAGC C C- C- G A C CT- TCT ------
ACAGTGTCTGCCCCCACCTC
CA
GAM33743 274554 TGAGGTAGGAGAATCGCTTG A AGAA GAA-- AGG GC
AGCCAAGATCACACAC
8 AACTCGGGAGGGGAGGCTGC TGAGGT GG TCGCTT CTCGGG GGAG TGCAGTG
AGTGAGCCAAGATCACACAC ACTCTA CC AGTGAA GGGTCC CCTC ACGTCAC
CACTGCACTCCAGCCTGGGC C CCAG ACAAC GA- -- ----------

AACAAAGTGAGACCCCCATC
TCA
GAM33743 273603 GGAGAATCGCTTGAACTCGG AGAA GAA-- AGG GC AGCCAAGATCACACAC

9 GAGGGGAGGCTGCAGTGAGC GG TCGCTT CTCGGG GGAG TGCAGTG
CAAGATCACACACCACTGCA CC AGTGAA GGGTCC CCTC ACGTCAC
CTCCAGCCTGGGCAACAAAG AG-- ACAAC GA- -- ----------
TGAGACC
GAM33744 274071 TCGCTTGAACTCGGGAGGGG GAA-- AGG GC AGCCAAGATCACACAC

0 AGGCTGCAGTGAGCCAAGAT TCGCTT CTCGGG GGAG TGCAGTG
CACACACCACTGCACTCCAG AGTGAA GGGTCC CCTC ACGTCAC
CCTGGGCAACAAAGTGA ACAAC GA- -- ----------
GAM33744 273620 AGGGGTTGTCCTTAAGTTCC CCTTAA CC T C - G T TTG
1 CTCTGCCTGCAGTCCTGCTT AGGGGTTGT GTT C CTGC TG CA TCCTGCTT GTT
TGTTTTGGACAAGTAGGAGT TTCCCGACA CGA G GACG AC GT AGGATGAA CAG
GACAAGCAGGTCAGCACAGC ------ CT - A A G - ---
CCTT
GAM33744 273849 GGGGTTGTCCTTAAGTTCCC CCTTAA CC T C - G T TTG
2 TCTGCCTGCAGTCCTGCTTT GGGGTTGT GTT C CTGC TG CA TCCTGCTT GTT
GTTTTGGACAAGTAGGAGTG TCCCGACA CGA G GACG AC GT AGGATGAA CAG
ACAAGCAGGTCAGCACAGCC ------ CT - A A G - ---
CT
GAM33744 273856 GGGTTGTCCTTAAGTTCCCT CCTTAA CC T C - G T TTG
3 CTGCCTGCAGTCCTGCTTTG GGGTTGT GTT C CTGC TG CA TCCTGCTT GTT
TTTTGGACAAGTAGGAGTGA CCCGACA CGA G GACG AC GT AGGATGAA CAG
CAAGCAGGTCAGCACAGCCC ------ CT - A A G - ---
GAM33744 273800 CATGGGGCCCCTTTGCTCAT CT TG CATTTTTG C GT A-- A TTTCTACT
4 TTTTGGACTATTTATACAGC CATGGGGCCC T CT GA TATTTATACAGCAG TTGG TC TGTT

AGGTTTGGATCATGTTTTTC GTATTTCGGG A GA CT ATAGATGTGTTGTT AATC AG ATAA

TACTAATAAGAATGCTAACA -- GT -------- A AC GTA A --------
TTGTTGTGTAGATAATCAGT
GAGGGCTTTATG
GAM33744 274065 TCCTGACGGGGTCCTCTGGC AC------ T CT TTTA ACA- A- CCCCG
5 TGCATTTAGGAACAAGGAGC TCCTG GGGG CCTCTGG GCA GGA AGG GCT
TCCCCGAGTAACCTGAAGTC AGGAC CCCC GGAGACC CGT CCT TCC TGA
CACTCTGCCCAGAGGCCCCA ATTCAACA - -- CTCA GAAG AA -----
CAACTTACAGGA
GAM33744 274218 GGAGAATCACTTGAACCCGG AA GAA--- AAGGC GT A - AGAT
6 GAAGGCGGAGGTTGCAGTGA GGAG TCACTT CCCGGG GGAG TGCAGTG GC CG
GCCGAGATCGTGCCACTGCA CCTC AGTGAG GGGTCC CCTC ACGTCAC CG GC
CTCCAGCCTGGGCAACAAGA AG AACAAC GA--- -- - T ----
GTGAGACTCC
GAM33744 274042 TCACTTGAACCCGGGAAGGC GAA--- AAGGC GT A - AGAT
7 GGAGGTTGCAGTGAGCCGAG TCACTT CCCGGG GGAG TGCAGTG GC CG
ATCGTGCCACTGCACTCCAG AGTGAG GGGTCC CCTC ACGTCAC CG GC
CCTGGGCAACAAGAGTGA AACAAC GA--- -- - T ----
GAM33744 273436 CTTGAACCCGGGAAGGCGGA AA- AAGGC GT A - AGAT

8 GGTTGCAGTGAGCCGAGATC CTTG CCCGGG GGAG TGCAGTG GC CG
GTGCCACTGCACTCCAGCCT GAAC GGGTCC CCTC ACGTCAC CG GC
GGGCAACAAG AAC GA--- -- - T ----
GAM33744 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
9 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33745 273315 TGCCTGAATAAAGCTAGACG AATAAAGCTA - TCATT A- C -- ACCCC
0 TTCATTGACCAGCAGAGTCT TGCCTG GAC GT GACCAGC GAGT TTTTAT AACT
TTTATAACTACCCCAGTTCC ACGGAC CTG CA CTGGTCG TTCA AAGGTG TTGA
GTGGAAAACTTGGGCTGGTC ---------- T TGAAT GG A CC -----
TAAGTACTGTCCAGGCA
GAM33745 273069 CTCTGACCTGTGCTCCCAAG ACCTGT---- CCCA A-- G TT TAA
1 GTGAATGACCTTGTTGGGGT CTCTG GCT AGGTGA TGACCTT TTGGGG GAC
TGACTAAGTCTTTTCCAGGG GAGAC CGA TCCACT ACTGGAG GACCTT CTG
AGGTCAACATCACCTCAGCT AAAACTTTAT C--- ACA G TT ---
ATTTCAAAACAGAG
GAM33745 274318 GGGCTTTTGCCCTAGATGGA T- T TG A T -- CTCAGTCAC
2 CAAGTTCAAATCCTGGCTCA GGGC TTTGCCC AGA GACA GT CAAA TCCTGG
GTCACTTAGGAAATTTGGCT CTCG GAACGGG TCT TTGT CG GTTT AGGATT
GTTTGTCTTGGGCAAGTTGC TT T GT - - AA ---------
TC
GAM33745 273281 TGAGGCAGGAGAATCGGTTG A AA---- G- AA AGGCA - T AGC AGAT
3 AACCCAGGAGGCAGAGGTTG TGAGGC GGAG TC GTTG CCCAGG GAG GT GTGGTG CG

TGGTGAGCCGAGATCGTACC ACTCTG CCTC AG CAAC GGGTCC CTC CG TACCAT GC

ATTGCACTCCAGCCTGGGCA - AAAACG AA -- GAC-- A T --- ----
ACAAGAGCAAAACTCCGTCT
CA
GAM33745 273517 GAGGCAGGAGAATCGGTTGA A AA---- G- AA AGGCA - T AGC AGAT
4 ACCCAGGAGGCAGAGGTTGT GAGGC GGAG TC GTTG CCCAGG GAG GT GTGGTG CG

GGTGAGCCGAGATCGTACCA CTCTG CCTC AG CAAC GGGTCC CTC CG TACCAT GC
TTGCACTCCAGCCTGGGCAA - AAAACG AA -- GAC-- A T --- ----
CAAGAGCAAAACTCCGTCTC
GAM33745 273640 AGTGCACAGCTCTTGGAGTC AC T T - ------ GATAATCTG
5 AGGGCACCTGGATAATCTGC AGTGC AGC CTTGGAG CAG GGCAC CTG
AGACAAATGTGCCACTGCTC TCACG TCG GAACCTC GTC CCGTG GAC
CAAGGCTCAGCACT AC - - A TAAACA ---------
GAM33745 274113 TGAGGCAGGACAATCACTTG CAATCA GAA-- A TT GC A CGAGATCAC
6 AACCCAGGAGTTTGAGGCTG TGAGGCAGGA CTT CCCAGG GT GAG TGCAGTG GC

CAGTGAGCCGAGATCACGCC GCTCTGTTCT GAG GGGTCC CA CTC ACGTCAC CG
ACTGCACTCCACCCTGGGCA AGAAC- ACAAC - C- -- - ---------
ACAGAGCAAGATCTTGTCTC
G
GAM33745 273501 GAGGCAGGACAATCACTTGA CAATCA GAA-- A TT GC A CGAGATCAC
7 ACCCAGGAGTTTGAGGCTGC GAGGCAGGA CTT CCCAGG GT GAG TGCAGTG GC

AGTGAGCCGAGATCACGCCA CTCTGTTCT GAG GGGTCC CA CTC ACGTCAC CG
CTGCACTCCACCCTGGGCAA AGAAC- ACAAC - C- -- - ---------
CAGAGCAAGATCTTGTCTC
GAM33745 272852 ATGAAGTGAGTCACATTGGC A- A CA---- CTAC TG GA - TG- TGAGACTGAT
8 TACTGGTGAGGAAGGAGCAG ATG AGTG GTCA TTGG TGG AGGAAG GCAGA GTTG GGC

AGTTGTGGGCTGAGACTGAT TAC TCAC CAGT AACC ACT TCCTTC TGTCT CGAC TCG
GCTGTTCAGCATCTGTCTTC GA - AGATAC ---- GT -- A TTG ----------
CTTGTCACCAACATAGATGA
CCACTAGCAT
GAM33745 273639 AGTGAGTCACATTGGCTACT A CA---- CTAC TG GA - TG- TGAGACTGAT
9 GGTGAGGAAGGAGCAGAGTT AGTG GTCA TTGG TGG AGGAAG GCAGA GTTG GGC

GTGGGCTGAGACTGATGCTG TCAC CAGT AACC ACT TCCTTC TGTCT CGAC TCG
TTCAGCATCTGTCTTCCTTG - AGATAC ---- GT -- A TTG ----------
TCACCAACATAGATGACCAC
T
GAM33746 274041 TCACTTAAACCCGGGAGGTG AA-- AGG GT A GGAGATGGT
0 GAGGTTGCAGTGAGTGGAGA TCACTT ACCCGGG TGGAG TGCAGTG GT
TGGTGCCACTGCACTCCAGC AGTGAG TGGGTCC ACCTC ACGTCAC CG
CTGGGTGACAGAGTGA ACAG G-- -- - ---------
GAM33746 274274 GGCATCTGTAATCCCAGCTA AT- - G A GGG G CGAGAAT
1 CTCGGGAGGCTGAGGCACGA GGC CTGTAATC CCA CT CTC AGGCT AGGCA
GAATTGCTTGAGCCTGGGAG CTG GACGTTAG GGT GA GGG TCCGA TTCGT
GTGGAGATTGCAGTGAGTC AGT A G - --- G -------
GAM33746 274245 GGAGAATTGCTTGAACCCAG AA GAA--- A- T- A - AGGT
2 GAGGTTGCAGTGAGCCGAGG GGAG TTGCTT CCCAGG GG TGCAGTG GC CG
TTGCGCCATTGCACTCCAGC CCTC AGCGAG GGGTCC CC ACGTTAC CG GT
CTGGGCAACAAGAGCGAAAC AA AACAAC GA TC - C ----
TCC
GAM33746 273937 CGAAGGCAGCATGGAAGAAT AG-- A----- ATA T G G A AGGA
3 AGGCAGTATTGGATTTGAAA CGA GCAGC TGGAAGA GGCAG ATT GATTT AA TC
TCAGGAGACTTGGAATTGAA GTT TGTCG ACCTTCT CCGTC TAA TTAAG TT AG
TTCTGCCTCTTCCACTACCA AAAG ACCATC --- T G G C ----
GCTGTGAAATTG
GAM33746 274135 GCAGCATGGAAGAATAGGCA A----- ATA T G G A AGGA
4 GTATTGGATTTGAAATCAGG GCAGC TGGAAGA GGCAG ATT GATTT AA TC
AGACTTGGAATTGAATTCTG TGTCG ACCTTCT CCGTC TAA TTAAG TT AG
CCTCTTCCACTACCAGCTGT ACCATC --- T G G C ----
GAM33746 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
5 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33746 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
6 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33746 274156 GCCTGGGGTTTGGAGGAGGT --- GGA- AGTAATA A AATT-- ATCTTTA

7 AGCTAAGTAATACTAGAGAA GCCTGGGGTT TGGA GGTAGCTA CT GAGA ACA
ATTACAATCTTTATGTCTAC TGGACTCCAG ACCT CCGTTGAT GA CTCT TGT
AATCTCAGCCAGTAGTTGCC GAC AGGA GACC--- - AACATC -------
AGGATCCACAGGACCTCAGG
T
GAM33746 274014 TACCTTGGCCAAGGAACTAC - CCA TT GACA CCG ATGCTTTG
8 TTCTCCAGACATCTGCCGCT TACC TTGG AGGAACTAC CTCCA TCTG CT
ATGCTTTGGGAATCAGAATG ATGG GACC TCTTTGATG GGGGT AGAC GG
GGGTGTAGTTTCTCCAGTGG T --- T- A--- TAA --------
TA
GAM33746 273215 GAGGTCATAATGTGAATGTT CATA A G T- CATGT AGAACA
9 GTATGCAGTGGCCATGTCAT GAGGT ATGTG ATGTT TATGCAG GGC CATC
CAGAACAGGTGTGCCAGCCC CTTCG TACAT TACAA GTACGTC CCG GTGG
CCTGCATGGAACATGTACAT ---- G G CC ACCGT ------
GCTTC
GAM33747 273968 CTGAGAGGTGAGATTCCACA GA AT--- A CCC G C--- -- AGTG G
0 TCCCAAGTTGCACAGCTGGG CT GAGGTGAG TCC CAT AAGTT CA AGCTGGGGAG AGAC
TCAG ACAG
GAGAGACAGTGTCAGGACAG GA CTTTACTT AGG GTA TTCGA GT TCGACCCCTC TCTG
AGTC TGTC
TATCGCCTGTGCTGAGGTCT A- ATTTT A T-- A CAGA GA G--- G
AGCTCCCCAGCTAGACTGAA TATCGC
GCTTTATGAGGATTTTATTC
ATTTCAAG

GAM33747 272839 AGTTTTAGGGTACATGTACA TTA A T - - G T T ATAT
1 CAACGTGCAGGTTTGTTACA AGTT GGGT CA GTACAC AACGTG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT CGTGTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - G C G C - ----
CT
GAM33747 273456 GAACTGGGTCATTTATCAAA TG -- T TA GTTTA G AA ATCCCTC
2 CTCTGTGTTTATGTGGCCTT GAAC GGT CA T TCAAACTCTGT TGTG CCTTTAG TATT
TAGAATATTATCCCTCAGTA TTTG TCA GT G AGTTTGAGGTA ACAC GGAGATT ATGA
AGTTAGAGGCACAGATTAAT GT CT T GA ATTAG - GA -------
GGAGTTTGAAGGTTGTCACT
TGGTTT
GAM33747 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
3 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33747 272825 AGTCAGGTTCTGGTGAGGGC C GT GGT--- - C CA- CT TG TTTTT
4 CCTCTTCTGGGTTGCAGACT AGT AG TCT GAGGG CCCTCTT TGGGTTG GA GT AC
GTTGACTTTTTGTACCCTCA TCA TC GGA TTCCC GGGAGAA ACTCGGC CT CA TG
CACGGCTCAAAGAGGGTCCC A AC AATAAT T - ACA CC -- -----
TTTAATAAAGGCACTAACT
GAM33747 273740 GGCTCTACACCTCTGAAATT - - AAAT C- A AGAG
5 GCATACCTTGAAGAAGAGTC GGCTCTAC AC CTCTG TGCATAC TTGA GA
ATCAGAAGTGTGCACAACAG CTGAGGTG TG GAGAC ACGTGTG GACT CT
AGTGTGGTGGAGTC G T AAC- AA A ----

GAM33747 274118 TGAGGCAGGAGAATCGCTTG G AATC GAA--- AGGC - T GA AAGAT
6 AACCCAGGAGGCGGAGGTTG TGAGGCAG AG GCTT CCCAGG GGAG GT GTGGT GCG

TGGTGAGCGAAGATCGTGCC ACTCTGTC TC CGAG GGGTCC CCTC CG TACCG TGC

ATTGCACTCCAGCCTGGGCA - AAAA AACAAC GA-- A T -- -----
ACAAGAGCAAAACTCTGTCT
CA
GAM33747 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
7 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33747 272962 AATCAAAAAGGTTTGAGCAA A A - A C ACAGTC
8 AGGATGAACACAATCTACAG AATCAA AAGGTTTG GCAAAGGA TGA CA AATCT
TCAGATTATGTCACTCCTTT TTAGTT TTCCAGAC CGTTTCCT ACT GT TTAGA
GCCCAGACCTTCTTGATT C C C - A ------
GAM33747 273969 CTGAGCAGGGAGAATCTCGG - AGAAT GGGAT A- TCAA C A CACAATTTT

9 GATCCCAGGAGGTCAAGGCT CTGAG CAGGG CTC CCCAGG GG GG TGCAGTG GC

GCAGTGAGCCACAATTTTGC GACTC GTCCC GAG GGGTCC CC TC ACGTCAC CG
CACTGCACTCCAGCCTGGGC T AGAAC ACAAC GA ---- - - ---------
AACAGAGCAAGACCCTGTCT
CAG
GAM33748 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
0 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33748 272714 AAAAATGAAAGGAAAAGGAG - GA - ATGACC
1 GGGAGGCAGATGGGAAGATG AAAAAT GAAAGGAAAAGGAGGGGAGGCA TG GGAAG

ACCCTTTTACAAATGTTTCT TTTTTG CTTTCTTTTTCCTCTTCTTTGT AC TTTTC
TCTCCTTTTTCTTTCTGTTT T AA A ------
TT
GAM33748 273602 GGAGAATCGCTTGAACCTGG ATC GAA--- GGG - C T A- CAAGATC
2 GGGGCGGACGTTGCAGTGAG GGAGA GCTT CCT GGGC GGA GT GCAGTG GC
CCAAGATCGCACCATTGCAC CCTCT CGAG GGG TCCG CCT CA CGTTAC CG
TCCAGCCTGGGCAACAAGAG AAA AACAAC --- A - - CA -------
CAAATCTCC
GAM33748 274009 TAAAAGAAGGTGTTCTTTTG A - T G ATG T TCGA TCTCTCCCAA
TTTTAGACT
3 GCTCATGCAGTGTGTCGATC TAAA GAA GGTGT CTTTTG CTC CAG GTG TCTCTG GCAT

TCTGTCTCTCCCAAGCATTT ATTT TTT CCACA GAAAAC GAG GTC CAC AGAGAC CGTA

TTAGACTTTATGCCAGAGAC A A - G --- - C--- ---------- ---------
CACCTGGAGGCAAAAGACAC TT
CATTTATTTA

```
                    --
GAM33748 273878 GGTGTTCTTTTGGCTCATGC    T    G  ATG  T  TCGA    TCTCTCCCAA   TTTTAGACTTT

4          AGTGTGTCGATCTCTGTCTC GGTGT CTTTTG CTC  CAG GTG   TCTCTG       GCAT
           TCCCAAGCATTTTTAGACTT CCACA GAAAAC GAG  GTC CAC   AGAGAC       CGTA
           TATGCCAGAGACCACCTGGA    -    G  ---  -  C---    ----------   -----------
           GGCAAAAGACACC
GAM33748 274082 TCTGAGTCAGTGGGCTGAGA   A   --  --   GAAAGGC-      TTCATCT
5          AAGGCTGCCCACCTTTCATC TCTG GTCAG  TGG  GCTGA      TGCCCACCT
           TAGGTGGGCACAACGTAATC AGAC CAGTT  ACC  CGACT      ACGGGTGGA
           AGCTGCCAGCTTGACCAGA    -   CG  GT   AATGCAAC     -------
GAM33748 274525 TGAGATTTCTAAGGCACTGC     TTCTA----     GC   A    AA-   ACT  AGTGG
6          TTCTAAGTAGGAATCACACT TGAGAT      AGGCACT  TTCT AGTAGG  TCAC  GC
           GCAGTGGGTTAGTGACACCC ACTTTG      TCCGTGG  AAGA TCGTCC  AGTG  TG
           TGCTCAGAAATGGTGCCTGT     TAAAACGTG     TA   C    CAC   AT-  -----
           GCAAAATGTTTCA
GAM33748 274346 GGTGGGTTAGGAGTGAGAGT    G   GAGT     CGGGA  --     -  GAA   AGAG  TCCAAG

7          TACGGGAATGAGAATGACAC GGTGG TTAG   GAGAGTTA    ATG  AGAATGAC ACAG  CTAGC   AT

           AGGAACTAGCAGAGATTCCA TCACC AATC   CTCTTAAT    TAC  TTTTACTG TGTC  GGTCG   TG

           AGGTAAAAGCTGGGCTGTGG    -  ACCC     -----  AG     G   G--   AAAA  ------
           TCATTTTGACATTAATTCTC
           CCCACTAACCACT
GAM33748 272750 ACATTATTAGGAATTTCAAG      TA  AT    AG  G  ATG  G   TG  G-  A      ACTTAGGA
8          AGCTGGGCATGTTGGAGTAT ACATTAT  GGA  TTCAAG  CT GGC  TT GAGTA  CCT  TG TCTCAGTT

           GCCTGTGATCTCAGTTACTT TGTGATG  TCT  GAGTTT  GG CCG  GA TTCAT  GGA  AC GGAGTCGG

           AGGAGGCTGAGGCAGAAGGA     --  --    GA  A  ---  G   TA  AG  -      --------
           TTACTTGAGGCCAGGAGTTT
           GAGTCTGTAGTGT
GAM33748 274574 TGGAGGAGGAGGCTGGTGCT     AG      - C   TAAATA-   CTAAATCAAACCACA
9          GGTTAAATACAACCTAAATC TGGAGG  GAGGCTGG TG TGGT      CAAC
           AAACCACAGTTGACCAACCA ACCTTC  CTTCGACC AC ACCA      GTTG
           CCACATCCAGCTTCTCCTTC     CT      T  -   CCAACCA   ----------
           CA
GAM33749 273162 GAGACAGGACCTGGCTTCAG   C-   CCT      A-   --  C   CT--------- T  CCTG
0          GACTGTGGACTGGGCTGCTG GAGA  AGGA  GGCTTCAGG  CTGT  GGA TGGG        GC GG

           GCCTGCTTGCTTCCTCCCTT CTCT  TCCT  CCGGAGTCC  GACG  CCT ACCC        CG TC
           CCCCATTCCTAGCAGGGCCT   TC   C--      GG   AT   T   CTTCCCTCCTT  T  ----
           GAGGCCCTCCTCTTCTC
GAM33749 272959 AAGGTAGAGATTCAAACAGT    A     AA--   T  C  T  CAAAGCA   GATAAA
1          GGACTGGTGACAAAGCAGCT AAGGT GAGATTC   ACAG GGA TGG GA      GCT
           GATAAAAGCACTCTCATCTC TTCCG CTCTGAG   TGTT CCT ACC CT      CGA
           CATCCTTTGTCTGGGAGTCT    -     GGTC   T  -  T  ACTCTCA   ------
           CGCCTT
```

GAM33749 273333 TGGCATGATACAGTGACTGA CA T -- C G AA TAAACT
2 CAAATGCTGAAGGGCTAAAC TGG TGA ACAGTGA CTGA AAAT CTG GGGC
TGCTCGTAGGATTTCTCAGG ACC ATT TGTCATT GACT TTTA GAT CTCG
CTTACTGTCTTACCCA C- C CG C G G- ------
GAM33749 272868 CACAAGCCTGGCTGACTTCA AAG ACT ATC--- TT AGACCTA
3 CCATCTACTGATTGTATAGA CAC CCTGGCTG TCACC TACTGA GTAT
CCTAGTGCCTTCAGTGAACA GTG GGACCGAT GGTGG GTGACT CGTG
TAGGTGGTAGCCAGGAAGTG AA- --- ATACAA TC -------
GAM33749 273444 CTTTAATAGACTGATTTTAT AG TAT CACATTCACTTCGT T TTGG
ACCACTGA
4 TTATCCTCACATTCACTTCG CTTTAAT ACTGATTT TTATCCT GAGCCTT GTT TTCC
TGAGCCTTTGTTTTGGTTCC GAAGTTG TGACTGAG AGTGGGA CTCGGAG CAA AGGG

ACCACTGAGGGAAACTGAGG G- CT- ---------- T ---- --------
CTCAGGGTGATCGAGTCAGT
GGTTGAAG

GAM33749 274307 GGGAGGCCAAGGTGGGAAGA CA AAG - A- TGG GAGACA
5 TTGCTTGAGCCCTGGAGGTT GGGAGGC AGGTGGG ATTGCT TG GCCC AGGTT
GAGACAAGCCTGGGCAACAT TTCTTTG TTTACCC TAACGA AC CGGG TCCGA
AGCAATACCCCATTTGTTTC -- CA- T AA --- ------
TT
GAM33749 273577 GGAGAATCACTTGAACCCAG AA GAA-- A- CGAA T A- TAAGATC
6 GAGGCGAAGGTTGCAGTGAG GGAG TCACTT CCCAGG GG GGT GCAGTG GC
CTAAGATCGCACCACTGCAC TCTT AGTGAG GGGTCC CC TCA CGTCAC CG
TCCAGCCTGGGCAACAGAGT AC ACAAC GA ---- - CA -------
GACATTCT
GAM33749 273081 CTGAGCTTAGATCTTATGTG AGA AT G C - GT- CC-- CTGTTCATC
7 GCCTTTCTGGTCTGTGTATC CTGAGCTT TCTT GT GC TTTCT GGTCT GTATC AGGA
CCAGGACTGTTCATCTCCTA GACTCGGA AGAA CA TG AGAGA CCAGA CGTAG TCCT
TGTGATGCTGAAGACCAAGA --- C- G - A AGT TGTA ---------
GAGTGACCAAGAAGGCTCAG
GAM33749 273831 CCCTGAACTCAGGGGCTTCG AA--- A C T T AA TACGA CTGCG
8 CCACTGATTGTCCAAACGCA CCCTG CTC GGGGCTT GCCAC GAT GTCCA CGCAATTCTTG GT

ATTCTTGTACGAGTCTGCGG GGGAC GGG CCTCGAG CGGTG CTA CAGGT GTGTTAAGAGC
CG
CCAACCGAGAATTGTGGCTG AACGC - T T - CG CAAC- -----
GACATCTGTGGCTGAGCTCC
GGGCGCAACAGGG
GAM33749 274150 GCCCTGAACTCAGGGGCTTC TGAACTCA C T T AA TACGA CTGCG
9 GCCACTGATTGTCCAAACGC GCCC GGGGCTT GCCAC GAT GTCCA CGCAATTCTTG GT

AATTCTTGTACGAGTCTGCG CGGG CCTCGAG CGGTG CTA CAGGT GTGTTAAGAGC CG

GCCAACCGAGAATTGTGGCT -------- T T - CG CAAC- -----
GGACATCTGTGGCTGAGCTC
CGGGC
GAM33750 273056 CTCAGGGGCTTCGCCACTGA A C T T AA TACGA CTGCG

0 TTGTCCAAACGCAATTCTTG CTC GGGGCTT GCCAC GAT GTCCA CGCAATTCTTG GT

TACGAGTCTGCGGCCAACCG GGG CCTCGAG CGGTG CTA CAGGT GTGTTAAGAGC CG

AGAATTGTGGCTGGACATCT - T T - CG CAAC- -----
GTGGCTGAGCTCCGGG
GAM33750 274323 GGGGCTTCGCCACTGATTGT C T T AA TACGA CTGCG
1 CCAAACGCAATTCTTGTACG GGGGCTT GCCAC GAT GTCCA CGCAATTCTTG GT
AGTCTGCGGCCAACCGAGAA CCTCGAG CGGTG CTA CAGGT GTGTTAAGAGC CG
TTGTGGCTGGACATCTGTGG T T - CG CAAC- -----
CTGAGCTCC
GAM33750 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
2 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33750 273033 CCTTGAGCCAGTCACTCAGC T CC -------- T ----- GCCTGTT- TAAAAT
3 CTCTCTGTGCCTGTTTCCTT CCT GAG AGT CAC CA GCCTCTCTGT TCCTTCTC
CTCTAAAATGGGGAGGATAG GGA CTC TCA GTG GT CGGAGAGATA AGGAGGGG
TAATGATAGAGAGGCCCTCT C C- TACAAATT C TCTCC GTAATGAT ------
TGCGTGTTAAACATACTCCT
CCAGG
GAM33750 274076 TCTCCCTGTTTCATTCCTCT C TCCTC ACGATG A AATGCATTC
4 TGCTTCACGATGTTACAATA TCTCCCTGTTT AT TTGCTTC TTACAAT AG
AGAATGCATTCCTAGTTGTA GGAGGGACGGA TG GACGAGG GATGTTG TC
GACCTAAGGAGCAGTGTAAG A T---- AATCCA A ---------
GCAGGGAGG
GAM33750 272940 CCTAGGAAAGGTGGTGTGAA G- T GA AA A A C CGGTTT
5 TCTCAAGGACAAGTGTCTGG CCTAGGAAAG TGG GT ATCTC GG CA GTGT TGGGAAGGA

GAAGGACGGTTTTCCTTCCT GGATTCTTTC ACC CA TAGAG CC GT CGTA GTCCTTCCT

GCATGCATGCCGAGATGACT GG T G- -- - A C ------
CCAGGCTTTCTTAGG
GAM33750 273555 GATGCTAATGAATTTCAGTT TGAATTT- - - - C TATTT
6 TTGGTGTTGGTCTAAGTAGC GATGCTAA CAGTTT TG GTGTTGG TCTAAGTAG CAAATG

CAAATGTATTTTATTTGACT CTACGATT GTCAAA AC CATGACC AGGTTTATC GTTTAT
ATTTGGAGCCAGTACTCATA CAGACGGT T T G A -----
AACTGTGGCAGACTTAGCAT
C
GAM33750 273824 CCCAGTGACCCACAGGTAAG T ------ GTA AA TTCCAG - GTGGCTCA
7 AACCTTGTGTTTTCCAGATT CCCAG GA CCCACAG AG CCTTGTGTT ATTC TGAGT
CTGAGTGTGGCTCAGCTCGT GGGTT CT GGGTGTC TC GGAACACGG TAAG GCTCG

GAATGCAGTGGCACAAGGCA - AGGTGA --- AC TGACG- T --------
CTCTGTGGGAGTGGATCTTG
GG
GAM33750 272923 CCCACAGGTAAGAACCTTGT GTA AA TTCCAG - GTGGCTCA
8 GTTTTCCAGATTCTGAGTGT CCCACAG AG CCTTGTGTT ATTC TGAGT

GGCTCAGCTCGTGAATGCAG GGGTGTC TC GGAACACGG TAAG GCTCG
TGGCACAAGGCACTCTGTGG --- AC TGACG- T --------
G
GAM33750 274132 GCAGAAAAAGGAGTTGAGAA A --- A T A- GTA ---- -- AGTCA
9 GGGAGTAGCCTCTGATATGT GCAGAA AA GG GT GAG AGGGA GCCT CTGAT ATGT
AGTCAGCATGAATCAGCCTT CGTCTT TT CC TA CTC TCCCT TGGA GACTA TACG
AGGTTCCCTGCCTCCATACC C AAC A C CG --- TTCC AG -----
CAATTCTTCTGC
GAM33751 273198 GAGGCAGGAGAATTGCTTGA G AA GAA-- A- C AAGT GC AGAT
0 ACCCAGGAGGCAGAAGTTGC GAGGCAG AG TTGCTT CCCAGG GG AG TGCAGTGA CG

AGTGAGCCGAGATCGCATCA CTCTGTC TC AGCGAG GGGTCC CC TC ACGTTACT GC

TTGCACTCCAGCCTGGGCAA - AG ACAAC GA - ---- AC ----
CAGAGCGAGACTCTGTCTC
GAM33751 273786 CAGGTGTGCGCCACCACACG CGCC C A -- CTG ATGGC
1 TGACTGGGAAGCCTTCTGGT CAGGTGTG ACCACA GTG CTGGGAA GCCTT GTTTTAAG

TTTAAGATGGCTTTAGAATG GTCTACAC TGGTGT CAC GATCCTT CGGAA TAAGATTT
AAAGGCAGTTCCTAGCACCT TAAC C - GA AG- -----
GTGGTCAATCACATCTG
GAM33751 274200 GGAACGAGAATTGCTTGAAC GA AA- TG GA-- - CAAA T A T AGATCA
2 CCAGGAGGCAAAGGTTGCAG G ACGAG T CTT ACCCAGG AGG GGT GCAGTG G CA
TGAGTCAAGATCATGCCACT C TGTTC A GAG TGGGTCC TCC TCA CGTCAC C GT
GCACTCCTGCCTGGGTGACA TC CAG GT ACAG G ---- - - - ------
GAGTGAGACCTTGTCTC
GAM33751 274337 GGTCAGGGTTCACAGGGTCA TCA ACAG CAT AG TAA C TTTTATC
3 TGGGTCAGTAGCCTTGTAAA GG GGGTTC GGT GGGTCAGT CCTTG AGAA AAG
GAACAAGTTTTATCCTTTTT CC CCCGAG CCA TTCAGTCA GGAAC TCTT TTC
CTCCAAGGAGACTGACTTTC TC- AAGA CT- GA C-- T -------
ACCAGAAGAGCCCCTCC
GAM33751 274099 TGACAGTTTGAGATGACACT A --- ATGACAC T AA -- A
TTCAAAGCTTGCAAAC
4 GAGGAGTGTGAAAGAGAGCC TG CAGT TTGAG TGAGGAG GTG AGAG AGCCTGG CC

TGGACCTTCAAAGCTTGCAA AC GTCG AACTC GCTTCTC CAC TCTT TCGGGCC GG
ACGGCCCGGGCTATTTCTCC G CGA ATC---- - C- TA C ----------
ACCTCTTCGCTACTCAAAGC
GCTGGCA
GAM33751 273028 CCTGCTGTATGCTAGGCATT - -- CT- C A- GGGC
5 GTGCAAGGTGTTAGGGCTGA CC TGCTGT ATG AGG ATTGTGC AGGTGTTA
TGCTTGAGCACAGTACCTCC GG ATGACG TAC TCC TGACACG TTCGTAGT
ACATCTGCAGTATGG T TC ACC A AG ----
GAM33751 273045 CGCTTGCAACTGAAAGGCGG GCAAC AA- - GT AACCAAGATCGCAC
6 AGGTTGCAGTGAACCAAGAT CGCTT TG AGGC GGAG TGCAGTG
CGCACCACTGCACTCCAGCC GCGAA AC TCCG CCTC ACGTCAC
TGGGCAACAAAAGCG AACA- GGG A -- ----------
GAM33751 274339 GGTCCCTGAAGTCTTATTGA - CTTA- - TG CA- G T - A TCCT
7 TTGGTGCAGGTCACTGATTT GGTCCCT GAAGT TTGA T GTG GGTCACT AT TTTT TA TGAAC

TTTTAATGAACTCCTGTTCA CTAGGGA CTTTA AACT A TAT CCGGTGA TA AAGA AT ACTTG

ATACAGAATATGAGTGGCCA A ACTTG T GT CTA G T C A ----
TCTATTGATTCAAGTTCAAT
TTCAAGGGATC

GAM33751 273767 CACTAGGCTAGACATACAAA T GC ATACAAAG - GCC G T AAATATA TCAT

8 GACCCCTTGCCCGTGGCTCC CAC AG TAGAC ACC CCTT CGTG CTCCCAT TC TC
CATTTCAAATATATCTCATG GTG TC ATTTG TGG GGAG GCAC GAGGGTG GG AG
ACCAGGGTGTGGGAGCACGA - AA AGAA---- A ACA - T GACC--- ----
CAGAGGAGGTAAGAGTTTAA
ACTGTG

GAM33751 272880 CAGACTGAAGTCTTTTGCTT AGTCTTTT T AAA - AT- TTGT

9 ATTTTGGTGATAAAAGCTGA CAGACTGA GCT ATTTTGGTGAT AGCTG AAC GGT
ACATGGTTTGTGCTGAAGTT GTCTGACT CGG TGAGGCTATTG TCGAC TTG TCG
CCAGCTGGTTATCGGAGTGG GGACCAGT - G-- C AAG ----
CTGACCAGGTCAGTCTG

GAM33752 272936 CCCTTATGGGATTCTGGAAG TTAT--- TC A TG - A - TGAGT AAAAA

0 TGGTGGCTACACGGATGTAC CCC GGGAT TGGA G GTG GCT CACGGA TGTACA GTGA

ATGAGTGTGAAAAAATCATT GGG TCCTA GTCT T CAT CGA GTGTCT GTATGT TACT
AAACTGTATGCTCTGTGAAG TAATCCT TT A GT T A C CAAAT -----
CTTACTGTATCTGTTATCCT
TCCTAATGGG

GAM33752 273776 CAGACCCTCTCTCTTTCCCA GACCC C- CCA G A-- CACCTGAGA TGAATT

1 GGCTTCCTGTCCTTCAGCAA CA TCT TCTTTC GGCTTCCT TCCTTC GCAAGGC AC
GGCCACCTGAGAACTGAATT GT AGA AGAAAG TCGGAGGA GGGAAG CGTTCCG TG

GTAAATTCCAGCCTTGCAAG AAAT- AC --- G GAA ACCTTAAA- ------
GAAGGGGAGGAGGCTGAAAG
ACAAGATAAATG

GAM33752 274079 TCTCTCTTTCCCAGGCTTCC C- CCA G A-- CACCTGAGA TGAATT

2 TGTCCTTCAGCAAGGCCACC TCT TCTTTC GGCTTCCT TCCTTC GCAAGGC AC
TGAGAACTGAATTGTAAATT AGA AGAAAG TCGGAGGA GGGAAG CGTTCCG TG
CCAGCCTTGCAAGGAAGGGG AC --- G GAA ACCTTAAA- ------
AGGAGGCTGAAAGACAAGA

GAM33752 274088 TCTTTCCCAGGCTTCCTGTC CCA G A-- CACCTGAGA TGAATT

3 CTTCAGCAAGGCCACCTGAG TCTTTC GGCTTCCT TCCTTC GCAAGGC AC
AACTGAATTGTAAATTCCAG AGAAAG TCGGAGGA GGGAAG CGTTCCG TG
CCTTGCAAGGAAGGGGAGGA --- G GAA ACCTTAAA- ------
GGCTGAAAGA

GAM33752 274312 GGGATTACAGGCACCTGCTG TA CACC CT A TTTT ATTTTTAATA GGG

4 CCAAGTCTGGCTAATTTTTG GGGAT CAGG TG GCCA GTCTGGCTAAT GT GAGAC
TATTTTTAATAGAGACGGGG CTCTA GTCC GC TGGT CGGACCGGTTG CG CTTTG
TTTCGCTATGTTGGCCAGGC -- TCAA TC - TAT- ---------- ---
TGGTCTCGAACTCCTGATCT
C

GAM33752 273262 GCTCCTGCTTGCATATGCAT G TG G A - C AACT

5 GGGTACACAGCCTGTAACTA GCTCCT CT CATAT CATGGGT CACA GC TGT

CATGTGTGTGAGCCTGTGGG TGAGGG GA GTATG GTGTCCG GTGT TG ACA
TATGTGAGGGGAGT - GT G A G T ----
GAM33752 273455 GAACCTTTGATGTTACTCTA A TA T C - TC GTGAGGG
6 TCGTCTGGATCTCTTTTGCC GAACCTTTG TGT CTC AT GTCTGGAT C TTTTGCCT
TGTGAGGGAGGCAGAGAGGT TTTGGAGAC ACG GAG TA CGGATTTA G GAGACGGA

ATTTAGGCATGAGGCAGCAG G -- - - T GA -------
AGGTTT
GAM33752 274344 GGTGGAATCAAAGGTAGGAG T AA G A GC TGATTT
7 AGAGGCAGTAGCTTCTGATT GG GG TCAAA GTAGG GAGAGGCAGTA TTC
TGAATATTGCCTTTCCCTAT TC CC AGTTT TATCC CTTTCCGTTAT AAG
GTTTGAAGCCCT - GA G - -- ------
GAM33752 274198 GGAACAGCAGGGCTAGAAAG C - GC AG-- C TCTG
8 CCAGAGAGACAGGGGCTCTG GGAA AGCAGG GCTAGAAA CAG AGA AGGGGC
GCCCTTTCTGATGCTGTTTT CCTT TCGTCC CGATTTTT GTC TCT TTCCCG
TAGCACCTGCTTTCC - A -- GTAG - ----
GAM33752 272792 AGCGGTGAAGACCAAGGCCA A C AGCT CTC GTCATTCAA
9 GAGCTTAAACTCATAGGGGT AGCGGTG AGACCAAGG CAG TAAA ATAGGG
CATTCAACTCTGTTTTTATT TTGTCAT TTTGGTTCC GTT ATTT TGTCTC
AGTTGTCCTTGGTTTATACT A T GATT T-- ---------
GTT
GAM33753 273021 CCTCCTCCATCCGTCTCCCA - ATC CCAGGGT G GAA A TTTCAAT
0 GGGTGCCTTTGTTTTGAATC CCTCCT CC CGTCTC GCCTTT TTTT TC TTTTTGA
ATTTTTGATTTCAATTTAAG GGAGGA GG GCAGAG CGGAGA AGAA AG AAGAATT
AAGAGAAAGAAGAGGCTGAG A AA- T------ - AG- - -------
ACGAAGGAAGGAGG
GAM33753 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
1 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33753 272812 AGGCTGGTCTGAATGGCAGT T TGAA- - AT A -- ACCT TGTCA
2 GGGATGTCAGAACTAATTAA AGGC GGTC TGGCAGTG GG GTC GAA CTAATTA TAG
CCTTAGTGTCACTATAGTTG TCCG TCAG ATCGTCAC CC CAG CTT GGTTGAT ATC
GCATTCGACCCCCACACTGC - TTTAA A CC - AC ---- -----
TAAATTTGACTGCCT
GAM33753 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
3 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33753 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
4 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33753 274158 GCCTTCTTTGTACTAGTCTG CT A - ACCT --- TT GAA - TAG CAGT
5 TCACCTTTGCTTGGCTTTGG GC TCTTTGT CTA GTCTGTC TTGCT TGGCT GG GCTTC AAAC
GG
GAAGCTTCAAACTAGGGCAG TG AGGAACG GAT CAGACAG AACGA ACTGA CC TGAGG TTTG
TT

TTTATGTTTGGGAGTGACCA T- - A ---- TAA -- AG- G TA- ----
GTCAAATAGCAAGACAGACA
TAGGCAAGGATGT
GAM33753 274090 TCTTTGTACTAGTCTGTCAC A - ACCT --- TT GAA - TAG CAGT
6 CTTTGCTTGGCTTTGGGAAG TCTTTGT CTA GTCTGTC TTGCT TGGCT GG GCTTC AAAC GG

CTTCAAACTAGGGCAGTTTA AGGAACG GAT CAGACAG AACGA ACTGA CC TGAGG TTTG TT

TGTTTGGGAGTGACCAGTCA - A ---- TAA -- AG- G TA- ----
AATAGCAAGACAGACATAGG
CAAGGA
GAM33753 273900 GTCTGTCACCTTTGCTTGGC ACCT --- TT GAA - TAG CAGT
7 TTTGGGAAGCTTCAAACTAG GTCTGTC TTGCT TGGCT GG GCTTC AAAC GG
GGCAGTTTATGTTTGGGAGT CAGACAG AACGA ACTGA CC TGAGG TTTG TT
GACCAGTCAAATAGCAAGAC ---- TAA -- AG- G TA- ----
AGAC
GAM33753 274621 TTCCACATAGCAGCTGCTGG CAT CT - ACCCACG - AAACTG
8 CAATAAACCCACGCGGAGCA TTCCA AGCAG GCTGGC AATAA CGGA GC
AACTGGCGTCCGAGAGATTA AAGGT TCGTC TGACCG TTATT GCCT CG
TTCGCCAGTGCCTGCTTGGA --- CG C AGAGA-- G ------
A
GAM33753 272839 AGTTTTAGGGTACATGTACA TTA A T - - G T T ATAT
9 CAACGTGCAGGTTTGTTACA AGTT GGGT CA GTACAC AACGTG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT CGTGTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - G C G C - ----
CT
GAM33754 273846 GGGGGCTCAGCCATGTTGAA --- ---- T A GTA GATGTAAG
0 GCATGTATGTCAAACTGATG GGGGGCTC AGC CATGT GA GCAT TGTCAAACT
TAAGAGTTTGACAGAAATGT CCTCCGAG TCG GTACG TT TGTA ACAGTTTGA
ATTTGCATGAATTGCTGAAG AAG TTAA T A AAG --------
AGCCTCC
GAM33754 273526 GAGGCAGGAGAATTGCTTGA G AG AA TG GAA-- AGG GT A - AGAC
1 ACCCAGGAGGTGGAGGTTGC GA GC GAG T CTT CCCAGG TGGAG TGCAGTG GC TG

AGTGAGCTGAGACCATGCCA CT TG TTC A GAG GGGTCC ACCTC ACGTTAC CG AC
TTGCACTCCAGCCTGGGCAA G G- AG GT ACAAC G-- -- - T ----
CAGAGTGAGACTTGGTGTC
GAM33754 273157 GAGAATTGCTTGAACCCAGG AA TG GAA-- AGG GT A - AGAC
2 AGGTGGAGGTTGCAGTGAGC GAG T CTT CCCAGG TGGAG TGCAGTG GC TG
TGAGACCATGCCATTGCACT TTC A GAG GGGTCC ACCTC ACGTTAC CG AC
CCAGCCTGGGCAACAGAGTG AG GT ACAAC G-- -- - T ----
AGACTT
GAM33754 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
3 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33754 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
4 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG

TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33754 273581 GGAGAATCACTTGAACCTGG AA A- ACC GG- - GT A - AGAT
5 GAGGCGGAGGTTGCAGTGAG GGAG TC CTTGA TG AGGC GGAG TGCAGTG GC CG

CCGAGATTGAGCCATTGCAC CCTC AG GGACT AC TCCG CCTC ACGTTAC CG GT
TCCAGCCTGGACATCAGGGC AG CG --- AGG A -- - A ----
GAGACTCC
GAM33754 274134 GCAGATAGGGAAAAAAGCTT A AAAAAA - C GA CTCCC
6 GATGCAGAGTCAGGGAGAGC GC GATAGGG GCTTGA TGCAGAGT AGGGA GCAG

AGCTCCCTTGTTCCTTCACT CG CTATTCC TGAATT ACGTCTCA TTCCT TGTT
CTGCACTTAAGTAATCAACC A AACTAA C C -- -----
TTATCAGC
GAM33754 272927 CCCAGGTTTCAGTTTGGTAG GT TTG- AG A TTAGCATTTAGT TC TTTTGGT

7 CATGAATCCTTAGCATTTAG CCCAG TTCAGT GT CATG ATCC GAC CAG
TGACTCCAGTTTTGGTCTGC GGGTC GGGTTA CG GTAC TAGG CTG GTC
TGTCTTTCTTAAATGGATGC AT CCAA GA G TAAATTCTTT-- TC -------
ATGAGGCAACCATTGGGTAC
TGGG
GAM33754 274119 TGAGGCAGGAGAATCGCTTG G A AA GAA-- GGCAA CT A- TGAGATC
8 AACCCAGGTGGCAAGGCTTG TGA GC GGAG TCGCTT CCCAGGT GG TGCAGTG GC

CAGTGAGCTGAGATCGCACT ACT CG CCTC AGCGAG GGGTCCG CC ACGTCAT CG
ACTGCACTCCAGCCTGGGCA - A AG ACAAC A---- TC CA -------
ACAGAGCGAGACTCCAGCTC
A
GAM33754 274229 GGAGAATCGCTTGAACCCAG AA GAA-- GGCAA CT A- TGAGATC
9 GTGGCAAGGCTTGCAGTGAG GGAG TCGCTT CCCAGGT GG TGCAGTG GC
CTGAGATCGCACTACTGCAC CCTC AGCGAG GGGTCCG CC ACGTCAT CG
TCCAGCCTGGGCAACAGAGC AG ACAAC A---- TC CA -------
GAGACTCC
GAM33755 272931 CCCGGGGAGAGGTACTGTCT GG AGG ATA --- AG----- - ATACCTGGA
0 ATAGGTCAGGGTAAGGCAGC CCC GGAG TACTGTCT GGTC AGGGTA GCA GC
ATACCTGGAGCTTGCAGAGA GGG CCTC GTGACGGG TCAG TCCCAT CGT CG
AGTACCCTTGAGACTCAGGG A- A-- AC- AGT GAAGAGA T ---------
CAGTGACTCCAGGG
GAM33755 274029 TATAAAGCAGGCAGAGAAAT AA CA -- A TT A- GGCC
1 GTGAACTATTGAGACGGGCC TAT AGCAGG GAGAA ATGTG ACTA GAG CG
TGGCCTCCTAGTCTACATCT GTA TCGTCC CTCTT TACAT TGAT CTC GT
TTCTCCCCTGCTGGATG GG C- TC C C- CG ----
GAM33755 274529 TGAGGCAGGAAAATGGCTTG A AAATG GAA--- AGG GT A- TGAGATT
2 AACCCGGGAGGTGGAGGTTG TGAGGC GGA GCTT CCCGGG TGGAG TGCAGTG GC

CAGTGAGCTGAGATTGCGCC ACTCTG CCT CGAG GGGTCC ACCTC ACGTCAC CG
ACTGCACTCCAGCCTGGGCA - CAAAA AACAAC G-- -- CG -------
ACAAGAGCAAAACTCCGTCT
CA
GAM33755 272752 ACCAGTGGTTAGCAGATGAG AG TT CA GA GA GG A--- CTG GATGAA

3 GTGAAAGAGATGGGACAGTG ACC TGG AG GATGAGGT AA GATG AC GTGACTGTAT TTCT

ACTGTATCTGTTCTGATGAA TGG ACC TC TTACTTCA TT CTGC TG CATTGACGTG GAGG

GGAGATTGTGCAGTTACATG -- T- -- AA A- AA CGTA TTA ------
CGTAACGTCATTAAACTTCA
TTCTTCCAGGT

GAM33755 273553 GATGAGGTGAAAGAGATGGG GA GA GG A--- CTG GATGAA

4 ACAGTGACTGTATCTGTTCT GATGAGGT AA GATG AC GTGACTGTAT TTCT
GATGAAGGAGATTGTGCAGT TTACTTCA TT CTGC TG CATTGACGTG GAGG
TACATGCGTAACGTCATTAA AA A- AA CGTA TTA ------
ACTTCATT

GAM33755 273531 GAGGCAGGAGAGTTGCTTGA GGAGAG TG GAA-- AAGC GT - TGAGATT

5 ACCCAGGAAGCGGAGGTTGC GAGGCA T CTT CCCAGG GGAG TGCAGTGAG C
AGTGAGCTGAGATTGCCTCA CTCTGT A GAG GGGTCC CCTC ACGTCACTC G
CTGCACTCCAGCCTGGGCAA AACAA- GT ACAAC GA-- -- C -------
CAGAGTGAAACAATGTCTC

GAM33755 273434 CTTGAACCCAGGAAGCGGAG GAA-- AAGC GT - TGAGATT

6 GTTGCAGTGAGCTGAGATTG CTT CCCAGG GGAG TGCAGTGAG C
CCTCACTGCACTCCAGCCTG GAG GGGTCC CCTC ACGTCACTC G
GGCAACAGAG ACAAC GA-- -- C -------

GAM33755 272964 AATGAGCAGAGGTGGGCATT A- T A A C T GTA- CCTCTGTTCA

7 GAAGCAGTCGTTTTTGCTGT AATGAGC GAGG GGGCATTGA GC GT GTTTT GCT TTC

ATTCCCTCTGTTCAGAAGTT TTACTCG CTCC CCTGTAGCT CG CA CAAGA TGA AAG
AAGTAGAACCACAGCTCGAT GA - - A C - ATTG ----------
GTCCCCTCAGGCTCATT

GAM33755 272807 AGGCAGGAGAATTGCTTGAA CA AA GAACC G- A T A A - AGAT

8 CCTGTGAGGCAGAGGTTGCA AGG GGAG TTGCTT TGT AGGC GAGGT GC GTG GC TG

GTGAGCTGAGATCATGCCAC TCC CCTC AGCGAG GCG TCCG CTTCA CG CAC CG AC

AGCACTTCAGCCTGAGCGAC A- AG ACA-- AG A - A - T ----
AGAGCGAGACTCCACCT

GAM33755 273896 GTCCCAACCACTGCATTTAG - A CT---- AGT- CC ---- CATCTTCTTA

9 TGGATCTCGCCATGTGGCTC GT CCCA CCA GCATTT GGATCTCG ATGTGGCTCT GCT

TGCTCATCTTCTTAAGTTTT CA GGGT GGT CGTAAA CTTAGGGT TACATTGGGG TGA
GGGGGTTACATTTGGGATTC C C CTTTTT GATT T- GTTT ----------
TTAGAAATGCTTTTTCTGGC
TGGGCAC

GAM33756 273650 AGTTCTAGGGTACATATGCA CTA A - A - G T T ATAT

0 CAACATGCAGGTTTGTTACA AGTT GGGT CA TATGC CAACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT GTGTG GTTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C C - C G C - ----
CT

GAM33756 273010 AGCTGACGTTTTTCTGGGGG TG G G A AA TG - T CTGCAT

1 GACTGAACTGGGAGACTTTG AGC AC TTTTTCTG GGGG CTG C GGAG ACT TGCGA
CGACTGCATTCGTACAGTAC TCG TG GAGAAGAC TCCC GAC G CCTC TGA ATGCT

TCCTGGCAGCCCTGCAGAAG -- - G - -- GT A C ------
AGGTGCT
GAM33756 273838 GGGCTAAGTAGCATTAACAG AAGTA TT - TGAAA CTG TGG
2 AGATGTCTGAAAGGGCACTG GGGCT GCA AACAGAG ATGTC GGGCA GCC
GCCTGGGGCTGCCTGTGACA TCCGG CGT TTGTCTC TACAG TCCGT CGG
TGCTCTGTTTGCGGCCT ----- -- G TG--- --- ---
GAM33756 274319 GGGGAAAGTGTGAAGATTTC A G TCAAA C TCCTTCAC ACAC
3 AAAGCCCAGGGTCCTTCACG GGGGA AGT TGAAGATT GCC AGGG GGAGCC
GAGCCACACGGCTCTCCTTG CTCCT TCG ACTTCTAA CGG TTCC TCTCGG
GCACTTAATCTTCAAGCTCT C A TTCA- - -------- ----
CCTC
GAM33756 274068 TCCTTGAAAAACCTTTCAAG C- --- A -- GC AAAA- TGAGAGG
4 TGCCAGAGGCAGAAAAGTGG TCCTTGAAAAA CTT TCA GT GCCAGAG AG GTGGG
GTGAGAGGTCTACAGGTCCT AGGGATTTTTT GAA AGT CA TGGTCTC TC CATCT
ATCTCTGGTCAACATGATTT AC TTT A AC TA CTGGA -------
AAGCATTTTTTAGGGA
GAM33756 274062 TCCGTGTACATTTAATCTCT ---- T- TTTA TTTT -- A ---- ACCC
5 TTTTCTGTGCCTTATTTCGG TCC GTG ACA ATCTCT CTG TGCCTT TTTCGG GGGCTGGG

GGGCTGGGACCCTTCAGTCC AGG TAC TGT TGGAGG GAC ACGGAG GAAGTT CCTGACTT

AGTGTTGAAGAGAGGCAGCC AACT TC TC-- T--- CG A GTGA ----
AGTGGAGGTCTTGTCTCATT
CAAGGA
GAM33756 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
6 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33756 274609 TGTTCAGAAAGTCTGTTGTT CA- - T T T CCC GTAAGACACAGCTA
7 GTAAACATCCCCGACTGGAA TGTT GAA AGTC GT GT GTAAACATC GACTGGAAGCT
GCTGTAAGACACAGCTAAGC ACAG CTT TCGG CA CG CGTTTGTAG CTGACTTTCGA
TTTCAGTCAGATGTTTGCTG ACA A C T T A-- ----------
CTACCGGCTATTCACAGACA
GAM33756 273128 GAAAGTCTGTTGTTGTAAAC - T T T CCC GTAAGACACAGCTA
8 ATCCCCGACTGGAAGCTGTA GAA AGTC GT GT GTAAACATC GACTGGAAGCT
AGACACAGCTAAGCTTTCAG CTT TCGG CA CG CGTTTGTAG CTGACTTTCGA
TCAGATGTTTGCTGCTACCG A C T T A-- ----------
GCTATTC
GAM33756 273637 AGTCTGTTGTTGTAAACATC T T T CCC GTAAGACACAGCTA
9 CCCGACTGGAAGCTGTAAGA AGTC GT GT GTAAACATC GACTGGAAGCT
CACAGCTAAGCTTTCAGTCA TCGG CA CG CGTTTGTAG CTGACTTTCGA
GATGTTTGCTGCTACCGGCT C T T A-- ----------
GAM33757 273850 GGGTACCAGATGTGCTTCCT CC CTT CTC A A- G TG C TATCT
0 GTCCTCAGTAAAGAACTTGG GGGTA AGATGTG CCTGTC AGTA AGA CTTGGAGTAT T TTC
TCAAA
AGTATGTTGTTCCTCAAATA CCTAT TTTACAT GGACAG TCAT TTT GGACCTCGTG G AAG AGTTT

TCTTTTGATGAATGGGTGCT -- C-- --- C GA - GT T -----
CCAGGAGTTTCTACTGACAG

GCTACATTTTATCC
GAM33757 272783 AGATGTGCTTCCTGTCCTCA CTT CTC A A- G TG C TATCT
1 GTAAAGAACTTGGAGTATGT AGATGTG CCTGTC AGTA AGA CTTGGAGTAT T TTC TCAAA

TGTTCCTCAAATATCTTTTG TTTACAT GGACAG TCAT TTT GGACCTCGTG G AAG AGTTT

ATGAATGGGTGCTCCAGGAG C-- --- C GA - GT T -----
TTTCTACTGACAGGCTACAT
TT
GAM33757 273031 CCTGTCCTCAGTAAAGAACT CTC A A- G TG C TATCT
2 TGGAGTATGTTGTTCCTCAA CCTGTC AGTA AGA CTTGGAGTAT T TTC TCAAA
ATATCTTTTGATGAATGGGT GGACAG TCAT TTT GGACCTCGTG G AAG AGTTT
GCTCCAGGAGTTTCTACTGA --- C GA - GT T -----
CAGG
GAM33757 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
3 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33757 274532 TGAGGCAGGAGAATAGCTTG G AATA GAA--- AGG GT A - AGAT
4 AACCCAGGAGGTGGAGGTTG TGAGGCAG AG GCTT CCCAGG TGGAG TGCAGTG GT CG

CAGTGAGTCGAGATTGCACC ACTCTGTC TC CGAG GGGTCC ACCTC ACGTTAC CA GT

ATTGCACTCCAGCCTGGGCA - AAAA AACAAC G-- -- - C ----
ACAAGAGCAAAACTCTGTCT
CA
GAM33757 273482 GAGACAGGAGAATCGCTTGA A AA GAAC-- AGG - T AGCCGAGATTG
5 ACCCCAGAGGTGGAGGTTGT GAGAC GGAG TCGCTT CCCAG TGGAG GT GTGGTG

GGTGAGCCGAGATTGCACCA CTCTG CCTC AGCGAG GGGTC ACCTC CG TACCAC
TTGCACTCCAGCCTGGGCAA - AA AACAAC CG- A T ----------
CAAGAGCGAAACTCCGTCTC
GAM33757 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
6 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33757 274385 GTGACTGCAGGCGACCCTTA CT CGACCCTTACC - -- TCAAG TCC TT GA-

7 CCGAGGATTTTATTCAAGTA GTGA GCAGG GAGG ATT TTAT TA AGGGGAGGC CTGCT
ACA
TCCAGGGGAGGCTTCTGCTG CATT CGTCT CTCC TAA AATG AT TTCCTTTTG GACGA
TGT
AACAGCACATTGTATAAGCA TC ---------- A CT TCCTA TTC C- ATA
GCGTTTTCCTTCTTTAATCC CACA
TGTAATCAATACCTCTCTGC G
CTTTAC T

GAM33757 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT

8 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33757 273529 GAGGCAGGAGAATTGCTTGA G AA TG GA-- AGGC AT A - AGAT
9 GCCCAGGAGGCGGAGATTGC GAGGCAG AG T CTT GCCCAGG GGAG TGCAGTG GC CG

AGTGAGCCGAGATCGTGCCA CTCTGTC TC A GAG CGGGTCC CCTC ACGTCAC CG GC

CTGCACTCCAGCCTGGGCAA - AG GT ACAA GA-- -- - T ----
CAGAGTGAGACTCTGTCTC
GAM33758 274020 TAGACTTGGGAGGGAACCTT T-- - GA -------- - CTACTCCAGC TTACA
0 ACAGTCCTCTACTCCAGCTC TAGACT GG GAGG ACCT TA CAGTCCT TCCCTGATT
CCTGATTTTACAGATCGGGG GTCTGA CC CTTC TGGA AT GTCGGGA AGGGGCTAG
ACCCACCATTCAGGGCTGAT CTC A TC CTCAAACA A CTTACCACCC -----
AACAAACTCAGGTCTCTTCA
CCCTCAGTCTG
GAM33758 272728 AAGAGGCCTAAAAGTTTAAT CCT- TTTAATGCCA CCTT -- A G G - ATGT
1 GCCAGACCTTAGGGGCAGGA AAGAGG AAAAG GA AGG GGCAGG TGGA CAGG CTAAA
AG
TGGAGCAGGGCTAAAAGATG TTTTCC TTTTC CT TCC TCGTCC GTCT GTCC GGTTT TC

TCTCTTTGGGCCTGTCTGCC TTTC ---------- TCCT TT - - G C ----
TGCTTTCCTTCCTTCCTTTT
CTTTCCTTTT
GAM33758 273669 ATGCTTCCTGGCATCCCTTC CTT--- C CCT CT T TGCAAACCCTTTTCT
2 CCTAAGCACTAGCTCTGTGC ATG CCTGG ATCCCTTC AAGCA AGC CTG
AAACCCTTTTCTCAGGCTCT TAC GGACC TAGGGGGG TTCGT TCG GAC
GCTTTCTGGGGGGATCCCAG ACAATC C TCT C- - ----------
GCTAACACAT
GAM33758 273111 CTGTTAGACCGAGACCAAAG ACC TGTATTTAG -- CTGAA
3 CCATCTGTATTTAGGACATG CTGTTAG GAGACCAAAGCCATC GACA TGGG
GGCTGAACCCAGATGTCACA GGTAGTC CTCTGGTTTTGGTGG CTGT ACCC
CTTGGTGGTTTTGGTCTCCT --- TTCACA--- AG -----
GATGG
GAM33758 273439 CTTGACACCTCCTGTCCAGT G CCTG A - T C C AA- TGACT
4 ACTGTCTTGATGCCTGCCCC CTT ACACCT TCCAGT CTG TC TGATGC TGCCC AT AG
ATAAAGTGACTCTGCGATGG GAA TGTGGG AGGTTA GAC AG ATTGTG ACGGG TA TC

GCAAGTGTTATGATCAGATT A ---- - T T A - GCG -----
GGAGGGTGTAAAG
GAM33758 272973 ACACCTCCTGTCCAGTACTG CCTG A - T C C AA- TGACT
5 TCTTGATGCCTGCCCCATAA ACACCT TCCAGT CTG TC TGATGC TGCCC AT AG
AGTGACTCTGCGATGGGCAA TGTGGG AGGTTA GAC AG ATTGTG ACGGG TA TC
GTGTTATGATCAGATTGGAG ---- - T T A - GCG -----
GGTGT
GAM33758 273547 GAGTTTGAGATCTGTCTGGG -- A T CT A T AA - C----- AACAA
6 CAACATGCTGAAACCCCAGC GAGT TTG GA CTGT GGGCA CA GCTG AC CCCAGCT TGTA

TCTGTAAACAATACAAAAAT CTCA GAC CT GACA TCCGT GT TGGC TG GGGTCGA ACAT

TAGCTGGGCGTGGCGGTCTG TC C - -- - C GG C TTAAAA -----
TGCCTACAGTCCCAGCTACT
C
GAM33758 273423 CTGTCTGGGCAACATGCTGA CT A T AA - C----- AACAA
7 AACCCCAGCTCTGTAAACAA CTGT GGGCA CA GCTG AC CCCAGCT TGTA
TACAAAAATTAGCTGGGCGT GACA TCCGT GT TGGC TG GGGTCGA ACAT
GGCGGTCTGTGCCTACAG -- - C GG C TTAAAA -----
GAM33758 274615 TTCACGCTTGAACCTGGGAG G AA- TG AGG GT A CGAGATCAT
8 GTGGAGGTTGCAGTGAGCCG TTCAC CTTG CC GG TGGAG TGCAGTG GC
AGATCATGCCATTGCACTCC AAGTG GAAC GG CC ACCTC ACGTTAC CG
AGCCTGGGCAACAAGAGTGA A AAC GT G-- -- - ---------
A
GAM33758 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
9 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33759 273297 TGAGGTAGGAGAATCACATG GT G AA CA- AA- A- GAGGT A CGAGACCAC

0 AACCCGGGAGGTGGAGGTTG TGAG AG AG TCA TG CCCGGG GGTG TGCAGTG GC

CAGTGAGCCGAGACCACGCC ACTC TC TC AGT AC GGGTCC CCAC ACGTTAC CG
ATTGCACACCAACCTGGGCA TG - AG CAG AAC AA ----- - ---------
ACAGACTGAGACTCTGTCTC
A
GAM33759 274623 TTCCGATAAAAGAGTTGCCA AAAAGAG CCA --- AA A A G - - TGTC
1 AGACCCTTGGAAGCTCCACA TTCCGAT TTG AGAC CCTTGG GCTCC CAGT AT GGT GTCTT
TCGG
GTAATGGGTGTCTTTCGGTG GAGGTTG AAC TTTG GGAGCT CGGGG GTCG TG TCA TAGAG
AGTC
TCCTGATGAGATGACTGGTG ------- --- AGA C- - G G G T ----
GCTGGGGGCCTCGAGGAGAG
TTTCAAGTTGGAG
GAM33759 274410 GTGTTGAGATCCTTTCACAG TG - C --- T ACAATTACGTTCACA
2 TTGTGGTTACAATTACGTTC GTGT AG AT CTTTCA CAG TGTGGTT
ACAAGCTACACCTGCCATGA CACG TC TA GAGAGT GTC ACATCGA
GAGAATACTTGGCAC GT A A ACC C ----------
GAM33759 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
3 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33759 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
4 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33759 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
5 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG

TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33759 274077 TCTCCTGTTAGTTCTGTCCT T TA - CTT GG- T T C AAGTAT- AGTTA
6 TCTAGGGAACCTTGACTAAC TCTCC GT GTT CTGTC CTA GAACC TGAC AACA AC ACC

ACACAAGTATACCAGTTAGG AGAGG CA CGG GATAG GAT CTTGG GCTG TTGT TG TGG

TTAGTTAGGTTTGTTGTCGT T CC T T-- AGA T - T GATTGAT -----
GGTTCAGATAGTGATAGTGG
CCCACTGGAGA
GAM33759 274108 TGAGGCAAGAGAATCGCTTG AA AA GAA--- AGGCA GTTGA A - AGAT
7 AACCCAGGAGGCAGAGGTTG TGAGGC GAG TCGCTT CCCAGG GAG AGTG GC CG

AAGTGAGCCGAGATCGTGCC ACTCTG CTC AGCGAG GGGTCC CTC TTAC CG GC
ATTGCACTCCAGCCTGGGCA C- AA AACAAC GAC-- ACG-- - T ----
ACAAGAGCGAAACTCCGTCT
CA
GAM33759 273179 GAGGCAAGAGAATCGCTTGA AA AA GAA--- AGGCA GTTGA A - AGAT
8 ACCCAGGAGGCAGAGGTTGA GAGGC GAG TCGCTT CCCAGG GAG AGTG GC CG
AGTGAGCCGAGATCGTGCCA CTCTG CTC AGCGAG GGGTCC CTC TTAC CG GC
TTGCACTCCAGCCTGGGCAA C- AA AACAAC GAC-- ACG-- - T ----
CAAGAGCGAAACTCCGTCTC
GAM33759 274017 TACTTGTGCAGGTTTGTTAA GCAGG TAAA TT AA GAG TTCT ATCC
9 ATGGGTTTATTGTGTAATGC TACTTGT TTTGT TGGGT ATTGTGT TGCT ATTTGGGC AATG

TGAGATTTGGGCTTCTAATG ATGGATA AGATA ATCCA TGATACA ACGA TGAACCCG TTAC

ATCCCATTGCCCAAGTAGCA ACTA- ---- -- A- --- ---- ----
AACATAGTACCTAATAGAAT
CAATAGGTA
GAM33760 273554 GATGATGCTGGCTCTGGGGC T CT T GT - CA A TGAAACA CACAAT
0 TTTGTAGTCACTAGGGCACC GA GATG GGCTC GGGGCTTT AGTCACTAG GG CC TTT ATG

ATTTTGAAACAATGCACAAT CT CTAT CCGGG CCCCGAAA TCAGTGATC CC GG AAA TAC

CATCTACTAAACGGAACCAC T T- T GT A AA C TCATC-- ------
TAGTGACTTGAAAGCCCCTG
GGCCTTATCTTC
GAM33760 274127 GCAAAGCACTTACTTCTTTG A TT -- T ATAGTTACAAA
1 CAGATGAGACTGAGACATAG GC AAGCACTTAC CT TTGCAGA GAGACTGAGAC
TTACAAAGTCTCAGTTTCCT CG TTCGTGAATG GA AACGTCT CTTTGACTCTG
CTGCAAACAGTTGTAAGTGC A TT CA C ----------
TTAGC
GAM33760 272729 AAGCACTTACTTCTTTGCAG TT -- T ATAGTTACAAA
2 ATGAGACTGAGACATAGTTA AAGCACTTAC CT TTGCAGA GAGACTGAGAC
CAAAGTCTCAGTTTCCTCTG TTCGTGAATG GA AACGTCT CTTTGACTCTG
CAAACAGTTGTAAGTGCTT TT CA C ----------
GAM33760 272846 ATCAGTGCCAGAAATTCCTT C TTCCT CTAAAGT TGC C CTGG
3 ACCTAAAGTGGCATATGCGA ATCAGTG CAGAAA TAC GGCATA GACGGC ATGGA
CGGCCATGGACTGGTTCATA TAGTCAC GTCTTT ATG CCGTAT CTGCCG TACTT

GCCGTCTGTTATGCCTTTGT - T---- TTT---- TGT A ----
ATTTTCTGCACTGAT
GAM33760 274484 TCCTATTCCATCTGCATTTT - T TAGA AGAATAACGTACAA A AG ATTAG
4 AGAGGTGAAGAATAACGTAC TCCTA TTCCATC GCATTT GGTGA GGG TTC TG
AAGGGATTCAGTGATTAGCA AGGAT GAGGTAG TGTGAA TCACT CCC AGG AC
AGGGACCCCTCACTAAGTGT T T ---- ---------- C GA -----
TGATGGAGTTAGGA
GAM33760 274642 TTGGAGTTAGGATCCCCAGG TG TT- TCCCC T- - TGG- TCTGG
5 TTCTAGTCCTGAGTCTGGAC T GAG AGGA AGGTTC AGTC CTGAGTC AC
TCTGGGTAAGTGACTCAGCG A TTC TCCT TCCAAG TTAG GACTCAG TG
ATTCTGAACCTTGTTTCCTT GT TAT TTGT- TC C TGAA -----
ATCTTTGA
GAM33760 272858 ATTACTAGGTTTAAATAAGA ATAAGAA TGC TC- TTAG GCCTCTG
6 ACAGATGCTTGCTTTGGTTC ATTACTAGGTTTAA CAGA TTGCTTTGGT AAG GCAT
AAGTTAGGCATGCCTCTGAT TGATGATTCAGATT GTCT AACGGAACCA TTC CGTA
GCATTTCTTAATACCAAGGC CGGGA-- CTA TAA TTTA -------
AAATCTCTGAGGGCTTAGAC
TTAGTAGT
GAM33760 274124 TGAGGCAGGAGAATCGCTTG G AATC GAA TG AGG GT TG A - AGAT
7 AACCTGGGAGGTGGAGGTTG TGAGGCAG AG GCTT CC GG TGGAG TG GTG GC CG

TGGTGAGCCGAGATCGCGCC ACTCTGTC TC CGAG GG CC ACCTC AC TAC CG GC
ATTGCACTCCAGCCTGGGCA - AAAA AAC GT G-- -- GT - C ----
AGAGCAAAACTCTGTCTCA
GAM33760 273192 GAGGCAGGAGAATCGCTTGA G AATC GAA TG AGG GT TG A - AGAT
8 ACCTGGGAGGTGGAGGTTGT GAGGCAG AG GCTT CC GG TGGAG TG GTG GC CG
GGTGAGCCGAGATCGCGCCA CTCTGTC TC CGAG GG CC ACCTC AC TAC CG GC
TTGCACTCCAGCCTGGGCAA - AAAA AAC GT G-- -- GT - C ----
GAGCAAAACTCTGTCTC
GAM33760 272734 AAGTATCATTTAGGCAGGGC ---------- - C GAAAACAATT G ATTAC
9 GATTCCAAAGAAAACAATTA AAGTATCATT TAGGCAG GG GATTCCAAA AG CAC
GGCACATTACTCAGTGGCTT TTTATAGTAA GTCCGTC CC TTGGGGTTT TC GTG
TTGGGGTTTCCTCTGCCTGT CCACACAAAAGAAACCT T T ---------- G -----
CCAAAGAAAACACACCAATG TCA
ATATTT

GAM33761 272824 AGTATCATTTAGGCAGGGCG ---------- - C GAAAACAATT G ATTACT
0 ATTCCAAAGAAAACAATTAG AGTATCATT TAGGCAG GG GATTCCAAA AG CAC
GCACATTACTCAGTGGCTTT TTATAGTAA GTCCGTC CC TTGGGGTTT TC GTG
TGGGGTTTCCTCTGCCTGTC CCACACAAAAGAAACCT T T ---------- G ------
CAAAGAAAACACACCAATGA CA
TATT

--
GAM33761 272794 AGCTCATCACAGTCTAGCTT T C TCT- CTTCTT TTTT TCTTTTTAT TTGACT

1 CTTGTCTTTTCATTTCTTTT AGC CAT ACAG AG GTC CATT GGTATTTCTT
TATGGTATTTCTTTTGACTA TCG GTA TGTC TC TAG GTAA TCATAAAGAA
AGAAATACTTTTAATGTAAT - - CTTT ------ CT-- TGTAATTT- ------

GTCGATCTTTTCCTGTATGG
CT
GAM33761 272839 AGTTTTAGGGTACATGTACA TTA A T - - G T T ATAT
2 CAACGTGCAGGTTTGTTACA AGTT GGGT CA GTACAC AACGTG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT CGTGTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - G C G C - ----
CT
GAM33761 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
3 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33761 273875 GGTGGTGAGAGGGGCCTGGG GG AG - - C - GGA T GTTCTTTG
4 GCGTGGTGTGGAGGGTCGAG GGT TG AGG GG CCTGGGG GTGG TGT GGG CGA
TTCTTTGTCGTCCCACAGTC CCG GC TCC CC GGACCCC CACT ACA CCC GCT
ACCCCCAGGACCACCTTGCG AA GT A A - G --- T --------
AAGCC
GAM33761 273385 TTCCAAGTGAAAATAGACTT --- A GACTTT- G CAGAA TCTTGGTATCTT
5 TCTGGAGGAGCAGAAAGGAC TTCC AAGTG AAATA CTGGAG AG AGGACAGC
AGCTCTTGGTATCTTGCTGT AAGG TTTAT TTTAT GACCTC TC TCCTGTCG
CCTGAGAACTGCTCCAGTTA AGA G ATAAATT G AAGAG ----------
AATATATTTGTATTTAGAGG
AA
GAM33761 274392 GTGCATTTCTATTTCTAGTT AT- AT- TC A- CAGGCAATTCA
6 TTTCACGGAACTGACCAGGC GTGC TTCT TTCTAGTTTT ACGG ACTGAC
AATTCAGTCAGTAGCTGTCA CACG AAGA GAGGTCAAAA TGTC TGACTG
AAACTGGAGTCCAGAACAGG GAC CCT C- GA ----------
CAC
GAM33761 273395 TTGCTTGAACCCGGGAGGCA GAA-- AGGCA GT A TGAGATGGT
7 GAGGTTGCAGTGAGCTGAGA TTGCTT CCCGGG GAG TGCAGTG GC
TGGTGCCACTGCACTCCAGC AACGAG GGGTCC CTC ACGTCAC CG
CTGGGCAACAGAGCAA ACAAC GAC-- -- - ---------
GAM33761 273362 TGTCTGTGTAAGAACACGTT TCT-- A C T A-- C T TGAA
8 TGAATGCTGTACAAGGCACA TG GTGTAAGA CA GTTTGAA GCTGTACA GG ACA ATG

TATGTGAACATTGTACCACA AC TATATTCT GT CAAACTT CGACATGT CC TGT TAC
TGTACAGCTTTCAAACATGC CCTCT C A T ACA A - ----
TCTTATATTCTCCCA
GAM33761 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
9 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33762 273798 CATGAAATTTAGTGTGATTA ATT----- - TTTTTTCTACTTTT
0 TTTTTTCTACTTTTTAATCA CATGAA TAGTG TGATTA
TCATTATTTTGAAGTTTATG GTATTT ATTAC ACTAAT
GAAGTTTT T ----------
GAM33762 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
1 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG

TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33762 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
2 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33762 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
3 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33762 273124 CTTTTCCACCATCTAAGAGA CCATC AA-- AA CA CTTA
4 AAGGAAGTTCAGAGCCTTAG CTTTTCCA TAAGAGA GG GTT GAGC
CTTCAACACCACAATTTCTT GAAAAGGT ATTCTTT CC CAA TTCG
AACTGGAAAAG CA--- AACA A- C- ----
GAM33762 273279 TGAGGCAGGAGAATCGCTTG G AA GAA-- GTG - - TT AGCTGAGATCG
5 AAGCCGTGAGGTGGAGGTTT TGAGGCAG AG TCGCTT GCC AGG TGGAG GT TGGTG

TGGTGAGCTGAGATCGCGCC ACTCTGTC TC AGCGAG CGG TCC ACCTC CG ACCGC

ATTGCACTCCAGCCTGGGCA - AA AACAA G-- G A TT ----------
ACAAGAGCGAAACTCTGTCT
CA
GAM33762 273706 GGAGTATCGCTTGAACCTGC A GAACC G- - GT A- CGGGATC
6 GAGGCGGAGGTTGCAGTGAG GGAGT TCGCTT TGC AGGC GGAG TGCAGTG GC
CCGGGATCGCACCACTGCAC CCTCA AGTGAG ACG TCCG CCTC ACGTCAC CG
TCCAGCCTGGGCAACAGAGT G ACA-- GG A -- CA -------
GAGACTCC
GAM33762 273283 TGAGGCAGGAGAATGGCGTG A AATG G- AA- AGGC CT A - AGAT
7 AACCCGGGAGGCGGAGCTTG TGAGGC GGAG GC TG CCCGGG GGAG TGCAGTG GC CG

CAGTGAGCCGAGATCGCGCC ACTCTG CCTC TG AC GGGTCC CCTC ACGTCAC CG GC

ACTGCACTCCAGCCTGGGCA - AGAG AG AAC GA-- -- - C ----
ACAGAGTGAGACTCCGTCTC
A
GAM33762 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
8 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33762 273653 AGTTTTAGGGTACATGTGCA TTA A T TG - - G T T ATAT
9 CAACATGCAGGTTTGTTACA AGTT GGGT CA G CAC AACATG CA GT TGT AC
TATGTATACATGTGCCATGT TCAA CCCA GT C GTG TTGTAC GT TA ATA TG
TGGTGTGCTGCACCCATTAA TTA C - GT G C G C - ----
CT
GAM33763 273017 AGGCAGAAGAATTGCTGGAA A AA GAA-- AGGC GT A- CAAGATC
0 TCTAGGAGGCGGAGGTTGCA AGGCAGA G TTGCTG TCTAGG GGAG TGCAGTG GC

GTGAGCCAAGATCGCGCCAC TCTGTCT C AGCGAC GGGTCC CCTC ACGTCAC CG
TGCACTCCAGCCTGGGCAAC - AG ACAAC GA-- -- CG -------
ACAGCGAGACTCTGTCT
GAM33763 273590 GGAGAATCGCTTGAACCCAG AA GAA-- AGGCA GT A CAAGATCAT
1 GAGGCAGAGGTTGCAGTGAG GGAG TCGCTT CCCAGG GAG TGCAGTG GC
CCAAGATCATGCCACTGCAC CCTC AGTGAG GGGTCC CTC ACGTCAC CG
TCCAGCCTGGGCAACAGAGT AG ACAAC GAC-- -- - ---------
GAGACTCC
GAM33763 272777 AGAGGGAGAATTGCTTGAGC G AA GA-- ATTTC GC AGCTATGATCACAC

2 CCAGGATTTCGAGGCTGCAG AGA GGAG TTGCTT GCCCAGG GAG TGCAGTG
TGAGCTATGATCACACCACT TCT TCTC AACGAG CGGGTCC CTC ACGTCAC
GCACTCCAGCCTGGGCAACA G AG ACAA GAC-- -- ----------
GAGCAAGACTCTGTCT
GAM33763 273536 GAGGGAGAATTGCTTGAGCC G AA GA-- ATTTC GC AGCTATGATCACAC

3 CAGGATTTCGAGGCTGCAGT GA GGAG TTGCTT GCCCAGG GAG TGCAGTG
GAGCTATGATCACACCACTG CT TCTC AACGAG CGGGTCC CTC ACGTCAC
CACTCCAGCCTGGGCAACAG G AG ACAA GAC-- -- ----------
AGCAAGACTCTGTC
GAM33763 274240 GGAGAATCTCTTGAACCCGG AAT-- AA- AGG GT G A - AGAC
4 GAGGTGGAGGTTGGGGTGAG GGAG CTCTTG CCCGGG TGGAG TG GGTG GC CG

CCGAGACCGCGCCATTGCAC CCTC GAGAAC GGGTCC ACCTC AC TTAC CG GC
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GAM NAME	GAM RNA SEQUENCE	PRECUR SOURCE SEQ-ID	REF-ID	GAM POS
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GAM112	TGATATATAATCAGCCCATGAT	273787		A
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GAM269	CATTGCACTCCAGCCTGGGTGA	273213		A
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GAM281	CACTGCACTCCAGCCTGGGCAA	273218	THC1476894	A
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GAM3452	CCCCAGTTCAATCCGACCATGC	272984	THC1456154	A
GAM3452	GCCTTTCCTCCAGAACTGCTCC	272984	THC1456154	B
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GAM3463	CACAATATAGCAAATAGAGGGT	273834	THC1586887	A
GAM3479	TACAGGCAGGCACAGAGGCAGT	274369		A
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GAM3486	TTCAGCAAGTTTTCCTGACATT	272916	THC1542580	B
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GAM3595	AGGCTGCAGTGTAGTGGCATGA	272780		A
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GAM3788	TCACTTGCCTAGGGTCACACAG	273770	THC1556506	A
GAM3810	TGGAGAGAAAGCGAAGATGTAG	274139	THC1452347	A
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GAM7169	TAGACTGAGGCTTCCTGCAGGG	272967	THC1553866	A
GAM7179	TGAAATATTTTCAAGCTGATTA	272756	THC1436384	A
GAM7199	TGGCAAAGAAGGCAGTACAGTT	274267	THC1599986	A
GAM7201	TGTCCTTTGTTTTGAGATGGAG	272985		A
GAM7212	GGCCAGGACTCTTGCAGAACTG	274277	THC1562047	A
GAM7241	CTCAGTGTGAAGAACTACGGGT	272854	THC1530062	A
GAM7250	GAAGAGCTGTGTGCTGTGATGT	272893	THC1555889	A
GAM7255	TGGTCTCTTGAAAGAGGCTCTT	273123		A
GAM7257	TGACCTCAGGTGATACGCCCGC	274358	THC1453470	A
GAM7257	TGGGGTTTCTCCATGTTGGTCA	274358	THC1453470	B
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GAM7264	ACTGGCACAGACATCTGTCAAG	273271	THC1472355	A

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5086	APLP2	TGGGGTGGAATAGGGAACTGT
5087	APLP2	TGCTCACTGCTTCTGCTTT
5088	APLP2	TTGTCTGACACATGCTCTCAA
5089	APLP2	CCTCATTCACTGTCCTGGCTTTTATT
5090	APLP2	CCTCCACCCCCTCCTGTCACCGGCC
5091	APOC1	ACCAATAAAAATCCTAC
5092	APOC1	AGCGCCTGTGCTGAGGACTCCCG
5093	APOC1	GGTGACATCCAGGAGGGGCCTC
5094	APOC1	CCTCCAGCAAGGATTCAGGA

5095	APOC1	CCCTCCAGCAAGGATTCAGGAGTGCCC
5096	APOC1	GACTCATGGGACCTGAAGGGTGACAT
5097	APP	GGCGGATCCCACTCG
5098	APP	TACTACATTATTAATGGGTTTT
5099	APP	GGGCGGGTGGGGAGGGGTGCTCTGCTG
5100	APP	CATGTAAATAAATACATTCTTG
5101	APP	TCCCTGTTCATTGTAAGCACTTT
5102	APP	TCTCTATACTACATTATTAATGG
5103	APP	TCTCTCCTGATTATTTATCA
5104	APP	ATCCCTGTTCATTGTAAGCACTTT
5105	APP	ACGGGGCGGGTGGGGAGGG
5106	APP	TTGGGTGGGGAGAAGAGGCAGA
5107	APP	TTTCCTGATCACTATGCATTT
5108	APP	TGGGTGGGGAGAAGAGGCAGA
5109	APP	CGTGCCTGTTTTATGTGCACA
5110	APP	AGTTCAGCTGCTTCTCTTGCCT
5111	APP	ATGTGGGAAGAAACAAACCC
5112	APP	TGCCTGAACTTGAATTAATCCAC
5113	APPBP2	TGTTGCCCAGGCTGGGAGGGCAA
5114	APPBP2	TGTTGCCCAGGCTGGGAGGGCAAT
5115	APPBP2	TTAACACAAGTACTAATAAA
5116	APPBP2	TTAGGATAAGTTAGATGTGT
5117	APPBP2	TCCGAGTAGCTGGGATTACAGG
5117	PRND	TCCGAGTAGCTGGGATTACAGG
5118	APPBP2	TCTTCCATGTGGAGGTATTCAA
5119	APPBP2	TGACATTTGGATTAATCTCCAGCT
5120	APPBP2	TGAATTATTGACCTAATAAA
5121	APPBP2	TGCCAAAACATGATTGAAGCCTT
5122	APPBP2	TGCAACCTCCGCCTCCCGGGTT
5122	GRAF	TGCAACCTCCGCCTCCCGGGTT
5122	HTR1E	TGCAACCTCCGCCTCCCGGGTT
5123	APPBP2	ATCTGATAGACCAGCACTTCTGA
5124	APPBP2	TTGTTGCCCAGGCTGGGAGGGC
5125	APPBP2	TTTAATATGTAATTCTTCCA
5126	APPBP2	TTCAGTTATATTCAGCATGTACCGCA
5127	APPBP2	TTCCAGCGATTCTCCTGCCTCAG
5128	APPBP2	CTCATTTCTGTATATTCCTTT
5129	APPBP2	CGCCGTCCCTCAGTTTGCCCCC
5130	APPBP2	GAAACATCATTATTGGCAGTTT
5131	APPBP2	CTTTAAGTAGGGATGTTTAGG
5132	APPBP2	CTGCAGTGAACACATGCC
5133	APPBP2	CTGGACCAGTGTTGATCTGTAATG
5134	APPBP2	CCGAGTAGCTGGGATTACAGGC
5134	DCX	CCGAGTAGCTGGGATTACAGGC
5134	DFFB	CCGAGTAGCTGGGATTACAGGC
5134	MEF2A	CCGAGTAGCTGGGATTACAGGC
5134	NF2	CCGAGTAGCTGGGATTACAGGC
5134	PIK3C2B	CCGAGTAGCTGGGATTACAGGC
5134	SEDL	CCGAGTAGCTGGGATTACAGGC
5135	APPBP2	CCCAGGCTGGGAGGGCAATG

5136	APPBP2	ATTTTTTGTAAGCCAGTC
5137	APPBP2	CATCATTATTGGCAGTTTCTCCTTAT
5138	APPBP2	GCTGCAGCCATCCCCCTCA
5139	APPBP2	GCTGCTGGGGAGGACCTCAGTTAAC
5140	APPBP2	GCTTAAGAAAACATTGCCAT
5141	ADAMTS4	GAGTAGCTGGGATTACAGGCTCCTGCC
5141	APPBP2	GAGTAGCTGGGATTACAGGCTCCTGCC
5142	APPBP2	GATAATGCAAAAATTATGTAATA
5143	APPBP2	GATGAAGCAAACCCACACCCTA
5144	APPBP2	GCACATGTTTTTCAAGAG
5145	APPBP2	TGTTTGAAGCTGTTATTTGCAG
5146	APPBP2	TGTTTTTAAAAAATTCATTTTGCAGAA
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5148	APPBP2	TTAAGAATTTGTGACATGTAGCA
5149	ADAMTS4	TGGGATTACAGGCTCCTGCCA
5149	APPBP2	TGGGATTACAGGCTCCTGCCA
5150	APPBP2	TTCCAGCGATTCTCCTGCCTCA
5151	APPBP2	TTACCTCAATTCTTACTGTAGTA
5152	APPBP2	TTGCCCAGGCTGGGAGGGC
5153	APPBP2	TTGCCCAGGCTGGGAGGGCAATG
5154	APPBP2	TTTGAACTTCCCAACCTTGTTTGA
5155	APPBP2	TTTTAAAAAATTCATTTTGCAG
5156	APPBP2	ACCTTTGTTCCTAGCCTGTTGG
5157	APPBP2	AGAAAACATTGCCATTTTGGTT
5158	APPBP2	ACTGCAACCTCCGCCTCCCGGG
5158	GRAF	ACTGCAACCTCCGCCTCCCGGG
5159	APPBP2	ACCACGCCTGGCTAGGAAATTTTTTGT
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5161	APPBP2	ACACTGGTCCAGTCCATTG
5162	APPBP2	AAACAAAACACTAACAATCTT
5163	APPBP2	AAGCAAGTCTATAAATATCGGC
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5165	APPBP2	ATCAAATTTAAGAATTTGTGA
5166	APPBP2	AGTTTGCCCCCGGAGGAGGCAGGG
5167	APPBP2	AGCCTTCCGAGTAGCTGGGATT
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5168	APPBP2	AGTATAGAAAAGTTAACACAAGT
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5170	APPBP2	TGCCCAGGCTGGGAGGGCAAT
5171	APPBP2	TGCCCAGGCTGGGAGGGCAATGG
5172	APPBP2	TCAAATCTCTGTCTCTGCTTGGTT
5173	APPBP2	TATGTAGAAGCCTAGGATCACAGGGTG
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5175	APPBP2	CCAGGCTGGGAGGGCAATG
5176	APPBP2	CCATTGCATTTAAGTTCCCTAGGAG
5177	APPBP2	GTCTCATCCTTCTCTGACTCTTC
5178	APPBP2	TAGTGCAGACAGAAAACTGCAGTGA
5179	APPBP2	GTTGCCCAGGCTGGGAGGGCAATG
5180	APPBP2	GTTGCCCAGGCTGGGAGGGCAATGGCA
5181	APPBP2	GGAGGTGGGGGCCTTCGGGAGGAGGAG

5182	APPBP2	GGCTCACTGCAACCTCCGCCT
5182	DFFB	GGCTCACTGCAACCTCCGCCT
5182	GRAF	GGCTCACTGCAACCTCCGCCT
5182	KCNJ11	GGCTCACTGCAACCTCCGCCT
5182	MEFV	GGCTCACTGCAACCTCCGCCT
5182	PIGR	GGCTCACTGCAACCTCCGCCT
5182	RHD	GGCTCACTGCAACCTCCGCCT
5182	SEDL	GGCTCACTGCAACCTCCGCCT
5182	SNAP23	GGCTCACTGCAACCTCCGCCT
5182	VENTX2	GGCTCACTGCAACCTCCGCCT
5182	WHSC1	GGCTCACTGCAACCTCCGCCT
5182	ZNF264	GGCTCACTGCAACCTCCGCCT
5183	APPBP2	GGCTCACTGCAACCTCCGCCTC
5183	DFFB	GGCTCACTGCAACCTCCGCCTC
5183	GRAF	GGCTCACTGCAACCTCCGCCTC
5183	KCNJ11	GGCTCACTGCAACCTCCGCCTC
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5183	RHD	GGCTCACTGCAACCTCCGCCTC
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5183	SNAP23	GGCTCACTGCAACCTCCGCCTC
5183	VENTX2	GGCTCACTGCAACCTCCGCCTC
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5184	APPBP2	GCTCACTGCAACCTCCGCCTCC
5184	ARCN1	GCTCACTGCAACCTCCGCCTCC
5184	CDH17	GCTCACTGCAACCTCCGCCTCC
5184	EEF2K	GCTCACTGCAACCTCCGCCTCC
5184	GRAF	GCTCACTGCAACCTCCGCCTCC
5184	MEFV	GCTCACTGCAACCTCCGCCTCC
5184	PCDHB9	GCTCACTGCAACCTCCGCCTCC
5184	PIGR	GCTCACTGCAACCTCCGCCTCC
5184	RHD	GCTCACTGCAACCTCCGCCTCC
5184	SEDL	GCTCACTGCAACCTCCGCCTCC
5184	SLC15A1	GCTCACTGCAACCTCCGCCTCC
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5184	SS18	GCTCACTGCAACCTCCGCCTCC
5184	VENTX2	GCTCACTGCAACCTCCGCCTCC
5184	WHSC1	GCTCACTGCAACCTCCGCCTCC
5184	ZNF264	GCTCACTGCAACCTCCGCCTCC
5185	A1BG	GCTCTTGTTGCCCAGGCTGG
5185	APPBP2	GCTCTTGTTGCCCAGGCTGG
5185	ATP1B2	GCTCTTGTTGCCCAGGCTGG
5185	CLECSF12	GCTCTTGTTGCCCAGGCTGG
5185	PKNOX1	GCTCTTGTTGCCCAGGCTGG
5185	SLC24A1	GCTCTTGTTGCCCAGGCTGG
5186	APPBP2	GACGTACTTGCAGTTTATGA
5187	APPBP2	GCCAAAACATGATTGAAGCCTT
5188	APPBP2	GCAGTGCCATAAGCAAGTCT
5189	APPBP2	GCCCAGGCTGGGAGGGCAATGGC

5190	APPBP2	GTTGCCCAGGCTGGGAGGGCAAT
5191	APPBP2	GTGCTATTATTTCTGGTTCT
5192	APPBP2	GTGTACTTCACCTCTTGGCT
5193	APPBP2	GTTACCTCAATTCTTACTGTAGTA
5194	APPBP2	GTACACAGATGGCAGTGCCAT
5195	APPBP2	GGGTTCATGACTTGGCTGTTAAAGATGT
5196	APPBP2	CCGAGCTGCTGGGGAGGACCT
5197	APPBP2	CTCATTTCTGTATATTCCTTTTATGGG
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5199	APPBP2	CTCAAAGCTGACTTTGCCAA
5200	APPBP2	CGAGTAGCTGGGATTACAGGCTC
5201	APPBP2	CGGCTGCAGCCATCCCCC
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5205	GRAF	CTGCAACCTCCGCCTCCCGGGT
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5207	APPBP2	GAAACAAAAAGGTATTTTGCTGTTACCTC
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5211	ARHA	GCACAGCCCTTATGCGGTTAA
5212	ARHA	TCAGGCAATTAGACACTTTGG
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5214	ARHA	GGCTGTAACTACTTTATAACT
5215	ARHA	AGTATTTTGTATAATTGGATTCTAATA
5216	ARHA	AGCTGTGGCAGAGTTACAGTTC
5217	ARHA	TGGCTCTAATTCACAGTGCTCTTTCTCC
5218	ARHA	TGGTGAGTCACCACTTCAGGGC
5219	ARHA	GCCCTCCTCTGCACTCCCACC
5220	ARHA	GGCACTCAGTCTCTCTTCTCTCCA
5221	ARHA	CAGCTGCAAGGTACTCTGGTGAG
5222	ARHA	CTCAGGCAATTAGACACTTTGG
5223	ARHA	CTACCCAGACTAGATGTAGT
5224	ARHA	TTCGGCCCCATGTATCTCA
5225	ARHA	TTCTCCTCACTGTATCCAGGT
5226	ARHA	ATTATCTGTCAGCTGCAAG
5227	ARHA	AGGCTGTAACTACTTTA
5228	ARHA	TTACCTAAGATTACAAATCAG
5229	AVP	TTATCTTGTTGTCACAGGGCTA
5230	AVP	TGGCGGCCGTGGGCTCCTGGG
5231	AVP	TGGCGGCCGTGGGCTCCTGGGGAGC
5232	AVP	TGGGGAGGGGGTGGCGGCCGC
5233	AVP	TGGGGGTGCGGGGGTGTCATG
5234	AVP	CTCAGAGATGGTCTCCAGGTGA
5235	AVP	CCTGTCCTCACCACTCTGGGCTTGTGCTGTTC
5236	AVP	CAGCCAGCAGAGGCAGCAGCAC
5237	AVP	CCTCTCATTCTGTGTCCCT
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5239	AVP	TTATCTTGTTGTCACAGGGCTAACCCTC
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5244	AVP	GCACAGACAGGCCCACGTGTGT
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5246	AVP	GGGGTCCACCTGTGTGCACCAGG
5247	AVP	CCCTGTCCTCACCACTCTGGG
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5249	AVP	GAATCCAGAGCGCTGCAGTCACA
5250	AVP	CTCTCCCTGAATCCAGAGCGCTGCAGT
5251	AVP	CTGGGCTTGTGCTGTTCTTGG
5252	B2M	CTCCATGTTTGATGTATCTGAG
5253	B2M	GGCAACTTAGAGGTGGGGAGCAGA
5254	B2M	TCTCTTATCCAACATCAACATCTT
5255	B2M	CAAATTCTGCTTGCTTGCTTT
5256	B2M	CTTTGAGTGCTGTCTCCATGTT
5257	B2M	TGGATGAATTCCAAATTCTGCTT
5258	B2M	TGGACATGATCTTCTTTATAATTCT
5259	B2M	TGATATGCTTATACACTTACACTTTA
5260	B2M	AGGTGGGGAGCAGAGAATTCTCTTATCC
5261	B2M	GGACATGATCTTCTTTATAATTCT
5262	B2M	GCAACTTAGAGGTGGGGAGCAGA
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5264	BACE	GATGGGAAGGGCTTATCTAGCCA
5265	BACE	GCCAGGGACGGACGTGGGCCAGT
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5268	BACE	GGAGACACAGATGGCACCTGTGGC
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5289	BACE	GACCACACCTCCGTGGTTCAC
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5311	BACE	CCACATTTTGCTTTATAATTTCTAC
5312	BACE	CCACCCAGACTTGGGGGCAGGCGCCA
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5314	BACE	ACCATGAAGTGAAAATGCCACA
5315	BACE	ACTCACTGCATTTGGGGCCTTT
5316	BACE	ACTCACTGCATTTGGGGCCTTTCCCA
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5326	BACE	CACTCACTGCATTTGGGGCCTTTCCCA
5327	BACE	CACCACCCAGACTTGGGGGCAG
5328	BACE	TTCAAAGCTCTAATAGAGTCACAGCTT
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5339	BACE	CCTTCAGTATCAAGGCTGCCTGGAGA
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5344	BACE	TCATGACAGCTACTAACCTGGAGA
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5389	BAX	TGTGTTTTTCCTCCATAAATTAT
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5393	BAX	TCACCATCTGGAAGAAGATGGG
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5399	BCHE	CTCCTTGCAAACTTTACCATCTTTGTTGCAG
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5402	BCHE	GCCTGGTTCAATTTCTTTCTTTCCTTA
5403	BLMH	GAGGGAGGGTGGCCTAAGAGTTGAGC
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5408	BLMH	GCCAAAGTTATGCAAGGGACTGTGTG
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5411	CASP3	CTCCAGGCCTCAGCAGGTGCG
5412	CASP3	CTACCTCAAACTTCCAGTCA
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5433	CASP3	GCATGGTCAAAGGCTCAA
5434	CASP3	AAACTGTTGATTATTAGCCAG
5435	CASP3	AAAGCAATAAATGAATGGGCTG
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5437	CAV1	AACCTCAACTGCCTACTCCAA
5438	CAV1	GCCTCCAAGGAGGGGCTGTAAAA

5439	CAV1	GAGGGGCTGTAAAATGGAGGC
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5441	CAV1	GAACTCAAACTGAGGAATTTCA
5442	CAV1	CTTTTAAACTGTGTACATAACT
5443	CAV1	CCTTTTAATTTTCCTGGTGCCAA
5444	CAV1	CAGCAAACTCTTTTCCCACTGT
5445	CAV1	CAGCCCAGGGAAACCTCCTC
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5452	CAV1	TGCTGCCAGAACCTTGGGGA
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5454	CAV1	GGTCATTTTATGTTAAGGGAA
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5456	CAV1	AACCTGTTACCTACTTTGACTTT
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5458	CAV1	ACAGAGTCTGGTGAAGCTCA
5459	CAV1	AGAAAACATAATCTTCTGCCT
5460	CAV1	AGCCTGCACAATAAAAATGTT
5461	CAV1	AGATGGGGGAGGAGGCAGTAATAA
5462	CAV1	ATACAAGATCTTCCTTCCTC
5463	CAV1	TTCAGCAAACTCTTTTCCCACTG
5464	CAV1	TTAGAAAACATAATCTTCTGCCT
5465	CAV1	TTTTCAGCAAACTCTTTTCCCA
5466	CAV1	GCTTTTTATTCCTCCTGCTCATA
5467	CAV1	GATTGCTGAAATTTTATATGCTTACT
5468	CAV1	GAGGCTCCCTCCCAGCCACCGCCCCCC
5469	CAV1	GAAGTATTTTGCTGGAATAAG
5470	CAV1	CTGCCAGAACCTTGGGGATGTG
5471	CAV1	CTGCCTACTCCAAAATGTTGGTCA
5472	CAV1	CCTTAAAGCACAGCCCAGGG
5473	CAV1	CCCTGCTCAGTAAAGCACTTG
5474	CAV1	CCTCCCAGCCACCGCCCCCCTC
5475	CAV2	CGGGACGGCCGGGCTGGGAGCTGG
5476	CAV2	CTTTGGAAATAAAAGATAAAAG
5477	CAV2	GCACTGTTCTGATTATGTAAGCATTTG
5478	CAV2	GCACTGTTCTGATTATGTAAGCATTTGTACAT
5479	CAV2	TCAGATTGCTTAAAAGCATTTTT
5480	CAV2	TACTGTAATACTTCTTTGTTA
5481	CAV2	AGTATACATTTTATAATGATGAACTT
5482	CAV2	ACCACTGTTCTGTTCATTTCCTA
5483	CAV2	ACTGTAATACTTCTTTGTTA
5484	CAV2	AAGATGTTTCATTTTACTGTATAT
5485	CAV2	AACATAAAAGCACCACTGTTCTGTT
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5487	CAV2	AGGGACATTTCTATAAAAATACTAC
5488	CAV2	ATGATCCTGGAAATTGCAG

5489	CAV2	CAGATTGCTTAAAAGCATTTT
5490	CAV2	CAGATTGCTTAAAAGCATTTTTATTAT
5491	CAV2	CCCATTAAAAATGAGATTTCTTA
5492	CAV2	CTTGGACCCCAGGTCTGGAG
5493	CAV2	GATTGGGATACTGTAATACT
5494	CAV2	AACATAAAAGCACCACTGTTCTGTTC
5495	CHAT	GCCTCAAGGGGTGCGGCCCTCTCAG
5496	CHAT	GCGTCAGGCCCAGCGCACAGCCTG
5497	CHAT	GCTCAGCCTGTCAGCTGAGCACGGGCG
5498	CHAT	CAAGACGCCCATCCTGGAAAAGGTCCC
5499	CHAT	CATCCCTGCACCAGGACTCACCAAGA
5500	CHAT	TGGGGAAGTGCGGTGACTGGGAAATGC
5501	CHAT	AGGCAGCAGAGCCGAGGAGAGCAGGT
5502	CHAT	GGTGACTGGGAAATGCTGAG
5503	CHAT	GTCCGACCTCTGGAAATGT
5504	CHAT	CCAGCGCACAGCCTGGGCAG
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5506	CHAT	GCACAGCCTGGGCAGCTCAGCCTG
5507	CHAT	GAGCTAGGGGCAGGAGGCATG
5508	CHAT	GAGAAAGGAGTAGGAGCCTAGCA
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5511	CHAT	CGCGTCAGGCCCAGCGCACAGCCTG
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5535	CNTF	GAGAAAACAGGCTCACAG
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5537	CNTF	AAACCCAGCTGACTTGTTTCCT
5538	CNTF	AGACAACAGGCATTTTCTTTCTTT

5539	CNTF	ACTGAGTTTGAACACAGATC
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5586	CRYAB	TGCCCTTTCTTGAA
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5588	CTNND2	ACAAAAGCGGAAGATGCTGCAGT

5589	CTNND2	ACAAAGTGCTTTTTCACTGCCTA
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5664	DHCR24	TTACAGCCACAGGCACTGTG
5665	DHCR24	TATTACTGAAAGGGAGGGGTGGAGATG
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5668	DHCR24	TGGCGGCAGTGACAGGAGGCGC
5669	DHCR24	TGCTTTCCTAGATCCACACTTT
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5811	TMPRSS3	CCAGGCTGGAGTGCAGTGG
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5814	CASP2	ACGATCTCAGCTCACTGCAAGCT
5814	FHL2	ACGATCTCAGCTCACTGCAAGCT
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5815	EIF5A2	AGCCTCCCAAGTAGCTGGGACT
5815	FANCE	AGCCTCCCAAGTAGCTGGGACT
5815	FHL2	AGCCTCCCAAGTAGCTGGGACT
5815	GRAF	AGCCTCCCAAGTAGCTGGGACT
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5815	RGS9	AGCCTCCCAAGTAGCTGGGACT
5815	UGDH	AGCCTCCCAAGTAGCTGGGACT
5816	FHL2	AGCTCACTGCAAGCTCTACCTC
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5817	VIPR2	TGTCGCCCAGGCTGGAGTGCAG
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5821	F3	GCCCAGGCTGGAGTGCAGT
5821	FHL2	GCCCAGGCTGGAGTGCAGT
5821	FUT1	GCCCAGGCTGGAGTGCAGT
5821	GPR4	GCCCAGGCTGGAGTGCAGT
5821	GRAF	GCCCAGGCTGGAGTGCAGT
5821	GRINL1A	GCCCAGGCTGGAGTGCAGT
5821	INMT	GCCCAGGCTGGAGTGCAGT
5821	KCNJ11	GCCCAGGCTGGAGTGCAGT
5821	LYZ	GCCCAGGCTGGAGTGCAGT
5821	MEFV	GCCCAGGCTGGAGTGCAGT
5821	NCOA6	GCCCAGGCTGGAGTGCAGT
5821	NCOA6IP	GCCCAGGCTGGAGTGCAGT
5821	ORC1L	GCCCAGGCTGGAGTGCAGT
5821	PAICS	GCCCAGGCTGGAGTGCAGT
5821	PCDHA9	GCCCAGGCTGGAGTGCAGT
5821	PCDHB9	GCCCAGGCTGGAGTGCAGT
5821	PDZK1	GCCCAGGCTGGAGTGCAGT
5821	PER2	GCCCAGGCTGGAGTGCAGT
5821	PIGR	GCCCAGGCTGGAGTGCAGT
5821	PIK3CD	GCCCAGGCTGGAGTGCAGT
5821	PON1	GCCCAGGCTGGAGTGCAGT
5821	PPP1R12B	GCCCAGGCTGGAGTGCAGT
5821	PRND	GCCCAGGCTGGAGTGCAGT
5821	SERPINB9	GCCCAGGCTGGAGTGCAGT
5821	SLC13A1	GCCCAGGCTGGAGTGCAGT
5821	SMAC	GCCCAGGCTGGAGTGCAGT
5821	SS18	GCCCAGGCTGGAGTGCAGT
5821	STAU	GCCCAGGCTGGAGTGCAGT
5821	TAPBP	GCCCAGGCTGGAGTGCAGT
5821	TERF1	GCCCAGGCTGGAGTGCAGT
5821	TMC1	GCCCAGGCTGGAGTGCAGT
5821	TMPRSS3	GCCCAGGCTGGAGTGCAGT
5821	TNFAIP2	GCCCAGGCTGGAGTGCAGT
5821	TRPV1	GCCCAGGCTGGAGTGCAGT
5821	UGDH	GCCCAGGCTGGAGTGCAGT
5821	VIPR2	GCCCAGGCTGGAGTGCAGT
5821	YES1	GCCCAGGCTGGAGTGCAGT
5822	ATP7A	GCCCAGGCTGGAGTGCAGTGGC
5822	BCL10	GCCCAGGCTGGAGTGCAGTGGC
5822	CASP8	GCCCAGGCTGGAGTGCAGTGGC
5822	CNN2	GCCCAGGCTGGAGTGCAGTGGC
5822	CTSS	GCCCAGGCTGGAGTGCAGTGGC
5822	CYP2B6	GCCCAGGCTGGAGTGCAGTGGC
5822	EVC	GCCCAGGCTGGAGTGCAGTGGC
5822	F2RL3	GCCCAGGCTGGAGTGCAGTGGC
5822	FHL2	GCCCAGGCTGGAGTGCAGTGGC
5822	FUT1	GCCCAGGCTGGAGTGCAGTGGC

5822	GRAF	GCCCAGGCTGGAGTGCAGTGGC
5822	GRINL1A	GCCCAGGCTGGAGTGCAGTGGC
5822	INMT	GCCCAGGCTGGAGTGCAGTGGC
5822	KCNJ11	GCCCAGGCTGGAGTGCAGTGGC
5822	LYZ	GCCCAGGCTGGAGTGCAGTGGC
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5822	ORC1L	GCCCAGGCTGGAGTGCAGTGGC
5822	PAICS	GCCCAGGCTGGAGTGCAGTGGC
5822	PCDHB9	GCCCAGGCTGGAGTGCAGTGGC
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5822	PIGR	GCCCAGGCTGGAGTGCAGTGGC
5822	PRND	GCCCAGGCTGGAGTGCAGTGGC
5822	SERPINB9	GCCCAGGCTGGAGTGCAGTGGC
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5822	SMAC	GCCCAGGCTGGAGTGCAGTGGC
5822	SS18	GCCCAGGCTGGAGTGCAGTGGC
5822	STAU	GCCCAGGCTGGAGTGCAGTGGC
5822	TAPBP	GCCCAGGCTGGAGTGCAGTGGC
5822	TERF1	GCCCAGGCTGGAGTGCAGTGGC
5822	TMPRSS3	GCCCAGGCTGGAGTGCAGTGGC
5822	TNFAIP2	GCCCAGGCTGGAGTGCAGTGGC
5822	VIPR2	GCCCAGGCTGGAGTGCAGTGGC
5822	YES1	GCCCAGGCTGGAGTGCAGTGGC
5823	FHL2	GCACGGCAACCGCGAGGCCT
5824	FHL2	AACCAAGATTATGTGACTTGCA
5825	FHL2	TTCAACACAGAGAAGTTGCTGCT
5826	ALDH1B1	TGTCGCCCAGGCTGGAGTGCAGT
5826	CASP8	TGTCGCCCAGGCTGGAGTGCAGT
5826	EHD2	TGTCGCCCAGGCTGGAGTGCAGT
5826	FHL2	TGTCGCCCAGGCTGGAGTGCAGT
5826	GRINL1A	TGTCGCCCAGGCTGGAGTGCAGT
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5829	STAU	TCGCCCAGGCTGGAGTGCAGTG
5829	TAPBP	TCGCCCAGGCTGGAGTGCAGTG
5829	VIPR2	TCGCCCAGGCTGGAGTGCAGTG
5830	FHL2	TCTGTAACCTCCCGTTGCGTC
5831	CASP2	AGTGGCACGATCTCAGCTCACT
5831	FHL2	AGTGGCACGATCTCAGCTCACT
5831	MEFV	AGTGGCACGATCTCAGCTCACT
5832	FCAR	AGGCTGGAGTGCAGTGGCACGAT
5832	FHL2	AGGCTGGAGTGCAGTGGCACGAT
5832	GRM6	AGGCTGGAGTGCAGTGGCACGAT
5832	MEFV	AGGCTGGAGTGCAGTGGCACGAT
5832	ORC1L	AGGCTGGAGTGCAGTGGCACGAT
5832	TAPBP	AGGCTGGAGTGCAGTGGCACGAT
5832	ZNF264	AGGCTGGAGTGCAGTGGCACGAT
5833	FHL2	TTTCTCTCACTGTCTATTTA
5834	FHL2	AGCTCACTGCAAGCTCTACCTCTTGGT
5835	FHL2	TTTGTCGCCCAGGCTGGAGTGC
5835	NF2	TTTGTCGCCCAGGCTGGAGTGC
5835	SPN	TTTGTCGCCCAGGCTGGAGTGC
5836	FHL2	TTTGTCGCCCAGGCTGGAGTGCAGTG
5837	ALDH1B1	CGCCCAGGCTGGAGTGCAGT
5837	BCL10	CGCCCAGGCTGGAGTGCAGT
5837	CASP8	CGCCCAGGCTGGAGTGCAGT
5837	EHD2	CGCCCAGGCTGGAGTGCAGT
5837	FHL2	CGCCCAGGCTGGAGTGCAGT
5837	GRINL1A	CGCCCAGGCTGGAGTGCAGT
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5837	KCNJ11	CGCCCAGGCTGGAGTGCAGT
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5837	NCOA6	CGCCCAGGCTGGAGTGCAGT
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5837	PAICS	CGCCCAGGCTGGAGTGCAGT
5837	PCDHB9	CGCCCAGGCTGGAGTGCAGT
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5838	CASP8	CGCCCAGGCTGGAGTGCAGTG
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5838	FHL2	CGCCCAGGCTGGAGTGCAGTG
5838	GRINL1A	CGCCCAGGCTGGAGTGCAGTG
5838	INMT	CGCCCAGGCTGGAGTGCAGTG
5838	KCNJ11	CGCCCAGGCTGGAGTGCAGTG
5838	LYZ	CGCCCAGGCTGGAGTGCAGTG
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5838	ORC1L	CGCCCAGGCTGGAGTGCAGTG
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5838	STAU	CGCCCAGGCTGGAGTGCAGTG
5838	TAPBP	CGCCCAGGCTGGAGTGCAGTG
5838	VIPR2	CGCCCAGGCTGGAGTGCAGTG
5838	YES1	CGCCCAGGCTGGAGTGCAGTG
5839	FHL2	CGCCCCGGAGGGAGGCCGAGGG
5840	FHL2	CTGAAAACTGTGTCTTCCTGGAGACT
5841	FHL2	CCCTCCAGCCCCGTCCGGGAGTCCCC
5842	A1BG	CCCAGGCTGGAGTGCAGTG
5842	ALDH1B1	CCCAGGCTGGAGTGCAGTG
5842	ALOX15	CCCAGGCTGGAGTGCAGTG
5842	APAF1	CCCAGGCTGGAGTGCAGTG
5842	APPL	CCCAGGCTGGAGTGCAGTG
5842	AQP6	CCCAGGCTGGAGTGCAGTG
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5842	BCL10	CCCAGGCTGGAGTGCAGTG
5842	CASP8	CCCAGGCTGGAGTGCAGTG
5842	CLECSF12	CCCAGGCTGGAGTGCAGTG
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5842	CSE1L	CCCAGGCTGGAGTGCAGTG
5842	CSNK2A2	CCCAGGCTGGAGTGCAGTG
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5842	HUNK	CCCAGGCTGGAGTGCAGTG
5842	ICAM1	CCCAGGCTGGAGTGCAGTG
5842	INMT	CCCAGGCTGGAGTGCAGTG
5842	KCNJ11	CCCAGGCTGGAGTGCAGTG
5842	LYZ	CCCAGGCTGGAGTGCAGTG
5842	MDM2	CCCAGGCTGGAGTGCAGTG
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5842	NQO1	CCCAGGCTGGAGTGCAGTG
5842	ORC1L	CCCAGGCTGGAGTGCAGTG
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5842	PCDHB16	CCCAGGCTGGAGTGCAGTG
5842	PCDHB9	CCCAGGCTGGAGTGCAGTG
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5842	TMPRSS3	CCCAGGCTGGAGTGCAGTG
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5842	VHL	CCCAGGCTGGAGTGCAGTG
5842	VIPR2	CCCAGGCTGGAGTGCAGTG
5842	XRCC2	CCCAGGCTGGAGTGCAGTG
5842	YES1	CCCAGGCTGGAGTGCAGTG
5842	ZNF264	CCCAGGCTGGAGTGCAGTG
5843	APOL1	CCCAAGTAGCTGGGACTACAGG
5843	EIF5A2	CCCAAGTAGCTGGGACTACAGG
5843	FHL2	CCCAAGTAGCTGGGACTACAGG
5843	PIGR	CCCAAGTAGCTGGGACTACAGG
5843	RGS9	CCCAAGTAGCTGGGACTACAGG

5843	UGDH	CCCAAGTAGCTGGGACTACAGG
5844	FHL2	CCATTCTCCTGCCCCAGCCTCCC
5845	CASP2	CCAAGTAGCTGGGACTACAGGT
5845	EIF5A2	CCAAGTAGCTGGGACTACAGGT
5845	FHL2	CCAAGTAGCTGGGACTACAGGT
5845	RGS9	CCAAGTAGCTGGGACTACAGGT
5846	FHL2	CAGGCTGGAGTGCAGTGGCACG
5846	MEFV	CAGGCTGGAGTGCAGTGGCACG
5846	ORC1L	CAGGCTGGAGTGCAGTGGCACG
5846	TAPBP	CAGGCTGGAGTGCAGTGGCACG
5846	ZNF264	CAGGCTGGAGTGCAGTGGCACG
5847	FHL2	CAGGCTGGAGTGCAGTGGCACGATCTC
5847	MEFV	CAGGCTGGAGTGCAGTGGCACGATCTC
5847	TAPBP	CAGGCTGGAGTGCAGTGGCACGATCTC
5848	FHL2	TACAGGTTGCTGAAAAGCCAGGA
5849	FHL2	TCACTGCAAGCTCTACCTCTT
5850	FHL2	CCTTCTGGTTTCTTCCAGCC
5851	FHL2	CTCACACACAGATTTTTATGTTTTCT
5852	ALDH1B1	CGCCCAGGCTGGAGTGCAGTGG
5852	BCL10	CGCCCAGGCTGGAGTGCAGTGG
5852	CASP8	CGCCCAGGCTGGAGTGCAGTGG
5852	EHD2	CGCCCAGGCTGGAGTGCAGTGG
5852	FHL2	CGCCCAGGCTGGAGTGCAGTGG
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5852	STAU	CGCCCAGGCTGGAGTGCAGTGG
5852	TAPBP	CGCCCAGGCTGGAGTGCAGTGG
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5852	YES1	CGCCCAGGCTGGAGTGCAGTGG
5853	FHL2	CTTTCTCTCACTGTCTATTTA
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5854	ATP7A	CCCAGGCTGGAGTGCAGTGG
5854	AXL	CCCAGGCTGGAGTGCAGTGG
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5854	VHL	CCCAGGCTGGAGTGCAGTGG
5855	FHL2	CCCAGCCTCCCAAGTAGCTGGG
5856	FHL2	GCCCAGGCTGGAGTGCAGTGGCACG
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5856	ORC1L	GCCCAGGCTGGAGTGCAGTGGCACG
5856	TAPBP	GCCCAGGCTGGAGTGCAGTGGCACG
5857	FHL2	GCTGCTTGTGATCTCA
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5859	FHL2	GCTCACTGCAAGCTCTACCTCTTGGTTCACGC
5860	FHL2	GGAGAGGGGAGCAGAGCCGGA
5861	ALDH1B1	GTCGCCCAGGCTGGAGTGCAGT
5861	CASP8	GTCGCCCAGGCTGGAGTGCAGT
5861	EHD2	GTCGCCCAGGCTGGAGTGCAGT
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5862	LYZ	GTCGCCCAGGCTGGAGTGCAGTG
5862	ORC1L	GTCGCCCAGGCTGGAGTGCAGTG
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5862	PIGR	GTCGCCCAGGCTGGAGTGCAGTG
5862	SERPINB9	GTCGCCCAGGCTGGAGTGCAGTG
5862	SLC13A1	GTCGCCCAGGCTGGAGTGCAGTG
5862	SMAC	GTCGCCCAGGCTGGAGTGCAGTG
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5862	STAU	GTCGCCCAGGCTGGAGTGCAGTG
5862	TAPBP	GTCGCCCAGGCTGGAGTGCAGTG
5862	VIPR2	GTCGCCCAGGCTGGAGTGCAGTG
5863	FLNB	GGGCTGAGAAGATCCTGAGTAC
5864	FLNB	GGGTAAAAGCCCACCCTACAGAAA
5865	FLNB	GCTGGCTTTGGAATGAGGTT
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5867	FLNB	CTGAGCTGCTGGTTCACTCT
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5882	FLNB	GCAGTTTCCCACTTGCCAAA
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5892	FLNB	CAAAGCCCTCCAGCCTGTTTGTGG
5893	FLNB	AGAAATTCTGCAGTGGC
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5895	FLNB	AATGGTTGGGGGAGAGAAGGGCAG
5896	FLNB	CAGTGTCCGTGTTAATGTATTTGGCT
5897	FLNB	CCAGCCCTTCATCAGCCTGGGCAG
5898	FLNB	GGGAGAGAAGGGCAGCAGCTTA
5899	FLNB	GTCATTTGGCAAAGGAGATGACTTA
5900	FLNB	TCCTAGACTGGACTCTTGAGGGA
5901	FOS	TCTGACATTAACAGTTTTCCAT
5902	FOS	GTGTCTCTTTTCTCTTTCTCCTTA
5903	FOS	CAGGCCTGGGTCTGTGTCTCT

5904	FOS	ACACTTCAGAGAGCTGGTAGTTAGTAG
5905	FOS	TGTTCTGACATTAACAGTTTTCCATGA
5906	FOS	GCCCGAGCTGGTGCATTACAGA
5907	FOS	GAGAAACACATCTTCCCTAGAGGGTT
5908	FOS	GAGTGTGTATTGTTCCCAGTGAC
5909	FOS	TGCTTCACAGCGCCCACCTGTCT
5910	FOS	TGAGCCAGGCCTGGGTCTGTG
5911	FOS	AGGGTTCCTGTAGACCTAGGGAG
5912	FOS	AGGCAGCCGGCACCCACAAGTGCCACT
5913	FOS	ATTTAAGCATTGTTTGCTTATT
5914	FOS	TTCCTGGCAATAGTGTGTTCTGA
5915	FOS	AGCAGTGACCGTGCTCCTACCCAG
5916	FOS	CTTTTCTCTTTCTCCTTAGTC
5917	FOS	GAATGTTCTGACATTAACAGTT
5918	FOS	CCGGCACCCACAAGTGCCACTG
5919	FOS	CAATGTTCATTGTAATGTTACTG
5920	FOS	CACACCAGGCTGTGGGCCTCAAG
5921	FOS	TATCTGTGCGTGAAACACAC
5922	FOS	GGTCTGTGTCTCTTTTCTCTTTCT
5923	FPRL1	GCACCCACTGCATTTGCAGCCT
5924	FPRL1	GCATTTTCTACATGTATTA
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5926	FPRL1	TAATGCCAGTTCCAGCTTCAT
5927	FPRL1	CATTCCTGCCTGACAGGACCA
5928	FPRL1	CCTACCCTAATGCCAGTTCCAGC
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5930	FPRL1	GACACAAAATATTGGAAGAGTGGCA
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5932	FPRL1	ATGGATTTGCACCCACTGCATTTGC
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5935	FPRL1	ACACTCCTAAATTTAGAGTCAA
5936	FPRL1	AATAAACCACACTTAGTCCTGAT
5937	FPRL1	CACAGGTTGTAGAGATAGAGATGG
5938	FPRL1	AGAGGTGGGGAACAAGTAAAAGCT
5939	FPRL1	CCACTGCATTTGCAGCCTTGAG
5940	FPRL1	CCACTGCATTTGCAGCCTTGAGGTCAT
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5942	FPRL1	CCCACTGCATTTGCAGCCTTGAGG
5943	FPRL1	GTTATATCAGACTGGAGCACCAGAGAGA
5944	FPRL1	TCTCTGAAAAGGAATTGA
5945	FPRL1	TGCACCCACTGCATTTGCAGCCT
5946	FPRL1	TAGGTTTTTTATAGCTATTAAAAA
5947	GAL	AGCCTCCTGGGCATGTTTGTCT
5948	GAL	TGTTTGTCTGTGTGCTGTAAC
5949	GAL	CTCCTGGGCATGTTTGTCTGTGTGCT
5950	GAL	CCTGTTCTCTTTGCCTTG
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5953	GFAP	CTCTTCCTTGCTGTGTCATACCA

5954	GFAP	CTGCTGCTGCTGCTGCTAATCTTC
5955	GFAP	CCCTCCCTCCTCTGTCCCT
5956	GFAP	GCTGGGAGGGATAGAGGGGGGCTGC
5957	GFAP	GCTGCCTGGCCCCCAGCTGT
5958	GFAP	GCTTGCGTTAGAATGAGGAGGA
5959	GFAP	GCTTTGACTGAGCAGACTGGTGAG
5960	GFAP	GGAGAGGGATGAGGTGCTGGGAGGGAT
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5962	GFAP	GGCTGACCTTGAACTCCTGGGCTC
5963	GFAP	GTAAAACTGAGGCACGAGCAAAGTGAA
5964	GFAP	GGGGGATCTGTTGTGTACGTGGAGAGG
5965	GFAP	TAGAGATGGAGGAGGAGGC
5966	GFAP	TCAGCACTTGGGGGATCTGTTGT
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5968	GFAP	CTCCGCCTCTGCTGGCACATTTCC
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6285	IAPP	CCAGGAGGCGGAGGTTGCAGTGA
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6285	NPHS1	CCAGGAGGCGGAGGTTGCAGTGA
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6289	IAPP	ATTGCACCACTGCACTCCAGCCT
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6293	IAPP	TGTGCCTGTAATCCCAGCTACTC
6294	IAPP	TGCCTGTAGTCCCGGCACTTTG
6295	ALDH3B1	TGCCTGTAATCCCAGCTACTCAG
6295	CARKL	TGCCTGTAATCCCAGCTACTCAG
6295	IAPP	TGCCTGTAATCCCAGCTACTCAG
6295	VPS41	TGCCTGTAATCCCAGCTACTCAG
6296	ALDH3B1	TGCCTGTAATCCCAGCTACTCAGGAGG

6296	CARKL	TGCCTGTAATCCCAGCTACTCAGGAGG
6296	IAPP	TGCCTGTAATCCCAGCTACTCAGGAGG
6296	VPS41	TGCCTGTAATCCCAGCTACTCAGGAGG
6297	IAPP	TGGTGACATGTGCCTGTAATCCCAG
6298	IAPP	TGTCTTCAATTAAAAGACCACAGACTT
6299	IAPP	TGACCAACGTGGTGAAACCCTGTCTCT
6300	IAPP	TCCAGCCTGGGTGGCAGAGTG
6301	DSC1	CAGGAGGCGGAGGTTGCAGTG
6301	EGFL4	CAGGAGGCGGAGGTTGCAGTG
6301	IAPP	CAGGAGGCGGAGGTTGCAGTG
6301	LUZP1	CAGGAGGCGGAGGTTGCAGTG
6301	NPHS1	CAGGAGGCGGAGGTTGCAGTG
6301	NT5C2	CAGGAGGCGGAGGTTGCAGTG
6301	SUV39H2	CAGGAGGCGGAGGTTGCAGTG
6302	DSC1	CAGGAGGCGGAGGTTGCAGTGA
6302	EGFL4	CAGGAGGCGGAGGTTGCAGTGA
6302	IAPP	CAGGAGGCGGAGGTTGCAGTGA
6302	LUZP1	CAGGAGGCGGAGGTTGCAGTGA
6302	NPHS1	CAGGAGGCGGAGGTTGCAGTGA
6302	NT5C2	CAGGAGGCGGAGGTTGCAGTGA
6302	SUV39H2	CAGGAGGCGGAGGTTGCAGTGA
6303	ADAM33	CCACTGCACTCCAGCCTGGGTG
6303	ADCY2	CCACTGCACTCCAGCCTGGGTG
6303	AK1	CCACTGCACTCCAGCCTGGGTG
6303	APOL1	CCACTGCACTCCAGCCTGGGTG
6303	CTSS	CCACTGCACTCCAGCCTGGGTG
6303	CYP4F3	CCACTGCACTCCAGCCTGGGTG
6303	DBT	CCACTGCACTCCAGCCTGGGTG
6303	FGFR1	CCACTGCACTCCAGCCTGGGTG
6303	GCNT2	CCACTGCACTCCAGCCTGGGTG
6303	GTF2F1	CCACTGCACTCCAGCCTGGGTG
6303	IAPP	CCACTGCACTCCAGCCTGGGTG
6303	IL6R	CCACTGCACTCCAGCCTGGGTG
6303	IRAK4	CCACTGCACTCCAGCCTGGGTG
6303	KCNE3	CCACTGCACTCCAGCCTGGGTG
6303	MDM4	CCACTGCACTCCAGCCTGGGTG
6303	OPTN	CCACTGCACTCCAGCCTGGGTG
6303	PCDH11X	CCACTGCACTCCAGCCTGGGTG
6303	PCDH11Y	CCACTGCACTCCAGCCTGGGTG
6303	PPP1R12B	CCACTGCACTCCAGCCTGGGTG
6303	SULT2A1	CCACTGCACTCCAGCCTGGGTG
6303	TBX1	CCACTGCACTCCAGCCTGGGTG
6303	TEM7	CCACTGCACTCCAGCCTGGGTG
6303	USP14	CCACTGCACTCCAGCCTGGGTG
6303	WIG1	CCACTGCACTCCAGCCTGGGTG
6304	DSC1	CCAGGAGGCGGAGGTTGCAGTG
6304	EGFL4	CCAGGAGGCGGAGGTTGCAGTG
6304	IAPP	CCAGGAGGCGGAGGTTGCAGTG
6304	LUZP1	CCAGGAGGCGGAGGTTGCAGTG
6304	NPHS1	CCAGGAGGCGGAGGTTGCAGTG

6304	NT5C2	CCAGGAGGCGGAGGTTGCAGTG
6305	IAPP	TAAGGACAATGTAACTCTA
6306	IAPP	AAGCAAATTAGTAATTGTCAAT
6307	BRCA1	ACCAGCCTGACCAACGTGGTGA
6307	IAPP	ACCAGCCTGACCAACGTGGTGA
6308	IAPP	ACTCCAGCCTGGGTGGCAGAGT
6309	IAPP	ACCTATATCTCAGTGGCACA
6310	IAPP	AGAAAATTAGTAATTGTAAGT
6311	DBT	CACTGCACTCCAGCCTGGGTGG
6311	IAPP	CACTGCACTCCAGCCTGGGTGG
6312	ADAM33	CACCACTGCACTCCAGCCTGGG
6312	CTSS	CACCACTGCACTCCAGCCTGGG
6312	DBT	CACCACTGCACTCCAGCCTGGG
6312	IAPP	CACCACTGCACTCCAGCCTGGG
6312	IL2RA	CACCACTGCACTCCAGCCTGGG
6312	IL6R	CACCACTGCACTCCAGCCTGGG
6312	KCNA7	CACCACTGCACTCCAGCCTGGG
6312	MAFF	CACCACTGCACTCCAGCCTGGG
6312	NFKBIL2	CACCACTGCACTCCAGCCTGGG
6312	OPTN	CACCACTGCACTCCAGCCTGGG
6312	TRIM14	CACCACTGCACTCCAGCCTGGG
6312	USP14	CACCACTGCACTCCAGCCTGGG
6312	ZNF264	CACCACTGCACTCCAGCCTGGG
6313	ATM	CACAAGGTCAGGAGTTCGAGAC
6313	EGFL5	CACAAGGTCAGGAGTTCGAGAC
6313	IAPP	CACAAGGTCAGGAGTTCGAGAC
6314	IAPP	ATGGGCATCCTGAAGCTGCAAGT
6315	IAPP	AGGCCGAGGCAGGCAGATCACA
6316	BRCA1	AGACCAGCCTGACCAACGTGGT
6316	IAPP	AGACCAGCCTGACCAACGTGGT
6317	IAPP	AGATTGCACCACTGCACTCCAGCCTGGG
6317	IL6R	AGATTGCACCACTGCACTCCAGCCTGGG
6317	TRIM14	AGATTGCACCACTGCACTCCAGCCTGGG
6318	CA12	GAACCCAGGAGGCGGAGGTTGC
6318	EGFL4	GAACCCAGGAGGCGGAGGTTGC
6318	IAPP	GAACCCAGGAGGCGGAGGTTGC
6318	LUZP1	GAACCCAGGAGGCGGAGGTTGC
6318	NPHS1	GAACCCAGGAGGCGGAGGTTGC
6318	NT5C2	GAACCCAGGAGGCGGAGGTTGC
6319	IAPP	CCTGTAGTCCCGGCACTTTGG
6320	ALDH3B1	CTAAGGCAGGAGAATCGCTTGA
6320	IAPP	CTAAGGCAGGAGAATCGCTTGA
6321	EGFL4	CCCAGGAGGCGGAGGTTGCAGTG
6321	IAPP	CCCAGGAGGCGGAGGTTGCAGTG
6321	LUZP1	CCCAGGAGGCGGAGGTTGCAGTG
6321	NPHS1	CCCAGGAGGCGGAGGTTGCAGTG
6321	NT5C2	CCCAGGAGGCGGAGGTTGCAGTG
6322	ALDH3B1	GCCTGTAATCCCAGCTACTCAGG
6322	CARKL	GCCTGTAATCCCAGCTACTCAGG
6322	CREB1	GCCTGTAATCCCAGCTACTCAGG

6322	CTMP	GCCTGTAATCCCAGCTACTCAGG
6322	DAPP1	GCCTGTAATCCCAGCTACTCAGG
6322	F2RL3	GCCTGTAATCCCAGCTACTCAGG
6322	IAPP	GCCTGTAATCCCAGCTACTCAGG
6322	MTNR1A	GCCTGTAATCCCAGCTACTCAGG
6322	VDR	GCCTGTAATCCCAGCTACTCAGG
6322	VPS41	GCCTGTAATCCCAGCTACTCAGG
6323	IAPP	GCCTGTAGTCCCGGCACTTTGG
6324	BRCA1	GACCAGCCTGACCAACGTGGTG
6324	IAPP	GACCAGCCTGACCAACGTGGTG
6325	IAPP	GTGGCTTTCAGCAAACCTCA
6326	IDE	AGAGCCTAAGAAAATCATCTTGGCCAC
6327	IDE	CGGTGATCCCGGCGACTGCGCTGG
6328	IDE	AAGAAAATCATCTTGGCCACTTT
6329	IGF1	AAGGAGCAACCAAAATGTCA
6330	IGF1	AATATTATCTTTCTTAACTTTTTCC
6331	IGF1	AATTCAGAGCAGATTAGAGCCTG
6332	IGF1	AATTGCTGGGATTACAGGCAT
6333	IGF1	AAATTGCTGGGATTACAGGCAT
6334	IGF1	AACCGGAGCTGAATTACCTTTCAC
6335	IGF1	AACCGGAGCTGAATTACCTTTCACTTT
6336	IGF1	AACTCTCAGTCCAACATTATTT
6337	IGF1	AAACAGTATGTAAAACTCTGTTTT
6338	IGF1	GCTTTATTTTTCCACATCATGCT
6339	IGF1	GGAACAATGCTTTTGTTTTTTA
6340	IGF1	GGACTCAAACTCCTGACCTTGT
6341	IGF1	GGCAAGTCACTTCACCTCTCTG
6342	IGF1	GGCAATATAAGGAAAGTGATCCAAA
6343	ATP8B2	GCTCACTGCAACCTCCACCTCC
6343	CDC2L2	GCTCACTGCAACCTCCACCTCC
6343	CSNK2A2	GCTCACTGCAACCTCCACCTCC
6343	DSCR3	GCTCACTGCAACCTCCACCTCC
6343	EHD2	GCTCACTGCAACCTCCACCTCC
6343	FEZ1	GCTCACTGCAACCTCCACCTCC
6343	IGF1	GCTCACTGCAACCTCCACCTCC
6343	LYZ	GCTCACTGCAACCTCCACCTCC
6343	MEFV	GCTCACTGCAACCTCCACCTCC
6343	MPL	GCTCACTGCAACCTCCACCTCC
6343	NUMA1	GCTCACTGCAACCTCCACCTCC
6343	PDCL	GCTCACTGCAACCTCCACCTCC
6343	PDE6B	GCTCACTGCAACCTCCACCTCC
6343	PPP1R12B	GCTCACTGCAACCTCCACCTCC
6343	RPH3AL	GCTCACTGCAACCTCCACCTCC
6343	SEDL	GCTCACTGCAACCTCCACCTCC
6343	SEPN1	GCTCACTGCAACCTCCACCTCC
6343	SLC14A2	GCTCACTGCAACCTCCACCTCC
6343	SNX15	GCTCACTGCAACCTCCACCTCC
6343	STAU	GCTCACTGCAACCTCCACCTCC
6343	TAT	GCTCACTGCAACCTCCACCTCC
6344	IGF1	GCTCCAGGGTTTCTGTTACTA

6345	IGF1	GCACTTGGGAGAAGGCTTAGAA
6346	IGF1	GCAGAAGGCTAGGAATTTTAGCAG
6347	IGF1	GACTCTGAAACCTCAAGCTGTCTACT
6348	IGF1	CGGGCTGTTTGTTTTACAGTGT
6349	IGF1	CTCAGCCTCCCAAATTGCTGGG
6349	PCDHB9	CTCAGCCTCCCAAATTGCTGGG
6350	IGF1	CTCTCCTCAGAAGAAAGAATCTTTCC
6351	IGF1	CTCTCAGTCCAACATTATTT
6352	IGF1	CTCATGTATTTTTATCACACTTATA
6353	IGF1	GAAAGAGATGGCTAACAATCTGTGA
6354	IGF1	CTCTGGATTTCCTTTTGCTTCA
6355	ADAMTS4	CTGAGTAGCTGGGATTACAGGC
6355	ADCY6	CTGAGTAGCTGGGATTACAGGC
6355	ATP8B2	CTGAGTAGCTGGGATTACAGGC
6355	CBFA2T2	CTGAGTAGCTGGGATTACAGGC
6355	CIAS1	CTGAGTAGCTGGGATTACAGGC
6355	IGF1	CTGAGTAGCTGGGATTACAGGC
6355	MLANA	CTGAGTAGCTGGGATTACAGGC
6355	PKNOX1	CTGAGTAGCTGGGATTACAGGC
6355	PPEF2	CTGAGTAGCTGGGATTACAGGC
6355	PTGES	CTGAGTAGCTGGGATTACAGGC
6355	SNAP23	CTGAGTAGCTGGGATTACAGGC
6355	TERF1	CTGAGTAGCTGGGATTACAGGC
6355	TRAF5	CTGAGTAGCTGGGATTACAGGC
6356	IGF1	CTTCACCTCTCTGTGCCTCAG
6357	IGF1	CTGTCCCCCAGGCTGGAGTGCAGT
6357	LZTS1	CTGTCCCCCAGGCTGGAGTGCAGT
6357	RPP30	CTGTCCCCCAGGCTGGAGTGCAGT
6358	IGF1	CTGTGCCTCAGTTTCCTCATCT
6359	IGF1	CCACCTCCTGGGTTTAAGCGAT
6360	IGF1	CCCAAATTGCTGGGATTACAGG
6361	IGF1	CCCTCTGCCTGTTTTCC
6362	IGF1	CCCCCAGGCTGGAGTGCAGTG
6362	LZTS1	CCCCCAGGCTGGAGTGCAGTG
6362	RPP30	CCCCCAGGCTGGAGTGCAGTG
6363	IGF1	CCCCCAGGCTGGAGTGCAGTGG
6363	LZTS1	CCCCCAGGCTGGAGTGCAGTGG
6363	RPP30	CCCCCAGGCTGGAGTGCAGTGG
6364	IGF1	CCAAATTGCTGGGATTACAGGC
6365	IGF1	CATCTGCCAGCTGTGTCAT
6366	IGF1	CATGGACTCACCACTGTGTG
6367	IGF1	CAGTTTTTCTCCCACTGGGTC
6368	IGF1	CATAATCCTCTCCAACTGGA
6369	AQP6	CAGGCTGGAGTGCAGTGGCATG
6369	CXCL16	CAGGCTGGAGTGCAGTGGCATG
6369	FGF5	CAGGCTGGAGTGCAGTGGCATG
6369	IGF1	CAGGCTGGAGTGCAGTGGCATG
6369	LZTS1	CAGGCTGGAGTGCAGTGGCATG
6370	IGF1	CACTTCACCTCTCTGTGCCTCA
6371	IGF1	CACAATGATTCCTTCTTTTCTAGGCAA

6372	IGF1	CAAGTATTTTAACTCTCAGTCC
6373	IGF1	ATTCTGCCCCCATCCCAACCCAGC
6374	IGF1	CAACCAAAACTTTACAAGCTT
6375	IGF1	CAACCAAAATGTCACAACCAAAACTTT
6376	IGF1	TGCCCAAAATGCACTGA
6377	IGF1	TGGACTCAAACTCCTGACCTTGTGATT
6378	APM1	TGGGATTACAGGCATGAGCCAC
6378	ARCN1	TGGGATTACAGGCATGAGCCAC
6378	BAZ2B	TGGGATTACAGGCATGAGCCAC
6378	CCNF	TGGGATTACAGGCATGAGCCAC
6378	CYP8B1	TGGGATTACAGGCATGAGCCAC
6378	DCX	TGGGATTACAGGCATGAGCCAC
6378	DFFB	TGGGATTACAGGCATGAGCCAC
6378	DNASE1L1	TGGGATTACAGGCATGAGCCAC
6378	EHD2	TGGGATTACAGGCATGAGCCAC
6378	EIF5A2	TGGGATTACAGGCATGAGCCAC
6378	HTR1D	TGGGATTACAGGCATGAGCCAC
6378	HYAL1	TGGGATTACAGGCATGAGCCAC
6378	IGF1	TGGGATTACAGGCATGAGCCAC
6378	MDM2	TGGGATTACAGGCATGAGCCAC
6378	MEFV	TGGGATTACAGGCATGAGCCAC
6378	NF2	TGGGATTACAGGCATGAGCCAC
6378	PDE6B	TGGGATTACAGGCATGAGCCAC
6378	PIK3CD	TGGGATTACAGGCATGAGCCAC
6378	PPEF2	TGGGATTACAGGCATGAGCCAC
6378	RABL2A	TGGGATTACAGGCATGAGCCAC
6378	RABL2B	TGGGATTACAGGCATGAGCCAC
6378	RBBP9	TGGGATTACAGGCATGAGCCAC
6378	SCML2	TGGGATTACAGGCATGAGCCAC
6378	SH3BP2	TGGGATTACAGGCATGAGCCAC
6378	TERF2	TGGGATTACAGGCATGAGCCAC
6378	WHSC1	TGGGATTACAGGCATGAGCCAC
6379	IGF1	TGTCCCCCAGGCTGGAGTGC
6379	LZTS1	TGTCCCCCAGGCTGGAGTGC
6379	RPP30	TGTCCCCCAGGCTGGAGTGC
6380	IGF1	TGTCCCCCAGGCTGGAGTGCAGTG
6380	LZTS1	TGTCCCCCAGGCTGGAGTGCAGTG
6380	RPP30	TGTCCCCCAGGCTGGAGTGCAGTG
6381	IGF1	TGGGTTTAAGCGATTCTCCTGCCTCAG
6382	IGF1	TGGTCCTGGAGTTGGTAGAT
6383	IGF1	TGTGTAGATGAAACCATCTCA
6384	IGF1	TTAGCACTCACTGACTCTTCTAT
6385	IGF1	TCTTTTATCTGTGTCTGTGTATCA
6386	ATP8B2	TGCAACCTCCACCTCCTGGGTT
6386	CDC2L2	TGCAACCTCCACCTCCTGGGTT
6386	EHD2	TGCAACCTCCACCTCCTGGGTT
6386	IGF1	TGCAACCTCCACCTCCTGGGTT
6386	MAK	TGCAACCTCCACCTCCTGGGTT
6386	PDCL	TGCAACCTCCACCTCCTGGGTT
6386	SEDL	TGCAACCTCCACCTCCTGGGTT

6386	TAT	TGCAACCTCCACCTCCTGGGTT
6387	IGF1	TCTTTATTCTGCCCCCATCCCAACCCAG
6388	IGF1	TCTCCCACTGGGTCACCTCAAG
6389	IGF1	TCCCCCAGGCTGGAGTGCAGTG
6389	LZTS1	TCCCCCAGGCTGGAGTGCAGTG
6389	RPP30	TCCCCCAGGCTGGAGTGCAGTG
6390	IGF1	TCCTCTTTTTATTTTTTCC
6391	IGF1	TCCCACTGGGTCACCTCA
6392	IGF1	AGTAAACATTCCAACATTGTCT
6393	IGF1	ATGTGGGAAGCATTTGATTTTC
6394	IGF1	ATTCAAATCACATGGCTTTCCA
6395	IGF1	TTTTTAATCTTAAAAGATTGTG
6396	IGF1	AGCCTCCCAAATTGCTGGGATT
6396	PCDHB9	AGCCTCCCAAATTGCTGGGATT
6397	IGF1	TTGTTTCTTTAAGAAAGTACT
6398	IGF1	TTTAAGCGATTCTCCTGCCTCA
6399	IGF1	TTCAGATCTTTCTAGTCACCTT
6400	IGF1	TTCTATAAATAACCCATTCATA
6401	IGF1	TTCTCTCTTGCCCAAATAATA
6402	IGF1	TTGCAAAAATGGTCCTGGAGTTGGTA
6403	IGF1	AGATAGATGGCTTAATAAAATAG
6404	IGF1	AGAGTCTGGCCAAAACGGTAA
6405	IGF1	AGAGATTGGTGAATTGAATG
6406	ADAMTS4	AGCCTCCTGAGTAGCTGGGATT
6406	ALDH1B1	AGCCTCCTGAGTAGCTGGGATT
6406	ATP8B2	AGCCTCCTGAGTAGCTGGGATT
6406	IGF1	AGCCTCCTGAGTAGCTGGGATT
6406	MLANA	AGCCTCCTGAGTAGCTGGGATT
6406	PCDHA9	AGCCTCCTGAGTAGCTGGGATT
6406	PIK3CD	AGCCTCCTGAGTAGCTGGGATT
6406	PKNOX1	AGCCTCCTGAGTAGCTGGGATT
6406	PPEF2	AGCCTCCTGAGTAGCTGGGATT
6406	PTGES	AGCCTCCTGAGTAGCTGGGATT
6406	TRAF5	AGCCTCCTGAGTAGCTGGGATT
6406	ZNF264	AGCCTCCTGAGTAGCTGGGATT
6407	AQP6	AGGCTGGAGTGCAGTGGCATGAT
6407	CXCL16	AGGCTGGAGTGCAGTGGCATGAT
6407	FGF5	AGGCTGGAGTGCAGTGGCATGAT
6407	IGF1	AGGCTGGAGTGCAGTGGCATGAT
6407	LZTS1	AGGCTGGAGTGCAGTGGCATGAT
6408	AQP6	AGTGGCATGATCTCGGCTCACT
6408	CXCL16	AGTGGCATGATCTCGGCTCACT
6408	FGF5	AGTGGCATGATCTCGGCTCACT
6408	IGF1	AGTGGCATGATCTCGGCTCACT
6408	NONO	AGTGGCATGATCTCGGCTCACT
6409	AQP6	ATGATCTCGGCTCACTGCAACC
6409	CXCL16	ATGATCTCGGCTCACTGCAACC
6409	FGF5	ATGATCTCGGCTCACTGCAACC
6409	IGF1	ATGATCTCGGCTCACTGCAACC
6409	MYCL2	ATGATCTCGGCTCACTGCAACC

6410	IGF1	ATTGGTAAGAATGAGCTTTCAAC
6411	IGF1	AGTTTTTCTCCCACTGGGTC
6412	IGF1	AGTTTATGCCCCTCCCTTGCAA
6413	IGF1	CACATGGCTTTCCACCAATAT
6414	IGF1	CAATATTATCTTTCTTAACTTTTTCC
6415	IGF1	CACTCACTGACTCTTCTATGCA
6416	IGF1	CACCTCCTGGGTTTAAGCGAT
6417	IGF1	CACCTCCTGGGTTTAAGCGATT
6418	IGF1	CACTGTCCCCCAGGCTGGAGTGCAGTG
6419	IGF1	AGAATAAAAGATGTAGCACATTTTGCTTTCC
6420	IGF1	ACCTTGTGATTTGCCCGCCTCAGC
6421	IGF1	ACTCACTGACTCTTCTATGCAGTTAC
6422	IGF1	ACTCATAGCAAAGTCACTTCTGTT
6423	IGF1	ACCCATTCATAGCATAGCTAGA
6424	IGF1	ACTCTTCTATGCAGTTACTACATATCT
6425	IGF1	ACTCAAACTCCTGACCTTGTGA
6426	IGF1	ACTTTCAAAAACATGACCTTCCACAA
6427	IGF1	ACTGTCCCCCAGGCTGGAGTGCAGT
6428	ATP8B2	ACTGCAACCTCCACCTCCTGGG
6428	CDC2L2	ACTGCAACCTCCACCTCCTGGG
6428	EHD2	ACTGCAACCTCCACCTCCTGGG
6428	IGF1	ACTGCAACCTCCACCTCCTGGG
6428	MAK	ACTGCAACCTCCACCTCCTGGG
6428	PDCL	ACTGCAACCTCCACCTCCTGGG
6428	SEDL	ACTGCAACCTCCACCTCCTGGG
6428	TAT	ACTGCAACCTCCACCTCCTGGG
6429	IGF1	ACCACTATGCCCGGCTAATTTTTTGG
6430	IGF1	ACAAGTATTTTAACTCTCAGTCC
6431	IGF1	AACACCATCCATTTGGGAAAGA
6432	IGF1	AACATCTTCAGTTTTTCTCCCACTGG
6433	IGF1	AACTATACATCATTTTTGCCCTCTGCC
6434	IGF1	ACACTTTTCAAAATATGTGG
6435	IGF1	AAAGAACAGTAAACATTGGTAAGAATG
6436	IGF1	AAACTTAGCAAAATTAGCAATATATT
6437	IGF1	TAACATCTTCAGTTTTTCTCCC
6438	IGF1	TACTAGTCCATCATAGCCTAGA
6439	IGF1	TACTGAAAACACCATCCATTT
6440	IGF1	TAAAAGAGTTAATGAAC
6441	IGF1	GTCCCCCAGGCTGGAGTGCAGTG
6441	LZTS1	GTCCCCCAGGCTGGAGTGCAGTG
6441	RPP30	GTCCCCCAGGCTGGAGTGCAGTG
6442	IGF1	GTGCAACCTAATTAGTAACTTTCC
6443	IGF1	GGGGTTTTACCATGTTGGCCAG
6444	ALDH1B1	CCAGGCTGGAGTGCAGTGG
6444	ALOX15	CCAGGCTGGAGTGCAGTGG
6444	APAF1	CCAGGCTGGAGTGCAGTGG
6444	APPL	CCAGGCTGGAGTGCAGTGG
6444	AQP6	CCAGGCTGGAGTGCAGTGG
6444	CLECSF12	CCAGGCTGGAGTGCAGTGG
6444	CPS1	CCAGGCTGGAGTGCAGTGG

6444	CTSS	CCAGGCTGGAGTGCAGTGG
6444	CXCL16	CCAGGCTGGAGTGCAGTGG
6444	FGF5	CCAGGCTGGAGTGCAGTGG
6444	FHL2	CCAGGCTGGAGTGCAGTGG
6444	GM2A	CCAGGCTGGAGTGCAGTGG
6444	GNE	CCAGGCTGGAGTGCAGTGG
6444	GRINL1A	CCAGGCTGGAGTGCAGTGG
6444	HUNK	CCAGGCTGGAGTGCAGTGG
6444	ICAM1	CCAGGCTGGAGTGCAGTGG
6444	IGF1	CCAGGCTGGAGTGCAGTGG
6444	KMO	CCAGGCTGGAGTGCAGTGG
6444	LZTS1	CCAGGCTGGAGTGCAGTGG
6444	MAK	CCAGGCTGGAGTGCAGTGG
6444	MDM2	CCAGGCTGGAGTGCAGTGG
6444	MEFV	CCAGGCTGGAGTGCAGTGG
6444	NQO1	CCAGGCTGGAGTGCAGTGG
6444	ORC1L	CCAGGCTGGAGTGCAGTGG
6444	PAICS	CCAGGCTGGAGTGCAGTGG
6444	PCDHB16	CCAGGCTGGAGTGCAGTGG
6444	RPP30	CCAGGCTGGAGTGCAGTGG
6444	SERPINB9	CCAGGCTGGAGTGCAGTGG
6444	TMPRSS3	CCAGGCTGGAGTGCAGTGG
6444	TRPV1	CCAGGCTGGAGTGCAGTGG
6444	VIPR2	CCAGGCTGGAGTGCAGTGG
6444	XRCC2	CCAGGCTGGAGTGCAGTGG
6444	ZNF264	CCAGGCTGGAGTGCAGTGG
6445	APM1	GGGATTACAGGCATGAGCCACC
6445	ARCN1	GGGATTACAGGCATGAGCCACC
6445	DCX	GGGATTACAGGCATGAGCCACC
6445	DNASE1L1	GGGATTACAGGCATGAGCCACC
6445	EHD2	GGGATTACAGGCATGAGCCACC
6445	EIF5A2	GGGATTACAGGCATGAGCCACC
6445	HYAL1	GGGATTACAGGCATGAGCCACC
6445	IGF1	GGGATTACAGGCATGAGCCACC
6445	MDM2	GGGATTACAGGCATGAGCCACC
6445	MEFV	GGGATTACAGGCATGAGCCACC
6445	NF2	GGGATTACAGGCATGAGCCACC
6445	PDE6B	GGGATTACAGGCATGAGCCACC
6445	PIK3CD	GGGATTACAGGCATGAGCCACC
6445	PPEF2	GGGATTACAGGCATGAGCCACC
6445	RABL2A	GGGATTACAGGCATGAGCCACC
6445	RABL2B	GGGATTACAGGCATGAGCCACC
6445	RBBP9	GGGATTACAGGCATGAGCCACC
6445	SCML2	GGGATTACAGGCATGAGCCACC
6445	TERF2	GGGATTACAGGCATGAGCCACC
6445	WHSC1	GGGATTACAGGCATGAGCCACC
6446	AQP6	CAGGCTGGAGTGCAGTGGCATGATCTC
6446	CXCL16	CAGGCTGGAGTGCAGTGGCATGATCTC
6446	FGF5	CAGGCTGGAGTGCAGTGGCATGATCTC
6446	IGF1	CAGGCTGGAGTGCAGTGGCATGATCTC

6447	IGF1	CATAAAGTCCAGATCTGGTA
6448	IGF1	TCCAGAGAGGAAACTGTGGAATGGAAA
6449	IGF1	TCTCAACAAAACTTTATAGGCAGTCTT
6450	IGF1	TAGATCCAGTTGCACTAAATTCC
6451	IGF1	TCAGATCTTTCTAGTCACCTTAGA
6452	IGF1	TCAGATCTTTTTGGTAAA
6453	IGF1	TATACAGTCTTTATGAATTTCTTAAT
6454	IGF1	TCATGCAAATTCTATATTTTACA
6455	IGF1	TGCAGGAGGGACTCTGAAACCTCAAGCTG
6456	ATP8B2	TGAGTAGCTGGGATTACAGGCAC
6456	IGF1	TGAGTAGCTGGGATTACAGGCAC
6456	TERF1	TGAGTAGCTGGGATTACAGGCAC
6457	IGF1	TCTCTCTGGATTTCCTTTTGCT
6458	IGF1	TCTCCCATCTCTCTGGATTTCC
6459	IGF1	TCTTTTATCTGTGTCTGTGTATC
6460	IGF1	TGCTCTGTGGCTCCAGGGTT
6461	IGF1	TGCTGGAGCCATTCATTCAGCAA
6462	IGF1	TGGAATAAAGTCCTCAAAATTGAAATG
6463	IGF1	TGGAGCCAGCAATCCTGTTC
6464	IGF1	TGGACTCAAACTCCTGACCTTG
6465	IGF1	TGTCCCCCAGGCTGGAGTGCAG
6465	LZTS1	TGTCCCCCAGGCTGGAGTGCAG
6465	RPP30	TGTCCCCCAGGCTGGAGTGCAG
6466	IGF1	TGTCCCCCAGGCTGGAGTGCAGT
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6466	RPP30	TGTCCCCCAGGCTGGAGTGCAGT
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6468	IGF1	TTATTTTAAAACAGAAGAATT
6469	IGF1	TTACTCTTATTCTTAGCTGTA
6470	IGF1	TTAGGTATTAGAAAGTGATAC
6471	IGF1	TTCATAACCTTTATATTTGCC
6472	IGF1	TTCAATGCTAGTGTTTAATCCT
6473	IGF1	TTCACTTTCAAAAACATGA
6474	IGF1	TTTGTGCACTCTGCTCTAAAACA
6475	IGF1	TTTTCCATATAGAGCACTATGT
6476	IGF1	TTTTAGTATAATGGTGCTAT
6477	IGF1	TTTGAAAAACACAATGATTCCTTC
6478	IGF1	GTCCCCCAGGCTGGAGTGCAGT
6478	LZTS1	GTCCCCCAGGCTGGAGTGCAGT
6478	RPP30	GTCCCCCAGGCTGGAGTGCAGT
6479	IGF1	GGGGCAATATGTCATCTACCTACCTCA
6480	IGF1	GAGTAGCTGGGATTACAGGCACCCACC
6481	IGF1	GAGTCCAGAGAGGAAACTGTGGAAT
6482	IGF1	GATTACATCATGTATTTTGCCTCATGT
6483	IGF1	GCAAAAACTTCCATCACAACAAGA
6484	ATP8B2	GCAACCTCCACCTCCTGGGTT
6484	CDC2L2	GCAACCTCCACCTCCTGGGTT
6484	EHD2	GCAACCTCCACCTCCTGGGTT
6484	IGF1	GCAACCTCCACCTCCTGGGTT
6484	MAK	GCAACCTCCACCTCCTGGGTT

6484	PDCL	GCAACCTCCACCTCCTGGGTT
6484	SEDL	GCAACCTCCACCTCCTGGGTT
6484	TAT	GCAACCTCCACCTCCTGGGTT
6485	IGF1	GCAATATGTCATCTACCTACCTCA
6486	IGF1	GCACCTTGCAAAAATGGTCCTG
6487	IGF1	GCACTGTCCCCCAGGCTGGAGTGCAGT
6488	IGF1	GCATGAGCCACCACACCCTGCC
6489	IGF1	GGACTCAAACTCCTGACCTTGTGATTT
6490	CDC2L2	GGCTCACTGCAACCTCCACCT
6490	FEZ1	GGCTCACTGCAACCTCCACCT
6490	IGF1	GGCTCACTGCAACCTCCACCT
6490	LNK	GGCTCACTGCAACCTCCACCT
6490	LYZ	GGCTCACTGCAACCTCCACCT
6490	NUMA1	GGCTCACTGCAACCTCCACCT
6490	PDCL	GGCTCACTGCAACCTCCACCT
6490	RPH3AL	GGCTCACTGCAACCTCCACCT
6490	SEDL	GGCTCACTGCAACCTCCACCT
6490	SEPN1	GGCTCACTGCAACCTCCACCT
6490	SLC14A2	GGCTCACTGCAACCTCCACCT
6490	SNX15	GGCTCACTGCAACCTCCACCT
6490	STAU	GGCTCACTGCAACCTCCACCT
6490	TAT	GGCTCACTGCAACCTCCACCT
6491	CDC2L2	GGCTCACTGCAACCTCCACCTC
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6491	IGF1	GGCTCACTGCAACCTCCACCTC
6491	LYZ	GGCTCACTGCAACCTCCACCTC
6491	NUMA1	GGCTCACTGCAACCTCCACCTC
6491	PDCL	GGCTCACTGCAACCTCCACCTC
6491	RPH3AL	GGCTCACTGCAACCTCCACCTC
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6491	TAT	GGCTCACTGCAACCTCCACCTC
6492	IGF1	GGCAATATGTCATCTACCTACCTCA
6493	IGF1	GGCTAATTTTTTGGATTTTTAAT
6494	GNE	CCCCAGGCTGGAGTGCAGTGGC
6494	IGF1	CCCCAGGCTGGAGTGCAGTGGC
6494	LZTS1	CCCCAGGCTGGAGTGCAGTGGC
6494	RPP30	CCCCAGGCTGGAGTGCAGTGGC
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6496	RPP30	CCCCCAGGCTGGAGTGCAGT
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6497	IGF1	CCTGAGTAGCTGGGATTACAGG
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6497	PIK3CD	CCTGAGTAGCTGGGATTACAGG
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6505	IGF1	CTCCTGACCTTGTGATTTGCCCGCCTC
6506	ATP8B2	CTGCAACCTCCACCTCCTGGGT
6506	CDC2L2	CTGCAACCTCCACCTCCTGGGT
6506	EHD2	CTGCAACCTCCACCTCCTGGGT
6506	IGF1	CTGCAACCTCCACCTCCTGGGT
6506	MAK	CTGCAACCTCCACCTCCTGGGT
6506	PDCL	CTGCAACCTCCACCTCCTGGGT
6506	SEDL	CTGCAACCTCCACCTCCTGGGT
6506	TAT	CTGCAACCTCCACCTCCTGGGT
6507	IGF1	CTGTCCCCCAGGCTGGAGTGC
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6508	LZTS1	CTGTCCCCCAGGCTGGAGTGCAGTG
6508	RPP30	CTGTCCCCCAGGCTGGAGTGCAGTG
6509	IGF1	TCATTTTCAGACTTTGTACTTCA
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6511	IGF1	TAGGAGTGATTTGCACCTTGC
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6513	IGF1	TTTTGTGCACTCTGCTCTAAAACAG
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6824	MTNR1A	CCTGTAATCTCAGCACTTTGG
6824	NUP62	CCTGTAATCTCAGCACTTTGG
6824	VHL	CCTGTAATCTCAGCACTTTGG
6825	MTNR1A	CCGAGATCGCGCCAGTACAT
6826	MTNR1A	CTTGACAGATGTCTGGGAAAGCAGAGT
6827	MTNR1A	GAAAGAGAATTTTATTTATAAATGA
6828	C21orf5	GCTCACACCTGTAATCTCAGCA
6828	MTNR1A	GCTCACACCTGTAATCTCAGCA
6829	ALDH3B1	GCCTGTAATCCCAGCTACTCAGG
6829	CARKL	GCCTGTAATCCCAGCTACTCAGG
6829	CREB1	GCCTGTAATCCCAGCTACTCAGG
6829	CTMP	GCCTGTAATCCCAGCTACTCAGG
6829	DAPP1	GCCTGTAATCCCAGCTACTCAGG
6829	F2RL3	GCCTGTAATCCCAGCTACTCAGG
6829	IAPP	GCCTGTAATCCCAGCTACTCAGG
6829	MTNR1A	GCCTGTAATCCCAGCTACTCAGG
6829	VDR	GCCTGTAATCCCAGCTACTCAGG
6829	VPS41	GCCTGTAATCCCAGCTACTCAGG
6830	MTNR1A	GAGCCCCAGAGGCAGAGGTTGT
6831	IL1R1	GCACACGCCTGTAATCCCAGCT
6831	MTNR1A	GCACACGCCTGTAATCCCAGCT
6831	POLK	GCACACGCCTGTAATCCCAGCT
6832	MTNR1A	GGGGTGAGAGTAAGCTGCTGA
6833	MTNR1A	TCAGTTAATGGCTCATCAACAATCACAACCA
6834	MTNR1A	CCAGAGGCAGAGGTTGTGGTG
6835	MTNR1A	TAAATGAGTGCCACAAAAG
6836	MTNR1A	TCAGCTGGCAGAGTTAGCATTG
6837	BPHL	TCAGCACTTTGGGAGGCTGAGGTGGG
6837	MTNR1A	TCAGCACTTTGGGAGGCTGAGGTGGG
6838	MTNR1A	TCAGCACTTTGGGAGGCTGAGGTGGGC
6839	MTNR1A	TCCCTTGAGCCCCAGAGGCAGAG
6840	MTNR1A	CAGAGGCAGAGGTTGTGGTGA
6841	C21orf5	CACCTGTAATCTCAGCACTTTG
6841	MTNR1A	CACCTGTAATCTCAGCACTTTG
6842	MTNR1A	CACGCCTGTAATCCCAGCTACTC
6842	POLK	CACGCCTGTAATCCCAGCTACTC
6843	C21orf5	ACACCTGTAATCTCAGCACTTT
6843	MTNR1A	ACACCTGTAATCTCAGCACTTT
6844	MTNR1A	ACCACAACCAACACCACAAACCTTTCA
6845	MTNR1A	ACAAAAGGGGTAATTGCATTCTTCT
6846	C21orf5	ACCTGTAATCTCAGCACTTTG
6846	MTNR1A	ACCTGTAATCTCAGCACTTTG
6847	C21orf5	ACCTGTAATCTCAGCACTTTGG
6847	MTNR1A	ACCTGTAATCTCAGCACTTTGG

6848	MTNR1A	TGGTGCACACGCCTGTAATCCCAG
6849	MTNR1A	TTAATGGCTCATCAACAATCACAACCA
6850	MTNR1A	CGCTCACACCTGTAATCTCAG
6851	MTNR1A	CTCGCTCTTGACAGATGTCTGGGAA
6852	MTNR1A	CTGGCTGCTGCCATAGTTTC
6853	MTNR1A	CCACAACCAACACCACAAACCTTTCA
6854	MTNR1A	CCAGAGGCAGAGGTTGTGGTGA
6855	MTNR1A	CATAGGCCGGGCACAG
6856	C21orf5	CACACCTGTAATCTCAGCACTT
6856	MTNR1A	CACACCTGTAATCTCAGCACTT
6857	C21orf5	CACCTGTAATCTCAGCACTTT
6857	MTNR1A	CACCTGTAATCTCAGCACTTT
6858	MTNR1A	TGTGGTGAGCCGAGATCGCGCC
6859	MTNR1A	AGTAAGCTGCTGAATGCATTCA
6860	MTNR1A	AGGCTGAGGTGGGCAGATCAACT
6861	MTNR1A	AATGCGGTTCAGGGCTGGGGTGA
6862	F2RL3	GCCTGTAATCCCAGCTACTCAGGAGA
6862	MTNR1A	GCCTGTAATCCCAGCTACTCAGGAGA
6863	MTNR1A	GCTGGGGTGAGAGTAAGCTGCT
6864	GGCX	GGAGGCTGAGGTGGGCAGATCA
6864	GTF2H2	GGAGGCTGAGGTGGGCAGATCA
6864	MTNR1A	GGAGGCTGAGGTGGGCAGATCA
6865	NCKAP1	GCGGGAGGGGAGGAGGC
6866	NCKAP1	AAATACTGTAACACTGTATAACATTTA
6867	NCKAP1	TTCTAAGAGCAGCAGCATATGTTGTT
6868	NCKAP1	TTAGAAGCAGATCATTTCCCAAAATTCTAA
6869	NCKAP1	CAACATTGGATGTGCATTTCTGTGAT
6870	NCKAP1	CATGTCGCGCTCAGTGCTGCAGCCCA
6871	NCKAP1	CCCAAAATTCTAAGAGCAGCAGC
6872	NCKAP1	ACCATGTCGCGCTCAGTGCTGCAGCC
6873	NCKAP1	TGCACATTCACTGAATTCACTGAGATTATT
6874	NCKAP1	TAAGGCGGAGGTCGCGGGCGGG
6875	NCKAP1	GTGCATTTCTGTGATGTT
6876	NCKAP1	CCAGCACCACCATGTCGC
6877	NCKAP1	TAGGGAAGAGTTCTGATCTGTA
6878	NCKAP1	GGTTGTATTTTCTGATCATTG
6879	NCKAP1	GGAAGGCAGGAGGCTGCCGGGGC
6880	NCKAP1	CGGAAGGCAGGAGGCTGCCGGGGCGCG
6881	NCSTN	GCCAGATTTTGGGATTACAAA
6882	NCSTN	CCAGATTTTGGGATTACAAA
6883	NCSTN	CCCACCCCTGTACCCAGCCACCT
6884	NCSTN	CACTTCCTAGAGCATCT
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6886	NCSTN	TTAACTCCCTAGTTACCCACCCT
6887	NCSTN	TGGGTATCCCACCTCCAGCCCAC
6888	NCSTN	TTGCCTCCCTTCCTCCGCTCCCCTTT
6889	NCSTN	TTTCTTGCCAGCTCAGCA
6890	NCSTN	CCCCTGAGGACAGGGGCATCTCT
6891	NCSTN	CACAACCACTAATTTGTCACTGGA
6892	NCSTN	CACGAACTTCCGGTCTCTTAGG

6893	NCSTN	CACTGGAACCTCCCTGGGCCTGTCT
6894	NCSTN	CACTGGAACCTCCCTGGGCCTGTCTCAGAT
6895	NCSTN	CTGGAACCTCCCTGGGCCTGTCTC
6896	NCSTN	AGCTTCTTGCTCCTGT
6897	NGB	AGGAGAGAGTCTTACCTCCCCTGGCCC
6898	NGB	TTGCTCTGTGCTGACTGTG
6899	NGB	TGTGTGCCAGTACTCAGGCAGCTGG
6900	NGB	TCTGCTGGGAACTCCCTGACT
6901	NGB	CTGGAGGGGGCGGGGGCCGTGGCGGCTTT
6902	NGB	CTTACCTCCCCTGGCCCTCCTTTCTGG
6903	NGB	CGCAGGAGAGAGTCTTACCTC
6904	NGB	CAGGCAGCTGGAGAGAAGAGAAGGCAG
6905	NGB	CCCTCATTCAGCACTTCTGCTGGGAAC
6906	NGB	CCTCCCCTGGCCCTCCTTTCTGG
6907	NGB	AATGGGTCTCATTTGAGTCTC
6908	NGB	GCCTTCTGTCCTGCCTGCCCA
6909	NGB	GCTGCAGGAACCCAGCTAGCTGG
6910	NGB	GCTGCAGGAACCCAGCTAGCTGGCCAGGTG
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6912	NGB	TTTGCTCTGTGCTGACTGTG
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6914	NGB	TGGTGGCAGAGGTGGGATGA
6915	NGB	TGTCTGTCTGTTGGCCTGTATCT
6916	NGB	ATGGGGCAGGGCTGGG
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6918	NGB	CCATCCATCTGTGTCTGTCTGTT
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6920	NGB	CCAGCCATCTGCACTTGTACCA
6921	NGB	CCAAGCTTCCCTGCATCTTGGTCCT
6922	NGB	CCAAGCTTCCCTGCATCTTGGTCCTTGT
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6924	NGB	TCTGTCTGTCCTGCTTCTTC
6925	NGB	TGGAGAGAAGAGAAGGCAGCAGCAG
6926	NGB	TGCTTCTTCAGGTGAGTGCAGGCCAAGG
6927	NGB	TAGCCTCTTTCTTGCGTTTCTTTTTA
6928	NGB	GCTAGCTGGCCAGGTGGGGAGGG
6929	NGB	GAGGGGTGACTTCATCCCA
6930	NGB	GGAGAGAAGAGAAGGCAGCAGCAG
6931	NGB	GGAGGTGGGAGAGGATGGGGC
6932	NGB	GGTGGCAGAGGTGGGATGA
6933	NGB	GTGGGGAGGGGCTGGGGACCGGC
6934	NGB	CCTCCCCTGGCCCTCCTTTCTGGCTCAG
6935	NGB	CTTCTGCTGGGAACTCCCTGACT
6936	NGB	CTGGCCGCGCGCCTTTTCTCTC
6937	NGB	CCCCATCCATCTGTGTCTGTCTGTTG
6938	NOTCH1	CCCAGCACCTCAGCCTGCACA
6939	NOTCH1	CGGCCCCCTGCCCGTTCTTGAA
6940	NOTCH1	CGCAGCCCTGGCAGGGGGCATGCGGT
6941	NOTCH1	GGGAGGCGGGGGCTGCCCTTGGG
6942	NOTCH1	GGCGGCCCCAGCACCTCAGCCTGCA

6943	NOTCH1	GAGACTTGCCAGAGCCGGGCACATTGA
6944	NOTCH1	GCCTGCACAGTGTCCCCCAGG
6945	NOTCH1	AACTGATTTGCAATAAAAATGATACT
6946	NOTCH1	AACTGATTTGCAATAAAAATGATACTG
6947	NOTCH1	ACCTCAGCCTGCACAGTGTC
6948	NOTCH1	AGAAAACAAGCAAGTTCTGAGA
6949	NOTCH1	ACTGTGGCACTTGCCTGGGTCACACAC
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6951	NOTCH1	AAGCAAGTTCTGAGAGCCAG
6952	NOTCH1	CCCAGCACCTCAGCCTGCACAGTGTCC
6953	NOTCH1	CGGGCAGGGGCTGGAGGGAGGCGGG
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6957	NOTCH1	TCTGAGAAAACAAGCAAGTTCT
6958	NOTCH1	AGGGCAGCCTCCCCCGGCTCTAC
6959	NOTCH1	AGTTTACAGAAAAAGACTTTAA
6960	NOTCH1	ATAGAGTGTAGTTTACAGAAAAAGACTTTA
6961	NPY	TTGCTCTCTGGCCTTTTCC
6962	NPY	GAAATGAGACTTGCTCTCTGGCCT
6963	NPY	CCCCTCGGAGACGCTCGCCCGACAGCA
6964	NPY	ACTGTGCTGAATTCTGCAATG
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6966	NPY	GTGCTGAATTCTGCAATGTTTTC
6967	NPY	GTTTAAATAAAGTATCATGCA
6968	OGDH	GGTTGCTTGGGCCACTGCCCT
6969	OGDH	GGAGCAGGAGGAGGAAAGGT
6970	OGDH	GCCCCACCCACCCTCCTGGGCC
6971	OGDH	CCTTGGGGAGGGGTCAGCTCTG
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6973	OGDH	CCGTCCTCCTCGCTGTGCCA
6974	OGDH	CCTGTTAACCCTCCACCTCCTC
6975	OGDH	CCCCTCCCTCTGCTCTCATA
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6977	OGDH	ATGGCTGGCAGAGGTTTCTAGGGTGG
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6981	OGDH	CCCACAGAGTCTGTGTGTAGCC
6982	OGDH	TGGGGAGGGGTCAGCTCTGGC
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6984	OGDH	CCCTCATTTATCACTCTGACCT
6985	OGDH	CCCTCATTTATCACTCTGACCTTCACA
6986	OGDH	CCCTCCACCTCCTCTCTTGGACTCCC
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6988	OGDH	CCAGGAGGCCGGGGGGAGCAGGAGGAG
6989	OGDH	CAGGCTGTGTGTGGGGCCCAAGCAT
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6997	OGDH	GCAGCACCTGGAGCCCACAGAG
6998	OGDH	GAGCAGTTTTCCAGGAGGCCGGGGGG
6999	OGDH	GCTGTCGTCCCCCTCCAGTGCTTGGCT
7000	OGDH	GCTGGCAGAGGTTTCTAGGGTGG
7001	OLR1	GCTTCACTCTCTCATTCTTAGCT
7002	OLR1	TGCACACAATCTAGCAGGAATC
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7004	OLR1	TGCTTTTGTTAAAAGCTTTAT
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7006	OLR1	CGAAATCAAGAAACTCATGTTCTTA
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7008	OLR1	TTGCTTTTGTTAAAAGCTTTAT
7009	OLR1	CCATCATCCCTCAAAGTGTC
7010	OLR1	GGCTCTGGAAGAAAAGGAAAAAGTC
7011	OLR1	GGTCCATCTCCAGACTCTACCA
7012	OLR1	GTCCCAAGCTTCCCTGCCA
7013	OLR1	TACCACTTCCTGAATCAGTTATTATTTCT
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7017	OLR1	TGCTTCACTCTCTCATTCTTAG
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7021	OLR1	AGAACTCCTTTGCAGAAACTGGG
7022	OLR1	AACTGTGGTCCATCTCCAGAC
7023	OLR1	AACAAACTAAGCCAGGTATGCA
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7025	OLR1	GTCTGGCTTCTTTCACTTTGCATA
7026	OLR1	GTCTGGGAAAAAGTGCACGTGAAG
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7032	PLAU	TGCATGGGCTCGAAGGGAGAGCCAG
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7046	PLAU	AAAGGGCAGGGCATCTCCTGTGC
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7050	PLAU	CCTCTGGCCAGGATGGAGGGGTGGT
7051	PLCD1	GCCCAGTCCCTGGAGCT
7052	PLCD1	TCTCCACCCTCCGGCC
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7054	PLCD1	CCTGCTCCCAGCCTCTTGCTC
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7061	PRND	TGCAGCCTCTGCCTCCCAGGCTC
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7063	APPL	TCTGTTGCCCAGGCTGGAGTGC
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7063	FUT1	TCTGTTGCCCAGGCTGGAGTGC
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7063	SLC39A1	TCTGTTGCCCAGGCTGGAGTGC
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7063	VHL	TCTGTTGCCCAGGCTGGAGTGC
7064	PRND	TGGAACAACAGCTATCTA
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7067	CNN2	TGCCCAGGCTGGAGTGCAGT
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7067	TMPRSS3	TGCCCAGGCTGGAGTGCAGT
7067	TNFAIP2	TGCCCAGGCTGGAGTGCAGT
7067	TRPV1	TGCCCAGGCTGGAGTGCAGT
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7078	DSCR3	GGGATTACAGGTGTGAGCCACC
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7078	UGDH	GGGATTACAGGTGTGAGCCACC
7078	VHL	GGGATTACAGGTGTGAGCCACC
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7080	ADAMTS4	CCCAAAGTGCTGGGATTACAGG
7080	ADRA1A	CCCAAAGTGCTGGGATTACAGG
7080	ALDH1B1	CCCAAAGTGCTGGGATTACAGG
7080	APM1	CCCAAAGTGCTGGGATTACAGG
7080	APOL1	CCCAAAGTGCTGGGATTACAGG
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7080	ATP7A	CCCAAAGTGCTGGGATTACAGG
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7080	CASP8	CCCAAAGTGCTGGGATTACAGG

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7080	CYP2B6	CCCAAAGTGCTGGGATTACAGG
7080	CYP4F3	CCCAAAGTGCTGGGATTACAGG
7080	DCX	CCCAAAGTGCTGGGATTACAGG
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7080	MPL	CCCAAAGTGCTGGGATTACAGG
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7080	PER2	CCCAAAGTGCTGGGATTACAGG
7080	PIGR	CCCAAAGTGCTGGGATTACAGG
7080	PIK3C2B	CCCAAAGTGCTGGGATTACAGG
7080	PIK3CD	CCCAAAGTGCTGGGATTACAGG
7080	PKNOX1	CCCAAAGTGCTGGGATTACAGG
7080	PMCHL1	CCCAAAGTGCTGGGATTACAGG
7080	PPEF2	CCCAAAGTGCTGGGATTACAGG
7080	PPID	CCCAAAGTGCTGGGATTACAGG
7080	PRKR	CCCAAAGTGCTGGGATTACAGG
7080	PRND	CCCAAAGTGCTGGGATTACAGG
7080	PTGIS	CCCAAAGTGCTGGGATTACAGG
7080	RAB36	CCCAAAGTGCTGGGATTACAGG
7080	RABL2A	CCCAAAGTGCTGGGATTACAGG
7080	RABL2B	CCCAAAGTGCTGGGATTACAGG
7080	RGS9	CCCAAAGTGCTGGGATTACAGG
7080	RHD	CCCAAAGTGCTGGGATTACAGG
7080	RPH3AL	CCCAAAGTGCTGGGATTACAGG

7080	RPP30	CCCAAAGTGCTGGGATTACAGG
7080	SEDL	CCCAAAGTGCTGGGATTACAGG
7080	SEPN1	CCCAAAGTGCTGGGATTACAGG
7080	SERPINB9	CCCAAAGTGCTGGGATTACAGG
7080	SH3BP2	CCCAAAGTGCTGGGATTACAGG
7080	SLA2	CCCAAAGTGCTGGGATTACAGG
7080	SLC24A1	CCCAAAGTGCTGGGATTACAGG
7080	SULT2B1	CCCAAAGTGCTGGGATTACAGG
7080	TAPBP	CCCAAAGTGCTGGGATTACAGG
7080	TERF2	CCCAAAGTGCTGGGATTACAGG
7080	TES	CCCAAAGTGCTGGGATTACAGG
7080	TIRAP	CCCAAAGTGCTGGGATTACAGG
7080	TPMT	CCCAAAGTGCTGGGATTACAGG
7080	TRPM6	CCCAAAGTGCTGGGATTACAGG
7080	TRPV1	CCCAAAGTGCTGGGATTACAGG
7080	UGDH	CCCAAAGTGCTGGGATTACAGG
7080	WHSC1	CCCAAAGTGCTGGGATTACAGG
7080	YES1	CCCAAAGTGCTGGGATTACAGG
7080	ZNF74	CCCAAAGTGCTGGGATTACAGG
7081	ADAMTS4	CCAAAGTGCTGGGATTACAGGT
7081	ALDH1B1	CCAAAGTGCTGGGATTACAGGT
7081	ATP7A	CCAAAGTGCTGGGATTACAGGT
7081	CHRNB4	CCAAAGTGCTGGGATTACAGGT
7081	DSCR3	CCAAAGTGCTGGGATTACAGGT
7081	FGF5	CCAAAGTGCTGGGATTACAGGT
7081	GHR	CCAAAGTGCTGGGATTACAGGT
7081	HLCS	CCAAAGTGCTGGGATTACAGGT
7081	IL11	CCAAAGTGCTGGGATTACAGGT
7081	MHC2TA	CCAAAGTGCTGGGATTACAGGT
7081	MPL	CCAAAGTGCTGGGATTACAGGT
7081	PKNOX1	CCAAAGTGCTGGGATTACAGGT
7081	PPID	CCAAAGTGCTGGGATTACAGGT
7081	PRND	CCAAAGTGCTGGGATTACAGGT
7081	PTGIS	CCAAAGTGCTGGGATTACAGGT
7081	RHD	CCAAAGTGCTGGGATTACAGGT
7081	RPH3AL	CCAAAGTGCTGGGATTACAGGT
7081	SEDL	CCAAAGTGCTGGGATTACAGGT
7081	SLA2	CCAAAGTGCTGGGATTACAGGT
7081	TES	CCAAAGTGCTGGGATTACAGGT
7081	TRPV1	CCAAAGTGCTGGGATTACAGGT
7081	UGDH	CCAAAGTGCTGGGATTACAGGT
7082	PRND	CATGATTTTGGCTCACTGCAGCCT
7083	CASP8	CAGGCTGGAGTGCAGTGGCGTG
7083	CYP2B6	CAGGCTGGAGTGCAGTGGCGTG
7083	EIF2S3	CAGGCTGGAGTGCAGTGGCGTG
7083	EVC	CAGGCTGGAGTGCAGTGGCGTG
7083	F2RL3	CAGGCTGGAGTGCAGTGGCGTG
7083	FUT1	CAGGCTGGAGTGCAGTGGCGTG
7083	KCNJ11	CAGGCTGGAGTGCAGTGGCGTG
7083	PAICS	CAGGCTGGAGTGCAGTGGCGTG

7083	PRND	CAGGCTGGAGTGCAGTGGCGTG
7083	STAU	CAGGCTGGAGTGCAGTGGCGTG
7083	TERF2	CAGGCTGGAGTGCAGTGGCGTG
7084	CLECSF12	CAGGCTGGAGTGCAACGGCA
7084	PRND	CAGGCTGGAGTGCAACGGCA
7085	ADAMTS4	AAAGTGCTGGGATTACAGGTGT
7085	ADCY6	AAAGTGCTGGGATTACAGGTGT
7085	ATP7A	AAAGTGCTGGGATTACAGGTGT
7085	CHRNB4	AAAGTGCTGGGATTACAGGTGT
7085	DSCR3	AAAGTGCTGGGATTACAGGTGT
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7085	HLCS	AAAGTGCTGGGATTACAGGTGT
7085	IL11	AAAGTGCTGGGATTACAGGTGT
7085	IL12RB1	AAAGTGCTGGGATTACAGGTGT
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7085	MHC2TA	AAAGTGCTGGGATTACAGGTGT
7085	MPL	AAAGTGCTGGGATTACAGGTGT
7085	NCOA6	AAAGTGCTGGGATTACAGGTGT
7085	PKNOX1	AAAGTGCTGGGATTACAGGTGT
7085	PPID	AAAGTGCTGGGATTACAGGTGT
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7085	SEDL	AAAGTGCTGGGATTACAGGTGT
7085	SLA2	AAAGTGCTGGGATTACAGGTGT
7085	TES	AAAGTGCTGGGATTACAGGTGT
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7085	UGDH	AAAGTGCTGGGATTACAGGTGT
7085	UMPS	AAAGTGCTGGGATTACAGGTGT
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7089	PRND	AAAGTGACATGAAAATTAC
7090	PRND	ACTACAACCTCCACCTTCCAGG
7091	COX15	ACTCTTGTTGCCCAGGCTGG
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7091	TRPV1	ACTCTTGTTGCCCAGGCTGG
7092	PRND	ACTCAGAGGCTGACACTGACA
7093	CIAS1	AGTGGCGTGATCTTGGCTCACT
7093	FUT1	AGTGGCGTGATCTTGGCTCACT
7093	KCNJ11	AGTGGCGTGATCTTGGCTCACT
7093	PRND	AGTGGCGTGATCTTGGCTCACT
7093	SLC7A6	AGTGGCGTGATCTTGGCTCACT
7094	PRND	AGGTGCCCACCACCAAGCCCTGC
7095	CASP8	AGGCTGGAGTGCAGTGGCGTGAT
7095	CIAS1	AGGCTGGAGTGCAGTGGCGTGAT
7095	CYP2B6	AGGCTGGAGTGCAGTGGCGTGAT
7095	EIF2S3	AGGCTGGAGTGCAGTGGCGTGAT
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7095	F2RL3	AGGCTGGAGTGCAGTGGCGTGAT
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7095	KCNJ11	AGGCTGGAGTGCAGTGGCGTGAT
7095	PAICS	AGGCTGGAGTGCAGTGGCGTGAT
7095	PRND	AGGCTGGAGTGCAGTGGCGTGAT
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7098	PRND	AGAGACAGTGTTTTGCCATG
7099	PRND	AGCTCCATGTTTAGAAATAAATGA
7100	APPBP2	AGCCTTCCGAGTAGCTGGGATT
7100	PRND	AGCCTTCCGAGTAGCTGGGATT
7101	PRND	CAGAGCTGTCTGGTGATCACTT
7102	APM1	ATGTTGGCCAGGCTGGTC
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7102	CIAS1	ATGTTGGCCAGGCTGGTC
7102	F2RL3	ATGTTGGCCAGGCTGGTC
7102	FEZ1	ATGTTGGCCAGGCTGGTC
7102	G6PC	ATGTTGGCCAGGCTGGTC
7102	IFNAR2	ATGTTGGCCAGGCTGGTC
7102	MEF2A	ATGTTGGCCAGGCTGGTC
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7102	NDRG3	ATGTTGGCCAGGCTGGTC
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7102	PRND	ATGTTGGCCAGGCTGGTC
7102	SH3BP2	ATGTTGGCCAGGCTGGTC
7103	APPL	TGTTGCCCAGGCTGGAGTGCAG
7103	CNN2	TGTTGCCCAGGCTGGAGTGCAG
7103	CTSS	TGTTGCCCAGGCTGGAGTGCAG
7103	CYP2B6	TGTTGCCCAGGCTGGAGTGCAG
7103	F2RL3	TGTTGCCCAGGCTGGAGTGCAG
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7103	UGDH	TGTTGCCCAGGCTGGAGTGCAG
7103	VHL	TGTTGCCCAGGCTGGAGTGCAG
7104	ADAMTS4	TGTTGGCCAGGCTGGTCTCGA
7104	APM1	TGTTGGCCAGGCTGGTCTCGA

7104	BRIP1	TGTTGGCCAGGCTGGTCTCGA
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7104	CRTAP	TGTTGGCCAGGCTGGTCTCGA
7104	EEF2K	TGTTGGCCAGGCTGGTCTCGA
7104	EHD2	TGTTGGCCAGGCTGGTCTCGA
7104	FCAR	TGTTGGCCAGGCTGGTCTCGA
7104	FEZ1	TGTTGGCCAGGCTGGTCTCGA
7104	FZD4	TGTTGGCCAGGCTGGTCTCGA
7104	G6PC	TGTTGGCCAGGCTGGTCTCGA
7104	IFNAR2	TGTTGGCCAGGCTGGTCTCGA
7104	LNK	TGTTGGCCAGGCTGGTCTCGA
7104	MEF2A	TGTTGGCCAGGCTGGTCTCGA
7104	PER2	TGTTGGCCAGGCTGGTCTCGA
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7104	PRND	TGTTGGCCAGGCTGGTCTCGA
7104	RBBP9	TGTTGGCCAGGCTGGTCTCGA
7104	SH3BP2	TGTTGGCCAGGCTGGTCTCGA
7104	SHOX	TGTTGGCCAGGCTGGTCTCGA
7104	SNX15	TGTTGGCCAGGCTGGTCTCGA
7104	TRPV1	TGTTGGCCAGGCTGGTCTCGA
7104	XRCC2	TGTTGGCCAGGCTGGTCTCGA
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7106	CLECSF12	TTGCCCAGGCTGGAGTGCAACG
7106	PRND	TTGCCCAGGCTGGAGTGCAACG
7107	PRND	TTGCCCAGGCTGGAGTGCAACGGCATG
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7108	CNN2	TTGCCCAGGCTGGAGTGCAGTG
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7110	F3	CCGAGTAGCTGGGATTACAGGT
7110	GPR56	CCGAGTAGCTGGGATTACAGGT
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7111	PRND	CCAGGAGGCTGGCAGTACAGAGTGCAG
7112	PRND	CCAAGTAGGTGGGATTACAGGT
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7114	ORC1L	CCCAGGCTGGAGTGCAGTG
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7115	FUT1	CAGGCTGGAGTGCAGTGGCGTGATCTT
7115	KCNJ11	CAGGCTGGAGTGCAGTGGCGTGATCTT
7115	PRND	CAGGCTGGAGTGCAGTGGCGTGATCTT
7116	PRND	CAGCCTTACACTGGGCACATGGA
7117	PRND	CAGATACACAAGTGAGGGCTTT
7118	PRND	ATTTGCGTATGTAAACATTCATATT
7119	JAK3	CGAGTAGCTGGGATTACAGGTGT
7119	PRND	CGAGTAGCTGGGATTACAGGTGT
7120	PRND	CGAACTCCTGACATCAGGTGAT
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7121	APM1	CTCGGCCTCCCAAAGTGCTGGG
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7121	AQP6	CTCGGCCTCCCAAAGTGCTGGG

7121	BAZ2B	CTCGGCCTCCCAAAGTGCTGGG
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7121	CASP8	CTCGGCCTCCCAAAGTGCTGGG
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7121	ZNF165	CTCGGCCTCCCAAAGTGCTGGG
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7124	CDC2L2	GAACTCCTGACCTCAGGTGATC
7124	DFFB	GAACTCCTGACCTCAGGTGATC
7124	EIF5A2	GAACTCCTGACCTCAGGTGATC
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7124	SHOX	GAACTCCTGACCTCAGGTGATC
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7124	TRPV1	GAACTCCTGACCTCAGGTGATC
7125	PRND	AGTCTCTCATTTCTTTCAAGACAGCC
7126	PRND	AGTGTTTGCTGTTTCCCC
7127	PRND	ATGATTTTGGCTCACTGCAGCC
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7129	A1BG	TTGTTGCCCAGGCTGGAGTGC
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7131	TAPBP	TTGCCCAGGCTGGAGTGC
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7131	VHL	TTGCCCAGGCTGGAGTGC
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7134	PRND	TCTCATTCTGTTGCCCAGGCTGG
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7136	PRND	TCTGCCTCCCAGGCTCAAGC
7137	ALDH1B1	TCTTGAACTCCTGACCTCAGGTG
7137	EIF5A2	TCTTGAACTCCTGACCTCAGGTG
7137	GNE	TCTTGAACTCCTGACCTCAGGTG
7137	PRND	TCTTGAACTCCTGACCTCAGGTG
7138	ALDH1B1	TCTTGAACTCCTGACCTCAGGTGATCCA
7138	EIF5A2	TCTTGAACTCCTGACCTCAGGTGATCCA
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7139	PRND	TCTGTTTTAAATTTAAAACAA
7140	PRND	TCTTAGAGGTAGGTGTATTCC
7141	ALDH1B1	TGAACTCCTGACCTCAGGTGAT
7141	EIF5A2	TGAACTCCTGACCTCAGGTGAT
7141	GNE	TGAACTCCTGACCTCAGGTGAT
7141	PRND	TGAACTCCTGACCTCAGGTGAT
7142	A1BG	TGTTGCCCAGGCTGGAGTGCAA
7142	ATP1B2	TGTTGCCCAGGCTGGAGTGCAA
7142	CDC6	TGTTGCCCAGGCTGGAGTGCAA
7142	CLECSF12	TGTTGCCCAGGCTGGAGTGCAA
7142	MLANA	TGTTGCCCAGGCTGGAGTGCAA
7142	PMCHL1	TGTTGCCCAGGCTGGAGTGCAA
7142	PRKR	TGTTGCCCAGGCTGGAGTGCAA
7142	PRND	TGTTGCCCAGGCTGGAGTGCAA
7142	RAB36	TGTTGCCCAGGCTGGAGTGCAA
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7143	CLECSF12	TGTTGCCCAGGCTGGAGTGCAAC
7143	PRND	TGTTGCCCAGGCTGGAGTGCAAC
7144	APPL	TGTTGCCCAGGCTGGAGTGCAGT
7144	CNN2	TGTTGCCCAGGCTGGAGTGCAGT
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7144	CYP2B6	TGTTGCCCAGGCTGGAGTGCAGT
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7144	PDZK1	TGTTGCCCAGGCTGGAGTGCAGT
7144	PIK3CD	TGTTGCCCAGGCTGGAGTGCAGT
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7144	TAPBP	TGTTGCCCAGGCTGGAGTGCAGT
7144	TERF1	TGTTGCCCAGGCTGGAGTGCAGT
7144	TMC1	TGTTGCCCAGGCTGGAGTGCAGT
7144	TMPRSS3	TGTTGCCCAGGCTGGAGTGCAGT
7144	TNFAIP2	TGTTGCCCAGGCTGGAGTGCAGT
7144	TRPV1	TGTTGCCCAGGCTGGAGTGCAGT
7144	UGDH	TGTTGCCCAGGCTGGAGTGCAGT
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7146	PRND	GCTGAGTTTAGTTTTTCACTTTAG
7147	PRND	GCTCAAGTTGATGAATCATGGGG
7148	PRND	GGCCTCCCATAGTGCTGGGATT
7149	ACADSB	GGCCTCCCAAAGTGCTGGGATT
7149	ADAMTS4	GGCCTCCCAAAGTGCTGGGATT
7149	APM1	GGCCTCCCAAAGTGCTGGGATT
7149	APOL1	GGCCTCCCAAAGTGCTGGGATT
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7149	AQP6	GGCCTCCCAAAGTGCTGGGATT
7149	ATP7A	GGCCTCCCAAAGTGCTGGGATT
7149	BAZ2B	GGCCTCCCAAAGTGCTGGGATT
7149	BCL10	GGCCTCCCAAAGTGCTGGGATT
7149	BENE	GGCCTCCCAAAGTGCTGGGATT
7149	CAMLG	GGCCTCCCAAAGTGCTGGGATT
7149	CASP8	GGCCTCCCAAAGTGCTGGGATT
7149	CHRNB4	GGCCTCCCAAAGTGCTGGGATT
7149	CLECSF12	GGCCTCCCAAAGTGCTGGGATT
7149	CXCL16	GGCCTCCCAAAGTGCTGGGATT
7149	CYP4F3	GGCCTCCCAAAGTGCTGGGATT
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7149	DSC3	GGCCTCCCAAAGTGCTGGGATT
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7154	TMPRSS3	GCCCAGGCTGGAGTGCAGTGGC
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7222	PSEN1	CAGATTATCTTGTACAGCCTT
7223	PSEN1	CACCTTGCACTATTGGACTTT
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7229	PSEN1	CTCAAGCACTGACACTCATT
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7231	PSEN1	CTCAGGTTCCAAATTCAGTAA
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7233	PSEN1	CTTCCCTTTGATTTTTTGCTG
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7298	S100B	CAGCCGTGTTGTAGCTAAT
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7307	S100B	AAGGAGACCAGGAAGGGGTG
7308	S100B	GCCCTGCAAGGGCGTGGTGG
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7342	SLC17A7	TCAGGGGTAGTGAAGCTGCAGA
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7345	SLC6A4	GCCTCCAGCCACTTATTTC
7346	SLC6A4	TTCTCCACAACCTCCTCCTCC
7347	SLC6A4	ATCAAGTCTGTGAAAGTCTC
7348	SLC6A4	ATTTTGGACGTGTGAGGATGTGG
7349	SLC6A4	AGACTCAAGGCCTCCAGCCACTTATTTCC
7350	SLC6A4	ACCCTATCATCAGTTAGGATTAG
7351	SLC6A4	TCAGTGTCATTTACTAACCA
7352	SLC6A4	TCAGTGTCATTTACTAACCAGCAGGATGGAGA
7353	SLC6A4	TAGAACCTTCTAATCCATGTGCTGCTG
7354	SLC6A4	CAGTTCTGATGAGGCACGCCTGCC
7355	SLC6A4	GGCACGCCTGCCTTCTCCCCTCCA
7356	SLC6A4	AAGCACCCAGAGATCAATTGGGA
7357	SLC6A4	AGGCCTCCAGCCACTTATTTCCATGGA
7358	SLC6A4	ATATTCCCATGGTAGACTGTGACAC
7359	SLC6A4	CCCTATCATCAGTTAGGATTAG
7360	SLC6A4	CAACCTCCTCCTCCAGTTCTGATG
7361	SNCA	CGAACCTGAAGCCTAGAAATATCTTTG
7362	SNCA	CTGTTGTTCAGAAGTTGTTA
7363	SNCA	CTTCCCTTTCACTGAAGTGA
7364	SNCA	TTTAATTGAGCCTTTTATTAA
7365	SNCA	TTAAGAACTGACACAAAGGACAAA
7366	SNCA	TGCCCCCACTCAGCATTT
7367	SNCA	GCCCCCACTCAGCATTTCGGTGCT
7368	SNCA	TCAGCATTTCGGTGCTTCCCTT
7369	SNCA	TCGGAATTCCCTGAAGCAACACT
7370	SNCA	TGCTGTTGTTCAGAAGTTGTTAGTGAT
7371	SNCA	ACCTGAAGCCTAGAAATATCTT
7372	SNCA	AGTATCTGTACCTGCCCCCA
7373	SNCA	ATGCTGTACCTTTCTGACAA
7374	SNCA	TTCCTTAAGTGGCTGTGATTAA
7375	SNCA	GCCTTTTATTAACATATATTGTTATTTT
7376	SNCA	GCCATTTGAAGAAGGAGGAATT

7377	SNCA	GCTGTTGTTCAGAAGTTGTTA
7378	SNCAIP	TTTTCTCTCACTGATGCCCTTT
7379	SNCAIP	AGAGTGTTTTTTCTGTCATTTCTACT
7380	SNCAIP	ACAGCATAAAGCACATTGCTGAGCC
7381	SNCAIP	TGGAAAGAGAACCATGAAAACAATGC
7382	SNCAIP	TACAGCATAAAGCACATTGCTGAGCC
7383	SNCAIP	AATATCAGGATGCCTTA
7384	SNCAIP	AGGAAAGAATAAGGCAGCA
7385	SNCAIP	CATTGCTGAGCCAGAGTCA
7386	SNCAIP	TTTTTCTGTCATTTCTACTTTTTG
7387	SNCB	CCGGGGCATGGACAGGGCCAGG
7388	SNCB	CGCAGCCGCCGCTCCATCCCCAG
7389	SNCB	TCTGTCCCTGTCCCTGCCC
7390	SNCB	TGAGCCAGAGGCGTAGGGCCCAGGAG
7391	SNCB	TCTTCCTTCCGCTCTGAGGCAACCCC
7392	SNCB	TCCTGTTCCACTCCGGCCTTCCTAGCGG
7393	SNCB	CAGCACAATTCTGTCCCTG
7394	SNCB	GCAACCCCCTCGGAGCCTGTGT
7395	SNCG	CTGCGAGCTCCGTCCTGCCTGCAGCAGCACA
7396	SNCG	CCTGTGCTGCTGCACCAACCTC
7397	SNCG	TGCGAGCTCCGTCCTGCCTGCAGCA
7398	SNCG	CCTGCGAGCTCCGTCCTGCCTGCAGC
7399	SNCG	CTGCTGCACCAACCTCACTGC
7400	SNCG	GAGACTAAGGGCTACAGGCCAGCGT
7401	SOD2	CTGAGTATGTTAAGCTCTTTATGACTG
7402	SOD2	TTGTAGCATTTCTTGATGT
7403	TFCP2	AGGTCTGCAAGAACCTGACTCGTC
7404	TFCP2	ATCATACTGAAGTAGAGTGCGGCGTTTC
7405	TFCP2	TGGGAATTGTGTGATGTTTAACA
7406	TFCP2	TGGAGGAGTCCAGGCCATGGAGGCAGA
7407	TFCP2	TCTGCAGCTGTTTTAGTTAAATT
7408	TFCP2	TGATGGGAATTGTGTGATGTTT
7409	TFCP2	CTGGGGCAGCCAAGAACGAGC
7410	TFCP2	CCAGTGGCTGCTCCTTCCTTCACCTC
7411	TFCP2	CAGTTCTGCAGCTGTTTTAGTT
7412	TFCP2	GAGAGCGAGACCTGGGAGGGA
7413	TFCP2	GCCAGGATGGCCTGGGCTCTGA
7414	TFCP2	GGAGGAGTCCAGGCCATGGAGGCAGA
7415	TFCP2	GGAAGGAGCCAGGATGGCCTGG
7416	TFCP2	GCTGCCTCTGGGAAGTCTGCAGTA
7417	TFCP2	GCTGCTGCTGGTCTGACT
7418	TFCP2	AAGGTCTGCAAGAACCTGACTCGTC
7419	TFCP2	AGTCCAGGCCATGGAGGCAGAA
7420	TFCP2	ACAGAGCAGTGCTAGTCGGGCT
7421	TFCP2	ACAGGAAGATCTTAAATTTTGTGA
7422	TFCP2	TAGTTGAGCAAAGGGGTCCTCACGTT
7423	TFCP2	TGGAGGCAGAATCCTGGCC
7424	TFCP2	TGCTAGTCGGGCTTGGGGG
7425	TFCP2	GGGAGAGAGCGAGACCTGGGAGGGAGG
7426	TFCP2	CTGGGAGGGAGGGGTCCTCCAGCAGAA

7427	TFCP2	CTGAGAGCTGGGCAGGGGGGA
7428	TFCP2	GGCTGCTGCTGGTCTGACT
7429	TGFB1	GGAGGCTAAGGTGGGAGGATCA
7430	TGFB1	GGAGGAAGGAGTCGCCGAGGAGCAGC
7431	TGFB1	GAGACACCCCCGGTCCAAGCCTCCCC
7432	TGFB1	GCCACTGCGGGGAGGAGGGGGA
7433	TGFB1	GCCTGTAATCCTAGCACTTTTGGGAG
7434	TGFB1	GCCCTTCTCCCTGAGGAGCCT
7435	TGFB1	CTGCCTCCTCCTGCCTGTCTGCAC
7436	TGFB1	CCTCTCTGCCTCCTCCTGCCTGT
7437	TGFB1	CTCCTCCTGCCTGTCTGC
7438	TGFB1	CTCCTCCTGCCTGTCTGCACTA
7439	TGFB1	CGCTGGGAGCCGGAGGCGCGGGGA
7440	IL6R	CGCCTGTAATCCTAGCACTTT
7440	ROCK2	CGCCTGTAATCCTAGCACTTT
7440	TGFB1	CGCCTGTAATCCTAGCACTTT
7441	TGFB1	CGCCTGTAATCCTAGCACTTTT
7442	TGFB1	GGCCTCGGCCCGGAGCG
7443	TGFB1	CCATTTTAAAGGTTGAGGAAACAAGC
7444	TGFB1	CCAGGCATTTGAGACCAGCCTGGGTAA
7445	TGFB1	CCATAGCAACACTCTGAG
7446	TGFB1	TAACATAGTGAGACCCTATCTC
7447	TGFB1	GGGAGGAGTTCCTGCCCACC
7448	TGFB1	GGTCCAAGCCTCCCCTCCACCA
7449	TGFB1	GGTGCTCACGCCTGTAATCCTAG
7450	TGFB1	TGCGGGGAGGAGGGGGAGGAGGA
7451	TGFB1	TCCTCCTGCCTGTCTGCACTA
7452	TGFB1	TCCAGGCATTTGAGACCAGCCTGGG
7453	TGFB1	ACCAGCCTGGGTAACATAGTGA
7454	TGFB1	AGACCAGCCTGGGTAACATAGT
7455	TGFB1	ACTATTCCTTTGCCCGGCATCA
7456	IL6R	ACGCCTGTAATCCTAGCACTTT
7456	ROCK2	ACGCCTGTAATCCTAGCACTTT
7456	TGFB1	ACGCCTGTAATCCTAGCACTTT
7457	TGFB1	AGTGAGACCCTATCTCTACA
7458	TGFB1	AGGCTAAGGTGGGAGGATC
7459	TGFB1	AGGAACCTGCTTTAGTGGGGGA
7460	IL6R	CACGCCTGTAATCCTAGCACTT
7460	TGFB1	CACGCCTGTAATCCTAGCACTT
7461	TGFB1	ATTCCTTTGCCCGGCATCAAGGCACAG
7462	TGFB1	TTGGGAGGCAGAGATGGGAGG
7463	TGFB1	TGGGAGCCGGAGGCGCGGGGAC
7464	TGFB1	AATGTACACCTGTGGTCCCAG
7465	TGFB1	GCTGGGAGCCGGAGGCGCGGGGA
7466	CYP3A4	GCTCACGCCTGTAATCCTAGCA
7466	IL6R	GCTCACGCCTGTAATCCTAGCA
7466	OPA3	GCTCACGCCTGTAATCCTAGCA
7466	TGFB1	GCTCACGCCTGTAATCCTAGCA
7466	XT3	GCTCACGCCTGTAATCCTAGCA
7467	TGFB1	GCCTGTAATCCTAGCACTTTTGG

7468	TGFB1	GCACCTTGGGCACTGTTGAAGTGCCTT
7469	TGFB1	CAGGCATTTGAGACCAGCCTGGGTAA
7470	TGFB1	CACCACTGCGCCCTTCTCCCTGAGG
7471	TGFB1	CCAGGCATTTGAGACCAGCCTGGGTAACATA
7472	TGFB1	CCCACCAGGAACCTGCTTTAGTGGGG
7473	TGFB1	CCCTGAGGAGCCTCAGCTTTCCCTC
7474	TGFB1	CTGGGAGCCGGAGGCGCGGGGACCTC
7475	TGFB1	GACCAGCCTGGGTAACATAGTG
7476	TGFB1	CCTGTAATCCTAGCACTTTTGG
7477	TGFB1	CTCCTGAGCCCCCGCGCATCCT
7478	TGFB1	CTCTCTGCCTCCTCCTGCCTGTC
7479	TGFB1	TCTGCCTCCTCCTGCCTGTCTGCA
7480	TGFB1	TGGAGGCTAAGGTGGGAGGA
7481	TGFB1	ATCCTAGCACTTTTGGGAGGCAGAG
7482	THOP1	TGTCATTGTCTGTCCCCACCCGGTCGT
7483	THOP1	TCTCCTCTCTGGGAAACGTCCC
7484	THOP1	GCGGCTGTCTTGCCTCTTGTC
7485	THOP1	GGCACAGTGCCTGGGACTGGC
7486	THOP1	CGGCTGTCTTGCCTCTTGTC
7487	THOP1	GCACTGCGACTGCCCAGTCTGGCC
7488	THOP1	GGCACAGTGCCTGGGACTGGCAGGGTG
7489	THOP1	GGGGCAGGCTCTGGCACAGTGCCTGGGA
7490	THOP1	GGTGGAAGGAGGGAGGGAGCCGC
7491	THOP1	GGTGGAAGGAGGGAGGGAGCCGCAGGCG
7492	TNF	GCTCCCCAGGGGAGTTGTGTC
7493	TNF	GGACCTTAGGCCTTCCTCTCTCCA
7494	TNF	GAGAATTGGGGGCTTAGGGTCGGAAC
7495	TNF	CTGGAATCTGGAGACCAGGG
7496	TNF	CTTGAGACACGGAGCCCAGCC
7497	TNF	CCCTCTCTCCCCTGGAAAGGACACCA
7498	TNF	CCCTCAGCAAGGACAGCAGAG
7499	TNF	TCCACCCTCTCTCCCCTGGAAAGGACA
7500	TNF	CCTGGCCTCTGTGCCTTCTTTTGAT
7501	TNF	CCTTAGGCCTTCCTCTCTCCA
7502	TNF	GACCTTAGGCCTTCCTCTCTCCA
7503	TNF	CTTCCCAAACGCCTCCCCTGCCCCAAT
7504	TNF	CTTAGGCCTTCCTCTCTCCA
7505	TNF	CCAGCTCCCTCTATTTATGTTTGCACT
7506	TNF	CACTGGGGCCTACAGCTTTGA
7507	TNF	TTCCTTGAGACACGGAGCCCAG
7508	TNF	AGGAATGTGTGGCCTGCACAGTGAAGTG
7509	TNF	AGTGCTGGCAACCACTAAGAA
7510	TNF	ACCTTAGGCCTTCCTCTCTCC
7511	TNF	ACTCACTGGGGCCTACAGCTTT
7512	TNF	TGCTGGCAACCACTAAGAATTCA
7513	TNFRSF5	TCCTGGCTCCAACACTGCTG
7514	TNFRSF5	TCACCCAGGAGGATGGCAAAGAGAGTC
7515	TNFRSF5	GGGGCAGGGGAGTCAGCAGAGGCCTCG
7516	TNFRSF5	CAGGAGAGACAGTGAGGCTGCA
7517	TNFRSF5	ACAGGAGACCTGGCACTGGA

7518	TNFRSF5	AGTTTGAGACAGGAGACCTGGCACTG
7519	TNFRSF5	CAGGAGACCTGGCACTGGA
7520	TNFRSF5	CCCGACGATCTTCCTGGCTCCAACAC
7521	TNFRSF5	TCCCGACGATCTTCCTGGCTCCAACAC
7522	TNFRSF5	TGGCTCCAACACTGCTGCTCCA
7523	TNFRSF5	AGTGGGCTGCACCCACCCAG
7524	TNFRSF5	GCGTGAGGGTGAGGGGCTGG
7525	TNFRSF5	GAGACAGGAGACCTGGCACTGGA
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7527	TNFRSF5	GGTGAGGGGCTGGCACTGACTGGGCATAGC
7528	TNFRSF5	GTCACCCAGGAGGATGGCAAA
7529	TNFRSF5	GTCACCCAGGAGGATGGCAAAGAGAGT
7530	TNFRSF5	GGTCACCCAGGAGGATGGCAA
7531	TNFRSF5	TCACCCAGGAGGATGGCAAAG
7532	TNFRSF6	TCCAAGGATGTTTAAAATCTAGTTGG
7533	TNFRSF6	GTGAAAAACAACAAATTCAGTTCTGA
7534	TNFRSF6	GTGACACACAGGTGTTCAAAGACG
7535	TNFRSF6	GGCAAGACTGCCCTTAGAAATTCTAG
7536	TNFRSF6	GCGTATGACACATTGA
7537	TNFRSF6	GACAATGTCCAAGACACAGCAGA
7538	TNFRSF6	GACGCTTCTGGGGAGTGAGGGAA
7539	TNFRSF6	CTGCCCTTAGAAATTCTAGCC
7540	TNFRSF6	CGCAAGAGTGACACACAGGTGTTCA
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7542	TNFRSF6	ATGCAGAAAGCACAGAAAGGA
7543	TNFRSF6	ATGTAAACTGTGAAGATAGTT
7544	TNFRSF6	TTGGGTGAAGAGAAAGGAAGTACAGA
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7546	TNFRSF6	TCTCAGGCATCAAAAGCATTTTG
7547	TNFRSF6	CTGGCTCAAAACTACCTA
7548	TNFRSF6	CTTTGCCACCTCTCCATTTTTGCC
7549	TNFRSF6	ATTTAAATAAGGCTCTACCTC
7550	TNFRSF6	ATGGAAAGAAAGAAGCGTATGACACA
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7552	TNFRSF6	ATGTCCAAGACACAGCAGAACAGA
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7555	TNFRSF6	TCTTTCTCAGGCATCAAAAGCATT
7556	TNFSF5	TCAGTGAAGATGCAGAAGGGAAATGG
7557	TNFSF5	CAGGTTGAATTCTGAGTAAACAGCAGATAACT
7558	TNFSF5	ATTACAGGTCACATGAAACCAAA
7559	TNFSF5	AGTTCTCTTCTTTCCACCCTGTCCCTA
7560	TNFSF5	TTTCCACCCTGTCCCTATCTCTACC
7561	TNFSF5	CTTGCAGGCTGTGGTGGAGCTGA
7562	TNFSF5	CTCTGCCAGAAGATACCATTT
7563	TNFSF5	CATGAAACCAAAACGGGCCCTG
7564	TNFSF5	TTCAGTTTTGTTTCTTTGCGT
7565	TNFSF5	ATCCAGAGAGTCCTATGAAAAGAC
7566	TNFSF5	CGGACAGTTATTCATTCTCTT
7567	TNFSF5	CTATGAAAAGACAAGGCCAT

7568	TNFSF5	CTCCTTATGGAGAACTATTT
7569	TNFSF5	GCAGAAGGGAAATGGGGAGCCTCAGC
7570	TNFSF5	GGCTGTGGTGGAGCTGACGCTGGG
7571	TNFSF5	GGAGAACTATTTATTATACACTCCA
7572	TRPM2	GCTGGCTCTTCTGTGCTTTCCA
7573	TRPM2	GGCTGTGTGACGGCTGCCTGAA
7574	TRPM2	GGCCTGGCTGGCTCTTCTGTGCTTTCCACAAA
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7576	TRPM2	GCCAGGATGCAGGCATCCACAT
7577	TRPM2	GCAGCTGGGAACATGTGCAGGCTG
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7579	TRPM2	GGGCACTGTCTGAACTCCTGAC
7580	TRPM2	GGGCAGCAGGCCTGGTTGCAGCTGG
7581	TRPM2	CTGACACGTCCAGGGCCAGG
7582	TRPM2	CTGCCTGGCCACTGAGCACTGGCCGA
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7584	TRPM2	CGGCTCCAGTCCATAGACGTTCCCCCC
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7586	TRPM2	CCCAGGCCTGTCAAGAGACG
7587	TRPM2	CCCAGCCAAGGGACACATCTCA
7588	TRPM2	AGCCTCATCTTCCTGTCTCT
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7598	TRPM2	CGGTGAGCTTCCTGCAGCCTGTGG
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7605	TRPM2	TTCTCCTCTGACCCATCAGCT
7606	TRPM2	ATGCAGGCATCCACATGCC
7607	TRPM2	CACTACTGCTGTGCCCTCAGGCT
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7612	TRPM2	CCCAAGTTTCTCCTCTGACCCA
7613	TRPM2	GGCGGTGGAGACTTCCCTGTGCGGTG
7614	TRPM2	GGTCAAGGTGACCCGGGAGGAGAG
7615	TRPM2	GTCTGAACTCCTGACTGTCAG
7616	TRPM2	GTGCCTCAACATGGAGCCTTGCCTG
7617	TRPM2	TCAACATGGAGCCTTGCCT

7618	TRPM2	TCCTCTCAGAACATCAGCCTCA
7619	TRPM2	TCTCTAGCCACCCCCTTGTCCCCAGT
7620	TRPM2	TGCAGCCTGTGGATGTCCTGCAGCCC
7621	TRPM2	TGGAGAGAGGACTGTCCTGAGGG
7622	UBB	GTGGGTGGACGTGGTTGGTGAT
7623	UBB	TTACTCTGCACTATAGCCATTTG
7624	UBB	TTACTCTGCACTATAGCCATTTGCCCCA
7625	UBB	TTACAAGTTTCAGTAATAGCTG
7626	UBB	TGTGGGTGGACGTGGTTGGTGATTGGC
7627	UBB	GCATTACTCTGCACTATAGCC
7628	UBB	AACCTGTTCAAAATGTTAATA
7629	UBB	TGTGGGTGGACGTGGTTGGTGAT
7630	UBB	ATGGCATTCGCAGTGCCCAGTGATG
7631	UBB	GTGGGTGGACGTGGTTGGTGATTGGC
7632	VLDLR	TCCACATTCTACTTCAGCTTTGGATG
7633	VLDLR	AGGTTTGCAAAGACTGAGTGT
7634	VLDLR	CACATTCTACTTCAGCTTTGG
7635	ACTC	TGCTTCTAGATGCCTTCTCTCTCCA
7636	ACTC	TTCTCTCTCCATCTACCTTC
7637	ACTC	TTCTAGATGCCTTCTCTCTCCA
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7639	ACTC	GATGCCTTCTCTCTCCA
7640	ACTC	GATGCCTTCTCTCTCCATCT
7641	ACTC	GTGCAATTTGTTTGTGCTTCTA
7642	ACTC	GTCTCCCAAACCACCTTCCCTCA
7643	ACTC	CTCTCTCCATCTACCTTCCAGTCA
7644	CASQ1	CTTCCCTTGTCCTTCCCT
7645	CASQ1	CCTCCATCTATGCACAGCTTTCC
7646	CASQ1	CCCTCCATCTATGCACAGCTTTCC
7647	CASQ1	GGTCTATATGCTGGGTGCTGAGACA
7648	CASQ1	GCTGGGTGCTGAGACACTG
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7650	CASQ1	GGCCCCATCTCTGTTCTGTT
7651	CASQ1	TTCAGCCCCACTGGTCTTTTCA
7652	CASQ1	AGCTAACCTCTTCTGGACC
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7654	CASQ1	TCTCTGTTCTGTTCCCTCCAT
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7657	CASQ1	ATTTGATGAGCAAATGAGCTA
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7660	CASQ1	TTCATGCTCTCTCCTGCCTTCC
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7664	CASQ1	AGGGAGACTAGGTTATTCTCTG
7665	CASQ1	AATCCTGTATCTTTCTGACTGT
7666	DMD	AATCATCTGCTGCTGTGGTT
7667	DMD	AATCATGCGAAAGGGGAGCTGT

7668	DMD	AATACAGCCACTAATTGCCTTAC
7669	DMD	AATATTCATACAACAAAGAGG
7670	DMD	ACAAAACTTTGAGGCAGCGC
7671	DMD	ACATCACATGGCATGTTTTGTC
7672	DMD	ACCAAATATATGCCTTA
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7674	DMD	AGAGATTCTGTGCCTGCTTTATCTGTG
7675	DMD	ACTAGCAATGGCAAAGCTTT
7676	DMD	ACTGACACATAGAGTAACTTCTAGTTC
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7706	DMD	CAGGTGCAAAAAGATTGTGTGTT
7707	DMD	GACGCTGGACCTTTTCTTTACCCAAG
7708	DMD	GAATCAGGAGAAAGATGCTGTTT
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7711	DMD	TCTCACAGTCAAAAGGAACTGGGTGG
7712	DMD	TCTGCTGCTGTGGTTATCTCCTA
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7736	DMD	GCTCTGAACTAAAAGCATCCGT
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7738	DMD	GAGATTCTGTGCCTGCTTTATCTGTG
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7749	DMD	GCTATTTATTTTTCTCCTTCACA
7750	DMD	GAGCCTCTCCTACTCAGACTGTTA
7751	DMD	GATCACTCACTTTCCCCCTACA
7752	DMD	GGTTTTGGGGTGTTCCTGATAATT
7753	DMD	CTCATTTGAGAACTGTCA
7754	DMD	CTGAACACCCTCCTTTCACTCCC
7755	ITGA7	GCACAGACCTCTCCCACCCACAAGAACT
7756	ITGA7	GATCCTAATCCCTTCCTCTCCCATTCACC
7757	ITGA7	GCCTGGCCTGTGGCTGCCCT
7758	ITGA7	GGAGGAGGTTGTGTCACTGACTCAG
7759	ITGA7	ATCCTAATCCCTTCCTCTCCCA
7760	ITGA7	TGGGATGAAGAGGGTAGAGTGGG
7761	ITGA7	GAAGGGCAGGGGTGTCCTGATGC
7762	ITGA7	CCAGCCTGGCCTGTGGCTGC
7763	ITGA7	TGCCTCCCCGGAAGTGCCTT
7764	ITGA7	TAGAGTGCTGTGAGATGAGAGTGGGT
7765	ITGA7	AGACTTTGGAGACCAGAGACGCGCCTGG
7766	ITGA7	ACCTTAGTTTGCTGCCATCAGTCTAG
7767	ITGA7	ACCCTGTGTAACAGGACCCCAA

7768	LAMA2	GACTCCAGACTGAATTTTAATTCAA
7769	LAMA2	TATCAAGTAAAACAAACAAATA
7770	MYF6	TATTAAAAAGAAGTTTCTA
7771	MYF6	ATACTATATTAACTTTTATTACGGTGA
7772	MYF6	CCACCGACCCTTCCTGGCCTAATCCT
7773	NOS1	CCAAACCCACCCATACCAGCTAGAA
7774	NOS1	CCAGCCGGCTGCAAGTTTTGTAA
7775	NOS1	CATCTCCTCCCCTTTCTGCCT
7776	NOS1	GGGGCTGTCTCCCAATGAAAGA
7777	NOS1	GTCAGGCAGTTCCCAGAAAGA
7778	NOS1	TCATGCCAGCTATAATCTCCCCTGCCT
7779	NOS1	TCCTCCCAAAGGCTTTCTTTCCAA
7780	NOS1	TCTAACAGGCTGGCAATG
7781	NOS1	TCCCACTCCCTCTCTTGCCG
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7783	NOS1	TGACCCCCTCCTCCAGCA
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7788	NOS1	ACATTAAGAAATAAATTCCCCCTCA
7789	NOS1	ACGGGTGCATGAAACCACT
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7793	NOS1	AGGGTCCACGCCCATGTACCTGA
7794	NOS1	AGTCCCTCAGCCACTGAAGTC
7795	NOS1	ATCATGCCACCGACGGGCCAC
7796	NOS1	TGGGACCCCCTGTGGCCCTCGC
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7802	NOS1	TTGCTATACAGAAAAACCACAT
7803	NOS1	TTTACAGTGGGGGCACCAAGA
7804	NOS1	AGCTCCTACTGGACCCTCTTGCCCAGCCG
7805	NOS1	TGCTGCTTCACCCTTGGGGA
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7808	NOS1	TCCTGCTCTCCGTGTAGCC
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7813	NOS1	CCACCAGCCATGAGTGGGTGACGCTGAG
7814	NOS1	CCCATTTCCAGCTCCTAGTAGCT
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7821	NOS1	TCATGCCACCGACGGGCCAC
7822	NOS1	TAAAGAGGAAGTGCACTGG
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7830	NOS1	CTGAAGCCTGGATCCTCCTGGTGAAAT
7831	NOS1	CTCCTTGAGTTTTCCTGCTGC
7832	NOS1	CTGCTCACTCTTCCACAGATATA
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7835	NOS1	CCTCGGCCCTCCTGGGTTTACTCCTTG
7836	NOS1	CCCCTCGGAAGCTAGTTACCATGGAGG
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7838	SPARC	CGTTCACCTCCAAGCATTTCA
7839	SPARC	CTGCCGCCTGCCTGCCTGCCACTGA
7840	SPARC	GGTTTGCCTGAGGCTGTAAC
7841	SPARC	GGTCGGATCTCACAGGCTGAG
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7844	SPARC	AACTGAGAGAAAGATTCTG
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7854	SPARC	TTCATCACCATTTCCTCCTTTA
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7857	SPARC	TTTGTTGTTCTGCCTGGAGACAAGGT
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7862	SPARC	AGGGTTCCCAGCACCATGAGGGCCTGG
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7864	SPARC	ACCCAAGACATGACATTCTTA
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7868	SPARC	TCACATTAGGCTGTTGGTTCAAACTTT
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7870	SPARC	GGGTCTTGGCTGCCTGTG
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7872	SPARC	GTTCATCACCATTTCCTCCTTTACC
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7874	SPARC	CCCAAGACATGACATTCTTAGCTGTA
7875	AQP4	GGTGGCTTTCAAAGGGGTC
7876	AQP4	TGCACTCTGGCTGGGGAAG
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7886	AQP4	TCATAATTTACAAAGGAGGAACGGAAG
7887	CBLB	GTTCCATTTCTCTCATTCA
7888	CBLB	GTGGAAATAAAGAGAACTGAGATGGA
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7890	CBLB	CTTCTTTGGAAACCATCACTATTGA
7891	CBLB	GCAAAGTTGCAGTTTGTTCTT
7892	CBLB	TTCCCTTGAACTTTGAACCTG
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7899	CBLB	CAGGATGTCGACAGCTGTGGCTTCC
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7901	CBLB	CAAGAGTGTGGAAA
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7909	CNP	GGCTCACTGCAGCCTCGAACTCCT
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7915	CNP	TGCCTCCATGGTGCCTCTGGAG
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7918	CNP	AACTCCTGGGCTCAAGCAATC
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7918	TNFRSF11A	AACTCCTGGGCTCAAGCAATC
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7972	ORC1L	TCATGGCTCACTGCAGCCT
7972	XRCC2	TCATGGCTCACTGCAGCCT
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8175	MCP	ATTCTCTATTTTTTTGTAATGTG
8176	MCP	GAATTCAAGAAAATTTAAGCTGCAAA
8177	MCP	GAAATCTTTTTTGTTCAAAGATTAATGC
8178	MCP	CACTGCATTTCATATCACACT
8179	MCP	CCTCTACTGAGTCCCTTAGCC
8180	MCP	AAGCAGTTTCTTTCAAAGAAGCCA
8181	MCP	CCTTTCCTTTGTAGTCTCTGGCA
8182	MCP	CTTACCTCATCTCCTAAAAGGCA
8183	MCP	CTGTTAAAAGTTGTGTTTTGAAA
8184	MCP	CTTAGGTTGAGTAACCCACTCTG
8185	MCP	GAGATCTATATATGTATAAATATGTAT
8186	MCP	GCAGAGCAGAGAGGCTGAATA
8187	MCP	GGTAAATTCTCTATTTTTTGT
8188	MCP	GTATAGCAGTTTCTGCTTCA
8189	MCP	GTTCAAAGATTAATGCCAACT
8190	NCF1	CCGTCTGGGCTGGAGCGCAGT
8191	NCF1	CGTCTGGGCTGGAGCGCAGTCCCCAG
8192	NCF1	TGCCGTCTGGGCTGGAGCGCAGT
8193	NOTCH3	TTCTCTTCCTGGTAATCCTCTGGCCCA
8194	NOTCH3	CTACCACCCACCCTCTCAGTCT
8195	NOTCH3	CTGCTGGTGGGAAATGGGAGCCAGG
8196	NOTCH3	CCCACTCCCCTCACCACCTAAT
8197	NOTCH3	GCTGGTGGGAAATGGGAGCC
8198	NOTCH3	GGACCTCCTTCTTCCCCACTTC
8199	NOTCH3	GCCCAGGGCTTCAGTCTTC
8200	NOTCH3	TGGGACTACAAGAAGAGGAGCTGC
8201	NOTCH3	TGGCCTCTCATTTCCTTACACTCT
8202	NOTCH3	GTGAACCCCCCAGTGCCCCCGTGGG
8203	NOTCH3	GGTGGGAAATGGGAGCCAG
8204	NOTCH3	CAGCCCAGGGCTTCAGTCTTCCTTTA
8205	NOTCH3	CGAGATAGGTCATCAGCCCAGGG
8206	NOTCH3	CTGTGTACCTAGTACACAGGCAT
8207	NOTCH3	CCCCGTCCTGCCTCCTTTCTTTCTC
8208	NOTCH3	CCCCACCTCCCTCACTTCACTGC
8209	NOTCH3	CCCAGGGCTTCAGTCTTC
8210	NOTCH3	GGGCTTCAGTCTTCCTTTATTTATAA
8211	NOTCH3	TCATTTCCTTACACTCTGAC
8212	NOV	GTAAGCTCAGGATATGGCTTA

8213	NOV	TCTAGAATCATACTTAACATTTCA
8214	NOV	TCAGGATATGGCTTAGGAATGACTTA
8215	NOV	ACCATCAAAGGAATATAAGAAAAGTA
8216	NOV	AAGCTCAGGATATGGCTTAG
8217	NOV	AACTGATGAGTAAACTGAGGCCC
8218	NOV	TGGTGTCATAAACTTTCTCCA
8219	NOV	TTAATGCCACCACACGTGTTCCGC
8220	NOV	GCTCCCTTTTTGGGTAAACCA
8221	NOV	AATCCAAGGAAACATGCAGCTCTTC
8222	NOV	CAAAATCAACATGACTGGTGG
8223	NOV	CATCATATTTTGTTGTGCACTA
8224	NOV	CCTGTAGCTGCTGCGCCACCCACCATC
8225	NOV	CGAGAGGGGAAAGCCTGAGCA
8226	NOV	TTCTCTCTTTTAAAGTATTTA
8227	NOV	TTGTAAAATATTATGTTTGATT
8228	NOV	ATTAAGCAGAAACAGCATATTAG
8229	NOV	TCCTGTGGTTTTATTACAAA
8230	NRG1	TCTCCTGCCGCCGCTGCTGCTGCC
8231	NRG1	TGCTGCATCTCCCCTCAGATTCC
8232	NRG1	TGGGAGCGTGAGCAGGACGGT
8233	NRG1	TTAACAAAAGCAATTGTATTACTTCC
8234	NRG1	TGTCGCTTATGTCTATAACTCC
8235	NRG1	TGTCACCTGTAGATTTCCACACGC
8236	NRG1	TTCCAATTTTGTTGCATCATGTT
8237	NRG1	CCTTTTGGTATCTACTTCTA
8238	NRG1	CATCGACGACTTCCCGGGGCGAC
8239	NRG1	CAGATGTTTTTCTTCATTAACCA
8240	NRG1	CAGAAGCCCGCACGCACCTCGC
8241	NRG1	CCGCTCGCTCTCCCCATCGAGGGACAAAC
8242	NRG1	AAGGCATTTCAAAGTCTCACTTT
8243	NRG1	GCTAAGCTGTAACCGATATGCAC
8244	NRG1	GGCCCAGAAACAGCAGCTTAAA
8245	NRG1	GCCGCTCGCTCTCCCCCTCG
8246	NRG1	GAGGGACAAACTTTTCCCAAAC
8247	NRG1	ACTGCCTCTGCCTGTCG
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8249	NRG1	ACGATATACTTTGATTTTGTAG
8250	NRG1	ACCAGCTTCAGATGCTCGAGGTGAG
8251	NRG1	ACTGCCTCTGCCTGTCGCATG
8252	NRG1	ACTGCCTCTGCCTGTCGCATGAGAACA
8253	NRG1	AGCAATTGTATTACTTCCTCTG
8254	NRG1	AGCAGACACCAGCTTCAGATGCT
8255	NRG1	AGGGACAAACTTTTCCCAAACCCGAT
8256	NRG1	AGGGTGTTGCTAAGCTGTAACCG
8257	NRG1	ATTAACAAAAGCAATTGTATTACTTCC
8258	NRG1	ATCGACGACTTCCCGGGGCGAC
8259	NRG1	TCATGGAAGAAGAGAGACCTCTACTTC
8260	NRG1	TCTCCACCCGTGTCCAGCATGAC
8261	NRG1	TCTCCACCCGTGTCCAGCATGACGGTG
8262	NRG1	TCTGAACTCTTCTTGATTTTAAT

8263	NRG1	GGTGCTGCGAGGGGAAGGAAAA
8264	NRG1	GGGGAAGGAAAAGGGAGGCA
8265	NRG1	TACCTCTTCGCCTTTCTGTGGTT
8266	NRG1	CCAATTTTGTTGCATCATGTT
8267	NRG1	GGCTGGTCCTCCTTCTGCTTTT
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8269	NRG1	GGGAGCGTGAGCAGGACGGT
8270	NRG1	CCATCTTCTTTATACAATGACCA
8271	NRG1	GTCACCTGTAGATTTCCACACGC
8272	NRG1	GCGGGAGGTGGGTGGCTGCGGGG
8273	NRG1	GGGACAAACTTTTCCCAAACCCGATCCGAGCC
8274	NRG1	CCCGGGGCGACAGGAGCAGC
8275	NRG1	CTTCCACCACAACCCCACGCGC
8276	NRG1	CGGGAGGTGGGTGGCTGCGGGGCAAT
8277	NRG1	CGGGAGGTGGGTGGCTGCGGGGCAATT
8278	NRG1	CTAGAAAAGTGGCCCAGAAAC
8279	NRG1	CCGCTCGCTCTCCCCCTCGAGGGACAAAC
8280	PDC	CTTGACTACAAAACAGAGCTGT
8281	PDC	CTCTCAGGAGCCTTCTCCGCA
8282	PDC	AAAACAGAGCTGTCTTCAGCA
8283	PDC	TTATTAGCATTTCTTAGTAT
8284	PDC	CTTGACAAAAATGACTG
8285	PTPRC	CCAGTGAGCTTATCATGCTGTC
8286	PTPRC	TTCTGAAATGACCTCA
8287	PTPRC	TTGTAGAAGGGTTATATTTTA
8288	PTPRC	ATATTAGCATTTAGTCCAATGT
8289	PTPRC	GAGAGAGAATTCTTTCAAGTGA
8290	PTPRC	GCTTTTCCTTTGTTTTTATGA
8291	PTPRC	AAACCTTTGAGACTATTGAGAT
8292	PTPRC	TGTTTTTAAAAATCATAAACTG
8293	PTPRC	TTTAAGAGTATGTTGCTTTT
8294	PTPRC	GTAAATCACACAACAGGTTTCTA
8295	PTPRC	TGCTTTTCCTTTGTTTTTATGA
8296	PTPRC	TCCCATGTTAAATCCCATTCATA
8297	PTPRC	TCCAGTGAGCTTATCATGCTGTC
8298	PTPRC	TCATGCTGTCTTTACATGGGGTTT
8299	PTPRC	TCATGCTGTCTTTACATGGGGTTTTCA
8300	PTPRC	TATTAAAATGAATATTTTTGT
8301	PTPRC	CACACAACAGGTTTCTACTCTC
8302	PTPRC	AGCTTATCATGCTGTCTTT
8303	PTPRC	ACAACAGGTTTCTACTCTCTTT
8304	PTPRC	ACACAACAGGTTTCTACTCTC
8305	PTPRZ1	TAGGCAGGAAAATCAGTCTA
8306	PTPRZ1	TGAAAGAAGTTTTTATGAGAATAACAC
8307	PTPRZ1	TTGTTTCAGCATGTAATTTTA
8308	PTPRZ1	AAATTTATATCATTAACAATGT
8309	PTPRZ1	AAATTTATATCATTAACAATGTGTG
8310	PTPRZ1	AGGATTCTGCCGCCAA
8311	PTPRZ1	CCTCCCTCTCCACTCTGAG
8312	PTPRZ1	CCTTCATTTTGAAAGAAGTTTT

8313	PTPRZ1	CCTCTTCCTAAAATTAGGCAG
8314	PTPRZ1	GTTCTGTGTAATTGTTTAGTTTAA
8315	PTPRZ1	TACTACTGAGTCAAGTTTTCTAGTTCT
8316	SPP1	GAATATAACATTTTATGTCA
8317	SPP1	TTCATTCTATAGAAGAAATGCA
8318	SPP1	TGGCTTCATGGAAACTCCCT
8319	SPP1	TCACTACCATGAGAATTGCA
8320	SPP1	TCGTCTCAGGCCAGTTGCAGCCTT
8321	SPP1	CCATGAGAATTGCAGTGA
8322	SPP1	AATCTTTTATCTTGAATGTAATA
8323	SPP1	ACATAACCTTTTTTACTGCCT
8324	SPP1	AAAGAAAAAATGCTTTA
8325	SPP1	AGACTCGTCTCAGGCCAGTTGCAGC
8326	SPP1	AGAATATAACATTTTATGTCACTA
8327	TNFSF10	AGATGTTTCAAAAAATCTGACC
8328	TNFSF10	AGGCTGAGGCAAGAGAATTGTT
8329	TNFSF10	CAACCAAAAAATTCTACAACACACACT
8330	TNFSF10	CACTACACTCCAGCCTGGCGAC
8331	TNFSF10	CACTACACTCCAGCCTGGCGACAGAGC
8332	TNFSF10	CACGAGATCAAGAGATCAAGAC
8333	TNFSF10	CACCTGTAATCCCAACATTTTG
8334	TNFSF10	ATCTTTCAGGACTCTACCTCA
8335	TNFSF10	ACTAAAAGATCGCAGTTTGCCTGG
8336	TNFSF10	ACCTGTAATCCCAACATTTTGG
8337	TNFSF10	ACCTGTAATCCCAACATTTTG
8338	TNFSF10	AAAGTGACTCACTTATCCCAAGA
8339	TNFSF10	CCACTACACTCCAGCCTGGCGACAGAG
8340	TNFSF10	GGGAGGCAGAGGTTGCAGTGTG
8341	TNFSF10	TCCAGCCTGGCGACAGAGCG
8342	TNFSF10	TCATGCCACTACACTCCAGCCT
8343	TNFSF10	TCAAGAGATCAAGACCATAGTG
8344	TNFSF10	TGACCAACATAGTGAAACCCCA
8345	TNFSF10	TGCCACTACACTCCAGCCTGGCGACAG
8346	TNFSF10	TGCCTGTAGTCCCAGCTACTTGA
8347	TNFSF10	TGGCTCACACCTGTAATCCCAACATTT
8348	TNFSF10	TTGCCTGGTGCAGTG
8349	TNFSF10	TGCCTGTAGTCCCAGCTACTTGAGAGG
8350	TNFSF10	TGTGGTGAGATCATGCC
8351	TNFSF10	TGTTTGAACCCGGGAGGCAGAG
8352	TNFSF10	TGACTTACAGCAGTCAGACTCTGACAG
8353	TNFSF10	AGTTTGCCTGGTGCAGTGGCTCA
8354	TNFSF10	ATTGTTTGAACCCGGGAGGCAG
8355	SRGAP1	CCTGTAATCCCAACATTTTGG
8355	TNFSF10	CCTGTAATCCCAACATTTTGG
8356	TNFSF10	CGGGAGGCAGAGGTTGCAGTGTGGTGA
8357	TNFSF10	GACCATAGTGACCAACATAGTG
8358	TNFSF10	CTGAGGCAAGAGAATTGTTTGA
8359	TNFSF10	CTGGGTGTGTTGGCACATGCC
8360	TNFSF10	CTGTAGTCCCAGCTACTTGAGA
8361	HSPA5	CCGGGAGGCAGAGGTTGCAGTG

8361	SUDD	CCGGGAGGCAGAGGTTGCAGTG
8361	TNFSF10	CCGGGAGGCAGAGGTTGCAGTG
8362	TNFSF10	CCGGGAGGCAGAGGTTGCAGTGTGGTGA
8363	TNFSF10	CACTACACTCCAGCCTGGCGA
8364	FANCD2	CAACATAGTGAAACCCCATCTC
8364	TNFSF10	CAACATAGTGAAACCCCATCTC
8365	TNFSF10	CACACCTGTAATCCCAACATTT
8366	TNFSF10	CAATGGTTAACATCTTC
8367	FANCD2	CCAACATAGTGAAACCCCATCT
8367	TNFSF10	CCAACATAGTGAAACCCCATCT
8368	GCNT2	GCTCACACCTGTAATCCCAACA
8368	GTF2H2	GCTCACACCTGTAATCCCAACA
8368	TNFSF10	GCTCACACCTGTAATCCCAACA
8368	TNFSF15	GCTCACACCTGTAATCCCAACA
8369	TNFSF10	GCTGGGTGTGTTGGCACATGCC
8370	TNFSF10	GAGATCATGCCACTACACTCCA
8371	TNFSF10	GAGAATTGTTTGAACCCGGGAGGCAGA
8372	TNFSF10	GAGGCTGAGGCAAGAGAATTGTTTGA
8373	TNFSF10	GACCAAAACAAACAAACAGAAAACAG
8374	HSPA5	GAACCCGGGAGGCAGAGGTTGC
8374	LAMP2	GAACCCGGGAGGCAGAGGTTGC
8374	RPN1	GAACCCGGGAGGCAGAGGTTGC
8374	SUDD	GAACCCGGGAGGCAGAGGTTGC
8374	TNFSF10	GAACCCGGGAGGCAGAGGTTGC
8375	TNFSF10	GAAGACTGTCAGCTTCCAAACATT
8376	CARKL	CGGGAGGCAGAGGTTGCAGTG
8376	HSPA5	CGGGAGGCAGAGGTTGCAGTG
8376	SUDD	CGGGAGGCAGAGGTTGCAGTG
8376	TNFSF10	CGGGAGGCAGAGGTTGCAGTG
8377	TNFSF10	CGGGAGGCAGAGGTTGCAGTGT
8378	TNFSF10	GGGCCTTTTTAGTTGGCTACTG
8379	GCNT2	GGCTCACACCTGTAATCCCAA
8379	GTF2H2	GGCTCACACCTGTAATCCCAA
8379	TNFSF10	GGCTCACACCTGTAATCCCAA
8379	TNFSF15	GGCTCACACCTGTAATCCCAA
8380	TNFSF10	GCCTGGTGCAGTGGCTCA
8381	TNFSF10	GATCTTTCAGGACTCTACCTCA
8382	HEXA	GCACAGCCAGGCTGGAGTCAG
8383	HEXA	GCACAGCCAGGCTGGAGTCAGT
8384	HEXA	GCCTTGCCTGTGAGCTATGTCACT
8385	HEXA	CTGTTCTGCCTTGCCTGTGAGCTATG
8386	HEXA	CAGGCTGGAGTCAGTGTCTGCC
8387	HEXA	CACAGCCAGGCTGGAGTCAGT
8388	HEXA	CAGCCAGGCTGGAGTCAGTGT
8389	HEXA	CTTTGGGTTTCTTGCTGCTGC
8390	HEXA	AGGCTGGAGTCAGTGTCTGCCCCT
8391	HEXA	AGGCTTCCACTGCATCCTGGC
8392	HEXA	AGTCAGTGTCTGCCCCTGAG
8393	HEXA	AGCCAGGCTGGAGTCAGTGTCTGC
8394	HEXA	TGCCCCTGTGCTTGGAGAG

8395	HEXA	TGCCTGTGAGCTATGTCACTCCC
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8397	HEXA	CAGCCAGGCTGGAGTCAGTG
8398	HEXA	CAGGCTGGAGTCAGTGTCTGCCCCTGA
8399	HEXA	AAAAGATGTAGGGGCTTGGAGGT
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8401	HEXA	ACAGCCAGGCTGGAGTCAGTG
8402	HEXA	CAGACACCTGCCCTAATCCTCAGCCT
8403	HEXA	CACAGCCAGGCTGGAGTCAGTG
8404	HEXA	AGGGCTCCAGACCCAACCTGGTCACAA
8405	HEXA	AGCCAGGCTGGAGTCAGTG
8406	PSCD4	GTCTTGGCCATGGCTTTCCTGCAAGA
8407	TAF6	GGTCTCCGTCTCTCCACCGGGGG
8408	FGF1	CTGAGTGTGGGAGTGCAGAGAAAGAA
8409	SH3GL3	CTTTTGTATGTGTGCTCTCTTTA
8410	LRAT	TAGGAATAGTTGAAGGAGATTCGA
8411	SRGAP1	CGGGACGCAGAGGTTACAGTGA
8412	MASP1	AAGTGTGAGCCAAAGGATCCTTCC
8413	PDE4A	GTACCTTGCCTAGCCTCTCCCTCTCCC
8414	ZNF3	CACTTTCCCTGAGTCTCAAGAGC
8415	ADAMTS4	CCAAAGTGCTGGGATTACAGGT
8415	ALDH1B1	CCAAAGTGCTGGGATTACAGGT
8415	ATP7A	CCAAAGTGCTGGGATTACAGGT
8415	CHRNB4	CCAAAGTGCTGGGATTACAGGT
8415	DSCR3	CCAAAGTGCTGGGATTACAGGT
8415	FGF5	CCAAAGTGCTGGGATTACAGGT
8415	GHR	CCAAAGTGCTGGGATTACAGGT
8415	HLCS	CCAAAGTGCTGGGATTACAGGT
8415	IL11	CCAAAGTGCTGGGATTACAGGT
8415	MHC2TA	CCAAAGTGCTGGGATTACAGGT
8415	MPL	CCAAAGTGCTGGGATTACAGGT
8415	PKNOX1	CCAAAGTGCTGGGATTACAGGT
8415	PPID	CCAAAGTGCTGGGATTACAGGT
8415	PRND	CCAAAGTGCTGGGATTACAGGT
8415	PTGIS	CCAAAGTGCTGGGATTACAGGT
8415	RHD	CCAAAGTGCTGGGATTACAGGT
8415	RPH3AL	CCAAAGTGCTGGGATTACAGGT
8415	SEDL	CCAAAGTGCTGGGATTACAGGT
8415	SLA2	CCAAAGTGCTGGGATTACAGGT
8415	TES	CCAAAGTGCTGGGATTACAGGT
8415	TRPV1	CCAAAGTGCTGGGATTACAGGT
8415	UGDH	CCAAAGTGCTGGGATTACAGGT
8416	SHC1	GTTGCATGCCTATGTACTCT
8417	TNFRSF11A	GCTATTTTTATGACTATCCT
8418	MYF6	CCACCGACCCTTCCTGGCCTAATCCT
8419	PIGA	TGGATGACTCCAGATTCTATC
8420	ALPL	ATTTTTCTAGCGAACGTATTTC
8421	SWAP70	CCTTGATACGACTAAGCGGTTA
8422	KIT	AGAGCCATATAAGTTTGAAGGAA
8423	GRM6	CCTGAGTAGCTGGTGCGCACG

8424	SLC22A2	GTGTGAAAAACAGTAAAGTT
8425	FOXE3	GGGGTGAGTCTGGGTCTGG
8426	PCDHB4	TTTCACTGTACATTACTTTGCAG
8427	NPHS2	TGACTTCTGGGAACTTGGTT
8428	STAT6	GGGCCTGGAAGTGCCCGCTGAGA
8429	IPF1	GAGGAGCAGAGGGCCTAGGA
8430	CTRL	TACAGCAAGAAGCCAGAACTGTT
8431	PPARA	GCCCAGGCTGAAGCTCAGGGC
8432	MAPRE2	ACAGATGGTATCCCTTCCTGGATCAT
8433	ARSD	CCCAGGAGGCTGAGGCTGCAATG
8434	BRF2	GGGTCCTGGAGTAAAGTCAGGAG
8435	OXTR	TCTTCATTCTGGGATATTGTG
8436	ZNF74	GCCATGATTCACAGCACTGCACTGCAGC
8437	APOL1	GGGGTGATGGAGAAGAAACAGGCTGT
8438	B7H2	GCGTTGGCTGTGATCCTGGAATGAG
8439	TRIM37	ACTCATAGTTTACTTTTGTT
8440	GJA5	CTCTACTGGAATTCCTGCC
8441	TRIM	CTTCACTGTCTTCTCTCTGTTTCA
8442	SLC12A2	TAGTTTTCCTTTGCTACTTGAA
8443	MSN	GCATTGCTGTGAATTAGCTCACT
8444	COX11	CATCAAATGTACAACTTATTCTA
8445	CBFB	AGCCTCCCAGAGTACTGGGATT
8446	SLN	TCCTGGGATTGACTGAGATG
8447	SCO1	GCACAGCCAGTGCATTCCTGCCTG
8448	CIAS1	GTGATCTTGGCTCACTGCAGCC
8449	LAMC1	ATGTAATTGACAGGATGGCTGCTGCAGAA
8450	ABCB4	GCAGAGATTATCAGTGACTTTTA
8451	EGLN3	GGCTGTTGGGGTTTCTGGAGAAT
8452	GAB2	GTCAGAGGCAGGAGTGGGGG
8453	HOXB9	TCCTGAGTGAGGAGTTGCAGCC
8454	SUFU	AGCTCTGTAACCAGTCCTGTCC
8455	FBXL7	AGTTTCTCTTCTCACAAAAGA
8456	COL19A1	TTTTGATATAGTGCATTGCT
8457	B4GALT1	TCAGAGAGGCAGAGGTGGCACAGGACAG
8458	SFPQ	TGATCTATCCTTTACTTGA
8459	CDC25B	CCTGCAGCAGGAATATATGTGTGCC
8460	RGL	ATGGAAAAACAAATTTGCACAATGGCCT
8461	CHRNA4	AGGGGTGGGGATGGGGTTGGGC
8462	MAP3K10	TCCCTAGACCCCGCAGGG
8463	SOX8	CGCGAGGGCTGGCTGTGATG
8464	ESR1	ATTCCCGTAGCTCTTCACAGCTGAA
8465	SIGLEC8	GGACCTGATTTCTTTGACCGGCT
8466	P2RX4	TTGGGAAGGCAGGGAAATTTGA
8467	HUS1	CGTAAAGCTGTTGCCTGGGAGCTT
8468	EDG8	AGGCTGGAGTGCAATGGGCACAA
8469	PDE4D	CAGAAATTGCATAATTTTCTAATTTCA
8470	AHR	GGTTCAAGTGATTCTCTTGCCT
8470	NCOA6	GGTTCAAGTGATTCTCTTGCCT
8471	JAK2	TGCCAGTAGAAAATTCATAAC
8472	CALB1	AGAGAATATGACCTAAATCCAT

8473	MSN	GGAATGAGACAGGACCTAGA
8474	SOX4	GGAAGCGCAGCAGCGGGAGCTAGG
8475	SLC13A1	TTCTAGAAGTGAGGATGCGTAA
8476	PIK3CD	GACTCACCACACCTCTACGGCTGGGG
8477	MFAP4	CCTACCCCGAACTCCAAAAAT
8478	GCH1	TTGTCTGTCTGTCCGGTCTTGTT
8479	FKBP10	CTCTACCGTGTTTCTCTTCCATCCCTAAACCA
8480	ACCN2	TCTGCATTTTCTATTTCTAT
8481	PRIM2A	GTTGCCCAGGCAGATCTCAGA
8482	STK6	TCATAATCTGGAGGCAAGG
8483	CTGF	AGGAATCGGAATCCTGTCG
8484	ITSN1	CACATCCCGGGGCAAAGACCT
8485	PIGR	AGCCTCTCAAGTAGCTGGGACT
8486	PLEK	TCACTGCAGCCCCTCTGCCC
8487	ALPL	GGGACCCAGGAAACCAAAGT
8488	SIAH1	TCACAGAAAATAAGGCACCCATCTG
8489	IL6ST	AACTGAAGTTTCACATGAGCTA
8490	PNUTL1	CCTGGGTCTGTTCCCTGCCCC
8491	HSPA5	CCAAGCCCAATACAGCCATTAAAG
8492	RAD51L3	GTGTCTGGCCAAATCTTCCCG
8493	FPGS	GCATTTCACATGCCTTGCA
8494	GJB2	TATAACTAATAACATGTGAA
8495	MFAP3	AATTTCCACACCAATGTCAT
8496	PRKCI	ACCATTTTATATTTGCCACCTACA
8497	EHD4	GGCTCACCCAGAGCAGCTGGGTCTCCAGGC
8498	ST7	TCTCAGCCTTAGCTCTCCCAAC
8499	SKI	GTCCTCTGCTTGCTGGAACAT
8500	DIAPH2	TTTTTGGGGAGGGGGCACCATG
8501	FBXW1B	TACAGATATTATTCATGACAG
8502	A1BG	GGCTCACTGCAGTTTTGACCTC
8503	IL1R1	CCAGAAGCCCATGGAGCAGGGA
8504	ITGAL	GGCCAGCCTGGCGAAACCCCA
8505	GOLGA4	TTATTTTTAGGGTGATTTTTT
8506	OSM	CCATTGCTCTCCTAGAGGGGGTC
8507	WNT8B	CCTACTTCCTCCTAGCAACCA
8508	TMPRSS3	CGCTTCCCTGGTTCAAGCGATT
8509	BIN1	GAGTTTCTGGCGCCCCTGCCTGTG
8510	ACRV1	CAAACATCCTATCTTTCTTCTTC
8511	SMARCC1	CCTGGTCACCATCAGAGTACTGG
8512	PITPN	ACACTAGCCTGGGTGCATCTGC
8513	CREB1	CCCTCTAAAAAAGAACTTTAGCA
8514	PRKR	GCCACCGCGCCCAGCCTCATCTCTTTG
8515	CDO1	AAATAGTGCCCTCAGCTACTGCAG
8516	IL16	GGTGCAGATGAGGTTGCTAGA
8517	YWHAB	TGATTTCTCCCTGTATTGAG
8518	TCF12	GAGACTGTCTCGATCTCTCCA
8519	EGFL5	TGTTACTTGTTACTGCAGCA
8520	MFRP	TCCCAGGGAGGGGGAAGAGA
8521	COPEB	TGGCATAGCACCCGTGGTGCAT
8522	CD72	GGGAGGACAGTGGATGACAGGGA

8523	HSPG2	CCTGCCCCACACGGACTCCCGGGCCAC
8524	ANXA4	TACTTTCTACTTTGTGTTT
8525	EDNRB	TTCAATTAATATTATCACACTATTA
8526	SRD5A2	ATTTCAAATTTGTGCAGTGTCTT
8527	RUNX1	GGTGCATTTTTTAATAGGGCTTGGGGA
8528	GPM6B	GATAGACTTCAGGATGGCCAGTC
8529	CABC1	GGCGGGGTGGGACTTCCTTCC
8530	SLC21A2	GAGAGGTGGGGACAGCAAGAAGC
8531	CTSG	TCTCGGGGACACAGGCCAG
8532	ISLR	GTTGTCTGCTCCTCTGCAAAGGCCAGC
8533	PTHR2	TCTTTCTTCTTTGTAAACCA
8534	ALPI	GTCCTCTGCTGTCTCCCCACTA
8535	SCN1B	GTGGGAGGGGGCAGGGGGCTTGGC
8536	ODF2	GAGAAGCCTGGTGGTTTTCCTCTC
8537	AP3B1	TATGCAATACTTTCCCCCTTT
8538	WNT3A	TTCAGCCCACCAGCCACCTCATCC
8539	PCDH11X	TCATGCTGTTTCTCTGTTTGCT
8539	PCDH11Y	TCATGCTGTTTCTCTGTTTGCT
8540	PACE4	CAACACAGCAGGACTCCATCTC
8541	ITGA11	CTGCCTCCCATCCTTCCCTCA
8542	TBP	TTTCTAATTTATAACTCC
8543	ASS	AGACGCTATGTCCAGCAAAGG
8544	TIMP3	ACAGAAAATCACCCTGTGCA
8545	GNAI1	CGGCGGGAGTGCAGCGGCCACTGTA
8546	PLA2G2D	ATCGCGACACTGCACTCCAGCCT
8547	DNASE2	CATCTGTAACCCCAGCACTTTG
8548	DIAPH2	GCTCCACCCTTTGGGCCTGTAGCTCTT
8549	ZNF175	GATGCACTGCATGTGTGAACACA
8550	JUN	AGAAACTTTCCCTGTCAAAGGCTCCGGGG
8551	CCRL1	ATAACTGGTTATCATGACAA
8552	SCN4A	CACCACCAGGGCTCCAGGAGCCTC
8553	NEO1	GCCACCTGCCTTCCCCTGGTCA
8554	AP2B1	AGTGTTCTCATCTCAAAGCAAACTATC
8555	DLG4	CCCCGCCCCCACCTGCCCCCA
8556	AIM1	GGCTCACTGCAGCCTCTACCT
8557	CACNA1D	ACTGGGCCCAACATATCCAT
8558	AQP6	CTCCTCCAGGGACTGCTGT
8559	FGF1	CAGGCAGCACTGACAATAGTTA
8560	BIN2	ACGGGAGGGATGGAGGGAGGCAGG
8561	ARF1	CCCCTCGGGAGCACCCCACCTCTGTGT
8562	B3GAT1	CCTGTTCTTTTCTCCCCTGTGCTGCCG
8563	RPS9	AGGATTAGTCCACCTGTCCCTCCTGG
8564	PPP1R8	AACCTGACAGAGTTCAACACTGCCCA
8565	PMCHL1	CTTTTCAGAAGAAAAGCA
8566	CHC1L	AAATGTTCCATTATTCAGCTGGCTGAT
8567	PAX5	GCAGAGCATCCTCTCTGCCCT
8568	ITPR3	CACCCAGGCTTTGAAGAGCATGG
8569	PACSIN1	ACCACTCTCTCAGTCCCCAGGT
8570	HOXC11	CTTCCCTTGCCCATGTGA
8571	SIM1	TCCTTTAGGCAGGTTACAGT

8572	LTA	TCTGCCTGGGCCTCGGTCCCTCCTGC
8573	EPB41	AACTCAGAGAAGATCCAGATTCTG
8574	CAST	AAACCGCGGGAGCCGAGCCCAG
8575	ADRBK1	GCCCGTTGTCTCCCTGGCCCTCAAGGCTC
8576	ICMT	GTATGTTCAGAAAAGCATTTTA
8577	PTAFR	GGGGCCGGAAGGAATGTCAGGGCCAGG
8578	DNM2	CACTCCTCGCTCAG
8579	ARHA	AGTATTTTGTATAATTGGATTCTAATA
8580	CMAR	ACCCAGGCTGGAGTGCAGTGCT
8581	BAT1	TGTCCTTCAGGAGAGGACACCAGG
8582	RECQL5	ATTTCTCCTGTCACCTTCCGGGGA
8583	DSC3	AATTCTGATTTATTCCTACATTTTC
8584	CMAR	AGGCAGCAGAGCATTCAGACTCCAAA
8584	SPG7	AGGCAGCAGAGCATTCAGACTCCAAA
8585	NUP98	AGGAAACAAAATGGGATCTTTCTGACA
8586	TIMP3	CCAGACCCTGCCCCACCTCACTT
8587	MYO3A	TGCGTTATTTTCAAGCTTTGCTA
8588	IGF1	GAAAGAGATGGCTAACAATCTGTGA
8589	ACCN2	CGCGGGCGGGCGGACAGATCGGAGCCGAG
8590	HRH1	TTCATTCTCACTCTGCTTTGCA
8591	NEURL	GGCAGGCAGGGCATGGGTTTTAGT
8592	AKAP13	TCTTCTCTCAATTCCAGTCAT
8593	RUNX1	TTACCAGCATATATAGTATTTAA
8594	ESRRG	TTTTTAAAAATGTTTTG
8595	SF3A2	GGAGGTGGCGAAACGAGGAGGAG
8596	ASCL1	GGAGGAGGCGGCGTGCAGGGAGGAGA
8597	SOLH	TGGGTGATTCACGTGTGCCCA
8598	EOMES	TTCTGCCAGGGGCAAAAGATACTA
8599	CCNF	AGTCTCGAACTCATGACCTCA
8600	SLC35A1	GTGAACTGCTAATACAGAAACTTAATGTA
8601	NEBL	AAATTTCCTTGTTCCCTAGGCTGA
8602	GIPR	CCCGAAAGAGGTGAAAGA
8603	WSX1	GCAGAGCTGGGATTGAAGGACCCCTAT
8604	MAP7	GGGAGGCGGGGGCCGGCGGGAG
8605	MAPRE1	TTTGGAACCTGCTGTCAACA
8606	BCL11B	TTAGTAAAATATTTATTGTTCCTTTAT
8607	CR1	TGGCTCTGTCTCCCAGGCTGGA
8608	PRCC	GTGATGCCTCCGAAGGGGCTCTGAGT
8609	MFRP	CTATTCATGTGGCAGGCCCCTG
8610	CAPN10	ATCTTCCAGGTCCCAGAGGGTGGAAGGAGC
8611	RFX5	GTAGAGGCCCTTCTTTGCACTTG
8612	TREM2	GGACTCCTTGTTCTGCTCTG
8613	AHR	CGGAGGTTGCAGGGCCAAG
8614	CNTF	ACTGAGTTTGAACACAGATC
8615	KLK8	TCCCCAGGCTCTAGTGCAGGA
8616	TOX	CTCTAATTTTCCTGTCTTGAAACTGTA
8617	REGL	CTCACCCAGGCTGAGGGTGCCTTTGTG
8618	SPTAN1	AAGACTTAGGAGAAAATGGT
8619	EIF4EL3	ACAACAACAGCTGAGATCACTTA
8620	BSND	TGTGCTCCGTAGCTTCTAGTCTGGAACT

8621	EGFL5	GGTAGAAAAGTCCCAAGATCTTCA
8622	SOX11	TTTAAGGCTGTTTTGATGAG
8623	NUP98	CTGAGTCTGCATCATCCTCCTG
8624	ASTN	TCTGTACCCTCTCCTTCTGTT
8625	HIVEP3	TCATCCCACTTCCTCAGCCCCA
8626	CLCA2	TTACCTTTGTCTCTTCATACCG
8627	PDE6A	AAGACCCAGAGAAGTCCAGACTGGACT
8628	PLXNA2	TCTTTTGAGAGGAGATGTGT
8629	MADD	GAGTCCCAGGGACCGCTGGCTGC
8630	SLC25A15	TATTCATTCTGTTTGCTTAATTC
8631	IL17R	TTGTGCCATTGCACTGCAGCCT
8632	LUZP1	ACCAGCCTGGACAATATAGTGA
8633	AQP6	CTGCCACTGCACTTAGCACTTT
8634	APBB2	TAGTCTTGTTTACTTCTTCTTA
8635	ADAM19	AACCAGTTCTACTAATGCTTC
8636	INPPL1	GGCAGGGTGGGGGAGGGAGGTTCCT
8637	LILRB1	CTAAGAATGAGGAGAAAGCA
8638	SPON1	GATGTTGGGTGGCTTTTGTTC
8639	COX10	ACCCGGCTGCTGTGCACTGGGAC
8640	GSTA3	AAGTGCTTTACTTAAGTGTTGA
8641	THY1	GGAGTGAGACCCAGGAGCCGGA
8642	C18orf1	CCCCATCTCGGGGGCTTGCTGCACTGCTTG
8643	TLL1	ATGAAAGTACAGACAGCTTCATTG
8644	DRD3	GGCAAAGTTTGCTTTGCTTGGG
8645	FLG	CAGACAGCTCCAGACACTCAGGCATT
8646	KCNMB1	CAGGGCTTGGGTAACAGCTGC
8647	MME	CTTACTTGAGCCTTTAATGGA
8648	VIPR2	TGTGCCGGGAGGCAGCCACAGGGAAGCTC
8649	EHD2	CCTCCCATGGCCCTGCTGTGGC
8650	JAK3	TGCCCCTCTCTGGGCCTCAGAGGCCTT
8651	RS1	GAGAGGGATATGGAGAGCAGGTGGTGGAATCA
8652	BCL11B	GCTGGGGGAGGCACCCCACAGACTCAG
8653	RAP1GDS1	CTCTAATTTCCCCTCTGTCCTCCATCC
8654	CDY1	CTTGATTTTCTTTTCCTTTAT
8655	RTN3	CAGTTTTCAGCACTAGTCTTA
8656	PIGR	GCTCACTGAAACCTCTGCCTTC
8657	IRS2	GCTTTTTTAGAGGAAGACCAAA
8658	PPT1	CCTTTCTCTCTCTTAAGCC
8659	ITGAV	AACCTATACTAAAAATTAGTTCCATAA
8660	PCDH12	CTGCCCCAGGGCCAATCCAAG
8661	SURF5	TGTGACAGCTGCTGCCCACGCATGTG
8662	PXR1	TGGCGGTCACCATGGCAATGCGGGA
8663	SLC25A6	AAAACAAAAGAATCACGTTTTCCC
8664	IGF1	CTTCACCTCTCTGTGCCTCAG
8665	ACPP	AGGCTGAGGCAGGAGGATCACT
8665	MAFF	AGGCTGAGGCAGGAGGATCACT
8665	TBX1	AGGCTGAGGCAGGAGGATCACT
8665	ZNF136	AGGCTGAGGCAGGAGGATCACT
8666	PIK3R1	TACAACACAAAGAGAAAAAGAAAT
8667	FGF2	ATGGAGTTTATATTTGTTATTTCTA

8668	NOVA1	CAGTGGTTAGCATTGCCGCTA
8669	TSSC3	GGACGTGGCCGGCGCTCTCCAG
8670	CYP1B1	TCCAGTGAGGGCAGCAGGTGTC
8671	CLOCK	AACAACCAAAGAAAATTGGT
8672	LTK	CTGGCAGCGCTGCACTTGCCAT
8673	IL13RA1	TTGCCAAGACCTTTCAAAGCCATT
8674	LY9	GCAGCTGCTGCCTCTCTCCTG
8675	SHOX	ATACTTCTCCCTCGAGG
8676	MAT1A	GAGCTTTGACTCAGGAGCCTGT
8677	RORC	GGACAATCGCCAGAGGGTG
8678	C20orf1	AGACTCCATGTAGTTACTTCCTTTAA
8679	UCP3	AGCCCTAGGGAGCCCCTGTGCTGCCC
8680	GPR17	CTCTAGATCGCCTAGTCTCAA
8681	CLCA3	CCTGTTCTGGGAATCAATGTAACAGCC
8682	TMEPAI	GGTGTGTCTGTTGATCTGTGTTT
8683	SNCA	AGTATCTGTACCTGCCCCCA
8684	MAGEL2	TAGGTGTAGCAGAGATCTCGCTCCTGT
8685	POU3F4	TTCATTCTAGTATTCTTAATTATTTAT
8686	LEP	AGGACTCCCCAGGCCAGGCCACCA
8687	PPP1R12B	CTTATTAGATGGTTCCACTCAGG
8688	DLGAP2	AACAGATGACTTCTTTGCAG
8689	FLI1	TTGTGAGTTGCATATTAAGATTACTG
8690	H3F3B	AGTTATTCACACCAGCATCAT
8691	SIGLEC8	CTCTCATCTAGCACTGAGTCA
8692	TDGF1	TGTGGACCTTAGAATACAG
8693	HOXA1	CCCAGACAACAGCCCAGGCA
8694	MME	AGTATGTGTCCAATGCTGCCTTCCCA
8695	RNMT	TCCCACCCTCACCATTTGCAAGTGGC
8696	SNX15	GCCTGGCCCTACCTCCTGGTC
8697	CRYZL1	CGCTTGAACCTGGGAGGCAGA
8698	ABCC3	CCCAGTTTGATACCTGCACT
8699	WT1	CTCTCCACTCCTCCTCACTA
8700	DLST	CCCTCACGCTCTCCATCATAGGCT
8701	RARB	ACCCCTGGTTAAGTTTCTGAAGACTT
8702	CYB561	TCCCAGGCTGCTCCAGACATGGGGGTTG
8703	RANBP9	GCTCTGGTGGCGGGCAGCAG
8704	FLT1	AAACCCAGGGCAACAAGCCCG
8705	LIF	GCAGGGACTGCCTTCTCCTTCC
8706	HEPH	AACCTCTGGAGCTAGAAGCTCCT
8707	FOS	ATTTAAGCATTGTTTGCTTATT
8708	DBY	ACAGTACAAAAAACACTGGCACT
8709	SURF5	TCTGCCCTCAGAGAGCTCTTTGCA
8710	GDF2	GGAAAGGGAGCCTGCTCTC
8711	RP2	AAAGAGCTGGGATTACAGGTGT
8712	TIAL1	GACACGTGTCTTCTAGTTCTGCCT
8713	FCN2	TCCAGGCCTCAGAGTCCCGC
8714	PPP1R3D	TTTCTGCTGCAAGGTCCCCT
8715	LIF	CCTCTACTTGTCCCTTTGGCC
8716	SP100	TTGGTAAAATAATCAGTGTTTCCA
8717	PCNA	TAGATATTGTTTTCTGTAAA

8718	APBA1	GATCCCCTGGAAACCCACC
8719	MTRR	GACCTAAAATACTGACTTTAG
8720	IL1RL1LG	CCTCTACTGTAAATGTGCCTTAGCC
8721	SLC7A5	AAACAGAGACAAGAAAGGCAGACAC
8722	TNFRSF11A	GGGATTACAGGCGTGAGCCCCCACG
8723	NAP1L4	CACAATCCCGTGGACAGAGCTT
8724	ASB2	CAGGGCCCAGAGCTTTGGCCA
8725	AIPL1	CACCTGAGGTCAGGAGTTCCAGAC
8726	RYR2	TGGCAGCCACACTCACCCAGCCTC
8727	KRT10	TTTCCGTATTTCTTCTTTTCA
8728	INHBC	TGGTATGGGCAGCCCAAGGTTGCATG
8729	ABCC12	TCCACGGAGTGAGCTGGGGCTGAAGTTGTC
8730	EGLN2	GTTGAGGCATGGAGCAGAGTGATGGGA
8731	SOLH	GGAGGCAGCAGCCCAGACGCGGCACAG
8732	STARD4	AGCTCACTGCAGCTTTGATCTGACCGC
8733	TRPC5	AGGGAGGCTGAAGAGATTTCAAAGA
8734	CD74	CTGCTGCCCAATCTCCATCTGTC
8735	HADHSC	GCAGCACCTGGATCTTGCCT
8736	CLASP1	CCCTTTGTTGCAGGAATGTGCGTCGGGCTA
8737	DISC1	TGTCACCCAAGTTGGAGTGCAGTG
8738	PIK4CB	CATGTTCTCTCACCCGCTTCA
8739	SERPINB9	CAGTTTGTTAAAAAGCTTTAGAGGAG
8740	CKM	GGGCTCTCTCCACCCTTCTCA
8741	B4GALT5	ACAGGGGTTTCTTCCATGTTGCC
8742	EGFL4	CACTGCTGGGCTGCGAGCTGGGCCC
8743	SLC38A3	GGCCTGCCCCCGGGAGCCAAAG
8744	ANKH	CATACCTGTAATCCCAGCTACTC
8745	CDH17	CAGACCCACAGAAGGTGTTCAAACACA
8746	DFFA	GGCAGGAGAATGGCATGAACCTG
8746	KCNA7	GGCAGGAGAATGGCATGAACCTG
8746	VHL	GGCAGGAGAATGGCATGAACCTG
8747	SP1	AGGGGTTGGCTGGGAGGAGGAAGAC
8748	MTMR2	GTGTGGGAGGGAGGGAGGAGGA
8749	FGF5	GTCACCAGGCTGGAGTGCAGTG
8749	GM2A	GTCACCAGGCTGGAGTGCAGTG
8749	RHD	GTCACCAGGCTGGAGTGCAGTG
8750	PTGFRN	TCTGCTGCTGCTTTAAAAGCTCTGTCCTT
8751	ATM	GGCTCACGCCTGTAATCCCAG
8751	FKRP	GGCTCACGCCTGTAATCCCAG
8751	LAMP2	GGCTCACGCCTGTAATCCCAG
8751	MS4A2	GGCTCACGCCTGTAATCCCAG
8751	NT5C2	GGCTCACGCCTGTAATCCCAG
8752	ADPRT	TCATACTTAGAAACAAAAAGA
8753	LSS	TTGCATGGATGTAGGGCTTGGGGT
8754	PAX3	TCTGTTGCCATTAAATGTATGAGACT
8755	GALC	TTCCTTTGGCGGACCTTGGAATCC
8756	SCN2B	CCTGCAGCCTCCCGTGTC
8757	CLASP1	AGATCCTTGGGAACACTGT
8758	DCN	TATTCGGGTGTGAGTCTTTTCA
8759	AP2B1	CCTCTTGCCACCTGCTGCTGCT

8760	PPYR1	GTCTTCTCCCTGCCATGTCCC
8761	EXTL1	CCCGCCCCAGGCCCTGCTCTTCCTGC
8762	NDP	GAAGAATTTACTTTGGAAA
8763	HDAC4	TGAAATTCATGTTTTCTCA
8764	SLC20A1	TTGCGTCCTTTCTCTTCTCCGCC
8765	EPHB4	TTTCTACCGTCCTTGTCATAACTTT
8766	TCTA	ATCTGCTGGGCCACCAGCCACTT
8767	FGF12	CTTTGCAGAAGCTCTAGGCCCT
8768	TRPC5	GCTACATTCCTAACTCATA
8769	NR3C1	TTACTTTCACATACAGCCCT
8770	ALDH3B1	CCTCAAAGCAGCGCCTGCCTCC
8771	FANCD2	CTCCATACAGCTTCTGTGCT
8772	EIF1AY	CCAATTATCTTAACATTGGAA
8773	APAF1	TTGCCAGGCTGGAGTGCAGTGG
8773	CYP1A2	TTGCCAGGCTGGAGTGCAGTGG
8773	SEDL	TTGCCAGGCTGGAGTGCAGTGG
8774	PTPRO	GCTGTCAAAATGACATTGATG
8775	CCND2	CGAGCAGGGGAGAGCGAGACCA
8776	TNFRSF1B	CCAAGAGCAGAGGCAGCGAGTTGTGG
8777	NR2C2	GGTATTTTGGTATGTGCAAA
8778	ARCN1	GTTGCCCAGGCTGGTCGCGAACTCCTG
8779	LTBP2	CGAGCCCAGCTGGAGTAGGAGCGCGG
8780	LAMC2	TGAGCCAAGATTGCACCACTG
8781	NRIP1	AGGATATTGATTTAAAATTGTTCTACT
8782	CBFB	CCAGAGTACTGGGATTACAGGC
8783	DGAT1	CGAGTGCTGGGGATGGGCCT
8784	OPHN1	CAGTGTCCATGGACTCAGAA
8785	NCOA3	AGGTCTTGAGGGAATAGTGAAACACA
8786	BDP1	GTTGCCCAGGCAAGAGTGCAGTG
8787	FHL2	GCTCACTGCAAGCTCTACCTCT
8788	EN2	TCCTCCTCCTCCTCACCAAGGGCCCA
8789	PLSCR1	TGTAGCTCTGGTTGTATACTTTTGCTT
8790	KIF1B	CACAAATGTTCCACAAGGCGGG
8791	NPM1	CCTGTTTAGTTTTTAAAGATGGAACT
8792	IL10	CCAGGAGATGGAAGTTGCAGTG
8793	KCNJ1	ATCCCACAAGACATGCATCTCCACAAG
8794	HOXC6	TCGAATATTTAATAAAACTGATA
8795	NOTCH2	TGCCAAGCATTCCATTGACTGCCTGTA
8796	APBB2	TGCAGCTAGAGAATTATAGTTCACTA
8797	KLK4	ACCAGTTGGTTTTTCATTTTTTGT
8798	KIF3C	TGCATTGTCTTGTCACACCTCCCTC
8799	RAB7L1	TTTCCATCCCAGTTCTGGGA
8800	PITX2	GGCGCTGTGCTCGCTCCTGGAT
8801	BPHL	AATTCAAAGCTGCAGTGAGCTGT
8802	SPINK5	TCTTTTCCATTTCTTTCCTCCTAGAATCTG
8803	DCX	GAAGCCAAGCTGCTGTTTGGCTACTG
8804	RS1	ACACAGCTCCATTATGCAATCCATTCC
8805	STAC	TTTTCATTTTACATCCTCTCTAT
8806	MPP3	TGTTACTGACAGTTGCCTTG
8807	C8orf1	GTGTTTTCACACAAACTGCTAGAATT

8808	CSNK1A1	ACTGAACATGTATGTATGTTGCTTAGA
8809	TRPV1	TCACCCAGGCTGGAATGCAGT
8810	MOCS1	GTGGCCCAGCTGGCTGGAGTCCAGGCAGCC
8811	EPHA8	AGCCCCATCCAGGTGCCGCGGCCAGCT
8812	LYPLA1	CTCTGCAATAGACAGCTACTGT
8813	FIGF	ATTGGTGGCCACACCACCTCCTT
8814	ACPT	CAGCTGACACTGGACCCCAAC
8815	MGAT3	CCTCCTGCCGGCTCCTTGGTTCT
8816	HGF	AGTGTTTCAAATTATGGGAA
8817	AIM1	ATCTCAGGCTGGAGTGCAGT
8818	CLASP2	GGAAGGAGGTGCTGGAGCAGTTGA
8819	TNFRSF10A	AGGATGGCGCCACCACCAGCT
8820	HIP1	AACTCATATGTTCCCAATTA
8821	CPSF6	AAAGCTGAAGGAAGAGGATCA
8822	SYNGR1	CTATCCACCTGGGGGTGTCGCAG
8823	ADORA3	CCCACCTGATCCTGCACTGTCCT
8824	PVR	AGAGACCAGCCTCCCTCCCTGTGCCAGAC
8825	IL6R	GGCTGGGGGAAGAAGCTCTCTC
8826	MYO1D	GGTGAGCCAGCCCTGGGGACCC
8827	KCNH2	GCTGCTGGGCCGCTCCCCTTGGAGGCC
8828	COL5A3	GTCGCTGCCCTTCACACCTTTTGGTGCTA
8829	CCNF	GGGGTGAGAACCCAAGCGTTGG
8830	PTGIS	ATTGCCCAGGCTGGAGTGCAA
8831	KCNA7	AGGGCATTTAGAGGAAGAAGGCTGA
8832	TACSTD1	AACATCATATATTTGTAATAGTGA
8833	KAL1	TGCATGGTCAGACTCGGTGTCAGGTAC
8834	SLC2A4	GCTGGGGGAAGGGTGGTCTGAGC
8835	CCNF	GCATGAGCCACGGCGCCTGGCC
8836	BDKRB2	CTGGAGAGGCTAGAACCTGGAGA
8837	CMRF35	ATTTCTCCAGGAGCCTGGCAC
8838	DLG5	CCTCCATCTGTGCTTATTACTTGA
8839	LNK	AACCGGGCTGGAGTGCAGTGGT
8840	CA11	GGGCAGCAGAAGGCTGAGAGGA
8841	HTR6	AGCTGACCCCCTGCTGCCATC
8842	HEPH	CTCAGGCTGGGGTCTGCAGTGCAGCA
8843	OPHN1	TTAGAAGCAGAAAAGGTCTTGGTGCCT
8844	PROX1	TCAGCTGGTAATTCCTCCTCA
8845	TBP	GGATCAGAACAACAGCCTGCCAC
8846	GALNT7	TGCCTGTAATTCCAGCACTTT
8847	SULT2A1	TGTCTGTAATCCCAGCACTTT
8848	AK1	CCAGCACTTTGGGAAGCTG
8849	RAG1	AATACTTGGCTTGGAAATTTA
8850	C7	TTGCACAGGCTGGCTGCGTGTTCTTG
8851	PKD1	CCCCACTGCTAAGGCTGCTGGCTTC
8852	SLC21A3	ATGCCTAAATTCTCATTCTGTTA
8853	MYO1D	GCTGACCCTGCAGAGGGAAGGGGTG
8854	SCML1	AAGATTCTTACTTAAACTTG
8854	SCML2	AAGATTCTTACTTAAACTTG
8855	NFATC1	CTCTTTTGTAACATGCTTCCCTT
8856	ASTN	GCCTTTGGAGCTAGAGCACCCTT

8857	GP2	GGAAAAGGGAAGAGCTTTCAC
8858	GSPT1	CACTCCTCTCCGGCCGGGCGC
8859	FGA	AAATGCCTAACAGTACAGAGCCA
8860	PSG1	ATTGTATTCCCAGCCTGTGTCCCATGG
8861	SERPINF2	GCACAGCCTGGCTGTGGCCTAACCTG
8862	CORO1C	GGTGAGGGCAGAGTGTGGTGA
8863	SOX5	AGGTGGAGGCCTTTAGCATTTCA
8864	SYT4	TTCATTTCAAAAGGACA
8865	CD28	TGGGAAAGTATTTTGGAA
8866	THBS1	GTGAGGCCATCTCTGAGCAGTG
8867	FOSB	CCTGCACTCCCGACCTTAGCTT
8868	EFNA1	CAGGCTGAAGAGAGGGACA
8869	CLASP2	GAAACCTTAAACATTTTTGG
8870	CLCN5	TGTCTCTCTTTGTACTGTCACTCTCAT
8871	CAMK2A	GCCTCTCTCCCCTTGGCGTCT
8872	RYR2	GGTGGTGTGTCTCAGGACAAA
8873	GNB1	TCCAACAACTCTGTAGAGCTCTCT
8874	AIPL1	TCATTGCACTCCAGCCTGGTCAACAAG
8875	WHSC1	TTCCAGCAATTCTTCTGCCTCA
8876	HTR1D	TTGGAGCCAGGATGGGTC
8877	HTR2A	TTCTCAGAAGTGAAAAAGACTTCAA
8878	GPR81	CTGCCTCCCGGGTTCAAGCAAT
8878	PMCHL1	CTGCCTCCCGGGTTCAAGCAAT
8878	PPID	CTGCCTCCCGGGTTCAAGCAAT
8878	ZNF264	CTGCCTCCCGGGTTCAAGCAAT
8879	SEZ6L	GCCTGGGCCTGACATGGCCC
8880	SPS2	GACCTGCAACCATCTGACTT
8881	MIPOL1	ACTGGTCTCGAACTCCTGGG
8882	TES	TTTTAATGCCTATGCATTTA
8883	TM7SF1	TCCTCAAGGAATCTCTTAAGTTTTG
8884	DSC1	AGACATGCATCAAGAAATA
8885	FAT2	GGTGGAGGGAAGCTGAGGATA
8886	TPM1	CGTTCATCCACTCTGCCTGCT
8887	CXCR6	CCACACACATACACACATA
8888	M17S2	TAACTGCCTGCTGCTCAG
8889	CYP4F3	TGGCTGAGGCAGGAGAATCGCT
8890	INHBC	ACCCATCTCCAACCATGAGCAATG
8891	VBP1	CTAACCTCAGATAAGTGCAGTG
8892	IGF1	CCAAATTGCTGGGATTACAGGC
8893	GNAL	AAATGATTCTCTAAACTTTC
8894	HYAL3	AGTCAGGTTCCAGCTAGTTA
8895	C11orf8	ACACATTCTCTCAGAGCTCAAGG
8896	PRDX3	GGCTGGCTAGCTAGTTTCTACA
8897	PCDH11X	ATCACATTAAAGCTTTTCA
8898	GRAF	GAGGGAGAGAGGGGAGGCAAAGCTGA
8899	MXI1	GGGGCCAAAAGGAAAAAGCTCCATGTGCCT
8900	RANBP3	GCACATCTTCTCTTCAGTTTAGAGA
8901	AF1Q	AACACAAATATTTCTTCAAGGG
8902	UNC119	AAGAGGCTGGGGATATTTCA
8903	BIN3	CTCTGGCCCCTCGTTGCCTTTTCACT

8904	GGT1	TCATCCAGGCTGGACAGTTCAGT
8904	GGT2	TCATCCAGGCTGGACAGTTCAGT
8905	CASP7	AATCCCAATGTTTGACAAACACAGCCAAG
8906	PELO	GGCCCCGCCCCCTTCCTGGCCTGCAT
8907	SOX4	TTGGAAGCTTCAGCAACCAG
8908	TAZ	CAACCACCTCCAGCCTGGGAGA
8909	DAG1	TGACTGGGCTCATGCCTCCAA
8910	PSCD3	AGTATTTTTAGAATGGCAGCTA
8911	SLC17A2	TTAACAGCAACATAAGGATCTCCA
8912	MECP2	AGTGGCCTCGAACTCCTGGC
8913	VDR	AGGAAGGAGACTCACCTCTGCCTCAA
8914	RPN1	CCTGCTCTTCCCGGTCATGGAGGCGC
8915	IFIT4	CTGGAAGGAAGAGGTTGCAGTGAGCC
8916	CAPNS1	ACACCCTTCACGGTTGCTACCCAGGC
8917	RAB36	GAGTAGCTGGGACTACAGGCACGTGTG
8918	COL18A1	AGTTCACGTTTCATGTAATCCTCA
8919	SLC7A6	TGGTGGAATTAATTTCTGCCA
8920	PLAC1	TTGGGGTCTCCTGAAGATGC
8921	SPR	TAAGGGGTGGGAAGAACAGGAA
8922	BAK1	CTGCCTCCCAAGGTCCTCTCAGTTCTCTCCC
8923	SLC13A1	ACTCTGGTGTGTTAACA
8924	WHSC1L1	GACTTGTTTCTCCATGGGCTCT
8925	NDST1	CACCCAGGCGGATCTGCAAGCACCTC
8926	SIGLEC8	GGAAATCTCACTGGGTCTCTCTCA
8927	NRXN2	TGCCTTCCTTCTCTTCCCA
8928	ITGB4	CAAACCTATTTGTAACCAAAGA
8929	CSNK2A1	CTCCAAGAAACATCATTCACCCA
8930	TCOF1	GGCCTCGGGACTTCCCACCACC
8931	NT5C2	ATTCAATAAAGTGTAATATT
8932	DLGAP2	TGTTCCCCTCACTCCACTT
8933	ADAT1	CCCAGGAGGCGGAGGTAGTGGTG
8934	RFC2	TGGGCGACAGAGTCTCCATCTGGG
8935	FGFRL1	CCTGGACACACACTTCCAGACAC
8936	DIAPH1	TGCTCTCTCAACATCACATACAGCTTCA
8937	PTPRO	ACATTCAGACCCACAGAAAGG
8938	SYNGR1	GCATCCGGCCTGTGCTGGGCATGG
8939	XBP1	AGGATAGCAGAGAAGCCTGTCTGTA
8940	TRIM14	TCACTTACCTTCTTCTCTTTCA
8941	AQP6	ATTCAGTGCCTCTGAAAGACTACCA
8942	TCF2	CTCGCTCGGTCCGGCTGCCTCA
8943	LILRA3	CTCATCCATCCACAGAGCAGTGCAGT
8944	CBFA2T3	CTCCACTCCTCTCAACTGCCTCAG
8945	SOX1	CTGAGCCGACTGTGAATTCGG
8946	MBTPS1	AAGTGTGATTTGAATATATGC
8947	LEP	GTTGTCTTGTCCCCTCTTGACC
8948	GRM4	CCCGGCCCCAAACCACAGGGGC
8949	PRex1	CTGGGCACGAGATTTGCTCTGA
8950	RAD23B	TGGAAAGACTGGCAAAGTCTTTTGGA
8951	EGLN1	AACCATTTCAGGGCTTCTTGAA
8952	RHBDL	GGCTGCTGTGCCCCTTGGGTGTGGGT

8953 CSNK1G2 GGAAGGCAGGGGTGGGGCCGTGG
8954 ABCB4 GATCCAGCAGGCATGGGGA
8955 GA TTCAGTGGGGACCAAGCAGTCATTT
8956 AP1B1 TGAGGTGGGGACCAAAGGAAAC
8957 FTSJ2 GTTTGCGATCCCAGCTCTCCTGTTGG
8958 CTMP GGGCGCCTGTAATCCCAGCTACTC
8958 SLC31A1 GGGCGCCTGTAATCCCAGCTACTC
8959 MBL2 GTGGTGCATTTTTGTAAGTTAG
8960 NT5M GGCTGGTGGCCGTCTCCACTCCCT
8961 MEN1 GTTCCCGGTCCCGAGTACAGT
8962 NCALD GTGAGCCACATGCAGGCTGATGAATGC
8963 FMO2 GGCAAAAACAAAGGAGCTGATGG
8964 COX15 CTGCAACCTCCACTTCCCAGGT
8965 REG1A CTCTTCTCTGCTGAGTTTGCC
8966 FUT1 AGGTTGCCTCTCACAATGAA
8967 BTG2 TGTCTGCCTATAGGAGGGGGAGCTGT
8968 UBE4A GCAACTTGAATAATACTGTGAA
8969 GNA15 CGATGCCACCCGGTGCCGACTGAGGC
8970 AGTR2 TGCAGCCTGAATTTTGAAGGA
8971 ACO1 CTCTTCTCTCCCCTTTTCCTTCAG
8972 NEBL CACACTTGCAGTGTAGCCCAGTTT
8973 FKBP1A TAGATCATGTTCACTGCAATGCT
8974 SNX6 TTCCTGAACCCTCCTGAGCGCCCGT
8975 FGF7 CCCTCTTACTCATTTGTAGTC
8976 RARG TTCCTCCAATCCCCAGTTTGTATTTA
8977 KCNH5 CTTGCTTTCAAGATGATGACCACACA
8978 ADCY6 TTGCCTCTCTCCTGTGGGCCTCTGTC
8979 SUFU GTTATCTCCCACGCCT
8980 Z39IG CCTCCACTATAAGTCT
8981 NDUFA10 GCCAAGCTGCATCAGCCGCAC
8982 BMP8 CAGGGAGGGGCCTGGGGAAAGC
8983 EGFL5 TTGGGAGGCTGAGGCAGGAGAATC
8983 RAB7L1 TTGGGAGGCTGAGGCAGGAGAATC
8983 SWAP70 TTGGGAGGCTGAGGCAGGAGAATC
8983 ZNF36 TTGGGAGGCTGAGGCAGGAGAATC
8984 TIRAP ACCCTGATGGCTGCTCCATGAGG
8985 ABAT CTCAAGCGATTCTCCTGCCTCA
8986 GOLGA4 CATGGCCGTTGTCGTCGCCGCCGCG
8987 STAT1 CCTGTGTTTCTAGGGAAATGAAAGAAA
8988 CACNA1A CTTCTGAGCCCCCGACCCGAG
8989 MAPK4 TAGGCTAAGGTGAGTTTGGTGCA
8990 ADD1 CACCCAGGTCGGGCGGTGGGGGCGAG
8991 RPL36AL ATATAGACAAAACAGCCCT
8992 TRIM9 ACCAACTCAATGCCTTT
8993 FBN1 ACCAGTGCATCCTTCATCACAGCATGTGCAA
8994 VTN CAGAGCAGCAGAAAAGGCAGTTC
8995 STK6 TCAGTTAAGGAGCTGTGCAATAACCTTC
8996 B4GALT5 CTAAGCTGGAGTGTGGTGGCAC
8997 GAC1 CCCCTGCCCTGCAGCTCCACCATGAGG
8998 ADRBK2 GCCAAAGCTCGCCAACATGGCG

8999	PKNOX1	GGCTGGTCTCCTGGTGTCAG
9000	MXI1	ACTATACTTGAACAAAAGGGTC
9001	MTCP1	TGACTCTTCAGGCCAGGT
9002	A1BG	GACTACAGGCATGAGCCACCAT
9003	EIF2C1	GGCCCGGGATCCCGAGCA
9004	MSR1	TGACTGCCTGCAGAAAGACCAGC
9005	EIF2C1	GTGGGAAAGGGAGATTTTCTTCT
9006	NPTX1	CCCTGTGCTCTCCCGTGGAGG
9007	MMP3	AGGGCATTCAAATGGGCTGCTGCTTAG
9008	PPP1R12A	CATTGTTTCATGTTAATGCAGCT
9009	CNN3	TCCACACAGAAGGAGCTCAGTATTTAG
9010	PDGFRA	AGCATTTTGCTATCTTTTTTA
9011	VANGL2	CATGCTGTGAACTGCTGTGGGGTGTG
9012	ZNF135	ACCCTCAGAGAGTTCACACTG
9013	PRKWNK3	TTCCCGTCATCACAGCAGTA
9014	MYCBP	TATCACACTCTGTTAAAAACAC
9015	TLR5	TGCCGCCCAGGCTGGACTGCAGT
9016	MAPT	ACCTACTCCATACTGAGGG
9017	MTRR	ACAGAGGGATTTATTTTTATGATGCTG
9018	HOXA10	AATAGCAGCGGGCTGGGCACATCCTCT
9019	TNFRSF5	GAGACAGGAGACCTGGCACTGGA
9020	PAFAH1B1	TTTTGATCTTAATGCTTCTGAA
9021	CELSR1	GGGAGCTGCAGGTGGGGATGG
9022	PYCS	AGCTGGAGGAATATCTACAGCA
9023	RNGTT	CTGTATTCAAAAACAAATGACA
9024	JUN	AACACAGAGAGACAGACTTGAG
9025	THBS1	GACATCCTCCTTCAGGAACACGGGGA
9026	LZTS1	CATGCCTGCGCCTGCTGCCTGCTGA
9027	CAPN1	AAACTATAACCACTAGCTCG
9028	WASF1	AACGATGAAAGAAAGCACATCC
9029	MHC2TA	TTCATACCCTGTTACCATTTTGGGGT
9030	MTMR4	TTCAGTTGGCTCATCAGCCAGCATT
9031	BAZ1B	TCACTTAGAGACTGGAGTCCTGCTTATA
9032	PRKY	TGCCTGTAGTCTCAGCTACTCAGGAGG
9032	SRGAP1	TGCCTGTAGTCTCAGCTACTCAGGAGG
9033	DACH	ACTTCCTGAATTTTGTGTATTA
9034	NRXN1	GGGAAATTTTCATGCACGCTTA
9035	PRKCQ	GCACTTGGAAAGGTTTCAAG
9036	STK13	TCTGTCCTTTCTATTGGG
9037	UBE2A	CAGAATTATTGGTCTTCTGGG
9038	ING1	ATTCTGTTTGCCTTTTGTTTTCATTGG
9039	ELMO2	CGGACCACCCAGAGTTTCCTCT
9040	M17S2	GAAATATTTTGCTAATCTTATAGA
9041	SOX5	GAGCCTGTTTTTTAACTTCCTTGCT
9042	EPHB2	GCCATTCAGAGACTGGAGTGAGA
9043	GALNT7	TTCAACACATTTAGTGCCTCTTTCA
9044	XPNPEP2	GTGGGCATAGCCAGAGCTGTTCGAAC
9045	NR2F2	CAACTTGCTACTTATCATTTTTGTAT
9046	APOL1	CTGGGAGGTGGAGCTTGCAGTG
9047	NOTCH2	CATGGCTACACTGCAACTT

9048	B4GALT3	GGAGAGAAGAGTGATCTGGCTTC
9049	SLC3A2	GTTACCCAGGCTGGTCTTCAACTCTTG
9050	TIMP3	GCTGGTTCCACCAAGCACAG
9051	BDKRB1	CAGACTGAAGTGCAGTGGCACA
9052	IGFBP4	GCCCAAGAGGACTGAGACTG
9053	DACH	ATGAGATCTTAAGCATCTGGTG
9054	SLC19A1	TTGTGAGCCCTCTAGGGCAGG
9055	SCA1	TTCGGTGGTGATGTGAAAGGAGAGAATT
9056	G2A	GGCCAATGACACCTACCTCA
9057	MPZ	CTCCCCCGCCCTGCCCTGC
9058	TNFRSF18	CTGGCAGCAGAAGTGGGTGCAGGA
9059	PAK1	GTTACCACCTCCTGCCTCAGA
9060	NOTCH2	CTTTTTCTTGGACTACTTTAATTTGGA
9061	CDR2	GTTCGAGAGAAAGCAGGGG
9062	SNRPN	CCCTCATTCTGCATTAATAATAGCTA
9063	AIM1	CCATGACTCAGAGAACTTACTCATCG
9064	ETF1	TGCATTCTCTATAGCCTCTGCA
9065	PLXNA1	ACACCACAGCTGCGCACACAGCTGCTTGCTCA
9066	CPD	TAAAAACCCACAGGTGCTGCTG
9067	UBE2B	ATTATGCCATTGCACTCCAGCCT
9068	GYPB	CTGCCTCACTATTACTGTATTCTC
9069	PPP3CA	TCCGGCAGCTGGAGATGTCCGAGC
9070	PRX	CGGGAGGTGGGTGACTGACCAGGGCTG
9071	PML	CTCAGCTTTCACACTGGTGAAGTCTGT
9072	CLECSF12	TTGCCCAGGCTGGAGTGCAACG
9072	PRND	TTGCCCAGGCTGGAGTGCAACG
9073	MS4A2	GGAGAACACTGGTTATGTTGATAGAAT
9074	RAB5B	AGTTTCTGGTACCCATCCTCTG
9075	TDGF1	GTTCACTGCAACCTCCGCATCC
9076	LNK	ATGTGGGAGCAAAATCAGCTGA
9077	PRKCD	TGAATCTGCTTTTCCTCTGCCTTCGG
9078	ASTN	ATGCCAGGCGCTGATGTAAGCACTTT
9079	BHLHB3	AGTGCATCTATTCCCACTCTCAT
9080	GABRP	AAAACAATGATAAAGATGTG
9081	DRG2	GAGTGTGTTGGGGCAAAGGGGCT
9082	SIRT1	TTTCCAAAACTGTGGCAGCTAACTTTT
9083	CNTN3	TTTACATTGAAAAACTCTTTCA
9084	PAX7	TGTGGAGGGAGAAGCGAGTGTGGTCCG
9085	CD80	TAAGCCACATGGCTGGGATTTAA
9086	TNFRSF14	CCCTTCAGACCCCAGCTGTCTGCGC
9087	IVD	CTTCTGAGCCCACCTCCCAG
9088	NFYA	GGAGTGTACCTCACAGCCTT
9089	CCNB1	TTTCTGCTGGTTGTAGGTCCTTGGCT
9090	AQP6	GAGGGAATTATTAGCATCATCCCC
9091	CENPA	CACCATTAGTGGCAGCATCATGTA
9092	UNC5C	GGCAAGAATGCAGCAGGAGCCAG
9093	TACC1	ACAATCATTTGAGCTTTGA
9094	GAS1	AGGGTCCAAAAATGCTGATCTAAGG
9095	NRAS	CAGTGAAGTGCCTTTTTCCTA
9096	MAPK10	ACCGGCAACCTGTAACTGCCC

9097	TIMP3	CCTCCTGGCCCCACCCTGCCCCTTCT
9098	RET	AGGGAAGAGGGCTCACAAGA
9099	ARF1	GTGTGAGTGCCAGAAGCTGCCTC
9100	A1BG	TCTTTTTTCTTTTTTGAGAC
9101	ISG20	GGTAGCCCAGGAGATGGAGCAGC
9102	M17S2	GAACCCCAGACCGAAGGGGAAAAG
9103	SYN3	CATCCAGGCTGGGAGGGGAAGAGTGC
9104	MX1	GTGGTGATTTAGCAGGAAGCTGTGAGA
9105	ARHGAP6	CCTGCTCTGCCACTTTCAACC
9106	SF3B3	ACTCCTGAGTTCCACTGCTC
9107	FCGR2A	CAGCCTCTTTAACATCTTCTTT
9108	PTPRO	AATGGTTACAGAGATGAATCCCAATG
9109	ADCY1	AACACAGCCCCGGAATGCTTCCAGTT
9110	OPA1	CAGACTTCTTTCTGCAAATTATTCA
9111	SLC6A12	CTGTGGGGATGCCTCTTGTT
9112	ROBO1	GTGTCCGCGGTCCTGCTGCTGT
9113	ASNS	CCTTTCTGTCCTGGTTCCCTGAAGCATCGA
9114	MAGOH	TCAGTGTACGAGGCAGACGGCGGCAGTG
9115	PCDHB14	GTTTTTCTCACAGTTTCTTTA
9116	DISC1	TCAATAAGGCAGTGCAGT
9117	NCOA1	ACCAGCCTGGTCCACTGGGAACTCAAA
9118	NUFIP1	TGTTCTAGTCATTGTACTA
9119	VANGL2	GATACTCCTGCCACACAG
9120	CLECSF12	ATGCCATTGGAGTGCACGGTG
9121	FBXL11	TTTTGTTGTCTTTTTATAAAAGGGGAG
9122	IMPDH1	CATTCCTCCCTTCTCCTCAGCTGCAGT
9123	LZTR1	TATCCATGCTGTCAACTCCTGCCTCCA
9124	ESRRG	TCTTATCATTGCTTTTCCATCTAG
9125	FGF5	TATTCACTGCACTTTTTTATTGT
9126	IL17BR	GCTGAGGTCAGGAGGCCGACGTGGC
9127	PCDHB11	GGCTACTTCTTGTATTTTTTGT
9128	RAP1B	GTACAGTGGGGGTCTACAACAAGAAGTGTATA
9129	RABIF	TGCCTCCTGCTTAGTTCACTTTGTATCAC
9130	KAI1	GGGAGCGGAGGTTGCAGTGAG
9131	KCNJ6	ACCCAGCATGTACAAAAGTACCATAG
9132	MUT	CATTGTCTTGAGCACCAGAA
9133	RUNX1	GGTATCTTTTTATTCATTGCCCTCA
9134	DBY	AACGTACTGTGACTTTAA
9135	CKTSF1B1	GTCTTCCTGAGTCAGTGCCTGAATCTT
9136	TAL1	TTTGTAGAATGAACCACT
9137	TRIM9	TGCTATTCCAAGAGAAGGATATGCTGA
9138	CNGB3	AGAACATATTTTCTGTTCAATGCA
9139	KCNN4	GACGACCTCCAGCTCTCAGTTA
9140	DUOX1	TCTGTTCTTCCTATTTCTGGC
9141	KIR2DL3	CAGACTAGCTTTCAGCCTTCTGTCAGCA
9142	RPH3AL	GAGCAGTGAGGGGGAGACT
9143	SLC2A2	CTCCTTGCTCCTCCTCCTGCAA
9144	PAK4	GCCCCCTCTCCCCCTGAGCC
9145	REQ	CCACGTCCACAAGGAGCTTTTCA
9146	PDGFB	TGGGAGAAGGTCTCCAAGGGAGG

9147	NOS2A	GGGCCTGGGGAGATGGAGGAA
9148	CML66	AGATTAAGATAAGAAATA
9149	OIP2	AATATCAAACTACATTCTTCC
9150	KLK3	GGGGATGAAGTAAGGAGAGGGACTGG
9151	GGA3	CTGAAGCCACTGGGGTGGGG
9152	OVOL1	CGCCCACAGAGACACACTGTGTG
9153	ERCC5	CGCAGCCGCCTCATGGGGGTCCAG
9154	OAS2	AGCTCACAGGAGCTTAAACAGCTGG
9155	CDK9	GGGCCTGGAGTGCGGCGGCGGCG
9156	SULT1A2	TCACAGGCCTGGCCAGCCTAGGAG
9157	MCP	TCTATGTATATGTCTTACCTCA
9158	RORB	CACATGCTCTGCCATCCACA
9159	ADRB3	GACAAGAAGCAACAACTCTGTTGATC
9160	GCLM	CCTCCATATCAATCCATTCTCAT
9161	IQGAP1	TGGAAGCTATTAGCACCAATG
9162	DNASE2	AACCAGGGAGATCATGGTCAC
9163	TEM8	AACGTATTTTATACAATGCTCTG
9164	DNTT	ACATGGGAAGGTGCCACTGGTA
9165	TACC1	TCACATGGGTGCAATCTTTAGC
9166	ACADL	TGGTTTTTACCACTGTACTCCAACCCCG
9167	UBQLN3	GAAGTCCTTTGCTGTGGAGG
9168	GPR1	CCAAGGTGGGGGGATTACCCG
9169	PRKCSH	TGCTGTTGCCGCTGCTGCTGCT
9170	ADAM19	CCAGCACTTCGCTTGCAGAAGCCATCC
9171	DIO1	GTTGTTAGGAAGAGATGAGGA
9172	VAMP1	CCTTCTACTTTCTTTCTCACCCACCC
9173	ZNF2	GGAAGGCAAAGTCCTCTGTG
9174	TOP3B	GCCCCGAAACTGGAGTGTGAAGGA
9175	SFRP5	CCTCCTTGCCCTGCCAGCTGT
9176	TCTE1L	TATTTACACCAGCTTTTCA
9177	SPAG11	GGACAAATAAAAGTAGTGATTAT
9178	SLC13A3	CTGTTTCTCTGGGCTCCTGAG
9179	PTTG1IP	TGCTTAAAAGATTTCACCAGAA
9180	DRG2	GGGGGCCCTTCCAGGAGGA
9181	CASP6	AGGAAGAGGAGGGCAAGGTGTCTGGC
9182	DRD3	GCATCTGCCAGGACACTGCC
9183	APG5L	CTTTGTTGTTTTATCACTGTAAGCCTG
9184	UMPS	GTCAGCACAGCTTTTCTTGTGTC
9185	ADAMTS5	TAACTGGAGGATTCAGCAC
9186	LMAN1	TAGACTTCAAAATGTTAAGTGAAA
9187	HOXB5	GGAGATGGAGTCCCTTTTCATTCTCCT
9188	CRSP6	GTACAGTTGTATATACAGTA
9189	CDC2L2	GGAGCAGCAGAAGGAGCAGCGG
9190	MFNG	GAGTTAGACAGCCCAGGG
9191	RAB7L1	GATCAACCTGGCCAACATACTG
9192	EDG8	CTGCAGCCTGGAACTCCTGGGATCAAG
9193	DSPG3	TGTTTTTAATTAAACTTTTCTCTTCCT
9194	CBFB	CTTTTGCCACCATTGGCCAT
9195	E2F2	TCTAAGCGCTGCTCTCTGCT
9196	KL	TTTTCTTCTGCACCCACTTCTA

9197	MSR1	TATTCAAACATTATTCTCAA
9198	GPR44	TCCAGGCCACATGGGGCTGGGCA
9199	LHX2	TGGAAGATCTACCTGCAACACAACATTT
9200	FEN1	AATGGCAAGAAGGCCACAGAG
9201	PRG4	AATATTAAAATTTTACACTTTT
9202	ARHGEF7	ATCTGTGAATGGGAAAAGCCATTT
9203	DIO3	TGGGGAGGGGTGGGCAGAGT
9204	PCDH11X	TATGATTAAACTGTGTGTAA
9205	PPEF2	ACAGTGTGTGGAGACTTACA
9206	AVPR1A	CTGCCTCCTGGATATCTTGG
9207	MITF	CCCTGCACTGCATTCGCACAAA
9208	MARK3	CATCTCCCTACACTGGCAGCCAGTCA
9209	PAX3	AGTGGAGAAGAGGAAGACCTGGAGCA
9210	RAD51L3	GCTGGTCTCTATACTGGAGAAG
9211	ITSN2	CACAAGGCTGGGGCTGGAGAATG
9212	HEM1	ATTGCTGTCTGGTGCTCCTCTCTC
9213	KLK4	CTCCTCCCTCAGACCCAGCGGT
9214	CUBN	GACTAGCCTGGCCAGCATGGTG
9215	CTNNB1	GAGACGGAGGAAGGTCTGAGGAGCAGC
9216	LGR6	GATGGCTGCTTCTAAAACAA
9217	IFNAR1	CACTGCACTCCAGCCTGGTGA
9217	IFNGR2	CACTGCACTCCAGCCTGGTGA
9218	NCOR2	CTCCCTCCCTTCCTTGGGCA
9219	TLX1	TTTCCTTTTAAGCCTCGCC
9220	HD	GGCCAGGGTAGACTTGGAGCTGTCC
9221	IL20RA	CAGAGTGTTCTGTTATTCTCAATCTTT
9222	EEF1B2	TCGGGAGCCGTGGAGCTCTCGGAT
9223	CD79B	CACCCAGGCCAGGAGTGGAGCCAGGT
9224	EPS8	GTCAGCTGGAAAGTCTGCAATAAACA
9225	NEDD4L	AAATGCACCAATTCTGAAGGCACTTTA
9226	PSG2	ACAGAGGAGAACACACAGGCA
9226	PSG9	ACAGAGGAGAACACACAGGCA
9227	APOL1	GACTACAGGCGCCTACCACCAT
9228	TIAM1	CTGAATCCTAGTCTCTCACCT
9229	JRKL	TTCAAGACATTGAAACTACTTTG
9230	DCLRE1C	CTGAGATTGTGTCATTGCACTC
9231	CTMP	CCGGGAGGCGGAGGTTGCGACCCAAAGC
9232	IL10RA	CCCTGCAGGGCTGGTCAGGGTGTCTG
9233	LDB1	TCTCCTGGCCCCCTCAGTTCTCCCAG
9234	CDC5L	CCTGCAGCTGAGCTTCCACAAGACACT
9235	ZNF179	GGGCCTCTCTTGGGTCTGTGTC
9236	BRF2	GCTTTTCTTGTTTGAAGGAA
9237	ALK	CCATCTCGGGGAGAGCGAAG
9238	STK10	TCCTGTGTGCAGGGACTGATTCCTCA
9239	EGFL5	TTCTGAAAACAGCACTTCAGCT
9240	GEM	TAGCAAACAATTTTTGTTCAATGCCCA
9241	SPOCK	GAACAGGGTGAACCACTGAT
9242	ARHGEF7	CAGTTCTGAGGTGAAGCTGGGC
9243	CACNA1D	CCTGGTTCCTGTTTAGCTGTTCTGA
9244	MUTYH	GGCTACCTCTGGGAAGCCGCT

9245	MAPK4	CAGCATGGAGACCTCATGACAA
9246	AXL	GGCTGGAGTGCAGTGGTGCA
9246	GM2A	GGCTGGAGTGCAGTGGTGCA
9246	ICAM1	GGCTGGAGTGCAGTGGTGCA
9246	LNK	GGCTGGAGTGCAGTGGTGCA
9246	MEFV	GGCTGGAGTGCAGTGGTGCA
9246	NEU3	GGCTGGAGTGCAGTGGTGCA
9247	MAGEA4	GCTGGGCCAGTGCATCTAACAGCCCT
9248	C7	CTGTAAAATTAGAGGATTGCAC
9249	SPN	CTTCCCTCTCACCATCCCACT
9250	LSS	TGCACATCTTAAAACTGGGC
9251	PPP2R2C	CATGCCCAGAGCACCGGGCAC
9252	SLC25A15	GGAATTTTGCTTTTTGTCTT
9253	NKTR	ATACCTGCACTGTCTCTGAGGACTTA
9254	TRPM8	CACCACTGCACTCCAGCCGGGG
9255	TAL1	CCAGTAGGAGATCAGAAAAAT
9256	NPR2L	GGGGGCAGGCGCCATTGGGCAGAGGGA
9257	CRSP6	TCTCCCACTTGATTGACCTCACCAGT
9258	ITPA	TAGGATTCACTGCTCTCTCCTACAG
9259	PTK7	TGCCTGGTCAGTGCCCAGAGACAA
9260	G2A	TGTTGCCTGGGCTGGAGAACAGT
9261	EHF	GCTGTCTTCCTTTCTCCCCTTTGGA
9262	SLC7A6	CTCCTCTCCTGCCAGCCTCCC
9263	PLAGL1	GGAGTTAATCTTGTCTCTTCT
9264	SLC25A12	GGAAAGATGCATGCCAGTGGATGC
9265	FACL5	GAGGGAAGAAGGACAGGGACTCGTGTGGCA
9266	PCDH1	GACCGAGGTGTGGGAGTGTGGA
9267	PDYN	TGCTGAGACAGGATGGCCTGGC
9268	RECK	TGTATAAATGTCTTTAATGCAA
9269	GAS7	GAGATCAGGCGCCATCTGTAAA
9270	MSX2	AGTTGTTCCTATCTCTCCCCCGCC
9271	HOXB6	GAGGAAGAGTTGAGTCTGTCTGGGACT
9272	MYD88	GAGGAAGAGAGCTGCTTAAACTCACAC
9273	HUNK	AGGAGGTCGAGGCTGCAGT
9273	LRRC2	AGGAGGTCGAGGCTGCAGT
9274	HPSE	ATTCTTCTTTATGGCTGAGT
9275	HEBP1	GCCTCTGTGTCTCCTTCCTCGGGGG
9276	ATP1A2	ACCCTGGGCTGGAGAGTTGGT
9277	DDOST	CATTGCACTCCAGCCTGGGCAACAGTG
9278	HLCS	TTTGGAGCTTTTAAGCCAGTTTCAG
9279	JRK	CTCAAGCGATCCTCCTTCCTCA
9280	IGF1	GGACTCAAACTCCTGACCTTGTGATTT
9281	CAPN1	CCTTCCCTGGCCCTGCTGCCGACC
9282	ELMO2	TAACAACAGCCAGGAGCTTC
9283	GNAZ	TGCACACAGCTGCTCAGCACC
9284	WIG1	CTCAAGTTCTGGTCAACTAGTAGC
9285	DTNA	TGTTCTCTGTGAACCACAGT
9286	PPT1	GCTATCAATCATCTTATCATCA
9287	GALNT2	GCGGTGAGCTATGTTTACA
9288	ZNF146	AACCCTATGAATTTACTGAAT

9289	SCD	GCTGGTCAGTCTTTGCTCAG
9290	FOXD2	GCTCCGCCCTAGCCCGCAGCTCTTC
9291	SIX2	CCCCTCCTCCTTCTCTCTTGGCGA
9292	SNAP23	GTTTAATTATTGGTGATTACACA
9293	SYN3	GGGGGCCCTTGTAATGCCACT
9294	AK2	TGCAACCTCTTGACCTTCAGCTCC
9295	FBLN1	CCCTGCAGACTGCCATT
9296	HK1	ATCACACCACCTGACAGGCCT
9297	WHSC1	TGTGTGCCAGCTGTGTGAG
9298	CNTN3	ACCATAAAGCACTAT
9299	IL11RA	TGACTGCCATTGGTCCCTCAGC
9300	SLC25A15	CTACTTTGCTTTTCTCTCCA
9301	SLC19A2	AGGAAGGGAAAGGGAAGTGATATCAT
9302	TAF7	ATGCGAGCTGCGCCTCTCGGCA
9303	OTOF	CACAAGTCCCAGCGCGGATGTTTCTGC
9304	AP1G1	TGTAACACTGGCACTGAA
9305	P29	AGCAAAATCAAGTTCTTTTTG
9306	KCNN4	TGTGGTGAGTAGAGGTGTGTGTC
9307	HTR1E	TCGCCCAGGCTGGAGTGCAGCAGCAC
9308	VAV2	TAGCTCCTCTGTGACTCAGA
9309	SDC1	TCTCCGTTAGCTCCTGTGGCC
9310	RNTRE	ACTTCTTTCTTCTGCC
9311	SSTR2	CACTGGATCCTTGGCCTCCAGGG
9312	IHPK3	CTGGGCCCTGCCTTCCATACAC
9313	STAU	TTCCATTCATTGTTTACGCTGGAATTT
9314	GCNT1	CTTAGCAAAATGAGAAGATGTGA
9315	ARHGEF7	CCTAAATGGTGTTCCCTTTGA
9316	PPP1R3A	GATTCATTGATCAAATATTTCA
9317	CLECSF5	TCACATGCCCCTCCTAACTCCACA
9318	CR1	GGCACCTGCCAACACGCCCGG
9319	NRCAM	GTTCAAAACTCTGCAGCATTAAACA
9320	SMPX	GGAATGCGTTTTAGTTCTTCACCTT
9321	CBFB	GGATTTTTCTGTCATTTAGCACCA
9322	KRT13	CTTCTATCTGCACCTGCTCTCAA
9323	PTGIS	GTTCTCTGTTCTAGAGTGACAGG
9324	ITCH	ATCCTAAATGAACTATTTCAGT
9325	IGF2R	TTGGAGCTCATTCTGTCTCTTT
9326	PKNOX1	TTTCAGAGCCCTCCTGCTCAC
9327	PPP1R12B	GCAATGGCTTTCCCTCCTGCTGGCT
9328	GRM6	GCCACTGTACTCCAGCCTGGG
9328	KLRG1	GCCACTGTACTCCAGCCTGGG
9329	CDH2	GGAAGGGGGTGGAAACTGCCT
9330	CCND1	CCAGCAGAAGACAAAAAGA
9331	GABRA2	GATGTATAGCAACATTAAATTTG
9332	POLH	TTGGAGGCGGAGGTTGCATTGA
9333	DHFR	TTGCCCAGGCTAGCATGCAATG
9334	FOSL1	AGCCCCGGGCATGTTCCGAGA
9335	ZHX1	CTCCCTTTTATAAACATTGCT
9336	ENIGMA	GCCACACCAGCCCCCTTTCACCTCC
9337	PPP2R2B	TTTTGTTCCTAGGTGTCTGCTGC

9338	ABCD2	CCCCATTTACATCATTTCACCTT
9339	RUNX1	TGGTTTGTCAGCCTTTCTCCTGTTTAT
9340	ID1	GCGCTCCTCTCTGCACACCTACTAGTC
9341	KLHL3	GACCCTGAGACTACTAAAGCT
9342	INPP5B	AGGCTGAGGCAGGCGGATCACA
9343	HTR1E	CGCCCAGGCTGGAGTGCAGC
9344	PRKCN	CTGCTTTTTAGCCAGGGCCAGT
9345	BCL7A	ACTGTCCTTGGGGAGGCAGGCG
9346	SOX12	ACCACGCCCTTCCTGGGGCAGC
9347	CD209	CGCTCAGGCTGGAGTGCCAT
9348	DFFB	CGCTCAGGCTGGAGTGCAGT
9349	HDAC5	CCTCTACGCTGCCTCAGGCC
9350	RAD50	CCCGGCGGGCAGCCCCAGGCTGG
9351	GOLGA4	TCGCCCTTCAGGTTTCGTTGA
9352	CYP1A2	AACCATCACCAGAATTAATTTTATTAT
9353	NDUFA6	GATGAACCAATTTTCTGCAGCCT
9354	KIF1B	TTGGGAGCCTGAGGCAGGAGAACTGC
9355	NPR2L	ACATCCATTTCAAACAGCTA
9356	PLCB2	AGAGTCTGAGACAGGACCCAGGCACCCT
9357	MAT1A	GGAGGGAGGGAGTGGTTTGCAGGTGG
9358	GBAS	AACAAAACAAGTAGCTCTAG
9359	RPS24	TGTTAGCTGTGGCCACTGTGGA
9360	PDE5A	TTTCATGCAGAGTTGAAGTTTACA
9361	RLF	AACTGTACACTTGTTTGGTGCTA
9362	RFX5	TTCATGTGTTCATTTATTTCCACCAC
9363	PTK2	CTTCCTTGTATCTGTCTTCCCA
9364	AQP6	TGAGGTGTCACCCCCTTCCAGCTGAGGA
9365	GYG2	CCTGCCTGAATTTATGGCATTA
9366	NOS1	TCATGCCACCGACGGGCCAC
9367	GCNT2	CTGCAGCTGGGAAGAGGAGCC
9368	JJAZ1	AGGAAAGAGGGAAACTGCAGCT
9369	RAGE	TGTCCCTTCCCAGCGCTGCT
9370	INPP5A	CCGCGGGTTTCAGCTGTTGGTC
9371	MGAT3	ATGACTGCCAAGACTGCTGTGGCC
9372	VNN1	CTAATTCAATATGACTGATGA
9373	APAF1	CACAATCGCTGCCTCCTGGGTT
9374	VCP	GTAAAGCATCTGCACTTGAC
9375	PLAG1	AGCTTGGTCAACCTCTATACT
9376	FAAH	GGGTGGCTGGCAGGAGTCCCAGCTGCT
9377	BCL2L2	CTCCCAGCTCCTGCACCAGGAA
9378	ST3GALVI	TCTCCACCTTTGCGAACAGAGGGTC
9379	WHSC1	GGGAGGGAGAGAACATTCAGCAGC
9380	HDAC5	CTCCCTTTGCTGACCACCAGCCC
9381	CNTN2	ATCTCCTCTCATACATCAAGCC
9382	GPR6	CTGCTTAATTATAGCACTTT
9383	OLR1	TCCATCATCCCTCAAAGTGTCA
9384	AHCY	CACTTTATAACCAGATGGTTC
9385	TAF11	TATCACCTAGGCTGGAGTGCAG
9386	GNA15	TGTCCTGGTCTATCTCTCCAGCC
9387	SFRP1	CTTCTCTGCCCACAGTCTTTC

9388	TNFSF9	TGTGCCCAGGCTAGGGGGCTATAGA
9389	NGFR	CCTGCTGCCTCCCCAACCCTGCCC
9390	CNTN3	AGCTTTCAGGTTTTATTAAAACCTAGA
9391	PTN	TCCAGAAGGCGGGGAGAGCAGCAGCG
9392	CACNG3	TGAAGAATGCCGCGTTGGGTGGGTGC
9393	GJB1	GGACCTGTCTGGGTGGCCTCAG
9394	GATA4	GAACAACAACTGGGAAGAAACTTGAA
9395	PLA2G2A	CCTCAACTCCGTGCTTAACCAAAG
9396	NOTCH2	CAAAACTGAGCACTCTTCTGTGCACT
9397	COX15	CCTCCTGGGACTGTGACTGCTT
9398	HFE	ACCAGATTTTTACACATGTATCTATGCA
9399	NRXN1	CCCTCTCCTCTCCCCGCGCC
9400	CX3CR1	TTATTTCTTACAGGCACAA
9401	CLNS1A	TGCCTCTTCCACTCTGGAGTGAAGTTAATG
9402	SIM2	ACACTGTCAATGGACTGCACCTTG
9403	GNPI	ATGTGATTGTGCCGTCATTCTGTTT
9404	RPH3AL	CTTCCTGCCTCCTGCCCCA
9405	INPP5B	TATGCCTGTAATCCCAGCACTT
9406	AKT1	CCACCGGAGCCTCCCCCTCA
9407	TOMM22	GTTATTGCTGTTTGAGCTGTCTCAGTGG
9408	SFRS1	CTTGGAGCTGGATCATTGGA
9409	STS	TCTCTCTTCTCTTTGTTTCAACTG
9410	PRKY	CATGCCTGCAATCCCAGCACTT
9411	PSA	CCCCAGTCTTCGCCTTCCTCTTTT
9412	PTAFR	TGGCCAACATTGTAAAACCCCA
9413	ITK	TAGAGATGATTTCTGGAACAT
9414	RAG1	TCTTCCTTTGATTTTATTGG
9415	RPGR	ACTGCCCGTGGCATGAGGGAG
9416	JTV1	AACTGATTTTAAAGGGTTTAGATTTTA
9417	ITPR2	CCCCACAGGAACAAAACACTGCCT
9418	SHFM3	GAAGGGAGGGTGGCGAGGGGGAAGC
9419	EDNRB	CTAAGCAAAGTGCCTTAGG
9420	RNF3	CTTCTTTCCTTTCTGTCAACCTCTCA
9421	NDST1	GTCAGTCCTAGGCTGGATGGGAGGGTGGC
9422	TNFRSF6	TCCTCAAGGACATTACTAG
9423	ANK1	CCCCAGCTGCTCCTCCTCAAGCC
9424	PLAGL1	AGCTTCCGTGTTCCTTGCCTTGTGA
9425	RUNX1	ACACATGCAGTAGCACTTTGGTAAGA
9426	PDGFRB	CAGAAATGCTATTTTGTATG
9427	GEM	CAGTATTTATTTCCAGGAAAAGCCTG
9428	PIGN	GCACCATTCAGCATCTGGATCCTGAT
9429	CMAR	CAGTAGTCCCTGCACAGTGACTTCTG
9429	SPG7	CAGTAGTCCCTGCACAGTGACTTCTG
9430	CHRM5	GGTAACAATGAACAGTGA
9431	NOTCH3	GGACCTCCTTCTTCCCCACTTC
9432	CELSR3	CATTCCTGCAGAGGGTCGGT
9433	LEF1	GCACTTCCCAGAGCATCTTGCATCCA
9434	CASP2	TCGCCCAGGCTGGAGGGCAGTG
9435	TAT	TCGCCCATGCTGGAGTGCAGTG
9436	CHRND	ACAGTCCCTAATGACACCC

9437	MAX	ACTTCTCTTCCTCCCTCAT
9438	OSR1	TGCAGCTCCCACCTCCTCCTCC
9439	PRSS7	TTATTCTTACCTATGTCA
9440	MFAP4	TGTCCTGCTTCCTCACTGTGG
9441	DCX	GGCTTTGGCTTTAAGTCCCAGACTGGTCTCCC
9442	SCA1	GAGCCTCCCACCTTTCCCCTGCTGC
9443	GNMT	TGGGTTCCACAGACGGAAGG
9444	SFRS7	TAGGGAAAAGTTATTTTGTTTAC
9445	EPS15	GCACTACCCTGTTCTGTAGTTA
9446	MMP25	GCCTCCTCAGCACTCCCTCCTGGGAGGCC
9447	ADAT1	GGAGGCGGAGGTAGTGGTGA
9448	DCX	TGGCCAGACTGGTCTTGAACTCTTGGC
9449	COL6A3	TTTTTGGTGGAGAAAGGCTGCAAAAAGA
9450	CASP10	TTCCTGGAACTGTATTTTGAA
9451	IL5RA	GCTACCATCTGAGGAAGAAAGCATTTT
9452	KCNJ16	TTGCCCAGGTAGTGATCAGT
9453	CBFA2T2	TACAGGCATGCGCCACCACGCCCAACTAAT
9454	FMN2	CCCCAACTTTTCAGAGCGAGTCTTTT
9455	PAX5	GAGGTGCTGGGGCTGGGGCAG
9456	GRAF	ATCGCGCCCCTGCACTCCAGCCT
9457	PNOC	CAGAACCTTCCCGTCTGATTGTTC
9458	MADH7	CGCTCAGTGGGGCAGAGGCAG
9459	CDKN1B	TATAGTTTTTACCTTTTATGTA
9460	RPE65	AATCTATGTTTAATCAACTGAGGC
9461	NOL3	CTGGGAGCTCAGTGAGGATTCT
9462	EDN1	TCTGCACTCTCCACCCTGGCTGG
9463	PPP3R1	GCTTTCTCCTTTGAGAGA
9464	KAL1	TAGAGTGTTGCAGTGTATATTGTAACA
9465	F13A1	TCTTAGCAAAAAATGAACAGTGA
9466	APPBP2	GGCTCACTGCAACCTCCGCCTC
9466	DFFB	GGCTCACTGCAACCTCCGCCTC
9466	GRAF	GGCTCACTGCAACCTCCGCCTC
9466	KCNJ11	GGCTCACTGCAACCTCCGCCTC
9466	MEFV	GGCTCACTGCAACCTCCGCCTC
9466	PIGR	GGCTCACTGCAACCTCCGCCTC
9466	RHD	GGCTCACTGCAACCTCCGCCTC
9466	SEDL	GGCTCACTGCAACCTCCGCCTC
9466	SNAP23	GGCTCACTGCAACCTCCGCCTC
9466	VENTX2	GGCTCACTGCAACCTCCGCCTC
9466	WHSC1	GGCTCACTGCAACCTCCGCCTC
9466	ZNF264	GGCTCACTGCAACCTCCGCCTC
9467	SLC25A3	AAAAGCTTGGGTTAACTCAGTAT
9468	RNF26	GGTGGGGGCAGGATAACATGGCTTCT
9469	SLC2A5	CTGTGCAAAGGGCTGCCTTGCTGTTC
9470	SLC19A1	CCCTGCACTGTGCCCCGCGGGCTTTGT
9471	ISL1	AGCTCCAGCAAAAGCGCAGGA
9472	TGM4	GAGATTTCAGCATTTCCTACCTTGTG
9473	GYPA	TTCACCAAACCAAATGTGGAAA
9474	RAB13	GGAATTTGCTCCTGTTCTGTC
9475	ICMT	CTACTCTCTGGGCCACTGCTGCAGA

9476	GALNT7	TCTATGAAAGAATATAGGAAG
9477	NUMB	GAGGAAAGGCTGGAAGCTGCAGA
9478	TAPBP	AGCCTCTCTGGGCACTTGCAGCCG
9479	KLK8	AGGCAGCAAGGGCTGATTCTAGGATA
9480	TRIM14	AGCTGGGCGTGGTGGTGCA
9480	UBE2G2	AGCTGGGCGTGGTGGTGCA
9481	IL5RA	AGAGAAAACGTGTTGCCATCCCA
9482	TNFAIP1	CTGCCTTGCCCCTGAGCACTTC
9483	SFTPC	GGAGAGCATAGCACCTGCAGC
9484	PTPN7	TCTTTGTGAGCTTCAGTTTCC
9485	ISLR	CAGGGAGGGCACAGGCCTGC
9486	AMPH	AAATCATCTGTAACAATTATGTT
9487	ART3	TTTCTTATTCTTTACTTGA
9488	SCNN1G	GCCCTTGGAGTGTTGGTGGAGATCAGAG
9489	MATN3	TTCTGCAGAATCAGCATGATTTTTCCAA
9490	EGFL5	CCTCCCCACCCCACCTGCCACCG
9491	ZNF161	TTTCTCCAATTTGGCTGGGATT
9492	CLC	TGTCTCCTCCCCACCTCCCAA
9493	B3GALT5	TTGGCCGAGGAACAACTGAAC
9494	LZTS1	GCCAGGCACACACAGCCCC
9495	FMNL	CCGCAAGCCCCAGCCCCGAGGACC
9496	OGT	TTATAGAACAAATATTTGATA
9497	ADCY1	AGACCAGCCTGGTCAACATGGT
9498	CRSP6	CCCAGTCTGGAGTGCAGTG
9498	FANCF	CCCAGTCTGGAGTGCAGTG
9499	MFRP	TTCTGACCTTTTCCTTGATTCAA
9500	CTF1	TCTGTCTGCTCTTAGCTGTCTC
9501	PACSIN1	ATGCAGGCCCTCAGCCCGG
9502	CDH6	AAAAGCCAATGGCTGCAGT
9503	TCF1	CAGCGTGGCCTTGTTCTGTCACCA
9504	KRTHA1	TTCAACAAAAGGGGCCTGA
9505	PACSIN1	CAGTTGTGATTGTATGACTGT
9506	IRS2	TGGGCATGCCTTTCTGTAACCAA
9507	ARF1	CCCCTCGGGAGCACCCCACCTCT
9508	GNAI3	TTTTGCAGATTTACATTTTGCTTG
9509	EPHB4	ATCATGTCTGTTTCCAGAACAGTGCCT
9510	PAX9	CCCAATTCCCAGGTCTCACA
9511	LAMC2	GGAGGCGGAGGTTACAGTGA
9512	EMP1	ACCAGCAGAGGAAACTTATAACCTC
9513	KCNE3	GGGGTGGGAGAAGAGGGGCTGG
9514	CPT1B	GACCCTCTCCCAAGAGGA
9515	BDKRB2	TGGAGAATGAGAAAAATTTACATGGCAA
9516	ATP11A	CACACGTACACATGCACATGTACGCACC
9517	GCNT2	CAGGGGGCGGGGGTGGCATG
9518	HARS	GGTCCCATCTGCAGGGCCCCGCAC
9519	ASGR2	CCTCAGCCCAGCCCAGCCCAGC
9520	SLC15A1	CCCACCCCACATTGGTCATCT
9521	ZNF179	GAGGTGCTGGGGATGACAGGAAG
9522	HMGA1	GCAGCAGGTGTGGCCAATGGAGGG
9523	NPHS1	ACCCAAAGGGACTTGGTGTCAGGAG

9524	KHK	TGACCCAGGATACAGAGTGTTGC
9525	WHSC1	CTGGGCTTCTGTCCTCCTCTGT
9526	KCNMA1	AAACCCAGCTGCAGATCATGCT
9527	SOD3	CTGCCTGGTTTTTCCCACATGGGC
9528	PTPRO	TGTGGGTGGAAGAGGGAGTAGCTGATT
9529	TNFRSF1B	TCACCTCAGGCCAGGTGCAGTG
9530	PPP1R12B	TTGAGGTGGGCATGGAGTGAGCAG
9531	STAT3	AAAATAGAGAAATGAGTG
9532	ETS2	CCCAAACCACGCCTCTTGACCA
9533	TRIM14	CCAGCACATTCATGCAGAAAAGT
9534	ITGA2B	AAGCTTTGGGTTGGAGCTGTTC
9535	PAX5	CCCAGCCTGGGAAGGAGAGCTTGCTT
9536	ADAMTS13	GAGCATCTCCCCTAACACCACCTACC
9537	AR	GCCTGTTGAACTCTTCTGAGCAA
9538	PTCH	TCTGGGGCTTCTCCACTCCTGCCCCAG
9539	GPR87	CAAGAAACCTGTTTCAACTTGA
9540	TCF7L2	TGCTTTGTTTATGGTTTTGT
9541	IER5	AGGCCCTTCCCGGCTGCGAGGA
9542	INMT	ACCCAGGCTAGAGTGCAATGGC
9542	RHD	ACCCAGGCTAGAGTGCAATGGC
9543	IL18	TTTCATGCCGGGCGCAGTGGCTCA
9544	MBTPS1	GGGTGAGCCGAGCTGTGGTGGC
9545	FGFR1	CCAGCTTGCCAATGGCGGACTCA
9546	APAF1	ACCCAGGCTGGAGTGCAGTGGC
9546	AQP6	ACCCAGGCTGGAGTGCAGTGGC
9546	CLECSF12	ACCCAGGCTGGAGTGCAGTGGC
9546	CSNK2A2	ACCCAGGCTGGAGTGCAGTGGC
9546	EIF2S3	ACCCAGGCTGGAGTGCAGTGGC
9546	FSHPRH1	ACCCAGGCTGGAGTGCAGTGGC
9546	HUNK	ACCCAGGCTGGAGTGCAGTGGC
9546	PCDHB16	ACCCAGGCTGGAGTGCAGTGGC
9546	TERF2	ACCCAGGCTGGAGTGCAGTGGC
9546	TNFRSF9	ACCCAGGCTGGAGTGCAGTGGC
9546	VHL	ACCCAGGCTGGAGTGCAGTGGC
9546	ZNF264	ACCCAGGCTGGAGTGCAGTGGC
9547	CYP4F3	GCCCAGGCTGGAGTGCGGTGGC
9547	HMG20A	GCCCAGGCTGGAGTGCGGTGGC
9548	GPR61	ATTCCTGGCTCACTGAGCATCAA
9549	CSRP1	CAGGTTAGGAATAGTGGTGGG
9550	CNR1	GCAGTGTAGATTTTATAGTGT
9551	STCH	CAGGCAGCTCATCTCATGTCCTGA
9552	ZNF264	CGCACATCTTCTGTATTCCA
9553	CHS1	GCCTAAATAAGGCATTTGATC
9554	ADRB3	GGGAGTTTCTTAGCCTGAAGGACAAGAA
9555	ABR	ACCAGCCCCTCCAGCCTGGG
9556	MLLT7	GTGGGTGGGCTGTTTAGGGGATCTGG
9557	CASQ2	ATCTTGTTCTTTGCTGGACCA
9558	BSN	TTTCATGCCTCTCCTCTGTGGCTA
9559	COL7A1	TGTGGGCAGTGAGCGGATGTGAC
9560	UVRAG	GGCTACTGTCTGGGCTGAGCAGTAG

9561	ASB1	GCGGTTGATTCCAGTGAGGG
9562	KCNS2	CAGTAGAAATGCATCTATGAGGTCAG
9563	LARGE	ACCACCCTCTATCAGCAGTG
9564	PPP2R4	CAGGGGCTGTTCTGCAGCACCG
9565	EGLN2	GCCGGGCCCATAGGTGTAGCTGAGCA
9566	NCOA6	GAACTCCTGAGCTCAAGCAGTC
9567	GGA1	CTTACGTCTGTCCATCCATCTGTCC
9568	PTCH	GTCCTGTTTGTTCATTTGGAT
9569	FCAR	GGAGTCCGACAAAGCTACTTG
9570	FOXI1	CATGACTGCGGAACTGCCCAG
9571	AQP6	AGAAGAGACAGGAGATCAGA
9572	HUNK	ACAGTTACAGGGAGAGAAC
9573	IL8RA	AACGTCACATCTTTAACCC
9574	CBLB	TCAACTGATCAAACTAATGCAAA
9575	RBBP9	CCTGAAAAACAAACACAAGTT
9576	BHMT2	CCTGTAATCCCAGCTACTCGGG
9576	CASP10	CCTGTAATCCCAGCTACTCGGG
9576	IL13RA1	CCTGTAATCCCAGCTACTCGGG
9576	MCM4	CCTGTAATCCCAGCTACTCGGG
9576	RPN1	CCTGTAATCCCAGCTACTCGGG
9577	OPA3	CCTGTAATCCTAGCTACTTGGG
9578	CYP4F3	GACCAGCCTGGCCAATATGGTG
9578	EGFL4	GACCAGCCTGGCCAATATGGTG
9579	THBD	AGGGCGGCCAGAGAACCCAGCAATCC
9580	RAD17	GCATGGTATTCAAGTACAA
9581	SIAT1	GAGGCAGACATCTGAACAG
9582	ATP6V0A4	CATTTCCAGTTCCTCCATGA
9583	PDE4B	GGGCCAGCCCACCATGGGGG
9584	AQP6	CTTCGTCCTGTTCCCCGA
9585	CYBB	GAATCCTCAGGGCACTGA
9586	TTC3	ACTATAAAAATCCTTA
9587	KPNA3	CAACAGCAACAAAAGGCTCCA
9588	FGF5	TCTCCCCTTCTCTTCCCCGAGGCT
9589	RAI3	ACCCAGGCTTGAGTGCAGT
9590	HSPA5	GGGCATTTCACAGTGCCCAAGAGTG
9591	PSEN1	AGAGCAGGCACCAGCAGCAGAAT
9592	MYL1	CAAGACTGAGCAACTCCCTGAA
9593	TNFAIP2	CTGTCCTCCTCGTGGGTGGGG
9594	SIL	TTGTAGCCCAGGCTGGAGTGC
9595	IGFBP3	ACAGGGAGAGTCAGCCTC
9596	CD1A	CTTCCTCTTCTTCATTGC
9597	ITK	ACTGATCTCTGTGGTTTGGTT
9598	TAPBP	TGGCTCTGTCAGCCTCTCTGGGCACTTG
9599	A1BG	AGCAACCTCTACCTCCTGGGTT
9600	ABCC3	GCTAGAGGCATCTTCTACGGGAT
9601	NRGN	GTGCATGTGACTGTGCTGGG
9602	ZNF76	CCTCAGCTGCCCCCCAACCTC
9603	HIP1	TAACTCATATGTTCCCAATTA
9604	BARX2	CCTCCTGAAAGGCTGCTT
9605	CD1A	AGGTTTGTTTGGAACAGAAATCAAAGA

9606	TRPV1	CACCCAGGCTGGAATGCAGTG
9607	DVL3	CCTTTTGTCTCTGGGACCAGA
9608	MPP2	GAGGAGTGCAGAGGGGACCTTGGGAGC
9609	COL9A1	AGAAGTCCTACTTGACAATCA
9610	FGF23	CAGCTCTTCCCAAGGACCAGGTCCC
9611	MADH3	CCAAACACATTTACCCTTTGGCC
9612	FOXE3	CCCCTTTCACGTAGACACACCT
9613	HEM1	CTCTGAATCTCAAACAAGTTGATA
9614	IL11	CTGCAACCTCCACCTCCCGGGT
9614	LYZ	CTGCAACCTCCACCTCCCGGGT
9614	SEDL	CTGCAACCTCCACCTCCCGGGT
9615	SHOX	CTGCAACCTCCGCCTCCCGAGT
9616	PIK3CD	ACTGTAACCTCCGCCTCCCAGG
9617	DGCR2	CCTGGGCTGTGCTGAGGCAGTGC
9618	CMRF35	AACCTGACGGACATGGACGCCCTGA
9619	PCDHB11	TGTCGCCCTGGCTGGAGTGCAA
9620	KLRD1	TTCATTCTCTATTTTTGCTAAATTT
9621	ARNT2	CTCCAACATACCAGATTGTA
9622	UBE2G2	AGACTGAGGCAGGAGAATGGCG
9623	TPD52L2	TTATTTTTTAAATGCAGTG
9624	HNRPH3	TACAAGAAGTAGTGTGGTG
9625	LRRC2	AGCTTTCTGCAGTGACGGAAA
9626	STC1	CCCAAACACAAAACATTCATG
9627	PCDH11X	AGGCTGAGGCAGGAGAATAGCG
9628	EGFL5	AGACCAGCCTGGTCAACATGGC
9629	JPH2	CTGGGCTTTTGTGTGTTTTGG
9630	DKC1	GTCCATGCTGGTGTCTGGGTTATA
9631	OGG1	CTACGGGGCGGTGCCTGCTGT
9632	KIR3DL2	TGCTGTTCCACCTCCCCTCAGACTATC
9633	TEM7	CTTGCATCTTCACAAAGGATA
9634	PSME3	ACCATGTCAAGAAATTATTAA
9635	NCL	CGCCGTCGCTTGGCTTCTTCTGGA
9636	TNS	GCTCTCTCCTGGTGCCTGCACCTG
9637	CALU	TAATGCCACCAACTCTGGCTTA
9638	SLC25A13	ATTCATTTTCTGGGTGTTTTC
9639	APPL	TAGTAGAGTATAGGAGAAGT
9640	GCN5L2	TGAGAGGTCTCCTGGGTTGGGGCCCA
9641	PDE6C	ACCAGGATGAATTTCCTTCTCA
9642	CHST7	GGGCAATCTGTCACACTCTCA
9643	ALPP	AGTGTTTGTAATCCCAGCACTT
9644	GNAO1	TGTAAGACACACAGCCTTTCTG
9645	SMP1	AACAACCAAAAATCTATTGTGG
9646	ZNF202	ACGTCCTCCATAAGTGGAGCACAGGGT
9647	TNFRSF14	GCTGCCAGACACCCCCTGCTGC
9648	LMAN1	TGTGGGTGGAAATATTCCTCTGAG
9649	SLC6A2	CCTCTCGCCAGCCGCATCCATGCTTCTG
9650	DNM2	TCCTCCTCCTCCTCCTGGGT
9651	IL1RN	CATCTCCACTCCAGATTTTTT
9652	FUT6	TCACTTTGTACTCAAAGCCACA
9653	CUTL1	CCAATGCCCGGCCAGGCTAAGCCGC

9654	RHBG	CCACTGGCCCCACGTCACACAGTTAC
9655	MN1	GTGTTTTCTCTCCTTTTCTGGGCCT
9656	ADRBK2	GACACACCAGGGTCTCAGCCT
9657	SYT4	TGAATATCTTGAATCCTGTTA
9658	HEM1	CATTGGGTTTCTTCTTTGTCA
9659	RANBP3	GGGGTCCACGGGCACTGGGA
9660	FZD1	GAAATTGAAAACTTGAAGG
9661	FACL4	GCTTCTATTATTGCCTTCTTCAGCACA
9662	MNT	CCTGCCTGCCCGCCAGCCTGACCTGT
9663	CLN6	GGTTACGTCAGCCTACTGTGG
9664	REL	TGCGGCCGCCTCCGGCCAG
9665	IGHMBP2	GCATCTTCAGCACTTACCGATCCAGA
9666	ABCC11	GGAGAGGAAAGAGCAGGCA
9667	PIK3CD	GCCTCCCAGGTTCAAGTGATTC
9667	TMC1	GCCTCCCAGGTTCAAGTGATTC
9668	GNAT1	ATGTCCACAGGCCAGGGCCTGT
9669	RAD17	ACTTTTTTGGGAAATACTGGAAA
9670	AMPD2	TGGTGTTCCCAGTGTGGCTC
9671	DIA1	CTCAGGGTTTTGGGGTCCTGGGC
9672	DIA1	CAGGGCTGTGTCCCAGATGGGCCACG
9673	FBXL7	CAGCTCTTTCTTCCGGGAAGGTTAT
9674	PLA2G2A	AGCATTCACCTGCCCTGTCTCCA
9675	HOXC4	GGGGCAGGAGGAATGCAGGAGCAGGAGTTG
9675	HOXC6	GGGGCAGGAGGAATGCAGGAGCAGGAGTTG
9676	REQ	GATGTTCTCGGTCACCCTCCTGGTTCTGCC
9677	GNLY	GCGGCTGCCCCACCATGGCTACC
9678	WNT10B	ACATGCTGGAGGAGCCCCGGCCGCGG
9679	NKTR	TCATATTCACGGGTTCTGGAGATT
9680	STAT5B	TCTCCATCTTCAGCTTCTTCA
9681	MFGE8	GCTGGGGACTGGGGAAGGGGAG
9682	XPO1	TAAAAAGCAAAATAAACTTGGTT
9683	CADPS	TTTGAAGTTAAGCTGCAAA
9684	BRMS1	GCTTTCTCAGATTCCAAGGACT
9685	TEM7	AGGAATCATGCCGTTTGCAAAA
9686	GPR55	AGCTGGCCCATAATCAGCAGTGGGGC
9687	NDUFS1	CATCTCTACAAAAGATGCAAGAA
9688	BSN	CCACAGGATACATCATCGCCCCTCTG
9689	NPY1R	GGAGAATTGGGCACCCACAGGAAT
9690	PDE4A	ACCTTTTGCCCTAGGAGGAAGCAA
9691	GNE	GGCTCAATGCAACCTCTGCCCC
9692	PKD1	GCTGGCTGTGCCTGCTTCTGTGTACC
9693	NUP62	CAGAAATAGCCACAGCTTCCAGTGGTGG
9694	GTF2E2	CTCAAAGCTTATTTGAGTAGAATG
9695	P2RY1	CCCCACTGCTGTGCAATGCC
9696	ARHGEF7	GAGCCCCGGAGCGAGAGCGAGTGCCTG
9697	RXRB	TTTCTCACCCTCTGTCCTTCCCCC
9698	AHSG	CCACCATTTTGTCCAAGCCTGGGCATGGGT
9699	RP42	CTGTCTTGAAGATT
9700	CD209	TCTTCCTCTGCTTGGTGAATTGTGCC
9701	PFKFB3	TTAGCCTGGGGGCCCCCACCT

9702	TNFSF11	ATTCCCTGGGGAAAACTTGCA
9703	MICB	CAGCCCAGTTTCAAACTCCTGAC
9704	SERPINB9	ATGCAGATACTTATTGCATTTCT
9705	MLH3	AGCAGCAGCAGCAGGTACCAGCACGGC
9706	GPRK7	GAAATTGAGTTGAACAGGCCAGG
9707	RAD17	CTCAAGTTTTAGAAAGGCAACCAA
9708	SCAMP1	TTTTATGTTCAAAACACACAGTACA
9709	HTR2A	CAGAAGCTCAAGGCTGCAGTGA
9710	OAS1	TAACATTCTCCACAGCCTCA
9711	CLTA	GCCCCGCTGGTGCACTGA
9712	RPS21	CGCAGCCCAGCCTCGAAATGCAGAACG
9713	NPR1	ACCTGCTCTCCACCTGGACT
9714	SSPN	AGTCCTTCCCACCTCCAGTCA
9715	MYO3A	TGCGCTCGGCCCTCAAGTGCCCG
9716	ATP2B1	AAATGATACAGATCTGTTTACAAGGT
9717	KCNN2	CAATTCCGGACGCAGTACCATG
9718	PCTK3	AGCTTCTCTGGGGAACTGCTC
9719	EVA1	ACATCTTGTTTTACTGAAT
9720	PRND	CAGATACACAAGTGAGGGCTTT
9721	SUPT6H	GCTTCCTGCCTGTCATTTGAATAAACA
9722	CACNA1S	ACCGCAGCAGCCTCCCTCCCTCT
9723	ALEX3	ATCATGAGTAAGCTCCCTTCTGT
9724	HS3ST4	ACCTGCTGTCTAAACCTCTGCTTGG
9725	MNT	GCCTCGTGGAGCTCGCCCCTC
9726	CLECSF12	GAACTCCTGACCTCAAGTGATC
9726	F2RL2	GAACTCCTGACCTCAAGTGATC
9726	G6PC	GAACTCCTGACCTCAAGTGATC
9726	GRAF	GAACTCCTGACCTCAAGTGATC
9726	IFNAR2	GAACTCCTGACCTCAAGTGATC
9726	IL12RB1	GAACTCCTGACCTCAAGTGATC
9726	SNX15	GAACTCCTGACCTCAAGTGATC
9726	XRCC2	GAACTCCTGACCTCAAGTGATC
9727	RECK	GGCTCACTGGTCACGGATTTGTGTCT
9728	FUT1	AGCCCAGGCCAGAGTGCAGTGG
9729	VANGL2	CCCTGCCTTAAGTCCAGTTCTTT
9730	ACADSB	CAGTTTGAAAAAGCATATTCA
9731	IL18R1	GCTGCAGGGCCTCAGCCTCAGGATG
9732	CYP2B6	GTCCACTGCAACCTCCACATCCT
9733	SLC2A5	GAAGCTGGGCTGTCTCTCTCCA
9734	MHC2TA	TTGCAACAGGCTGGGCTTCAGTG
9735	FGF13	TCCTCAAGTGTAGATTTCTCTTA
9736	DSG1	TTGAGGCAGAGTCTTCTTTGTGCC
9737	CML66	GAATTGAAAGCTCTCAGGAT
9738	GLB1	CAGGGCTGGAATGGAAGCTTT
9739	MEIS1	GGATGGGAAAAACTGCAGTCATCA
9740	PTPRO	TACATCCATCAAGAGAGACAGAGCGC
9741	FBXL7	CATCCTAGCGAGGCACCAGCAC
9742	SUFU	GAAGCTCTTGTTTCTGACATTTC
9743	CPA3	ATACAATAAAATAAAATGCAC
9744	FAT2	GAGAGGGAGATGTGTGGGCGAGAGC

9745	ZNF79	TCGGGAGACGGAGTGGAACAC
9746	NFE2L2	TGTAAACAATTTCTTAGGACACCA
9747	MICB	TCACCCAGGCTGCAGTTCACTG
9748	SOX13	CGAGGGAGTTGGGACAGGAGGATT
9749	POLR2E	CTCCACCCACGTTCTCCCGTCCTGGG
9750	TRPS1	GTGTATTTCTTATGCAAACA
9751	HUNK	AAACTCCTGGGCTCCAACGATC
9752	SULT2B1	TCCAGCACCCACCTCCCTACTCTCC
9753	CIT	CGTGTTGTTCCCCACTCTGGG
9754	HTR1D	CCAGAGTAGCTGGGACTACAAACGTGT
9755	AVPR1A	GAAGTTGAAAAAAGGCAGAGCAGG
9756	WHSC1	CCTCTATTGGCTCTGCTCAAATGTTGCA
9757	VCY	CCTATCTCCCTGGCAGCAACTAAGTT
9758	PKP2	GACTGCCTGGCCAGCCTGGGGCACTG
9759	CYP2J2	CAAGAAAGATCAGAGGAA
9760	NGB	TGGAGAGAAGAGAAGGCAGCAGCAG
9761	BHMT2	CTGTAATCCCAGCTACTCGGGA
9761	CASP10	CTGTAATCCCAGCTACTCGGGA
9761	GP2	CTGTAATCCCAGCTACTCGGGA
9761	IL13RA1	CTGTAATCCCAGCTACTCGGGA
9761	MCM4	CTGTAATCCCAGCTACTCGGGA
9761	PAICS	CTGTAATCCCAGCTACTCGGGA
9761	RFC2	CTGTAATCCCAGCTACTCGGGA
9761	RPN1	CTGTAATCCCAGCTACTCGGGA
9762	BUB3	CATTTCCTGGGCTGTTAAACAAAGCGA
9763	DNMT3B	TGGGGTGTGTGGCAGAGCCAG
9764	CNN2	TCACTGCACCTCCACCTTCCGGG
9765	RFC2	CCAAGATCACACCATTGCACTC
9765	RIMS1	CCAAGATCACACCATTGCACTC
9765	VHL	CCAAGATCACACCATTGCACTC
9766	PRKCD	GCTCCCCACGATAAGCACCAGT
9767	LPIN2	GGGAAAGGTGTGCCATAAGCTG
9768	GALNT7	CTGAGATCATGCCATTGCACTC
9768	SLC2A6	CTGAGATCATGCCATTGCACTC
9769	HIP1	CTGAGATCACGCCATTGTACTC
9770	RNF3	CCCTGCAGGAACGCGCCGAGGTCTC
9771	DAPP1	TTTAAACCATTATTTTCACCCTGTTG
9772	MBD4	GGGCCCAGGAGGTCAAGGCTTC
9773	XPNPEP2	CCAGCTGTTTCACCCTTCAGCAACAT
9774	SSX2	CCAAGTACCAGTATAAGCATCTGCCA
9775	GPR30	GCCGGGGCTGGCGGTGCCTGAG
9776	TCF7	GGGAGGCGGAGGTTCCAGTGAG
9777	RAD51L3	CCTTTCTCCTCCGGCAGCC
9778	GPR63	GCTTGCATCTTCCATCCTAC
9779	HTR2A	GGCTCGTGCATGTAATCCTAG
9780	RP2	TACAACTGCTATATGACTCT
9781	DIAPH1	GCTCTCTCAACATCACATACAGCTTCA
9782	TAPBP	TCCGCCCAGGCTGCAGTGCAGT
9783	CTMP	ATGTCACAGGCCCAGCTCTTC
9784	TGM3	TCCCAAGGCTGCCAGACATGGA

9785	HD	ACGAGGCAGGGGCTCTGCTTCC
9786	CDH17	AGGCTGGAGTACAGTGGTGTGAT
9787	KRT2A	TGTCTAGGTTTGTGCTTCTAG
9788	SERPINB9	TGAGACTACAAGCACCCACCAC
9789	LZTS1	TCCAACTAGCTGGGACTACAGG
9790	PYGO2	ACATGTCTCTCCCTGCTCTTCCAG
9791	NPY5R	CGCGCTCCCGGGAGCCCAGGGC
9792	PXF	TCAGCAGAACCATTGGGACCTG
9793	STX1A	GGGAAGAGGCAGAGGGAGGCAGCCAGCG
9794	HRH1	AATGTACCATCAAATGTTAACA
9795	SIM1	TTCAGTTAGACAAGGACCAGGATTGCA
9796	ADCY1	GGCCCTGCTGTCAACCTCTCCTC
9797	JMJ	ACCAGCACATCACTATGCATCTG
9798	KCNE3	TGTCACCCAGGCTGTGGTGCAG
9799	MECP2	CCTTAAGCTGCAGGATTCTCACCAGCT
9800	KRTHB1	GGGCCAGGACCAGAACCTTGCCCACGG
9801	GBF1	TCAGCTGTGGGACCTTTTTCCTCCTCT
9802	PAICS	CACATCTCACTCATCACCAA
9803	CST3	TTCCTTCTTGCTTCTCATAGCC
9804	DYRK1A	GATGCAATCACTTTTGGACATGCTTTT
9805	CLTB	CGCCTCCTCTCAGTCTACTCAA
9806	THY1	GAGTGAGACCCAGGAGCCGGA
9807	UBE2B	TAGGCCATTTGTTACAGTTTC
9808	COL10A1	ATATCTATTCAAATATACAGG
9809	TP53	GGTCTCAAACTCCTGGGCTCAG
9810	STUB1	GACTGTTTCCCCTCTCAGCATC
9811	SLC24A1	TCAGTAGCGCCACATCTGGTTTA
9812	MAP7	TCTTAGCAATCAATATTTTTCTG
9813	CYP4F3	CCAGGAGTCAGAGGTTTCAGTGA
9814	CROT	TTTGAGACCAGCCTGGGCAA
9814	DBT	TTTGAGACCAGCCTGGGCAA
9814	EHHADH	TTTGAGACCAGCCTGGGCAA
9814	ICA1	TTTGAGACCAGCCTGGGCAA
9814	PDE4C	TTTGAGACCAGCCTGGGCAA
9814	TRPM1	TTTGAGACCAGCCTGGGCAA
9814	WSX1	TTTGAGACCAGCCTGGGCAA
9815	NDST2	GTGAGGCGCTCAGCCAGGGCCAAG
9816	SPARC	GGTCGGATCTCACAGGCTGAG
9817	PDGFRA	AATCCCCACAGGCACATTAACT
9818	ATP6V1C1	AACTGTTGAATAGTTACTGAAT
9819	JMJ	TTCGAGCTCATCATGAGATGCCAA
9820	NOS2A	TGAATTGCATTTTACTTTAAT
9821	SP4	AAGAGGCAGAGCCTGTGCC
9822	G2A	AAGCGTTGCCTGGATGCGGTGGTGCA
9823	CIT	AGAATCCTAATTAGCTACTTT
9824	HDGF	TCCACATACCCTGACCTGGCCCCCTCA
9825	RP2	CCTGAGTAGCTGGGAATACAGCATGCG
9826	MAPRE1	TCCCCTTGCCCACTGGGAC
9827	GPR55	CCTCCTCCCACTTCTTTCTCTGCA
9828	NOTCH2	AGGACAACACTGCCTTTCAAACTTT

9829	SNRPN	ATGACACCTTCCTGATACTTTG
9830	HUNK	GGAGGTCGAGGCTGCAGTGAG
9831	BCL7B	TTTGTTCTCACCTCTACCTGTCATTCCAG
9832	THBD	TGTTGCTGGACTGTCATAGAA
9833	CORO1C	TCATCACTTTAAACATCATGTT
9834	KCNJ16	TTCATTTCATCTTGCTTTGCTTT
9835	IL9R	CTGGATGGAGGCTGGAGGC
9836	ACADSB	CTTGGCCTCCCAAAGTGCTGGG
9836	APOL1	CTTGGCCTCCCAAAGTGCTGGG
9836	ATP7A	CTTGGCCTCCCAAAGTGCTGGG
9836	CLECSF12	CTTGGCCTCCCAAAGTGCTGGG
9836	DSCR3	CTTGGCCTCCCAAAGTGCTGGG
9836	FANCF	CTTGGCCTCCCAAAGTGCTGGG
9836	FEZ1	CTTGGCCTCCCAAAGTGCTGGG
9836	FUT1	CTTGGCCTCCCAAAGTGCTGGG
9836	LNK	CTTGGCCTCCCAAAGTGCTGGG
9836	PIK3C2B	CTTGGCCTCCCAAAGTGCTGGG
9836	PPID	CTTGGCCTCCCAAAGTGCTGGG
9836	SH3BP2	CTTGGCCTCCCAAAGTGCTGGG
9836	SLA2	CTTGGCCTCCCAAAGTGCTGGG
9836	TES	CTTGGCCTCCCAAAGTGCTGGG
9836	TRPV1	CTTGGCCTCCCAAAGTGCTGGG
9837	CYP8B1	TCTCTCACCTGTTCTCACCCCTCTGCAG
9838	GRF2	GTGGAGGCCTCCTGGGGTGGCCTG
9839	C7	CCTGCAACCTCCGCCTCCTGGGTT
9840	FGFR1	ACTCACAACCCCTGCTCCAGTCCTGG
9841	CLECSF11	GGCCTGAAGCAATCCGCCCACCTCA
9842	LAPTM5	ATTGTTCTGCTGAAGAGTTGTCA
9843	ZNF264	TCTTCTTTCTTGAAATCCCAAACCTTC
9844	XKRY	GTTTAAAAGAGAAAGTGGCCA
9845	GJB3	CACAGGGAGCAGGGAGTTTTCT
9846	PRKCD	ACTTCCTCTGTGAACTGTGTGTG
9847	KCNJ6	TTCAGTTACTTACCTGCATGTGTTGTA
9848	PER2	TGCCTCCCAGGTTCAAGCGATT
9848	SMAC	TGCCTCCCAGGTTCAAGCGATT
9849	MAP3K7IP2	TTCTGTACTTTGCCCTCATGAGTTCCAA
9850	DNMT3A	AAAGGGTTTCACCAAGGATGGA
9851	FBXL11	CTAAAGTGTGAGCCACTGAG
9852	TIMP3	TCACAGAAAATCACCCTG
9853	P2RY2	AGAAAAATGCTGGAGGCTGGGCGTGGC
9854	SRGAP2	TGAAACCTCCCAATGGCATTT
9855	TRIP15	CCCTTTTGAACATTCCTTTTCTCATG
9856	BCL7B	GCACCCTAGCTGCTGACAGCCCT
9857	SLA2	ATGATGCCTAGGCCCAAAGGA
9858	RAB3B	AAGGATTGGCCGGGCGCGGTGGCTCA
9859	TBR1	CCTACTTCTCTTTCTTGTAAT
9860	SLC22A7	CTGAGTCTGCACGCTGGCTTCTG
9861	PROK1	CCCTGCCCCTCTCCCCACATGTATCC
9862	IDH3B	GGGAACCCTGGGGCATGGAGAGG
9863	PRCC	AGCTAGCAAAGACTTGTGTGATGCCTC

9864	WSX1	TGGCACACACCTGTAGTCCGAG
9865	RANBP3	GCTGCCTGTGAATGCACT
9866	TRIM9	TAATTAGTTGTCTAAATATTTTTCAGTG
9867	INPP5D	AGGCAACGGGCGGCAGGTTGCAGTGG
9868	GALT	TATCCAGCAAAATGTCTCCTGA
9869	ARHGEF5	TGAGCCAAGGAACTTTCCTTC
9870	LPO	ATCTTTCTTCCTGTCCTCTCAC
9871	FSTL1	GTCAGCAGGCTGCAGGGAGTGCACAC
9872	MYCL2	GAGTGAGGGAACTTTCTGTCTTCA
9873	NESH	CCTGCTGCAAGTCCCAACTTTGA
9874	FAP	TTGGACACAGTGTTTTATCAC
9875	DDX6	ACTCAAGCTTGTTAGAGGGCTTTTTA
9876	DCLRE1C	TGTCATTGCACTCCAGCCTGGG
9877	C21orf2	GGGGAGTGGAGTCACCACTCGGGACATA
9878	CRAT	GGCCCGACCTGGGGCTGAGTGCAGAGG
9879	POU5F1	TAGGAATGGGGGACAGGGGGAGGGGAGG
9880	GPRK7	TATTGTAATTGCTCTCTTTA
9881	P2RX7	CCTGGCTGGAGAATGTGGAGAA
9882	A1BG	TGTCACTTCTCTCAAGCCTGA
9883	CASP7	TCATCCAGAGGAGCTGGAACCATGG
9884	ALDH8A1	CACTGCATTTCAGCCTGGGGGA
9885	DHCR24	AGGGGTGGAGATGGGTGTGGCAGT
9886	GSTM4	CTGGGACCTCCACACTCCTGGTTCTC
9887	NEDD4	TCATAGAACATGATGTTAAATGAGACC
9888	PPP2R1A	GGGAGAGATGTGAGCATCCCGG
9889	IL17BR	AGAGGGGCTGCCAGTCCTCTCTGGGCCGCAGC
9890	MATN3	CTTGCAACTTTGAGAACAAAACAGTCC
9891	MHC2TA	CCGAATAGCTGGGACTACAGGT
9892	IDH3A	TACTGCCCTCTGCCTCAGCAGT
9893	CYP1A2	ACCCAGGTTGGAGTGCAGT
9893	PRKWNK3	ACCCAGGTTGGAGTGCAGT
9894	SERPINB9	ACCCAGGCTGGAGTGTAGT
9895	ZNF3	AGCTCACTTGGCCTGCTTGCCC
9896	BRF1	CTGCCTCTGTGGCTCTGCCTGTGGA
9897	TFAP2A	CCGGGATCAGCAACCCTTCCTGCTGCTGCT
9898	TGFA	GTCAGTCCTTTGGAAACCAGCAGGTC
9899	CTSS	CAGGCTGGAGTGCAGTGGCACCATCTC
9900	WWOX	TGGGACCCTGCACAGCCCACGGACGCC
9901	XRCC4	TGATGACACTGGCACATTGAG
9902	PCDHB7	TACTCTTGAAGTCAAGCAATA
9903	GCNT2	CAGGAGGTGGAGGTTACAGTGA
9904	YWHAB	TCATCCAGGTCAGTGCTCAGA
9905	DCN	TTCTGTTGATGTTAACTGAGCTA
9906	PCDHB16	AGCCTCCCAAAATTCTGGGATT
9907	CORO2A	GGAGGCTGGAAGCAGAGAGGAG
9908	WHSC1	GATAAGAAAGTGCTCCTGAGAAGGCTC
9909	PLCB4	ACAAAAATAGCTACAAATCCAC
9910	CAST	GCAAGCAAAAACAATAACACTGCTT
9911	MADH5	TGAAAACAGATATTACAGCTTAT
9912	AVP	TCTCTGGTGCAGCCCCTGTCCTCA

9913	VIM	AACAGCTTTCAAGTGCCTT
9914	LAD1	AGCTGTGGTTTACAACTTTT
9915	NRGN	ACCCTTGCTCTGACCGGAAGA
9916	CLN6	CCCTGCTCCCACTCCAGAAG
9917	MCL1	TCTTTGGATTTCAGTCTTG
9918	CRY2	GAGGAAAGAGAATCGGGCCACTGCCAGA
9919	KLHL3	GGAAGTCTTGTGTCTGGAGAATAG
9920	JAM3	TTGGCATTTGTTTAACCTC
9921	C1orf6	TTCGGAGGAAGGGAATGGGGGA
9922	TUFT1	AGGGCTCTTCCTACAGCCTT
9923	TRHDE	GACATTTTAAGAACCAGAGCCA
9924	ITGB4BP	GGGGGCCAGAGGATTCAGGGCCG
9925	ROBO1	TTGGGCTTCTGCGTAGTTTAGG
9926	IFITM2	TCAGCCCCTCTTTCCTCCCTCT
9927	THPO	AACTGGACAAGATTTCCTACTTTC
9928	ACCN1	GACCTTGGAGGAGATTGCCTGCTGC
9929	C5R1	TCACGCCTGTAATCCCAGAACTTTG
9930	FLOT2	CCCTTCTGGTGGACAAGGCTGTGCCAACC
9931	SELP	ACCTTAGATTAGCTCTGGACCA
9932	ATP4A	TCTGTAGCCCACGGCACCCCA
9933	NFATC3	GCCTGTATCCCAGCACTTTG
9934	GPR81	TGTTCCTCTGTTATCATGCC
9935	MALT1	CCTCCTCTGAGGGCCGTGCC
9936	GAS7	CAAAGGCTTCAGGGATGGA
9937	RUNX3	GGACCTGCGCTCCAGGGTGGTCTCGGT
9938	CRYBB1	CTGCCCGCCTGCCTGTCCTCCAGCA
9939	HOXD3	AGCGGCGCGCCCTGCAGAGGGA
9940	RHEB2	ACTTCCATTTTCAAATTTTAAGCAATC
9941	GCNT2	CTCTATATTAGTTTATTGTTAG
9942	EPB49	GACTCTGGGTGGCTCCACTGTCT
9943	MASP1	TGCAGGAGCTCAACCAAGG
9944	BSN	AGGGCCCAGTGCACTCACTT
9945	ANPEP	GGACAAAGTCTCCAGCCCACGTTCT
9946	DIO1	CATTGGTGGTGATGATGGGTGAG
9947	ADAMTS4	CGCCCAGGCTGGAGTGCAAT
9947	FEZ1	CGCCCAGGCTGGAGTGCAAT
9947	NF2	CGCCCAGGCTGGAGTGCAAT
9947	SH3BP2	CGCCCAGGCTGGAGTGCAAT
9947	SPN	CGCCCAGGCTGGAGTGCAAT
9948	CORO2A	AGAAGGGCAATCAGTCTGGCCT
9949	TSSC4	CTTGGCTGTCCAATCACACT
9950	MAP3K7	ACGGCTGTGGCCGCTGCCTC
9951	LENG4	TCGGCCGCCTCCTGCCCGG
9952	PLN	TTTGCAGGTTGTCTTCCATTCCA
9953	MLLT7	AGCTTTGTCCCCTGCTTCAGATGTGG
9954	MID1	CACTACCACATCCAAACATAAG
9955	CNGB1	CATGCCTATAATCCCAGTGCTT
9956	GGA3	TGTGCTTGTCCCTGGCAGTGG
9957	BLVRA	CAAGAGTTGACCATTATCTCT
9958	IKBKG	GCCAGTGCAAGGCCACTGCCTGCC

9959	COX11	ATCCACTTTCTTCTAAAATAA
9960	DPEP1	GTGACCTGGGAGGCAGGAGGCGGGTCTGTC
9961	KMO	CAGTCTCAAACTCCTGGCCTCA
9962	IRTA1	ATTACCAACCCCTTAGCAATA
9963	TRIM9	TTGCTTCTTAGCTATA
9964	INS	ACTGTCCTTCTGCCATGGCCC
9965	MUCDHL	ACCCTCTCCCCCAGCCGCACGG
9966	RDX	AAATGTTCACTTTAAAGCAATTGCATA
9967	EN1	AGACCCATAATCCTGCAT
9968	EGFL5	AATAGCAAAGGAAATCACTGTGA
9969	DPYSL3	TTCAGTTCTGTGTCTGGTGGG
9970	IRAK1	AGCAAGAAGCGAGAATTCTGAGA
9971	GAB2	TGACATTTAATTTTCAAATCAC
9972	PYCR1	GGAGGGAGGCCCTGCCTGTGT
9973	HDGF	AGGGAAAGTGGGACAGCTTGTAGGGGA
9974	STS	AGAATAAGACATAAAATAGCT
9975	CARKL	AGGCTGAGGCAGGAAAATCACT
9976	POU2AF1	TTCATTTCTGTCACATTTCATTTC
9977	CORO1C	TCTTCTTTTCCTTTCTCTTTTCTAGA
9978	RAD1	CACCTGAGGTCAGGAGTTCGAAAC
9979	PRDM2	TGTCCTTTGGGATGATACTTGG
9980	TES	ATGCCTGACCCACACACTTTT
9981	TAF7	TTTGCTTTCCTGTTCCCTAGCTAG
9982	SON	ATTAAATAATGTGCTGCTA
9983	KMO	TGCATTTCACTTCCAGCTGCTGGT
9984	GRAF	GGGAGGCGGAGATTGCGGTGAG
9985	PEX1	TTTATAAAATCACAGATTGGTA
9986	TGM4	CTTAGCTTTCAGATTATGGATGA
9987	CSN2	CTATTTCCTTTCCAGTCA
9988	CHD1	CCATACAGGCTGGATAAAACTGTTTTT
9989	CX3CR1	GGGGAGCCAGGGCTATGGGAGCAGC
9990	CUTL1	CCAGCAGCTGCCAGAGGCC
9991	CRK	CTGGAACCATACTATCAAATGGCGA
9992	MSH3	AAAATACGAAAAAATTAGCTGG
9993	WWOX	TGTTCACTGCTCCTTGCTGC
9994	HS3ST4	TCACTTGCTGGAGTGCCAAGTAGAT
9995	ALDOC	CTGGGTCTCCCCCTACCTCTTCC
9996	NT5C2	CCAAAGTTCTGGGATTACAAGT
9997	TLR9	CTCCTCACTGGGGGCAGGGTGGAG
9998	EGFL3	CGCAGGTGCAGGCACAGGGC
9999	ICOS	ATCACAGTGGTCTACCTGCATTCATA
10000	NUFIP1	ACACTGTTGAGTGCTTACTC
10001	TERT	CAGGTGGAGACCCTGAGAAGGAC
10002	HELLS	TATACAGTCTTCCTGTGGAAGT
10003	DDX6	AATTCTCCAACAGCTGAC
10004	DUSP2	TCTGTGGGTTCGTCTGCCCAG
10005	NUFIP1	ATGTCTGACTTCAAGGAACTC
10006	EGFL5	AGGGAGGAAGGCAGCATTG
10007	CPA3	CAGAAAACAAATGAAAACCCT
10008	LHX3	ACCTGTGTCCTCCTCACCCCAC

10009	STMN1	GGCAGATTAAAAGCACAAGCGTGTTTCT
10010	CDH3	CCTTCTTAGGCCTCCTGGTGCAACTT
10011	NEK2	TTCTTTCTTCTTTTAAGAACA
10012	UGT2B4	ACTAAGCTTAACTACATGTCAC
10013	ARCN1	AGGCTGCAGGCACTGGCAGTGGGAA
10014	LARS2	GATGGCCAGGAATGGACTCAT
10015	RAMP1	GTGCACCCAGGCTGCAGGGTGAGGCCA
10016	MGAT2	CAGCCTGGAGTGCAGTGAGCTGAGATT
10017	PKD2L1	ACCAGGAGATAAAAATGGAGCCTGA
10018	EPHB6	GGCCTCGGGGGGCGCAGACCTGCA
10019	PITPN	TTTCCTATAAGCTCTGTGTTAGCT
10020	PAX5	ACTATCCATCCATCATAACCAC
10021	PDYN	GACCAGCCACTGCCACCTCCG
10022	PLA2G2D	TTCAGTGAGCCCAGATCGCG
10023	RAD54B	CCAGAAATCTAACTCCCTGAAACCTCT
10024	TEM8	AAAACAAACAGGAGTTTCCA
10025	MYO1B	GTCTTAAAAGATACTGCATTC
10026	PFKFB2	CTGCCCTTGTCACTAATCACC
10027	INPP5B	CAGTGTACAGGGCTGGAGTCTTGGGGA
10028	DLG5	AGACTGCCTGTGGCAGCAGAAC
10029	MPL	GTTTTGCCATGTTGCCCAGGC
10029	PPP1R12B	GTTTTGCCATGTTGCCCAGGC
10030	GRM3	AACCATGAGCCAGAGCCCGG
10031	D8S2298E	TGGCACAATAAAGGCTTCACTTTC
10032	KLK8	TCCCCAGGCTCTAGTGCAGGAGGAG
10033	CARP	CGCATAGCTACATTCTGGGCAA
10034	TNFAIP1	GAGGGAGGGGATAAAGAGGAAGC
10035	HRH1	CTCTTGAGCCCTCCTGGAATGG
10036	TDE1	CTACAGCTGTGCTGTGAAGAGAGT
10037	LILRB4	ATGCCCAGCTGCACAGCTTACCC
10038	NUP50	AATCATGTGTGGGAACATT
10039	STAU	CCGATAAGCTGAGATTACAGGA
10040	IGF1	TCCCACTGGGTCACCTCA
10041	WNT3A	ATGTTATATCTGATGCTGCTA
10042	RAI14	GCCAAAAGAAATGCCTCA
10043	CHRNA3	TATGATAACCAAGAATGTCTCCA
10044	ICOS	ATGCATACTTATATTATCTTAA
10045	IFITM2	CCCACGTACTCTATCTTCCATTCC
10046	SULT1C1	CTACCTGCTGAGCGCCCC
10047	GABRE	TCACGTGTAACATTCTTTTAAAATCT
10048	ED1	TCAAAGTGCCTGGGCTCAGCCTGGTT
10049	PPP1R8	TGATCAAAAAGAAGGCTTAGAA
10050	TNS	GGCCAGAAGCCTGGAGCTTTGGTTT
10051	MX1	CACCTTGCAGCTCTCCCCTTCTCTGT
10052	SOX12	GCTGCCTCTCCCTCCCTGTTTGAA
10053	FOSB	GGGGAAGAGACAAAGTGGGTGTGTGGC
10054	UPF3B	TGTGCTGGTGGGGTACACTGCAGA
10055	RASGRP1	GCCAAAACAAGGACAAATCTT
10056	NFKBIL2	GATGCTTTGCTGCAGGCACAG
10057	SOST	GACTATTGGCATATGATTCCAAGGAC

10058	AIM1	TCTCAGGCTGGAGTGCAGTGGCACA
10059	ROCK2	TATTAAAAAGCTATATTTTCCT
10060	PIN1L	CCCCCCACTCCCTGCCACTGTC
10061	F2RL3	CTCAGGCCCAGAACTGGCTG
10062	EGF	GTCTCACTGCAGTCTTATTTC
10063	ZFP37	TGTGTATGTATCTTTGTATGCAT
10064	PDE4C	AGTGGTCACTCTTGAGTCACATC
10065	CCNC	TCAGTAATGTCTTCAGTGGAACAC
10066	YES1	TGCCGCCCAGGCTGGAGTGCAGT
10067	CRY2	CCTGTGCCTCCCACCTCTTC
10068	CAPN5	CCGTTCCCACCACCATCTGCATG
10069	LMO1	CCTGCCTGGCCGGCCAGCCAGC
10070	ZHX1	GACCACTAGAGCTTGTCCTCA
10071	BPHL	TCACTGCACTCCAACCTGGGCAACAGA
10072	CBFB	AGGGTGAAAAACTGACA
10073	RAB18	GAAGCAGTCTTAAAGGGTCTTTTGCAG
10074	ECEL1	TGCCAGGCTGGATTGTACGGGC
10075	ADCY2	CTTATTTAGTATTCTGCCTCA
10076	EFNB1	TTCTTGGGCATCTCCTGCCTCCC
10077	COX15	GACTACAGGCACAAGTCACCAT
10078	DDX10	GATGATACCATTTCCTGACCCCGTTT
10079	MINPP1	CATGCTTGTAATAGGTAGGCAATT
10080	SERPINE1	CAGACCTGGTTCCCACTGAGGC
10081	RAP1GA1	GTTCCCTCCTATACTCCTTCACT
10082	SOX8	TAGGACACAGGAATTCCTGGGT
10083	RAD51L3	GACTGGTTCTTCAGGAACTGTGAA
10084	RXRA	CAGAAGCCTCTCCTCCCCGCCGCCCTC
10085	HIP1	TGCCTGTAATCCCAGAACTTTG
10086	NPAT	AAATGCTGGGGATTTAAAGAATTGCA
10087	SLC19A1	CATGGTCCTGTCTGTCCTTCT
10088	HNF4A	TAGCACGTGCCAGTCACTGTTC
10089	SIAT6	CAGAGACCAGCACTCAGCCT
10090	SLC24A1	TGAGAGGCCTTCTGTAACCAG
10091	CD209L	ACTACCATCTGCTCAACTTCCA
10092	SIRT3	CAGGCCATGAGCTGCAGTGA
10093	SYNGR3	AGCCTGGAATGGACTGGCCTGGGGAA
10094	LPL	TGCATTTATAAATGTGTGGT
10095	A1BG	CCTTGTTGGGTGGCCAGGCTGG
10096	GORASP1	GGGGCCATGGGCCTTGTGGGA
10097	TMP21	TGAGTATGAATGAGGCATATTCTCCTC
10098	AF3P21	GGGAGGGGATAAGGTGGCAGAAGGAA
10099	PART1	TCCAGAACACATTCATGATGA
10100	PTPRN	GCCCAGGGCATCCCATGGGGGTG
10101	EFNB1	TGTCCCACCCTCCCCTCCTGAC
10102	MKI67	ACTCCCTGCTGTTTTCCCTGCCTGGA
10103	AP1B1	CCTGCAGCTGTGCCAGTTGGGCC
10104	ZNF266	GGAGTGCGGGAAAGCCTTCAGT
10105	D12S2489E	TTGAAGACTTTAGATTCCTCTCTG
10106	MRE11A	TCACAGACATACAATAGCAT
10107	CD79B	AGCCCCTGGTCCCCAGCTCTT

10108	COG4	CTTGCAGGCCTGTTCCCTAAGGGGCCCC
10109	RABIF	CCCGACTGCAGTGCAAG
10110	PRKCH	GAGTCCAGAGGGAGCCAT
10111	CNTNAP2	TGGCTTTCAACCACCTGCTCA
10112	BTEB1	ATTGGAAGGCTGGTTGCT
10113	OGN	CTCATTTCCCTGACTTAAACCTCA
10114	HYAL1	TCAGCCACTGTCACAGGCATATTCCCT
10115	MORC	TTTATGTATTCCCTAATCCA
10116	OLR1	GTTCTTGTTAGAATCATGGGA
10117	BTG1	CAAAAGTAGTCGTCCGCCCCTCACGC
10118	AXL	CTGCCACTGGGGAAAACTCCAC
10119	ETF1	TAAAAGGGAGGTGGATGTGTTTCCT
10120	GNE	CAGACATGGACCTTCTCTCCA
10121	ATM	ATGGCTTGCGCTCAGGAGGCAG
10122	IL10	CTGAGGCAAGAGAATTGCTTGA
10123	LZTS1	ATAGATATCCTCTCCCCCTCCTCCAG
10124	SH3BP2	CCTGCACGCCCTGTTCCCTCCAC
10125	NR5A2	TAGGATGTCAAATAGTCA
10126	TNFRSF11B	ACCAGTGACTAATTTTGCCACAGGGTA
10127	CR1	GAATATACTAAATTAACTTTTT
10128	TRAP100	CGCTCCTGACTCCTGACCTCCAG
10129	SLBP	TCTGCCTCAGGCCCTGCCCTGC
10130	SLA	CTGTCTGTCTGCTCACATAAGCATTCC
10131	OLFM1	GGACTCCTGTGAAACTGCTGCCA
10132	C1orf6	TTTCATTGATTGACTCTACCTC
10133	STS	CCCCAACAATGTGATTGGATTCCTT
10134	SURF6	TTCAGACCCAGGGAAAGGGTGA
10135	NFATC1	GCCCGCCCTGGACTGGCAGCTGCCGTC
10136	FSTL3	CCCACCCCACCCTGGGGCCCTGCCT
10137	PCDH11Y	GGATTTCCTTTGAATATTGAGAA
10138	CCKBR	TGACCCTTCCAGACATAGAAAACACA
10139	SPARC	ATTAAGGCCTTTTCCACACGC
10140	HPS4	CTGCCAGGCTGCAGCCTGCTGC
10141	MFGE8	CCTCTCTCACACATCACATTCCCATG
10142	GLP1R	CCAAAACCTTTCCCCAGACACATT
10143	AGTRL1	CCAGGAGACCCTTGTGGTTGACTAGGCTGGG
10144	ZFP36L1	CCAATGTTAATGTAAACAGAA
10145	HAS3	GCTGGAAGGCAGCAGGCATTTGCT
10146	ANXA6	CCCTCTGACCCTCAGGCTTT
10147	LNK	GGTGCCAAGAGGCACACCAGGTAGAGC
10148	PTPRC	ATATTAGCATTTAGTCCAATGT
10149	RHBG	ACTGCCCTACCAGCCTGCACATGGGTA
10150	CD164	TATTTTATTGAAAATTTATTTCA
10151	RBP1	TGTGTGAGCCAGGATCCC
10152	AHR	GCCGCCCAAACTGGAGTGCAG
10153	TUFT1	TGCAACCTCTGCCTCCCGGATT
10154	ZNF264	TCTCTCCTCCCCCGCCCTTCAG
10155	SGT	CTTCTGTCCTGGATGTTTCA
10156	SPOCK	CAACAGCCTTAATTCAGTCAAGACTC
10157	GRIN2C	CAGACTCCTGAGGCTCTCCCTT

10158	LDB3	AGACAGTGTCTGAAACAGGAT
10159	ARVCF	GCTGCCGCATCTGCCTGGAGCCTGGG
10160	GRM4	CCCAAACCACAGGGGCTCAG
10161	FUT4	AATTTGTTTCTTCTGTCTTT
10162	MEF2C	CAGAAGAAAAATGTGAAAGACTGG
10163	SYNGR3	CCCTGCCTCTCCACCTGCACCCTGCT
10164	FADD	ACCGTGTCCAGCACAGAAGGAATCT
10165	PSEN1	TGAGGGACGAGGTCAAGGAGATA
10166	TRPM2	CCTGCAGCCCCTCAGCC
10167	IHPK3	CCATGAGACACGGCTTGCAGTG
10168	PACSIN1	TTCCCCAGGCAGGAGTTGGGGT
10169	S100P	AGCCTGCTCATGTACCTCTGATT
10170	SERPINA4	CTCTTGGAGCAAGTTTCTGCCT
10171	ZNF264	CTGTCACCCACGCTGGAGTGCTGT
10172	GDF2	GCCGGCCCGCTCCTTCCCAG
10173	LARS	TTTAAAAAACAAATTGTTGCTATT
10174	NUCB1	CCGTCTGTCCCAAGAGGGTCTGC
10175	MHC2TA	CCAGAGGGAGTGACAGAGGCAGC
10176	PTGS1	TCTATTTCCCCTCTTCTGCT
10177	CNR1	AACACAGCTGCTTTCTTCTTACA
10178	MUCDHL	TGCTCCCAAAGCCAGAGCCCAG
10179	CRYZ	CCACTCTAGATTCTGTATCTAGATCA
10180	PTPN6	CTGGGAGCTGCATCTGAGGCTTAGTC
10181	ZNF137	TCAATCAAGTTGCTGCAGCCT
10182	EHD3	GAGTAGCCTCAGAAGGGTTTA
10183	KAL1	AAAATGCTGGGAGTCTCTGCAT
10184	KCND2	TTTCACCCTTAAAATATTTCA
10185	MASP1	GGCAATAGAGCAGGTATCTTCACCCCC
10186	GCNT2	GAGTGGGCTCCAAGCACAA
10187	MME	CTTATTTCTTCAAATCCTTCC
10188	CAPN10	TCCACCCCATCGGCTTCCA
10189	PIK3R3	TTCAGCATCTCACCAGCCCCTCCCTCT
10190	SHANK2	TCTTCCATTTGATGATACCGC
10191	CLOCK	GTCTCTTGGACTGGAGGTACA
10192	HOXA4	GTGCTAAGAATAAACTCCATTT
10193	MFI2	CCGGCTGCTGCGGACCTCCTC
10194	DAPP1	GGACCCATATACCACGTTGCTG
10195	FBXL2	ATTGGGAAAGGCATTTACAGG
10196	PLAU	AGATGTCCCTTTCTTGGCC
10197	DPYSL3	AGCCTCTCTTTCTTCACTTACC
10198	FVT1	TTGTGCTCAGGACTCACTCTGC
10199	BGN	CCTTTCTCGCTTCTGAGCT
10200	ATP8B2	CTCTGCTCCCTTCTTCAGTAAGCAAG
10201	SGCB	GAAACTTGCTCAA
10202	ZNF26	CCTGCTTCTCTGATCTGTGTGT
10203	SPG3A	GGCCCCGGAGAAGGCAGCGA
10204	CORO2B	CTGGACTGCAGGCTGCAGTGA
10205	ANPEP	TTGCCCAGTCTGCCTGTTGTGGGGCT
10206	IL17E	GGACTCCTAACCTGCTCCA
10207	TNFSF9	TTGTGCCCAGGCTAGGGGGC

10208	PRKRA	CATTTTATTAAAAAGCTACTGACTT
10209	SOX10	TTCCTTGCCCACCTCA
10210	STIM1	GTTCTGTTTGCTCCAGACTGGGGCT
10211	EMS1	AACTCATCTCCTTCCTGAGGAGCCGG
10212	AXL	AGGCTGGAGTGCAGTGGTGCAA
10212	CDH1	AGGCTGGAGTGCAGTGGTGCAA
10212	EIF5A2	AGGCTGGAGTGCAGTGGTGCAA
10212	GM2A	AGGCTGGAGTGCAGTGGTGCAA
10212	ICAM1	AGGCTGGAGTGCAGTGGTGCAA
10212	MEFV	AGGCTGGAGTGCAGTGGTGCAA
10212	NEU3	AGGCTGGAGTGCAGTGGTGCAA
10212	PIK3CD	AGGCTGGAGTGCAGTGGTGCAA
10212	UGDH	AGGCTGGAGTGCAGTGGTGCAA
10213	DBH	ACTCCTCCCCCTCCTCCATG
10214	EN1	TTATGGAGTTGCTTCTCCATTT
10215	DMP1	AGGGTGTCATCATTTCACAGA
10216	GNA14	TCCCAAATTGTGTTTATAAT
10217	KCNMA1	GGTTCTGCATGACCTAGCCA
10218	MAFF	CCAGGTCCCATTTCTCTGCA
10219	STK38	CATCATGCTTTTCCTCTCACA
10220	STAR	CTCCATCTGGTGACAGTGGGATG
10221	DNMT2	AGCAAATCTCCTTGGATTTCCTCCAGA
10222	HADHSC	GGGAGAGTCACAAGCCACTGGCA
10223	AGA	ACTTGAGGAAGGAAGATGATAGAAC
10224	NRF1	TCACCCAGTTTAGTGGGTGGTAGGGT
10225	CHC1L	TTCTGGCCCAAATGTTCCATT
10226	MHC2TA	CAGGCTGGCGTGCAGTGGTGCG
10227	DVL3	ACCCTTCTCCCCTTCCTGGTAG
10228	PIM2	CCTCCAATTTTGCAGATTTTTGC
10229	MAX	AGCTCTCGTTCTCCTTCCCCATTTC
10230	CTNS	CCTGCTACCAGTCTGTGCCTTA
10231	VDR	ATTATTGCTGTTGTTATTTTACAAGGG
10232	NRXN3	AAACTCCTTGGATGTTGGGATA
10233	USF1	CTTAGCACTCAGGCCTGTGAATCTAGGAGA
10234	INPP5B	GAGATCAAGACCATCCTGG
10234	STAT3	GAGATCAAGACCATCCTGG
10234	TEP1	GAGATCAAGACCATCCTGG
10235	PPP1R3A	AAGCAAAACAATAAACTAGCAG
10236	CALCR	AAAATCCTGAATAAACCAGTAT
10237	CLCN7	TGTGCCCGTGTGCGTGAGACAGAG
10238	CYP1A1	CAGGGAGTGCACATATCCAGGC
10239	AEGL1	ACTGATTTTAATCATGCTG
10240	PTGIR	GTGGGGAGACAGATGGAGAAGC
10241	MAN2A2	CTGCAACCGTTTCCGCCTCCTGCTAGAGC
10242	PPP1R12B	GGGAGCCTCTTAAGAGCCTCTAATGTT
10243	UGT2B4	CTGAGGCTGGAAGCTGGGAAACCCAA
10244	SULT1A3	AGTGAGTTATGACATGCCCATTC
10245	CMAR	TGTTGCCAAGGCTGGAGTGCAGG
10246	LASS1	CCCTCGACCCGCGCCTGTGCCACCC
10247	VPS26	AACTCCATATATGTTAGTCTTCCTTT

10248	NOLA1	CTGGTCTTTAAAAAACTCTGTGGC
10249	ENC1	CAGGATGAATTTTCTGCAGC
10250	PTK2	TGTCACCCAGGCTGCCAGGCTGGAGTG
10251	STS	TAAAGTTGGCTATAATTTCT
10252	AMFR	GCATTTCCTTGTCCCGTCTGGACC
10253	DLG4	GGGTCGGGTGTCCGGGAGCCAGG
10254	DYRK1A	TCTAATTCAAGATTACA
10255	SRR	TGGTCTCAAATCCCGTGTTTCCTTA
10256	EDAR	CAGTCAGGGAAAGTGGAGTTCTG
10257	DGKE	TTCAGTTATTTACAAATGTTTGTCCTT
10258	DRG2	AGCTCTTGCCAGCTTCTCTGACACTTGGG
10259	SYNGR1	GGGGGGTGCTGAGTCATCTCA
10260	GAD1	ACAAACCTCTATATGTTGCTGAAACA
10261	PSMD5	TTCTTTTCATTGACAACACCTACA
10262	RARA	CGGGACAGAGTTTTCCCAGACCTG
10263	RGN	AGCCTGCGCCAGGGAGGAGGCAGGC
10264	MIPOL1	ACTGCATCTGACTATGGCAAGGATCTC
10265	ITGA2	AGGAAATTTCCTTTCTCTTTTAGGA
10266	DNMT3A	GAGGAGAACTTGGGAGCCAGG
10267	ATP1B1	AAAACAAAAACCTACTAGTCTT
10268	KCNK5	TAATGAACCATGTTGTTGCT
10269	NOTCH2	TTCTTGGACTACTTTAATTTGGA
10270	RXRA	GGCTGGCGGCCTGGTGGCAGTGCTGGA
10271	CST2	GGGGACTCTGCCCTCCCTCCT
10272	DLGAP2	TGCCTCCTATAGAAATTCAAGG
10273	PTPRE	GGACGAGCGGGCGGCAGGAGCCGGC
10274	MOCS1	CCGTGAAGATCCAGGCATCTTGCCG
10275	CYP4F3	ACAAAAGAATATGTTGTGAGCA
10276	PTGS1	GGCTGGGCGTGCTAGAGGTTGCAGCATGA
10277	CDKN2A	GAATGCTGAGAAGATCTGAAGGG
10278	N33	AAGATGTGATTTGGACCATGGC
10279	Rgr	CAAATAGTGAGTTCTGTAAAT
10280	GCNT2	AGGGAAACTGCAGCTGGGAAG
10281	IL13RA1	GCCTGTAATCCCAGCAATTTGG
10282	EXTL2	ATTTGAGTAGCTTCTCCATGCT
10283	EPHA3	GCAATCAGAGCGCTCCCCCTCA
10284	SCN4A	CTCAACCTTCCAACTTCCTGTG
10285	ARHGEF12	GCCAAGGGTGGAGTGGAAAAAGATATGGT
10286	CELSR3	GGTGCTGGTGGAGCAGCTGATGTCG
10287	RAD54L	TCTTCCTCTTTGGCCTAATCTC
10288	NEUROD2	GAGAGAGGCCAAGACAATTTGTA
10289	GALNT7	GCAGAGAAGATGCAAGAGCA
10290	CALM3	GCTAGCTAAAGGGTGGGGAGA
10291	ZNF35	AGGAAGAGGAAGACCTCCAGCA
10292	KCNJ16	TGAGGTGAGGGGATGGTTAG
10293	PLOD	AACTGGAGAGTTTCTATTAAAGGTCA
10294	RB1	GACTCCATTTCATCATTGTTTCT
10295	IRS1	GGGCTCTCTCCTGGGCTCAGCA
10296	RALBP1	ATCACAGCAGAATCAGGATCTC
10297	COL19A1	CCTGAAGAAGACTTAGTTCCT

10298	PRDM2	TGGGACATCTGAATCTCCATCT
10299	PA2G4	AGCTTGCTGCTCCTGCCTCATCCC
10300	MAGEA4	CTTCCCTTGCCTCGTGT
10301	FPRL1	CCTACCCTAATGCCAGTTCCAGC
10302	MEF2A	GTGATCTCGGTTCACTGCAACC
10303	MGAT5	AGCTGGCTGACCTTTGCCA
10304	SLC9A6	GAGAGTGAGGAGGGAGTGTTATTTCCT
10305	CYP8B1	GCCGAGGCTGCAGTGCAGCG
10306	TNFRSF9	CACCATGGCTCTCTGCAGCCTTGA
10307	ATRN	TCCATTCAACAAGTATTTGCTAAACA
10308	PPP2R5D	GCAGCGCCTCTCTAGCTACT
10309	PP	AAATTCTGCTGTGACTAATCCA
10310	ED1	TCTCCACTGGACCCTTGATTCATTCTG
10311	IHPK3	TGAGACACGGCTTGCAGTGGG
10312	CALM1	TGTTTTTAAAACCTTCTGAACCATGAC
10313	IL1RN	GCCATTGAGGGGTGGACCC
10314	DCX	ATATTCTTCTTTGTAGTCCTTCTTCC
10315	SHANK2	GTTCCATTTCCTTATTCTCAA
10316	ATP1B1	TGTTTTATTGTATCTGTTT
10317	HUS1	TGACCTCCTTGGCTCAAGGCATC
10318	KLK3	GGATGGGGATGAAGTAAGGAGAG
10319	SPAM1	GCCTATCAATTTTCTTCCAGAAGATATTTAT
10320	IAPP	TGACCAACGTGGTGAAACCCTGTCTCT
10321	VDR	GGCTGGCTAACTGGAAGCATGTAGGAG
10322	VASP	CCTGCTTTCCCTGCCTCTACTTGACT
10323	SYN1	GCGGAGGAGTCGTGTCGTGCCTGAG
10324	CDC2L2	GCCTCCTTTCTCTTGCAGAAGAAGTAAGT
10325	FGFR1	ACCAGCCCGGCCAACATGGTGA
10326	TRPM2	CCTGGCCAGGACTCAGGCTGT
10327	B3GAT1	GTGAGGGTGGCACCCAGGC
10328	DCN	AGTAAAGCTTTTCTTTTTTAATTTCCA
10329	FZD4	TGTCACCCAGGCTGGGGCGCAA
10330	GPR81	GAGTAGCTGGGATTAGAGGCGCCAGCC
10331	LARGE	ATCAGCAGTGGCCCAGGAAG
10332	CYP8B1	TCCCACATCCTATGGAATTCAGGTTCT
10333	PCDH12	ATCCAGAGGTAGCCATAGGGTG
10334	GAD2	TGTGGCAACCTGTTCTTCCTA
10335	FMO3	TAAACAATGTATGAAAGATGTA
10336	SIGLEC11	GCTGGGACTACAATTGTGAGCCACCA
10337	SH3BP2	GCGCGAGCCACGGCGCCCAGCC
10338	PCLO	ATAGCATTTGATACAGTGTCTGTGAT
10339	SIX6	TTTGCTGCAAAGTCTCCTTCGGAACCCG
10340	IFNG	CTCACTTAATCCTTTGTTTTC
10341	SLC38A2	TGGAAAGAGTTGCTGACTTTGTATCT
10342	PKD1	GTCTGTGGGCTTCAGCACTTTAA
10343	EGR2	AATATCTGCTCCTTTTCGAGTT
10344	LY64	GCTGAGCAGTCAACAGCATTTCTT
10345	CHD2	TCTTTTTATATATGTTCTGTGTCTAA
10346	ZNF36	CTGGGTGACTAGCAAAACTCCATCT
10347	ZNF236	TCCTCACGGATCCCTCTCTCT

10348	ORC5L	GGAGTATTTGGAAGCAACGTGTT
10349	BARHL1	CTCTGCCGGCTCCCCTAGGCAA
10350	HOXB6	AGAAAACAAAGTTCTATTT
10351	MKI67	GTGACATCATAAATACTTGCTGA
10352	LMNA	CTGGGCTTGGCCTGCTGTGA
10353	PDCL	CCAGGCTGGAGTACAATA
10354	DIAPH1	CTGGCTGAGAAATTGTTTTGCAAA
10355	MFNG	ATGTGGGTGTGATGGCTGGATC
10356	ADCY8	GTGTCTGACCACTCTGACAG
10357	ICAM3	CAGAGCTGAGTGCGCTGGGATCCGGG
10358	CLASP2	CCCTGTCCACTGTGAGCTCTGGTGT
10359	G2A	CAGCCATCCTCCCCTTGAG
10360	RAF1	AGTGCATTGGGATGGTTTTCCAGGCAA
10361	POLH	ATACCTGTAATGCCAGCACTTT
10362	HTR1D	TCGCCAGGCTGGAGTGTAGTG
10362	PIK3C2B	TCGCCAGGCTGGAGTGTAGTG
10363	TRPS1	TGAGAAAGAATGGAAGATGG
10364	FZD7	AGGTAAACTTCAAAGTGAT
10365	FZD4	GGGATTACAAGTGTGAGCCACC
10366	TCF20	GTGCCTGCCCATGCCAGCACTTCC
10367	PTPRH	GGGAGCTGGGGATCTGGATTCCTGG
10368	CD22	GGCCAGGGAAGTCCCCGAGTTTCC
10369	ART3	AAGACTTGCTTACCACAACTGAGAGT
10370	DGCR2	TTTCCTTTGTATGTTTGTGTCTCT
10371	STIP1	TTCCAGCCTCAGGTCCCAGC
10372	PML	TGCAGCCAGGCTGGGCAGAG
10373	ALPP	GTTTGTAATCCCAGCACTTTGG
10374	ZNF215	TTATCAACTGCAATGGGAGAAG
10375	MEOX1	GACTGGGTGGACAAGAATGAACCCA
10376	RGS9	GCTAGCCTCAAACTCCTGGGC
10377	LAIR1	TGTTCTAGAGAGGACAGCAGAC
10378	PATE	CCATTTGAGTCTGGCCACTAG
10379	ADAM17	CCAGAGAGGTGGAGTCGGTAGCG
10380	NTSR1	CAGCCCTGGGCTGAGGCACAG
10381	PLXNB3	GCTGAACTGAGCGTATGTGCCA
10382	ITGA11	TTGACCGCAACTCACACATTCC
10383	ALOX12B	ACCCCGGCCACCAAGGGCA
10384	PTK2B	ATGCAGGGGGCTCCTGGGGGTG
10385	NR5A2	ACATGTGTCCTGGAAAGATATT
10386	CEP1	AAACCCAGGCAAAACACCTCTTCCT
10387	CNR1	GCATCTATCTGGTGATTTCTAGCT
10388	ASPH	ATCATGCAAAAATGCCTTT
10389	ATP7A	CTGAGTAGCTAGGATTACAGGT
10390	MYO6	GGACTGAATTCAAATATTCTTTCAAC
10391	DNMT3A	GCCCAGGCCTCTTCATCTGGGGACTTT
10392	NR1I2	TAGGACGGGAAGAGGAAGCAC
10393	ALOX15	CAGGCTGGAGTGCAGTGGTGCC
10393	PCDHA9	CAGGCTGGAGTGCAGTGGTGCC
10394	SLC25A15	TCATTTCTCATGAAGATGCTTA
10395	MIPOL1	ACTGGTCTCGAACTCCTGGGC

10396	PRX	CAGAAGTGCAGCTTCCAAAAGTCC
10397	SLC26A3	TTTTGACAGAATATGTTTCAAACTTT
10398	ZNF36	TCAGCTCCCCTTTCTCGCCCAGCGCCC
10399	ALDH8A1	TCCACTGCATTTCAGCCTGGG
10400	NOTCH2	CCATGGCTACACTGCAACTT
10401	SELL	GGAGAGAAGAGAGAAATAGCCTGCGC
10402	DLGAP2	TCCCTGCCTCATTCCCCACA
10403	MYEOV	TAGCCCCTGGAGACATTGTGCAATG
10404	CALCR	AAGTATTCTCCATCCTCCCAG
10405	CAPN1	GGAGCCGCCTCCCGGCTCGG
10406	ITK	CTGTGGCATCAGTCCCTGAGTCA
10407	MYO1A	AGCCTTTTTCCCAGCTTCCTTGCAC
10408	F2RL3	GGGAGGTTGTGGTTGCAGTGA
10409	C18orf1	TAGGAGACCCAAGGCATCTTGAATCC
10410	TOP3B	GCAGACACCTCATGGCACTTCA
10411	LBR	TTATATAATTTGAAAGCAAAAAGA
10412	FCN2	CCTGGGAGTCCCGGAGGCCAGGCT
10413	XRCC5	CCAGCAGGTTACCTGGAGGCGGATCATC
10414	CSF3R	TTTTGTTGTTGTTTATAGACACT
10415	GRB2	AACCCACAAGCTGCCTCTGACAG
10416	HCFC1	TCCAGCTCTCCCCATGCCCC
10417	DCC	GCATTCCTTCTTTCACAGGCATCAG
10418	ITIH2	TGTCCAGCAAAATGAAAAGA
10419	IL2RB	CTGCAGCTATTCACCAATAT
10420	ANK1	TAAGAATCTGAGGCGCGAGG
10421	PSCD4	GGAGGTGGCACTGGGGGCTGGTC
10422	CALM1	CTGATTGCTGACCCAGTCTCAGGCCT
10423	TM7SF2	GCAAAGGCTAAGCGAAGGAGAGCTG
10424	ITGB3	AAGCTGAGCTCCTTAGCCTTTGT
10425	AKT1	CCCACCGGAGCCTCCCCCTCA
10426	CYP2B6	TGCAACCTCCACATCCTGGGTT
10427	B3GAT1	CTCCTCTGGTTCACGTTTACAGA
10428	PCDH11X	ACTGCGAGCTGTGGCGGTAGAG
10428	PCDH11Y	ACTGCGAGCTGTGGCGGTAGAG
10429	CXCL16	GTCATCCAGGCTGGAGTGCAGTG
10429	FANCE	GTCATCCAGGCTGGAGTGCAGTG
10430	CHAT	GAGCTAGGGGCAGGAGGCATG
10431	CDC42	TTTGGTTTGGATTACTATTGCAA
10432	FREB	GAGACAGTTAGATTTACTTCCTCTT
10433	TRIM9	ACAATCTAAATAAGCTGC
10434	CASP8	GGAAGTGAGGCCATGGAGGGAGGCAGA
10435	SULT2A1	GAACTCAGGAGGCAGAGGTTGC
10436	PPAT	GTTAGCTTTCAGAAAGCTAATGA
10437	PUM1	GGAGGCCACATATTTTGTTCAC
10438	HUNK	GATCTAGATGACCTCTTGA
10439	SOX9	CTTTGCTTAATTCCTCAGGCT
10440	SNAP23	GGTCTTGGACTCCTGACGTCGTGATCC
10441	C8orf1	CCTGCCTGTTTTTGACCTCTGC
10442	LPIN2	TCTTAACATCAAGAGAACTGTCA
10443	CD4	CTGTCTTTAAAGCCTGCCTCTTCCAGG

10444	ANK1	CAGGTCGCTGCTGCAGCCAACCCA
10445	STK10	GTTGGTGGGGTCAGGGTCCAAG
10446	ABCA3	CGCCCAGGCTCGGTGCTGGAGAGTCA
10447	C9	CTGCCACCCCACTCGCAGCCAC
10448	GATA3	AATAAACTAGATTACATTCAG
10449	ZNF85	TGGAGAGAAACTACTAACCTGA
10450	FGFR2	CGTTGTTCCTTCTGTACTAAAGTA
10451	COX11	TCACAGCTGTGTGACGATTTCTAAATG
10452	ST3GALVI	GCCGGCTTCGCTGCGGGTTTGCACTGC
10453	ATRX	GCCCCTCTCCCCCACTTTCCC
10454	ITGA5	CAGCCTCCCTGAAGCCTTTGCATTTT
10455	PC	TTTGCCTCCGCAGATAGTGTCTGC
10456	TNFRSF8	GGGGGCAGAGGCCCATCTGGCCTGAAC
10457	PIK3C2B	CCCTCCAGAACTGACGTTGGCAGG
10458	PPP2R1B	GTGGGGTTTACCCCTCACAGGTTTAAG
10459	FANCC	CACCTGTGATCCCAGCACTTTG
10459	SUV39H2	CACCTGTGATCCCAGCACTTTG
10460	HR	GCTCTCCGCCGCGCTCTACCTC
10461	CLN6	GGGCTGGAGGGTGGGGTGCCAAAGGC
10462	GDF8	AAATTACAACACTGCCTTT
10463	PFN2	GTAGCTAATTTTTCTTTACCTAT
10464	ERBB4	CCTAACTTGAACATTAGAGGGAAAG
10465	FANCC	AAGGAGCTGCATGCTTCACTGGA
10466	SPP1	AATCTTTTATCTTGAATGTAATA
10467	HMG20A	CTCTGGTGGCTGGGATTCAG
10468	C5	TTTACTTAGAATTAGTGGCACTTG
10469	NGFR	CCCAGCTCTAGACAACCCTGC
10470	GBA	TAGAGATGCAGAACTGGGCCCGTGGA
10471	SLC14A1	GGGAGCCCAGGCGGGCAGATTGCTTGA
10472	JUND	TCTCGCTCCCCCTTCGGTC
10473	THRB	GTATGACAGAAAATGGCCTTA
10474	ZNF142	TCTGGATTTTACCCACT
10475	OPHN1	CTGCACATAAACTCTTTTATCTCCTGAAA
10476	AR	TGCTGGGAGAGCGGGACGGT
10477	ARSD	GAGGCTGAGGTGGGAAGATCA
10478	RAB5B	TCTTTTCTCCTCCTCCCTAG
10479	DRD1	GGGGAGGCGCGGGGCCCTGCTCTG
10480	SCN2B	CACTGCAATTCAGCCTGGGTGA
10481	ITPR2	CAAACTGTAGCTGTCACAGGGCA
10482	DMC1	ATGGCACCACTGCACTCCAGCCT
10482	IL2RA	ATGGCACCACTGCACTCCAGCCT
10483	P53AIP1	CCAATAATGAAGATGACGCA
10484	NEK2	TATTGTACAAAATGTTCACATT
10485	CYP4F3	GGTGGCATGATCTCGGTTCATT
10486	CHES1	ATCTTTTTCTGTCTATCAAAACTA
10487	ARHGEF6	ATGACACCACTGCACTCCAACCT
10488	PCDH1	TGGCCCTTCTCCCATGCAGGG
10489	DEF6	CAGCTCTTACTAGGAGAGGGAG
10490	A1BG	GCACCCACCACCACACCCA
10491	HS3ST2	CTCCGGCCACTCCTGGGAGACAG

10492	CLCA3	GATTACATAAGGGACACTGA
10493	RAD18	ATCAGCTTTCAAATGAGATGA
10494	SCN2B	CTCAAATCACCCTCTCCCGTAGCC
10495	DAG1	CAGCTGGAGAGACTTTGGGGACTTTTT
10496	PTGES	CCTGGTTTCCTGGCAGCCTGCTGC
10497	GALNT7	GGGGGAAAGAAACACCTGAGCA
10498	TRPM8	TGGTGCACTCCTGTAATCCCAG
10499	INPP5B	TTCATTCCCTTAGTCTTCTAT
10500	TPSB1	CTCCAGCCCTCCCCTGCCCAG
10501	CXCL16	GAACTCCTGAGTCAAGTGATC
10502	CCNF	AGCTAATTTTTGTATTTTCGGT
10503	MPL	AGCTAATTTTCATATTTTTAGT
10504	ALDH1A2	CTCCTTCCAGGCCCTCCTCGCTCAC
10505	EHF	TGCTGCCTCCCCTCCATCAGCC
10506	BAZ2A	AGTTCAGGCTGTGTGGTTCGCAAG
10507	PTGIS	ACCACTTCCCTGCTTTTCTCCC
10508	FZD4	ACAATTAAAAGCACATTGTTGGACC
10509	MC1R	GGAGAGGGTGTGAGGGCAGA
10510	SIGLEC5	CTCACCCTCCGGCTTCCTGTCGGGGC
10511	EPS15	AGCTAGAGCACCCAAGCTTCTGCCTTC
10512	ITGAL	GACACCAGCCTTTCTCCCA
10513	PACSIN1	CAACATCTGCTCTTCGGGTT
10514	SIM2	TCCTCACCTTGAAATCGGGCTTC
10515	LDLR	CCACTGCAGTCCGCAGTCTGGCCTGGG
10516	MHC2TA	GCTGCGTGGTTGATGATCTTTGCAGA
10517	CLOCK	GCCCCAGGTAAACGTCTAAAC
10518	SYNGR3	AGGCACAAGGTAGCTGTGGGCCAA
10519	PCTK1	TGGGGTGGGAGGGCAGGGGTGGG
10520	FUT8	GACCACTGAATTCACTCCAG
10521	GRM3	CTGCCACCGCGGTCAGCTC
10522	FOXO1A	ATAGTCAGCTTGTAAATTTTGTGG
10523	PLAG1	GTTGCTTCTAGCCTACTGAGA
10524	GCNT2	GCTCGTAGCTTGGCAGTGCAGT
10525	DYRK1A	AGAGGGACCTCCAGCTTCCA
10526	MRC1	TACTGGTCTGTCCTTTTTTCCT
10527	GNB1	GGGAGGGAGAGGGAGTGAAGAGC
10528	HDAC5	TCTGTCTGTCCTTTTCCTC
10529	VDR	TGAGGGAACAGACAGGAGAAATGC
10530	TNFRSF6	GGCAAGACTGCCCTTAGAAATTCTAG
10531	TRPM6	TGTGTAGTGTATTTGAGGGATCAGTC
10532	CHD3	AAAAAGAGGATTTGGATTATGC
10533	DAP	TGCTAGAAAAACCTATCCACTG
10534	IL5RA	CCCATCATGAAGGAAGCTGCCT
10535	PKP2	GGTAGATGGCTTCCTGGAATCA
10536	APPL	GAGTGGGTTTAACAATTTTA
10537	HNRPDL	TTTGCTGCTGTTTTGCTATTCTT
10538	MSL3L1	GGCTCAGAAGGGCAGAGTTGAAGAA
10539	ZNFN1A3	CCTTGCTGGGAAGCCTCACCCTTCTG
10540	SYNGR1	CCTACTTCTCCCTTGCTCCCAAAG
10541	DDX11	AGAGCATGATCAGCAGAAAGCTCT

10542	IL20	CCTAGCTCCTGTGGTCTCCA
10543	OPCML	TTTGCTGTCTTGTCTCCTGGGACGAGA
10544	DNASE1	AGACAGGGAGACTGGAGCCCAG
10545	TPS1	GCCCCCTTCCCTGTCCTAAGCCT
10545	TPSB1	GCCCCCTTCCCTGTCCTAAGCCT
10546	CASQ1	TTCAGCCCCACTGGTCTTTTCA
10547	GRAF	TGGCCCAGGCTGGAGTGCAGTGG
10547	MEFV	TGGCCCAGGCTGGAGTGCAGTGG
10548	PSMB8	TCTCCTCTGGGAGGTCTTGGCC
10549	KCNA7	TGCCTGTAACCCCAGCACTTT
10550	HPN	GGACTCCTGTCTAGGTGCCCCTGATGA
10551	NOTCH3	GGTGGGAAATGGGAGCCAG
10552	TGFA	GAGGCGTAGGAATGAGGCTGGA
10553	DVL3	TCAACTCATCTGCCCAACCAA
10554	SPAG1	GGGGGCGGTCGGCCCTGTGGATGC
10555	CNP	GCAGCCGCCACATCCCCGCTGGCTGG
10556	CDKN1A	ACTATTTAAAGCCTCCTCATCC
10557	THY1	AGAGCTCTGACCCACAGCCTC
10558	PROC	CCCCTACAGGTGCCAGTGCCTCCA
10559	SLC22A7	GCAGTGATGGGGAAAGCTTTTTC
10560	SIX3	CCCTTACGCCCTTCCTCCTCTCC
10561	AKAP13	CCTTCAATTCTTGCTTTTTTGCC
10562	RXRA	ATGAGCGTTTAAAATACATCGC
10563	ACP1	GCTGTGGCTGCCTAAGAAATCATGGC
10564	SLC6A12	TGGAATGGAAGGGGCTTGGGAGA
10565	EGLN2	CCCATTAGGTATGGAGAGCTGGG
10566	MME	TCCTGACAGGGTGACCTTGGGTATTT
10567	RAD1	TGACCAACGTGGAGAAACCCCA
10567	TNFSF15	TGACCAACGTGGAGAAACCCCA
10568	DCX	CCTTACTCATATATTGCCTTCA
10569	GHRHR	CTCTCATCCATTCCTCTTACTGGGGCCT
10570	OPHN1	GCCCTGTTAGTGCACTGA
10571	XT3	AAAGGAGTCAGGAGCCACTGTGA
10572	SMARCA2	TGACTCAGAGAGGGAAGAGATTCAGCC
10573	COL19A1	AAGTTTCAGACTTATCTTTTCCTTG
10574	BTC	ATTTTAAATAATGTATTTA
10575	PTCH	CTTCTCCACTCCTGCCCCA
10576	CRMP1	CTTACAGTGAAGATGTTTACT
10577	TNFSF10	ACCTGTAATCCCAACATTTTGG
10578	COX6A1	ACCGTTACTCTGCACATGGACC
10579	SCA1	AGAGAAAAGGGATGGAGAAGAGAA
10580	TR2	CATGTAAGATAAAAGTACTTG
10581	IL1R1	ATTGCTTGAACCGGGGAGACGG
10582	SLC7A5	AATTCCACAGGGACCAGGGCCACC
10583	BLAME	CCTGCCTGGCCTGCTCAGAGG
10584	INMT	AAGCTGTTGATGAGAGCTGTTG
10585	APM1	TTGCCAGGCTAGAGTGCAGTGG
10586	TARBP2	GCTACCCCAGTTCCATCTGT
10587	MMP8	TGGAAAGAAATGTAGATGATATGTTT
10588	BNC	TCAGAAGCAGAACAAGTGA

10589	MSI1	AGGTGCCCCCCACCAGCT
10590	NHLH1	GAGGGAGGGGTGGGGAGGGGATCCTG
10591	PIK3CD	GTCTTCCTCTGTTGCCCAGGC
10592	MMP13	ACATGGTCTGTCAATGAGAGCATAA
10593	PLXNA1	TCATCCAGCATGATGCAGCGTGA
10594	LRRC2	CAGGCTGGGGTTCAGACCTGCA
10595	CALCR	GAGCTCAGGCTTTTCCAG
10596	KCNE3	TCTCAGCTAGAACCATCCACTG
10597	DLEC1	AGTGGGTTTGGGGCTGAAATG
10598	LATS2	ATAGCACTTATTCACATTTAGGAAAAG
10599	BYSL	CTGGGTCCAAGAATGCCTCA
10600	DISC1	CTCAGTAAGACAGTGCAGTG
10601	RPS25	TGTCTGCTGCTATTCTCC
10602	ELMO1	TCAGCATCACCTCTAGCCCTGGCAA
10603	IL18	GGAGGCTGAGGCGGGCAGATCA
10603	IL4R	GGAGGCTGAGGCGGGCAGATCA
10603	TBX6	GGAGGCTGAGGCGGGCAGATCA
10604	SLC14A1	TCATTTCTGCCTGACTGCTCCA
10605	CHRNB2	AAGGGAGGGGAAGAGAGAGGC
10606	ARF3	TCAACCCCCCTCTTCTCCAAC
10607	LDB1	AGGGCATTTGCCTCCATCT
10608	EGFL5	CTGGTCAACATGGCGAAATCCC
10609	DEFB103	AAGAATTGCAGCTGTGGCTGGAACCT
10610	IL1R1	AAGAAGAGTTTGCAAATGCAAC
10611	ERBB2IP	AATAACTGTTTAGTTGAGGCT
10612	EEF2K	CGCCTCAGTCTCCCAAAGCGCTGGGA
10613	CACNG3	CTCAGCCCTCTCCCACATTTTCC
10614	UBE2G2	TCCCTCCCTCCCTGGAGTG
10615	CEACAM1	CTCTAGGGTAGAGGGGTGGGGACAGAA
10616	TNFAIP2	GGCCCCTACAGGCTGGCCCTGCAATG
10617	TP53	TGCTGGCATTTGCACCTACCTCA
10618	ARCN1	GTCTGTAATCCATTCACATT
10619	CXCL16	CCAAGAATGGAAGCTTGTGAGG
10620	ZNF193	GTGGGGCAGGTTGAGACTAGAA
10621	PROK1	GCAGTGTTTTGCCTTCACCCC
10622	CCND1	AGTAGTTTTTACAGCTGTG
10623	TNFRSF8	GTGTTCCAGGGCCAGTGCTCTT
10624	YWHAG	ATTGATACAATATTGTGCATGC
10625	ARHGEF7	GAGGGATTGACTCTGAGGACCT
10626	MADH4	CTGTTGTTTTTCACTGTTTCCAAAGGA
10627	GSTM3	CCAGGCCCTGAACCCCAACGCC
10628	DDX11	GGGATGAGGCCCTGGCAGAGGTGAAGGA
10629	TCFL4	TCTGGGAGTGTGACGTTGTAATCT
10630	WNT1	CACCAGTGTAGCATCTTCCTCTGCAG
10631	MAGEA9	GGATTTGCTTGGCTTCTTTGAGCATGTAA
10632	CLOCK	ATATCAAGGAGCTCTTCTAG
10633	KCNJ10	TGGCTTCTCTTCTTCCTTTCCTG
10634	BAT4	ATGGGCTTGGAGCGGGGGCCAC
10635	HIS1	GTTCAGAGGTAAGAAATACT
10636	EXTL3	AGAGGATGAGCAGAGGGAGGAAGAT

10637	CLECSF12	TAACTCCTGGGCTTAAGTGATC
10638	FOLR2	CAGACTACCTGCCCTCAGCTTGGATAA
10639	ITGAV	ATGGCTCTTTTGTGTAATTGTTT
10640	BTEB1	TATGATACTCTGCACGCTGCC
10641	SLC13A1	AGCTTAAATTATAATATTGCT
10642	KIF3B	ATGCCTGTAATCCTAGCACTTT
10642	TRPM1	ATGCCTGTAATCCTAGCACTTT
10643	CX3CR1	CAAAACAACCCTAGAGTGTTGTT
10644	WHSC1	TGGCTGTCCCTTCTCCCAT
10645	LGMN	GCCGCCGCCACCACTGCCACC
10646	CRHR1	ACCACCCCATACCAGTCACCT
10647	SEC22L1	GACTCTAATCAACATTCCTTTTG
10648	ITK	CCCTCCAGAGGCAGCCTGGCCTGTGG
10649	OAS1	TTACCTCTTGCCAAAGGCCATTTA
10650	CASP2	AAATGTTCTTCATCCAGGCCTGCC
10651	PXR1	AGGGCTGTATTCAGGAACGTTGG
10652	GPR4	CTCCTTGAAAAACCTCTTTATTAATCTCAC
10653	GPR30	TCGGCAAATCTTGAAAGCTGCACG
10654	CLCN3	CCTTTCTCATATTGAGATGTACT
10655	DAPP1	ACAATCCCTTTCCCAGAATTAGTTGTA
10656	GRM8	TCCCACATTGTTTAACTTGTATA
10657	ZNF3	CAAGGTGGGGATGGAAGCAC
10658	LAIR1	CAGCATCCAGAAGGTTCGT
10659	ARNT2	CTGCCTTTTAAAATTTCATTACAATA
10660	BTNL3	AGCCTCTCCACGGCTCCTGCGCCT
10661	RAI3	GCGTGAGCCACAGCTCCCAGCC
10662	MID1	AGCTATTTACAACCTTCATTTC
10663	ARNT	GGGAGAGAGGGGAAGAGTCGG
10664	RHD	TACCTCCTGGGTTCAAGCAAAT
10665	PPP1R12B	ATCATGGGAGTACTGTAAGTTCAGT
10666	FCGR2B	CTACCAGCACATTAAAAGTGAT
10667	SGCB	TCATATTTACTGTTCTCTAAA
10668	MECP2	TGACCTCAATTTCAATTTTGTCTGTA
10669	MYO6	CTTCATCTCAATAGTGATTTTTGT
10670	SIRT2	GAGGGAGGAGCCGCTGGTGGAG
10671	SPTLC1	ATTGCTTCAACCTGGGAGGCAG
10672	SOLH	TGGCAGCCACACCCACTCGCCCG
10673	AP3B2	CTCTCATCATCCTCCTCATGCCA
10674	CRP	CGCTGATCTTCTATTTAATTCCCCA
10675	PRKAR2A	ACTTGTAAAGATTACTCCAA
10676	HMGA2	TGAAGGGAGAAGACACTGCAGTGA
10677	DMD	CAGAGATTCTGTGCCTGCTTTAT
10678	TACC1	ATCAGCGGCAGATCTCTCCA
10679	ATM	CGGGCACCTGTAATCCCAGCTACTC
10679	RFC2	CGGGCACCTGTAATCCCAGCTACTC
10680	ZNF36	TGGGCACCTGTAATCCCAGCTACTT
10681	EVI2B	GAACTATCTGAAATCTGCTCAG
10682	MN1	GGACGTGTCCAGCTCTGCTCTG
10683	RAG1	GTTTCATAGAGTCCTCTCCTCTGC
10684	MSI1	CCACAGCCAGAGTCCCTTGGCAGCCCC

10685	APOC1	ACCAATAAAAATCCTAC
10686	PLS1	ACATGTGTAACACTTTTCAGTCTGTGG
10687	CIAS1	TCGCCTAGGCTGGAGTGC
10688	TAZ	CCCTTCAGTGCCCTGCCTGT
10689	CA7	GGTCTTCCCACTGGCAGTGCAGCAGCC
10690	ADAR	CTCTCTGGCTCCTGTGCATTCT
10691	WBSCR5	CCTGTCACTGGCCCTGAAGACTGGCCCCA
10692	MBD3	CTCTCTGCCCTGCCATGCGGC
10693	XRCC2	TACTCTGTCTCCCAGGCTGCTGGA
10694	RNF3	AACCTGACAAAACCTCA
10695	TACC1	TTCTTTAAAAATAAAGGATTTTGGA
10696	ARHH	TGGGGAGAGGGAGGGCCGG
10697	BRCA1	CAGCCTATGGGAAGTAGTC
10698	EGFL6	GTTTAACTGTTTGACTCTTATGATACT
10699	RRM2B	TAGAGTTAGACCTGTCTTTGGA
10700	B3GAT1	GCCCCTGGTCTGAGGAGGAGGG
10701	GPR92	CTGAGATGCCTGTTCATCTGCTGACT
10702	TIMP3	GCGTGCCCACGGCGGCATTATTC
10703	ZNF10	GCAGGCATTAAAATATGTACACA
10704	ZNF42	TTCTGTCTCATTATCACCTCA
10705	ATP1A2	GTGAGGTAGTGCCAATGACAGGAC
10706	TTF2	GCTCATGCCTGTAATCCCGACA
10707	RAP1A	AAATGATTTCATATTGATCTTT
10708	ARCN1	AACCCAGGCTGGAATGCAATGG
10709	HOXB3	CTTCCCTTCCCCCTGGCCT
10710	ROBO1	ACAGATGGTGAAGTAACATGCAT
10711	COX11	TCAGTATTTTAAAAGCTCAAA
10712	DLEU1	GCTTCTTCGGTTGCAGTCCTCTTGCTT
10713	CNTN2	TCCCTAGGCAAGAGCAGCAGCACAA
10714	RPH3AL	TCTCCCTTCAGCTCTGGGA
10715	BTEB1	TATTCATCACCCCTGTCCTCT
10716	CEP2	GCTGTCTTCCCTGTCTGATCC
10717	COLQ	GCCAGACCCTGGCCAGCATGGTTGTCCT
10718	CPNE7	GCCCCACTCCCAGTCCTCCTGGGATCC
10719	FGD1	GCTGCTGCTGCTGCTACTGCCACCGCTGCCAC
10720	CLCN4	AGGGCGTCACGTGGCAGCGTGGGGCCC
10721	FABP2	AACCTCAAACTCCTGGACTCAT
10722	TRPV1	CTCACCCAGGCTGGAATGCAG
10723	TNFRSF11A	CAGGCTAGAGTGCAGTGGTGCG
10724	COL4A1	TTCATTCTTGTATTATAATTAA
10725	GPR35	TTGGAGCCTTGGGTGGGCAGGGACGG
10726	TNFAIP1	GTCTGGGCAGAGGAGGGACCAC
10727	FKBP1A	GTTCACTGCAATGCTGGACACTACAG
10728	EPHB2	TGCCTCGGCTCACCTCTTCCTCCA
10729	HEPH	AAGACCATCTATAAAGAATAC
10730	PLA2G10	GGGGGAGGGGCTGGGGGAGT
10731	SMARCD2	CAGAGCTGGCTCTGGGGAGCT
10732	SYNGR2	CCCAAGTGCCTGTGCCCAGAG
10733	SLC24A1	GACCTCTGATATGAATGTGATC
10734	FLRT2	GCAACTTTTTCTTTATAGTAAGAGC

10735	SERPINF2	CCTGCACCGGGGCCTGGGCAG
10736	HMOX2	TCACCCTGGGAGCAGTCGGCACAGTGC
10737	CCNF	GATCCGCCCACTTCGGTCTCCCAA
10738	ATP8B2	CACCTAGGCAAGAGTGCAAT
10739	SLC19A2	CATTACCAAGTTACTTGAA
10740	KIFAP3	CTCAGCTTAGAAGAAATCTGTGTGG
10741	BID	TCACAGCTGTATAGCTGCTTCCAGTGT
10742	GAB2	GAAGGATGAGAGGTGAAATTG
10743	SLC6A6	TTAGCTGGCAGACCCAGGGGAAG
10744	RAB4A	GCAGTTGATCAAATACAATAGACCAT
10745	AGTPBP1	TGCAGGGTTTGCCTTGAAACCATT
10746	KCNJ13	GCAGCTACTTTTTCTTTACTGTAT
10747	SIM1	CCAGCGTTCATGTTCTGTGAT
10748	PHGDH	TGAAGAAACCCACCCACTGTGA
10749	PTTG1IP	GGACGCTGCAGCTCTCTCCA
10750	TAL1	TTGCCCAGGCTGGTCTTGAAGTCCTGG
10751	HTR4	TACTCCCTCTCTGTTCCTGTCT
10752	KARS	ATTCTTGTGTGCTGCTTTCCA
10753	HOXA11	GCATCAGTGTCTTTCCACTCCTCC
10754	IL2RA	GTTTGAGACCAGCCTGGGCAG
10755	CROT	AGACCAGCCTGGGCAACAGGGT
10756	MYD88	ATACAGACACACACATATATGT
10757	PPP3CA	AACAACAAAAGTCCATTCATAT
10758	ABCD4	TTCCAGGGGCCTTTGGTCTGCC
10759	RNF3	TGGGGTTGTGTGTGAGTGCCCGTCAG
10760	RFP	GTGCAGAGAGGTGTCACA
10761	GLRX	GGCCATCTTGGTTTTCTTCTGGA
10762	KRT19	CCTCCAAGGTCCTCTGGGCAGCAGGC
10763	SACS	AGTATTTTAATCCTATTACTTGA
10764	MAP3K14	CTGAGTTGACCTCTGGTTCAGCCA
10765	MSH3	CAGCCTATCTTTGTGTGACATGTGAGC
10766	TPD52L2	CCTCCTGCTTGCTGTACTTGGGATG
10767	MTR	AGGACCACAATGAGATTCCATTT
10768	ITGA2	AGGAGGCACAACAGTTCTCTT
10769	SCG3	CTCAGCCCCCACCACAAACACAGCCCT
10770	GYPC	CCAGGGAGGAACGGAGGAGGAC
10771	PTPRA	TTGAGGGGCGAGTAGCAGCTCTG
10772	SMARCD2	GTAAGGTGAATGGGGAGGCTGG
10773	OAS3	GTGTGCATGTGTGTGCACACGT
10774	SNCB	TGAGCCAGAGGCGTAGGGCCCAGGAG
10775	ACPP	GGGGCTAAGGCAGGAGGATCA
10776	ICA1	ACTGCCTGGTTCAGCCTCTTCGCTGA
10777	CD33	GCTGCTGCTACTGCTGCCCC
10778	TRIM9	GGGTGGTGGGGTGCTAGAGCTGTTT
10779	ANGPT2	AGGAAAGAGAAGACTTTCATTGACGG
10780	MIR16	CAGGAGGTTGAGGTGGGAGGA
10781	CD5	GCTGCCCAGGCTGAGGCAA
10782	LAMA5	CCTGCAGCTGCCTCACACCGCC
10783	AK3	CTGTTGAACCACAGCACCAGG
10784	DAAM2	GCTTCCAGGCAGAACAGCTGCA

10785	SLC22A1LS	GCCTCAGGTAGCCAGGGAA
10786	CTSS	AACATGGGTTCTTAGTCTTTAG
10787	CSNK1A1	GAACAGTCTTCAGCCACAGTTGTGAT
10788	GATA2	GGCTCTGGGGGCAGATTTGTGGGGAC
10789	LIMD1	CCTGTTTTTAGCTTATTTAATGACGGG
10790	MSMB	TGTCCTTTTAATTTATAATTTATGTA
10791	NDRG2	TGGGAGGTGCTGAAGGGGCATTGG
10792	RNPEPL1	GCCTGGGGCCTCCAGCCTGGG
10793	EGR3	GGAGAGAGAAGAAGATGAAGTTTGCCAG
10794	NT5M	CCTCCTAGACTCCTGGGCCCCATGA
10795	EGLN1	TTAGTAATGTCTGCAACAATGAC
10796	CD1B	AATCAATCTTATCATATTTCA
10797	CR1	GTCTCCCAGGCTGGAGTGCAGT
10797	XRCC2	GTCTCCCAGGCTGGAGTGCAGT
10798	RPL37	TTGCAGCATCCAGTTCATCTTA
10799	A1BG	GTCTTGAACTCCTGGCCTTAAGTGAT
10800	IL21R	GTCTTATTTGTTCATCCTGG
10801	B3GALT5	AGCCATGGTCACGTGACAT
10802	CTSS	GTTCACTGCAACTTCTGCCTC
10803	CYP2B6	GTTCACTGCAACCTCTGCCTT
10804	HDAC8	TTGTGGAATTTGTGACTGCAGGGAAAA
10805	CDH13	CAATTTCACCACCAAATGCCAAGAAA
10806	ALG6	AAATCAGCTACTGTATTCC
10807	CD209	CACGTTATTTTTTAATTACTA
10808	IKBKG	CTGGGGAAGTCAAGAATGGGG
10809	HDAC5	CCAGGAGCCCTGCCAGGGGCTGT
10810	PIK3CD	CAAGTGATTCTTCTTGCCTCAG
10811	NOS1	CTCCTAGTAGCTTTCCTCCC
10812	TLR9	GGCAGGGTGGAGTGGAGGGGGA
10813	CYP1A2	CCCAAAGTGCTGGGATTAACAGG
10814	EHD2	CAGGCAACACCCTCAACCGGCTCCA
10815	MS4A6A	AGGCAAGCCCCATATAATGAAG
10816	DEFB103	CGAGAGTGTTGTAAAGTGTGGAAA
10817	CD244	ATGCAGATGCAGTCTGA
10818	SORCS2	CAGAGCCCTGGCTGGTGACATGCTGG
10819	GNAZ	TTGCCAGATCTCCCTCCCTCTCTC
10820	ALDH8A1	GGCGGTTGAGGCTGCAGTGA
10821	SH3BP2	TTCCAGCCTGGTGCCTGGGGTGCTGAG
10822	DSC3	CTCGTGATCCGCCTGCCTCGG
10822	SH3GL3	CTCGTGATCCGCCTGCCTCGG
10823	HOXA10	TAGCAGCGGGCTGGGCACATCCT
10824	PIGR	GCCTCCCAGGTTGACACCATTC
10825	ACP2	TCACACGAATCAGGAAACTGCTCTCCCTC
10826	NEUROD1	TGTAATAAATCTGAGCCT
10827	SLC1A4	TGTGCTGTCTATCTTCCTGGTTTT
10828	TRPV1	CCTGCAACCTCCGCCTCCTGGATTCC
10829	ZNFN1A3	TGGTCTCAGGGATTGCTCCTATGTATT
10830	MAGEB4	ATGAGGGAGAGAGAGCCAGAGAC
10831	AIM2	GTAAGTTACCTGAAAGCTGCAGT
10832	GNE	CCTCCAGGAACAGACATGG

10833	PPARBP	TGCTTAAGAAAGGGAGGGGGGT
10834	CBFA2T3	ACTGCTGCTACTGCCCCTCTCCGAAA
10835	IRTA1	CCCAGGAATACTCA
10836	MSH3	CACTGCACTCCAGCTTGGGCAA
10837	CALCRL	TGTGGAAACTGGATGAACAGGATGTA
10838	SLC22A3	CTGAGTTTTAAAAATGAAATACTTTA
10839	HADHSC	CCTGCAGCTTTGAGTCTTGCC
10840	COG4	GACTTTGAGGAGAGGCTGTGATG
10841	DAZL	TCTATAATTCCTTAAAATTTTCATTCT
10842	WNT10B	ACTCTGGGATGTGTAGCCTTCT
10843	FN1	GAGTTCTTCTTTCTTTCTTA
10844	ADCY7	TACTCACACATCTTTGCGTTCT
10845	PITX2	TTTTCGCTTGCGAGCAAGGGAGT
10846	PDGFB	CAGATGACCCCAGTCACTCCTCTCTAG
10847	KDR	TACCCTTTTGTTCTTCCCCCTG
10848	ALDH3B1	GATCAGCCTGGCTAACATGGCG
10849	DDX3	GAGGCTGAGACTAGGGTTTTA
10850	A1BG	GGTGAGCCACCACGCCCAGCC
10851	MLPH	CTGCTTCGTCGCCTCCTTTCTCTCCC
10852	EFNA3	CCCTGCTCACCCTATGTGGTCC
10853	HYAL1	CTTCCTCCAGGAGTCTCTGGTG
10854	ZNF36	ACACAGCCCCTGCAGGGAAAG
10855	IL1F5	ATCATCTCTGATTGTCCTCAG
10856	AVP	CCTCTCATTCTGTGTCCCT
10857	ABCA2	GCCTTTCTCCTGCCCGGCCTCGGAA
10858	DDX16	CGACGCTTCAGGGCCGGGAGCAGGGA
10859	ODF1	ACTTAATAGAAGTCAGTTACTCCAG
10860	NIPSNAP1	CCCTCATTCTGCAGGGCCA
10861	E2F3	GGGGAGGGAGAGGGAGCTTT
10862	KCNK6	GAGGCTGAGGTGGAAGGATCA
10863	COL19A1	ACAAGTGTTTACTGTCGCAGTTTCCC
10864	RABIF	CCTCTACTATTCAGGAGGCC
10865	MGAT3	CCCTACTGAAGCCCTTGTGAATC
10866	SH3BP2	TTGCCTAGGGCCTCTGTGAT
10867	TRPV2	AGGCCAGAGGACAGAGCAGAGGAT
10868	AXUD1	AGAGGGCAAAGGGCCTACCTCG
10869	GDA	GTGCCCAGGTGGAGTTAGAA
10870	C1QG	CCAATGCCTTCTGGTACTGCCAT
10871	MYLK	CAGCTGCGAGGACCTCTGTGGT
10872	CD244	GTTCCCCAGGATGCACATTGAAGG
10873	MBD3	TGGTCTGCTGTGGGGGGCATGCAGGA
10874	TLX1	AGAGCCACACATGGGCATCTAT
10875	EEF2K	AGTGACATGATCTTAGCTCACT
10876	CYP7B1	TACACTTTGAACTACTAGAA
10877	GAS7	TGGGAGGCAGTGCTCTGCTAGT
10878	FCAR	TTGAGACAGAGTCTCACTCTGTT
10879	MLF2	GGCAAGCCGGCCCCCACCTCT
10880	EN1	GCCTCACGCTCTGGGCACAGCTGAG
10881	HIS1	CTCATCACCTTGCTCACCAAC
10882	EGFR	TTGATTCCAGTGGTTCTGCTTCA

10883	CDC2	AACTCTTGTCTATTTTTGTC
10884	DSP	GCACTATAGTCAGTTGGGAGT
10885	SERPINB2	TGTAATAAATATCTGGAAAAAACATTA
10886	LRP1	ATAATTTTTGCTGAATTCTTTAC
10887	MMP15	CCCTCCAGCTCCCTGTGCCCCCAGGG
10888	DUSP5	AGGGTAGGTTCTCGGGACTGAAGGAA
10889	RAB36	AAATGATTTTATTCATTTTT
10890	BLAME	AGCACGTTTCACACCTCCCCCTTCCCTC
10891	BRF1	GGGTGCACCTGTCACCGCAGTCCTGG
10892	PCOLCE2	GAGAGGGAGCGCGCGGGCAGC
10893	TBL1X	GTCCCTGGATGAGGTGATGATTTCCCG
10894	TYRO3	CCTGCAGCTGACCGGGTCACACAAAGG
10895	SIM2	AAACTCATCGTTCTAAAATCA
10896	GPR44	TACAGCTGAGCACATTCTGGCTCA
10897	IL21R	GATCAGGGCATTGCCTGTGACTGAGGC
10898	MASP1	CAGTGACACACCTCTCCCCTCA
10899	TXNRD1	CCTCCTGCCAGCAGTTCTTGAAGCT
10900	DAAM2	CTTCTACCAGGGATGCCTTCA
10901	STS	TGCTTCAAAGCAGAGGTTTCTCATGGG
10902	SLC6A8	GCTGCAATATTCCGTCCTGGGTGTCTGGG
10903	PCDHAC1	CTCTCCAGGAGTCCGGAGCATGG
10904	DCX	GTACATCTTCCATCTTACTTTTA
10905	OLFM1	ATATGCAGAGCGGAGGCT
10906	IL10RA	CCTGTTCTGTTGACTGGGGCCC
10907	FACL5	AACACATGCTGTTTCTACTTG
10908	PHB	TTATCCACCTCCCTACCAAAAAT
10909	GABRR1	TCACATGCACCTAAATCCTCA
10910	CNN2	CAGGCTGGAGTGCAGTGGCGCCATCTT
10910	PER2	CAGGCTGGAGTGCAGTGGCGCCATCTT
10911	DTR	GCCATTCTTCTGGTGCTACTCCA
10912	IL17R	CTTGAATCTGGGAGGCAGAGG
10913	SNK	AGTCTCCGCCCCCTTCCCGCCT
10914	GRAF	TAAAGAAGAAAAGAAAAACTTGAATTG
10915	FCAR	CACATACCACTGCACCCAGCTA
10916	TAPBP	GCCCAGGCTGCAGTGCAGTGGC
10917	LYZ	GTTATCAAATACATCTCCAGTA
10918	TNFSF5	ATCCAGAGAGTCCTATGAAAAGAC
10919	GRM6	GTCCCATTTCTTATCCTTTTTGCTCT
10920	RNPEPL1	CTTGTAGCTTCCTGGGGTGGG
10921	EIF2C1	AGCCCAGGCTTGGAGGCCAG
10922	KLF15	CAGACAGAGCCAGAAGGGCCT
10923	GNAL	TCTTCTTTCTTAGATTCTCTTTGTTGT
10924	RDS	TCTGGGAGCTTCTTCCGTTT
10925	TCTA	CCACATACCTGGCCCAACCAGACTTCTC
10926	BMPR1A	GTCATTGTCAAGTGCTTGCGATCTTTT
10927	VAPB	CCTGACCTCCCCTTGGGGACC
10928	GSTA4	CCCAGCTCTGTCATGGTGC
10929	CST1	CCTGCAGCTCCAGCTTTGTGCTCTGCC
10929	CST4	CCTGCAGCTCCAGCTTTGTGCTCTGCC
10930	HNRPDL	AGGCTTCATCTTCTCCCTG

10931	CCND2	ACGTGCATGCTGTAGCTGCAGCCT
10932	PXF	ACCAGCACAAGTCTGCAGATCATCT
10933	NFE2L1	AAAGAACTAGTCCTCTTAGA
10934	PWP2H	GTGCCACCTGGGCCAGCAA
10935	GBA	CTCAAGGAGGCACTGGGCTCAGCCT
10936	EFNA3	CAGGACCTATGCAACGCACAG
10937	GABPB1	ACAGATGGATAATTGGACTTAAGCC
10938	LOXL2	TGACTCATCTTCCTGTTGTTCCA
10939	CASP8AP2	CTGCCCCTGGGAAACCAGAG
10940	CLOCK	CTGACAGTGTTTTAGGTGCCTGGA
10941	LILRB4	TATGTCTTCTTTTGAGAAATGCC
10942	NARS	GGCTTACTGAATGGCTTCAT
10943	WASF3	CTCCACCCTTCCTGTTGTTCC
10944	CAMLG	GCAGTGTCTCTAAAGGAGGCA
10945	SLC5A2	TCTGCCTGGGGCCCACTGC
10946	PHF1	ACACACACCGGCACTTTCA
10947	ITSN1	CCTGTTCTGTGCTTGAATGTGCTGAAT
10948	PPP1R8	TCAGACATTGCCATCGGCTGTGAA
10949	CCNDBP1	TTGCAGTAAAGTATGTTGTTTTCAT
10950	PACSIN1	GGGAGCACCCTTCTACTCCTAGCCACG
10951	THBS1	TTGCTTTGGTTTCCTTTTGA
10952	BMP8	GCTCTGTGGAGTTTTCCCTTT
10953	TARDBP	ATGCTGTTTGCTGCAGTTCTGTGTC
10954	HS2ST1	TATCCTCTCAGTGTTTTATCTTC
10955	FLT1	TAAACTCAGAAAAAAGAAGACCTCAGT
10956	SEPN1	CCACAGGAAACATCAAGAAGCC
10957	KCNK6	AGGTGTTGAAAGCACAGGCAGAG
10958	TNS	ACCCCAGCAGGAGTGGGAGGGT
10959	CALM3	TGGCTGCTGTTCTGAAACCATCTGAT
10960	SPN	CCAAAGTGCTGAGATTACAGAC
10960	TERF1	CCAAAGTGCTGAGATTACAGAC
10961	AVPR1A	GGATGGCCGCTGTCCGGCAG
10962	ASTN	TGGAGCCTCAGTTAAAGTGCCT
10963	CYP4A11	CTGGACCCACTTTCTCTCTCA
10964	LAMC1	GAGAGGGAGCCATCGGGCCGC
10965	MADH7	TTCAAACTACTTTGCTGCTA
10966	TCF2	AGGTGTCTGGAGGCTGAAGGGTGGAGG
10967	PLS3	GCACGCCTGAAATGTGCTCAT
10968	IL1R2	CTTTACTGCTGAGCTCCTGCT
10969	MYD88	TTCAGCCAGGCTGGAGCAAGGT
10970	MADD	AGGAAGAGAAGAGCCGTGTGGCCGCG
10971	APTX	CCAGGTTCTCCACATGGTGAATGAACTTTATC
10972	CCND2	CATCCCTTCGCCTGCAGCCT
10973	PCDHA1	TGCAAGCCAACAGTTCAGTGTTTT
10973	PCDHA10	TGCAAGCCAACAGTTCAGTGTTTT
10973	PCDHA11	TGCAAGCCAACAGTTCAGTGTTTT
10973	PCDHA12	TGCAAGCCAACAGTTCAGTGTTTT
10973	PCDHA13	TGCAAGCCAACAGTTCAGTGTTTT
10973	PCDHA2	TGCAAGCCAACAGTTCAGTGTTTT
10973	PCDHA3	TGCAAGCCAACAGTTCAGTGTTTT

10973	PCDHA4	TGCAAGCCAACAGTTCAGTGTTTT
10973	PCDHA5	TGCAAGCCAACAGTTCAGTGTTTT
10973	PCDHA6	TGCAAGCCAACAGTTCAGTGTTTT
10973	PCDHA7	TGCAAGCCAACAGTTCAGTGTTTT
10973	PCDHA8	TGCAAGCCAACAGTTCAGTGTTTT
10973	PCDHA9	TGCAAGCCAACAGTTCAGTGTTTT
10973	PCDHAC1	TGCAAGCCAACAGTTCAGTGTTTT
10973	PCDHAC2	TGCAAGCCAACAGTTCAGTGTTTT
10974	IL18	ACAGCAAAACTCCATCTCA
10975	TNFAIP2	TTGCCCAGGCTGGAGTGCAGTGGCCTG
10976	SLC5A5	GGATGGGCCAAACCCAGACAACGGG
10977	REN	GAAGACCACAGAGGGGTGTCG
10978	PEX7	TATGCTTTTATATGCTATTCAG
10979	MRE11A	GGAGGCTTTGGGAGAGCAGGAATGAAAACAT
10980	TTC3	GAGAGTGTTTGAGAGCAGAAGCTATGGC
10981	EVC	CCCCAGTAGCTGGGACTACAGACGTGT
10982	NDUFA10	TCAGCGTGCCGCTCTGTGTCAT
10983	CASP6	CCAGCCTGGGCAACGAGTGA
10984	MYO1D	CCGCTTTCCCTCTGGACCA
10985	RAB7L1	GGGAGTTAGAGGTTGCAGTGA
10986	TIMM17B	CCACTGCCACCATGGGAGCTAC
10987	CTSL	CCAGCTACCCCACTGTGTGGCTGGTG
10988	C11orf8	AAGACTTCTTTTCATACTCTCA
10989	HAL	GCACTGTGTTCCTGTTGTCGTGGT
10990	GARP	AGGACACCTTTCTCTGCCGCCTGCT
10991	AIM1	TCTTCCTCTTTTTGTCCTCATCACTC
10992	UBE3A	TCGAGGCACGTGATCAGTGTTGC
10993	SFN	GGGCTGGGGATCCCACTCTTC
10994	PCSK2	CATTTGCTTTCTTTTCTCCCAT
10995	CD36	GAAGTTACATATTAGGCCATA
10996	CRMP1	CCACTGGCTCCATGATTCTCTG
10997	RAD54B	ATTCTAACTGGTACTCCAA
10998	GNGT1	ATATCTCAAATGTTAATA
10999	FMOD	GGCCAGGCAGCCAAATCTTGCCT
11000	G6PC	GCCAACCAAGAGCACATTCTTAA
11001	AKAP4	ACATCTCCCTTCTGGGTGTCA
11002	RAD21	AACGGCTTCTCTGATATTTA
11003	TNS	CAATGCCAAAGCCTCACTGTCAC
11004	PLA2G4C	CTTCCACTGCTCCTTTATGACTGC
11005	ARHGDIA	GCCTCTAACTCCCTGTGTCTGCATGAGCA
11006	ACO2	AGTTCAGCTCCACGTGTGCCAT
11007	NDRG3	ATTACTGGACTCTCTTAGCACAGG
11008	TNFSF4	GGGCTAAATACTTACATTTACAAG
11009	REQ	CTGCGGCCCTGTGTTCCTGCTACA
11010	ZNF137	TGGAAAGACCTTTGCTCAAAATTCAGC
11011	CYP3A43	TTACACGTTGCATACTACAAAGCA
11012	FOSB	TGAGTGAGACTGAGGGATCGTAGA
11013	HESX1	GCTGCTGGCTGGGCAAGTGTTCA
11014	ADCY2	GGTGTGGTCCCATAGGAGCAGC
11015	ITGAL	GCCTTTCTCCCAGGCCAGGCT

11016	TRIM9	ACATGGTTAAAAACAAGCACAA
11017	SLC22A3	ATTTCTCTGCTGTAAGATGACT
11018	EIF2C1	GGCATTTTCCACACCTGTCCACTCCTTG
11019	ARSD	GGCAGGAGAAGGACCAAGAGAG
11020	GP2	AGGCTGAGGCAGGTGGATCACC
11020	PDE4C	AGGCTGAGGCAGGTGGATCACC
11021	TM4SF6	GAGTACTGTTTTTAGATGTGA
11022	PKP1	CCAGGGTGGAAGCGCCAGGAGCAGC
11023	SEDL	GTGCAGTGGCACAGTCTTGGCTC
11024	COL4A2	TCAGGTGCCAACCCAAAAATTGGCT
11025	RGL	GTCTAAGAGGTACATTCTTCC
11026	GLRB	TTCATGGATTTCATTTGTTGGTACATA
11027	ITGAM	TTCCAGCCATGGCTCTCAGAGTCCTTC
11028	FPRL1	CATTCCTGCCTGACAGGACCA
11029	MYO10	ACACAGTCTGTATATTTTA
11030	JPH2	GCTGTCCTCCCTTCATTTCTGTGGACC
11031	LIMD1	GCCCCTGGGGTGGAAGTGGGGTAGGGG
11032	HNF4A	CTGGGAGGTCAGGTGGGGTG
11033	GNAL	TTCATTCTCCCTTTATTGATTCA
11034	BBOX1	TAAGCCTTTTGTTTCAAATAAAACTTG
11035	EVC	ATTATGGGCTGTGGGCTGTTA
11036	TRPM6	GGTCACTTGGAACTTTGGAGCAGA
11037	PCTP	TCTGCTTCCTTTCTCGCTCC
11038	AICDA	CTATAGGACCTCCTAATGAG
11039	CSF3R	CCAACATGGGGAAACTGAGGCTCGGCT
11040	PRKACA	CTTTTTCCCCAACAGACCTG
11041	ASNA1	CAGTGCCCAGTACACAGCTGC
11042	RS1	AGAGGGATATGGAGAGCAGGTGG
11043	HUNK	GTTCACTGCAGCCTCAACCT
11044	SHOX2	GTGTGGCCCCGCTGGGGTGCCCCCTCC
11045	APBB2	AGCATTTTCCTGCTCCTTCGTATGTAG
11046	GNE	TACAGGTGTAAGCCATCACACCTGGCCCTA
11047	ELOVL4	GCTACCTGATTTCAGCACAA
11048	HTR1E	CAGGCTGGAGTGCAGCAGCA
11049	ROR2	TGTGTGCCTTCAAAGAAACTGACA
11050	RUNX1	TTTTTGGGGGGAATGACATGTT
11051	LANCL1	TCAGATTGCTGAAGTGCTGCTGGTAA
11052	NKTR	CACAGGCAATAACTGCCCATCTCAGCT
11053	SLC6A4	TAGAACCTTCTAATCCATGTGCTGCTG
11054	NAB1	TTGTCAGCCAAATGTTAGATGAAAT
11055	GFER	CACTGCCTGTGGGGACCTGCCCTGCCC
11056	CRACC	GTAAAAAAGTCTTCTTTACTATCT
11057	PSPHL	TAACATCCATTGTCATACAGCTCC
11058	PPT2	TTCCAGGCCACTCAGGACATTT
11059	GRM7	ACATCTGTACATGACTGTATAAT
11060	LIMD1	GGTGGCAGGAGCTGAGGAAGGGCCA
11061	ZFP36L1	ACACAACTGCACCTTCCCTCATTTCAGT
11062	HOXB6	AAGGGGAAGCAACGGCTCTCAC
11063	NOV	CCTGTAGCTGCTGCGCCACCCACCATC
11064	USH3A	AGGCTGGAAAGTAAGGGAAGCAGAA

11065	ACRC	TGCAGGAGATGGCTAGGATTAGCCTT
11066	PSEN2	CCAAGTGTCCGGGATTCAGA
11067	UNG	GGTCTTTATTGGGTCTGCACC
11068	BAK1	CAGGGAGGGGAGGCAGATGGAG
11069	RAB3A	CCTGTTCTGACCTCATGAGTGTCA
11070	SPN	GTTCACTGCAACCTCTGCCTC
11071	PRKY	AGGCTCACACCTGTAATCCTAAGTAACA
11072	IFNAR2	ACTGCAACATCCGCCTCCCGGG
11073	SLC38A2	GTGTAATGAAATAAAATGTGAT
11074	GRM4	GCCCCAAACCACAGGGGCTCAGG
11075	NEU3	CCTCAAGGAGTTCACCAGTTTATGGG
11076	AQP6	TCTCCATTTCGTACCATCTGTGTT
11077	CALM3	CGCTTCCTCACATCTGTGCTCCGTGCCC
11078	NDUFV3	TCACTGCATCCTGGAGTGCAAAAATAA
11079	NRGN	TGTGACCCCCTCCTGCCCAGCAACCTG
11080	TAC1	AGCAGTTGTGTCAGCTACTGCGGAAAA
11081	EDARADD	CTGTTTATTTTTGCACATCTGT
11082	SPRR3	CTTCCCATCTGTTTCTGTGTCTTA
11083	PCDHB13	AATGTCACAAAGCTCTAGTGCAAT
11084	TMPRSS4	TAGAGCAAGAAACCAGTTGTA
11085	NR1D1	CTTCCTGGTTGCAACCTCTCTT
11086	OSR1	AGCACTGCAGCTCCCACCTCCTC
11087	CACNA2D2	GATGCCAGCTGTGTCCTTCGGGGGCGT
11088	NPHP1	AAAGAATGCAGTGTGCAGTGGC
11089	APM1	GGCCCTGGCTGGAGTTCAGTGG
11090	GFAP	CTCTTCCTTGCTGTGTCATACCA
11091	LDLR	TCCAGCCTGGGCAACATAGTAAGACC
11092	DNASE1L1	CACTGGCTGGGACGCTAGAAGGGTCAT
11093	TUFT1	CTGCCTGGAGATGGTTGCTGC
11094	ZNF261	CTTCCCCATCTTGCATTGGA
11095	BTG1	GGCGGAGGCAGCTGGGGAGG
11096	RHD	AAAGTAGCTGGGATTACAGGCACCCACC
11097	EIF4A2	ATCTGCCTTTATTGTGTTT
11098	AREG	TAAATGATGAGTCGGTCCTCTTTCCAG
11099	DACH	TTTTCCTCTTCTGAAAATTCTGTA
11100	ILVBL	AGAGAGGCTCTCTTGTGAGCTCT
11101	XT3	ATTTGTTTTTTAGCAATTGTCATA
11102	FRK	TTGACTGGGCAACACTGCAGG
11103	DGUOK	AAGTCTTGGAAACTTGCTGGA
11104	TCEA1	ATCATTTTGTTGTAATACAGAAAG
11105	WNT10B	TGGACTCTGGGATGTGTAGCCTTCTCCCCA
11106	WHSC1	CGTGGAGGTGGAGCCTGCGGCTGG
11107	IL13RA1	ACAGCATTTTCCTCTGCTTT
11108	RAD54L	CCCAGTCTGGGACTCCACCTGCCTCCT
11109	PSMA5	ATGTCTGTACATAAAGGCAGTTC
11110	ERCC5	TTTGTTGTGTAGGAGCAGGGAGGG
11111	IL1RN	ACTCCTCTGTCCAGGCACTGCT
11112	EIF2AK3	GGTCTAGTTTTGGGAGGAAAAAAGC
11113	PUM2	ACTAAAATGAACATGCTATTCTGTCAG
11114	PRCP	CACTGCAGTCTCCAGCCTGAGCCATGGGC

11115	C1orf1	ATTGCTTGAGCCTAGGAGTTGA
11116	CHRNA4	TGCCCTCCGTCCTGGCAGGGCA
11117	SMTN	GATGCTGGTGGACTGTGTGCCC
11118	CARD4	ACTATCAGGAGTCCACTGCCT
11119	BCL6	CCCATTCTGCGTCATGCTTGTGTTAT
11120	LIMD1	CTTTGCTCCATGTTCAAGACCAG
11121	HTR1D	CCAGAGTAGCTGGGACTACAAAC
11122	EMR1	TTCTGCTCCAAACGACCATT
11123	RPP30	GTTGCTCAGGCTGGAGTACAGTG
11124	OPA1	TCCGCAGACTTCTTTCTGCAAATTATT
11125	NAB2	GGAGAGAGAAGACGTGGAGGGAGGGACA
11126	MAP3K12	AGGCACAGCCGTAGAGCTGTGGCTAA
11127	PRKY	TGCTAGTGCCGTGAGCACCGCCC
11128	MMP19	CTCCAGCCACCACTTTCCTGTGC
11129	AASS	GCTCTGTCACCCAGGCTGGAGTGCAGT
11129	EEF2K	GCTCTGTCACCCAGGCTGGAGTGCAGT
11129	EIF2S3	GCTCTGTCACCCAGGCTGGAGTGCAGT
11129	FCAR	GCTCTGTCACCCAGGCTGGAGTGCAGT
11129	FSHPRH1	GCTCTGTCACCCAGGCTGGAGTGCAGT
11129	HUNK	GCTCTGTCACCCAGGCTGGAGTGCAGT
11129	ICAM1	GCTCTGTCACCCAGGCTGGAGTGCAGT
11129	NEU3	GCTCTGTCACCCAGGCTGGAGTGCAGT
11129	TERF2	GCTCTGTCACCCAGGCTGGAGTGCAGT
11130	INMT	GCTCTGTCACCCAGGCTAGAGTGCAAT
11131	NBS1	TCATAGAAATTCTTTATACA
11132	PTK2B	ATTCTCATCTGCACCCTTCTT
11133	RABIF	CCAGAAACATTACTTTGGAT
11134	GPRK7	CATGCCTGCAATTCCAGCACTT
11135	A1BG	TGTCACCCAGGCTGGAGTGCAGT
11135	AASS	TGTCACCCAGGCTGGAGTGCAGT
11135	AXL	TGTCACCCAGGCTGGAGTGCAGT
11135	CMAR	TGTCACCCAGGCTGGAGTGCAGT
11135	CSNK2A2	TGTCACCCAGGCTGGAGTGCAGT
11135	EEF2K	TGTCACCCAGGCTGGAGTGCAGT
11135	EIF2S3	TGTCACCCAGGCTGGAGTGCAGT
11135	FCAR	TGTCACCCAGGCTGGAGTGCAGT
11135	FSHPRH1	TGTCACCCAGGCTGGAGTGCAGT
11135	HUNK	TGTCACCCAGGCTGGAGTGCAGT
11135	ICAM1	TGTCACCCAGGCTGGAGTGCAGT
11135	MEFV	TGTCACCCAGGCTGGAGTGCAGT
11135	NEU3	TGTCACCCAGGCTGGAGTGCAGT
11135	PCDHB16	TGTCACCCAGGCTGGAGTGCAGT
11135	PSMD9	TGTCACCCAGGCTGGAGTGCAGT
11135	TERF2	TGTCACCCAGGCTGGAGTGCAGT
11135	TNFRSF9	TGTCACCCAGGCTGGAGTGCAGT
11135	TUFT1	TGTCACCCAGGCTGGAGTGCAGT
11135	VHL	TGTCACCCAGGCTGGAGTGCAGT
11135	ZNF264	TGTCACCCAGGCTGGAGTGCAGT
11136	MYO1D	AGGTGGAGTGGGCAGAGGTGCAAGAGA
11137	DFFA	GGCATGAACCTGGGAGGCAGAG

11138	PFKFB1	TGCTATCTTTGCTCTTCTCCTACT
11139	CXADR	TTCCCAGGTGATATTTTTCTTA
11140	ECEL1	CCCCGCTCTGGGCACCACCTGCCTTC
11141	ROCK2	GCTGCAGTTGCAACTATGCAC
11142	ACO1	TGCAGTCGGAGGAACACGTGG
11143	CYP4A11	CTTCACAGCCTCCATCCTTAGCT
11144	FACL5	TCTATGCTTATTTACATCTTCT
11145	DSCAM	CGCGTCTGCGGCTCTCTCCA
11146	PTER	TGTTTTTAAAACCTG
11147	ZNF80	GAGGGAGACCTGTTGGTTATTGTG
11148	ESRRB	TGGAAGAGAAATGAGCTTGGCTTGCA
11149	EYA1	CGTTATGTGTCTGCCACATTAA
11150	HUNK	CTTCCTGGACGGGACCCG
11151	CNTN2	CCTGCTAGAGTGACTTGTACA
11152	KIF3B	CTGGGGCAGGCAGGAGGCAGT
11153	DMRT2	GCATGGTGCCTGGACCTGA
11154	GRIN2B	ATTACCTGAATTTTGGCTGTG
11155	PIK3R2	CCAACTTCCCCTCCAAACCCCGAAGTG
11156	CARKL	ACAGAGAGCAGATCAATG
11157	VAT1	GGGCGGGAATCAGACCTACTCC
11158	ARHGAP6	CCAAAGGCTGAGGAAATG
11159	PDYN	GCTGCCCAGGGACAAAGCAGAGTGCAG
11160	TRO	CCAGCACGGGCTTCAGTATGG
11161	EHHADH	GACCAGCCTGGGCAACATAGCAAAACC
11162	ZNF278	TCCTTCTCCACCACCCATTCTCCCAA
11163	RAB6A	GACAACAAAAATATCTTCATACTTCC
11164	SECTM1	AGCTCTGCTTCCTCAGTTTCCAA
11165	CLOCK	AGAATTTACCAGAAATATTTGCTCAA
11166	GYPA	TGCTAAAGTAATTTACAA
11167	CASP10	AACACAAAAATTAGCCAGGTGTGGC
11168	MYO1F	GCCTCCAGTCCTGCCCAGGCCCTGGG
11169	VIPR2	CTCTGCTGCAACAAGCTC
11170	FOSB	TGGGGTGCAGCTGGGTGGGG
11171	ALDH8A1	AACCAAAAATAAATAGCCATAATTTG
11172	GPR24	GCCTTTCTCCCAAGCTGGTGGATAATG
11173	C5R1	GAGGGAGGCTCTGTCTCAAAAG
11174	VAMP5	CCTGCATTTCCTGTCATGCCACAGACT
11175	AKT1	CAGAACAATCCGATTCACGTAGGGAAA
11176	TAF7	ATTGTATAGGCAGAAAAAT
11177	ADORA1	ATGGAGAGGAGAACACTAGACA
11178	UBL3	GCCTAACGCTGGTGTCTCACTCATC
11179	LHX4	GCTCTCACCAGAACTGAGACTC
11180	HLF	GCAATGCTTCTCTCATAGTGT
11181	LRRC2	CATTTAACTCCAGCCTTGGGTTT
11182	SNRPN	TAGCAGCCACGTGGGGCACTTCTC
11183	IGHMBP2	GGCTTATAAAGGTGCCTGGCCTGTGCCAACCC
11184	IGFBP2	CACCTCCCCGGCCTCTCTC
11185	ARF4L	TGACCTCTCAGTCAGACTGGG
11186	SOS2	ATAGAGTGTTTTGCTGATAGTGCTGTA
11187	ALDH1A3	CCATATAGCTTCAAAAACAAAAACAAATGT

11188	GABRR1	GCTTGTAATTCTACAAATTTCACATT
11189	KCND2	CTGAGCTCTGTAACTGTCACACTGC
11190	ANXA4	TGTGCTAAAAATACTTTTTA
11191	PER2	AAATCTTACTCTGCTGTTATG
11192	XCL1	ATTATATTTAGGGAAAGGTAGT
11193	CD68	ATGTTATTTTCCTTCCCTTTCTTGAA
11194	NRF1	TGCATTTTTTAAAGCACCACTCT
11195	GCS1	AGGGAGGGAGAGGAGGGGA
11196	S100B	GGGGTGAGACAAGGAAGAGGATGTCT
11197	CSK	GCTCACTGGGCCCGAGCCT
11198	MAB21L1	AGCAGCCGCATTGGATCCCACAGCTTA
11199	ZNF289	CGGCAACAAGAACTCCACAGTTCCCA
11200	CLECSF12	TGTTGCCCAGGCTGGAGTGCAAC
11200	PRND	TGTTGCCCAGGCTGGAGTGCAAC
11201	UBE2I	GGCCCGATCTGGGCTGCCTCCA
11202	NR2E1	CCCGCCCAGGAGCCTTGCAGGCTGG
11203	CANX	ATTTTTAAAAAAGTGATCTTA
11204	ITCH	ACTTCTATTTAGTATTGTTGG
11205	BMP1	CAGCAGGAAGTGCCACTGCCT
11206	S100A5	GGCAGTGAGAGGGAGGCTATGCCTG
11207	CHST2	CCAGGAGACCTGATTCCCTGTG
11208	NCYM	AGACAACCGCACTCGCAGCGGTGTG
11209	PPP3CB	TAGCCCCCTTCCTGGATGGAGGCTTGA
11210	ICMT	CCTAAACCAGGAAGCTGCGTT
11211	MNT	TGTTCCCTCCTGGTCCTGGACACCTC
11212	SPAG8	GACCTGACAGCCCAAACTGTCA
11213	FLT1	ACCAAGAATATATGCTACAGATATAA
11214	NR3C2	GGCATTTGTGGGACTCCAGCAC
11215	CAPN10	CTCTGGAGAGAGGGGGGTGAGGG
11216	SLC22A5	TCAGTGACAAAGGCCTTTGCTGT
11217	VENTX2	GTGCCCAGGAGGCAGGCAGTG
11218	IL15	CTAAATGCTACTAACCTTCCT
11219	KCNS2	CCTCTTGTTCGGTTAACCAGCACA
11220	PSMC6	AGAAATTTGTATGTTTGTTAAA
11221	MYH11	ACCAAGTGCCTTCTGTAG
11222	RHEB2	CGGCGGAAGAAGGTGGGAGGGTCAT
11223	POLA	GGTGAGGATCATGTGTTGTAT
11224	RGS6	CCAGGAGGTGGCTGGATTGCAGGG
11225	ADAMTS13	GTGTTGGTGCTGACCTCCAGGCC
11226	PCDHB12	CTATTTTCACACTTTTAATCTCA
11227	GNAI3	GGTGTGGGAAAAACTTGATCTGAA
11228	UBL3	GACTTCTGCTCTTTTTTCTTTGTT
11229	HMGA1	AGTCACTTATTGTCCAGGTGA
11230	KLK8	AGGCCCCCTGGTGTGTGTGGTGCA
11231	DRD3	CGAGTTCCGGAAAGCCTTCCTC
11232	HRH1	GACCAGTCTGGCCAATATGGAGAAACC
11233	ATP1B1	TTGCCAGGAGTACAGTGCT
11234	DTX1	GCCCAGGCCTCCTGGGTGACAG
11235	RFP	GTGCTGGGTGCATATCATCCA
11236	LEF1	TGCTCCCTCCAGAACCGGCGT

11237	EGFL4	TCAGCCCTCGTCACACTGCGGCACAG
11238	REGL	TCCTCTGCTAAATTTGCA
11239	SEPN1	GGGCTGACTGGGCAGAGGAA
11240	GABRP	CTAAGCTGTGTAGAAGTCC
11241	AXL	GGCAGGAGGATGGTGCCTGGA
11242	PAICS	CTTGCAGCACCATGCCGAGCT
11243	INPP5B	CTTAAAAATGCTGTTTCTGGCTGG
11244	DISC1	GGTAAGACAACAACCTCCCAG
11245	SCNN1G	CTGCCCCACTCTGGGCTTTTC
11246	PPP1R3C	GTGAAGCCTTTCTGTTCAG
11247	TOP2A	CTATCTGATCACTTCAGCGTA
11248	NFKBIL2	GCTCACGCCTGTAATCCCAACA
11248	NPHP1	GCTCACGCCTGTAATCCCAACA
11248	RFC2	GCTCACGCCTGTAATCCCAACA
11248	TCTA	GCTCACGCCTGTAATCCCAACA
11249	TNFSF8	TCCAGTTAAAATGGGGCTTCAGTACCAG
11250	PPP1R8	TTCCTAGGCCTTCCACTACCTCC
11251	ADARB1	GCCCATGTCTCAAAACAAACACA
11252	PAG	TCCATGTCACCACCTTTGA
11253	GNAL	GAGGGAGAAGAAACGCCTGCTCT
11254	PRELP	AAACTCCTGGCCTTCTGTGGTT
11255	VDAC1	CGTAGCCGCCTCCGAGCCCGC
11256	TKTL1	ACCATGACGCCTACTGCTGTTC
11257	WBP2	CACTCTTGTTTGTCCCTGGACTG
11258	HNRPK	CCAACATTCCTCTGCTTCATA
11259	TIE	ACCCCCACTCCAGCTCC
11260	PFKFB2	CTCTGGATTGTCCAGTGTAATGCA
11261	CALML3	AAGGACGTTTCTTTCATCTGCCTTT
11262	BSN	TTACCATTGAGCCAGGAGTGCGGCAGGCA
11263	CNGB3	AGGCCAGGCTGGTGTCGGAAGTAATA
11264	SLA2	GGACAACAGCCCCAGCTCTTTT
11265	MYCL2	TCCGAGTAGCTGGGATCGCAGG
11266	SMAC	CCCGAGTAGCTGGGATTGCAGG
11267	MAGEA5	GGAAGAGGGAGTCTGAGCATGAGCTGC
11268	REGL	TCACCCAGGCTGAGGGTGCCTTTGTG
11269	MGAT5	CTACCTCTTCTTTGTCTAGTT
11270	ZNF135	ACACAAGCCTTTTCACACAGCA
11271	ZNF202	GACCCTGAGGAATTCACCAGGA
11272	JUP	TGCACCCTGCGCCTCCAGAGGTC
11273	PLCB2	CTCCATCTCTAGATAAGTGTCA
11274	TK2	TCCTGAAGGGTGCTCAGTCTC
11275	TAF4B	GCCCTATTTGTTACTACCTG
11276	ASTN	CCTAGGCCTTGCTATCACTATTTCC
11277	ARHGDIB	CTTCCTTCCTGTTCTAACTGCCAGTAC
11278	SLC17A5	TGTCGCCCAGGCTGGTTTTGAAC
11279	MTMR3	CCTTTTCCATCCTCCTCCTCTGCCTTCAA
11280	BDKRB2	CTCCATCTTGAAGGAACTCAAAGACTC
11281	RBBP9	CCCAGCACTGTGGGAGGCTGA
11282	CRSP6	TTGCCCAGGCTGGTTTCGAACTCGGCT
11283	SMAC	CACCCAGGCCAGGGGTCCAGAGC

11284	GALNT1	ATATGCTTCATTGTCAAATGCAT
11285	HBG2	GCAAGCAATCAAATAATAAA
11286	WEE1	CTTTGAACTTTGAAGCTAGTGCA
11287	CD1B	CCCAAGATATCAGCCCAAAAATCAA
11288	MGA	TCCAGCACCTGTCTCCCCTGC
11289	TK1	TGCTGGGACTTGGATCCCAGGG
11290	GRM1	ATTAAAAGTGCACAAAAA
11291	GATA4	TTGCCGTCGTTTTCTCTCCC
11292	DDOST	TCCAGCCTGGGCAACAGTG
11293	PDE7A	TAGGCAGAGTCAGTCACTTT
11294	NT5E	ACCTGCACTTGTCCCTCTCCAG
11295	TCF7	GCGCTATTGCACTCCAGTCTGGGTAACAGG
11296	SYNGR3	GTTCCGACTGCACCTTCTTTA
11297	MYD88	TACAGCTCCCAGGAACAGCTAG
11298	ACP1	GACACTTGTATGCTAGTCTA
11299	SORCS3	CTAGCTTTGGGAGAAAAGGGCAT
11300	EGR1	CCATGTCCAAGTTCTTCACCTC
11301	TRIM14	CTTCCGCTTCCTCCCCACCG
11302	MANBA	CCTGCAGCTGGTTACAAGAATGTGACA
11303	ZNF3	GAAGAGATTCCAGAATCATCAT
11304	STS	TCAAGCCAGTGTTGCTTAATA
11305	MPL	AGTAGCTGGGATTACAGGCGCACACC
11306	DGKI	CAGCCCAGGCTGCTGGGCTGTAGCCA
11307	USP14	ACCTGTGATCCCAGCTACTTGGG
11308	ARVCF	CCCTGCAGGCAGGCAGACCACGGTGTG
11309	ADAT1	CCTGTAATCCTAGCTACTCGGG
11310	C5R1	CCTGTAATCCCAGCTACTTGGG
11310	CD68	CCTGTAATCCCAGCTACTTGGG
11310	CTSS	CCTGTAATCCCAGCTACTTGGG
11310	GALNT7	CCTGTAATCCCAGCTACTTGGG
11310	IL10	CCTGTAATCCCAGCTACTTGGG
11310	TSNAX	CCTGTAATCCCAGCTACTTGGG
11311	DAG1	GGAGGTGGAGGGACCGAGGAACCA
11312	SOCS5	TAGTAACTACAATGGTTGC
11313	EIF2C1	AGCCCAGGCTTGGAGGCCAGCTG
11314	EIF5A2	AGCCAGGCTGGAGTGCAGTGGT
11315	ADH1B	AGAGAAGAAATCCACAAAGA
11316	BECN1	TTTATCTCTCTCAACTTCCTGCA
11317	SLC8A2	TCTCTCCCCCAGCTCATCATCAGT
11318	HLF	GACTTCTGAAAAATGAATGTAAAA
11319	BIN1	GCCCAGGCAGCCTCCGGGC
11320	RPIP8	GTGAGCTCCATGAGGGCAGGG
11321	TRPM2	CGGCTCCAGTCCATAGACGTTCCCCCC
11322	KCNJ3	AGTATAGCATTGAACATTTCTT
11323	C18orf2	GGGCTAAATCTGATCCTCAGCCCACTC
11324	TBX3	CATTAGTTGTGATTTCTGCCTCC
11325	YWHAB	GAGAAGCAGGAAGAGCACTGGAC
11326	BTEB1	CCGAGCCAATGCCAGTGACAT
11327	CD4	TTGCACGAAATCACACAGCCAAG
11328	NOTCH2	TTGCTGAGAGAGCAAATTTTCT

11329	KCNA7	GGGAGAAACCTGAGTCTCAGAGCAGGG
11330	GOLGA5	CCAAGCCCAGTTGTTGCAGTGA
11331	ZFP37	ACATTTTCACCCAGCTCTTT
11332	ATP8B2	TCCCTCTGAGCAACCAGAACA
11333	KIF5C	ATGTATTGTGTCTTTTTCTCCT
11334	GGT1	CCCAGAGATTGCCTGGAACAC
11335	NUP62	TGGAAGGCAGAAGCTAGCGGTTGTATC
11336	PDE6B	CTGAAGTGCTGGGATTACAGG
11337	TACC1	TGCCACTGCACTCCATCCTGGG
11338	CDC5L	TTTGGCCTTTAATTTAAAAAGCCTA
11339	CXCL13	GTATCCTTTCACACATTTGCCTTGACAA
11340	PARK2	CGCTGCGCGCATGGGCCTGTTC
11341	ATP1A2	AAAGTACAAAAAATTAGCCAG
11342	GART	GATGGGGTTTCACCATGTTGCC
11343	MPL	GACAGGGTTTTGCCATGTTGCC
11344	APOL1	AAAATACAAAAAATTAGCCGG
11344	LDLR	AAAATACAAAAAATTAGCCGG
11344	RAD1	AAAATACAAAAAATTAGCCGG
11344	UBE2G2	AAAATACAAAAAATTAGCCGG
11345	CD28	CTGGCAGGCGGAGGTTGCAGTGA
11346	FOXE3	AGACTCCTGGGTTCATGACT
11347	TDRD1	GTAATAGCCTTTCCTTACTGTTG
11348	TCF1	TCTTCCCATCCCCAGCGATTCCCTC
11349	TRIM14	CACTGCACTCCAGCCTGGGGA
11350	NARS	TAGGCTGTATTCCCAGCAGTC
11351	SMARCD1	CACTCACTCCACCCTGCCTC
11352	MAG	CCACACCTGGCCCTGGGGCCTGTACAAA
11353	ASB1	CTTCCCCTTACCCAGGGCTG
11354	STIP1	GGAGAGAAGGCCTCATCTCTCT
11355	DPP6	GACGTTCAACATGGTGAGGGGCTACA
11356	UMPK	CCTCAGCCCCGGCAGCGCCCAGC
11357	FKBP10	AGCACAGACCTCTACCGTGTTTCT
11358	ZNF264	ACATTTATTGCTATCCAGTGTCA
11359	CTSS	CTCCACTGCTCATATTTTT
11360	UTY	TTTGTTGTTTCCATGAAATCCTGCGC
11361	HLCS	TCAAGAGCTTTAGTTACTTAAC
11362	ACE2	AAGGATGACATGCTTTCTTCAC
11363	CDKN1C	GCAGGCATCGAGGGGGCGCGG
11364	P2RY6	CCTGCTGCTTGCCAGCTCTGT
11365	ZNF253	TGTCACCGAGGCTGGAGTGCAAT
11366	TRIP11	TCTAGGCAGAACCTGGAGTCGGCCTTGC
11367	WISP1	GTTTCTCTTCACCCCTACACTGTGAAG
11368	ACE	CCTACTTCAAACCCCTACTGA
11369	DFFB	ACTCTGTCGCTCAGGCTGG
11370	IL1F5	ATTAGGTTATAAAAGACACTG
11371	ACADSB	TTGCCCAGGCTGGTCTTCTGGCTTCTG
11372	CDS1	CGGGAGGCCCGGGCAGGGAGAA
11373	FLI1	AGACCATCAGACCAGGGCCAACCAATC
11374	UMPS	CCTCCCAGGTGATCCTCCCACCTCA
11375	UGT2B15	TGGAAACAACTTCTAGTATTGGA

11376	PRKY	ACTTACCCTGAGCATGACTGGGA
11377	PRex1	AAGCCTGGCCACCCTCGCTGT
11378	KHK	AGCGAGAAGTGCCCTGGGCTTGCCA
11379	F2RL3	AGCACAGCCAACAGCCACCA
11380	KCNA6	GGAGAAAGGGAACCACAGAGCCA
11381	RUNX1	ACAATCAGTGAGTAAATAGACAGCC
11382	GPR56	CTGTCACACAGGCTGGAGTGCAGT
11383	UBE2G2	CGCACACACACCGCCAATCAGCTCA
11384	SOX10	CTTCCCTTACTAGGCTC
11385	PTGER2	TTTTCCAGGCACCCCACCA
11386	TCF2	GGAGGCTGAAGGGTGGAGGGGTTCCTG
11387	SLC4A1	AGAGAGGCGTCCTGGGTGAAGGAA
11388	USH2A	TATAAAAATATTATCAAAAG
11389	ADRA2A	TTACATCTGCATTTCTACATGT
11390	MTMR7	ATGAGGAGTTATACTGCTTTTCATTCA
11391	UVRAG	GCTGCACTTAACCCTTTGTGAT
11392	TNFSF5	ATTACAGGTCACATGAAACCAAA
11393	TSN	AGGCCGAGGCAGGGGGACTGCT
11394	SIAT6	TACACAGGAGTCTTCAGACCCAGA
11395	CYP1A2	CACCCAGGTTGGAGTGCAGT
11395	PRKWNK3	CACCCAGGTTGGAGTGCAGT
11396	CYP4F3	TGCCCAGGCTGGAGTGCGGT
11396	HMG20A	TGCCCAGGCTGGAGTGCGGT
11396	SLC39A1	TGCCCAGGCTGGAGTGCGGT
11397	SERPINB9	CACCCAGGCTGGAGTGTAGT
11398	SF3B3	AAGGAGGCAGGCTGTGGTG
11399	TCF4	GTACAGGCTGAGACACAGCCCA
11400	AQP6	TACCCAGGCTGGAGTGCAGT
11400	CLECSF12	TACCCAGGCTGGAGTGCAGT
11400	FCGR2A	TACCCAGGCTGGAGTGCAGT
11400	MDM2	TACCCAGGCTGGAGTGCAGT
11400	NQO1	TACCCAGGCTGGAGTGCAGT
11401	CCNF	CCTCCCGGATACTCCTGCCTCA
11402	IRAK4	AGGGAGGTAGAGGTTGCAGTG
11403	EIF5A2	CAGCCAGGCTGGAGTGCAGTGG
11404	KCNA3	ACAAGTGACATGCTGTGCTCAG
11405	TTN	CAAATTATGTGGATCTAATAAA
11406	NHP2L1	ACAAGTGTTCAGAGCAGACAGA
11407	TNXB	GGGGTTGGGGACAGAGCAGGTGCAGAGGCAC
11408	PPARBP	TTCTCCTCGCCTTCAGGATGAAAGC
11409	CDY1	TCTCCTAAACTGAACACATGACT
11410	SDC1	TGCACATGACTCGGGGGTGGGGAAAGGGGTC
11411	TCTA	TGTAGCCCTGGACCTGCC
11412	DDX6	ATTACTTATTTGTGCGAAGTGCCTTA
11413	A1BG	CCAACTCCTGAGCTCAGGTGAT
11414	DCX	GTTTCTGGTGAAATTGAAG
11415	TMEFF2	ACTATTTATATCACACAATAT
11416	CIT	CATCAATCAAGATTCTAGGTCTCCA
11417	ENC1	GCTGCTGCTGGAGATTCAAAG
11418	HOXD8	GCTCAGTCACTGGTGCCTGAG

11419	PRIM2A	TGTGAGCCACTGTGCCTGGCC
11420	DIAPH2	ACCATCACTAGAAATGCCTTT
11421	OAS3	TAAATTACAGCCAGACCTCTGG
11422	SOX10	CTCCTCGGGGAGGGGAAGCACCAGGGT
11423	ADORA1	AGGCTGCAGCAGGCAGAGGAGG
11424	PTGIS	ACAGCATCTCTATGAAGAGA
11425	SLC26A4	AATAGTCTTGCAGAAAATGAATGA
11426	SCAP2	TATGCTACTATTGCTACTTCT
11427	PTPN7	CTGTGTACTCTGGTGTGTGGCC
11428	WASF3	AATATAACTCTGCAGACTTGCTGTGTG
11429	UBL3	TGAAGTCATCGTGACCAATGTTACA
11430	D12S2489E	TCATGCTGCCACTTTTAATGGGTCCTC
11431	ZNF135	AACAAATGCCTTTCATATATACG
11432	KRT15	CCTCTGCCTCTCCCCACCTTCTT
11433	CEP2	ACTGTGTCATGGGTCATGGCCC
11434	BSND	CAGTGTCTTCTCTCCCTGTGT
11435	SH3BP4	AAGAGGGAGGAAGGGGCGGC
11436	ATP5G2	CCTTTCTCATCCTCTTTGCC
11437	SDC1	TGCTGGGACTCAGCCTTCAGACAGAGA
11438	RAB7L1	TCTCCCATTTGCAGGTTTCT
11439	TIMM17A	TTAGTTAATTACACATTTGCCTACATCTGT
11440	IL6R	TGGGCAATGTGATAAAACCCCA
11441	SLC14A1	CAGGAGGAGGAGGCTGCAGT
11442	DIAPH2	GGTGCATACCACCATGCCTGGCT
11443	TNFAIP6	TTTGCATTTGAAATTTTGGA
11444	IRAK1	CAGAGCTGTGTGTTCACCTGGGCAGA
11445	FGF23	GTTTCACCGCCTTCCTCACTCC
11446	ELK1	ATGTCCCTGGAGTTGGGAGGGAG
11447	SQSTM1	GGCTCACTGCAGCGCGCTCCTGACCCC
11448	IDH3G	CCCTGCAGCCTCCTGTACCCGCCTCA
11449	ZNF253	TGTCACCGAGGCTGGAGTGCAA
11450	ABR	CCTTCCTAAGGTCCCTGCCTGGC
11451	PPFIA3	CCTCCAGGTGACCTCACTCGGACGG
11452	CSF3	CATGGCTGGACCTGCCACCCAG
11453	SEC22L1	TGCATTTTAAAAACAGCACTGGCTG
11454	HD	GCTGGATTTGGGAGCTCTGCT
11455	DLEU1	CAGCTCTTTCTCTTTGTA
11456	BTK	ATTTGGTAGAGCTTGGGGG
11457	BTG4	CCCTCATTCCCCAAGAAGGCCCCCAGC
11458	GLI2	AGACGTCTGCCTCAGCCACTGCCTCCG
11459	XPNPEP2	GTATACCACACCCTGGGCCCC
11460	RAB36	CAGGCTGGAGTGCAATGGCACGATCTT
11461	ZNF42	CGCCGAGTACTCCAGCCGGG
11462	CCND1	CAGCCCTCCCCAGCTGCCCAGGAAGAG
11463	ABCC1	CTACTGCCTCGGATCTCTCCA
11464	MHC2TA	CCCACGCTGGAGTGCAGTG
11465	DLGAP2	CTGTATCGCTGATGTTCACCTCC
11466	BAI2	CAGCCAGGCTGGGGGAGCCGG
11467	IL7	CAGCTGCAGAGATCACCCTGC
11468	SPG4	GGACACTAAGTTAGAGCACAACAAAAC

11469	VPS41	TTAGTAAAACCATTTAACCA
11470	CSF3	CCTCCACTGTCACATTGTAACTGA
11471	CBFA2T1	GTAAAACACAGAGGGCCAGTAACGGGT
11472	TNF	AGTGCTGGCAACCACTAAGAA
11473	HTR1D	CCATGATCACCCCTTTGAG
11474	ZNF202	CCTGAGGAATTCACCAGGAG
11475	PLXNB3	CTGGGGCAGCTGAACTGAG
11476	SEL1L	CATGTAGAGATTTGAGTGCAGTTGG
11477	DNMT3A	ACATTTAAAAAATTAGTTGCCAG
11478	MAPK4	TGAAATCCCAGTCTCCTGGCCC
11479	CNN2	TCTTGACCCGTTCAGTGCTGCC
11480	POLA	TCTAAATCCAAATGCTTCTCCA
11481	MCM6	TTGCCAGCTACTGCTTTT
11482	UTX	TATTAAAATTGTTTAATGTTTA
11483	MASP1	CTGAGAGAAGCAGGGACAGGAGGGAGC
11484	PTK2B	CACTGCTCCCTAAGCCAGCCTGGT
11485	P2RY6	TCCAGGCAGTGGGAAGCCAAT
11486	RABL2A	CTCTTCAGTCTCCCAGTCATCTGGT
11486	RABL2B	CTCTTCAGTCTCCCAGTCATCTGGT
11487	IQGAP1	CAGTCTTAGAGGTTGCAGTACTATA
11488	PPP1R14B	GGGACTTTTTGTGTTTTTAT
11489	SLC15A1	CTGGGATTACAGGCTTGAGCTACCGC
11490	PPARGC1	CGAGAACAACAGTTGGGCTG
11491	TRIM8	CTTCCTGTAGTGAGCACTTT
11492	TCF2	GAGGAATTTGAAGAAGGAACTGAGG
11493	MADH7	GCATCATTATTTATGTATTG
11494	Rgr	TTTCATAAACAAAGCAGATGACA
11495	EPHA2	GGCAGACTGTGAACTTGACT
11496	CHRNA10	GGGAGCACTCATTGTCTACAC
11497	CHD2	TGAAAAAGTATTTTGCCTTCATTTT
11498	HS2ST1	AGGGTCAGGGAAACTTTTCTC
11499	MPP2	AGAGGGGACCTTGGGAGCCTG
11500	MYH11	CACGGAGGGGAGCAGGAATGC
11501	ADAMTS3	AGCTAAAAATTCCTTTTTATC
11502	NCOA6	TCGCCCAGGCTGGAGTGCAGTC
11503	PIK3R3	GTGAATGTGAAGTGGAGAGG
11504	FSTL3	TGTGGGGACCTCAGAACACTGTGA
11505	RNF4	CAGTCCTCAGTTCCCACTGC
11506	ARSD	AGGCTGAGGTGGGAAGATCATT
11507	SH3GL3	TTTTCTTTTTTGCTTCCTGTC
11508	GHRHR	GCTTACTGAGGCTGGTGGAGGG
11509	ADAMTS12	GGGAGGCGGAGGGGTGGG
11510	OAS1	AGAACTTACCTCTTGCCAAAG
11511	EGR3	TGCTTGATATTGTGAAAAGGTGAA
11512	SPS2	AGCAACTTGTCTGATGACTGGGA
11513	GPRC5B	CCTCCCTGGCTGTGTCTTT
11514	SGCB	GTTCCTTAGTTTTGCACTGG
11515	SFRP1	CCACGCTCCAAACCCCAGGGTAGCCAT
11516	ETV1	AGATCCTGAGGAAATCTCCAGCT
11517	MEIS2	TAAACCTGTTGGGCCAATGAGAA

11518	ACK1	GGCTCTGGGTATGACCTGCCTCTG
11519	GALNT7	GCGCATACCTGTAATCCCAGCT
11520	MPP5	TGGCAAAAACTGCCAATAGGAGGACT
11521	LNK	TGCCCAGTCCCCGTTACTCTTAGAG
11522	FRDA	CCAAGACCCCAGCTTCATTATGCA
11523	TPM4	CACCACAGCGCTCCAGCCTGGTCGACA
11524	BIRC7	GCTGGTGTCCATCCAGCACT
11525	XRCC5	AGCAGTAGCATTTGCTTCCTCCC
11526	PIP5K1A	CATGGGCTGGGAGATCATAG
11527	MYH11	CCACCACCCTCCAGCCTGGGCAACGTA
11528	MC1R	CCCACCCCATCTTTGCTGCCA
11529	JPH2	CCTCCTTCCTCATGCCTCCA
11530	CREM	TTACTCTAATCAAGGCAGGAGATGCAGC
11531	SHANK2	GTTTTGAACCTGATCTGCATAAAACC
11532	CACNA1C	TGGAAAGGTAACTGGCAATGCACTT
11533	LILRB4	GGCATCCATTTCCATACAG
11534	CDH19	GACTAAAATATTCCTCTACT
11535	FANCG	CGAGAGAAGCAGGGGAGCTCGG
11536	KCNJ10	TGCATCTATGTACAGAGCCT
11537	PIAS3	TGGTTCCCTGGATTATGGAA
11538	GSTA4	CTTATCCTTATCCCCTCCAGTCT
11539	CAPN11	CTCTCCAGTCTCTGCTGATGAAATGGGATCC
11540	INPP5A	TATAAAAATATTAAAGAGAA
11541	RAI2	TTAATGGAATATTGGGTGAA
11542	KAI1	GGCCCCCAACCTCAGGGCTCCCAGGGG
11543	GRM6	TCAGTATACATTCTCTAGTCTGTGAT
11544	CD3Z	CTCTTTCTGAGGGAAAGGACA
11545	NRL	CCCTCCCACCTCTTCCTCTGGCCGTTCAGA
11546	LTA	CCAACAGCTCAAGTCTTCCC
11547	TMOD3	ATATTCTGAAACATTTCTACTTTCTG
11548	BCLG	ACTGTTGTCTGTGCCTTTTTGAA
11549	NDRG3	GCCACTGCATTCTCTTTTGTTTGCAA
11550	ABCA1	ACCCAGTCTTATTTTTCTAGTCAGT
11551	MYH9	GTATAGTTTAAAAATCTGCCA
11552	MECP2	GGCAAAGCTGTTCTTCCTGGTGAC
11553	PLEK	GTTGCTGATCTGTAGTACAGT
11554	PDGFB	TCTGGCAGATGTAGGTAAAGA
11555	EP300	GGGTTCGGAGGGTGGGGGCGCA
11556	HIS1	AAATGTCCCCTCACTGCAGATCAAATG
11557	CASP10	GATGGGGTTTCACTATGTTGCC
11558	SHB	TCCGCTCTCCCCCGGGCGTGGGCC
11559	MUC3B	CCCTCTCTCCCTGGTGTCAACTCGA
11560	CNTF	TTGATCATGAATCACTGCACC
11561	ADCY7	TTTCACCTCTTCCTTGATTACTC
11562	COL18A1	CTGGCTGCCATACTTTCCTGTATA
11563	MME	TCAGTTATTCATTCTGTGAT
11564	NPR1	GCCTCAGCCTCACCCACAGCAGCCCC
11565	IL21R	TGTCTCCCGGGTTCAAGCGATT
11566	C2	TCCGGGTCTCTAGGATGCCAGAGGCA
11567	ADH5	AAAGTTAATCAGGACCCAAGTCT

11568	B4GALT5	CAGAACCCATGATGAACTGTGA
11569	APBA1	TGGCGCTGGAGGCAGCAGCGGCTGG
11570	CELSR3	TTTGGGAATAAACTTCTATAGA
11571	TEM6	TTCCAATGCCCTGGTTTTCCTGCT
11572	SERPINE1	CCTTGCCCTTGAGTGCTTGTTA
11573	GPR85	CTCTGCTGAGCAATTGTGGCCC
11574	PPP2R5A	CCCTCCTGACCCAGGGATGGAGGCTT
11575	KCNK6	TAGCTGGGTGTGGTGGTGCA
11575	TRPM8	TAGCTGGGTGTGGTGGTGCA
11576	SURF5	GCCTTCCTGGCCAGCCAGGTGG
11577	RARB	GGCTTTTTGCAAGCATTTACTTGG
11578	EIF2AK3	TTCTAGAAATATGCTTTCTA
11579	DLEU2	CTTATAACTTCCATTTTATTACT
11580	G6PC	AGGCTGGAGTGGAGTGGCACGAT
11581	EYA1	GTATTATATGTAACTACTTGGAAA
11582	DCT	GCTTGAGGCTACCTCTACCTT
11583	NOTCH2	CCTACGCATCTCCTCCTCCTTGGACATTCT
11584	ANKH	GCTCATGCCTGTAATCCCAACA
11584	BRCA2	GCTCATGCCTGTAATCCCAACA
11584	CTSS	GCTCATGCCTGTAATCCCAACA
11584	PLA2G2D	GCTCATGCCTGTAATCCCAACA
11585	PPP3CA	GCCTTTTAAAAATGCTTAT
11586	IRTA2	CAGTGCACTCCCTAGGAAA
11587	SH3BP2	TGGTCCCATTCCAGACAGGGGCCTC
11588	DSCR4	TATAGTGGAGACCCAGAGGATGAG
11589	KCNQ2	CAGTACACATACGTGCATACACATGCC
11590	IVD	CGGCGAAGCCTGGATTGGTGG
11591	NXF5	GATCACCGTTTATTTTCATAAT
11592	CENPF	GGCTGTGCCTACAGGACTTC
11593	DHCR24	CGTCCTGCCCCTTCCTCCTTCA
11594	TCF7	CCAACATGGTGAAACCCTGTAT
11595	SHB	CGGCCAAGGCGGAGGCTGCGGCTCCGACG
11596	NCOA4	TTCTTAACTGCCTCTTACCG
11597	SORCS1	TTCCCTCCAAACCCCAAGTAAG
11598	CD47	TAAGCACCATGGCCTTGATGATT
11599	BAIAP3	GGTAATCACAGCTGGGGAGTGAAAAG
11600	MSI1	CAGGGCTGCGGGGAGGCCAGGC
11601	TNFAIP1	CTGCCTGGGTCTCTGCTCTAGCACCC
11602	LY6E	CCTGCCCCAGCCCCTGCCTCTGC
11603	SURF5	AGAGACTGCGGCGGGAGGGCCAGGC
11604	TCF4	GAGGGACGACTTTCTTTAACAT
11605	ALG6	ACCATTTTGAGAACCATGGAACC
11606	SFTPC	GAAGCCCCAACGGGAAAGG
11607	SLA	GAGAGGGAGAGGAAACAAAAGCTGT
11608	CAMK2A	GTGCTCCCCTAAGTCTTCTTCC
11609	SMT3H1	CCATTCTCTGCCTTTTTACA
11610	OLR1	CCATCATCCCTCAAAGTGTC
11611	BCL2L2	TAGGGGCAGTTCTCTGTCCC
11612	MUC4	CTTCCCTTAAGAGTCA
11613	DUSP6	TCTTTTTCATGTATTTTCCTCATGAT

11614	NOTCH2	AGCCCTACCAGCATGTTATAGGGCAA
11615	KIR2DL4	TCCTCAGACTATTTTTCAGCC
11616	FABP2	AGATGGGGTCTTGCTATATTGCC
11617	RALBP1	GGAGGCTGGGCCCTGGAGGCAACGTGC
11618	ZNF264	AGTTATACACTGAACTTTACTGTAG
11619	CHRNA2	CTTCTGCTCGACGGGGTGTCTCCT
11620	SYK	CCACCTCCCTCTGCCAGTCG
11621	ANKTM1	CTTTTTTCTTTTGATGTCTACTCAAA
11622	CALM1	CCTGATTGCTGACCCAGTCTCAGGCC
11623	GPC4	CTCAGGGTCTACATTTCATT
11624	HTR6	CTTACCTGCAGGGATCATAG
11625	FOXI1	TCTCCACTGCCTTCTGTCC
11626	KL	TAAAACACAGAAACTATATGC
11627	CNTF	AGGGTGAGGCCCACTCTGTTCCTAC
11628	ADAT1	GACCAGCCTGGCCAACCTGGTG
11628	SWAP70	GACCAGCCTGGCCAACCTGGTG
11629	STK13	GCACGGCTGCTCACGACGCC
11630	CDH1	AAACTCCTGGGCTCAAGTGATC
11631	RASSF1	CCTGTGGGTGTAGCCAGGTATGG
11632	ANKH	CTGGAAAGGCAAAAATGAGAAAGA
11633	UBE2G2	AGCACAAAATCATTCTTTGCA
11634	PRX	GTTCTCCTTACCTAAGTTT
11635	EN2	TCTGAAACATGTGGCTACCTT
11636	EVC	TCTGCCTTCTTCCTCTGTTGCCAT
11637	PPP2R1A	TTGGACAGGACAGTGACCTT
11638	CAPNS1	CTGCAGCTGACTATGTATTCC
11639	OSR1	GGCTGGGGTGGAGGGCGGGACAGAGGGG
11640	MPL	GCCAGACTGGAGTGCAGTG
11641	HMG20A	AGCAGTTTCTGGTTCCTTTAACAGCA
11642	STX1A	GCCACTCCACTCCAGGTGGG
11643	PSEN1	GAGGAAGAGCAGGCACCAGCA
11644	FANCF	AAAAAGAGTTGTATAATCT
11645	CHC1	TTTTCTCATCAGCAGAACAGAA
11646	MAP3K14	CATGCATGTGACTCCTCAAA
11647	ABCD4	CCAGGGTTTTTCACTTCTCCCCAC
11648	STK38	ACCTGCAAGTGCTGCCAATGGGAA
11649	CDC25B	AACCCTTCATCTTCCTGTGTCCT
11650	SMG1	GGAGATTGTCTTTCTGCCA
11651	CDX1	CCCCATCATAAGGGCACTGAGCC
11652	GRLF1	CTCTGCCACCACTAGGTACCTG
11653	PCDHB14	TGTTTTTCTCACAGTTTCTTTA
11654	ZNF10	AACTGTATAATGAGGTTACTACTAGT
11655	APXL	CTGCTCCTTCGCCCTCTTGTAGTGTG
11656	CREBL2	AGATTGTATTTTTGCACCTTA
11657	ENTPD5	TGCAGTCTCTGGGCATCTCCCATTGGGCCACG
11658	MECP2	GTCACCTGCTTCTCTGCCCAG
11659	BMP1	ACAAGTGTCTGTGCATGTCCCCCAGG
11660	RGS5	TTTTAGCAACCCCAGTATTCCTTCA
11661	LIF	CACTCCACTCTGGGCTGGGCTGTGA
11662	ITPKB	GGGCTTGCCACCCACTCCTTTGCTGTCA

11663	CRYZL1	CCTGCCTGGCATCCTCTGC
11664	CALB1	GTTGCAAATTATTCTAGTCAAC
11665	KMO	CACTGCAACCTCTGCCTCC
11665	SIL	CACTGCAACCTCTGCCTCC
11665	SPN	CACTGCAACCTCTGCCTCC
11665	TRPM6	CACTGCAACCTCTGCCTCC
11666	KIF1B	GTAACTTCAAAAGAAGATTTGATT
11667	HAT1	TACTACTGCAATTGCTTCCCTTCT
11668	GRM6	ACACATTTATTATAGCTTTGTCC
11669	CPSF6	TGTTAAAAATGTTTATAT
11670	SOX11	CCAGTTCTTACACTCTGAT
11671	TTF2	AGGCCAAGGCAGGAGGATGGCT
11672	SEPN1	AGGCATGCCTGTACTCTCTTTCA
11673	LECT2	GGGGGCAACTCTAATCAGAGGAA
11674	C8A	AAACTGAGAAAACTCAATCCA
11675	LMO2	GATTTCTTTTCTTCCTGGCT
11676	CHES1	GGAAAACAAGCTGTGTCTTCTT
11677	ATM	TGTCCGCCCAGGCTGGGTGCAGT
11678	WARS	ACCATTTCTGGCTGGGCAGGG
11679	CDK4	TGCCTCCAGAGGATGACTGGCC
11680	EGR2	ACTTCCCCTTATTTTGACCCATC
11681	HMGN3	TCAGTTAAATATTGGAAGCTGTGTG
11682	TFRC	GAAGGAGAGTCCCCTGAAGGTCT
11683	IARS	CAGCAGACTTCTACATGTACTT
11684	ELOVL4	TCTGATTGAAACATGAAACAACTCATG
11685	NUP62	GTATTCTGGGCCTTCTGCCCA
11686	WTAP	TTGGGAGAGGATACTGTCCAGAAAA
11687	LAMC1	CACTCTGCTGGCTTCTCCCAG
11688	ADCY2	AGCATGACTTATTTAGTATTCT
11689	MAP1B	ACAAGTTGTGCCTTTCACAGCTTC
11690	SMAC	CGGGAAGGGAGACGAGCGTCTG
11691	GPRK7	TCTCTTGTCCTTGCACACTTTA
11692	ITGA11	TCTGCCCTTTTCTCTCACCCATCC
11693	RBM10	TCACCCAGGCTGGCAGATCATGGTAGC
11694	SLC7A6	GTCATCCTAGGCCGAGAAGAAC
11695	IFNA4	GTCTTCAGAAAACCTAGAGGCCGA
11696	CSPG3	TTGGCAGGTGGAGCCAGGTG
11697	ATP2B2	GCATCTCGCTCTCGGAGCCGGC
11698	CEACAM6	GAGACAGTCAAACTGCAAACCATGGTG
11699	SLC14A2	CGGGAGGTGGAGCTTGCAGTGA
11700	PRSS15	TAATCAGAGTGTGGCATAGAAG
11701	PER2	CACTGCACCCTGGGTTGGGTGCACAGC
11702	ZNF146	TGTCCAACAGAGAAACCTGCAGCAG
11703	RAI3	AGGCTTGAGTGCAGTGGTGCGAT
11704	CORO2B	CCTCCTCCCACATTTCTGGAGCT
11705	SCN4A	CTTTCCCACCTCTCTCCCCA
11706	PPP3CA	ATGGTGTTTATTTTCTTTCTTA
11707	HIP2	GCAGTGTACCAAGACTAGCAA
11708	PRKAB1	CATCATTTCCAGTCATCTGTGTGTTT
11709	IFNA17	CAATTTCAAAGACTCACTTCTATAACCA

11710	SYBL1	TGCTTCAAAACAATATAAATGGATAAT
11711	FOLR1	TGAAATGATTCCACAAAGA
11712	FCGR3A	GTGGGTGACAGAGATGGGTGGA
11713	ADORA1	CCTCCACTAGGAGTTAACTACC
11714	MUC12	CCTGCTGGGGAAGGCTGGGGG
11715	SIT	CACGCCTCAGTGTCTCCTCAGGCACAG
11716	BCL2	GCTTTCTTTTGGTGGTTTTGTT
11717	USP9X	GTTACACCCACTGCACTCTGCAA
11718	COL11A2	GGCTCTTGGCCCTCCCACCTGG
11719	APP	TTTCCTGATCACTATGCATTT
11720	CD48	GGGAAGTTCTGGAAGGAAGC
11721	CDK10	TACAACAACCTGAAGCACAAGT
11722	PRKY	TCAGGAGGCGGAGGCTGCAGTCAACCA
11723	AGTRL1	CTTACCTCCCCCAGTGCCTTCTTCA
11724	M17S2	GGAAATAGAAAACATGTGAA
11725	PACSIN1	AACCATTCCTCTGTCCTCTTCTCT
11726	SIM1	ATGGAAAGGCCAGAGGCAGA
11727	PSEN2	GAAGCAAGCTATTGGAGCTGAAGGAA
11728	MAP1A	AAGGATCCACTCCCCCAGCTCCTTT
11729	MMP25	GTGGGTGGAACCTGGGGGCACCTCGT
11730	IL13	TCTGATGTCAAAAATGTCTTG
11731	SPOCK	GCACACACACCCATACCTCT
11732	SOX10	ATGCCACCTATGCCACAGTGCCTAAGGGCT
11733	WHSC1	GCCCTTGCCTCATGTTTGAATGA
11734	PFKFB4	TCCAGTGTCTGTCATGCCC
11735	LIFR	TCTCATGTACTCTACCTT
11736	ZNF264	CCTGTAATCCTAGCACTTTGAGACCA
11737	BAZ2A	TCGTGTACGGGTTCCTCCCTCC
11738	SLIT2	GGAGAGGGCGGTGGGAGGC
11739	MAP2	CAGTTGTTATATTCATTCTTTA
11740	CHRNB2	GTTGGGTGGAGGATGGACGAGTGAG
11741	KCNH5	CTGAGGACCCCAAGAGCAG
11742	CPS1	ACTTTGTTATGCCTTA
11743	ABCB4	GGCCCTGGCTGACTCTCGCCG
11744	RBM10	TGGGTGTCCATCCTGGGGCAGG
11745	PCDHGA1	CTGCATGTTCCAAGACAGTAT
11745	PCDHGA10	CTGCATGTTCCAAGACAGTAT
11745	PCDHGA11	CTGCATGTTCCAAGACAGTAT
11745	PCDHGA12	CTGCATGTTCCAAGACAGTAT
11745	PCDHGA2	CTGCATGTTCCAAGACAGTAT
11745	PCDHGA3	CTGCATGTTCCAAGACAGTAT
11745	PCDHGA4	CTGCATGTTCCAAGACAGTAT
11745	PCDHGA5	CTGCATGTTCCAAGACAGTAT
11745	PCDHGA6	CTGCATGTTCCAAGACAGTAT
11745	PCDHGA7	CTGCATGTTCCAAGACAGTAT
11745	PCDHGA8	CTGCATGTTCCAAGACAGTAT
11745	PCDHGA9	CTGCATGTTCCAAGACAGTAT
11745	PCDHGB1	CTGCATGTTCCAAGACAGTAT
11745	PCDHGB2	CTGCATGTTCCAAGACAGTAT
11745	PCDHGB3	CTGCATGTTCCAAGACAGTAT

11745	PCDHGB4	CTGCATGTTCCAAGACAGTAT
11745	PCDHGB5	CTGCATGTTCCAAGACAGTAT
11745	PCDHGB6	CTGCATGTTCCAAGACAGTAT
11745	PCDHGB7	CTGCATGTTCCAAGACAGTAT
11745	PCDHGC3	CTGCATGTTCCAAGACAGTAT
11745	PCDHGC4	CTGCATGTTCCAAGACAGTAT
11745	PCDHGC5	CTGCATGTTCCAAGACAGTAT
11746	CRYZL1	CTTAACATGTTGAGTCTCTGAGA
11747	MYD88	GCATCTTTCACACCTCCCAGCTTCTGC
11748	ABCD3	AATCAGTTTCTCAAACTGAGCTTC
11749	LHCGR	AATTACTCTGAAGTTATGAA
11750	APPBP2	TGCCCAGGCTGGGAGGGCAATGG
11751	WHSC1	CAGGGCTGTGAGCTGGGCTTC
11752	GABRP	GGCTCTAAAAGATGATTTCCC
11753	ARNT	CACATTGCACGCCTCCCCCCTCA
11754	LETM1	AGGACCACGTGGACTCCGCCC
11755	ETV5	ACAAACCCATAGAAAAGTGAG
11756	ROR2	GCTGCCCTCTGCTGCCTGTTGGGG
11757	PABPN1	AGCTCCCTCCTGGAATGC
11758	HLCS	CTAGCTGGTGTGGTTGCAGTG
11759	HOXA4	TTAGTATTTTTGCACTTCACAAA
11760	ANXA6	ATCAGCACCAGCCGCCATGGCC
11761	KLHL1	CAGAATTATGCTTTATTCAA
11762	DOCK1	TTCTTAGAACTTGTTTTA
11763	CAMLG	TTAGTAAAGACAGGGTTTCTCCA
11764	LOH11CR2A	CTTCCACTGCCTGAAAGACTTGGGTTG
11765	MAP4	GGACCTACAGGCTGACGTTCCGG
11766	IFNAR1	GCAGGCAGATCATGAGGTCA
11767	UBE2A	TCTTCCTTGCCAAGTTTTCCTAC
11768	SHOX	GACTACAGGCACCTGCCACCAC
11769	ADCY1	TGGAATGGCTGAGGGAGGCAGG
11770	PMM1	CTGCAAGCCCACCCAGATGGGG
11771	SLC21A2	TGGAAGGCACTGCCTTCAGCTGA
11772	EFG1	GGTTTTATAGTTCATTGAAAATC
11773	LARS	CACAGTCGGCTGGGCGGTGCAATG
11774	ROR2	CAGTGGGCTTGTTTGCAGACTGGGTGA
11775	GFPT2	CCTGTTCTCTGACATCCGTGGAGCCCC
11776	DYRK2	CAGACCTGTTTTTATTTGCTCA
11777	ITGB3	CCTCCTTTCCCCTCCCTCAGGCC
11778	PAX3	TTCCAGCTCCGGCCTCTGGACTA
11779	TMEPAI	GGGGCCAGTGGCTGGAGCTTGA
11780	MEF2B	GGGAGGAGCAGAGCCAGGGAGCCAT
11781	AMY2A	CAGGAATATAAATAGTTTCTGG
11781	AMY2B	CAGGAATATAAATAGTTTCTGG
11782	GALNT1	ACTTAGACTTCTCTAGCTTTT
11783	BMPR2	GGAGAGAAGACGAGCCTCCCG
11784	MAML1	GAAGGGGAAGAGGGTGACCTC
11785	CASP8	GCTCTGTCGCCCAGGCTGGAGTGCAGT
11785	EHD2	GCTCTGTCGCCCAGGCTGGAGTGCAGT
11785	GRINL1A	GCTCTGTCGCCCAGGCTGGAGTGCAGT

11785	INMT	GCTCTGTCGCCCAGGCTGGAGTGCAGT
11785	KCNJ11	GCTCTGTCGCCCAGGCTGGAGTGCAGT
11785	LYZ	GCTCTGTCGCCCAGGCTGGAGTGCAGT
11785	NCOA6	GCTCTGTCGCCCAGGCTGGAGTGCAGT
11785	ORC1L	GCTCTGTCGCCCAGGCTGGAGTGCAGT
11785	PCDHB9	GCTCTGTCGCCCAGGCTGGAGTGCAGT
11785	SLC13A1	GCTCTGTCGCCCAGGCTGGAGTGCAGT
11785	TAPBP	GCTCTGTCGCCCAGGCTGGAGTGCAGT
11785	VIPR2	GCTCTGTCGCCCAGGCTGGAGTGCAGT
11786	HLCS	GTTCTGTCGTCCAGGCTGGAGTGCAGT
11787	PPID	GCTCTGTCACCCAGGCTGGAGTGCGGT
11788	DAB2	TCTCCCATTTCTTGCTAGCTAT
11789	PKIA	CCTACCTCTGTCATTAGCAATG
11790	ANK1	TCTCCCACATGCTCTGTTATGG
11791	TCF3	AAGGGGGATGCTGTGGAAA
11792	NGB	AATGGGTCTCATTTGAGTCTC
11793	LYL1	CACCCTGGCCCAGACTGCCAGCCCTGAC
11794	ISLR	GGCTCTGAGGCTCCCTGGG
11795	AK2	GGGAATGAAATGGAAAGGGAGGCTGA
11796	F2RL3	GCACTGACCACACCCACCCCG
11797	WARS	CCATGCCCCCTCCCAAAAAG
11798	COL4A3	CATCATCTGGGAACTTGTC
11799	CEBPA	AGCCGCTCCTCCACGCCTGTCCTTA
11800	TNFRSF6B	GCGCTTCCTCCCTGTGCACTGTCC
11801	FLRT2	TACAGTACCTTGTTGATATATT
11802	INHBC	TGGGCAGCCCAAGGTTGCATGG
11803	ITSN2	GGGTTCTAAAGGACAGCACCAGCGGG
11804	GPRC5B	ACCCCAGGTAGCCTCTTGGAGAT
11805	DIAPH1	CTGGGAGGACTCTGATGCAGGGCGTCT
11806	GNB1	CAGAAGCCATGGGGCCAAG
11807	CRTAP	CTGCAACCTCCGCCTCTTGGGT
11807	MHC2TA	CTGCAACCTCCGCCTCTTGGGT
11808	ADH4	GGGTAATGAATACATGGAGTTTCATTA
11809	SOD3	CCTTCAGGTTCCTCCTAGGCGCTCA
11810	GAS7	ACCATGCCTGGAGAGGTCAG
11811	GPR44	AGCACATTCTGGCTCAGGGA
11812	BHLHB3	CAGAGCCCCAAAAATCGAAACAG
11813	XK	GATCAAATTAAATAATAGATGTGA
11814	MYL4	ACACGGCCAGGCTGGGCTCTGGGATT
11815	ZNF175	ATGTATATATATGCATATGCAG
11816	SCN4A	GTGCCTCTTCTTTTTCTTCTTG
11817	EEF2K	ACAACAACAACAACTTATTTA
11818	YES1	CTTTTTAAAAACTAGACTTCGTA
11819	PPP3CA	TTTGTTCTGTTCTGTCATGTGCCA
11820	GGT2	CATCCAGCTGGCCCGCCAGGG
11821	FZD5	GGAGAGAGGGAAGAGGGGCGT
11822	MMP25	CAGCCCAGATATCACCCCTGAG
11823	CNTNAP2	AATAATATGTATAGACAACAACAAC
11824	CD1A	TCAGAAATGTGAATGTAGTAAG
11825	HS3ST3A1	GACTGGAGGCAGGGATCCTGCGCGGG

11826	NDRG3	GACTGTTTGCTTTCTGCTGAGATAAG
11827	INMT	TTTGTTGTTCACCTGAAATT
11828	MEFV	AAACTCCTGACCTCAGGTGATG
11829	NTSR1	GGCAGCCCTGGGCTGAGGCACAG
11830	PFN1	CCGAGGCAGCTCGAGCCCA
11831	SFRP4	GGGACAGCGAAAGATGAGGGTGGCA
11832	MEL	TCTGCCTCTGGGCCTTTGCTTTGTG
11833	HS2ST1	GGGGGAGGGGGACTGGAGAGG
11834	CYBB	TTTCCCTTAAAGGAATGTCA
11835	SUOX	GCCATCCTGTCAGCACAGTCTTC
11836	EMS1	GTCCCCAATGCCTGGAAATTC
11837	MEF2B	GGGGCTTGGAGGTGGGCGGCTGG
11838	GOT1	AGCTTTGGTTCTTTAGGGTGA
11839	NDRG2	CCATATTTGCAAGGGGAGGGGA
11840	COL18A1	GGGGCTGGTTCTGTAATTGTGT
11841	NEU3	GCAGTGGTGCAATCACAGCTCACC
11842	CANX	TAGCTCAGTTCCCAGACAGCTTT
11843	LDB3	GGGACAAGGAGGTTGCTGA
11844	BRPF1	CCATCCCACCACCTCTACCTGCTCAT
11845	POU4F1	CACTACCAGTCTCCCAAATAGA
11846	F2R	CTGGCGTGAACCCAGGAGGCGG
11847	ZNF265	CTTTTCTCTGCTGATACGGTTGCT
11848	SRGAP1	ATCCAATGCTGCACCACTTGTAATGA
11849	PKNOX1	CACGCCTAGACTGAGTGTGGT
11850	CRYZL1	GAACCTGGGAGGCAGAGGTTTC
11851	SMARCC1	GACAGTTTCTCTGCAGGTCCTGTC
11852	TRRAP	GGTCGGCGGGTGCTGCCGCTTTAA
11853	MEP1B	TTATAAATCACTATTTTGGTCA
11854	ATP8B2	GCAGAGCAGAGGCTGAGGCACGGGGAG
11855	TNF	CTGGAATCTGGAGACCAGGG
11856	CALCR	TTACATGCTCAGCTTGGTTTTGGACA
11857	PSG9	GACCTGACAGAGTCTCA
11858	FUT8	ATCTTCCGGCCCTCTGATTGGCC
11859	SNAI1	TTTTCTGGTTCTGTGTCCTCT
11860	DPYSL2	GTGATGTCTGTCTCCATCCTTCCCTC
11861	PCDHB9	AACCCTGTAAGTTACTTTAAAGCT
11862	WARS	ATCATGCTCGCTTCCCTT
11863	HTR4	ATTGTTGTTTACTTTAGTTCTGGAAC
11864	KIT	GTGAACAAAAGATGCTCTT
11865	CD68	CCAGCACTTTGGGAGGCTG
11865	DNASE2	CCAGCACTTTGGGAGGCTG
11865	DVL3	CCAGCACTTTGGGAGGCTG
11865	EHHADH	CCAGCACTTTGGGAGGCTG
11865	F2R	CCAGCACTTTGGGAGGCTG
11865	FUT3	CCAGCACTTTGGGAGGCTG
11865	IFNAR1	CCAGCACTTTGGGAGGCTG
11865	IL10	CCAGCACTTTGGGAGGCTG
11865	IL1R1	CCAGCACTTTGGGAGGCTG
11865	INPP5B	CCAGCACTTTGGGAGGCTG
11865	NPHS1	CCAGCACTTTGGGAGGCTG

11865	PDE4C	CCAGCACTTTGGGAGGCTG
11865	RAB7L1	CCAGCACTTTGGGAGGCTG
11865	RECQL5	CCAGCACTTTGGGAGGCTG
11865	SUV39H2	CCAGCACTTTGGGAGGCTG
11865	TEM7	CCAGCACTTTGGGAGGCTG
11865	TNFRSF10A	CCAGCACTTTGGGAGGCTG
11865	TNFRSF1B	CCAGCACTTTGGGAGGCTG
11865	USP14	CCAGCACTTTGGGAGGCTG
11865	ZNF136	CCAGCACTTTGGGAGGCTG
11866	KLRC3	CCAAGTTGCTGGGATTACTGAC
11867	PTMA	AACTCTCGCTTTCTTTTTAATCC
11868	IL15RA	CACCTCCCCCCGGCCTGGGCAG
11869	TGFBR2	CTCTTATGGGGCAGGCTGG
11870	EIF2B2	CTCTACCAATAAAAGCCACTT
11871	WIG1	TGGCTAACACAGTGAAACCCCA
11872	PCDH15	CTTTGACAGAAGATGTTTCG
11873	NFE2L1	AGGAAGGGAAGGTGGCAGAA
11874	TAP2	AAAGAAGAAAAGTAAAAGTA
11875	HNRPF	TCCTCAAGGTGGGGTTCGGGGGG
11876	ARVCF	TGCCGTGGAGCTTGGAGCCCCCT
11877	BACH2	CCAGAGGCCATATTCAAAACAGGGTC
11878	KCNK1	AGAAGCAGATTTTATACTTTT
11879	ENC1	TAACTGGAGGGTGGGCTGGGGAG
11880	CD44	TTCCACTGAGGTTGGGGTGTA
11881	MDM1	CGGAGCTTTTTCTCCAGTTA
11882	CYP8B1	TCTGTTCTGCCTGTCCTCGCTCTCTCC
11883	CACNA2D2	GGGATGGGACAGGGAGGCCACACGCA
11884	MAPK4	GTCACCCACAGAGCATGGGGTAATGGT
11885	PFKFB1	AGGAAGTGAGGCCAGGT
11886	DEK	CAAAATAAGCAACTAAATGAGAC
11887	KL	TGTCATAACAGGCATTGCCAACCTCA
11888	FGD1	CCCACCCCACACTCTAGTTGCCC
11889	HKE4	CAGTCTTACAGAGGCTGGAGCGGT
11890	RAB6A	TTTAATTCTTCACGGTAAGAAAATGAA
11891	CSPG2	AGAACTCCAGGCGTGCGGACGCAACA
11892	SPR	CAGGAAAAGAAGCTGGAACAC
11893	SCD	CAGTAGAAAAGGATCTAAGGGAA
11894	GPRC5B	TGAAAACAGCCCTTTTCCAAGCCCATT
11895	GSTZ1	TCGCTGTCCGGTCGCGCTTCACT
11896	DSC3	GTGCAGAACAAACAAGGCATTCA
11897	CD209L	CCCTGCTAGCCTCAGCCTCCATTG
11898	RAI14	GGATGCCTGACGAGGTGTAGCCTTTTA
11899	EXTL1	CCCTGCTCTTCCTGCTTGCTGGCAGAG
11900	BAZ2B	CCTGACCTTGTGATCCACCTCCTC
11901	SFN	GGAGAGGGACTGGCAGAGCTGAGGCC
11902	ACTR1B	GTGACACAGCCCCTTTCACACTCTGTCCTC
11903	SCO1	TTCAACCAAAATTGATTCTTGGA
11904	SIRPB2	TGCCTGTCCCAGCCTCCTGGC
11905	CCND1	CCAACAAACCATCCAGTGACAAACCA
11906	CUL5	TTCCCTTCATGTTGCACACTCT

11907	CARKL	GGCAGGTTGCGAGAAGGAGA
11908	WT1	CAGGCAGCACAGTGTGTGA
11909	PHB	TGGGCACAGATTGAAGA
11910	PCDH9	TGGGCATCATTCCTCAGTGGA
11911	IRF6	CTGGGCTGGGCAGGTAAGGGCTGGT
11912	DAPP1	GGGAGGTGGAGGTTGCAGTGAACCAAG
11913	SHANK2	CTCCTGAGACCTCCGTCCTCTG
11914	DIAPH2	TGCAGCTCTGCTCTCGGGATGGTGCTT
11915	MYB	AGTTCTCGATTTGATCCGCATCCCCTG
11916	TCF7	AACCCTGTATCTACTAAAAAT
11917	CLN3	TTTCTTCCTGGCATCATGCC
11918	RAI3	AGCTCGCCTGCTGCCCTCTTGCGC
11919	ACTN1	GAGGAAGAAATCCAGACCCTAGCA
11920	UBE2G2	TGGCTAATACAGTGAAACCCCA
11921	SCML1	ATTGTATCTGACGCATCCTGTAATACT
11922	CDC2L1	CTTAAAAAATTCTGATGACCGGG
11922	CDC2L2	CTTAAAAAATTCTGATGACCGGG
11923	RGS16	ACGAGCCCTCACACACCTGG
11924	MUC4	GGCAGCTGTGGCCTAGGCTACCTCA
11925	SLC21A2	TTACCTGCATGCAGGCACCAG
11926	TNNT3	GTCTGTGTCCTTGCTGCCTTC
11927	TLR2	GGACAATGCCACATACTTTGTGGAT
11928	PRX	CGGTAGTGGTGCCCACCCTGGA
11929	LASS2	ACCTCCAGAGCCAGGGTTGTGCCTTA
11930	HIP2	CCAATACAAAATAACAAAAATGTAATG
11931	ACADSB	TCACCCAGGCTAGAGTGCAGT
11932	ANXA9	TCTTTGATAGTTTCTGCCTCA
11933	GPX1	CTCCAGCCTTTTCCTGGC
11934	P2RY6	ACTCCTGATATGTCTCTC
11935	PPP2R2C	GCTCTTGGCTGCTGCCCTTCTGAGGCC
11936	GRIN2A	CAGAAATGCCTAATGGTTTCTCTA
11937	DHFR	TGGCGCACACCTGTATTCCCATCTAGT
11938	ZFP161	AGCAGTTTTAATAACTTTA
11939	STCH	CCCAATTATATTCTAGTTCCT
11940	HSPA2	TTTGCTGACTTGAGCATTTT
11941	GLTSCR1	TCCGCCCTCAGCCTCCTGGGGACTCG
11942	ACCN2	GTGTCAGAGACAGAAGGGAGCTG
11943	CDH5	CCCTAGCCCTGCTCCAACTCCATACT
11944	ABCC5	TATTAAAATAAGCACTGTGCTA
11945	ADRB1	AGGCAAAGAGAAAAGCCACGGA
11946	C7	GCCCAGGCTGGAGCGCAGT
11946	SHOX	GCCCAGGCTGGAGCGCAGT
11947	TCERG1	TACTTTTACCTTTGTCTCTAAAGA
11948	YWHAH	GACGTGCACAAACCTTCTTTTCAA
11949	SF1	TGACCCTTCCAGGCAGACAGCCTCAG
11950	CHD3	TTTGGGTCTCCCATACTGCGTATAGAT
11951	FMR1	GTGATCATTCACCAGTACATTCTCAG
11952	SLC25A12	GGATACTTTCACAATTTCCCTTCATAT
11953	SLC31A1	GATGTCTTTTCCTTCTCCATCA
11954	ED1	TCCCTGGGTTTGGGAGCCAGG

11955	VDR	GAGGGCAGAGGCTGGAGGCAGG
11956	FGFR2	TCCAGACCCCATGCCTTA
11957	ZNF6	CACTCATATAAAGGAAGCAGTCA
11958	TFCP2	GGAGGAGTCCAGGCCATGGAGGCAGA
11959	RRM2B	ATGGTTTTAAAACTCTTGAGC
11960	SMG1	TGATAACATGGAAAATTCAAGGATTG
11961	DCLRE1C	ACTTGTAATCCCAGCACTTTGA
11962	TEM8	GCTATGTTGATGTGTAAGTGAAATCAG
11963	TAF15	TTTGGGTGGGAGGGCTGGGACA
11964	LRRC2	AAATCTTTGTTATGATCATGTC
11965	SFRS1	TTCTTATGTTTATCTTGCT
11966	RNGTT	TTCAGTTATCACATGTGAAAGCT
11967	TGFB1	GGCCTCGGCCCGGAGCG
11968	CAPON	ATGCCAGCCAGGGCCCGGGAGAG
11969	HCN4	CAGTGTTGGCGGTTCTTAGAG
11970	SLC16A2	CCCTTTCATCATCTTTTTGCC
11971	PMM2	TGAGCCATACACCCTCCATTGCTT
11972	GPRK7	TGGCCAACATGTTGTAAACCCCGTCTC
11973	MGAM	CATGGGGAGGAAAAAGGAA
11974	ADAT1	GAGGTCAGGAGTTCAAGACCA
11974	CARKL	GAGGTCAGGAGTTCAAGACCA
11974	CPM	GAGGTCAGGAGTTCAAGACCA
11974	CRACC	GAGGTCAGGAGTTCAAGACCA
11974	DMC1	GAGGTCAGGAGTTCAAGACCA
11974	FRDA	GAGGTCAGGAGTTCAAGACCA
11974	HIP1	GAGGTCAGGAGTTCAAGACCA
11974	MCM4	GAGGTCAGGAGTTCAAGACCA
11974	MOG	GAGGTCAGGAGTTCAAGACCA
11974	MSH3	GAGGTCAGGAGTTCAAGACCA
11974	PCDH11X	GAGGTCAGGAGTTCAAGACCA
11974	PCDH11Y	GAGGTCAGGAGTTCAAGACCA
11974	RBBP5	GAGGTCAGGAGTTCAAGACCA
11974	SUDD	GAGGTCAGGAGTTCAAGACCA
11974	SWAP70	GAGGTCAGGAGTTCAAGACCA
11974	UPK1B	GAGGTCAGGAGTTCAAGACCA
11975	SEDL	CCGGGCTGGTTTCAAACTCCTGACCTCA
11976	ADRBK2	CCCTGCCTCTGACCAGTCTGTTCCGG
11977	PPP1CC	TTGTATACACATGCTGCCTTC
11978	ATM	TGACAAGAGCGAAACTCCATCTC
11979	NHLH1	ATCCTACCTGGTCCCATCTGCC
11980	SLC38A2	CACCTACTGGAAGTGTGAATTACTTGA
11981	F2RL3	TTTTCACTTTCTGTCAATGTCA
11982	RASD1	GCGTCTCCCCTCCCGGCGATCC
11983	PRDM2	AAATGTTCCTCACTCTGCGAGGCT
11984	UPF3A	CCTCTGAGCCATGGTGTCGAGTGAAGAGT
11985	PPP2R1B	TCTCTGTGTCTCTCCATCATTCC
11986	STK24	CACACAGTCTTCACTGTGCTGCAGCCA
11987	GRM6	CTTAGGCTGGAGTGCAGTGG
11988	TAF11	CCTAGGCTGGAGTGCAGCGG
11989	DCX	CTGGTCAATCTCTCCACTGAGGC

11990	ADORA2A	TCCAGGAAAAATGTAAGTGTGAGG
11991	ADRA1A	AGGGTGTCTCACAACCAACCAG
11992	HLCS	TGCCTCACATGAACCAAAGACT
11993	GRIK5	AGCTGCGTCCCCATGAGGAG
11994	CLASP1	GAGGAGAAGGCGGCGGCTCTCTGGTCCGCAGC
11995	ADAM28	TCAACTTGGAAAACTTGGAAA
11996	SYNGR1	CAGAGGGAGAGGTTCAGGAGTCAGGT
11997	KCNJ16	TATGTATGCTTCTTGTCTTGGTTACT
11998	C1orf1	CCCTGCATTCCAGCCTAGGCGA
11999	ADCY1	CCAGGGCTTCTGGAACAC
12000	EPB49	TGGCACACAGAGTTCATGTTTGCC
12001	TUFT1	CTGCAACCTCTGCCTCCCGGAT
12002	APG5L	CTTCCTTTTCTTTTTCCTTTTGC
12003	RALBP1	AAACCCAGTGGACTGGGCTGGGTCTG
12004	NEBL	GTTTGGCTGGTTTCTCTCACTGAA
12005	TRPS1	AGACGGCCAAGGGCAGAGGCAT
12006	GFAP	TAGAGATGGAGGAGGAGGC
12007	SH2D1A	GGGGGCAGAAGATGGAAGCCCTTGGCA
12008	CASP2	AAAGTTGCCGAAGATGAGAC
12009	HPSE	GCACCCTTCAAGTGGGTGTGGGTGAT
12010	CKTSF1B1	GGACATAACTATTGTAACTATTCAG
12011	CLDN14	TCTGCTCTGGCCAAGCCACCTCCTC
12012	IL12B	GGATGAAAATTTGGAGGAAAAGT
12013	BACE2	TGTGCCTGGATGGGGGTG
12014	SCRT1	CCCTCCAGGGTGCCCCCGGCTTTCTCC
12015	SCGB2A1	TCTTTTTATGTGGAAACTGCTA
12016	ADCY6	AAGACTTGTTTTCCAGACA
12017	COX8	CTTGATGTCTCCATGGTGACCTC
12018	DDX6	TTTTTGGGGAGGAGTTGATATGCAAC
12019	MAGEA12	ACATAGTGCTGTTTATATAGTTTAG
12019	MAGEA2	ACATAGTGCTGTTTATATAGTTTAG
12019	MAGEA3	ACATAGTGCTGTTTATATAGTTTAG
12019	MAGEA5	ACATAGTGCTGTTTATATAGTTTAG
12020	CRYZL1	TTGTCCTAGATGCTGGAGTGAGAT
12021	PAX3	GTTTTTCTGTTTTGTAAATCTT
12022	WASF3	AGATACTTGCCAGTCTCTCCA
12023	MLLT7	AGGGGATCTGGAAGGGCCAAGG
12024	KLRG1	TGCAGTGAGCTATGATTGTGCC
12025	WHSC1	GGATGGCCGCTGCTCAGGACACAG
12026	GNPI	GCCCAGGCCTAAGGGCTATGTTTGGT
12027	PPEF1	TCATACAGCACAAGAGAAAACTACTAA
12028	LIMK1	GCGCTGTTGCGATCTGGACC
12029	ZNF157	GTTGCAAATATCTTCTCCCAGA
12030	HIP1	GCATCCAGGCTGGCCAGTGCTGCCCA
12031	PSCD3	GTATTTTTAGAATGGCAG
12032	SCN2B	GAAATGAGGAGGCCATGCACAGGG
12033	DFFB	TGAGGACATCTGCAATGCTCCAGAA
12034	FZD6	ATTGTGATATTTTAGCACTTTGG
12035	STK10	GGGGAAAGAGGGAGGCTGAAATG
12036	IL12RB2	GGGTGCCACCATCGGTCTGGCTGC

12037	XRCC3	TGGGGGGACTGCCTTGTCTCTAGTAGT
12038	UBE2B	TCTCCACCCCGCCGAGCC
12039	DYRK1A	CCCGGCTGAAGTGCAGTG
12040	SORCS2	CTGCAGCTCTGTAAATGCC
12041	CALM1	AATAAGAAACATTTACCAAGGGA
12042	MAG	GGGGTGAGCCCCCAGAGCTGG
12043	ACT	GGTGCTGGTGACTTTCTGTTC
12044	IL12B	TAAATGCTCATTGAAACAATCAG
12045	BAZ2A	TGTCTTCTGTCCCCATCTTCCTGCCGA
12046	KCNF1	CGGGAGGGAGGGGTGTGCAGGAGCCGC
12047	GNA15	GGTGAAGAAATCAGGGGATTGAGA
12048	FGFR2	TGAAGCCCGGGAGGCTTGGCGCCGGC
12049	CALR	GCCTGCCTCCAGGGCTGGACTG
12050	ABCC3	TGATGCCGATATTTTCTTGCTGGA
12051	LIFR	ATGCTTATTTCTGTGCCTACTGTA
12052	SCA1	ATTATTATAATAAAACAATGTTTG
12053	ADAM17	AGGTTGCGCCACTACACTCCAGCCTGGG
12054	ORC4L	ACAGATTGTTGAGCCTACCATA
12055	POLK	AGTGAAGGCAAGTGCAATA
12056	CAST	GCCTTCCTTAGCATCAGTTTGA
12057	INPP5B	TCTCAGCCAGTACACCAGAGC
12058	KLRG1	AATCTTTTTCTCTTTATCTTT
12059	ABL1	ATTTTTCTGATAGAAATGGTTTCCTC
12060	MYBL1	CTGCTACGAGAGAAGGAAAGAGCGA
12061	IMPA1	CCAGATTTGGTGACTCATCAA
12062	MTR	CTCAGCCTCCCAAAATGCTGGG
12062	PCDHA9	CTCAGCCTCCCAAAATGCTGGG
12063	ZNF16	TGGGACCCTCCTTTGAAACATCCTTTA
12064	CD34	CCATTTGCAGAGTCCTGCACAGTTTTCTGGCT
12065	ADAR	GGCTACTGTGCATTCC
12066	ORC1L	GCTCTCATGTATTTTGGAATTTTCCA
12067	PPP1R8	CAAATAAAGATGCCCTAAATGAGTG
12068	BACE	TCCCTATCAGTTCTAGCATAGT
12069	GJA5	CATCAGCCACTGAGGCCAGTG
12070	PKHD1	AAAATTGAGAAAGAAGTATATATGG
12071	USP6	CCAAACACTGTTGTGCC
12072	PCDHA9	GGCTCACTGCAACGTCTGCCTC
12073	ALS2	CCGGTGGAGCTTCAGGTCTTG
12074	GABRP	TTCTAGCTGCCTTTATTCACA
12075	CAMK2A	CTCCCATGTCATCACCCCACCA
12076	NOLA2	CCACACTGACGGCATCTTCCCAGTTCC
12077	COX10	AGGTATTTACTGTGGAGAACATTGCAT
12078	ZNF236	CACTCTTTTCTCTGTGCATTTT
12079	HIF1A	TCTTCTCCGCGTGTGGAGGGAG
12080	CLNS1A	TCTTCCACTCTGGAGTGAAGTTAATG
12081	MMP26	GAGTTTATTGGAGGATCAAAGA
12082	ZNF256	ACACTTCAGAAGCAATGGGGGCA
12083	CNTN3	GACTTTACAAATCACTTTGCCA
12084	TM4SF6	AGGTTTCAGCACACAACTTA
12085	MS4A2	GAGAAAGAGAATGGGAGCA

12086	TNXB	ACACTCCTCAAGCTCAGTGAATGT
12087	HRH1	TGGCCAATATGGAGAAACCTTGTCTCT
12088	FTSJ2	GCCTGAGCTCCTGAAGAGTTCCTGGG
12089	EGFL4	CGGGCCCCATGCACCCAAC
12090	ALDH6A1	GCTTATCTGAAAGTAGTGCTTAAACC
12091	WFS1	GGGAGGCGGCACATTGGCAGTGTG
12092	SNAP23	TGTCCAGGCTGGAGTGCAATAG
12093	GM2A	GGGGTCCAAGGAAGAGAGGGTGGCCTCGACA
12094	PSMA1	TCCAGACCTATGTTGGATGTT
12095	FLOT2	AGCTTCCTCAGTTTCCTACTGCCTTA
12096	THBD	AGGACAACCATTCCAGACTGCTT
12097	MMP2	TGGAGCCAATGGAGACTGTCTC
12098	CASP7	TGGCAAAAAGAATCCCAATGTT
12099	INHBC	ACACAACCCCTTCCCCCAATTTTTG
12100	MGAT1	AGAGGTGCAGGGAGGAAGGC
12101	POLS	TTTTCTGCCTTCCCAGGATTCTTCCT
12102	TAPBP	AGCCTCTCTGGGCACTTGC
12103	IL11	CCAAAGCCACCACCGTCCTTCCAA
12104	ZNF74	CGCTCACTGCAACCTCTGCTTCC
12105	ASPA	ACATTCTTAATAAACAGCCTTTGT
12106	HOXB9	TCACCCAGGGACACTCCAACTCTA
12107	RNMT	ACAAGTGTGTGATGTTAGA
12108	ZNF36	CACTGCACTCCAGCCTGGGTG
12109	POU5F1	AACTGGTTGGAGGGAAGGTGAA
12110	DGAT1	CCAGGGAGGCCTCTCTGCCCT
12111	F2RL1	CTGTTATTTCCTAATCAAAAAGGTCT
12112	EHD3	TGGGCTTGGTCCCAGGAGCAG
12113	GPT	ACTGCCTCTGCCTCCCTGGG
12114	EPS8	CGCGGACGACTGGCTGGGCGCGAATCAG
12115	WSX1	GGCTGGGGGCTGCCAGCCAGGCTAG
12116	MPHOSPH1	TCATTTATTTTGCTATACAGG
12117	DGKB	AATGGGTACCTGTAATAATACT
12118	IL1RAP	TATGTAAACTTGAAAAATATTTC
12119	LAMP2	GCAATACTGGTCAACTTAAGGT
12120	SRC	TCAGTGTGCCCATCTGTAAA
12121	FGFR3	CCTGCTGCTGGTGCACAGCCAC
12122	GSTA2	TAAGTGCTTTACCTAAGTGTT
12123	EHD1	TTCCTGGGCCTGGCGGGGGAGGCAGGG
12124	GNB5	CATGTAAATAGATATTACTTC
12125	PTPN12	GCTTTGCAGGTTATCAGAGATCAAAGA
12126	SRC	GTGGCATCTTGCCAAGG
12127	HTR7	CAGAGAGACCTGAGTTTGTGCTGTAGACAAAA
12128	CD209L	CTTCTCTCCATCCTTGGACCTTCA
12129	CCR2	CACAGAGATAATTCTAGCTTTGA
12130	P2RX7	GGAGGCTGAGGCACAAGAATCA
12131	MAML1	TATTCTTCTACTGCCCTTAACTC
12132	DMD	TCTCACAGTCAAAAGGAACTGGGTGG
12133	POLK	CACCTGTAATGCCAGCCCTTTG
12134	PTTG1IP	TGTCTTCAGCGTGAACTAAAGT
12135	CCR9	GACACCCACAGACTTCA

12136	VWF	CCCTCATTTATGATTCCTGCCA
12137	PPP1R12B	AGAAGCAGCCAGACTTGCTTTGTGAAC
12138	MHC2TA	GTTGCCCAGGCTGGCGTGCAGTG
12139	SYNGR1	GGCAAGGACAGGGCTTTGGAAT
12140	PKIB	AGGCAGCTGCGCGCGGCT
12141	GPR85	CTGGCTGAAGCTAGGCATTCA
12142	GRIK3	CCGCACTGGGCTTGGGGA
12143	PCDH1	ACCTGCCCTGTGCCCCCTCCTCC
12144	JPH2	TGCTGGCATCCTGCTTCCCC
12145	SHOC2	ACTGTTCAAAAATAGACTG
12146	TEGT	CTACTAGGTGGCTGTGATTAA
12147	ABCD4	TGTGGAGGAGGAAGATGGGAGC
12148	ALPP	GGAGGCTCCTGGGGTGGGG
12149	FRAP1	GAAGAATATATTGTCAGAAACACAAGG
12150	GLUL	AGGCCAGCTGTGGTTTTCTT
12151	TRPV4	CCAGCCGCATTTCAGCAGTG
12152	AP1B1	GATGGCAGAACCCACC
12153	ATP7A	AGCCTAAATTTGTATTTTTTGA
12154	IL12B	TGGATGGGAACGCAAGAGATA
12155	MMP2	CAGGACCTGCGGCGGCGGCG
12156	CENTD1	AGCATTTTTCCATCAGTTTCTTTA
12157	SH3BP4	TGCAGAGGTGCCAGCTGCCATT
12158	ZNF289	CCACAGCTGCTGCTCACTTA
12159	USP14	TGGTGCACACCTGTGATCCCAG
12160	GRB10	CAGGTTCTGAAAATATTGTGC
12161	TPST2	CCCTGCCTCCGGCCCAGCATGCGCCT
12162	MECP2	ACCACGTTGGGACAGGGAGGTGTGAGGC
12163	MUC4	CAGTGCCAGCACCTGCCCA
12164	PCCA	GCATGATGCTTTCACACACA
12165	SSX1	GTATAAGCATCTCCCATCTGC
12165	SSX3	GTATAAGCATCTCCCATCTGC
12165	SSX4	GTATAAGCATCTCCCATCTGC
12166	ZNF195	AATTATACTAGATGGAAGACTTG
12167	JAG1	ATTGGTTTTATGATGACGTACAAG
12168	MSX2	TACTCCTGCTCTGCTAACCCTGCGTG
12169	APAF1	AATCAGGAAAAATAGCTTTTGACAG
12170	LAMC2	TCCAGGCCCAGATAACTTTCG
12171	HRH1	AAAGTCAGACCTGTTTCTTGTAACTGGG
12172	ITGAV	TGCTTTTGTGCCATCTATTCCT
12173	GRLF1	CAGCCCAGTCCCCCTCACTGCTTGAG
12174	NR3C1	TTGCAATGGCTATATGGCAAGAAA
12175	SORCS1	CCATTGTACTAGGCCATTCCA
12176	RAB13	TCTGTCACTTGTCATGGTCT
12177	LANCL1	GCAATGCTTAACCCCAGGAAGATTTCAA
12178	ANK3	GGTCTCAAGTGACTTCA
12179	GFER	GGCCAGACGGCACGAGGTCTCCA
12180	TCL1B	GCCTGGATGGGCTTCACTGGGGC
12181	RGS2	TTAGGTAGCTGGTTGTACATCT
12182	ED1	TGCTCTTCCCACTCCAGCTGACAGCCACA
12183	KNS2	CTGCTGCGCCGTGCCTCACACAGCC

12184	GPR81	TTTCCTGGCTGAAGTTTCTCTT
12185	APM1	CCAAAGCTCAAAACAATCAA
12186	OXTR	CATCAGAAAGAATAAAATAGGA
12187	CYR61	GCTTCATAGTATTGGAGCACATGTTACTGC
12188	NFATC1	GCAGGGAGGGGGCGCGGGAGCCGC
12189	RASSF1	CCTGCCCCCTTGGGTGCCTCTTGTACCCCC
12190	RAD21	CAGACTTCAGTGTATACCCA
12191	ICMT	GGGAAGTGCCTACTCTCTGG
12192	HYOU1	AGGAAGAGAATGGCTGCCAGTGGCTG
12193	ASPH	AGATCATAGTTATTATACAATGTAGTG
12194	CDR1	CGGAAGACATGGATTGTCTGGAAGAT
12195	STK24	GGAGAGAAGGATGGACTCCAG
12196	PYGB	GCACGGTGCACAGCCCACCAGA
12197	KCNQ2	GGGACGGCTCACAGGGCTTGG
12198	TRIM9	CTCTGCATTCTGCACAGAGCCG
12199	PIGA	TGTAACTGTCAGTTTGCACTGG
12200	CHAC	CGAGGGAGGGGCGTGGGGAAGG
12201	RAD52	CCAGGACATGAAGAAAAGGAAAT
12202	BRCA1	TACTCAGGTGGCTAAGGCAGGA
12203	AMT	AGCTTCCTTCAGGACCCTGCTTCTGA
12204	HPS1	TGAGCCAGGAGGCCGGTGCTGGGCCA
12205	SORCS2	CTCCTCCCCCTCCTCTCTGGCA
12206	D1S155E	ATAAAGTTTTACTGATTTTT
12207	ZNF216	TAGACCTGCAGATGTGTACA
12208	PLA2G4B	TCCCTTGCGCCTCAGCAGTTTGCA
12209	TACC1	CGTTTTGTTGCCCTGGTATTTG
12210	HLA-DMA	CTCAGATTTCTCACATCCTGCCCA
12211	CYP1A2	GGCCTGTAATCCCAGCATTTTGG
12212	TEM8	GTTCCCCAGGCTCACAGTGTAG
12213	TEM6	TGAGGGGAAAGAGGATCTTCCAG
12214	GOLGA5	TACAAGCTTTTAACTTTTT
12215	MMP19	GGAGGTGGGGGTGGGGGTAGTT
12216	GNAI3	CTGTTATAGTTGGCGGCAGTATTA
12217	SOX11	AGGGAGAAACGTTATACTCC
12218	FUS2	CTGCAACCTAGCAGCAGGTGACCTTG
12219	RASGRP1	TTTGAAAGTTCTCTTTTTGAAA
12220	KCNE3	TCAGGTCTCAGTGTCCCTATCTGTAAG
12221	MECP2	ATTGAGTCTTCATGTTCCCACTTCAAA
12222	FGF5	GACCTCATGATCTGCCCACCTCG
12223	MTR	GACCTCGTGATCTGCCCACCTCA
12224	APPBP2	CCGAGTAGCTGGGATTACAGGC
12224	DCX	CCGAGTAGCTGGGATTACAGGC
12224	DFFB	CCGAGTAGCTGGGATTACAGGC
12224	MEF2A	CCGAGTAGCTGGGATTACAGGC
12224	NF2	CCGAGTAGCTGGGATTACAGGC
12224	PIK3C2B	CCGAGTAGCTGGGATTACAGGC
12224	SEDL	CCGAGTAGCTGGGATTACAGGC
12225	PCDHA9	CTGAGTAGCTGGGATTATAGGC
12226	RTN3	CCCTTTGAGTGTTTTAACTGGT
12227	ESRRG	GGTGGTTAGGAATGTGAT

12228	YES1	AGCATTTTAAAAGCCCTTTTTAAAAAC
12229	TRIM8	TTCTCCTCTTGTTTTCCTTTTGGGC
12230	TGFB3	AAGACCCTGTGTTCATTTGGTG
12231	HK1	TGCCCTGCCACTTTGCATGGTTTGATT
12232	PTGER2	TCCAGCTGCCTATTGATTTA
12233	BRCA2	AGACCAGCCTGGGCAACATAGG
12233	ITCH	AGACCAGCCTGGGCAACATAGG
12234	MAPT	AGGCCTGGCCCCTTCCTGTGC
12235	MAPK4	CAGGCTTAGTGTGAGGACGAGCTTGA
12236	NFATC1	GCCAAGCACCAGCTTTCCAGTCCCTTC
12237	PON2	ATGTGAGTGACCTCACTTCTGG
12238	NDUFAB1	TGTATATGAATAAGTATCAGAC
12239	MECP2	CCTCCCGGCCCTGCCTGCTGGTGGGC
12240	IGF1	CTTTATTTTTCCACATCATGCT
12241	DMRT1	TCATCCCTCGCAGCAGTCTCCAGGCGA
12242	DNMT2	TGTTTTGAACTAATTCTGGT
12243	TCF7	TCCCCAGCTCCCCAGGACTCACCCT
12244	CYP1A2	AAAGTCCTGGGATTACAGGTGT
12245	ALDH1A2	GCCCAGCCTGCACGTCTGTCCCTCTCT
12246	EIF4EBP2	TCCAGTGAGCATTGTGGTAGTT
12247	SMURF1	GGGCCCAGGAGGTCAGGTTCA
12248	DNMT3L	CCACTGCAAACCGGCACTGAAGGGCTG
12249	BASP1	AATGCCAATCCTCCATTCTTCC
12250	ALEX2	AAGGAATTCGGGCTTTCATTGTCTA
12251	CYP4F3	ATCAGAGGCCATGACTTTTCC
12252	NCOA3	TTGCCTCTCTTTGACACCTGTTTTAG
12253	CRACC	AGGCCTGACCACAGATTCCCAGAGGG
12254	EDAR	CTCCAGCCTCTCCAGTGCT
12255	EPB49	CCAGAAGCCTGGGCTTAGGGTGG
12256	NOS1	CCACCAGCCATGAGTGGGTGACGCTGAG
12257	CYP8B1	TCTAGAACAGTGTCATCCAACATA
12258	CENTD2	TGTGAGCCAGCGGGGGGTGCAT
12259	EDN1	GCACTCTCCACCCTGGCTGGGATCAG
12260	NPR2	CTGCACACACCAGAAATGGACAT
12261	LPP	ACACATTTCACATTGAATCAT
12262	LZTR1	TGGTGGAGACAATGGGAAGACCATGCT
12263	CUL3	TTTTCTTTACTGTATGAAAACAGGAAA
12264	C5R1	TTTGGGAGGCTAAGGTGGGTG
12265	CPLX2	CCTACTCCACCTGTTACTACTTCT
12266	KCNA4	CAGGATCATTCTTCCCCTCCTCCAG
12267	HCFC1	CCTTTGTGCTCCCACCTCTTC
12268	MKI67	ACACTTGCCACACTGTGTCGT
12269	BACE2	GGTGCGCGCCCATCCCTGCCCGCAGCCCCG
12270	CYLN2	CAGCCCAGTCCACACCAGAG
12271	BAZ2A	TTCCTAAGCTGCCACCTCTGTGT
12272	WHSC1	GTGGAGGTGGAGCCTGCGGCTG
12273	KCNA5	AGAGAGGCAGAGAGCAGGGCAGC
12274	CSNK1A1	TTGTTTTGAACTATACTGC
12275	PRKACB	GACCAGCCTGTGTAGTG
12276	ORC1L	CAGGCTGGAGTGCAGTGGCACGATCAT

12277	ZIC3	TCTAATCTGCCTATCAATCTATCTA
12278	RPS6KA2	ATCTGTTTTTTCACACTGATCCGTA
12279	IL15RA	TCATTACAGTGTGAGCTGCC
12280	MFNG	ATGGGTGGAATGATGGCAGAA
12281	GRAF	TGAGACTAATATAGGCCAT
12282	INHBB	CCTCAACTGACATGAAATACT
12283	SACM2L	TCCTGGCTCAAGAATTACTCCGA
12284	MTRR	AGAGCATATCTGTTATATGTTTA
12285	CORT	TTGATTTAAAATAAAATAGCT
12286	PYCS	GCAATCTTGGCTGATGTGCACA
12287	TAP2	ACATTTATTTTTTCAGGATGA
12288	CARD4	GGGCGCCAAGACTCAGGGGATCGGC
12289	CNN1	TGGAGAGAGCAGACTGGCGG
12290	TJP1	TATTTGGGCTGTGGCGTGAGG
12291	SIGLEC11	TGCAGTGAGCCGAGATCGTCCCACTGC
12292	SLC9A6	TATCTGTGCTATTGCAAACAC
12293	ASB2	TAGGGGGTAGGGGGAGCCTGGGT
12294	SYN2	CGTGCTTGTAATGCTCACTT
12295	HPSE	GCACCTTAAAAGACAGCTAGAT
12296	SPTBN4	CCAAGCCCCCAGCCCCGATCTG
12297	IBSP	TCCTCACTCCAGGACTGCCAGA
12298	NR2E3	TGGGAGGCAGAGGGCAGCTACTGCAGG
12299	CARKL	GCGGTCAACCACGGTCTGACAA
12300	CD209	TCTCTCTTCCTTTTGGAGATTAGG
12301	CDX1	TATCCACCCTCTGCATCCCCTTGGCC
12302	CR1	GCTCACTGCAAGCTCCGCCTCC
12302	RPP30	GCTCACTGCAAGCTCCGCCTCC
12302	SERPINB9	GCTCACTGCAAGCTCCGCCTCC
12302	SLC13A1	GCTCACTGCAAGCTCCGCCTCC
12303	DAB1	GGAGAAGAGTCCTCAATGAGCCT
12304	ARRB2	GAGACAAAACTCCTACTCTCAACCTCA
12305	IFIT4	TGCAGTGAGCCAAGATTGCGCC
12305	ITGAL	TGCAGTGAGCCAAGATTGCGCC
12305	MAP3K9	TGCAGTGAGCCAAGATTGCGCC
12305	TCTA	TGCAGTGAGCCAAGATTGCGCC
12306	CASP6	TGCGGTGAGCCGAGATTGCGCC
12307	A1BG	CTTTAAAATATTGGGTTGTTTTCT
12308	VAPB	GGAGTCAGGACAAATGGATCGGGCTGC
12309	SPAG8	ATGCCATTGTTTTAAGGAAATACACAGTGAA
12310	PLIN	AAATGCATTCATACAATTA
12311	AIM1	CTCAGGCTGGAGTGCAGTGGCAC
12312	G6PC	TCCTAGAGGGTAAATATGA
12313	MUC5B	GGGAGAGCCTGTGGCCCACCTTGGCCTTGC
12314	TEAD2	ACAGGCTGGGACTGAGGAAAGGATAA
12315	MTNR1A	CGCTCACACCTGTAATCTCAG
12316	GALNT1	TGTTCAAGTTAATCAACATC
12317	FGFR2	TGGTGTGCGCCTGTAATCCCAG
12318	CYP1A1	CTCTGCACACCCTCCAGAGA
12319	NEBL	TGAACAACTTTTCCACTTT
12320	SRGAP2	CTGTTCCCACGCTTCCTCTCTC

12321	EZH1	GGGGGAAGAAGAGAGGGTGGGAGATTCT
12322	PCSK1	AGATATAAAACAGTTTTGTCA
12323	PPP2R4	TCGAGTACAGAGTCTCCGAGGCC
12324	GA	GCTCGCTCCGCCCCTCCTTCCCA
12325	BIN3	CTAGCTGCTCCTCTCACA
12326	FZD7	AGACCAGCAGAGACTGCTGTGA
12327	DCX	TTGGAACCTGTCTTTGGCCACATAGGG
12328	FKBP1B	TGTCCTCTTTGAGAAAATGTAAA
12329	EYA1	GTTTCTCCAAAAGTGGTCA
12330	ILF1	CCGGCTGTCTGCACATTTTTTGTA
12331	ZNF192	GCCACTTATTCACCAGAG
12332	ZNF266	TACAAACTCACAGGTCAGAAAAACC
12333	EXT2	GGATCTTGGCATGCACCCACCTAACCCA
12334	GPR35	CCAGCTCACCTGGCCAGAGTGGG
12335	SLC6A8	CCTCTCCAGGCTCTGCTCTGCAGCACA
12336	BRCA1	ACAGCCACTACTGACTGCAGCCAGCCAC
12337	MPZ	CCTTAATGAAGAGCCAGCCCA
12338	GAS7	AGGCTGAGGCAGTAGAATCGCT
12339	EDG8	AGTAGCTGGGACTACAGGCAT
12340	CRMP1	TGATGGAGGGAGGGGGAAGTCGA
12341	TNFAIP1	CTGCTTCTGCTCCCTGGGGCATA
12342	CDC25A	CATGCCTTAAACCTACCTCCCAC
12343	IL11	CTCAGGTGATCCTCCTGCCTCGG
12344	EPHA2	GCCAAACCCTTGCTTTCCTGGGCC
12345	RNF3	GTTGGAGGCTGGAGCGCAATG
12346	EGFL5	AAGCCATCATATTACTTGG
12347	MAPRE2	GACGCAGCCACCTTCCTCACCAG
12348	F3	GCCCAGGCTGGAGTGCAGTAGCACG
12349	RPH3AL	GCCCAGGCTGGGGTGCAGTGGCACG
12350	CACNB1	CCTGCCTGCCCCTTCCTCCCAGCTTC
12351	AARS	CGTCCAGCCAAGAGCTCTTC
12352	PPP1CB	ACCTTCACCTGCATTGGTTT
12353	BENE	GGGTAGACGTGTGGGGAAAATAAAT
12354	B3GNT3	CCCAGACCCTGGCTGGCCAG
12355	MAP1A	ACCATCATCCTGGTAAATCCCAGTGCA
12356	ALX3	GGGCTGGAGGCAGGGAGACACT
12357	SIL	TGGTCTCAAACTCCCGACCTCA
12358	KCNJ10	TTGAGGCTAGACCCATGATCAC
12359	LIMD1	TATATTCATTTCGTTGGTTTCTCTCCTGCCCA
12360	ETV1	GTCTGCCATGGACTGTGCACTTT
12361	RAD51L3	AACAGGTTTCCAGGAGATGGTAGA
12362	ARNT2	AGTAGAGTCTGACTGCAGTTT
12363	FOXD2	GGAGAGGGGTGGCGGGCCCGACAGC
12364	PXR1	TGCTGATGCAATAGTCCTGTGTC
12365	AP1S1	TGGCTTTTATTCCCTGCCTTT
12366	PIK4CB	TTTGCTTTTTCCCTGCCTGTC
12367	AXL	GGGCGGAGGCAAAGGGGGAGCCAG
12368	SLC9A1	GTGCCCGGTTTTACTCTCAT
12369	GRIA1	CGCAACCACCACCAACCAC
12370	LARGE	GGAGAAAGGGAAGTCAGGGTTCTAGG

12371	EHF	CCTGTCTGCTCACTTCTAGCTATT
12372	MINPP1	TTTTCTTTCTTTCTTTGTAAATAGTTCTGAG
12373	GAS7	AGCTGTGTCTTGTTCATGCCC
12374	VANGL2	CTGTTCCTCTGTGGTGTCTGTCAGTCCG
12375	GPR27	GTGAAGCCCGCGGCGCCTAG
12376	STAT3	AGAGGCGGAGGTTGCAGTGAG
12377	EPAC	GCTGCTGGCAGGTGGGCCTGCCTGTG
12378	GALGT	CCCTCATCTGCATCTTCAGATC
12379	TRPM2	TCAACATGGAGCCTTGCCT
12380	ARHGEF7	CAAACTTCCCTGAATTGCAGT
12381	PLXNB2	CCCCAGCCCCAGCTCCCTCCGGC
12382	DFFB	GTGTGGGTGGCGGGTGCACAGAG
12383	SHANK2	CATGTTATTTCAGAATTATGCAA
12384	HSPA4	GATTGTTCCAACACTTGTTTC
12385	DLEC1	CTGGAGAGCTCACAGACTTAACAGCC
12386	ZNF161	TGTGTATGTAACTTATCACT
12387	FGFRL1	TGTCCCCGCCTCAGTCCCCGC
12388	MAGEA9	TACCTCTTTCTCTCTCCTGTA
12389	MBL2	TCCTTTTTAATGTGTATTACAAA
12390	HMGA1	AGAGACACGGGCTGCGGCGCGGC
12391	INPP5B	GGGAATGGGGTACTTGGGAATCCGGA
12392	BGN	CTCCACACCCTCTGGCCTTCTGCC
12393	TAP2	AGCCCTTTTAAAGTTCTATC
12394	ENAM	TTGGCATTGGTTTCTTCTCA
12395	TAL1	TCCTGTGAGGAGCCCCATCTGT
12396	TNFRSF6	GACAATGTCCAAGACACAGCAGA
12397	PATE	CCTGCATCCAGCTTCCCTGCCAA
12398	ALDH6A1	CACGCCTGTAATTCCATCATTT
12399	MEF2A	TCTACCCCCCAGGCTGAAGTGCAGT
12400	BCL7A	GAGTGGGCCGGGGAGGCTGGGAGCCGG
12401	TDRD1	GTTGTAATAGCCTTTCCTTACTGT
12402	DDX6	ACTCTTTTGGACAAAGGAATCA
12403	P2RY4	GGGTAGGGGCCAGGCTAG
12404	HOXA6	CTGTTCCCCAACTTTTCTCCC
12405	TCF2	CTGCTCCATCATGCTTGATTGAGTGC
12406	KCNMB3	GTGGGATGTCAGAACATCCAAGTCA
12407	KLK3	TGGTCCACCTCCTGAGCCCCTC
12408	JAK3	GGCTCACAGTGCAACCTCTGCTT
12409	ZFP161	CCACCCTAGCAAGTGCCCTGCA
12410	EDG8	GGAGCAGGGACGGAGGGGGAG
12411	PYCR1	GGCCACCACCTCCTGCTCCTGA
12412	NLGN1	TCTGCTGTCTGAAGATCTTTC
12413	ZNF217	TTTGGGCTTTCAGATTTCTCTTTTT
12414	ATP11B	AGACCTGAGCCACACCCAGGCC
12415	CXorf6	GTATTTATACTTCATTTTGTGA
12416	ITGAV	CTTTTATGGCATCTATCTTGAAA
12417	CDH1	GTCTCAAACTCCTGGGCTCAAGTGATC
12418	COL13A1	CTTCCCTTTTGTTTACA
12419	DCLRE1C	CCCTACCTTGAAAAGAAGGTT
12420	EYA1	GGGCCTTGATGAAATAACACAGC

12421	AOC2	CTTACTTCCTGTTCATCTCTAA
12422	GALC	TCAGTGGTTTGTTCCTTCTTATTTC
12423	BPHL	AGCTATAATCTCAGCACTTTG
12424	ADAM19	CTTCTGCTCTCCTCAGAGGTCCCGGG
12425	CLECSF11	GTGCAACCTCTGTCTGACCCTGCATG
12426	CALM3	GGAGAGGGAAGATGGGCCCCA
12427	ASPA	CATAGCTCCTAGCACAGTGCCTT
12428	JAM2	CCCCATCCCTGGGCTGGAGGACCCGC
12429	IFNA21	ATGACTTCTGCCATTTCAAAG
12430	JUP	TTTGGTGGGGATGGGGAGGCC
12431	CHRM5	TACTATACTGTGGTTTGTTTTCC
12432	KCNK10	GGTGCGCTCCAGCCGGGCAG
12433	TAPBP	CCGCCCAGGCTGCAGTGCAGTG
12434	FLOT2	GCTCATACCCTGTCCTTTCTCCC
12435	ZNF6	GCACAGAAGGAAAAATAAAAAGAA
12436	FVT1	GCTTATACTGCTGTAATATT
12437	RNGTT	TCACATTTAATTTATAAAGTTAAC
12438	GNLY	TGTGAAAGGCATCTCAGCGGCTGC
12439	ATP1B3	TCATAAGACTTAATTTGTAC
12440	CDO1	AACCAAAACATAAACTCATGTCTGTGT
12441	DFFB	AAAGTGCTGGGATGACAGGTGT
12442	HOXB9	CATCAGATGGAAGCTTACT
12443	PHKB	GGAGACGGAGGTTGCAGTGA
12444	ARVCF	TCGTGGAAGAAGGGCCACCCTGAGCAG
12445	B3GAT1	CCACTGTCCACACACTGCCTCCC
12446	PDE6B	CTCAGCTTCCTGAAGTGCTGGGA
12447	DNMT3B	TACATTTCTCATACCTTCCCCA
12448	HSD11B2	TTTCTCGGCACCAGTGCCTCAG
12449	HRH1	GAAAGTCAGACCTGTTTCTTGTAACTGGG
12450	CLOCK	GACTTATGGTTGGTCATATAGA
12451	CBFA2T3	GGACACGCCGTCTGTCCTCA
12452	SAC	ACCATAAAATCCTGA
12453	SAS	GCTCACCGCAACCTCTGCCTCC
12454	FLNB	TGGGGGAGAGAAGGGCAGCAG
12455	HOXB3	AGAGGAAGACGAGACAGGACGAGGCAGA
12456	FUT6	CATTGCACTCCAACCTGGACGA
12457	HPS4	TCTTCTATCACCTCTCTCCA
12458	PPP3CB	CTCTAAATTTCAAAATTATGA
12459	SCO2	AGTGTCCTGTCTTGGCCACTGCAGTCT
12460	ITGA3	CAGACAGATGTTGGGAGGATACA
12461	CFL2	GAGTCCTGCAACACTAAAGAT
12462	TH1L	GCTCACTGCAAATCTAACTTC
12463	CD33	GCAAGCAGAGAGTCGTGGAAT
12464	SDHC	CATCTTTCTGTTTGTCATTCTTAT
12465	TGFB1	CAGGCATTTGAGACCAGCCTGGGTAA
12466	SNX3	CACCCCAGTCCGCAGTGCCCCTC
12467	CAPN1	CCTGGTTGGGCCCTGCCCTGAGCTGC
12468	PACSIN1	GGGGCAGGCCTCCCTCAGGGCCAG
12469	JJAZ1	TCATTAAAACATTCTGTACTT
12470	NDUFA9	GCACCCAGCCAGGCGGTCTCTT

12471	ITSN2	AAATACTGTGAACTCTAATAATGTGGA
12472	ITGB2	ACATGGCTTGGCCACAGCTCTTGAGGAT
12473	GBA	AACCTAGTGCCTATAGCTAAGGCAG
12474	ALDOC	CCCCTCTCTCATTGCTGCACCTG
12475	MAPT	CACTTAACCTGCTTTTGTCACTCGGC
12476	LMO4	GCCCTTAGCCCCCTCCTCTCC
12477	ATP1A2	TCAGAAGCAAGGAAGTAAGGG
12478	MMP20	ATCAAATTAGAATTCACTGAGAA
12479	GRAF	TGAGCCAAGATCGCGCCCCTGCACTC
12480	HOXC6	AAAGTCAGCTCTGGACCCCCTCCCTC
12481	PPP2R5C	TACTTCCTGTGCCATACCAATCAGTT
12482	CAT	GTACATTTAATACAGCAGTGTCAT
12483	APPL	TAACTGGATTCGATTTTGGGAT
12484	TEM8	AATCAAGGTTTGGCTTCAGTTTAAATCAC
12485	ODF2	GACTTTGCTCCTTCCTTTCCTG
12486	CD69	AATGACTACCAACAGTGAGAGCCCTT
12487	TLR9	TGCCTGAGCTCTGGGCCTTAGCTCC
12488	BTEB1	AGGAGGGTAGTGTTTTGCAAAA
12489	MSX1	CTCCCGGGAACTCTGCCTGCGC
12490	LSS	TGCCCAGGTGGGTGCTCTG
12491	ERBB3	TCATACTAAACTTCACCTACA
12492	ST14	GCTCCCAGGGTGGACTTCAGT
12493	SULT1A3	CCCAGGAGGTTGTGGATACAGTG
12494	MNT	GCGCCTGGCCCTCCCTCCCTAGC
12495	G6PC	GGTCTCGAACTCCTGACCTCAAGTGAT
12495	IFNAR2	GGTCTCGAACTCCTGACCTCAAGTGAT
12495	IL12RB1	GGTCTCGAACTCCTGACCTCAAGTGAT
12495	SNX15	GGTCTCGAACTCCTGACCTCAAGTGAT
12495	XRCC2	GGTCTCGAACTCCTGACCTCAAGTGAT
12496	SEDL	AGAAGCCAAAGAAACACTTGTG
12497	SCA1	AGCGTGTTGGCCAGTGGCTGTGGAGG
12498	AK1	TGCCTGTAATCCCAGCACTTTG
12498	ALDH3A2	TGCCTGTAATCCCAGCACTTTG
12498	ATP1A2	TGCCTGTAATCCCAGCACTTTG
12498	CD68	TGCCTGTAATCCCAGCACTTTG
12498	DDOST	TGCCTGTAATCCCAGCACTTTG
12498	FGFR2	TGCCTGTAATCCCAGCACTTTG
12498	HM13	TGCCTGTAATCCCAGCACTTTG
12498	IFIT4	TGCCTGTAATCCCAGCACTTTG
12498	IL12RB2	TGCCTGTAATCCCAGCACTTTG
12498	INPP5B	TGCCTGTAATCCCAGCACTTTG
12498	MGAT3	TGCCTGTAATCCCAGCACTTTG
12498	MSH3	TGCCTGTAATCCCAGCACTTTG
12498	OPTN	TGCCTGTAATCCCAGCACTTTG
12498	PIK3R2	TGCCTGTAATCCCAGCACTTTG
12498	PTGIS	TGCCTGTAATCCCAGCACTTTG
12498	SLC26A4	TGCCTGTAATCCCAGCACTTTG
12498	SLC31A1	TGCCTGTAATCCCAGCACTTTG
12498	TNFRSF10A	TGCCTGTAATCCCAGCACTTTG
12498	TNFRSF10D	TGCCTGTAATCCCAGCACTTTG

12498	UPK1B	TGCCTGTAATCCCAGCACTTTG
12498	VHL	TGCCTGTAATCCCAGCACTTTG
12499	KCNA7	TGCCTGTAATCTCAGCACTCTG
12500	REQ	TTTTCTGCTTAGTGGCACTGA
12501	MLANA	CTCAATGCTATTCTAACTAA
12502	CPM	CACGCCTTGTAATCCCAGCACTT
12503	KISS1	GGGGACGTAGGGCTAAGGGAGG
12504	RHO	CTGGGGCTAGAGGTGGAGGAGGCAGTC
12505	BMP1	CAGGAGCCACCGTGGGGAGCC
12506	MYO1B	AATGTTTGTCTCTCTCTTTCA
12507	SURF4	CAGTGCAGGCCAGCCTGGCAG
12508	SSA1	GACTATTGTGGCTTTCTCTGGA
12509	GORASP1	TCAAGTCTGCTGGAATGCAGGA
12510	PIM2	GTCACCCCACATTGGCACCT
12511	FN1	CGGGAAGAGGGGACCTGCAGCC
12512	ZNF36	AGGTGAGCGGATCACCTGAGGTCA
12513	ELMO1	CCATCTGGTGGTATTCCAGCACA
12514	ASK	TGCAGTGAGCCAAGATTGTGCC
12515	ADCY1	TGCAGTGAGCTGAGATTGCACC
12516	ARL2	CTGCTACTGCTGCCGCTGCT
12517	COL10A1	GCATTTCCTTTTTAAAAAAGCCT
12518	E2F3	CAGCTTTGTGTAATTCTCTTTGC
12519	HUNK	TGCTACTGCACTCCAGCTTAGG
12520	CASP6	CCAACATGGAGAAGCCCCGTCT
12521	AXL	CGCCTCACTGCAACCTTCACCT
12522	DRD1	GGCTCAGGCGCGCTTCCTCAA
12523	SLC7A8	TCATGCTGTCTTGGGGCAGGGTGA
12524	FHL1	TCTGCCCTATACCATCAATAGGGGA
12525	PCSK2	AGTGATGTTTTTATGATATC
12526	SIRT3	GCTGCCTGCCTGTTTGCTGT
12527	SLC22A1LS	GGGTGTGTTACTCACTGGCACGATGGAGAACT
12528	TRIM9	TATGGTATGTGGATGTGATCA
12529	FANCF	CTGATTCCTTTTTCTAATCCA
12530	H1F0	TTCTTGCGGACACTCCCT
12531	SLC2A3	CTTTTTAAATTTTATTTCCTG
12532	C18orf1	GTGTCCTGCTGGCCTCTGAGGA
12533	CTSH	CCTACCCCATCCCTCTGGTGT
12534	ATP12A	CAGCCCAGCATGCACCAGCTCTTTCAG
12535	EBI3	TAGCCTGGGCTGGAGTCCTTGCTTTG
12536	TACC1	CTGTGGTCCCAGCTACTTGGGA
12537	PDGFB	ATTCACCTCTTCCTCTGGTTC
12538	CORO2B	GATCTGGAAATCAAGAAATGGGTG
12539	BBS4	GTCAGCAAGGTACATGATG
12540	APBB1	GGAGTGGTAACAAGAGGAGCAGGAAGC
12541	ERBB2	CCCATTCAGAGACTGTCCCTG
12542	MMP19	GTCTTTTTCTCCCTTAAGTTCC
12543	GRB10	GCAGTGTCACAAGCTTCA
12544	HHLA1	CCCCAACACTTCAACACTATTT
12545	OAS3	CACCAGCCCTCAGCATGAGGA
12546	BDKRB2	CACTGCCACCACCAGAAAGCTGT

12547	CHRNB2	CATGGGAGAAGAGGGGTAT
12548	SPO11	TGTTGCAAATGAATTGTGGT
12549	NPY2R	TCATTTTTCTGTTAGACTAGGC
12550	SERPINE2	ATCTCTAGCCTCTTTGTGTTTTTGTTG
12551	VHL	AAACAAGAGTGAAATTCCATCTC
12552	CELSR1	CCACAGCCACACTCTTCAACGGTTAC
12553	DLGAP2	AGCTGCTGCAACCATTGTTCTGACAC
12554	RECQL	TGAGCCAGCGAATTGTGCACA
12555	EIF2C1	TCTCTGCATGGCTGCAATGATCCCACT
12556	GRM6	TTTCTTAGGCTGGAGTGCAGT
12557	C7	AGGTAATCCGTCTGCCTTGGCCTC
12558	ADCY1	CCCTCCAGTTACCAGGAGCCGATTTG
12559	SURF5	AGTCAGGTCCACACCTATGTCCA
12560	FGF1	CCAGCCCACAGAGCCTGAATTTGTA
12561	PSMB1	TGTCTGTGTGCTCTTATCACCAATCAGTT
12562	FLI1	GGACATATGTGGCCTTGAAGGGA
12563	NYX	GACTGCCTGGCCAGAGGGGGG
12564	ARNTL	GCCATCTCAGAGCCATTGATA
12565	CDH11	TTCCACAAAATTAGAAAGGACA
12566	RAD1	GTTGCCCAGGCTGGTCTCCAACACCTG
12567	CFL2	AACACATGCTTTTGTATCTTGTCA
12568	CLC	AAATACTGAAAGCACAGGGGCA
12569	SLC31A1	TCTTGCCCAACTAAACCCAGAA
12570	CIT	CCCCCCAGCGTCATCTC
12571	SLC19A1	GGGCAGCTGCCTGGCCATGCT
12572	MGA	CCTAAGTAGCTCCCATTCCCTCACCTT
12573	GNL1	TCTGGAGACATGGAGGCAGCTGTGGC
12574	CHRM5	CTTCCCTTTCATATCCA
12575	CD2AP	CAAACTAACTCATGGAGATA
12576	SMARCD1	AGCGCCTAGGGCTGGAGAATAGC
12577	ADAM8	TCCCAGCCACACCTGCCCCT
12578	LHX5	CCAGGTACAAGCTAATACTCA
12579	FCER2	CTGCTTAAACCTCTGTCTCT
12580	KIP2	GCTGCTTCCCACCCCTGCCTGTTCCCCT
12581	DAZ	TCTAGAAATTTACCTCA
12582	CALB2	CCCGGGCATGAGCTGACCTCA
12583	MAT1A	CAGGCTGAGTGCATTTGGAGGG
12584	SLC26A2	CTCTAGTACCATAGGTCAAGAGGCTTCTGG
12585	MTL5	GGCGGAGGGCAGAGCAGGCCCTGCGGAGA
12586	ANXA1	TGGTCTCAAGCTATGATCAGA
12587	MUC4	GGTCATCTCGGAGTTCCAGTACC
12588	SOX4	TAAGAAAAACAAAGTTTTAAACGAAAT
12589	JRK	ATCCTTCTAAAGTGCTGGGATT
12590	SLC6A4	CAACCTCCTCCTCCAGTTCTGATG
12591	HOXD3	ATTGATTTCAAATTGTCTG
12592	CBFA2T2	CTCAGCCAGGCTGGAGGCGG
12593	CYP1A2	CAGCCCTTGTTTCTCTTCCTT
12594	RNF3	AAATCTTTTTTGGAATATTGCT
12595	UTY	GATATTATGCCTTCTCTTTAG
12596	KRT4	TGGGGTGAGAGGATGGGTGATGGGGT

12597	C8A	CAGACACCTGAAACAATCAACGCCCA
12598	PITPN	CTCAACCTTGGGGTAAACTGAG
12599	PCDHA1	TATCTGTACAGCACTTT
12599	PCDHA10	TATCTGTACAGCACTTT
12599	PCDHA11	TATCTGTACAGCACTTT
12599	PCDHA12	TATCTGTACAGCACTTT
12599	PCDHA13	TATCTGTACAGCACTTT
12599	PCDHA2	TATCTGTACAGCACTTT
12599	PCDHA3	TATCTGTACAGCACTTT
12599	PCDHA4	TATCTGTACAGCACTTT
12599	PCDHA5	TATCTGTACAGCACTTT
12599	PCDHA6	TATCTGTACAGCACTTT
12599	PCDHA7	TATCTGTACAGCACTTT
12599	PCDHA8	TATCTGTACAGCACTTT
12599	PCDHA9	TATCTGTACAGCACTTT
12599	PCDHAC1	TATCTGTACAGCACTTT
12599	PCDHAC2	TATCTGTACAGCACTTT
12600	MAGEC1	CGTCTCAGGTCAGCGGAGGGAG
12601	SLC2A3	CAACTTTGCCAGCTTTTCCTC
12602	MAPK9	AGACCTGATAGGATTGCCTGCT
12603	MKL1	AATCACAGCCCCTGCTTTTT
12604	MAP4	CATGTCACTGCAGATTGAGAC
12605	LSS	CCCTGCAGGGCTTGGTCAGCTGCCTGT
12606	GPR3	TATCCCTTGTCCCTTCACCCCCATTTC
12607	LEP	TTGGGGTCAGCCAGGGCCAGG
12608	ABCF1	AACAGCTGTTGAAGCTCAGAGCTG
12609	CSRP1	GAGGCTGCGGCCAGCAGAGCCCAG
12610	SCML1	CTTTGATTCTGGTTCATCTCG
12611	FCAR	CGCCAAGGCTGGAGTGCAGTGGC
12612	OSBP	ATGTGTGGGAAAGCTGGAAGTTGT
12613	TEM7	TGGTGCTGTCCATGGAATCAGGCCACAGCA
12614	SPHK2	AGGACCTGGAATGTACTGGCTGGG
12615	APOBEC3B	GGAAGGCAGAGACCTGGGTTGAGCAG
12616	CPT1B	CTGAGTGACGTAGGCTCTGAGATAGCT
12617	FBXL11	ACCCTTGCCACTTCCAAAGCAATAGAG
12618	LILRA1	TTCTGGAGTGATCCATGAAGGAC
12619	MAPT	CTTTCTGTCTGTGAATGTC
12620	WARS	TCTCCTCTGGAGCACTCTGCC
12621	LMO2	CCGTCTCCATGGCATCTTCGTCTTCAC
12622	ENC1	GAAATTTGGAAAGGACCAAA
12623	WFDC1	TTTGACAGATTCCTCCCAAGTCTGGCT
12624	GABRA1	CCAGCCCGCGATGAGGAAAAG
12625	UBE2E3	GCAGAAGGCATCTTCTCACTGTGC
12626	ZNF264	CAGTTGAACGTGGGAGGCGGA
12627	C18orf1	TGCAAACTAGACTGAAATG
12628	AFG3L1	GCAGGGATGACTCAGTACTGC
12629	DRIL1	TGAACCAAGATCACTGAATTT
12630	ROBO1	GCAAAGTGCTTTGACTTCTTGCTTCA
12631	OAS3	TGCATGCTATGGGGACCCTCTTGTTGG
12632	ZYX	ATGTCTAGCCCCTCCCATTTCCA

12633	XPNPEP2	TCTGCTCGAGCCCAGGAAAGG
12634	ATP7B	CCTGCTTCCTGGCTCACACATCCC
12635	CRY2	TAGAAAGAGAATCCCAGCT
12636	MAT2A	CATACAGAGAAGTCACAGGGCA
12637	IL12RB2	TGGTAGCTCATGCCTGTAATCCCAG
12638	ALAS1	AGGGGATGTGGGGACCAGGAGAAAGT
12639	CASP2	GGTCTTGATCTCCTGACCTCATGATCC
12640	MDM1	AAAGTGCTGGGACTTTTTGGTAATAGA
12641	MSF	AGCGAGAAGGAGTGTATGAGTGTGAGT
12642	MPL	CACTCCCAGTTCCCTGGACAGAGCTA
12643	EYA4	CCCCTCGGAGCCGGCTTCTCCCTCCGC
12644	POLG	TCCCGTGGAGCTTCATCGGG
12645	SH3BGR	GCCTGACAGTCTTGGCTTTTGAAGAT
12646	A1BG	TCTGACATCTGATGCCTT
12647	CAPN10	GATGCTGGGCCAGTTCCTCCAAGA
12648	LAG3	TCCCCACCCTCTCTCCAAGGCC
12649	TMEM1	GCCACTTCCCAGCTAGGAGTGCACT
12650	CTBP2	CTGTGCATCAAATCACAAAAAGA
12651	CYP1B1	TCTGGATGCCTCATTATGTCAA
12652	CANX	GATGCAGATGGGTGCTATCAGAGCCTC
12653	ARPC2	CTTTTCTCCCACCCTCTTTTCC
12654	SLC38A2	AGGGAAAACAGTGCAAACTGAGTG
12655	SLC12A4	GAAACCAGGCCTGGGCCTCAA
12656	LILRB1	TTCTGGAGTTTGTGTAAAACAA
12657	ZNF135	GAGATTGAAAAGCTTTGTATGGG
12658	TTK	TTCGTAATGTCAAATACCACCTATA
12659	BTG2	TTATTACTGCCTTCTTTTCA
12660	LHX5	CCGAGGCCAGCAGCCACCCGAGA
12661	MTMR3	GGGCCTCGCCATGTCCTGCTGC
12662	RNPEPL1	GGGAGAATGGGGAGAGGGACCTC
12663	LILRB2	CCACACGCAGCTCAGCCTGGGCG
12664	ANKRA2	TTCTCTGAGTAATTCACTG
12665	DYRK2	TTATTTTACTTTCTTTTGGA
12666	ADCY1	AGGCCTGAGCCCTGCCTATGC
12667	VIPR2	CTCGTGATGGGCCCGCCTC
12668	PLEK	GCGGCAGCTGCAGCAAGTGGAGGGGCTGAAC
12669	RELA	CTCTCCAGGATCCAGAAGGGGTTTGG
12670	PML	AGCCTCCAGCCTGCCCTGTGGCA
12671	FCAR	GCTCTTTCGCCAAGGCTGGAGTGCAGT
12672	TRPV2	TCTCCATCTGCACAGAGGTCCTG
12673	MYF5	ATTGCAAATAATACTTTCTTCTTC
12674	ALPP	ATGCTGGGGCCCTGCATGCTGC
12675	APOB48R	CTGAGCCCTGCTCCCTCTGCC
12676	CNN2	CACCTTCCGGGCTCAAGCGATT
12677	XK	TTCCAGACTGCTGGTTTGGGT
12678	BFSP2	CCAGAGAGGCCCGTGACCAGGCC
12679	GJA4	GCTGATCCAGAGGAACCCAGAG
12680	KCNMB3	CTGGGATTTCATTTTGTTGC
12681	TAP2	ATGGAGATTTGGACACTGTGTGCTTTT
12682	TRPC1	TTGTTTGTTTCATCTTGCTTTTGCA

12683	WWOX	GCCCTCTGCTGTTCAGGATGCA
12684	ITM2B	TAAAGTCTTCTTTCATGTAAGTA
12685	PRPS1	ACCTGCATTATCTCATTCTGGC
12686	KRT16	GCTCCTCTGCTGGTGGTGGGCT
12687	C4orf1	ACTAAAACTACTACTTACATCT
12688	ITGB3	GGAGTCAGGGAGAGCTGAACTA
12689	NFE2L2	TGCAAAACTAACCACTATGTA
12690	VAPA	TTGACCAGAAAAAGATTTGTT
12691	DPH2L1	CAGCGTCAGGCCTACCTCA
12692	CREBL2	CGCCTCCAGGGTCCGCTCTGCCA
12693	COL11A2	CTGCCTGGCCCATGTGCCCACTGT
12694	GPR92	TGGTCTCAGACCCCACTCT
12695	CORO1C	GAGAGTGAAGCAGAAACAGGAGCACAG
12696	ZNF253	GTCACCGAGGCTGGAGTGCAAT
12697	CLN2	ACTTCCTGCCAATCCCCAAGTCATCTT
12698	A1BG	GGCCTTAAGTGATCCTCCCACCTCA
12699	NCOA6	AATGCCAGCTTCTTTGGACTTAGAA
12700	HIP1	CCAGAGGCAGAGGTTGCAGTG
12701	CLASP1	TGCATTGTTGCCATTCCCCAGATT
12702	PKNOX1	TGAGGTAGCAGTGGGCACTTTT
12703	SFRS7	ATACATACCTACATTCAGAATTGAAAG
12704	KCNG1	GGCGGCGGCTCCGGGAGGCAGAG
12705	ATP8B2	GATTACAGGCGTGAGCCACCAC
12705	PER2	GATTACAGGCGTGAGCCACCAC
12705	TAPBP	GATTACAGGCGTGAGCCACCAC
12706	DCX	GATTACAGGCGTGCGCCACCAA
12707	SORBS1	GCAGACGACTTGTCCTGCCAC
12708	LTK	AGGGTCCCTCCCTATACTCCTCA
12709	ARSB	TGATAAAATCTGCAACACTCCTGCTG
12710	GPRK6	GCCAGCCCTGGCTGGAGAGCGG
12711	HRH1	TGCCTGTAGTCCCACTTACTTGG
12712	CHRNB2	CAGGAAGGGGACAGGATTGTCTGC
12713	CASP8	AACAGCTTCAGAAGAAGGTGACTGGT
12714	ASB1	GCACTTCTGGAACTGTGCTTCTCTTTA
12715	SCN8A	GTTTGTTCATGCAAACTATATTTGC
12716	HIP1	CCCACTGCACTCCAGCCTGAGTGACA
12717	MECP2	AAATCACTTAGTAAGCGGCTCA
12718	ADAM33	ACCAGCCTGGGCAACACAGCAAGACA
12719	PDGFB	GCGCGCACACACATACATACGC
12720	DRPLA	GGGACAGAAAGCGCACAGAA
12721	USP9Y	GTCTTAAAAACTGTGGTATT
12722	ADH7	TGTGTTGTCATGGTGAACTGGAG
12723	GNAT1	AGAAGGGTGCCTGGGAGGCCAGGT
12724	GRIA1	GGATTGTACTGGAGCAGATGGAGACCC
12725	PRODH	GCCCCTTGGGGAGCAGTGGCCG
12726	KCNC4	ATGGTCCCTTTCTCCACTGCAC
12727	KRT17	TCTCCGGCCTCTCCAGCCTCAGCC
12728	RUNX3	AGACGCTGGGCATCTCTCCTCTGTGGC
12729	CLDN14	CAGGGCGCAGGAGGGAATGAGCTGTGG
12730	RELN	GAAAGGTTGCACTCTAGGGTGA

12731	LTK	CCTCAGGCTCCTGGGTGGCCTGTTAT
12732	ZNF3	TAGGGAGGGTAAAGGGAGACTATTTC
12733	HSPA6	AGCTCACTATCTCTGGCCA
12734	DLEC1	ACCTGCTGTGTGAAATCGAAG
12735	TRPC5	TAGCACAAAGGTTTCCTCA
12736	GRIN2A	CACCAGATAGGTGAGTCCTTA
12737	NEK2	TTTTCTTTCTTCTTTTAAGAAC
12738	ANKH	CCATCTACTCCACACATGCAGGA
12739	SDPR	TGAAGAAGAAACTGAGCAGTT
12740	WNT3A	TGGCTTCTCCCTGGGGACGGGG
12741	STARD4	GGCTAATTTTTGTTTAATTTTTTGT
12742	TEP1	GGGAAAGAATGAGGGAGGGAGAA
12743	HR	CAGGGACAGACCCAAGCCCAGGCCCTCC
12744	CARD4	TGGCAATTTCCTTCGGTTTCTGCCTTT
12745	TGFBR1	GGGGTGAGGCAGCGGCGCGGCCGG
12746	ARCN1	AACCCAGGCTGGAATGCAATG
12747	CRYZL1	GCCTGTAATCCCAGCTACTCATGA
12748	TSGA10	ATTGAACACTATTCTGTTCA
12749	CNTF	GCATACAAGTTTAGCCTGGGG
12750	NESH	TTGGGCTGTGAGCTGTGTTCT
12751	BCR	TCTGGGAGCCCCAGGCTGGCCT
12752	APBA1	CTGCCCTCTCTGCGCTGAGGCC
12753	NUP62	TGTGGCTTTCATTTGAGTATCT
12754	CYP2J2	GCACGTGTTCTGAAACCACT
12755	HEXA	GCCTTGCCTGTGAGCTATGTCACT
12756	STE	CCCAAGTAGCTGCAACAACAGGCACAC
12757	GGCX	GTTACCTGCATTATTACATTAG
12758	ZNF278	TCTCTTGCCTTTTCCCCCCTTT
12759	XPO1	TCTAGACTACATGTATTACAAA
12760	CDKN2B	GGCAGTGATTAGCACTTGG
12761	TBX22	CAGGAATCTCTGATTACAGTGG
12762	DRD2	AGACCCATGTAAATACCAGACTGCAG
12763	PLAGL1	TCTCCCCTCAGCTTGAGACT
12764	DACH	TTCTGAAAATTCTGTATCT
12765	C18orf1	CTGCTGCTGCTGCTTCTC
12766	CISH	TGTACCTAGAACACACCAGCCACTGT
12767	TIRAP	GCGTGAAGCACCACGCCCAGCC
12768	BARX2	GGCTGTAGGGCTGGGTCTATGTTGCA
12769	CHRNA3	GCCTGCCTGGGAGACTTCCTT
12770	ACADSB	CTGCAGCCTTGACCTCCTGGGT
12771	TRIM14	CGGGCAGCGGAGGTTGCAGTGA
12772	ADAT1	CCAGGAGGCGGAGGTAGTGGTG
12773	MASP1	CTGCCTGGCATCCCTGGGGC
12774	MC1R	CCCTGGGTCCTGCACGCCGCCT
12775	DISC1	CCATGTTGGCTAGGAGGGTCTCA
12776	SIRT6	TGCCTTTGGGGCTGGAGGGAG
12777	FOSB	GATATTTCTTCATTTTCTTTT
12778	DGKI	TCGGGAGGCTGAGGCAGGAGAATGGC
12778	GNE	TCGGGAGGCTGAGGCAGGAGAATGGC
12778	KCNA7	TCGGGAGGCTGAGGCAGGAGAATGGC

12778	PCDH11Y	TCGGGAGGCTGAGGCAGGAGAATGGC
12778	SMG1	TCGGGAGGCTGAGGCAGGAGAATGGC
12779	NPY2R	TGGTGAAAGTTTCTTCAACTCTGAA
12780	RAI3	CACCCAGGCTTGAGTGCAGTGG
12781	IMMP2L	CACCCCAGCCTAGTCCTCTT
12782	AGTR1	TGGCCTGTGCCCAATGCTGAC
12783	VDR	GGGCAGTAGCTGTGGTGAG
12784	GPR56	CCTCTGTCATTTTAACCTCAGGTGGCACC
12785	AFM	TATCTGTGTGGTGATGAATCGCATTTC
12786	LDLR	GAGGCTGAGGTGGGAGGATGGTTTGA
12787	SLC21A9	TTTGCCCAAGATTGGGTGTCAAG
12788	JAK2	AGAATGCCAGGAATATTGTC
12789	SPAG1	TGGTCTGCACTATAAAACATTTT
12790	GCH1	GGGGCAAGATGGCAGAGGTATTGGG
12791	COLQ	GACCCGGTCTCCCACAGGTGA
12792	SACM2L	ACTTCCATATTTCCATTTGC
12793	ACTN4	ACCCAACACCCCCGACGGCCTC
12794	ARHGEF12	ACTTAGATTTAAGAAAAAGAG
12795	RNPEPL1	ACTTCCACTCTGCAAACCTG
12796	VANGL2	AGCAGTTTCCCCACTGTGTCTGTCCCA
12797	PRDM4	GCATGTGCAAAGTTAGGTCTTCCCA
12798	GPR92	CAGGTTTGGTGGACAAAGCTACTGAGA
12799	MAGEB4	GGGAGAGAGAGCCAGAGACAGT
12800	COL4A3	TCTAATATCCAGAAAAAGTAACT
12801	EPHA1	CAGGAAATGATTTTCTGCCTCC
12802	TNFRSF11A	CTCTGGCCCAGGCTAGAGTGC
12803	OAS3	CTCACACACTCCCCTGCCTCCC
12804	SMURF1	CACTCACTGCCTCATGTGGCCCCTT
12805	WNT8B	GGTTCCTAGAGGCAGAGGTTGAAGATGG
12806	PYCS	ACTCTTCTTTTTAGCATTCTCAT
12807	TNNT3	CTTGCTGCCTTCATCCCCT
12808	ARNT2	CTGGGAGGCACAGAGTGCAGGTCTCAG
12809	PHKB	TAGTAATCCTCACTGAGTGAT
12810	CEACAM6	GAGTGTCAGATCTATCTTGTCA
12811	LMO7	TGTCTGACCTCAGGCCTTTT
12812	FOXE1	GCCTCAGGTCGCCCCGCCTGGGCC
12813	ENG	TGGCTGCCCCGGCCTCCTCGGAGAGCAG
12814	PFKM	CTCAGTTAGAATTTTCCTAAA
12815	DSC3	AGTTTTATCTAACGGCTACTGAAACACCC
12816	PPP1R12B	TTCCACCAGGTGCAGTGGCTCA
12817	HBA1	CCCCTCCTCCCCTTCCTGCAC
12818	DPYSL2	GTCTTCCTGTTTTTCCTGTAC
12819	CASP1	TTTGGAATTATGTCTGCTGAAT
12820	FZD3	ATTATTTGTCTGGTAAGCATTTT
12821	IGF1	ACTTTCAAAAACATGACCTTCCACAA
12822	VANGL2	GCCCAGCCACATTCCTGCCACCCT
12823	ITPR2	GAACCTAGGAGGCAGTCAATAA
12824	LRP8	ATTTAAAAACTATATTTACAG
12825	LARS2	GGCAAGGCACCACTTCCTCACA
12826	ZNF134	CCATTTTTAGCCAAGAGGGTCTGA

12827	TH1L	TTCTTTACAAAGGAAAATGGCAG
12828	NPTX2	TCCTCAAGAAAACAGAGATCATTTGG
12829	CORO2B	GCCTGGAGCTCTCAGCATCACT
12830	TRPM4	TGTCCATCTGGGCCACTGTC
12831	PSPHL	TCTGCCTGGCCGCCGCCGC
12832	ALPPL2	CATGGCAGCACCTGAGGGACAC
12833	RP1	CTCAGCCAAAATGAGTGA
12834	TMEPAI	CATATGTAGCAAAAATCAGGGCT
12835	VCL	CTCAAACACAGTTACACTTGTG
12836	ARG2	CTGTCTACCTCACAGAAATGTTAAACTGAGA
12837	LIF	CCTTGCGGCCCTGGCTCTGAGT
12838	NR1I2	GAACCATTTACATGCACCTTA
12839	SRGAP2	AAGATATTGCCATTTTACAGCTTAA
12840	AIM1	GGATCTCAGGCTGGAGTGCAGT
12841	SURF4	ATTGGTGGAAAGTAGGGTGGA
12842	MAX	CCTCAGACAACAGCCTCTACACC
12843	TSC1	TCCAGCTGAGGCAGGGGGATTTG
12844	ANKH	AGGACATTACTAGAAAATTAAACAG
12845	LIMD1	GCATTTCAGCATCCTGGCTCCCCAG
12846	CREBL2	TTCCTCGGGGCGGGGGCCGGGCCA
12847	ERCC3	TTTCAAACTTTTTGGGGAGTGGGGTCA
12848	NCALD	CTGCTACTGCTGTTTCCAGGGGCT
12849	PSMD7	GCAGCTTTCGCTGCTGTGA
12850	BAZ2A	TAGGGAGGAGGGGTTCTGGGT
12851	TRPM1	CAACATAGTGATACCCCATCTC
12852	ATP7A	TCAGGTGGGGGTAGGGGATGGAC
12853	FMR1	TTTTTGTTTTGTTGCACTGA
12854	GYS1	TTGGCTGCTCATTCCTT
12855	EML1	TTTGATGCCATCACCAGCCTACTGCA
12856	IL18R1	AGGTTGGCGGGAATGAGACTAAAGATT
12857	LSS	GGCCAGGCTGGAGGCAGGGATGGG
12858	CEACAM1	TACCATTCTATTCCATGTTTGCACCTG
12859	MAP1B	GGGTAAGGAGGAGAAAATAAACCAACA
12860	CDH5	TTCTGGAGGGGCAGTGGAGATCAGGA
12861	RFC3	GTTCTGCTTCTGTCAGTTATTCTTG
12862	SOCS5	GCCACAAGGGCATAGTGCAGT
12863	PTGIS	GGTGCGTGCCTGTAATCCCAG
12864	TRIM9	GCCACAGCAAGGAGCTCAGC
12865	TGFB3	GCAGGTGCTACAACATGTGAG
12866	BUB1B	GGAATGCAGGATGGCGGCGGT
12867	CPNE6	TTCAATGCTGTGGCCCCTCAG
12868	WIF1	TCAGTGCTTTGGGACAGATTTTATA
12869	EVC	TTACCACCTGGAGAGAAGCTTCCAGAC
12870	MID1	CCACATGGAGCTGCTTTCTGGG
12871	SRC	CCCTGCACTCCCTCCTGGAG
12872	SLC7A8	GGCCACACCCTCAGCTGCCTC
12873	IGF1	GGGGTTTTACCATGTTGGCCAG
12874	CBFB	AGAGTACTGGGATTACAGGCTCTTTCT
12875	GARS	TCGCTCGCAACCCTACCTACCTCTCTC
12876	SON	GTGGTATTCATATGCTATGTCTCTAAA

12877	SLC24A1	TGTAGCTTCAGTTATTGGTGAG
12878	PTPN18	GAACTCCCAACCTCAAGCAATC
12879	LSS	ATGCCCAGGTGGGTGCTCTG
12880	RPH3AL	GGTCTTGAACTCCTGGTCTCAAGTGAT
12881	GPC4	GACTAACAACTGCCTTG
12882	JAK3	AAGACAGATGGGCATATGTGTCAGT
12883	PYGB	CCAAGCCCCATGTAGCCCCAGTCAT
12884	P2RY1	GCTGTGCAATGCCTTA
12885	ZNF256	CCAGAAGCAGCATGTTGGACAGAAACA
12886	FEZ1	GTTATCTACAGATGTTAG
12887	DPP6	TAGCATGTGTGTCTCGGATGCG
12888	PEX10	GGCCTGGACACAGATGACCTCTACGGG
12889	SGT	TCACGTTCAGCCGTGTGG
12890	NP	GTGCCTCTGTCCTTAGGTTGTA
12891	SPTB	TTCTTCATGAGAGTACTAGCCTC
12892	MX1	GACGTGCACGCACACTGTCTGCC
12893	MSH3	CTGGGAGGCGGAGGTTGCAATG
12894	STAT3	CTGAGAGGCGGAGGTTGCAGTG
12895	CNP	GGGAAGGGGAGAGGGAAACGTGCCCT
12896	LZTS1	CATCTCTTCCCCAGAGAGGCACT
12897	PRKY	AGGCTGAGGCAGGAGAATATGG
12898	IL13	CCTGTGCTGCCCGTCTTCAGC
12899	DIPA	CTGTGGACCTCGGGACCTGGACGCCGT
12900	CUGBP1	CAGGCAGCAACTGAGGCAGCGGCAGGC
12901	YWHAZ	GTGAGTCTTGATGATAAGGGT
12902	SF3B2	GACTTGTCATTTCATGTTCTTATTTTA
12903	XT3	AGACCTGACTGTCCCCCAGCC
12904	CCNDBP1	CTAACGTATTGGCACCTGCCTCCT
12905	TDO2	TCCGTGCTTCTCAGACAGTGCCTTTTCACC
12906	ADCY1	GGGTCCATCTGAGCTGGCTGTGGGCTGAGA
12907	ERBB2	GGGGTCCTTCTCCACACCCACTTTGTC
12908	FCN2	GGGAGGCTGGGAGAGGTTGGGTGCTCTCCT
12909	CRP	ACGTCTCTGTCTCTGGGCCTTTGTT
12910	POLA	CTTGGGACTGTGTCTCATGTTTGTGT
12911	VHL	TCAGAGGAACAAACCAGGGGA
12912	CYP1A1	AGGCACCAGGACTAGGGCTGGAGTGAG
12913	MAN1A1	TAGTTAATTTCTTCCA
12914	TCF3	CTTGCCTCTCCCTCTTGTT
12915	MS4A2	CTTGGGAGGATGAGGCAGGAGAATCGC
12916	SLC2A4	AAGAATCCCTGCAGCCTGGT
12917	TRIM34	TGATTTTCTCATTTCTTCACCTACA
12918	COX15	TCTTGAACTCCTGACCTCAGGTA
12919	HYOU1	GAGGGAGGGGCACAGTGAAGAAGGGA
12920	APAF1	TATGAGCCACTGGCCTGGCC
12921	ARHGEF7	CAGAACCTGGCCTCACCTGGA
12922	ADORA1	CGGTGAGGCAGGGGAGTCTGCT
12923	CRAT	TCCCAGGACCTGGAGACAGGATTGT
12924	GRIN2A	CACTCACTTCCACCCCAAACTCCTC
12925	AKAP2	ACATTTTCACAGTTATGTTTCTTCA
12926	PCDH11X	AGCTCTAAATACTAATGATATTGAGAA

12927	ITPKB	TCTCTTCCTGTTCTGCACC
12928	RERE	GCCTCTTCCTGCTGGGCTCCCAGA
12929	MMP25	CTCACTCAGGGTGGGGTCAGG
12930	CYP4F3	GCCACAGCTGAGCCTGTCCTCGC
12931	FER	AACTCAGCCTTCAGGACTCTGTCCTCCAGCAG
12932	PCLO	CCTGCTGTCCTTTCCTGTTTGCTTTCA
12933	NT5E	AGGAAGGGGAAGAACAGGACTCCAGG
12934	ETF1	CCATTTACATGGCATTCTCAGC
12935	PPP3R1	TGAGCCGGGTGTTAGGCCAGCT
12936	TAF1C	GTGGGTGTTAAAATGTTTATCATGCCT
12937	PKNOX1	CTTGTCAGTGTGATGAAGATT
12938	C4BPA	TTTTTCTCAAAAGAAGGAGG
12939	BVES	GTCCGCGCCACCCACCCGCAACCT
12940	PRX	ATGGGCAAGGGAGAGCGGGTGG
12941	BAZ2B	AGCACACCCAAAGAATTTTC
12942	CSNK2A2	GCGCAATCTCAGCTCACTGCAACC
12942	SS18	GCGCAATCTCAGCTCACTGCAACC
12943	PLA2G2D	GTCCTCTGAGGGTGGATGGGAA
12944	PITX2	TACAGAAGCGATTAGGATTTTTCGCT
12945	HADHA	TTGCCCAGGCTTCTCACCACGGTG
12946	DDIT3	TTGGAGTAGACAAAAGGAAAGG
12947	THPO	AAAGGGAATCATTTTTCACTGTACATTA
12948	CORO1C	CCTCTCCATCTCTCACCAAGG
12949	GABPA	TTCAGCCGGCCCTGGAGTGCGGG
12950	CDK5R2	CTTGTTGCTCCTGTCATGTGTCACCAT
12951	CAMLG	CCCAGCTAATTTTTATATTCTT
12952	HD	CAGGGCTGTGATGGGCGAGTCCCG
12953	ITGA3	CATGCTGTCTGGCCCTGGGGA
12954	BCL11B	GGGTCTTTCATGGGGAGAGAA
12955	DPYSL3	AGGAAGCCTCTCTTTCTTCACTTACCA
12956	TSLP	CCAACTCTTTCTCTCTCTGGTGT
12957	LRRC2	CACACACATGTGGCTACCATACTCCTG
12958	HOXA1	CAGCTCTGAGATCCTGGAGTGATATGA
12959	NELL2	CATGGGAGATTTCTGTTAA
12960	TM6SF2	AGGTAACAGAACACCTGTCCCCCTAGG
12961	PRKACA	GGTTAGGGGGAGCAGGAAGC
12962	UBE2L6	CTCCATCTTAGAGAGACAGGTCA
12963	RPS14	TCTCCCACTCTCTCTTTCCGGTG
12964	CD5	GTAGTTTCAGTCCATCACA
12965	MEF2A	AGGCTGAAGTGCAGTGGTGTGAT
12966	ELMO1	AAATCTTCCCTCCTCACCAG
12967	ADCY1	TGGGAGAGGACACGGGCATGGGCTG
12968	NP	TCAAAGCTGGGATTACAGGTGT
12969	TACC1	AGGAATGACTTTATTAACTATAATAT
12970	HOXD9	TGTGAGTGCAAGCTGGCTTGGGGA
12971	WHSC1	CTGACTGCCTGAACATCGAGATGC
12972	SCML1	TAAAAACCATTTAAACTGCTA
12973	SDF2	TCTCCCAGACTTGCGTGGGTCAGT
12974	BAZ1B	GTGACTGCCGGCCGCCGGGACCC
12975	PEX10	TTGCTTCAGCCAGTGCAGTG

12976	SF3A1	ATTTTGCCTCTCCTGTCTCCCAC
12977	SLC16A7	ACCACTGGAAATGCCTCC
12978	MMP15	GGCCCTGGGCCTGCCTCAC
12979	DIAPH1	TGTACCCCAGCTCTCTTCTAAAAGAG
12980	JUN	GGAGGAAGGGGGGTTGCAGTGGAGAGGG
12981	CYP3A4	GCCTGTAATCCTAGCAGTTTG
12982	KCNQ4	TGAACTCACTCCCTCACGGGGA
12983	RNH	TTATAATCATTAAAGCACTTT
12984	MKI67	TCCTCCAGGCTGGGGCAGG
12985	ASB1	AACAGCATGGTAAATAATTGA
12986	MN1	ATTTCTCCTTAATTGCTTAAGGCC
12987	HOXD13	GTTTTGTTTCTCCCTCCAGGCC
12988	FMR2	TCTGCCTGGTCTATAGCGTGTGTGT
12989	MYO5A	AAATGAGAAGTCATTAACTGGA
12990	CA14	GTTGTTCTCCGCCCTCCTGCTGG
12991	GRM4	GCCTGCCCGCCTGCCCCTCCTGCC
12992	SOX12	GCCTTTCTGTGCCTTTAATGAGGACT
12993	STIM1	TTGTTGGGCAAGGATGCTGTC
12994	PSME3	CCCCCTCTCTCCCTCCTGTGTC
12995	THBD	TTCAGCTAAGCTAGGAATGAAA
12996	PABPN1	CCTCTTTCTCCGGCTCCCTGCCCC
12997	ABR	CAGTTCCCATTGCTTGTGCTCAG
12998	DDX11	TGTACCTGAAGCAGATCCTGTA
12999	OASL	ACCTGTAATCCCAGAACTTTGG
13000	AP1S1	CAGCCAGGCAGCTTCTCTGCCT
13001	PTPRB	ATAAAAATTATTCACTGTGTG
13002	IL8	CACAAGTCCTTGTTCCACTGTGCCTTG
13003	NF2	CCTGCCTCCTATCAGGGCCAGA
13004	SCAP1	CTGAAGAGACCCAAGTCTCTT
13005	CARKL	CGGGAGGCAGAGGTTGCAGTG
13005	HSPA5	CGGGAGGCAGAGGTTGCAGTG
13005	SUDD	CGGGAGGCAGAGGTTGCAGTG
13005	TNFSF10	CGGGAGGCAGAGGTTGCAGTG
13006	STK13	CGCAGCACTCCAGTTCCGCC
13007	TPS1	CTGCCCAGGCAGCTGGTGGTGG
13008	SPTBN4	GAGGGGAGGGGCGAGGGGAAGC
13009	FMR2	GTTTTAAGCCCACACTACCCA
13010	SRGAP1	GATGTTCTTGTCTTTGGAGCT
13011	SIGLEC11	AGGAAACCAGGCAGAGGAG
13012	HPRT1	TTTCAGTAATGTTGACTGTATT
13013	BACE	GGAGAAGGGAGAACAGGGGTC
13014	KIT	TATGGACTGGGGGCCAGAGTCCTTTC
13015	BSN	CTGTGGCTAGGAGGCTCAAAGGA
13016	WISP2	GGCCCTGTGCCTGGGCCCTGGG
13017	ADAM19	GGCTTCAGTCCTGCCCCTGC
13018	ITGAV	CTATTTTTGTGCAATTACATCATGTT
13019	DHCR7	CATCTTTATATTAAACTTCCCCTGTTCA
13020	PTK2	CACCCAGGCTGCCAGGCTGGAGTGG
13021	GRM6	GCTCCAGGTTGGGAGCAGTG
13022	ARF1	TGCCCTCTGCTTTACTCTCAT

13023	APBA1	ATCCTGAGAGACCTGCCCTCT
13024	AHR	CTGCAACCTCTACCTCCTGGGT
13024	AQP6	CTGCAACCTCTACCTCCTGGGT
13024	RHD	CTGCAACCTCTACCTCCTGGGT
13025	VHL	CTGCAACCTCTGCCTCCTGAGT
13026	SHANK2	ACAGTCCCTTTGTGAGATAAT
13027	ROM1	TGACACCTCTGCACTCCCTTGGGCAG
13028	SGCA	CATCCTCCCTTCTCTGTCCACA
13029	HSD17B1	GGCAAGGACCCACTCTGGAATG
13030	FTSJ2	TGTGAGCCATGGTGCCCGGCT
13031	TFAP4	GGCCTCTCTCTGCCAAAAAGCATTTT
13032	PCDHA11	CCACAGAGATGAGAATAGATCATGT
13033	DGKA	TGGTATCAGAGCTAAGAATGGGACC
13034	CSRP2	TCTAGGCACAGATAATCTTTAA
13035	SURF4	TTGCTATGCCGAATGCAGCCAAAAT
13036	CTSB	AGCGCTGGGCTGGTGTGCAGTGG
13037	LTB4R	GGGTTTCAGCCCCACCCTCA
13038	KCNN4	GCTCTGCCCCAAGACACACCCT
13039	MAPK3	AAATGGACACTGTGCCCA
13040	TUFT1	TGTCACCCAGGCTGGAGTGCAGTAGCGCG
13041	MAG	CTAGACCCTGGAAGGCAGGG
13042	INPP5B	GCTTAAAAATGCTGTT
13043	C1orf1	AGGCCAGCCTGGGAAACATGGC
13044	TNFSF5	AGTTCTCTTCTTTCCACCCTGTCCCTA
13045	MID1	TACTTGGTTTTGCACATTAA
13046	OTC	AGCAGCCAGTACCGCAGTGCCTT
13047	SLC4A7	CCCTGCACTTTCTTTAGATGCCTTGAT
13048	GRAF	CCCTGCACTCCAGCCTGGGTG
13049	CENTD2	GACATAAATCACAGGTGCA
13050	REN	GCTGCCCTCTGCTCTTTTCA
13051	USP11	TGTCCGCCCCGCTTCTCTTAT
13052	GJB3	TTCACAGTAATGAGTA
13053	MFAP4	GAACCTGAATGAACTGGCTTCAT
13054	DLEC1	CCTCTGGGCAGCTCCTGGAATG
13055	ITGA2	AATACAAATACACAATCCTCCAAGAAT
13056	GAB2	GCTGCTTGAAGGGGAGACTCCCTCCTCTG
13057	ADAM12	TTTCAGATGTGAACCATT
13058	EIF2B2	TGGGATACAGATTTTTGCTCAG
13059	PTBP1	TTGCAGACGTCTGTGCCTAGCAATA
13060	RAB36	CCAAAGTGCTGGGATTACAAGGG
13061	SURF5	TCTGCCTCTCCTTTGCTTTCCTC
13062	DRP2	GGGCAGCAGCAGGGATCTGGTGG
13063	KRT4	TAGTATCCCCTCCACTATCCC
13064	RAD54B	GCAGTGTCCAAGGAACAAGAAGA
13065	GRIK1	ACTTTTGCATCTGACCAAAGGA
13066	ALDH3B1	GCTGCTCATCCTCCTGGGCC
13067	APPBP2	TTCCAGCGATTCTCCTGCCTCAG
13068	RAD54B	GATCAAGATATTTACTGTTGATC
13069	PTGFRN	TTCATTTGTTTTGAGCAATAA
13070	ITPKB	TCCTGGCATTCAGCACTGCTT

13071	AK3	TTGTCCCAGGCTTTCTGGTG
13072	SRD5A2	GGACCTGCAGGCAGAGACTG
13073	GASC1	GCTTGGGTTGGAAAAGAGAA
13074	PRSS8	CTTTTTGGGACCATCACTGAGA
13075	CUTL1	CTCTGCCCGCAGCCTGACCTCTAGCC
13076	WBP2	TGTTGTTGCCACCCTGTGTGACT
13077	FCMD	CAACATAGTGAAACCCCGTCTC
13077	MS4A2	CAACATAGTGAAACCCCGTCTC
13078	TEP1	TAACATAGTGAAACCCTGTCTC
13079	PCDH1	CCAGCTCCCAAATGGCCCAT
13080	EGLN2	CATGTGGCAGGCACTGTGCTGG
13081	NCAM2	TGATTATTAAATGTAAAATTA
13082	CBS	TCCCTGCACACGGCACAGAGCATCC
13083	CLCN6	TCTCCCCGCCCCTTCCTGGAGCT
13084	SLC24A1	GGCTCCACCCTCCAGCATGTTCTC
13085	C8orf1	GAGCCTCAAACTATAGTAACTTCA
13086	EFNA3	TCCTCCAGGGGCAGAACATGG
13087	RABIF	CAAGATCACACCACTGGCACTCC
13088	OAS3	TGTCTGCCATGGATGCAGTAGAGG
13089	TLL2	TGGCTCCAATCCCACCTGCCT
13090	CNR1	TGAAGTGAAGTACAGAGCTGG
13091	TRADD	TTGTATCCCAATTTTGCTTCCC
13092	ABCB4	GGGCACCAACAGCGTTCCTCCTCC
13093	B2M	CAAATTCTGCTTGCTTGCTTT
13094	APPL	TCTCGATCTCCTGACCTCATGATCC
13094	PCDHA9	TCTCGATCTCCTGACCTCATGATCC
13095	PIK3CG	ATCATGTCCTTACACTCCAGCCTGGATAACA
13096	RNTRE	AGGCTATATGTAGTGTATGTGTCTT
13097	FOLR1	TGCCACTGACCACAGCTCTTT
13098	NR3C1	CAGGAGACAGGAAGGTGGT
13099	PCDH12	GCCTCATCCTCCTCAGCGGCAGGCCA
13100	DRD5	GTTCAGTCACTTGTTTGTGTT
13101	DCTN1	CTGGGGGAGAGGGGAACAGT
13102	CMAR	GAGCTAGGACTACTATGGGCGTGC
13103	IRTA2	GGAGGCACCAGGCTCAAAAGA
13104	ADRA1B	GGGGGAAGCAAAGTTTCAGGGCAG
13105	RGS6	ACAGAGCCTGGGCTGGGCCCGG
13106	KIF3B	GTAGGGAGAAATGAGAAATCGC
13107	PKD1	GAGCTGGCTGTGCCTGCTTCTGTG
13108	POLR2A	CTCACTGGCCCAGTGGTGTTCTACCTC
13109	G6PC	ACTCCAGTGTTACTT
13110	HSPA1A	TTTTTTGGTGAAGTACTGAAC
13111	SHOX	GTCTCGGAACTCCTGACCTCAGG
13112	TFDP2	TACTTTGCCAGCACTGCCTTT
13113	LTB4R	TCTGTCATTCAGGCTGGAGTGCAGT
13114	GBA	GGAAAAGAAGAGACTAGGAAAGCTGG
13115	MYD88	TAGCTGCCATGCACCTGT
13116	ADAM20	GTTCTCTTCTGCTCTAGACAG
13117	SLC12A1	AAAATGTCTTGACATTTTACTCTTAAACATGA
13118	SURF6	CAGGGAGGAGGAACGGTGGGG

13119	MFGE8	GTAGGTCTGGGATGGACAGGAAAGGGC
13120	ALX4	GCTCCCGGCCACAGGCAGTGG
13121	IL7R	CAGTCTGCAAGATTCTGAAACATTGC
13122	LTB4R	TGTTGGCCAGGCTGGTCTCAA
13122	MRPL49	TGTTGGCCAGGCTGGTCTCAA
13122	NCOA6	TGTTGGCCAGGCTGGTCTCAA
13122	NDRG3	TGTTGGCCAGGCTGGTCTCAA
13122	NQO1	TGTTGGCCAGGCTGGTCTCAA
13122	PRKR	TGTTGGCCAGGCTGGTCTCAA
13122	TRPM6	TGTTGGCCAGGCTGGTCTCAA
13123	GRM7	TGTTGGCCAGGATGGTCTCCA
13124	PAX5	GCCCTTGGGCCCCAGCCTCCTGCTCA
13125	PRIM2A	CAGACTCCTGGGCTCAAGCGAT
13126	PYGB	CTGGGGCCACCACCCTGACCAC
13127	KCNN4	CTCTCACTATGCTGCTA
13128	RAB30	CCCATCAAATCACAGTGCCCCT
13129	PCDHB3	TATTCTCCTTTCATCCTGGC
13130	RTN3	CATTCTCCATCCTCATCCTCTG
13131	NAP1L4	TTTTCCTTATTATTTTGCTTAACTT
13132	GPR81	GGCTCAGTCAATCAATGCTTTAT
13133	CASP3	ACAGCCCATTTCTCCATA
13134	PPEF1	GGTTGGACCTAGTGGTGTTGTC
13135	JPH3	CAGTAGCCTGGCCTTTTTCTG
13136	HYOU1	CTGGCCTTCCTCTGTGCATCACT
13137	MNT	GCCCCTCCCCTCAGCCTGCC
13138	NR1I2	CAAGACAGATGGACACTGCC
13139	P2RX7	CGTCTGTAATCCCAGCGCTTTG
13140	CCNDBP1	GTGAACAAGTCCATGCTGCCA
13141	LMCD1	CCACAGCCAGAATCCACAGGATCCCA
13142	AMPD3	AAACAGCCACTCCTATTCTGAGTCTT
13143	TRPM8	CCCCTGGGTACATGGTGGATGATTTTA
13144	SUFU	AGTCCTGTCCCATTTCCTCA
13145	MSR1	TTTTGGTTTCTCTCTACTGA
13146	CRSP6	TTTCCCGAGGGTCTTCTGAGGCACCGCG
13147	SDHD	ACTTTATTACGATTAGTATATG
13148	FGFR1	CTGCGTTCTGGAGGAGGGGGGCACA
13149	PLN	TCTTGTAAACATGAAAAGGGCTTT
13150	MS4A8B	CTGGCCTGCATCCAGGAAATAG
13151	E2F1	GGCTGGCTGGGCGTGTAGG
13152	PIK3R3	TTCCTGCCCCCATCATGCC
13153	RIMS1	AAGGCAGCATCCGGGGCTGGGTGG
13154	INPP5A	CGTGAGCCTCCCTGTAGCC
13155	ITSN2	ATAGTTCCCAAATATCATATAGCTACTG
13156	DDX1	TTACATTTACTGAATAAGATT
13157	JAM2	CCTCCTGCGCTCCTGCCGCC
13158	APPL	TCAGCTTTTGTTCCATTACTGT
13159	KRTHA5	TGCCCCCAAAGGTCTCAACTCCT
13160	SCNN1G	ATGGAAATGATATGAGATTCGA
13161	FACL4	CAAAAGCTAGAACACTGCC
13162	PXF	TTTGAGATACATGATTCTCTTAGA

13163	SELPLG	CCTCTTGCCTTCCCCTGTGGCC
13164	FXR2	GTGGGTGGGAGGCACGGGGAA
13165	RPL28	CTCTTTCCGTCTCAGGTCGCCGCT
13166	CALU	TCCTCCTCTCTGAGGGACTGGAGGGA
13167	HUS1	TGTGTTCTGATCACTGGTCTGTGCCC
13168	UBE2A	CTCCAGCCTCTTCGGCCTCCTCGC
13169	BYSL	CATTCCCAGTCCCCAGCTGGGGC
13170	CKTSF1B1	CTGCTTTGTCCCTCAGGTGGA
13171	IGFBP4	GTGTTCTCTTTGGTGTTACACAGC
13172	C8orf1	GATGCCATTAGTTGAAGAAACTTCTT
13173	CRHR2	CCAGCTCTCCAGCCTGGCAGGAAAG
13174	ELF3	GAAGCATCTGCTGTCATGA
13175	PLAT	TATTTATAGTCACAAGAGCCCAG
13176	HLA-C	AGTGGGCTGGATGTCTCCATCTCTGTC
13177	NFIA	GCCGACTTGGAAATGTGAACGCAAG
13178	MGAT1	CCTAGGACTGCGGGCAAGGGA
13179	RNMT	GAAGAGCACCTGTTGCTGCAA
13180	CCND1	TTCTGTGTATCTCTTTCACATT
13181	PACE4	AGCTACTTCTGAAACTGCAGCAGTG
13182	SLC17A5	GAGTACACCTGCTCACGTAGGCGTC
13183	NFATC3	AGGCTGAGGCGGGTGGATCACA
13184	ETV5	GAAAACCACCAAAAGGCCAGTGC
13185	CUL3	AGACATTAAACATTTTAGTGCTA
13186	MAPK4	CAACATCCTTCATCAATACTTTCC
13187	NME2	GTGTCCCTGGACACAGCTCTTC
13188	PDCL	CCACCTCCTGGGTTCAAGCAGT
13189	NPHS2	TGATAGTTACCTAAAGTGACAC
13190	OPA1	CTGTATTTCCACAGATTTCTCCC
13191	GGA3	GGCCCAGGAAGGTGCCTGGCCCAGAA
13192	CD72	TCCTAACCTGAGGCCTGGGGTT
13193	RNF4	GGGCTTCTGACTGCTCCA
13194	GPR17	CAGAGCTGTGGCGGGGGGCGCCGTCC
13195	COL4A2	AGATTTAACCCCTCCACTGCTGGG
13196	APAF1	TAATCAGGAAAAATAGCTT
13197	MYD88	AAGTCCCCAAGAGACTCGCCTGAGCAG
13198	RRM2B	CTTGCAGTTCTATGATAGA
13199	CEBPA	CCTGAAAGCCTGGCCTGCTCCGC
13200	COL4A4	GTTCTCTTCTGCATTTTTCAG
13201	DAP	GCCTCCCACCTGGTGTGCACAGCTGCC
13202	UBE2L3	GGAGGAGGGGCGAGCTGTGGAGC
13203	CYB561	TGCTCAGGCTGGGAGGCAGAG
13204	ESR1	AGGGAAAGTAGGGCAGAAACTGGAT
13205	LARS2	GAAATGGACACAGGGATCTTCT
13206	PPEF1	AGGGAAAGGCTGGGAGAACAC
13207	CORT	TGCCAGGAAGGAAGAGCAGCAGC
13208	FSTL3	TGTGTATGGAGGGTCTAGCCTGGGTGA
13209	NR1D1	TACTTCCTGGTTGCAACC
13210	TCF2	CACTCTGTTGGTGGCCTCTGCT
13211	ADAMTS4	AGCCTCCTGAGTAGCTGGGATT
13211	ALDH1B1	AGCCTCCTGAGTAGCTGGGATT

13211	ATP8B2	AGCCTCCTGAGTAGCTGGGATT
13211	IGF1	AGCCTCCTGAGTAGCTGGGATT
13211	MLANA	AGCCTCCTGAGTAGCTGGGATT
13211	PCDHA9	AGCCTCCTGAGTAGCTGGGATT
13211	PIK3CD	AGCCTCCTGAGTAGCTGGGATT
13211	PKNOX1	AGCCTCCTGAGTAGCTGGGATT
13211	PPEF2	AGCCTCCTGAGTAGCTGGGATT
13211	PTGES	AGCCTCCTGAGTAGCTGGGATT
13211	TRAF5	AGCCTCCTGAGTAGCTGGGATT
13211	ZNF264	AGCCTCCTGAGTAGCTGGGATT
13212	FUT6	CAGAATCCAGCTGTTACTCGT
13213	NCOA6	ATTGTAACCTCCGTCTCCCAGG
13214	P53AIP1	TGTGGTGATGGGAGGGAGGAAGC
13215	SLC7A6	ACTGCAACCTCCGACTCCCTGGTTCAA
13216	CD28	CTGCCCAGGAGGCTGAGGCATG
13217	TCF7	AGGAAGGGGAATGGAATAGGTTA
13218	PRX	AGATGCCCACCGTGACAGTGCCCCA
13219	COL1A1	TTTTTATACCAAAGGTGCTA
13220	CD83	CTTCCCTTCTTGGTTT
13221	UCP3	CACGGAGCCTGGAGGGATGCCACCCAG
13222	LHX3	TGTCTGTTGCCAAACAGCCTGCCCTCCC
13223	FCAR	CTCGAGTAGCTGGGACCACACAGACAG
13224	HD	GGCGACTGTCATGTGGCTTGGTT
13225	PTER	AACACTACTGAATTATAAAAATTCAA
13226	FMR1	TCTCTTTTTACAAGGCTGTATTCAGC
13227	F2RL3	GCCAGGATGTTGGCAGCCGG
13228	PPGB	CCTTCTCTGCTTAAAGAATGCCCTTTA
13229	EGFL5	CTCTCCAAGCAGGAAGGGAAA
13230	PAEP	GCTCAGAGCCACCCACAGCCGC
13231	CXorf6	GAATGCATATATCTCCCAACA
13232	CISH	GCCAGCCTCTGTTTCTGGGAGGATGA
13233	MRPL49	CCAAAGCGTTGGGATTATAGGC
13234	ZIC1	TCAAAACAACCCCCACACAGACC
13235	PLXNA2	CTCAACAAATGAGGAGCTGGTCTTTG
13236	YES1	TGGAATCCCAGATATGGTTGCACA
13237	ZNF267	AGAACAATGTGAGGTCATTCT
13238	C7	CCCAAATGCTGGGATTACAGACATGA
13239	GNG5	AGTCCTTAACATCTACCTC
13240	RPL10	CACCCAGGAGGTGCGAGTGTGGCTG
13241	EXTL2	CTAAAAAGTTGTATTACAAA
13242	NFIA	TCCTTTCACCCCAGGACTCTAAAT
13243	GLI	AAATTTGATAATGACACTGTT
13244	RAB5C	GGTCACCCCAACCTCTGGCTC
13245	DDX11	GCTGTCCTTGGGGCGTTCCAGGGC
13246	RBL1	TTCAAACCTTTTAGCCCTA
13247	OTOF	CCAGAGCCACAGACTCACAGCCCA
13248	WHSC1L1	AGCCGCAGGCTCCTCTCTGGCA
13249	NR4A2	ACATGGGCAGAGATAGCCGTGTGAGCA
13250	EXTL3	CTTGGATTGGACAGGAGATCAGC
13251	SRRM2	CTTCCTGGTTCATGTGTTCTGGG

13252	USP6	CCTCCACTCCTATGTGTATCC
13253	ALPP	TCATGCCACTGCACTGCAGCCT
13254	AFG3L2	TTCCTGTTTCTCCTCAGTTCC
13255	SMARCD2	CTGGGGCGAGGGTCAGAGCTGG
13256	PDGFRL	CAGCTTTGGGGTTCCTTTTAT
13257	BZRP	CCTGAACAGCAGCTGCAGCAGC
13258	PSMA3	ATACATACTGTCCAATTTTCA
13259	VHL	GCTCACTACAAGCTCTGCCTCC
13260	PTBP1	CTGCAGCCACACACCCACCCG
13261	KRT17	CTCCAGCCTCAGCCCCCTGCTTCAGTC
13262	MAPRE3	TCTCTCTGCTGTGTCGCC
13263	FANCG	GGAGCTTGGGCAGGCCAGCTT
13264	SRGAP2	AGTTGAGTTAATACAAGTGACATAGC
13265	LGALS3BP	CATTTCCTGGGATCAGCCTGA
13266	MAP1A	TGCCATCCTGCAGCTGAAATGGGAA
13267	CEACAM5	CCGGGAGGTGGAGATTGCAGTG
13268	CYP4A11	CGCTTCTGTCCCCTTCCTGTCTGCCC
13269	FLOT2	AGACACTGTCCTTCCCCTCA
13270	GPM6A	TCTTCTTTTCATTATTTCTAAT
13271	GLS	ACAATCTCCCTCCATAATGTGA
13272	TAL1	AGGCAATTCTCCTGCCTTT
13273	TM6SF2	ACCATGGATACCACACATTTCTCATC
13274	ABCA3	CCAGGACACGCAGGGACCAC
13275	FXYD6	CCTTCTGCTCCTAGGAGGCTGCTT
13276	ZNF36	TGAGCCAAGATTGCACACTGCACTC
13277	SRR	AGATACTGAAGACATTTTGTTTCC
13278	RPIP8	ATCTTCTTTGAGACAAGGCAGGC
13279	ANAPC5	TGTTCATGTCCCCTCTCTCCC
13280	ZNF239	GTTTCCCTTTGTTCACATTCTCTG
13281	ABCB9	CCGCTTCCTGCATCTTGCCC
13282	RAD17	TTCATTCTTGTAGTATTTCATCACA
13283	ZNF135	GTTTTACAAAAAGGGAGATTTT
13284	MCM3	GGTGGTTCCAATTGGTGGAGAGA
13285	PART1	AATCATAATAATCATGATAA
13286	EPB49	AGAAAGGGAGAGAGGGCCAGGCAGT
13287	AGTR1	GGCTGGGTTTTTATCTGAATAACTCAC
13288	DNAI2	TCCCTGTGTGCCTTCCTTTCCCA
13289	UBL3	TAGAACAATATTCCATATAAA
13290	CAV1	CCTTAAAGCACAGCCCAGGG
13291	UBQLN1	AAACTTTAAAATACCTGCTTTAT
13292	WHSC1	GTCGAGACCTGTTCACGGA
13293	SUV39H1	GTGGGGAAAGATGGCGGAA
13294	PPY	TCTCCCCTCTGCACCCTTGGCTCT
13295	SYN2	GTGCTTTTCGCTTTCTTTCTG
13296	TMEM2	GCTGTGATGCCCAGCTTCCCTT
13297	WHSC1	TCACCCTGTTGGCCAGGCTGGAGTGC
13298	DAXX	CACTTCCTCCCTCCGGGGGATT
13299	CXCL6	TTGCCCAGTCTTCAGCGGAGCAGTTTT
13300	NOS1	GCCTGGTCAACCATCACTTCCTT
13301	NPTX1	ACAAGGCAGAAGTTGGTGA

13302	BTK	CTACCTGCATTAAGTCAGGACTGAGCA
13303	HKE4	AGGCATCACCATTGCAATCA
13304	XRCC3	TCTGGGCAAAGAGGATCCGA
13305	SH3BGR	GAGCCCAAGATGCCTCTGCTGCTCCTT
13306	CAMK2A	CAGGCTGGGGTCGCTGCGTTGCTGTGC
13307	GSS	CAGCAGGTTCCAGTGCCTGAC
13308	CRHR2	TTTGGCTGCCTTATCCCAGGGCTG
13309	SLC17A5	GGTTTAAATCTACTCTCACATGGA
13310	CHN2	TTATTACCCTGTGTACCTTGTCCCTC
13311	SNX15	GGCCTGGACAATGCTGGAA
13312	ANKH	CTGGGTGACAAGAGCAAAACTCCATCT
13313	MAPK4	CTTGACAGAATGAGGTGCGCG
13314	FMR2	CCCTTATGATCCTTCACATTCATTTTATG
13315	SLC22A7	CGCACCGTGGCTGGAGTCCTGAGCAGCAC
13316	NDRG3	TCTCTTGCCAGCTTTTTCCCG
13317	PTGES	GTTGCCCAGGAGGGTCTCGAA
13318	FLG	AGGAGACGGCTCCAGGCACTCAGGGTCG
13319	BACH1	GGTGAATTCTCAGGTGAACTT
13320	ADH5	ACACATTTAGCCTTATAGACATTGCC
13321	VHL	TGTTGGCCAGGCTGGTTTCAA
13322	EEF1A1	TTTAGTAGTAAAAGACTGG
13323	FGR	TGTACCTCCCTCACTTCTCTCCTATCA
13324	LUM	TCACAAGAACACACACATATACAC
13325	DSC3	GCATGCCATCCCAAGATTATGTCCTCA
13326	NUDT2	AGCAAAAATCTTGGCTGGGTGGA
13327	GUSB	CCACCTGCGTGTCCCTTCCTCCCCGAGTCA
13328	FGFR1	GCAAGCTAACTGCTTGAACCCAGAA
13329	DDX11	CCTGCCCCACAGCCCTGCCTGGATTTGT
13330	AASS	ACCCAGGCTGGAGTGCAGTG
13331	IL24	TCATTCTCTACTCTGGCCAACA
13332	XPNPEP2	CCAGCGCCGGCATCTGGAGACCCTA
13333	PRKCI	TCATGTTGCCATTTAATGCATGGA
13334	CCND1	TGGAGGTGGGGTGTTTGGGA
13335	FMR2	GGTTATCAAATTCTGTTCACT
13336	ZNF268	AGAGAAACTCTGTAAGTGGAATC
13337	TIAM1	TGATGGCCACCGCAGGGGGCAG
13338	CDC7L1	AGCAGTTTTAGTTTTAATTA
13339	NOTCH2	GCTTCCTCTGTTTTGTTTTAAGCATC
13340	FZD4	GTGATTCTCCTGCCACAGCCTC
13341	MYBPC2	GGACTGTGTTCTTTCTGG
13342	SH3BP2	GTCGCCCAGGCTAGAGTGGATTGGCGT
13343	MBD4	GCCGTGAGCTGAAGAGGTTTC
13344	SMG1	TAGACAATGCAAAATTTGTA
13345	CASP2	CGCCCAGGCTGGAGGGCAGTGG
13346	TAT	CGCCCATGCTGGAGTGCAGTGG
13347	SOX4	GCCAAACACTGTAAGCTTTT
13348	ZNF91	CTGTAGTCCCAGCTATGCGAGA
13349	SRGAP1	GTCATTTACACATATTTTTGCA
13350	ZNF138	ATTCATACTGGGGAGAAACCCCA
13351	CYP1A2	CTGCAACCTCCACCTCGCAGGT

13352	PCDHB9	GCATGAGCCACCGCACCCAGCC
13352	PPEF2	GCATGAGCCACCGCACCCAGCC
13353	NXF2	GAAAGAGAACTGCATTCGTAGCATTGT
13354	SRRM1	GCTGCAGCTGCTGCAGCTGCT
13355	VEGFB	AAGAGGAGACTGGGAGGCAGC
13356	KCNMB3	TTTCATTTTGTTGCATTCATCCTGC
13357	RAB7L1	GAGTTAGAGGTTGCAGTGAG
13358	MYBL1	GCAGTAAAATTAACTACAGTGTT
13359	EXTL3	GCCAGAACTTAAAATCTGCTGG
13360	ACAD8	GATGCAGAAGGTTTCTCTGG
13361	AHR	CGAGTTGCTGGGATTGCGGGCAT
13362	SERPINA5	TCAAGTGCCATTCATCCT
13363	SEPN1	GCTCTGTCACCCAGGCTGGAGTGCTAT
13364	BACH1	GCATGTGGACACTCAGTCACA
13365	ASK	TGCATAGTACATGAATCTATTG
13366	COL8A1	GCCTCTCTCCCTGATCTTACGTGCTC
13367	ACADS	GGGCTGGGCCATGGAGCTGGCCCAGAG
13368	GRAF	AGATGGGAAGAGCATCTCCAGGCAA
13369	IFNAR1	GTTCCTGTCCATCACTGATG
13370	CACNA1D	CGCCCCCGCCTCAACGCCCAG
13371	APOL1	GGCTGAGACAGGGGAGTGAGAA
13372	RAD23A	CAGTCCAGCTTCCTGTCCTCC
13373	TBL1X	GAAGGGTCAGGGCTTCTGTGGAAC
13374	PCDH11X	TAGAAAACATTAGTTTTCTTCTGTTG
13375	RAD50	GCCTCAGTTAAGCCTTTGTGGACT
13376	RNASE1	ACACACACATGCTTCCCTTTCCTGAG
13377	PPP2R2C	TCCTCCACGAAGCCCTCCTCAGGCACATCGAG
13378	DSC2	TTTTAAATTACTTATCTTCTAT
13379	ATM	CTGCATCCTCAACCTCCTGGG
13380	G2A	GCTCACTGCAGCCTCAAACTCC
13380	SHOX	GCTCACTGCAGCCTCAAACTCC
13381	WNT5A	CCCGCTCCCAGGACCCGCTTAT
13382	RNF3	AGTCGTTGGAGGCTGGAGCGCAA
13383	RPL19	TCTGTACATACTGGCCTCTGTGAT
13384	GTF2H2	TGCCCTGCCTGGGCTCATAGG
13385	GPR44	GTCTGCACTCTAACCCTAGGCAT
13386	PTGIS	AGGATTCCCAGAGAGACGCTGTGATTGG
13387	SH3GL2	GGTCTCTTTGCATTTCTCCATGC
13388	BMP1	GCCCAGCCTGTGGAGAGACCCTGCAAG
13389	BCL2L2	TGGGTGGAAAGAGAGGCTGTTTTCT
13390	PODXL	ACATGTGCCTTCCGTCCAGAGCAG
13391	CALM1	CTATTGTACATATTTTTATATTCTC
13392	TEM7	CAGCTCTTCCTTGCCTG
13393	ZNF184	CTGCCTGGCGAACCCTGGTGT
13394	CSNK1E	CATCTCGGGAAGTGGGAGAGCCCCCA
13395	LENG4	TCTTCCTTGTGTCTTTCGCTCC
13396	RXRA	ATCAGGAGGGGACAGCTGGGGGC
13397	CACNB1	CTGCTTCTTTGTCCTCGCCACA
13398	CBL	AGTGAAGTCTTGCCCTCTCTG
13399	RNF6	TACTGCATATGGCACAATGTT

13400	F2RL3	GGCTCACTGCAAGCTCGGCCT
13401	ADH4	GGAAGTTGAAAGTGGGGAATGA
13402	KCNN3	GGCAGCGTCTGGACTCCAGG
13403	HLA-DMB	TACCCAGGCTGGGGCTTCTGG
13404	SLC7A6	CTCTTTCCTCCTCACTCAGGCT
13405	PAX5	TTAGTTCCTTAATCATTTCAC
13406	CAST	CTTTTGTTATGACTTAGCTGACTT
13407	COL6A2	CCGCCCAGCCCCAGGTCTCCCCAGGC
13408	SREBF2	CAGCCCACCCCTCCACCTCTCTC
13409	LPIN2	AAAAAGAGTGGACCAAAACAC
13410	ZFP161	AAGGTTTTTTACATGTGTAACAAT
13411	DYT1	TTTCTTTATAAATGCAAATGGCTACCG
13412	KLF15	GTAGGCCAGAAGTCCAGGGCTGCACTG
13413	B3GNT3	GTACTGTTCCAGCATCTTCCCT
13414	TCF7	CTCTGTTTATAAAAACAAAAACA
13415	SLC13A4	GAGGGAGGAAAACTGATGGAG
13416	AP1B1	CCCCTCGGGGGCAGCACA
13417	DPH2L1	GACGGCCCTGGCAGAGGTCGG
13418	B3GAT1	TGGTGGGCAGTGGGCAAGGCGGTG
13419	MYL1	CCTGCTGTGTTGCTGCCCAGCCGCTC
13420	DPYSL3	AGAAGAAGGAGGGAGGGAGCCAG
13421	FGFR2	AGGGCCCTTCACTTCCATCAC
13422	HDGF	AACCCCTTTCCCACCCCAACCTGCT
13423	BUB3	ATAGTATTTTTGTTGTCAAA
13424	PRKG1	AAACTATATAGGTGCTATGTA
13425	DUT	GTATGTTTGTGAAAGACA
13426	KPNB1	CGCGCCGCCTCTCACTCACAGCCTCC
13427	SRP46	GGAGTATTTGGCCTGAAATTGGGA
13428	RPH3AL	GTGCCCTCACCAGACACCCTGT
13429	RFX5	ATTTATTTCCACCACAGCAGAT
13430	PPARGC1	ATACAACAATGTTCTTTTTTGTTAC
13431	ZNF216	GGCCTCGGCCCGGCCTCA
13432	IDH3A	TTCTCCTCTGCTGCAGCATGATTTTCT
13433	KCND2	GACCACGTTTCTCACTAGTACTTT
13434	MAP1A	GGAGCCACCTCCAACTCTA
13435	HTR4	GCAGGGCTAGCAACATCGTAGGTGTT
13436	MLANA	TGAGTAGCTGGGATTACAGGCGT
13436	SNAP23	TGAGTAGCTGGGATTACAGGCGT
13437	SLC21A2	ACACCTGCCTATACTCACTAAT
13438	VIPR1	CCCTGCTACACATACAGGATTT
13439	C8G	TGGCCTCCCAGAGTCCTGCCA
13440	GYG2	AGCCCCTCGCCCCAACTTCT
13441	CYP8B1	CAGGCTGCAGTGCAGTGGTGTG
13442	CRTAP	CCCACAGTGCTGGGATTACAGG
13442	TMPRSS3	CCCACAGTGCTGGGATTACAGG
13443	HOXA11	CTCTGCAGGAAATGGCTGTGGAGTGTG
13444	KCNQ2	GAGAAGGGAGACCTGGCAGTGGA
13445	PCDH11X	TATTACCCTTTCTAACTCTG
13445	PCDH11Y	TATTACCCTTTCTAACTCTG
13446	BDP1	TATGATCTCAGCTCACTGCAGCCT

13447	CIAS1	CGTGATCTTGGCTCACTGCAGCCT
13448	FUT1	TCTGGAGAAGCTTGTGGTGTT
13449	DIA1	CAGTTGTGTTAGCCTCTTGC
13450	ABCA3	CCCAGCCATGAGTGTGGAGCTG
13451	CDKN2A	GAAGAAAGAGGAGGGGCTGGC
13452	BACH2	TCAGATCCAGAAGGAGCAAGAATCAAGTT
13453	POU2AF1	CCTGAGTCCTGTTCCCTGAAACTGG
13454	CDK5R2	TCTGCCTTCTTCCTCCACTTGTGTCA
13455	STX1A	AGAGCACCCTCCCTCCCGGCCCC
13456	DBT	GTGTAATGGTTCTCCTGGGGCTG
13457	ZIC3	TTTGGTATTATATATGATCAT
13458	CSF3R	GGGAGAGAAGCTGGACTGCAGCTGG
13459	UROS	GTTGTCATTGCTCCTGCAGCC
13460	ALOX5AP	GTGCAGCTGGAGGCAGAGCAGTCCTC
13461	FACL4	AGCTTAGAAACTGGAAATACTAGAT
13462	OXTR	CCTCGCTCGCCTCCTGTACCCA
13463	EGFL4	GGAAGCAAAGGCAGAGGCCCTGGGGTGG
13464	CACNA2D2	TGTCCCACCCCTAGCCA
13465	F2RL3	TGGAGACTCACTGCAAGTTCCTG
13466	SELL	GCCTCCCCACCTTCTTCAGCCA
13467	PKHD1	CACTGCACTCAGACCAGAAATCTAGAA
13468	RARA	GGGAGCTGGATCCAGAGCTGGAGGGGG
13469	PRKCI	CGAGGTGGGCAGGTAGGTGGGC
13470	C9orf19	GAAACCATGGCAGCTCCATCT
13471	ADD2	CAATCTCCTGTGGATGGAGCTA
13472	SMCX	ATCCGGTTTGTTGTGGTGTG
13473	MDM2	TTCGCACCATTCTCCTGCCTCAGCCT
13474	UCP2	ATAGCCACTGGCAGCTTTGA
13475	CA6	ACCTTTCCTTTAGCATTAG
13476	PXR1	TCCCTCTCCCCAAATGGGCC
13477	ROM1	TCTGCACTCCCTTGGGCAG
13478	USP6	CCAGAAGAAAGACCTATATGATGCG
13479	LARGE	TCCAAGGGTAGGCAACCACCTT
13480	WNT5A	TGGCCACCCCGCCTCCTTGGC
13481	GAS7	CCACATCTGGCTTTCTCAGC
13482	MHC2TA	TGCCCACGCTGGAGTGCAGT
13483	HUNK	GTCTTTCTGACATACACACTGCA
13484	CDC25A	TCTCTTGCCGACCCGCCACG
13485	SLA2	CACTGGCAGACTTCCAGAAGGG
13486	JPH2	CTCCTGGGGTGCAGTGGTGAGTCTGG
13487	GNAI3	TTTGCCTTTGCAGAATGTGC
13488	CYP1A2	GTGTGAGCCACGGTGCCCGGCC
13489	RGS16	TGACTGTCTCCCTTTCTCTACCAGAC
13490	CASP10	GCTGGTCTCAAACTCCTGGG
13490	CDH1	GCTGGTCTCAAACTCCTGGG
13491	GHR	AGAGCTACGTATTTAATAGCAAAGA
13492	PARG	CATCTAAACTCCCTCCATCCTGA
13493	APM1	GGTGCCTACCACCATGCCAGGCT
13494	SLC14A2	AGGCTGGAGTACACTGGCACTA
13495	KCNAB2	GCTGGCCACACCACGGCAAG

13496	ATM	CACTACACTCCAGCCTGGGAGA
13497	DYRK1A	TTGTAAACTTGAAAGCAAGAC
13498	GRAF	GCTCCCACCCTTGCCTGCCTCTA
13499	SLC22A7	CTGTGTGACCTTGGGCATGTGG
13500	ETF1	GCGTGCCAGGGTGGTGACAGT
13501	SHANK2	TCAGCATTGCCTTTACTGTGTCAATTCTG
13502	CCND1	TCCAAGCACTTTCAGTCCAATAG
13503	SLC2A3	ACCAGTCTGGCCAACATCGTGA
13504	CXCR6	GACTTTCCTTCCTCCATCTC
13505	SEPN1	GGGTGGCCACCACAGCCTT
13506	CSTB	TTCCCAATAGGTGATCTTAATTACTT
13507	SCD	AGTGCTCTCAGCTGGCAGTGCAAT
13508	SIRT5	TTCCACAACCCAAGTTTAGA
13509	LMO7	TGAAATTCAGCTTCCTTCTCA
13510	TM4SF4	TCCTTCTTTCCAACCAGCTTTGC
13511	FANCA	TCCACATTCGTCACAGATATA
13512	AXL	GCATGAGCCACTGCACTCAACC
13513	GGT1	GGGCAGGGAGGAGGCAGGGCCTGT
13514	PEX10	GGTCCTGGGGGTATGGGGGCTGCCAG
13515	PKNOX1	CCACTGCACTCCATCTTG
13516	FGF2	CCATTAACATATTTTTGTGGC
13517	GCH1	TTTTAATCCTGGAAGCTGTTGCC
13518	CRYZL1	GCTGTTGCAGGCCTTTGCT
13519	NR3C2	GTGCAAGAGCGTTGCTGCCTC
13520	LILRB1	TCTCAATAATCAATGAAGTAGCT
13521	KDR	TGGAGCCTGCAAATGCATTGTGTTT
13522	TADA2L	GGAGGCAGAGGTTGCAGCGAG
13523	BCL10	TTTCCTGACATTGTCTCCT
13524	CNTN2	CCTTTCTGTTCAAGGCTGTTT
13525	ITPR3	ACTCCCACTCTGCCAGACACC
13526	STAT1	GTTACTGCCTATCAGCATTTT
13527	GRIA1	TTGGGGAGCAGGCTCGGCTCCCCAGC
13528	AP1S1	TGGGTGAGGCAGGAGCTGG
13529	SHOX	CGCCCAGGCTGGAGCGCAGT
13530	STK10	TGCCAGGCTGCGATGCGTG
13531	CNTN2	TGTACTCTGGGCAAGAGCCCA
13532	PAH	CTTCCCTTTACCCAGGGCGG
13533	SLC13A3	CTTCAAAGCCCCAAATTCCTGGGC
13534	HSD11B2	CATGTACTGTACTTCCCAATTGCCA
13535	KCNK4	CCTGCTGCAACCCCTCTCCGG
13536	ALOX15	ACCCAGGCTGGAGTGCAGTGGTGCC
13537	ITGB7	ACCAGAATCTGGTCTGTTTCCTGT
13538	WHSC1	TTAGAGACAGAGTCTCACCCT
13539	LARS2	CACTAGAACTGACCTAAGCCACTGATTA
13540	CD59	GACTTTTGCAGATGGAGGAATT
13541	POU2AF1	TGCCTGAGGTGGGAGGATGTGA
13542	P2RY6	CCTCAGTGAGCCCCTGCCTCC
13543	RFXAP	GGGAAAGGAGGGAAAATAATAGCCCA
13544	TACC2	GTACAGCGTGCATAGGGACTCTTGCCT
13545	TBL2	TGGAAAGAAGGGGGAGTTCCAGG

13546	UPK1B	TGCCTGTAATCCTAGCTACTTGGCAGG
13547	CDC2L2	GATGCGGGAGCAGCAGAAGGAGCAGC
13548	CDR2	AACAGTTTGAATACTGTGAA
13549	IL12RB1	GAGGCTCCCCTGGGGCTGTGGG
13550	CYP4A11	CTTTCTCTCTCAAACTGTCT
13551	BTK	ATGTCTCCAGGGCCAGTGTCTGCT
13552	SIRPB2	GCTCCTGTTGCTCCTTCACA
13553	DUSP4	CTGAGCAGCTGGGAGCAGGC
13554	IL11	AAATACGCCAAAATGTTGACA
13555	PHKG2	CCTCTGGGCTCTGGCCTCAGGCC
13556	KARS	AAGGGAATTCTTGTGTGCTGCT
13557	SMAC	TTTGAGACTCAGTCTCGCTCTG
13558	DDX26	TTTTTGGGGAAAAAAGCACATACA
13559	PTGIS	GCCCAGGCTAGAGTGCAGT
13559	TNFRSF11A	GCCCAGGCTAGAGTGCAGT
13560	FLG	CCAAGAATAGAAGAATGAAGCA
13561	WSX1	CCAGCACTTTGGCAGGCCAAGGTGGAA
13562	PRKAB1	AGACATTTCATACCTGCCCTGGTCCTG
13563	PCDHB16	AGCGAATTAACCTGATTTAT
13564	SORCS2	TGACTCTCTGGGACCTTGCC
13565	CCND2	CAGCAAATCATCGGGCCATTGG
13566	IL1RAPL2	AAGGAAGAGTCTGGGAGGCAGG
13567	HEXA	AGGCTTCCACTGCATCCTGGC
13568	SIRT5	AGGATTTGGATCTCACAAGA
13569	COL19A1	TACTCATGTTAAGTGCAATG
13570	MLC1	GTCATGCCCAGCTTGGAGTGCCAC
13571	UPF3B	TTCTACAAATTAATTTTAAAGTGTC
13572	CBFA2T2	TCTCTGTGCACTTGCTGTCTGC
13573	FUT1	AGACGAGGTCTTGTGATATTGCC
13574	CCNT2	TGCCTTCAGAGGTTCTGACCAGA
13575	TM4SF6	CAGCAAACCACCATGGCACATGT
13576	NHLH1	GATGGGCTGTCAGAATTGCAAGGGAGG
13577	PODXL	GTGCCTGAGCTCAGTGCTGCT
13578	NAPB	AACTTCCTATGTTATGTCA
13579	NUP50	ACCCAGCGAGTGCAGCGGCGGC
13580	IL12RB2	CGGCCCAGAGCACCGGGGCCA
13581	TM6SF2	ACAGTAGGGGCTCAATAAATCCTTG
13582	GRAF	CCAGTGTCGAGGCCATTTCTCTTTGCCACTG
13583	RBM6	TTGTTTGTCTCTCCTTTTCTTTT
13584	CDSN	CTTCCTCCTTCCTCTTCTCA
13585	SIRT1	GGGAGCAGAGGAGGCGAGGGA
13586	CTNNA1	AATAACTGCAGTGTTTCCGCC
13587	IL6R	TTGGGAGGCCAAGGTGGGAGGATTGCT
13588	ECH1	AAAGGGAGGATGGGCGATGAC
13589	CYP2B6	CACATCCTGGGTTCAAGTGATT
13590	CD34	CTCCCCTGAGGCTCAGGGA
13591	C8orf1	TGATACAACAAAAAGATTTAA
13592	EPHB6	CATTGTGACACTGGAGTCTAGA
13593	FCGR1A	GGATACTTAGTTCATGGCTTTTCTCTT
13594	NLGN1	GATTGAAGATGCTGCTCCAATACA

13595	PTPN7	GCTTTCTCCCTTCCGTCCTAGAGAACA
13596	MSF	GGCAGCACGGCCCGGCCCCTCAC
13597	FVT1	GACAGCCCTGTGTTGTGCTCAG
13598	PTGS2	TAGCCCACAAAGAATATTGTC
13599	NPTX2	AGCTACTCACTGTATTGGACGGGAGTA
13600	ROCK2	ACCAGCCTGCCCAACATAGTGA
13601	TNFRSF10A	ACCAGCCTGACCAACATCGTGA
13602	NUP62	TGCACACACAGGGTGTTGAGGAACCAC
13603	PODXL	CCTCCAGGGTCTTAAGAGTCAGGCTC
13604	TLE1	CAGCCCATTCTTTCTTTCTGG
13605	DAF	GAGGAATATAGAATGAAAGACTGA
13606	SCN7A	TGGAAATGTTGGCTTCACCAG
13607	MKI67	TGCCTGGAATTGTTCTGTAC
13608	SCA1	CCACCTACTCTTTCAGTTTTCTG
13609	CD53	AAGACTTCTGGTATTATCTCTCTA
13610	GRIN2B	TGGGCCCTCTCAGCAGGGGAGGGTAG
13611	ABCC3	TACCTGCACTGTCCTGACCATCGCAC
13612	TDG	ACCATTCTAGTTTTATCTTCCTTGG
13613	ATP1B2	TCGCCATCTTGGTGACTTTGAA
13614	TGFA	CCCTGTGTTTCCTTGCCCTTTAGAAA
13615	PDE4D	CCTGACACGTACAGTGCAAA
13616	LTB4R	TGTCATTCAGGCTGGAGTGCAGTG
13617	CCNDBP1	ACTGCTCTCCCCCGCTGCATCC
13618	CNN1	GTTTGTAATGAGAGCACTTTCT
13619	TM4SF2	TGAGTGTGAAGGGGGAACAAGTCA
13620	KITLG	TGCCGCCGCTGTTCGTGCAATA
13621	MKI67	CGGAAGTTTACTGGCTCTGCT
13622	OSR1	AGGATGGGGAGGTAGGAATGAGGTAT
13623	PFKFB3	GACACGCCCCCCTCTCCTCC
13624	ERBB3	CATTCCTCAGCTTCTTCACAGGCACTCCTGGA
13625	COL4A3	TGTCATGGAAGAGGAACGTGC
13626	SEPN1	CCACCTCCCAGGTTCAAGCAAT
13627	HPS4	GGAGAGGGTAAGGCAAACAGC
13628	MGEA5	AGGACCCGCAGAGGTGGCAGCGG
13629	PPP1R8	TCTTTCTCCCACTTTCTAGGATC
13630	LRP6	GGTGAGAGAAGAGAACGCGAGAAGG
13631	RORC	GGCCTGCTGGCCCACCTCC
13632	ETV5	ATTTGGTTTTCCTTTCTTTACTTA
13633	EMP1	GCTGTCCCTCATGGAGACC
13634	MYLK2	TGTGGCCTGGATCCATCCTGCT
13635	CST1	TGCCTCGGGCTCTCACCCTCC
13636	SFRS1	AAATGATTATATACATTTTC
13637	TPMT	AAAGTGCTAGGATTACAGGTAT
13638	RNTRE	CTGATCCCTCAGTGCTCAC
13639	PMX1	ACCATGCTGTGCCTCAGTTTA
13640	LOH11CR2A	TCTTTGTCTGTTCACTTTCTATCT
13641	EMX2	TATCTAGCCCCATCCCACACCTGTTTCA
13642	CNN2	AGGCTGGAGTGCAGTGGCGCCA
13642	PER2	AGGCTGGAGTGCAGTGGCGCCA
13642	VHL	AGGCTGGAGTGCAGTGGCGCCA

13643	B3GALT5	GCCCTTGGACATCAGAGCTGCAGGCTC
13644	TUFT1	CAGAGCCTGAAAACTGTTTTCACTGGG
13645	MAGEA2	TAGTTTAGGGGTAAGAGTCCTGTTT
13646	ARHGEF1	CCTCCTGCCCTCTGCTTGGGGGA
13647	TSC2	CCCTCCCTCCTGCACTGGCCT
13648	GPR81	CGCTTGTGATCCCAGCACTTTG
13649	IL10	AGGAGATGGAAGTTGCAGTGA
13650	VDR	CCTCAGCCATGAGGAGTTG
13651	MAGEA10	TTCTCCTACCCTGAATAAGTAA
13652	CAV2	AGGGACATTTCTATAAAAATACTAC
13653	GCH1	ATTTTCAGGTCTGCAGAACCATAGC
13654	RUNX3	AACTGATTTTAGAAAAAGAAGCTTAAT
13655	PKNOX1	GCGGTGACAACGGCACACGCCTAG
13656	TAP2	TCTTACGTGAACTGTATACATTCATA
13657	DFFB	CGCCTCGGTCTCCCAAAGTGCTGGGA
13658	AKAP13	CTCTTCCTCTCTGCTGAGGCAGCTGCC
13659	HLA-DRA	TCCTTGACCTCAGTGAAAGCAGTC
13660	PCDH1	GGGATGGGGGTGCAGGCCAGGGAAACA
13661	CD3E	CCTGCGACTCCCTGTTTCCTGGGCT
13662	TEM7	CCTTTCTACTCAGAACCAATAA
13663	RAD52	ATTAGCCTTGAACAACCAGATGGTGA
13664	ANK2	TGCAGACCTCTTCAAGTGACACTATG
13665	ABCB4	CCAGTTTAGCTCCAAAGGAAAAG
13666	TEM8	TGTATACCTTTGAGAACAGTGCCTT
13667	CD34	GACTCCTGGGTTGAGCTGTT
13668	THRA	CGTGGGCTCAGCAGGGCTGGTC
13669	GRM6	CGCAGACGACTTTCACAC
13670	MEF2A	CCCCCAGGCTGAAGTGCAGTG
13671	CNTNAP2	AGAGCTCAAGAAAGCTGGTCCAG
13672	NCKAP1	GTGCATTTCTGTGATGTT
13673	HS3ST4	TCCTCCTCCTTCATGCAGCCAGGATTGCCTCC
13674	UBTF	CCCTGCAGGAAGGAGCTGCCTGGACCC
13675	APBB2	TTTTCCATTTTACTTTGAAGATT
13676	VHL	GTTGCCCAGGCTGGAGTGCAGAG
13677	VWF	CTGCAGCTGCATGGGTGCC
13678	TGFBR3	GGCAAATCTGTCGGTCTCCA
13679	FNTA	CTGATGCTCCTTGGGTGCTGCT
13680	S100A7	CCCTGTTCCGGGGGCAGCCAGTGCCCAGCC
13681	PPP1R2	GTATTTTAACACTTGTCTTCAACTTG
13682	PRPSAP1	GAAGCATTCATGTTGTTACA
13683	H1F0	GGAGCTGGGAAAAGGGAGGCAGA
13684	ASPH	GCTATAGTCTCTTCAGCATTTT
13685	LOXL2	TCAACTCCTGTCTTCAGGCCACACCA
13686	HOXC9	GGAGGCGGGGAGAGAAACTGCGTTC
13687	HMGCR	TACTAAAGATATCAGAGCTCTTAA
13688	APBB2	GTAGTATCAACAGTGACCCAGAA
13689	RDX	ATCTGCCATGTCCATAGCCATAA
13690	CRSP6	ATAACCTCTTCCTCCAGTTG
13691	MAP1A	CTTAGCAGCTCATCAGCTTATAAACTAC
13692	SWAP70	GGCTCACTGCCACTGGGTACTC

13693	RBL2	AATTAGAAAATGTTATTTAACAG
13694	DXYS155E	TTAATGCGGCCGGTCCTCTCTCA
13695	PRKAG1	CTTTCAGCCTAGCCA
13696	SMURF1	AAAGCAATGGTGAAAGGATAACCTC
13697	ODF2	TTTTGTTTCTTTTGGCCTGAT
13698	FABP2	CTCATGCAATCTTCCTGCCTCAG
13699	ADAMTS9	ACCAGTGACCTCAGGGCACTTTGG
13700	FBXL5	GGATACTTTGTTCTCACCA
13701	AAT1	TGAACAAAAACATCAACATGGAGTCC
13702	STAR	GGGGATGCTAACCACAGGGCCTGAG
13703	AMPD3	TGAAACTGCCAGTGCCTGAA
13704	DDB1	GAGACTTGGGAATGAGCTGA
13705	FBLN1	GCACAGCCGCAGGTGCACCTCCAGGCC
13706	IGFBP3	CATCCCTGCGCGCCCAGCCTGCCAAGCA
13707	ZNF278	GGGCTCCAGACCTTTCTGAGCCC
13708	GBA	TGCCCAGGGCTGGAGGCCCCTAGAAA
13709	MUCDHL	ATGGAGGGAGAGGTTGTGCTG
13710	AMD1	TTGAGGAAGTTTTCAATCAG
13711	GABRB2	CTAGATTCCTCCTCAAACCA
13712	DYRK1B	CCATACCCTCCCCCATCTGGGGGCCCT
13713	PDE1B	TCTCCCCTGGGGCTGGGAGGCT
13714	MCM6	TTTACTTCTGTGTCCTAAGGG
13715	TAPBP	GGCACCCCCGGAATTGCTCTGCCTTGT
13716	CLK2	GGCGCTATGTTCGTGAGAACTGCAA
13717	RAB5A	TAGGAATATAGACAAATGACTGTCTGGGC
13718	ATP7A	TGCCAGTTTAACTTGTCATGCACTGA
13719	SUFU	CCTCCATTCCTTGCCACCATG
13720	BTEB1	TGGACTCGGGAAAAAGTGTCTCTTAGA
13721	MYO1F	GCTGGGCCCTGGGATACTGCCTTC
13722	BLK	GGGATCTGAAGAGCTATGGTGAAA
13723	CPD	TCTCAGCCCTGCCCTGT
13724	PODXL	CCAGCTCCCAAGTTTTCCTTC
13725	CBFA2T2	TCAGGCTGGAGCACAGTGGTGT
13726	NRCAM	GATCCTGTTATTTCCTCTGCA
13727	DAD1	ACACATGGATTTTCTTCAGA
13728	B4GALT5	GTGTGAGCCATTGCGCCCAGCC
13729	SCA1	AAATGTACACCTGATTTGAGAAGC
13730	DLG4	CTTTGCCCTCTGTTCCTTC
13731	GALNT1	AAGTCGCATCGCTAATGATATTTGCC
13732	FHL2	CCCTCCAGCCCCGTCCGGGAGTCCCC
13733	SOX12	TGCTTCTTCTCAGCTTCTCTG
13734	C9orf19	GTGAGGGTGAGCTTACTCAGGGC
13735	RPP30	TCAGCACTCCCTTCTTCCCT
13736	AHSG	CCCGTCATTCCTCACAGGACAGAAGCAG
13737	VIL2	CATGCCACTATGAGCTTTCAGACTCC
13738	CASP7	ACCAGCACCTTACTGCCCAG
13739	PTK2	TTCCTTGTATCTGTCTTCCCA
13740	HD	ATGAGGCTTTTCCCACCAGCTCC
13741	SUFU	GTATTTTTGTGTCTGGTCTTCC
13742	ACTR1B	GGCCAGGGCCCCACCTCC

13743	RAB7L1	CTGTCTTGGAATGTAAACATCTGA
13744	FANCC	TGGCCTGGCTGGGTGCAGTGGCTCA
13745	APM1	CAGGCTAGAGTGCAGTGGCATGATCTC
13746	SAS	CAGGCTGGAGTGCAATGGCATGATCTC
13747	CD28	GGCAATAGCCTAAGAAGGGGGGA
13748	NBS1	TAAGGAATATAATGGACAGATTAATA
13749	CD81	TGACTCCGTCATTTAATAAAGA
13750	RERE	CATAGGAATTTGGAATCCAAG
13751	ZNF217	GACAAGCATTTTCTCTGTAGAGC
13752	PFKL	TGTCTGGAGCCTGCAGGCAGGTGGGG
13753	DCLRE1C	ACCTTGAAAAGAAGGTTGGAGTGCAGCTTGAA
13754	MAFF	AGATTGAGAGATACAGAGCCG
13755	SUOX	CCCAGCGCCCCAGCCTCACCTTCTCT
13756	SYNGR1	TCTGGGAGGCCTTGGGGCCCTCA
13757	JAM3	TGCTGAGAAGGAGCACTCCACTGTGTG
13758	SLC21A9	AAGTGACCCAGGGAGACAAACA
13759	CHST6	CCCTCCTCCTCTGGGCACA
13760	PLS3	GTACCTTAAATTTGCATCTTCCCTCTCAT
13761	ATP7B	ATGGGCTGAGCTAGCCTCCAGCTTTGG
13762	CYP7A1	ACCAGCCTGGACAGCTTAGTGA
13763	ICOS	CACCCAGGCATGAAGCACGTTGG
13764	ALB	CTTCGGTAGAGGATTTCTAGTTTCT
13765	PTGES	CTTCCCTTGCCGTTGGCTT
13766	BCL2	TGAATGGTACTGTACCGGTTCATCTGG
13767	ANKTM1	CATACTGATGTTCATACAAA
13768	BNC	CCTCAGTCTTCACCGTTTTA
13769	ALDH1B1	CAGGCTGGAGTGCAGTGGTGTG
13769	APPL	CAGGCTGGAGTGCAGTGGTGTG
13769	GPR56	CAGGCTGGAGTGCAGTGGTGTG
13769	HLCS	CAGGCTGGAGTGCAGTGGTGTG
13769	NQO1	CAGGCTGGAGTGCAGTGGTGTG
13769	PPP1R12B	CAGGCTGGAGTGCAGTGGTGTG
13769	TRPV1	CAGGCTGGAGTGCAGTGGTGTG
13770	GFER	AGCAAGGACGTTGATTGGTTG
13771	TAF6	TTCTCAGAATAAAAGTTTG
13772	IGHMBP2	GATCCTGGGGAAGGTTCCAGTCCCTG
13773	CPM	AGGTTACTGCAACCCTAACTC
13774	OGN	CATCTATTGAGGAAAACCACAA
13775	SEMA3F	GCTGCCTGTGCCTGCCATGGGCCAG
13776	PACSIN1	CTTTCCAGCTATCAGCACTTTCAGC
13777	FMO1	CTATTTTCACAGATCTCA
13778	SUV39H1	AGCCCCATCTGTGGGTTGCA
13779	ALDH1B1	CGTCTCACTGCAACCTCCGCCT
13780	EGLN2	CTTTCTGCCAGCTCCCTGATGAC
13781	TNFRSF1B	AGGCTGAGACTGCGGGATGGTCCT
13782	MPP4	CTAAAACAACAGTATTTGACCC
13783	HKE4	GAATGAGAGGCCAGAGGGA
13784	MYH11	CACAGTTCACCAAGTGCCTT
13785	RCE1	ACGAGCAGCTGTGAGTGAGGGG
13786	WNT5B	GGTGCTCTCTTACTCTTTC

13787	NRIP1	TTAGCAATACTGGAATATAGGCACATT
13788	MPP2	TGAGGGCCAAGCTATGCCCAGGAATGTG
13789	ALOX15	CAGCGTCCTGGGCTCAAATGATC
13790	CYP8B1	CAACTTTGCCAGCTTTCTCCA
13791	HOXB6	GTGGGTGGGGAGCTGGGGCAAGAT
13792	STE	GCTGGTCTTGAATTCCTGGGCT
13793	CANX	TTGTGGGAGGAGTGACATG
13794	PROK1	CCAGCTCCCATGACTCTCCCAGTCCCT
13795	NOS1	GGGGCTGTCTCCCAATGAAAGA
13796	ALX3	TCCATTCCCAGTCGCTCCCAGCCC
13797	CROT	GGTTGTGGCTGCAGTGAGCTGTGAT
13798	OAS3	GCAATAGCTAGGAAAACACAGGG
13799	MAGEC1	GGGCCTGGTTGAGGCTGGAG
13800	EGR3	CCCTCCAGTGCCTCCCGGCTGCTAGCC
13801	FPGS	TTCAGCTGCATTTCACATGC
13802	MDM4	GCAGTTTCTTCACTACCAAAATGACA
13803	L1CAM	CCACCATCTGCTGTCTTTTC
13804	POLL	CCCTCCAGCCTCAGCTGG
13805	APAF1	AAAGTGCTGAGATTACAGGCGT
13805	ATP8B2	AAAGTGCTGAGATTACAGGCGT
13805	HUNK	AAAGTGCTGAGATTACAGGCGT
13806	IQGAP2	GTTTTTAAATGTATTCTCTG
13807	USP14	TAGCTGGATGTGGTGGTGCA
13808	ASNS	AAATCACTTGAAGAAAGCTTA
13809	SYT1	TAAAGGACTGCTCTGTGTACACTGTGA
13810	TMEM1	GGAGCACCGGGTTCCTGCCCAGCAC
13811	FPRL1	GGCTCTGGCTGTGCATTCAGCAG
13812	TRIM8	CATCTTCCCAGACGGAGTTCA
13813	BCL7A	AGCTTTCTTTACTGCACTGGAGT
13814	SEL1L	CAGGGTATGGCTTACAGTGA
13815	PFKFB4	GGCAGGCACTGCTCTCTGCAGAGGGG
13816	SHOC2	TGGGGCACTGGCTTCAAACAATTCAGT
13817	APPBP2	GCAGTGCCATAAGCAAGTCT
13818	ZIC3	GCTTCTTAAAAGAACCATA
13819	ATP1A1	TTTTAAGGGTTCCAGCATCCCAG
13820	TBL1X	CAGCGAGATTGCTCTGCAGCC
13821	G2A	TTGCCTGGGCTGGAGAACAGTG
13822	ZNF277	TTCAAAAAATAAAGTAGAAAAAT
13823	DSCR3	TGACTGCCACCGTGCCCGGC
13824	CUBN	AGATCACACCACTACACTCCA
13825	DSCR5	GTTGACCTTCTCTTAGA
13826	XRCC2	TAGAGTGCAGGGATTACAGGC
13827	LOX	GGAAAGGGAAGGGTGCCACGT
13828	MGAT2	CGCTCAGCCTGGAGTGCAGTG
13829	MAP2K2	CCTTCCAGCTGAGGACAGGCTGG
13830	EYA3	AAGAATTGTGTGAATGTTCTGATCA
13831	PBP	CTGACAGCTTGGGAGGAAACCTGAGA
13832	SLC2A4	GGGGTGGGAGAGCCAGC
13833	SIM1	GTGCATATATACTACATGA
13834	RAB7L1	ATGTCTTAATGCATAATACTGCAA

13835	ATP5E	ATGGCAGATTGAAAAGGATCTC
13836	TNFRSF8	TGGGACCCTCCTGGTGCTGCCCACCTT
13837	ATP2A3	GGGGAGGTCTTAGCAGGAGCGGG
13838	SCG3	CCCGCCCCACACCCACCC
13839	NT5C2	CAGGCTGGAGTACAGTGATGTG
13840	DAAM1	CAGAGCCGCCTTTCCAGCATGCAGGG
13841	JAK2	CCTCCCTCGGCGCTGACAGGCTGG
13842	PPP6C	TGCTGCTGAAATGCTGCCTCT
13843	ACE	GATGCTCTAAAGCTGGGCTCAAGCAAG
13844	RAP1B	GGTTTTGACAAGCTTGCATCATGCGTG
13845	TPM4	CCAACTTCATTTCCATACTT
13846	TFE3	GGGGGACTGAGTTCAGGTTACCAG
13847	CNP	CCATTCAGGAACCTGGACCAAAGCTGA
13848	GSTM4	CCGGGAACCCCAGAGGAGGTCGCAGTT
13849	PDGFB	CTTGCACACTTCCCCATCTTTGATCC
13850	FZD4	TTGTGGACTGCACTCCCAAG
13851	F2RL3	CCTGTAATCCCAGCACTTTAAGAGGC
13852	DYRK1A	TCCTGTGGCTCTCCCGTTGCAGAGGCC
13853	TMPRSS4	GTCATTGTTATTACAGCTATG
13854	SLC7A5	GCTCATGTCCTGTCCTGGTCCTG
13855	SH3BP2	CCCTGCGTTGCCCTCTGGGTCTGTGA
13856	KCNS2	CTGCAGTTCTTACTTGCATTCCC
13857	SCML2	GCCCAGGCTGGAGTGCAATAGC
13858	AHCY	CTGTTAAGGGGCAACTGAGA
13859	TRIM14	TCTGAACCCTCTCCCAGTCC
13860	LPIN2	TCCAGGGTTTAATAAAACTGGTTA
13861	GNB1	CGGAAGATGAGTGAGCTTGA
13862	PCTK3	CCTCCCCCAGGACCTGCCTAGTGCCA
13863	CBFA2T2	CAGCCTCTGCTGACAGCACCT
13864	IPP	CTGAGGTTGCAGGATCGCTTGA
13865	TBX3	TTTGCCCTCAAATCAGTGACCC
13866	SLA2	GGCCTTGCCATCTTGTGGCCG
13867	DNMT3B	GCCAGGACCCAGGAGG
13868	ODC1	TCCTGCGGCTGCGACTCAGGCTCCGG
13869	EVC	CCTGCTCTCCCTGATAGATGCTGAGA
13870	NOTCH2	GTGATGAGGAGGACAACACTGCCT
13871	ITGA3	TTGGCTTTCTGTGCCAGCCT
13872	GABPB1	GCTGGTTTTATTGGAATGACAGTGTT
13873	DDT	GTTCCTCTGCCCGCCATGCC
13874	GPRK7	CCCAGGAGGCGGAGGTTGTAGTG
13875	SH3BP2	GTGTGAGCTGTTCTAGGCCGAGG
13876	IGF2R	GGACCTCTTACACATCTGCTCCGCAGTG
13877	AQP6	CGGAACAGTGTCTCAACTGGCC
13878	IL1F9	CAAGGCTGCTGTTATCATCTCA
13879	PCDHA9	GCAAGCTATTTGTTTGTTTTCTA
13880	CRACC	TCTGATGCTTCTTTAGATTTA
13881	RAB7L1	CTCTGGAGACTGAGGTGGGAG
13882	ADAMTS1	AAAAGGAGTTGAATCATCAGAGTA
13883	VAT1	GATTTCTGCTTTTGTGTACCCCACC
13884	IL1R2	AGCTTCTGAAGGAAGACTTTAA

13885	GARP	ACAGATGGGGAAACTGAGGCTTAGGAA
13886	CD2AP	CCTTATTTCTTAACTGTGCTGGGATTGCAA
13887	TYRO3	AAGTCTCCAGAGAGAAATCAGGCCTGA
13888	CKTSF1B1	TTATTCGAGTCACTGATGA
13889	GPRC5B	CCTTTGTTATTTAGCATTTCGAACA
13890	PDE4C	TTCCAGGAAGAGGCTCCATGTG
13891	FUT8	ACTCAGTTCAAACCATTTCAG
13892	IL22RA2	GCTCACTGCCTCTCCT
13893	PCTP	TTCTCGCTCCCCCCATCCTGGGCTGGG
13894	IL1R1	TTTCAAACTTTGTACTGTTA
13895	AQP6	CCCCAAATCTCCTCCTTCCACA
13896	LZTS1	CTTTGCTATGACCTCAGTCC
13897	ELF3	TGAGTCTGACAAAATCAGAGTTAG
13898	MAP3K14	AGCAGCTTCCAGCCTGGGTCAG
13899	PSMD9	CAGGCTGGAGTGCAGTGTCGTGAT
13900	RLF	AGTCCATTAGCTCTCCAGTT
13901	SPF30	TGCTATTCATTTAACTTTTC
13902	OAS1	TCCCTGCCCCTCTCCATGAAGCT
13903	RAI14	TGCAGTGAATGCTCCTTCC
13904	PTGES	TGTTGCCCAAGCTGGAGTGAAG
13905	LTB4R	TCAGGCTGGAGTGCAGTGGTGC
13906	TRRAP	CCATCATGCTGGTTTTTCTCTGAGC
13907	MTF1	TTCATTTCTCACAACTGGGCT
13908	BDKRB2	CTGGAGGACTAGAACCTGGAGGGCTG
13909	CNN2	CTGCACCTCCACCTTCCGGGC
13910	DMP1	GATTGGGTCAGGAAGAGTGGGAG
13911	IL13	GGAGAGGGGCAGAACAGCCGC
13912	SHOX	AGAGAAACTATCTTCTCCCAACATT
13913	DBT	AAGATTAACAAAATTAGGCCGGG
13914	BASP1	ACATTCTCTCATCCTACTTAGCCTAC
13915	IHPK3	CAAGCCCCTCGTCTCCCGGGAG
13916	GAP43	TTTCTCTCTGTGTGGCAAACATTTA
13917	MKL1	CGCAGGGCAGAGGAGAGCAGC
13918	SLC9A1	CACACACACTCCTTCCCCTTGTCCCTG
13919	PSCDBP	TCTGAGATGGGTGCTGCAAA
13920	EVC	CATGCTGGAATTGCTCCCTGATT
13921	EXTL3	TTCTCTCTTGTTTGAGAGAGAATGAGG
13922	DRG2	GGGAGCAAGTTGCCCACATGCCCG
13923	MHC2TA	GCTGGGACTACAGGTGTGAGTCACCA
13924	NHLH1	ACCACAGACCTCAGCTGTGTA
13925	IL2RB	AGGGTGGGAGGCAGGCAGCT
13926	KCNMB1	TGCCTTCTCCACCTGCCCTC
13927	BLAME	TGAAACTGAGAGAGTGAA
13928	IL13RA1	TAGAATGACTCCTTGGGTA
13929	RBBP9	CTCTGGCCTCGCTGCACT
13930	CHS1	AACCTATACCATCTGAGAATTCCTA
13931	TNFRSF7	GAGAGTGAGACCTGGCAGC
13932	CACNA2D2	ACATACCCCACTGGGCACACGCACA
13933	PPIC	ACCCTTTAGTTTGCTTGA
13934	FUT3	GGCGTCGGGATCCCTTTTCG

13935	CLDN14	TGCCCAGGTTCAGGTGTATCGTGCAT
13936	ARHGEF6	ACAGCAGAAATTACACCATCCA
13937	DLEU1	GCCTTTGCCAGCCATTCTTTCCCTTT
13938	MYF5	AGCACAAAATAGTACTTTGTG
13939	CHST7	CTCCCTGGGCTGGGAAAACCCTAA
13940	SHMT1	AACCTGGCTTTCTCACAGCTGG
13941	BRCA1	ACAGCCACTACTGACTGCAGCCAGCC
13942	SLC18A3	GCCCTCGCCTCTGCACTGCGGGACGCC
13943	NR1I2	CTTACTCTAGGTCCTCCCTGCCTAAGGCC
13944	FGFR2	GGAGGCTGAGGCAGGAGAGTCA
13945	HIP1	GGAGGCTGAGACAGGAGAATCA
13945	NFATC3	GGAGGCTGAGACAGGAGAATCA
13946	TMPRSS3	CCCGTGTAGGAACCTGCACACGAGC
13947	RASSF1	CAGGCAGCGCCAAGTGCGTGC
13948	PCTK3	GCTCGCACAGCCTCCCCATCC
13949	FHL1	TGACATGCATGGTTTAACTTCC
13950	PTPN1	GGGCCTGCTGCGTCAGACCAGT
13951	GAS7	GGCGCCATCTGTAAAGTCTCCTCTGGAAATGC
13952	ITGA2B	AGCTTTGGGTTGGAGCTGTTC
13953	RAD21	AGTGAGGCTCCAAAATGAG
13954	SLC24A1	ATAGGAGAGCTGGGGGCAGGAGAATG
13955	VPREB3	CTTGCCTGCCTCCCTGCCTCTGGCCATGG
13956	TAF1	AATCATGAAATTAACTAACACCT
13957	OPA3	GGCAGGAGAATTGCTTGAACTTG
13958	PTK2B	CCTACTTCCGGCTGCAAA
13959	BCL7B	AGGACTTGGGGCTGTAGCATCATCT
13960	NT5C	GGCATCGTGCTGGTGCCTCTGGCCCC
13961	PDE4C	CACTGCACTCCAGCCTGGGCAACACAG
13962	MAP3K7IP2	CTTCATCTGCTTGGTGTC
13963	TAP2	AGCGCTGAAGCAGAAGTCCC
13964	PML	AGGCCTCTGGAATCAGAATCTTCAGGGTGG
13965	INPPL1	GGAGGCACCACGAAGCTGTGA
13966	PPP1R12B	GGAAAGTTGCTGCACAAGTGTGTGGCA
13967	KCNK4	CGGGTGGGGTGCAGGGAGGGAGA
13968	MLC1	CGGGTCGCCTGCCCTGTCTCCCTACTT
13969	MSI1	CTTCTGTGTGTCCCTCTCCCCCA
13970	GFER	GGCAGGTAAGGGTGGAACAGGAGGGGT
13971	SLC26A4	ACACATTTAAAAATAAATGTAA
13972	GPR1	CAACAAGAGTAAAACTCTGTCTC
13973	HIP1	CAACAAGAGCAAAACTCCGTCTC
13973	VPS41	CAACAAGAGCAAAACTCCGTCTC
13974	AGTR1	CAAGTCAACTGACAGTCCAAAGGCTCC
13975	JPH3	TCTCTGTACTGTGCCTGCCTCAA
13976	FCRH1	GAGTAGCTGGGACTACAGGCACATGCC
13977	FNTB	GGAGGTGGGGAGAGAAAGAT
13978	CLTC	TCCATTCAGGAGCAAAGAGCA
13979	BAI2	GGGGAGGGGGGAGGGGAACT
13980	LMO7	GTGTATGTGTCTGACCTCAGGCC
13981	SELL	TGAAAGAGTCCTATTTGCACTGTAGCC
13982	LZTS1	TGGGCTCAAGCAATCCTCCTGCCTCAG

13983	PIGR	TCTTCTTCTTTCCTTCCA
13984	C18orf1	CTGCTGCTGCTGCTGCTTCTC
13985	TYK2	CAGATGGGGAAACTGAGGCCC
13986	STAU2	TCTGTATTGTGTAGAATGATCATGT
13987	TPM4	TCTAAAGTTGTTCCCTGGCCGG
13988	CDH6	GGAATGAGGCTGGATACGGTGCAGTG
13989	INPP5D	TCATATCAGGATGACCTCGA
13990	MATN3	AAAGTGCTGGGATTACAGGCTT
13990	RGS9	AAAGTGCTGGGATTACAGGCTT
13990	SERPINB9	AAAGTGCTGGGATTACAGGCTT
13990	SLC15A1	AAAGTGCTGGGATTACAGGCTT
13991	MAZ	GGAGGAAGAAATGTTTTCT
13992	MTAP	GCACAGCCACCGCTCTGTGGCTCG
13993	CETN1	CGGTTCAGAAGCTAAAGTGACTCTCT
13994	PKD2	CTCAAGTATTCTTGATCCTGTGTTTCA
13995	EPB41	GAGAAGAGTTTAGTGACTGAGGC
13996	PPAT	GATTCTTAATATTTCTCCATCA
13997	C5R1	GGAGGTGGAGGTTGTGGTGAG
13998	MTNR1A	TCCCTTGAGCCCCAGAGGCAGAG
13999	CLCA1	ATGCTTTTGGTACAAATGGAT
14000	KCNK3	AGAAATGTGAAACTTGGTGGGG
14001	PSCD4	TCTCACCCCCTCACACAGGCC
14002	ABCA1	AATGAATTCTTCAACAGGGA
14003	NEB	TTTTCATAGTCTTCTTTGTATTTTGC
14004	CRY2	GCAGAGGGACTCAGGGATGGGGA
14005	SLC2A6	GGCAGCCCACAGTGCTGCACGTA
14006	RSU1	TCCAGCACCTTCTCTCTCCA
14007	POU2AF1	AGAGTGCTGGGATCACAGGCGT
14008	EDNRA	ACCCAAGAAGAAATGCTTTCCA
14009	KCNS2	GTTTCCAGCTGTGAGCTTGAG
14010	BACH2	GAGGTTTGCCTTTGTGGAAA
14011	RECQL5	CAGCCTGGCATCTTCTTG
14012	SRGAP2	TTGAGCCTGACTGTTCTGCTCCA
14013	APAF1	CAGGCTGGAGTGCAGTGGCATAATCAT
14014	MGAT3	AGCTTCTGCAATGGGAGTTGCC
14015	TEM7	ATCTCTAGTACTTTTTGTCA
14016	GRPR	TAAGCCTTTTTGTGGCTAAGTTTTGTT
14017	FLRT2	TGTCTTCCAATCATCTCCCAT
14018	LDB1	TACCCCTTTCAAGCCTGGG
14019	PDYN	TATGTTATTTCTCTGGGGTCTG
14020	B3GALT5	CTGCAGGCTCTCTGGCCTTTGGACCCGAG
14021	CBFB	GTCACAGGCTGGCTTCTGT
14022	CASP10	CTCCCACCTCAGCTTCTCAAAGTTC
14023	NFIB	ACAAAGGCTCTATGGAAGAAATG
14024	SLC7A5	CACCACTGCTTCCCACTGGG
14025	TCAP	AGAAGGGACAAAAGGTACTGGTGAG
14026	SUFU	CTTCCCTTTCTGGCTT
14027	ATRN	GCCATCCTGAGGACACAGCCAGGA
14028	BRCA1	GAATCACTTCAGCCCGGGAGGTGGA
14029	GNAQ	GAAAAACAGAGGATGCTGAAGTACAGT

14030	KLK5	AGGGACAGCCCTGACACTCCT
14031	SHOC2	GAGTAAATCACTGGATTTCTT
14032	HYAL1	TCTGCCCCTGCCCACCTCCTC
14033	RAD51L3	GCTGACAGCTTCCCGCCTCCTCCAGCTGC
14034	DSC3	TCATGCCATTCTCCTGCCTCAGCCT
14034	MTR	TCATGCCATTCTCCTGCCTCAGCCT
14034	RAB36	TCATGCCATTCTCCTGCCTCAGCCT
14034	RPP30	TCATGCCATTCTCCTGCCTCAGCCT
14035	S100A9	CCCTGCCTCTACCCAACCA
14036	RXRA	CAGGTGTGTGGTGTAAACA
14037	GAS7	TTTAGGAGGAAGGCTTGGCTCCT
14038	GSTA3	GTGGCCTTGAGAAGCTGAGC
14039	EIF2C1	GAGTAACTCCTCCTTTACTTTTTTCCT
14040	CRKL	CTGCCATCTTGCTTTTCTTTGGA
14041	LIMK1	GCCGGCCACACCGCATCTTCCGGCCGT
14042	HUNK	ATCTAAGACCATCTCTCCA
14043	TNFRSF1B	GCCTATGATCCCAGCACTTTG
14044	CA6	TAAGAAACCATGTGTGTCTGGAACAC
14045	PDGFRB	GCTCCTCTCCCCTACAGCAGCC
14046	HYAL1	AACCCAGGCTGTCTAGCTCCGGGGGTA
14047	IFNA4	TTGAACCTGGTTCAACATGGA
14048	CARD4	TAAGTCAGGAGACTTTCCTT
14049	ABCA4	CACTGCAGCAGAAAACAAACACACGA
14050	PSME3	TAGCTCTTCCCAGACCTAAGCTGC
14051	CDH16	GCTGGGAGCTTGGCCTCT
14052	KIT	GTGGGAAAACACTGCCATCT
14053	GFAP	CTGCTGCTGCTGCTGCTAATCTTC
14054	CNTNAP2	AATGTATTTCCCCTTGTGGCT
14055	GLI2	TACACAGTGCTTTCCAGCCTTTGG
14056	EPB41L2	GGCTGTGGTGGTGTTCTGTTGGTTACA
14057	GAS7	GAGCCTTGCCTAGCTGGT
14058	SH3GL2	TTCAGAGGTTTAACGTGCTGCTT
14059	GATA2	CCTCGGGATTGGCGGGTCCACTTGCCA
14060	SAG	TTGCTCAGAACAGGGGCTGGCT
14061	NRXN3	GCTCCCCAACTCCTCGCTTCA
14062	SRRM2	GGCCCAGGCGGGGTGCGAGTG
14063	DNASE2	AGGATTGTTGAGGAGTAAATAAAT
14064	SP1	TCAGCTCTTCCATGATGGATTCCCC
14065	STAT6	TCATAGATCCTAAGCCATA
14066	FZD2	CCGTGTGGGGACGCCCCCAGG
14067	KCNA6	TGTCAACAGGATGGAAACCAGC
14068	FCGR3A	CAGGGACTGTAAAACCACCTTTT
14069	EDNRB	TCTCAATTTTAAATTAATTTTGAATCACT
14070	DBY	TTGCAGACTTTGCAAATCTTAAG
14071	RPIP8	ACTTCAACGCATGCACTTTGT
14072	RASGRP1	AGCACTGTTTTCTCTTTCA
14073	HMG20A	TGCTCTTTCCTTCCTCACTGG
14074	HTR1D	CACACGAATGTCTCAAGCTTTGA
14075	RPP30	GCACTCCCTTCTTCCCTTTTATA
14076	MUCDHL	GGAGGCACCGATGCCCGCAGAGCCCG

14077	PRKR	TCTTCCATCTGACTCAGGTTTGC
14078	KL	CTTTCATAGCTTTTCTATTTTTTGC
14079	PPT1	GGTGCCCAGGCCTGAGGTACTCA
14080	PRLR	CCAGAACAAATCATTATGTTTCCTAAC
14081	APM1	GGCTTACTGCAACCTTTGCCTC
14082	CRK	TCTTGCCTCCTTTCTCTCAGG
14083	SOX9	GTTGTTGGAGCTTTCCTCAAA
14084	GAS7	TGGCTAACATGGTGAAACCCCGTC
14084	KAI1	TGGCTAACATGGTGAAACCCCGTC
14084	NFKBIL2	TGGCTAACATGGTGAAACCCCGTC
14085	KCNMB3	CTTTCCATGTGGAATTCAAAG
14086	WASF3	ACTCTTACTGATCAATATAACTCTG
14087	AMD1	GTGTTTAGGTATTCTCTGCCA
14088	PRCC	CAGCTCCTTTCTGTCCTGG
14089	LHX4	GCGAGAGAGCGAGAGATCTCCGTAGACTGC
14090	ARHGEF7	CTGCAGAACCTGGCCTCACCTGGA
14091	LSS	ACCCTCTGGGGTCTTCTGTCCA
14092	OCLN	TCTTGTATTAAGAATGAAATACT
14093	TNFRSF10D	CCCAGCACTTTGATAGGCTGA
14094	AOAH	TGGACGACTGTGCAATGCTGTG
14095	MASP1	TGTAAGGGGAAGGTGGCAATGGGACCC
14096	EIF5A2	CAGCCAGGCTGGAGTGCAGT
14097	CPD	ATGTTCAAAGTGTCTGCCTGTG
14098	PAH	TTTACCCAGGGCGGGCAGCGA
14099	FEN1	TTGGCTGTGTCTGTGTTTGT
14100	RNF3	GCCTCAAGTGTAGTTGGACTT
14101	FGFR1	CTATATATTAAAAACAAAAAAGA
14102	CHRNB4	TCAATTCTGGCCTGTCTTCCTT
14103	EBAF	CTTCAGGCTGGGGGCAGTGGA
14104	IL12RB2	ACCAGCACAGCCTGCCCCAATTCC
14105	AF5Q31	CTAAGAATGAGGAATAGTT
14106	NET1	GGAGTATTTCAAACTTTACA
14107	RBBP9	CACTGTACTCCATCCTGGGTGA
14108	TBP	TGTAGATTTTAAACACTGCTG
14109	STMN1	TAGTACTGTATTGGCTCTGTGAAAACAT
14110	IGF2R	CCAAGCACCTCCAACCAAATAAGACTTCCA
14111	ZNF124	AATTTCAGCATGAAATTTGAA
14112	PDCD2	CTTCCTGGACTTTGTTTTCTGAC
14113	BRS3	TCTGTTCTGTTCTGTTCTCCT
14114	PSMD9	CCCAAGTATCTGGGACCACAGG
14115	CCNH	ATGTAAAATAAACCATCTTCA
14116	IL1A	TTGTCTCACTTGTGCAGTG
14117	COL18A1	GAGGCTGAGGCTGGCACAGGACA
14118	BID	GATGGACTGACGGACAGTTCCAG
14119	WTAP	GGGCTCTATATTACTTGCTTGA
14120	BSN	CTAGCACACTGCCACCATCTCA
14121	LAMP1	CCTGTTCTGCGCTGTGTAC
14122	HNRPF	ACAAGTGTCCATGATGCTGG
14123	KCNJ10	ACAAGAACCACAAAAACTTGAA
14124	IDH2	CCTTGGAACACATGGTGCCAT

14125 ARHGDIA GGAACAAACAAGGGACCA
14126 SMARCC2 TCACGGTTCCAGGAACAGCCCT
14127 VASP CCTGCAGAATAAATCTGCCA
14128 POU2AF1 CCTGCCTGAGCCTCCCGAGTAGCTGGG
14129 DIAPH1 TGCTCTCTCAACATCACATACAGCTTC
14130 SCN4A GTCCACCATGCTCTCTCACCTGCTTC
14131 TPST2 GCACAAGGGCTGGAGCCCAGAGAT
14132 CIT CAGTTCACTGCATGTGCTGCCCC
14133 DTNB GCAATCTACTCATCTGACAA
14134 ATP1B3 TTCATAAGACTTAATTTGTACAATAGTT
14135 EPB41L2 GGGACCCTTTTGACTTTCCA
14136 TAF4B ATCATAAAACAGGAAATGT
14137 GNAZ CACCCCTTGGCCTCTGCCTCC
14138 GLTSCR1 AGCCTCTCCCCGCCGCCCCCAACAG
14139 RNTRE ATCCACATTTGAACACAGAGCTAAAGAAAC
14140 IL10RA CTCACTTTGCTGCCCCACCATCTTGCT
14141 GATA2 GCCGAAGCTGCTGTGACTGTGTCCCCTT
14142 BAZ2A GGTTCCTCCCTCCTTTTCTCTT
14143 AKAP4 GGCTGTAGGAGGGCATGGAGA
14144 CTF1 ATTGCCTCGGCCTTCTTTGCTTTTTGT
14145 RAB23 TGAGCCCTGGCTACTAATAAA
14146 ACVR1 GGCTGCGTACTCCACTGGTCTGTCTTT
14147 PNUTL2 TCACAGGTTCCTGTTCCCCAGGC
14148 NR2E3 GGTAAACTTCACAGACATAAA
14149 PCDHB11 GCGTGCGCCACCATGCCCGGCT
14150 PCSK1 TTCAGCAGTAACAGGAAACCACTTA
14151 PAFAH1B1 ACACATCAACCTCCATGTCCTTA
14152 DUT TATCAGCCCACTTGACCACCCAGT
14153 ATP7A GGGATTACAGGTGTGAGCCTCCA
14154 CDH1 GGCCCCCCAAAGTGCTGGGATT
14155 RAD1 GGCCTCCCAAAGCGCTGGGATT
14156 NLGN1 CATCACTTATCTTTCTCACT
14157 DDX11 GTGTGGTTCCTGGAGGGGTGGTCTGTT
14158 TXNRD2 AGGCTGAGAGTGGCACTATGTGC
14159 HM13 GGTTGCTACTTTTATTTTGGA
14160 RGS16 CAGGTTCTGCAAAGCAAGTGC
14161 SLC7A7 TGAGCCAAGAGCTCCTA
14162 B4GALT5 ATGATGTCATTTGGAAGGATTT
14163 IARS CACCTGGATTTTCCTGGATAATTTGA
14164 VANGL2 CGTACTTCTCCTCCATTGGTCCCAG
14165 MLLT2 TGACTTCTCATTACTGTGCTGAA
14166 UVRAG AAGGTCTGTGGCCATCTGTGAG
14167 TNFRSF9 TTGGAAAGAGTTCAAGTGTCTGTA
14168 ADAR CTCTCCTCTTCAGGCT
14169 PPP1R12B ATAGTTTGTTAGTACTCTG
14170 TAP2 GCTTTTGGTGGGGTGGAGAG
14171 NOV ATTAAGCAGAAACAGCATATTAG
14172 NPEPPS AAGACTGTAAGCCTGTGTGTGC
14173 ADD3 TATCTGTCTGAATTACTTCAG
14174 CALCR TTGCTAAAATATTTTAGATGTTA

14175	RBBP5	GGGAGGCAGAGGTTGCAGTGAGTGGA
14176	TFAP2B	CTCACATGAATGCACTCACCT
14177	AXL	AAAGTGCTGAGATTACAGGCAT
14177	COX15	AAAGTGCTGAGATTACAGGCAT
14177	SNX15	AAAGTGCTGAGATTACAGGCAT
14177	TRAF5	AAAGTGCTGAGATTACAGGCAT
14178	CNR1	GCTGTATCTGTGCTTTGCCCACATGCC
14179	CFTR	CACAGGGGACAGGATGGTTCCCTTG
14180	STAT6	CCTGCAGCGCGCACACGCACGCA
14181	SLC17A2	CAACATAAGGATCTCCATCTG
14182	TLR9	CTTACTTCCTCTATTCTCTGAGCCGCT
14183	B3GALT3	TTTAAAAAATACAGTTCCTAG
14184	DISC1	CTCAGTAACACAGTGCAGTG
14185	KIF3C	GCTGCTCCTGCCTGCTTC
14186	PART1	GGTGATCTGGGGAAAACGCAG
14187	FLII	CTCAGGTGACACCACCTGCTCCA
14188	PCDH11X	TATTTGACTGGGCGTGCAGA
14188	PCDH11Y	TATTTGACTGGGCGTGCAGA
14189	A1BG	GTCACCCAGGCTGGAGTGCAGT
14189	AASS	GTCACCCAGGCTGGAGTGCAGT
14189	AXL	GTCACCCAGGCTGGAGTGCAGT
14189	CMAR	GTCACCCAGGCTGGAGTGCAGT
14189	CSNK2A2	GTCACCCAGGCTGGAGTGCAGT
14189	EEF2K	GTCACCCAGGCTGGAGTGCAGT
14189	EIF2S3	GTCACCCAGGCTGGAGTGCAGT
14189	FCAR	GTCACCCAGGCTGGAGTGCAGT
14189	FSHPRH1	GTCACCCAGGCTGGAGTGCAGT
14189	HUNK	GTCACCCAGGCTGGAGTGCAGT
14189	ICAM1	GTCACCCAGGCTGGAGTGCAGT
14189	MEFV	GTCACCCAGGCTGGAGTGCAGT
14189	NEU3	GTCACCCAGGCTGGAGTGCAGT
14189	PCDHB16	GTCACCCAGGCTGGAGTGCAGT
14189	PSMD9	GTCACCCAGGCTGGAGTGCAGT
14189	TERF2	GTCACCCAGGCTGGAGTGCAGT
14189	TNFRSF9	GTCACCCAGGCTGGAGTGCAGT
14189	TUFT1	GTCACCCAGGCTGGAGTGCAGT
14189	VHL	GTCACCCAGGCTGGAGTGCAGT
14189	ZNF264	GTCACCCAGGCTGGAGTGCAGT
14190	INMT	GTCACCCAGGCTAGAGTGCAAT
14190	RHD	GTCACCCAGGCTAGAGTGCAAT
14191	CARP	GGAGGGGCCCAGCAGGGCCAACTCCAG
14192	HOXD9	AGGGCAGCGGATTTGTTGTTG
14193	STS	CATTTCCAACTTGATGTCAAGCAATG
14194	SEL1L	CTGAGGTAAAATGTTCCAGCTCA
14195	CYP1A2	CCAAGTAGCTGAGACTACAGGC
14195	LTB4R	CCAAGTAGCTGAGACTACAGGC
14196	MADH5	AACTTTGAGTACAGATACTGTG
14197	MAG	CTCCCCCTCCTTCCCAGCTGCC
14198	HLA-DRA	GCTGGCTTTCCCTGTCTATTGCCT
14199	TNFRSF1B	GGAGAGAAGGCGCTGGGCTGCGAG

14200	FOXM1	CAGGAGTTGAATTTGGGGTGG
14201	ABCA1	ATTATCTACTAGTAATAATGTAAT
14202	HOXA10	GTCTGCCTGGAGTGCTGTGC
14203	PAICS	GGGCTCAAGCAGTTCTCCCACCTCA
14204	HNF4A	CCCTGTGAGGCTGGGTCCA
14205	PIK3CG	TTCTCAAGGATTATTAGAATCTTAG
14206	BCL11B	AAGTGGTGGTCTTTTGGATGAGGGAA
14207	WHSC1L1	GGCATTTTCCTGCCTGGTTTCT
14208	ATP1B2	GCTCACTGCAACTTCCGCATCC
14209	PSEN1	CTCAAGCACTGACACTCATT
14210	FGF12	TGCAATGTGGTAGAAAATTCACGTG
14211	OCLN	TTCTCAGAAGGCAAATGACTTTG
14212	EGFL4	CTGCTTCTGCCAGGACCACA
14213	MEFV	GACCTCAGGTGATGCACCCACCTCA
14214	HOXA11	TTTCCACTCCTCCTAGCCA
14215	GA	GCCAATTTTATAGACAGAGAAAGTATTT
14216	PMM2	CCTCCCACACGTGCTCACCCACCC
14217	CA14	CAGAGGGAGATAAAGAGAGAGGGC
14218	ALP	CTTACACGAGAAGACATTCATG
14219	SLC16A2	CCACCCCTGGCCTTTGGA
14220	HMGCR	ATTTTGGGGGGTAATCAGCATT
14221	ENTPD6	TTTGTGGCTGTGCTGCTTGAGTGACGTCT
14222	PHKB	GACCAGCCCAGCCAACATGGTG
14223	TCF2	GGCCCAGCAGCCTTCTGACAA
14224	PIGR	GACTACAGATGTGGGCCACCAT
14225	ADAM33	TGAACTGCAGGGGCAGAGCCAG
14226	KCNMB1	CTTGCTGTCTGTTGTTGTTTGAA
14227	METTL1	CCTGCCTGGTCACTGACTGCTTA
14228	PAEP	CCTGGGCGTGGCCCTGGTCTGTGGT
14229	EHD2	GCCCACACCCATTTATTTCCTTCC
14230	UGP2	ATTTTTAAAATAGAGTTTTCTG
14231	CDH17	CTCCAGTCGTAGCAAGAGTCTCGACC
14232	SLC21A2	ACTGAAGTCTTTGTGGAAACCACT
14233	IFRD1	TCTGCTGCCGCCACCGCCCACTC
14234	PITPNB	GACAAATTGACTGCAATGTAATACT
14235	IPP	GGGAGGCTGAGGTTGCAGGA
14236	HCFC1	CTTTTCTTCCCCTTGTGTTTCCAGTCA
14237	WNT5A	GGGGATGGCTGGAAGTGCAATG
14238	TCIRG1	CCAAGCCCTAGCCCTAGGGGG
14239	ICMT	TTCACTGCACTTTCTTCCTGCCTTAG
14240	MLANA	GCTTTTGTTGCCCAGGCTGG
14241	CLECSF12	CCGCAACCTCCGCCCCCTGGGT
14242	EVC	AAACTTTCAGACCAGCCCCACACACCA
14243	RXRA	CCTGCAGCTGAGTCTGTGCC
14244	UBE4A	TGTGTAGTTGGTAGGTGGAC
14245	PHEMX	GGCGGATGCAGCCTACCTCCTGGGC
14246	IGF1R	ATAGGTCTTTCTCTCAGTGAAGGTG
14247	PTK7	GCCCTGGGAGACAGCACCGTGG
14248	TAP2	AAAGTACCCATTGTTTCACTTCCTGGA
14249	PRNP	TAACAGCAAATAACCATTGGTTA

14250	FGF5	TACATTAAACTCAAATGTAATA
14251	SOX1	CCCTGGCTTCTTTCTCTTG
14252	HRH1	TTTGATATGGGCTTTCTCTTTGG
14253	CMAR	GGGATGCCTTGGTTTTTACTGCTCTGA
14253	SPG7	GGGATGCCTTGGTTTTTACTGCTCTGA
14254	NRCAM	TTTCCTCTGCAGGATACAGTTC
14255	COL4A6	CTCCAAGCATCAGCAGAGCCCAG
14256	MAGP2	TAGCCTGGCTTTCTTGCTCTCCC
14257	IGSF4	TAAAATCAGTGACCTTGAACATA
14258	VPREB1	AGACTGTCATGGAAGAGGGTG
14259	APXL	GTGCTCATCTTCTCTTGTCATTCATCCAGG
14260	FGF2	TCCTGGTGTTTCCTCTGACTC
14261	ADAMTS4	CCAAGCCCCCAGGCTACAGAGAG
14262	F2RL3	CTCACTGCAAGTTCCTGCCCAG
14263	HCFC1	ATGGAAAGGGTGGAGAATGGAGGG
14264	NME4	CCCCACGCAGGACCAACTACCTCCGTCA
14265	PCYT1A	CTTAGAAGCCTGCTCTGCATCCA
14266	PIGN	ATCCAGAGTCATTGCTGTGGCTGAG
14267	MPP2	TGTTTCCGTGTGACCAGGGGA
14268	COMT	TGCAGCCCATCCACAACCTGCTC
14269	ESRRBL1	TTTGATAAGAATGCTTTATGTTTA
14270	IL5RA	CACACTCACAAGCTGTGGGAA
14271	TCF2	ACACAGGAAGAAAGTCTTGGTT
14272	STAT6	CCTGCCTGCTGCATCTTTTC
14273	PPP1R12B	TGCCCAGGCTGGTCTGAAGCTGCTGG
14274	PTPN23	CCTGCCTGGCCCAGCCTGCACCCCTGT
14275	FCN2	TCCTTCATCCTGTGGAGTCTT
14276	SCN3A	TTACCAGCTGACACTGCT
14277	PIK3CD	GCTGGGGAGATCAGGCCCAGCC
14278	AICDA	GAAGTGAGATTTTTCTGGCCT
14279	APOC1	CCTCCAGCAAGGATTCAGGA
14280	UMPS	TGTTGCCCAGGATGGAGTGCAGT
14281	MUC4	GGTCCTCACGCAGACACACCCACAG
14282	IL11RA	CAGAGTTGGAGTTCTGCTCA
14283	PPP2R1B	CTGACTTTTAAAAATGGTGACA
14284	DLGAP2	TATATTCCTTGCCTGTGTTA
14285	XYLB	GACTCCTGCAGACTCTTCCA
14286	NR4A2	AAAGCTGTAATATATAGT
14287	CISH	ATGTACCTAGAACACACCAGCC
14288	DGKG	AGTGTGCCAAACACCAGCT
14289	RGS3	GGACTAAGGCAGCCTGGGGGGACACTGC
14290	MDM1	TTGTACTTTGAAAACACCAGCT
14291	MBTPS1	TTCCAAACAAATGATACAACCCT
14292	STS	CCACCTTCTATTTGCCCAGAGTTT
14293	SLC13A3	TCAACAGTGAGCAAATCTGGCA
14294	LZTS1	GCCTCATACTCCTGGGCTCAAGCAATC
14295	DIAPH2	ATGCCTGGCTAATTTTTTGCATTTT
14296	SALL1	ACAACATTATGAAGACATTCTTTT
14297	SRGAP1	CGCCTGTAATCCCAACATTTTG
14298	IQGAP1	AGTATTTTTATGAGACTCTT

14299	RIG	TGCTCTGGCTGTGTCTCCC
14300	DNMT3A	TGCAGCTCTACCTGGCCTGCTTA
14301	TNFRSF8	CCTGTGGTTGTTTCTCCAGAGTC
14302	TCF4	CTTCATTAAAACAAGAGACCACT
14303	BTG2	GCACAACTCTCCTCTAACCCT
14304	PDE6D	GCTGCGGCTCCATCCTCGGCTCCTGGG
14305	MAGEL2	GGGAGCCCCGCCCTCCCAAAAAG
14306	GPRK7	AGCCCTCCAGCCCTCTTGTGCTTTCCC
14307	CLCN4	CCCACCCCGCGCACACCT
14308	AMPD3	CCAATTAAGAGTTAGGCCAGA
14309	NAP1L3	CTTCATCTTATATTGTGTAATTGTA
14310	IGFBP7	GCATGCATATCATTAAACAAATA
14311	ZNF257	CCAGCCTCTGTGGCCCTGTGACCTGCAGGTA
14312	EHF	TGAGATTGCAGCCTGCTGCCTCC
14313	COL1A1	CCCAATGCTGCCCTTTCTGCTC
14314	DPP6	GCTGCTGCTGCTGCTGCCTCC
14315	HOXA4	CTCATCCACCCCTCCCCATCTGGACCA
14316	CBFA2T2	GGTCAGTTTCACACAGAAGTCA
14317	CD209	AATTGCTGGGATTACAGGTGT
14318	PTK7	GCAGGCAGATGATGAAGTACTGG
14319	GFAP	CTGCCACCTGCTGCTGCTGCT
14320	KIP2	TGCTCCTGTCTCTGCCTCTGGGTC
14321	MMP14	AACCTCTGAACTCTGACCTCA
14322	KCNK6	GCCTATACACCCAGCACTTTGG
14323	SLC6A3	GGCCCCCACTGGAGCGTGTA
14324	RANBP2L1	CTACATCTTCACAGTTCCTCCG
14325	P4HA1	ACAAGGCAGAGTTTAAAGTGA
14326	NCYM	TGGAAACTGCCATTTCATTCACACAA
14327	SLC8A2	CACCACTGCCAGCCCAGCGCTGGG
14328	SGCE	ACATCACATTTCTTTTCTCT
14329	CLCN4	TGGGAAGGAAAATATTGAGCTAGGCA
14330	GPC1	CACTTCCTGTCCTTGTTCATGGAGAGC
14331	ACHE	TATTTATTTCAGGGCTGGGCTA
14332	CD83	CTGCTTCTCCATGGCCACCTTTTCAGC
14333	DSCR3	TGAGACTACAGGTGAGTGCCAC
14334	KCNK4	TGCAGCTGGGGGCTTTATGGAT
14335	NT5C3	CCAAAATTAGAAAAAT
14336	MGAT2	TCGCTCAGCCTGGAGTGCAGTG
14337	RPS6KA1	GGAGTTCTAGAACCACTTCCTGCTACA
14338	PHF1	TGGAGAGATAGGGGGTAGTT
14339	SIRT6	GGCCAGGGGTTACACCTGCCCTCCGTGGT
14340	LAMC1	CCTTGGAATTCCAACTGTGGACC
14341	PEX14	AGCTAGCGTCCCTACTGCCTCC
14342	ANKH	CCTGTAATCCCAACACTTTGG
14342	CTSS	CCTGTAATCCCAACACTTTGG
14342	GCNT2	CCTGTAATCCCAACACTTTGG
14342	GTF2H2	CCTGTAATCCCAACACTTTGG
14342	NFKBIL2	CCTGTAATCCCAACACTTTGG
14342	NPHP1	CCTGTAATCCCAACACTTTGG
14342	RFC2	CCTGTAATCCCAACACTTTGG

14342	TCTA	CCTGTAATCCCAACACTTTGG
14342	TNFSF15	CCTGTAATCCCAACACTTTGG
14342	TPM4	CCTGTAATCCCAACACTTTGG
14343	ATM	CCGGGTAGCTGGGGCTACAGGA
14344	CASP10	TGTCACCCAGACTGGAGTGCAGGGGGGCA
14345	LPIN2	CTTCTTAGAGGGTTCAGTCTAG
14346	SCA7	TTTCCCAACCTCCTGTGGGCCTCA
14347	C10orf2	ACCAGAATTTGAGGACAGCGAGGAGG
14348	RPA3	GTGATCAAGATCACTGATGA
14349	F2RL3	TCAGCACTAACCACATCCACTCTCA
14350	CD5L	ATACTCATTCTGGGGCTCAGGCTTGAGC
14351	DBT	CACCTGAGGTCAGGAGTTCGAGAC
14351	INPP5B	CACCTGAGGTCAGGAGTTCGAGAC
14351	NPHS1	CACCTGAGGTCAGGAGTTCGAGAC
14351	TNFSF14	CACCTGAGGTCAGGAGTTCGAGAC
14351	VHL	CACCTGAGGTCAGGAGTTCGAGAC
14352	PFKFB3	GGAAACACTGGGCAGACGTGTCGGTT
14353	MGEA5	TAGTAATCATGTTGGCTGGTC
14354	PRPSAP1	TGGGGAGGAGGGATTAAAAGAG
14355	SPAG8	ATTCTGTGACTTACCTAAGGCCA
14356	PIK3C2B	CCTTTCTGATTTTGCCTCCA
14357	CYP1A2	CTGAGACAGAATCTCAGTCTGTCACC
14358	DHFR	CACAGGCAATATTCCAGCTATGG
14359	AGT	TGTCACCCCCAGTCTCCCAC
14360	TIMELESS	ACTTCTCTGCTGTCAGTC
14361	MAPK4	GAGACCACATGTGTGCACA
14362	EGFR	CCATCACCCCAACCCCCCAAAATT
14363	APM1	GGCTCACTGCTACCTCTACCAT
14364	ROR2	TTGTTTGCAGACTGGGTGAGG
14365	MX1	TCACCCAGCTCAGGGGCTTTG
14366	B4GALT5	GGATCACAGAGTTCAGGGGGA
14367	NEDD4	CAACTGCCACCAGTCCCCAGC
14368	CRYZL1	GTCTTAAAAGACTTAGCCC
14369	RFP	CCTTCACTTTCTCTCATGCTACC
14370	SPON1	TTGGTCTCTTTAGAGACCA
14371	CLOCK	AGCAGTTTTGAAACCTTAGTACCTTTT
14372	KCNJ11	TCTCCTGCCTCAGCTTCCTGAGTAGCT
14373	PIP5K1A	GCTCCTCCATCTTCTTCCTGAAGA
14374	GJB2	TCGGCATTTGTTTCTTTCTCTG
14375	ACK1	AGCTGGTGGGGAGGGTCCCGGCCGGTG
14376	AKAP13	GCTCCGAGTTCCCCTCCTGGG
14377	EFNB1	TGGGGAAACAGAGGCCCAGGG
14378	MEFV	GCTCTGTGGCCCAGGCTGGAGTGCAGT
14379	ZNF215	ATCATTTATACCAGACATTATG
14380	DBT	CGCCTGTAATCCAGCACTTTG
14381	MPP6	GAGTTTGCAGATGGGGCTGCTCGGCGG
14382	WNT4	TCTCCCACCACCTACCC
14383	MGAT5	CATAAGATATTGAACCAGCAA
14384	TCTA	CTACTCATATTCCTCTCAGTCCTTCTTG
14385	TDGF1	TTTCCTTACAGAACTACTTCTT

14386	GAC1	CCTGCAGCTCCACCATGAGGCTTCTCG
14387	PDGFRB	GCTTTCTGCTCCTGACGTGTTG
14388	FACL5	GTTCCTGCTCTACCTTACCCACAG
14389	AMT	CCATGATCCCACTGACCTACTCTTGC
14390	ZHX1	ACTACTGCAGTTGGTGGAAGTTCT
14391	KCNJ10	AGCAGAACTCTGTGGCTGGCAGCCACT
14392	PCOLN3	GTGGGGCTGCCTCAGTCCTGT
14393	GRIK3	CCAGCAGGCTCTCAGGCCAGCTGCTTGG
14394	ICMT	TGTCATGCTGGGAAGTGCCTA
14395	EFNA1	CATTCCTGCCTTTAAGCCA
14396	PLAGL1	TAGCCTCCTGTAGGTATTTGCCCAT
14397	ELMO2	CCATACAGATATCAGAGCAGACGGA
14398	SLC9A1	CTCTAAAACATGAACTTTTCCTAGAGA
14399	DDEF2	TCATGAACTGCAGCTGCAGGA
14400	DGAT1	GCCAGAGCCCACCTCTCCTCC
14401	GLO1	TCTGGGGTTTCAATTCCTCAG
14402	SIAT4C	GTTGCCTACTCTGCTGTCTGGGTGA
14403	FCN2	GGTGGACTTTGAGGACAACTACCAGTTTGCTA
14404	MGA	ACCCCTTCCACAAATTACGTTACTCA
14405	XRCC2	AGACCAGCCTGGGCAACACGGT
14406	BAALC	GAAACACTTTCTCACTTA
14407	RNGTT	TGTCATGGAATAGAATGCTGT
14408	PDE4C	CCTGTAATCCCAGCTACTGGGG
14409	KRT5	AGATTGCCTCTTCTAGGCAGTTGCTC
14410	CYP2B6	CTGCCTCTGAGAGACCTGCTACAAGC
14411	SIGLEC11	CGTGAGCCACCACAGCTGGCT
14412	DSCR3	CTCCCCTCAGCCTCCTGAGTAGCT
14413	SURF6	ACTGCCTGTTCCCCACTGCCTGTG
14414	PHKB	ACCAGCCCAGCCAACATGGTGA
14415	ITGA6	TTAGTCACAAAATATATTTTGTTTA
14416	SMG1	GTGCACTAGGAAGTGAAT
14417	CASP10	GGGCTCAAGCGATCCTCCCACCTCA
14418	KLHL3	GGGGTGAGGCCGGGCTGT
14419	CAMLG	ACCGCAACCTCCACCTTCCTGGTTCAA
14420	PCSK1	TTCCTTCTCTCAATATGCTTACA
14421	TXNIP	ACCCTGTGATCAGAACCTCCA
14422	FOXD1	GTAGGGAGGAAGAGGGTGCCGGGGAAG
14423	POLH	CAGACAGATCACCTGAGGTCAG
14424	FAT2	ATGGATAGTACGTGTGTACA
14425	PAFAH1B1	GCGAGTGAGCGAGCGGAGGAGCAGC
14426	MGEA5	GCTTGAGATGAAGGGAAGACTCTTACCA
14427	EHF	TAGGGACAATAAGTTGAAATA
14428	TEC	TTTCTATTCATTCCTCAGGCACTTGA
14429	CIT	CCTCCCACCAGCTGAGAATG
14430	GPR48	TATTTTAAAATGTGATTTTCTA
14431	MTR	AAGATTTGCAAAGGTTGGGTCT
14432	PPP1R12B	ACTTTGAGCTGCTGTTACTC
14433	GALE	TCTGGCACAAAACCTCCTCCTCC
14434	CD209	TCCTGCACTGCTCCTTTCCAAACACTG
14435	RAD51L1	TCAGGTCTCTAGATGTCTAGGG

14436	SGK	TGGAAGCTTTTTGAAGAGC
14437	DSC3	ACGCACAGGCTGGAGTGCAGTG
14438	B3GALT3	CAACAAAAAACTTAAGCTTT
14439	ARL2	CCTCCTCCACCCCAGCCTGCTGC
14440	PPP1CC	ATGTCGTTTTGACACTGCC
14441	TXNIP	GAGAGAGCTTTCCCTGTGATTAT
14442	PRKDC	ATGTAACATTGTAGAAGCAGCAT
14443	KCNJ10	TTTCTGCTGGTGACTTCTGACCATA
14444	CLASP1	CTGCAGCTCCTTGTCGACATCATCC
14445	TMEPAI	GTGAAGGACAGGAAGGGGC
14446	FUT1	CAGTGCTGGGATTACCGGCGT
14447	IL6ST	TTAAGGACAAAAATGAA
14448	KCNH5	GCTCGTAAAATGTTCTCATTCCA
14449	CDC6	TAAGTGCTGGGATTATAGGCGT
14450	LIMK1	GTAACCTCTGTCTTGGCAGGGC
14451	B3GALT5	TATACCAAGCAGGTTTCTGGGTT
14452	SSTR3	AATGTCCCACCTTGGAGCT
14453	CLCN3	TCACATGCAAGACACATACAGCCCT
14454	SHFM3	GCACCTTGCACTAGAGGCTTCTGACTC
14455	WARS	TCTGGGTCTCCTCTGGAGCA
14456	P29	ACTTGGAGTTGTGTACTCCAA
14457	IL17R	GCCAGCCTGGCCAACATGGTGA
14458	UPF3B	GATTAGTTTTAGTTTTTTGT
14459	VHL	AGCCTGAGGCAGGAGAATGGCA
14460	LRRC2	AATCTTTGTTATGATCATGTC
14461	HHIP	TGACTTCCCAGGAATTTTCTGTCT
14462	HYAL1	GGGAATCGGAGACTTTGCAACC
14463	SIM1	GGCTCTAGTTTCCTGGTTTG
14464	CD86	TTGGGATGTCATCTTCCTGGAAGC
14465	CUTL1	AGCCAGGCTGGGCCGCAAGGGC
14466	FANCG	GTTGGGAGCTTGGGCAGGCCAGCT
14467	FGF5	TCATGACATTATGTGGAATCC
14468	DUOX2	GGGAGGAGGAGGCTGGGATCC
14469	VEGF	TCTACTTCCCCAAATCACTGTGGA
14470	PRIM2A	ACAGAAGGAAAGAGGAGGAGTT
14471	Z39IG	CTGACTCTCTCCTGGTGCTCAA
14472	GALNT7	TTCTGGGTTGCTTGTTTTTTAG
14473	TTYH1	CGTCTATCTGGCCCCTCCTCCCGGCTGGAC
14474	LZTR1	CTCCTGCCTCCACCTGGGG
14475	KLHL3	AGAAGCAGCCGAGACGCCACTTGG
14476	ENAM	GGGGAAAGAGAAATCACTGACA
14477	C8orf1	ATCCTGATTTATATTGCAGTG
14478	ED1	TGGCCATCTTCTTTCTTCCA
14479	SLC9A1	TCTCTTCCCACTTGCTGACCCTTTGCT
14480	MAP3K9	CCCTCATGCTGGGCTCTGGACCA
14481	SPTLC1	ACCAGCCTGGCCAACATGCTGAAACC
14482	GUSB	AGTCAGGGCGACTTCCACAGCAGC
14483	TFRC	ACTGCCTCTTTCCTGTTGTTG
14484	MAPK4	CCTGTGCACACACCCCCTCAGCACTCC
14485	STXBP1	CAGCCTGTGTCCACAGTGCTGTG

14486	MAN2A2	AGCAGCAGGTGGACATGCAGGT
14487	PDAP1	AGGACAGCATTTCATATGTAA
14488	PIWIL1	GACGATGCAGCCGCTTTTCTTTTTG
14489	TYR	GAAAGAGAAATCTGTGA
14490	RALBP1	CTGGGAGGCTGGGCCCTGGAGGCAACG
14491	HDAC4	TCTCATTCAAATGGAGACGCCCTC
14492	FAT2	CGGGCACAGTCCCCTCTGCC
14493	TCERG1	GAAAACACTGAAAATTGAA
14494	MECP2	GGCCATGGAGGCAGTAGGACA
14495	BRCA1	TATCCACAATTCAAAAGCACCTAAAAAGA
14496	MPP2	CACCCTCAGCCTAAGGGAG
14497	EHD4	CACTGCCCTCTCTGTGCCTTG
14498	FES	GCAGAAACAATAAAACCACT
14499	C4orf1	CTCTCCTTACCTAGTTA
14500	FCGRT	TCCTGTGGTCTGCCTCAGTTTC
14501	TNFSF8	GCCTCTCTACCATACAGTATTTCATCC
14502	PTEN	GGCGAGGGAGATGAGAGACGGCGGC
14503	MYO1A	CACCATGGACAGCTCCCATTAA
14504	CSE1L	AGGCTGGAGTGCAGTGAGCTATT
14505	F8A	CACAGCCCTAAATCCATGATAAAG
14506	SIL	CCTAAAGTGCTGGGATTACAGG
14507	WDR4	TGAGCACGGGCCTGGCTGGCAC
14508	SHANK2	TGGCACCCCCCTAGACTTTGC
14509	CDC25B	GGCCCTCCAGCCAGCCTTCT
14510	SFRS7	TTGTTTCTTTGCTTTCTACAT
14511	FCAR	CAGAGTCTGGCTCTGTCACCCA
14512	FOSB	ATATTTCTTCATTTTCTTTTGGA
14513	ASK	CAGAGGCTGAGAATTGCTTGA
14514	HK2	GGGAAGAGAAGGGAAGCCTCTTCAGG
14515	CAMLG	CCACTGCACCTGGCCTTATAAA
14516	CYB561	ATTGCACTCCAGCCTGGGCGA
14517	DVL3	ATCGCACTCCAGCCTGGGTGA
14518	TRPV1	CTGCCCGGGTGGTTTGGGGGTG
14519	TCF20	ATCTCAGTATGAAGGACACA
14520	HOXC13	TGCCCCATCTATTTATGTCTCCGCT
14521	BACE	CCAAGTTCATTACCTCCCTATCAGTTCTA
14522	MAGEB4	CTGCCTGCTGTGCCTAACCACAGCCAT
14523	SDC4	AAATGAGAGAAGAGCCGGA
14524	EMP1	TTGTCTAATTATCAATATTGAGGATC
14525	FGG	AGAAATTCTCTGAAAGTTTCTTCCCTT
14526	PLS1	ATCATAAATGCATTCATA
14527	LNK	TTTTAGGCTCCTTTTTTGACCCA
14528	KLRG1	GGTACTTCCTCCTTCTGA
14529	TGIF	GTATTGTTGCAGCATCTGGCA
14530	CPT2	TGAGCTGAGATCACACCACTG
14530	CTSS	TGAGCTGAGATCACACCACTG
14530	DGKI	TGAGCTGAGATCACACCACTG
14530	USP14	TGAGCTGAGATCACACCACTG
14531	TIF1	CCCAGGAGGCCAAACGGTGCAACA
14532	MYO6	GCCTTAATGTATTTGATGTAT

14533	HHLA1	CCTTATCTCCCTTCACTGACTC
14534	MNT	CCAAGCCCTAAGCCTGTCCCCAGACCA
14535	CUL3	ACGAATGTTAAAACATTTCAG
14536	IL1R1	GCCTTTCCACCTGCTTTCTCCTGGGCC
14537	DAZL	CTGCAAGGATTTTTTAAAAATTGGCA
14538	MGAT5	ACTTTTGTGGTGAGAACACTTA
14539	SEC22L1	ATGGCCTTTTAAACAAGAC
14540	CASP2	CTAATGGAAGAAATCTGCTG
14541	GCNT2	CTTCAGAAATGTGTCACA
14542	FGF2	GCCTCTATTTTTCTTGTTTG
14543	DIAPH2	CACCCAGGCTGCAGTGTAGT
14544	TRIM8	TCCTGTAGTGAGCACTTTGT
14545	ADORA2B	GGCTCACACCTGTAATTCCAGCACTTT
14546	NDRG2	CCTTAGGACTCTGAAGGGTATGGA
14547	RENBP	ACATGGAGAAAGAGCGAGAGACTCTGC
14548	BSN	TGCTTGGAGTTCTTTTTGCCTCAG
14549	RANBP2L1	TTCTATAGATAAGATCATGT
14550	ABCC12	TATCAGAAGGAAAAAGAG
14551	FOXI1	CATTTAGTGCCAGCCTAGGCACAACTT
14552	LILRA1	CAGTGTTGGATTGCAGAGAC
14553	GA	AACGCTCCTCACCTAGCCCCTG
14554	ABCB4	ATGGAGAGAAAACATTTTGAGGA
14555	CENPA	CTCCCCAGAAGCCAGCCTTTC
14556	FBN2	AAACAAAAAGGGAAACTCACTTG
14557	NAB1	CAAACAGATTTCATAGCCA
14558	EGR2	CCTTGGATGAGACTCAGGCTGATACAC
14559	SH3BP2	ATTTTTCTTAGCACCTT
14560	PXF	AGGGCAGTCTTTCTCAAACTAT
14561	TXNRD1	CAGACAAAGCCGCGAGCCCAGGG
14562	TNFRSF5	TCCTGGCTCCAACACTGCTG
14563	ARCN1	CATTTTCCACCAGTCTGTCCC
14564	SHOX	ATGGAAAGGCGTAAATAACAGC
14565	TNFSF11	ACATATTTAACTGGTGCAC
14566	TNFRSF10B	AATCTCACTCTCTCGCCCAGGC
14567	STCH	AGTGTTGGAATTTGGAGGCAG
14568	IL2RG	AACATGTTTTTCTTCTCCCT
14569	IL12A	TTTTGGGCCGAGCTGGAGGCGGCGGGG
14570	A1BG	TGACCTCCCAGGCTCAAGCGAT
14571	DIAPH2	CGAACTCCTAGCCTCAAGCAAT
14572	PRPSAP2	GCAATCAGTAAAACATTGAGC
14573	FUT9	ATCAGCTGTTTAATCTATTTGGGAAAT
14574	SPTAN1	GTCTTGAAGCAGCTGCCCTCA
14575	LPP	TGCCAACTCACAGGTGCTTTTAGGCT
14576	CHRNA4	TGCTGGGACCCTCGGGGCAGGA
14577	IL1F8	CCCATCCATAGCTTACCTCA
14578	CYP8B1	GGCAACTTGGTTTGGGAGATGATGCCT
14579	DVL3	TGCCTGTAATCTCAGCTACTCAG
14580	TSC1	GCAGAGTCTACCTTGAAACCAATTAAGC
14581	MIPEP	GGTCATGTAGTAATGACTTTGTTATA
14582	LASS2	GGGATGCTCCAGACCTTGTATGATT

14583	IL20RA	GGCACAGACCTTCATGATATCACAC
14584	ATP7B	TGCTTGGGGAATGTTGTTTTCTGACTA
14585	FGA	GAAGGCAAGAGAAACATTCTTTC
14586	AXL	CTGGGGAAAACTCCACCT
14587	PFKFB4	TCTTGAAGCCACACATGGCT
14588	CDC25C	GCAAGCCTCAGACTCCAGGC
14589	AMACR	TTACAGTGTCCTACCACTCTA
14590	ITGA3	GGTAGCAGCAGGCTCAGGCACATA
14591	GRF2	TGCCATGGACACAGACTCTCAGCGTTCT
14592	LTF	GTGTGGAGTCCTGTCCTGCCTCAG
14593	ATM	CCAGCCTGGGCAACATGATGTGAA
14594	PRIM2A	CCCAGGCAGATCTCAGACTCCTGGGC
14595	MFNG	GGGGCTAGACTCCCTCAGGAG
14596	ENDOGL1	CTGGGCTTAAGCAATCCTCCTGCCTCT
14597	PET112L	TGGGATCCCCTTGCCCAAG
14598	RANBP17	CAGGGGAATGTATTTTTCAA
14599	CAMK2A	TTGCCTCTCTCCCCTTGGCGTCTGAT
14600	HOXC6	CTCACCGCACAACTCTCTTTCA
14601	GP6	CACTGGGCCAAGTGCAGTGGATCATGT
14602	MYO1E	GCTCCTGTGAGTGCTTGGGTGTTC
14603	KHK	AGGTGCCGGCTCCTCACACACCATGGAGACT
14604	NOS1	CCAAACCCACCCATACCAGCTAGAA
14605	SCD	CCAGCCAGGCAGAGGTTTTAATG
14606	DCX	CCTGTGATTTCTCCTCTGGGCCA
14607	HDAC4	GGCCTCACTTTGTCTCTGGCA
14608	KCNQ2	GGCTGGCTCGAGCCTGGGGTCCA
14609	AR	TCCCCCGTCTTCTCTCCCGCAGCTGCC
14610	PEX10	ATCAGGCTTGTGTTAAGGCAAT
14611	NOTCH2	GGCAGGAGATCCCTTCAAGAG
14612	PLA2G2D	CACCCACACTCTGGGCCTGTGGCACCA
14613	ST3GALVI	CAAGATTGCTCTACAGACTCAG
14614	KIF5A	AGAAGGTAAAATGGAAGGGCTGCTAAT
14615	FUT1	GGAGAGAAGGGGGACGTTTCTGG
14616	AQP1	ACTGTCGCCACACGCCTCTGCATA
14617	LHX4	GGTAGAGGCCTCACAGCCCTTGAG
14618	KIF3C	CAGGAAACAGAAGCCCAGGCACAAT
14619	F8A	TTATTCCTTACAGCTTCCTTGTAA
14620	PAM	CCAGAAGCCGGCGGCAGTGG
14621	DLGAP2	ATCTCAGTTTAAATGGTAAAG
14622	PTGIS	ACTAGATTCTCACCTGCCTTCA
14623	FCMD	CGGCATTGCACTTCAGCCTGGG
14624	SLC2A4	GTAGAATTGGGAAGCTGGGGGAAG
14625	IL17BR	GGACTTGCATGTCCTAAAGCACTGGC
14626	GFAP	ACGCTGGTAGAGATGGAGGA
14627	RGS6	AGGGTCCAGCGTTCGAGGA
14628	EFNB2	TCATAGAAATTGTGTTTGCTAACA
14629	IFNW1	AGATAACAAAACATGTTCAGCTT
14630	TAF7L	TCTGTACCTTCTTTGCTA
14631	NPEPPS	CAGATGTTCTGTTTTTATAACCT
14632	PHB	TGCACCTCCGCGGGCTGACTGGGC

14633	BLAME	GACTCTTAGCAACCTCATTTC
14634	CAPN9	GCACACACAGCTCGCTTCTTCA
14635	APM1	TGTTGCCAGGCTAGAGTGCAGT
14636	TRPM4	TGTCATCCTTACAAACCACAGC
14637	ATSV	CACCCCACTGGTTCTGAGGCC
14638	SEDL	CAGGCTGGAGTGCAATGGCAGTTGTTT
14639	DPP6	CACACTAGCCTCTGTGTTCCCGT
14640	HLCS	TTCCCCACTCACTGCAGAGCTGCT
14641	PTPRO	GACTACGAGATCAGATTTTGGA
14642	ARHGAP6	ATCTGGGGAACTTGGCATTCAA
14643	GPRC5C	CTCTGCCAGTGTTTGGGTGGGTG
14644	ZNF45	ACCAAGCCTCAGCTTCCTCGC
14645	SLC31A1	ACATTGTGCCTTTCTCTAGA
14646	B4GALT3	CACTGCTGGACTGGAGCTGGGC
14647	ANGPT1	AACTGTTTTCATTTAAGGGAA
14648	TRPS1	CCTGCTGTATTTATTTATTTTCTTTTG
14649	NPPB	CTGCTTCTGATTCCACAAGGGGCTTTT
14650	LARS2	GTTCTGACACACAGGATCCCAG
14651	RNASE1	AACACACACATGCTTCCCTTTCC
14652	ALDH1A2	TCTGTCCCTCTCTGCTTTCTCTGTAGG
14653	OGG1	ATGGGTTCTGTGACCACTGCTGGACCA
14654	DLEC1	GGGATTTTCACAGTGTGCTCCA
14655	IGF1R	CTCTCCTCTCTGCTTCATAAC
14656	DVL3	CCGTGAGTCTCCAGGTCTCCA
14657	GGT1	AGCAGGAGAACGAGAAGGCTGCCTG
14658	ACTC	TTCTCTCTCCATCTACCTTCCAGTCAG
14659	TBL2	GGACTTCTCTCTTCGGGAG
14660	GDF5	GCGGCTGGCCAGAGGATGA
14661	HGF	TTCATAATGCCTCTGCCGTGCGGAA
14662	RAB3A	ACCAGACCTGTTCTGACCTCA
14663	DRPLA	CACCATGGCTCCTACATTGG
14664	GNAI3	GTGTGGGAAAAACTTGATCT
14665	MNT	TTTTTCTCCCCGTGCTCCCCC
14666	SMARCD1	GGAATCTTGCCTTTCCCTTTCA
14667	XPC	ACTAATGCTGCCCTCACTGCCTC
14668	SH3GL3	TTTGACTCTGGGAATCATGCT
14669	GPR1	TGAGCCAACATCACACCATTGCACTC
14670	CA3	ATGAATGATCACTAGAACACAAA
14671	KAL1	CTGCAGCTCCTGTCACAAGCT
14672	HGF	TTCTAGTATTAATAGGCTTTTGCTT
14673	MTMR2	TTCTTCATATAGTAAAAGGCAAA
14674	TNFRSF10B	CTGGTCCCTACCTGGGC
14675	CHRNA4	GCGGGGCCAGGATGGCGTGTC
14676	GABRE	CCAAGCCCCTTGCCAAGGGAG
14677	ABCB10	TTAAGAATGAATGATTTTTGCA
14678	RANBP9	GAGAAGGAGTTGCAGCGGCGGCT
14679	MGAT1	GCCACATCATGAGCTGAGGTGGGACC
14680	STE	GCCTAGGCTGGAGGACAGTGGC
14681	CHRNA10	ACTGCTGCATTTCCTGTCTTCCTTCC
14682	NAPB	ATGCCCCCGTGACCTGCCTGCTGT

14683	OSR1	AACGGACATTTATCACTGGA
14684	SH3BP5	GAATGGTTGCCACTGTTATTAGAT
14685	DVL3	TGAAACCAAAATATATTTGCTTCA
14686	MEF2A	GCTTCCAAGCTGATGTTTGTA
14687	MAP3K9	ATCCCAGCGCTTTGGGAGGCAGAG
14688	CLECSF12	TGCCCAGGCTGGAGTGCAACGG
14688	PRND	TGCCCAGGCTGGAGTGCAACGG
14689	GTF2F1	TCCTAGAGTGAGGCTCTGT
14690	TUBG1	GCTGCAACGCCGGTGCCTGAGG
14691	SFRS7	CGCGGGTCTGTCATCATGTCGCGTTA
14692	IL1A	CCTTCTTCTACAGAAGACACACCT
14693	GPR17	CGCTAGGCTCCCAGCCTCCTTCC
14694	LEF1	AGCAGACTGGTTTGCAGTGA
14695	PPARGC1	TATATACTATACAACAATGTTCT
14696	CD80	CAATGTAATGCATAGGAAGTA
14697	GHR	AAGAATTGACTGGGGCAATAA
14698	SFRP1	CTGTCCTTTTAACACC
14699	TNFSF4	CTAGGCACCTTTGTGAGAAAGA
14700	E2F3	TCCTCCTTCCTCCCCGGATT
14701	KLK4	GCCCCCAGCCCCTCCTCCCTC
14702	RPP30	AAAAGAGAAAGCTTTATAACCT
14703	TAPBP	CCCAAAGTATTGGGATTACCCG
14704	TM4SF6	GACCAAAAAACTACACCAGTAGGTTG
14705	ITCH	ACCTGTAATCCTAGCACTCTGG
14706	IL1F5	TAGGAAACTAATACAGCTGCT
14707	HTR7	ATGAGACAGAATGTATTTTGTTG
14708	SCNN1G	TGCCCAGGCTGTTCTTGAA
14709	IL1RL1	AACAAAAATTACAGACTTTGGTGAAC
14710	FBXL5	TCATGAGAGTGGAGGCCTGCCACCCAG
14711	EHD4	AGGCGACAGATGCCTCCTGGG
14712	PAX5	CCTGCCTGTCCTCCAGCTGT
14713	PKD2L1	CCCAGCTCCACATCCTCCTCC
14714	MAP3K7IP2	TGACAGTATCATGTGTATTTAT
14715	ATP1B2	TCCTGTGGATGCTCCTGGAATGTCCCTGACC
14716	TRPM8	ACTCACAACATTCACTATGTTTGCA
14717	ED1	TCTGCTCCTCTTGTTCCTGAAATGTG
14718	RS1	TCTACATAAATGAAATCATA
14719	PCDHA1	ATCTGTACAGCACTTTTTACAT
14719	PCDHA10	ATCTGTACAGCACTTTTTACAT
14719	PCDHA11	ATCTGTACAGCACTTTTTACAT
14719	PCDHA12	ATCTGTACAGCACTTTTTACAT
14719	PCDHA13	ATCTGTACAGCACTTTTTACAT
14719	PCDHA2	ATCTGTACAGCACTTTTTACAT
14719	PCDHA3	ATCTGTACAGCACTTTTTACAT
14719	PCDHA4	ATCTGTACAGCACTTTTTACAT
14719	PCDHA5	ATCTGTACAGCACTTTTTACAT
14719	PCDHA6	ATCTGTACAGCACTTTTTACAT
14719	PCDHA7	ATCTGTACAGCACTTTTTACAT
14719	PCDHA8	ATCTGTACAGCACTTTTTACAT
14719	PCDHA9	ATCTGTACAGCACTTTTTACAT

14719	PCDHAC1	ATCTGTACAGCACTTTTTACAT
14719	PCDHAC2	ATCTGTACAGCACTTTTTACAT
14720	MOCS2	TCAACTTGGAAAGGAAACAAA
14721	RPE65	GCTCCAATTATATTTTTAA
14722	DDX11	CTGCCACCATCAGGGAC
14723	P53AIP1	CCATCTCACAGATTCACTGTGTG
14724	PYGO2	GTTGCTTCTCTTTGCTATTC
14725	ABCC3	GGAGGCACCTGGGTCCATCAGAGA
14726	IL1RN	CTCAGGTCCCTGCAGGGCCAAG
14727	MAF	GCACAGCCCGCTGGCCCC
14728	CASP2	TTTACCTTCATTTCATCCTGTTGGC
14729	CPSF4	ACATCATGTTTGGCTGGGCATCG
14730	KRT6A	AGGAAGAGCTATAAGCACTAAGTGCGT
14731	SFRP1	AGCCCGGGGCATGATCTGATCC
14732	MYLK2	CCAGCCCAGGCCTGGTGGAGGG
14733	PRIM1	CCACAGATCAAATACTTCAAGAG
14734	SLC1A5	GGCCCGCATCCCACCCTCCCGG
14735	PDHB	CTCTCCTCCCCTAGATGCCATGCT
14736	COL6A2	TTAAGCTGGTGCACAGGGACATC
14737	ARSD	GTCTTAAAAGTCTGCATTTTC
14738	RBM8A	TGTTACCCAGGGTGGATTGCAG
14739	SLC7A5	TGGCCTCTGGGCAGTGTGGCCTC
14740	FUT6	AATTCTGCTCACTTCCTCATTCC
14741	SHOX2	CCCTCCAGTGTCCCCGGAGCTGAAAGA
14742	PCDH11X	TTACCTTTAGTTTACCTAAACTT
14742	PCDH11Y	TTACCTTTAGTTTACCTAAACTT
14743	CX3CR1	CACACCTGCACTGCTGTGCTGTGCCC
14744	DVL3	GGAGCATCTCTGCTCTACCCCTGCCCC
14745	EPM2A	AGAAGTTAAATTGAGGCTTAATGA
14746	PON2	TTACATCTTTGTTTACCA
14747	GALNT3	AGATATTTCTTATGGCACAAAAAA
14748	BCL9	GTCCTCTTGGCTCTGAGAGGGA
14749	BRCA1	TGAACTAGAAGCTGTGTTAGA
14750	MEOX1	TCTTAGCAGCCTCTTCCCTAGGGCCTT
14751	DNMT3B	AAACCCATTCCCTCTCCAGGAGA
14752	KRT1	GGCTATGACCCTGCTTTGT
14753	IL10RA	TCCAACAAATGGAGTAGCATC
14754	AP3B1	CTGGAACCTTTTGGAGAGA
14755	RAD50	TCGGCCTCAGTTAAGCCTTTGTGGACTCCA
14756	F2RL3	GCCTGGTTGGCCATTCTCATGCCC
14757	DYRK1A	GACCTAGGAACTTGGCCAACATATGCAACAT
14758	STEAP	ATTACTGTTTACACACATT
14759	CNTN2	TCCTGCTCTATTTTCCTGGGC
14760	PIK3R3	GGGAAGAGAGGTGGTCTTCTGGCA
14761	PPAT	AGAAGGCAGGTGGTCACTGA
14762	NOC4	TGCTGGTGCTGAGCTGTTT
14763	NRG1	GCTAAGCTGTAACCGATATGCAC
14764	VIPR2	CCATAGCTGGGACTACAGGC
14765	HD	TTGCCCAGGTCTCACTGCTTTG
14766	FUT3	CAGGAGCCTCTCCCCTCCAGA

14767	DPP4	TGACTTCTGCCTGCGCTCCTT
14768	TCF7	TATTGCACTCCAGTCTGGGTAACAGGG
14769	LMO4	GAAAGAGATGTGGCTTTTGTGA
14770	OAS2	GCTCCTCCTTTTTCCTTCCA
14771	ELMO2	TTTAACAACAGCCACTCACCTTTTCCT
14772	TBX6	TGGGCCCCTCTGCCTCCATCA
14773	NSF	ACTATTCTCCAGAAAAATCAA
14774	ADD1	CTCCTGAGCCTCACCTTTCCTGCCGTC
14775	FCRH1	TATTCCTTCATCTACTGTGAA
14776	PROK1	GGGAGCAAGGGACAGGGAGCAGGGCAGG
14777	COL4A1	CTTCATTGACCTCTACTTGCTGAA
14778	LEP	ATCGCGCCACTGCACTCCGGCCT
14779	RAB5A	AAATGAGAACTATGTGGA
14780	COL4A6	ATGCCATCCAGATGTGTGCAATG
14781	TNFRSF1B	CTGCAGCCCCGCGCCTCCTTCCTTGCT
14782	TADA2L	TCTGGCTTTGTACTTTGCAGTCTGCC
14783	SORCS2	TCTCTGGGACCTTGCCA
14784	THPO	TAAGCCGCCTCCATGGCCCCAG
14785	GGCX	TCGAGCCACTGCACTCCTGGGC
14786	WASF3	GGTCTCTGCAAGACTAATGACT
14787	LAMP2	TGCATTACCAGCTTAAAACACTTCT
14788	KCNN2	CTCTTTTGCAATAAATCTTGCT
14789	PPP1R3A	CCTTCATAAAACATGTAACACTGATCTT
14790	FABP6	CGGCCCAGGGAGCTACAAACCCA
14791	CSF3	GGCCAGAGCTGGGAGGCATGG
14792	FCMD	GTTCACATCTGGAGACATCAGCC
14793	BAZ2A	GGGTGGAAGGGGAATAAGAAGA
14794	SOX1	ATACATTTAAAAATTAATCAC
14795	MUC4	CTACACCGGGAAGAAAGGCCC
14796	DBT	ACCACCCTGGCCAACATGGTGA
14797	KCNAB2	CCAACTTCCTGTTGGGTGCTGTGGTCC
14798	PRKAR1A	TGCCTGTAATTAAACTAGT
14799	ZNF157	TCATTGTTTTCAAATGGGCTGT
14800	PPARGC1	AGGACCACATGTGTTCTCTATTT
14801	DRIL1	GCCCCCTGCCACCCTGCACT
14802	SERPINA5	CCTCTCTGGACCTCAGTTTCC
14803	RAB5C	GATCTTCTGCTCTTCCCACT
14804	ZNF236	CAACACCGACGTCTCCATCGGCC
14805	DES	TGTTGGCAGTGAGTGAGCCTGGC
14806	ALDH1B1	CTGAGTAGCTGGGATTATAGGT
14806	CYP8B1	CTGAGTAGCTGGGATTATAGGT
14807	CDC6	CCGAGTAGCTGGGATTACAGGT
14807	F3	CCGAGTAGCTGGGATTACAGGT
14807	GPR56	CCGAGTAGCTGGGATTACAGGT
14807	JAK3	CCGAGTAGCTGGGATTACAGGT
14807	POU2AF1	CCGAGTAGCTGGGATTACAGGT
14807	PRND	CCGAGTAGCTGGGATTACAGGT
14807	SEPN1	CCGAGTAGCTGGGATTACAGGT
14807	SHOX	CCGAGTAGCTGGGATTACAGGT
14807	ZNF137	CCGAGTAGCTGGGATTACAGGT

14808	SLC26A2	CTGAGTCTTAGTAGTGATTATTG
14809	RB1	GGCATGTTCAAAGCCACA
14810	EXTL3	GGGTGGCCCAGAGCCTCTGCTGG
14811	FOXO1A	AGGGAAAGGCATCTGGTCTGTCTGGAA
14812	MPO	CAGCTCAGGAACTAGACTGCCT
14813	BAX	TGTGTTTTTCCTCCATAAATTAT
14814	DMPK	GGCCTGGACAGGGGCTGCCAG
14815	GAN	TAGCTGAAAAACTAAATTTGCTTT
14816	SRRM2	GGAGTCAGGGCCAGGGAGGCATGGCCCC
14817	IL1R2	TTCTGCCACGTGCTGCTG
14818	AP2B1	TAGGGCACAACCTGTTGGATAGTTTTAGCTT
14819	VLDLR	AGGTTTGCAAAGACTGAGTGT
14820	TLL2	GCCTTTCTCGGCCCTGGACTG
14821	ATRN	GATGGTGGTGTTTTCATGAACATCTTT
14822	RGS19IP1	CAGCCCAAGGACGATGGTGAG
14823	TBL2	TCTACCATCAACACCAACCAG
14824	NEU3	CCCACAGTCTTTGCCCTCAAGGAG
14825	VDR	TGGCTGCTGGGCTCTCCACCTCAGGCC
14826	ADRBK1	GTGTTAGGCCTGGCACAGTGTCTGGGT
14827	IL10RA	GCTTAGGCCACTCGAGCATCA
14828	BRCA1	GATCATACCACGGCACTCCAG
14829	CPT1B	TCGTCATTACCTGGCAGAGGCA
14830	ANXA11	CTAACAAAATATCACAGACTGAGTA
14831	MUCDHL	CCCCTCGGAGGACAAGCGCTTCTCGGT
14832	FTSJ2	GCCCCCTGGATCTGCACATCTGCC
14833	FGB	TTTTGCTCTTCTGTATGTG
14834	NCALD	CACTCCTCTGCTGGGCTGTTCATTGTC
14835	HS2ST1	CTAGCACTTACAGCTGTGTGAT
14836	RENT1	TGTCATTCTGCCTGGCGGC
14837	MAP3K12	ATGAATGAGGCACAGCCGTA
14838	MADH2	TGATCCAGTATCACAGTATTGTG
14839	ZIC3	CAGGAGACTCTTGCAGTGA
14840	UBE2V1	GGCCCTTCCCCTTCCCCCCAA
14841	WSX1	CCAGGAGTTCGAAGCTGCAGG
14842	G1P3	GCGAACATAGTACACTGCAGCC
14843	SET7	TCAGCCGCCGGGAGCACCCAG
14844	BCL2L2	CTAGGGGAGGTGGTAGGCTGCA
14845	DAP	CAGCTGCCTGGGTCCATTGT
14846	GNAZ	AGGCAGCAGGGCTGAGGCAAGGTAG
14847	APTX	GTTGCCCAAGCTGGACTTGAAC
14848	PAX8	CCACGGCCTTTGACCATCTGTAGTTGCCA
14849	TNFSF9	TGCCCAGGCTAGGGGGCTATA
14850	GRM4	CTCCCCTCTCCCTGCC
14851	CTSH	GCGCAGACTGGCGGAGAAGGA
14852	FGF13	TGGCATAGAGTTGCATGATATGT
14853	AIPL1	GTTTTCTCCTCTACCCCTCTC
14854	HYAL4	TAGTATAATTTAGTCTTTTCA
14855	GPR86	ATGACTGCCGCCATAAGAAGACAGAGA
14856	IL21R	CCCAGAGTAGCTGGAATTACAGG
14857	ABL1	TTTCCATCTGTCCACATCCCCA

14858	MPL	TTCAAGCCATTCTGCCTCAGCCT
14859	ATRX	AGATATTTCAAATTGTTTTCAGTGAA
14860	CHST1	TTGGAGCAGTCCCTCTTTG
14861	SEPN1	GGGCTGCCCTGTCACTCCTCTAACAC
14862	FUT1	CAGGCTGGAGTGCAGTGGCGTGATCTT
14862	KCNJ11	CAGGCTGGAGTGCAGTGGCGTGATCTT
14862	PRND	CAGGCTGGAGTGCAGTGGCGTGATCTT
14863	PCDHA9	CAGGCTGGAGTACAGTGGCATGATCTT
14864	GJB1	GCTCCCCAAGGTGTGAATGAGGCAGG
14865	ZNF215	TGTTTTTATTAATCCGTCTTA
14866	ALDH1B1	CAGGCTGGAGTGCAGTGGTGTGATCTC
14866	NQO1	CAGGCTGGAGTGCAGTGGTGTGATCTC
14866	PPP1R12B	CAGGCTGGAGTGCAGTGGTGTGATCTC
14867	AOX1	CCATCTGATCAAATGCAAA
14868	MTR	AGAGCACGTCTTCTCTGCCGC
14869	TEP1	ATGCAAAGCCTGAAGACACTGGTA
14870	ABCC1	CTGGCCCAAAGCAGTGTTGGTTGCTTAC
14871	SLC4A7	GGAAAACATAGTTGGAAATGTAAT
14872	TCTA	TCTGGCTGCCTTTGCTTAAGCCAT
14873	MADH4	GGCTCAGAGCTTGAAGATTAGGAG
14874	IPP	GGGAGGCTGAGGTTGCAGGATCGCTTG
14875	HMG20A	TTTAACAGCAAAAGGAAAGAGA
14876	TCF2	AACACAGCCTGTGTACTCCTCTG
14877	SNAP23	CTCTTTCTCTTACCCTTGTGTATT
14878	RUNX3	GGCACACACCTGTCTGTAA
14879	C9orf19	CCCCAGAGGAAGCCCTCAGCCTCTG
14880	C5R1	CCTGCAGTTTTGTTTGTACTT
14881	FZD4	TTCCACAAATCTCTTGCCT
14882	DAP	CTTCAAGGCCCTGTCACCACCTATTTTC
14883	FCAR	CCAGGAGAATCACTTGAACCCAGGAGG
14884	INSL5	ATTTTCTCCCTTTGCCAAGGTT
14885	RAP1GA1	AAGCCCCTGTGGCCGTGTGG
14886	PDCL	TTTGTTCCTTTGTCTTCTGGCTT
14887	PSMD5	GAGAATCGCTTGAGCCTGGGAGGCAGA
14888	KLF15	CTTGGGAGGAGAGGGCCAGG
14889	CD209	TCGCTCAGGCTGGAGTGCCATG
14890	DBI	ACTGAGACAATGCCTTG
14891	EGFL5	GCCCTTTGTAGTTTGCAAAGCACTTTTCCATA
14892	CDH7	CTGGAACTGTGCCTTTTCTCTTGTC
14893	B3GALT2	CAATCTATTTAAAAAACTGTATA
14894	MDM2	TTGGCCTACAGTCATCTGCC
14895	LYPLA1	CTGGATTTAAAAATTTTAAACA
14896	RIG	GAGGCTCTCAGTAGATATCTGT
14897	TLL2	TCTTTTAGCTTTGGAGGCACTTGC
14898	GABRA1	CAGTAATTCCCATCTGCCTTT
14899	SMAC	GATTACAGGCGTGAGCCACCAA
14900	TMC2	TTCCTCTCACATACATGCTCT
14901	ORC2L	GCACAGGAACAATACGTCA
14902	CNTN3	AACCAGTATCAATTTGAAATGCT
14903	HOXB6	ACTCCTTCCTTCCTCCCCACC

14904	MYBL1	GTAGGAGCAGGAGAACTTT
14905	IGFBP5	GCCTCCGCTCACTGCGTGCACCTG
14906	MAGEA5	GTAAAACTGATGACATAAAGAA
14907	FDFT1	AGAATGCAAACTGCCTTT
14908	SKI	CCCCTCTGGTGCTTGGTTGAACA
14909	TCFL4	CCTGGAGAACAGCCAACAAGAGGCC
14910	ALPI	CCCAAGGAGGCTACTGGATCGGGG
14911	TSLP	AGCATCAGGGAGACTCCAACT
14912	SNRPN	CATTCTTAGCTGAGACACCAAGA
14913	GYS1	TTCAGAGTTTGAAGGTAACTGA
14914	HOXA1	GAGGGGAAAGGGAGAAGGGTGG
14915	PCDHGA1	GGAGAAGAAGTACATGGAGGCCAGG
14915	PCDHGA10	GGAGAAGAAGTACATGGAGGCCAGG
14915	PCDHGA11	GGAGAAGAAGTACATGGAGGCCAGG
14915	PCDHGA12	GGAGAAGAAGTACATGGAGGCCAGG
14915	PCDHGA2	GGAGAAGAAGTACATGGAGGCCAGG
14915	PCDHGA3	GGAGAAGAAGTACATGGAGGCCAGG
14915	PCDHGA4	GGAGAAGAAGTACATGGAGGCCAGG
14915	PCDHGA5	GGAGAAGAAGTACATGGAGGCCAGG
14915	PCDHGA6	GGAGAAGAAGTACATGGAGGCCAGG
14915	PCDHGA7	GGAGAAGAAGTACATGGAGGCCAGG
14915	PCDHGA8	GGAGAAGAAGTACATGGAGGCCAGG
14915	PCDHGA9	GGAGAAGAAGTACATGGAGGCCAGG
14915	PCDHGB1	GGAGAAGAAGTACATGGAGGCCAGG
14915	PCDHGB2	GGAGAAGAAGTACATGGAGGCCAGG
14915	PCDHGB3	GGAGAAGAAGTACATGGAGGCCAGG
14915	PCDHGB4	GGAGAAGAAGTACATGGAGGCCAGG
14915	PCDHGB5	GGAGAAGAAGTACATGGAGGCCAGG
14915	PCDHGB6	GGAGAAGAAGTACATGGAGGCCAGG
14915	PCDHGB7	GGAGAAGAAGTACATGGAGGCCAGG
14915	PCDHGC3	GGAGAAGAAGTACATGGAGGCCAGG
14915	PCDHGC4	GGAGAAGAAGTACATGGAGGCCAGG
14915	PCDHGC5	GGAGAAGAAGTACATGGAGGCCAGG
14916	DNASE1	CCACTGCACTCCAGCCTTGGCAACACA
14917	OPA3	CCATTGCACCCTAGCCTGGGCAACAGA
14918	PPP1R12B	GCAAGCTTTTCAATCTCAGGAATACT
14919	EGFL5	GGAGGCTGATGGTCCTCCTCA
14920	KAL1	GCAGTGTCTAAAGGTAGATGCA
14921	GCH1	TGTCTGTCTGTCCGGTCT
14922	ZNF41	AAGAGCCTTTAGAGAAAGCATTTGAGC
14923	MGA	CTGACCCTGGTATAAGAAGTACTCTG
14924	MGAT2	GTTCTCCCTCCTTGGGGTGA
14925	CD5L	GGGAAGATGAGCTTCCATG
14926	KCNK6	CCTGTGTGCTGGCCCTGTGCTAGACAGTGC
14927	ADPRT	TCTCCAGGAATACTGAACATG
14928	HF1	TGAGACTTCTAGCAAAGA
14929	LEP	CCAGGTTATTTTAAAAAGATTT
14930	GNG5	CACATGTGCCATAATATACAAA
14931	APM1	GGCTTACTGCAACCTTTGCCT
14932	MLC1	GGACAGTGAGAGCAGGGCTGGGC

14933	NUFIP1	CCAGAATCTTGGAACACCTGG
14934	FOXE1	TCTGCGCGCACAACCTAGGCAG
14935	ANK3	ATTGCAAATGCATTTAACAAA
14936	NUP98	CCAGCACCTGGGTCTTTATGCATGAA
14937	HMGA2	CCAACCCACTCCCTGTAGTGAA
14938	ZFP161	TTCCAGTTTTGGTATACTAA
14939	POLL	GCAGGCTGCCACCCCTTCTACCTC
14940	WNT11	TGACCTTTCAGGGCCACAGAGA
14941	DMXL1	CCTGTTTCTGTCTGTTTTGTG
14942	PRLR	TGCATAACCTTTACACTCCT
14943	B4GALT4	AGGAAGAGGCAGGCCACGCA
14944	SCA1	CTGCCACCCACGGTCACCAC
14945	ITPKB	ACGCTGGGCTTGCTTGGGGG
14946	RBP5	GGCAAAGGGAAGGAGCCCCTG
14947	DDOST	CCAGGAGGCAGAGCTTGCAGTG
14948	PTPRF	CTCCCCTCTCCTCCGCC
14949	TP53	AAACTCCTGGGCTCAGGCGA
14950	TFAP4	TCTCTCTCTTTTTGTTTTGTTT
14951	D10S170	CTGCTGCTCCTCCTCCTTTCCC
14952	PPP1R12B	ATCCTGAGACTGTTTATAGCTTAAA
14953	BAT3	CTCCTCGGGGTGCTCGGCTCCCTCCCA
14954	GALNT2	TCCTCATAAAAGCTCAGATGAT
14955	HDAC6	GGTCCCTCTTCACCTTCTGAGG
14956	MKI67	AGGAAGAGTGGCTCTTAGCA
14957	ZNF26	GGTATGAACAGTTGACTTCATGGT
14958	IER3	GCATAGAGACCGAGGCACAGCCCA
14959	GRF2	AGCAGAGACCTCATCAGCAGACCAA
14960	FGFR3	ATGGCTCGGCCTCTGCCTTT
14961	MYO1B	TGTGTTCTTCCTTTAGTCATCAT
14962	L1CAM	GAGCTCCATACACACGCTGCCT
14963	GDF3	CGGTCTGACAGCCACTCCAGAG
14964	DEFB1	TGAAATCCTGAGTGTTGCCTGCCA
14965	PSMD9	GTTGACCAGGTTGGTCTCGAA
14966	STK6	TGGGAGCCGACGGGTGGGTA
14967	LDLR	TGCACGAACTGGACTGTGTG
14968	CDKN1C	CCCCTCGAGCGAGCGAGCTAGCC
14969	MBD3	GTCGCCCCTGTGGCTGGACTGTGAC
14970	PTGFR	GGAAGGTAGTCCTGCTTTAT
14971	TMPRSS2	AGCTGCTTTGACAAAATGACTG
14972	RRAS2	TGCTTACATTTTAATAGAGATGA
14973	ICOS	ATGCATACTTATATTATCTTAAGCATG
14974	B3GAT1	CTCCTGCAGCCTGGAAAGAGGAGGGAG
14975	STIM1	GTCACTTTTTCTCTCTACTCC
14976	AVPR2	CCCAGCTGTATGAGGAGAGCTTCA
14977	B4GALT2	ACTGACCACAGCCTGGCTGG
14978	GPD1	CTGCTTGGTGGCGGGGGTGATGTATGTG
14979	MAFF	TTGTAGACTTTCTAAATAAAGTCAAA
14980	GPR1	AAGAGGAGGGGATATGACAGC
14981	STCH	CTTCACTGCATTATGAAAATATTTCA
14982	PRKR	GAGTAGCTGGATTACAGGCAT

14983	UBE2B	TACATAACTTCAGTGCAAGAG
14984	PBX1	TTCAGCCAATCTGGACACTTCTTT
14985	NT5E	TCAGCTCTGCCTCTGTCCT
14986	SHFM3	AGTATGGGAAGAAGGAGGAATGGAGGG
14987	FUS1	ACCATAAAAGGAATACTTA
14988	SWAP70	GGAGGTTGAGGGGCGTCCGAGGCGC
14989	NR3C2	ATGATGTTAAATGCCTTG
14990	TACC1	CTCAGCTTTAATGGGTGTGG
14991	POLQ	TACTGCCAGAGACAGAAAAT
14992	SLA2	GGAGTCTCTTCTCAGTGAG
14993	SLC19A2	TTCCCTGGAATTTAATTCAAAG
14994	PLAG1	TCATTCAGTTTCACTTCCACA
14995	CYP1A2	TTACTCTGTTGCCAGGCTGGAGTGC
14996	VPREB3	GTGCCTCCCCTCTGCCTCCCATTTC
14997	ELAC2	CTCTAATCCAGCAAAGTGAT
14998	AGTR1	CACATTTTGCATTAGACAGATGACGGCTG
14999	DLEC1	CCATGAGGTTCGGCACCCAGGTCTCCG
15000	GRLF1	GCAACCCCTGAAGAGAACACTTCCTG
15001	MECP2	CCCACCCGGTTCAGTGTTTCTGGGGA
15002	GPR30	TCTGGGAGCCTTTCGGCAAATCT
15003	GPR86	GGCCAATATCCCACCATCA
15004	HADHSC	CTACCTGCAGCTTTGAGTCTTGCCCTA
15005	EHD2	CTGAGTAGCTGGGACTGCAGGC
15006	ALOX12	CTACTCAGCTCTCCTGCTGC
15007	S100A5	CTCCACCCTCACCCTCCACCC
15008	BCL2L2	ATGCACTTGCTGCTGCCTCCTGGG
15009	PPP1R12B	TCTCGCCCAGGCTGGAGTGCAGT
15010	CYP4F3	TGAACTCCTAACCTCAGGTGAT
15011	ADH4	TCAACAGCAATTTAATTGT
15012	SLC7A6	TCAATCCTTTGTTTCTATGCCT
15013	RAD50	AGGCTCCATCCCCCGCCCCCTCTCTC
15014	TRPS1	ATCTCAAAATGCCAATGTAAAATTT
15015	ABCE1	GGTACCACATATATTCATTT
15016	SP100	GAAAGAGAAGTTTTCTTGA
15017	DCX	CCTTTCTCCTAAAGCCTGGTCC
15018	CRADD	TTGCATTGTTGTAATTGTTCAG
15019	TSC1	CACCTTTAGGCCATCTCAGCT
15020	STK10	GCCATTCCCTGCAGAGTCA
15021	CD28	AGATCAAACTCAGCAGTAC
15022	BIRC7	CTGTGTTCTGGGCCTGCTGAGGATG
15023	IL6R	CTTACCTCGGTGCCTTCCTCTTTTTA
15024	SMURF1	GATGTCAGGAAAGGCCTTCTGCAGAGA
15025	PTPN7	CACCCCTCATCCATCTCAGCATC
15026	RAG1	GTGGGTCTTGCATTACATCAAACAG
15027	NLGN3	TCTTCCTCCCCAGGACTTGGTCT
15028	CUTL1	GAGTCCAGCACCCCCAGCCTGCCTTT
15029	LNK	TCAACCGGGCTGGAGTGCAGTG
15030	NEDD4L	CTGGTCCCAGCTTGAGTTCCTGC
15031	CYP2A6	AGAGGGAAGAGAAGAAACAG
15032	FBLN5	TTCATTTTTAACATTCCTCCTCC

15033	CDC42	TGTTCCTAGAATGCAGCT
15034	TMOD4	ACTTAAATCCTCATCTGTCCTCCTTTCC
15035	MYH3	TCTTCTGCTCTCATCCTGC
15036	PPT2	CTCCCCACTGGCCTAAATGGA
15037	OXTR	CAGCCAGGCTGCGGCGAGGG
15038	DDEF2	AAACTCATTCGTTTAATGA
15039	TGM2	GGGACCCCTGCTCCCAGC
15040	NR4A2	CCAGCAATAATTGACAAACTTTTCC
15041	NRF1	TGAAATCAAGGTGCGCTGTGG
15042	GAB2	TCAGGAAGAGAAAATGGGCTAG
15043	RFX2	ATGTGGGAGGGACCCAGCTGG
15044	DAPK1	GACCTGTTTCTCTGCCGCTAC
15045	ARHGEF7	TCATTATTTTCAGCAACCAG
15046	ADAMTS4	TGAACTCCTGACCTCAGGTAAT
15046	COX15	TGAACTCCTGACCTCAGGTAAT
15047	SOX12	TTCTGTGCCTTTAATGAGGA
15048	KRT2A	CGTGACCTTCTCTTTTAGATAA
15049	GP2	GGCGCCTGTAATCCCAGCTACTCGGG
15050	TEM8	GACCCTTGTTTGCACAGCA
15051	TNFRSF14	TCTGTTCTGCTGTGGCCTGAGCTCCCC
15052	LPL	CTCCAGCCCTCTCCAGCC
15053	MAP7	AATAGGAGAAGAGTTTAAGCCTG
15054	SLC14A1	AATGACTTGAGCCCAGGAGGAGG
15055	UMPK	CAGGCAGCGGGAGGAGGGGCGGCGCGA
15056	ADCY1	TTCGGGTAGGATTCTCTCTAAATTATTTA
15057	CDKN2D	GTGAGTTAGGGGGGAGACCCGGCC
15058	ASB2	CAACTCCAAGGGGACCTGG
15059	SLC17A5	AAAGTGTTGAGACTACAGGCAT
15060	ABCE1	CTGGGGCAAGCAAAATTGAG
15061	DNASE1L1	AGCCAAGGCTGGTCAAGGC
15062	SUPT6H	GCCTGGCTGCCCTTTCCCCCCTGCTGCTGC
15063	GAS2	GAGAAAGATAGACAGA
15064	GJA5	GGTGTACACCTAGCCTGTGCAG
15065	REGL	TAGTATCTTTACCTACCTCA
15066	KCNJ1	GCCTTCATCCCCATCCTGGGCC
15067	HYAL2	GTGACACCTCCTGCAGCCCCCA
15068	LRRC2	AAAATGCAAAAAATTAGCCGGG
15069	PTGS1	AGTTCCAGGCCTGATCTTGCCT
15070	BAZ2B	AGCACACCCAAAGAATTTTCA
15071	SACM1L	GGCATACTTTTCCACACAT
15072	C21orf33	AAGAACATTTTTAGGTTTGCAAGC
15073	SEL1L	AAAGTTGAAAAACCACCCAAG
15074	THBD	CAGGAGCCTGGCTCCGTCCAGGA
15075	LMAN1	ACGTAAACACACTTGCCCTCA
15076	CBL	GTGAAGTCTTGCCCTCTCTG
15077	EIF4G2	GCTGTAATGTTTTCACAATAT
15078	ZAN	GAGCAGGGAGCCACCTTCAC
15079	LNK	AAGTAGCTGGGATTACAAGCAC
15080	PTPRC	TCATGCTGTCTTTACATGGGGTTT
15081	RNASE2	AGCACTCCTCATCATCACTCAT

15082	PDYN	TCTGTCTCTCTTTTGCTCTCTC
15083	SEDL	GTGTGAGCCACCACGCCCGGCC
15084	HDAC7A	GGGCTAGGGGGGAGTGGGGAGCCAA
15085	WIG1	TAGGTTGGCAGAGATTTCAGTTTCCCA
15086	SSPN	TCTTCAGCTCCCTTAGCTT
15087	GM2A	GCAAAGCGCTGGATTACAGGC
15088	FUT3	CCTGCTAGGGACCTCGCCTGCTGG
15089	COX10	CATGGGGGTACACATACAC
15090	EDNRA	TTAAAATGTTAACTGGCAGTAAGT
15091	ITGA3	GGACCTGGCGTGCTCAGACCCAA
15092	NUP155	AGCTAAATTAGAACGGCTTCA
15093	D12S2489E	TCTCAATAAAAGCCAGGAACAGAG
15094	ED1	CTTCAAAGTGCCTGGGCTCAGCCTGGT
15095	SFRP5	CCAGACTGGAGAGCAAGCCCAGCCCA
15096	TLL2	TATTCCCTCTATTTTCCTCT
15097	EEF2K	GAGACAGAGTCTTGCTCTGTCA
15097	FGF5	GAGACAGAGTCTTGCTCTGTCA
15098	TLL1	ACTACTTATAATGCCTTA
15099	DFFB	GTCGCTCAGGCTGGAGTGCAGTG
15100	H1F0	CTTTTCTTTTCCTCTGGATTTTTGTT
15101	RUNX1	TAATTTCACAGATGCTGTG
15102	CPT1B	TCTGCCTGACCTATGAGGCCTC
15103	SERPINB9	GCTTGAGCCACCGCGCCCGGCT
15104	GNE	TTGAGTGGCTGGGATTGCGGGC
15105	NR4A1	CCCAGTGCTGCTGTAAATACAGGAA
15106	RIG	CGTGAAGCATTTACACTCTTTAAGAC
15107	PRKR	GATGAGCCACCGCGCCCAGCC
15108	AAAS	TGTGCTCTCTGGGGTTGTTC
15109	CORO1C	TCTGCAGTTTGTTACACACCTAGGA
15110	SUFU	CCTGCCTGAGGGCTCCCTGCTGC
15111	ARHGDIA	AGCCTCCTCGGTCTCCTGTCT
15112	FZD3	GAAGAATTTGATTAGTCTATGAAA
15113	B4GALT7	TACCTACAGGCCATATTGCTCAG
15114	B4GALT5	CGCCTAAGCTGGAGTGTGGTG
15115	LTBR	GTCCCAGGCTCTGGGCTCGGG
15116	TEM6	AGCCCCAGCAGGATCTGCATC
15117	RNMT	CAGGCACCACCTTCCTCCTTG
15118	SOX13	CTCTCCTCTCCTGCAGGTGTC
15119	AGXT	GCCAGTGCAGCCCCAGGTT
15120	Rgr	CTCCCAGATTCTGACTAGAAT
15121	CLTC	TTCCATTCAGGAGCAAAGAGCA
15122	PLA2G2D	CCAACTGCTCCAATCTGCCT
15123	FCAR	AAAGTGCTGAGATTATAGGCAT
15124	CBFA2T2	GCGGCATTCAGGACTCTTCTCA
15125	RNGTT	CTTCAATCAAAACATCATGTC
15126	F2RL3	CCTGGGCAACAGAGCAAGACCTTGTCT
15127	PRKWNK3	TCCAAATTGCTACCCAAC
15128	HMGA2	GGCGCAACGTTCGATTTCTACCTC
15129	TGIF	AACCTATAGCATCTTCTCA
15130	MAPRE1	GTAATAAGTAAATGCCTTA

15131	TRPC5	CCGCCCACCCACCCATCAGCCT
15132	SLC39A1	GGGCTTCAAGAGAGGGGCAGGGGAGAT
15133	VNN1	ACAGGCACAAAGGGAGACCATAAGGAGA
15134	APG5L	TGCTGCACTTTATTACCAAGC
15135	APOBEC1	CCTGGTGTGACTCTAGTGATC
15136	PLAG1	CAGCATTGGTGAAGGCACACTCAGAT
15137	NEU1	CTATCAATCAAAATGTTTGTAACTTA
15138	STS	AAAAAGAGTTTAGTCGTCTAAACAT
15139	PODXL	AACACAAAAGCTATGTCTATTCC
15140	NR2E3	CAAAGGGAGAGAGGGGCAAGC
15141	MAPT	CCTCTGTGCCACCTCTCACA
15142	ETV5	TCAATGCTGAAACCTCTCAA
15143	TLX1	CCACACACAGGTGGTGTTACTG
15144	P53AIP1	GAGCACCAGTCACTTACTCCA
15145	HOXB7	CCCTCTTTAATGCTGTCTTTGTGGACT
15146	IFNA10	CTAGCAATATTTGCAACATCCCA
15146	IFNA4	CTAGCAATATTTGCAACATCCCA
15147	CREB1	CAGGAGGCAGAGGGTTGCAGTG
15148	PCSK2	TCTTCAGCCTCTCCAGGCACC
15149	PPAT	TGCCTCAGTTTCCCCACATGTGCAATG
15150	FMNL	CAGCCCAGATCTCGCACCTGCA
15151	PODXL	GCTGCTGGATGATGAGGGAGATCAAGA
15152	PRKCH	GGGAGTGAGAGAGAGGGCACGA
15153	PMP2	GAAGACAAAGAAAGGTTGTGGAAA
15154	ING1	TGCGAGGTCAGTCAAGGCTTTGGGGG
15155	GAS7	GCTCACGTCTGCTGCAACCTGAAGCTTGCATC
15156	CLECSF12	CACTGCACCCAGCCTAGAATCTTGTAT
15157	PAICS	TCATGCCACTGCACTCCAACCT
15158	TNFSF10	TCATGCCACTACACTCCAGCCT
15159	COL11A2	GGCGTCTGAGGCTCATAGTCTGCTCCC
15160	FGA	ACTCTGTCTTCTTTGCTA
15161	SYT4	CTTGAGATCCAGGCAAGTGA
15162	ASGR2	TAGTTTAAGAGTCCCTGACC
15163	STARD4	ATGATCACAGCTCACTGCAGCT
15164	PLCB2	CAGCCCCTTCTCTGGGATGTGG
15165	HAKAI	GACCGTATTACCAATGTAATA
15166	ZNF236	AGCATATCTGTAGCTTAAG
15167	TNFRSF1B	CAGCTCTGGCTTCCAGAAAACCCCA
15168	PAICS	TTGTACTTTCAACTGTCCATTTCTCCC
15169	NT5M	AGGGGCTCAGGACAGGGAGGAGTTGA
15170	NEDD4	AGCGCTGTGCTATGCTCTGGGG
15171	RAP2A	TGGCTGCCTGATGAGTGTTTCC
15172	MGAT3	AGTGGGTGGGGAGTGGGGGTGGG
15173	ESR1	CTCTTCACAGCTGAACTCAGTCTA
15174	TRIM39	ATACAGTGTCTGGAACTATTGGT
15175	PSCD4	TTCTCTTCTCTCTGGACTTCGGTGT
15176	PODXL	CTCTGATTCTCCTGTGCCACAG
15177	IL17R	TGCCTGTAGTCCTAGCTACTTGGGAGG
15178	HPS3	GGTGTGATGTCAACAGCATGTTA
15179	ATP1B1	CCCACCCTCCGGACCGCGGCAGCTGC

15180	MERTK	CTTGGCTTCTGGTCTTGATGTATTTG
15181	TERF2	CCTGCCCCCTGTCCCCTGC
15182	PCDHA1	TATTACCTAGAGTGAACTTT
15182	PCDHA10	TATTACCTAGAGTGAACTTT
15182	PCDHA11	TATTACCTAGAGTGAACTTT
15182	PCDHA12	TATTACCTAGAGTGAACTTT
15182	PCDHA13	TATTACCTAGAGTGAACTTT
15182	PCDHA2	TATTACCTAGAGTGAACTTT
15182	PCDHA3	TATTACCTAGAGTGAACTTT
15182	PCDHA4	TATTACCTAGAGTGAACTTT
15182	PCDHA5	TATTACCTAGAGTGAACTTT
15182	PCDHA6	TATTACCTAGAGTGAACTTT
15182	PCDHA7	TATTACCTAGAGTGAACTTT
15182	PCDHA8	TATTACCTAGAGTGAACTTT
15182	PCDHA9	TATTACCTAGAGTGAACTTT
15182	PCDHAC1	TATTACCTAGAGTGAACTTT
15182	PCDHAC2	TATTACCTAGAGTGAACTTT
15183	JPH2	CCTGCAGGAGGCCTGGGGCCGGCGAG
15184	PFKFB4	GTGCCTGCTCACCAGTGCC
15185	AR	TCAGTTCTTATTTGCACCTACTTCA
15186	NOS1	CTCCTTGAGTTTTCCTGCTGC
15187	TSSC4	CCCACTGGCCACTGCCATCCTGCTGC
15188	TAPBP	GTCCACTGCTGTAACCCC
15189	KIR2DL1	CCTCATGCTGTTCCACCTCCCC
15189	KIR2DL2	CCTCATGCTGTTCCACCTCCCC
15189	KIR2DL3	CCTCATGCTGTTCCACCTCCCC
15189	KIR3DL2	CCTCATGCTGTTCCACCTCCCC
15190	FGF7	TGAGGTCAGGCTTCAGTAACTGT
15191	ADARB1	TCAGAGCAGACATAAAGCTAGAAAAAT
15192	CDH6	TTGACATCTGGAAACCTCTAC
15193	LY6E	CAGGAAGGAAAGCCCAGCCCTTTCTG
15194	GNB1	AACTAAAACAAATTGTGCATTC
15195	RABL2A	TCTTTTTTCCTCTTCAGTCTCC
15195	RABL2B	TCTTTTTTCCTCTTCAGTCTCC
15196	KCNJ11	CGGAGTCTCGCTCTGTCGCCCA
15196	PCDHB9	CGGAGTCTCGCTCTGTCGCCCA
15196	SLC13A1	CGGAGTCTCGCTCTGTCGCCCA
15196	TAPBP	CGGAGTCTCGCTCTGTCGCCCA
15197	TAT	TGGAGTCTTGCTCTGTCGCCCA
15198	TERF2	CAGAGTCTCGCTCTGTCACCCA
15199	BRCA1	TCTGCCCTTGAGGACCTGCGA
15200	ADCY6	CGGAGTCTCACTCTGTCACCCA
15200	TDGF1	CGGAGTCTCACTCTGTCACCCA
15201	F3	CGGAGTCTTGCTCTGTTGCCCA
15202	IL12RB1	TCTCCACCTCCCAAAGTGCT
15203	DNASE1	TTTGGCCTCTTTGTCCAAAGTGACCTT
15204	PX19	TCTCTGATGTGTCTCAGTATCT
15205	SNX15	CTGAGATTGCAGGCACATGCC
15206	SLC5A1	TTGCCCAGGTGGATAAATGTGTACATG
15207	CDYL	GAGCCCCCGGAAGAATTTTATGA

15208	STK10	CCTCATTCCTCCTGTTCTCCCAGTT
15209	INHBA	ATCACAACAACTTTTGCTGCCAG
15210	CXCR6	AGGCTCTGCCTCACCTTGGGGCT
15211	MYCL1	ATCTTAGAAGCACTACACCTTGCCTTGCTG
15212	LARS	ACCTTAGGCTGGACCTAAATA
15213	IPP	TATCTAGCTATTTTAATA
15214	OGG1	TAGTCTCTCCCCTGGCCACAGTAATTG
15215	ACE	GGAGCTCAGCAACAAGGCTGCA
15216	HTR6	AGAGCGCCCATTCACCCCCCTCAC
15217	PPT2	GCGCCTGGAGCGGCTGGAGCAGTG
15218	HTR1E	TGGCCCTTCCCTTTACCAACAGAAAA
15219	TPST1	CTGGCAGCTGCCGGCGCTTGGC
15220	ADAM10	GTTGCCGGCCCCTGAAGTGGAGCG
15221	PFKFB4	CATGGGCTGAGGTGTAGCTGA
15222	ITSN2	CCTCCAAATGCTGTCTCTGCCT
15223	TTC3	GGGCTCTTTGAGGTGGGTGG
15224	HMGA2	CCAAAATGCCATTTAGCAATAA
15225	GNAZ	GATTTATTTCAAACTAGGCCAGCTG
15226	PDZK1	ATTGTGCTTTTGTAACAATGTTGT
15227	PCDH11X	CCTTTCTCCCCCTCGGTT
15228	SHOX	CTGGCTGCGTCTTCCTCT
15229	BCAS2	GAACTTTTAATGAACTGTGAA
15230	HIP1	TGCCTGTAGTCTCAGCTAGTTG
15231	CREBBP	AAGAAGCCTTCTTTTCTTTC
15232	GTF2H1	CGGCCTCTTCCCAGCAGCGGCTCTA
15233	SLC7A5	GCAAGCTCTCAGCAAGTGCCCAGTGGA
15234	PRSS11	TCAGCATTTGTCTCCTCCTTTAACTG
15235	EIF4EBP1	CTCCTTGTGCCTCCACTGATGCAGGAG
15236	GTF2E2	TCCAGCAAATAGGAACAGTTTTGCCC
15237	INPP5D	GTCTTTCCTTATGTTGCTTTTTCAAC
15238	P2RY1	GCACAAGAATCTCCAAACACCT
15239	C7orf2	GACCCTGTAGTTTCCAGTTAA
15240	ARCN1	GCACTGGGATCATCTGTTTACAGGCAT
15241	GCNT2	GCTGGGTAGAGCAATCTGGGCACTTTG
15242	SH3BP2	TCCCTGGCACACCTTCCA
15243	VANGL2	CTGTGCCTCAGTCCTTCACCT
15244	PIN1L	AGTCCCCAGTTGGGGCTGCGACCTCC
15245	PSG1	ACAATTGTATTCCCAGCCTGTGTCCCA
15246	MPO	GGTGAGCTGTGGAGGTGGGG
15247	COL4A3	AGACCTACAGAATCAGAAACTC
15248	COL6A3	TGCCCCCAATTTCCCAGACTAGA
15249	HEPH	GTGGGCCATGGAGTCAGGCCACCTC
15250	MMP19	CTGGGTCAGAGAGCAGGGAGTG
15251	AUP1	GGGGCAGCCCTCACCCAAC
15252	GRM1	CAGACAGAGCAGGTGCGGGGA
15253	CLC	CCTTTGGCTGCCCCACTCTCCTT
15254	MICB	CTGCCTGGATCTCACCAGCACTTT
15255	TRPV1	TGTCCACCCTCCCAGGCCGAC
15256	PPP3CA	GTAGATGGTTAGCATGTTTAGCAA
15257	CLASP1	TCTCAGCCTAACTCCATCCCCACCGC

15258 UGP2 AGTCTAAGAAAAGCACAGATGGT
15259 CHN2 TGGTGGAGCAGGAAGTGCAGG
15260 TRPM4 CCCCGCACCTGGTGGCCTTG
15261 BIRC7 GTGGGCTCCCTGCCCCTCTCTG
15262 OAS2 ATGTCTGCCACACCTCTCCA
15263 BBS4 CCTATCAGGATGAGGAGCAGCAGC
15264 BACH1 TTTCTCTCTACCTATAAACA
15265 TUBA3 CAGACCCAAGCTGTCCATTTCTGTGAT
15266 PIM1 GGAACAACATTTACAACTC
15267 ACTC TGCTTCTAGATGCCTTCTCTCTCCA
15268 LRPAP1 TCTGATAGTCCTCTGCTAAAACAA
15269 DUT CACAAGGTACAAAATCTTGCA
15270 FANCF AAGTAGCTGGGATTACAGGTGCAGGCC
15271 ABCG5 TTGGGTAAGAATGCTTCTGTTCCTG
15272 CA3 TGTGGTCACCAAGATCTAAGTT
15273 MECP2 AAATGTCCCTTTCTTCTCCCCC
15274 DHCR24 GTTGCCCTGCCATCGCCTCCATCA
15275 GNAI3 GTATGGTCAGAATATAATACTTCCAT
15276 TRPM4 GGCTGCAGGAGGTTGCGGCGG
15277 GJA5 CAGGAATATCCAAGAAGCTGT
15278 ATP5G2 TCTCCACCTCCCATAGTTCTCCCGCGT
15279 GJB3 GCTGTGGCCACAAGAGTGCGCTGTGC
15280 SLC7A6 GACTCCCTGGTTCAAGCGATT
15281 CHRNE GTGTGTAGGCCTGGCCGCAGTC
15282 DMXL1 AGATAAAATATTTACTATT
15283 PDE4A CTCATTCTCATTCCTGGGC
15284 SLC7A5 GCACAGCCCTGAGTGTCCCAAGCCGGG
15285 ADCY2 GGAGGCCGAGGAGAGAGGATCA
15286 MEL CACAGCCAGTGTCAGGCCTCTGCCTCT
15287 TNFRSF1B GCTGCACCTGCCAGCCTGGCTTCTGGAG
15288 ASTN TCCTCAGGAAGCGTCTCACTCTG
15289 CNTN2 AGCCTCCTCACCTCTTCCCAACCC
15290 LIM2 GGGGCTCAGTTCTGGACTGTGGGT
15291 CAST TGCACATTCTACACACAGTGCCT
15292 HRMT1L1 TTGCACAGGGCTGTGCCAGT
15293 FUT7 TGTGGGTGGAAGGGCTGGGTGTCGAAA
15294 BCL7A ACCACAACTTTGAAAATCTT
15295 CACNG6 CTGGGTACCCCAAACTCTTAG
15296 DDX11 CATCAGGTCTGCAGAGCTGCAGGAGAAG
15297 WASF3 GCCCAGTCCCCGATGGCTGCG
15298 SMARCA5 GAGGAAGAGGAGGAGGCGGCG
15299 UTY AGCAAATTTAAATCTCTCCTCGATC
15300 PNN AGCCAGGCTTTCTTAGCCATTCTTTG
15301 VIL2 TTCTCGTGCACTGCTTTCTCCTTCACA
15302 BCL10 TCTATCGCCCAGGCTGGAGTGC
15302 FEZ1 TCTATCGCCCAGGCTGGAGTGC
15303 LARS2 TCCCAGGCCTGCTGTGGTTCT
15304 IVD TTTGGTGACTCTGTGCCCTTGCTC
15305 EPB49 ACAGCTTTCCTGCACTGCAGCTT
15306 SIAT6 GCCAGGACCAGCCTGTACCTTG

15307	BCLG	ACTGTACTGAGTGCTTATTC
15308	NEURL	AGGCAAATCACCGGGCAGAGGGAG
15309	AKAP2	GTCCCAGATGCCTGGGCTGAGA
15310	PELO	TGGCTACACTAGATATTTTG
15311	DGKG	GGGAAGAAAACGTCACCTTGCCATA
15312	SCD	TGCTCTCAGCTGGCAGTGCAATG
15313	SPTBN1	TCACCCAGGAAGTGCAAGGGGTTTGGG
15314	NEB	GTTCGGGAAGAAAATAACCCCAT
15315	BCLG	TCTTCAACTACCATCTCTGGACTCA
15316	DNASE1	TTGCCCCAGGGAAGGTCACA
15317	TMPRSS3	CAGTGCTGGGATTACAGGCAT
15318	IL17BR	GCAGTAGGTGCTCCTTCACCTC
15319	APPL	TCTTTTCTCACATTCAGACTTA
15320	RPP30	CCCCAGGCTGGAGTGCAGTGGCTCG
15321	TRPV1	CCCAGCTCTCCCTTCGAGTAGCAACC
15322	MXI1	CAGTCTCTCTCTTCCTCACAGTCCCAC
15323	TAPBP	AGAGGATCTACCCGGGTCCCTGCCT
15324	SOX10	GGCAGGCTGAAGACACTAGAATCCTGAC
15325	POR	GCACAGCCCAGGGCCTGCATGGGGGCA
15326	NCAM2	GCAAAGCATACAACAATATTAC
15327	FANCD2	TGCTTGTAATCCTAGCACTTTTTGAGG
15328	UBE2L3	CTGTGGACTAAATCTGCCACGATTGGT
15329	DNAJB1	TTCCAATATACTATCTGA
15330	MGAT4B	GAGGCCTGGAGCGTCCTGCTGC
15331	PKHD1	TATTTACCAGTTTTTAACTTAAGCC
15332	MATN2	GCTTCTGCCTCATCCTGCC
15333	CBFA2T3	GGCGCGGCGGCTCTGCCCACCTCT
15334	EPS15	AGTATTCTCCCCTGATTGGAATGGTTGA
15335	G6PC	GCATGAGCCACCGCACCGGGCC
15336	INHBB	GAGAAGGCTGCAGATGCCGAG
15337	DHCR24	TGTGTGGAAAGTCAGAGGAA
15338	MEOX1	CGTGCAGCGGACAGCAGAT
15339	MAP3K7IP1	AGGCCCAGCAGACCCTGCT
15340	DPYD	TTATCTCCTCTTCATGGC
15341	NFIC	TCGGTGGAAAATTAGAGTGAA
15342	GALNT7	CATTCTCTGGCAGCACCTCCAGGAT
15343	PSMC2	ATCATTAAGGAGCGGAGGCTTTTGG
15344	TLR5	GGCTGACTGCAACCACTGCCTCCA
15345	CYP8B1	TGTTGCCCAGGCTGCAGTGCAGT
15346	PDE6D	GCTCCATCCTCGGCTCCTGGGCACCGTC
15347	FCMD	GGAGAGGGAAGAAATCTGGAATA
15348	INHBC	CCCCCTTCCATGGCCCCAGCTCT
15349	ETV6	AGGAAAGAGAATACTTGCAGA
15350	TFDP1	GTATTTGTTTCATAAGCATCTTCCTG
15351	GCNT1	ATAAATGCAAACTGACAACCT
15352	NFATC1	ATGAAGAGAACGCTGGAAGGC
15353	LMAN1	GGCTGTAGTAGAGGCAGTTT
15354	ASIP	GGCGGGCGGAGGTTCCAGGA
15355	TAZ	TCAGCTTGGGCAAGTGTGTGCCTGT
15356	TERF1	TACTCAGCTAACAAACCTGCC

15357	NUP98	CTCTCAGCTGCTGAAAGCT
15358	BPHL	CATCACTGCACTCCAACCTGGG
15359	MMP14	GCCAAGCAGGGGGCCACAGGGTG
15360	TLL2	ATTCATAACACTTGGCACTTG
15361	PCDH11X	TGCTTTCTTTAGCTGTAAT
15361	PCDH11Y	TGCTTTCTTTAGCTGTAAT
15362	CHST2	TGGAGAAAGGGGAAGTGGTCCA
15363	RAP1GA1	AGGCAGCACAAGGAGGATGTGA
15364	HPS4	AGGTACCCAGCTGCTGCCCACATTTCT
15365	IL18RAP	ACTCAGGGCAGAGTTCTGAATCTCAAA
15366	LTBP2	CACAAATGAAGAAGAACAAA
15367	IL12RB2	AGTGTGCCCTCAACCAGCACAG
15368	CLCN6	GGGCCCCCGGCCCTGGCTTTG
15369	MYO1E	GGCTGTAGGTGGCGGCTGAGAAGTGC
15370	PPP2R5C	GTACATACATTGTATCTTTGT
15371	ACVR1	GGTAGATGGAGTGATGATTCTTC
15372	IL16	GTACAGTCTTGCAGCAGGATCTA
15373	TMOD4	TCGCCAGCAAAAGAAGAGA
15374	PTPRO	AGGGTCTGAGGCTGCAGCCCCAGTTCG
15375	PEX6	GCCTACTTGCCCCTCCTTCCAGGCC
15376	CLECSF12	GACTCACTGCAGCTATCTCTCGCCT
15377	PAICS	CAGGCACCTGTAATCCCAGCTACTC
15378	VANGL2	GCCGGTGCTGAAGGAGGTGGCTGTGG
15379	FCGR3A	CTAATTCCTGTGTAGCTTTGTTCAT
15380	SLC5A2	TGCGTTGGACACCATAAGCCACA
15381	P2RX7	TGCACTCCAGGCTGGGTGACAGAG
15382	ERBB4	AATGATAGTTATGTGCTTACC
15383	COG8	CCTGCAGGGCTGCCTGTTTA
15384	TNFRSF7	CTGCAGTCCCATCCTCTTGTC
15385	TNFRSF1A	GGGCCTTCAGCTGGAGCTGTGG
15386	RNPEPL1	TCTGCCGGGGGCCCAGGCTGTGC
15387	MYCL2	AGCTAATTTCTGTATTTTTAGT
15388	PLAGL1	ATTGTTTGTAATCACCAATAA
15389	TNFSF4	TTGCCTAAATTTAAACTTTCTCATTTG
15390	DLGAP2	CCCTGCAGGAGCCCCATCTTGTCGCTA
15391	DLD	AGGAAAATACAGCGGAAAAATGCAGA
15392	WIG1	TAGGTCAGCAGAGATTTCAGTTTCCC
15393	DUSP5	CTTCCAGACCCCTGCCCTCTTGGGA
15394	COL19A1	TATTAAAATACGTTGTCTG
15395	PCSK2	ACATGTGTGTATATATGTGT
15396	DLGAP2	CGTTACTGCTAAGGATTAGTCCTGGCT
15397	SSA1	ACTGCCACTCTCCCCATTGGCACC
15398	PTPRM	GGTAATATATTATTTTAGGTAATATTT
15399	PCCA	TTCACACACAATTGATTCA
15400	MFAP1	GTAGCCCAGACTTTGAAGGTGCTTTG
15401	TCL1B	CTTCACTGGGGCCCTGTCTGTGTGCT
15402	NR3C1	TTACTAAGCCACAAGAAATTTGATT
15403	MMP25	GCCCCTCTCCCACCCGCAG
15404	SYK	AGGGAAGGCAAAGGCAGAGGAA
15405	CREBBP	TTTTTGTCGTCATTGCTGGTG

15406	RAB7L1	AAAAGTACAAAAATTAGCCAG
15407	POLH	TAAAAAATAGGGGCCAGGC
15408	VANGL2	CACCAGCCCTGGGAATGATGG
15409	TRIM9	ACTTCTATATAGAGATAGACTT
15410	PRM2	AGCAACTCCCCTACATCAAATGCTCAA
15411	GALNS	GGCCCTGCAAGTGCCTGGAGGA
15412	FANCG	CTCTGCCACCACCAAGTCATTG
15413	KIF3B	GTCTTAGCATTCTGCAAAATGGAGATCTGTTG
15414	TRPV1	ACAGTGCTTCTGTTCAGGTT
15415	UCP2	GATAGCCACTGGCAGCTTTGA
15416	TNFRSF1B	AGGCTGAGGGGAGGATCACT
15417	NRL	TTGCTGAGAGAGTGCAGCTTTTG
15418	BDKRB1	CGAGTTGCTGGGACCACAGGTCA
15419	TRPV2	TCCTCCTAGGATGACCTCA
15420	TAC1	TCTCAACAAAGCACAGTGTTAAATGAA
15421	GLRA2	GGGACCTTCTTGCCTCAGTGTT
15422	MSL3L1	CCGAGCAACTCTGTCCAAAAAG
15423	RAD50	CTGAGTATTAATATCTGAGG
15424	IQGAP1	ATGGTAGGATTCAAATGTGTGTC
15425	FCRH3	TCTCCCCTGTGCCTGATCTGTG
15426	ECHS1	GGTCCCTCTGGGCATGCTGTGCTC
15427	PREB	GCCCCTGGCATTTGCTGGGGAA
15428	SH3BP2	TGCAAATTCTGGCAGCTGGC
15429	FOXP2	GCATGGATAAAGGAGACAGCCCT
15430	SLC8A2	AGACTCCCTCAGCCATGAGAA
15431	KRT5	CTCTTGCTCCACCAGGAA
15432	HMGA1	CCTGTGCCCTCACCACCAC
15433	PLOD	GGGGTGAGACTTGAGCAGAACAGGGGC
15434	PINX1	AATGTTCTCAATCGTGGCT
15435	B4GALT5	GTTGCCCAGGCTGGTCTCGAACTCC
15435	CBFB	GTTGCCCAGGCTGGTCTCGAACTCC
15435	IL12RB1	GTTGCCCAGGCTGGTCTCGAACTCC
15436	ACADM	CTCCTATTTTACAGCTACAAG
15437	SLC21A9	CCAACCTATTACCACCCCACCT
15438	MECP2	GTTGGCAGATGCAGCTCTTC
15439	UPK1B	AGTTCTCATGACTCCTACTTTTCAT
15440	SLC22A3	AGGTAGGGAAAAATTCATGTG
15441	RGS6	TGTGGACTTGTGTGGGATGGGTGCAGGTCT
15442	SOX1	ACCTTGAGGGTCCAATGGGAC
15443	EEF1A2	CCAGCCCCTCACACTCCCAG
15444	CYP4F3	CAGGCTGGAGTGCGGTGGCA
15445	NCOA6	GTTGGATGTTCAACCTCTAATTTGCCT
15446	VNN1	TCTTTCTTGGACGTGAGCTAATTATA
15447	CEACAM6	TTCTAGCTCCTCCAATCCCATTTTA
15448	OAS3	AGTGCCATGATTGATTAGCAATG
15449	TNFRSF5	GTCACCCAGGAGGATGGCAAAGAGAGT
15450	BRCA1	GCTGGAGTACAGTGGTGCG
15451	HAS3	CCTGCCACAGTTCACATGCC
15452	GAB2	TTCTACCCTGGGGCGAACAGAA
15453	PKD2L1	GCCCAGGCTGTGTGGAAACAGC

15454	CYP3A4	ACACAGGAGGCTGAGGCAGGAG
15454	FCMD	ACACAGGAGGCTGAGGCAGGAG
15455	LIMK1	CCCGACTGAGCCAGGGCCACT
15456	PAK1	AGCACTCCTCAAGACTTTG
15457	DGKB	GAAAACAATGCTTGAGAGAAATGGGTT
15458	D12S2489E	AAGAATCAAGATCTTCCCTC
15459	CBS	CCACTTCTCCTTCGCTTTCCTGAGCCCTAA
15460	SCP2	TATGTAAACAAAAAAGCTTTTG
15461	ALPP	CGGGCGGCGGAGATTGCAGTG
15462	NFKBIL2	CGGGAGGCGGAGCTTGCAGTG
15462	OGG1	CGGGAGGCGGAGCTTGCAGTG
15462	PCDH11X	CGGGAGGCGGAGCTTGCAGTG
15462	PCDH11Y	CGGGAGGCGGAGCTTGCAGTG
15462	PPP1R12B	CGGGAGGCGGAGCTTGCAGTG
15462	SLC26A4	CGGGAGGCGGAGCTTGCAGTG
15462	WIG1	CGGGAGGCGGAGCTTGCAGTG
15462	ZNF91	CGGGAGGCGGAGCTTGCAGTG
15463	CYP1B1	CTAACGCAACCAAGTGTGCTA
15464	IGF1	TCCTCTTTTTATTTTTTCC
15465	ALEX2	CCGCACCCCACATTCCGTCCT
15466	FZD4	TGCGTGCTACCACGCCCAGCTACTTCT
15467	COL4A4	TTTGCTCCACACACATAATGGCAGCTCA
15468	LIF	GCTGGGCCAGACCCCAGGAAGGTGGGGT
15469	SLC3A1	GAATGTAACCGCTTTAAGAAAGG
15470	F5	TTGAACATTCAAAAACCCCTGGAA
15471	SRGAP1	CACTTGAACCCGGGACGCAGAG
15472	COL19A1	GGTAATTTGATGGGATGGGGAA
15473	IL21R	GTCGCCCAGGCTGGAATGCAGTG
15474	SREBF1	GGGGCCCCCCTCCTTGCTCTGC
15475	ZNF45	GAAGAATTCTGCAAGGCTTGGAGG
15476	CPS1	TTCATGAGATTTCATCCATTTA
15477	AP2B1	GACTGGTCCAGTACCCTTC
15478	CTSZ	CTGGCTGCGAGTGTTCCTGAGAGT
15479	GLRX2	TGCACTGCTTCCAAGTGCCTG
15480	RAD52	TGGCATCACGTCAGTGCTC
15481	CPSF6	TCTTGTCTGCTATCAAACCACTTC
15482	LARS2	GTGCCTCCCAGGCCTGCTGT
15483	TNFAIP2	CAGGCTGGAGTGCAGTGGCCTG
15483	VIPR2	CAGGCTGGAGTGCAGTGGCCTG
15484	CTF1	CAGCCTCTCTTTGCTTTGCCTGC
15485	TOP3B	TCACCCAGGCTGCAGTGCCATGCAGAC
15486	SMT3H1	CCCACCCCACTCCCTGCTCAGTACCT
15487	FZD4	GGCCTCGGCCCGGGACGTCT
15488	LIM2	GGGCCCATGGGAGGGAGCTGAG
15489	SLC25A15	CCAACCAACCAAACTCCA
15490	RNH	GCCTGTGAAACTGTGAGGGGATTCA
15491	PTH	TTCAAAGCTCTATTAAGATTTCCAA
15492	SIAT4C	CCTCTCTGCCAGCACCAAGAGAT
15493	LHX3	TTCCCCAATCCCCAGGTCTCTAGAT
15494	SPON1	GAAGAGGAGCATTGATGTTGGGTGGC

15495	MLH3	AGCAGCAGCAGCAGGTACCAGCAC
15496	DYRK1A	GGTCACTGTTGAAACTCATCCTGTTCA
15497	MKI67	CCTACCATCTCCTGCCTCCC
15498	CYP3A4	GCCTGTAATCCTAGCAGTTTGG
15499	CYP2B6	TTGCCCAGGCTGGAGTGCAGTGGCGTG
15499	EVC	TTGCCCAGGCTGGAGTGCAGTGGCGTG
15499	F2RL3	TTGCCCAGGCTGGAGTGCAGTGGCGTG
15499	FUT1	TTGCCCAGGCTGGAGTGCAGTGGCGTG
15499	PRND	TTGCCCAGGCTGGAGTGCAGTGGCGTG
15500	DFFB	TTGCCCAGGCTGGAGTGTAGTGGCGCG
15501	P2RY1	CCTGAAAAGTGATTGTTTTCCA
15502	CLECSF11	CCTAAAATGTTTCAGCAGGCTGTCACC
15503	SIRPB2	TCCTCCTGGTCCTTTCCTGCTT
15504	SLC6A12	CCCCTGCCTTAGTTAACAAGTGTGTAT
15505	DIAPH2	CTGTATACCTAATCTGCCTCTGCCTCT
15506	PSEN1	CTCTTCCAATCTCCATCACC
15507	MECP2	TGTCTAGCACTTCCTTGCCA
15508	GNPI	GACCGAGGTCCTGCAGGTGGA
15509	FLT1	AAGTTAGGGTCTATGTATTTA
15510	FUS1	CCTGCCATTTGTTCCCGCCTT
15511	ACK1	ACCTGCCTCTGGCCCTGGTCCTGGGC
15512	MUC4	CCCTCCCGCCACTCAGCTCAGGCTGA
15513	MADH2	ACTCTTCTGTCATAGCATTGTG
15514	FAT2	GGACTGGACTTGGCTTATTTCTTCC
15515	TNNI1	AGTGGTTCTCCAAGTGTGGTCCTGG
15516	APPBP2	ACTGCAACCTCCGCCTCCCGGG
15516	GRAF	ACTGCAACCTCCGCCTCCCGGG
15517	FAT2	CCCTCCCTCTGGTCCACTGCCTTTTCATAT
15518	EHD1	TAGTTTCTGTTCTGTAAAGTGAT
15519	CELSR1	GTTTTCTTTTCTTGCACTGA
15520	CTBP1	AGAATGAGGCAGTTGGCAAACTTC
15521	CARD15	ACCACACTCCAGCTGGG
15522	LGTN	ACATTCCCTGGCTTCTGTGCTCTCTTCCC
15523	F9	TTCAGAACATAGGGATGAAGTAAGGTGC
15524	ACADSB	ATGCCTGGTTCATTTTTGTGTTTTTA
15525	GAC1	CACACTTGTATCTGGACTTGCCAGCTG
15526	NTRK2	TGCGCCCCAGAGAGTCCCGGACGCCG
15527	BRCA1	CCCACAGCCACTACTGACTGCA
15528	SOX13	GCACAGCCAGCCAACCT
15529	A2M	AAGTGCTTTGCTGGAGTCCTGT
15530	RAB7L1	TGCAGTGAACCGAGATCATGCC
15531	SMAC	GCAGAGTGTTTACCTGGTGCTCTCAACAGG
15532	ABCA3	GGAGCCGCCTCCTCCTGGCCAG
15533	IGF1	TGCTCTGTGGCTCCAGGGTT
15534	SHFM3	GGAAGCTGCAGGAAGGGAGGGT
15535	APM1	GTTGCCAGGCTAGAGTGCAGT
15536	TMEPAI	ACTGTCTCCCTGCCTGTCAATCA
15537	SH3BP2	TCAGGCCAGGGCAGTGCTGCTG
15538	ADCY9	CGTGGTGGAGAACAAGTGCCTTCA
15539	IL1R1	CCAGCACTCCTCTGTCTCTGCTC

15540	NOTCH1	GAGACTTGCCAGAGCCGGGCACATTGA
15541	GPR92	GTTCATCTGCTGACTTCTGTC
15542	RFX5	CTCTGTACAGACAGCTGAGTCA
15543	DEFA6	CTGCTCTCTCTCCTCCAGCG
15544	SIGLEC6	GACATGGGTACCTCTCAGTGT
15545	MAP3K7IP2	TGCCACCAAAACCCAAAGATCAAAGG
15546	ACTN1	AGGGCAGCAGCCGTTGCTCAGA
15547	TRPV3	TGGAGCCTGGGAGCCTCCTGAAGT
15548	MGAT5	TGTAGGGAAGGTGGGGCATGGTTTA
15549	GDI1	GGAGAGAAGGGGCCCTCCCAG
15550	DUOX2	TTCGTCTCCCCTAGCTCC
15551	EGFL5	TTCAGTAAGCACTTCTGAA
15552	MMP15	CAGGGCTGTAACTGCCAGGCTCTCT
15553	CHST6	CCCTCCTCCTCTGGGCACAGGGTG
15554	SLC22A5	AGCAAAGTGCACTGATGTGTGAG
15555	KCNE3	TGCTTCTTGAACCAAGTCAC
15556	SLC30A3	GTTTGGGGGTCTATCTCTCCA
15557	KRT13	CTGGCGTCCCCTCCCTCTGTCTTCA
15558	DBY	GTAGGTTTAGACTCTTGTACA
15559	SYT4	TTGTAAAATATAACCTCACA
15560	CYP8B1	TGCCCAGGCTGCAGTGCAGTGG
15561	IRS2	TGGTCCAAGTAGACAGCTGC
15562	COL7A1	AGCTGACGGCTTTTACTGCCTAG
15563	VPS26	CTGTAACCCTTGAGATTAAGTTCAGC
15564	KIFAP3	TTAAGTGACTAATTTAATTTC
15565	NUFIP1	ATGTAACACTGTTGAGTGC
15566	MBD3	CCGCTGTCCCAGCTCCTTGAGACT
15567	BCR	AACTTAGAGTCTAAAAGATTTCTACTG
15568	GABPA	CACACTTCTAGTCGCGGGAGCTGCAGG
15569	PLN	CAGACTTCCTGTCCTGCTGG
15570	OAS3	TTTTAGTGAATCTGCTCTCCCA
15571	ALOX15	GGCTCACTGCAGCCTCAGCGTC
15572	PPEF1	ACTAAGCTTGACATCTGTGAGTGAC
15573	EGFL5	GTATATTTTTGTACCAAACCA
15574	GNAT1	CACACACAGGCCAGCTGCTCA
15575	CPT1B	CCTGCTCTTCCGCTGCTCGCTCC
15576	ABL1	CTGCCTGCACTCCCTGGCCTTGCCCGT
15577	DCX	TATATTCTTCTTTGTAGTCCT
15578	MSI1	GCCGCCTCCCTCCAGCCCTGGAGAGG
15579	UBE2L6	TCATGGACTGAGGCCAGAGCCCCCTGT
15580	CARKL	GTCATTTTACAAATTATGTGATT
15581	PCOLCE2	AATCAATGCTTAATAAAATATTTTTAAAGG
15582	BCL11B	AGCACTTTGTTTCAGAACTGGAA
15583	GALNT2	CTGTGCGAGCTGTGGAGTGCAGG
15584	MAP3K14	CCAGGTCTGGGATTCTAAGT
15585	KCNA5	TGCTTGGTAACGGGCTGCCAG
15586	TPK1	TTTCTTTTGTAAAGAGACCATCTTCT
15587	CLN2	CCCCTGCCCTGAAGCTGGCAGT
15588	SLC1A4	GGCTGATTTCAAAATATAGAGCCCTTT
15589	HIRA	AGGAGACACTGGCAGGAGATGTGCTGT

15590	DNMT1	GGTTCGCTTATCAACTAATG
15591	ALDOA	TGCCCCCAACAACTCCAGGCCCTG
15592	DMD	TTCAGCTTCCTGCTGCTA
15593	BDKRB1	TCCTCCAAAAGCAGCTCTCACT
15594	NBS1	CTCATTTCTTATGAATCTTTCCAGG
15595	RHBG	ACCCGACTGCCCTACCAGCCTGCACATGG
15596	RNASE6	TACTTTTCGAGAGAAGGGAA
15597	CD80	ATTGTCATCAGCCCTGCCTGTTTTGCA
15598	GRM1	TTCTGCTATTTGCTGTTGTG
15599	MPL	CTTGAGGGAAAGGAACATGA
15600	LUZP1	GACCAGCCTGGACAATATAGTG
15601	ABR	GTTCTTGCTGGGCAATGGC
15602	MAP2K1	TGTGCCAGGCTGAATTACAGTG
15603	DYSF	CCGAGCCCTCTTTGCGCCCTGG
15604	P2RY6	TTTCCTCATCTGCTGCCTC
15605	VIL2	TTTGTTTGCAGTCTCTCTCT
15606	SSTR1	TTTGCTTAAACTAATGAACAA
15607	GORASP1	TTCTGGGGCCAGCTTCCCTT
15608	INPP5B	GCCATTGCATTCCAGCCTGGG
15609	TFAP4	GACCTCTTTTTCAATACTGTA
15610	CDH17	TTTTCCTCTCTGCAAATGGCTTAGCTA
15611	MYH11	GGGCAACAGAGACCCTGTCTCAACCA
15612	LMO2	ACATCATCTGCTGTAACAACTGCTCT
15613	IL2RA	TCAGGAGGCTGAGGCAGGAGGATTGCT
15614	CORO2B	TTTAAAGTTTCTGCAGTCC
15615	LDLR	TCCGCAGTCTGGCCTGGGCGA
15616	APTX	AACCCCTAGGCTCAAGCAATC
15617	SLBP	TGCCCTGCTCTACTCTGCGCTCT
15618	BNC	CAAAATCACTGCTCGTTTTCATTTGG
15619	SNCA	TGCTGTTGTTCAGAAGTTGTTAGTGAT
15620	MEF2A	GGTCTCGAACTCTGGACCTCAG
15621	PTGIR	TGGGAAGAGAGTGAGGGACAGAGGAA
15622	GABRP	TTAGAAAACAAACTGCTTGACCCAGGA
15623	TSGA10	GAAGCCAAGATTGATCTCATTT
15624	TNFSF12	CAGGGGCCACATCCAAAAAG
15625	EZH1	TGGGAGACTGTTTCTCTGGCCT
15626	COPA	GATCATACCACTTCATTCCA
15627	A1BG	GCTCTTGTTGCCCAGGCTGG
15627	APPBP2	GCTCTTGTTGCCCAGGCTGG
15627	ATP1B2	GCTCTTGTTGCCCAGGCTGG
15627	CLECSF12	GCTCTTGTTGCCCAGGCTGG
15627	PKNOX1	GCTCTTGTTGCCCAGGCTGG
15627	SLC24A1	GCTCTTGTTGCCCAGGCTGG
15628	NESG1	AGGAAGCCACCATGGATGCAGTGA
15629	TLL2	TATGTAAACATATGGGTATTTT
15630	PPEF2	ATTGATTTCAACAAAGATGGCCACAT
15631	BTD	TGGTCTCAAGCTAAAACAAAAATAAAT
15632	PTAFR	CAACAGAGCGAGATTCCATCTC
15633	SFRP1	CCTAAAATCTGTTTTTCTCATC
15634	KLK3	CCAAGACCCCAAATCACCACA

15635	EN2	TCTTTCAAAAGAACTCAGA
15636	PAFAH1B3	GCATCCTGCTGCCTTC
15637	DGAT2	GGCCTGGAGCACATGCTTACTGGTGG
15638	KIF3C	GGGCTCGGGGGCAGGAAGGTCAGA
15639	INPP5B	GCTGGGGTTTTAGTAAAGCTCC
15640	HMGN2	CTGCCCATGTCCTGCCTGAAATACC
15641	RGS3	CCTGACACGTGTGTGCAGCAGC
15642	DVL3	GGAAGCAAGCGGAGGTTGCAGTGAG
15643	FADD	AACACAGCTTTACAACTTCCA
15644	PRKAR1A	GTGACTGCAAGCATTTT
15645	CA12	AGCAGGAATTCAAAGCTGCTTGC
15646	COMT	CCTGCAGCCCATCCACAACCTGCT
15647	GNE	CAGGCTGGAGTGCAGTGGCTCAATGCA
15648	REN	GTCCTGGCCTTTCTTCATGTGTGCGT
15649	RAD50	AATCCTTCCATTCCACACAGAATGCA
15650	NPY2R	CTTGCAAATGTTGTATTTCAAA
15651	FLT1	ATCTTTTTTGGAACTAAAGCA
15652	AK1	TGAGGGCTGGAGACCAGAACAGCA
15653	PGM1	TCACCCCAGAGCAGCTGCAGCCT
15654	ITGA6	CAAGTCACTGGTCTGTTT
15655	AR	GCGCTGCCAGCCCGAGTTTGCAGAGA
15656	HLCS	TCTGTCGTCCAGGCTGGAGTGCAGTG
15657	FCAR	TGTCACCCAGGCTGAAGTGCAGTG
15658	GC	CAAGTATGATGATTTGCTATCAAA
15659	TNFRSF10B	GAAAGTGCTGGGATTACAGGC
15660	IL11	CCTAGGCTGGAGTGCAGTGA
15661	PSG1	GCAAACAAACTTATTCTACTG
15662	RPH3AL	GTGTGAGCCACCGCACCCAATC
15663	PCDHB16	TGCTTGGTTCTGACATTCTGGACT
15664	OTOR	CAGTCAGAGTTCAAGTTAAAACAGAAA
15665	FCAR	TCTCCTGCCTCAGCTCCTCGAGTAGCT
15666	DAAM1	AGTCTGTAAATGTTTATTGAGAA
15667	HS2ST1	ATCCTGTAATTTCATGCAGCTTTG
15668	MAFF	GGTCCCATTTCTCTGCAGCA
15669	SLC38A3	GCAGGTTCTGCTGAGGGTGGGG
15670	AR	CCCACCCCAGCTCATGCCCCCT
15671	GNL1	TGAGAGAGACAGCAGGGAGGAGGTAGA
15672	IFNA2	AGTCCCTTACAGAGGACCA
15673	MSF	TCTCTGAGCTGGGGAGGTGGGAG
15674	SLC22A7	GGCTGCACCTGAAGCATTTGGTGGG
15675	ZNF264	TTTGTTTTCCTTCCTCTAAAGATGTCT
15676	SLC9A1	TGCCCGGTTTTACTCTCAT
15677	CLOCK	TGATACAACAGGATTTTCAAGTTATTC
15678	HFE	GCTTCCTTCATTTCCTCCGTCA
15679	RORC	CTTGCCTCTCCCTATGGCCTGCTGGCCCAC
15680	SSTR1	GGGCACACCTTCCCCGGGGTTC
15681	NRF1	CACAGGCAGATGAATGTCTTGA
15682	SLC22A3	ACAGAGCAGTGGCACTGGAC
15683	PTGIR	GGTGGTGGGGAGACAGATGGAGAAGC
15684	EEF2K	AAATCACTGCCGGCTAGTCCCA

15685	DIAPH1	AGGAGGAACCCCTTCTCTGGTT
15686	GABRG3	CTTGACCTTCTGTCGTCCCCA
15687	KRTHA1	CCTTCCTATGCTCACCCAGAG
15688	PPARGC1	TTTACAGTCTTTCTTTCTGAATTTTGA
15689	MET	GAGGCTTGGTCCCACAGGCCAGGGACCAA
15690	SPINT2	GCTGGTGGCGTCGCCTGCGCGT
15691	COCH	GGTATTTTTCTATTTCTCTCCT
15692	JUNB	CAGCAGGGAGCTGGGAGCTGGG
15693	ANKH	AGGCTGAGGCAGGAGAATTTGCT
15694	TBX1	CGGCCCGGCCGGCAGTTGCAGTGTAGACA
15695	PACE4	CAGATGTTGTTTATTGAATCTAC
15696	HSPA4	GGTATAGCTTGAACTCCTAG
15697	GBE1	AGGCCTGATTTCAGCTCCACC
15698	KMO	TGGTGATGATAAAAATGATGGA
15699	PML	AGAGCACAGAGAGCCATCCGCC
15700	AGRP	CCCAAATTGGAGATAGGCACTCCTCT
15701	RAF1	CTGGAGGAATGCATGTCACAGGCG
15702	DAPK1	AGAACAGATCTTTTACTTTGGCC
15703	GPX3	ACTTATACCTAAACCCAAAGGA
15704	DNMT2	TATGAATATTTTGAAATAACTCTGAA
15705	COL15A1	ATTATTGCCATCATGCTT
15706	TRPV1	CCAGCATGTTCCCAAATCTGTGC
15707	POU3F1	CTCCTGAGCCTGCGGGTCCAG
15708	NP	GGGATTACAGGTGTGAGCATA
15709	PTGIR	CGCTGGTCCCCCACCAGGCTTGGGAGCCCTG
15710	ITPR2	CACAAGAAGTCATACTTTGGTG
15711	PLP2	TACAGCGTCCTCGAAACCACGAGCAA
15712	CSRP1	CCAGGTCTTAAGGACCCCAAAGTCAGGAT
15713	PIGF	ATGGTAGGAGGCAGTAGTTCCCC
15714	DEF6	GCCTGTGGGTGATCCCAGCTCTTACT
15715	RP1	AGCTATTTAAACAACTTAAACATCTTTT
15716	TCP10	GCCTGCTCCCCTCTGGTCACC
15717	EXTL3	TTCCAACAAGGACAGCCCTCCTT
15718	PAIP2	TCAGCAGATGAGTGCCAGT
15719	CST	GCCACCTCAGACCCCGGGGT
15720	DPYSL3	AATCTCCTGTGATCTGTGCTA
15721	PCDH11X	TCATAGAAAACATTAGTTTTCTTCTG
15722	GNPAT	GGTCACGTAATTACTCTCAT
15723	ZNF189	TTCTCCTTGGGCCTCAGGCAAA
15724	CTSS	CATGCCTGTAATCCCAGCTACTT
15725	LDLR	CGTGCCTGTGATCCCAGCTACTT
15725	NPHP1	CGTGCCTGTGATCCCAGCTACTT
15726	VHL	CATGCCTGTAATCCTAGCTACTC
15727	MECP2	GCAGATGAGGTGAAAAGGCCAA
15728	KIF3B	TGCTCCACCCACACCTCCATG
15729	ACADL	GGTTTTCTGAATCTTGCCT
15730	ICA1	GAGGAAGAAAACCAGCGCA
15731	FNTB	CCTCACTCCTCCCTATCATGTACCGTGA
15732	ALDH3A2	CACTGCACTTCAGCTTGGGCAA
15733	SEPN1	GTCACCCAGGCTGGAGTGCTATGGC

15734	PABPC1	CCCGGCACTCGCTCTCCTCCTCT
15735	EFNB1	CAGCGGAGAGCCCAGGAGAACGAGC
15736	NUCB1	AGACCAGTCCCACCCACCTTTCTGGCCT
15737	EPIM	TCAAACCACCAAGATTCCTGCTGCAA
15738	AMFR	GCAAAGTTTAAATGTATTTTA
15739	C1QG	CCCTCCAGGGAGCCCACCCTGACCCAC
15740	FBN1	ACTAGATTTATAAATGCACTG
15741	NGFR	TTCTTGGGCCCTCCTGAAACTTAC
15742	PPP1CC	GATTGCTTTTTCCTCTCATTGT
15743	GPRK7	ACAGTTTCTTTTGCAATTTTGTGG
15744	ADORA1	CCCTGCAGGAGGCCTGGGAGGG
15745	C21orf2	CCCAGGACTCCCCTTCTGTGGTCT
15746	GABRA6	TCTTCCATTGTTCAGTATTTTT
15747	MTM1	TAGATTAAAATATTTGCCTCCA
15748	SPAG1	ACTAGTACCTGTGGATTACAGTCAGT
15749	DYRK2	ACAGAGTTGCTTTTGCACCTA
15750	ADH5	AAGTTCTCAGCACCTACTTTTGTCAA
15751	KRN1	AGCTCCTGAAGATCTGTGCTTTC
15752	PITPN	GCCCACACTAGCCTGGGTGCATCTG
15753	TLL1	CCATTTGAAATAGCACCTTCCTTA
15754	ZNF174	CATGTAAATCACAAAAACTG
15755	RNF3	ACTTGACTTTGCAATGGTGCTAA
15756	LRP1	CCGGGGAGGGGGAAAGAGCAGC
15757	IPP	TCATCATGGCTAATGAGGACTGTC
15758	FGFR1	GGCCAACATGGTGAAACCCCA
15759	ZFP36L1	TCAGAAATTGGAGAGCAAA
15760	PCNA	CTCCTTCCCGCCTGCCTGTA
15761	GRIK3	CGCAGCCCTGCAGAGGGCACAG
15762	DNMT1	TGTAGTTTTTATATGTTGTA
15763	MADH7	CCTGGATCTCCCTGAGATGGGCTTCCC
15764	IRS1	CCCTGTGCCGGACTCCAGCCGGGGCGA
15765	TLX1	CCCTTCCTCAGACGCCTTGTGGGCT
15766	LAMP2	CCTTTTGAATACATTTGTATTT
15767	GALGT	CTCATGGGGCAGGAAATGGGGGGATCAC
15768	ABCA2	TCCTCTGGCCCTGCTCTCCTGC
15769	MBTPS1	GCCCCGAATGGAGTGCCCAGGC
15770	MYL4	ACCACACCACTGCCCCAAGGACCT
15771	BPHL	CACTGCACTCCAACCTGGGCAACAGAG
15772	NAB2	GGAGAGAGAAGACGTGGAGGGAGGGAC
15773	PSMD2	GAGATGGAGGAGGGAGGCCGGG
15774	TM4SF6	ATTTTTCTTAGTAGGGGGCCTT
15775	C18orf1	GGCTCTGTGCTGTAACTGGAG
15776	GARP	CCCCCTTCCCGGGCTGCACTTT
15777	GABPB1	CTTCTACTTTTCCTTTTGAAAGCTC
15778	PRLR	AAGGCAGCCAACATGAAGGAA
15779	HMG20A	CCAACTCTTGGGCTCAAGCATC
15780	LTBP2	CTGATTTTGCCACACCTCCATCC
15781	HSD3B2	CTGCTGCCTCTCTTTCACACA
15782	LAMP2	TTGCATCTAGGCTGGGCGTGGCGGCTCAC
15783	TAZ	CCCATCATCCTGCCCCTGTGGCA

15784	BFSP2	CTCCTGAGCTCCAGTCCCTGCTGGAT
15785	SH3BP2	CCCCTGCCTTATCTCTGCCTGCACGCC
15786	GATA2	TTTTATTTGGCTTGTTTTATTTTGGA
15787	RORB	GAAAGAGAAGACCCAGAGTGA
15788	KRAS2	TTTCCACTGCTATTAGTCATGGTCA
15789	ARHGEF6	GGCTGGCTGCCCTTGCAAAGCA
15790	PTGIS	AGAACTAGGAGTCTTCACTGCTCTG
15791	BTNL3	CCATAAACTCTGTTTGCTTATT
15792	GPR1	TGTGGTGAGCCAACATCACACC
15793	GPRK5	TTGGGCTGAGAGCAGGAACAACGCGGTAG
15794	MYEOV	AGACCCTAAATCCAGCCACGTCATGCC
15795	CHRNA4	CCTTCCTGTTCTGTGTCTGCT
15796	PHKB	ATCTGTACCTTATCAAACAT
15797	IL10	TTATTTTCACCTGTTTTTA
15798	NT5E	TGAGATTCAAATCTGCCTTT
15799	CAPN9	GTTCACTCCCCTCTCATCGTCC
15800	SIAT7D	TCCAGGTCTGTCAAGTGGCCTTTGTCCCTG
15801	RENT1	TCTGCCTGGCGGCCAGGCCTCCAGC
15802	GCK	TCACCTGCAGCCTAATTACTC
15803	RAB3A	TGTTCTGACCTCATGAGTG
15804	MSR1	ATACTATATTGCTGTATGGTATATGCA
15805	SIGLEC11	TGAAACCCCATCTCTACTGGAAATGCA
15806	LAIR1	CACAGCTGAGAGCCAAGCCCAGTTC
15807	GDF5	TTCTGCTGCTACTGCTGCTGCC
15808	WBP2	CCTGCCTCCCTGCCTCCCACCCTCA
15809	ESRRBL1	AAAATTCTTGCAATGAGTA
15810	CLASP1	TGGTGCCACCAAACTCCTGCAC
15811	UBE2L3	ACCGAGTTTATTTTTCACTTACT
15812	TSC1	TGACCACAGGCTGGTGTGTAGGTG
15813	PPP2R5A	CTCAATAAATACATTACTGTACTCTGG
15814	GNPI	TCTGGCTTCCTTTCATTGTCTTA
15815	GADD45G	GAGGGGCCCGGTGGCGGCAGGGCCAGG
15816	DTNA	ATTCACGTCCCATCTTTTTGG
15817	ITGB4BP	GCCACCCCATTAAAGTGCAGT
15818	RTN3	TCTCCCACCCTCGCTCGCGT
15819	SRGAP1	AGTTATTTTTAGGCACAGCA
15820	LASS2	TCTATGACACAAATGAATTGAGG
15821	NUP98	TTAATCTTTTTCTTTACCTCC
15822	RNF4	GTCACGATGCCCAGACTTGGAGCAAGGCAACC
15823	ODF2	CCGATCTCCTCCTGCCTGGGCC
15824	GNGT1	TATCTCAAATGTTAATA
15825	CLASP1	CTCTCTTCCTCCTCAGCGAACCA
15826	RBM15	GCAAAACTGGTTGAACAGCGGATGAA
15827	GAB2	AGGCCATCAGATTAGCAGGG
15828	ZNF3	TTTTCATTTTCAAGGTTTAC
15829	SOST	TGCTTTATGAATTAACAGTCTGTT
15830	TSC1	TTGGGAAAGATAAAACTCTAGCA
15831	GP9	CAGAACCTGGCTCCAGCCAGGGG
15832	POLR2C	CTCCAATGACCTGATCATTTAGTT
15833	PCDHB5	CATGCATGCTGTTGATTTTCCT

15834	JAG2	TGCTTTCAGAAGTGCCCTTCCTGCTGC
15835	STK10	CCCGGGGCTGTGGCTGGCAGCTT
15836	NEURL	CACAAAGCTCATACCCAGCCCTACCAA
15837	PDZK1	GGCTCACAGCAACCTCTCTGCCTC
15838	DGCR6	TGGGCAGAGTTCATCTTCTTGACCTTTG
15839	EHD1	CGCCCGGCCGGGAGGCAGAG
15840	RAG1	CATGTAAATCAAAGCCAA
15841	LAIR1	AGTCCACAAAGCCCATGGCCGAGTC
15842	ZNF215	TCAGGGTTTGTTCCCACCAT
15843	ITPKA	CAGCTTTGTCCCCACTGTGCAT
15844	THOP1	TGTCATTGTCTGTCCCCACCCGGTCGT
15845	PPP1R12B	AGCTGCTGGGCTCAAGCAATC
15846	RIMS1	TAATCGAACTCAAATATTTTA
15847	DIAPH2	ATAATCTACCTCTGCCTCTCTC
15848	TNFSF15	TCAGGAGGCCGAGGCAGAAGAATTGCT
15849	PCDHGA1	GCCTCAGTCCTTCACCTTGCCA
15849	PCDHGA10	GCCTCAGTCCTTCACCTTGCCA
15849	PCDHGA11	GCCTCAGTCCTTCACCTTGCCA
15849	PCDHGA12	GCCTCAGTCCTTCACCTTGCCA
15849	PCDHGA2	GCCTCAGTCCTTCACCTTGCCA
15849	PCDHGA3	GCCTCAGTCCTTCACCTTGCCA
15849	PCDHGA4	GCCTCAGTCCTTCACCTTGCCA
15849	PCDHGA5	GCCTCAGTCCTTCACCTTGCCA
15849	PCDHGA6	GCCTCAGTCCTTCACCTTGCCA
15849	PCDHGA7	GCCTCAGTCCTTCACCTTGCCA
15849	PCDHGA8	GCCTCAGTCCTTCACCTTGCCA
15849	PCDHGA9	GCCTCAGTCCTTCACCTTGCCA
15849	PCDHGB1	GCCTCAGTCCTTCACCTTGCCA
15849	PCDHGB2	GCCTCAGTCCTTCACCTTGCCA
15849	PCDHGB3	GCCTCAGTCCTTCACCTTGCCA
15849	PCDHGB4	GCCTCAGTCCTTCACCTTGCCA
15849	PCDHGB5	GCCTCAGTCCTTCACCTTGCCA
15849	PCDHGB6	GCCTCAGTCCTTCACCTTGCCA
15849	PCDHGB7	GCCTCAGTCCTTCACCTTGCCA
15849	PCDHGC3	GCCTCAGTCCTTCACCTTGCCA
15849	PCDHGC4	GCCTCAGTCCTTCACCTTGCCA
15849	PCDHGC5	GCCTCAGTCCTTCACCTTGCCA
15850	MAT1A	CCTGGTCACCTAGGAAGCCTCAGATTC
15851	ITPR3	GCCAGCTGGCCAGCCTCCACTCC
15852	SULT1A3	TGGCTCATGTCTGCAATCCCAG
15853	AP3S1	TTCTAAACTGCATTCCTGTGCCCA
15854	BACE	CCCCAAATCTTCCTCTGGAGCT
15855	TMP21	TCAGCATTTGTCCTGGGTTCCCTT
15856	ITCH	TTTCATGTACCCCAGGAAATACT
15857	RAP2A	GGGAAGAGATTACCTAGCCTTACTAA
15858	FMR2	TCTAATTCATTTTCTCTTTAG
15859	VSX1	TTGTCCAAGACATGTACTCTCAGTTTG
15860	PCDH1	GTGGGTGGGGGTGGGGACGGGGGTAA
15861	FES	CAGCTCTTCACAGTCCTGGACT
15862	KAL1	ACACAATTCACACATAACAC

15863 S100A5 TTTGCTGCTGACCTCGGCTGCTCCTC
15864 KCNK7 TCCCAGCCACCCACACAGCACCT
15865 KHK CACCAGCCTGTGATTTGATGG
15866 GOT2 TCCTCTTGAATGATAGTGCAAG
15867 GPR4 TCTCACTGTGTTGCCCAGGCTGG
15867 JRK TCTCACTGTGTTGCCCAGGCTGG
15868 IL1RN GCTCTCCTCTTGCCACTGCCTCT
15869 PDCL GATTTCATGTCTTCCTCCAGCA
15870 ADORA2A TCAGGAGACTCAGAGTCCTCTGTG
15871 PIGA AAAAATGCTCATGCCAGTTAATGCCAG
15872 SEL1L TGAAACTATTCATTTTGCTTCT
15873 RAG1 TCAAAGAACAGCCAGTGAGGCC
15874 COL1A1 TCCTTTCTCCACACCCCCCTTGGCC
15875 HDAC2 AAGACTTCTGGCTTCATTTTA
15876 SLC21A3 AGCAAATTTACCTTTCTCTCCA
15877 HMGCR GAGGATGAATAAATGTGATCAC
15878 NUMB TCCAGGCCCAGAGTACTGTGAG
15879 GNS TCCTCTTGTGGTTAAAGACTGAA
15880 MAP3K11 CCCCACCCCCCTTTGGGGGTCAGGAAC
15881 JMJ GGGGGTGGGGAGGGGGGTGAGAAGAC
15882 RAP1GDS1 GGTAGAGGGAGGACACAGAGCCGC
15883 MSMB TGTGCTTCTAGTAGGCACAG
15884 SH3BGR CAACATTTCAAATGTCTCTCCA
15885 MECP2 GCAAAACTTAGATGTGAG
15886 TGFA ACAGATGGCGGAACGAGAGGTTCCCTG
15887 QPCT CCTATAGATCATCCTATTCTTA
15888 ZNF236 GCCTGGAAACTACAAAGGATTGTGTTAATTTT
15889 DLX4 TCTGGAGGACAAGCAGTTAG
15890 CORO1C TCCCCCAGCCATTCCTTCTTTC
15891 GUCY1B2 GTCCTCACTTTTCCTTCCTCTCACG
15892 TFAP2C AAGTGGTATCTGACACACTCT
15893 SIAT1 TTAGCCAGAAGCAGGCTTGTTTTCCT
15894 RAB13 CCTGTTCTGTCACTTGTCA
15895 SH3BP4 AACAAAACCAGTTGCACCTTA
15896 RECQL5 CCTGTTATACCAGCACTTTGG
15897 MATN4 GGCCCAGACCCGGGCTGGGGCGCGG
15898 TRPC6 GACACACAAAAGCTCTTTATGTTATAAA
15899 SYN3 GCTACACTCGTCCCCCTCCTGCC
15900 GDF5 CCTTCTCAGCCTCTGGACTCTCCTA
15901 KLHL3 AGGCTGAGCAAACTCATATTCCA
15902 SRC TGGAAACACCTGTAGGCAGAGGCTGCC
15903 ICA1 GGAGACGGCCAAGTGAAGGAGCCAG
15904 CD2AP ACCAGCCTGTTGCTGTACT
15905 PAPPA AAAGGTGGGGAGAGTGGAGCAC
15906 APM1 TCATCCCTGTTCCTCAAGGCCACCTGG
15907 PRKAR1A AACTGATTCCAGGAGATTGGATTTGCT
15908 SLC17A7 TGCTCCTCTCTGTCCTGCCTCAGGCCTAAG
15909 GALNT2 AGAGAAGATACTTTCTAGATACCGC
15910 MCC TCTGGGAGTTATAGGTCATGGG
15911 HYAL1 ACACGAAAGAACCCGGTCTCCA

15912	LBR	GTAACATCAATATTTAAACATTTT
15913	PMX1	CCCTACAAAGCCTCCTCTGCATGCCA
15914	LIFR	TCTGTTCTGTTGTTTGTGGTT
15915	NCOA3	GTTTTTCCCCCCTCCTTCTGCT
15916	EOMES	CTATTTGTAAATTCTTAAGCAAATAGAA
15917	LTK	CCTATACTCCTCAGGCTCCTGGGTGGCCTG
15918	ARF4L	CTATCTCCCCTTCCTCTGTCCCCCAAC
15919	GTF2I	TGACAGGAATGAATCTCACCAG
15920	SPAM1	CATTCCCTTTCATCTGTGCTCATACTTT
15921	TIMP3	GTCCTGCTGGGGTGGGTGGGT
15922	TNFRSF10B	TCCCAGGCTGGAGTGCAATGGTGC
15923	CASP8	AAGAGGTCCAAGGCTGCAGT
15924	PLCB4	TGTGATGCCTTAGGACATGT
15925	YES1	TTGACACTCTCTACCAAGAGGGTCTTC
15926	PTPRO	ACGGGGTTACAAAAAGACATGA
15927	HUNK	GTTGCTCAGGCTGATCTCAAA
15928	LUZP1	AAGAAGCAGCTGCAGCTGA
15929	IRF6	TGTGACCTTGAACAAGTC
15930	RXRA	TGTCAGTGGCAGGTGCCTGAA
15931	CROT	GGGCTGGGTGCAGTGGCTCAT
15932	MAPRE1	TGCCAGGCTGGGGTGTTTTCGGTAT
15933	BMP5	GGGAAACACATTTACTTGAAT
15934	RFP	TTTGTGGACTGGTGGCCAGTCGTATAC
15935	PAICS	GACAGGCACCTGTAATCCCAG
15936	OAS3	CCCATCTCATCTGTCAGCCAC
15937	C18orf1	CAGTTCTGCAGGGCTGCTC
15938	EGLN1	TTAGTAATGTCTGCAACAATGACATTT
15939	EDN2	CCCTCATTCCCTCGGGACCCTCCCAGT
15940	BMP1	ATCTCAGCCCACATCTCAGCCC
15941	SEC22L1	TGAGCTCACAGAGATGTGTATTA
15942	RPP38	CTTGAAACTAATAAAATGAGTTA
15943	E2F1	GCGCCTGCCTCCCCACTGCTCTG
15944	AK2	TGGTGAGGGGCTCAGAGGAA
15945	RFX1	GTCGCATCTTCTCCAGCGCTGGGCCCT
15946	IL1RN	AGGCTGAGGACTTAAAATAT
15947	DISC1	CTCAATAAGGCAGTGCAGTG
15948	CTSS	TGGTGCATGCCTGTAATCCCAG
15948	TRIM14	TGGTGCATGCCTGTAATCCCAG
15949	VHL	TGGCGCATGCCTGTAATCCTAG
15950	RAB6A	GGCAAAGCAGCAGTTCTACCAAGCCCA
15951	ADARB1	TTTTAGAATCTGGACACTTTCTA
15952	CDH8	TTTGTTTTAGAGGCAAGTTTAGCA
15953	MKL1	TCCCTGCTTTGCTGTGA
15954	SEL1L	CCTTCCTGAATTCTTTAAATA
15955	SPI1	ACATCCCGCTTCGCCTCCCTCC
15956	ZNF143	CTGGCAGCAGAAATCCATGA
15957	DDIT3	ACTAGTGCCAATGATGTGACCC
15958	SLC21A2	AGTTATTAATAGCCAGAGCCA
15959	IL1A	CATTTTGGTAAAATACTTCTTG
15960	CARP	AAATGTTCACTGGCATTT

15961	PIK3CD	GGCTTTGCTGGTCTTTCTTGGA
15962	APOC1	GACTCATGGGACCTGAAGGGTGACAT
15963	OGN	AAATGCCCAAATTTGAGATGC
15964	STS	CCATCCACTGCCCATGACCC
15965	CPNE3	AGAAAAATTTGAAGTCTGA
15966	CPD	TTCAAGGTTAAGCCATTCTG
15967	CD4	GGGCAAGAAAGACGCAAGCCCAGAGGCC
15968	RET	TTAGCTCTACTGGAATTTTCAT
15969	HEM1	TCATGGAATTTCGGGATCATGT
15970	MDS1	ATGTGCAAGGTGTCCAAACTGACA
15971	STAT1	TTTCAAAGGTAGCCATCATGGATC
15972	OTP	CGGCCGCCCCTCTTCCCTTCCCAC
15973	RAD1	GTGGCTTTAATCCCAGCACTT
15974	MPL	TCAAGATTCCATTTCTTAACA
15975	IL7	CACCATGGTCAAAACGGATTAG
15976	CHST5	CACCTGAGGTCAGGATTCAAAAC
15977	MAP3K7IP1	TATCCAGAGTGGAACCCAGGCTGG
15978	RNASE4	GGCTTTTCTGTAATAAGCTTCC
15979	COLQ	CGTCTTTAGAGACAGGCACATGGGCA
15980	GPR85	GTAACTTGCCCATTTCTCCACA
15981	PKM2	TCTCCAGTTTGCACCTGTCCCCA
15982	BACH2	ACTTTCTGCTCATATCATAACCAGGTCC
15983	CPT1B	AGCAGAGAAAACTGGAAGAAGAT
15984	AIM1	CCAAAATGCTGGGATTACAGGC
15984	MTR	CCAAAATGCTGGGATTACAGGC
15984	PCDHA9	CCAAAATGCTGGGATTACAGGC
15984	WHSC1	CCAAAATGCTGGGATTACAGGC
15985	GALT	ATTGCTTGAGCCCAGAAGTTCG
15986	DDX6	GCAGTGTAGGAATTCTATTGAGTGGC
15987	HAX1	AGTGTCAGGATCGCGGGCTTGCTTTCC
15988	FCMD	ACACAGAAAGAGTCATCTGATG
15989	KIF5B	ATCTCAGTTTAAATTACCTAGCTAAA
15990	CMAR	TGTTGCCAAGGCTGGAGTGCAG
15991	MHC2TA	TGTTGCCCAGGCTGGCGTGCAG
15992	OXCT	TGGCTGACCACATGGTTAAATGCAT
15993	TRPC5	TTGAAGCCCCAGGTGCCACTTTG
15994	F2RL3	CCAGCACTTTGGAAGGCCG
15995	FANCC	CCGGGAGGTGGGAGTTGTAGTG
15996	PFN2	ACTCTGGGTTCTACTGCTAGGCA
15997	ADAMTS13	CTGACCCCCATAGCAGCAGTG
15998	COL19A1	AGCAAACTAACAGAAATACA
15999	TCF12	ATGCATTGTAACTACAAATTTTA
16000	COX4I1	GCCTGCGCCTGCACCTG
16001	SYT1	GTCCCATTCACTTCTGTGATCC
16002	HTR7	AGCATACAACATGAGCAAAGCTTT
16003	BACH2	TGGGGTGGTGGGCAGTGGGGAA
16004	CD72	GGATAGGGGCGGCCCGGAGCCAG
16005	DDIT3	AGCATCAGTCCCCCACTTGGG
16006	PPIF	GCTGAGATCTTTCCTCCTGGTTACTG
16007	COL18A1	AGGCTCAGGTCCCTGGGGCTAG

16008	EGFL5	GCTGCTTGCCCTGCCAATGCAA
16009	GPR48	TAAAGACTGACTACTGTGTG
16010	C8orf1	ACTGTCAGACAAATAGAAACACTGCC
16011	CHST7	GGATATTTATGGCTGTAAAATAG
16012	KIF3C	TAATGTTCATTGACTGGCTT
16013	PKHD1	TAACTTGCCAGGCTCTAGCA
16014	NPY2R	TGTTCATAAAAAATAACAACTG
16015	IL16	GCAGGCTCGGATGGACTATAGCTTTGA
16016	PRIM2A	GTCACCAAGGCTTAGTGCAGT
16017	MFGE8	TCTCCTAGCCCCTCTCTCACACATCACAT
16018	THBS1	GCTTCATACGGAAAGTGTTTG
16019	CCND2	AGAAGCAGTGTGAGCAGGGCTGACTCC
16020	PPP1CB	GGAAATTTATCATGTTTAAAAA
16021	EYA2	AAGTTGTGCTTTGTGGGGACAATCA
16022	SLC4A4	CATACACACACAAATACACAATCTCTAGG
16023	FRDA	TTCATTCTTTGAAGGATTTACT
16024	A1BG	TACCTCCTGGGTTCAAGTGATT
16024	AHR	TACCTCCTGGGTTCAAGTGATT
16025	ED1	CTGCTCCCTGCTCCGTCCC
16026	TGFBR3	CCTTGCTTGTGCCCTGGGCC
16027	MGA	TTCAATGCCTTAGCCAAGGAGTCCAG
16028	REQ	CACTTCTCTGTGTTCTGCCTCC
16029	SLC1A3	CCTGCCTGCTTACGCGCGCTGC
16030	HIP1	ACAGCACTTTTCCTCTTCTAGAT
16031	DLC1	CTGAGTGTTGAGCAGTGTCAT
16032	ITCH	GGACTCTGCCTTTTTGTTGGTAGGGA
16033	APTX	GTGCCAGCAGCTGCTGCCTT
16034	NFE2L1	TAAAGACTCCGTGTAACTGTGTG
16035	NPPB	AGGCGGCATTAGAGGAAGTCCTGGCT
16036	ENO2	TGTTCTTCCTCCAGCTGCACCA
16037	GPR86	TCAGCAATGCCTTCCTGGACCAC
16038	PLAU	AGAGACACTAACGACTTCA
16039	CASQ2	CCAAAGTGCCTTCTGAG
16040	CCRL1	AAAAGTAGCTGGAGTTAGGT
16041	UBE2A	TCACCTCCCTACTCCTGTCA
16042	KCNA5	ACTGTAACCTCAGTCTA
16043	RNMT	TTTCCAAAACTGGTACTTA
16044	HD	GCTCTTTGTGGCAGTGGCCAGGCAGG
16045	MFAP3	CTGTGGCTTGGGGTCGGGAGTGCAGG
16046	RFPL2	CGCTTCCTCCACCTCA
16047	UBTF	GTGGGGTGGAAGCTTGGGGAA
16048	STIP1	GCATGGTCTCTTCACCGCTGCCCTCG
16049	PMM2	AAGCAGCCAGCTCATCCCAGT
16050	WHSC1	TTCCATTCAAAATATGTATTCA
16051	SMARCA3	TATCTATGCTGAGTATTTTC
16052	ZAP70	TACACGGATGCCTTCCCCTGGG
16053	BACH1	TGCATATATTCACATTCAC
16054	CROT	AGCCGGGTATGGTGGTGCA
16055	GDI2	GTGTAGCTATGTGCTGCTGCTGCTC
16056	PPEF1	TCTGTTCCCCTTGAACCTGTGTGGACC

16057	CCND3	GGAGAGGCCCTCTGGAGTGGCCAC
16058	DNMT3B	ACCAAAACCACAGTGCCGACA
16059	ADCY1	GGCCCTCCAGCTCCCCTCCAGTTACC
16060	HCFC1	GGGAGGAAGCAGAGGCAGA
16061	KLF15	GTCTAGCCGCCGCCCCCAGCC
16062	ELL	GGCCTCTGCTGGTCTCTGGCT
16063	CRYZL1	CTTCTTTCTCAGACCTCAGTC
16064	NGFRAP1	TGCATTTTCCTAATATGCCTTTA
16065	CACNA1E	CTTCTGTCTGTTTAAACCTCAGGATGGCTC
16066	GPR4	CCCATACTCCCTCGTTGACA
16067	PPARBP	GAGCACCCTTCTCTTCTTGCCG
16068	GFER	GTCCTCTGGCTGCTGAGCTGGG
16069	DYRK3	CTTGTATTGGCCATCTGGAATAT
16070	BACH2	CTTCATTTACTCATTGTAAATAC
16071	LBR	GTTTGGGTTTTAATTACACA
16072	COL4A3	GTGGTATCTGGAGCATTGTGTA
16073	SDHC	AAGCAGTTATTCTCTCTCCA
16074	KCNE1L	ACTGCCTCTGCTCTCTTGTCTTCAGAC
16075	RAB4A	TGCGCGGAGCTGGAGTCCGGCTG
16076	CD209	ACTGTTCTTTGTCAGATTCTTCC
16077	CHST1	ATCTCGGGGTCCATCTGTGATAT
16078	RASAL1	GGATAGGATAAGGAACCTGA
16079	ITCH	CGGGCTTGTGTTCTCCCTCTCA
16080	TEM7	AGGTATTCTCTCCATCTGTTAAACACA
16081	IL2RA	ATTGCTTGAGCCCAGGAGTTCGAGGCT
16082	CA14	CTGCACCCCTTCCTGGGACAC
16083	SYBL1	AGATGTTAATAAAATTTAAGGA
16084	FCRH1	AGAACTCCAGCCCCGCTACTTA
16085	GPR81	GCTTGTGATCCCAGCACTTTG
16086	TGFB3	CCCCTGGCCTCTCTTCCCA
16087	MEOX1	CCACCTCCCCACCCCAAAAAG
16088	ADAMTS4	CTCAGTCCCTCCCAGCTGCAGT
16089	USP6	ACTCTACGAGTTGTGCAGAAAGAT
16090	CPSF6	CTAGCTGTTTTTACCTAGTT
16091	TACC1	GATTTTAAAGTAAAGATGTATTTA
16092	SRGAP1	TGCTGAATCACTAAATGACCA
16093	SLC10A2	GTGTCCCAGGGCCCAAAAGTCAGA
16094	ATRN	GAGAATTGGCCATCCTGAGGACACAG
16095	BZRP	TCATGCCACTGGGCCTGCTAGTCT
16096	ARF4L	TGGGGTGCAGGACCTGTCCACCTCA
16097	GRAF	GTGGCCCAGGCTGGAGTGCAGT
16097	MEFV	GTGGCCCAGGCTGGAGTGCAGT
16098	NPTX1	AAGATCACTTTGTCACCAGCCCTGGG
16099	CROT	ATTGCTTGAAGCTAGGAGTTTG
16100	BCL9	ACCTGAAAACAAATTATTCATTT
16101	WISP1	AGTCCTGCTGGATCTTGCCT
16102	GAD1	AACTGTTTTTCAAAACGCCATGTCCTA
16103	ZNF175	ATGCCTGGGATCAGAAGCATTTT
16104	SCML1	TTATAACTTTGTTATTACATTGTG
16105	KCNK4	AAGAGCCCTCTTTCCACGAGACTGAAGT

16106 ADAMTS1 CAGTCGTATCCTGGTGAATGTC
16107 ITGA6 GCAACAGCAAACAGGTGCTA
16108 CACNA2D2 GGGTTGGCACCTGCACACTCCATCT
16109 MAPK3 GCTGCTGCTGCGCCCTTACCTTCC
16110 NDRG3 CGCTGTTACCCAGGCTGGAGTGCAATG
16111 MTAP AACACTGTTTCTGGTAATGAAGC
16112 ED1 AAGGCATTCTCCCAGCTCTAGCCTCTG
16113 DFFB TGTCGCTCAGGCTGGAGTGCAGT
16114 PCTK1 GCCACAGCCACTCGCCTTCCTACCC
16115 GABRE CATTGATTGGTGCCCACCCAG
16116 THBS1 GTTAGCTGATTAACCCATGTA
16117 CDH1 AGCTCACTGCAGCCTTGTCCTC
16118 B4GALT1 GCTCGGCATGTGAATTCTTAGCTC
16119 GPR81 CGAGTAGCTGGGATTAGAGGCGC
16120 SACM2L CCCTTCCAGTTTTCCCCTTGCTTCCC
16121 GPR17 GCCTTTCTTTCCCGCTAGGCT
16122 ARHGEF7 TTATCTTACTGGGACATTTTC
16123 ATP7B AGGCTGAGGACTTTGCCCAGGATGAC
16124 KLHL3 TTATTTCTCATAAGTACCCA
16125 ARF3 CCTGCCTTCCAGTGCCCCACCACCCTT
16126 MAP4 ATGTCACTGCAGATTGAGACCTA
16127 TERF1 AGCCTCTGAGTAGCTGGGATT
16128 ACP5 ACCTTTGCTGAGTTCCGGGGTGCAATG
16129 ACADSB GGCCTCCCAAAGTGCTGGGATT
16129 ADAMTS4 GGCCTCCCAAAGTGCTGGGATT
16129 APM1 GGCCTCCCAAAGTGCTGGGATT
16129 APOL1 GGCCTCCCAAAGTGCTGGGATT
16129 APPL GGCCTCCCAAAGTGCTGGGATT
16129 AQP6 GGCCTCCCAAAGTGCTGGGATT
16129 ATP7A GGCCTCCCAAAGTGCTGGGATT
16129 BAZ2B GGCCTCCCAAAGTGCTGGGATT
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16129 BENE GGCCTCCCAAAGTGCTGGGATT
16129 CAMLG GGCCTCCCAAAGTGCTGGGATT
16129 CASP8 GGCCTCCCAAAGTGCTGGGATT
16129 CHRNB4 GGCCTCCCAAAGTGCTGGGATT
16129 CLECSF12 GGCCTCCCAAAGTGCTGGGATT
16129 CXCL16 GGCCTCCCAAAGTGCTGGGATT
16129 CYP4F3 GGCCTCCCAAAGTGCTGGGATT
16129 DCX GGCCTCCCAAAGTGCTGGGATT
16129 DSC3 GGCCTCCCAAAGTGCTGGGATT
16129 DSCR3 GGCCTCCCAAAGTGCTGGGATT
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16129 FCAR GGCCTCCCAAAGTGCTGGGATT
16129 FEZ1 GGCCTCCCAAAGTGCTGGGATT
16129 FTSJ2 GGCCTCCCAAAGTGCTGGGATT
16129 FUT1 GGCCTCCCAAAGTGCTGGGATT
16129 GHR GGCCTCCCAAAGTGCTGGGATT
16129 HLCS GGCCTCCCAAAGTGCTGGGATT
16129 HSD17B1 GGCCTCCCAAAGTGCTGGGATT

16129	HYAL1	GGCCTCCCAAAGTGCTGGGATT
16129	IL11	GGCCTCCCAAAGTGCTGGGATT
16129	INMT	GGCCTCCCAAAGTGCTGGGATT
16129	LNK	GGCCTCCCAAAGTGCTGGGATT
16129	LYZ	GGCCTCCCAAAGTGCTGGGATT
16129	MDM2	GGCCTCCCAAAGTGCTGGGATT
16129	NF2	GGCCTCCCAAAGTGCTGGGATT
16129	PCDHA9	GGCCTCCCAAAGTGCTGGGATT
16129	PER2	GGCCTCCCAAAGTGCTGGGATT
16129	PIK3C2B	GGCCTCCCAAAGTGCTGGGATT
16129	PPID	GGCCTCCCAAAGTGCTGGGATT
16129	PRKR	GGCCTCCCAAAGTGCTGGGATT
16129	PRND	GGCCTCCCAAAGTGCTGGGATT
16129	PTGIS	GGCCTCCCAAAGTGCTGGGATT
16129	RAB36	GGCCTCCCAAAGTGCTGGGATT
16129	RABL2A	GGCCTCCCAAAGTGCTGGGATT
16129	RABL2B	GGCCTCCCAAAGTGCTGGGATT
16129	RGS9	GGCCTCCCAAAGTGCTGGGATT
16129	RHD	GGCCTCCCAAAGTGCTGGGATT
16129	RPH3AL	GGCCTCCCAAAGTGCTGGGATT
16129	RPP30	GGCCTCCCAAAGTGCTGGGATT
16129	SERPINB9	GGCCTCCCAAAGTGCTGGGATT
16129	SH3BP2	GGCCTCCCAAAGTGCTGGGATT
16129	SLA2	GGCCTCCCAAAGTGCTGGGATT
16129	SLC24A1	GGCCTCCCAAAGTGCTGGGATT
16129	TAPBP	GGCCTCCCAAAGTGCTGGGATT
16129	TERF2	GGCCTCCCAAAGTGCTGGGATT
16129	TES	GGCCTCCCAAAGTGCTGGGATT
16129	TNFRSF9	GGCCTCCCAAAGTGCTGGGATT
16129	TPMT	GGCCTCCCAAAGTGCTGGGATT
16129	TRPV1	GGCCTCCCAAAGTGCTGGGATT
16129	UGDH	GGCCTCCCAAAGTGCTGGGATT
16129	VENTX2	GGCCTCCCAAAGTGCTGGGATT
16129	VIPR2	GGCCTCCCAAAGTGCTGGGATT
16129	YES1	GGCCTCCCAAAGTGCTGGGATT
16129	ZNF74	GGCCTCCCAAAGTGCTGGGATT
16130	SEDL	AGCCTCCCAAAGTGCTAGGATT
16130	SERPINB9	AGCCTCCCAAAGTGCTAGGATT
16131	RREB1	GAGGCTTCTTAGAAGCTTAAACCCC
16132	GPR84	AGGCTGAGAAACTCAGCCTCTA
16133	AMHR2	TGCTCTTCTCCTTCTGCTGCTGCCATC
16134	SLC9A6	CTCTGTAGACTGGATCTGTTT
16135	CD244	CTGTCACTTGTTTCCTTTTCTCCC
16136	S100P	GCCATGGTCCCAGGCTTCCCAA
16137	MBTPS1	CTTCGCTTTATTTTTGTAAGTA
16138	DPYSL3	CTGAGTCTGACTCATCTCTG
16139	APM1	TTGCCAGGCTAGAGTGCAGTG
16140	SOX13	TCTTTATTCCTCCCTCATGAGCACA
16141	EYA2	CATAGAGAATAAGCTGGTCTCCA
16142	APOB48R	CCCTGCTCCCTCTGCCACTGTGGACAC

16143 MAML1 CCTGCACTCCGCCTTAGTCCTGGGGC
16144 CYP4A11 GAAGCTGTTCTCCCACTGTTCCCCTA
16145 ARHG GCTCCTCTGTGCCTAGGCCTTAC
16146 PAFAH1B1 TGCCCTTTCTGACTGTGTTCTC
16147 POU3F1 GGGAGAGAGGAGCGAAGATCCGG
16148 FLT3 TCAACTGCTGCTTCACCAGACTTTTCTC
16149 SIRT4 TTGAATCTTGCTGCTA
16150 APAF1 TCCAGCCTGGGTGACATAGCAAGACC
16151 SLC16A2 CCTCTACTGACTTCTCTCC
16152 PDYN TCACATGCCCCTCTTAGAAGAAATA
16153 RDX TACCATGGTTGTGCACATGCTTCAGAA
16154 GUCY1B2 TGCCTTCATGACCTACACAATGT
16155 HMGA1 GCCCCTTCCCCAGGCCCACCATCA
16156 VANGL2 CTGTGTAGCACCAGCCCTGGG
16157 CAPZA1 ATTTTCTGTTACTGCTATATCTACGTG
16158 TFAP4 GGGCTGGAGGGAGCCGGGGCA
16159 KCNK6 GCTGCACTCCAGCCTGCGGGA
16160 GABPA TCAGCCGGCCCTGGAGTGCGGGC
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16162 LFNG CCCTCCTCCTGTGTAGCTGCCACCT
16163 RANBP3 TGTCTGGGAAAAGGTCACTGGAC
16164 SIAT7D CTGGGTGGACCTAAGGTTCCTT
16165 MCL1 TTAACTGGTGAAATTTAAAG
16166 ITGA2 GAAGTTACAGATGAGGCAC
16167 ENC1 ACGTTTCTGAACAATGGGGACTTT
16168 SRRM1 GTCTTGTTCTTCCAATTGGTATA
16169 IL6R CAGAATTATAATTAGTTCCTCAT
16170 CD1D TGGATGTCATATTGGCAGTTGGAGGAC
16171 HIP1 GCTTGGAAAGGGAAGATCTTATGCC
16172 DIAPH2 CCATCCTAACATTACCAAAAGT
16173 XPNPEP2 CAGACTGCTACAGCTGCTCCCCTCCC
16174 TM4SF6 CTATTCCTCTCTACCTTTAAGGA
16175 PTPRF CAGGTTAGGGTGTGTGCC
16176 RTN1 CAGCTGTTTTTAGGCTGTTCCTT
16177 HGF TAGGCTTTTGCTTGCTATCTAAGTGTT
16178 GDA TGCCCAGGTGGAGTTAGAAAGTCAAA
16179 NPTX2 ACTAAGCTCGCAGCAAGCGGCTACCCC
16180 PRDM16 GGGGTCGCGGAAGGGAATGGATAGA
16181 FKBP1B GGCTCTTGATCAGTGTGCTAACCTCA
16182 KRTHA8 TTCAGCTTTCCCAGCTGATCTGA
16183 TNS GCCAGTGCCATGGGGAAGGGGCT
16184 SORCS2 GTCAGAGTTCCGTACTCGGG
16185 PTEN GCCATTTCCATCCTGCAGAAGAAGCCCCG
16186 YWHAG GAAGCTGCTGCAGCTCCCTCCTC
16187 ALPP ATCGCTTGAACCCGGGCGGCGG
16188 PRLR CTCGTGCAGGAAGTACTCATCGACTGAT
16189 SCA1 CTTACAGGAACCACCTACTCTTTCA
16190 LTBP2 GCCCAGCTGGAGTAGGAGCGC
16191 APM1 GCCTCCTGAATTTATTATTGTTCTT
16192 BCL2 CCACTGAGGAGCTTTGTTTCA

16193	MATN3	AAAGTGCTGGGATTACAGGCTTGAAAG
16194	MHC2TA	GACCTCGGGTGATCCACCCACCTCA
16195	RAP2A	CCTTTCTGTGGTAATACTACTG
16196	TSN	TATTTTCCCTTCCTTATTTTA
16197	PACSIN1	TTGGGGCCTGGGCTCCCCCTCTCTG
16198	CLASP1	GTCGGTTATGGGGTTGGAGTGCCGA
16199	FREB	TTTACTTCCTCTTTTCTAATCTGA
16200	PDE4B	GGAGAGAGCTGGAAGGAAGGAGCCAG
16201	GPR44	AGCACTGTTCCAGCCTGCCCTCTTCATT
16202	EGLN2	ACCAGGGCAGAGAGGTCAGGGC
16203	ARF3	GGGAAGGGAGGCGAAGGCCTG
16204	PPP1R3A	ATCTTTACAAGCATAGCTGCCTGCACT
16205	STE	CAGATTATTCATCTTGTTAG
16206	GLI3	TTCAGTTTTGAATCAGTATTGTTA
16207	DSCAM	CCTGCCCGCCCGCCTGCTGC
16208	SLC6A3	CTCCCTGCTCCCGGCTCTGAGGCT
16209	EGLN2	CCAAGCCCTTAGGGACCGCAGAGGACT
16210	TGM2	ACTGCCTTCTCCTCTCTGGGCCTTTGT
16211	TGFB3	AAGCTCTCGCAGTGCAGTG
16212	D10S170	GTTAGATGAATCAGTGCCCAAGAC
16213	SVIL	AAGTGTCCTCAGGTTTCA
16214	GPR55	AGACCTTTTTTCCACTGCCCAG
16215	LPIN1	TACTGCACTCCAGCCTGGGTGA
16216	EDARADD	AGTGGTGCTTCAACTGGTATCT
16217	HS2ST1	TTAGAAAACAGTTTGTAGACAATGATT
16218	FUT6	CCTGCCTGAGGACTCACCTGCCTGGGA
16219	DAAM2	ATGGGGATGGAGGAGGAAGGC
16220	LOX	AATCAGTGCCTGGTGTTCTGAA
16221	RHD	TCCAAAGTAGCTGGGATTACAGG
16222	FGF5	TCTTCACTTCCTTCTAAAGAGA
16223	TGFBR3	CAAATGCATGGCAAATCTGTCG
16224	CDYL	TTCTGACCCTTCTGAAAAATAACTACA
16225	OTX2	GCTTAAGATCCTGTCATAGTTT
16226	ARHI	GGCCTTTAGTAATGAATGTAATG
16227	SLC6A3	GGAGGGGCTCCGTGTAGCAACCCA
16228	SMARCD2	TTTGGAGCTTGGTGAGGAGGGTGGG
16229	ALDH3B1	GGCTCACACCTGTAATCCCAGCACTTT
16229	CRACC	GGCTCACACCTGTAATCCCAGCACTTT
16229	DMC1	GGCTCACACCTGTAATCCCAGCACTTT
16229	EHHADH	GGCTCACACCTGTAATCCCAGCACTTT
16229	FANCD2	GGCTCACACCTGTAATCCCAGCACTTT
16229	FRDA	GGCTCACACCTGTAATCCCAGCACTTT
16229	FUT6	GGCTCACACCTGTAATCCCAGCACTTT
16229	GRM6	GGCTCACACCTGTAATCCCAGCACTTT
16229	HUNK	GGCTCACACCTGTAATCCCAGCACTTT
16229	IFNAR1	GGCTCACACCTGTAATCCCAGCACTTT
16229	LRRC2	GGCTCACACCTGTAATCCCAGCACTTT
16229	LUZP1	GGCTCACACCTGTAATCCCAGCACTTT
16229	MCM4	GGCTCACACCTGTAATCCCAGCACTTT
16229	P2RX7	GGCTCACACCTGTAATCCCAGCACTTT

16229	PCDH11X	GGCTCACACCTGTAATCCCAGCACTTT
16229	PTAFR	GGCTCACACCTGTAATCCCAGCACTTT
16229	RAB7L1	GGCTCACACCTGTAATCCCAGCACTTT
16229	SIM2	GGCTCACACCTGTAATCCCAGCACTTT
16229	ZNF136	GGCTCACACCTGTAATCCCAGCACTTT
16229	ZNF137	GGCTCACACCTGTAATCCCAGCACTTT
16230	EPHB3	TTCAGTGCTGGAGGTCCTGGCAGGG
16231	WHSC1	TTCTTTACCAGTTTCTGATTT
16232	ARNT2	GGGTTCCAGTTCTGGTTCTGC
16233	CARKL	TGCAGTGAGCTGAGATCGCGCC
16233	MOG	TGCAGTGAGCTGAGATCGCGCC
16233	UBE2G2	TGCAGTGAGCTGAGATCGCGCC
16233	XRCC2	TGCAGTGAGCTGAGATCGCGCC
16234	FGFR2	TACAGTGAGCCGAGATCATGCC
16235	INPP5B	TGCAGTGAGCCGAGATCGTGCC
16236	OAS2	AAACCCAGCTCACAGGAGCT
16237	KL	CCAACCTCACTGACACAGGGTC
16238	CUBN	TGAGCTAAGATCACACCACTA
16239	IER5	GGAGGTGGAGCAGCGGGCGTCCCCGA
16240	NOTCH4	ATTGGGCACCTACTATGTGCCA
16241	CPB2	TTAATCAAAGATCATCTCACGCTGATC
16242	IL6ST	GTGGAAATAGAAGCAAATGACAAAAAGCC
16243	LAIR1	CCTAGGTGTCTGCTGTGAACCTCCAGT
16244	SH3GL1	TCAGAAGTACATGAGGGGC
16245	ZNF215	TGTATTCTTAAAATCTGCATTTGTT
16246	LHX3	CCTGCCCTGCCTCCTCCATCA
16247	MSN	ATTGATTTCTGCCTTCCTTGCTA
16248	SURF5	AGGCCTCCTGTCCACACCAGCG
16249	TBX6	AGACCAGCCTGCCAACATGGT
16250	CRACC	GCACTATGCTGAGCTTACACTAAT
16251	ZNF24	ATTCATTGTCCCTTTCTTGAA
16252	ASB1	GCAGTGCCCTGCCCTGCCCTGC
16253	SGCG	CTGCCTCTGGCTGCCTGCGTCCTCTC
16254	BASP1	AGCTTTCAGACAGAGCCCACTTAGC
16255	SULT2A1	CGCAGGAAGAGGTCATCATCATGTCGGACGA
16256	N33	TTAGTAATCTACAAAGGAAATATCAAA
16257	QDPR	AGTATACTAGAATCATGGATTGCTG
16258	CYP1A1	CCTGCCTGCCCCTACCCTGGACTTGC
16259	KCNE1L	CTGGAAGGCCCTGGAAGGAGAAGC
16260	BICD1	CCCCGTAACCCCCTCCTGCCTCCA
16261	DMXL1	CCAGATCTACCATTAATAGA
16262	RPS6KA2	GCTGGCCACAGCCAGGTTTTCCCT
16263	SFTPA2	ACCGAGCACATACCATGTGCCA
16264	C21orf2	ATCTCTGAGCAGTGGGGAGTGG
16265	MAX	TCTCAGTTCGTGTTTGATTCCATTCCA
16266	NXF2	TGTCCTGGCCTCAGTCTTGCTAG
16267	CD209	GACGGGGTTTCTCCGTGTTGGTC
16268	G6PD	CTCCACCCCCGCCACGGCC
16269	MAT1A	ATTTTGTTTGCTTCATGTGTC
16270	NCOA6	CACCGAGGCTGGAGTGCAGT

16271	C1orf1	CAGTTTCAAATGCTTGCTTGCTTTC
16272	SLC22A7	CGCACCGTGGCTGGAGTCCTGAGCAGCA
16273	P4HA1	CTGGAAGTTTAAAAATGTACA
16274	HAS2	TTCTCTATTTTACTTTTCTGCC
16275	HLCS	ACTCACTGCAGAGCTGCTGCCT
16276	RAD1	AAGTTCCTGGGCTCAAAGATG
16277	PCDHA1	GGTGCTATTGGTATTTCCTCTGTTA
16277	PCDHA10	GGTGCTATTGGTATTTCCTCTGTTA
16277	PCDHA11	GGTGCTATTGGTATTTCCTCTGTTA
16277	PCDHA12	GGTGCTATTGGTATTTCCTCTGTTA
16277	PCDHA13	GGTGCTATTGGTATTTCCTCTGTTA
16277	PCDHA2	GGTGCTATTGGTATTTCCTCTGTTA
16277	PCDHA3	GGTGCTATTGGTATTTCCTCTGTTA
16277	PCDHA4	GGTGCTATTGGTATTTCCTCTGTTA
16277	PCDHA5	GGTGCTATTGGTATTTCCTCTGTTA
16277	PCDHA6	GGTGCTATTGGTATTTCCTCTGTTA
16277	PCDHA7	GGTGCTATTGGTATTTCCTCTGTTA
16277	PCDHA8	GGTGCTATTGGTATTTCCTCTGTTA
16277	PCDHA9	GGTGCTATTGGTATTTCCTCTGTTA
16277	PCDHAC1	GGTGCTATTGGTATTTCCTCTGTTA
16277	PCDHAC2	GGTGCTATTGGTATTTCCTCTGTTA
16278	SSX3	AACAATTACACACAACAGGGT
16279	VHL	AGGCGGGTGGATCACGACGTCA
16280	SFRS1	TAGGGAGGATGAATTACCCAGGAT
16281	ATF7	TCTGCCTTGGACATGGCA
16282	WNT5A	TTCTGCATTTTCAAAATGATAATT
16283	SLC2A6	CCGGGAGGTGGAGGCTGCAATG
16284	E2F1	TAACTGCACTTTCGGCCCTTT
16285	S100A3	TTGCCCAGGTCTTCTGCGATCAGTTAA
16286	EPHB4	CCACCTCGGGGAACTCCAGACCA
16287	ZNF179	GTGGCTCTTGGAACCTGGGAGGCAG
16288	CLCN4	CTTGCTCCTGTTCTCAGCCTGTTATC
16289	AICDA	CAGGCACCTGTAATCCCAGCTACTT
16290	EGLN2	CCAGAGCCACAGCCACCTCTACC
16291	ARNT2	CTACCCTCTGGGAAAGCCCTTG
16292	CSH2	CCTCTCCTGGCCCTGGAAGGTGC
16293	CASP2	CCAGCTGGCATATAGGTTGCAGTCTCGGC
16294	BDKRB2	TTGCCCAGAGGATCACAGTG
16295	NEDD4L	CTCCACCCTCTACTTTATTAGAATTG
16296	BECN1	TTGAGATTGATGTGTTTTCACTGGA
16297	KIF1B	GGCAGCAGGCGGTGGGATGCTTGT
16298	RNF3	ACTGGAAGGGCGTTTTTCAGAGCT
16299	KIF3B	TACTGCATTCCAGCCTGGGTGA
16300	PTPRH	CGGCAGTGTCTGGAGGCATGGC
16301	SCN4A	TTGTTTCTCATGAAAAGTT
16302	IL12RB2	CCAAGGTAAAAGGGCCCCCAAGG
16303	HD	CCTTCCCAGCAGACATCCTCATCGGG
16304	TCF20	CTTCCCTTCACCACAGCGT
16305	TZFP	GTTCCTCCCTCCCCTTTCAAC
16306	F2R	GGCAGGAGACTGGCGTGAACCC

16307	VPS41	AGCGAAGAGGAACCCAAGCTGAAGTA
16308	LRAT	AAGAATTGAGATATAACAATGG
16309	M17S2	GTGTTGAGTACAGTTGGTGAAGGA
16310	DDX38	AGAGGATGGCAGCAGGTATTGGG
16311	MTMR4	TTTCATGTTGCTTTCTAGAAAACAGCA
16312	WBSCR1	GTGCTTCTCTTCTGACCTGCATGTT
16313	CELSR2	TGTGGGTGGGGGAGGAAGAG
16314	AP2B1	CTTGCCACCTGCTGCTGC
16315	PRND	GTTGCCCAGGCTGGAGTGCAACGGCAT
16316	ARHGEF12	TCTACTTCCCTGCTAAAGGGC
16317	LZTS1	ACTCAGTGAGCCTCCTGTGCCTGGCCCC
16318	UBL1	CGGTGTTGTGCTGTGGGGAAGGGAGAA
16319	AMPD2	TGGCTCCCAGAGCTTTGACCAGATTG
16320	FRAT2	GGCCTCGGCGGCTCCTCACCCTCA
16321	TFCP2	TGATGGGAATTGTGTGATGTTT
16322	DNMT2	TATCTGAAGGACAAAACTCATT
16323	PPP1R12B	GCTCTGAATACTCCATTCTGCC
16324	DFFA	GAGAATGGCATGAACCTGGGAGGCAGA
16325	DBT	GCTGTAGTGAGCTGTCATTGTGCCA
16326	CTNND2	GTGACAACTAAACAAGGCATTCA
16327	PSMB5	TGGGGTGACTGTCATTGGTA
16328	PYCS	CTTTGTGTCACCTCAGTGACTTACAG
16329	GML	AGACCCTTATCCACTGCTCCT
16330	NR2F6	CTGTTTTTTAAATGATCATGAAACCA
16331	PXR1	AGATCAGAAGAGATCAAGGG
16332	GFPT2	CCTTTCTCCTTTTCTTTCC
16333	WNT3A	TCTCTGGTGGCTGGGCTGCTCC
16334	PNUTL2	TCTTCTTCCTGTCCATGCCGG
16335	PPARGC1	TCCAGTAAGCACATGTTTATTC
16336	NUP62	GGGGGCAGCCACTCTCTCCA
16337	PDE7A	ACCATGCCATGGGGCCAGAAATTCAG
16338	SULT2A1	TGTTAATAAAAATAAGAAATAGCT
16339	MHC2TA	CCGAGATCACGCCACTGCACTA
16340	DIAPH2	TCATCTAAATCAGGTATGAGTG
16341	PACSIN1	GCACGGGTGCCTCCAGCCTGA
16342	PIK3R2	CCTTCTGGCTGCACCTGCCATGT
16343	EDAR	GCAGAGCTTAATTATCCT
16344	MS4A2	CCGAGATCGCACCAGTGCACTC
16345	SH3BP2	TGGGAGCCAGGCAGGGCCAGGGCAG
16346	GRM6	TGCCTGTAATCCCAGTTACTTGGGAGG
16347	ARHGAP6	GACTCAACTTCCTACTGCAA
16348	ITGAV	CAAAACCTTCTATTTTAGCTTTAGTGA
16349	ABR	CTTGGCCCTGCTCCCAGATGGC
16350	SCD	CCATGAGCTGCTCATTACAGTT
16351	ZNF74	GTCACCCAGGCGGGAGTGGTGC
16352	CABC1	ATCATCTGTGTAGTAGGTGTGTGT
16353	IPP	CCCAGGAGGTCAGGGCTGCAGTG
16354	TLX1	CTGTCCGTCTCTGGGAATGGTC
16355	TNFAIP2	ACTCAGCCCGGCTGATGCCTCTGC
16356	MAN2A2	GTGCCGCCTGGCCTGCATGC

16357	RYR1	CTCCACCCCCACCTCAAGTGCC
16358	DNAH11	CCTCTAGCCTCTGCTGGAGTGCA
16359	COL11A2	GGCCCATGTGCCCACTGTCTCT
16360	KCNH2	CCTGCAGCCTCATGCCTGGCC
16361	IGF1	TGGACTCAAACTCCTGACCTTGTGATT
16362	IGLL1	CATGGACTGGGGTGCAATGGGACAG
16363	SH3BP2	GGCTCAGAGCTGAGGCAGAA
16364	BPHL	CCTGGGCAACAGAGTAAGACCTTGTCT
16365	GALT	CCTGGGCAACAGAGCAAGACCTCGTCT
16366	ALDH1B1	TGTCGCCCAGGCTGGAGTGCAGT
16366	CASP8	TGTCGCCCAGGCTGGAGTGCAGT
16366	EHD2	TGTCGCCCAGGCTGGAGTGCAGT
16366	FHL2	TGTCGCCCAGGCTGGAGTGCAGT
16366	GRINL1A	TGTCGCCCAGGCTGGAGTGCAGT
16366	INMT	TGTCGCCCAGGCTGGAGTGCAGT
16366	KCNJ11	TGTCGCCCAGGCTGGAGTGCAGT
16366	LYZ	TGTCGCCCAGGCTGGAGTGCAGT
16366	NCOA6	TGTCGCCCAGGCTGGAGTGCAGT
16366	ORC1L	TGTCGCCCAGGCTGGAGTGCAGT
16366	PAICS	TGTCGCCCAGGCTGGAGTGCAGT
16366	PCDHB9	TGTCGCCCAGGCTGGAGTGCAGT
16366	PIGR	TGTCGCCCAGGCTGGAGTGCAGT
16366	SERPINB9	TGTCGCCCAGGCTGGAGTGCAGT
16366	SLC13A1	TGTCGCCCAGGCTGGAGTGCAGT
16366	SMAC	TGTCGCCCAGGCTGGAGTGCAGT
16366	SS18	TGTCGCCCAGGCTGGAGTGCAGT
16366	STAU	TGTCGCCCAGGCTGGAGTGCAGT
16366	TAPBP	TGTCGCCCAGGCTGGAGTGCAGT
16366	VIPR2	TGTCGCCCAGGCTGGAGTGCAGT
16367	DFFB	TGTTGCCCAGGCTGGAGTGTAGT
16367	HYAL4	TGTTGCCCAGGCTGGAGTGTAGT
16368	PPID	TGTCACCCAGGCTGGAGTGCGGT
16369	USH3A	AAAGTGAGACCCTGTCACTAAC
16370	MIPOL1	CTCATAGAATGCCTTT
16371	MBL2	TGTTGTACACAGAAATACAGT
16372	ERH	CTGGGAAATATTGTGTTGGAA
16373	OAS3	AGAAGGCAGAGAAAGTGA
16374	ATP7A	AAAGAGATAATTTCAGCTCTTAC
16375	STAT6	GAAAGGGAGAAGACAGCAGAGGGG
16376	LPL	TCCTCAAGGGAAAGCTGCCCACTTCTA
16377	TNS	TCTCCTGGTGCCTGCACCTGCACTCTA
16378	COL18A1	GCAGGGTGCAGTATCATGCCC
16379	NOVA1	GCCATGGCCCATTCTTCATCA
16380	ANK1	CCCCATCTGAAAGGGTCTCCTCTCTCA
16381	RBP5	TCCTTTCTCACACTCCACTGCC
16382	MCP	GAATTCAAGAAAATTTAAGCTGCAAA
16383	GCH1	TTAGTAAATGCAAAGTAATGACTT
16384	NFATC1	GAGCGAGACTCAGAGGCTCCGAAC
16385	ABR	GGGGGCTTTTCAAGAGGGGCCA
16386	CARD10	TTCTCACACCTGTGCGCAG

16387	MMP19	TTCACTTCTTTAGGGAGACA
16388	GPR91	ACATGCTGGGGATCATGGCAT
16389	KCNQ2	TGAGTGTGGCGGGAAGGGTGG
16390	PPP1CB	TGTAAGCTTCATAGGGATGGACA
16391	PPP3CA	GGATGTTCTTGCCTCTGACAGTAGCT
16392	JRK	GAATTGGCAGCTGACTGCACTG
16393	B4GALT5	TGCCAGGGGTACATTTTTGC
16394	NFE2L1	CCCAGCAACAACAAAAGAACTAGTCCTC
16395	KLK10	TCACCCAACCTGACTTCCTCT
16396	AOAH	ATAAAGTGCTTTGGGTGCCATTCC
16397	TZFP	TCGATCTCATCACCATAATAA
16398	Rgr	TGGAACTACTGGTTAGAAGGTGAGTGT
16399	EGR3	ATATAGATGCACACATATCT
16400	ZNF3	CTGCCTCTCTAAGCTGGCCTCAGGTT
16401	CDX2	AAGCCTCCGCTGGGCTTCAT
16402	RAB7L1	GGAGGCTGAGGCAGGTGGATCGCCTGA
16403	DEC1	CGTTTAGAATCATCTATTTA
16404	MAGEL2	CCGCTAAATCATTGATGACTCCA
16405	DUSP5	GACCAAAAAAGTCATACCTT
16406	EDG8	AGCCAAAGGTGCAGTCGGAA
16407	DAZL	TATCAGTACCATTTGATCTGCCA
16408	GRAF	AAGACCTTGGGAAATGGAGGC
16409	DGKE	GTGGGTGGAAAGATCAAATTA
16410	UBE2L3	CCCACTGCTGCCCCAAGCTCACTC
16411	ADCY6	CACCCAGGCTGGAGTGCAAT
16411	CDC2L2	CACCCAGGCTGGAGTGCAAT
16411	EDG8	CACCCAGGCTGGAGTGCAAT
16411	RAB36	CACCCAGGCTGGAGTGCAAT
16411	VENTX2	CACCCAGGCTGGAGTGCAAT
16412	CYP2B6	CTCCCAGGCTGGAGTGCTAT
16413	ACADSB	CACCCAGGCTAGAGTGCAGT
16414	RNF4	TCTCATCCTTCCCAACCCAGT
16415	EVPL	GTGGGGAAGTGCGTGTGTTGGGC
16416	POLR2A	CCCAAATTGAAGATCCTTCCTTG
16417	CHST6	TGGGAACTGTGTTGGCTGCCA
16418	ADH6	TCTAGCTAATAAAATACAT
16419	ANAPC5	TGACACCCTATCTTGTCA
16420	FUS1	GGGCTTCTCCCTCTACCCAGGG
16421	KRT6A	CTCTCGGTCCCACAGTCCTCAGGCC
16422	KCND2	TTTGCTTGACTGGAGGAAG
16423	F9	AAACCCAGACTTGCTTCCA
16424	RTN4	CGGGTATTTCATGTCTCAGGGA
16425	ATP11B	GGGGAAAGAATGGTAGAGACAGAAATT
16426	ARCN1	TTTGTAACCCAGGCTGGAATGC
16427	XRCC2	TCCCAGGCTGCTGGAGTGCAGTGGC
16428	ACCN2	AGGGGTGGAAGGGATCTCTG
16429	NDUFS5	CCTCCTTGTCAAAGTGTGTAAA
16430	CACNA1C	GGGAGAGAGGAGCATGCGCGAG
16431	MMP14	TTCAAGTTCAGTGCCTACC
16432	DHFR	GGAGGCTCAGCAGCAGGACGACTTGAGCCCAA

16433	TERF1	TTTAAACTTTGACAAAAATGGTTTTG
16434	TK2	CCGTACTGTCTGTGTCCTTGTA
16435	BACE	GTTAGTGGGAAGAGCTGGGTTTT
16436	OAS3	CAGACTCCATGGTTTGACACCAG
16437	CALM1	GGGTGGAGTGTGTGTTCTTTCTCCA
16438	PLEK	GAAAGGAGAGTAGAACATTTTTC
16439	SCD	CTCTGGCCCAGAAAGCCTCTCT
16440	SELENBP1	AACTCGTAACCCTGTCCTTC
16441	SRRM2	CCCCTCGGAGGCGGCGGGCGGA
16442	DUSP7	TTTCAGGCTACATGCAACAG
16443	MCCC2	TGTTCTCAGTCCCAAACTGAAACTA
16444	G2A	CCAGCACTGTGGCAGCGCCCAGGAGGG
16445	PRKAB1	GGGGTGGCAGAGGATCTGCAGCCCTG
16446	FOLR2	GCTCCGCCTGCAGGGACAGAAAGACATG
16447	DAZ	TATCAGTATCATTTGATCTGCCA
16448	PYCR1	AGGACCACCTTCCTCTAGAG
16449	MS4A3	CTGATCTATTTTTCCTCATCTGTAAA
16450	TDGF1	ACCCAGGCTGGACTGCAATGACGC
16451	DBP	CGCCTCTCCATGAACCCGT
16452	SLC8A2	CACTACCCTTCTCTCCCCCAGCTCATC
16453	COL9A3	TCCCAATAAAATGATATATT
16454	PCDH11X	TAAGATCATTAATTTTGTAATCT
16454	PCDH11Y	TAAGATCATTAATTTTGTAATCT
16455	ADD1	GACTCCTGGCTTCATGTGGCA
16456	TRPC5	AAATGGCCTTGACATTTAATCAC
16457	SERPINI1	AAAACAATATATGTAAATTATAAGTA
16458	CSE1L	TATATGTGTGTGGCGTGTGTATA
16459	GAS7	TCAGGAGGGCTTCCTGGGAGGTGTCTC
16460	BCL10	TATCGCCCAGGCTGGAGTGCAG
16461	IL19	ACCTGAATAAAAATGACCAGC
16462	HSPA1L	GGGGAGAGTTCATGGAGAGAGCATG
16463	CENPB	GCTACCACACCGTGCCCTCA
16464	PSG9	AGCTTCTGGATCCCAGGCTCA
16465	TTC3	AGGATTTAGGTTAGGCCAGGAGATTG
16466	STK38	GGCCTGGAACCCTCTTGGCTAAGGTG
16467	KNS2	ACTTCCTCACGTTGTGTGCG
16468	TIF1	GGACAATGGAGGTGGCGGTGG
16469	TCF7	GCATGTAATCCCAGCTACTCGGG
16470	ABCC3	GCTGGATGACCCACTGTCCGCGG
16471	IGFBP4	TCCTCCAGGACGGCCAGGCCGTGCCGC
16472	WBP2	GGGAGCACGGAGCATCCCCTGTTCCTG
16473	TMEM4	TCCCTGCAGCCAGGTGTAGTT
16474	BLAME	TATTAACCAACTGGCACCAAGG
16475	GRINL1A	GAAGAGTTCATGTGCCTGGA
16476	PDYN	CCTTGGACCAGCCACTGCCACCT
16477	SCP2	AAAAATCAGTGTATTAGTCATA
16478	PA2G4	GAAGGGAGACAGAGGCGGCGGC
16479	GJB3	CCCACAGGCCCAGTGCCACCC
16480	GALNT3	ATTGCTTGAGCTTGGGAGATCG
16481	BMP8	TAGACAGAGTCCAGCTGCCCA

16482	PABPC1	TAGCAAACATAATGCTAGTCCTAG
16483	CAPZA1	AAATGCAGAATGCTTAAGGCT
16484	TSLP	TTGTGAAAGTATTCTAAGCCAAGTTTTA
16485	HSPA5	TAGCTGGGCGTGGTAGTGCAAG
16486	PSME3	GACTCCTGGTTGCCTTTTCCCAGCCA
16487	TOX	CTTAGCAACTGTAGATGTCTCGGATA
16488	PKHD1	TGCCATTCTTGTGCACTGA
16489	MSN	CACCTAACTCACCTAACTCATA
16490	RET	CGTTTGATAGTTAACATTTC
16491	HUNK	GTGACATCCTTCAGTCCCTCACATCT
16492	KIF5A	AGTAGAGGTCACAGAGATGACA
16493	MAPRE1	CTTTGCAGACGTTTCACTCCTT
16494	FGFR3	GCACCACGGGACATCACAGGGTG
16495	TNFAIP2	TTCATTTCTGGCCTTTTCA
16496	LIG3	CAGCCCGGCCTAGCCA
16497	WDR1	GAATCACTGGTAAATGTTGGCTGA
16498	TMPRSS4	CTGCCCACCTGGGGATCCCCCAA
16499	CSNK1A1	TGAACAGTCTTCAGCCACAGT
16500	PSMB8	TCCGTCCCTCCTGGTTTTGTAA
16501	GJB1	CTTCCCTTCCTCCCGGGGCCT
16502	ABCD2	AACTTCTGTTCAGAAATACACA
16503	FOXE1	GAAAGAGAAAAATTAAGTTAGG
16504	PTER	TATCTGAAGAAAAGGTCAGATCTAT
16505	MCM4	AGGCGGCAGAGGTTGCAGTGA
16506	TNFRSF18	CTTGCTGGCCCTGATGGGGT
16507	IGF1	CCCAAATTGCTGGGATTACAGG
16508	STC1	GGAGGCACCGGTGGCAGCAGCAGCAT
16509	OPRD1	TCTCCAGGAAGGCGGGGCTTC
16510	EVX1	GGCTGGCTGCCGGCTCCATGACGCCCG
16511	PIK3C2B	TTCTAGCTATAGGAACTATCT
16512	RP1	TTGAGCTATTTAAACAACTTAAACA
16513	DNASE1	GCTGCCCTGCCCTTGTGACC
16514	NQO1	AGCCTCCCTAGTAGCTGGGATG
16515	RNF3	GCAATGTTGGGTTGGGGAAGA
16516	ITGA5	CAACAGATCTGGAACCTCAGCCTGG
16517	EEF1A2	GGTCCCGCCAGCCCCTCACACTCCCAG
16518	CTSS	CAGGAGGTTGAGAATGCAGTG
16519	MPO	GGGAAGCCTCCTAAGGCCAGG
16520	RBM8A	CTGCCCTTCTTGATGTCACAGTTTTTT
16521	YWHAZ	TTTCCCATGTGGTTTTTATGTTTAA
16522	GSTM4	GGCAGATCATGGGACTTCTTCAC
16523	DISC1	AGTGCTCAGTAAGGCAGTGCAAT
16524	SMARCC1	ACCTCAGTGATTTTATTCCCTA
16525	SOLH	CCGCCTGGCCAGACCTCCTGG
16526	CLECSF12	ATCAATTAAATAGCTCAGAG
16527	CBFA2T2	AGGCAGCTAGAGGCGCAGGAG
16528	PLA2G2A	GAGAGCCACCAAGGAGGAGCAGGGGAGC
16529	CHRNA7	GGTGCTAATCCAGGACAGCATT
16530	HS2ST1	ATGTGTTTTAAAGCATTGCA
16531	NCOA6	TTGCCCAGGCTAGTCTGGAACTCCTGA

16532	MAP3K7IP2	CCCCAGCGCTATTCATAACTTT
16533	GABRE	ATATATCAGCAAAGCAAAAAGA
16534	CASP2	GCCGTGGAGATGAGACTA
16535	FOXF1	TGTTAAGAAATGTTAGTGGTGG
16536	FAAH	CCTCCCCCTGCCTCCC
16537	RPL38	CGTGGGTGAGAAAGGTCCTGGTCCGCG
16538	MECP2	CCTCCAGGGCTCAACACTGTGA
16539	SNX4	TCAGAAATTTTATACTGCCAA
16540	CIT	ACAGAGCTGGAAGAGACCACAGCAGA
16541	FANCC	CGGGTGCGGTGGAGGCGGCCTTGCGGTGG
16542	GRM7	AGAGACACCTGGGCGAACTCAG
16543	RENT1	TCTTTTATTTCTTTTTCTCTTTGAT
16544	OTC	TGAAAAATGAGGAGGCCAGGC
16545	MXI1	CCAGGGGGCAGAGGCAGGGGCGGGAGG
16546	STS	ATTTACTCTATAATCTGCAGT
16547	IFNAR2	CCACCTCTACAGAATCCCAGTT
16548	MAP1A	TCTGGGAGGTGGAAGCCAGGCCAGAGG
16549	UTY	CTGCTTGTACAACATGGTTTGG
16550	ULBP2	TGAGCACGGTCTTGATCAAAC
16551	TPD52L2	GCAAGTGTCCTCTGACAGCCGT
16552	IL7R	TTCATTTCATACACACTGGCTCA
16553	ITGAV	TCTGTTTCTCTTTTCTCTTA
16554	PODXL	GCTTCCTTCTTGCCCAGCGCTGGGT
16555	HLA-DMB	CTACCATGCCTCTCCAACA
16556	RPS6KA5	TATTTCTTGAGAGAAGATTTTAAC
16557	RFNG	TGGGACCACAGAGATGTTTTCT
16558	CAMLG	TCTTCTATATTGCAGTGTCTCT
16559	SLC1A3	TCATCTTCCCTTTCCTCCCTTC
16560	LTK	CCAGCCCAGGCCTCCCAGGGAAGG
16561	ICAM1	GGGAATATGCCCAAGCTATGCCTTGT
16562	CLECSF5	GTTCTCCACACTCACAAGA
16563	FNTA	CCCTTAGCATCAGCTCCTCCCTC
16564	HSPA4	TGTTTATTCAGGTGGGAGATGTTCTG
16565	LZTS1	GCTGGCTCCCCCTCCCCAGGCT
16566	TRPV3	CTGCTGTGTGGGTGTGGGGGTG
16567	FCRH1	TTGGCGCAGCCCTGAAGAAACTACCTA
16568	STXBP1	TCCACACACATCCTCACCCCACA
16569	DYRK1A	CTCCTAACCAAGGTGCACTGAGAA
16570	APTX	CAAGTTGAAAGCAGAGTGTA
16571	ENDOGL1	ATCCAGGCTGGAGTGCGGT
16572	HLCS	GTCCAGGCTGGAGTGCAGT
16573	TERT	CAGGGAGGGAGGGGCGGC
16574	PEX10	GTTCACCGTAGGCATCTTTAA
16575	TRPC1	TTCAGTTATGTTTATAAGTTTGCA
16576	DCX	CTCCACCCCTGTCATTCACTTC
16577	NGFR	GCAGGTGGGGAGGGGGTTTGGTGGC
16578	GFRA2	GCAGAAATTTTGAAGTCAGA
16579	GLRX	TCCACCCCATCCCATCCCACCT
16580	CKMT2	ACAGCATAGCCAGCAGGCCACTTTT
16581	PCCA	CTTCTGCTGTGAGATTCCCTAG

16582	RCN2	TGTGGAATATTTGAGTTCTATT
16583	LNK	GGTCTCGAATGTCTGACCTCAG
16584	GPC6	CCCGCAGCGCTCCAGGATTCTGCGG
16585	ZNF236	CTCTGCAGGAGTCTGCAGGTCAC
16586	EPS8	CCTAACCTTCAACAAATGTT
16587	TRPS1	GGAAAGGGAGAGCTGTAAGC
16588	INPPL1	TGCCAGTTTGCTTAGTTCTCACTGTCTCCT
16589	NR3C1	TTATCTCGGCTGCGGCGGGA
16590	KCNAB2	AGGGGGAGAGGGGAAAGGGGTC
16591	FGF2	TGTGCAATACATTTGTTAT
16592	CACNG6	TTCCCAGGTCTGGATCGATTCA
16593	BSG	CCCACCCCGTAGATTCCCATCA
16594	TNFRSF6B	CCGGGGGCAAAGGAGGTGGCATG
16595	CDKN2C	CTTCTCGGGGGCCCGCCGCACGCCCGG
16596	BCAS1	GTTCTCCTTACTCCATCTCCT
16597	FGF5	CTTCAGAGTTCTGAAGAA
16598	ARCN1	TATACCCCATTTCCTTCCAGTCA
16599	PTHLH	ACACACCCCTGTCCTCCAGCA
16600	L1CAM	GCTGCACCCCTTCCTGGGCACACGC
16601	AICDA	CCGTTGCACTCCAGCCTGGGCG
16602	EVPL	CAGCACTTGCCTTTACGACCATGTTC
16603	AMD1	CAGTGTAATATTTCTCCA
16604	XRCC2	GCAACACGGTGAAACCCCATCT
16605	BSG	GCACAGCCTTCTCCACTGGCCGG
16606	CSNK1G3	GTGGATAATACAACAGAGAAAAC
16607	AMD1	GAAACAGCAATTAAAGTTTTTCTTCCA
16608	DRD1	GCGCAGCTGGCTGGGCTCAG
16609	COL4A4	CGTTCCCCGCCTCCAGCCCGCCTC
16610	RNASEH2A	CGGCATGGATCTCAGCGAGC
16611	PACE4	CTCTTCTCCCCGTGCTTTTCTGCGGC
16612	UBE2G2	TTCTAGGGTTTTTGTACATTTTGGA
16613	EPB49	AGGAAGAAAGGGAGAGAGGGCCAG
16614	IL2RB	ATGCCTGCTGCATCTTCCCA
16615	AKAP13	TGTGGTCTCCTGTGTGCTGCT
16616	TBR1	CTTGTAATGAAACTCTTCACCTT
16617	LAMP2	CACTTGAACCCGGGAGGCAGAG
16617	P2RX7	CACTTGAACCCGGGAGGCAGAG
16618	SEDL	AGCCTCCAAGTAGCTGGGACT
16619	ATP1A1	GTACACAGATGACAAGTGTCCAA
16620	GRIK2	TGCACACATTTAACGACAGAA
16621	PDX1	TCTTCATCTTCAATTTGGGTTT
16622	PAX5	CATCTGGGGCAGGCCCTCCACTTCC
16623	MMP16	GTCTTTCTTTGTCATTCAGTTCTAG
16624	CYP3A4	TCCTTTCATATTTCTGGGAG
16625	GART	CCAAAATGCTGGGATTATAGGC
16626	UBQLN1	CAGGCATTAAAATTTGTA
16627	BCL11B	AAGCAAAACAAAAACAATTCAG
16628	RAB7L1	CCTGGGAGTTAGAGGTTGCAGTG
16629	HUS1	TCTCTCTTGCTGAGGACTCA
16630	AP2B1	TGGGAGGTGGATAGGTCGGTGA

16631	PAX9	GCCCTCTCGCCTCCTCCTCCTGGGAAGAAGC
16632	SMTN	TGCAGTCGCTCTACAACCACCTGCG
16633	SLC2A3	GACCAGTCTGGCCAACATCGTG
16634	EGFL5	GGGAGGCAGAGGTTACAGTGA
16635	BAPX1	TTTATTATCATGACAATGTTGG
16636	TXNIP	CACTGCAGCTGCCAGCACTTGG
16637	FOXD2	GCTGCTCTTAACTACTATGCAG
16638	ARHGAP6	CTTGGGAAAGATCTGTCAGAGG
16639	AMACR	AGGAAATGTGTTGGCTCACT
16640	ICMT	ACCAGCCAAGATGAACTCCTT
16641	CRY2	CAGAAGCTAAGAGCCAGCCT
16642	SCA7	AGTTACACCTCCACTCAGCACTCTGGA
16643	EN2	AACCGAATAAATAGCTCCTATTTGGT
16644	USP9Y	AGCAGTTTGGTCAACTTACCAAC
16645	ZNF140	AAAGCAACTGTATAAATGAATGTA
16646	RAB6A	GGCAAAGCAGCAGTTCTACCAAG
16647	CD53	CCCATCTCAGGCAGCAAGACA
16648	PRKCABP	CCCTGCTCCTTGTGGGCGCTCACACTG
16649	ZIC2	TCTCTCCCTCTCCCTGTC
16650	JAG2	GAAGCTCGTGACAAGTGCCTT
16651	PDE4C	TGGCCCATGCCTATAATCCCAG
16652	TRIP15	AAATGTGTCCGTATATTTCTGTACCTGC
16653	HUNK	CCAGAAGGCAGAGAGGCAGTTCTGAAT
16654	ANXA2	TTGCCTGGCCTTCCTGTCTAGTCTCT
16655	MGAT2	GACCACAGCAGAGCTCACAG
16656	MYCL2	TTCTCTTTCGCACCTGCCTCTCA
16657	DSC1	GCTGCAACTCTGATATACAGAGA
16658	DPH2L2	TCCCTGGCCTCTGCCCACTAGACATCAG
16659	C7	CTGCAACCTCCGCCTCCTGGG
16660	TNFRSF10B	CCACCTCAGCCATCCA
16661	AF1Q	TATAGTAGTGCAAAATGGAAGACTGA
16662	KCND2	AACTTGAAAAGAGAGTGAAGGG
16663	PTPN12	TCTCTTAGCTTGTGTGTGTTTCTT
16664	TRPS1	AGCATGGGGATTCTTTTCTA
16665	SHOC2	AATTGGGCAAATAAATTACATA
16666	CD44	CTCTTTTTGTTTTTTGTGTTT
16667	CDH6	GTTTTGAAAACCTAAAAGACAGGCTC
16668	ALOX15	CAAATTGAGTTTAACAATAA
16669	GRM1	ACAAGCCAGAGATCTCCCAC
16670	DLGAP2	AGCTGCTGCAACCATTGTTC
16671	FLRT2	GCTCACTGGCCAATAAAGAGCTT
16672	CITED4	GCCTCCCACCCCGCTGCCTGGGCC
16673	HNRPD	CGGCAGGCGGGTGTAGTCTCGGCGGCA
16674	OSR1	GAGAGTGAGTGGAGAGAGGAGAGGCAA
16675	SORBS1	TCTACTCCCTGTAGGAGTTC
16676	UBE1	CTAGGCTGGCCCCTTGTCCA
16677	CEACAM5	TACCACTGCACTGTCTGAGAATTTCCA
16678	PPT1	CTGCCTTCCTCTCTGAGTACGTT
16679	USP6	TTGCCAATATTTGCACCATCT
16680	TPST2	AGGCACAAGGGCTGGAGCCCAG

16681	LDLR	CGGGAAGCGGAGCTTGCAGTGA
16682	CDK10	TGCAGCTGCTGGGCACGCCCAG
16683	DMC1	TCTCCAATTTCACATCTTGAA
16684	CUBN	CAGGAGGCAGAGGTTGCAGTGA
16684	EIF3S2	CAGGAGGCAGAGGTTGCAGTGA
16684	GALNT7	CAGGAGGCAGAGGTTGCAGTGA
16684	INPP5B	CAGGAGGCAGAGGTTGCAGTGA
16684	KIF1B	CAGGAGGCAGAGGTTGCAGTGA
16684	MOG	CAGGAGGCAGAGGTTGCAGTGA
16684	RIMS1	CAGGAGGCAGAGGTTGCAGTGA
16684	ZNF36	CAGGAGGCAGAGGTTGCAGTGA
16685	LAMP2	CGGGAGGCAGAGGTTGCGGTGA
16686	GPR1	TGGGAGGCAGAGGTTGTGGTGA
16687	MAPK3	AAGAGGTCACTGAGGGCCTCTGTCACC
16688	SMCX	GGCTGGTGGGCAGGGGGGTGGC
16689	SYNGR1	TTCTGCCCCAGCTGTTCCTCCTCC
16690	NSMAF	GCTCCTCCGGACCTCCTCGGCA
16691	NCOA4	CATCATGAGCTGAGTGACTGCAG
16692	FGF2	AGGCTGAGGTGGGAGGGTTGATCACT
16693	LZTS1	AGCTCACTGCAGCCTCATACTCCT
16694	SLC12A7	CGTCTGGCTTGCATGGTCTCCCAA
16695	PITPN	GGTGAGGAAGTCCAGGCTCCA
16696	TNFRSF10B	TGTGGCAACAGGACCTA
16697	ARHGAP6	TCAGTATTTGCCAAATTACATGCAAT
16698	ADM	TCTCACTGCAGCTGGGCTT
16699	DNAI2	TTGCTTCCTGCCCCAACCAGATTGAGAACC
16700	FHL1	CCTGCTGTCCTTTTTATTGTT
16701	BCLG	TCAGGGACTGAAGCCAGCATGG
16702	SUV39H2	TCATACCACTGCACTGCAGCCT
16703	BAT2	CGGGGAGGGGTTGTGGGGCTGGGGC
16704	TMC1	TCTAAAATGAGATGCCAGAAGC
16705	NAPB	AGAGAGAAAAGTGGGGTTTTGTTTCCC
16706	STK38	GCACAGCCATGTTTTGTCTT
16707	TACC1	TTTAGTGGGAGTGAAAGTTC
16708	SPP1	AAAGAAAAAATGCTTTA
16709	GSK3B	AAGAGAGTGATCATGT
16710	CDH6	AATATGCTGACTTCACTTATT
16711	VDR	TGAGGTGGGTTTTCTTCCCATCACTG
16712	LAMA4	GGGATTCCAAATAAACACTTGC
16713	PAK1	CCTCGCAGTTCCCCTGTCCTGA
16714	GPRK7	CATTGCACTCCAGGCTGGGCAGCAAGA
16715	MAP3K7IP1	CTGCGGGAGAGCAGGGCCTGGT
16716	GPR85	TGACTCCACCTAGCTATTTGGAATAA
16717	MMP14	AGGAGCCTGAGCCACTGGGGA
16718	PSMD5	CACTGCACACCAGCCTGGGCAA
16719	GPR23	TTTATCCTCCCTGTTATACTTTGGAGC
16720	TEGT	ACAGACAGCTACCCCCAGAAGGG
16721	SH3BP2	CACTGATCCTTCTGGGCCACGTTGTGCG
16722	NEURL	GGGATCTCAGCCTGCCCTAA
16723	TCF7	GAGATGGGCTGAACTGAGCCTAGCT

16724	ADCY6	TCACCCAGGCTGGAGTGCAATG
16724	CDC2L2	TCACCCAGGCTGGAGTGCAATG
16724	EDG8	TCACCCAGGCTGGAGTGCAATG
16724	RAB36	TCACCCAGGCTGGAGTGCAATG
16724	VENTX2	TCACCCAGGCTGGAGTGCAATG
16725	CYP2B6	TCTCCCAGGCTGGAGTGCTATG
16726	ACADSB	TCACCCAGGCTAGAGTGCAGTG
16727	CBFA2T2	ACCTTTAAAATGCCTAG
16728	NCOA6	GCCCAGGCTGGAGTGCAGTCGTGCC
16729	PCDHA9	GGTCTCGATCTCCTGACCTCATGATCC
16730	PCDHAC1	TGGCTGCTAGCTGTGTTTTGAAA
16731	MAPK14	TTCAGGAGGCCCTGGTGTCAGGC
16732	NR1I2	TTCTGATCTGTGTTTCTCAGGGGACCTGC
16733	CPSF6	CCCTCCAGAAATTTCCACTGCTGTTCT
16734	CDC6	GTGAGGCAGCGGAGCTGGGTGAA
16735	NAPB	AGGGTCGACTGCAGGTTGT
16736	MME	CCTGAGAGTGTCTCTGATA
16737	PTPRF	GGCAGAGGAGTGGGAGCAGC
16738	RAD23B	ATTACTGCTATTTTAAAATTTCT
16739	KCNK5	TGTCCCCAAGCAGAGGTGGAGAAGGGG
16740	WNT5A	GTTCTGACTCACTGAAATGCGTG
16741	PART1	TTCACTCCAGAACACATTCATG
16742	PRDM2	TGCTTGGACGTGTTCTTCCA
16743	LCP1	CCTCTTCCTACCCTGCCTCCC
16744	LILRA2	GATCCCAGGAGGCTCTGGAGGACAA
16745	TSC1	TTGATGGATTTTCAAAAAGCCGTT
16746	VEGFB	ACATGGCTTTTCAGACTCAGCAG
16747	CTMP	AGGAGGAAGAGGTTGCAGTGA
16748	ASB1	CCTGCAGGTGTCTAGGGTCTCAGCTT
16749	MID1	GTTACTCATCTTCTTACCTGATATCCCA
16750	IGFBP7	ATATTTACAGAAGAAAAGCA
16751	MYO15A	CCCATCCTGAACTGGGA
16752	TPMT	TTAGTAAAGCCATTTACTTTTTCTA
16753	EVA1	CTCAGTTCTGAAATTCATTACATATC
16754	WASF3	TCAGGCTGGGTTCCCTGTGGGCAT
16755	AFG3L1	ATGGAAGCATCTGTAGTGTCCAT
16756	PODXL	TCTCCTGACTCTCCATCGCTCTG
16757	CST2	AGCAGGGGACTCTGCCCTC
16758	CA3	CAAAAGAGTGAATGATGACAC
16759	FPGS	CATGGCAGAAAGGGGGCAT
16760	HRH1	CTTTCTGGAATCCAAACCACAGTCTT
16761	SUSP1	ACTTGTCATTTCTACTTTC
16762	CRTAP	AGTCTCGCTCTCTTGCCCAGGCT
16763	HMGN2	TTCTGCCATTTTCATTTCACTTC
16764	PTPRO	CGGGGTTACAAAAAGACATGA
16765	SIM2	GGGAACAGAGGTTTAGCTGCAGGA
16766	TEM8	GGCAGAGTGCCTTAGTCAG
16767	PKM2	TTCCTGTGCCGTGTGGACCC
16768	PTN	CAAGAGAGCCCCAGAGCAGAGGAA
16769	CELSR3	GCCCTAGGCACCTGGGCTGCAGG

16770	LAIR1	CGCCTCAGGCCAGGCTGCACTG
16771	CLN2	GCTATGCTTTTTCCAACCAA
16772	PSD	GGGCAGCACGGCCTGGCTTTCCCACGC
16773	SEL1L	CAGCCTCTTTCCTAACTTCCTT
16774	DUSP4	TCCTCTCTCGTAAACACACTCT
16775	MS4A6A	TACCATTTACTAGATTAGCCAAATAGTC
16776	PITPN	ATCCTGTTTTTGTCAGTTTGTTTGCC
16777	IL16	TCTGCTGCCGCCCCACCCAGAT
16778	GABRB1	TCTGTTCTAATGGTTCCATTTAG
16779	RAD21	GGAGCTAGAAGCATTATAGCTA
16780	PAX5	CAGGTCTTGTCCTGGTCCTGGCC
16781	CD1B	TTCAAATTTGATGAAATCAGAGTTTT
16782	HUS1	CAGCTCTTAGCTGGGAGCTCCTT
16783	PCTK3	ACAAATTCGGGTAGGATGGAGC
16784	IQGAP1	CAGTCATGTTCAAAGGAAGCATTTCTAGAAA
16785	BTG1	TGGAGGCGGAGGCAGCTGGGGA
16786	TNXB	GGGAGGCTGGCTGCTGCCCACCTCTCTC
16787	APM1	TCTGTCACCCAGGCTGGAGTAC
16787	PDCL	TCTGTCACCCAGGCTGGAGTAC
16787	SLC14A2	TCTGTCACCCAGGCTGGAGTAC
16788	BCL9	GGAGGCACGCACCCAGAGA
16789	GRB10	CAAATAAGGGACTGATGTTCTGTTTCT
16790	SCN2B	AGCCAGGGCTGCAGGCAAAGCTGGA
16791	NDN	CATGACCTTGCTGGGCACAG
16792	ADCY6	CAAAGTGCTGGGATTACAGG
16792	EIF2S3	CAAAGTGCTGGGATTACAGG
16793	CASP4	ACCTTTTTTAACATAGACCAAA
16794	PCDHB7	AGCTCATTTCAAAGGATTCCGCTG
16795	SRD5A1	ATTTCAAGCTCTGGGTAATAACTGCTG
16796	PLAGL1	GATGCAGATTACCTTTCTGCTCCTGA
16797	GNAO1	TCTCCTGGTAGCATGACCTTTTGGCCT
16798	CHST5	CTGCACGTTTCTTTCTCTCCT
16799	SYNGR2	CTCCAGGGCATTTTTAGGAAAGGGTTT
16800	TNXB	CATTGTCTGACTGGGCCTGGAC
16801	GCLC	CATGCCTCTCAGCCCGTGT
16802	NCOA6IP	TGCAGTGCCATGATCACAGCTC
16803	ARSD	GCCTTTAATCCCAGCATTTTGG
16804	NBS1	AGACCAGTTAGATTATTGAAAT
16805	MAGEL2	GGCTCCCCCCTTGGTCCAGCTGGAGC
16806	POLR2G	GCTTCTTGTAGCTTAACTACTGCCTCC
16807	PRND	AACGGCATGATTTTGGCTCACT
16808	NEUROD1	GCAGAAAAGTGCTTAGAAAG
16809	PTPN14	GCTGGAGGAGAGTCACCTCC
16810	C5R1	TGTAATCCCAGAACTTTGGGA
16810	HIP1	TGTAATCCCAGAACTTTGGGA
16810	OASL	TGTAATCCCAGAACTTTGGGA
16811	CDK2	GGATCCCAAGCCTCCTGCTGCCACA
16812	FRAT2	CCAACAGCGTCCAGTTCCTACTA
16813	SEPN1	ATGGGGAGGGAGGGCGTCTGA
16814	HIS1	TCCTTAAGGACTTACTAGCCAA

16815	PCTK3	CCTAGTGCCAGTTTGGTAGTCC
16816	GPR24	CACTAATCCAGCTTGAGTGT
16817	ARSF	TCAATAAATTCATCTACCATTCCA
16818	VDAC2	TTTTATGTTCCTTTAGAAAACATTG
16819	SLC1A4	GGCTTTGGGCTTGCCTGCCAGC
16820	CALM3	TTCCAAGGCCTGATGCATTCATA
16821	SEDL	GCTCTGTTGTCCAGGCTGGAGTGCAAT
16822	ZNF134	TCCTCATTCCCTTCTGTATGACAGGTA
16823	TRPS1	GAAAGAGACCAAAACTGTCT
16824	SLC6A8	GCCTCTCCCCCTCCAGCC
16825	NPR2	CACCATGTCTGCACACACCAGAA
16826	NRGN	CCCACCCTGCCGGAGGCTGCTCCTGAT
16827	SLC17A4	CAGATCTTTAACATGTTAGTGAA
16828	CTNS	TCGCCTTGACACCGCCATCTCTTTTCTTTAA
16829	KRT7	CAGTGAGACAGTCTGGAAAGTGAT
16830	SLC1A1	CGCAAAACTACCGGGCTGGCAG
16831	LRRC2	GCCGGGTAGAAATGCCTGA
16832	ALX3	GGAGGCAGGGAGACACTGCCCT
16833	TPM2	CAGCCCAGTCCGTCCGGTCCTCAC
16834	CYB561	TGCTCAGGCTGGGAGGCAGAGG
16835	PITPNB	CACACTTGTGTATATATGTACAT
16836	KLHL3	GTGACTCTGAACAGCAGGACCTT
16837	AFG3L1	TCAGCACTGTCCCTTAGCAGTGAT
16838	SNAP23	CATCACAGTTTTGCAACCTCTGCTCC
16839	ZNF215	AGCCTGAGAATTACTGCAA
16840	GUCY1A3	AAGCACAGCCCCGAGGTGTGCGAAGC
16841	EIF5A2	GATTTTTTGACATTAATGTATTTA
16842	LARS2	CTGCAGCTACCACGAGGGCC
16843	RFPL1	ACCCTTCCTCCACCTCA
16843	RFPL3	ACCCTTCCTCCACCTCA
16844	CPT1B	TCTGGTGGGAGGAAGGC
16845	RBL2	CCCATTCGGTGTGGTGCAGTG
16846	MAP3K14	GGCCTCGCAGCAGCAAGGTGGG
16847	ZNF135	TACACATGAGAAACGTACATTCATA
16848	TPT1	TGGATCTATCACCTGTCATCA
16849	ALEX2	TTATCTGTGACAGTCACCAGCTTTAA
16850	TAL1	GCTCTCATCTGAGGCATCCA
16851	DNTT	TCACAATGCATTTTTCAAGAG
16852	PIGR	CCTCACCCTCCCAAGTAGCTGGGACTA
16853	ALCAM	ACAAATGAAATTTAATTACAAA
16854	SGCB	TCACATGCAAGTGAAGTCATTAAAGAA
16855	EDNRB	ATGAGCGCCAAGTTTCCCACTG
16856	OXR1	TTCATAGACCACTGAGTTCTAGTTTTT
16857	NR3C2	AACCTGTTTTTAACATGTGAT
16858	PROK2	CGGAAGCTAGGAGTGCTGCTG
16859	CADPS	TTGATCTGTAACTGCACAACC
16860	CEP1	GAACTCTTTGGAGGCAGAGGTTAT
16861	TERF1	CCCATGGGACAAAATTTGTACTATTAGC
16862	GPR44	GCCTCCAGGCCACATGGGGCTGG
16863	RAD52	GTGGGTGGTAGGAGAAGGATGGTTCA

16864	WHSC1	CTGTCAGGAGCAAGCTTGCTGCTCCT
16865	STK4	AGCACTTCTGCTCTGTCGTCTCTCCA
16866	STAC	GGGAACTAGGAACATGGAGGGG
16867	APOL1	CCCTGCTTGAACACTGAAGGGC
16868	BAT4	AGGTTTCCCTCCGCCTCCTGAGG
16869	ORC2L	TGGAGAAAATGTGCCTTTCA
16870	MUC4	AACTCCTCCTTCCTGCTTCAG
16871	ACTN1	CAGCCCAGCCCAGCCCTACT
16872	FMR2	TGGTTTTGTTGTTTTCCAACA
16873	ALEX2	ACTGTTCTATTATTTGTTTTGAC
16874	GPM6A	CCTGTTCTTTCTACCATTTGAAT
16875	PKIB	CCCAACAAAATTCACTGTTCT
16876	PCNA	AGTCTTTTCTGTCACCAAATTT
16877	MTMR3	CTAACATGCAACCATTCCTC
16878	RNH	CAGGGAGCCTTCCTGGCCAT
16879	MAP2	GGCCATTTGGGATACTTCCTCAT
16880	C7	TGCCCAGGCTGGAGCGCAGTGG
16881	FH	TCCCATTTCTTAAAAACGGATA
16882	XT3	TGAGGTGAGAATGAAAGTGG
16883	GFER	GAAGCAGCTGGGCCCTCTGGGAA
16884	CLASP1	CCTGCTGGAGCTGCTCAAGATCACGCGGGA
16885	HS2ST1	GCATGTGAAAGCACTTTG
16886	ADCY1	AGAGGAGAAGGTCTGGGCAGG
16887	CLN6	TGGCCCAGGGTTTCAAGGGAGG
16888	TDGF1	CCAAGTAACTGGGATTACAGGC
16889	SUDD	TGGGCAACATGGCGAAACCCTGTCTCT
16890	NKTR	TTCAAACCAGCCTTCCTGCTCTTTCTC
16891	NUP98	TCGGTGGCAGGGGTGGTAGCG
16892	TMEM1	CCCAGTTTCCTGATCGGGGTG
16893	DRD3	CCAGGCTTCCAAGAAAGAGGAGGAGAGTTGAA
16894	TLR5	ATCTCGGCTGACTGCAACCACTGCCT
16895	NDN	TGTAGTATTTAGGATGTATGCA
16896	MTR	CAGGCTGGAGTGCAGGGGCGCA
16897	SPON1	CACCTCCAGCCAGCCTCTTCCTGCAG
16898	MAGEC1	TGCACATGAGTCGCACATGTAT
16899	ADORA3	TGCAGGCAGAGGCGTTGAGGA
16900	B3GALT2	GGAAACTTTTTAATTGTGCAAA
16901	BTG2	ATTCCTGCCAGCTCTGCCTCC
16902	TGM2	GGCTTAGAGAGAGGAGGCAGCC
16903	ITGB1	GAAGTATGAGGGAAAATGAGT
16904	LFNG	CTTCCCTTTGCCTCCCCA
16905	IL2RB	CTGCATCTTCCCACAGTGGCTT
16906	B3GALT5	TTTGAGACAAATTTCCTCTTG
16907	BHLHB3	TCCCACTCTCATTAATCCATCATGTT
16908	FLOT2	CCCTGCCCCAGGAAGCCCACAGCCTCACCT
16909	TNFSF14	ACCAGCCTGGCTAACATGGCAAAACCC
16910	GALNT3	CTGTAGTTCCAGCTATACAGGA
16911	PIK3R3	CTGAGTGAAGCTAGGCAAATGG
16912	TPR	TGCTGTTGCTGAAACGCTGCCGCT
16913	DNM2	AGACGCCGCGGGGCCAGGT

16914	BAZ1B	CTCCCATGCCCGTTCTGACCTCAGCC
16915	RABL2A	TGTTCACCCCTCTCTGGTACTTGTGG
16915	RABL2B	TGTTCACCCCTCTCTGGTACTTGTGG
16916	IL4	TTTCATTTTCCTATTGGTCTGATTTC
16917	TBX1	TGCAGTAAGCTATGATCAT
16918	KLRC2	TGCACACAATTACTAAAG
16919	OPA3	CAGGATCTTGATGCAACTTG
16920	FZD4	TTGAGACAGGGTCTTGCTCTGTCACC
16920	HUNK	TTGAGACAGGGTCTTGCTCTGTCACC
16921	EHD1	CTCCCCTGTGTGCCAGCCCTGT
16922	EYA1	TGCACAACAGAGACTGAAAT
16923	FANCC	CCGAGATCATGACACTGCACTC
16924	FGFR1	AGACCAGCCCGGCCAACATGGT
16925	PKHD1	TCACATTTCTACAAGGTAAT
16926	PKHD1	CTTCCCTTACCCATGTTA
16927	DHFR	CACATCTTCATTCTTTTTA
16928	ATM	GACCAGCCTGGCCAAGAGACCAGCCTG
16929	NRL	GGCTCAGAGCAGCAAAGGCCTGAAGAG
16930	PPEF2	GGAGGAGAAGAGAAGAGCCAA
16931	REGL	AAGAGCCTTCTGTAGACCA
16932	CXADR	TTAGTAAAGAAAAGTTTACCA
16933	ORC1L	GCACATGCCACCATGCCCAGCT
16933	RBM8A	GCACATGCCACCATGCCCAGCT
16934	GTF2I	TCTGCCTCTGTCCCCCAGTG
16935	LHX5	CCTGCAGCTGCTGAGACAAGAGGCGAA
16936	SIRPB2	AGCCTCCTGGCCCCATCCTCCTGGTC
16937	FCMD	TAACTGGAGTCACTTTGCAGTTTTCAA
16938	PCSK2	TACTACCAATGCCAAGATAATTC
16939	SLC6A6	ATGATTGAGGGCAGGTGGCA
16940	GCN5L2	AGCCCCTCTAGAGTAGCTGGTGGCC
16941	TFE3	ACCCCTTCCCTATAGGAACAGCCC
16942	CML66	AGCTATTTTCCTGAAATGCTTC
16943	ASS	TCCTGCTCTGCCGCCTGCCACC
16944	TRIM14	AGCCCTAGAGGGTAGAAAGTTTTCCC
16945	GNA14	CGTGGGGACAGAGATGGGTGATGGAAC
16946	C1orf1	GCCGGGCATGGTGGTGTGTGC
16947	M6PR	CACAGGCATGTGGTTTTGA
16948	ALDH3B2	CCTTGACTTCTCTGAGCCTCAGTTTCCTTAT
16949	KCNA7	CCTCGCGCCCTAGCCGCCCTGCCGG
16950	KIT	TACCCTTTAGACTGTAGCCTG
16951	DDX11	AGAGCCAGGCTTCCTTC
16952	ITSN2	GACATGCATCTTTAAGCTTTATC
16953	ISL1	AGCATTTTCATTTCACTGCACATCT
16954	ITGB7	GAGGGTGAGAGGAAGGGTGG
16955	CCNF	ACTCACTGTAACCTCCGCCTC
16956	EEF2K	ACCCATAAATGACAGTGACTTTTTCAATA
16957	CDC2L2	GTCTCGAACTCCTGACCTCAGG
16957	FCAR	GTCTCGAACTCCTGACCTCAGG
16957	MEFV	GTCTCGAACTCCTGACCTCAGG
16957	PDE6B	GTCTCGAACTCCTGACCTCAGG

16957	PIK3CD	GTCTCGAACTCCTGACCTCAGG
16957	RP2	GTCTCGAACTCCTGACCTCAGG
16957	SAS	GTCTCGAACTCCTGACCTCAGG
16957	SH3BP2	GTCTCGAACTCCTGACCTCAGG
16957	SHOX	GTCTCGAACTCCTGACCTCAGG
16957	TNFRSF10B	GTCTCGAACTCCTGACCTCAGG
16957	TRPV1	GTCTCGAACTCCTGACCTCAGG
16958	TES	GTCTCAAACTCCTGACCTCAGA
16958	TRPM6	GTCTCAAACTCCTGACCTCAGA
16959	DLEC1	GCTGGTGCTCCAAGCACAG
16960	EDN2	TCCAGGTGGAGGAAGAGATA
16961	EIF5A	GGGAGGGCCCTGCCCCCAT
16962	ZNF142	TGGTCAAGCTTGAAGATTCCCCA
16963	TAL1	TGTCACTCAGGCTGGAGTACAGTG
16964	KCNJ16	CCATGCCACCAATTCCACTGCTA
16965	FMO1	GCTGTTCTTGACAGCACTCTG
16966	MECP2	ACCCTGAACAACGAGCCTTTT
16967	ATP11A	TGTCTTCACCCACCTGCCATC
16968	DTNB	TAACATAGTAAGATTTCAAAGC
16969	EIF2C1	TGTTTACAAAAATGAATTTTTCCTGGT
16970	BCAS1	TGGCCAACATCATGAAACCCCGTCTCT
16971	ESD	GGCATTGAAGCAGATTTCCAGCA
16972	LRP1	CCCAGCCCCAACTCCAGGGGC
16973	MRPS12	CCCCTGCAGAACATGAACCTTC
16974	CDYL	CCAAACCAGACATATGCTTAG
16975	HGF	CTGCAGATGATCTTCTCTGG
16976	KCNJ5	GGATGGCATCTGTTCTCTCCA
16977	HTR1D	AGAGGGAAGGCTCTCTGGTCT
16978	GNAQ	GGAGGCACTTTGGAAGA
16979	TTN	AGTCAAAGTTCAAAAATATTCA
16980	RANBP3	CCACTGTGCCCTCTGTGTCAGTGTGT
16981	PBX3	CTGGAGTGTTGTATATAGTGTAGCAAA
16982	PTBP1	GGCTCCTGCAGGATCATGCAGCT
16983	PYGM	CAGCACCTCATGCAGAGGGTG
16984	TNFRSF10B	CTCGCCCAGGCTGGAGTGCAACG
16985	GALT	CCATCATCATGGCATCATTGC
16986	POLL	GCTGGGTGGGGACAGAAGCTGCAGGG
16987	ADAT1	TACCGCTGCACTCCAGCCTGGG
16988	TCF1	CCTGCCCCAACTCCTTCCAGCT
16989	PSG3	TTCATTCTTCCTCAAAGTATTTACCAT
16990	MAP3K12	CACTGGCAGCTGTGGAAATGA
16991	PKIG	GGGAAGGGATTTTGGCTCAAAAC
16992	IPF1	ATCTGCCATAAAGCCATTC
16993	STCH	CAGCTCATCTCATGTCCTGAA
16994	DBT	CCCATCTCTACAGTTTTGTAA
16995	TRPM8	CTGAGGTACAAGAATTGCTGGA
16996	KCNMB3	AACGACAGAGAAGGCCAAACAAAAC
16997	CELSR3	GCAGACACCTCCTCACCCA
16998	TFAP4	TTATTTCTTCCCTGCCCAGAGCC
16999	GNMT	CACCAGGGCCAGCCTCTAGAG

17000	HEPH	CCTGCCTGGTTGGGCTTCCTGGGGCCA
17001	GJA5	GGCTCAGAGAGGAAAGACGTGTCCCTT
17002	FMR2	TTCCATCTCAAGACAATTTGTC
17003	FOS	CTTTTCTCTTTCTCCTTAGTC
17004	DMD	GACGCTGGACCTTTTCTTTACCCAAG
17005	PRSS8	GCCAGCCTTGGACACTTGCT
17006	MYO1D	TGGAGTGGGCAGAGGTGCAAGAGA
17007	FHIT	TCCCTTAAAATACCTAGA
17008	WASF3	TGAGCTGGGCAGAGCTGCGGCACA
17009	VAX2	GCACAGCACCTTCCCAGTCTCCTGT
17010	TM6SF1	GTCCCATTTCACTCTCTTCTCATACGT
17011	OPHN1	CTCCTGAAAAAAGCAGTT
17012	MYBPC2	CCTACCTGCCAAGACAATTGG
17013	DPYS	CAATTGCTGTCTTTCTCACTGTG
17014	POLS	TCTGCAGTTCTCGATGACCGA
17015	TNFRSF1B	CCACTCCCCACCTTCAATTCCTGGGCC
17016	EPHX1	CAGCCTGCCCTGCCTCTCTCACA
17017	IL2RG	CCAATCCTCTGACAGAAGAAC
17018	CCNDBP1	ACCTGCCTCCTCTTCGGCCA
17019	CDH23	GGCCAGGGCCAGAGCAGGCGGCCCGC
17020	TCF3	GCTCATGCTCTGAACTCTGG
17021	TRPM8	TGTTAAAAGTCTCTCAAATTAGG
17022	TRPS1	TCCAGGGCAATGAAAGAAAAAT
17023	CCR2	GCATATCCAACATGTGCTCAG
17024	G2A	CTGGGTCTGCCGCAAAGGCCT
17025	M11S1	GTCACCTAAATTGGTACAGG
17026	LOH11CR2A	TGCTATCTTTGCCTTTTGAGATACC
17027	NDP	CTCTCAGAAAAGTCTGAGAAGAA
17028	NT5C2	AGAAAGGGAAGAACTGCCTTC
17029	SOX8	AGGAGGTGGAGTTGCAGCTGTTGGCC
17030	HAP1	CCTGCTGTGCTTATTTGC
17031	FMR1	CAGCTAGGAACAAATCTTCCT
17032	PTEN	ACACACACCTTTCTTTAGCA
17033	HTN1	ATTCATTCCTCTCCA
17033	HTN3	ATTCATTCCTCTCCA
17034	NSF	GCCTAGGATCTTCACTGTCTTACTCAA
17035	CLECSF5	TGGGGGCACGGAATAAGCACATAGTA
17036	HIP1	ACGTTTAATCCCAGCACTTTG
17037	RCE1	CTGTGCTCCTGCCTATGCTCCTGGG
17038	BAZ2A	ATTGCCCAGGCTTGAGTGCAAT
17039	BMP1	CACGTGGGCCTCACATTCCAG
17040	HAS1	GCCTCAAGGGTCTTCAGGGGAG
17041	GPRC5B	GGCCCCGCCCCTTCCCTTGTAG
17042	ED1	GCAAGGCAGAGCCTTTTTACC
17043	GHR	GACTACAGGCACGCACCACCAT
17044	MYB	AGCATGCGTTGCACTTCTTTTTTG
17045	PRND	CTCTGCCTCCCAGGCTCAAGCACTTT
17046	NEU3	CATGGCAGGAAGGAAGACCAG
17047	ZNF26	TCAGAAATAAGTTACAAA
17048	ZNF83	GTACATGACTCTCAGTGTCTGTGG

17049	KRT9	TGCCTTCAGGGTTCCCGAGACAGA
17050	SLC22A3	TTGAAACACGAACATAGACACCAGGCT
17051	DLEC1	AGCACAAAGACACAGACTTGGGGACCT
17052	JUNB	AGCCTGACAGGGCTTTTGCGCACAGC
17053	ZNF266	GGCAAAGCCTTTAGTTTCCCACGTGTG
17054	PTMS	CTGCCACCCTCTTCTTTCTCCCC
17055	HAP1	ACCTGGGCTGGAGCTTGGGGA
17056	KCNE3	CGGGGGTGGAGGAGCCTTAGTGTGTC
17057	THY1	CCCAGAGCTGCACAGGGTT
17058	HOXB3	GGGAGGAAGAGAGAGACTGTGG
17059	TAL1	AGTGGTGCCATCATTGCTGTCT
17060	RARB	GATATATTAGCAAGTCTGTGATG
17061	PON2	TTGATGTTTTGTACTTACATCTTT
17062	DLGAP2	CTCCCTACTTTCTTAGATTTTATG
17063	COMT	CCTCTCGGGCTCTCTCACCCAGCC
17064	HUNK	GGGGCAACCAATTTTGGA
17065	CORO1C	GAGTAGGCGCCCAAAGCATTGTGGATT
17066	PIK3R2	CCAACTTCCCCTCCAAACCCCGAAGTGAAACC
17067	ATP1A2	CATGCTGTTCTGAAAGGGATGG
17068	FGR	TTCTACCCTCTATTCTCTTGTGT
17069	PTK2B	GCCAGCCTGGTCCATGCAGGGGGCTC
17070	ZNF219	CCCTCAGGGGCGATTAGCTTAG
17071	KCNAB2	TGGGACAGGCTGGGCAGAGGGG
17072	PTGIS	TCTCGAACTCCTGACCTCGTGATTTGCC
17073	KEL	GAATCAGAGCAAGATTTCCT
17074	GGT1	AAGATTCTGTGGCTACAGGCTTCAGCAGAG
17074	GGT2	AAGATTCTGTGGCTACAGGCTTCAGCAGAG
17075	BLAME	CCTACAGTCAGGCCACATGCC
17076	DVL3	TGGTGGCACGCTCACTCCCT
17077	CRSP6	TCTCCCACTTGATTGACCTCACCAG
17078	BAPX1	TGGCCAGCCTTTCCACGGCGCCCAC
17079	EML1	TGAATACCAACAAGGTTGCA
17080	MLPH	GTGGGGCAGAGGACAGAGGGT
17081	SLC4A1	GGGGTTTGTTGCACAGTCCCT
17082	HPCAL1	CCTCACTGCAGCTGGCCTC
17083	DYSF	CCCTCCAGCATGGGACTGGCCTGCCTC
17084	SP3	TCAGCAGGTTCAAATTGGTTT
17085	ROCK2	GGCCTGTAATCCCAGCTACTTGG
17086	MNT	TCTAGTGCCGAATGACTATGTCC
17087	PIK3CD	AAAACTCAACAGAGCCAG
17088	CIAS1	TCGCCTAGGCTGGAGTGCAGT
17089	BCAS1	CAGGAGGTGGAGGTTGCAGTG
17089	CPT2	CAGGAGGTGGAGGTTGCAGTG
17089	IFNAR1	CAGGAGGTGGAGGTTGCAGTG
17089	LDLR	CAGGAGGTGGAGGTTGCAGTG
17089	PDE4C	CAGGAGGTGGAGGTTGCAGTG
17089	PTGIS	CAGGAGGTGGAGGTTGCAGTG
17089	RFC2	CAGGAGGTGGAGGTTGCAGTG
17089	TBX6	CAGGAGGTGGAGGTTGCAGTG
17089	VDR	CAGGAGGTGGAGGTTGCAGTG

17089	XRCC2	CAGGAGGTGGAGGTTGCAGTG
17090	HOXB2	GCAGTTTCCCTACCTGTTTCCTCCTC
17091	GJA1	TTGCACTAAGATTTTATTTGG
17092	SPARC	ATGACATTCTTAGCTGTAACTTA
17093	DLST	CCTTGTTCTTAGAGCAGATTCTAG
17094	WNT3A	GGGAACCGCCCTCCTGATTAAGGCGT
17095	EGFL5	AAGGCAGCATTGGGGAGCAGGA
17096	LILRB4	GTGATATCCCCTTCTTCCC
17097	MLLT7	CCATCATCGGCTTTCCCCATTC
17098	MLLT3	TTTCAATGCAGCACCCTTGCCA
17099	CYP2F1	TGCAGCTCAGCAGCTGCCTT
17100	AIM1	AAGATTTCAAGACTGTGTACA
17101	PPP3CA	CTTAGTGGTCTGACATATA
17102	ADCY1	CATGCCTTTCATGCCTGA
17103	RDS	CCCCTGCCACCACTACTGCATTCAC
17104	COL4A6	TCTTCAAGGAGGCCCACTTGTGTCTTA
17105	LIF	TACAAGTGGAATAAGCTTACG
17106	METTL1	TGGGCAGCCCTGTGAAGCCAGA
17107	HMGN1	GAAGGAGGGAATCCCACCTCA
17108	RHBG	AGAGGGGCAACAGGAGGCTGGGAAAT
17109	INPP5B	AAAGTGTGGGCCAGCCCTCCAC
17110	SALL2	GAAGTAGGGAGAAATGAAGGAA
17111	WEE1	TCTTCTTTTTGAAACAATTATG
17112	RGS3	CCCGCTGCTGGGGGAGAGCTGGG
17113	GALNT2	TTCCTCCTCCACTCCTGGCCGC
17114	RAB30	CTCTGACCTTCTGACTCCTGTGGGC
17115	AICDA	TGGCCAACATGGCAAAACCCCGTCTGT
17116	ASTN	GGAGAGGGTGAAGCAGGTATCAGAGTC
17117	HR	GCTCATTCTCCCCGTGCGCAGCC
17118	CSHL1	CTGCTCCACATCTCCCTGCTGC
17119	BSN	GGTGAAGCATCTGCTGGACAAG
17120	AK2	GTAGGGAGGTCCAAGTATGTGC
17121	JAM3	GAGGCTGTGATTCTGCCTTT
17122	DAAM2	GGGGGCAAACTTTCCTCTTG
17123	IFITM2	CACAGCCGAGTCCTGCATCAGCCCTTT
17124	STAU2	GTCATCTGAAATTTTAACCAC
17125	IGF1	GGCAAGTCACTTCACCTCTCTG
17126	HS3ST2	TTTCATGTTCAGCATGCAATGGAATCA
17127	CYP4F3	GTTCTGCAGAGACCCACTCTGA
17128	CYP3A4	ATCACTTGAACCTGGGAGGCGG
17128	KIF3B	ATCACTTGAACCTGGGAGGCGG
17129	BSN	TCACCCCACCCATGGAATACCTGCCT
17130	CD3Z	AAATGCTTCAGTGAAAATGCAGCT
17131	PACSIN3	TAGGCCCCAGCCCCAAATCCGCCACCATTCCG
17132	ALDH3A1	CAGCCCAGCCCCACTCCTCTGCTGACC
17133	TPMT	ATCTCGAGCTCCTGACCTCAGGTG
17134	SGT	GTCTGCAGGAACTCTCCCGTCTG
17135	SPTBN2	GGAGCCCTCCCTCCCCACCCC
17136	CRY2	CCCTCCTCACGTCAGGCTGTGGAGC
17137	KCNMB3	GGCAGGCGGCAGGCGTGGTGCACAGG

17138	PDAP1	TCTGACTGACCTCAGGGCCTC
17139	SH3GL2	ACGTGCTGCTTCCGATGTGCCA
17140	DEDD	CTCTGCCGCCTTTCCTCCATTCCATGGCTT
17141	IL18RAP	GCTGGACAGAACTCACAGCT
17142	ADH4	TGTTTAATGGGCTTTTCTCTATTATT
17143	TRPM4	GGCCTCGGCCCCCGCACCTGG
17144	GRM7	GATTGGGTTTCACCATGTTGGCC
17145	ABCB4	AACACTTCAACTTCATCAGTGAA
17146	TNFRSF8	ACTTCCTTACCTAGTGG
17147	MNT	ATGTTCTCTTCCCAGGCCTT
17148	BMPR1A	CGGTGCTTTCTGTGAAAGCCTT
17149	ESRRG	CAGATGTTGTTATTAACTCGCTCT
17150	GNS	ATTATTCCTCTTGTGGTTA
17151	KRN1	TCTCACCTGCTCCTCTACCTGCTCCA
17152	ALDH3A2	AATTATTGGCTTGTCTACT
17153	DBH	TTCTCATCTGTAAAACCA
17154	GFRA1	TGGAAACAGCTGGTACTGAT
17155	WBSCR14	TCCCTCTCTCTGCTCCTTCACTGCTGA
17156	YWHAZ	GTTTATCTCCCTTTAAAACCC
17157	ARHGEF7	AGTCAAGTGCTGTGGCTTCAGTTCCCC
17158	MOCS1	GAGCCCAAACATGTGGAAGAGT
17159	HMGN2	GTTTATGGAAAGTATCTTTAA
17160	FCMD	TCATTCTCCTAATCTGACCACTTTCA
17161	ARHGDIA	CTGCCTCTGCCTTTTCTGTCTCAGCG
17162	LRP1	CGGGGAGGGGGAAAGAGCAGC
17163	EGFL5	GTCCTCCCCACCCCACCTGCCACCG
17164	IL11	GCCTAGGCTGGAGTGCAGTGAG
17165	GJB1	TGCACAGGCCTCTGCCTGCTGGGGAT
17166	TAPBP	GGTCTTTCAGGGCCCTCCCTTGAGG
17167	MKI67	CACTGCTGGGCTCCTGGACTGAGAAT
17168	TACC1	TAGCTTTTGACTTTGCCAAAG
17169	SRC	TGGGCCTCAGTGTGCCCATCTGTA
17170	PACE4	TGCTAGCCATCTTGATCTGTGTTTT
17171	GRB10	CCTGCCTGGCTTCTATTAATGTGTGCT
17172	TNC	CAATACAACCAGCCCAACCATCGGTC
17173	KRT10	TGAATCTCCCTTCACACAG
17174	EVI2B	CAGGGTGGAGAGGAATAAGAG
17175	TOP1	AGGCCGGTTCGCCGTCTGCGTCTCCCCC
17176	HUNK	CTCTCCAGATTCAAGTGATCC
17177	TMC2	CAGTTTCACACATACCAAACCAAGG
17178	HAS1	CGGAGAGAAGAGAGAGCCCGGCCAG
17179	NCAM2	AAACTATTCCATTGACCTTAATTTCTT
17180	CLCN6	ATTGTGGCCCCTCCATTTTCCC
17181	FCRH1	GTCACTCAATCTGGAATGCAGT
17182	NOL3	CTGTTTGCCCAGGAACTTAGG
17183	E2F2	CCCTCGGGACGAGACAGCCCCTGGCA
17184	STAU2	CCTTCTTTGGCTTTCCTTGCC
17185	FKBP6	GGGCTGGAATGTCCTGTGGCCGCA
17186	TNFSF10	TGCCACTACACTCCAGCCTGGCGACAG
17187	PTK7	TTTACACATGGAGAGATGCCCCA

17188	CHST6	CAGGCTTGCCAAGAGGTTGGAAGGGA
17189	MYH8	TATTTTTGGTCACTTGCTTTAT
17190	ZNF256	TACCTTCATCAGCACCAGAA
17191	PTK7	CTTACCCCACACTTTTAT
17192	GJB3	ACATCCCCACCCTGTGTACA
17193	TEM8	CCTTCCTGCCTCTACTCCA
17194	FGF9	AGTTGTACTTCATCCTATATCA
17195	SGK	ATTTCTATTTTTAGAAAGGGTTTT
17196	IL19	AAAGTGCAGAGATTACAGTCTC
17197	PITX2	CTCTGAGTGGTGCCCTTCTGCCCA
17198	MYBL1	AGAGTAAAATGGACAAGGGACGAGG
17199	TSLP	GGGAAGAGTTTAGTGTGAAAC
17200	FGF9	ATCCTATATCAGCACAGCTGCC
17201	EDAR	GGGATACTTTCAGATGCT
17202	GRLF1	GAAGGTGTGTGCACAGAGGGTG
17203	DAG1	ATACTATTTTTTCACACTACG
17204	TBX6	ACCTCCGTGTGAATGGAAGGG
17205	SLC23A1	CTTCCAGGAAAGGAAGCATGG
17206	GPR48	TCCATACATCTTCC
17207	FLT3	CACCAGACTTTTCTCTAGAAGCCGT
17208	DIAPH2	TCTTGCTATGTTGTCCAGGC
17209	NEURL	CATAATGCAGTATCTTCCCCTGACT
17210	NYX	GAGGAAGAAAGAAAGGCAGGGCA
17211	SERPINB13	GGTTTTAATTTGCATTTCCATAATATCTAA
17212	ATP2A2	AAAGTGTCCATTGACATGTACAGA
17213	CDC7L1	TGTAACCCCTTAGCTGGCATTT
17214	CAMK2A	TTTTCTGAGCTCTCCCCAATCA
17215	SHFM3	AGACATGCTACAATTTTCATTTTTGT
17216	UNC13	TAGACACCTCTCCACTCCTCATCCCA
17217	ANXA4	TAAAACGCCTACAGCTGCCTCCT
17218	WWOX	GTACTTGTCATAGACTCCTTT
17219	OGG1	CCCCACCCAGTCTCATGTTGGGGAGGG
17220	CCNDBP1	TCTTCTCTCAGCTTCCACTGCC
17221	IRTA2	GGGCATTGGAAGCTCTCTCCA
17222	LAG3	TCTGGTCATCCCTCCCCACCCTCTCTC
17223	VHL	CTTCAAGATGAGCCTGGGCTCATAGTGAG
17224	CLN2	CTTCCAATTATATTTCCCAA
17225	EML1	TCTGCAACGATGACAGCGCTTCTGC
17226	CRSP9	AGCAAAGTGTTAGCTGCTGTTGTAT
17227	PDYN	GAGCAGCTGAATTGGCTGCCAAGA
17228	HMG20A	ATGCTATCATAGCACACTACAGCC
17229	EIF5A2	AGAAACAAACAAGATAGCTTCA
17230	SPR	CATGCCTGCTGCCCTGCCCTC
17231	ZNF140	AAAAGCAACTGTATAAATGAATGTA
17232	SCRT1	GGAGAGGGGCGGACGGCGGC
17233	CD74	ACAGGGGCGTGAGGTCCCAGGAAG
17234	RGS16	GCAGGGGTTTCAGCCTGACTGTC
17235	STAT6	TATGAGAGGGCCCTGCCTGCTGC
17236	P2RY4	TGGGTAGGGGCCAGGCTAG
17237	NID	AGACTTATACACCCCTGAGTGA

17238	MGAT3	ACCAGCCTGGGCAACACAGTGA
17239	FOSB	CTCACATCCTCTCCAGGAAGGCAGTGA
17240	PCDHB9	GGTTTCATCATGGTGGCCA
17241	TCIRG1	TAGTCCCGGGCTGGCGGGAGTGCAGTT
17242	WNT7A	GGCTCCCTGGCAGGATGCTGAGC
17243	IL16	CCTAGGGAAGGGTGGTGGAGCCAG
17244	HSPA6	CGGAGCTGAGCAGATCCGAGCCG
17245	IL1RL1LG	GCCAGGAAGGGGGCCTGGAAGAC
17246	PCLO	TAGCATTTGATACAGTGTCTGTGA
17247	NR2E1	GCCTTGCAGGCTGGAGGGCGGC
17248	P2RY1	TACTACCTAGTTAAACATTTACTTT
17249	MAN2B1	TCCTGCTCCGGGGGCAGACCAGA
17250	LIMD1	GGTTCTGCTGTTGAGTCCTGGGTGGCTG
17251	ZNF268	ACTGAATTTAGTAACCACTCTGAA
17252	SHOC2	GGAATTTGTTTATTACAGCTCT
17253	SCGB2A1	TTTTCTTTCTTGTGTTGTCTTTTTAT
17254	GOT2	GCTGCTGCCACTCCAGCAAGGG
17255	ZNF76	CCTTCTGGCCCTCAGTCTGTTCCCCT
17256	HAS1	GCCCAAGATTCTTCAGTCTGG
17257	GABRE	GGTGACTTCCTGGGGCCAAG
17258	GAS7	CTTCCATTTCTGAGAACAAGTCA
17259	MOCS1	AACAGGCCTGCTGCTA
17260	HSD3B2	TCTGTCCTAATCATACACCAGAA
17261	GTF2I	CCCTCAGCCGAGGCTGCTCCGCGG
17262	PAK1	AGTTACCACCTCCTGCCTCA
17263	PCTK1	TCCCACAGTATTTTGTGCAATG
17264	PPP1CC	CACTGCCTAGTCGGGACTTGTAACATA
17265	RNF7	TCAGAAATTCTCTGTGAT
17266	HUNK	GTGACCAGAGACCACCTCTGTG
17267	MECP2	GCCCCCTCTTCCCTGGTAAGAAA
17268	EVC	AATCCCTGGCCCAAAGGC
17269	POLR2G	TCCAGTCTGGCTGCTGTTGT
17270	RASGRP1	TACTTTCTTTTTAATAGGACA
17271	SLC18A1	AGGGCTTTACCCTCAGTGAA
17272	ATP7A	GAGGCATCTGGTTACTGGTTAT
17273	SNRPN	CCCTGTCTTCCCTCTGGAGCTGTTT
17274	HTR2C	TTCTTGCTCTGCTCATCTACACA
17275	MC1R	CTTACCTCCCTGGTCCCCGTTTGTCA
17276	F2RL2	TCACCCAGACTGGCGTGCAGT
17277	PUM1	TTCCTTACAATCAGAGCCCCTCTCAC
17278	CYP39A1	TGTTGGGCCTCACAAGGACCAGG
17279	TERF2	CATGTCCTTGGCAGAGATGACAGGCA
17280	LETM1	GCGCTGAGGGGCCCAATGGGAG
17281	C5R1	CTGTAATCCCAGAACTTTGG
17281	HIP1	CTGTAATCCCAGAACTTTGG
17281	OASL	CTGTAATCCCAGAACTTTGG
17282	ASPH	ACTAGAGACCGCTCAGTGCTCTTA
17283	NOX5	TCCGCTGACACCTTCCCTTTCG
17284	TCF7	ATCACTTGAACCCGGGAGGCGG
17285	TNFSF15	ATTGCTTGAACTGGGGAGGCAG

17286	GSTM4	TGTTAGTGGTTGTATCTGCTTTGA
17287	MEOX1	GACCGAGGCGTGCAGCGGACAGCAGA
17288	PARG	TGCTGGTCCCAGCATGAATGCGGGCCCCGG
17289	G6PC	CTGCAACCTCTTCCTCCTGGTT
17290	DFFB	TCTCAAACTCCTGACCTCAGGTGATCCG
17290	NQO1	TCTCAAACTCCTGACCTCAGGTGATCCG
17290	SCML2	TCTCAAACTCCTGACCTCAGGTGATCCG
17291	RHD	TGGCCTCATGATCAGCCTGC
17292	STX1A	TTCCTCCGGCCCCAGGAGCAACCCC
17293	NRL	GTGCTCCTGCCACCTCCCACCTCTCTGAGGGC
17294	UBE2I	GATTTCTGCTCTGCTGAC
17295	GLTSCR1	CCTCAGCCTCCTGGGGACTCGAGCCG
17296	VPS41	GCTCACGCCCGTAATCCCAGGG
17297	PIM1	AGCAGCAACCACTAGCCTCCTGCCCC
17298	NKTR	TTGGTTGCCTGATGTAGAGCTCA
17299	CR2	AAGAACATCTTTATGGTAAAGAT
17300	MEF2A	CTACCCCCCAGGCTGAAGTGCAGTG
17301	TBX6	TGTGTGCCAGGCACCGTGCTGG
17302	ROCK2	CCCATTTTGAATGCCTTA
17303	CAMK2A	ACCCCCACCCTCTCCCCTGCC
17304	CDH5	GCCTATCTGCCTGGAGGCAAAGGCCT
17305	WNT10B	TCTCTCTCGATCACTCCCTCCCTTCC
17306	POU2AF1	GGCTCACTGCACCTCTGTCT
17307	SH2D1A	TTGAAGCTGTATACTGTGTG
17308	GHR	CAGAGTCTCGCTCTGTCGCCA
17309	RPA1	GTGGTTGTGGTGTAGACTGTGTCAGGC
17310	OSCAR	CCTGCAGCCCCACAGTCCTGCT
17311	WDR1	GACTCACACCTTGTGGCTGCCTTC
17312	FGF1	TCTCCAATTGCCTCTTGCAGGCTGAGT
17313	CASP2	CCAGGCTGGAGGGCAGTGGCAC
17314	ETV5	TTGGAAGCTAATTAGCCCAC
17315	ALDH3B1	AGGCCGAGGCAGGCGGATCACC
17316	DMC1	AGGCCGAGGCAGGTGGATCACT
17316	IL17R	AGGCCGAGGCAGGTGGATCACT
17317	GPR92	CTGAGATGCCTGTTCATCTGC
17318	DIA1	ACACTGAGGCAGCCTTGGGGA
17319	PTGER4	CCCGCTGCACCTCTTGTT
17320	KCNMB3	TGGGAGGCGGAGGAGGTTGCAGTGA
17321	EGFL4	GGGGCTGCCGGCCCTGCCAGTGC
17322	ACE2	TTTGTATTTGCTCACAGTGTT
17323	GALT	CCCAGTGGGCCTGTGGCATTCATA
17324	MMP14	TTGGTCCCTGTCCTTGCTGCCC
17325	SLC30A4	TCCGCACCGCGGCCGCTCAGCCT
17326	ZNF138	TCATAGCGGAGAGAAACCCCA
17327	LPXN	TAGCCTCTTCAGATTCCTTA
17328	ANKRA2	TGGGGCTTCCTCTGCTCTGG
17329	GRAF	CCGGGAGGCGGAGATTGCGGTG
17330	SFRP1	TATCCTGTGTAACACTTGGCTCTTG
17331	P2RY6	TGCAAACTGCCTTCTTGTCA
17332	LIG1	GGGCCTGGGTACAGGGCATGAG

17333	DLST	GGAGGATGCTGTGCCTCCCA
17334	AKAP2	GCTGAGAACCCAGCGATAAGGGG
17335	GAC1	TTGCTCTTGTGCCTCCTGGG
17336	GP2	TCAGGGGGTGGAGGTTGCAGTG
17337	TRIM14	CCAGGAGGCGGAGATTGCAGTG
17338	CD79B	GGGAGGCAGAGACTGGTCCAGAGCCC
17339	KLHL3	GTCTGCTGGGAGAATCAAGAA
17340	ADCY7	ACCATAAAAATTACCTGC
17341	RBMX	GGCAATTCTAGTCTTCCACAAAAC
17342	LPP	CCTACTTCTCTTATCTTTGATCGT
17343	COX15	CAGAAATGGGGAAATTGCAGATTTTGAC
17344	TTC3	TCTCCTCTTTGTGAAATCCC
17345	LZTFL1	CTAAATGAACACTGTCTACT
17346	PRKY	GGAGGCTGGGGCGAGAGGATTGCTTGA
17347	HMGCR	ACTGAAACATTCACACAGGGCTC
17348	MYLK	CCTGCAGCCCCTCGCACTACCC
17349	INHBC	CTGTTCCCTCTCTGTCTAGGTGTC
17350	PREP	GCTTCCCCACGGGAACATTATTC
17351	OPA3	ATTGCTTGAACTTGGGAGGTGG
17352	DNASE2	ACGGTGATAAATGCCTGT
17353	APAF1	CTCTAGTTGTCAGTATCTGAG
17354	LAMA4	GGCCAGGGAGAGGAGGTGGCCTAGC
17355	ZNF146	GAAATTTTTACTGGAGAGAA
17356	TMEPAI	CAACAGCAGAACCTGCCTCTCCGTGA
17357	ARF3	GATCTGGGGGTTAGAGTGGAGGAAA
17358	SOX11	CTGCCTAATTAGTTTTATCTGTTCCAT
17359	LBP	CTCCACCCTCCTCCTCTTCACC
17360	GALC	GCTATACTTAACAGGGCATCATAGAA
17361	TEM8	CATGCCATGCATTAAAAATCCAAAATTGC
17362	CYP26A1	CAAACCTGAGACTTATTGGAAGTGTAC
17363	TRHDE	CTACTGGGTGTTCCTCTCTAAA
17364	SLC6A8	GGCAAAACAAAAGCTTCGAG
17365	BRF1	GACACACACGCAACCTCCTGG
17366	MEN1	ATAGATTTATTTTTCAGTTCCAA
17367	RPH3AL	TCTTTGAATCCCCTCATGGCCT
17368	KMO	CTGAAATGTTGGGGTTGCTTGTTATA
17369	TOP3A	AGGAGTGACCATAGCCACTGCTGAA
17370	ERBB3	TCTTGCCTCGATGTCCTAGCCTAGGGG
17371	MT2A	ACAAACCTGGATTTTTTATGTACA
17372	JAK3	CAGGGTGGAGTGCAGTGGTAGCG
17373	CLECSF12	AATATAAAAAGTAACCAACCTC
17374	SEDL	AAACTCCTGACCTCAGTTGATC
17375	RAD54B	GCAATGTATTTCGCTCATCTGGACC
17376	MAN1A1	CCTAAATTCCTTATCATA
17377	CHEK1	AGCATTTGTCTCCCACCTCA
17378	GUCY1B2	TCCCTGTGGGGAGTGCAGGGCCAG
17379	MYO1D	GGGTGAGGGCAGCCCTCAGGGTCGGC
17380	RDX	TTCAGTTCTGTGTACATTTTA
17381	MMP25	GGCCTGGTCATTGCCTCCTCAGCACTCCCTCC
17382	B3GAT1	TCTTCAGAGCCACAGACCTCAGGGTGG

17383	DLEC1	ACTGCCAGGAGTAGTGAGCTGTA
17384	TSC1	TCCGGAGTCCCTGCAGGTGAATAAACA
17385	FMR2	TTGTGTGTGGGGATGCTTACC
17386	GAD1	TCCTCTCACCCGACAGCCTGC
17387	LYPLA1	CCATACAGATTAATATGTAGCAAAAAT
17388	HMG20B	CATCCTGCTCTCCTCCAGCCGAGGG
17389	MEFV	CTGCAACCTCCGCCTCCCAGGT
17389	PCDHB9	CTGCAACCTCCGCCTCCCAGGT
17389	PIGR	CTGCAACCTCCGCCTCCCAGGT
17389	RHD	CTGCAACCTCCGCCTCCCAGGT
17389	SEDL	CTGCAACCTCCGCCTCCCAGGT
17389	SLC15A1	CTGCAACCTCCGCCTCCCAGGT
17389	SS18	CTGCAACCTCCGCCTCCCAGGT
17389	TMC1	CTGCAACCTCCGCCTCCCAGGT
17390	CDYL	CCTCCCCGGCCACGCGGAGAGCTGTACAGTGT
17391	GNB2	CGGCGGGGCTGGGGCCACTGAG
17392	GNAI1	TTGTCACTGGGTTGAAGTATAT
17393	DES	TACTGCAGGGCCAGGACTGAGCCC
17394	GRIN2A	ATGTTGGCAATAATGATGCATTG
17395	G2A	GTTGCCTGGGCTGGAGAACAGT
17396	BLMH	TCATCTCTAACAGCTCAGGAT
17397	SYNGR3	GCTTTCCCCTCTTGGGCC
17398	TAX1BP1	AGCGGATGCTTTCATGCACCCTT
17399	C1QG	GTGTGGTTCCTGGGACA
17400	FUT1	GCTGTTCTTCAACTCCTGGG
17401	GTF2F1	GTCTCTCTTCAGCTGTGACTT
17402	GRM1	TGGACTTTTATTCCTGTGTCTT
17403	CHRNA2	CTCTGCACCAGCCGGCCCCCAGG
17404	CRYAA	GGTGCCTCCTGACACACCTGCAGCCT
17405	PRKCH	ACGTTCTGTCAACTGTGCTGTGCTCTT
17406	ADAMTS9	AGTCTACCAGTGACCTCAGGGC
17407	SERPINB9	CACACACCTACTTTTCTGCTTCG
17408	FADD	GATATTTCCATTTCTTCCTCA
17409	EYA3	GTGTGGACTGGATGAGGAAACTAGC
17410	KLKB1	CGCAACTGAGATCTCCATGACTGTGTG
17411	EHD2	CAGGCACGCGCCACCACGCCCAG
17412	GNA14	AGAAGATGTGATTTGCAAAC
17413	PTGIS	TAGTCTCTTCTCAGAGCAGCACT
17414	JUP	TCGAGACCCAAACCCCCAAAAT
17415	ABCC1	CTGTGGACTGCAAGTCTTTGAG
17416	LIMD1	ATCCTAGCAACAGATTTCTC
17417	PFKFB3	GAGGCTGTGCTTCAGGTATGGTACAAT
17418	CHST5	GACTGCATGGTGGAGAGGGAGCTGGGG
17419	P2RX4	CCTACCCCACACCTGGGCTCTCCA
17420	RAB4A	GGAGGGTGGAGGGCCCTGCGCCTGCGC
17421	TBL1X	CACTCACTGAAGTTTTGCATTC
17422	ELA2	CAGCTGCCCACACCCACACTCT
17423	HCN4	AGCCGGGCCCGGGAGGAGGT
17424	FGF1	GATACAATGTATAAGCTACTCACTTA
17425	MDM4	CTTTATGCAGCAGTCAGGTACA

17426	MARK3	GCGGCGCTGTGTGGAGGCCCGCGAGCT
17427	RBBP5	TTTCTCACTTTGCCATCATGTGGCCTC
17428	PAG	ATACCCTTGGATTAGAGAGAAG
17429	CUL3	TTGATGCTCAGTTTTAGGGTCT
17430	PACE4	ACTGTTCTCATTTTATTGCTAGC
17431	SVIL	ATCTTCATACACGTTTGGAAATGT
17432	HYOU1	GGGAAAAATCACTATTAATTTCTG
17433	ICAM1	GACCTTTTGGGCTCAAGTGATC
17434	PCDHA1	ACTAGTTATTACAGCTGTAAG
17434	PCDHA10	ACTAGTTATTACAGCTGTAAG
17434	PCDHA11	ACTAGTTATTACAGCTGTAAG
17434	PCDHA12	ACTAGTTATTACAGCTGTAAG
17434	PCDHA13	ACTAGTTATTACAGCTGTAAG
17434	PCDHA2	ACTAGTTATTACAGCTGTAAG
17434	PCDHA3	ACTAGTTATTACAGCTGTAAG
17434	PCDHA4	ACTAGTTATTACAGCTGTAAG
17434	PCDHA5	ACTAGTTATTACAGCTGTAAG
17434	PCDHA6	ACTAGTTATTACAGCTGTAAG
17434	PCDHA7	ACTAGTTATTACAGCTGTAAG
17434	PCDHA8	ACTAGTTATTACAGCTGTAAG
17434	PCDHA9	ACTAGTTATTACAGCTGTAAG
17434	PCDHAC1	ACTAGTTATTACAGCTGTAAG
17434	PCDHAC2	ACTAGTTATTACAGCTGTAAG
17435	SLC7A8	CTGAAGCCCAGTTCCTTTCCC
17436	LHX3	GTGTCCAGGCTGCACCCACAGATG
17437	TEM8	AGGTACAGTCAGGGGAAAATAGAT
17438	LSP1	GTACCCAGGGGAGATTCCA
17439	IL16	TCTGGTCTCTAGGCTGGGGAA
17440	DLC1	CTGCTTCCTGTTTGTTGAGGG
17441	AP1S1	GAGGGGGAAGTGTCTGCCTTT
17442	CROT	TCAAAACAATTGTTGCAGCAGGCT
17443	ZNF36	GATTGGCTCCACGAAAGTGATAC
17444	UQCRC1	CAGCACTTCGGCTCCTCTAACCTGTG
17445	BSN	TTTCCTTCTCTCCTCCTTTATT
17446	GAS7	ACCCCTGAGGTAAACACTCCACTAAGCT
17447	KERA	AATGGGTATGGAATGAATCA
17448	RPL38	GCTGCTTGCTGTGAGTGTCTCT
17449	MAP3K11	CCTGTCTCAGGGAATTGCCTGCTGGGGTGA
17450	CNTNAP2	TAGGGAGGAGGGAATTACTAGGGA
17451	TLR4	CTGAGTATTTTTCTAATCTGACCAATC
17452	MAML1	CGGCTTTTCTCCCAAAAATCGGCTGA
17453	RSN	TAATCCAGAGACTGACTTCACT
17454	TSC1	GTGACCACAGGCTGGTGTGTAGGTG
17455	B4GALT5	AAAGTGCTGGGATTATGGGCGGGTGTG
17456	HPS4	AGGAAGGGAAGTGGAACTTTCCAT
17457	VDAC1	CTGTGTGATTGTAATCACATGGTGA
17458	NPTX1	TACTGCACTGCCTGGCTC
17459	PDGFRA	GGATCCTCAGTTCTCAAATGT
17460	RUNX1	TTCGTGCGTGGGCTTCTTTCTC
17461	GRIN2A	GGGAATACTTATGCATGGGGAG

17462	MYCL1	CTTCCCCAATGCTCCATCCCAAC
17463	COPEB	CCTCCAGGGCCTCTCCTTGG
17464	SLC3A2	TGTTACCCAGGCTGGTCTTCAA
17465	SULT1A3	GGAAGCAGAGGCTGGAGGATCA
17466	SCD	ATGGAAACTACAAGAGTGGCTGGTT
17467	ACADS	TGTGTGACTGACTGTGGGT
17468	DSCR1	TGTTGTAGGAAAAGCTGTTC
17469	GNA11	AAAGGCAGCCTTTTTCTGGCCT
17470	ADCY6	GTCACCCAGGCTGGAGTGCAATGGCGC
17471	IL12RB2	ACTTGAATTCCTAGTAACTTTCTTGG
17472	CBFA2T2	TCACTCAGGCTGGAGCACAGTG
17473	EIF2C1	CACCAGCCAGAAATCTCTGATAT
17474	SOX11	ACTCAATAAAAGCACAAAAGTGCA
17475	HYAL1	CAGCCACTCTTCCCAGAACATATGTCAT
17476	HIS1	TTAAATTTGTCAGTTTGCAAAA
17477	PAFAH1B1	CCTCACAACCCTGCTTACA
17478	PTGES	ACTGCAGCCTCCGCCTCCCGGG
17479	PAG	CAGCCTCTCCCCAAAGTACTTGAA
17480	MAL	TTGGGAGCTTGCTGTGTCT
17481	ACE	ATCAGCCTGGCCATCTGGATTTTCACA
17482	PFKFB1	CTGCCTTGGCCTCACTGAGGC
17483	EIF2C1	TCCTATTTAGCTAAGCAGCAGTG
17484	FGF5	ACACTCCTTCAGTTCAG
17485	KISS1	CTGCCCAGGCCAGGACTGAGGC
17486	SLC1A4	GAAACAATCACATTGTT
17487	COL18A1	AGCCAACACGCACCTGCCTCA
17488	SSTR2	GGCACAAGAGGGTCGAGGAGCCAG
17489	CDKN2D	GCTGCTGGGGCCTCAGACGAGACCC
17490	SURF6	GAGGTGAGCATGAGCTTGA
17491	EXT2	ACCATTTTAAGAACAGATGACTC
17492	CUTL1	CTGCGGCCTCCACCAACCCCGCGGCC
17493	PRX	TTCCACCCTCTGCCCCTTCC
17494	MNT	GCCCCCGGGCCTGCACAGATACC
17495	UCP3	TTTCCTACAAAATGGAGGGAG
17496	MSL3L1	GCTTCGAGCCTGACCCCACCA
17497	PODXL	TCTCCTGACTCTCCATCGCTCTGTC
17498	KRT7	CGGCCCAGCCACCATGTCCATCCACTT
17499	CRYZL1	GGAGCAAGAATCACACTCAGGC
17500	HR	GCCCGGTTGGCGTGGGCCAGA
17501	MORC	TCCTCTTGAAGATATTGAAAAAG
17502	PPP2R2C	AAAAGGAGAGGAAGCGTTCACC
17503	DSCR3	TCACCCAGGCTGGAGTGATCTCAGCTC
17504	CBS	TCCCCTGGCAACTGCTGATC
17505	SET	TGAACTTCAAAAGCTTTTTGATGTAT
17506	FGD1	GTCTGGGACTACTGGCTGAAG
17507	SRR	AGCCTGGTTTGTCATCCCTGCCCTAG
17508	HMGA2	ATTGGGTTTAGTCAATCA
17509	MMP19	AAGGGAGGGAGATGAGAAGT
17510	ATF5	CACTACAGTGTCGCCGCCTCTGCCTGC
17511	NSF	TTTCTAGCCCTCTCCCTCAGTC

17512	EXTL3	CAAGAAACAAGAGCTATGGCATTT
17513	MFGE8	CTGCCTCTTGGCTTCTCAGCCCCTTT
17514	DMC1	AACTATACATTGTATGTAAATTC
17515	RGS1	AACTGATTACAACAGACTG
17516	SLC10A1	GAAGGCATCCAGCAAGA
17517	IMPG1	ACTGTAGTGAGTGTATATATGCTC
17518	DNTT	AGAGGCAGCAGCAGCCTCTTCC
17519	CD2AP	ATTGCAAACACTTTTTAAAAA
17520	SERPINB6	TGACACTCCACAGTGTGCCTGCAAC
17521	NRP2	TCTCTTCCCGGCTTGTTCCCTCTTTGCTGA
17522	CYP1B1	TCATAAAGTCAGTTGCTCAAAAAGA
17523	P2RX7	TGCCGGCCTGCTGCAGCTGCAGT
17524	POLH	CACGCCTGTGATCCCAGCTACTC
17525	RPN1	GGGAGGCAGAGGTTGCAGCCGGCTGAG
17526	ZIC2	AAGTCTCCCTTCTGTTTCTTCAGCA
17527	CMRF35	ACTGCTTCCTCCACCGTTTTCAC
17528	GPR56	CTCTGCATCCTCTGTCATTTTA
17529	LPP	TCCTTCTGCAACTGAAATTACATATT
17530	GPR55	TCCGCACCATCTTCACTGATGT
17531	CENPF	GCAAGTTTATTTACAAATGTTG
17532	HSD17B1	AACCATGGTCATGTGAGTTATGAGCT
17533	CDSN	CCCATTCCACCACAGTGCCC
17534	COL6A1	CCGTCTCCTGAGGGTCCTGCTGGT
17535	TNS	TTGCCAGCCACAGCTGCTGCCTC
17536	TAF11	CAAGAGAGTTTTGTTTTGTTTTGGTT
17537	NONO	TCTTGAACTCCTGACCTCGTGA
17538	SNRP70	CCCTTGCTGTCATCCCCT
17539	DAZ	GTGGTGGGTGAAACACTGCCT
17540	TRIM37	CAGTATGGGAAGAGTTCTTTGTAAT
17541	CRHR2	TCAGAAACATCTCTGCTCTCTGTGAA
17542	XPNPEP1	CACACTCAGGAGACACAGGTGT
17543	IFNA8	TAGGGACTTAAATTAGTTTTG
17544	TGIF	AACAGCTTCCTGTTACTGAGATGTCT
17545	DLG3	AAAACCAAGCAGAAGTGAA
17546	AMBP	GGGATATACCAAGGCAGAGGAG
17547	HIS1	AAATACTGGATTTATAAAGCAAA
17548	SVIL	CACTTCCTAAAGTTGCAGAA
17549	PCK1	GCATGTATGTGCACATGTGT
17550	MAPRE1	AAGTTTGCTGCTTAGAGTTGGAAGTGC
17551	PACE4	TTTACCTCCTTTTCTCTTTCA
17552	KCNN4	GAGGGCACAGGGCTCTGCTG
17553	HPSE	CTTCATTCTCAGACTCTGGTAGC
17554	COL19A1	TGCCTATGTAATTCAAAG
17555	MLANA	TTATTTCTCTCACACTTTTGCTTGAATT
17556	PRDM4	ATAGCACGTGACCCTGGAACGC
17557	PIGN	AACAAATTCTAATGGGC
17558	ATP1B2	ACTGCAACTTCCGCATCCCAGG
17559	SLC31A1	CAGAGGTTTAGTTTACAGTCT
17560	RAB31	GTTGCCCAAGGGCGTGGTCCACGGT
17561	TDE1	AACTCACAAAGGTCTCCTTCACCG

17562	FUT3	AATGAGGACTTCTGGAACAT
17563	EPAC	TCGAGTCCCTGGAGCAGGCAGT
17564	RBM8A	GGGGGGAACTAGGAGAGCAGGAGTAGA
17565	TRIM14	TAGATCCAGATGTTGCCAAGG
17566	HYAL1	AGAGGCACCAGTCCAGCAAATAAAGC
17567	KCNJ13	TTTTCAATGCTAATTATAGCT
17568	DNASE2	ACGGGTGGGTGCAGTGGCTCA
17569	DHFR	GGAGGCTCAGCAGCAGGACGACTTGAGCC
17570	MAGEA3	GAGCGTCAGCATCCAGGTTTATGA
17571	TFRC	GAAGGTTTGGGGGCTGTGGGG
17572	IARS	ACCAACAACAGCAGACTTCT
17573	CCR9	CAGAAACAGTTTCCCCACTGATGGG
17574	MSN	CTCTGTTTGACAAACCTCTAACCCA
17575	ROS1	AAAATGGAGAAAATTAGACCGG
17576	RNPEPL1	GGGAGGCACAGGGGCAAAGCAATACCC
17577	IL6ST	TTGTTGGCAAATCAGATGCAGCT
17578	POU4F1	GCCAGGTCCTGGTAGAACCTTT
17579	HAS3	GAGTTAGCACTGAACTGCTTT
17580	MAFF	GTTAAAAAATATTGCCCGG
17581	HD	TGTCTGGTGGGTGGAGTCAGGCTTCTCT
17582	NKTR	TACCTGCACTGTCTCTGAGGACTTAC
17583	BTNL3	AAGTCACAACCTCCCAGGCTCCTCA
17584	SCD	TAGCATGCTTCCTTTCTCTCCT
17585	IL26	ATTCTGAACATGTTTTGTCATTCACA
17586	PMX1	TCTTCTTCTGTTTGCCTAACTCCCCCG
17587	MAGEA2	GCTGCCTCTGCTGCCGGGCCTGGACCA
17588	GALC	CCTCATCTCACTGTGCTGTGGTCTGTC
17589	KCNA7	GCAACATGGTGAGACCCCATCT
17589	RABIF	GCAACATGGTGAGACCCCATCT
17590	RECQL5	GCAACATGGCAAGACCCTGTCT
17591	TCF7	CTCTGGCCCCAGGCTTGTCACT
17592	CCNF	CGGCTGGAGTGCAGTGGCATGATCTC
17593	NAP1L4	GGCCTCGGTCCTTGCCGCA
17594	LIFR	TCGAGGTGCAGCAATTGCTTGG
17595	PDE4A	GGAGCTGGGGGAGCTGTTC
17596	EGFL4	TGGCCATGGTGTGTGCAGTG
17597	PAX2	CCCGCCGGCCCTGCCTGTAGATACGC
17598	LAMB3	CTGAGCCTGAGCCAATGGGAC
17599	SREBF1	TCTGCCCCAGAGGCCTCTCTC
17600	TMEM4	TGGGAGCAGAGGTGGAGCGA
17601	CD5	CTCATCTAAAGACACCTTCCTTTCCACT
17602	CNTNAP2	AGAGAGGCATTAAAGAACCAGGGAA
17603	GALT	CCTATTTGCTGACCACACTCCGGCT
17604	CLCN3	CTTTTTTGTTTTCCTCTCAGACT
17605	SLC22A3	ATGGGAAATAAGTGGTCCACCT
17606	PMM2	CAGGTGCTTTCATCACAGCTAAACCTG
17607	DAG1	AGCACCATGTGGAGTGGAGGTGGA
17608	GPR44	GGTCCTGTGTTTTTTCTGCCA
17609	HLCS	CCAGTTTCAGATTTACTCTGAA
17610	ADAMTS4	TTTGGGAAAAGAAAAGTCAAGGG

17611	NARS	CGTGGAGGAAAGATTATGAA
17612	PLA2G5	TTTCCTGAGATGCACTTACTTCTC
17613	PPP2R1B	TATATCTCTGTGTCTCTCCA
17614	NCOA6	GGGGTTTCGCCATGTTGCCCAGGCTAG
17615	ASK	TGAGCCAAGATTGTGCCACTG
17616	RAD52	GACTTGGTCCTAAGCACCTGCCTCAG
17617	NXF5	CTCTCCAAAAATAAGCTGGAGT
17618	PCDHB13	TCCTTTCCTCATTCATCCTGGAGAGGA
17619	MEF2A	ACTGCAACCTCCGCCTCCAGGTTCAAG
17620	FLRT2	TTCTTGGTCTTGTCAAACCTTGCCTGA
17621	SLC26A4	TCTTAGTCTATAGAAATGATCAT
17622	LILRB4	CTGTTTGCAGAAGCTGTTTAGA
17623	TRPV2	AGGACCCTTGACATCTCCATCT
17624	PTPN13	GCATGTTCTCCTCTATCTTAG
17625	USP6	TGGCAAAAAGATGGCAGACACAA
17626	S100A1	AGCCACATTTGCAACCTTGGCCATCTGTC
17627	TNFRSF10C	ACTCTCTGCCCTGCCTCCC
17628	PSAP	CCTCCCCCATTTCTGTGTCCT
17629	ACLY	ATTCTGGGCAGCTGCCACCTCA
17630	STAT6	GCCTCTCTGACATATGCTAACCC
17631	LMO7	TAGGTGTATGTGTCTGACCTCAGGCCT
17632	KCNA6	TCTTCCATTGTGAGACCACTGC
17633	ARHA	CCAGGTTCCCTCCCAGAGGAGC
17634	C18orf2	ACTTTAGAACCTGAGATATG
17635	CRY2	TGTCATTGTTCCTTCCCCAGA
17636	GPRK6	GATCTTCCCCATTGTCCACTCA
17637	NFIA	CTGTTTTGACAGAAACTGACA
17638	GLO1	TGCTTGTACTGCTAGAAGCACTTT
17639	TGFB1	CTGGGAGCCGGAGGCGCGGGGACCTC
17640	CLOCK	CTGTCCTCTGCTTTGCTGTTATCC
17641	LAG3	CCCCCACCCCCCACCA
17642	M11S1	AACACATGTAAAATGCTTTTTAACAGC
17643	VENTX2	AGGGAAAGCAGGGCAGCCGGGAC
17644	SCN3A	TTAACTTCCATATCTGCCA
17645	TEM7	CTCCCCTGGACCCTTGCTGGTGTCCA
17646	BCS1L	CATTTGGGGAGAATGAGGGAG
17647	TCF12	GGTATCTTGGCTTAATAATTCCTTATA
17648	SLC22A12	CTGCCCGCCACATCCTCTGCCTGCTGT
17649	CD79A	AGTGATAATAAATTCTTCC
17650	LEP	TTTGGGGTCAGCCAGGGCCAGG
17651	P2RX3	GAGCACTCTCTCAGCATGAAC
17652	TIAM1	GGCAGGTGCTGACATCGTCCCC
17653	DRD1	TCCTGTCACCACCAGAAAAGCAA
17654	MUC4	GGCTTGGCATCTGCACTCCAGCCCAGG
17655	SH3GL3	AATTCACACCAGTGTGCTCTCAG
17656	NOTCH2	GTCTTAACTGTTGAGCCTTTCCTTTCAT
17657	PIK3CD	GGCTCACTGTAACCTCCGCCTCC
17658	PRDM2	CTTTGCAGAGAACCTCAGATCAGG
17659	SLC24A1	TAGGATTATAAAGCAAGACTGA
17660	COX15	CGAGTAGCTGGGACTACAGGCAC

17660	MHC2TA	CGAGTAGCTGGGACTACAGGCAC
17660	RAB36	CGAGTAGCTGGGACTACAGGCAC
17660	SHOX	CGAGTAGCTGGGACTACAGGCAC
17661	CRSP6	CGAGTAGCTGGGACCACAGGCAT
17662	B3GALT3	AGTTATACTGAACAAAATTTT
17663	TRAF1	GTGAACAAGCAAACCCAGAGGGCTCCA
17664	GM2A	TTTGTCACCAGGCTGGAGTGCAGTG
17665	TXNRD1	TCAACTTGCATTATTATA
17666	SRGAP1	TCATTTACACATATTTTTGCA
17667	FAT2	GTCCAGGCTGGACACCTGCCATTGC
17668	KRT15	GTACCTCCTGCCAGCATCTCTTGGGTTTGCT
17669	LRP4	CTCAGTGCCTGCTTCTCAGTGCT
17670	PRKCH	TTCTCCAGGAATTTCCTCTATGG
17671	PPP2R1B	GCTCAATTTTGTCTGTACTCA
17672	EXTL3	TCTAGTTGCCCTCTACCTGACTC
17673	MPL	ACCCAGGCTGCAGTGCAATGGCGC
17674	GAC1	GCTTGCTCTTGTGCCTCCTGGGCAAGGGC
17675	FES	GGACTCCTGCCACCAGCATCCA
17676	SPAP1	ATCAATATTCATTGAACTGCTGCTA
17677	SLC15A1	AGCTATTTTTGTATTTTTAGT
17678	ABCC3	CACACTCAGCAACCACACGGATCTGACA
17679	FBXL7	CAGCATTCCTCAGCTCTGTGACTTGTG
17680	EZH1	AACTTTTCACCAGCCTTTGAGAG
17681	EHD3	AGTGTTAGAGGAGGAGATGGGA
17682	GYS1	AGGGAATCCGCCTGCAGAGGAC
17683	Rgr	CCCATCTCCTCCTATGCCACCT
17684	RBBP2	TGCTGTTGAATAACACCATGGCT
17685	SLC25A15	CATTTTTCTACTTTGCTTTTCTC
17686	FUT9	TCATGGAGTGAATAAGAAAGA
17687	ASB1	GGCCTGGATCCCTACCGGCTGGGATT
17688	HNRPH1	GGAAATCAGGATTGTTATG
17689	COG5	AAATCCTGATGCCCAACTTGCA
17690	IRF6	GGTGGACAGATTGAGCAAAGA
17691	SLC12A4	CACCATCAGAGACGAAGGGAAG
17692	CLCA2	GCCCTTATAATGCCTTA
17693	EGFL3	CAGCCCAGCAACCTGTCGCTCTTGGAG
17694	CLDN3	CAGGCCATCCAGCGTGCAGCCT
17695	NEU3	GTGGAAAGAGCACTGAACTAGG
17696	GRAF	TAAAGAATGCCATGGCCGGGTGC
17697	MAPK8IP1	CAGTGAGGAAATGGCAACAC
17698	TFAP4	ATTCGCCACTCTCCCACCCCCCAG
17699	GRM1	CCTTTTTACCACCAATAA
17700	CNTN3	ATTATTTTGTTGGAGAGGA
17701	SHANK2	GCATCCTCAGTTCTGTGCCCAGC
17702	FUT4	AGCCATAGTGTCACTTCCACACAAT
17703	HK1	CTCAAAACTCTACCACAACCTG
17704	RAB36	GATCTCAGGTGACCTGCCCACCTCG
17705	ALX4	GGCCTGACCCTCAGCACTTT
17706	MADH7	CTGCGCCTGCTGCCCCAACTCGGC
17707	DDX9	GTTGTTATCTCCCTCCTGGCC

17708	CCR3	AACTGCACGAAAGTATCTTTCTGAAA
17709	SIM2	GCAGCATTTTGCTGCTTTATCAAA
17710	MKL1	CGCAGGGCAGAGGAGAGCAGCTGTCAA
17711	MEFV	GCCTCTCCTGCTCAGCACCATG
17712	OAS3	CTTTTGGGGGCTTCCCGGTCTA
17713	PLAG1	TACTACATTTTAAACATTCACATC
17714	PTGER3	GTCCTGTTTCCATACATGTTTT
17715	UBL3	GCACAGCACTAAAGCA
17716	PDE4A	CTCTCCCTCTCCCCCAGCT
17717	ATP1A2	GAGGTAGGGCTGGCTGGAGGAA
17718	FBN1	TCCAATACTTCATTAATTTCA
17719	BACH1	GTCGTATTATTCACTTGTA
17720	SNX13	AACCTTATACCTGAATTACAGTTT
17721	PCSK1	CTCATTACTTTTCCATTCC
17722	EIF5A2	TACATACTGCTCTAGTTTCT
17723	MKKS	CTGGTGCGCAGGTACACTGATGC
17724	ALS2	AACTGCAGTTTTAACTTTTT
17725	TRPS1	TCAATTTAGTCTTCTCTCATTGGCCA
17726	GALNT7	CCATTGCACTCCAACCTGGGTG
17727	CACNA1S	TCCAGGCCTGTGACACTGGC
17728	ZFP161	TGGTGAGTGGTTGACCAAGAAC
17729	BAPX1	CCACATCTTCCTTCTCTGAAGTCCAG
17730	SCN2B	TGGGGAGGCAGGAGGCACATGTGAGG
17731	EXT2	ACTCAGAAACCTCCAGAGGAA
17732	TP53BP2	TGTAATAAACTTTTTGATGCT
17733	MID1	AGACCTGTGAAATTTCTTCACTACAT
17734	EYA4	GGCAAAGCAGCAACACACATGC
17735	TNFRSF8	AGCTTAAGTGGGCAGACACTG
17736	PDE4C	TGGTGGCGGGTGCCTGTAATCCCAG
17737	C5R1	ACCAGGATATTGACATTGATACAG
17738	SIGLEC9	AAAGCACACAGGCTTTAGAGTC
17739	PREB	CTGTGTGACTCCAGGTCCCAGGAACCT
17740	DACH	TGTCTAAGAAAACTAGCTTAAA
17741	KLHL3	AGATGCCACCAAAACCTGCTAT
17742	EVC	GCTCTCGAACTCCTGACCTCATCGTCCA
17743	IL12B	CCAGGAGGTCAAGGCTATGGTG
17744	ABCD4	CAACAGCAAATTAGACAAAACCCA
17745	TNFSF10	CTGAGGCAAGAGAATTGTTTGA
17746	ATM	CGCCCAGGCTGGGTGCAGT
17747	NEU1	ACTCTGTGGAGTCTAGCTGCCA
17748	ZNF189	TGTCATTGTTTAAGAAAGCCATTTGTT
17749	FLT1	TGACCCTTCTACATTTGAGGGCCCAG
17750	GSTT1	CACAGCCGCCTGAAAGCCACA
17751	CALB2	AGCCTGCACACACCTGCCTGCA
17752	CSE1L	TGAAGGCATAAAAGCAGTTGA
17753	RNF3	TGACCAGCTCAGTGCTGGTTTA
17754	AMPD2	CATGTCACTGTCCCTGGGCCACCCAG
17755	PDE4C	GCCTGTAATCCCGGTACTTTGG
17756	FABP6	CTCAGCACCACCCATTCTCCTCA
17757	SRGAP1	ATCACTTGAACCCGGGACGCAG

17758	HIS1	GTAGGGAGGCCCTGAGAACTAAATTTT
17759	TNFRSF10B	GGCTCAGTGCAACCTCCGCCT
17760	CA12	TCGGCTCTCTGGACACTTGCGACACC
17761	OPHN1	GGTTTTCTTGGGGGAAAATACCACAATC
17762	ENIGMA	TCCCTCCACCACCACAGCACACCGGTG
17763	PAG	AGACAACCCTGGGTAGCCTGTG
17764	EGFL5	TGCCTGTAGTCTCAGCTACTTGG
17765	SFRS2IP	TGCCTGTAGTCCCAGCTACCTGG
17766	PKHD1	ATCAAATTTGCACTTCATGA
17767	TBL1X	TCATGTCCCAGAAGACCAAAAAG
17768	ITGA3	CGCTATTATCAGATCATGCCC
17769	UBE2A	AGAGGTGTGGGAGCAGAGGAAT
17770	MATN3	CATTGCCATTTTTAATTCATTCTGGTC
17771	IMPA2	GGTGGGGAGCGGAAAGCAGGA
17772	APPL	TGGCAATGAAGTCAGTAGATAGG
17773	DGKG	ACCACAGCCTGGCAGCCTGGTCTCCG
17774	CYLN2	CAGCCTTGGCCCTGCAGCCT
17775	GJA1	TTTGAACCTTTCTCATGGA
17776	TCP10	TAATTTCTTGAAAATCTTATCA
17777	SLC25A15	TCAAATATCAGAAAAACCCAGAG
17778	RGL	AGCCATATGTGGAATATTGACATGTG
17779	SLA	GCAGTATCTCTCCCTGTCTGTCT
17780	KCNJ5	GTACAGAGCGTACAGCCCT
17781	MYL3	GCTTACCTGTGACAGCAGCTCTGT
17782	AMPD3	GACATGCATTTTAACTTTTT
17783	SRR	CAGTCATTTAGCAACACTGCAGAAATG
17784	OSM	TGGATATTAAAAATCTGTAAA
17785	LAMC2	GTTCCCTTACATTTACTGGACC
17786	PACE4	ATTGAATCTACAACTCTGAA
17787	APM1	TGGTGGGGGTGGGCTCCTTACAGAAC
17788	TCF2	ACCCGAGCTGGAGTGCAGTGGT
17789	MCL1	TGAATTCATGGGCTCATCTTTAAAGCT
17790	SHANK2	TACTGTGTGTTGCAGAAAACTGCCTTC
17791	ATRN	GGCAGCAAATGCTGACAAGGATGA
17792	CD34	CTAACCCTTATCACCAGCT
17793	GRB10	CTGATATTTAAAGATCTTTGCTTGCA
17794	ECEL1	CCTGCTGCCCCTCACTTCAGG
17795	COL15A1	CAACCAAAGAAAACATACCTCAATACA
17796	STAC	GTGGGGAGGAGAAGTGGGGA
17797	BACH1	GCTTACTTTTTACCAGGAGTGCAGT
17798	KCNS2	TTGCTGAGCTGCCTCTTGTGCCTCT
17799	CLCN6	GACTTCTAAATGTTTCTGCTTCCCAGAA
17800	PRKACB	CTCACTTGGTACCAGCATTT
17801	OSR1	TTCTCTAGCCCATCATTACCTGTGA
17802	SRGAP2	AAAGGCATGGGAGAAGGTTGG
17803	RRBP1	GGTTTCCTCTTTGGAAAAAGAA
17804	IL17	CCCCTAGACTCAGGCTTC
17805	COLQ	TCTTGGGGACTCAGCAGGCTGG
17806	CDKN2C	TCTCTGAGAGGCAACAGAAGCAGCAA
17807	ADCY7	CTGGTCTGTAACAGTTTCCAGGCC

17808	SLC7A5	CTTACTAATTTAAAGATGCTG
17809	HTR4	TCTCCCTGTGTCTGGGTCCAA
17810	NIPSNAP1	ACAAGTTCTGAGGATTACAGC
17811	CAD	CATCCAGATTGCTCACATGTGCT
17812	p100	ATGTCCTAGTGGAGGGAG
17813	FGFR2	GGGAGGCGGAGGTTACAGTGA
17814	PHKB	TACAGTTTTTACATTGTA
17815	WISP1	TGAATCTTCTCCCTTGTCCTGCTTGGG
17816	SET7	CTACATCTTTATTCTCTAAATGTAGTA
17817	CHD2	TCTAGATGGCGGCTGTGCCTTA
17818	HTR7	AGTGCACACTTCCCATGCTTC
17819	ASB1	ACCTTCAGGCTGCACAGAGGCA
17820	P2RY2	GTCCAGGCGTGTGCATTCATGA
17821	MC1R	CCTGAGCAGCAGCCACCAGGGA
17822	LUZP1	GAAGCAGCTGCAGCTGATGGGGA
17823	PARN	AACTTCTGTTCTTATGCGTGGC
17824	ADAM8	CTTTGCAGGCTCAGCTGCTGTTCT
17825	PCLO	ATCTTAACTGCTGTATTTTCATTT
17826	UBE2H	TGTTTTCTGAACCAGTTCTT
17827	AQP3	GCCATCTCCCCACTCCGCTGCC
17828	ZYX	CCACCGTCTTCCAGACACCCCACCT
17829	SH3GL1	TCCATGGCGCCAGCCTCCTCCCCC
17830	SYT4	TCTATAGAGCAGTTTACA
17831	EBAF	GCTTCAGGCTGGGGGCAGT
17832	TACSTD2	CTGGGGCAGTGAAGGAAGGGA
17833	DIO3	AGCATTTTCTTACACCCCCTCCCCAGC
17834	CYR61	TCAGAATCATGGAGAAAATGGGCGGGG
17835	SLC17A5	CATGCCTGTAGTCCCAGCACTT
17836	SIL	CCCAAAATGCTGGGATTACAAGCGTGA
17837	POMC	TGCTCTCCCCTGCCCTGCTGCC
17838	CLCA2	TTACAACTGAAGATCATGCTATATTTT
17839	MMP19	TCTTCCTCTAGCTGTCTGGCTG
17840	GFAP	GGGGCAGTCACCTGCCCAGAT
17841	UBTF	TGCGGCCCAATCCAAGGTGGGGTGGA
17842	PPGB	CAGCCTGGGGGCAAGTTAGCACTTT
17843	VAV1	CAGGCAGCGGAGCCAGGGGCTGTGA
17844	RAB36	GCGGGATGGAGTCTCTGTCACC
17845	EVC	AAATGAGATATGGCTATTTGGA
17846	CDC6	CCCTGTTGCCCAGGCTGG
17847	PPEF1	TCATCCAGAACTGGTACCGAGG
17848	RFXAP	ATGGAATAATGGGAAAGGAGG
17849	TESK1	TGGTCTCAGGCCTCCAACTTTGGCCTT
17850	AIRE	CCGCTGCTCTCAGCTGGGCC
17851	GPR85	ACCAGCCTGTCACAACTGAGCAGTTC
17852	SPOCK	ATTGTAATAAACCACTTCCTCATT
17853	TNFRSF6B	GGCGGTGAGGATGCAGGTCCCAGCCAGT
17854	SHOC2	GCAGATCCACAAAACTAACAGGA
17855	GTF2H1	GCTCAGGAACTGCTTTTGATTCA
17856	CNN1	CATACTATGTGGATGTGACA
17857	MSR1	GCCTCTGTGTATCTCAGCATTTT

17858	SORCS2	GGCTTCTCCCACCTGA
17859	ADCY2	AAAAATGCAAATTCTCAGGCCC
17860	LIMK1	CTCTCCAAACCCCCAAAGCAGAGAGA
17861	APPBP2	GTACACAGATGGCAGTGCCAT
17862	CR1	TGACACCATTTTCCTGCCTCAG
17863	HOXB13	CCTGCCAAGCCCAGGCTGG
17864	HOXA5	CGTTTAAAGTACTGAGCAGTATTA
17865	POLK	GTAAGGGCTCTCAAAGATTCACACAT
17866	HSPA2	GAAGCTTGGAAACAGTAAA
17867	DUSP4	GACTGCTCAGAAAAATGAGGGAG
17868	KIF1B	CCAGCACTTTTCTAGCTCTCCCG
17869	OPA1	ATGTCTATCTCATTTGCTGCCTT
17870	PCDHB3	CTTGCATATTCTCCTTTCATCCTGG
17871	DRG2	GCTGTGGCTGCTGTCATGGCACC
17872	B3GALT3	TGGAAAGAGAAGAGTGAAGA
17873	PTPRK	ATTCATAGTAAAGTTCGTTTT
17874	AFG3L1	CAGAAGTGGAAATGGGAGTTA
17875	RECQL5	GTGATGATTCTGAAATCCAGGC
17876	NR2F2	GAAAGAGAATGAACTGTGG
17877	VCAM1	ACAATAATTTCAGGTTTTGTAA
17878	CLECSF12	GGCTCACCGCAACCTCCGCCC
17879	PPP2R5E	GGACATCACAGGCTTCAGTACCTGACCA
17880	NCOA6	CCCAGGCTGGAGTGCAGTC
17881	AGC1	GCCTGCCAGGCTGACGTGCATC
17882	VANGL2	TTCTCCTCCATTGGTCCCAGGC
17883	CYP4B1	CTGGGTCTGGGAAGTACTCTG
17884	PRX	CCTCTCGGGGGCAGGAGGGCGATGCAG
17885	AP2B1	CTTGCCACCTGCTGCTGCTATCT
17886	RTN3	GTACATGGAAACCAGAAATGCAAC
17887	HOXC13	GAAGGCTGTCGACCTCTACTCCTC
17888	SLC38A2	TACATTTTCAAAATGCAGTA
17889	AKR1B1	AAGTGACCTATACCTGTGTTTC
17890	CPNE7	GGTGGGTGGAGGGAGGGAG
17891	FGF7	TATACAGCTGTCACAAGAGTCTAGAT
17892	BDKRB2	CCCCTCACTGATGGACAAGGAG
17893	OCRL	TTCAAGTTCTGTTTATAGTAAAAAGG
17894	MOCS1	GTGCCACCACGTGGCCCTGAGCCAC
17895	RGL	ATGAGGCAGAGTGATGCACACC
17896	DPYSL2	TGTTGCATTGTATTCCAAACGTGTTT
17897	ATRX	CACAGCTGAGTTCTTAGAGTTG
17898	APXL	TCGGGGAGACGACCCAAGGAATTTCAGAGTAT
17899	FHL1	CTTCCCTTCTTTAAAGTTC
17900	DLEC1	CTGGTCCCAGCATCCAGCTGCCT
17901	SPS2	CCTCTTCTCCTCTCGCTTCCCTGCCGG
17902	PAICS	ACAGACATGAGCCACTGTGCC
17903	WISP1	TGGGCTGCTCGGTCGATGCCTGTGCCA
17904	EYA4	TGTTGGGGAGGGGAATGGGAGG
17905	TEX13B	AGAGAAGACCTCCAGTATATCGCA
17906	COPG2	TGAAAGCTCCTGGCAATGCTGGA
17907	GFAP	CCCTCCCTCCTCTGTCCCTAGGTC

17908	TTF2	CCAGCCTGGGCAATACAGTGA
17909	IL13RA1	AGTCAGATTGAGGCTGGGAGAC
17910	ITGBL1	CTCAGAATATCCTTACAATTACATG
17911	EGFL4	TGTGTGACCTAGGCTGGACATCAGAC
17912	RBBP5	TGGGAGGCAGAGGTTGCAGTG
17913	TRIM34	AAGTTTGCAGAGGCTGAGG
17914	ACADM	TATTAAAATGATGTGTTTTCTT
17915	RBBP9	TGTTTTTAAAAAGAACCTTTCCATACT
17916	ASTN	TGACAGGCCAGGGAGAGGGTG
17917	IL13	GGGGACATTGAACAAGTTGTTTCA
17918	PCSK1	CTCCTAGCTCTTCGCAGAGCAACCAG
17919	DAZ	CACTGCCTCTGTTCCTCCTTGAGCCTG
17920	TXNRD1	AGGCGTGTCTGAGCAGACGGGG
17921	HMMR	CAGCTTGATCCTGGAGGTCTTTTCTAGT
17922	MICB	TACTCTTTTGTCTTTCTCTTTA
17923	ROS1	GAGTTGAGATAAACACTCTCAT
17924	LILRA3	GGGAGATGCTTGCCGTGATGA
17925	PKNOX1	TGTTGCCCAGGCTGGAGGGCAAT
17926	SLA2	TGTTGCCCATGCTGGAGTGCAAT
17927	ESR1	TAACCCCTAAGGAAGTGCAGT
17928	ENTPD1	CACCTTTCATAATCTTTGCTTTAT
17929	ATP11B	AATAATGAAGATATACTCAGTA
17930	FCER2	CCCCTGCCTTCCCAGGAGTACACCCCA
17931	HPSE	AGTGCTAGATTTAGCACAGTA
17932	CDH19	AAAATTGAAAATGTATAGTCAGA
17933	IREB2	GTGCTCAACCCTATGCATTTT
17934	MLANA	CGAGACACCTGAGACATGCTGAA
17935	PAK4	ACTGCACCTGGACAGCCTCCTCTTTT
17936	LIMD1	GGTATTTCGATTAGAAGAA
17937	TBX5	GCTGGCCAAGAGCTTTTAA
17938	TMEM2	CTCTTTTGACTGTATATTTGTGTTT
17939	PPIH	GGAAGTGTCAGAGATTCAGAA
17940	DAAM1	TTTCGTGTATGCATTCACATT
17941	RAD52	CTTCCCTTGCTGGGAGT
17942	MRPS12	AAGCCATAGGAGTCCTGGGGGTG
17943	SON	GAGGAAGAAGAACCTCCTTT
17944	DGCR2	GCTTGTGCTCCCCTTGGAGAAGGGCT
17945	GPT	CTTCACCCACTGCCTCTGCCTCC
17946	JAK3	ACCCAGGGTGGAGTGCAGTGGTAGC
17947	PRPF31	GCAGGTCTTCATCATGCCTTGTCTTTT
17948	KCNQ2	TGGGAGGCCTCGGAAGCCAC
17949	CIT	CCCACCCCCCAGCGTCATCT
17950	CDC2L2	CAGGCTGGAGTGCAATGGTGAGATCTC
17951	RAD52	CCGCCGTGGAGAGCGAGGCCA
17952	MECP2	CCTCCCGGCCCTGCCTGCTGG
17953	SMAC	CCTGCAGGAGCGGTTATTGTGGCATC
17954	AIM1	GAGGTCCTTCCAGCCACCTTATTTC
17955	EDARADD	CTCCAAAGTCATCTTGCCAGTCC
17956	GNGT2	CTCTGAGGACAGTGTGGCTGG
17957	DNASE1L1	GCTCCTGCGCCTTCCCCAGCA

17958	EDNRA	TATTTCCTCAAATTTGCCTCAA
17959	ZIC3	TGTGATAAAATGTTAACAA
17960	MAPK1	AGTATGTACTTCAGTGCACCTTA
17961	SUFU	CCTCTTTCTCACCTACCCCCTGCCGC
17962	TRPV1	CCAAGTAGCTTGGATTACAGGT
17963	LHX1	GACAAAAGCAGATGCACTTTG
17964	BRCA1	CATGCCCACAGATCAACTGGAATGG
17965	TBXA2R	CGCAGCGCTCCGGGCTGCAGT
17966	STX1A	TGACCTGCCCTGTCCTCTCCAGCT
17967	NDUFV3	TTCAGAAGGAGCGTGGCCCAGCCAACA
17968	CAV2	CCCATTAAAAATGAGATTTCTTA
17969	Rgr	TCTCCTCCTATGCCACCTGCCTGGGCC
17970	PDL2	CTGGACCCACAGAATTCCTTCAGGA
17971	TAL1	GCTGGCTGGGGTGGCCTGTGT
17972	C8orf1	CCTGCAGCATCTTACATCTGTAGCTTG
17973	HYAL3	AGAGGTCACAGATGGGCCGTGCA
17974	HGD	ATTCTTCTTCAGAATCTCA
17975	HOXC5	TTTCTGTGCCCTCCTGACCCAT
17976	CDK8	CAGCTCTCTGCGGGAACCTGG
17977	ANGPT1	TTGCTGTGCTTCAAACTACTA
17978	TLR5	ACAAATAACTCTTCACTTTGT
17979	PTK2B	ACTGCTGCTGCCTGGCCACTGCTC
17980	WASF3	TGAGGGGAATTTCTGCAACCCATAGTC
17981	COL1A1	AGACTGCCAAAGAAGCCTTGCC
17982	G22P1	CTGCCTGGCCTTGTCCTCAGC
17983	ARF5	CCTCCCACTTTTCCTCCCCCATAG
17984	IL11	AGGGTCTGAGCCTTGCCTGGG
17985	CD5L	CATACTCATTCTGGGGCTCAGGCT
17986	DXYS155E	GTTAACTGATCAGGAAGTGCAGT
17987	DISC1	CACCATCATCCTGATCTAACCAT
17988	DCK	GCTAATAAAAATTTATTA
17989	ZNF3	CAGCCCCAGGAGCCAGACCACT
17990	MEPE	CTGAAGGTGAAAGATACCAGAG
17991	XRCC5	CCCATACAAGTTTATA
17992	ANK1	TGCAGGCTGGGGACCCTGGG
17993	ERBB4	GGTCCTTGGGTCAAAAGTTGTAAAT
17994	DISC1	TGCTCAATAAGGCAGTGCAGTG
17995	GARP	GGACCGGAAGAGAGAATTGGAGCTGTA
17996	TBX6	TCCCCATGGGCTCTGGAGGGG
17997	HS3ST3B1	CTCTAGTATTTCGTTTTCT
17998	NT5C2	TCAGGCTGAACTGCATGTATATGGCTC
17999	HS3ST4	GGCAAACAGGTGGATCCCATGGCA
18000	GP2	TTGAGATTGTGCCATTGCACTC
18001	RSU1	ACTTCATTCTCTCTTGCCC
18002	DIAPH1	CCCTGTCTCCTCTCTGTTACTCAGAG
18003	NR2E1	GATGCTTAAATTTCCACTGTTGGAC
18004	ATP2A3	GACTGGGTCAGCCCTGGGGGATCAGAA
18005	ARHGAP6	TCCCTCCAGCATCCTAGGAACTTTATG
18006	CSRP1	GCAACTGAAAGGACAACACTATCT
18007	ABCC3	TGTCTGTGTCCTTGTTTAATAT

18008	HOXA3	GCTGCGGAGGCAGGCTGAGGGCGCAGGG
18009	OAS2	GCTCCACCCTCTTTAGCTGTT
18010	LTB4R	GCCATTCTCTCACATCCCGTGCG
18011	SCP2	GTTCTTAAAATTAGTGAGA
18012	MLLT7	GGCCTGGAATTAGCTTGGG
18013	RTN3	CTTGAGCGAGCCAGTTGCCGG
18014	COX15	AAGAGCCTGGAACTTCCTCCTCTCT
18015	INPP5D	AGGCTGAGAGCAGGGATCTACC
18016	DSCR1	AGGACGCATTCCAAATCATACTC
18017	UBE3A	CTTACTTATTACCTAGATT
18018	CYP1A2	CAGTGGCATCATCTCAGCTCACTGC
18019	LDLR	GGGAAGCGGAGCTTGCAGTGAG
18020	PSME3	AAGCTGCCTTCTCTCCCTACTT
18021	FRK	AAAGTTGCCTGGTGAAGGAA
18022	FCRH3	AGTGGAGACACGTGGCAAGGCAGGAGGG
18023	PPP2R1B	AGCTGAGGTGACTGCAGTCT
18024	KMO	TGTCTCTGAAACTCCTCTTTGTCAT
18025	TLE1	TGAAGGTTAAACATTTGTA
18026	RASGRP1	ATGCACAGACCTGAGGAACTTTAC
18027	SIM2	CACCTGAGGTCAGGAGTTTGCGAC
18028	CYP1A2	CTCGGCCTCCCAAGTAGCTGAG
18029	GLTSCR1	CTCAGCCTCCCAAGTAGCTAAG
18030	PPP6C	TGCTGAAATGCTGCCTCTTGCCT
18031	PPP3CC	TCAAAACAACTTCAACCTGGAGGTG
18032	CBFB	AAAAGGACTATTAATAGAAC
18033	CCR9	AAATGTCCATCTTTGGGAAATTTTCTA
18034	DGUOK	AGAGGGCCAGGGAGGAGGA
18035	FGFRL1	ACTGTGGTCTCTCCTGGG
18036	GLRA2	CACTTTTTCTTTTTTCTCAGCAAACTG
18037	PCTK1	CCGCATCCTCCTCTGGGCTCGCGAT
18038	DUOX1	CCTCCTCCTCTTCTGGGCTCCC
18039	NCOA6	TGTCGCCCAGGCTGGAGTGCAGTCGTGCC
18040	HPS4	GCTGCCAGGCTGCAGCCT
18041	DEK	CTTCAAAAACTTTGGGAAAGGGTGG
18042	RFNG	CCCAGCACTTGCGCACCTGGGAG
18043	NOX5	CAGGCTGGTATGCAGTCATGTTGTATC
18044	PVR	GGGGAAGAGATAGGAACCAGCA
18045	HS3ST3A1	GCGCAGCCCAGCCCAGCCCAGC
18046	TNNT3	TCGAGGCAGAGACCCTCCGCC
18047	ARHGAP6	GCCGGGCCACACCTCAGTGCCA
18048	KCND2	GCTTCATTCCTAGTACATCTT
18049	TUBB	CCTCTAAAAATTACAGTATTGTCTG
18050	ALPL	ATTCTCAAAGCCTCTTATTTTTC
18051	EED	TTCAATCAGGCTGAGCTGAATGTAGTG
18052	MCM4	CATGAGGTCAGGAGTTCAAGAC
18053	ORC2L	GGTTGTACCCCAGCTGCCACTC
18054	MTMR4	TGCTTCTTATCCTGAACACTTG
18055	FBXL2	TGAATGGATGCATGTAAAATGG
18056	SLC21A9	TCCAGCAGTCATGGGACCCAGGATAG
18057	RFC1	GACTGTCTTCGCCTTCTTGCACTTCGCG

18058	OPTN	CAGGAAGTGGCAGTTGCAGTGA
18059	ATP1A1	CTGCTCTGTGCTTTTCTCTCTG
18060	DDX11	GAGCCAGGCTTCCTTC
18061	DLG5	CAGCACTCACGGCATGCACCCTACTC
18062	DNASE2	ATATTTAAAAATTAGCCAG
18063	RNF12	CAAACTGGAAATACAACAAGAAGTG
18064	PMX1	GAGTTTGGAGCCTGAGCTCTGG
18065	TNFRSF1A	GCTGTTGCAACACTGCCT
18066	MAPK1	AGCTAGCACTAACTCGTGTTTGGAGCT
18067	PXF	GTATGGAGTTCACACTGTGTG
18068	IDE	CGGTGATCCCGGCGACTGCGCTGG
18069	IGFBP5	CTCTCGCTCTCCTGCCCCAC
18070	BRF2	CCTCCTACTTCTTGCTGCCTCA
18071	MBD1	TAGAATTCAGAAAATTGTTGGGAGG
18072	SUDD	TGACAGAGGGAAACTCCATCTC
18073	SIRT6	GTGCTCCAGGCCAGGGGTTACA
18074	CRAT	CCCGCTGAATCTTGGCTCTTGTC
18075	DBCCR1	GCCATTTTTCCTTTTTGGAGGAAATGG
18076	SHOX	ACTCCATCTTCTGCGTTCCC
18077	HMGA2	CTTTTGTCAGTATGGCTTTTAGTACTGA
18078	FNTB	CACCAGCTCTCCAGCCAGGACGATC
18079	HRB	AATAGATCAGCCACTTTTAAGGTGC
18080	ENIGMA	GGTGCTGGCCACACCAGCCCCCTT
18081	FBXL11	CTCCCTCTCTGCTCTCCTGTC
18082	ALOX5AP	GCAGAGCAGTCCTCTCTGGGGAGCCT
18083	SLC2A4	CGCCCCTGCGCGTCCAGCTCTT
18084	PCDHB9	TCCACCCCACTCAGCCTCCC
18085	C7orf2	TTACAGACATATAGAACAGCGC
18086	VHL	GGGCGCCTGTGAGGCAGGCGAATCTCT
18087	PPT1	TTAAGAGAGGAAATGTACA
18088	CELSR3	GGCTGGGGGTTGGTCTTGGA
18089	CSNK2A2	AGGCTGGAGTGCAGTGGCGCAA
18089	FSHPRH1	AGGCTGGAGTGCAGTGGCGCAA
18089	LYZ	AGGCTGGAGTGCAGTGGCGCAA
18089	PIGR	AGGCTGGAGTGCAGTGGCGCAA
18089	SEDL	AGGCTGGAGTGCAGTGGCGCAA
18089	SS18	AGGCTGGAGTGCAGTGGCGCAA
18089	TERF1	AGGCTGGAGTGCAGTGGCGCAA
18090	RPP30	GAAGAAGACAAAGAGAGATTGAAATG
18091	ADCY6	CCTACTTCAGGGGATGTAGA
18092	DHCR24	TGCTCCAGTAAAATCTTGCCT
18093	SLC25A11	TTTCTCTGTCCTTGGCTATT
18094	RFP	TTTGTGGACTGGTGGCCAGTCG
18095	CTSD	CCTGCCTGTCTGTCTCTCCATCTGTT
18096	FGF8	CTGCCTGGCCCTCCCCACAATGC
18097	ATP2B1	GGGAGAGAGAGGGAGGAGTAAAACTGG
18098	KPNA3	GCTGTGGATCAAGACACTTTGG
18099	GCN5L2	TGCAGCTCTGTCCCAGCCTTCACTGTG
18100	CAV3	GCTCTGCGATGATGGCAGAAGAG
18101	HEPH	CAGGCTGGGGTCTGCAGTGCAGCA

18102	LMO2	AATGCTGATGAATCACTGTTTTTAGA
18103	SOX11	TCTTAAAATGGTAACCTGGGGG
18104	TNNT3	GGAGAGGCCATCCCGGGGCGTCCC
18105	UPF3A	GGAGCTGTCAGTCACTCGTGCTT
18106	LY6E	CCCACCCCCTGCACCTCCACCT
18107	MME	CCTTTGAGGTAGACCAGGATTT
18108	ITGAM	GAGGGAAACACAGCAGCATCTCTCCA
18109	RAB26	CTCTGGAGGAAGCCGCCCAGTCCCTAG
18110	SLC6A5	TGTGTCAGACATGGATTGCAGTG
18111	NFKBIL2	CCGTCTCTACTAAAAATACCAAAAAT
18112	PCTP	ACAGCCTTGATGATCTCAGGGA
18113	SLC31A1	CTAGGAGGCGGAGGTTGCAGTG
18114	GPRK7	CCAGGAGGCGGAGGTTGTAGTG
18115	RAD1	CCGGGAGGCGGAGGTTGTGGTG
18116	ATP5J	ACCCTCCACTTCCTCCTCC
18117	PRSS2	CTGGTCCCTCTGCAGTCTCTATAC
18118	ACCN2	CGCGCATTGTAACCTTTGCACTGTCTCA
18119	IL17R	TATTGTGCACCTACTATGTGGC
18120	IL17BR	TCAAGAAGACTTCCTTTTCTAC
18121	PTPN18	GACCAGCCAACAGCTTGATAG
18122	PITX1	TGTAATAAATCTGTCTATATCG
18123	ICOS	TCTACTTCCTGTCTGCATGCCCAAGGC
18124	HTR2A	TGGAAACCTTGCTGCTA
18125	POU4F1	CATTGTTTGCAGGGCAAACA
18126	PSCD3	ATAACAAAAGATACTTTCTAAC
18127	HK1	TGCTGAAAGTGAGCATTGTTGAT
18128	ADD1	GCTGCACGTCACCCTCCTGAGCC
18129	TCF2	CTTGTTGGCTTCCGTGTGTCAT
18130	CAPN5	TGTCCCCACTGGGCCTGAGTC
18131	PAX3	GCCGCGCTCCAGCCTCACCAGGCTCC
18132	FGFR4	AGCCTGGCTGGAGAGCTGCTATG
18133	BRIP1	CAGGCTGGAATGCAGTGGTGTGCTCTG
18134	CDC25C	GGCAGAGTCCTGGAGCTGGCTC
18135	CD3E	GCCTGATCCCCCGCTCCCTCCTCC
18136	SLC1A1	GGGTTTGGAAGAAAGAGAGAA
18137	AQP6	CAGGACCTGGGAATGCACAGGACCC
18138	LPIN2	CCTTCTTAGAGGGTTCAGTCTAG
18139	ZFHX1B	AAGTGACCTGGACGTGAAGGAA
18140	FOXI1	GGGGCCTTGGGCCCACCCTCACAGGG
18141	OAS1	CCCAAGTCTCCTGACTCCTGGCC
18142	PART1	TTTCACAGTGCCAGCCTCTACCTAAGGAA
18143	YWHAH	ACATGGGGGACCGGGAGCAGC
18144	HDAC4	TGTACTTTCATTTTAATTATTTTCTA
18145	LEP	GGGGTGATTTCAGAGAGGGCAGAGGGG
18146	ATF5	TGCTTGTAATCCCAGCACTTT
18146	CD28	TGCTTGTAATCCCAGCACTTT
18147	ERBB3	TGCCTGTAATCTCAGCACTTT
18148	ACRC	GGATCTACCTTGGGTCTTACTTGA
18149	ENDOGL1	GTCATCCAGGCTGGAGTGCGGT
18150	HLCS	GTCGTCCAGGCTGGAGTGCAGT

18151	CHRM5	CCTTGAAGATTTTTGTAAAGG
18152	BAZ2A	GTTGTGCTTTTCTTCATATA
18153	TNFSF9	TGAACTCCTGGACTTAGACGAT
18154	MEFV	AGGGATTACAGGCATGAGCCAC
18155	MADD	CTGGGCGCCTGGAGCAGTTTCAC
18156	LAPTM5	CCTGCAGGGCCTGTGAGCTGCT
18157	TH1L	CTGACTTCGTGCAACTTTTCCTC
18158	SNX13	TCTGTGGTTCTTCTCATTCTCAT
18159	PRKAR2B	ACAGGCAATTTAGTCATTATGA
18160	MCL1	GACTTAACCTTTTATTTCCTGTCCTTC
18161	TRPM8	ATACTGAGAAGCAACTTGCA
18162	BACE	CTTCCTACCCTCTCTAATGGCC
18163	NCALD	TTGTATGGTAGACCAAAAAGA
18164	EML1	GGCAAGGAAGACACAGACTCGCA
18165	SMAP	GGGAGAGAAGGCCCGGAGGGGCTCTGCGTTC
18166	GCNT2	CCAGGAGGTGGAGGTTACAGTG
18167	SLC39A1	GGACCCCTCCTACTCTTCTTAGCG
18168	LRRC2	GTGAGACAAGGGATGTTCTACCTG
18169	TGIF	TGAGACTGAGGATGAGGACA
18170	IREB2	TATGTATCACATATGATGCAGCCT
18171	COX15	TTGCCCAGGCTGGAGTACAATG
18171	POU2AF1	TTGCCCAGGCTGGAGTACAATG
18172	PIK4CB	TGAGGGGTGGGAGAGCCAG
18173	GPRK7	TGCACTCCAGGCTGGGCAGCAA
18174	CALD1	CAAGATCATCAAATCAAATTCC
18175	FUT9	TTTGGGAAATGAAGATGCACATC
18176	RS1	ACCCTCCACCCTCTGCCTTGCAA
18177	HSPA5	GAAGAAAAGAGTCCAGGTAAATGGT
18178	CNN2	GGCTCACTGCACCTCCACCT
18179	TRADD	ATTGCCTTCCCCAGGAGCCAG
18180	B3GNT3	CCAGAGAGGTGGTGGAATAGGACCGC
18181	ZNF74	GGAGTTTCCTCCATAAACTATT
18182	TPMT	GATGGTACAAGAACTTCA
18183	DGAT1	AAACCCGCTGCCAGAGCCCACCTCTC
18184	SYT5	CTGCCTGCGCCCTGCTCCCAC
18185	HAS3	AGTAGCCTCCTCCTGGGC
18186	LEP	CTGGGAGGCGGAGAGTACAGTG
18187	NUP98	AGCCTGTGAGCCCCAGGCACTTTG
18188	MHC2TA	CTGGTGGCAGTGGGAGCTGC
18189	TAL1	GCTAGACCCAAACATATGCACA
18190	IHPK3	CTGGGACGGGCCATTGCCTG
18191	CASP10	CAAACTCCTGGGCTCAAGCGAT
18191	G2A	CAAACTCCTGGGCTCAAGCGAT
18191	RGS9	CAAACTCCTGGGCTCAAGCGAT
18192	ADORA1	TCAGGGGCTTTGGAAGCTCTGTTGCAGG
18193	OCLN	GGGACCCCCATCCGTGCTGCC
18194	ESR1	CCATTTCTAAAATGGCAGCTTCA
18195	PTGS1	AGTGAAGATGCAATCAGACAAGTGT
18196	PVRL2	TGGACTTCTCCCGTCTCTAGGG
18197	TRIM14	GGCAGTTTCAGTCCATATCAATTGTGT

18198	LIMK1	CTGTTCACGCTCCACCTGTCTGGT
18199	ARF1	TTCCCAGGGGCCAGGCTGG
18200	PKIG	TTAGAAAACACTTTTAAACTTTTT
18201	ARNT2	CTTGTGAGTTTGGAAGTTTGG
18202	CALCR	ACAGCATCGTGATCACTGA
18203	ZNF26	GAATGTGGGAAAGCTTTTCGTTGTAAGT
18204	PIK3CG	TCCAGCCTGGATAACAGAGCG
18205	CCNT2	AGGACTAGTATAGAATTAAGC
18206	GPR41	CTCTCGATCTCACCTCCATCCCCATCCAC
18207	LAPTM5	CTGTGGTCAGTGTGGCTGCATAG
18208	STS	AGAAATTTGATTTGAAAA
18209	IL12RB2	GGCGCAGAGGCGGGAGGCGGAG
18210	DCT	AGCCTCCTCCTTTTCTGAAAGCAT
18211	SEL1L	GCTTTGAGAAAACATTTCTTA
18212	GFER	GGTGGAACAGGAGGGGTGGGGAGGA
18213	ALDH1B1	GCCATCACACCTGGCTAATTTTTGT
18214	RBBP9	TCCCAGGCTGGAGGTCAGT
18215	GLRB	TGGATGCCATTTGATTGTAA
18216	RAD51C	GGGTGGGTTTAATAACATATTAT
18217	SGCD	GGTTTCAAAGCAGTCAGAAAAAGAA
18218	HYAL2	GGGGGTGGACAAACTGGAGTCTGG
18219	TRIM14	TGGCCAAGATGGTGAAACCCCA
18220	IQGAP1	TTACAGTCTTAGAGGTTGCA
18221	MSH3	ATTTTATTATGCAACCAGTTTATCCA
18222	CCNDBP1	TGGTCTCAATAAAATGCTAACTTGC
18223	PPID	TACAGGCACGTGCCACCACGCCCAG
18224	CRKL	TGTGACGGCGGGGGTCGGTG
18225	TBL2	CCAAGAGACCCTGAAGAGCCTGGGT
18226	TPD52L2	TGGCATTTTCTGACTTCTTCCTCCTCCTCC
18227	TAZ	GGGCTCTCTTTCCTTCTTG
18228	BLAME	TGTTGAACAGATCCACACTGCTCT
18229	IGF2R	CCCCTGAGTTGGAGCTCATTCT
18230	SEDL	CTGTTGTCCAGGCTGGAGTGCAAT
18231	PART1	CTTTTTCTGAACCAAGCACTGTC
18232	FGFR2	GGGGAGGCGGAGGTTACAGTGA
18233	COL18A1	GCCATGAGATGATACATCCAAAGC
18234	EXTL1	CCCTCCTGGCCCTCCAAGGCGGGGGGA
18235	SURF5	GGGGCAGGGAGAGAGGGAACCTGC
18236	TACC1	CACATGAACCACTCCAAAAATCAG
18237	M6PR	TCTGGTATTTCTTGCTGCTTG
18238	PRPSAP1	GTTCCTTAAAAGTTCTAGCTGCTTTCT
18239	LGALS3BP	TTTCCAGGTGGTAAGCACCAGGA
18240	ALDH3A2	GAGAATGTATTAGACTAAATACAAAC
18241	CHGA	ACCCTGTGGCCCTGGCTCTGCTGTCCC
18242	GNGT2	CTCCTAGACCCCCAGGGAGCCAGTG
18243	PPP1R12B	GCATATACTTGATTACAAATGAAA
18244	PPT2	CCTGCGGCTGCCCCCATGACCTA
18245	SUFU	CCTTCAGGCTGTAGGGCTGC
18246	GPX3	TGTGTAGTGCTGGACAGTGAC
18247	GPD2	GGCATTTCAAAAGGCAGTGAA

18248	TFRC	CCCATAATTTTCTTCATGCA
18249	SLA2	TCCTCCCAGGCTGAGAGAGTTCTG
18250	GPR4	GTCGTGGCTCACTGCAGCCT
18251	NPY2R	CTTTGGGCACCTTCCAGGGCCCTCTCC
18252	CDKN2B	CGCCAGGTTCCCCAGCCGCCCACAAC
18253	TRIM14	GGCCCAGGCTGTGAGTTCCAGG
18254	EGLN1	AACTTCAAATCTGTGATTGCT
18255	YWHAG	CTATATCCTTAACCATTCTGTC
18256	SOX11	CTTCTATGCATCCGATTCTTAA
18257	FZD8	TCCATTAGCTGGGACTTAAATG
18258	NUP62	TCCTCCAGGAAGCCTTCCCAGCTA
18259	LY6E	GGGTCCCCAGGGAGACCGTGT
18260	ISL1	AATGTCGAACTCTGAA
18261	SLC2A1	GCCGGGTTCTAGTCTCCTTTGCACTGA
18262	SUPT6H	GCCTCCCTCCCTGCCCCTCCTTTTATGTC
18263	GALNT2	CCCGCCTGGCCAAGATGACTGC
18264	TACC1	GGTTTGGCAAGTCTGCCCTAG
18265	STE	TCATGGCTGATTGCAGCCT
18266	TUFT1	GTCTCAAGACTGGGCTCACATTCTG
18267	EGFL4	GTGGCCATGGTGTGTGCAGTG
18268	GRM6	AACCATTTTCTTAGGCTGTCTCAC
18269	PPP4C	GACCCCTGTGCGGTGCGGAGGG
18270	DDAH2	CCAGGGGTAGGATAGTATAGGAA
18271	PDCL	TTGTCTTCTGGCTTTTCAGCT
18272	VANGL2	AAAGAAGCCGGTGCTGAAGGAG
18273	ZNF6	GATAGAACATTTTACATTATA
18274	ACHE	ATCCCCACCCCACCCCGACGT
18275	APTX	GAAAGAGATCAGGCAACAGTGA
18276	TMPRSS2	CCATGGTTCTGCCTCCTGGCC
18277	ABCD1	CCCAGCCTCTGAGTCCCGTGGGGC
18278	FCAR	ACCTGCCTGGCCGGGCGTGGTGG
18279	ARNT2	ATCACAAATAGCCACATTCTGCTCT
18280	CKM	TCTCCACCCTTCTCAGAGTTCC
18281	SLC19A1	GCTGGCCTTGGTATGTGCCA
18282	UBE2I	CTGCTCCCCGCCCCCTCACTT
18283	MAPT	TTCGGCTGCATTTCTTCACGC
18284	SYT5	GGACGTCTGGGGTGGGAATGGGGGA
18285	IMPDH1	TGCAGCCTGCTCCAGCCTGGCC
18286	POU1F1	TAATATAATAAAACTCTGATTTG
18287	TLR4	CTCAAGGAGCTTCCAGTGCAGAG
18288	RAB36	GTTACCAGCTTCTGAGCTAGAG
18289	XT3	AGGAGGTGGCGGTTGCTGTGA
18290	MPP3	GCCAGTGCTATCGGAGGACTCTG
18291	SYBL1	ATCAGTATTTCCTATTGGAAA
18292	AK1	TGCCTGTAATCCCAGCACTTT
18292	ALDH3A2	TGCCTGTAATCCCAGCACTTT
18292	ATP1A2	TGCCTGTAATCCCAGCACTTT
18292	CD68	TGCCTGTAATCCCAGCACTTT
18292	DDOST	TGCCTGTAATCCCAGCACTTT
18292	FGFR2	TGCCTGTAATCCCAGCACTTT

18292	HM13	TGCCTGTAATCCCAGCACTTT
18292	IFIT4	TGCCTGTAATCCCAGCACTTT
18292	IL12RB2	TGCCTGTAATCCCAGCACTTT
18292	INPP5B	TGCCTGTAATCCCAGCACTTT
18292	MGAT3	TGCCTGTAATCCCAGCACTTT
18292	MSH3	TGCCTGTAATCCCAGCACTTT
18292	OPTN	TGCCTGTAATCCCAGCACTTT
18292	PIK3R2	TGCCTGTAATCCCAGCACTTT
18292	SLC26A4	TGCCTGTAATCCCAGCACTTT
18292	SLC31A1	TGCCTGTAATCCCAGCACTTT
18292	SPTLC1	TGCCTGTAATCCCAGCACTTT
18292	TNFRSF10A	TGCCTGTAATCCCAGCACTTT
18292	TNFRSF10D	TGCCTGTAATCCCAGCACTTT
18292	UPK1B	TGCCTGTAATCCCAGCACTTT
18292	VHL	TGCCTGTAATCCCAGCACTTT
18293	TBL1X	TTCTCATAGTTGCTTCAGATC
18294	NME5	CAGTAAAATAAATTTATTTC
18295	TP53BP2	GATGTTCTTCAACGATTTGGAAGTCA
18296	WBSCR5	TGTACGGATGATTCAGTGGCTGGC
18297	ZNF265	TGGGCATGGAAGAAAGACTGG
18298	G2A	ATGCACTCAGAGCACAGAGCCG
18299	CFL2	CCAAAACAACTGGTTATATGCC
18300	SPN	TCACCCAGCACCCACAACTAGCGCCT
18301	LEP	CCACCCAGCAAAGAGTGGGCT
18302	SYT1	ACACAAAATTACTTTGTGGTA
18303	DBY	TTTAGATACTTTTTGCTGCTA
18304	DGKI	CCCAGGAGGCGGAGCTGGCAGTG
18305	FGFR1	CCAGAAGGCAGAGGTTGCAGTG
18306	GNAL	AGGAAAGAGAGGAGCCGTCGCAGG
18307	MGAT3	CTGCCTCACCTTCATCTAGCCTGGCC
18308	NEURL	TTTTCCTCCTCTATTAAACATGGGAAA
18309	ASGR1	AAGGTGAGGAGCTTGA
18310	ALDOC	GCCTGCCCTGTCTCCTGGGATCAGA
18311	SYT4	CTGTCAAATTAGCACAACAAA
18312	MAOB	TCCATGAAGACAAATAGTGTGGAGTGA
18313	BACE	GTCTCCATTTTTCCCAGGACAGGAAA
18314	BFSP2	GTGGAGAGGATCCTTCTGCTTTA
18315	TNFRSF10B	TCTCGCCCAGGCTGGAGTGCAA
18316	ICAM1	GTTCACTGCAGTCTTGACCTTT
18317	TPK1	TCCTCTTGGAGTCTAGAACATC
18318	CD34	CCTCCCCTGAGGCTCAGGGA
18319	IL13	AGCCTTCCCCTTGCCCAGG
18320	CLN2	TGACTACTCTTGTCTTCCTCTCTCA
18321	CETN1	ACAAAGGGCCCTGAAGTTTGAGT
18322	CDKN2D	TTTCTTCTGCGCCTCAGGCT
18323	IDH1	TTTTTCTGTGTTACACTCA
18324	SNAP23	TTGTCCAGGCTGGAGTGCAATAGCGCG
18325	FACL5	CTGCTGAGCTGGAAGCTGTGGGG
18326	DIA1	CACTCCCGCCTCAGGGCCAGGCCCAG
18327	HDC	TTCACGCCTTCCACCTCCTGC

18328	PROCR	GGATTGATGGAGGCTGGCAAGGG
18329	AIM1	CCTTCCAGCCACCTTATTTC
18330	SERPINB5	TTCTATCTTTTGTTTCCTTTTTTCCCA
18331	LPIN2	TCTGAAGAGATGGCACCAGGGAA
18332	HHLA1	ATCCAGGCCATCACCTATCA
18333	ARL2	GTCTCTCTGGCTCCTGACCTGGCCTTT
18334	PRM2	TCAGCCCAGGAGCCACCAGATC
18335	IL20RA	TATTAAAATTTGATGAAATTTACTG
18336	MITF	ATAGTACCTTCTCTTTGCCA
18337	GNAI2	TGAGACGCCACCATTCCTGGAAACCAC
18338	MECP2	AGCCCTGTATCGTATTCACCTTCAGTT
18339	PCDHA11	TAAAACAATTCAAATTTGATAGTA
18340	BMP8	AACATTGCACTTCAGCCTGGTGACAT
18341	TNFRSF11A	CTCCAGCCTCGGCCTCCCAAAGTACTG
18342	PCDH11X	TCATGCTGTTTCTCTGTTTGC
18342	PCDH11Y	TCATGCTGTTTCTCTGTTTGC
18343	KRT6B	CTTGTCCTCCCCTGGCCTCCAGTCTCCCCT
18344	MAD	TGGGTTTCTGATTGCATCACT
18345	GPC1	CTGGCAGAGCCTCTGAGAT
18346	FMN2	CAAACCTGAACAGTTCCTTTAT
18347	PFKFB4	CAGCTCAGTTGGCTTTGTGAA
18348	NFE2L1	CCTTGGCCTTGGCTCCACAGGGTGTGCTT
18349	PMCHL1	TTGTCAAGGAGAGTGCAGT
18350	TAF11	ATCACCTAGGCTGGAGTGCAG
18351	MAPRE3	CCCCCAGCCACTCCCTCCA
18352	DPYSL2	TGGGCCATGCCGTCTCACCCACAG
18353	BDP1	AGCTGGTGGTGTGGCTTTGTGGG
18354	ARHI	TAGAAAACGTGGACTCATTTCACTAT
18355	SLC25A13	AAAATTGATGGGATTTGGTCAAC
18356	TEGT	GAGGCTGTGATAACTTAGGAGGCAG
18357	TDG	CTTCTAGGCTAAGCAAAAAGA
18358	PKIB	GACAGATTCATCAAAAATGA
18359	PRKG1	GACAGATTTTAAAAATTGATATGA
18360	C7	TGTTGCCCAGGCTGGAGCGCAG
18361	SLC22A1L	CTGTCCAGGATGCAGGGAGCTCGGGC
18362	ELMO1	CTCCACTGCTTCAGGTCACTTC
18363	CSE1L	GAAGCCTGCATGTGCCCA
18364	TM4SF2	ATAAGAGACCTGTTTTAAAAAGGA
18365	ADCY2	GTTCCTGGTTTGAATCCTGGC
18366	LPIN2	TTGGTGCAGTGTTTGATGTTCAA
18367	OAS3	ATCGATACTGCCTGGTAATCCA
18368	MPP4	ACTGAGTCTCAATGGACTTCT
18369	HOXA11	CACCGGGTTCCAGCACCACAC
18370	SRC	GCTCACTGAACTCCTTCCCC
18371	ELK4	TGTGACTGTCATGTGAA
18372	TCF2	GGCTGGGATGGAGCACTTCTTCTGGT
18373	TPM4	GCCAGGACAGATCACTTGAGGTCA
18374	TYRP1	GTATTCCAATCACTGTGCTTAA
18375	LRRC2	CTTTGGGCATGAGATGCTCAGA
18376	POU2AF1	TTCTCTCTCACCTCTAGGCCCTCT

18377	PON1	CCCTAAAACATGTGTTGCCTG
18378	SIX2	CTCTGGCCCTCGCTTTACCGGAGTAGG
18379	GRAF	CCCCAAGATATCAGGCCAGAA
18380	FOXD2	CAGGTAAGGGAAAGCCTCAGCTCCTT
18381	PRKCM	TGCAGAACTGCCATTATTTTCTGTCAG
18382	TRPM8	CAGGATGTGCACAAGGCAATTGAAATG
18383	BPAG1	TAAATTCGTTCCCACAGCCTT
18384	VDR	AGAAGGCAGGAATGTGTGGCA
18385	PPP2R1B	CTGGTTGGAAATGCCATTGTTTTGGGG
18386	MPP2	CTGTCTAGCCAGGTCCAGGTAGCCCAC
18387	MOCS2	CCCACACACTTTTATGACCACC
18388	TIMM8A	GAGAAAAATATCTGTAAGAG
18389	AIRE	CCCGCCTGGCCCCTGGGCCTGCCAA
18390	PTGIS	CTTCACGCCTGGGTGACCCCCACTGCCG
18391	MEL	CTGTGTGTGCTGCAAGTGA
18392	PAPPA	TGTGCAGTCCCAGAGCCTCCTAAAAT
18393	VIPR1	TCTGCCCCCTGCTGGCTCTTCTGCCCAAT
18394	NDP	GGAAGTAACAGGACCTCTTT
18395	STCH	CCTTTATGTCCTGTACATCATTC
18396	TCTA	TGGCACACACCAGTAATCCCAG
18397	ABCB8	GCTGGGGCTCAGCCTGGGGGA
18398	BACE2	ACAGGAAGCTTTTTGTAT
18399	IGHMBP2	TCAGCATCTTCAGCACTTACCG
18400	CBFA2T2	ATGAGACATGGCTGTCTCACAG
18401	MPP3	ACCATCAACATGAATTACTGTACTAT
18402	RPP30	CAGGCTGGAGTGCAGTGGCTCGATCTC
18402	SERPINB9	CAGGCTGGAGTGCAGTGGCTCGATCTC
18403	TGM2	AGACCTACATTCCCTCTCCT
18404	FADD	AGCAGGAAGCCAGGCTGAGTGAGC
18405	SMARCA3	AGTTGGGCTGGATGATCTCCA
18406	XK	CCACAGCCACACAGCCGCCGCCACT
18407	GPM6A	GGGCCATCCAACCATCCAACCTTTAAAAAA
18408	PRCP	AAAGCAGCACTGGAAACTTTT
18409	ADCY2	TTCAAACACACAGTATTCGTG
18410	SLC38A3	ATGACACCCTCCCATACCCCA
18411	MDM1	TAGAAGCAGTGTGCAGGTGA
18412	IRS1	TTTGCTGATACTATCTCTTGTC
18413	NEBL	TTAATGCCACCATTGATTTCAA
18414	EGLN2	CACAGCCGCCTACGCCCACCTATGGCCAG
18415	PER2	TTAGTGTGTGTGCTTACA
18416	SRP	ACACAGGAAGCCTGTGACCATGGCA
18417	CRY2	GGACCAGAACCCTGGGGTCAGACCCAT
18418	CDH15	ACTTGCGCTGTCACTCAGCCT
18419	TAX1BP1	TAGCAGAATATTCACAAGTT
18420	GCNT3	GGTCTCCACCTGTCTCCCAT
18421	SOX13	AGTTCCTGTGGGTGTGTCTCT
18422	GAS1	GCCTCTGCTCCTATCAGGGTT
18423	VHL	GGCTGGTTTCAAACTCCTGACCTCAGGTGAT
18424	SCD	CATACAGCTGCCTACCTAATGAGGA
18425	ZNF135	TTCACCGTATTCCAAACCAGA

18426	FMR2	GGACACAAATGGGAATTTAA
18427	ABR	CTTCTACTGCTTTTCAGTTC
18428	SLC21A2	GATGCCCAGGCTCACTTCAGT
18429	SYBL1	GGAGAAACTTTGTATGTGCACAC
18430	EPHX1	CCTCTCTCACAGGCCCTTA
18431	KRT3	TCCTTCCAGATCCCCGGCCAAGCCCAG
18432	ABCC5	GGAGTTTCTTTCCTGCC
18433	SP1	CCCGGGGCCAGAGACATATG
18434	NEU3	TCTCATCTTCTCATCCCTAGGA
18435	ATP1B1	GGCTAATTAATTTGCTTTAT
18436	FUT3	AAGACTTGCCTGCTAGGGACCTCGCCT
18437	MAGEA9	AAATGTTCTTTTAATGGTCAGTT
18438	TTN	ACCTTAACTTAAATGTAATG
18439	DAG1	CGCCTGGGTGGAGGCAGGG
18440	CEBPB	ATGAATGATAAACTCTCTGCTT
18441	TACR1	TGGGGACTGCAGCTAACTTA
18442	SLC25A5	TTTGGAGAAATAAAAATATCTAA
18443	TOP2A	TGAGTCTGCTTTCTTTTGTCTT
18444	SRC	GCCTCTCCCTGCACTCCCTCCTGGAGCT
18445	MOX2	ATTTGTCTTATAACATGACCCA
18446	HNMT	ATACTAATAAAATACATACTATAGATTCTTT
18447	SLC38A2	TGCCTAGGGAAAATTCCAATG
18448	RBBP8	AGTATTTTGGTATTTGACCTGTCC
18449	SLC22A7	GGACAGCTTCAGCCAGGAGGCTGTGAG
18450	MSR1	TCTCCAATCCACACATATTGTTTT
18451	KCNJ15	CAACTTTCTGAAGCCGTGTGG
18452	HMGA2	CACACTTGTGACGTCGGGCATTC
18453	FLG	TGGACACTCAGGGTCCCATCACAGCC
18454	POLH	GAGGTCAGGAGTTTCAGACCA
18455	FYN	TCCTGCCTCTGTTGTAGAAGACATGT
18456	ABR	GCTCCCCGGCTCTTCTGT
18457	NESH	AGAAGCAGCATCTTCCCATTTCC
18458	VHL	CCAGCCTGGGAAACAAGAGTGA
18459	EXT2	GGGAAAACACTGCAGCGGTGCTCGGA
18460	GGPS1	GATTTGAATGTCATAATTGCAGTG
18461	LPIN2	CAGGGTCCCTGAACTGCTGCGGGCCC
18462	RSN	CTCAAGATTATCAACTGTGTG
18463	PCDHB9	ACCAGCCTGACCAACGTTAAGTAA
18464	CACNA2D3	GAAGAGATGTTTCACAAGAAGT
18465	PXN	CAATGCCAGCATAAATCCAT
18466	ABL2	GGTGGCCCAGCCGCTCAGGGCCAGG
18467	HDAC5	TTACCCACTCTCTCCCTGTGG
18468	CCNF	ACTGCGAGGACTGCCTTGCCA
18469	ALDH8A1	CAGGCGGTTGAGGCTGCAGTGA
18470	B3GAT1	GGAGGTGGGCACAGGTGGTGAGC
18471	SLC2A3	CCGGGACGCAGGGGTTGCAGTG
18472	PLS1	GCAACAAAAATGTCACTTTATCT
18473	RIMS2	TCTTACTCTCGTTCATACA
18474	DLST	CTGGAGGACGTGGACTGGGG
18475	MRPS12	CTACCAGGCCATCTCCCCAGTTTCCCA

18476	DDX9	ACAAGTGTTTACTAACACTGGA
18477	HOXB5	CCCTTTTCATTCTCCTCCTCCTCC
18478	KCNJ6	ATTTCATGACGTCTCTCTGC
18479	ZNF278	TCTGACTCCTATGGTGACCTC
18480	PAX9	TGAAATGCAGAACTCAAGCCT
18481	MAPK14	GAGAATGTGATTCCTTTTGATG
18482	MMP15	CTCACACCACTAGCCTCAGGGG
18483	MSL3L1	AAGGAAAAAGCAACTATGTTCAC
18484	LHCGR	GAAGCAGCGGTTCTCGGCGCTGC
18485	DLGAP2	CATGTAAAGAAAAATAAAACTG
18486	MB	AGCAATTGTCTGATTAATCACTGGC
18487	TSSC4	TGCAGTTCTGGGCAGCATCCTC
18488	LOXL2	TTATATTTTCACAGACTTTTGAAGCA
18489	MTNR1A	GGGGTGAGAGTAAGCTGCTGA
18490	CXCL16	GGCTCACTGCAACCCCCATCTC
18491	BACH2	GGCGGGGCCTCTTTATTTCT
18492	NUP50	GGAAGAGCAGTGGTTGTCCAGCAAGGTCCTAG
18493	SEDL	ATGGAGTCTTGCTCCTGTTGTGC
18494	DYRK1A	TTAGAACAGCCTACCATT
18495	SURF5	GCCACGACAGGCCCGTGTGACA
18496	OGG1	CTCTTATCTTCTGCCAGGATCA
18497	TNFSF4	TCAGCTCCATGTCTTGTAC
18498	ZNF79	TCAATAAACAGCCACTATTTC
18499	ANXA8	CCTCTTCCCAACTTCCTCCAGGTCA
18500	LGI1	TCACGAATCAGCTGCAGGTCTCTGTTTTG
18501	SRGAP2	CTGCCTTTCACTGAATTTTCTGAGGGC
18502	IL24	GCACTGGTTTGTTCCCTGTGTCAT
18503	FMR2	GGACATTTTCATGCATATTTTA
18504	ZNF2	CTTCCACTGCTAGTAGCTAGCACTTAC
18505	PTGFRN	CTCCCCACCCCACCCCTGCGACAA
18506	STX1A	GTGGGCCCAGGTTCTGCTCTT
18507	SFRS1	ATTTATCTGAACACCATTCAGAAACTT
18508	GHR	ACCATAGCACAGGCTAATTTTTTGT
18509	MLLT7	GGGAGTGTGTGGTGTTAGGGTGCA
18510	RAB7L1	GGGAGGCAGAGGTTGCAGTGAACCGAG
18511	TRIM14	AAGGAAACCCAGAGTGCCCAGC
18512	SHOX	GGTGCGATCATAGCTCACTGCAGCCT
18513	TYRP1	GGTCTACAAATGCCCTACTCTCTTATGCA
18514	STX7	TTTTGATTTGCTTCCACCAGGGG
18515	RAD52	ATGGCTCCTTGCCCTCAAGCAAT
18516	NOL3	GGACCTGGGCTCTCTCCACGATTCTG
18517	SOX11	AACGTTATACTCCATTCTCAT
18518	HGF	ATGGGTGGAATTGACAATGAA
18519	CDC5L	CTCGAATTATGATCAAGGGGG
18520	CPD	CTTCCCTTCCTTAAAGTAC
18521	INPP1	CTTTGTCCTGTTGCTGGTTAACATTC
18522	PKHD1	CAAACTATATGCAAAAATGAGTA
18523	GPR45	CCTGCTCTGTTCCCTGGCAT
18524	RAD9	CCGAGACTCCCAAGCGGCTCTGTGCAG
18525	TLX1	CCAGAGTCAACAGCGAGCGAGCAGCCG

18526	PPP2R1B	TCTCCACTGCTTGGATATGAAACT
18527	CPNE3	TTGCCCAGTCAATTCAGTG
18528	HD	TGCCTAGGAGCTGGCTGGCAGGTGTT
18529	MMP3	TCGTTTTCTCCTGCCTGTG
18530	B3GALT5	ATCTGCTGGAGAAACTGCCATT
18531	C18orf1	TCCCACCTTTGTTGTGCCTCAC
18532	NFE2L1	TCTCAGATGGGATGACTGCGGG
18533	TCF7	AGAGCCTTTTTCACAATTCCAT
18534	DUSP2	ACACCTGTGCTGGCGCTGGAA
18535	ABCC11	GACTGATTTTATGAGCAGGGGTTTGAT
18536	KIF1B	TGGCAGCAGGCGGTGG
18537	TJP1	TCTCCTGTACCTCTTGAGCCT
18538	GBE1	GGTCTAAATTATGAGGTACCAAGA
18539	CEACAM5	CACCACTGCACTCCAGTCTGGCAACAG
18540	HOXC13	ATCAGGGCACTAGCCCAGGAATGACTC
18541	MDM2	CGAGTCTTGCTCTGTTACCCA
18542	SLC7A8	CTCCTCTCTGGGCCTTGGCTTGGGA
18543	ATP2C1	AAACCTGAACCACCTTCTGC
18544	SLC21A9	TCACTGCACTCCAGCAGTCATGGGACC
18545	WWOX	ACACCCAGAGGGAGTAGAATACGCAG
18546	TREM2	ATGGGAGGAAAAGCCCAGGAGAAGT
18547	CHRNA1	AGAGGAAGATTTGTCTACTTGCT
18548	SRGAP2	ACCTGGTCGTGATGTGGCATTCAG
18549	NRCAM	GAGGTAAGCTAATTAATGCAGTGA
18550	SLC6A6	AAGGAGCAGAGGCTCTCCCGGCAGGA
18551	GLP1R	GACTTCTCCCATCTAGTGGAAA
18552	FEN1	CTGGCTGGCCAACTGGTGG
18553	ALCAM	TTCTCATAAGCACCTAAAACC
18554	ATP8B2	CCTGCAGGGGCCTCGGCCCCTCACAT
18555	KCNMA1	ACAAAAGCCAGCCACCACCTT
18556	WHSC1	TGAGACAAGATTTCGCCATGTTGCCC
18557	PIGR	ATCACCTTCAGAATCATGTC
18558	PCTK3	GCACAGCCTCCCCATCCTTCCT
18559	PRDM4	CTGGGCTGGAGTAGAGGACTCT
18560	SLC17A5	ATGAAGTAGGACAGTTCTGTTG
18561	GPR4	TGTGAGCCGCCATGTCTGGCCA
18562	IRTA2	TTTCACATGTCCTCATTCTCA
18563	TERF1	AGCTCACTGAACCTCTGCCT
18564	ADRA2A	CAGCTCTTCAGAGCAAGCACTG
18565	GRM6	CCAGCTCTACCCCGATTCCAG
18566	SLC4A4	TGAAACCACATTTTTTGGTTTGA
18567	PHKG1	GGGGGCTGGCCAGTCAGGGAGGGCTAGG
18568	PRPS1	TTTTCATCTTCCTTCTTTGGATCTA
18569	PAG	TGACATCCTTTATAGGCACCTTA
18570	BMP5	AATATTGATAATAACAAAAAGA
18571	DHCR7	TAAGGGGCCGGTTCAAGAAGGA
18572	ID4	TATAACGGGGCAGAGAACTTTCT
18573	CPM	CCATTGTACTCCAGCTTGGGCAACAGA
18574	MPP2	GCGTATACTACACACTCAT
18575	ARF3	AGACTGCCACTGCCCCTAC

18576	MTP	TTGGAGTTGGGGGCCCAGGGAGAA
18577	XPA	TAGGACGATTTCTGTCTCCA
18578	BRCA1	GGAAGAAAGTGTGAGCAGGGA
18579	CBFA2T3	ACTGCTGCTACTGCCCCTCTCCGA
18580	MAPK14	ACTTGGCTGTAATCAGTTATGC
18581	ADCY1	TGTGGAACTTAGTTTGAATTTGA
18582	TXNIP	TTTTCAGAGACTCAACAGTCTC
18583	EZH1	TAAGCTTGGGCCCAGGAGGCTT
18584	CHRNA10	CCCCACTGCTCCTAAGATCC
18585	MAFG	ACCAGCCTGGGCGCAGTGGTG
18586	GSTP1	CGGGAGGCAGAGTTTGCCTTCCTTTC
18587	PRNP	TTCCTGTTTTCACCATCTTTCT
18588	NGFB	CCCCTGCCCCTTCTACACTCTCCTGGG
18589	AHR	ACTCCACTGCTTACCTACTTTCTTC
18590	LNK	ACCTTCCTGGTTCAAGCGATT
18591	TXK	GCACCGCAGAAGAACTGAAGACTGTTG
18592	MAP3K7IP2	GGCGGCAAAGGAAAATGCTTGGACA
18593	CORO2A	CTGGGCCAGACGCAGTGGCTC
18594	IMPA1	TTTGTTTTATTCTTCAGTGTTC
18595	MTMR2	CTGGTGTGTGTGGGAGGGAGGG
18596	PLA2G4C	AGACCAATGCCTTCCACTGCTCCT
18597	B4GALT3	GTAGGGGCCTCTCCCTCACTGCTG
18598	ABCC3	AGGCCTTTGTGTCTGTGTCCT
18599	BACH2	ATACGGACAGTTTTCACACATATCT
18600	ALDH3B1	GCCTGTAATCCCAGCTACTCAGG
18600	CARKL	GCCTGTAATCCCAGCTACTCAGG
18600	CREB1	GCCTGTAATCCCAGCTACTCAGG
18600	CTMP	GCCTGTAATCCCAGCTACTCAGG
18600	DAPP1	GCCTGTAATCCCAGCTACTCAGG
18600	F2RL3	GCCTGTAATCCCAGCTACTCAGG
18600	IAPP	GCCTGTAATCCCAGCTACTCAGG
18600	MTNR1A	GCCTGTAATCCCAGCTACTCAGG
18600	VDR	GCCTGTAATCCCAGCTACTCAGG
18600	VPS41	GCCTGTAATCCCAGCTACTCAGG
18601	DLGAP2	TGCCAAATATTCAGCATCTGTA
18602	ERCC6	TGTCTACCTCAGAATTAAAACTTTAAGGA
18603	KCNAB2	CAGAAGGCTCCACCCTGCCGTCC
18604	ZNF138	CACAAATGTGGAGAATGCGGA
18605	RAD50	CCAGATGGTCATCCAGACTCAG
18606	TYR	TAGCCTCTTTATGGTCTCTGAGAAA
18607	JPH3	TTCTGCCTTCTCCACCAGGGTCGCTC
18608	CBFA2T2	TTGTTCTGTGTCCTTTTATCTCT
18609	RERE	AAACCCACAACTAAAAAT
18610	GH2	CAGTGCCTCTCCTGGTCGTGG
18611	LSS	GGGGGCCAGGCTGGAGGCAG
18612	CLASP2	CCATCATCAGCTGCATCAGCCTTC
18613	SLC6A3	GCCACTCAGGCAGCCTGTGG
18614	CHGA	CCGGCCCCACACCGCCAGCT
18615	SRC	GGAGGCATCATGGAAAGACTGG
18616	GART	TCTTCCTCTCTCGCCCAAGTTCTC

18617	HHEX	TTAAAGGTTTTAATAGGACCTT
18618	BCL7A	ATTTTTCTTTGCAGCGAAACTC
18619	PRDM2	TTGTCCCGTAAATGTTAACA
18620	APBB2	TGCTGATGCTTTGTCTTCAGAGA
18621	NOS1	TAAAGAGGAAGTGCACTGG
18622	GAS7	GGGGGCGCTTCCCTTCCAGCATCACCTGCA
18623	FANCC	CTCCACCCTGTCCTGTGGTCC
18624	PMX1	ACTGAGAAGGAAAAAGGA
18625	F2RL3	GCCTGTAATCCCAGCTACTCAGGAGA
18625	MTNR1A	GCCTGTAATCCCAGCTACTCAGGAGA
18626	RBBP9	ACAAGTGTTTTTAAAAAGA
18627	INPP5A	CTGGGTGTTTGTGTGGGATAAATACT
18628	CACNB2	TTGCTTGAATAGCAATA
18629	RAD50	GGAGAACTTATAGCTGTGCAAA
18630	NPEPPS	CGCCGCCGCCTCCACAGCCTGG
18631	TNFRSF10B	GAGCCCTGTTTGGGCTCAGGAGATA
18632	STK38	TGGAAGAGAAGCATCATGAGCCAATTT
18633	CR1	TGCGATTACAGGCATGAGCCAC
18634	PCDHB16	GAACTCCTGGGCTCAAGCCATC
18635	DDX3	CCCTCATTAGGGCCCTGGATGA
18636	NID	CTCCACCCCTACCCCCAACCC
18637	PCDH12	AACTCACAGCCCTCCCTTTTCCTGT
18638	FXYD6	GCCCTTCCGTGGTTAATTTCTTCCCA
18639	DEC1	GGAGAAACCTGAAAGCAGCCCA
18640	CIAS1	TTAGCTCATTCAATAAAGCACTTT
18641	DRD1	GCAGAGGCCCAGGAGTCACTGGA
18642	CD68	CCACTGAGCCAAGATCGCTCC
18643	SCAP2	AGGTAGGCAGAGGTTGCAGTG
18644	MNT	CCCACCCCAGCACAGCCACCT
18645	MAP3K14	TGATGACCTCAAAGCACTTTC
18646	EIF4EBP2	TGCCACTCCTCCCTGCTTGCAT
18647	DPYSL3	AGCCTTATGTTTCTCCAATGTTAC
18648	PPFIA3	GTGCCCCGGGGGTAGGGGGCGCA
18649	ANPEP	GCCCAGTCTGCCTGTTGTGGGGCT
18650	WBSCR5	AGAGGGCCACGCCTCCATTCAC
18651	BAT3	GCTCTATGGCCCTTCCTCATCA
18652	NAB1	AAGTCAGAGAGACTAGATGCTTT
18653	SOD3	CAGACACCTTCCACTCTGAGGTCTCA
18654	BDKRB2	TGGCACACAGTAGGTGCTCATTGGCT
18655	HOXC10	CTCACACACAGCATTCTGTTCTCC
18656	HNRPA2B1	TTTAATAACATTACCTTA
18657	ABCA2	GGCACTGCTGGCCTTTCTCCTGCCCG
18658	INHBA	GCCTTAGCCAGGGCTCAGA
18659	ETF1	TAAACCTTCAAAAGTTAATAGAAGTGAGA
18660	MAOB	GGGAAAGAGTTGCAGTAAAGTT
18661	LAMC1	AAGGGATAAAACTTAGATGGCAGCTT
18662	HRH1	AAAGGCATCCTCAAAAGAAAGA
18663	EXTL1	CCATGGCCTGGCAGACAGCCCT
18664	COL4A2	GGGCAAGCCCTGCCCACAGAAA
18665	GRM6	CTGTGATTGTGCCACTGTACTCCA

18666	KRT6A	CCCAGGTAGAGCTGGG
18667	SERPIND1	CATATGAGAGGAGCTTAGAAA
18668	GGT2	GTCTCTGGCTGCCCTCGGCCT
18669	MME	GCCACTAGACTCTTCACTGTTAGCTTTT
18670	CDK10	GCACTTCCTGTTCATGTACGA
18671	MTF1	TGAAGGATGAAGAAATCTACTG
18672	CALCB	GCTAAATTTTTGTTGGCTTGCTTGCT
18673	TEK	TCACAAACCGCTGGGTTTTTG
18674	PRG4	TTCTACAACTTCAATGGA
18675	NGFR	TTCTCCCACACTGCTAGGTGG
18676	SLC4A10	TCTTATTATGCTCCAATATA
18677	NRIP1	ATGCATTTTGCTGCCTTT
18678	PDE4C	AATTTTCAGCACCAAAGCTTCA
18679	GCNT2	CGCTCATTCCCTGAATGGCAGT
18680	EZH1	CCTGTTCTGCTGTTGTGTCC
18681	RARA	GCCCCCACTGTGAAGGGGCTG
18682	ALDH3B2	TCTGAGCTCATCCTTTGCCAG
18683	FPGS	GGACACTGCGGGACAGAGGGTG
18684	PTK2	AGGCTGGAGTGGAGTGGC
18685	GJB1	GACATGTGGGTGGAGAAGGGAGGGTGGCCA
18686	SLC6A12	ATAATTGGAACGCACACTGCCG
18687	AGTR1	GTCAACTGACAGTCCAAAGGCTCCACA
18688	VENTX2	AGGGAAAGCAGGGCAGCCGGGACCTGC
18689	DMC1	TCTCCAATTTCACATCTTGAAATAGAG
18690	GNPI	CCAATTTTTACATAGGAGGAAACGGCTC
18691	CXCL6	GCCTACGCTTCTCCCTGAAGTTT
18692	MSR1	ATATATTGAACACCTTCATGCTTA
18693	ADAM12	TGACCAGCCGTGAGCATGTTTGG
18694	PSMA5	CCCCGCGTAGCCGCTGCCTCC
18695	TIMP3	GAGGCAATTTGCCTGCCTTGT
18696	BCL7A	CAGGAATGGCTTAAGGTGAAATCGT
18697	TLL2	CAGATGTTTTTAAAGTTTCT
18698	NLGN2	CCCACGCCCCCTCCTTGTC
18699	AMPD3	TGACATGCATTTTAACTTTTT
18700	F13A1	AGTTAGTTTTTAATCTCTCCA
18701	LILRB1	CCAGCCTGGCGACAGAGGGAGACTCC
18702	RYR1	GCCCTCCACCCCCACCTCAAGTGCCTT
18703	MAPT	GAAGAGGGAGAAGGAGAGGC
18704	SFRS1	AAAACACTTGCAAACATTTTATTC
18705	RAB36	TGTGGTGATCCCATAAAAGGCC
18706	ZNF278	GATCTGATCAGACTGTATTAAAAATG
18707	SDPR	CCTCTGCCAGTCCTGGAGACT
18708	ED1	ACCAACAAGAACCACTCCTTC
18709	PKD2L1	TGGTGGGTTCTGACATTATTCTTCCA
18710	TRIM14	TCCTTGGGGGTCTGAGATGAGGCC
18711	SLC7A5	GCTGGCCTGTGGCACAGCCCT
18712	EZH1	TGTCCCAGGCTGTGGTGCCAC
18713	SHFM3	CCGACATGGTGTCGCCTCCTCCC
18714	FRDA	AATAAGAAGGAAAAATTCCAGGAGGGA
18715	PCSK2	ACTCACTGTCAATGATTATTTT

18716	NOTCH4	TGGAAAGAGGGTTTAAGATGCTAGG
18717	ANXA8	GCTGGCTGGGAGCCCTTTTGTTTTAG
18718	HMOX2	CGGTAGTCCCTGTTTTTGCAGT
18719	MYLK	CTGCTTCTCTGGGGCTGGGCTCTACT
18720	FEN1	CCTCCTCTGTGTTGCC
18721	RAB23	TGTATATGTTTTTATTTTCAAAT
18722	ATM	CACTACACTCCAGCCTGGGAGACAGAG
18723	ACPP	ACCTGTAATCCTTGCATTTTG
18724	KMO	TTGACCAGGCTGGAGTGCAGTG
18725	ABCB9	CCCTTTACCCCTCCAGAGA
18726	TNFRSF5	TCACCCAGGAGGATGGCAAAG
18727	CYP2J2	AAACCACTGGTGTCTGCTCAG
18728	ALDH3B1	GAGAAACCTACATTTGGACAATGA
18729	AKAP13	TGTCTTCTCCCTTGTTTGAG
18730	AEGL1	ACAGAGTTCAGTCTCATCTTG
18731	ZNF85	TGCTTTGTGTTTTCTGCTC
18732	EPHB3	ATCCTGAAGCCAGCTTGCACCTCCAGTT
18733	RFXAP	GATGCAGAGGAATTCATCTACTGTCTG
18734	ADAMTS4	CCTGAGTAGCTGGGATTACAGG
18734	ADCY6	CCTGAGTAGCTGGGATTACAGG
18734	ATP8B2	CCTGAGTAGCTGGGATTACAGG
18734	CIAS1	CCTGAGTAGCTGGGATTACAGG
18734	IGF1	CCTGAGTAGCTGGGATTACAGG
18734	KCNJ11	CCTGAGTAGCTGGGATTACAGG
18734	MLANA	CCTGAGTAGCTGGGATTACAGG
18734	PIK3CD	CCTGAGTAGCTGGGATTACAGG
18734	PKNOX1	CCTGAGTAGCTGGGATTACAGG
18734	PPEF2	CCTGAGTAGCTGGGATTACAGG
18734	PTGES	CCTGAGTAGCTGGGATTACAGG
18734	SNAP23	CCTGAGTAGCTGGGATTACAGG
18734	TRAF5	CCTGAGTAGCTGGGATTACAGG
18734	VHL	CCTGAGTAGCTGGGATTACAGG
18734	ZNF264	CCTGAGTAGCTGGGATTACAGG
18735	MAGEA2	GAGGGAGAAGAGTGGTCTCAGC
18736	CD83	GTGCCACATTTATTTTTATATCT
18737	IL10RA	AATATCTCCCTCTCTCCA
18738	PTPRB	TGTTTTTAAAAACTTGCTTCATGCCCT
18739	PIGR	GTCACCCAGACTGGAATGCAGT
18740	DAZL	TTTTCCTTTTCTCTTCATCTTTGGC
18741	ARHGAP6	AAAGTCAAGGGAAAGTTCTCCTG
18742	TAL1	ACCAGGATCCAGCCTCACTTCTAG
18743	KCNAB2	CTGCCTGACACCTGGGACAGGCTGGGCAG
18744	SIRT6	TTACTTGTTTCTGTCCCCGGGAGCCT
18745	MLANA	GATTACAGGCGTGCGCCAC
18746	CD209L	CCCACTTGTAAGCCAGCGCTT
18747	LAMC1	AACACAGCCATTATTTTATTGTCTA
18748	SMP1	CCATGGTCCAGCCACCAGGCT
18749	CDKN2B	TGGGATGTCCTACTATCA
18750	SLC16A7	TTTGGACATAACTAAGCCAGG
18751	CST1	ACAGACAGAGAAGGCTGCA

18751	CST4	ACAGACAGAGAAGGCTGCA
18752	ADRBK1	CCGGGGCGTTTCTTTGCCGATTTTTGAA
18753	POV1	GGGTCGGCCCCTTCCAGGGCCAGGA
18754	CTNND2	GGCTCAGACAACAAAAGCGGAAGATGC
18755	TRHDE	ACCACTGAATTCATGTAATA
18756	TTN	AAGCTATTCAAGTATTCCTA
18757	MS4A6A	TACCTTGCCTAGTGTATCTTATCCCT
18758	PDE1B	AGGGCTGCTGCCTTCCTGTCCTC
18759	KLRD1	AGTGGCAAGATCATAGCTCATT
18760	CXCL16	ATCCAGGCTGGAGTGCAGTGGC
18761	EHD3	GATGCAGCCACTGTCTCTTGTC
18762	SMARCC1	CCAGAGGACAAGCCACAAAAA
18763	PLOD3	GTTCATGTTCCGCGTGCCTGAA
18764	RBBP9	TGTCTCCCAGGCTGGAGGTCAGTG
18765	FN1	TCTTCTTTCTTTCTTAAGCCCTTTGCT
18766	SOD3	CCAGACAACACATTTTTTAAAAAGACTC
18767	SLC15A1	GTCCAGGCTGGAGTGCAATGGCACG
18768	IGFBP4	CAGAGGAGAAGAGACATGTA
18769	LIMK1	GTGGTGGCTGACTTCGGGCTGG
18770	GNRH1	TTCAGCCAGCAGTAATGCTAGG
18771	SRP46	TTCCTGTTTTCTTCTGATTGCT
18772	FCRH3	CAGGCAGCCTCTGAGCAAGCACTGTGT
18773	LHX2	GACCGAGGAACAACTTGGAAG
18774	GRAF	TGTGAGCCGCTGCGGCCGACCA
18775	RBL1	GGAAGCGGAGGTTGTGGTGA
18776	GAA	GCTTGTTTCCACCTCCTGGGC
18777	BDNF	TCTGAGGTTCGGCTCACACTGAG
18778	WWP2	GAGGGCTTTGGACAGGAGTACCGAGGC
18779	ESR1	TGCTGCATTTTACCCTCATCATGCACC
18780	MFRP	CTGCCTCTCTGTGCCCAGCTC
18781	NT5E	CAGTGTGCAAATGGCAGCT
18782	STARD4	TGACTTCATCTATTTTTTATTTG
18783	EEF2K	TAGTTTGGGGAGGGGAAGC
18784	HUS1	AGCTTCCTGACTAGCTGGGACT
18785	EFNA4	CCAAGCAGACCTTCCCTCTCA
18786	P3	TTTCAATAAAAGAGAGAAGCA
18787	CTSL	GACGGTGATGAGGAAGGACTT
18788	SLC4A4	TCCTTGTAATTTTGATTACAAA
18789	CDYL	AGAGACACAGAGTGATGTGAG
18790	P2RY2	CACCAGCCACACAAGGGTCCT
18791	KCNK4	GCGCGTCTCCAGCCTCTGCACACACAT
18792	CPS1	TCCTCATTCTCACCCATTTGGCTA
18793	EZH1	CTCTGGAGATAGATGGAGA
18794	RS1	CCCTCATGAACACAGGGAT
18795	ADARB1	TGCCTTGGGATCAGAGCAGA
18796	DGKB	CTCTTGGAAGCGAATCATGCATGCAA
18797	CSPG3	CCCATTTTACACACAGTGAAACTG
18798	TK1	CTGAGGCTTAGGCCTCTCTG
18799	OAS3	AAGCTAAGTGAGAGAGCCAG
18800	STK24	AGAGGTGCGCCACTGGGAGCCAC

18801	CCR9	TCTTTTGGCCCTCTTCTTTCTGAGGCC
18802	ATP1A2	CCTCCCAAAGGCTGTCATTTCA
18803	MDM4	CTCCCAGGCTGAAGTGCAGT
18804	AF3P21	CCCTGCACCTGCCCTGCCCGGCCTCAT
18805	RPL15	TTGTCCAGGGTCAATTTGAGTGTAAAG
18806	ZFHX1B	TGTGTTTCTGCAAGTGCCAT
18807	CTNNB1	GGCCCGGCCCCGGGAGCGGAG
18808	CNTNAP2	ATCACACCTCTTAGTTT
18809	PLAUR	TGACCTCAGGCCAGTGTGCCG
18810	OSR1	CCCATCATTACCTGTGAACTGCAGTGG
18811	ALOX15	CTGCAGCCTCAGCGTCCTGGGC
18812	RS1	TCAGAGGAGGCTCATTAGCTGGCTA
18813	PACE4	ATATATTTTCATTGAAATGCAC
18814	RPS6KA2	CCTCACTGCGCCAGCCTC
18815	KRT4	CCAGCACTGGTGTCTCTGTGCTTCCTT
18816	PAX5	CATCATAACCACCCCAGCCTGGG
18817	STX7	TAAGCTTTTGCTGTAGATTGCCTAGT
18818	VCP	AGTCTGAACAGTTCAGCTACAGT
18819	KCNMB1	TCCATCCTGGCGGCCCAGAA
18820	GALR1	TCGGAATCCCTGGAAAAGCCGGGAGG
18821	SLC14A2	CCAGCAATGTGGAAGTTCCATCGAT
18822	RHAG	AAAAAGCTTTTGGCAGTGAGT
18823	IL1R1	CAGGAGCAATTTGCACATGTA
18824	GSN	TGTCAGTGTTTGGGAAATTA
18825	KRTHB1	TCCTCTGCTCTTGATCTGTGTT
18826	KCNQ2	GCACAGCCCCATTGACACAAACCCT
18827	HAO1	AGACACTGTGCAGAGGGTG
18828	DTX1	GCTGCCTCACTCCCTACCTGAG
18829	IFNW1	TTCAGAAAATGAAAACCATG
18830	PDK4	TTCCTCCAAAACAAACGACA
18831	ADAM19	GGATGGCCCAAAGTCCAGGGTCT
18832	PMM2	CGGTGGCCAGAGCCGAGGGTCC
18833	CLN2	GCTTTATGGCCTTTCCATCATAGTTGCC
18834	LZTS1	CTGCAGCCTCATACTCCTGGGC
18835	MASP1	CCCTGCAGGTTCCTTCTAGCTG
18836	CLASP1	TGCTGTTTCTAGAATCATAACCTGGAC
18837	RAB7L1	AGGCCTGAAGTTCTGTGAT
18838	STX7	TGTCACTGCTGACATAACTCC
18839	PBX3	CTTAAGGGTAAAAAGTACA
18840	HNF4A	TGGGAGGTCAGGTGGGGTGGATG
18841	ACE	GGGGGCCCATCCCTGCCCACCTCCTGG
18842	LMO2	GCAGGCAATTAGCCCAGAAGG
18843	COG6	GGCGACGACCTGCAACCCGCT
18844	NRL	CTTCTGGTCCTAGCCA
18845	NOS2A	TTACATGAATTGCATTTTACTTTA
18846	MUCDHL	GGGCTCGGGGGATCCCGGACACCCTCT
18847	SERPINB3	CTAGAAACACACATTTCTTTGAAT
18847	SERPINB4	CTAGAAACACACATTTCTTTGAAT
18848	LASS2	CTCGGGGCCTCGGAGCAACCAC
18849	LAD1	CAGCTCCTTCCCAGCCCAGCCTC

18850	ALDH1B1	CCAGGCTGGAGTGCAGTGG
18850	ALOX15	CCAGGCTGGAGTGCAGTGG
18850	APAF1	CCAGGCTGGAGTGCAGTGG
18850	APPL	CCAGGCTGGAGTGCAGTGG
18850	AQP6	CCAGGCTGGAGTGCAGTGG
18850	CLECSF12	CCAGGCTGGAGTGCAGTGG
18850	CPS1	CCAGGCTGGAGTGCAGTGG
18850	CTSS	CCAGGCTGGAGTGCAGTGG
18850	CXCL16	CCAGGCTGGAGTGCAGTGG
18850	FGF5	CCAGGCTGGAGTGCAGTGG
18850	FHL2	CCAGGCTGGAGTGCAGTGG
18850	GM2A	CCAGGCTGGAGTGCAGTGG
18850	GNE	CCAGGCTGGAGTGCAGTGG
18850	GRINL1A	CCAGGCTGGAGTGCAGTGG
18850	HUNK	CCAGGCTGGAGTGCAGTGG
18850	ICAM1	CCAGGCTGGAGTGCAGTGG
18850	IGF1	CCAGGCTGGAGTGCAGTGG
18850	KMO	CCAGGCTGGAGTGCAGTGG
18850	LZTS1	CCAGGCTGGAGTGCAGTGG
18850	MAK	CCAGGCTGGAGTGCAGTGG
18850	MDM2	CCAGGCTGGAGTGCAGTGG
18850	MEFV	CCAGGCTGGAGTGCAGTGG
18850	NQO1	CCAGGCTGGAGTGCAGTGG
18850	ORC1L	CCAGGCTGGAGTGCAGTGG
18850	PAICS	CCAGGCTGGAGTGCAGTGG
18850	PCDHB16	CCAGGCTGGAGTGCAGTGG
18850	RPP30	CCAGGCTGGAGTGCAGTGG
18850	SERPINB9	CCAGGCTGGAGTGCAGTGG
18850	TMPRSS3	CCAGGCTGGAGTGCAGTGG
18850	TRPV1	CCAGGCTGGAGTGCAGTGG
18850	VIPR2	CCAGGCTGGAGTGCAGTGG
18850	XRCC2	CCAGGCTGGAGTGCAGTGG
18850	ZNF264	CCAGGCTGGAGTGCAGTGG
18851	PTTG1IP	GAGTCTTCACACCTGTTGACTCA
18852	DAPP1	ATCAGCCTGGCCAACATGATG
18853	SLC1A4	GGTTACATCTTGGAAAAAATGCAGA
18854	CKTSF1B1	AAGGGAGGGTGGAGGGTGAGGC
18855	RXRA	GGGGATGAGAGGGGACTCGTGGGGCAAGC
18856	MSF	GACTCCACTCAGGTGCACAC
18857	F2RL2	ATCACCCAGACTGGCGTGCAGTG
18858	CYP1A2	TGCAACCTCTGCCTCCCAGGTT
18858	MICB	TGCAACCTCTGCCTCCCAGGTT
18858	NQO1	TGCAACCTCTGCCTCCCAGGTT
18858	PER2	TGCAACCTCTGCCTCCCAGGTT
18858	RAB36	TGCAACCTCTGCCTCCCAGGTT
18858	SIGLEC8	TGCAACCTCTGCCTCCCAGGTT
18858	SMAC	TGCAACCTCTGCCTCCCAGGTT
18859	CYP8B1	TACAACCTCTGCCTCCCGGGTT
18860	SERPINE1	GATGCAGATGTCTCCAGCCCTCACCT
18861	ANKTM1	AGGGCTTCCGCAGAGCACTTTT

18862	DPP4	AATCATTTCTGCATCAGCTGCTGAAA
18863	CPM	GCCTTGTAATCCCAGCACTTTG
18864	CTBP1	TTGCTTAGCTGTCAACAAAAAGA
18865	NF2	TTCTCTGACCTGAGTCTTT
18866	TRPS1	TCCCAAAACTCAATTCTGGTTT
18867	NOTCH2	ACATCACAAAACTGAGCACTCTTC
18868	P2RY6	GGGCGAAGTGCAGTGGCTCATGCCT
18869	MRE11A	AGGCAGTGTCTGGATGATGCTGTG
18870	GLUL	GGCCTCCTCTCCTCTCCTAACCT
18871	TAPBP	TGGGAACCATGGTGTCAATACATATCA
18872	BACH2	GCAATGGATAAACAGCTCTGACTTTCA
18873	ADAM10	GGCTAGGAGGCTCGACCACCTCA
18874	HUNK	TTCAGATCTTCCTTCCTCC
18875	PSMA3	ATACATACTGTCCAATTTTCATTAAAT
18876	SKIV2L	CAGGCAGCTGCTGTGG
18877	MAGEA8	GAGGAGGCAAGGTTCGCAGAGAACAG
18878	PPP2R2C	GAGGACAGCTGCAGAGGTGGCAGTG
18879	AKAP2	TGTTACAAGCAAATCAACATAGTTGC
18880	TM6SF2	CCTATCTCTGAGTTTTGGGACC
18881	SFRP4	ACTCACTGCAGTGCTCTTC
18882	TREM2	GACCAGCCCAGCCTGCATACTTGCCAC
18883	ITGA1	AGATGCCACTGAAATGCTGAA
18884	CYP4F3	CATGTTACACTGGCTGG
18885	ATP1B3	AGAAATGTGGTATGTGGAGAA
18886	AMELY	GACCAAGCCTCCCTGTGTAGCA
18887	SLC7A8	ATTCTCTCCCCCACCCCGAATT
18888	ARSD	AGAGGAAGAGCCGCACACTTTTA
18889	GFI1	CTTCCCATTTCCAGCCTTAA
18890	TMPRSS3	CCCAGTAGCTGGGACCACAGGT
18891	IL21R	CCCCAGGCCTCTGCCTGCTTTCTCAG
18892	MKL1	CCAGTGCTGGGACAAAGATGGGGAAGG
18893	AHSG	GAAAGTGCCTGAAAGACCTT
18894	HS2ST1	GATGGTGATGAACTCTTTAGA
18895	TNFRSF1B	CGCCCAGCTGCACCTGCCAGCCTGGCTTCTG
18896	ITSN1	GCCGTTCCTTCCCCCTCTAGGCC
18897	HKE4	CAACAGTGTCTGTGTTGCCCGAGCTGCTGAG
18898	TTYH1	GCCCCTCCTCCCGGCTGGACTG
18899	DNASE2	GAGGGAGGATCACTTGAACTCAGGAA
18900	ATP1B1	TTGACATCTCTTGCCTT
18901	UCHL1	GCTGTTCTTCTGTTCTGCAG
18902	FBXW1B	TCTGGCTTCATGCAATTGTTACTTCA
18903	CD28	CTCAAAGCAATATCAGGTAAACCAA
18904	CDKN1A	CTTCTGCCTTAGTCTCAG
18905	HOXA5	TATCAAAAAACAAATGAGCTCT
18906	PPP2R1A	TCTCCACCTCCCGTCCTCCCCATCATT
18907	PCDH15	CCCTTCCCTTCTTTATAATGAAAA
18908	PMX1	AGGAAATCAACCAATGCTGCGGAA
18909	TES	AAATAGCTGGGATTACAGGTGCATGCC
18910	TM4SF6	TCTCTGTTCTGCTGACAGGCAGAGAGTCA
18911	DFFB	CAGGCTGGAGTGCAGTGATGCA

18912	LNK	CGGGCTGGAGTGCAGTGGTGCA
18913	ZFHX1B	GGGTTACCTTTGCACCAGCT
18914	CD53	GAAGACTTCTGGTATTATCTCTCTA
18915	CLDN3	CCAACACCACCACCACCACCGC
18916	RERE	GGGGCTGCTTCTCAGGAGGCCAGGCCCTTC
18917	OPA1	CAGCCTCTTTTTCTTCTGC
18918	MPZ	CCAGAGCAGGGGGACCTAGGCT
18919	HS2ST1	TTTGCAGCCCATACGGTCTCTGTCA
18920	MAPRE3	GGGGAGCCAGGCGAGGGGGG
18921	HTR4	CTTGGTTGGCCCCCTTGTCA
18922	ASPH	GCCTTTCTGGTTCCATCTCCTTGGGTG
18923	FMR2	TACTTCTCAACAGACATGATAA
18924	Rgr	TTTCTCCTTGACACAGACAG
18925	SSTR3	AATGTCCCACCTTGGAGCTC
18926	ANXA8	TGGAGATTCTGAAGTGCCTT
18927	PRKY	TAGGCTAGGTGCAGTGGCTTGTTCCT
18928	DMD	GTTTTACTGCATTTTCACAACAT
18929	CASP8	GATTCTGCCTTTCTGCTGGAGGGAAGTGTTTT
18930	IHPK3	AATCAGCTCTGGAGGTGATTCCACAT
18931	C7	AGGTGCCCGCCACCACGCCC
18932	BTNL3	ACAGTGATTCCTGCCTCACAGGTGAAG
18933	AGPAT2	GGCACCTCTGGGAGCTGGGATG
18934	SLC16A1	AAATTGAGCAGTTCATGACCCAGGAT
18935	ZIC3	TTTTGGGGGGCTGGAGTGGGT
18936	SERPINB9	CAGTGGTAATAAATGGTGCTA
18937	FBN2	TGTTTCCTTTGGTTTTCTGCCA
18938	GADD45G	CCCTCCGCGCTCTCCGCTTGTGGATAACTAG
18939	RPN2	CATCCTGGCCCGCAGAGCCTGCCGC
18940	CACNG6	TCTGTGGCTGTATGTGGGTT
18941	FCAR	TCACCCAGGCTGAAGTGCAGTG
18942	ARHGEF7	AAAACCTGCCCTGTTGTATATA
18943	DLG4	CCCCCATCCTCTCCCACACACA
18944	C5R1	CAGGCTGGCCAGCATGGTGAA
18945	PKHD1	TAATTAGTTCAACTGATCCATTCCACA
18946	MECP2	CTGACTCTTCCCCAGGAAGGGAA
18947	MECP2	ATCTCCTTAGAAAAGCCATTA
18948	XPNPEP1	TGAGACTATATTTATGATCAG
18949	PREB	CGGGTCCACAGCTGAGGTTGCCTCTGA
18950	DAXX	GCGAGGTTCTGAGAATTGCG
18951	EOMES	CTTTGCCTAGGTTGCCAAAAAG
18952	FRDA	GGAGCGGGCGGCAGACCCGGAGCAGC
18953	TNFSF14	CCCACTGCACTTGCCACCTGAGTCAC
18954	RPS3	GGCAGCTGTATTCTGGAGTCTG
18955	GFER	AAAGTGCATCACAGCCAGA
18956	TEAD3	ATCTACCTGCCAGGCCTCAGGCC
18957	CCBP2	CTGCCTCTCTGCAAAGTTGAGCACTACAGGAC
18958	COL4A1	CTCCAAAACATTTCTAAGACTACTAAG
18959	EHD2	GTGTGCAGCCACCATGTTCAGCT
18960	TFDP2	GAGATGAAAGTTAACATAGT
18961	MMP25	CCCGCCACCCACCTCCTCCTCC

18962	RANBP3	AAGGCACAGAGTCGGTCTCCC
18963	PPP1R2	ATACAGTGTAATATCATCAGTCCA
18964	ZNF10	TAGTAGTGTTTGGTATGTTTTATG
18965	SLC6A3	TCCTGGTATGTCTCACCAGGAA
18966	CPM	GCCATTGTACTCCAGCTTGGG
18967	NCF2	GGGTGAGGAGATGGGGACAGGTGAAT
18968	LNK	ACCCCCAGGCTCACAGCAGTG
18969	SH3BP2	TTGCCCAGACTGGAGAGCAGTG
18970	PCSK5	GGAGGGAGCGCTGGGAGCGAG
18971	BPHL	CTTCAGGCTGGGCACGGTGGC
18972	GRM1	AGATCTCATGACTGAGATGTG
18973	SP1	TGCATTTCTCTTCTCAGCTCTT
18974	MBD3	CAGGAGCCACTGGGACAGGGTG
18975	VAMP8	TGGGCTGCTCTGAGACATGGAGGAAG
18976	SLC2A1	CAGGACTTAACGGCTCCAGGAT
18977	CBFA2T2	CAAACTCCTGGGCTAAAGCGAT
18978	TNP2	TGGTGATTTCTACGCAACACTAATTAAAGC
18979	TCF20	CTTAAGTTCTCACATCACACTCA
18980	ELMO2	ACAGCTGGCCCAGGAAAGG
18981	PHKB	GCATGCTGGGGAGGTGAATGCCACAT
18982	BCL11A	CGTTGGTTTGTTATGTAGTGTGCTTTT
18983	PROK1	ACCTGCTCTCTTTCCTGGGCC
18984	HMGA2	AATCGCTTGCTTGTTGAAAATATTTCTCTAGT
18985	NPTX1	CAAGGAGGGGAGAGAAGT
18986	CAPN10	CTTCTGATGAGACTGCAGCC
18987	AGL	GATTCATTCTCTTTCATTGCTCT
18988	POLH	AGGCTAAGGCAGGAGAATCACT
18988	ZNF14	AGGCTAAGGCAGGAGAATCACT
18989	CNTN2	TTACAGCCCAGTGCTCATCCCAGC
18990	EDNRB	TTACATCCTTTACATTCAG
18991	SIGLEC8	CTCAGCCTCCCAAGTAGCCGGG
18992	SYT4	TGGCCTGAGAAATCCCTATGTAC
18993	CDC23	TTTATAGCACTTTAGCACAGG
18994	SOLH	CCAGCCCCAACACCCGACGGG
18995	TGFA	TCTGAAAAGTGAAAGATTTCTA
18996	MAFF	GTCCTGCTGAGAAATTGCACTGA
18997	MADH3	TCTTTCTCCCTCAACTGAAGGGGTGC
18998	PLN	TTCCATTCCAGCCTAACATCCAATGCA
18999	BHMT2	ACCAGCCTGACCAACATGGTGA
18999	C21orf5	ACCAGCCTGACCAACATGGTGA
18999	COG7	ACCAGCCTGACCAACATGGTGA
18999	CORO2A	ACCAGCCTGACCAACATGGTGA
18999	CPM	ACCAGCCTGACCAACATGGTGA
18999	IL18	ACCAGCCTGACCAACATGGTGA
18999	TCTA	ACCAGCCTGACCAACATGGTGA
19000	CHST5	ACCAGCCTGGCCAACATAGTGA
19000	FANCD2	ACCAGCCTGGCCAACATAGTGA
19000	FCMD	ACCAGCCTGGCCAACATAGTGA
19000	MS4A2	ACCAGCCTGGCCAACATAGTGA
19001	IL17BR	GATGGCTGCTGCTCCTTGTACCCACCC

19002	HD	TAGACACATCTATAATTTTACACAC
19003	HNRPK	AGACAGTCATTTTAAAATGGTGGCTG
19004	FUT5	CTTGCCAGCTGGGGCTGGGG
19005	SYNGR1	TAAACTCAGGTGTGTCCAAGTC
19006	ARNT2	TGGGCTAACAGGCTGACACTTC
19007	CDR2	CTATCGCCTCTCTCTCCCAT
19008	VTN	TCTGCCCTCCAGATCCACGGT
19009	KLF8	TGTTTTTAAAATAAGTACCTA
19010	HSPA2	ATCTATTGTTGGAAGTCTTTGGT
19011	SIRT6	ACACCCCAGCCTCTGACTTGCTGT
19012	CREBL2	ATACACCCAGACAGACCCAGAA
19013	CD5	CCCACAGGGCACCAGTGCCACCC
19014	SCO2	GGGAGCTGGAGGTCGGCGCTTC
19015	LSP1	TTGCTTCCTGTTGCCAGCATGA
19016	EFNB2	GTGCTGTCCGGGTGCCAGGGCTGCA
19017	LGALS3BP	TTTCCAGGTGGTAAGCACCA
19018	CAMK2A	TCTCAAGTCCTGCTGCCCAG
19019	DLST	CAGCATCTACTACTCTGTCT
19020	SORCS2	AAGCTCTCTCCCCACCCTACCT
19021	SLC1A3	ACTGTCAGGGCTAGCCTGCCTGCTTACGC
19022	ATP1A2	ACCACCTCCCAAAGGCTGTCATTTCA
19023	B2M	GCAACTTAGAGGTGGGGAGCAGA
19024	KCNAB1	TCAGCTCTAGGCTTCTGTAAA
19025	PAX2	CAGACTCTCAATCTGCCGGTGGT
19026	GLP1R	GAGGCAGGCTCCCCCTGCCTTT
19027	ABCC3	GTGGGCCGCACTGGGGCTGGCAAGTC
19028	PIGR	AATCACCTTCAGAATCATGTC
19029	ITCH	GGTGATTTTTATATGTTCCGCT
19030	CDKN1A	CTACTTCCTCCTCCCCACTTGTCCGC
19031	TPST2	GGTGGCTTTGTTTGCTGGGACA
19032	B4GALT1	CCTCCTGTTCCACCTCAGGTTTTCACAG
19033	TRIM14	CCTCAGCATCCTGAATACATCATCCG
19034	BCL2L2	GCCAGACCTCACTGCTGCACTTTCCA
19035	LEF1	GTCGACGCCAAAGGAACACTGA
19036	ATP1A1	CTTCCAGCTGCTATCATGGTATTCTCAT
19037	KIF3B	GGTATAGAGAGCAGAAGAGTAGC
19038	SARDH	CCCCAGGACCCCCACACCACCCCAGCTC
19039	BAZ2A	CACTGCCTTACATGTGACTATGT
19040	SH3GL2	CTTAAATTTCTTGCTATAC
19041	CHD2	GCAAGTCCAGGGAGAGCTAAAGAGGTT
19042	IL10RA	GCAGGGCTGGTCAGGGTGTCTGG
19043	SIAT1	CATGCTGGTTTCCTTCCTGCCT
19044	ABCG5	GACATCTCAAGTCTTTTAACCAT
19045	DDC	CAGCTGTCTGTGGCTTCCCATGTCT
19046	FAAH	CCACAAACCATTACTACTTGA
19047	MDK	AATCAATCATGCCCTGCCTTGT
19048	RTDR1	CAGTGGCGCGGGCTACTGGAA
19049	ANK3	GGGGTATTTAAAAAGGACTGAACA
19050	TPMT	GAGTGGCTGGGATTGCAGGTGT
19051	PIK3C2B	GACTCACTGCAAAATCTGCCTC

19052	PDX1	TAACACTGTGAACTTCTAAAGCAAGAG
19053	DUSP4	GACCTGTCCACCCGGGAGGAAGGG
19054	MTMR3	AAGGTCAGGGAATGCTTAAGCTC
19055	CST	ATCCAGAGCTGGAGTGCAGCGGCACA
19056	ZNF133	ATGCTTCAAAAGTTCTGCTGCCTG
19057	OSM	GCTGGGAGACAGAGTCAGGCTGT
19058	CD74	CCTGACATCACAGCAGCCTC
19059	HOXA5	TAGATGTTTTAACTTATTTAT
19060	TCTA	TAATACTACTGCACAGAGTCA
19061	ANXA1	ACCATAAAACCCTAT
19062	EN2	TCCTCCTCCTCCTCACCAAGGGCCC
19063	AOC3	TCTCACAACTAGCGGTCCTGG
19064	NCSTN	GCCAGATTTTGGGATTACAAA
19065	D1S155E	CCGCCTGGTTACTGTGTCCTGTAAA
19066	CCR2	TTCTAGTCTTCATAATTTCTTCACTC
19067	MGEA5	GGTGGAGTGATTCCAAGTGGGATGGTTG
19068	VANGL2	GGCTGTGCCTGAGAATGGTAGCATTTT
19069	FGFR1	TGTGGAGGAACTTTTCAAGCTG
19070	HOXA3	GGGCGGTCTTCTGCTCCA
19071	PRDM2	CCCCAAAACAAAACAAACCTT
19072	NDRG3	TACCCAGGCTGGAGTGCAATG
19072	TRPM6	TACCCAGGCTGGAGTGCAATG
19073	MAGEA2	CGCTGCCTCTGCTGCCGGGCCTGGAC
19074	TBX5	ACCTGAGCCCTGCTCTCCAG
19075	TAF1A	CTGCTGCAGCAGGAGGAGTTACG
19076	PPP2R4	AGAGTCTCCGAGGCCATTGAGAA
19077	TMEM1	GATCTCAGATTCCTGCTTTTCTCACCC
19078	MEIS2	AGTTTGCAGAGCATGCCAGGGGA
19079	ATM	CACACCTATAATCCCAGCACTT
19079	CTMP	CACACCTATAATCCCAGCACTT
19080	SOX11	GGAGGGAGGCTGGGAGGC
19081	NARS	AATTAAAACAAAAATCTTGGGG
19082	NHLH1	AGGCCCTGGGGAGGCAGGGGTTGG
19083	ASPH	GCTCTGGCATCATCATCCC
19084	HOXA1	GTACCACACTGAGTTCTATCAGTTAT
19085	FACL4	GAAAGAGATTTAAACTCTGA
19086	CYP7A1	TCTTCGGGTGTGATCATATATCA
19087	TNFRSF18	CGTGGGTGTGCAGTGCCCAGCACGGGA
19088	SCA1	GGCTTCACAGTGCCTGCCTTC
19089	MXI1	CCCAGCTGCCACCTCTCCATCCTGCT
19090	P2RY6	ACTATTTCTTCAGCCCCTTCTCT
19091	COL4A1	CAGTATAAATTTCTGTCTTTC
19092	E2F3	AACCAGGTCAGATGATGTAACAG
19093	SDPR	CCCTGAGCTCCAACCAGCGGGC
19094	ELA1	GACCTTCCCAAAATGGTTCTTA
19095	MEFV	CCAAAGTGCAGGGATTACAGGC
19095	SCNN1G	CCAAAGTGCAGGGATTACAGGC
19096	CD209L	AGAGGGCATGGAGGCTCCATAC
19097	AMPD3	TGGTCCCAGGGGCCAAGTAGA
19098	NFIA	GCGCTATGCCTTTAACACCCGCG

19099	HSPA4	GCTATAGCTACAGCTCTAGCTATC
19100	PITPN	CTGGTGAGGAAGTCCAGGCTCC
19101	NHLH1	CTACTTCCCTGTCCCTCTGA
19102	GRM1	ATCTCTTTATTAGTGAATCATGCT
19103	LIF	GGAGAGGGAGGCTGCAGACGCCTG
19104	PPP1R8	GGAGCCCAGGCCCAGGAACTGAAG
19105	NOTCH2	ACTCCTCTTCTGCCTGCCTTTGGGGAT
19106	ALS2	AGAGTGTTATAACACCATCTGGAG
19107	CEBPB	ACATGGCTGAACGCGTGTGTACA
19108	SIL	CCAAAATGCTGGGATTACAAGC
19109	FMR2	TTCCAAATGGATGAATTTTCA
19110	TRPM8	GATTACCATAATTTTGCTCATTGAAG
19111	DRPLA	AGGATGGGGACAGAAAGCGC
19112	NT5C2	TGCTGCCCAGGCTGGAGTACAG
19113	SNX9	TCTATGTTTGTATATTTTTATAACTCC
19114	PDE4C	GGCTGACAGAGCAAGACACTGTCTCA
19115	VHL	CTCAGCTTTTGATGGTACTGA
19116	MTR	TCCTCAAGGAAATACAACCTAG
19117	PTGES	CAAGCTGGAGTGAAGTGGTACA
19118	CDA	TGGGCCCTCTTTCAAAGTCCA
19119	NQO1	GCCATCATGCCTGACTAATTTTTGT
19120	HOXA1	TTCTTACAGTTAAGAAGCCCT
19121	PPP1R12B	GCCTGTAAACACAACAGTATTTATA
19122	AIM1	ACACCAGCCCATACGCTGCTCTT
19123	KCNA5	AACAATTCTTGTAACTTTCT
19124	CA14	TTCTCAGATACCATGGATGTG
19125	ABCC3	TGGCCCCTGTCATCCTCATG
19126	DHCR24	CCCTACCCATTTGGCCTCTGGAGGGGGCAG
19127	IRAK1	TATGACTGCACTCCAGCCTGGG
19128	PAX2	GCTCTTCACTGCTCCTCCTGGCCTGCC
19129	RHCE	ATTTTAGCAAAAGCATCCAAGA
19129	RHD	ATTTTAGCAAAAGCATCCAAGA
19130	NOTCH3	CCCAGGGCTTCAGTCTTC
19131	CLCN6	AACATTGCAGCTTTCTCTCCA
19132	PRex1	CCTCCATCACGCCTGTTACCA
19133	PAICS	TCCCTCCTGGGCTCAAGCAGTT
19134	EIF5A2	AGCCAGGCTGGAGTGCAGTGGTGCA
19135	STS	GTGATGTCTGGTCAACTGGCCTAC
19136	SMARCA3	ATCAAGCATTACACACAAAAAATCAA
19137	IL8RA	CCCTCTGCAGCTTCCAGGCTGG
19138	PTP4A2	AACCAGCAGAACATTAGGCCTGTGCA
19139	ABCC3	CATCGTGGCTGTGGAGAGGGTCAAG
19140	CENPA	CCATATGTACATTTGTACTT
19141	SDF2	GCAGAGCTGTGATCTAGAGGCTCT
19142	DHCR7	CCAGCACTGCCGTATTGCCAGCACAGA
19143	ITK	AAAACATCCTTTTTTCCAGCCTCT
19144	OASL	GTATCATAGGGAGACCCCGTCTCTAC
19145	LEP	CCCACCAAGGTCTTCAGCCATCAACA
19146	XRCC2	TGTCTCCCAGGCTGCTGGAGTGCAGTG
19147	YWHAZ	CTTTAAGGTTTGGAGCACTTA

19148	APM1	TGTGGCCCTGGCTGGAGTTCAGT
19149	GFER	GGCTGCTGAGCTGGGATGAGGCA
19150	SLC1A4	GCCTTAGGTAAACAACTTAGAT
19151	CYP2B6	GGCTCACTGCAACCTCCACCCC
19152	BRF1	GGTCCTGCCAGGGCTTCTCGAGGGCT
19153	RNPEPL1	GGGCCTCCAGCCTGGGACTGCT
19154	PTGER3	AGGTTTCCCAGAGAGGAAGGCGTGGCTC
19155	RNF4	CTTTTCTGATAAAATCCATCCCGTG
19156	RALB	ACAGCCTCAGAAGACCAGCGAG
19157	MYCBP	CCTGCCTGCCTTATTTGCTTACTGAGC
19158	ED1	TACTGTGGCCTGCAGGAGGGTTGG
19159	MAK	GGCTTACTGCAACCTCCACCTC
19160	XPNPEP2	CTCCCAGCCCTCTCCTCATTCT
19161	ITPR2	CAGTTACTCTTAATTCTTTA
19162	LCP1	TTGCTCCTCACACTTTTGGA
19163	UBE3A	TCATGCCACAGTATGTCGTCT
19164	GAS7	TGTCACTGGTGGGCACTGGAC
19165	CDC34	CTGGGAGGCCCAGGTGTAGCGGTCCGA
19166	ELMO1	AGCTTAGAATCAGTATTTG
19167	CPE	CCTGCAGCTCCCCTGGGCTCCGCGGCC
19168	CMRF35	GGCCGTCAGCAATACCTCTGAGTG
19169	CAPN3	CTTATTTTCTTTAAAAAGCTT
19170	DCX	CAGAAATTGTTTTTGTCTCC
19171	TNFRSF8	TGCCCCCAGTTACTGTAAATGTGGCCC
19172	ATP6V1C1	TGTTCACTGTATTTAGTAGACA
19173	DNAJB9	TCTTCCTCATTATCTTTGATGCTA
19174	CASP7	GCTGCTGGGTGGGTACTTCCTT
19175	OPCML	ACCTTTTCAGGCCCTCAGTCTA
19176	CLCN6	CCCACTTCCTGCTCCCTGTGTT
19177	RPS10	GCAGCCGCAGAGATGTTGATGC
19178	MAPT	TCCTCCTCCCGTCACAGATGTGAGCCAG
19179	MTF1	CCTGGCTCACAGGCTGTGGGG
19180	MADH4	TCAATGATCATATCAATTGGCAGTGA
19181	TACR1	GACAGGACTCTGCTGCAGAGGGG
19182	TPM4	AATGGCACCAGCTTTTTCAGCTCT
19183	LIMD1	TTCATTTCGTTGGTTTCTCTCCTGCC
19184	PIP5K1A	TTTCCATCTGATCCTTCCA
19185	ATP6V0A4	AGCCGAGTGGAGGGAGGCAAAG
19186	MTMR1	TCTCATCTGTTGCACTGTATT
19187	CHRNA10	ATAATGAGAAACTGAACTGTA
19188	SHOX	GTTCAAGCGATGCTCCTGCCTCA
19189	CX3CR1	GCAAGGGCTCCCCACTGCCT
19190	PBX2	CTCATACGCAGCTCATCTTAAACCAA
19191	TAZ	GGAGAACAAGTCGGCTGTGGAGA
19192	CALU	TGGCTTACCTTTCCTGCCTTT
19193	POLE2	AGATAGCAAACTTCAAGGCTTT
19194	KCNF1	GGGAGGGAGGGGTGTGCAGGAGCCGC
19195	ANKRD3	GGTGAAGCTGGCTCAGGTGCACATGCC
19196	HUNK	ATCATTCTCTCATTCACCAGTGGTGAC
19197	TCFL1	CCCTGCTTCTCCCCTTTGTCATC

19198	SHOX2	CCAACGCCAGCACCAATGTCGC
19199	VDAC1	CGTAGCCGCCTCCGAGCCCGCCGCCAC
19200	CSE1L	CAGGCTGGAGTGCAGTGAGCTATTACA
19201	RAB5B	CGGAGGTGGAGGTGCAGGGTCAACTG
19202	PDCL	GATTGCACTCCAACCTGGGCG
19203	ZIC3	TGCAGGAGACTCTTGCAGTGA
19204	FUT1	GCTCTGTAGCCCAGGCCAGAGTGCAGT
19205	SRY	TTACGATAACTTACAGCCCT
19206	FOLR2	AGTCACCTAACCCTCTGTCA
19207	FUT1	TCAACTCCTGGGCTCAAGCAGT
19208	MEIS1	TGCAGGATTTTTAGAGCATTAAA
19209	VIPR2	ATTGGTGGCATCACAGACCCCAGCTG
19210	FAT2	ACCTGCCATTGCCTCCTCTCCAC
19211	KIP2	CCTGCCTGTTCCCCTTCTCCCGG
19212	TGFA	CTGTTATCTTCAAGCCAGG
19213	DDX6	CAGGGAGGGGTGGGAGAGGGAA
19214	IL10RA	TTGCTGCCCCACCATCTTGCTGAC
19215	ASNA1	CCCCACCCCCTCGGGGCAGAGTTTGCA
19216	PODXL	GGACAGCTTCAGAATCTGACAC
19217	DEFB1	GTTCCTGAAATCCTGAGT
19218	SYNGR3	TTTGTATATATCACTCTCTCC
19219	TOP1	TTCTGAGCATTCGCTGTACCCT
19220	KCNE3	CCAGGCAACAGGACTAAACTACCTCCA
19221	COL6A1	GCTCAGCCCTGAGTTGGCATCA
19222	DDB2	GACACTTTTATGTTAATGCTCTG
19223	WSX1	CACCACTGCACTCCAGGCTGGG
19224	SFTPA2	GCTGTCACAATTATTACCATCTCTCCA
19225	MMP2	TTTCACAACCTTCTGTGGCTCA
19226	ASB1	CTCCCTGCACTCTGGCTCTTT
19227	CX3CR1	CAGATCCAGAGGTTCCCTTGGCAGTC
19228	ABCC2	AGTCCAGGAATCATGCTGG
19229	ADCY1	TGCAGGGAAATTGACTGCAGG
19230	LZTS1	CATCATGCGGTGGGTGCTGCC
19231	JAM2	ACTTGCTATTTTAAACAAATA
19232	A1BG	GGGATTACAGGTGTGAGCCACA
19232	BRIP1	GGGATTACAGGTGTGAGCCACA
19232	JRK	GGGATTACAGGTGTGAGCCACA
19233	MMP13	TTCTGTTTAATTTTCACTTTTGGCAA
19234	TAF9	TTAAGGATTGAGACAAAAACTGTGATT
19235	CDC42	TGTTTGAAAGCCTCTGCGTCTTT
19236	PFKFB3	CCCTTTCCCTTCTGACTACGTGAAA
19237	CSTA	CACTTTGGTTCCAGCATCCTGTCCAGC
19238	HIP1	CATTGTACTCCAGCCTGGGCAACAAG
19238	LUZP1	CATTGTACTCCAGCCTGGGCAACAAG
19239	CAPON	CTCCATGGTCCCGACCAGGAA
19240	KCNJ5	ATCTGTTCTCTCCATGCC
19241	VCP	AGTAAAGCATCTGCACTTGAC
19242	DDX6	TGGGGAAAGGGGACAAGGAAGGAAAAGA
19243	LOXL3	TTCATTCTGTGACCTCAGGGGTCACA
19244	ETF1	TTAACACTTTAGTGCCTGACTGCTGTT

19245	GRAF	TGTGGCCCAGGCTGGAGTGCAGT
19245	MEFV	TGTGGCCCAGGCTGGAGTGCAGT
19246	PPP1R12B	GGGCTGAGAAAAAACACAGAA
19247	PRKACB	CTAGGGTAGGGGCACTGCTGCA
19248	FZD4	GCCTTTCTCTTACCTTGCCTTAGGCC
19249	GFAP	GTAAAACTGAGGCACGAGCAAAGTGAA
19250	KRN1	CTGTGTGCTACCAGTGCAAGATCTGGGCTCTA
19251	FUT6	GACCATCCTGGCCAATATGGTG
19252	LILRB1	GACCATCTTGGCCAACATGGTG
19253	SLC16A1	CACTGCCCTTTTTGAAATCACCTGGTA
19254	CEACAM6	TCATTCTTTATTCTATTTTA
19255	ALX4	ACTGCTGGGAGGGAGGGGGCAG
19256	GNMT	GCTCCCACAAGCCTCTGCCCAG
19257	LSP1	AGGGGAAACTGCAGGTCAAGGGCTGAT
19258	RERE	AAGTGACCCAGGACATATGCCTG
19259	SPOCK	AGCCTCCTTCCTTTCTGTGAGA
19260	PMP22	GGGACAGCTGTTCCTTTGGGCTG
19261	SH3BP2	TGTCCACGTCTGTGTGAGCTGT
19262	AQP6	GGTGGGGCCCCTGATGGGAGCCCT
19263	XBP1	TCCTCTATTTGTTCAGATCTCAT
19264	PPIH	TGGCCCCCGTCTTTGCTTCC
19265	CD37	GTGGCTGCGTGCCCCTGCTGCTG
19266	SFRP1	CAAAGCCCTTATGTTTAATCAGCGATG
19267	ST14	TCTTGAGGAAGCCCAGGCTC
19268	EPAC	TGCTGGGACGTTGTGTGCAATA
19269	NRL	ATCAGTTGCTTCCTGGACTTG
19270	IL5	TGTTGCAGCCAAAGATTTTGGA
19271	MAFF	GGACTCAGAAATGTGGTGGGAGGG
19272	RUNX3	CACCTACAGACCGGCTCCTCC
19273	KIF5C	GGTGGAAACTCCTATCCTATCAT
19274	PKNOX1	ATACAGTGTGCATTCTCTCCA
19275	NCAM2	GGACAGAATATGACCACCTT
19276	PKHD1	TTCATTCTATTTCGCCCTTCACA
19277	SFTPC	GGGAGAGGATGGGAGTGGGCAGAGGTGGCACC
19278	ZNF264	CTCTGCCTCCCGGGTTCAAGCAATTA
19279	TRPV3	GCTGGGAGAGATGGATGGCGGGA
19280	EFEMP2	CACCTTCTGGGAGCAGGAGGGAG
19281	DLC1	CCATGATCTCAACCACGAAATGGG
19282	PTPRF	AGAAAAACTACAGCATCATTGCA
19283	PDE4A	TTTTCTTTCTTTCTTTTTTGTAC
19284	P2RX4	GCTGTGTGACATCATAGTCCTCTA
19285	IRTA2	CCAACTGCTGTTTCAGCCTCTGCACCCCA
19286	CHAC	TTAACAATGCCTACTTTCCATTCACT
19287	CACNB2	GATACTTTTTCTTTTGTAAGTGCTA
19288	GSTT1	TCAGCCTGAGCCTCTGCTTC
19289	NUP62	AGATACTTGTTTGTTTCTTTC
19290	YWHAZ	AATATTAGGGGAGTAGAGCCAG
19291	GAS7	TCTGCACCTCCTTTCCCTCTCTC
19292	ATRX	AGCTTCATGACTTCCTTGCAC
19293	RAB11A	GCCACAGAGCAGCTTATAGGTA

19294	CHI3L1	CCCTGCTGAGTCCCAGGCTGAGCCT
19295	RFX2	CCCACCCCCAGCGAGTCCCACCT
19296	AK2	TGAGGTGCCTTTCTTAACTGAC
19297	IFIT4	CCTGCAGTGGTGGTTGTGACGGG
19298	AMPH	ATTGTCATTGATACATGCATTGC
19299	Z39IG	GGACAGAAGTAGCTCTGGCTGT
19300	CORO1C	GACTGAGGAGAATGATAGAG
19301	TRPM6	GGGTGATTTGTTGATTGGCAATGAG
19302	NOC4	CTGGGCTGTGAACAGCACTGCTCCAC
19303	CHS1	TCAGTAGGTGCCTCTGTACC
19304	PRKWNK3	CATTGGTTTGTCTTGCATTCTT
19305	DKC1	CTGCGGTCGTTCCCTCGGCTGTGGACC
19306	IL26	GGGGGGTGGAGGGGGAATGA
19307	RS1	GACAGGCTGCACATCTCAGTAT
19308	BRCA1	AATCCTTCCTTGCAGGAAACCAGTCT
19309	SLC16A7	AATCACATCTCTGATTTCAGTG
19310	MS4A2	CCCATACCCACACAGTCACAGTCACAC
19311	INPP5B	CATGCCTTTAATCCCAACACTT
19312	STIM1	GGTATACCTGGGGCTGGTC
19313	CA7	CCGGCCACTAGGGCACCATCTTC
19314	RSC1A1	TGTTAACCCAAGTTTGCTTGTCT
19315	G22P1	CTCGAGACCACGCTCCTTCCTCG
19316	ZNF76	CCCTTCTGGCCCTCAGTCTG
19317	MAN2A2	TGTAGCCAGGATGCAGCTCCCAGGC
19318	RXRA	TTCCAGAAGCCTCTCCTCCCCGCCGCC
19319	CDH11	GAAGCTTCCACAAAATTAGAAAG
19320	FZD5	ACTTGGAGAGAGGGAAGAGGGGCGTTT
19321	CYB561	CCTCTGTTCTGGAGGACGAGCCTTCT
19322	MPP4	TGACCCGCTTCCTAGTCCTGAA
19323	B4GALT5	AGAACCAAGGAGCACTCAAATAGG
19324	WBP2	CCGGGACCTGCCACCAGCC
19325	RGS5	TTGCTAGAATTTTTTCTAATCT
19326	UBE3A	CAGTGTTGCAACATAATGAA
19327	PLXNA1	CAGCTGGCCCCAGCTGTGATCAT
19328	DGUOK	CAGATCTTTGAGAGGTCTGTGTACAG
19329	C1R	TAGTCCCATTGATGTACTTTACCTGA
19330	CTNS	CGGGTGAGCCAAGGGCACTTTGCT
19331	SARDH	CTGGGGCTCAGACCACATGCC
19332	UBE2I	CCACCCAGAACCTGAGTGCGGGCCTC
19333	PCDHB9	GATCATGTGAAAATATTTAATTTGC
19334	DAF	ATCACATTCTTAGCACACCTACA
19335	GALNT7	ACATTCTCTGGCAGCACCTCCA
19336	IL1R1	TCTCTAGCTGATCAGAATTTT
19337	CRYZ	CCAGGACAATTTATTAGTTTTCTCAGT
19338	PRKAR2A	GACAGAACTGTTCCTGCCGTTGCCGCC
19339	RBP5	GACAACACCCCCTCCTTCCT
19340	RAPSN	GGCACTGTGATTCCTGCCCCAT
19341	SPG4	CTTCTTCCTGATGGAATTTAT
19342	COL9A2	CACCCCTCAGCTTGAGGACC
19343	SIAT1	TATCCTCTGCAGCATCC

19344	PSCDBP	CAAACCTGTAATGGCTTGTAAACA
19345	DNMT2	TTCTTTATTGTAGCAACATACACTCT
19346	RGL	GCATAAATAGCCATGTGAA
19347	IRS2	CTGTACATTTCACAAAAAGG
19348	TFB1M	CTCTACTGCTGCCTGGGGGC
19349	STE	GTCCAGGCTGGTCTGAAACCCTTGAGC
19350	HNF4G	ACTCTTAGCCAAGGCTTCTT
19351	MAG	TCTCTAACCTCCTTTACCCTCA
19352	ALMS1	AGCAATACTTTCTGCATAGTG
19353	PMP2	CTATCTGCCAAAATGGCTTAGACA
19354	RAG1	ACTTTGAGAAAATCAGTCCT
19355	BDKRB2	CTGGAGGACTAGAACCTGGAGGG
19356	SORD	TCCTGGAGTGCCTTCATTGA
19357	B4GALT5	GAACAATGTGCCTACATTACCAGCT
19358	GPX2	CCTTCACTGCAGAGCCTTGCCTT
19359	DMD	GAACGCATTTTGGGTTGTTTAA
19360	HMG20A	TCTGCTATTTCTGCCACTTCTCTTAGA
19361	MMP11	ACCATGGCAGGACTGGGGGAACTGGA
19362	RAB6A	GACTAAAACAAATGGCTCTTTCACATG
19363	SLC25A12	CCTTGAAGAAAGAGGCCTAGG
19364	ETS2	GCTGCTCCGAGGACCCAGGAAAGG
19365	CFTR	CTGGAAATCAGGGTTAGTATTGTCCA
19366	F13A1	TTTGCAGAATGATGCAGGTTCA
19367	CDH15	CATGCCACTCCCCGGCCT
19368	DLEC1	TTCTCCAGGACAACCTGCTGG
19369	ATP2B2	GGCATGTTGCCTTGTTTCCGCT
19370	TPM4	CCTAGTAAGCATACTTTCTTAAG
19371	G2A	AGCATGTGGCAGGCAGTGGGG
19372	TRIM14	CCAAGATGGTGAAACCCCATCT
19373	MTR	CACTTGAAGTGAGAAGATGATC
19374	MYBL1	TTGGTCCCTAAAAACAGTCTGCAC
19375	C8orf1	TGTGAACATTGAATTACTTTCTG
19376	HIVEP2	AGAAGACCTGGGCTTAGCAAT
19377	ODF2	AAAAAGCTTTTGTAATCAGTTA
19378	HSPA5	GGCCCAAGTGATCCTTCCACCTCA
19379	SH3BP5	TTATAGAAGGGGATTTGTGGCT
19380	RRAS2	TACTGATACTACAACTTTTGTTTTC
19381	TPM4	CAAACATCTTCTCAAGCAGTCA
19382	LOXL2	CCTGCTGCTTCTGTACCCCGCCTGTCC
19383	CASP4	GGAGCACCTTCATTAGTACAGCTTG
19384	FCGR2A	GTGCCTCAGCCGTTCTTGACATC
19385	STAU2	CTACCTGCAGCTAAGCAGTGAGCAGAA
19386	KIF3C	GGAGCTCCTGCCTGCGGTTTTGTGTATG
19387	MAPK9	AGATGATAAAATGAGGCAGA
19388	NPAS2	CGCTCGCCGCCTCGTCTCCCAG
19389	COL4A6	GCAGTTAGCAGACCTAAAGCA
19390	ICMT	CCCTCCAGAGTTACCTGGGGAGG
19391	INHBB	AGGGAAAGAGACCCAGAAAGGAC
19392	KCNS2	GTACATACATATATACTTATA
19393	RPP30	GACTACAGGCGCTCGCCAT

19394	TRPM6	CTGAGCCTCACATCTCCTT
19395	ITPKB	AGAAGGCAGGCTTCTGGCTTC
19396	INPP5D	AGTGCTGAGGCTGGAAGAAAAACGCA
19397	SIM1	TCTAAGTAAGAACACTGAGATA
19398	KCNS2	ACTATCTTTTTAACATCTCTTGTAC
19399	ED1	GAGCAAGCACCAACCTCCAGACTCA
19400	PROC	CTCTGTTTATGAAAAAGAATAAAAA
19401	MAPK10	AAGCTGTTTAGTTTGTTAATTGA
19402	MTMR8	TGAGGGTATGGAGAGATGGTATAC
19403	CHST5	TGCCTGTAATCCCAGCATTTTG
19403	CPT2	TGCCTGTAATCCCAGCATTTTG
19403	GP2	TGCCTGTAATCCCAGCATTTTG
19403	VHL	TGCCTGTAATCCCAGCATTTTG
19404	KCNA7	TGCCTGTAACCCCAGCACTTTG
19405	SLC7A4	GGAGGCCAGAGAGGCCAG
19406	FMR2	CCCAGCACTTTTTATGCTCCCACTGTG
19407	RPP30	CTTCCCTTTTATAGTTCATCAGCC
19408	HAGH	TGTTTTGCAGTCCTGGGC
19409	IQGAP1	CAGCCATCATGACATTTACCATGAA
19410	TUFT1	TTGTTGTCTGTGGCATATTCTTTGTA
19411	LRRC2	TCCAGCCTGGGCAACAGAGTG
19411	PLA2G2D	TCCAGCCTGGGCAACAGAGTG
19411	RABIF	TCCAGCCTGGGCAACAGAGTG
19411	SIGLEC11	TCCAGCCTGGGCAACAGAGTG
19411	UBE2G2	TCCAGCCTGGGCAACAGAGTG
19412	B3GAT1	CCTGGTCTGAGGAGGAGGGACTC
19413	ASGR2	TCCTGGCTTTAACCCCTCCTTGGCC
19414	KCNJ1	TTTGAGGCTCTAAGCTTCTCATGTGG
19415	MICB	CTGCCTCCCAGGTTCAAGCAC
19416	HTR6	CCTGCAGGGATCATAGCTGACTCAGA
19417	CCNC	GATTTTGGTAATGATGTTGA
19418	TNXB	CATTGTCTGACTGGGCCTGGACCTATA
19419	CCNB1	GGTTTCTGCTGGTTGTAGGTC
19420	RPP30	AGCTCACTGCAACCTCAATCCTG
19421	REV3L	TCATGGCAACAAGAGCTGCAGCCT
19422	BGN	GCCTGGCGCCTCCCCTCTCCAG
19423	MAPRE3	CTGCCTGGACCCCATTGTCTGTCTGCTTC
19424	ZNF207	ATCCAGTCTAATAGGTTTGG
19425	IL10	CACCTGTTTTTAAGCTGTTTC
19426	ALOX15	ACACCCAGGCTGGAGTGC
19427	SKIV2L	GCTCCAGGATGATGGAGACAGAGCGAC
19428	IRAK4	TTCAAGCATCACCAAACACAGTTT
19429	DBN1	ACCTGGGCTGGAGTGAGGTGGA
19430	SHANK2	TCCAAACTTGTTTCTCAGACTTC
19431	GCDH	AGCGCTGTGCTCTGAGCTTAGAA
19432	PMM1	ATGGGGCCAGAGTCTGTGTGGACAACC
19433	HCN2	GAGAGGAGCCGGCTGTGGAGCCCCGC
19434	GPC4	AAGCTAAGATCACTATAGGTCCA
19435	BACH2	GTCCCATTCATTTCAACACGTCC
19436	PCYT1A	ACCTCAGAAGATAAAAAGAA

19437	GALNT2	GGAGCTGAGAAAACCCCTTAGTAC
19438	p100	GCCCCCAGCCCCCGTCACGCCAGTCCC
19439	CASP2	TGACCAACAAGATGGAAAGAACCACGC
19440	GGCX	TTACCTGCATTATTACATTAG
19441	ADCY6	ACCTGCATCCCCAGCACTGGTCCTGG
19442	MS4A1	CATACGCACCACATCTCTATCT
19443	DFFB	ACTGCAACCTCCGCCTCTCAGG
19444	RANBP2L1	ATCCTCTCCATTTTCCCAAATAA
19445	TSTA3	TGCATTCCATCCGCTCTGCA
19446	SIX6	CAGCGCCAGAGAAGCCAGGTGACCAGGGACC
19447	PPP2R5D	ACAAATATTCATGCAGCGGA
19448	UBE2I	GCCACCCAGAACCTGAGTGCGGG
19449	MUC3B	CTTTCTCTCACCCCTGGAGCC
19450	LZTR1	AGCAGGAGCTGGGGCAGAGGCT
19451	PTK7	CTAGAGGGAAGCTCACAGCATGATG
19452	SWAP70	GGGATCATAGTTTATATGCATCT
19453	MEIS2	CGAGCAGTGAGCCAAGGAGCAGC
19454	GAB2	AGGGAAAGCTGACATCTGCAGGGAA
19455	DUSP2	TGTGACAACCAGGAGCCCTGTC
19456	FLT1	CAAAACCATTAGAATTGTTA
19457	RERE	CCATTTTTCCAAAGAAGAGTC
19458	ITGB7	ATACAATAAAGTCTTACCTCA
19459	ACVRL1	GGAGCTGGGCCAGGCAGGAAGAC
19460	SRGAP2	AACTTATATCATTTTCA
19461	BYSL	ACGAGGACGAGGAGTGGCCCA
19462	TEM7	ACAACTCCTGCTGTGTGCAAA
19463	AXUD1	CCATAATTTATTTGGAGATT
19464	TMSB4Y	CTTGCAGAGGCATGTGTGCTAGGGATG
19465	YWHAB	CCTCTACCTTTGATATTCCACTTAGC
19466	NFYA	CGCCATGTGATGGAGCTGATC
19467	RXRA	CCACCTCACTGGCCTTGCTGGAG
19468	TAF1A	TCATCCCAAAAGCAACATGGA
19469	CLOCK	GGGGGATGTTGTGGAATATGGCA
19470	REQ	TCTCTCTGCTCTCCATTAAGTGCATTC
19471	DPYSL3	ACTTCTGCACTCTCTGCTCTG
19472	GPR61	CTGGGGTCTCTGCACACAGCTTTTGCT
19473	PLS1	GGAAATCGCTACAGCTTGGACTATTTT
19474	LGALS3BP	CAGGAGGCCCTCGAGGTTGCTCTGG
19475	ADAMTS13	TCAGAGCCCAGCTCATGCACATCAGC
19476	ASTN	AAAATTGAGGAAGGTGGCCCTT
19477	AKAP13	GTGCCTGGTGAGTCTGCCTGTG
19478	MLLT2	AGGACTCCACTGTGCCCCACTTT
19479	TNNT3	GGGACTCCACATCCTCCAGCCCCCACAATCC
19480	TCP10	GGGACACGGCCCAGATGCT
19481	ARF1	GTTTCTGGTACTCCTATGCAATATT
19482	SLC22A5	AAAGAACAAACATGTTTTTGTG
19483	PRKR	AAACTCCTGACCTCAAGTAATC
19484	ARSD	AGACCAGCCTGGGCAACATAGT
19484	DBT	AGACCAGCCTGGGCAACATAGT
19484	GP6	AGACCAGCCTGGGCAACATAGT

19484	TRPM1	AGACCAGCCTGGGCAACATAGT
19484	TTF2	AGACCAGCCTGGGCAACATAGT
19485	GA	TCTGCCTGCAGTCCTGTGTGAGC
19486	DSCR3	GTGTGAGCCACCACACCCAGCC
19486	FZD4	GTGTGAGCCACCACACCCAGCC
19487	CORO2B	CTGCGTGTGTCTCAGCACCGC
19488	NEDD4	CTCCCGCTTCTCCTCCTCCTCC
19489	CAST	TAATTTCATCTTTATTTCC
19490	KCNK6	GTGGTCAGGGCTGAAGTCGGAGAAGC
19491	CXCL16	GCAGCCGCCTCACAGGTCGGCGG
19492	CBFA2T2	CCTGGGCAACAGAGCAAAACTCTGTCT
19493	TRIM9	TTTCAGTGAGCCAAGAAATTCA
19494	IL16	GCCCAGGCTGGAGTTCAGCGGT
19495	KHK	AACTGCTCTGGCTGGGCATTC
19496	CASP2	CTGTAACCACCTCTCTGTCT
19497	ATP1B2	AGCTCACTGCAACTTCCGCATCCCAGG
19498	CARKL	CCGCCTGTAATCCCAGCACTTT
19499	G2A	ACGCCTGTCATCCCAGCACTTT
19500	IL8RA	TGTCTTCAGGGGCCACACC
19501	RYR2	TCTTTATTTTCTTTATGTCGAC
19502	ARNT2	GCCTTTCTCTGCCTGCCCTGCC
19503	NDUFA10	CGCCTTCTGCTCCAGCTGCATC
19504	FBLN5	TTGTTGTGAGGAGTCTAGCCAGTTGGT
19505	HTR2C	CCTTTCTCTCTTTCTTTTGTGC
19506	SIM2	GCCTGGGTAACAGAGTGAGACTGTCTC
19507	LILRB3	CACCAGTGAACCCCAGTCAGCCTGGACCCCT
19508	CHS1	TCTAAAGAGAAAATATGCAGA
19509	ADAT1	GGCCTGTAATCCCAGCACTTTG
19510	BPHL	CTCTTTGCTTGCTGATCTCGTACCTTA
19511	AK2	CAGTGAGAGACTTCGGCGGA
19512	TNFSF10	GAGGCTGAGGCAAGAGAATTGTTTGA
19513	CBFA2T2	TGAGTAGCTGGGATTACAGGCAT
19513	PKNOX1	TGAGTAGCTGGGATTACAGGCAT
19513	PPEF2	TGAGTAGCTGGGATTACAGGCAT
19514	PTGS1	TCCTTTCTTATTAATTTCAGTCTTG
19515	IL6R	CCTTAGCAAATTCTGTTTTTCTA
19516	TCF7	AGGTGGCCTAGCAGGCACAGG
19517	KCNMB3	TTCCAAATGTGAACTTTTTG
19518	MHC2TA	CAACTGGTGACTGGTTAG
19519	KCNA6	CCTGCTCTGCCCCTTGGAGC
19520	KCNA5	AGGCAGACTGGTGGCAGTGGA
19521	TRIM34	CCAGAAGAGAGAGGAGAGCCTCAGGA
19522	MASP1	ACACTGTTTTCAATAAATGCAC
19523	SPAG9	AAAGCAATCCAGATGTGGTT
19524	NPTX1	TGAAAATACTTTCAGGCTCCA
19525	WRB	CTAACAACTTTAAGTAAGTTC
19526	MAPRE1	CTGCCAGGCTGGGGTGTTTTCGG
19527	P3	TCTCATGCACTATGCACTCAGAAAAAT
19528	CRI1	TCATTTATAAAGCCACTGTGA
19529	IL20RA	AGCAGGAGGAGATACTTAAAACAT

19530	MS4A2	TTAATCACATCACTTCCATGGCAT
19531	TTC3	CTCTCCAACATGAAGGATC
19532	GLRX2	CTGCCACCATCCTCATGCAC
19533	LPP	TGCTGGCATCTCTGCAGCTCAAA
19534	BCL3	CCAGGGAACAGCCACTCCCC
19535	TRPM6	TCTCACTGCAACCTCTGCCT
19536	Rgr	TCTAGGAGGCTGGCAGCTCAGCTG
19537	CUL3	TTGCAATTTTGTCTCCA
19538	HNMT	ATACTAATAAAATACATACTATAGAT
19539	TRPS1	GATTCTTAGAAGTATGTCCTCA
19540	YWHAZ	GGGGATGTGGAATTTTTATACA
19541	TEM8	ACCCTTGTTTGCACAGCATTAA
19542	ZNF200	GATAGCAATTCATATAACCCTCTA
19543	SSA1	AATGGCTTCAGCAGCACGCTTGACAA
19544	F2RL3	CCACTGGACTCCAGCCTGCGTGACAGA
19545	PSG4	ACTGTCCTTGCTCATGCCTGCCTCTT
19546	SLC26A2	TCCAGAAATGTCTTCAGAAAGTAA
19547	HOXA3	CCTGGACACCGGAAAAGGCGAT
19548	HRG	TAATTCTAGAGTCTCTGTTACT
19549	FMR2	TGAAGAAATATTTTGATTGCAA
19550	NAP1L4	ATTTATTTATCCCTTCTTGCCT
19551	POLK	CCACTGTACTCCAGCCTGAAGAGC
19552	PIP5K1B	AACCTGACTTAAGAGTTTTCA
19553	B4GALT6	AAGTACATATCTTAATTTTGGA
19554	ANXA5	GAGCTCCCTGCTGTGTGCCTGC
19555	TRIM14	CACAGCTCCCTCCAGAAGCTGCAAG
19556	DAB1	TGCAGCTCAGAGTGTCAT
19557	ACK1	ACCTCTTCTGCCGTCTCAGCCTGGG
19558	COL4A3	ACTGGCCTCCCCTGGCTCCTGCCTGGAAGAAT
19559	FANCA	GGGACCTGCCACTGCACACCAGCCCAGCT
19560	APM1	TCATGCCACTGCGCCCAGCTAATTTTT
19561	KAI1	TGGCCTATCCGCTGCCAGCCTTGA
19562	CACNB2	GGCTACTGTAAAAGCGTCAC
19563	GJB5	GGCAGGCAAGAGAGAGGATTCAGACGC
19564	TERF1	TTGCCCAGGCTGGAGTGCAGTGGCGCA
19565	POLH	AGTCATTTTCTTCACATTCTCAT
19566	LIF	AGAGGAGGAGAGGGAGGCTGCA
19567	CTMP	GCACAGCCAGATCCTATAGGAAT
19568	CASP8	TTCACACCGCTGCACTCAAGCTT
19569	WIG1	TAACCCACAGTGGTACCATGAGAT
19570	ZNF236	CTCTGCAGGAGTCTGCAGGTCACCCGG
19571	MAN2A2	GGTGGTTGCGTACTATGAGCAC
19572	SLC16A2	GTAGTGGAACAGGAGAATCTGGGC
19573	ATP1A2	TGGCACACGCCTGTAATCTCAG
19574	STARD4	GGGCTATTATTTCCTGAACTGGATGTCCCTAA
19575	CACNG1	TCCTAACCTGGCCACAGTTGGGGGAGG
19576	DKC1	CTGTTGGGTTTTCTTGTTGATCTCA
19577	UMOD	TTTTCTCCCTTTTAATCCTGGC
19578	CELSR3	TCCCTGACTGGAGCTAAATCCCAC
19579	PTGIS	CTGTCCCAGGAGCAAATGCTGGA

19580	RPH3AL	CACCTCCCGGGCTCAAGCGAT
19581	GCNT3	TTAGGATAAGAGGGCTGCTAT
19582	SLC4A4	AACGTGGTATTTAAAGGTAATATTT
19583	ZNF138	ACAGAAACCTGGTTTTCTTGGC
19584	IL16	TGCCCAGGCTGGAGTTCAGCGGTGCAA
19585	PITPN	GTCCTCTGTCTTTGAGGCTGGT
19586	PRKY	TCCTGTAGTCCCAGCACTCTGG
19587	GPM6A	ATAAAGTGTGGTCAGAGGCCCC
19588	CSK	GCTGGCCTCCGCCTGGGTCATGGGC
19589	RGS2	CTTAGGTAGCTGGTTGTACATCTTTCC
19590	MASP1	CCATTTCTCCTTTCCTTCCTCCCATCC
19591	RNF4	CACGATGCCCAGACTTGGAGCAAG
19592	FDFT1	GCAAACTGCCTTTTCCACACAAAGGCTG
19593	ARCN1	CCTCCGCCTCCTGGGTTCAAGCAAGT
19594	NPTX2	ATGTCCCTTGTGCATTGAGTGC
19595	CSDA	CAAGAGAGTAGCCTCTCCAGTTT
19596	VHL	GTTGCCCAGGCTGGAGTGCAGA
19597	MPHOSPH9	AGAAATTCCATGTTTTGCGCA
19598	STK24	TTTTCAGTTTCTCCCCATGA
19599	TAF11	GAACTCCTGGCTTCAAGCAGTC
19600	CSNK1A1	CCTGGGGTTTGCAAGTTGTT
19601	SLC1A5	GCTCAGCGCCCAGCCTGGGGA
19602	C11orf8	TTTTAATTTTCAATGTTTTGT
19603	DFFA	AGGCTGAGGCAGGAGAATGGCA
19603	GNE	AGGCTGAGGCAGGAGAATGGCA
19603	GRAF	AGGCTGAGGCAGGAGAATGGCA
19603	KCNA7	AGGCTGAGGCAGGAGAATGGCA
19604	SLC26A4	AGGCTAAGGCAGGAGAATGGCG
19605	BACH2	GTTAGAAAGTTTTCACCCAGGGA
19606	PRIM2A	GTCACCAAGGCTTAGTGCAGTG
19607	ADAMTS5	ACTATATTACATCATTTCAG
19608	FGF7	TTGAAAAGTATACACAAAAA
19609	MAN2B1	CTCCTGCTCCGGGGGCAGACCAGACTCTGAC
19610	TRPM5	GCACGTTGTGCACTGACCTTTG
19611	PPT2	GTAGAGACTTGGCCTCCCA
19612	CRSP6	CCGAGGAGGGAGCTTGCGGTG
19613	RNASE6	TGCCTAGGATGCCAGACCAGAGTTGAG
19614	BTG2	CCCTTTGAGAGGTGGCTC
19615	LAMC1	ATTATTATACTGCTATTTTT
19616	RAX	CTCAACGCACTTCGCGGACCTCAGCCC
19617	RPH3AL	GTTGCCCAGGCTGGGGTGCAGT
19618	CTSS	AGGAGGTTGAGAATGCAGTGA
19619	TAZ	CCACCTCCAGCCTGGGAGATAGCCTTGC
19620	SOX13	ACCAGCACATTTCTCCTGTTTA
19621	CACNG7	CGTCCTCGGGACTCCTCGCTCCCACC
19622	PITPN	TTGCTTCCTGGGAAGATCTTTGCAA
19623	KL	AAGGATGAAATAATCACTCAT
19624	PRKAB1	CAGGAGACAGCACACCACCAGGCTCCA
19625	MPP1	AAGCCTGCCCTCCTTTGCCTTCA
19626	AHR	GCCAGGATTCTAAATAGACGGCCCAG

19627	BVES	CCAGCACTTTTTCATGGCTTTTAGGTT
19628	SERPINF2	GGGCCTGGGCAGGAGGGAGGT
19629	CCND1	CACAGCTGTAGTGGGGTTCTAGGCAT
19630	ADCY2	TAGTAAAAAGATTCTCTGCGAGCAAC
19631	LLT1	TCTCCCACTGCTAATGACATACCCGAGA
19632	CD5	GCAGCCAGTGTCTCCCATCAGTGCCTT
19633	PFKFB4	GTGTGATAGTCACCATGCCATGCAGGGAT
19634	SEL1L	TGATTTATTTAAAGAGCCGTTGATGCC
19635	ABCC3	GGGTCAGTCTGGCTCGAGCTGTTT
19636	SEDL	CCAAAGTACTGGGATTACAGGC
19636	SNAP23	CCAAAGTACTGGGATTACAGGC
19636	TNFRSF11A	CCAAAGTACTGGGATTACAGGC
19637	CYP1B1	TATACTTTAGTAGACATTTAT
19638	GUCY1A3	CTGAGCCTAGTGGGTGGGAC
19639	PATE	CCTCTGCTGCTTTCCTTCCTT
19640	C18orf1	CTGCTGCTGCTGCTGCTGCTGCTG
19641	GAS7	AAGCGAGTGTCTGACGACCACCCAT
19642	SORCS3	GTCGTTTTTGTTCCAAGAATGATATGA
19643	WBSCR1	AGGAGCAGAGGTGGCCGCCGTGG
19644	PSCD4	CCAGGACTGACTTCCTCCCCACAC
19645	ZNF135	CTGTCTTGTCTGTGTGTATATTGTT
19646	PODXL	TCTTACAAAAATATATTTTGGA
19647	TLR5	CCCATCAATACACAGGATTT
19648	SLC24A1	GGACCCCTGGAGCCAGAGGGTTTTCTAA
19649	ELK4	CCATTTCTCATCTTAATTA
19650	FMR2	CAGCCCTGCAACTTGACCCAGGTAGGG
19651	FETUB	CCTGCAGCTCCACAAACTGACC
19652	MBD4	GCTTCAGTGAGCCATGATCATGCCACTGCA
19653	UBE2L6	TGTTCTGACCCTCTGTGCACTG
19654	PLA2G2D	GAGAATCACTTGGACCTGGGAGGCAGA
19655	THRA	CTGGGTGGCAGGGGGTGGGTG
19656	ADCY6	TAGTGTCCTGGGACATGGTA
19657	ELK1	TTTATTTCTCAGCCTGCCCTTG
19658	ASNA1	CCACTTGGGCAGGAGGCAGGGAGGGG
19659	KLHL3	GGTGCTGCCTGTGACTCTGAACAGCA
19660	SLC21A9	GCAGTGTGGATAATGTTTAGTTC
19661	BID	GCCCCCGCGGCTGGAGGGTGGT
19662	SOX9	CCCGGCCACCAGCCCCCTGCCCC
19663	F3	CCCAGGCTGGAGTGCAGTA
19663	GPR4	CCCAGGCTGGAGTGCAGTA
19663	TUFT1	CCCAGGCTGGAGTGCAGTA
19664	GPD2	TTCTCATTTTCAATGCACATT
19665	CTF1	CCCAGGCTGGGGTGCAGTG
19665	RPH3AL	CCCAGGCTGGGGTGCAGTG
19666	G6PC	GCTCTTGAATTCCTGGGCTCAAGCAGTC
19667	COL4A6	CCCTCCAGCCAGAGACAGAGGATGTG
19668	TIMP4	TAGTCTGTTTTCTAAAGCCAGG
19669	PEPD	GAAGCATTTCTGATACTTTCTGTCAA
19670	STAT1	GCGCCTGGCAGACCCCAGA
19671	EGR3	ACTCGAGAGGGGGAGGGGGT

19672	D1S155E	GGGGAATCTGGTGAAGGGT
19673	PDGFRA	ACTTAGGTTTCAGGAAGTTGCC
19674	TBX6	CTGGGAGGCTGAGGCGGGCAGATCACC
19675	NF2	TCGCCCAGGCTGGAGTGCAATGGCGT
19676	KLK2	TGGGACCTGGTTCTCTCCATCG
19677	B3GAT1	TGCTGGGACACTGAGCAGGAGGG
19678	JRK	GGAGAGGGAGAGACGGAGCCCCAGAAG
19679	MECP2	CCCACTCTGTCGAGCCTGGG
19680	THBS1	CAGGAAAGGGAGACAAAGACTGG
19681	EPB49	TGTCCTGGCTACCAGCTCTCAC
19682	HTR1E	GAGTGAGACTTCTGGAGCCAGC
19683	TFAP2B	CCCCGCCCTCCATCTCACCTCA
19684	COL1A2	ATCCTTCCATTTCTTCTGCACA
19685	KLK5	TAGTCCCAGAAATAAACTGAGA
19686	TPMT	GAGCTGGACCAACACAATTCTCTCCA
19687	FANCC	GTGGAGGGACTCCTGGGACAG
19688	SOX14	ACCCCCACCCACCTAGCCGCC
19689	DAB2	TGCTGCCTGCCTTCTTGCCATGTCTA
19690	DHCR24	AGTAAGCCTCTCCCCTCCAGA
19691	WBSCR5	CTGCAGAGGGGACCTCAGCCTGTCACTG
19692	USP9Y	TGCTCCAAACCAACATGGAGT
19693	PRKAA2	CAGGTTTCTTAAAAACAGCTGT
19694	CTSS	GGAGGCTGAGGCACGAGATTCCTTGAA
19695	PRKWNK3	CAGAGTCTTATGGGATCTTCACTTC
19696	ITCH	CCTTGTCTTATTCCACTAGTTTATTCCT
19697	BSN	GCAGCGTGCTAGCACACTGCC
19698	H1F0	TAGTCAGGGGCTCAGGAGCAGA
19699	GFI1	TCGGCGCTCGCCCACCTCTTC
19700	LTA	CCACCTCTCCTTTGGCCATTCCA
19701	CLCN6	CCACTCCAGAGATGGGGCTGCTT
19702	ALB	TGCTATCCTGAAAATTCTGTAGGT
19703	SEMA3F	CACACAGTCCCCAGACTCAGC
19704	TNFSF9	CCCAGCCTCCACCTCCTGTGT
19705	GABRB3	TATATGAGGATGTATGTGTATA
19706	F2RL3	GCCTGTAATCCCAGCACTTTAA
19707	TTF2	GCCTGTAATCCCGACACTTTGG
19708	P2RX7	GGACATGGCTGACTTTGCCAAC
19709	ST5	TCTCAATAAACAATGTACA
19710	KCNQ2	GCACACAGGTGCACAGACCA
19711	CDH11	CCGCAGCGCTTGCCCTGCGCCAGGGA
19712	A1BG	GGGCCCAGGGTGCTGTTGGTG
19713	EGLN3	CAGTCCTGCAACCTGGATTTTCTGCC
19714	SLC22A2	AGTCCCACTCTGGAGCACTGTC
19715	ZNF136	GGTAAATGTAAAGAGTGTGGGA
19716	F7	GGTCACACAGAGATACGCAAACAC
19717	PLA2G2D	GCTGCCTTCCCCCTGCCCCACCTCTCC
19718	MAP2	AAAGAAAGAAGCCAGAAAA
19719	PRSS7	ATTTCTTAAACTAAACAGGAAA
19720	BRCA1	AAAATACAGAAATTAGCCGG
19720	TNFRSF1B	AAAATACAGAAATTAGCCGG

19721	MUTYH	TTAGTAAAGTGCTTATTTTTGTA
19722	MYBPH	TGCCCTGCGGAGTTGCACTCT
19723	PREB	GTCATCTGTGGATCCATCCAGAACAG
19724	UBQLN1	CCAAAGTGCATTTGCCTAGGA
19725	MAB21L1	CGAGACTCCGGTGTACAATCC
19726	TACR1	TGAGACAAGAGGGACAAGTGGGGA
19727	GAS7	GGTCGGAGAGAGCACTTCTA
19728	HPS3	AGCTAACTTTCTTCTTGTCTAGCTATT
19729	NEF3	ACAATTTCAAAATGCATGTGATT
19730	LRP5	TTGGGATTTTAAAAACATGAGA
19731	IL1A	CAGAAGAGTAAGAGGATCAAGAC
19732	GRPR	ATGGATCACCATTATATTTT
19733	FANCF	GTGCAACCTCTGCCTCCCAGG
19733	RAB36	GTGCAACCTCTGCCTCCCAGG
19734	HUNK	GTGTTTTCACACCTTTCTCCAAGGAT
19735	PDCD2	AAAGTGTCCAGTGACAGGGA
19736	DAZ	AAACCCAGTAAAACAGATTCTA
19737	KIF2	TGGAATTTTAAGTGTCTGTGGAAA
19738	WSX1	GGCTGAGGTGGGAGGATCGGTTGA
19739	NUMB	GAGGCTTAAGCAACTTCTTCC
19740	TACC1	TTGGGAATATTAGGTGATCCTGTT
19741	PRKCN	TTGCCTCTCCCTTTGTC
19742	SEMG2	GGAGCCCCTTCAAACTTC
19743	PRKACA	AAACACCAGCTGCTCCCCCTCA
19744	MCL1	GACTTCTGTTTGTCTTACGCT
19745	SLC9A1	CTCCAGCCTCACAGATGCTGGCC
19746	TMEFF2	AGGGAGCATGTTTCACAGTGGCTGG
19747	JMJ	TTTGTTTCTCTGGGCGGTTGTGGCAG
19748	DISC1	TCTAATATTATCTTAGAAAAAT
19749	XPO1	CTTAAAAAGCAAAATAAACTTGG
19750	ARAF1	AGCCCCATGGCACCTGCCCAGCC
19751	CTSB	GCGCTGGGCTGGTGTGCAGTG
19752	BLAME	CAGGGCCTTGTTGAACAGATCCA
19753	SCNN1G	TTCAGCCTCCCAAAGTGCAGGG
19754	PKP2	TGGCCAGCCTGGGGCACTGA
19755	POLI	GAGGAAGACGCCGAGGCCTGGGCCATG
19756	MPL	CACCCAGGCTGCAGTGCAAT
19757	SIAT1	GAGCCCAGAGCCTCCTGCCACA
19758	SSX1	TTATAATTGATGAGCAAGACA
19759	RRM2	TTTATTTCTCACTGTATTTTCCTCA
19760	BHMT2	CACCTGCAATCCCAGCACTTTG
19760	F2RL3	CACCTGCAATCCCAGCACTTTG
19761	PPIF	ATGTCACCCACCCCTTGTCAAGCAT
19762	NESH	GCTGGGTGGGATTGGGGGCTGGGCCC
19763	SMG1	AGGCGGGCGGATCATGAGGTTA
19764	SEZ6L	CCTGCCCTCAGGAGCCCCGGA
19765	ESRRG	TCCCTGGGCCTTCCATCCTTCA
19766	NPTX1	TACTGCACTGCCTGGCTCAGCTGCACG
19767	SYNGR3	AGCCCAGCCCTGTCAGTGTTGT
19768	FCER1G	GAAGGGAGAACCCCCAATAAA

19769	ZNF214	GGTCCACTCTCACAGGCTCCGTTAAG
19770	TRH	AGCCTGAGCCCCTCCCTCCCAG
19771	CHRNB4	GGGGTGAGAGGATGTGAGTGGCCGG
19772	TAL1	GGGAGGAGGGGGTAGAGGAAAGG
19773	ANGPT4	GAGGCTGGACCACACAGGAGAAGC
19774	ITGB3	GGGTCATCTGTACCTCTGCCTCCT
19775	NLGN2	CAAAACAATCCCGACAATCCCTTATCC
19776	PPP2R1B	GCTTGGATATGAAACTGTAGAGGGAG
19777	PPEF1	GGTTTTGGAAGTCCCTAGCAAGC
19778	LDLR	CTTCCACTTCTATGCAAATGCCTCCA
19779	NUCB1	GCCAGCCTCCTCCTGGACC
19780	DNAH9	ATTCTTCCCACGGATCCAAAGGCTGTAC
19781	GSS	CTGAGCCTGGGTAGCGGCGC
19782	TEX11	CAGACCCTGTTTTCATG
19783	SLC1A5	GGGGGATGTTACAACACCATGCT
19784	CD209	TCTAGGAACTGTTGGTAGGTTTCT
19785	APXL	CCATCTTTCTCCCTCGGGGAGACGAC
19786	AP1B1	GTGCTGACCCACATGGTCAAGACC
19787	ZNF216	GGACTGGCAGTCTACTTCTAC
19788	GPR56	CAGGGCGAATGGGGCCCAGGG
19789	ZNF26	CAGGTCACAGCTCATTGTCCA
19790	MYO15A	CAACTCCACACCCTAGCCCT
19791	AQP6	TGAGATGGGTGGACAGGAGGAAGGAC
19792	PIM1	AAGCAGTTCTGGATGGTGTGC
19793	ALDH6A1	AGAACGTGGCGAAACCCCGTATCT
19794	PAFAH1B1	TTGTAAGTATATGGGCCTA
19795	TTC1	TGACTTGGAATTGTGTGCTGCTT
19796	SORCS1	CTTATTCTAGCACAGTGCCTTG
19797	PPEF2	TTGGCCAAGGAACAACTGAGTC
19798	FGFR3	TGGGCAGCTGTCCCTTGCTTGCCTGC
19799	ZNF36	CACAGCCCCTGCAGGGAAAG
19800	FEZ1	TATCGCCCAGGCTGGAGTGCAA
19801	MYO9A	TGTGCTGAATTCCTGGGCCTCCTGCAGA
19802	GALT	CTTCTCTCCTGCTTCCTCCAGGGA
19803	DNMT3A	AAGGAGGAGAACTTGGGAGCCAG
19804	NLGN2	CCAAAACAATCCCGACAATCC
19805	SEL1L	CACTGGGTCCAGCCTTGATCAGTGA
19806	GPR18	CAGGAGGTGCTGCTTTCTGTGA
19807	D1S155E	AACATTTTTGCTTTCTCCA
19808	ATP7A	ATTCTCCCTGCATCCTTGTCCTTGCAG
19809	SRP	CCAGAAGCAGCTGGTGGCGCCTGA
19810	E2F1	GCCCCCCAGGATGGATATGAGA
19811	CASP10	GGGCTCTTCTTGGCAGAGGGG
19812	DNMT3B	GCAGGTCCTAAATGGCATTGTTTGAA
19813	EIF2B1	AGTCAGGCCAAAACTGAGATG
19814	DOCK1	GGGTGAATTGTTTTTGTCCTCA
19815	PHF1	TACTGCCCAGGCTGGAATCCAA
19816	CACNB2	ATTATTGCTGTTGCTTGAATAGCAAT
19817	TRPM8	TAGTCCCAGCTTTCTCTGG
19818	NARS	CAGTATCCCTCTTAGCATTAA

19819	PPP2R1B	TGACTTAATTCTTTCTAA
19820	PLD2	CAGTGCAAACCACTTCTCCATGCT
19821	MKL1	GGGTGGGGAAGGGGCTGGGAGCCAG
19822	PTPN1	AACCTGCCTGTGCATGACCTGATCATT
19823	CSNK2A2	CCTTTGGCTTCCTGTTGACTTCTTCCCGA
19824	CYBB	AGAGAGAGGGGAAGGGGGTCTCATA
19825	SYNGR2	CTCAGGTTTGCTTCCCCTGTGCC
19826	TSN	TGAGCACAGAGTGCCTCTTAC
19827	BTG2	TTTTCTTTTATTTTTCTAATGAG
19828	AGL	TACAGTGCTCACTGCATTTAA
19829	SOX13	CACGAGGGAGTTGGGACAGGAGGATTGATG
19830	HAT1	CTTCCCTTCTTAAACA
19831	VANGL2	TGTTTCTACAGTTTGCAGTG
19832	ST7	CCACCATCTCCTCTGTGCCA
19833	LMO2	AGCCTAGATCTGATGGGGGAAGCC
19834	APM1	CCGAGTAGCTGAGACTTCAGGT
19835	CUL5	ACTGAAAAATGCTGTT
19836	MEL	AACACAAAGCTCCACCAGGAG
19837	LU	GGGAGGGAAGGAGAGGGAGGGTGGGTGG
19838	PAG	GAAGAACAAAATATGATGAGAGGTG
19839	PPP1R3C	AGGAAGCCTTTGCTACTCCATCA
19840	IL2RB	GCGTTGAGCCACTAAGCAGAGGACC
19841	IRS2	CTCTGCTCTCCTGAATCTTGGGCATGC
19842	GALNT2	GCCCTCCCCCTCCTCTCGGTGCAG
19843	RABIF	TTTTCTCATTCAAGAAGGCA
19844	GP2	CTTCTGCTTTCCACTCCAATTCACA
19845	PCDH7	GTTTAAAAATATTTACTG
19846	COL10A1	CCCCAAAATATTGAAGTTCATCTGAAA
19847	WASF3	TTCAACAAACAGGGAGAATCCAGTGT
19848	WBSCR14	TAGTCCTGGCCAGACCCTGCTGC
19849	BCL2	TGCAGCTCCGTTTGGCAGTGCAAT
19850	SLC20A2	AGGGATGAGAGGGAGGGAGAA
19851	DEC1	GCTGAACCCACAAAAATCTAAAT
19852	HDAC4	GGCAGGCAGCGGCGCCGTCTCCCGGT
19853	GBF1	TGCTGTTGCTGCCACTTGGATGGGGAC
19854	DLGAP2	CTCATTTCCCAGCCCTCTTCT
19855	TAT	CTGTCGCCCATGCTGGAGTGCAGT
19856	ORC2L	TATCTGAATTTTGCAGCTGCAGAA
19857	TIMM17A	TTGATTCCTGATCATCAGAAATTTCACC
19858	PDE4A	GCTGCTTCTCCTCTTGTT
19859	AKT1	GCGGGTTTTAATTTATTTCA
19860	PACE4	CCGTGTTCTGTCTGTGTCTTCAGGAGTC
19861	PIK3C2B	AAAAGGAGGGAGGGACTTTGAA
19862	CYP1A2	AAAATGCTGGCATTACAGGTGT
19863	MSX2	CCGCCCCACCACACACATATTTTTA
19864	MEFV	CCTGAGCAGCTGGGATTACAGG
19865	MEN1	TATTTATGTATATGCACATA
19866	NUCB1	AGCCTCCTCCTGGACCTCTTGGCCC
19867	SLC22A7	GCCAGGCCCAAGGGACAAAAAGAA
19868	GRINL1A	TCTGGGTTTTTTCTACACTGTCAAT

19869	GPR85	GCTGAACTGCAGTGACTTTTA
19870	PLAT	ACAGAAGGATGTCCCGGGTGTGTACA
19871	DISC1	TGTACAGCACTGCATTCTCTG
19872	CLASP1	ATCCAGACTGGAGGCCGACTGCCCTGG
19873	CYP1A1	GCAGGCAGGAACAAACAGGGCTGCCT
19874	ATP1B1	AGTCACTTGTTTGAAAATAAAT
19875	SERPINB3	GCAACAACAGATTCTCTTG
19875	SERPINB4	GCAACAACAGATTCTCTTG
19876	CRY1	TGCAGCTGAAATTGGTGGGGAGTTCAATA
19877	EEF2	CCAACACTTTTTCCATTTCTTCAGA
19878	WDR3	TGTTACTTAGAAAATCATAAGGA
19879	RARB	TGCTCTCAAACTGCATCTTT
19880	COL4A4	TTGGTTGTGGCTTCAAGGGA
19881	TCP1	TTCTCTCTGAACACACATTGCTATTCC
19882	GRLF1	CGCCTCTGCCGGGAGGGAGGGAG
19883	ECT2	AGAAACATTGTATATTTTGCAAAA
19884	CIAS1	GTCGCCTAGGCTGGAGTGCAGTG
19885	PRNP	AGTATGGGCTACACAGCAGCT
19886	NT5E	GGAAGGGGAAGAACAGGACTCCAGG
19887	BCL2L11	AAGTACTGGGATTACAGCTTCCATGA
19888	APBB2	CCTGGCACCGAGCGATGAGGA
19889	EPHB2	CTCCCACCTCCTTCCCCCCACCA
19890	ATP6IP1	TTGTGTGCCCTGTGCCA
19891	MXI1	AATGGCAGCAGAAAACTTGTGTGAA
19892	APPBP2	GCTCACTGCAACCTCCGCCTCC
19892	ARCN1	GCTCACTGCAACCTCCGCCTCC
19892	CDH17	GCTCACTGCAACCTCCGCCTCC
19892	EEF2K	GCTCACTGCAACCTCCGCCTCC
19892	GRAF	GCTCACTGCAACCTCCGCCTCC
19892	MEFV	GCTCACTGCAACCTCCGCCTCC
19892	PCDHB9	GCTCACTGCAACCTCCGCCTCC
19892	PIGR	GCTCACTGCAACCTCCGCCTCC
19892	RHD	GCTCACTGCAACCTCCGCCTCC
19892	SEDL	GCTCACTGCAACCTCCGCCTCC
19892	SLC15A1	GCTCACTGCAACCTCCGCCTCC
19892	SNAP23	GCTCACTGCAACCTCCGCCTCC
19892	SS18	GCTCACTGCAACCTCCGCCTCC
19892	VENTX2	GCTCACTGCAACCTCCGCCTCC
19892	WHSC1	GCTCACTGCAACCTCCGCCTCC
19892	ZNF264	GCTCACTGCAACCTCCGCCTCC
19893	ITGAV	TATTTTGTTTTAGTATGAAAATC
19894	ZNF264	GATTGTTCTACTATTACAGTGTAAA
19895	CHD2	TCAAATTACTGAAGATCTCATCAT
19896	ALDH3B1	GCCGTGAGCTGAGATTGCG
19897	GATA2	GAAAGCTGGGGGTGGGGAGGG
19898	SALL2	CCCTGCTCCAGAAGGTGCCGGT
19899	T	CAGAAAGCATTTTCTGCAAA
19900	LSS	CCATGGTCAGACTGTACAA
19901	COL4A4	AAGACTTGCCTGCGATGTGGTCTCTGC
19902	MYL3	CTTTCTGCATTCTTCTCTCCACATGCC

19903	DLX4	GAGATGCAGAGAAATGTGGAATTTGTG
19904	DUOX2	GCCCCAGGAAACCCCATCAGTC
19905	TCFL1	AATCTGTTTCTTTTTCCTTTTC
19906	PCOLN3	GCTGCCTCTGGAGGTGCCTTTGGCCAC
19907	FOXD2	TTGCCCAAGGTGACAGATAGGGTAA
19908	CORO2B	CTCAGCCACTTTCAGCCTTAT
19909	TAF11	ACCTAGGCTGGAGTGCAGCGGCATG
19910	ATM	TCCGCCCAGGCTGGGTGCAGTC
19911	TNFRSF9	TGGTCTCAAACTCCTAGGTTCA
19912	SYN2	GGGGTCTGAGTCTCTGCTGGCTAAGCC
19913	AMN	GGTCTAGCTGGCCACTGCTGGAG
19914	SIAT7D	TCTGCCTGGCCACCTGCCTGGACC
19915	PIK3CG	CAACACAGTGAGACTCCATCTC
19916	CTMP	TCATGCCACATCACTCCAACCT
19917	IGF1	GCAGAAGGCTAGGAATTTTAGCAG
19918	ATSV	GCTGTCTGGACCAGTGGGG
19919	PIGR	GACTACAGGCGCCTGCCAG
19920	SORCS3	CCATTCTTCTTTGTGAGACA
19921	PTGFR	TAGAATTACAGCAGTTTCAA
19922	EIF2C1	CTGGTTTTCGCTTTCCTCCG
19923	MUC4	GTGGAGCTTCCCCAGGGAGCCAG
19924	TCN2	CCCTGGAACAGGAACTCGCCTG
19925	EIF4G1	TGGCTGAAGAGGCAGGATGGCTTGGG
19926	RTN3	TGGAGGTAAGAGAGAAAATGAAAGA
19927	CYP8B1	TGCAGCTCCTGCGGCACCAT
19928	FZD4	CCTGCTGCTGTGCCCAGTCTGAGT
19929	MECP2	AGTCCCCAGAACTCTGCCTGCC
19930	CSPG3	CCCAAATCCTGCTCTGGACTC
19931	STAT6	ATGAGAGGGCCCTGCCTGCTGC
19932	DHCR24	AGACATGTCCCCGTGGCTGTGG
19933	ILF1	AACAAAACCCACACACAACAAAAC
19934	DRD1	CAGCTCTTCAAGGAAGTGGGCTGC
19935	CBFA2T2	TGGGAGGTGGGGTTTTGCCATGTTGCC
19936	EHD4	CCTGGGTTTGGAAGGGGGATGCA
19937	MMP19	CGAGGCTCTGAGTCTCAGGTCA
19938	SUV39H1	TGGTCTCAAAAGTCACCTGCCTACA
19939	TEP1	GCCCCAGGCATATACAAGCT
19940	ZNF3	TCTCAGGAACCTCAGGCCCTGCTTG
19941	CYP2B6	TGTTGGCCAGGCTGGTGGTGAGC
19942	TREM2	GATGGGAGGAAAAGCCCAGGAGAAGT
19943	TRPM2	GGCCTGGCTGGCTCTTCTGTGCTTTCCACAAA
19944	CACNA1S	CCCTTATTCCTCCAAGGCTGTGTGCCCAC
19945	FNTB	CCTCCAGTGCCCACCTGCCTCA
19946	TNNC1	CCAGAGCTGCCTATGCCCAGCC
19947	BHLHB3	TACTGTTTGCCTCAAACGCTGTGTTTAA
19948	UBE2B	TTCGCACACATTAATTAGGGT
19949	INPP5B	CCTGTAATCCCATGTACTCTGG
19950	HD	GTCTTCCTCTTGTTTACGAC
19951	DCX	AATCAGTTTTTTGATAGCTTTT
19952	SYNGR1	GTGATAATGGACCAACCTC

19953	WARS	CTCAGGCCGGCTGTGAACGTAGT
19954	DYT1	CTTCCACACTTCCACCCCCAGCTCC
19955	KERA	AGCTTCATTAAAGAACATGTTTTA
19956	PEX3	TGGAGAAATGTTTTTCCTTCAAGAAAA
19957	GORASP1	CCAAACACTGAGTCCTCTGTC
19958	SCN3A	TGCATCCATTCTATTTTTAACTTCC
19959	MHC2TA	TGCCCAGGCTGGCGTGCAGTGG
19960	GNRHR	GATTAACCGTTTTACTCTAACT
19961	TCP10	ATATTTTAGGGCCAGGGATTATT
19962	RIMS1	TTAGTGGTATTATTACAAG
19963	PTP4A2	GTGAGCTTGGAGGTTCTATGTGCCA
19964	GLUD1	CCTGACTCATTAATAATGGA
19965	AGTR2	CTTTTTAAAAAACTTTCTA
19966	SFN	GGGGTGGGAGGCCCCACCCTTCTCCCCT
19967	NTS	GAATGTGATTTTTCTGCACTA
19968	EGR3	AGAGACAGTATTTTGCTGAA
19969	HUNK	ACAATCACAGTTCACTGCAGCCT
19970	IL11	TTGCCTAGGCTGGAGTGC
19971	SLC18A3	CCTTTCTCTCTTGTCCAATGGGGC
19972	EPIM	TCACACATCAAACCACCAAGA
19973	NAPB	TGACCAAGAGCAGGCTTCCTGCTCCAT
19974	CSF2	CATGGCAGAAGAATGGGAAT
19975	DLGAP2	GAAAAACAAAAGTTTGCTT
19976	CITED4	GGACCAGCTTCAGCTTTCGGACTCTGGT
19977	ACCN1	ACCTGCATGCTCAGACTTCTTGTGGC
19978	COL4A4	CGTGGCCAAGAGAAACTTCCTA
19979	EYA2	CTACATCTTGTTTTCTAGGAA
19980	SIRT1	ACTAGTTCTTATAATTTATC
19981	DNM2	TATAAGTGCGGGCACCAAGG
19982	PRV1	TGACCTCATAACCTAATGGCCTTG
19983	MME	AAAACAATGCAAAACCTTTGAGGTAG
19984	BMX	TTCTTTATATTGTCATTGT
19985	MMP15	GGCAGAGATGCCTCCCTGAGCTAGA
19986	ZNF261	CAGGCCCAGGAACCAATGCTAC
19987	TBL1X	GCCAAAACCCAGCCATCGGGGA
19988	WSX1	GGGAAGGTGGAGCAAGAAATGA
19989	LHX3	CCTCTCTGGGGGCTGAGGGAC
19990	BTC	TGGGTGTTTCCCTGCCTTGT
19991	FOXO1A	CTAGAGACCTCTGTAGTCCTGGG
19992	REQ	GGGTGGTTGTGCCAGCCTGCCT
19993	SQSTM1	GCTGGGCCTCTGGTTCTGACACTTTCT
19994	CLECSF12	AGGCTGGAGTGCAACGGCACGAT
19995	NOS1	TCATGCCAGCTATAATCTCCCCTGCCT
19996	PTGER2	TCCTCCAGGAACTGCAGGTCAAGTTGT
19997	CREBL1	CCCCAGGCTTGGGGCAATTGGT
19998	MANBA	CCTGCAGCTGGTTACAAGAATGTG
19999	MAP3K7IP2	CACTGCCTAACTGTGTACAGTGT
20000	HLX1	TCCGGCCCTCGCCTCCTCCCTC
20001	ACOX3	TTGCCCAGGCGGACGGGAGGGAGGCA
20002	TBL2	GGCCCTGCTTCTTCCCATTGA

20003	CCNDBP1	TGGTCTCAATAAAATGCTAACTTGCCA
20004	PAX4	CTGTAACTTCTTAATCTAAGA
20005	SFRS1	TTGCCTCCTCTTTTTTGGT
20006	IGF1	CTTAGAATAAAAGATGTAGCA
20007	NEBL	AGCATTTTCAGTAATTCCTACA
20008	B3GALT2	AAACTCATCACATAAAGAAATTCA
20009	BMP5	ACACATTTACTTGAATAGTAC
20010	ZNF266	AACCGTATGAATGTAGAGAATCT
20011	GTF2F1	GGGGTCCTCGCTCAGGCACAG
20012	GPC1	GAGGTCCTCAGGTCAGCTGGGAGCCAG
20013	GOSR2	CAGTGGTTGGCTTTGATGAA
20014	KLK10	CATTCCCCCACCTATCCCCATTC
20015	RPS6KA2	CCCCTGCCAGCATCCTCGTGGGCT
20016	HOXC6	TCCCTGCCACCCCTCTCTCC
20017	TRPV4	CCCAGCCTCAGCCTGCGCCTGAGC
20018	CDH6	GAGGCTGGATACGGTGCAGTGA
20019	PLAG1	TTTCCCTTAAGAATCAAAAGCA
20020	EPB41	TTATTTTTAGAGTCTTCT
20021	EGFR	ACAGCTCTGGCCACAACAGGGC
20022	KLHL3	CATTTATACTTATTATCCCAGT
20023	HTR2A	ACTATTGCTGCTTTCTCTTCTACTTCT
20024	HTR1E	CTCAGTCGCCCAGGCTGGAGTGCAGCA
20025	HRH1	TGGGCTTTCTGGAATCCAAACCA
20026	AP2B1	CCACGGCTTCCCTCTTGGCTCATTCCA
20027	ZNF146	CATTTCCTCTCAAACCTTATCC
20028	IL7R	CACAGCACAGAGAAGACAAAAT
20029	FGA	CACTCTGTCTTCTTTGCTA
20030	ARG1	GTGGAAAGGTACTATGTGTCCA
20031	SLC7A5	TCTCCCCTAGCTCACCAGGCC
20032	ALDOC	TGCAGAGCAGAGATGCCTTC
20033	CX3CR1	TGACCTCATGCATCTCCACCTGCTC
20034	NDUFS2	GAGGGCCCCAGGAGAGGCAGA
20035	FGFRL1	TGCACACACGTGCAGATATGCTGTCCG
20036	APBA2	ATGATGGCCACAACATGAAAAC
20037	SPHK2	CAGCCCAGGAGGGGCAGGTTCC
20038	BCL9	GTAACCTCCATTAAATTTGGT
20039	DIAPH2	CCAAGTAGCTGGGTCTACAGGT
20040	PPEF1	GGCACTTTTCACACTCTGTCTTAAAATC
20041	TCTA	GCGCCGTTGTACTCCAGCCTGGGCAACAGA
20042	DPYD	TATGTGAAAAATTAACTTTTT
20043	YES1	CTCAGTAATTTCAAAATACAGATTTGA
20044	LLT1	TAGTAAAATATTACCTGTTTTCA
20045	GPR55	CCACAGCCACAGAGTCAGGCTCT
20046	ITGB4BP	CTGTGGCTGCTGGCTGAGGGTTCTGCT
20047	XYLB	AAAGAACACCAGAGATCAGAAATT
20048	GRAF	GGCCCAGGCTGGAGTGCAGT
20048	MEFV	GGCCCAGGCTGGAGTGCAGT
20049	A1BG	AGCCTCCCAAGTAGCTGGGAGC
20050	MSH3	CGTCACTGCACTCCAGCTTGGG
20051	NGFR	ACTTTCCACCCCCTCCCTGGCC

20052	WDR4	GCAGAAAAGAAGTCACAAGAAAA
20053	GAS7	CACATCTGGCTTTCTCAGCCA
20054	IL1RL1	CATGGCAGAAGGCAAAGCAAAGGCAG
20055	MSF	GTTGGGGCACTGGGCGTCTGACT
20056	WWP2	CCCAGGAGGCCCTGCAGTT
20057	AFG3L1	AGCAAGGATGATTCAGCACTGCCCCTCA
20058	SEDL	TCCTCTTGGAAGCAAGATCGCT
20059	DPYSL2	TTCAACCTCCTAGTGTCTGTT
20060	MYBPC2	GACCCCAATCCCCAACCTCCCAGGAC
20061	CRSP6	TGTAGCCCAGTCTGGAGTGCAG
20062	MECP2	AAGTCACTGCAAAACCAGGTTTT
20063	LGMN	TGAGAGCTGCCTCCTGGAAGC
20064	NAB1	TGCATCCACATCTGTAGGCATATT
20065	TEGT	AAGGACCTGTTTGGGGCAGCAGGG
20066	LUM	TGCATACTTACCTAGTGAAACTTTT
20067	CARD10	TCTCCTCACATGGGTGTCTGTGGTTCTCT
20068	ZNF16	TTCTCACTGCCACTGCTCTTGCCTC
20069	GGT1	AGCTGGGACCCGGGGTGTCGGAG
20070	NEB	ACTTAGGGCATCTCCTGCTGCCTTC
20071	NRL	GGCCTTCAGGGCTCAGAGCAGC
20072	INPPL1	GTCTTGCAAGCAGCCTCCTGGGCAGTCGT
20073	STAU	GCTGGGGTTTGTTGTGATGGCC
20074	FBXL11	CTGTGCTCTCCCTCCTTTCCTCTCCC
20075	MEIS1	TAATCAGCTGTTGCAGGCAGTGTC
20076	FGF18	CGGAGCAGCAGAGTCTGCAGCAGCAGCA
20077	MKI67	GAGGGAGGGAATAGAAAGGGGC
20078	ADCY1	ATTGAGGTCAGGAGCTCAAGAC
20079	TMSB4Y	GACATTTTCACAGCCCTTC
20080	NFATC4	GTGGAGGAGGGAGGAGGGTGA
20081	PRDM4	GGCCACTTGGAAGTTTAGGGTAGA
20082	GYPA	CCGGACATGCAGGTGAATATTTTAATAG
20083	GNAT1	CAAGCTAGCTCTGGCCTGTGT
20084	CKTSF1B1	CAGCGTAACTACCCTAAAAGCATATCA
20085	ACLY	GGAAGGGAATGAAACATTTATG
20086	APPBP2	CCATTGCATTTAAGTTCCCTAGGAG
20087	DCX	TCAGAAGTATGTTGGTGGGAA
20088	SLC21A9	GGGAGGCAGCAGACAGGGA
20089	PTPRK	TGTCTATATGGAGAAAGCACA
20090	ZNF214	CACAAGTAATCCCAAGCAACAT
20091	RUVBL2	CTGGTTGGATGTCATCCCCC
20092	PTGS2	GTTATTTTTCTGTCATCAAAC
20093	BAZ2A	GTGTCTCTCTCCTGGTCAT
20094	EDARADD	GCTAGTGCTGTTGAGAAGGGGGT
20095	PDAP1	GGCCTCCTCTTCATCTTGGCAC
20096	RAD23A	GCCTTGGCCTCCAGCCTGGAGAAGG
20097	SIRT3	CGAGTCTGCTTTCTGTGCCTAGTTG
20098	PKD1	AGCAGGACTAGGCATGTCAGAGGAC
20099	DIAPH1	TTCCCTGAGCTTTGGTGCATCT
20100	AXL	CCTCTCCTTCTTAGCTATCATTGCTTC
20101	ATP11A	CAGTGATTAGTTGAACAGCACAT

20102	CCNF	TCTCCCCGGCTGGAGTGCAGTG
20103	ELAVL3	GGTGAGCACTCTGGGGTGGGAGGGTC
20104	ORC1L	ACGATCATGGCTCACTGCAGCC
20105	SHOX	GCGATCATAGCTCACTGCAGCC
20106	PTGIS	CCTCCACCTCCTGGGTTTAAGCAATG
20107	GAPD	GCACCTTGTCATGTACCA
20108	PKHD1	AGGCAGCAGGAAGCAGGGTGAAGAAT
20109	NUMB	CTTTTGGTGAGAACATCCCCTT
20110	SHANK2	AACATAGTTTATTTTTACACTGTCT
20111	RTKN	GTTTAACAGGAGTGCAGAGGG
20112	TCN1	TTCTCTCTCTACATGTTCA
20113	PCSK2	AGAAATTTATTACTTGTTGCAAAG
20114	BCL2L2	TGCCCTGCTCTGAAGCCTTGA
20115	NFE2L1	CCCACCCCTCACAGACTGCCT
20116	KRT6A	CTCTCATCTCCTGGAACCATGGCCA
20117	YWHAG	ACATCCCGCTTCTGAAGCTGCTGCAGCTC
20118	PRKY	CCTTCCAGGAATTCCTTGTTGACAACA
20119	CA3	TAGCCAGACAGCCAGCCTGC
20120	FBLN5	TCTTCCACTCCTTCTCTCACTG
20121	CRSP6	GTTGCCCAGGCTGGTTTCGAA
20122	MTL5	CGCAGCCGCCCGCCTGCAACGTGCACT
20123	TNFRSF11A	CTGGCCCAGGCTAGAGTGCAG
20124	KIF1B	TGCCTGTAATTCCAGCTGCTTGGGAGC
20125	PKNOX1	AGCCCTTCCTCCTTCCCTCACCAC
20126	ATP1B2	CGAGTAGCTGGGACTACAGGCAT
20127	PRDX3	AGCCTTACTTGAATCTTGCCT
20128	EHD1	TTTGCTGTGGCTGGAGCTGGACAGT
20129	ST7	CTTACCTCTCAGCCTTAGCTCT
20130	ATP2B1	GAGGGAGGAGTAAAACTGGGC
20131	CNTF	AATCACTGCACCTCTTTGTC
20132	SHFM3	CAGTTCTGAGTGAGTTCTGAGCC
20133	IFNAR2	CAGGTGATTCTCCTGCCTCAG
20134	OPA3	GCCACTGGGACCAGCAGGTGAAGCG
20135	CLECSF5	GAAGGGAAGAAAGGCTGAGTC
20136	PRKY	GTATTTTCACCAAGCCTTTTCATAAT
20137	NUP153	CTTCAGCAAAAATATTTTA
20138	STK38	CAGCTGGGAGCCTGCTTTCTGCCAG
20139	ABCB9	GCCTCTCCCCTTTACCCCTCC
20140	TACSTD2	GGTTTAATAGATCCTGGCC
20141	VHL	AGATGGTGCCACTGCACTCTAAC
20142	SHOX	TCGCCCAGGCTGGAGCGCAGTCCCGCA
20143	STK4	AGAGTTTTAAACCCCAGGAACAGAGA
20144	PTGFR	GAGAGGCATGGAGAAGAAACTCTCAT
20145	CRY2	TCTGGGACTGAGCATGAGGCCATAGACAGAT
20146	FMR1	CCTCTCGGGGGCGGGCTCCCGGCGCTA
20147	SUDD	TGCCACTGCACTCCGGCCTAGG
20148	PXMP3	TGCTCCTTCATTTTACTACTTCT
20149	LIF	TACTTTTCACTCACTTTGCACCTTTCCCT
20150	CYP3A4	ACTTGGGAATATAAAGGAGG
20151	TNNT2	CTGTTTGGAAATGGGGAGCTGGCCTAG

20152	ARHA	TCAGGCAATTAGACACTTTGG
20153	GOLGA5	ATTCAGTCTGCTTTTGGATTT
20154	MANBA	TGCCGGGGTGTCCTGGAATCTGTGCC
20155	AGL	GCCCCTCCCTTTGCCCTTCACG
20156	MYO1D	GGCGCTGAGGGGAAAGGAAGC
20157	RB1	TATTTAAGGTAGCTTCAGCTAG
20158	TEK	TAAAAAGTTTTAGTTTTGATGA
20159	PDE4B	GCTGGAAGGAAGGAGCCAGCGTGCAAA
20160	CHST7	TGGTACCATTTCACACCAGCA
20161	KIF3C	ACAGGGCCACCAGGAGTGCGTGG
20162	PPARGC1	GGAATACTTGGTTTCTTTTCTTACTTAT
20163	GPR48	CGGCTGGGAGACAGCGAGCCAGA
20164	GNAS	GGAGAGGGCGGCGAAGAGGACCCGCAG
20165	PNUTL1	CTTCCCTTATCCCCA
20166	PRDM2	CCACTTGGGCTCTGTTTTCTCAGCT
20167	KIT	GAGTCCTTGAAAATATTTTT
20168	MGAT5	AGGGGTGTGATGGGGCAGAGGAA
20169	ITGA3	TAGCTATCCTTGGCTTTCTGTGC
20170	HDC	CAGGCAGCTTCTGTGGTTCAGCTT
20171	PARG	GCAATCTCTTCCACACATGTGCAG
20172	NRXN1	CAGGAAGGAAGAGGGTTGTG
20173	FGF12	TCTAGGCCCTCACCTCAAACCTTGCCA
20174	CCNF	CACTTCGGTCTCCCAAAGTGCTGGGA
20175	STIM1	CGTCCCAACCATGGGCTGCTGC
20176	HYOU1	TTCCTCTCCCACCATGCGATGA
20177	IL1RL1	AAAATCAAAGTTTCAGCAATGG
20178	RERE	TCTGCCTGGCGTTTCACTTG
20179	D8S2298E	AATAGGATTAGAAAAGGATTG
20180	ZNF216	GGAAGCAGGAAGAAATGCTCAT
20181	CCR9	GTGGCTTCAGTTCTCATGCTGC
20182	LZTS1	TTTTCCTCTGGCCGCAGAGGTGTAG
20183	MYO15A	AGCAGGAGGAACTTTCAAAAGTC
20184	FOXD1	GGGCTGGGGCGCAGAGGGAGCCCG
20185	PTPRO	TCACATGGGTGGTCACAGGGAG
20186	STC1	GTGGCCTTTTTTATAACTAAGG
20187	ITCH	GGTATTGTACTCGGGAGGCTGAG
20188	AGL	AAAGTACTGGGATTACAAGCAT
20189	EGR4	CCGTTCCCCTCCCCGCTCTTCTTCCAA
20190	HS3ST4	TTCTAGCCCTGTATCTGTCA
20191	CRMP1	CCACAGTTTTAGTTGGTGCTG
20192	CA7	CCTTCTCCTCCAGCACTGTGCCA
20193	NBEA	CACCCAGCAATAGCTGTACATTGTA
20194	SRPX	ATACACAGGCTATCAACATGTTATT
20195	RP2	GCCCAAGCTGGAGTGCAATGGC
20196	BCL6	TAAGAAAATATTTTGTCTAAA
20197	RAB18	ACTCCTATCATTTTCTGAATTACTTGG
20198	GRM4	CCTGCCCGCCTGCCCCTCCTGCCGA
20199	SCA1	AGAGAATACTCATTTTTGTCCAG
20200	STIP1	TGTGGAAAGAGGAGCTGGGACC
20201	JAM3	AGCCTTTTTCACAAGGGAACTCA

20202	ADAM8	ATGGAAAGGGCTATGTGGGAGA
20203	MAML1	GTGAGAATTGAGCCAAGGAA
20204	CST3	AGAGAAGGCAGCAGGCGGCCTTTG
20205	DHH	TGCTGCCCTCTCTGGTGCCTGTGG
20206	PTGFRN	TTTTGTATTTGTTTTCTGTGAGAGCACTGA
20207	LSS	CCTCAGATCCTGTCATTGCCT
20208	POLH	CCTACCAGAGTTTTTAATCTTTA
20209	CISH	AATGCAGCCGGAGCCTCAGTCCCCAGCA
20210	PKHD1	ATGACATCACTGCACTCAGACCA
20211	GJA1	AGACAGGTCTGAGTGCCTGAA
20212	TCF7	TATTGCACTCCAGTCTGGGTAA
20213	ITSN1	ACCATTTGGTATTCAGTCACA
20214	KNS2	GAGCGCGGCCCTCAGGAGCAAGG
20215	GAP43	GAGCCTGTCTCTCCCTACCCTCTTC
20216	EHD1	GGAGCAGCCCTGCCCAGGGGGCAT
20217	ETV3	AAAAGATTCTGGGGTTACTTGA
20218	PCDH7	TGCCACTTCTGCCTCCAGATCA
20219	DHFR	ACCTGTAATCCCAGCGCTTTG
20220	UBE2B	ACCTGTAGTCCCAGCACTTTG
20221	CARD15	GCTTCCGTGTGGGTCAGTGGGG
20222	SMP1	TAGAATGACAAACATTAG
20223	MYC	AGAGGGAGCGAGCGGGCGGCCGG
20224	GABRE	CAGATTATTATGTTCTCAG
20225	UBE2G2	CCGGGAGGCAGAGGTAGTAGTG
20226	PLS1	GGTAACACAGCTTTAACTATGTC
20227	SDHC	TCATTCTTATCTCCAGCCTGGGAAAAGTT
20228	INPP5D	ACGGGCGGCAGGTTGCAGTGGAG
20229	ABCD1	GCCCTGACCTCAGGGGCCAGGGCACT
20230	AGL	CTCTTCTTCAAAGCTGACCTTGCT
20231	RASSF1	CCTTATCAGAGCTAAGGGTGGGT
20232	ANKTM1	CCCTTCTTGCTGTCCCCAACACA
20233	VHL	TTGGGAGGCCAGGGCAGGCAGATCATC
20234	IL10RA	TCCTCTTGGAGCCTCAGTTTC
20235	CTGF	ACTCTATATAGCTGATCAGTTTTTT
20236	ATP5J	CTCGGAGGGGAGCTTGAACTAGGG
20237	PCDHB4	GTCCTTGTATAGACTGGAACAGT
20238	FCRH1	CTGTAAGTTAACACAAATGTTAACT
20239	IL15	CTTCTGAGGCTCTCCTAGCCA
20240	IL20RA	GCTGGCCGGTTGTTCTATGCAG
20241	PTPN7	CAGAGGGTACAAGCTCCAGAAC
20242	PPEF1	TCTAGGAGTCTGTTCCCCTTGA
20243	MYOC	ATGGCAGAAGGAGATGCTCAGGGCT
20244	CDH1	AGTTAGTATAGCTTTATACTCTCTCCA
20245	MCM6	CCAGAGCTGAGGAACTGTGGCAC
20246	CSRP1	CCAGGTCTTAAGGACCCCAAAGTC
20247	SCN2B	TCCAGAGAGAAGGGAGTGGGTG
20248	CACNA1C	TCACCTTTCTGTTTTCACTTTTGCCA
20249	CUL5	ATTTAGAACCCAAATTTTGGA
20250	CTSS	CTGAGGCACGAGATTCCTTGA
20251	SH3BP2	TCTGTCGCCCAGGCTAGAGTGGATTGG

20252	KCNK4	GGGGCAGAACCATGGAGGAAAAGC
20253	STXBP1	TGTGGGTGGAGGCTGGGGTGTCTGCAC
20254	OCA2	TCAAGCGAATGTTGGAACAC
20255	MYC	CAGAGGGAGCGAGCGGGCGGCCGGC
20256	ZNF42	CACATAGCCCAGTCTTCCTCCT
20257	ATM	GACTAATTTTTTGTGTTTTTTGT
20258	TGM2	CAGAGCCCTGGCTGGGTTCAG
20259	AKAP13	CAGGCGTCTGGTCAACTTAGCAC
20260	EXTL2	GGTAAAGCCATGTAAGAAGAGA
20261	EIF5A	CCTCGCCTGCCTGTGTCTCT
20262	MDFI	AGCCCTCTCCAGTCTCCTTTCCTAG
20263	MAPRE2	GAAACCAGTTGTTCCCAATCTGCCGT
20264	NSMAF	CCAGCCGGCCACCAATCCCGC
20265	USH3A	GGATTCCTCTCTGTCTTCTTGGA
20266	ABCB10	ACCTCATTTTCTTTTGCCTGCT
20267	DTNA	ACTGCAGGTCTTACAGTGGAGG
20268	TRIM14	CACTGCACTCCAGCCTGGGGAC
20269	PTGS1	TTCCAGAGGTATTCCTCTCTTA
20270	SDC4	GAACCACCCTCCCTTGCTGCAC
20271	PRKCH	CTTCTTCTCTTATCCTTACTT
20272	PHB	ATGATTCTTAACACAGCCTT
20273	SELPLG	ACCCCCAGCTATCGCCTCTT
20274	PPL	CCATCATTCACCCTGAGTGACG
20275	MGAT5	CCTGGTAACCACTGTTCTGTTATCTCCT
20276	PDE7A	CTTCAAATGCTGTGCAGCCATCTTGCC
20277	LZTS1	TCCTCTGCCTACAGCCAGGT
20278	APXL	TCCTCCTCTCCAGCTGGTAGTC
20279	CDC25B	CCTGCCGGGCTGAGGGCCTGCTGGAGGCC
20280	MPL	AGCCTCCCAAGTAGCTGGGAGT
20281	MGAT1	CTCTGGCCCAGTGCTGCCCAG
20282	CRI1	ACAAACCATTGCTTATGCTGTTA
20283	EIF2C1	GGGCAGGGAGAGAGGCTGGGTTGG
20284	ZNF198	TTATTCTATGTAGTGGTTTTA
20285	ZNF42	CCTCACTGCTCTCTCAGTCTTC
20286	EN2	CAATCAGAGTAGAGAAGTTAGAGG
20287	ABCA1	TAACATCCTGCTTTGATTCC
20288	PRDM2	TTTCTTTGTTGTGTGTATCTTTA
20289	BRF1	GCAGGCTCGCTCCTTGTGGGGCC
20290	PRKCM	TGGAACTAATAAATACATAC
20291	EN2	TAGAGGGAGATGGCATC
20292	GATA3	AAAGGAGCTCACTGTGG
20293	CASP6	CTGAGGCAGGAGAATCACTTGA
20293	CYP3A4	CTGAGGCAGGAGAATCACTTGA
20293	EGFL5	CTGAGGCAGGAGAATCACTTGA
20293	EIF3S2	CTGAGGCAGGAGAATCACTTGA
20293	FCAR	CTGAGGCAGGAGAATCACTTGA
20293	FCMD	CTGAGGCAGGAGAATCACTTGA
20293	LAMP2	CTGAGGCAGGAGAATCACTTGA
20293	LUZP1	CTGAGGCAGGAGAATCACTTGA
20293	NUP62	CTGAGGCAGGAGAATCACTTGA

20293	PDE4C	CTGAGGCAGGAGAATCACTTGA
20293	RAB7L1	CTGAGGCAGGAGAATCACTTGA
20293	SLC31A1	CTGAGGCAGGAGAATCACTTGA
20293	SRGAP1	CTGAGGCAGGAGAATCACTTGA
20293	SUV39H2	CTGAGGCAGGAGAATCACTTGA
20293	SWAP70	CTGAGGCAGGAGAATCACTTGA
20293	VHL	CTGAGGCAGGAGAATCACTTGA
20293	VPS41	CTGAGGCAGGAGAATCACTTGA
20293	ZNF36	CTGAGGCAGGAGAATCACTTGA
20294	GALNT7	CTGAGGCAAGAGAATCGCTTGA
20295	MAFF	CTGAGGCAGGAGGATCACTTAA
20296	MYO1D	GATTGTAGACAATGAGGGGG
20297	RP2	TTGCCCAAGCTGGAGTGCAATG
20298	AMT	CACCATGGTTTTTCACATTGCAAAGGG
20299	TPD52L2	CCCAGAAAGGAAACTGACCCT
20300	CNTN2	CCAAGTGTCCATCCAGAGA
20301	IGF2R	GGCTGCACCTTTTTGCATGATATC
20302	MYCL1	AAGTGTCCTTCTTGCTCC
20303	HPS1	CAGATCCTTCTCTCTGGAGGA
20304	RUNX3	CCCCACCACCCTCGAGCGGGGTTCCCCTCA
20305	HADHSC	ACTGTCTGTCTGTGTCTTTTTTC
20306	ANXA4	GCACTGTGCCTTTCAACTCCA
20307	ZNF138	ATAAGAAAATTCATACTGGGGA
20308	PRX	TGGGGGGCGAGGGTGCTGAGGAGCAGC
20309	MYEOV	CCTGCTGAGCTCTGTGTGATTT
20310	MAGEA2	GCAGTGAGTTTCTGTTCTGTT
20311	VDR	GTGCCTGTGAGGCAGGGGCGGA
20312	FOXM1	TGGGAACAACAAAGGCAATGGTG
20313	ADAM8	TTCTAACCTCAGTAATGCA
20314	CYP1A2	GTCTCAAACTCCTGACCTCAAGTGATC
20314	NCOA6	GTCTCAAACTCCTGACCTCAAGTGATC
20315	HOXA1	CAATTTCTTCCTTCCACAGTTAT
20316	KCNMA1	TATCAGATGTAAGTCATT
20317	IL17E	GAGGGTGGAGGGAGGCCAAGCTGC
20318	TFE3	ACCTCCCCAGCCCAGGAAAAACTGGA
20319	HLF	CTGCCTCCTCAGCTTTGCTTCA
20320	DSCR4	CGCTTCTTAACTCACCCATGTG
20321	FCER1G	CATGGTTGGCATCACATATGCCTGCA
20322	CD1A	GGATTTGTTGTTCTGACCTGG
20323	HD	CCTGGGAAGGAGGGAGCTGCT
20324	SCN8A	CGTGGTTTGGAGATGGGTGGG
20325	IFNAR1	GACCAGCCTGGCCAACGTGGTG
20325	RBBP5	GACCAGCCTGGCCAACGTGGTG
20326	RERE	ACAGTCCCCCAGAAACTTAGT
20327	MITF	ATCTGTGAACTGAATTCACCACAG
20328	GALNT1	GGGGCCTGCAAATGTGAT
20329	PPL	TGCACACAATCTGAAAACCACT
20330	JAG1	TTATATGAACATACAAATGCAT
20331	XPR1	GAGACCCCGGCGGCGGCGGAGG
20332	USP14	ACCAGCCTGGCCACATGGTGA

20333	LRP1	GCTTGCCCGCTCCCACAGCTTCCT
20334	SEPN1	GGAGGGAGGAGCAGGCTAG
20335	PPP1R12B	TCTATCACCCTCTTCAGTCACC
20336	PPARGC1	TTGTCAGGTTGGAGTGTAAGTG
20337	HOXC10	GTCTGTAATCTCGCAGAGCACAGGCA
20338	SMARCD3	GGGCACTGGATGACTCTCCAGGT
20339	DIPA	GGGCAGCAGGGGGACTGAAGGCTGGA
20340	KCNC4	TGTGGGTGGAATGTCCCAAGAA
20341	SRP68	TCCTCGGGGGCGGGGGAGATTCTG
20342	MYO1B	TTGAGACCATTGCATTCTGGCT
20343	PRIM2A	CCAAGTAGTTAGGACACACAGGT
20344	CYP4A11	GCCCTGGACCCACTTTCTCTCTCA
20345	SULT2A1	GAGACGGGCGGATCACGAGGTCA
20346	ENG	CCAGGAGACAGACCACTTGCCA
20347	HOXA1	TGCTTTTAGGAGAATTCACAGA
20348	AIPL1	TGGCCAACATGGTGAAACCTCA
20349	RAD50	ACCTCTGAATTTACTTCCTTGCATGTGG
20350	FLNA	TCTGCTCCCTGCCTCGCCTC
20351	HPS4	GCTGCAGCTGATCCAATACACCAAGCC
20352	TLR5	TGATGTTCATGTTCCTGGCACTA
20353	MOCS1	CCACACCTGGCCCTGTTCACGGCTGT
20354	CLCA2	AGAGATCTTTTTTCACTGTAAG
20355	SPTLC1	AGGCTGAGGCAGGCAGATCACC
20356	HAS3	CTGCTTCTTTCCAGAAACCA
20357	ICA1	CTGGATGAAGCTCTGGCCAACCAAAG
20358	NOX3	TGATTCCAAAGAACTCCACCAGGA
20359	TRAP100	TGAGGAGAGTGAGCAGCCTGGAC
20360	OPA3	TGGGGTGCGCTTGTAATCCCAG
20361	MGST1	TTCTGTACTTCCAATTTATA
20362	KCNH2	ACATTTTAGACTTTGTTTCTCAGC
20363	BECN1	GGGGGCTGAGGGATGGAAGGGTCTAAGAC
20364	NUP62	CCACTGCACTCCAGCCTAGGCAACAGA
20365	BRCA1	GGCCAAGAAATTAGAGTCCTCAGA
20366	GJB3	ACACTTAGTGACTATCACAGCCGA
20367	RAD18	GGTTTCTGATAATGTGTGGAGTC
20368	SHANK2	GCCATGAGCACCCATCCAGGA
20369	EZH1	GAGGGAGGGGGAAGAAGAGAGGGTGG
20370	SLC13A3	TGGGTAAAACTGAGACGTCC
20371	ALDH1A3	ACTCTCCTGTTTATTCACCAGACTGGG
20372	BCR	AGGTCCCAGTCCATCTCCTGGA
20373	ATP1A2	TCAGGAGGCTGAGGCAGGAGAATTGC
20373	CTMP	TCAGGAGGCTGAGGCAGGAGAATTGC
20373	DAPP1	TCAGGAGGCTGAGGCAGGAGAATTGC
20373	LRRC2	TCAGGAGGCTGAGGCAGGAGAATTGC
20373	NT5C2	TCAGGAGGCTGAGGCAGGAGAATTGC
20373	PPP2R1B	TCAGGAGGCTGAGGCAGGAGAATTGC
20374	PRKCQ	AGACAAGTAATCACTAACCCGTTTTA
20375	OAS3	GCTGCTTCCCACCCAGCTGAGA
20376	CHRNA2	ACATGGTCCATGGTGCAACCCACAG
20377	ACK1	CTTCTGCCGTCTCAGCCTGGGCG

20378	LTB4R	GGAGAATTGGTTGACCTAAATGGAAC
20379	ANXA11	GGAGAGAAAGGGAGGCGTGCCTGAGA
20380	GLO1	CTCTTGGGCTGGAGTACCGTGGTG
20381	DHFR	TTGTACTTAACCATTTTCATCTAT
20382	KRTHA1	CTGTCCTGCTCACCCTTTCC
20383	SLC38A2	TGTCATTGGTATTTAAAAATGA
20384	MAP3K9	CGCCTGTAATCCCAGCGCTTTG
20384	RAD51L1	CGCCTGTAATCCCAGCGCTTTG
20384	SLC28A2	CGCCTGTAATCCCAGCGCTTTG
20384	TRIM14	CGCCTGTAATCCCAGCGCTTTG
20385	HOXA1	CAAGAATGAACTCCTTCCTGGAATAC
20386	WEE1	CTCTTCAGATCCCCCAGCACCGGAGG
20387	IPP	CGCCTGTAGTCCCAGCACTTTG
20388	ADAM33	CCAGTGCTACACCTGAGGTT
20389	OPHN1	CTCTCTCTGGGAGGCCATAAAATAAGG
20390	SECTM1	GTCACCCACTCCTGGGTGCGTGCAGA
20391	FGF12	CTCTCCCCTTCTTCCCTCTCTC
20392	PMP2	CACTATGGAAAAACAAATATACAAA
20393	CEP2	GTACTGCCTCTCATCTAGA
20394	BCL11A	TTAGGTTCCCAAACCTTCAGGAAATATA
20395	MTMR4	AGTGCCCCAAACAGCAATAGAAAG
20396	PIK3C2B	GCAAAGTTTTAAGTTTACCT
20397	DLEC1	GCCCCTGAGTCCTGGCTCAT
20398	ERBB3	GACCAGCTTAGCCAACATAGTAAGACC
20399	ROBO1	AACATGATTTCAAAATCAGTTT
20400	GCLC	CACCTTGCCCCAAGCTTTCCCCTCTG
20401	BAK1	CCTCCATCTCCACCCTGCTGAGCCA
20402	TACC1	AATCCCATTTCTGTGCCTCT
20403	JUN	AGGACCGGAGACAAGTGGCAGAG
20404	IL8RA	TTGCCTAGGCATAGCCCTGCCTCAAGCTATGT
20405	ADAM33	GGTCCACACCAGCCTGGGCAA
20406	SLC13A1	ATTTCTGCTTTTTTCTAGTC
20407	DAAM2	CTCTACCCTCACCTCCATCCTGTC
20408	CCNB1	TGTAGGTCCTTGGCTGGTC
20409	TNFAIP2	CTCCATCTTCAGAGCCAGCTGTGGGTA
20410	AIM1	GGGATTACAGGCCTGAGCCACT
20411	ABCB9	CTGGCAGCCTCCCTCCCCAC
20412	EGFL3	GGGAAGCCTCGCATGGCCGCTGGAAG
20413	ANK1	CTGTGACTTCTGAAGCTGTGGATAAATT
20414	KLHL3	GAGGGGGCATGGAGTAATTTGTA
20415	DUSP1	CCCGCGTGACGCTCCTCTCTCAG
20416	MAP3K7IP1	AGGTCTCAGCCCAGGGTCCTC
20417	ABCC5	TTCATTCTTCTCTAGCTGGTGGT
20418	GPR3	TGGGAGTTTTACAGTGCCATTCCA
20419	FOSB	TCCGGAGAAGATTTCAGAGCTGAG
20420	DSCR3	CACCCAGGCTGGAGTGATCTCAGCTC
20421	MPP2	TGGGGGATTTGAGGGTAGAGGCAG
20422	SCN2B	AGCCCGGGAAGCAGAGGTTGC
20423	MADD	CAGGGAGGGGGCAGGAAAGACCAAGC
20424	CDH17	TCAACTTGGAAATGACACAGA

20425	DAAM2	CTACCATGGGCACCCATGTGCTGGCA
20426	GGT2	GGAGCAGTCCCAGAAGGGAGGGCTGTC
20427	ITGA6	CCGTCTTTTCCTGTTTCCTAGCTGT
20428	XRCC2	CAGGCTGCTGGAGTGCAGTGGCACA
20429	MHC2TA	AGAGGGTGGTGACCTCTGC
20430	SCA1	CTTTAGTTTGTTTGCTGTCTGGATGGC
20431	IRS1	ATTTGGCTGGGTGTTTTCAAATGTC
20432	RAD52	GAATCTCATAGGAAGAGCCAGG
20433	CPLX2	TTGTCACATCTTCCCAAGCCAGG
20434	TIAM1	AACTCTGCCCACCCTCCTGTACCGTCG
20435	TNFAIP1	GGCCTATTTTCTCAGCTGCCCTCTTGAGG
20436	HIF1A	TGAGTAATTTTAGAAGCATTAT
20437	NLGN1	GTTTTTAATAGAAGCTTCCTCCATCA
20438	ADAMTS4	CTCGGCCTCCCAAAGTGCTGGG
20438	APM1	CTCGGCCTCCCAAAGTGCTGGG
20438	APPL	CTCGGCCTCCCAAAGTGCTGGG
20438	AQP6	CTCGGCCTCCCAAAGTGCTGGG
20438	BAZ2B	CTCGGCCTCCCAAAGTGCTGGG
20438	BENE	CTCGGCCTCCCAAAGTGCTGGG
20438	CAMLG	CTCGGCCTCCCAAAGTGCTGGG
20438	CASP8	CTCGGCCTCCCAAAGTGCTGGG
20438	CHRNB4	CTCGGCCTCCCAAAGTGCTGGG
20438	CYP4F3	CTCGGCCTCCCAAAGTGCTGGG
20438	DCX	CTCGGCCTCCCAAAGTGCTGGG
20438	DSC3	CTCGGCCTCCCAAAGTGCTGGG
20438	FCAR	CTCGGCCTCCCAAAGTGCTGGG
20438	FCGR2A	CTCGGCCTCCCAAAGTGCTGGG
20438	FTSJ2	CTCGGCCTCCCAAAGTGCTGGG
20438	GHR	CTCGGCCTCCCAAAGTGCTGGG
20438	HLCS	CTCGGCCTCCCAAAGTGCTGGG
20438	IL11	CTCGGCCTCCCAAAGTGCTGGG
20438	INMT	CTCGGCCTCCCAAAGTGCTGGG
20438	LYZ	CTCGGCCTCCCAAAGTGCTGGG
20438	MDM2	CTCGGCCTCCCAAAGTGCTGGG
20438	NF2	CTCGGCCTCCCAAAGTGCTGGG
20438	PCDHA9	CTCGGCCTCCCAAAGTGCTGGG
20438	PER2	CTCGGCCTCCCAAAGTGCTGGG
20438	PRKR	CTCGGCCTCCCAAAGTGCTGGG
20438	PRND	CTCGGCCTCCCAAAGTGCTGGG
20438	PTGES	CTCGGCCTCCCAAAGTGCTGGG
20438	PTGIS	CTCGGCCTCCCAAAGTGCTGGG
20438	RAB36	CTCGGCCTCCCAAAGTGCTGGG
20438	RABL2A	CTCGGCCTCCCAAAGTGCTGGG
20438	RABL2B	CTCGGCCTCCCAAAGTGCTGGG
20438	RGS9	CTCGGCCTCCCAAAGTGCTGGG
20438	RHD	CTCGGCCTCCCAAAGTGCTGGG
20438	RPH3AL	CTCGGCCTCCCAAAGTGCTGGG
20438	RPP30	CTCGGCCTCCCAAAGTGCTGGG
20438	SERPINB9	CTCGGCCTCCCAAAGTGCTGGG
20438	SLC24A1	CTCGGCCTCCCAAAGTGCTGGG

20438	TAPBP	CTCGGCCTCCCAAAGTGCTGGG
20438	TERF2	CTCGGCCTCCCAAAGTGCTGGG
20438	TPMT	CTCGGCCTCCCAAAGTGCTGGG
20438	TRPV1	CTCGGCCTCCCAAAGTGCTGGG
20438	UGDH	CTCGGCCTCCCAAAGTGCTGGG
20438	VENTX2	CTCGGCCTCCCAAAGTGCTGGG
20438	VIPR2	CTCGGCCTCCCAAAGTGCTGGG
20438	YES1	CTCGGCCTCCCAAAGTGCTGGG
20438	ZNF165	CTCGGCCTCCCAAAGTGCTGGG
20438	ZNF74	CTCGGCCTCCCAAAGTGCTGGG
20439	SEDL	CTCAGCCTCCCAAAGTGCTAGG
20439	SERPINB9	CTCAGCCTCCCAAAGTGCTAGG
20440	LRP4	AACTTCCTATGTTCTTTCTCA
20441	KCND2	CAGAATTACTATGTCTTTTGA
20442	ADCY1	AGCTTTGTGTAGCTCGAGCTTTGT
20443	ATM	TGCCATTGCACTCCAGCCTGGG
20443	SLC2A6	TGCCATTGCACTCCAGCCTGGG
20443	UBE2B	TGCCATTGCACTCCAGCCTGGG
20444	CA12	TGCCACTGCACTCTAGCCTGGG
20445	HIP1	CGCCATTGTACTCCAGCCTGGG
20446	RP42	TTTTAAAATGTAATGCTTTTTA
20447	RNASE3	TTCAGCTTTCCTGAGCTGA
20448	RPH3AL	CAGGAGGTTTGGCTTGGCATGA
20449	UBE2L3	TACGCCAAGGGCAGGTTTCTGGAGAC
20450	DHH	TGTCTGACACAGCCAGCCAGT
20451	RNASE1	CCTCTTCCTTCCCTGCTGT
20452	C1D	AGCTAAATACTTTCCTCTCCA
20453	PXN	CTACCCTTCCAGTGCCCTA
20454	MXI1	CGTAGCCGCCTGCGGCGCCTCC
20455	ANKH	GAATGATAGCATTTCACTCTGCGT
20456	RPS6KA2	GCCTGTGTCCACCTCCAGTCTCGGCT
20457	GSTA3	GTGTTGATTGTGCCTGTTGTA
20458	USP6	CTAAAGCAGCTTCACTGGTT
20459	TNFSF15	GAACTGGGGAGGCAGAGGTTGC
20460	ERBB2IP	TTAAGACTTTTATAAGACTAG
20461	TGFB1	GCCTGTAATCCTAGCACTTTTGG
20462	GABRA5	CATGATCTTACACGAAGAA
20463	IRTA2	CCTTGGAGCTGGTGTGCAGTG
20464	S100B	TCTTTCTGCTATATTAGGCCTGTGTG
20465	MUCDHL	CAGAGCCCAGGCTGGGCGCCCATGCC
20466	SERPINE1	GCACAACTCCCTTAAGGTCTCCA
20467	GPR1	ACTGATTTCTTCATTCTCCA
20468	ZNF165	GGTGCCACATGTCTCAGATCTGC
20469	SLC38A3	GGGGGAGGAGAAAGACGCGAT
20470	RBBP5	CCTGTAATCCCAGCTACACTGG
20471	XRCC3	ACCAACCTCCAGTGTCAGGG
20472	TP53	TTGCCCAGGCTGGAGTGGAGTGG
20473	JMJ	TCTCCATCTCACCGCTTCTT
20474	PLA2G4B	CTTGATACATCACAGACTCATACAAA
20475	E2F3	CCTCTGCAAGGAGCTTTGTCCCATCGTGC

20476	GDA	GCAGCCGCCCGCAGCTGCAG
20477	EPHB2	GTGCCAGCCACGAGACGTCACCAAGA
20478	PBX3	CCTTGATAAGTGCATTCA
20479	IL6R	CTCTGAAAACCAATGTTCTCTCTTCT
20480	ENTPD6	GGAGACACCTCTTCATAGACGGCAGGT
20481	DCX	GGGTACTTCTGCTCAAGTGTCCAACAG
20482	EPHB1	CACTCCTGCCCACGCCCACGCAGC
20483	BHLHB3	TTTCTAATGTTCAGCTTTCTA
20484	PRKWNK3	ACAGAAATGTTTTTTCACTTCAA
20485	FSTL1	TGCTCTGGGGCTGGAGGCTAGTAAGGAA
20486	TCTA	AGCCTCCTATCCACCACTGCTTA
20487	MYCL1	TAAAAACCTAGGTCTCCA
20488	SEC13L1	GGTCATTTTTATGTACCTTTGGGT
20489	IL13RA1	GAGCAAGACTCTGTCTAAAAAAC
20490	GPX2	CTTCACTGCAGAGCCTTGCCT
20491	FOLR1	ACACCGCACATGTGTCTTGAG
20492	TGFB3	TCTTGCCAAGCCTCAGTCTT
20493	CASP3	CAGCCCATTTCTCCATA
20494	CTPS	TACTGCCCTGAGTTGGGGGGA
20495	SPR	ATGCCTGCTGCCCTGCCCTCAGGC
20496	SYP	CTGCACCCTCTGCTATGTC
20497	PCDH11X	TTAGTAAATATGATTTTTAAAAGCAGT
20497	PCDH11Y	TTAGTAAATATGATTTTTAAAAGCAGT
20498	CTSZ	CATGTCACTAGAAGCGCAGTTT
20499	ALOX5	CCTGCCTGGCAGGCTGTCTGGCCAGGC
20500	NCOA6	GAACTTCTGTAGCAGAGGTTGC
20501	ABCC3	TGGAGAGAAGGGCATTAACCTGTCTGG
20502	APPL	TCTGTTGCCCAGGCTGGAGTGC
20502	CTSS	TCTGTTGCCCAGGCTGGAGTGC
20502	CYP4F3	TCTGTTGCCCAGGCTGGAGTGC
20502	F3	TCTGTTGCCCAGGCTGGAGTGC
20502	FUT1	TCTGTTGCCCAGGCTGGAGTGC
20502	PCDHA9	TCTGTTGCCCAGGCTGGAGTGC
20502	PDZK1	TCTGTTGCCCAGGCTGGAGTGC
20502	PIK3CD	TCTGTTGCCCAGGCTGGAGTGC
20502	PMCHL1	TCTGTTGCCCAGGCTGGAGTGC
20502	PON1	TCTGTTGCCCAGGCTGGAGTGC
20502	PRKR	TCTGTTGCCCAGGCTGGAGTGC
20502	PRND	TCTGTTGCCCAGGCTGGAGTGC
20502	SAS	TCTGTTGCCCAGGCTGGAGTGC
20502	SLC39A1	TCTGTTGCCCAGGCTGGAGTGC
20502	TAPBP	TCTGTTGCCCAGGCTGGAGTGC
20502	TERF1	TCTGTTGCCCAGGCTGGAGTGC
20502	TMC1	TCTGTTGCCCAGGCTGGAGTGC
20502	TMPRSS3	TCTGTTGCCCAGGCTGGAGTGC
20502	VHL	TCTGTTGCCCAGGCTGGAGTGC
20503	NONO	TCTGTCGCCCAGGCTGGAGTGT
20504	ATF6	CCACCTCTCCTTTTTGCCATTTCACT
20505	KCNJ8	GGATTCATGGCTTATGCTTGTTTCA
20506	ENAM	TCTTCTCAGGTTAAAGCTGTAT

20507	KLK3	TGCACCCGGAGAGCTGTGT
20508	IL1R1	TGGCACACGCCTGTAATCCCAG
20508	POLK	TGGCACACGCCTGTAATCCCAG
20509	GYS1	CACTGTGAAACCACTAGGTTCTA
20510	KRTHB1	CCAGGCCCCAGGCATCTTTGCCTGCCC
20511	CTMP	CCCCTCCAGAAGAAGCAGTT
20512	PDGFRB	TACAGCAGCCCCCTTCCTCCA
20513	NESH	TGACCTAGAAGCAGCATCTTCCCA
20514	RGS1	TGCCATTGCTACTATTGCTTGTCGGTG
20515	CDH4	GCACCCACCCCCACAGCGCCC
20516	XPO1	AAAAAACAAAACAACTCTGGCTT
20517	GNGT2	TCTGTCCCTCTTCAGCCAAGC
20518	PRSS16	TTTCTCTCACTGTACCCCTTTCCCTC
20519	HLCS	TTAGTTTAGGGAAAGCCCTCCC
20520	IL20RA	TATCACACACTCTTGGCTAC
20521	SLC24A1	TCACCTCCCCGGTTCAAGCAAT
20522	THRA	GGCATCCTGGATGGAATTGA
20523	GPRK7	GGCAACTTTTCAAATGTCCCCAAA
20524	CDC2L2	AATGGTGAGATCTCGGCTCACT
20525	TBX22	CTCTGATTACAGTGGCCTTGAGCTTCA
20526	DBH	GGCCAGCCTGCCCGGCCCCAGCATGCG
20527	EXO1	GGAGGAGAGTCCCTTCTCGGAAGGCCT
20528	CAV2	AACATAAAAGCACCACTGTTCTGTTC
20529	SPHK2	GGGAAATTCATATCCCCTGTTCGTCTC
20530	THBS1	CCTTCTGGAACTATGGGCTTGAG
20531	GSPT1	GGACAGATTTGGCAATAGCTTTGTAA
20532	SMARCC1	CCCGGTTTTTTCCTCTTGTC
20533	MNT	CACAGGTGACAGATCATAGGAAGT
20534	CXorf6	AGGCCAGACTCCCCTGGGCAGACTTGAC
20535	VHL	GCCCAGGCTGGAGTGCAGAGGTGCG
20536	GMDS	GCAGCCGGGATGTGACCCTCCAGGGTT
20537	OPTN	TTGAGGCAGGAGAATTGCTTGA
20538	TGFA	ATGGAAAGATAGACAGCAGCCAACCCT
20539	CALB1	TTCCCTAAAAATTCCACCAGGATTAATC
20540	CSNK1G3	TTACTGCTGAATGATTACATTCTC
20541	ZNF35	CAGCCAGCCTCCTGCTGC
20542	PAH	AGAGACACCCTTTGTAACTCTCTTCTC
20543	RANBP2L1	ATAACCTTTCCATCAGAAGGG
20544	SH3BP2	CTTGGCCTCCCAAGTGCTGGG
20545	PCDHA9	CAACTCCTGGATTTCTCTTACA
20546	MECP2	GCTCCAGCCTGGAAACCTGTCT
20547	F2RL3	CGCCACTGGACTCCAGCCTGCGTGACA
20548	GA	GGTCTCCTCTTCCTCTCCCTGAAG
20549	PKNOX1	GGAGTCTGAGGCAGAGGATGGCATGT
20550	MBL2	AACTGGCAACTTACTACTGAA
20551	ADAM33	CCCACCCCCAATCCCAGTGCTACAC
20552	YWHAE	GTGGCTGCTCATTCTTGCCT
20553	CTNND2	TGGATTTCCAGTTTTTCTTTAC
20554	ABCC12	ATGAACATCCTTACCTTCACTGTGGCC
20555	NOTCH1	CCCAGCACCTCAGCCTGCACAGTGTCC

20556	ARHGEF7	TCCTCTGCGTCAGGGAGCACTTT
20557	GCNT2	TTTAAACAAAGGAGGTTTGAGA
20558	ZNF18	TTCTTGATTCTGCCTCAG
20559	SCD	CTCTGCCATCTTCAGGATATTG
20560	SNCA	ACCTGAAGCCTAGAAATATCTT
20561	LZTR1	GGGAAGAGAGAGCAGGAGCTGGGGC
20562	WHSC1L1	CCTGGTTTCTTCTTCAAGACTCTGAA
20563	ALDOB	AAAGAACAACTGCTGATTGAAACA
20564	ARHGAP6	TATGCTGGTGGGCCACTTGTCG
20565	CNGB1	GAGCTCTCACTATCATTTGAGAGCC
20566	WNT8B	TCGCAGCCACACCTAGGTCTG
20567	FVT1	TTTTATTCAAGATGAGTTGGACCCATT
20568	RXRB	GCTCTCCTCCAGCCCTGGGCACATAGC
20569	SELENBP1	TTCTGCTCTCTCTTGGCACC
20570	YWHAG	CGCAGCCGCCGCCTCAGCTGCTCGCTCTGT
20571	LMAN1	CTAAGACATTGTGAAGCACTTG
20572	VDR	AGGCTGAGGCAGAAGAATTGAA
20573	ANGPT4	CAACTCCCCTCCGTCTGTGACAT
20574	NFKBIL2	TGCAGTGAGCCGAGATCGCACCACTGC
20575	MAFF	TGTAGTGAGCTGAGATCGCACCACTGC
20576	CD68	GGAGGCTGAGGCAGAGCTGCTTGAACC
20577	RDX	CTAGATCACTGTGCTTATTTT
20578	FY	GAATTAAAGTCTACACTGCCT
20579	BCL2	GGCTGGGCCTGTCACCCTGGG
20580	CBFA2T1	CCTGCAGTTAATTAGCATTCTGGC
20581	DAPP1	ACTCTAGCCTGGGTGACAGAGT
20582	SHOX	CGCCCAGGCTGGAGCGCAGTCCCGCA
20583	FGF7	CACATGCTTTCTACTCTTCG
20584	TCF2	CTGTCACCCGAGCTGGAGTGCAGTG
20585	FRK	GCACCTCCAGCCACAGAAAGCAAGCCGG
20586	NTSR1	AGCCTTGATGGGGGTCAGGCAGAG
20587	CDK9	GGCAAAGCAGTACGAC
20588	CAST	ACTCTTCTTTGCCAGGTGTG
20589	KMO	CATTAGCAGGTGTAGAAAGG
20590	F2RL3	CACCCACCGCAACCTCATCCCCTC
20591	INPP5D	CTCTAGGCAGGACTGCCATGCAGT
20592	TRIM39	AATTGTCAGCCTTCTTACCTGGCCA
20593	CHD1	CAGATCTTCTATCAGTAGCAGTATTG
20594	GPR44	CTGAGCAAAGGGAACAGTGA
20595	CDX1	CCTGCCTCTTCTGCAGCCT
20596	NPY2R	TGGTTGGGTAGTAGGTTGCATTATGA
20597	EHF	TAATTTTTTGTCTTTTGGA
20598	FBLN1	AGGAAGATGGACCTGGACAGAC
20599	LAIR1	CTCCACCCAGTCCTCGGCC
20600	TMEM2	TCCTGGCCATGGAGAGGAGATCTGG
20601	SHOX	ACCTGCCACCACCACCCCCGCCAT
20602	FBXL3A	AAACTGCATGATGAATAGCACCTTA
20603	ALB	GTTCCAGTGTTCTCTCTTATTCC
20604	ADAMTS4	CTGAGTAGCTGGGATTACAGGC
20604	ADCY6	CTGAGTAGCTGGGATTACAGGC

20604	ATP8B2	CTGAGTAGCTGGGATTACAGGC
20604	CBFA2T2	CTGAGTAGCTGGGATTACAGGC
20604	CIAS1	CTGAGTAGCTGGGATTACAGGC
20604	IGF1	CTGAGTAGCTGGGATTACAGGC
20604	MLANA	CTGAGTAGCTGGGATTACAGGC
20604	PKNOX1	CTGAGTAGCTGGGATTACAGGC
20604	PPEF2	CTGAGTAGCTGGGATTACAGGC
20604	PTGES	CTGAGTAGCTGGGATTACAGGC
20604	SNAP23	CTGAGTAGCTGGGATTACAGGC
20604	TERF1	CTGAGTAGCTGGGATTACAGGC
20604	TRAF5	CTGAGTAGCTGGGATTACAGGC
20605	CCNF	CTGGGTAGCTGGGATTACAAGC
20606	MEFV	CTGAGCAGCTGGGATTACAGGT
20607	SON	GTAGGAGAAAGAGCACAAAAGAGGTC
20608	LIF	AGAACTTAGGGTCAGGGTCTCA
20609	SOCS4	CCCTGCATCTTGCACTTTG
20610	SLC6A5	CAGGTCAAACACGCAGCCCCCTCCCGC
20611	FNTB	CAGACTCCAAGCCCACTCTCCTC
20612	SMTN	CGCGGCACCTCCGGCCTGCGCGT
20613	OPA3	TGCGCTTGTAATCCCAGCTACTC
20614	NME2	TGTCCCTGGACACAGCTCTT
20615	WRN	TGAGGGGAAGAGGGGGTCTCCGCTCTT
20616	CFL2	ATAGCTTAGAATACTGCAAA
20617	GPR4	CCACCTCCTGGGCTCTCCAGCGAT
20618	FGFR1	CTCCACCTCCTCTCCACCTGCT
20619	SIRT5	GGTGGTTTTTCCTGCCAGTTCAGGA
20620	RSN	CAGGCAAAGGAGAAACAGCTCTG
20621	EXTL3	GGAAGGGGCAGCAGGAGGAGT
20622	DNASE2	GGAGGCTGAGATGGGCAGATCA
20623	WHSC1	GGTCCTGTTTTTGTCATGTTTATGA
20624	BCL7A	CTGTTCTGACTCTGAGCCA
20625	CD1D	CCTCTGGACCTCAGGTTCC
20626	MXI1	GGCTGGGCAAGGAAAAAGAA
20627	NLGN3	CTGTCATTTCTCTTTCAAAAAGGCGG
20628	C14orf1	ACCACAGCTCTCCTTCTATCTACA
20629	DCLRE1C	TAAAAAAGAAAAAGGCCAGGC
20630	FBXL7	ACTGCACTCCTACTGTAGGCTCCTGT
20631	PPM1D	AATTTTGGAATATTTGCTTTAT
20632	GFPT2	AGTCGCCAGAGGAGAAGGGAAT
20633	TNFRSF10B	GTCTCCCAGGCTGGAGTGCAATGGTGC
20634	HSD11B1	TTCAGAGGCTGCTGCCTGCTTA
20635	ESPN	ATGAAAACTGCCTGTCTGGCCGGGCC
20636	ATP8B2	TTTCCTCTTCTTTGATAGTGGGT
20637	RARA	CCCCAGACACCACACACATGCGC
20638	ROCK2	CTCCCGCCCGAGGACTCCTGCGGGC
20639	PLAG1	CAAGGGGTGGGTCAAGTGCA
20640	PKIA	AATCAAATTTCTCACAATGCTGT
20641	KCNK6	GCCCCTAAACCCCTCCTGTGTGCT
20642	OTX2	TGCAGGGGTTCTTCTGTGATT
20643	APBB2	AAAGCTGAGGCTGACAATAAT

20644	RAD9	TTGAGCCTCAGGCTATACTCCA
20645	ABR	GGAGAGAATGGGGGAGGAGGCGG
20646	SH3BP2	CTAACTTGCCCTGTCCCA
20647	GLTSCR1	GGAGAGGGGGTGGGGGAGCCAGC
20648	NRL	TGGGAGGTGGAGGAGGGTTGCAGCTCCCACC
20649	CBFA2T2	GGCAGGCGGCAGGCAGCAGGCT
20650	RAB30	TGTACACACCCATCAAAT
20651	ALDH3B1	AGGCTAAGGCAGGAGAATCGCT
20651	IAPP	AGGCTAAGGCAGGAGAATCGCT
20652	TEM7	ATGCGGCCAATCTCTGTCTCCAAAAAC
20653	MGP	CAAAGGAGAGTCAACATATGTG
20654	TGFB3	TGCAGTGAGTTCATGCACCTTCTTGCC
20655	ORC2L	CTTGCTGGAATGAACAGTGTGCTCAGGG
20656	BHLHB3	CAGATAATCACAAAGAAAGCTTT
20657	PSAP	GGACCCTCCCCGCTTTCCTGGGCC
20658	SIGLECL1	GGTACCCACCATTCTCTTCTCT
20659	BAALC	CTCAGCAGGAGCCCCCAGCTGCCAAAG
20660	ERBB3	CTTCACCCTCTGCGGAGTCATGAGGG
20661	GLTSCR1	TGGGGGAGCCAGCCTCCCA
20662	GATA2	TTTGAGGCCGAAGCTGCTGTGA
20663	BTG2	TGGTCTCATGCTTAATCTTG
20664	JAK2	AGCATACATCTTAAATCTTTTC
20665	AGXT	GGAGGCAGAACCAGGCAGCCTCCCTGGCCC
20666	RGL	TTGCTGCAGCCGTCAACGACCTA
20667	CASQ1	TCAGAATCTGGGACCCAGGG
20668	BBOX1	CTGCTCTGTTGCATGCCTGCTCTAA
20669	PRKCABP	CCCTGCTCCTTGTGGGCG
20670	GRB10	GAGAACAAAAGCTTGACTCTGATTC
20671	SMARCD1	ATGGATTGGGCCTCAGGCC
20672	SH3GL1	GTGGCTCAGAGATAGGACCCTGGT
20673	PRDM4	CAGTAAACATCCAGCCATTC
20674	KCNA5	TGTTGTATTTATGGAAGAAAGA
20675	C11orf8	TGACTTCTGTTTTCTCAAAG
20676	CDKN1A	TGCAATTCCCCTCTGCTGCT
20677	CYP1A2	GTGTGAGCCACCACATCCAGCC
20678	ARHGDIB	GATCTTCCACGTCTCCATCTCA
20679	B4GALT6	AGTACATATCTTAATTTTGGA
20680	EPHB3	CCAGAAGCTGGAAGTTTGGGA
20681	PTPN1	TCCCCGGATGTGTGTCTCA
20682	RAI3	TTTGCCTCCCTCCCAGCCTC
20683	BAZ2A	CTTAACTCCCAAGTGTGTCGC
20684	PTGFRN	CTTGCTTTGCAGACTGCCTGCAGC
20685	IARS	CCTTAGACACCTATGCAGTCAT
20686	HRH2	TTGGGAGCTTGGAGTCCAGTGGTTGG
20687	UBE4A	GGGGTGAGGAGACTGTTGG
20688	CDH6	GCTTTCATGACCATCCTGC
20689	ATM	AGAGGAGTCGGGATCTGCGCTGCAGCC
20690	CYP4F3	CATGAGGTCAGGAGTTTGAGAC
20691	GYG	ATGGACAGTGTTCTGCTTTT
20692	TAZ	TTTTCTCTTTCTTCTCTGCT

20693	DMD	AGTTTTACTGCATTTTCACAACAT
20694	CYP3A4	ATTGCACCACTGCACTCCAGTCT
20695	F2RL3	ATTGTACCACTGCACTCCAGCCT
20696	KCNK3	ATTGCACCACTGTACTCCAGCCT
20697	PDCL	GTCACCCAGGCTGGAGTACAATA
20698	PAM	GGCGGCACCGCCTCCTCCTCA
20699	RNF4	CACCCAGCTCGAGGATCCCAG
20700	ENG	AGAGCCACCTGGATCTATCCCTGC
20701	SKI	GCACTTTGTCCACAACCTTCCCTTCTCTTTCT
20702	CD209	AAATTGCTGGGATTACAGGTGT
20703	KIT	TTTCCAAAGTTAACAGATTTTG
20704	ADCY1	TCTAGGGGCTTCCTGCCTTA
20705	CYP1A2	GATGCGCCACCATGGCCAGCT
20706	FOXF1	TTGTATTTTGGCTGCTAGAGTGCAGCA
20707	WBSCR5	GCTGGGGTTTTAAATGATTGAT
20708	ADAMTS5	ATGGGCAGAATCTGCTCTCTGTGACCA
20709	IFNAR1	CCGAGATCACGCCACTGCACTC
20709	P53AIP1	CCGAGATCACGCCACTGCACTC
20709	TNFRSF1B	CCGAGATCACGCCACTGCACTC
20709	ZNF91	CCGAGATCACGCCACTGCACTC
20710	B4GALT4	TGCCCAGGTATGCCTTCCAGTG
20711	DEF6	TGGTTCACCCTTCATACCAG
20712	ST5	GCTGACTGTCTCAGCCAAA
20713	GPR37	TGCTGGGACTCAACTTGGCTGAGAAAT
20714	WHSC1	TGAGCTGACATATACTGGGTGG
20715	POLK	GTTTTTAAAATATTTAGTCTA
20716	MAML1	TCCCTCCCAAGGCCCCCAGGAATCCCTTC
20717	G6PD	AGCCCAGCTACATTCCTCAGCTGCCA
20718	CTPS	GCACTATATTCTGGCCAGACT
20719	NPY2R	ACTGGCTGGGCAGAGCCTGTGT
20720	CRIM1	GCCTTGAGCAGTCAGCATTGCACC
20721	ADAMTS3	CATCCACAGGGGAAGATAAAGA
20722	CSTA	TCAACTGGCTACTGAGTCAT
20723	PTEN	CGCGGCGGCTGCAGCTCCAGGGAG
20724	POU2F2	CGCCTGGTGTGGGCCTGGTC
20725	CLOCK	TATTTTGTTATAGTTCATAGTTGG
20726	GAS7	CAGATGTGGTGGTGCACACCTGT
20727	CDYL	TTCTGAGCTTGCAATCATATT
20728	PSPHL	TCATACAGCTCCAAACAACTTCAGA
20729	C5R1	CTCTGTCTCAAAAGCAAAGCAAA
20730	SLC13A1	AGCCATGGTCATCTGGTGATGAAGA
20731	GNE	GGCGTCTGGAACTCTATTTTAAG
20732	TAL1	GGGAACACTGGCAGACTGTGTA
20733	MCP	TTGTTGTTTTCCCAAAGAGAACT
20734	ERBB2IP	AGCTATCTCTCTCATAGCTTTTATGCC
20735	GJA1	GTGACTTCACTACTTTTAAGCAAAAG
20736	CEP2	TGATCCTTAGCAAAAGTAGGAAGG
20737	SH3BP2	GGGGTGCTGAGCTAGTGAGTGGT
20738	SLC13A4	GGCTCACAGAAAAAGAAAAAGAA
20739	TADA2L	CACTGTGCTCCAGCCTGGGCAACAAAG

20740	ROCK2	GGCCTGGGCTTCAGCCTCCCGGGGC
20741	DUSP5	TGCCATGGGTTCTTCACTGACCTTGGAC
20742	MBTPS2	GGATGCTGGGGCTGTAAGGCGCGCGCGGT
20743	HLCS	AGCATCCCGAGTAGCTGGGACT
20744	SCA7	CCTCCACTCAGCACTCTGGACTCC
20745	PSMD2	TCCTGCTCTTTTGTTACTGAGTGAGAT
20746	RUNX1	TTTGCCTCTGTGTGCCTCAGTG
20747	CNTN2	CCCGGCAGGAACACCAGACATGAACAGGT
20748	XYLB	ACTCCCCCTAGTACCACCTAGACATT
20749	MAP3K9	TTTAGAGTGACCCTGCAGAGTCACTC
20750	PA2G4	GAAATTGAATAATAAAATCAGG
20751	ADAM8	ACACCTGCCCCTGCTCTG
20752	ALDOB	TCTGTCTTATTTGGCAGCT
20753	CHRNB2	GGGAGGGGAAGAGAGAGGCCTGGGTGTG
20754	KCNJ16	TTATCTCAATTCTTAACTGCTGTG
20755	ATP7A	GTGACTTCTCCGATTGTGTGAG
20756	E2F1	CAGCTCTGTTCCCTCCTGCTTTGG
20757	COX11	TCAGGAATCAGTGTTATCCTGGAACTG
20758	F2R	TGAGAAACTGGCAAAGCAGAATG
20759	PCDHB9	AAGTGAAATATAATATTTTTCA
20760	CYBB	ATCTGGTCACAAATTTTGATGCTG
20761	MMP19	AGAGACAGAGCTGCCCACTGTGCC
20762	ADAM20	TCAGCACTGCAGCTCTGATGGT
20763	IL18	GAGGCTGAGGCAGGAGAATCA
20764	TNFRSF9	GGTCTCAAACTCCTAGGTTCACTTTGG
20765	PRKR	TGCCTCTTGGGTTCAAGTGATT
20765	XRCC2	TGCCTCTTGGGTTCAAGTGATT
20766	IVD	TCCCAGGGTAGGCACCTGGGGG
20767	RNH	TCCTGGCCATCCAAGCCTCCTCTCCAG
20768	DBCCR1	TGAGCCAGGCTGCTAGGAGCCAG
20769	PTTG1	GCGGCCTCAGATGAATGCGGCT
20770	NSF	CTCTTGTTAAATGAGCTTAA
20771	TNFRSF7	GGAGAGTGGGAAGCAGGAGCCCAGC
20772	CSNK2A1	CATGTCTTACTGATCTAACCCT
20773	VIPR2	CGGTCATCTACCCCACCCCTGCCT
20774	DPP6	GCTCAGGTCGCTCTAAGCACAA
20775	ZNF236	GCAGAAGAGCAACATGAAGCTGCAC
20776	FOXO1A	TACTTCAGATTGTCTGACAGCA
20777	TGFB3	TTTCCTCCCTCCTTCTGCACG
20778	IGF1	CTCTGGATTTCCTTTTGCTTCA
20779	ALDH3A1	CCCCACTCCTCTGCTGACCTGCT
20780	TRIM14	GGCAGCGGAGGTTGCAGTGA
20781	EIF4E	TAATTTATTTGTTTCCCTA
20782	SURF5	TCTGAGACTGAACACTGAGGGCA
20783	MADD	GCTGCAGTTCATAGCAGTGAGGA
20784	MYB	GCCCCGCCGCCCGCCGCGCCATGGCCC
20785	CUL3	TCCTTCTCATAGTGAAGCACT
20786	FGFR2	CCGTGCGTTCTGGCTGTGGACC
20787	CTMP	CACATCACTCCAACCTGGGCAA
20788	OTOR	CCTCTTCCTGTGCAAATTCCTCTAG

20789	PCDHB4	CTTTGCAGATATGGACAGCCTT
20790	TRPC5	CCGCAGCTCGCAGCCACCCCAAAGGG
20791	ADK	AGCGGAGTGGATGGCAGAGGTG
20792	RHO	CAGCACAGAGTCCCCTGGGGCTA
20793	MFNG	AGCTCCTACCTCTTCCCTCCTTGCC
20794	GRINL1A	CAGGCAAATCTGGTACAGGAGAAGC
20795	ABCB4	AATAAGAACAGAGAATTGATCT
20796	SOX13	GCCCTCTGGATTCTCTGGGTCTAT
20797	AQP6	GCCCAGTGCTGGCTGGGTTCGG
20798	HOXB6	CCTCAGCGGGGGCCTTGAAGAC
20799	DUOX1	TCACCATGTGTGGGCTCAGGGA
20800	ANXA8	CCCATCTACTGAAACAGGGTC
20801	KLRD1	GGTCTTGAACTCCTGGCCTCAA
20802	PRKCB1	TCTGATGAGACTAGAGTGACAGTG
20803	ACVR1	TTAACACTATACTCTAAAATGGA
20804	APG5L	CTGTGGTCCCTGGCAGCCAGTCT
20805	FY	TTATATCTCTTCCTTTTCCTCC
20806	BRIP1	TTCAAGTGATTCTCCTGCCTCA
20806	CD209	TTCAAGTGATTCTCCTGCCTCA
20806	CYP2B6	TTCAAGTGATTCTCCTGCCTCA
20806	EEF2K	TTCAAGTGATTCTCCTGCCTCA
20806	MAK	TTCAAGTGATTCTCCTGCCTCA
20806	PRKR	TTCAAGTGATTCTCCTGCCTCA
20806	TRAF5	TTCAAGTGATTCTCCTGCCTCA
20807	PCTK1	TGTCTTTTTTCCTCCTTGCAA
20808	CBFA2T2	CAGCCAGGCTGGAGGCGGCAGG
20809	MPP2	ATTTCTCCAATGTGTCCTGAC
20810	DAZ	TAGCTGTATGAGCAGTTCAAAGGCC
20811	EFNB1	CCTGGGGAACAGGAGAGCTGCT
20812	SYNGR1	CGGCCCCATACATGGGCTGCCT
20813	SLC13A3	GGATACTTTCTCTCTCTTTCA
20814	DMD	TATAATATTCATACAACAAAGA
20815	GEM	AGCTCTGCTCTATTTATTATTAT
20816	BSN	TTGCCTTTCTGGGACTTGGCCT
20817	FBLN1	TGATCATGCCAGGTTTGCACCAG
20818	FGFR2	GCAGGCGGATCATGAGGTCA
20819	UBE2G2	CCGGGAGGCAGAGGTAGTAGTGA
20820	ACOX1	AACAAAAACAAAAAACTATAG
20821	CORO1C	CAGGAGCACAGACCTCTGCTG
20822	DLGAP2	GCTGCTGCAACCATTGTTCT
20823	MBD4	AGGCTGAGGCAGGAGGATCATT
20824	TACC1	AGGCCGAGGCAGGAGGATCACT
20825	MEIS1	TGTCTAATTCATTTACTCACCATATTT
20826	IER3	GCATCCTCCAGCATCTCAACTCCGTC
20827	CARD15	AAAATGAGCCCTGTCCTGCCTAAG
20828	MS4A8B	CCAACTGGCCCCAGTACATTCAT
20829	GATA3	GCTCACTGTGGTGTCTGTGTTCC
20830	MAGEA2	GACGTTCACATATCTCAGGGA
20831	GORASP1	CCTGCACTCCACCTGGGGA
20832	ANG	GCCTAATTTGGTGATGCTGTT

20833	PDE4D	TACTTTATTTAGCCAAAGCAA
20834	P53AIP1	CACAGGCAGCGCATGGCTCCGGA
20835	JMJ	TGACACCTTCACAAGTCAGCATTAAT
20836	PRIM2A	TCTTAGCAGTTTTATAACCCTTTTTCC
20837	COX15	CAGTAGAAGTGTCACA
20838	DMD	AGCAGGACGATGATAGGGCTGGAGGGCTATGG
20839	G2A	AGTGGCACCATCATAGCTCACT
20840	ITGAM	CAATCCTGTGGGTGAAGAGAG
20841	UCP2	GTTTTTCTCCATCTCCTGGGAC
20842	GORASP1	CTGCTGGAATGCAGGAAGTAGAA
20843	CD209	TCTTCCGACTGGTACTGAACATATATAC
20844	GCH1	GCAGGTCGCGTACCTTCCTCA
20845	MAP4	TCTCACTCCCCAGCCTGGGCC
20846	CDH23	CCCTCTCTGCTGGACGTCC
20847	IREB2	TTTGTTTAGTTTTGCACCAATAAAACTG
20848	PLAG1	TTATTAAAAAAGTGTGTTCCA
20849	ZNF74	CCGGGAGGAGCGTGTGGCGGGG
20850	MEOX1	TCTTGGATATGAAACTGCCCAG
20851	SERPINE1	AGATGGTAAACCAGATCTGTCT
20852	SLC4A4	CGTCAATGTCCTATGCAGTATTG
20853	TAZ	AGATTTGCCCTCCTCCTGCTCTG
20854	TNFRSF1B	GGCTCAGTCTCAGGAGCATGGGG
20855	PCSK1	ACAAAAAGCTCTTACACTACA
20856	RELA	AGTGGGGGAGAGCAGGCTGGCAGC
20857	SEL1L	TGAGAAACAGGCTGACACTATTC
20858	AHR	TTTTTTAAATTAATATCTTTCTG
20859	SLC1A4	GCCTGGGCCTCTGATAACACTTTGG
20860	FOXF2	CAATGTGTCTAGTTTAAGAAAGT
20861	ADCY6	CCTGAGGGATTAAAATGGCAGCTT
20862	PRDM4	ATGCCTGGCCTCTGCCCAAGAA
20863	PIK3CD	CATGGACTCAGGACCTGCCCGG
20864	TIMELESS	ATGGTGCATTCAAGTCAG
20865	SIM2	GGCTTCACGCGTCTTGCCT
20866	SQSTM1	CCGCCTGCCCTGCCTGGGC
20867	CACNA1C	GAGGAGGCCTCCAGGGGCGCGG
20868	FOSB	GTGGGGAGGGGGGCGGGTGACGC
20869	PCDH15	GAGTGGATATCAATGCCTCACAG
20870	ARNT	TATCGAACACATTCAGTGAT
20871	TRIM9	CTCAGCCAGCCGTGGTGGGGT
20872	PDCD2	TCTTTGGTCACATAATATTAAA
20873	ACTN2	CTGTAGTACTGACTGGTTCATCACA
20874	NBS1	ATATTTTTATATTTGTGATCTACC
20875	NQO1	CTTCATCTTCACTGCAATTTTG
20876	VPS41	GCAACTTGGACGTTGTTTCCACGTGC
20877	NOTCH2	TTCTCATTCCTTCTATGGCTG
20878	GLP1R	CCTGCAGCTGGACTCCAGCGCCTGCC
20879	ALDH6A1	ATTGTAACTAAAATCTTCCTCAGG
20880	FLI1	GCTGTACGTTTTCTTTATGTT
20881	TNFRSF18	GGCGGCCGCGGCTGGGCCCTGCAG
20882	TNF	CCAGCTCCCTCTATTTATGTTTGCACT

20883	MKKS	ATCATTCTATGCTGATTAGCTTCA
20884	PTK7	ACCGCCCTTTTTGTATGCACCA
20885	YWHAB	ACTGCACTCCAGCCTGGGCAACATAG
20886	GLO1	TGGAAGACCTTTGGAAAGGCC
20887	PHYH	AGAACAATGTATAATACATTCACATC
20888	LSS	AGCCATGGTCAGACTGTACAA
20889	CALB3	AGAAAACAAAATAGAACCCTGAGC
20890	ADH5	AACTACATACTGAATATCCAA
20891	PCSK2	ATGGGGAAAGAGATCCAGGAAG
20892	SNTB1	CAGTTTCAGCAACTACAAGGGATAC
20893	MAK	CCCGAGTAGCTGGGATTAGAGGCG
20894	ADCY8	TCAGAGCTCCAGGGTGGCAC
20895	SLC7A6	CACAGAACCTGAATGCCAGGAAAAATTCCT
20896	TBL2	TGCAGCTCTGAAGAGCCAC
20897	AIM2	ACCCGGTTTGCTGATCGCCCCA
20898	KLHL3	TGTTCAGCTGTGCTGTGTTTCTACTG
20899	SRP19	ATGGAGACTTCTAATTTGTA
20900	FBXW1B	TTTTAAAATGTAATTTCTA
20901	ANKH	CCCCGGGGGCAGCAAACTGACATGG
20902	TGFB1	ACTATTCCTTTGCCCGGCATCA
20903	PPP1R3D	GCCTCCTGTCATTTCCC
20904	RAP1A	GGAAACACTGGCGGCACATATTGAGG
20905	SHANK2	TCTCCCCCTTTGGGACATGTT
20906	WHSC1	GCAAGTGAACTCAGCACTCTG
20907	SNX13	GTGGTTCTTCTCATTCTCAT
20908	TTN	TACACTCATTCTTAACTTTTC
20909	ZNF202	CAGGAGGTTTGCGTCCTGA
20910	HSPG2	AGTGCCGGCTGTGGAGCAAAAG
20911	CYP1A2	TGTCTCCTAAGCTGGAGTGCAGT
20912	RPL5	CCTGCAGGTCTCTGTCGAGCAGCGGA
20913	SRGAP2	ACTACCTCGTCTGAAGGA
20914	ANKTM1	TTGGTTACCTCCACCTTCCTGCACTCA
20915	PABPN1	GCGCAGCTCTCCACATGCC
20916	FGFR2	TCGTCGCTTTCTCCATCCC
20917	CALCB	GATGAATGACTCCAGGAAGAAGGTGTG
20918	SLC24A1	CACCTCCCCGGTTCAAGCAATT
20919	ZNF2	AGACACACCTCTTGTCT
20920	GPRK6	AGCGGGACGTGGCAGAGGAG
20921	UNC13	CGGAGGAGGGGAGCTGAGAGGT
20922	DSC2	AGGAAGAGGATCGGTGGCTGGGTCTG
20923	NCALD	TGGTCTGGTGACCTCAGACACAC
20924	B3GALT5	CTCAGAAACCACTGCATTCTGACCT
20925	XK	TCCTATTGGCATAAAACAAACCA
20926	AP1B1	TTTCAGAAAGAGAAAATGAA
20927	LASS1	CCGCCCCCTCATCCTGCCTCCA
20928	GPM6A	TTTCTAATGCTACAAGAATGCT
20929	IL4R	TGGCCCACGTGGAGGCCCACCTGCCT
20930	BDP1	CTGTTGCCCAGGCAAGAGTGCAGT
20931	PIGC	TTCACAGTCTCTCTTTTTCTA
20932	TBX5	TCAGCCCTACCATCTTGCCA

20933	HTR2C	AACATAGTGGTATTTTAACATAGCAG
20934	KCNAB2	AAGCCGCCCGCCAGCCCAGGCCGCTG
20935	EIF2AK3	GGGCTGAGACGTGGCCAGGGGAA
20936	ABCD2	TCTGAACTCCTGTTTAAGGA
20937	RHD	CAGGCTGGAGTGCAGTGCCGCA
20938	UBE2G2	GACTCAGTCTCAAAAAGAAAAAAGA
20939	COL17A1	TCTATAAGATGAAACATCATT
20940	LPIN1	TCTGAACTAAGTATAAGCTCATGGG
20941	PXF	TTCTCCTCTCTCTAGGTGCTGAGC
20942	SUPT6H	CCTGGCTGCCCACTGCCTCC
20943	FMR2	CCATCAGGAACAGCCTGCCT
20944	APXL	GCTGGGCCTGTGGTGCCTGCCGA
20945	IL13RA1	AGGTATTTTATAATTCTGGGAA
20946	MATN2	AGGTGAGAATGAATAAGCTATGCA
20947	TGM4	CCAGGTCCTGTGCTATCACAGGGTC
20948	PPM1D	TTTAAATTTGGTGCCGATGTT
20949	TRIM14	AGCAGAATACCAGGCAGACAGA
20950	PRKCA	CCTAAAATTTTAAGGCCACGGC
20951	ADAMTS13	GGGAAAGGAAGGAACCTGGGGTCATT
20952	JMJ	GGGAAACTGTTTTCACAAGCT
20953	IL1RL1	AACAAAAATTACAGACTTTGG
20954	CTNS	CCTGTTCAGGAGCCTCAGATAAGTATT
20955	RRAS2	CTCATCTTCTCTTTCTCTCCTCAGTT
20956	COL18A1	ATCTCCCACCTAGCAGCACCGTTCTGT
20957	BCL9	ACCAACCCACTGGCACATT
20958	ARCN1	GGCAGTGGGAAGAGGCAGA
20959	DPP6	CGGAAGGCAGTTTTGCTTGG
20960	MECP2	CTGGGAGCTGGAGTCCACTGGGGTGG
20961	TCL1A	GCTCAGGACTCAGAAGCCTCTGGGTC
20962	PMP2	TATCTGAGTCTTCTGAATCCCACT
20963	ZNF10	CTGCTTAGCTTCTCTGTGCCA
20964	MASP1	ATGGAAGAAAGAGTGGGGTGGGCA
20965	COL4A3	AGGGACCACTCCAGACCTACA
20966	LHX1	TGGGCAGCCTGGCACGCACAC
20967	ATM	TCCTTCCTCCTCACCCTGCC
20968	KRT6B	CAGCAGAGCCCTCTCCTCAG
20969	OGT	CCCTCTCCCTTCTGCATGTTTCCCA
20970	VMD2	CAGGTCCTCACCTGTGTGTACA
20971	CYP1B1	GGGAGTTAAAGCTTCCAGTGA
20972	CRSP6	AAAGTGCTAGGATTACAGGCGT
20972	IL12RB1	AAAGTGCTAGGATTACAGGCGT
20973	SEDL	GAAGTGCTGGGATTACAGGCGT
20974	VAV1	GGCGGTAGCCATGGAGCTGTGGCGCCA
20975	TDG	CCTCTTTGCTTTACCAGTGGTGTT
20976	C1orf6	GGAACATAGTCTTCCATCTATACC
20977	RYR2	TGGAAACATTTTGCTGATTTTGTGAAT
20978	CHD2	CAGAGCTGGGAAGGAGGCTCT
20979	PACSIN1	CCTCTCCAGACCCCTGGAAGGG
20980	PHF1	GCCGTAGTTTGTCTCCTGGGACT
20981	FUT6	AAGGGCCGGGTTTCAGCTCCG

20982	UBE2B	GGCCAGGTGGCTCCCACCTGT
20983	PPP1R12B	CATTGTCTTGAACTCTGCCTTA
20984	ARHH	GGAACGAGGGAGAGGTTGA
20985	PFKFB4	GGCCCCTGGATCCCAAGTCCTTT
20986	KCNK6	CTGAGCCTTGATTTCCTCAGCT
20987	HMGA1	CAGCATCCCAGCCATCACTCTTCCACCTGC
20988	MCM3	GGGTGGTTCCAATTGGTGGAGAG
20989	NEURL	AGCCATCATCTCATTACCTCTGTCA
20990	ALDH3B1	CCTGGGTCTTCCCTCTCCCTGCCTCAGCCT
20991	PITX3	CCGGCCCCTGGCCCCTGCCTGCCCTCTAG
20992	FBXL4	ATGTTTTCATAAAATACTGCAA
20993	PCDH12	AGAGAAACAGGAAACATGACTTG
20994	HAS3	GAATTCCTCTCAAATTCAGCTCT
20995	FCMD	CCGGGAAGCAGAGTCTGCAGTGA
20996	ZNF174	TGCATGTAAATCACAAAAACTGTGTG
20997	SLC10A2	CTATCTGATATACGGTAGCAGG
20998	TIMP3	GCACGGCAACTTTGGAGAGGCG
20999	ITGA6	TTTCTTTTCTTTACAAACCATT
21000	RAP2A	GTGACCAAGGCATCAAGGACA
21001	ENTPD1	CTCCAGTTTTGGTGCTGTGA
21002	TMEPAI	CCGGTTCTACACAGATTTCACAAAT
21003	AHR	CCGCCCAAACTGGAGTGCAGT
21004	GNG5	GGGTGTGGAGCTGGAACAGAGGGC
21005	POU2AF1	GGAGAGAGGGGTGTGGGAGGA
21006	FAT	GTCTTACATGGGTTGCTGTATTTA
21007	ABCC12	GCCAGCCAGTGGCACAATCTTT
21008	VDR	TCTTTGTAATGTCACCACCTT
21009	ATP7A	ACAAGCATGAGTTCTTGTT
21010	RYR1	CCTCCCTCTGTTCCCCGACCTCAGACC
21011	LRRC2	ACATCATGACGAAACCCCATCT
21012	ZNF192	GCAAGTTGCTTGTCATGGCTT
21013	KCNQ2	CACAGACCACACACAGCACTA
21014	DNMT2	CTAATCAAAATCTTATATGA
21015	KCNJ6	GGAAGCCGGACCTGGAGCCGGAGCAGC
21016	LDOC1	CCCTGCTGCCAGGCTTACATCTTCCCA
21017	FZD1	GCTGGCAGTCTCAGCCTCCCTCC
21018	HGF	TGTTTATGGGTGTTTTCTGTTG
21019	UBE2L3	AACCAAAAAGCTGGGTCCTCT
21020	PHKG2	CATATGAAATAAAATCTGCTA
21021	CSE1L	CCTAGGAAATCACAGGCTTCTGAGCA
21022	SLC15A1	GCCCCCAGGTAGCAGGACACTC
21023	CUTL1	GCCCCCAGACCCATGTGATTTC
21024	GABRB2	CTTCTGCTAAGTAATGAATACACT
21025	KCNK3	GGTGGGGGCTGGGTGCAGTGG
21026	LASS2	CAGCCTATCCCCAGGTAGGGGACGTTG
21027	GRAF	TGCCATGGCCGGGTGCAGTG
21028	PROX1	TTCCAATGACAGATGAGCAGCT
21029	MYCL2	AGGCTGGAGGTTAATGGCATGAT
21030	IL11	GATGCTTGGGTAACTGGGG
21031	MGAT3	CCTAGCGCTATCTCCCTGCCTCCTGC

21032	PSEN1	TGTGAGGAAGAGCAGGCACCAGCAGC
21033	P2RY1	TATCTAGCATGGTATATAACA
21034	MYBBP1A	ACCATCTCTCGTGCCTGCCACCT
21035	SH2D1A	TCACATTTATATTTTTGTGATT
21036	AP1M1	CCTGAAGTCAGTTTCAGGGG
21037	CROT	GGTTGTGGCTGCAGTGAGCTGT
21038	FMO4	CCTCCTCTGCTCTCCATCATAACTGC
21039	DLEC1	ACTGCTCATACCCAGGAAGAG
21040	SCNN1G	TTGGTGGAGATCAGAGTGCC
21041	SPAG8	GGCTGGGTGGTGGAGGGGGGAG
21042	DEFA6	TCTGCTCCTGCTCTCTCTCCTC
21043	CSTB	TCTGCAGCTGCTTTTGCATTTC
21044	PCDH7	TTGAGACTGGCTTGTTGCTG
21045	SORD	TGGGTGGAGGGTGAG
21046	SCG3	CCAAGCCGAGCGTGGAAGA
21047	ITGA4	CTGCTAGCCTGCTCACGCATGCAGCCCG
21048	USP6	TTGGTGGCAGGGGCATAGAGTGGTCA
21049	AP3B1	TAGTCTCTGCAAGATTTTGTTC
21050	TNFSF12	AATCAACAGCTCCAGCCCTCT
21051	E2F3	TGCAAACTTGAAGTCATGCAA
21052	ASGR2	AGGAAAGGAAGAAACACTGAGACA
21053	LILRA1	GGGAGGAATCAGTGTTGGA
21054	EHD1	TAACTGGAGCTTTGGGAC
21055	NRL	CAGCTCTTCCATGGGATCCCCCTG
21056	SH3BP2	GAGTAGCTGGGATTCCAGGCGCCCGCC
21057	AGL	GGTTGATATTGAACTCCTGGACTCAAGCAAC
21058	DCX	GTGAGGCATTGAGGGCCAATAGGAG
21059	CNTN2	GCCTAGCATCCCTCCTGGCC
21060	PREB	CATTCGGGTCCACAGCTGAG
21061	RDS	TAAGACTTCTGGTGCTGCTG
21062	MIR16	CACAGCTTAGCTGGGCACAG
21063	DSCR1	AGGAAAGCGTTTGGAAAACGTATCA
21064	CTMP	CCAGGAGGAAGAGGTTGCAGTG
21065	RAD1	GGCTTTAATCCCAGCACTTTG
21066	HS3ST3B1	ACTAAGCTGCCTAGCCACAC
21067	CBFA2T2	AGCTCACTGCAGCCTCGACCT
21067	JRK	AGCTCACTGCAGCCTCGACCT
21068	PFN2	CCATTTCTTTCCCTGCACT
21069	KRT7	AGCCCAGCCGCCCGCTCCCGCGGATA
21070	BBS2	GGACAGCTTCTTCCTAGTGAG
21071	RAG1	TTCTCCAAATGAAACCTGAAT
21072	CR1	GGCTCACTGCAACGTCCGCCT
21073	AICDA	CCAGGAGGTGGAGGTTGCAGTAAGCTGA
21074	ACADSB	CTCATCCTCCCAAGTAGCTGGA
21075	INHBB	GGACGTGGCCCCTGCCCACTC
21076	KTN1	AACTGCCTCTGACTTCAACTCA
21077	OGN	GAAATCAAGTTGTCTCTGTGTACA
21078	ZNF289	TATTCCCTCTCACACCACCCTCCGTGT
21079	COIL	GAAACAATCTACCTCATCATTTAAAA
21080	P2RY1	TAAAACAATACTACCTA

21081	UNRIP	ACTGGTTTGATTTCTCGTTCATTGTA
21082	FUT6	CCAAGATCGCGCCATTGCACTC
21083	UNC119	ATTTCAGGCTGTTTGGCTGT
21084	PCDH1	GTGGGAGGTGGGGCCTTAGTG
21085	SLC35A1	ACAAGAGGCAGAAACAAGACAGGCTAG
21086	AGL	AATGGAGAAACTGGAAAAGAC
21087	GPR85	ATCTCTCTCCCCATCTTCGCATATT
21088	PLEK	TCTTCTTTCTTCCTCATCCTAC
21089	FSTL1	GCATTCCCTTAGAGATGAGGA
21090	PFKFB3	CCCTGCTCTTCCAAGGTGGGGACAGTG
21091	COPA	TAGTATCTTTTTCTCTTCTAT
21092	NOX5	AATCCATTGCGCCCAGGCTGG
21093	RXRB	GACGTGGTGCTTCTCACACTGGAG
21094	DNMT2	TTCCCCAAAATTGAATCTGT
21095	CDH1	GCCAGGCTGGAGTGCAGTGGTGCA
21095	EIF5A2	GCCAGGCTGGAGTGCAGTGGTGCA
21096	NPR2	CAGAAATGGACATTTTCATA
21097	ANK3	AACACAAAAGATTTTATCTGTA
21098	ITGA9	AGCCTTTTATACTGATTATTCTTTTATATT
21099	TMPRSS2	GCAGTGGCTCCCCTGCCCAGCC
21100	IGF1	GCACCTTGCAAAAATGGTCCTG
21101	TNFSF6	TGTCTGTAGCTCCTCAACTCACCT
21102	MTR	CCTGGTTTGATTCGAAGGATGAAGACG
21103	DBT	TGCAGTGAGCTGAGATCGTGCT
21103	KAI1	TGCAGTGAGCTGAGATCGTGCT
21104	SCML1	ATTAATTTGCTTAATTCTGAGCCA
21105	CD209	CGGGCGCAGCCATCTTGCCG
21106	FSTL1	TGGACCTCAGTTTCCTCAGTGAG
21107	IL1RN	GCCTCTTCCTCCCTCATTCCA
21108	IL1R1	ATCTTTTAAAAAGGCAGTAG
21109	GFAP	CCTCCTGCCACCTGCTGCTGCTGCT
21110	HOXD9	CCCCAGCGCCTCCTCTGGATGCGGTCG
21111	ATP5J	GCCACTCAAAGAGCGCATGCGT
21112	GPR4	GCTGATCTTGAACTCCTGGGCT
21112	PCDHB16	GCTGATCTTGAACTCCTGGGCT
21113	LOXL1	GGCAAGCAAGGAGCCTTCCTGTCCTCG
21114	ZNF3	GATCTCGTATCTCAGGAAC
21115	SLC12A4	TTGGATGTCACCATCAGAGACGA
21116	FNTA	AATCCCTTAGCATCAGCTCCTCCCTCA
21117	MAP7	CAGGTTCTTATAAATACAGCTTGT
21118	NDUFS1	TGAGCCCAGGCAGTTGGAGACCAGT
21119	NPY1R	TCATCTTGATTAGATTAGATTAGA
21120	B3GNT3	TCTTACTTCCCTGCTCTCACCT
21121	ANKRD3	TGATGAAGCCCCAGGCGTGGAAGCAT
21122	FRK	TGTGCATTTTATTGACTGGGC
21123	ALOX15	GACACCCAGGCTGGAGTGCAG
21124	PCBP2	CCTTTCTGCTGTTCACCACCA
21125	PTGS2	ACACTATGGTTATAAACTGTGTTTAA
21126	PSMD5	ATCGCTTGAGCCTGGGAGGCAG
21127	CRTAP	GGAAAAGGAAGAAAGCCAGAGCTGTCT

21128	SULT1C1	TTCAATCCGGATTCTTCCA
21129	GNAT1	TTGCAGGTCCTCCTGGGGCCAG
21130	PSMD9	GCAGTCCTCCTGCCTTGGCCTCCTA
21131	ADAMTS4	AGCTCACTGCAACCTTCGCCA
21132	LAMC2	CTGTAAGGCAGGCCCATTCAGAGCT
21133	HIVEP3	AGTGCTGGTGCGTTTTCTGTCT
21134	MAPK10	GGTGCAGCAGTGACAGCAGTGAGAGTC
21135	GAS7	CTGGGAGGTGTCTCTGGGGGTGGGGTG
21136	WT1	AGTCCGGGACCCGGGCGGCATCTGGG
21137	SLC15A1	TTGCTCTTGTTGTCCAGGCTGGAGTGC
21138	APTX	TCTGTCTCATCAGTTCTTCACAGTGAG
21139	GDI2	TTGGGACAGCATCCGGAAGTTTTC
21140	SLC12A4	TTTCAATAAAACATTGTGTAGT
21141	NME4	TGGACCAATCCTTTTTGCACCAA
21142	GHR	ATGTTGGCCAGGATGGTCTCGAGTC
21143	ADAM11	GCCCCCAGGCAGCCACCAGTGGACCT
21144	CAMK4	TTAAAAGCATACATTTTCAGCAACCAG
21145	CDH3	TGGAGGAATGTGGGCAGTTTGA
21146	MFNG	ATCTGGGGCAGCCACCTTGCTA
21147	SRGAP2	CCAGGCAAAATATAGCAATCTGCCACA
21148	ETF1	TTTGGACTAATTTAAAAAAGAAT
21149	PKNOX1	TCTAGAGAAGAAACAATACATG
21150	MARK3	CCTACTTCCGTTACCCTGAGA
21151	IREB2	GCTCACCTTATGTAATACT
21152	MAP3K11	CTGTACCCAGCTGGTTGGGA
21153	HYAL1	CCCTTCATCCTGAACGTGACCA
21154	GAS2	CTTAAAGTATATCTCTTATCTA
21155	ATP7A	TTGAGACAGAGTCTTGTTTTGCAGCC
21156	NTRK2	GTTATATCAGCAGACACTCCA
21157	MAPK3	GCAGCCCAGGCCGGGGTGGAG
21158	GTF2F1	TTGTCCTCCTCCTCCTGGCTCGGCC
21159	VAT1	CATCTCCAGGTTTTCTGCCA
21160	CKN1	CTCAGAGGATCAGCAAGTGG
21161	TMEM1	TGAGACAAGCAGGTTTTGTTG
21162	CD28	TCTCCAGCCGGCCACCTCAGGCC
21163	LYL1	TCACCAGGCTGCAAGAACAGTG
21164	RYR1	CCCGACCTCAGACCCTGGGC
21165	LIF	GTTGGGACTTAGGTGGGCCAGA
21166	ESR1	GGGCCTTTGCTTCTCTAGCACAATTAT
21167	CTMP	CCTATCCCTCTTTGTTCTGTTGTTA
21168	NHLH1	CCTCATCTCAGCCCACTCTGAA
21169	SSTR1	CAGCCCGCCTTGGCTTTCTCCCT
21170	DLEC1	TTGCCCAGGGATTAGGAGCAGCT
21171	RGL	GGCCAGGAAGTCCTCCAATTTCCT
21172	CRYZL1	AGGCTGAGGCAGAAGAATCGCT
21172	EGFL4	AGGCTGAGGCAGAAGAATCGCT
21173	IRTA1	AAAGTCCCAGGCCCAGTGCAGT
21174	STK24	AGCCAGCAGAGAGGGGTGA
21175	MAGEB3	AAATGTATGGCATTAAGAAATA
21176	B3GAT1	GCCCCTGGTTTGAGGAGGAGGG

21177	SF1	CTTCTTTATCTTTTCCTTTCTTCAGAC
21178	MSI1	GAAAGCAAAGGGCGTCTCAGGGA
21179	MAX	GGGGTTGGGACAGGGAGGGTGTTTTGG
21180	TNFSF12	GAGGACACATCTCCCACCATT
21181	INHA	GCCAGGTGAGCTATGGTGCTGCACCTAC
21182	DSCR5	CCGTGTGCCAGCACTAGCCTAGGAG
21183	DUSP4	ACTTCCTTGGGCTTATCCTGG
21184	PEX14	GCTAGCGTCCCTACTGCCTCC
21185	EZH1	GTGCCACCCTCTCTGGCATTCATGCA
21186	CYP1B1	TGCATTCACATTTAGAAAAGTGAAT
21187	HAP1	CCAGGCTCCCATCCATGGCCC
21188	LFNG	TCCAAAGTAGAGAGCAAGTCGCCCACA
21189	NUP98	ACTGAATTTTGGAGGCAAAGGAGG
21190	GABRA2	AGAAAACACCGAATTCTGCTT
21191	CMAR	ACTCACTGCGGCCTCAACCTTC
21192	WSX1	GGAGGCTGAGGTGGGAGGATCG
21193	CHD1	GTGATCATGTTTCAGGAAGGAAT
21194	GFI1	CTTCGCCTTACCTCCTGGAGCTG
21195	DMD	CCATCCTTTGCATTTCTCTGCG
21196	IGF1	GACACAAAAGTCCACTGATGCA
21197	GDF5	AATCACATTTGTGCCTGGTGAC
21198	CPSF6	CAGGAATAGATCTGA
21199	ARNT2	GGCACCACACAGTGGTGCAGGCACATT
21200	GYPA	TGAAGCTTCGATTTCCCACTG
21201	TIMP3	AGGTGCTTGGCAGAACCGCAGAGT
21202	SURF5	CTCTTTCTGGCTCTGCCTCT
21203	NRXN3	TTCATGGCTTACTTGTTCCATAACTCC
21204	NPTX1	TTAAACACAGGTCCACGTTGTGTC
21205	PTPRK	ATTGTCATGGGATTCTTAAGTGAACCT
21206	POLH	CTAGTGCGCTCCAGCCTGGGCAACAGA
21207	CYP1A2	GCTCACTGCAACCTCTGCCTC
21207	CYP8B1	GCTCACTGCAACCTCTGCCTC
21207	MICB	GCTCACTGCAACCTCTGCCTC
21207	PCDHB11	GCTCACTGCAACCTCTGCCTC
21207	TUFT1	GCTCACTGCAACCTCTGCCTC
21208	DSC3	TGACGCACAGGCTGGAGTGCAGT
21209	EIF4G2	GAGGTGGCAGCGGGTACCGAGTG
21210	PLCB2	GGACGCTGCAGCCCCCTCCTCA
21211	CHRNA10	CTTTCCCTGCTGAGGGGCTCAGGGA
21212	ZNF253	AATGACATGATCTCCGTTCACTGC
21213	PTP4A2	TGCAGATTCTTGGCTGGGTTTAG
21214	STK4	GCTGTGAGGGCCCCAGCTCCAC
21215	KLK10	GAAGCCAGTTCCAAAAGGGATGAAAAGG
21216	IL6R	AGAGTGAACTTGGGCCACTGTGA
21217	CDX1	CTGGGAGGAGAGAAGGGGGCAGAGTCT
21218	RGL	GCATGCTTGTCTTTCTGCATCTCCA
21219	ZNF134	TGGTCTCACATACTTGTAATCA
21220	UMPS	TGTTGCCCAGGATGGAGTGCAG
21221	SIAT1	ATCTCTTCATCTGTATCCTCTG
21222	SNCB	GCAACCCCCTCGGAGCCTGTGT

21223	A1BG	CCGGGGTCTCTGGGGGGCTGGAGAAGC
21224	NDRG3	TGGGTAGGCCACTGCATTCTCTT
21225	C18orf1	CTTCCATCTGGTCTGACCGCAA
21226	MSF	CCTGCTTCCTGTTACCTGTCTT
21227	BCL10	TTGCTCTATCGCCCAGGCTGGAGTGC
21228	NR2F2	GTACTTTTCTGGTTCCAAACCA
21229	NPEPPS	AGTTTAGTTTTCCTCCTTGCC
21230	PLCG1	AGAGAGGCTGCCTCAGCCAG
21231	AF1Q	ATTTATTTATCTATCTGTCTAC
21232	NHLH1	TGCTGCCTCTTCTACCCCTATGT
21233	RNGTT	TTTTGAGTTACTTCATGGAACT
21234	IL17R	CCGGGCATGGTGACACATGCC
21235	P53AIP1	TGAGCAGTCTTCCATTCCA
21236	PYGM	CCAGCACTCTGCCTGCTCC
21237	CYBB	GGTCCAGCCTGTTCACACTGC
21238	XRCC4	ATGGAGAGAAAAATAAGCAGA
21239	MYD88	CCGATATTTGCCATTCTTCCTATA
21240	RPA3	CCTGAAGAAAGTGATCAAGATCA
21241	RET	TCATGCAACCTTTCCTTAGGA
21242	FNTB	GTCACCAGACTGGGTGCCCTCCGATG
21243	GAS7	TGGTGCACACCTGTAGTCCCAACTATT
21244	BCL10	GCTCTATCGCCCAGGCTGGAGTGCAGT
21245	NOG	GGGGGCCCCCTGCCCGCAC
21246	CRY2	GAAAGAGAATCGGGCCACTGCCAGAAA
21247	CELSR2	GCCAGCCTCTGGCTTTTCTGC
21248	AKAP4	TTGACTCCTCTTCATCTTAGC
21249	CBFA2T2	TGGACAAGATTTTCCAACCTTGCTGGC
21250	FABP2	TCACTCAGGCTGGAATGTAGTG
21251	ZNF236	TTGCAGAAGCACAAGCCATA
21252	CACNG1	GCCCAGCGTCCCCTCCTTGGCT
21253	FNTB	ATTCTTTCCACACCTGTCA
21254	ITGB3	TGCTTCCGGCCTCCTGTCCCTCA
21255	MSF	CGCACTTGCAGAGGAGCCCAGTGG
21256	MAPK14	GTTCTGTTGATCCCACTTCACTGTGA
21257	RXRA	GGCAGGGTGGGGCATCACCACCTCA
21258	CREBL2	CGGAGTCCAGGAGAAGGTG
21259	HIP1	GCCAGTGCACTCCGGCCTGGGTGACAG
21260	FZD8	ACCAGGCAAATGCCTTA
21261	GPR92	CCCTCTGCTTGTTTTGGGACC
21262	STS	AAGTTGGCTATAATTTCTCTA
21263	CDKN1B	AAGCAACAGAAACCTATCCTCAC
21264	TMC1	CTGCAGCTGCTGGTCGCC
21265	KRT1	CTCTACCTTGCTCCTACTTTT
21266	EGFL4	TGTGACCTAGGCTGGACATCAG
21267	SHANK2	CCATTGATTCCACTCTGGA
21268	SLC4A4	GTTCCTTAAAAACAGCATCTGAGG
21269	PODXL	GGAGAGGCCTTCCCGGGGCCCC
21270	PTGES	TGTTGCCCAAGCTGGAGTGAAGT
21271	EFNA3	ACAGCAATAAGCACGTCCTCCTCC
21272	CASP6	GACCAGCCTGACCAACATGGAGAAGCC

21273	TNFSF15	GACCAGCCTGACCAACGTGGAGAAACC
21274	CSPG3	GTAGTGACACCTACCTGCGGTCA
21275	SURF4	TCACATGGGGCCTTTTCTGAG
21276	ADCY7	AGGGTGAGAAATGACCAAACTGCCCGT
21277	PARG	AAGTTAATATAAATGTGTAC
21278	RXRA	CTCCACCCCTGCCTTTCAGCGTTGTG
21279	ADAM33	AGCAGGAGGATCACTTGAGCCTG
21280	ZNF9	ATTCCAAACAGCCTCTACCTT
21281	SOX10	GGGCTGCACCTTCCCCCAGGA
21282	BCL10	AACTTCTGCCTCCCATGCT
21283	GCGR	GCGAGATTGGGCCTCCTCTCCCTGCACC
21284	DISC1	TAAGAACTCATGGCCACTGTGGAAA
21285	PER2	AAACTGAGCCTTCTTTTTAATATATTCC
21286	OLFM1	AGGGCCCTGCATGCCAGGTCGT
21287	C9orf19	CCTGCTCCCTCCTGGAATGTGC
21288	GAA	CGGGCAGCAGCTGTGTGCGGGCC
21289	CACNA1A	CCAGCCGCCGCGCTCCCAG
21290	ADCY1	TCAACATGGTGAAACCCCGTCT
21290	IL10	TCAACATGGTGAAACCCCGTCT
21291	BRCA1	AGACCAGCCTGACCAACGTGGT
21291	IAPP	AGACCAGCCTGACCAACGTGGT
21292	CHST5	AAACCAGCCTGGCCAACATAGT
21293	B4GALT6	TATTTCTTAGAACTATTTCCAAA
21294	TNXB	AAGGAGGAGGAGTCTGCAGCC
21295	M6PR	TGGGACATCGAGGGCTCTGCTG
21296	LDB3	TGGGAGCCACTGGGCAATTGCCAGGGC
21297	BAZ2A	TTTCTCTGGAGACAAGGCTGTGTCTCTC
21298	AQP6	GGGAAAGGCCAAGAGAGGGTCCCAG
21299	SEDL	GTTGTCCAGGCTGGAGTGCAATGGCAG
21300	HAS3	GCTTGCCCTCCAAATGTCCTTT
21301	GATA6	AAACATTTTAACTTAATGG
21302	DSCR3	TTGCCCAGGCTGGTCTTGAACTCCTAG
21303	SFRS7	CTTCATCTATTCAAATGGATTGTC
21304	B4GALT5	TCAGCACTGGCTTTCTGTTTT
21305	MAPK1	TACTAGCACTGTTCTGTCCTCA
21306	ABCC11	TTGCCCAGGATCAAGGGTGCGGT
21307	COL4A3	GGCAAAGCAGCAACTATTCACAAA
21308	FCMD	TTTCCCCTCAAGATGTCTGAGTCAGCT
21309	CAMK4	GTGATTCTGTTTTTGAGGTGCAAA
21310	TFDP2	CTAGATGAGGTGCTTTACGCATC
21311	DLST	TCTCCCTCTCTGCACCTGTCTCAT
21312	NPR2	CTAAACCAGAATATTTTGGTCAA
21313	LZTFL1	CTCCATCTTAAAGATCATTTATCAGAG
21314	B2M	TGGATGAATTCCAAATTCTGCTT
21315	ATP7B	GGCTTCAGAAAAGGAGTGGCCA
21316	OLFM1	GCAACGTTCTTCTGTTATTCCC
21317	ENTPD5	TCCTCCCTATACAGTGCCCTGCCC
21318	CHRNA2	GCTGGGCTGCCTGGGCTGT
21319	AGR2	AGTACTGGAGTGAAATAAAT
21320	RORB	TTCAGTCAGGCTCTCTTCTAT

21321	GGCX	ATCGAGCCACTGCACTCCTGGGCAA
21322	MME	GCAGCCGCCCAACTCCTGG
21323	CDKN1A	CTCTCGAGGGCAGGGACCA
21324	PLA2G4C	CACCTCCAGCCCGCGACCTCCT
21325	PCSK1	TTGCTTTGGCTTGAAGTATGGTTGG
21326	SPG4	CTCCCAAAATGTACAGTAATTCCA
21327	PLOD	TGTGGGGAGGGGAGTGACAGG
21328	CLASP1	ACTTGGAGATCCAAACAGCCA
21329	LPP	AAACTATTCCTCAGGAATTCCA
21330	MDS1	AAGCAGTTTTGTAAAGGGCAAGGAGG
21331	PACSIN1	CTTGCAGAGGACCTGTCCCC
21332	TNFSF8	CCAAACACTTGGGCAAAAAGA
21333	RFXAP	GGCTCAGAATCTTTACCAAGGA
21334	S100A5	AAAGTTTCTGGGATTGGGGACGT
21335	INPPL1	AGGAATAGCCCGAGGACCGGGCTGG
21336	SMURF1	GGAGAAGGAATTGGAGCAGC
21337	SKI	TCAGTAGCGACTGAATCTGCCA
21338	ZNF278	GTCAACCCATGCTGCCCTC
21339	TITF1	ACTGACACAAAGGAAGTGCCCCCTCC
21340	SOX18	TTGCCCTTTTAAAAAATATACC
21341	UBE2A	TTCCTTGCCAAGTTTTCCTA
21342	EDN2	GGGGAGTACATTCATCTGGAG
21343	GNAQ	CAAGAGGGACTGTATTTCTGTGGAAA
21344	RAB36	GCGTAATCTCGGCTCAGTG
21345	DGCR2	GCGGGCTCGCGTGTGTACA
21346	GRIK3	GGGCTTGGGGACCAGAGCTGCCACCTG
21347	PPP1R3A	AAATCTTCTCCTGTGCATTTT
21348	CNTN3	TTCATTCTGTTTCATTCAGTTATA
21349	NARS	TGCTACCTTATTAACTCACAGCAGGC
21350	LOH11CR2A	GGAGTTAGAGGGAAGTTGA
21351	TPD52L2	CGCACACTCCATCCCAGT
21352	SHC1	AACCAGGGTAAGGGCCTGGGGA
21353	IFNGR2	ACTGGAGGCGGAGGTTGCAGTG
21354	BSN	CACAGCAGCTGCCTGGGTGA
21355	NOG	GCCTTTCTTCCGCCCCGGTGGGAGCC
21356	NEBL	GCCAGCTCATCAGAAAAACAT
21357	SLC17A5	TCACATGGATCACAGTATAAATTTCTA
21358	DYRK1A	CTATTCAGCAAAAGTTAATATTCAGA
21359	DSG1	TGGAAACACCACTGCTAGGG
21360	SCD	CACTACCCTGATTCTTGATTCCTG
21361	101F6	AGGGACCTGTTGAACTCTCTCAGCTG
21362	BPGM	TTTGGTTTGTTTTAATTTTTT
21363	MME	TGCACCTATGTAGCTCTGCA
21364	ATP7A	GCCCAGGCTGGAGTGCAGTGGC
21364	BCL10	GCCCAGGCTGGAGTGCAGTGGC
21364	CASP8	GCCCAGGCTGGAGTGCAGTGGC
21364	CNN2	GCCCAGGCTGGAGTGCAGTGGC
21364	CTSS	GCCCAGGCTGGAGTGCAGTGGC
21364	CYP2B6	GCCCAGGCTGGAGTGCAGTGGC
21364	EVC	GCCCAGGCTGGAGTGCAGTGGC

21364	F2RL3	GCCCAGGCTGGAGTGCAGTGGC
21364	FHL2	GCCCAGGCTGGAGTGCAGTGGC
21364	FUT1	GCCCAGGCTGGAGTGCAGTGGC
21364	GRAF	GCCCAGGCTGGAGTGCAGTGGC
21364	GRINL1A	GCCCAGGCTGGAGTGCAGTGGC
21364	INMT	GCCCAGGCTGGAGTGCAGTGGC
21364	KCNJ11	GCCCAGGCTGGAGTGCAGTGGC
21364	LYZ	GCCCAGGCTGGAGTGCAGTGGC
21364	MEFV	GCCCAGGCTGGAGTGCAGTGGC
21364	ORC1L	GCCCAGGCTGGAGTGCAGTGGC
21364	PAICS	GCCCAGGCTGGAGTGCAGTGGC
21364	PCDHB9	GCCCAGGCTGGAGTGCAGTGGC
21364	PER2	GCCCAGGCTGGAGTGCAGTGGC
21364	PIGR	GCCCAGGCTGGAGTGCAGTGGC
21364	PRND	GCCCAGGCTGGAGTGCAGTGGC
21364	SERPINB9	GCCCAGGCTGGAGTGCAGTGGC
21364	SLC13A1	GCCCAGGCTGGAGTGCAGTGGC
21364	SMAC	GCCCAGGCTGGAGTGCAGTGGC
21364	SS18	GCCCAGGCTGGAGTGCAGTGGC
21364	STAU	GCCCAGGCTGGAGTGCAGTGGC
21364	TAPBP	GCCCAGGCTGGAGTGCAGTGGC
21364	TERF1	GCCCAGGCTGGAGTGCAGTGGC
21364	TMPRSS3	GCCCAGGCTGGAGTGCAGTGGC
21364	TNFAIP2	GCCCAGGCTGGAGTGCAGTGGC
21364	VIPR2	GCCCAGGCTGGAGTGCAGTGGC
21364	YES1	GCCCAGGCTGGAGTGCAGTGGC
21365	CAMLG	GCCCAGGCTAGAGTGCAATGGC
21366	PPID	ACCCAGGCTGGAGTGCGGTGGC
21367	IRTA2	GTAACAAAAGGGCTTATTCTTCC
21368	EPHA8	CTCTGGATCCTCACAGTCA
21369	MMP14	ACCATCTCAGTGAGGGGCA
21370	CNTN2	GCCCAGCAAGGTCAGGTTATCTG
21371	SCG3	AGCAGGAGCATGCGCTTCCTTCCTC
21372	ZNF161	AATAAAATGCATTTCAG
21373	DDX38	AGAGGATGGCAGCAGGTATTGGGTCCTC
21374	NFKBIL1	TGAGGCAGAAGGAAGGGTAAGG
21375	CCND2	TAGACCCTGGTATCCTCATCATG
21376	CPS1	TCCAGGCTGGAGTGCAGTGG
21376	MAK	TCCAGGCTGGAGTGCAGTGG
21377	OAT	TGTTTTTATAATTTCCTCACTGGTATA
21378	GUCY1A2	GAAAGAGATTGTGTCTCTTTCATTGCT
21379	ARCN1	AATGGCATGATCTCAGCTCACT
21380	PCOLN3	GCTCACTGCATTTGGTTTTC
21381	GAD1	TCCTTCGCAGAACATGAGTTTA
21382	TTID	TCCGTAATTCCAGGCTTGTGGC
21383	GNAO1	CTGCCTCTTGTCCTGTATAGCAACCT
21384	ECEL1	TGCCAGGCTGGATTGTACGGGCCCC
21385	SRD5A1	CTAATTTCAAATTTACCTCTT
21386	RASGRP2	CCCCAAAATATTCCCATCTT
21387	DLX4	GCGGGTCAGGCCCACAGCCTT

21388	ALDH1B1	GTCGCCCAGGCTGGAGTGCAGTG
21388	CASP8	GTCGCCCAGGCTGGAGTGCAGTG
21388	EHD2	GTCGCCCAGGCTGGAGTGCAGTG
21388	FHL2	GTCGCCCAGGCTGGAGTGCAGTG
21388	GRINL1A	GTCGCCCAGGCTGGAGTGCAGTG
21388	INMT	GTCGCCCAGGCTGGAGTGCAGTG
21388	KCNJ11	GTCGCCCAGGCTGGAGTGCAGTG
21388	LYZ	GTCGCCCAGGCTGGAGTGCAGTG
21388	ORC1L	GTCGCCCAGGCTGGAGTGCAGTG
21388	PAICS	GTCGCCCAGGCTGGAGTGCAGTG
21388	PCDHB9	GTCGCCCAGGCTGGAGTGCAGTG
21388	PIGR	GTCGCCCAGGCTGGAGTGCAGTG
21388	SERPINB9	GTCGCCCAGGCTGGAGTGCAGTG
21388	SLC13A1	GTCGCCCAGGCTGGAGTGCAGTG
21388	SMAC	GTCGCCCAGGCTGGAGTGCAGTG
21388	SS18	GTCGCCCAGGCTGGAGTGCAGTG
21388	STAU	GTCGCCCAGGCTGGAGTGCAGTG
21388	TAPBP	GTCGCCCAGGCTGGAGTGCAGTG
21388	VIPR2	GTCGCCCAGGCTGGAGTGCAGTG
21389	PPID	GTCACCCAGGCTGGAGTGCGGTG
21390	DFFB	GTTGCCCAGGCTGGAGTGTAGTG
21390	HYAL4	GTTGCCCAGGCTGGAGTGTAGTG
21391	PTPN14	CCCCAATCCAGCTCCTGGAGGA
21392	ARHGAP6	TCGGGCGGCAAGGAGGAGCTTGCTGGAG
21393	GSTM4	GAGCCCAACTGCTTGGACGC
21394	KLRD1	TCTTGCTATGTTGCCCAGGCTGG
21395	LDHA	TCCAAAAGGAGCTGCAATTTTAAGTCTTC
21396	MEIS2	GCGGGCAGAGGAGAGGGAGG
21397	CROT	AGGCTGAGACAGGAGGATCGGT
21398	PXR1	TCTAGCAAATAGGTTCAGTG
21399	C7	GGGATTACAGGTGCCCGCCACC
21400	C5	ATTCATAGCTGGTCTTATTTGTAAAGC
21401	TAL1	TCACTCAGGCTGGAGTACAGTG
21402	BCL11B	AGTGTTCTCTCATTTAATGCA
21403	NESH	CTTCCCAAGGAAGCCCCCACCCTCTGC
21404	SLC12A4	CTTCCCAGCACCCACCTGCCA
21405	MAP3K7IP2	CGCCTGTAATTCCAGTGCTTTG
21406	CTSS	AACTCTGGCTCCTTCTCCATAAA
21407	HMGB3	GTTCAAGAACCTCCTGTACTTA
21408	SCN2B	GGAGAGAAAGGGCTCCCACCTGCA
21409	G1P3	TCCAGGCTAGAGTGCAGTG
21410	RFC2	CCAGTTAAGCAGAGACTTCACTGA
21411	RP42	AATACTTCAAATGTTTGATGATT
21412	CSNK2A1	CCATAGCTGGTAGGAGAGGGAAG
21413	FUT9	TAGACTTCTCATTTATTTTCA
21414	TGFBR3	ATGCTGATGACCTTATCAGCTTCCTG
21415	TTC3	TTCTCAGTGGAGTCAGGATTT
21416	HSPA5	CCACTGTACTCCAGCCCGGCACTCCAG
21417	PON1	TACCTCCGAGGTTCAAGAGATT
21418	OPA3	ATGAGGTGGAGGTTGCGGTGA

21419	P2RX7	GGGAGGTGGAGGTTGCATTGA
21420	BENE	GGTCTCGATCTCCTGACCTCGTGATCC
21420	DSC3	GGTCTCGATCTCCTGACCTCGTGATCC
21420	MDM2	GGTCTCGATCTCCTGACCTCGTGATCC
21420	PIGR	GGTCTCGATCTCCTGACCTCGTGATCC
21420	SH3GL3	GGTCTCGATCTCCTGACCTCGTGATCC
21420	TERF2	GGTCTCGATCTCCTGACCTCGTGATCC
21421	SEL1L	TGAAACTATTCATTTTGCTTCTAGTTT
21422	PLAG1	TATATGTATGTATGTGTATG
21423	XPNPEP1	TCTTATCCTCTTTGATATTTTA
21424	APOL1	GCTCTGTCGCCAAGTTGGAGTGCAAT
21425	HOXD9	GGTGAAGCCCGGCGGGGTTGCCCACCA
21426	DES	GGAGATTGAGAAGGAGAGAAAGTG
21427	TADA2L	ACCACAGTCTGTAATCCCAGG
21428	PCTP	CAGCTAGCAAAAGCAAAGA
21429	TEM7	AGAGCTCTGTTACAGCCC
21430	FMR1	CCTCTCGGGGGCGGGCTCCCGGCGCT
21431	COPS3	TTCAGTCCTGTGTGCTTTCAGA
21432	CLCN6	GCAAAAGCTGGGGAGATGCCAGTGACAA
21433	MYO1E	AGACCAGGTGAGGGGATA
21434	NUCB1	GGGGGCACGGCCTGGCATTTCACGC
21435	XRCC2	AAAGTGCTAGGATTACAGGCCCGTGCC
21436	STCH	TCCATTGCTGAATTCGATAGGA
21437	VHL	ACTGCAACCTCTGCCTCCTGAGTTCAC
21438	SCP2	TCAATTTCTCAATAGTTCTTA
21439	ENC1	GCACAGCCCGCCTCCTTCCGCGGCGCC
21440	RGS16	GACGAGCCCTCACACACCTGGTCTCCA
21441	VIP	TGTGCCTGTGGTTAACATCTCA
21442	MEF2C	TCATCAGGAACGAATGCAGGA
21443	ALDH1B1	GAGTAGCTGGGATTATAGGTACATGCC
21444	WBSCR14	CTCTCCGGCCAACTGTCCTGAA
21445	XPC	TAATGCTGCCCTCACTGCCTCT
21446	PPP3R1	CAATGTGGTGGAGAAAGGGAA
21447	CYFIP2	CAGACAGAGCAGCACAGTGAGCA
21448	GCN1L1	GGAGAAGAGAAGGAAAAGCACACGCA
21449	NHLH1	CCTCCCCCAGCTCCAGGGCT
21450	COX7A1	GGGCAGGGAGAGATCCGGGGAGGAGT
21451	CDC42	GGAAGGCATGCTTGTGGATGA
21452	CTF1	GCCCAGGCTGGGGTGCAGTGGCGCG
21453	JAG2	GTGGCTGTCAATGGGACCTGTG
21454	ZNF26	TCCGAATGCATACAGGAG
21455	VENTX2	CCCAAGTAGCTAGGATTACAGACACCC
21456	RARG	CCTGCTCTGCCCTCTCCCCACC
21457	RAD51C	GTCACCCAGCCAGAAGGAATGCACA
21458	AGL	GCTGACCTTGCTTTAGAAATAG
21459	PLG	TCTGGGCACTGCTGGCCAGTCC
21459	PLGL	TCTGGGCACTGCTGGCCAGTCC
21460	M11S1	ACCCTTGCTTAGGA
21461	TXNRD2	CTTGCCTGCCTTCCTCGCCAGTAG
21462	KIF2	TTTAACCGGCATTTGCTGCTA

21463	SBF1	CCCCGTCAGCGTGTGCTGGTCC
21464	PPM1B	AATTTTATGCATGTATCTACTGCA
21465	ESRRB	CAGGAGGCCAGGGAAAGCATCTCTG
21466	ADAMTS4	ATGCGCAGGCTGGCCCTGCCCTGGTTTCCTG
21467	NGFR	TGGGGTTCGTGGAAAGGGTGCTGCTTCCCT
21468	ITGB1	CAGCCCAGCCGCGTTCCGAA
21469	SLC9A5	TCCCTAGTGGGTTTTCCCGGGGACTC
21470	ALK	ATAGATGTTTCCTTGCCTTGT
21471	HLA-DMA	CTACTGTGTGGCAAGAAGGT
21472	TEP1	AGGAGGAGGAATGAGAGTGA
21473	WHSC1	CAGAATTAAACCTGTTTTATA
21474	NOTCH2	TTCTTCAACAAATTTTGGG
21475	NAP1L3	GTTTCTTCATCTTATATTGTG
21476	POU2F2	ATCCTCCTCCTCCTCCACTTGCAG
21477	NAP1L4	CTGTATGCCGATCATCTCA
21478	ATP7A	TTCAAGGAATTCTCCCTGCCTCA
21479	CNGB3	CTTTTCTCTTAATTTTTATTGTGTTT
21480	DFFA	GGTGGGCAGGTCCCACCTTG
21481	TRPS1	AGCTTTGACATTCAAATTATGT
21482	PLXNA1	TCTGGGAGCCACTGGGCCAGGGGCCCC
21483	ACPP	ATCTTCAGAAAACCTAAGCA
21484	CDKN2D	GTTTTAAAAGAAATGGATTCTA
21485	FGF5	AGCTAAAAATATTACTCTAGT
21486	SLC6A1	ATCCAGGCCCCATCAGCATCC
21487	OSM	CCCTCTACCTCCTCCAGGCTGG
21488	COL11A1	GGCAGGGCCCGGCAGAGGAA
21489	MMP19	GATACCACTCTCTCAGCCACA
21490	CAPN3	AGCCATTTACCTCAAAGGACCCAG
21491	NOTCH2	GTTTTTCTGTGTATGGGCCTG
21492	SACM1L	GGCTGCCTCATGACTTTAATCAGCT
21493	SIGLEC8	CCATTTTTCCTCCCCAAGAAT
21494	ICOS	GGTCCCCATCAGCCTGGAGCAGCCCT
21495	FREB	CCATGATCTCACTTAACCACCCCAAT
21496	ADCY1	GGTGGCACCTCCAGACACCCT
21497	CCNK	AGTCTCTCTTTCCGGATTCTGCCTCC
21498	CPM	CTAGAGGCGGAGTTTGCAGTGA
21499	SLC2A8	CAGTGTCTCTGGGCTTTGTGC
21500	ATP6V1C1	CTCTAGTATCCTTTGCTTGCTTCTT
21501	TPP2	ATCAGAGAATTCACTGACGTGTGGCTT
21502	RAD21	GGCTATACTGAAATCTGTTATTTTAG
21503	COX7A2L	TGAACACAGGCTTGTTAATGTC
21504	DSCR4	CATCTGTCTGATTCTTGTGTCT
21505	SNAP25	ATCATTATAGCATGTAATA
21506	RAD51L3	ACTGGTGACTACAGACGTTCTCAGGC
21507	RAI14	AAAACCCTTCATCATGATATC
21508	SLC22A2	TTTTCTTTCTTGTCCCATTCTGGGATG
21509	SHMT1	TGGCGCGCAGAGTGCACCTTCCTGAGCTC
21510	PLXNA2	CAGACACCTGGCAGCCCTGCCTCATATCAA
21511	SHC1	TCCTGCCTCTCCCCAAACATTAATCA
21512	RAD23B	GCAGGTCTTTATTTCTTCTGTAAA

21513	NCOA6	ACCGAGGCTGGAGTGCAGTGGC
21514	RASGRP1	TTTATCTGCCAAAACAAGGACA
21515	OXTR	GGTGGCTTCAGTGGGGTGGAGAGTGG
21516	KCNQ2	GGAGAGAAGGGGAGGAGGACTCCAG
21517	TRADD	CCAGGAGGTGAGATGGCAGCTG
21518	STIM1	TCTGCTGCTCGCCGCTCTTC
21519	CLN2	CAACCCCAAACAATTCCATCTC
21520	EXTL1	CTTGCCTGGCCCTCCTCCCCC
21521	FMR2	GAGGAAGGAGACCCTGGACAGTAAG
21522	C14orf1	CCAAGTAGCTGGGACTGCAAGT
21523	PRKCABP	CCCTGCTCCTTGTGGGCGCTCAC
21524	TCL1B	GTCCTGTCCTGTCCCACTCAGG
21525	CCR2	CCTGAAAAATGCCTCATTACCTTGTGC
21526	TAT	CCTAAAGTACTGGGATTACAGG
21527	FOSB	CATCCCCCTTCTTCCTCCCCTCA
21528	NRL	TGGGAGGTGGAGGAGGGTTGCAGCTCC
21529	SLC30A4	GGAACTCCTGCCTTATTTATCCT
21530	OSM	CTGTTCCCCTCTGCTACTAGC
21531	GBAS	AAAGAACATAGAAAAGGCAAT
21532	SLC17A5	GACTACAGGCATGAGCCAC
21533	HAL	TGGATCATAGTAAAGAGTAGTC
21534	G2A	GGCAGGCAGTGGGGCCTCTTCATCAGC
21535	GPR92	CGGAGCACAGGTCTCTGCTG
21536	NDUFS1	AGATTCTCATTGATGTTCTGTATTCA
21537	WWP2	GAGGGCTGGAGTCAGGGGACTTC
21538	NESH	GGGCTCTCTGGGCAGCTGATGTC
21539	TGM4	TCTTGTTCTGCCCTCCAGAGA
21540	ZNF42	TAGCCTTTTGCCTGTGGAGAGT
21541	ALPP	CCGGGCGGCGGAGATTGCAGTGA
21542	NFKBIL2	CCGGGAGGCGGAGCTTGCAGTGA
21542	OGG1	CCGGGAGGCGGAGCTTGCAGTGA
21542	PCDH11X	CCGGGAGGCGGAGCTTGCAGTGA
21542	PCDH11Y	CCGGGAGGCGGAGCTTGCAGTGA
21542	PPP1R12B	CCGGGAGGCGGAGCTTGCAGTGA
21542	SLC26A4	CCGGGAGGCGGAGCTTGCAGTGA
21542	WIG1	CCGGGAGGCGGAGCTTGCAGTGA
21542	ZNF91	CCGGGAGGCGGAGCTTGCAGTGA
21543	AKAP13	TACTGGCTTCGTATTTTATTTA
21544	NXT1	GGCAGAGGTCTCTTTGCTTCATT
21545	ARF3	TTTTGTTATTAGGAGAAGGTGAG
21546	CREBBP	CTTTTTGTCGTCATTGCTGGTG
21547	ERBB4	AAATGCCAAACCAAGCAAATTA
21548	TMPRSS3	AGGCTGGAGTGCAGTGGCGAA
21549	CLASP1	GTTTTCAGCTCTGGAGCACAGA
21550	FOSB	CAATATTTTTGGACTGGCAGACT
21551	TNNI1	TCTGGGGTGAGGCCAGCCT
21552	ATP2A3	CTGTCTCCTGGACTCTCCTGGG
21553	SYT5	GAGGAAGAGGGTATCCCTTTAGGATGG
21554	IL17E	GATCCCGGGACAGGATGGGGG
21555	SFRP2	TTATGAAGTTTAAAAATAGCT

21556	CACNB1	AACCAAAAAACTGCTCCTTCACCCT
21557	PSCD4	GGGGTGAGGAGAGCAGCCAGAGGAA
21558	C8orf1	GATCAAATAATTGCTTCAGATGA
21559	KHK	CCCGCTGACTGCCCCAGAGCCTG
21560	TCF2	AAACTCCCCTCCACCCTCCTCTCTC
21561	LARGE	AGGATGCTGGGAATCTGCAGGGGGAGA
21562	HOXA11	TGGGGACAGGGGCAGGAGGAA
21563	CRSP6	CCCAGTCTGGAGTGCAGTGG
21563	FANCF	CCCAGTCTGGAGTGCAGTGG
21564	EXT2	CTTAAACACCAATTCCTGATA
21565	UBE2A	CCCTACTCCTGTCATTACA
21566	TAX1BP1	CGGAAGCCTGCGTAACTTTCTC
21567	PGF	CAGCTGAAGGCAGTGGCAGGG
21568	TNFRSF10D	CCTGTAATCCCAGCACTTTGATAGGC
21569	CLCN5	TTCCTGTTACAATATTTAGCATTAT
21570	ZNF179	GGGAGGCAGCATCTGGGGGCAGTGGA
21571	ANKH	CCTGGTTCTGCTATCCTTAGTCATAACT
21572	KCND2	GGGATGCTCATTAGTAAATCTAA
21573	NYX	GGGCTGTAGCCTGACAAAGGGTTTCC
21574	CASP10	AAACTGAAGCTGTTCTCAGGAT
21575	ATP2B1	TTCTGCCAGACTGAGGGTGCTT
21576	SACM1L	AATATAGCCACCTGTTAACA
21577	MGA	CTTCTGAAAATTGCAGTG
21578	DDEF2	TACCACTGCCTTCCCTTCTAGCCCAGG
21579	UBTF	GCCTCCCCCACTTTCTTTCTTTCTTTA
21580	ILVBL	CCCTGAGGAGGGGATGGAGGG
21581	JPH2	GTTGCAGGCATCACCCACGC
21582	TPM4	CCAGGAAGTGGAGACTGCAGTGA
21583	MMP19	TAGGAGGCGGAGGTGGGGGTG
21584	DNMT2	TTCTTTATTGTAGCAACATACACTCTCAATG
21585	DDX6	TTAGTAAAGGGGCCCAGAAAT
21586	PPAT	TCTTAATATTTCTCCATCATGGCC
21587	PTPN22	CCAACTTGGAATATTTATAAAACTCCA
21588	PTPN11	GCCTGTCCCTGTCTCCTAGCGCCC
21589	CPO	GGCACTTTGCCACTGTGTGGCAGT
21590	NFATC3	TTTGTACTGCTTTATGGTCA
21591	GABRE	TCTGCTGCTGTGACATCTCCCTC
21592	SLC2A1	GGGAGCACTGGAGTGCAGGG
21593	HMGA1	TAGCCGCACCCTGCACCTGCTGC
21594	MPP6	TCACATAAAGAAATGCGTTGAAG
21595	ALDH3B1	CGGGGCCGCCTCCCTCTTCTCTCCAG
21596	IL1R1	CTGTTCTGGAGCTGCTGTTCCA
21597	ARNT2	TCCTAACCTGCCGGGGTC
21598	IL21R	TCTCGTCGCCCAGGCTGGAATGC
21599	CXCL16	GTGATTCCTGGCTTCATTTTTT
21600	GPR56	TGTCACACAGGCTGGAGTGCAGTG
21601	LOXL2	CCTGAAACCAAAAAGCTCCTG
21602	BACH2	ACAGCAGTGATGACACTGTC
21603	DAG1	TTTTGCAGAGGATTTGTGTGTCCT
21604	HMGA1	ATTGTCCAGGCTGGTCTCGAA

21605	KIF3B	TTAAGACTGACCTAACGCTGGATTAT
21606	PXR1	ACCATGGTCCCAGGATTCCATC
21607	EIF4A2	TAGTTCTGTAGAAATGGTTGT
21608	TAL1	TCTGTCACTCAGGCTGGAGTACAGT
21609	SUV39H2	GAATTCAGGAGGCGGAGGTTGC
21610	ALPPL2	GTGCCTGGCAGCTGCCTGCATTTC
21611	CACNA1S	AGGGAAAGCACTGGGGTGGGGGAG
21612	AQP3	GTGGATGTGGGTAGGGCTGGGAGGA
21613	HOXC4	GCAACTCTCCTTAATTTTGTTT
21613	HOXC6	GCAACTCTCCTTAATTTTGTTT
21614	CCKAR	GCAGGCAAGGATGGATGTGGTTGACA
21615	SLC7A6	GGCTCACTGCAACCTCCGACTC
21616	SORCS3	AACTGCACTAGTGTTTATACCAGCAA
21617	SYP	CACACACACCCTTCCCCACTCC
21618	PTGES	TATGGTGGAAGCTGGGTGA
21619	SLC22A3	CAGTTATTTCCAGCATGCTA
21620	TIMP3	CGGGCAGCAGGCAGGCGGCGGGCGCTC
21621	NCOR2	CAGCGGTGGGAAGGAAAGGC
21622	RAB11A	GTGCAGTGTACATTTCCA
21623	KCNJ10	GGGCATATAGGCACCAGAGCTTTA
21624	MAML1	GCTGCAGTGTCATAGCAATA
21625	DAAM2	TATCTTCTGCCTTTCACTTGCATCCA
21626	ZNF216	GCATGGGCTGCATTATCTACA
21627	PMCHL1	AGCCCATAATGTTACTGTAA
21628	SP3	TCTTAGCAGTGATTTTTATCCA
21629	MYO1D	TTGCCTGTCAAAGGCTGGAGGGCAGGA
21630	CAST	AACACACAGAGCCAAAAAGC
21631	EGF	TCTCACTGCAGTCTTATTTC
21632	XT3	CCTATTTGTCAGTGGTGCAAA
21633	MTMR3	GAGATCTGAGACCGTGAGCAGGGAAGA
21634	RXRA	GGTGTCCCTGTCGTGGAGCTGGGG
21635	MGAT5	CTGGCTGCATTAATATTGAAACTAC
21636	EIF4G2	CAAAACTGATCAGTTTTGAGAG
21637	CCND1	CCTCTTCTCTTCCCTGCGCC
21638	COX10	TCTGCTGTCTGTAGTTCTGTG
21639	REN	CAATGAGAGGCCAGAACACTCTGGA
21640	ITGAL	CACTGCCTCTCCCTGGCCCTCAGTTTC
21641	EGLN2	TGCAGTGACTTTGGGCAGAGGGT
21642	SMAC	GTTGCCCAGGCTGAAGTGCAGTG
21643	CSPG3	ATGAGTGTGTGTGCGTGTGAACG
21644	ZNF216	CCCTGCAGGAAAAATATGGCTCAGGAG
21645	RANBP3	CCCACCCCACCGGCAGCGTCCAGGT
21646	BTEB1	TGTAGAAGGAAAGGGAGCTGAAATAG
21647	KIF3B	GTCTGCCACACTGGTGCACCTTG
21648	PEX1	AGCATTTGACAAATTTTATGCTTA
21649	OPA1	AAATGTCTATCTCATTTGCTGCCT
21650	KLK10	ATCACCCAGCCTCTGAGAGCAGT
21651	EDNRA	ATTTCCTCAAATTTGCCTCAA
21652	RGL	TAGGGAGGCCAGGAGGAGC
21653	SIM2	CCTGTAATCCCAGCTACTCTGG

21654	TRPM8	AGATTGCACCACTGCACTCCAGCCGGGG
21655	BCLG	TCATTCTTTGTGGTAGTACA
21656	DSCR5	AGCCTGGTCCCTGCCCTTA
21657	TMPRSS4	GGGTACACCCCTCTGCCCACAGCCTCA
21658	DDX3	TCTGCTCTACAGTGCAGT
21659	ICMT	AGGTACCCCTTCTTATCAGCGGTAAAA
21660	PCDH1	CCCCACTGGGGAGAGACCTGTGATTT
21661	GRM1	GCAGGTGCGGGGAAGGGAAG
21662	ZNF236	GAGCGTCAGTTTCACCTCCCCA
21663	CARD15	CTCGACTCATCCATCCAGGCC
21664	EXTL3	TGGTCAGCAAAACCAAGA
21665	CD86	GGAAAACTGCCTTTTATCTGCCCA
21666	RBL1	GGGAGGGAGAAAGAAGTCGGGGGCCG
21667	CDX1	AACTCACACCTGCCTCTTCTGCA
21668	ELK4	GTGAGGAGGAGGCTGAGGGC
21669	TYR	GGTCAGGCATTATTATTACTAACCTTA
21670	GPR44	GGCACCTGCATTTTAAAGCGC
21671	SFRP1	AGGTGGGATTTGTAAAGCTTT
21672	SEPX1	GGAAGGCAGGGCGCAGTGG
21673	DIAPH1	TGGTGTGGCACTGGGAGCTGC
21674	SNAP23	TGCAACCTCCGCCTCCCTGGTT
21675	EN2	CCTCCTGCCCTGGGCACTGCCTCCA
21676	ATRN	AGGCTGGGGTGGACTCAGATGCCAGG
21677	CKN1	ACTTTCTCTTACTTGCTGTACT
21678	KPNB1	AGAAAGATGGAGCCTGGGTCTC
21679	MAN2B1	TTGCCCAGGGCTACAGCCTCT
21680	TAT	GGTCTCAAACTCCTGACCTCAGGCAAT
21681	MAPK3	GGTCACTGAGGGCCTCTGTCA
21682	MTP	AGCTCTTGATAGGACTTCCTTAA
21683	PCDH11Y	AGCGGTTTTGCCTCAGCTGCT
21684	ZNF74	TCACCCAGGCGGGAGTGGTGCAATG
21685	SON	CCAACTCCACCAAAAAG
21686	AOC3	TGGAAAGGATGCTTCTGCTCA
21687	CLASP2	GCCGGTCTGGGTCTCCAGGAAG
21688	DPYSL3	TGCCCTCCCTGCCTCTTTG
21689	NPTX1	CATCTGTGTGTGTCTGTCAGTGTCTCT
21690	CTSB	AGCGCTGGGCTGGTGTGCAGTGGTGCG
21691	WASF3	TCCCCTTTCCAAGGCTGCTT
21692	ACADVL	GGGCCTAGTGTTCCCAGCACTG
21693	PTN	CCCTTCCGTTCCCTCCCTGTCAGGGCGTA
21694	XK	TATATTTGTATCACACCAGTT
21695	GSTM3	GCAGGAGGCAGACTTGCA
21696	RPA3	AGTTTCAGATCTGTGTACAGTTTC
21697	PPP1R3D	AGCGGATGCCTCCTCAGGAA
21698	SDHD	CTCTTTGCCTCTGCTTTGTCATGCC
21699	PCDH11X	CTGTAGTCCATTATTACTTGGGTCTTTACTT
21699	PCDH11Y	CTGTAGTCCATTATTACTTGGGTCTTTACTT
21700	INSRR	ATGAGACAGACTATTACCGCAA
21701	RNH	CGCACAGTCTGCCTGTCCTGAGG
21702	PTTG1IP	AGTGTAGAAACCCACGTCTGT

21703	EVC	CCTTCAGTTCCTCACCCATCAG
21704	ZNF132	CTTGGCTGGTCCCTATCCTGCC
21705	NOTCH2	AAGAATTGGGAACTGGGATATAAGTC
21706	HNRPH2	TTGCTCTTATACCACAAATACATT
21707	MLLT2	TTTCATCTGTTTACACTCT
21708	PPP1R12B	TCGCCTAAATATCTGTGCCTTTGCCT
21709	CD209	TCACTCTTGTCGCTCAGGCTGGAGTGC
21710	SERPIND1	GCCTTTCTCCACCAGGCC
21711	HTR7	AGAAGTGTGGGAATGATGGGT
21712	UNRIP	CAGGGCGGGGGCCTGGAGCAGC
21713	MADH4	TTCAGTTTTTGTATCTTGGGGCAA
21714	SEPX1	CCCTGCTCACTCTAGGTGCCTCC
21715	SHOX	TTTTTTATGTCAAAATGTTACA
21716	DIAPH1	CTGCCCCCAGCTTCTGCC
21717	ANKH	CTCCTCTTGGAACCAAAGGACTGCAGC
21718	C14orf1	GTCACCCAGGCTGGGAATTGCAGT
21719	FUT7	GGAGGCTGGGCACAGAGGTCA
21720	TXK	TAGCTCTTTACAGAAAATGCACCTTT
21721	SLC25A15	CCGGGAGGCAGAAGTTGCAGTG
21722	PTPRC	TTTAAGAGTATGTTGCTTTT
21723	SCN4A	CCTGCAAGTTGCTCTGACCTCCTC
21724	ATRN	GGAATGACACTCAGGTTCACTGTGG
21725	SCD	AGGCTTCTCTCCACAGTGTTGTG
21726	CPNE7	CTGGTGCCCCCACACCCACCTAC
21727	F2RL3	TGGTGAAATCCTATCTCTACCA
21728	KCNS2	AGGTGTGGCAAGGATCTTATC
21729	NCOA6IP	GGTGTCAAACTCCTGGGCTCAG
21730	MDFI	TTTTTGGGGGCCTAACCCACGCAGT
21731	DNCI1	ACATTTTGGGTGCCATATTGTG
21732	PRDX3	TGCTAGTACAGGAATCGTTTATTG
21733	ARCN1	TTTTTTCTGATACAATGCACGATTCTC
21734	AKT1	GGAGGCTGGGCCCCTGGGATGG
21735	IL11	CCACCTCCCGGGTTCAAGCAAT
21735	SEDL	CCACCTCCCGGGTTCAAGCAAT
21736	CPD	CAGCCCTGCCCTGTCTTTTATTTG
21737	GGT2	AGGCTATGAGCTGGCACACCAGCGGCATG
21738	ADCY6	CGTGAGCCACCACGCCTGGCC
21739	TM6SF2	AAAATTCAACACCCACCAGGCT
21740	FCRH1	GGTCTCAAACTCCTGGGCTCAAGCAAT
21741	IL4R	TGCCTATAATCCCAGCACTTTTGGAGG
21742	RBBP5	TGCCTGTAATCCCAGCTACACTG
21743	IL4	TGGTGTAATTTCCTATGCTGAA
21744	PPP1R12B	GTCCAGGCCACTGGTGAGTGTCG
21745	CCRL1	GCAAAGTTTGAGTAACTAATCTT
21746	SCN4A	GCAGTCTCCCCTTCCTGGCACATTGC
21747	FBXW1B	GTCAGGGCCCCCTGTGCTTGA
21748	BAZ2B	GCACATACATAATGACTTTCT
21749	ID4	AAGTACAGGGTTTTATAGTGTA
21750	GUCY1A3	GCAGAGTTTTCCTACACTTTTCCTG
21751	PTPRG	TGCTGTACTTTTCTTCAGTCCTCCT

21752	FGF1	CAAGAAGAATGGGAGCTGCAAA
21753	HPS4	CATGCATCTCCCACTTTTGGCTTTCC
21754	GALT	GGGACTGAGGGTGGAGCAGC
21755	EIF2B5	CCTCCTGGCTCCTGGGCT
21756	ITPR3	TTATGCTGTTACTAGTGA
21757	KIF3C	CATTCCCCTCTGTCCCCTTGG
21758	CACNA1C	GAGGGGAGGAAGAAGAGTGTTTACAAAGTC
21759	TGFB1	TCCAGGCATTTGAGACCAGCCTGGG
21760	PPP1R8	TTTGCTAAAGGCACAGTCACTGG
21761	TACSTD2	TTTGATGAAAAAGAGTGCCAGT
21762	AQP3	CAGAGACAGGGGAAGGCAGCCTG
21763	DEDD	CCTCCACTCCTACGCCCACTCC
21764	ERBB3	GCTCATGCCTGTAATCTCAGCA
21764	P2RY6	GCTCATGCCTGTAATCTCAGCA
21765	CD28	GCTCATGCTTGTAATCCCAGCA
21766	MYO1D	GGATGAGGGGGAGGGAGCCAACGCCT
21767	NRCAM	TGGGTTCCCCCCTCCCCCCACCTTTTTT
21768	ABCC3	TGTCCTCCCTCTGATTTTTCATA
21769	IL5RA	TCTTTCGTTTGACAGCAGTTTGG
21770	SIRT2	ACTGTCTCTAACCACTCCTGGGCT
21771	SHOX	CAGGCAGCGCATGGGGGGCTGGGCGA
21772	HIP1	GACAGCAACAAAATCATGGCTTA
21773	POLK	TCAGCACTTAACTACTTTGTTGGCATT
21774	RNF6	TTTTGTCATGCTAAGCACTTT
21775	GPR84	GGCATTTTCACAACAATCTCTCCCCAG
21776	PSCD3	GCATGTCCAGAAGCATTTCCTTCCT
21777	MAPK12	CTGGGCTCCGGGGTGGCAGTGAG
21778	SFN	GTGGGAGGCCCCACCCTTCTCC
21779	GABRA1	TCAACGCAGTAATTCCCATCTGCC
21780	BPI	TGAGCTTCTTTCAAGGGCTA
21781	PPIL1	GCATTTTCCTCTGTTCTTGAGCCCAG
21782	KIF3B	TGTCGTGCTGTCACCAGAA
21783	SQSTM1	CTCTTTGTAGCCATCCTGT
21784	MGAT2	CCAGCTGAGGTGGGAGATATTTTTCT
21785	BCKDHA	GTCAGCCTGTGGAACTTGCGCAGGTG
21786	MEFV	AAAGTGCAGGGATTACAGGCAT
21787	LPIN1	CAGGCAGCCCTCTGCAGCAG
21788	PITPN	ATGAGCTGAGGTCAGCCTGG
21789	IL24	TGTCAAGCTGACCTTGCTGAT
21790	GRAF	GAGGGAGAGAGGGGAGGCAAA
21791	TMC1	GGGCAGCAACTTTGAGCCTGTGG
21792	PTK2	TTGGAAGCAGAAATGCTTTGTACCAG
21793	MAFF	GACCCTGCAGTCCTACTACAGTCTGG
21794	VWF	ATTTATGATTCCTGCCAGAT
21795	UMPS	GGTCTCAACTCCTGGGCTCAAGCGAT
21796	CDH12	GGGTAAATGTGGAGGGAGCCAC
21797	PLAB	GACACCCGATTCCTGCCCAAACAGCTG
21798	DUOX2	TCTTTAACTTTTCTTTTCCTTTTTCATCGGG
21799	LIMD1	CACAGGCATTATGTTTGA
21800	CPM	ATTGCTCACTCCAGGTTACTGCAA

21801	SOX10	GACTCCTGTTTTCTCTCTCACA
21802	PNUTL1	CTGGCAGGCAGGCAAAGCT
21803	APPBP2	TTAGGATAAGTTAGATGTGT
21804	KCNH3	AGCCCTAGAACTCAGCGTTGCC
21805	YWHAE	GTTTTGCTGTAAAAAATGTTTCCAACTCCG
21806	CSF1R	CCCACCCCCATACTGGTACTG
21807	FTSJ2	AGGAGACTGACAGAGGAATTCCAG
21808	MAP3K12	CCAAGCCCTGTCTTAAGGCCCAGGGGG
21809	SAH	TCTGCCATAATCTCCATCTGTGTT
21810	ADRA2B	GCTTCCTGGTTCTCAGTCCCA
21811	TAF11	TTCAAGCAGTCCTCCTGCCTCA
21812	JRK	CCCAGCTGTTAGCACGTTAGTAATACT
21813	DMN	TTTTGGATAGATGATTGACTGGTGAG
21814	CANX	GTGGCCTTCTGGAGCAGGTGGCT
21815	PAPPA	GGGATCCTTAGCACCCAAC
21816	CYP1A2	GCTCACTGCAACCTCCACCTCG
21817	SPHK2	TATGGCTTAAGACCCAGGGCCAG
21818	RIMS1	GACCAGTGTGGCCAACATGGTG
21819	FES	CAGCTCTTCACAGTCCTGGA
21820	GPRK7	CCAACATGTTGTAAACCCCGTCT
21821	SHOC2	CTGCTGTGGCTTTTCAGTTAA
21822	DPYSL3	TGGTAGCACCTGTAACCCTGTGTACT
21823	GAS7	TGCTTGTTTGATCTGTTTTCTGTAA
21824	GNAT1	CACTCTGTCCCTTCGCCTGCTGC
21825	KIF5C	CCAAGTAGTAAAGTTTTCAGGG
21826	CLECSF12	TGTGAGCCACCACACCTGGCC
21827	NCOA6IP	GCAGGGGCAGGGGCAGCTCTCC
21828	RIMS1	CTCTTCTGTGTTTATATTCATG
21829	SECTM1	CCTCGTGCCCACCGCACCTGCCGA
21830	FUT6	GGCAGGAGAATGGTGTGAACCTG
21831	MAN2A2	GATAGCTCTATAGATGCTGAAA
21832	G6PT1	ACCAGCACGAGACCCCTTTCTATC
21833	TSNAX	TCATTTCTTATATCTTATTCA
21834	CDYL	GACATTTCAGGCAAGCCACA
21835	SCG3	GCATGCCAAGTACTAAAGCA
21836	SLC4A8	TTCTTGCTTCTGTCTGTTCTTAATT
21837	HIVEP3	CTGACATCCTTCATGACGTTTTCC
21838	ZNF274	AGCGTCCCTCACCAGAGGCCT
21839	STK6	GCCTTTGCATCCGCTCCTGGGCACCGAG
21840	MCM5	CTGCCCCAGAGGAAGGAGCTGTAGTG
21841	KRT4	CTGCCTCTTGGAGTTTGGTAGCTACT
21842	CRKL	GACTGATTCTGTCGTGTTCACCAGAG
21843	CTMP	GCCTATATCCCAGCACTTTG
21844	MEFV	GGTGCTCCTGAACAGAAGAT
21845	PTK2B	GGGGCCACCTGCCTGCGTCT
21846	TSLP	TACATGTAATGACACTTCT
21847	DAXX	GGATAACATTTGGAGGAAGGT
21848	MPP2	CTCATTTCTTATAATACCCTGATCCCA
21849	FOXD2	TAGATGAAACTGCAAAGTGTTCTCAG
21850	RCN2	TTGATGTTGTATTTTACACTCT

21851	OPA3	TGGAACCTGGTCTTGAGCTGA
21852	ACVR1B	TAGGCCTGTAATCGTAGCGCTT
21853	TSC1	ACTGATTCCCAGCCTGTGGCAG
21854	TK2	GGAAAGTTGGGATTTGCAAAT
21855	EBI2	CTTCCAATTAGTATTCTTTT
21856	ITGA2	CTACAGCCTGACTTTCTCTCCA
21857	PCDHA9	GCTCCTCCTATGTCTCTTTTCA
21858	RNMT	GGTTTTGTTATATAGCATTTT
21859	VAPB	TGTTGGTGCTGGCCCTTGGGGA
21860	CBFB	ACATTGCTTCTAGTTGGCAG
21861	DNMT3L	TCTCCACCCCTCCCCTGAACC
21862	PPP1CB	TCATAAAAATGTGTTCTTTACAA
21863	CALB1	TGAAAAGAAGAAAGTCTATGCTTA
21864	TCTA	CCTGCAGCCTCATCATTTCCC
21865	KCNK6	GCTGCACTCCAGCCTGCGGGACAG
21866	IL12RB2	GTCATCTCTGGGTGCCACCATCGGTC
21867	TLR5	TCTGCCGCCCAGGCTGGACTGC
21868	PCDHB14	TCTAGACACCATCAAAGCATA
21869	TSC1	TGGGCAGACAGTGACCTCTCTAGGT
21870	HIP1	CCGCCTGCCTCTGTCTAGCAACGCA
21871	PLCB4	TTCTCCTCTTCCTTTTACCCTAGT
21872	MYL3	GCCTCTCTGTACTTACAGCCC
21873	ENDOGL1	TCATCCAGGCTGGAGTGCGGTG
21874	HLCS	TCGTCCAGGCTGGAGTGCAGTG
21875	HMGN3	AGCAATAATCAGTGGTGCTTTTGTAC
21876	AIM1	CAACAGCATCCAACATATCTGTCTTG
21877	ECM1	TCAGATGGGGGGAACCCCACCC
21878	GP2	TCGGGAGGCCAAGGCAGGAGAATTGC
21879	XRCC2	TCAGGAGGCCGAGGCAGGAGAATTGC
21880	DIAPH1	TTGGTGGCAGGTTACAGAGTTCT
21881	NFKBIA	AGGGGCTGAAAGAACATGGACTTGTA
21882	ASTN	CAGACATCAGAGCTTAAACCCA
21883	XRCC3	GGCTCCCGGGGGCCCCACCTCG
21884	TNFRSF7	ACTGCCCAGGGGGTGCAAA
21885	IL11	GTGGGGACGGAGGGGAAAGGGAAGC
21886	LGMN	ACTGAGAGCTGCCTCCTGGAAGCTT
21887	TEP1	GCTCACGCTTGTAATCCCAGCA
21888	VHL	GCTCACGCCTGTAATCTCAGCA
21889	PCOLN3	AGGCTTTGGGCACAGCCTGCTGT
21890	CHST6	GGAGGCTGTGAATGCTGAG
21891	PNMT	GCAGCCGCCGCCCCACTCACCTCCGG
21892	EHHADH	CCTGTCATGACAAGCCTCTGTGAT
21893	AK3	TTGTCCCAGGCTTTCTGGTGTGTG
21894	ATP1B2	CTCGGCCTCCCAAAGTGTTGGG
21895	LSS	CTGCTCTCCCCTGGCTACTGGGAG
21896	BCL7A	CTGGGGGCTGGGCAGGGGCAG
21897	GM2A	TAGGGTGTGTGGGGGAGGA
21898	TLE1	TTACCTTTCTGTTCCTTGCAG
21899	CA12	CCAGGAGGCGGAGGTTGCAGTAAGCCAA
21900	PITPN	CTTTCCCCTCTGCACTTTTTGCAAG

21901	TBX6	TGCAGTGAGTCGAGATCATGCC
21902	TSC1	TTTCCAGGGTCTGAGTGCAAG
21903	GRM4	CACCAAACCTTACATGTTGCA
21904	NRCAM	TCTGCAGGATACAGTTCAATATGA
21905	SLC22A11	GTTTCCCCGAGGCATCACAGGGCT
21906	IL7	TTCCAATAACCCAGCTTGCGTCCTGCA
21907	GALR1	TATCCTTATGGTTGAGTTTCCATATA
21908	SULT1C1	GGAGGGAGGGGCCAGGCAGC
21909	CENPB	GGGCGGGTGGGGAGCTGTCC
21910	HOXB6	CCTCAGAAGAAAACAAAGTTCTAT
21911	SQSTM1	ATTGCAGGTCTCTGTACAGGCCAGTTT
21912	FGB	AAAAAGATTTATTAATTAAAC
21913	AP1B1	CCTGTGGCTGTGATGTGGGGTT
21914	LZTFL1	CTTAGCTTCCTCAGTCTCTCCA
21915	AKT1	GGCCTCGTGCCATGATCTGTATT
21916	FSHPRH1	GCTATCTAGCTAATTTTTTAA
21917	CBFA2T2	AGAAATGTCTGTCTGGAAACAGGA
21918	SULT1A2	CACACTCAGCCACTGCGGG
21919	PSA	AAATGAACATGTTTATTGCA
21920	JPH3	TAGCCTGGCCTTTTTCTGTGT
21921	KCNA4	TCAGTGCTTTAACAGCATATCGTATG
21922	GRP58	GGCCGTCCCCACCCCACCTCG
21923	NOTCH2	TCTCTACTGATTATCTTGCT
21924	LZTS1	CATACTCCTGGGCTCAAGCAAT
21925	PMCHL1	GAACAATGCTTAACATACTAACCTT
21926	MRC1	TTTAAGGAGCTCCCAAAATGTG
21927	TCFL4	CTGCCTGGTCAGTCCCAGGTGAGGC
21928	ING1	CTTACAACAGGTATTTG
21929	PES1	GAGGCAGGCCAGAGGACCTAAGTG
21930	MPDU1	TTCAGCCAAGCCTCCTCCTCT
21931	DBT	GCTATTGCACTCCAGCCTGGG
21932	POLH	CCATCTCTACTAAAAATAGAAAAAT
21933	RNH	TTGCCCAGGGAGAGGCTGCGGCT
21934	ARHGEF6	TGTTCTGTTTTTTAGCACAGCCATTTA
21935	CORO2A	GGAGGCTGGAAGCAGAGAGGAGGTACC
21936	BTEB1	CCAATACAACAGCCATCACTAGCA
21937	OGN	TTGAGGAAAACCACAAAAA
21938	OSR1	TCCTGCACTGACCCTTTGGAGG
21939	E2F1	GCAGGGGTCCCTGAGCTGTT
21940	PMCHL1	AGGCTGGAGTGCAATGGCACGAT
21940	PTGIS	AGGCTGGAGTGCAATGGCACGAT
21940	RAB36	AGGCTGGAGTGCAATGGCACGAT
21940	SLC15A1	AGGCTGGAGTGCAATGGCACGAT
21941	BDP1	CAGGCAAGAGTGCAGTGGTATGATCTC
21942	CDH1	ATCGGCCAGGCTGGAGTGCAGTG
21943	COX11	TTTTCTTCTGCTGAAGTTTTAAGTGAG
21944	GJB3	TGCTGGGACTGTGCAAGGAGGTAGGA
21945	PKIG	CCACACCCACAGGCTTCACATTC
21946	C21orf2	CAGGGTGAAGACAGTCACTCA
21947	SHC1	GGCCTTTCCTGTGCCAACCTGA

21948	SLC25A6	TTTTCCCAGCCGCATCCTGCCTG
21949	RP42	GGCTAGTTGCAAAGACTATGCTAATAGC
21950	ADCY6	TGCTCCTGCTCCTCAGCTCTC
21951	EIF2C1	ATACTTAAGGCACTATGGCACTTA
21952	MADH5	CCCTTTTTAATTGGAACTTCTGCTTA
21953	IL1B	GCCTGACAGAAACCACGGCCACATTT
21954	DSCR3	CAACCTCCCTGGCTCAAGCGAT
21955	ADAMTS9	CACTCACTGTTGTAGCTTCTGTTGT
21956	PRSS16	TCTATTTCTCTTCCTGTCAC
21957	LPP	GTTTGACACCAGCCTGGGCAA
21958	F2RL3	AAGTAGCTGGGATAACAGGCGCCCACC
21959	KCND2	GCCCACCTGCAGGAAGAGATTTGG
21960	TRPM8	TTCATTTCTCAGGATGCTTCTTAC
21961	FCN1	AGTTGAGAAACTGTGGCACAAGGC
21962	AKR1C3	AGAAGCAGCAGCAAACATTTGCTAGTC
21963	NEK6	AACAGGATTAACTGTGAA
21964	WHSC1	GATCACATGTGCCCTCTGCCAGGGC
21965	MS4A3	CAGAAATTGGTTCTATTTCTTCTTA
21966	CRI1	TTTTGTTTTGCTTGCTGTTTTA
21967	CRYZ	TTTCAAGCCTACTTACCTTTATAAA
21968	GPRK7	CTAGCCTGGCCAACATGTTGT
21969	HSD17B1	TTGGGAGGCGGAGGCAGGAGGATCGCT
21970	TRIM	ATTACTTAAACTTTCTTTCCAGTCA
21971	VPS41	CCATTATGTTTACTAATCACA
21972	CTSS	CACTGCAACTTCTGCCTCC
21973	CYP2B6	CACTGCAACCTCTGCCTTC
21974	BACE	CCGGATCCCAGCCTCTCCCCTG
21975	COL8A1	TCCGTGGGAGCCAGCGAGCCTCTCT
21976	ABCD2	ACTTTTCAGAAGAAAATAAACA
21977	HTN3	TGACTGGCAAATTCGCTTTGG
21978	ATF2	AATAAAGCTCATGGCCCACCAG
21979	KAL1	CCCTTTACTTAATTATATTGTAGTGTG
21980	MAPRE1	GACTCACTGGTTTCTTTTC
21981	PRDM4	GGGAATAATCTTTTATGTTTCATTTAC
21982	PCDHA9	CTGCCACCCAGGCTGGAGTACAGTG
21983	ANK1	GGAGCTGCAGGGCGAGCCCG
21984	EED	TACAACACTGACTCATCATAAAT
21985	MAB21L1	TGCACACACAATGATTACGGGAA
21986	FBXL3A	CCTGCAGCCGCCGCCGTCCC
21987	MAK	ACTCTTGTGTCCAGGCTGGAGTGCAGT
21988	AXUD1	GCCCGGCCCCCCACACCCACAGCTTG
21989	GYG	ATTGCCCAGTGCTGCCAGAGTGAGT
21990	BCL2L2	TTTATGATTTATTTGAAGCCACA
21991	RGS9	CATTTTTCTCTTAATCCATATCT
21992	ADD1	GCACCCAGGTCGGGCGGTG
21993	IGF1	GCACTGTCCCCCAGGCTGGAGTGCAGT
21994	ZNF80	TATAAAACATGTAGATCCTT
21995	GASC1	TGGAAAAGAGAAGATGAAGGG
21996	GAMT	TCCAGCCTGCAGCATGAGCG
21997	CTSZ	CTTGCACAGCATGGCTCTGCCTCACAA

21998	F8	GACATACATTTAATATTTCT
21999	C1orf1	AGGGAAAGAAACCTAGACCAGAGAAG
22000	FCGRT	TGTGAGACCTCCTGGAACAC
22001	CORO2A	TGGACAAACAATTTAGGTGGAGCTCC
22002	TCTA	TTTGCTTGAACCTGGGAGGCAG
22003	CD5L	GGTCAGATGTGCAGACCATT
22004	LPIN1	CAAAGGCAAACAGATCTGCCA
22005	ATP7A	AGTTTCCTAGCTCTGTGCTCAG
22006	IL10RA	GTACTCTTAGGTGCCAGTCTGGTAACT
22007	SLC21A3	TGCTATGTTACTATCATCATCTTCC
22008	CTSC	CCACAGCCATGAACAGACGTTG
22009	RAD1	CTGAAATGACGCCATTGCACTC
22010	GPR85	TCTAAATATACAACTTGTAA
22011	MAGEA5	GAGCTGCAGCCAGGGCCACT
22012	MAGEA5	TGGCTTCTTTGAGAATGTAAG
22013	POLH	GCGAGACTCCATCTCAAACAAA
22014	IL8	CACAAACTTTCAGAGACAGCAGAGC
22015	OLFM1	AAGCTGCCCCACAAAGGGCTATGCC
22016	IMPDH1	TTCTGAGCTCCTGACCTAG
22017	MADH9	TTATACAGCAAAAGTCAGGT
22018	DLEC1	CAGTGTGCTCCAGATGGTGCTA
22019	IL1F9	TGTTTCTGTTTTGCTTTAT
22020	GCNT2	CACTAAAAAGTCCTTGCAAGAA
22021	MTERF	GTTGAAGAGGGAGCCAAAAGAGGA
22022	NRGN	AGGGCAGCCTCTCCAGCTCTC
22023	ADAMTS13	CCCTCCAGGAAGATGCTGACATCCAGG
22024	TGFA	CAGTGCCCTCATCCTTATGCCTGT
22025	SPTBN2	AGGGCACTCGCCTTCTGCCTTCTGGTT
22026	MCC	CACCAATGAAACTTCGCTTTATCAGCACTCAC
22027	CBFB	AGTGCTAAGTCATTTGGCACCTCCTTA
22028	B4GALT7	CTGATTTTTTAAATGATAGCACC
22029	SLC25A19	GATACTGATGGACATTGTGTGGGCCA
22030	ORC1L	CAGGGTCTTGCTCTGTCGCCCA
22031	NOTCH2	ACTCTTCTGTGCACTAGCCATAGCTGG
22032	AKAP2	TTGTCTCTGAAGACAAATAATTAAA
22033	NAPB	TCTGCAGCTTGAGTCCTCTGGTTT
22034	ALS2	TTTGAATAACATAGGTGCTCTTCCTCA
22035	FAT2	CGAGAGGGAGATGTGTGGGCGAGAGC
22036	PODXL	GTCCAGGCTGGTATCTCAGGGC
22037	MS4A2	AACAGCAATAGTGAATGAATG
22038	DAAM2	AGATCTCCAACAGTGCCTTGGAC
22039	KERA	TGTTTCTGACATGAATGTGGTT
22040	GLUD1	TCATGGCTGACTTCCTCAC
22041	SFRP1	TCTCCTGATCCGTCCGAGGCTGCTT
22042	MFAP3	GATCTTCCAAAGTGAGCAGTTTAT
22043	MBD3	CGTCTGAGGGATCTGCTCCTTA
22044	TEM8	TGCACATCCTGTGGGA
22045	ALDOB	TGGCAGCTGCTGCCTCACCCACAGCT
22046	RP42	GGATATATATCCAGGCACTCTC
22047	NGFR	GCCCCAGGCAGGCTGTGCGCT

22048	GUSB	TCAGGGCGACTTCCACAGCAGCAGAAC
22049	CDC25B	CCCATCATTTTCCATATCCTGGTGCCC
22050	GARP	GCTCTGGGCACTGGGAATGCTGGG
22051	IGLL1	GGCCTGGAGCTGCAGGATCCCAG
22052	HPS4	GGCTCCACTCTGTTCTCTTGCCA
22053	GPC1	GAGTGGTCACTGGTCAGGGCAG
22054	TRAF5	CTGAAGGTGTATATACAAACTGAGATG
22055	ANK3	TCTATGTTCAGACATAGTACATTCATCACTGT
22056	MDM1	GATATGTATATTTTTGATCTTTGA
22057	PRX	GCGAGCGCCGGACCCAGGAGGCCCAAGG
22058	ASB3	TGGATAATCAGTGAAACTACTTA
22059	KDR	CTGAGACTGAATGCGGGAGGTTCA
22060	RARG	GGTTTGGACTCTAAAATCTCAGCACTG
22061	HADHB	CCTCTTAGGAAAACAGTTCTTG
22062	RUNX3	GCTTGTACAGTAAACTGTCTTCTGTAC
22063	CD4	TCCATCTCAGAGAATTTACGAGCAGG
22064	SSR2	TGCTGGCAACGTGAATTCTCTCA
22065	PPP1R2	CTGAATTTCTATACCTCTCTG
22066	ANK1	GTGCCTCCCCTCTGCCCAGCC
22067	MTMR3	CTGCCGAGCTGCCTGCTGT
22068	BPHL	CCTCTAGCTTCAGGCTGG
22069	TCFL4	AAGTCTAAATGTTAACCTCA
22070	MYO1D	TGTGTGCAGCCTCCTGTGCCTCA
22071	ZNF236	CTCTCTCTCGGGCCAGGGTGGAGCA
22072	RPS6KA5	TGCTCAAAAGTTCTGAATTCATACAGAA
22073	GNB1	AGTCACTGTTTTCTTTATTTCTTTAA
22074	HNRPA1	AATTCCTTCAGGGTGATGCCA
22075	COG6	GTGTACATTCTTATGCAATTTTA
22076	PCSK2	CTTTTCTCCCATATTGGCATGGATTT
22077	KCNE3	TAAGCCAAGATCACGCCACTG
22078	LPIN2	TTTGTGGGTCGCACACATGTT
22079	RAD1	CCATTGCACTCCAGCCTAGGCAATAAG
22080	FTSJ2	CTGAGGCTGGGGGATTGCTTGA
22081	RORA	TGCACATCTTTTGGTGATCGGGG
22082	GRM1	TTCAGAATTTAACATCCATTCC
22083	PWP2H	CTGAAATACTGTCACTAGTGGTA
22084	RECK	TTTTATTATGAAGAAGGTGAA
22085	CSPG4	GTGGAGGGTCCTGGGAGATAG
22086	CTSK	TTTCCAGCCGATCACTGGAGCT
22087	SSPN	GAGCAGAGTAGAAATGGAAGAGGC
22088	HR	GCATCAGGAGCTGCTCAGGCTTGG
22089	EXT2	CTATGCAACCTCTGTTCTTGTA
22090	CEP2	CCACCCGCCACCCGACTCTGGAGCT
22091	IL16	TGATGCTGGGATTTACACTTGAGGCT
22092	SLC17A4	GAAAGCCCCAAACAACAGAAAG
22093	POLR2E	GATGCCAGCTCTGGAGTTCTCG
22094	B3GALT2	ACCATTTAATTTCATGTAATA
22095	MAN2B1	TCCAAGCCCAAGCCTCCTGCTCC
22096	IL10	GAACCCAGGAGATGGAAGTTGC
22097	TXNRD2	GGCCTCGGCGGCACCTGCGTCA

22098	ALX4	CCCCTGGCCCCTCCCTGGCACTGAGGC
22099	EPHA8	CAGAGGGAGTGGCGAGCCCAGC
22100	PCDHA9	TTGAGCCTGGGACATTGAGGCTGCAGT
22101	SERPINE2	ACAAGGTTGCTGTTGTGCAGTGTGCC
22102	ITK	AGACAGCATTCTTGCACTTCT
22103	IL21R	CCCAGCACACGGAATGGATTTCTGAGA
22104	NDP	AGGGAAAGACTGGCAAGAAAAGAGTTA
22105	USF2	GGCCACGTCCCACCCCACCTCTTGTTT
22106	IL12RB1	GTTGGCAGACTGGAGTGCAATCATGG
22107	SLA2	CAGCCAGAGCATGCGTCTCAGCAGAGC
22108	DDEF2	TTTCTAGCCCTAATTTGTGA
22109	FTSJ2	CCTGGTGGCCCCACTGGGGCTG
22110	PPP1R12A	AGTTTGGGTTTGTATTTTTTCC
22111	ARHGEF6	GTCCTTCCCCTTCTTAACACA
22112	COG8	ATCTTACTTGGCATCAACTTGG
22113	NINJ1	CCCTCCTGGCACATGGGGGCTGGCCAC
22114	PDE1A	ACCTTAAAGACTTCTGTCATTTTA
22115	CYP8B1	TTCATTTCTGACCTCCAATTCC
22116	LPP	CAGTTTCATTATTCTCA
22117	E2F3	TGCTAAGGACTGCGGGAATGAGGGA
22118	ABCD1	CCTCCAGGGTGCCTCCACCTGCACAACC
22119	FSTL1	CCACAGCCTTCATTTCTAGGAGTGCT
22120	FCRH3	CTTTTGGTGAGACAGACTT
22121	AGL	TTGCTAGATCATAGTAGA
22122	PCDH11X	GACCAGTCTGGCCAACAT
22122	PCDH11Y	GACCAGTCTGGCCAACAT
22123	TNFRSF11A	CCTTCCAGGAAATGGGCTTTTCAGG
22124	ZNF16	CTTTGGCCATTGTCTCAGCCT
22125	CANX	TTTTCCTTACCTATTTCCT
22126	SGCG	TGGGAAGTAAACGCTTCCAGAGGAA
22127	PCOLN3	TGGGAGCCCCCAGGGAGGGGCT
22128	MAPK4	TGGGTTTTGTTTTTTCTTTAA
22129	KRT1	CTGTTTCCCAATGAAGTTTTCA
22130	KDR	CTCGGACTGCAGGGAGCCAGTCT
22131	GPR61	TCACCCCGGCTGGAGTCATGTG
22132	CTSS	CCAAAGTGCTAAGATTACAGGC
22133	AHR	CGCCCAAACTGGAGTGCAGTGG
22134	SLC9A1	CCCTGGAACCTTTCCCTTGTGTGTACC
22135	BPAG1	AATGTATGCCATAGCTTTCTTTGCTA
22136	PTPN23	TGCAGGCTCTGGGTCAGGTTCTGCTCC
22137	TRPV1	TGCCTTCTTCATCCTTCCTTACGA
22138	P2RY6	CGAGTCCTGGCCCTGCTGCTTGC
22139	SNX1	GCCATGAAAAGGTTATGTAATA
22140	SEDL	ACCACACCTGGCTAATTTTTGT
22141	EYA1	TTCTGAAGTTGTGTGTTGCTG
22142	FCRH1	CCTCACTGCAACGCCTGCCTC
22143	PACSIN3	CCATTCCGTGCTGCGGGGACA
22144	VCP	GGGAGGAAGCGAGAGGGAAGCCGCTTGG
22145	HTR2C	AGGACTGAAGAAAATCCTTCAG
22146	CTMP	AGGCCCTTACCTGGAAGGACCA

22147	TIMP3	CTGGAGTAGGAAAAAAGTTTAA
22148	F3	CGTCTCTCGGGTTCAAGCAATT
22149	IL12B	ATTGTGCCACTGCATACCAGCCT
22150	HMG20B	TTTGCCCATCCTGCTCTCCTCCAGCCG
22151	DNAJB1	GAGGGTGGGAGGGCCCAGGGAGGGCTTTCGTA
22152	GTF2F1	CTCTTCCGGTTACCTTTTCCCAGCGC
22153	THOP1	GGTGGAAGGAGGGAGGGAGCCGCAGGCG
22154	UNC5C	ACGGTTTGTTGTGTCTATTTCAGAT
22155	COL17A1	GGAGAAGAAAGAGAGAGGGGGATTTATTCA
22156	B3GAT1	TGCAAGTTGGAAGCACAA
22157	MLLT2	AAATGATTTGCACTTTTTCACTGCAT
22158	TRPM8	CCTGTATTGTTATTTTGTTC
22159	MDM4	TCTGTCTCCCAGGCTGAAGTGCAGT
22160	TNFAIP2	AGCCTCCTAAAGTGCTGGGATT
22161	UBE2L3	GTTGCCCAGTGTGGGAGTTGGT
22162	MMP19	CAGCCACCACTTTCCTGTGCATTTT
22163	PIAS1	CCTGCTGCTCCCATCCCCACCCCAG
22164	PLN	ACTAACAACAGAATCTAATCT
22165	ABCB9	GGCAGAGGACCCGGTGCCTGCC
22166	PIK3R1	GTCCAGCCTGGTTTAGCCTGGATGTTG
22167	CDH1	CCCAGCACCTTGCAGATTTTCTTA
22168	DPH2L1	GGGTCCTGCCTTCCA
22169	RSC1A1	AGTGGTAAAGAATCTACCTCA
22170	PDCL	CCTCTGCTGCTGGATTTCATGTC
22171	NBS1	CTTCCCTTGTAAACAGAAGCAA
22172	GRIK3	CCACAGAAAATTCTTCTCCACTT
22173	RNF4	CTGTCTTGGCTTTCTCATCC
22174	RGS3	ATGCCAGGCTGACGGGTCCAGTGCGGG
22175	HOXD1	GGAGAGGCCGCCCATTGGCCGGCCAG
22176	CLK2	CCATCCACACAGTTTCCA
22177	ED1	GGGAAGACCTGAAAGAGAGGACTGG
22178	PTPN6	AGGCCCCAGGCAGGGCCAAC
22179	PCDHA9	ATCAGCCATGTGAAGATTCG
22180	SURF4	TTCAGGACATGGGTTCTCTTCTC
22181	PIK3C2B	ATCTCTTCATATTCTTTATTCCCTA
22182	CLN2	GCTTATCTCCCTGAGGCTGTTTCCTCG
22183	VIL2	CTGGACCTGCCTGCTGC
22184	DCN	AGCAGCACCTACCCCCTCCTCC
22185	CD97	CGCTCCTGCCGGCAGCTCCA
22186	HUNK	CGGAGACCCAGGCGGGGCTGGGCCCAG
22187	RANBP2L1	CAACTGGCCACTGGGTGGT
22188	ABR	CTCCACCCGCCTCTTCCTTCCCAGCC
22189	SSTR1	GTCCTGAACTCCTGGCTTTCCAGG
22190	PKD1	GTGGTGGCGTTATGGCAGCCCGGCTGC
22191	ARHGEF7	TATCCTGTAGATGTGAAGCACTTT
22192	CUBN	AGACGGCAAGACTCCATCTC
22193	AOC3	GGGTGTGAGGGATGGGGAGCAGC
22194	CPNE3	TGGATGTCATACTTGACAATAC
22195	MXI1	AAAAAGCTCCATGTGCCT
22196	YWHAG	CAGCTTTGGCTCTGGCTGCTTTTTAGA

22197	SPAM1	GTAGGAAGAAATAAATGTTTTCA
22198	PLAG1	GTTTTTATACTTATGTATTTA
22199	ATP2A2	GTACAGTTTGCTTATTTATAAATTCATTAA
22200	ITCH	TGTTTGTCCTTCTCTGCCTGTT
22201	PPEF2	GCTGTTATTTTGGGCCTGATGT
22202	ICA1	CGGGAGGCTCCTGGGGCCGG
22203	RAD21	TTTTAGAAAGGTCATTAGTTTCTT
22204	HUS1	TTCAACAACACACAGTTGGATAAAC
22205	GAPD	AGGGGAGGGGCCTAGGGAGCCGC
22206	TAPBP	TCTGCCCTCCACCTCTACCACTCC
22207	TMPRSS3	ATTCCTGCCTTCCTCCCTTTTCCCA
22208	ACADVL	TACTCCCGGCCAGGGCCTGTCC
22209	IPP	CACTGCACACCGGCCTGGGTGA
22210	MYO15A	TTTGGGAAAAGCCTTCTTGGA
22211	G6PD	GCGATGGGGATGCGGGAGCAC
22212	FEZ1	TATACTCTTAAGACTAATTTTG
22213	VDR	TGGCTGGCTAACTGGAAGCAT
22214	SLC7A6	TCTGAAAACCTCACATCAGGCTGCA
22215	EYA1	AGGACAAGAGAATAGCTGTGGTTTGCGT
22216	ASMT	CCACCTTGCCAGCAGGCTCT
22217	PRKCABP	CCAGCCTGGCCGGGACCCGGCTGT
22218	ARHGDIB	AATATTTCCCTGTCTTACCCC
22219	SLC29A1	CCCATCATGCACCCTGTACAGTTGCCA
22220	ATP11B	AAGTGACTCAGCACCCTGCCTCA
22221	PDE6D	CTGTACCTGTCACCCTCCTTGTCTCCT
22222	IGSF4	GGACTCCTCCTTTTTCCATGCCCT
22223	SNRPN	CTGATTCCAAGCAAAAACCAGGCTCCA
22224	UBE3A	GTTACATATTCTTTCACTTGT
22225	GPM6A	GTATTTTCACAGAGTGCTTTGTAGCA
22226	GYG2	TCTCCACCAACGCCTTCTGGGCT
22227	MYB	AAAGGATCCAACAGATCAGTA
22228	ANXA9	CCTGGGAGAAGAGATGCTGG
22229	ABCA3	TCTGGGTGGAGAGCTGACCCAGGAA
22230	ITPKA	CCGCTCACCTGACATGTGGACC
22231	SEMA3F	CTTCTGCTGCCCAGGCCACA
22232	CASP2	GTCGCCCAGGCTGGAGGGCAGTG
22233	TAT	GTCGCCCATGCTGGAGTGCAGTG
22234	PRSS15	CAGAACTGAGCGCTGTGGG
22235	MCM7	TCCTTTTGCTAATAAA
22236	TIMP4	GGACAGTCTGGCCACTGTCAA
22237	CPD	ATGTAAACTATGACTGCTGAGTG
22238	IL2RB	CCCTGTTGAGGGTCCTCAGTCCACTGCT
22239	RBMY1A1	GAGGTAGATACTAACTTCCTCCA
22240	TSNAX	ACCAGCCTGACCAACGTGGCGA
22241	GGA1	CGCCTACACCCCCAGCTATTTGCACTC
22242	CDH18	GGAGCAAGAACAGAAACAGGGAGCCAG
22243	CUL3	AAAGTATTGTGAACATTATTCTCAGG
22244	RBP1	GATCCCTCTTTGCACAGCATGAGG
22245	JAK3	TTACCCAGGGTGGAGTGCAGTG
22246	XRCC1	CCTCGGACCCCATACTCTACCTC

22247	CEBPA	GGTTTCCTGCCTCCTTCCCGAGGC
22248	RGS16	ATCAGCTGTTTTGCCTGTTGCT
22249	MAFF	AAGCCCAGAAGGCAGAGGTTGT
22250	SLC1A3	CCTTTCTCTTCTGACTGGTATACC
22251	ITGA6	CCGTCTTTTCCTGTTTCCTAGCTGTGTGA
22252	RNF12	GAGTGAAGAAGATTATAGGCTTA
22253	CPM	GTGGGCGGATCACCTTGAGGTCA
22254	BLK	GAGGGCTGTAACAGTGACCTC
22255	SIL	GCTCTTGTAGCCCAGGCTGG
22256	TSSC4	GGGGTGTGGGCTGGAAGCAC
22257	CASP7	GCGACGGAGAGAGACTGTGCCAGT
22258	TRIM	ATGTGGTTTCTTTTGTACACA
22259	SNX6	CAGGGGTGTTGTGAGGATTAATAAA
22260	ITGB1	TCTAAGTATTTTATTCCCCCAAA
22261	DLG5	TTGCTTTGGGAGGTTCTTGTTGG
22262	MYO1E	CATAGGAACCAGGAGGACAAA
22263	DIAPH2	TGTGGCTGCCATCATTCCT
22264	DEFA6	CTCCTGCTCTCTCTCCTCC
22265	SLC22A1LS	TGGCATGGAGTCCCAACTGGG
22266	CD74	TTGTACAAGACAAACCAAGTCGGA
22267	ABCC5	ATTGCCATTCCCTGCCTGGGGC
22268	ATP11B	GAAGGCTGTAGGAAAAGGGAG
22269	CLASP1	CCAACAGCAACAGCAGCTCCTCCTCCG
22270	MAP3K12	GGGACACTGGCAGCTGTGGA
22271	SPOCK	CTGTTTCTCCTCCTTTACGCCC
22272	MX2	CACACAGTTACAGTGTCCTAAG
22273	WFDC1	GGGAGCAAGGCCCTGCAGCTCCACGAG
22274	CDC2L2	GCTCTGTCACCCAGGCTGGAGTGCAAT
22274	EDG8	GCTCTGTCACCCAGGCTGGAGTGCAAT
22274	VENTX2	GCTCTGTCACCCAGGCTGGAGTGCAAT
22275	CYP2B6	GCTCTGTCTCCCAGGCTGGAGTGCTAT
22276	TFB1M	GGGTGAGGTAGGGGTGG
22277	PRKY	TTGCTACCTCTCTTCTGCACACATATC
22278	MPV17	TCCCCACTCTTCATAGACACATTTG
22279	SDHC	TGCCAGCTCTGTGGCTTCTGCCCT
22280	ZNF217	GACAAGCATTTTCTCTGTAGAGCAGCC
22281	GAC1	TGGAGAAATGTGTCACCTCCCCCAACC
22282	IL10	TGCAGTGAGCTGATATCATGCCC
22283	NYX	GTTTCCTCTCCATCCATTTCCTTGCTG
22284	NFKBIL2	TCCCCACCCTCACCGAAGCC
22285	CSPG3	TCACCTTGCCTTCCTCCCCCA
22286	MLLT2	AGTCACTGTTGACTCTATTCT
22287	POLK	GCCACTGTACTCCAGCCTGAAGAGCG
22288	RRM2B	TACATACTTTGTTTTACAACTGTGTT
22289	LZTS1	GGGAGGCGGTGGTAGAGAGAG
22290	MTMR3	CTCTTCCTCAGCCAGCACA
22291	ZNF253	GTCACCGAGGCTGGAGTGCAATGACAT
22292	SOS2	TCTTTAGCTAATGAATTGCC
22293	NCAM2	TTTAACATTTTAATGTGCCA
22294	WSX1	TGGCTGGGGGCTGCCAGCCAGGCTAG

22295	LHX3	TGGGGCCAGGGCGTCAAGGGAGG
22296	DGKA	AGCCTTGAACCCACCTCC
22297	CRHR1	CTGACCTGCCCATGTCCAGAGGGA
22298	GNMT	ACCAGCAGCCCCACACCAGGGCCAGCCT
22299	CALML3	CAGGCCTGCAGCCCCACTG
22300	TPK1	TTCAGTACTGATTATTCTTCTT
22301	SLIT2	TTCCATATTATTTTGTGCACAT
22302	PCSK2	AGCCCTAGTTACTGCATGGGGAA
22303	CBFA2T2	TGTGATCACAGCTCACTGCAGCCT
22304	MHC2TA	TATGATCACGGCTCACTGCAGCCT
22305	CBFA2T1	CCAAAATTTTTCAACCCCACCC
22306	DMD	TTGAACAAAAATTGAGAGCTTTA
22307	MYH11	CATCATTGCACTCCAGCCTGGG
22308	TEM7	ATGGCCAGGTGCAGTG
22309	TAGLN2	GCTGCAGGAACTTAATTTA
22310	PKNOX1	GCCCAGGCTGGAGGGCAATGGT
22311	SMARCD2	CTGGAGCCTGGAGGGAGACCA
22312	NEURL	GGCTGCTGCTTCCCTTGTGCACT
22313	APOL1	CCAAGTAGCTGGGACTACAGGC
22313	PCDHB11	CCAAGTAGCTGGGACTACAGGC
22313	PIGR	CCAAGTAGCTGGGACTACAGGC
22313	SEDL	CCAAGTAGCTGGGACTACAGGC
22313	UGDH	CCAAGTAGCTGGGACTACAGGC
22314	SERPINB9	CCAAGTAGCTGAGACTACAAGC
22315	WNT5A	CCACATCAGCCAACTGTGGCTC
22316	AXL	TGGCTGTAAGGCTCTAGATCATAAGGC
22317	HS3ST3B1	TCTTTAGAGAGTTAGCTTCATA
22318	PACSIN1	TCTTAGCACTCTAGCTGCCCACTCCA
22319	MFAP3	TTCTCCAAATCTAAACAAGATT
22320	TRPV1	CTGCCTGGGCCCTGCTAGGCCTGC
22321	CCR3	CTATATGCCGCTACAAAAAGG
22322	PPP2R5B	CCCCTGCCTTGGCCAATGCG
22323	HOXA11	TCAAGCCACATGGTGACTTTTG
22324	GPR81	AACCTTGCCAACTTCTGG
22325	HTR1E	AGTAGCTGGGATTGCAGGCACTCACC
22326	PPARBP	GGGGTGAGTCAGACAGGTCTGATTTGG
22327	NFE2L1	CCTGCCCGGCTCTGGAGTACCGT
22328	GJB3	TCTTCCTCCCCACAACTGTGCTCAGGC
22329	SLC6A12	TAATTGGAACGCACACTGCCGTCCAA
22330	IDH3B	ATACCCTTCAGTGCAGTGTACCAGGG
22331	CD86	TTCCTGGGCAACCTTTTTGATTTCTT
22332	REN	GCAGGGCTGGCCAGGGGGAAGAG
22333	LY64	AAATGTAGCCATTTGAGAAACTTACT
22334	FGFR2	CCCACCGCAGGCTGAAGGCATT
22335	ITPA	GACCCCTGGCCGGAAACTGAGC
22336	SLC7A8	CCATAGCAGGTGGAAACCAGATCTAGAGCA
22337	PHKG2	GCTCCTCTGCCTGCCCCCTCA
22338	CYP1A2	GGCCTGTAATCCCAGCATTTTG
22339	DMD	TAATATTCATACAACAAAGAGG
22340	HADHSC	CTACCTGCAGCTTTGAGTCTTG

22341	RGS3	GGAAAGGGGAAATGCGGCCCGC
22342	ANXA6	TGTGGTGGTGAGGACTAGGCC
22343	PLOD2	ATGCTTTGTTGCCTCTGAGAA
22344	SCAMP2	AAGCTCTCTTTCCTTCTCT
22345	ANKTM1	CCATCATCCTGATTAGCATGTT
22346	SPON2	AGCCTCCTCCTTTCCCAACCTTGCTT
22347	XRCC1	CCTCCCACTCTCCCTGCCCCTCGG
22348	PAH	TCCAATTGCAGAGAACTCGCT
22349	CLECSF5	AAAGGCTGAGTCTAGGTGGAGA
22350	FCGRT	GCATTGTTGTCAGTCTGGACC
22351	GPRK7	CAGGCAGCAGGAGTCTCGGCTGA
22352	SYN3	GCCATCCAGGCTGGGAGGGGAAGAGTGCTCT
22353	CORO1C	CCCTGCCTCTCCATCTCTCACCAAGG
22354	GPR81	GTTGTTCCTCTGTTATCATGCCT
22355	F8A	CCTAACGCAGCCTCCTGCCTCC
22356	EYA2	GTGGAGCGAGAGAAAGGCCAGCGT
22357	CTMP	TATGTTACCTGCTCCACTGCAGACTAGAGA
22358	ATP1B1	TAAACCAAAGTCACTTGTTTGAA
22359	AP2B1	CTGTCTCTTGTCGTTTTCCCC
22360	RNF3	CAGTGCAGCCACCCAGCCTTTA
22361	SLC1A1	TTTATTCTTCCAAGTTCATTCATA
22362	CR1	GTCTCCCAGGCTGGAGTGCAGTG
22362	XRCC2	GTCTCCCAGGCTGGAGTGCAGTG
22363	AVPR1A	TGAAAACTGAGATGCTGAA
22364	SHC1	TGCCAACACCTTCTTGGCTTCTGGGA
22365	FMR1	CCTAACTTGCTTAAAGTGTAATTA
22366	POMZP3	ACTGCCTCCCACCCTGTGTCTGCTTCC
22367	NIPSNAP1	CCTGCCTGCCTCCCTCCCCCTGCTAGA
22368	RAI14	TAAATTGTTGACATACTGCAAA
22369	CXADR	CTTAGCAAGCTCTTTTATATGCTAAA
22370	GABRE	TGGAGAGAAGCCCACTGTGGTCACTGT
22371	DCX	CTCTGCTTGACCGATGACCAATAA
22372	ACE	GGAGGCTGCAGTGAGCCAAGATCGCAC
22373	SMT3H1	ACCATGCCGACCACAAAGGTGTC
22374	CMAR	AGGCTGGAGTGCAGTGCTGCGATC
22375	TGFBR2	GCCTCCAGGCCCCTCCTGGCTGG
22376	MTRR	TCTGGGCATATGGATTTATCTAT
22377	MTCP1	TTAATGGTCAGGGGAGTACAG
22378	USP18	TGTTTTCAAACTATATAACTGACCTTA
22379	CIAS1	TGTCGCCTAGGCTGGAGTGCAG
22380	BRCA1	CCTTGCAGGAAACCAGTCTCAGTGTC
22381	RFC1	TACCAGTGTGAAAAATGTCATT
22382	CRTAP	CTTGCCCAGGCTGGAGTGCAATG
22383	FLG	GAGGAAGACAAGGATCCCGCCACGAGC
22384	PTPN2	CTTTGCAGAACCTTTAATTGGA
22385	NOTCH3	GCTGGTGGGAAATGGGAGCC
22386	FYN	CCTCCTCTGTGAAGCATTC
22387	SKI	CCGCGGCTGCGTGAGGACAGCAGGG
22388	UBL1	AGGTTGAAGTCAAGATGACAGA
22389	ADORA2B	GGCTCACACCTGTAATTCCAGCACTT

22390	MGA	TTGTTGGTTTTGTGCTGCT
22391	SHOX	GCCCAGGCTGGAGCGCAGTCCCGC
22392	MYO1B	TCTATGCTAGGCACTGTGCTAG
22393	PPP2R1B	GTCTTGTTTCTCTCTCTGTGCTACC
22394	GALR1	GTTTCAGAAACAAAAGACAATGCTG
22395	KRT1	CTTCCCTTACTCTACCT
22396	IL11	TTGCCTAGGCTGGAGTGCAGTG
22397	SOX11	TTCATTCTATTTGATTTATTCTA
22398	SYT1	AGCTAAAATAATGGCTTCACT
22399	CDC6	CCTAAGTGCTGGGATTATAGG
22400	SEPN1	CCACCACCCTCTCCTTGCTTTCAGCC
22401	PXN	TCCTCAAGCTCTTCTGCTAG
22402	GALC	AACCTGTTATGCTTT
22403	CUBN	TGATGCCACAGAGAATAAGCTGAACTTG
22404	EMP1	TCTGGGTCATGCACTGAGGTC
22405	PXR1	ATCTCTCTGCTCATCATGCC
22406	FACL4	GCTTAGAAACTGGAAATACT
22407	PTGIS	TTTCTTCATCCCTTGCTTAAG
22408	PPP3CB	GGCTTTCTATCATTTTTATGTTTT
22409	RFC1	AGCTCACTGTATTCCTTACTAACCT
22410	HRB	CCTCTTGCACTGTTGTCTTG
22411	IL2RA	CCTTTCTCAGCCGCTTCTGACTGCT
22412	CRYBB1	TTCTTCATGTTCAATTATTTC
22413	PROK1	TCCCCAGGCTGGCCTGAGGATG
22414	GNS	TCACACAGCCTCTGCAGAT
22415	IL1RAP	GTCAATGAAAGTTGTTTTGT
22416	CSRP1	TAGGAGACCTCAGTGTTTTGGGTCTA
22417	GGT1	CATCCAGGCTGGACAGTTCAGTG
22417	GGT2	CATCCAGGCTGGACAGTTCAGTG
22418	SLA	GTTTCCCTGTTTCAAAGGGA
22419	ABCC3	CTCTTCACTGTGGTCATCCTGC
22420	GLO1	TTCAGAGGCTGCATTTGCCTTCTTC
22421	AP1M1	GCGCCCGGCCTTGCTCAACGCCCAG
22422	NUP62	CACTGCACTCCAGCCTAGGCAACAGAG
22423	APOL1	GCATCCACTCTCCCTTGTCCTCCTGGG
22424	ACADSB	TGTCACCCAGGCTAGAGTGCAG
22425	ADCY6	TGTCACCCAGGCTGGAGTGCAA
22425	CDC2L2	TGTCACCCAGGCTGGAGTGCAA
22425	EDG8	TGTCACCCAGGCTGGAGTGCAA
22425	RAB36	TGTCACCCAGGCTGGAGTGCAA
22425	VENTX2	TGTCACCCAGGCTGGAGTGCAA
22426	CYP2B6	TGTCTCCCAGGCTGGAGTGCTA
22427	HTR2C	CACACAACTGTGGATAAATTTT
22428	HADHA	TTTGCCCAGGCTTCTCACCACGGTGTA
22429	KCNN2	TTGCCATCATATGGTCAATATT
22430	SCRT1	CCTTCGCGGAACTCCCGGCAGTGTTA
22431	SLC21A3	GATTGCTGAGCTCAAGGGT
22432	PPP4C	TAGCTCCATGTTCCTCCTCCTCTCTC
22433	DHFR	TGGAAAGAACAACTGGCAGG
22434	SCA1	AAATGTACACCTGATTTGAGAAGCT

22435	TCTE1L	TTCAGATAATAAAATTCTCTTTCA
22436	SEL1L	GGGGCAATGCCTGCCTGTTCACCAC
22437	ARHGEF12	ACTTCACTGCCGCAGCTCTTT
22438	APBA1	GTGCCTAAAACCCAGTTGCTGATCCCTG
22439	AMN	AAAGGCCGTGCCTGGTGGGGC
22440	RAC2	CGCGCCTGGCCCTGAGCTGT
22441	SCNN1B	GGTGGTGGAGAGATGGAAGGGCAT
22442	NRF1	ATGCCCTTCACCAAAGCTGCCTC
22443	WASF3	CCCTGCAGCTGTAGTACAGTGCTGTG
22444	IFNGR2	CGCGGGGCTCCAGTCTCCAGGACGTT
22445	CACNA2D2	CTGGGAGGAGGGGGAGGGTG
22446	HOXD9	AGAAATGCTATATTTTGTG
22447	HOXA11	CCAAAACACCGGGTTCCAGCACC
22448	FUT8	TTCAAACCATTTCAGCCAAACTGTAG
22449	CLECSF12	GCTGGTCTCTAACTCCTGGGC
22450	FBXL7	CTTCCTGGCTCTGCTAAATT
22451	PHEMX	CTGTAGGACTGAGGTTCCCAAG
22452	TAL1	TCTGCTCCTTTCCCCTTCCTT
22453	PTGFRN	GAGGAAGAGGACGAGGCCTTGTTGGCA
22454	RCE1	GAGTGAGGGGACAAGGGGCAGGT
22455	ABCF1	ACTGCCTCTGGCCTGCAGCTGAC
22456	CMRF35	TTCTCCAGGAGCCTGGCACT
22457	HEPH	GGAGTAGTTTTCTCTAGCAAAGA
22458	MYO1E	CCCTATAGGAAACTTACT
22459	SNK	GAGCATTTCAGCCAGAGGACTTTGGA
22460	GGA1	GGGGAGAGGAAGGGGCAGAGGGA
22461	RPL10	CCTATCTCTAGCAACCTCCTGGGCC
22462	FUT1	AGGGTCTGGGATCTGTTTTCTGGA
22463	KLK10	TGCCCTCTCTGAACCTCAGTT
22464	IL15	TCTCATTGACTTCCTTACTAAGCATA
22465	CARKL	CTGGAAGGCAGGTTGCGAGAAGGAGA
22466	YES1	GCTGTCATTATTTCCTCTTATCA
22467	MYD88	TTCAGCCAGGCTGGAGCAA
22468	FBXL7	CACCCCCTCCCACTGGAGTGCGGGG
22469	PPP1R8	ATGGGTGGAGAGGATGATGAA
22470	ADCY7	GCTAAGTGCGGGGGTGGCGGTG
22471	GALT	CATTGCATTCCAGCCTGGGCAACAGAG
22472	IRS2	ATGTTACCTAAAACTGCTGAAC
22473	HDAC4	ACGCCTCTGTTCAACTTGTG
22474	FZD4	CCCAAAGTGCTGGGATTACAAGTGTGA
22475	THOP1	GGCACAGTGCCTGGGACTGGCAGGGTG
22476	CACNG3	AAAGGAGACCTGAATTTTTGGA
22477	CBFA2T1	CCCACATTTAGTCTCTTTATTCCTAG
22478	IL16	TGTTGCCCAGGCTGGAGTTCAGCGG
22479	ERBB4	GAACTCCATTTTGGATTTTGA
22480	NT5E	TACTCATACTACACA
22481	TM4SF4	AGGCAGTGAGGAGCTTTTGATT
22482	VCL	GACACTTCCTGCCTAAGGGAG
22483	WASF3	TTGAACAAACAGGTGCTCCA
22484	LAMC1	GCTCCCGGGGTAGGTGAGGGAA

22485	WASF3	TCTGAGTGAATCTGATGCTCTGCT
22486	PAX2	CTGTCCCAGAAGATGGAATGGGGG
22487	RFP	GGCTGTAATCCTACGCCAGGCACAAGG
22488	TRPM2	GGCGGTGGAGACTTCCCTGTGCGGTG
22489	A1BG	TGGGACTACAGGCATGAGCCAC
22490	APM1	TGGGATTACAGGCATGAGCCAT
22491	XPR1	TTTCAGCTTAATTATAAACAAAGGAACA
22492	SRP46	GCAGATAAATAATGGAGCATGCAGTGA
22493	PTPRO	CTCCTAAAACCAAAAACAACAGTGA
22494	RABGGTA	GGTGCTCACCTCTTGTGGAAC
22495	LIG3	TTGGCTTTCAAGATCTTCTTTC
22496	MEFV	TGGGATAGAAGTATTTGTGTACCTGGA
22497	RGS2	CAGCTTCCCTCACTGTGTACAGAACG
22498	SURF5	GTGGATTTAAAATACTCCTTT
22499	ATRN	TATTTTTTGTATTGTAAAATAACA
22500	IDH3A	TATCCCAAAGCACCAATTACTGC
22501	LMNA	GCCGGGCCCCTGGGCTTGGCCTGCTGT
22502	FLI1	TTTGTATTTGTTCTTTAAAAACATTTT
22503	DACH	ACTATACATTTTATGATTTTTC
22504	IMMP2L	TTCAGATTATTTGTTACATATA
22505	CDC25B	AAGGACTGAGCACCCTCTGGA
22506	GJB3	GGGACTCATAACTGCAACTTCACAG
22507	TFDP2	GGGAGCTGTGTAGTGAGGGAT
22508	NCOA6	AGCAGTCCACAAAGTGCTGGGATT
22509	SPAG8	GGGGCAGAGCGGGGCAGGAAAGGT
22510	GYG2	TGTAGGTGGCTTGGGGA
22511	PEX10	GCCAGTGCAGTGAGAACAGCAGCCCCA
22512	SEL1L	CTCCTGAATGCCTGAGGCACGATCTGGA
22513	STIM1	GGGTATACCTGGGGCTGGTC
22514	AOC2	TAGAATCTGATTTCACCTCTC
22515	SNAP23	GCTGCTCTGCCTTCCTTCTA
22516	SIM2	TTCAATTTTCTTCACACTATCAAC
22517	PDGFRA	TTTCACCCCTTACCCCAAAGAG
22518	MMP19	AACTCCATTTCCTGTCTGTCTTA
22519	NFE2L2	TCTTAGGACACCATTTGGGCTAGT
22520	KCNA7	TGGGAGGCGGAGCTTGCAGTGA
22521	KCNK3	GGAGGCTGAGGTGGGAGGATTGTTTGA
22522	GP1BA	TTATCAGGATGTGAGCACTCG
22523	ADAT1	GGAGGCTGAGGCAGGAGAATTGCTTGA
22523	ATP1A2	GGAGGCTGAGGCAGGAGAATTGCTTGA
22523	CTMP	GGAGGCTGAGGCAGGAGAATTGCTTGA
22523	DAPP1	GGAGGCTGAGGCAGGAGAATTGCTTGA
22523	DBT	GGAGGCTGAGGCAGGAGAATTGCTTGA
22523	DMC1	GGAGGCTGAGGCAGGAGAATTGCTTGA
22523	IL17R	GGAGGCTGAGGCAGGAGAATTGCTTGA
22523	LRRC2	GGAGGCTGAGGCAGGAGAATTGCTTGA
22523	NT5C2	GGAGGCTGAGGCAGGAGAATTGCTTGA
22523	OPA3	GGAGGCTGAGGCAGGAGAATTGCTTGA
22523	PPP2R1B	GGAGGCTGAGGCAGGAGAATTGCTTGA
22523	RPN1	GGAGGCTGAGGCAGGAGAATTGCTTGA

22524	TAF7L	TGTTATTCACCAACTAAGGGAA
22525	IL21R	GACAAGGTCACCTGGGCTGTGATG
22526	INPP5B	AGGCTGAGGCGGGCGGATCATG
22527	MFGE8	TTGCCTCTCTTGCCCCTTGTC
22528	SLC17A5	ACCAGCCTGGCCAGCATGGTGA
22529	CMAR	TTGCCAAGGCTGGAGTGCAGGC
22530	LILRA3	TCCATCCACAGAGCAGTGCAGTG
22531	SLC7A6	ATGCAGCTCTTACAGATATT
22532	RAB5A	AGTTTGAACTAGCTGGAATAGT
22533	MAP3K7IP2	CAGCAGCAGTACCTACAGCCCT
22534	PRDM1	TCCAGTGTTGCGGAGAGGCAAGAGCA
22535	RAP2A	CAGTTTTCACCATTTGTCCTCA
22536	ARHGEF1	CCAGCCTGGCTGCACTTGGGTTCCCG
22537	SAS	CTCTCTAAGCTTTCTCTTCCTCCCTTA
22538	PTPN1	TGGGTATTTAATAAGAAACATGATGT
22539	FGB	CAAGCAGACGTGAGTGTGACTTT
22540	GPRK7	AGGAGGCGGAGGTTGTAGTGA
22541	CDH17	CTAAGTAGCTGGGTTTACAGGC
22542	HBA1	CTCTTCTGGTCCCCACAGACTCA
22542	HBA2	CTCTTCTGGTCCCCACAGACTCA
22543	SRGAP2	TGGAGTCCCTTGGAGTGCCTT
22544	PPP2R2C	CAGCTGCAGAGGTGGCAGTG
22545	PF4V1	ATCTAACTGTGAAAGAATCTT
22546	KRT9	TCTTCTTCCTCAAAATCTGGTG
22547	ADCY1	GGGCGGCCAGTGCAGTGATGCCTGGCG
22548	SUOX	ATTCCCTTAGGCCT
22549	SH3BP2	GAGGGCCTCAGTTTCAAGAGTGTGTTGGG
22550	ZNF253	AACCCTATGAATGTGATG
22551	NOLA1	TCTAATGTTTTGTACAGTGCCT
22552	FUT6	GCCCAGCCTCTGCAACAGCTCTGCCT
22553	GCNT2	ACATGTACTGAGACAAAAAGG
22554	TAF1	CTTTGGGCCTCCTTGGTCAGCCTTCCC
22555	PUM2	CAGTTTGTCTAAGTCCTGGCT
22556	ATRN	ACCATAAAACACTATCTGATGC
22557	GAD2	CACTCGCTGGCGACCTGCTCCA
22558	BZRP	GCAGTGTCCTGTGCTTTCTGCATGCTT
22559	HOXB9	AAAGTCACCCAGGGACACTCCA
22560	SCRT1	CCTACCCTCGCCTCGCATCCTCTG
22561	GDF5	TACTGCTGCTGCCGCTGCTTTT
22562	GPC1	CGCTCCTCCCAGATGGCTTCGGA
22563	TEP1	GGGAGGGAGAATAAGTCAGTCATGC
22564	PTH	GTGCCAATATTTCTGATATAAC
22565	GALGT	GGGTGAGGGCTGGTGGTTGGTGAA
22566	AHR	TGCCGCCCAAACTGGAGTGCAG
22567	FASN	CTCCAGCCTCGCTCTCCGCCGC
22568	GC	GGATACTTTCTACTTTTTCTA
22569	RAD52	AGGTTGGAGCAAGGCTTTTCACT
22570	DCN	TGCAAGGGTTCCCTGGTTGTGA
22571	ADRA1A	CCACATTTGACATTTATGCCG
22572	IL22RA2	TCAACAACAAGGAAGTCTGCTCTG

22573	LAMC2	AATTGAAGAGAGAAATGACAGG
22574	KRTHA4	TACTACTGCATTTCCTGTTTTC
22575	OAS3	ATATCCAAGAGCTCAGGGCCAGTT
22576	SLC6A3	GAGAGACACGAACAAACCAAGGAA
22577	ADAM19	GTAGGGAGGGGAGAGTATGAGGAGG
22578	ALDH3A1	TGCAGCCCCAGCCCAGC
22579	MYO9A	TCCTGCCTCTTTTCTAAGCATA
22580	GOSR2	GAAATGTTTGCCTGTCTGAA
22581	CBR1	TACAATGTCATAAATATCCTTATATA
22582	AIM1	ACAATCACGGCTCACTGCAGCC
22583	CDH1	GCAATCACAGCTCACTGCAGCC
22584	IGFBP5	TCTCCACTGCATCCGATCTCA
22585	PHEMX	AGGAGGCGGCGAGAGAGGACTGCCT
22586	GALGT	AGGGGGTTCAAGGGTCAT
22587	ATP1B1	GCTGTCTTGACATCTCTTGCCT
22588	DHCR7	ACCCAGTCACCTTTACTAGTCCTT
22589	CLOCK	CCTCCAGGGAATCAGAAAGGCACTAA
22590	PPP1R12A	GAACACTTGCTCTTCTGTGAT
22591	LAMP1	AGGGAAAATCCTAAGACAGAGGAA
22592	GTF2F1	ATTGTCCTCCTCCTCCTGGCTCGGC
22593	PRKY	GGGGTGAGTGCATTGAAGAAGTAGGTT
22594	ACRV1	AAACATCCTATCTTTCTTCTTC
22595	ANK3	TTCGTGGAAGAAATGTCAGCAGGAAG
22596	SMT3H1	TTTTCCTCTCTTTGATGTACTT
22597	TRPV1	AGGCTGGAATGCAGTGGCACAA
22598	KIF3C	CCTGCAGCTGGGTGCTGCC
22599	ZIC3	GATGCATGTCTGTCTGTTCTATCTAG
22600	RBBP5	TCATACCACGTTTTGCTCAA
22601	TCOF1	CCTCGGGACTTCCCACCACCTT
22602	SLC14A2	TGTAATCCCAGTAATCCCCA
22603	VHL	ATGCCTGGCTAATTTTGTGTTTTTA
22604	POLD2	CAGAGAGGCCCAGATGGAGGC
22605	PRKR	GGTCTCAAACTCCTGACCTCAAGTAAT
22606	CYP1A2	AGTCTCAAACTCCTGACCTCAAGTGAT
22607	CXCL13	AAAACAATGGAATGAGAATTTAAGCC
22608	KCNS2	CTCAAATAATTGAACTACCTG
22609	LHCGR	GTCTCAGTGCATTTTGTTTTCC
22610	DPYSL2	TCTGTTAAATGAATGTCATA
22611	ELK3	GGCTCGGCCTGACTGCTCCA
22612	MCC	TTCTCTCTCAGTTCTACACTGATACAC
22613	F12	ACGGACGCCATGAGGGCTCTGCTG
22614	GDF2	GGAGGAGGAAAGGGAGCCTGCTCTC
22615	CLCA3	CTATTTGAGTTATTAAATGTTAATC
22616	BMP4	GGTTCACTGCAACCGTTCAGAGGTCCC
22617	NRXN1	TGGGAAATTTTCATGCACGCTTA
22618	DISC1	TGCTTCTTTGGCCCAGCTGGGAC
22619	RXRA	GCACAGCCTGTCACTGCTCTGCCT
22620	MAGEA2	TCAACCCACGGAAGCTCCGGGAAT
22621	ALDH6A1	TGGCTCACGCCTGTAATTCCATCATTT
22622	EPHB2	GCCATGGGGACGCCCTCAGTCTA

22623	EMP2	CGCAGCCGCCAGCGCCGGCACATCCCG
22624	IAPP	TTCATTGTGTGTTAGCAGCAGTG
22625	CASP2	GCACCTTGCTGCAGTGTCCAGAAGCGG
22626	LRRC2	CAGGTTGTTTGAGCCCAGGAATTTGAGAACAG
22627	ATP8B2	TGGGTTCAAGCGATTCTCCTGCCTCAG
22627	NDRG3	TGGGTTCAAGCGATTCTCCTGCCTCAG
22627	PRKWNK3	TGGGTTCAAGCGATTCTCCTGCCTCAG
22627	RP2	TGGGTTCAAGCGATTCTCCTGCCTCAG
22627	ZNF264	TGGGTTCAAGCGATTCTCCTGCCTCAG
22628	ADAM28	TCTTTCCTAGATTAGCTTCTGAAATC
22629	RAB23	CTTTTACCAAAATGATTTAATA
22630	SAS	CTCCACTGACTTCCTAGGCCC
22631	PX19	GGCATCTGCAGTACACCAAGCAC
22632	TCF2	CCAGTTTCCCTTCTATGCAGTATTG
22633	ADRBK1	CCTCGCCTGGCCTGAGGTCTCGCTGATG
22634	IL1RAPL2	GTCACTGAGAGACAGAGGCAGCATCTG
22635	PDCL	AACATTAGAGCTGGAGTGGGGCTGG
22636	TAPBP	ATCACACACAGGGCTATTCCTTTCC
22637	SCN3A	CTTTGTTACTTAAATGCATTATA
22638	ID1	TGCTTCGGGCTTCCACCTCA
22639	KIF1B	ACAAAAACACAAAAACTCTGAG
22640	DHCR24	CCCTGCAGGCCTCATCTTTCCCAAAAC
22641	TNFSF9	AGCCTCCCAAGCAACTGGGATT
22642	MID2	CTCCGTGGTTCTTAATGCCTCAG
22643	MPP2	CAGGTACCTAGCAGAGGCTGTCAGTCCTTGG
22644	CLDN5	CGGCAGGCCCGAGCCCAGGG
22645	CACNA2D2	AGTGGGATGGGACAGGGAGGC
22646	HPGD	CCAGCTTGAAGCCAAATCTTTCCA
22647	MASP1	CTGCCTGGGTCTTAGCATTGATCAG
22648	PDZK1	GGCTCACAGCAACCTCTCTGCCT
22649	VIPR2	CAGGCTGGAGTGCAGTGGCCTGATCTC
22650	GLS	GGCTCCTGCCACTGCCCTCCCATTAC
22651	N33	CCGGATGCTCTGTCAGTCTCCTCCTCT
22652	DUT	AACAAATTCTTTCACAAGGT
22653	KCNJ16	TCTGGAAAATCTTTCTTTCTCTTCTC
22654	EVC	CCAGCCCCTCACACCACAGCCAGG
22655	DFFA	GCCTGTAATCCCAGCACTGGG
22656	SRGAP1	CCTGTAATCCCAACATTTTGG
22656	TNFSF10	CCTGTAATCCCAACATTTTGG
22657	GNAZ	GCTCTTTTTAAAAAACAGCTTCAA
22658	MRPL49	GTTGCCCAGGGTGGAGTGCAGT
22659	TP53	GTTGCCCAGGCTGGAGTGGAGT
22660	CAPNS1	GGCACACCCTTCACGGTTGC
22661	COCH	ATATATTTGGCTTATATTCTA
22662	NPAT	GAACTAAATATCATATAGTTA
22663	VNN1	ACTGTATTTGGAGACAGGGTC
22664	JRK	TGTTCGCTGGCTGATCATTGCAGTATCAGA
22665	APOL1	CCTGCTTGAACACTGAAGGGCAG
22666	NCOA6	GTGGCCTTCAAAGGAAA
22667	RPP30	TGCTCACTGCAAGCTCCGCCTC

22667	SERPINB9	TGCTCACTGCAAGCTCCGCCTC
22668	SLC15A1	GTTTCCTATTCCATACTGTTCATTTCTAA
22669	CPT1B	CACCTCATTACACCGAAGCCTGGG
22670	SLC1A5	AGGTGCTGTTACTCAACTCAGT
22671	PPAT	CATGGCAGCATGGAGGAGGCAA
22672	DUSP2	CCCTCATTCGGGGTCGGGAACCA
22673	NT5E	CTTCTGCTGGAAAGTGGGACCCTCT
22674	NRCAM	TACCTACTCTTGGCTCCTGT
22675	OCLN	CTCATTTAATCCTCTCAACCACCTTTCA
22676	AKAP1	CGGGGCCTGGTGGCGAGCCCA
22677	TRIM39	CTGGCCAAGGTGTCCAAGCCA
22678	CRYZ	TTATTGTATAGCTAGCAATA
22679	SYNGR1	GGCTCCAGGAGCCCACAGGCTGG
22680	WARS	GGGCCTGGCCTCTGTAAGCCTGTGTAT
22681	FGFR1	CTGAGGCAAGCTAACTGCTTGA
22682	ZNF124	TTGTCATTTTTTGCAGAAGTCATAT
22683	GNE	ACCGCCCTGGCTAACATGGTGA
22684	LNK	TCAAGTAGCTGGGATTACAAGC
22685	MSF	CTGCCCGGCGCCTGCCCTGC
22686	AKAP13	CGTGTTTTCATCTTTGTTCACTTG
22687	RBM8A	CAAACTCTTGGGCTCAAGCCAT
22688	GRIN2A	ACTCGTTCCGTTTCCAAACAGCCA
22689	KMO	GACTAAAAATCACAACTTAACTAGCA
22690	ELK4	GATTTTTCACACACCTCA
22691	ELK1	ACCCCTTCTGGGGTCACTCC
22692	COL9A2	AACATCTTAATCTGCACCTTT
22693	RP2	TGTTGCCCAAGCTGGAGTGCAA
22694	PTGIS	TATTGCCCAGGCTGGAGTGCAA
22695	KRT2A	AGCCTGTCTCTGTACCTCTAACT
22696	RFX5	ATTGATACCCTGGGCCTTTAGTGT
22697	PHKA2	CTGCATCTTCTGGAATCTAGA
22698	BDKRB2	TGAGACTCTCTTAGGAGCAGAGCTCTGCCGCA
22699	MAPK10	TCCTCACCCCTCAATTCCTAGGGGCTT
22700	MMP25	TCAGAATCACTGGGAAATTTAAGT
22701	SLC22A7	ACTGTCCTGGCAGTGATGGGGA
22702	TAL1	CTGCTCCTTTCCCCTTCCTTTTAAGTAA
22703	SMAC	TTGGCATGACTGTCTGTGCACCGAGAAG
22704	KCNK7	CTAGGGCAGGATGAACTGGCTCTGAGCACCCT
22705	RIG	TACATATACAACTATGG
22706	HIP1	CACTTCCCAGGATCTGCTCCA
22707	BRF2	GGTGTGGGAGAGCAAGTTGC
22708	DFFB	GTTTCAGGCTTTTATGAGGAAAG
22709	KRTHA5	GGCTTGAACTTGGCCTCTACCC
22710	EIF4E	CTGAGTATTCTCATAGGAGACTGCGTC
22711	CDH6	GAATGAGGCTGGATACGGTGCAGTG
22712	MTMR7	GAAAGAGATTGCCACGACGTGT
22713	DDX11	AAGACACCTTCTACCCCA
22714	CARS	GAAGCTCTTCGAGGCTCAGGAGA
22715	MTCP1	TAATGGTCAGGGGAGTACAG
22716	GNAI1	GCAGCAACACAGAATGTAATA

22717	MXI1	CTTTAAAACAAAACAAAACA
22718	SIGLEC11	GCCTGTGGTCTCAGCACTTTGG
22719	ADORA3	CCCAACAACAGCACTGCTCT
22720	RNASE4	TTTTAATACCACAGCACTTA
22721	PTHR2	CCTGTGCATAGGAGCAATTAGG
22722	RARA	CCGGGACAGAGTTTTCCCAGACCTG
22723	RBM3	CGCCACTGTACTCCAGCCTGGACAACA
22724	GNE	TGAACCCCAGGCTGGAGTGCAG
22725	ZNF141	CTCAATGCTTAATAAATATAATTCATG
22726	SCD	TTTCCCTTATTGCCT
22727	MUS81	GCCCCCAGCCCCCGTCTGTCCC
22728	PPP3CA	AATGCACATGTAGATGGTTAGCATGT
22729	TNFRSF1B	AGGACTCTGAGGCTCTTTCTGGG
22730	EGLN2	ACTCACTGTTTCTAAGCCTC
22731	CNGA1	AGATACTATGATTAAAAAAGCTTT
22732	APPL	CCTGAAGCAGACTGCTGAGGA
22733	BRCA2	GTGGGAGGAGTGCTTGAGGCCAGGAGTTCAA
22734	NUMBL	CTGGGGAGGGGTCCGGGAAGAAGG
22735	DDX6	GCTGCTTGCCATTCTCTTGCA
22736	MEF2A	AGAGAAACGTGTACCCA
22737	EGFL5	AGCCATCATATTACTTGG
22738	LDB3	TAATCCAAGACTGGAATTGTA
22739	HD	TCTTGCACGGTGACCCCTTTTAGTC
22740	DGKG	GGGAGGGAGAGCGGAGAAACTGGGAT
22741	LAMP2	CACTTAAATTTGTTCTTTGTT
22742	TGM4	TTTTGCAGACAACCCTGTCCT
22743	ZHX1	ATCTGCCAACAATAAGCTCTTTACTT
22744	LDB3	GAGCCAAATGAAGACTCAAAAC
22745	ANGPT1	AAATACATCATTCTTCATATA
22746	IRF2	GAAGGAAATGAATTTCTCTA
22747	HIRA	GGGGAATGGGGCAAAGGGGTGG
22748	ADAMTS4	AAGAGAGAGCTTCTGTTGCTGCCT
22749	TAZ	AGGGGCTGGCTTCAGGAGGGA
22750	MTNR1A	AGTAAGCTGCTGAATGCATTCA
22751	AES	GTCCTCTCCCATCGCCCACAAAAG
22752	GPR81	CATTTCTTTGTACATCTGTACATTTTG
22753	CD68	CCTGGAAGTGGAGGTTGCAGTG
22754	SERPINF2	TAGTTCTGCCAGGAGACAGGTT
22755	PLAGL1	TGAATCTTCAGACAAACTTC
22756	GRB10	GGCATTTGGCATATTTTGTGGAC
22757	ABCC12	ATGAACATCCTTACCTTCACTGT
22758	PKNOX1	TGCATTCTCTCCAGCTGCAAAC
22759	FZD10	CCCAGGGCCCACCCCCAGGAAG
22760	JUP	CTGGGTCTGATTTTCTCACTG
22761	SHANK2	CCGTGGAGGTGGTGTCTGCTGTG
22762	TRHDE	AGTGGCCTTGAACAACTGGTT
22763	PTGFRN	AGAGGAAGAAGGGAACTGGGATTTGG
22764	KCNK3	GCGGCGAGCGCAGCCATGCCCCAGGCC
22765	ITGA11	TGGGCAGCAGGGGTAGGGGTAGGGA
22766	SFTPA2	GCTCTGCCTCTGCAGCCCACTGCCTGCC

22767	RXRA	CTTCCCTTTCGAGTAA
22768	HYOU1	GCAGTACCTCTGTGGT
22769	LTA	TCTGTCTGGCTGAGGATTTC
22770	PRKWNK3	ACCCAGGTTGGAGTGCAGTGGT
22771	FRDA	AGTGCTGTTTCTCCCACATATT
22772	RNMT	AGGATCAGAGCAGAGTTGGGAGT
22773	PARN	GTGTACTGTCCTGCCTGTG
22774	CHRNA10	TGGAGCTCTCAGTGGGGAGC
22775	SRGAP2	ACAGGCAAGGAGGCTTTGA
22776	ACVR1	TGAGAGAAGCTCTGAACGAGGG
22777	IRS2	GGGCGCAAGGGTGGGAGGGAGCCGCCCCCG
22778	TIAM1	CTCACCTAGTATGTGAGCAGT
22779	MBD4	TTACTCCGCCCCACACCCT
22780	MYCN	CTGCAGCCTCCTCCACCTCACCTCC
22781	GTF2H1	TATTCCTCCTCCATCCTTCAT
22782	GLB1	CCTGAGGTTTCCCTGCATCCCTGC
22783	DCC	AAGCAGTTCAGAAGGAATAAGC
22784	MAPK8IP1	GGCTCCTGCCTTGATGAAGCCCGTGT
22785	NCOA6IP	CAAGTGCTGGAATTACAGGCGT
22786	TNFRSF9	TCTCTGCAGCCTTGACCTCTG
22787	ESR1	GCAGGTGCCTGAGACACAGACCCCTTT
22788	CASQ1	AATCCTGTATCTTTCTGACTGT
22789	PCTK1	GTGTTGCCCCCTATCTCCTGGG
22790	BCL2L2	AAGAAAGCTCTATAAATATAAAT
22791	SURF5	AGGTTAGAAAGAGGCGAGCGTGG
22792	CENTD2	AGGCGTCTGAGGCCTGCCCACTAAGGA
22793	MEIS2	CCAGAGAGAGAAAGAGAGCGAGAGAGAGC
22794	LZTS1	CAAACTTGTGGCCTCAAGCAAT
22795	CAPN5	AGTCCTCCCCACCTCA
22796	RUNX1	GGTCATCTGATAATTTCACAGAT
22797	ACTA2	TTTCCAAATCATTCCTAGCCA
22798	HS2ST1	AGCATTTTTTCAACTAACCAT
22799	G6PC	TCTTCTGCCAGCCCATTTTGAGGCC
22800	PAX5	GTGGGCTAGGGTGGTCAGAGGAAGC
22801	SLC17A5	AGGCTGAGGTAGGAGAATCACT
22802	DMXL1	GAAGGGCTGGTAAAATGAA
22803	TEAD2	AACACCCTCCTCCCAGGGAGGGTCCTC
22804	CBFA2T2	TTGGGAGGTGGGGTTTTGCCATG
22805	CYP8B1	GTTGCCCAGGCTGCAGTGCAGT
22806	COG5	CAGTGGTTTCCAAATTTGGCTGCAC
22807	HTR2A	GGAGGCTGAGATGGGAGGATCA
22808	GJB5	AGGTAGGGGCAGGCAAGAGAGAGGATT
22809	EIF5A2	GACTACAGGTGCATGCCACCAC
22810	CKTSF1B1	GGTCCAGCAAAAGTCAGTAGGG
22811	MYBL2	GGTGGAGGCAACAGGGCCATGTGCTG
22812	SULT1A3	GTCTGCAATCCCAGCGATTTGG
22813	IL8	ACAAACTTTCAGAGACAGCAGA
22814	IMPG1	AATCAGCACACACCATATTTCA
22815	TSNAX	TGTGCCTGTAATCCCAGCTACTT
22816	FUT5	CCTGCCTGGGGCCTCACCTGCTGGAGT

22817	ARCN1	GGGGTTTCACCGTGTTGCCCAGGCTG
22818	CD79B	TGGGGTCGGGGACAGAGCAGT
22819	TM6SF2	GGTTTGGGTTTGAATTCTGCCT
22820	TSC1	CACAGGCTGGTGTGTAGGTGGTA
22821	GCA	CCTCCTTGCACCTGCGCCT
22822	DHFR	GGGGCTGAGCTGGAGGCAGCGAGGC
22823	ABCB10	CTGATTATTTTAGGCCAGTTT
22824	CEL	TCCCATCTTGAGCTCTTCCTGAA
22825	SBF1	CGGGAGGTGGCCAAGGTACAGCCCGCA
22826	MMP15	CTTCCTCTTTTCCTTCCCAAAGCAA
22827	P2RX4	ATTTCAGGTTTGCCAAGTACTACAG
22828	WHSC1	TGTTTTTAAGAGAATGTTTCTTA
22829	ECM2	AGGCCATCTCACTAGAATAGGA
22830	TP53BP2	TGAGTGGACCAAGATCTCAGGAT
22831	GCNT2	ATAGTATGCTCTGAGTAGCTTTACACT
22832	HADHA	TAAAGTGCCTTCAGCCAAGACCATCT
22833	DIRC1	GGATCATAGGAGCGGATTTCCC
22834	GPR48	ATATCAAAATCATGTAGTTTGTA
22835	MRC1	ACATGTGCAGAAGAATAAGGCA
22836	PCDHA11	TTCTCTTTCTCTCTCACTCT
22837	SH3BP2	GGAGAGGGGGACCTGGGACCTGCGGC
22838	GSTM4	CCTACCTGGCCCCTCGCCTGTGGAGC
22839	KCNJ11	TTTGTCCCTGCTCCTCCCAACC
22840	DIAPH1	AGTGTGGGACCTGCCCCCA
22841	SF1	TGTCTGAATGTTTTGCAGTG
22842	DVL3	CTTACATTCCTTCTTCCCATA
22843	CTSZ	GTTATGTGTGCCAGGCTGGCTGGCAG
22844	POR	CCTGCCTGCCCCACCCACCCC
22845	SLC6A8	CCTGTGCGGGGCACACCCCCAGG
22846	PLS1	TTTTAACTACATTGATACTTTA
22847	NFIL3	GGGAAATTAATTTGTTCTCCTACACAC
22848	MEIS2	CCATCCCCACCACCCAGCCAT
22849	OPHN1	GGCTTTTCAAAATCATTTAGTCTA
22850	SMARCD2	TCTGCTGTCACCCTCTACTC
22851	BMX	CACTTTCCAGCCTATAGCAGAA
22852	ENTPD5	GGAGTGAGAGCCCAGGGACAGG
22853	MEOX1	GGGCCTTTGCTCCCACACTCTCAT
22854	SLBP	CAGACACCTTTAATATCTTTA
22855	GPR92	ATGGACAGAACTACATTCTTTC
22856	CAV2	CTTGGACCCCAGGTCTGGAG
22857	DOCK1	GCTCTGAGAGAGTCTGAGTCTTGC
22858	SLC21A9	GGCCCTGTGCTGGGGGTGGGGG
22859	WNT7A	GAGGGAGGGGCGGGGGCTGGAGGC
22860	SLC25A5	TCCTGCAGCAGTCTGCCTCCTCT
22861	TBX22	AGCATTTCTAGAACAATTACATG
22862	HIF1A	CGCCTCGCACCCCCACCTCT
22863	HLCS	AGCCAGTTTCAGATTTACTCTGA
22864	ALDH8A1	CCACTGCATTTCAGCCTGGGGG
22865	EXO1	GTTTCTCCAACCGCAATCGGCTCCGCT
22866	ATP8B2	AGGGCTGAGGCCGAGGATGGA

22867	ZNF35	AAGGAAGAGGAAGACCTCCAGCA
22868	GRB10	CAGCCCTCCGTCCTGCTGAAA
22869	DSCR3	CGGAGTCTCAGTCTGTCACCCA
22870	USH3A	AGCTTCATTTCAGGCTCCTGT
22871	NUP98	TCACAGTCACATGCCCATTCACACCA
22872	GALNT2	GTGAGCCAGCAATACCGCTGCCCCCTG
22873	NDUFS1	ACAATGGCTAATGATAATTTAGCT
22874	FCGR2B	TGTTACAGGTTACCGTTGAGAAC
22875	MMP15	GGTGCCTAGGCCTGGGCAGT
22876	TXNRD2	CCTCTCAGCCTCTGCCGCCGGGCACCCCC
22877	CDKN2C	TCCGGAGTCATTAACCAGGAA
22878	PA2G4	AGCTTGCTGCTCCTGCCTCAT
22879	GALNT2	TCCCTCTCTCTGCTCCTCCATTCGCA
22880	DYRK1A	TCCCGGCTGAAGTGCAGTGGCACG
22881	RBL1	GTTGCGCCACTGCACTCCAGCCT
22882	PPEF1	ACCAGGAGGCCAGAGCGGTT
22883	CPT1B	TGTGTGACTCTGCTGAGTGA
22884	DVL3	GGCCATTCCCACCCCCACACAC
22885	APOC3	TGCTCTCCTACCCCACCTCA
22886	INPP1	TCTTTTGAGGATGGCTTTGTCCTGTT
22887	PRG2	GCTGCCCTCTCCTGGGCATGGCCT
22888	SLC30A3	TATCTCTCCATCCCTCTGT
22889	PPP2R5C	ACTGGCAATGCTTCTGTCCTCGTGTCT
22890	HADHA	TTGCCCAGGCTTCTCACCACGGTGTAC
22891	DDX11	GGGCCATCAGGCACCAGAAGGA
22892	F13A1	CAGATTCCCCACTCAGCCT
22893	ESPN	GCCAGACCCACTCGCTGCCGGGACCC
22894	CD3G	TTCTCCTCCTATTCAGTTCCCAGAATC
22895	FBXL3A	TTCAGTTACACATACACCTGTTATAAG
22896	ARHGEF7	GACCAGTTCTGAGGTGAAGCTGGGC
22897	ADCY1	GCTCATCCTGAGGACCCAGGG
22898	PFKFB3	TTCTTCCGGAGAGGGTGGGGTGGAG
22899	ATP8B2	ATCATGGTTTTCAACAAGTGCT
22900	VANGL2	AACTGGCCCTCCTGTCCCTCA
22901	ZNF214	AAGGAAATCTTATAAATAACAC
22902	NFE2L1	GGCAGGCACTGGCTGGCTCAGC
22903	NEB	AGGAAAAATAGCAGAGATGTTCAC
22904	NT5E	AGAGATGTTTTTCCCACCTG
22905	SLC4A8	TGGGTTATCCCTGTAATTCCAG
22906	APPL	TGTTGCCCAGGCTGGAGTGCAGT
22906	CNN2	TGTTGCCCAGGCTGGAGTGCAGT
22906	CTSS	TGTTGCCCAGGCTGGAGTGCAGT
22906	CYP2B6	TGTTGCCCAGGCTGGAGTGCAGT
22906	F2RL3	TGTTGCCCAGGCTGGAGTGCAGT
22906	F3	TGTTGCCCAGGCTGGAGTGCAGT
22906	FUT1	TGTTGCCCAGGCTGGAGTGCAGT
22906	GPR4	TGTTGCCCAGGCTGGAGTGCAGT
22906	PCDHA9	TGTTGCCCAGGCTGGAGTGCAGT
22906	PDZK1	TGTTGCCCAGGCTGGAGTGCAGT
22906	PIK3CD	TGTTGCCCAGGCTGGAGTGCAGT

22906	PON1	TGTTGCCCAGGCTGGAGTGCAGT
22906	PRND	TGTTGCCCAGGCTGGAGTGCAGT
22906	TAPBP	TGTTGCCCAGGCTGGAGTGCAGT
22906	TERF1	TGTTGCCCAGGCTGGAGTGCAGT
22906	TMC1	TGTTGCCCAGGCTGGAGTGCAGT
22906	TMPRSS3	TGTTGCCCAGGCTGGAGTGCAGT
22906	TNFAIP2	TGTTGCCCAGGCTGGAGTGCAGT
22906	TRPV1	TGTTGCCCAGGCTGGAGTGCAGT
22906	UGDH	TGTTGCCCAGGCTGGAGTGCAGT
22907	NONO	TGTCGCCCAGGCTGGAGTGTAGT
22908	GPR1	CCAACATGGAGAAACCCCGTCT
22909	MAPK3	AGGGTTCTGGCTGCCCCAACCTGCT
22910	SMAC	TGGTCTCAGGCTTGCGCTGGACCTGGT
22911	LIFR	TCACTTCAGTCAGCCATCTCA
22912	IL13RA1	CTCGAGGTCAGGAGTTCCAGAC
22913	CHGA	CCAGCCGCCCCTCGCCCGG
22914	PPP1R3A	AAGACTGAAACAATTGGGAGA
22915	MAGEL2	GTTGATTTCAATCGGCTA
22916	EGR3	TGGGGAATGATATTTTTTGAAA
22917	HD	ATCGTATTATCCAAATTTTGTTGC
22918	SMP1	TACTGCTCACTCCCAACCTTTT
22919	ALDH6A1	AGATTTCTCACTTGCTCTTCA
22920	FLG	AGGCTGCATCATCCCATGAACA
22921	CPA3	TATACAGTGGGGCACAGAAAAC
22922	POLK	ATCTTATGAATAAGCACTTG
22923	ATP8B2	CTTACTTCCTGTTCCTCCTC
22924	SOX4	GGAGGGACGCGGAGGAGGAAGAG
22925	RAC2	GAACAACATAAAACAAATTTAATTTT
22926	ICAM3	AATAAAGCCTTCAAACTCCCT
22927	WRN	CCGGAGCTGATGTGTACTGTGTG
22928	SLC2A6	CAGTGGCTGGGCCTCTGTGTTGGCTA
22929	TFCP2	CTGGGAGGGAGGGGTCCTCCAGCAGAA
22930	PLN	CTATCAGAATCTACATTCTAAAACAGA
22931	COL18A1	CATGCCCCTGGCTGGGACGTGG
22932	M11S1	TGCTTTTTAACAGCTGATACTGT
22933	EHF	AAGGAGACGGTGGTGTGGAAA
22934	ELK1	TGGGGTGGGGATCCTTGGGAAGAA
22935	ADAM12	TCTTGGTTTGCCTTCCAGAAA
22936	TNFRSF18	GGGCTCTGCGTTCTGCTCTG
22937	DFFB	TCTGTCGCTCAGGCTGGAGTGCAGTG
22938	GASC1	ATTTTTGAATATTCCTATTACTT
22939	AHR	AATCTCAGTGCTTTCCTCCTTCACTGT
22940	CRHR1	CAGCAATGCCCTGCCTTGCTGCCT
22941	KCNMA1	TTTGCTTGCTGTGTGAATTGACAAGCA
22942	PPP1R3A	TCAAGGTAAGAGAAAATAAGCTCAT
22943	TP53BP2	TGTGAGTGGACCAAGATCTCAGGATCC
22944	STAC	TTGTTCTTTCTTTCTCTTCA
22945	C7	TTCTCCAGTGTCTACCTTCCTCCTCA
22946	IL12RB1	TGCCTGTAAAGCTCTCAGCATTGGCTTGGC
22947	SCD	CCTTCAGCACAGGAATTCTCAA

22948	ERBB4	GCTTTAATTTCTAATTGCAAAGATGT
22949	FCMD	CCAGAGCTAAATCTGGAAAACACATTTGG
22950	CLCN6	TGCTTCAAGGTCTTTTCTAGCT
22951	LNK	TGCTAATTAGTGTGAACCAAAAGAGTAA
22952	UMPS	GTGGTCCTCCTGAAAGTCAC
22953	CPD	TTCCAATATATTTTTGTTTTA
22954	PML	GCTTGCTTCCTTCCTCCTGGCTGCACAG
22955	KRTHB6	CTTGCCTGAGCTCTTCCTCAAA
22956	AES	CAGGGGGCCGGGACAGGGAGGT
22957	SLC17A7	TCTCCAGGGACTCTCAGGCTAACCTTT
22958	TM4SF2	GGCTGCCTAAGACATGTAACG
22959	MAPK1	TGGAACTCCACATGCTGGTGCA
22960	ALDH1A2	GAGGATGAAGCCCAGCCTGCAC
22961	TNFRSF13C	TAGCCCAGCTCCTGTTCCTGTGCCTTC
22962	KCNQ2	GCAGGCCTGTTCCCTGAGGACCT
22963	PAX2	CCCGCCGGCCCTGCCTGTAGA
22964	ITGAL	ACTTGGAGCCCCAGTGCCAAGC
22965	AKAP2	TTTTAGAGTGATTGTGAGGCATTC
22966	ABL1	AGAAAGCTTGAGTCTCAAGGGT
22967	LARGE	GGGTCCTGGAGGTGGGGTTGAT
22968	FCGR3A	CAGGCTCTTTCCTTCCTGGTCCT
22969	GPR62	GAGGAGCAGAGGACAGGTGA
22970	SHANK2	AACACTGTCTGAATTAAACAA
22971	C21orf5	TGGTGGCGGCGCCTGTAATCCCAG
22972	ALPI	ATCCTGCTCCCCACCTCCGGGCG
22973	PIK3CG	ATTGCCTGAGCCCAGGAGGTGG
22974	UBL1	GTTCTAATTTTCATTAGCA
22975	SLC7A5	CAGACTTCACAGCGTCTGCTCA
22976	DAAM2	CAGCCCCTCAGCAGAGGGCAGCAC
22977	MADH4	TTTCTTTTCCTTCATTCATA
22978	GLUL	GGGGTGCACCTGTCCAATAGG
22979	ALPI	GGAGCTCTGGGTACAGGGCAG
22980	SLC7A6	GGCTCACTGCAACCTCCGACTCCCT
22981	MAP3K14	GGCTACCACTCTTCCCCAGAGCAGCAG
22982	E2F3	GGGGGAGGGAGAGGGAGCTTTGTGTT
22983	GPD2	CACCCTGGCTGGAGGAACTGG
22984	COL1A1	CTGCTCACTTTCCACCCTCTCTC
22985	COL19A1	TGGTGAAGCCACCAAGCT
22986	SEPN1	ACCCAGCCAAACACCACAGCCTT
22987	PFKM	CAGTTCTGGCCAGGAGCTGGAGGAGCA
22988	CORO1C	TTGCCCAGCTCTTGAGTACAGTG
22989	IL1F8	AATAAGGGGAGGAAGATTCCC
22990	HOXB7	TTCAACACTGAAAAAATACTACCTA
22991	SYP	TGTGTTGCCATTTTGTCTGGCT
22992	MNT	CATGCTCCAAGACTTTAGTTAC
22993	CASP10	GTCACCCAGACTGGAGTGCAGGGGGGC
22994	CX3CR1	GGTGCTGTTATCCATGGGGAAGGGATA
22995	DEDD	GGAGCTTAGTCCAGCTGGTACAAT
22996	MAP1B	GAGAAGGAGATGTAATGACAGA
22997	GLRX	ACCACAGAACAGGCCCCA

22998	SOCS4	GCCCAGTCCTTTGCTGCT
22999	TAF11	ACAGGCACACACTACTGTGCC
23000	CIT	CTTGTTCCTGTTCATTCTCAT
23001	APPL	TTTTGGAGACTGGAGCTTTCTGTTC
23002	DGKQ	CTGGGGCAGCCCAAGGGCTCGAG
23003	DLGAP2	CACTCATTTAAATAATACAATCA
23004	LPL	CTCCAGCCTCCGGCTCAGCCGGC
23005	HOXC11	TGGGGGAGGGGCGACAGTAGTGAGC
23006	CALD1	ACTGATCATCATAACTCTG
23007	HAP1	GTCAGCCTGTGTGCGTGTGGTGCAGG
23008	DBH	GGGAGGCAGCCTTCATGTACA
23009	RBBP9	GTTTCTTGATTCCCACTCCTG
23010	PYGB	ACAAGGGCCAGGCTCCATTC
23011	FBXL5	ACCAATAACATAAAACAATCG
23012	PTN	GCCTTCCAGTCCAAAAATCCCGC
23013	TNFSF9	TTTATTCTGAGCCTGAGCTCAGATAATA
23014	BLAME	TGGAGAGAAAGGGTACTGAGGCACTCT
23015	ED1	TCATTTCTATATTCCTCCAGCTGGGA
23016	UBE2B	CCTAGGAGGTTGAGGCTGCAGT
23017	MDFI	CTGTCACACAAGGCTTGAGAAGC
23018	AQP6	CACTGCACTTAGCACTTTCAGGCTCCA
23019	RAD50	ACCAAGATATTTTTATCCCAAGA
23020	IQGAP1	CATGCTGCTGAGCCTCTATTTTCTT
23021	GRIN2B	TAGAAGCCCTTCTACCTTCCTG
23022	CAMK2A	AGGAGGAGGGAGGCTGTCAGGAT
23023	SART2	GTCCTGGTATGATGGTGTGAGCTTCCT
23024	CD53	ATGGGCATGAGTAGCTTGA
23025	HPSE	CCTTGTTCCAAATACTGCTTAGCATT
23026	MIR16	TCCAGTGAGGCTTCAGTGTAC
23027	MAN2A1	TCTCCTTTGGCTGAGGAGAGTGT
23028	ADAMTS4	CGCCACCTGGGTTCCAGCAATT
23029	PSMD9	GACCACAGGCGTGCACCACCAT
23030	SLC26A4	CCATATATTTCACACTGGA
23031	ALDH3A2	ATTGCTTGAGTCCAGGAATTTG
23032	HTR1D	CTGCTGGGAAAAGTTCC
23033	MEF2C	TCATTAAAAAGGATCAGAGACCA
23034	LOXL1	TGGGGCAAGCAAGGAGCCTTCC
23035	AVPR1A	GTACAAGTGCCTGGGGTGTAATGAG
23036	EIF1AY	TTCAGTTACTTAGATGGTCTCA
23037	TNFRSF9	GTCTCAAACTCCTAGGTTCACTTTGGC
23038	MAGEA10	AAATACCACATGATTTTACTCAT
23039	PMSCL1	TTTCCTGTGAACTTGTGTCTCC
23040	CD244	AAGCAAGCCCATCTCTGAGTAG
23041	CLOCK	GACCCCCTCCCCCAACCCCTCT
23042	PDE4A	TCTCCTCCATCCGTACCTTGCCTAGCCT
23043	GRLF1	GCAAAAGCAGCCCAGTCCCCCTCA
23044	HOXB3	GGAGGTCTGAAAAGAGGAGCCAG
23045	ARSB	CCTTTTCTCACGACTCTTGTC
23046	KAL1	AACTCCGCCCCAAAAAGGA
23047	FANCG	TACCATTCTCGTTTTGGAGGAA

23048	ZFP161	GTTTATGTTTTCGAAATATATTTCA
23049	MMP8	TTACAGAAAATATGGTGCTG
23050	UTY	ACTACCCTTTTCTCCA
23051	SCN2B	CCGGGAAGCAGAGGTTGCAGTGA
23052	CYR61	GGGAGGGGAAATGTAATAC
23053	TRAP240	AACAAGGAAAAATGGATGTTTCGCT
23054	VPS41	GAAATGCACAGAACATATCTTCA
23055	CXCL16	GCTCTGTCATCCAGGCTGGAGTGCAGT
23055	FANCE	GCTCTGTCATCCAGGCTGGAGTGCAGT
23056	CHEK2	AAATGTACCTTCTTTCACTCT
23057	MAP2	AGCTAGATTTGTGTCCACACTACCAGT
23058	RELA	TGCTCTCCCCTCTTCTCAAGTGCCTT
23059	SCD	CCAGCATTCCCTACAGCCTAGGGCAG
23060	GRAF	GGCCCAGGCTGGAGTGCAGTGG
23060	MEFV	GGCCCAGGCTGGAGTGCAGTGG
23061	PRKAR2B	TTGCTTTAATGTAGACTCATAGTTGA
23062	CXorf6	GGCTCCTGTGTGAGCCCA
23063	CDC2L2	GGAGGAGACCGGCAGCAACTCTGA
23064	TFE3	CAGGGAGGAGTGGTACTTAAG
23065	BSN	TTCCAGTCGTTCTTAAGCCATC
23066	RGS5	AGACTAATGACATTTATCTTCA
23067	SFRS1	GAGATGGATTAAGAATGC
23068	CDY1	ATTGGTGGTGAGATATCGCTTGA
23069	CCR3	TACATTGTTTACTACTTTACTAAT
23070	ZNF184	GCTGCCTGGCGAACCCTGGTGT
23071	SHOC2	GCACAATATCTTCACACTGTGCTGTA
23072	CDC23	AGCTATACTCCTACCAAAGCAA
23073	EEF2K	TTGCTCTGTCACCCAGGCTGGAGTGC
23073	FSHPRH1	TTGCTCTGTCACCCAGGCTGGAGTGC
23073	HUNK	TTGCTCTGTCACCCAGGCTGGAGTGC
23073	PDE6B	TTGCTCTGTCACCCAGGCTGGAGTGC
23073	PPID	TTGCTCTGTCACCCAGGCTGGAGTGC
23073	SEPN1	TTGCTCTGTCACCCAGGCTGGAGTGC
23073	VENTX2	TTGCTCTGTCACCCAGGCTGGAGTGC
23074	MAP3K14	GGGAGAGAGCCCCGGCCCCCAG
23075	TRIM39	TGGAACTATTGGTTCTAAGATATAA
23076	NAGLU	AAAGTGTGGGATTAAAGTAC
23077	CEP2	GACATGTACTGCCTCTCATCTA
23078	OPRM1	TGACCCTTCTGTCTGTAAGA
23079	EFEMP1	TTCTGTAGGGTATTTTTAATTTTGTCAGAAA
23080	MLPH	ACCACAGCCATCCTGTCCCTCA
23081	SSTR1	GCAGCCCGCCTTGGCTTTCTCCCTCA
23082	HBZ	AGTGCAGCTGCCCACCCTGCC
23083	LAT	AGTCTGTCCTGGAACCAGGCTTGCC
23084	EMD	GCTTGCTCCCCCTGCCTTGTCCC
23085	RECQL	CTTCCCTTTCCTGCTG
23086	TIMP3	AGACTCCTGTCTTTTACCCTCCC
23087	FOXE1	TGGAGAGAGGACTCAACTGGGACCCAC
23088	EBAG9	CTGGGGTGAGGAAACTGCGA
23089	DSC1	GGAGGCGGAGGTTGCAGTGAG

23089	EGFL4	GGAGGCGGAGGTTGCAGTGAG
23089	IAPP	GGAGGCGGAGGTTGCAGTGAG
23089	IFNGR2	GGAGGCGGAGGTTGCAGTGAG
23089	LUZP1	GGAGGCGGAGGTTGCAGTGAG
23089	NPHS1	GGAGGCGGAGGTTGCAGTGAG
23089	NT5C2	GGAGGCGGAGGTTGCAGTGAG
23089	SLC31A1	GGAGGCGGAGGTTGCAGTGAG
23089	SUV39H2	GGAGGCGGAGGTTGCAGTGAG
23090	GRM4	GCTAGATCTCTCCCTCCCTTCGTCT
23091	HOXA5	TTCTGAAACTCCCTTGTGTTCC
23092	PPP3CB	TTGGTGGCCTGCTTCCCTC
23093	RAB30	CACAGGCACTTTCAAGAACTTTGG
23094	LMO7	TGTATGTGTCTGACCTCAGGCC
23095	A1BG	CTGAGTAGCTGGGCTGACAGGC
23096	RUNX1	TGCTGGAGAAAAATGAAGGAAA
23097	RS1	CCCTCATGAACACAGGGATTGGGG
23098	MAP3K12	CTGGTGCCTGATTGGGGTGGGG
23099	ABCF1	GTTCTGCTTCTCTTCATATA
23100	FMR1	TATTTGGATGCAGAGTTCAGGGA
23101	BCL7B	CCCCTGCCCTCAGCACACACA
23102	DISC1	ACCCAAGTTGGAGTGCAGT
23103	HOXA1	GAACAGCTCTGAGATCCTGGAG
23104	SIRT1	ACTGCTGTTTTCCATTAATGAGGA
23105	SIRT5	GGCCCTTTACAGAAAAAGTTT
23106	VASP	CGGCCTGTCACCCTGCTTTCC
23107	IGF1R	CGTGTCCGGAGGCATGGGTGAG
23108	DEDD	GCCTATTCCCTCTTCTCACTTTGGGG
23109	RDS	CCCAGCATAATTCCTCCAGTTGGATGA
23110	BENE	AACTGCACGTGCCTTCTGTCA
23111	HLCS	GTCCTGAGAGAGATGAAGCAG
23112	IARS	ACATAGACACACACATGAACAC
23113	VAPB	TGTGGAGGTGGGGTTTATTGGGATG
23114	F8	ACCTCTCCCTCCTCAGCTCCAGGGC
23115	ALDH3B1	GTGGGAGGCATGGGAAACAGTGCAGTG
23116	HSPA6	ACTGTCTTCTATGATCCTGCC
23117	TCF4	GGCTGAGACACAGCCCAGAGAC
23118	WISP1	AAAACTCAACCAGAGTCACCCAG
23119	NR4A1	CTTGGCCCTCTCCTGTCTGCC
23120	ARCN1	ACCACGCCTGGCTAATTTTTTGT
23120	SH3BP2	ACCACGCCTGGCTAATTTTTTGT
23121	HIP1	CCAGCCCAGGAGTTTGAGGCTGCA
23122	GLS	TGCTGTTGTCTGTCTGGCAGGGACTGA
23123	USH2A	TCTCATGTTCTATGAAGAACATT
23124	SLC19A1	TCCATGGTCCTGTCTGTCCTTC
23125	JRK	GCAGGGTCTCACTCTGTTGA
23126	A1BG	CCAAAGTGTTGGGATTACAGGT
23127	CAMLG	TACAGGCATGCACCACCACGCCCAG
23128	TGM2	AGTCCACTGCTCCATTTATAACCCC
23129	SLC21A2	CTGTGTACCCGGGCTGTGTGG
23130	ATP7B	CAGAGCAGCAGAACGGGTTCAGTTTTAG

23131	EDN2	CTCTCTGCCTGCTTCCTGGACCGG
23132	ABCC12	CCATCAAAGATGCCTTCAAGGG
23133	COL19A1	AATTTATTCAACTACTAAAAGTCTCA
23134	ACPP	CATCAGTTCCAGCCTTCTCTC
23135	VANGL2	GACATAGTGGCTTGCAG
23136	SHOX	GACGCAAAAGACTTGCA
23137	ADCY1	ATTCCTCCTGCGCAGGGCCAAG
23138	CDKN2D	CTTCTTGTTTCTCCTGCCCA
23139	MASP1	CTCAAAGCTCTGACGATCTAAGATACA
23140	FANCF	CACCCAGTCTGGAGTGCAGT
23141	RPP30	TAAAGTGCTGGGATTACATGAGC
23142	TMOD3	AGAGGGTGGTCGTCTGTGCATTCCAG
23143	LILRA3	CCTGGGTGGACATTTGAAGAA
23144	SPON2	AGCCTCCTCCTCCTGCAG
23145	MMP15	AGGGGCAGAGGCCCACATTGGA
23146	MSH3	GTTTTTCTGAAGACAGTCTTT
23147	TBX6	TGGCTCACGCATGTAATCCCAG
23148	ADCY1	TGTTGACGTCTGACGTCTGACA
23149	NUCB1	CTCATCGCCAGCCTCCTCCTGGACC
23150	EPHX1	GCAGCCTGCCCTGCCTCTCTCACA
23151	AGPS	CGGTAGCCATGGCGGAGGCGGCGGCTGCAGCG
23152	B4GALT5	GGCCCGGGCCTGGCTCTCTAGCGGCCGC
23153	SLC6A6	CTGGGACTCTACACCCATCTTAA
23154	HNF4A	CAGCAGTTCTGCAGAGGACGGGAGGC
23155	CBFB	CAGTGGTGTTTTATGTTACTTTATT
23156	EPB41L2	CTCTGGACTGGAGAATAATGAAGA
23157	KIF1B	TTAAAATGTCGGGAGCCTCAGT
23158	HPS3	GCATTTGAGACTGAATTTCTAA
23159	POLH	CAGGCACCTGTGATCCCAGCTACTT
23160	ARF5	TGGGCACAGAGGGGTCCACTCTCC
23161	CSPG2	TATCTCAGCCATAGGTGCAGTTT
23162	SMCX	CCTCTAACCAGCATTCCCAG
23163	KCNMB3	AGCAAACCACGCAGGTCCTTCTTGAT
23164	HUNK	GGAGTTCGAGAGCAGCCTGGGCAAC
23165	SIRT7	CTTTGCAGATGGCCAGTGTCAC
23166	KLF4	GGCCGCGCGCGCTCCACACAAC
23167	ARHGEF6	GTAGCAAGACCTCAATTCTTCC
23168	MTR	GCCCAGGCTGGAGTGCAGGGG
23169	SIGLEC9	GTCAAAGTATCTCAAACCTGA
23170	TOP1	TACCCTTTAAGATATCCATCTT
23171	HPSE	TTTTCTCTACCTTTCTTCCTTGTT
23172	ADRB3	AGGTGCCGTGGAGCAGCAGGCTGGCTTTGGTA
23173	GEM	AAGTTGAGAAGAGAACCCCT
23174	FZD3	AGCATTTTTATAAACCCACTCA
23175	MKKS	ATAATGCAATAAATAGAAAAAT
23176	DSCR1	GCTTTTAAACTGGAGAGGCTAACCTCA
23177	TCFL4	GCCTGTCAGTTTATGATATTGTG
23178	SLC14A2	GTCACCCAGGCTGGAGTACACTGGC
23179	OCRL	TTGTTATATTTCCCAAAAACGTCT
23180	KLK5	GGCTGACCGTGTCTCTCTAGTTGAACC

23181	PLAGL1	TCATTTATCTTAAAGAAAGA
23182	FOXD1	GAGCCCAGGGAGCGCAGCATCCG
23183	RAD18	TGAGTATGGGTTAGAAATCATTGA
23184	ARHD	GGCTCGTCCTGCGGTGCCCGAGAA
23185	MAP2K2	GCCCACCGTCCCTGTCCATGCCCC
23186	SORCS1	TAAACTATAGGAGAAAGAAGT
23187	HAS3	AAATGTCCTTTCTCAGAGGGGCC
23188	CRYBB3	CTACAGCAACAGCCAGAGGTG
23189	CHI3L1	CAGCTTGAAACCTTCAC
23190	NPAT	ACAGTAGGTGTTAAAAACTCATA
23191	MADH6	TATATTTTCTTTCTCTTCCTCCTT
23192	LAIR1	TGATGCCACCTCCAAGCTTG
23193	SGT	GCTCACTGCCAGCTGCGGCCTGG
23194	EVC	CCTGACCTCATCGTCCACCTGCCTCGG
23195	NRBP	ACCCTGTGAAGCCCCTTCCCTCC
23196	NOS1	CCGGTGTCCTGTTCCTGCCAC
23197	DNASE1L1	CGGCAGCCACACACAGCC
23198	KLHL2	GAGGATGAAGTAATGTGTGTTCTTGTA
23199	DAD1	CATTAAATGTAACCTTTTGCTTTC
23200	BAZ2A	ATGTTTTCACACATATTCA
23201	TAT	GGAGAGGGGCCTCAAATGCACC
23202	RNPEP	AGACAGAGAACCTGCCCACAGCTCT
23203	MAN1A2	GAGGTGCAGGAATGGAAGAAC
23204	MAP4K5	GGTGAGCTGGCGGGGGCCGGG
23205	GABRA5	GTGCCTTGCAGAGAGAGGAGTAGCTTG
23206	PPT2	CTCCGCGTTGTTCATGGCTGAGG
23207	COLQ	TGGCCAGAGCTCTACCTCTTTGCCTCC
23208	CNTN2	GACACAGCCAGCCCCTTCCTGCTGCCA
23209	ATP6V1E1	TCTCTGTAGCTTCCTCTTCA
23210	ZFP36	CTGGAACCTCTCCTGAGGGGGA
23211	F2R	CTGAGCCTCACAGCAGTGAGAC
23212	IGF1	ACAAGTATTTTAACTCTCAGTCC
23213	RAB7L1	AAAAATAAGAAAAATTAGCTGG
23214	CLASP2	GGTCAGAAAGGAAAGAA
23215	ADORA1	GACCTTCTGAACATGAGTGTCA
23216	USH3A	CATTACCCTATTTTATTTCTCCATCA
23217	TNF	CTTAGGCCTTCCTCTCTCCA
23218	ME1	ATAGCAAACATTTCTAACTCTA
23219	PRex1	GGCCTCTGGAGCTGGGATT
23220	ADAM11	GTGCCTGGACCATCGCTGCCTGCCAGC
23221	ADAMTS5	ACTGTCTCCCCCTTGTCACC
23222	PPM1B	CTTCTCCCTCCCTTGCCTCAG
23223	VDAC2	TGATCTCAACAAGAGCTGTAT
23224	SLC2A2	CGCATTGTACACTATCTATCTGCCTTT
23225	ILVBL	TTTCTCTCTTAGGTACCACCTCA
23226	MIP	TGGGGAGGGGCATGTACTTCTT
23227	PLP2	CCCTCATTTCTCTCTGCAATCTGCAAA
23228	LPP	ACTTGTAATCCCAGCAATTTGG
23229	NUP62	CCCTGTAATCTCAGCACTTTGG
23230	CLCN6	TGTGATGCAGAATTATGCACTGA

23231	HUNK	TTCAGATCTTCCTTCCTCCCAAGT
23232	GRLF1	GGAAGGTGTGTGCACAGAGGGT
23233	FANCC	CCTCTTCCTCCTCCCCTGCCA
23234	MBL2	CGCTAGATACATGCTTTTTA
23235	ZNF264	GCTGGGGTTACAGGTGTGAGCC
23236	RAF1	AGCCATTTGCAGTGCTGGTGT
23237	LPIN2	GGCTCTTCTGCTGACCTCAG
23238	CHRNA2	CACTCTTCAGCCTCTGTTTGACCAT
23239	MAPRE1	TGCCAGGCTGGGGTGTTTTCGGT
23240	CHS1	TTTAGGAAACCATTTCATTCT
23241	TEAD3	CATCTACCTGCCAGGCCTCAGGCC
23242	B3GALT5	GCCTGAGCCAAGCTCATCTTCATT
23243	SLC9A1	CTCTAAAACATGAACTTTTCCTA
23244	IFIT4	CCTGCACTCCAGCCTGGGCTTCAGAG
23245	EBAG9	AGAGTATTTTAAGAAGACA
23246	PRKACA	CCCTTTAGGAAGCCTCCGCTCTC
23247	MBD3	CGGTCTGGAGGCGTAGTTTTGAAA
23248	GHRHR	CTCTGTGTCTGCTCTCATCCATTCC
23249	FOXM1	GATCTTGGGTTCTTCACTGC
23250	RAP1A	CAGATTAAATTACAGCTTTTATG
23251	HMGCR	TCACTGAGACAGCCACTTGGTT
23252	APM1	CTCATGAAGACCAATCTCTTGAAT
23253	STAC	TGGATTCTTTGAGAGCCAGGGTAGA
23254	EHD2	AGGCTGGAGTGCAGTGGTGAGAT
23254	KMO	AGGCTGGAGTGCAGTGGTGAGAT
23255	CALML3	AGCTCCCTCCGCGGTCGGATTC
23256	FGFR2	CATGCCTTACGAACCATGCCTTCCTCA
23257	ABCD1	TCCCTCCAGAGACTCGAGTCCCCATGA
23258	SUV39H1	TCTGCTGCAGGCCTCCTCCCTGCTGC
23259	IMMT	TTTCATGTCAAAGGAAATCAGC
23260	TCTE1L	TTATATTTACACCAGCTTTTCA
23261	GOLGA4	TTCCTTTCATCCATTCTTTTTA
23262	ED1	CAGATGTTTTTCATCCATTCCT
23263	JAK3	GTTACCCAGGGTGGAGTGCAG
23264	EN2	CAAGGAAAGCGGACCACAAAAG
23265	NLGN2	CCATGTCTCCCCCACCCTGCC
23266	HS3ST3B1	TGATGGTGCTTCTATTTTTTCT
23267	NR1I2	CATGCACCTTATATTTCTGTGTA
23268	UTY	TACACTATTTATAAATACGTAT
23269	CACNA1C	AAAAACACAAGAAGGCATTTTGC
23270	PER2	GCCACTCAGTCTGACAGCTTGCGA
23271	CR1	GCAAGCTCCGCCTCCTGGGTT
23271	MTR	GCAAGCTCCGCCTCCTGGGTT
23271	RPP30	GCAAGCTCCGCCTCCTGGGTT
23272	NFATC3	ATCACTTGAACCCGGGAGGTGG
23272	SIM2	ATCACTTGAACCCGGGAGGTGG
23273	CASQ1	GGTCTATATGCTGGGTGCTGAGACA
23274	TNFAIP1	TGGGCAAATGCCAGACCCAGGGTTAG
23275	PODXL	TAAAGCAGCCAGGAAGGACAGGC
23276	XK	GCATTACTGGCCTTTTCACTGACAAGTTAC

23277	ZNF278	GATCTAGATCCTGCTTTCA
23278	CDH10	TGAAACACAGTAAAACCAACTGGGT
23279	GLUL	CTCCTAGTTCTTCATCCCACT
23280	RAPSN	CACTCCTGCTCTTTCTCCA
23281	LZTR1	GGCAAAGCGGAGCCAAAATAAC
23282	CLASP2	CCACCTCCACCACCTCCGC
23283	FBXL2	CTCAGCATTCCTCAAAAAGACCA
23284	FACL3	TTGGTGATGCATGAAACAAAATAGCAAGAGA
23285	UBE4A	GCTGATGTTATCAGAAAAATCCT
23286	DNMT3B	AGGCCCCAAGCCCACTGGGG
23287	CIT	CCAGCACTCCTGGGTCTCGGGGTCG
23288	SLC17A5	TGTAACCTCAAAGTGCCTT
23289	PIAS3	GGCCTTAGCCATGATCTGCAGGGGTCT
23290	SORBS1	AGAGAGGCCCCTGTGACGCCCGG
23291	SUPT6H	ACTGCCCAGCCCCTGCCTGGCTGCCC
23292	CD1A	GGGGAAGAGAATACATGGGA
23293	MADH7	CTTTTTTGGCCATCTGCTCCTG
23294	SMARCA2	CTGGCAGAGACAGGAGAGGT
23295	CLASP1	TCCAGCTCTCCCTAATCGACT
23296	GTF2F1	TTGTCCTCCTCCTCCTGGC
23297	SIAT6	TGGTGGGACACTGGGCAGCAAGG
23298	DLEC1	ATTGCCCAGGGATTAGGAGCAGC
23299	EIF4EBP2	TTGCTGGCAGAGTCCTCTTGTACTTCA
23300	RPL15	TGGTATAACAGGCTTAATAAATTC
23301	TRIM9	ATGCTTGTCTCCATATATACTAT
23302	LRP1	AGCAGGACCAGAGGGG
23303	CD53	CTCATTTCAATTTCTTTA
23304	PTGS1	TTTCTGCTGGGATCCTTGGGCCCATC
23305	POMZP3	GCGCCCCTTGTCCTCCTTCGTT
23306	IL10	CTTGGGGCTTCCTAACTGCTACAAAT
23307	MTMR4	GCTTTCTAGAAAACAGCATTTCAT
23308	SRC	TTGCCCCACTCTGCCTGCCTGCTGTTGG
23309	DCX	TGCTCCTGTGGCCTTCCACAGCAGA
23310	RNF26	TGTTTGGCCTCTTCCCTCCCAAA
23311	MAPK9	ACTTGCCCATCTAGCACTTTGG
23312	GRAF	AGGTAACTCCCTCCCTAGCT
23313	APPL	TAACAATTTTAGATGATTCAG
23314	STK4	GAGAGTGAGCGGGTCTGGGCGGCTGCT
23315	AMD1	GCCTCTCTTTTATTGTAATGTGCT
23316	WHSC1	TGGCCAGGCTGGAGTGCAGTA
23317	TRIP11	CGCGAAGGCAGGCGTTCAAGGA
23318	RAG1	TATCCTTTTCTAACACTGT
23319	TIMM17A	AGAGTCAACATGGATCATTTCACAGTGA
23320	MAX	ATCCTCCTTTCAGTTCGTTGGT
23321	SLA2	AGAATAGCTGGGATTACAGGCGT
23322	GLUD1	TGGATCATGGCTGACTTCCTCAC
23323	GPR24	CGGGTTGTGAGGGGTTGTTGCAATGA
23324	NEBL	GGGTAGTTGTTTTACAAT
23325	ATP1B2	TCTTCTCCTCCTCTCCA
23326	ACADSB	CCCAGGCTAGAGTGCAGTG

23326	PTGIS	CCCAGGCTAGAGTGCAGTG
23327	F7	GCGCACACACAGATATGCACACACAT
23328	VHL	TGCCCCGGAGGGCGGAGA
23329	CABC1	TTTCTGCCCTTTTCCTCTCCA
23330	CALB1	ATAACAAGCCAAACATTCTTATTTTAG
23331	EGLN1	ACAGGCCCTATTCTCTCAGCCCTCGGC
23332	MYO1D	CTGTCACTGAAAACTTGGTGAA
23333	COL4A3	GCTGGCTACAACTGCTCCATCCGTGCC
23334	ZNF43	CCCAGCATGTAGATCATGTG
23335	JUP	CCTGTCTCCAGCTGCCTGGGCC
23336	FGF5	AAAGTGCTGGGATTACAGGTAC
23337	PPAT	TATACATGTACACATACAC
23338	ARHGEF12	GGAAGTGACCTGCTGTGACACT
23339	IRTA2	GCTGACTCTGCTGCCCCAACCTTTC
23340	BRCA1	CATTCTCTGCCCACTCTGGG
23341	COL7A1	TGCCCAGGACTGGGCCCAGATA
23342	COL1A2	TCAGCATTTGTTCTTTGCCAG
23343	SMARCA1	AAGAAAAATATTAAAAAAG
23344	TMEM5	ATGCCTGACTGGAAGCCCGA
23345	ZNF2	GGGAAAGGCAGAATGATATCACAGCA
23346	PIK3R3	CCTCTGAGGAGAAAAGCCCAT
23347	OTX2	ACCGGCCTCAGCTCCAACACA
23348	MGAT1	GGCTCACTGCCTCCTGCCCTTCTCTCC
23349	GDF8	CATTACTCAAAAGCAAAAGA
23350	GPX1	CTGGGCCAGACCAGACATGCCTGCTGC
23351	CACNB2	CTTCAAAAACTGTTTTGGGTAG
23352	TARBP2	GTGCAACCCCGTTGGTGCTCTG
23353	LAMC2	GTGGGTGGGATGGGGACATTTGAACA
23354	NT5E	ACCTATGCCCAAAGAACAAATA
23355	RAG1	CACTTTCCCTTCATCCTGC
23356	KCNS2	ATGCTCCTGCTCCTCTTGTT
23357	TIMP3	AGCTGAGACACTTCTGTATTT
23358	PCDH11X	ACTGGCCATTATCTTGTATGTGCACA
23358	PCDH11Y	ACTGGCCATTATCTTGTATGTGCACA
23359	PPP6C	ATACTTTTTATTGAGCACTTT
23360	USH2A	GCTTTATATTCTTAAAATGGCAAAAA
23361	EPB49	TTGGGAGGGGCAGGAGGTGGGGT
23362	KIFAP3	ATCCTCTCCACGCCGCTGCCGCTGCCG
23363	APTX	GGACAGGGCTGGAACCTGGGAG
23364	KCNJ8	GCTAAGCTGGCTATGGTGAC
23365	IL2RA	CTTCTGACTGCTGATTCTCCC
23366	GAS2	ATTCCTGAGCACATGGCTGTGT
23367	ADH5	TGGGTGTCTGAAACCTCAGA
23368	ONECUT1	ACCTTCAATCCATGACCATCCTCGC
23369	HCK	GGGAGGACCAGGGCAGGGCCAGG
23370	GPR56	ACACAGGCTGGAGTGCAGTGGT
23371	PLAT	GCAGTGCTTCTCTACAGACTT
23372	ABCC11	CACAGGTGCAGCTTCGA
23373	PPFIA3	GGGCGACGTGGCGTGGGGGCAGGG
23374	Rgr	GGGAGAGACTAAAGGAGCTCTGGGGCT

23375	ADCY2	ACCAGCCTGGGCAACATAGCAAGACCC
23375	PDE4C	ACCAGCCTGGGCAACATAGCAAGACCC
23376	AHR	CTGAGGCAGGAGAATAGCCTGA
23377	KAL1	ATTTCTATTGAATTACAACAG
23378	GRM3	GTCTAGTGCCCCTATTATTAAC
23379	NRG1	GGCTGGTCCTCCTTCTGCTTTT
23380	SLC21A3	GCTGTACAACTTAATTGTTTTAAAAA
23381	OGT	TGGATTGCAGCATTCTGCTC
23382	TCF12	GCCGCCTCCCCCTCCCAGACCC
23383	CARKL	TGACCAACATGGGGATACCCCGTCTCT
23384	PIK3R3	ATGGCTCTGCTGGGAGTTGTGT
23385	CARD10	TGTCTGTGTCTTCTCCTTAAACACTC
23386	APBA1	CCTGCTCCCACCACCAGTGAGAC
23387	CDKN1B	TGAAGAGAAGCAATTTTGGGG
23388	NOTCH2	TTCACATTCATACATTT
23389	AK1	CCGGTCCCAGCCTGGGCTCCTCTG
23390	APOL1	TGGGAGGTGGAGCTTGCAGTGA
23391	SOX10	CACCCAGGTTGCTGTCGGCAGGCT
23392	RAB27A	AGGGTCAGGGAACTAGATTTTA
23393	BTEB1	ATGAATAAGTTAAATACATGC
23394	A1BG	CCCAAGTAGCTGGGAGCCTGGGCATG
23395	ADAMTS9	AGAAAACAACTCCAGTTCTCTGCCT
23396	PTPRS	TCGGCTCGAGGCCTCTCTGTGAG
23397	IRS2	TGTTTAATCTTCTCGATGTAG
23398	C18orf1	TTCCCATTGCCTCTCCCCCTTTCCTCG
23399	CNTNAP2	AGGCTGAGAGCTGGGCACAGGC
23400	KLHL3	AAAGGGAGCTTGGTGAGAGC
23401	ADAM19	CCCCAAACCCCTGCATCCCTGTA
23402	PLEK	CAAATCAACGGGAAACAGCCCAGGG
23403	ARF3	GTGTTGGTGAGATTAAGGGAA
23404	EIF2S3	GTGATCTGCAACCTCTGCCCCC
23405	OVOL1	CCTCCTGCAACCTCTCACCC
23406	IGFBP7	GATAACTACATTACCTGTTCTTGCC
23407	PPP2R5C	AACTGATTTCAAAAGTACTACA
23408	GPT	CTCCTGAGCTGCCTTCCCGCCTG
23409	ADCY3	GAGGGGCCCTGACCACTGTGAG
23410	TNFRSF10B	GGTCTCGAATTCCTGGACTCAAGCAGT
23411	SLC4A7	AGAGAATAATTTACAAAAATCAA
23412	MOG	CTTCTTTCCATTTCTCTCTCCAGTCT
23413	SDC4	GGAGGGAAGCCAGGGGATTTTGAAG
23414	PRKY	AGATGTTCTTCCCTGGGTGTT
23415	FPR1	CACCTTGAGTTAGGCTGAGCCA
23416	PRDM1	AGGTTTCAGGGATTGGCAGAGGGG
23417	GRIK1	GACCAAAGGACGAATGAGGGAG
23418	DNASE1L1	CCAGAACTGAGCCCAGTGAG
23419	HRH1	GCACCATAGAAGAACAGCAGAT
23420	MAP3K7IP1	TGAGTTAGACTATTTCCCACATGTTCT
23421	SPOCK	TTCTTCTTCTTGGAAATAGTCCT
23422	ANXA7	TTCATTCTTACTAGTTTCA
23423	RCV1	CCCACCCCTCCCTCTGTCCACCA

23424	DYRK1A	TCAACGACTTCTTCCTCGACAT
23425	KCNN2	CTAAGTTTTAGGCCAAAATGAG
23426	RPH3AL	CCTCCCATCCTTCCTGCCTCCT
23427	ADAMTS4	GAGTAGCTGGGATTACAGGCTCCTGCC
23427	APPBP2	GAGTAGCTGGGATTACAGGCTCCTGCC
23428	SLC7A5	CCGGACACGGCTTCACTGACC
23429	MS4A3	TCTGATCTATTTTTCCTCATCTGTAAA
23430	FPRL1	GACACAAAATATTGGAAGAGTGGCA
23431	ARCN1	CCAAAGTGTTGGGATTACAGGC
23431	ATP1B2	CCAAAGTGTTGGGATTACAGGC
23431	CASP2	CCAAAGTGTTGGGATTACAGGC
23431	RBBP9	CCAAAGTGTTGGGATTACAGGC
23432	TZFP	CGCTGCTACGGCGGCCTAGCAA
23433	KCNK4	GCGGGTGTATCCCTCACAGCACCTCACG
23434	UCP3	CCTTTGTTTTGCACTGA
23435	CTSS	GCATCCTTACCTCCA
23436	HDAC7A	CCCTCCAGTATGGGCCCTGGCTGTGGC
23437	ABCE1	GGTATTTTTAAATTGTTTTTAATCCTT
23438	ADORA2A	CCAGGTCCCAGGGGAGAGGTTGGGGCTG
23439	EHD4	AAGAAAAGAGGTGGTTCTCTGCAGTGA
23440	p100	ATTGACACCTCCAGTCCGGCCA
23441	FVT1	TTTGAACAGCTTGCTGCTA
23442	OLFM1	CAATGCATTTTTTGAAAAAGAAAGA
23443	CARKL	CCAACATGGGGATACCCCGTCT
23444	PYGO2	TTTGTTGCTTCTCTTTGCTATTCTTTCA
23445	CEACAM6	TCACCTAGGTGAGCGCATTGAGCCAG
23446	ACTN2	CAGTTTGTTTCCTGGAAAC
23447	GPC1	CCCAGCCAGCTGCACTGCAGG
23448	ABCC3	GGATGCCAACCAGAGAAGCTG
23449	BTG2	CCGTGACAACAGGCCACCACATACCTC
23450	NAB1	TTGATATTTCAGAATGTGTTA
23451	CBLB	GTGGAAATAAAGAGAACTGAGATGGA
23452	XT3	GCAACCCCAAACCACATTAGAAG
23453	MEFV	TTGTCACCCAGGCTGGAGTGC
23453	PCDHB16	TTGTCACCCAGGCTGGAGTGC
23453	VHL	TTGTCACCCAGGCTGGAGTGC
23454	PSG7	CCATAACAACAGCTGCTCA
23455	TAPBP	GGGAACCATGGTGTCAATACATATCA
23456	BAI3	ACATTTCTATCTGGACAGTGTGA
23457	TSN	TTCTCTCTCACTGCCATCA
23458	PAICS	TGGCTCACACCTACGATCACAG
23459	TSC1	TTGAGTCTAACACACCACTTTCTG
23460	PKD2	GGGCTTCTGAGTTTCATTTCCAGTCAC
23461	TACC1	ACGTATGTTTTCCTACTTCTC
23462	GPLD1	AGCATTCCCACGTCACCAGAG
23463	CRY2	GGAGTGGCCTGTGCCTCCCA
23464	ADCY6	GTGAAGCCTTGAGGGCTGGCAGAAGG
23465	AOAH	CTGCAGCCTCAGCTCCAGC
23466	KCNK2	TCTCTAGCTAATGTGTGGTTTCTC
23467	DLG4	GGTGCTGGTGCCTTGGGACCTGGGG

23468	CRYZ	TTATCTGTTTTTCTGGTGAGGGTCAAA
23469	E2F3	TACTTAAGCAGAGGGAGAGA
23470	MYCN	CCTGCAGCCTCCTCCACCTCACC
23471	ZNF146	TCCTCATAAAACTCAGTACTAT
23472	CALM3	CTCTGCCCTCCTCCAGCCCGG
23473	NUMBL	TCTGTTGACCCCCACCTTCC
23474	LRRC2	TTTCCAAATAATGCACATTTA
23475	DSG1	GGCAGAGTCTTCTTTGTGCCTGAG
23476	NOX5	GGTCTCAATCCATTGCGCCCA
23477	CACNB2	AGCAGGAGTAGGCCTCCTGCTTT
23478	TMEM2	GGATGGCCAAGGGTGGGTGGTAG
23479	EBAF	GGCTTCAGGCTGGGGGCAGTGG
23480	PPP2R2B	AGAGTGAGCTTGGCAGGGCCAGGCGG
23481	CALU	CTGTTGAAATGCTCAAGACTTA
23482	CYP1A2	AGCTCACTGCAACCTCTGCCT
23482	MICB	AGCTCACTGCAACCTCTGCCT
23482	PCDHB11	AGCTCACTGCAACCTCTGCCT
23482	TUFT1	AGCTCACTGCAACCTCTGCCT
23483	CYP8B1	GGCTCACTACAACCTCTGCCT
23484	FGF1	AGCAAGGATATCAGAGCTGGGAAA
23485	DVL3	AGCAAGCGGAGGTTGCAGTGA
23486	TPMT	GCCAGCCTGGGCAACAGAGCAAGACT
23487	UBE2G2	CCTACTTCAAACAGGCTTCTCTTCTGA
23488	SLC1A4	TCTTCAGGCTTCAGTAAAT
23489	FLT4	TGCACTTATAAGAAAGATCAAAGA
23490	AQP6	GGCTAGACCTTGGACTGTCTACA
23491	OPA3	TCAGTGTTAACCTTTACTGGGA
23492	SPF30	CTTTTTTCCTGTTTTTTGTTTT
23493	CARD12	GTCCTCTGGGATTCAAGGTACAGG
23494	EIF2S3	GGCTAATTTTTGTATTATTAGT
23495	PKP2	GTAGATGGCTTCCTGGAATCA
23496	EIF3S2	GCAGTGAGCTGAGATCACGTC
23497	SIM2	GCAGTGAGCTAAGATCACATC
23498	RGL	TCATTGGTGAAGTCAGCAGAT
23499	RAP2A	CAGTAACTACAGTTTTCAC
23500	MS4A6A	ACCAAGAGTGGTAGAAGGA
23501	SOCS5	GTCGGAGGGGACGGGACGC
23502	NLGN2	GGACACATGTTGGCCCCCTCA
23503	HOXA13	AGAGAAAGAGACAGAGACTGGCATTT
23504	MAN1A1	CCTAGGAAAGAGGCAGCAGT
23505	EN2	CAAAGTTGGTTTCTGTTT
23506	CLN5	AGCCTTGGTAATTTTGA
23507	AICDA	CTGTAATCCCAGCTACTTGGGA
23507	C5R1	CTGTAATCCCAGCTACTTGGGA
23507	CD68	CTGTAATCCCAGCTACTTGGGA
23507	CTSS	CTGTAATCCCAGCTACTTGGGA
23507	DFFA	CTGTAATCCCAGCTACTTGGGA
23507	GALNT7	CTGTAATCCCAGCTACTTGGGA
23507	IL10	CTGTAATCCCAGCTACTTGGGA
23507	RAB7L1	CTGTAATCCCAGCTACTTGGGA

23507	ROCK2	CTGTAATCCCAGCTACTTGGGA
23507	SLC2A3	CTGTAATCCCAGCTACTTGGGA
23507	SWAP70	CTGTAATCCCAGCTACTTGGGA
23507	TSNAX	CTGTAATCCCAGCTACTTGGGA
23507	ZNF36	CTGTAATCCCAGCTACTTGGGA
23508	GFAP	GGGAGCTTGATTCTCAGCACTT
23509	GUCY2D	TTGGGTCCTGGGAGGGTGGGTGAA
23510	ARHGEF12	ATTTAACATCATGATTACCACCTT
23511	ICOS	ATTGCAAACAAAATCATCTTTAAT
23512	EPM2A	TGCTGCCTGCAGGCAGACGAGGCCTTT
23513	DISC1	ATTGTTTGAACCCGAAATAAGGGTTC
23514	TRAF5	GAAGATCATATTGCTGTAACTTC
23515	RAG2	ATAAAGTGTTTATGACAAATTTAGCCA
23516	IL1RAP	GTCACCTATTCACTAGTGCAGG
23517	CHS1	GACTGTAAATGTCACAGCAGTG
23518	AES	TGCCCCACTCACCACCTCTGCT
23519	SPR	CAGGAATAGAACTTAAGGGGTGG
23520	PDLIM1	TGGTTAATTGACTCACACCAGCT
23521	BRCA1	GCCAGCCACAGGTACAGAGCCA
23522	BLMH	GCCAAAGTTATGCAAGGGACTGTGTG
23523	AK3	TGGTTCTCCCCATCCCCACAA
23524	CDKN2B	AACTAGTGGCTCTCAGTTAA
23525	EPB42	ACTCCTGTTTGTGGCCTGCCTCTC
23526	EIF4EBP2	GCCTCATTCTTTTCTGTGACCC
23527	LIFR	CCCAGGCAGTGGTGATCTTTGA
23528	ACP1	CCAGCCTGACTAGACCCCACCC
23529	ALDH1A2	TAGCATGTGTCCAAGTGGACATA
23530	ZNF202	CTAAGAGACTTAAGAGGTCGTGGTT
23531	MLC1	CCGCTGCTCTCCCAGGTGAAATCC
23532	THRA	GCCTGGGTGGCAGGGGGTGGGT
23533	HSF4	GCCAGTCCCTCCCCCTAGACCCCGCGCC
23534	GALNT7	TGGGAGGCTGAGGCAAGAGAATCGCTT
23535	HNRPA2B1	ATTTAATAACATTACCTTA
23536	LILRA1	TGCTGATCTGAGTCTGCCTGCAGCA
23536	LILRB1	TGCTGATCTGAGTCTGCCTGCAGCA
23536	LILRB2	TGCTGATCTGAGTCTGCCTGCAGCA
23537	HYAL1	CATGGCCGCTGTGTCCGCCGCA
23538	SNRPA	GCCGACGTTGGGACAAAGGAT
23539	TES	GCAGAGCTGCTGTTTTAATGCCT
23540	PCK1	TACTCAGGCATTGATCTTTTCA
23541	HD	CGCCTTCCCCTCAGTTGTTTCTAA
23542	CRACC	GGACCTCCAGCCAGGCTTCATTTATGC
23543	RARRES3	TTAGAAGCAGCTGTGGGGGTCCCAGTG
23544	CHRNA3	AAACAACAGAAACTTC
23545	SOX2	TTTAGGACAGTTGCAAACGTG
23546	ETV3	TGAAAAGCAGTGTCTTTGAT
23547	BNC	TTTGAGACCATCCCTGTGTTTGGAGTG
23548	CAV1	TGCTGCCAGAACCTTGGGGA
23549	TNFRSF7	GGGACGAGGACAAATATGGATGAG
23550	GLRA2	CTTTGTCCTAGCATCTTTC

23551	SUV39H2	CCATCATGGTGAAACCCTGTCT
23552	OAS3	CTTGGATTGGCCCTGGCTGCTGC
23553	PCTK1	CTGCCTACCTGCCTGAGCCATG
23554	ABCG5	TGCTTCTGTTCCTGGAAGACCCA
23555	KRT14	CCTCCTCTGCACCATGACT
23556	HIVEP1	TGACATAAACTCATGACTAATCTTTGTG
23557	C7	CAAATGCTGGGATTACAGACAT
23558	LNK	AAGTAGCTGGGATTACAAGCACCAGCC
23559	MYOC	TAACTTCTAAAGGAAGCAGAA
23560	HYOU1	TTCCTGTAACTCCCTGCCTCCT
23561	GRF2	CTCCAGGGAGAGAGCAGC
23562	SIRT5	GTCAGCAAACTACTGCCTGTGGGC
23563	VAPB	AGTTGAGAGTTTGACTGTGAAT
23564	ATP1A2	AGACCCATAAACCACCTCCCA
23565	BAP1	TTGGGAGTAGGGTGTCCCAGTGGG
23566	PIN4	TCAAAGAGAAGTCAAGCAGA
23567	BDKRB2	GCAGGGCTGCTGTGAATTTGT
23568	CST	ATCCAGAGCTGGAGTGCAGCGGC
23569	COL4A4	GGGAGGTGGCTGCGCGGTGG
23570	SEPX1	CCTCACCTTCTTTTCCTGGCCCTGTC
23571	SPAG1	CATTTATATCTGAATTATTACCTCCAT
23572	FGFR3	CCTCTGCCTTTGCACCACGGG
23573	ALEX3	GGTCCAAGCCTCTCCCGGGTGGCCA
23574	CPS1	GGCTCACTGCAATTTGCGT
23575	NUMA1	CACCAGGAGTCTGGAGTGCAATG
23576	SEDL	TGCCTCCTGACTTCAAGCAATT
23577	PSMD9	TTTGTCACCCAGGCTGGAGTGC
23578	PRKCABP	AGGACTTGGAGGTGGCAGGA
23579	SIP	CAGGAGTTTAAGGCTGCAGTGA
23580	SLC2A3	AGACCGAGTGAACCTACCTTCAT
23581	IL11	CTGGGGCAGGGCAGGTGGAG
23582	CDYL	TCCTTCTAGAACACAGAATC
23583	MAN2A1	CCGAGAGCGCGGAGGTCGCGCAG
23584	HLCS	ACTCACTGCAGAGCTGCTGCCTGCC
23585	IFRD2	GTGCCTTCCTCAGGGCTGTGGGG
23586	HOXC9	ACCCTACCCAGCCTGCTGCCTCAG
23587	PLA2G1B	TTCTTTTCTCACCTTGACTGCA
23588	POLR2C	CAGCAGTCATGAACCCCTTCACCTC
23589	TAF12	TGAATATGGGACAAAGCATTAT
23590	SLC1A4	CAGACCCAGCCACTGTTTCTGCCACCCT
23591	FCGR3A	TGGTTCCAATAAAGCATTTTA
23592	GSPT1	GCTTTCTCATATTGAGAGCTCT
23593	CALM1	GGGTTGTTCTCAATTGTGCTG
23594	ZNF268	GCCCCTTCAGGGTTTGGAGGA
23595	LOH11CR2A	TTCTTTTCCCAACATATGCCCTCA
23596	IMMT	TACTACTGTTGATTTTGCCCTCG
23597	FLRT2	TTAATCTTTGCCATCCTTAGA
23598	GFI1	GCCACCACTCTGCTCCCTGCTTGCC
23599	ZNF202	TTCCTGCAACTAAACACGAGCCTGGG
23600	AK2	GGAAAGGGAGGCTGATTCCCTT

23601	CTSS	GCACATTTTAAGGAACAAGAATT
23602	ETV5	ATGGAACATTTGCACCTGAGTTG
23603	B3GALT5	GGGATTCTGGGAGCTTTCTGGGAA
23604	MOCS1	CAGCCAGCTGATCCCTCTGTGCCACCAC
23605	GAB2	GCAGAGGCAGAAGATGAAGGAC
23606	PCDHGA1	GGCATCATGACCTCTTGGCCT
23606	PCDHGA10	GGCATCATGACCTCTTGGCCT
23606	PCDHGA11	GGCATCATGACCTCTTGGCCT
23606	PCDHGA12	GGCATCATGACCTCTTGGCCT
23606	PCDHGA2	GGCATCATGACCTCTTGGCCT
23606	PCDHGA3	GGCATCATGACCTCTTGGCCT
23606	PCDHGA4	GGCATCATGACCTCTTGGCCT
23606	PCDHGA5	GGCATCATGACCTCTTGGCCT
23606	PCDHGA6	GGCATCATGACCTCTTGGCCT
23606	PCDHGA7	GGCATCATGACCTCTTGGCCT
23606	PCDHGA8	GGCATCATGACCTCTTGGCCT
23606	PCDHGA9	GGCATCATGACCTCTTGGCCT
23606	PCDHGB1	GGCATCATGACCTCTTGGCCT
23606	PCDHGB2	GGCATCATGACCTCTTGGCCT
23606	PCDHGB3	GGCATCATGACCTCTTGGCCT
23606	PCDHGB4	GGCATCATGACCTCTTGGCCT
23606	PCDHGB5	GGCATCATGACCTCTTGGCCT
23606	PCDHGB6	GGCATCATGACCTCTTGGCCT
23606	PCDHGB7	GGCATCATGACCTCTTGGCCT
23606	PCDHGC3	GGCATCATGACCTCTTGGCCT
23606	PCDHGC4	GGCATCATGACCTCTTGGCCT
23606	PCDHGC5	GGCATCATGACCTCTTGGCCT
23607	FZD10	TATTTTGCTATATATAAAGACAACAAA
23608	GCH1	CCATGATCTTGAGTCCATTTGGGG
23609	NR2E1	GTCCATCTCTCCATCTGTC
23610	VDAC1	TTCATATTGAGTAAATGAATGAAA
23611	COL9A3	GCCTGACAGCATACCTCA
23612	QPCT	TGATTTCAGACAAATGCTGTG
23613	SLC1A1	CTCTCACCTCTCCCCTGTGCACC
23614	PPP1R2	TTTTCCCCATGACTTTGGTT
23615	FLRT1	GCCCCGCCTCAGCCCCAGCTGCC
23616	STAT3	AAAAATAGAGAAATGAGTG
23617	MMP19	TCTCTGGAGGTCAATGGTGGAGGG
23618	TUFT1	GACTCTGGCTGCGCCATAAGCCA
23619	FLRT3	ACTTTGTGTTCTACTGAGTA
23620	MHC2TA	TCCATAGCAGAGAATGAAA
23621	RBBP9	GGAGGCTGAGGCAGGATTGCTTGAGCC
23622	DDX6	TAAAAGTTTGAGGAATATTTCA
23623	OBP2A	CCCTGCTCCCACCCACCTGACT
23623	OBP2B	CCCTGCTCCCACCCACCTGACT
23624	PRX	GTGCAGCTGCCGAAAGTGCC
23625	HYOU1	AACTATACCCCCACCTCTGTTTTC
23626	OTX2	CTTAGGAATGAACAGTGTCTCA
23627	COL4A2	TTCTTAACTTATTACCTCA
23628	MYOG	CCATCCGACCAAGGTCTCCTGTGCT

23629	GPR3	TGGCCATTTGGGGAAAACTGCAG
23630	SLC7A8	CCTTCCCAGCCACTCCTGCTGC
23631	SMG1	CATGTTTTTCATTTGATACTT
23632	HKE4	TCAGGGGTGCGTAGAGGTTGGGGGCCCTGG
23633	KCNH1	CCGTCACCACCACCCCTACCAC
23634	SYNGR1	TGGGAGGCAGAGCGGCAAGGA
23635	IFNW1	TGTAGTGTGTGTCTGATTATTTACA
23636	B4GALT5	GAGTACTGGAGGAGAGAATGTAC
23637	IRS2	GGGCATGCCTTTCTGTAACCA
23638	F8	ATACAATAACTACTACAGTA
23639	CNTNAP2	AGGAAGAGAGTGCATGGCA
23640	BCL7A	GCTGTGCTCTCCCCTCCTTGGGGC
23641	ACE2	AGGGAAAGTCATTCAGTGGAT
23642	FCAR	AAGTAGCTGGAATTACAGGCACATACC
23643	TSTA3	GCCCCCATTCACGTTGGTCCTCAGGGA
23644	RNF3	GGATGAAAACACTTCACAGTCT
23645	YWHAG	TCCAGCCGCCTCCTCCGCGCAG
23646	LAMC1	CCCACTTCCTGTTTCCATCTGCTTG
23647	PCSK5	CTGGTCATCTCCGCCGCGCTCGG
23648	P2RX7	GCAGGCAGATCACCTGAGGTCG
23649	IL4R	AGGCTGAGGCGGGCAGATCACT
23650	LBR	TCCCTGTAAAGGAGTGCTGT
23651	PNUTL2	CAGAGTGCTGGAAGCCTGTGG
23652	BMP8	TACCTGGGCATGGTGGTGCA
23653	MADH4	AACTCTTAATCTGTGTGTAT
23654	LAMP2	CTGAGCAAATATTAAAATTGTTA
23655	TACC1	ACACACACTCTCACACACATACAT
23656	ARHC	TTCAGTTCCCTCCTGCCCAG
23657	NEO1	TGAGAACACAGAATGAGCCAG
23658	ADAM12	GACAGTTTGCTCATTTATTGCAA
23659	PPEF2	CAAGCAGGCCTCCTGGTGACCGG
23660	NR1I2	AAGTCCCCAGCAGTGAGCTGTGT
23661	SPO11	GCTGTACTCCAATTTTCTTTGCAAGGCCT
23662	SLC7A5	GCCCCACTCCAGCCTGGGGA
23663	FRAT2	CCACCCCCAAACTTTAAGGTA
23664	DNAJB1	GGGGAGTTGGAACAAATGTCT
23665	RFC1	GCTTGGGTCCTCCACTGTCCTCTGTCAA
23666	DDX6	TGCGAAGTGCCTTATGCTATGAG
23667	ARF3	CCCACCCCTGACATACCTACTGTCACC
23668	SACM2L	TTGCCCAACAGGATAAGCTGGA
23669	PPP1CC	CTCTGAATCTGTACATGTTCTTGTCA
23670	WSX1	CACTGCACTCCAGGCTGGGTAACAGAA
23671	KCNMB3	GGAGCAGGTTTGCAGGCACAGTGGAGAG
23672	WFDC1	TGTCCCCACTCACAGGCCCACGCAG
23673	PRKG1	TGGTCACAGAGTTCATGTCACACC
23674	MTR	GTGTTAGCCAGGATGGTCTTGATC
23675	SCNN1A	CCTCTAGCCTCATACCCGTGCCCTCA
23676	CDKN1A	TCATGCCAGCTACTTCCTCCT
23677	PCDH11Y	TCTTCTTTTATATTTTTTGGAAACC
23678	PNUTL1	CCGGACTGTTCCCGACCCGG

23679	LPIN2	GGCTGAAGCTGCCTGTGCACGTTTCTTCTC
23680	CARD15	CAGACTTCTGAAATAGACCCA
23681	DDEF2	AGAACTCCAGTCCCAAACTAATCTGTC
23682	MX2	GCATCAGAGCATGCATCAGGG
23683	GPR4	CTGTGTTGCCCAGGCTGGAGTGC
23683	HMG20A	CTGTGTTGCCCAGGCTGGAGTGC
23683	TNFAIP2	CTGTGTTGCCCAGGCTGGAGTGC
23684	UBL3	AACTATTTGCTTTCTCTTCA
23685	IQGAP1	TGTTTTTAAAACTGTTTTATATCTTA
23686	TNFSF15	TAGAAAACAGTATAAACTTTCAGAGG
23687	CAV1	TCTGCTTGATTTTTGCCTCTTCCAGTC
23688	PSMD5	CTCTGTCTCAAAAATAAATGAAT
23689	HLA-G	GACTTCTCTTTGTGCAGAGA
23690	HS3ST3A1	CCCAGGAGGCAGCCGGTGAGCG
23691	SORCS1	CAGTTGTTCTCAAAGTGTGGTA
23692	COL9A1	CACTGTGCCAATAAACAAAAACAACTG
23693	VAT1	ATGGGAGGTGGAGGGACAGGC
23694	POU2AF1	AGCCTCTCAGAGTGCTGGGATC
23695	IL8	GGAAGGAACCATCTCACTGTGT
23696	RXRA	CGTGGCCTCAGGTGCCAGGGTT
23697	LILRB1	ATCGCTTGAACCAGGGAGTCAG
23698	HRASLS	GGCAGACTCTTTAATAAATTGCT
23699	CKM	AATATCTCCCTGGCAGGGTCC
23700	CST2	TTCCTTTTGCTTCTCATAGCC
23701	FGFR2	CTTATAAATACATTTTTGTCAG
23702	HYAL1	CAGGGCTGGCAGTCATCGAC
23703	HPS3	TATTATCCTCTGAATGCAGTT
23704	SLC22A2	GTCCTTACAGTCCCACTCTGGA
23705	COL6A2	GCCTCCCTCCCCCTGCAGCC
23706	APP	TGGGTGGGGAGAAGAGGCAGA
23707	EIF4E	CTGATTTCAGTTTTTCATTT
23708	KCNK10	TGGTGCGCTCCAGCCGGGCAG
23709	VHL	GCCTGTAATCCCAGTACTTTG
23710	RNGTT	GTGTCCATTCTGGCAGTGGTTTTGA
23711	CTF1	CGCCCAGGCTGGGGTGCAGTGG
23712	GDF8	GGGATTTTGTTAATCAAATTTAT
23713	ADCY1	AAATGGTGGCACTCTGAA
23714	ATP1A2	TGTGAGGAAGAGGTTGCAGTGA
23715	ANXA11	CCAGTGCCAGGAAAAGGCCAA
23716	USF1	CTCTGGCACTTCCATTGGTTCT
23717	LARS2	GGTTCCTCTGCCTGTGTC
23718	ADH5	GAGGTACTGTGCCTTGTTCATACCTGT
23719	APOL1	CGCCAAGTTGGAGCTTGCAGTG
23720	MAT2A	CTAACAGCACCAAATCAAAATCTCTC
23721	SELL	GTGCTGTACTTGATGACAGACACTTCT
23722	GPR56	GGTTTCCATCCCACCACT
23723	MYBBP1A	CGGGCCCCCCTCAGCCCCTGC
23724	TACC2	ACACATTGCTGACCTTGGCC
23725	MECP2	CCCCACCCTCCCCTTCCCAGGGCAATA
23726	COLQ	CTCAGCAGGCTGGAGCTTGGGG

23727	ZNF264	TCACCCACGCTGGAGTGCTGT
23728	CYP2B6	GATTACAGGCGTGAGTCACCGT
23729	MATK	CCAGGCTGCAGGGGGCTGGAGAAGC
23730	CHST5	GGAGAGGGAGCTGGGGCGC
23731	F2RL3	GAGCATGTGTGGGTGGGAGTCAGCACA
23732	MGAT5	TAATATTGAAACTACTCTGCCTTT
23733	TPST1	GCACAGCCCTGCAGTAAGGAGCCCA
23734	EHF	TTCTCAGAAGAAAAAGATATGT
23735	FZD7	GGAAGGCAGGAGGCAGAAAGACGGGT
23736	HSPA5	CCCGGCACTCCAGCCTGGCGA
23737	WHSC1	AGGGCTGTTGTCATTTGTAAACGC
23738	CELSR3	CTCTTGGGAAGCAGCTTCCT
23739	IL17BR	AATTTGTTACTTCACTGAATTTCTTCAAAACC
23740	MECP2	GAGGAGGCCTTGGGCTCTGCTG
23741	BAP1	GCTACTCCAGTTTCCTCAGCCT
23742	B3GALT3	CTGTTCCTGGGTTTATGCAGTT
23743	KCNS2	AGCACATAACATTGTGATGGGGAA
23744	IL17R	CCATTGCACTGCAGCCTGGATG
23745	TSC1	GCGGGGAGGGGGATAGGAAGACGC
23746	PMS1	TCATTTAACCTATCTTCCAG
23747	GPR62	GGGCAGGTGTCACAAAGAAGAGG
23748	UMPS	TTGCCCAGGATGGAGTGCAGTG
23749	SMCX	TTCAGACCTCAGCTCCTGGGGGCCGG
23750	P2RY1	GGCCCCTCGGGAAAGCGCAGTCG
23751	ELMO1	CAAATCTCCTCCCACCTCTCTC
23752	CRTAP	GGTCTCGAACTCTTGACTTCAG
23753	MRPL49	AAACTCCTGACTCGAAGTGATC
23754	RAB36	TGAAGGGCTATCTCTGGCACCTCT
23755	GPC1	AGGGTCTGGGGGCAGCTGTCCTGAACC
23756	PTK2	AGAGCACCTCCAAACTGCA
23757	CTNNB1	AATACTGCTACAGCAATTTCT
23758	NPR2	AAAACAGCCACAAAAAGA
23759	EXTL1	TCAGTCTTCCCATCTGTACAATGAC
23760	PKNOX1	TTTGTTTTCATTGTTTACTTA
23761	CEBPA	GTGGCTTCTCCCTGCGAGGAG
23762	KCNK5	AGGCTGGAGGGCGGGCGGAC
23763	KCNMA1	CCACTGTGTGAAACTGTATCTGCCA
23764	ATP7A	GTCTTAAACTCCTAACCTCAGG
23765	COX15	GTCTTGAACTCCTGACCTCAGG
23765	EIF5A2	GTCTTGAACTCCTGACCTCAGG
23765	GNE	GTCTTGAACTCCTGACCTCAGG
23765	PRND	GTCTTGAACTCCTGACCTCAGG
23766	GRM4	GCAGCCTGGGCAAACCGGGTGA
23767	PARN	GGCTGTCATGAATGTGTACGTGCT
23768	FZD8	GGAGGGGAGGGGGCGCCCAGG
23769	BAT4	CGGAAGACTTAAAGGGCCAGGC
23770	EIF5A2	TCTTAGACCTCTCCCATCATGCC
23771	SLC17A5	TGAACCAAGATCACGCCACTG
23772	BIG1	CTGGGAGCCGCGGGTCGGACGAGCCG
23773	HOXB6	GAGGAAGAGTTGAGTCTGTCT

23774	NT5M	CTGCCCTGCCCAACCTGCTC
23775	TARDBP	GGCTGAGAACATGGACTGAGC
23776	PIGR	CTGGGGCCCTCAGCTCCTGGG
23777	NKTR	GGGTTTGGCTGCAGTGGCAGTG
23778	TMSB4Y	GGAGGGCAGAAGCACAGTTCCCA
23779	CDH5	GTTCCCACTCTGGGCAAAGCC
23780	CELSR3	GGGGGTGCGGAGAGACAGGCGGAGGGGCGGG
23781	RORB	CAGCTCTTCGCCGACCACCTT
23782	EDNRB	AGCAAAGTGCCTTAGGATAG
23783	UGDH	GACAAATATAAAGATGAGGAC
23784	ALPI	TTTGACACAGTCCTCTGCTG
23784	ALPPL2	TTTGACACAGTCCTCTGCTG
23785	ALDOC	GGATGGGAGGATAGGGAGCCCCTCATG
23786	NDUFA6	GTTCTGAAGAAAATGGATGTGC
23787	MMP10	CTTGCAGATATCTGCATGTGTCATG
23788	PPP1CB	ATACAGGAATTGACACTGATT
23789	JRK	TGATTCCACTGAAACCTCTGTTCT
23790	PPARG	CGCAGCCGCCGCCTGGGGCGCTTGG
23791	GP9	CTCCACCTTCCCTAGTCACCAGC
23792	UBE2A	AGTGAATGTGTTTGGAATATGGCC
23793	LAPTM5	CAATCAGCTCTGACACTTGTT
23794	GDF8	TGCATTTATTTACTTCT
23795	MINPP1	TATTATATGTTTGGACAATTAG
23796	SHOX	GATTTTCTTTACTACC
23797	RUNX3	GAGTACTGGCTGTGCGTGGCA
23798	P2RY6	TTCAGCTCAGCTGGGCATGG
23799	ADAM33	CCACTCCAGGAACTTGAACTGCAGGGGC
23800	PAM	ATTTTCTTCAGTTGGTGTGTTT
23801	CNTN2	AGGAAGGCAGACCTCCTGGGAGACCCA
23802	SYNGR3	TCTTCGGGTTTCACCTCCTAGTACTC
23803	LMNA	CCAGCCTCCCCGTGCCAAAAAT
23804	PDK4	GCCAGCCACAGTCCCCGCCAGGCCG
23805	OASL	AGCTCACACCTGTAATCCCAG
23806	GSTM1	GCATCCCAGCACCTGCCTCC
23806	GSTM2	GCATCCCAGCACCTGCCTCC
23806	GSTM4	GCATCCCAGCACCTGCCTCC
23807	RFX5	GTGTTCATTTATTTCCACCACAGCAGA
23808	FDFT1	TTTCAGAGAGAAACAGCAG
23809	GAB2	GGAGAGAAGCAAGGCCACTAAAAGAG
23810	EMR1	GAACACCTGGCTACCATTTTGTTTTCT
23811	PRV1	TCATATCTACTCACCTAACAGCAACA
23812	RANBP3	CCTCTGAAGAGGAAGCCTGT
23813	MTR	CTCATTTCTTACCATTTTATTCC
23814	PDE4B	CTTCTCTCTGTTTGCCTGCCTCCA
23815	USP6	GCCATGTGGAACTGAGAAGAAC
23816	MTCP1	GCTGTTGCTTAAGCTTTTGCCT
23817	CASP8	CCCAAGAGGTCCAAGGCTGCAGTGAGC
23818	APM1	GTCACCCAGGCTGGAGTACAGTG
23818	TRAF5	GTCACCCAGGCTGGAGTACAGTG
23819	HUS1	GTCACCCAGACTGGAGTGCAGTG

23820	ZNF14	TGGTCAACATGGTGTAACCCCA
23821	ATP7A	AGTATTGAAATAATCAAAGA
23822	SCD	AATTTCCTCTCCACTGCTGGA
23823	FOXM1	GCCACTGCTGGGACCTTGTGTTC
23824	NEDD4	GACCTGCCTTATGCACCTTA
23825	CRSP6	CAGTCTGGAGTGCAGTGGTGTG
23825	FANCF	CAGTCTGGAGTGCAGTGGTGTG
23826	MADH2	TATTTAGAAGCAGATTTTCC
23827	WHN	GTCATTTTCTTTCCCAGAAGCGC
23828	TM4SF6	CTAGTAAATTGTAAATGAAGTAATACT
23829	DCX	CCTGATCCTGGCCCTTTCTTCTTC
23830	YWHAB	GGGGAGGGAGAGAACTATGTTTC
23831	MS4A2	TTGGGAGGATGAGGCAGGAGAATCGC
23832	SLC9A6	TGAACTTTGATGAAGTACAGT
23833	RAB26	GCTCTGCTGCCCCCTCCTGGG
23834	BUB1B	TACAGTGATATACTTACTCA
23835	CELSR3	GGTGGAGGCCGTGCAGGGAGGCGGG
23836	MECP2	GGTGCAGCATCTGGAAGAGCTAGGCAG
23837	ECHS1	CCTGCGGGTCCTTGTGTCCCTGCCGCTGAAG
23838	JMJ	TTCAAGCTGTCTTTGCACTAGC
23839	AMT	GTGTAAACTTGGGGATGGCTGAGG
23840	TACC1	GTTCCCTTAGGCTG
23841	RAD54B	CTCCAGATGACTTCAGCAGTGG
23842	PHB	AACACAGCCTTCCTTCTGCTCCC
23843	SRRM1	AAAAACACAAGAAGGAAAAGGC
23844	MUC3B	CCAATCCTCACGTCCTTCAC
23845	HNRPDL	TTAGCTGTTAATGCTCTGTGAG
23846	CRTAP	TTCATTCTTTCAGTAAATATTTATTGA
23847	TACC1	CCACTGCACTCCATCCTGGGTG
23848	EFNA3	TCCGCCCCCTCTACCCCTTCC
23849	PPL	TCCCGGCACCTACAGAGAATGTTTCACAGT
23850	PACSIN1	TTCCCCAGGCAGGAGTTGGGGTTG
23851	ANGPT4	TCTCCCTCCCCCTTCAGGGGCT
23852	MTMR2	TTCTTTGGTAATTGTGTGA
23853	SLC25A19	TTAAGACTGCGCGAGGAGCTAG
23854	FANCD2	TGCCTGTTATCTCAGCTACTTGG
23855	DLEC1	GTATGGAATTCCAGTGCCAGGC
23856	KCNE3	TCACCCAGGCTGTGGTGCAGTA
23857	ING1	CTTCCTGCTGTATGTGAGCTGT
23858	KIF3B	CATCTGAACCCCATCAGTGGA
23859	ATP11B	ATAAGGCTTCTAGAATTGGA
23860	CARD15	TATTAGTGACCTCAGCTTTGA
23861	ALDH3B1	GGGCCTGGCGATCTGACTCAG
23862	DVL3	CCGCGGCCACCGGAAGAGTCG
23863	DLG5	CAGCCTTCATCAGTGCAATG
23864	TK2	GAGCAGTTCCCAAGGACAGTCAGCAT
23865	DSCR4	ATTCTTGTGTCTACTTCT
23866	P2RX7	CACTTAAAGTCAGGAGTCCAAGAC
23867	MLF2	GGTGGCAGCTGTGGGAGGAGG
23868	STE	GGGATTACAGGCTTGAGCCTCCA

23869	RAD9	TTCTCATTGAGCCTCAGGCTA
23870	IL6R	ATCAGCCTGGGCAATGTGATAA
23871	CTNS	TTACCCAGCATCTGGAGTACAGGA
23872	MUC3B	TCTGTGGGCACCAGCACTT
23873	DLGAP2	ATGTTACCTGTCCGTGTTACAT
23874	TNFRSF10D	ACCAGCCTCATCAACACAGTGA
23875	MUC3B	GCCCCTTCACCACCCCCTCCGCCCTGCC
23876	ASB2	CCTCCATCCTCATTCCTGCCTGAA
23877	LETM1	TTCCATGGAGATTCAGTCTGT
23878	TLR4	TGCTCACAACCATCCTGGTCATTCTCG
23879	BTG1	CCACAAACCACCATCTATTTTGTGAAC
23880	DMP1	GTATAGAGGGGACCCACGTAGC
23881	GYS1	CTTTCTGGCCCTTTCTGGACCA
23882	AOC2	CGTGTTTTTATCACACCTGCTCC
23883	IRTA2	TGCAGTTCTGAGAAGGTGGA
23884	NR1I2	CCAGAAGCAAACCTGGAGGTGAGACCCA
23885	TNFSF15	ACTGATCACTAAATGAATGGATG
23886	SAS	AACGTGCTGGGATTATAGGCGT
23886	WBSCR5	AACGTGCTGGGATTATAGGCGT
23887	MALT1	CTTCCGCCCCTGCCTCCG
23888	CBFA2T2	TCAGCCAGGCTGGAGGCGGCAGGCGG
23889	SLC22A3	TTTGTCATGGTGTTTTAC
23890	SLC16A1	TTAAACCATTTTTGCTGAATTCATCT
23891	CCKBR	CCCATAGAAACATGACACTGACCTT
23892	LIMD1	GTGTTAACCTGTCTCTGT
23893	MDM4	GTCAAATTATTAAGTGCCATGG
23894	DMXL1	AAACAGCTTTAAACACTTCCAATGAG
23895	ZNF142	AGAGGAAGAGAGAGTGGCTTCCA
23896	AKAP13	GCCTCTCCCAGACAGCAGCTG
23897	CMAR	ACCCAGGCTGGAGTGCAGTGCTGCG
23898	HGF	TTTTCTCATGTCTACCAGGAA
23899	ZNF264	TGCACTGAGCTGAGATCGTGCC
23900	INPP5B	AGAGGAAACGAGGTGAGCAGAGGACTTCCT
23901	NCOA6IP	CAGCCTTCTGAGTTCAAGCAAT
23902	CASP2	TCCTAGAGTGAGAGTTTGGAAGGTGT
23903	B4GALT5	GAGTCTTGCCCTTGACTTCTGCTCTGGATTC
23904	ALDH1A1	CTTGACATGTAGCTTCTTCTGAAAGAA
23905	ICMT	GGGGTGAGCCTCTTAGCAGGACAG
23906	GPD1	TCATGCCACCACATTCGCCA
23907	DNMT2	AGCTTGTTTTTGTCTTCTCAGCT
23908	SLC6A8	AGGCTTGTATTTTGCACATTTTA
23909	FLOT2	CCACCCTGGCCCTGCCCCAGCCTGT
23910	CBFA2T2	GGAGGTGGGGTTTTGCCATG
23911	FCMD	AATGATAACCAACAGTCTTC
23912	COL6A3	TCCTGGGCTCCAGCCTCCTGCAA
23913	RABIF	AGTAAAGCATTTTCAAAACTCAGTATT
23914	KEL	AACTGGGGCGGGGGGTGTTTCCT
23915	GSTM5	ACTCCCTGGACCTGCCTTCT
23916	ARHGAP6	TCCTGCTGTGAAAACTCAGAATGATAAC
23917	KCNQ1	AGTAGCACAGGCTGAGTGCAGG

23918	FZD4	TTGGAAGGCAAAGTCTTGGCT
23919	PYGO2	TGCAGCTCGGGGGCCTGGGCTGCCCC
23920	MBD1	GCCTGGTGCCAAACTGGCT
23921	PLOD3	GTCTCACTCTGAATAAAGGACA
23922	PITPNB	TCCCCCACTGGAGTGATTTCAGT
23923	PKIG	CTCCAGCCCAATCTTCTGGGT
23924	SIX2	TCTCCTGCCAGTCTCTTGTACTC
23925	DNASE1L1	CCTCCTGCTCACAGACCCTGTC
23926	KCNMB3	TGCAGTGAACTGAGATCGTACCC
23927	RAB36	GACTACAGGCACGTGTGACCAT
23928	RAD18	CCGATGCACGCCACCACCATGCCTGTGTTAC
23929	ACADSB	TGGGATTACAGGGATGAGCCAC
23929	PRKR	TGGGATTACAGGGATGAGCCAC
23930	AMY2B	GAACCCATGGATATGGAGGGCTGACTA
23931	MAP3K7	ATCCTTGGATCAGTACTGAAC
23932	HBA1	CCCTCCTCCCCTTCCTGCACC
23933	PLCG1	AAGCCCCTTGGAGAGAGAGGCTGCCTCAGC
23934	MEN1	CTGAGGCACGAGAATCGCTTGA
23934	PSMD5	CTGAGGCACGAGAATCGCTTGA
23935	TRIM9	CCAGGATTGAGACTTCCTGTGGGCAC
23936	CYR61	TGGAGAAAATGGGCGGGGGTGGTGTGGGTG
23937	IL11	GGGGAAAGGGAAGCCTGGGTTTTTGTA
23938	GRM1	GTACACATACATACCCTATACCA
23939	SLC2A1	GTTGGGAGCACTGGAGTGCAGG
23940	XYLB	ACTGACTCCTTGGAGTGTCCAGGAC
23941	RAD54L	GCTCTTTTCAGCCCCTCCTGGTAT
23942	RFNG	AGGTGCCACGGCCACACCAGTG
23943	DIA1	GCTTGGCTCTCCTCTGGCTA
23944	GJA5	CCTGCAGCTCCTTTACAGTTC
23945	TCAP	CCTGGGAGGAGTGGCCCTGATCCAGG
23946	SLC15A1	GGGATTACAGGCTTGAGCTACC
23947	ABCA2	GGGAGGTGGCTGTCCCGCGGGA
23948	TRRAP	ACAAGTGTACAGAAAACTC
23949	LPIN2	CAGGATTTCTAAAATTCTGTGAT
23950	MRPS12	CCCTGCAGAACATGAACCTTCCGCT
23951	AASS	GCTCTGTCACCCAGGCTGG
23951	CDC2L2	GCTCTGTCACCCAGGCTGG
23951	ICAM1	GCTCTGTCACCCAGGCTGG
23951	NEU3	GCTCTGTCACCCAGGCTGG
23951	PDCL	GCTCTGTCACCCAGGCTGG
23951	TERF2	GCTCTGTCACCCAGGCTGG
23952	NSF	TAAAGAAGTGGATTGTATTGTG
23953	FGF12	GGCCCACATCTTCCGGCCAAC
23954	EIF2C1	TGTGGACAGGCTGGGGAATTTTGCTGC
23955	ZNF264	TTCAATAACATGAGTGGCAGATCTTG
23956	CHST6	CTTCTGATCCTCATCCTGGGTG
23957	SOX13	GTTTCATCTGTTCATTCACTG
23958	ASB1	GCAGCACCTGGGAATGCTGCCTCGTG
23959	ELMO2	AGTTGGCCTTCCCTTCCTAGTGCTA
23960	FNTB	ACTAGCCTCTGTAGCTGGTGGTG

23961	ANKRA2	CTGCCCTTTTGTTTACT
23962	DHCR24	CTTGTCCCAGCCTCAGCCT
23963	CARP	CCAGGTGAAAGAGCAAAGTTCAAGTG
23964	CEACAM5	GGCAGAGGGAGGAAGGACAGC
23965	ABL1	GGAGGGTTAGGAAAACCACAAACGGAG
23966	PAK4	GCCCAGCGCCCTTCCCCTCA
23967	TXNRD1	TAGGAAGGGAAATGGCTACTTGGCCAG
23968	AMT	GTGAGCTGGCTCAGGGTGGGG
23969	GOT1	TCTCTTGATTCCTAGTCTCTCG
23970	PLIN	AACCCTAGTCTTCGAAATGTTAATA
23971	FOLR1	TGGCCCTCATCTGTGCTGAAA
23972	STARD4	TCTCCATCTAGTTTACTTCTA
23973	E2F3	CTTCAGCCTCCATCCCTGG
23974	KCNH2	TCTGTTCTGTGCTGTGCTA
23975	AXUD1	CTCTGCGGGCAGGTGCTG
23976	PDE4B	CTGCTGTGTCTTGGACCCTGCCCCCCA
23977	DAAM1	ACCCAGAGTGCAGAGCCGCC
23978	DTR	GGCTTTGTATAATCCCACCCA
23979	KCNN2	GCCTCGGCAGTCTGGGCTCCGG
23980	SOX5	GGATCCTTGCCACTGCTCTT
23981	KMO	TGACCAGGCTGGAGTGCAGTG
23982	RNMT	GGCAGCATAGAATTTTGGA
23983	TNFRSF10B	TTGCCTTTGCTGGGCCTTCTGTGC
23984	SIAT1	GGTCTCTCAGGGTGTAGTGGTGTG
23985	UBQLN1	ATGCATTTTAAGGTGGAGTACAGT
23986	RXRA	CCTGCCGGAATGTGCAGCCT
23987	ADAM30	CCGAGCCCTGGGAGGCTACGG
23988	PRKG2	ATCCAGTCAGGTAATTATTTTCTAT
23989	GRIN2A	ATTCCATTAAGGTCAGCCCACC
23990	SLC9A1	CTTACTCAGAGCTGCGGGCTG
23991	ZNF138	GAATGTGGTAAAACTTACAATCCTC
23992	RET	GACTCACTGACTCCTCACTGGCTTTGT
23993	CNTF	GGACTTAGTCATGAGGAGAGGGTG
23994	RNGTT	AGTCATGTAATGTATAGTGAATTTAT
23995	BACH1	AGAGACACTTCTATAGACTGCATCCT
23996	IL16	CTTTCTCCCCACTAGTTTACACCA
23997	MTR	CCAGAGTAGCTGGGACTACAGGT
23998	BMX	CAGCATTTTCATTCATTTTAA
23999	GPR86	ACTCAGCAATGCCTTCCTGGACCA
24000	MADH3	GAAGGGGTGCACCCACCTGTTT
24001	HMGA2	CTTACCTCAAATTAAGCATATGTGTT
24002	C18orf2	TTCTCTCTGCCACCCACATTCC
24003	MB	CTGAGTGTCTGCTTTGTTTAGT
24004	KLHL3	GGAGGTGGAGGAAGGAGCAGGTGC
24005	TAC1	TGTTTTTAAAAGTTTCAATGTGATTCT
24006	MME	CTTGTTGCCACAGCTGGAGCT
24007	MMP19	CTAGCTGTCTGGCTGTATAACTCTTACAGT
24008	APPL	TTGCCCAGGCTGGAGTGCAGTG
24008	CNN2	TTGCCCAGGCTGGAGTGCAGTG
24008	CSE1L	TTGCCCAGGCTGGAGTGCAGTG

24008	CTSS	TTGCCCAGGCTGGAGTGCAGTG
24008	CYP2B6	TTGCCCAGGCTGGAGTGCAGTG
24008	EVC	TTGCCCAGGCTGGAGTGCAGTG
24008	F2RL3	TTGCCCAGGCTGGAGTGCAGTG
24008	FUT1	TTGCCCAGGCTGGAGTGCAGTG
24008	PCDHA9	TTGCCCAGGCTGGAGTGCAGTG
24008	PDZK1	TTGCCCAGGCTGGAGTGCAGTG
24008	PER2	TTGCCCAGGCTGGAGTGCAGTG
24008	PIK3CD	TTGCCCAGGCTGGAGTGCAGTG
24008	PON1	TTGCCCAGGCTGGAGTGCAGTG
24008	PRND	TTGCCCAGGCTGGAGTGCAGTG
24008	TAPBP	TTGCCCAGGCTGGAGTGCAGTG
24008	TERF1	TTGCCCAGGCTGGAGTGCAGTG
24008	TMC1	TTGCCCAGGCTGGAGTGCAGTG
24008	TMPRSS3	TTGCCCAGGCTGGAGTGCAGTG
24008	TNFAIP2	TTGCCCAGGCTGGAGTGCAGTG
24008	TRPV1	TTGCCCAGGCTGGAGTGCAGTG
24008	UGDH	TTGCCCAGGCTGGAGTGCAGTG
24009	CAMLG	TTGCCCAGGCTAGAGTGCAATG
24010	NONO	TCGCCCAGGCTGGAGTGTAGTG
24011	MAP3K4	TGTTAAGTGCCATTACTACTGTAC
24012	DUSP5	ACTTCAGACGGACCTCAGGGTAGG
24013	TCTA	CTCATCATTTCCCATCTGGACCT
24014	RAD23A	CCTTGGCCTCCAGCCTGGAG
24015	FCRH1	TTTGCCCAGGCTGGTCTCAA
24016	GPR1	TCATTCTTGTTAATTATACCA
24017	BCL2L2	CTCCTCTCCCACTCAGGCACAA
24018	ACHE	CCAGTATTCTTTTATAAA
24019	GPRK7	TTGCACTCCAGGCTGGGCAGCA
24020	NKTR	CAAATTCTGCCTACCACAGGCA
24021	PCDHA9	TTCCAGAACAAAAGAATTTTG
24022	ZNF165	TAGGAACTTAAATTTGTA
24023	RPS6KA2	CACCTCCAGTCTCGGCTTTCCCCGGG
24024	SMAC	GTTGCCCAGGCTGAAGTGCAGT
24025	MAP7	CCATCATTTTGAAAAGATTTATTA
24026	PTPRO	CCCAAAGAGCTGGGAATTTATG
24027	JAG1	ATCAGAATAATAAAAGGAGG
24028	RREB1	GGGGATGGAGTGACAGCCTCAGC
24029	MKI67	GATTATACTCAACTTACTGTTTAGAAAAT
24030	BMP1	CTCCCATTGGCCAAAGGACA
24031	KCNMA1	AGGAGGATCAGCCACAGTT
24032	CD164	AATAAATCTACATGTTTATTGAA
24033	BRCA1	ACACATTTGGCTCAGGGTTAC
24034	TXNIP	AGCGCCCATGTTGTGATACA
24035	RANBP2L1	CCACTGCACTCCAGCTCGGGGAACAGA
24036	SCNN1B	TGGTGGAGAGATGGAAGGGCATCAGG
24037	IL16	CCTACTTCTTTGCTTTGCCCA
24038	CDH6	GAGGTTAGAGCCAGCCACACTTGA
24039	BCL7A	GCACTTACACCCACAACCCG
24040	COL4A3	AGCATATAAAATTTTCCCCCTTA

24041	REN	CACTATATTCCACCACTTTGG
24042	MUCDHL	ACTTCCGGATGGAGGGAGAGGTTGT
24043	DUSP2	CCTGCCTGCCCCACTGTGCTGG
24044	TEM8	AAGAAAACAGAAAGGAGCAGC
24045	ADORA2B	CGGCAGGCGGAGGCGCGGTCCGGGCGC
24046	SERPINB3	GCCTTTCTCTCTTTCTCTTAATAAGCC
24046	SERPINB4	GCCTTTCTCTCTTTCTCTTAATAAGCC
24047	GRM8	ATATGATCTTAAATGATGAA
24048	HOXB3	GGGAGGAAGAGAGAGACTGTGGAGCT
24049	CCNF	AACTCACTGTAACCTCCGCCTCC
24050	GPRC5B	TTTCAATAAACCTTTTGATATT
24051	E2F2	CGGCGATCTCTAAGCGCTGC
24052	NRCAM	TAAGACAGTTTATTAGAAATAGCAT
24053	NPTX1	CCTCCTGCCCTTGCTAGGGTCTGAGCC
24054	ST5	GCAAAGAGAATATGGCA
24055	CTSS	CACTGTACTCCAGCCTGGATGACAGA
24056	MBD4	CACTGCACTCCAGTCTGGATGACAGA
24057	KIF3B	GTGTCTCTCACACCACATTTCCTCA
24058	FANCE	ACACTCCTCATCAATTCTCAG
24059	HOXD1	TTCTGGTTTTAATTTAAAGGA
24060	SEPN1	ACCCAGGCTGGAGTGCTATGGC
24061	COL4A4	TTTAAGAGTATTTTCTGGTAAAA
24062	PFKFB4	CAGGAAGTTACCTTCCTGGTGCAC
24063	REGL	TTCTGTCTCTTTCTGAGTCA
24064	SIAT8E	GGCCCCTGGCCGCGGCAGAGC
24065	HLA-DRA	CTGGCAATATTACAATCCTTGACCTCA
24066	MS4A8B	TTCCTGTTCTGACAGCTGAGGA
24067	FCAR	TCACCCAGGCTGAAGTGCAGT
24068	HTR1D	TCGCCAGGCTGGAGTGTAGTGG
24068	PIK3C2B	TCGCCAGGCTGGAGTGTAGTGG
24069	TIF1	ACATCACTACAAAAAGAAGG
24070	CASP10	GTTTCACTATGTTGCCTAAGCTGGTCT
24071	RAB7L1	GGGAGTTAGAGGTTGCAGTGAGCTGA
24072	SDC1	CTAGGAGAACCAAATCTGGAAGCCA
24073	FST	TAGAGTGGTAAACTCTCT
24074	SIRPB2	GCCTGTCCCAGCCTCCTGGCCCC
24075	TEM6	GGCCACTGAAAGAGTGTGCAGT
24076	KCNJ11	GGCCAGGGCCTGGTGTGAGGCTGGG
24077	NDP	GAAGAACAAAAGCATTTGGAAGT
24078	PRKCN	ACATCCCTGAAGCTAGTCTCCTGT
24079	CRMP1	ACCTCAAGCCCTGAGGGGCAGTCCCAA
24080	HHIP	TATTTTAAAATCAATCTTCCTA
24081	SH3BP2	GCCCAGGCTGGAGTGCAATGCC
24082	RXRB	GGAGGTGGGTGTTTGGGAAAGGC
24083	ENDOGL1	CATCCAGGCTGGAGTGCGGTGG
24084	HLCS	CGTCCAGGCTGGAGTGCAGTGG
24085	ABCB4	CAGGATGAACATGCAAACAAAGACTGG
24086	ARMET	CCTGCTGTAGTGCCTTCTGC
24087	PDYN	ACACCTTTTCAGGTTGGAGTGCATTCATTC
24088	FLNB	AGCAGTTTCCCACTTGCCAAAG

24089	TCF2	TGTCCTCTCCCCTCTGCCC
24090	B3GALT3	TTAAATGAAATATTCTATAGAATCGATC
24091	SLC7A8	CCAGCCCTGCCCCTGCCTCCTG
24092	IGF1R	CCACAGGCACACAGGTCTCATTGCTT
24093	HOXD11	ACTGTCCTTGGGTTTAATGACGTCTC
24094	PPP2R2C	GAGGACAGCTGCAGAGGTGGCAGTGT
24095	MAGEA8	TATTTCTTGAATTCAGACACTACA
24096	INHBC	CACTACCCTCTTTCCTAGGGCATAGTC
24097	PTPRN	CTGTCCCTCTTTGCCTGTGTG
24098	MAP3K7IP2	GTGATTTCTTTTCTTCTTGAT
24099	PYCR1	CTCCCAAACCATGTCAGGACC
24100	LIMD1	TCTGCTGTTGAGTCCTGGG
24101	GRIN2C	GGCAGGATTGGGCTTTTCTGGCTTCTAC
24102	SLC38A2	CAGTAATCAAAATGTGAT
24103	NEBL	AGGCCAGCCTGGTAGACCTCTGG
24104	NDN	AGTCAAGGCCCTTCATGACC
24105	PMCHL1	CAGGCTGGAGTGCAATGGCACGATCTC
24105	PTGIS	CAGGCTGGAGTGCAATGGCACGATCTC
24105	SLC15A1	CAGGCTGGAGTGCAATGGCACGATCTC
24106	IGF1	TTACTCTTATTCTTAGCTGTA
24107	PPP2R5B	TCTCGCCCAGCTCACCCTCT
24108	ICMT	TGGCCTTAAACATTGAGAAGTGCTGCT
24109	GCLC	TGAAGACCAAATGATAGAACTGTA
24110	CAMK2A	TCTCCCCTTGGCGTCTGATGACC
24111	TRIM34	ATGTGTATTCAGAGTGAAGATT
24112	TNFRSF18	TGTGTCCGTGGGTGTGCAGT
24113	TAF7L	TGGATTGACTTTGGAAAATCTACAC
24114	CNTN2	AAGCCATTAAGGGGGCTCATC
24115	SHMT2	TCTCCTTCCCCCTACCTGGGCC
24116	GRIK3	CCTCTCTCAGGCCAAACTCA
24117	ADCY1	CACTTCCTGGGAGTTCAGGAACTG
24118	ALDH3B2	CACTTCCTTCAAGAAAACAAGCAGCT
24119	KCNE2	TTTACTTTCCGGGCAAGTGAAT
24120	SH3BP2	GTCTGACTCCTGGGTTCTAGG
24121	SMARCC2	GTGCCACCTCCACAGTGGGAGCCA
24122	MYO1D	CCAACCCATGCCCGCTAGAAACCTGCT
24123	GALC	TTGTATGATTTATACTAAGCATTAA
24124	CHAC	AGTTCACATTTTGTACTTCTGTCATGC
24125	NTSR1	AGGCTCCACAGAGCACATGA
24126	EN1	ACTGAACCGCCGCTACAAGCC
24127	SFRP2	ACCTGTAATATACATAGTA
24128	ADD2	CAAGAGAAATCAGGTGACTTGCCCAA
24129	RANBP3	CACTGGGCCGGCCACAGTCTGGACC
24130	ALAS1	CCTAAGAGTCTTCCCTGCCTG
24131	HOXC13	CCCCTGTTCTGCTCTCTCAGTCAACA
24132	CACNA1C	GGAGCAGTTTTTGGGGTTTGATGC
24133	CDKN2B	ACGGCCAACGGTGGATTATCC
24134	CBFA2T1	AGTAAGACATTGGGTCTATTCCA
24135	ATP1A2	TCATGTACTTAATAACACTTCAC
24136	GPR55	ATAGATTCATGTGATGCCTTGT

24137	ART3	GACTCACTGTCAACAACATCCC
24138	PHB	CGGGGAGGGGCAGAGAGGAAGT
24139	TNFSF5	GGAGAACTATTTATTATACACTCCA
24140	KIF5C	TAGTAAAGTTTTCAGGGAAACTGACTG
24141	PCDH12	CTTGTCCATCATTTGCTGAAGTGGACC
24142	EPHB6	TCTTCTTTGTTGTGTCCTCGAATGGC
24143	MUC4	GTGGAGCTTCCCCAAGGGAGCCAG
24144	UBE3A	TGGAATGTTTTAACTGCAGCC
24145	TPT	TCTGTTCTTTCTGGCAGCT
24146	BCL3	ACTCTGACCCCAGCATTCTCAG
24147	DMD	TGACTCTACCTCCAGGTTTACCATA
24148	GLRA1	GCTGGGAGAGGGGAACGTGGGA
24149	SSTR3	GATAAACCAGACAGGGAGGAA
24150	IL1R1	TCCCTAGTGGCTTCCTCCGTCTG
24151	PDGFRA	CACCCCTTACCCCA
24152	CUL3	GGAAAGTAATGGTAGTTCATGT
24153	CSHL1	CCAACAACCTGGTGTATGACACCTCG
24154	GRM1	ATGATGGGACAGCAGTTCCTT
24155	NFE2L1	ATCTAGTGTAGCAGCCTCCAGGC
24156	SLC38A3	AAGGTTTTTGTTCAAGAGCCA
24157	HIP1	CATTGTACTCCAGCCTGGGCAACAAGA
24157	LUZP1	CATTGTACTCCAGCCTGGGCAACAAGA
24158	RNASE1	ACACACACATGCTTCCCTTTCCTGAGTC
24159	ADD1	GCTGCCTCTCTTCTGTGTCGTTTTGTT
24160	IRAK4	CAGGGAGGTAGAGGTTGCAGTGA
24161	FEN1	GTTTCCCCATTATACCTCCTTCACC
24162	ABR	GCCGCTGCCGGCCCCTCCTCA
24163	PTBP1	TTTATTCCTTGTAATTAAGTCA
24164	PGLS	AAAAAGCCACGTCGTGCTGCTG
24165	BCL2L2	TCCCTGTTAGCATTCCCCGGG
24166	RAC2	TTTCTGCTGCACTCACAGGATCCTGAG
24167	IMPDH1	TTGGGTCCTGCTCCTCAGGCC
24168	LTB4R	CTCTAAGGAGTCCTCCTGCCTTCT
24169	ARSD	TTCAGTATTTCTGAATACTTA
24170	ADARB1	TGGCGTAGTGTAGGCCAGAC
24171	ITGA1	CCAAAAACAATACCAAAAAGA
24172	ACVR1B	CAGCCCCTCTCACAGGCAGCTCTGAG
24173	RFX5	GGTAGTGCTGGCTCCAGGTGA
24174	LNK	TGTCAACCGGGCTGGAGTGCAG
24175	ALAS1	CAGGAGCCAGCATACTTCCTGAACAT
24176	PPID	CAATCTCGGCTCACTGCATCCTCTG
24177	PTPRN	TATGGAAGAATGGGGTGG
24178	RAB30	AAAAGTGTTATTTCTCTTGTCCACA
24179	FOXF2	GCTTGTATTTTAAAAGGAGG
24180	PCDH7	CTGGCAGGCGGGGGAGGCTGCAGGCTC
24181	AGR2	AACCAAAACTAGTTCAAATGATGAAGA
24182	SGK	TCTTTATTTTCCCTTGTGGATATGCTG
24183	AXUD1	GTGTGGGACCAGGATGTCTTTTC
24184	FMOD	AGCATCTGCATGTGAACACC
24185	CASP10	CACAACTGCACTCCAGCTTGGG

24186	CADPS	TTCAAACCTACCGGCTTCCTG
24187	DKK1	TCTGAGATGATGGCTCTGGGCGCAGC
24188	HYAL1	GTAAAGTGCCTAGGGCCCATCAATGT
24189	S100A7	AAACACACACATCTCACTCA
24190	WHSC1	CGCCCCCAGCTGTGACCGTGG
24191	C21orf5	CACTTGAGGTCAGGAGTTCGAGAC
24191	CASP10	CACTTGAGGTCAGGAGTTCGAGAC
24191	DNASE2	CACTTGAGGTCAGGAGTTCGAGAC
24191	GTF2H2	CACTTGAGGTCAGGAGTTCGAGAC
24191	TPM4	CACTTGAGGTCAGGAGTTCGAGAC
24191	TRPM8	CACTTGAGGTCAGGAGTTCGAGAC
24192	SNAI1	TGTGGAGGGAGGGCAGCTGG
24193	TR2	AGAAGCAGTGGGACTGCTTCCTTGAC
24194	DPYSL2	GGACTGGTGCTAACCACCTGCCA
24195	SNX15	ACCATCCTGAAGAAGTTCAATGGGGA
24196	EVC	AACTTCCAGACCAGCCCCTCT
24197	ADORA2B	TGGCTCACACCTGTAATTCCAG
24198	MAFF	TGGCTCACATCTGTAATCCCAG
24199	RPP38	CTGCAGCTCCTCAAGCACC
24200	MMP11	GCCAGCGACTGTCTCAGACTGGGCAGGG
24201	PCSK5	GCTGGGAGCGAGCAAGCGAGCGT
24202	LSS	CAGGGATGGGGACAGGGTGGGT
24203	UPK1B	CAGTTCTCATGACTCCTACTTTTCAT
24204	MLLT2	GTTAAATGAACAGTAATTGCCTGG
24205	DLGAP2	ATTATTTGTCTCAGATCCCAGA
24206	DRPLA	ATGGGGTCTCCACAGCCTGA
24207	COX7A2L	TCTGTTTTGTTAATGCAGCTGTGCCA
24208	CROT	GCGTGAGACCCTGTCTCAAAGA
24209	GPR85	ACTGGAGCAAATAGCCAAGG
24210	CEACAM6	CACAGCCGTGTGTTCAAATGTACAG
24211	DSP	TGATCAATTCTTTAATTTTGGA
24212	FUT3	GGCATGGTGCCTGGGCTGCCGGGAA
24213	MTAP	ACTGTTTCTGGTAATGAAGCAG
24214	GRLF1	GCAGGCAAAAGCAGCCCAGTCC
24215	COX15	GTTGCCCAGGCTGGAGTACAAT
24216	PRKY	TAAGCACATTGGTGACCTT
24217	FACL4	TTTTTTCCTGTTTGGGAAGA
24218	DLEC1	ACAGGCCACACCACAGCAGA
24219	IL18R1	CTGCAGGGCCTCAGCCTCAGGATG
24220	LMO1	GTCTGTGTGTGACCCCTCCTGGGGCC
24221	HSPA2	TACTACTTTAAAACTAAACTGAAC
24222	RRM2B	TTGGCCAAGATCTGCTCATCGTC
24223	TCF1	GCCTGGGTGCCTGGCTGGCTGAG
24224	GUK1	CCTATCTCTCACTCTGGACCC
24225	NQO1	TTAAAAATAGTCTTCCACAAAAA
24226	BSN	TTTTCTTTTGTTTCTCTCTCCCC
24227	KRTHA7	TTCAGTCTCAGTGGCTCAGCCT
24228	DIAPH1	TCACATACAGCTTCAGCTGCC
24229	ACTB	TACAGGAAGTCCCTTGCCATCCTAAAAG
24230	PIK3CD	TGCCAGCTCTGTTCTGATTCACCAGGG

24231	BMP6	GATTTCCCTGTAGAAAGTGA
24232	TADA2L	TGACCAGCGTTGCCCATTTGA
24233	PRX	CCCTCACTGCCCACTCTGCCC
24234	ARSA	GTGTCTGGAGGGGGTTTGTGCCTG
24235	IL1RN	TGGGCAGCAGCTCAGTTGAGTTA
24236	TNFSF8	CGCCTCTCGCCTCACGCCCCCAG
24237	MSN	GTTTGTCTTCTCCCCAGGGTT
24238	SNCAIP	CATTGCTGAGCCAGAGTCA
24239	WRN	GGGGGCGGGGACGGCGCTGGAGGGG
24240	MME	GTGAACCAAGATCTATAAAGCGATATAC
24241	CDH17	CAGTGGTGTGATCCCAGCTCACTG
24242	KCNH1	GGGAGCCGCCAGCCCTGCCTGCGGATCCC
24243	CLASP2	TGTTCAAAGAGTCCTGGTC
24244	COL4A2	GCAAAACTCAGGCAGAAGTGGA
24245	SPTLC1	TGCTTCAACCTGGGAGGCAGAG
24246	HPD	GGGGCCCCCCTCTGCTCCAGC
24247	RFX1	GTGCCTTAAGGAACCCGCC
24248	ANKH	CACACTGACGGGGGGACCTAGTGA
24249	HUNK	GGCTTTGGAAGAGAAGGTGAG
24250	FBXL7	GATTTCAGGAGATTGTGCAGTG
24251	ITGA3	ACCACTACCAGCCAGCCTCC
24252	PRG1	GTACTATATACTATTACCTTT
24253	RAD17	AACAATGTGTTTTCTAGTGTGTCGAGG
24254	MAGEA2	GAGAGGGAGAAGAGTGGTCTCAGC
24255	ELL	GGCGCGCCTGCCTTTTCTAGTTTTA
24256	JJAZ1	GTCTTCATATGTCAACTACAGAAAAG
24257	PTK2	CAGGCTGCCAGGCTGGAGTGGAGT
24258	NHP2L1	GGTCAGATGTACTCTCTGTCA
24259	NR3C2	GTTTTAAAAATAAGTTTTA
24260	KHK	CCCTCCATCCAGCCTGGCGTCCAGG
24261	TNFRSF8	TCCATAAAATCCTTA
24262	TEM7	CAGCAGAAGAACTAACATAACT
24263	SURF6	AGGTTTGCAGGGTCAGGGAGGAGGAAC
24264	INSL4	GACATCTCATCCATTCTCAT
24265	HCFC1	GGCCTTTGTGCTCCCACCTCT
24266	UBE2A	GTCACCTCCCTACTCCTGTCA
24267	LIG1	TTTGAGAGTCAGGGGAGGGG
24268	TBXAS1	AGCCTCCTGTCTCATCTGGAA
24269	CLASP1	TGTCATATCCAGACTGGAGGCCG
24270	XPC	TTCAAAGCTTTTTGCTACCAA
24271	IL16	TACCTACCACATGCCAAGCAC
24272	BLK	GCCTCTCTGTGCCGCTTCATTTG
24273	AIM1	ATGCCACCACCACTGCCAAGCAG
24274	CASP8	AGTGTTTTCACAGGTTCTCCTCCTTTT
24275	PTGFRN	ATCCCAGGGCATTGTACCAAG
24276	GPR81	ATCAATGCTTTATTTCAGGCCGA
24277	CTSC	AGTATTTCATAATGATCTGCATCAGT
24278	ARHGEF7	AGAGAGATCTTACTAGA
24279	NUP62	CCCCTGTAATCTCAGCACTTTG
24280	BCHE	TTATGTAGCTGAAACAAAAATG

24281	PKIB	CTTGTTTTTAAATAACTTCCTCA
24282	TK1	GGGGTGAGGGACAGAGCCCCACGCTGT
24283	PITX1	GCCGCCGCCTCTGCCCGCCCGG
24284	IL1R2	AGATACTGTTGTGGTCACCTCT
24285	EMR1	AAATGATTTGTCGCCTGTCT
24286	GCNT2	AGATGGGGCCTTTGGTAAGGGAA
24287	MEF2A	GAGTAGCTGGGATTACAGGCGCCTGCC
24288	ITGA5	ACTGATGCTGCCCCTCATCTCTC
24289	RNMT	CATTCCCCGCCCTCTGACAG
24290	M11S1	AAGCAAAACAAATAAAACGTTTATAAA
24291	PHEMX	CAGTCCCATGCCCCACACTCTGA
24292	ZNF8	TGGCTGGAGTGCCTCTCTGGTCTGGGG
24293	PKDREJ	GCCCCAAACTCCTCGGCCTCACTGGGA
24294	ARHH	GTTTGGAAACTTCTCCTTCA
24295	SEDL	GGAAGTGCTGGGATTACAGGC
24296	SNRPC	AGCATAAGGAAGACTTGCTCC
24297	PLA2R1	GGTCTCCAGGGCTCTGGGCTGGC
24298	IL16	AAGCAGGCTACACTGACACTGGTA
24299	COPG2	GGGGAGGGGGGAGGGGAAGC
24300	HM13	AAGAAAGAGAAATGATGCAGCT
24301	CPE	TTTTCTCTTGGTTGTAGAGTGGCCCAG
24302	DNAI2	CTGTTCTGCTGCACCTGAATGCTTTC
24303	PHEMX	CAGCTGAGCCTGTCTCTCACG
24304	CYP8B1	GGCCTCCCAAAGCTCTCTGGCA
24305	PYGM	GGCTGTGGCCCTGCCTCAC
24306	GNAI1	GAGACATTGATTGGTGAGG
24307	TNFRSF11A	AGTCCTCCAGCCTCGGCCTCCCAAAGT
24308	SURF4	CAACCTCACCAGGGCTGTCTC
24309	OAS2	TCTCATAACTCTGTGATCTTGCT
24310	FTSJ2	TCTGGGGGCTGGGTGAGGCCACTCATGCCT
24311	MEIS2	GCCCCCTCCCCCTTCCCGGGTT
24312	NAT8	TGGACTTAGAGATTTCAGACACAG
24313	GALT	TTCTGTTGCCCTTGTGCTCC
24314	ZIC3	CTCACAGTCTTAAACCGTGCCA
24315	FLOT2	CTGTACAGAATCGAGTGCTGTAGCCTG
24316	ST14	CCAGGGCTCCAAATCTGCCTAGAAA
24317	ZNF36	CAGTAACTTTGCAAAAGCATTAA
24318	CFL1	CCTTCTGGCCCCCTGCCTGGAGCA
24319	LAF4	CTCACCCTGGGGCCAGAGTGGGC
24320	LIF	GGGCCTGGCTGGGCCAGACCCCA
24321	GJB1	GGGGTGAGGGAGTTAGGGAGAG
24322	RHBG	CTGCCCTACCAGCCTGC
24323	ADCY9	AGGCCAAGGATGCCCACCTGTCC
24324	CDA	GATTACACTCCAGCCTGAG
24325	TEM8	AACTATATAAAGACATATGCAGTA
24326	CASP2	AGGCTGGAGGGCAGTGGCACGAT
24327	PITPN	ACTGTAGCTAATTCTAGATGCCCTTC
24328	PREB	TGGGCACTGCCTGCCCTTCTAG
24329	RAB7L1	CTTCCACAAAGAGCTTAATCCTC
24330	CLECSF5	TCATCCAGCAACCAGGA

24331	GLTSCR1	GGAGGGTGCTGGGAGCTGG
24332	NOTCH1	GGGAGGCGGGGGCTGCCCTTGGG
24333	THBD	GGCAGCCTTCTGGGCAGACCTT
24334	TBX6	CTGTTAGGAAGCCATTCTAAAGAGAAGA
24335	RANBP3	GTTTTTAAAAAAGTGCTTCCCTGCAA
24336	NRGN	GCTTTCCTGCGCGCACTGCGGAG
24337	HEM1	TCTCAGTGGCCATCATGTC
24338	HOXA3	CCTGGAAGCTCGGCGAATTCTCAGGAT
24339	GPR37	CATTCACAAAGTAGCACCAAATAAATT
24340	EGLN1	CACCATAGTAATACTTATTTT
24341	PHF1	CTGTGCCGTAGTTTGTCTCCTGGG
24342	TRPM7	TTGACCTGATTAATCAGTCAGAAAGTCCCTA
24343	HEXA	CAGGCTGGAGTCAGTGTCTGCC
24344	UPK1B	TATTGCACTCCATCCTGGATGA
24345	MMP14	CGCTGGTAAAGGTCAAATGGGGTCAT
24346	CRYZL1	AGAAACAGAAGCACAGAGATG
24347	SERPINB2	CTTCTGCTACCCACT
24348	RHAG	CACTATGTCTTCAATCCCAAAAATTA
24349	FGF5	TTTTACATTTTTCCTATTCACTGC
24350	MLPH	TTTACTGATGACTCCTGGCT
24351	TBL2	GGGATCTGGCCTCCTCATG
24352	GAS7	TCAGGAGGGCTTCCTGGGAGGT
24353	PXF	TTCACACTGTGTGCTGCCG
24354	IL16	CCTACTTCTTTGCTTTGCCCAGCATTT
24355	ALOX12B	AGCTTTTCCAGAATTTGGCTGG
24356	TRN2	TTCTTTCTTCATGACCCTGCCC
24357	CKM	CTGGAACCCAGCCAGTGGGA
24358	QARS	GGCTGGAAGCACTGAACCTACCTCA
24359	MXI1	AGCCTGTGGATGATCAATCCTTT
24360	RCN2	TGATGTTGTATTTTACACTCT
24361	E2F3	CCATGAACCACTCCCAT
24362	CALM1	GCTCTTCCTCCCTTCGCTCGCA
24363	PREB	GCAGAGTGGAGGCCTGGACT
24364	PIK3CD	ACCTTTGGGAACCTGCTGTGAGAGTGCT
24365	DRPLA	GGCCTGCCACCCAGAGCCAAG
24366	CRHR2	CCTGTTCCTGTGTCCCCTCC
24367	HIP1	TTTCTGTTTTCTTCTCAGTCT
24368	MAP2	GAGTATTATTATTTTAAAAATTGCA
24369	MYCL2	GTGTGTGGAGTGCCCTGCTGC
24370	JPH1	AATATCGGGTTGGCCATTCTTTTTG
24371	CBFA2T3	TCCAAACTTTTGCAGAAAAAACAAAA
24372	ALPI	CCAAGTCACAGCCACTCAGATGCT
24373	CBFA2T2	GGTCTCAAACCCCGGACCTCAG
24374	FMR2	GATGGAGATATTCTGTCAA
24375	CDKN1A	CATCGCTGTCACAGGCGGTTATGAA
24376	DMRT2	GTTACCTTCTGGGTTTCCACATTTTTATT
24377	GYPA	ACACATTTATCATTTAATGCAT
24378	EIF2C1	AGCAAGAGAATCAGCTTTGGGCA
24379	TEC	TGGGTTCCTGGATGGTGGGATTGTT
24380	EIF5A2	TTTGTTCCTATCTTCTAAAGGAA

24381	HM13	GGTGCCCGAGCCTCTCAGGGCCAGA
24382	KCNK10	CACCATGTACATGGCTGGTAT
24383	SOX11	CTATCTAGCATGCAGAGTGTAGTGT
24384	PTGFR	CCCAAGAAGTAGACATCAAAAATTAA
24385	CYP7B1	ATATGTAAAATTACACTTTGAACTA
24386	ABCA1	ATGCCCAGGAGACTGGTTTCCCGGTG
24387	ICA1	GAGACCCCCATCTCTACAAAAAA
24388	RAD1	CCAACGTGGAGAAACCCCATCT
24388	TNFSF15	CCAACGTGGAGAAACCCCATCT
24389	MCP	CACTGCATTTCATATCACACT
24390	TH1L	CGGGCCGCTGGGAACTCCAC
24391	ANK1	GGACTCCTGCTAGTCCCCTCTT
24392	KIR2DL5	CGCTGCTGAGCTGAGCTGGGGCG
24393	DNA2L	GGCTTGGAAATCTTCCATTTCTCTT
24394	SNRP70	TTTGGACGCGTTCCTGCCCAG
24395	PLAG1	ATCAAATTAGTGAACTGAGA
24396	RAP1GA1	CTCCCTCTCTGGGCATGTC
24397	DSC2	CCTTGCTTTAACATTATCTCCA
24398	DSG1	AAAGCCTGCATGTAAGAACA
24399	SSPN	GGAAGATTGGGTAATGCTGATGTGTT
24400	CYP27A1	AGGAGGGAGAGAAGGAGGCCGC
24401	TGFBR3	TTTTCTCAGTTGAAGAAGAGAA
24402	TLE1	GCGACAAGTCCATCAGCAGA
24403	PSME3	CTGGAGTCCACAGCGCCTCCGGTGT
24404	KCNA7	GGTGGCGGGCACCTGTAGTCCCAG
24405	FGA	GGAGTAACCAATTTCTTTCTAA
24406	TAT	GGTTCAAGCGATTCTCTTGCCT
24406	TLR5	GGTTCAAGCGATTCTCTTGCCT
24406	TMPRSS3	GGTTCAAGCGATTCTCTTGCCT
24407	BRCA1	GAGCAAAGCATGGATTCAAACTTAGGTGA
24408	NCOA3	TGACACTGCACTAGGATTATTGGGAA
24409	EHD4	GGGGGCTTACCAGCAAAGCCATAT
24410	HDAC8	TCCAGAGCTGAGGAGTGGTGCC
24411	RBBP9	CCAGGCTGGAGGTCAGTG
24412	ITGB1	TATCCCATTGAAACAAAAC
24413	CD97	CCTCCACCCTCCCTCCC
24414	GNB3	AGGCCCAGCAGACTTGAGTC
24415	HUNK	GAACTCTGTCTTTCTCAGTT
24416	C7	CTCTTTCATCAAAACAAAACAGCA
24417	DNASE1	CCCCAGCCTCCTGCAGAGTTG
24418	CHI3L1	GTCCCAGGCTGAGCCTCAGTCTCCCTC
24419	IFNAR1	ACTATTTAAAAATGAAATTA
24420	CTSW	CGCGGCTTCCTGCCTCCATGCCA
24421	MTM1	GAGCAGCCTGGCAACGGCGGTGGCG
24422	B4GALT1	CCTAAAGCCTCCTGTTCCACCTCA
24423	SURF6	CGGGACCTTCAGACCCAGGGAAAG
24424	HOXB6	GCTGGGGCAAGATGAGGCACCAG
24425	P2RX4	AGCCTCCTGTCTCCAGCTCTCTCC
24426	FOXO1A	TGTTTGTACTACCTGTTTTCTGCGG
24427	CSE1L	CCAACAGCCAGTGTGTGTTTCCCA

24428	FAT2	CACTGCCTTTTCATATGTGT
24429	C1orf6	CAGTTCTGGGGGTTCCTGTTC
24430	SERPINE1	TTTTCCCCTTGATGGAAATTGACCATA
24431	KMO	ATGGAAAGGAAACAAGGGGAGA
24432	IGSF8	TCCGGCCCAGCTCCAAGCCCTCC
24433	KCNJ1	AGAATCTGGTTGCTTTCTTGGA
24434	ZNF264	GTGGGAGGCGGAGGTTGCAGTG
24435	LPIN2	AGAGCATCCTCCTCTCATCT
24436	NDUFA9	CTCCTGAGCAGCTCTTGGTTTTGG
24437	AARS	TAGGAGAGTTCTTTGGGGTGACTT
24438	PLOD2	CAAGTGTCAAGATCAGCAAGTGTCC
24439	AR	GTTTGCAGAGAGGTAACTCCCT
24440	ZYX	GAGACCACCTGCCCCCACCT
24441	APTX	CTCAAGCAATCCTTCCACCTCA
24442	DDX19	CGTGCCATCCCTCGAATCCACCAGCAC
24443	STS	ACAAAGCATCTCATTCATATTAC
24444	SRD5A1	TTGTAGTGTAAAGAATGATCAC
24445	SRI	TTACACCATTTAGAACTTTCC
24446	GPR3	AGATCATAGAAACCAGAGCCTTC
24447	USP6	TCCCAGTGGAGGCATCTTACATTTAGGCTACT
24448	EPB41L2	CCTTAGTGCTTTCTTTCTTAAC
24449	PTGIR	AGAGCCAGCCCCTTTCTGCTCCA
24450	SRP46	TAGTGTGACCCAAATTTGTA
24451	AQP6	CCTAGGTATCAGCACATTTACTCCTAAC
24452	ADH1A	GGCAGTCTTCAGCCTCCTCTACC
24453	RALBP1	GCCCTCTGGGATCTCTGGTACC
24454	ASK	TGGCCAACATGGTGAAACCTTGTCTAC
24455	FBXW1B	GAACAGCTATTGAAACTGTTAA
24456	PPP1R12B	GTTCCTGGTAAAACTCTGTTTT
24457	SH3BP2	GTTGCCCAGACTGGAGAGCAGT
24458	GGCX	CACTGCACTCCTGGGCAACAGAGCAA
24459	FOXO1A	TTGGGGCAGTCCAAGACATAGCTGGT
24460	MKI67	CTGCAAAGGGTACAGGGATTGCA
24461	KLK4	AGGTCCCAGCCCCTCCTCCCTCA
24462	GLUL	GAGGAGATGGGGACAGGGCTGGAGT
24463	GPM6B	TACTGTACATGAATTACACAA
24464	ICAM1	TATGTATTTATTCATTTGTTAT
24465	NEK2	AGGTAGAGAGACACAGAGCTG
24466	ADCY1	CCTCCACCCCTTCCTGAAGAC
24467	BGN	ACTGGTGGCTAGGTCTCCCCT
24468	YWHAG	ATGTCCAGTGAGCAGTGTTGC
24469	CREBBP	TTTCATGTTCTTGGACCTTT
24470	ATP7A	CAGCCCAGGCTGGAGTGCAGT
24471	POLK	GACCAGCCTCGCCAACATGGTG
24472	CDH5	TCATGGACCGAGGTTCCCACTCTGG
24473	NPR1	GCTCTCCACCTGGACTCAGGCC
24474	CA14	AGTCCCCTGCACCCCTTCCTGGGA
24475	ZNF38	GGTCCTCAGAAGGTGTCAGGAG
24476	TRIM34	AGGAAGCTGAGAAGCTGGAAGC
24477	CASP10	ATGACACAACTGCACTCCAGCTT

24478	TRPV2	ATCTTTCCAACCACATCTGCTGGC
24479	MAN2A2	TGGTGTGATGAGCAGGATCAGAGTGAC
24480	ADORA3	CACTGCACATGGACCTCTGGGAA
24481	WASF3	AGCATCTGCTTTCCTCTTGGCC
24482	COL4A1	ACACGTAAGCACATTCGGGCC
24483	RBM3	TGGTTAGGAAGCAATTTCCC
24484	MMP15	TTTGCCCAGTTGGAGACTGT
24485	SEPP1	ATTAGCAGTTTAGAATGGAGG
24486	DRD2	ACCCTCACTCTGCCAGGGCAGTGCT
24487	SIRT6	CCTACCCCTCCTCCATGGGCC
24488	CCND2	CCCCCTCCCTTCCTGCCCCCAGTCTG
24489	SIRT6	CACTGCCTTTGGGGCTGGAGGGAGACG
24490	AP1G1	CCTAAAGTTACTGCTGACCTTGAAGCA
24491	ATP6V0D1	AAGCCTGTGGCTCACCTGCCT
24492	DLGAP2	CAGGCCTGTGTTTGCAGCGCCT
24493	EP300	GAGGAAGAGGTTGATGGCGGCGGCG
24494	FLNA	GTGCCGTGCTGCGCTCACCTGCCT
24495	BCL2L10	AGGTGTGAGGACAAGAATGCAAATGGCT
24496	RPA3	CACTGCCTCTCGCCCTGTATCTGTCA
24497	APAF1	GTTTTGAAACTCTTGTATTTA
24498	SIL	TGCTCTTGTAGCCCAGGCTGG
24499	HOXD9	GGTATTTGGGGGACTCTGTATTTG
24500	CDC2L2	CGCCCGGCCTCCATATCCATTCTTGGGAACA
24501	AOAH	GGGAGGCAGAGGCTTGGGTAAACTCA
24502	CD1D	CTGCAGCTGCTTGTTGTC
24503	TCF7	GCCCAAATCCAGTGTGCACC
24504	ATP5J	AGCACTTACCCTCCACTTCCTCCT
24505	ASS	CTGCCACCGCTGCCCGAGCCC
24506	ADAM19	CCAAGCCCACATTTCCAAAGTCACCCC
24507	SOX5	TGGACAAGCCTCCCCAAAT
24508	ACAD8	CCTGTCTGTGTCGTTCTCTGTGCCA
24509	RAD51L3	GGCTTGGCCTTGATGATGCAGCT
24510	HAS3	TCTTATAGAAGCTTCAGCAGGAG
24511	MGAT1	TTCATGAAAGAAAGTGGAA
24512	HOXC11	AAAATTGAAGATTGGGGTGGTGG
24513	CENTD2	TCTGTTTTTGTCTGTGTCCTAGGTC
24514	CA14	TGGCCAGCTAGTGGAGTGGAG
24515	PRKWNK3	TGTGGTATTTGATACAGCTCATCA
24516	KAI1	CTGCTATCCCCATCTCCCTGCCTGGCCCC
24517	C1QBP	CCAGTGAACAAATCCTACTCTGAA
24518	TAF7L	GTCTTGTTATGTTGCCCAGGC
24519	TCF1	CAGCTTTCCTGTATTTCTTCCCA
24520	PRKACA	TGCTGTTGTAAACATATTTGAAA
24521	DTNA	AGACCCTTCTCTTAACAGAGAGA
24522	TRPM7	TGAATCAGGGTTAGGCTCCA
24523	BRCA1	CAGGTGTCCACCCAATTGTGG
24524	GPR48	GGCTGCCAGTAGCAGACTGTTAAATT
24525	LAMC2	CACTGCTCTCCAGCCTGGGGA
24526	FGF5	TCTGTCACACATGCACACATGTGCC
24527	MKL1	TCAAGACGGGGTGGGGAAGG

24528	SCAP2	TCCTCTGATGTGAAATTAAATGAAG
24529	MPP6	CAATCAGCTGGGTTTACTGTGATTCA
24530	DBT	TGTAGTGAGCTGTCATTGTGCC
24531	DIAPH2	TTCTGTCTCAAAAAGGAGAGAAT
24532	JAM3	ACACAGATGCTACAGACTTGTA
24533	FGF2	GAGAGGTCAAGGTTGCAGTGA
24534	SHFM3	GCCAGACCTCACCCTTGACCAACCTC
24535	RGR	AGCATTTTTTCATATGCTTCTTA
24536	BMP6	ACATAACCGTGAAGCTCTTC
24537	ESR1	TTGCCTAGCTTGCCGTAATG
24538	NEUROD1	GCCCCAGGGTTATGAGACTA
24539	SLC4A4	AGGGATGGGACAAAGCCTTCTTCAA
24540	CCNA1	ATAGTTTCTGAATGGAAGCAC
24541	GALT	GAGGAGCGATCTCAGCAGGCC
24542	SLC7A5	GCTGTGCTGGAATTCCACAGGGACCAG
24543	TNFRSF10B	CTCAGTGCAACCTCCGCCTCCTGGGT
24544	CUBN	ACTCGTGTTCACTCAGCACTTTCC
24545	CSF2	TTTATTCAAGATGTTTTACCGTAATA
24546	SUV39H2	TCAACTTGCCATACACCTCAAATTCGG
24547	SOD3	TTCGCCTCTGCTGAAGTCTCCCC
24548	SOD3	GGCTGGGTGCAGCTCTCTTTTCAG
24549	PHF1	CCAAGAGTGGGGAGTGGGGAAGA
24550	GAS7	AACTATTCGGCAGGCTGAGGCA
24551	SCN4A	CTGACCTCCTCTGGGCCCTGTC
24552	CREBL2	TGTTGCTTTGTTCAGTACCTTT
24553	GAS7	TCTGTCCAGATCTGGGGTTGGGTCATG
24554	RBBP9	TCCCAGGCTGGAGGTCAGTGGCACA
24555	C18orf1	AGTATCATGCAGTGCTGCCCTCA
24556	EPS15	AACTTGTCATTTTAATTTTGTTTAACA
24557	EHD1	GGGAGGTGGTGGTGGGTGGCGGTGG
24558	TGFBR1	TCTGCTCCTGGGTTTTAATTTGGGA
24559	FEZ1	TTCACCGCTCATTATGTAGTCTGGCTA
24560	LPL	TGAGCGCAGAGTAAAATAAGGCTCCTTCATG
24561	ATP1A1	CCTGGAATGAAGCATGTAGCT
24562	SCML2	GTGCCCAGGCTGGAGTGCAAT
24563	EMP1	GGAGGGAAGTGGAGGTTGCTGTACAGGAA
24564	AQP1	CCTTCTGCAAAGTGGCAGGGACCGGCAG
24565	CARS	GAGGCTCAGGAGAAGCTCTACAAGGA
24566	IGF1	TTCTATAAATAACCCATTCATA
24567	SOX12	TAAGCTTGGTGCTCCGGCT
24568	SH3GL1	CCTGAGGACAGAGAACATGGTCT
24569	SLC21A2	TAGAAGATTGGTTGCACTCCCAAA
24570	WHSC1	CATGGCATTGGTATGAAGGCCATTTAG
24571	HSD17B1	CCAAAGTGCTGGGATTAGAGGC
24572	TRIM14	TTGCCCAAGGTCGCACAGCTAGT
24573	BDKRB2	CCTTCCACCTGTCATTCCC
24574	RP42	GTCTTAGAAGCTTTATGGTGATTA
24575	RGS3	GCTGATCTCTCTGGGTAGGTGCCCTCT
24576	NPR2	GAGTCTAATGGTCAAGCGC
24577	SLA2	CAGGGAGGGAGGGTGGGACACAGAGGT

24578	ADAM8	GCACCAGGCTGGGATGAGCTGT
24579	SLC1A1	AAGCTGTCACTCACAAAAGGCT
24580	ABCD3	TCTGGAGAACTATACCTGCT
24581	VAT1	GCAGCCCCAAGCCTCCTGGGG
24582	MGAT2	TGTGTGCCAGGCACTACACTAG
24583	KIF5C	GACAACCAAACCAATCTCGGTGGA
24584	GALNT1	ACAGATTTACATGTGCACA
24585	KPNA4	AAAGATCTTTGCATGAGGTAAA
24586	ZNF41	CCCGTAGAGACACTCCCAAGG
24587	STXBP1	GTGGGTGGAGGCTGGGGTGTCTGCAC
24588	CAPN3	GAGGGGCTTCGGAGCTGAGGAGCAGC
24589	CIT	ACAGGCTTTTTCTTCATTACCTTTTT
24590	PRY	CTGAGGAGGGGCACTGCCCTGG
24591	RSU1	ATTGACTCAGAATAAAAGAACAGTCT
24592	RTN4	AGCAGGAATGACAAAGCTTGCTTTTCTGGT
24593	CIAO1	TTAACTTGGCTCACTTCTCTTCA
24594	ARF1	ACCCTGCATTCCATAGCCATGTGCTTG
24595	IL2RB	TTCCTTTGGGATCTCTGAGGCC
24596	BDNF	TCATTTGCGCACAACTTA
24597	RAP1GA1	AAGACCAACACCAGCCCGTGGG
24598	GGCX	CCAAGTGTTTGCTATGTGCAACACAC
24599	OAS2	CACCAGGTTCTTTCTTTAAAGCAGGA
24600	ELK3	CTCGGCCTGACTGCTCCAACTTCCTGCT
24601	ACAD8	CCTGTGTGTTGGCACCAGCATCGG
24602	CLCA3	AGAGTAATCAGAGTACTTTCG
24603	MRPL49	TTCCATTCCATTTTCAAGTGTACA
24604	SPG3A	GGGCTTGTGATGCTGAGCTTGG
24605	TRPV1	CTTCTGCTTCAGTCTCCCAAG
24606	PPP1R8	CTCTGCGCGAGAAGCCTCAGACAT
24607	FZD4	AATGGCACGATCTTGGCTCACT
24607	RAB36	AATGGCACGATCTTGGCTCACT
24608	FGF23	GTAGTACTACTTAAAAGCATGTCG
24609	IL11	TGTTGCCTAGGCTGGAGTGCAG
24610	MAGEA4	AAATGTTCCTTTTAATGGATGGTT
24611	ANK1	ATCTGAAAGGGTCTCCTCT
24612	C1orf1	GAGAAGTTAAGAAATACATCC
24613	FBXL11	GAGGGAGGGAGGGAGGGGAGC
24614	BRCA2	GAACTGCACCTCTGGAGCGGACTTA
24615	PTGIS	GCTTATTGCCCAGGCTGGAGTGCAAT
24616	POV1	GGGTGCCTCTTATCTCCTTCTA
24617	APAF1	CCTCAAGTAATCCTCCTGCCTCA
24618	DYSF	TATTTCAGTATAAAACAGT
24619	TBX1	CGGCCGGCAGTTGCAGTGTAGACA
24620	P2RX7	TGCATTGAGCTGAGATCGTGCC
24621	OAS3	GCCCATGCAAATTAGCTCACATCTTTC
24622	MAPK4	TTCTCCAAAGAAAGGTGGTGAGG
24623	CREB1	TGGAAACTGACATAATGTT
24624	B3GAT1	GTGGGTGGTGGGCAAGGCGGTGGGTG
24625	CHAC	TCATCTCCACATGGAGCCAAG
24626	APPBP2	AACTAAAACTTTTCAGTTCTACT

24627	SOX10	CCCAGGAGGTGACGAGGCAGGG
24628	TEGT	TTGGAGTTTGGCTTCATCTTCC
24629	DFFB	GCATGAGCCACTGCACCTGACC
24630	GNRH1	CACCAGCCACAGAGATCCAGGCTTT
24631	MDM4	GTCTCCCAGGCTGAAGTGCAGT
24632	EYA1	GCAAAACTATGTCAGGAATGGAG
24633	UBE2A	TGTGCTGTTTCCATCTTCCTTGCC
24634	GTF2I	CTCCCCTCAGCCGAGGCT
24635	ALX3	GTCTCCCATGATGGGGTGGAGTCAGCCCTGCT
24636	ZNF26	TTGTAGTATCATCATGAAGATTCAGAG
24637	SUPT6H	TCTGCCCTCACCGGACTCTGGG
24638	RGL	TGTCTAAGAGGTACATTCTTCC
24639	IL20RA	TTTGGAATATCTATGAATGAAT
24640	SUFU	ACTGCTCTCTGCTGCCCTCCCATCCTC
24641	CD8A	GGGTGGGAAAGATTACTTTTTC
24642	THBD	TCCTGTGCCCCTCTGCTCCGGCACG
24643	RNF14	GCTCAGAAGAATTTAAGTTCTATTCAG
24644	CHAT	CAAGACGCCCATCCTGGAAAAGGTCCC
24645	P2RY6	TGAGGGATGATTATGAGCTCTCT
24646	GAC1	GGAGAGGGATGCCCAGGAACGC
24647	RHD	TTTCTACTGCTATGTGTCACACTTT
24648	SLC22A12	CTAGGGAGCTTGAGTCCTGAGGCCCTC
24649	SMAC	GCTGGTCGTGAACTCCTGGGCT
24650	FLT1	CCAATCATTTGCCATTTATGAC
24651	TGFB1	CTCCTGAGCCCCCGCGCATCCT
24652	PIM1	GCCATGGAACTGTTTTCTTCATCA
24653	CBFA2T2	GTGACCTTTTCCATCGTGAGCTAAGAG
24654	AVPR1A	CTCCACCCCCTCCACAGTGATGCAGA
24655	HMGCS2	GACCTCTTCCTGAATCACTGGA
24656	HRH1	GCCGTGAGCCAAGATCACGCC
24657	NHLH1	CAGTCTCTCAGTGCTTGGCAGAGGGGT
24658	CACNB1	GCGTAGGCACCTGGGAGCTGCT
24659	EVA1	CATCTGAAGGCTATATATCCTTTAATC
24660	LARS2	GTAGTGTGGCCTGGTGCTGGGGTGAA
24661	UBE2L3	GCCCGTAATAAAAATGCTCTC
24662	HS2ST1	ACTTTTATTTTATAAATACACAGC
24663	ADAT1	CCAACCTGGTGAAACCCTGTCT
24663	SWAP70	CCAACCTGGTGAAACCCTGTCT
24664	ARHGEF6	CTGCCCTTCCTTAGACCATCACATGCC
24665	SLC2A8	TTTTGGAGGTTGGGTGCTGGG
24666	BAZ1B	TTGGGTTGGAGGCTCATTGA
24667	CAT	GGCTATAAATATATAAAAAGAA
24668	KLF8	TGCTTCTTAAGTTCATCAA
24669	C18orf1	TTCAAGTTTATGTTACTGCCAGG
24670	CHRNA2	TTGAGCCTCCAGGCTTCTCCTT
24671	KRT5	TGCTGAGCTCTGTTCTCTCCA
24672	ANXA1	TGGTCTCAAGCTATGATCAGAAGACTT
24673	MLC1	CTTCATGGTGTTCATGACAA
24674	SLC24A1	TTGTAGCCCACTGCATCTGGATAT
24675	AQP6	GTCAGCTCAGGCTGGAGCAGG

24676	COG4	CCAGCTTTCTGCATGGATGG
24677	PACE4	GCTTGGCATCACACATCACTC
24678	MTMR2	TACCAATGCTACTCTGCT
24679	SH3BP2	GGGAGGGTGAGCAGGAGCAAGGC
24680	CX3CR1	GTTCCTGAACCTGATGCTGACT
24681	HRH2	GCAGCCCAGAGTCAGTCATTGAAG
24682	LDB3	CTGTCTCTTCTCCATGAGGGAGA
24683	GJB1	GACATGTGGGTGGAGAAGGGAGGGTG
24684	MYCBP	TGCTGAATAGATTCTTCTCAGTTTGAAAGA
24685	TBX6	TCGAGATCATGCCATTGCATTC
24686	FUT8	TCAGTTCATTGACCTCATCAT
24687	OSCAR	TCTGGGTCTGGTTTTCTGATGTTGCC
24688	p100	TTGCCTTTGCATCTCCACACATGGC
24689	PDAP1	GGTGGTTGTCCCAGGAGGCAG
24690	F2R	TGGACCCTGATCTTACCCGTG
24691	HUNK	TCCTTCAGTCCCTCACATCTCTGA
24692	COPA	CCCTGCAGCTACTCTTCAGATCTG
24693	TAF4	GTTTCTGCATTATTTGTGCAT
24694	BACH2	GCACTATAATTCGGGATGTAATCC
24695	RAP1GA1	CGCCAAAGGCCAGCCTCCTGGC
24696	CSPG2	CGCGCAGCGCTGCAGTGA
24697	KCNJ16	TTTCATCTTGCTTTGCTTTGT
24698	CYLN2	ATCGCCCTCATGAGTGCCACCT
24699	CALCB	GCCTGGCAGATGAATGACTCCAGGAAG
24700	KCNJ10	TCTGAACTCTTCAATTTGGA
24701	TNS	CCTGGTGCCTGCACCTGCACT
24702	NF1	AGAACAACTGCAAAGAAAGTG
24703	ICOS	ACACATTTACAAGAAAAATGTTT
24704	RRAS	AAGGCAGCAGCAGCGGTGG
24705	RAD52	TGAAACCAGAATTGTTTTGCATTT
24706	ATP1A2	GGAAAGATGGGGAGCTCTGGAGGTG
24707	PPP2R2B	AACTTCTGATGCTTTTATTGCC
24708	SLC1A1	CCAACTGGAAGGCTTTATTCTTCC
24709	S100B	GCCCTGCAAGGGCGTGGTGG
24710	CD8A	AAGCCCAGAGACAGCTTGATCAAAGG
24711	RAD21	CCAGTGCTGCACACTCCTGGTT
24712	MFRP	GCGTATTTCTCCCTGAAATGGGGTCT
24713	GSTM4	TGCCTATCCTGGGACCTCC
24714	INHBB	GCCTGGCTCGATGTCTGCTTCTTCCCA
24715	TEGT	TGCACACATTACAGGTGGTGTGTTCTG
24716	MAPRE1	GGATTCTGCAAAATGTGTCTC
24717	PHEMX	CATTCAGGCTGTTGACAAG
24718	SIAT1	TGGCTCTCTGGACTTAACGTC
24719	IL15RA	CAGGTGGCGGGGGCTGCGCTCCGCCC
24720	MSN	CTAGCTCCCCTCCTCTCCC
24721	ARSD	CTAAGGCAGGGAGATGGCTTGA
24722	C8orf1	CCTGCAGCATCTTACATCTGTA
24723	SLBP	GGGCAGCAGAGTGGAGCGA
24724	GJB3	GTGCTCAGGCTGGTGCCAGCCTTTCA
24725	SLC2A3	AAGCTGAGGCGGGAGAATCATG

24726	ADCY8	AGCCTCAGCATACCCCTTCCTCCA
24727	CACNG3	CCCTGAGGGAGGCATTCACCTT
24728	UNRIP	TCCAATTTCTATTATTACAAT
24729	ITPR2	GGAGAGGGCAGGGAGCGGC
24730	HMG20A	CAGGCTGGAGTGCGGTGGCTAT
24731	PAM	GAGCGGCGCTGGAGGGAGGAAAGC
24732	WTAP	TCCCTTCACCTTTCCTCTCCTG
24733	SERPINA3	AGTAGGAACTTGGAATGCAAG
24734	PLAG1	GGAAATCAAGTGGCTTATCATG
24735	G1P3	TCCAGGCTAGAGTGCAGTGG
24736	SLC15A1	TCCAGGCTGGAGTGCAATGG
24737	CISH	CACCCCCTCACAGGACAGAGCTGTAT
24738	EGFL5	TTCATAAAAATCTTTG
24739	SPN	AGTTCACTGCAACCTCTGCCT
24740	VDR	AGGGGAGAGGGTCTGGAGAAGC
24741	USP9Y	ATGCTGTAACAGTTAGCATGGC
24742	PCDH12	GCTTGTTTCATAATCATCTAACT
24743	KCNA7	AGGGAAAGAGAACCACAATAGA
24744	FGFR1	AAGGAGGATCGAGCTCACTGTGG
24745	C4orf1	TTATAGAATGTGGAAATTATTTCTCCA
24746	HOXC6	CGAATATTTAATAAAACTGATA
24747	POU2F2	TCCTCATCCTCCTCCTCCTCC
24748	EPS15	TAATTAATAAAAATCAGTTTCTT
24749	PSMA1	CAAGTCAAATCCAGACCTATGTTGGAT
24750	LSS	CCTCAAGGTAGTGAGGCTAG
24751	SORCS3	CTAGTGTTTATACCAGCAAGCCACGTG
24752	KCNK6	GTGCCCTGGAATCAGCCTGGTTGAGC
24753	IGFBP1	AACTTGTATATTCCACCATTCACATT
24754	HD	TGAGAAGAAGGAAGATCTTG
24755	SFTPA2	AACCCATCTTCCTGGACCTG
24756	PARG	ATTTCAGTTTTTCATTCTTTG
24757	DEF6	CCAAGCCCCAGACCATGGGAG
24758	TIMM17B	CTACTTCCTCGGTTCCCTCCCCGA
24759	INPP5B	AAGCTGAGGCGGGCGGATCACC
24760	YWHAZ	TCCATGTCCCATGATCCCCTC
24761	ZNF205	TCAGCTGTTCTTTCTAGCTCT
24762	SIL	ACTCTTCTAGCAGCATTATG
24763	DNMT3B	AATTAAAATCAGTATTTGTCTA
24764	GNPI	GCGATGGGGTGGTAATGGGGGTG
24765	NBS1	TATTGTTCTCTGTCATGCCC
24766	101F6	GGGGACACCTCAGGCACTGGG
24767	NFIA	GACTTCCTGTTGTAACACACTTT
24768	CSNK2A2	AATGTAAAAGGCTCACTTGCCT
24769	WWP2	CCTGAGTCCTCCCTGCCTG
24770	SP1	CTGAGCCTTGTTGTGACACAT
24771	MAPK10	TCACTTTTTATTTTTATGGGGGTGGGT
24772	MKI67	TGCCTGTGGAGTGGAATATTCTG
24773	SLC25A13	CTGCCTGGCCGTATCGCCGCCCCCAC
24774	EIF2C1	CTGGCTTCCTTTCCCTTTTCTTCT
24775	BCLG	CCTGTGCACGTTGGCCTCAGATGG

24776	BTEB1	CCATACTCGTTTCTGATTCAGAATC
24777	AGL	TACTCTTTAACATGATAAATG
24778	KLK13	CTTAGCCCTTCTCTGCTCCTTATTCC
24779	RERE	TTGCACAGGGAGTGCAGGAGGTGA
24780	MT3	GCTGCTCTCCTCGACATGGACC
24781	MUC4	TAAGAGTCATCCAGCTCTTGC
24782	GAS7	GTCTTATCCCCATAATCCTTGCCA
24783	MASP1	TGCCCTGCTGTTTATTCTGTAAGGGGA
24784	TNFSF14	CTCGCCTGTAATCCCAGCACTT
24785	VHL	CCCGCCTGTAATCCCAGTACTT
24786	ZNF216	TGCATGGGCTGCATTATCTACA
24787	ATF6	TGTAGCCCTGCATCCTCCAGTGTT
24788	PRDM16	TTCACCCCATCAACCACCTCTGCG
24789	IL22RA2	CACCACACTCCAGCTACTGTG
24790	PTGS1	TCTGGAATATTGTGATTCTGTT
24791	SCAP1	CCACACAACCACATCTGCCTTTTCCAC
24792	AQP6	TTGTCCCAGGCTGGGCAGAGGTCAGGA
24793	TEP1	GAGGGAGGGAGAATAAGTCAGTC
24794	CBFA2T1	TAATTAAAAACTAGTAGTTCT
24795	AES	GCTTGCAGGCCACCTCTAGCTTTC
24796	ALOX12B	GTGCCTGGCTTCTCTTGCCTGCCTTG
24797	CAPON	AGCCAGGGCCCGGGAGAGTGTGAG
24798	DDX3	TTAAACTTCCAATCTTACT
24799	CTNNB1	TTTCATGTTTTTGATCAAAAACTATT
24800	MXI1	ATGGCAGCAGAAAACTTGTGTGA
24801	DCLRE1C	ACCAGCCTGGCCAACACAGTG
24802	GYG2	CTGCCTGAATTTATGGCATTA
24803	ACCN2	AGGGGATGGAGGTCTACCCTGGA
24804	RPL22	ATCATAGTCAAAGGGCTTCCCTT
24805	BRCA1	GAGGGAAGCGCTGAGGATCA
24806	DBH	AAACCAGGCTGATGCCGTGCGGG
24807	HMGA2	GCAACGTTCGATTTCTACCTCA
24808	SLC21A3	GCTTATATGCCTTA
24809	ACK1	AACCTCTTCTGCCGTCTCAGCCTGGG
24810	CST	GCCCCCAGCCCCCTCCTGGTGCC
24811	AICDA	ATCGCTTGAACCCAGGAGGTGG
24811	GCNT2	ATCGCTTGAACCCAGGAGGTGG
24811	PCDHB9	ATCGCTTGAACCCAGGAGGTGG
24811	RFC2	ATCGCTTGAACCCAGGAGGTGG
24812	SLA2	TCCAGAATAGCTGGGATTACAGG
24813	SLC7A5	ATCTGGGCAAGGTGGGTGATTCC
24814	SWAP70	TTAGCCTAGCCATTATGTTA
24815	TNFSF9	TCGAGTAGCTGGGACCACAGTT
24816	SFRS2	GCAGAAACAAATGGCTGTCCAG
24817	CDC42	TTTTGAAAGTTGCCTTTTCTCTCCA
24818	P2RX7	GCCTATCCTGGCCAGGTGTGGTGG
24819	CSNK2A1	TTTGGAGAATTTGAGAGGAGG
24820	MFNG	TGTTGTTGCCAACCAGTCTCCCA
24821	SFRS2IP	CACGCCTGTATTCCCAGCAGTT
24822	CASP5	AACATCAAAGAGCACATTTACC

24823	FAT2	GGCCTCGGGCCCCAGAGGTCCCGCT
24824	CYP1A1	CTAACCCAGGTATCCAAAAAT
24825	SLC16A2	CCTAGCCTGGATCCCAAAAAG
24826	CSPG4	CGAGCCTGGAGAACTGCAGGGGCCAAG
24827	DNASE1	CACTGCACTCCAGCCTTGGCAA
24828	TPMT	CACTGCACGCCAGCCTGGGCAA
24829	SLC4A4	TGTGCCATGGCTGGTGTATAT
24830	KLRF1	CTTCAAAATTTTTACGTGATAGTATAA
24831	EDG8	GAGGACTTCGCTTTTGCTCTGA
24832	CRIM1	TGGGAAGAAAAATTGGTCAGCTTG
24833	SNCB	TCTTCCTTCCGCTCTGAGGCAACCCC
24834	KRTHA4	ATGTCTGGACAACTCCTTCCTG
24835	FGF5	CTCTTGATAGTCCTGACCTCATGATCT
24836	GAA	CCTCCTGGGCCGGGGCTCTGGCCCCC
24837	SLC20A2	CTATTTCGATGGCAAATGTTAAGC
24838	CD3Z	GAGAGGGCCGGGCAGAGGGG
24839	PIK3CD	ATCTGCCAGGCGGAGGGGGCTT
24840	EEF2K	ACCCAGGCTGGAGTGCAGTGACATG
24841	S100B	AATCCGAGCCAGCTCTGGGGGCT
24842	RNASEL	TTAGTGGGTAAAGACCAGGGAT
24843	EML1	CCGTGCTTAACAGGAAAGGACCTA
24844	MAP3K5	AATAATCCTGAACATTAGAA
24845	NXF1	CGAGGGAGGGAGGGCTGCCTGA
24846	CD34	CTGGATCCTAGCCTTATCCTCTG
24847	TNFRSF10B	TTCACTTGATACTATATGATATGA
24848	SLC13A2	GTTACCCAGCTCCTGGAGGCAGT
24849	TEM7	TGTGCCTGTGGGGTGGGGA
24850	MFNG	TCTGCTGGAGCCCCTGCCTGACCAGC
24851	CACNB1	CCTAAGTGGGATGGCTCTCCTTCTCCC
24852	SLC14A1	TTTTCTCAGAGATTGCAAAGGAT
24853	TPMT	TCTCGAGCTCCTGACCTCAGGTGATCTA
24854	TIMELESS	AGGCTGAGAAACTTCAGCAGC
24855	TCF3	GGAAACCTGGCTTATTCTTCTA
24856	SCNN1B	GTGAGGGTGATGCCATCTACCCTGC
24857	IL1F8	TGAGTGGGTTTGCTATCAATGA
24858	DMC1	CCAACATGGAGAAACCCCATCT
24858	NT5C2	CCAACATGGAGAAACCCCATCT
24858	RBL1	CCAACATGGAGAAACCCCATCT
24858	VPS41	CCAACATGGAGAAACCCCATCT
24859	PPP2R5B	GCCCCCCAGGACTGGGCAGTTGCAGG
24860	TNFSF10	GAGATCATGCCACTACACTCCA
24861	FBXL7	AGCAGAGATACCCATACAC
24862	GALNT2	TGTGCGAGCTGTGGAGTGCAGG
24863	TCEA1	TTAGATATTATTTTGCATCTGTAACTAACC
24864	SFRS1	GGCTCACTGGATCCCAATCCTTGGAGC
24865	ZNF180	AAAACTTCCAGCCCTCTGTT
24866	CR1	TCTGTCTCCCAGGCTGGAGTGC
24866	CYP2B6	TCTGTCTCCCAGGCTGGAGTGC
24866	TNFRSF10B	TCTGTCTCCCAGGCTGGAGTGC
24866	XRCC2	TCTGTCTCCCAGGCTGGAGTGC

24867	RDS	CAAAGGTCCCTGAGCTCTTGC
24868	MYO6	GACCTGTTTCATAAGCTTT
24869	RAI3	TCATTCTCACTTCAAATTCCTGGG
24870	BAI3	TATGGTTTAGTTTTCAAAAAACTT
24871	BPAG1	AAAATTCTGCAGATGGCCTT
24872	JAM3	TGGACTCAGGACTGAAGTGCTGT
24873	PC	AGATAGTGTCTGCCTTCTGGA
24874	TAGLN2	TAAGGGGTGGGGTGAGGGGATGGAG
24875	CNP	GCCTCACTCCAGGAAGGGGCTGGACTG
24876	SLC2A3	ATTATCTAAAGTGTGTTGT
24877	GPC5	ATTTGCCAGACAATGAAAACAG
24878	HOXA13	TCTTTTTTCTTTTTTAGAAAACTCAGA
24879	IL15RA	CCTGTCTCCAGCTGCTCTGCACACATGGACA
24880	TCF12	TCAGAAGTGAAGATAGGAAG
24881	HLA-G	CCCACAATTCCTCCTCTGGCCA
24882	SIM2	GAAAGGAATGGCCTTTCACCTTCT
24883	TLR4	GAGGAAGAGAAGACACCAGTG
24884	FANCE	TGCAGTGATGCGATTGATCATGGCT
24885	MATN4	ACGGCCCAGACCCGGGCTGGG
24886	PIK3C2B	CCTGTGGCTGAAGGAAGCCTTAGCAATTCACT
24887	FPGS	TCCCTGCCTTCACTGTGCTCCAACCTGAAGGT
24888	PACSIN1	GGTTTCCTAACCTCTTCTTCCT
24889	SLC19A1	CTGCCTCGAGGGCCGCCTGCCTTAGCAATG
24890	RANBP9	CCCGCCTCCCCCTGCCTCAGCGGCTGC
24891	HMG20A	GCCTCCAACTCTTGGGCTCAAGCATC
24892	TRPM6	AACATAGATTGATCAACGTGAT
24893	PACE4	GGCTCAATCTATCCTGTGCTTGA
24894	PCDH11X	TATCAGATTTGTAAATAACT
24894	PCDH11Y	TATCAGATTTGTAAATAACT
24895	PKHD1	ATAGACTTGCCCTTGTTACTGCCCAG
24896	BSN	TGTGAGCCGGGAGATCTGGGCTG
24897	CEACAM1	ACTTTCTCCTACTCTTCCTTCC
24898	SLC6A3	GCCGTCAGCCTGTGAACTGCCAGGCAGCT
24899	SCNN1G	CCTCAGGCAGCAGAGAACTGGCC
24900	ATP11A	TACATCCCACAGAGATACCCAGAC
24901	GHR	AGTTTATATTTAACTCTCTTTATGTCT
24902	ZNF135	TGTGCTGGGGACATAGGAAGAC
24903	POLQ	CAGATGTTTTTATTGCAGGTCA
24904	IGFBP4	CCCTTTCTCTTCTTCCCCAGGTC
24905	GRM6	GGTCTCGAACTTCTGAGCTCGAGCGAT
24906	IL11	CATTATCTCCCCCTAGTTAGA
24907	PCOLN3	CTCTACCATCTGTAAACAACTG
24908	MTMR4	TATCTGTCTACTTAGCGTGGCT
24909	BRCA1	CATGAAGTTAACCACAGTCGGGAA
24910	LANGERIN	TCCGGCACCTCCTCCTCCTTC
24911	PYGM	CACTCCTTGGCTGGAGGCAGTG
24912	POLK	CGCCAACATGGTGAGACCCTGTCTCT
24913	IRAK1	CATGGCAGACAGGGAAGGGAAA
24914	PPP1R12B	CATGCTTTTCTTACCTGTCA
24915	BACE	TTCCTGTTCATGACAGCTACTAA

24916	PBP	AAGCCATGTTCCCCAGTTCAGTGTTGC
24917	TM6SF2	GTGCCTCCCTCCTCCAGCTGTAACC
24918	SORBS1	CTTTCTGCCCAGAGCTCCTGGACCAATGCA
24919	OSM	CGCTGGGAGGTGTACACGGAGGTCT
24920	MEIS1	GACTGATTTCAAATCATGTTT
24921	PCDHA1	TCTAAGAAACAATTATG
24921	PCDHA10	TCTAAGAAACAATTATG
24921	PCDHA11	TCTAAGAAACAATTATG
24921	PCDHA12	TCTAAGAAACAATTATG
24921	PCDHA13	TCTAAGAAACAATTATG
24921	PCDHA2	TCTAAGAAACAATTATG
24921	PCDHA3	TCTAAGAAACAATTATG
24921	PCDHA4	TCTAAGAAACAATTATG
24921	PCDHA5	TCTAAGAAACAATTATG
24921	PCDHA6	TCTAAGAAACAATTATG
24921	PCDHA7	TCTAAGAAACAATTATG
24921	PCDHA8	TCTAAGAAACAATTATG
24921	PCDHA9	TCTAAGAAACAATTATG
24921	PCDHAC1	TCTAAGAAACAATTATG
24921	PCDHAC2	TCTAAGAAACAATTATG
24922	ALPL	AACACACACGCCAGCTCCTCTCT
24923	IMPG1	TTCCACCTTCCCTGAAAATTTTA
24924	MPL	CTCTCCTCTTCTAGCATTTC
24925	ZNF165	CAGGAAGGTTTTGCAGAGGAG
24926	CRYAA	TGGGCTCTCGCGGCCTCTTCTCT
24927	ZNF45	CCAAGCCTCAGCTTCCTCGCCT
24928	PSMB10	TGGAGGTGGAGTAGCTGA
24929	LIFR	GTGTTGCTACATCAGCACTGGGC
24930	FETUB	CTGCCTTGTACCCTGAGCTGCATCACC
24931	ADAMTS13	TGTCTACATTGCCAACCACAGGCCTCT
24932	RDS	CATAACTTACCTCTGCTTCT
24933	TYRO3	AACGGTGACCTTTAGTGCCAACT
24934	EZH1	CTGTAGTGCCTGCTGTTTGGA
24935	GAA	GCAGGTAGGACAGTGACCTC
24936	RNF3	CTCTCCTCCCGGATGGTCATGTT
24937	ACVR1	GCCCAGTCTGTAATGCAGTGCT
24938	CYBB	TGGCCAAGAGCAGGGTTTTCT
24939	PFC	GAGGAAGAGGAACTCTACA
24940	LAMB1	GGGCGTCTTCTCCACTCCTCTG
24941	MRPL49	GCTCACTGCAACTTCCACCTCT
24942	CD80	AGTGATTTGTCATTGCTTTAT
24943	FADD	CTTCCTCACTATGACACTGA
24944	ZNF2	TTGATGGCTGTTAGTCCCCCTCTC
24945	FKBP1A	CTCCCTCTGCTGATCTCAGTTTCC
24946	CORO1C	GCCCTTTTCAGCAGCTTGCCCA
24947	NAP1L3	TGTCCTTTGGTCATGTTTCTGT
24948	PDE6C	TTTTAAATTAAAAAATCATGCA
24949	AGL	ACTTTAAGATTATCTGCCTGCT
24950	EIF2S3	CCTTCATTTTATGTTTTTTCTT
24951	TAL1	ACCAGGATCAGCCAGGAGG

24952	NDUFB10	CCTGCTGTGTGGCTCTGTATGACTGTT
24953	KCNJ3	CCCGCCCCCACCTCCTT
24954	KCNS3	CCAGCACTCTGCCTTCTGTATCCA
24955	DFFB	GGAGCTCATGTCAGCCGTGTGG
24956	ABL1	GGAGGCAGGGGACAAGGGAGG
24957	RPL4	TCTCCTCTCTCCGCCATGGC
24958	IL17R	CCTGTAATCCCAGCACACTGG
24958	TSN	CCTGTAATCCCAGCACACTGG
24959	IL13RA1	CTAATTCTTGCATATTTTGTAA
24960	KCNJ10	GGACCAGGAAGAGAGGAACTCGG
24961	UBE2L3	GTGCAGTGGCCCTGCCACAGCCCT
24962	NGB	GCCTTCTGTCCTGCCTGCCCA
24963	SHANK2	GCCTAGTTTCTGTAATATTGTG
24964	DIA1	TCTGAGCAGTGCCTCTTGTC
24965	POLH	TACCTGTAATGCCAGCACTTT
24966	CNTN2	TGTGCCTGGTTCTCTATCAGAAAGG
24967	CASP8	CTTCCCTTCTGATTGATGGTGC
24968	NR2E3	ATAAGACAAAGCTACTGCCTTC
24969	MCC	TACCAAAGTAACTGAATTATTTCAG
24970	GRM1	CTTTTGGTGAACACGTTCATTCAACTG
24971	SLC28A1	GACAGAACATGCTTGTGCTTCT
24972	M6PR	CTGTATAGCTGGGATTGGGC
24973	MPST	GCGGGGGCCATGGCGGAGCCAG
24974	PMSCL1	CAGGTTCTTTTCAAGGCTCCAGTCA
24975	OLR1	CGAAATCAAGAAACTCATGTTCTTA
24976	AGTRL1	TGGGACAGAAGCAGAGGAGGCTGCCT
24977	RABIF	GAGTGAGACCCTGTCTCAAACA
24978	RGS2	CGTGGTGTCTCACTCTGAA
24979	FCRH1	GACTACAGGCACATGCCACCAA
24980	STS	ACAAACCTTCTTTAAGGCATA
24981	TCAP	ACTAAGGGTGGAGAGTTGGGGGCCAGCA
24982	NPY1R	AGTCAGAAGTCATTTTGACTGCCCTCA
24983	GRINL1A	CTTCCCTTTTGAGTAG
24984	SNTB2	GTCACTCGTATGGGACTGCTTGT
24985	MFRP	CTGACTGGCCCCACACTGTGCCACCGG
24986	PRKCL1	CCCCTGCCCCTGCCCGAGAGCTCTTAG
24987	POLR2C	CTGGCCCTGACTGCTGTTAATAATTG
24988	PODXL	TTTTGTTGTTCACTGCTCAGCT
24989	KLHL3	GCAGGGGAAGTCTTGTGTCT
24990	CHST5	AGAAGACCTCTGGCTTTCCTGGAACAC
24991	SLIT2	AATACAGAACAGACTTATTTTTAT
24992	RNGTT	CAGTGTGTCCATTCTGGCAGTGGTTT
24993	SLC9A1	AGTCTCTCTTCCCACTTGCTGAC
24994	LTB4R	CATTCTCTCACATCCCGTGCGGTCA
24995	MMP19	AGACAGCCCTTCCAACTGTGTCAT
24996	PTGER4	TACAGTACTGTTTCTGGACC
24997	INSR	CTCCTTTGGGGCAACGACGGTTTCA
24998	MAP3K9	AGCCCTACTTCTTGCACTGA
24999	KPNA4	AGAAGCAGCAGAAAACTAGCTTGTAAA
25000	SLC3A1	GCTGCTTGGTGAACAATCA

25001	PMCHL1	GGCTAGTTTTTGTATTTTTAGT
25002	SEDL	GGCTAATTTTTGTGTTTTTAGT
25003	PHLDA3	GGCGCCAGAATCCTGCGCTGCG
25004	IL12B	ACTCTCCGTCCTGCCCAGAGCA
25005	IGFBP4	GACCATCGTCCTTCCTCTCAAGCTA
25006	NRF1	AGCACCACTCTTGATTTTCTGGGATT
25007	PRKCM	CAGATGAGAACAAAGCTGTTAAAC
25008	RET	CTGACAGCAGAGGCTTTGCTGCTGTGA
25009	OPA3	CCTGTAATCCTAGCACCTTGG
25009	XT3	CCTGTAATCCTAGCACCTTGG
25010	SSR2	TTCCACAGCCCTCCTCTCCCAAG
25011	ERBB2	TGCTTGAGTTCCCAGATGGCTGGAA
25012	LAMC2	CCTGTAATTCTAGCACTTTGG
25013	ATP7A	GACGGGGTTTCGCCATGTTGGC
25014	PMCHL1	TTTGTCAAGGAGAGTGCAGT
25015	TMEM1	CCATACAGAATTAGCAGAGAAAATACA
25016	ADCY6	AGGGAGAAGCTCTGGGGAGCCAG
25017	NGB	TGTGTGCCAGTACTCAGGCAGCTGG
25018	TAT	GCCCATGCTGGAGTGCAGTGGCGCG
25019	SFRS1	GTTCTTATGTTTATCTTGCT
25020	FBN2	TGGGTATTTTGCTATAGTTGCTAATTA
25021	PTPRK	CAGCTCTTTGCAAAGCTGC
25022	HNF4A	TCTCATGTTGAAGCCACTGCCTTC
25023	MSX2	ACAGTTGTTCCTATCTC
25024	UBE2A	AAACTATTTTCCACTCAAATCCTGAGT
25025	ITPR2	CATGCCACCACACTGTACCATGGGGG
25026	PPP1CB	TAAGCTGAGCGATTTCTAATAAA
25027	CHRNA2	GGCTATTCCATCCATCTGGAAGC
25028	EYA1	ATATTTTCTCTCATCTAACA
25029	RNF3	CCTCTGCCTCTCGTCTGACCTTGCA
25030	CAST	TAAATTTGAAACCTGCATTTCTCCCAC
25031	NIPSNAP1	CATCCAGGAAAACTTGTGCTGGA
25032	LPP	AGAGACACCTAGCTTAGTCATGGCA
25033	GPR30	CCCAGCCAGGGTGTGACTCGGGAGCT
25034	HOXB6	TCAGCCTGATCAGGCTTCCTGGTGAGAAC
25035	ZNF74	GGACCAGCCTGGACAACATGGT
25036	RNF3	TGGAATATTGCTTAAATGTTT
25037	CD209	CTTGTCGCTCAGGCTGGAGTGCCATG
25038	ITGAV	AGGACTCTAGACAAAACCTTCT
25039	SPTLC1	TGAATTCCCTGGGAGTCA
25040	TLR4	CACATGCTCACAACCATCCTGGTCAT
25041	CYP1A2	TCCTAAGCTGGAGTGCAGTGG
25042	YWHAB	ATGATTTCTCCCTGTATTGAG
25043	PRSS7	ATGCTAGGGGGCCAGGGAAACA
25044	TFE3	CCCCACCCTCCCATGAGACTGCC
25045	TPMT	GCCACTGCACGCCAGCCTGGG
25046	WSX1	CCAGGCCGCCTCCCCACTCCCCCTCA
25047	RET	GGGGTAGCGAGGTTGCAGGA
25048	NOTCH2	AGGTATGAGGGAAAGAGAGT
25049	IRTA2	ACTGCAGATCTTGAGATATG

25050	IER5	AGCCAAGAGCACAGACTTGGA
25051	KCNMA1	AATGCCAGGTAGGAGGAAGGGCTGGGG
25052	COG7	TGACCAACATGGTGAAACCCCA
25052	CORO2A	TGACCAACATGGTGAAACCCCA
25052	PPP2R1B	TGACCAACATGGTGAAACCCCA
25052	RBM3	TGACCAACATGGTGAAACCCCA
25053	FANCD2	TGGCCAACATAGTGAAACCCCA
25054	INPP5B	CCACTGCACTCCAGCCTGGGAG
25055	SLA2	ATTGGCCAGGCTGGTGTCGAA
25056	GPR81	CTTGTGATCCGCCTGCCTCGG
25056	TP53BP2	CTTGTGATCCGCCTGCCTCGG
25057	ADRB3	GGGCTGGCTGTGGCCAGGT
25058	DYSF	GGGGCGGGGACCCAGCCTAGCC
25059	CD22	GCACGGGGAGACGTACGTATCA
25060	PRKCN	TTATTTCTTCATTTCTCAGTAATCAT
25061	EPHB2	CCTTTGAGGCTCCTGAGTGCCCTCAGAT
25062	STARD5	TGAGAATGTGACCGGTTTTGA
25063	IRTA1	GTGATTTCTCCCTTGTCCAAAG
25064	CDKN2C	GATGCCATCATGCAGCCT
25065	EML1	TGAACCACGATGGCTGTTGAGGAATT
25066	MADH7	GCTCTTTGTTTTGTGTCTCT
25067	IER5	AGTGTTTAATGAGAGTTTACA
25068	ACVR1	ATGTCAGACTTTGCTGCATTTT
25069	PRKACG	GGGTTGGGGGAGCAGGAAGC
25070	TEM8	CAGACTTCTGGGCAGAGCTGA
25071	AGR2	TTAGGAAACGTGAAAGGCTGTGGCAT
25072	OGG1	CAGGAGGTGGAGGAATTAAGTGA
25073	SUFU	GCCTATCTCTAGCCCATGGTTT
25074	PFN1	ACAGACACCTCCCCCTACCCA
25075	KCNK2	CTGTTTTCCTCTCTCTTTC
25076	CAMLG	AAGTAGCTGGGATTACAGGCAT
25076	CYP2B6	AAGTAGCTGGGATTACAGGCAT
25076	RAB36	AAGTAGCTGGGATTACAGGCAT
25077	COL11A2	GTCTGCTCCCTGTCTTCTGTCAGCCT
25078	UBE1	CTCTAGGCTGGCCCCTTGTCCACC
25079	RPP30	TGGTCTCAAACTCCTAGGATCA
25080	ATM	TGGTAGCTCACACCTATAATCCCAG
25081	PTGIS	GAGAAACAGGCTCTGAGATTTC
25082	KRTHA5	GCCTCAAGGCCGGCTTCTCTTCTGG
25083	DLEC1	CCCTCCAGGAAAGGCCTGAGGATGTGT
25084	PRPS1	GGGGGTGGTTGAGGGGGGAGGCAGC
25085	ULBP2	CATTTTCTTTCTTCTCTTTTTGTT
25086	NFKB1	TGGTTCATAAATGAATTTTAGTTTGGT
25087	ZNF239	CTCTGCTCCCAGGAAGCTGTGCGGA
25088	CTF1	CCTTTGGCCTCCCCCTTTACCC
25089	PA2G4	TTCCAACAACAACCAGCTCCAACTG
25090	GRIN2B	GGGAGACGGGGGGCAGAGAGGGACCCTCCACCA
25091	MAP3K8	GAGTCAGGGGCAGAGCAGGGCGGT
25092	MAP1B	CCCAGGAGCAGGCAGGGCAGTT
25093	SSTR1	CTTATCTCATCCTTTCCTCTAGCTTTTC

25094	KLRC3	GCCTCCCAAGTTGCTGGGATTACTGA
25095	XRCC2	GTGGAAATGTAAATTAAATTAG
25096	CACNB2	AGTTTGTAAATGTTATTTCTGCAA
25097	DCX	CTGCTCTCTCTGTCTCTCTGTC
25098	SYK	TCAGCCACCTCCCTCTGCCAGTC
25099	NEDD4	TGACTTCTAAGAGACAAGGAAGTAGGA
25100	RAP1A	TGAGAGGTGGTAGAGCAGGAAGCTGC
25101	BRMS1	GCCCAGCCAGGCTCCTGTGGTGCT
25102	ETV5	GTACATTTTTGAAGTGTGCAGG
25103	GFI1	CTTGGAGGGAATTCTGAGAAGACA
25104	ADAMTS4	CCTCAGTCCCTCCCAGCTGCAGT
25105	APAF1	TGTGTAATTCCAGATGAGTCACTGT
25106	ABCB11	ATTCATATTCACAGGGTCGTTG
25107	TRPV1	GGAGGCACCTGAGGCCCAGAGA
25108	RPL29	ACATGAGGACAGAAGGACTGG
25109	POMC	GAGACAGAGCCTCAGCCTGCCTGGA
25110	BCL2	CCTAAAACAAATAGTTTATAAATGTG
25111	PPARA	GCTAATCTCAGGACTGGG
25112	SMCX	TCCTCCTGGGTTCATGTTGTAATAAAA
25113	DDEF2	TACTGAGTGTACCACTGCCTTC
25114	EFEMP1	GGTCTTCTTCAAGAGAGCTAAGTAT
25115	PLGL	CTGTGGCTACCAAAATCCATGCTTCTC
25116	NOTCH1	ACCTCAGCCTGCACAGTGTC
25117	NCALD	GGTAGGTGGAATCAGTTAATG
25118	MYCL2	GTCGCCCAGGCTGGAGGTTAATGGCAT
25119	TERF2	TTCTCATGTGGTTGAACCAGTGTGTTT
25120	PKP2	ATTGGTTTCTTTCTTTACTTTGTGCT
25121	UPK1B	TACCTATTGCACTCCATCCTGGATGAAA
25122	ATP1B2	TCATCCAGAAAGAGAAGAAGA
25123	LDOC1	GGTGGATGAGTTGGTGCTGCT
25124	COX15	TCCTGAGAGGGTTTCCTAAC
25125	AGXT	CAGTGGCACCTCCTGGAAAC
25126	CUTL1	TCTCAGCCCCCACCTCAGGTTAGG
25127	LRP4	CAGGGGCTGGGACATGGGGGTG
25128	CDH20	AAGCAGAAAGTTCTACTCTCGT
25129	TRPV3	AAACCTACAGCCAGCAGCAGTCTGG
25130	CTMP	CACTTCCTGCGAGCATAT
25131	DDX3	ATCCCTTGAGCTTAGACCTG
25132	AQP1	AGCTTTGCTCCTTCAGTTCTGCTTGCT
25133	CD53	GGCTCACTGGACCATTGTCACAACCCT
25134	DNCI1	TTGCTGCCTTTTAACTACTT
25135	MYH9	CCTCAGCCCTCTCTTGCCAAAAAG
25136	BMP8	CTGGGAGGTGGAGGTTGCAGTG
25136	CRACC	CTGGGAGGTGGAGGTTGCAGTG
25136	DBT	CTGGGAGGTGGAGGTTGCAGTG
25136	GRM6	CTGGGAGGTGGAGGTTGCAGTG
25136	IL13RA1	CTGGGAGGTGGAGGTTGCAGTG
25136	ITGAL	CTGGGAGGTGGAGGTTGCAGTG
25136	KCNJ5	CTGGGAGGTGGAGGTTGCAGTG
25136	NPHP1	CTGGGAGGTGGAGGTTGCAGTG

25137	FCGR2A	CTCAGCTTGCTGAGTGGATGA
25138	VGF	TGACCCCTTCTTTCCTTTCTCT
25139	PMCHL1	GGTGCCCACCACCATGCCTGGCT
25140	SLC7A5	GCATCTCCCCTAGCTCACC
25141	KCNS2	CCCACATTTCTCGGGTTTGTG
25142	PLA2G4C	ACGAGGCAGGGGCCATTTTACC
25143	TCIRG1	TTCTCCTCTTCTGGTCCTGCCCGG
25144	SNX9	CATGTCCCTCCAGGGGGACCC
25145	DMC1	TGACAAGCAGAAATTACTTTTAA
25146	PIK3R3	ATTCCTGCCCCCATCATGCC
25147	RBBP5	CTGTAATCCCAGCTACACTGGAGG
25148	HS2ST1	ACCTCTACTGAATTGTGTTAA
25149	PIK3R2	GGCCAGCCTGGCCAAAATGGCAAAACC
25150	SPF30	TCATCATTAAAAATTTCTTGTATTT
25151	DTNA	GAACCACCACACCCAGCAGCTCCT
25152	NBS1	CCATTTTACAGTTAAGGAATATAATG
25153	CPS1	TTTTCTTTTCTTTTTCTTTTTCT
25154	ATP1A2	ACATGGTCAGAACCTTTGGACAA
25155	PRCC	AGCTAGCAAAGACTTGTGTGATGCC
25156	NEUROG1	CCCCTAGACGGCCTTTCCTTTTGCA
25157	CDH23	GCTCGGGAGAGAGGGACGCGGGCTGC
25158	CMAR	GAGTCTCGCTGTGTTGCCAAGG
25159	EGFL5	CAACAGTTCTGGGAAATGC
25160	NR3C2	TCTGCAGCTCCTGGAAGGTGTC
25161	SH3GL3	GTGACATCCTTTGCTCTCT
25162	MS4A7	TGGAGAGCAGAGCACCAAGA
25163	SYN3	CAAGGCTGAAACCATCCGCAAC
25164	TARBP2	CTGCCTCTGGGCTCATGTATCTGC
25165	ZNF74	GGCCTGAACCCCACCTCA
25166	DPYS	TTAGTTTTAAAATAGCTCTGTGAT
25167	PCSK2	AGACCTACACTCGCTCTT
25168	DPYD	GTAGTTAAATAACTGTGTG
25169	MAPK1	TTCTCAGCTGTCCTTTTTTCTTG
25170	RAD23B	AGTCATTAGTATAATATTGCT
25171	COX6C	TTTGTCACTGACTTGTGTTCCTG
25172	CEBPA	GTGCCTTGGAAATGCAAA
25173	F2R	CCACTGTGCTCCAGCCTGGGCAACAGA
25174	VPS41	CCAGGAGACGTAGGTTGTG
25175	KCNG1	TACATAAGAGAATGAATGGAA
25176	OAS3	TGAAGACCAAGTCCAGAACTGAA
25177	HSPA4	TGCCTCTCTGTTACTTTTGGCCTAT
25178	PSMA1	CCCGCAGACTTCTCTGTAGATC
25179	GAS1	CTCTTAGCACATTTCTTAGG
25180	TPMT	TGTTGCCCAACCTGGAGTGCAGT
25181	LEF1	GAGCTAAATAAATGTAATAGCCA
25182	HHLA1	CAGGTGAAATAAACAGCTTTATTGC
25183	MSL3L1	GGGAAAGACGAAAAAGGCAGAAAGAT
25184	DISC1	GGGGAGCCTCACTGTGAAG
25185	PCDHGA8	ATGGCCGCTCCACAGAGTCGCCCCA
25186	HYAL2	CCTGCAGCCCCCAGCATGCGGGCAGGC

25187	DDX38	CTGGACCAGACTCTCTGGCAGAGGAG
25188	CYP1A2	AGCTCACTACAACCTCCGCCTCCCATGTTC
25189	IL1A	CGATTTCTCCCTTCCTCCTAGAA
25190	CBLB	GCAAAGTTGCAGTTTGTTCTT
25191	NEO1	TCTTTGTGCTGTGACTGCATCACC
25192	CAPN2	ACTTTCCTGTTCATAGCAATA
25193	FLG	GTACAGTCTTCACCTGTACA
25194	GJB1	TCCCGGGGCCTTCCTTTTGAG
25195	PPP2R4	TTCCTGGGCCTGGCTCTTACAGGCT
25196	WISP1	CTCATTTCACAGCCTTTCGTT
25197	PSA	AATTACCCTATCCTTTGTTC
25198	SEPN1	GGAGGGAGGAGCAGGCTAGGAAGAC
25199	A1BG	GGTCTCCAACTCCTGAGCTCAG
25200	ACADSB	ATGCCTGGCTGGGTATTTA
25201	MMP14	CAGCCTCTCACTACTCTTTCTGGCTAA
25202	CTGF	TGAACAAATGGCCTTTA
25203	BLK	TCATCTGGGACTGGCTTTTGCT
25204	DMD	AGCTAAATAACTTGCCATTTCTTTA
25205	IRTA2	AGTTGTTCTCCCATCTCTGAGCA
25206	TIMP3	AGAGTGAGGGAGGGAAGGAAGG
25207	QPCT	GGCGGTCAGATTTCTTTGAGA
25208	ARHGAP6	TGTACTTACATTGTGCCAAAG
25209	MAN1A1	TGTCTGCTTTAAGCTGTAAT
25210	IL19	TGGCTGCTGCAGGGTGTGGCTG
25211	RAI14	CCCATGTCCCACAAGGCTGCTT
25212	MYCL2	GACACAAGTTTTCTTTTTG
25213	ITPKA	TTCCCAGAGCCAAATGACACTA
25214	AQP6	TCTGTAGGGCTTCCCCACCTCTC
25215	PODXL	GGGGAGGGAGAGTGAACTCCGAGGGGT
25216	RAB13	GGGAGACAACGGCAGAGGGAGTGAG
25217	ATP11A	AGGCCCTTCCCCTTTAGGGAGG
25218	GJA5	TACAACACAAGGCAGCAAGCAC
25219	ANK1	CCTGCTAGTCCCCTCTTGGC
25220	C10orf2	CTTAGCCCTGCAATATCAGGGCC
25221	PIGN	AGCTTTTTCGTATATTGT
25222	MYO7A	GTCTACCCTGATCACCTCAGGGC
25223	BDNF	AAAACATTCCGTTTACATTTTAGACAG
25224	DDAH2	GTAGTTGGGAGAGAGCCTCAATATTGG
25225	PDGFRA	TGCGACCTTAATTTAACTTTCC
25226	ACOX3	CCTAAACTGCTGATTGGCC
25227	SCAMP3	TGGAGGGCAGAGGGCCGCGGAGGCCGC
25228	GNA15	ATCTTAACCTTTTGTATTTA
25229	DLX4	AGCTGGACAAAGACTCTGGAGAGAGA
25230	CENTD1	TGAACAACTGTCTCCATTTTTC
25231	RPA1	GGTCCGCGGGGAAGTCTTGGCGGTGGA
25232	TPX1	ATGGCCCTCCTAAAGACACTCTA
25233	SOCS5	CCCACTGCATCAGAAGCAGGTT
25234	EMR1	ACACCTGGCTACCATTTTGTT
25235	LIMD1	CCATCTGCCGTCTTGGTTCATCTCA
25236	HIP1	TCTGTTGTCAACCGCCTGCCTCT

25237	SYN3	GCCATCCAGGCTGGGAGGGGAAGA
25238	MTMR7	TCAGATAATACAGCTCATCAT
25239	SHOX	GAATCCCAGGAGGCAGGGGCCGG
25240	MS4A2	ATGAATGCAAAAGGTGCTG
25241	HUS1	CTGTCACCCAGACTGGAGTGCAGT
25242	BMPR2	GCGAGGGAGAGAAATGAAGGG
25243	HSPA4	CCCCGCTACCGGCGCCTCCTCT
25244	GJB3	TTGGCTCAGTGGAAGCCCTCTTT
25245	SYNGR1	GGAAAGGGGAGCGATGAGCTGTGGAG
25246	MFAP4	TGGGCTGCTCTCAAACCATGTCCCATCTTCA
25247	ORC1L	AACTACAGGCACATGCCACCAT
25248	UBQLN1	GCATTTGCCTAGGACTTCTCAGC
25249	GALNT7	CCATTAACAAAGGTGTTCACAGT
25250	FOXD2	AGGGTCTCCCTTTCTGCCTTT
25251	PRSS8	CCTTCCCTCTGAGCCAACATCT
25252	IGF2R	AGGAGGAGGGAGGCGCTGCTGG
25253	GPR23	ATTTTTAAAAAATTGTGTTACTA
25254	RFXAP	AGAGCAAGAACATTTTTGTTCA
25255	MTMR2	AGTTACATGTTTCATAACTTC
25256	BCHE	TAGTATTTTACCTAGCATTTCA
25257	SOX18	GGGCTTTTCCAGGAAGCCCGA
25258	ITGB7	GGAGGGTGAGAGGAAGGGTGG
25259	FMO5	GAGCGCTTCAGGAAAGGC
25260	CR1	TGTCTCCCAGGCTGGAGTGCAGT
25260	XRCC2	TGTCTCCCAGGCTGGAGTGCAGT
25261	TMEM1	TTCCCAGCTAGGAGTGCACTTTATGG
25262	MADH4	TTCATTCATAGGGAAAGGTTTT
25263	SPAG8	GCAGGCTCCAGGAGTTGTTTGCT
25264	MS4A6A	TCACAGTGAAGCAAAGGACA
25265	BCAS1	TGAGAGGGAAAAGATTGACTGGGG
25266	CFL2	CTTCTGATGTTTCGGAACAGTCA
25267	MAFG	CGCGGGCTGGGAAGGATTCACT
25268	GAC1	GCTTGCTCTTGTGCCTCCTGGG
25269	ADD1	CCCACCCCACCCTGCCCCT
25270	PKDREJ	GGCCAGGGTGGAGCATTG
25271	PACSIN1	GGGGGCTTGGGAAGCAGACCAGGGTT
25272	SLC22A3	CCAGCAATAAGAACCAATCTGC
25273	SLC22A7	CTGAGTCTGCCCTGGGCTCTG
25274	CACNG2	TTCTGATCTCAAAAGGCA
25275	MAPK14	GGAGCGCGTCCCTGCCCTTAGC
25276	ARCN1	TGCCCCCAGTTAAATACCTCCTCTACCT
25277	EZH2	TGAAATTCTGAATTTGCAAAG
25278	RNMT	TTTTTGGGGGCAACATACCTT
25279	ADCY1	ATGTGCATGTCTAAATAGTCA
25280	OAS2	CCCACTACAAGTGATCCTCAGGCAGG
25281	SLA2	GGTCCAGGCTCTATGTGACCTCC
25282	CASP10	ACCCAGACTGGAGTGCAGGGGGGC
25283	FEZ1	TATCGCCCAGGCTGGAGTGCAAT
25284	NEDD4	GGCACCACCACACCTGGCTTTA
25285	CHRNA4	CTGCCTCTGAACTGCTGCTGGTCACC

25286	PTGS1	CCTGCCTGAGTTTCCAGCCTGCTAGTC
25287	HMG20A	CCTGCCATCATCTGCTATTT
25288	UBTF	GGAGCGACGGCTAATGGCGAGCCCCAC
25289	MECP2	GAGGTTGGAGGGAAAGCCTTAAGC
25290	KCNA7	AGGGAAAGGGGAGAGGGG
25291	SLC12A7	AGGCTGCGGGCAGTGGCACCG
25292	CFL2	CAGTTCTGTGAGGCTTGAGCATTCATA
25293	LTBR	GTGGGCACTGGCTGGGTACGG
25294	MECP2	TACCTTTGAATTCAAGAA
25295	ACPT	CCGCCATATGCTGCCTGCCTCGG
25296	KCNMB3	AGGAAGAGCAGAGAAATCTTAGACG
25297	LZTFL1	AGCATTTTGTCATATCCCCTCTCCTTA
25298	LETM1	TGTCCCCAGGGAAGAGAATGAGGA
25299	LDHB	TCTCCAGAGCCTTCTCTCTCCT
25300	PDGFB	GTCCACCCTTCCATCAGCGGGTCTCC
25301	SLC17A5	GGTTCACATACCTGCCTGCT
25302	GALNT7	CATACCTGTAATCCCAGCTACTT
25303	GALNT2	AGGGTCAGAACCAAACAATACCTGCTC
25304	BRF1	CCTGCCTCTGTGGCTCTGCCTGTGGA
25305	SMAC	CAAGTGCTAGGATTACAGGCGT
25306	BACE	CACTCACTGCATTTGGGGCCTTTCCCA
25307	GJB1	GGTGCACAGGCCTCTGCCTGCT
25308	ADAM19	ATTCCTTTCAGCCTTGCTGAC
25309	ICA1	GGGCGACAGAAGTCTTGTCTCAAGAA
25310	DFFA	GCCTGTAATCCCAGCTACTTGGGAGG
25310	ROCK2	GCCTGTAATCCCAGCTACTTGGGAGG
25310	SWAP70	GCCTGTAATCCCAGCTACTTGGGAGG
25311	MOCS1	GTTGATGATAGATTGCCTTCA
25312	H1F0	ACTTAGTTTCACACCCGGGAGCTGGGAG
25313	FOS	CAGGCCTGGGTCTGTGTCTCT
25314	THBD	CAGTGTTGAAAATGTTCAGAA
25315	PXF	ATCTCTAGCATTTCTCTAGCCT
25316	SLC4A4	CCATGGCTGGTGTATATATGTGCAATG
25317	LTB4R	CATGCCACTACACCCAGCTAACTTTT
25318	PPY	TCTCCCCTCTGCACCCTTGGCT
25319	PRSS7	TGTTTAAAGGGATGTTATTTTAAAGCAT
25320	CPNE3	TTTCACACCTCATATAATCA
25321	BPI	CAGCCGCACCTGTTCCTGATGGG
25322	PUNC	AGCTCACTCGGAACAGTACCAGTGTCT
25323	HR	AGCTCACACCTGTCCTTCTCAGG
25324	MMP2	AGGACTCAGGTTGTCTGAAGTCAC
25325	MEFV	GTCCCCTTGTTCTCTCTGCTTC
25326	MTMR4	TCTAGAAAACAGCATTTCAT
25327	C1orf6	AGAGGGAGATGAGACAGCTCTCT
25328	EEF2K	CGCCTCCTGGGTTCAAGTGATT
25329	CA12	TTGCAGTAAGCCAAGGTCAT
25330	FGFR1	CGTCACTGGGGCTTTGGGGT
25331	UQCRC2	TCAGAAGTCTCTAATATATCATT
25332	TMPRSS3	TAGCATTTGGTGCTTGACGTAT
25333	UBE2L3	CGGCAGCCCCTCAGGGACTCTCAG

25334	APBB2	CCAACTGGCAGCTTTCCCTGACA
25335	PTPRF	CCCTTCAGACGAGATCCTGT
25336	CASP2	CAAGAGGTTTTTCAGCTCTTTG
25337	HOXB1	ATCCCAGGCTCTCCCCAACCCCAGG
25338	ADCY7	AGGTTTTGGGGATGTGTCTT
25339	MOCS1	GGACTCCTGCCAGACCACACAGCCCA
25340	CRIM1	GCTTTTATTTTCTTCCAAGCC
25341	MAPK1	TACTGCTGAGTCAGACTGTCA
25342	F7	CATTATCATCTTCACTTCAG
25343	MCM2	CTGTTTGTTTCTCCAAGCCTGCTTTGT
25344	TACC1	TCCCCTTTTAAATTACACACACTCT
25345	MEOX1	GGACACCACCTGGCCTGGTGGG
25346	DNASE2	CGGGTGGGTGCAGTGGCTCA
25347	MAPK4	ACCCTAACCACAGCGCCTCTCCAG
25348	CALCB	ATTTTAGAATCAGTGTGTTACTATCT
25349	PMX1	CACAGGAGTGCAGAGAGGGGGGA
25350	SLC22A7	GGGGCTGGGAGAGCAGAAGGGCAGGCCC
25351	RASA1	GGAATTTGGGAAGCTGGCTCCAGAAAA
25352	POLA	CCAGGAAAGGGGGCTGCAAA
25353	HPRT1	CTCCTCCTCTGCTCCGCCACCGGCTT
25354	C4BPA	TTTTCTCAAAAGAAGGAGGAA
25355	HAP1	TGACCCAGGCTGGAGGAC
25356	IL18R1	GGGCGAAAGATATCTCTCCA
25357	FGFRL1	GCAGTCTGTGTGTGAGGCATAGCCCC
25358	CNTN1	TTTCTGCGGCTCCATCCTAAG
25359	TAL1	TAGCCTGTGGCCCTGTCCTGCCATGC
25360	POU2AF1	TTTTGCTGCTCTCCTTGAGGATA
25361	PLA2G2D	ACCAGCCTGCCCAACATGGCAAAACCT
25362	TNFAIP1	CCAGCTCCCCACTGAGGTGTTGT
25363	MYO15A	TAGGCCCCTGATTCACTGCCTATG
25364	G2A	CACCTGCATGGGGAGCCCAGTGC
25365	DAAM2	CCAGATCTCCAACAGTGCCTT
25366	AXL	GGTCCCTCCCCTTCTCTGTGCAG
25367	PCSK2	AAAAATAAACCAAAGGACATTA
25368	PCK1	TCTTGGGCAAGATGACCTACTAGTTTT
25369	PLXNA1	AGCTGGAGAAAGAGGCAAAAA
25370	FGFR3	GTGTGCGTGCGCATCTTGCCT
25371	PPEF2	CTCTCTTGTTGCCCAGGCTGG
25372	ORC5L	GCTTGCCAAAGCAGATTTTCC
25373	RNF3	CGCCACCACATCACATGACCTTA
25374	CRY2	GTCAGGCTGTGGAGCAGGAGCACAGC
25375	GOSR2	TTTGTTCTTGAACTCTGGGAGGCAG
25376	STAU2	CTGCATTCTTATAGAAACAAAGCACA
25377	TEM7	CTGGTGGGCTGTGCTTCCCTC
25378	RB1	GCTTCAAATTAAAACAGCTGCAT
25379	PPAT	TTGTAACATCTGAGATTAGAA
25380	HAS3	AACATGTTCAGAAAAGAAGTGA
25381	PCDHB11	CGCCTCCAAGTAGCTGGGACT
25382	WHSC1	ATGGAAAGCTGTGTTTGGAAA
25383	KCNJ5	CCCTCATTCCTTCCACCCTGAGGCTTG

25384	RBBP8	AATCAGTTTTCTATTGAAAATGTTTGTGATAT
25385	BRMS1	AGCCACATCCTCTTGCTGATGTT
25386	CNGA3	TCTGTCTCCTGCTTCACAGGGTC
25387	KCNJ8	ATCAAGTTTTGACGGTTTATGCTGG
25388	GRAF	AGACCCTAACAGTCCAGCAGGA
25389	ABCA4	CTGTCTGAGGGGCCTC
25390	DNASE1	GCCCCAGGGAAGGTCACAGCT
25391	WBSCR1	AGTTTGGGGGCGGCCGGCAGCAG
25392	NPR2	GGCTCTTAGGAGAGCGGAAAGGAC
25393	KIF1B	CATGCCTGTAATTCCAGCTGCTT
25394	PDAP1	CCAGGAGGCAGCTGCTGACAGGTTTGC
25395	PPP2R1B	ATATATCTCTGTGTCTCTCCA
25396	RERE	GCTTTTCTCCCCATATCCCAAGGCGAA
25397	HHLA1	CCCCAAAAATTTTCGCCACCCC
25398	SWAP70	CTTGACATGGAATGCCTTTGACCAT
25399	P2RX7	CCGAAAACTTCACTGTGCT
25400	UBE2I	GGCTGCCTCCAGCCCGGGCCTGTGT
25401	CALCR	TTATAGAATTGCACATAGTTCTGC
25402	COX15	GTTGCCCAGGCTGGAGTACAATG
25403	ST3GALVI	GCCGGCTTCGCTGCGGGTTTGCACTGCCCGGC
25404	ARCN1	TCCACATGAGGTTTTTCTGAG
25405	MMP1	GGTGTCACCCTGGATAGGCAAGGGA
25406	BCL7B	GAATTTGAGGTTCTGACAACAGT
25407	NFE2L1	AACAACAAAAGAACTAGTCC
25408	HPS4	CCAAGCCCCCATTCCCAGAGCAG
25409	MAP3K9	AAGGCTGAGGCAGGAGAATCGC
25410	MTMR3	GGACAAACTTCATTTGACTT
25411	SLC22A7	AATGCCAGGCCCAAGGGACAAAAAGA
25412	OTC	ATACGTGCTTAACTTTGC
25413	SULT1C1	CCCTGAGACACTATGGCCCTGACCTCA
25414	CCND2	GAAGTGTGTTTAGAAGGGTTCAGGACT
25415	CDH17	TTTCTTTTTTGAGGTGGAGTC
25416	SUFU	GGGCTGTATCTCTCCCTGGGC
25417	AF5Q31	TTCGGGCCTAGCGGAGCCGGG
25418	LOXL2	TCACTGAGCACCATGTGTCAT
25419	IL11	TTCAGGTGGAGGTCCCGAGTGG
25420	ARF1	TCTTGGGGAAACCTCAGAACTGG
25421	EMP1	GTGGGTTAGCTAAACCAAGAAGGAG
25422	ABCA2	CCCTGCTCTCCTGCAGGGAGGTGGCT
25423	MYEOV	AATGCATCCAGACACTGTGCTGGG
25424	CHD2	TCAGTTTCAGTTGATACCTCCTCA
25425	ACCN2	GCCATCTGAGTGTCCATCTA
25426	MLLT2	AGGAGGGAAACCCTACAGCTCC
25427	D12S2489E	AAGGAAGAGAAGGCCAGCA
25428	RALBP1	AGAGAAGATATTCTGGTGACT
25429	SNTB1	GAACCAGCCTGAGTGCAGCTG
25430	BTEB1	CCTCTCATCCATAACTCAAATTT
25431	EXTL1	TTGAGGGCAAGGTCAAGGGGTG
25432	CLECSF6	ATTGAGCATTTTTTCATGTGCCA
25433	AMD1	TTCCAAAATACTCAATGGGAA

25434	HYAL4	TGCCCAGGCTGGAGTGTAGTGGTGTG
25435	PDZK1	TGCCCAGGCTGGAGTGCAGTGGTGCG
25435	PON1	TGCCCAGGCTGGAGTGCAGTGGTGCG
25435	TMC1	TGCCCAGGCTGGAGTGCAGTGGTGCG
25436	EDN1	GCCTTTTCTCCCCGTTAAAGGGCACTTG
25437	LRP1	GTGAGGTAGGCGGGAAAGGATGG
25438	TFE3	CAGGTCTCCTGGGAAAGGGAG
25439	ADCY3	CAGTCCAAACCGGAAGGGAGA
25440	PDE4C	GCCTGTAATCCCAGCTACTGGGG
25441	PRKAR1A	TTCTGGTGGGTTGATGGTAGGGTA
25442	PRex1	TTCACCCTAACCCTGTACTAACCTGC
25443	DLEC1	GCTGGAGGTGGAAAATGGTGCCTGGA
25444	ANGPT1	ACTACTGGACCTTATTTTGGA
25445	BACE	TGTCCCTGTGGTACCCTGGCAGAGAA
25446	SFRP4	GTTTCATAACCTGCCTCCTTTGC
25447	NFYB	GTTCTGACAGTATTTCATGACAATG
25448	ANXA8	GTCACAGAGTCTCCTGGGCACAGG
25449	MAP3K7IP2	GCTTAGAATGGGGCTAAGGGAA
25450	PIK3CD	GCCACCTCTGAAAGCAGGTT
25451	OVOL1	TGTGCTGCAGCCGTGTGTGTGC
25452	SH3BP2	GCCCAGGCTAGAGTGGATTGGC
25453	FANCC	TGGGCTGTGAGAATGAGCTGTA
25454	AKAP13	ATTCCAGTCATCTCAGTCGTTGT
25455	TNFRSF10D	TTTGCAGTTCTTCATCATGAG
25456	TAF7L	TTGCTTCTGTGCTATGGTACCA
25457	ABCC3	CAGGCCTGGACTTCCAGTGCTC
25458	RNMT	TTCAAAACGTTGATACTTACTTAGATGTT
25459	UMOD	CTATCTAGACCTGAAGTAGCG
25460	PCSK2	AAATGTTCATCAATTCCCATTGCATCA
25461	PTGIS	TATATCTGGCCACACTGGGC
25462	GALNT3	AGGTGTCCTTTTCCTTTCTTCT
25463	SGCD	AGGTGGAGATGATGCCTCAGGAGCAGT
25464	EPS8	TTTCTGGTAATAAGAAGCACTTA
25465	DAF	GGCATTTTCATCTTTCCTTCG
25466	F2RL2	CTCAGCCTCCCAAAGTGCTGGA
25466	MLANA	CTCAGCCTCCCAAAGTGCTGGA
25467	TLE2	TCTCCTCCCTCTTTCTTCGGG
25468	TAF5	CTATAGCAACCACATTTGACTA
25469	KLF7	CCGTTTTGCCCGGCAGCAGCA
25470	KCNE3	CCAGGCAACAGGACTAAACTACCTCCAAAG
25471	CACNG7	TCCTCCTCGTCTTAGGGGGGT
25472	ITGA7	TAGAGTGCTGTGAGATGAGAGTGGGT
25473	APXL	AATTTATAACTTACTTATTTTT
25474	CDC34	TTCCCTGCTTTGGTTTGTTTGA
25475	TM6SF2	CCCACCCCAGAGACCTCCACCT
25476	SNX6	AGGCCCTTCATCTGCTGCTCTG
25477	AMPH	TGAGGCACCCTCAGAGAAGG
25478	SPAG6	TTGAAGGAGGAAACTGATGACAGA
25479	SDHC	AGAGGTGGGGGTGGAGGGGAA
25480	HR	AGCTCACACCTGTCCTTCTCAG

25481	TACR1	CCAGTTCAGCTTTCAAAAAGA
25482	DIO3	CCATGCTCCACTCCCTGCTGC
25483	AQP6	GGCAGAGGTCAGGAGACTCAGCCC
25484	CORO2A	CACGCCTGTAATTCCAGCATGT
25485	TRPM8	CAAGATCATATTAAGGAATGCTGA
25486	CCND2	TCTGTTCTGCCTCTTATCAGCCA
25487	THRA	TAAGACCACCTTCCCTTCCTCA
25488	IL1R1	TCTCTGAGGGAGAGGCTGTGG
25489	LIF	TGGAGCAGTGGGCAAGACAGTCCTT
25490	GNAI3	AGTTCTGCAATAAGATTCTAGTT
25491	IRS2	GTTCGTGTTCATACTGCAGCTTAAAA
25492	MSH3	CAGTAAGTCCAGTAAAGCCTT
25493	MYO5A	TATCTCCCAAATGAGAAGTCA
25494	IRS2	GAGGCATTCCAGCCCCTATGTT
25495	DGCR2	AGCCAGGTTCCAGAGCAGCAGGC
25496	ST14	TCGGAGGACCCTGGAAAACAGACGGG
25497	CTNND2	ACAGAATAGTTTACACACTGTGTG
25498	SLC2A3	TTTCTTTAAGATAATAGTTTACA
25499	CNTN2	AGGACCACCTGGCCAGATCCGCTCC
25500	NHLH1	GGGGTTAGAGTGGGGAGTGGGCTTCTT
25501	GCNT2	GATATGGGAAACTAAATCTGCCG
25502	GRAF	TCTATGGCCTTGCTCTCTGCTGTCCT
25503	RELN	TACAATACAACACATTGAAAC
25504	DYRK3	GAGCTAGGAGATGGGAGGCACA
25505	SLC9A1	CCTTCCTCTATCCCTAGGGCTC
25506	PIGK	GTGAATGACTGCATAGTATTCACTTT
25507	MPDU1	CCCATCTGAGCCAGCCTGCTGG
25508	CD164	ACAACATCATGGCTCTTGGCAGTTT
25509	SPAG1	ATTTATATCTGAATTATTACCTCCATA
25510	KMO	GCCAGTCTCAAACTCCTGGCC
25511	PCTK1	CTGTCTGTCTCTGTCTTGGTAGTT
25512	FANCE	AGGCTGGAGTGCAGTGATGCGATT
25513	GCLM	TGGAGTAGCTGGGATTTACTAGT
25514	ADAM12	CATCTCAGGCCAGAGCCAAG
25515	MAP2	CGAGGAAGCATTGATTGGGAGCTAC
25516	JPH3	GTTTGCCAGGATGTCCGAGTGCCCC
25517	ALDH1B1	CAAGCTTGGAAAGTGTTAGG
25518	TNFSF8	CTGGGTGTGAGTGTTTACA
25519	ST5	GGCCAGTTTTGTGCAGCTGACTGT
25520	GRLF1	CTGAGGGCGCTGGCTCTGCAGATCAG
25521	GNS	AACCCAGTCAGCTGACTTCCTCGT
25522	ANKRD3	CTGTGTTTTTTATCTTCATATA
25523	DXS1283E	TATGAGGTTTTGCCAAGCAA
25524	NOV	TCCTGTGGTTTTATTACAAA
25525	CSPG4	CCTCCTGCCCTGGAGCT
25526	FMR1	TCTTCATCTGAGAGAGGCTA
25527	NDUFS1	CACACAGCAAAAGTCACCAACTCAAA
25528	TMOD3	TAGGAGCTAAAGCAGGTCTCCA
25529	EFNB2	AGCAGGAAGCCGATGTGACT
25530	TFAP2C	TCTCGTTCCTGTTGGGCTGA

25531	GALR1	GGTCTTTCCACCTGCGCGGCT
25532	NEB	CCTTTCTCCTTTGGGTT
25533	ZNF239	TACCCAGCATTTAACGGCAAGAACTTT
25534	SQSTM1	TTAAATGGCATCAGCACTTTAACCAA
25535	RAG1	ATGTTTTCACACTCATTTTTCCTTA
25536	PSMD2	CTGCAGCTGATGTTATCAGCAGGCC
25537	ATP11A	GTGTTACCTGGCTTTTGGCTCCACGCT
25538	LPO	CTTCTGCTCCAGCTTGCT
25539	SLC7A8	CACTTCTCCTCTCTGGGCCTTGG
25540	AHR	CACCCTACCAACTTTACTGTCCTAAC
25541	DDX11	CAGCAGCTGCTGGCCTGTGCC
25542	DAPP1	GCCTGTAATCCCAGGACTTTGG
25543	WNT2	GGTCTGGCAATATTCTGTAACTAT
25544	ZNF266	ATGTGGGAAAACCTAAAGGTGTCC
25545	STARD4	GTATGATCACAGCTCACTGCAGCTT
25546	GLP1R	GTGGTGTTGAGAAAGAATGAGCATTGA
25547	CUL3	TTTGTTTATAAATACCCTAGGTC
25548	CSPG3	GTCAATGTTGGCTGAATTCCTAAATC
25549	ITGAL	GACTCCGTCTCAAGGAAAAAATAAAA
25550	PKD2	CTCTAACCATAACACAGGAGA
25551	CBFA2T1	GCTTGCTTTTAGGAGACAGCCACTT
25552	TNFRSF11A	CTAACTCCTGGGCTCAAGCAAT
25553	TRIM14	GTCACCCAGCCAGATCTCATCTG
25554	MTCP1	GCTTATTTGCCCTGCAGCA
25555	COPA	TGGCTCATACCTGTAATCCCAG
25555	PCDH11Y	TGGCTCATACCTGTAATCCCAG
25556	NEURL	AGGGAGGGGGCAGAGGCA
25557	L1CAM	GCTGCACCCCTTCCTGGGCACACGCT
25558	DNMT2	GATGAGAAAGTTCTGGAGGTGGA
25559	PODXL	TGAACAAATCACATTCTGTCC
25560	TNXB	AGGAGTCCAGAGCAGGAGCCAG
25561	TEAD2	TGGTTGGAGAGCTGAACAGGCTGG
25562	C7	GTAGTAATCTCACACTTCA
25563	RNF4	GCCCGTTTCTGCCCACCAGTTGTTCTC
25564	TPT1	CTTCTGCTTGTCATCCACACA
25565	VDR	CGCCTGTAATCCCAGCAGTTTG
25566	TIMM8A	GTCTCTGCAAGCTTGGTC
25567	ACP5	GGAGGGAGGGAAAGCTTCCTCCTA
25568	PRKR	AAACATTCTTACATTTTACTTTT
25569	DSC1	TAGAATGTATATGAGAAACCCC
25570	P53AIP1	AAAGCACCGTTGAGGTTGCAGTGA
25571	DLX4	CTGGGAGGTAGAAGAGATGCAGAGAAA
25572	BCL10	TGAGACTACAAGTGTGTGCCAC
25573	CREB1	CCAGGAGGCAGAGGGTTGCAGTG
25574	ESRRG	GAACTGCACGGGCTTTA
25575	CALCR	TTTGTCCATTGTAAATCTGAAGAAAGT
25576	FZD6	TATTTATGAAGATTCTACTCTTG
25577	SCAP2	CCAGCCAGGCCAACATGGTGA
25578	Rgr	GGGGTGCTGTGATTCATGTTTGTTAC
25579	NPHS2	AATGGCCATGGAATGCACGAAGTCAC

25580	DDX9	ATTCTGTGGTTCATTGTAGTTTAA
25581	WHSC1	GAGCCCCTTCTTTCAAGCTTCTTG
25582	CBLB	ACCTGTACTGTGTTCTTCACAGACCCTTTGT
25583	WNT5B	GCTGCTGCTGTCACTCCTCCAC
25584	ALDH1B1	AGGCTGGAGTGCAGTGGTGTGAT
25584	APPL	AGGCTGGAGTGCAGTGGTGTGAT
25584	GPR56	AGGCTGGAGTGCAGTGGTGTGAT
25584	NQO1	AGGCTGGAGTGCAGTGGTGTGAT
25584	PPP1R12B	AGGCTGGAGTGCAGTGGTGTGAT
25584	TRPV1	AGGCTGGAGTGCAGTGGTGTGAT
25585	SMCY	CACCACCCTCTTTCTGTACTTCA
25586	RET	AAGCATTCCTTTCTCTTCA
25587	DDX6	CCAGGGAGGGGTGGGAGAGGG
25588	SH3GL2	CTGCCCTTTCTATCCATCGTC
25589	ADCY3	CCTCGTTCCAATCCCTGCCGTCCTTG
25590	FOXE1	TTAATAAAAATCTTTG
25591	HGF	GACTTCTAGCTCACTGCCTTT
25592	HIP1	CATACTGGGCACCCACCATGAGA
25593	SON	GGCTACTGTAACACTTGCCTGTAATCA
25594	TRIM37	GGCAGTTTGTCTACTACAGCAGA
25595	CELSR1	GCCCCTGGCGTTTCCTAAGTACGAAA
25596	PAICS	CCACTGCACTCCAACCTGGGCAG
25597	CCNT2	GATAGTGTTATAAATACTGTA
25598	MALT1	TTTCCACCCTCCAGTCATTTC
25599	PRND	CAGAGCTGTCTGGTGATCACTT
25600	CKM	CCAGAGCTCCACCCCAACCAGGAGCTCT
25601	SLC14A1	TGTTTAGCTGGCTCGATGATGTTAACA
25602	JJAZ1	TGCATTTTCATATTCTTTA
25603	APC	TATAATCAGCACTTTGCCATG
25604	GNAI1	TTTGGCTGATATGA
25605	MYOZ1	CTTTTCCCTCCTTCCTGAGCCTCC
25606	LPIN2	TTGAGGGTAGCTGGTCCCTCTGTCCCTG
25607	GUCY2D	TCCTCGGGCTCTTCTGGACCTTGCAC
25608	MRPL49	CTTGAGTAGCTGGGATTACAGG
25609	GJB3	ATGATCAGTTTCATCTGTAAG
25610	COG4	GCAGAGAAACAAAGTCTGGACC
25611	IL8RA	CTGCAGCTTCCAGGCTGGCGTGCAGCATCAG
25612	EFG2	AATCAATAAAAATATTTTA
25613	NQO1	AGACTGAATCTACCTGCCT
25614	ATP11B	CTAAAGCTCATAATACACAA
25615	CDH12	GCTGCTGCTCCTGCAGCTGCC
25616	POLS	GTAAAGTTTTTCTATTCTT
25617	PTPRJ	GCCGCCGCTGCCATGTCTCCGG
25618	TLL2	GTCCCTTATGGGGTGAACACTGT
25619	GATM	TTTTTTAAAAAATAACCTA
25620	KMO	TTCATTCTAGAATTATCTCCTTGA
25621	SULT2A1	CTGAGGTAGGAGAATCGTTTGA
25622	SH3BP2	GCTTCCTGCACCTCAGGATGG
25623	GP2	ATCAGCCTGGCCAAAATGCTGA
25624	ALPI	ATTCCAGGTCACCAGATCCAAG

25625	DEF6	TTGAGAACTTGGCCCTGTGCTTTA
25626	LASS2	GCAGACGGAGTACACGGAGCAGC
25627	XRCC2	ACAATCATGGCTCACTGCAGCC
25628	ADCY6	GGCCTTCCAAAGTGCTGGGATT
25628	PLA2G10	GGCCTTCCAAAGTGCTGGGATT
25629	IL1A	ATCATTTTCAAAATGGAGGGAATA
25630	MYL3	GGCCTCATGAATAAAGGCTTCTTGCCG
25631	CD8A	GATTACTTTTTCTTTATGTGT
25632	BACH2	CACACACATACCCTACCCTCA
25633	TCF7	CCGGGAGGCGGAGGTTCCAGTG
25634	PDGFRA	ATGAAACATGGGCTGTGATTACTGC
25635	OSCAR	GCTATGACACAGTCACCCACAG
25636	GLRA3	CTTCCTTTGCTGCTGGAGCT
25637	COX6A1	GGACCTTAAGCTAACCTTCT
25638	IFNAR2	GTCGCCCAAGCTGGAGCGCAAT
25639	MYCL2	TGCCTCCCGGGTTCAAGCGATT
25639	PIK3C2B	TGCCTCCCGGGTTCAAGCGATT
25639	TRPV1	TGCCTCCCGGGTTCAAGCGATT
25640	ADORA1	CTCTGTGAGGCTGGCAGGTGAGG
25641	PLP2	CCTCCATTGAAATAACTCC
25642	MMP19	GTAGAGAAAGGCTATCCCAGAAAT
25643	ABCG5	GTGAAGCTGCCGACTGTGCATGACT
25644	SOX11	CCTATCCTAACACAGGGATTTACA
25645	LDOC1	ACTCAGCCCAGCTCCTCAAT
25646	SCN4A	GAGGAAGAGTAGATGAGCCGGGTC
25647	BCLG	GGATTTCTGCTTCCTAATAGAAGTGAAA
25648	BVES	GAGGAAGTGAGGAAGGGTCAAGGATG
25649	BHLHB3	ACACTAACATCCCTTTCTTCCCCCCA
25650	F2RL2	TGAACTCCTGACCTCAAGTGAT
25651	ANK1	GATCCTGCACCTTCCTCTCCCAG
25652	MGAT5	AATTCTTCTCCTCCTTCACATCA
25653	AVPR1A	CTCAACAACAGGAAAGGCAGG
25654	ALDH3B1	CCTCAAAGCAGCGCCTGCCTCCT
25655	ATP8B2	ATGTCTGTCTGTGTGTCTCTC
25656	DBI	ATCCTAAACTGAGACAATGCCTT
25657	RCN1	TAAGCTTATTTCAGAACAAGTCTAATA
25658	GAS2	TTCTCAAGGAATGCTTTCCTCTAA
25659	ZNF264	TTACAACTGAGAGTGATCTGCAG
25660	COL19A1	CATGCTGCAAGAGCCTGCCAGCC
25661	LZTR1	CACAGACAAGCCTCCATTAAAGCCACA
25662	TNFRSF8	AGCAAGGCAAAGAGTGTGGGG
25663	CLECSF5	TTTGGATAGTCTCTTAGG
25664	NDST2	AGCCTATAGAACTCCTACCTCCCATCCCC
25665	ARHGEF7	TGACGGTTTACCATCATTCCA
25666	WFDC1	TGCAGCTCCACGAGACCTT
25667	TNF	TGCTGGCAACCACTAAGAATTCA
25668	GNB3	GTCCAGGCCTGGGTGGTATAGGGC
25669	ANPEP	CTGATGACCCAGGCTGCCTGAGCACCT
25670	PML	GCACAGGGACTGGCTATCCCAAGA
25671	SLC25A15	TTGGTAAAATATAGAGTGGTCA

25672	CASP6	GCTACTTGGAAGGCTGAGGCAGG
25673	CBFA2T2	TGCAGCTCCAGGGCTGGTGCTCTA
25674	BPAG1	TTTGCTACCATAAACATTTTGGA
25675	C10orf2	CCAGGCAGAGAGAAAAGGAAATCCAA
25676	RAB36	CAGACTCCAGGCAGGTTCTC
25677	CD28	GCCACAGCTCTCCAGCCTGGG
25678	TRPS1	TCCTCTGCTTCAGTTTCA
25679	MKI67	CACGACCTCAAACTGGCTCCTAATCTC
25680	RAB6A	CTTCCTCAAAACAAACAAGAGATG
25681	MPDU1	GTCATTCAGCCAAGCCTCCTCC
25682	APAF1	TACCCTTTTCTCACTGTAGCTG
25683	CCNDBP1	TCTCAGCTTCCACTGCCGTCTCC
25684	TTF2	CACTGTTTTCCAGCCTGGGCAA
25685	G6PC	GCGTGCACCACCATGCCAGGCT
25686	MLF2	CGGCACCCTTTCCCTACCT
25687	DDOST	CTGAGATCACGCCATTGCACTC
25688	TNFSF4	TGTTCTGCAAAATTGCAGTTACTCA
25689	NAB1	TTGAGATTTATGAATGCAGTT
25690	BARHL1	CACCCCCAGCCTCTGCCGG
25691	MYO7A	GATCTGCAGGTGGGATGAGGGAG
25692	CCND1	TTCCTGATAAAGCACAGCTGTAGTGGG
25693	UVRAG	CTGCACTTAACCCTTTGTGAT
25694	FZD3	CTCACAGTTAACATGCTTTCAG
25695	MTR	GTCGCCCAGGCTGGAGTGCAGGGGCGC
25696	RRAD	GGTGGGAGACGAACGGAAGGGTTGG
25697	FGR	TGGGTGGATGCAGTGGTCCAGGA
25698	GRM6	GCTGTTTTCCTCCCCTCTGTGTACT
25699	RBBP9	TCAGACTAGGGCCTTCACCTC
25700	SLC38A2	TTATCGTACGTCACAGTGTATGG
25701	HPGD	AAGGAATATTCAATATTCTGCCTTT
25702	GNAS	GGCTCTGAACCTCTTCAAGAGCAT
25703	SNAP23	TCGCTCTCTTGTCCAGGCTGGAGTGC
25704	RYR3	CAGTTCTGCAACATATCTGAAATGTGA
25705	SLC25A15	CGCTTGAACCCGGGAGGCAGAA
25706	LZTS1	CCCCATTCCTTGCGCCTCAGCCCTC
25707	CDK3	GCAGCTGCTGCCCCAGCTGCCTC
25708	LTA	CTGCCTGGATCCCCGGCCTGCCTGGG
25709	EP300	TGCTCCTGCCTTGCACCTCCA
25710	ZHX1	CTGATTTCCTCACTCAGACA
25711	PTN	GACTCAGCGGTAGCAACCTCGCCCCTT
25712	HDAC4	TGCACCCGGGTGGGGGACAGAGGGA
25713	CITED4	AGGACAGTTTGGCTTCACTTCTC
25714	TPMT	GCCCAACCTGGAGTGCAGT
25715	HIP1	ACTCCGGCCTGGGTGACAGAGT
25716	ROCK2	CCAGGAGACGGTGGTTGCAGTG
25717	SUDD	TGCCTCCTATTACTGAAGTCA
25718	NBS1	GATTTCAGATATTCTGCTCTA
25719	FGFR1	CACTCACAACCCCTGCTCCAGT
25720	CYLN2	GCCACACAGAGACACATACTT
25721	RANBP2L1	GTGCTACATCTTCACAGTTCC

25722	DTNA	CAAGGACCTTCTGGAACAT
25723	HSD17B1	GGCTCAGAACAGGGTGGGGAGAGCGGG
25724	SELP	TTGCTGTTGATGAGGCCTCTTGGACCTCT
25725	MKI67	CTTCTCTGAGCTTCAGTTTCC
25726	CHD2	CTGGAGCTTTGTTATGAGTTGCAG
25727	FMNL	GCCTCTCCCTGGCAGCCC
25728	PRX	AGCCCAGGGCCCTCACCCACCTCG
25729	GPR4	TTTATGTAGGGCACTGTGCTGG
25730	CAV1	CAGCAAACTCTTTTCCCACTGT
25731	ACP5	AGCCCACCAGCCTCTCAG
25732	BMX	CCAGCATTTTCATTCATTTT
25733	CD5L	TACATTTACACATTTACACT
25734	DAAM2	CCTTCTCTAACACTAGCTTC
25735	COLQ	GAGGAAGAGAAAAGCAGAGATAAGCA
25736	GJB3	TTCCAGCAGCAGCAGGTCTGGAG
25737	MCSP	CTCCATCTGGAAATGGGAGGATG
25738	KMO	TTGACCAGGCTGGAGTGCAGT
25739	BCL2L2	GGAGAGAAGAGCAGTTCTGCAG
25740	PIK3C2B	AGACTGACTCCCTTATCTCTT
25741	CDH12	GGAGGGAGCCACAGAGAGGGGTCCAG
25742	ALOX15	ACACCCAGGCTGGAGTGCAGT
25743	GYPA	TGTTTTTTAAAAGTAATTTTTA
25744	DMPK	GTCGGAATCCATCTCTGAGTCA
25745	PLXNA1	CCAGAGCAGTGGGACATCTGGGGA
25746	COX15	CTGCAACCTCCACTTCCCAGG
25747	VANGL2	AACTCACAGTGTCCTTTTGTAGGCCCT
25748	KLHL3	CTGAGCCTGGTACCCTGTGGCAT
25749	F2RL3	CGTACACGGAGACTGGCAGCGC
25750	KLHL3	CTGTGGGTTGGAAGCTGATGGAATGAG
25751	TCF7	GCGCTATTGCACTCCAGTCTGGGTA
25752	PCSK1	ATTGTCCCTCAGGTAGATTT
25753	TMPRSS3	GCTCACTGCAGCCTCCGCTTC
25754	WTAP	CAGACAGTTTGAAGGAATGA
25755	CTF1	TGTCGCCCAGGCTGGGGTGCAGTG
25756	ADAMTS12	TTCTCCTCAACATCTGAATCATGCC
25757	PCDHB4	TTCAGTTAGTATTGTATTTAGTTCAGT
25758	HOXC13	CGCTGCCTCTGGCAAGTGGAGTTTTTA
25759	P53AIP1	CCTCCTCCTCGGAATCCTGGGTTTCT
25760	HS3ST4	GGGCTAGAGAGGCAGAGGAA
25761	GRINL1A	GAAGCTGGATGATATGG
25762	CALCRL	TCCATCCTGAGAATATTTCACAAAGA
25763	PTPRJ	CCCACAGCGAAGGCACATGCC
25764	NEDD4	AAGAAACATCTATCAAGCAAC
25765	LDLR	GGAGGTTGCAGTGAGCCAT
25766	MAP1B	CTTTGTCTTACATTGGCTTTT
25767	GFAP	AGACCTGAGCTCCCCACC
25768	TLL1	ACTTCTTCCATATTTTCTCACTAA
25769	TNFAIP1	GAGCGCGGGATGACAGGAGCAACCGAAG
25770	ED1	GTGGTGAGCAAGCACCAACC
25771	MKL1	CTTACTCCTGGTTCAGTGCCACGC

25772	GPC4	GTAAAACAAAGGACTTGCCATGGT
25773	LAMC2	TGGCTCACGCCTGTAATTCTAG
25774	BCL2	GTATGAAGGACCTGTATTGGG
25775	DDX11	GATCACATTTCTCACTGCCTTC
25776	SIAT8E	TCATCTGAGAAGCACCACATCCTTT
25777	HADHA	GAATTAGTTTGCACTTCCTATT
25778	CDC2L2	ACCCAGGCTGGAGTGCAATGGTGA
25779	MCC	GACGGGGACAGAGTGAGGGAA
25780	CBFA2T2	GTTGCCCAGGTGGGTCTCAAACTCCTG
25781	POU3F1	TGCCCGGCTCAGTGCAGTG
25782	SLC7A5	CTGAGTTCTGGTTCATGCA
25783	ZNF274	GTCCCTCACCAGAGGCCTC
25784	MS4A2	GAGAGTTGCCCCACCCTACCT
25785	MC1R	GGTCCCGGGGAAGCTCCGGACTCCTA
25786	ZIC3	TGTCTGTCTGTTCTATCTAGAGATCA
25787	BRCA2	CAAAAAAGAACTGCACCTCTGG
25788	LGMN	CTGGAGAGGTGGAGTGAGAAGTC
25789	ARNT2	TAGAGTCTGACTGCAGTTT
25790	EWSR1	TTTAGTATTTTTCACCATTTGTGA
25791	KCNK6	CGCCTATACACCCAGCACTTTG
25792	ASB1	CCCAAATGCCTTAATTTTGTGGACT
25793	CHST7	CCTGCCACTGCTGGAGCCATTTC
25794	MVK	TCTGCCCTCTGCATCCTCTGGA
25795	GPR56	GTGGCTCCAGTTGCTCTGTCTC
25796	FSTL1	TAGGAAGGGAAGGGCCACAGCCTTCAT
25797	CALU	TCTTCCCTTTCTCTTTTGGA
25798	MX1	TTTGGTTTCTAGCATGAAGACA
25799	T	TTGTCGTGGCAGCCAGTGGTG
25800	ATP8B2	GGTGGGGGCGGGTGGGCAGG
25801	COX7A1	GGGGAGGAGTTGCACTTGCCCCC
25802	ADRA2A	GCACACGGTAAGACCTCTTGCTT
25803	CAPON	CTGCAGCCGCCGCCTCCGAAGG
25804	VHL	CTGCCACCACGCTGGCCAATTTT
25805	KRT17	CCCACAGTCTCCGGCCTCTCCA
25806	EFNB1	TCGCCCCCACACCCCCTCCCCTTGCCA
25807	TNP2	CCAGTAGCTGGGACTATCCCCAGGG
25808	F2RL3	TGGGGAGGCTGAGTCAGGAGAATCGC
25809	ARSD	GGCACAAAATCAACTGTA
25810	TIMP3	TTTGGAATAGCCCTGTCTAGGG
25811	NDUFB3	TCAGATTGAGGATGCACATATACTGGG
25812	LPIN2	CCTTCTTAGAGGGTTCAGTCTA
25813	AIPL1	ACACCTCCCTTTCTCCTGCA
25814	ACRC	GGCTACTGTGGCATCTA
25815	GAS	CCCACCCCACTTCAGCCCTGTCCCCT
25816	SLC6A6	GAGAGTTTTCTAGAAGGTTGGGATT
25817	ELK1	TCAGGGGTCCAGGAAGAATTTGTA
25818	RENT1	ATACCTGTTTTCCACTGCTAAAACTG
25819	CTLA4	CAGGTGGCAGAATGGGGTGCATG
25820	FOSB	CCCATCCTGATCCCAGACCCATTCCT
25821	CLTCL1	CTACCTGCAGAGTTACTAA

25822	PBX3	CCTGTAGCTATTTTATCATAATTTATTATC
25823	SH3GL3	ACCATAAAGCTAAA
25824	MDFI	CCAGGGCTGGGGAACACTGTGAAA
25825	MEF2C	GACTGGGTGCTAGACAAGAAGGAA
25826	MLF2	CTGGGGGTCTCAGGGAGAA
25827	CA1	TGTGGCAGCCTTCTCTCATTCAG
25828	PNUTL2	AGTGCTGGAAGCCTGTGGCAGAA
25829	BACE	ACCATGAAGTGAAAATGCCACA
25830	CEACAM5	GACCATCCTAGCCAACATCGTG
25831	PRX	CCTTCCTCTCTGCCCCAAACTC
25832	LZTS1	GCTGCCACCAGCCCCCGCCCC
25833	MATN1	ATTTCCCAAATTCCAGCTGCCGCTC
25834	ROCK2	ATTAGTCTGTGACTACAAAATATTTTA
25835	FLT1	TAATAAATACTCCTTTTCAAGAG
25836	ACLY	CGGGGTTCGTCGGGCCTGTGGAAG
25837	SDC1	GTTGGCAGGCTGGCCAGTCCAGGC
25838	DIAPH1	AGGAAGCTGCAATTCTCTG
25839	CYP7A1	GACAGTTTCCAGATGCTATC
25840	GPRK7	TGCCTGCAATTCCAGCACTTTG
25841	PPP1R2	TTGAGTTTCTTTGTGTTTACA
25842	CYP39A1	GTTGGGCCTCACAAGGACCAGG
25843	C9orf19	CACTGTCACCAGTCTCAAGCTA
25844	ZNF91	AGGTCTCGACTTCACTGCTCTG
25845	CCND2	GAGCAGGGGAGAGCGAGACCAGT
25846	NUP98	CATGAACACCATACCTTTGCTACTACT
25847	PDE7A	CAGCCATCTTGCCTCAACT
25848	BMPR2	GGGAGAGAAGACGAGCCTC
25849	PTPN7	TCCTCTGCTTCCTCTGTTGGCC
25850	PLD2	CCTTTGAGATCTGGGGAGGCAGG
25851	MAP3K14	GGGCCCAAACTCAGGTTCAGTGCAGAA
25852	DSC1	CACTGCACTCCAGCCTGGGCAACAAGA
25852	RBL1	CACTGCACTCCAGCCTGGGCAACAAGA
25853	MTF1	GCAAAGCAGGCTCTAGCAAC
25854	OPA1	ATACACAGATTAGGAGATGACCTT
25855	SHB	GGACCAGACCTGCCCTGCTCTG
25856	TAF7	CCGGCCCGGTGAAACTGAACTT
25857	SRC	CTGTCTCTCTGGGCTGCAGAGTC
25858	TCF2	GACCGAGTACCTGCTCCATCATGCT
25859	PIK3C2B	TGTTGTTTCGTTTTCTAGCTATAGGAAC
25860	C14orf2	TCATTGTGAAATAATTACCTCA
25861	CA9	CACTTCCTTTTAACTGCCAAGAAATT
25862	PLA2G2A	TGGAGTCCTCTGAGAGAGCCACCAAG
25863	WTAP	TGAAGGTGTGGTATCAAACTTC
25864	CDH20	GGCTTGGAGTCCAAGGTGTTCTG
25865	SORCS2	GATGGCAGGGCTGGAAGGGCCA
25866	APM1	GCATTCTCTATCAATATATA
25867	GPLD1	GCTGTACAACCTATTTCCTCTTCCTC
25868	MAOB	TTCCTACCATTATGGCTTTGTGCTT
25869	CCRL1	TCCCTGCATAATTTTAGTACTT
25870	MLLT7	TTTTCTCACTGTGCCAATTAGGGGGTA

25871	ADH4	TGTGCAGCAAAGCACCATGG
25872	MHC2TA	ATGCCCACGCTGGAGTGCAGT
25873	TDG	TAGGGAAGGAACTGAATTTCTCCA
25874	MAOB	AATTATCCTCCTTCACTCCCTGTCA
25875	BST2	GGGTTGACCCAGGGCTGTCTCCC
25876	LTB4R	ATCAAGTGATCTGCTCCCCTCAGCCT
25877	NBEA	TTGTAGGATGTGTCACA
25878	SLC16A2	TCTCCTCTCTGAGCCTTTGT
25879	UPK1B	CTCTGTCTCAAAACAAACAAAA
25880	SLC14A2	CGGGAGGTGGAGCTTGCAGTG
25881	CASP3	TATCCGTGGCCACAGCTGGTTGGC
25882	DTNA	TGAAAACCCATGCTGCTGTTATA
25883	HMGA2	GTCAGCCTCAGAGCATTTAA
25884	GGT1	GTCATCCAGGCTGGACAGTTCAGTG
25884	GGT2	GTCATCCAGGCTGGACAGTTCAGTG
25885	COL15A1	TTTCACGTACATCCATCATTTGCAACT
25886	HAP1	CCTACCCCCAACCCCTGCCTCC
25887	SLC2A3	CCCTTTCCCTTCTTGGTGCTTACAC
25888	ZNF261	TCTCTCTTCCCCATCTTGCATTGGA
25889	EGFL6	TCATATCACTGTATCTTCTCA
25890	LAD1	GCCCAGGTCACAGCACAAG
25891	SNAPAP	TCATTTTCCTGTTTACACTGGGGA
25892	MRPL49	AAGCGTTGGGATTATAGGCAT
25893	PDE4C	TGCAGTGAGCCGACATCATGCCACTGCA
25894	DCX	GCTCGCTGCAACCTTCACCCTTC
25895	MLF2	TACTCCTGCCATGCATTGAAG
25896	IL10RA	TGGACTACCAAGCTGGCTTGTTTCTTATG
25897	DFFA	CACTGCACTCCAGCCTGGGCAA
25897	DSC1	CACTGCACTCCAGCCTGGGCAA
25897	F2RL3	CACTGCACTCCAGCCTGGGCAA
25897	FANCC	CACTGCACTCCAGCCTGGGCAA
25897	HRH1	CACTGCACTCCAGCCTGGGCAA
25897	IL2RA	CACTGCACTCCAGCCTGGGCAA
25897	KCNA7	CACTGCACTCCAGCCTGGGCAA
25897	LDLR	CACTGCACTCCAGCCTGGGCAA
25897	MAFF	CACTGCACTCCAGCCTGGGCAA
25897	PDE4C	CACTGCACTCCAGCCTGGGCAA
25897	PLA2G2D	CACTGCACTCCAGCCTGGGCAA
25897	RBL1	CACTGCACTCCAGCCTGGGCAA
25897	SIGLEC11	CACTGCACTCCAGCCTGGGCAA
25897	SLC14A2	CACTGCACTCCAGCCTGGGCAA
25897	SMG1	CACTGCACTCCAGCCTGGGCAA
25897	SPTLC1	CACTGCACTCCAGCCTGGGCAA
25897	SRGAP1	CACTGCACTCCAGCCTGGGCAA
25897	TRIM14	CACTGCACTCCAGCCTGGGCAA
25897	UBE2G2	CACTGCACTCCAGCCTGGGCAA
25897	ZNF264	CACTGCACTCCAGCCTGGGCAA
25898	CUBN	CACTACACTCCAGCCTGGGCGA
25899	APOL1	CCATCGCTCTTACCCGGTAAGTAAAC
25900	CA12	GATCCTCTGCTGGGTGCC

25901	TARBP2	CTTTGCTCCCTGCTCTTTCTGCCTCT
25902	YWHAG	AGGCTAGCTGTGCTGGTATTG
25903	AHR	AACTCCACTGCTTACCTACTTTC
25904	TCIRG1	AGTCCCGGGCTGGCGGGAGTGCAGT
25905	SWAP70	CGTTGTACTCCAGCTTGGGCAA
25906	SLC6A6	CACCTAGCAAGGCACACCAAGA
25907	PACE4	GTCAATCTCTTTACCTCCTTTTCTCTT
25908	METTL1	GATCCCGTCCTCCAGGCAGTGACCTC
25909	HSD17B8	TCTGCCTGGCCTCCTGCTGATGAGGAC
25910	CLASP1	TGCTGCCATCAAGATGCAGACC
25911	CMAR	AAGGCTGGAGTGCAGGCCGCG
25912	HUNK	GCTGATCTCAAACTCCTGGGCT
25913	HOXA4	CCCCCATTAAGGCAGCTCATC
25914	BAALC	ATGAGACAGAAACTAATCCTTACTATC
25915	TRPM8	GGTATAGAATTGGAGAGATTATCT
25916	CD164	CTACATTCCAGATTTAAAGAA
25917	FLI1	ACTTTTGCTTCCTCTACCTGAACAA
25918	NTSR1	CTCAGCCTCAAGATCTTCAGC
25919	IFI27	CTGCATCTCCAGAGGAAAATAAGA
25920	SNX9	AGGTACCACAGAAGAGCTGTAGTCATA
25921	CHEK2	GTCTGAGACCTCTGGCTGAAG
25922	RAB36	CCCTCCTGGTCCGTGGGCCAGGATGTG
25923	SLC21A9	GGACCTACTGCTCGGGAGGCAGCAG
25924	EIF3S2	TCCATCCTGAGCCACAAGAG
25925	AMPD3	GCAAAATTTCTCCCTTATCTACTGTGA
25926	SLC7A6	TATGTGGCCGAGGCAGACAAGTGG
25927	ADH5	CAGAATAAACACATTTAGCCTTATAGACA
25928	PDGFRB	ATATGGCCCTGGCTCTGCATTG
25929	HSPA4	GTGTTACAGGCTCTAAAGTGCAATG
25930	GPRK7	TGCACATCTATAATCCCAGT
25931	ALDH3A2	CTCAAAGCATCTTGTAACCTA
25932	IL1F5	GGCCCTTGGCCCAGCCCCACCTCC
25933	MAT2A	ATTGCATTGACTTTCCCCACCA
25934	FGR	CCCGGGGATCAGACATACCTGTCC
25935	TNFRSF6	TCCAAGGATGTTTAAAATCTAGTTGG
25936	CCND2	TATTTACAGTCTGTAACTTTCC
25937	ATP1A1	TCTGTGCTTTTCTCTCTGATTCTCCA
25938	MS4A6A	CAGCGAAGGGAATGAGACTCTG
25939	UBE2L6	GCCTGCTTGCAGGAAATGAATCCAGCA
25940	BHMT2	TGAAACCCTGTCTCTACCAAAA
25941	SLC16A7	TTTTTAAAAACTTACTTATTT
25942	FGF5	TGCGGCGAGGCGGGCAGAGCCAG
25943	B4GALT5	AGGCGATCTTGTTTGAAGCTCTA
25944	CTNNA1	TCAACTTCAGTTGAGAGGGTGCA
25945	MFRP	CTGGCCCCACACTGTGCCACCG
25946	UBE2I	GCCTTGTCTCCCTGGCGAGTGCCAGGTG
25947	SPAP1	AGAAGAGACCTCATGACAGCTGGA
25948	DCX	GGCATCTTTCTGCTCCTGATCAGA
25949	ANGPT2	AAGTTTGCTAAGCTGCTGGT
25950	XRCC2	GTCTCCCAGGCTGCTGGAGTGCAGTG

25951	KCNA6	GGTTTAGAATAAGGAACAAGC
25952	RFXAP	AACACTCCTAAGAAATGTTGATG
25953	ZNF236	TGGACACTGTCACACTCAACATC
25954	RP2	TTATTATCTATTAACCAAAG
25955	CLNS1A	GTTTACTATTTACCCTAAAAC
25956	CBFA2T2	GGGATTACAGGCAAGAGCCACC
25957	SLC22A12	GGCCCAGTCCATCTACCTGGCTGGG
25958	OPA1	AGTTAAATTCGAACTAGCCACA
25959	MHC2TA	GTGCGGCTACAGGAGTGAGCACTGAGGTGTGC
25960	CLN6	ATTTGCACTAGATGGGCCTG
25961	TAPBP	TCTCCTGCCTCAGCTTCCCGAGTAGCT
25962	SLC20A2	TTCACCCAGGCTGCGGAG
25963	OPHN1	ATGCCTAAGGGACATGCTGCTT
25964	PARK2	AAGTCCCAGGGAGCTCTGC
25965	GRM7	GGCAGACTAAAACAAGTACATC
25966	BDP1	AGCTCACTGCAGCCTCTGCCA
25967	DGKB	GAATGAGGTATTATTTAAGGCAGA
25968	ATP1B2	CGCCATCTTGGTGACTTTGAA
25969	ATP8B2	GGGGAGCTAGAGGGAGCAG
25970	NFE2L2	ACACACGGTCCACAGCTCATC
25971	SCN4A	GGGAGTGAGACAGGCTGGGTCCT
25972	GRM6	GGGAAGTCCATTTGCAAGCTGA
25973	LRRC2	TGCAGTGAGCCGAGATCATGGGACTGC
25974	PITPNB	GAAATGAGAGCCCGGCGCATGGA
25975	PLEK	ACATTCCTGAAGCTGTTCCCACTC
25976	BSN	GCCTCAGAACCTCTCCTTCAGGAG
25977	PSEN1	AACTGGAGTGGAGTAGGAGAAAGAG
25978	CSHL1	GCTGATGGGGAGGCTGGAAGAC
25979	WDR1	TTGTTTTTACCTTCCTTTTCTTTT
25980	KCNAB1	GCAATTAGGTGTTCATTTTTTA
25981	FBLN1	GTCACCTCCTCAGTGCAGTT
25982	ESR1	GTCTCCAGCAACTTTGGAAATCTCTTTG
25983	AFG3L1	GTAGTGTCCATCAGCAGG
25984	LANGERIN	GCTGGCTGTGTTTGCAGTGCAAA
25985	ITGB4	GCAGCCCAGGCGCGGAGGGAG
25986	MUC3B	AATCCTCCCTCCTCTCCTCACA
25987	GJB2	CAGCACAGCTGAGAGAGGCTGT
25988	SMARCD1	TGCTCCCTCCCAGACACTCCCT
25989	ATP7A	GACTCACCTATGTGGCACCTTA
25990	ETV5	CGCCTTGTTGCCTGCTTTGT
25991	SERPINB13	TTTGCTCATTTTTAATTTGGG
25992	CUL3	AGTATTTTTATCTTCAATTTTATTTAA
25993	SLC6A6	AGTCCTTCCTGGGGCATTCCAGGCA
25994	MTMR3	GGCTGTCTGAGTGGGCACTTGTCTGGCT
25995	PLAT	TATCATTTGAACAACTAGGCTTC
25996	NR1I2	ACAATCAGTTAAACACACC
25997	UMPS	CAGTCTCTCAAAGTGCTGGGATTACAG
25998	CLCN7	TGCTTAGCCCTCACAGGGCCCCAAG
25999	MUC4	CACGCTCAGAGACAGCTGCAC
26000	ALDH3B1	GCCTGCCTCCTCCCTCCTGGGTC

26001	HCFC1	TAGCCCCTGGATTCTTCT
26002	SH3GL3	TGAAGAAGCAGTTCCACAAAGCCAGCC
26003	BACE	TGTAGGAGTAAAGATAAAAG
26004	PPP3R1	GCTGTTCCTTCAACTGAGTGCT
26005	BMP1	AGGGCTTCTCTCAGCCCAT
26006	MKL1	TCCCACCCTCTTGGTTGCC
26007	PTPRG	TATCCTACTGAGCATTTGCACCTCTGTTC
26008	KLHL3	GCTTCAAAGGAATATACCACT
26009	ATP2A2	CCCACCCCACCCCACCT
26010	IL18R1	ATGCAGCTGCTCATACTCAATCCC
26011	FTSJ2	TGCCTGTAAACCCAGGGCTTTA
26012	ATP1A2	TTACCCTGGGCTGGAGAGTTGGTT
26013	SLC12A7	TTTGCAGCTGTCCGAGTCTCCATCC
26014	GNAT2	TGCCATCGTACAGACCAGCTTTTAG
26015	CDK3	GCAGCTGCTGCCCCAGCTGCCTCC
26016	CLECSF5	TACTAGGGAGTAACTGTAGAGTGAG
26017	DIO1	CTGAGGTACGGTATCTCTCTCCAGCCA
26018	NPAT	GCCATAAAATTTTGGTTTG
26019	SEL1L	ACTGTTAACATTAGGAAAATCAA
26020	GGCX	GGCTCTTGGGGAAAAGCAATT
26021	ALOX15	GCTCACTGCAGCCTCAGCGTCC
26022	DAPP1	AGGCGCCTGTAATCCCAGCTACTC
26022	GP2	AGGCGCCTGTAATCCCAGCTACTC
26023	MMP14	GGGGTGAGCCTGAAGGCCAC
26024	TGM4	TGCAGACAACCCTGTCCTCA
26025	MMP19	ACGAGTCTTTTTCTCCCTTAAGTTC
26026	HD	TTTAGTCAGGAGAGTGCAGA
26027	CNTNAP2	CAAACCTGGTACCTGTTGCTTCCC
26028	AF3P21	GTCCTCCCCTCCACCCGCACAT
26029	CBFA2T1	TCAAGTAGCTGGGATTTTAAAC
26030	ASMT	GCTCTTCCCCACCTTGCCA
26031	APTX	CTTGTGAACTTCTACTCATTTCC
26032	PPP1R12B	TGCAGTGAGCCTTGATCACGCC
26033	IL6R	GGGGCACAGGGTCTCTACCATCCCC
26034	PVR	TTTGGGAAAATACGTTGAGGGA
26035	WSX1	GAGCCCAGGAGTTCGAAGCTGCAGGGA
26036	SAS	CCCAACGTGCTGGGATTATAGG
26036	WBSCR5	CCCAACGTGCTGGGATTATAGG
26037	PRIM2A	ACTCAATCCTTTTCTGGACCA
26038	BRCA1	GACCTCCTAGGCTCAAGCGATC
26039	CDH1	AAACTCCTGGCCTCAAGCAATC
26040	DIAPH2	GAACTCCTAGCCTCAAGCAATC
26041	IL2RA	CCCAGCACTAACGTAAATACACA
26042	SIAT1	AAACCCTCAGCTTATGTAGCT
26043	EBF	AAAGGAAGAATGAAGTGGTGATATTT
26044	COL1A2	TTGATCAGAGCATTGTGCAATA
26045	SPOCK	CCTTCCTTACCTACTCA
26046	ALEX2	CCAAAGACTTCATTTGTGTATC
26047	ASGR2	AGGGTTGCCTGCGGGAGCCAG
26048	KIP2	CCCTGCCTGCCTCCCCAACACCGTGG

26049	FUT1	AGATGGGACTACAGGCACAGGCCATT
26050	USH2A	CCTGCTGCTACAGCCTATTTGCTG
26051	GPX3	GGCATGTGGGTGTGGGTGCAATG
26052	PLIN	AGTCCAGGCCTGTGTGCTTTGTA
26053	CXorf6	GAGCCCCAAGGCCACCCCACCAGAAG
26054	APPBP2	GACCAGTGTTGATCTGTAATGTAATA
26055	ACPT	CGGGCAGCAGAGAAGGCCCAGCTGA
26056	SRP19	TCTCCCTGCGGCTCCTGGGTT
26057	MECP2	TGATGTGTTGCCACTTTCCAAGTCACT
26058	HR	CGCTTCCCTCCTTCATGATTTCCATTA
26059	GRB10	TACCCCTGCTGCTGCAGTGG
26060	TNFRSF10B	GGAGTAGCTGGGATTGCAGGCACCCGCC
26061	CD22	TCTTCCACTCTCCTTGCTACCCAG
26062	RERE	TCCACTTACAGAGAAGATTT
26063	LAMP1	TACTGCACTCAGATTTAAGCCTTA
26064	FMOD	AGCAGAGTCAGGAGACCCCAAGGC
26065	AICDA	GGAGGCTGAGGCAGGAGAATCGCTTGA
26065	BHMT2	GGAGGCTGAGGCAGGAGAATCGCTTGA
26065	CEACAM5	GGAGGCTGAGGCAGGAGAATCGCTTGA
26065	CTMP	GGAGGCTGAGGCAGGAGAATCGCTTGA
26065	DBT	GGAGGCTGAGGCAGGAGAATCGCTTGA
26065	DNASE2	GGAGGCTGAGGCAGGAGAATCGCTTGA
26065	DSC1	GGAGGCTGAGGCAGGAGAATCGCTTGA
26065	GRM6	GGAGGCTGAGGCAGGAGAATCGCTTGA
26065	IFNAR1	GGAGGCTGAGGCAGGAGAATCGCTTGA
26065	KCNMB3	GGAGGCTGAGGCAGGAGAATCGCTTGA
26065	LILRB1	GGAGGCTGAGGCAGGAGAATCGCTTGA
26065	LRRC2	GGAGGCTGAGGCAGGAGAATCGCTTGA
26065	MOG	GGAGGCTGAGGCAGGAGAATCGCTTGA
26065	PCDHB9	GGAGGCTGAGGCAGGAGAATCGCTTGA
26065	PTAFR	GGAGGCTGAGGCAGGAGAATCGCTTGA
26065	RBM3	GGAGGCTGAGGCAGGAGAATCGCTTGA
26065	SCN2B	GGAGGCTGAGGCAGGAGAATCGCTTGA
26065	SLC25A15	GGAGGCTGAGGCAGGAGAATCGCTTGA
26065	STAT3	GGAGGCTGAGGCAGGAGAATCGCTTGA
26065	UBE2G2	GGAGGCTGAGGCAGGAGAATCGCTTGA
26066	ANKH	GGAGGCTGAGGCAGGAGGATCGCTTAA
26067	EHD1	CGACGCGCAACCCCGCTCAGCAGTCA
26068	GNE	GTTCGGTGATTCTCCTGCCTCA
26069	GPRK7	ATTGCACTCCAGGCTGGGCAGCAAG
26070	RHD	CACCAGGCTGGAGTGCAGTGCCGC
26071	WASF3	AAAAAGCTTTTGCCCTGTTGTGTAC
26072	CX3CR1	TCCTCTTAACGTTAGACCACA
26073	NFIB	TTTCGGCCCTTAACCCAGC
26074	SCN4A	GCACAGCCCCTGGAGCCTC
26075	SEPP1	TAAACCTGACCTCCTTTAT
26076	KIF5C	TCAAGGACTACATTAATCAC
26077	SVIL	GCGGGAAGCGGCGATCCTGCC
26078	MECP2	AGAACATTTGGGGAATTTGG
26079	KCNQ2	CACATGCACACAGGTGCACA

26080	TAT	TCGCCCATGCTGGAGTGCAGT
26081	CASP2	TCGCCCAGGCTGGAGGGCAGT
26082	LAMA4	GCAGCCTGCATGACAGAGCACA
26083	BACH2	TAGCTCCCAGTTTTAACATTTCGCCA
26084	HYAL3	CATGTGAGTCCTCCATGGCA
26085	ATP8B2	ACCACGCTTGGTTAATTTTTGT
26086	SHANK2	CACACACGCGCTTTTC
26087	AQP6	CCCGAGCTAGCTGGGGACAAGGGCTGCC
26088	B4GALT6	TCTCTGAGAAGAGCCAGCAG
26089	RBMX	AAACCTGAAATCACATGCCTATGTAA
26090	TEM6	GGAATGTGGCCACAGGGAGCAGA
26091	PXF	CTGTCTCTCTAGGAATAGGGTCT
26092	OPHN1	CCTGAACTTCCTGCTTCCTCAGAGGGCCA
26093	PRKAG1	CCTGCCCTTCTATCTGGGAGCTAGGG
26094	MIPOL1	GGCTTAGAGATTAAAGCTCCT
26095	AOAH	ACAGACTCCCTCCAGCTCTTTGTGT
26096	GCNT2	GTCACGTTTCCTGAAACAGCACGTTG
26097	XT3	TAGGCCTGTAATTCCAGCTACTC
26098	COL5A3	CACCCAAGCCTCACCTCCCCACCCCTTGA
26099	NPR2L	GGCAGGCGCCATTGGGCAGAGGGA
26100	MTMR3	TGCTCCTATATTTTTCATTTTTTGT
26101	IL21R	CACATCCCTAGGGCTCTGTGAT
26102	GRIN2C	GTTACTGGTCATGCCTGCTGT
26103	MECP2	TTATTTGCACTATTGAGTCTTC
26104	SLC14A1	GGAGGAGGAGGCTGCAGTGAG
26105	INSR	TGTGAACCTGGAGGGCAAGGGGTT
26106	CASQ2	TTCTGTCATTAAACTCATATTTTGGA
26107	HSPA9B	CTACCTTCTGCCCTGTGTC
26108	EGFL4	ATGTGGCAGTGAGGGAC
26109	DNMT3A	CCTGGAAAGTTGCCCACTTTTCT
26110	CALCRL	ATTTCCTTAAGAGCTGGACTG
26111	HUS1	CAGACTGGAGTGCAGTGCC
26112	TNFSF5	TCAGTGAAGATGCAGAAGGGAAATGG
26113	TNFSF14	CCACTGCACTTGCCACCTGAGTCACATT
26114	DCX	TCTGGGGTGAGGCATGAGAATGTTGCC
26115	HLCS	TCTCCTGCCTCAGCATCCCGAGTA
26116	MLLT1	GCAGCCAGGCCTCGCCTGCCCTCCTCTCC
26117	KIR2DL4	AGGCTCTCTCTTAACACGGCACTTA
26118	XRCC3	CCAGCAGGCAGAGTGGCGTG
26119	DSC1	AAGGAAGGAGACTGGCCAGGGAA
26120	WBP2	TCTGGGGCTCTTCTGGGAGCACGG
26121	KCNK4	TGTCAGGCCAGCTCAGTGACCCCAGC
26122	DSCR4	CTGGGGCAGAGAGATTTTGA
26123	AMBP	GGGATCGATTGGAGCTGTCC
26124	TNFSF10	CACGAGATCAAGAGATCAAGAC
26125	CYP1A2	TGACCCCAAGTTATCCACCTGCCT
26126	GPR56	GAAATGTGGCTCCAGTTGCTCT
26127	ROR2	TTTCAAAACGTTGGGAATAAGGGCCTG
26128	JDP1	ACTAATTGATTCCTCCATCCTTG
26129	PCDHB11	GAGTAGCTGGCATTACAGGCGCCCACC

26130	GCKR	CCAGCAGAACATGTGGGAGGAAGAAG
26131	SOST	CAGAGGAGGCAGAAATGGAAGCAT
26132	CALCB	GTGGAGAAGGTGACATGACAGA
26133	NRIP1	CCTGAACTCAGACCACTTGCAT
26134	HYAL3	TGAGGGGTAGAAGGGGCCAGAA
26135	CLASP1	CTGCAGCTGCCTTGCCTTGCC
26136	GEM	TTTGGTTGACCCTTGTATGTCACA
26137	MUS81	CAATTAGAATCTAAGTGTTTG
26138	DNASE1L1	GTCTCCAGAGCGCTTGCATCAAA
26139	CGB	CCTCACCCTTGGCGCTGGACCA
26140	GRPR	ACTCAGACTAGAATGGAGGT
26141	ROCK2	TTGGGAGGCTGAGACAGGAGAATCGC
26142	ADAM2	ATGGAAAGAAAAGAATGTACATT
26143	MAT1A	GCAGGCAGCCAGCATCTGGGC
26144	UBE2G2	CTAACAGTGAAACCCTGTCT
26145	STK11	CCCGCGCCAGGCCCTCAGTCTTCCTGC
26146	BMP5	CAGCAAAAACTCTTAACAACTGTGG
26147	DLEU2	TTTGGGTTTATGTATAAATCA
26148	ZNF264	GGTCTCAAACTCCTGACCTTGT
26149	PKNOX1	GCATTCTCTCCAGCTGCA
26150	GPR45	GTGGTGGCAATTTAAGCACA
26151	MAP1B	ATTGCAAAGAAAATTCTCAAG
26152	SOX10	GGCTCACTGCCCTGATGACCCACCCGC
26153	SLC22A12	CTGGGAGGTGGGCACACAGGG
26154	NT5M	CCCTGTTCCCAGAGTCTGCAGCCAT
26155	FGF14	AGAAGATCCGGAATATTATC
26156	ASS	AGACGCCGGGAACTCACGCCTCCA
26157	LILRB1	CCACTGCTCTCCAGCCTGGCGACAGAG
26158	SYNGR1	CTGCCCAGGATGGAGATGAGA
26159	BSN	GTAGCTATGGATGGGACAGGAAGC
26160	ZAP70	GCCCTGCTTGGTTGTCTCCACACACA
26161	PPP2CB	ACTATGTTCTAGATAGGTCAGT
26162	PTHLH	CACACACACCCCTGTCCTCCAGCACCA
26163	UBE3A	ACGACGGGGCCTTTTCCCTTCGCCA
26164	NQO1	GACTAATTTTTGTATTTTTAGT
26165	FABP3	ACTGTTGCTGACTACTACTCT
26166	LPIN1	TCCTGCCTGAGGTTGCAGTGAG
26167	ARNT2	GCTGACTGTGAACCTGCCCT
26168	EEF1A2	TCGGCTCCGGAATCACTGCA
26169	EIF5A2	CTTGCAGTTCATTCATATGGCCCC
26170	EPHA3	TTGTTGCTGAAACTTGCTGAG
26171	ALDOC	CCAACTTGTCTTCCTTTCTCTCTTC
26172	CPNE3	CTCAAGACATGGCTGCCCAG
26173	IL11	GTGTGAGCCACCACACCTGACC
26174	KIP2	GCCTAGAAGTCCACCATCCTGC
26175	RNMT	TTCATTGAACAAATGGTGCC
26176	HUNK	AGGCCGAGGCAGGTGGATCGCT
26177	WWOX	TTCACAACAGAGTGAAAAATCT
26178	AVPR1A	GGCTTCCTTTCTTCCTTGTAAAATT
26179	PPP2R5C	GTGAGATGAATACTTCCTGAGAAAC

26180	NHLH1	GCTACTTCCCTGTCCCTCTGA
26181	NT5M	GGGCCCAGCAGAGAGTCCGTAGGC
26182	RAB3A	CCGCTGCTGCCGCCGCCGCCGC
26183	PAX9	GCCCTCTCGCCTCCTCCTCCTGGGAA
26184	COL4A3	CCTAGGGAAACTCAGGCTTC
26185	GYG2	CGCCTTCTGGGCTTTCTTCAGAG
26186	MYO1E	CTCAGCCAGAGGAGTACGGATTAAGG
26187	C18orf1	GTTCTGAGACTGGATTCAGT
26188	MPP2	GGAGTCAGAGTGAGAGCCAG
26189	FBP2	ACAGAAGAGCAACAACAAACTGCTTA
26190	BCL2L10	TGTGACCAACTAAATGACAGA
26191	GNB2	GGGAGGCAGCGCTGGCGGCGGGGCTGG
26192	KIP2	GAGGTCAGGGTTTTAACGAGCTA
26193	KCNK6	CACATTTGTATGTTGTGCCCTGGAAT
26194	SIM1	AAGAGCTAAGAGCAGTACTCTG
26195	B4GALT3	TAGGGCTTATGACTGTGAA
26196	SHANK2	CTGCTTCTGTGACCGCTGCTATAGGCG
26197	SIM2	CATGGTAAGAGTCACAATTTGCAA
26198	CYP2B6	GTCTCCCAGGCTGGAGTGCTAT
26199	ADCY6	GTCACCCAGGCTGGAGTGCAAT
26199	CDC2L2	GTCACCCAGGCTGGAGTGCAAT
26199	EDG8	GTCACCCAGGCTGGAGTGCAAT
26199	RAB36	GTCACCCAGGCTGGAGTGCAAT
26199	VENTX2	GTCACCCAGGCTGGAGTGCAAT
26200	ACADSB	GTCACCCAGGCTAGAGTGCAGT
26201	CD1C	CTTCCCCCTGACTCCCCCATT
26202	SNX2	ATTGAACACTATTGTGTCTTAAATACT
26203	NR2F2	TGTTCTGCAAGAATTAAAACTGAGTC
26204	STS	ATCTTCTTTAGGAATAATAGATGA
26205	RBL2	TTGTTCGGGTGTGCAATG
26206	PCDHB7	TATGTGTAATGTTTTATGTCAA
26207	CD80	ACCCTCCAATCTCTGTGTGTTTTGTAA
26208	GNAZ	CCCACATTTCTGCAAACATA
26209	LILRB4	TTGCTTTTGTTGCTTGTGTTT
26210	PODXL	GATGAAGTGACTTCCTCAAA
26211	ALPI	TCCTCAAGGTCTCCATTCTCCTAG
26212	UGT2B15	ATGCAGCACGCAACATGGCACATGTG
26213	SCN8A	GTGGTTTGGAGATGGGTGGG
26214	APLP2	TCTGACATCCTGACCTC
26215	ATP7A	CCTGAGTAGCTAGGATTACAGG
26216	B3GALT2	TGCTAAAAGCATGTATAGTTAGGA
26217	EGFR	CCCACATTGGATTCATCAGCATTTGG
26218	COL4A3	CTCAGGCTTCTAGTTTCTCTTAGA
26219	ADRA1D	ACAGCCCCAAGCATGGCCAGGAAG
26220	ITPR2	TGAGACCATATGTATGCTATTA
26221	GTF2F1	CAGTGAGACTCTGTCTCAATAA
26222	EIF5A2	GCATGAGCCACCACACCCAGCCCC
26223	IDS	TGCTCCCTTCCAGCTGGTGAG
26224	PAX2	CCCGCTGTCTGTGCTGTGAGAGTC
26225	PRX	GTCTCTCTGGCAGGAGTGCCTGT

26226	CASP10	GAATCCAGGAGGCAGAGGCTGT
26227	FLRT2	TTTTGTAACTCTTTGCTTTTTA
26228	AGA	GCAGCATTTTTCCTTCAAAATC
26229	POLG	AGGGCTTGCCTAAGGCCAGCCATTTTT
26230	GLUD1	GGATACCATTCTCAACAAGTCA
26231	CALM1	CCTCTGAGCCCAAGACCTTGCCTGAAAA
26232	SEL1L	TACCAGTCCACATGCAATTAAA
26233	ADH4	TGCTGGGCTTCATACCTGGGTG
26234	POU2AF1	CTGGCTGGCTCCGAGTGTGGG
26235	SLC24A1	GGACACTTGAGTTTTTAAAACTGTGGT
26236	ZNF192	GTAATTTGGGCCCAGTGCCTTG
26237	GJB3	GGGCTTGAGCTGGAGCTCGGTTAGGC
26238	RAP1GA1	GGTGGGCTGAGGGGCAGGGAGCCGG
26239	GFRA2	GTCAGCCTGGCTGGGCTCTGGTGGGGG
26240	MGAT4B	CGGTGGGGGAGAGTACTGGAA
26241	RBBP5	AGGCTGAGTCAGGAGAATCACT
26242	EPHA3	TCAAGCCATGTATAAATGTGATATGA
26243	DAG1	TATTTTTATTTTTTGCCTAACAGC
26244	TLR5	CGCCCAGGCTGGACTGCAGTGA
26245	SIGLEC11	GGACTCCTGGGCTCAAGCAATC
26246	GPR92	CTGTTCATCTGCTGACTTCTGTC
26247	PIK3C2B	TCTGGAGACTGAACTTGGGTTGGT
26248	AXL	AAGTAGCTGGGATTACAGGTGT
26248	SAS	AAGTAGCTGGGATTACAGGTGT
26249	KAI1	CGGGAGCGGAGGTTGCAGTG
26250	ATP6V1E1	CTAGAAGTTTTCCCTCATCTGTAAA
26251	SHOX	TTACTGACATGGAGTGAAGTGCAAT
26252	CRYGB	CAACCAGAAAACATCTGCTCAC
26253	PRDM2	CTTAACCTTGCAAAGCAAGTT
26254	TFRC	ACTGCCTCTTTCCTGTTGT
26255	WT1	TGTCTTTATAGATGTACATA
26256	FUT9	GAAGCAGAACTGTTCTATTCAG
26257	SFRP1	CTCCCGGGGGCAGGGTGGG
26258	EVC	TACCTGCCAGCAGGAGCATGATGG
26259	SPG3A	CAGTTTTATGTCTCCATGCAA
26260	FUT1	GGTCTCGATCTCCTGACCTTGTCATCC
26261	LDB3	AAAGGATTCGGGAGGCTGATGTTTCTT
26262	ARRB2	CCTCTTCCCTTCCCCTCACC
26263	PTPRN	CTGTCCCTCTTTGCCTGTGTGAGCAT
26264	MYOC	TTCAAGTTTTCTTGTGATTTGGG
26265	SLC25A14	TCTCCCCTCAGCTGAGTCC
26266	BSN	TCAGAGCAGAGGGGCCAGGA
26267	PRIM2A	AGCAGTTTTATAACCCTTTTTCCTCA
26268	PPP1R12A	GCTCTTCTGTGATTATTGTCATG
26269	MAPK7	AGAGCTCCTGGGACCAAGCAAA
26270	DIAPH2	GACAGGGCCGGAGAAAGATGGAGCAGC
26271	TADA2L	AACCACAGTCTGTAATCCCAGGA
26272	PLAU	AAAGGGCAGGGCATCTCCTGTGC
26273	NFYA	ATGATATTTCAGAAGAGTTGGCTG
26274	GNB1	GCATGCTGTAGAAATGCTCAAA

26275	ZNF83	TGGAAAGACATGAAAGCCACGACATA
26276	NR3C2	TTCTGGCTTCTGCTTCATCCTGC
26277	GPC4	CTCTTATCAGTAAAACAAAGGACTTGCCA
26278	TCF12	CTAGCCTTTATTTCTCTGTCA
26279	CUBN	CCAGGAGGCAGAGGTTGCAGTGA
26279	EIF3S2	CCAGGAGGCAGAGGTTGCAGTGA
26279	GALNT7	CCAGGAGGCAGAGGTTGCAGTGA
26279	INPP5B	CCAGGAGGCAGAGGTTGCAGTGA
26279	KIF1B	CCAGGAGGCAGAGGTTGCAGTGA
26279	MOG	CCAGGAGGCAGAGGTTGCAGTGA
26279	RIMS1	CCAGGAGGCAGAGGTTGCAGTGA
26279	ZNF36	CCAGGAGGCAGAGGTTGCAGTGA
26280	LAMP2	CCGGGAGGCAGAGGTTGCGGTGA
26281	HOXB5	TTCCTGTGGCTCCCTCTCTCC
26282	SLC2A1	GTTCTGCTGGCCTGGATCTCCCCACT
26283	GM2A	ACCTCACTGCAACCTCCGCCTC
26284	SNX4	GATGTTTGTTTCAAGACCAGCTGTTTC
26285	ADRB3	GGCCCAGGCTGAGAGCAGCAGGG
26286	PAX3	AAATTATTTGTTACTGTATCCTC
26287	NOS2A	CTGAGTGCACCACTTCAAGTGAC
26288	CACNB2	AAGTGGAATTTCTTGTTTCTCCA
26289	VTN	CTCCAGTGCCCTCCTTCCCTGTCTCTG
26290	AP1M1	CCCAGCCTCTGCCCAGGGAC
26291	EFNB1	TCGGGGAGAGGGCGCGCAGC
26292	TGM4	TCTGCAAGGACATTTCTCAA
26293	AP2B1	GCTTCCCTCTTGGCTCATTCCA
26294	MAT1A	AAAACTCAGGCAAAGTCACAGCCTCAAAAT
26295	RNPEP	CTTTTTCTTGCTGATTTATGCA
26296	AIM1	GTGCTCTTGTCACAGGTAGAACAG
26297	EGLN3	CTTAACAGCAGGAAACAGAGAA
26298	TGIF	CCACATTCCAGCCCAAGGGAA
26299	WHSC1	GCCTCCAACAGCATCATCTGCA
26300	RNMT	AAGGAGCAGAGAGCAAGATT
26301	TNFRSF1B	CCTGAGCAACAGAGTGAGACCCTGTCT
26302	TBL2	GGGACTTCTCTCTTCGGGAG
26303	RHD	AAAGTAGCTGGGATTACAGGCAC
26304	BPAG1	TTATGAATATTATGTGTTGGAGGAGG
26305	LY6E	CCTCCACCTGCCCCAGCCCCTGCCTCT
26306	PKP1	GGGGTTAGGGAGGTTGGGGCGG
26307	FGR	AGGGAAAGGCCACGTGCCTGTATGAGC
26308	ALEX2	TAGAAATATTTTTACTCGTTCTT
26309	SMCX	GTCTCCTTTCCTCCTCCTGGGTT
26310	HCN4	AATACTCAGCACTAGAGGGAGGGAG
26311	LAMC2	CACCACTGCTCTCCAGCCTGGG
26312	JPH2	GTGCAGTCTGCACCCTGCACT
26313	EYA1	GTACATCTCTACTTATTTATGAACAGACTTT
26314	RNMT	CTCATTTCAGTTCCTTCTGCA
26315	LANGERIN	CTCACCTCTCCGGCACCTCCTCC
26316	EDARADD	GTTTCAAAGAAAACAGCTACAA
26317	TNFRSF1B	CCGGGAAGCGGAGGTTGCAGGGA

26318	FMR1	TCACATGTTTTCAAATGGAGTTGG
26319	GRIN2A	GCCTGCCACAAAAACAAGTG
26320	ILK	TTGCCTCCCCCGCCTCCAGTCA
26321	DHCR24	TTACAGCCACAGGCACTGTG
26322	ATP8B2	TGCAACCTCCACCTCCTGGGTT
26322	CDC2L2	TGCAACCTCCACCTCCTGGGTT
26322	EHD2	TGCAACCTCCACCTCCTGGGTT
26322	IGF1	TGCAACCTCCACCTCCTGGGTT
26322	MAK	TGCAACCTCCACCTCCTGGGTT
26322	PDCL	TGCAACCTCCACCTCCTGGGTT
26322	SEDL	TGCAACCTCCACCTCCTGGGTT
26322	TAT	TGCAACCTCCACCTCCTGGGTT
26323	STIM1	CCCCAAGAGTGGGGCATGGGAAGGGCT
26324	IGF1	GAGTAGCTGGGATTACAGGCACCCACC
26325	FRAT2	GCCTGGGAGCGACCACTTTGG
26326	SCN1B	CCAACCTCGCCCTCTCTCACCAGCCT
26327	CTBP2	ATAGGATTGAAGACAGTACAGG
26328	ASB1	CTGCAGCCTCAGAGCCCTCCCAGGT
26329	AK2	CCCAGCCAGTTAGTTATTCACTGTGCT
26330	CTSS	AAATCTTAGAAGAGAGCCCACTAATT
26331	PRKG2	GCTAGAGGCTACCCCATTTTCC
26332	IGSF4	TGAGACTGGGAAGGCTTGGGA
26333	DAAM2	GTTCTCACCAGCTGCCTCA
26334	SLC12A7	CCTCAAGGCACTGAAGCTGG
26335	ACE	GGCTGCTGCAGACAAGTGGACA
26336	G6PC	TGAATTCCTGGGCTCAAGCAGT
26337	NME1	ATTTCCCCTCCTTCCCATGG
26338	RAP2A	AATTAAAATATTTTGTCTTCT
26339	FGF4	GGCCTCGGGCGGGCCTGG
26340	TULP1	CCCTCCAGCAAAGCTCCCGCGG
26341	CUL3	CATGCCTTTCTAAAGGTATGCTAGAGT
26342	NFE2L1	TCATCCCTTGTGTTCTGCCAG
26343	HAS1	CCTCAGTTTCCCTCCTCTGCCA
26344	COG3	AATGTGAAGAGAGAGCTAG
26345	SGPL1	GGAGGTGGAGCCGGCCGGGTGC
26346	SLC22A5	ACTCAGCACCTCCAAAGCAGTT
26347	SURF5	CCCTCTTCCGAGAGCCTTCCTCCTCG
26348	VTN	CTTATCTCCCAGCTCGCCCAGGCCC
26349	SP1	ACCCTTCCTGCATTTCTCTTCTCAGCT
26350	GTF2H1	TTCATTCTTCACCCTCCATT
26351	SLC7A6	GCTGACAGTAAATCTCTGGGTTTCTGT
26352	IGSF1	AAAAATTCTTCAAGACTCAGAG
26353	PIK3CD	AGCAGGTTTTAACAAAAGGATGA
26354	GABRR1	ACTTTGACAGAAACTCATGCTTC
26355	GFER	AGGGTGGAACAGGAGGGGTGGG
26356	AFM	CCAAAGGGAAGGCTTCCTAT
26357	CDC7L1	TACATGGTGCTGACCACAA
26358	PSAP	TTCTGTGTCCTTTATTGTAGCAT
26359	EPHB2	TGACTGCCGTCAGCTCCGAC
26360	LANCL1	ACATACTCTGCTACTATGTC

26361	EPHA3	ATCTAATTTTTTCCCA
26362	OPHN1	AGCTTCCTGTCAAGCAATC
26363	DBP	CTCCGCCTTGCTGAGACTTAC
26364	RAF1	TTGACTTTGCACCTGTCTTCA
26365	STIM1	CTGTCTCTTGCTTTCAGGCT
26366	SCNN1G	CACAAGCCACCGTGCCCAGCC
26367	PNUTL2	TCCAAGACAACAGGGTGCACTGCTGCCTG
26368	SYNGR1	AACTCGCTCCTTCTGTTGGCAG
26369	PRKAB1	CGTCCGCCTTCCCTGTGTCCCCGC
26370	SLC22A2	TTGTCCAAACCCACAGGAGG
26371	TRADD	TGCCCCCAGCTCACACTCAGCGTGG
26372	RNF3	GTCGTTTTCAACAGCAGTG
26373	CRK	TTCATTCTGGAACCATACTATCAAATG
26374	ITPR2	ATGCTTCCAAACTGTAGCTGTCACAG
26375	FRK	TGCCTCGGGGTAGCACCTCC
26376	JAG2	ACCCATGGCTGTGTTGGTGTGGCCCA
26377	CAST	AAACCTGCATTTCTCCCACA
26378	PPP1R8	TGAATCCAGAGCTGTAGAGGTTACAGT
26379	HS3ST3A1	TTTTATGTTCTATATACCCAG
26380	SOCS5	CCTGCCTGGCCGCAGGTGCCCTGGATG
26381	DLEC1	CAACAGCAAGTCACCCA
26382	SH3BP4	TACCAGGAAGAAACATATT
26383	NEB	TTTCTGTGCCTAGAGTCTTTC
26384	NUMA1	TCCACCAGGAGTCTGGAGTGCAATG
26385	HTR2C	CATGCATTCAGATCTGAAGTAG
26386	CPT1B	GAGCCAGAGGGCTCTGGAGTGA
26387	HOXC8	CCAGCCCAGTCCCGGGGAGCC
26388	GRN	AGCCACATTACAAGCTGCCATC
26389	SLC39A1	CCTAGAGTCAGTGTCCTGT
26390	SET	GTTTTTAAAATTGGCCTTTTA
26391	RAF1	TTAAGCTGCATCAATGGAGCAC
26392	B3GALT5	TCTGGGAGCTTTCTGGGAATTCAGTTG
26393	SHOX	CAGGCTGGAGCACACTGGTGCG
26394	SACS	ATTAACTGTTAGAACACTTGCT
26395	CALCA	CAGATGGGAGGAAAGAGAGCAGGACT
26396	NCOA1	ACCTGAACCAGCCTGGTCCACT
26397	IPP	TTGGGAGGCTGAGGTTGCAGGATCGCT
26398	JAM3	CAGCACAGCTCTCAGGTGGGCACTGC
26399	INPP4A	GCTCGGTGCCAGCACTTCCCG
26400	ASB4	CTTGAGGCTTGAGTCCTGGGC
26401	SIRT1	TGGCTCATAAAACTAACCTGA
26402	NHP2L1	TTCCAGCTTTCAGCCACTAGCTTCCT
26403	VIPR2	CGGCCCAGGCCAGGTGCCCAGGAAAGG
26404	ADD1	GATGCTGGGCAGGAAACCCCAGC
26405	TAT	GGCTGCTTTCTCCTTTACTTG
26406	PHF1	AGGCTGGAATCCAAGAGTGGGGAG
26407	NDUFS2	AGGGCTGAGGGGACTGAGTGAGC
26408	HK1	ACAATGCCATCACTGGAATTTCCCAC
26409	KCNK3	CAGGCAGCAGGAGGGGCGAGCTGG
26410	WBSCR1	GGGAATGGGGCGTGGGGGGTTAGAGC

26411	AMBP	GGATGGCCAGTGTCTGTCCCGGGGTCC
26412	HLF	TACAGTATTTTTCAGATATAAA
26413	PUM2	ACTACATTGAGAAACTAAACCCTCT
26414	ZNF8	GTGACTTCTGACTTTCTAAGG
26415	C1orf1	ATAGAAGCTGGAGTGATGAAATTTGGG
26416	BDKRB2	GGGCTAGAACCTGGAGAGCCAGA
26417	PODXL	AATTCAGAGAGCATTGGGTCTG
26418	GAS7	CTGGGAGGTGTCTCTGGGGGTG
26419	CRYPTIC	GAGACTCTTCAGATTCAGCTTTCCT
26420	FGFR2	TGAGGACAGACCTTAGTTGAAATG
26421	RUNX3	CCCACAGGATAAGCCTCAGGCCCTGG
26422	EGLN2	TCCTGTTGTGGCAGTGGCCACTG
26423	CRYGS	CCAGTCTATGCACCAAAAAT
26424	CD34	TGGATCCTAGCCTTATCCTCTGA
26425	PCDHB9	CATTGTACTCCAGCCTGGGCAATAAGA
26426	PABPN1	AGCTCCCTCCTGGAATGCT
26427	GLRB	AACTGTATACTGAATTCTGACAA
26428	SLA	CCAGAAGAATGAGAGAGAGGAAGACT
26429	TLL1	CACAAATGTTTTATACAAA
26430	ALDH3B1	CTCCTCTTCCTTGGCTCCT
26431	MAPK1	ACCCCTGGTCCTGTCTCCAGCC
26432	MAN1A1	GCGCGCTCAGCCCAGCCTAGGAAAGAGGC
26433	FACL4	TGCATAGTTCTAGTGCAG
26434	CDK9	GGAGCATTGGCTGAGAGACCA
26435	A1BG	TGCCCAGGCTGGAGTGCAATGG
26435	ATP1B2	TGCCCAGGCTGGAGTGCAATGG
26435	CDC6	TGCCCAGGCTGGAGTGCAATGG
26435	CRTAP	TGCCCAGGCTGGAGTGCAATGG
26435	MLANA	TGCCCAGGCTGGAGTGCAATGG
26435	PMCHL1	TGCCCAGGCTGGAGTGCAATGG
26435	PTGIS	TGCCCAGGCTGGAGTGCAATGG
26435	RAB36	TGCCCAGGCTGGAGTGCAATGG
26435	SAS	TGCCCAGGCTGGAGTGCAATGG
26436	PTGIS	TGCCCAGGCTAGAGTGCAGTGG
26437	GRAF	AAGAGGAAGACTCCAGGAGGGGTATAG
26438	SHOC2	ATGTAGTTTTTGTCCAGGCTTGAGTC
26439	SLC10A2	ACAGAAACCTGGTTGAAATGC
26440	DHFR	GCACATCTTCATTCTTTTTA
26441	ABCA1	ATTACAGGGGCAGTGCCTTT
26442	TOMM22	GAGGGAGGCAGGCTGCAGCT
26443	RGS6	GACTTGTGTGGGATGGGTGCA
26444	BBOX1	TCTGCTCTGTTGCATGCCTGCTCTAATTT
26445	CDH19	ATATTCCTCTACTATTTTTCAATGTC
26446	SUV39H2	CAACATAGTATTGAATCTC
26447	IL21R	CAGCCTTTGGTCTCCTGGATGGGCCTTTGA
26448	PROK2	TCCTAAACCTGTCACTCAAGAGG
26449	CXCR6	CCACACACATACACACATATGT
26450	ADAM10	TCCGGATCGATGTGCTGCTG
26451	ZNF180	TGCTGTTGTTACATGTGAAGATT
26452	CCNF	GAGGGGGCTGGAGGCGAAGGGTGG

26453	JUN	CGGGAGTGGAGGTGCGCGGAGTCAGG
26454	SDC1	TCGAATCTCTGTGCCTTCGTCTTTCC
26455	LUZP1	TCCAATTTGTTGTCTTCATTTTGCTC
26456	TRADD	CACCCTAGGTCAGGGGATGGGAC
26457	ALDH1B1	GATTCAAGCGATTCTCCTGTCTCA
26458	CNTN2	AGATTCCCTAGGCAAGAGCAGCAGCAC
26459	CST3	CTTTGTTGCTCAGCAAGGGGCT
26460	AQP6	CTGCCTTGCAGACCTGCCTGGAGGTTC
26461	AP1G1	GCATGAAGGATATGGTGCTCTA
26462	CLDN14	CCCTGCAACCCTGCCAGGCTGG
26463	SURF5	TTTCCTCTGCCCCTTCTTGCT
26464	BTRC	TTGCCCAGGACCCATTAAAGTTGCGGT
26465	B3GAT1	GGCTGTCTTGGATCCCAACAGGCA
26466	XRCC2	TGCAGCCTCTGCCTCTTGGGTT
26467	PER2	TAAGCTCTCAGAGTTTCTGTGATGATT
26468	P2RX7	GCCACTGCTCTCCAGCCTGGG
26469	FXYD2	CCTGCCTGTCTCCCTCCTCTGT
26470	MIPOL1	TCTATCTGTGAGCTGCAAA
26471	MAP3K13	CATTTCAATCAAGAATGGCAGGGATC
26472	HDGF	CATTCTGCTCCTTCCCCATCGT
26473	NFIL3	AACCAGAGTTTTTAAAGAG
26474	WHSC1	AGGCCCGTGTGAGGACTGACCCTGGA
26475	TFEB	ATCGCGGGGCAGGGAGGGGCAGG
26476	SLA	TAGCCAGAGAAGGAGAAGC
26477	CST	AGAGGGGCTGAGCAGGACGCCGC
26478	NOTCH3	CTACCACCCACCCTCTCAGTCT
26479	KIF1B	TGGCCAATGTGATGAAACCCCGTCTCT
26480	DCX	ATTGAGGCCCGGGTTTGTTGTCC
26481	CALML3	AATTCAGAGCCGTTAGTCCT
26482	HGD	CTTTATATCCTCTGGGCCTGGGTT
26483	ELOVL4	CTCAACAACATGTCAAAGCTGCATG
26484	LIMD1	CTACCTGCCTCCTGCGTGTATTTT
26485	SERPIND1	CTCAAGCCTTTCTCCACCAGGCC
26486	ATP2A2	ATTTTTCTGCACTGAGCAGAGTCTT
26487	OGT	AGAACTCCAGCATAGAGCCTTATAGCA
26488	SDS	TCTGTGTGACTGCTCTGTGCCC
26489	AMMECR1	CAGACCTCTTCCCAGGAGACCCTA
26490	ABCA2	GCGTACACCCTTGCCCTGCTTTGCCTTAA
26491	NDRG1	TTGTGTTGAGATCCAGTGCAGT
26492	PDGFRA	ATAATAATTAACCAACCTT
26493	EVC	CCAGCACTCCCACCATTCGTGG
26494	SHOX2	TCGCGCCTGTCCCGCGGCACTCAGCCT
26495	EHD4	CACTGCCCTCTCTGTGCCTTGGTTTCCC
26496	PDE4A	TGCACCTTGGATGAGGCAGGGCCAGGC
26497	CDH18	GCCAGTTACAGATCTATCCCAAGA
26498	PTPRC	ACAACAGGTTTCTACTCTCTTT
26499	ATP11A	CCACAGACACGCGTGTGCAT
26500	MSH2	CCAGGAGGTGAGGAGGTTTCGACATGG
26501	PLA2G2D	TTCCCTCACAGGTTTCTCCAGAA
26502	TRADD	CCTGCCCCCAGCTCACACTCAGC

26503	RFPL2	TCGGAGTGACAAAGCTGGAACAC
26503	RFPL3	TCGGAGTGACAAAGCTGGAACAC
26504	TMEM1	AGACAAGCAGGTTTTGTTGAT
26505	CTBP1	TAGGCTAGCAATATTTTGGTTAA
26506	WNT5A	CCAACCTCCATTTCTGTTCACT
26507	ARHA	TTCTCCTCACTGTATCCAGGT
26508	CASQ1	TTCATGCTCTCTCCTGCCTTCC
26509	HIVEP2	GCTCTTCCTGTCAGCCGG
26510	CDK5	CCCCGGGACCCCCGCCTCCAGGC
26511	GNGT2	AAGTCTCCTAGACCCCCAGGGAGCCAG
26512	MAPK14	GTTGGCTCAGGCAGACAAGAGCTGCT
26513	PLA2G2D	GGCATCGTGGTGGGTGCCTGTA
26514	CLCN6	TAACATTGCAGCTTTCTCTCCA
26515	MNT	AGGGCTGAGCGTGGAAGGGGG
26516	PAP	ACTATGCTGCCTCCCATGGCCC
26517	NFATC3	GCAGGTGACCTGGTTACTTAGC
26518	AFG3L1	TGTTCCAGTGCTTCCAGGGGA
26519	TGM7	GGGAAGAGACAATAAAGATGTCTT
26520	SSR4	GGGCGGCACCCCAGCCCTGCCCTTGC
26521	NT5C2	AAATTGTGCTATTACTCCAA
26522	SLC7A6	CGACTCCCTGGTTCAAGCGATT
26523	PRCC	ATTGCTCCCAGGATCTCCTGCCA
26524	SLC22A3	TTCCTATTCATTCTTAGCACTTTG
26525	TP53	TTGCAGTTAAGGGTTAGTTTACA
26526	SPON1	GCTGCACTCTAGATTCCAGAGTCACC
26527	ZNF38	CACACTTAGGGTCCCAGTAA
26528	MMP14	TGCCCAGGCAGCGTGGAGGGGAAGGG
26529	PPP2R4	GGCCAGAAGAGAGGGTCTGGGGCCTG
26530	PDE4B	CCTGCCTGAGTTGCTACTTCT
26531	MEIS1	TCCATAGCTCTTCACTTCCTCCA
26532	CCKBR	GACTGAGCCTGGCCCATAGAAACATGAC
26533	GABRB1	TTTAGACTACTTTCCTCTTCTAT
26534	SMT3H1	AAGGGAAAATACTGGAA
26535	ACP1	CCTCCGTAGGAGCTCACAGTCTAG
26536	CLECSF12	CCAAAGTGCTGGGATTACAGAT
26536	FTSJ2	CCAAAGTGCTGGGATTACAGAT
26537	DNAI2	CCAATGTGCTGGGATTACAGTT
26538	HFE	CCAGGGTGCTGAGATTACAGGT
26539	ZNF264	CAGAAATTGAGTTAAGTCTGTGGA
26540	HOXC4	CCTCCGCCCCTCCTCTCTCCCAG
26540	HOXC6	CCTCCGCCCCTCCTCTCTCCCAG
26541	FANCC	GCTGGGCTGTGAGAATGAGCTGTACACA
26542	NDUFA6	AGATTATCTAAAATTAGCCAG
26543	EGFL4	CGGGGGGCTGCTGCCTCCAG
26544	M17S2	TACCAAGACAATACCTGCTACAGTATT
26545	SFTPA2	TCTGGCACTCTGAGGTCTCTGTGGCAG
26546	SEL1L	GATAGAGTGTGGCTTCATTTGTCC
26547	DDIT3	TATTAAAGTGACTTTCTA
26548	RAB4A	GCACACAGGTGTTCATACAGTGGCA
26549	PIM1	GCAGCAGCAACCACTAGCCTCC

26550	ARHGEF7	GGAGAAACTCCTAATTTAAATG
26551	GRINL1A	CTTGAGTTCCTTGCTGTCAC
26552	CDR2	CAAACAGTTTGAATACTGT
26553	LDLR	CTAACAAGGTGAAACCCCGTCT
26553	RAB3B	CTAACAAGGTGAAACCCCGTCT
26554	SCML1	TCCAGAAAATGAAGAAAAAT
26555	ADD2	CCACTTTGGGTCCCTGCCCT
26556	PREB	CCAGGTCCCAGGAACCTTGCCT
26557	EGR2	GGCTCAGAAGGAGGTGGTGTGGGGA
26558	CASP10	GCAGAGGGGATGTCTGGCTTGCCTGAA
26559	ATF4	GCAAAGCACCGCAACATGAC
26560	KCNK4	TGGATCTTTGGGTGTGTAGG
26561	CLN5	GGAAGTCAGTGACACCCCCACA
26562	ETV3	AACCTGTTTCTACAAACACTTC
26563	KAL1	ATATATGTACATATACATGTA
26564	LPIN1	TAGTCCTGCCTGAGGTTGCAGTGA
26565	IL16	TGTGTCATGATTCACCCCCAAAC
26566	ROCK2	AGGAGACGGTGGTTGCAGTGA
26567	KLRC1	CCACTCTTGACTCACTCTGAG
26568	ZNF41	GGCCTCGGAGGTGACTAACTCC
26569	CORO1C	TTAATGAATAGGGACCAATGCCAC
26570	PAK4	CAGGAAGGGCAGCGGCCCTCCCATCAC
26571	RNF3	CTGCAGCTGCCTGCACCCCC
26572	IGSF4	ACATGTTTTAAAGAAAGA
26573	RTN4R	ACGCCGCCTCCCACCCAG
26574	SNCA	GCCTTTTATTAACATATATTGTTATTTT
26575	DSCR1L2	GGTGGGCTCTGGCCATGGCGCTCTGT
26576	DGKB	AGACAGACAATAAGCCAGACA
26577	MAPT	TGCCATGAGAAAAGGGAAG
26578	TMEPAI	AGAGAGGCCTTGGCCAGGAGCGGCGG
26579	SFRP2	ATTTATTAGAAGCACATTAACCA
26580	KIF3B	TCTCACACCACATTTCCTCA
26581	B3GNT3	CCGCCCAGGAGGCTCCTCAGGCCGACCCCA
26582	PRX	GGTGAGCTGCTGGTGGGTGAGGG
26583	EXTL3	CTGTTCAGCTTCCTGCTGC
26584	ZNF76	GCTCTGGGTGGTGGTGGCACA
26585	PLAGL1	AAAATTGAGTTTGGGCCAATAG
26586	AHR	CTGGGAATCGGAGGTTGCAGGGCCAAG
26587	SPRR1B	GAGCTAGTTTTCAGCTGCTCAG
26588	CUL4B	TTTCCCCTGCAGAGATTGGTCAGCCC
26589	PPEF1	TGAGGGAGACAGGAGGAATACCAGG
26590	COL19A1	TGGGTCCCACAGATGTGAGA
26591	TBXAS1	CTACCTGCAGAGCACGGTTCCCATAAG
26592	BACH1	ACTCAGAATACAGTGGCATG
26593	GPR63	TACAAATATTACCTCCAGGGTT
26594	CAPON	GGAAAGTATTGAGATTCTGCTT
26595	PRKY	CCTGAGCTCAAGAGGTTGAGGCTGCA
26596	IL13RA1	TGCAGTGAGCAGAGATCACACC
26597	JAM3	AAAGAAAATGGATCCCACTG
26598	KDR	CCGTTAGCTGTCTCCTTGCCA

26599	KLHL1	AATATCCAAGAGATTGCCAAGA
26600	RANBP3	CACTTCCCCTCTCTGATTGGGGGTGT
26601	SOX5	TATTTCTTCAACATTCCATC
26602	LNK	TCAGTCCACATGGCAGGTCTGC
26603	SLC22A12	CTCTGGAGAAGGCAGGAGGAAA
26604	HOXB6	CTCCAGCCTCTTGATATTTTTGTAC
26605	LTB4R	TTCCTATTAATCTTAAAACAAAGCGAAACAAA
26606	HS3ST2	AAGCCAAGAGACCAGAGAGTCCCTGCC
26607	IL13RA1	GGTTTTCCTGTATAGGAATGA
26608	ADRA2B	CTTCCCTTTCTTGAGGACCT
26609	MAK	TGTCCAGGCTGGAGTGCAGT
26610	SWAP70	TGCTGCTTTTAACTCTTCTTCCTTCTGTGCC
26611	FBXL11	GAGGCCAGCGTCACACTCCCTC
26612	EML1	GGAGACACAAAGATGAGACTGTGTT
26613	SIAT6	GGAGATGTCAAGTTGGGTTCA
26614	BACE	GGCAGAGAAGAGACCAAGCTTGTTTCC
26615	TARBP2	ACCGCAAAGAATTCACCATGACCTGT
26616	SURF5	TGGGCCTGTAATTCAGCCTG
26617	ICOS	CTATACCCATGGTGCCTCTGGG
26618	TARBP2	ATGGAGGCTCACGAAGTAGGGTG
26619	IL10RA	ACACAGCCCCAGAAGGGGGCATTA
26620	SH3BP2	TCCCTGCATTAGCGAGCAGTT
26621	DIAPH1	TTGCCTCTCTGGACGCTCTGCACCAA
26622	C11orf8	ATGACTTCTGTTTTCTCAAAG
26623	SCN3A	GACTGTTTTAACAAATACTCATAG
26624	MAP1B	CCACACAAACCCAGCCTGGGGAGGAAC
26625	GM2A	AGGGCATCTGCTGGGCTGA
26626	FLNA	GCAGCGCAACCTCTGCTCC
26627	CTNND2	CTGGGTGTGGGAGCAGGGCA
26628	HMGCR	AAGGGGACCTGTTTTCTTCAAGGGA
26629	COLQ	AGAGACCAGAGATCTCTGTAC
26630	TCOF1	CCTTCCACAGACCCCACATGCC
26631	DPYSL2	GCCCAGAGCTGCCTTTTTCT
26632	SLC21A9	TTCAGACAAACACACACTCAGC
26633	LMNA	AGCTTCTGCTTTTCTGCCCTGGCT
26634	KCNH2	GCCCTGCTCAGGAGGCCCTGA
26635	EHD3	TCAGTCTGGCCATCTGTCAC
26636	TLL1	TCATTTTTCTCTTCCTGGGATTC
26637	CDK10	CCGCTGTCTTTGAGTTGTGGTGG
26638	CHRNB4	CCAAGTAGCTGGGATTACAGAA
26639	CBFA2T2	GGTGGGGTTTTGCCATGTTGCC
26640	AIRE	CACTGCACTCCAGTCTGGTCGG
26641	PPT2	GTTCGGGAGGCGGAAAAAGATGAGCG
26642	KCNQ2	GTGAGAGGGACGGTTCACAAGGCTTGG
26643	LDHA	CTTCCTGGCTCCTTCACTG
26644	MYBL1	CTTTTTTAAATGTTTTGTGTTT
26645	SSTR1	GCCCCTACTGGAGTCCCGGGA
26646	MN1	CCTTCCTCTCCCCCTGTCTGTTTCC
26647	TNFAIP1	TTTCCTAAGGTGTTTAAGCACA
26648	PRDM4	GGTTTTGCTGCTAATGTATTTA

26649	CRY2	TCCAAGTAGAGATTACACCCAGCACAC
26650	RP2	TAATCAGCTTAAAAGCTATTTAACCCA
26651	PPP1R12B	TCTCCCACTTATCTTCCCCCTTC
26652	NYX	TGGACTTTTCAGAGTCTTTC
26653	CLCN6	CCCACCCTCTCCTGGTGCTGCCTGGG
26654	PSMD9	GAGGCCTTGCTGCTGTGGATA
26655	YWHAE	CCGTGGCTGCTCATTCTTGCC
26656	IL1RN	ACTCCAGATTTTTTACAGCTGCC
26657	KCNJ10	TAAAAACAAGAACCACAAAAA
26658	TEGT	CTTCCTTCCTGTTAAACCCCTGTTAAC
26659	CACNB4	GCTAATGGGCTGCTGTCATTTTA
26660	PTGER2	TTTCTATTTTAATCTTGCT
26661	DAG1	CTTCATTTTTGATGGCTGGCTCTGAA
26662	TAF7	GCAGAAAAATGATTGTAGGAAA
26663	GNAI3	GTTTTGTACATGGTGCCTCTTGTT
26664	LZTFL1	TCCACAAATGAAGATTTTATT
26665	PCSK2	AGAATTCTTTATTTGCACCCTC
26666	CMAR	TGCCAAGGCTGGAGTGCAGGCCGCG
26667	BSN	AGGCTTCTCCCAGCCCGTGG
26668	TACC1	AGCACTGTCCTGTCTTAATCT
26669	ATP8B2	AGCTGGGTCTGAAATTTGGTCA
26670	NFKB1	CTGAGCGGATGCATCTGGGGATGAGG
26671	IGF1	TCAGATCTTTTTGGTAAA
26672	PTMS	ACCCTCACTCTGCCATTGTTCC
26673	CHRNE	CACCCTGGAGGCTCTCTCTGCCT
26674	AKAP4	CCAGCTGGCAGTCAAGGCTGTA
26675	MME	GTTATTCATTCTGTGATCA
26676	GPC4	CTGACTTTGTTTTCTCATTC
26677	FMO4	CTGTCTAAACCTCCTACTCCTCAA
26678	IGF1	TGTGTAGATGAAACCATCTCA
26679	TAL1	ATTGCCCAGGCTGGTCTTGAAGT
26680	LIMK1	GGCAGGGCTGTCCCCTCTTGCTT
26681	SIP	TGATGCCACTGTACTGCAGCTT
26682	TRAF5	GACCCACCGCGTCAAGCCTCTGACAA
26683	PRKY	TCACATCTGGAAGAAACAGGA
26684	LANGERIN	CAGCTGGCTGTGTTTGCAGTG
26685	PCDHB1	AACCTGTTGCAGAAAAGTGAAAG
26686	CSNK1G2	GGCGGTGGCTGTGAGTCTAGTT
26687	IL1RAP	TTTTTCCTGAACAAATAACA
26688	RAD9	GCCATGGCGAGAATCCAGCTTTGA
26689	FKRP	TCCCGCAGGGCCCAGCACA
26690	IMPG1	TGGTATCAATATATAATTATTTTTCA
26691	SFRS7	TCACGAGCCTTATGATATCAT
26692	RGS3	CCTGCCCACCTGCCTCCCTGCCCC
26693	SF1	CTTCTGCTGCAATTTAGATTCCTTTCC
26694	SCN2B	TGACATAGAGAGACTCCATCTC
26695	REQ	CTTCCCTTGCACGCTCGCTA
26696	EYA1	GCTGTGCAAACATCTCAAGCCAG
26697	ARHGEF7	TGTGTTTTTAACAGCCCTTCCCCTG
26698	NPC1	CCGCCTCCGGGGAGCCCAACCAGCCG

26699	HLX1	TAGCTCTTAGGGCTTAGCTATTTG
26700	GPR56	GCTGGGCTTTTGAATTGGCCTTGGGGA
26701	AGL	ACTGGGTCTCACTATGTTGCC
26702	REQ	TTAGTTCCTGTATTCTAAA
26703	PSME3	CCTAGTTTTGGTTTTCAAATTACTTGG
26704	B4GALT2	GGCCTTTGCATGGGAGGCAGGT
26705	C21orf33	AAAATTCTGCCGTCTGAGGTTTT
26706	SIP	ATGATGATGCCACTGTACTGCAGCT
26707	CX3CR1	TTATTTCTTACAGGCACAAAATGA
26708	HPSE	AGAGACACTGGGACACTGTCA
26709	GCKR	ATATTCTCTCCACTTTGGGG
26710	CD72	TCTGCTGCCTGCTCCCTCTTCCTG
26711	JJAZ1	ACAAATGTCATCAAATATGTTGA
26712	CTSS	CTTTGGGCCTTTATTTCCTT
26713	CYP8B1	TTCCCAGTTCAGACTAGCCACA
26714	SNRPA	TGTCCCCAGACATTGCACCTGGCGCTG
26715	GIPR	GGAGAGCTGGAGAACAGGATTCT
26716	ADCY6	TTGGAAATGACTAGAGAGGCAGAGGAG
26717	PNN	TATACTCTTCAGTAAGAATCTGT
26718	PAFAH1B1	CCTCAGATGATTATTGACTGTGT
26719	WDR3	GCCATAAAAATGCAGTG
26720	SRGAP2	TGTTTCAGTGCTAACGATTTCTCACCT
26721	XKRY	TTCTAAAACTTTTAATTTTTCT
26722	PTGES	GCCCAAGCTGGAGTGAAGTGGT
26723	WNT2	GGGCCCCAGGATGGGGGGCCACA
26724	PRDM2	TTCAGCTGATTGCCGGCAGCTTAG
26725	HPS4	AGGCCCCTCTATTTTATTTTTCTTGAA
26726	SH3BP2	TCCCTCCACCTAGACTGCCTG
26727	MDS1	GGAGGTGGGGGCCGCAGGGTTGGGGC
26728	TEAD3	TGACCCACCATCACCCTGCTCTG
26729	LYPLA1	GCAAGAAATATTCCATTGAAA
26730	LDLR	TTTCCAGCCTGGGCAACATAGT
26731	CLCN4	GCTACCCAATGTTACTACTTATTTTT
26732	PTPN6	CCCTCAAGAGGAAGTGAGCGGTGCTG
26733	DAZ	CAGCCTCTTTTACTAGTCTTT
26734	IGFBP5	TCTCCCACCCTCTCGGCTGCAG
26735	SOCS5	GTCAGATGCTACCTGCTGTTA
26736	CSPG3	GGTCTGGTCTCTTGTTTGCCAG
26737	MYBPC1	GGTTGAAATGAGAAAAAGCATTTT
26738	MME	TGAATCTGTCTCCCAGTTATGA
26739	RAD17	AACCATGGGTGGATAAATATAA
26740	ZNF42	TGTGTGCCATGTGTATGCCCTAG
26741	RABL2A	ATGTTGCCCAGGATGGTCTC
26741	RABL2B	ATGTTGCCCAGGATGGTCTC
26742	TEC	GGTCTGCTCTGGAGCATTGGGTG
26743	KCNG1	CCTCCACTGTGCCCACCACTGCC
26744	NPPB	CAGAAGCAGCAGCAGCAGCCTCCGCA
26745	SPR	GCTGGGAGAAGGGGCTCCTGG
26746	P2RX4	AGCTGTACTGCCGGCTCTGCCG
26747	DNTT	TCGCAGTGTAGCTGAAATACT

26748	PKM2	CAGAGCCTGGCTGCCCATC
26749	IHPK1	CTGTAGCCTGGAATCCATATATAT
26750	PXF	TTCTCAAGGTCTCAGGCTATTTGG
26751	BCL2L2	GGGGGCCAGGAGAGCAGGAACAGA
26752	PLA2G2A	GTCCATCTGCATTTGTCACCCAAGAAC
26753	HADHSC	ATGCTCACTGTTGCTGCGTGGGAGAGT
26754	SLA	ACATTAGCCCAAAGGACTTCTTA
26755	PTP4A2	GGCGATTCTGAGTGTGAGG
26756	EXTL2	TTCATTCTTAAGGTTGCCTACT
26757	PDYN	ACCCTGAATCAGAGGCAGA
26758	MPP3	TCATCTAGTCCAGACTCCCTCA
26759	SH3BP5	ATGCTGCACTAGTATTCCTTA
26760	GNAL	TTCCCGCAGCATCCCACCCCCAAACCA
26761	FUT8	CGCGCCGCCTCGCGCTCTGCCTCAG
26762	RNGTT	TTCCACGGTGTGCTGCTTTCCC
26763	RRM2B	TTCCCAACATACTTAACACA
26764	SH3BP2	TTCAGTTAATAAAGATTTGTA
26765	SCG3	GCTCCAGGAGCCCAGCGCCGG
26766	CAPN9	GGCACACACAGCTCGCTTCTTCA
26767	HTR2C	TTTGGTTGCTTAAGACTGAAGCAA
26768	BCL10	AGGCTGGAGTGCAGTGGCGCAT
26769	EHF	TTAGCTCCTTAGAGTGAAGCAA
26770	C4BPA	AGTTTTCTTCTTTGAGAAACT
26771	FGF23	CTCAGCCTCCCTACAGGGTG
26772	TCP10	CCCACCCCAGGCACGGCTCATTC
26773	AK1	CTCAAGGTCAGGATGCGAAC
26774	ATM	GGTTACAGGTTACAGTGAGC
26775	CAV1	GATTGCTGAAATTTTATATGCTTACT
26776	DRD3	ATGTTCTCAATACCCACTGCCAG
26777	PTK2	GACTATTTTACAGCCACTGGAG
26778	VAT1	TCCTCCCCTGTACTCCCCAGTGCCT
26779	RET	CAGGGGTAGCGAGGTTGCAGGA
26780	SLC13A4	TATAACTGCCCTCCCGTTCTGCC
26781	FSTL3	CCGGCGGAGCCAAGTCCACTCTGGG
26782	CDKN1B	CCTCACTGCCCTCCCCAGTCT
26783	FOXI1	GTACTAGGCTCTGTACTGGCCA
26784	NTSR1	AGCCACAGGAAGCAAAAGTCAGCC
26785	FGFRL1	GCACAGATATGCTGTCTGGACATGCAC
26786	DNASE2	TGGCTCACATCTGTAACCCCAGCACTT
26787	GADD45B	CACTCGGGGGTGGAGTGAGAC
26788	STARD4	CATTCCCCACCTTAGCCTCCCAAA
26789	MUC4	GGAGGGGCTCCTGGGGGTCTG
26790	SDPR	TTCATTCTTTTTTGTCATTCCA
26791	CRMP1	GGAGGAGCTAGCCTGAAGGATTCTGG
26792	IFNGR1	ATGGATCAGCTAAGTTGCACCAA
26793	EFEMP1	ACCATAAAGACACATGGCCTTC
26794	BMP1	CCTCCACTCTGCCATTCCGGCCC
26795	SLC21A9	TCTCCAGGAGCCCCTGAGAAGATTTG
26796	SCAMP1	ACCATGTTTCATTCCTTTTTCCCTATTTATA
26797	TCTA	TGCTACTCCCCAGACCTCAGGGAC

26798	SPG3A	TACATGGTTTAATAGAATATAA
26799	GNE	TGAGTGGCTGGGATTGCGGGCAC
26800	CDH10	CACTTCTCTTCATCTACACTGG
26801	SLC14A1	AGGATGTCTTATAAAGACTGA
26802	KCNQ1	GGCAGGAGACTGTGGAGACTGCTCCT
26803	GGT1	ATAAATGAGGCCACTGTGCC
26804	BENE	CGCCTGGGTCAGGAATCCAAGAC
26805	FBXL7	TTTGCCAGGCTGGATGCTGT
26806	CRADD	TGTCATCACATTACAGGCAGGTGT
26807	TRIM14	CAGCACATTCATGCAGAAAAGTCTT
26808	COPA	TCCTTCTAACAGCACCTTCCCCCTG
26809	DNMT3A	TTGTTTTGCATATGTGCATTTT
26810	THBD	CCTCTTCCGTGACGTCACTGGACCA
26811	LRP1	CCTGTCTGGAAGACGTGGCTCTGGGT
26812	B3GALT5	CTGGATGTAGCTGGGATTGAGTCCATG
26813	MINPP1	GTTCTGCAGTTCTCTCTTCTTTTCC
26814	MYH9	TGTATATGCTGCATTGAGAC
26815	KLF8	AGCAGCCCACTGAGCCAAGTT
26816	ACPP	CGTTAATGTAAAGGGGCAGCAGT
26817	BARHL1	CATGCCAGCCCGCAGCTAGGG
26818	LAPTM5	TTTAAAAAATCACGTTAGCCTCC
26819	B7H2	CCGCGGCCCGAGGTCTCCGCCCGC
26820	F2RL3	GAGGTTGTGGTTGCAGTGAG
26821	NPHP1	CTCACCCTTTCAGGCCTTGT
26822	IL10RA	GGACCTTCTCCCTCCTAGG
26823	MGA	TCAACCTAGAAGATGAGATTTGTA
26824	CAPON	CCTGCCCTGCCTTCCTCCTGC
26825	GALGT	CCTGCTCCAGCCCCACCCCCAC
26826	APM1	TCCTGTTTTTACAGATTGTA
26827	GAB2	TCAAGGACCAGCAAACCAAAG
26828	LIF	AGCCACCTTCAGGCCTGGGA
26829	ITPKB	AACCCATGAGTTCAGAAGGCACACTC
26830	CDK5R2	TGTCCCCATCTGCCCTTCTTGTTGCT
26831	RAD52	TCAAGACTCTTGAAGACAACTCTGAA
26832	SIRT7	CTGGATGTGCGGCAGAGGGGTG
26833	SWAP70	GGCTCACTGCCACTGGGTACT
26834	FOXE1	TTCAGCCTTCCATGTGCTGCCGGAACT
26835	KCNAB2	CAGAGGGGAGAGAGGGCAGGACAG
26836	LIPE	ATAGAACCTGGAAGATCAATA
26837	NDUFA10	GGAAGAAGGGGTCTCACAAAAA
26838	PRX	GGGAGAGCGGGTGGAGGGCCCTGAGGTGG
26839	PON2	GTACTTACATCTTTGTTTACC
26840	ADAMTS13	GGCGGTGAGGATCGGAGGGCGCTAT
26841	SLC22A3	GCATTTTTCTAAGGAGAAC
26842	RAB3B	ACAACTTCTCAAAGCACAA
26843	SLC18A3	TACCCCAGCCACTCCTCAACCTT
26844	HMG20A	TCTGGTGGCTGGGATTCAGATGC
26845	DBY	AACGGCATGCTATCACAAGAAAGGT
26846	COL2A1	GGTCTCCCGCTTCCTCCTCCTGCTCCA
26847	TRPM6	ATCTCACTGCAACCTCTGCCT

26848	CD59	GGGAAGACCAGCTTTGCAGTGA
26849	DNASE1L1	TGGACTGCCAGCTCCCTGGGTCT
26850	RGS6	CCCAGGAGGTGGCTGGATTGCAGGG
26851	TFE3	CTCCTGGCCTTCTAGGAATGGAGG
26852	NGFR	CCCCAGCTGGGGGCCATGAGCT
26853	PEX14	CCAACAGCCAGTTTTGTCC
26854	CLOCK	GCAGTGTCTGTTCTTCATTTCTATAGC
26855	C18orf2	ATGGGAAAATTAAACTTCTACTA
26856	ADAT1	AACTATACTGCCTTGTGATGCCT
26857	HSD11B1	TTAGTAAACATAGGTATAATTACCA
26858	DVL3	AGGAAGCAAGCGGAGGTTGCAGTG
26859	CUGBP1	GCGTGGTGTTTGTATTTCTGTGA
26860	SHANK2	ACAGTCAGGCTTCCAGCACATTCTCCC
26861	SLC22A2	GGAGTCTATTGTACACTGTGGAAA
26862	APBB2	TGACACCTTGGCAGTGTTTATGGCCA
26863	PPP1R3D	TCCCTGCCTCATCTTCCGACGGCCGGC
26864	HAS2	CTTTTCTCCCAATTCTGCGCT
26865	PPP1R3C	ATAGCTCTTTGCAAGTGCCTT
26866	ZNF236	TGCAGGAGGCTGCCGGCGAGTG
26867	ATP1B2	GGTCTCGAACTCCCGACCTCAG
26867	FCAR	GGTCTCGAACTCCCGACCTCAG
26867	NF2	GGTCTCGAACTCCCGACCTCAG
26867	PKNOX1	GGTCTCGAACTCCCGACCTCAG
26868	COX15	GGTCTTGAACTCCTGACCTCAG
26868	EIF5A2	GGTCTTGAACTCCTGACCTCAG
26868	GNE	GGTCTTGAACTCCTGACCTCAG
26868	PRND	GGTCTTGAACTCCTGACCTCAG
26869	IDH2	ACAGAGCCCTGGGCAGGCAGTAG
26870	GNLY	CAGGTCCCCTCTGGCCCTCTC
26871	PCDH8	ATGCTGCATGTCTTCACACATATAC
26872	FGFRL1	ACACACGTGCACAGATATGCTGCC
26873	SUFU	GAGGGCACCAGCTGGGTTCTCC
26874	PTGS1	TTCTAGGATGTGGAGCTACTGA
26875	ACCN2	CGCTAGTGCCTAACCTCACTGGTCC
26876	PCDH11Y	TAGAAAACATTAGTTTTCTCCTGTTG
26877	TCTA	GCCGGGTGTGGTGGCACA
26878	KCNA7	GACTGGGTAAATTAGGAAGAGGTGGA
26879	WNT5A	GGTGGATTAATTTGGAAAAAGAA
26880	RET	TCTGTGTCCATCAGTGACCAC
26881	GFAP	ACTGGGAGGGCCCACTTCAGG
26882	DRIL1	TTTTCATTTTTGTCTGC
26883	NGFRAP1	ATTTCCATGTGTCAAGTGGGTCT
26884	TGFB1	GCCCTTCTCCCTGAGGAGCCT
26885	COMT	GGGGCAGCTAGGGCTGCCCGCCGCGCT
26886	MGEA5	AGGGCAGCAGAGGCAGAGA
26887	ICA1	AACCATATGAATTTACTACTTTA
26888	ACPP	GGGCTAAGGCAGGAGGATCACT
26889	RAB23	ATTTGAGAGGGAAGATCTGATC
26890	LZTFL1	TGATTCTGTCTGGTCATCCCACA
26891	KLK4	CTCTCCCTGTACACAGTGCCCCCT

26892	KLHL3	GGAGGTGGAGGAAGGAGCAGG
26893	GP2	CCAAGGCAGGAGAATTGCTCGA
26894	SCN2B	CCGGGAAGCAGAGGTTGCAGTG
26895	TNFRSF10B	AGAATTGCCTGAAGATCA
26896	PABPC4	GTCCTCTGGCGGGGCTCGGG
26897	HBZ	GCTGGCGCCGCCTCCGGG
26898	ADD1	TTCTCTCTGCTCAGTGATCTCACTTA
26899	NCOA3	TTCTACTAATGTGATGCTTTCAT
26900	TTID	GCACATTTAACAATTACAGGTT
26901	DYSF	GAGCTCCTCCAGACCTCCTAGGCCT
26902	DPP6	TCCGTCCTTACAACCATCCTTGT
26903	LARS	GTCATCTTTGATTCCTGGACCTAATAAA
26904	SH3BGR	AACATTTCAAATGTCTCTCCA
26905	RNH	GATCCTGCCAACTTTCTGGGGCT
26906	AMACR	TCCAGAGGGACAGTCAGTTTTAGGGTTGCCT
26907	SLC26A3	GCCACAGCCAACAGAAAAATCAA
26908	MAX	AGGGCCGTGTGACACTCTCGTGGT
26909	EIF4G2	TTCATTTCTCCTGTCCCCTCCCCTCC
26910	SOX4	TGGAAGCTTCAGCAACCAG
26911	APM1	GAAACATTTTCATTTTAGG
26912	MLANA	GGGCCATCCAATTTCTCTTTACTTGA
26913	CCNT2	CTACCTTTATTTAGCAATTACCTA
26914	SRPX	TTTCTTTACTCCATCATGGCT
26915	WASF3	AGCAAGTAATTTTTGTTTTA
26916	KCNA7	GGAAACACTGAGTCTTGTTGGG
26917	PLS3	CTCTCCTCCTAGAATGCTGCC
26918	GPR56	TCTGTCCATCTGGGCCTTTGT
26919	CD4	TTTCCTTCTCCTCCTGTCTTTA
26920	B3GALT3	GATTTGACTGGTTTTGCAGA
26921	BACH2	AAGCACAGCAGATAAGAGTGT
26922	ORC2L	TAGAGATATTCTGAATTTTTTGAGGG
26923	EPHA3	TTTGAAAAGTCACTTACTATTGTTGCT
26924	SELL	ACCTCTCTTTTTCAGTTGGCTG
26925	CDC2L2	CCCAAAGCACTGGGATTACAGG
26926	ACOX1	AGCAGGATTGAAGAAAAGGGACT
26927	DGCR2	CTTGTGCTCCCCTTGGAGAAGGGCT
26928	ATM	GTCTCAAACTCCTGGGCTCAAGCGAAC
26929	ELMO3	AGCCCCTGGCCGCTGTGCTGAAGGAGG
26930	CAPN10	GCGAGTCTCCCTTAGGGCCC
26931	PSG3	GACAGTTGCTTTCATTCTTCC
26932	EXTL3	CTTATCCCTGCTCTCCCA
26933	ADAM11	GCCTAAGTGCCACCCTCCTCCCTCC
26934	MEIS2	TGAGGCTCTTCAATAAGCCAGGCAGC
26935	PARN	CATTTGGAAGCCGCACTGTATTTA
26936	GFAP	CAGGCTGCTGGAGGAAAACTGAGA
26937	PLN	AACTTCAGACTTCCTGTCCTGCTGGTA
26938	ADAM12	CCATCTCAGGCCAGAGCCAAG
26939	FSTL1	TTGTTCAGTCTGAAATGCAGCT
26940	DHFR	ACCAGCTTGGGCAACATGGCAAAGCCC
26941	GPR45	TGAGCTCCTGGGTGTTCATTCATT

26942	ALPP	CACTGCACTGCAGCCTGGGCGA
26943	RGL	CCTCTGGAGGTGTCAAGCTCCT
26944	NUP153	CTGCCTAAGGACTTCTTTAATTTT
26945	EGR3	TCTCCTTCCCACCATCATGGGGAAGC
26946	MECP2	AAATGTTCTTCCAGTT
26947	HUNK	GGGGACTGAGGTGGGAGGATCA
26948	SIM2	GGAGGCTGAGATAGGAGGATCA
26949	GPR4	GCAGCCTCCACCTCCTGGGCT
26950	ASB1	GTTGCCCAGGTTGAAACTCCCTGACAG
26951	DHCR24	GAAGCATCTGTCTTGTCATTCCA
26952	HOXB3	TCTCCCCTCGTCGGTGGCTAAG
26953	RNF3	TTTCAGCCTCAGTTGGTTGC
26954	DNASE1	GGGAAGGTCACAGCTGCCTGAA
26955	ZNF138	TGCACATAAGATCATTCATA
26956	SLC1A3	GTCATGAAAGCACCTGCCCTCTGTTTC
26957	PUM1	TACTCCCTCCTCCAAAAAAGG
26958	DNAI1	AGTCTCTGTCCCATCGCTTGAA
26959	DRIL1	GCCACAGCTGACGCCAAAAAGA
26960	PRKG1	GGAAGCCTCAAGACGCGGAGCAGC
26961	ABCD4	CCTTCCTTACCTTCA
26962	CCND1	TTTACAGCTGTGTTATTCTTTG
26963	MBD1	GGGAAGGTGGAGCAGCTGCAGGCCTGG
26964	IGSF1	TCCTCTCTCTTGCTCTCAGAG
26965	RNMT	TAGCCTGAAACCTCTTCCAC
26966	DDB1	GTCTCTGCAAACTGCCTTC
26967	B4GALT5	CCCTCTTACTTTTTCTCTTGTGGAACTTGGC
26968	CHRNA2	AGCTCTATTCTGTACC
26969	MGAT5	TGTCTCCTCCCCACCTTGCAA
26970	IL16	CCATCATCAGTGGAGCCATGTT
26971	KCNA4	TCTTTGCCTCTATCTGTGGTTT
26972	ED1	GCTTCAGCCAGGTCTGACT
26973	OPTN	GAGGGAGACTCTGTCTCGAAAG
26974	RAB7L1	CCACCGCACTTCAGCCTGGGTG
26975	GAMT	CAGCAGCTTTCCCAGCTTCTCTGTGAG
26976	TRAP100	AGCAGTGAGGAAAGATGAGGCAT
26977	RAPSN	CAGCTCCCCTCCCTGCCTCTTTGTAC
26978	XRCC4	ACGATTTGATGATGACACTGGC
26979	F13A1	ATCTTTCATTTTGCACCTG
26980	CBFA2T2	TTGTCTCCCAGGCTGGAGTGCAATC
26981	OAS3	TCTGCTCTCCCAGCTCACACACTCC
26982	GCLC	AAATGATAGAACTGTACTGTTTTCTG
26983	PER2	TGCCAGTGTCCCCAGCACTTTT
26984	PDE1B	GCCTCTGGATTCTCTTCATGGCCAGGTGG
26985	NEK6	TGAAGGCAGAGCAGCTGA
26986	PC	TTCATTCCTTTCAGCCATCGTCCTTTC
26987	ZNF136	GCATGAAATTCTGCTCAGTGCCTT
26988	PPP1R8	TTGTGTGACTTTACCATTGA
26989	ATP1B2	TGCTGGCACGTTCTGCTTCTCACCC
26990	KCNJ12	CCCAGCCTCTGCTGTCCAAGGCTGGC
26991	CEL	GAGCTCTTCCTGAATAAAGCCTC

26992	RBM3	CATAGGAGACTCCATTTTGTTA
26993	BCL7A	GAACAGCTTCCTCTCACTGAACGGAGA
26994	ICMT	GGTGTTCTAGTTCAACTTTT
26995	VENTX2	GGTCTCAAACTCCTGACCCTGTGATCC
26996	COL10A1	GTGAAGCCTCTCTTGAATTTCTAGTT
26997	PRKCM	TTCTTACTGGAGCTTCATTTTGG
26998	GPRC5B	ATCACTACATTGCTTTTTCTATAAAAC
26999	TSC1	TGTTTCCAGGGTCTGAGTGCAA
27000	REN	CCCTGCACCAGCCCTTCCCT
27001	CHAC	TTTGGGAAGCATATTACAGA
27002	EDNRA	CGCGGCCGCCTCTTGCGGTCCCAG
27003	KLK10	CTGGGTCCCCTCCCTCCTTCC
27004	ADRBK1	GACCCCTTTTCAGCTTCTGCTGGGCT
27005	EXTL3	TTCTATCCTGCTCTTCTGT
27006	NPTX1	CCTGCTGTTTGCATCTTGAG
27007	GCKR	GGGGCCCAACCCTGCCCACTTCAGCC
27008	GNE	GGCTCAATGCAACCTCTGCCCCCCGGG
27009	ATP1A2	CAGAGCTCCATGCTGTTCTGAA
27010	PRKWNK3	TTGATTTTTTAAAAATACTGTTCA
27011	BSN	GGCACAGCCACAAGTCTCATCTCTA
27012	GYG2	AATAACTTAGTGAATCACTGCC
27013	HPS4	GCTGCTCCAGGGAGCACCAGCTGC
27014	GLS	GACTATGTGCCGATTCCTGCT
27015	COL11A2	GGACCCCGGCGTCTGAGGCTCATAG
27016	AGTR1	TGAAGGAGAAAATGCATTATGTG
27017	IL1F5	AGAATTCTTCCCTAGAGGCTTT
27018	IGF1	CAACCAAAACTTTACAAGCTT
27019	SEDL	CCCAAAGTACTGGGATTACAGG
27019	SNAP23	CCCAAAGTACTGGGATTACAGG
27019	TNFRSF11A	CCCAAAGTACTGGGATTACAGG
27020	MYO1C	AGAGTCGAATTTCCAGACAGGGACCCA
27021	EGLN1	CTCTGAATTTCCGTTTCCTCCTCTGCA
27022	BTG2	GCTGTCTGTCTCAGTACAATCCAAAT
27023	CASP8	CATGTCTATAATCCCAGCACTT
27024	TGFB3	TCTTGCCAAGCCTCAGTCTTTGGGA
27025	CNTNAP2	TATGCTGGTAGTAGCCTCTTTA
27026	TH1L	CACTGCTGGACAGGATGGTTCA
27027	IL16	CCTTCCCATGACCCAGGCTGG
27028	SLC2A3	ACGTGGAGAAAACTTTCTGCTGAG
27029	STARD4	TCACTGCAGCTTTGATCTGACCGCTC
27030	COL4A2	CCGGCCGCCCTGCCGGTGTGC
27031	INPP5D	GGTGTGCCAAGTGCTGTGCTAA
27032	CA11	AGGAGCTGAGAGAGGGGGGCAG
27033	GRINL1A	ACAGTTCCCTGTAATCCTGCC
27034	PPP3R1	AATGTGGTGGAGAAAGGGAA
27035	TNFRSF1B	CGGAAGGCTGGCTGGGCATGG
27036	IGF1	CATCTGCCAGCTGTGTCAT
27037	GPR24	GTCAGGCAGGGCTGGAGTGAGCAGCCAG
27038	MAT1A	GATCTCGTTTTTTCTTCACTGC
27039	TGIF	TGAAGGCAAGAGATGAATTGCA

27040	CHST6	TTCAACCAAATGAAACTTGAATCTGT
27041	NR4A1	TTCATTTGCCGGGACACTCGGGCCCAT
27042	HIPK2	AGAGAAGGAGGGAGGCGCTCCTGG
27043	SRGAP1	CACGCCTGTAATCCCAACATTT
27044	CUL5	GGCAGATGTAGATAATTCAGC
27045	HMGA2	ACACAAGATTTGACTGTAATATT
27046	PIK3CD	GCTTGCTCTCCACTTTTCAAGTGGGTC
27047	PRKCA	GGGTTATTAGTCCAAATGTGAT
27048	TIMELESS	TGTTCCTTTGGCTTTCTCTTGGA
27049	ZNF42	TGTCCCCAGGGATGAAGTGGGT
27050	FGFR2	TTCTGGAGCAGTGGACTGCCACA
27051	SLC35A2	AGCTCCACACTATCTCTTAGCTGAG
27052	MEOX1	AAATGAGATGGCTGGTTAGAGCATGA
27053	PUM1	AAATGTTCTTTATACAGCCTAGTTAAT
27054	POLQ	AATATGCACTTAGCACTTT
27055	PGC	GACCCTGCACCCTCCTAGGG
27056	ARCN1	AGCTCACTGCAACCTCCGCCT
27056	CDH17	AGCTCACTGCAACCTCCGCCT
27056	CRTAP	AGCTCACTGCAACCTCCGCCT
27056	EEF2K	AGCTCACTGCAACCTCCGCCT
27056	PCDHB9	AGCTCACTGCAACCTCCGCCT
27056	SLC15A1	AGCTCACTGCAACCTCCGCCT
27056	SS18	AGCTCACTGCAACCTCCGCCT
27057	DUOX2	CTCAAGCCATGGCAGGCGTGG
27058	FCAR	TCTCCTGCCTCAGCTCCTCGAGTA
27059	RNH	GGCATCAGTGCTGCTGCTTCCAGGG
27060	RXRA	TTCGGGGCCACCTCCAGGCTGCAG
27061	RAB27A	TTATGGCTTTAGTTCACTGTGAT
27062	SLC7A5	AGCCTGGGGACCCCACTTCAGA
27063	TRPM6	TGCAACCTCTGCCTCCCGGGCT
27064	ZNF74	TGCAACCTCTGCTTCCCGGGTT
27065	LAD1	AAGGGGAGGGGCGCCAGGTGAGGC
27066	AKAP13	ACTGGCTTCGTATTTTATTTA
27067	SIT	CAAACTCCCAGGTTCTCACTTCCT
27068	NFE2L1	GGTTGGCTCTGGCCAGGATT
27069	SGPL1	ACGCAGGAGGTGGAGCCGGCCGGGTG
27070	KLRG1	GTAGTGTTGATGATCCTGGA
27071	HMGCR	ACTGATAAAATACTCTAGCCTGGGCCAGAGAA
27072	SH3BP2	GGTCGTTGTGGGGGTCTCTTGCCT
27073	PIGN	CTGATGGCATCCAGAGTCATTGCTGTG
27074	FCRH1	GCCTCACTGCAACGCCTGCCT
27075	DRD2	GCTAGTGAGCTGGGCATGGTACC
27076	FGF2	ATGCTGAATATTTCTTTGGCTGCT
27077	CYP1A2	GCTTCTCCAGCCTCGGCCTCC
27078	MDM2	AGGCTGGAGTGCAGTGGGTGAT
27079	CHC1	AGGTAAACTTGGAGAGGA
27080	PACSIN1	CCTCCTGTAGCCCCTGCCTGCACC
27081	ATP1B1	CACTACAGAAAAACACAAAAAGG
27082	ANGPT1	CTATTCACATTGTTAAGAAA
27083	YWHAH	GTTGCAATTGTTTAAGAATCATGGATTTATT

27084	HSPA5	CAATATTGTAATCCTAGCACTT
27085	AMT	CTGCTTCTGAGTGACGGACCA
27086	ZNF142	CTGCAAGTTCTCAGTTTCTTCACCA
27087	GAGED2	ACTGTAAAATGCCAGA
27088	SRRM2	TGGGACTGGAGGTTGTATAAGGTGTT
27089	AQP6	TGTTACCCAGGCTGGAGTGCAGTG
27089	FCGR2A	TGTTACCCAGGCTGGAGTGCAGTG
27089	MDM2	TGTTACCCAGGCTGGAGTGCAGTG
27089	NQO1	TGTTACCCAGGCTGGAGTGCAGTG
27090	CYP1A2	TGTCACCCAGGTTGGAGTGCAGTG
27090	PRKWNK3	TGTCACCCAGGTTGGAGTGCAGTG
27091	HOXC4	CCTGCCTGGTCCAGCTGGGACCCTGC
27092	EMP1	CTGGGAGGGAAGTGGAGGTTGCTGTAC
27093	FUT3	TCTGCCTGGGGCCTCACCTGCTGG
27094	MAPT	TCCCCCCAGGGCTGGGCACT
27095	AIRE	CTGGAAGTCCCCGGGAGCCTCT
27096	EVC	TTTGCCCAGGCTGGAGTGCAG
27096	PER2	TTTGCCCAGGCTGGAGTGCAG
27097	PPP2R1B	CTCAGCCACTGTGATGCAGAGC
27098	KLHL1	TACATTATTTTAAGCCACA
27099	HLF	AGATGATTGTTCTTTTGTTT
27100	CD209	GGTCTTGAACTCCCGACCTCAG
27101	CDC2L2	GGTCTCGAACTCCTGACCTCAG
27101	FCAR	GGTCTCGAACTCCTGACCTCAG
27101	MEFV	GGTCTCGAACTCCTGACCTCAG
27101	PDE6B	GGTCTCGAACTCCTGACCTCAG
27101	PIK3CD	GGTCTCGAACTCCTGACCTCAG
27101	RP2	GGTCTCGAACTCCTGACCTCAG
27101	SAS	GGTCTCGAACTCCTGACCTCAG
27101	SH3BP2	GGTCTCGAACTCCTGACCTCAG
27101	SHOX	GGTCTCGAACTCCTGACCTCAG
27101	TNFRSF10B	GGTCTCGAACTCCTGACCTCAG
27101	TRPV1	GGTCTCGAACTCCTGACCTCAG
27102	AVP	TTATCTTGTTGTCACAGGGCTAACCCTC
27103	IHH	CGCCGACCGCCTCATGACCCAG
27104	HSD3B2	GCCCAACTTACTGTCTTCTTCATGTCA
27105	DAAM2	TGTAGCCAGATCTCCAACAGTGCCTT
27106	RFP	TCTCTCATGCTACCTTTTGTGGGCCTG
27107	AGL	TGAACTCCTGGACTCAAGCAAC
27107	BCL10	TGAACTCCTGGACTCAAGCAAC
27108	ATBF1	AATTAACCTTCCGCTTTGTTGCT
27109	ALDH1A3	TTCAAACCAATACTGCCT
27110	CYP4F3	TGGGTGGATAAATTTCTGGA
27111	LAMP1	GCTTGGGGATTGTACACGGGA
27112	B3GALT3	CAAAACAATGTAGAGTTTTATTTATTG
27113	SLC14A1	GCACTCTCCCTTGTCGTGG
27114	CBFA2T2	GGCTCACGGTAACCTCTGCCTCC
27115	TOX	GGGCTGGAAGAAGTGAAAGGG
27116	RNF3	ACCCTCCAGGTGTCCTTCGCA
27117	ACPP	CCTCCTAACTCCTGCCAGA

27118	GLO1	CTGTTCCTTTTCACCTAACTGT
27119	TM4SF4	AGCATGACGACTACAATTTCTTTTCAT
27120	HIP2	ATCACACACTAATGTAACCATTTT
27121	SLC17A4	GGACAGTGACCCATGATATC
27122	FBLN1	CAAAGCTGCAGCCAGCAT
27123	HMMR	CAGCTTGATCCTGGAGGTC
27124	FGFR3	AAAGGCTGGTACAACGGAGG
27125	GAS	TGAGAGGCACCAGGCCCAGCC
27126	RAD51C	AGGTTGGCAACATTGTACAA
27127	CTSS	TGCAGTGAGCTTGTAATTGCACCACTG
27128	GRIN2B	TGAGAGAGGGGGATGTTTCCT
27129	CPD	TGAGGAATGCTTGCAATGCTCAT
27130	CLASP1	GAGTCTCTCTTCCTCCTCAGCG
27131	TNFSF15	CATTGCACTCCAGCCTGGGTAACAAGA
27132	ARHGEF1	ACCCCCACCCACACAGCTGCC
27133	SIAT1	GCAAAGCAGTGGACAACACAGAAC
27134	FCER2	AGGACAGACACAGGCTCCA
27135	TMOD2	CCATTTAAATGTGCATGGCCC
27136	COLQ	TCTTGACCTCTTGGCTCTCTCTG
27137	CREBBP	CTGTAAGAATGTTTAAGGTTTTTA
27138	VDR	AAGAATTGAACCCAGGAGGTGG
27139	AIPL1	CTATAATCCCAGCTACTTGGGA
27140	STK38	TGTTTCACAGCTGCCACCAC
27141	WNT5B	CGGGGAGGGGAAGCTTGAGCTGC
27142	EMR1	TCCTGCAGGAGCCTACCCTG
27143	IKBKAP	GTAAAATGATAACTTACCTTA
27144	CML66	TGAAATGCTTCAGGGATTCCATA
27145	PAX5	ACTGCTGCTCTCCCGGCTTCCC
27146	P53AIP1	GAGAGAGACTCCATCTCAAAAC
27147	ABL1	GAGCTGCCACTGGGCACCTCGCGAC
27148	COG8	CCCAAAGGAGTGGACATTTCCTAAC
27149	HAS3	TCTCTCTCATGCCTCCTGA
27150	EMP1	CAGACTTGGCCTCCAGCTGTTCTTAG
27151	NDST1	ACCAGCCTGTGGACTGCGCCCCTGGC
27152	QDPR	GGGCTGGCAGGAGCAGGATGGCGGC
27153	BTG1	GTTAGCACCAGCCAGCTCTCT
27154	DGCR2	CTCCTGGGCAGTGGTTTTGTTGCCTG
27155	GLS	TCTTTTTCTATGAGCACACTCT
27156	ACTN1	TTGCTCAGAGAGAAGGTGGA
27157	FGF23	GGGGAAAGAAATCAGGGGACATGTTAT
27158	CAMK2A	CAGATCGCTACCCCAGGCTGAG
27159	KCNA3	CACCATGAGTTATTTGGTTTTTGA
27160	PRKCN	TGTGAGGTTACCATTATGTGATGTT
27161	TMOD3	TACTGCACTTGTCTGATGTGA
27162	ZNF195	TATACTAGATGGAAGACTTGCA
27163	CXADR	TAGGTGAAGACATGGGTGAA
27164	ARG1	ATAGAGTGGGACTCTTGGAATCAGGAG
27165	SCN8A	AGAGAGGCTGCCGGGACCAG
27166	MTMR4	CCAGCATTGGTGAATATTCA
27167	ZNF18	GAAGGGGAGAAGCATAGAGGGC

27168	SURF5	GCTTGAGGCTCAGCCATGGCCC
27169	ZHX1	AGCTGATTTCCTCACTCAGACAGCTG
27170	SLC10A2	AGAGTCTATTTCAAGTGTTTG
27171	ITGA4	GGAAGTGTGGGGAGGAAGGAAGTG
27172	KCNQ2	GCACAGATCACACACATGCAC
27173	GFRA1	GGCTCTGCTCGGAAATCGTCCTGGCC
27174	RPLP0	AAAAAGCAACCAACTTAGCCAG
27175	RBM8A	TCATAGCTCACTGCAGCTT
27176	S100A3	GAATGAGGGGTAGAGCCACTCTGGG
27177	COG3	TTTTCAAACACTAGTCTAGAGG
27178	MGAT3	CCCAGCGCAGTGCCT
27179	MCL1	CTCTAATTAGCTTTCCCAG
27180	MS4A1	AATCTTGTTCTTGCTCTCCTCA
27181	PDE4A	ATTATACAACTGTACCATAGTC
27182	UBE2L3	CTTTCTTCCCTACCCTTGCCA
27183	PCDH1	ATTGTTTCCCTCATGGCCGACCAG
27184	ATP1A1	ATCACAACTTCCAGCTGCTATC
27185	PIGK	TCCAGTTTTGTATTTTGTGTATTATAAA
27186	CLECSF11	TGTGCGGTGCCCTCCTGCCTCAG
27187	EZH2	AAAGAACATGCAGTTTGAAATT
27188	FGF5	GGCCTCCCCAAAGTGCTGGGATT
27189	ASK	TGCCACAGGATCCCAGCACTTTG
27190	VPS26	CACTAAATGTGGAGTGTAGG
27191	SEDL	TGTTGTCCAGGCTGGAGTGCAA
27191	SLC15A1	TGTTGTCCAGGCTGGAGTGCAA
27192	SOX11	CTCCAATGTCTCTTTTGCAAGAGTTT
27193	YWHAZ	TTCATGTATATCAAGCACAGCAGTA
27194	HOXB2	TTCTTCTTCTTCTAAAATATTGGGC
27195	ING1	GCTGTAAAAATGTTACG
27196	FBLN1	TTGCAGACTTGGCTCAGAAGTCACC
27197	CLASP2	GATCACTGCTTGTTGCTGGAGCT
27198	PKHD1	CTAAGAATTGGCAGAAATGTTTTA
27199	TSC1	AGTGGCAGTGGCAGAGAATCCAAA
27200	CRYZL1	TCCATGGAAGCTGTTCAGAAAAATCAA
27201	STE	GTTGCCTAGGCTGGAGGACAGTGGCAC
27202	NUMBL	GGGCCCAGGAGGCGGGGAGGGAGG
27203	PDC	TTATTAGCATTTCTTAGTAT
27204	IGLL1	CAAACAGAGCAACAACAAGTACGCGGC
27205	PDCL	ACCAGTCTCTTTATTTTTATT
27206	TP53BP2	ATCTCAGTAACAATGAGCAGCA
27207	SLC22A3	TGCACACATCCCTTCCTGTG
27208	MB	GCGCCATGGGGCTCAGCGA
27209	ZNF45	AGAAGTTTAGGTGTTTGGACCAAGGTCA
27210	OPA1	CTTATATTTTGCCTGTGCTTGATCA
27211	PTTG1IP	ATAAGCCTTTTTGACTGTGTACA
27212	SNCA	TCAGCATTTCGGTGCTTCCCTT
27213	GPR35	CCCGTCCTTGGGCTGACAGGTG
27214	ZNF3	GGAACCTCAGGCCCTGCTTGACAGTGC
27215	ETV5	GGGAGTGGGAACAGGGAGGGGCAGA
27216	MVP	TCTTGTGAGCCCTGGGCTTAGG

27217	AF3P21	CCGAATCTCTTTTCTCTGTAAA
27218	RPS6KA1	CCCTGCGGTCAGGCTGG
27219	CCNF	CGGCTGGAGTGCAGTGGCATGAT
27220	CDH10	AGCATTTTCCTGCCAGTCA
27221	TEP1	GCCATTCTTGCCAGGAGGAGGAATGAGAGT
27222	TNFRSF1A	AGTGGGTGGTTTGCGAGGATGAGGGACGCTAT
27223	DBY	CCTTGAAATCACACAGCTTGCA
27224	FCAR	GCTCTGTCACCCAGGCTGAAGTGCAGT
27225	WTAP	TCTTAACCTTGAGCATAGTGAC
27226	CACNB1	TTGCCTCTCGTGATTCTGTTTGTT
27227	SLC7A8	CCAGCCCTGCCCCTGCCTCCTGC
27228	RAP2A	CTTGCAGAATGCGTGGTGTTAATCTAC
27229	GEM	GGAGAAGGGAGAGAGTGGGAGTTTC
27230	CAPZA2	GAATGCATAGATGAACATTGCATGACCGG
27231	PTPRO	ATGGGTGGTCACAGGGAGAAACA
27232	FBXL7	CCTAGCGAGGCACCAGCACA
27233	SHC1	ATGTACAGAGTGGCCCCTCACCTGG
27234	ABCD1	CTCTCAAGGCCCTGACCTCAG
27235	WHSC1L1	GGCCTCCCCTTCCCATCCCACCTCC
27236	MEF2A	GGGCCCCCTACTTGTTTTA
27237	FGFRL1	GCACAGATATGCTGTCTGGACAGGCAC
27238	MYLK	AGAACCTCGGCTCTCAGGAG
27239	RGS16	ACTGTTCTCTCTGTACCATG
27240	PLAG1	TAATATATTTTTCTAAGGGTCA
27241	IL1RAP	TAGAAGCCTCACTCTTGCCCCTC
27242	HAS2	CTTCCTGGGTTCTGCTGAGTCTTCC
27243	RAB18	CACAGTATTCAGTTTTCTCACCT
27244	NCYM	GCCCCAGGCTCTCCGACCCAGCT
27245	LCP2	TCCTCCTGCCTCTGTTGCCA
27246	SLC20A1	AACAACAAAAATATAACTACAACTTCC
27247	MADH1	AGAAGTTAAAGAGACTTCTCTGTAAAT
27248	CASP8	CACTGGTTTGAAGTGCCCTTCCCTTGC
27249	TCF7	CCATCTGCTGCCCCGCTTCCCC
27250	MID1	ACTAAAATGGAGAGCAAGACAG
27251	FBXL7	TTGCCAGGCTGGATGCTGTCGTCTCT
27252	FXYD2	GCTGCTTCCCTCACCTGCCTGCCTGTCT
27253	PKD2L1	CTGCAAGAGGCTGCCTCCTGGTCCACT
27254	PKD2	GAGTTAGCAACACTGTTT
27255	AKT1	GGGGGCCGGGCAGGTCCTGCCCAT
27256	GGPS1	TATTCCGTCAATAAAAAAGA
27257	DVL3	TAAATTCTCCTGGCTCTCCTGGGCT
27258	SIGLEC6	CATTGTGTTGGGGCCCAGGAAG
27259	CXCL16	TCATCCAGGCTGGAGTGCAGT
27259	FANCE	TCATCCAGGCTGGAGTGCAGT
27260	YWHAG	CGCAGCCGCCGCCTCAGCTGCTCGCTC
27261	CNGB1	AATACATGGGAAGCTTTGCTGAA
27262	SLC17A5	GTCGCCCAGGCTGGTTTTGAACTCC
27263	CYP4A11	TCTCTCAAACTGTCTTTTCTCA
27264	ABCA3	TCCCTGCCTCTCCAGGACA
27265	EHD1	CTGGGCCTGGCGGGGGAGGCAGGGGTGAG

27266	TFDP2	ACACAGAAAGCATGCTTTCTG
27267	DLG1	CTCTTCAGACAGCCCGAGCCTTCC
27268	FAAH	CCCCTCTGGCCCTGCCAGCTGC
27269	PACSIN1	CTTCTAGGCCTCTGGACCGCAGAT
27270	ASK	ACCATCCTGGCCAACATGGTGA
27270	HM13	ACCATCCTGGCCAACATGGTGA
27271	SDHC	TTAAAGGACAATTCTCTTTCA
27272	HTR7	CAGCTTCTGTCCTTTCTTGGG
27273	KEL	CTGCTTCTGTTCCAAAAATAAAAGCTG
27274	IL5RA	CAATCAGGAATAGATTTGCCATGAAG
27275	NRBP	AGCAGCCGCCTTCTAGTTGGGG
27276	IL17BR	CTGCAGCCTCCACCGTGCTGAGGT
27277	TRIM34	GAGAGAAACTCCTACTCTTCTGTAAG
27278	PRDM2	GGACATCTGAATCTCCATCTC
27279	MAPT	TGGCATCCTTCCCTCTAAGCC
27280	NR2F2	CCTAGCTTTTAAAAAATATT
27281	IER5	TGCACCACTCCTTCCCCAGGGTT
27282	ATRN	CTCCTGTGTGCCTCCTGCCATCC
27283	TOX	AGTTCACAGTTTATTGTTTGTCTGTT
27284	FBXL11	CATCCCTGTCCCTTTCTGGCC
27285	ARCN1	TAAAGAAGACGCCAATGATGGCTGAA
27286	SOX11	GGGAGGCGGGAGTCGGGGG
27287	F13A1	GACTGCAGCCACTGATTCTCTCTT
27288	RPA3	TTTCACACAAAAGGAAAATGA
27289	PTCH	GGCAAAAGCTAGACTCTCCTCGTGTC
27290	PTPN13	TATAGGGGATACTTGAAACCAGT
27291	RPP30	ACTGCAACCTCAATCCTGGG
27292	TGFB3	TTTCCCCTTGGACACTTGGTT
27293	CST2	GTACACACACCCCCACCTCCTGCAAT
27293	CST4	GTACACACACCCCCACCTCCTGCAAT
27294	CSNK2A1	CCTCCTGGTAGGAGGGGGTTT
27295	SCAP2	TGCAAAGCATTTTACCGTACAAA
27296	IFNA14	ACCCCTCATCAACCAGCCCAGC
27297	ASGR2	GGACTGAGATCCCACCTCC
27298	LIMD1	GGCAGGAGGGAGAGTTCCTGTGA
27299	MGEA5	AGAACTCCACCATTGTGGGCTTTGA
27300	GALNT3	CAGAAATTCTGCAAGTTTCTGTTTC
27301	MXI1	CTGAGCCACAGCAGCATTTTT
27302	PTPRN	CAGGAAGGGAAAGCCAGAAGGGGCACG
27303	STAT3	TGCAGTGAGCCAAAATTGCACCACTGC
27304	KCNQ2	GCACACAGACCACATAGCACAC
27305	LTB4R	CATTCAGGCTGGAGTGCAGT
27306	KLF15	GCCTGGGAGGTGTGAACCCAGGGCCCGCCA
27307	DRP2	GGGAGAGACAGAGGGAGAGTGTGCATA
27308	TNFAIP1	ACTCTTGGCTGTGTGCATTTT
27309	FBN1	CAGCCTCAGTGGCCAGAGGATCA
27310	SRC	AAGAGCCTTTCCAAAGAGGAGCGATGG
27311	PYCR1	TCCCAAACCATGTCAGGACCACCTT
27312	FGFR2	GGCTTCATTGAGAAACTGGGAAAAGTT
27313	ITGB7	AACTGGAGGGTGAGAGGAAGGGTGGG

27314	FGFR1	TGGAGGGCAGGGAGTGGGAGCCAA
27315	GARP	ACCATGGAGTCATGAGCTGTCT
27316	RGS3	CTGCTGCTCCCTGCTGC
27317	LILRA3	CATCCACAGAGCAGTGCAGTGG
27318	GRIA1	CCAAAAACAACAACAAAATGA
27319	STARD4	GGTCTTGAACTCCTGGCCTCAAGTCAT
27320	SLC21A2	CTTCCCTACCTCTTCCTCCCAGAGTCCTC
27321	CA11	TGGGGAGGAGAGGAAAGCTGGAA
27322	SLC22A3	TTTAACAAATGTCATAGCTATG
27323	IL19	TAGAAGCTGCATGTCAAGACCCA
27324	AP2B1	GCTCATTTCAAAAGCAGAAAAAGACAACAA
27325	CD79B	GGCCCACCAGAGCTGCCATT
27326	ATF5	ACCAGCCTGGGCAACATAGTAA
27326	TTF2	ACCAGCCTGGGCAACATAGTAA
27327	F2RL3	ACCAGCCTGAGCAACATGGTAA
27328	TRPM6	GTCCTCTCCCCATCCTATTGCAT
27329	DVL3	CCATCCCCCTGCCTGCTGC
27330	NDUFV3	TGCATCCTGGAGTGCAAAAATAAA
27331	DTX1	GCTGTGGCCCAGGCCTCCTGGG
27332	AQP6	AGCAACACCCCTCATTCCA
27333	EGFL5	GACAGTCATCATCATTGTTGTGGTGCT
27334	NOTCH4	TACCCATTAAAAGGCAGGCTGGAAGGC
27335	ARVCF	GCCTGAGTTAGCTGTTTACTGACAT
27336	SCD	TCTTCAGCCCAGGCTTTTGC
27337	PTCH	TGGCCCACAGTCTCCCAGAAATGA
27338	SLC4A7	ATGAGTATTGAGAAGCCACA
27339	GGCX	CAGCCAGTCACAGACCCATTCTATGCAATG
27340	ADRA1A	TCTAGAATGCTGTCTCCAGGTAG
27341	STAC	GGCCCAATTAGCATCATCTAGGGGAA
27342	HPGD	AAATTACTTCTTTATTGACTTGTCCA
27343	DDX26	CTCCAAATCTCTTGCTTGTCA
27344	COL18A1	CTCAGAGGCGCACTGTGA
27345	TACC1	CCTTTTAGTGGTATCTGACATATA
27346	DAG1	GGGATCTGACCTGGTGAGATTA
27347	APXL	TGGCAGCTGCTCCTTCGCC
27348	PRSS15	CTATGGCGGCGAGCACTGGC
27349	GIPR	GGATTCTAGGCGGAAGCGATA
27350	DUOX1	TGCTGGCATCTTAGAACCCTCCCT
27351	USF1	CTTCCTTTCCCTGGAGCT
27352	CRI1	GGTTCATTCCAAATAGTTTT
27353	C1QG	CCATTCTCCCCTCCAGGGAGCC
27354	GPR81	GTTGGCCAGGCTGGTCTCGAGCTCC
27355	HIVEP3	AAGCAAGCCCGCCCCTCTGGTGG
27356	ALDH3B1	GGGTGCTTGAGAAACCTACATTTGGAC
27357	CNR1	GTACTAGGCCTACTGGGGA
27358	UMPS	TGGGCTCAAGCGATCCTCCTGCCTCAG
27359	CHST6	CCAGCACTGCGGCCAAGTCG
27360	ACADSB	GCGATCTCAGCTCACTGCAGCC
27360	LTB4R	GCGATCTCAGCTCACTGCAGCC
27361	BPHL	TCAGCACTTTGGGAGGCTGAGGTGGGA

27362	GALR1	CTGTGAAACTGGCTTTATAGAGTT
27363	GLI	GCAGTCCCCTGCACAAGATGCC
27364	RGS16	GACTGTCTCCCTTTCTCTACCA
27365	WWOX	CGCGCACTCCAGCGCAGCGCGTGCGG
27366	NFATC1	CTCATGACAACAGAAGGGAGGT
27367	IRF6	ACAAGTCCTTTAACCTCTGGGCTTCA
27368	LAIR1	CAGCAGACAAGGCCACAGTCAATGGA
27369	DRD2	CCTTGGCCTAGCCCACCCTGCTGC
27370	SHOX2	GAGAGAGACTGGACAGGGTA
27371	INPP5B	GCTGCACTCCAGCCTAGGCAA
27372	SYK	TGCAGAGTGGCCTAGAGCACTCTC
27373	PRNP	TTGGGATGCAGGCTCAGCCCGCT
27374	CPT1B	TCTCGGAACCCTGGCGTCTCTCCA
27375	SCML1	GTTTGGACCTATAACTACAC
27376	MPL	TCCATTTCTTAACAGTCTCCAATCC
27377	KCNAB2	TCATAGACCAAGTCCCGGGGGTCTCCA
27378	ADAR	AAAGGGCAGGTTGTCTTCAAAC
27379	CDH7	CCAACTGGAACTGTGCCTTTTCTCTTGTC
27380	DKC1	CTTGTTCCTGTGCCCTCTTGT
27381	FGFRL1	TGGGCACACAGATAAGCTGCC
27382	ADCY6	CCAAAGTGCTGGGATTACGGAC
27383	G6PC	CCAAGGTGCTAGGATTACAGGC
27384	G1P3	GTCCAGGCTAGAGTGCAGT
27385	CLECSF12	GGCCTCCCAAGTGCTGGGATT
27385	SH3BP2	GGCCTCCCAAGTGCTGGGATT
27386	SIGLEC11	AGATTATACTTTCAATTCAG
27387	TEM7	GCGCAGCCACATTTACCATGTGGGGCT
27388	SRC	GGAGCAGTTCAGAGTGGAGGCGGGC
27389	BAIAP3	GTCACCCAAGGCTGGTGGTCAGTGTGA
27390	CLN5	GGCTGAGATTTTGGAACTAGC
27391	CA14	CTCTCCAAACATGTAGGAGGAAA
27392	FABP6	CACCCATTCTCCTCATCCCTCT
27393	WBSCR1	GGGGCACCCAGCGGAATGTGC
27394	FTSJ2	CCTGCTCTGAGAGCACCACGCAC
27395	PDE4D	CAGGACGTTTGTTGAACAAAACTG
27396	TLR4	CCAGCTGGGTCCAACACTTGTT
27397	LEP	GAGCATCCTGGCCAACATGGTG
27398	HOXC11	GGGGGAGGGGCGACAGTAGTGAGC
27399	SYNGR1	ACAGAGGGAGAGGTTCAGGAGTCAGG
27400	CDKN2D	CCTCCAGGGAGCCTAGAAGCTGG
27401	ETV3	AGTCTCTCAAAAGACTTTGTTGT
27402	GBA	CTGGGCCCGTGGAGCAGCAGTGT
27403	PX19	GACCGAGGCACAGAGGTGCGGTGACTT
27404	PCDHGA1	CCCACCCCACTCCAACAGTTCCTCTT
27404	PCDHGA10	CCCACCCCACTCCAACAGTTCCTCTT
27404	PCDHGA11	CCCACCCCACTCCAACAGTTCCTCTT
27404	PCDHGA12	CCCACCCCACTCCAACAGTTCCTCTT
27404	PCDHGA2	CCCACCCCACTCCAACAGTTCCTCTT
27404	PCDHGA3	CCCACCCCACTCCAACAGTTCCTCTT
27404	PCDHGA4	CCCACCCCACTCCAACAGTTCCTCTT

27404	PCDHGA5	CCCACCCCACTCCAACAGTTCCTCTT
27404	PCDHGA6	CCCACCCCACTCCAACAGTTCCTCTT
27404	PCDHGA7	CCCACCCCACTCCAACAGTTCCTCTT
27404	PCDHGA8	CCCACCCCACTCCAACAGTTCCTCTT
27404	PCDHGA9	CCCACCCCACTCCAACAGTTCCTCTT
27404	PCDHGB1	CCCACCCCACTCCAACAGTTCCTCTT
27404	PCDHGB2	CCCACCCCACTCCAACAGTTCCTCTT
27404	PCDHGB3	CCCACCCCACTCCAACAGTTCCTCTT
27404	PCDHGB4	CCCACCCCACTCCAACAGTTCCTCTT
27404	PCDHGB5	CCCACCCCACTCCAACAGTTCCTCTT
27404	PCDHGB6	CCCACCCCACTCCAACAGTTCCTCTT
27404	PCDHGB7	CCCACCCCACTCCAACAGTTCCTCTT
27404	PCDHGC3	CCCACCCCACTCCAACAGTTCCTCTT
27404	PCDHGC4	CCCACCCCACTCCAACAGTTCCTCTT
27404	PCDHGC5	CCCACCCCACTCCAACAGTTCCTCTT
27405	ENTPD1	GCAGATACTGTCTCTTTCA
27406	ESRRG	GCCTTTCAGGATGATGGTAGAGCAATATT
27407	DISC1	CACCCAAGTTGGAGTGCAGTGG
27408	GPM6B	GAAATATCACTGACACTCCA
27409	KRT16	CTGCCCACCAGCTGGCCTCACCTCCTG
27410	LRP4	TGAGAGAAGAAGGAAGAATCAG
27411	TNFRSF10B	CTCGCCCAGGCTGGAGTGCAACGGT
27412	PCDH11X	GCCTTTTTTCTCCCTTTCGTTTACC
27412	PCDH11Y	GCCTTTTTTCTCCCTTTCGTTTACC
27413	ESRRBL1	AGCAAAGTACACCCATTATTTA
27414	PPP1R2	TTAAGTACCAAAATGCATACCA
27415	G2A	AAGCTTATCTTAGAGCCAC
27416	MECP2	CGATGCAGACAGGGGGCCAGA
27417	NUP153	GGCTTTGTATAGAACCTCTTT
27418	RANBP3	AGGGTCTGAGTCCTCGTCCCAGGA
27419	WHSC1	TAACTGATAGATGCATTAGA
27420	COPA	TGAGATCATACCACTTCATTCC
27421	AHR	GTTAACTGCAACCTTGTTT
27422	BRCA1	GTCTTCCTGGAAGTAATT
27423	NCALD	TGGAACCTAGAGCTGGAGTGAGG
27424	IL18RAP	AGAACAATGCTCTGTTTGGGCTGGAT
27425	INHBA	AGACAGTGGCAAAATGAAGA
27426	BCL11A	TGCTTGTCACCAGCACACCTGT
27427	SCA7	CCTCCACTCAGCACTCTGGACTCCACGA
27428	RAB6A	TAGATTTTGCTTGGGTTTTCTT
27429	PLAGL1	AGCATGCAATCATTTCCATCTTA
27430	MOCS1	CCACCCAGGCCTGGAGCTGGGATG
27431	EZH1	CCCAGCTTCAGTTCATGAATACTCCTGTTC
27432	FAT	TCAAACGAAAAATCAGTCCT
27433	NT5C2	TGCCCAGGCTGGAGTACAGTG
27434	PRKY	CTCTCCTCGACAAGTCATGCT
27435	SLC19A2	ATGAAGAGACTTAAGAAAGCTT
27436	GOT2	CTCTCATCTCACACTGTGAGTCCA
27437	DXS1283E	TTCCATGGAGAATATGTGGCATG
27438	RNMT	CACTTCTGTGGGAGCCGTG

27439	TCTA	TTCTGCTACTCCCCAGACCTCAGGGACAACT
27440	COL19A1	TCAGCTCTGTACACATGATATGCA
27441	HS2ST1	TTTCTGCTGTAGTTGGATTTGCCCATA
27442	OPHN1	TGTGTCATCTAGCATTAGGTATA
27443	EFNB1	ACTTTGACCCCAGTTCCTTGCCA
27444	CR1	GCGTAATCTCGGCTCACTGCAAGC
27445	RPS7	AATTGTAACAAAAATGACTA
27446	MECP2	TTCCCAGGGCAATAAAATGACCATGG
27447	TFE3	CTGCCCAGGCAAGGAACAGAAGTG
27448	TCF7	CAAGGCCTGAAGGCCCCGG
27449	MAML1	TGGAGAGAAAAGAGAATGCTGAA
27450	GCNT2	AGGCTGAGGTTAAGGTCTTAGAGCCGA
27451	AQP6	TGGGAAACACGACTCGTGGTTCT
27452	CSHL1	TGTGGAGGGCAGCTGTGGCT
27452	GH1	TGTGGAGGGCAGCTGTGGCT
27452	GH2	TGTGGAGGGCAGCTGTGGCT
27453	CEACAM1	GCTCACTGCAGTGCTGATGTATTTC
27454	GAS7	TGGTTTGTTCCTTCTCCTTGCC
27455	RAGE	AGGGTGACAGGGACACAACATGGC
27456	PDGFRB	GTCAGCCAGGCTGCCCTTATCAGCTGT
27457	NCYM	GTGCTCCTCCCGCCCTTTTGGA
27458	LNK	ACCGGGCTGGAGTGCAGTG
27459	CYP1B1	CCCTCATTGTGTTTCTACCG
27460	LFNG	TGTGAGTGGCTATGATCCTAGTT
27461	RAD50	TACTGGAGATTTCCCTCCTGGA
27462	PIGA	AATGCAAAAGCAAGAGTGCAAT
27463	ABCD1	CAATCCTTCCAGCCACCTGCCT
27464	SUDD	GACCAGCCTGGGCAACATGGCG
27465	GPC1	GGGCCACTGACCCACCTGCGC
27466	P2RX7	AGGCTGAGACAGGAGAAACACT
27467	RBBP6	CCTCCATCTTACACGTGTTTCCG
27468	STARD4	CTGTTGCCCATGCTGGAGGG
27469	P53AIP1	TCCAGGCCTTTCCTTCCTGGAGCCAC
27470	MGAT1	ACGAGCCCTCCTTCTATACCTGCTC
27471	CPS1	CTCTCCAGGCTGGAGTGCAGTG
27472	GABRE	TCTCCATCTACTTTTTGTCACCA
27473	CPNE7	GTGCCCCCACACCCACCTACCCT
27474	P2RX7	CACTGCTCTCCAGCCTGGGAGGCACAG
27475	NDRG3	AATCATAATTGCCGTCTGGACCA
27476	RAB26	GAGGGAGGGCTGGGGCTGGC
27477	SCG3	ATATGTTGCTTTGAAAAAGCCT
27478	RPE	TCTTTTTTGTGTTTCTCTAAAGTC
27479	GAA	CCTGCTGCTCTGCCCCAACGCGACCGC
27480	C20orf1	GGGGAGCCTCACAGCAGCCACGCAGC
27481	AMBP	TTCCCCAGCCTCAGTTCACAGCTGCC
27482	MME	GGAACAACTCTCCAGTGCCTG
27483	WHSC1	GGAAAGTTCTTGACAGAGTCTGTGTCC
27484	ADRA2B	AATCGGGGCGACAATAGCTCACTGCCTAC
27485	DKK1	CTGCCTATTTTTCCTCTTGTT
27486	CDKN2B	GTGGCTCTCAGTTAAAATGTGA

27487	TGFB1	CTCCTCCTGCCTGTCTGCACTA
27488	TNFRSF9	CACCTTCTGCCTTTGTCCTGCTCCC
27489	SERPINB9	AACTGTTTTCCACAGCAGTT
27490	ALPI	CTGCAACCCACCCAAGGAGG
27491	FDFT1	GTCATGAGATCCTACTTAGT
27492	PCTK1	CCTGCTGCCTGCCCAAACACCCCA
27493	FANCG	ATTCCTATATAATTCCTGGACTGG
27494	PLAG1	TGCTATCCATTGATGTATACAAGTACC
27495	TRH	CCCCCAGGACCCAGGATCTTCTCC
27496	HAP1	ACTGCCCAGGCTATGGGGACAAA
27497	KLHL3	CTCTTCTGGATTTGTCCCATG
27498	PPP1R12B	GTCTGAAGCTGCTGGGCTCAAGCAATC
27499	OPCML	GCAGACCTGCCCTGCCTCAGTTGGA
27500	SP110	CAGGACCCAAACCCAGACACTTCA
27501	INPP4A	GTCCAGGCTACTCACTTTAGTGACTA
27502	DGCR2	CAGAACTGTGTGTGCGGGACAGGGTG
27503	POU4F1	TTGCCTCCCCTCGGATTTGGA
27504	TTN	AGCAAAACTACACAGTCTTGACTGTGT
27505	PSMC2	TTTAAATTGGAATCCTAACCTTA
27506	MUC3B	GCACATCTCCAGGTCTCCATGTGCACA
27507	ACADSB	GGAGTAAGTGCCTTGCGTGGG
27508	PPP5C	AGAGAGGAAGGAGGTGGAGCAGC
27509	CBFA2T1	TTTAAAAATGGTGGCTTCAGCT
27510	PPIL1	TTGCTACCCTCTTGAGCAGCT
27511	DMXL1	TGCTTTTAATCTCAAAATTCTG
27512	TNFSF15	CCCAGATCGCGCCATTGCACTC
27513	NPC1	GCTCACTGACACTCTGTAAAGGCCAA
27514	PXN	TTATCCTTATTCCTCCCCCG
27515	NCOA6	GGGATTACAGGTGTGAGCTACT
27516	TNXB	CGGGGTTGGGGACAGAGCAGGT
27517	TNNT3	TCTGTGTCCTTGCTGCCTTC
27518	VWF	AGACCTGATTGAGCCTTTGCAGCA
27519	AICDA	CCAGCACTTTGGGAGGCCG
27519	AIPL1	CCAGCACTTTGGGAGGCCG
27519	ALDH3A2	CCAGCACTTTGGGAGGCCG
27519	ALDH3B1	CCAGCACTTTGGGAGGCCG
27519	ALPP	CCAGCACTTTGGGAGGCCG
27519	ASK	CCAGCACTTTGGGAGGCCG
27519	ATM	CCAGCACTTTGGGAGGCCG
27519	ATP1A2	CCAGCACTTTGGGAGGCCG
27519	BHMT2	CCAGCACTTTGGGAGGCCG
27519	CD28	CCAGCACTTTGGGAGGCCG
27519	DBT	CCAGCACTTTGGGAGGCCG
27519	DDOST	CCAGCACTTTGGGAGGCCG
27519	DMC1	CCAGCACTTTGGGAGGCCG
27519	EGFL5	CCAGCACTTTGGGAGGCCG
27519	FANCD2	CCAGCACTTTGGGAGGCCG
27519	FGFR2	CCAGCACTTTGGGAGGCCG
27519	FKRP	CCAGCACTTTGGGAGGCCG
27519	FUT6	CCAGCACTTTGGGAGGCCG

27519	G2A	CCAGCACTTTGGGAGGCCG
27519	GNE	CCAGCACTTTGGGAGGCCG
27519	GRAF	CCAGCACTTTGGGAGGCCG
27519	GRM6	CCAGCACTTTGGGAGGCCG
27519	HUNK	CCAGCACTTTGGGAGGCCG
27519	IFIT4	CCAGCACTTTGGGAGGCCG
27519	IRAK4	CCAGCACTTTGGGAGGCCG
27519	KAI1	CCAGCACTTTGGGAGGCCG
27519	KCNA7	CCAGCACTTTGGGAGGCCG
27519	LAMP2	CCAGCACTTTGGGAGGCCG
27519	LDLR	CCAGCACTTTGGGAGGCCG
27519	LILRB1	CCAGCACTTTGGGAGGCCG
27519	LRRC2	CCAGCACTTTGGGAGGCCG
27519	MOG	CCAGCACTTTGGGAGGCCG
27519	NT5C2	CCAGCACTTTGGGAGGCCG
27519	PCDH11X	CCAGCACTTTGGGAGGCCG
27519	PCDH11Y	CCAGCACTTTGGGAGGCCG
27519	PKD2	CCAGCACTTTGGGAGGCCG
27519	PTAFR	CCAGCACTTTGGGAGGCCG
27519	PTGIS	CCAGCACTTTGGGAGGCCG
27519	RAB3B	CCAGCACTTTGGGAGGCCG
27519	SLC14A2	CCAGCACTTTGGGAGGCCG
27519	SLC26A4	CCAGCACTTTGGGAGGCCG
27519	SMG1	CCAGCACTTTGGGAGGCCG
27519	STAT3	CCAGCACTTTGGGAGGCCG
27519	SWAP70	CCAGCACTTTGGGAGGCCG
27519	TEP1	CCAGCACTTTGGGAGGCCG
27519	TSNAX	CCAGCACTTTGGGAGGCCG
27519	UPK1B	CCAGCACTTTGGGAGGCCG
27519	WIG1	CCAGCACTTTGGGAGGCCG
27519	ZNF36	CCAGCACTTTGGGAGGCCG
27520	CA3	TTCACTACATTTTTCTTTGCA
27521	SLC16A2	TGGGAGCCACTGGGTGGAGGGGC
27522	CD1D	GGGTGCCTGCTGTTTCTGCTGC
27523	CEP2	GCCTTGCCCTGGCTGAGGGA
27524	GPR62	TGGGTTACAGCCACAGCAGG
27525	ABCB4	GGCTTGCATGATGGTGGTAGAG
27526	ZNF180	TATCTATTCAATTTCTCAGTT
27527	FTSJ2	TGTGAGCCATGGTGCCCGGCTA
27528	CX3CR1	ATTACACCAGCCTCGTCTTCA
27529	DNASE2	ACATCTGTAACCCCAGCACTTT
27530	TRIM39	TGGAGAAACACCTTGGTTTCTAGGATG
27531	PCDHB11	AAAGTGCTGGGATTACAGGCGG
27532	RAI3	AAAGTGCTGGGATGACAGGCGT
27532	SHOX	AAAGTGCTGGGATGACAGGCGT
27533	USH3A	ACCTGTAATTCCAGCACTTCA
27534	IRS1	ACCTCATATCTTCCTCATCAG
27535	COL4A4	CTGAAAACTTCATTCTTGGGTTAACA
27536	MAPK7	CCTGAGCCACCACCGAGCC
27537	SCG3	AAAGTGCTGAATTTACAGTAGT

27538	PAWR	CGCGGCGGAAGAGCGCGCGCCA
27539	TCAP	GGAGGGGGGAGCCAGAGGCCAGGATGC
27540	WNT3A	AGGCCCCGCCCGTCTCTGCTCTG
27541	DLG2	TGAGCTCTCACTCAGTGCCTT
27542	CTNS	GGACTCCTGAGCTCTGCCTCTTCCA
27543	IL8RA	GCGTTGAGCCACCAAGCTGGTGGCT
27544	NAP1L4	CTTCCCTTTCATCCG
27545	NPTX1	GCAGTGTCCAGAACCTTTTTG
27546	ARHGAP6	CCTGGACCTCTTTGCTCGTCCTTC
27547	RAD1	GCTCACTGCAGTTTCAAGTTCC
27548	GYG2	CCCTCGGGGCCTCCAGCGCCGGCTCT
27549	NR1I2	CTGTAGGAGCAAGGGCACAAA
27550	MDM1	GGCATTTCAGAGTGTTGGAGA
27551	GRM6	GACCAGCCTGGCCAATGTGGTG
27552	SCEL	TCCTCCCAGGGAATCACTACAGGCTGG
27553	INPP4A	TCAAGAAGCACATCATCACCAA
27554	ADAM10	CATGAGACGCTACTGCAGCTT
27555	BACH1	TTGAGAGTATATGGGGACCAG
27556	RAP1B	TCCTAGAGTTTGCAGCTGGT
27557	SPTLC1	ACCTGTAATCCCAGCTACGTGG
27558	SCP2	CTAATGTTATTTCTTAAAATTCAGTGA
27559	MCM4	CGGGAGGTTGAGGCAGGA
27560	MYD88	TCTCTGCATGATCTTGTTGAGGC
27561	CPLX2	GCCAGCCAGGAGCGCTGCATG
27562	B4GALT2	CACTGCCTCGCAGAGTGGCCTGGGC
27563	XPNPEP2	AGGAATTTGGCTGTGGAGTAAGAG
27564	ELK4	CTTAAAAAATTCATTGCTCTAC
27565	UBE2E3	GATATCAAAATGTATTTTGTGATG
27566	CALD1	AGATGTTCATGGTAAAAGTACTG
27567	BAP1	AACACAGCCCCATGGCCTCTG
27568	HOXB6	AATACTTCGATGATGATGATGAT
27569	NHLH1	TCCTACCTGGTCCCATCTGCCTCTTTTC
27570	FGF1	CAATTGCCTCTTGCAGGCTGAGTCCC
27571	NCOA6	TCGCCCAGGCTGGAGTGCAGTCGTGCC
27572	LRRC2	CATGGATGGCCATCCAGTCCTGAG
27573	MCP	TCTGTAAATGTTCCTTTCCTT
27574	FMR2	CTCCATCTGAGCAAGTACA
27575	ADCY1	GCTCTGACCCTCTCCTGGGCATTGGT
27576	CYP2B6	GTCACATTGCAAGTGAGTGCAGGAGTGA
27577	HYAL3	CCTCTTCTTTTCCCTGCTGCCACTT
27578	ZNF76	GGGGTGAGAAGACAGCAAG
27579	ITPKB	AGCCAAGAGAAGGCTGAAGCCAG
27580	LILRB1	TATTATGGTCTTTGTGCACATT
27581	DISC1	CTCAGACACCATCATGAAATA
27582	RAB23	ACCCATCCAGCTGTCATGGTAT
27583	CNN2	AGCCTCCTGAGTAGCTAGGACTGCA
27584	LPL	ACATGTGTGGATGTGTAAATGGAGC
27585	FNTB	TCCTGGCAGTGCCTCTGCTGTGCTGCACA
27586	CPSF4	TTGCAGACTTTTAAATAGATGAC
27587	ABCC1	ACCAAATTCAGCCTACTGCCT

27588	SLC25A1	CTGTGAACCCTGTGCCTGTGTT
27589	IL18	ATCGCTTCCTCTCGCAACAA
27590	MYO1D	TGGACCACCTCCCGCTGCGTTT
27591	ARHGDIB	TTGTGAGAGACACTGTAAACGA
27592	VBP1	CCCTTTATCCTTACAGGTTGACATA
27593	ARHC	CTCCTGAGGGCTCCATGCTGAAG
27594	OVOL1	AAATCACTGGCAAAGGGTACCCC
27595	GBAS	TTGTGTATCATATGTGATTTTGAAAT
27596	SLC7A5	ACTGGGAGGGGGTGGGGGATCTGGGC
27597	ITGA5	CCTGAAGCCTTTGCATTTTGGA
27598	RAMP1	AGGGTGAGGCCAGGCAGGCCTGG
27599	RRAD	TGTTTACATGCAGATTTTTGT
27600	F8	GCATGAAAGCATTCTTCC
27601	OTX2	AGGCTGTAAGTTCCACTGCTCCA
27602	PRKWNK3	CTACAGGCGCCAGCCACCATGCC
27603	PLXNA2	GCCTCATATCAATCCCTGTCATAAACCAGGCA
27604	KCNE1L	TCTTTTCCCTCCCTCTCTC
27605	PDE1B	GCATGTGACTCACCCCTGCCCTTGGTTTC
27606	LENG4	CGACTCGCGCTCTCGGCTTCTGCTCCG
27607	IL6ST	TGAACTGAAGTTTCACATGAGCTAT
27608	SUV39H1	TCTGCCTTCACAGTGCAGT
27609	TTYH1	GCTGCCGGAGGAGACCCCACTAACCC
27610	MECP2	ACAGTTCCAATCAGTAGCTTA
27611	BCL3	GCACAGAAGCACATGCACC
27612	FMR2	TGAAGTTGACTTGCTCCAAGCTGCAGT
27613	BSN	TATCATTGCTGTGGAAAAATCTCT
27614	AVPR2	AACAGGCATCTGCCATGCTGG
27615	CROT	AGCGAGCCGGTGCTGCTG
27616	PPP3CC	CATTCATGCTTAGAGTCCTGCC
27617	GNLY	CTCCCTCTGCTGTCCTCCCC
27618	MT2A	GTAAAGAACGCGACTTCCACAAAC
27619	CFTR	ACTTCCAGATCCTGGAAATCAGGGTT
27620	C7	TTGCACAGGCTGGCTGCGTG
27621	NR3C1	ATTTTTTATTGTTTTCATCTG
27622	CLASP1	CACTGTGTTCACACGCATGGT
27623	GRIN2B	GGATTCTTGAACAAACTGGAAAGT
27624	SERPINB13	GTCTTGTCTTCTCATTTTATTGA
27625	ZNF261	CTACATCTTCTCTCTTCC
27626	WWP2	GGAGGCTGAGTCGCAGGACA
27627	GPC6	GCTCCAGGATTCTGCGGCTCGG
27628	ADD1	CTGAGCCTCACCTTTCCTGCCG
27629	ADAM12	GTTTTCCTATGCTTTGAAAC
27630	TNFRSF1A	CACTCCTGTGCCCTCTGCCTGG
27631	DXYS155E	AAGTCCCCGGGAAGGAGCATGACAAGA
27632	GFRA2	GGCAGGGGAAACTCTGGTGCCGGGGA
27633	TEM8	AACCCCCCAGCCTCTCCCCAA
27634	SYT1	GCATTTGCCCATATAGTGCTCTTTA
27635	WHN	ACAGCCCAGCAAGAAGGAGGAG
27636	STAC	TCCCAAACCAAAGCATCATTCA
27637	FN1	TCTTCTTTCTTTCTTAAGCCCTTTGCTCTGG

27638	ARHGEF6	TTCAGGGCATCTTGAAATGTCCCGCT
27639	PRSS16	ATCTGTGTTTTTGTTTCTGGC
27640	MTAP	TACAGAAGAAAAGCAAATGACT
27641	TRAF1	TCAGGGCACAAAGATGGGTGAA
27642	LZTR1	GGCTGAAGGATCCCAG
27643	GPR68	ACAGGCCCAGTCCCTGAGCCCATGAGGAG
27644	ASPH	CCACCTTCCCTCCTCTCCAGCC
27645	XCL1	GGAGAAAATAATCCAGTCTTCACTGGG
27646	GUCY1A3	TTCAGCACCTTGTACATATATCA
27647	MUCDHL	AGAGGCTGGAGGAACAACTGG
27648	SFRS1	ACTCTTCAGACTGTGATATTGTG
27649	CAMLG	TCTCGAACTTCTGACCTCAGGTGATCTG
27650	USP6	GGGCAGCTACAGAGGAGGGTCAT
27651	MMP1	GCCATCACTTACCTTGCACTGA
27652	IGLL1	GGCCACATGGACTGGGGTGCAATG
27653	LDLR	CCTCACGCCTGTAATCCCAGCA
27654	DEC1	CTCTTGCTATCAACTCGCCGCATG
27655	CML66	GCAGATTTAGAGAACATTGGCT
27656	COL4A4	GATATTTTTAAACCATGCTCTG
27657	CA12	CAGGAGGCGGAGGTTGCAGTAAGCCAA
27658	SDC4	GTCTCCTCCTGACCCCAG
27659	RPP30	CTCCGAATCCCTAGTCAACTGGAG
27660	ARHGEF6	CCAGGAGGTCAAGGCTGCAGTG
27661	KCNK3	CTGGGAGGTCGAGGCTGTAGTG
27662	SMARCD1	AGCTTTCGCTCCTTCTCCAAGACTCAG
27663	CD34	CTCTAAGTTCCACTGAGCTCC
27664	ZNF264	ACCCAGGCTGGAGTGCAGTGGCACG
27665	AP2B1	GTCACCTCCCACCTCTTGCCACCT
27666	PKP2	TCAAGACCATCCAGAAATGATATGA
27667	SIM2	TGCCAACAAGCTGAAACCCCA
27668	DRP2	GGGAGAGACAGAGGGAGAGTGTGCAT
27669	SYT1	AGTCAACATTTATGAAATATTGCC
27670	DNMT2	AAACTCATTTTTCCTTCTTCA
27671	CNGB1	GAATCCACCTGCAATTCCTGGCT
27672	EDN2	AGAGGAGGAGAGAAGTGGCCAG
27673	FOP	GGTGCCTTGCATTTCAAAAACAC
27674	MAPK9	TATTCCCTTTTATGCTATGATTT
27675	INSRR	TCCTCAAGGAAGCTTCTGTCATGAAAG
27676	IL4R	TGATTGGCCCCACTGACGTTGGCCTA
27677	KIFC3	GGCTGTGGCTCTGAGTGCAAA
27678	CASP10	CCCAAGTAGCTGAGACTACAGG
27678	CYP1A2	CCCAAGTAGCTGAGACTACAGG
27678	LTB4R	CCCAAGTAGCTGAGACTACAGG
27679	YWHAB	GGGGAGGGAGAGAACTACGAGACCTCA
27680	NEBL	CTTTTCTGTTCACTCACACA
27681	MCM6	TTCCAGGATTTGTTTTCAGAAAC
27682	ZNF268	TAGACTTCTTTGAAATTCA
27683	LPP	GAGGATTGCCTGAGGCCAGGAGTTTG
27684	NEURL	TTTGAGGCAGGTTTCTAGGA
27685	CA3	GTCAAACTTAGGGGGCAGGCA

27686	MUC3B	CTGTAACCCCATCTTCTCTGAGTAC
27687	SIGLECL1	CCACCATTCTCTTCTCTACTTC
27688	RNF18	GACAGTCGGGATCTTTT
27689	SUOX	TCCTCACTTGCCCAGAAA
27690	ZNF2	GGTGACCATAAGTCTCCCAAACAGCCA
27691	FZD7	ACACTACCCTCCAATCTTGCA
27692	PPP1R11	GCCGCTCATCCAAATGCTGCTG
27693	GSTM5	TTGTCTTCTGTTGTCCACAGCCAGA
27694	MX1	CGCTCCACCTTGCAGCTCTCCCCTTC
27695	PAM	TTTGAGACTTTTTGGTGGATG
27696	PCSK2	GGAGCCTCTTCTGCCAAGAGAGGGCC
27697	TNS	GCCAGCCACAGCTGCTGCCTCC
27698	NLGN2	TGTGGGGTGTTAGTGCCAAAC
27699	CASP6	ATCACTTGAACCCAGGAGGTGG
27700	PRX	GCCATCCGGGGGCAACCATGCCG
27701	FTSJ2	TGCCCTGCTGACGTGACTGA
27702	ETF1	TTTCACATGATACATTTAGGGTATGCAGC
27703	CIT	TGCAGTCATCTCTTTGCACTTTG
27704	FCN2	GGTGCTCTCCTGCTGTGTGGCT
27705	MKI67	AGAAAGGGGCAGGGAGGGGA
27706	NXT1	GGAGGAGGAGAGAAAGGCGG
27707	MDK	TTTGTTCTTCCCCACAATTCCAT
27708	CAV1	GCCTCCAAGGAGGGGCTGTAAAA
27709	CCNDBP1	TGAGGTACCTTACCCACCTCA
27710	SH3BP2	CTCAGGAGTCTGACTCCTGGGT
27711	ITGAL	AATACAAAATCCAGGCGTGGTGGCA
27712	SLC17A4	TAAGAGGAATGAACGTGTCTGCA
27713	SLC4A7	TCTGCCTTGTCTCTCTTTGTCTTA
27714	TEM8	TTCCAAATGTATACCTTTGAG
27715	NDRG1	TGTTGTTGTGTTGAGATCCAGTGCAGT
27716	PTPN2	AGGACTCTTGACTGCAGGTTCC
27717	IPP	TGGCCTCATGCCTATAATCCCAG
27718	CPS1	ACTCTCCAGGCTGGAGTGCAG
27719	FGF5	CCTCTTGATAGTCCTGACCTCATGATCTGCC
27720	CYP2B6	ACTGCAACCTCCACCCCCGGG
27721	GUCY1B2	CCGACAGAAACGCAGCAGAT
27722	STK38	CAGCTGGGAGCCTGCTTTCT
27723	SEPN1	TCTGGGAGGGCCAGTTCCACATTGAGC
27724	HYAL1	TGCGTCTCCCCTGCCCTCCTGGAGCC
27725	MUCDHL	CCCCCCGGTGTGGGAACCAGCACC
27726	NEK6	AGGCATTCACTGACCAGGCCTTT
27727	KCNQ2	TTCCAGCCTTGGAGCCCTTCTGTCTCT
27728	PIP5K1B	TCATTGTGCATGCATCCAGTGA
27729	NTSR1	CCTCCTCCCTCCCATCCTCACC
27730	GLUL	GTCCCCTTCTCCATCGCC
27731	CLNS1A	CTCCCTCAGGGCCTGTGTT
27732	TDGF1	TCTATACAAAGCTACTATTATC
27733	IHH	GATGCTGTCCAGAACTGGGA
27734	CDH18	ATTTGCTTCCTGAGTAAGTG
27735	ADAT1	GGCCTGTAATCCCAGCACTTT

27736	SEC22L1	TTTTCCTTTTATAATTTGCTTATTGC
27737	SMTN	ACGGATGCTGGTGGACTGTGTG
27738	CPSF6	TATTTCTTAAGCCATAGTCAGT
27739	SLC26A4	CTCATTCTTTTTTCTATTAAGCCA
27740	FZD4	GAATTGATCCCCAGAAGAAC
27741	ITIH3	TAGACACACCAGCTCCTGT
27742	HHLA1	TTCTATACAACAAATGTTTCTTC
27743	RAD9	TGACCTTTATTCAAGAGACCA
27744	ZNF35	AGGTAATTTTTTAAAAGCCAGT
27745	LAMP2	TCAAAATTGCTTCTAAAACAA
27746	TAGLN2	GTCAGTGCGCTGCTCTCCAG
27747	SLN	TGGGAGGGAGAAGGAGTTGGAGC
27748	CPD	TCTCAAGTGCTTCAGTCTTTGGTTT
27749	G22P1	GCTGTTCTTTACTTTACTGCCT
27750	TYRP1	AGGCTACAACAAAAATCACCATCT
27751	CNGA3	AGCTATGTACAGGGAGAGCATTTT
27752	Rgr	TCTGGAGAGGCTCACTGGGGTTCT
27753	NUCB1	CCCTTCCCCACACAGCCCCA
27754	PFKFB3	TGTGTGACTTATGACTCTCTG
27755	SSX4	TTGCCCTTTTGATTCTTCCACAATCAG
27756	SFRP1	GAGGCTGCTTCCCAGAGGAGCA
27757	PPT1	TGCTATCAATCATCTTATCATCA
27758	FZD3	AGCCATCTTTTCCCATGTAATA
27759	ELMO2	CCCTGCAAGCGCTCAGTCTCATCCC
27760	APOL1	GATTACAGGCGTGAGCCAT
27761	SLC18A2	AAACAGTGTTTCCAGTGAC
27762	CSPG3	TGCTTACACTTTCTCTCCA
27763	LNK	TAGGCCTGTTGAAGGGCCCT
27764	EIF2B5	CATCCAGGCTGAGACTGAAAG
27765	SCN3A	CAGTTTCAGTTACTTCCATTTTCTA
27766	SOX11	TTAGTAAAGTAATAATTTGGCTTCA
27767	DTR	CACTGGAGAGACTTGTGCTCAA
27768	ITCH	CCTGTAATCCTAGCACTCTGG
27769	PLAG1	GCCATGAGGTGTGTTTATCCCACAG
27770	PPP2R1A	CCCAGCACGGTTCCTCCTCT
27771	NPTX1	CCTTGATAGAAGAACCTTGG
27772	PPID	GGCTCACTGCATCCTCTGCCTC
27773	SDHD	AAAACTTTGCAGAAAATTAGACAG
27774	LIF	TGCTCAGAGCAGTGTTCTGGCTTCT
27775	CHN2	TACAGGTACTTGATACAGTTAT
27776	EPB49	TGCCGCCCTCTCCCTGCC
27777	GFRA1	CAGTTCTGCACTCTTGTAC
27778	OAS2	AGGAGTATCCTCTTGCCAAAG
27779	IL1R2	GTGAGCAGCAACAAGGCCACG
27780	ZNF26	CCTGCTTCTCTGATCTGTGTGTTTCCT
27781	TRAF5	TTTCATTCTTCCTGCTGAAG
27782	VIPR1	CCAACTGTTGTAACTAGGCTCAG
27783	CAPNS1	TCTGGGAGGATGACTCCAGTCCCTGCA
27784	SGK	TTTTGAAGAGCACATTCTCC
27785	IARS	CTGGCCTTTTAAAATTTATTTGAGACC

27786	TAL1	ATCACAGGTGTCAGCCATTGCA
27787	GMDS	GGCACCGCGCCTGCCCTCTGCCGC
27788	REGL	TCTCTCTCCATATCAATCTGGACCA
27789	RUNX1	AATTTGGGTTGTGTGAAAACTTCTTT
27790	LAMC1	GGTGGCAAATACTTGCACTCAGTA
27791	PAX5	TGCCAGGTGCCATCATCTCTTTACC
27792	CIAS1	TAGGCTGGAGTGCAGTGGCGTGATCTT
27793	LRAT	TGGCAGAATTCAGCAATATGAGA
27794	CLN2	TCGTTTCTTCTTGGTAAATGATGCTA
27795	RGR	GGTTTATTTTGCTGTGCAGA
27796	POLA	TTTTTAAAAAACATTGACCT
27797	CDKN2A	CTGGGAGCTGGGCCATCGCGATGTCG
27798	BCL9	TCTGTTTCTCTCTCCGATTTTGCTC
27799	TITF1	ATCCAATCTCAAGGAATCTTTAA
27800	EPS8	TTTTGCTTAATGAAAGCCTCAGTTCTG
27801	LAMC2	ACTGGGTGTGAGAATGATCAAGGATC
27802	HYOU1	TCTGCAGAGCCTCAGTTACCAGGT
27803	MAP4	CTCCCCAGCCTGGGCCCATCTC
27804	ASPH	CTGGTGCATAACTTAAAGATTA
27805	CCND2	GTTATTGCTGGTGCAAAGATAGATGG
27806	AASS	TCTGTCACCCAGGCTGGAGTGC
27806	ADCY6	TCTGTCACCCAGGCTGGAGTGC
27806	CDC2L2	TCTGTCACCCAGGCTGGAGTGC
27806	EDG8	TCTGTCACCCAGGCTGGAGTGC
27806	EEF2K	TCTGTCACCCAGGCTGGAGTGC
27806	EIF2S3	TCTGTCACCCAGGCTGGAGTGC
27806	FCAR	TCTGTCACCCAGGCTGGAGTGC
27806	FSHPRH1	TCTGTCACCCAGGCTGGAGTGC
27806	HUNK	TCTGTCACCCAGGCTGGAGTGC
27806	ICAM1	TCTGTCACCCAGGCTGGAGTGC
27806	NEU3	TCTGTCACCCAGGCTGGAGTGC
27806	PDE6B	TCTGTCACCCAGGCTGGAGTGC
27806	PPID	TCTGTCACCCAGGCTGGAGTGC
27806	RAB36	TCTGTCACCCAGGCTGGAGTGC
27806	SEPN1	TCTGTCACCCAGGCTGGAGTGC
27806	TERF2	TCTGTCACCCAGGCTGGAGTGC
27806	TNFRSF9	TCTGTCACCCAGGCTGGAGTGC
27806	TUFT1	TCTGTCACCCAGGCTGGAGTGC
27806	VENTX2	TCTGTCACCCAGGCTGGAGTGC
27806	ZNF264	TCTGTCACCCAGGCTGGAGTGC
27807	FCGR2A	AGTAGCTGGGATTAGAGGCAT
27808	SLC22A7	GTTGACTTCCCAGAATGCAGTG
27809	KCND3	CCCTGTGATACTGCATCTCACTGGGGC
27810	TNFRSF7	CACTTCCTGCTGCGAAA
27811	IL1RL1	CAGGAATATTAAAGGGATTCA
27812	BDP1	GCTCACTGCAGCCTCTGCCACC
27813	ALDH3B1	GGCTCACACCTGTAATCCCAG
27813	DHFR	GGCTCACACCTGTAATCCCAG
27814	CLN5	GCACTATAGTACAGGCTTTTAGCACC
27815	TTC3	TGCTGAGCACACAACAGGCTGTGTGTGGAA

27816	HRG	ATGGAAAGGAGAGGAAAGAACTCAGTG
27817	TERF1	GATCACTGCATTTTGTTT
27818	CYP1A2	GCCTGTAATCCCAGCATTTTG
27818	GGCX	GCCTGTAATCCCAGCATTTTG
27819	LAPTM5	TCTGTTCTGCCCGAGGCTTGTGGTCA
27820	ECHS1	GAGCACCTTCTAAATCTAAGA
27821	IL1RAPL2	ACAGGCAGAGTCTGCACCTGCCGCCTG
27822	PDCL	GTATAAACAGGAAGCCAGGC
27823	RBM8A	CTAGTAGTTGGGATTACAGGCAC
27824	ZNF202	ACGTCCTCCATAAGTGGAGCACAGGGTA
27825	AK1	CCCCTCACCCCCACCTCA
27826	ED1	AGCAATAGGTAGCTGGGGAG
27827	TMPRSS4	GCCAGTGCTGACCAGGGAC
27828	CEACAM1	TTCTCCAGGAGGATTAGCTTGG
27829	DPH2L1	CCGCTTCCCCTTGCCACGG
27830	ENSA	CCCTTTCCTGTTGGTGTCCCAGCACA
27831	CNTN2	CAAGTGTCCATCCAGAGA
27832	COL4A4	CTGCGCAGGGTGGAGGGAGTG
27833	SPS2	AGGAGGACCTGCAACCATCT
27834	CD209	CCAAAATTGCTGGGATTACAGGT
27835	NUMA1	AAGTAGCTGGGATTACAGGCGCATTGG
27836	AFG3L2	CTTGGCGTGTGGGAAGGGATG
27837	SORCS1	CTTTTTAATTCTTCAGACACA
27838	HPS4	GCCCTGAAAGAAAACGCCACTGGCCAT
27839	SOX12	GTCCACCCTCAGTACTCAAGCTGCAGT
27840	JAG2	AGAGGTTGTGCACTGTTTACA
27841	CASP8	TTGAGGTGGGAGGATTTGCTTGA
27842	FHL1	GCATGAAAATATTTTAGCCCCCTCA
27843	GPR86	ACTATTCTTTGGAATTCTCCTTCTGT
27844	SLC22A7	GGGGCTGGGAGAGCAGAAGGGCAGG
27845	COL4A4	TTAAGGTAGTTATTCACAAAAA
27846	MECP2	CCTGAGATGCCTGGTGAGCATTACA
27847	GNAT1	GGGACAAGGAGCTTCCGTCTGG
27848	VANGL2	GGCCAGGGTTATGAGATAGGCCTGTA
27849	TSC1	AGTTCTAGGAGGCTGTGGGTTTTAT
27850	COPA	ATACCTGTAATCCCAGCACTTT
27850	PCDH11Y	ATACCTGTAATCCCAGCACTTT
27851	STAT6	CCTCCTATCCCCACCTACTCCTGGGTC
27852	BECN1	ATGAAATAGAAACTTTTGTCTTTACTG
27853	BRIP1	GCCCAGGCTGGAATGCAGTGGT
27853	IL21R	GCCCAGGCTGGAATGCAGTGGT
27854	SLC6A8	CGGGGCACACCCCCAGGAAGGG
27855	IL1R1	CACTGGCACGTTTGTGAGAAGA
27856	ASTN	TACTTTGGGGTTTGCTTTGC
27857	VHL	AGGCTGAGGTGAGAAGATCATT
27858	NTRK2	CAGAACCTTTGTCAACTTCAG
27859	DIAPH1	TCTCTGGACGCTCTGCACC
27860	SVIL	CCCCAAAAATGTATAGTGCCTT
27861	ZNF3	CTGATTCTCTACCTTTCTT
27862	SLC30A3	TTTGGGGGTCTATCTCTCCA

27863	FOXI1	CCCACCCCAGCACTGCCCATCT
27864	RAB36	TTCTGAGCTAGAGCTGTACTGCCTCAC
27865	TRIM34	AGCCAGGGAAGCAGTGCAATG
27866	MEF2C	ACAAACCTGCAGGCATA
27867	NEO1	GAGTCATTGCATCCTCTACCAGCTGTT
27868	CD8A	GTTAATATGGTGTACATTCTTCC
27869	ASTN	CCAGAGCATCTCTTTGCTGCTA
27870	OA1	TCTACAGCTGCTCTAGCC
27871	CRY2	AGCCCTGCTGAGTTCCTGCTTTCTGA
27872	RGS3	CACCACTGGGACAGGCCTGGG
27873	EZH1	AGCTGCCTCTTACGGTTTGGT
27874	CDH5	CATCCCTCAGCCCCACAGGCACGATCTGT
27875	HUS1	GTGTTCTGATCACTGGTCTGTGCCCTCACA
27876	DLEC1	ACAGGCTGTGCCAACATGTGGG
27877	COL11A2	CTGGGTTTGGCAGGCACTGCTGCTAC
27878	PCDH12	GCCACGGAGTATCACAGGCA
27879	SLC4A7	TCTTATAAGTAGTAGGCGTAAATAAT
27880	CTSS	AGCCTCCCGAGTAGCTGGAATT
27881	BMP8	CCAGGGAGGGGCCTGGGGAAAGC
27882	SRC	TCTCAAATCCCTCTCCAACTGCC
27883	ACK1	GGAGGTGGTGACTGGCAGGCCCGGGC
27884	PKDREJ	ATGTGGTTTATCACTTAAGAGA
27885	FGFR2	AGGGCCCTTCACTTCCATCACAAGA
27886	IL15	AGCTGACTCGCTCACTGCCTTC
27887	UPF3A	TGTGAGTCAGCCATGCCCGCAAAGCGT
27888	MAGEA9	GGAGAGGCCTCCTTCTGAGGGGCGGC
27889	PTPN23	GCTGCCTTTGGCCCTGCCTGGC
27890	ARHGDIB	CCTCCATCAGGGCCAGATCTTCCA
27891	TUFT1	GCTGCCTGGAGATGGTTGCTGCCATTGCTGC
27892	GPR35	TTTACGGCACCCATGCTTTCTTT
27893	GPT	GCCTGGCGTTCCCTCTGCACGGCTGCC
27894	MYCBP	TGGCTGGTGCCTCTTCTAGTC
27895	FMR1	TTTGTTTGGTTATAGTGCAAT
27896	DCN	CTCAGCTTTGAGGGCTCCTGTGG
27897	GJA5	GCTTTACAAATGCCTTG
27898	ATRX	ACACTCATCAGAAGAATCTGAAGAAACAA
27899	IGF1R	AACTTTCTCCCTCATCGGCC
27900	LZTR1	AGGTGAGGACACAGCAGGCCCAGGAC
27901	SLC16A2	GTTCCAGTCACTGATTTTTACA
27902	SLC21A3	GTTATGAAAACCTATTTAATTC
27903	ATRN	CTGAAGCCTGCTATCTTTT
27904	PAX5	GGAGGGGCAGGAGAGCAGTGAGGAGC
27905	SHOC2	TAATGAGAGATTTTATAAGGA
27906	CHAC	TTTTCTAAATTGAATCATGCATCTAT
27907	PIK3R1	CCCACCCCAGTTTTTGTTGCTT
27908	DDT	AATCCTCTTCTTCATCCTCATATGAA
27909	CTGF	ATGGCCTTTATTAAAAACTGAGT
27910	COL2A1	TGTTCTATTTATTTATTGTCTT
27911	FTL	GAGCCCAGCGACTTCTGAAGGGCCCCTT
27912	PKD2	AAACTCCATCTCTACAAAAAA

27913	PPARGC1	ATCAAGAATATTCAAATGTA
27914	CHRNB2	TGGGTGGAGGATGGACGAGTGAG
27915	RIMS1	ATATTGTGTACATGTTACCA
27916	GAS7	TTCTCCACCATGTCAGTCTAA
27917	PPP3R1	GGTGGAGAAAGGGAAGGGGT
27918	TM6SF2	CCTGGGGTCCCTGAAGACTGGCT
27919	TBX5	CTTTCCCTCCCTGGGGGTG
27920	COG2	AGCTGATTTCTAAAATATGATTAA
27921	CCRL1	ATGTGGCTCCCATTAAAGCATTTCA
27922	ADCY6	TACCTGCATCCCCAGCACTGGTCCTG
27923	SYN3	CACCCTCGCCTCACAGCCCCG
27924	TNFSF8	GGAATAAGAAGTCAGACAGAGA
27925	BCLG	AAGGTCCCTGGGACTTCCTCAT
27926	PPP2R1B	GAACAGCTCACCACTGTGCCTACAT
27927	ASB1	TCCAGTGAGGGAGAAAGTGATC
27928	LNK	GCAACCAAAAAGGGAAAAAGGA
27929	PRCP	AGAGTTCCTGGTTGCTTTTCAT
27930	SOCS5	CCTCTAAAGCCCTGCCTGCTATTGGTC
27931	UGDH	TAGCATTTCTTTCTCTCCC
27932	DRD1	CTGTTCCCAGCAAAGTTTTCAGATTGT
27933	ATP6V0D1	GTGGTCTGTGACAAGCCTGTGGCTC
27934	HTR2C	TTGTACTTTACAATCATGCC
27935	CYP2C9	AGTTTCCTATGTTTCACTGTGCA
27936	FSTL1	CACCCCACTCTGTCTTCATAT
27937	TFF1	CCCAGCACGGTGATTAGTCC
27938	NOX1	TTGATAGCAGAGGTTTGGTGG
27939	JUN	GTGCGATGTTTCAGGAGGCTGGAGGAAG
27940	ATF5	TATGCTTGTAATCCCAGCACTT
27941	NR2E3	AGAAATGTTGATTTTGATCTGGGCAGT
27942	TMPRSS3	TTCCTGACGAGATAAGCAGTT
27943	RBM6	TTGTTACTGTTCTTGCTGCTA
27944	DAAM2	TTTGAGACTGGCCCTGCCTAACC
27945	CLECSF5	GGATGATCTTGTTAAAACATTAAA
27946	TBX6	TGGCTCACGCATGTAATCCCAGCACTC
27947	CRSP6	CCAAAGTGCTAGGATTACAGGC
27947	IL12RB1	CCAAAGTGCTAGGATTACAGGC
27947	PTGIS	CCAAAGTGCTAGGATTACAGGC
27947	SEDL	CCAAAGTGCTAGGATTACAGGC
27947	SERPINB9	CCAAAGTGCTAGGATTACAGGC
27947	XRCC2	CCAAAGTGCTAGGATTACAGGC
27948	VENTX2	CCAAAGTGCTGGGATTACGGGC
27949	CCND1	CCTGCAGCCAGCTCACGTCC
27950	ALDH1B1	GATCTTGAACTCCTGACCTCA
27951	MAPK1	GCAGCCGCACCAGAGAGAGATTCTTCC
27952	FOXD2	GGGGCAGCAGCCCAGGCATCCGCTCA
27953	HTR6	GCAGGGATCATAGCTGACTCA
27954	ZNF134	CCTTCTGTATGACAGGTATAGGT
27955	NCSTN	CACAACCACTAATTTGTCACTGGA
27956	CAPNS1	TGCCAGACCCAGGTGCCCCAGTGCCTT
27957	WHSC1	GGCTGGCTCTCGGCCCTGCCCAGC

27958	NRCAM	TCTTTGTGACATTCTCTCTCA
27959	ASPH	AGAAAAATTAATATTTCAGTGAA
27960	ST7	CTCCTCTGTGCCAACTCCTTGTG
27961	ALOX15	TCACTGCAGCCTCAGCGTCCTG
27962	RNASEL	ACCAGGTTGCTTGTGAGGGATGA
27963	HOXC5	ACAGACAAAAGCGCTTTTCC
27964	GPC3	CCATGTCTTTCTCTCTCACT
27965	RPS6KA5	CGCTGTCTCCTGGGTTCCCCTCGTAGCGAC
27966	DLGAP2	GAGAAGGCAGAGGTGGTCCGTGG
27967	CHST6	GGAGATCTGGCATTTTCTGCTTTA
27968	FCMD	CTGGTCCCAAGCAGTTTACTGTAC
27969	IRS2	TGGGAGGTGGGAGGGAAGGGCTTTGG
27970	SH3BP2	CCCAATCCCAGAAACCCAGGA
27971	AMPD3	TGAAGGAGTTAAGATGGAAGAC
27972	TCL1B	GCATTAGAGGGAGCCCAGTCTG
27973	NRG1	CTAGAAAAGTGGCCCAGAAAC
27974	TP53	GTCTCAAACTCCTGGGCTCAGG
27975	ASTN	TCAGAAAAGTCTACCTGGGAGACTAG
27976	UCP3	ACACAGACCCACACATGTTTAC
27977	PSMD5	CTGTCTCAAAAATAAATGAATA
27978	APAF1	TTTCTTTTTTAAAAAGCAGTT
27979	IL1RL1	CATCATCTCTTCCATCTTTGGGTC
27980	RUNX1	TGGGAGCATTCGTCGTGCCCAGCC
27981	IRF1	TCTGAGCCCAGCTGCCTGGA
27982	SMCX	CTGTCTCCTTTCCTCCTCCTGGG
27983	KIF5B	AACTCTGCTGCTTCCCAACACAA
27984	SLC2A5	TTGGCCTGTCACCAGACCCGA
27985	COL5A3	CCAGGTGGCATACTGCAGTCTGGCTCT
27986	ABCC12	CCAAAACCACACCATAGGGTTTTCTG
27987	WWP2	ACAAAAACAGCAAACTCCCT
27988	MADH7	CTTATTCCCTTCCTGCCAGCCC
27989	CD5	AAGGAGTGACAAGGAAGCTCACAGCT
27990	DVL3	GAGCAAGGACACAGGAGCCCAC
27991	EPHA8	GTCATGAATGAGGAGGTGTGTGA
27992	PIAS3	CCATGATCTGCAGGGGTCTGGG
27993	P2RY6	CTCTGGGGCTACCTCAGGGCC
27994	WNT11	GCCACCAGGAACAGAAGGTCTGG
27995	CHRNB4	ACACACTTCTAGATTCTTCCCA
27996	OLFM1	GCTCCACATAGCTCCTGGACCT
27997	ATP2B2	CCAGAAGACGTGGAGGGGAG
27998	GUK1	TCTCTCACTCTGGACCCAG
27999	SCD	GCATATGAGCCTGCCCTCA
28000	PER2	TTAGATGTTACAAACTCCTTGCCTCT
28001	GRM1	AGATTGAACAAAGCATTTAGAT
28002	MTCP1	GTTCCCTTAGGTGACGCAGCTA
28003	RAB30	GAAGCTGTGTAAATGAGTA
28004	FLII	ACCCTGACAGGTGCCCTCA
28005	SNX6	GTTTCGTCTCTTTAACTGACAT
28006	UBE2L3	GAGGCTTGGCTTTCGAGCCA
28007	EMX2	GACCGAAAATGAATTGTAATT

28008	F9	ATTCTATGATCATTGCTTTTTC
28009	AKAP2	ATGACTTGGCTTTCTCATCCA
28010	MMP25	GAACTATTCTTCTAGACTATCCCA
28011	NFE2L1	CCTGCTGTGGAGGCAGCGGC
28012	CTPS	GCTCCTCTGTGGTGTCTGCCTGTTGC
28013	SLC6A6	GGAGAGAAGGTACTATACCTTT
28014	MME	TTCATTCTGTGATCATTTATT
28015	F7	ATCCCATATATTCTTCTGCAGT
28016	MSL3L1	CCACCCTTGACTGCCAAAAAT
28017	ROR2	ACAGAGAGCTGCCCTGCCTAGGAGCAC
28018	PODXL	GGTTTCATCTGATTGAGAAGGGGGAAT
28019	ORC5L	CTGTTTTAAAAGATCATAGTTGC
28020	M11S1	ATTTTTACTCTGCATGTTCTGTC
28021	CDH17	TCTGTCGCCCAGGCTGGAGTAC
28022	GGT1	CATCCAGGCTGGACAGTTCAGT
28022	GGT2	CATCCAGGCTGGACAGTTCAGT
28023	PPEF2	GGAGGAGAAGAGAAGAGCCAACCAGAA
28024	C8orf1	TTATCCCTCGATGCCTGGCTTGG
28025	SLC8A2	TCAGCTCCCAGCCCTTCCCCCCAGCCC
28026	BRIP1	CACCTCCAGGTTCAAGTGATT
28027	F2RL3	CATTCCCCAGCCACTTCCCTTCCGCA
28028	DPP4	GGGAGAGAAGATAGCAGGGCATGGCTG
28029	TNFAIP2	GTCTGGAACTCCTGGGCTCAAGGGAT
28030	TRPM2	GGGCACTGTCTGAACTCCTGAC
28031	KRT4	CTCTGCCTCTTGGAGTTTGGT
28032	RNF3	TTTGGAATATTGCTTAAAT
28033	MAT1A	CCTCAGGGCTCCTTGTGGGCC
28034	IL18	CTGAGGCAGGAGAATCACTTGC
28035	ED1	TCAGGGATGGAGGGAAGAC
28036	PPT2	TGCTCCTCCATGAATGACAATTCCAG
28037	NEBL	TCAAAGTGAAGAAAATGTAACA
28038	MAD2L2	CTCGACTTCTCAGCCTCCTGGGGTTCCG
28039	MGEA5	AGACCTGTTACTACTGATTTTA
28040	DAPP1	TCTGACATCCAGGTTGTGCTAT
28041	TBL1X	CGCCGCCACAAGTTGCGCTGCT
28042	KCNC4	CCGCCACCGCCTCCTGCCTCC
28043	USH2A	AACTTCTGCTTTATATTCTTAAAATGG
28044	LIF	CTCAACAAAATATGATGATGG
28045	RARRES3	CTGTGTTAGAAGCAGCTGTGGGG
28046	PPP1R3A	CTCAAACCAGTCTGCTG
28047	MMP14	CCTGTTGGTCCCTGTCCTTGCTGCCC
28048	FEZ1	TTCAAGCTATTCTCCTGCCTCA
28049	OGG1	ATACAGCAACCCCAAATCCCTA
28050	LPIN1	TGAATCCTACTTAGTGACAAG
28051	TGM2	ACTATGTGCTGGGTGCCTCCCA
28052	PFKFB4	GGGAGCTGGTGGCCAGGGGTGC
28053	SUSP1	TTCATATACTGCCTTGTGTTCA
28054	FLOT2	CCCTGGCCAGAGCTCAGCATGGGCAG
28055	SCN4A	CTCCACTCCTTCCATCTCTTCC
28056	CHD2	TGGTGGAGATGAAGGGGTGGGTCTATG

28057	CD3E	GCTCCTCCCTCCCCCAACACT
28058	TM7SF3	TGTCACTGCACTCCAGCTT
28059	BMP8	CCCCAGGGAGGGGCCTGGGGA
28060	VWF	GGTGGGAAAGGGAGGGTGGTTGGTGGA
28061	LOXL2	TTCAGGCCACACCACATCTTCCATG
28062	APOL1	TGACCCAAATGCAAACATTTTA
28063	ZIC3	ACATAAGGAATTGTAAAGTATTT
28064	SLC19A2	TGCTAGTGATTTCATTACCAAGT
28065	FVT1	AGCTAAAATTTTCGACTTGACT
28066	CTSG	GACACAGGCCAGCTCCACAGTGTTGCCA
28067	RECQL5	CCCAACAACAGAAGCCTGTGGCCCC
28068	EGFL5	AAAACACAAAAATTAGCCGG
28069	GALGT	CCTGCCTCCTTGTCCCTGCCAG
28070	GRIK3	GGACCAGAGCTGCCACCTGCCT
28071	TLL2	GTGGCAAAAGGTCAGCCTTGGGGTT
28072	ADCY1	CCCTCCAGGACGAAGTTTCAGAATTGG
28073	ROCK2	TGTTTTTAAAGTATTATTGGTTA
28074	GYS1	CCAACTGCTCTGCCCACTGTGAAACCACTA
28075	IMPA2	CTGGCCTTTTAAATCGACGTCTCT
28076	NF2	TTAGTGGAGACGGGGTTTCTCCA
28077	CBFA2T1	GCTATCTCCCATCACCTCTGCTATC
28078	TCTA	AGGCAGGCAGATCACGAGGTCA
28079	E2F1	GTGAGGGAGGGAGACAGACTGACTGAC
28080	CNN1	CTCAACCTCTACAGGGTTAGAG
28081	OAS3	GCTCACATCTTTCCTCCTGCTGCA
28082	APPBP2	ACCTTTGTTCCTAGCCTGTTGG
28083	CSRP2	ATCACACACTGAGAATCTCTTCA
28084	CASP7	CCAAACAGCAAGAAGCTGTTA
28085	TP53	TCACCCCATCCCACACCCT
28086	GABRA6	TTCTATAAGTTCTTGTTTTCT
28087	ATP8A2	CAGGAAGAAATAGACATGAATTTTCCTGA
28088	ZNF264	TTCATTGTCTCTAGTGTTCAGA
28089	MSX1	GGCCATGTCTCCTGCATAGCTTTT
28090	AANAT	GCGGCTTTGTGGAGGGAACACTGGGTA
28091	AP2B1	TTTCATGTCTGAAATAACCCTG
28092	GPR81	AAAATTCAAAATTAGCCTGG
28093	KPNB1	GGGGGAGGAGGAGGGACTGGGT
28094	PPP1R11	CACCCCTCCCCAGCCTCCTGACCCTTCC
28095	PRX	CTGGAGCCCAGGTTGCAGGTGG
28096	RECQL	GATCGGAGAGTCGGACACAGGACAG
28097	BUB1B	TCCCATTTGTAATTTGTAAAA
28098	LIF	CCTCATCTCCCTGTGGACTTGGGAGCT
28099	TUFT1	ACGCTGCCCTGGCCTCCTGCAG
28100	SLC16A2	AGCATCAGTCCCACTCATCTCAG
28101	DMBT1	GTCAAGAGAGTTCTGACCTGGA
28102	NAB1	TTGTGGACCCACAGATTGCATCTTTAA
28103	CAMK2A	GTCGGTGCCTGTCAACTGCTTTTCA
28104	ALDH3B1	CACTGAACTCCGGCCTGGGTGA
28105	GPX3	CAACCTTGGGGCCAGCATCTCCCA
28106	ZNF14	GAATGAGACACTGTCTCAAGAA

28107	SCAP1	GAAGAGACCCAAGTCTCTTGA
28108	RIG	GGCTTTGGGAGAGAGCAGCAGC
28109	ENPP1	GGAGAAGTAGCTGTGAACAT
28110	ACADSB	AGGCTAGAGTGCAGTGGCGCGAT
28111	ADCY6	AGGCTGGAGTGCAATGGCGCGAT
28111	MLANA	AGGCTGGAGTGCAATGGCGCGAT
28112	CSNK2B	GCCCGCAAGCGCCCTCCTCC
28113	NT5C3	CACCTCTCTCAACACACTCCTCA
28114	FLRT2	GCAGAAAACAGTGCCCCAAATGGAAAA
28115	INSM1	TTACCTTTTTGTATGTGAACAAATCA
28116	XYLB	AATTCACAACCTCCCACCCAAA
28117	BCL7A	GGCAAAGCGCCAGCAGC
28118	ADCY1	TAGTTGGCAAAAATGGGCAGTA
28119	EXTL1	TTGGCACAACGGCCCTGGCCTCTGCAC
28120	NFE2L1	CCCAGCAACAACAAAAGAACTAGTCCTCT
28121	P2RY6	CCTTTACTGACACCTTGTGCTCAGGCC
28122	NEK6	TTCATGATCAGTGTTAAGCATTTTCC
28123	GJB2	AACACAAAGATTCTGACCTTAAATGCA
28124	MYCL2	TGGGCTCTCTTCTCT
28125	ADRA2B	TGGGGCTGTGCATTGAGGACCCCTGCT
28126	BENE	GGTGGGGAATGGGGAGGGAAGGGCAT
28127	ALPPL2	CCTCCACTGGGCTAATTCTACACCCC
28128	AK2	AGGAAGAAGGTTTTTGCTCAG
28129	PTGS1	TGGGACCCCCACTAAGACCCTGGTCTG
28130	LHX3	CCCTGCCTCCTCCATCAGATCCTTTG
28131	TRIM14	GTCACTTTTTACTTCTCAGTGCC
28132	SUFU	CCAGCCAAGATGCAAGCCACTC
28133	GLS	AGAACTTTGCCATTTGTCTACA
28134	EYA1	TCTAGGGTTCTCAGATGCTATCTGCCG
28135	PPP3CB	GCCCCCTTCCTGGATGGAGGCTTGAGGG
28136	CRHR2	ATGGAGGAGGGAGGCGTGGGATGG
28137	MRE11A	GGAGGCTTTGGGAGAGCAGGAATGAA
28138	CTMP	GAGGAAGAGGTTGCAGTGAGCCAAGAT
28139	PRDX3	GATCCCTCATCCCTGAAATTGAGT
28140	MAN1A1	GAGGCAGCAGTCTCAGCGCGGAGA
28141	GFAP	CCTTTGAGTTTCCTCAGGCTGC
28142	PTPN11	GGAAGGCTTGCAATGTGGT
28143	AR	GCTCAAGGATGGAAGTGCAGT
28144	CDH4	CCCACCCCCACAGCGCCCTGCACCC
28145	C18orf2	CATCAGCAACACCACACCCT
28146	CSNK2A1	ACAGCTCTATCAAGGCTTGTCAAGCAG
28147	RTN4	TTCAGTTTGTGCACTGTGTAT
28148	SCT	GGTGGGGGGCAGGATGGGGGAGAGG
28149	PPT1	ACATTTACCAGCATACTCCAA
28150	KCNA4	CTCTACCTCCCAGGGTCTTTG
28151	C21orf5	ACACCTGTAATCTCAGCACTTT
28151	MTNR1A	ACACCTGTAATCTCAGCACTTT
28152	DCLRE1C	ACACTTGTAATCCCAGCACTTT
28153	SALL2	CTGCCTCTCCGTCTTGTA
28154	CXCL13	GAAAACAATGGAATGAGAA

28155	PDAP1	TTGTCCCAGGAGGCAGCTGCTGA
28156	UCP3	CTGCAGCTGCACCATCACACATGCATCATC
28157	TAL1	GTGTGAGCCACCACACCTGGCT
28158	HEM1	CTGGGAGCATGGAGGACAGCT
28159	FOS	GGTCTGTGTCTCTTTTCTCTTTCT
28160	IL12RB2	AGAAGCGAGTCCTCTCCGCCCTGCGGC
28161	GPC5	TCTCTCTCTTTGCCTCATAGATTTA
28162	FABP2	AGCTCACTGTAACCTCAAACTCCT
28163	CASQ1	CCTCCATCTATGCACAGCTTTCC
28164	ADCY2	AGAAATCATACTTTGCCAAA
28165	SOX15	TTCAGAGGCAGCCTGCAGTCC
28166	GLP1R	GTCCAGACTGTGGGTGTAGATTA
28167	CSF3R	TGCCAACATGGGGAAACTGAGGCTCG
28168	MLPH	GATCCAGTGGGGCAGAGGACAG
28169	CANX	TCCTCTGCTATGCATTTTCTTC
28170	SLC2A1	GGGGCTGATTCCCAAGTGTGGTCGCCC
28171	PRKCN	AGTACAGACTGAAAGGAAAATAGAT
28172	PTPRG	GCCTTTCTCCGCCGAGAGGATC
28173	IL1B	GCTAAGAGGATCTCCTGTCCATCA
28174	RHO	GGGCTGTAGGCAGGGACAGTC
28175	SIAT4C	CCAGCACTTGGGAGCTGACTGTGCTG
28176	LDLR	GAAGGATAAGAGAAACAGGCCCG
28177	MCL1	TTCATGGGCTCATCTTTAA
28178	STC1	GCTGGTGGTTTGATCATTTCTG
28179	CPT1B	CTCAGCAACCTGCTCTTCCGCTGCTC
28180	UBE2L6	TCATGTTCTGACCCTCTGTGCACTGGA
28181	EXTL3	GGTATGTGCTAGAACAATGGGAGG
28182	MEF2C	GACCACAATGCACCTTTGGTTG
28183	IL16	ATTAGAATTTCATATGACA
28184	LZTR1	CCCCTGCACTATGCTCTTG
28185	ATP1B2	CTGAGCCTCACATCCTTTTCCTT
28186	IGF1	CTGTCCCCCAGGCTGGAGTGCAGT
28186	LZTS1	CTGTCCCCCAGGCTGGAGTGCAGT
28186	RPP30	CTGTCCCCCAGGCTGGAGTGCAGT
28187	PDE6B	CTGTCACCCAGGCTGGAGTGCCGT
28188	COL1A1	AGCAGGAGGCACGCGGAGTGTGAGG
28189	ENO2	CAGTTGCCACCACCTCTGTGGC
28190	PLCG1	GGAGAGCAGCAGGTGCTGT
28191	IKBKAP	CTATTAGTGCTACATTTGGTC
28192	SUV39H1	GGTCCCTGGCCTACGGGCTGAGGC
28193	ATP6V1G2	CAGGAGGCTGAGTGAGCAGGGGAGCA
28194	SSTR1	ATGTGTCTCTGCTTTCCTTTTCTCTG
28195	GPC1	TTCTGCCTTTTAATTTTGTA
28196	PEX6	AGGGTCTGGGACCCCGCTCAGCATGGC
28197	OGDH	TCGTTTTCTTTGCTGTGCCA
28198	KIF1B	CTCATTTCTCTTTGTGATTCTTGACGG
28199	INPPL1	GCTCAGGACGGAAGGTCAGT
28200	SHOX	ACTGCAACCTCCGCCTCCCGAGTTCAA
28201	SPAP1	CAGTTATTCTTTCTGCATCTTG
28202	ACT	TCCAGAGAGCAGGGAACTACCTTGAGTA

28203	PLAGL1	AAGATGTTTTAAGAAGCATTTTA
28204	FOXO1A	TTGTCTGACAGCAGGAACTGAGA
28205	CYP2B6	GGTCTTGAACTCCTGATGTCAG
28206	ARHGEF7	AAGTCTTGTTTTTCCAGACT
28207	AANAT	CTGGCTGCCAACATGATCCCCGTC
28208	PPIL1	TCTGTAGTGAGCAAAGGACA
28209	SGK	AATCCTTCCCTCATCCCATCACACA
28210	PAFAH1B1	CATTTGAAAGGAGTGGGAGGAA
28211	AXL	ATCTCCCACCTTTCGGGCCATG
28212	NT5C	CGGGCAGCAGCTGGAGCTAAAGGA
28213	CD59	ACAGTTACAGAGTGAACAC
28214	NR2E1	AGGGAGAGATCGAAGACTGA
28215	SLC16A7	TCCCACATACTTACCCACATG
28216	SLC21A2	GGGCCACTGCCTGCTCCA
28217	KCNN2	CGTCCGCCTCCCAGTACCACCAG
28218	SRGAP2	ACAGTGGTGTGGAATACTCCAA
28219	ACTC	GATGCCTTCTCTCTCCATCT
28220	PRPS1	TTTCCCCTTGGTATTTGATGACAAAT
28221	EGFR	CTTCAAACTGTGAAGCATTTA
28222	SPN	CGCCCAGGCTGGAGTGCAATGC
28223	CCR3	TACTATATGCCGCTACAAAAAGGTAA
28224	EFG1	ACTCTATTTTTAGTTTGCTGA
28225	TGM4	TTCCATCCACTATCCTGGCAACTCAA
28226	CD209	ATTCAGCCCAATCTGGTTCAACTTTGT
28227	IL18	GTCTCCCAGTGCATTTTGC
28228	PPP2R5E	CATATTCCTAACTACTGTATTTGTTAC
28229	SHOX	TCTTCACATTTCTATCCCTCTGTT
28230	CD80	CCACATGGCTGGGATTTAAAGC
28231	DRD5	CCTCATGGATCTGCATAACC
28232	DSC2	TCCGCGCGCCCCACCTCCTCCGCC
28233	OSR1	AACCTAGTGAGTGACTGTACTC
28234	IL12RB1	TGAACTCCCAGACTCAAGTGAT
28235	DTNA	TGTCCCCTACTGCAGGTCTTACTAACAG
28236	COL10A1	CTTTTCATTCGACACAATAAAATAACA
28237	INPP5D	GAGTCGGGAGCCCAGAGGAACG
28238	PSCD4	CACAGCTCAGACCCACGGACAGG
28239	SURF5	GGGAGAGACGCGGGAAAGTGCGGG
28240	ABCA1	TTTCAGATCATTTAGGATACTCTTA
28241	CNR1	TCTGCACACCTTGAATCTGCCTGCTGGCTCCC
28242	CLECSF11	GATGGGGTTTCACTATGTTGGCC
28242	PRKWNK3	GATGGGGTTTCACTATGTTGGCC
28243	DHFR	GATGGGGTTTCACCATGTTGGTC
28243	KCNJ11	GATGGGGTTTCACCATGTTGGTC
28243	SMAC	GATGGGGTTTCACCATGTTGGTC
28244	MYF6	TATTAAAAAGAAGTTTCTA
28245	FMR2	CTTTTACATGTAACTAGGATAA
28246	MEL	CTCTCAGTTTTGGACAAGTGACA
28247	NRAP	CCACCAGCCCATCCCAGATCTTCCTTT
28248	TCEA1	TTGTCCCAAGTCTTATTTGCTGAC
28249	TCF20	TCTTTATTCCCTCCATCATCT

28250	PTPN6	TAAAGCCCTGGGATCACTGTGA
28251	FGF2	TAGAAAATATAAATTTCATCA
28252	MHC2TA	GCTCACTGCAGCCTCAACCTCC
28252	NCOA6	GCTCACTGCAGCCTCAACCTCC
28253	PPP2R5E	CTTCAGTACCTGACCAGTATTA
28254	FANCA	TGACTCACACTTACTGCAA
28255	SLC13A1	TATTCATTTGTTCCTTTCCCTA
28256	FUT3	GCTTAGCTTGGGCTCAGA
28257	KIF1B	CTCTTGTATGTAATCCTGTGGCTTA
28258	MAT2A	ACTGCTTGCCCTAAGCAG
28259	LETM1	TGAGGGGCCCAATGGGAGCCGC
28260	FMO5	CACTGCCCTGTTTTTCATTGGGA
28261	ADSL	TTGAAGTTGACTCTGCTCTTGC
28262	PIGR	AAAGTACTGGGATTATATAGGCAT
28263	EPHB6	GTCCCATGGCTACTGAAGGGG
28264	YWHAZ	TCAACTACTTTCTCTACAGCTTTTCA
28265	KCNK6	CTGCTGCACTCCAGCCTGC
28266	SPAG9	CTGCTGCAGGATGGAGTGGAAA
28267	FBLN5	GTCACTTCTTCACCTCTTCC
28268	APOL1	ATATCGCCACTGCACTCCAGCCT
28269	MECP2	AGAGCGACAGAGCAGTTGAGAGGACA
28270	CARD10	GGACCTGGGCCTGTTCTGCTCCT
28271	H1F0	GTGGGTGGGGAGAAGAC
28272	ALDOB	CCAGTGCTTCTAGTAGGAGGGCTGAA
28273	EIF2C1	GGCCTCCTATTTAGCTAAGCA
28274	PPP1R12B	GTTGCCCAGGCTGGTCTGAAGC
28275	MSH2	GAGAGCTGTAACTGAGGACTGTTTGC
28276	CYP3A4	GGCAGGAGAATCACTTGAACCTG
28276	DCLRE1C	GGCAGGAGAATCACTTGAACCTG
28276	EGFL5	GGCAGGAGAATCACTTGAACCTG
28276	RAB7L1	GGCAGGAGAATCACTTGAACCTG
28276	ZNF14	GGCAGGAGAATCACTTGAACCTG
28277	ADCY6	CCAGTGCTCCATGCCAGCACTTGAAC
28278	CREBL2	TCCAGGAGAAGGTGCTGCTCTC
28279	MME	GAACAACAACTATCCTGACTTC
28280	WNT8B	TAGAGGCAGAGGTTGAAGATGG
28281	RIG	ACTGTACTAGATGCTGTTTTTGTCTG
28282	GABRB3	GTAGGGGGGACAGCGGATCCCAGC
28283	GPR4	CAGCCCAGCCTACCCAACCTCA
28284	DAP3	GGAGTGCAAGGATGATGCTGAA
28285	LHX4	TGGGAGAGCAGACTCATCTCA
28286	TRDN	ACAGTAACACACATGTAT
28287	ADRA2A	CCCGAGCTCCGCACAGTGCGCCC
28288	HMG20A	CAACAGCAACAAAATCTGTTTTTAAA
28289	TR2	GCCTGTGCTCATGACAGCTGCT
28290	TNNC1	AGCCTCCAACTCCAGCTGAGTC
28291	FCGR2B	AATCAGAGAGGGAAGATCTGGT
28292	SYNGR1	CCCCATCAGGCTGGGCTCTGGCA
28293	ARHGAP6	GCCGGGGCAAGGAGAGAGTGC
28294	GARP	CCTTCATCCTTCTGTCTCCA

28295	FRG1	TGAATAAAATATTCAGAGGAAA
28296	SLC4A7	CATATTATTTCACTTTTGTTAGTGC
28297	CNN3	TGCTGTAATAGGTTAAATCCTACAGCA
28298	G1P3	ACACTGCAGCCTCCAACTCCTA
28299	LPL	TGCTTGTAAACCATCGCGTGCAATG
28300	AKAP13	ACAGTCCTGGTGAATGGGCTTCA
28301	BRIP1	TCTGTTGCCCAGGCTGGAATGC
28302	PRKAA2	GCACACAATGCTATTGAAATT
28303	GRPR	AGGAAAGACGCTGTGGGAA
28304	SLC14A1	CAGGAGGAGGAGGCTGCAGTGA
28305	CD97	CAGTGTTGACACTTAAAA
28306	ALDH3B1	AGGATTGCCAAGGCTCCA
28307	MGAT1	AGCAGGAAACCACTGTGTGGTG
28308	FUT3	TTCCTCCCGCCCCAGGAAACCTGCC
28309	PDLIM1	CAGATCTGACCACTGTTCTCCA
28310	SLC5A1	TTTGCCCAGGTGGATAAATGTGTACA
28311	GAS7	AGGCTGTAACCCACCTGCCC
28312	ELK1	AACCCAGGCCTGGGGGGCGGTGG
28313	SRRM1	GCATTTTTATGGTTCCTTT
28314	FUT6	AACAGCTCTGCCTCCTCTCCAG
28315	PIP5K1B	GGAGTTGGAAGTGCTATTTTCCT
28316	AQP6	CAGAGCAGAGGAAGGCAGGGGA
28317	PSME3	AAGCCGCAGACCCTGGTGCAATG
28318	TMEM1	AGCTGAGACCCGGCTGTGAGGAGCG
28319	LANGERIN	GGAAGCAGCCTTCAGTGCCTTCA
28320	ACVR1	CACCTCCCAGGCTCAAGCAGTC
28321	MAPK4	GCTGGTGGCAGTGACCTCACTA
28322	MUC4	CGCTGCTTCCTGGCTGGGAACAACTTCA
28323	POLH	CAGGAGGCAGAGGTTGGGGTGA
28324	CDH6	GGTGCCGGAGGGGAGGACAGG
28325	CHD2	CAATGCCACCAGTAGTACGATGAGCC
28326	PIGR	GGGAGAGAAGGAAGTGGCTAA
28327	PRX	GGCAAGGGAGAGCGGGTGGAGGGC
28328	GCNT2	AGGAGTGAGTGGAGTATGTTGCAAAA
28329	FBXL7	CATGAAGCCTATTGGGGTTAAG
28330	SIGLEC11	CGAGAAGCCAGCTCCTGGAGTT
28331	BTG1	CGTCCGCCCCTCACGCCCTCTCTT
28332	GPR85	ATAATAGTGGTGATATGTTTGCT
28333	CD28	TGCAGTGAGCCGAGATAGTGCC
28333	CPM	TGCAGTGAGCCGAGATAGTGCC
28334	IFNA1	GCTTTCATGAATTCTGTCATTTCA
28335	B3GALT3	TTGCAGAAGATTACAGTTAT
28336	KLHL3	GCCAATCTGCTCTAGCTGCC
28337	NFE2L1	CAGGCAGCAGGTTGGAGTGA
28338	UPK1B	CCGGGAGACAGAGGTTGCAGTG
28339	MAP3K9	AGGCAGAGGCAGGTGGATCACC
28340	IQGAP1	AAGGCACCTGCCTGTTTTTGT
28341	HOXC10	ATAGATGGGGGTGGGAGTGT
28342	CD244	AGGGAGGGCTCAGGCAGCTGAGGGCTG
28343	PYGB	CCTGCAGCTTCAGCACCTGCC

28344	PELO	TGAGACAATCTTGTGTTTCCTAAACT
28345	IL12B	TCTAAGCAAGTTTAATCTTTGGA
28346	CRY1	GCCTTCTCCGGTCCCCTCCTCGGAGTC
28347	XPNPEP2	AACCCATGATTCCTAAACCCG
28348	BUB3	TTAAGTGCATGAGATGGTTTGA
28349	CALCA	GGGAGGAAAGAGAGCAGGACTCACAGGTT
28350	LRP4	GGGCACGTGTCTCAGCCTGG
28351	MIR16	CCCCTGCCCTGCCCTAGCTGAGGCACA
28352	APBB2	CTCTGCCAACATCAAGCTGGTG
28353	ENC1	GTTCATATGTACTTGTTTGCT
28354	APPL	CTGCCACCGCCCTCCCTCCGCCA
28355	IL5	CCAAGAAAGAGTCAGGCCTTA
28356	RRAS	CGAAGGCAGCAGCAGCGGTGG
28357	AQP6	TTACCCAGGCTGGAGTGC
28357	CLECSF12	TTACCCAGGCTGGAGTGC
28357	FCGR2A	TTACCCAGGCTGGAGTGC
28357	MDM2	TTACCCAGGCTGGAGTGC
28357	NDRG3	TTACCCAGGCTGGAGTGC
28357	NQO1	TTACCCAGGCTGGAGTGC
28357	TRPM6	TTACCCAGGCTGGAGTGC
28358	SERPINB9	TCACCCAGGCTGGAGTGT
28359	PIGF	GGGAGGGAGAGTTAGCTAGC
28360	KL	TGGGCCCTGATTCTCCCTCTG
28361	DDOST	GAATCCAGGAGGCAGAGCTTGC
28362	SDC1	CCTCCCCTGCCACCAGGCCAC
28363	NR1I2	TGTACTTGTTTGCCTTTTAGGTAGGAG
28364	CAV1	TACAGAGTCTGGTGAAGCTCA
28365	GRIN2A	CAGTTTAGTGAGACAAGCAATT
28366	TGM1	GTCAGTCTTCACTTGCACTGGGGGAACA
28367	TEM6	CCTTGAGGCAGAGGTGCCGAGTGA
28368	DLG5	CGGGTTCAGCACCCACCTTTCTTTA
28369	FOS	GAATGTTCTGACATTAACAGTT
28370	HMG20A	CTCTTCTGTTCCCATCTGTTGACAA
28371	CAMLG	ACATTTCCTTACAGATTTTTG
28372	MB	CCCTTTGCAATGAGGAGGAGATC
28373	MAX	CTTCAAGGAGCCATGGGTCTGTGCTG
28374	MSN	AGCTCACTTGGTGATATGTCCT
28375	GNAL	GGGGAGGGAGAAGAAACGCCTGC
28376	BTEB1	TCTCCACCGAAGCCGTTCTGACT
28377	CCND1	TTGTTTTGTTAATTACACCAT
28378	SOCS5	GTCAGATGCTACCTGCT
28379	TIMP3	CGGGCAGCAGGCAGGCGGCGGGCG
28380	KCNK7	GGAGGTGGGCGGGGAGCAT
28381	BTEB1	ATAGGGTGCCTACCTATTTC
28382	GLUD1	TAACTGCATGGCTTAACCTGG
28383	LOXL2	ACAGACACTTACACATACTTGAAACTT
28384	PAM	CTTGCAGCTGTAAACATATTGG
28385	WTAP	AGAAATGTTTCTGTTTGAAGAA
28386	LAMP2	TACTGGTGTTCTGTTTTCAATGTAT
28387	KCNQ2	CAAGCCCGGCAGGAGTGCGGA

28388	NFKBIL1	AGGGAAAGGATGGGGACCACAAGGAA
28389	CDK10	GTGAGCCACCGCCCCCAGCC
28390	STAU	AACTTGTCTGAGACTGACTTT
28391	MEFV	CGCCTCCCAGGTTCAAGAGATT
28392	COG2	AACACAAAAGCCTTTTTCC
28393	PRIM2A	CCAGAGTGCTGGGATTACAGTT
28394	TFAP4	CTGCCCTTTGATTCGGATTTCC
28395	XYLB	CCTATCTCTTTCTCCAACCC
28396	COL17A1	GCACAGCCAACCTAGCTAGCAAC
28397	AHSG	CCATGATTGTGTTCTCTGCCT
28398	ZNF3	CCTTCCATGGAAACTCAGGCTGA
28399	BID	ACGGAGCCCTGGCATGTCAACAG
28400	PTTG1IP	TCTTCGTCCATCTGCTTTTT
28401	DFFB	TCATTTCTTATACCTTCTGACA
28402	STAU	CATTATAAAATCCCAACATATATACTG
28403	FACL4	GCAGCTTCCAATGCCTCTTGTC
28404	EIF4EBP2	TCCCCTAGTCCCCCAGGAGCTCTTTC
28405	NGFRAP1	GCTTCTATTTGAAGATTGCCTT
28406	S100A3	CCCTGTGGCCTCCCTTGTGGATGGGAGG
28407	IPP	CCTGACCTTTTGCAAAGCAA
28408	B4GALT2	CCGCTACCGCATGATCAAGCAC
28409	DIO3	AGCATTTTCTTACACCCCCTCC
28410	LAMC1	ATAATAAAATCTGAATATTTTGTAA
28411	TAPBP	AACCTGGTGATCCGCCCGCCTC
28412	SULT2A1	TCAGGAGGCAGAGGTTGCAATG
28413	PTPN12	AATTGTTCCTGTTTTCATCTAGTCAG
28414	ATP1A2	GCACACGCCTGTAATCTCAGCT
28415	TMSB4Y	TACATTCTACAAGCATTGCTTTC
28416	SMAC	GGGTCCAGAGCTAAATTCTGCCTGCA
28417	C8orf1	GGGGTGAGGGTAGGAGGCATTTACAAC
28418	IL16	GAGCAAAGGCTGAGAACACTGTGAA
28419	ATP1A2	CTCAGCAGGCTAAGTTGCGGGG
28420	PTGFRN	AGTAGTTGTGAGGCCACTGTGTCTCAGG
28421	SNAP23	GTTTAGTTAGGAAAAAGGA
28422	GH2	GCACAAAATCGCACAACGATGACGCA
28423	EIF4EBP2	GTTCCTCCCAGTTTTCTTGCCT
28424	ALDOC	TCTTCCCTTCCCCTCTCTCA
28425	BRIP1	ATCTAGTGACACCTCAGTCATA
28426	MKL1	GGGGTGGAGTCACCAAAACCAGT
28427	GSTA3	GAAGTGCTTTACTTAAGTGTT
28428	CCNT2	ATATTTGTAAGTGCTGCTTTAT
28429	NIPSNAP1	GCTGCCTACACCTCCACCTCCTTCCCCTTC
28430	PLIN	CCTGCTCTGATTCTATGGCT
28431	FGF5	TCGGAAAGTTAAATAACAGGGAC
28432	METTL1	AGGTGGGGAGCTGCCCAGGG
28433	FCGRT	CTGTGAGACCTCCTGGAACAC
28434	GARP	CACACAGTGATCCGGATCCCAGA
28435	AIPL1	TGGCTCACGCCTATAATCCCAG
28435	GRAF	TGGCTCACGCCTATAATCCCAG
28435	IL1R1	TGGCTCACGCCTATAATCCCAG

28436	ATP1A1	CCTCTTTGTGTACTTCAGTCTTGG
28437	UBE2B	CTTAGGAGGCTGAGGTGGCAGAA
28438	LANCL1	TGAGACCACAGAATCAGGTTTTC
28439	ADAM23	AGGGGGCAAAAGACCATGCTATA
28440	TRHDE	TCTCTACTGGGTGTTCCTCTCTAA
28441	SHANK2	CCCGGCATGAGGCCTTTCCTCAGTC
28442	SELENBP1	AGCAAACCCGCCGGGATCAAAGTGTACC
28443	ACCN2	AGGCCTGAGCCCCAACCCCTCT
28444	DACH	GGCTATGTGTTATTTTCACTGTCTTTT
28445	ACVR1	CCCACGTGACACCACCGAATATA
28446	HSPB2	GGGAAGGGAAAGGTGCATGGTCCACA
28447	DAPP1	CCAAGATCGCGGCGCTGCACTC
28448	KRT5	CTTTTCTGGAGAGTAGTCTAGACCAAG
28449	ACP5	CCCCTGGATGGACATGTGGACGGCGC
28450	TEM8	CCCTGCTCTCCCCGGGCTGCGGGCC
28451	CUTL1	GATTTCTGCTTTCTTCTTTAGCAAGAT
28452	KCNA7	AGACATGGAGGTCAGAGCCA
28453	CAMK4	AACAGCTTCCTTCAGATCTG
28454	ACPT	CCCTCCAGGGGGCCCTGGGCCTCTATG
28455	PPP3CA	AACAACAAAAGTCCATTCATATTT
28456	XRCC2	CATTCAGGACATAGGCACAGGCA
28457	CENPF	CTGGGAGGTGCCAGTCATTGAATAGAT
28458	SFRP1	GGGGCAGCCTGTGCCTGCCTTTGTG
28459	RPS9	GTCCACCTGTCCCTCCTGGGCT
28460	CDY1	TTTATGCACACCTAAGCCCA
28461	KCNK6	GGAAGAAGTTGTACCTGACTCAT
28462	CYP2B6	GTTGGCCAGGCTGGTGGTGAGCTCCTG
28463	SPAG9	AAGTACATGGGATTTCATGAGCCAGA
28464	BRF2	CTCCTACTTCTTGCTGCCTCAC
28465	CRABP1	CCTGGCCTTGGTGCCTCTTGTA
28466	ENG	GGGAAGAGAAGAGGGCCCAGCCCAG
28467	FANCA	GTCCAGGCTGCTAGAGGTGCTCATCC
28468	DPH2L2	CCCAGTAATGCGTGTTGTTTGGC
28469	CRAT	CGGCCCAGAGGGTGGGCGCG
28470	EIF2S3	TTCTCCCCTTGCTCTTCCTGGCCTG
28471	RNTRE	CGCTGCCCACAGCCTAGCAG
28472	CD59	CTACATGTGACTGGCAGTATTA
28473	CAPZA1	AGGTGACCCATTGAGCTGTGTATG
28474	NUP62	TGTGGCTTCTGTGGCTTTCATTTG
28475	ASB1	TCCCACCTCGAGGCTCTTCTTC
28476	BCL7B	ACAAGGGCAGAGAGTCCGTCTAGATTT
28477	PLIN	TATTTGACCGTTTCCAAA
28478	MOCS2	ATCAACTTGGAAAGGAAACAAA
28479	RNF3	CTGGAGTGGTTGAGGTGTTGTCC
28480	VLDLR	CACATTCTACTTCAGCTTTGG
28481	CDH1	TCTCCCTGTGTTACCCAGGCTGG
28482	LETM1	CTGGCTGCTGTGCCCACCCTC
28483	KCNA7	TGGCTAACACGGTGAAACCCCGTC
28483	KCNJ5	TGGCTAACACGGTGAAACCCCGTC
28483	SLC28A2	TGGCTAACACGGTGAAACCCCGTC

28483	SMG1	TGGCTAACACGGTGAAACCCCGTC
28483	STAT3	TGGCTAACACGGTGAAACCCCGTC
28484	NOTCH4	TGCAGCTCTGGAAAGAGGGTTTAAGAT
28485	KLF8	TCTCTTGTTTTCTAGAACT
28486	SLC6A6	CACTCCCCACTCTCAGCCTGGGAGACTCCT
28487	CENTD2	CCGTGTCTGTCTGTCTTGC
28488	LTB	CCAGTGCTGGACCCGGCCAGGAGACA
28489	LARS2	TGCTGTGGTTCTGACACACAGGATCCC
28490	ILF1	GGGGTCTTGGGCATTTCA
28491	CDO1	CTCATGTCTGTGTCCCATGGTC
28492	CNTN2	ACAGGTTGAAGAACTGGAGCG
28493	MYBPH	AGACTAACTGGGCTCAAGGGGTG
28494	TPD52L2	GGCCCGGCTCACATTCGTCAG
28495	SEMA3F	CCAGGACCACACAGTCCCCA
28496	TNFSF4	GACAAGCTTACATCTTCCTCAGCCATC
28497	CDC2L2	CCAAAGCACTGGGATTACAGGC
28498	LY9	TCAGAATTTCCTTCAGTGCCTC
28499	TNXB	CTCCTCACTGTCGCTGCCGAGAT
28500	PPARGC1	AGAACAACAGTTGGGCTGTCAACATTC
28501	CD86	TTCTCTTGAAGAACTGACTAGT
28502	GAS7	GCCCAGAAGACAGACCCACAGCCCT
28503	SEL1L	TTCACCAGCCTGTATCTTGTCT
28504	MYO10	CTGGAGTGCTGCGGGCAGCCTTTCTCA
28505	ZNF136	GCAGGAGGATCACTTGAGGTCA
28506	PRKAR2A	CTCCACTTTGCTTCTGAAGGCC
28507	ENTPD6	GCCGGGCATGAGCTGCTGTAAACT
28508	HDAC5	TCTCCACCCTTTCCCCTTCTTTCGTC
28509	TACC1	TGGGCCATTAACCCCAACATGG
28510	WASF1	TTTGCTTGCCTATAGGAGTTA
28511	F2RL3	ACCGCACCCTGCTAATTTTTTGT
28512	ICMT	TGCACTTTCTTCCTGCCTTAGGTA
28513	BAPX1	CCCTTAAACAGGTGATCCCACCTGTCT
28514	ITSN1	ATGCTTAGAATATGGTCACAGA
28515	WHSC1L1	AATAAATGCCACTTCACCAA
28516	CBFA2T2	GTCTCCCAGGCTGGAGTGCAAT
28516	TNFRSF10B	GTCTCCCAGGCTGGAGTGCAAT
28517	SEPN1	GTCACCCAGGCTGGAGTGCTAT
28518	GGT1	GGCCCCACAGCAGAGTTCAACTGGA
28518	GGT2	GGCCCCACAGCAGAGTTCAACTGGA
28519	PTPN6	GAGAAGAGCAAGGGTTCCCTC
28520	SLC7A8	ACCGTGCACTTCTCCTCTCTGG
28521	CCRL1	ATTCAGGCTCACATATGTTACAG
28522	COL19A1	ACTGAAAAATGAGTTTAGAAA
28523	ANGPT1	AATGGTTTCCTCCATTTGAGAAAATAAAG
28524	ASPH	CCTGTGCATAATGCCTTG
28525	STARD4	AAGAGAGAAGTAATGGAAGGCCTGTCTGA
28526	SIAT1	GAGGAAGAGAAGAAACATGGCA
28527	KLHL3	CCAGGAGGTGGAGGAAGGAGCAGGTGC
28528	SLC6A1	GGAGGTGGGAGGACAGTTAGAC
28529	IAPP	ATGGGCATCCTGAAGCTGCAAGT

28530	SRGAP2	CAAATACCTAACTGTACAGTGAG
28531	NEU3	CCAACTCCTGGGCTCAAGGCATC
28532	SCA1	TTGTGGGTTTTGAATGCATCT
28533	PYCS	CTCCAAAACAAAAATTAGAGGA
28534	BCL11A	GGGTGAGGTAATAAACCTTAGGAACT
28535	EN2	GAGTCCACAGTTCTGAAACATGT
28536	MEIS2	GCAAAAACTATTTTAAGACTTTCTG
28537	PPP1R12B	GAAGAGCCTATCTGTCATCGC
28538	CTNND2	GCTCAGACAACAAAAGCGGAAGATGCTGCAGT
28539	FTL	ATTTCCTCTCCGCTTGCAACCT
28540	NRBP	CCGGCTCCCGCCCAGCCTGTGTG
28541	IL1A	GCCAAGTATTCTGCCAATTCACCCTGGA
28542	KERA	ACCGTAATTTACAGTATAAATGTAATA
28543	FUT1	ATCTCTAGTTGGCCAGCGTCTTGCTCT
28544	GCN1L1	CCTCCATCTCTCACCTTTTCCT
28545	DIAPH2	GTCACCCAGGCTGCAGTGTAGT
28546	RHBDL	AGGGTGGAAGACGGGGGAA
28547	IRTA2	AGCCTCTACAGTCACAAGA
28548	ALPL	CCTGGCAGGGCTCACACTCCTGGGC
28549	PYGO2	GGAAGGCAGGCATGGGGTGTGGCCCT
28550	CKMT1	CATTCTACTTGCTCTGGACC
28551	GPC6	TCGGGCCAAACCCCAAGACA
28552	MEN1	CCCTCTGGGAACCTCCCAGAGGTCCAG
28553	WBSCR1	GGCCTCTCTGGCTGGGTGC
28554	LIMD1	GTGTGGGGCGTGGCAGGGGGG
28555	CDC6	TGAACTCCTGACCCTCAAGTGAT
28556	APTX	TCTGCAGAGCCTGAGCTGCT
28557	HDAC5	AGCCCTGTGGCTTCCACCTCA
28558	SUFU	CACCAGCCAGCATGGTGG
28559	EXTL2	CCTGAAAACTGCTTGGCATTTGAGT
28560	ACPP	AGACCAGCCTGGTCAACATAGT
28561	F2RL3	AGACTCACTGCAAGTTCCTGCCCAGGAG
28562	NOS1	CCAATCCTTTATAGCTTTGGAGACGC
28563	IQGAP1	TCAAAAACTGGGACCAACCAAAG
28564	ZNF42	GCCCAGTCTTCCTCCTTGTGCT
28565	CALM1	TTCCAGTTTTGAGCAGAGGTGA
28566	SLC29A1	CGGATGCTCACTCCAAAGTCTCA
28567	DEC1	TGGCCAGAGCAATTGACTGGGAGCTGG
28568	ALDH3A2	TCATTCATTCTTTATCATCCTGTGTTCTGT
28569	PFKFB4	CTGTGGCCCAGCTGCCCAGC
28570	TRIM9	TCTGTGCCTGTTATGAATGAAA
28571	RABGGTB	CCCTGCTCTCTCCTTTCCC
28572	GRIN2B	CACCACCTCTTTGGGCCTGGCTGGGTG
28573	NPTX1	GGCAACCAAATGTGGCTTGA
28574	GA	GAGGCACTGTGCTCGGAAGTTA
28575	TAPBP	ACTGCAAGCTCCGCCTCTCGGG
28576	CAMK2A	CCCACTGGGGACCAGGCTGG
28577	USP6	GCAAGATCATGAAGGTGTGCAAA
28578	BLAME	CAAATGCAAATGCAGAAGAC
28579	SNX15	CTGTGTCGCCCAGACTGGAGTGCAGT

28580	HMOX2	CCAGCTCTACTCCAGGCTTCCAC
28581	ALDH1A3	TCCCTTTAAACCAGATCCTG
28582	APPBP2	TTGCCCAGGCTGGGAGGGCAATG
28583	BCKDHA	CTCTGGGCATGGGGTGGACATG
28584	FPRL1	AGAGGTGGGGAACAAGTAAAAGCT
28585	PIGH	TTCCAAAACACACAGTTACCTGGTTCA
28586	CASP7	ATGGCTGTGTCCACTGCAATTGGTGT
28587	FUT1	GCCATTATGCCTGGCTAATTTTTGT
28588	TSSC4	GCAGCCTGGCCACTGCCTAGCTGG
28589	FMR2	AACTTTTGACTGAATTACAATTACTCCT
28590	DUSP3	AGTGTGTCCCAACACAGTCCTGGG
28591	ARSD	CTTGCAGAATCTGAATGTGTCTCC
28592	CORO2B	TGTGAGCCAGGCAGGGTAGGGATTA
28593	CUL3	AAGTGGTTGTGATTGCAAGGAT
28594	AXL	CTTTGCTGCATTCTGCCTCT
28595	METTL1	CACTGACTGCTTACTCTACCTT
28596	TOP3B	CACCCAGGCTGCAGTGCCATGC
28597	GLI2	AGCAAGAAGCCAAAAGTGGGA
28598	ZNF264	GCATCAGTTCTGTCAAGCTTCATT
28599	MUCDHL	CCAGTGACTCCGGCAGCGGCGATGAGGG
28600	RASSF1	ATGTCCCTGGGCCAGGGTCTGT
28601	PLAG1	GTTGCCTTGCTAGAGTTTGGAGCAGG
28602	TPST2	CAGCCTTGGCACACAGGCACAAGGGCT
28603	AF3P21	CCCTCCTGGTCTGTATCCTGGGCCTCA
28604	TM7SF3	CAAGGTGGGAGTATCGCTTGA
28605	RECK	CTCCACCTCACTCTCCTGCCTTGA
28606	SERPINA4	CGGGGAGGGGCACTGAGATGGGC
28607	RAD1	GACTGGCTTCACTTCCTCCG
28608	P2RX7	AGGCTGAGGCACAAGAATCACT
28609	BAZ2A	CCTGCTGATGCTGCCCTGGGTCCAG
28610	HTR2C	CCTTTGTCAAATGGTATTTTT
28611	IAPP	CCTGTAGTCCCGGCACTTTGG
28612	TP53BP2	TCAACGATTTGGAAGTCAGA
28613	IL6R	GGCTTTGGGTTGCAGGACCTCAG
28614	ALOX15	TTGCCTAGGCTGGAAATAGGAT
28615	CPT1A	CCAAAAAGTATTCCACTGGAG
28616	STARD4	CCCAAAGTGTTGGGATTATAAGCG
28617	B4GALT7	GTGCCCAGGCCTGTGGGTAGTG
28618	SLC10A1	GCATCCAGCAAGAACTGCACAAGA
28619	ALDH3B1	CCTGGGTCTTCCCTCTCCCTGCCTCAG
28620	CYP2B6	AGGGACATGTTGGCCAGGC
28621	CASP10	CTGTCACCCAGACTGGAGTGCAGG
28622	TCF2	GCCAGGATGGCGGTGTGCCGTGACAG
28623	KLK8	TGCACTCCAGGGCATCACATCCTGGGGCT
28624	KCNJ3	GCTCTGAACAAACACTGAATCAT
28625	IDH3G	TCTTCTGGCCCTTAGCTGGTGCCAC
28626	TGFB1	GGTGCTCACGCCTGTAATCCTAG
28627	SIRT5	CATTTTGGGAGAAATAACTAAAGCCCGCCT
28628	CACNA1D	CTAGCATATCAGTCACTGGGCCC
28629	LRRC2	CTCAGGAGGCTGAGGTGGGAA

28630	DNMT3B	TTGCAAGAGTTTAATTTTTGAAA
28631	SHANK2	CTCCTGTAATTTGCACTTTC
28632	JPH2	GGTCGAGACAATGAAACAAGAC
28633	SOX4	TTTTGGGGACTTTTCTCTCTTTACCCACCTCC
28634	PMCHL1	TAAAGAGACCACCTTCACTTGT
28635	BPGM	GCCCTTTAACTTGTCTTCTAGTTTAG
28636	SNX15	CCAGACTGGAGTGCAGTGG
28637	CBL	CAGGTTTAGAGGACCAGTGAGTTGGGA
28638	CNR1	ACAGCTGCTTTCTTCTTACACC
28639	EPHX1	GGCCAGTGCCTGCAGCCTGCC
28640	COL9A3	CGCCTGACAGCATACCTCA
28641	EGLN1	CCGGCCTCCCTGAGGCGAGGGT
28642	TLL2	TTTCTCGGCCCTGGACTGAGGC
28643	VENTX2	ACCCAGGCTGGAGTGCAATGACGC
28644	CDH15	GCCTGGGGCAGCCTCCTTCCT
28645	PCDHGA1	CTCAGCCCAGGCAGCCAGCTT
28645	PCDHGA10	CTCAGCCCAGGCAGCCAGCTT
28645	PCDHGA11	CTCAGCCCAGGCAGCCAGCTT
28645	PCDHGA12	CTCAGCCCAGGCAGCCAGCTT
28645	PCDHGA2	CTCAGCCCAGGCAGCCAGCTT
28645	PCDHGA3	CTCAGCCCAGGCAGCCAGCTT
28645	PCDHGA4	CTCAGCCCAGGCAGCCAGCTT
28645	PCDHGA5	CTCAGCCCAGGCAGCCAGCTT
28645	PCDHGA6	CTCAGCCCAGGCAGCCAGCTT
28645	PCDHGA7	CTCAGCCCAGGCAGCCAGCTT
28645	PCDHGA8	CTCAGCCCAGGCAGCCAGCTT
28645	PCDHGA9	CTCAGCCCAGGCAGCCAGCTT
28645	PCDHGB1	CTCAGCCCAGGCAGCCAGCTT
28645	PCDHGB2	CTCAGCCCAGGCAGCCAGCTT
28645	PCDHGB3	CTCAGCCCAGGCAGCCAGCTT
28645	PCDHGB4	CTCAGCCCAGGCAGCCAGCTT
28645	PCDHGB5	CTCAGCCCAGGCAGCCAGCTT
28645	PCDHGB6	CTCAGCCCAGGCAGCCAGCTT
28645	PCDHGB7	CTCAGCCCAGGCAGCCAGCTT
28645	PCDHGC3	CTCAGCCCAGGCAGCCAGCTT
28645	PCDHGC4	CTCAGCCCAGGCAGCCAGCTT
28645	PCDHGC5	CTCAGCCCAGGCAGCCAGCTT
28646	ZNF10	TGGGTCACAGAGTTCCACTTTTTCC
28647	GMDS	TCAAGATGTTTTAATCAC
28648	HOXD1	CTGAACTATATCTTGACAAATATTA
28649	TRADD	TGCTTCGAAGTCCCTCTCTT
28650	HUNK	CAGTTCACTGCAGCCTCAACCTC
28651	CLECSF6	TTTCTGAAGAAAGCAGAAGCTCTCT
28652	ZNF146	TGCAACAAATGAAATCCACATG
28653	RAD52	TTGCAATTTATTCTTGCTTCATTCTG
28654	XT3	CCAACATGGCGAAACCCCATTT
28655	CRHR1	TCGTGACAGCCTCTGACTCACCA
28656	OGT	AATTGCACTTCACTGCAGCTT
28657	MAP1B	GCCAGCCACACCACAGGATCT
28658	SLC20A2	CCCTGCAGAGGTCGCGTGCTG

28659	TMOD3	CCTGGGTAGAAGGGAAAAGACTGG
28660	TIAM1	ATCTTGACAAAGCCTCTTCTGT
28661	DISC1	TACTCAGGCAGTGCAGTACTCAG
28662	CYP8B1	AGACCCACATGGGAGTCTCCC
28663	HUNK	GTTGCTCAGGCTGATCTCA
28664	ARHGAP6	CCTTCCTCCTCCTCTTCCTGACC
28665	MOCS1	AGGGAAAGACGTCAGGTTCCTTTAATC
28666	ADH7	CTAAGTCCCTATTCACTGTGCT
28667	SART2	TTTTTTAAAGTAATGTTTTTTCTTA
28668	CMAR	TCATCCAGCTCACTCATCAATG
28668	SPG7	TCATCCAGCTCACTCATCAATG
28669	GNAI2	GTGAGACGCCACCATTCCTGGAAACCAC
28670	ATP6V1G2	GCTCACATCTGAATCTCCTTG
28671	KLK10	CTGTGTGACTTTGGGCAAGCCAAGTGC
28672	RXRA	TGCCCTCGAGCCAATGAGAA
28673	NOTCH2	TACTTCCTGCCAAGCATTC
28674	FUT7	TCGAAATCAAACCACCAGGCA
28675	MASP1	TCTAAGATACAATGAAGCCA
28676	A1BG	GACCTCCCAGGCTCAAGCGATC
28677	TPT	TTCTGTTCTTTCTGGCAGCT
28678	PTGS2	AATTGCTTGTTAAAATATTTTA
28679	POU2F2	TCCTCATCCTCCTCCTCCTCCA
28680	SLC4A4	TTTGGAGCTGTGCTTACTGGC
28681	G6PC	TATCACCCAGGCTGGAGTGGAGT
28682	ENG	GGGAGCACTGGTGTGAACTCACCCTGG
28683	PSMD7	CTCCGGTCACTCTTGCTGTGGTGCT
28684	LRP4	AGCTTTCAAAGAAAAACCAGA
28685	ARL2	GCATTTTCACAGCTGACTGACCACTC
28686	GPLD1	GGAGGAGGGAGAGATCAGGAAAAATAAC
28687	LILRA1	GGAACAGATCTGATGATGCC
28688	FBXL2	GTGGAGCAGGGTCTTCACCTTTT
28689	GFAP	CCAGGGATGCCATCTGTGGG
28690	APPL	TGCCAACCAGGGATTAAAGCTATT
28691	EIF2C1	CTGGGCTTGGATCTATCCTGATCTGG
28692	CTSD	TGGTGCTGGGACTGAGCCA
28693	KLRD1	ATAGTGGCAAGATCATAGCTCA
28694	IL21R	TAAGAAGCTAAGAAAATATTTCT
28695	MN1	ATGGAAATCCTGGAGAATAGTA
28696	EN2	GGGACCTGGTGGGAGAGAGGGGACTTCCAG
28697	ITGA3	TACCAGCCAGCCTCCAGAA
28698	PPP1R12B	AGCAGAAAGGATTCAGCATTTAA
28699	RFXANK	GGCAGGAGAGGGGGAAGAACTCTC
28700	FKBP1A	TGGGTAAGGAAATGGAATAC
28701	STS	TCTTTAGAGCTCAGCTTTCTGAGGCC
28702	CYB561	GGCCTGGAAATAGTGTGATTAGAACA
28703	COL1A1	GCGTGTGCGCTCCAGCCCAGCC
28704	TESK1	CAGTGGAGCCCGTGGTCTCAGGCCT
28705	ORM1	CTGCCTGGCTCCACGTGCCTCCTGGT
28706	DBY	GTTTGAGTTTTGCAGACTT
28707	CBFB	AGGGATACTGGAGCTTCTTCAT

28708	TKTL1	TACCCTTTAAACTGTCACTGCATATG
28709	TAF4B	CCTGGTGACCAAAGTGGCTCCGGTCAGCGC
28710	WHSC1	TTCCAGCAATTCTTCTGCCTCAG
28711	PPARGC1	GATCTTCCACTGCAAATTTCA
28712	COL1A1	CCTCCACTCCTTCCCAAATCTGTCTCC
28713	AQP6	GCTGCATTGACAGGCAGCCCTAGGCAG
28714	PRKACB	AGGCTGTAGATCAGAGGTTC
28715	ZNF192	GATTACATTGAGCCTATTCAGAAAAAA
28716	GNAT1	GGCCTCTTCTGGCCAGGGCCTGTGCTGCAGT
28717	FUT1	TTCATGCCATTCTGCCTCAGCCT
28718	CRY2	GGGCAGGGTAGAGAGGGTATGTCCAG
28719	SERPINF2	GCCCTGGTGGTGGCTCGGGAGGCGAAG
28720	PACSIN1	GCTTACCTTGGAAAGGTGGGAA
28721	PFKFB3	TCTCCTGCCAGAGCTCGGGATCT
28722	ADCY1	CGGGAGGCGGAGGTTGCAGTG
28722	BRCA1	CGGGAGGCGGAGGTTGCAGTG
28722	PAICS	CGGGAGGCGGAGGTTGCAGTG
28722	RBM3	CGGGAGGCGGAGGTTGCAGTG
28722	TNFSF14	CGGGAGGCGGAGGTTGCAGTG
28722	VHL	CGGGAGGCGGAGGTTGCAGTG
28723	WNT3A	GGCGGGACTCCTCCCTGGGGGTGGGG
28724	PCDHB16	AAATGTTCTAAAATTGTGATGGCGGAT
28725	CLN5	TTGGTGCATAAAGTTAAAATGCACAT
28726	EDAR	TGCAGGTGAGTTTGCAATGA
28727	ACVR1B	GGCAGCTCTGAGCCGCGCTTT
28728	TCERG1	TTGGGGTTTGTTTTGTTTTGATT
28729	PIWIL1	CTTTACTACCTCTACCTGCAGAA
28730	PRND	GTGCCCAGGAGCGGCGATG
28731	NR1I2	TGTTCTGAGATCAAAGTGGTG
28732	ICAM1	GGGCTCAAGTGATCCTCCCACCTCA
28733	EVPL	CCCTCTGTCCAACCACTGT
28734	LZTS1	GAGGTGTAGGGGTGGAATGAGCCGCGGGGAA
28735	SERPINB9	TGTCACCCAGGCTGGAGTGTAGT
28736	C1orf6	GGCAGTTCTGGGGGTTCCTGTTCCTCCT
28737	AQP6	TGTTACCCAGGCTGGAGTGCAGT
28737	CLECSF12	TGTTACCCAGGCTGGAGTGCAGT
28737	FCGR2A	TGTTACCCAGGCTGGAGTGCAGT
28737	MDM2	TGTTACCCAGGCTGGAGTGCAGT
28737	NQO1	TGTTACCCAGGCTGGAGTGCAGT
28738	CYP1A2	TGTCACCCAGGTTGGAGTGCAGT
28738	PRKWNK3	TGTCACCCAGGTTGGAGTGCAGT
28739	CYP4F3	TGTTGCCCAGGCTGGAGTGCGGT
28739	HMG20A	TGTTGCCCAGGCTGGAGTGCGGT
28739	SLC39A1	TGTTGCCCAGGCTGGAGTGCGGT
28740	HCFC1	AGGGTCGAGCCTAGGGGAGCTTGA
28741	XBP1	CATCCAGCAGTCCAAGGTATTGAGA
28742	POU2F2	CAGCATGGTTCACTCCAGCATGGG
28743	TACC1	GTTATAGTTCTAATATGGAGATG
28744	ARVCF	CTGCTTTCAGTGCCTGCTGT
28745	KRTHA5	GCCATGGCTTCCAAATGCCTCA

28746	NFE2L1	GACAGGCTGAGAGCACCTCCCCA
28747	FMOD	GCTCTTAAGTTCTTCCCAATGATCTGAG
28748	MTA1L1	CAGGGCACCCAAACCTCCCTTC
28749	CD4	TACTTTTGGGTTCACAGAAGCACAG
28750	APLP2	GCTCACTGCTTCTGCTTT
28751	FUT6	GCAGTGTCCAGGAGCGGCAGA
28752	ZNF198	GCTGGGTATTACCATGTAAA
28753	CPNE3	AGGTGCTTGGGAACTGCTGGT
28754	L1CAM	TGCACCCCTTCCTGGGCACACGCTGC
28755	FAP	CCTCAGACAGTTTGCTTATT
28756	FEN1	CCTGGCTGGCCAACTGGTG
28757	AVPR1A	AGAGAAAACCAGGAGACACTCCC
28758	RERE	TGCTCCTAGCCTGTGCTCTGCCAGC
28759	CPNE6	CCCTCAGCCTCTCAGTGCCT
28760	MAPK4	CATCTGTCGCACCCCTGTATTT
28761	TBX22	GCATCATTACAATACAGTATTT
28762	ARSA	ACCAGTGGAGACTTGCACATCTG
28763	ADRBK2	TCTCCCACTGCCTCCA
28764	MPP2	GAGGAAGCAAAGGGTTTTGTTTTGGAG
28765	PRND	GCTCACTGCAGCCTCTGCCTCC
28766	SOX13	TCCTCCCTCATGAGCACAGGGTC
28767	SP4	GTTTACACACCTTTGAAAATC
28768	NCOA6	TGCTCTGTGTACCTGCAGCA
28769	PFKFB3	GGCAAAGCTCTTCCATTTTGAGAGAGA
28770	RAB5A	CCTTGCTGCCAGGAAGCTTCGGCCCC
28771	GYG2	GCTTAATCCATTTGAGTGC
28772	UBE3A	TTGCCACCATTTGTAGACCAC
28773	TNFSF4	TTACATCTTCCTCAGCCATCTTTGTGAG
28774	CSNK1E	TGGACCAGTGTTTGCTTAGTGTCTT
28775	BDP1	CAGGCAAGAGTGCAGTGGTATG
28776	DYSF	GGATCAGCTCAGACATATTTCA
28777	TM4SF2	CTTTCCTACCTTCTTCAGGCTGCCTAAG
28778	MEFV	TTGTCACCCAGGCTGGAGTGCAGT
28778	PCDHB16	TTGTCACCCAGGCTGGAGTGCAGT
28778	PSMD9	TTGTCACCCAGGCTGGAGTGCAGT
28778	VHL	TTGTCACCCAGGCTGGAGTGCAGT
28779	DCX	CTGTCACCTAGGCTGGAGTGCAGT
28779	SIGLEC8	CTGTCACCTAGGCTGGAGTGCAGT
28780	RAB36	GCCTCAAGAGGCCTCAGAACTG
28781	MECP2	TCCATGGTAGCTGGGATGTTAGG
28782	CHEK2	CTCGAGTGGGGTCAGGTGCCT
28783	PCDH11X	TAACCAAAAAATTGCAATTTGTTTAAT
28783	PCDH11Y	TAACCAAAAAATTGCAATTTGTTTAAT
28784	RAD18	CCAAGCTATTAAACAAAAAGTATGCA
28785	PPP1R3C	TGTGATCAAACTGTCAGGCTTGGGTTC
28786	DCK	TCTGCTTTTAAGTTTTTCTCTTTTTCAGA
28787	RAB36	GGTCTCGATGATCTGACCTCGTGATCT
28788	SHANK2	TCATCACTTTGATTTCTAATCCA
28789	XT3	AAGGAGTCAGGAGCCACTGTGA
28790	GRIN2B	TCTTGATAAAGAAGATTCTGTGGTC

28791	MAP1B	AAATTCCTGCAAAATTACCTACCCCA
28792	GAS2	TTAGAAACACAATTCTAACTAAAGATA
28793	GA	ACATGCTGCTGCTACTGCTAACAGCCA
28794	TYRP1	GCCCTACTCTCTTATGCATTAGTATCA
28795	ZAN	TTCATTCTTCATGGCATCCT
28796	PAFAH1B1	CCTCCTCCCTCTTTTCCTCTGGATGCA
28797	MUC4	AGAGGACGACTTCAGGATGC
28798	TRIM39	ATCTGCACGTCACACCTCTTTC
28799	ADCY8	CCCTCCTCCTCCTTCTTTGCCA
28800	TRPS1	CGGCACCGGGCACATCCT
28801	RAD23B	CAGTCTCTGTTTCATGGCAACACTGGA
28802	INMT	GACCTGGTGATCCACCCACCTCG
28803	EIF2C1	TAGCAGCCATGTGGTGGGCATGTGTG
28804	CNR1	TCAGTGTTTATGTGCTATTA
28805	CTNND2	ACAAAAGCGGAAGATGCTGCAGT
28806	HLA-G	GCTCAGATTGAAAGGAGG
28807	BSN	TCAGAGCAGAGGGGCCAGGACT
28808	MBD3	TCCTGGCAGTGGGGACTGCCTGG
28809	HTR7	AATCCATGCAAGTGGGAGAAA
28810	SHOX	CTACCATGCTCCTTCCTTCATCCCG
28811	SOST	TCAAAGAAATAACATCATCCATTG
28812	DHCR24	GTGGAAAGTCAGAGGAA
28813	TACSTD1	ACAAGTGTCTTATATATGCAGA
28814	KIT	GAGAGGGAGGTATGGACTGGGGGC
28815	GPRK7	CACTCCAGGCTGGGCAGCAAGAGCAAG
28816	NFYA	TTGTGGCCTGCTTGTCCCTCTGTTG
28817	NFATC3	CCAACTTCTCAGCATGTTTCTCTCCTTGGACC
28818	CDX1	TTTCTGCCATACCCCATGCCCAGCC
28819	GJB2	AGCATTGTAAAAGCATTTT
28820	DCN	ATCAAGTGACTTCTGCCCA
28821	BMP6	CACAGCCCAGGCCACAGCCAGGG
28822	SEPN1	CCTGGCAGAGGAAGAAGGA
28823	PEX7	ATATAATCACTGCTGTGAT
28824	RAP1A	AGCAGAAGATCGTCAGTATTTAA
28825	GNPI	CTAGGAGAACCTGGGGGTGGATTTGG
28826	TXNRD2	TACTTCCCCTCTCTACTTCCTC
28827	HSPA4	GCCTCTCTGTTACTTTTGGCCT
28828	SHANK2	TCTCAGCCTGCCGCCCAGC
28829	ALDH6A1	AGCTTTGCTCAGATCAGATCGA
28830	CORO2B	ATCCTTCAGGTCCCCACCCTCAGCTG
28831	VPS26	TTATCTAGATCTGGGTAATTTCATGTT
28832	AKAP13	CAAAAACACCGTGGATGCTGAA
28833	LTBP1	ACACATTTGGAGAAAAGTAC
28834	IL10	GCGCGCACCTGTAATCCCAGCT
28835	RARB	TTCAGTTAATCAAATGTCATTTGTTCA
28836	JUNB	ACAGGGAGGGGAAGAGGGGGC
28837	M6PR	TGCTTCTCCCACCTCT
28838	WHSC1	GGCTTTGGGGTAGCGGCCCTGAGC
28839	DAAM2	TTTCTAAAACTCCATCAAGGCT
28840	AIM1	TTTATTAGGCCTGTAATTTTGGTTCTTG

28841	SIM1	TGACTTCTTTGTGGTTTCAAATCAG
28842	CYP4F3	CAGGAGTCAGAGGTTTCAGTGA
28843	ACAD8	TGTCTGTGTCGTTCTCTGTGCCAC
28844	MCL1	TTTGGGAAGCTATGGAGGAGGA
28845	SALL2	TGGCCTGTTTTTCTGTACCTGCTGC
28846	HTR1E	AGTGAGACTTCTGGAGCCAG
28847	SLC6A12	AGTTCAGAGAGGGGGTGTGATTTGCCT
28848	TGM1	TCTCAGCCCCAGGACTCAGT
28849	EPB49	CCTGGCTGGACCCTGCTGCCTGT
28850	ZNF239	GCAATGACACAAGAAGAGAGT
28851	PARK2	TGGATTTCAGTTCAATCAAACTTT
28852	DLC1	GCAGTGTCATGCCTTGGCGTTTCA
28853	DNAH9	AAGGTGAGGCTGAGCTGAAGGAA
28854	EPB49	GTTGGGAGGGGCAGGAGGTGGGGT
28855	IL21	CACTATGTTACATACTCTAATATAGTA
28856	SRGAP1	TCCAATGCTGCACCACTTGTA
28857	FGFR2	TTAGCCTGATTCTCTTCAGTGAA
28858	PPP2R2C	CCAACTGCAGAGCCACCAGGGA
28859	TNFRSF8	TCTGCAGCCCTCAGCAGCTGCA
28860	SS18	AACACAAAGAGATATTTAGGAAAATGC
28861	SLC1A1	CATCCTCTGCTTGTCATTCTGCT
28862	ELF3	GGCTTTTTCTAACCTTTGTCTTAGCTA
28863	MAPK14	AAAGGGTCTTCTTGGCAGCTT
28864	UBE2B	ATGAAGAAAGTAAAACCAT
28865	GASC1	AAGAGGGAGATCTGGGGCTGT
28866	CD22	CCTGTTCTCTTCCACTCTCCTTGCTA
28867	ADAM19	CTGACTTCTCCCTATAAGAG
28868	RTN3	TTCCAAGAATGCCATCTGATAAAAA
28869	CCND2	CAATCCTCGCCTCCCTTCTGCTCCA
28870	ZNF137	GGGCACTGGCAATTAGAA
28871	TAPBP	ATCCCAGCCTGCCTGCCTCGG
28872	SCN8A	GCAGAACAGCTGTGGAGA
28873	MHC2TA	CCAGGCTGTATCCCATGAGCCTCAGC
28874	CAPN10	GGGGCAGCCCTGCCTGCGGGGGAG
28875	RAD50	TAGTCAATAAGAAAATATATTCT
28876	MEOX2	GTGTTTAATAAATGATCCTTT
28877	FCGR2B	TAACCGACTGCACCTGCTGTCTTCA
28878	HIP1	CACTACCCTGAGATCTGCA
28879	EDARADD	GGGAGCTCTTTGACTCTCGTGGGA
28880	DCX	CTTATAGCTCATGTATCTTTAGGTCT
28881	PVR	TCATTGCAGCCTTGACTTCTC
28882	ADAMTS4	GTCGCCCAGGCTGGAGTGCAATGGC
28882	NF2	GTCGCCCAGGCTGGAGTGCAATGGC
28883	KIF5C	TCCTGGAGCCTCCTCTGGGCAGTGCAC
28884	NPAT	CTGAGACTTACTCATCTGGAA
28885	DCLRE1C	TGGCTCACACTTGTAATCCCAGCACTT
28886	PAM	ACTATTTTCAGAATCTGAATGTAATTTGTGT
28887	RRAS2	CTCTCCTCAGTTTACATCTTGTT
28888	TNFSF13B	TGCACGCAGGACATCAACAAACACAG
28889	ESR1	TTACCAAAATATCAGTAGTAA

28890	DMC1	TGTGCTTGTAATCCCAGCTACTC
28891	PPP2R4	TCAGATTAAAGCCTCTGTTTT
28892	EYA1	ATGGATGTCAAGTGTCA
28893	PVRL2	GACTTCTCCCGTCTCTAGGGC
28894	CDS1	ATGTTTTAAGATTGCACCTG
28895	GYG	AACCCATTTTATTTCCTGTCCTTA
28896	HYOU1	TGTTTGAATTCTTTCAGTAGCTGTTGA
28897	M17S2	GAACAGGAAGAGGCAGCTGGTG
28898	HSD17B1	GTCGCCTGTAATGCCAGCGCTT
28899	TCP1	TTTATTTATAACAATGTTAA
28900	PIGB	AAGATTCATGGAACTTAGAAAAAA
28901	HK2	TCTCCACTGAGGATGTGAGCC
28902	FANCF	GTCACCCAGTCTGGAGTGCAGT
28903	KIR2DL3	TCTGAACGTGCCTCTCTCTTGCTTA
28904	ARNT	GCAACAGCTACAACAATGAAGA
28905	MPV17	TGCCGGTCAGAGCTTAAGAGGACT
28906	GAD1	GGCGCTGTGCAGAGGAAAGGC
28907	PPP1R3A	AAACTCATCATTTTAGTCA
28908	COL4A1	AGAACTCCATCAGAAAACCAAAGGGTG
28909	FKRP	CGGTGAGGGGTGGAGGGATGTCGCGGAGA
28910	TRIM9	ACAAACCTCAACATGTGCCA
28911	F11	GCTGGGAGAGGGTGTTGAGTTC
28912	IL13RA1	ATGCTGACAGTCATGCAGTCTGGGAG
28913	GNE	GAACCCCAGGCTGGAGTGCAG
28914	ANKRA2	TAGTACTCCGGCAGGATGGGCCTCGG
28915	PFKFB3	CCCTGCTCTTCCAAGGTGGGGACA
28916	IGFBP1	ATAATCAAAGCTACCTGTGGTGA
28917	ATP1B2	ATTTTTGATAACAGAGCTATGA
28918	ATP7B	CTAATCCTCCCAACCAACCAG
28919	MAN2A1	TCCTTTGGCTGAGGAGAGTGT
28920	TNFSF10	GAGAATTGTTTGAACCCGGGAGGCAGA
28921	TNXB	AGGGAAAGGCCCTGGGAGGGGCTCTCT
28922	DCX	TTAGGTCTTTGCCTTCCAAGCACTGTA
28923	CLN2	ATCATACTCAGGTCTCCCT
28924	HAO1	AAGCTCAGGTTCAAAGTGTTGG
28925	TCP11	ACCATCAGCAAAATGCCAGA
28926	SLC29A1	CCCCTGAGGGAGGGAGCTGTCA
28927	ATP2A3	CTGGGAGGGGGCAGCCAAGAAGC
28928	APBA1	TGAGCCAACCTTAAACCTCTTC
28929	WRB	GCACAGCCAGGAGCGTCCG
28930	ANXA8	CTCAGCACCACTCTTGTCCCC
28931	SMAC	GCCCAGGCTGAAGTGCAGTGGG
28932	GH2	TCTCCTGGTCGTGGAAGGTGCT
28933	FMOD	CATGAGTGGTGGCTAACCTGACCA
28934	YWHAZ	ATGATCCCCTCTCTTCCTC
28935	IL2RA	AAACATCCTTCAAGAACTCT
28936	GLS	AGCAGCAGCAGCAGCAGCACCCGC
28937	DGKI	TCTGAAGGCCTTCTAAAACCTTCTGA
28938	CHAD	GGCCTCGGGCACTCCACTACC
28939	DDX11	CAGGAGGCTGTGGCAGCTGTG

28940	DUOX1	CCCACAGTGGACTGGCAGCAGC
28941	PDE7A	GAGAATCGCTTGAACCTGGGAGGCAGA
28941	PTAFR	GAGAATCGCTTGAACCTGGGAGGCAGA
28942	KCNA6	TGACTCTCTCCCCTACACCCACTACC
28943	LRP1	TCCAGGCCCATGCACTGAGGA
28944	PRKY	CTCCCTCTAGCACTTGCTACCTCTCTT
28945	GBA	TGCCCAGGGCTGGAGGCCCCTAGAAAA
28946	AQP2	GCGCCCAGGCCAGTGCTGTG
28947	MAP3K8	ACAAAGCAGCTAAAAATGACACAGCT
28948	MMP19	GAACTCCAGCCACCACTTTCCTGTGC
28949	HTR4	GTCCTCCTCTTCAGGACATGCT
28950	GRINL1A	ACTCACTGCAGAGATCATGTTC
28951	PCDHGA1	TCCCTGGGTTGGGGAGGCAGGG
28951	PCDHGA10	TCCCTGGGTTGGGGAGGCAGGG
28951	PCDHGA11	TCCCTGGGTTGGGGAGGCAGGG
28951	PCDHGA12	TCCCTGGGTTGGGGAGGCAGGG
28951	PCDHGA2	TCCCTGGGTTGGGGAGGCAGGG
28951	PCDHGA3	TCCCTGGGTTGGGGAGGCAGGG
28951	PCDHGA4	TCCCTGGGTTGGGGAGGCAGGG
28951	PCDHGA5	TCCCTGGGTTGGGGAGGCAGGG
28951	PCDHGA6	TCCCTGGGTTGGGGAGGCAGGG
28951	PCDHGA7	TCCCTGGGTTGGGGAGGCAGGG
28951	PCDHGA8	TCCCTGGGTTGGGGAGGCAGGG
28951	PCDHGA9	TCCCTGGGTTGGGGAGGCAGGG
28951	PCDHGB1	TCCCTGGGTTGGGGAGGCAGGG
28951	PCDHGB2	TCCCTGGGTTGGGGAGGCAGGG
28951	PCDHGB3	TCCCTGGGTTGGGGAGGCAGGG
28951	PCDHGB4	TCCCTGGGTTGGGGAGGCAGGG
28951	PCDHGB5	TCCCTGGGTTGGGGAGGCAGGG
28951	PCDHGB6	TCCCTGGGTTGGGGAGGCAGGG
28951	PCDHGB7	TCCCTGGGTTGGGGAGGCAGGG
28951	PCDHGC3	TCCCTGGGTTGGGGAGGCAGGG
28951	PCDHGC4	TCCCTGGGTTGGGGAGGCAGGG
28951	PCDHGC5	TCCCTGGGTTGGGGAGGCAGGG
28952	FLT1	GCTCCTCTAGTAAGATGCACTGA
28953	ITK	TCTCTGCCCTTCCTCTAGCCTCT
28954	SRP68	ACAGATGGGGCCTTGAAACGC
28955	MICB	AAAGTGCTGGGATTACAAGAAT
28956	PPP2R5B	AGGGATCTTCCCCTGCCCCGC
28957	SLC23A1	TCACTTCAAGACTAATGCA
28958	CBFB	CATGAGCCCTTTTTCTCCA
28959	MALT1	TTCACAGTAATTATGTTCTA
28960	SH2D1A	GGGAAGTTGGCTGGTGTCCCTTGTCTT
28961	CDKN2D	GGGACGGGAGAGCAGCGCACGC
28962	ADCY6	GGCCTCACAAAGTGCTGGGATT
28962	EIF2S3	GGCCTCACAAAGTGCTGGGATT
28963	PAX6	TTCAAACCATTGTGGTCTTCAAGCAAC
28964	MYCL2	CGCCCAGGCTGGAGGTTAATG
28965	TMEPAI	ACTCAGTGTTGAAGCCCAGTGTCCTCA
28966	TPD52L2	AGGAAACTGACCCTCAGCAGCT

28967	GAD1	GGAAAATGGACATATTCTTTTTGG
28968	GLO1	ATGTGAGAAAGAAAGCAGGCTAG
28969	P2RX7	AGGAAGAGTAGAGCTCTGGTCCAGCT
28970	JUP	TCACACCCCTGTCCCACCCACACAGCTGCCCT
28971	MUC3B	TCATCCCTTGTGGGCACCACCTCTCCC
28972	ADCY6	TGCCTGGTTTTGGGCAAGTTTCTT
28973	FUS1	AGGGAAAGAAAGGAGGGA
28974	SLC21A2	GGGCAGTGTGGGACTGGGGGTG
28975	CACNA2D3	GAGTATGAGAAAGACGTTGCCATAGA
28976	MTL5	GAACTGTCAGTCTTTCTAA
28977	CSDA	CCAGTTTCAGCAACCGCTAGGTTTCTA
28978	NEBL	GGTGTTCCATTGAACAGCTTTG
28979	GABPB1	GACTGATGCTGGAATTACTCCTGTAGGT
28980	MCP	TTAAGCTGCAAAAATGTAT
28981	TSN	CTTAAAATGTGCAGTAATAGC
28982	DPEP1	AGCCTTGTGACCTGGGAGGCAGGAG
28983	ZNF83	CAGTTAGCATTAAAGCCCTGT
28984	KRT14	CCTCCCTCCTCTGCACCA
28985	COLQ	GCCAGACCCTGGCCAGCATGGTTGTCCTG
28986	CSF3	CACCTTGCCCAGCCCTGGCCA
28987	IL1RAP	ATGAACAAATGTAAAATTATA
28988	HMX1	TGCAGAGACTCTGGGCTGCGCAGCCCC
28989	NUDT2	GGATCAGCTACCTGTTTCTGCC
28990	GALNT1	TGAACAAATTAGATGTTTCA
28991	HYOU1	CAGTACCTCTGTGGT
28992	CPD	TCTTTAATATTGCCTAAATC
28993	CYP4F3	CACTGCGCTCCAGCCTGGGGGA
28994	PSMD9	ACCCAGGCTGGAGTGCAGTGTCGTG
28995	DLD	GAGGGGAGACCTTGGCGGACGGC
28996	CSE1L	AGACAGGGTCTCACTCTCAT
28997	APPBP2	CGGCTGCAGCCATCCCCC
28998	PFKFB4	GTTCCTACTGTGGCCCAGCTGCC
28999	CUL3	TACTATATGTTGCATAGTATTTTGCA
29000	JPH2	CTCTTTCAGCCTCTGCTGGCATCCTGCT
29001	OGG1	GAGATCGCGCCATCACACTCCA
29002	KLK8	TCCCCAGGCTCTAGTGCAGGAGGAGA
29003	C18orf1	AATCATACCCCTAACATCCAG
29004	RS1	CAAACATCCTTCTTGATGCTTT
29005	GABRA6	GTCTTCCATTGTTCAGTATTTTT
29006	CNP	TGTTTTTAGAGACAGGGTCCTG
29007	CDC34	GGCAGGCGGCGGCCCCGGTGG
29008	TACR1	GCAGCTAACTTATCATCACACAAC
29009	MPP3	GCACACTTCACCATCAACATGAATTA
29010	NTSR1	AGCCCCGGAGGCGCCGGACAGAGCCG
29011	ARG1	GGAGACAAAGCTACCACATGTGGAAA
29012	SI	TTTAAGGCATATTTAACAAAATTTGAA
29013	ERBB3	CAACATAGTAAGACCCCCATCTC
29014	WNT3	CTCCCTCTCTCTCATCTTA
29015	SLC22A1LS	GGGTGTGTTACTCACTGGCACGATGGAG
29016	ELMO2	TTTAACAACAGCCACTCACCTT

29017	BNC	ACTGATACAAGGAAAACTTGCA
29018	GALNT3	ATTACACCACTGCACTTCAGTCT
29019	PREB	TCCTCCTCCCCTCAGCCTTGTGGCC
29020	HSD11B2	AGGGCCCCAACTACACACCCCCAAGCCA
29021	TGFB1	CCCTGAGGAGCCTCAGCTTTCCCTC
29022	PRIM2A	GGATTACAGTTGTGAGCCACT
29023	GLS	CTAATCTTAAAACTACAAGTTG
29024	ANKTM1	TCACTACCCCCAGGAGATATTCA
29025	FUT1	AGAATGCTGGGTTTATAGATGTGAGCC
29026	FCER1A	AACTGGTTAAGTGGCATGTAATA
29027	MYLK	AGAGGAGGAAGACGGCGAGGACGTGCGAG
29028	KCND2	AAATTCATATATCTTATTTCA
29029	MLLT7	CCTCCTGGCCCTCGATGCTTC
29030	RPL7A	ATGTACACTGTTGAGTTTTCTG
29031	FGFR3	GACTTAACACTTCTTACGCAATGCTTC
29032	IGF2R	TTGAGGTGTCAGAGAAAATGAA
29033	PBP	GTAGGCATCAGTATGTCACTCTGG
29034	LUZP1	ACATAAAAAGGAAATCTGTC
29035	BACH2	GAGAGTTTGGACATCTCACTCAAAA
29036	CELSR3	TGAATGCTCCAAAGGCCAAACTTC
29037	CYP7B1	CATGAGTTACACTGGATGA
29038	NRXN2	TTTTGTAAAGTGTCCACTGCTCG
29039	GALNT7	CAGAGGAAGTTTGTTTTTTAA
29040	REGL	TGTCTGGATTGGCCTCCATGACC
29041	GALNS	GGAGACACAAGATCAGTATGTGTA
29042	FPRL1	TTGCATTTTATCAAATGCAT
29043	CDC2L2	CACCTCCTGGGTTCAGGCGAT
29044	OGG1	GGGGAAAGGCGAGCAGCTGGCA
29045	AQP1	CCCTTGAAGTTGTGGAGGAGGTGA
29046	HMG20A	GTACAGCCACTCTCCCGGGTCT
29047	SEPN1	AGCCCTTCTCCTGCTGCTCTG
29048	GSTT2	CACCGCGTCGACGCCTTCACTGC
29049	WHSC1L1	AACAGCCCAAACTGTATACATT
29050	PRDM2	ACTTTTAAAAGCACGTATTTATGTCC
29051	PPEF2	CCTGAACTTTCCTTCCTGTCACTGTGA
29052	TFG	TAGCCATCTTACTTGGCTTTTTACTAT
29053	HOXC4	GGGGCAGGAGGAATGCAGGAGCAGG
29053	HOXC6	GGGGCAGGAGGAATGCAGGAGCAGG
29054	CBFA2T2	GCTCCATTTGGCACCTGCTGAGCCA
29055	LOX	AGAAAACAACAAAAGAATTTTTGTTT
29056	ZNF165	GCCCATTCCAGCCAGGTGGAA
29057	CBFA2T2	TGTCCCCAGAGTTTCTTGAGGGCTGG
29058	NLGN3	TGTGTCTGTCATTTCTCTTTCA
29059	WNT1	TTCTGCCTGCTCCATCGCGCCAGC
29060	GJB3	ATGGCTCGGGGTGGAGCTAGGG
29061	DEF6	CTGGCCTGTGGGTGATCCCAGCTCTT
29062	ARHC	CCTTTGACCTTCCCCAAAGGA
29063	TEM8	ATAGTGGGCTATTACAGG
29064	AGTR1	TTTGTGAAAGAAGGAGCAAGAGA
29065	CNGA1	AGTGTCTGTATTTTCTGATTTTTTC

29066	FZD7	CCGCTGCACTCGCGGCCGGCGATGCGG
29067	HOXB3	GGGGTAGAGGAAGACGAGACAGGA
29068	ADD2	GGTTTCATCAACATAAGAGGCCA
29069	CALM3	GCTCTTTCTCCTTCTTCCCTGAGTC
29070	BSN	TGTAGGGAGTTTTCCAGGCAG
29071	CHES1	AGGGATGTCAACGTCAATATCA
29072	SGT	CAGCCCCCAGACCCTTCTTGAA
29073	CRSP6	TCAAGTGATCTACCTGCCTCT
29074	GCNT1	AAATGAGAAGATGTGACCTGTGCCAA
29075	CRAT	GGCTGTAACTCAGCGACCTTGG
29076	C18orf1	CCCCATCTCGGGGGCTTGCTGCACT
29077	ATP6V0E	AGAGAATGCCTTCTAGATGC
29078	PRKACA	CCCCACCCTCCAGGGTTAGGGGGAGCA
29079	ADH4	TGCTGGGCTTCATACCTGGGTGA
29080	PAX3	TAGTGATAGAGTGCAGTGA
29081	RHAG	TTCAATGATTAATTGAGGGGA
29082	KCNE3	AAGAAGCAGAGTATGAGAGA
29083	PVR	CGCCAAGTCATCCTCCCACCTCA
29084	KRT4	CTCTCTCTGCCCCAGGATGATCTTCTG
29085	LTB4R	ACCACCTAGATCATAGCTTGAACT
29086	CR1	CTCCCAGGCTGGAGTGCAGT
29086	XRCC2	CTCCCAGGCTGGAGTGCAGT
29087	HTR1D	CATTAGAGATCTGAAAACTCATT
29088	VAT1	CTAGTGTCCCTTCAGCCTGGGCTG
29089	ATRN	TCATCCCAGGAGATCTTTCCTTG
29090	ARNT2	CACAGTGGTGCAGGCACATTTCCAAGC
29091	BAZ1B	TTGGAAATTTTGAGCACCCAAGCTCTT
29092	GYPA	AGTGTCACTCATTTGTAGTAAAACT
29093	DEF6	CCAAGTTGTGGAAGCACATTTCTAAAT
29094	ATP1B1	AGTCTTTTCCTGTGGTGTTAGGTCTTTA
29095	VENTX2	AATGGGGTTTCACCATGTTAGCC
29096	PLGL	AGACCTAGGTCAGACTTTT
29097	PTPRO	GGTCAGGGAAGAGAGGGGTTCTACCCAC
29098	KCNK5	TTCCTAACCTTCCATCATCC
29099	SLC6A3	GAAAACACAAACAACAAAGC
29100	M11S1	TACCACCCTTTTCAATTGCTA
29101	C1orf6	ACATGCTGCTACTGCTATTCCATGGAT
29102	MDM1	GAGACAGAGAAGGGAAGTAGG
29103	MTM1	TCTTTCATGAGCTTGCCTAAAAT
29104	PRKY	GAGAATATGGAACTCAGGAGGCGGA
29105	SPN	CCTCCAGCACCTTCCCTCTCA
29106	F2RL3	ACCAGCCTGAGCAACATGGTAAAACC
29107	PCDHB13	CTCCCAGGAAGCTGAATCCAGCA
29108	RANBP3	GGCAGTGGTGGCACGGGAGCAGGCTAG
29109	MIA	TTGCTCACTCTCTTGCTCACAG
29110	PIK3C2B	GCTTCCCTCCCAAACTCCATTT
29111	F2RL3	CTGGGAGGCGGAGGTTGCGGTCAGCTG
29112	NR2E1	ACCAACCGCTCCGCCCCGG
29113	ALK	GGGTGAGGAGGGGGCGGCAAG
29114	AIM1	CCCAAGTAGCTGGGACTATAGGCACAC

29115	ADAM19	GCTTCTCCAGCCTTTCTCCCTCA
29116	CDC2L1	CTTCAGCCTCAAGTTCTGAGGTC
29116	CDC2L2	CTTCAGCCTCAAGTTCTGAGGTC
29117	IFIT1	CCCTGCAGAACGGCTGCCTAATTTA
29118	VDR	CCACCAAGCCCATCAGAAGGA
29119	EZH2	GCTTCAGGAACCTCGAGTACTGTGG
29120	MS4A2	CACCCTACCTGCCTTTTATAG
29121	C18orf1	AAGCAAATTATGTATTTCAAT
29122	SEMA3F	CTACCTGCTGGACAGCCTCC
29123	FANCF	CATTTATCATTAATGCAAGAA
29124	SULT1A2	CAGGCCCTGGGATTTTGAACAGCTCCG
29125	HOXB6	GGCCTGGATTTATCATTGGGTTGGG
29126	HMGCS2	GAAGACCTCTTCCTGAATCACTGGA
29127	ABR	ACTGACCATCGGCTGCCTGTG
29128	MME	AAGTGGGGCAAAACCTTGCTAAT
29129	MTMR8	ATGCTAGGTATACCTACAGCA
29130	CUTL1	GGTCCCTCAGCTGCGAGGCT
29131	LETM1	CAGACAATGCCTTCTCCATTACTTG
29132	KRT6A	TAGCTCTCGGTCCCACAGTCCTCAG
29133	SECTM1	GTCACCCACTCCTGGGTGCGTGCAGAC
29134	MTR	GGAGGAAGTGGAAGGGACAGGAGCACATAGGT
29135	KCNN3	CTCCTGAGAGAGTTCTTTCA
29136	RNF3	TGTCATTGTCTTCTCCACCGGG
29137	PIGH	CAGTCATGGTGTCAAGCACATTAA
29138	CDC25B	TGGGGGCTCCCAGGGCAAGGGTTA
29139	AK3	TCACTCTTAGGCTTTTAAACAAT
29140	DAAM2	TCATGCTGGCCTTGGTGG
29141	PCDHA9	TTGGACCCAGGTATCTGATTATT
29142	KCNA7	TGTCAGACAGGCTGGGGGCCT
29143	PITPNB	TGATGTTTACTCTCTGGGCACTGTTGT
29144	IL6ST	TCTACAATTAGTAGATCATGT
29145	HMGN2	ACCTTTCCCTTCTAGTTTTG
29146	MUC3B	TGCCATTGCCTCTCTCGGAT
29147	AKAP13	GGCCAGCCCACCTCT
29148	SLC25A15	AATTCAGAGTACAGTTTGTGCTAT
29149	ELMO1	CAGCATCACCTCTAGCCCTGG
29150	DBT	ATTGCTTGAGCCCAAGAGGTGG
29151	EIF5A2	GCAAACCAATTTGGGGAAGA
29152	TRPM2	GTCTGAACTCCTGACTGTCAG
29153	CKTSF1B1	TACTGGTAGGCACTGTCCTCTGATTAA
29154	CLU	TCCAGGCCCCCAACTCCGCCC
29155	AVPR1A	GGGCCAGCTCACCCTGCTGAG
29156	FMR2	TTGACCCAGGTAGGGCCACC
29157	RAI3	GTCACCCAGGCTTGAGTGCAGTG
29158	TRIM14	GGTTACTGATCACTTACCTTCTTC
29159	ADAMTS5	AGTTTGAATAGTTAGACATGGAAATT
29160	SP110	AGCATCCCCACCTCA
29161	NOS1	ACTCCTTGAGTTTTCCTGCTGC
29162	PRKCB1	ACGGTCTCAATCTAAAAGCACT
29163	DYRK1A	CCACAAACACCATCTTCA

29164	HPCAL1	TGACTGCCTTTGAAGCGCAGCCCTCT
29165	GATA2	GGCAACCATTTTTAGAAGGAAAAAGGA
29166	PABPC4	TTTTCCCCCAGAAATTGGTT
29167	SLC31A1	ACTCCAGCCTGGGTGACAAGAGT
29168	SCO2	TGCTGCTGCTGACTCGGAGCC
29169	BLVRA	GCACTTCCAAGATGGCACCAGCAT
29170	ZNF74	CCTTAGGCCTGGCCCTGGTCTCCGAGCGC
29171	LAG3	CTGGTCTCCCTTCTTCTAGAAC
29172	IFNA2	CATTTGTCCATCAATATTATAT
29173	CTSG	CTCGGGGACACAGGCCAGCTCCACAG
29174	AMT	GTGACGGACCAGCTCACACAATGTC
29175	EXTL1	AGGAGCAGAGGGGTGCGGGTAAACG
29176	VDR	CCCACCCCACCCCCTTCAGTGCCCACCA
29177	PSG5	CAGCACAGCCTACAGCCGTGCTCAGG
29178	GNB1	GGATGCCATGGAGACTGGAAGAC
29179	BPHL	CACTTGAGCCCAATTCAAAGCTGCAGT
29180	PTPN7	ACTCTGGTTACCCTTGCCTCCA
29181	SMARCD2	TGCCTCCTCTGCCCCCCTGCAG
29182	ICMT	GCTGCTGCTGCTCTATCGGCCGCCTC
29183	GNAI3	TGGTCAGAATATAATACTTCCA
29184	ZNF264	CCTAGTAATGGATTACAGGC
29185	TM6SF2	GGGACACTGGGCGCCTCCTCCTCC
29186	ADORA1	GCAACAGTGTTCTGAGCCCCCACCT
29187	HIF1A	AACCTGGAACATGACATTG
29188	INPP5B	ATGCTGTTTCTGGCTGGGCACGATGACT
29189	BACH1	TGCATGTGGACACTCAGTCACA
29190	ARF3	GCTGTCCTGATGATGAGTCATTCCA
29191	EVI2A	CAACAGTGGTTAGATGATCTTTG
29192	NOTCH2	TGCCTTTCAAACTTTTTACTG
29193	DVL3	CAGGACTTCCCAGGACCCCTT
29194	CNN1	GGGTTAGAGTTTGGAGAGAG
29195	CHRM5	AACAATGAACAGTGACTCAGGGA
29196	ETV5	AACCTGATGGAACATTTGCACCTG
29197	BTG2	TCCTGCTCTCCTTGGGATG
29198	PTPN1	TTCTCCTCCCTGTTATCTGC
29199	DMN	AGAAATGCAGCACAGCTTTCAAGATA
29200	PRKG1	GTATATCTTTCATCTGTAAA
29201	ANXA8	CTGTGTCTCTTCATCTCCGT
29202	RECQL5	CCAGCAGCCTTTAATTCTTGGG
29203	ACPP	TCCAGTGATAAGAGATGTTGACT
29204	SYT4	GTCAAATTAGCACAACAAAGA
29205	DHCR24	TGGATGGAGTTAAACTTGATGCCAGT
29206	PCDH1	GGGGGTGGGGACGGGGGTAAC
29207	SON	GCTAACATCCAAACGACTGTTTG
29208	FAAH	CCTGTGTCACCCTTGTGCCTTAGCC
29209	CYP8B1	CTGCAACCTCTGCCTCCTGGGT
29209	FZD4	CTGCAACCTCTGCCTCCTGGGT
29209	SIL	CTGCAACCTCTGCCTCCTGGGT
29210	SAS	CCGCAACCTCTGCCTCCCGGGT
29211	AGC1	CACCCAGGACGCTGAGCCCAGG

29212	RAB18	GGTTTTGTTAATTCTTTTC
29213	NET1	AAAAGAGAGTAGTTTTGTCT
29214	A1BG	GTTGCCCAGGCTGGTCTTGAAC
29214	CTF1	GTTGCCCAGGCTGGTCTTGAAC
29214	DSCR3	GTTGCCCAGGCTGGTCTTGAAC
29214	JRK	GTTGCCCAGGCTGGTCTTGAAC
29214	KLRD1	GTTGCCCAGGCTGGTCTTGAAC
29214	MPL	GTTGCCCAGGCTGGTCTTGAAC
29214	PVR	GTTGCCCAGGCTGGTCTTGAAC
29214	STARD4	GTTGCCCAGGCTGGTCTTGAAC
29215	COL11A2	CCGGCGTTTCGCTTCTCAGCCATGGA
29216	ASB1	CTTCCTGCCACCCTTTGGGCTCAGA
29217	LAT	ATTATCACTTTGGGGTTCGGCCTGTGT
29218	ZNF265	CCCAGACGCCACAGGTCATCA
29219	KCNA6	AGAATACAATCAAACTTT
29220	RYR2	TTGCCATGGACACCAGTTGCGA
29221	TFDP1	GAGACTGTCTGGAAGGCTTGGAA
29222	NCALD	GCAGGTGGTAGTGGGACAGGACAATTGGAGC
29223	MAT1A	ATCCCCTGCAGGCTGAGTGC
29224	ITPKB	CCAGCCCTCGTCACCACAG
29225	FANCA	GCACTGGAACCCACAGACCTC
29226	SPF30	TTCCTATTAATGGAAGAAGGT
29227	EPO	CTCCCTCACCAACATTGCTTGT
29228	LASS2	AGCACCTAGCATTTCAGCAGAGGGA
29229	PRKAB1	ATTTCTCCATTCAGCTGGAT
29230	ELOVL4	TCGTCTTTCTCCCGGGAAC
29231	LANCL1	GCTTCTACTCTTTCTATTACTGCCT
29232	SORBS1	TTTACTTAGCCGCTTCTGGGAG
29233	PROS1	AGCTGAAGGGTTTTATTTACAA
29234	COL17A1	TCTAGAAGAAAACATCAGGAGAAGAAA
29235	CLN2	TCATAGCTCACAAACCTTCCTTGCTATT
29236	PTBP1	GAAAACTTGCTCTCAAACTTC
29237	MAML1	CCTAGCAGCTCCTCCTCCTCC
29238	ASIP	CAGGGAGACCTGGCTTGGG
29239	GPT	ACTGCCTCTGCCTCCCTGGGGCAGAGC
29240	MICA	TGCCTGGATCTCACGAGCACTTTC
29241	STAT3	CATAAGGTCAGGAGATCAAGAC
29242	NYX	GGAGAGGAGCCGGAATGGAGGG
29243	RABIF	TTTCCAATTATTCCATCATTTC
29244	CLK1	AGCTCTCTCGAAGAGATCTTACAGA
29245	MOCS1	CACCAGCCAATCCAAGCATTTTCT
29246	SFTPA2	AGGGAGGATCCTGTCTGGCCT
29247	SGNE1	GATGCTAGACGAAAACCCACATTACC
29248	TBCD	CCTCTCTGCACCTGCGCTCTG
29249	KCNK6	TGCTGGAGACATAGTTGG
29250	CENTD1	AAGCAGGTAAAGCAGTCACTGTGAA
29251	RNTRE	TTTAAAAAATACAGTGTGATT
29252	NKTR	CAGGTCAATAGACAGAAAGTACATT
29253	RP2	TAATCAGCTTAAAAGCTATTTAA
29254	PCDH15	ATACTTTTTCAGTTGCTGTCTT

29255	CNN1	AGCGACTGGCATACTATGTGGAT
29256	RFX1	TCTGACACAAAAGACGTGCCTTA
29257	TNFSF14	CCTGTAATCCAGCTACTCAGG
29258	NRGN	TCACCCAGGCAGGCTCCGTCGCGGAGT
29259	EHD3	GTGCCTGTCCCTGCTCTGCCT
29260	DTR	GGCTGAGAAGGAACAGGGA
29261	FIGF	TGGAGAATGCCTTTTGAAACAATTTTC
29262	VENTX2	CCTGGTGGCACCTCTCACCCTG
29263	SLC16A1	GATCCATGGGGCTGAAGGGTAAATT
29264	REN	CTCCAGCCTCCCACCTCCGCCCGGGC
29265	DNAH11	TCTAGCCTCTGCTGGAGTGCAG
29266	ATRN	TTGTAAAATTTAAATAGCTA
29267	CSPG2	CCAGTCGCGCAGCGCTGCAGTGA
29268	PVR	CAAGTTAAAAAGGTCTATGATCT
29269	PBX1	TTGGGGCAGGGGCAGGAGGGAG
29270	RAD21	AGAATATGTCTTAACTTTTT
29271	MYBPC1	ACTGTCTCTCTGCACTCTGCTGCT
29272	UPF3A	AAACAGAAAATGATTTCCACTG
29273	BDP1	GCCCAGGCAAGAGTGCAGTGGTATG
29274	PELO	CCTTTTCTCCCCACCTCCAC
29275	CD34	CCTTGTTCTCTAAGTTCCAC
29276	HYOU1	GGGGAAAGGAGAGACCATGGTGTGAAT
29277	RAB36	ACCCAGGCTGGAGTGCAATGGCAC
29278	RAB4A	GGAAGTAGATCTTTATGGGGAA
29279	KCNA6	GTGGGAGGGGGCAGCAGGCGGGGC
29280	TNFRSF13C	GGGGCTTGGAAATCAAATTCAGC
29281	PTHR2	TGCGCGTCGTTACTGGCCACAAGTT
29282	RNTRE	GGTCTGACTCTTGCGAATCTCA
29283	IGF1	TGCTGGAGCCATTCATTCAGCAA
29284	ABCC5	TTTTCACTCCCTCCATCAAGAA
29285	M17S2	ACCTCAAGCTTCATAGTTATTTGGCAT
29286	BMP6	GGAAATCATGATTTCCCTGTA
29287	F2	CAGTGACCCAGGAGCTGACACA
29288	SHANK2	TCCTGTAATTTGCACTTTCTCCCAAT
29289	KCNK5	GCTGTGTTCCCTGTCTCAGGTCAAGCAGTGG
29290	GALT	CATGCCTTAATCCCAGCACTT
29291	PYGO2	AGAGAAAAGGGGCTGGAGGAAGAT
29292	USH3A	GCACTTCAGGAGGCCAAGGTGGGAAGA
29293	MLPH	ACCCTCCACATGGACTCCCACCTGCA
29294	GRB10	CTGCCTTACCCCTGCTGCTGC
29295	HK1	ACCTGACAGGCCTTCTGGGCCTCCAA
29296	CRY1	TCGTGGCGACTCGAGCTCCTGGAACTTGCTCA
29297	CASQ2	ACATGTGTAAGACACTGTGC
29298	TAZ	TGGGTGCATATCTTCCCAG
29299	TRPC5	AAGGGGAAGCCAAGGTAGGAGCCAG
29300	WBSCR1	GGGGGGTTAGAGCAGGACCACAGC
29301	MEIS1	CTCTTCACTTCCTCCAGAAG
29302	CALM3	AACCATCTGATTGGCTTTCTGAG
29303	EFNA3	GAGATGGGGCGGGGCTTGGAA
29304	TAGLN2	TCTGGGGCTTGAGGAAGATGAGTTT

29305	TCF2	CCTCCAACTCCTGGTTCA
29306	YWHAG	CTCCTAGGCTAAATGAGAAT
29307	MGEA5	GTGGTACCTAGTGACTTCCAACCAAAG
29308	CENPE	AGTGCCGGCCGCGGAGGGTCCTGGCC
29309	KCNAB1	TAAATCTGAAAATGCTAGTGGGAGA
29310	DBY	AACTTTAGACAACTTACTACTTTGATGTC
29311	SERPINB13	AGATAAATGATGTAGTTGATC
29312	SLA2	TCCTGCCTCAGCCTCCAGAATAGCTG
29313	PFKFB4	CCATAGGCAGTCCCTGGGCAAGGGAGG
29314	KDR	ATCCTCTCCTACCGGCACCCGCAGACG
29315	TMPRSS2	CTGCCCAGCCTGCTCTCCCTAACCCC
29316	FOXI1	GAACAGCTCCTGAGCCAGGTGGA
29317	MS4A6A	TGAGTATGTCACCAAGAGTGGTAG
29318	RAF1	CCTTCTAGACTGCTCACAGGGCC
29319	PBX2	GGGGTAGGGAGAGGGAGGAGG
29320	LRP8	TGCCATCCTTACAGAGCTAAGTGGAGA
29321	WNT5A	TGATCATACCCTGAGCACGACGAAGCA
29322	POLH	TACCTGTAATGCCAGCACTTTG
29323	SF1	CTTCCCTTACCAAGGAG
29324	BRCA1	GCTGAAACTTCTCAACCAGAAGA
29325	TGFBR1	CCAGGAAACAGCCATGTGGGTC
29326	GTF2F1	AGGCTAAGCCCAGTTCAAGGCTGCAG
29327	ORC1L	GTCTACAAAGCATCTGATTTTGGA
29328	RGL	AGATGGCCAGGGTGGCAG
29329	LAMC2	TGAGTGGGTGGGATGGGGACA
29330	ENTPD3	CTTAGCAAAGGGCTGACTTTCCA
29331	WHSC1L1	TATTTCTTCCCGCACAAATTCCACA
29332	MGAT5	GACTCTGGCTGAAGGGGTGGGCATGCT
29333	CDC2L2	TGCACATCACCGAACGATGAGAGAGGA
29334	EHD4	CTGCCCTCTCTGTGCCTTGGTT
29335	LAMP1	CCTGTTCTGCGCTGTGTACAATGTGAG
29336	PAH	TACAAGATGGAGAAACAACAAATA
29337	DES	CCTCCCACCTCTGTGACCTCAGGCC
29338	LNK	CTGCTTCTTCCACTTATACTTAGTCTC
29339	IRF1	AGTGTGACCCCACTGCCAAGTGG
29340	SLC7A5	CAGCTGGTGCCCCACCTGCCT
29341	CAST	TTCCTCTGGTGCAACCAGCAAGTCTTC
29342	TRPC5	CACTGAGAACCTGCTGAGCAA
29343	RNF28	CACTTCCTTTCCTGAGCAGGA
29344	KCNH3	CCTGCATGTGCCCCTGCCTCTACCTGT
29345	LASS2	CCTCATTCTGCCAAAGCTGGACCA
29346	CSF1R	GGGAGTACCACTCTCCCCTCCTCC
29347	PCDH1	GTGGGTGGGGGTGGGGACGG
29348	TEGT	GCTGCTGCCTCCAGCCTCTGG
29349	ATP7A	CAGCCCAGGCTGGAGTGC
29350	RASSF1	GTCTCCTCAATTTTTGTCTCAG
29351	CDH1	GCAGTGGTGCAATCACAGCTCACT
29352	PCTK1	CCTGCTGCCTGCCCAAACACCCCAC
29353	TEM7R	AACACAAAATAAGAGATTTTCT
29354	HGF	AATGTTTATGGGTGTTTTCTGTTGTTTT

29355	BIN2	GGAGGGATGGAGGGAGGCAGGC
29356	CENTD1	CCAGCCACATTACAGATTCAC
29357	TEM7	AGGTTGTAGCTGTGCTCAGGCTTCA
29358	WNT5A	TCAGCCCACTACATAGATAGCTT
29359	F7	AGATGAGAGGCAGAGGCAGA
29360	HSD3B2	GTGGCTGATTCTGAACAATTGTGG
29361	APBB2	CCCACCCCTCCTAGTGAACTA
29362	ID4	TGTTCTGAGTCCATTCAAATGTG
29363	PRKG1	TGAGTCCTTCACTGGCATGCC
29364	AKAP1	GCTTCCTGCACACTGGACAG
29365	FGFRL1	AGGAAGACTGGGTTGCAGGGA
29366	GRAF	AGAGATGGGGTTTTGCCATG
29366	PPP1R12B	AGAGATGGGGTTTTGCCATG
29367	MOV10L1	AGCAGGGAGGCCATGTGCTCAGCCTGG
29368	LCP1	CCTCTTCCTACCCTGCCTCC
29369	RNH	GCCAGTGCTTGGCAGGTGCTCAGGGAA
29370	MAK	ATGTTGGTCAGGCTCAGGCTGGTC
29371	AK2	AGCCTGCAACCTCTTGACCT
29372	DLGAP2	GTGGCAGAGCACACATGTGCACAGGT
29373	SOX4	GGAGACTGTTTGATGTGGTACAGG
29374	CASP10	ACCCAGACTGGAGTGCAGGGGGGCA
29375	CAPN1	TGGGCCCCACCCATTGCCAAGC
29376	RGS6	GTAAAGCACCGAGTCAGGTGCCTGATACGCA
29377	PPP6C	TACTTTTTATTGAGCACTTT
29378	ZNF135	TGGTGAGAAACCCAACAAATGC
29379	DLGAP2	GTGTGCTTCATTCAGGGCCATGTGGCA
29380	GJB6	TCACCTGCCCCACTGGTTGT
29381	KAI1	CCTCCTCCAGGCCTGCCTCCC
29382	ATP7A	GTGTGAGCCTCCATGCCCAGCC
29383	HAS3	CAGCCAAGTTGTGACAGTCACTGCAT
29384	RAB7L1	TGCCACCGCACTTCAGCCTGGG
29385	IL12RB1	TTGCCCAGGCTGGTCTCAAACTCCTGC
29386	CACNG6	GTTCTCAAACTCTGAGCCCA
29387	BECN1	TGAGATTGATGTGTTTTCACTGGA
29388	PACSIN1	GGGCAGGCCTCCCTCAGGGCCAGG
29389	TAPBP	TCTACCCGGGTCCCTGCCTG
29390	KIN	GGTATCAAACTATGTAATTTTGTCCT
29391	DTR	AGTGAGCAAGACAAGACACT
29392	STAT1	GCAGACCCCAGACCGAGCAGAGG
29393	NUMA1	CAGGAGTCTGGAGTGCAATGGCACGATCTC
29394	ACTG2	AGAACCTCTCATACCCTCGGTGCT
29395	ELK1	TCTCCACTGTTTGTTTTACTTC
29396	CROT	CCCTTATGCTATAGCCTGGG
29397	DPYSL2	TCTCTTTCTCTCTCTAGCTTTT
29398	ATP6V1E1	GTGGTTGCATGGGCTTCCTG
29399	RAP1B	ATGTCAGCTGCTTTATATACTAAATGC
29400	HD	GCACCATTCTCCCTTCTCTCT
29401	RPH3AL	CCCAGGCTGGGGTGCAGTGG
29402	NTRK3	GGCAGAGCCACTAGGGCCTCTC
29403	ASB1	TCTTAGATATACTAGGTAG

29404	LAMC1	TTTAAGACCACAGTGTGACA
29405	CD209	CCTTTGTCTTATACATGGCTTC
29406	ZNF79	CTAGGAACATGGTAGAAGTGGA
29407	CHRNB4	TGGGGTGAGAGGATGTGAGTGG
29408	DHCR24	TATTACTGAAAGGGAGGGGTGGAGATG
29409	GDI1	TCTCCTTGTGTGTGTCTCT
29410	GNB1	AGTTGAGTTTTTAATCTCACTT
29411	SPAG6	TTTGAAGGAGGAAACTGATGACAGA
29412	ITPKA	AGGGCTTCTTCCTCAGGCCAGCTCTTCT
29413	DAPP1	TTTCCAGTCGGGGGAGTAACA
29414	CD3Z	GCGCAGATGCTAGCACATGCC
29415	C4orf1	AAATCATGTTTTTATGCTTCC
29416	D1S155E	CATTATGCTTTAATTCTGAGGACCA
29417	DHCR24	CGTCCTGCCCCTTCCTCCTTCATG
29418	PRKWNK3	GCTGCAACCTCCCCCTCCTGGG
29419	RSN	CAGCATTGTGTGTGCAGACTT
29420	TH1L	GCTGGGAGGAGGTGGATGACTTC
29421	CRMP1	ACCAGCCTCGGTTGACGTGGATGCGC
29422	MTMR4	GGGAGTGAGACATTTTTGGGAGCAGA
29423	MARK3	TTGTGCAGAATTAAAGTGCAGT
29424	GSTM4	TTTCTGCATCAACTTGACTGGGC
29425	USH3A	ACAGCCTGGGCAATAAAGTGA
29426	ADAMTS4	GATTACAGGCGTGAGCCACCGT
29426	ADRA1A	GATTACAGGCGTGAGCCACCGT
29426	APAF1	GATTACAGGCGTGAGCCACCGT
29426	APPL	GATTACAGGCGTGAGCCACCGT
29426	AQP6	GATTACAGGCGTGAGCCACCGT
29426	BENE	GATTACAGGCGTGAGCCACCGT
29426	IL12RB1	GATTACAGGCGTGAGCCACCGT
29426	SEDL	GATTACAGGCGTGAGCCACCGT
29427	CUL5	TTTTGGAACTTCCTAATTTTGGG
29428	HOXB3	CCTGTTCTCCCCTCGTCGGTGGCT
29429	CELSR2	CAGCAATTCCTGCAAAGGGT
29430	BCAR1	GGGGCTGGAGTGTGAGGGTCCTGCA
29431	PPL	ACAAGTGTCCAGCCCTCGGTGCTGGA
29432	PSEN1	CCACCTTGCACTATTGGACTTT
29433	NXF5	CGCTGCCAGGAGAATGATGGAA
29434	RECQL5	CGCTGCCTCTTGAGCAGCCTCGTGCCT
29435	PROCR	AAGGGGCTGGATTGATGGAGGC
29436	TG737	CCAATCTTTGGCTTCCCTGGGCC
29437	DISC1	ACAGCCTGACACTGGGCTGA
29438	TFAP2C	ATTCTTTCCTTCTCTGAAAGTG
29439	PDCL	TGATGTTAGAAGACAAGTAG
29440	SOCS5	TGCTACAGAATGTTATTTTACAT
29441	CDR2	TCTTATTGAACCTCTAGCTC
29442	HOXB5	GCTTTTGGTATTTGTTTGTAGCTTTCCTG
29443	FANCA	GCCCAAGCAAGGGGCCTATGAGGG
29444	TAF11	ATCACCTAGGCTGGAGTGCAGC
29445	DIO3	GTCCCCAAGTGAGGGGAGTCC
29446	ACVR1	ACTGCAGCCTCCACCTCCCAGG

29447	TEC	GCAACAAAGTTTGCCCCCACCT
29448	CDH5	ACAATTCCTGTAACCTTCTA
29449	PRKDC	CTAGCACAACAAGATGAAATTA
29450	ATP7A	AAAACATTTGAACTTGCCTAGTTAGTG
29451	CD86	TGCATACAGAGACAGATATAC
29452	NRAS	GTTATTTAATAGCTGTGATCA
29453	APLP2	ACTGAGTCTGTGGACACTGTGGAAAGC
29454	BARX2	TGTGGGCAGCATGCCCAGGTTCCTT
29455	AMT	AAGGGGTTAGTCAAGAAGCTGAG
29456	PKM2	TCCCCACCCTCCACTCAGCT
29457	CLCN7	CAGGCAGCTAGAAGGGCCGGTGG
29458	SEPN1	ACTCCTCTAACACTTCCCTCCCCTG
29459	RYR1	TCCCCAAGCCCCTCCCCCTA
29460	DCX	GTAAGGAGGGGAGAGTGC
29461	PPEF2	ATCCACCCTCCTCAGCC
29462	CREB1	GAAATGTTACATGTAGAA
29463	HAP1	AGGTGAGGAGGGTGAGGCTCAG
29464	RAB7L1	TTTGGCTTATTTTCCATCCCAG
29465	CREB1	TTTGGAGCCGGGCGCAGTGGC
29466	ADORA2A	CCAGGGGAGAGGTTGGGGCTGG
29467	ILK	CATGGTACTACCCCAGCCTGGGGTCCATCC
29468	MMP2	GCCCTGCTTTGGGCTGCCCTGG
29469	NT5C2	TTTGGTTTTGTGTATCTGTA
29470	RAD54B	TTTGATCTTCTAATCTGTGACGA
29471	CTSC	TCTTCACCTCTTTTCTCAGCTC
29472	KCNK5	CTGTTGTTGGCTTCAGAGCCAGTGGTT
29473	INPPL1	GCCTATTTATTGGGGATCTGCATT
29474	EPHB3	TCAGGCTGGGGTAAGCCGGGGTTC
29475	DIA1	TCCTCTGGCTAGAGTGGGAAGAGG
29476	EPHA8	GGAGGCCACCTGCAGCCTCCACCC
29477	CNTF	CAGGTATTTTCATCAAGTAGC
29478	DDX24	ACCCCAGGTAAAAAAGTCTCCCT
29479	SORBS1	CAGTACCCTCACTTTCTCCC
29480	PSEN2	TTGGTGAGGAGGAGGCAGA
29481	PITX2	TTCAGCAAATATGAAACAAATGTG
29482	SCA1	ACCTTGCGATTTGCACATATTGA
29483	ARNT	AGTGTTGATTTGTGCTGAGATCAAGAG
29484	SIRT2	GTCTCTAACCACTCCTGGGCTAAGG
29485	SLC1A5	GCAGAGCAGAGAAGCTCAGCG
29486	PTK2	CTGCCAGGCTGGAGTGGAGTG
29487	LHX3	CCCTCCTCTCCCCAGACC
29488	NOS1	TTGCTATACAGAAAAACCACAT
29489	NFYC	GCACAGCCTTCCTCCCCAGAGGACCCG
29490	GPR86	TGCCATACTCTGTTTTGGCACCAC
29491	SURF5	TCCTAGAGTTTTCCAGGGGGTTCTGA
29492	SYNGR1	TCTCCACTGACTCATTCATTCCTTC
29493	MPP2	GCACCTGTCTGTGCCTCTGGC
29494	SACS	TTTTAGAGTGCACTGAGTGCACTTT
29495	SIAT1	GTGCTCACACCTCGGCTGCATGCACCC
29496	CD68	GGCCAGCCCTAGCCAACATGGTG

29497	ZNF45	AATGCCAGCTGAGCATAGGC
29498	ARHGEF7	GTGATGCGTAAGACATTGCAGTG
29499	KCNE2	TGCTGAAGACCTCTTTTACTTT
29500	WNT5A	AACTGATTATGAAACATACGATGTTA
29501	GART	CCCAAAATGCTGGGATTATAGG
29502	MYOG	GGTTTGAGAGACGCCGTGCCCT
29503	OTX2	CTGATCAAAGTTCCGAGAGGC
29504	CNN3	CTGCCTCTTCCCTCAATAGTTGCCT
29505	KRTHA2	CAAGGAAGACCCTGAGCAGGAC
29506	FBXL7	GCACCTTGGCATAGAGCACCCA
29507	MUC3B	CCCTTTTGAGCCCGTCCATTCATCGG
29508	SEL1L	TTCCTTTATGATGCTAGTT
29509	ODF2	GGTACCACATTTTAACTTACCATGACT
29510	ACCN2	GGTCGGGGATCCCCTTAA
29511	JUP	GCAGCCGCCGCCCGACCGCGCCGAG
29512	ZNF26	TGTGACTTTCCTGAGTTAACACT
29513	TCF2	GCAGTGAGATGTAGCCTGGCC
29514	TNC	ACAGCATGGGCCTCACCTCCTC
29515	DMD	ACATCACATGGCATGTTTTGTC
29516	FRAP1	CAAGATAGGCCAAAATGAGTA
29517	AMACR	AGAAAAGTTTCACCTGTATTGA
29518	STMN1	GAAAAGAGTATGTAGTGGCTTCT
29519	RAB18	CTACTTGATTTACACTTCCTAGTC
29520	DEF6	CATTTCTAAATAAAAACTGC
29521	MECP2	AGGCCACATCCACAGTCTCCCCCA
29522	ADAM10	TGAACAGATATTTTTAACTTAA
29523	SH3BP2	TGCATTAGTGCCTGGTTACTGGG
29524	MLLT2	TCACATTTTCCTATTAGTGGAGGAGG
29525	RAD23B	CTCGCGCCTTCTGCAGACTCCGTGGC
29526	MYH9	TCAGAATCTGATACCAAAGAGACAGGG
29527	RAB18	CTATCTAGGATATGTTGATA
29528	CLN6	TGCATTCCTGGGGGCTGGAGGGTGGGGTG
29529	CRSP6	GGTTTCGAACTCGGCTCAAG
29530	DUSP7	GCAGGCAAGGTCTCCCACTG
29531	ATP1A2	GACTTGTCTCCCAGTCGAGG
29532	KIF3B	ATTCCAGCCTGGGTGACAGAGT
29533	ALDH1A3	CTGAGTATTTCACTGGCA
29534	PDE4C	CTCCTGGGCTTCTATCCCTG
29535	RAB11A	TCCATGTCCTAAGTCTTTTGATTTTA
29536	INPP5B	CTGAGGTAGGAGAATTGCTTGA
29537	KIF1B	CTGAGGCAGGAGAACTGCTTGA
29538	PPP3R1	GGAAATGTTAATGTTCAGACTGAAAAT
29539	DSCR5	CCAGAAAGAGCGATTTATGGCTTTG
29540	B4GALT2	CCAGGAGGGGACCAGAGGGGATGC
29541	CA4	TCAGCTCTCCAAGTTCCAG
29542	CASP10	CCGTTTACTTCCAGAAGATTGGTGG
29543	MS4A6A	GCTGAGGACACTAGAACCTGGCTT
29544	IL16	CTAGGGAAGGGTGGTGGAGCCAG
29545	SEC22L1	AGCTAAAATGTTTCTCTCATTTACT
29546	DSC3	AAAATTGGATGCATAAAGTA

29547	PKNOX1	TACAGTGTGCATTCTCTCCA
29548	AIPL1	TTAGAGCTCTCTAGAATCCCACTGACT
29549	DUT	TTTCATTGCAGATATGGGACT
29550	PSAP	TGGGTGGGAAGAGGGCCATCTGCC
29551	ADH1B	TCACATTTACAAGTAGTGAAGGTCCA
29552	TNFSF15	GGGAGGCAGAGGTTGCGGTGA
29553	CUBN	AGGAGGCAGAGGTTGCAGTGA
29553	EIF3S2	AGGAGGCAGAGGTTGCAGTGA
29553	GALNT7	AGGAGGCAGAGGTTGCAGTGA
29553	INPP5B	AGGAGGCAGAGGTTGCAGTGA
29553	KIF1B	AGGAGGCAGAGGTTGCAGTGA
29553	MOG	AGGAGGCAGAGGTTGCAGTGA
29553	RIMS1	AGGAGGCAGAGGTTGCAGTGA
29553	ZNF36	AGGAGGCAGAGGTTGCAGTGA
29554	RAD52	GAGAGGCTCTGGACAGATGAATA
29555	FACL4	TTACTGTAAAATGCAAAAAATCTTA
29556	D1S155E	AGTTGTGCCTGAAATGAATCTTGTTT
29557	PCDH12	CCTCAGACGCCTCTGGATCCA
29558	NESH	GCAGATGGGGAAGAGCTGGAAACCAAG
29559	NCAM2	AAACTATTCCATTGACCTT
29560	KCNK6	GCCTTGATTTCCTCAGCTGCC
29561	DLGAP2	GAGTGCTTTCCTTGTGATGCGT
29562	GCS1	TGAGGGAGGGAGAGGAGGGGA
29563	RPH3AL	GAGGTGAGCATCAGAGCCAGA
29564	GART	GAAATCCTGGGCTCAAGTGATC
29565	GOT2	TGGTGTGCAGCCTCTCATCTCA
29566	ADCY6	CTGCCACCCGGGTTCAAGCAA
29567	SLC17A5	GCCTCTATTAATGTATTTTTAT
29568	DIAPH2	GGTGGTCTGAAGAAGAAAAAGAA
29569	NOTCH2	GTCAGTTTCACTGGGTATCTGCA
29570	IL1A	CTTGCACACACCTTCTTCTACA
29571	ANXA11	AGTGGAGTTGCTGAGTCAAAGATC
29572	TRHDE	AAAGAGTTTATTTTCCATCTTG
29573	DVL3	CCAGCTCTACTATTTTTGG
29574	CALB2	AAGAAGAGTTTACAGACAA
29575	WBSCR1	TTTCTGCTGGGCCAAGGCGCT
29576	HSD17B1	GGAAGGGTCCAGAGCAGGAGCTTCTATCT
29577	TPM1	TCTCTCTCTTAGCATCCTGCCTTA
29578	TJP1	ACACATTTTATTTTATTATGCAT
29579	SLC7A6	GTACCTGTTACACTTTA
29580	BAALC	GGTGTTCTAATCAATGTACA
29581	CTMP	ATTGCTTGAACCCAGGAGGAAG
29582	TADA2L	ATTGCTTGAACACAGGAGGCAG
29583	MBD3	GAGACTGGAGAGCAGCCAGCAGGTGCC
29584	PTP4A2	AGAAAACAAAACAAAATAATGCTT
29585	ENO2	GCCGCCGCCGCCACTGCCACTCC
29586	EIF4EL3	TACAACAACAGCTGAGATCACTTA
29587	CBFA2T1	TTCAAGTAGCTGGGATTTTAAACTAGA
29588	DLST	CACAGGCAAAGAGGTGCTGCTTTGCTT
29589	PCDH7	CTGACTCTGGGCGTC

29590	DDX11	AGAGAGCTGCCTCAGATGATGGACG
29591	GDA	GTGCCCAGGTGGAGTTAGAAAGTCAA
29592	PTPRS	CCTCCCTCTGCCTCCTCCA
29593	NEURL	AGCCCAGCTTCCATTTCTATAAAATG
29594	DLGAP2	GGAAAGGGTTTGCTTCTAC
29595	SOST	AATCTTTTTGAAAATCATTTCCAGAC
29596	CBFA2T2	TCAGCCAGGCTGGAGGCGGCAGGCGGC
29597	A1BG	GAACTCCTGGCCTTAAGTGATC
29598	MHC2TA	GAACTCCTGGCCTCAAGTGATT
29599	KRT12	AGTAGAAATTATTCCTTTCAGAGTAA
29600	MGAT2	GCCCAGGTGGCTGACCTCTGCT
29601	HMMR	GTCATCTGCATGTCTACTCAGC
29602	SIGLEC8	CCCTGGCCCCAGCCATCCTGA
29603	A1BG	GCTCAAGCGATCCTCCTGCCTCA
29603	UMPS	GCTCAAGCGATCCTCCTGCCTCA
29604	HIP1	CATGGTGTCTCACACGTTTAA
29605	HOXA10	ACTGGTAACATGTGACAAGCACACCACAA
29606	RAB18	TTCTGAAATGTACATCTTTACA
29607	MCM5	CCTCCTGCCGCTGCCTGCCAT
29608	IL10RA	TCCAGAGTCATCTCAGCCCTG
29609	NR4A1	TGTTAGAAAAATAGCTGTGAAC
29610	OTC	CTTCTCTATCATCTTGCACCCCC
29611	KIT	AATCCTGTCTTTCTGAGCACACTTTA
29612	HSPD1	TTCAGAGAAGTCAGTTGGAG
29613	FCRH1	TTGCCCAGGCTGGTCTCAAAC
29613	GLTSCR1	TTGCCCAGGCTGGTCTCAAAC
29613	IL12RB1	TTGCCCAGGCTGGTCTCAAAC
29613	MFI2	TTGCCCAGGCTGGTCTCAAAC
29613	TP53	TTGCCCAGGCTGGTCTCAAAC
29614	EPAC	GGAGTGTGCTGGGACGTTGTGTGCA
29615	ITCH	GGATGAAGCCTAAGCCAGCTGAG
29616	GPC1	CAGGCGCAGAGGTCCCAGCCCCAGGC
29617	SLC4A7	CCAATGATTCCCACTCTGTT
29618	SLC39A1	CGACCTCCCGGGCTCAGGTGA
29619	NTN2L	CCCGCCGCTGCTCCCACCTCTGG
29620	TSNAX	GAGCTAAATTATAATATTTTTGTT
29621	TRIM39	TTATAGGGTACATATGTTGTCA
29622	WHSC1	GCGTGGAGGTGGAGCCTGCGGCTG
29623	COL6A2	CTCCTCGGGACCAGGACTTCA
29624	FANCC	GTCAGGGTCCCTCAGGCTTCCCTT
29625	SREBF1	GGCCGAAGGCAGTGCAAG
29626	XBP1	TCATCCAGCCACTGCCCAAAGCCATCT
29627	NFATC3	ACCAGCCTGGCCAACATGGTGTAACGC
29628	ATP5G2	CACAGTTGGCTGAGTGCCTT
29629	SIAT1	CACATCTCTTCATCTGTATCCT
29630	ARHGEF7	ATACCTGCAGAGATACACTTC
29631	ZXDA	TCTATTCATTCCTTGCCATG
29632	SREBF2	TTGCCCTCAGGCCTGTGCCCAGCA
29633	COPA	GGAGGTGGAGGTTGCATTCAACTGA
29634	PPP2R2B	ACTTGAAGCTGTGGAAGATGGT

29635	CDH12	CACACTGAGACAAGCTCAGGCC
29636	MAGEB4	AACCACAGCCATCATGCC
29637	TNNI3	CCCCTGTCCTCGCCCTGCCTCCT
29638	ERBB4	ACACACCTGCTCCAATTTCCCC
29639	FOXO1A	AGGCAGCAGCGCAGCGGGCGCGCCG
29640	GRM4	CCCACCCAGGCCGTGGGGCCAGG
29641	ANKRD3	GCCCCCTCAGGTCGCTGGAGTGCACC
29642	NCAM2	GACAGAATATGACCACCTT
29643	GPR34	TATTAAAATCAAGCACTTGATA
29644	FLRT2	ACAGTGCCCCAAATGGAAAAAAG
29645	FCRH1	TCTTGCCTCACTGCAACGCCTGCCTCT
29646	LANGERIN	CAGCCCCTGTCCTCACCTCTC
29647	STAT1	GCTGTATTCTTCTTTGGTGGAGAT
29648	ATP5E	TGAAATGCTACATTTCCAAGGTGAAG
29649	FZD6	AGGAATTTGAACATTTTATCTTTGG
29650	SPG3A	AATCTTATTTTTAAGCACTTT
29651	PCYT1A	CCTCAGAAGATAAAAAGAA
29652	PPT1	CCAAAACACATTTACCAGCA
29653	RIMS1	CCAGAGACTAGTGGGCCTCTCTG
29654	LARS	CAATTCTGCATGTATTCATA
29655	ARSD	GAGCCCAGGAGGCTGAGGCTGC
29656	GUCY2C	TTCCAGGGAGCTTCTACCTGG
29657	PLA2G2D	AGCTCTGGCATCCCCACCTCA
29658	LYPLA1	TGGATTTATTCCAAAATTGCTT
29659	MAN1A2	GAAGCAGTTCCAGAAGGACCAT
29660	ZNF264	CTAGTTCCTTTGACATTCCAT
29661	SHANK2	TCGAAATGAAATAATGTACTGTGTG
29662	SLC12A6	CAATGCCACATTTTACTGTGAC
29663	SIAT6	GCCAGAGGGCCAGCAGGCTCCTGG
29664	ZNF3	CACTCCTGCCTCCACCTCTGACTCTT
29665	HS2ST1	TAACAGAATTTGGTTTGTACTT
29666	FZD1	TTAGATTTTACCGGTCTGTAAA
29667	SERPINA3	CCTGTGCACCGTAGTGGCCATGG
29668	NUP214	ATTCTCTGGTTTTGGATCAGGCACAG
29669	EDG8	ACCCAGGCTGGAGTGCAATGGGCA
29670	COX7A2L	TGGAGGTTCTGGATGAAGGCTGAACA
29671	FADD	GCCATCCTTCACCAGAG
29672	OSR1	GGCAGGAGAGGAGTCGGGACACTA
29673	IL13RA1	AGAAAGCCTCTCAGTGTGGA
29674	NFATC4	AGAGTGTGGGCTGGCTGTTGTG
29675	D10S170	TTCTCTTTTTTATCCTTAATGTTAATC
29676	HUNK	GCACAGGAAGCTGTATCATTTACAGGT
29677	NR1I2	CAGACTGATGAAATGCACTCAGAA
29678	APM1	ACGACCTCGGCTCACTGCAGCC
29679	DAAM1	TTATGTTAATGTATGTGCTCC
29680	YWHAG	CCAGCCGCCTCCTCCGCGCAG
29681	IL20RA	ACATTTATTTCTGGAAGTGTGT
29682	SAS	CAAGCGATCCTCCTGCCTCAG
29683	BHMT2	ACACCTGCAATCCCAGCACTTT
29683	F2RL3	ACACCTGCAATCCCAGCACTTT

29684	B4GALT4	TATTCATTTATCCTGTACAATCA
29685	PLAB	CTGTGTATTTATTTAAAACTCTGGTGATA
29686	ACE	TGCTGCTGGGCCTCTGCCTTG
29687	LYPLA1	TTAGATCATATTCTAGTATGTTCT
29688	SFRS7	TTGCCAGGCTGGTGCAAAG
29689	ACK1	CTGGGAGGCGGCAGAATGCAGCCAGAG
29690	RDX	TATTTTTTAAAACCTGGACCTTTCTGG
29691	NEURL	TCTCTGCACCCAGCTCCTCTCTGC
29692	C10orf2	CGGAAGAGACAAGCAAGCA
29693	ATP7B	GGAAACAGGCTCCAAGAGGCT
29694	SELP	AAAGAGACTGGAGCATCTGACTCACA
29695	PPARG	ATCAGTGTGAATTACAGCAA
29696	ADORA2A	CCCTGCAGAGGGCCTGGTTTCAGGAGA
29697	EXTL3	GCGGGTCCCTGAGCTGGAAGCCGGAG
29698	FOSB	CAGGCAGCAGGGGCTGCTGTGA
29699	FLNA	GAGCCATTTGGTGGCGCTGCT
29700	MECP2	GTGCCAGGTGAAGGAGGCTCCA
29701	TNFAIP1	ATGACTTTCCCACAGAGACTG
29702	PPP1R11	CCAGAACCCAGCCTCCTGGG
29703	CLCN7	TGTGCTGTGATGTTGAGAGCTG
29704	RNF12	GGCCAGGGAGGTGCGGAGCAGC
29705	KIF3B	GTCCAATGCCTGCATGCTGCT
29706	CD209	GCGATCTAGGCTCACTGCAACTTCC
29707	MEST	CTATAGTAAGGAGGAGGAGAAGGGGG
29708	DGUOK	CCTCCAGGCTTCTCCCCAGGTTTGTT
29709	XYLB	CAACAGCAAGCCCAAGATTCCG
29710	S100A12	CTCACCAAAACCCAGCCTTGC
29711	MAT1A	CTGGTCCCTTGTATCCCCTGCAG
29712	MUC3B	CCATCCCATCTCCTGCCCTCT
29713	TK2	TGTCTGTGTCCTTGTATAAGGAGC
29714	FUS1	GCTTCCATTGAGGAGCCCAGGCTGG
29715	ZFP36L1	CAGTTTACAGAAGCAACTTAGTGCCTT
29716	PDGFRB	GCAAGTGCCTGTGTCCCTGTCCTTC
29717	CREB1	GTTCCAACACCTGCCTCCA
29718	FZD6	CTTTTCTATTTATGAAGATT
29719	SLC9A1	CCCAGGAAGGGAGGGAGCTGAG
29720	MAPK4	TCTGCCCAACTAGCCTCAACT
29721	FNTB	AGCCCCAGGTGTGGTGACTTAGACCTAG
29722	ZAP70	CCCACCCCAGGTCCTGCAGTCTGGCT
29723	EPHB3	GGTCCTGGCAGGGTCAGGCTGGG
29724	PDGFB	TCCTCTTGGTGGGTGTGGCCAGC
29725	SF3B1	GAGGAAGAGCTAGAAATCCAGTAGCA
29726	OTP	GCCGTGCTCGCGCCCTCCTCCTGGCC
29727	RANBP3	GGCCGGGTCCCCATGGGGAG
29728	KAL1	GCTGGATAGTTCTCTGTTGTGGGGGTT
29729	MME	TCAAGTTTGGGTCTGTGCTGCTG
29730	PIK3CD	TGCGGGTCGTGGGGACCAAGCACATTGGTC
29731	SCN7A	AGAGAATCCTTAATATTGCT
29732	CYP4A11	GGCACTCAGAGATCCAGCAGGTGCTG
29733	VSNL1	GCAGCCCAGAGCTCCAGAGAAAAAGA

29734	PRKY	CCAGTGCACTCCAGGCTGGACGACAGA
29735	TNFAIP1	TGAGGGAGGGGATAAAGAGGAAGC
29736	CSNK1D	GCGCCGCCTCCCAGAGTTCAG
29737	MAGEA9	TTTATCCTTGCTCCCTTTTGGA
29738	CLCN5	CCATTCTCTTCAACTAAATCA
29739	GNE	AAGAAAAAATAAATACATTT
29740	RASGRP1	CGACTTTAGTTTGGCCAGGT
29741	G2A	GGAGGCCGAGACGGGAGGATCA
29742	AXUD1	TGTGGATTTGAGCTCTGTGAT
29743	GAB2	CAGCTGCTGTGGGGTGCAGAGGCA
29744	KCNQ2	CATGCACACAGGTGCACAG
29745	SNTB2	GGATACTTGTTCAGGGTTGCCA
29746	TRHDE	CCAGTATAAAATACCAATGCAAC
29747	LMO4	TCTACCCTCATTAACAATTAG
29748	ADCY2	CAGAAAGAGCTCTCCAGAAGCC
29749	AXL	GCAGTAGCATCACCATCTGTAAA
29750	PRPS1	GCTTCCTTGATAATTCTGTGGGC
29751	KRT6B	CTCTTTAATTGCTAACCATCCTGC
29752	CCND1	TGAAGTTTAGGAATCCTTTGGTGCCA
29753	NOTCH3	GTGAACCCCCCAGTGCCCCCGTGGG
29754	LHCGR	AAACTATTTGTCATTGTTACA
29755	GARP	GGTTGGACCAGAGTGATGTCCTCTC
29756	MEN1	GGAGGTGGGCGAGGGGGACCGAGGC
29757	GCN5L1	GGGGGAAGGAGGGAGGCTGA
29758	ARHGEF1	CCCACCCACACAGCTGCCGCAG
29759	CPLX2	AAGAGGGGGAGGGAGAAACGC
29760	ADAMTS13	TGTTGGTGCTGACCTCCAGGCC
29761	RFC1	CCATTTTTCACTAGCGAC
29762	RNPEPL1	GGACCCAGGGAGAGTGTGGGGACAGGACA
29763	PDE1B	CCCTATGTGTGGGGAGGGGAG
29764	CLCN4	GCAAATAACAGAAAACCCAGCA
29765	LZTR1	CCTTGTCACTGAACCCTGATCTAGAC
29766	MALT1	CTTCCCAACTTACTCTAGGTCA
29767	HDGF	GGAGCCCCCACCCTGTTCCTGCTGC
29768	MYEOV	AGCTGGTTAGAGGCTGGGAGGAC
29769	EZH1	AGGCTTCTCCCTTCTTTCTGG
29770	RAP1GA1	GTCTGGCTTGCCCCCTCCCTGGGCC
29771	CPNE3	CACAGTTTCAGCACTCAACCTCA
29772	APP	AGTTCAGCTGCTTCTCTTGCCT
29773	MEIS1	CCAAGTTATACCCAACCCCAG
29774	GRINL1A	TCAGTATGTGAAACCACCATTT
29775	DTX1	GGGGCGGCTGCCTCACTCCCTACCT
29776	CD8A	TTAATATGGTGTACATTCTTCC
29777	RPP30	ACATCTGGTCTCTTCCTTCACTGCT
29778	SORCS2	GGACATGGCCCTGCCCCTAT
29779	ZNF42	CTGCACCCTCTTTCTGTTGGCT
29780	ADAM29	GCCAGCCTCAGTTGATGCCTTCCC
29781	GBE1	TCCTAGACCATATTTTCAAGTCATCTT
29782	JUN	CAAACTAACCTCACGTGAAGTG
29783	S100A1	GGCAGCGCCCTTCCTCTCCA

29784	LRRC2	GGAGGCTGAGGCAAGCAGGTTGTTTGA
29785	ETV5	GTGCAACTTATGAAGACACTGCAGCTT
29786	WASF3	GATACTTGCCAGTCTCTCCA
29787	NCOA6	GTCACCGAGGCTGGAGTGCAGTG
29788	PCDHA9	TTCTCTCTCAGAGTACAAGCTCTCA
29789	METTL1	CCTACGCGCAGCTCCTGCAGGTGGCT
29790	BAIAP3	TGTGAACCCCTGCACCCAAC
29791	FCMD	AACTATTCACCCTACCTCA
29792	TGFBR3	AAGACAGTGCTGAGATTGGAA
29793	GTF2I	CTCCCCTCGGCACCCCCGGCC
29794	TMSB4Y	GAGTTTGAAAGGACTATGCTGC
29795	KCNQ3	CGCCGCCGCCTCGTTCACGCACCCC
29796	LMNA	GCCCCCAGCCCCGGGGTGAGTCC
29797	USP14	AAAGAAATACAAAGTTGTAAAAG
29798	TCTE1L	CTATTGTTCTTTACTGACTA
29799	FBLN5	TGCAAAGACCCGGGAGCTGGCGGGG
29800	MAPK14	CTTCCTGTGTACTCTTTATTTCT
29801	C18orf1	GGCTCAGAGCAGAGACTTGTGAATTC
29802	RAI14	CAGAAATGCTGCAGAGTATATA
29803	FBXL2	AAGCTCTGGTGTATGCTACAGCA
29804	BMPR2	CTTTTCTTTGCCCTCCTGATTCTTGGC
29805	DPYSL2	CTCTAGTATTCACTTGAGTCTTCCT
29806	DDEF2	CTTCCCTTCTAGCCC
29807	SGT	ACTCCCTTACAGCCC
29808	RELA	ACGGATTCTGGTGGGGT
29809	CBFA2T1	TCAGCTCTCCATCTGTCTCTGC
29810	FASN	TCAGTGTACACGTCTGGACC
29811	MYBL2	ATCTCAGACCCTGCTTAGGAT
29812	VAPB	TTTTTTCTGGGTCAGTAAATAACA
29813	RNASEL	TGGAATGTCAGAAGACTGA
29814	KPNA4	GCTGCCTCCCCCTCTCAGCC
29815	PTX3	AGTTTAATGCTGTGTCTCTGTCAG
29816	AKR1A1	CCTCCCGCCTCAGCCTGCCCAG
29817	RNASE2	AGCTCCTCAATCATAGCCAA
29817	RNASE3	AGCTCCTCAATCATAGCCAA
29818	PPP3R1	GTCAGCGCGAGCCGCTGCAGTGA
29819	ABCF1	CTAGAAGTCCTCTGTGGTCT
29820	PSCD4	TCTTCTCCCTGGCAAGGCTC
29821	NPHS1	CACTGGTCTCTCTCATTACAGCCTGGG
29822	RHD	AGCTAATTTTTGCATTTTTACT
29823	BAZ2A	TGCCCAGGCTTGAGTGCAAT
29824	MCL1	GGAAAGGGAGGATTTGCTTAG
29825	DSC3	ACCACGCCCGGCTAATTTTTTGT
29825	GPR81	ACCACGCCCGGCTAATTTTTTGT
29825	LYZ	ACCACGCCCGGCTAATTTTTTGT
29825	SERPINB9	ACCACGCCCGGCTAATTTTTTGT
29825	TNFRSF10B	ACCACGCCCGGCTAATTTTTTGT
29826	TGM3	CCCTCTCCTCTCCCCCAGGTTGGGGCT
29827	CD2AP	AAAATTGTGAATTCTGTTGTT
29828	DIRC1	CCCTCTTGCACTTTCTCTCCA

29829	MLC1	CTGGCTGCCAAGATACCTTC
29830	CD209	TTTTGCCATGTGGCGCCAT
29831	RANBP9	CCCCAAAAGATGCCGCGTCAGTTCGAG
29832	CNN2	GTGGGATCAGGCAGCAGAGCTTTTTTCCC
29833	SPRR2C	ACTGTCCAGGTGGAGACTGAGCAAAGGAA
29834	REGL	ATTTTTGCTGAGTCCTGCAGCC
29835	TCF1	AAGGCAGCAAGGCCCGAGCAGCTGA
29836	GAD1	TACCATGTTAAAGAGGCGTCTTGTATT
29837	AQP6	TTGTCCCAGGCTGGGCAGAGGTCAGGAG
29838	DDC	ATCTGAAAACTGGAATAAGAA
29839	JPH2	GGGGTGAGGGCCAAAGGCTAT
29840	PRDX3	GAACCACAGTTGAAACCTGCTTTTAT
29841	SECTM1	GCCTCTGTGTCACCCACTCCTGGGTGCGTGC
29842	ASB2	TGTCTGTCAGTCAGTCTCTCCC
29843	PIK4CB	GCCTTTCTTCTCCTTGTAGGGGTC
29844	PKP2	GGCTTCCTGGAATCAAAATGTG
29845	HMG20A	GTGTCCTGTCTTCCTTCCTCCTCA
29846	NEBL	CCAGGTCTCCTCGACCTCCATACAC
29847	PTPRN	TGTCCCTCTTTGCCTGTGTGA
29848	ARCN1	ACTGCAACCTCCGCCTCCTGGG
29848	CDH17	ACTGCAACCTCCGCCTCCTGGG
29848	EEF2K	ACTGCAACCTCCGCCTCCTGGG
29848	GM2A	ACTGCAACCTCCGCCTCCTGGG
29848	TAPBP	ACTGCAACCTCCGCCTCCTGGG
29848	VENTX2	ACTGCAACCTCCGCCTCCTGGG
29848	ZNF264	ACTGCAACCTCCGCCTCCTGGG
29849	MPL	TTTACTATATGTTGACCATTCCA
29850	PIM1	TTTAAGTCCCTGTCACCTCTTCC
29851	SLC17A7	CCTCTCTGTCCTGCCTCAGGCC
29852	DRD2	ACCAGCCCTGGGGCTGGGCCCCCCAG
29853	HMGA1	TTCGACATCCGTCATTGCTGCTGCTA
29854	ALDH3B1	GCTCACACCTGTAATCCCAGCA
29854	CRACC	GCTCACACCTGTAATCCCAGCA
29854	CYP4F3	GCTCACACCTGTAATCCCAGCA
29854	DMC1	GCTCACACCTGTAATCCCAGCA
29854	EHHADH	GCTCACACCTGTAATCCCAGCA
29854	FANCD2	GCTCACACCTGTAATCCCAGCA
29854	FRDA	GCTCACACCTGTAATCCCAGCA
29854	FUT6	GCTCACACCTGTAATCCCAGCA
29854	GRM6	GCTCACACCTGTAATCCCAGCA
29854	HUNK	GCTCACACCTGTAATCCCAGCA
29854	IFNAR1	GCTCACACCTGTAATCCCAGCA
29854	LRRC2	GCTCACACCTGTAATCCCAGCA
29854	LUZP1	GCTCACACCTGTAATCCCAGCA
29854	MCM4	GCTCACACCTGTAATCCCAGCA
29854	P2RX7	GCTCACACCTGTAATCCCAGCA
29854	PCDH11X	GCTCACACCTGTAATCCCAGCA
29854	PTAFR	GCTCACACCTGTAATCCCAGCA
29854	RAB7L1	GCTCACACCTGTAATCCCAGCA
29854	SIM2	GCTCACACCTGTAATCCCAGCA

29854	TSN	GCTCACACCTGTAATCCCAGCA
29854	ZNF136	GCTCACACCTGTAATCCCAGCA
29854	ZNF137	GCTCACACCTGTAATCCCAGCA
29855	HNRPDL	CTCGGAACTGCTGACCCCAGGAATTTAC
29856	AVPR2	CACCGCACACGTGCACAC
29857	PHF1	GGAGGGGGCATCTTCTGACAGC
29858	CASQ2	TGTCTGCTCTCTCCTTGCTCAAC
29859	ANKH	AACGATACCAGAGTCACTATGTGGTCC
29860	CAPN3	GGTCATCGGTGTGCAGTATTG
29861	ZNF3	GGCTGTGAGGGAGAGGGTCA
29862	MCF2	TTTCATGAGAGTAGTTTACA
29863	DMRT2	CAAAACTCTCGGTGAATGAACC
29864	C18orf1	TACCCCTAACATCCAGGAGA
29865	DAXX	GGAAGGTGGGAAGCAGATGAC
29866	IL5RA	TTAAGCTGCCAATTGTAGCAC
29867	DMRT2	CCAGCAATGCCTGCTAAATGC
29868	ATP7A	GTTCTTTTCTCCCCTTGAGGTC
29869	MUC3B	TCTCCCACCATGTCCACTGTGAGAAT
29870	PDK1	GTAACAAAAGCTTCATCC
29871	ALB	GCTTTTCTCTTCTGTCAACCCCA
29872	RP1	TTTAAAAAATGTTGTTAGCTTGG
29873	MRPL49	GCCTTCATATATGCCTTA
29874	RFX2	GGCTCCACCAAATTAGTGCCTCT
29875	SLC4A7	TTTTCTGAATCCTTATGCTCTTTT
29876	NEK2	AACCCAGTTAGATGCAATTTG
29877	AHSG	TCTCTGCCTCTGGTTGACCTTACA
29878	TCF2	TTGAAGAAGGAACTGAGGCCCAGAAAG
29879	GPR3	GGTGTTTCAAGGTTCTGTTCAG
29880	TRPS1	TAAATCAGCAAAACACCAGA
29881	USP6	AAAGGGAGGCTCTCTTAAGAGC
29882	TRAF1	ACAAAGATGGGTGAAGGCTGGCATGAT
29883	HSPA5	CTGAGGCAGGAGAATCACTCGA
29884	CYP4A11	AACTCCTGCCTGCCCTCCA
29885	TRPM8	TTCAGACCCCTGGGTACATGGT
29886	ITPKB	GTCTCTGCATTTGGAGATT
29887	RAD1	TGGCTTGGCCTCCCAAAGCGCTGGGA
29888	RNASE6	AACAGCTTCTGAGCTTTGGA
29889	NR3C1	TGCCATAGAGTTTAACACAA
29890	RAD51L1	AAATCCGCTTTTCTGCCACA
29891	MLLT2	TCATTCTATTGGAAGGAGGTGTAACGG
29892	COL6A2	CCAGTCTCTCCTCCGTCTTCCAG
29893	P2RY2	GTCGGTCTCGGAGCCCCTTGTGGCA
29894	CXADR	AATTAGTACAGAAATATCCAT
29895	CAPON	CCCTCACTCTCCCCGTCTCCATGGTCC
29896	AMHR2	GGGGCAGCTGTGCTGGCTTATGCTCTT
29897	RERE	TTGCACAGGGAGTGCAGGA
29898	LAG3	CCCTGCTCTGTTCCCTGGGACA
29899	EGFL4	CTTGGGGTCCCTCCACCTGGGG
29900	CPT1B	GGCATCTGAGTCTCCTAACCCAAGAT
29901	LHX2	CAGGGAGGGGAGGGGTCCAGGC

29902	SCN7A	TATCTGAAAAATGTTGAAAGCCTA
29903	GYG2	GGCTGTGGTCTCTCTGCTTTAAATCCT
29904	CHI3L1	GAGTCCCAGGCTGAGCCTCAGT
29905	HNRPA1	AGCCATCTTGGTAAATTTCCCCAACA
29906	CPE	TGCAGCTCCCCTGGGCTCCGCGGCCAG
29907	HEPH	GGGTCTGCAGTGCAGCATTAA
29908	IL9	CCTATTTATTAAATTTAAAAAGCTT
29909	MLANA	TTGTTCCAGTACTATGGAGTGCTCA
29910	DPP6	TGGACTAAAATCACACTCCTC
29911	SIAT7D	CTCCGGCCAAATGCTGGGCTCAGGCC
29912	SOX10	CACCCAGGTTGCTGTCGGCAGGCTGA
29913	PIK3CG	AGGAGGTGGAAACTGCAGAGA
29914	TIRAP	TACTCTGTTCCTCTTCCCA
29915	GPR56	TGTCACACAGGCTGGAGTGCAG
29916	PLIN	CTTTCAAAGTGGTCCCCTGGG
29917	RBM3	CCACTGTACTCCAGCCTGGACA
29918	SOX10	CCCTGTTCCTTGCCCACCTCAGGCC
29919	AQP6	GTCCCAGGCTGGGCAGAGGTCAG
29920	TAF7L	ATCTGTACCTTCTTTGCTA
29921	CALM3	TTTCCTCTTGTTTGTCATCT
29922	CSF1R	AACTAGTAGAACCTTCTTTCCT
29923	ARHGAP6	TCCCAGTGGTGTTTCTTAAGGTT
29924	DCX	GGCTCGCTGCAACCTTCACCCTTCACC
29925	MTMR7	GCCCTCTGCTGATTCGCTGCA
29926	ADAM30	AAAGCTCTGAAAGTAGTGAGTTTC
29927	GPR24	CTCTCCAAAATAAAATCAAATAAAGGA
29928	DAG1	AGAGTTCTCTGTCCTACTGCTCTC
29929	OXCT	GCGCTCCAACCCGCAGCCTCCTCCTGCC
29930	NEB	GGTTTTTCTGTGTCAATGTGAT
29931	GRLF1	ACCACCCCACGTAGCTGCTCACACCA
29932	TYRO3	GCTGCCTCCAGCCTGGTGG
29933	NAP1L3	AGTATTTTTGAAAAAGTTTCTTC
29934	KCNJ5	GATGGCATCTGTTCTCTCCA
29935	TGM3	CCCTGCTCATTCCTCACGCC
29936	NUP98	GCATCACAGTCACATGCCCATTC
29937	ASTN	CTGGGAGCAGAGGTGAGGCCAGAAAGTTGT
29938	ELMO1	CTTTGTTTTTGGACAAAAGAGTCTAACA
29939	FUT6	ACTGCCCTGCAGGAGTGGGTGG
29940	TPMT	TGGATTCATGGCTGTTTAT
29941	CHS1	ACAGAGCATTGAATCTGTACC
29942	CPT1B	CTGTGCCGACCAACCCCCAGG
29943	PPT1	GGACTCCTGAGAATTCCTGTTACA
29944	CARKL	GGGAGGCAGAGGTTGCAGTGA
29944	F2RL3	GGGAGGCAGAGGTTGCAGTGA
29944	IL17R	GGGAGGCAGAGGTTGCAGTGA
29944	PDE7A	GGGAGGCAGAGGTTGCAGTGA
29944	PSMD5	GGGAGGCAGAGGTTGCAGTGA
29944	PTAFR	GGGAGGCAGAGGTTGCAGTGA
29944	RAB7L1	GGGAGGCAGAGGTTGCAGTGA
29944	RBBP5	GGGAGGCAGAGGTTGCAGTGA

29944	SPTLC1	GGGAGGCAGAGGTTGCAGTGA
29944	TCTA	GGGAGGCAGAGGTTGCAGTGA
29944	TEM7	GGGAGGCAGAGGTTGCAGTGA
29944	TSNAX	GGGAGGCAGAGGTTGCAGTGA
29945	BAALC	TTAGATTGATGTGCACTGCAT
29946	IGSF4	GGATACTTGGATTTAGTTTCAG
29947	APOC4	AAATGTCCCTCCTCAGAAACAGGCTCC
29948	KLRF1	TGATCATATCCAGGATTTTTA
29949	NFATC3	CGGGAGGTGGCAGTTGCAGGGA
29950	PUNC	ACATTTTTCTTTAAAAAGCAAAAC
29951	SCN8A	GCTGCATCTTGAGCAGTGACCTG
29952	MICB	CTCTGCCTCCCAGGTTCAAGCACTTC
29953	FZD4	GCTCTATACTCTCTGGCTCC
29954	MCL1	TGGCTTGGAAAAGCAGGCTAG
29955	NUMB	GGAGAAGTTGAGCTTCCATTTTGAG
29956	APPL	TCTCCCATGAGATTTTGTCTTTCT
29957	MYH2	GTGACATCTTTGGTCATTTCCCTC
29958	PIK3C2B	TGTCGCCAGGCTGGAGTGTAGTG
29959	PARN	GATCATTGTTAGATATTTCA
29960	ICAM1	CACCCACATACATTTCTGCCAG
29961	BDKRB2	GGGGCAGGGAGAGGAGTGACTGAGCTTC
29962	MCM3	CCCATCCCACACAAACCCAATT
29963	HOXD4	TGTGGGGTGGACCTGGGACA
29964	ALDH8A1	GGGTGGATCACTTGAGTTCAGGAGTTC
29965	VNN3	CTCTATCTATGTCGTGGCTAATATTGG
29966	SLC4A1AP	AGGCCTGAGGCAAGGATCGCG
29967	DCX	GGCTTTTTGCCGCTCTACCTC
29968	HOXC6	CTCTCCCCTAATCACACAC
29969	EPHA8	GTGGCGAGCCCAGCTGCCCAGCC
29970	RLN1	AGGCCACAGCAGCCGCAGTCCTGAA
29971	TRAF5	GAGGACACAGAGGTAGCAGAAT
29972	CKTSF1B1	GCTGATGCTTCTGAGAAAGTCT
29973	HMG20A	GGTACTGCCTGCTGTTTTCTAAGCAT
29974	NOTCH4	TATGTGCCAGGCACTGTGTAGG
29975	HEXA	AGTCAGTGTCTGCCCCTGAG
29976	STAC	CTTGTTCTTTCTTTCTCTTCA
29977	RIG	TGGATGGAGGGCAGGAGCTCC
29978	ICOS	TCTGGCACCCAGGCATGAAGC
29979	PDCL	GGATTTCATGTCTTCCTCCAGCA
29980	GRAP2	TGGAAGGCAGTGGGGGAGTTGGGA
29981	EFG2	GAGCACCTAGCTACTTCA
29982	FLT1	TCTGACCCTTCTACATTTGAGGGCCC
29983	RASGRP2	CCAGAGCAGGGAGCCTGGGGG
29984	VWF	AGCAGCTGAGTTTCCCAGGGA
29985	BCLG	GCACTGCTTTTTCATTGTTTGCACTGCTGTCA
29986	RLN2	ACATATTCTTAATGACATTTC
29987	LPP	ACTCACACTTGTAATCCCAGCA
29988	TMPRSS3	TCCATCTGGTTTTCTCTCCA
29989	LIF	TCCATCTGTCCATCCCAACAGCAAGA
29990	CD34	CAGATAATGCTACTTTATTTATA

29991	CRYAA	AGGTGCCTCCTGACACACCTGCAGCCT
29992	MMP7	ACTGTTCCTCCACTCCATTTAGC
29993	PPP2R4	GGGTGAGGTAAGAGACAGCCTCC
29994	UBB	TGTGGGTGGACGTGGTTGGTGAT
29995	KCNJ4	CGCCCAGCGGCCCTGCGTCTTCCCA
29996	SCNN1B	CTCTCCAAAGGGTCGGGAGG
29997	MATN1	CTGAAGCCTGGGCCAGGCTCTC
29998	G1P3	AGAACCTCTTCTTCCTTCTTGGC
29999	CUL3	ATTTCTAGAGAAAGAAAGTATTTTAG
30000	RNF3	GCTAAGCTGATAGATTTAAATAC
30001	ACR	CTCCTGAGAAAAAGGAAAGATGA
30002	PDGFB	CTTGTCCTGGCCCTTCAGTCTGCTCC
30003	MAPK7	GCCATCAAAATGAGGCCTGTGAAATA
30004	CENTD2	GTCCACCCTCCCCCAGGGGCC
30005	NFE2L1	GAGGGGAAGGAATGGACCTGTGA
30006	GPM6B	TCACTGACACTCCAGACTAAAGCAGAG
30007	CPM	TTCGGGAGGCTGAGACAGGAGAATCGC
30008	NINJ1	ACCAGGGCCAGCCTCTGTCTCA
30009	USH3A	AAATGAACATCTATAAAATGTA
30010	SSTR1	GGAGCTGCAAACTGCAGAGCCCAG
30011	GYPB	TGCCTGTATTGCCTGCATGCTG
30012	HIPK2	GGAAGGGATTAAAGAGGGTGGGA
30013	GAB2	CCACAGCTGGTGCTCAGCTG
30014	GABRA1	AATTCAGAGGTAACAGCGCCTG
30015	FLRT1	AGAAACATGGCATCTTTCACTGC
30016	PXN	TTCCAAGCTGGCTTTTCCCA
30017	CYR61	TTATTTATCAAAATGTAGCCTTTGGG
30018	GRN	CCCTCTGCTCAGGCCTCCCTAG
30019	ED1	GCCTTCATCAGAACTCTTCCTCCTCC
30020	UGDH	AGGCACCCGCCACAGTGCCTGG
30021	CSDA	GGAAGACAAGAGAGTAGCCTCTCCA
30022	JRKL	CCTTCATTCTCTTACATTTGTG
30023	TNFAIP1	AGGTCAGAGGGTCTGGGCAGAGGAG
30024	CDC2L2	TGCCTCCCAATCCTAGTAGCTGGGAGT
30025	OPA3	AGGCGGGCGGATCACTTGAGGTCA
30026	HPCA	TATCTGGAGGGGAGAGAAGGA
30027	TPM4	TTCGCCTGTAATCCCAACACTT
30028	LILRA1	GCTGATCTGAGTCTGCCTGCAGC
30028	LILRB1	GCTGATCTGAGTCTGCCTGCAGC
30028	LILRB2	GCTGATCTGAGTCTGCCTGCAGC
30029	GP2	AGGCCAAGGCAGGAGAATTGCT
30030	ADCY1	TGCCTCTTTGCTAACAGCAACATCTG
30031	KRT4	CACTTCACCTCCATCCTCTGTCTC
30032	WHSC1	ATTCTTGTTCTTTGCACCTCTCTCT
30033	CCND1	CCATTTTTAAAGTAGAAGAGGGTTTTA
30034	GM2A	AGCCTCCCAAGTAGCTTGGACT
30034	PCDHB16	AGCCTCCCAAGTAGCTTGGACT
30035	IL2RB	CTGCCCCAGACACA
30036	SBF1	CACAGCTGAGCACCGTGCCG
30037	CDK9	GGGCTGAGAACCCTGCGTGA

30038	IRAK1	TGGGAGGTCGAGGCTGCAGTGA
30039	ZNF74	TAGGAGGTCAAGGCTGCAGTGA
30040	RAP2A	CTTTGCCACAGAAAATGGAGG
30041	C18orf1	AGGCCTCTGCTGGAGAGACACCAGCT
30042	LEP	CGCCACTGCACTCCGGCCTGATGACAG
30043	PTPRF	CTTCTGCTGAAGGACAGAACATT
30044	ITGAL	TCCAGCCTGGGCAACACAGCG
30045	PDE1A	TCTTCCCTCAGCTTTGTACATCAGCAC
30046	RPS6KA2	AGCCTCACTGCGCCAGCCTCCCCGCCCG
30047	ITGA5	CTGGCCCAGGGCCAGAGCCCAGCT
30048	HD	TCCCCCATGTGCCTGTCACGCTCT
30049	VAPB	TTCCGTGTCTTCAGTTCTGTCCA
30050	PHGDH	ACTGCTTACACTGCACTCT
30051	SLC20A2	AGCTAGCAGTTTGTCCAGCCTCTAACA
30052	OTOA	CCAAGCAGCTGGCCAACATGTGTAG
30053	ASB1	CCAGAAAGTGAAAAATGCAGCG
30054	ZNF239	TTCTTACCTTTTCCAGTGCTGCTG
30055	GLTSCR1	CGGAGAGGGGGTGGGGGAGCCAG
30056	HDAC6	CCAGCCCAGAAGGAAAGG
30057	PREB	TTCTCCTCCTCCCCTCAGCCTTGTGGC
30058	MOG	CTGAGTGAGCTGAAGAGTGAGGATATGAGT
30059	WNT3A	CACCTGCACTCCATCCAGCT
30060	ITGA11	CATTCCCACGTCTTCTTGCTGCAGCCT
30061	DIAPH1	TCTCTTCTAAAAGAGAAGTGGGT
30062	ABCA3	CTAGAAGCAGCCGGCACAGGA
30063	WHSC1	CACTGCACCCGGCCCTTGCCTCATGTT
30064	MMP7	AACTTCAGGCAGAACATCCATTCA
30065	ATP6V1C1	AGGAGAGAATAAAATTACCTGTGCA
30066	PON1	TCACCCAGGGACTCCAGTTC
30067	MAFF	CCAGCCTGGGCAACATAGCAAAATCC
30068	ATP6IP1	CTCCCCTCAGCCCATCTTGCT
30069	LASS1	CCTCCACCCCCTCCAACTCTGCT
30070	FMO4	CTCCTCTGCTCTCCATCATAACTGCT
30071	COX7A2L	GGTCATGTGCATGAAATGAGGA
30072	GAS7	CAGTGTACCAACGAATTCACCAACCAG
30073	PAX2	GCCTCCCAGTTTCCCCTCCTGCC
30074	CASP8	TGAGCTTCCTGCCTGCCTGTA
30075	SLC22A3	TACATTTGCCCTTTCTCTTCCTTCTA
30076	NLGN2	CCTCATCTGCTGGCATTTTGTGGGGT
30077	ARHGEF1	GGGCCTGAGGAGAGGGAGCTGTGGGCC
30078	PXF	GTCTTTTTCTGATCTTCCTCA
30079	P2RX7	TGCACTCCAGGCTGGGTGACAGAGCGAGA
30080	PSMC3	CTGGTCGGGTCAAGAGTCGGG
30081	TCP10	GCCTTGTGATGGACCCAGGAGG
30082	AP1G1	GCTGACCTTGAAGCATTGTT
30083	FKBP1A	CACCACAAGGCTATTTTTCCCCCTGCA
30084	MFAP3	GGGACTTTTACTCGCTTCTTTTG
30085	NDUFS2	GAGAGTGAGGGAAAGGGCCTGGCCGG
30086	SLC1A3	GTAGCAGCTGTGTTTGAGTTTCT
30087	EGFL4	GCCTATAATCCTAGCACTTTGA

30088	SDC1	CCTGTGGCCCCACCCTGGGCC
30089	AKAP13	CCTGGGAGGGAGTTTAGAAAGA
30090	BLAME	GGATGAGTCTTCCTGCCTGAA
30091	CASR	CCCACTGCAGGGAGTGAACTGC
30092	SLC22A7	ACCGCACCGTGGCTGGAGTCCTGAGCAGC
30093	HLA-G	CCACCATGACCCTCTTCCTCA
30094	PTN	GCCTTCGTCCTCCTGGCCC
30095	CTSB	AACCTCTCTGATCTTGTGCTC
30096	BCL2	TGGGTATTTAAACAATAAATGTGCA
30097	FBXW1B	TGATTCAAAGCCAATACTCTTA
30098	TPM4	GACCAGCCCAGCCAACATGGCG
30099	ZNF264	AAAGCTGTATTGTTTGGTACATA
30100	RANBP3	ACAGGCAGTCTCACAAGCACGCAGCAC
30101	EFG2	GTTTTTGGAGAGAAATTCAGGAGCACCT
30102	HLA-DMB	CCTCATTCCTGGGACTA
30103	ADAR	CACAGGCTCTCACAAGATCAGAACCCC
30104	GLRA3	AATTCAGAAGAAAGTGTCTCT
30105	KCNA7	GGGAGGCGGAGCTTGCAGTGAG
30105	NFKBIL2	GGGAGGCGGAGCTTGCAGTGAG
30105	OGG1	GGGAGGCGGAGCTTGCAGTGAG
30105	PCDH11X	GGGAGGCGGAGCTTGCAGTGAG
30105	PCDH11Y	GGGAGGCGGAGCTTGCAGTGAG
30105	PPP1R12B	GGGAGGCGGAGCTTGCAGTGAG
30105	SLC26A4	GGGAGGCGGAGCTTGCAGTGAG
30105	WIG1	GGGAGGCGGAGCTTGCAGTGAG
30105	ZNF91	GGGAGGCGGAGCTTGCAGTGAG
30106	ALPP	GGGCGGCGGAGATTGCAGTGAG
30107	DSG1	TATCCCTGTGGAGTCAAGGATTC
30108	FKBP1A	CAGCCATCATGACAAATCCTTGAA
30109	PTGFRN	CCTCCACCCACCTGCCCCA
30110	MAP3K5	GGAGAGGGCGCCGGAGAGGAGGCGGC
30111	COL1A1	CCCCTCACTGGGTTCGGAGGAGAG
30112	CYP27B1	CTGCCAGGGCCTGTCTC
30113	SYT4	TTTTGTTGTTGTTGTTGTTGCT
30114	LMO7	GCATTTGTAAATAAACTTGCTGATGCAT
30115	DISC1	TACTCAGTAAGACAGTGCAGTG
30116	KCNK10	GCAAGGCATGGAGCCTGCACT
30117	ADCY6	ACTGGGTGGAGCTGTGGCAGGGGG
30118	DNASE2	TGGCTCACGTATGTAATCCCAG
30119	ETS2	CAAGCGCCGGCCCTGCCCGCAGCGGCA
30120	SOX1	AACCTATAGGTTATTTTGT
30121	ELOVL4	AAACTCCCATATCATATAAAAT
30122	SH3BP2	TCGCACACACCCCCTGCCTTA
30123	IL5RA	AGATGCTGGGGTTGCAGCCACGAGCA
30124	TK2	TGCATTTGGCTGGAGCCCGGTG
30125	OPHN1	CACTGTACCCAGTCTCAAAGGC
30126	SCD	TCCAAGAAACTGAATGAAT
30127	SLC7A5	GGGACCCCCTCACCATCCAGTGGGCC
30128	IL9R	GTGCTGGCTGGTCACTGCCAGA
30129	CRYGC	CCAACGCAGCAGCCATCCTGC

30130	BBS4	CTGGCAGCAAGGCTTGAGGC
30131	SPR	CTGTGGGTAGAGGAAAGAGT
30132	MGAT2	CGCTCAGCCTGGAGTGCAGT
30133	SFRS1	GGAGGATTGAGGAGGATCAGATCAATA
30134	C7	GTTGCCCAGGCTGGAGCGCAGTG
30135	ALDH3A2	CACTGCACTTCAGCTTGGGCAACAGAG
30136	DMP1	AGTCTTAGGGACTTGAAAATGTATCA
30137	IRF2	TAGGCAGCACTAGCGACATTGCAGTCT
30138	TCFL4	TCATGATCTACATAGATTTGGA
30139	B4GALT1	GATGACACAAGACACTCC
30140	SMURF1	TTGCTGCAGGAGGAAAGTTTAA
30141	GFRA2	AGAGGCGAGAATCGCAGGA
30142	MAT1A	GGCAGGGGCTTCCTGGTGCTGGAG
30143	ALPL	AAGGCCTTGCTCACTCACTCACTC
30144	UBE2G2	AGTGTTGAGGGGGTTGTACCTGCCA
30145	CAPS	ACTGCTGCTCCCTGCCCCTC
30146	SCAMP2	GGTCTGGGTGCCCGGAGGCAGCAG
30147	CDKN2A	GGAAGAGGAATGGGAGCCACGCGCG
30148	BUB3	TTGATGGTTTGCTGCATTAA
30149	ARHGAP6	TGAGCTTCCCAGAGTCCCATTTCC
30150	SLC7A5	CTTCCCTCTGGGCCTGTTC
30151	PTER	TTCAGCGATTTCCAGTCCACTGTGAG
30152	MAP3K10	GGAGGGTGGGCAGGGATACTCAGGGA
30153	CR1L	TAGTCATTGTGTCTTGGCTGGAATGAA
30154	CASP8	ATGACTGCACAGTAGAGCAA
30155	C11orf8	CAGAAGTAGGCATGGAAAAGACTTC
30156	KIF3B	TAAGTGTGTGTGGGTGTGAGAGCA
30157	YWHAG	ATAGCAGCCTCACACTGGCGTCTGG
30158	CIT	CCCTGGGCACCTCCCTGCAGTCATCTC
30159	CTNNB1	TTTGCTTGCTTTGAAGTAG
30160	PRKACB	CCACTTCTTTTCATCTGTACC
30161	RASAL1	GAAGGAGGAGCAAGAGCCAG
30162	HS2ST1	ATACTCTTGTTTTTGATAAAGCATTTT
30163	SFRS2IP	TCAAGACGAAAACCTGCAATGAC
30164	FCGR2A	GTCAAACCACTGTTA
30165	EDNRA	TCTTGTAATCATGTTACCATTACAAA
30166	KCNA7	GGAGAGGGAGACAATGACCTGGAGGGT
30167	GGA1	CACTGTCCAGCCTGGAGGG
30168	SNX1	GGTTATGTAATAAAATATTTTA
30169	SLC1A4	GGGTGCTTCCGAGAGTGTGCAGGT
30170	ZNF2	CAGGAGGGAAAGGCAGAATG
30171	SP1	GGAGAGGGATACAAGAGAGGAGATGGG
30172	APPL	CCGAGTAGCTGGGACCACAGGG
30173	HPS4	CCCAGGAGTTCGAGGTGCAGTT
30174	METTL1	CTGTTCCCAGACACACTTATTCTG
30175	CLCN4	TAAATGATGTGATCTGTACAAGTATGT
30176	CENPB	CCCCAGTCCCTTTCTCTGGCCCT
30177	PRIM1	TCAAGAGCCATTTAATAAATATGGC
30178	HIPK2	AGGGAGGCGCTCCTGGGACCGT
30179	RPH3AL	TGAGGCCTGCAGCTGACAGCTTTGA

30180	DMD	TAACTTGCCATTTCTTTATATGGAAC
30181	HS3ST3B1	CCTGTCTCTTCCTGCCTGTG
30182	EPHB6	CTCCGCCTCTCCACCAGCC
30183	POLH	CCTGGGCAACAGAGCGAGACTCCATCT
30183	ZNF264	CCTGGGCAACAGAGCGAGACTCCATCT
30184	DEFA6	CTCCTGCTCTCTCTCCTCCAGCG
30185	ASPH	TCTCCAGCCCTCCCAGCC
30186	PPP1R12B	GCAAATGGCCCTGGCTTCATT
30187	IL17BR	TTTCTGAGCCTCTTGTTTTTC
30188	DNMT3L	CCGTCCCTCGTTCCATGGCCCAG
30189	HIVEP1	ATGGGGCAGAGTTTCTGTGTAT
30190	THBS1	TTCTAATTCTCTCTTTTGG
30191	G6PC	GGCTCACTGCAACCTCTTCCTC
30192	NPHP1	TTCTGGGCTATCTTAGCTAACTT
30193	ZNF10	ACACACCATGCCCACATACAA
30194	DMN	GCACAGGTTCCCTGGCACTGGTA
30195	RAD1	CATGCCTGTAATGCCAGCTACTC
30196	B4GALT5	AACTCCTGGACTCAAGCAATC
30197	SLC18A1	AACAGTGTCCCTGCTGTCTTGCT
30198	ADAM10	TGCCTTGGTTCTTCCTAGTGCCT
30199	DRD2	GGGCCTAGACTCTGTAACATCAC
30200	CLTC	TTGTAACCTTTATTTCATGAAGG
30201	KRT5	GCTGAGCTCTGTTCTCTCCA
30202	SNX4	GTTATAGGGAGTTGTTTTCT
30203	PKD1	TCCCTTGCCCCAGGCCAGGT
30204	OFD1	GGCAGAGAACGTTCAGCACCTTTGTTCCTCCC
30205	GAN	ACCCTAGTGTGAAATCGGGG
30206	SPG3A	CTGAGCTTGGTTCATCTGCTTTCT
30207	LFNG	CAGCTCTTCTGAGTGGGGAGTCTT
30208	IFIT4	CCCTGCACTCCAGCCTGGGCTT
30209	FGF13	GCTGAGCCCCCTCCTTGGCT
30210	SIGLEC8	CAAAGTCACTTCCTCGTCTCCTCCTCC
30211	HOXB7	CTCTAATTCTGTAATATATCAAGG
30212	FBXL5	CTTATTACCCTGACAAATAG
30213	CLASP1	GTCTTCAGTCTCCTGACTTAG
30214	DRP2	AACCTGACGGAATCAGAAGCTACA
30215	PPP1R12B	AGCTAGGACAGAGCACCTGACCTCA
30216	ABCD4	AAAGGCTCAGCCTGGCCAGGGCCAGA
30217	LRP8	TTCACACAGGAATTTGGTTTA
30218	SOST	TGCTGCTTCCCAGCCTGGCTT
30219	RET	GTTACATTTACCAAGAGAGC
30220	ATP2B4	CGGGACCCAGTCAAACCCCATTCAG
30221	COG3	TCATTTGTAACAGGTCACTTCC
30222	MAP3K9	TGACCAACATGGAGATATCCTGTCTCT
30223	GRIA2	GAGTCCTGGCATGGGAATGAA
30224	DMN	ACCAGTCTTTTTGTATTTATTGT
30225	CACNA1S	GGGGTGGGGGAGCAGGAGAAAGC
30226	CDS2	CTGGGGACTTTCTCATCGG
30227	PTPN13	TGAAACCAGTATTTAAGCTTTA
30228	SCA1	CCTTGTACAGCAATCTCCTCCTCC

30229	AKAP2	CTCCTATTTATTCTCATACTTT
30230	101F6	CCTTTCTCTGTCATCCCA
30231	CACNA2D2	CCTGCCCCACACTCCCCGCCT
30232	DLGAP2	TTCTCCTTAGCTTCTGGCT
30233	INHBB	GTCCCCTCAGCGGAGGCC
30234	PRDM2	CCTCCACTCTTACAGAACTTG
30235	PPP1R2	GCTATCTCGCCATTCCCTTTAAATAC
30236	CDK6	AACACCCTTGGTGGCTTATGGGTCCCC
30237	XRCC2	AGGCTGCTGGAGTGCAGTGG
30238	PARN	GTGGCGCTGTGTTCACTTTCCA
30239	TSSC4	CACACTCCAGTGTCAACC
30240	CHST5	CACTGCACCCTAGCTTGGGTGG
30241	GPR62	AGGAGGAGAAAGGGTGTCTGCTGCC
30242	C1orf6	CAGACTCTTCTCTCCTGGTCTC
30243	APC	ATTCCTGAAATTCTTTTATGTGA
30244	KCNE2	TTTGCTTAGAAGAAAGTGAGTTCCTTG
30245	TARBP2	GGAGAGAAGATCCTGTCCCTCC
30246	MAPK8IP1	CCCCCAGCCCTCAGGCCAGTGCCA
30247	GHR	CTGGGGCAATAACGTTTAA
30248	CYP2B6	CCCAACAAAACCCATACCTA
30249	PABPN1	ATTCACAACCTCCATTTTCA
30250	HMMR	CAGCTTGATCCTGGAGGTCTTTT
30251	FBXL3A	ATGTGGTTCGGATGTGAAATAACCAGT
30252	CYBB	ATGTACCAGGATGGTTTCTGCTTAG
30253	ADCY6	AAAGGTGACCCTGATCCCAAAC
30254	AF3P21	TGCAGTGAGTGCTGCTCATGTCCTCC
30255	NPTX1	TGGAATCTTATGGCAACCAA
30256	CYB561	CCGGGAGATGGCGCTTGCAGTG
30257	COL1A2	CCAGGGGCTCTGCGACACAAGG
30258	FSTL1	GATTAAACTAGGTTTGGTTCCT
30259	MHC2TA	TATGCCCACGCTGGAGTGCAGT
30260	SNAP23	TTGTCCAGGCTGGAGTGCAATA
30261	FOXO1A	AAAAGAGAAGTTTCTTTTCTGGTTT
30262	APOBEC1	AGTTTCTGAGTCGGCACCCTGGTGTGAC
30263	EN2	AGAAGTTAGAGGGGGGCGGGCGA
30264	MX2	CTTGGACATTTAGTGACTGTT
30265	TRIM34	ATCAGCATCTGGCCAACATAGTG
30266	EPHA3	TTAGAGCTTCCGAGAATAGCTCCAC
30267	DRP2	TCTCAACAAAGCTAAGAGGTGCTTGA
30268	RBL1	GATGAAATAAGGAGAAACCCCA
30269	KLRA1	TGCACCACTGCATAGCACAGA
30270	SH2D1A	TTTGAAGCTGTATACTGTGTG
30271	RERE	GCTGCAAAAGCAAAAAGAA
30272	ZHX1	AAATGTTCAGTTTAATTAGCTTTG
30273	INMT	GCACAGCTGTGTGTGGAAGCCACGGGC
30274	SORBS1	CCAGATCTACTCCCTGTAGG
30275	COL4A2	TGCTTCTGGAAGGGCCAATGCGTT
30276	TAF11	CTGCAGCCTTGAACTCCTGGGC
30277	PKNOX1	TTCGGTCTTTGAAACTGACA
30278	ADAR	GCTACACTGACCTCTTGCGGTCTTG

30279	GPR6	GCTTAATTATAGCACTTTATTTTTA
30280	TCF4	AGAGGTTTCAGCATTCCCA
30281	PTHR2	GCCAGACCTCAGGTCTTCACT
30282	SERPINB9	GTCCAGGCTCGGAGCGCGGC
30283	IGFBP3	CCCAGCCTGCCAAGCAGCG
30284	IL1RL1	TCTTTGTAGACTGTTCCTGTTT
30285	MBD1	CTGGCTATTTTTGTGTCATTTATTCAA
30286	EZH1	TGCACACACACTCACATGCTCTCACTC
30287	ATP8B2	CTTACTTCCTGTTCCTCCTCATTCTGC
30288	LIMK1	GCTGTAACCTCTGTCTTGGCAGGG
30289	RANBP3	CCCAAGGAGCAGCAGCGGAG
30290	GYPA	AGAATGGAGTCCTCATGACCT
30291	TNFRSF8	AGAATGTCCCCACCAATCCCCGCCAC
30292	CEACAM6	CCTGGTGTATTTTCGATATTTCAGGA
30293	ATP8B2	ATGGATATAAGAGAAAAATGCCTTT
30294	ATP7A	TCTGTTGGCAAAAATATCTTT
30295	FOS	TATCTGTGCGTGAAACACAC
30296	GAS7	TGAGATCAGGCGCCATCTGTAAA
30297	FGF5	CTGCAACCTCCAACTCCCTGGT
30298	GLRA3	GAACTGTTGCCCAGCACCTTA
30299	FUT7	GGAGGTGGGTGTGGGTGGAAGGG
30300	IL24	CTGGTTTGTTCCCTGTGTCATTTCAA
30301	MMP8	GCCTATCTGACTTCATACATCCC
30302	RFX2	GTCCCCAAACCAACTGCAGAGAAG
30303	RPL15	CTTAATAAACAATTTAGGACAGTCA
30304	CPD	CTCAGCCCTGCCCTGTC
30305	PPIL1	CCATTTTTTCCCAGAGAAGAGGAGAA
30306	APTX	GACTAGGGTGGTGAAGTCACTTGCC
30307	LPIN2	GCTCTTCTGCTGACCTCAGATACC
30308	ARF1	GCCTCCAGGAGTCGCTGTGTTGG
30309	TPTE	CCTAAATGTTCCCTTGA
30310	SLC22A2	GTGGAGTCTATTGTACACTGTGGAAAAAT
30311	STIM1	GTGCATGTCTTAGTTGCTGTTCCCTC
30312	ATP1B2	TTGACTTCTCAACCCAGCCTGAAGTCC
30313	PKD2	TCATGGCTTCATCTCTATCTTTACTTTCTCTT
30314	MGEA5	AACATCTGTCATCTTCCTTGGTTTA
30315	PPP1R11	CCCTTCCCAGCCCCCTCCAGGGCC
30316	EDG6	CTGTGTGATTCTGGGGAAGTCCCGGCC
30317	LDOC1	GCCAAATTGTTGACACTTCTTT
30318	IL18RAP	ATGGGGAAATCAGAAGCTTTGA
30319	NRGN	CGCACCCAGCATGCAGCT
30320	UBL3	TCTGAACTATTTGCTTTCTCTTCAAGA
30321	SCN4A	GGCCTGAGCATCCAGACCTGAGCGGGA
30322	XRCC4	ACAGTGAATTGAAACCATT
30323	ABCB4	GGACCACTCCAGTGTTAGGTAA
30324	FLRT2	GTGTGGGAAATGCTGAAAGCACC
30325	NPY2R	AAGAATACAACTTGATACTTTT
30326	BIN3	GCTCCTCTCACAGGCTGGGGACAGAGGTG
30327	RPP30	GGTCTCAATCTCCTGACCTCATATTCC
30328	LMNB1	GGGAGGTGGAGGGAGGGA

30329	FBXL7	CACCAACCAGACCCTTGGAAAGG
30330	CIAS1	GCCTAGGCTGGAGTGCAGTGGCGTG
30331	SLC16A1	TCATTTTCATTACCAGGTTTCA
30332	DMPK	CCAGCCTTTGGGCAGCAGGTCACCCC
30333	IL22RA2	CTGAGCTGGTTAAAAGGAACACTGG
30334	PYGO2	GTGGCCCAGGGAAGTGCACA
30335	SH3GL1	CTGGGTGGGTGGGGATGCCTGTTTACA
30336	FN1	AGGGGGAGGAGAGGGAACCCCAG
30337	F13A1	CCTGGCCTCATTTAAAACAA
30338	ANKTM1	AAGAGTGAGGAAGAAGCAGA
30339	ATOX1	GGACTGGAGGGGGCGGAGCCTCCCTCG
30340	SOX4	AGGCACTAGGACGTCTGCCTTT
30341	RBM10	ACCCAGGCTGGCAGATCATGGT
30342	PAICS	AACGGACTTAACCTCATTTCTCTTTCAGA
30343	FCN1	GCCCCCAGCTCAGTCAAGCC
30344	PRKY	ATGGCAGATGCACAAATTGTGCAGTGA
30345	IPF1	GGGAAAACCCGCTCTCTCA
30346	PTGFR	AATTGAGACTTTTTCTTTGCTTGTTTG
30347	TNFSF10	TGGCTCACACCTGTAATCCCAACATTT
30348	AASS	TTTTGTTGCTCTGCTCTTTACATT
30349	PLN	CAGCTTTTTATCTTTCTCTCGAC
30350	CLN2	CTTTCCCCTCCAGCCCCCAATCA
30351	CISH	ATAGAGCTGGTCTCACTGTGG
30352	ESR1	GGCAGCTTCAGTTCTAGAGAA
30353	CYP8B1	TGCTCACTGCAACCTCTGCCTC
30354	SOX4	AGGCAGTTCCGTTAAGGGTTTTTGTT
30355	GHR	TTGAGACAGAGTCTCGCTCTGTCGCC
30356	MICB	TTGAGACAGAGTCTCACTCTGTCACC
30357	POV1	ATCAAGGCCTGAGCAACCAA
30358	LILRB1	CACCATTGGACCCCACCCAGCCTGGATCTAC
30359	GA	AGGACTCCTACACACTCTCT
30360	GLUD1	ACTTCTGCAGACCTATCACA
30361	PRX	CTCAGAGGCAGCTGCTCCATGCAG
30362	SIP	CGCTACATTGTGTGTATTTTTTGT
30363	ASK	ATAGGGGTAACTGGAA
30364	SUV39H2	AAGGGGGTCACTGGGTCTCATAGA
30365	FGF1	AGAAGACACCAAGTGGATTCTGCTT
30366	GALT	GAGTCAGCATGGAGAGCCCCTGCTAAT
30367	DPH2L1	CTGCAGGGGCCTGGAGGAATCACTGGG
30368	ADAMTS6	GGGCTGTTTGCCTTTCGTGAACA
30369	NR3C2	ACAGATTCCTGTTGTGTAATAACAG
30370	POLH	GCTCACGCCTGTAATCCTAACA
30371	MAP3K8	AAAACTTTTGTAAATTATTGATGATT
30372	GPR55	GCAGTGGGGCCCAGCAGCACAG
30373	GDF8	TCTCAGACTGTACATGCATTAAA
30374	FMNL	CAGGAGCCTGGCCTGTAACTTATA
30375	RPE65	TGAGTTGAGCAAGCAATTCCTTTATTT
30376	NUMA1	TGTCTGGCATCACCAAGA
30377	HS3ST4	ATTGTTCTAGTAAAACTGGA
30378	ADAM33	TGGCTCATGCCTATAATCCCAG

30378	CNGB1	TGGCTCATGCCTATAATCCCAG
30378	IL4R	TGGCTCATGCCTATAATCCCAG
30379	RAD52	CCAACGCACAACAGGAAACTGGGAATCTCA
30380	CYP1A1	ATGCAGCTGCGCTCTTAGTGCT
30381	PON1	GCGATCTTGGCTCACTGCAACT
30382	DYRK2	TGTGTTCCTCCAAATTTTCTAG
30383	GAA	GGTGGAGGTCGGGGATGAGGCAGCAG
30384	DEFA1	CTGCTGTCTGCCCTCTCTGGTC
30385	CLASP1	CTCTCAGAGACCTTTCCCCACCCCCTTC
30386	MAG	CTACTTCCTGCCTGGTCTCCTGCCCC
30387	CSF1R	ACTGGTACTGCTGTAATGAGCCAAG
30388	SH3GL3	AATCAGAAGATGAATGAATG
30389	HSD17B1	AGCCTCCACACGTTCAGCTCTC
30390	METTL1	GTCTTCCCAGTTGAGACTGCTGG
30391	SFRS2IP	TCGCTTGAGCCTGGGAGGTTGA
30392	STK10	CTCACAGCCATTTCTGTTCCCA
30393	NUP214	GGGGCGTGTCAGCAGGCCTTTCGATCCC
30394	ING1	ACAAAGCCTTAAGCAAATTTTGTAT
30395	FOXM1	TGTGAGCCAGCTTGAGAACA
30396	ESR1	CATGCCTTTTGAGGGCTGA
30397	NEK2	GCTGTCTGTCATTTACCTACTTCTT
30398	ZFX	TTGCCCCAGGCTGGTCTCGAACTCCTGG
30399	FRAT2	GAAGAATTTTGCAGGTGGGAG
30400	TLL2	AATCATTTTCTTTCTCTCTGC
30401	SH3BP2	TGTCTCTGATGCACGTGTGTTT
30402	SYP	ATGGGTTTTGTTAGGGGTGGGG
30403	GHR	GGGATTACAGGTGTAAGCCACC
30404	NOS1	GCCTCTCTTGACGTCTGCCTG
30405	SIM2	CACTGCACTCCAGCCTGGGTAA
30405	TSNAX	CACTGCACTCCAGCCTGGGTAA
30406	ADAM17	CACTACACTCCAGCCTGGGTGA
30407	EGFL4	CACTGCACTCCAACCTGGGTGA
30407	SLC14A1	CACTGCACTCCAACCTGGGTGA
30408	POLH	CACCGCACTCCAGCCTGGGCAA
30409	SFTPA2	GGCATTCACACCACCCCCCA
30410	CLASP2	AAACTATTAAAAAGGGAATTCA
30411	TAF1	TCCCTGTTCTCCAGCCTAGG
30412	PTPRD	TCCAAGCTGCTCGCGCACGCT
30413	POMZP3	GAGTGGTGACCATGAAGTAG
30414	ARG2	CTGTCTACCTCACAGAAATGTTAAAC
30415	ZNF6	GGTCTGGAAGAAATGGATGAGA
30416	GCNT3	TGCATGATTTCTCTGGGCTTGCTGTCTT
30417	GCK	AGGGAGAGGACATTTCCCACTG
30418	CLECSF12	CTCAAGTAGCTGGGACTACAGG
30419	PRKY	TCCTTGCAGCCTTTGATTTCTC
30420	STAT4	TCTCCTTATTCTGCTGAATGCAGGATAAAC
30421	PCDH11X	AACTTTACAAAATCTATTGACTT
30422	CDH1	CCAAATTTTAATATTCCAGAAGAAC
30423	TAL1	TTCTCCTGCCTTTGCCTCCA
30424	SIGLEC8	TCTCCTCCTCCTTCCCACAGGCCGGC

30425	CDY1	GAGGGTTGGGGCTGTGGATTTAGCT
30425	CDY2	GAGGGTTGGGGCTGTGGATTTAGCT
30426	DCLRE1C	CCCAGGAGATTGAGGCTGCAGTGA
30427	SORCS2	TTGTCCTCAAGGTCATCCTGGAGATGG
30428	USP6	GCGATGGCTACAGCAATGGTCAG
30429	PCDH12	GAGCACGGGGCTGATCAAGCCATCCA
30430	ACTR1B	CACTTGCTCCTCCCTCTACCCTC
30431	MCM3	TCTGAACTTGGGTTGTGCC
30432	PON1	GGGACTCCAGTTCACAGGCCA
30433	DLST	TTCATTCTCCGTTGTCATTGACTTCA
30434	CD34	CTCCTGGGTTGAGCTGTTGCCTCAGT
30435	CD5L	TACATTTACACATTTACACTTATCTAAT
30436	DDX11	CCCCAACACCAGCAATTATGC
30437	CHES1	TGGTACAGATCTTTTTCTGTCTATCA
30438	GRAF	TAAACTTCAGAATATGAGCCAA
30439	CAST	TGCCTGTAAATCTCATTTGTATTTTCA
30440	SLC25A17	GCTCTCATGTGTAATGTTTTCTA
30441	IL13RA1	CGTGCCTGTAATCCCAGCTACTC
30441	MAP3K9	CGTGCCTGTAATCCCAGCTACTC
30442	KCNA7	CATGCCTGTGATCCCAGCTACTC
30443	DTNBP1	GGCGGCGGCGGCAATGCTGGA
30444	RARG	GGCTGGGGCAGTGGGCATGGGCAGG
30445	F2RL3	GACTCACTGCAAGTTCCTGCCC
30446	KPNA1	TCATTAAAAAATTGGAGTTCACCC
30447	SLC6A3	ACACTCTGCCTGGCCTTGAG
30448	E2F1	CCCTCTCCTCTGTCTCCAGAAG
30449	MAPK10	AGGAGATGATGTGATGGAACAC
30450	NBS1	CTCATTTCTTATGAATCTTTCC
30451	ACPP	CACTACTGTACTCCAGCCAGGG
30452	ROBO1	TTATTTATTAAAAATGTTCTCA
30453	RGS6	GAGGAGACTTGGTCACTGTGA
30454	DLX2	AATATGTGAACACTGCAAA
30455	ANXA7	AAACCTTCATTCTTACTAGTTTCA
30456	ZNF255	CCACACCCATGTCAACATC
30457	RAF1	GTGCATTGGGATGGTTTTCCAGGCA
30458	SIX2	GTCTTTCTCCTCCTGACTGGTGGTC
30459	TLR5	GCCCAGGCTGGACTGCAGT
30460	CALM3	CTTCCCTCGCCCACCTGCCT
30461	TFRC	TAGGCAGCAGCTTTTAATACAGGGTAG
30462	XDH	ATTAAAGTCACAGAATGACAGA
30463	GAA	GCTTGTTTCCACCTCCTGGGCC
30464	SFRP1	CATCCAGCGAGAGAGTTTCAAAAGCA
30465	NRBP	CCCTCTGCACTTTGTTTACTTGTT
30466	RSU1	TTCTCTCTTGCCCTGTCTCTCA
30467	FUT8	TGACCTCATCATTAATAAGTG
30468	IPP	CCACTGCACTCCACTCTGGGCAACAGA
30469	SLC38A2	TTAAAACCACTGTCTTGTCA
30470	CCND1	GGAGGTGGGGTGTTTGGGAGGC
30471	B4GALT7	TGTGGGCCTAGTGTTGCCAGA
30472	GFER	GGAGGTGCCCACAGCAGG

30473	AP1S1	CCTGGCCTTTCACTCCAGTTCTGGGTGA
30474	SLC4A8	AGCAGATTCAATGGCTCACATTCTTTC
30475	NGB	CCTCCCCTGGCCCTCCTTTCTGGCTCAG
30476	PDCL	TGGGAGGTCAAGGCTGCAGTGAACCAT
30477	TBL1X	TTTTTTAAATAATCTTTTTG
30478	PSCDBP	GCAAAACTAATATTTATTTTCT
30479	SUFU	CAGCTCTGTAACCAGTCCTGTC
30480	ZFP36L1	CCTTGTAATCTAACTTTGTCACTGTGA
30481	IL10	AGGCTGAGGCAAGAGAATTGCT
30482	EXT2	TGTGAGGCTGGGACAGAGGGA
30483	PELO	GACTCGCCACCACTCTGTGCACCTTCTTGAG
30484	GRM6	TGCCTGTGGGCCTCTCTGGCA
30485	TFDP1	AAATTGTATTTCAACCACATCCA
30486	TEM6	GAAGGTCTGGAACTCCCCTCCCTCCCT
30487	LIF	GTGAACAAACTACACAAGTCATCTA
30488	MYO1F	GACTAACAGCAGAATCTACCTC
30489	WNT8B	CTCCTCCCCTCTCCTATCAGCC
30490	PDE4B	AGCTTGGTGGAGAGGGCTGAA
30491	PCDHB11	GTCGCCCTGGCTGGAGTGCAATG
30492	PAX5	CGCGCTGAGCAGGCCCGGCCG
30493	IFNAR2	ACACAGCCAACCTTTCCCAGCCCC
30494	GLS	GCAATCAGGTAGTGTTGCT
30495	FGFR4	GGCGGCGGAGGAGCCAGGTGAG
30496	D1S155E	TTTAACACCTTCCTCGTGTTA
30497	USH3A	GGCTGGAAAGTAAGGGAAGCAGA
30498	OCA2	CCTCCTCTGTGTGTC
30499	GBE1	CCTGAAATGGTAATTGTAGCATTTCAG
30500	KCNH5	CCACTTTGCTATATACAGA
30501	CDYL	TTAAATGCAAAAACTCCTTT
30502	MCM3	TGGTGGAGGTAGTTCTTTGGCAGCGGG
30503	GNAI1	CACCGGCGGGAGTGCAGCG
30504	SPOCK	CCTGCAGGCTGAGGAAGTCTCTTCTC
30505	C21orf33	TCAGGAAGAAAGGGAAATTGCA
30506	WNT3	GGGAGGCTCTCCCTCTCTCTCA
30507	COL4A3	GGAGGCTAAATCAGTGTTTGA
30508	SS18	TATCTGTTTTTAAAGCACCGAGG
30509	FCRH3	CCTGTGCCTGATCTGTGTGT
30510	MPP3	GCTTTATTTCCTTCCTCTCTGA
30511	MUC3B	TTCGTCTGTGGGCACCAGCACTT
30512	RENT1	CACCTCCAGATTCCGGCTTCT
30513	UNC13	AACTGTACTAATCCCTTTCCCCA
30514	CORO2B	GGCTGAGAAGGGTGGAGCTTGGC
30515	XRCC2	GCGTGAGCCACTGCTCGTGGCC
30516	CROT	CTCTAATTTTTAAGTATTTTTG
30517	S100A3	AGGCCCTCGAGGCTCAGCAGAGC
30518	SLC6A8	CCCCTCTCCCCATCCCTGTTATAG
30519	LTB4R	ATCTGAGCCCATTTCCCTTCTCT
30520	STX7	TGGGCCACATTGCATATGCCT
30521	DLGAP2	CTGCCAGAATCCAGGCTGG
30522	CSRP1	AGGGACCCTTAGATCACATCACTC

30523	SLC21A2	CCATGGCAATTTAACCACATTTGGA
30524	CALM3	CTGGATGTGGCCCAGGAGGGGT
30525	TRPM2	GGCTGTGTGACGGCTGCCTGAA
30526	ATP8B2	CGCCTCCTTTCCCTGTGTC
30527	EIF2C1	TTCTAAACTTTTTATCCCT
30528	MAP3K7IP1	GGTGCCTGCCTTGCTTCTTCCTTCTG
30529	CDYL	GCTCTAATTTTTGTTTTCTTTGGCTA
30530	PAFAH1B1	CAGCGCTCCGGTGGAATGAATC
30531	GPR81	TTTGTATTTCAAAGAAGGTGCTG
30532	RBM8A	AACAGGAACAGCTGGAGTGGA
30533	GPR85	CAGGCTGAACTGCAGTGA
30534	BPI	TCTAAACACGAGGAAACATTATT
30535	ABCB1	CAGAATTAAAGTAGATTTTAA
30536	RIMS1	ATAAAAATGAATGTCAAAATGTGTACA
30537	BTG2	TCTTCTCTTCTTTATGATGTTCA
30538	HMGN2	TCCAGTGATGCCACTGAGATGGCACC
30539	ATP11B	GTTATATTTAAAGCTTTTCA
30540	MMP19	AACAGCATGGCCAGTAAACTGA
30541	GCKR	GCGTGGGACCATGCCAGGCACAAAA
30542	IRAK1	CCCTGCCTCCATGCCAGCATCTGGGG
30543	SPTLC1	CAACCTGGGAGGCAGAGGTTGC
30544	CD3E	CCGCTGGCCCAGGTCTCCTCTCCA
30545	PKIA	GAGAATTTTGGACAATTGGAAAG
30546	SF3A2	CACCATGGACTTCCAGCATCGCCCCG
30547	WNT8B	TCTCTAGCTGTTACTCCAG
30548	JPH2	TCTGAGCTTCTCAAGACTCCT
30549	CAMK2A	ATCACCCCACCACCGTCACTT
30550	SUPT6H	GCTGCCACCGCTTCCTGCCTGTCATTTG
30551	PKHD1	GGGAAACACCAAAAGCAAAGA
30552	GCNT1	CCATTTTTCTGGTATGAAT
30553	ADRBK1	AGGGATCCGACTTGAATTTTCCCACTG
30554	FGD1	GACTACTGGCTGAAGGCGAGCCC
30555	PCOLN3	AGCCCATGCTGAGGCTGCAGTGG
30556	VIL2	TTCAGACTCCAGCTGTGAAGAGA
30557	DFFB	CCGGCCTGTGCCAGCTTGCAGAGCT
30558	FRZB	TTCTGCTTCTCTCTTCTCTCA
30559	PABPN1	GCCTTTCACAGTCCCCTCCTGCC
30560	BTG1	TCACAGCTGTGAAGATCTG
30561	TGFA	GTCAGTCCTTTGGAAACCAGCAGGTCTGAAA
30562	GP6	GATCATGTCTGTAATCCTAGCA
30563	PRX	CTCCTGCCTCTCTCCTCTCTC
30564	RAD54B	TAAAGAATTTGGAAGGCAAA
30565	STK18	GAACCCAGGCCAGAGCCTGAAATAT
30566	WNT5A	TAGAGCATTGTTGTCCTTCACTGC
30567	SEPN1	GTGCCCCAGGCTAGCTCTTCTACC
30568	GALT	CTTCCCTTGCCTATTTGCTG
30569	BCL11A	CGTTGCTGAGCAAACATGTTGCTG
30570	RS1	GCCTGCTCCTGAAAAGCTCTCTGG
30571	IL16	GGCTGGGCAAGGAGGCCACGTG
30572	HOXC6	CAGCAAATGCCCAGCCCAGGCAAATT

30573	VDR	ACGGGGAGAAAAGGTCAT
30574	ABCC12	ACCTCCTCTACTTTAACTGTGCTCTCAGGTG
30575	LIMD1	GACTTGGAAGGCCGCTTCT
30576	ITPR2	CTGCCTCTTCGCGGGGTGTC
30577	APP	TTGGGTGGGGAGAAGAGGCAGA
30578	TEX15	TTACCTTTCTTGCTCAACAGCTA
30579	ALDH3B1	ACACCTGTAATCCCAGCACTTT
30579	CASP6	ACACCTGTAATCCCAGCACTTT
30579	CRACC	ACACCTGTAATCCCAGCACTTT
30579	CYP4F3	ACACCTGTAATCCCAGCACTTT
30579	DMC1	ACACCTGTAATCCCAGCACTTT
30579	EHHADH	ACACCTGTAATCCCAGCACTTT
30579	FANCD2	ACACCTGTAATCCCAGCACTTT
30579	FRDA	ACACCTGTAATCCCAGCACTTT
30579	FUT6	ACACCTGTAATCCCAGCACTTT
30579	GPR1	ACACCTGTAATCCCAGCACTTT
30579	GRM6	ACACCTGTAATCCCAGCACTTT
30579	HUNK	ACACCTGTAATCCCAGCACTTT
30579	IFNAR1	ACACCTGTAATCCCAGCACTTT
30579	LRRC2	ACACCTGTAATCCCAGCACTTT
30579	LUZP1	ACACCTGTAATCCCAGCACTTT
30579	MCM4	ACACCTGTAATCCCAGCACTTT
30579	P2RX7	ACACCTGTAATCCCAGCACTTT
30579	PCDH11X	ACACCTGTAATCCCAGCACTTT
30579	PTAFR	ACACCTGTAATCCCAGCACTTT
30579	RAB7L1	ACACCTGTAATCCCAGCACTTT
30579	SIM2	ACACCTGTAATCCCAGCACTTT
30579	ZNF136	ACACCTGTAATCCCAGCACTTT
30579	ZNF137	ACACCTGTAATCCCAGCACTTT
30580	BAT1	AGAAGGCGGGAGGCTGGAGTAGAG
30581	FMR2	ACCATGTCGCTGGACCATTGTG
30582	NXF3	CCCTGTTACCCCCAGGATCTCTGTT
30583	TEAD2	GAGCTAGACGGTTTCCTTCCTC
30584	ILVBL	GCCCTGGGCCTATCCCATGA
30585	AF3P21	CCCACCAGCTCTATTCTTTGCC
30586	SNX15	AGACTGGAGTGCAGTGGTGGGA
30587	PPP2R5C	TTATCTTAAAAGAGCTTGCTCTGTCTACCTT
30588	ELK4	GGAGGCTGAGGGCGGAGAGGCGCATCG
30589	ZFH4	CAGTGGTGGGCAAAGTTGTAGG
30590	CLECSF12	ACCATGCCAGGCTAATTTTTGGT
30591	XYLB	ATTTGAACAAAAAGATAAATCTTCAC
30592	KCNK1	TGACCCCAGCAGGATGTCTAATA
30593	HIS1	ACCCTTTACTGACTTGAGCTCC
30594	TXNRD1	GGATGCTGTTGCCAAGACTGCAAA
30595	SH3BP2	AAGTGCTGGGATTACAGGCGCGAGCC
30596	SCAP1	ACATCTGCCTTTTCCACAAGCTTTTCA
30597	S100A4	CAGCGCTTCTTCTTTCTTGGTTTGAT
30598	DAB2	GCAACAGACTCTCACAGGGCA
30599	MMP15	GCTGTAACTGCCAGGCTCTCTTTGCCC
30600	C5R1	AAAACCTGCAGTTTTGTTTGTACTTT

30601	GJA1	CATCATTCCTCAGCTACTA
30602	SFRS1	AGGTTTGGATTGGAGAGGG
30603	FEZ1	AAAGTACTCTTTCAGGAGGGACTA
30604	EN1	CCCTCCTGAGTCCCGGCCTGAAGGAGG
30605	NQO2	AGCCCCAGCCACCCATCAAATC
30606	PTGES	AAATGTCCCCTTGATGGGGAATC
30607	VRK2	AGAAGTTAGGCAGGTCCTAGGGA
30608	ELF3	AATAAAGTGCCTTCTGGGCTT
30609	UBL1	AGAGAACTGAACTGTGGAAA
30610	ARL2	CACTACCCATGGGGGGTTGGG
30611	EYA2	AGCATCTCCACCTGCCATCTCA
30612	DSCR3	CCCAGAAAACACATTTCTG
30613	BCL11B	AGAATTTTGCTTCTGTTTTGTGTTTA
30614	DVL3	GTTGGAAGTGTGACTCAATCT
30615	COL9A1	GCTGGGGCAAAGATGATTACCTTC
30616	SALL2	ACTCCAAGCCTGGCCCCACCA
30617	RAI3	ACCCAGGCTTGAGTGCAGTGGTGCG
30618	GNA15	CATGCTGCATCTTAACCTTTTGTATTTATT
30619	ASNA1	CTGTAGTTGCCCCCTACCTCTCCC
30620	FXYD6	CCTACCCCTTCCAACCTTCCCTGCTTC
30621	ACCN1	TGTCTCCCTAAATAAAACCAGC
30622	NHLH1	CCACATCTCACTTCTGCTTCCTCA
30623	NPEPPS	CTTCCCTTCTGTGTGACCG
30624	RPH3AL	CCTGAGTAGGTGGGATTACAGATGCCC
30625	GLUL	CTCTGCTCTTGGAGGAGATGGGG
30626	ASB1	CAGGGCTGCACAGCCAGGTGTGA
30627	CNP	GCCTCGAACTCCTGGGCTCAAGCAATC
30628	CASP10	CTTTAAAACTTTGTTTTCAGGCA
30629	PNOC	CTCAGCACCTGCTTCCTGCTCCTGCAC
30630	COL3A1	GGCATGCCACAGGGATTCTCCTCCTTC
30631	ATP7B	AGGGGCAGTTTTAGCAGCACTTTT
30632	PLXNA1	CCACAGCTGCGCACACAGCTG
30633	CENPA	GGACCCGGCAGCCCGAGCAGGAGCCGT
30634	STC1	ATCAGGAATGAGTCAATCAG
30635	PFKFB4	CCCAGCATGGACCTGGTGACTCTCCACAGGG
30636	WHSC1	TCTTTTGCCAGAGAAACTGAGG
30637	PX19	AACTTCCAGCCCTGTCTGCT
30638	MAP3K14	ACACAGTCTTGAGCTGTCCA
30639	CNP	CTTACCTCCCACCTTTGGTCCTAAGTC
30640	F8	AAATGTTCATGGAACTAGCTCTT
30641	PMX1	GCTATAAAAATGTCCTTG
30642	DPH2L2	CTCATGGAGTCGATGTTTAGC
30643	ESPN	GGCCGCAGACTCCTGTCCGCA
30644	CORO1C	TGCCATTGGGACCACGAAGGGAAT
30645	BACH2	GTGCTACCCCTTGCCCAGG
30646	CYP8B1	TGGAAGCTTCTCTCTGAGC
30647	ZNF198	TTCAAGTTTACTCCTTCTGTTTTG
30648	EDAR	GGGGCAGCAATGCTGAAGGACACAGC
30649	IHPK3	GGGACCCCCCACCACCACCATCTGCC
30650	ITPR3	GACCGCTTGTTTTTCTCCTTTTGGTGT

30651	MICB	TGGGATTACAAGAATGAGCCAC
30652	EIF4G2	TCCTCTGAGCTGAGTTTGAGGCC
30653	CALM1	GACGTGCAGAAAAATGGGTGAA
30654	PTP4A2	AACCCAATGAGTAGTGAAGGGA
30655	MAPK14	GGTGTTGCCATTTCTCTGCT
30656	TBX1	CCGGCCGGCAGTTGCAGTG
30657	C7	GTTGCCCAGGCTGGAGCGCAGT
30658	APBB2	ATCTCCCACCCCAGAGAACGAGGATTT
30659	HDGF	TCCTCTCCACACAGTGCTCAAGGCCA
30660	NOS1	CGGGCTTCTCGCCCCTCAGTGGT
30661	PF4	TCCAGTTTCAATCTAACTGTGAA
30662	CRYGC	GTGTCAACCCAGCCATGGGGA
30663	CLASP2	GCTCAGCCACTAGTCATCA
30664	CSNK1D	GTCTCCCATCGGAAGGCAGCACTGGAT
30665	USH3A	GTGACTCACACCTGTAATTCCAGCACTT
30666	SIGLEC8	TCTCTCTCAAGGCCACTCG
30667	BAT4	ATCTTCTAGGGAGTGACCCATCTA
30668	GK	GCCAGGATTTGAGTCTCTGCATGACAT
30669	TRPV1	CTGCTTCCTGTTGGCTGG
30670	PSAP	GCTGGTGGCTTGGGACATCAGTG
30671	ACOX3	GGGAGGCACCCGGCCGGCTGGA
30672	NOTCH3	GGGCTTCAGTCTTCCTTTATTTATAA
30673	GLRA2	TGTTGTGCTTGTAAATACACAGTGAAATTG
30674	C1orf1	TAGACATTTCAGACACTCCTCAGCA
30675	DUOX2	GGCTGCTGCTTCCAGTATCCTGCCTTC
30676	SLC22A2	AGTCATTTTTCTTTCTTGTCCCATT
30677	MECP2	ACAGCATTTCAAGCGTCACTTTATTTC
30678	CREBL1	GGGGTGTTCACCTCTCTTCTCA
30679	GRAF	CACTCCAGCCTGGGTGACAGAGCCA
30679	LRRC2	CACTCCAGCCTGGGTGACAGAGCCA
30680	EBI3	CTGTAATCCCAGTCACTGGGAAGCCG
30681	ARL4	GCCTGTCTGCCCTCCTGGATGCT
30682	PCOLN3	TCTGCAGCTCCTCCCCTTGGGCAGGCT
30683	ADAMTS13	CCCCAAAACGTGCATGGATATGTGCCA
30684	PDZK1	TCTGTATAGGTGACAGCTGCTTATAA
30685	SNAP23	TGCCTCCTGAGTAGCTGGGATT
30686	FOXE1	TTCAGCCTTCCATGTGCTGCCG
30687	ACE	GCTGAGACATTCTTCACCTCCTTGG
30688	LENG4	CCAGAGAGCACTGCACTTCCCCAAAACGGAA
30689	HUNK	TCCTGCAGGGACTAGGTCTTGCATTTT
30690	TEM8	CCCTAGCCTTCTCCCACAGCTGCCT
30691	APP	CGTGCCTGTTTTATGTGCACA
30692	NLGN2	GGCTGGGGTGCTGTCTTCCACTGAC
30693	LPP	TTCTTATAACATAACCTCA
30694	ITCH	CTTTATAGTTTTATCATAATCC
30695	LZTS1	TCTGTTGTTTGGTTCAGGGATT
30696	UBQLN1	GATTCTGGTTATCTCTTTA
30697	CD8A	GGAGCAGTAGCTGGAGGGACCTTGTCT
30698	XPNPEP1	GGAGACACAGGTGTGGAAA
30699	ADCY1	CCAGAAGGAGCTGAGTTTGG

30700	IL1RN	CTTCCTCCCTCATTCCACCTTCCCA
30701	AGTRL1	GGAGGAGACAGGGACGCAGG
30702	TACC3	TCTGTCCTGTCTGATTCTCTTAGG
30703	RFC2	ACTGTCCTTTAAACTCCAGTGGCTGGCC
30704	NCOA3	TGCTGTTGCCTCTCTTTGACA
30705	AASS	GTTGTTGTTTTTTGAGATGGAGTCT
30706	NFATC3	GCCAGGCATGGTGGTGTGTGA
30707	SMARCC2	AGGGTACACCTCCCTCCA
30708	EGLN2	AGCAGCCAAAGACAAGTATCA
30709	TAL1	TGGGAACACTGGCAGACTGTG
30710	CAPON	AAGCCCCAGAGGACCAGAGCCCCCAGCCT
30711	NRIP1	AGACTGCATTTATCTTGTCA
30712	DXS1283E	ATGATTCAGTTACCTCCCACTG
30713	PKIA	GACTTCATGCAGCCGGAGC
30714	WTAP	TTCTCTTTAGGTGACTGTTTA
30715	EDG8	CCTAGTAGCTGGGACTACAGGC
30716	TK2	TCTCCCATGGCTTTGTGCTGCT
30717	MEN1	TGAAGTCGAGGCTGCAGT
30718	IL9R	ACATTCTAGTCCCTGACTCGCCAGATGCAT
30719	SRC	ATGGTGGGTGGGTGGGATGAG
30720	AHR	TCGGGAGGCTGAGGCAGGAGAATAGC
30720	PCDH11X	TCGGGAGGCTGAGGCAGGAGAATAGC
30721	MAPK3	GCGCCCTTACCTTCCCCA
30722	IL1R1	AGGACTTTTGGTTTTTATAT
30723	MPST	GGGGGCCATGGCGGAGCCAG
30724	GA	TGAAGGGGCAGAAATTCGGA
30725	GCNT2	TTGCTGGTCTTCTCAGTTCATTTCC
30726	LDB3	CAGGGACAAGGAGGTTGCTGA
30727	IGF1	CTTAATGTTCAAAATGACTTGG
30728	MLC1	TGCCCAGCTTGGAGTGCCACGTG
30729	BGN	TCACTCCACACCCTCTGGCCTT
30730	KCNA6	CTCCCCAGACCCAGCCTTGC
30731	GOSR2	CGTGGACTGATAGGACATCTTTTCGT
30732	GALT	ATCCTGGGCACATTCTTTTCT
30733	P2RY12	CACAATCAGAAGACAGGAGCTGCAGAACAGA
30734	DBCCR1	CCGGGAGGCAGAGGGAGTAGTG
30735	RNF3	CTCCCTCTGCTTGCTTTCCA
30736	HOXB6	GCACAGCTCCCGGCGGGTGCTCTG
30737	TRIM14	CTTCTTAGGGCCCTCTCCCTGCCCCAGCT
30738	GRAF	ATCCCTTGGGCTTTGGATTTG
30739	RARG	GGGCTCCTCCTGCCCTCCA
30740	SLC2A1	GGGGCTCCTTTCTCCAGCCAGC
30741	KCNB1	GGGTGAGGTCCAAAGAGGAGAG
30742	PPEF2	TGTAGTGTTTATATAATTTTATG
30743	IL6R	CCATGATTAACCACTTCAGCTGAC
30744	ARF1	CAGCAGCCTCTGAGGT
30745	FOXO1A	GTGTCAGGCTGGGGTTAGTGAGCAG
30746	IL9R	GGGGTGTGGTCTCTCAGCTGTTC
30747	FUT5	GGAGGCTGCACCTACTGAGGATCTCGG
30748	LBR	TTATTAGCAGACACTGCT

30749	ABR	GGGCCCTCAGGGCTGGGGA
30750	CDC2L2	AGGCTCAGGTTCTGAGGAAG
30751	DGKA	AAGATATAACTTCCCCAAGT
30752	GNAZ	CAGCTCTTTTTAAAAAACAGCTTC
30753	UBE4A	CTTAAAAAGGTGTTTTGTCTGG
30754	PTGS2	GAGTTTTGACGTCTTTTTACTTGA
30755	TNFRSF8	AAGGCTGAAACCTCGGAGGAACA
30756	PCLO	GATAGATCATTGTTCTCTCCA
30757	KCNC4	GATTTCTGTTGTTTCTGCTGACTGTGT
30758	HD	CCTATGGGCTTCCGCACATGCC
30759	GNLY	GGCCCTCCTGCTCCTTGCAG
30760	ITPKB	CTGTGAGCAAAGTGTCTTCCGATTAGCA
30761	GYG2	TCTCTGCTTGACAACAAAAGTCAGGG
30762	TNNI2	CAGGATGGGAGATGAGGAGAAGC
30763	SERPINB9	GTCTGGCTTCTTTCACTTA
30764	EIF5A2	ACTGCAACCTCTGCCTCCCGAGTTCAA
30765	ZNF2	CGAGGCACCATGATCAGAGAGA
30766	CDH2	GAAACTTCAGAACATGTGTATGTATT
30767	F13A1	ACCTTGTTAGAAGAGGTGGCCCC
30768	PIK3C2B	GGTGGGCTGTATGAAGTAGCATTTT
30769	ADCY6	TGCCCAGGTTGCACAGGAGTGGGATG
30770	ADCY2	CAGAATTAAGGTTTGTTTTCCA
30771	SDPR	CCACTCCTGCGTTCCTGTCCA
30772	MECP2	GGCCTGTGCGATCCCACCCG
30773	MAT1A	CTCTAGAGAAATAAGATCTTTT
30774	TEM8	CCCAGGGATAAAAACAGAGATCATTGTCT
30775	PCDHGA1	TCAGAGGGGCCTCTGTGGG
30775	PCDHGA10	TCAGAGGGGCCTCTGTGGG
30775	PCDHGA11	TCAGAGGGGCCTCTGTGGG
30775	PCDHGA12	TCAGAGGGGCCTCTGTGGG
30775	PCDHGA2	TCAGAGGGGCCTCTGTGGG
30775	PCDHGA3	TCAGAGGGGCCTCTGTGGG
30775	PCDHGA4	TCAGAGGGGCCTCTGTGGG
30775	PCDHGA5	TCAGAGGGGCCTCTGTGGG
30775	PCDHGA6	TCAGAGGGGCCTCTGTGGG
30775	PCDHGA7	TCAGAGGGGCCTCTGTGGG
30775	PCDHGA8	TCAGAGGGGCCTCTGTGGG
30775	PCDHGA9	TCAGAGGGGCCTCTGTGGG
30775	PCDHGB1	TCAGAGGGGCCTCTGTGGG
30775	PCDHGB2	TCAGAGGGGCCTCTGTGGG
30775	PCDHGB3	TCAGAGGGGCCTCTGTGGG
30775	PCDHGB4	TCAGAGGGGCCTCTGTGGG
30775	PCDHGB5	TCAGAGGGGCCTCTGTGGG
30775	PCDHGB6	TCAGAGGGGCCTCTGTGGG
30775	PCDHGB7	TCAGAGGGGCCTCTGTGGG
30775	PCDHGC3	TCAGAGGGGCCTCTGTGGG
30775	PCDHGC4	TCAGAGGGGCCTCTGTGGG
30775	PCDHGC5	TCAGAGGGGCCTCTGTGGG
30776	FAT	CGCGCTGTTCTTTGCAGCAGTG
30777	HSPA9B	TGCCGCCACCGCATCGCGCAGCTCTT

30778	MICB	GTCACCCAGGCTGCAGTTCACT
30779	ASB1	TTCCTCTTGGGTTCTTGAA
30780	TLL2	GCCTTTCTCGGCCCTGGACTGAGGCT
30781	PRKACB	AGCCTAGGGTAGGGGCACTGCTGCAA
30782	ARHGEF12	CCAAATGGTTACATTGTGCTGCTA
30783	CELSR2	TCAGCAATTCCTGCAAAGGGT
30784	TCTA	TTGACCAGCTCTGGGGTTTGTA
30785	IL11	TGCCTAGGCTGGAGTGCAGTGA
30786	CALB2	CCTGCTTCTGCTGCCCTGATGCGTCTAC
30787	G2A	TTACTGAGGGGGGAGTGCAGCA
30788	CUBN	TGGTGGGTGCCTGTAATTCCAG
30789	CRTAP	AGGCTGGAGTGCAATGGCACGT
30790	PMCHL1	TTGTCAAGGAGAGTGCAGTC
30791	HDLBP	TCCTGTGTCATGACCTCA
30792	AHSG	GTTATGTTTGACAGAAGGCA
30793	AES	CCACCTCTGCTAGTTCCAGACACCTCCA
30794	TRPV1	CACCCAGGCTGGAATGCAGT
30795	CDH1	GCTCACTGCAGCCTTGTCCTCC
30796	CPNE3	CCATGTTGATGTGCCTCTCAGTT
30797	ADORA3	AAGTCATGGAGCCTGAAGGGTGCCTA
30798	ATP1A2	TCCCTATCTAACACTTTTGCTCTG
30799	PLAUR	GTTAGGAAGAGAGAGAACTGG
30800	PTGS2	TTGTACATATACCAAAAAGA
30801	OVOL1	GGTTCGAGCTAGGATCCCACTGCC
30802	MAGEA3	TTTCCACTGCCTCC
30803	PCDHA11	GTGAGGCACTCCCATACAAAGGAA
30804	BMP8	GGTCCTATCCATGCCCCTTACT
30805	FSTL1	AATTTTAAAAATACTTTTTA
30806	TPP2	TATTTTATAAATGAACAGGGT
30807	OXTR	GAAAAGATAACCTGCAGAATGGGA
30808	KCNE3	GATGTGAGAAACTTCTTTTCTT
30809	ELF5	TCCACTGCACGCTGGTGCTGGG
30810	F2RL3	TCTCCACCGGCGCGATCTGCTCGTCC
30811	KDR	CACAAACCAGCTTCTGGTTTCTTCTG
30812	GPR1	TAATGATTTGGGAGATTTTTTC
30813	NGB	TAGCCTCTTTCTTGCGTTTCTTTTTA
30814	ALX4	CCTCCCTGGCACTGAGGC
30815	CEACAM6	GCCACTCAGAGACTTCACCTA
30816	MADH7	TCAGCACTGCCTGCTCCCATCCTGTGT
30817	PCDHB11	GCTCACTGCACCCTCCGCCTCT
30818	C1orf6	ACAGTTTCATTGATTGACTCTACCTC
30819	EGR2	ACGGCTTTTCTGACACTCCA
30820	RNF18	TCTTCCTCTTTATCTAACTA
30821	TGFA	CCAGGTGGACTGTGGCAGATCAATA
30822	PDCL	TAGAGCTGGAGTGGGGCTGG
30823	PACSIN1	CCACTCCACTCCAGGCTGCCGGCACCT
30824	SURF5	AATTCCATGTGGATGTCACCA
30825	KCNN3	CAATACAATGCATTCTTGAGTG
30826	CD22	CCATCTCTCTGGCCCTCTACCC
30827	IL11	GGTGGAGGTCCCGAGTGGGCGGG

30828	FXYD6	AACTCCATGGGCTCTGGGA
30829	MMP8	GAGGCCGTGTGAAGACAGAGGCAGA
30830	GAB2	CCAGGAGGCAGCATCTCCAGAGCTGGC
30831	VHL	GTGCCTGGCTGATTCAGCATTTT
30832	DMPK	AGGGGTGGGGAGAAGGGGAGGAGGC
30833	IL12RB1	AGTCTGTTGGCAGACTGGAGTGCAA
30834	ZNF36	CACCTGAGGTCAGGAGTTTTGAGAC
30835	GGA3	GCTTCCTTATTCCTTACTATGGGA
30836	MEF2B	GAGCCATCCGTGGCCCTGTACCGGCTGC
30837	FVT1	TTTTATTCAAGATGAGTTGGACC
30838	LAG3	CTGCTCTGTTCCCTGGGACACCCCCG
30839	MGA	ATGGGAGAAAGGGGGTAGGGT
30840	HPS4	GGGAAGGAGAAAACCAGCAAAGG
30841	FOXI1	CCAGTTTCCTGTGTGCATGTCAT
30842	LTB4R	GGAGAATTGGTTGACCTAAATGGAACC
30843	MTR	TGTCGCCCAGGCTGGAGTGCAGG
30844	IDH3G	CGCCTCATGCACTGACCACAGC
30845	CRSP8	CCCAGCCTCAGACCCCACCCAGC
30846	MLC1	GCAAACCAGGCTGCAGGTGGGGT
30847	CGA	GCTTTACTGCCTTCCTCCTTATCCTACA
30848	HLCS	TTGTAACATCAAGTCAAGAG
30849	CALCB	GGTTATTTGGAAAGTGTGTATTTAACT
30850	SLC7A5	GCTCCTCCGCAGAAGGTTGGT
30851	MCCC1	AGTAGTGTCTTCTCTCTCCA
30852	CD1A	GCCGTACTTTGCTAACTGTG
30853	NCOA6IP	GCCCAGGCTGGTGTCAAACTCCTGGG
30854	RBM10	TCACCCAGGCTGGCAGATCATGGTAG
30855	PDE4B	TCCCTGTGGAGATGAACATTCT
30856	B3GALT3	CTGCTCTATCACGTGGTGCTCTCCGA
30857	GNAI3	GCCTCTTGTTTTCCATCTTCATGGCCT
30858	CYB561	TGCAGTGAGCTGAGATTGCACTCCAGC
30859	HSPCB	ACCTGGCTCCCCCTGCTGGTGTC
30860	CHST1	GCGACTTCTCAAGCTTTTGAATGGGT
30861	GALNT3	AGGAATAGCAAAATTCCTGTGTTCAA
30862	XBP1	TCATTTCTCTTCCCCCTTTTTGGCAT
30863	XYLB	CTGTTTTACTTTATACCTCTCTATTCCT
30864	OLFM1	CCTGAAGCCTCCATGCCCAGGCC
30865	EPHB2	CCCCTGCCTCGAGGACTGATACTGCAG
30866	IDS	CAAATACCTGTTTTGAATAAAG
30867	AKAP13	GTGTTTCAGGCACTAAAGCA
30868	IFNA2	GCTCACCTTTTTATGATCTGCCA
30869	FMR2	TGGATGACATAATTGGAAAAAGC
30870	SORBS1	GCTGCTGGGGGGACAACCATAAGCA
30871	EDG8	CCCTAGTAGCTGGGACTACAGG
30872	VIPR2	AGGACCAGGAGAAATCAACAGG
30873	FGD1	CGCCGCCGAGACCCAGGCTGAAG
30874	NQO1	GATTACAGGCGTGATCCACCAC
30875	ARF4L	TTCTAGGAATACCAGTCACATAGT
30876	ACPP	GACCAGCCTGGTCAACATAGTG
30877	RIMS1	CCATTGCACTCCAGCCTAGATAACAAG

30878	MTMR3	CAAGCCCCTGGAAAAGGGAGC
30879	NTSR1	ATCTGGCTGTTGAGTTGACGGG
30880	NOX1	TCTTCCCTGTTGCCTAGAAGGGCTC
30881	TRPV1	GGACAAGCAGTCCTTACTTTGGG
30882	GNG5	TAATATACAAACTTCTACTTTC
30883	PRSS8	GGGTCCTGCCTTCGACACCA
30884	VIPR2	TCTGCTCCCTGCAAGCTCCGCCTCCCG
30885	CDH17	GCCCAGGCTGGAGTACAGTGGT
30886	SNX15	GCCCAGACTGGAGTGCAGTGGT
30887	CBLB	CTGGACAGCTACGGCGCCGAAAGA
30888	PRDM2	TACCAGGTTTTACACTTGCATCTCTAATA
30889	GDF8	TAAGATAAAATTCCACAAAAA
30890	ATP1B2	GTCCCTTGATCTCTCATACTTT
30891	RGS6	GAGGAGACTTGGTCACTGTGAA
30892	SLC22A7	CTGGAGTGGCTGGATGTGGAGCACCGC
30893	VIPR2	GGTCTCGATCTCCTGACCTCGTGATGG
30894	SORCS1	CTGGCCTGGCCTGTGCCGCCCCTGC
30895	AXUD1	TCTCTCTGTGTCTGTGCCA
30896	ADCY1	CTGGCTGCAGAGCATCCCTGGGAG
30897	GRAF	GGGGGTGCCTCACGAAGCATCC
30898	PRKR	GCCCAGGCTGGAGTGCAATGAC
30899	GFRA2	AGGACTCGGGATCTTCATCGG
30900	GTF2H1	TCCTCCTCCATCCTTCATTCTTCA
30901	TUFT1	ACCCAGGCTGGAGTGCAGTAGCGCG
30902	BCL11B	TCTCCATCCTTCATCCTCCATTGGT
30903	KRT16	AGTTCCCAGCTATCTCCCCTG
30904	FMO1	GCCATTGGCACCAGAAATTACAA
30905	MATN1	TATGAGGGTCCTCTCTGGCACT
30906	CNGB1	CAGAAGAGAATCCACCTGCA
30907	PPP1R12B	ACAAAGAAGATGGAAGAT
30908	SHANK2	GCCCCATCATGGGCCTGAAAGGCAGAG
30909	HNF4A	GGAGGCTGGAAGCTGGGAGGTCA
30910	REV3L	TCTACATGGCATCTTTCCTTACCTCTATGTG
30911	STAU2	GACTAGGGAGGGTAGCACCTGCCTCA
30912	TADA2L	GCCTGCGCCTTTCCTCCTCC
30913	SCG3	TTAGTGAGAGGTGAAGCCAG
30914	GCK	CTTGCCGACTCGTTGGAGAACAAT
30915	CASP6	TGGTTACTCACACCTGTAATCCCAG
30916	TEX14	CCACAATAGACATCATCGTTTG
30917	CRYZL1	CCAGCCTGGTGACAGAGTGA
30917	GM2A	CCAGCCTGGTGACAGAGTGA
30918	RGL	CCTGAGCAGGAAGCCCGTTTCCTGGGAT
30919	NOTCH2	CCCTTTCTGCCCTCCTGCTCCAGCCCCACTTC
30920	SHANK2	ATTTGTCCAGTGCCCCATCAT
30921	HTR2B	TCATATATCAAATCATCTCTTTAACCTAA
30922	APXL	AGAGTATTTTGTTTGGCAGA
30923	P2RY6	GGCCTCCCTGAACATAGGAA
30924	LNK	TACAAGCACCAGCCACCATGCC
30925	EZH1	TCCTGCACTGTGTCTCCCACACTGAGA
30926	ARHGEF12	TGGCAGGGGTGGGGGTTGCTAAGGAAAG

30927	PAK4	CTGCAGTGGGGGTCGCTGGGGGTG
30928	HIP1	GACCAGCCTGTCCAACATGGTG
30929	AXIN2	TGGAAGAAGAAAAATTCCCAGA
30930	GPM6A	TAATGGGCTTCTTTAAATTCT
30931	RNASEH2A	GCCTGGAGTCAGCAACCAGCCTCTACAGC
30932	TDG	TGTGCATAAACCTAGATATACCA
30933	MLPH	CTTCCCTTTAGGACA
30934	SLC2A1	GGCTCCATTAGGATTTGCCCCT
30935	RNF4	TCTGGGCATCACGGCAGTGTCACG
30936	RAB13	TTTGCTCCTGTTCTGTCACTTGTCAT
30937	PIGR	CTCGTGATCCGCCTGCCTCT
30938	SERPINF2	AGCCTCTCCACTCATGT
30939	DCLRE1C	TGCCTGTAATCCCAGCTACGCAGGAGG
30940	VSX1	AGTAATTTTGTGTTTTCTTGAG
30941	PAFAH1B1	CTGCTGTCTGACACTGTCCTGTTGAT
30942	HSPA1A	ATTTCTTCTTTTTAATACACTTAACTC
30943	PRX	GCGGGTGGAGGGCCCTGAGGTGGCA
30944	BRCA1	GCAGTGAGCCAAGATCATACC
30944	SUV39H2	GCAGTGAGCCAAGATCATACC
30945	CUBN	GCAGTGAGCTAAGATCACACC
30946	DDOST	GCAGTGAGCTGAGATCACGCC
30946	FGFR1	GCAGTGAGCTGAGATCACGCC
30946	HIP1	GCAGTGAGCTGAGATCACGCC
30946	NPHS1	GCAGTGAGCTGAGATCACGCC
30946	ZNF14	GCAGTGAGCTGAGATCACGCC
30947	MGAT2	CTCTTTCATGGCCGTGGTGTCTTCCAG
30948	OAS2	GCACTGTAGGGCTGGGCGCAG
30949	RYR1	CAAGCCCCTTAGTCCCCAAGCCCCTC
30950	CLOCK	AGGAAAGGAGGGAAAGTTCCAGCA
30951	SCNN1B	CTGTCCTGATCCTGGTCCTGAA
30952	IQGAP2	ATGGAAAGTGAGTGCCTACAGA
30953	CBFA2T2	AGGACCTTCCCATCTGGGA
30954	EPOR	CCACAACCTTGCAGTATTT
30955	MPP3	GTTGCCTTGGTCCTAGCCA
30956	G6PC	AGTGGCACGATCTTGGCTCACT
30956	SEDL	AGTGGCACGATCTTGGCTCACT
30956	ZNF264	AGTGGCACGATCTTGGCTCACT
30957	TAPBP	GCTATGCCTGTCGAATTCACCATCCCAGCC
30958	PTK7	GTCCTCCTGGGCCCTGAGGCC
30959	GM2A	TACTGGCAATACTCCAGCCTGGTGA
30960	SURF6	GGGTGAGGGAGACTGGGGCCTGG
30961	TNFSF9	CTCCTGCCTCAGCCTCCCAAGCA
30962	NDUFA8	CGTCATGCCGGGGATAGTGGAGCTGC
30963	TUFT1	CCTGGCAAGGCCTGGTGAGAGCCA
30964	DCX	GGATGCACACATTAGAGTAG
30965	SURF4	CCTGGCCAGCTGCTCAGACCAGCT
30966	DNASE1	TGCCCTATCCTGGAAGATGGGGGCC
30967	APPBP2	TTCCAGCGATTCTCCTGCCTCA
30968	PPP2CA	TTTACTCAGCATGACTGTAGAT
30969	CACNA1D	GGGCACCAGGCCCACCCAACTGAAG

30970	PPP2R5C	TTCTCAAATATCCTTGATTTTGGA
30971	CAMK2A	AGCTCTGACCAGACTTGCTGT
30972	AICDA	GGAGGTGGAGGTTGCAGTAAGCTGA
30973	PLA2G2A	TGCTCTCCTCCACCTCA
30974	ABCD4	GCAAATTAGACAAAACCCAGAA
30975	CA11	AGAAGGAGGGGACAGAGGAGC
30976	ITGB4BP	GGGGTGGGGGCCAGAGGATTCAGGGC
30977	IL1R1	ACCAGCCCAGCCAACATGGCAAAACCC
30978	UBE2L3	GCAAGCTGGCGAACAGCCCT
30979	NIPSNAP1	GCCTTCCTGCAACCTTTGCGGCTC
30980	KCND2	CAGGAGTTTGATGATGCAAAGT
30981	MOG	TGGGGAGAAACCTACAGAATAC
30982	NTN2L	CCTGGCTGGCCCTGGGGGCTGC
30983	SFRS7	ACATTCTTCTATTTTGCCA
30984	CDK2	AAGGATGAACAATTATATTTAT
30985	EIF2C1	GTGGGGTAGGGAGGAGTGT
30986	KCNMB4	AATAGAGTGGTCTGTGTTAT
30987	LIF	GGTCCCTACTCAACAAAAT
30988	BDP1	TGCAGCCTCTGCCACCCAGATTC
30989	RIMS1	AGGCTGAGAGAGGAGATTTGCT
30990	FMO4	TGCATCCCTCCTCTGCTCTCCATCA
30991	PLA2G4C	GTGGAGCTCTGAGAATACA
30992	RNASEL	TGAACAAATTTTCTGGTGCTA
30993	LPIN1	CCTGAAACAGAGCATGCTTTCCAGAAA
30994	DPYSL2	GTTTTTCCTGTACCGGGTCATGG
30995	GALC	CCCAGAAGGTTCTCTTGTA
30996	YWHAB	CAGGTCAGTGCTCAGATGTGT
30997	RPS6KA1	CGGTTCGGGTCGCAGAGCCAG
30998	NCSTN	TTGCCTCCCTTCCTCCGCTCCCCTTT
30999	PITPN	GGGCTCCTCCCACCTCC
31000	TFDP2	GGAGAGGGGAGCTGTGTAGT
31001	PAICS	GGCACCTGTAATCCCAGCTACTCGGG
31001	RFC2	GGCACCTGTAATCCCAGCTACTCGGG
31002	FLRT2	CTCAAACACCGTCAGATGCATT
31003	TRIM9	CTTGCTTGTTCTGAGGGTGG
31004	LRP4	TGTTCCTCTTCCAGCTGTCCCC
31005	AXL	CCACTGCACTCAACCTTAAGACCTACT
31006	HDAC7A	CTGCTCCCTCTCTCTGTC
31007	GSTT2	CCCAGTCCCTTCTCTCCAG
31008	GAS7	GAGACATTTCTGGATCCAGGCCAGGT
31009	CSE1L	TCTCTAAAGGAAGAAATACA
31010	PSMD9	GGCCTCCTAAAGTGCTGGGATC
31011	IL13RA1	GTTCCATTCTCACCTATCC
31012	CFL1	AGTGACTCTGTGCTTGTCTGTT
31013	TMOD2	GACTATTCAACATAAATTGAATCTTT
31014	GALNT3	GGTAGGCAAAGGTGGGAGGATCA
31015	RASAL1	CCGGGGGGCGCGGAGGTTGGAGAGAGGAG
31016	CELSR1	GGCTAGAAGCCCTACAGCTGCCTTC
31017	DHFR	CCACGAGTTCAAGGCTGCA
31018	IGF1R	ATTCACAAGCCTCCTGTACCTCA

31019	RAI2	CACATTTTTTGCAGCTTTAA
31020	ADAM33	CCAGCACTTTGGGAAGCCG
31020	PDE7A	CCAGCACTTTGGGAAGCCG
31021	PIK3CG	AGGCTAGAATCAAAAACAAGTT
31022	NPHS1	CCAACATGGTAAAACTCCATTT
31023	COL15A1	AGCACATAATTACTACCTTCCCCTTGG
31024	CD164	ACTATTTAAATGAGACAATCATA
31025	PRKG1	TCAAGACGCGGAGCAG
31026	SET	GGACTCAGCTCTGTCTGCTCAA
31027	GAS1	TCTTATTTTCAAGAGAATTTAT
31028	ALDH3A2	AGACCAGCCTGGACAACACAGT
31029	F8	GCCTCCTGAATTAACTATCATC
31030	CALCR	GGCAGGACCTAGCTGTTGTAA
31031	FLNB	GCAGACAGACCAGGAACAC
31032	ILVBL	CTCTTAGGTACCACCTCATGGAG
31033	JPH2	CCCCCTCCTGGGGTGCAGTG
31034	DIAPH2	TCTGTCACCCAGGCTGCAGTGT
31035	LAMA2	GACTCCAGACTGAATTTTAATTCAA
31036	APBA2	TCTAGGGTTTTCCAATGTGACTAA
31037	GRPR	ACTAGAATGGAGGTAGAAAGA
31038	OA1	TCCAGACCCCATATTCCTCAGACTC
31039	MFI2	CCTGAGTAGCTGGGATGACAGG
31040	UGT1A1	AGGAAATACTTTGCATAAATTAA
31040	UGT1A4	AGGAAATACTTTGCATAAATTAA
31040	UGT1A8	AGGAAATACTTTGCATAAATTAA
31040	UGT1A9	AGGAAATACTTTGCATAAATTAA
31041	RABL2A	GGAGGCTGAGGACTGCAAGAGGAGAGC
31041	RABL2B	GGAGGCTGAGGACTGCAAGAGGAGAGC
31042	TRPS1	ATGCCTGAGGAAATACATTTTTCTTAA
31043	CD209	ACCACTCCTCATGTAATCTTTG
31044	HMGA2	CATCTCTCTTCCAGCTGCTTCAGGGA
31045	DLGAP2	CACTCCACTTTTTAACTCGT
31046	ATSV	GAAATGCTGCCATTAGCAGGTTTCTTG
31047	USH2A	TGCTTCAAAGTATTGCTGGCAAGTGGC
31048	ALDH3A2	TCAGCGGGCGTGGAGGTCGCGGCG
31049	CEACAM1	CCTTGGCCTCTGCTAAGGTGTA
31050	OXTR	TGTAACCTTGAATTAGGCAGTGGTT
31051	CD4	TGCTGCCTCTTGAATGCAGGGACAAA
31052	PPP1R12B	AGCTCCCGAGCAGCTAGGACT
31053	SLC1A1	TCTATGACTCTTGTCTCCTCCTCC
31054	COIL	GCCCCTGGCTGAGTGTGCTGGAGTGAG
31055	CRIM1	TTTGTGTGCATGTGTATA
31056	SC5DL	CGATTAGTTCTAAAATCTTATT
31057	GPC3	TTATCCTGTATACCTCCTCCAGCCA
31058	TUFT1	GTCACCCAGGCTGGAGTGCAGTA
31059	CBFA2T2	CTTGTCTCCCAGGCTGGAGTGCAAT
31060	PCDH11X	CTCTCATGCTGTTTCTCTGTTTGCT
31060	PCDH11Y	CTCTCATGCTGTTTCTCTGTTTGCT
31061	CDH1	AGGCCTGGGATGCAGTGATGTGA
31062	USP6	ACCCTTCCTGATTATTCACCTT

31063	PBP	GGGAGGGTGGCTTTGCTGTTGTTG
31064	P53AIP1	CAGACCTGCACCCAGTCACA
31065	PPP2R5B	GGGCTCCCACCCTCTGCTCCT
31066	ADCY6	GAGGGGTCAGTAGCAGAAGCAGAGGGA
31067	MAD2L1	GCTAGATGCTTTCCTAAATCAG
31068	TK1	ACTGAGGCTTAGGCCTCTCTG
31069	GYG	CCTGAGGCTGCCCCGGCCGCCTG
31070	AXUD1	GTGGATTTGAGCTCTGTGAT
31071	F2RL3	GGGAGGTTGTGGTTGCAGTGAG
31072	PTGIS	GCTGCCCAGGCTAGAGTGCAGTG
31073	IMPG1	AGCACACACCATATTTCAAAT
31074	UBE2A	TTCCAGTTTTCAGGCAGTTATTTT
31075	AOX1	GAGCTCAGGTAACGTTGGATCTTA
31076	MFAP3	TCACATCTTTTAATCTTGAAGA
31077	CDX1	CCACTGGGTTACAGAATCACAGCCCT
31078	CYP21A2	TGCTGCTCCTGGGCCTGCTGCTGC
31079	MORC	ATATGTATACATATTACACA
31080	SCML2	TTCTTGAATTTAATCTGGGCACTTTG
31081	MMP3	GCTGCTGCTTAGCTTGCACCTTGTCAC
31082	NYX	GGGTGTGTTTGTGGACAAATAAAT
31083	CRY2	GCCAGTGCTGTTTCCCGGCCTCCAGAC
31084	PLA2G5	AGACTTTTGTTCTGTTTT
31085	SOX4	AGACAGGGGCGACCTGTGATT
31086	SDHB	ATCTAATTTGAGTTCCTTTAAAGAT
31087	GPR35	ACTCACTGTGTATTCTCTTGGAGCCT
31088	RPS6KA2	CCAGGTTTTCCCTAAGAAGATGTT
31089	PTGS1	TCCCAAATCTGTCAGCATCTGGCT
31090	GLS	TAATAATAAGAAAAAGGCCAT
31091	SWAP70	TGCCTCTCTAAGTGGGTCAGTATC
31092	KCNK6	AGCTGGGTGTGGTGGTGCA
31092	TRPM8	AGCTGGGTGTGGTGGTGCA
31093	ZNF184	CGCTTCCGGACCCGGGATCAGAG
31094	AQP6	CCTCCTGAACCACTGGCCCC
31095	SLC7A6	CTGGTTCAAGCGATTCTCCTGCCTCAG
31096	KLK10	CAACCTGACTTCCTCTGCCAC
31097	IL1R1	GAGGAAGAAGACACATTCCTAGTTCCC
31098	KAL1	ACATGTATATACACACAGACAC
31099	BAP1	TGTCCAGCCCCTCAGTATTACCAT
31100	KLK5	CTCCTATCTTCTGAATTCTA
31101	OGG1	CATCACACTCCAGCCTAGGCGA
31102	C14orf1	CACCCAGGCTGGGAATTGCAGTG
31103	CHST1	CCTCTTTGACCTCACCCC
31104	LANCL1	TACTCTGCTACTATGTCCTCA
31105	TPST1	TTGGCTGCGCCGCCTGTGCATTTG
31106	IRAK4	AATTACAGGGTTAGCAAAAAGA
31107	OSR1	AAAAGAGATAGCATCTTCTTTGGCACA
31108	ITCH	GGATGAAGCCTAAGCCAGCT
31109	PRPF31	CTGCCCAGGGAGGAGGCCTTG
31110	MFRP	CTGGCTGTCTGCCTCTAGAACTCTCCA
31111	ADRA1A	CAGTAACTTAAGGAATGATCAT

31112	VDR	GCCGCATCTTCTCCATCTGGCAGGGTG
31113	NGB	TTTGCTCTGTGCTGACTGTG
31114	GPRK6	CCAAGCCCAGCCCTAGGAGG
31115	BENE	GGACCTCAACGGGCAAAGTTGTGCACA
31116	RABIF	TGTTTTCTAGTTGCTTCCTCA
31117	WHSC1	CAGAGGTGTGTGTGAGGCTGCCAGAA
31118	GAS2	GACCTGTGCTTCTTTACTCCAA
31119	STAT3	TGTTCCCCTGCCCTCCTTTCTCA
31120	SPARC	TCTGCCTGCCGCCTGCCTGCCTGC
31121	RPH3AL	AGACTCACCCACCCTCTCCCT
31122	ZHX1	GCACCAAAAATGTGAAAAAGAA
31123	TCF2	TGAGGGGACCAAAGCCACCAA
31124	RENT1	CAGAAGCCAAGCTGCTTCCCGCCTAGA
31125	TIMM8A	AGATCCTTGTGTTTATCAGAAAGG
31126	LHX2	GTCGCCCAGGCGCCCCGCAAT
31127	STCH	GAATGAATGGAGAAATGCCA
31128	NOTCH2	GGGACCCCCTCCCCATGTGGATCTGC
31129	SLC4A4	TTCTCTCTTGCATAGATACAATCA
31130	IL1R1	GACCACCTCCCTGCCCTGTCCTCCAGCTT
31131	C4orf1	CCGGTGGCGGCGCGGAGGCAGA
31132	ARCN1	TTGGGGTAATATTTAAAATGAGAGACA
31133	SLC15A1	GGCCTGCCAAAGTGCTGGGATT
31134	BRCA1	GAGCCCCAGAGTCAGCTCGTGT
31135	DTNA	GAAGTTAAAGGTTACTTTGGA
31136	KCNQ2	ATACAGGCATACACATGCACGC
31137	ADH6	CCAAGAGAAAGGGTGTATTG
31138	AMN	AAGCTGCTGGGTGCGAAGGCA
31139	PPP1R12B	GCAGTGAGCCTTGATCACGCC
31140	ZNF289	GGGAAGGAGAGAAAATGGCGGCGGAGCC
31141	IGF1	AGAATAAAAGATGTAGCACATTTTGCTTTCC
31142	MCP	CCTTTCCTTTGTAGTCTCTGGCA
31143	RAB7L1	TGCCTGTAATCCCAGCACTTGGGGAGG
31144	UBE2L6	GCCTGGGGACAGTGGAGCATATG
31145	OPCML	GGGAGGCATTTTGAAGATAGA
31146	LIMD1	GAGGGAGAGGTTTTTATTGAGCTTGT
31147	TNFSF8	GTTCTTGTCTCTGGCCAGA
31148	CHST5	GAAGACCTCTGGCTTTCCTGGAACAC
31149	FBXL7	ATGAGACAAAGCTGACTGTTCACACTG
31150	PRDM4	GTGACCACATGGGCCTGTTTTCAGGG
31151	DEF6	CCAATGTCATATCCACCAGGACC
31152	IL15RA	CGACACCTCCGCGGGCACTCA
31153	ADRBK1	CTTGCCTCGGCTCCTGCTGC
31154	PYCR1	GAACCTCCACCCCTCCAGTGG
31155	NPTX1	CTGCTTGTGCGGCGATGATCTGTTTG
31156	GATA6	CCTCCTCCTGCTCCCGGGGCG
31157	EHF	GTGCTCTTCATCAACTAATA
31158	LDB3	AGAGATGTCTTCTGGGAGCCAC
31159	FNTB	AGAGCCACTGCTGACTCCCAC
31160	MCP	CCTCTACTGAGTCCCTTAGCC
31161	APM1	CCTCTGTTGCCAGGCTAGAGTGCAGT

31162	HLF	CCTCTCATCGTCTTTTAGTTCCA
31163	GAPD	AGAGGGGAGGGGCCTAGGGAGCCGCACCTT
31164	DUT	GACTGGGTAGAGGTATGTTTGTGAA
31165	LSS	GGGGCACCCCTCTGCCTTGGTGTGC
31166	GAS7	CTCTCCTCTATTCTCCATGTC
31167	PDE1B	CTTGCCCCCACCTTGCCCCAGGAAAGG
31168	HSPA9B	CCATATTTTCAAGGGGTGAAA
31169	VAT1	CAGTCCCACAACACTGCCAAAAAT
31170	MGEA5	GAGGACCCGCAGAGGTGGCAGCGG
31171	HOXD10	GTTCGTGCTGCAAGTGATCTGTAA
31172	KLK4	AGATCCCCAGCCCCTCCTCCCTCA
31173	OTC	CTACATCTGTGTTTTTGCAGTGCCA
31174	MFAP4	GCACTCCTCTGGGCTGCTCTCAA
31175	KCNE3	CACCCAGGCTGTGGTGCAGTA
31176	SRGAP1	TGTCTCCATGGGACGATCCCAG
31177	ATRN	GAAGAATTGCCTGGAAA
31178	LZTR1	GGGAACAAGGGAAGAGAGAGCAGGAGCTGG
31179	COCH	AGGAAAGAGGAGATAATGTGGA
31180	MPO	CTTGTAAATTACATCTGTCATGGTTT
31181	UBE4A	TGTGAGATATATAAATACACATACAC
31182	CD2AP	CGGCTTCTCCCCGCGGGAG
31183	TP53	AGAGTGCTGGGATTACAATTGTGAGCC
31184	CLCN6	AGAGGATCTTGGCATCACCCAC
31185	HRH1	ATGCAGCTTGCACACCCATCATCTT
31186	STMN1	CAGCCCAGGTCAGCTGTTACTTTCTTT
31187	FCAR	CGCCAAGGCTGGAGTGCAGT
31188	ZNF14	TCAACATGGTGTAACCCCATCT
31189	FACL4	CAAGTATTTAAGCCTAAAGAT
31190	PIP5K1A	CCCTCCACTCCAGAGTTGGGTG
31191	POLH	TAGTGCGCTCCAGCCTGGGCAA
31192	MAP1A	CTGCCAAACGACTGGGAAACCAAAA
31193	ADRB3	CTTACTCCCTTCCCTTCTACTCT
31194	ADCY6	GACCCTGCTAACCACAAAAGGG
31195	SRRM2	CCCAATGCTCTGGAGCCACAAG
31196	EZH1	CTGTCTTGGCTTTCGTGCT
31197	ADORA2B	CCTGTAATTCCAGCACTTTGG
31197	FUT3	CCTGTAATTCCAGCACTTTGG
31197	GALNT7	CCTGTAATTCCAGCACTTTGG
31197	LILRB1	CCTGTAATTCCAGCACTTTGG
31197	PCDH11Y	CCTGTAATTCCAGCACTTTGG
31198	MAFF	TCTGTAATCCCAGCACTTTGG
31198	SULT2A1	TCTGTAATCCCAGCACTTTGG
31199	CLC	GGCTTCTGCTTCTGACCTTCTCC
31200	ZNF184	CTCAGGGTAGACAACCTCAGC
31201	IGF1	TCATTTTCAGACTTTGTACTTCA
31202	ARHGEF7	GCGGGCGTCACGTGTGTTCA
31203	CLASP1	CCTTTCTCCTTGAGCTCTTTGACTCC
31204	GGA3	TTTCTGCTGAGAACCAAACTGCT
31205	IL6R	CCTGTAATCCTAGCACTTTGG
31205	KIF3B	CCTGTAATCCTAGCACTTTGG

31205	REL	CCTGTAATCCTAGCACTTTGG
31205	ROCK2	CCTGTAATCCTAGCACTTTGG
31205	TRPM1	CCTGTAATCCTAGCACTTTGG
31206	TCTE1L	GACCAAAATATACATGCAGACTTGTT
31207	SRGAP2	TTGTTGGGTATATTTCTCTGTCATTCA
31208	SRGAP2	AAACCCAGAAAGAAGAGTGGCT
31209	PLAU	GTCTCAGTTTCACTTTCACA
31210	NR2E1	CCGGGGAATGTGTAGCCTTCAG
31211	DCTN1	TGTGTCCCTCTATGAGGGCCC
31212	LDB3	TACTTCAGACATTTAGAGCA
31213	SORCS1	ACTGCATCGGGACTTTTTAATTCTTCA
31214	DLST	AGTGGGAGGAGAGGGCAGAGGTC
31215	AICDA	ACCAGCCTGGCCAACATGGCAAAACCC
31215	GGCX	ACCAGCCTGGCCAACATGGCAAAACCC
31215	MSH3	ACCAGCCTGGCCAACATGGCAAAACCC
31215	ZNF264	ACCAGCCTGGCCAACATGGCAAAACCC
31216	PAM	TTTCCTGTTCAGCATTCTTAG
31217	MECP2	CAGAGCCCAGACCCTGGAGGAAATCCT
31218	PTTG1IP	GGCTCGAGGGTGGTCTGAGC
31219	DACH	TGGCATAGAGTCACCTGTTATGT
31220	CORO1C	CATTCCTTCTTTCCTTCCTGCCTTTT
31221	TKTL1	GCTGCTTGTGATGAGAGCCTCCACACT
31222	MNT	CCCAGTGGGGACAGGGAGGGGGA
31223	MUCDHL	CCTGCCCACTTGGCCTCAGTCTCCCCAC
31224	BASP1	AGATTTCTCATGACGAGTTAATGCA
31225	NDRG1	CCAGTGCGGCTGCCAGGTTCCTGT
31226	SMARCC1	GAGGCATTCCTTAGTTTCCTCA
31227	KIF1B	GGGCCTGGGACAGTGGCTGCTCTTGAC
31228	ETF1	CCAAAAGTTGGCCTGAAACCCT
31229	SLC7A5	CTGTTCCAACCTCCTGCTCTGGGA
31230	CYP3A4	CACTGCACTCCAGTCTGGGTGA
31231	GRM6	CACTGTACTCCAGCCTGGGTGA
31231	KCNK3	CACTGTACTCCAGCCTGGGTGA
31231	SLC28A2	CACTGTACTCCAGCCTGGGTGA
31231	TEM7	CACTGTACTCCAGCCTGGGTGA
31232	COCH	GCTCAATAAAAGAATCTGATACT
31233	CARD4	TCCTTCTCAGCACTTTCCCATG
31234	ATM	TCCGCCCAGGCTGGGTGCAG
31235	MTR	AGAAGGAGGAAGTGGAAGGGACAGG
31236	BACE	CTGTATTTTTAAATTCTGCTCCT
31237	ATP7B	TCAGCTTGAACCTGCTTCCTGGCTCAC
31238	HOXB5	CTGAATGTTTGTGTCTGT
31239	CIT	AGAAGCTGAAGAGGAGATCCA
31240	NEF3	GGGGGATGTCTTGAGATGTATTA
31241	P53AIP1	CTTGGTCTAGGTCTCTCCA
31242	PDYN	TTCCCAGGCACTCTCTTTTGG
31243	SLC1A1	GAGTTCTCCTTGTACTTGAA
31244	UBE2B	AGGCTGAGGTGGCAGAATAGCT
31245	FACL5	TGATCATACCAAACATTTCCTAAACTC
31246	GYPA	ACTTCTATATATGAATGTCTT

31247	SLC9A2	AGGACAGCTGTGGTTTGTCACTCTG
31248	ANXA11	CTTGCAGAAACCACGAGAACA
31249	MTMR2	AGATTCCTGCCTCCCCACTTTGGTTCA
31250	CARKL	GGAAGAAAACAGTCATATGCTGAA
31251	PCDH11X	TGTGATTTCAAAATTAGGCTA
31251	PCDH11Y	TGTGATTTCAAAATTAGGCTA
31252	SIAT4C	CCCAGGAGGGCAGGGGCATTG
31253	ADCY6	TGGAAATGACTAGAGAGGCAGAGGAG
31254	MDFI	GACCTGACAGGACAACCTAGGGGCAGG
31255	GALT	AAGAAGCTCTTGACCAAGTAT
31256	ZNF198	GGGTAGCACTACTAAAAGTTT
31257	SMARCD1	AGGGTCTCACAAGA
31258	NPTX1	CCCTCCCTTCTCACCTCTGGAGCTGTGCT
31259	GPR81	TGTGACTGTGAATTGAAAT
31260	GCNT2	CTGCCTGGTACTGATAGTAGT
31261	MADH3	TGACGCTTGTGACAGTGCCTCTTCCAG
31262	PRKR	GCCCAGGCTGGAGTGCAATGACACA
31263	HPGD	AAAAATGATCAAAACAAA
31264	GRM6	CCTGTAATCCCAGTTACTTGGG
31265	CRH	GCTGCTCTTATGCCATTTGTTTAT
31266	OSR1	GGAAAGGGGGAGAGTTGCCCTT
31267	IFIT4	CTGGAAGGAAGAGGTTGCAGTGA
31268	COL10A1	TCTCTTGAATTTCTAGTTAGCA
31269	PITPN	AGCAAGAAGTGGGTGGGAGA
31270	SLC22A3	GTCTCTTGACCTTTTCTTACCTTGCAA
31271	TAL1	TTTACTGACCCTGGGGCT
31272	MEIS2	CAGACAGCTGTGATTATTTTTTA
31273	FMOD	ACAGCTCTCCCTCTGTGCTGGGCT
31274	DAPP1	GCTCTTGCAGTCCAAAGGG
31275	IL12A	GAAGGGAAAATATCCAT
31276	SPTLC1	AAATGGTCTTCAACATCTTT
31277	HMGCR	TGTACTGATAAAATACTCTAGCCTGGG
31278	DCK	TTTGTTTAGTTAAGGTGTGCAGT
31279	HKE4	AGTTGGTGGAGGCTTCAGGGAA
31280	FCMD	AAACTCATTTTTATTTTATTCTCA
31281	GHRHR	TGTTACCCAGCCCGGGGCAGGTGCAG
31282	ZNF217	GTATTTATTTCATTCCA
31283	CDC6	GCCCAGGCTGGAGTGCAATGGCGCG
31283	MLANA	GCCCAGGCTGGAGTGCAATGGCGCG
31284	NDRG3	ACCCAGGCTGGAGTGCAATGGCGCA
31285	PLCB2	CCTGTGTCTGCTGAGATTCTGCAAAGAG
31286	PLA2G4A	ACATTTCTCACCAACTTTCTTA
31287	NVL	TTCCTCTTTAAGAAAAAGGACA
31288	NLGN1	GAAACTGGATATTTTTAGCACGA
31289	HRH1	GACCTGTTTCTTGTAACTGGGTTC
31290	CHAD	TCCCCACAGCCTCTGCTGAT
31291	TRAF1	TCCAGAAGGAGACAGGCAGAGCTGCTC
31292	TNFRSF5	TCACCCAGGAGGATGGCAAAGAGAGTC
31293	MUC3B	CCCTTCGTCTGTGGGCACCAGCACTTCATT
31294	NLGN2	CCCCCAGGCCTCAGGCCCAGCACC

31295	ZNF8	CTCTGGTCTGGGGATCACCTCA
31296	GALNT7	AACCTATAAATTTGTTTCTTCCAA
31297	MASP2	TGCCTGTCCATGCTCTTTGT
31298	MLLT2	ATGACAGCTGTAGTCATATCTG
31299	XRCC2	CTCCCAGGCTGCTGGAGTGCAGT
31300	DIA1	CGGGATGTCAGCAGACACACATGGCA
31301	SRR	AATCTCTCTGAATCCATTACTCCAT
31302	COL9A1	TACAGAAGTCCTACTTGACAATCACAT
31303	DNMT3A	AAAGGGAGACAGCTTGCAGATGGC
31304	EXTL2	AGTGACAAGTGAGCCTGCTTCTGTCAA
31305	ADD2	TCTTCCGTGGGGCATTGATT
31306	PCOLN3	GACCACACCCCAATGCCTTCCCA
31307	PCDH1	GGGCCTCACTCTCCACCCCTTCA
31308	LHX4	CACCCTACCTGCCCCCCTGGCTTGAG
31309	PPP2R1B	ACTGTTTCCCTTTGATTCTCCA
31310	ASTN	CTTCCTCTGAACAACATGATCTT
31311	TCF2	CTGTCACCCGAGCTGGAGTGCAGT
31312	BLM	TCAGCATCTGACCATCTGTGACTATAA
31313	CANX	AAGTTGTATTAAAAATAGATA
31314	ECEL1	AGCCCCGCTCTGGGCACCACCTGCCT
31315	SERPINB5	AATATGCTGCAACAAAATGTAGA
31316	IL1R1	AGTCATCTTAGCTTTCCACAG
31317	MSI1	CCCACCCGGAAACCCCACCT
31318	NUP62	GGACATCCCAGCTGGAGTTCAA
31319	IMMP2L	CTGGCATTGGGAGGCCAGTTACTGGA
31320	TLL2	TATCACTGCAGCCTGCTTT
31321	MSR1	CTTGGGATGTCTGAGATCAGT
31322	SLC17A5	GGGCTGAGGTGGGCGAATCATG
31323	DDX6	TGCCTCCAGTAGTAGTATGGCA
31324	BTEB1	AGTCATCTTTCCCTCACAG
31325	MYBBP1A	TGCCCCCAGGCTTTTTTGCTGT
31326	IRS1	GCCCTTGTCCCCTCCCCTCCTCCCCAGCC
31327	EXT2	TGGTGGAGGTCTGAATGTGAGGCTGG
31328	WHSC1	GCCTACTTCTCACCTGGGCC
31329	ASB1	GCACTTCTGGAACTGTGCTTCT
31330	NONO	GGGGTGAGGGACACCAGGGAATGACCC
31331	CDC6	GAGTAGCTGGGATTACAGGTGCCCACC
31331	SHOX	GAGTAGCTGGGATTACAGGTGCCCACC
31332	MCM2	TGCTTTATGGACACAAAACCAGA
31333	REN	TGAGGGAGGCAGAAAGGCCAC
31334	CBFA2T3	GCAGGCCTCCCTGAAACACT
31335	KCNMB3	TAGGGAGGCTGAGGCAGGAGAATC
31336	IL16	AGGAGCAAAGGCTGAGAACACTGTGA
31337	KAI1	CTCCTGGCCTATCCGCTGCCAG
31338	SQSTM1	AGGCCTTCTCTTGAGGCCTGTGCTC
31339	FXYD2	GCTGCTTCCCTCACCTGCCTGCCTGTCTCCCT
31340	RNMT	TCCCACCCTCACCATTTGCA
31341	CAD	GGGGTGGGGCCTCAGATGCT
31342	PPP1R3A	TTCATAGGCAAAATCTGACAAGACTGA
31343	SDPR	GTTTACTTGCTAGAAACCATT

31344	CNTNAP2	GCCTCCAAACAACACTGAATTTG
31345	MAGEB4	TTGCTGTTTATCAGGTTGGTTTAGTGATAAT
31346	SPS2	CTCTGTTTTCTCTTGCCAAAG
31347	FANCC	GCTGGGCTGTGAGAATGAGCTG
31348	ELMO2	CCATTTCTCAAACCCACCTCG
31349	ROBO1	CGGAGCTGCTGCTTCTACTTTGGCTG
31350	CSE1L	TCTTTTTTCTTTTTTAAAGAC
31351	RFX1	GGTCCCTCAAAGCTTCTGTGGCT
31352	GOT2	CCGTACCCTCACCCTTTTCAGCAAAGA
31353	F8	ATTGTGAAGGGTTTACTGCTCC
31354	RNMT	CCATTTTAATGATGAGGAAACTGAGT
31355	CD209	CCATCCTTCTCCATGACTCTGAA
31356	CAPN2	ATCTTCTTCCAAATGTACTG
31357	RNMT	CTTTCTGTTGTCTACCTCAGGCC
31358	MCM4	CCACTGCACTCCAGCCTCAGCAATAGA
31359	RAP2A	CCTTTTACCTTTAATTTTCCTGGA
31360	KCNK5	TCAGGTGTTTCCGTACCACAGCAGG
31361	SPTLC1	CCATCATTCCTTCTCTTGTTA
31362	GDF8	TGTCTTTGGAAAATTACAACACTGCCT
31363	AEGL1	GGCTGTGTGGACTTGGGGA
31364	KCNA3	GATTTCATAAGGAAAACCACT
31365	FOXD1	GAGTATTGTAAATTTTACTGGC
31366	CRACC	CACCACTGCACTCCGGCCTAGG
31367	OAS1	GACTCCTGGCCTTCTATGCCCTCTAT
31368	NEBL	TAGCACATGCTTTTGAAAATCTGTGAT
31369	NFE2L1	GACTTAAATGCCTTCTTATCCA
31370	PRDM2	ACAGTACATCTGAAAGTAGGAGTTTT
31371	CTGF	GAAGCATTTGTTTCTACTTT
31372	IGHMBP2	AGCATCTTCAGCACTTACCGATCCAGA
31373	MUCDHL	GTCCCCAGCCCCATGACCTTCCTTC
31374	GNPI	AGGGAAAGGCAGGTCTTTCTGGAA
31375	PSD	CAGCCTCTCCTCTGTCTCTCCTCG
31376	FBXL3A	AACCTATATGTTATAATATCCAA
31377	WBSCR1	CTCCTGCTCCTTGTTTTCC
31378	ADORA1	CCTCTGGGCCCTGCAGGAGGC
31379	GP1BB	CCTGCTGCGTCTCCCTTCCAA
31380	SELPLG	GCACCTCTCTGGGAAAACCCAG
31381	IVD	GGCCCTCCTGCCCAGCTGCTCTTGTCAG
31382	CCNDBP1	AGCAAGAGACACTATTACCAAAGA
31383	TNFRSF1A	CTCTATGCCCGAGTCTCAA
31384	TRPM1	AAGCAACTAGCTGGGCACAGTG
31385	SRGAP1	CTGAGGCCTTGGTTCATGCA
31386	NRG1	AGGGACAAACTTTTCCCAAACCCGAT
31387	SPG3A	TGTCTCCATGCAACATTCAAAG
31388	SF3B3	TCTGTGGGAGGAAGGAGGCAGG
31389	LDB3	GTCTTTGGCCTTTGTTTAGCTTT
31390	SHANK2	CTTAAATCTCTTGTATGGCAACCAA
31391	MAG	GTCTCCTGCCCCCACACCTGGCCC
31392	SMARCC1	AGTTTTTTGCTTTGTCTT
31393	KCNQ2	GTGCACAGACCACACAGCACAC

31394	NQO2	GCGCAGGCAAAGAGAAGATGGT
31395	RPH3AL	GGCTGGGTGTCTGGTGCCTGGA
31396	BAIAP3	CCAGCAGCTGCCCAGGACACAGTGCAG
31397	OTOF	CTGCCCCTGCCTGTGTC
31398	PKHD1	CCCTGCCTCAGTTTACCTGCACA
31399	MHC2TA	TCCCATGAGCCTCAGCATCCTGGCA
31400	EXTL3	TTCATCATCAGGTACCTCCTCC
31401	DAPP1	TGGCCAACATGATGAAACCTTGTCTTT
31402	ADCY1	ATTGCTTGAACCCGGGAGGCGG
31402	PAICS	ATTGCTTGAACCCGGGAGGCGG
31402	RAD1	ATTGCTTGAACCCGGGAGGCGG
31403	BHMT2	CCAGGAGGCGGAGCTTGCAGTGA
31403	SMG1	CCAGGAGGCGGAGCTTGCAGTGA
31403	UBE2G2	CCAGGAGGCGGAGCTTGCAGTGA
31404	ANXA1	CATTCCCTTGATGGTCTCAAGCTA
31405	AIM1	ACAGTGGGTTCTAGCTTTGA
31406	CRKL	TTGTTCTGCCTGTCCTAGTCTCCTTT
31407	TGFA	TTCTCTCTAGCCATTGATTTA
31408	GALT	CCCAGTAAGGTCATGTGCTTCCACCC
31409	KIT	TTCCATAATGCTACTGTCTCACT
31410	HOXB5	ATCTGTGTTCTAACTTATTTAT
31411	JDP1	TTTGAATAAATTAAAGCTCTTAGA
31412	SLC7A6	TGGTATTTATAATCAATGCTGAA
31413	ABCA1	GCTGCTGAAGCCAGGGCATGGGATTA
31414	B3GAT1	CCCTGGCTCCCTGTCCCTGGGCTC
31415	XPR1	CATTGGTTTTTAAATTTTTTGT
31416	CDH5	CACATCTCAGGGAACTGACCCT
31417	CDH1	ACTGTAACCTCAAACTCTGGG
31418	NPY	GGGAAATGAGACTTGCTCTCTGGCCTTT
31419	DRD1	ATTCCAGTGTATTTTCTGTGTTGTT
31420	RPP30	GCTCACTGCAAGCTCCGCCTC
31420	SERPINB9	GCTCACTGCAAGCTCCGCCTC
31421	TBXA2R	TGGGAGCCCCGCAGATGAGGTC
31422	RAD50	GCCTGCTCCCTGTAGGGTCC
31423	COL4A6	AGGAAATGAGAATGACAGCCTTTT
31424	MRPS12	CCAGGTGGCAGGATGTCCTG
31425	MUCDHL	CAGAATAAAGCAAGGCTCCC
31426	B3GALT3	TGTCAAAAAACTTCTTCACTGAAGTTATAC
31427	KLHL3	GCCTTCAGAAGAGGCTAAAATATCCA
31428	DLEC1	CATTCAGCAGAGTGCGAGTGG
31429	FBXW1B	ATAGCCGCCTCCGCCTCTGCCCGCCTCCG
31430	ABCD2	TTCAAACTTTGAGTGACATTTAGTCC
31431	CBLB	CCTGTACTGTGTTCTTCACA
31432	ARNT2	TCTTGGATTTGAGGAGAGTTTATGAATC
31433	FUT1	GTTACTTCTCCCCTGGGTCCTCC
31434	SQLE	CCCTATACAACTTGGCTTC
31435	TCIRG1	CTTTGTGGCAGGTGCCG
31436	TNFRSF11A	CTGGCCCAGGCTAGAGTGCAGT
31437	IL16	AAGGAAGGTGGTGGGGGTG
31438	RABL2A	CGGAGTCTCGCTCTGTCGCCA

31438	RABL2B	CGGAGTCTCGCTCTGTCGCCA
31439	RHD	CGGAGTCTCACTCTGTCACCA
31440	CD164	GAAACTTAAGCTAAAGTCTGTTATA
31441	LAMC1	TCCCCAGGTGAACATGGCT
31442	PTPN7	GCACAGCCCCACAGGCCCT
31443	KCNAB3	AGTGTACCTCAAAAGGGGCC
31444	MSF	CGTCTTCATCTCCCTGCCATC
31445	LY9	TCTCAGTTCTGAAAATAGATCA
31446	WNT6	AGCCCAGCCTCTCCCTGCCA
31447	GAS7	TTCAGTTCCCCAGGCTCCTCCTCC
31448	CAMLG	GGTTGTAAAGCTACTTTATTAGATAT
31449	TM4SF6	AAACCACCATGGCACATGTAT
31450	AFG3L1	AAGAGCCTCAATAAGGACACCCTGGCG
31451	PLS3	TATGTTATTTCTTGCTCTGTTA
31452	VHL	GTTGCCCAGGCTGGAGTGCAGAGGTGC
31453	MPDU1	ACTGAGTCTGGACGGCAGAGTGGAGGG
31454	TPO	TGCAGTTGGCTGAGAAGAGGAA
31455	CPT2	ATCACACCACTGCACTCCGGCCT
31456	TEGT	GGTTCCCCTCACTCCCTTTTTTGTCA
31457	P29	TGGAAAGAGGAACAGCTGTCTATCCCTTC
31458	HD	TAGCTTTTTCCTGGAAAAGCC
31459	PART1	TCACCCAAATAGCTGAGTGCAGTCCTTGC
31460	KCNMB1	GGCTGCATCACTATGTGCCCCA
31461	IMMT	TTTCCATTTGCTATCATGTC
31462	OPCML	TACTATATCCATATCTATAGATTTCA
31463	LIF	AGGTACTTGAGGGGGACTGGAGGCCGT
31464	EN2	GCGTCTCTCACCCATGCGACTCG
31465	RAB5A	TTACTAATTTGGGCTTTTCA
31466	EGFL5	ACTCACTGACCTACTAGTTT
31467	HPSE	CTCTCCTCATGTCTCCTCATGTC
31468	CIT	GGATGACTCTGTTCACACCCAAT
31469	RNF14	ACTCTTTCTTTGCAACAGCAGTG
31470	EEF2K	GTTCTTAGTTGTATGTCATCTC
31471	EGLN2	AGAGCCACAGCCACCTCTAC
31472	PPP1R12B	TTTACCCATTTCCCTTCCCCAAACCATGTGC
31473	SLC7A7	TTTCCTCTCCTCCACCATGGT
31474	SRRM2	GCGGCAAGACCTCTCCCCCTCG
31475	DDX20	ACTTGAGTCTTTCCACTGGGAC
31476	HCFC1	CTTGGAGGCAGCTTGGGAGG
31477	CAPN1	CCTCCTACCACACCACACCAGGCC
31478	ZNF217	CTTAATGTATCTGGCATTT
31479	DDC	GAGAGGGAGTAGAGTGAAGCCAGC
31480	FANCA	CCACTGCACACCAGCCCAGCTCCCGTG
31481	SMCY	ACTATCTCCTGGCCT
31482	MAP3K14	ACACCTGAGCCCTGCCCCACCCTGC
31483	HMGB2	AACTGTACAGATTTTTGTAT
31484	COL9A2	TCTTAATCTGCACCTTTCTCCA
31485	LRPAP1	TGCTAAAACAACACGATTTACAT
31486	F2RL3	ACCCACCGCAACCTCATCCCCTC
31487	EZH1	CACCACACTGGAGGGCACAC

31488	RRAS2	TTACATCTTGTTGGTACCTTTCTA
31489	B3GAT1	GGGGTGAGGGTGGCACCCAGGCAGCTG
31490	SLBP	CACAGGCATCTTCAGTTATTGC
31491	CUL3	CGAGTTAGTAAACATGAGCGAT
31492	CDYL	AGAATCTAAAGGGGTATTAGCCAG
31493	MTR	CTCATTTCTTACCATTTTATTCCCCTC
31494	GP9	TTCCCTAGTCACCAGCTGGT
31495	TIF1	CATCACTACAAAAAGAAGG
31496	CHRNA4	GCACAGCCTCACCCCTGCAGGCGG
31497	SYBL1	TCTGGGAGCGGGCAGTTGGCGACCCTG
31498	KCNE1L	ACTGCCTCTGCTCTCTTGTCTTCAGA
31499	EBI2	TATTTCTTGCCAACAAATGGCTAGA
31500	TPM4	CCTAAGGTAGGCAGGGTATTTCCTAGT
31501	PIK3CD	ACTGCCTGGGTCCTGGCGCCTGGC
31502	GABRP	ACTGCTTGACCCAGGAACAAG
31503	MPDZ	TGCCAGAATTGAACCAACCCAA
31504	POLH	CATCTCTTCACAGGCATGG
31505	ZNF202	CTTAAGAGGTCGTGGTTCCT
31506	ARHGEF12	CTTTGATAGCCACCTCCTAGG
31507	TCTEL1	CCACTTGTCTTAACTCTGAA
31508	EGLN3	CTCTGGAGTGTAAGCACAA
31509	GGT2	GCCTTTGCCAGCATGTTCAAC
31510	SOX11	TTTTCTGCTGTGAAAATGAAAAAATA
31511	ADORA2A	GTCTAACTGCCTTTCCTTCTA
31512	KIF3B	TGGGGCAGGCAGGAGGCAGTGGGCTTC
31513	NOLA3	GATCATGTTTCTCCAGTATTA
31514	PFKFB3	AGCCTCCTATGTGTGACTTATGACT
31515	SCN4A	AAGTGATCCTAAGAATGTACAGTTGA
31516	FMO5	TCTACTTTAATGTCTCTTTCG
31517	CRYZL1	GAGGCTGAGGCAGAAGAATCGCTTGA
31518	FEZ1	CCAGTTAATGCCTGAAACCGCT
31519	PYCR1	TACTGATTAAAATGTCAATGTAATC
31520	IGSF1	TCTGGGAGTTGAGAGCTCTGCCAGGGT
31521	HRG	CCTTCTTTCCTGGACTTAACTC
31522	FLT1	TGGGTGGAATGGGGCTGAA
31523	CLCN6	CAGGACATCACAAGGACCAAAAAG
31524	GGCX	GAGCAAGACTTCGTCTCAAAAT
31525	MYO1B	TTTGAGACCATTGCATTCTG
31526	CYP1A2	AGCCTCCCAAGCACCTGGGATT
31527	HRH1	GCCTATAATCCCAGCATGTTGA
31528	SSTR1	TCGGGTGGGGAGGGAGGGCGCAGGC
31529	SLC17A5	CCAGGCAGCTGCCAAGCACTCCC
31530	PNUTL2	GTGATGCATTCTGCCTTC
31531	GCKR	GTGACCAGAGGGGTTTGTG
31532	CALR	GGCCTGAGCGCTCCTGCCGCAG
31533	HOXB2	GCCGTCTACTGGAAAAATCGA
31534	H3F3B	GCTATAGAATACACTATGT
31535	DHCR7	CCAGCACTGCCGTATTGCCA
31536	ZNF261	TGCCTACATCTTCTCTCTTCC
31537	DSG1	TAATCAGACACCAGCTGAGTGG

31538	PPP1R12B	GGTGCAAAAAGGAAAAAGAA
31539	PACSIN1	AAGCTGGCAATCTGCACCTTG
31540	SLC22A7	CATGCTGTCCACTGTGTGG
31541	TULP1	TCTCACTGCCTCTCGGTGACCT
31542	ARF3	GGAATGTAGACTGTATATGTTT
31543	PART1	GGCTGCACTGGAACAACAC
31544	HPS4	CTCATGCACCTGGATTAACTCA
31545	SGCG	TTGCTGAAGCTTCATCCTTTGCTCTCA
31546	VDR	TTCCCAGAGACAGGAAAATCCTCTG
31547	GARP	CCGTCTCCTGCTCTGGACTT
31548	CALCRL	ATACATACAACCTATGTAATTTTTAAA
31549	CYP7A1	CTTCCCTTTCTAATCA
31550	SMAC	GTTGCCCAGGCTGGTCGTGAACT
31550	TAF11	GTTGCCCAGGCTGGTCGTGAACT
31551	MKI67	AGTATGTCAGCACCTTTTCTCA
31552	SFRP4	TTTAAAAAACAATTTTATTGGCCTTT
31553	ZFHX1B	TTTTAGTAAAAAAGGAACATGA
31554	TCEA1	CATGTAGCTACAAATATTAAAGGA
31555	C1orf6	AACCAATGCTAGAATTTCTTGCT
31556	PIK4CB	TGGGGCCCAGGAAGTGGGGAAGA
31557	BMP1	CACCCCTGCTCCAGCCTCGATTTGG
31558	DAPK1	CTTCCCTTTGGAGATGCTG
31559	SCN2B	AGTGCTTGGCCTGGCAGTGG
31560	ZNF274	CCAGCACTTCCGGCCTGACCCCTGTCC
31561	CD68	GGTGGATCACTGGAGGTCAGGT
31562	OGDH	AGATCTGATTTATTTATTTTGGTT
31563	PRKG2	GGCTGGGATAAAGACTTCTGCAGAAGA
31564	AICDA	TTTTCTATTCTTTTCCCTTGAC
31565	SQSTM1	CGTAGAATTGCAGGTCTCTGTACAG
31566	E2F3	TTTATTGTTTTTAAAATGAA
31567	BTK	ACTGTCCTTCCTCTCTGGACTGTAAGAATAT
31568	ZNF264	ACCCACGCTGGAGTGCTGT
31569	KCNJ10	TGAGGCCATTTTCAGACAAGTTA
31570	XPR1	ACTGCCCTTTAATACACTC
31571	DNMT3A	AGGGCCGCGGCTCACACCTGAGC
31572	PKDREJ	AACCCTGTTTCTTTGGTGCCT
31573	FGR	TGCCTGTATGAGCGTATGAGCATGTGCATGC
31574	PPP1R11	TCTTCCTTTTGTTCTCACTGC
31575	NOTCH1	AACTGATTTGCAATAAAAATGATACTG
31576	PTPRO	CTATCTAGATATCTTGTGCA
31577	PPP1R3C	TCTGTACAGATGATGCTACCCAATT
31578	RNTRE	CCGCTGCCCACAGCCTAGCAG
31579	APPL	AATGTACTGCACTTGATGCCA
31580	HOXD13	AGTATTTTTTAATAATCCGCCCCC
31581	RPL10	CTCTTAATACTCACCAATAA
31582	BTG2	GGAACTCCAGGTCCTTTATTACTGCCT
31583	CD164	AACATGCCAAATATAACTTTCT
31584	FSTL3	ATCGCCTACCTGTGCCTGCGTGTA
31585	TACR1	CCCCCACTGCCTTTGACCTGCCTCCC
31586	NPR1	CCAGAAGCAACAGAGGTGCCAGGCCTC

31587	BPHL	ATTGCATCACTGCACTCCAACCT
31588	REST	GAAGCAGCTCAAGGGCAGGAG
31589	IL1RL1	AGAGAAATTGGCTTTCTGAG
31590	FIGF	GCATTGGTGGCCACACCACCTCCTT
31591	GHR	AAATGATTGTAGTAATCTGCAT
31592	TBX6	TGGTGGCAAACGCCTGTAATCCCAACTACT
31593	NDUFA10	ACCCTTTAGCTTTGTTTTG
31594	GYG	AGCTGGGTTGAGAAAAGTCTGTTACAG
31595	MICB	CCACCGTGCCTGGCCTATTTTA
31596	PSME1	CTCCCTGGCCCTGTAGGCTGT
31597	MTRR	TAATCTTTCTCCACTGTTCTA
31598	OPHN1	AGGCCAGGGAGCAGTGGCTGAG
31599	PODXL	GGATGATGAGGGAGATCAAGAAAAAGC
31600	EPS8	TCTTCTCAAAATCTAGCAAAGGAAG
31601	IPP	ATCTAGCTATTTTAATAGATAGA
31602	TOX	GTTAGTCTGGTTGGAAACCAAGA
31603	MHC2TA	CCTGTGTCTTGCAATGGCAGCCT
31604	P2RX7	ATCGTGCCACTGCACTCCAGGCT
31605	SEPP1	CCAAATTAGTGAACCAAAAAT
31606	LNK	GCCTTTGATCATTTCTGGACC
31607	BAPX1	GCGCACACCCAGGCAGCCCTCTGC
31608	TRIM34	AGGAGGTCAAGTTGAGCCCAGACAAT
31609	SIRT2	CTGCCCCCGGGGGCCTGTGGC
31610	STCH	ATCCATTGCTGAATTCGATAGGA
31611	CD209L	TCATCTTGCAGGCTGGAAGCACCAGGG
31612	KLF13	GCAGCCGCCGCCTATGTGGACC
31613	HYAL1	CCAGCCACCCCAAAGCCCTCCTCCTCC
31614	GABPA	CTTCAGCCGGCCCTGGAGTGCGG
31615	XK	AACCAAACTAACAGTGCT
31616	GPR6	TGCCAAAACAGTGTTGCCATTTT
31617	SURF6	CCAGGCAATCAAAATGAGTG
31618	DLG2	TTGAGCTCTCACTCAGTGCCTT
31619	GABRB1	CAGCCATCCAATTGGTTTTAGGTCTTG
31620	KLF1	GAGGAAGAGGAGGCTTGAGGCCCAGGG
31621	OGT	AGCACAGCCAGACTTGCTTCCTGCA
31622	MYEOV	CTTAACAGATGAGGAAACTGAGGCCTA
31623	SLC15A1	GGTCATCTTCCCTATCACACAAATGAT
31624	PAX3	TGATTAGAGACCAGATCAGATA
31625	LAD1	GGGGTGAGATAAGCGGCCAT
31626	MDM4	TGTCTCCCAGGCTGAAGTGCAGTG
31627	ADCY6	TGAACTCCTGACCTTGTGAT
31627	PPID	TGAACTCCTGACCTTGTGAT
31627	WHSC1	TGAACTCCTGACCTTGTGAT
31628	KCND2	TGAAACTTATCTGATGGCATTT
31629	SPP1	GAATATAACATTTTATGTCA
31630	ABCC12	CTGAATGCACTCATCCCCT
31631	CHEK2	ACTCTGAAGGAACGGTTGCAGTCCAT
31632	ST5	GTAGCAGAGTCCAGTGCCTT
31633	SYNGR1	CCTGTTCTGCCCCAGCTGTTCCT
31634	PPY	CCCAGCTCTCCCCTCTGCACC

31635	RORC	GCCCTGCTCCCTGCCCTCCTGGGCA
31636	ROCK2	TGGTGGTGGCCTGTAATCCCAG
31637	FLNA	CTCCCCAGCCAGCCGCTGACCTCTC
31638	COL19A1	TACCCTTTGGTTTGTTGACTG
31639	SLC4A7	ACCTCAGGATATTCTTTTCT
31640	RAD54L	TTCCTGGATGGATTCCCGCCAT
31641	GADD45G	GCTCTGTGGAGGGGCCCTCCG
31642	MS4A7	ATACACAGAAGGGAAAATGTGCAC
31643	COL4A3	CCCTCTAGTTTTTTCTTCCTTGTC
31644	FGFR3	CCTAGCAGCCCTCCCTGCTGC
31645	RRM2B	TTTGCTGAAATACATTATGGTCAA
31646	ABCA2	CCAGCTTTTCTCTCTTACG
31647	CUL5	CTTGTCCCAATACAAGAATGCCAAAGGAGGA
31648	IGSF1	ACTGTACTGATTTACTGGCGCA
31649	SCN4A	AGGAATTCCCTGGAAAAGGGAAATGTG
31650	MMP2	TTCCTCAGGCGGTGGCTGGAGGCTGC
31651	IFNAR2	GCAAGTAGCTGGGATTACAGGC
31652	MHC2TA	GCGATCTGGGTTCACTGCAACC
31653	CD209L	GGCTCCATACAACCTCTTCCA
31654	GBF1	TTTTCCTCCTCTGCGCTCCATTCCTGG
31655	CTSS	AAAGTGCTAAGATTACAGGCGT
31656	GCNT2	GAGCGAGACTTTGTCCCAAAAC
31657	PPP2R1B	AGGGGAATGTGGAAGCTCAGG
31658	TRPV1	CTCTTCTCACCCAGGCTGG
31659	CBLB	ACTGAGTTTCTTCTTTGGAAACCA
31660	PCDH9	TCATGGACCTGAGGGATTTTTACCTGT
31661	ELMO2	CCCTGCAAGCGCTCAGTCTC
31662	HDAC5	TCTCCTCCTCCTTCCTCTTGGT
31663	STAU	CTCTGGTTCAGCTGAAACAGTCCTGGA
31664	MPG	GCCCCCAGCAGCAGCCGTCCATCGTC
31665	GPLD1	CCCCCATGACACACCTT
31666	DAP	AGGAGATCAAGCAAGGGCTGCCTTT
31667	WNT2	GGAGCTGAGCGCTTCTGCTCTG
31668	ZNF268	GAAATGAGAAACCCCTAGGGA
31669	SPINK5	TATAAAGACATTTCCACCAAGT
31670	MAML1	ATGACTTTGCTTCTGTGCACA
31671	SRGAP2	CTGCCCAGGCCCTTGTTCCCGGCAGTG
31672	IL1RL1	CATCTGTTATTCACCATGTAA
31673	RANBP2L1	CTGTTTCTGTTCCTGTGTTCATA
31674	CD80	AAATGCACATCTCATGGCAGCT
31675	LDLR	TTGGCATTTGTGTTATTATTTT
31676	ZNF278	TTATTAGCAGGTCTGCTCAG
31677	PIN1L	GGGGGCCCTTCCAGACTGGGG
31678	SLC25A15	CCAAAAATTCACTGACCAACCAACCAAACT
31679	OTP	ACTTTTCCGGACAAGTTTATA
31680	TLR4	CAGAAGCTGGTGGCTGTGGAGA
31681	INHBB	TGACCTTTTAAGTGAAAATC
31682	ATM	TGGTCTCAAACTCCTGGGCTCA
31682	CASP10	TGGTCTCAAACTCCTGGGCTCA
31682	CDH1	TGGTCTCAAACTCCTGGGCTCA

31682	FCRH1	TGGTCTCAAACTCCTGGGCTCA
31682	TP53	TGGTCTCAAACTCCTGGGCTCA
31683	SIRT3	GTCCCCAGCCCTCTTCATGTT
31684	SHOX	AGCCTCAAACTCCTGGGCTCAAGCAAT
31685	UBE4A	ATTGGCTTTGCTGGAGTATGAT
31686	AKAP1	ACTGGCACTGCCTTCTCTGCCG
31687	SCN7A	CAGGAATAAAAGAAAAGTAGA
31688	PLA2G2D	GAGTGACACTCTGTCTCAAAAA
31689	SERPINB9	GAGGAATGAAAACAAAGTGAAGTA
31690	BST2	AGCGGGGAGAGCACGGGGTAGC
31691	CHD2	AGCTCACTTGTATTCTGTTGACTT
31692	SLC13A1	CTAAATGAATTATCACTGTGTA
31693	BRMS1	AGGTGGACTACGCCGAAAATGAGGGGA
31694	MGAT1	CTGTCCTTCCTGGGCC
31695	COL4A3	CAGACACAAAGAGACAAAGCTTT
31696	MEIS1	CCAACAGTGATGATGCATGGAG
31697	FGA	TTAGAAAAGATGTTTTCCATGAGGATC
31698	RYR2	CATTCAGCTAAATTCACATTTGCC
31699	TNFAIP2	GGCCCTGTCAGCTGGAACTGGAC
31700	PTK7	CCCCACTCTGGGCTTGTGC
31701	COL19A1	TCCAGAAGCTGCAGCAAGAGGTACAGC
31702	EPHA8	TCTCTGTGGTCTCCATCCTGACT
31703	CYP8B1	CTACCTCTGTTCTGCCTGTCCTCGC
31704	OAS3	CCTGCTGCAATCCATCCCTTCCTC
31705	GPR92	CCGCCCTCTGACACACATGCC
31706	HUNK	CCCAAGTAGCTGGGACTACAGTTGTGC
31707	PXR1	GAAATGAGGCTGGGTGGGA
31708	MAN1A2	CGTTTGGGGGAGGTCACACACGTT
31709	TM4SF4	TGTACTGCCATACTACTTCT
31710	KCNQ2	AGCTTTCCATGACCCGGGAGCATGAG
31711	MSI1	AAGGTCTCCCCTGCTCCCTACC
31712	MMP19	ACCACTCTCTCAGCCACAGAA
31713	HDAC6	CCTGCCCATTGCCTGCTTG
31714	CDH20	GCAGGCGAACAGAGCTCTCT
31715	SYN3	CTCTGGCCTCCCACCAGGAA
31716	MOG	TCCCCAGGAACAGTAGAGATGG
31717	PIWIL1	TTTAACAAAAAAGGCCATGA
31718	ZNF253	CACAAACCCTACAAATATAAAGA
31719	ADAM12	GAGGAAGAGGACTCAAAAGTCTGGCCT
31720	ITK	ACATCCTTTTTTCCAGCCTCTGGGAA
31721	DEK	AGGGAAAGGTAAATACAAGTGAA
31722	TBX1	GCTGCAGTAAGCTATGATCATGCCACTGCA
31723	SMARCA5	GTTATGTCATTTAAAGACAT
31724	KCNS2	ACCCTGGAGCTAATTCCCAC
31725	KCNJ11	CCTCAGCAGGAACCTGTACTGG
31726	SLC6A3	TCAACTCCCAGTGTGCCCAT
31727	STK11	TCATCCAGAAAAGAAAAACACGAGA
31728	BUB3	TTTCCTGAGATTTATTTTATCC
31729	G6PT1	TCCTGTGGTCTCCGCACCTCTCCAG
31730	TNFRSF10B	CCAAATAGCTGGGACCACAGGT

31731	SNCA	TGCCCCCACTCAGCATTT
31732	B4GALT1	GTGCCTGGCCCCAGTCTTATCTGTGCC
31733	ANKH	ACAGTCAGTCAGGATGACACTTCGGCA
31734	F11	TGTGCCAGCATGCTTCCTCCACA
31735	SLC1A4	GAGTTTGTGCTATAGCTAGGTGTGG
31736	EIF3S2	TGCAGTGAGCTGAGATCACGTC
31737	ZNF165	CTGAGTTCCACTGGGGTAAGGGG
31738	FHL2	CCAGGGAAAGAGAAAACTCGCCCT
31739	TMEM2	AGAGGAGGGATGGCCAAGGGTGG
31740	TAT	ATGCTGGAGTGCAGTGGCGCGAT
31741	NRXN1	CTTATTTTCAAAAATGTGA
31742	ADRA2B	ATCGGGGCGACAATAGCTCACT
31743	RAB13	ATTTATTCTGTTACTAGATCA
31744	PTGFRN	AAAATACACAGCCACCTCTGTCCAGG
31745	CACNG3	CACAGAGACCTCTCTGGG
31746	ITPKB	CACTTCCTGGCTCTTGTTTAAAACAGT
31747	ATP1A2	CAGAAATGCCACACTTGTGTG
31748	POLH	GAAGAATTGCTTTAACCTTGGAGG
31749	HS2ST1	TGAATGATCATTTAGTCAGA
31750	SLC22A5	GCGCTCTGTGGGCCTCTGAGGG
31751	NUMBL	CCCCAACCCCAGACACAGGGGT
31752	PTGIS	CAGGCAGCTCCAGCTGTTACCTGA
31753	PTGER4	GCGGGTCCAGGACATCTGAGGGCT
31754	GUCY1B2	CAGGGAAATGAAGACAGGAGAACTGC
31755	TCEA1	TTTTGCAGAAGAACACTGTTGT
31756	CPSF6	GTAAGGATTCATGGATAAAATGAA
31757	MAPK14	AAGGGTCTTCTTGGCAGCT
31758	KCNJ16	ACCATAAAAAGTATCA
31759	HUNK	CGCATTGGGAACTTGCTGGAAC
31760	FCAR	AGACAGGGTTCATTGAAAA
31761	NUMA1	CTGGGTCCTTGGGCCTGGCCAGTCT
31762	GJB3	GGCCTTGAATCCACCTCTTGTTT
31763	COL19A1	CACTTAAAGAACTTAAGCAATT
31764	IREB2	ATGAAGATGGACCATGGCAGGAT
31765	MCM2	ATGCCTTGCCAGTGTGTCTTA
31766	TEM7	GCCTGTATCCCAGCTACTCAGG
31767	DSCR3	GTCACCCAGGCTGGAGTGATCT
31768	LTB4R	GCTCACTGCAGCCTCCACTTC
31769	RERE	TCTGCTCCATCAGACCTCTTCC
31770	CYP8B1	CCTCTGCCTCCTGGGTTTAAGCAATT
31771	ACE	CTCCATCTTCCACGAAATGGGCCATTC
31772	FSTL3	GTGGGGACCTCAGAACACTGTGA
31773	OXTR	TAAGCACATGAAAAATACTCA
31774	XT3	CCTCCCTGTCACCTGCCTCCT
31775	SNX4	TTTGCATACACTAGAAAATGCCTTCA
31776	MBL2	TTGAGTCTATCAATCAACTTAT
31777	AMPH	TGGGTAGAAAGATGGGGCATATTCA
31778	B3GAT1	CCCCCTGTACCTCAGGCTGT
31779	TM4SF4	AGTTAGAATTTTGTTATTTTCAA
31780	NPY	ACTGTGCTGAATTCTGCAATG

31781	AP2B1	ATACCAGCCTGTTTAGCAGTGT
31782	MAN2A2	CCCAGCATCAGGGTCACTGTGGC
31783	CALB2	CTGTACGAGAAAAACAAAAAGG
31784	SHFM3	CTCACTGCCCCACTGTGCTCCTGGGCC
31785	PPEF2	TTGCCCAGGCTGGAGTGCATTGGCGCG
31786	GRAF	CTGAGGCTTTAGAAATGTGGACA
31787	NR2E1	CCAGTAGCTATGACCTGCC
31788	KIFC3	CTGCCTGGCTCGCTGGTCTCTCGA
31789	NRAS	TGAAAACAGTGTCTTGAGCTCTAAAGT
31790	FVT1	GGAGAGGGCAGTGCAATGGGAAGT
31791	RLF	GTGTGCATGATTGTATATGGAA
31792	ZNF198	GGATACTTAACAAATACATTCA
31793	NEBL	GCATAGCAAAATATTTCTGCTT
31794	ARRB2	CTTCCCTTCCCCTCACCTGGAA
31795	PPP5C	AGCAGCTGGGGCTGGGGGCACAG
31796	EVC	AAGTAAAATGTTCTTCA
31797	PRG3	CCTCGCTAAAAGACAGTAGAT
31798	CLECSF5	GTATTGTTCATCCAGCAACCAG
31799	IL18	GCTTGCTGAGCCCTTTGCTCCCCTGG
31800	UBASH3A	TCTGCAGCTGGGGACACAACTGCC
31801	CHRNB3	ACACAGACAGAATCCAAATGCATGTGC
31802	MLLT3	AGCCTCTTCATGAATTACAGCT
31803	SORBS1	GTTTTCTTTTCTGGCTTGTGTTT
31804	MECP2	CCATGACAGTTCATTCAGGGCCGATGGG
31805	METTL1	ATGTATATGTGTACACATGCC
31806	PPP1R8	AACCTGAGCACTCCTCCTGCTGAAG
31807	BCL11B	TGGCCCGACAGCATTCTGAGGTT
31808	PF4V1	CGCACTGGGATCCTGCTGGAAC
31809	CLN6	CACTCCAGAAGAACTGCGGCA
31810	NRF1	GTGGGTGGTAGGGTACGTGGC
31811	DDX15	CAGAGTTAAGTGGCTGTCCTCG
31812	C11orf13	TACACAGCAAGAGCATGTGTGTGC
31813	APM1	CCTTCTCCTGGGTCCAAGCAAT
31814	CLECSF12	GTTGCCCAGGCTGGAGTGCAACGGCAC
31815	HTR1D	AGTGGCACAATCTCAGCTCACT
31816	HM13	CACTGCATTCCAGCCTGGCGACAGAGT
31817	AVPR1A	TGCCAGACTGCTGCACGGGT
31818	ADRA2A	GCCTTTCTGCCTCACATCAGCC
31819	DVL3	AGCATTTTCTCACCTGGATAAAGCCCA
31820	PDE6D	GGGCTGCGGCTCCATCCTCGGCT
31821	CALCRL	TGACAAGACTGCTGCAAACTTC
31822	RGS2	ACGTGGTGTCTCACTCTGAA
31823	SH3GL2	GCAAAACTCTTTCCCAATTCAGTCG
31824	CKN1	GGTGTGAGGACACGATATGCTGG
31825	DNASE1L1	GCCAGGTAGTGTAGTATCAGGAGTGGA
31826	RAB7	TTCTCGCTTCTGTCCTCCGTTTAGT
31827	SOX5	TGAAATCCCACATCCTCCCA
31828	CELSR3	GCAGGGCTGGGGGGTGGTCTGTGC
31829	FGL1	TAACCAAAACTCAGGTAACAACCATTAGCT
31830	ARCN1	GCATGTCTTCTGTTCTTTTCCC

31831	ACCN2	TGGCCCCAAACCAGAGAATGT
31832	FPGS	TGGTGGAGGTGGGCATTGGCGGG
31833	RBM8A	TGCAGCTGATCATAGCTCACT
31834	CDK10	GTGCAGCTGCTGGGCACGCC
31835	MADH3	AGCCATGTCGTCCATCCTGCCTTT
31836	AQP6	GGGAGAAAGGAATGGGAGCCCAGACA
31837	LEF1	GAATGCTAGCAGGCTGTGGGG
31838	EIF2B5	CCTCCTGGCTCCTGGGCTGGGA
31839	SLC25A11	CCCCCTGCTCCAGCTTGCCCTG
31840	INMT	GCTCACTGCAAGCTCTGCGTCC
31841	GPR85	AATTATTGGAATATCACACTTT
31842	CLASP2	CACCAAATCATCTGCCTGT
31843	MLLT3	TTCAGCTTTCTTCAGCTGCCA
31844	TAF1C	AGTCTGTGCTGGGAGGCAGGG
31845	AP2B1	TGCCCTGCTTAAATCAGGGGCACTTCA
31846	CD59	GGATATCTTGGCTTTGCCACACAC
31847	MCL1	GCACTAAGAATGCCAGTGACCT
31848	LEF1	AGTTCCCTCTTTGTTTCTGCTTCATTT
31849	CACNA2D2	ACACAGGTGGGGACTGGGCACAG
31850	TNR	CCAGAGAAAAGAGCCTCAGCA
31851	HESX1	ACTGCAGGAAGATCCCAGCCCTA
31852	FGF7	AAAAGGAGAAAAGAAATTATGTA
31853	SUDD	AAACCTGTAATCCCAGCACTTT
31854	SYNGR3	CAGGAAGGCACAAGGTAGCTGTG
31855	CD3Z	CAGGATGAAGCATTTAC
31856	PCLO	TTTCTAACCATTGGAAATCA
31857	NKTR	CAACAGCAGCTGAACTGTTGTAACCA
31858	FMR1	TGTCATTTCATGTCCTGTGTC
31859	ATP8B2	GCGGATCTCCTCCTCCTTTCCA
31860	TCF2	CTCTCCCCTCTGCCCTGTATATAAT
31861	FZD4	TTCACTGTCTCCATTCCA
31862	NDUFS1	GTTCTTAACTGCAACATATTATTTCGTCT
31863	ARHGEF1	GGGCCTGAGGAGAGGGAGCTGT
31864	GPR30	ACCCAAACCACCACAGGTGCT
31865	PTEN	GAGAGTTGAGCCGCTGTGAGGCGAGGC
31866	PDE4A	GAGGGGAAGGGAGCCCCCAG
31867	SREBF2	GTCTGCGTTCCCTCCCCTGGGCC
31868	TNFSF9	TCCCTGCTGCTTTCTCTACCTC
31869	P2RX4	TTCTTGGCTGGGTCAACTCTGCT
31870	SRGAP1	AAGCCCAGGCATGGTGGTGC
31871	ABCA1	ACAGGGGCAGTGCCTT
31872	TCF2	GGAGAGAAGGACATGTGCTATTGAAC
31873	HOXC9	CCTAACCCTACCCAGCCTGCTGC
31874	ZNF138	AAGATTCATACTAGAGAGAAA
31875	IPF1	GGGCTTCAACCACTCGCCGAGGA
31876	CENPF	TGGGAGGTGCCAGTCATTGA
31877	DAZ	TGCCTCAGTCGGCCTGCGCTCCT
31878	AVPR1A	GATCTTCCCGATGACCTCA
31879	ATP7B	GGCGCTTCTCCAATGCTCTG
31880	MGST1	TCCTCGGCCTCACCATTCCA

31881	ITGB1	CAGGGACTGACAAAAGACTTGA
31882	FZD7	CTGGGTGGAAAGCGGTTTGGATGAA
31883	CHST6	TCCTTCTGGTCCAGGCCTTGGAGGAAA
31884	CNR1	GACCTTTAGGTATTACACAAGACCAGTGC
31885	AIRE	CGCCACTGCACTCCAGTCTGGTCGGCA
31886	BSN	GGTCATCTGGAACTGTTCATATAAACA
31887	UQCRC1	ACGCTGGTACTTTAGCCCTGGGCTCGA
31888	ZNF74	ACAACATGGTGAGACCTCGTCT
31889	PCDH15	AAGAGGTGGAACATGTGAA
31890	HMG20A	TGTTTTTAAAATGTCTTA
31891	ADAMTS6	AATCAGACATCACAGATGCA
31892	EYA4	GGCAGGAGAAGTGAGAAAACCAC
31893	IFIT4	GCAGTGAGCCAAGATTGCGCC
31893	ITGAL	GCAGTGAGCCAAGATTGCGCC
31893	MAP3K9	GCAGTGAGCCAAGATTGCGCC
31893	TCTA	GCAGTGAGCCAAGATTGCGCC
31894	ALDH3B2	GCTGTGGCCCTCTGTGTATGCCTGGGATCCT
31895	KL	GCTCAGAATGGGAAAATATCCATAGC
31896	ZNF74	GTCCGATGGCTCCTGGCCGC
31897	SLC7A5	CTGTTCCAACCTCCTGCTCTGGG
31898	MMP19	GTGAAGTGCCTGGCACAGTGTCTGGTA
31899	TPST2	TCTCTATCTCTGGACACTCCA
31900	STK24	ATGTCATTTTTACGGAAACCCTTTC
31901	SON	GGAGAATGGGTTCCTGTGGAGAAAAAT
31902	RNH	GGCATCTGCATTACCCAAGC
31903	MEFV	CTTGTCACCCAGGCTGGAGTGCAGT
31903	PCDHB16	CTTGTCACCCAGGCTGGAGTGCAGT
31903	VHL	CTTGTCACCCAGGCTGGAGTGCAGT
31904	HPGD	TATTCAGATCCTATCTTCATTTGA
31905	ARF4L	TTCTAGGAATACCAGTCACATAGTTTT
31906	TBX3	GATCAGATTCTGGGGGCTCAGA
31907	SLC22A1	ATCTCTGAGGGAGACATTGCACCTGGC
31908	KCNC4	CACTGCACTGGAGCTTTGA
31909	CD80	TTGTCATCAGCCCTGCCTGTTTTGC
31910	CASP8	AGTGTTTTCACAGGTTCTCC
31911	RARG	GCCTCCCAGGCTGGGGCAGT
31912	DISC1	AGTCCAAACTCTGATTTACAT
31913	DIA1	AGCCCCATCCCTGTCCTCAT
31914	MYB	GACGGTGTACTTACTGCCTTG
31915	AQP6	AGCCCCGTCCCCACAGCTGTC
31916	IFRD2	CCCTGCACTCAGCCCTGTGGCCCCTT
31917	DEDD	CCATCACCCACCTCTGGAGCT
31918	PPEF2	TGCCCAGGCTGGAGTGCATTGG
31919	PTN	GAGAAAAATATATACTAAACAAAAA
31920	GABRE	AAGTCAACTGAGACTGAGACTG
31921	TEM7	AGCAGGGAACTGCAGGTGGATTCT
31922	LALBA	AGCACAGATTTCACCTCTGTCT
31923	CDH1	CAAACTCCTGGGCTCAAGTGAT
31924	ATP8B2	GGAACTGGATGGGCTGCAGTGA
31925	DNAH9	TTCTCTCTCGCCTCTCCTCCGCCTCTG

31926	VPS41	CTGAGGGTGCCTCAGGAGCAGT
31927	CDS2	TGCTTTATAAGATGGGTTCACCT
31928	PCSK2	ACACACACAGATGTGGGCTTTG
31929	DNAJB1	TCTCCCATGTCTTGCTCT
31930	TGIF	GTTTGGATATGACTTGCTCG
31931	GRM6	AGCTAATGTTTTATTTTTTGT
31932	DDX24	ACAGCCAAGTACAAGTGCAA
31933	VIL2	AGGCCAGGACCAAGGGCAGAGGGGT
31934	NEURL	CTGTGTGGCCCTGGCCGAGTCGT
31935	STMN1	GTGACTTCTTTTGAGTTAGGTTAATA
31936	INHBC	GGGCAGCCCAAGGTTGCATGGG
31937	RET	ATGATAGTGTATATGCTAACTG
31938	CACNA2D2	AGAGCCTCGTCCCTCCCTCACTGAA
31939	PTGS1	CTTCTGGCCTCTGCTGAATGCA
31940	LDLR	CCGGGAAGCGGAGCTTGCAGTGA
31941	CRACC	CAGAAGGTTTAATCACTTCATCCCA
31942	SGT	GCTGGGTGGAGGCCACGGGACACCTC
31943	CMRF35	CCACTAGCACCATCCCAGAGCTG
31944	DISC1	CAAGTAGCTGGGGTTACAGGCAT
31945	CML66	AGGACTTTTATTATTTTTCAC
31946	PRY	TCATTTTTCTTAGAGAAC
31947	PRKACA	CTCATAACTTCTCCCCATCCCAG
31948	ELL	ACTGCCTCCTCCCTGGCTGCA
31949	ADAM19	GAGTGTGACCAGAGTAGACTCGG
31950	SYNGR1	TGATCTTCCCCATCAGGCTGG
31951	DYRK2	CAGACCTGTTTTTATTTGCTCAA
31952	PCNA	TGCCTGTAGCGGCGTTGTTG
31953	NEDD4L	TACTGCCTGAGTTGTGCCTCT
31954	EPHB6	AGGGGTGGCTGTTGGAGGAAGGG
31955	CDKN1A	GTCCCCTCACCTCCTCTAAGGTT
31956	ZNF264	TCCAGCCTGGGCAGCAGAGCG
31957	ALDH1B1	TGATCTGTAATTTGTAGCTCTTCC
31958	CORO2B	TGGACTGCAGGCTGCAGTGA
31959	TCTA	GCCTCTTAAGCCTGCTCCCTCA
31960	BPAG1	CTTTTTCTGTATATAGTGACCTT
31961	CCNH	TCAATGCTAACTAATCAA
31962	DAB2	CAAGGCACCTTCTTAAAAGA
31963	CYB561	TCACCCAGGCTCTGCTCAGGCTGG
31964	NR4A1	CTTAAGAGGAGGGTCGGGCTCGG
31965	DFFB	CGCTCAGGCTGGAGTGCAGTG
31966	PPP1R12B	TCAGGAGGCTGAGGCAGGAGAATGGCG
31967	WRN	ACAGGTGGGAAGATGGGAATGAG
31968	STE	ACCAGCCTCCCAAAATACTGGG
31969	TLL2	TTTGCTGGCGAGAGTCCTGTCTGCT
31970	LNK	CAGTTCTATCCTGGTGCC
31971	NPHP1	TGAGCCAAGATCGTGCCATTGCACTC
31972	CSNK1G3	GAGGTACTGAGGAAAAGCAATATGGGT
31973	ARAF1	GAGCCCCCTGTCTCCTCCATCA
31974	TRADD	TTTTCCTCTCTTACTGCAGCACTC
31975	HTR1E	GTCCACAAGAGTCTCAGTCGCC

31976	PCDH7	AGCGGGGACTAGAGCCGGGGA
31977	NEURL	GGTCCTCTCAGCCCTGCCTGCCCTGG
31978	NSD1	ACCATGTATGAAAATCCAGTGG
31979	A1BG	TTCTTTTTTGAGACAGGGTC
31980	CNR1	AGTAAAATTATACTGTGTGTG
31981	GPR86	CTGAGTATCCTCCCAAAGGTGACA
31982	NOLA1	GGCAAGTTGGCCTCTCTGTTGTAA
31983	CHEK1	AAGGATGAATAGAATTCAT
31984	ARHGEF12	CAGTGACTGTCAGACATCTTC
31985	KIF3B	TGCCTGTAATCCTAGCACTTT
31985	TRPM1	TGCCTGTAATCCTAGCACTTT
31986	RIMS1	ATCCTAGCCCACCAGTTGTCA
31987	RGS14	GTGCAAGCTCTGGCCGGCGCTGCCCAC
31988	MYCN	GCAGTAGGACCACCAGTGTGG
31989	SLC30A3	TCAGCATCTGCTGCCCTGA
31990	DNAH9	CTAGAGATCACCAAGCAGA
31991	PSEN1	GCCGTCTGAACTGGAGTGGAGT
31992	EIF2C1	GGCATTTTCCACACCTGTCCACTCCTT
31993	EEF2K	CAGAGTCTTGCTCTGTCACCCA
31993	SHOX	CAGAGTCTTGCTCTGTCACCCA
31994	VIPR2	CGGAGTCTTGCTCTGTCGCCCA
31995	NAP1L3	AGCCTCCACTGCCGCTGCCACCTCA
31996	ATP1A2	GTGAGGAAGAGGTTGCAGTGA
31997	ZNF268	CACAAGAGATAGAAACAATCATA
31998	TCN1	CCTTATGCCTTCTTCTTCA
31999	PSME3	TGACTCCTGGTTGCCTTTTCCCAGCCA
32000	MAP3K14	CTTGCCTGGCCTCACCTGGCCAGC
32001	MTM1	TCATCCTTAGAAATCAGTGCCC
32002	SLA2	CTGCAACCTCCATCTCCTGGAT
32003	P2RY4	AAGGGGATGAGTGCAGGGCAGAGGTGA
32004	GPR81	CTTATTTTCCAAGTATTTACTGAA
32005	CEACAM1	ATGTTTGCACCTGTGCATTTT
32006	MYCL2	TGAGGCACCTTAGAAGGGAGA
32007	NR0B2	TCAGGTGGGCAGAGGCTGGCAGTG
32008	ADARB1	CTGTAAAATTATAGACTTGCTC
32009	STAC	GATGCCTAGTACAAATGCTCTT
32010	ALOX5	GATGGACTCCAGCCTGCCTGGCAG
32011	TTC3	TACTGACTTTTTAAATTTTTTA
32012	FCGR2A	TTCCAGAGTCATCTACCTG
32012	FCGR2B	TTCCAGAGTCATCTACCTG
32013	PYCR1	CAGTTCTGTCCTGGCC
32014	CTSF	AGGAGGATGTCGGGGTGAAGGGTGG
32015	LAMP1	TTACTGCACTCAGATTTAAGCCTTA
32016	RUNX3	CCAGGAGGCTGGGCGGAGGTGGGCAGG
32017	TNFRSF10B	GAGCCCTGTTTGGGCTCAGGAGATAGA
32018	GABRP	GCTGTCATTCTGTCATTGCTGCTAC
32019	COX10	CCTCTATTCTGTTTCTTCCTCCTCA
32020	GUCY1B3	GAACAGTGTTTGGCCATGTGT
32021	PPP2R2B	AATCTCACATACTGAATACTAGTCAA
32022	MAP3K9	AGAGACAAAATTCCACTG

32023	B3GALT2	CTGTTGGGGGATGTGCGCATGTT
32024	CCND2	TCCAGATGAGTCAGTCTCTTGGGAAGTG
32025	ASK	AGGCCGAGGCAGGCTGATCACG
32026	GNE	AGATGCTATTCTTTCTGA
32027	PMM2	GGGGCTGAGGCCTGCTGGA
32028	KISS1	AAGGGAGGGGGCGCTGGAGC
32029	G2A	AGCACGCCTGCTGGCAGAGGTA
32030	CAMLG	TCTCGAACTTCTGACCTCAGGTG
32031	IL11	TTTCGAACTCCTGACCTCAGGTG
32032	BDKRB2	TGCCATCCAGCTTTGGTGCAATG
32033	COL9A3	GATTAATGACTGGCTACAGAGTA
32034	PCDHA1	TAGATATCCTATTAATGGCAG
32035	SLC24A1	TGCCCAGGCTGGTGTGCAAT
32036	OGT	GACATTTTTCTCCTCAGTAG
32037	MYBL1	GCACTATGCCCTTTAAATCATGCTGGT
32038	FUT1	CACAGGCCATTATGCCTGGCTA
32039	PCSK5	CAGCCATCTTAGATTTCTTTGT
32040	BPHL	AGCTATAATCTCAGCACTTTGG
32041	AQP8	CATCAGAGACCCCAGCCTGGG
32042	COG4	CAGCAAACAAGCTACCCCTGC
32043	ANXA1	GTTCTTTGCAAGAAGGT
32044	RRAS	AGGCAGCAGCAGCGGTGG
32045	BAZ1B	TCAAGCCTCTTAATTTTAAAC
32046	CYP1B1	GGCCTGCGGGTTCCTGTTGAC
32047	ZNF165	GTTGCAACCCTGCTGCGTGGGCTTCAA
32048	PROK2	AGAAATGCTCTTGCTTCCTCAACTTT
32049	GPR56	CACCTCCCGGGTTCAAGTGATT
32049	RBBP9	CACCTCCCGGGTTCAAGTGATT
32050	IGF1	CATAATCCTCTCCAACTGGA
32051	MDM4	CTGTCTCCCAGGCTGAAGTGCAGTG
32052	IL12B	TATGTGCGCTCTGTAAAGTGAT
32053	IL1RAPL2	GACTTGTGGGCTTTTGCACACTGGC
32054	SLC20A1	CAGTGTTAACAGAAGACTGA
32055	TNFRSF10B	GAGGATTGCGTTGACGAGACTCTTATT
32056	SLC4A7	ATGTCAATTATAGGAAAACATAGTTGGA
32057	NFRKB	GTGATGGCAACGGTGGCCTGGATTC
32058	MPL	TTTGAGCCTTAGTTTTTTCAT
32059	TFAP2C	AAGTCCCCGTGGAGGTTCTGTAT
32060	ZNF253	ACCGAGGCTGGAGTGCAATGAC
32061	AK2	CCTCTCACAGCTACCCAGCACATGCC
32062	TAF1C	CTCCGCTGCGCCTCAGCTGTGGGGGCC
32063	CAST	GTTCCTGAACATTGCACTGATA
32064	VDR	CCTCGTCCTCCCCCTGCCAGTGCC
32065	FZD4	GTCACCCAGGCTGGGGCGCAAT
32066	KCNS2	CTGGGAGGTGGCTGTCTCCTAGTG
32067	RAD1	GGGAGGCGGAGGTTGTGGTGAG
32068	ADCY1	ACATGTGTGAACACGTGTTTCTGTCGT
32069	DPP6	GCTGCTGCTGCTGCTGCCTCCCC
32070	ABCD2	TCTGAGCTCTGCTGCATCTGTC
32071	GJB1	CCTCCTTCTCCCCTGCCGGTGCACAGGC

32072	RAD17	TTCACAGCTTCATTTTTGTTTC
32073	TCN2	GCAGAGAGCCAAGCATCTTCCCT
32074	DLEU2	ATGAGTAGTACAGATTCTCCTCTAATTC
32075	EGFL4	TCTCGGCCACTGAGGAGCTACAGCCCT
32076	WHN	TCCCCAGGGTGACATACAGAAGGGG
32077	EN2	GGGAGAGAGGGGACTTCCAGGGTCCTT
32078	RAGE	TCTAGGGTTTTCTTTCATTTT
32079	HTR2C	AATTAAAAAGACACTTTTAC
32080	APM1	GAGAGTCCTGGGTGTGAGGAACACCT
32081	ALOX15	TGTTGCCTAGGCTGGAAATAGGATTTT
32082	IKBKG	CTTCGGAAATGCCTCACATA
32083	KCNN4	CTGAGCCCCAAGACCCCGGGGGC
32084	SCA1	TCTCCACTGCCACCCTTTCTACTCAAG
32085	CKM	ATGCCATTCGGTAACACCCACAACA
32086	LMO2	CACAGATTGTTTCTATACAAA
32087	ADH5	GATGGCATCTGCCTTCAGGGGG
32088	MGAT5	TCACCTCACCAGTTGCATGTTC
32089	KCNB1	CAGAGCATCTGACTGCCCTGCCTTGGAGGAG
32090	ITK	AGAGCAGCTGCTCACACAGGAGGCC
32091	PTER	AGGTATTTTAAGACAGAAAGAGAGAG
32092	ARHGEF7	CTCGCTGGGCCCAGGCTGG
32093	APOL1	CCCCTGCTTGAACACTGA
32094	INMT	TCAAGCCACCAGTGGTTTAATA
32095	SULT2B1	CTGGCCTCTGTGCCGCCTGCT
32096	TCFL4	GTACACAAGCCCAGCAGGTC
32097	TAF6	CGGCTCCCCTCAGCCTGCTCC
32098	PREB	TCAGCCCATTAGGCAGGAAAAG
32099	SALL2	TAGTGTGCAGAGGTGTACCAGGG
32100	TGM3	TCCTGCTTCTCTCTCAGGCC
32101	APP	ATCCCTGTTCATTGTAAGCACTTT
32102	PCDH11X	AACCTGTTACTTCTAGGGCTTC
32103	EVC	GGGAGAGAAGCAGGAGTCGG
32104	DDX6	AACAGGGGGCAAAGATTAATCTACCTT
32105	BMP8	AGCAGGAAACCCTCAAACCC
32106	CLPS	GGGCATCTCTCCCCTGCTCCA
32107	EIF4EBP2	CTTCCTTTCTTTCCTCTGGGAGGAATG
32108	NCOA6IP	AGCTCACTGCAGGTTCAGCCTT
32109	RABIF	TTTTAAATTGAGTTTGAGACT
32110	SLC10A2	GGCATGAAACATTAACACAGC
32111	TSN	AGGCTCTCCTTGCTCCTGGCCTTG
32112	CAV3	CCTTCGCTCTCCCCCAGCC
32113	SLC13A4	CCCAGGCAGGAAGCCTTTCGCCGGCAGA
32114	GNAO1	GCCCCATAGAAAACAATCTGCC
32115	PTPRC	GCTTTTCCTTTGTTTTTATGA
32116	ASB3	AATGCATAAAGCTTCACTGG
32117	TIMP3	TCCCTGGTGTGGTCAGCCTCTCTCA
32118	GRIN2A	CACAGCCCAGGCTCACCCCAAG
32119	TRPV2	GCTGGCTCTGGGGTCCCAGTG
32120	RARA	CCTTTCTCCCTCTGCCTGACC
32121	SRP46	ACGATAATCACACCTTTTCCCCCGTCTTT

32122	SIM2	CAACACTGCAGCATTTT
32123	ZNF146	ATACTATATATCTGTAAAATGCA
32124	ADAT1	CCTGGACTTGTTCTCAGAGGTATCAG
32125	BLAME	AAAGCAGCTCTGGATGAGATGGGACCT
32126	SEL1L	TTACATGTAGAGATTTGAGTGCAGT
32127	GRF2	GGGAAGAGAAGACCTAGAGCAGACGC
32128	IFI16	TGCAGATACTTCATTTTCTTAG
32129	PSCD4	CAGAAGGAACCGCAGCTCGCGAGGC
32130	YWHAZ	TCATCCTATTTACTGCAGCAA
32131	PPP2R1B	GCCAATAAAAATGTCTCA
32132	ABCC5	TCCACAGAGAGTCCCACTGCC
32133	UNG	AACAACAAAGGCTACCCTTTGACC
32134	PDE4A	GGAGGTGGGGGCTGGGGAATGAG
32135	RFX2	GCAGTGTCTTTCAAAAAATCAA
32136	PEPD	ATTACCCTTTTGCAGGCACCA
32137	SURF4	CCTCCCTTGGTAAAGGCACAG
32138	RREB1	CGCTCAGTGCCATAGCCT
32139	RABGGTA	CTACCACTGGACCCTTCCCCT
32140	DEDD	GAGGCATGTTGAATGAGCCAGGA
32141	NONO	AGCTTTTCTTGATAGGCCTAGTACAAT
32142	PRex1	AGGATCCCCGAGAGCCACACCAGCT
32143	LILRB4	CTTCCTGGCTGTAGCTTTGTA
32144	CDR1	ACTGGAAGACTTGGAGCTTCT
32145	BCL11A	GGCAGGATAATATAGTGCAAA
32146	SP3	TTGCTAATGTGCCTCTTGGTC
32147	RPS6KA2	CTTCTCCAAGCCTCACTGCGCCA
32148	SRR	AACATGTAACGTACTACTGCCATC
32149	MGAT2	CAGCAAAATTTATTTAAAACTGTGA
32150	DSCR3	ATTTGGCTGGTGCCGAAGTGTT
32151	SRGAP2	GTCACTGGAAACTTCCTCTCTCG
32152	DDX26	CGCTGGGACACACACAGGGGCCGGGGA
32153	ABCC12	ACATCATCCAGCTGAGCGGAC
32154	PHEMX	CCTGCAGCAGTCCCATGCC
32155	HIP1	GAGCTCAGGAGTTTGAGACCAG
32156	ADAM17	CCAGAAGTGAAAAGGCTGC
32157	CDH5	GGTGAGGTCCTGGTGCCTATC
32158	MHC2TA	ACTTGTGGACACAGCTCTTC
32159	COLQ	GTGAGGAAGAGAAAAGCAGA
32160	RAP1GA1	AGCTTAGCCCCTGGAGGCAGCA
32161	FXYD2	CCCACTGCACTGGGGCCAGCTGGG
32162	OAS2	GGTCTAGGTGCTTTAACCTCA
32163	RGS3	CATGCCAGGCTGACGGGTCCAGT
32164	FZD3	TTGAGTATTTGAAAATTGTTGTAGCTA
32165	PRKCH	GTCACTGCCACAACAGCAC
32166	TFRC	AGCAGCATCTGCTAATAAAACCCAACA
32167	ANGPT2	GACAGTTTACAGACGCTGCT
32168	RAD54L	TGAGTCTTGGCGGCTGTTAAC
32169	HOXC11	CCCTTGCCCATGTGAAAAGATCCGCT
32170	PPP1R11	TCTCACTGCCAAACTGCCTGTCC
32171	CTSS	TCTCAAACTCCTGACCTCAGGTGATCCA

32171	MAK	TCTCAAACTCCTGACCTCAGGTGATCCA
32171	NDRG3	TCTCAAACTCCTGACCTCAGGTGATCCA
32172	HTLF	ACAAACTTCAGCCTGGGAAGTGAGG
32173	MSR1	TTCATAATATGTTCACCAGGAG
32174	TXK	TCCAGAAGAGGAGACAAAAGCA
32175	PHKB	AAACCCAGCTACTGAGGAGGCT
32176	MDS1	CAATGCCATCTACCGGCGTCCTGCCG
32177	LDLR	CTTGAGTTCAGGAGTTGGAGACCA
32178	TAC1	GTGTTTATTTTTCATATTGTG
32179	KRN1	GGGGCTCCACACCTGCACCTCCTTCT
32180	NUP98	TTCCATCCCTAGCCATTCTG
32181	USP6	ATAGAGTGTAAATAAAATAGTGTTGAT
32182	IL20RA	GTTTGCCAGACTGGGTGCAGAATTTAT
32183	GABRB2	TACTGCACTGGGCAG
32184	KCNA5	GCAGGAGCTGTGGAAATGGTGAGCGC
32185	DBP	CCAGATTGCATGATCTCCCGGGA
32186	TGFB1	TGGGAGCCGGAGGCGCGGGGAC
32187	DRD3	GTTCCGGAAAGCCTTCCTCAAG
32188	CNP	TCTCTACCCAGCCCATCTTGCCTCCAT
32189	ALPPL2	TGCTCCCCACCTCCAGTTCTGCCTGC
32190	CML66	CTGTCTCTGCTGTACAGGGCCT
32191	DCLRE1C	ACCAGCCTGGCCAACACAGTGA
32192	RNF14	CTCTTTCTTTGCAACAGCAGTG
32193	ITGA2	AGCTTTGACAAGTCCTTGACCT
32194	ACE2	AATGGCATGCATTAGCTCACT
32195	RAD50	GCATGGTTTTGTGCCATCTGTAGC
32196	SDC2	GTTGGTATTTTATAAGCACAGA
32197	PCMT1	TCTTCTGCTCTTTCTTCTTCCACACAT
32198	ERBB3	TCCCTATTCCCTCTCTCTCCCA
32199	MPL	AGCTCAGACATCTACTACAGCA
32200	NLGN2	AAGCTGTCCCCATCTCAGTGTC
32201	TMC1	GCTCTCTGCAACCTCCGCCTCC
32202	HMGN2	GTCTCCAAAGCTGGATTGATG
32203	NEBL	TTATTTCTCCCTGCCCT
32204	KLRD1	TCGTTCACCTACATTTGAGAATT
32205	MAP1A	TAGCAGGGTCCTGGGGGTA
32206	LMO4	TGTGTCTTCAGTAGACAAGTCA
32207	IL20RA	GTAAGTTGGTCGCATGTGAA
32208	C21orf2	AAGCCCAGGGTGAAGACAGT
32209	C11orf8	CCATCTTTTGCTCTGTAAA
32210	HIVEP3	TGCCTTCAGCACAGAAGAAGA
32211	IAPP	AGGCCGAGGCAGGCAGATCACA
32212	ATRN	CCCTGCAAGCACATCATGAC
32213	ARNT2	TGTTGCTGGGGGACCTACAAA
32214	TTC3	CCCCACTCTGAGTGAATACTTT
32215	BDKRB2	TAGAAGGGCTAGAACCTGGAGGG
32216	SLC7A6	TACTTGGTAAAGTGCAGTGGGGAAGAGGGA
32217	MAP3K8	ACAACTTGAAGATTGTAGCAATA
32218	CYP4F3	ATCGCTTGAACCCAGGAGTCAG
32219	DUSP4	GGAAAGGGGGCGGAAACCTCTCCCCT

32220	MAGEB3	TGCCCTTCTGCTGACACTCCTG
32221	PPP2R5A	AATATCCCCCTTCCTCTGCA
32222	NPHP1	TTTCAAAAACAGCTACTTAAGTT
32223	ATP6V1C1	GCACTGTCAACACCCACAGGAGA
32224	MIC1	CGCAGCCGCCGCTACAGTCCGG
32225	CTH	CGCGGTTCAGCATGCAGGAAAAAGACGC
32226	NUMB	GCACAGCCAAGATTCAGAGCCAG
32227	CUGBP1	ACTAGCACATACCGCGTGGTGTTTGTA
32228	PIGN	GCTGGCAGCTCTTCCCAGTG
32229	LRRC2	ATTCATATAAATGTGCAGAAAG
32230	GTF2E2	CAGGAAGGGGGCGGCGAGTCGTGCGAG
32231	GPR56	CTGTCCATCTGGGCCTTTGTATGAGC
32232	DNAJB1	CTTTCGTACTGCTGAATGTTTTCC
32233	ABCA1	GCAAAATTTCTGTATATTCCC
32234	RAD18	ATGCCTCTCTGGCATTTCAGAGCC
32235	MUC4	TACCGCTCCAGCAGCCTGGG
32236	KLK13	CCTGTCACCATGACTTCCTCAC
32237	CAPN10	TGAAGCCCGGGATTGGTAGAGAAG
32238	FGF1	GGATACAATGTATAAGCTACTCACTT
32239	CD72	CCACACCTGACACTTCCA
32240	SPTBN1	ACTGATGGATGCCCACTTGCCT
32241	MUC3B	CTCCCCTCTGCCTTTTAAACCC
32242	GNA15	TCTCTGCCTCTCACCAGGACA
32243	TBL2	GGCAAAGTTTTCTGGGACTTGAT
32244	GNAI2	CCCAACACCAGCCCCTGCCCC
32245	EIF4EBP2	GGGAAGGGATACAGAGCTTGGTGGGC
32246	PVR	AACTACTAGATGTGAACTTG
32247	ALDH2	GGCCCTGAGACCCTAGCTCT
32248	FOXO1A	TTTCCTGTACAGGATGTTTGCC
32249	DGKB	CAGTAACGCTACAATGATCAT
32250	ABCB1	GAAGTAGCAAAAAGTATTGAAATG
32251	D12S2489E	CTTTCTTCCTTTTGGAATAGTA
32252	WBP2	TTGGGGAGGGGAGGGGGCGC
32253	ARHGAP6	AGTGTTCTTCTTTCACACTTCTCAA
32254	NDUFAB1	GCATTCTTGCTGACTCTGACAG
32255	DNAJB1	AGTCCCTGGCCAGGGGTGAGAGGC
32256	COX6B	GTCCCCACCTCTCTCAGCTTCC
32257	GRM4	TGTCTCCAGCCCTGTCTTTCT
32258	TCF3	CGGGCTTCATCCACATCCACACCTCAC
32259	PTPN22	TTTCTCTTGGCTTTAATGACA
32260	F2RL2	TTTGCTGCTGACACATGGAACT
32261	BACH2	TTCATTCTCATTCCAGTTTATTGACCT
32262	CYP2B6	AGTGGTGCCATCTCTGTCC
32263	ALDH8A1	ATCTCTAGCTTATCCTCAGTTCTTAGT
32264	PDGFB	CTTCCCTTAACTCCA
32265	GAB2	CAGCAGCCACAAGTGGGCCCAGACT
32266	HSPA1L	GCCTCTACATGTATTTCATTCCCCT
32267	CHRNA2	TTCCTCTCCTTCCTTGCTGCAA
32268	CPT1B	CCTGGCAGAGGCAAAGAAAGG
32269	ATRX	TTCAGTTATATGTGCTGAA

32270	VIPR2	GCAGCCACAGGGAAGCTCACACATCC
32271	JPH2	GGCTGGGGGTTATTTTGGGAGCAGC
32272	IQGAP1	GTGACCCACATTCCCCAAAT
32273	ADRBK1	GTCCCACTTCCCCTCCTACCCC
32274	CELSR1	TCCCTTTAAACGTTTGCCCCTG
32275	GABRA5	GGAGAAGGGAAGAGTTATTCCTCCAT
32276	RAD17	TAGGCTATGTGTGCCTCCAA
32277	TTF2	GACCAGCCTGGGCAACATAGTAAGACC
32278	MTMR4	ACTGTGAAGAATGAGAAGGGAA
32279	MS4A7	TCAGCATCATGCTATTACAATCCCAA
32280	KCNA7	CTGTGATCCCAGCTACTCAGG
32281	DLGAP2	AAATGTCCACAATTTTATGAATT
32282	LUZP1	ATCACTTGAACCCAGGAGGCGG
32283	TRIM39	TGTGGTTCTTTGTGGCAAGATA
32284	XT3	CCTCCCTGTCACCTGCCTCC
32285	SLC8A2	ACTCGGCCTCCTCTCCTGGG
32286	USP9Y	AGTGCCCAGAGTGACAGCTGTAT
32287	TRPV2	GCACAGAGGTCCTGGCTGGACCGAGCAG
32288	CAMK2A	TGCTGTGTGACCTTGGGCAAGTTCCTT
32289	BACH2	CTGCCTCTGGGTTTTTGTT
32290	TRPC6	CCTTGCTCTCCGCTCTTACGCT
32291	DYSF	ATCACCCCACTTCCATCATTTCC
32292	TFCP2	ACAGAGCAGTGCTAGTCGGGCT
32293	WNT3A	CACCCCTTCCTCAGCCTGGG
32294	GJB3	CACACACAATCACTGCCACTCTCA
32295	IRS1	CTCAACTGGACATCACAGCAGA
32296	ITK	CTTTCAGACAGCATTCTTGC
32297	CYLN2	GCCAGCCTGCCTGCCCAGCG
32298	NDUFA5	TTCTGGCCCGTGGCCTTTAATTTTCTT
32299	C8orf1	CTTTGACATCCCCTTGTGTCTC
32300	SPTLC1	TGTTTTTTCTTTAGCAAACCAGG
32301	APAF1	GACTACAGGTGTGCGCACATGCCAG
32302	ESRRG	AATTTATGGTTGTGTGCCCAGT
32303	TPS1	CACCACTGCTTCCTACCCAGG
32303	TPSB1	CACCACTGCTTCCTACCCAGG
32304	CHRNA3	GTGTCTGGTGAGGGTCCTC
32305	GASC1	ACAGTCAGGGAAGGACTCTCACTT
32306	MID1	CTGTCACAAATAGCAGCACCACTTTGG
32307	IHPK3	CCGGGAGCAGAGGTTCTATGA
32308	ADD2	GAGCAATGCACTGTACCTGCCT
32309	LPIN1	GGCTGGCATATTAACACCTGCCTTC
32310	RYR2	ACACTGTCATAACACACATAGAT
32311	ELMO1	AGCGGGAGCGGGCGAGGATGGGCACAG
32312	PVR	CCAGCAAGCTGGGACTGGCAGGA
32313	FOXE3	TTCCTGGGAGAGAGCCCCCC
32314	FSTL3	GGATCTAGCCTGGGTGAGTATGG
32315	NONO	GGTGAGCCACCGTGCCCAACC
32316	POLS	GGTCGGAAGTGAGTGAAGGAGCCAG
32317	NOTCH2	CAAACAGATGGTTGCTCAGGGACA
32318	B3GALT5	GCTTTTTGGAGCTAAGCCTGGG

32319	JMJ	GAGGAAGACGGAAAAGACTGCCTGCCT
32320	IL1F5	GGCAGTTTCAGGGCCCCTCC
32321	NFATC1	TGGGGTTCAATACTGGAAGTGCCTT
32322	SLC2A6	TTGGGAGGCTGAGGCAGCATTG
32323	PDE7A	CATACTTGTAACCCAGCACTT
32324	INMT	GACTCACTGCAAGCTCCGCCT
32325	TAPBP	CGCCCAGGCTGCAGTGCAGTGG
32326	HIVEP3	CCCCAGAGGCTGGCAGAGGGA
32327	PRKCABP	CCACTTCTCTGAAGGAGGGCTGGGT
32328	MARK3	GAGGCAGGGAGAGAATGAGCCCCGGGAC
32329	TXNIP	TCTGAGAGTTATTACAGCCAGA
32330	ZAN	CTGTTCTGGACTGTGCCTGTTAGTTGCTC
32331	RAP1GA1	CCCTCCAGGCCAAGAGTCTCAGCTGG
32332	CA11	GGGAGAGAGAAGAAGAGTGGG
32333	SSPN	GGAGACTTCTCTCTGTGAT
32334	SCA1	CTCAGAAAAACACACACCACCTT
32335	A1BG	ATCAGTATTATCAACCAATAGTTGAT
32336	TGFA	TTCCATTCAGGATGCCGGCTTTATTAA
32337	SLC21A9	GGGAGGCAGCAGACAGGGAGCCACCAGCA
32338	NCSTN	TTTCTTGCCAGCTCAGCA
32339	GCNT2	GAGGCTGAGGTTAAGGTCTTAGAGCC
32340	WBP2	TTCCCTCTGCTGGTCTGTGCT
32341	EBAF	CTGTGTGACCTTCGCCCTGTGTCCTTC
32342	IRAK1	GACTGCACTCCAGCCTGGGTGA
32342	LRRC2	GACTGCACTCCAGCCTGGGTGA
32343	PRODH	CTTCCATCGCCCTGCCTACAC
32344	CLC	TCTTTTCTCACTTCAATCCTTA
32345	SHANK2	TCATCTTGAAGCCCAGTTATCTGTGAT
32346	SLC25A15	CACTGCACTCCAGACTGGGTGA
32347	LILRA3	GAATTATTCAACACCTTTAACAAT
32348	MAN2A2	CTCAGCCACCTGACCTCCATGTACCTGAA
32349	HAO1	TGGGTGTCCTAGGAACCTTTTA
32350	SOX11	GGCCCTCTGTCACATTTTTCTTCA
32351	RHCG	GTGGGGCTGGGACCTGGTGGGTGAA
32352	TYRO3	GGGGAGGGCAGGTCCAGCTCTG
32353	UNC13	GGCTTTGAAACTGAACAAGAT
32354	S100B	GTAAGCTGACTGGCCCCAGGGA
32355	VIPR2	CAAGCTCATCCCTGGACTTCTGGGAG
32356	CDK2	TGGCGCTTCATGGAGAACTTCCA
32357	CLCN6	CCCCAAACCCAGGCCCCATGCA
32358	SLC2A2	GATTAAACAGACTTTAGCTTACA
32359	PSEN1	CAGATTATCTTGTACAGCCTT
32360	ZNF134	TCCTCATTCCCTTCTGTATGACAG
32361	MUCDHL	CCAGAGGGCGGGTACAAGGCTGTC
32362	HS3ST4	TCTCCTCCTCCTTCATGCAGCCAGGATTG
32363	LDHA	CAGGATTCTAGGTGGAGGTTGTGCATGTTGTC
32364	CD209	GCGATCTTGGCTCACTGCAACC
32365	RLBP1	TTCCTTTGTAACAGAGTTTTACGACTT
32366	TEM6	GGGTCCCCATGGGAAAGGGACATGCAA
32367	ZNF265	TTCATTTCATAAGGAAATGA

32368	DRD5	GCACAGACACTGACAAGCACGCAC
32369	PPP2R4	CCAGAAGAGAGGGTCTGGGGCCTGGT
32370	CAST	GAAAGCTTTATATTTGTGTGAGGACTT
32371	SMARCD1	CTCCACCCTGCCTCTGCATCCC
32372	LAMP2	AAAACCTGACTTCAGTGAA
32373	FBLN5	TCAGCCCCGACTTCCTGACTCTCAC
32374	MC1R	AGCAGGACACCTGGAGGGGA
32375	NDN	ACAAAACAAAACAGTAAGATTGTCTGT
32376	BACE	GGGTTCCAGGGACTGTACCTGT
32377	PPP1R11	ACAGTTACAGAGATCAGTCA
32378	DSCR1	GCCTGCAGGGGCCACTCTCTA
32379	POLH	ACTCACTGGACCGCTCCTAGAAAGGC
32380	AMPD2	CCAGCTGGCCCCTATGTTGTGTTCTGG
32381	ADAM19	TCAGGGAAGCTGCCCAGGAAG
32382	TEM8	TGCTGGACCCCTGAAAACCATT
32383	HSPA5	CCGGGAGGCAGAGGTTGCAGTGA
32383	SUDD	CCGGGAGGCAGAGGTTGCAGTGA
32384	NFYA	TCGTACTTGCTGTGGCTACTTCT
32385	SSX1	TCTCTCCATAGAACAGCACTATC
32386	LIMK1	GCGGTGCCCTGGCCGGCGATGG
32387	SLA2	ATTGGCCAGGCTGGTGTCGA
32388	PGAM1	CTTTCACTGATTTCTGAATCATGTT
32389	PSCD4	GCAAAACTGCAGTGTTTGGA
32390	COPE	CCCACCCCCAGCACCCCCATCT
32391	POLQ	TTGATGAAGTCCTCCCAGGGA
32392	RB1	GTCATTGTTATTTATACAAGA
32393	MPHOSPH6	TTACATGCTCCCAGGTCATTGTCAGTT
32394	ATP8B2	GCTGTTAAAGATGCCACTGATGA
32395	TNFRSF10B	CCGAAAGTGCTGGGATTACAGG
32396	PAG	GCACATCTCCCTGCTGCACCC
32397	SLC1A5	CCCTCCAGGACAGGAGATCTGG
32398	OLR1	GCTTCACTCTCTCATTCTTAGCT
32399	GP9	CAGAGGAGAAGGCTGAGACCC
32400	ATP11A	CACTTTACATTTAGATTCTGGT
32401	TCF2	GATGGCACTCCGGCCACCTCCTCC
32402	DISC1	AGTACTCAGGCAGTGCAGTA
32403	TXK	GCAGCAGTCTTCATTGTGGTGCT
32404	TNFRSF1A	GGCCTTTGGGGTTCAAGATCAC
32405	CSNK1G2	GCCTGGCCCTGGCAAGGGGCGG
32406	RAB36	TGTGTGCTGCGGGAGGCAGA
32407	DDX11	CAGCCCTGCCTGGATTTGTATCCTTGG
32408	APAF1	GTTGCCAGGCTGGAGTGCAGTG
32408	CYP1A2	GTTGCCAGGCTGGAGTGCAGTG
32408	SEDL	GTTGCCAGGCTGGAGTGCAGTG
32409	FANCA	ACAATGTGAAACCATCACAGCTGGG
32410	FBP2	CACATACAGAAGAGCAACAACAAAC
32411	CAPNS1	TGTGATGCCTCCATGCCCCGAGGGCC
32412	NXF5	GGGTATGAACTTCTGCCTTCACGCT
32413	CDC6	GCAAGTCCACATGGAGATTTGGAG
32414	RAB6A	GTCTCTAGGCTGAGGCGGCG

32415	AHR	TCCTATCATGTTAACCTCTGCTTTT
32416	STC1	ACCATAAAGCCTTT
32417	GTF2H1	GGCCTGACAGACAAGCAGATGACCTCA
32418	RXRA	CAGCCAGGCGCCTCCCCACCG
32419	DMRT1	GAGTAACAGGCTTATTCCACTTT
32420	AMPD3	TTTAGCCCTCCTTCCCTCTTTCT
32421	CASP2	GCCCAGGCTGGAGGGCAGT
32422	TAT	GCCCATGCTGGAGTGCAGT
32423	TSNAX	CTCCAGGTCCTTCAGTCTCC
32424	TNP2	CCCCAGCCTGGGGTGAGGGTAAGGGGT
32425	FANCE	GGCTCACTGTAACCTCTGCCT
32426	PDE1B	GGATTCTCTTCATGGCCAGGT
32427	CTSS	CCAGCCTGGATGACAGAGTGG
32428	ATSV	CGTGACAGCCGGCAGGCCCAGCC
32429	CYP4A11	CGACCCACCCATTCTCACCAC
32430	IRTA2	AGCTTGCTGGCATATGGACTGAAAGAAA
32431	SDC2	ACCCTATGCCTTTTGTAGCTGTCA
32432	MATN2	TCTAAGATGAATTTACCAGGTGA
32433	LZTS1	AGCAGCTTGGGGAGAGGGATTTCCC
32434	SETDB1	CCTAGTTGATAGAAATGGGGGT
32435	IRAK1	GACCCTGTCTCTGCCAAAAAATTTTTTA
32436	NFATC3	AAATGAACTTTGCTTTTT
32437	SIRT2	ACCGACTCAGATTCAGACTCTGAG
32438	FKBP2	GCCTGTGTGTTTGTGGGCCCTGAGAG
32439	FRDA	GCGGGCCACCAGGCTGCAGT
32440	THBD	CGGCGTCCTGTGCCCCTCTGCTCCG
32441	UBE2I	CCTGCCTGACCCTAGCTGTGC
32442	STK24	GTGGAGGAACTTCATCCCACTG
32443	CSTB	GGTGATCTTAATTACTTTCAGAA
32444	TAL1	ACCACACCTGGCTAATTTTTACT
32445	COL6A3	CGAATACTTTGAATGTTGTGTAACA
32446	PDGFRA	ACCATAAAGATATTCTTTA
32447	ZIC3	AGCTGGATTTAATCATCCCTGCCCTACATA
32448	CNN2	GGAAGAAGAGACCTGGGCTTGGA
32449	RPIP8	AGGGGGATGGCCATGGAAGGGTTGAGG
32450	TTF2	CGTCAAGCCTTTCACCTT
32451	EPHB2	TCTGCAGCTCCAGGTACATATCACGCG
32452	ADAMTS13	TCTGTGGGTTTCTGGTCCAGTGTCC
32453	CDH15	TCCTGGGTAAATCTGAATGAAA
32454	SLC12A2	AATGTTCTATACAGTGGACAGCCCTC
32455	RAD1	TGTTGCCCAGGCTGGTCTCCAAC
32456	CALD1	AACAGAAGATCCAAGTTTAA
32457	LILRB1	GAACCAGGGAGTCAGAGGTTTC
32458	SLC26A4	AACCATGGTGATTAAAATGAGTT
32459	UMPS	AGTCTCTCAAAGTGCTGGGATT
32460	LAD1	TCGTCTCAAGGGACCTCCCTCA
32461	CCNDBP1	AAGATTGTTGGTTAGGCCAGA
32462	FMR2	AATGAAAATTCCTTTCCTCTTGGA
32463	GRIN2A	CATCACAGCCCAGGCTCACCCCAAGA
32464	SDC4	GCTCCCGTCACCACTGCAACC

32465	PPP1R12B	TTGCCCAGGCTGGTCTGAAGCTGCTGG
32466	ITGA7	ACCCTGTGTAACAGGACCCCAA
32467	PIGR	GAGCCTGGCCCTGAAGCGTTTT
32468	OGDH	GGTTGCTTGGGCCACTGCCCT
32469	STAT6	ACAAGGGCTGAGATTCTTCGTGTATAG
32470	SLC25A19	TGGGGCTGCTGCTTGAGTGCAGAGG
32471	FAT	TCTGTATATTTGTGATGCAATG
32472	B4GALT5	GGGACTTCCTTCGTCAGCACTG
32473	SLC23A1	CCTGTGCCCCAAAGATGAGGG
32474	IL19	GAGACAGCCCACCTTGAAGGGG
32475	OGN	ATACATACTTATTCCCATTTTT
32476	CLECSF11	GCTCCCAAGTGCAACCTCTGTCT
32477	CRADD	TGCACATGTTGGAGTGTGGTG
32478	TNNI3	GCCTGAGTCTCAGCATGGCGGATGG
32479	NEURL	GAGCACCCTTCCTCCTGGG
32480	HOXA4	GACACTGTTACAGAGATACTGTT
32481	PPP2R5D	TCTGCTCCCTACTGGCTGTCTT
32482	PIAS3	TCTGGGAGTCAGGCCCGGCCT
32483	EGR2	TTGTACAGTGAGTGAAGTATAG
32484	GPR86	GACCTACAGTCCATGGTCTACAGATG
32485	MAP1B	TAATCCTTTCTCCTGCCGCAGTGGAGA
32486	LEF1	TCAGCAGACTGGTTTGCAGT
32487	SNAI2	CCGAGCCTGGCCCGCCGCGATGCTGT
32488	NOTCH4	ACCAAGAATTGCAGGCATATG
32489	VDR	AGGAATGTTAAAGTCAGTGGGA
32490	EMP1	AGAATCTGAGACATCTTGCCT
32491	ABCF1	GAAAGACTTGTTTGTTCTGCTT
32492	PIM2	CCAGTCATTAAAGTCCAGTATTA
32493	PAX6	TTGAGCCATCACCAATCAG
32494	ANXA4	TTTTAGAGTGGCTAGTAGTTT
32495	MYBPH	GATGAGAGCCAGGTGCTGCAGCCTGA
32496	BACH1	GGTATTTCTTTGATACTTGTAAT
32497	CEACAM5	GGGAGGTGGAGATTGCAGTGAG
32498	VSNL1	TCATCCAGGCTCCCAAAAGAGG
32499	PRKY	TTTGAGACTGGCCTGGGCAG
32500	PDX1	ACACTGTGAACTTCTAAAGCA
32501	CTMP	AACACATGAATCTTTTTTG
32502	EZH1	GAGCACAGGCTGGGGTGGATG
32503	IL8RA	TTGGGGGTGGTGGATGAACAAA
32504	STAT1	CAAAACTGATACCCTTTGAA
32505	MECP2	CAGAAGGCTCCTGCCCCCATAGTG
32506	MIR16	GGAGGTTGAGGTGGGAGGATCA
32507	PTGES	GACAGGCATGAATCACTGTG
32508	KCNK3	TGGGGGCTGGGTGCAGTGG
32509	BRCA1	AATGTGTTCTAAAACAGCAGA
32510	BRMS1	TCTTGGTGTCTGCTTTCTCAGATTC
32511	RARG	CCCTGACCCAGAGGAAGCCTCTATTTA
32512	DLEC1	CCAAAACAGCCTGAGCAAAAAGA
32513	NOS1	TGGGACCCCCTGTGGCCCTCGC
32514	NVL	AAGACAAGGTGAAGAGGATAATGAGTA

32515	NRXN2	GCCAGCTGCCCCTCCTGGGAGGGCC
32516	ARVCF	GCCTTTCTCCAGCCCATGCTGGCT
32517	FABP2	AGGCTGGAATGTAGTGGAGAG
32518	FCAR	TTCGCCAAGGCTGGAGTGCAGTG
32519	NARS	TTAAAAAAGAAAACAAAAA
32520	BFSP2	GCTGTAAACCAAAAGCCACTG
32521	ACAD8	CCTCCTGTCTGTGTCGTTCTCTGTG
32522	SUDD	CACCTCCACTCCGGCATCAGCAG
32523	C1orf1	GATTGCTTGAGCCTAGGAG
32524	AICDA	CCATGATCTATAGGACCTCCTAATGAG
32525	ELF3	TGAGCCAAGGAGGCTTGGGA
32526	BNC	CCAAAACAGCATTTTCAGTTC
32527	IL21R	TAAGAAAATATTTCTTAGCAACATTT
32528	SIAT6	GTGGGCAGGATCTCAAGCCAG
32529	HM13	GGAGAAGAAAGAGAAATGTGCA
32530	RENT1	ACGCACAGGCCACCTTCCTTCTGGCAGGG
32531	FACL4	TTAAGGTTGGGTGCTGCTA
32532	PPP1R3A	ATTGTTCAAAGATCCAGTGCAGT
32533	COX10	AACTTGTTACAGCCTTCACATT
32534	PTPN1	ACTCTTCTTGAGCAGACCGTG
32535	RAB3B	GCCCACTCTCCCTGTTACACACTGCCC
32536	TBL2	CTCAACAACACAACTTCACCCA
32537	ATP11B	CTTCCCTTTCTATAAGCTA
32538	INPP5B	CCGAGATCGTGCCATTGCATTC
32539	LOXL1	CATCCCTCCCTGCCGGCCTCAG
32540	PCDH1	TGGGAGGTGGGGCCTTAGTGCCTCACC
32541	ACK1	CTGTCAGGAAACCTACCTGAA
32542	CASP8	GCTGGTGGCAATAAATATTAGAA
32543	ADCY3	AGGGAGAATTTATTTTTTGAAA
32544	INPPL1	CCCCACCCCCGCTGGGGGTG
32545	CD83	GGAAGGGGATCCCACCCCA
32546	COL17A1	GCCTAGGAAAGCCAGTTACATA
32547	F2RL3	TGGGACAATGGGGGGTGGGGGTGG
32548	TBR1	AAATGATTGTACATAGTGTTA
32549	P2RY1	CCCAATTAAGTTGATCTTTGA
32550	WSX1	GACCAGCCTGGGCAATATAGCAAGACC
32551	TNFSF15	TGCGGTGAGCCCAGATCGCGCC
32552	MID1	TCGTAGAACTAGGGCTGCAGGAA
32553	CASP10	GTAAGGAAGGTGCTCACATA
32554	GPR85	GGGAGGCAAGCACAAACTAGGAAGA
32555	TCF1	TCCCCACTCTGCTCTGATGCATCAGA
32556	MSI1	GGGGACGGTGGCAGGAGCGC
32557	MAP3K7IP2	GAGTTTGAGACCAGCTGGGGC
32558	ALDH8A1	TCAGCCTGGGGGATACAGTGA
32559	HPS4	GCTGCCCTCTCTGGCTCAGGGG
32560	VIPR2	CGAGAGGGAGGCAGGTGGACGCTGC
32561	CYP11B1	TGCAGCCTGCCCCCTAGGCA
32562	CPNE7	CCATGCCTGGCCCTGCCTGAGC
32563	ARHGEF7	ATTTGGTTATCTTACTGGGAC
32564	RYR1	CCAAGCCCCTCCCCCTAAGGCAGCTGG

32565	WWP2	CCTTTGCAAAGTTCCAGAGG
32566	OSR1	TGCTTAAGTTTTGAACCAAATCCT
32567	UQCRFS1	TTTAGCTAATTCTAATTAAAAATTA
32568	PFKFB4	TCTGCCTGTGGGTCTGAGGA
32569	SRD5A2	CCTGGGTGGCTTATGAGAGAG
32570	SORCS3	AAAATTGAAGTTGGGTTGGC
32571	CALM2	CCGAGTGGAGAGAGCGAGCTGA
32572	MYCL2	TTCCCAAGCCCTGGCTCATGA
32573	DLGAP2	CCACTTCTAGCAGATCATGCC
32574	GPX3	GACAGTGACAACCCTTTCTCTCCA
32575	SMURF1	CCGTTCCCCAGTGGCTGTATCCAGCCT
32576	STAU	GGTTCTCCCGGGACACCAGCAGATCC
32577	MAPK14	AGCAGAGTGAGGATGTGTTTT
32578	LRP5	AGAAATGTGAACTGTGATGGGG
32579	TRPC6	GGGCCATCCTATCATCTGGAG
32580	E2F1	CCTCCTGCAGTGTCTGAAGCG
32581	GNA11	ACAAATGGTTTTTATTTCACAGTTAT
32582	SUFU	CACATCACACACCATCCCCACTGT
32583	TPMT	TGCCCAACCTGGAGTGCAGTGGTGCG
32584	DLST	ACACCCTACAAGTTGATCATGCAG
32585	KCNK6	CACTGCTGCACTCCAGCCTGCGG
32586	KLHL2	CTTTAAGTCTCAGCAGAAGATACG
32587	GYS1	GTGTGGCCCCGCAGTGCCCCCACCCA
32588	MGAT2	CCACTGCACTCCAGCCTGGGCTACAGA
32589	EYA2	TACGCTACATCTTGTTTTCT
32590	CMKLR1	ACTGCTTTCTGGGCAA
32591	PPP1R3A	TGGGAAGACAAAACAAGAATGA
32592	FMO2	CTTTATTATCTTGTCAGTCACTACCTC
32593	ETV5	CCGCCTTGTTGCCTGCTTTGT
32594	TNFRSF8	CCTGCAGGAAGCGAATTCGGCAGAAG
32595	MPP4	GCAACATGCATGTTTACA
32596	PPIF	ACAGAAGTGGCCTGTAAGCTCCT
32597	GALT	GACATCAGATCCTGGGCACATTCTTTT
32598	ADAM17	CCACTACACTCCAGCCTGGGTG
32599	SLC14A1	CCACTGCACTCCAACCTGGGTG
32600	ARHGEF12	CAGCTCTTTCCACACGGGGCCGT
32601	GRIN2A	GCCTGTTAGCACAGTGCCT
32602	KRT5	GCAGCAACCCAGCCCATGGAGA
32603	KCNMB1	GCTCTCCGAGTCTGTGTCTCC
32604	ESRRA	GCCCTCTCCTCCCCCTCCTAGGGGG
32605	GYG	TAGGCTATCTCAACACTGCT
32606	DLEC1	GCTGCCGGAAGTCATCCCAGTG
32607	PTGS2	TTATTTTTCTGTCATCAAACAA
32608	ARF4L	AACTATCTCCCCTTCCTCTGTCC
32609	CTSS	CCAGGAGGTTGAGAATGCAGTG
32610	FBP1	CCTGCAGCTCCGCACCTGCG
32611	TBL2	CAGCACATCCTCACACCCAAAGAAG
32612	GPR1	TGCTTTCAGATTAAAATTGTT
32613	GASC1	TTGGAAAAGAGAAGATGAAGGG
32614	ANKH	CCTGGTTCTGCTATCCTTAGTCA

32615	EVPL	GACAGCAGCCACTCAGTTCTTCCTCCA
32616	SMARCA5	GAGCCCCGCGGAAGAGCAGAACGTTTGGG
32617	GJB3	TGGGGCACTTACTATGTACTA
32618	DAP3	GGGCAGTACACAGGAAGAGGAGCCAG
32619	FZD10	AGCCCGTGCCCGGGAGCGGCGGCG
32620	BTNL3	TGAAGTGGGGACGGAATAGAC
32621	RAI14	CTTCCCTTATGGCAT
32622	LEF1	CCCTCTTTGTTTCTGCTTCA
32623	IL9R	GGAGCAGCCTCTACCCTCAGCATCCTGGCC
32624	ALOX12	CTCCCCTCGCCTAAGCTGCTGGGGGGCGC
32625	NUMA1	CTTCCACCAGGAGTCTGGAGTGCAA
32626	EGLN1	TTTATCTCAGTTTCCCAAAGGACA
32627	KLRD1	GCCCAGGCTGGAGCATAGTGGC
32628	SURF4	GCAAGAAGTCCTTGGGGAAGCT
32629	TNFSF4	CCCATGTTGGCCTCTGCAACCACACA
32630	PIN1L	TGGGGCTGCGACCTCCAGACTCTCCA
32631	VHL	CATTGTACTCCAGCCTGTGTGA
32632	MARS	GAAATGAGACTGTTCGTGAGTGATGGC
32633	ASNA1	GCCACTTGGGCAGGAGGCAGG
32634	NCALD	CATGGTGCTTTTCTGAGCAGATCAATA
32635	VHL	TGGCTAACACGGGTGAAACCCCGTCTCT
32636	HAS2	TTCATTCTGCCAAAGTAAAACA
32637	IL10	TGGGAGGCTGAGGCAAGAGAATTGCTT
32638	NUMA1	CTGGGTCCTTGGGCCTGGCCAGTC
32639	PAH	AACTATGATTCCAATTACTACTTTG
32640	FANCF	AATACCCTTTTTCTTTTAGTAT
32641	TERF1	GGAGGTAGGGTGGGGAGCGGGAC
32642	EIF2B2	CTTTTTCTAGGCTCTACCAATAA
32643	RNMT	ACTTTCTGTTGTCTACCTCAGGCC
32644	POU2AF1	GAGTTTGATGCAGGGAGGAGGA
32645	ATP2B3	GGTGCAGCCTGCCACAGGCTCCTCATC
32646	C1orf1	CATGCAAATATTATTCTGGGCT
32647	TNFSF12	GTGTGCTGGCCCTGCGCTGC
32648	BCL11A	CAGGATTTGAATTTGTCTTTTA
32649	DDX26	CTGGGACACACACAGGGGCCGG
32650	GFER	ACGTTAAAGGGAGAGCCAGAGAA
32651	XKRY	GAAAATCATCCAGAAGCACTGTGA
32652	GCG	TGTCTTAAAAATACTCAGCTTTC
32653	CDKN2B	TTCCAGGGGTCGTTTGCTTTTC
32654	PRKCD	TCTGCTGCTGGCCCCGCCCCTG
32655	CLCA3	TTGCAACTGCTCACATGAGTC
32656	SIP	GGAGTTTAAGGCTGCAGTGAG
32657	SLC9A3R1	TCCACCCCACCTTTTTCCTTCT
32658	MSL3L1	GTTGCCCACATACTGCAGT
32659	ATP2B4	AGAAGTTGAGACAGGGAGGCAGG
32660	HRH1	TGGTAGCTCAAGCCTATAATCCCAG
32661	MAP3K7IP1	GTCCCAAGCCCACCCCTCCTCCCACC
32662	DAAM1	AGAGCCGCCTTTCCAGCATGCAGGG
32663	ELF3	TGCAGACAACACCTTCCTCCTGCA
32664	KCNJ1	CACCTAGAGTTTGTACTGGA

32665	IGF1	TGCCCAAAATGCACTGA
32666	WIF1	CCATTATTCCAGAGATTCAGTATTA
32667	CALM1	AAGTGATTAGTTGAACTGGCATCCTGCT
32668	SUV39H2	TTTGGGCAAATCTACAGTTCTGTTT
32669	KLK5	CCCCACCCCCTACCTGGGGGACAGGGC
32670	AMPD2	GCCTTTCCGGTCCTTCCTGGGCA
32671	DMC1	GGAGGTCGGGCGGGGCAGAGGGG
32672	SEPN1	GAAGCCCCAGCCAGGAGG
32673	GORASP1	CCTGCACTCCACCTGGGGACGGCCCC
32674	CSNK2A1	CATTCCCACCATTGTTCCTCCACCG
32675	DRG2	CTGGGGCAGGGACTTTTGAGTTTAG
32676	MHC2TA	AGGCACCCACCATCATGTC
32677	CARKL	TCGGGAGGCAGAGGTTGCAGTG
32678	WHSC1	ACCCTCCCAAAATGCTGGGATT
32679	PCDHA9	GAGATTCTGAATTCCAGAA
32680	KRN1	ACAATCAAGACATACCTCCAGG
32681	PTGS2	GCAATGACCTCATAAAATACCTCTT
32682	EYA3	CAGGAGGTAGTGGCAGCCATGG
32683	ANXA8	CTGGGAGCCCTTTTGTTTTAGAACACAC
32684	GAS2	GAGTAGCACTATTTATTTTTAATGCTTCTG
32685	RET	TGCAGCACACCCCACAGCCAAGT
32686	TRIM14	TTCTCCCTCGTACAGCACAG
32687	CASP7	CCCAATGTTTGACAAAACACAGCCAAG
32688	DAP	GCACAGCCTCACACTTGAAAGACGGTG
32689	NEBL	TATCCTTCCTTTGACAATTAGACA
32690	GNB1	TGGGACCCCCCGCCCCGCCCCCCGC
32691	COX15	GAGTAGCTGGGACTACAGGCACAAGTC
32692	GGA3	GCTGTCTTTAGCAAGCAGGTT
32693	ADRA1A	GGAGAGGGTCCCCGGCAGCCCCGCGC
32694	ACVR1B	TGGTGGCATAGGCCTGTAATCGTAG
32695	GJB2	ATTTCCCAACACAAAGATTCTG
32696	ATP2A3	CCTGTACCCACCTGCTGACCTGCT
32697	BMP1	AGATAGCTGCATTACTCACTTG
32698	RPS3	GGGTCTCCTTGGCAGCTGTAT
32699	F2RL1	GAGAGGCTGACTTTCTCTCGGTGC
32700	EHF	AATGGGGACTTCCAAAACCCAAGG
32701	TNFRSF10B	TCCCAGGCTGGAGTGCAATGGTGCA
32702	RGS6	CATCCTGACAGGCACAG
32703	SLC2A5	AGCTGGGCTGTCTCTCTCCATGTTG
32704	SLC21A9	TAGCAGCCACAGCAGTACCT
32705	P2RY2	ATGAGGATATGGCAGGGAAG
32706	TNFRSF11A	TCATTTTTCTAAAAGAAAGAAAAAAG
32707	SLC14A1	ATTGCACCACTGCACTCCAACCT
32708	SIGLEC8	TCTACAGGACTCCCCCATCTTGCT
32709	MCL1	TAGGGTCATTTGAAAGCTTCAGTCTCGG
32710	XKRY	CAGATACAAATGTCTCTATCCAA
32711	RAG1	ACCCTTTACTGCTGTGTATGGG
32712	STAT1	CCAAAACTGATACCCTTTGAA
32713	HIPK2	GGGAGAGAAGGAGGGAGGCGCTCCTGG
32714	NR3C2	CCGGGAGATAGAGGGGTTTTAGAT

32715	TNFSF9	CTTAGACGATCCTCCTGCCTCA
32716	PDE4A	GCCAGCCTCGGGCCTGGGATTTGAGG
32717	MAP3K7IP2	GTCATGAGCAGTTGAAATTCATC
32718	STAT3	CTGGGAGGGGGAGCCGGGGGTTCCGAC
32719	GPRK7	CGGGAAGGGAAAGCAGCCAGCAGCCCT
32720	NCALD	AGCAGGTGGTAGTGGGACAGGA
32721	OPRM1	GCTACCTCTGATCAAAGCACC
32722	SNCG	CCTGCGAGCTCCGTCCTGCCTGCAGC
32723	CFL1	TCTGTGCTTGTCTGTTTAGTT
32724	ZNF217	ACCATAAATCTTA
32725	NUFIP1	CATACAGCTAAAAGGGA
32726	ADCY6	ACTATCTCCTTCCTTCCCTACC
32727	PLCG1	ACTTCTGGAGATGGATCCTT
32728	LDLR	CAGAGTTGTACACTGTGTACA
32729	GYS1	TGAAGGTAACTGAGAGCAGATGG
32730	PTK7	TGGGAAGGCTAGACTTCCTCAGCCCGA
32731	LUZP1	GTTCCTTAGAGAACTGTTGAA
32732	SCNN1G	AGCCATGGTCTAAGGACATGGATC
32733	POLG	GACCGAGGATTTGGGGTGGAAG
32734	CLN6	GGAGAGGGCTGGGTGGGGCAGAGGCCA
32735	LANCL1	CCTGAGTCATGTGGCTCTCT
32736	PRKR	GCCCAGGCTGGAGTGCAATGACAC
32737	KIF3B	TTGGTCATTAGGTGAATATTACTCA
32738	FKBP1B	TCTGTTAGCTGCTCACTTAAACAATGTC
32739	GPR92	ACCATGTCTGTACAGCCTCTAGGCCC
32740	CYP8B1	CCTGCCCATCCCAGTGCCAGCT
32741	TEGT	CAGACAGCTACCCCCAGAAGGG
32742	ABCC5	ATTTTGATTATTGTATTTA
32743	WNT11	AGGTCTGGCCACCCTGGA
32744	ATF5	TGGGACACTACGCTAAGGGAGG
32745	DCLRE1C	CCAGGAGATTGAGGCTGCAGTGA
32746	EVA1	TTCAATGATCTATAACAACAGA
32747	AHR	TGTCTTTAAAAACTGTTTTAGACCTA
32748	MCCC1	TAATTATCTCAAAATATTTCA
32749	MAP3K8	TGCAAAGCCAGGAGTCTGACT
32750	HYAL3	CATGGAGAGGTCACAGATGGGCCG
32751	GTF2H1	TATATGTACATGTGTATG
32752	BAZ1B	TGTAATAAATTGGAATTTCA
32753	LANCL1	GCAAGGGAAAAATAACAGTTTC
32754	NAPB	TATGTATGCTATCTTGATTCATG
32755	ITK	GTTCTTCCTTTAATTATCATTCCA
32756	POLH	CGCCTGTAATCCTAACACTTTG
32757	EVA1	CGTCCGGTCTCTGGGGCCAAG
32758	EXTL3	AACTCACATTCTCTTCCCA
32759	DMXL1	GTTGAGCAAGTTGCAGTGCAAA
32760	PYGB	TGTGGAATTGCCGAGAAATC
32761	ANK1	CACCCCGGCCCGGCCTCCAGGC
32762	MJD	TTTAGCGGTTTGCAAACAAAATGATGGGAA
32763	ANKH	TCCAGACCCTGCCGCATGAC
32764	ZNF41	TTGAGCTCCTGGAAATAGTAG

32765	UBE2G2	ACTTCCTTTCTTCCTTCATATTTT
32766	LHX1	CCGTTCCCGCCGCCGTTCTCGCTGACC
32767	CALB2	GTTCCATCCACCACCTTGCCA
32768	RAD18	AGACATTTGATTTCTTTATGAGTTCC
32769	KLHL3	AGAACAACAAGGTACCCAGAATTTT
32770	MPL	TGTCACCCAGGCTGCAGTGCAAT
32771	PSCD3	AGGACAGCAGCTTCCGCTGTCT
32772	ASK	GACTGGGTGACAGAGTGAGACTC
32773	ZNF261	TCCCCTATCATAAGAGCTAGG
32774	FHIT	ACCATCCTGTATTCTTCAACCAGTGA
32775	LAIR1	TTTCCTGAGCAGTGATGCCACCT
32776	NOX5	GTGTCCCAGGGCCTGAGGCAGGA
32777	CAV2	CGGGACGGCCGGGCTGGGAGCTGG
32778	USP6	CTCCAGGCTGACTTGGGGACAG
32779	FANCC	AGGGGCAGCCGCAGGGAGGCAGG
32780	GPR81	CTCTGCCTCCCGGGTTCAAGCAATTC
32780	PPID	CTCTGCCTCCCGGGTTCAAGCAATTC
32781	TNFRSF11A	AGAGACACGGTCCCACCATGTT
32782	PAFAH1B1	TACACATCAACCTCCATGTCCTTA
32783	PMCHL1	CTCGTGATCCACCTGCCTCGG
32784	GRAF	GCAAAGTTTTATATTTGATATTCTT
32785	TNXB	GGAGTCCAGAGCAGGAGCCAGGC
32786	CBFA2T1	TCTCCATCTGTCTCTGCCTGGC
32787	SAS	GTCCATATACTGGATCACCTCA
32788	SLC25A11	GTTTCAGGGCACACAGGACAG
32789	MAFF	GACCAGCCTGGACAACATGGTG
32789	ZNF74	GACCAGCCTGGACAACATGGTG
32790	ADD1	TGCTGCCTCTCTTCTGTGT
32791	XPR1	TTATGAAACTTAACCATACAGAA
32792	SWAP70	CTGTGGCTGCGGAGGTTGAGGGG
32793	L1CAM	AGGCCCATGGGAGGCTGGAGTTG
32794	SLC15A1	CCAAAGTGCTGGGATTACAGG
32795	CRYM	TTATGTTTGTAGTTGGAAAGCA
32796	APBA2	TTCTTGTGTCTGGAGATTCTG
32797	SLC7A6	CCATTTCTTCCTCTGGCTCA
32798	TNFSF10	GATCTTTCAGGACTCTACCTCA
32799	DPP4	CTTCACAACAGATTATTACCT
32800	XRCC2	GTCTCCCAGGCTGCTGGAGTGCAGT
32801	CASP6	AGGAGGTGGAGGCTGCGGTGA
32802	AUP1	CCAACAGCCCTAACATTTGCCA
32803	PSMD5	AGACCAGCCTGGCCAATATGGC
32804	MHC2TA	AGGCTGGCGTGCAGTGGTGCGAT
32805	TGFB3	GGTTAGACGCCTTCCAGGTCAGGA
32806	HIVEP3	TGACATCCTTCATGACGTTTTCC
32807	SHOX	TGTCGCCCAGGCTGGAGCGCAGT
32808	EIF5A2	ATTCTATAAACTGAATTATTTTAA
32809	PDE6B	GCTCTGTCACCCAGGCTGGAGTGCCGT
32810	LZTS1	GCTCTGTCCCCCAGGCTGGAGTGCAGT
32810	RPP30	GCTCTGTCCCCCAGGCTGGAGTGCAGT
32811	KRT4	CCAAGCCCTGCTGCTCCAGGACATATA

32812	PCDHGA1	GCTGGGTACTCCAGAGGTGCCAC
32812	PCDHGA10	GCTGGGTACTCCAGAGGTGCCAC
32812	PCDHGA11	GCTGGGTACTCCAGAGGTGCCAC
32812	PCDHGA12	GCTGGGTACTCCAGAGGTGCCAC
32812	PCDHGA2	GCTGGGTACTCCAGAGGTGCCAC
32812	PCDHGA3	GCTGGGTACTCCAGAGGTGCCAC
32812	PCDHGA4	GCTGGGTACTCCAGAGGTGCCAC
32812	PCDHGA5	GCTGGGTACTCCAGAGGTGCCAC
32812	PCDHGA6	GCTGGGTACTCCAGAGGTGCCAC
32812	PCDHGA7	GCTGGGTACTCCAGAGGTGCCAC
32812	PCDHGA8	GCTGGGTACTCCAGAGGTGCCAC
32812	PCDHGA9	GCTGGGTACTCCAGAGGTGCCAC
32812	PCDHGB1	GCTGGGTACTCCAGAGGTGCCAC
32812	PCDHGB2	GCTGGGTACTCCAGAGGTGCCAC
32812	PCDHGB3	GCTGGGTACTCCAGAGGTGCCAC
32812	PCDHGB4	GCTGGGTACTCCAGAGGTGCCAC
32812	PCDHGB5	GCTGGGTACTCCAGAGGTGCCAC
32812	PCDHGB6	GCTGGGTACTCCAGAGGTGCCAC
32812	PCDHGB7	GCTGGGTACTCCAGAGGTGCCAC
32812	PCDHGC3	GCTGGGTACTCCAGAGGTGCCAC
32812	PCDHGC4	GCTGGGTACTCCAGAGGTGCCAC
32812	PCDHGC5	GCTGGGTACTCCAGAGGTGCCAC
32813	MTMR4	AGACTCTGGGCTCTTGGCTCAG
32814	TNFRSF10D	GTCATTCTTTGCAGTTCTTC
32815	BTG2	CCTGCTGTTGCCCCTTAGTGAGGAATC
32816	YWHAG	TTGGGTACTTTCTATCTCATCT
32817	LTB4R	TTCACATGATTCTCCTGCCTCAGCCT
32818	KIF1B	CTCCTTGTCCAGCACTTTTCTAGCTCT
32819	CLASP1	GGAGTTACAGAAGCCATT
32820	RAB6A	ATCATTAGCCCACATACCA
32821	MMP19	GCAGGGATCCAGGCTCTCT
32822	MECP2	TCTTTAGTGATCAGGAACCATAGTTGA
32823	LAMC1	AAACTAATTCTTACAGCTTTT
32824	NCOA3	GTGTATCATGGTGTTCAAAACA
32825	SPARC	CGGACTGTCAGTTCTCTGGGAA
32826	LAMA4	GCGCAGTCCCCAGTCCCGAA
32827	GABRP	TCATTCTGTCATTGCTGCTA
32828	G6PT1	TCCTAAGTCCTCTCAGCAGTGGGT
32829	SYP	CCCTCCTTCTCCCCTCCAGACC
32830	COL6A2	GCAGCTCCCAGCCTCTTCCCA
32831	DSCR4	CATGGCAGTGGAAGGGTTT
32832	SFRS7	GCTGCTTGCTAAAGAGCCGAG
32833	RPS6KA2	TGCCTCTCGGAGGAGCCTGTGTC
32834	ATP8B2	CACACAGTTTACAAACCCAGT
32835	UBL1	CCAAAGATGGCTTCACTGAAGA
32836	CST	GTCATCCAGAGCTGGAGTGCAGC
32837	CPM	GGAGGCTGAGACAGGAGAATCGCTTGA
32837	ROCK2	GGAGGCTGAGACAGGAGAATCGCTTGA
32837	SUDD	GGAGGCTGAGACAGGAGAATCGCTTGA
32838	MYCL2	TCCTCCAGGAGCTCTGCTTA

32839	NDRG2	CCACTGCATCCAGCCAATAGGAGCCCA
32840	DPYSL3	ATGTAGGAGGGAGGTGGGTGG
32841	HYAL1	GCAAGTCCTGTGGGAGATGGCA
32842	CCKBR	CCCAACGCACAGGAAAAGGTAGCTTA
32843	SLC6A3	CAGGCAGCCTGCAGACC
32844	KCNC4	GGTGACAGCAGATGGAGCTACTTGGG
32845	ILK	TCATGGTACTACCCCAGCCTGGGGTCCATC
32846	DNMT3A	TCAGGCCCAGTTTCTCACTT
32847	CAMK2A	TTCTACTCTTCATGCCTCATCCTGCAGC
32848	DUOX1	CCATGTGTGGGCTCAGGGACCCCCAGG
32849	NT5M	GCCGTCTCCACTCCCTAGGCAA
32850	FCGR3A	GTGTGGGAACTGCTGGGGATCT
32851	SIGLEC11	CCAAGGTGCTGGGATTGCAGAC
32852	HK2	CAGACCCCTTGGCTTTTGCTTGGC
32853	HLCS	CACTCACTGCAGAGCTGCTGCCT
32854	GCA	CTGCAGCTGCGCCTCCTTGCACCTG
32855	PCOLCE	TCAGCTGCTGCCTCTGTCTT
32856	ATP2B1	GAGCTTTAGTTTATCTCAGTCCTGGA
32857	ALPL	CAGGGTCCCAGGAAGCCGGTGCCTGGG
32858	TEM8	CCAGCTCCAGTTGCTCAT
32859	ADCY1	TCCCTGCTCCTGTGCTTTCCTCTCTTC
32860	SERPINB9	TGTTGCATAACCACCACCTT
32861	WHSC1L1	GTGTCCCCTCCTTTCTATTTA
32862	SFRS2	GAGGTAAAATTTCATTTTGTTAT
32863	SUFU	AGGGTCTTTGTGGACTGAAGGTAGACAC
32864	HCK	TGCCCAGGTGGTGGCTGCAAGGTGGC
32865	UCHL1	CTGTTCTTCTGTTCTGCAGACACGCCTTC
32866	KAI1	CCGGGAGCGGAGGTTGCAGTGA
32867	DLGAP2	CCTGTCCCTGTCTTCCTCC
32868	PTPRO	TACTATTCAAGCTATAATTCA
32869	COL6A1	AGCCTCCCTCTCCTCTGTC
32870	WARS	CGTCTGCTGAACAAATCCTCT
32871	HUNK	TGTCAGGGTGTGAGCACTCCAAGGC
32872	SLC25A1	AAGGCAGAATAAACCGGATCCT
32873	C7	AGGACTTGAACAAAAATGACAGA
32874	LFNG	GCCTTTCTCTTCCTGCTGACC
32875	ABCC3	CCTTTGCCAACTTTCTCTGCAACT
32876	UNC13	GGAACTTGTGCCTGGCTGGCTG
32877	CD68	ATCGCTCCCACTGCACTCCAGCCT
32878	BLAME	TCTGATGCTTCCTGAGGGCCAAG
32879	PROK2	CACTTGAAGAGGAAGTAT
32880	PLAGL1	TAGCTTCCGTGTTCCTTGCCTTGT
32881	BSCL2	CCTGACTCCTCTCCCCTCGTTTTTCC
32882	GATA6	CTTGCTGCTGTTCACTGACCTC
32883	GNAZ	TTTCTTCTACTAGTCTGATGTTTT
32884	MAFF	GCTCACATCTGTAATCCCAGCA
32885	RB1	ATACTATCATACTACTGAA
32886	GRLF1	TTCCCTGGCAAACAAAGGAACA
32887	MGST2	TTCCCTTTAATGCTTGCAGAAGCTG
32888	EPHA2	TTCCCAAGCCGACCTTCCCTCCGCCT

32889	PLXNA1	TTAGGGGAAAAAATTCTGCTGCA
32890	GSTP1	CCGCAGTCTTCGCCACCA
32891	PPARG	CTGTGAAAAAGCATTTTA
32892	ZFHX1B	AGAGAGGGACAGAAGGGGCGGT
32893	PTGFRN	CTCCACCCACCTGCCCCATGTC
32894	CASP8	AGAGGTCCAAGGCTGCAGTGAG
32895	FABP5	ACCCCTCTCTGCACGCCAGCCCGCC
32896	ANGPT1	TGAACTGTAGTACATGGACAATAA
32897	CBFA2T2	GCCTCACCCCTGAATAGCTCCTTCG
32898	HPGD	CTCCATAAATTACTTAGTC
32899	B3GALT3	TTTTCTTAGCTCCCTGGACCCG
32900	SLC14A2	CTTCCCTTTGGTCT
32901	CNR1	GGAGAGCTCTGCAGGGAGCCGAGGCCC
32902	STUB1	CCTGGCGTCCTGGTCCAGGGGAGCCCTGGGC
32903	ALPI	TCGCCTCCCTCCTGCTGC
32904	ZNF36	CTAGCAAAACTCCATCTCA
32905	EIF4A2	CTCAATGCTCATAACGGATCAG
32906	UTY	TGCCTCAGCTTTTTTCCTTGCAG
32907	AIM1	GATCGACTCCTCCTTCATTGA
32908	RAB36	ACGATCTTGGCTCACTGCAAGCT
32909	SLC21A2	CACCTGGGTTTGGCATCAGCACAG
32910	RB1CC1	AATAAGAAAGTATACTTATGGA
32911	PUM2	AACAGGTTTGATCTGTGGATGA
32912	BRIP1	AATTCATACAAAGTATTGTCCTCA
32913	RGS14	AGCTACCCAACAGTCCAGGAC
32914	RASSF1	GGTGGAAGGCAGACAGCAGGC
32915	JAK3	GGGATTACAGGTGTGCACCACC
32915	PIK3CD	GGGATTACAGGTGTGCACCACC
32915	SAS	GGGATTACAGGTGTGCACCACC
32916	AKAP13	AGCTGCCTCCTGATCCTGGCCAGC
32917	CSE1L	CTACACAGAAATAGAGATGCTAT
32918	GRIN2C	TCTTCCATGGTCATCAGTGACCTC
32919	TK1	AGGCTTAGGCCTCTCTGCCT
32920	RGL	AGTAAATGGAATCAGTCCTGGG
32921	A1BG	ACCCAGGCTGGAGTGCAGTGTTGCA
32922	ABCD2	TTTGGGTTGATACCAAGTGCA
32923	CCND2	CGTGCATGCTGTAGCTGCAGCCT
32924	UNC5C	ACAGAGAAATCACAGACTTTTGCTACA
32925	PKHD1	AACTTGATAATGGTGTAATACT
32926	TNFRSF10B	AGGCTGGGACAGAGGCAGA
32927	PRex1	ACCACACGTGTCTCCTCCTCC
32928	WSX1	ATTGCACCACTGCACTCCAGGCT
32929	TCEA1	TAACATCCCTTCCTTAAATGCC
32930	ILF1	CTTTCTGGCTATTTTTTGTT
32931	MAPK4	GGACATTCTACCATTTCTGCCA
32932	EFNB1	CCCTCGGGCTCGATCGCCCG
32933	KIF3B	GATGGGACTGGAGTTGAGGGAA
32934	ADAM2	TTGACCAGAAAATATGATATATATGTA
32935	PRKCH	GGGGCGCTTAGGCGCTGCCTTT
32936	PAM	TGAACAAATGACATCAAACTTG

32937	HD	GACAGCAGCCTCCCTGTCACTCAGCTGA
32938	ST7	GCTTACCTCTCAGCCTTAGCTC
32939	RGS2	GAAAGAGACAATGTAATACTGTTGG
32940	SLC7A5	TAACCTGTTACACTGGGCTGG
32941	SCN3A	AAAACCAAACTCTTATTCTCAG
32942	PCSK1	CTAATGTAATAATAGAAAAAT
32943	KIF3C	TGCTCCTGCCTGCTTCG
32944	FGF2	TTTAAAATATTTTGCTGCTA
32945	RANBP3	TTCCTTTAAAGAGAGGCTGTC
32946	TFRC	CTGAGATATTTATTGTTTATTTATCAG
32947	APLP2	TTGTCTGACACATGCTCTCAA
32948	ARNT2	TGTGGTCTGCTTGTCCTTCAGCCCAT
32949	SOX4	GTGATGAAGACAGAAGGCTCCG
32950	SERPINB13	TCCTCACCAACATCCAGGATTGTGTCT
32951	CD80	TTCCTGTATTCTACAGCA
32952	FAAH	GTCCTCTCCCCCAACCCCCTGCAAGAA
32953	RBP3	GTTACAGCTGGAGGTGTGTAT
32954	IL16	GTCCTCTGGGTAGGAATCAGCAAG
32955	PPARGC1	TGGCTGTAATGAGAACTTCAATCACTG
32956	BAZ2A	TTGCCCAGGCTTGAGTGCAAT
32957	CBFB	TAGCATAGAGCTGTCTGCCACA
32958	NRBP	CAGCCCTCCTGTCCCTTCCCCCCAGTCA
32959	BCL2L2	AGAGTGAGCAGGACACAGAGGGGA
32960	TRPV3	GGCCTCCCCTGCCTTTTCTCCG
32961	ZNF216	ACCCGGCTTTCGCATTTGGGAC
32962	IL18RAP	AGTTATTGGAGTGATGACAGGAA
32963	SLC6A6	CTCTCAGCCTGGGAGACTCCTGCCAAGC
32964	ARHGEF7	TGCCCTTTAACTGCACCTG
32965	GTF2H1	TAGCTTCCACCTGCACCTTC
32966	DMN	AGGACAGCTGTAGTCTGTTGTG
32967	SIM2	ATCACATCACTGCACTCCAGCCT
32968	CASP8AP2	AACTGATATTGCATACTACACA
32969	IRTA2	TGCTCACAGTTTGTTCTGGAG
32970	AGTR2	GCATCATTTACAAGACAACATTGTA
32971	NOV	AACTGATGAGTAAACTGAGGCCC
32972	POMC	CCTGCCCTGCTGCCGCCTCCC
32973	BCL11A	ATCACCCTACATTCCAGCATCTTAC
32974	ADRA2B	CGCCCCCAGGTGGGGTACTGGCA
32975	INPPL1	TTTGCAATGCCCTAATTAGGGCAT
32976	MKI67	TCATCCAGCCATATGCCTGTGGA
32977	KLK13	ATGTTTCAGAAGCATTCAGGCA
32978	GFRA2	GCGGAAGGGACTCTGGGCTGTGCCTG
32979	FER	GACTTCACTGCACGTTTTCTC
32980	CSNK1G2	TTCCTGCCTCTGCTCCGACACCCGGCA
32981	PEX14	GGAGCCCAGGTAGGGGGCAGAGCTGTCCTCAG
32982	TNFSF10	ACCTGTAATCCCAACATTTTG
32983	SCG3	TCATAACAAAAGCTACAGCTCC
32984	DBH	AACAGCCCTGCACGCCCAG
32985	GBP1	TGGTACAATGATCAAAATCATGTTTT
32986	SLC4A10	AGTTAGTTTGAAAGCATTTT

32987	STXBP2	GGAGGACATTGCCCTGCCCTGCGC
32988	BBS4	ACGAGGAGCCAGCAGTTGA
32989	P2RY6	AGCCATGGAGAGCTGGGGAAACCACAT
32990	KRT8	GCTCAGCCCTAGCCCTCAGCCCACC
32991	NDRG3	AAGCTCAGGGTTACACAGTTCCA
32992	ARHGAP6	GGCCCTCGGGACTGTCCTCG
32993	INPP5B	AGAGGAAACGAGGTGAGCAGAGGAC
32994	CPM	AGGCTGAGACAGGAGAATCGCT
32994	LEP	AGGCTGAGACAGGAGAATCGCT
32994	ROCK2	AGGCTGAGACAGGAGAATCGCT
32994	SUDD	AGGCTGAGACAGGAGAATCGCT
32995	SSTR3	GAGTCTGAGGCTTCCATCCGGGGA
32996	NEU1	AGGGAAATCACTTCCTTTA
32997	SCML1	GGCACCAATGCCTTCTTAGTGTGG
32998	PTCH	AGTGGCAGCTCCTGTTACTCCC
32999	PCDH1	TCTCCACCCCTTCAGCGTGGACTTCCT
33000	ADRA2B	GGGAGCTGGGCCAGGAGAGGGACTGA
33001	P4HA1	TAGGAAACAAATGCCTTACAG
33002	MUC4	GGGACCCCCACATCACCACCTTGGAT
33003	GALNS	GCCTTCCACTGAATACACGATTG
33004	SURF6	GCTCAGAATTTGGAGGGAGGG
33005	ADCYAP1R1	CAGTGGGAGGCCAGTGGTGCTGGCCA
33006	UBE2L3	CTTTGCAGAGTCAAGCTCCA
33007	RABIF	GTGGCTGCAGTAAGCCAAGATCACACC
33008	HOXD9	CCAAGAATGAAGGCAGAGCG
33009	AQP6	TGGGGCGCAGAAGAGAGGGGAGCCCT
33010	ATRN	CTGAACTTGTGGTTCATTCTCA
33011	CD72	TGTGCCCCTCCTTCCTAAC
33012	KIF5C	AACAACCAAGTGCCGTGGA
33013	TDGF1	GGTTCACTGCAACCTCCGCAT
33014	GLRX	CAATTGGAGAAATCATATGAAAA
33015	COPA	AGGAGGTGGAGGTTGCATTCAACTGA
33016	GPR92	CCCATGACCTCCCTCTGCTTGT
33017	UBL3	TTCTGTGTGTTCTCAGATTATATAT
33018	SLC22A7	CGCAGGACGCCGCCTCACGCAAGCCGGG
33019	CROT	TCAACAATCCAAATCTACA
33020	IL24	TCTTTACCCCTCACAATCCTTGCCA
33021	ZNF74	GCTGCCCACTCCTCCTGGG
33022	ITCH	AGGGAGAGCTGTGGTACT
33023	CDC6	CTGTTGCCCAGGCTGGAGTGCAAT
33023	PMCHL1	CTGTTGCCCAGGCTGGAGTGCAAT
33023	PRKR	CTGTTGCCCAGGCTGGAGTGCAAT
33023	SAS	CTGTTGCCCAGGCTGGAGTGCAAT
33024	CDH16	CCTGACCATGGTCCCTGCCTGGCTGT
33025	TYRP1	TAGATTGAGTTATTAACTGTAT
33026	SLC21A2	CCACAAAACAGCCAGTCAGGTT
33027	MAGEA9	AGCTCCAGGAAGCAGGCAGGCCT
33028	SCD	ATTATTTCTTCTCTTATCCTCTCTCT
33029	HTR4	CCTGCCTGCCTTTTGGCTTTGTTTC
33030	FAAH	GTTCCTGCCCCTTCCTCCTCGTA

33031	UBE2A	GTGTTGGATTTAGAAGTGAAT
33032	MAFF	CAACAAAACTCAGCGCAGC
33033	APPBP2	CATTGTGATATATTCTGTACTT
33034	CUL3	TAGCAAGAGGTCACAGATGCT
33035	DNAJB1	CTCCCTTGATGGTCTGGGAGCCTG
33036	WHN	CTGGGGCAACTGAGAGCTGAG
33037	PRKY	CACAGGCAGAGTGCCTTGGCAGGTTTG
33038	RUNX1	GCCGCCTCCCCTCTCCTGGGAGCATTC
33039	FSTL1	GAATGTCTTTCCTTTACACCT
33040	CLECSF11	CTCACCCTCTTGTTACAGCAGAT
33041	SLC4A7	GTCTTAAAATGCTTTAGTTTC
33042	LAMC2	GGGGTTAGAGAGAAGGCAGGTTGA
33043	WBSCR5	GTGTTGCCTAGGCTGGTC
33044	SYNGR1	AGGGAAAGAGGAGGAA
33045	SMAC	GTTGCCCAGGCTGGTCGTGAACTCCTG
33045	TAF11	GTTGCCCAGGCTGGTCGTGAACTCCTG
33046	DSS1	TCCAGAAGAAGTGTTGAAGTA
33047	SLC21A2	TGTCAATGTCCAAACAAAGTCCAATGC
33048	GAD1	TCCAACAACTCCAGGAAAACTGTTT
33049	NEURL	CCTTCTCTTTCTTCGTTCCCTGCC
33050	ICA1	ACCAGCCTGGGCAACAAAGTGA
33050	TSN	ACCAGCCTGGGCAACAAAGTGA
33051	ICA1	TGTTCTCACACTGGTGGAGGAG
33052	GALNT7	GGGGAATACTTTTACTACTCAG
33053	APXL	AACTCTGTATCTAGTTGT
33054	ATP2B3	TACCTCTTCAGTGTTTTCCTCCAGTCC
33055	IPF1	TCCTCCTCTTCCTCTGGCATCA
33056	MKLN1	TGAGCTGACAGTAAAGCTGCAGTG
33057	SGCD	TTCTTATTTGTAAAATGCAGAG
33058	PTGIS	TCTGCTCCCAATTCACCTCGTTACTC
33059	EMS1	CTGAGGTGCATTTTCTCATCA
33060	IDH3G	CTCCGGACATCGGGGGCCAGGGCACA
33061	ASIP	GGCGGGCGGAGGTTCCAGGAG
33062	SLC22A1LS	GTTCTGCTCTCTGCAGCA
33063	JAM2	ATTTTCATGACTACTAACTCA
33064	NOL3	TCTGCCCTTAGGAGTCCAGGCTGCA
33065	PIGK	TTCATTTCACAGTCTTCTAT
33066	NRL	AAAGGCCTGAAGAGTGAGCTCTGGGGG
33067	GAD2	TTCCTTTGAGAATTGTGCGACTT
33068	STAU2	GTTTAGATTATAAAATGAAAAAGAA
33069	MYCN	GTTCATGTTTGGTGCATAGAACTGGG
33070	STAC	GCCAAATTGGAGTCCATTCTTCT
33071	DCX	TGTCACCTAGGCTGGAGTGCAGT
33071	SIGLEC8	TGTCACCTAGGCTGGAGTGCAGT
33072	INPP5B	AAAATATAAAAATTAGGCCAGG
33073	SLC10A2	TATTGAGAGAAACACCAAGA
33074	GALGT	GGGGTGAGGGCTGGTGGTTGG
33075	PITPNB	CTCCCCCACTGGAGTGATTTCAGT
33076	SIL	TAGCCCAGGCTGGAGTGCAATGGCAG
33077	CHRM3	AGGTTGTATCAATAGCAGTGA

33078	CBFA2T2	CGGAGCCAGTGTGCCATTCTCTG
33079	BCAS1	TGGCACACACCTGTAGTCCCAG
33079	ITGAL	TGGCACACACCTGTAGTCCCAG
33079	MAP3K7IP2	TGGCACACACCTGTAGTCCCAG
33079	PPP2R1B	TGGCACACACCTGTAGTCCCAG
33080	MYO1E	TGGGCTTAGCGTGAGCAGGCACTTCC
33081	CASP8	GGGAGAGAACAAAAGCTATACCAAAAG
33082	DSC1	AGGACTTTTAAGTATTCTTCAGTGC
33083	KAL1	TACATGGTTTGAAATGTGCATAG
33084	ANK1	CCCACATACCTCCATTCC
33085	P2RX7	GACCAGACTCGCCAACATGGTG
33086	LAMP2	CCATTGCACTCCAGCCTTGGGCGACAA
33087	PCDH11X	TTCAGCACCAAGTTATTCCCCCC
33088	EHF	GCAGCCTGCTGCCTCCCCTCCATC
33089	DIAPH2	AACTCCCAGGCTCAAGGGATC
33090	TNF	GGACCTTAGGCCTTCCTCTCTCCA
33091	F7	GACTCCATGTGTGCTGTCCTCTGAAGG
33092	CHES1	AATTACCATTGCTTCCTCCAG
33093	PAX3	ACATTCTTCTCTTTTCTA
33094	IL12B	ACAATCAGCTAATTTATGTATAGATTT
33095	VIPR1	TTCCTACCCACACCTCTGCCA
33096	PPIC	CTGTCCCAGAGCCTGTGTC
33097	EFNA3	TGTCTTCTGTGAAGACAGGAC
33098	RAB30	TTTGAAAAGTGTTATTTCTCTTGTCCA
33099	ALDH3A2	CTCAAAGCATCTTGTAACCTAGGGCTT
33100	MTM1	ATGTCGGGAGCATCCTGCTGC
33101	HS2ST1	GACAGTTTTTGTAGCTTTCTATTGAG
33102	BACE2	CTCCCAGATGCCTTCTAGATT
33103	RAD23B	CTGCCTTTTAAAAAACCCACA
33104	E2F3	TCCTGTGGCACCCATCACCAT
33105	NR2E1	ACAGGAATGGGGAAAAAGAGGGAT
33106	SLC22A3	CTCTGCCCTCTGTGACCTTG
33107	CD3E	ACCCTCACAGCTGGCCTGCC
33108	ITPR2	ACTGTATCTGTAAGGGCTTTTCA
33109	PPP1CB	GCTGGTCAGTGGGACATTTTGTC
33110	ABCD2	AACCTGTACAAAATAGCTGACAG
33111	BTAF1	TATCAACTATTCTAAATACAGGT
33112	CDH2	AAACCAATTTGGGCTCAGAGGG
33113	RIMS1	GGTGCTTGTAATCCCAGCTACTT
33114	ZNF74	CTGTAATCTTAACACTGTGGG
33115	MPP5	ACAATGCCATCACAGTACACATGA
33116	IMMP2L	TGGGGGCGCGCTGCCTTCTGCCT
33117	TRPM6	AGAGTTTCTGCCTCCACAGTTAA
33118	CLASP1	AGCACAGATTGTGCTAATCTCTCT
33119	RPL10	GCAATCCCAGGCTGGGGTCAGC
33120	GLTSCR1	CCCAAGTAGCTAAGACCACAGGCACAT
33121	ELOVL4	ATAGTTACATTTATGTGCTGTT
33122	PHF1	TCACACACACCGGCACTTTCA
33123	MAP3K14	GAGATGGGGTGAAGGGACAC
33124	ITGAV	CTGTTTCTCTTTTCTCTT

33125	SLC21A9	TGCCTCCTCTCCCCTGCTA
33126	ENG	GCCAAGCTGCTTGTCCTGGGCC
33127	RTN3	TCTCCCACCCTCGCTCGCGTAGCC
33128	PDE4B	CCTGGTGGAGAGAGCTGGAA
33129	USP9Y	ATGAATGACAGTGCCCAGAGTG
33130	GPR56	AGCAGCAGCTCGCCTACCTCTGAGCC
33131	CLCA3	TCAAGAATGATGGCA
33132	RAB3A	GCTGTTGGGGGTTTCCCTGTGTGGACC
33133	MS4A2	TATTCTTTATTCCTGGACAGCTCGGT
33134	WISP2	TCCCGAGGTATGGCAGAGGTGCAAG
33135	LAMP2	GAGCAAATATTAAAATTGTTAATATGC
33136	SLC4A1	TCTGCTCCCAGCCCCTACCTTGAGACC
33137	GPC5	GTAGATTCTTGAGAAGCATTTCA
33138	KLRG1	GGAGATAGAGCAAGACTCCATCTC
33139	DYRK1A	TGGCCTTATGGATTTGGACT
33140	ITPR2	TACTCTGCAAGTTGACCTGGCC
33141	RBP4	TGAATCTGCTTGCCTTTCCTG
33142	SPAM1	GGTCCTTCCTAGCAAGGCA
33143	CLN5	CCGGTTCTGCTGACTGAATTGGATGCA
33144	VIL2	TAGGAACTCCCTCAGATCCCAGTTC
33145	TRIM9	AGGGCAAAGGACCCATTCTCAG
33146	CAPNS1	ACAAGCTTTTGTTCTCTCAGTACTTGTT
33147	RPP30	GATTACAGGCGTTAGCCAC
33148	ABCB9	GGGAGTAATGGCGGGCACTTTC
33149	ALDH1A2	CAGCCCGCCTGGCTTTCTCTCTT
33150	EIF2AK3	AACTGATTTCTAGAAAAAGCTG
33151	UNC13	GGGGCCGGTAACGAGAGCAGTCGCGGC
33152	DDX11	GAGGAAGGGCAGACTGGTGAAATCGC
33153	ZNF277	AAAGATTGGTCCTTGGTGAAATAAACTTT
33154	OCM	CTCTGGAGAAAAGAGAGAAAGG
33155	CLASP1	AGCACGTGATTCTTAACATCATTT
33156	TARBP2	GCACAGGGCAAGGAGCCAAG
33157	TGFB1	ATTCCTTTGCCCGGCATCAAGGCACAG
33158	GALNT7	CAGATTTTGATACACTGTAT
33159	IL1F5	TTCCTGCTTAATGGTAACTGA
33160	FRAT2	TCTCTTCTGGCCCTCCATGGA
33161	SET	GTGCTAGGCCCCTGTGTAGTAG
33162	GCNT2	TGCACTCAGGGTCAGCAGTGGAGT
33163	GA	AAAGTATTTTGTGTTCAAA
33164	TRAP100	ATTTCCTCTCCATCTGCTGGCAC
33165	ADRA1A	AGCACCACTGGACTACACATTCTTCT
33166	DPYS	TTGCTTGTACTAGATTTCTTA
33167	FSHPRH1	GACTACAGGTACGTGCGGCTAT
33168	SLC16A7	AAACAGGCCTTGTGCTCAACCACTGGA
33169	KCNB1	ACCCAGCCAACAGCATGAACT
33170	CASP10	GTTACTGCTACTACACTTTGCTCCTC
33171	SLC2A6	GCCAGGGCAAAGGACCTGGCGTG
33172	JRK	GTTGACCAGGCTGGAGTGAAGTGGTGT
33173	PRKAR2A	CTTCTTAGTGTGACACCAAAACCTT
33174	MINPP1	AGAAAAGATTTTTCACTGGA

33175	ITGA6	AAGCAGTGTCTGTGTTTTGAA
33176	UPK1B	GTCTCAGCTTGAGACCATTTCA
33177	OXTR	CAGTATATTTTTACTTCTTCATTCTG
33178	MADH3	AGGTGCGTGTTCAGCAGAAC
33179	DMRT2	GTCCGCGTTCTCCCCACCCCGACGG
33180	DFFA	CTGGGAGGCAGAGCTTGCAGTG
33181	B3GAT1	AACAACAAAATGGGGACTTCTTTGGGC
33182	MRPS12	GGGTTTTAATAAACAGACCCTGGC
33183	RGS6	CATTGTCATTGTTATTGTGAC
33184	GAS7	GCAGAATTCAACAAGCACAA
33185	MYLK	GGGCAATGCTGTGAGAGCCATTGGAAG
33186	TOP3A	TTTGTGTTTAGAAATGAGTTA
33187	PITPN	CTTGACAGAGCCTGAGTTTGCCTCTTA
33188	PIGK	TTTCATTTTACAATGTATTATC
33189	PER2	TTTAGTGTGTGTGCTTACA
33190	MGAT5	CGCAGACGCACACTTCCCCCTTC
33191	ANXA4	TTGCACTGTGCCTTTCAACTCCAGAAA
33192	CKM	CCCAGCCCAGCCAGGTCTCCT
33193	PTPN7	GAACGCCACACCTCAGGATTCCT
33194	CDS2	AGGGCTTCTCGTTCATGCACCCTT
33195	EIF2B1	TCCAGTGGTAAGCACATTCCTCAGC
33196	TOB1	TAATAAAACATGCATCATTTT
33197	APOL1	TGGCTCATGCCTGTAATCCGAG
33198	LAMC1	AACTTAGTTCTTGATGATCCCACT
33199	MLLT2	GTGCAGTGTTTTTAAAAGCCAAT
33200	DDX3	CACTCTATCCTGGATAGGTATTTAGA
33201	AMFR	GGAACGGAGGCTTCAGAAGC
33202	PDE4C	GTGCTGTCTGCTGGAGCCTCTAGTC
33203	E2F2	GGGACCCCTCCCCAGAGCCGGC
33204	SHOX	GGAGTTTCTTTTCCTCCGGC
33205	MUC4	CAGAACCAGTCCTGCCCTGT
33206	PHKA1	CCTGAGCGGTGGGAGGGCTCTGCGGGG
33207	LZTS1	CACAGTCCAGACCCAAGTCAAAG
33208	HOXB7	CCTGTGGTTGCCTGCCCTCCTGAGCC
33209	RAB36	GGTGAGCCACCATGCCCGGCC
33210	XPR1	TCGTAACTCCAGTAAAAGTTAC
33211	CYP1A1	AACAGGGCTGCCTTCTGGCCTTGTAAGA
33212	APOL1	TGACAGAGCGAGACTCCATCTC
33212	CA12	TGACAGAGCGAGACTCCATCTC
33212	HIP1	TGACAGAGCGAGACTCCATCTC
33212	P2RX7	TGACAGAGCGAGACTCCATCTC
33213	CD28	CGACAGAGTGAGACTCCATCTC
33213	HM13	CGACAGAGTGAGACTCCATCTC
33213	SCAP2	CGACAGAGTGAGACTCCATCTC
33213	TPM4	CGACAGAGTGAGACTCCATCTC
33214	TSNAX	TAACAGAGCAAGACTCCATCTC
33215	PRKY	GGACAATTGTAACTGTGAA
33216	GARP	GGAAGTTAAGGGAGAGTCAATGGGCAG
33217	SDPR	CTGTGCTGTGCTCAAGCGGGCA
33218	CHST6	GCTGGGAGTGGAGAGGCACTGT

33219	HKE4	ACACAGGAAGTTCTCCAAGGTC
33220	IFIT4	TCATGAGTGAGGTCACCAAGA
33221	ZNF135	GAAACACAGATATTTGTTTTACAAAAA
33222	DSCR3	GTTGCCCAGGCTGGTCTTGAACTCCTA
33222	MPL	GTTGCCCAGGCTGGTCTTGAACTCCTA
33223	CRYBB1	GCAAGTCCCCAGACTTTTG
33224	KIF3B	CTCCACCCACACCTCCATGACC
33225	GLRA3	TTCATTCTGTCTTTCTGGTTCC
33226	BMP8	TGGCTCACACCTATAACCCCAG
33227	ARHGAP6	AGGGCAGGGCCCACCCTGCGG
33228	ALDH3A1	CACTCCTCTGCTGACCTGCT
33229	INHA	TCTCAATAAAGAACACAGTGCA
33230	GLS	TTTCATTTTCACTTCCAGTCTAAGCC
33231	INSRR	CCTGTCACTGTCTTTGTGTCTCT
33232	PIGN	TCCATAAAATGACCTTT
33233	HSD3B2	TGTCATCAAAATCTGCACAGTCA
33234	CKTSF1B1	GTCAGCTCATTTCCATTCCAC
33235	UBTF	GGGGTGGAAGCTTGGGGAA
33236	CASP2	GCTTATCTCCCTGCTTCATATCTC
33237	PCDHA9	ATCTCTAGTCCCAATTACTCA
33238	TAC1	GTCAATGATACAGTCCCT
33239	NPTX1	GGCATCCTTGATCTCAGGGA
33240	RRM2B	TAAACCAAGTTGAGTGAATTGGTAGT
33241	CYLN2	TCCTCAAGCCCAGCCTTCTACAGAG
33242	KCNK6	GCTGAGTGTGGTGGCTCACGCCTATA
33243	ADCY9	TTCAGGGTTCATTTTCATCCATTCT
33244	IL16	GGGAAAGAAAGTTGCACGGCTGCT
33245	EXT2	TTTGCTTCCTGATTAGATCCAGTCA
33246	TRIP15	GTGTCCGTATATTTCTGTACCTGCA
33247	FOXM1	AGTGAGGACAGCAGGCAGGGACT
33248	FOXO1A	GTGCAAATGATATCACCTATGCAGCCT
33249	HAL	GCAGGTCTGGATGGAAAGTGGACAGG
33250	GGA3	TCCCTGGTTCCTCCCTGCCCCTTGCCA
33251	FGF5	AAAGTGCTGGGATTACAGGTACAATGA
33252	DDX11	CCTGTCCCACAGCCCTGCCTGGATTTGT
33253	ENO2	GCTGCACCAGAGCAACCTCTCACTC
33254	ZNF41	CCACAGTGTATATGCAATTCTA
33255	STAR	CCCTTGAGAGAAGAGGCAGCAG
33256	EPOR	GCTGCTGACCCAGCTGTGGACTGTGCCG
33257	VCL	CACTGCCTGCAGAGGTCTGTGCTGAGG
33258	CBS	AATGTAACTTCCTCTTAGG
33259	IL10	CTCTTGCAAAACCAAACCACAAGACAGAC
33260	KCNA5	ATAGCCCAGATCCCAAGAGATTATGT
33261	SEMA3F	CTACCTGCTGGACAGCCTCCGCCA
33262	STE	TTGCCTAGGCTGGAGGACAGTG
33263	B4GALT7	AGTGTTGCCAGATCTTCTGATT
33264	PCDH7	ACTCTGGGCGTCTCTGAAGATG
33265	TTPA	TTTTAAATGCTTTTTTCTCTA
33266	TRIM39	GGGGTGAGGCAGGGTCAAGTGCT
33267	RPL10	ACCCCTTCTAGAACCTGCATTCC

33268	EXTL3	TCTCCTCTGACCTGCCTGTA
33269	CROT	TGCCTGTAGTCCAAGCTACTTGAAGGC
33270	LAMC2	GACCCACAACCCACAACCTTCCAGCTC
33271	TTC3	CCCCACTCTGAGTGAATACTTTGATGA
33272	TCTE1L	GTTTAATGCAGTGATCTTTGTTTTTG
33273	MASP1	GCAGGTTCCTTCTAGCTGGAG
33274	KPNA1	CCTTGCGCACCTGCTCTCTTAC
33275	AHR	CCCACTGCACTCCAGCCTGGCAATAG
33276	ZNF205	CTCATCAGGAAATGCCTTC
33277	TRPM6	TTGTGTACCTCATTGCTTTAGCT
33278	TIMP3	TTCTCGCTTCCTCCTTTGGGCATCTCTT
33279	NPR2	AGCCACAAAAAGACCTACCTT
33280	ATM	ACCAGCCTGGCCAGTATGGTGA
33281	NFKBIL2	GGCGTGAACCCGGGAGGCGGAG
33281	PCDH11Y	GGCGTGAACCCGGGAGGCGGAG
33281	PPP1R12B	GGCGTGAACCCGGGAGGCGGAG
33281	SLC26A4	GGCGTGAACCCGGGAGGCGGAG
33281	WIG1	GGCGTGAACCCGGGAGGCGGAG
33281	ZNF91	GGCGTGAACCCGGGAGGCGGAG
33282	NR2E1	GCCCAGGAGCCTTGCAGGCTGGAGGGC
33283	KCNE1L	CTGGCAGCTGCTCCAGGGGCTGCC
33284	PMM2	GTGGCCTCCACTGGGCACTTGCCGA
33285	PTGS1	GATTAGGTAGACTTTGCTTAGT
33286	ESRRB	AAGTGGGTGTTCTGCACACCAGGC
33287	DPYSL3	CTTGATTGTGCCAGT
33288	PGAM1	GCAGTCAGGTCACTGCCT
33289	MAML1	CGAAATAGAATATGACATGTGAG
33290	TRAF1	AGGGCACAAAGATGGGTGAA
33291	RORC	GGAGGGTGGTCCCCACCAGC
33292	C5R1	ATCGCACCACTGCACTCTAGCCT
33293	MCC	TGTAGCTCTGGACCTGTCTCTACCTAA
33294	PTMS	ACCATGTCGGAGAAAAGCGTG
33295	SIRT3	CACATCCCAATTCTGACAAGACCT
33296	ACE	AGGCCTCTGACATTTATCCA
33297	GABRP	ATTGCTGCTACTCTAACACT
33298	ARHGEF7	CTGGTGGATGCCTGGTTCGTTCCGCAGCA
33299	RAMP1	GGCCCAGGCTGCCCGCGGGTGCACCC
33300	XPC	TACTAATGCTGCCCTCACTGCCTCT
33301	ITPKB	AGAGTGCTGCCAAGCACAGCCTT
33302	DMN	TTGGGGTGTTTTGTCCAG
33303	XPNPEP2	TGAGCCAGCATTCCAGCTGTTTCACC
33304	SLC7A5	CCGGCATCTCCCCTAGCTCACC
33305	NKTR	CCCGCTCAGGCTGGAGGCCAGC
33306	PITX2	CCCTGGCTCTCCCCGCAGCGGGGAAACT
33307	HPS1	ACTTCCTCTCTGCACCTCCTGGC
33308	ARHGAP6	AGAAGGCTGGTGATGGATCTGCTGCT
33309	LUZP1	TCCAGCCTGGGCAACAAGAGTG
33310	CARD4	CTTCTGCTGAGAGGACACACG
33311	SOST	CCTTTGCTGGTCCCACTTCAGA
33312	TRPM6	ACCCAGGCTGGAGTGCAATGATGCG

33313	RIMS1	GGAGGCTGAGAGAGGAGATTTGCTTGA
33314	IMMP2L	GAGAGAAGAGGAATGCTGCATGA
33315	ATP5G1	TGGGCCAAGCAGGGGTTGCAGGGCAGTA
33316	PXF	GTAGCTTGGAAAAGGAGTAGG
33317	SWAP70	GAATGTCCTTCTTTAAACCT
33318	ELMO2	GGGAGGTGTAGAAAGAGGT
33319	CAPN3	TGCTTCAGAAATCCTTTAGCA
33320	DBT	ATCACACCACTGCACTCCAGCCT
33320	NUP62	ATCACACCACTGCACTCCAGCCT
33320	TRIM14	ATCACACCACTGCACTCCAGCCT
33320	USP14	ATCACACCACTGCACTCCAGCCT
33321	CHST2	TTACCCTGTCCTCCACCTGCCT
33322	SFRS7	CCAGGATCTTAAGGGACTTTGAA
33323	WHSC1	ATCCATCTTGCAGAGAAGTTTACA
33324	PGF	AGCCCCCCACTCAGCTCTT
33325	ACTN3	CAAGGGCCTAAGAGAAAAGCCAGCCAA
33326	MAGEA9	GCTCCAGGAAGCAGGCAGGCCTTGG
33327	BCL10	GTCTTTCTCCCGACCCGCTCCGCC
33328	ITGA1	CATTATCCAAAAACAATACCAAAAAG
33329	SOX4	CGGGGACCCACTCTGCCCAGCC
33330	DLST	GCTCATTCATATTCCTGCCTTTC
33331	PTEN	CAATGATTTATTAAATATGTTT
33332	KCNE3	ACCCAGGCTGTGGTGCAGTAAGC
33333	NUMA1	TCCACCAGGAGTCTGGAGTGCAAT
33334	CDC25C	GAGTCCTGGAGCTGGCTCTATA
33335	ED1	CCTAACCTGGGACCTGTGGTC
33336	ADAM30	CGAGGCCAGAGTTGCAGGGACT
33337	CRACC	TGGCTCACACCTGTAATCCCAG
33337	DHFR	TGGCTCACACCTGTAATCCCAG
33337	DMC1	TGGCTCACACCTGTAATCCCAG
33337	EHHADH	TGGCTCACACCTGTAATCCCAG
33337	FANCD2	TGGCTCACACCTGTAATCCCAG
33337	FRDA	TGGCTCACACCTGTAATCCCAG
33337	FUT6	TGGCTCACACCTGTAATCCCAG
33337	GRM6	TGGCTCACACCTGTAATCCCAG
33337	HUNK	TGGCTCACACCTGTAATCCCAG
33337	IFNAR1	TGGCTCACACCTGTAATCCCAG
33337	LRRC2	TGGCTCACACCTGTAATCCCAG
33337	LUZP1	TGGCTCACACCTGTAATCCCAG
33337	MCM4	TGGCTCACACCTGTAATCCCAG
33337	P2RX7	TGGCTCACACCTGTAATCCCAG
33337	PCDH11X	TGGCTCACACCTGTAATCCCAG
33337	PTAFR	TGGCTCACACCTGTAATCCCAG
33337	RAB7L1	TGGCTCACACCTGTAATCCCAG
33337	SIM2	TGGCTCACACCTGTAATCCCAG
33337	TSN	TGGCTCACACCTGTAATCCCAG
33337	ZNF136	TGGCTCACACCTGTAATCCCAG
33337	ZNF137	TGGCTCACACCTGTAATCCCAG
33338	PSMD9	CAGATACCAGCTTGCCTTGA
33339	STAT1	TTGGCTATTTAAAGACAAAGACA

33340	CYBB	CAGCCTGTTCACACTGCACCT
33341	SGK	AGAGCACATTCTCCTCAGTGAG
33342	ODC1	TGAGAAGCTGGAAATATTTCTTTCAA
33343	RP2	CCACAACATCCGCCTCCTGGGTT
33344	LGI1	GGAAAGGGGTGGACTCCTAT
33345	LIF	GAGGAAGAGAGAGTTTACCA
33346	COL4A3	CAGAAAGCCTATTCCATCAACTGTGAA
33347	ARHGEF12	CCAACTTGGCCTCCCACA
33348	CD5	AGCTCACTGCGGCCTCTAAGAA
33349	FUT8	TGAGAAGATCGGAACAGCTCC
33350	IL22RA2	GGAATTTGGCATTCAGCAATGTGGAAA
33351	COL4A4	GGGCCCAGGCGGGGAAGTGGGGTG
33352	PNOC	TTTGCCTCCAGAACCTTCCCGTCTGAT
33353	CLPP	AGGAACTTTTAATTTGCAGGG
33354	PAX2	GCTCCTCTGCCTCCCCATGGATATGC
33355	TRPC5	CTTCTCCCTCTCCTTCACACT
33356	RPH3AL	TGTGTAGTGGACACTTGTA
33357	NR4A2	ACATGGACTACACACAATAC
33358	P4HA1	AGTAATAAACTAGGACACTA
33359	APM1	GCTCACTGCAGCCTCCTTCTCC
33360	RGS14	GATTTTGCAGTAGGCTTGGGG
33361	BTG2	CCAAAACTCTTCCTTTTGGAACCA
33362	FHL2	CCTTCTGGTTTCTTCCAGCC
33363	MLLT2	CAGGTAGATTTCTCAGCCAGC
33364	TM6SF2	GCCGTACACCTTCTGCATCTCA
33365	TCF3	GCTCTCCCTTGGAACCTGCACAGCTCT
33366	BCLG	TCAAGACCATCACAGACCAGG
33367	GLB1	CCTGCAGTGCCAAAGCCCCACCT
33368	UBE4A	GATTATCTTTATATCACTGTCTTTCT
33369	CYP3A4	ACATGTTTTCTCTGGAGTAT
33370	PPP1CC	ACACATGCTGCCTTCTTGGGG
33371	SAC	GCCCTGGATGAAGTGGAGAA
33372	ELAVL3	CACTCTGGGGTGGGAGGGTCTGC
33373	FZD4	CACCCAGGCTGGGGCGCAATG
33374	RORC	CTTGCCTCTCCCTATGGCCTGCTGG
33375	PREB	TTCCTGGGAATCAGGAGCCTGGA
33376	PPARGC1	ACCTCCATTTTGATCATCAGGATTT
33377	GPR1	AAGGTGGGGGGATTACCCGAGGTCA
33378	SORCS1	GAAACCCCATTTTTCCCAGGG
33379	ALDH3B1	GCGCCTGCCTCCTCCCTCCTGGG
33380	CCND1	TTCATAAGGCCAGTATGATTTA
33381	DDAH2	CTCCACCAACTCTGTCCTCG
33382	SUPT6H	CCTGCCTGGCTGCCCTTTCCCCCCTGC
33383	SERPINB13	TTCTGTTGGGGAGATTCCCTAGG
33384	DNASE2	AAGATCTACCCTTATGGCCAGGT
33385	WNT3A	TCCCACCCTCAAGGTGCGGGGAGAAGA
33386	HPS4	TACAAGTGGGCCGTGCAGCTGG
33387	SYT1	TAGTCATTCCATAAGAGTCTT
33388	ENAM	TCCTCCATTATGTCTTCGTCTCT
33389	ZNF9	TCTTGGATTGTCTGACCTCAGTAGCT

33390	DMRT1	AAGTGACCTTAGTGATGCAGA
33391	PPARGC1	TCATAACGTAATGATTATATGACA
33392	NRL	CTGCCACCTCCCACCTCTCTGAGGGC
33393	LIMK1	CGCAAGAAGCGCTACACCGTGGTG
33394	CDH3	CTACAGTGGACTTTCTCTCTGGAATG
33395	BCL7A	TGCCCTTGAGGTGACCTCTGGCA
33396	FUT6	TGCAGGAGTGGGTGGGGAAAGGAAGT
33397	FUT9	GCGATTGAATTCTAACCTCTTTGACTCCT
33398	STK11	GGTGGCAGGGGGGCTGTGGGG
33399	ITK	CCTGCCGTAGAGAATGATAGAG
33400	MGA	AGTATAGAAATGATGTTTCCTA
33401	PDE4A	ATCAATAATCCTTCGATCTTGTCTCC
33402	EGFL5	TCTGGGAAATGCCAGTGCAAA
33403	RGS14	CCGCTCTGCATGCCCTGTCTGTGCCA
33404	M17S2	TGTCAACAGTAATGGATTGGAGTGTTG
33405	EGR1	CCCCTGCAGCTCCAGCCCCGGG
33406	LPIN2	GGTTATTTTTCCAGATTGGAGAGTTGAAAG
33407	IL6ST	CAGACTGGCAACAAGAAGATGGTAC
33408	CA14	GGGATCCAGAAACCCATGATAC
33409	GAB2	GCTTGGGTCCAGTGGAGGAAGAAGGAA
33410	PAX5	AGAGGAAGGCCTCCTGAGGGAGGGGCAG
33411	ZNF42	CCTCACTGCTCTCTCAGTCT
33412	PTMS	AGCCTCTCCCACCTAA
33413	DMD	CAGGTGCAAAAAGATTGTGTGTT
33414	UVRAG	CCCGCATTCAGATTTCATTTGCTGTTGCTT
33415	TNFRSF1B	CAGGAGTTTGAGGCTGCAGCGA
33416	DDX9	TGCATTTTCACCCATTCTGTGGTTCA
33417	RRM2	CCTCCACTATGCTCTCCCTCC
33418	APAF1	CCACAATCGCTGCCTCCTGGG
33419	PKNOX1	CTCACCGTACATACTCCAGTC
33420	IL12RB1	CTTGGCCTCCCAAAGTGTTGGG
33421	BACH2	TTGTTGGGGCAGAGCCAGTGGAG
33422	D8S2298E	TTCCAAATGAATCAGTATTTTA
33423	IL1RAP	TGCTACAGTTTATCTAGGTTGCAGTGG
33424	AGRP	CCCTCCAGGAAGGGTCCTTCACGGCCT
33425	CHST5	GTTTTCCTTTGAGTCTTCTGGA
33426	A1BG	GTCACCCAGGCTGGAGTGCAGTGT
33426	PSMD9	GTCACCCAGGCTGGAGTGCAGTGT
33427	SEPN1	CTCTAACACTTCCCTCCCCTGTCC
33428	RECQL5	GGCACGCCCTAGTTAAGCAGC
33429	HIP1	CTCCATCTCTTTAAAAACAAACAAAAA
33430	SMARCC1	GGTGCTCAGGCTGGGAGGGTAG
33431	EIF1A	AGGGAGGCAGAAGTCTGCAGTTGAAG
33432	SLC6A4	ATATTCCCATGGTAGACTGTGACAC
33433	UNG	GGGCTCAATTTCCTGATTGTAGTAGAGGT
33434	VIP	AACCTCAAAATGTCTAAGATA
33435	KCNK10	TGCAAACACCCAAGCCCTCTC
33436	SERPIND1	TCAAAGCCTGACCTTTCAAATCCATGA
33437	JMJ	CCTTGGAGGGGTCACATGAG
33438	FSTL3	ACCTGCGTTCCGGACACTGAG

33439	ALX4	GCACAGCCACAGCCTCCTCGCCTC
33440	S100A7	CCAGTGCCCAGCCCCACCAATGGGCCTCCAG
33441	NUP98	GTTCTCTCTCATTTGGACTT
33442	BDP1	GGCCTGCCGGGTAGCTGGGACT
33443	CHRNB4	GTGTGAGCCACTATGCCTGGCC
33444	FLOT1	CCTCACACTGCTATGATTGCCAACTCC
33445	AARS	AGACCTGAGCTTTCCGCGTC
33446	RAD54L	CCCGCCGCGCAACTACCTCCTC
33447	F2RL3	GAGGCACAGGCGGGAGGATCA
33448	CORO2B	CACCAGTGCCCAAGTCTCTATGG
33449	EMS1	GGTCCCCCCACAGCTCCAGGAC
33450	SMURF1	TCAGCCCAGAGCCAGAGGGCTGG
33451	CAMK2A	TTCATTGGCTGACACACCTCCTGTCC
33452	M17S2	AGGGTGTAATTGGGTTGATGGGTGGG
33453	EGFL5	TGTGAATCTTATTTGGAAATTA
33454	ARNT	CTGTATTTCACTCTTTCTCCC
33455	XRCC2	TGCCTGTAGTGCCAGCTACTCAG
33456	AMPD3	GCTCACTTGTTAGTATTTCTG
33457	PAG	GGCTGCTGCTTTCTGCCCA
33458	DHFR	TGGGCAACATGGCAAAGCCCCA
33459	SEMA3F	CCGGACACATGGGCCAGCTGCCTG
33460	GAB2	TGCCTTGGTGTTCCAATAAGTGAAT
33461	IL4R	TATAATCCCAGCACTTTTGGA
33462	CASQ1	TCTCTGTTCTGTTCCCTCCATCTATGC
33463	CYP39A1	AGGTGCTGGACAAAAACATGG
33464	TMC2	TAACCAGGAGGGGGATGGAGA
33465	DNASE2	GTATGTAATCCCAGCACTTTG
33466	SLC2A3	ATGGGAAAGCCACCTCTCCCT
33467	GAP43	CGTTCATCTGAGGAGTCCA
33468	PPP2R5D	GGCTGCTCTGAGAAGTACACA
33469	IPP	CTGAGGCAGGGGGATCGCTTGA
33470	HDGF	GAGGAAGAGGCCTCGCGCAGAGGAGGG
33471	ARSA	CCCTCGGTCCCATGTCCATGGGG
33472	CD209	AGAGTCCTGAGTCCCTCAGTGGA
33473	EGLN2	CTCTGGGTTGTCATTCACTTTGAGAGC
33474	NESH	TTCCTCTGGGCAGGGGACAGA
33475	ICOS	CACCCAGGCATGAAGCACGTTG
33476	USP6	TCACATGCACATGTTGCA
33477	TCF2	ATTGAGTGCTCCTGTGTGCTGGCC
33478	PIK3C2B	TCCTCACCATGTCTTCGACTC
33479	SPN	GCTTCCCGAGTAACTGAGATTA
33480	ANKH	GGACGCCATGGGCACTGCAGGGA
33481	LRP4	GGGCGCTGCATTGGGCAGAGGAA
33482	EPHX2	TGCATAGTTTGGCAGAAAAATCAG
33483	EMP1	TGAAGTGCCTACTGGGGGGCTTT
33484	BRF2	ATCCTGTTCTGACAGCTTGA
33485	IL5	ACTGCAGTGAGAATGAGGGCCAAGAA
33486	ADAMTS4	GGCTCACTGCATCCTCCGCCT
33487	OCRL	TCTGTATTTACACTCCTTCACCTA
33488	SLC25A6	CGTGGGGCCCATGGGTGAG

33489	BRCA1	AGGCTGAGGAGGAAGTCTTC
33490	HSD3B1	CCCAACAAGAAGGTTTCTGTCCTA
33491	PRKY	GCCCCCAGCAGTACAGTCCTTCCT
33492	HAKAI	TTGTTTTACTTCAGAAGTATTG
33493	COG4	TGTACTGCCTGGATGAGCACA
33494	SLC31A1	TCTAATAAGCTGAGATTCCC
33495	SORBS1	AAATAACTGACATTATATATAACCA
33496	SEDL	TTCAGGCGATTCTCCTGCCTCA
33496	SPN	TTCAGGCGATTCTCCTGCCTCA
33497	KDR	AAGCAATGGCCCCATCCTCAAAGAAG
33498	SIRT5	CACAGCTGTGGCCATATGTTTG
33499	LAMP2	TTGTACTTGCTCCTTTTGCTCTT
33500	HEM1	CTCAGTGGCCATCATGTCT
33501	PML	GCAGCCCATGGCAACTCAAAGTGCCTT
33502	PPYR1	GCACACTGCAAGCTGGGGTGGC
33503	SFTPA2	TATAAGGACACTGAAGCTTAGA
33504	WTAP	TTGCCCAGTACAGTAGTT
33505	SLA2	GGCTTACCATTCCCTAGCACACTGGCCT
33506	FZD4	TTCCTCTGGGAAAGGAGCAGG
33507	CTSB	CTGGTTCCCACCTCAGCCT
33508	PLAGL1	TAATCCAGGGCGTCAGTCAAA
33509	AKAP13	CTCCATCTCACTAAGGGTTAAAGGCGT
33510	SCML1	TTTGATTCTGGTTCATCTCG
33511	JAK3	GGCTCACAGTGCAACCTCTGCTTC
33512	P2RX7	CACTGCTCTCCAGCCTGGGAGG
33513	CRH	TTTGAAACAACTTTCTCTTGTA
33514	SUV39H1	CAACATCAAGACTCTCTGTCGTTGG
33515	GLP1R	TTTGCCCTGCCTGCAGCCT
33516	GFI1	TTGTGTGGAAGAGGAGGAATC
33517	MTMR2	CTTGGTCTTGCAGTGAGGAA
33518	ZNF142	AGGAAGAGGGTATGGTCTGAGATGTG
33519	HYAL3	GAAGCAGTTCCAGGGAGAGTCAGGTTC
33520	IL12RB1	CCAAAGTGTTGGGATTATAGGC
33521	MAPT	GGCCGAGGCAGGGGCTGGGCAGAGGG
33522	ORC1L	GCTCACTGCAGCCTTGACTTCT
33523	ACLY	AGTACTGTCAGGATGGGGTC
33524	MAN2A2	TGGGCAGCCTTTTCCATGGCCTGG
33525	HS3ST3B1	CCCTGTCTCTTCCTGCCTGTGT
33526	TNFAIP2	ACAATCCCCCACGCCCAG
33527	IFNAR2	GGGGTGAGCCGCTGTGCCTGGCTGG
33528	NOTCH2	GCCAGTTACCCACCCACAGGTCCCCCT
33529	APM1	ACCACACATGGCTAATTTTTGT
33530	EN2	CCTCCTCCTCCTCACCAAGGGC
33531	FMR1	CCTGCTCTTTGGCCTGATGACC
33532	NR5A2	CTCTGCTTTCAAAACAAAAAGAGATT
33533	GORASP1	TCTGTCATGTGTCCTTGTCCCT
33534	KPNA1	GCTTTTCCCCTCTGTGACT
33535	G22P1	CTGCGCTTGAGGCCTGTCT
33536	MST1R	GCTGCCTCTGGGCCATGCCAGGCCAGA
33537	JMJ	AGCCGTAAGTGCTTCTTTGTCA

33538	VENTX2	GTGCCCAGGAGGCAGGCAGTGCGGGG
33539	AKAP2	ATAAAGTGTAACAAGGAACACTAAAAC
33540	PCDHAC1	TTCCTTTGGCCCGGAGATGGCTGCTAG
33541	SIT	GCACAGGAAGTGGGCGGTGGGG
33542	SLC22A7	GGGGAAAGCTTTTTCTGAAG
33543	PLAG1	CTTTTTGCTTTCTTTTACGACC
33544	CENPB	TGCCTCTCCCCTCTGCCATCC
33545	TUFT1	GTTGGCTGTTAACACTGCCTTT
33546	SIGLEC11	GGCCGGAGTCCAGTGGTGCA
33547	ELF3	GGAGAGGACAGAGCAGGGGCTCCAGC
33548	MN1	TCTGCGGTTCTCGCCTGGGCAG
33549	PPP1R3A	TTGTTCAAAGATCCAGTGCAGTT
33550	TNFSF6	ATCTTAGTGCCTGAGAGTATTTAG
33551	UBE2I	CGATCTGGGCTGCCTCCAGCC
33552	CRTL1	ATCCGAACTCCTGGATTTCAG
33553	LIF	AGCCTTCAGTCCCGCCCACGTGCT
33554	HPS1	GCAGGGAACAGCTTTGG
33555	DHCR7	TGCTCCTGCTGCACAGCTGCCAGG
33556	GPR65	GGCACAGATTTATCAAGCTCCT
33557	DDX3	TGCATACATTCAAAGCACTGTT
33558	IMPDH1	GGCTCTCAGGACCTGCGCTGCC
33559	UBE2H	CCTTTAGATCTTGATTTCTTGGTCA
33560	CDC2L2	ATGCGGGAGCAGCAGAAGGAGCAGC
33561	GJB3	TGTACACACAATCTCTG
33562	TAL1	CTATCTTGTTCCAAGGCCAGGGA
33563	DPYSL3	GAAAGTTGGTTTTATTAGGTGTTCCC
33564	EHF	ACCACTTGACACCAGAA
33565	ABCB11	AAAGAACAGAAGGACTGAAGAC
33566	ERBB2IP	AGAGAATTGCTGTGGAGA
33567	ATM	GTAGTCTCACCTACTCCGGAGGCTGA
33568	DTR	CAAACAGAGTATGTCCGATGGTA
33569	GRIN2A	GCAATTTCTCCCTTCTGAGTT
33570	BMP1	CGCAGCCGCCTGTGCTGGTACGACTAT
33571	CALB2	TCTCCACCTCCCCCAAACCCTGCT
33572	RBL1	TTCTTGTTTCTATGATAAAAGCACTTT
33573	F2RL3	TGGCTCACACCTGCAATCCCAG
33574	SERPINB9	TTCTCTTGCTTCAGCCTCCCA
33575	LAT	CCTGCCCTTGCTCCAGCCTGACAA
33576	KIFAP3	TTGGGGCACAGAAGCTGTGGGA
33577	TCN2	GGCCAGCCTGGCCCTGCAGGTCTCCCA
33578	ST7	CGTGCTGTTTGCTGTGCGTGG
33579	ATP11B	TTCCATCCTGAATTTATCAAGT
33580	HRMT1L1	ACGCTTGGGCTCGGCAGGAGCTGCCGT
33581	OPRM1	ACAGGGTCTCATGCCATTCCG
33582	ZNF76	GACTTCCTGACACCACAGTCAATT
33583	ADAMTS4	GTGTGAGCCACCACGCCCGGTACATAT
33584	TBX1	ACCGCCCACCAGGGCTCAGGGT
33585	IL10RA	CTGGGCTTGGGCACCAGCTCATG
33586	EGFR	GCCACTCTGTCCCTTCCTGGGCA
33587	DAB2	CTTATTTCTCATTGCCTCTTCT

33588	RPGR	CCGTCCTCTACAGCCTCCTGGCC
33589	ASPH	CCCCAGGCTCATGTGCCACCACCTT
33590	ARNT	GCATTTTTCTGTCAGAATCAC
33591	P2RX7	TCTCACCTCTGTGCCTCTGTCTC
33592	HOXA10	TGCCTGACTAAAATGTTTCATTTACCT
33593	RFXAP	TCTGTTCTTTAGTTTATTCTTAC
33594	SLC22A3	ACCCACGTTCCAGCCTCTAGGT
33595	TFRC	TCTCCTCTTTTATCTTGGACTGA
33596	NOL3	AGGAGTCCAGGCTGCACCCTGGA
33597	EPHB6	CCCGGCGCCCCACCTCTGG
33598	DIO1	AGCTGAATCACTAGCTCAGATTTTTC
33599	PLGL	TGGGACTGAAGTAAACATATCA
33600	SLC7A8	CCAACATGGTGCCAAAGCTTCCAGAA
33601	EGLN1	AGCCACCTTGCAACCTTGACT
33602	HIP1	CAGCACTTTGAGAGGCTGAGGTGGT
33603	SURF4	GTCTCTTGGTCCACACCTCGCTC
33604	BBOX1	GAACATGTAACTTCTCTCACA
33605	STK10	CAGTTCTGCGGATGCTTCTTACAACC
33606	CELSR3	CTGGGGTGGACTCAGATGGGTGGG
33607	NAP1L3	ATTATCTAAAGCATGTTAG
33608	TPD52L2	ACCCAGCCTCAGCATCACAGCC
33609	ZNF278	GCATGCCCAGCTCCTCCCTGGGTGA
33610	ESRRBL1	TTTACTTCCTTCTCTGAAAT
33611	TRIM14	AGGCGGGCCTCACAGGTC
33612	EMX2	TAATTTTCTTTTCCTTTTAAAGAC
33613	DLX4	ACTTACCATACTGGGAGGTAGA
33614	DLGAP2	TTTAAAACTGCAGTTTTCAGACG
33615	ABCG5	CCCAAGAATGTAAATAATATTCATAA
33616	SMARCC1	GGTAACAAGGAACTCACTTG
33617	KCNS2	AGCAAGGATATGATGAGATT
33618	PRKAB1	GGAGAGGGAGGAGTGAGCTCCCTGGGT
33619	MYCL2	TGCAGCTCCACGTGGAATCCAGGTGCC
33620	MARK3	CTTGTGTGTGTTTTTCTAAGTAGATTC
33621	ESR1	GAGACCCAGGCCTGGAGAGTAG
33622	KRTHA8	GGCTCAGAATATCTGGATTGGAGAG
33623	RNASEL	TGCACCAAAAGAATGAGTGCCTT
33624	FOXE1	AGCTTTAGAAAGAAACTGGAAT
33625	HLCS	GGCATTTTACTGATAGCTGTTC
33626	SH3BP2	TTCTAGGGTTTGTACTCAGGAGTCTGA
33627	TAZ	CTGCCCAGGAGGTGGCGTCCAGCAGT
33628	CD83	AAGGCATTTATTGCTGAGTTATATGTT
33629	CD5	CTCCTCAAAAGGGAACTGAGAG
33630	CLPS	TCTCTCCCCTGCTCCAGCGCA
33631	GBAS	GTTTTCCAAGCTGGGCAAG
33632	APAF1	CCCTTCTCTTTTAATGGAGACAGGGTC
33633	ALPPL2	GCCACCCTGCAACCCACCCTC
33634	GPR81	GTGTCCCAGGCTGGAGTGCAGT
33635	EYA1	CAGGTGCAAACATCTCAAGCCAG
33636	SCML2	GAGCCACCTGCCCAGCCATGT
33637	MADH3	CTTGGGGAAAATGGCCATACAGG

33638	EN2	CTGTGGCTGGGACAGCCAGGGGG
33639	LDLR	GGAAGTTTTGAGTTTCTCTCCA
33640	ATF5	TTCAGCTCTGGCGCCTT
33641	DYSF	GCATGGGACTGGCCTGCCTCCTCC
33642	ABCB1	AACCTGTTTCGCAGTTTC
33643	BRMS1	ACTCCTGAAGATCCATCTC
33644	CXorf6	CCCACAGAGACACTTTACCAGGA
33645	AXL	TCTAGATGTTTATTCTTCTA
33646	EN2	GTCTGGGCGAGCGGGGCGGCTCG
33647	NR3C1	ACAAGTGTATATCAGAAAAGG
33648	TRHDE	TGATAGTGATGCATGTTGATGT
33649	WNT6	GCCTCTCCCTGCCAAAGCCC
33650	BRCA1	AGGAATTGCGGGAGGAAAATGG
33651	GCK	CACCCAGGCTCCATGGGGAAGTGCTC
33652	TRPC6	TTTGGGAAAAAGTAGCCCATGGG
33653	C18orf1	GCTTTTTTCAGTTGTCTGTCTTT
33654	DLX4	ATTGGCTGGAGTTGAGACTGT
33655	DIAPH2	GGCAAATTTCTGTTCTATT
33656	SLC10A2	GTGGGAAGAAAAATAGCTGA
33657	ITGA7	CCAGCCTGGCCTGTGGCTGC
33658	OLFM1	TGACATCGAGGGATGGCATTA
33659	AKAP2	GTTAGGATGGCTGGAGAGTAG
33660	CYP4F3	CCGGGTGGCTGGGATTGCAGGC
33661	ZNFN1A3	GCGGCAGCTCCAGCCCGGCCCGGCAG
33662	EPHA1	AATATATATACATACATACACA
33663	LIMD1	CTTCTGGGTTTTCTTTTTGAC
33664	SCN8A	GCGTTAGGGCCGCCGCTGCCTCC
33665	SP100	GGTTCTTGTTAGTGCACAGCA
33666	PAWR	ACATTTTCTCCCTTAGGAAT
33667	FRK	GTGACTGTTGTAGCATTTT
33668	PODXL	AGGAGTGCCTGGCCAGGT
33669	CLN5	TGTGGTGGTCATCTCCGGC
33670	PRKAB1	GTCATCTGTGTGTTTTTAAGGCC
33671	DGAT1	GATGGGCCTGGCTGCACAG
33672	MSN	GGTCTTGACACCAGCTGTTC
33673	SYT4	ACTCGGCATCTCTGTGAAAGCAACA
33674	LIF	AGGAGGAGAGGGAGGCTGCAGAC
33675	GTF2H1	AAGATGTTTCTCCTATCTCCTT
33676	TGIF	GAACCTATAGCATCTTCTCA
33677	CYP1A2	CTGGAGTGCAGTGGCATCATCTCA
33678	PDE4A	CCGACCACCTCCTCCTCT
33679	CIT	GCACCTCCCTGCAGTCA
33680	CPT2	CACTGCACTCCGGCCTGGGCGA
33681	AP1M1	GCCTCCTGCAGCCATCATGTCC
33682	ATSV	GAAGTCAGGGAAGATCGGAATTC
33683	RBMX	GCCTTTCTGACATTTCCTTGGGAATCT
33684	SPTLC1	GTAATTAACCTTTCTTTACATTTC
33685	IGF1	CTGTCCCCCAGGCTGGAGTGCAGTG
33685	LZTS1	CTGTCCCCCAGGCTGGAGTGCAGTG
33685	RPP30	CTGTCCCCCAGGCTGGAGTGCAGTG

33686	PRDM16	CCTTTTGGTAACCGTATTGA
33687	ADCY1	GAAGCACAAGTCTCAGGGG
33688	TCEA1	ATCAAATTTTTAAAGCAACTTGGG
33689	KCNQ2	CCCATGCCTCCTGCACACAGCCG
33690	LMNA	CTTCTGCTTTTCTGCCCTGGCT
33691	FRZB	CTGCACCCTGCCCCATCCTGCC
33692	CHEK2	TGCGGCTCCAGGTGGGCTCACGCG
33693	VBP1	TAGGAATAGTATAAAAAATCCCTGT
33694	SERPINE1	GACCAGCCTGGGCAACATACCAAGACC
33695	LASS2	CTTACCCTACCTCTGCC
33696	SH2D1A	AAATCCACAGACCAACCTGG
33697	PNUTL2	TCCCAGACTGTGACTCTGAT
33698	ADH1B	CTCTGTCTCAGTTTTCACTG
33699	H1F0	GTCCTAGGAAGACTTTTCTTTTCCT
33700	SACM1L	TGCTGCAATATTTCAGTGTTGT
33701	MAP3K7IP2	TCAGCCCACAGAGCTAATAAT
33702	LIFR	CCTAATATTTAAAATTTACACTTCT
33703	MSR1	TCTCCAATCCACACATATTGTT
33704	ATP7A	GCAGTCCCTCCATCTGGTAT
33705	F7	GTGATCTGCTGGCCCTCAGGCT
33706	SLC4A7	TGACTTAATTGTTAAACCCCA
33707	MAP3K9	GGGATGAGGTTGCTGTGA
33708	IL1R1	GCCTGTAATCCCAGCTACACCTG
33709	ATM	ACCAGCCTGGCCAAGAGACCAGCCTGG
33710	GPC1	TGCATCCATTTACTGACACTTCCT
33711	PGF	AGAGACACATACAGAGTGGGCCCCG
33712	CLK2	TGGGACTCCAGTCGGGATA
33713	DLST	GGTCCCGGGTTAGCCTGGTGAC
33714	SORD	AGCAGAGTTTGGCAGGCAGGTGCCAGGA
33715	NUP98	TCTTTTTCTTTACCTCCA
33716	CBLB	TCGACAGCTGTGGCTTCCTTGTTTTTG
33717	B4GALT3	CCATGATCCCTAAGAAGACAGCTTGAA
33718	BST1	TATAATGACACAAAGCATTGG
33719	REV3L	CCTGAGGAGGCGGCGGC
33720	C8orf1	ATGCCTGGCTTGGTGTCTGGC
33721	PROK1	TTCCTGGGCACAGGCTCTTGGGTGCA
33722	ACTN1	TCCATGAAAATATTTTATGATA
33723	PTP4A2	TAGTTTCTTCAAAACCCTATC
33724	DLG3	CCATCTCATTCATCATGTGACTGT
33725	CTSF	CCGGGAGGTACAGCTGGCAGAG
33726	KLRD1	CTGCCCAGGCTGGAGCATAGT
33727	FBXW1B	TTTGTTCTTATTCTTTTTCTC
33728	TTC3	AAAAGGAGAAGAGGAACATCCGTTGAA
33729	PMM2	GTAGCACATTAAAGTGATTTTA
33730	KL	AAGTCTTTACTGGCTTTCATAGCT
33731	TNFRSF14	CTCAGCAGGACAGGCCCCGGGCACTGC
33732	PDE4C	GGGCTGACAGAGCAAGACACTGTCTCA
33733	CALML3	CACTGCACCTAGTAGGCACTCAAATAT
33734	TRAF5	ATACTGAAGAACTAGAGTGTCACT
33735	XT3	GGTCTCAAAGATAACTGCATCCTTCA

33736	RAB30	CCCATCAAATCACAGTGCCC
33737	ACHE	AGTGCTCCCTTCCTCCTCA
33738	ACE	CTGGGAGCCGGAGGCTGCAGTGA
33739	ETV5	TAGTCTCAAACTGTCCCCCTTA
33740	MMP14	TGGGGACTGCCAAGCCACCCTAA
33741	CELSR2	CACTGCACTTTGGACCCCTGGGGCC
33742	SLC22A11	CAGGCAGCCCGGGCACAGTGA
33743	NID	CAGTGTCCTAGGACCTTTTCCCAATA
33744	SFN	TTCCTCCCGACCCCAGGACCAGGCTA
33745	MAPT	TGCCGCCGCCACCACAGCCAC
33746	CBFA2T1	TCCCTGTCATTGTTCTGCCT
33747	DLEC1	CTTCCCAACATGCCTCCTGCCCTGCTA
33748	GFER	CCTGCCTGGCACATGCCTGCCAGC
33749	CENPB	CCTCCCCATTTGGCCCTGGGCTCAGG
33750	ING1	CAGGTGTATAAATGTACATTTCCA
33751	FOXI1	GGAGAATTGGTTGAGTAGCCAAGGAAG
33752	CAPZA1	GCATTTTTTAGAAGCATTTTA
33753	CALCR	ATACAGAGTACGTTAAAAGCAAAAAGA
33754	CLECSF12	TTGCCCAGGCTGGAGTGCAAC
33754	PRND	TTGCCCAGGCTGGAGTGCAAC
33755	PCDHGA1	ACCAGTCTTCTGTTTTGT
33755	PCDHGA10	ACCAGTCTTCTGTTTTGT
33755	PCDHGA11	ACCAGTCTTCTGTTTTGT
33755	PCDHGA12	ACCAGTCTTCTGTTTTGT
33755	PCDHGA2	ACCAGTCTTCTGTTTTGT
33755	PCDHGA3	ACCAGTCTTCTGTTTTGT
33755	PCDHGA4	ACCAGTCTTCTGTTTTGT
33755	PCDHGA5	ACCAGTCTTCTGTTTTGT
33755	PCDHGA6	ACCAGTCTTCTGTTTTGT
33755	PCDHGA7	ACCAGTCTTCTGTTTTGT
33755	PCDHGA8	ACCAGTCTTCTGTTTTGT
33755	PCDHGA9	ACCAGTCTTCTGTTTTGT
33755	PCDHGB1	ACCAGTCTTCTGTTTTGT
33755	PCDHGB2	ACCAGTCTTCTGTTTTGT
33755	PCDHGB3	ACCAGTCTTCTGTTTTGT
33755	PCDHGB4	ACCAGTCTTCTGTTTTGT
33755	PCDHGB5	ACCAGTCTTCTGTTTTGT
33755	PCDHGB6	ACCAGTCTTCTGTTTTGT
33755	PCDHGB7	ACCAGTCTTCTGTTTTGT
33755	PCDHGC3	ACCAGTCTTCTGTTTTGT
33755	PCDHGC4	ACCAGTCTTCTGTTTTGT
33755	PCDHGC5	ACCAGTCTTCTGTTTTGT
33756	COG3	CAGCTTCTTAGTTCAAAAAGAATTCT
33757	CPT1B	TCTTCCCAGAGGGCCGGCTGGAAC
33758	GARP	CACACCCTGCTCTGGGCACTGGGAAT
33759	ANGPT2	GGGAGAGAGGAACAAAGGACCGTGAAA
33760	CMRF35	ACTACATTTTGTCCCCTCCTGGG
33761	SDC1	GCCAGTCCAGGCTGCCGTGGGGC
33762	DFFA	CAAAAGTAATTGGCAGTGATTGG
33763	COG6	CCTATGTCTCTGTCCCCAAAATAGCTG

33764	TCAP	TTGCCCAGAGTTGGGGGCTAGGGGAG
33765	CEACAM5	TCTGGCAACAGAGCAAGACTCCATCT
33766	HAL	GGAGTCTGAGGACCTTTATGGG
33767	DPEP1	GGAGCCCTGCTGCCCACAT
33768	ADD1	GCTTCATGTGGCATTCTCTCTGC
33769	RNGTT	TTCTCTCGAACAAAACAGCAAA
33770	C7	CCTTCCTCCTCAACTCCCA
33771	PRPS1	CTACCTGCATTATCTCATTCTGGCTTC
33772	LASS1	CCCTGCTCCAGGCTCTAGGACT
33773	DBY	CTTACACTCTTTAAGCCATTCCA
33774	DMD	ATAACTTGCCATTTCTTTATAT
33775	STAT6	TGGAGCCAATCCACTCCTTCCTT
33776	KCNA3	TTCCAGATGGTTCCTACTTAAATGAT
33777	MLLT7	GGAAAGGGGAGAGGGTTTTTCTCAC
33778	CARKL	CACACCACTCCAGAACCTGACAA
33779	HIVEP3	GGGGCCACCTGCCACTGCCAGCT
33780	SIM1	CAGCGTTCATGTTCTGTGAT
33781	GAS2	CCACTTCTCCAGTATAGTCAGTT
33782	CCND1	ACCCACAGCCCTCCCCAGCTGCC
33783	PTGER2	CATCTGTCTATATTTTATTT
33784	TCP1	ACAGGGCTGCAACACCAC
33785	GRLF1	TCAAGATTCCACTCTGTG
33786	IMPA2	TCGACGTCTCTCTCACCAGGAT
33787	MYH3	CTTCTGCTCTCATCCTGCA
33788	MXI1	TGAGCCACAGCAGCATTTTT
33789	RHAG	CATGGTGACCACAGCCAGCTGGAAC
33790	SARDH	AACTTGTGCCCTCCCTGTCCTTA
33791	POV1	CAGTCCCTATCCTAGAGGGGTTGAGCTTT
33792	TIMM23	GACCACCCAGGCTTGAGGCAG
33793	FZD4	TATCACTTTTCCTCCAGGGTT
33794	TNFRSF13C	CTCCAGCATGCACATGCC
33795	ZNF14	TTCAGTTGACCTAATTCATT
33796	P2RX7	GCTTTCATCTTCTGTTGCTCTCTGTGT
33797	FGFR1	CCCTGCTCTGCTGGAGAGGAACC
33798	ARIH1	CTGAAAACTTTACCATCTAGAGT
33799	GPR37	GGGGAGGGGGACTTGTTTTTC
33800	PTMS	TCATTCTTCTCCGGTAGCCTCTCCCA
33801	SPAP1	ACTCTTCTGTGAAGAAATCATACACTTGG
33802	SMARCA2	GGGAAGAGATTCAGCCAGCA
33803	OLR1	GTCTGGGAAAAAGTGCACGTGAAG
33804	CTSS	ATCACACCACTGTACTCCAGCCT
33805	PYGO2	CTTTCTCAGCCTCTCTCGTGCTTTTCT
33806	MDFI	CTCCAGTCTCCTTTCCTAGGCTTTT
33807	GNPI	TGCCAGGAAAATACACCAA
33808	FGF5	CTATTTGAAAGTCTCAGGGG
33809	WHSC1	ACTTCTGGCCAGGTCTCTGCCATGGT
33810	INPP5B	GCTTATGCCTGTAATCCCAGCA
33811	TNR	CAGGCCTCCTCAACCTTCACCTC
33812	LANCL1	CTGACCTTTTAAAGGCCACT
33813	SRGAP1	GTACTGGCCTTCTCTATCTAAGA

33814	DNASE2	ATCTGTAACCCCAGCACTTTG
33815	RHO	CTAGAGGTGGAGGAGGCAGTCCTGGG
33816	TPM1	GCCTGCTTACACCCTGCCCTCA
33817	MYH11	ATTGTCTAAATCCATTCTCAA
33818	SLC29A2	TCTTCATCCACTTGGAGTGCTGCGGGG
33819	CLOCK	TTCAGTTATAGAGGTAAAATTTGCA
33820	LGALS3BP	CCAGGAGGCCCTCGAGGTTGCTCTG
33821	SLC38A3	CTCACCCTAGCAGCCCTGCCCAGAC
33822	POLL	ACTCCCTCCAGCCTCAGCTGGCTGAA
33823	SPN	CCTTCCCTCTCACCATCC
33824	MSMB	GTAGGCACAGGGCTCCCAGGCCAGGC
33825	NR2F6	CAGGACTCTGGCTTCTCTCCTC
33826	ARG2	GGTCAATACTGCCTTAATGAGAACATTTA
33827	USP5	TGCCCCTGTGTGGTTGGTCAAGGAGGG
33828	SEPN1	GCTCCTGCCGCCCCTCTTGCCCCTCAG
33829	NSEP1	ACCAGATAAATAGAACTATCT
33830	DCX	TGGAAAGGATAGCCATTAGCA
33831	LRRC2	AGAGTGAGACCCTGTCTCAAAAGC
33832	CHC1	CTGTCCTGCACAACCTCCCTCA
33833	KMO	GGTTCACTGCAACCTCTGCCT
33834	LTK	CCTGGCAGCGCTGCACTTGCCA
33835	PPID	GCTCACTGCATCCTCTGCCTCC
33836	TLL1	AGTTCCTTACCTGCCC
33837	C9orf19	CAGAATTACTGAGATTTCTCAG
33838	ASTN	GCCAGGCGCTGATGTAAGCACTTTAGG
33839	NSMAF	CAGTATTCTCTGCTACTTCT
33840	TFAP4	CCAGGTCTCATCTTCCACCCCAAAAATGTCTG
33841	SERPINA3	GAAGCTCTCACACGCACAG
33842	LRRC2	CCCAGGAGGTCGAGGCTGCAGTG
33843	EPB41	CGCACCCAGCCCAGAGAAGAG
33844	NR4A1	GCCCAGTGCTGCTGTAAATACA
33845	SLC12A2	GCTACTTGAATAGCAATA
33846	SCN4A	CATTCCTGCCTGGTCCAGTGGGG
33847	ANK1	CCCTGTCCTGCCTCAGTGCCT
33848	PDZK1	TCCATCTCCAGGGTCTCATT
33849	OPA3	ATTGCTTGAACCCATGAGGTGG
33850	XRCC2	ATTGCTGGAACCCAGGAGGTGG
33851	FBXW7	TTCTCTCTCATTATTCCCTCG
33852	TRA1	GAACCCAGGGGTGGGGGGTGG
33853	TAL1	AGAACTCAAACTTC
33854	PRKY	TCCATATTCAAGACCTTTTTATTTGTTT
33855	NEBL	TTTGGCTTCTGTTTGCTTCAAAATAT
33856	ARHGEF12	TGCTGGCAGGTGGGCTTGCCCT
33857	SLC6A8	CGTCCTGGGTGTCTGGGCTGCTAA
33858	P2RY6	GTCTTGCTCATTCTTCATGACA
33859	TMOD3	TAAAATCAGTAATGTGAT
33860	FMR2	TACCTCTACCAGCGCACTGATGG
33861	MX2	AAATTCTTCTTTTGTATGTCCA
33862	LRRC2	GTGGGTGGATCACCTGAGGTCCGGAGT
33863	TRIM9	CAACTCAATGCCTTTTCAGCTGCA

33864	RAD1	GCTTTAATCCCAGCACTTTGG
33865	RGS14	CACACCCCACAGCTGCCACCG
33866	ST5	CCTGCCTGCCTGCCTGAGGTCCCCGCTGC
33867	PAM	TGAAACCAAGCTTTGATTTAG
33868	ZNF26	TTCTGTTGAGAACATCCATTCATTCT
33869	EHD2	CAGGCTGGAGTGCAGTGGTGAG
33869	KMO	CAGGCTGGAGTGCAGTGGTGAG
33870	HOXB9	TCTGGGTGGGAGTGGGGAG
33871	TCFL4	ATTCCATCACCTTCCTCCTCTGC
33872	UBL3	TCCTCATATCCAAGGCTACTT
33873	PSME3	CCTCCATGTGTTTCTCAGTTTC
33874	SLC6A6	CCTCCACTGGGGAAGTGCTCC
33875	CREBL2	GGAACTGGAGTTGTGCACA
33876	SYNGR1	GTTACTGCCTGTGTATAGTATAAATA
33877	NAP1L4	GCGGAGGCGGGTGCCTGGCAGACC
33878	RPH3AL	CACGGCCTCCGAAGCTGCGTGT
33879	MFGE8	GCCTCTCTTGCCCCTTGTCCTG
33880	IVD	CAGCGTTCGGGGCAGGGCCACT
33881	AQP6	CAGGGAGGAGGGAATTATTAGCA
33882	LZTS1	TCCAGGAAAGAGCAGTCAGAGTCCA
33883	APOA4	GCTGGCTGCCCCTGGTGCA
33884	DPH2L1	CTCTGGTGGCCACTTCATTCCA
33885	KCNQ2	TGGTGTGAGAGGGACGGCTCACAG
33886	TARBP2	CCAGCCGGCCACTGTGTGTCAT
33887	FGFR3	CCAGGTGCAGAGGTACCCTGGGTGTCC
33888	TACC1	AGTTTTCTCACGTGGTTTCTAGCT
33889	TTR	GCTATGTTAGAAGTCCAGGCAGAGACA
33890	RARG	CAGGAACACTAGAGACCAAAAAG
33891	GNPI	CCACGTCAAACTTCTCTCCCTCA
33892	RASD1	AACACAAAACAAAACTTGCA
33893	AK1	CAGGCAGCAAGGTCATGGTCTGAGTGG
33894	ALS2	ACAGAGAGTGAATACACTGGAAT
33895	CREB1	AGGCAGCAGAATTGCTTGA
33896	VEGFB	AGAGGAGACTGGGAGGCAGCAAGAG
33897	THRA	GTGGGTGGCCTGTGGGTGTGCCGGGG
33898	PRX	TGCCTTCAGTGGAGCTAGA
33899	SLC7A5	GTTGTCTAGGAGACAGAGCCA
33900	HSPA5	ATCACACCACTGTACTCCAGCCC
33901	PSMD5	CCACTGCACACCAGCCTGGGCAACACA
33902	TNFSF9	GTCAACCAGGCTAGAATGCAGCG
33903	EGFL5	TAGCCTATCTATTGCTCTT
33904	DFFB	TCGCTCAGGCTGGAGTGCAGTG
33905	NR3C1	AATAAGAATGGTTGCCTTAAAGA
33906	FCRH3	ACAATTTGCTCCAAATATTTTGTTT
33907	PAWR	TGTTTTCAAAATACTTCTTTTTCAT
33908	MFAP2	TGCTGGCATCCTGAGTCCTGGCCCT
33909	MTMR3	GCCTTTCTCCTCTTCTCTTCTTGGGAC
33910	KCNK10	GCAGGTTTTGAGCTGCAGAGACCC
33911	PMM2	CAGGACAGGCCATCTGCAGTGA
33912	MVK	GGCCTAGGAGGGTCCTCTGAGA

33913	GGA1	GGCCTCCTATGGGTGTCTTACGTCTGT
33914	MFAP2	CTGCCTCTTTGTTGCCATGAGAGCTG
33915	GLRX	CCCATCGGCATGGCTCAAGAGTTTGTGAA
33916	PEA15	GGAGAGGTAGGTGGATCCAGGGAA
33917	CCNT2	TCAGTATTTCTACAATTGCAGCTAAG
33918	NT5C2	CATGCCTGTAATCCCATCATCT
33919	NEO1	TCGAGGCAGCTTCCCTTTGCC
33920	TOP2A	TGCTTTCTTTTGTCTTTAAAACCTGA
33921	AMPD2	ATGTCTGGGGCCACAGTTGCTG
33922	MAPK14	GGTTTGGGGAGAAATAAAT
33923	ZNF277	AACTTTTCAAAAATGAATGT
33924	GAB2	GTGGGTGGGACAGGAGTGTGTTCAAG
33925	CDC42	TTAGAAAACATGTTCCCCATCTGGTGC
33926	CELSR3	GGGTCCTCTGACTTCCTCATG
33927	ALCAM	ACTTTCTCATAAGCACC
33928	ADCY7	TTGAGGTGGTGCATGCAAGTAACTAGG
33929	PBX3	GTCTTAATTCAACACAGGATCG
33930	GLO1	AATCAGCTCAACTCAAGATTTCA
33931	EHHADH	CTGTCATGACAAGCCTCTGTGAT
33932	GADD45G	TGCTGAGCTCTGGCTGTCAGTGTGTT
33933	D10S170	GCTCCTCCTCCTTTCCCAGC
33934	DSG3	CACTCCTAATTCTCAAGTACT
33935	CXorf6	CAGACGGCCTAGTGTGCCAAGA
33936	FBXL7	CCCTCCCACTGGAGTGCGGG
33937	ZNF143	TGGAATAGATTCTCAGAGTGA
33938	DPP6	CCAACTCGCCGTCAGACCCCACCT
33939	JAK2	GAGGCTCTTCCTCCTCCTCCCG
33940	LAMC2	GAACCCAGGAGGCGGAGGTTAC
33941	IL10	CCTGTACTCCAGCCTGGGTGA
33942	DHCR7	CCCCCTCCCCTGCCTGCTCTGC
33943	FLI1	TCAGTCTCCTAGCATCTTGTGA
33944	MKKS	TCTAGATCTTGACTCCCTGCCGTAACTA
33945	FGF5	CACACATATATATAACAAATA
33946	IRS2	TGGAAACATCTGTGGACTCTGTTAGAT
33947	CLN5	GAGGTTAGTACATTATTATTGAGCTCT
33948	PFN1	CAGACACCTCCCCCTACCCA
33949	TNFRSF1B	CAGGCCAGGTGCAGTGGCTCA
33950	GALT	CATTGCATTCCAGCCTGGGCAA
33951	GAS7	TCTCCTCTGGAAATGCC
33952	TLR9	CTGCCTGAGCTCTGGGCCTTAGCTCCTCC
33953	SNX15	GGGTGGCCAGAAGTCCCTGCGG
33954	OSCAR	AGCTTTGTTCTCTTGCTCTACACAAT
33955	ISLR	CCCTTGCCCCTACCAATGCCCC
33956	HOXC11	CTTCCCAAATTTTCCCCCCTCGCTAGA
33957	KRTHA1	GAGAATTTAGACTCTGTCTTCAGCCAGGC
33958	IL7	TGCTGATGATCCCAAAGATTG
33959	SLC6A8	GCAGCCGCCGCCGCCGGG
33960	ACPP	CTGAGGCAGGAGGATCACTTTA
33961	TG737	CCCCCTTCCCGCCGCGCTCT
33962	WDR1	AGCCTGAGAAATAATTAAATAT

33963	TSC1	GAATGCTGGCAAAGGCTGGCTGTGTATA
33964	LIG1	ACGCCAACATGCAGCGAAGTAT
33965	DNMT3L	TCCCCCAGCCCCACTGAGCTC
33966	CDK2AP1	AAATGCACAAGTTATAAATACAG
33967	MS4A2	GAGGAAGAGTACAAATAGACCTAAATT
33968	CARD4	CTCCAAAGAAATAGGGCATGGCTTG
33969	ZNF192	CTCTTAGAATTCCCATTTA
33970	TAZ	TGGCTTCAGGAGGGAGCATAGA
33971	MUC3B	CTGCCTTTTAAACCCATCCCC
33972	PTAFR	ACCATCCTGGCCAACATTGTAA
33973	RORA	CCCATCATTCTCCACCCAGCTG
33974	HPS4	GCAGGGACTCTTTCCTTACTGGGCCC
33975	GPR62	TGAGAGCCAGGAATCCTGCGG
33976	CCND2	CTCTGTTCTGCCTCTTATC
33977	METTL1	GGGCAGCCCTGTGAAGCCAGAGGAGATGGACT
33978	AAT1	TGTGTTCATGCAACAGCCATAGAGATG
33979	CEP2	ACGCTAAGCTCCAGTCGGCGCC
33980	ADAMTS3	AAAGAATTGCTGCTACTTTGTGCAAG
33981	GRB10	CAGCCTATTGTAGGAGGGGGATGTGGC
33982	MASP1	GCAGTGCTGGGCAGGTGACTTC
33983	ZNF146	TTTAAGGCCACACCTTTTTGAA
33984	LTBR	GCAGCCGCCGCCACCGCTGCCCAG
33985	E4F1	GAGTTTCTTGTTGCTTTACAAT
33986	PCDH8	CACTTGAGGCTGGAGGCATG
33987	MIR16	GAGGAAACTAAACTCTGTGGAAG
33988	DISC1	ACTCCTATTGAGACAGCTGCA
33989	C3	TGGGACCCACCTCAGGTCCCAGC
33990	FSTL3	GTGTGCCCCTTTGCGTCCTGT
33991	CLCA3	ATACATACTTGGTAAACATTTAT
33992	B4GALT2	AGGACACCTTCAACCGGGCCA
33993	RGS1	ATGAAAGTTATCCAGGCGCAGAGT
33994	C8orf1	AGTGCAATGATACAACAAAAAGA
33995	MAP3K9	AGCCAGTTGGGTGTGCGCAGAGCTGTCATAGG
33996	WTAP	GGAGCAGCTGCTCCATTGTGCC
33997	PMM2	TCACCCAGACTTTACCGCGGAGGCGG
33998	ABCA1	CTAACATCCTGCTTTGATTCC
33999	GPR62	GGACAAAGCTACTGAAACTCCTCC
34000	PYGO2	CCTTTCTCAGCCTCTCTCGTGCT
34001	GAA	GCAAGCCTGGGAACTCAGGAAAATTCACA
34002	MNT	GCACAGCCACCTGCCAGACCCGTGGCT
34003	FLOT2	TCTTCATGGGCATGTTCCTGCTGGGGCG
34004	ELF3	CCAGCTCCTTTCTCCTGTGAATGGAGG
34005	IRTA1	CCCTTCACTTCTGCCTGCACAGCTTAC
34006	UBE2G2	GCTCACGCCTGCAATCCCAGCA
34007	PTK7	GGGAAGTGTTTACACATGGAGAGATGCCC
34008	LU	TTTACCTCCCGCCTCCCTTGCTGGTCC
34009	NOV	AATCCAAGGAAACATGCAGCTCTTC
34010	RET	TCACATGTGTGGGTCCAACACT
34011	FANCF	TGATTCCTTTTTCTAATCCA
34012	F2R	CGGGGAGGGGGCGCCGAGCGGC

34013	MTERF	TGAAGGAGGAAGACACCTTGA
34014	NFATC3	GGGGTGAGCAGGCAGGCTCC
34015	DBY	AGGCCTCACTACAGGCCTGGT
34016	CDKN2A	GAGGGGGAGAGCAGGCAGCGGGCG
34017	RCE1	AGCAGCTGTGAGTGAGGGGACA
34018	ZFHX1B	GATCATTTGGGCAAATTTTACGTAAAGA
34019	EIF4EBP1	ACACCCCAGCCCTTTCTCCCTCA
34020	CD83	GGAGAGAAGAATGAGCCTACGCTGAA
34021	SEPN1	TTCCCCAGCCAGTCTTGTTCTC
34022	TTR	GTCCAGGCAGAGACAATAAAAC
34023	TMEM2	GGATACTTGAAGTTTAATGCTCAG
34024	AFG3L1	GCTGAGTCTGGAGGAGACGGAGG
34025	RAF1	CCAGCTGTTGGCTACATGAGTATTTAG
34026	CBFA2T3	AGCAGCCCTCTGCCTCCTCCCC
34027	HEM1	GGGGGTGGGAATGGGGTGG
34028	MCM4	TCAGCAATAGAGTGAGACTGTCTC
34029	HNRPA2B1	TTCTTAGCTTTTTAATTGTTGT
34030	SSX3	TTCCATTGTATTTTCTTGAA
34031	TM4SF2	ATCGGTGACTGGTTATCACACC
34032	LIF	AGAACTTAGGGTCAGGGTCTCAGGGA
34033	SLC7A6	TCCATGTAGATAAGAGCAAGTGTA
34034	EGLN1	CATATGGTGTGGTGAAAACTCACT
34035	PCM1	TTCAGAGGCTCATCTAACTCTG
34036	PHEMX	CCTGCAGCAGTCCCGTGCC
34037	CHAT	CGCGTCAGGCCCAGCGCACAGCCTG
34038	SLC21A2	TCTCCCTGGCAGCAGATGAGGT
34039	GNB3	GGACACAGGGGCAAAGAACTGCCCCA
34040	SIX6	GCCGGCCTGGCTTCACTGGCGCCCTTT
34041	AKAP1	TGGCCCCTCTGGCCAGGGCCCCT
34042	KRT6B	CATTCCTGCACTGCTTTCTCTGCT
34043	ARHGEF7	GTAATCGTGCAGAACAGCATGT
34044	TEM7	CGCATCACCACCCCTTCCTCCA
34045	PSMD5	AGGAGTTTGGAATGCATTAAGAGCAGAC
34046	OASL	CACTCTGTCCCATTGTCTACT
34047	NBS1	TGTGGCTTGACTGTTTTCTTTAT
34048	MAPT	TCAGTGATGGGAGTAAGAGCA
34049	TP73	TGCCTCCCCTCTCCTTCCTGTGTG
34050	GATA3	TCAATATTTTCCTTCTCTCTCA
34051	BRCA1	TGCACAGTTGCTCTGGGAGTCTT
34052	COL16A1	GGGCTGAGGTGGGAGGATCGCC
34053	NR4A2	TGGGGAAGCTCCCAGAACTTCGTA
34054	XRCC5	TTACATACATGCTTTGAAGTTTC
34055	PPP2R2B	AGGGATCTTTTTTGCATTTTG
34056	PCDHB11	AGTGGCAGGATCTCAGCTCACT
34057	SLC13A1	AGTGGCGGGATCTCGGCTCACT
34058	SLC4A7	AGCTTAGTGCTACTGAATACCCTG
34059	RBM10	ATCACCCAGGCTGGCAGATCATGGT
34060	DLEC1	GCACAGAAGCTCATCTCAGTC
34061	PIGR	CTCACCCTCCCAAGTAGCTGGG
34062	MMP3	TCTTCACCTAAGTCTCTGTGAA

34063	ZNF18	TCTATCTCCCAGCCC
34064	KIF5C	TTCTTTAATTTTGTTATCAGTGCC
34065	BAZ1B	CTGGGAGGCGCGGCGGTGTGCGCGGGA
34066	APOL1	CCCAAGTAGCTGGGACTACAGG
34066	EIF5A2	CCCAAGTAGCTGGGACTACAGG
34066	FHL2	CCCAAGTAGCTGGGACTACAGG
34066	PIGR	CCCAAGTAGCTGGGACTACAGG
34066	RGS9	CCCAAGTAGCTGGGACTACAGG
34066	UGDH	CCCAAGTAGCTGGGACTACAGG
34067	PLCB2	CCCTCCTGCCCCAGGCTTCCAGGCCCC
34068	EPM2A	AGTCTGTTCCAAGGCATCACC
34069	STK24	TTTAAATTGGAACATATCTTGC
34070	PRPS1	AATTGCTAACATTCATATT
34071	FUT6	CCCTGCGGAAGCCTGGCCTG
34072	PPEF2	TTTCAACAAAGATGGCCACATTGA
34073	ENTPD6	TCTGGACCTGGGCCCTGCTCAATGC
34074	GTF2H1	CTTCCACCTGCACCTTCTAGCCACC
34075	KCNA7	CTGAGGCAGAAAGATCCCTTGA
34076	MASP1	CTTACTTCCTCGGGGCCTGCCTC
34077	SLC6A12	ACTGAACACACTGTGTTGGATCGGAGG
34078	GPR81	AGGGATCTGTTTCCTTGCCCTG
34079	MCP	TTACATGTGTTTTTCTCTCCCTCCTT
34080	IL17BR	CCTTGTACCCACCCATGAGAAG
34081	IDH3B	GAAGGGGAGTACAGCTCTCT
34082	B3GALT3	GGTTAGATTTGACTGGTTTTG
34083	ESRRBL1	AGCCTTTACACTGAATGTAATG
34084	RAD52	CTGACTGGAGTTCAGTGGTGCA
34085	APOBEC2	TTTGCCTCACGTATTCCTGC
34086	KIF3C	CCCTGTCAGCTGCCTCCAGAAG
34087	PPM1B	ACACATTTAAATACAGACAGCTT
34088	SLC9A1	CCAGCTCCTCAGTCACTTTCCTCAGCCA
34089	STIM1	CATGGCCTGCCTGCCCTGCCTCCGTCCCA
34090	EXT2	GCACTCTGATGTCAGAGTAG
34091	GCNT1	GGGACTCTAGTAGATCTTCTTGTC
34092	UBE4A	AGAGCTACTTCTAACACAGCCTT
34093	PRKCD	GCTGTAGCCCACATCTCCCG
34094	CPSF6	TTCACTTTCATCTTGTCTGCTAT
34095	SLC9A1	GCTCCTCCCTCTGCCTCATCCTCCTCC
34096	PLSCR1	AGCGGCAGCCAGAGAACTGTTT
34097	STX1A	GTCTCATCCTGCCCTTGCCA
34098	DUOX1	AAGCCATTTACAGAAACCCACT
34099	IL16	GTTGCCCAGGCTGGAGTTCAGC
34100	RRAD	GGACTCTGCCTTTTTTCACAGCCCG
34101	MAGEL2	GGAGCCCCGCCCTCCCAAAAAG
34102	MEF2D	CCCACTCCCCTCCTCTCAGCCT
34103	KCND2	CTGTGCACTTACAACAAGCTGA
34104	FUT9	TTCAGCACCTGGAAGTAATCC
34105	SLC39A4	CAGGAGGCGGAGGAGGCTAGTG
34106	AK2	GGGTGAGGATGGTGAGGGAGGGCTGG
34107	CTSD	CCTACCCCACACCAGGCCGTCCT

34108	ACVRL1	TGGTGTGTGCTGGGGATGGGCAGCTGCGC
34109	RBM3	GTGTACGCCTGTAATCCCAGTG
34110	ADORA2A	CCTCAGGAACCCTGAAGCTGG
34111	GNL1	GGGAGCGGAAGAGAGGGCTTCAA
34112	HMGA1	GCCATCCCAGCCATCACTCTTCC
34113	TCOF1	CCCCATGCCTCTGACCTCCACCGACCTC
34114	KIF13A	GGCGAGCGCAGCCAACATGTCG
34115	SLC7A4	GCTCTTCTCGGCCACCTGCCATGGCCC
34116	MYEOV	GCAGGCATGAGCCAGGTGCTGG
34117	C7	CCAAATGCTGGGATTACAGAC
34118	TRIM39	ATGCTGAGCTAGAGTTGAAGGAA
34119	ABCF1	CCCCAGTCTTTGGGTGGTGCT
34120	NHLH1	CGCACCAAACTCCTAGCTCTACAAGTA
34121	LETM1	AGGAACAGGAGATATTTCTCAA
34122	ATP8B2	TCTGCCCCTGCCCTGCCTGGGAC
34123	USP6	AGCTAAATGTAGTTATTTTATCCTGT
34124	CYP2B6	CTGCAACCTCCACCCCCGGGG
34125	MAP4	CCTGGCTCCCTTCTGCCCCAGCTCCGTC
34126	SYNGR1	TGAGAGATGGAGGGCGAGATTTGGAT
34127	TPM1	TACAGAAGCTCTTCGTTTCAGT
34128	AR	TGTGAGCCTAGCAGGGCAGATCT
34129	HMG20A	GGAAGACAGGCTTCCCTTC
34130	CASP8	GCTCATGTCTATAATCCCAGCA
34131	ADCY1	GGAGGCACGCCCAGTGTGGGAGA
34132	ITPKB	CAGACACCAGCTGTTTGCAA
34133	DLST	CAGCCTCTGTCCTGGCTGTG
34134	CRY2	GCCCTGCTGAGTTCCTGCTTTCTGA
34135	SIGLEC11	CCTCCTCTGTGGATGGTCACTGCC
34136	TMC2	TCTCTCCCCTCTTTCCTCTCACATAC
34137	DCX	CTTATTATCTTTATTTGTACTT
34138	P2RX7	CGGGAGGCAGAGGTTGTAGTGA
34139	SERPINB2	TCAGAGAATAACCAGAGAA
34140	F2RL3	TGGGAGGCAGAGGTTGCAGTGA
34140	IL17R	TGGGAGGCAGAGGTTGCAGTGA
34140	PDE7A	TGGGAGGCAGAGGTTGCAGTGA
34140	PSMD5	TGGGAGGCAGAGGTTGCAGTGA
34140	PTAFR	TGGGAGGCAGAGGTTGCAGTGA
34140	RAB7L1	TGGGAGGCAGAGGTTGCAGTGA
34140	RBBP5	TGGGAGGCAGAGGTTGCAGTGA
34140	SPTLC1	TGGGAGGCAGAGGTTGCAGTGA
34140	TCTA	TGGGAGGCAGAGGTTGCAGTGA
34140	TEM7	TGGGAGGCAGAGGTTGCAGTGA
34140	TSNAX	TGGGAGGCAGAGGTTGCAGTGA
34141	USP14	TGGAAGGCAGAAGTTGCAGTGA
34142	ARVCF	TCTGCCTGGAGCCTGGGCAG
34143	BRCA1	CCGGGAGGTGGAGGTTGCAGTG
34143	DAPP1	CCGGGAGGTGGAGGTTGCAGTG
34143	SIGLEC11	CCGGGAGGTGGAGGTTGCAGTG
34143	SIM2	CCGGGAGGTGGAGGTTGCAGTG
34144	TCP10	ACCAGCTGATTCACAAAGTGCT

34145	MRPL49	GGGAAGGTAGCACAGGGCAGAG
34146	GPR91	TCTAAAGACAAGTTGTACCCAGA
34147	ENTPD6	CTCTTCATAGACGGCAGGTGCCC
34148	NDRG3	GCTCTGAAGAGCAAAACTGCTGTCGC
34149	STAU	TACTGTAGAACTAAATGCA
34150	OGT	TCAAGCCAGCATATTCCTAGTA
34151	FBXL7	TGCATAGGCAAAATACTTTTCAG
34152	DAG1	CACTCCAGTCCAGCTTGGGCC
34153	CNR1	AATTAAACTGTTAACTTATT
34154	TRHDE	TTACAGTCAATTTGGAAAAACAT
34155	SH3BP2	GGATGCCTTTGAATGTGGCCCAACACA
34156	NRXN3	TCGGCCACCTCTGCAGCCT
34157	MSI1	TCCACCCCACTGGGCCCAACCA
34158	NEUROG1	ACACTGTTACTTTCCCCCTCCCCTAG
34159	CARD4	GGCCAGCCTCACCTCATTCCA
34160	FTSJ2	ATAGCAATTCACGCATTCTTCAAGCAG
34161	PMM1	GTCCCCAGCCAGTCTGCTC
34162	CPSF4	CCTGCTTCCTCCCTCCCTGCCCTGCTGA
34163	FN1	GCCAACAACTCTGATTAACTATTCCTA
34164	MCL1	AGCTTCAGTCTCGGAACATGACCTTTAGTCT
34165	MAPK9	GCTTGGACTTGCCCATCTAGCACTTTG
34166	FGF7	TCTAGATCAGTTAGCACATGCTTTCTA
34167	CHST6	ATTTTCCTATTTTAATTGCTTTA
34168	EFNA1	CCCTCCAGGAGAGAGCCAGGATGCCCA
34169	GGT2	GAAGAAGAAGTTAGTGGTGCTGG
34170	CD244	TCTCTGGGTTGACTGCATTTC
34171	CYP1A2	AGCTCACTGCAACCTCTGCCTC
34171	MICB	AGCTCACTGCAACCTCTGCCTC
34171	PCDHB11	AGCTCACTGCAACCTCTGCCTC
34171	TUFT1	AGCTCACTGCAACCTCTGCCTC
34172	CYP8B1	GGCTCACTACAACCTCTGCCTC
34173	ALEX2	CCTAAACTGAAGAGCCTCACCCG
34174	MYO1A	TCCATCCTGGGGCCAGGA
34175	P2RY6	GCAAACTGCCTTCTTGTCAG
34176	CLCA3	ATTGCAACTGCTCACATGAGTC
34177	CYLN2	CCACCCTCCGGCAGCTCAGGGA
34178	TCTE1L	CTAAAAATGTTGGGCTAAAGC
34179	ZNF165	TTAGCAGCCTCTGGGT
34180	CTMP	CTGCTGGTGAACTCCATCTC
34181	PTK2	TTCACAGAATAATGTGCCAGT
34182	FSTL3	CAGGCCTGCAGACCCAGACTC
34183	RET	TTTGCACTATCCTTCCTCTCTGTGAT
34184	BCAS2	TCAAGCTTAATATGTGCTGAACATTGT
34185	SPTLC1	GTGGATACCTGTAATCCCAGCTACGT
34186	LDB3	GGCAGGACCTCCCACCTTC
34187	SULT1C1	GAGTTGGTATTTGCACAGC
34188	IFNAR2	CGAGAGGCCGCCCGCGAGGCGC
34189	PRX	CCCAAGTTCCGCTTCCCCAGGGTGTCCCTA
34190	ABCF1	CTCCCCTCCTCTGAAGACTGCC
34191	ADCY6	TGAACCATGTATTTCAGTGAA

34192	SCA1	GGGTAAGGGGGGTTGGGGGTG
34193	XK	GACAGCCCAGTGTAGAGATTGGCACTT
34194	MEF2A	CGCCTCCAGGTTCAAGTGATT
34195	LMO2	CACCAGGTGCTAGGGTGCCAGGG
34196	ZNF236	TTTAAGGCCTTAACAGGTGAA
34197	ABCA1	ATTGGGGTTGCAACAATAATTCATCAA
34198	DMD	TGGCAAAGCTTTGTGCGGAGG
34199	JPH3	CACTCCGATCCGCCTGGGCT
34200	FGF13	TATTGACTTTTTGCGTCACTTA
34201	TR2	GTGACCAAACTTTCCAGGCATA
34202	PPP2R2B	AGTGAGCTTGGCAGGGCCAGG
34203	PLAUR	ATTCATATTTACCGTCAAAG
34204	ATP11A	TTTCTATTTCTAGAAATAATATT
34205	COLQ	CGAGTTCCTGTGATTTTTGT
34206	SMCX	CTGACTCCAAGGTATTGTTCAGACCTC
34207	F8	TGTCTTCTTGAAATTTGTGAT
34208	AOX1	CCTTTTCTGCTATCACCTTCC
34209	SPINK5	AGAAAACAATACAGAGCTT
34210	SLC8A2	CCCAGACTCGGCCTCCTCTCC
34211	ANK3	GCTAGTAGAATGGCAGCACGCTG
34212	MOG	TGCCCTCCAAGATCTTCCCTT
34213	ATRN	TGCAATTTTTTGGTATTTTTTGT
34214	SSTR1	TAGGATAATACATAAATGATAA
34215	C1orf1	AGCCCAGGAAGCAGAGATTCC
34216	NR3C2	GGCTTCTGCTTCATCCTGCTCCA
34217	G22P1	CCTGCGCTTGAGGCCTGTCT
34218	GPR65	TCCAATAAAAATATCTTA
34219	RERE	GACCACACTGGGTCGGCGGACACAAA
34220	FGF2	GCCACTGCAGTCCAGCCTAGG
34221	PYCS	TTTAATACTTTGGATTCTTCCC
34222	PTK2B	GCTGCCTGGCCACTGCTCCCTAAGC
34223	SCTR	GAAGAGAAGTTCAGGGGTCCCAGAAAG
34224	LILRB4	TCTCCCATTTCTGAGTTGTCTCT
34225	COX11	CTTCTGCTGAAGTTTTAAG
34226	CEBPA	GCCGATATCAACACTTGTATCTG
34227	AGTPBP1	TTATACAGAGCTGACTCAAAAAGA
34228	LAMC2	GGAGTGAGGACCTGTAAGGCAGGCCCA
34229	NOV	TTCTCTCTTTTAAAGTATTTA
34230	EDN2	CCCTCATTCCCTCGGGACCC
34231	DDEF2	AAGAACATATCAGAAATATATAG
34232	DAPK1	GCCCGGGACTGGAGACTGATGCATGAGG
34233	KIF3B	TGGTGACTCATGCCTGTAATCCTAG
34234	ADCY6	GCAGTGCACTTGCCCCTCCTCATGCCC
34235	NFYA	GGCTGGAGCCTCCTGATTGGGTTTCGGAG
34236	LRRC2	CAAGGCCCAGGCTGGGGTTCAG
34237	DIAPH2	CCTCTTCCTCTGAGAACC
34238	ITGB1BP2	GGAGGCTGAAGGAGGGGAGAACAAAAT
34239	PART1	GATTATCCAGGCTGAGATGGAA
34240	PEA15	TGCAAATAGAAATCAGCACATTCCTCC
34241	PLCG1	GTAGCTTTAAAACCACAGCTGGGC

34242	F2RL3	CGGCAGAGGCAGAGATGGGAGTGA
34243	WHSC1	GCATCGGTCAGAAGCACCAAGA
34244	RBBP9	CCCTGCGGGAGCAGGCTGG
34245	NTRK2	GGACTCGGCACGCCCGCAACAA
34246	BACH2	GCTTTTCTTCCTCTTCCCCCAAC
34247	KLK1	GGCCCCTGGACACCTCTGTCA
34248	TAF1A	TTGCTCTTTGTAACTATGTCTGT
34249	TIMP3	CCAGACTTCCTCCTGGAAAACGC
34250	ANGPT1	TTTCCAATTATCCTTTTTCAA
34251	NMB	GCAGACACAACAGCGTGGCTTAGATT
34252	RFP	GATCCCTTACCAGTCA
34253	KRT16	AGCTATCTCCCCTGCTCCTCTGCT
34254	SURF4	GCGCAGGCCGCCCTGGCTGAGCAGCACCGCC
34255	ARHGEF7	AGGAGATGAAGCCATTTCTTATC
34256	ADCY6	GCATCTCTTCCTCTTCTGTTGCCA
34257	CASP10	CCCTGCAGTGCCCTAGACTG
34258	MCF2	AAATGATGCAGATGTTGTTTTCAGGT
34259	AOC3	CTGGGCCCTGGGTGAGGTGGGGGTCTG
34260	IL9R	CTCTACCCTCAGCATCCTGGCC
34261	OAS3	TACAAGTGCCATGATTGATTAGCAATG
34262	OGN	CTCATTCTTCTTTTATGATTCA
34263	SFRS1	TGTTTATCTTGCTTTTCA
34264	GCA	GCCTGTGCTTTTTCTCCCAGCACTGCGGAC
34265	APOC3	TCATCCCTAGAGGCAGCTGCTCCAG
34266	MYBL1	TCCTTCAGTTAACTGCTTTGT
34267	MMP14	CCTCTGAACTCTGACCTCAGGAG
34268	FGF5	GTGGCAAAAAAGGCATAGCTAAAGGCT
34269	DBP	TCGTCCAAACCACTGGAGTGTGCTGGTG
34270	ANKH	TCTTCCCTCTCCCATCG
34271	PPP1R12B	CCTCTGTCTGTTAATTCTTTC
34272	SHOC2	AAAACATTTGCCAACACATTATGAAGT
34273	BMP8	TGGCCAACACAGTGAAACCCCA
34274	DMPK	CGCCCCCCTCCTCACTTGCGCTGCT
34275	TRIM14	GACCGGCGTGACAGCCTCCAGGT
34276	GAB2	GAGCCCAGGAGGCAGCATCTCC
34277	CD74	GCCAGCCCCACACAGCTACAG
34278	DHFR	GTTGCCCAGGCTAGCATGCAATG
34279	PPARGC1	GTCTCTTGGTGATGGAGTGTGCGT
34280	HOXB5	TCTCCCTTACCCATCTTGCT
34281	TEC	TTTTGAAAACATCTCAGTTT
34282	ITK	ATGGAAGCAGCATCCTGACCAC
34283	KCNH5	CATATGTGTGTATA
34284	WFS1	TCCAGCAGGTAGTGGGTGAATGTG
34285	ATSV	GGGCGGGGACCAGGAGGGAGCGGG
34286	TMC1	AACCCAGCAATCTGTGCTTTC
34287	MOV10L1	TGTGTGGGTGTGGGGCTGCCAG
34288	P3	GGGATGTTCTCCTAAGCCGCA
34289	POU2AF1	TTCTCTCTCACCTCTAGGCCCTCTGCT
34290	SLC30A4	CTTATTTATCCTGCAGTCACA
34291	VTN	CTCTCCCTCCCTTCCTCAGGCATCA

34292	STXBP1	GCACACCATTTGTGCTGCTG
34293	MYOG	AGCCAGCTCTGGGGTGCCAT
34294	TGFA	AGTATGTTTAGAAATAGAACA
34295	GPC5	AACTGAAAACCTTCTTAACTTCT
34296	MYH6	CGATGAGGAGTGCACTGCCT
34297	SORBS1	CCAGCAGCAACCAGGACGTCTGTTCTT
34298	FGF2	AAGGCATTCATCTGCCATTTTTCAATT
34299	RAI14	CTTCCCTTTCCAAAGGTTTCTGAGGACT
34300	OAS3	GGAGGAGCAGAAGGCAGAGGCC
34301	KCNH2	CCAGTGAGAGGGGCAGGGGCAG
34302	SH3BGR	TGGAAGCTATGAAGC
34303	RAD52	TTCAAGACTGACATTTTTTCCTA
34304	HOXC8	GCCCCCAGCCCACCAGCCCAGCCC
34305	NSD1	TGAACAAACAAGCTGCCCCCAGGGTA
34306	USP5	GGACTTCAGCCCCTCTGCTCTG
34307	GALNT2	GTCTACCCAGACCCTTGTGCGGCCCATG
34308	MFGE8	AGCACCACCACACAGTCACCC
34309	MTMR3	TGGTGAGGACTAGGGGTAAG
34310	PPP1R12B	TTCAATGCCCTGTTCTTCCA
34311	GLUD1	CAGGGCCTTTTGAACAGTAGTG
34312	PAFAH1B1	TTCTTGTTTGCTGCTATTTTCTGTCC
34313	CALM1	CGTGCAGAAAAATGGGTGAA
34314	MYO1E	TTCCACTGTACTCATTCATA
34315	ENAM	CCCTACTGCTTACATTCCCC
34316	CASP10	TTCTGTGTCCCCTCTGCATGCC
34317	CRTAP	CTATCTTCACACCTGCCACCTCA
34318	IFNAR1	TACATGGTTTAGGATTAAAGCCAG
34319	VIPR1	TTGTCCACCCACCTATGTGCCAAC
34320	TBX5	TAGTTGGAGAGCAGAACCTTGCGCGG
34321	IFNAR2	AGGTGACATCACCTATGCACA
34322	EGLN2	AGACCAGGAAGTCACCTGCCT
34323	ANKRD3	CCTAAATGTTAACCAAGCAG
34324	IL6ST	ACACTCCTCCAAGGCACAA
34325	C8orf1	TCCTCCAGGTAACTGTGATGCGGG
34326	TRPM1	CTTAGTTTTTTCAGTTGCAG
34327	THPO	GCCTAAGCCGCCTCCATGGCCC
34328	TSC1	GACCACAGGCTGGTGTGTAGGTG
34329	MTMR4	ACTCTGGGCTCTTGGCTCAGA
34330	CLCN7	CCGGAGAGCAGCTTCACACTGGCGCC
34331	MEF2A	ATGTTTGTACTTTTGTGTTACTGCAG
34332	NRCAM	CTCTGCAGGATACAGTTCAATATGATG
34333	FMR2	TTAGCATTTGATATGCATTTC
34334	AQP6	GATTACAGGCGCCTGCCACCAC
34335	MEFV	GATTACAGGCGCCCGCCACCAT
34336	SLC7A6	GCCCCCCACCAGTGGCTTCTA
34337	GTF2H2	TTAGGCTGGGCGCTGTGGCTC
34338	TFDP2	GAATGTTGGACCCCAAA
34339	SORBS1	TTTCTTCATTGCAGTG
34340	NKTR	CAGTGTGGCTGGATTCTCTGCTCA
34341	PPFIA3	GGGAGCTCGCGCCGAGGACTGG

34342	YWHAB	TCTCACAGAATCACCCCTCTACCTT
34343	RUNX1	ATCTGAAAATACATTTCCCTCC
34344	GAS1	GCATGTGGGGGACAGAACAGTA
34345	SOX13	TAGGGCTTATGGCCAGGGGACA
34346	PTPRO	TCAGAATCCGGAGCAGTAAGT
34347	ATP8B2	CCACTAAGGCCAAGGACATATA
34348	ASB1	TTCCTCAGCTGAGGTGACACTGTT
34349	MMP2	GCCGCGGACCAGGCTCCA
34350	AOAH	CCACAAACCCTATGGGGGCTGCCA
34351	SLC10A2	GTGGCTTTCAAAAGAGACAC
34352	ICAM1	TGACCTTTTGGGCTCAAGTGAT
34353	LASS2	GCAAGGGTTGGTGCCTTAAGGTCC
34354	SLC22A7	CACCTCCAGAGTCCAAGGGTC
34355	HMG20A	CCTGTCTTCCTTCCTCCTCAT
34356	MTMR4	TGGGAGCAGAGGAA
34357	BTG2	GAGGAAGAGAGGCCAAGTTCAGAGCTC
34358	NOTCH2	CCTACTTCCTGCCAAGCATT
34359	GFER	CTTTGGGCCTCCCCAGCCAGA
34360	SLC21A9	TAGGATAGCAAAGTGAGCCAT
34361	CD28	TCTCCAGCCGGCCACCTCAGGCCCCTGTTG
34362	KCNJ16	TTCTCAGACCCTTGGAGAGAAA
34363	NPAT	TGATGTTAAGAAATTTGTATGGTGTGG
34364	GFER	CTGGGGTCCTGGTTCCTCA
34365	SLC20A1	TATAACTGCTTTTGTGCT
34366	SHANK2	TGCCTCTGGGCTGCTGTGCAAA
34367	SIAT7D	CCCTTCCCAGCCCCAGCCCTG
34368	DLST	TTGTCTCTTCCTCTGCAGGACA
34369	LPXN	GCTCACTGTCTTACAATCACTGCTGTG
34370	GUCY1A2	TCCTCCAAAAAGCACAAGCCCAGA
34371	PDE6B	TAAACTGAAGCCAACTGTGAATA
34372	GBA	AACACAAGATCAGGGCTGAGGGT
34373	NDRG2	CCACTGCATCCAGCCAATAGGAG
34374	NXF5	CAAAGTCAAGACCCTGATCTCTCCA
34375	CCKBR	AACACAAACCACAACTGACA
34376	RFXAP	TTTGATTGTCATAGTGACCTT
34377	FZD5	TGGGGACTGTCTGCTCTTCTCG
34378	MAB21L1	ATATATTTGAAAAATGCAC
34379	NAPB	TATGTTCTTTAAATGTGTGTTTAGTT
34380	GPC1	TGGCAGAGCCTCTGAGAT
34381	CYP3A43	ACTCAGAAATGAAGATGAG
34382	DFFB	TTCTCGAACTCCTGACCTCAG
34383	FUT1	GGCCTGGCATCTTCTGGAGAAGC
34384	IGF1	TAGATCCAGTTGCACTAAATTCC
34385	HOXB9	CGCGCGAGCGCTTCCCTTCCCCCTGCA
34386	WDR1	TGTCAGGGGAGGTTGTACAGGTGA
34387	LASS2	GGAGAGGCGCGGGGAGCCAG
34388	NDUFA6	TTTTCTGCAGCCTCTTTTTGCC
34389	CDH4	AGCAGGACTGAGCAGAGGCGG
34390	IL1RAP	GAATGTTGATGAACAAATGTAAA
34391	MHC2TA	GACTACAGGTGTGAGTCACCAA

34392	GRM4	TGCTGTTGGCGACCCCTCTGTCTGTCT
34393	PRKCB1	GCATTTGGCACCACTCTCTGAA
34394	NPTX2	ATGTTGATTCTTGTAAGCACTGGAC
34395	ZNF264	GTGGCAGATCTTGTTTTACACTCC
34396	PPP1R2	AGGTTAAACTTTCACCAATGT
34397	STK6	GTACAGACTTGTATTTTTTCTC
34398	TNNI1	GGTCCCTGGGATCCCTTCATCTCT
34399	CASP2	TGCCTGTAGAGCCAGCCTTGG
34400	MECP2	GCTGGTCACTTCTTCTGTCCAAGCAGA
34401	CHRNB4	CTCAGATGACCCACCTGCCTCGG
34402	HDAC4	GTGGCAGCCTCACAGGGAACACGGG
34403	SPTBN4	GTGGGCACAAAGACACTTTTTC
34404	DDB2	TGGACTTGCCTCCAGAGACTGCTCCA
34405	CD5	AGGAAGCTCACAGCTGGGC
34406	ITPR1	GTTGGCATGATGACATTTCATT
34407	TMEM1	GCTGTCTCCACGGAACAGCCT
34408	MSL3L1	GAAGAAAGAAGAAGCGCTGCAGG
34409	DACH	TTTTATGATTTTTCTGTCATCT
34410	DHCR24	AAGGGAGGGGTGGAGATGGGT
34411	PATE	GGATACTTCCAGGAGACAGAGCCA
34412	FCN2	CTGGGAGTCCCGGAGGCCAGGCT
34413	SLC16A7	AACACATAGTGGTAATTGGA
34414	DNASE1L1	CCCAGTGAGAGCGCACCCTGGAGCAGC
34415	GA	CAATGCTGGTGCCATTGTTGT
34416	RAI14	AAGGACCTTTTGTCACAGCACTT
34417	EDAR	TAGATGGTGCAGGTGAGTTTGCAATGA
34418	ITGB1	TTGTCAGCTAAGGTCACATTGTGCC
34419	RPP30	TGCGCAGGTTAACTACAGCTCC
34420	DPYSL3	TGTTGAGAGCGTGTGTAGTGCTGCA
34421	PSA	AGCATTTTAAGAAATCTTGTTGCTTTT
34422	CLECSF12	CGCAACCTCCGCCCCCTGGGTT
34423	RELN	AATTATCATTGTTTGTCCTTTAT
34424	AP2A1	CCCACCCCACCCTGTTGTAGCCCCT
34425	APLP2	TGCTCACTGCTTCTGCTTT
34426	FECH	GCATTTGTATTTTCTCTCTCTAGGTAT
34427	DAG1	TTCAAGTGTTCACCAACCACTGATG
34428	RALBP1	TTAGTATTTCATTACAAA
34429	RP2	ATCCTGTTATGATTATATTATTA
34430	ACTN1	ACATAGGAAAATAACCAAGCACAA
34431	ADORA1	CCTGCTCTCCTTGCCCTGGGCC
34432	SEDL	GTCCAGGCTGGAGTGCAATGGC
34432	SLC15A1	GTCCAGGCTGGAGTGCAATGGC
34433	G1P3	GTCCAGGCTAGAGTGCAGTGGC
34434	GPR37	AATAGGCAGAGCAACTGTTACC
34435	MNT	GACCTATACAGAACAGAGGGCCAG
34436	UPF3B	TGGGTAGTGTAGAAGCAAC
34437	MYO6	TATCAGAATCTTGTCCAAGTT
34438	TUFT1	CACCCAGGCTGGAGTGCAGTAGCGCG
34439	HGF	ACCAAAACAATTTATACCTT
34440	TAF7	TTCTTGTAATTAAAAGATTTCA

34441	ELF3	GGGTGAGGGCAAAGGCTGACGAAGAG
34442	YWHAZ	TAGCTTTGTTTAATGTCTTAT
34443	VANGL2	GCCCTGCTGATTGTACTTTCCCCTCC
34444	ATF5	TGCTACAGCCATGTCACTCCTGG
34445	HYOU1	TAGGAAGAGAATGGCTGCCAGTGGCT
34446	FPGS	CTGCCTGGCCAGGCCCTGGGTCTTGC
34447	UBE2V1	TAATCAGTCTTCATTTTCCACAGT
34448	OTOA	GGTTCATCTGAGGATGTTCAGGCTGG
34449	JPH2	GTTCCAGGACTGGGTGTTCT
34450	DDX11	TTAGGCTCTCAACATGACTATA
34451	SLC2A6	CGGCCCTGCTGGGTGACCTCAG
34452	RAD54B	AACTATACACAAACCTTGAACATTTT
34453	CARS	AAGCTCTTCGAGGCTCAGGAGA
34454	NEURL	GGCAGGGAGGGGGCAGAGGCA
34455	RASGRP1	ACAGGTTTTTACAGTCCAGCAAGGG
34456	ZNF80	AGCACTCTGAATTCAGTGGCAGTA
34457	IL16	CAGGAAAGGAAGAAAGGCAGCTTCA
34458	KLRG1	CATGGACTGTATCTTATCTACCACTA
34459	LMO4	CCTGCCTGCCGGCCTCCGC
34460	APOBEC2	TTCCGGCGGCCTCTCTCCTCTCCCTCA
34461	CSF3	GGACCTGCCACCCAGAGCCCCATGAAG
34462	GA	TCTGCCAGAAGTTGGTGTCTCT
34463	POU5F1	CTAGGAATGGGGGACAGGGGGAGG
34464	LENG4	TGTCTCCTCCCCAGAAAGA
34465	MCM5	TCTCCCCTGGTTTGTGAAGTGCGGAAA
34466	PODXL	GACTTGCCCAAGGTCAGAGCCA
34467	KAL1	TGTACTCCACAGAGCCTCA
34468	DOK1	TGCATGGTCAGAATGGGTGCAG
34469	CDKN2A	GGCAGCGGGCGGCGGGGAGCAGC
34470	PIWIL1	AGACTCTCTGAGAGTATTTGA
34471	RCE1	CTCCTGCCTATGCTCCTGGGATACGC
34472	CAD	CAGCACACTTAGATATTCCTGGACAT
34473	ADCY6	TATAAGTAGATCAGAGTGGGAAGA
34474	PTPN22	ATACCTTGTAAATCTTCCCA
34475	DLGAP2	CCAGGGGACCTCCTGGGAGATGCAG
34476	ARVCF	CTGGGGCAGGGCCCAGGGAGGTGGCA
34477	NFATC3	AGTGCTTACTGCAGCCT
34478	ADRA2A	TTTTCACCCTCTTCGCC
34479	MAP2K1	ACTGGCTGTCTGCCTGTA
34480	UBQLN1	GCCTGCTCCCTCCTGCTTGCC
34481	TFRC	TGTCCTCCCTTCATCCTGCGGGGC
34482	PPP2R1B	GAACAGCTCACCACTGTGCCTACATTT
34483	TP73	CCTCTCCTTCCTGTGTGTCCAAAACTGCC
34484	ISL1	ATTCTATGTGTTTTGTCTTTT
34485	GCGR	TGCTCTGCCACTCAGCTGCCCTC
34486	SALL2	GTACATTCCTTCTTCCTCC
34487	NR2E1	CGGGGAATGTGTAGCCTTCAGGAAAA
34488	WARS	TCTCAGCAGCTCAACTGCCCAG
34489	RAP1GA1	CAGTTCTGCCACAGGTCTGCC
34490	CALML3	GGAAGGAGGGAGGCTTGGATGA

34491	ATP7A	TCCCTCCCACCCACCTCA
34492	PLAGL1	GTTCTCCATTCTCTAGCATCCCTCCCC
34493	CYP4F3	AGGCTGGAGTGCGGTGGCATGAT
34494	CSPG2	CTCCAATGTCGAACTCTTCTTTGCT
34495	SEL1L	GTCAGAGCCTTAACACCAGCAGGTGACCAT
34496	APOBEC1	CACTGCTGGAGGAATTTTGTCA
34497	ARHGEF12	AAGGATGAATCCCCTTTTTAAA
34498	PTGS1	ATTCAGTCCCAAATATGTATTT
34499	RAI3	TCTGTCACCCAGGCTTGAGTGC
34500	ESRRG	TCATGGGAGCAGCCTCTAATTAGAC
34501	FOXG1B	CAGTCTCTAGGGTTGT
34502	CYP3A4	GAAAGTTAATCCACTGTGA
34503	SRC	GCCGCTGCTTCCAGGCTGGGCAGC
34504	CACNB2	AGTCTTGCCTTACACAAAGGGGATC
34505	PRNP	TGTTTAGAGCAGTTAACATCTGAAGT
34506	TEGT	TCCTTTAACAACCAAGCAGTT
34507	APAF1	GCCAGGCTGGAGTGCAGTG
34507	CYP1A2	GCCAGGCTGGAGTGCAGTG
34507	SEDL	GCCAGGCTGGAGTGCAGTG
34508	B3GAT1	GGGGAGGGAAAGCGCCTTTTCCTG
34509	HMGA2	CTATTTTTGTAAAAGACATTTGAT
34510	COL5A1	ATTCAGCAACCTCGTACCTC
34511	CDH17	GTCGCCCAGGCTGGAGTACAGT
34512	SNX15	GTCGCCCAGACTGGAGTGCAGT
34513	MBL2	ACGGATTTATTTTTCCAT
34514	KCND2	CCTGCAGGAAGAGATTTGGCTG
34515	DDB2	CACTGTGGGACTGGGACACTTTTATG
34516	C10orf2	GAGGTAGGAATGAGCAGGT
34517	RBL2	CAGTGTCCTTAGAACATTTTA
34518	CHRNB2	TTTTGGCTGCTCTCCATCTC
34519	BARX2	GCGCCGGCTCACCATGCACTGCC
34520	STC1	TCAAATCCTCACCTAAGCTTTCA
34521	MYOD1	GGACAGGAGAGGGAGGGGTGGG
34522	ENAM	CTTACATTCCCCTCCCCCTGGCC
34523	EBAG9	ATTTGCGTGACCTTACTGCCCT
34524	ADAMTS4	GCTCACTGCAACCTTCGCCACCTGGG
34525	ETS2	GCAACCAGGAACAGCAAATGCAA
34526	NCOA6	GCTTCCAAGGAGCTACTTAGTTTTAG
34527	LAT	CTGGAACCAGGCTTGCCTGGGA
34528	ANKH	AGGCTGAGGCAGGAGGATCGCT
34528	TPM4	AGGCTGAGGCAGGAGGATCGCT
34528	YWHAB	AGGCTGAGGCAGGAGGATCGCT
34529	FANCC	AGGCTGAGGCATGAGGATCTCT
34530	AKAP2	CTCATGATCACAATTCATA
34531	ALDOB	CCAATGCCCGCCAGCCTAGCTCC
34532	CHRM5	CACTATCTATTATGCAGCT
34533	PHKB	GACCAGCCCAGCCAACATGGTGA
34534	GALT	AGACTAGCCTGGGAAACATAGG
34535	ZNF74	AGAGACGGGGTTTTGCCATG
34536	ITGA11	ATGGTGACAGCTGCAAGCCAG

34537	IFNAR1	TGGCCAACGTGGTGAAACCCCA
34538	USP6	TTTTGCCCTGAGTATTCTCAGGAGGG
34539	ATP8B2	TTCAAGCGATTCTCCTGCCTCA
34539	CD209	TTCAAGCGATTCTCCTGCCTCA
34539	CTSS	TTCAAGCGATTCTCCTGCCTCA
34539	CYP1A2	TTCAAGCGATTCTCCTGCCTCA
34539	DHFR	TTCAAGCGATTCTCCTGCCTCA
34539	EIF2S3	TTCAAGCGATTCTCCTGCCTCA
34539	JAK3	TTCAAGCGATTCTCCTGCCTCA
34539	KCNJ11	TTCAAGCGATTCTCCTGCCTCA
34539	MEFV	TTCAAGCGATTCTCCTGCCTCA
34539	NDRG3	TTCAAGCGATTCTCCTGCCTCA
34539	NUMA1	TTCAAGCGATTCTCCTGCCTCA
34539	PCDHB9	TTCAAGCGATTCTCCTGCCTCA
34539	PER2	TTCAAGCGATTCTCCTGCCTCA
34539	PRKWNK3	TTCAAGCGATTCTCCTGCCTCA
34539	RP2	TTCAAGCGATTCTCCTGCCTCA
34539	SHOX	TTCAAGCGATTCTCCTGCCTCA
34539	SLC7A6	TTCAAGCGATTCTCCTGCCTCA
34539	SMAC	TTCAAGCGATTCTCCTGCCTCA
34539	ZNF264	TTCAAGCGATTCTCCTGCCTCA
34540	PRKCABP	CTTGTGGGCGCTCACACTGCC
34541	IL1RN	ACTGCCCAGGCCTGCCTGTTCCCAT
34542	MS4A6A	ACAGTTACATTGGTAATTCTGGCA
34543	IGFBP4	GCTTGCTCCCCTCCGGCACGCC
34544	KLK10	TCCTCATCTGCAAAATGGGAACA
34545	ASB1	CCAGGGACGTACCCCAAAT
34546	CARD4	GGTGGCTGCTCCATGAGGGTGGGG
34547	ETV5	TGCCTGCTTTGTGCTTTCTG
34548	NOVA1	GCTGCATGCTGCCATGGCCC
34549	CHST5	CCCAGGAGGCGACTGCATGGTG
34550	OSM	TGCCCCCAGACTTCCTCCTTTC
34551	CPT1B	GGAGGTGGGGTTGGAGCAGGAAGGG
34552	TNFSF10	ATTGTTTGAACCCGGGAGGCAG
34553	FUT9	TCTACGTGCTTCCCATGATATGTTCTC
34554	BRCA1	TTTTTAGCAAAAGCGTCCAGA
34555	DYRK2	CATTGCTGAGCCTTACTGGGTTG
34556	CHST5	TCATGCCACTGCACCCTAGCTT
34557	AVP	TGGGGGTGCGGGGGTGTCATG
34558	TGFBR3	ACCTTATCAGCTTCCTGTTTCTTCCCA
34559	RNF12	CCTTTCTCCAGTTTTTGTTCC
34560	WBSCR1	GGGGTTAGGCTTTTGAGCTTGA
34561	TTC1	CTTGGAATTGTGTGCTGCT
34562	BCL2	ATGTCTAGCTTTCACCTCC
34563	CD68	GCTAACCTGTAATCCCAGCT
34564	SYN3	AGTCATCTCCATCCATCCACAG
34565	WASF3	CAGGCTGGGTTCCCTGTGGGCA
34566	MPHOSPH1	GAGATGTTTTGACACAGGCAT
34567	INPP5B	TTAGATGGGTGTAGTGGCACA
34568	ALMS1	GAGACACCAACATGGAGCCCG

34569	DNMT2	CCATGAATGGATGCAGGAATTGTG
34570	ITPR2	GCAGAGCAGGGAGTGGACA
34571	BTG4	GCAGCACCTGGTAGAAGAAGGCA
34572	ENTPD3	TGCCTTCAGGAAATACAACTAAC
34573	SLC24A1	TGAGCTCGGGTGACTGCAGATTAT
34574	ITGB4BP	GGGTTCTGCTGTCCTGTGCCA
34575	KLF7	TCTCTCCCTCTCCTGCA
34576	RBBP5	CACTTGAACGTGGGAGGCAGAG
34577	CLASP2	TGTGAGCTCTGGTGTTCAAAGAGTCCTG
34578	NR4A1	GGGGTGAGATAGGGGCAGATAGGAGCT
34579	IHPK2	GAGCGACTCTGTGTCCCAGGC
34580	RELA	GAGGTGCTTAAGCAGAAGCATTAA
34581	SPTAN1	GTCACTGTGGGACCCAGATCTG
34582	RAB27A	AGTTAGGAGAAATATTTCA
34583	MTMR3	TGGTCCAAAAACAGCCTTAAATCAAGAA
34584	STMN1	TGCTGTTGGTGGCAGTGACT
34585	IL4R	GCCTATAATCCCAGCACTTTTGG
34586	UBE2G2	ACGCCTGCAATCCCAGCACTTT
34587	GABPA	TCAGCCGGCCCTGGAGTGCGGGCGGGGG
34588	FCMD	GACAACTATTCACCCTACCT
34589	GPR92	TCTTTCTACTAAAGCACT
34590	CREBL2	TGCTGCTCTCCTTGCTTTCTGAGTA
34591	PCDH9	CCTCTTGCAATTTGGGCATCA
34592	PLOD	TTGCCCAGAAAGACTGTCTGGGTGAGA
34593	KCNN3	GGTGGCTTTGGGGTGGGG
34594	RAG1	CACAGTGCTTTTTACCACTGTGGA
34595	TYRP1	ACTATTTAGTCTCAGGTTCAAG
34596	ATP1B2	CCTTCAGTTTCTTCCTAGGCC
34597	ACK1	GCTCTGGGAGCCACTGCCT
34598	SON	CTTTGATTTTTGTACCATGGAAATTGTAT
34599	HD	TTCTCCCTTCTCTCTTTTCTTC
34600	NCOA6	CCATATCTTCTTTTGTGGTACCA
34601	GAB2	GTGACAAAAGCACAACCATTCT
34602	ATP5B	CCTTGCCCCTAACCCAAAAAG
34603	FGFRL1	ATAAGCTGCCCAAATGCACGCAC
34604	UBE4A	TTATTAACTATGGTCTCTTTCA
34605	PTGS2	CTCGCCCGCGCCCTGCTGCTGT
34606	MAD2L1	GAAGTGCTGTTGGAGCCGCTGTGGTTG
34607	RPP30	CTCAGGCTGGAGTACAGTGG
34608	GRIN2B	GAGGTTTGGCTTCTACAAACCAAGGGA
34609	ADCY6	GAGAGGATTATGCAAGTGA
34610	TXNRD1	GTATTTTTGTTACAAATCTTCT
34611	SPP1	ACATAACCTTTTTTACTGCCT
34612	ZNF9	CTAAATCTAAAACCCAGAG
34613	TPX1	TTTCATCCTGCTCAGAAAACCAAC
34614	F2RL3	TGGTGGTGGGCACCTGTACTGGG
34615	PPYR1	TCTCCCTGCCATGTCCCTTGCCA
34616	MCM5	TTGTCTCCCCTGGTTTGTGAA
34617	ANKH	AGCAGTTTTATAAAGTCCGTCA
34618	MS4A4A	CAACAGCACTTGAAAGTTTTTCA

34619	FUT6	CCAAGGTTCATGAGTTGCCTGA
34620	COL6A1	TTCTCCTCAGCTTGGGGCAGCCATTG
34621	ATBF1	AACCAATTTCAAAAATAGACTA
34622	LTC4S	TCATTAAAGTTCTAGTGACCG
34623	NRCAM	ATTTGGTATTAAAAATTAAATG
34624	ADAM29	CTTCTGCTCTGGACCAGTGTTTCCATA
34625	GAB2	AAGTCCTTGATCTGCCTGTCTGTG
34626	FECH	AACTATACAGTAAGCATTTGTATTTTC
34627	IL1RAP	CCCACATTTTTTCATTCCTTCTCCCT
34628	NBEA	CTCGTGAAATTCTCACTGAAAGCCACA
34629	REST	GCAGCGTCCTGTGTTGGAATGTGC
34630	SERPIND1	TGGAGGTCTAGGTGTCTGAAGTGCCTT
34631	THBD	AGCTTTGCTACCAAAGCACCTT
34632	MTMR2	TTCAGCCTTTCCCTGTGCTGCCC
34633	MMP9	CTGGGCCCTCTCTTCTCACCT
34634	TFCP2	GAGAGCGAGACCTGGGAGGGA
34635	SYN3	GGCCTTGCCCCACCTCC
34636	CPLX2	TGCTATCTGCTCTGCTCAGCGACT
34637	NT5C2	GAGGGAGGGGGCTCCATGAAAGGT
34638	MAN2A2	CTCACGCTGCACACTGCCCAG
34639	NPHS1	CTGGTCTCTCTCATTACAGCCTGGGCC
34640	TLE1	AACCTTGACAGAAAACTACTTTGAGTCT
34641	MYH9	GCAATCACACGTGGTGACCTCA
34642	B4GALT1	GGGCTCAGGTTCCAAGACTCAG
34643	APPL	CCCTTTATACAGAGAATTCT
34644	OVOL1	CCCTCCTGCAACCTCTCACCC
34645	CD244	GAGGAAGGAATGATAATGG
34646	PKP2	TAACTCAAGAAAACTCTAG
34647	DEK	TATATGTTGAATGTTAACA
34648	PHLDA3	GCCACAGGCCTGGCCTCATATGGCATGAG
34649	VHL	TCCACCTCCAGCCTCTGGTCCTACC
34650	SSTR3	ACCCTCTCTGTGCTGTC
34651	ALDH1B1	ACTGCAACCTCCGCCTCCCAGATTCAA
34652	SERPINB13	CACTTGCATTTCCAGTCTTGGCC
34653	ACHE	GCCAGTATTCTTTTATAAA
34654	BIG1	TAGGACTTTTAAAGATGAGCCAT
34655	TNFAIP2	CTGCTCCTCCCTGGGCCTGAAAGTTCCT
34656	ADAM33	CACCACTGCACTCCAGCCTGGG
34656	CTSS	CACCACTGCACTCCAGCCTGGG
34656	DBT	CACCACTGCACTCCAGCCTGGG
34656	IAPP	CACCACTGCACTCCAGCCTGGG
34656	IL2RA	CACCACTGCACTCCAGCCTGGG
34656	IL6R	CACCACTGCACTCCAGCCTGGG
34656	KCNA7	CACCACTGCACTCCAGCCTGGG
34656	MAFF	CACCACTGCACTCCAGCCTGGG
34656	NFKBIL2	CACCACTGCACTCCAGCCTGGG
34656	OPTN	CACCACTGCACTCCAGCCTGGG
34656	TRIM14	CACCACTGCACTCCAGCCTGGG
34656	USP14	CACCACTGCACTCCAGCCTGGG
34656	ZNF264	CACCACTGCACTCCAGCCTGGG

34657	RANBP3	CCTGCAGCTGTGCCGTCCACACC
34658	CALM3	TTTGGTTTGTTTCCTCTT
34659	FLT1	CAAAACACAGGAAGTCAGTC
34660	DLG4	AAGGGAGGGATGGGTCTAGGGAGT
34661	RAB23	GTGCAATGCATTAAGAAACCCATC
34662	PON1	CCCTAAAACATGTGTTGCCTGAAAGCA
34663	NCOA6	ATTACAGATGTCATTTCCCAGT
34664	VAPB	TATACCACCTCTCAACCATTA
34665	VHL	TCTGAGGTCAGGAGTTTGAGAC
34666	ASTN	GAAAGGGTGATGGTACTGGA
34667	KLHL1	AGCCTAAGGGTTGTCCCACCTCG
34668	ING1	TATTATAATTGGAAGTGCAGT
34669	MX1	TACTTTGCAAAGAAGGAAGATGGT
34670	BDP1	GCCCAGGCAAGAGTGCAGTGGT
34671	EDNRB	TGACCTCATAATAAAGACTGTG
34672	PTP4A2	CCTGGTTCTGTATTGAGGAGAAGGATGT
34673	INPP5B	CCTGTAATCCCAGCACTGTGG
34673	RBBP9	CCTGTAATCCCAGCACTGTGG
34674	GIP	GGTGCTCTGACCACACCCAGC
34675	LPIN1	CACTACTGCACTCCAGCCTGGG
34676	OPA3	CACCATTGCACCCTAGCCTGGG
34677	ETF1	CGCTACCCCGTCCCCCTCCAGAC
34678	DGKI	CACTGCAATCCAGCCTGGGCGA
34679	VENTX2	AGAGTGCCCAGGAGGCAGG
34680	CASP10	GTCACCCAGACTGGAGTGCAGG
34681	PRKCG	AGCCTCTCCCACCCGGCCACAG
34682	S100A2	CTGCCACCTGGTCTGCCAC
34683	SMARCD1	ACTCTTCCCTCTCCCTGCCTCA
34684	SQSTM1	CCAGATCACACATCATCATCGA
34685	CNTN2	CCAGCACTGACTCACTCCTGCCTGGGA
34686	PPP1R12B	TCTCACCTCAGCTCCCGAGCAGCT
34687	CNTN2	TGGGATTTGGGAAAGGTGAA
34688	PUM2	CACAGGCATTATCTCTGCAATTTTAGA
34689	EFNA1	CCTTTCCCACCATTCCTGCCTTT
34690	RNF6	TCATGAAAGAGTATTTGGCTGAA
34691	CDK5R2	TGCCCTTCTTGTTGCTCCTGT
34692	SUFU	CCTCTACTGCCCTGAGGACT
34693	TBX3	CGCCCCGCCTGGAGTGGATG
34694	RIG	TTCCCATGCCAGCTCTCCCCAAGTGCTCC
34695	DSC3	AGATTATGTCCTCACTTA
34696	GYPA	AAGTCAAAGACAGGAAGAGATCAGAGTGAATG
34697	AEGL1	GGTTATGATTATTTCAACACAAT
34698	FEN1	TATTCAGAGGAGTAAGATGGT
34699	SOX8	GGCCCGGAGGTCCCAAGGTCCC
34700	FKBP1B	CCTGCTCTGCCACTGGGACGGCTCCT
34701	AGR2	GGCCTTGAGACTTGAAACCAGA
34702	KCNE3	CTGCCCATTTGGGCCTGCATA
34703	NFATC1	TTGATCCCTGTTGGGGGTGGGG
34704	RPL10	GCAATCCCAGGCTGGGGTCAG
34705	BTEB1	GGCAGCGAAACGGAACAGTCGG

34706	MAP3K9	CATTCCCCTCTTCCCTCAAGAC
34707	PCDHB9	CCACCGCACCCAGCCTACAATA
34708	MLPH	CTCATTTCTGTCGCTCACGTGCCCA
34709	PLA2G2D	TCCCACATACTAGGTGCTCAATTCATG
34710	SLC28A2	GAGCCAGAGGGAATCAATTCCC
34711	CD28	CCACAGCTCTCCAGCCTGGGCG
34712	SMARCD2	GCTGCCTCTCCAGCGGCTTGGGCCGG
34713	NUP62	GTGGCACCAGAGTAACTCTA
34714	FHL2	CTCACACACAGATTTTTATGTTTTCT
34715	HDAC4	GGTCTGTCCTAGGAGCTGTAT
34716	INHBB	TCTGCCTGGCTCGATGTCTGCTTC
34717	HOXA13	TTAGACCTGTAGATAGTGAT
34718	FLOT2	CTCAGAATCCTGGTGCCTTGAA
34719	STMN1	CACTGCCTATCGCTTGTCT
34720	IL12RB1	CCACCGTACCCAGCCTGGTCCCATAT
34721	ADCY8	GGCCTCGGGCCTCCCTTCTCC
34722	PCTP	GCAGCTTGTGATTTCTTCCAG
34723	LPIN2	TAATGAGCTCACATCGTGTCTGAAG
34724	TG	GGTCATCTTTTTCTCTAAAATAGCCAC
34725	PPM1D	TTCAATAACAGATGGTGCTGCTA
34726	GSTM4	GAGGCCTTTAGCCTCTGAATGAT
34727	CTSD	CCCCTCCCACACACACCCACAC
34728	CDH2	TCTTAAAACTTACTCAGCTGGT
34729	HK2	GTGAATCGGAGAGGTCCCACTG
34730	CFTR	CCACAGCTGTATGATTCCCAGCCAGAC
34731	SPRR3	GCCCCTGAATTAAGCAGAA
34732	RAPSN	CCTCCTCGCCACTCCTGCTCTTT
34733	GPRK7	CATGAGGTCAGGGGTTCAAGAC
34734	HFE	TAGCCAGTGAAAAACTATTAACAACTTGTC
34735	ADAMTS4	GCTCACTGCATCCTCCGCCTCC
34736	TRN2	TTTCTTCATGACCCTGCCCTTGCCA
34737	KCNK6	GTCTCTCTGGCTCTCTGGCATTC
34738	ZNF36	GACCAGCCTGGCCAACATGGTAAAATC
34739	HIP1	AGAAAATGAGAAAGGACAGAGCCA
34740	AQP6	AGTGGCATGATCTCGGCTCACT
34740	CXCL16	AGTGGCATGATCTCGGCTCACT
34740	FGF5	AGTGGCATGATCTCGGCTCACT
34740	IGF1	AGTGGCATGATCTCGGCTCACT
34740	NONO	AGTGGCATGATCTCGGCTCACT
34741	CYP1A2	AGTGGCGTGATCTCAGCTCACT
34742	TRPV3	GCTTGGCTGGGAGAGATGGATG
34743	GABRE	TGCTGCCCCTCTCCCCTACCTGGCCC
34744	EYA3	CTTGAGCTCCTTTTCACTCCTG
34745	LMNB1	TCGAGCTCCCGCCATCCCAG
34746	KCNAB1	AAACCTGATTCTCCCTCCAGCT
34747	XRCC2	AGAGTGCAGGGATTACAGGCGT
34748	TAPBP	TGCTCCACCTCTCTGTATC
34749	NFYA	GCCGAATCTCTTTTTCTAGCTTTG
34750	FZD3	AAGAATTCTATCATCACAAAAATAATTC
34751	FABP2	TTGCCCAGGCTGGTCTTGAACCC

34752	MGAT1	ACCTGCCTGTCCTTCCTGGGC
34753	BARHL1	GGGAGAGAAGGGGAGTGCGGAGCCCCG
34754	ZFHX1B	GAGAGGGACAGAAGGGGCGGT
34755	LDLR	AGGCTGAGGCAGGAGGATCGCC
34756	SLC25A19	TTGCTGTTTCTCCTCTGACCA
34757	SLC2A3	AAATGCACGTAGCTGAGGCCGG
34758	P2RX7	CACTCCAGGCTGGGTGACAGAGCGAGA
34759	IGFBP7	ATATTTACAGAAGAAAAGCAT
34760	MAGEA5	AGGAGGCAAGGTTCTCAGGGG
34761	AKAP2	CACTCACTGAAGATCCTATTAT
34762	DLGAP2	AGAACCAGGAAACTAGCTG
34763	GNB1	GCCGGCGCGCACCTGCCCGCA
34764	HEBP1	CCTGCCGCCCTGCCGCCCTGC
34765	SOST	ACTGAGCCACGCAGCCCCGCC
34766	IL17	ACAAAGCATGTCTTTGAGTAACAAT
34767	RAD50	AGTTTTTCCTGGAATTGCCAGCTGA
34768	SHOX2	CCCTCCAGTGTCCCCGGAGCTGAAAG
34769	RAP1GA1	TGTGACTCTGGGCAAGTCACTC
34770	CD209	ACTGCAACTTCCGCCTCCCGGG
34771	FDXR	GCGCCTCCTGGGCCACTGGCCCAGCC
34772	BAALC	TGATCCAGAGACATGTGGCA
34773	GALNT3	GCTTCTAATCCCAGCACTTTGG
34774	ENTPD3	CACATGCTGATCTATTGGGGAACA
34775	XT3	CTGGGCCTCCATGGCCCCAAAAAC
34776	C18orf1	CGGCTCTTCCTTTTAGGAAGGCTCTG
34777	CKTSF1B1	CTCATTTCCATTCCACTATTTCCCA
34778	TNFRSF10C	TCCCAGCCAAGTCCAAGAGGGCAGGGC
34779	TCFL4	TCACCTTCCTCCTCTGCTCTG
34780	DSC3	ACAGGCTGGAGTGCAGTGG
34780	GPR56	ACAGGCTGGAGTGCAGTGG
34781	CSNK1A1	GGCCCCAGCCTCCATCTTCGTCTC
34782	HGF	TTCATTTCTCTTCACCATGTATCCTGC
34783	TNFSF9	AGCCTCTCGAGTAGCTGGGACC
34784	TGFA	GCCAGGTGGACTGTGGCAGATCAATA
34785	PCLO	TTCTCTCTTGATCCTACAAACA
34786	IKBKG	TACATGTCATGGAGTGCATTG
34787	ZNF136	TACATGAAAGAACTCATCATGGAGAAA
34788	PRND	CTGCCTCCCAGGCTCAAGCACTTT
34789	PRSS8	GCCCTGACTCCTGGACTCCGGA
34790	GNAT1	AGAGTGAGACACAGCAGG
34791	CDH17	AGTGGTGTGATCCCAGCTCACT
34791	JRK	AGTGGTGTGATCCCAGCTCACT
34792	DGCR2	TGCCCCTTGCTGGCCGCCCTCA
34793	POR	TCTCCTGGGTGTGTTTGGCTTGGCCTT
34794	C10orf2	AGCTGGTCACTGAAATGAGCCT
34795	TAF11	TCACCTAGGCTGGAGTGCAGCGGCAT
34796	MAGEA12	AGAGTGTTGTTTTTTATTCA
34797	APAF1	ATCACCCAGGCTGGAGTGCAG
34798	PCSK1	TACCTGTCTCCTTTCTCAGCCACAAA
34799	KCNJ5	AGTTGAGTGTCAGGGGACATGATGAG

34800	WNT5A	GGAAAAAGAAACTGCCTAT
34801	CXCL16	TTGAGACGGAGTCTCGCTCTGTCATC
34802	TUFT1	CTGAGACAGAGTCTCACTCTGTCACC
34803	EIF2S3	TCGGATGGATTTGGAAGTTGGAAT
34804	POLH	ACCTGTAATGCCAGCACTTTG
34805	IL15	AGAGGAAGAATTTGTTATCA
34806	DNMT3A	TGGCCTTATGGGGATCCTGGAGC
34807	SH3BGR	TTTAAAATGAAGTGCTTTCCA
34808	DDEF2	GCTGTATTAACACATCACTTGCTGT
34809	ZFX	AAGGCCATGGATGAAGATGGGCTTGAA
34810	GRM7	TCCAAAAGTGCTGGGATTACAGG
34811	CD34	ATCTCCATGGCTTCCTCCTCC
34812	FZD4	ACTTAGGACAATGGAGACTTTT
34813	PTGIR	GGGAAGAGAGTGAGGGACAGAGGAA
34814	COL15A1	TGAAAACAAAGGCCAGATTCTGCCA
34815	POR	CTCTGCTGAGCTGGGCCC
34816	LMO2	GATTACATCATCTGCTGTAACAACTGC
34817	NONO	TAAACAATGCAATTCTGTGTGGTA
34818	BTEB1	CTTGCTGTCTCTCAGAATT
34819	DSC3	TTCATGCCATTCTCCTGCCTCAGCCT
34819	MTR	TTCATGCCATTCTCCTGCCTCAGCCT
34819	RAB36	TTCATGCCATTCTCCTGCCTCAGCCT
34819	RPP30	TTCATGCCATTCTCCTGCCTCAGCCT
34820	RBM3	CACTGTACTCCAGCCTGGACAACAGCG
34821	MMP19	TGGACATTAACCCCTGAGGCTCCA
34822	XDH	ACCACAGAACATGGATCTATTAAA
34823	TRPM7	TAGGTGTCCATGCAGA
34824	APAF1	AGCTAATTTTTAAGTTTTCTTGT
34825	TACC2	ACTGCTGTTCCTCCAGTTCCAT
34826	OGT	ATATTCTCCATGGGCCTGT
34827	GSTM5	CCAGCTCCGTGTGATGCCCAGTAAAGC
34828	ANGPT1	TGGTTATCATGCAGTTGCAGTGA
34829	IL15	ATGGATGGCTGCTGGAAACCCC
34830	CYP8B1	TCTCCAATGAAACCATCAGTAG
34831	TREM1	AAAAGGCAGGGAGTTAATAACAT
34832	PCNA	GACTTTCCTCCTTCCCGCCTG
34833	AF1Q	GGAGAGTGAACTGACAGACTCAG
34834	ACT	CCTGGTTATATGTAATGTGAT
34835	C11orf8	GCCATGCCATTGTAAATTGTTAG
34836	ATP1B2	CGCATCCCAGGTTCAAGCGATT
34837	B7H2	CAGGACGGCCTCTGTGCTGCTGG
34838	DCX	TAGAAACACTGGGACAGTGGTTTGAA
34839	NOTCH2	AGCCTCTTTCATAGTGTGCAAA
34840	DCTN1	GATGCACAGCCACCTCAGCCAGCCCCCA
34841	ABCC3	GGCCATCTGTCTCCTGTATGTGGGTCA
34842	SRD5A2	CTGAGATATGGACTCTCTAAGGAAGGG
34843	MAP2K1	CTGTGCCAGGCTGAATTACAGTG
34844	LY9	ACCACCTTCTCAACACTGCT
34845	LY64	CATTCCCCTTCTACTACCGACATCC
34846	CLECSF2	GTGTCAGGCTACACATAAAAGCCACTT

34847	TFRC	CTGAGATATTTATTGTTTATTTAT
34848	IL26	GTGACACACGCTGAGTGGGGTG
34849	FZD4	CTCTTAAAACTGTAACTGGCCTT
34850	CNGA3	TTAAAAGCCTTAACTGTTAGTTAT
34851	PMCHL1	TTCAAGCAATTTCCTGCCTCA
34852	CLN2	TCTGACTACTCTTGTCTTCCTCTCTC
34853	CASP8	TGGCTCATGTCTATAATCCCAG
34854	PLD1	CCACACTGCACACAGTGACTTCCT
34855	NESH	CTGGGTCTGCCCACCTCTTGGGC
34856	GPR44	TGCTACCTTGTGACCCAGCACTGCCC
34857	S100A7	CAAACACACACATCTCACTCA
34858	KCNA6	CTTTGTGCCTCAGTTTA
34859	DLX2	CCCTGCTCACTCCCGGGGCC
34860	PRKAR1A	TTTTCTTTCTTTTCTTTTTTAAAGTAAACTTG
34861	GGT1	TGCCGTCATCCAGGCTGGACAGTTCAGTG
34861	GGT2	TGCCGTCATCCAGGCTGGACAGTTCAGTG
34862	FCAR	CAGGAATATGAGACGTGCACTGA
34863	SNCB	TCTGTCCCTGTCCCTGCCC
34864	PTGS1	TCCTGTCTTATGGTCCAGAAA
34865	ICA1	GACCAGCCTGGGCAACAAAGTG
34865	TSN	GACCAGCCTGGGCAACAAAGTG
34866	SLC22A2	CTGGAGCAGAGAGCATGGGCC
34867	INHBA	CCAGGGGGAAAGGGAGCAAGAGTTGTCCA
34868	CNTN2	TCTGGGTATACTACCAGTCACAGA
34869	GYS1	GTTTGAAGGTAACTGAGAGCA
34870	TNFAIP2	GCCCCTACAGGCTGGCCCTGCAATGGG
34871	CENPC1	GGTCCGTGTGGGCTTCCACCTCA
34872	ZNF3	GCCACACACCCATTTTCCTCA
34873	CSHL1	CTCCAACATGGAGGAAACGCA
34874	KIF5C	AAACATATCATCTCTTCA
34875	ARCN1	GACAAGAAGTCTGTCATG
34876	SYT1	CCTAAAATGGTGAGCGAGAGT
34877	RHO	ACAGCTGAGTCCCTGATGTCATCCTTAC
34878	NT5E	TCAGCTCTGCCTCTGTCCTCTTT
34879	NGB	CCATCCATCTGTGTCTGTCTGTT
34880	FCGR3A	GGCAGGACCATACAGAGTGTGGGA
34881	SLC6A4	AGACTCAAGGCCTCCAGCCACTTATTTCC
34882	IL15RA	CCAGGAGCAAGCTCACCAGGCC
34883	SMARCD2	GTATTTGCACTATTTTGGGAGCAAGTT
34884	WHSC1	TAGTCCCATTTGACTCACTTCAG
34885	UBE4A	TGTTACAGAGTAACTTCACATA
34886	SPAP1	CAATCAGATGAGAACAACAGATG
34887	G6PC	CCCAAGGTGCTAGGATTACAGG
34888	IDH3A	CCTCTGTTTAGAATACCTACGTATG
34889	ADAMTS12	GAGGGAGGGGGAAAAGGTGTCTAGC
34890	IL11	CTGGCTCTTCCCCATCTAGGCCT
34891	ARHGEF6	GATTTGACTCAGTTTGCTCACT
34892	PCDHA11	TAATCTGAATATTCCATAAATAAGCAC
34893	SHB	AGCACACCACTGCATGTCT
34894	FLNB	TGGTTGTCATTTGGCAAAGGAGAT

34895	SRGAP2	CCTAACTTTTCACACATCC
34896	EGLN2	CCTGCCTGCCTGTCTCTAG
34897	SLC19A2	CCTTCATTTTACATTCTGTCTG
34898	PCDH8	CGGCTTGCCATTTTCTTAGTGTTTTT
34899	TSC1	AGGAAGAATCAGTAATCACTTT
34900	B3GALT2	CAGGAGGCAGACTGTTGGGGGATGTG
34901	USP6	TGCCATTCAGGAATTCTGAGTG
34902	CXorf6	CTCAGGCCAGACTCCCCTGGGC
34903	TACSTD2	TGGAAACTTCCTTCAAACTGC
34904	SOX5	GCCATTGGTGACCCAAAGATGATGA
34905	ADCY2	TCCTATAATCCCAATATTTTGG
34906	PDK4	TGAGTGTGAAGATGGTGGTTAGCA
34907	PPAT	AGTTTGAATAGAATACATTATACCTC
34908	BACH1	CAGTCTCTACCATATCTGGTCCCATCA
34909	DYRK2	AAGATTTCTGCCTGTTTGGACAATAGGTTTT
34910	ADH1A	ATCTGGAGCAACAGCTGGGAA
34911	DLEC1	CCAGAAGCAGGAGTGTGA
34912	SULT1C1	GCAGCTGAGGGCCAGGAAAGATGTGA
34913	RECQL5	ACAGCCTGGCATCTTCTTG
34914	SMARCC1	GCCTGGCAGAACATACCACTGAACTA
34915	F2R	CACTGTGCTCCAGCCTGGGCAACAGAG
34916	MAGEB4	CTTTGTTGTATTTTCCATGATGTTTCTTA
34917	GALNT7	TTCATTTCTCAGTATATATTTCA
34918	PXR1	ACAGATCTCTCTGCTCATCAT
34919	GRIN2A	GAGATCTAAGTGTGGATCTTCT
34920	CBFA2T3	CCACTGGCCCCTGGCCTGCCGGA
34921	INMT	CCAACATTCCTCATTCTAGGATCCTAG
34922	KCNA7	GAAGCAGCAGCGAATGGCAATGGGTT
34923	DUSP1	TTTGTGTAGGTGTCTGCCTTC
34924	RASSF1	GCTGGGGGAATGAGCCCAGAGAA
34925	FANCF	GCTCAGTGCAACCTCTGCCTC
34926	ATF5	TGCTTGTAATCCCAGCACTTTG
34926	CD28	TGCTTGTAATCCCAGCACTTTG
34927	CORO2A	TGCCTGTAATCCCAGCACTCTG
34928	ERBB3	TGCCTGTAATCTCAGCACTTTG
34929	BCL2	AGGTCCGAGATCGGGGGTTGGAGTG
34930	ASK	GACTGGGTGACAGAGTGAGACTCCATC
34931	TRADD	TCCTGGACTTCATCCTGGGTG
34932	EHD2	GCTTCTCTGTCCGCCCTTCACA
34933	KRT6A	CTCCTCAGCTCTCTCATCTCC
34934	SIL	AGCCCAGGCTGGAGTGCAATGG
34935	ATF4	AAGACACCTTCGAATTAAGCACATTC
34936	ZNF189	GTTCAGAGCATGGGTGCTCTG
34937	DMPK	GCTCCGAGCGTGGGTCTCCGCCCAGCT
34938	RERE	AAGGCATTCTTGTTAGCTTTG
34939	GALNT7	TTCTGGGTTGCTTGTTTTTT
34940	FREB	CATGTATGAGAACCAAAAAACAGCTG
34941	SCML2	GGCTCACTGCAACCTCGCCT
34942	SPARC	AGGGTTCCCAGCACCATGAGGGCCTGG
34943	FUT6	TTGAGGCACACAGAGGGGCTTGT

34944	CDX1	GCCCTCATGATCATTCTCAGT
34945	CCR2	CATATCCAACATGTGCTCAGGGA
34946	SPON1	ATGTTGGGTGGCTTTTGTT
34947	FBXW1B	CTTAGCCATGGGCTGGGCTCAAGAAC
34948	ITGB3	GGTCATCTGTACCTCTGCCTCC
34949	GALNT3	TGCACTTCAGTCTGTGTGACTGAGCAA
34950	CD209	TGTCGCCAGGCTGGAGTGCAGTG
34950	RABL2A	TGTCGCCAGGCTGGAGTGCAGTG
34950	RABL2B	TGTCGCCAGGCTGGAGTGCAGTG
34951	HEM1	GCTCTTTTTGCTTTCATGGCCC
34952	IRS1	TGCGTCCTCCTTCAGCTGCCCCT
34953	UBTF	CTGCAGCCTCAGAGACATCAGC
34954	GARP	CCAGAACTCTGGTCTCCA
34955	VIPR1	TTTGACTGAAGATGCAGCTCA
34956	CACNB1	AGCCAAAGGCAATGGGAA
34957	TK2	GCATTTGGCTGGAGCCCGGTG
34958	IL2RB	ATCAGTCCTCGCGGCTCTCCAG
34959	INPP5B	GAGCCCAGGAGTTTGAGGGTGA
34960	POU2AF1	TTCATTTCTGTCACATTTCATTTCTTG
34961	LZTS1	AGCCATCCTCCCTCCACCTCA
34962	MMP2	TGCCTTCAGCTCTACAGCTAATCAGC
34963	PSG7	GCTGTCCTTGCTTGTGCCTGCCTCTTTCACT
34964	ITGA11	CTGCCGCTCTGGCTTGCCGCC
34965	KRT6B	CTCTCCTCAGGTTGCTTGTC
34966	CYP4F3	GGTTCATTGCAACCTCCGCCTC
34967	ZNF274	AGCCTACCTCATACTCTCAAGCCAG
34968	PPP1R12B	TCTGATATAGGTGAGTCTTGTG
34969	ATP1B1	TTGTCATGGGGGAACTGC
34970	CACNA2D2	GGTGTTTGGCACCCAAATCACATCTC
34971	KIR2DS2	AATGTAGTTTTCCCGCCTT
34972	FZD8	GACCCAGCCCCTTTTCCTCCA
34973	BAZ2B	AAACTCATTTATTGAGTCA
34974	MAGEL2	GAGTGTAAGTTTGGATTTTCAACTTG
34975	UBE2H	ATTCATGAGTCCATGTGGCCAAGT
34976	ADAM19	TCCCTCACTGGCTCTCAGGAG
34977	DMD	AGGCGCCTCCTAGACCTCCTCG
34978	GOCAP1	TCCTTGAGACTCTTTAGCATTCATA
34979	ZNF268	TTCTTTGAAATTCATAGTTTACA
34980	CIT	TAGGCCCGCCTCAACAACCCAG
34981	MGAT2	CGCTCAGCCTGGAGTGCAGTGA
34982	MAP3K11	GCCAGGGCTCTCTGGATGCCTTC
34983	PPP1R12B	CAAGTTAATGGTCTGTGGATCC
34984	KCNK6	AAAATCTAAAAATTAGCTGGG
34985	RNMT	AGGATTTTCACACCCCCTCC
34986	PLAUR	CCCTACAGACTTGCTGTGTGACCTCA
34987	MHC2TA	CTTCTGCTTCAGCCTCCCGAG
34988	OTOR	TCTAGTATTTTTGTTACTTT
34989	ZNF175	TGTTTTTATAAAAATTATTCCCTA
34990	PCTP	CACAGCCTTGATGATCTCAGGGA
34991	PTPN18	AGATTCAAGAAAGAAGATCAG

34992	DTX1	AGAGAGACACTTGCTTTCCA
34993	SMARCC1	ATGAAACTTGGTTAGGATGGCTGGGG
34994	SLC6A8	CACAAGTCTGTGGGGCAAGAGGCTGCA
34995	ETV5	ATATTCTGTACTGTGTACA
34996	LTBR	TCCTAGAGGAGAGGAAAGGGAGTCATT
34997	ABCB10	TATTCCGATAATCTCATGAAGC
34998	DIO3	GGGGAAAGAGAGGTGGGGGGA
34999	DBN1	GCGAAGTGACTCCCTTACCGCCG
35000	MGAT5	TACCCCTGCTTGTACCTCTGGCA
35001	UCP2	TAGGTGTTTCGTCTCCCACCCATT
35002	SKI	GCCAGGGAGAGCAGGGACAGT
35003	FMO5	AGTCATCTTTGTATGTCTTTAGCAG
35004	LHX3	CGGGGACACACCTGTGTCCTCCTCA
35005	CXCL16	GCTCACTGCAACCCCCATCTCC
35006	GPR44	TTGCCGGTGCCTAGGATTGTGCCTGTA
35007	CSPG2	TGTGGACAGGAGCTGGGACC
35008	SCGB1A1	GCCCACCAGCCTTGCTCTCTTC
35009	NUP98	TGAAACAAGTGCAAGGGAGG
35010	GAB2	CCCTGGGACAGGCACAGGCTGG
35011	INPP5B	AGACTGCCAGAATCCAGACAATTGG
35012	ELK1	TATTCCTGGCCATACTCAGGGGT
35013	SUPT6H	GGGGAGTGTGGCAGGGAGGA
35014	TCTE1L	TTTCCAAAAAGAGTAATAGTTG
35015	WNT5A	GCAGCAGGGAGGAAAGTCCCCAGAAAT
35016	KIF3B	ACACTTCTCAAGATTTGACTGGATC
35017	SERPINB13	GATAATCTCCCCTTTGGTTTCC
35018	BCL11A	CTGTACCTGTTTCCTACAGACACCCATCG
35019	RAD52	TCTTAACTGAGGCTCAGGCC
35020	CYBB	AACTATTAAAATGAATGAGCTT
35021	HOXC11	GGGGGCAGCTAAATGTGAT
35022	SLC1A5	AACTCAGTCCTAGGAACGTCGGG
35023	CALML3	TTGAGTGGGAGACAGGCGGCAGG
35024	GBF1	GGCAGGTGGGGGCTGGGTGGGGGAC
35025	MECP2	TGAGGTGAAAAGGCCAAGAG
35026	PDHB	CTGCACCTGGATTTGTACTGCA
35027	TAZ	TTTTCATTTTCTGCAAGCCTGC
35028	KAI1	CCGGGAGCGGAGGTTGCAGTG
35029	MGA	TGATCCATTACTGAACATG
35030	STARD4	GCCCATGCTGGAGGGCAGTGG
35031	ITPR3	GGCTCCAGGTGGCCTGGTGACTCCATGATG
35032	ASB1	CAGGCCTGGCCTCCCGGGGCCT
35033	B3GAT1	GTGGGTGGTGGGCAAGGTGGGACCT
35034	ITCH	TACCTGTAATCCTAGCACTCTG
35035	SNTB1	TCTGATATACACATAAAACAA
35036	TNFAIP2	AGGGGAGAATTCATTTCTGGCCT
35037	ADARB1	TGGGCCATTAAACATGAACTGAAC
35038	SACS	TTGTTGTCTAAAGGTGCTG
35039	PCMT1	ACAATCAGCTGCTTTGTT
35040	BARHL1	GGGCAGCCAGGCCTCTCGGGT
35041	PPM1D	CTGCCTGGCTCTGCTCGCTCCGG

35042	SNX1	GGACCCCAGAGCCCACCTGTGT
35043	PCDHA1	GTATCTGTACAGCACTTT
35043	PCDHA10	GTATCTGTACAGCACTTT
35043	PCDHA11	GTATCTGTACAGCACTTT
35043	PCDHA12	GTATCTGTACAGCACTTT
35043	PCDHA13	GTATCTGTACAGCACTTT
35043	PCDHA2	GTATCTGTACAGCACTTT
35043	PCDHA3	GTATCTGTACAGCACTTT
35043	PCDHA4	GTATCTGTACAGCACTTT
35043	PCDHA5	GTATCTGTACAGCACTTT
35043	PCDHA6	GTATCTGTACAGCACTTT
35043	PCDHA7	GTATCTGTACAGCACTTT
35043	PCDHA8	GTATCTGTACAGCACTTT
35043	PCDHA9	GTATCTGTACAGCACTTT
35043	PCDHAC1	GTATCTGTACAGCACTTT
35043	PCDHAC2	GTATCTGTACAGCACTTT
35044	DTR	TCTGGAGAAGGTATTAGCAAAGCA
35045	ICOS	GTTGTCCAAGCTGTGCCTC
35046	ATP8B2	ACTGCAACCTCCACCTCCTGGG
35046	CDC2L2	ACTGCAACCTCCACCTCCTGGG
35046	EHD2	ACTGCAACCTCCACCTCCTGGG
35046	IGF1	ACTGCAACCTCCACCTCCTGGG
35046	MAK	ACTGCAACCTCCACCTCCTGGG
35046	PDCL	ACTGCAACCTCCACCTCCTGGG
35046	SEDL	ACTGCAACCTCCACCTCCTGGG
35046	TAT	ACTGCAACCTCCACCTCCTGGG
35047	DGUOK	ATTACATGGCTTCATCTACCTC
35048	LNK	TCTCGAATGTCTGACCTCAGGTGATCCA
35049	DLEC1	CAGTGCGGATGCAAGAGCACCTGGCC
35050	FBLN5	AGGACTTGCCACCCCCAGTTCCTATGA
35051	OAT	AGACCATCTTGTCTTTCTGGGG
35052	DUOX2	GAGGGAGGAGGAGGCTGGGA
35053	KRT15	CCTCCTGCCAGCATCTCTTGGGTTTGCT
35054	HOXD3	GGATTCAGCAGACATTGGAGGTGGCA
35055	P2RY6	GGAGATGGGTGCGGTCCTCAGT
35056	CTBP2	CCCTGCTCTACAATGTTGCATC
35057	PFKFB3	CTGGACTTGGGGGGAACTGAGA
35058	UMPS	CCCAGGATGGAGTGCAGTG
35059	PRDM2	TTGCATGCTCAACTTAGGATAAGCA
35060	PPP2R2B	CCTGAATCCTGTCCCTGCCAT
35061	CCND1	GGTCTGTGCATTTCTGGTTGCACC
35062	AIM1	GGATCTCAGGCTGGAGTGCAG
35063	PCDHA11	CACTTATAATCAGAAAGCAATT
35064	LUZP1	GATAAATCCAGAACCACCTGCC
35065	NRIP1	TACAATCCACAATTCATTCACCAGATATTTT
35066	TNS	GCCAGAATGGAAAATTCACCAGGA
35067	ADAM15	GCCTGTCTCTGCTCAGTTGCA
35068	DDX38	AGGTGGAGTTCTTCCATGCAG
35069	PYGB	ATTGCCCAAGAGAGAGGGCAGG
35070	MAGEC1	AGTAGAAGAAAGTAAACTGTA

35071	DYRK1A	CCGCCATCGTCCCGGCTGAAGTGCAGT
35072	COL4A2	GCACACACCCATGTAACCACTGCAC
35073	AMACR	TTTCTCCATGTGTTTGATTTCTCC
35074	ADAMTS5	GCCTATTGTTAAAGATTTGCATGTGAA
35075	SEDL	ACCACACCTGGCTAATTTTTGTGT
35076	D1S155E	GGAGAGGGGGCGCTGAGCTGT
35077	ADCY1	ATTCTAGGGGCTTCCTGCCTTAT
35078	FMR2	TGTCAGGGGTGTCTTCTGCCT
35079	FPGS	GAGACCCCATCTTCCAGCCACCTAGTCCC
35080	SLBP	TACCATGTAAAATTGCTGTA
35081	SIRT1	TTTTCTTTGTAACATTGAATGGTTT
35082	P53AIP1	AGCTCACTCCGAAAGCCTCTGCTCAGA
35083	IL5RA	GTTCAGCTCCTGCACAGTTG
35084	XPA	AAACAGTGGGGAACTACTGCT
35085	GNAI2	CTTCTGGGCATCTGTTCTGGTTTTTA
35086	ARHA	TGGTGAGTCACCACTTCAGGGC
35087	SRP46	ACTGCACTTCCAGTCACCCAGGCCTT
35088	SPINK2	AGCAGTTTACAGAAAAGAAGATGG
35089	CTMP	CCGGGAGGCGGAGGTTGCGACC
35090	CSF3R	CCCAGCCCCAAGCCAGGAGGAC
35091	KRT17	CCATGACCACCTCCATCCGCCAG
35092	ARF3	TCCTGCCTTCCAGTGCCCCA
35093	PPP2R1B	GTGTGGCTGCATCTTGCTGCTA
35094	ETF1	TGAGATTATGTGAATGTTTTGA
35095	TIAM1	AGGAGGAGGAAGAGGAGGCTGG
35096	RXRA	TCCACGCAGGTGTGTGG
35097	APAF1	AGTCCAGCCTGGGTGACATAGC
35098	NAPB	CATGCCCCCGTGACCTGCCTGCTGT
35099	RARB	TCCCTGCACTAGCAGAAGAGAA
35100	HPSE	TGTCTTATTGTTCAGAAATGGGTA
35101	CYP7A1	CCTAAGGAAACTGCTTT
35102	IDH2	ATTGCCCTTGGAACACATGGTG
35103	TCF2	ACCAAAGCCACCAAGACAGGCT
35104	COLQ	AACAACCAGGAGGAGCTTGA
35105	JPH2	GGCTATGGTTTCCTGCCTCC
35106	MKKS	TCTTCAGGTAAAGAAGCAGCT
35107	ADH1B	ACTGTGTCACCTTTGCCA
35108	HOXB8	CCCCAACAGCCCCCAACTATAGCCTCC
35109	PRKY	GGCTCACACCTGTAATCCTAAGTAAC
35110	KIF3B	TGTGGGTGTCTGAGTCCATGAG
35111	GNPI	CATCAGGAAATACAACCCT
35112	TRIM8	TTCCTGTAGTGAGCACTTTG
35113	GAS7	CTTCCTTTCTTTCTTCCCTCTGTTATT
35114	TRAF1	TAGGACCCAAGCAGAGAAGCTCTCG
35115	MLLT2	TTCTCATTACTGTGCTGAAAGTCAGC
35116	CCND2	TCAAGTCCATGTTATTCTCTCACAGTGT
35117	COG3	TTAAGTGTTCACTTATACAAA
35118	CD28	TGGCAGGCGGAGGTTGCAGTGA
35119	TEM6	CAGGGAGCAGAGGTTTGTACTTT
35120	MEF2C	TTGTTTGGAGGAAACAGGAAAGAGA

35121	Rgr	ACTCATTCAACACATACATTCA
35122	KIF5C	TCAATGACAACCAAACCA
35123	LUZP1	ACAGGGTACTTAACACTGGACA
35124	ABR	CCACAGCCAAGCACTGCCACGGTCCT
35125	SSTR1	TGGAAGTAGGGGCAAGCTCTTGC
35126	ASB1	CCTCCCCAGCCCTGCCCGGTGC
35127	DUSP3	ACAAGTGTGTCCCAACACAGTCCT
35128	TCTA	TGCCATGTCACAATAGGCCAGGGGAGT
35129	B3GALT2	TACTGTTGAAAAAGATAAAGA
35130	PTGFR	GTTATCTGAGTATATGTTTG
35131	DIAPH2	ATGTGTATCATTTGTAATTGTGT
35132	MTMR2	GACAGATCAAAATCATTTGATA
35133	DNMT3L	TGAACCCACCAGCTGGCTGTACCC
35134	PPP1R3A	TTCTCTTGAAGGATCATT
35135	NR4A2	CTGAGCTTAAACATTTTCTCAATT
35136	NGB	TTGCTCTGTGCTGACTGTG
35137	ALDH3B1	CTTGGCAGAGCCTCAGGATG
35138	COL5A1	CATCACCAAAGCCTCCGTTTTTA
35139	CDH2	GCAAAATTGAATTTTTTCA
35140	MEOX2	GGAGACTGGCCGCTGGGGCT
35141	SSX2	TCTGACTTTCTCTCTCTTTCGA
35142	SFTPC	CGGGCAAAGGGTCTTTTGCAGCTTTTG
35143	ARNT2	CACCTGAGCCTTCGTTCTTCAG
35144	RBBP9	TTCAGTGAGCTATGATCGCGCC
35145	DHCR24	AAATCCAGACCTTATCCACA
35146	INMT	CCACCGCACCCAGCCAGGGGGAA
35147	TOX	AATTTAAAAACAAATTGGCTTT
35148	MSL3L1	ATGGAAAGTTGATGGCAGCAGGGCCGA
35149	APAF1	GCCAGGCTGGAGTGCAGTGGCGCG
35149	CD209	GCCAGGCTGGAGTGCAGTGGCGCG
35149	CYP1A2	GCCAGGCTGGAGTGCAGTGGCGCG
35150	MPL	GCCAGACTGGAGTGCAGTGGCACG
35151	FACL4	TGTTTTTAAAAATTAGCCTA
35152	TNFRSF10D	TCTCTTCAGGAAACCAGA
35153	DNASE2	ATCGCTTGAACTCGGGAGGCAG
35154	UCP3	CAGCCTATTTGTAATATGTCTGCC
35155	SALL1	AACATTATGAAGACATTCTTTTGTACCTT
35156	XYLB	CCTGTCTTTTATCCCAGGAGGCAG
35157	B4GALT7	GCTCACCCTACTCTGACCTCCTTCACG
35158	GNAZ	GCCCTTGCCAGATCTCCCTCCCTCTC
35159	TPI1	CCTGTAATGGTTGGGACCAGGCC
35160	G2A	CCGACACCTCGGGCACATCGCA
35161	DLST	TCTCCCTCTCTGCACCTGTC
35162	KCNJ11	AACGTACTGGGATTACAGGCGT
35163	TLL1	TTTGAAATAGCACCTTCCTTAGG
35164	MAT2A	AGGAAATCCCTTCATACTTGAA
35165	XRCC2	TGTCTCCCAGGCTGCTGGAGTGCAG
35166	POLR2E	TCTCACGGCTGCTGCTCCTCTGGACTCCCCAA
35167	ACRV1	TCTGTCCTGTCTTCCCTGCTCCA
35168	ADAM19	CACCGTCCACTGTGCGTTTGTAT

35169	CLASP2	CATCACAGCGAACCAGGTCTCTC
35170	SHOX	GTCTCGGAACTCCTGACCTCAG
35171	TOP1	GCAAAGTCCGATTATATTGGT
35172	TNFAIP1	ATCTGTTTCTTTAAAGCACTTTG
35173	SLC6A4	TTCTCCACAACCTCCTCCTCC
35174	RBBP2	CCAAATAGGAGAACCTCTCACA
35175	NDRG3	CTGTTACCCAGGCTGGAGTGCAAT
35176	ATP8B2	GCGTGAGCCACCACACCCAGCT
35177	F3	GCGTGAACCACCATGCCCAGCC
35178	PRY	AGGTCAAGAGCCCAACCTTCT
35179	LRRC2	CATAGCAAAGATGCTTCAGTC
35180	NEBL	TTTCCTTATCCTCTCCATGCT
35181	TGFA	CGCCTCCCTAGAAGTGCCTT
35182	LZTS1	CCAACTAGCTGGGACTACAGGT
35183	SIAT8E	ACACTTCACAGGACACTTGAGCA
35184	VAPB	GCATATTTAACTTATTTAATGTAT
35185	CHRM5	AATTTATTCCTTCTTGTGGGTTCTCG
35186	PFKFB2	AAAGTCTATTTTTCCTTCACTTT
35187	NOC4	TCAGGTAGGCTGGGCTGTGAAC
35188	GRB10	TGGGCAGATTTCAAACTGAATATG
35189	MAPK14	AATTGATACTTCAGGTGCTT
35190	TRPV4	CCTCAGGCCCCAGCCCCTGCCTCT
35191	ZNF74	ACTGCAACCTCTGCTTCCCGGG
35192	WBSCR14	AGGGCCAGAGTGACCACAGCAGGGCAG
35193	MAN2A2	CACAGAAGCGCCTCACGCTGCACACTGCC
35194	MEIS2	TTCTTGATTTTTCTCACTGCTTT
35195	PTPN2	CACTCCGGAAACTAAAGTGAGGCT
35196	YES1	TTAGACCACAGAAGTGGAATTT
35197	LILRA2	GCGTCTCTCTGTCCTGCC
35198	TNFSF14	TCACGAAGCAGAGGCTGGGCGTGGTGG
35199	SREBF2	GCCCTGGGAGGCTGGTGGGAGGCAGGG
35200	DHFR	GGTTAGGCAATCATTCTAGGGCA
35201	EIF5A2	CATCAGCCAGGCTGGAGTGCAG
35202	XT3	CACTCCACTCCAGTCTGGGCGACAGA
35203	OGN	CTGATTACTCATGATAAACTGACA
35204	FBXL11	CTTCCTGTAGCCCAGTCTCAGGCTT
35205	GJA1	ACCAGTTTCTCCAAATGCCTTT
35206	MTMR2	AATTAAAATATACAGTGTTTTTCCA
35207	P2RY1	CAGAGCTGGGCCTGGGGAAGG
35208	DNTT	AGCTGAAATACTGTCTATCTCTA
35209	PPT2	CGGGAGGTGAGGCGGGAGGTTCAGCAG
35210	NCOA6IP	GCAGTGCCATGATCACAGCTCACT
35211	NRF1	GCGGAAATGTGTGTGTATACTT
35212	KIF3B	GAACCCATGGGAAACAGGAGGTACTAA
35213	ABCC3	GGGCTTTGGAGCTGTCCCACCT
35214	ADAM33	CCCAGTGCTACACCTGAGGTT
35215	POLR2C	GTCCCCTCCCCACCAAATAAACAT
35216	COPA	TTTGGGAGGCTACGGTGGGCAGAT
35217	CNR1	CACTGGCCTTCTGATGAAATGTTAACA
35218	SEDL	GTCCAGGCTGGAGTGCAATGGCAG

35219	STE	GTCTTGAATTCCTGGGCTCAAGCTTCC
35220	THPO	AACTCACTGATTCTCTACATGCTC
35221	ZNF141	AGAGAAACTGTACAAATGTGAAGAA
35222	NUP62	CCCACCCCCCAGGGCTCCCT
35223	APOL1	TCCCCTCCAGGTTACTAAAGGG
35224	NCOA6IP	AGTCTCCTCAGTAGCTGGGGCT
35225	ATP5G1	GTTGCAGGGCAGTAGGAGTGCAGACTGAA
35226	PLAG1	GTTATGTTTGCTGTAAGAATAAGATAT
35227	LPIN2	TCAGGCTGTGAGGTGCTCGTGTAGA
35228	SLC4A10	AGGCGTTACAAAACATGGAGATT
35229	FRAT2	GACCCTGGACGTTTTTCTGCTCTCTTCTG
35230	RPA3	GCTAGTGCCGACTCCCGCCT
35231	OTP	TCCTTGTACTCTCCAAGCTCCT
35232	MAGEA10	CAGGATCTGACAAGAGTCCAGGTT
35233	ITK	TACATTCTTCACCTCCTGGTGCC
35234	CD34	TTCCCTGTATTTTCTTTCTCT
35235	POLR2C	CAGGGCTGGCCTGCTAGCGCTTC
35236	POU2AF1	CCTTCCTCCAGTGCCTGCTGAACCAT
35237	PCDH12	GCATTGAAACTCACAGCCCT
35238	SLC7A8	CCAGCCCCCAACATGGTGCCAAAG
35239	DLGAP2	GCTTATTTCAGCCACTTCTA
35240	SIGLEC8	CGGGTCTGTACTTATTTTGTTTAC
35241	RAP1GDS1	TTCATTCTCTACCATACCACTTGTGCA
35242	FGFR1	GAAGGCAGAGGTTGCAGTGAG
35243	LIF	TTCCATAGGGAGGGAGCTAGA
35244	CST	TGTCATCCAGAGCTGGAGTGCAGC
35245	WHSC1	TCCTCGGGGATAGACCAAA
35246	NEDD4	TTCCAAACACCACAGCATCAGCA
35247	KIF5C	TGGGCAGTGCACTGTCCCATCTGTA
35248	PLA2G7	CAGGAATAGAGAAATACAATTAGATTAAA
35249	ACTR1B	TGTGGGTATCCCCCTGGCAGGGCCAGCTAGGC
35250	AMPD3	TGCTCACTTGTTAGTATTTCTGAGTA
35251	NBS1	TCTGTGTTCAAAAATATATTCAT
35252	INPP1	GGTTAACATTCACCTTCCTC
35253	APM1	CTGCAGCCTCCTTCTCCTGGGT
35254	ANGPT2	GTGAGCAGGACTGTTCTTCCCACTG
35255	KRT6B	CCAGCAGGAAGAGCTACAAGCAC
35256	DUOX2	GACTATGTTCTACAATTGCA
35257	ADRB3	AGCCTTTCCACAACCTCTACCT
35258	UROD	TGGGACCCTCTCATATCCTCTTATAG
35259	AMT	CTGACCTACTCTTGCCTGCTGGAGGGT
35260	SCO1	GCCCACCTGTGGAAGGACATGGCGGG
35261	DCX	CAGTGAATTCCTGGTCAATCTCT
35262	TMEM1	GCTTCTATTCAAATTTTCTTTAGTGCT
35263	NF2	TTGCCTTTGTCGCCCAGGCTGGAGTGC
35264	ZNF264	CACCCACGCTGGAGTGCTGTGA
35265	JJAZ1	AGGCACTGTTAGATGAAGTAA
35266	FLRT2	TGGAGACAGTCATGTGCAATGCTTAAGATGG
35267	PRKAB1	AGGAGACAGCACACCACCAGGCT
35268	LRRC2	GTTTTCAGGAATCAAAAGATA

35269	WHN	GTTTCTGGGGCAACTGAGAGCTG
35270	LMO2	CTTCCTGGCTTTTTAACTCCCCT
35271	FABP2	ACACATACATTGCCAATTTTCC
35272	LU	TGCCTGCCTCCGGGAGGGAAGGAG
35273	DDB1	TGCCCCCAGAGCCACAGTTCCC
35274	RFC1	GGTCCTCCACTGTCCTCTGTCA
35275	ENTPD3	CCCAGAAAACTATAGACCATTC
35276	RGL	GAAAGAGATGGGGCTGTAT
35277	ASB1	GGGGTCACATGGGAAGCAATGTGTT
35278	KCNJ10	GGGTTTAAGAGTCCTGGCC
35279	TIMP3	AAGAGTGAGGGAGGGAAGGAAGG
35280	TTC3	CACACTCATGGGTCACTGGGGC
35281	GALNT2	TGCGGTGAGCTATGTTTACATTGACAC
35282	ARCN1	TTCAAGCAAGTCTCCTGCCTCA
35283	ZNF74	TCTCAGGATCCTGCTCTTTCCC
35284	PIP5K1A	TTTGTTAAAACAGGAGGCAG
35285	ADCY2	TGTAATTCAGATTAGGACACAG
35286	KRT5	CCCACTAGTGCCTGGTTCTCTTGCTC
35287	TIMM23	CACCCAGGCTTGAGGCAGCGG
35288	SLC22A2	AGGGAAAGCTTTGCCTGAGA
35289	IRAK1	TGGAAGGCAGAAAAGTTGGGAGCATGG
35290	SLC9A1	CCGCAGCTGCTGCCACTCTGCT
35291	E2F1	CCCTCCAATCTGCACTTTG
35292	FZD4	CAGGGTCTTGCTCTGTCACCCA
35292	HUNK	CAGGGTCTTGCTCTGTCACCCA
35293	AQP6	CTGCCTGGAGGTTCTCCCTGGGGGTG
35294	RALBP1	GTGTAAACTCTAATTTCTATCA
35295	EGR1	CTTGTACAGTGTCTGTGCCATGGATTT
35296	PLAGL1	TTGTGCCTCAAACCCCAAGGAG
35297	GPR81	CCGTGCCCGGCCTCCCCTGTGTCAT
35298	TIMP3	GAGGAGGCCCTGGGCAAAGAAG
35299	BAZ1A	CCAGTGCTGGCTGCAGGTATTAAGTC
35300	VDR	CAGAGGCTTCTTCAGATCAATG
35301	APOH	CACTTTGGTAGTGCCAGTGTGA
35302	G6PC	CTACTTGAATACTCTCACA
35303	B4GALT6	GGTTAACCCTTGTGTGAAATGAAGGAA
35304	UBE2G2	CCTGGGCAACAGAGCGAGACTCAGTCT
35305	GUCY1B3	CAAGCATTACCTAACATGGTGA
35306	OGG1	CCTAGGTGTCCTCCCTAGTTTC
35307	PDCL	AGCTAGCAATAAGGTGACTTACA
35308	ZNF147	GGGAGCTGGCGGGAGGGTGG
35309	NOX1	TGATAGCAGAGGTTTGGTGG
35310	GPR81	GTGACTTCCTGGTAGCCCAAG
35311	DPYSL2	TGTGTTTCCTCCAGCCCTTGTCTC
35312	SOX11	CCCAGCCTCCCGCTCTGGGC
35313	LPL	CAACTAATCAAGAGTGAGTG
35314	HIP1	TTACTGACTTGGATCCCAAAGCAA
35315	TGFBR3	AAGATGTAAAACAAGAAATGCT
35316	XPNPEP2	CATTCATCCTCCTTCTCCAAGA
35317	ZFP161	CTCTCAGAGATAAGGTTTTT

35318	SDC1	GCAGAGCTGGCTCTGAGCGCCT
35319	HYAL1	GTTGCCCAAGGTTGCACAGCAAGAAAA
35320	MTBP	TTCACTACTTCTTTTCTTAGTTTGAAA
35321	SUOX	TGATTCTAGAAGCACCCA
35322	SLC10A2	TCCAAAAGCAGAAATGAGAGGAA
35323	IL17C	GCTGCAGAAAAGGTGTCACA
35324	MAP3K7IP2	GGCTAGCCATATTTAGGACAACTGAAG
35325	RBBP9	CCCAGGCTGGAGGTCAGTG
35326	IL2RA	CACAAGGTGCAAATCAATGC
35327	AP3B1	ACAACAAAAGTGCCTGGCATCC
35328	DRIL1	GCCGATCCTGTTTACCTCA
35329	CTSZ	TCGGCCGGGTGCTAGGCCGGGG
35330	DEDD	AGTCTACAGCACATAGTCTTT
35331	HTR6	CCTCATCTGCTTTCCCGCCAC
35332	MALT1	CACTACACAACTGCCTTC
35333	MAGEA9	CTCATAAAGAAATAGTGAAA
35334	RAB30	TGGGATGTAAAAATGAAATGA
35335	PER2	TTTCATGAGCCCGACCTCTCTCG
35336	TCIRG1	CCTCATTGCCAGCTTCAGGGAGCT
35337	C5	CATTAAAGCCTGAGTTTGCTTTC
35338	HDAC1	CACTGCCTGCCCTCTGTCTGTCTTCTC
35339	DAP3	AATGGGTTTCACTGTGAA
35340	DNA2L	TGCTAGGATTTTTTCTGCTA
35341	ZNF264	AGTCCTGAACATGATTGTGG
35342	ICA1	AGACCTGACTGCCTGGTTCAGCC
35343	GDI1	TTGGGAAGACGTGGAGGAA
35344	APPL	TACTGCACTTGATGCCAGTAGGAAAG
35345	NXF5	TCCAGAGAGAAAAATGAGGCGGA
35346	UBE4A	AGTATATCTCAGTGTGTGAGA
35347	ARHGEF6	CCCTCAGGTCACATTCTTTGGG
35348	KCNQ2	ATCAGGGTCTCGTGCTGCCCTTCCCTC
35349	SF3B3	ACCTGGTACATGATACATGACCCCA
35350	FUT1	CCCAGGCCAGAGTGCAGTG
35351	IGF2R	CCCTGCAGCATCCCTCAGCCTG
35352	TTR	GGCTTCTCATCGTCTGCTCCTCC
35353	SH3BP2	GCTCACTGCCACCTCCGCCTC
35354	RNTRE	AAGAGTCAGTGTTGCTGTGGATTTGACG
35355	CEACAM5	ACCATCCTAGCCAACATCGTGA
35356	LYPLA1	AGCAGGTAGCTTCTTTTTTC
35357	IL1A	CCCTGGAGCACAATCAACAA
35358	TAF5	TTCTACTTCAGCTAAAACAG
35359	HMGA1	CGCCACTCAGCCATTTCCCCCTCCTCAGA
35360	ALOX15	GCTCATGCCATCATGCCCAGCT
35361	SLC1A5	TGCCTGGCTGCTGGAGTACATGTG
35362	CDK10	AAGCACAAGTTCCCATGGCTGTC
35363	KCNC3	CAGGCAGCCCCAGGCTTTGCAGAAACC
35364	DHFR	GCAACATGGCAAAGCCCCATCT
35365	MEN1	CCCTAGGTTCCCGGTCCCGAGTACAGT
35366	OAS3	CCCCTGCCATCACTGCCCCACATGGAC
35367	TNFSF15	GGTCAGGATTGAAAGAGAAATATTTCA

35368	FUT1	TGTAGCCCAGGCCAGAGTGCAGT
35369	TGFA	AAAAGGAGAAGTTTAACTTTGCT
35370	VWF	CCTGCTGCTGCCTGCCTTGGCCTG
35371	MMP14	AGAAGAGCAAACAGGCACTTTG
35372	CLASP1	TGCCCAGTCAGTACAAGGAGGCCCACA
35373	HRH1	CACAGGGGCTATCCCTTCTCA
35374	FLRT3	CCTCAACACTGCTGACCATGATCAGCGCA
35375	PCDHA2	GGTTTCTGTTTGATTCAGAAATT
35376	ASK	ATACAAAAAATTAGCTGGGCATGG
35376	LAMP2	ATACAAAAAATTAGCTGGGCATGG
35376	LRRC2	ATACAAAAAATTAGCTGGGCATGG
35376	XRCC2	ATACAAAAAATTAGCTGGGCATGG
35377	DHCR24	TGCTTTCCTAGATCCACACTTT
35378	GNE	CCAAAGCAGCTACAATAATAGAGA
35379	PPT2	CAGGCAGCTTCACCTGCGGCTGC
35380	CDKN1B	GTGCATTTGTAAATGCTGTGT
35381	NLGN1	TTCACAGTAGTTTCAATATAGAAGGAA
35382	PTPRC	TGCTTTTCCTTTGTTTTTATGA
35383	CDX1	CATAGCACTGGGCTCTGATG
35384	COL6A3	ACAAATGATCTAGTTCAGA
35385	PIAS3	ATGCTGTGGAGTCCCAACCCCAG
35386	HS3ST2	TCCCTGTGGACAAAAGCACAT
35387	CUBN	AGGTCAGGAGTTTGAGACTA
35387	TRIM14	AGGTCAGGAGTTTGAGACTA
35388	FGFR1	CACAGCCCCTGCTGGGCCCACCACCT
35389	IL18R1	TGAAATATATTTTGCATTA
35390	p100	CCGCCAGCTGGCACCTGCCTCTA
35391	PHGDH	GCTCACTGGTCCCTGCCTCT
35392	EVC	TTTTGCCCAGGCTGGAGTGCAG
35392	PER2	TTTTGCCCAGGCTGGAGTGCAG
35393	NDRG3	CAGATTATTAAATAAAGCTGC
35394	STK4	CAGAGTTTTAAACCCCAGGAAC
35395	WNT1	TCGAGCCCTCCCCCAAACAG
35396	SLC21A3	TCCAAGAAAAACTACCTCGAAGG
35397	CHRNB4	GGGATTACAGGTGTGAGCCACT
35397	IL12RB1	GGGATTACAGGTGTGAGCCACT
35397	NCOA6	GGGATTACAGGTGTGAGCCACT
35397	SH3GL3	GGGATTACAGGTGTGAGCCACT
35397	UMPS	GGGATTACAGGTGTGAGCCACT
35398	EGR3	CCAGCTTTGTGTCTTCTCTCAATTACAT
35399	MLPH	AGGAAGAGGCTTGGTTCTAGCCTGGC
35400	IFNGR2	GCCGAATCCCCTCCACCGGGACGCCCC
35401	SULT1A3	TTTCTTCAGGAAGAACCAGG
35402	APM1	GGTCTCGAACTCCTGACCTTGTGATCT
35403	GABRE	CTCTCCAGTTCCCCAGGAGGTCCAAG
35404	SCML1	GATATGGATATAAAAAGCATTCTTACCG
35405	ARHGEF7	TCAGTTACCTCATTCTGCA
35406	TFB1M	TGGGTGAGGTAGGGGTGG
35407	KLRC2	AGTGGTTGCCAATGTCTCAGGGA
35408	CCNDBP1	GGCTCTGATACCTGCTTTTA

35409	SIX6	CATGCAGGCTGGTGGTGATG
35410	P53AIP1	TTTAGATTCACTGAAATTCATT
35411	TCTA	CGCCGTTGTACTCCAGCCTGGG
35412	TRIM34	GAGCCGAGATTTCTGTTGCTCT
35413	HRMT1L1	TCTGCCCTCTAGAAGTAGGCTGTG
35414	HNRPA1	TAAATTGAATAATGGTACCAGATAA
35415	CPS1	GTCACACTCTCCAGGCTGGAGTGCAGT
35416	MPL	TCCCGGGTTCAAGCCATTCTGCCTCAG
35417	SP110	TCTACTACCCTCTCAGTCACC
35418	MAP4	GGTGCAGAATGGCTGACCTCAG
35419	OCRL	TTGGCTCCCAGTCACCATATCCA
35420	ZNF45	ATCTACTCTGCCTTTTCAGTGCC
35421	VHL	TTGAAACTTACACTGTTTCATCTCA
35422	FMR1	TTTCAAGCTTATTTTGGA
35423	CROT	CTCATCTTTAAGATGAATCATCT
35424	CDH1	GTCCTCCCAGGCTCAAGCTATC
35425	GRLF1	GGCAGGCAGGGACTGTGGCAGC
35426	RNGTT	CATAATACCATCTGCAGTATTA
35427	DISC1	TCTGTCACCCAAGTTGGAGTGCAGTG
35428	IGFBP7	TCATTAAACAAATAAAATACTT
35429	CDH17	CCTCCGCCTCCTGGGTTCACATGATT
35430	SLC38A3	AGCCCCTCATTCCCTCCTTGCAC
35431	CRACC	TGCAGTGAGCTGAGATGGCACC
35432	OLR1	AGAACATGGAGAACTTGCTCAA
35433	CBFA2T2	TTCCACCCTGCTCGTGCTGCC
35434	LILRB4	ACATAAGCTACCTTCCCATTTA
35435	ANXA9	AGGCTGGAACTGTTTCTTTAAA
35436	AMPD2	TTTTACCACGTTTTGTCCTCA
35437	CLCA3	GATCACTGCAAACCTGCCTCA
35438	EWSR1	GCTCAGTATCATTGTGGAGAA
35439	ALOX5AP	CGCCCCTTGAACATGACCGTGG
35440	PTGFRN	GATCAGATACCTGCTCCAGTAGTTGT
35441	IGSF4	CGAATCTGTGTGAAACTTTCAT
35442	CBFA2T2	TCACTCAGGCTGGAGCACAGT
35443	COG3	GCCATGAAATGAATGAATTAGGAA
35444	CD28	CTTTTAACTTCCATCATTTTCC
35445	PFC	AAAGCGGGACCTCCTCTCTGGTAGAGGTG
35446	CCNT2	TCCATCACTAATCTAAAACAAAGGTGGCA
35447	GORASP1	TGAGTCCTCTGTCATGTGTCC
35448	FMR2	TACTACCACTTTAGATGATTTTAA
35449	MEST	CATGCCTTTTAAAAGTTCTTTAAGCAA
35450	TFAP2B	CTTCCCTTTGGAAA
35451	ASB1	GAAGCATCTGACTGTCACCACTGCCA
35452	DMRT1	GACTGTTGTAACCTTAGGTTGTAATCT
35453	PTHR2	ATGGTATTTGCTCTGTGAT
35454	PTGFRN	TTTACCAGCACACGGCTCTTCTTC
35455	TBX6	CATTGCATTCCAGCCTAGGCAACACGA
35456	STS	GGAGATGCTGTGGTTCATGGAATCTCT
35457	CSRP1	GGCTCAAATCTTCATTTATCTCT
35458	TXNIP	GCTGCTCTACGGTCATCTTTGCTTAG

35459	TEM8	CCGACTCAGTGTGTCAT
35460	DSC3	TCATTTTTCCCCCAGTGAAT
35461	CDH13	ACTAGGGTAAGGTGAGTGTCTTAGCA
35462	SLC15A1	GAGTGGCTGGGATTAGCGGCAT
35463	XPR1	GTTTTGACTGGTTGAAACCGGA
35464	POLH	CACGCCTGTAATCCTAACACTT
35465	ELMO2	CCAGAAACGACGGTACCCAGGAGAAGG
35466	NOS2A	CTTGCTGCTGAGTGCACCACTTC
35467	RASAL1	TTGATTCAGACTGGAGTGGATA
35468	REN	GGTCTCAACCTGTGCTGACCCTGGGA
35469	STE	TGTTGCCTAGGCTGGAGGACAG
35470	NKTR	TAGAAGCCTCATTTCTTTTCTC
35471	RASA1	CCCATTCAACCATTTTATA
35472	POU2AF1	GCTCATCACTGGCCTGGGGA
35473	EFNB2	GGGAAAGGAACAGGCTTGGAGGGAAG
35474	ANPEP	ATGGCACCTGTCGCCCAGTGCCCTGGGGCT
35475	IER5	TTCCTTCTGTCCCTCCCCACCTTTCTC
35476	NDP	TAAACAACAGTCCTAACTTT
35477	MLLT2	GAACGTCAGAGATCAGCAGGCACTGTACTGGG
35478	TGM7	CCTGCCTGGGAATGAATGAAGC
35479	ADRBK2	GCACCCACATGACTGCCCTGCCTCTGACCAG
35480	PEA15	GGGGGAGGAAGAGGAGGAAGGT
35481	GCNT2	CCAGTATTATCTTACTTGCAAA
35482	DLC1	ATTTTTAAAGCTGCTTCCTG
35483	SLC4A4	AAGGAATAGAGAAGGGCTTT
35484	CBFA2T2	CAGCTCCCCTCCCCATCTC
35485	EGFL3	CATGTAAACCTAGGAAGGTAAAGG
35486	IL13RA1	AGATGGCCATGAAGAGGATGCT
35487	KLRG1	TTTCATAGAGGAAAGTTTACA
35488	IGSF4	CTGCAAGTGAGGTGTGTCACA
35489	HCFC1	TGCTTGGAGTTTTCTGCCC
35490	C20orf1	TGCTCGGTCGCCGCCTAGGCG
35491	VDR	CCCAGCTCTCCCTCTGGCCC
35492	PFKL	TCTGGGCCAGCCATGCCCACGCC
35493	SWAP70	TCTGCTTTTTCCCTTCCTCTGTGGT
35494	MOCS1	CCCCAAGAATACTTAAGGGGTGGG
35495	CCNDBP1	GCTTTTAAAATGGAGCTAGA
35496	F2RL3	TGCCTGGCATGTGGCACTTTG
35497	SIGLEC11	GGCTCACTGTAGCCTCAACCTGCCAGG
35498	GPR44	CCTCCAGGCCACATGGGGCTGG
35499	GRIN2B	CATCTGTCTAGGAATCATGTGC
35500	SOS2	GGATCCTCAGTGCTGCCAAAAGGC
35501	TULP1	CACTGCCTCTCGGTGACCTCCGT
35502	SIRPB2	CCGTAAACCACAGACGCTCTCCA
35503	PPP2R2B	TCTGGTGTTCTAAATGAAGCAG
35504	LETM1	TACCTCCAGGGGCCTCCAAGCATAG
35505	LYL1	GGGGTGAGAGGGAGGAAACCGG
35506	SRP68	CCTGTCTCCTGTACCTCCTGGGAAAGGGG
35507	SLC20A1	AATTCTGCTCCGTGCTTTTAGCCCT
35508	BTG4	GCACCTTGGAAGGCACTGCCT

35509	FMO1	AGCTGTTCTTGACAGCACTCTGAG
35510	PPT1	GGGCAAACATTTTTCCAAGTCTTGC
35511	ADRA1A	CAGTTTCATACAACCTCCCTCCCCC
35512	CTPS	GCTCCTCTGTGGTGTCTGCCTGTT
35513	FANCC	GTCTTAGAACCAAGAATTTG
35514	ITGB1	AAGACTTGAGACAGGATGGT
35515	BECN1	TTTTTATCTCTCTCAACTTC
35516	ERBB3	AAGGGAGGAAACCTAGCAGAGGAA
35517	TEM1	TCAGGAACTCTGCTTCCTGGCCCAGCGC
35518	TRPC5	TTGTGGGGGCTATTGAGTTTTCTTGTT
35519	FBXL5	GTTTGCTTCAACAACGCAGCCAG
35520	IL2RA	ACCAGCCTGGGCAGCATAGCAAGACAC
35521	RB1CC1	TGCCAATCTCAAGCAAAGCAA
35522	CDK5R2	CCCTTCAGCCCATTCCCCCTC
35523	SPOCK	ACAAAGAACATCGTAATAACAC
35524	SMARCD1	TCAGAGACCCAGGAGTTGGGAGCTTT
35525	DNASE1	AGACAAGAGACAGGGAGACTGGA
35526	ATP7A	GCCCAGCCTAAATTTGTATT
35527	ABCD1	CAGGGCACTGACAGGACAGGAGAGC
35528	TCF2	CGAGCTGGAGTGCAGTGGTGCA
35529	SLC7A7	CTTCTCTCCCTGACTGCCGCTC
35530	MRE11A	CTGCCTCATATAGCACTTT
35531	ITGAM	CTGCCTGGGCTCCCTTGTGC
35532	SEPN1	CCTACCTTAGCACAGGGTC
35533	MAPT	TAGAGGGAGGGAGCAGC
35534	PCSK2	CGCTAGTGATGTTTTTATGATATCCC
35535	CX3CR1	TCCCCATTGCCTCCTCCTTC
35536	ZNF264	TGCAGTGAGTTTTCATTTTGGTTTTGT
35537	CCKBR	CTCCTTCCTTACCCAAACTGTTCAA
35538	KCNH3	GGAGCCCGGGATTTGTGGGCGG
35539	CRYM	TTCATTTCCCTTTATATTTCCCT
35540	ARHGAP6	CTCCTGGACCTCTTTGCTCGTCCTTC
35541	DGKB	TTCTAGTATAAATGGGTACCT
35542	CD22	GCCTCTGAGGGAAAGCCCAGAAAA
35543	HS3ST4	GTTACCTTACCTGAAGACCA
35544	CTMP	TCCTGTAATGTTCAGAGTGTTG
35545	IL22RA2	TTCATTCTTCTAATACAGCA
35546	NCKAP1	CATGTCGCGCTCAGTGCTGCAGCCCA
35547	DNASE1	CCACCACTGCTTGTTCCGAGCTCC
35548	IL21R	CAGAAGCCCATCAGACTGCCC
35549	LZTFL1	TGCCAAGCATTAAGATAAACAAATA
35550	MVK	GCGCCCAGCTCCTGACACTGCT
35551	KHK	CTGAACTGCTCTGGCTGGGCATT
35552	THBD	TCCTCACCCCCAGCTTTGCTACCAAAG
35553	SLC26A4	AATCATGTACATTTGAAAATATTTGCA
35554	CPLX2	TCAGCGACTGAAGGTGCCCGCATCCCA
35555	KRAS2	GAGGCAGCAGCGGCGGCGGCAGTGG
35556	CLASP1	GTCATATCCAGACTGGAGGCCGACTGCCC
35557	DHCR7	GCGTTATCCATGTATTGCCT
35558	VHL	CCAACATGGTAAAACCCCATTT

35559	SOCS5	TGTCAGATGCTACCTGCTGTTACT
35560	SS18	TTCAAGCAGTTCTCCTGCCTCA
35561	DNAH11	TCCTCTAGCCTCTGCTGGAGTGCAGT
35562	DPP4	TTACCTTTGTTCCCAAATTT
35563	LIFR	TCAAGCCAAAGAATTCTCATG
35564	IL1A	CCCGTTTTGACGACGCACTTGTA
35565	CANX	TTCTCCTCTGCTATGCATTTTCTTCAC
35566	ADAR	GTCTCCTTTTCCCCCTCAGAGGGCAAAGA
35567	PEA15	CTGCTTAGGAACCGGGGACTCAGG
35568	ADAR	TAGAGTGTTGGTCATGACTCCAAGAGC
35569	OPHN1	AGAGGCTATGGGAAGAGGGTG
35570	LOXL1	GCCAGACCCCATTTTATACTTC
35571	NEURL	GTTGCCTCCCGTCCTGGGCAG
35572	RTN4	GGAGTAGGTTTGTGCAGTTACAGCTTT
35573	PSA	TGCCTTTGCTGCTACTTTTTCT
35574	TDGF1	CTGCAACCTCCGCATCCGGGG
35575	TRIM34	CTCATCTGCAACATTCACACC
35576	EMS1	GGAAGGCAGTGCCTGCTCTGCTGTGA
35577	MINPP1	AGGACAGCTCTAGCATTTTCTT
35578	PLAUR	GACTTGCTGTGTGACCTCAGGCC
35579	CEBPA	AGCCGATATCAACACTTGTATCTG
35580	ADORA2A	CTGGGATCAAGGATAGGGAGTTGT
35581	GARS	AGGTCTCGCTCAGAGCTGTGT
35582	VIPR2	GCCGGCCACACCCCTCTGCTGC
35583	RPH3AL	GGCCTCCTCCTCCCTGGTGG
35584	PIGR	TCACCTTCAGAATCATGTC
35585	G2A	CCTGCTGGCCCACTGTGTGGCAGGGG
35586	DSCR3	ACCCAGGCTGGAGTGATCTCAGCT
35587	CAPG	TGCCTGCTTGCTTCTCTGGCTGCC
35588	CSRP1	TGCGCCGCCGAGCCAGCTGCCAGA
35589	KCNMB3	CTGCAGCTGCGCTGGGGGCT
35590	CORO1C	TCCTTCCTGCCTTTTAGCTCTA
35591	BTG1	GCAGGGGAATTTGCACTATTA
35592	ZNF175	CCTAATCTGAAAATCCAAGAT
35593	GP1BA	TCTTTCTGCCTGCCTGTCCTCA
35594	TAGLN2	GCTTCTCATTTTCCATTCCCTT
35595	HYOU1	GAGCCTCCCTTCCCCATTCCCA
35596	ATOX1	CTGGTCCCCACAGCCCACAGGAT
35597	NHLH1	ACTCACTGCATTTCTGTGCTCCCTC
35598	FNTB	AGGGTCCAAGGCCACGCTTGG
35599	PHF1	CTGCCCAGGCTGGAATCCAAGAGTG
35600	RPS6KA5	GGACAGAGAATGTTACTGTGAA
35601	SCTR	GTGGGGCAGGACAAGGGCCTGGG
35602	AHR	CCGAGTTGCTGGGATTGCGGGC
35603	DPYSL3	GTCTGGTGGGTATGGACAGACAG
35604	WARS	GGAGAAAGTCGAGGCAGCAGC
35605	MRPL49	CAGAGCCACTGGGCACTTTGTT
35606	UCP2	GTTTTTCTCCATCTCCTGGGACGTAGC
35607	A1BG	TGTTGCCCAGGCTGGAGTGCAAT
35607	ATP1B2	TGTTGCCCAGGCTGGAGTGCAAT

35607	CDC6	TGTTGCCCAGGCTGGAGTGCAAT
35607	MLANA	TGTTGCCCAGGCTGGAGTGCAAT
35607	PMCHL1	TGTTGCCCAGGCTGGAGTGCAAT
35607	PRKR	TGTTGCCCAGGCTGGAGTGCAAT
35607	RAB36	TGTTGCCCAGGCTGGAGTGCAAT
35607	SAS	TGTTGCCCAGGCTGGAGTGCAAT
35608	NONO	GACCTCGTGATCTACCCACCTCG
35609	PHKB	CTGAGGCAGGTGGATCACTTGA
35610	GLS	TACATGCCTGATGGCACCTTA
35611	PSEN1	AGTGGAGGCTGGGATGGGTGAG
35612	F2RL2	GTCAGCCTCCCAAGTAGCTGGG
35612	FANCE	GTCAGCCTCCCAAGTAGCTGGG
35613	BCL11B	TGCAGCTCTCCGGGCGATGCCAG
35614	VAMP1	CTCTCCTCTGGGCTCCTCCTTGCC
35615	NEK6	CTGAGCCTTCATTTCCTCATCT
35616	PCDH15	ATTTGGTAAGAAGAAATACT
35617	NFATC3	CTAAGATCGCGCCATTGCACTC
35618	NPHP1	CCAAGATCGTGCCATTGCACTC
35619	KCNK6	GACCCCTGGTGTAGGCCTGGGC
35620	SLC21A9	CCCCAGCCCAGGTCTGCACTCG
35621	PDK4	TCCTGAAGAAATAAGCCTCAGTTTT
35622	SCN2B	CTGTGGATGAGGCCAGACTGGAAG
35623	ATP8B2	CGCCCCTCAGGCCCAGCCTCTGGCAA
35624	ADAM33	CCCTGTCTTCTCCCCTAGGTGGTTCC
35625	KRTHA7	GAGAGGAGGCTTCAGTCTCAGTG
35625	KRTHA8	GAGAGGAGGCTTCAGTCTCAGTG
35626	DSCR1	TGCATGCTTTGGAAATTTGGAA
35627	HIP2	AAAGCTGTGTTGGTGTTTTATTGTACA
35628	LGI1	TCACGAATCAGCTGCAGGTCTCTG
35629	RPS18	CTCTCTTCCACAGGAGGCCT
35630	C14orf1	AGGGCTCCCCTGTGTGTGAG
35631	EFEMP1	AAATGGATAAAAGGTATTTCACTGGA
35632	COG4	TGCAGGCCTGTTCCCTAAGGGGCC
35633	CHD2	TTTTACAATCTTCTTCAAATA
35634	PTPRF	AGGCGGCGGCGGCAGAGGAGTG
35635	CEBPA	GGCTTGGAACCTAAGGTTGTTCCC
35636	SLC26A4	TTGGGAGGCTAAGGCAGGAGAATGGC
35637	ACE	CTCCTTGTCTATCCTTCCTCCCCCACC
35638	NOV	TCAGGATATGGCTTAGGAATGACTTA
35639	EFNA1	GGGACAGGCTGAAGAGAGGGACAG
35640	SORCS3	GGCACTAGGTAAAGCCCAGTGA
35641	KIFC3	GGAGGTTGAGAACTGGGCGTG
35642	POLH	CTGAGGCAGAAGAATTGCTTTA
35643	KCNJ10	CAAAGGCAAGACTCTCTCTGATGGTCA
35644	OGT	GGCAGACACACAACCTCCTCCTCC
35645	PCDHA9	AAGATGTGGTGGCCTGACACCTGC
35646	SCNN1A	GGCTCATGAAGGGGAACAAGC
35647	GALT	CAGGAGTTTGAGGCTGCAGT
35647	KCNK6	CAGGAGTTTGAGGCTGCAGT
35647	KLRG1	CAGGAGTTTGAGGCTGCAGT

35647	PKNOX1	CAGGAGTTTGAGGCTGCAGT
35648	TAF4B	GATAGTTTTTATAGTTCCTTCTGTC
35649	SLC6A12	CTCCGAATGTGCTCCAGGCGACACCAT
35650	PSMA1	GCCATCCTGGGACCCCAGGCGTGCAG
35651	MKLN1	ACCTCGTAGACCTGATCACACTGTACTGAAGA
35652	LILRB4	GTGTTTCCTTCTTTGCTTTCATCC
35653	FABP2	GAATACTGCGTGTTCTCACTTA
35654	TES	TTTGAGCAATTCTCCTGCCTCA
35655	MRPL49	GGGCCTCAGGAGGAGGGAG
35656	TNFSF9	GTAATGTGCCAGCATTGTGCCCA
35657	PPP3R1	GCTTATAGCTGCTTCATTCT
35658	EGFL4	CACAAGGTCAAGAGTTCGTGAC
35659	DDX3	CATTACCAGCTGTGATTCTCCA
35660	TGFB3	TTGGTTAGAGGAAGGCTGA
35661	MCP	TTGTCTATTTGCTGTTGATTGTACCA
35662	CHST6	GAAATGAGAGCCTATAAGTGCCCAGTA
35663	KCNA3	CCCTCTCCCTGCTGCTTCATACTGAAAC
35664	EIF2C1	CCACAGCTGTGTACTTGTTTG
35665	SIRT7	CCATCCGGCCTCTGTGTCAAGAGGT
35666	RBL1	CACCGGAGTCAGGAGTTCGAGAC
35667	NRG1	GCGGGAGGTGGGTGGCTGCGGGG
35668	EDNRA	CAAAGGGCCCACAGTGACTTTTG
35669	CD2AP	TTATTTCTTAACTGTGCTGGG
35670	MAGEA2	CGCTGCCTCTGCTGCCGGGCCTGGACC
35671	GPM6B	CACTGACACTCCAGACTAAAGCAG
35672	ITGA5	AACCAGTCCCCCCACCCTCATTCTA
35673	NBS1	GTTTTGAGCTTATTTAGAGTCCTAGTT
35674	BCL11A	TCATAATTAATGTAGTAGTAA
35675	CDH1	AAGTAGCTGGGACCACAGGCAT
35676	SERPINB9	AAGTAGCTGAGACTACAAGCAC
35677	AMD1	TTTCGCTCACACAAAGCCG
35678	IFNAR1	ACCAGCCTGGCCAACGTGGTGA
35678	RBBP5	ACCAGCCTGGCCAACGTGGTGA
35679	ZFP36L1	GGGACCTTCGCGACACACCAGAT
35680	GPC1	GAGTGACCCTCGGCTGTCACC
35681	PDXK	GAGTGTCCGGCATCTGCTG
35682	NCOA6IP	GGGGGCGGACAGATTTGCACGGCGGA
35683	RRM2B	GTACAGTGTATATTCCT
35684	SOX1	GGTTTTAGACTGAACTTCGG
35685	ITPKB	ACTCTGGGCCTCTGGAGCT
35686	CACNB1	CTTCACTTACCTGTCTCTCCA
35687	PRX	GCTGCCTGCTTTCCTGGGCACTCATG
35688	TJP1	GGGAGGCCACGGGTGCTGCTG
35689	OGDH	CCCTCATTTATCACTCTGACCTTCACA
35690	BTK	AAATAGCCGCACAAAGGGGTC
35691	KCNC4	TATTGGTGGTTTGTCTTCTT
35692	ARCN1	AAAGTGTTGGGATTACAGGCAT
35692	RBBP9	AAAGTGTTGGGATTACAGGCAT
35693	TITF1	TCCAATCTCAAGGAATCTTTAA
35694	TERF2	ATAAATGCCTAATTTCATTCTT

35695	C4orf1	AATCAATTTGAAAATCATGTTTTTAT
35696	GJA5	CCAGCAGCCTCAGCTTTA
35697	POU4F1	TTCCCGTGGCCCTGCCTATAC
35698	HPGD	AACAGTGAAAGCACAAGATTTCC
35699	SOX1	CTTGTCCTGGAGTATGGA
35700	AMT	CGGACTTAGGCTACCCCCTCCAGTT
35701	EEF1A2	GCCAGCCCCTCACACTCCCAG
35702	ADCY1	CCATTGCACTCCAGCCTGGGCG
35702	BRCA1	CCATTGCACTCCAGCCTGGGCG
35702	CREB1	CCATTGCACTCCAGCCTGGGCG
35702	NFATC3	CCATTGCACTCCAGCCTGGGCG
35702	RFC2	CCATTGCACTCCAGCCTGGGCG
35703	ANKH	CCATCGCACTCCAGCCTGGGTG
35704	FGL1	GTTGTGAGTAGTGCTTTTCATTCT
35705	MAGEA8	GGGCCTGGTTCTGAGGGGTCGGCTTGA
35706	D12S2489E	ATCAAGATCTTCCCTCTCTG
35707	TEM7	ATAGTGCCACTGCACTCCAGCCT
35708	CAMK2A	GTCACTGGCTGGACTCCTGT
35709	BYSL	CGGGGTCGCGGGACAGGAGAAGC
35710	PKIB	CTGAAGTTTTAAAAATGTCA
35711	TRPM2	GTGCCTCAACATGGAGCCTTGCCTG
35712	CALM3	GCTGCAGCTGCTGCCGCCGCC
35713	EGF	GTTTCTTAGTCATTACTGTCCT
35714	OXTR	GGGATTCCAACCGAGGCTCCA
35715	TEX13B	GCGAATACGGCTGCAAAAGCCT
35716	VDAC2	TCCAGCTGAAAGAAACCTTTG
35717	LRRC2	CAGGAAGCAGAGGTTGCAGTAAGCTGA
35718	CHRNB2	GCTATGCCCGCGGCATGGCCC
35719	ZNF278	TCCTTCAAAAGAACCACA
35720	GPRC5B	TCCCACTCTTATCACCTCTCCCCAGCA
35721	PPP3CA	AGTTATTTTGTTCTGTTCTGTC
35722	SDHC	TCTTTTTCTTGGATTTCCAGAAA
35723	FANCF	GCTCAGTGCAACCTCTGCCT
35724	TEX15	ACTTTTCTTTTTAACCTTCTGCA
35725	MFAP3	AAATATAACTGGATCTGCCA
35726	FS	CCCGCTGCCTGCCCTGCTCCAGGCTCCACCT
35727	STXBP1	CTCAGTGCCTGCTCTCATCCA
35728	ACTC	GTGCAATTTGTTTGTGCTTCTA
35729	RELN	CACTGTGAACTAATGACAAGTGA
35730	MADH3	TCCCAGCCCAGCCCCGCCCCGT
35731	B3GALT2	AACACAGCACTGCATTGTCCA
35732	RGS9	GCTAGCCTCAAACTCCTGGGCT
35733	AK2	ATTGTCCTTTCCATTCTCAA
35734	FGFR1	TTGGGGGCAGTGTTGTGCCCTG
35735	EIF5A2	CACCACACCCAGCCCCTTTCCA
35736	PSMD5	TTGCCACTGCACACCAGCCTGGGCAAC
35737	PYCR1	AATAGTGGAGGCCTTCAACTGA
35738	G2A	TGTGGTGAGTGGAGCACGTGAGACACG
35739	LMO2	AGATGGCACAGGCACCAGGTG
35740	ENC1	TGGTTGTACGTTTTGCACATTTTGT

35741	MAP3K4	TCTCCTGCTGCTCCTGTTTGTC
35742	AQP6	TGGCTGTTGAGATGGGTGGA
35743	ALDH8A1	GCCTCATGCCTATAATCCCAG
35744	TERF1	GCCTCCCAGGTCAAGTGATTC
35745	PTK2B	CTGCACCCTTCTTTTCTCAT
35746	HS3ST4	GGAGCAGTCAGCATTCTTCC
35747	CYP3A4	TTCAAGAAATCTGTGCCTGAGA
35748	ATP5B	TGATTGAAGATATATTCTTTCTGA
35749	PART1	ACCAGCACTGCTCTTCCCCTCC
35750	GGT2	CACTGCGGGACGGTGGCTCTGCAGTGGA
35751	PRKACA	GTGCCTCCCTCCCTCCTTCCTC
35752	PIGR	TGTGGGCCACCATGTCTGGCT
35753	B3GALT2	GGGGGATGTGCGCATGTTCGATAGCAT
35754	TLR9	CCTGAAGTCTGTGCCCCACTTCTC
35755	YWHAH	TTTGGAATTCAATGGGTAAAT
35756	MAGEA2	ATATGTATTTGCCTATATTGTG
35757	SLC22A3	GATGAAAGAAATGGTTGCTGAA
35758	GAS2	GGGTCTGATTTGCCCAGCCTGT
35759	FYN	CCAGAGGCTGCCCCACCCCTC
35760	MADH7	CTTATTCCCTTCCTGCCAGCCCCTGC
35761	PPP2R1B	AGGGTGGCCAAACAGGTCAG
35762	PPT2	TTCTCCTTCCTCCTGCTACTGATACCA
35763	SUV39H1	TCCCCCACTGCTGCCCTCCTGTC
35764	SOX12	CCTAATTCTCATCTGTCAGATCCAG
35765	CD68	TGTTATTTTCCTTCCCTTTCTTGAA
35766	PPP1CC	GCCCTTCCTTCCATTTTTGATT
35767	MCP	GGTGATTTCAGAAAGCTA
35768	D1S155E	AAGAAGTTTGGTTATATTTCA
35769	PPARGC1	GTGTGCTCTGTGTCACTGTGGATTGGA
35770	CLCN4	AAACCCAGCAAACACTGAAGGGCT
35771	TTF1	AAAAGGAGAAGGAGCCAGAGTA
35772	PRKAA2	CCGTTGTCTGTCTCTAGTTTC
35773	MSL3L1	GTGAGTTAGGAAGTCAGCAGCAGGGG
35774	SOX11	GTAATTTCCAGTTCTTACACTCT
35775	CBFA2T2	TTGACATCTTCAGCTTCCAGACA
35776	SPAG8	CAGAGGGCTACAACTTCCATA
35777	SF1	TTCTCTTCACTGGTTTATCTGCA
35778	CAPS	CCTGCCCAGGTGTGGAGCGAGGG
35779	USP7	ATCTGTTAAGGCAAAACAGAGAAA
35780	ADAMTS13	ACGGAAGGGCTCTTTCACAGCT
35781	GGT2	CCATCTACAACAGCAGAAAAGCTGAGG
35782	GDF5	GCCACAGGTGCCACTGCCTCC
35783	RAMP1	CACCCAGGCTGCAGGGTGAGGCC
35784	PIWIL1	AACCTATATTAACTTTATTTTTG
35785	PTPRO	TTACTATTCAAGCTATAATTCA
35786	BCAS1	GGAGGTGGAGGTTGCAGTGA
35786	CPT2	GGAGGTGGAGGTTGCAGTGA
35786	IFNAR1	GGAGGTGGAGGTTGCAGTGA
35786	LDLR	GGAGGTGGAGGTTGCAGTGA
35786	PDE4C	GGAGGTGGAGGTTGCAGTGA

35786	PTGIS	GGAGGTGGAGGTTGCAGTGA
35786	RFC2	GGAGGTGGAGGTTGCAGTGA
35786	TBX6	GGAGGTGGAGGTTGCAGTGA
35786	VDR	GGAGGTGGAGGTTGCAGTGA
35786	XRCC2	GGAGGTGGAGGTTGCAGTGA
35787	APPL	AGGTCTCAAAATATAACTCG
35788	ANKTM1	TTTTCTCCATCATCCTGATTAGC
35789	CACNA1D	CCTATCTCTTGGTGATCCCC
35790	SORCS1	TTTTAGCATTAAAGGCTGATG
35791	SYNGR2	TGTGCTACTGACAAGTGCCTC
35792	HTR2C	ACAAGTGTTTCTAGTAACAGTATT
35793	ALDH2	TCATGCAAGCTTCCTCCCTCA
35794	HUS1	ACCCAGACTGGAGTGCAGTGCCACA
35795	FLNB	ATTGGCAGAAACAGTGA
35796	SLC7A8	AGCCCTTCAGGCCTGAGATCAGA
35797	MCC	TGCTGATTTGTTTACTACAGCA
35798	PPP1R12A	TAGATTCTGTAATCTTCACATTC
35799	MAML1	TGTGGCTGCGCCCCTCAGGCC
35800	IGLL1	GGGTGCAATGGGACAGCTGC
35801	ENAM	GGAAACACAACGTTGAA
35802	PRKCB1	GGAGCTTGGCTTGTATCCA
35803	ILF1	CAGCTCACACCAACTGCAGCCGCGGCG
35804	SHC1	CTGGGAGGGCGGGGTGGGGGTG
35805	GCGR	TGGTGCAGAGGTGAGCAGAGGAG
35806	SEL1L	CCTCCATCTTCATTGGCTGCA
35807	NUP98	CTCTCATTTGGACTTGCTGAA
35808	CLOCK	ATTGTTCTTCTCCCCTTTCAA
35809	TBX2	GTCGGGGCCTGGGACACTTCCCT
35810	GNA15	TGCCAGGGTGGATGAAAAGGTG
35811	MPL	CTGTTGCCAGACTGGAGTGCAGT
35812	ABCC12	CTGAGCGGACTGCTCCAAGT
35813	IRS2	TTTGGGAATAGGCATCAATGGG
35814	LIMK1	TATTAAAACTGTGAAGCTTTCTC
35815	EVA1	TTCAGCTTTCTGACATGTCCAGCCCAT
35816	B3GALT5	CTTGTGCACATCAGAACACTGGACT
35817	MHC2TA	GGGATTACAGGTGTGAACCACC
35818	G6PC	GTTGGGTTGTTCTGGATTT
35819	SLC20A2	CCCAGGCTCTACTCCATCCCATT
35820	ELF3	CCTGCCGGCCTGCCTGCCACAGCCG
35821	SGT	CCCCCAGACCCTTCTTGAAA
35822	ELMO2	CGATGCCACCACCGTCAGACATTGTC
35823	ELK3	CTGCTCCAACTTCCTGCTCTCA
35824	SPAG9	TTTACTTCCTGCAAACTGGTGA
35825	SOX1	ACATAGTTTTCTAAAAAGCCT
35826	MSF	GTCGTGTGGGGTTCTCAGTGCC
35827	PDYN	TTCCCTTGATTCAAATAACCCTG
35828	ABCD4	ACCCTACTGGAGCAATTTGTG
35829	FHL1	AACTCACTGCTCACCCTCTTC
35830	EIF2S3	TTGAGTCTGGCTCTGTCACC
35831	GALNT2	GGGCGGGAGGAGGGGCACACATGCC

35832	HTR4	TCCTCCTGGTGTCCTGGCCGCTGGCGT
35833	CHC1L	CACTCACTATAAAATAGGTCTC
35834	PACSIN1	TCTGACCTTCTTCATGTGGGCACAGA
35835	ATP7A	TGGTCTTAAACTCCTAACCTCA
35836	ACE	GGCTGGCCAGACTTCAGCTGTTC
35837	PDE4A	CCTGCTCCCCCGACCACCTCCTC
35838	PKHD1	GACTTAGGCAGAACATGCCTTCCCTAGT
35839	G2A	TGTGGGCCCTCTGGGCTCCTGCCTCAG
35840	FGL1	TTCAGCTTTGTTTAAAGTGATTTGA
35841	MECP2	CACGTTGGGACAGGGAGGTGTGA
35842	AGR2	CCAACTTGGTCTTTCACA
35843	RAP2A	AAAAATTGAATAACCATGTGAA
35844	LARGE	GCAGGGCTTTAGGATGTTCTGG
35845	MID1	TGTGATGTCAAAAAGTTGTATCA
35846	CASQ2	ATTCTGCCCCACACCCAGCCA
35847	RPL10	CTTATGTCAGTTGTCTACTCTGG
35848	RAB36	GCACCTTGCAGGCAGCCTTCTGA
35849	RAP2A	AACAAGAGGGAAGCAACTGTGATG
35850	ADCY8	CAAGGAGCCTGAGCCCAGGAAG
35851	SPON1	TTGCCTAAATTTTAAAATCTTCCTACA
35852	SOX2	GGAGGGTGGGGAGGGCGGGGGAA
35853	ATP2C1	AGGCAAAACCTGAACCACCTT
35854	ADAMTS4	AAAGTGCTGGGATTACAGGTGT
35854	ADCY6	AAAGTGCTGGGATTACAGGTGT
35854	ATP7A	AAAGTGCTGGGATTACAGGTGT
35854	CHRNB4	AAAGTGCTGGGATTACAGGTGT
35854	DSCR3	AAAGTGCTGGGATTACAGGTGT
35854	GHR	AAAGTGCTGGGATTACAGGTGT
35854	HLCS	AAAGTGCTGGGATTACAGGTGT
35854	IL11	AAAGTGCTGGGATTACAGGTGT
35854	IL12RB1	AAAGTGCTGGGATTACAGGTGT
35854	JRK	AAAGTGCTGGGATTACAGGTGT
35854	MHC2TA	AAAGTGCTGGGATTACAGGTGT
35854	MPL	AAAGTGCTGGGATTACAGGTGT
35854	NCOA6	AAAGTGCTGGGATTACAGGTGT
35854	PKNOX1	AAAGTGCTGGGATTACAGGTGT
35854	PPID	AAAGTGCTGGGATTACAGGTGT
35854	PRND	AAAGTGCTGGGATTACAGGTGT
35854	PTGIS	AAAGTGCTGGGATTACAGGTGT
35854	RHD	AAAGTGCTGGGATTACAGGTGT
35854	RPH3AL	AAAGTGCTGGGATTACAGGTGT
35854	SEDL	AAAGTGCTGGGATTACAGGTGT
35854	SLA2	AAAGTGCTGGGATTACAGGTGT
35854	TES	AAAGTGCTGGGATTACAGGTGT
35854	TRPV1	AAAGTGCTGGGATTACAGGTGT
35854	UGDH	AAAGTGCTGGGATTACAGGTGT
35854	UMPS	AAAGTGCTGGGATTACAGGTGT
35855	NFIA	ATTCACATGGAAATGGGGAAGATGGT
35856	THY1	TGGAGTGAGACCCAGGAGCCGGA
35857	NRIP1	AGAACAATGCCAACAAAGCTTACAACA

35858	DRD1	TGTTTTTAGAAATTTATTCTTA
35859	NGFR	ATGGACTCTACACTGTGAACTTGGGGA
35860	TAPBP	GGTCTCGATCTCCTGACCTTGTGATCT
35860	YES1	GGTCTCGATCTCCTGACCTTGTGATCT
35861	ALOX15	GTTGCCTAGGCTGGAAATAGGA
35862	ALPP	TGGCTAACACGGTGAAACCCCTTATCT
35863	CRYZL1	TTTAGTATTCCAAGTGCCTT
35864	DBT	GGGGCGATCACCTGAGGTTA
35865	EVA1	GAGCAAAGAAATACCAAAACTACTTTA
35866	DISC1	TACTCAGTTAGGCAGTGCAGTACTCAG
35867	TRPS1	AGCTAAAATTGTGTGCC
35868	CD5L	ACTGGGCTTATGCCTTA
35869	CSF2	ACTCAGGATGGTCATCTTGGAGGG
35870	AP1G1	CCTCCACTGTTGAGGCTGGCTGC
35871	MAN2B1	GGCATTTTCCTACCTTCCTGT
35872	NCOR2	GGAAGGGAGGGGAAGGGGCCGGGGA
35873	C18orf2	TTGTAAGCTCACCTAAGATATA
35874	KCNJ6	AAGTGCCCTCATTTGTGGCCC
35875	GAB2	GAGGAAGAAGGAAGGAGAGGCTTGGAA
35876	SIGLEC8	CCCAAGTAGCCGGGATTGCAGG
35877	NHP2L1	TGTGCTGCAGGACTCCGGAGGCAG
35878	GLTSCR1	GTTGCCCAGGCTGGTCTCAAAC
35878	IL12RB1	GTTGCCCAGGCTGGTCTCAAAC
35878	MFI2	GTTGCCCAGGCTGGTCTCAAAC
35878	TP53	GTTGCCCAGGCTGGTCTCAAAC
35879	CYP4A11	AAACTGTCTTTTCTCACTGCTTT
35880	SOS2	TACAGTTTTGTTTATATTGTA
35881	TPMT	AGGATTACAGGTATGAGCCATT
35882	ZNF14	CACTGCATTCCAGCCTGTGCGA
35883	CPT1B	ACCGAGGTTCACGGTCTGAGTAACAC
35884	GJB3	GAGTCAGAAATTCAGGAGCCAGT
35885	IL1A	ATTTGCTGAGCATGTACTGAGCCT
35886	DPH2L2	TTTAGTGCTCCCTGCACCAACCTCCCATC
35887	RTN3	GAATGCCATCTGATAAAAAAGA
35888	SLC10A2	TTGTAATGCTACCTCTTGAAACTGAC
35889	GLRX2	TTCTCCTCCGTTTCCCCAGC
35890	CD68	TGGAAGTGGAGGTTGCAGTGA
35891	ADCY2	AGACCAGCCTGGGCAACATAGC
35891	EHHADH	AGACCAGCCTGGGCAACATAGC
35891	GALNT3	AGACCAGCCTGGGCAACATAGC
35891	PDE4C	AGACCAGCCTGGGCAACATAGC
35892	TGFB1	AGACCAGCCTGGGTAACATAGT
35893	NOTCH2	GTGATGAGGAGGACAACACTGCCTTTCAA
35894	EGFL4	CCTTCCTGGCACCCCTGCTGC
35895	CELSR3	CCCTGCAGCAAGCAAAAGTTGT
35896	LIFR	ATGTCTGGAGTGATTGTGGTTCTTG
35897	RTN4	GGCGCGGAGGCAGGAGGAGCAGTCTCAT
35898	CHAT	GCGTCAGGCCCAGCGCACAGCCTG
35899	KLF8	TTTGAGGCACATTCCCAGTGA
35900	T	GCAGAAAGCATTTTCTGCAA

35901	CCND3	TGGGACAGAATTGGATACATAC
35902	CYP4F3	CTCGGTCTCAAAAACAAAACA
35903	CD72	TCCCTCTTCCTGAAACTGGACTG
35904	PPAT	ATTTACTGTTACTCAGTTGGTACAAT
35905	ZNF192	AGTAATTTGGGCCCAGTGCCTT
35906	RAD51L1	GTTCAGGTCTCTAGATGTCTAG
35907	KCNA7	TTTAGGTTCTGTGAACTTGCGAGTCATG
35908	SLC4A7	ACTAACTGGCGTTTTCTTAGCCATA
35909	PIM1	AGATCCTCTCTGGGGCTGTGT
35910	PKIG	GAAGAGATGCAAGCAGGAAAAAGAA
35911	PART1	GTCACCCAAATAGCTGAGTGCAGT
35912	PSMB8	TGGTGGTGGCAGCTGGGCAGG
35913	EDNRA	CCACCCTCGCTTTCTCCGGCT
35914	CENTD1	TGCACTGTCATTGTATGCAAGCATTTT
35915	ANXA4	TTATAAGATATAAATGGAGATT
35916	MYBPH	ACTCAGGAATGGGCCTGGTAGGC
35917	SFPQ	GAAGAAATGCATATTGAAGTA
35918	DBT	CAGGAGTTCAAAGCTGTAGTGA
35919	MDM1	CCTTCATATAATGCCTTGA
35920	DAZ	TCCTCATTTTATATTGTG
35921	HBZ	GTGCAGCTGCCCACCCTGCC
35922	KRT4	CTTCTTGATTTGGGCCTGGTGAC
35923	TOMM22	TGTATGAGAGGAGGGAGGCAGG
35924	MYO5A	CCATTGAGTACATATCATGTC
35925	NF2	CCTCACTGACAGGGTGGGGCC
35926	ACP5	AGGCCCGATCTCCACTGTTGGG
35927	CSNK2A1	AACACGTAAACAACACAGACTTCAAGCA
35928	MAML1	GCAAAGTGGTAAGCACAGGGTG
35929	SLC22A3	AATAATGCTACAATCTTCATA
35930	HUS1	GGTTTAGGTTGTAATTCCTTA
35931	PTGFRN	GCACCATTTGTTTTTTATTTC
35932	NT5C2	GCCCAGGCTGGAGTACAGTGAT
35933	ALDH3B1	AGATCAGCCTGGCTAACATGGC
35934	RAMP3	CTGCTCCCTCGAGGCCAGCCT
35935	FXYD6	CTTGCCTCCCCACTGCAGCCT
35936	PITX1	AGGCCCAGGCCCTCTGCTCTG
35937	TFAP4	GTCTCATCTTCCACCCCA
35938	ACADL	TTAATAAGATAGCACATTGACTTTT
35939	LRAT	TTAGGAATCACGCAAAGTGCT
35940	SCN2B	GCTACGCCTGTAATCCCAGCA
35941	SMARCC1	AGAATGGAGAAAATGAATGAAG
35942	IQGAP1	CCACAGGGAGGCATGGAGTGCCATG
35943	PIGA	GTGCTGAAGGGCCAAACGTTTTC
35944	TRPV1	TTCAGTCTCCCAAGTAGCTTGG
35945	FGL1	TACAAATATACAGATATACAAA
35946	VAMP5	CCCACCCCAGTGAGTGCCAAAG
35947	ACOX3	GATGGCATCCACTGTGGA
35948	HLA-G	CCTTTCCTGTTCCAGAAAAGGGGCT
35949	ARRB2	ATACACACTGGACCCTCTCTTGCTG
35950	EGR2	AGCGAGGGAGTTGGGTCTCCA

35951	PTER	AATGAGCCAGGAGAACAAACTA
35952	IQGAP1	CCTCCCACTTCTCACTAAAG
35953	SOLH	CTCTCCGGAGGCAGAAGTTGT
35954	TK2	CCGTACTGTCTGTGTCCTTGTATAAGGA
35955	PCDHGA1	CACCTTGCCAGGTGCCGTTTCTCTTC
35955	PCDHGA10	CACCTTGCCAGGTGCCGTTTCTCTTC
35955	PCDHGA11	CACCTTGCCAGGTGCCGTTTCTCTTC
35955	PCDHGA12	CACCTTGCCAGGTGCCGTTTCTCTTC
35955	PCDHGA2	CACCTTGCCAGGTGCCGTTTCTCTTC
35955	PCDHGA3	CACCTTGCCAGGTGCCGTTTCTCTTC
35955	PCDHGA4	CACCTTGCCAGGTGCCGTTTCTCTTC
35955	PCDHGA5	CACCTTGCCAGGTGCCGTTTCTCTTC
35955	PCDHGA6	CACCTTGCCAGGTGCCGTTTCTCTTC
35955	PCDHGA7	CACCTTGCCAGGTGCCGTTTCTCTTC
35955	PCDHGA8	CACCTTGCCAGGTGCCGTTTCTCTTC
35955	PCDHGA9	CACCTTGCCAGGTGCCGTTTCTCTTC
35955	PCDHGB1	CACCTTGCCAGGTGCCGTTTCTCTTC
35955	PCDHGB2	CACCTTGCCAGGTGCCGTTTCTCTTC
35955	PCDHGB3	CACCTTGCCAGGTGCCGTTTCTCTTC
35955	PCDHGB4	CACCTTGCCAGGTGCCGTTTCTCTTC
35955	PCDHGB5	CACCTTGCCAGGTGCCGTTTCTCTTC
35955	PCDHGB6	CACCTTGCCAGGTGCCGTTTCTCTTC
35955	PCDHGB7	CACCTTGCCAGGTGCCGTTTCTCTTC
35955	PCDHGC3	CACCTTGCCAGGTGCCGTTTCTCTTC
35955	PCDHGC4	CACCTTGCCAGGTGCCGTTTCTCTTC
35955	PCDHGC5	CACCTTGCCAGGTGCCGTTTCTCTTC
35956	SRGAP2	TACAAGGGGAAGTGGTGTTTACCT
35957	SCP2	ATTTCTTAAAATTCAGTGAGA
35958	IL17BR	CCTCTTGTTTTTCCTCAGCTGAC
35959	PPT1	TCATTTCTTAAGGCTGCCTTCCTCTCTGAG
35960	NEB	TAATTCAGTTCTGAAGTTATAAACT
35961	MGA	TCCAGAAGAGACACTTTTTA
35962	MCF2	CCCAACATTGCTGCCACTGTGCT
35963	HS2ST1	CAGAAATGGTAGCTATTCTATA
35964	ARHGEF7	TAACACCATTAGCTTTTGTGATCTGGT
35965	FMR2	TTCATTCTCCTGGTCCTGTGCATCTTC
35966	RAD50	AATATATTTGTACTGGAGATT
35967	C18orf1	TTCATCCTTTGCACACAGTAACATCC
35968	ALEX2	GGAGACTGCTTTCCAGACACCTCCG
35969	PXMP3	GCTGCAGGAACAGGAAAAAGAG
35970	CACNA1C	GGACTTCCAGGAGGACCCCAAC
35971	FMR2	GCTCAAGCCCTGTTGTGGTTCTGCA
35972	CDC25C	TCCAGGCCTGGGAATGGATTA
35973	ACT	TACCTAGGAGCTGTGGATGTAAT
35974	MAGEC1	ACAGTTTGATATTTTGTAA
35975	RNF3	CGTTGGAGGCTGGAGCGCAATG
35976	SELP	TGCTTTGACTCACCTGTTACTTGA
35977	B4GALT3	CACTGCTGGACTGGAGCTGGGCTC
35978	HCFC1	GAAAGGGTGGAGAATGGAGGGGA
35979	CBFA2T2	GGAAAGAAGTCACTGTTGCAATAAA

35980	COL19A1	AAATGATTTTGTTAATTCTGTAT
35981	AOX1	TTTCTGCTATCACCTTCC
35982	CACNB1	CAGGGGAGGGGAGGGAGCGAG
35983	COX15	TACAAGGTCAGAGAGAGGAATGGAA
35984	KERA	AGGTAAGCAGTCTTCTGAAGCCCTGT
35985	WIF1	GTTGAAGTTACAGCATTTCAG
35986	SLC17A4	CACATCTGCTTTTTGGCTTTGTG
35987	REQ	CCAGGGAGCTGGGAGCGAGCAAGC
35988	BACH2	CTTTTGGGGGAAAAAAGCATT
35989	CYP1A2	GCCTGTAATCCCAGCATTTTGG
35989	GGCX	GCCTGTAATCCCAGCATTTTGG
35989	GP2	GCCTGTAATCCCAGCATTTTGG
35989	VHL	GCCTGTAATCCCAGCATTTTGG
35990	KCNA7	GCCTGTAACCCCAGCACTTTGG
35991	LRRC2	AACCTGGGAGGTGGAGTTGCAGTG
35992	CUL3	TCACAAAAGTGGTTGTGATTGC
35993	CYP3A4	TGGCTCACGCCTGTAATCCTAG
35993	IL6R	TGGCTCACGCCTGTAATCCTAG
35993	OPA3	TGGCTCACGCCTGTAATCCTAG
35993	XT3	TGGCTCACGCCTGTAATCCTAG
35994	ITGAL	TGGTTCACGCCTGTAATCCCAG
35994	VHL	TGGTTCACGCCTGTAATCCCAG
35995	VPS41	TGGCTCACGCCCGTAATCCCAG
35996	GABRB2	AGGACTAGATTCCTCCTCAAA
35997	TEM6	CAGTGTCAAATGCTGCAGCCT
35998	CNP	GCTATTTCCCAAGCTGGAGTGCAGT
35999	PPP1R12B	TCTCCTCTCAGAGAAAGGCC
36000	CRHR2	ACCTGCACAGCTCCCCTGTCCTCCTCC
36001	SMT3H1	TTGCCTCTCCCCTGCTCACTCCAGTCA
36002	WHSC1L1	TTTTCCTGCCTGGTTTCTTCTTCA
36003	EIF2B5	GGAGGAAGGCCAGAGGAA
36004	MADH4	ACTTCAGTTTTATTTTTGCC
36005	NTSR1	CTGTGCAGGCTGAGGTCTGGAGC
36006	RGS16	CTCGGGGAGTGGCTTTTCCAGCT
36007	PCSK2	CTTTTTTACTCTATGCCCCAA
36008	IL1RL1	GGGGACACCTCAGGAGCTTTACTCATG
36009	SIAT1	TGCAGCGAGCAAGGGGAGAGCCAG
36010	SCA1	GAACCCAGCTTCAGGGCATCGCGGA
36011	CLASP1	CCAACAGCAACAGCAGCTCCT
36012	WSX1	CAGGAGTTCGAAGCTGCAGGGACCT
36013	CDKN2B	CCAGATAGCAGAGGGGTAAGAGA
36014	CAPN5	GGGCCTGAGTCTAGCCTGGGAGCCAG
36015	LHX4	CTGGTGTGTCTCACACAATGCC
36016	GFI1	AAATGTTCATGGATCACCGGCT
36017	POLA	CCAGCTTCCTCTGTGCCTCCACTC
36018	ATM	TCATGCCATTGCACTCCAGCCT
36018	SLC2A6	TCATGCCATTGCACTCCAGCCT
36019	CA12	TCATGCCACTGCACTCTAGCCT
36020	ADORA2B	AATGCAAATACTTTTTAACTTAGAG
36021	LBR	TGATGACATTATTAGCAGACACTGCTTAAAGG

36022	NPTX1	TCCTCACCCCTCCTCTGAC
36023	POLA	TGACCCCAGGCTTTGCTCAG
36024	ZNF215	TCACGTCACACCTTGGATCTCTATCA
36025	OGN	CAGATGTTTTTCAGTTATCTCC
36026	GABRA1	ACAGTTGCCTCCAAAGCTGCAGATTGGA
36027	TP73	GGGCTGTGCCCGGGGAAAGGC
36028	PRODH	GAGGTGAGGTCAGGTGCCTC
36029	ASPH	TTTTCATATATTATTAGTAATTA
36030	PLAU	TGGTTGAGAAATGAATAATTTCCCA
36031	DFFA	CACTGCACTCCAGCCTGGGCAACAGAG
36031	F2RL3	CACTGCACTCCAGCCTGGGCAACAGAG
36031	FANCC	CACTGCACTCCAGCCTGGGCAACAGAG
36031	HRH1	CACTGCACTCCAGCCTGGGCAACAGAG
36031	IL2RA	CACTGCACTCCAGCCTGGGCAACAGAG
36031	KCNA7	CACTGCACTCCAGCCTGGGCAACAGAG
36031	PLA2G2D	CACTGCACTCCAGCCTGGGCAACAGAG
36031	SIGLEC11	CACTGCACTCCAGCCTGGGCAACAGAG
36031	SMG1	CACTGCACTCCAGCCTGGGCAACAGAG
36031	SPTLC1	CACTGCACTCCAGCCTGGGCAACAGAG
36031	SRGAP1	CACTGCACTCCAGCCTGGGCAACAGAG
36031	UBE2G2	CACTGCACTCCAGCCTGGGCAACAGAG
36031	ZNF264	CACTGCACTCCAGCCTGGGCAACAGAG
36032	VNN1	CTGTGCAAAGCATGCCCTTCTGCACA
36033	ETV1	TGGGTGAATGGGCAGAGGGA
36034	GFAP	ATGACTTTGTCCCATTTCTAAAGGCCT
36035	WNT2	GGACAACCGCTACATGCCCCAGCAGGC
36036	KCNA7	GCTCCTCCTGTTTACCCCACA
36037	VHL	CAGAGGTGCGATCTCTGCTCA
36038	SFRP2	CGGCTGACCATTTCTGCTCCG
36039	PPEF2	CTCTGGATCTGCTGCGTCC
36040	RGL	TTACCTTTTGGTTAAACTAATAAACTA
36041	DIO1	CTGAGGTACGGTATCTCTCT
36042	ATP1B2	TCTCTCATACTTTCTCCCTGTCTAC
36043	MTRR	AGCCTTCAGTCCCTATCAGCGCCTC
36044	OGT	TCTTCCATGGGATGGTTAGTGT
36045	PPT1	GCCAGAACTGTGCCCAGGCCCAAAGGA
36046	JPH3	CCTTTTTCTGTGTGAGATCTGTGCTGCACAC
36047	MMP25	CAGCTTTTCTCGGAGCGCAGTCCTGGG
36048	PPP1R12A	AATTCCTATTTTCTGCTTCA
36049	CTMP	AACCTGGGCAACAGAACAAGAACCCA
36050	SP110	TTAGAGCTTCTGAGTTTCCAAGC
36051	DACH	TTAGAAAATATGTTTTGTCACCCT
36052	LZTS1	GTGGCTGCCACACCCAGGGGAAG
36053	TNFRSF10D	CCCTCATTTACCTTTTCTCCTACAAAG
36054	FAT2	CTTTTTGACCTTGCTGTCTGGATGAG
36055	TFEB	CCCCTGTTTGGACTTAGTGCC
36056	DFFB	GTCGCTCAGGCTGGAGTGCAGT
36057	HTR1E	GTCGCCCAGGCTGGAGTGCAGC
36058	GATM	GGTCATCTAAGATTTGTTTACAAATGT
36059	GALT	TGGGCTCCTGGGGCTCAGCCT

36060	FANCF	CACCCAGTCTGGAGTGCAGTGG
36061	SOX8	GCAGGAGGTGGAGTTGCAGCTG
36062	PITX2	TGAGTGGTGCCCTTCTGCCCACAT
36063	OLFM1	TTACCTCCGTGTTTCTCCCTTTCG
36064	LIF	GGGTTGGGGTGGAGGGTGCGGCCCGGAGT
36065	NPTX1	AACCTATATCTCCCT
36066	TAF6	GATTGCTTCCTTCATGTCACTTTCTT
36067	SAS	GCTTTCTCTTCCTCCCTTAGG
36068	CYP1A2	TCCTAAGCTGGAGTGCAGTGGC
36069	PXR1	CATAGGAGGAAGGTTTGCTT
36070	LDB3	GGGGAATGGGGAGAGAGAGG
36071	LMAN1	TGAAATCAAAGAATATTTTGTCTGA
36072	PDE4C	CCTGGTGTCTTTCTCCTGGGCTTC
36073	SLC6A8	AGAGAATGAGATTTCTGCTT
36074	NDUFV3	TCACTGCATCCTGGAGTGCAAAAATAAA
36075	CRIM1	CTTGGACAGAGGTTGCTGA
36076	CRTAP	CCTTTCCTATCTTCACACCTGCCACCT
36077	VCL	GAAGTGAGCTTTGCTGCT
36078	SMARCC1	TGGGGGCAGTGTGAGCTTTGA
36079	CRYGC	CCCAGCCATGGGGAAGATCACCTTCT
36080	ZNF264	TTCAAGCAATTAACTGCCTCA
36081	CNTNAP2	TCATTCACATCTCACAAAATCTTGAC
36082	GPR56	TGGCACATCCTTAATCCTGT
36083	MTR	CTGTCGCCCAGGCTGGAGTGCAGG
36084	APBB2	GCATTTTGGGTGGGACATATTTC
36085	SCN8A	GGCTGAGGAGGACTTGCTCA
36086	COX10	AGCTCACATTCCTGTCCCTTGGGTG
36087	SPAG8	CTTCCCTTCCCTGTCCC
36088	G2A	CCCAGGAGGGCATAGGGCAGCC
36089	RAB33A	GAGGCGCGGCGGCGGCTGGAGCAGC
36090	HD	GGCAGGGAGTGTCTGCAGTCC
36091	CD58	ATTTTAAAAACTAAAAAGCCATC
36092	PLTP	TCTCAGCCCCTCTTTTCCCACA
36093	NRAS	GGAGAAAGATGAAACTGAAAGC
36094	CNTF	GCAGTGTAACCCAAGCATTTGTGGACA
36095	KLHL3	TGATCAGATTTCCCACTG
36096	AIM2	TTAGAGCTCCAGTTGTCAC
36097	G6PC	GCCTGCCCTCAGCACAGACTCT
36098	MICB	CAGTTTCAAACTCCTGACCTCA
36099	COPA	GAAGGGAGACAGTGGCGGTCGC
36100	PIK3CG	ATTTGTCTGTGGCATTGGA
36101	CASP2	AAATGTTCTTCATCCAGGCCTGCCGTG
36102	P2RX7	GTCCTTACCAATAGCAGGGGCTGCAGT
36103	UBE2E3	CTGAGTATGTGGTTCATGCTGTTGTG
36104	XRCC2	GAACTCCTGGCCTCAAGGGATC
36105	GPC5	TCTGCTCCCATCTCTCTCTTTGCCTCATAGA
36106	HTR1E	CTCGGCCTCCCAAAGTGCTGGA
36106	RHD	CTCGGCCTCCCAAAGTGCTGGA
36106	TP53BP2	CTCGGCCTCCCAAAGTGCTGGA
36107	ATP8B2	GAGTAGCTGGGATTACAGGCACACACC

36107	TERF1	GAGTAGCTGGGATTACAGGCACACACC
36108	SH3BP2	GGCAGGCAGGGCTTATTGGGGC
36109	PROCR	GCAAGGGAAAGTTTCAGCTCACTGTGA
36110	IL12RB2	AAGCACCTGCTACACAGCAGGCT
36111	CASP2	TCCTGCTTTACAGGATCATGT
36112	EPHA8	GTCCCAGGTTGCACTGCAACCAAG
36113	ACCN1	CAGATTCCAGGTCCAAAGTCA
36114	RNF12	TGCTGAGACGACTACAGCA
36115	ABCD1	GGGGGCCTAAAGCGACAGTCTCAGGGG
36116	TYRP1	TTGCCACTGTGTTTCCCTGCCTCTCA
36117	MIR16	ACTCAGCTATGTTAACA
36118	AGL	AGCAAACTAAAACTTCTGGGCA
36119	PLAGL1	CAGATGTTCCCTGTCACTCA
36120	MMP1	TTGTACTGATATAATTTAGTTCCA
36121	MYO1E	GCTTCTCCAAGGCCTGGAGCT
36122	SLC17A5	TTGATACATCCTCAAACTTTCC
36123	STK19	CCGGGAGGGGACTAGAAGAGC
36124	TEAD3	TCCAGCAGCCACCTGTGGGTATTTATG
36125	ELOVL4	CTCTTTCAATGTGTTTAATTTTGGA
36126	PDE4A	GGGGCCAGGGTGGGGGGCAGT
36127	CUL3	TTTGTAGTGTTGCTTAGCACTTTGCGCATT
36128	VCP	TCGCGGATCAGGAGCCAGC
36129	ABCA1	TGTGGGTGTCTCCAGGCACGGGAA
36130	MPP2	CCCAGGTAGGGGCAGGATGGA
36131	CLCN4	GCAAACACTGAAGGGCTGGA
36132	DHFR	AGCAAAATGAAGGAGTACACA
36133	KCNMB3	CCCAGCCTGGGCAACAGTGCG
36134	LDLR	ATTGCCTCTGAAATGCCTCTTCTTTAT
36135	CLN6	CTGCCCTCTCCCTGCCTGGGGGC
36136	CNN1	GTTTGGAGAGAGCAGACTGG
36137	JRK	TCCCGCCCCAGCCTCCTGAGT
36138	EDNRA	GCCAGTATTTTTTAACTGCATAATA
36139	INPP5B	TCCTTGCCCCTTCACAAGAGA
36140	GALT	TTTCTGGGCTCCTGGGGCTCAGCCTAG
36141	GAS7	CCACTGCACTCCAGCTTGGGTG
36142	CCNT2	GATCACTTTTCCTTTAGCATTCAGAATGA
36143	GNB1	GCAGCCTCTCTGATGTTGTCA
36144	FGF5	TCCAAGTCTTTGCTATTGTGAA
36144	OPHN1	TCCAAGTCTTTGCTATTGTGAA
36145	RFNG	TCTGCCGCAGGCTGGGTGCACG
36146	MLANA	AGCCTCCCAAAGTGCTGGAATT
36147	CHD1	GAAGATTTATATTTTACTTTA
36148	EFNA3	CTTCAGCTTCAGACCCCTTCCCCACCA
36149	KRTHB1	CCCCACAGTGGGAAAGGCCAC
36150	NEU1	AGCCTCCTCTTTGGTGTTGCGG
36151	STAU2	TGGGAAAAAACCCCACAAAAA
36152	CITED4	AACCAAAATAAAACTGGGTCACTTT
36153	USP9X	CACCCAGGCCTTACAGTCCAAC
36154	CLN5	TAATGTAGTTTATGTGCCAAAC
36155	KCNH5	TCCAGAAGTTCAAGCAGCAGAAGGAGC

36156	TBX5	CCATCTTGCCAGCTCTGTCTTTCCA
36157	PDE7A	TTCTACGGGGGCAGTAGCTCA
36158	TITF1	CACGCTAGGGCGGGGCACAG
36159	ABCC3	CCCCCCACTCTGCACAGCCT
36160	APOBEC2	AAGGCCCTTAGAGGACTTGA
36161	CXCL16	TCATCCAGGCTGGAGTGCAGTG
36161	FANCE	TCATCCAGGCTGGAGTGCAGTG
36162	AK2	CTGCCAGGCTGGATAACTGTTGAATG
36163	NOC4	TCTTATACTCCAATGAGTGTGTT
36164	ITCH	ACAGCATTCCACAGCCTGGTCAG
36165	SEC22L1	TGCATTTTAAAAACAGCACTG
36166	G22P1	GATTTACCGTCCACATTCCTCACT
36167	COG3	GGCCCATATTCATTCTTTG
36168	PRKACB	ATGTATATAATCATTCTATTTGCT
36169	ZNF26	TGGGAAAGCCTTTAGTTTGAAG
36170	SLC24A1	TTTTGTCTCCTCCTTTTCTGTTC
36171	PCDHA9	TGTTTCCTGAATTGTAGTAT
36172	SDHD	GCTCTGCCTTTTTGACTTCATACTTTGAA
36173	JRK	CCTGGAGATACCATTGTGGACC
36174	B3GNT3	TCTGCAGTTCCAGGCCAGCCAGAAAC
36175	SPTLC1	CCAACATGCTGAAACCTCGTCT
36176	C4orf1	ATGTGGAAATTATTTCTCCATAC
36177	TYK2	CTCCTGCTCCCTGCTCCAGGATGAAACC
36178	CRACC	AAGGGGAATGGCTGCTTTTGA
36179	PKNOX1	TCGGTCTTTGAAACTGACA
36180	FAT2	AGGAAGAGCAGTGGAGCCTTGCCCAC
36181	RAB27A	GCAGTCACAGAAGAGTGTAT
36182	LDLR	CCAGCCTGGGCAACATAGTAA
36183	C7	GGCCTCCCAAATGCTGGGATT
36184	LEF1	TTTTACCCTGAGGTCACTGCTAGAG
36185	FREB	CAGTTAGATTTACTTCCTCTTT
36186	TGFB3	TGGGCCTTTTGGATATGCTGAA
36187	NCOA6	TCCTAGAGTGCTGGGATTACAGGTGT
36188	CCND2	TGGCCTTGGCATTTCTTCTTA
36189	MHC2TA	CAGGCTGGGCTTCAGTGGCAGCTGCTT
36190	CCND2	TCTTCTTTTTCTTACCTCCCACTAAAG
36191	IMPDH1	AGTGGTCCACAGATTTGCACTACG
36192	APLP2	TTGTATTGTCTGACACATGCT
36193	MAP3K7	GCGGCTCCAGGCTGAGGGTCGGT
36194	RIMS1	ACCAGTGTGGCCAACATGGTGA
36195	KCNQ2	ACGCAGCACCAGCCCCGGCCACC
36196	DSC1	TGGAAAGATAAGGACCAGA
36197	TRPM6	GGTGAAGCACTCCTGGCAGCCACACTG
36198	FEZ1	CAGCGGGCTACCCTGGACAAAG
36199	MGST3	CGCTGCGCAGTTTTGTTCTGCTCCAGCTGTTC
36200	ALDOC	CCACTCCATACCACAGCCCT
36201	AKR1B1	TCTGGGGAGCGCAGCAGCCATGGCA
36202	TEX15	ATTAAAACATGGAATATTTT
36203	TRIM39	CTCTCCTCCTCTTACCTTTGTGCC
36204	ROCK2	TGGCTTACGCCTGTAATCCTAG

36205	GNA14	TCCTACTCTCCCCCGAGCACC
36206	ARCN1	GTTGCTACCCAAATTTTCA
36207	NR1I2	GGTGACACCTCCGAGAGGCAGCCA
36208	HUNK	TCATTCTCTCATTCACCAGTGGTGAC
36209	ADAM33	CTGGCCATCCCAAAAGGGCTC
36210	HLA-DOB	GTCTGGGCCCTGGGTGAGGTA
36211	RAG1	ATTGTAACCTTCAGAGTTTAGG
36212	PHF1	CTTCTGAACAGCCTGCCTCTGCCCAG
36213	TRPV1	CTGTGCTGGACAAGCTGTGGGA
36214	CASP10	GCCACATCGCCTGAGA
36215	UGT2B4	CCTTTAGTTTATTACAACAAGAAGA
36216	SLC17A5	CCTGTTCTATGTTTTTAAGCTA
36217	KCNS2	GAACCCAGGGGTCTGAGCATGG
36218	INMT	GGCTCACTGCAAGCTCTGCGTCCT
36219	TLX1	ACCCCGCTCCTCTCCGC
36220	SCA1	TTGTTTTAAATAAATTGTCTGT
36221	CST	AGCGGCACAGTCATGGCTCACTGGA
36222	ARHGDIA	ACCATGATGCCTTA
36223	SNX9	GCTGTAGTCATACAATCACATAACT
36224	APOL1	CAAGTTGGAGCTTGCAGTGAG
36225	ESR1	TTTTACCCTCATCATGCACCACT
36226	GALT	TGGGAGGTCAAGATGGGAGGA
36227	EGFL4	TGACCTAGGCTGGACATCAGACCTGCC
36228	NGFR	GTGGGGAGGGGGTTTGGTGGCTTGC
36229	HD	TGGCGGGGCAGCAGGAGCGGT
36230	RNPEP	CCAAATTCCTGTTCCCTGATCAA
36231	GAS7	GACTGTTCCTTGGTGTTTGAGGGAA
36232	SLC6A3	TGTCTCACCAGGAAATTC
36233	MMP19	ACTGGGTGATGACAGGGGAA
36234	VIP	CTCTCCTGATAGTCTTTCAGTTAA
36235	SULT1A3	CAGGAGGTTGTGGATACAGTGA
36236	RABGGTA	TGCCCTTTAACTTATTGGGACTG
36237	TOMM22	TTTCCTCTGCACATTTTGGCT
36238	CLN5	CACCTTGCTTATTCCCA
36239	PTMS	CATGTCCTGCCCCATCCCTATCCTGCC
36240	MRPL49	CAGGGTGGAGTGCAGTGGCATG
36241	KIR3DL2	GGAGACAACAGCCCTGTCTCAAAAC
36242	PAFAH1B1	TCTCTGTTTTCTCTGTCTGCTGTCTAACCCTG
36243	MTCP1	AGAGAGAAGAGAGCAGCTCC
36244	PRG1	GCCATAAAATGGCTTTA
36245	PPP2R1A	GCCTGGGAAGATGTCTCACTGTCCACC
36246	MICB	ACCAGCACTTTCCCTCTGTTTCC
36247	FCRH1	CAAACTCCTGGGCTCAAGCAAT
36247	SHOX	CAAACTCCTGGGCTCAAGCAAT
36248	GPR1	GGAGGCTGAAGCAGGAGAATCA
36249	ICA1	GGAGGCTGAGGCAGGAGGATCA
36249	MAFF	GGAGGCTGAGGCAGGAGGATCA
36249	TBX1	GGAGGCTGAGGCAGGAGGATCA
36249	ZNF136	GGAGGCTGAGGCAGGAGGATCA
36250	TNFRSF10B	TCGCCCAGGCTGGAGTGCAACGGTACG

36251	SRI	TGCATGAATGTAATCAACATT
36252	DBCCR1	AAAAGGAGGAAAATCTTCATTTGTT
36253	SLC2A6	TGCAATGAGCTGAGATCATGCC
36254	RHD	TACCTCCTGGGTTCAAGCAAATC
36255	BCAS1	GCCTGTAATCTCAGCACTTTG
36255	VHL	GCCTGTAATCTCAGCACTTTG
36256	TEP1	GCTTGTAATCCCAGCACTTTG
36257	TACC1	ATTTGGCTGCTTCTCTTGTG
36258	SLC5A5	CCCCTGCCAGCTTCCCCCGCT
36259	CALM1	TGAACAACGAATGTAAATTTG
36260	MYOM2	GCTTGTTCCAAATGAGCAGCTGG
36261	CAMK2A	GGATGGGAAGAAGGGGCGTTTGTTT
36262	RAD52	AGAGGCTCTGGACAGATGAATA
36263	NEU1	TTTAGACTCCAGCCTTGGCAA
36264	DIO1	CCCTGCACACGGTCTTTGAGAGA
36265	MDM2	GCTCACTGCAAGCTCTGCCCTCC
36266	RECQL5	TGTCTTTTAGTGTCACAGGGAACAG
36267	UPK1B	CGGGAGACAGAGGTTGCAGTGA
36268	EML1	AGGAAAGGACCTACCAAAGCA
36269	PIK4CB	AAACCCAGGGAAAAGAGCTCTCAATTT
36270	INHBA	CTGCCTTAGCCAGGGCTCAGAGA
36271	HNRPDL	GGAACTTCATTGCAGGCCGTGTGT
36272	CBFA2T2	AGGAAGAGTCCAAGCCTGAATAATAA
36273	ALDH1B1	GTCGCCCAGGCTGGAGTGCAGT
36273	CASP8	GTCGCCCAGGCTGGAGTGCAGT
36273	EHD2	GTCGCCCAGGCTGGAGTGCAGT
36273	FHL2	GTCGCCCAGGCTGGAGTGCAGT
36273	GRINL1A	GTCGCCCAGGCTGGAGTGCAGT
36273	INMT	GTCGCCCAGGCTGGAGTGCAGT
36273	KCNJ11	GTCGCCCAGGCTGGAGTGCAGT
36273	LYZ	GTCGCCCAGGCTGGAGTGCAGT
36273	NCOA6	GTCGCCCAGGCTGGAGTGCAGT
36273	ORC1L	GTCGCCCAGGCTGGAGTGCAGT
36273	PAICS	GTCGCCCAGGCTGGAGTGCAGT
36273	PCDHB9	GTCGCCCAGGCTGGAGTGCAGT
36273	PIGR	GTCGCCCAGGCTGGAGTGCAGT
36273	SERPINB9	GTCGCCCAGGCTGGAGTGCAGT
36273	SLC13A1	GTCGCCCAGGCTGGAGTGCAGT
36273	SMAC	GTCGCCCAGGCTGGAGTGCAGT
36273	SS18	GTCGCCCAGGCTGGAGTGCAGT
36273	STAU	GTCGCCCAGGCTGGAGTGCAGT
36273	TAPBP	GTCGCCCAGGCTGGAGTGCAGT
36273	VIPR2	GTCGCCCAGGCTGGAGTGCAGT
36274	DFFB	GTTGCCCAGGCTGGAGTGTAGT
36274	HYAL4	GTTGCCCAGGCTGGAGTGTAGT
36275	PPID	GTCACCCAGGCTGGAGTGCGGT
36276	NLGN2	CACGCAGAGAAGCCCAGTCT
36277	TM4SF6	TATGACTCTCTGTTCTGCTGACA
36278	HMGCR	CTGGGATGTAGAACTTCAAGAAG
36279	P2RY6	TGAGCCAGATGTTGAGGGCTGAGTGG

36280	INMT	GCGTGAGCCACCGCACCCAGCC
36280	POU2AF1	GCGTGAGCCACCGCACCCAGCC
36281	CCNT2	CATGGAAGGTGCAAAACTCAGTA
36282	CRHR1	CACTGCCACCAGCAATGCCCTGCCTT
36283	DUSP2	TCGTCTGCCCAGGGCCTGGAGCC
36284	AQP6	TTATTCCTCAATCCTCCAAATGCTCTG
36285	BGN	TCCCTTGGCCTCAGAGCTGCCCCTGC
36286	PITPN	CTAATGGGAGACCAAATCTTTGTCC
36287	BAALC	TGTTCTAAAAAATGTTTTTA
36288	PIK3C2B	AGGCTGGATTGGAGTGGTGATTATTC
36289	DVL3	TCCCCCAGCTCCATTCCGCTC
36290	CALCB	CTTGGAGTGGGATTGCTGGGTTA
36291	TK1	TCGCCCAGGCTGGAGCTGGCCCCGCTT
36292	RPL15	TCTGTTTGCACCATGTCTTCCAG
36293	MAP3K7IP2	TAGTCCCAGTTACTCAGTAGACTGA
36294	ALOX12	TCTGCTGCTAAGGCTCTATTTCCTC
36295	NRP2	GCTGATTTCAGGAGCTA
36296	DLG2	TACAACACAAACTGTATGAAGC
36297	MLC1	ATGCCCAGCTTGGAGTGCCACATG
36298	FGF2	CTTCATTTACCTAGTAT
36299	RAB5A	CCTTGCTGCCAGGAAGCTTCGGCCCCGCAGC
36300	RAI3	TGCCGTGGAACTGGAATAGGC
36301	HOXB3	GTGGACCTGGAGGATGAGAGGGG
36302	RAB7L1	TGTCTGTAATCCCAGCTACTCTG
36303	ATP1A2	GCTAATTATCATCAATCTTT
36304	HOXA10	CTTTCTTCCTTTCTTCCTTGGCC
36305	LIMD1	CTGCTGCTTCCGGTGGCCCCTGGG
36306	RNMT	GACTCTGGTGGCTGTATTAGCTA
36307	ERBB2IP	TTTAGTCACAGGAAATTTTTAACTCTA
36308	SLC21A9	GAGCTGGCCTCAGGAGTGGGA
36309	WHSC1	AGCTGCCAGCCCAACTGTGAGA
36310	ATP11A	AGACGCTGAAACTGCTGCCTTTCA
36311	MYO15A	TGCCAGAAGACTCACTGTGTG
36312	MTMR2	AATATAAGCTTTTTAACAGGGC
36313	EPHB4	GACTGGGTGTGACCAGAGGAAAAGGAA
36314	SLC13A3	CTTCCCTTTCCTAAGCCT
36315	SCD	AAGCCTCTCTCTCCCTCCCT
36316	SCA1	TTTCCTCATCTCCCCAGCCTGAACTGC
36317	SOX10	TGTTGCACCCACACTGAAAGATGAGGG
36318	CASP10	TCTCTTGGCCGGATGTCCTCA
36319	SLC16A2	TCTGCTCCCCTCTTCCCTTCCTT
36320	GFPT2	TCTGTAACTGTGGAATGGGCTGAGACC
36321	TUBG1	GGCTGCAACGCCGGTGCCTGAG
36322	COL9A2	TCTCCACTGGCCATCTTGTCCTTGG
36323	FUT8	TCTCCCACCGTAAAGCGCCCCAGGCT
36324	FACL4	GCATAGTTCTAGTGCAG
36325	STIM1	TCCTTCCCTCCCTTCCTTCAA
36326	DIAPH2	CACTCTGTCACCCAGGCTGCAGT
36326	MICB	CACTCTGTCACCCAGGCTGCAGT
36326	MPL	CACTCTGTCACCCAGGCTGCAGT

36327	AK3	GGCTTCCAAACTCCTGCGCGCGG
36328	KCNJ10	TTCCTCTGGTCTCTTTTCCTCTCTTC
36329	CDX2	AGACCTACAGACCTGGCTCTCAGAGGA
36330	TRIM14	CACAAGGTCAGGAGTTTGAGAC
36331	DYRK2	CTGTTCCTCCCTTTTCTCTG
36332	PCDHB16	CCCAAGTAGCTTGGACTATAGG
36333	P2RY6	TGCCTGTAATCTCAGCAATTTG
36334	RAB7L1	CGTGTCTGTAATCCCAGCTACTC
36335	POLH	AGGAGGCAGAGGTTGGGGTGA
36336	CRTAP	CGAGTACCTGGGATTACAGGCAT
36337	MSF	CCCAGCCTTGAGATGCTTCACT
36338	PPP2R5A	CACCTAGTCCCTCCTGACCCAG
36339	SLC16A7	CACAAGGAAACTTCTGCCTCA
36340	KRTHA4	TATGTTATTTCTAGAATGCTG
36341	HSD11B2	ATGCAAGACTTCACTGCAGCC
36342	STC1	GGGCATTTTTATACTCAGAACTG
36343	ATP1B3	TTTTTACATGCTGAATTAGCC
36344	PLD2	CTGCAGCTCCGGTCTGCTCTCTTGGC
36345	PSMD5	AACACCTATAATTCCCAGCACTT
36346	IRS1	CAACTGGACATCACAGCAGA
36347	CASP10	AATTTAAACAAATGGTCCATGG
36348	MMP25	GGGACCCCCACACACATCCCAGC
36349	ATP11B	TTGTTAATTCATTAATGCATTCTG
36350	EYA2	ACTCACAGAACAAAAGCAAGGA
36351	XT3	GCCTCCTCATCATGGAAGGGGGTGGG
36352	SIRT1	GGTATTTTCACTTTTCTTTG
36353	FXYD1	GCCCACCGCCCCCTCCGCCGCC
36354	LDB3	TCTTTGGCCTTTGTTTAGCTTTAAG
36355	AKAP13	GGGGAAAGATGGAGTTCCTATCCAGAG
36356	AKAP2	GGTGCAGCCTACATGGCACAGGATATT
36357	TGM3	GCCGTTTCTCCCCAGAGCTGC
36358	TLR6	TAACTGTCTGGAGGTGCCTCCA
36359	IL1F5	CGGCTCTGCTGAAACCTTAAT
36360	CNGA1	GGTGCAAGGTACAGCCCACAC
36361	SLC12A7	GGCAGCAGTGGCGCCTGGTGTCAGGTCTGTC
36362	LILRB1	TCTCTGCTGATCTGAGTCTGCC
36362	LILRB2	TCTCTGCTGATCTGAGTCTGCC
36363	RPP30	TCAATCCTGGGCTCAAGTGATC
36364	SET7	CATGTAAACAAAGATATCTT
36365	CHAT	AGGCAGCAGAGCCGAGGAGAGCAGGT
36366	KCNS2	TTTACTGTTGTATCGTCTCCCTGAGG
36367	HUNK	CTACTGCACTCCAGCTTAGGTG
36368	SLC6A3	GGGCTCCAGGGACTGGAGTGTAATG
36369	DOK1	CAGAATGGGTGCAGTTTGAGGGG
36370	ARHH	GGGGAGAGGGAGGGCCGG
36371	NRGN	CAGCCTCTCCAGCTCTCTTG
36372	CORO2B	CTCACGTCTACTCCCTTCTGCA
36373	RUNX1	CAGAAGTATGGAATTTTCTGCCA
36374	WHSC1	AGATGTTAAGCGCTGTGTGGTA
36375	LATS2	TTAACTTTGACAAATCATGCT

36376	ALOX15	TCCCACCCTCTTCCCATGTC
36377	USP18	TAAGCGCTTCCTGGAAGTGAAGTC
36378	MAP2K1	GGATACTTAGTGGTATGTCTCTTTA
36379	ABCC1	CCCAAAACACGCACACCCTGCCCCTG
36380	ADRA1A	AACAGCATTTCCCTGCAGCTAATGCTT
36381	EIF2S3	GTTATCTCCCTCTCCCTGTGATGCC
36382	PRKCB1	GGTCTCAATCTAAAAGCACTTCA
36383	AFG3L1	AGGGATGACTCAGCAGACTCAG
36384	OPA1	GGTTGCTCAATGTTCAGTTTCTTT
36385	SLC4A4	AGGAGGAAAAACAGTTGTCTGCTG
36386	FGFR2	CCATTGCATTCCAGCCTTGGCG
36387	IRAK4	ACCTGTAAATCCCAGCACTTTG
36388	GCN1L1	TGTTCCAATGGGGAGCTTGGAA
36389	DAG1	TTTTGGTGAAGATGCAATATTTTT
36390	CACNB2	CCAAAACAAAAAGTCTTTGGGGTC
36391	HMOX1	ACAAACCTGAAAAGATGTTGTGTCTTG
36392	ELOVL4	CCTACCTCTTCCGTTGGAA
36393	MS4A3	TCTATTTCTTCTTATCCACCTACTCC
36394	BRPF1	TCTGGTCTTGGGGCCAGTCT
36395	TNFRSF10B	GACCTCTCAGGCTCAAGCGATT
36396	ZNF24	TCTTGAAAGAAATGGTGTCA
36397	CBFA2T2	CAGGCTGGAGCACAGTGGTGTGATCAC
36398	PKP1	CTTGCAGGAAGATATGACCCAGCTG
36399	PPP2CA	GCCATATAAAAATACAAAGCCTCT
36400	VTN	CATCTGTAGAGTCAGAGCCCACATGGC
36401	ALDH8A1	AACCAAAAATAAATAGCCATAATTTGC
36402	SHANK2	TGAACATTCCACAGTGGCTGGGTGA
36403	LFNG	TCTCTTCCTGCTGACCACAAGCT
36404	MLH3	AGCGGGACTCCAGGCAA
36405	CPA3	CTCAGTTTCTCACAGATTTTCACC
36406	TAF11	CACCTAGGCTGGAGTGCAGCGGCATG
36407	ADORA2A	GCTGGCCCAGCCCGCGTCCGTGCT
36408	TRADD	CAGGAGGTGAGATGGCAGCTGG
36409	AVPR2	GGTGAGACAGCGGTCCCAGGGG
36410	CDC6	CCCAGCTAATTTTTTAATTT
36411	C5R1	TGATACAGAGGGATCTTGTGTACC
36412	PSEN1	GCAGAATGGGGAATGGAGAGGTGGGCAG
36413	PPP2R2B	ATCTCGCCACTGCAGCTCGGGTCCA
36414	TGFA	CGTAGGAATGAGGCTGGACAGAT
36415	SSTR1	CACTTTCAGTTTCAGGAGTGCAAG
36416	CAPN10	GCTGGTGCTGCAAGGAAGGGTGGGAAGC
36417	MYCL2	TGTCGCCCAGGCTGGAGGTTAATGGCA
36418	SFRP1	ATCTGTTTTTCTCATCAGACTCTGAG
36419	CPSF6	AGAAACCCTCCAGAAATTTCCA
36420	MAFK	CCCCTCGGGCGCAGGCAGCTCA
36421	CARD15	GATCACATGTGGACTTTTATTTC
36422	WBSCR14	ACGCTGCAGAAGACAGCTGAGTA
36423	DGAT2	GATGCAGCACAGACTCAGCCTTGGCCTG
36424	RBM15	GGCGCCTTCCTGGAGCGC
36425	AXL	CAGTAGCATCACCATCTGTAAA

36426	GAS7	TGTCCAATATGGAGAACAGCTTTG
36427	ZNFN1A3	GTCATTATCTTCTACAGCAGTG
36428	PTPRA	TCAGGTAATAAAAGCTTTGA
36429	COL19A1	TGAAACAGGCACAGTACCCTTTG
36430	CAV3	CCTTGGAAGATCATGT
36431	SNX6	ACTTGAGATGAAAGTTGG
36432	HMX1	GGCCTCCTAGATACCTCGGGAG
36433	GALNT3	AGCTTCTAATCCCAGCACTTTG
36434	PELO	ACAGAGCCTGGGAAGCTGCCAGT
36435	NPY2R	AACTATACGAATGGCTTC
36436	SLC22A12	CAAGCAGAGGAGGCTGCACCTC
36437	F8A	CGCAGCCTCCTGCCTCCGCCTTT
36438	CD4	TCTCCCCACTGCTCATTTGGATCCC
36439	NDST2	GAGGTGGGGAGGAATGAGAGGG
36440	AGRP	CGGAGGCAGAGGCCATGCTGA
36441	RPA1	GCCTTCAGGCTTCTGTCAATTTCA
36442	SURF4	GTCTCAGTGTTTCAACCTCACCAG
36443	ZNF38	TCTTTGGTGAGGCTGTTTCTGGAGTTT
36444	SLC7A5	AATCTCATCCCTCAACTGAGGG
36445	SLC17A4	CCTCACAGACATTTCTCTTTCA
36446	SIGLEC8	AGTCACTTCCTCGTCTCCTCCTCC
36447	IHPK3	CAGGGCTCTGGTGAACAGCAAAT
36448	SEL1L	ACATGATGCAAACTGTGGCAA
36449	NOTCH2	CTTTATTCTCTCCATGTGGC
36450	PRPS2	CAGGAGTATATCATTTGCAGTGC
36451	CLCN4	CTATCAGGAAAGCAAAGCTT
36452	CD59	GATCTTGGCTGTATTTA
36453	KRTHB1	CCTCCTCTGCTCTTGATCTGTGTT
36454	ABCC3	CCCCATTTCCTCCTCATCTGATCCCCC
36455	RAGE	CGAGCAGGCATTTCTGTGAT
36456	E2F3	CAGCTTTGTGTAATTCTCTTTGCCAGC
36457	IL12RB2	CCTAGTTCTATAGATGAAGACA
36458	C18orf2	TTTTCTTCTCTCTGCCACCCACAT
36459	BHLHB3	GAGAGGAAGTAAGAAGGGTCTGTTCTG
36460	AIM1	CCTTATTTCTTAAAAAGGACA
36461	MAD2L1	TATGTAACTTGAACCTATGAAGCAA
36462	ATP1B1	CGGCAGCTGCTGACCCGCCATCGCC
36463	PKIA	GAGAATTTTGGACAATTG
36464	SP1	GGGATACAAGAGAGGAGATGGGGTCCC
36465	CASK	TCGGCCTTGTGTCAGCAGGTCAT
36466	GFRA2	CAGAAATTTTGAAGTCAGAGA
36467	COL13A1	CCAGAAGTATGATGCATCTTAC
36468	ID2	AACAACAAATTCACGGAATCT
36469	CSPG2	GTAGTTTAGGCTGGAAATGGT
36470	DUOX2	CCTCACCCCAGCTCAAGCCATGGC
36471	HYOU1	CCAGGTTCCTGTAACTCCCTGCCTCCTCCT
36472	IL1RAP	TCTTGTCCAGTTTTTAAATTAT
36473	FPGS	TCTCCTCTCTTGGCATCGACC
36474	CPT1B	CCTCATGTGTGTCCCTGTGCCA
36475	CDH13	GAGAGGGAGAGCAGAGAAAGAAGTCC

36476	SORCS1	TGTCAGAAACGGACCTTGGTT
36477	RPL10	ACCTGGGTTCACACAGCTTTTTAGCT
36478	CPSF4	TGGGGAGGGGCTTGGCTAGGT
36479	PPP1CB	GTTGTTTGTTTTTAGATCCACAG
36480	ZNF277	AAAGAACAATTTAAATTTGAACAT
36481	NEK6	CCCCAAAAGGCTGCCCAGCCTT
36482	CD69	AACTAGGCGTGGACTTACTATTTAT
36483	GUCY2D	CCTGTCCCATCTGCAGTGGACCCCA
36484	SLC25A19	CTGGAAGGGATGCTTTTTAGCT
36485	MASP1	TTCAGAGGGACCCACTCCTTC
36486	SLC25A15	GCACGAGGCTTTGTGCCACAGCCGG
36487	USH3A	CTGTTGGTCAAAATCTGCAAACTCT
36488	SFRS2IP	GCTAGATTTGGTCATTCCA
36489	CD2AP	CATCTAAAAACACAAGTGGGTTTATT
36490	ITGA5	TTTAGGAGAAGCCAGGAATTTC
36491	MAOB	CTCCATTGTATCTTCATACAAAGGACA
36492	STAT6	GAGGGTGAGACACTGCACAGA
36493	IL21R	TGTCACCCCCACGCTGAACCCAGC
36494	GCNT2	AGTGCCCCACTGCACTCCAGCCT
36495	NR3C2	TTCTGGCTTCTGCTTCATCCTGCTCC
36496	GATA2	GTACAACATTTATATATTGTCT
36497	F2RL2	GGTCTTGAACTCCTGACCTCAAGTGAT
36498	B4GALT1	GCACAGCCAGGGCACAGTTAGGCCTG
36499	AQP6	AGCTCAGGCTGGAGCAGGTATATGAG
36500	AQP6	ACCCAGGCTGGAGTGCAGTGGCATG
36501	CYP4F3	GCCCAGGCTGGAGTGCGGTGGCATG
36502	GRB14	CACCACACCTGCAGAGCGCTC
36503	POU4F1	CCTCCCTTACTTCTATCA
36504	PCSK1	TTCTGGCTTCCTTCTCTCAATATGCTT
36505	ADCY1	AGCTGAGTGTCTGTCAGCTTCATT
36506	AANAT	CAGTCCAGGTGCTGGGAGGCCCTCCTT
36507	DDOST	AAAGTACAAAAAATTAGCTGG
36507	STAT3	AAAGTACAAAAAATTAGCTGG
36508	NTRK2	GCAGACACTCCAGTTTGCCCACC
36509	PKDREJ	TAGTCATGCTTTCTACTCATG
36510	BIG1	TCTCTGGATTGCAGTG
36511	VENTX2	TGGTCTCAAACTCCTGACCCTGTGATC
36512	MMP14	CCTCTGAACTCTGACCTCAGGAGGCTCT
36513	ANKTM1	TTCAAATTGGACTGGACTTTG
36514	ADORA1	AAGGAGAGAGGTTGAGGA
36515	CASQ2	TGCTCTCTAAACTTCCCTCTAGTTGGC
36516	CHRNA10	AACTGTACTGCTGCATTTCCT
36517	IGF1	AACCGGAGCTGAATTACCTTTCACTTT
36518	ATP11B	CCCTGCCTCAGCTTCAGCAGGCGTAG
36519	KRT4	GGAGGAGGGAGGTGCTGTGA
36520	RET	CAGAATTGCTGACAGCAGAGGCTTT
36521	PART1	CTCACACTGAAACAAAGGAAG
36522	ADAMTS4	CCTCCATCTAAACTGCCCCCT
36523	CDH12	TTGAGGGCGGGGAGATGACAGGAG
36524	ALDOA	ATGCCCTACCAATATCCAGCACTGA

36525	ALDH3B2	CTTTGCTCTCCCCTCTAGGCACACGCG
36526	AGL	CGCCGCCCCTCCCTTTGCCCTT
36527	CBL	CTGCTTCTCTCCCTCGCTCGCA
36528	GRM6	TTCATTTGTTGCTGAATGCTTTCCAGA
36529	B3GALT5	CACCTGGAGTGCAGAATCTGC
36530	LDLR	CTGAGGCAGGAGGATCGCCTGA
36531	BCL2L2	CCTGCCTGTGGTCCTGAGCACTGATCA
36532	CX3CR1	TCTCCACCTGCTCCCAGGCC
36533	MEFV	TTGCTCTTGTCACCCAGGCTGGAGTGC
36534	SLC22A3	GAAAAACATGGACAATTCCTA
36535	FMO4	CACCCTTTCCAATGCATCTTCTACC
36536	PKNOX1	CCACTGCACTCCATCTTGGGCAACACA
36537	ATP12A	ATTTTCTTTTCTATCTCCATCT
36538	PSG11	AATAACAAAAGGATAATGTTTTC
36539	DAPK1	GGAAACGCTACCTCTCTGTCCCTTGCT
36540	CAPON	TTGAGTGCTCTGGACCGCA
36541	PRNP	GTCACCTAGCAGATATGTATTACTTTT
36542	VRK2	AGGGAGGGCAGGCTCGAGTGCT
36543	GPR18	AGCGTTACACTGGAAACTACTTTT
36544	CHI3L1	TCCTACTTCCCCTTCCTAATTCCA
36545	TGFA	CACGAGACTCTCAACCAGC
36546	ADORA3	CCCAACAACAGCACTGCTCTG
36547	SOX12	CAGAGACAGGGCTTGGTTCTGCTT
36548	SLC13A4	TATCCAGCAGTATCTGGA
36549	INMT	GAACATACCACTGCCTCTAG
36550	TNS	GGGGAGGGACAAACAACCAAGCTATG
36551	RFC3	CATACAGCTTATATTAAAAGA
36552	MAGEA2	GCTCCAGGAACCAGGCAGTGAGGCCT
36553	TRPS1	AGAGAAAATTGAGGAATTGAAATG
36554	E2F1	GGGGGACCTTCACTGATGT
36555	C5R1	GCTAACTAACTCTCCTCCATGTTGCCT
36556	POU2AF1	GGCGGGCTGAGTCCTGCCCATGC
36557	HS3ST3B1	ATGTAGCCTGAAAGCCACAGCCCT
36558	MID1	CTAAAATGGAGAGCAAGACA
36559	REGL	TCTGCTGCATCTTCTACCTCCTGATTATC
36560	GCLM	GGGCCCGAGCGCAGACCAGGCTCCAG
36561	ADCY1	GGCACTTGTCGCTCTCCCACCTGG
36562	GPR81	AACAACAACAAAACAATCTGCTCT
36563	CYP4F3	TATGTTGTGAGCATCTTTCCA
36564	ELOVL4	TCCAAAGCTGAAAATGTGTAT
36565	CDS2	GGTGACGGCACTGGGTGGGG
36566	ICOS	AGCCTGGAGCAGCCCTCCAGAC
36567	GPT	CCCACTTCTGGTCCTGCCACCT
36568	MASP1	CTGTCTTCTGTTTTATAGAAATTGATCT
36569	MYF5	TCCCAAACCAAGACAACATGTA
36570	PYGO2	TTACCCAACTCCTTCCCCCTCA
36571	NUMB	AGGCCATTCACCTGCCTCC
36572	CLK2	ACCCCATCCACCAAGTGCGCCACA
36573	HOXD3	GCCTGGGGGCCGGCCCAGCTCTCT
36574	STC1	TGAACAACAGTAGTTTCTCAGGGTC

36575	TRPM5	CTCCTTGTCCCTCCTGGCCTCCC
36576	ZNF264	ACCCACGCTGGAGTGCTGTGATGC
36577	TAL1	TATTCAGAGGGGCCGGTCTCT
36578	PPP1R8	CATCCCTCGTGCGGCACTTGTCTGTC
36579	PSME3	GAGAGGGAGTCAGGATGCTGT
36580	DMRT1	TAAGTGCTTTACTCACGGAGTT
36581	HPS3	TCTCAACTCTGCTTTTCTCCAG
36582	ED1	GAGGCCATGGGCTACCCGGAGGTGGA
36583	TXNRD1	ATTCCTGCTACTCTACCTGTATTT
36584	GCNT1	AATAGAAATTTGATTGTACTAT
36585	C8A	CCTCTGGACACAGGCTGG
36586	SLC7A4	TGGGCAGCCTGGGTTTGCAGGCCTGC
36587	SOX10	ACATGCCCATGCCACCTATGCCAC
36588	DCX	ATTCTATGTTATCAGTCTCTC
36589	ADCY7	GTTGGCTTCTTTGGACCTGCACT
36590	NESH	GGGAGGGAAGGCAGAGCAACCA
36591	PODXL	CTGTATATCATAGGAAACTCAGGGA
36592	DLX4	TCTCCTCTCCCTGCTTTCTTGAA
36593	OPHN1	GGCCCTGTTAGTGCACTGA
36594	HMGCR	TTGGCTATAACATGTCTTTCAG
36595	KCNC4	CCTTCTTCACCAGCTCCTTGGGAC
36596	LASS1	CCTCCTGGCCCTGCTGCTGC
36597	GNRHR	CAGATGCACCAGAGACAC
36598	CACNB1	GTCTGTACTCCCCTAGGAG
36599	CTMP	TAAAGAGCTGCTGGTGAACTCCATCTC
36600	HOXC4	CGCTGCCTCTACCTGCCTGGTCCAGCT
36601	IL1RN	ACTGCCCAGGCCTGCCTGTT
36602	PIGH	TCATGGTGTCAAGCACATTAATA
36603	TMPRSS4	AGGGTCTGCGCCAGCCCTGTCCGTCTT
36604	SCG2	GGGGAGGAATATGCTGTGGAGC
36605	ENC1	AATGTCCCTCTCTTGGCTATTGACC
36606	SCNN1G	GATAAATCCCGGGACCTGAA
36607	HIF1A	AACCTGGAACATGACATTGTTAAT
36608	ZNF79	CCCTTACGCCCAGAGAACTGCT
36609	CBFB	CTGTAAAGCTCCTTTTCTTCC
36610	F3	GTTGCCCAGGCTGGAGTGCAGTA
36610	GPR4	GTTGCCCAGGCTGGAGTGCAGTA
36611	RPH3AL	GTTGCCCAGGCTGGGGTGCAGTG
36612	EXTL2	CAAACCTGAAAACTGCTTGGC
36613	HOXD9	CCACTCCCTCTCTTTCCTGCTCCA
36614	OTX2	GACCTGTAGAACCTCTTTTTGTGGGT
36615	TM4SF6	TCTGTTCTGCTGACAGGCAGAGAGTCA
36616	DSCR3	ACTCAGCTAATTTTCAAATTT
36617	TBX6	GCCTGCCCACCCACCCCCTCA
36618	EGFL4	CCGGCTGGGCTCCCACCTCCC
36619	CCNF	CCCTGGGCATGTGTGAGCCTCAGTTTCCTCAT
36620	COL5A3	GCTCTTTCTCCCCTCCCTCCC
36621	ELAVL2	AGCCTATGAGCTCTTGTCCTCA
36622	CSNK1G2	TGCTGAAGTGAGTAGTGTGATCCTGGAGGCCC
36623	FCAR	TGCAGTGAGCCAAGATCACGCC

36623	SLC14A2	TGCAGTGAGCCAAGATCACGCC
36624	HSPA5	TGCAGTGAGCCGAGATCACACC
36624	TNFSF14	TGCAGTGAGCCGAGATCACACC
36624	TRIM14	TGCAGTGAGCCGAGATCACACC
36625	ARNT2	TCTGGGAGCTGGGCTAACAGGCTGACA
36626	ABCG1	CGTGCTCAGCCACTCTGCCCAGCT
36627	GFER	TGGAGACCCCAAGGAGCTGCAG
36628	FNTB	TGGAGAACACAGTGGCTGGTT
36629	DNAJB9	TTTAAAAAACACGTAATTTTGCCTAG
36630	PRND	CTGCCTCCCAGGCTCAAGCAC
36631	LPXN	CACTGGTTTTCTTAGGTTTCTCCATTT
36632	TTC3	GCCACCACCATTCTCCTTCCCCA
36633	WNT1	GAGTACCTCCAGTCACACTCCCCGC
36634	EPHA3	ACGGAAGTGGTGGCTGTGGAAG
36635	IQGAP2	ATTTAGACAGTTCTAAGCCCTGT
36636	CHST5	CAACATAGTGAAACCCCCTCTC
36637	SLC2A8	TCCCTCCAGCCCATGACCCGGGGCTAG
36638	OIP2	CAGCCACCACATTTTCAAAAC
36639	MTF1	AGACCCTTGCTCCATCAGAGAGG
36640	FGFRL1	CCCTACTGCTGTGGGCTGGGGTT
36641	NCOA3	ATCATTTTCTAGCAATAACTGAGA
36642	SWAP70	TTGCCCTTTTGGAATGTGATCCT
36643	GNAO1	CAGTTTGTGTTTTTACTTTTGTCCCG
36644	NDP	GACCTCTTTCTAGCTCT
36645	SYT4	GAAATCAAGCTACCTTTTTGTTGTTG
36646	EGFL4	GCGGCACAGGCTGCACGAGTACTGT
36647	EFEMP2	AACTCCACTCTGGACAGCGCC
36648	POU2AF1	CATCCTGTCACAGGCCATGCTCTG
36649	BRIP1	GTGTGCACCACCATGCCCAGCT
36649	IL11	GTGTGCACCACCATGCCCAGCT
36649	PPP1R12B	GTGTGCACCACCATGCCCAGCT
36650	RAB36	GCATGCACCACCATGCCTGGCT
36651	ZNF192	AGCACTCCAGCATTTT
36652	VHL	ATCTGTAATCCTAGCTACTTGG
36653	NCYM	GCTCCTCCCGCCCTTTTGGACC
36654	SOX1	CTTTCTCTTGGGAAAACGGGCA
36655	ITCH	TGCACCATGAATGGGCAAGAACTT
36656	HMGB2	TTTAAAAAATGCAGGTTGTAGCT
36657	PCSK1	TCAGTCTTTCTTAGTGCCTGTGT
36658	PTMS	TGTTCCACCTCCTGACCTGCTCCATC
36659	BCL7A	TTGAGTTGTGTGTTACTGGGGGTG
36660	DDX11	GAGCCCGTGTGGAGGTCAAAG
36661	B3GALT5	TGTCCCCGCAGTGGATGCAGCT
36662	EPHA2	ACTGTGAACTTGACTGGGTGA
36663	NLGN1	CTGTGAAGCTTGAGGCCACTCAAGTTC
36664	HK1	TGCTTCCTCCCCTCCTGGCAC
36665	HTR2C	GTCAGTGAGTCAGAGGCAGA
36666	NAB1	AACCCAGATATTACTGAGAAGAGT
36667	GCH1	GCTTGAGTACCTTTTTAAATCTAGCCCA
36668	CR1	GGTCTGGATCTCCTGACCTCGTGATCC

36669	ZAN	TTTCTGTGCTTCTCTGTTC
36670	KCNJ5	TGCCACTGCACTCCAGCCTGGG
36670	PDE4C	TGCCACTGCACTCCAGCCTGGG
36670	SPTLC1	TGCCACTGCACTCCAGCCTGGG
36670	TBX1	TGCCACTGCACTCCAGCCTGGG
36671	SLC28A2	CGCCACTGTACTCCAGCCTGGG
36672	NFATC1	TTGCGAATGTATAACAGCCAAG
36673	RNF18	GACAAGCTCAGTTTTCTCTGAAGGAG
36674	TMEM2	GGCCCTGTTTCTGGGCAGCCTT
36675	TLR4	GATCCCAGCCATGGCCTTCCTC
36676	KPNA4	AAATCATCAAAATGAGATCA
36677	DGKB	ATTTGAGGGCTTTCTTCTCCATAA
36678	PBX2	CATGGCAGGAAGAATGGGGCCT
36679	AFG3L1	AGCTCATCTGGCCTCCTGTTCCA
36680	IGSF4	TTACCTTTCATACACTAGCCT
36681	PLN	AGACTTCCTGTCCTGCTGG
36682	SORBS1	TGGTTACCTTCAGGACAGTGCAGCTG
36683	BAG1	TTACCTGATTTCTTCAGGGCTGCTGGGG
36684	PDYN	GCTCAGCTCAGCATTGTGTA
36685	PIM2	TTGGGAAGGAATGGAAGATGG
36686	DSCR3	CACCTCCCAGGTTCAAGCGACT
36687	PCTK1	CTTCATTTGTCTTTTTTCCTCCTTGC
36688	TPP2	TGTAAGTGCCAGACAGCTGAA
36689	F9	GCTTCCATAGTGGAGACTTGC
36690	VDR	CCCAGCTGGTGGGAAGCGTCT
36691	SNAP23	TTTTGCAACCTCTGCTCCAAAGAGAAAAA
36692	BRIP1	AGCCTTCTGAGTAGCTGGGACT
36693	ICAM1	AGCCTCCTGAGTAGCTGGGACC
36693	PER2	AGCCTCCTGAGTAGCTGGGACC
36694	E2F2	CAGGACTAGAGAGCGAGCCGCA
36695	AOC2	TTAGAATCTGATTTCACCTC
36696	EIF4G1	AGGGGTTTCTGGCACCTACCTACCTGCT
36697	ELMO1	TCCACTGGTGGGACAAGAGCA
36698	TAF4	CAGAGTGTAATCGCATTTCTGC
36699	FAT2	ACATGTGTAGAGTGTATGTAGC
36700	ABR	ACCTCGTGGTACTCTTGCCT
36701	GFER	CTGAGAACCTGGCTTCAGTATATTTTCT
36702	KCNA7	TACGAGGTCAGGAGATCCAGAC
36703	TGM2	GCCAGCGACTGCCTTCTCCTCTCTGG
36704	GRM6	GAGGAAGAGGCTTGGGCTGCA
36705	HPS4	CTGTGTACGCCTGTTGCAA
36706	TEM6	CCAGCCCTTGAGGCAGAGGTGCCGAGTG
36707	LAMC1	GCATCAGGAACAGTGCTACTT
36708	CLN6	GCAGCTTTGGGACAGATGAGTG
36709	LHX2	TCGCCCAGGCGCCCCGCAATG
36710	GBP1	GAGCCTTCCTGTCACCCCTAACCA
36711	FMR2	GGAAGATGGAGGCCACCTCA
36712	NGFRAP1	TCTTGTGTTGCCAGCTTCTATT
36713	PCDHA1	TCCAATACTTATGCAAAAGCAAAAGA
36713	PCDHA10	TCCAATACTTATGCAAAAGCAAAAGA

36713	PCDHA11	TCCAATACTTATGCAAAAGCAAAAGA
36713	PCDHA12	TCCAATACTTATGCAAAAGCAAAAGA
36713	PCDHA13	TCCAATACTTATGCAAAAGCAAAAGA
36713	PCDHA2	TCCAATACTTATGCAAAAGCAAAAGA
36713	PCDHA3	TCCAATACTTATGCAAAAGCAAAAGA
36713	PCDHA4	TCCAATACTTATGCAAAAGCAAAAGA
36713	PCDHA5	TCCAATACTTATGCAAAAGCAAAAGA
36713	PCDHA6	TCCAATACTTATGCAAAAGCAAAAGA
36713	PCDHA7	TCCAATACTTATGCAAAAGCAAAAGA
36713	PCDHA8	TCCAATACTTATGCAAAAGCAAAAGA
36713	PCDHA9	TCCAATACTTATGCAAAAGCAAAAGA
36713	PCDHAC1	TCCAATACTTATGCAAAAGCAAAAGA
36713	PCDHAC2	TCCAATACTTATGCAAAAGCAAAAGA
36714	SRC	CTGCTTCCAGGCTGGGCAGCA
36715	ZNF175	ATTAGTGCCAACCATTAGTCT
36716	CD209	CGTCCTCCCAAAGTGCTGGGATT
36717	RBM10	TCACCCAGGCTGGCAGATCATGG
36718	GPR17	GCTAGGCTCCCAGCCTCCTTCCC
36719	ZNF216	AGTTTTGCTTTCAATTTTATG
36720	PRPS2	CAAGATCATTTCTTTCC
36721	CRACC	AGGACAAGGACCTCCAGCCAGGCTTCA
36722	POLK	TCAGCCAAGATCTTGCCACTGTACTC
36723	SWAP70	TATTATCATTTTATTCAGTAG
36724	RNGTT	CAGAGGCAAAGTGTAGACATCTGTAGG
36725	CHEK2	TGACTCCGTGGTTTGAACACGAAAGA
36726	PCDHB9	TGGTGGCACATGCTTGTAATCCCAG
36727	TRN2	GCCCTTGCCAGAATTTCCTG
36728	SNCAIP	AATATCAGGATGCCTTA
36729	SLC21A3	GATCATTCTAATGAGAAGAATTA
36730	G6PC	TCCTCCTGGTTCAAGCGATTCTCATGT
36731	CSRP1	CCCTGCCTCTTCCACTCCACCCTTCT
36732	RFXANK	CACCCAGGCAGGAGAGGGGG
36733	B4GALT7	AGTGATATCTTCTGATTTTTTA
36734	SH3BP2	ATGTGAGTCTTGTGTTCTTG
36735	GPR44	GCCAGTGCGGCAGGTT
36736	SCNN1B	CTCTCCTGGTGGCAGGCCACTT
36737	KAL1	TTGGTTCTGAATGGTTCACTGCAGCT
36738	HUS1	GGCCCAGCCAACACAGCTCTT
36739	FBXW1B	TCTAAGGTTTAACACCAAAATGTT
36740	CHS1	GAATCTCAAAATTAGGCAG
36741	CTF1	GTCGCCCAGGCTGGGGTGCAGT
36742	RXRG	ACCAGCCACAGCCTCCCCACC
36743	JAG1	TGCCCAGCCCCCTGGTCTTTG
36744	AK2	CCTCTCACAGCTACCCAGCACA
36745	OFD1	GCAGAGAACGTTCAGCACCTTTGTTCCTCCC
36746	KAL1	ACACAGACACATGCATATACAT
36747	ARNT2	TGCAGTGAACTCAGTTCTTGGCC
36748	CASP3	TCCATGAAGGCAGAGCCATGGAC
36749	FBXL3A	TACAGTCTAAAGGAAACAAAAC
36750	FMN2	CTCTTGCAAACCAATTATGGAAA

36751	PREB	AGCCCCTGGCATTTGCTGGGGAAGGGA
36752	POU2AF1	CATTGCCCAGGCTGGAGTACAA
36753	NEURL	TCTTCCTCATTTTGGAAACTT
36754	USP14	ATTGCTTGAACCTGGAAGGCAG
36755	LYN	TCTGAACTCAAGTCACCGTGGA
36756	SRD5A2	CCTGAATGCCTCCCTCAAAGGACCTG
36757	MLH3	TGCCTGGCATTCTCACCATCTTTCT
36758	ADRA1A	GCGTGAGCCACCGTGCCCGGCC
36758	APPL	GCGTGAGCCACCGTGCCCGGCC
36758	AQP6	GCGTGAGCCACCGTGCCCGGCC
36758	BENE	GCGTGAGCCACCGTGCCCGGCC
36758	GPR81	GCGTGAGCCACCGTGCCCGGCC
36759	HSD17B1	GCATGAGCCACCGTGCCCAGCC
36760	TAPBP	GCGTGAGCCACCGCGCCCGGCT
36761	SALL1	AAGCAGCTCGGGCTGGAGACATAGCA
36762	NR2E3	GCCCTCTGGTGTACCAGAAATG
36763	PRX	GTTGTTTCTCTCCCTGGGCC
36764	CALML3	GACTCTGCTGCTTCTTAAGCTCCAG
36765	ONECUT1	TTCTCATCTGTTCTACCATGCCA
36766	AGL	TCTTCAGTTCCTTCCTTGTT
36767	IL11RA	CCTGTATTTCAAATTTGCAGCTG
36768	IHPK3	GTTTTAGGTGACACAGGATGAAGCAG
36769	ZNF174	CTGGGGCAAAGAGAACTTAA
36770	PKNOX1	CTTTGCTCTCCCCGGGTAGTGATG
36771	MAK	CCTCCACCTCCTGGGTTCAAGTGATT
36772	ZNF74	CGCTCACTGCAACCTCTGCTT
36773	OTOA	TGTTCAGGCTGGGGCTGCTGGTTT
36774	CALU	GGCTGATTTCCAAAAACCACATGCTG
36775	PIK3R3	TACAGTGGTTTCTGAAGCTTTTGCAGG
36776	ADAT1	ATCCTAGCTACTCGGGAGGCTGAG
36777	MCC	GCTGGGCTCATCTTCTAGAATCTCGTTTCT
36778	MYO1D	CAGCTTGCCAGTTTCTGCCCA
36779	RECK	CTGAGTATTAAAATGTATGCA
36780	GRF2	AAGCTCCAGGGTCCCTGAATC
36781	ZNF175	ATACATACACATGAATGTGCATTTTT
36782	TNFRSF8	CGTCGCGGAAGAGCGAGGG
36783	DGAT2	CACCATGAGCTAGGTGGAGTAA
36784	CMAR	TGAAGAGCCTGAAGCTGACCCAGT
36785	LOXL2	TGCGGATCCCTGAAACCAAAAAGCT
36786	FS	AGTGCCCAGGCTCAGGTGCAG
36787	SS18	TAGTAAGTAATATCAAAGCATTTTA
36788	NRL	AACCCTGTGGCCTTCAGGGCTCA
36789	DAP	TGGGCGCCCCCTCATAAAGGAC
36790	FAT2	CTTATTTCTTCCTGTCTC
36791	NPM3	GCTTGGGTGGGGGTTGGGTG
36792	CD5	CTGAGGCAAGAGAAGGCCAGA
36793	ARHGEF7	GCAACTCTTTTTAAAAACCTGCCCTGTTGTAT
36794	BTG1	CGGAGCTGGAGGCGGAGGCAGCTGG
36795	AXL	CCTCACTGCAACCTTCACCTACCGAG
36796	CNTN2	ACTGACTCACTCCTGCCTGGG

36797	GPD1	TCTTCTCATCGTTTCACTGG
36798	MLC1	TGCCCAGCTTGGAGTGCCACATG
36799	TAZ	TCACTACCATTGTAACTTGGATGTAG
36800	CPE	TGATGGGAAGAAAAGGTACATG
36801	HNRPF	GTGCACTGTTGTAAACCATTCAG
36802	TK2	TGAAAAATGCCTGCTGCTGC
36803	FBN2	CAGCCAGTCTGCAGAAGCATTTGA
36804	NUMB	CTCTGGCAACAGAGAGGCAAAGTATCT
36805	SHANK2	AGGCCAAGGGAGTGGCAGAA
36806	KCNB1	AGAGAGAAGAGAGACTCCAG
36807	RBBP9	GTTGACCTCTTTCTCTGTAGA
36808	GLUD1	CAGCAGACATTAAAAGCCCTGT
36809	ETS2	CTGCCTCCCTTGTGGCAGCA
36810	APAF1	TTTGAGTCCAGCCTGGGTGA
36811	CBLB	CTCCTTCTTCGGGAGCGAGCTGTTCT
36812	HYOU1	CCAGGTTCCTGTAACTCCCTGCCTC
36813	CYP8B1	AACTTTGCCAGCTTTCTCCA
36814	SSRP1	CCAGCTCCCAGTTTACTTGGTTT
36815	CYP7A1	GTTTCCAGATGCTATCACA
36816	BAZ2B	ATTTTTAAAGGCTTCATTCCTA
36817	GORASP1	TTAACTCTGTAGCCTGGCAGTCTG
36818	SHMT1	ATCAAATTTTTAACCACAGA
36819	FZD4	TCTCTCATCCCTTTCCCAGGATTCCTTCC
36820	HSPB1	CTAAAAATACCCGACTGGAG
36821	NEU3	CCCTCAAGGAGTTCACCAGTTTAT
36822	LILRB1	TTTACATCAAGCTCAGCCTGG
36823	SLC12A6	TTCTTAAAAGGCCTACGTCCTC
36824	FGL2	TGACATCCTTTGAGATATTTT
36825	MUC4	CAGCCCAGGCCACCAACTTCATCGCCT
36826	IGFBP2	GGATTTTCCAGTTCTGACACACG
36827	FXYD6	TCTGCTCCTCCCTGCCCC
36828	SNAI2	TCCTGTGCTGACCAACCAA
36829	ADRBK1	AGCAGGAGGAGGTGCCAA
36830	GSTM1	GCTGCCCAGGCTGTGCAGCGCAGCTG
36830	GSTM2	GCTGCCCAGGCTGTGCAGCGCAGCTG
36830	GSTM4	GCTGCCCAGGCTGTGCAGCGCAGCTG
36831	CLN2	ATTCACTGCAAGGAGACCTCTACTGT
36832	IL17BR	CACCAGCCAGGGTATGATGG
36833	PPP1R12B	CTCGCCCAGGCTGGAGTGCAG
36834	NEU1	TGGGCAGGTCTAGTGAGCTGT
36835	RNF28	AACAATCACACAGGACACTTTTCTA
36836	IL13RA1	TGAGGCTGGGAGACAGCCGTAGTA
36837	SLC21A3	CTACATCTTCTTATTCTATTTA
36838	STAU	ATCAATAAATGGTAATACT
36839	SLC7A5	CCGCTCTCCCTGTCACGCTC
36840	UPF3B	CAGTGTCCTAAAGTTTTA
36841	CSF2RB	CCGCCTGACCTTCCTCAGTCA
36842	NCOA6IP	ATGTTGCCCAGGCTGGTGT
36843	NRIP1	CAAACTCAGGTGATTCCAGGAT
36844	DFFB	TCTGTTCTCTGGTTTCACCAGCGTTG

36845	PDGFRB	GGCTCTGCTCCTCCCGAAGG
36846	APXL	TGATATGTGTGTAAAATGT
36847	PTPRF	GTGGCCAAGGTGAATAGCACA
36848	ARCN1	CTGCAACCTCCGCCTCCTGGGT
36848	C7	CTGCAACCTCCGCCTCCTGGGT
36848	CDH17	CTGCAACCTCCGCCTCCTGGGT
36848	EEF2K	CTGCAACCTCCGCCTCCTGGGT
36848	GM2A	CTGCAACCTCCGCCTCCTGGGT
36848	TAPBP	CTGCAACCTCCGCCTCCTGGGT
36848	VENTX2	CTGCAACCTCCGCCTCCTGGGT
36848	ZNF264	CTGCAACCTCCGCCTCCTGGGT
36849	FLRT2	AAATCACTCTTCATGCTTCC
36850	CREBL2	TGCTGAGATTGAGTTTCTGCCT
36851	RAI14	AGCACAGGAGAGCTCTTTTTG
36852	DR1	GCTGCTCCTCCTCCGTTCATT
36853	ADAM19	CCTGGGTTGGGTTTAGAAAGA
36854	TLE1	CAGGTTCTTGAAGCAGCTGGGCCTGGG
36855	TOX	GGCTTGCATAGCTTTCACATT
36856	ALS2	AACTATAGTGGCCACACTCTGCCTTC
36857	XPNPEP2	CAGCATTCCAGCTGTTTCAC
36858	OPA3	TCATCTGTTACACTGGAACACCTTC
36859	CKMT2	ACAGAAGTCACAAGCCAAGTGAGACA
36860	BMP3	CCTAGCCATGGCTGGGGCGAGCAG
36861	CDS1	CCCCGCCCCTTCTCCTCCTCC
36862	FHL1	AACTCTGCCCTTCCTTCTGT
36863	HIVEP3	GGAAGTGGTGCCTTCAGCACAGAA
36864	ADAT1	AGGCCTGTAATCCCAGCACTTT
36865	IPP	CACTGCACTCCACTCTGGGCAA
36866	TPSB1	GTTGGCCACCTGGGTCACTGGA
36867	ETV3	TCGCAAACCACAGATAGTACCA
36868	ADARB1	AGTTCCCTCTGTTCCTTCCTCTGAATCG
36869	SYT1	TATCACACCACGTCTTTTCA
36870	DKC1	TACAGTGCTCACCTAAATCCATCTGAC
36871	INPP5B	GCCTAGGCAACATAGTGAGACTGTCTC
36872	PPP1R11	CCTCTCCTCCCTGTCCTGAGCCT
36873	LDLR	CACTGCTTTCCAGCCTGGGCAA
36874	DIAPH2	TAAAGTGCCGGATTACAGGT
36875	MAPK3	GCCCAGGCCGGGGTGGAGCATGGGC
36876	HADHB	TTCAATGCATTACTAAATGA
36877	RXRA	CTGAGTCTTCTCCTTGCTCTG
36878	SIRT5	TTTAGAAGTAGCAAAGAGCA
36879	TAF1C	TGCCGGTGGGCCTGTGTT
36880	OGG1	GGGAAAGGCGAGCAGCTGGCAGAGAGCCCAGT
36881	MSL3L1	CCACTGCAGTCGAGCCTGGGCG
36882	XBP1	TTCTGAAAGGTGCTTTCTCCATTT
36883	PLEK	CTGTTGCTGATCTGTAGTACAGTA
36884	HLCS	GGCTCACCACAACCTCTGCCTACTGGG
36885	OGG1	TCATGTGATGCAAGCCAGCTT
36886	ABCD2	GGCTCAAAGACATTCTGTTATACT
36887	PLXNA1	GGCTCTGCTCCCTCCTATGGAGG

36888	MC1R	GGAGAGGGTGTGAGGGCAGATCTGGGG
36889	ABCC11	AGGTTGGCAAATCATACTATAGCTG
36890	TGFB1	CCTCTCTGCCTCCTCCTGCCTGT
36891	ZNF264	CCCTAGTAATGGATTACAGG
36892	DUSP5	CCTGAAATGTTGTGTAGACACCCTCTT
36893	EDARADD	TTCAGTCACCTGGTGGCTAATTA
36894	PACE4	TAGCCATCTTGATCTGTGTTTTATTGA
36895	SRP	CCTGGGCAAAGGTGTTCACCTT
36896	TAPBP	AGCCTCCCAAGTAGCTCGGACT
36897	CHN1	GTGAACACACGCTTTCTG
36898	GPR4	CTGTGTTGCCCAGGCTGGAGTGCAGT
36898	TNFAIP2	CTGTGTTGCCCAGGCTGGAGTGCAGT
36899	NHP2L1	GGAGAAAGCTGATGGAGCCAG
36900	B3GNT3	AGGTAGAGGGGCAGAGGCGGGACT
36901	DYRK1A	CGGCTGAAGTGCAGTGGCACGAT
36902	TRPM2	GCTGGCTCTTCTGTGCTTTCCA
36903	PAG	TTGGAGCTCCTGATTCAAATTAC
36904	MAGEB4	GTCAATGACAGTGTCTCCATTGTCTTC
36905	SLC38A2	ACAATTCTTTTTAATTTACA
36906	INMT	TGAAGGCAAGGGAGAGCAGGCTGCACAG
36907	FUT1	CTGTAGCCCAGGCCAGAGTGCAGT
36908	VDR	GGTCTTTGTGAGAGTGAGCTGT
36909	TMEM1	TCCATTGTCAGCACAGCCTA
36910	SELE	AATTGGAGAGTAAAAACTGAATGGAA
36911	PSA	GCATCAGCTATGACACATCC
36912	SCN3A	ACAAAACTATTTACTGTAGTG
36913	MEFV	CACCTCCCAGGTTCAAGCGATT
36913	NUMA1	CACCTCCCAGGTTCAAGCGATT
36913	PDE6B	CACCTCCCAGGTTCAAGCGATT
36914	AP1G1	ACTGTTGTTTCTCTGTGGACTGGGCAA
36915	PPP1R12B	TCGCCTAAATATCTGTGCCTTTGCCTGTCCTT
36916	DIA1	AGACGCCCAGCCCCATCCCTGTCCTCA
36917	PPT2	TTGTGGCTGCTTTTGCTGCTG
36918	SP1	AGCCTACCCTTCCTGCATTTCT
36919	VPS26	GTAACAGTTTTGCTATATTCCA
36920	AFG3L2	GTGTGGCAGGGATCGTTGCACTGGACT
36921	WBP2	GGAGGGGAGGGGGCGCCTTGT
36922	GNAI1	GCCACCGGCGGGAGTGCAGCGGC
36923	ALDH1A2	AATAACTGCTGCAGGTGTGATTTTGGT
36924	MMP15	GGGGAGCAGAGGGGCAGAGGCC
36925	CD5L	TCTGGGGCTCAGGCTTGAGCCACTACT
36926	HSPA4	TTAGCACATCCTCTGTTCTCTA
36927	IMPG1	CACACCATATTTCAAATATAGAAG
36928	HR	CCCCTGCCAGCTCTGGCACTGCCCCCT
36929	NCOA6IP	GCTCACTGCAGGTTCAGCCTTC
36930	IRTA2	GGGGAGAAGCAGCATTGAAGTGGGAAGAT
36931	PCDHA9	CTCAGGAGGCTGAGGCGAGAG
36932	WHSC1	GGCTTCCATCTCAGCACTCTG
36933	XPA	ATTTAAATAAAGGAAATTTAGATT
36934	TBL1X	GGACGTTACAGGGTGAAACCCTC

36935	NAPB	TGCAGCTAACTCCTCTTTAGTTTT
36936	PRSS16	CTGCTCTATTTCTGACTCTCAT
36937	CHD2	GCTTGAAGTTGTCTCACAGCT
36938	KIF1B	GGCAGGAGAACTGCTTGAACCC
36939	PPP1R12B	TGAGGACAAAAAGGCAACATTAA
36940	EYA4	CTTGGGAGTGGCAGGAGAAGT
36941	SHANK2	CAAGCCACATGCCACTAACCAC
36942	AMPH	AAGCAGTCTTCTCTTCTGCCTTT
36943	FBXW1B	GGCTGTCTTGGCTCTGGAA
36944	RAG1	CAGAACAGGAGTAACTGCAGGGG
36945	GPC1	AACCTGACTTTAGATGTTTTGGGATCA
36946	TPM4	CCAGCCTGGTCGACAGAGTGA
36947	NP	AAGATTCCTGTCCTTCACCTTTC
36948	COL13A1	GCCGGGAGCAGCGGAAAGGGACGTTTT
36949	VPS41	CTCCGTCTCAAAAAAGAAAA
36950	KCNA3	GCGCCAGACCCAGACAGAGCAT
36951	EIF2C1	TTCACTCTTGGCTTCTTTTCTCCC
36952	TNF	GCTCCCCAGGGGAGTTGTGTC
36953	PIK3CG	AATGTCTGTGTTTCATTGTCTA
36954	PLIN	GTCTTTCTCCCCGAGCTCCCCTGTTCC
36955	TACC1	CTCTGCCTTTTAGTGGTATCTGAC
36956	TFDP2	CCAGGAGAGGGGAGCTGTG
36957	LZTFL1	TGGCCTCTCCCGTTCCTTTAGGCTG
36958	CCND2	TTCCTCTGATCACATTCTTCA
36959	SLC16A1	CTGCCCTTTTTGAAATCACC
36960	APM1	TGTGGCCCTGGCTGGAGTTCAG
36961	CACNB1	ATGCCTTTGCTCAAAGCTTGG
36962	KAL1	ACACATTTATAAACATGGATAC
36963	CMAR	GTGCGGGTGGTCCGGGAAGTG
36963	SPG7	GTGCGGGTGGTCCGGGAAGTG
36964	EBI2	TTTTCATTTTTATTTGTAAAC
36965	ADAMTS9	TCTACCAGTGACCTCAGGGCACTTTGG
36966	FZD4	CATTTTGCTCCTACCAAGGATC
36967	PPP1R12B	CTTTGTCCACATTGGATTTGGTCCAA
36968	BTG1	ACCATGTCACAGCTGTGAAGATCTGG
36969	PRKY	CACTGCACTCCAGCCAGGGCGA
36970	CENPB	TGCCTCTCCTCCCTCTCTGGCA
36971	RPS6KA2	GGAGGCGGAGGGAGCGATTGTGGCCC
36972	RABL2A	GTTGCCCAGGATGGTCTCGAT
36972	RABL2B	GTTGCCCAGGATGGTCTCGAT
36973	PFKFB2	CTTTCATGTCCCCTCTGGATTG
36974	DSG1	TCAGTCCTTCTCCCAGAGGAAGGCAGA
36975	CHS1	TGTTTACAGTACTACTTTT
36976	SORCS2	GACATGGCGAGCACAGTGCAGG
36977	MTF1	TTATCAGAAGAAGGTGCAGATT
36978	CLN6	TTTTAGAGTGTTTCTGGGCC
36979	ACK1	GCTCCCGGGGATGGAGCAAGG
36980	APM1	TCACCCAGGCTGGAGTACAGTG
36980	TRAF5	TCACCCAGGCTGGAGTACAGTG
36981	HUS1	TCACCCAGACTGGAGTGCAGTG

36982	MAGEA3	GCATCCCTTAGTTTCCACTGCCTCC
36983	RYR3	TTAAGTGCCTTAAAACCTC
36984	CLASP2	AGCAAAACTTTCAGCACCACTTGCTGGCAT
36985	GFAP	CCTAGGCTGACCTTGAACTCCTGGGCT
36986	PRKG1	ACTGAGTCCTTCACTGGCAT
36987	RAGE	GGAGCGCCATCATGTCTTACCAG
36988	TXNRD1	TCCCGGGAAAGAGAACTGTCCTGCAG
36989	ZNF236	AATAACTGTAATTGTGCT
36990	HDAC4	GCCTTTTCTTTGAAGACACACTCG
36991	LARS2	CCTGCAGTTCAGCAGTTAACAGATGAC
36992	GPR85	TTATATTTTACAAATGCTAGATATTGG
36993	DUSP4	TTTCCGCTCCTCTTCCGACCTGTCCACC
36994	IL1F5	AGGGTATGCTGATCCTCTTTT
36995	SERPINF2	CCTCTCCTGTCTCCCTCCTCTGCCCG
36996	SOX3	AACAGCCCCCACTCCTCCTCC
36997	XRCC2	CCTAGAGTGCAGGGATTACAGG
36998	MAP3K11	GCACAGGAAGCCTTCACACTGGAA
36999	SMG1	GCCACCGCCTGCTCCTCGTCCTCC
37000	SORCS1	AAGATTCAGGGCAAGCTAAAAA
37001	TEC	TCTCCCAGAGTGTGGAAATGT
37002	MEL	GACAAACCATTTTGCCCCCTCA
37003	TRPV1	TCATCACCGAGATCCTCCCTGA
37004	SULT2A1	GGGATGCAAAGGTTGCAGTGAG
37005	CORO1C	AGAAACAGGAGCACAGACCT
37006	LRRC2	CCCAGCACTATGGGAGGCTGA
37007	D12S2489E	ACCATCTCAATAAAAGCCAGGAACA
37008	CHAD	ACCCAGCTCCACCCAGCAGTG
37009	RAB27A	AGCTTATAAATTACTCATC
37010	AVP	GCCTGAGTCCCCATGCCCTGCT
37011	HS3ST3B1	GCCGCCGCCGCTACAGCTGCC
37012	GAC1	ACAGCTTGAGGGGGCAGAGGGCTG
37013	CYP1B1	TGTTTATTAAATGCTTCATT
37014	PAFAH1B1	GTTATGTCCCCCTCTAATTTAGCCGCT
37015	HS3ST3B1	TGTCCCTGGCCGCGCCCGCGGGC
37016	HGF	AGCTAGATACAAGATGCAGCTAAGTAT
37017	SHOX	GCTCCTTCCTTCATCCCGAGAGGC
37018	ITPA	GAAGTTTTCTGTCACTGGA
37019	DHCR7	GCGTGCACGGTGTTGAACTGGGACACTG
37020	LBR	AAATGAAAACACTGTTCCATTT
37021	TRPM8	TATGTATGTCTCAATTCTCT
37022	NGFR	ATAGGTCAGTGAGGCCCAGGGA
37023	ATM	ACCTATAATCCCAGCACTTTG
37024	GRB2	GCTGCCTCTGACAGCAGCCTGTG
37025	CD22	TGGCTCAGAGCCAGTCTTTT
37026	F7	ACACCGATGTACACACACAGATGCAC
37027	DBH	GGGGTGGAGTCAGGGCTGTGC
37028	TAZ	TCCTGCTCTGCCCAGGAGGTGGCGTCC
37029	FANCF	GGTGCAGGCCACCATGCCCGGCT
37030	WHSC1L1	GATGTCAGGAAACATTCAGTGAA
37031	XT3	CAAGATCATGCCACTCCACTCC

37032	MUC4	GGTCTCCTGCCCTTGTTCCT
37033	GPR41	AGCTGGGGCCCGATGGGGCTTGGGGG
37034	BLNK	GAACTGCTGACGTGACCACT
37035	GJB1	GTGGGTGGAGAAGGGAGGGTGGC
37036	RAB26	CCAGAAACAACAACTGCCAGCCCGGCC
37037	SLC28A2	GGCGTGAATCCGGGAGGCGGAG
37038	CLASP2	CATGTGGGAGAAAAAGTGAGGA
37039	KCNJ16	GAGGTCAGGGAAGGAGTAACTC
37040	OXCT	TTCTTCTGCCAAGGCTACTT
37041	YWHAG	GCACTTGGGCTCCAGTCGCGCC
37042	VARS2	GTCCACCCTCTACGTCTCCCC
37043	ITSN2	CGCCCAGGCTGCCGGTGCTGAGGGAC
37044	BCL2L10	CTACCTGCCCAACTGTGACCAACTAA
37045	HOXA11	GGTGTGGTCTCCACTGGGGATTGGGCCCC
37046	PPP1R2	TCTCTCACTCTTCTGTCATTTGC
37047	HHLA1	CTTATCTCCCTTCACTGACTCTCTTTT
37048	ADCY1	CCAGGGTTACAGCAAGAGCCACTGA
37049	ACPP	CCTGTAATCCTTGCATTTTGG
37050	ZNF36	CTCTTGGACTCTCGGCAACCACAACA
37051	ATP1B3	GTTCAAAATCACAGCACGTGCA
37052	SPAG1	CAGTCCCGGCAGGTCCTGGCGCCGCT
37053	BRIP1	GTCTCGAACTCCTGGCCTCGTGA
37054	SLC21A3	GAGCAAATTTACCTTTCTCTCCA
37055	TMEPAI	CCCATCATCCTCGCGCGTCCT
37056	PCDHGA8	TAGAGCACAATGGGAAATGAAAGTAT
37057	RNF3	AGGCTGGAGCGCAATGGCCCTGCCGT
37058	SUV39H1	TCTACCCTTAGAAGTCTGAGGCC
37059	EML1	CCTGTACGACACGTCCTCGCTGCTCCA
37060	RFC3	ATGTTCTGCTTCTGTCAGTTA
37061	TEM7	GGACAAGGTTGTAGCTGTGCTCAG
37062	NOTCH2	GGGAATTATGCCCTGGAATTCTGCCT
37063	DLEC1	TCCTGCCTCTGGTCCCAGCATCCAGC
37064	MEN1	ACCGTGTCTCAAAACAAACAAACA
37065	HIP1	TCAGAAGAAAGCCAAGGTGCTGGACT
37066	MCL1	ACTTTTAGATTTAGTGAAGATGGT
37067	TNFSF8	GGTCACTCTCAATTCACTGGCA
37068	JAM3	AGCAAGGAGCTGCTGAGAAG
37069	FUT6	AGGCCGAGGCAGGCGGATCACA
37070	STIP1	GCCTCTGGGCCCTCCCAGCACA
37071	BCL10	GGCTCACTGCAACTTCTGCCTC
37071	PRKR	GGCTCACTGCAACTTCTGCCTC
37072	CFL2	CCCAAGGAATGCCTTC
37073	SNX6	GTTTGCTTGACCTCTGCCTCA
37074	CNTN3	TTACATTTAGAGATTACATTTAA
37075	UNC5C	TGGAAGGGGAAATGAAGGAC
37076	BIG1	AGCTGAGGTTTCCTACCTGA
37077	PSMD5	CACCTGTTTTCCAGTGTTCTTC
37078	NBS1	CTTGTGGAAGTGCATCTACTTGCCA
37079	RARB	TGCTCTCAAACTGCATCTTTTATTTCA
37080	PRPS2	ACATTTATGAACCAATGCGA

37081	CDC7L1	CGACCCAGGCATCTGGGGAGC
37082	HOXB7	GAGAAAGGGAGAGGAAGAGAAGC
37083	OSBP	AGGGGGTGACGTGGCAGTGACAGGCG
37084	CASP6	ACTCACACCTGTAATCCCAGCA
37085	PLXNA1	GCTGAGCAGGGACCGGGACAGCCCT
37086	FMN2	ATTGCTCTTGCAAACCAATTATGGAA
37087	SNRPN	AGGTCTTCAGAAGCATCAAGT
37088	RALBP1	TCTTTCTGTGAGGAGATTGAGT
37089	BRCA1	TATACCACCACTTTTTCCCATCA
37090	ADAM33	TGCAGTGAGCTATGGTGGCACC
37091	P2RX7	GCTTTCATCTTCTGTTGCTCTC
37092	RHO	GCTTTCACACTCTATCCACA
37093	MPP2	CTTCATGGCACCTTCACTGC
37094	MTMR4	CTCCTCTGGGTCACATTGCTTCTTA
37095	ICA1	CTGACTGCCTGGTTCAGCCTCTTCGC
37096	RFC1	GCCACTTTTTACTCTCCCTCCTGACC
37097	MKI67	TGTCCTCCAGGCTGGGGCAG
37098	ARHGDIA	CCCCATCCCCGGTCTTCGTGTTGTGT
37099	ZNF36	ATTTCAGAGATGTGTGCTCCT
37100	HPGD	GATCAAAACAAATGATTTTCAAGG
37101	CISH	CCCACCTCTATGCCCTGAGCCCTGG
37102	WIG1	TGGCTAACACAGTGAAACCCCATC
37103	TNNI1	GGCAGGCGGGTTGTACTTAGTGTGGT
37104	CTNNA2	AAGCTTTTTCTTTCTTTTCTTT
37105	LMAN1	TTCTTGAATGTTTCTTCATTCCA
37106	STX1A	GGGAAGAGGCAGAGGGAGGCAGC
37107	MAPRE2	GTTCTGCTCTTTTCTTCATTCCTTTCC
37108	SORT1	TGCAGGGTGGGGGTGGGGAACCCTGAG
37109	CPD	TCTGAGTTGTGCCTTTCTTTACTCACAAGG
37110	KLHL3	CACTGCCTCTACTGGGCGTGCTGCCAA
37111	ABCG1	TCGTGCTCAGCCACTCTGCC
37112	ZNF80	CTTGAGTTTCCCTGCAGTCT
37113	HYAL4	TGGAGCCATTGCTGGACATCCTTTGCC
37114	SPAG8	CTGTCTCTATGGCAACCCAGTAGCT
37115	ATP1A2	TTACCCTGGGCTGGAGAGTTGGT
37116	ANXA4	TGTTGAAATCACTTTCTG
37117	WIG1	CTGCTTTGTGGTCTTTTTGA
37118	MMP15	GGGCCTGCCTCACCACGGACCAAAGGG
37119	SOLH	TGAGGGAGACCCCGACAGAGGAC
37120	WNT11	CCACCAGGAACAGAAGGTCTGG
37121	FGF5	CTTCTATGACTCTCTGCTATCCCACT
37122	CACNA1G	GCTCCTCCCTGCCTCAGTGGCT
37123	SIRT1	TTATATTGTACATAGTCTTTTA
37124	IMPA1	GCTCTGCAGAACTCAAAAAGAA
37125	DUOX2	GTCCCTGGGCTCTGGGGCTGAAGGA
37126	PRKDC	CAGAAGGCTTCATCACCAAGAT
37127	IL16	GACCCAGGCTGGGCAAGGAGGCCACG
37128	BAZ2A	GTATTCATCTTCCCTTCTA
37129	BECN1	TGGTAGTTCTGGAGGCCTCGC
37130	RAB7	GCAGATATGGGACACAGCAGG

37131	SGCB	GAAGAAAATATTTTGTAAAAG
37132	TTC3	GTTGGAGCCTGCTCTTTGAACTCCG
37133	KCNN3	AACTCTCTCCTGGTCGCTTTGCCA
37134	RABIF	CCTGGGCAACAGAGTGAGACCCTGTCT
37135	CHST2	GAGACCTGATTCCCTGTGGTG
37136	COX15	CCTGGAACTTCCTCCTCTCTCGC
37137	HOXB5	TATTTTGAGTTTCAGCTGGAAA
37138	THY1	GAGAGTGAGAGCATGTGAGGGGTAGTG
37139	ENTPD3	AGAGTCAGCCTGGGTGGCACCAG
37140	PPP1CC	TTGAGAATTTTGTTTCAAAGGGA
37141	ANK1	CTGTAGGACTCAAAGGGAGCCAGG
37142	GRLF1	GAGCTCCCTCTGGGGACGGCTGGCTCA
37143	HSF4	TGCACATCCTTCTTGGCTTCC
37144	C21orf2	TTCCTCTGGGAAGAGTCGCAAG
37145	MAP4	CGGCGGGCAGTTGCAGTGGTGCA
37146	TARBP1	GCTGCTGCTGTTCAGACTTTTTT
37147	MTBP	GATCGGTACCTGCTGCTGGTGA
37148	SLC7A5	CTGGGAGGGGGTGGGGGATCTGGGCAA
37149	SIP	GATGCCACTGTACTGCAGCTT
37150	FREB	TCTCTTCCTGTCCTGCACA
37151	PRKY	GCTGTCTAATTTATGTAATA
37152	SHOX	GATGGGGTTTGACCATGTTGGCC
37153	STAU	AAAGGATGTGGGCAGCAGC
37154	TAL1	GTTCTGTCACTCAGGCTGGAGTACAGT
37155	GTF2H2	TGAGTTATACTGTTTTCAAAGTCA
37156	CDC34	TGCCTGTCAGCTCCAGGTCCTGGAGCC
37157	MECP2	TTGTCTCCTCTATCCTGGGCTT
37158	GUCY1B2	AGCTCTCTGGTAGCTGGGGAA
37159	IQGAP2	GTGAGTGCCTACAGAAATTTC
37160	SUFU	GCCACAGGAGTGCCCACAGGGTG
37161	CYP4F3	TTGAGACAAGTGTTCAAACAGA
37162	KCNK3	CACTCCCCTTCCTCATCCCCAG
37163	RBM3	GCCAGCCTGACCAACATGGTGA
37164	RPL29	AACATGAGGACAGAAGGACTGG
37165	SLC22A7	GCTGGGAGAGCAGAAGGGCAGG
37166	GGA3	CCTGGTTCCTCCCTGCCCC
37167	SMARCC1	TACTGTGGTCCCTTGTAACCTCAGGTC
37168	BCL2L2	GGGCCTTTTTTGCTAGCAAGTG
37169	RPS6KA2	CTCTCATACATGGCTTCTGTT
37170	NOTCH4	TATTGGGCACCTACTATGTGCC
37171	CTLA4	GCTGGTGGTATCTGAGTTGACTT
37172	RASGRP1	AGTCCAGCAAGGGCCAAAGA
37173	POU2AF1	TGATAGTGAACGTGTACCTTGG
37174	CALCR	TCTCATTAAAATCCAGTATTA
37175	KCNG1	CAGCAAAAACTTGCTTTAT
37176	AFG3L1	GATGTGGTGGCCCAGGAGGCGG
37177	PAX5	TGCCTGTCCTCCAGCTGTCTGA
37178	GRM6	CGGATTACAAACGTGAGCCATCGCA
37179	DAP	CTGGTGAGGGCAGAGGCAGA
37180	GPRK7	TTTAAAAAACTAATGCCTGA

37181	CNTFR	AGCTAACCCACCCACCAAAG
37182	RAD23B	TACTTTGGAAAATATACAATCA
37183	MYOZ1	GGCTCAGACAGTTCAGTGGGAGAATCC
37184	KCNE3	AGATATGATTTACCACCACC
37185	STK10	TTCTTGGTTTTTCAGCCATTCCC
37186	HSPA1L	CTCATGCACCACCTATCACACTCCCT
37187	HCFC1	CCAACTTCCTGTTGCTGGCCCCTGCCC
37188	KCNS2	GTGGTGGTACAGACTTATGAGG
37189	GAS7	AGGTGAAGATTAGGGCCAGGA
37190	PTTG1IP	TTTGGGAAAGTAGGTCAGCAGC
37191	TARBP2	TTGGGTTCTGTAGTTTTCTCGCGA
37192	MAG	CCTGCCTGGTCTCCTGCCCC
37193	CLOCK	AACTTTTAGTGGTTCTGTGCCTCT
37194	CKTSF1B1	GACCCAAGCAAGTTAGCTAAACCA
37195	WFS1	GCTCTTCAGCAGCGAGTGCAGA
37196	XT3	GCCATGACACGATGGCCAGATCATGG
37197	TACC1	TCCCTCCAAGCTAGGGTTT
37198	MIA	TTTCTACTGCCAGTGGCTCAGCC
37199	GSPT1	CAGAAGCCTACTTCACACCGCCTTCTC
37200	SLC1A3	AGTTTTAGTTTCAAAATGTTAACA
37201	FSTL1	TAGGTATTAAGCTTTTGTAAT
37202	CAMK2A	TGGTTGGAGCAGAACTGGTGAGGAT
37203	BCL10	CTCCCGCCTCCACCATGGAG
37204	NEUROD1	GTTTGTAATCCTGTATATTATGG
37205	SMURF1	TCGCAGACCTTTCCAGAGCTCCG
37206	PPP1R12B	CCTAAATATCTGTGCCTTTGCCTGTC
37207	GOLGA5	GGCGGGTCGGGGAGGAGGTTTACT
37208	MEFV	CTTGTCACCCAGGCTGGAGTGCAGTG
37208	PCDHB16	CTTGTCACCCAGGCTGGAGTGCAGTG
37208	VHL	CTTGTCACCCAGGCTGGAGTGCAGTG
37209	HDGF	CCTCAGTGTTGTCACCAGATCTG
37210	LPP	ATCATGGGCTCTGCAGAACATATCA
37211	KLHL3	TCATGGATATAGCATCAGCCATGGCA
37212	SFTPD	TTGGAGCTCCTGGGGCCTAAC
37213	TSTA3	GCTCTGCAGCCCCAAGCATCTTTCCA
37214	TERF1	GCTCACTGAACCTCTGCCTCC
37215	RUNX1	GGGCCGCCTCCCCTCTCCTGGG
37216	PIK3C2B	ACTCACTGCAAAATCTGCCT
37217	SHC1	TTTGTGCCTTTGACCATCTCTTAGG
37218	PPP3CC	TCCATAATTTTAAGAAATGAATCTGATT
37219	OGG1	TTCTCTCTCCCCATCCCCACCCA
37220	CNTN2	CAGACTCTGCTCTCCCAGCACTG
37221	SLC22A7	CTAGAGGGAGGCTGCACCTGAA
37222	CPS1	TCTCCAGGCTGGAGTGCAGT
37223	AQP6	CCTCCCATCCTCTCACCCACTG
37224	ENC1	AAATAGGGGTTAAGACTGATA
37225	TNFRSF10D	CCCAACAAACTCTACTATCCA
37226	REV3L	CTTCTATGCTAACCGAATTAA
37227	NOC4	CGCCGCCGCCTCGTCCCGCTTCTCGG
37228	NARS	TCTCCACCAAATGCATGTCATGTATTC

37229	HDGF	GAGGAAGAGGCCTCGCG
37230	DUOX2	ACCATAATGCCTTT
37231	CXCL16	ATCTGCTTTTCACACTGGGTGA
37232	MYD88	CCTCTCATCTGCATCTTTCACACCTCCC
37233	PIGA	TATTCTCACAGTAAAAGAGGGGG
37234	ASB1	GCCTGTGGCCCAGCCTGGCTG
37235	EBF	TTGACAAAAGCAAATCCACTTTTTCT
37236	CD3G	GGCCATCAGAGCAAATTTGGGGGT
37237	SHFM3	CTCCTCCTCACTGCCCCACTGTGC
37238	ANXA4	TTTTAAAAGATTACTTTCTA
37239	PCDHB15	CCTTTGTCTGATTGTTAGTTTT
37240	P2RY4	GCAGGGCAGAGGTGAGGGAA
37241	PCDH15	AACATGTTGAACTGTTTTGCTTTT
37242	STE	AGGCTGGAGGACAGTGGCACAA
37243	COX15	AGCTCACTCTGCAACCTCCACTTC
37244	PACSIN1	CGGGGGCTTGGGAAGCAGACCAGGGT
37245	MLANA	TTTCTCTCACACTTTTGCTTGAATTT
37246	F2RL3	AAGTGGGGAAGGCTGTACTGGG
37247	TPD52L2	GGCCTGCCTGTGGTGTGCC
37248	FUS1	GGGGCTTCTCCCTCTACCCAGGG
37249	CHAC	TAACAATGCCTACTTTCCATTCACT
37250	TOP1	TGTGTGCAGAGTCCATTTCCC
37251	EGFL3	CCGGGGCTGGGATTGCGCGC
37252	HMOX1	GCTTCCTTACCGTGGGC
37253	PIGR	GTATGCCACCAACACTGCTCAC
37254	MLPH	GGATCCAGTGGGGCAGAGGACAG
37255	PES1	ACCAGAGTCACTTCTCCTCCTCC
37256	RAB5C	CGGTCACCCCAACCTCTGGCTC
37257	SAS	GGCTCACCGCAACCTCTGCCTC
37258	KCNA3	GACATGCTGTGCTCAGTAT
37259	MAFF	CAGTGGACAGGGACTCAGAA
37260	CLDN5	CATCGGCAGGCCCGAGCCCAG
37261	ACADM	TAGTACCACTTTACTTGA
37262	ATP1B2	CTGGCTTTGGGACTATTCCACCTCCTT
37263	PLD2	TCTGCTCTCTTGGCTCGGGAACC
37264	ANK1	AGCCTGACAGCGCAGCTCCTGA
37265	TIMP3	GGAAGCGGTCCTGCTGGGGTGG
37266	SOX4	GGACGTCTGCCTTTTTAAGGCAGTTCC
37267	EPM2A	GTGAAGTCCAGCTCCCTTGCTAAAAATAAC
37268	CELSR2	GTGGGCAGGAAAGAAAGGCTCCTGTTTC
37269	GOT2	AACTCTCCCCGGTCCTTTTTTCTCC
37270	SUFU	CTTGTGACCCATCAGGCCAGTGA
37271	CASP6	TAAAGGTTTTTGAAATCCAGG
37272	TFE3	TCCTTTGTCTTGGAACCACCAGTCTAG
37273	PAFAH1B1	ACATACTTCTAGTTGTATTCTCCA
37274	PCDHA2	TTTTGCAAAACATGCTCTTCTAATTTGA
37275	G6PT1	CTTGGCTGGTAGGGCCTGCTCTTTTCTACCAT
37276	ADARB1	TGCTCTGCCTGCCAGTGCAGTG
37277	MAPK10	TCTTTACCAGTATCCTTAATC
37278	HTR1D	CGCCATCTTCACATTCTGAA

37279	MXI1	GCTATTAAAACTCAGCCTGGG
37280	KL	ACTCAGAAAAAGAAGATCC
37281	KCNQ2	GCCCAGCTTCTCCTTCTCCCTCTG
37282	ANPEP	CCCTCAAGGACAAAGTCTCC
37283	JRKL	TTCAAAAATGAAATTCAAT
37284	EGFL5	GTGGTAACAAGATGATGAATGTGGAG
37285	SPAG8	TGCCATCAGGAAATGGGAAG
37286	MSL3L1	TCAGTGAGTTAGGAAGTCAGCA
37287	NPTX2	CTGGGGCAGTGTCTGTCACT
37288	PACSIN1	AAAAACCATAAAATCACTGGG
37289	TRAF5	AGTATTTTCATGAAATTCACC
37290	HMG20A	TACTGCCTGCTGTTTTCTAAGCATTGCTCCTG
37291	SLC22A5	GAAAGCTACTGAAGTGCCTT
37292	FREB	TCTCTTCCTGTCCTGCACATATGCAT
37293	RABIF	CTCCATCTCCAAAGATAA
37294	ALPP	ATAATAAAAGGAAGTGTTAGA
37294	ALPPL2	ATAATAAAAGGAAGTGTTAGA
37295	MME	TCTCTCAGCCTTACATTTGTG
37296	GP2	CAAGGCCAGGCTAGGTTAGGAAAAG
37297	VIPR2	TTCCTTTAAAAATGAATGTCTTGTT
37298	MTMR3	AGCACTGCCCTGGGCATCATCT
37299	PHKA2	AACTAGGGTTTTCTCCTGCCTTAG
37300	ERBB3	GTCCCATTCCTCAGCTTC
37301	ARHGAP6	TCCAGTGAGCGATTGAGCTTCCC
37302	ZNF236	CTGGCTGTAGCCGCATATGCAG
37303	CD164	TTAGTAATTTTAATTTAGTGAA
37304	SLC22A3	CTGTACCCTCTACCTCCTTC
37305	CALCB	TCCAGAACTGTGAGAGAATAATTTC
37306	RNPEPL1	GGCCTCCAGCCTGGGACTGCTGT
37307	GLS	CTGCCCTTTAGCTGCAGAGCT
37308	PCLO	CACACTGCCACAGCAGCACAT
37309	CPD	ATGCCTGATTCTTTAATATTGCC
37310	ALDH1A2	CTCCTGTCTTCATTTTCCTCCTTCCA
37311	CYP1A2	GGCTTCCCAAAGTCCTGGGATT
37312	NCOA6	GCTACTGTGCCCAGCCTGCAATTAT
37313	EXT1	GCGCTGGATCAGTCCACGGCTTGGG
37314	PCDHA9	ACTAAGCATTTACTATGTCATCA
37315	CRACC	GTCACATTGTAAATCTAGTGTAGGAGA
37316	HMOX1	CGTGGGTGGGGAGGGAGGTGTTTAACG
37317	ZNF155	TGTGCATACAATTTATAGTGAT
37318	FUT6	CGCCATTGCACTCCAACCTGGACGACA
37319	ENO2	ATGCCACGTTCCACAGTTGCCACCA
37320	FLII	GCACAGCCCCAGGCTTG
37321	ATP1A2	TCAGGAGGCTGAGGCAGGAGAATTGCT
37321	CTMP	TCAGGAGGCTGAGGCAGGAGAATTGCT
37321	DAPP1	TCAGGAGGCTGAGGCAGGAGAATTGCT
37321	LRRC2	TCAGGAGGCTGAGGCAGGAGAATTGCT
37321	NT5C2	TCAGGAGGCTGAGGCAGGAGAATTGCT
37321	PPP2R1B	TCAGGAGGCTGAGGCAGGAGAATTGCT
37322	MYH6	CGTGAAGGGATAACCAGGGGA

37323	STX1A	GGGAGGCAGCCAGCGGGGCGTGATGCA
37324	SEPN1	TTCAAACCCACATGTGGCTCCAAAGTC
37325	ASB1	CACATGCGCTTGTCATACACGCCCCT
37326	RFX2	AGCCCAAACCTTAGTTGAAATCAGAC
37327	ZNF91	CCTGTGTGGCCCTGTGACCTGCAGG
37328	E2F3	GACTGCGGGAATGAGGGAG
37329	HYAL1	TGTCCTTGGTCACTGAGGC
37330	MYCBP	CTCTGGGTTCACACACAAGCTGAGAT
37331	MAN1A2	AAGCGTCGAAGGAGATCAAGTGA
37332	GRINL1A	AACATAGTTTGTGGTATTTCAG
37333	TCF20	TTGCCAGAGCTGGCAGTGTGAGCTGT
37334	GPR4	CTCAACACTTCCTCATGTATTTC
37335	UBE2L3	AGTGGGGAGTGATGGGCAGG
37336	COX15	TGTTGCCCAGGCTGGAGTACAA
37337	FLT1	ACTGCTTTTATGTTCTGTCTCCT
37338	WBSCR5	CCACTGTCCAACACTGGTATC
37339	SIX6	TCTTCTTGCTTTGCTTTTTC
37340	E2F3	CAGCTCTTCTTAGGAATATTTA
37341	ENPP3	TTTGAAACCACTATTTACTTA
37342	FCMD	CTGAGGCTAAAACCCAAGACTGCCG
37343	MC1R	GGGAAGAGGCAGGGAGGGAGCTGAG
37344	ARSD	CCACTGAACTCCAGCCTGGGCCACATA
37345	NOV	CGAGAGGGGAAAGCCTGAGCA
37346	EXTL1	TTGAGGGCAAGGTCAAGGGGTGCA
37347	KMO	GGCCTCATGTGATCTGCCCACCTCA
37348	GNAI2	ACGCCACCATTCCTGGAAACCACAG
37349	LOXL2	GAAACTTGGAATAAAAGAAAGAT
37350	CASP2	AATGGTGTGTTTCCCTAGACTC
37351	RTN3	TCCCTCTCCCCTGCCCACCTCA
37352	CCND2	TTTTGCCCTCTCCTTAGCTC
37353	BCAR1	TCACCAGACGGGGCTGGAGTGTGAGGG
37354	KCNK3	GGGGTGGGGGCTGGGTGCAGTG
37355	TCF21	AGCCTTGCTGGTCCAAGTGCAATA
37356	EDAR	AGTAAATATCTACTCACTCATA
37357	DLGAP2	GCTGCCAGAATCCAGGCTGG
37358	PRPF18	AGCTGATTTTTCTTTCTTGCTTTCAT
37359	BCL3	GGAACAGCCACTCCCCTCCA
37360	COG2	CAAGAGAAGAGTTGGACTTCCAG
37361	FLG	GGCAGGGATCCCACTACG
37362	KRT6B	GTCCTCCCCTGGCCTCCAGTCTCCCCT
37363	EML1	ATTTATTGTTTACATTGGGGA
37364	HYAL1	TATGGACACTACACTGGGGCCCTTCAT
37365	ATM	GAGCGAAACTCCATCTCAAAAA
37366	GPR1	GAGTAAAACTCTGTCTCAAAAA
37367	VPS41	GAGCAAAACTCCGTCTCAAAAA
37368	PKIA	TCAGCACTGCCCCCTCTCTGAT
37369	FNTB	TTGGAGAACACAGTGGCTGGTT
37370	MAPT	CAGGCTGGGTGTCTTGGTTGTC
37371	ARNT2	CCTCGCCCTGCTTGCCCTGCCGC
37372	PKNOX1	TCATTTGTTTACAGGGTCGG

37373	TMSB4Y	GCGCTGTGACATTTTCACAGCCCT
37374	CA12	ATCACAGACACTGCACAGACCT
37375	ROCK2	CACTGCACTCCAGCCTGGGCAGCTGAA
37376	SYN3	CCTCTAGGCCTTGCCCCACCTCCATC
37377	BCL10	GGCTCACTGCAACTTCTGCCT
37377	PRKR	GGCTCACTGCAACTTCTGCCT
37378	SLC25A15	GGTGGAATATAGTTCTGTCAG
37379	NDUFA7	TTTGCCTCCTTGGATTTCCTCCAGGGAGAATG
37380	C1orf1	GGTGCGGTGGCTTACACCTGTAA
37381	ABL1	TGTGACGTGCACTGTGAAT
37382	EIF5A2	GAAGCGGGGAACATGTATTTTTT
37383	MYO1B	ACAGTGTCTATTTTCATGTCTG
37384	RBBP9	CTAATTTGACCAAATCTATAGTCA
37385	PAFAH1B3	GCTGCGGCGCCAAGATGAGTGG
37386	NR2E1	CTGCCTCTGAGACTGCGGTA
37387	NOC4	CACGTGCCTGCAGGGCCAGGAAAGG
37388	ABCG5	GTTTCAAGGATTCCTGACCATAAGTGAC
37389	CSNK1A1	TTACAACTGAACATGTAT
37390	EXT2	TGCCTTGGGACCTGGAGTGCTGGGCTTGT
37391	ZFHX1B	AACATGGGTTACCTTTGCACCAG
37392	TNFRSF8	AGTGATAGTTTCTGAAACCGCT
37393	PROS1	ATCTTCTTCTTGGCAGCTGCAGTC
37394	HTR7	TAACTCAGGAACAGGTCTCAGGAT
37395	PSG3	AAACTATTCAGGAGTATTCA
37396	SFTPA2	AGCTAGCAAAATTACTACCAGAGCCGT
37397	MAF	GCAGCTCGCGGAGGATCTTCCCG
37398	FOS	CCGGCACCCACAAGTGCCACTG
37399	TBX1	GGAGGCTGCAGTAAGCTATGATCA
37400	SKI	GGCTGCAGCATTGGAACAAAAG
37401	AF3P21	GCTCCCAGCTACACCTTGCTGTCCTCCCTTCC
37402	SORBS1	GCAAAACTGAGGCACCTGAT
37403	KLF4	CGCTGCTGAGTGGAAGAGAGCGCA
37404	PPP1R12B	ACCTACTGCTGGCCTCTTCAGTGGCC
37405	ITCH	GGGGATGTGAGCAAAATTCGGGCTTGT
37406	TNFRSF6	ATGGAAAGAAAGAAGCGTATGACACAT
37407	PITPNB	TGCAAAGTGTTTGGTGCGAGGAA
37408	SLC3A2	CCAAGAATGCTGAGGTTACAGGC
37409	ANXA8	ACAGAGTCTCCTGGGCACAG
37410	PSD	GGGCCTGGGCCTCAGGAGCCTAGG
37411	WHSC1	CCCGAGTAGCTGGGACTACAAGCG
37412	LPP	AATTCTCTTCTTTTTCTTTTTT
37413	MOX2	CTTTTTACTGCCATCTGAGCTAC
37414	BTNL3	ACAGTGTTTGCTAATGATGTGTT
37415	PPP2R4	GTCTGGGCAGAGGCTGGGTCAGG
37416	MSX2	TCCTGCTCTGCTAACCCTG
37417	EDNRB	TCTGTAAATACTTACCTACA
37418	FZD4	TCCCAGGTCACTGTCTCACCTGCACT
37419	CSNK2A2	TGTCACCCAGGCTGGAGTGC
37420	HOXC13	GGAGCTGCCTTTGCCCCACTGCCTC
37421	IL17BR	GTGACCAAGGGGAAAATGTGCA

37422	MCM5	TTCCCAGGCACCCTCCTTTCT
37423	GNB1	GGTCTCAAATGCGTGATCAGAGAATC
37424	DCK	TTGTTTAGTTAAGGTGTGCAGTG
37425	RAP1GDS1	AAACTGAATTGGAAAAATAGCTCCAT
37426	TMSB4Y	CTGCCCTTTTGACATCAAAGACC
37427	GNAL	TCTGAATCGGAAAACACCGAAGA
37428	F2RL2	AGCCTCCCAAAGTGCTGGATTA
37429	SYNGR1	TCCAAGTCCTCCCAAAGGACA
37430	ATP2B1	GGGAGAGAGAGGGAGGAGTAAAAC
37431	BTEB1	CTGTTACCCTTTTAAATGTCAGTGTTC
37432	GPR55	GGCTGCCTGGCTGCCCCAAACCCCAGA
37433	CD97	GCTGCTGGCTGCCTCTCTGCTC
37434	ABCD3	AGAACTATACCTGCTTCAGTGAA
37435	KCNK5	GGTCTCAAACAGTCCTGACTCA
37436	PVR	GGGAGAGAGACTGGAGCTGGCA
37437	UGT2A1	CATCAAGCCACATCATGTT
37438	MLLT3	TCTACCCTCCGCTCCTGGGC
37439	HTR1E	ACCTCATTGCAACCTCCGCCTC
37440	SOX11	CTCTAGGGAGTTGGTGGAGATATTTT
37441	G6PC	GGCTCTGCTGACATCTTCCT
37442	GORASP1	CACGGTTCCCAACCCCAAGGGG
37443	GABPA	CAGCCGGCCCTGGAGTGCGGG
37444	HNRPA1	TTTTATTAGGAAACAAAGCTTAGCA
37445	E4F1	CCACCCATGCCTGCCTGGCCTGGTAGAG
37446	GABRA2	AATCTAGCTATGAATTACTCTATATAGT
37447	FOXD2	CTTCCCTGGCTGCGGCTGGCGC
37448	WHSC1	GCCTACCACCTGTCCTGCCTGGGCC
37449	HGF	AGCTAGATACAAGATGCAGCT
37450	RPP20	GCTGGCTGCTTGCACCCACATCCTT
37451	UBE2H	TGTTGGAGAAACTTGGGGA
37452	DDB1	GCTGCCCTCCCCCTCCTCTCC
37453	CDH13	GCAATTTCACCACCAAATGCCAA
37454	MTL5	ACTCAGAGCTCTCTGAAGATGTG
37455	ANGPT1	TGTATTCTTTTAATTGTTTCA
37456	LIMK1	AGCAGCTGGACAGAGGTTTCTGGGAG
37457	BRF1	GCCGTGTCACCTGGCCTGGGCC
37458	WNT1	CTGCGCGGACTCGCCCCCAGG
37459	NOS1	GTCAGGCAGTTCCCAGAAAGA
37460	MFNG	TGTTGTTGCCAACCAGTCTCCCAAAGC
37461	TAF1C	CAGGCTGGAGGTGCCGGTGGGCC
37462	GBF1	CCTTTTTCCTCCTCTGCGCTCCATTC
37463	UBE2L3	GTCCCATTGCTTCGTATTTC
37464	OAS2	GTATTTTTCCAATTAGCTCCTCC
37465	SSTR1	GTATAGCCACTGATGGTGACA
37466	GRB10	TCCATGAAAGGTATACAAATGAAG
37467	MCL1	AGGGGGAGGAGGAGGCAGG
37468	SLC17A5	GGGCGCCTGTAATCCCAGATACTC
37469	COL4A4	CAGAACACATTTCAAATGAGTTTTGTT
37470	PREP	TTGCTGAATTAAGGATCATAGTCGG
37471	PLAT	TGAACAACTAGGCTTCAGCATATTTATA

37472	AP1B1	GGGCACCACCCCCTCCTGGG
37473	AIRE	CACTTGAACTCGGGAGGTGGA
37474	NRXN1	TCGCGGTGGATGTCTGTCATGTAG
37475	GPR56	TCGTAACCTCCACCTCCCGGG
37476	RBM8A	GGACTGGGGTGGAACTTGCTGT
37477	MC1R	TGTGGGGACCTGGAGGCCTCCAA
37478	SRRM2	GGCCCAGGCGGGGTGCGAGTGGCGCAGTCG
37479	JJAZ1	GCATTTTCATATTCTTTA
37480	HSPA4	TGGATTAACACGGCAGAGGAA
37481	SELE	AAAGGGGCAGAAAAACTCTGGGAA
37482	ANGPT1	AACAGCATTGTCCTCTGA
37483	TAF1	TTCCTTTGGGCCTCCTTGGTCAG
37484	TRIM39	CAGAGGAGGAAACAGAAACCCC
37485	TNFRSF1B	GCATGCTGGGGCAAGTCCCTGACTCT
37486	DAAM2	CTTTCTTCATGCCCTCCCCACTGCTCCT
37487	IPP	TCATGCCACTGCACTCCACTCT
37488	XT3	TCATGCCACTCCACTCCAGTCT
37489	RGS16	CTGTCTCTTGGAGGCAGGGCCC
37490	ADAT1	TTGGTAGTTAAATCAGGGAACATTCTT
37491	MFAP4	TGCTAAGCTGAGCAGTGCAGTG
37492	ROBO1	CTGAGATATGGCATTGCACTG
37493	IL2RB	CTCTGAGGCCTCAGAGTGCTTGGCTGC
37494	TGFBR1	TATTGCTTCCTTTTGCAGCAGTG
37495	ENTPD3	TCATAGACCTCTCTGCATAGTAG
37496	MT3	CCTGGTGTTCCCTTTCCCTGCTG
37497	RANBP2	TGGTGATTTCAGGTGTACTT
37498	KIT	CCACTGCAATCCTGTCTTTCTGAG
37499	GCNT1	CCTTGTCAGCATCGGGAAGATGGT
37500	RERE	GTTTTGTCTGTTGAAAATGTTT
37501	FCMD	CCCTCTTTCCTCCTTGTCTTCCA
37502	BACH1	ATGAAAACTGCAGCATATCAGACA
37503	IGSF1	TCAGCCCCATCTGCTGTTCCTTGG
37504	DBT	AGAGCAAGACGCCATCTCA
37505	KCNJ10	TTCTGACCATAAGCTAGAACCATGGTC
37506	RNMT	GCATTTTCATAGTGTGCTCAT
37507	GAC1	AGAGAAATCACTAGGACTACTTTTTA
37508	GLP1R	TTGCTTCTTGTGAAACCACAG
37509	CYR61	TGGGGAGGGAGGGGAAATGTAATACTGGAA
37510	TMPRSS2	GGAGGCGGAGGCGGAGGCGGAGGG
37511	AP1S1	CTCCACCCTCCCCCTAGCC
37512	SMARCA3	TAGAAATGAGAAAAATACAGA
37513	AIM2	GTCAGAGTCTTTGTAGCTTTGA
37514	LPL	TGAACAACTATTTATAAACTAGATCTC
37515	CD74	CTTCCCTTTCCCCAGCAT
37516	DSPP	GTCTTCAAAGAGAAAGATAAGAA
37517	CXADR	TAGGGACTTAGCAAGCTCTTTTA
37518	SH3BP2	GCCGTGATCTCCGCTCACTGCCACCT
37519	VENTX2	TCACCCAGGCTGGAGTGCAATGACGC
37520	B3GALT3	CTGCGTGTGTGCGCAGGGAGAG
37521	TRIM14	TCTGGGCCCAGGCTGTGAGTTCCAGG

37522	ARHGAP6	TCTGCTGCTCCTGCCGCCGCCGG
37523	SFTPA2	AGCTAGCAAAATTACTACCAGA
37524	PTGER2	TCCTCCAGGAACTGCAGGTCAA
37525	MUCDHL	CTACATCTAGTGGCCCCTCCA
37526	KCNE3	GTCACCCAGGCTGTGGTGCAGTA
37527	IRS2	GTTCTCGCAGATGTTACCTAAAAC
37528	IL16	AGGAGCAGTGCAGGCACAGTATGTCC
37529	IGF1	TGGAGCCAGCAATCCTGTTC
37530	LDLR	GGAGGCTGAGGCAGGAGGATCGCCTGA
37531	FLI1	TCAGTCTCCTAGCATCTTGTGAGTTGC
37532	C4B	CCTCCGCTGGGAGGAACCTGAACCTGG
37533	ARHGAP6	GGGAAAGATCTGTCAGAGGAG
37534	GABRA2	AATCTAGCTATGAATTACTCTAT
37535	ASB1	TCTTGAGAGAAGGAGAGGAAG
37536	FMR2	TGCAAGCCTGGGCAAAAATGCTTC
37537	ERCC6	GCGGCGGTAGCGTCTCTGTTTCC
37538	ABAT	CGGCTCCTGGACTCAAGCGATT
37539	LOXL3	AGATGGCAGCAGCTCATTTTCTTTAATA
37540	LY64	TTCACAGTTTGATTCCATTCTCA
37541	SCN2B	CAGAGAGGGAAGGGAAAGCCTG
37542	MAX	TTCACTTCTCTTCCTCCCTCA
37543	CALB2	TGGAAAGGTCCTGCTGTGGAAA
37544	HIVEP3	CTTACCTCTCTCCAACTGCTTCAGCA
37545	ETF1	CCCTCCAGACTGGCAGTTTCAAGGAT
37546	NEDD4L	CAGAGCTGAGTGTTGGTTCCT
37547	SOX2	GCTCAAAAAGAAAAAGG
37548	AQP6	TTGTCCCAGGCTGGGCAGA
37549	KAL1	ACAGTAGATTGGTGAAGACAGACACC
37550	ADCY6	TGCCACCCGGGTTCAAGCAATT
37551	AKAP13	TCAGGTTGGGCTGGCCCTAC
37552	GABRE	CCCCTTTGTCACTGCCTCC
37553	HNF4A	CAGTTCTGCAGAGGACGGGAGGCTGGA
37554	AQP3	GGCTTCACATGGAGGAGCTGCA
37555	SLC22A3	TGAGCATTCATGTTCTCTGCTCA
37556	EBAF	CACTCCTCTGGAGACTGAGCCT
37557	ANXA4	GTGGCTGAACTCTGATCTTGAC
37558	BAT1	ACTAAAAATGAAACACATG
37559	CASP10	GGCGAGCACCTGTAATCCCAG
37560	NUFIP1	TGTTCTAGTCATTGTACTAGCTGT
37561	MLLT7	CCCTCATTCCTTCAACTTGTGCCTGGG
37562	WNT3A	GGCGGAGCTCCAGGATGGGGAGG
37563	DDX1	ACCAGCTGTTCAGAACCTTCT
37564	SRC	CTTCCAGGCTGGGCAGCACAAG
37565	HDAC4	CGTGGCAGCCTCACAGGGAACACGGG
37566	HOXC6	TGGACCTGAAAGTCAGCTCTG
37567	EDG8	GCCTGGAACTCCTGGGATCAAGCCTGG
37568	ZNF137	GCAAAACTGCCTATTACTCCCA
37569	ST3GALVI	GGGCTGCTCCCTCCTCTGCTCCC
37570	HMGN1	CATGTTGTTTTTTAGTAGAATT
37571	P2RY2	CCTGATGGCCCCACCCCTC

37572	NT5C2	GCTGCCCAGGCTGGAGTACAGT
37573	NDRG3	TGCCCCCTGGGTTCAAGCGATT
37574	CXX1	GTTCTTGCCTAGCCCAGGT
37575	CACNA1B	CCCTCGGGGGAGGCCTTGCCCA
37576	EED	AGAAATTTCTGTTCAAAATTTCA
37577	SHANK2	TGCCTTTACTGTGTCAATTCTGGT
37578	SACM1L	ACATCTTGTGCTCCATGCAGGA
37579	APTX	CAGGAAGAGAAAGAGATCAGG
37580	MCM6	GCTTAACCTGGAGTGAAGAGGT
37581	PSMD9	GACAGGGTCTCCCTGTGTTGAC
37582	RAB36	GACATACTGCCTGGCAGCCTGCCTTC
37583	GALNT2	ATTGGGTGGAGTCTGGTGATCGCATT
37584	EFNB1	TTTGTGAGCCTGGCCCAAGCCAGTACA
37585	GRINL1A	AATCTAGGTGGAGGTCTTTTTA
37586	MAFF	CATGCATGGTGGCTCATGCCTGTAG
37587	MAP3K7IP1	CAGGGCTGTCGGCCAGGATTGC
37588	SIGLEC11	GTGGCTGGGACTACAATTGTGA
37589	AXL	CTTACTCTAAGATCTTAGATTCTC
37590	WDR4	GGGCTGTCCCCTGGGCTCTAGAA
37591	SDHC	GAGGGGAATTAGTCTGTCCCAG
37592	LNK	GACTAACAGGCTGCAAAGTGCAAG
37593	GABRP	GCGGGTGAGCTGCCCTCTCCAA
37594	SMARCD2	TATTTGCACTATTTTGGGAGCAAGTT
37595	ATP11A	AACACACGTCTCCCACACGTGAG
37596	RAB5B	GATGCTGTTTGTGGTGA
37597	SQSTM1	GTTCTCTCATTTCCAAACC
37598	PLP2	GCCTGCCAATCAACCCTCCTGGGTGTGGCC
37599	DDOST	CCATTGCACTCCAGCCTGGGCAACAGT
37600	ELF3	GGCAGAGACCTCCAATAAAGTGCCTT
37601	RASA1	CCAACATGGTAATTCACTT
37602	CLCN5	CCCATTGCACATCAACTCCTGTCTCT
37603	PKNOX1	CATACAGAATGTCTTCATATCATCTG
37604	ATF5	CTAAAGGCGGCCAGGTTTGCAGTGCGGGAA
37605	ANKH	CCTCATTCTTCATTTCAGATCTGAAC
37606	WT1	TATAGGCCAGGGCATGTGTATG
37607	SWAP70	GGGAGGCGGAGGTTGCAGCGAG
37608	MAPK10	AATGTATATTTAACTTCT
37609	PTGS1	AATGCTTGTAATTTAAACATTT
37610	ZNF175	TCCAGCTTCTGGCTCCTGGGAAAAGT
37611	GLUD1	CCTAACCTTGACTCAAACAGTGAATG
37612	GYG2	CGATGGTGGTCTCCGCTCTTGC
37613	CXorf6	GGGTTAAGGCGAGCTGTTC
37614	ATF5	GCTTGTAATCCCAGCACTTTGG
37614	CD28	GCTTGTAATCCCAGCACTTTGG
37614	TEP1	GCTTGTAATCCCAGCACTTTGG
37615	BCAS1	GCCTGTAATCTCAGCACTTTGG
37615	ERBB3	GCCTGTAATCTCAGCACTTTGG
37615	VHL	GCCTGTAATCTCAGCACTTTGG
37616	CORO2A	GCCTGTAATCCCAGCACTCTGG
37617	VDR	TTTAGTGAAAGCTAGAGATATG

37618	ENC1	CTGTGTTTGCATTGTCTAATGACA
37619	PPP2R4	GCTGTGAGCCTCACCCTGGGCC
37620	ATP1A1	CTGCTCTGTGCTTTTCTCTCTGATTCT
37621	P2RY1	GTAGGGAGGAGGAAGATGC
37622	KCNJ4	CACACTCAGGACAGAGCCA
37623	EMX2	CCAGGAGCTGGGAGCCCAGGGC
37624	CACNA1C	TAGCCCCCTCACCTTTCTGTTTTCA
37625	POU3F1	CTCCCCGCGTGGACTCCTGAGC
37626	CHD2	GGAAAGTTGTTTTTGGGTCT
37627	RGL	TTTCTGCATCTCCATCATCT
37628	CACNA1S	AAGGGAAAGCACTGGGGTGGGG
37629	GTF2H2	GTGGGCAGATCACTTGAGGTCA
37629	TRPM8	GTGGGCAGATCACTTGAGGTCA
37630	RNF3	GTGGTGGTTAGGATCAGAGCTCT
37631	HMG20B	GCTCCTTCTCACTGCTGGAT
37632	SLC7A6	TCTACTACTACACAGTGCAGACACAG
37633	ARHGEF12	TTGGAACTTTCTGTATCTCTTAGG
37634	MGA	AGGGAAATAAGGCAGTATTTGAATC
37635	SLC6A3	GCCCATATTAAAAAGCCAAGTG
37636	LIMD1	GGTAACCATTGCCTGTAAGCAGCAC
37637	ABCB11	CAAGGGCAGAGAACTGTCTTTCATTT
37638	ZNF236	GGAGGTGGTGCAGGAGGCTGCCGGC
37639	DHCR7	AGAAGGATCAAGCAGGCATTTGG
37640	DLGAP2	TACCCAGCGCAGCATCTACACA
37641	ZNF43	GCAAAACTTTTAATTAATGCTC
37642	ADORA2A	AGGAAGCAGATGTTTCATGCTGTGA
37643	NLGN3	ATTGGCCTGGCCAGACCAGGTG
37644	GGCX	CTACCCAGGAGGCTGAGGC
37645	KRT6B	TGTCCTGATCTTCTCTTGCAGTG
37646	JAG1	TCTGTTCTGGTAATCGGGGTA
37647	CYP8B1	AGTAGCTGGGATTACAGGCACCTACC
37648	SIM2	GGAGCACGGCCGGGTCTAATATGCCC
37649	NPY1R	TACTGCTTTTGTTGTAGTTGTCATA
37650	CCNK	GTCCTGCACTGGGTTACTTT
37651	APPL	TCAACAAAACTCC
37652	CYP4F3	TAGGAGGTCAAGGTGGGCAGATCATGA
37653	NOTCH2	ACATTTGTCCCAGATCTGAGCATTC
37654	FSTL1	CCAGTATTTGCTTATATAGCAATGAG
37655	CLK2	GCCATGATGGAAAGGATCTT
37656	MYO1D	TGTCAAAGGCTGGAGGGCAGG
37657	SH3GL1	CAGGCTCTGCTCTGCCCTGCCCTGCACCCC
37658	PRKCN	TTCTGACTGACACCATCTT
37659	COX4I1	CGCTACCCTTTTCCGCTCCA
37660	F13A1	GATCTTTCATTTTGCACCTG
37661	RABGGTA	GGGTGCTCACCTCTTGTGGAAC
37662	EGFL4	GTGACCTAGGCTGGACATCAGA
37663	CDH11	GGGCCCCAGAAATCACTGTGTTTTCA
37664	HEBP1	CTGGGTCACTAAAAACTGATTTTCTA
37665	ILVBL	CTGAGGAGGGGATGGAGGGGT
37666	SVIL	CCGCAGCTGCTATAGATAGCACTGCC

37667	CD53	GCTCACTGGACCATTGTCACA
37668	RANBP2L1	CACTGCACTCCAGCTCGGGGA
37669	KCNJ10	CCAAAGCCCCAAATCCCTAGAG
37670	TAP2	ACTCAGGGTTCAGGTCTTCCAGGAGGC
37671	CLDN16	TGCACACACTTTCCCTATATTTT
37672	LFNG	CCCAATCCCCTTCCTCCTGGCC
37673	RP2	CCCAAAGAGCTGGGATTACAGG
37674	GRLF1	TTTGAGGGGCATGGCCAGTCGTGGCA
37675	TCF2	CTTCTGCTTTAATTTTCACT
37676	DGKB	GATAAGAAGCTGGATTAGGTGTGGAG
37677	LDLR	GGGGACAGAGAGGGGCAG
37678	RERE	CTTTCTCCCAGGCTGAGGGC
37679	FOXD2	CCCATCTCCCCTTCCGTGCCCC
37680	KCND2	AAGAGTTACACCTCTGGACCA
37681	IAPP	ACTCCAGCCTGGGTGGCAGAGT
37682	ROR2	CTTCCCGGCCCCCACTGCCTGCGGC
37683	ACE2	TTCTGTCTCTGGATTT
37684	ITGA4	GCTGCTAGCCTGCTCACGCATGCA
37685	PDGFRB	TGTTACCCACTCTGGGACCAGCAG
37686	CLECSF12	ACTCACTGCAGCTATCTCTCGCCTCA
37687	MNT	TTACAAACCAGGTCACCA
37688	CNGA3	TCTTATAAATGAAAGATTATT
37689	NOX5	CGCCCAGGCTGGTATGCAGTCATGTT
37690	RAD9	GCCAGGCAGTGTCTTAGATG
37691	ILVBL	CATTGCTTGCCCTGGGCCTATCC
37692	ADAR	GCAGAGCTCTGGCCAGCTGCCTCTTCTT
37693	ZNF261	GGCTTTGGGTTTCCTGACCCAT
37694	CHST6	TGGAGGGAGAACAGGCACATTAGC
37695	HEM1	GCTGGGAGCATGGAGGACAGCT
37696	FGFR1	GAACCCAGAAGGCAGAGGTTGC
37697	USH3A	GGCAGTTTGAAAGACTTGTTTTACAGA
37698	TNR	GCACACACATTTTTCTACCCTTCTTCTG
37699	TAZ	TCTGCCCAGGAGGTGGCGTCCAGCAGT
37700	B4GALT5	GAACTCCTGGACTCAAGCAATC
37701	CDC5L	GGTGGCCCAATCGCTGTTACT
37702	RAD21	CTGTAAAAACTAACGGCTTC
37703	A1BG	CCCTCATTCCTCCCAGGAATT
37704	IL6ST	TTGAAGCCATAGTCGTGCCTGTTTG
37705	SOX2	GGCGAACCATCTCTGTGGTCTTGTT
37706	LUM	TTGCATACTTACCTAGTGAAACTTTT
37707	SNK	ACTTCCTGAAGGGGAGGGAG
37708	CMAR	AGTGTGGCTGAGGCCACCCAG
37708	SPG7	AGTGTGGCTGAGGCCACCCAG
37709	SLC16A1	TACCAATAGCCTGAATTTGAGGAG
37710	AQP6	CAGAAGAGACAGGAGATCAGAGAC
37711	IL12B	ATGTGCGCTCTGTAAAGTGAT
37712	ZNF74	GTCACCCAGGCGGGAGTGGTGCAATGG
37713	ZIC1	CCAATAGACCCAGGACGAGTA
37714	MN1	TGGAAGCCGCCCCTCTCTG
37715	CAV1	CTTTTAAACTGTGTACATAACT

37716	BMX	AAAGACTGAGCAGAACTGAA
37717	ZNF3	GCCACATTCAGCACATATATA
37718	WEE1	TCTAAAACATGTTTGCACTTGTCTT
37719	ENTPD6	CCTGGGCCCTGCTCAATGCCACCT
37720	MAFF	CCCTCCAAACCCTCCCAGGATTCAAAGC
37721	IL24	GTCATTCTTCCCTAATCTT
37722	VHL	TGCCTCCCGAGTTCAAGTGATT
37723	CR2	ATCTTCTTTTTGAAATCAGCA
37724	POLH	CTACTAAAAATAGAAAAATTAGCCAG
37725	SLC6A6	CCTATTTGGACCTAAACTGTGCCA
37726	F3	CAGGCTGGAGTGCAGTAGCA
37727	TCF2	TTGTGCTTGGGATTACAGTTGT
37728	OPA3	GTCAGCAAGGTTGCGCGTGCCC
37729	NAP1L3	TCTACCTTCCCTTTCACTGA
37730	CSF3R	GGCTTCCTGGGGTTCCCTTCTTGG
37731	SIRT5	ACCTGTTTCAGCTGCTACTTCA
37732	VENTX2	GGCCTGGACAGCACTG
37733	MGST2	CTGACTTCTGTTCCAGAGCAAAGGTCAT
37734	NCOA6IP	TTGCCCAGGCTGGTGTCAAACTCCTGG
37735	KCNJ8	AGATCTACACCCATCCCCCT
37736	WHSC1	TGGGACTACAAGCGGCTGCCAC
37737	GM2A	CCAGCAGCTGCTTTTGGAGCAGGGGTC
37738	LETM1	ATTCAGTCTGTCTGGAATCCCGGAACC
37739	CDKN1A	AGAAGTAAACAGATGGCACTTTG
37740	ZFP37	GGCAGAGGAGTATAGGACTGGGG
37741	PRKY	CTCAGGAGGCGGAGGCTGCAGTC
37742	PEX6	GCCCTGAGAGGGCTAGTTCT
37743	RAD23A	ATAAAGGTTTTGAAGTGAATA
37744	YES1	TCCTCACTTAGCTATATTCTG
37745	BTG2	CTTCCCTTCTGGTCG
37746	CHRNA4	TCCAGCTCTCCCCTGCGCAGGCC
37747	PTGIS	CTAGATTCTCACCTGCCTTCA
37748	WHSC1	GCCACTGCACCCGGCCCTTGCCTCAT
37749	PRX	GCCATCGTGGGCCAGCCTTGC
37750	LRP4	GGCCCCGGACGGGTGAGGAGA
37751	VPS26	AAACTCATATTGAAACTTCATCTAGTC
37752	HGFAC	GCTTGTGGCTCCCTCCTGCC
37753	MLH3	AAAGGGATGTTCACTGTATGCCTC
37754	FUS1	ATGTGGGAAATGGCTTGGGGA
37755	NRG1	AGCAGACACCAGCTTCAGATGCT
37756	ESRRG	TGTAGTTACACTTGTGTTTCA
37757	HUNK	GAGTCCCCAGATGAGCTGGCATTTGAG
37758	PTPRO	TTTCTTCCCAGCTCCTGGCCTC
37759	DDX9	TTGCCACCAAAAAGTAAATGCAT
37760	KAL1	GTGGCAAAAATAGAAAACAATCTTCAT
37761	PTPN7	CTACCTCCCTCAAGCCTGGGAAGTCA
37762	DHH	CTGCCCTCTCTGGTGCCTGTGGA
37763	TEM7	GGCTTCAGCTTGGTTTGTTAAATT
37764	PPP2R1B	AGCCACATTTTCCTGAATTATGATGGTCTGC
37765	DLST	GCCAGGCTCTCCCTCTCTGCAC

37766	MALT1	TCTATACAAATGAAGTATGGAGGT
37767	PPP2R5A	CCTCACAACCTGTCCTTCACCTAGTC
37768	GFAP	CTGCTGCTGCTGCTAATCTTC
37769	ARHGAP6	CCGACCCAAAGCCACCAGCGTC
37770	ESRRB	GAGGCCAGGGAAAGCATCTCTGGCTC
37771	FOXG1B	TCTTGATTGTGATACTGTGGT
37772	KCNQ2	CCTGCTCTTTCCTCCCCCACC
37773	C14orf2	TGCACTGCTACCTGGTACTGCTTTCA
37774	CSRP2	AACACTAAACTACTGTGAA
37775	ADAMTS4	GTCTCGAACTCCTGACCTTAGG
37776	IL11	GTTTCGAACTCCTGACCTCAGG
37777	IL18RAP	CATCTGGAAAATTGATAAAGA
37778	RIG	CTGAGAAGGACAGAACTGTC
37779	CDH3	TTTTTATACTGAGTGTGCCTAG
37780	BCL7A	GCTGAACTTTCTCTCATAGG
37781	CARKL	CTTAAATAAAACACACCTCTCTGCTGTGG
37782	NOVA1	CTTTGTAATTATTTTCTCCCCAACA
37783	TRPM8	GATGCTTCTTACCTGTCA
37784	CARKL	ATCACTTGAACTCGGGAGGCAG
37785	TNNI1	GATACTTGGGCATGTCATTTCTGTTT
37786	ENTPD6	TCCCCGTCAGCAGTGTCTGTGTGTCT
37787	PCDHA1	AGGGTGTGTAACTTCAGCTCTGCAG
37787	PCDHA10	AGGGTGTGTAACTTCAGCTCTGCAG
37787	PCDHA11	AGGGTGTGTAACTTCAGCTCTGCAG
37787	PCDHA12	AGGGTGTGTAACTTCAGCTCTGCAG
37787	PCDHA13	AGGGTGTGTAACTTCAGCTCTGCAG
37787	PCDHA2	AGGGTGTGTAACTTCAGCTCTGCAG
37787	PCDHA3	AGGGTGTGTAACTTCAGCTCTGCAG
37787	PCDHA4	AGGGTGTGTAACTTCAGCTCTGCAG
37787	PCDHA5	AGGGTGTGTAACTTCAGCTCTGCAG
37787	PCDHA6	AGGGTGTGTAACTTCAGCTCTGCAG
37787	PCDHA7	AGGGTGTGTAACTTCAGCTCTGCAG
37787	PCDHA8	AGGGTGTGTAACTTCAGCTCTGCAG
37787	PCDHA9	AGGGTGTGTAACTTCAGCTCTGCAG
37787	PCDHAC1	AGGGTGTGTAACTTCAGCTCTGCAG
37787	PCDHAC2	AGGGTGTGTAACTTCAGCTCTGCAG
37788	CD3Z	TGGCATAAAAAACAGTGTGGTTA
37789	STK19	GGAGGCTGGTGAAGGAGGGCA
37790	GORASP1	TCTGGGAGCCCAGTGTCAAGTCT
37791	PPAT	ACATATACATGTACACATACAC
37792	SFRP4	ATTTTTCTTAAGGCTATGCTTC
37793	INHBC	CTGTGTCCCTACACTACCTGGCT
37794	SPN	GATGGGGTTTCACCATGTTGGC
37795	FZD8	CCTTAAGTAAACAAACAAGAAATGTCT
37796	GNAZ	GCAGTAGCTGTGTGTCCGAGGTCAGTGT
37797	SPG4	ATTATAAAAATGTCATT
37798	TSC1	CCTCCTGCGGATACTCTTGGAGAG
37799	COL9A2	TCTGTCTGGGACTCAGGAGTCCTAAGG
37800	MYBBP1A	AGGGAGCCACCAGGGGGTG
37801	PRKG1	GGCTGTGGGATCTATTACAGCTGCAGG

37802	EDNRB	GGTCCTGATTTTGTTCCAGCA
37803	NPHS2	CCACAGCTCCCACAGCCCT
37804	TZFP	TGTGGACTTCCTCTTAGA
37805	RAD23B	GCTCCGCTGGGCGAATGTGACA
37806	ADRB3	GTGGCCCAGGCTGAGAGCAGCA
37807	BGN	TCTGAGCTTGGTGGCCTGTT
37808	PPP2R5A	TCCTCCTCTTCCTCTCAAAGGCTGAAG
37809	DGCR2	AATGCCCCCTTTGCAAGGCCTGCTGC
37810	SETDB1	ACTCCCCCCAGCTCCTAGTT
37811	F13A1	CTTTAGTTAGTGATTATATTTCA
37812	ZNF202	GCTTCAAGTTGAAAGTGGCCA
37813	FANCC	TCTTCCTCCTCCCCTGCCAGGC
37814	DAPP1	CAGAGCGAGAAGGTGTCAGGAGCAGC
37815	ZXDA	ACTCTATTCATTCCTTGCCA
37816	PCDH11Y	GTTATTCTCCCCTATGCCTTC
37817	DAF	TCTTAGCACACCTACACCTCTTGA
37818	ALDH8A1	GGCAACATGGTGAAATCCTGTCTTT
37819	IL6R	CATATCAAGACTCTTTGG
37820	TNFAIP1	CCCCCGGGGACGCACTGAGAT
37821	PPP1R11	GCCGACTGTCTCCTCTGCCTTT
37822	MCM5	TGCCCCAGAGGAAGGAGCTGTA
37823	SPAP1	AACGTGCCTCAGGAGGCACC
37824	SMAC	CTGCAACCTGTGCCTCCCGGCT
37825	MEL	CTGCCTCTGGGCCTTTGCTTTGTG
37826	SLC4A8	AACTTGCATAGGACTTTCTGTCTTT
37827	SDHB	TAACCAGCTCAGAGCTGAACAT
37828	GABRB3	AGTGAAATATTACTCTGCCTGTC
37829	ADRBK1	CACTGCACCCCCTCCTGCTGCAG
37830	LTC4S	CGCTGCTGCCGTGGGCCTGGACCAAGG
37831	DDB2	GGAAGTTGGCTTAGCTCGGCTA
37832	SLC6A6	CATCTCAGCATCTCTTA
37833	SMURF1	TACAGCAGGCTGGGCCCAG
37834	EPHA8	GCCTCTCTGTGGTCTCCATCCT
37835	CLCN3	AAGAGGAAGTTTATTTGTTGAATAGCAC
37836	CLU	AGAACAGAATTGCTCC
37837	GCG	CCTTTGTCTTAAAAATACTCAGCTTTC
37838	RFX2	ACCCATCTCCAGATGCCAAAGGA
37839	CR1L	TCTTACACATGTGACCCCCACCCAGA
37840	MTNR1A	ACAAAAGGGGTAATTGCATTCTTCT
37841	P2RY6	TGCCTCTCCAGACTTCTGCCAGAA
37842	TCF3	AGCAACAAAACATACACTTTG
37843	NCYM	GAAACTGCCATTTCATTCACA
37844	KIF1B	CGCCTGTAATCCAAGCACTTGG
37845	CD80	TCCTGTATTCTACAGCA
37846	ADRB3	TTCCCTCCGTTTGTTTTCTTTTCA
37847	DNASE2	GAACTCGGGAGGCAGAGGTTGT
37848	PPP2R1B	GAACCTGGGAGGTAGAGGTTGC
37849	PAX4	CCAGCATGCATCCCCAAAAAA
37850	GPR4	AGGCTGGAGTGCAGTAGTGCAGTC
37851	EXT2	TTGGATCTTGGCATGCACCCAC

37852	HS2ST1	GAATGACAGAACAATCATCTTA
37853	FGF1	AAATGAGATTTTTGTTTTCCACTGTG
37854	PBX1	AAGCCACCCTTCCCTGCCTCCAGCTGT
37855	TRIM9	TGCAGTCCACAGCATTCACATTCTC
37856	TRPV4	GCCAAGCCCCAGCCTCAGCCTGC
37857	LSS	GCTCAGGGCCACCTGAGACTG
37858	CXCL6	TTGCCCAGTCTTCAGCGGAGCA
37859	SLC4A4	CCTTTGATAACCAAATTCTGTCA
37860	SOX12	CTGCCTCTCCCTCCCTGTTTG
37861	AXIN2	TTAAAAACATGACCACTCTT
37862	CD244	GTCTGGAGAGGATATGGAAA
37863	SMARCA3	GAGCATATTTAAAACAAAGAAG
37864	TERF2	CCAGCAATGTGAGTATTATTTGG
37865	RBMX	ATCCCAGTTCAAAGAAACA
37866	GPR4	CACCATGTTCCCCTGAGCCTCCAAGG
37867	PML	AGCTCCCTCGTCCTGGGATGC
37868	RASAL1	GAGCTAGCCCGGAAGGAGGAGCAAGA
37869	GPR56	TCACAGCTGGGGGTCCCCGATTCC
37870	ADCY1	GCAGAGCAGGGAGCCACTTGCCAGGGT
37871	EHF	TCATGGTCTCTAACCACTTGAC
37872	PDE6A	TCCCAGCCATGGGCGAGGTGACAGCAG
37873	HOXC5	AGGCCGGCAGCCCCAGCCTGCT
37874	CACNG1	CCCTAGCGACCCTCAGGCTTC
37875	HDAC4	TCATTCTCTGCATAGCCCTCTGGG
37876	MAP3K7IP2	GACACAGAAGATGATGAGGGAG
37877	DSC3	ACTGAGTCTATGAGGAAATAGTTCCTG
37878	NKTR	TCAAATTCTGCCTACCACAGGC
37879	PDCL	AGAAATTCTTAGATTAAATCA
37880	RP2	AAATGAGATTTTGTACATGGA
37881	CDR2	AAACATCCTCTCACTTGCATTCT
37882	STAR	CTCCATCTGGTGACAGTGGGATGGGTG
37883	GRIN2B	CTTTGGGCCTGGCTGGGTGGGA
37884	SSX1	CGACCTCGCAACCACTGCTTTG
37885	LTB4R	GTTGGCCAGGCTGGTCTCAAACTGC
37886	CALB2	ACCCCTGCCCAGGCAGTCTTTG
37887	NDST2	TGTGAGGCGCTCAGCCAGGGCCAAG
37888	TRPS1	ACTCACAAACATGTTCTTGGTGTATT
37889	P53AIP1	GAGGCCTTGGTCTAGGTCTCTCCA
37890	IL17R	TGTTCGTGTGTGAAATGTAGG
37891	MBD4	GAGAGAGACCCTGTCTCAAAAA
37892	BCL9	CCAGGAGGCCAGGGATTGCGGGAAAAG
37893	MERTK	ATGTTGTTAAGGAAGCTGTCATT
37894	SLC2A2	CAGAAATGTCATCAAATATTACCAAA
37895	RABIF	AGAGTGAGACCCTGTCTCAAAC
37896	GRAF	CAGAGTGTTTCCTGTTTCTGGAATTCC
37897	BRCA1	GTGGACACCTGTAATCCCAGCTACTC
37898	CD83	CTTGGGAAATATGAATGCCCCCAG
37899	NR1I2	GGACTTAGGAGGGGCAATGGAGCC
37900	GA	TAATCCATAACCACCAAAAAT
37901	VAV1	TGGTGGAGGCTGCGAGGGTGCACGGCC

37902	SOX8	GGCAGGCAGGAGGTGGAGTTGCAGC
37903	TRRAP	TACTATCACTGCACCTG
37904	CNTNAP2	TCACTCTCTAAAAGCAACAGCATGT
37905	CLASP1	CTGGGAAAGACTGATGTTGATTTGGAA
37906	NLGN2	CCCAGCTCCTCTCCCCAAAACA
37907	ALDH3B2	TTTGGGAGCTGCCAGTCT
37908	CNN2	GATTCTCCAGCCTCAGCCTCCT
37909	CAMK2A	TGCCCAGGCCCAGGGGCAGGCTCTTG
37910	FOXF1	CCTCTACTGTAAACTTTCTGGTC
37911	HK2	CCTAAAACATGAAAATTATCTCCCT
37912	PBX3	TTAAGGAATCATAATCATTTGTA
37913	IGF1	AGAGATTGGTGAATTGAATG
37914	CD209	CGCTCAGGCTGGAGTGCCATGG
37915	SLC22A2	TGCTTCCAGAAACTAAAGGGAAA
37916	ANXA5	CTTTAATTAGAAGCTTAGCCTTG
37917	ZNF236	GCCAGCTGGAGCGCCACAGCCGC
37918	LASS2	TTTCTACTGCTTTTGAGGGCC
37919	OAS2	TTCTGAGCCTGCCTTTATCCCC
37920	TXNIP	ACTGCAGCTGCCAGCACTTGGTC
37921	TMEPAI	CAGTGTCCTCAGCTTCA
37922	BCL11A	AGTAAGGAGTTCATTTTATG
37923	EFG2	TGATAATTTATATAAAATAG
37924	UROS	GCCTCAAGCCTGAGTGGAAGCACCTGA
37925	BRCA1	TCTGCTTTCAAAACGAAAGCTGA
37926	CLASP1	ACCTTTAGAGCCTAATTACTCCAA
37927	EVC	AAGGAGCTGCCCAGAGCATCACA
37928	SMARCD1	AATTTCCTTCCTTCCCTCCACA
37929	DPYSL2	GAGTCTTCCTGTTTTTCCTGTACCGG
37930	KCNK3	GACTGCCCCTGCTGCCTTCTGCCCAGTGGGA
37931	SIX2	GAGGGAAGAGGAGAGAAAAGACAGG
37932	KRN1	GATCCAGAAAATATCA
37933	ADAT1	TGATGCTTTGAAAGTACTCTG
37934	PBX3	CAGATGCAAAAATTCACCTC
37935	ADH6	CTACAGTGAAAGTTGCTACAGGATCTC
37936	TACC1	TTAAAGTCATCTTTACTTTCC
37937	SLC6A3	AACAACAAAGCAGAAGACTCC
37938	PACSIN1	CCTGAGCTCCAGGGCCCAGCC
37939	IL16	CAGGCTGGAGTTCAGCGGTGCA
37940	JAG2	ACTCGCTGTATGAAAGGAGAGAGCA
37941	EIF4E	CTCCATCTTTATAGAAGGAATTTGTAC
37942	TAF15	TCTGACATGATCCATAGTGAAATT
37943	VASP	CCTGTCACCCTGCTTTCCCTGCCTC
37944	CR1	ACTGCAAGCTCCGCCTCCTGGG
37944	RPP30	ACTGCAAGCTCCGCCTCCTGGG
37945	CASP8	ACCGCAAGCTCCGCCTCCCGGG
37946	FOSB	GTCCCTGCCAATGCTCCAGCTGTCGTC
37947	MNT	ATTTTTCTCCCCGTGCTCCCCC
37948	SEMA3F	CCCACTCTACCTCCTTAGCTT
37949	SLC24A1	CCTACGCTCACTGTTCCCTGATCAT
37950	ARHGAP6	CGGATCCAAAGACCCAGGAATGACAGG

37951	NFIL3	GAGTAAGAGCTGGGCATTTAGAAAGAT
37952	FBXO7	TTCCTTTAGGCCGCCTGCCCGCCTC
37953	FCAR	TTGAGACAGAGTCTGGCTCTGTCACC
37954	KCNA6	GGCAGGGCCTGCAGGAGGGGA
37955	CDKN2C	TGAGTCTCCACACACACTCCTCA
37956	CPT1B	GGCGTGGACTCCCTGGTGCTAGAA
37957	PTPRA	TCAGGATGACAATCACCAGGAA
37958	HSPB2	CAGGGCTTCTGCTGCATCTGCAGCCATGTCG
37959	STAU2	CTGTTTTCATCTCCTTTTCCATC
37960	APAF1	GGCCTCAAGTAATCCTCCTGCCTCAG
37961	FHL2	CTTTCTCTCACTGTCTATTTA
37962	ZNF175	TATTATATACAGGTTGAGTA
37963	PAICS	CTGAGGCATGAGAATTGCTTGA
37963	PHKB	CTGAGGCATGAGAATTGCTTGA
37964	HMGCS1	GGTGGGCATGGGGTGGGG
37965	COL9A2	CATCCCCAGTCCAGGAAACCATCTC
37966	SLC17A5	GCCACTGTGCCCAGCCTGTTCTATG
37967	TFCP2	TGGAGGAGTCCAGGCCATGGAGGCAGA
37968	EPHB2	ACTCCCGCCAGCCCCTGCCTCG
37969	ROR2	TGTTGGTTTGAGGATGAAGGGGCTCCA
37970	CYB561	GCACCTTGCAGCCCCTTCCTG
37971	CDC25B	CCCCTACTGCTGTGAACCCTGGGGCC
37972	KRT13	TCTGCCTGGCGTCCCCTCCCTCTGT
37973	DUSP6	GGAGGGAGGGATTAGAAGC
37974	UPK1B	TCTCATGACTCCTACTTTTC
37975	TRPV3	AGAGTGTGCGGGGGACGGAGGTAAGC
37976	LMNA	CTGAGAGGCAGGCATAGAGGCT
37977	PTPRM	GAGGACTCAGTTCACAAAATGC
37978	DISC1	GGATAGTGAGGTTCCTGCCTTCAC
37979	PPP1CB	ACATTTAAGCACACATTTTATTC
37980	ETV6	TTCTGATTTGGAATCTCTCCATCT
37981	ANGPT1	TTCATTTAAGGGAAAGAAAAT
37982	ADAM17	GAGGTTGCGCCACTACACTCCA
37983	RET	TGACAGCAGAGGCTTTGCTGCTGTGA
37984	PTPRG	CAACAGCAAACCCTGATGTGACA
37985	CALCR	GCTTTGGGAGACAGTCTAG
37986	SFRS2IP	GTTCAAAACATTGAAACACTCTT
37987	ZNF289	AGGGAAAGCGGAAGGTAGAAGGCT
37988	BACH2	GGAACAAAAGTCTAGTGATTAG
37989	AF1Q	CAGACCAATGAGCCTAGGGAGATGCT
37990	ZNF264	GAGCGAGACTCTGTCTCAACAAC
37991	MKKS	CTCTCTGAGTAGGTGACATCTG
37992	COL4A3	TGAGTCTTAGAGTCCAGACACAA
37993	MPHOSPH1	GCTATACAGGATGTAATA
37994	IGF1	TGGAATAAAGTCCTCAAAATTGAAATG
37995	WHSC1L1	ACAATTCCACACTATTCTCTG
37996	ABCA3	ATTTCTCCAGGCACTCCCTGGAG
37997	IL18	GCCTGTAATCCCAGCCCTTTG
37997	MS4A2	GCCTGTAATCCCAGCCCTTTG
37998	DDX19	ACGGCACAAGTAGAGAGAAACTACCTA

37999	TIMELESS	GGCTGAGAAACTTCAGCAGCAG
38000	MGAT3	GCCAGGAGGTGCCACTGGAGTGTGCGTG
38001	UTX	GCCTCATCTTGTATTGTTCCA
38002	SLC24A1	TCTCCTGCCTCAGCCTGAAGTC
38003	SCA7	AAAGAATGTTTTGGCAAGAGC
38004	EPS15	GTTAATCTGAGTAACTTATTGCCTAGC
38005	ZNF202	CCTTCACTGGAGTGCACCTGCCTCTA
38006	NR1I2	GGCAGTAAGTCCCCAGCAGTGAG
38007	SHOX	AGCTTGGAAAACTGGAGTTTCT
38008	MEIS2	GCGGACAGGTTATGGACATTCATGCCC
38009	CUTL1	AAATAAAACACATTTACTCCA
38010	DBN1	GGGCGGGGACCGAGCTAGCGGAGCCAG
38011	CTLA4	GCTGGGATGTTTCTGTCACATC
38012	EIF5A2	CAACATTTTAGCTTTTGCCCAT
38013	PFKL	GAGACCAGAGAGGCCCTGTG
38014	CA12	AGGAGGCGGAGGTTGCAGTAAGCCAA
38015	DMC1	TCTCCAATTTCACATCTTGA
38016	PIK3C2B	GGAGGCAGGGAGAGTAAGACATGC
38017	DISC1	TCTCAAACTCCTGACCTCAGGCG
38018	SYNGR3	CACTCTCCACTTTCTCTCACA
38019	TBL1X	TCCACTGAGGACATTCAGCCTGGG
38020	ATM	GCATCCTCAACCTCCTGGGTTCA
38021	ADH1C	ACTCACCAGCCTCCTGGTCT
38022	PLXNA2	CGCCAGCCAAGTTTCGTCATAG
38023	PPP6C	ACTCCTCCTTTTGTATCATTCAGC
38024	SH2D1A	AGGAGGTTTAAGGCAAGTAGACAACAT
38025	G22P1	GCTGCCTGGCCTTGTCCTCAGC
38026	PMX1	AAGACACCTATCCTGCTCTGT
38027	CTF1	ATGAGCCGGAGGGAGGGAAGTCTGG
38028	FUT3	AGACCAGCCTGGTCAATATAGC
38029	FRK	CTCCTCTTCTCCCCACCA
38030	GFAP	GCTTGCGTTAGAATGAGGAGGA
38031	SLC30A3	GGTTTCTATGAGTCTGCTCCA
38032	HYAL1	GCCACCCCAAAGCCCTCCTCCTCC
38033	EIF2C1	GCAAAACAATCTATCCCAGGTT
38034	TK1	ATCGCCCAGGCTGGAGCTGGCCC
38035	TAF4	TATGTAAACTATAATTATTTTG
38036	DSCR4	CCAGACTCACAGAGAACTGCT
38037	RAP1A	ACAGATGTGAAAATATACTTGACTCT
38038	ASB1	GAGCCCTGAGTGCTGTGCTGCT
38039	DLEC1	CCCAGGGATTAGGAGCAGC
38040	RECQL	GTTTTTAAAAGAATTTCATAGATATT
38041	GATA6	TTGTGTGGCTGATCTGAAGTCA
38042	FTSJ2	CATGCCTGTAAACCCAGGGCTT
38043	CA3	TCTGTTGTGTTTCTCACTGGAGGCTG
38044	MEFV	CCGAAGTAGCTGGGATTACAGGC
38045	AK2	ACATGCCACAATCCTATGCTCTTGCCT
38046	CDH5	GGCAAAGCCCCTCACACTGC
38047	STK19	TCCAGTTACCTCA
38048	NGFR	CCCCTCACCTGGGCACCTGGGGAG

38049	PSG5	AAACATTTGCTTTTACTCTC
38050	CLCA3	GAGTAATCAGAGTACTTTCGG
38051	EN2	AATTCTTGAAGGTTACATTAAA
38052	CD2AP	AGTTTTTGCTTGTGTCCTCCTCAGT
38053	TOP2A	AGAATGAAGAAAATTAGAGTAG
38054	PACSIN1	TTTCCCCAGGCAGGAGTTGGGGT
38055	FXR2	GCCTCTCTCCTTCCCCATCAG
38056	MYO5A	AAATGTGTCTTCAGCTGGCAGCATTTAT
38057	ESRRG	GTAGTTACACTTGTGTTTCA
38058	RECQL5	CATACCTGTTATACCAGCACTT
38059	LEP	CTTTCCTATCATGGAGTGACGGT
38060	NDP	AGGGAAAGACTGGCAAGAAAAG
38061	AMPD3	CTTCCCTCTTTCTAGTTGGAA
38062	METTL1	AGAGAAACCCCGGACTGGGATC
38063	SLC2A3	CGTATGTCTGTTACCATGTCA
38064	MAP1A	CTCCACCCTCCCCGTGCTGCT
38065	CRACC	GGAAAGGGGAATGGCTGCTTTT
38066	BGN	CCTCCATCTCTCCGAACCTGGCTTCG
38067	AQP6	CCGAGCTAGCTGGGGACAAGGGC
38068	ADAM17	GGCAGTTTTTCTGTA
38069	DLEU2	GCAGAGAACCAATTCTGGAGAACAGC
38070	SLC35A3	ATACATACTATTTCT
38071	ROCK2	ATCGCTTGAACCCAGGAGACGG
38072	STK38	ACAAAGTGCCTTCTGTTTCACAG
38073	SLC14A2	CGAACATGGTGAGACCCATCT
38074	PTGFRN	ACCAGCACACGGCTCTTCTTCC
38075	RUNX3	TGGAGAGAACAGGAGGGCCAG
38076	DCLRE1C	TCCAGCCTGGGCAACAAGAGCA
38076	HIP1	TCCAGCCTGGGCAACAAGAGCA
38076	VPS41	TCCAGCCTGGGCAACAAGAGCA
38077	MUC4	GCCCCTGGGGAGGGAGGAGAG
38078	PACE4	TTCAGCTGTACATACTCAGTA
38079	VGF	CACGAGCCCCTCCAGCCTCTCCAA
38080	PDGFRA	AAATATAATGATCAGCAAAAAGA
38081	DSCR4	AGGCTGAGTAGGTCCACAAATAA
38082	TACC1	TGCAGTGAGCCATGATCATGCC
38083	EDG6	GGCCTCTCGGGGCTTCTGACGCC
38084	CROT	GGAGGTTGTGGCTGCAGTGAG
38085	NSF	TATCACTGCTTTTTCCTTAGCTT
38086	LPIN2	TTGCTGTCTGCCCCTTGTC
38087	ETV5	TTAGCAATATGACAATAATCCTCT
38088	APAF1	GCCTCCCAAGTAGCTGAGACTG
38089	ATP4A	ACTATTAAGGGACGACTGCCTTC
38090	SORCS1	TAGGAAACATCCTCATTGATCCT
38091	MAP4	GGCGGCGGGCAGTTGCAGTGGTGCAGA
38092	GLRB	TGCACCCTTAGCAGCCACTGCCACCT
38093	HNRPA2B1	TATCTCAGTCATGCATAAA
38094	HFE	GTGGGTAGTATGATGGGTGTT
38095	CLC	TGCTTCTTGCCTACCACTTG
38096	APPBP2	TGACATTTGGATTAATCTCCAGCT

38097	ARHGEF6	CAGGAGGTCAAGGCTGCAGTGA
38098	PTMS	TCCCCTACCAGCCTCATTCTTCTCC
38099	FREB	TTCAGCTATTCTTACTGACAT
38100	SPK	AAGGGGGTGGGACAGGGACTCGGGGC
38101	MAPK1	GAGAGAAGTACAAAGGTTGCAGTG
38102	PRKY	TCTGTTTTATTATCCAGGATTT
38103	PKHD1	GAGGAAATAGAGTTTGCTTACT
38104	C1QG	CACCTTACTGGCCAGTCTGCATCC
38105	GGA3	ACCTGACAGATGCACGGCCCA
38106	ALDH3A1	TCTCCACCCCTTTCTAGACC
38107	ADAMTS3	CAAAACTGAAACCCTCTTTCC
38108	RECQL5	GCCAGCAGCCTTTAATTCTTGGG
38109	PAG	AGAGAGAAGTTCGTACCTTG
38110	STS	CCATAAGGCACACTCTCTAAG
38111	HIVEP2	TCCAGAAGAGTGAAAGAGAGGGAGGGG
38112	SLC6A2	CTCCCACCTCGGACACCATCT
38113	NEURL	GCCCCTGGCTGAGAAGGGGAGGA
38114	PCDHB13	TGCTTTCAAAAATAAACCAGA
38115	SLC18A1	TCTTCTTTCCTCCCCTCCCATG
38116	CD4	GGGTGAGGCTGGGTGTCTGG
38117	SIGLEC11	TGGTGGCGGGCGCCTAAAATCCCAG
38118	ADD1	CACCCAGGTCGGGCGGTGG
38119	LDB3	CCAAGCACGAAGCCACCAGTC
38120	IL10	GCCCCTGTACTCCAGCCTGGGTG
38121	NRCAM	AAAGTTCCTCTCTCTTTTGTAA
38122	PRV1	ACACTCAACCTCCCTCTGACCTCATAA
38123	KCNJ13	CATTCCCCTCCTATGTATGATTCATTT
38124	TNFSF10	CACTACACTCCAGCCTGGCGAC
38125	BST2	CAGTTCTGAGCGGGTCATGGGGCA
38126	VPS41	GCCCGTAATCCCAGGGCTTTGG
38127	FKBP2	CTGGGGAGGGGCAGGGGGAGA
38128	SEPN1	TCCTAGCCAGCCGCACAGTCTAG
38129	SPR	AGGAGTCTGTGCTGTGCACCCTG
38130	SEMA3F	GAGCAAGCCCTACTCGGATGGGG
38131	EYA4	CGCGGCTGGGACAGACACTTCGGGAA
38132	CD1D	GTTTTTCAAGAAAACTGGAAA
38133	CYP4F3	CACAGGCGGAGGTTGCGGTGG
38134	BTK	TCAGGACTGAGCACACAGGTGAA
38135	ARF3	GGGCTGAAGTCGGCTTGGGGAGCCAGA
38136	ENG	GGGAAGAGAAGAGGGCCCAGCCCAGA
38137	ABCB9	CGCTGCCAATCTAAGCCAGTCTCAC
38138	ICA1	ATGCCTTCCTTCTCTGCCC
38139	SPOCK	CCTGTTCTCTGAGAGTACCA
38140	SLC9A1	GCTGAGGGCATCTCTGAGTG
38141	CNTN2	CCTTTCTCAGCCTCCAGCTGGGCT
38142	NF2	TTTCTCTCATGGCGTTCTAG
38143	CD209	TGCCTCCCGGGTTCAAGTGATT
38144	CLCN3	TCTTTTTTGTTTTCCTCTCA
38145	IQGAP2	GACATAAAATGAATTAATGGA
38146	ASNA1	CCAACCGCTGCCATTTCACACTCACCCTC

38147	PTGS2	TTTCCAATGCATCTTCCATGATGCATT
38148	KCNK5	AGCAGGAGCAGGGCCCGCCC
38149	SIAT6	CTGCAGCTGATCCATAGGACTACC
38150	IL1R1	TCTTTGGAGGAACAGCTCCCT
38151	UGT1A4	GGCTTCTGCTGAGATGGCCA
38152	PAICS	TGGGAGTAACGGACTTAACCTCA
38153	TRIM34	CAATGGGAAGAAGAGAGATCTCTGTGATCATC
38154	RXRA	TATTACCAATCCAGTTCAATTA
38155	PIK3R3	CCTTCATTTCCCCCTCCTTTGCT
38156	UBE2B	GGGGAGGGAGACGGGATAGT
38157	SACM1L	GCAGGCATACTTTTCCACACATCTTTGG
38158	EXTL3	TCAGGTACCTCCTCCCTTTCATCTCA
38159	TRPM8	TGTGTTCTTACCGCCTCCTTTTTCCT
38160	HSPA4	CTTTGTGAGGGCTGGAGCAT
38161	PLA2G2A	GCATTCACCTGCCCTGTCTCCAAACAG
38162	RNMT	CAGTTTTGTTAACTCTCTTTGGGAATT
38163	CUL3	TCATTTTGTTTTCATAAGACAAT
38164	CLASP1	TACAATCACGTCACAGGTCTCTTGGCCT
38165	SIRT2	CCCACTGTCTCTAACCACTCCTGGGC
38166	CTBP2	ACACCTGCACGCATAGGA
38167	GYS1	ACAGAGCAGGCCACGCTCAGGCC
38168	HYAL1	GTCTCTCCCTGGCCGCCC
38169	CHST2	GAACAGCCACAAAATACACACCCCT
38170	MADD	GGAGAGGGGCTACGCAGC
38171	MBL2	AACTGGCAACTTACTACTGAATCTCT
38172	PRLR	GTGATTTTTCTTCAGGTAAC
38173	TAF6	TGCTTCTCTGCTGGGATCTCGCT
38174	FACL3	TTAAAAGTTTGGATGTATAGA
38175	CCND2	GCTTTGCTCAGCACACTCTCCTGGGCC
38176	AP2M1	CTTCCCTTTGCACCAGCCC
38177	MYCL2	GATGAATTTGAAGTTCTACTAGAA
38178	WASF3	TACACCGCTGAGCTGGGCAGAG
38179	KCNK10	AGGGTCCATGTGATCACACTGA
38180	CASP3	AGCACTCAGCCCGGGAGGCAGGC
38181	MECP2	CGTTTTCGGTGCCATCAGTGCCC
38182	SLC2A2	TCCAAAGAACAAGAAATTGT
38183	UPK1B	TCTCAGCTTGAGACCATTTCA
38184	MAL	CCTGGAGCAGCTCTCGAGAACTACCTG
38185	TCF3	TGAGAGGAGTCTGCTCAGGAGCCAG
38186	MLC1	TTAAAAAATCCGGAAAAA
38187	FOLR1	CCAGGCTCCACTCCTGGGCT
38188	B3GALT5	CCTCTTTCTCTGCTGGAGCT
38189	LAD1	TCACCCTGCGGCAGGCACAACAGAT
38190	SOLH	CCCTGAACCCCACAGTCCGCCT
38191	MPP6	GGACTAAATCATTTTGCTACTTTA
38192	ENTPD3	TCAGTATTCTTCCTGGCAAGATAC
38193	RANBP3	TCCTGACCCTACCCTTGTGAGAGTC
38194	CHES1	CAAAAGGAAACCACAAAAA
38195	EIF2S3	GAGTAGCTGAGATTACAGGTGCGCGCC
38196	AFG3L1	CAGGCACAAAAGGCCACATAG

38197	PLAB	GTCCTTCCACTGTGCACCTG
38198	LAMP1	GCCTGTAACAATGTAATA
38199	PFC	GTTAGAGATTATGCATTTTCCACATAGGGAAA
38200	TCF1	TCTAACTGCCTGAGCCCAGGGA
38201	VEGFB	CCCCAAGACCTCAGCCCAGGCA
38202	DCTN1	GCCCTTCTCTTGCTGCCTCCTGGGCAGGGCC
38203	IL21R	GATGTGAAGACACCTGCAGCCT
38204	ALDH3A2	CACCACTGCACTTCAGCTTGGG
38205	FKRP	ACCAGCCTCGGCAACATGCCAAGACCC
38206	ACCN1	ACTCTCTGCTACATTCAGTT
38207	WHSC1	CTGTTGGCCAGGCTGGAGTGCAGT
38208	MSX2	TGGATGCTTGTTTCAAAGGGTTTCCT
38209	FHL2	AACCAAGATTATGTGACTTGCA
38210	JAG1	CGGCGGAGTATATTAGAGCCGG
38211	RPP30	CCTCAATCCTGGGCTCAAGTGATC
38212	EFEMP1	TGGTTTTTATTCCTGGCAT
38213	CCNG1	TGGTCTCAGACTTGGGAAAACTGCCTA
38214	GPRK7	CTCCAGGCTGGGCAGCAAGAGC
38215	OCA2	ATTCAAATTGTATGCTTTCTG
38216	KIF5A	GCCTCTTCTCAGCATGCTG
38217	ZNF289	GGGAGGCCTGGAAGGAGTTCACTGTAGA
38218	CPNE3	CCAGGAAAGATAAGAGGACCAA
38219	KCNK2	GCATAGCCATAGGTGAGGACTT
38220	NLGN2	CTCAGTGTCAGACCAGCCTTCTCCTCA
38221	LRP8	CACTACACTCTGGATGGTGTATGAC
38222	HOXB9	TTCTTTGGGGGTGATTGTCTCGC
38223	GUCY2D	GGGTCTGGGCCCTGCTCCCTGT
38224	PRKWNK3	GCTGCAACCTCCCCCTCCTGGGTT
38225	SNX13	GCTGTTGCCATGAGGCGAGGCT
38226	APM1	AAAGTGCTGGGATTACAGGCAT
38226	BAZ2B	AAAGTGCTGGGATTACAGGCAT
38226	CCNF	AAAGTGCTGGGATTACAGGCAT
38226	DCX	AAAGTGCTGGGATTACAGGCAT
38226	DFFB	AAAGTGCTGGGATTACAGGCAT
38226	DNASE1L1	AAAGTGCTGGGATTACAGGCAT
38226	DSC3	AAAGTGCTGGGATTACAGGCAT
38226	EIF5A2	AAAGTGCTGGGATTACAGGCAT
38226	GRM7	AAAGTGCTGGGATTACAGGCAT
38226	HTR1D	AAAGTGCTGGGATTACAGGCAT
38226	HYAL1	AAAGTGCTGGGATTACAGGCAT
38226	MDM2	AAAGTGCTGGGATTACAGGCAT
38226	MEFV	AAAGTGCTGGGATTACAGGCAT
38226	NDRG3	AAAGTGCTGGGATTACAGGCAT
38226	NF2	AAAGTGCTGGGATTACAGGCAT
38226	PIK3CD	AAAGTGCTGGGATTACAGGCAT
38226	PPEF2	AAAGTGCTGGGATTACAGGCAT
38226	RABL2A	AAAGTGCTGGGATTACAGGCAT
38226	RABL2B	AAAGTGCTGGGATTACAGGCAT
38226	SH3BP2	AAAGTGCTGGGATTACAGGCAT
38226	TERF2	AAAGTGCTGGGATTACAGGCAT

38226	WHSC1	AAAGTGCTGGGATTACAGGCAT
38227	DIAPH2	TTATGGCCACATTTCTCTTTCTGCTGT
38228	STAT6	ACCTGCTCTGGACACTTGCT
38229	WASF3	GTTTCTGCTTTCAGTTTCTTGGC
38230	RIMS1	AACAACCATGAAAGACTGGG
38231	CBFA2T2	GCCTCTCTGTGCACTTGCTGTCTG
38232	TLR5	TGCAACCACTGCCTCCAGGGTT
38233	AKAP13	GCAAAGCATTCCTAGTTAAC
38234	NESH	CTGGGCAGGGGACAGAGAGACACAGGC
38235	ROBO1	ACTGTTCTTTTGCATTTTGCCGC
38236	SLC14A2	CACCCAGGCTGGAGTACACT
38237	BRCA1	CTAAATGTAAGAAAAATCTGCTA
38238	HFE	AGGTGCTTCAGGATACCATATACAGCT
38239	NFATC3	ATTTGTACTGCTTTATGGTCA
38240	NXF1	CTCTCCTCGCCTGCC
38241	ADAM29	GACTCCAGCTCTGACTTCTGCTCTGGACCA
38242	GPC1	CACGGTGACACAGGTCAGGGCTC
38243	MAP3K9	TGGACCCCCTGAGATCCAGC
38244	ELAVL3	TTTTGTTTCTTTTTTCGGC
38245	NOV	TCTAGAATCATACTTAACATTTCA
38246	MID1	AGGTAGGATTCTGTTTTATA
38247	CXCL1	CACAGCCGCCAGACCCGCCTGCTGAGC
38248	STS	CTCAGCTTTCTGAGGCCCTGA
38249	FMR2	GGTCAGCCTAGCATGCAACCAGTGG
38250	KCNA6	AGACCACTGCCATCTATCCACCTGCCC
38251	IL22RA2	ATCAACAACAAGGAAGTCT
38252	CYP8B1	GGCATCTGAACCCCTGCCTCT
38253	ZFHX1B	TAGGCAGCAGTTCCTTAGTTT
38254	HUNK	CGAGGCAGGTGGATCGCTTGA
38255	ODF2	AAAGCAGCAGAAGGTGAAGCAGGAA
38256	TCL1A	CGGGACGCAGCAGGAGGCCAGGC
38257	ARF4L	TCAGTCAGACTGGGGTGCAGGACCTG
38258	MAP3K4	AGAAGCTGCATGTTAAGTGCCA
38259	BRPF1	GACTCATTTCTGGTCTTGGGGC
38260	PTGES	ACAATCTGGCTCACTGCAGCC
38261	PCSK5	CCTCCTGCCGATCGCCCGGGGCT
38262	CAV3	AGAACAGAGTCTTTTTCTTCTTC
38263	PABPN1	GGTTTCTGTAGCCGGAAGATC
38264	FANCF	AGTTTTCTTTATTCCTGGCAGTGTCAG
38265	ARHGDIA	TTCAGGAGGGAGCGGAGCAGC
38266	CACNB1	GCCCCTCCCCAGCATCCCA
38267	BAI2	GCCCTCTCCCCTCTCCCGAGGGCTGG
38268	HLA-DQA1	AATTCCTCAGTAACCTCCATCT
38269	MAT1A	GGAACTTGCCTGCCTTTCCATCCA
38270	MPP4	TGTGTGCCGTGTATTGACCCGCTTC
38271	PCDHB16	AGTTGCCCAGGCTGATCTTGAAC
38272	ADAM20	TGCAAGCATTAGCTATCACAGCAAAGGATT
38273	ARHI	ATCTTTTAATTGTGTATTTA
38274	EXTL3	AGCCTCCTCTCCCTAGTGTAG
38275	SYNGR1	GGGGGCTGTCACCCTGCTCTGG

38276	OPA1	CACATGAAAGAAAAATGGGTA
38277	SCA1	CAGTTCTGTGAATACTGCCC
38278	CAPN3	CTGCAGCTCACCATGTATGCC
38279	SYN2	GCTTGGGATCTTCAATGAACTGTGCTTT
38280	P2RX7	ACAAACCCTTTTCATCCTGGC
38281	PRKAR2B	CAGTAGTGGTTAGTCCACTGAG
38282	YWHAE	TTCAAAAGTTCTTAAAGGCAAG
38283	TNFAIP2	CAAGTGATCCTCTTGTCTCAGTCC
38284	DPYS	CCCATGGAGAAGCAGGCCTTA
38285	C1D	TGCTTTGTTGATATTCAAAG
38286	SMARCA3	CCTTTTCTCCCTGTGCCGTTTTCTTGC
38287	CYP4F3	GCTAATAAAATGGTGACTTTAA
38288	GPRC5B	CTGCGGGGCCGCGGGGGTCGAATGTTCGTG
38289	PNUTL1	TCCCAGGTCATTGTGTCTGTTTCCGA
38290	GFI1	AACTGATTCAGAAACTGACTT
38291	SORCS3	CTTTCTTTTTCCTTGTGGTCT
38292	JPH2	AGGGGACTCTGAGAATGGAAGGGAGCTCTCA
38293	ABCA1	TCACTGGTTTACAAATATAGGTT
38294	NFE2L3	CTACTTGAATAACTCAGTTAA
38295	ODC1	TCCTATGGAAACTATTTG
38296	GRHPR	CACCCAGGCTTGATTTGGATCCACAG
38297	MASP1	CTCCCTCATCTCAAAGGGTCCTC
38298	SLC14A2	CCAGGATAAGAGACCACTTAGCCTT
38299	ADH7	AGAGTCATATTATCATACTTATCA
38300	CASP10	AGGCTGTGTCAGAAACTGAAGCTGTTC
38301	DISC1	CAAACTCCTGACCTCAGGCGAT
38302	P53AIP1	CTCCATCTCAAAACAAAAACA
38303	NME1	GGCTGTAGGAAATCTAGTTATTTACAG
38304	AIM1	CCGGGAAATTCCTCCAGGCAA
38305	CCNT2	GCACAGTCATCTGACTTCTG
38306	ITGB3	AAACCACACAGACTTGGGCAG
38307	HMGCS2	CCTTCATTCCTCTCCATGCTGCAATCA
38308	UBE2B	GAAAATGGAAAATATACAAG
38309	CRIM1	TGTTTTCTTCAAAAAAGCTGTAAG
38310	SHOX	TTGGGTCTGGTTTTGTTTTGGATTGGTA
38311	CARD10	CATGGACTGGGGTGTTCCCTGG
38312	CHAC	GCCTCTGCAGAGAACACTGCCT
38313	MAP1B	TTAACCTGCATGCAGCAACA
38314	MAGEA3	GGCCCAGGCTCGGTGAGGAGGCAAGG
38315	RASSF1	GGCCTCTCTGCCTGTGGCCTTCCGG
38316	ADCY1	CCTGGCGCTTCCAGCTGAGA
38317	MUC3B	GTCTGTGGGCACCAGCACTTCAT
38318	PAM	TGAACAAATGACATCAAACTTGTGAGG
38319	PRX	GTGGCAGCAGGGGTCAGGGAAGTGG
38320	RABL2A	CTCGGGCATTGTTTGCATTGTGTTT
38320	RABL2B	CTCGGGCATTGTTTGCATTGTGTTT
38321	MYO1B	ATGTGTCTCTCATTCTTTCTTCT
38322	TP53	TCATGCCACCATGGCCAGCCAACTTTT
38323	OPTN	CCAGGAAGTGGCAGTTGCAGTGA
38324	PLS3	GTGCATGATTCGCAGGTCAGCTATTTCC

38325	MX1	GTTGCCGGCCAGGAATCCCAGTG
38326	PPP1R12B	CTCTGGTGGCTATGCATTTAT
38327	BACE2	GATGGTCCTCACAAGCCTCTTCTG
38328	MAPRE2	GCCACACACTTGCTGTAAGGCT
38329	SLC7A5	AGTGCTCAGCTGTGGCTGGAG
38330	HIPK2	GGGTGGGAAATCTATGGTTTT
38331	GAS2	TTCTCAAGGAATGCTTTCCTCTAACTG
38332	CTF1	TCTCAGCCACCTTCCTCAGGCT
38333	PRKG2	CTAAAATATTTTCACAACCAG
38334	RGS16	GCCTGTCAGGAACTCCTCACTGTTT
38335	NOTCH2	AACAAATTTTGGGGGCAGGAG
38336	C18orf1	AGCCTCTCTTCCTCTGTC
38337	RAD54B	TTACTTCGTTCCCTGGATCAAATT
38338	KPNA3	CTCCAAAACACACATGCCTCTTT
38339	PPP1R12B	TTTGCAGCCTCTCCTAGCCA
38340	CYP11B1	TTGTCGCCCTGGAATAGGGTCCTGC
38341	CHI3L1	AAGAGGCCACACCCTGCCCT
38342	IGF1	ACTCATAGCAAAGTCACTTCTGTT
38343	CAPN2	ACTCACCTCTGTCGCTTGGGTT
38344	CD5	TTCCTTTGGTTTGAATAACTCC
38345	EN2	CGTCTCTCACCCATGCGACTCG
38346	GRM6	TTCTTAGGCTGGAGTGCAGTG
38347	IL15	AGCACAGAAATCAATGTTAGCA
38348	NR2F2	GCTGTTCTTTTTTGTACTTTTCTG
38349	HYOU1	GGAGGGAGGGGCACAGTGAAGAAGG
38350	TMPRSS4	GCCAGTGCTGACCAGGGACTTCTGACC
38351	FLRT2	ACTAGCACCTATCATAATGGTCTTAGT
38352	EGR3	ATATATTGTGTTTGCTGACAATCA
38353	BAALC	TTGTGGCTTCTCTTTACAGCTTT
38354	PIK4CB	GTGCAGGGGGAGATGGGTGATGAGGT
38355	CSPG4	TGCCCGGTGCTGTCTGAGTA
38356	CDX1	AGGGGGCAGAGTCTTCCCTACC
38357	ALDH6A1	GCCTGTAATTCCATCATTTTGG
38358	CCR2	ATATCCAACATGTGCTCAGGGA
38359	PCDHA9	CCAAAGTGCTGGGATTAAAGC
38360	TCF7	GTCTCTCCACTGCTCTCAGCCT
38361	FLT3	TATTATCAACTGCTGCTTCACCAGACTTTTC
38362	RPIP8	AGCCCCATCACACTGTGTTTGTG
38363	SSRP1	AACTCTGCTGCTTCCCAAGG
38364	DFFB	GCTCAGGCTGGAGTGCAGT
38365	MHC2TA	GATTGCAACAGGCTGGGCTTCAGTGGCAG
38366	HDGF	GAATGAGTTGAGGCCACTGTGTTCCTTC
38367	PIK3C2B	TGCAAAATCTGCCTCCCGGGTT
38368	PML	CAGCCAGGCTGGGCAGAGC
38369	MAP4	CGGCGGCGGGCAGTTGCAGTGG
38370	HTR2C	AAGGATTAGCAGTGTGTGGAAA
38371	SELPLG	GCCCAGCCACATTTCAGCCGA
38372	TNFRSF6B	CCAGGAAGCAGAGCGTCATGCAGGTCTT
38373	AIPL1	GAAAACAGCTGTGGTCGGGCACGGTG
38374	MCL1	TGGGGCAGTGAGGGCTTAGGAC

38375	PPIH	CCTGCTGCTGCCCCATTTGATC
38376	MGAT4B	TGAGGTGGGCTCCTGGAACTGC
38377	ELAVL3	TCCTCCTGCCCCCACCCCAGGCTGG
38378	FOXD2	GAGAGTGAGATAGTCACAGA
38379	PSMC3	GCTGGTCGGGTCAAGAGTCG
38380	CA12	GCTCTCTGGACACTTGCGACACCTCAA
38381	CA12	CCGGTGTGCAGCTGGAGAGCGAGCGGCCA
38382	CALCB	CTTATAAGAGATTCACTCAGA
38383	PCDHB16	ATTCTCTTTCTTCAGTCTTTT
38384	PIK3C2B	AGGTGATTCTGGCCTCTGTGGT
38385	CSPG3	CTTACACTTTCTCTCCATCACC
38386	PHB	TCCAGCAGAAGGAAACATG
38387	CDK4	TCTCTAGCTTGCGGCCTGTGTCTATG
38388	KCNA6	TCGATCTTGCCATAACTTTACA
38389	IRAK1	ATTAGCCTGGCGTGGTAGCG
38390	CSNK1G2	CCAGCCTGGCCCTGGCAAGGGGCGGG
38391	MECP2	TTCTAGAGTTCCTACCATGGAG
38392	CNR1	GTTCTTCCTGTAATCTTGTTGA
38393	AHR	CGGCGGGAGGCAGTGGCTGGGG
38394	MYL1	AATCCAAGCACCATTCTTTA
38395	AOAH	AGGGAGGCAGAGGCTTGGGTAAACTC
38396	KERA	TTCTCTCTTAATTAATAACA
38397	SMARCD2	TCTTCCTAGCCTTTCTAAAC
38398	SOD3	CCAACAGACACCTTCCACTCTGAG
38399	PDE7A	AGGAATAGAGGGAGGAGTGTAATTTT
38400	PMP2	TCAATAAATATAATTTCTCTA
38401	RPH3AL	CCCTCCAGCTGCCTGGGCTGG
38402	AF1Q	TCCTGCTCCAGGGCAGTAAAC
38403	THBS1	TGCCTGTAGAGTTAGTATTTCTATTTT
38404	GIPR	CACAAAACATCAAGTTCCACACACGC
38405	CYP1B1	CAACATAGCAGATCTGTTTT
38406	C14orf1	CTCTCTGCTGCTGGACCC
38407	CUL3	CAATAAATATGATGACCTTGA
38408	ITPKB	GTTACTTAGGGTTTTTGTTTTCT
38409	GPRK6	GGAGAGCGGGACGTGGCAGAGGAG
38410	DUSP6	AGGCTGTTTCCTTTTGCATCTGGAA
38411	BRF1	GACCCCTGCTCCAGGGCCACT
38412	CSPG2	GATGGCCATGTAAATAAGATGATTTA
38413	ALEX3	GAGCCCAGTCCCACAGCCTTCC
38414	PPL	GCCCTCGGTGCTGGAGTGGACG
38415	ARHGAP6	CTGGCACACTTAGTGTTCTTCTTTCA
38416	DYSF	GATCAGCTCAGACATATTTCA
38417	C4B	CTGGAAGCACTGCTGTGTCCGC
38418	OAS3	CTGCCCCACATGGACAAAAC
38419	FOXF1	ATTTTTCTGTCTCCCAACCTC
38420	IL22RA2	GTCTGCTCTGTACAATTGTCCCT
38421	WNT7A	CAACTATTCTGTTCCACACCCA
38422	HSPA5	CACTGTACTCCAGCCCGGCACTCCAGC
38423	CALCB	TGTTAAAAAGACTGTTATTTCAC
38424	ROM1	GGAAGAGGGAGGGATGGACAAGT

38425	MAP2	TCATGTGCCTGAAGGCTATCCACTACAT
38426	IRS2	TAATAAAATGAGGCTTTTTTA
38427	SIAT6	GCTCCCCTCCACAGCTGCA
38428	LRRC2	CAGGACAGAGACAAAAATGAGGA
38429	EPS15	TTGCAGTATTCTCCCCTGATTGGAATG
38430	CDC25A	AGAAACTTAAGCAAAGGGGACA
38431	CLECSF12	CCGCCCCCTGGGTTCAAGCAAT
38432	FMO5	AGATGCTTAAGACATTTTGTTTCA
38433	LEP	GGGGGTCCACCCAGCAAAGA
38434	CHRNB4	CTCTCTCCACTTCCCCTTGTCC
38435	F2RL2	CACCCAGACTGGCGTGCAGTG
38436	REQ	TCTCTCTGCTCTCCATTAAGTGCA
38437	NAP1L4	GAGCGTCAAGTCCTGCTTTCTCA
38438	BIN1	CCTGCCTGTGCCCGCATGTGTGCCTGG
38439	FCAR	AGAGATGGGGTTTCACTGTGTT
38440	TAP2	TTCTTAGCCTAGTACAATTCCTTC
38441	XPR1	AGCTCACTGTGTTTCTTTTCTT
38442	GNB3	GGAAGTGGAAGGCAGTGA
38443	IPP	TTTCACTAGCCCCAAACTTTTT
38444	A1BG	CACGTCTGGCTAATTATTATTTTTTGT
38445	UBE4A	GCTGCTGGCACTTCAGGCTCTGCCTCT
38446	GNAS	ATCACCCACCATAGGGCATG
38447	PFKFB4	ACACAGGAATGTACACTGGTG
38448	FZD4	GGTTATCACTTTTCCTCCAG
38449	DPYSL3	GGGAGGTGGGTGGGTCAGGTGA
38450	RABL2A	TGCCTCCTGTGGGAGGCTGAGGA
38450	RABL2B	TGCCTCCTGTGGGAGGCTGAGGA
38451	PPEF2	TGATCATTCAGGGTTCATCTCA
38452	IDH3B	GAAGTCACTTCCTGGGTATAT
38453	TP53	CCGGAGTAGCTGGGACCACAGGT
38454	GNB1	TTTTGTCTTGAATGAATTTTA
38455	PLIN	GCACCTGCCTTACATGGCTTGT
38456	RBM8A	GCTTCAAACTCTTGGGCTCAAGCCATC
38457	NR4A1	ATACAGGAAGAAAGAGCTTG
38458	MTMR1	TTTAGGATGTATATACAAAGACGA
38459	MEFV	CTCCTGCCTCAGCCTCCTGAGCA
38460	CNTN2	CTGGCTCTCTGGTCCTTGTTGCT
38461	LDLR	GTGATCCGGGTCGGGACACTGCCT
38462	PCDHGA1	ACCCCACCCTCTTCCTGTGTC
38462	PCDHGA10	ACCCCACCCTCTTCCTGTGTC
38462	PCDHGA11	ACCCCACCCTCTTCCTGTGTC
38462	PCDHGA12	ACCCCACCCTCTTCCTGTGTC
38462	PCDHGA2	ACCCCACCCTCTTCCTGTGTC
38462	PCDHGA3	ACCCCACCCTCTTCCTGTGTC
38462	PCDHGA4	ACCCCACCCTCTTCCTGTGTC
38462	PCDHGA5	ACCCCACCCTCTTCCTGTGTC
38462	PCDHGA6	ACCCCACCCTCTTCCTGTGTC
38462	PCDHGA7	ACCCCACCCTCTTCCTGTGTC
38462	PCDHGA8	ACCCCACCCTCTTCCTGTGTC
38462	PCDHGA9	ACCCCACCCTCTTCCTGTGTC

38462	PCDHGB1	ACCCCACCCTCTTCCTGTGTC
38462	PCDHGB2	ACCCCACCCTCTTCCTGTGTC
38462	PCDHGB3	ACCCCACCCTCTTCCTGTGTC
38462	PCDHGB4	ACCCCACCCTCTTCCTGTGTC
38462	PCDHGB5	ACCCCACCCTCTTCCTGTGTC
38462	PCDHGB6	ACCCCACCCTCTTCCTGTGTC
38462	PCDHGB7	ACCCCACCCTCTTCCTGTGTC
38462	PCDHGC3	ACCCCACCCTCTTCCTGTGTC
38462	PCDHGC4	ACCCCACCCTCTTCCTGTGTC
38462	PCDHGC5	ACCCCACCCTCTTCCTGTGTC
38463	PRKY	TTTCACCAAGCCTTTTCATAATCA
38464	BCL2	GAATCAGCTATTTACTGCC
38465	MUC3B	TCCATTTCAAGAGGTGGCCCC
38466	FACL2	ATACTATAAATGTGCTAAGTTATTTGA
38467	ZIC3	CACTCAGATCCCTTTTTTAA
38468	SLC7A6	GGATCACCTGAATTCTCTCAGCTGTCA
38469	MMP15	CCATACATTTATTTCTGTAAA
38470	ZNF124	TCGAATGTGAGAATGCCTTCA
38471	PGK1	CTCCCCAGAGGTGACCACTTTCAACT
38472	BDKRB2	TGGAAGGGCTAGAACCTGTAGA
38473	EIF2C1	AGCTCACTGGAGAGCCTACATTCCT
38474	TFEB	CTCGGCTCTCCCACAGGTGGGCACCCC
38475	ADORA1	AAACAGCCACGAGGTGGTAGCTCT
38476	ADCY6	CTGAGTCTAGCATGTTTCTA
38477	PEX3	TTCCAACAACTATGATGAACTATGTTC
38478	DAPK1	GCTCTAGGAAGACATTTTTCCGTTTG
38479	SHOX2	GATGCTTTGAGTTTAAACCCACC
38480	STAU	CCGGGGGACGAGTCCGGAGCAGC
38481	MAGEA5	GTACTGGAGCACGTGGTCAGGGTC
38482	ARSB	CCTGTCGGTGAAGGATCATGT
38483	PTPRN	AGGAGAGGAAAGGACATGGGTA
38484	CBFA2T1	ATTTTTAATTAAAAACTAGTA
38485	DSCR3	CAAGCGACTCTCCTGCCTCAG
38486	CALML3	TGAGTGGGAGACAGGCGGCAGG
38487	KCNC3	CCCTGCTCTCTTAGAAAGAGCC
38488	BRCA1	GCCAGCCACAGGTACAGAGCCCA
38489	MYOG	GCAGGGGCCTCCTAAGCCAG
38490	RLBP1	TCTCCTGCCAGCTGAACTGTAGTT
38491	CLCA3	GGCGCAGGTGCTGATTCTGTCAA
38492	SHMT1	ACCATTTTTAATAAGCACAATC
38493	PTPN14	AGAGTCACCTCCAGACAACATCTGCTC
38494	APBB2	GCTAGAGGTAAACGTTCTGCT
38495	SNX9	TTTCTCTCTTTGCACTTCCTTCCTAATC
38496	ETV5	CGCAAAACGGGACATGATGTGACAATC
38497	PSMD9	CAAAGATGTTGTCCCTGGGGA
38498	GPR81	CCCAAAGTGCTTGGATTACAGG
38499	SLC12A7	TTAGAAAACCAGTCACTTCTT
38500	ABCA1	ACTGTCTGCTAACATGGTACACTGC
38501	CAPON	CTCTCCAGGACTGCCAGGCTGCTGGAGGA
38502	NEDD4L	AAGTTGTGGTTTGGGGAGGTCTGT

38503	DVL3	GTTTCATGTACTTCTCTCTCTGACTCT
38504	ZNF155	TGCTACTTAACAAGGTGGT
38505	HCN4	GTGTGCCCTGGGGAGCCTCAGA
38506	MEIS2	GGCGGGCAGAGGAGAGGGAGGCCGC
38507	PCDH15	AGCCTTGGCAAGAAAACTTGCTGCATAAT
38508	SLC9A1	GGGCTCCCAGCCCCTCTCTCCTTTT
38509	NFIB	GGCTCAGATGACTGTAAAATGAA
38510	APBB2	CCAGTTTAAAAGAGTTTGAAGGAGCA
38511	MYO1B	AATGGTGAGACCAAAACAATAAC
38512	MGAT2	TTGTCGCTCAGCCTGGAGTGCAGTG
38513	MTAP	ATACGGACGTCCTTTGGTGCTG
38514	ZNF192	GTGGACACATTAGTAATGGT
38515	HDGF	CACTCTCCTAGGCATTCTGGACC
38516	ANXA9	ACTGGCTGTTCAGCCTAGGCTGCACAC
38517	OXTR	CCAAAGACACAAGCAACCAA
38518	RRM2B	GTGAAGATGGAAGGCTGGAGAGAA
38519	BCL2A1	CACATACTTCTACTTTT
38520	TIMP3	GCCCCCAGGAGACACTACCCT
38521	DBT	CCCAGGAGTTCAAAGCTGTAGTG
38522	ASH1	GGAGCTAGTGGAGAGGGAGAGG
38523	TPMT	TAGATTTCTCAGTTCTTCTTTA
38524	SALL2	GCGTCTCCCCTTTAAAGACT
38525	ATP6V1G2	ACCCAGGGGTAGTGGAGGACTGCA
38526	FSTL3	CTGCCTCTGTGTGCCCCTTTGCGTC
38527	SNTB2	GCCTGGGCGTCACCATGCCACAGCT
38528	TCERG1	CACCATTAAGTGATCTTTAT
38529	COL6A3	ACCGTTGGGACCAATGCCTTA
38530	FMR2	TGATGGAGGCTTGGTGA
38531	PP	CAGGACTCCGGCACTATGAGCG
38532	CD209	TCTTGTGCCTTCTGCTCTCTCAG
38533	PYGM	TCCTCTCCTCCCCTTGCCC
38534	NRCAM	ACACAGGGCAAGACACATACAG
38535	LMNB1	TATGGTTACTTCTTCTCTTAGA
38536	PTGES	GAGTAGCTGGGATTACAGGCGCGTATC
38537	MMP1	AGCCATCACTTACCTTGCACTGA
38538	RBMS3	TCCTCAAGATCAGCCATCTTG
38539	GSPT1	TCTCCGGCCGGGCGCCCCTGCCTCCA
38540	ADCY1	TGGAGGCAGACAGGGTGGGCTGGG
38541	GCK	AGCAGCATTCAGCACACCCCA
38542	WHSC1	TACAGAAATTCATTATGCTGCTA
38543	NEDD4	TCCCAGATCTTGAAGAAAATCATATA
38544	SORBS1	AGGTATGCCTCACCAATTTGCC
38545	NUP155	AACAGCAAGCAGCTTCTTTTCAG
38546	SDPR	CCATAAGCTTGCTGAATAGTGTACCGG
38547	SPAG8	TCCAGATGATTTTTACTCCCAAGGA
38548	ANK3	GAGCATGGAAATCACTTTCATTTCCG
38549	TNFRSF10C	CTGCTGTGTTCCCACAGACAGA
38550	AQP6	GGAGGGCAGGGAGAGCAAGGGGCAAG
38551	TAF11	TGCAGCTCGGGTTTCCGAGCTTCTGCC
38552	ETV6	GTGGAAAAGGAAGCGACCCAGAAAT

38553	VPREB3	TCCCTAGGGTGGGGTGTGAGATG
38554	FRAP1	GCTCAGAAAACAGAAATACT
38555	CTF1	CTCCTTCCTTGGGCCTGCCTC
38556	NTRK2	AGGTTGTGATGATAGCACTGGT
38557	RAB7L1	CCTGTAATCCCAGCACTTGGG
38558	PPP1CC	CACTGCCTAGTCGGGACTTGTAA
38559	HMGN1	ACAATCCAGAGGAATATTTTTA
38560	PGK2	CAGCCTATGTCTTTATATTGTC
38561	SPTBN2	GCCTTGAGTCTGGCCAAGGAGGTGA
38562	PUM2	AGTCTTCCTTCATCCTTGC
38563	FOXD1	TTCTTTACAAGGAGTATTGTAAA
38564	ADCY6	AAAGTGCTGGGATTACGGACGT
38565	ST7	TCAGTAAATGTGATTCACCTC
38566	TEM6	GGCTCAGAAACCGTGAGAGAGCC
38567	DSCR3	TCTGTCACCCAGGCTGGAGTGATCTCA
38568	AQP6	GTGAATTTGTCCCATTCCCTCTCTG
38569	CLASP1	CTGCTTCCTCCAAGCTGCTGCCTC
38570	WASF3	AGGGAAAGGTTCAACAAACAGGGAGAA
38571	ALDH1B1	GCCCAGGCTGGAGTGCAGT
38571	APPL	GCCCAGGCTGGAGTGCAGT
38571	ATP7A	GCCCAGGCTGGAGTGCAGT
38571	BCL10	GCCCAGGCTGGAGTGCAGT
38571	CASP8	GCCCAGGCTGGAGTGCAGT
38571	CNN2	GCCCAGGCTGGAGTGCAGT
38571	CTSS	GCCCAGGCTGGAGTGCAGT
38571	CYP2B6	GCCCAGGCTGGAGTGCAGT
38571	EHD2	GCCCAGGCTGGAGTGCAGT
38571	EVC	GCCCAGGCTGGAGTGCAGT
38571	F2RL3	GCCCAGGCTGGAGTGCAGT
38571	F3	GCCCAGGCTGGAGTGCAGT
38571	FHL2	GCCCAGGCTGGAGTGCAGT
38571	FUT1	GCCCAGGCTGGAGTGCAGT
38571	GPR4	GCCCAGGCTGGAGTGCAGT
38571	GRAF	GCCCAGGCTGGAGTGCAGT
38571	GRINL1A	GCCCAGGCTGGAGTGCAGT
38571	INMT	GCCCAGGCTGGAGTGCAGT
38571	KCNJ11	GCCCAGGCTGGAGTGCAGT
38571	LYZ	GCCCAGGCTGGAGTGCAGT
38571	MEFV	GCCCAGGCTGGAGTGCAGT
38571	NCOA6	GCCCAGGCTGGAGTGCAGT
38571	NCOA6IP	GCCCAGGCTGGAGTGCAGT
38571	ORC1L	GCCCAGGCTGGAGTGCAGT
38571	PAICS	GCCCAGGCTGGAGTGCAGT
38571	PCDHA9	GCCCAGGCTGGAGTGCAGT
38571	PCDHB9	GCCCAGGCTGGAGTGCAGT
38571	PDZK1	GCCCAGGCTGGAGTGCAGT
38571	PER2	GCCCAGGCTGGAGTGCAGT
38571	PIGR	GCCCAGGCTGGAGTGCAGT
38571	PIK3CD	GCCCAGGCTGGAGTGCAGT
38571	PON1	GCCCAGGCTGGAGTGCAGT

38571	PPP1R12B	GCCCAGGCTGGAGTGCAGT
38571	PRND	GCCCAGGCTGGAGTGCAGT
38571	SERPINB9	GCCCAGGCTGGAGTGCAGT
38571	SLC13A1	GCCCAGGCTGGAGTGCAGT
38571	SMAC	GCCCAGGCTGGAGTGCAGT
38571	SS18	GCCCAGGCTGGAGTGCAGT
38571	STAU	GCCCAGGCTGGAGTGCAGT
38571	TAPBP	GCCCAGGCTGGAGTGCAGT
38571	TERF1	GCCCAGGCTGGAGTGCAGT
38571	TMC1	GCCCAGGCTGGAGTGCAGT
38571	TMPRSS3	GCCCAGGCTGGAGTGCAGT
38571	TNFAIP2	GCCCAGGCTGGAGTGCAGT
38571	TRPV1	GCCCAGGCTGGAGTGCAGT
38571	UGDH	GCCCAGGCTGGAGTGCAGT
38571	VIPR2	GCCCAGGCTGGAGTGCAGT
38571	YES1	GCCCAGGCTGGAGTGCAGT
38572	PRELP	TTTGCCTCCCTTATCCCACCCTCGAGG
38573	PPID	ACCCAGGCTGGAGTGCGGT
38574	TRPV1	CTCACCCAGGCTGGAATGCAGTG
38575	DTNB	GGGAGAGGGGAGCCAGAGCCG
38576	CSNK2A2	CACCTCCCTGGTTCAAGCGAT
38577	FGFR1	GGTACCCGTGCTGCAGTCGGGCACGC
38578	SLC2A2	TGATCACTTTGTTAAAAATATTTTCTGAAT
38579	AIPL1	AGGCTGAGGCAGGAGAATTGAT
38580	SIGLEC11	GGTGGCTCACGCCTGTGGTCTCAGC
38581	ATM	GGAGGCTGAGGTGGGAGGATGGCTTGC
38582	REPS2	ATTGCCTCTGCCTCGCTTTATGATGTC
38583	REN	GGTTCTCTCAGCTTGTTCTTGCCT
38584	KIR2DS2	CCCTTCAGACTATCTTTCAGCCTTCTG
38585	CD79A	TGTCACCCCCTCCTCCCTGAT
38586	GGT2	CCCGCGAGGTGGCCCCCAGGCTGG
38587	AMPH	TCTCAATGTTCTTTTCCAACACA
38588	SLC17A4	GGATCCTGCACTCTTCCTCCCTCA
38589	SLC22A12	TCCCGGGAGGTCTGGAGCAGC
38590	JAK3	ACCCAGGGTGGAGTGCAGTGGT
38591	SF3B1	TAATTCATCTTTATGAAGATT
38592	ZFP161	CTCTTATTTGGGGCAGTACCAGTCCATA
38593	RAB23	GCTCCTAATGGCTCTCTGAAAGTG
38594	CRYZL1	ACTCCAGCCTGGTGACAGAGT
38594	GM2A	ACTCCAGCCTGGTGACAGAGT
38595	SLC4A4	TTCTTCCTAGATTTTGTTGTTT
38596	GLRB	GAAACCAAGGGGAAGTAATAAG
38597	STE	CCCAAAATACTGGGATTACAGG
38598	BCKDHA	GACAGCATCTGCAGCAGTTGCTGA
38599	LRP4	GGAGAGAACAACAGGGGCTGG
38600	TEM8	AAATGTATACCTTTGAGAACAGTGCC
38601	TNFSF9	CCTGCTGCTGACCTCCCCTTGAGGACC
38602	LUZP1	AAATCCAGAACCACCTGCCT
38603	KLK10	GCCACTCCCTGCTGTGTGACT
38604	RXRB	TGGAGATGTAGGAACCGATCTGC

38605	GNAO1	CCTTTGTAAGACACACAGCCTT
38606	NQO1	TGCTAGAAAAATGTTCTTTAAAG
38607	CAPON	TAGAGGAACTGAATCCAAA
38608	GRB2	CCTTCCCCCTGCTTCAGGCTGCTGAGC
38609	APBB1	ATCTAATCCCTTCAAGGAAGTGAT
38610	ATP11B	AAATGGCAACCACTAGTGTGCTCA
38611	SNAP25	TTCCTCCTGTCTCCTCTGTCA
38612	APTX	CCAGCAGCTGCTGCCTTCCATTCC
38613	CBFA2T3	CCGTCCTCCTCTACCTCTCTC
38614	MYCL2	TCTTAGCCTGGGGCCTGGGGA
38615	MYCBP	TGGGCAGCAGTGGACTAAGTGC
38616	GRIN2B	GCACCATCTCTCCTCCTTTTCACA
38617	CHD4	CAGCTTCTCCCCTGGGGGCCTGAG
38618	SRC	CATGGAGGCAGATGTGGGGCTG
38619	RAD23B	GCTTTGTGAAATTTAAAAAATTT
38620	RBM6	CGGTGGCGGAGGCTGAGGAGA
38621	NDUFS1	GGGAGGTCTCAAGAGATA
38622	ACADM	TGTAGTATTTGAATACTGTCA
38623	ADCY1	CTAAGGTGGGAGAATTGCTTGA
38623	HIP1	CTAAGGTGGGAGAATTGCTTGA
38624	FY	TGTTTGCCCCTCAGTCTTTATA
38625	ALDH3B2	AGGGAGTGGAGGTGCAGCGA
38626	MIR16	CTGAGGCAGGAGGATTACTTGA
38627	MADH4	AGTGGATGACTGTTGATGAAGTA
38628	SLC12A7	TCTGAGCTGGCTCACACGTGCC
38629	CLTB	CTGTCCCGCTAGTGCCTGCTAGGTGC
38630	CBFA2T2	CTCTGGCCCCGGACTCTGCTTACCCTG
38631	IL1RAPL2	AGGGTTCCCGGGAAAGACTGGAGCAGC
38632	PTGIS	CTTGCCTGTAATCCCAGCACTT
38633	PAG	CCATGCATCCATCGCTGAAGGG
38634	RRM1	GCTCTGAAGAAAGTGCTGTCTGGCTCC
38635	ENTPD6	TCTGCATAAACCCTCCTGTCCTGG
38636	KIF3C	GGGAAGGTAGCCAGTGCCTGAG
38637	GPR45	TGGGTGTTCATTCATTTTGTTTGAC
38638	SDC4	CTTTGGGCCTCAGTTGCCCTGGCAGA
38639	KDR	GCCCCAGGAAGAAAATGATGCAGCT
38640	HOXC6	GATTTTTAGCTGTATTTG
38641	ASK	GCAGTGAGCCAAGATTGTGCC
38642	IFNGR2	TGGAGGCGGAGGTTGCAGTGA
38643	PHTF1	GTTTAGCTTCAGTACTGTGAC
38644	BDNF	CCCACATCTCTACCCATCCTGC
38645	PUNC	CCCTTGCCTCTGCCTGGTACCCACATG
38646	DLK1	ACGAGGGAGAGCGCAGC
38647	BACH1	AACAGATAAAAAATGTATCTGCA
38648	PCDHGA1	CAATCAGGCCCATCCATCCCATGCCT
38648	PCDHGA10	CAATCAGGCCCATCCATCCCATGCCT
38648	PCDHGA11	CAATCAGGCCCATCCATCCCATGCCT
38648	PCDHGA12	CAATCAGGCCCATCCATCCCATGCCT
38648	PCDHGA2	CAATCAGGCCCATCCATCCCATGCCT
38648	PCDHGA3	CAATCAGGCCCATCCATCCCATGCCT

38648	PCDHGA4	CAATCAGGCCCATCCATCCCATGCCT
38648	PCDHGA5	CAATCAGGCCCATCCATCCCATGCCT
38648	PCDHGA6	CAATCAGGCCCATCCATCCCATGCCT
38648	PCDHGA7	CAATCAGGCCCATCCATCCCATGCCT
38648	PCDHGA8	CAATCAGGCCCATCCATCCCATGCCT
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38648	PCDHGB3	CAATCAGGCCCATCCATCCCATGCCT
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38648	PCDHGB5	CAATCAGGCCCATCCATCCCATGCCT
38648	PCDHGB6	CAATCAGGCCCATCCATCCCATGCCT
38648	PCDHGB7	CAATCAGGCCCATCCATCCCATGCCT
38648	PCDHGC3	CAATCAGGCCCATCCATCCCATGCCT
38648	PCDHGC4	CAATCAGGCCCATCCATCCCATGCCT
38648	PCDHGC5	CAATCAGGCCCATCCATCCCATGCCT
38649	TRIM9	ATGCTTCACATGGTTAAAAAC
38650	SUOX	GAACATATCCCCAGTGGATAAGG
38651	RPL10	CATCTGGTTTGGCCATTCCTCCT
38652	SIP	GGCTGGCGCCCGTAATCCCAG
38653	DAP	CACACTTGAAAGACGGTGTTT
38654	SLC7A8	CCTGGGAGACTGAGGAGAGCATTGGCTGA
38655	EPHB2	TCTGGGAGCCTAAACCAGGCT
38656	SRP68	AAACGCTTTGTCATGCTTCT
38657	IL16	GCATCACCTCCACCATACTCCA
38658	LPP	TACCAAATACACATTTCACATT
38659	KPNA1	ATCTGAAAGAAATAACCATCT
38660	CDC34	GGCTTTTTCTCCCTCCCCATGTC
38661	COL5A1	GCTGCACCCCAGCGCCTGGGCCCGCCCC
38662	SLC7A7	GCACTTCTCTCCCTGACTGCCG
38663	EGFL4	ACCAGCTACGGGAAGAGCTTTG
38664	PLAU	TCTGGACTGAAGCCTGCAG
38665	DSCR1	TAGGTATTATATTTTGGCCTTAC
38666	S100A3	GCCCAGCCTGCCTGCCGCACCCCTGTG
38667	CLASP1	CAAACTCAAACTCCAAACCTCA
38668	EGFL4	CCAGCCGCCCCTTCGCCAAG
38669	KLRD1	GTCTTGCTATGTTGCCCAGGC
38670	NSEP1	CCTGGGCAGCCCCACCTCCGC
38671	NCKAP1	CCCAAAATTCTAAGAGCAGCAGC
38672	CBFA2T2	GTTCAAGCGAGTCTCCTGCCTCA
38673	COL4A2	CATCCAGCAGCAGCACTTAGA
38674	IGJ	TTCTAGCATTAAACAAATA
38675	CTF1	GGAGAGGGGAGGGGACGGGCAGGGTCT
38676	CA3	CCTGTCCCTGCCCCACCCCAT
38677	MAGEC1	TCCAGTCTTCAAGGTGCTCCA
38678	GPR56	ACTCTGCATCCTCTGTCATTTTA
38679	CTSC	AACAACCAGAGACTACACAGGA
38680	DTNB	GACTCCGTCTCCAAAAACAAACAAAC
38681	ABCF1	TTCCATCCAGCCAAGTTTATG
38682	FGF14	CCAGACATTCCTGCTCCGTG

38683	RAB4A	AATTGAGTTTTTCCGTGAACTT
38684	RGS14	CTGCATGCCCTGTCTGTGCCATGAGTGTC
38685	CAPON	CGCGGGTAACCATGCCTAGCAAAACC
38686	BDNF	TTTTGCACTTGCTTAGAAG
38687	IQGAP1	GTTGTATTTTGGAAGACAGGTT
38688	PABPC3	GGGAAAAGAATTTTCAGCAAAGTACCAA
38689	SPINT2	GGCGTCCCCACACTGAAGGTCC
38690	INPP4A	TGATGGATTTGGACATGCTTCT
38691	LAMP2	ACATTGAATGGATCAATA
38692	MEF2B	CCCCGAGCTGGCCCAGCACA
38693	DDX3	CTAGGTTTAGGCCCTTGTACA
38694	SFRP1	TGCAACACTTTGAGGACATTTA
38695	CDH1	CCCAAAGTGCTGGGATTGTGGGCATG
38696	SMURF1	GCCAGTGCTTTCAGTAGGAA
38697	MPL	CAGACTGGAGTGCAGTGGCACG
38698	APAF1	CAGGCTGGAGTGCAGTGGCGCG
38698	CD209	CAGGCTGGAGTGCAGTGGCGCG
38698	CYP1A2	CAGGCTGGAGTGCAGTGGCGCG
38698	GRAF	CAGGCTGGAGTGCAGTGGCGCG
38698	INMT	CAGGCTGGAGTGCAGTGGCGCG
38698	PCDHB9	CAGGCTGGAGTGCAGTGGCGCG
38698	TAPBP	CAGGCTGGAGTGCAGTGGCGCG
38698	YES1	CAGGCTGGAGTGCAGTGGCGCG
38699	CYP1A2	CAGGTTGGAGTGCAGTGGCGTG
38700	PPID	CAGGCTGGAGTGCGGTGGCGCA
38701	SF1	GCCACCCTTGTCAAGGGAGT
38702	FACL3	AAGAATTGGTTATTTGGGGG
38703	PPEF2	GAGCTGCGGAAGCCCACTCAGGAGGAG
38704	TAGLN2	TTTCCATTCCCTTCACTGTGG
38705	MADH5	AGATACTGTGAGCTTACATTGAAAA
38706	GAD1	ATATTTGCTTATTTATATTCA
38707	LRRC2	AGTAGGCTAAGAGAAGACAAG
38708	ABCD1	CACCATGTTCCCAGCTCAGTGCC
38709	ARCN1	ATTTCTCCACATTTTGGGTAC
38710	TEX15	CAGAATATTAAAACATGGAATATTTTTGCT
38711	HNRPF	TTACCTCTTCAGTGTTTTCTCATGCAA
38712	GPR92	CCTGTTCATCTGCTGACTTCTGTCTA
38713	CDKN2D	TCTCATTTGTTTTTCTCACTCC
38714	SHOX	GCAATCCTCCCACCTCAGCCTCCTGAGTAGCT
38715	LOX	AAGAATTTTTGTTTGGACTGTTTTCA
38716	PRPF18	CCTTCATTTCATATCTGACTGCAAGCT
38717	RGS5	CCTTGGACCACCTTCATGTTA
38718	RRAS2	ACTGATACTACAACTTTTGTTTTC
38719	IRS2	CTGTACATTTCACAAAAAGGCAT
38720	PFKFB4	TGCTCACCAGTGCCATGTTCATCCACTGTGA
38721	PCDHA1	TTAGACTAATTGGTACAAGGAAGG
38721	PCDHA10	TTAGACTAATTGGTACAAGGAAGG
38721	PCDHA11	TTAGACTAATTGGTACAAGGAAGG
38721	PCDHA12	TTAGACTAATTGGTACAAGGAAGG
38721	PCDHA13	TTAGACTAATTGGTACAAGGAAGG

38721	PCDHA2	TTAGACTAATTGGTACAAGGAAGG
38721	PCDHA3	TTAGACTAATTGGTACAAGGAAGG
38721	PCDHA4	TTAGACTAATTGGTACAAGGAAGG
38721	PCDHA5	TTAGACTAATTGGTACAAGGAAGG
38721	PCDHA6	TTAGACTAATTGGTACAAGGAAGG
38721	PCDHA7	TTAGACTAATTGGTACAAGGAAGG
38721	PCDHA8	TTAGACTAATTGGTACAAGGAAGG
38721	PCDHA9	TTAGACTAATTGGTACAAGGAAGG
38721	PCDHAC1	TTAGACTAATTGGTACAAGGAAGG
38721	PCDHAC2	TTAGACTAATTGGTACAAGGAAGG
38722	CLECSF12	AAAGTGCTGGGATTACAGATGT
38722	FTSJ2	AAAGTGCTGGGATTACAGATGT
38723	HFE	AGGGTGCTGAGATTACAGGTGT
38724	MSF	AGGAGCTGAGGGAGGGAGCCAT
38725	BMP1	CTCCCCGCAGACGATGCCACCT
38726	TRIM9	ACTGTTCAAGACACTAGAACA
38727	RPP30	TCAGGCTGGAGTACAGTGGCAT
38728	SAT	AACTTCTCTTGCTTTCTATGCT
38729	ALPP	TTTGTAATCCCAGCACTTTGG
38730	SLC8A2	CCCCCCAGCCCTCAGGGAGCTC
38731	CNTFR	CCCTCTGCCCTGTTTTGTATACC
38732	TADA2L	AGCTTTGGTGTATGTGTTGG
38733	TAP2	AGCTCCACGACAAACTTTCTGCCTTC
38734	MATK	CCCGACTGTGACCACTTGCTCA
38735	RTKN	GAGCAAACATACCTCCCTTGT
38736	FXYD6	TTGCCTCCCCACTGCAGCCTGC
38737	FGF5	TTTAAGGGATTCTCCTGCCTCAG
38738	MKKS	AATAGAAAAATGTGGTTTACAA
38739	CRYZL1	TTCAGTGAGCCAAGATTGCA
38740	CACNA2D2	GTGGGATGGGACAGGGAGGC
38741	GPR44	TGACACCTCGCCCCTGCTCCCTCCCA
38742	MKL1	CCTTTCTCTCCCTGCTTTGCT
38743	ZNF214	AAGACGAGCTGTGCTTGAAGGAA
38744	AFG3L2	GTGTGGCAGGGATCGTTGCACTGGAC
38745	CRYZL1	TGGTGGCACATGCCTGTAATCCCAG
38745	RPN1	TGGTGGCACATGCCTGTAATCCCAG
38746	PRKACB	CCTAGGGTAGGGGCACTGCTGCA
38747	ARF1	GGCAGTTTCTGGTACTCCTATGCAATA
38748	FUT6	TATGTCCCTTACCTGGGATTTC
38749	IL1R1	CCTGGCAACAGAGCAAGACTCCGTCT
38750	SH3BP2	TCATGCCACTCCCCACTGTGGCCATAG
38751	FUT6	CTGCCAGGAACCTCATTTTCCTGG
38752	SLC2A6	CAGAGCACAGGAAGAGCAGTGT
38753	MSH3	TGGCGCACACCTGTAGTCCCAG
38754	RBBP9	TGGTGCACACCTGTAGTCCTAG
38755	PRKY	GGAGGCTGAGATGAGAGGATCA
38756	RGL	GGGGCTGAGAAACAGGCTGCGGTGA
38757	RBM10	CGGCGGGCAGAGGTGATGTCTGGGA
38758	DPH2L1	CCTCCACTCACTGCTGTGAGTGCGCC
38759	MPP2	GGCCACACCCACCCCATTCCT

38760	KLHL3	ACTGCCTCTACTGGGCGTGCTGCCAAG
38761	CDH13	TCATTTTGACAGCATCTTCCTC
38762	SLC29A1	GAGGAGGGAGAGAACTAGGGGCCCGC
38763	NAPB	CCAGCCAAGGACAGACTGTAGA
38764	RDX	GCTAACCTTGTAGCATGTGAA
38765	HAS1	CCCAAGATTCTTCAGTCTGG
38766	THY1	AGGGTTCATCATCCCTCCCTGCCT
38767	GRINL1A	AGATCAGTGTCAGATATTGTTGAGGG
38768	PPP3CC	TCTGTTTTGTTTTTCCCTTTTTTCTCCA
38769	AGTRL1	GGAGGTGGGAGGAGGGAGTGA
38770	MAP3K10	ACTGGGGGGAGGGTGGGCAGG
38771	PLAGL1	CGAACTGCATGTATTGTGCCA
38772	PCLO	TTACTTCTAAAAGGCATTAGCCAGGC
38773	SURF6	CACCCGAACAGAGGACAACCCT
38774	WASF3	ACCAAAACAAATGGAGAAGAAACATC
38775	GOLGA5	TGCAGTGATTGGTTGTC
38776	HPS4	CTCCTCGGGCTGGGAAACAGGAAG
38777	NOS2A	TCTGAGGTCACAGGGCCTGGGGA
38778	SCN2B	CTCTTGGTGTGCTTCCCGTGAC
38779	CALCRL	ATACATACAACCTATGTAATTTTTA
38780	OTOF	GGGAAATTGATGACTTCCTCATG
38781	RSN	GGGGAAAGATAGTGGCAACAGGCA
38782	PTK2B	TGTACCTCCCCTGCCTTGCTGTTGGTCA
38783	CPT1B	GGACTTGTGTGACCTGCTTTGAAATGT
38784	SIRT1	TTGTCTTTACTTTTAAAAGTAATACT
38785	CD28	GTGGTTTAGGGCTCAGAGCTCC
38786	TAX1BP1	TGACCAGGAGCTACTTTGAG
38787	LILRB1	GACTTCTCAATAATCAATGAAGTAGCT
38788	RAB7L1	GCAGGTGGATCGCCTGAGGTCA
38789	PGF	TTTCCCTGCTGAATGCC
38790	SRM	GCCCACCAACCAAGTGTTACA
38791	ZNF26	GTTGAGAACATCCATTCATTCT
38792	TLL1	TACTGCTCCAGGCATTTTATT
38793	RHD	CCAAGTACCTGCCGGTTTGCT
38794	MSL3L1	GAGGCCCAGAGTCTAAGACTGCAGTGA
38795	LPIN2	TTCCACTGGGCAGTTGAGGTGGC
38796	CTSS	AAACTCCTGACCTCAGGTGATC
38796	DFFB	AAACTCCTGACCTCAGGTGATC
38796	MAK	AAACTCCTGACCTCAGGTGATC
38796	MICB	AAACTCCTGACCTCAGGTGATC
38796	MLANA	AAACTCCTGACCTCAGGTGATC
38796	NDRG3	AAACTCCTGACCTCAGGTGATC
38796	NQO1	AAACTCCTGACCTCAGGTGATC
38796	SCML2	AAACTCCTGACCTCAGGTGATC
38796	SPN	AAACTCCTGACCTCAGGTGATC
38796	VHL	AAACTCCTGACCTCAGGTGATC
38797	COL6A1	TGCTGCATCCCACCAGCCTGAGCAA
38798	DPH2L1	TGGTGGCACAGGCACTGAACAGGCTGG
38799	TCF4	TCTTGGCTGTGTGTCTGCGGATCT
38800	PIGN	TCCCACATACCCAGAGGAGAGCATA

38801	NTSR1	GGAGGCACCTGGAACCCGTGGCAAGC
38802	NPHS1	AGGAGAGGACATGGAGGGG
38803	FGFR4	TTGGGTCCCTGAGAGCTGTGAGAAGG
38804	ATP6V0A4	GCCCCTGCAAGGCGCTCAATGGGAA
38805	MAP3K7IP2	TCTGTACAAATGTGCAGCGAAAT
38806	LDLR	CAAAAAGTTAAAAATCAGCTGG
38807	FCGR3A	TAGCTTTGTTCATTGCATTTAT
38808	FY	CCTGCTGTTTGCCCCTCAGTC
38809	PRND	GCCACTCTCAGAGACTCCCAGGAG
38810	PPP1R12B	TCTCCCACTCTACTGAAACCCG
38811	HLF	CGGTTGTTTCTTTCTTTCTTA
38812	NCOA6	TCACCGAGGCTGGAGTGCAGT
38813	PTP4A2	TCACTAGTGCCTAAATGTAGTA
38814	MFAP3	AATTCTGAGCTATGGCTGCTT
38815	AP3B1	GGACTTTAGAATCTGGCACACAAC
38816	SFRP1	GGGTTTTACCACCGTCTGTCTCA
38817	GJB2	AGGTTCCACAGAGGACACAGAGA
38818	PTPN1	GGAGATGGAAAAGGAGTTCGAGC
38819	NCF2	ATCCTGTTTCTTGCTCTGAGTGCT
38820	EBI3	TGGATCGCACCTGTAATCCCAG
38821	RXRB	GGGGTGAGAAGTACAGGGCAGA
38822	RAB36	AGGCTGGAGTGCAATGGCGTAA
38823	MOG	CCACTGCACTCTAGCCGGAGTG
38824	SCN2B	GGACCTGGTGGGGAGGGAGGGCTTT
38825	DHH	CTGCCCTCTCTGGTGCCTGTGGAGATG
38826	FGFR2	CGTCATGGCGCTCCTCCGCAGCCTGGG
38827	SF3B1	CTGGTCATAGAGGAAGAGCTAGA
38828	BACH2	TCTCACAAGTTATTTCATTCATA
38829	COL9A3	ACCTGTAAGCCCAGCATTTGAG
38830	C9orf19	TTACTGAGATTTCTCAGTTGTAAAAC
38831	HK2	TTGAGCCTCAGTGATCCTGTGGCCG
38832	CTF1	TAAGTGCTGGGATTGCAGGCGT
38833	CLCN6	TCATCCCTCGTGCACATCCTGTTGTGT
38834	LTF	ACAATTCCCTGCTGTCGTCTT
38835	ITGB3	CAGAGTGGGGTAGGTTGGGAGA
38836	LEP	CACTGCACTCCGGCCTGATGAC
38837	ARF3	GACTTTGCCTCTTCTCCTGCCTCA
38838	GPR45	AATGAAGCTGGTTGAGTGTGGG
38839	FGF1	CGGTCCTCGGACTCACTATGG
38840	ATRN	ATCCATTCAACAAGTATTTGCT
38841	B3GALT2	CAGCACCACCATTTAATTTCAT
38842	FGF2	ATGGAAATCATATACATTAG
38843	ZNF189	TGAGCATTTGACTTCCCTTACTCTT
38844	NDRG3	GGCTCACTGCAACCTCTGCCCC
38845	NONO	GGCTCACTGCAATCTCTGCCTC
38846	NT5C2	GGTTGCAGTGAGCCAGGAT
38847	S100A3	CCTGCTCCCAGTACCTCTGCTCCAGGG
38848	B3GALT3	TCAGCTCTTGTAATACTCA
38849	JPH2	TTCCTGCCATAGACTTCCTGCCTTGG
38850	CTSB	TGTGAGCCACCGCTGCCAGCACAGAG

38851	GALT	GGGCCCAGGAGTTTGAGGCTGC
38852	CMKLR1	ACCATGCCAGTGCAGATTCAA
38853	SDC2	GTCTCTATTTATGAGATCACTG
38854	KCNAB1	TGGAAATTGATCATTTTCAGTTGTTCA
38855	ALOX15	TCTCACTTTGACACCCAGGCTGG
38856	GPR30	GCCTTGGCCGCATAGGCCCAGCC
38857	TGM3	CCCCACAGCCCTGCTCATTCCT
38858	DPH2L2	CTGGCACAAGCTCAGCACATGCC
38859	RPH3AL	TTGCCCAGGCTGGGGTGC
38860	HDAC4	GACACAAAAGCAAGTTTGATTTTTGCA
38861	KIR3DL2	CAGATCCAATGAACCAGCAGCTGGAAT
38862	RAD23B	GTCTTTTGGATGGGTTGGGAGA
38863	HOXC4	GCTTGGGTGAATTTCAGGGGAA
38864	TNFRSF1B	CAGAGGGGAAACCAGTGTA
38865	DDX20	GAGTTTCTTTAAGAAACTTCATC
38866	SYNGR3	CGGGAGGCGGCAGCGGCTGCAGCG
38867	CPT2	ATTGCTTGAACCCAGGAGGTGG
38867	PTGIS	ATTGCTTGAACCCAGGAGGTGG
38868	CHRNB4	AAGCCGCCACCGTGCCCAGCT
38869	TCF15	TCCACCCGATCCTGGAGAGCTGTG
38870	FANCC	TGCATCTGTAACCCAGCTA
38871	GRIK2	ACACATTTAACGACAGAAGGTTGCC
38872	AOC2	TCACATTACATCAGACATCTCTTTATGCATG
38873	POLR2J	GCTCGGCCTGTGAGCCCCGTTCCTACC
38874	CAPN2	CATCTGGAGAGTCCAGGAGAG
38875	CETN1	GCCCTGTGCTGAACTTGCTGT
38876	PDE4C	GGGTGCCTGTAATCCCAGCTACTG
38877	OGG1	GCCAGCTTACTAGCACTTTGA
38878	KRT17	AGGCAGGGAGCAGCCGCCCCATCTGCC
38879	GRM4	CCCTCTCTGGCGTCCCCGGCTGCTT
38880	XK	TCCCCATTCCTTGCCTGTCAGGACCA
38881	SLC12A6	TATTCAGCATTAAAGATGAATCTCAGA
38882	PON1	AACCTTCATGATGAATTACTTCTT
38883	RBBP2	GGAGAGGGATTGGAGTACC
38884	MAGEA10	AGAGCAAGAGGTCAAGAGCTGTG
38885	FGF12	AGTCCTAGGAAATTA
38886	RGS16	TGGGGCCTCTTCCTGGATGTGC
38887	SNCAIP	AGAGTGTTTTTTCTGTCATTTCTACT
38888	FKRP	CAGTGCAGGCTCTGGAGCCAGA
38889	CTF1	CTGAGTCTACCATTTTCTTGCTCTCCC
38890	PPP3CA	TTGCTGCATATCAGCAGTTGGATGTTC
38891	LANGERIN	TACTCCAGAGCAACCAAGCAATT
38892	ED1	ATAAAGTGCCTCGGACAGTCCGCAGTT
38893	BDKRB1	ACAATCATAGCTCGCTGCAGCC
38894	AOC3	AGCTGTACTGAGTTCTCATCCA
38895	CLASP1	TCATCCCAGGCTTGCTGCAGGGTTATGA
38896	ANGPT1	TCAACTGTTTTCATTTAAGGGAAAG
38897	ITGA2	CAGCCTGACTTTCTCTCCA
38898	BCL2	ACCTACTCTATCAGAGAAAAACAGGA
38899	EGLN2	CTGGGGTGCAGAGGAGGCCCAGA

38900	BCL9	TCCCCCCTCAGTTTCTGAAATGATTCT
38901	MAP4	AGACCTACAGGCTGACGTTCCGG
38902	SLC19A2	AAACTATTTTAAAGCTGACTTT
38903	DNMT3B	CCCTGCTCTTCCTCAGCTGTGTGGGTC
38904	PPEF1	TTCATGCCCATTATGTCTTAGAGGTGCT
38905	MYCL1	CTTCTCGTGCCTCCCCACCACCA
38906	NUP62	CCTTGGGCCTCACCTCCTC
38907	MAL	CCCTGCCCTGTTGCTCGTGGGT
38908	PPARBP	CCCTATTAAAGAAACCACAGGGTT
38909	NRIP1	TGGGAGCCGCGGCGGCCTGGGGAA
38910	SACM2L	GTCTGTCACCCTCCTTTCCTGCTCCC
38911	SCAMP1	TTGCTGTACATGTACTCCAA
38912	TGFBR3	GGCTGGATTTTGGTTCCCTTGTAAAGACAG
38913	HDAC6	AGCCTCCTCAACTATGACCTCA
38914	PRKY	CAGATGCACAAATTGTGCAGTGA
38915	SYN3	CCAAGAAAGAAACCAGACCCTGTA
38916	DNASE2	CAGCACTTTGGGAGGCTGAGAT
38917	UCP3	GTGAAGCCACAGGAGCCCCACCCCCA
38918	TAF12	TTTGGAGATACTTGAGCTGAG
38919	NONO	GGAGGCAGAGGGCAAGGGAGG
38920	ABCD4	CTGAATCTCCCAGTGTTCAG
38921	UBE2B	CACCTGTAGTCCCAGCACTTT
38922	HMG20A	GGGAATTGTCCTCTGTGGAAG
38923	GUCA2A	TCCCTGCCACTTCAACCCCCAGC
38924	CLU	CCCCGCTCTGGATCCTGCACT
38925	MCM4	ATCGCGCCACTGCACTCCAGCCT
38925	SCAP2	ATCGCGCCACTGCACTCCAGCCT
38925	SULT2A1	ATCGCGCCACTGCACTCCAGCCT
38925	UBE2G2	ATCGCGCCACTGCACTCCAGCCT
38925	WIG1	ATCGCGCCACTGCACTCCAGCCT
38926	GNB1	CTGAGGGCTTTGTTCATCTGGTCATC
38927	EPM2A	TGTGCCTCCAGACTATGCAGCT
38928	AMH	CACAAACACCCCACCTTCCACTCG
38929	ATP11A	CCACAAACGAGCTCCCAGACATGTA
38930	RBBP9	CAGGAGTTTGAGCCTTCAGTGA
38931	CASP8AP2	CTACACAGAAGCTTCAAATTCCTC
38932	XT3	GCCAGCCTGGCCAACATGGCGA
38933	CHRNB4	TCGCCCAGGCTCAAGTGATTCT
38934	BLAME	GGGCCCCACCTCAGATCAAAGCAGCTC
38935	GGA3	CCAGGGAGGTGGCCCAGGAAG
38936	GLO1	GCTAGGCTGCAACTTTATCTCAT
38937	PTPRH	ACAGGCTGGGGCCTGGATTCTGAGGC
38938	CDH12	GAACCCAGGAGCAGTTGGGAGT
38939	FGFR3	GGGGCCGGCCCTGTGTGCAGGTTCC
38940	AQP6	CGAAGTCCTGAAGCTGGGCGGCAGT
38941	SOX11	CAAAAAGTTTAAAAATGCATAAA
38942	B4GALT6	TAAAAGCATAATTTAATAGC
38943	GJB3	GGCTCGGGGTGGAGCTAGGGTGGGGGCTG
38944	SLC22A3	TCGGCTCTGCCCTCTGTGAC
38945	POU4F1	CATGATCTGAAAGGTGTGGAA

38946	PAEP	TCCCTCTGGCTCCAGAGCTCAG
38947	ZNF146	TGGGAAAGCTTTCATTAGAAA
38948	KLF7	TCCACCCCACTCACTCGCTCCT
38949	PAG	CTTTGAGCGATCTCTCACATG
38950	FANCE	AGCTAATTTTTTATTTTGTAG
38951	NPY2R	CAACCAAAGATGCTTAAAAACCTT
38952	PDCL	TTCTGGCTTTTCAGCTGTTCTTTGTAG
38953	CARP	CTCCTGAATTTTTAATGCAGAAGTT
38954	RBBP8	AAGGATGAAGGACAGTTTTTTCCT
38955	CENPA	CCATTAGTGGCAGCATCATGTA
38956	PPP3CB	TACAAAATGTTGACCTCAGGTC
38957	CRMP1	ACCAGCCTCGGTTGACGTGGATGCGCG
38958	ADRA1A	CCAGGGCTGGCCAGGGTTGT
38959	SH3GL2	AATCTGGTATCCAAGCTTAAA
38960	PCDHB9	TCATTCTATAGGATCATGTGA
38961	CASP3	GGCATGGTCAAAGGCTCAAACCTT
38962	ALS2	TAAGAGCCCTGAGCCCAGAAAA
38963	RTKN	CTCCCTGCACTAACCAGCTTT
38964	MMP16	AACAGCTTTGTCTCCAAAGAA
38965	LTB4R	ATTCAGGCTGGAGTGCAGTGGT
38966	MIR16	GCACTTTTCCAGGCTTTTTA
38967	UGDH	ATGTGAGCCAGGATGGTCTC
38968	TRIM14	ATCACTTGAACCCGGGCAGCGG
38969	PCDHB9	CCAAATTGCTGGGATTTACAGGC
38970	TP53BP1	CCTCGGTTTCCCTGTCCTTGCCC
38971	ABCA1	GTTTTCTCCCCTTCTCCGGAAGGCT
38972	GALT	TGGGCTCCTGGGGCTCAGCCTA
38973	CTSH	GGAGAAGGAGAGGAACGGGCAG
38974	EYA2	AGCAGCATCTCCACCTGCCATC
38975	TIF1	GGATGGAAGAAAGAAGCCATTGAAAA
38976	CBFB	TGTTACAAACAATAATGCGTCA
38977	PRX	CCCTGGGCCTCAGTTTCCCCAT
38978	EGLN2	CCTGCCTGTCTCTAGTTTCTCTCACA
38979	CPT1B	GAGGTGGCAAGAGAAGGGCTGA
38980	NCSTN	TTAACTCCCTAGTTACCCACCCT
38981	CD28	GCTCCAAAACTCTGGGCTCAGCTGCTC
38982	SLC22A1LS	TCCAACTGGTGGGAACTGGA
38983	GDI1	GGAGAGAAGGGGCCCTCCCAGC
38984	CLOCK	AATCTTTTTTATTATCCTTCACA
38985	DHCR24	CTTCCCTTCACTCAAGCTTGGC
38986	GUCY1A3	GGCTTCTGTTTGTCAGTCTCATA
38987	CACNA2D2	CCCAAAGGCATCCCAGCCTGGG
38988	RFP	CTGGGTGCATATCATCCAGGATAAT
38989	RAP2A	CTGGTATGAATATATAACTCAGCTGGC
38990	BACH1	GCCGAAGACAAATGACAGGATTATG
38991	FXYD6	TGGAGGGAGAGCAGAGGCCTTTGC
38992	HDAC4	TTTTCTCTTCAACAGTAACTG
38993	EIF2B5	GGAGGAAGGCCAGAGGAACA
38994	ADAMTS8	GGGAAAGGAAAGAAGTTGTA
38995	NIPSNAP1	CCTGCCTGCCTCCCTCCCCCTGCTAG

38996	HSPA4	AAAGTGCTGGCTGCAGGATT
38997	BMP8	GGTGGAGAGGTTTGTCTCAGC
38998	CPD	CCTGCTGTATGAAAAGCTTCTTGGC
38999	ALDH1A2	TGTTTTTCTTCAGTTGTGCCTCTTCC
39000	ARNT2	GCCCAGGATGCTGAAAGCAGATTTCTT
39001	SCD	TAATTAGTTCCAGTTTCTCCT
39002	FLT1	CAATGCCATTTCAGTGGCTTCCCAGC
39003	GK	ATAACATCCTGCTCCATTCC
39004	PROCR	CCCAACTGAAACACCAGAA
39005	GRM4	CCCCTCTCCCTGCCACCC
39006	CALCR	GATTTATAAAGCAAATTACTCCAA
39007	IL16	TTGCCCAGGCTGGAGTTC
39008	SCML2	GTGCCCAGGCTGGAGTGC
39009	ALDH6A1	TGAAGAACGTGGCGAAACCCCGTATCT
39010	KCNS2	GAAGTGCTGGGTTGGGAAG
39011	PFKFB3	CTGCCTTGTGCCTGGCACTCTGCCG
39012	SLC18A1	GAAATCCCTCCTGATTGTAG
39013	FLNA	GCCGCCCGCCTGTCACTGCAGCTGCC
39014	PRND	ATGATTTTGGCTCACTGCAGCC
39015	OPTN	AAAATTACAAAAATTAGCCGAGCATG
39016	GIP	CCTTCACTTAGCACCTGCCTCAG
39017	MSN	CCCCTCCTCCCTTTTTCCTTGTCC
39018	SCA1	GAGAAAGAGTGGATTTCAGCC
39019	PIM1	GCGCCAGCCGCAGCCACAGCCGC
39020	BAG1	CCTACTCTCACACTGGTTCTCA
39021	TAF1C	CCCGCAAGGCAGGCTGG
39022	SOX9	ATTTTTCCAACAGCTAAACTAC
39023	HTR2A	TTCACACCACTGCCATTTCCTCCT
39024	FCRH1	CCTCACTGCAACGCCTGCCTCT
39025	TCF2	TCAGAGTAACATGCCAGCTT
39026	LZTS1	TGGAAAGAGGCTCTGGACAGCAGAAG
39027	POLR2H	TTCTGCTGCTCTCGTGGCC
39028	TTF2	TAGTATTTGTATCACTGTAC
39029	HSPA5	TCACTCGAACCCGGGAGGCAGAG
39030	STATH	CTGTTTCTGAATAATAGAAATC
39031	SPON1	TTTCAAGTCTCCTCAGTCATCA
39032	BCL2L10	GGTGTGAGGACAAGAATGCAAATGGCT
39033	CSK	GTGGCCCGGACCGCAGTGCCCCA
39034	ANKRD3	CGCTGGAGTGCACCAGTCTTGGGGA
39035	PTGIS	TCTTGGCCAGAGCTGAGTGGCAG
39036	TRIM9	ACAATCTTTTTCTAGTTAAGTGT
39037	NPTX1	TTCTAACCTTGATAGAAGAACCTTGGG
39038	ADD2	GTTGTGGGCTGCCTTTGTTTG
39039	DISC1	GTACTCAGTAAGACAGTGCAGT
39040	TAP2	CGTCTCCAGGACCCAGAGCTGTTC
39041	PCDHGA2	GATTGGAATCCGCACTGGAT
39042	LPL	GTTCTCTGGGTAGGTGTTGAA
39043	NUP62	GTGTTGCAGTGAACCAAGATCACACC
39044	SH3BP5	GCCGATGTGCATATCAACATT
39045	PIGR	GCCAGCACGCCTGGCTAATTTTTTGT

39046	PMSCL2	GTACATACATATTTTTAAACC
39047	RLN1	TTTCTATGCTGAAGTCTTTT
39048	TOX	CTTGCTGTCTTTTGTGCCTCTGCAAGCTAC
39049	MYH11	CGGAGGGGAGCAGGAATGCTGC
39050	GGT2	GCCTCCAAGGAACCTGACA
39051	TRPV1	GGCACATGCTTCCACTCCATCC
39052	RAD18	AGAAATTTATGATTTGCCAGA
39053	TK1	TGGATCCCAGGGGCTTATCTCTTC
39054	F2RL3	CGGCAGAGGCAGAGATGGGAGTG
39055	ATP8B2	TCCACCAGCTGGGGAGCTAGAG
39056	PPP1R3A	GCAGTTTTTCTCTTGAAGGAT
39057	APM1	TATCTGTCTTTTAATTGGTGTTT
39058	ANXA8	CCCTGCAGGAGCTTCCCAAGCTGGTCA
39059	GPR81	TCTCGAGCTCCTGACCTCAGGTG
39059	TPMT	TCTCGAGCTCCTGACCTCAGGTG
39060	PTMA	GTATGTACTTAGCTGTACTAT
39061	IRTA2	CCAGGAGGACCAGGGGTGCAGACAGAA
39062	CARD15	GCCATTGACTTCTTCCCAAGA
39063	FANCA	TCCAGGCCCCTGATGCTCCAACCT
39064	VPS41	TCGTTTATCATTTCAGAAATTGCTG
39065	PRDM2	TATTGCTTCTTTTTGGAGAGTG
39066	CA12	CTGTCCTCTGGATCACAGACACTGCACA
39067	WBSCR5	GAGCTCTTGATCTCAAGCGATC
39068	SEMG1	TGACCTCAGTGAATTCTGTG
39069	MATN1	GGCACACACACCTCCATTCA
39070	IL4R	CCTCCTGGAAGGCAGCCAGGCTGG
39071	TMSB4Y	TCCCTACGGCTTCCTCCGCA
39072	EPHB3	CCAAGCCCCTCAGGGCCCAGACCTTCC
39073	ZNF189	GGAAACAAAGCCCAAATGTTT
39074	AQP6	CACCTCTCGGTGGGACAGAGCAG
39075	CPD	CCCAGCCATCTACAAGATCTGAATTC
39076	FOXF2	ATTATTTAGAAACAATGTGTC
39077	RAI3	GCAAAAGCCTCTCTCAGCCCAC
39078	TEC	GTTGTTTACCAGGCACTGTGTGTAG
39079	ATP2A3	AGTCTCCGGTGTGTACCTCAGACT
39080	CYP3A4	CTTAATAAAAAACAGTCGATTGG
39081	ABR	TGCAGCTCCAGGGGCTCGACTT
39082	BCL2	AATGGGAGGCTGTGGAGCCGGCG
39083	IL1R1	TGCCCTGTCCTCCAGCTTCCCCTC
39084	HMOX1	GGCAGCTGTCTCAAACCTC
39085	DHFR	CCCAGCACCTGCTACAGTGAGCTGCCA
39086	STC1	TCCCATGAGAGTGCATACC
39087	CLOCK	AGCTAAATGACCATCCA
39088	PTPRCAP	CACAGCCGCTCACTCCCCGT
39089	GAD2	ATGTGGCAACCTGTTCTTCCTA
39090	SLC16A7	CATGATTAATTTAAAAAGTATTTA
39091	UBL3	TTCATTTCTTAAGCTTTTAAAATTCA
39092	STS	GCTGACGGGACCCAGCTGTAGTGAGG
39093	ED1	AGCCAGTGTCTAGGCACTGAG
39094	SRRM1	GAAGCTGAAGATAACCTTGATGATT

39095	GCNT2	GAGAGCTTCAGCCATCACGAG
39096	C18orf2	CTTCCAAACTCCTGGGCCTCCGA
39097	PXN	AGCACCCCACACTGGAGCCATCT
39098	ADCY1	CAGGCCAGGATGGAGCCCAGGG
39099	PPIC	AGAAAACAAGGATATGCTT
39100	GDI1	TTGCCCAGCCTGGGGGAGTG
39101	HMG20A	CATACCATCACTTGGCAATTT
39102	CTSD	TGGAGGTGGGGTTGGGATTGG
39103	PPP1R3C	ATCCCTTGCCTATTTTCATCTTGCT
39104	SHANK2	CATGCCACTAACCACAAGCAAGCTGG
39105	PDGFRA	GAGGTTAGATGGGAGGATGAATTGT
39106	LBR	TGTCATTGTTTTATCAGTGCTAATGTG
39107	SLC25A11	CCCTTCCTCCCCCTCATTGAGGACT
39108	CDH6	CCACAAACCTAGTACGACTTCA
39109	RIMS1	TTTCCAAAAATATGAAAACTTG
39110	ADAM8	CAGGGCTGAAAGCTTTTATTCTTT
39111	ATP1A2	CGCCTGTAATCTCAGCTACTCAG
39112	PDGFB	CATTCCCTAGATAGAGATACTTT
39113	SLC22A2	GGTCTTACTCCAGCCCTTCCTGGGTG
39114	ENO2	TGTAGATCCCAAGATGACTGGGG
39115	TRIM9	AATATCCGCTACACAGGTT
39116	TKTL1	TTCAAGCTAACTACTTACCCTTTAAAC
39117	PPP2R1A	CCTGTGCATGGTCTGACCCCAGG
39118	KLRA1	TCCTGGAGAAGAGGAGATTTTCTCTTTT
39119	EBAF	CTCTTAAAAAGGAGGAGCTGG
39120	KCNA7	GCTTAACTGTGTAGAGGTGTGTGG
39121	B4GALT1	TCAGGCCCCTAGGCTGGGGGGTTGT
39122	NXF2	CAGTTAACTGTCCTGGCC
39123	GOSR1	TGACAGCCACCGCTTTCACACCCT
39124	PRSS16	TCTCTGATGCTCTTCTTCTGTGTCTCT
39125	DLEU1	CAGAGAAGGGAAAGCAGTCTG
39126	CAPN2	GCCAACTGGGAAACATGGTATATCAT
39127	RASA1	CTGCCTAACTTATCCATCTTT
39128	ANKH	TTCTGCTATCCTTAGTCATAACTCT
39129	CD22	GGCTTCTCCTTTGGAAGTGAGG
39130	PSMD9	GTGGTGGCAGTACTGTGGCCCA
39131	ECHS1	GGAGCACCTTCTAAATCTAAGA
39132	CAMK2A	TTTTTGGGGGGCAAAAGAAAGCAACGT
39133	KCNS2	TCCTGGAGCCCCCAGTTCAAATC
39134	CD2AP	AACTATAGTCACTACTTTT
39135	GPR81	GACGGGGTTTCATTGTGTTAGCC
39136	ZNF14	ATCACGCCACTGCATTCCAGCCT
39137	TNF	GAGAATTGGGGGCTTAGGGTCGGAAC
39138	SLC9A1	CCCGGTTTCACTCCTTCTCAGCCTGGG
39139	ACP2	GCCAGCCAGCCACATTTCCCT
39140	FUT7	TGTGGGTGGAAGGGCTGGGTGTC
39141	ADCY8	CTGCAGCCGCGGAGCAGTGGGC
39142	PC	GCCTCTCTGGAACTCTGCAGACCA
39143	CYP21A2	CTCAGCTTCATTTCCGTGAA
39144	CNTFR	CTCACATCCGATTTCTCCTCC

39145	RPH3AL	AGCTCAGTGCCTTTCTGCACC
39146	VCL	GAACATCCTTCCTTCCCACCC
39147	MMP19	GGGGAGGGAGAGTTCGGAGCCAAATTA
39148	HAS3	GCCTCCTCCTGGGCTCCAGA
39149	CCNT2	TTGGCTGCTGAAATAGCCCCT
39150	RPIP8	CTTTGTGTTGACCTCATCCCTGGCT
39151	PMP22	GTGGGGGTTGCTGTTGATTGA
39152	GRLF1	GGTCTGTCTCTTCCCACCTTC
39153	COL1A1	CTGCTCACTTTCCACCCTCTCTCCA
39154	CASP8	TCTATAATCCCAGCACTTTGG
39155	POLS	GCCACAACAACCACTGTCTTT
39156	EIF2S3	GATTATACTACTACTAATTTTT
39157	RSN	GAACCCACAGTTGTATCAATGGT
39158	IL4R	AGCCTAGAAACTAACACAGCCATCAA
39159	RAB11A	TTGTGGTATTCCATCTCGGGT
39160	COL4A4	TATCATTATCGACTTGGGAGAAA
39161	GRLF1	ACCTGGTCAGCTCCTCAC
39162	EPAC	ATGGGAGGGGCTGGGACTGGAGC
39163	TNFSF15	TGGTAGCGCATGGCTGTAATCCTGG
39164	AQP4	AGCTGCACTCTGGCTGGGGAA
39165	MRPS12	ACTGTACTGCCCTCTGCTGGGAAGGG
39166	CDH1	CTGAGTATGTAACTTGCA
39167	PTK7	CAGCGCCCTGGGAGACAGCACCG
39168	ELK1	CCACAGAAAACACACAGCTTCCACAA
39169	MCL1	CCAACCACCACCACCAC
39170	BRCA1	CACAGCCACTACTGACTGCAGCCA
39171	SORCS1	AGCTTTGGTAGCTCTGTTGG
39172	HRB	CTGCAGTACTGTACATATTTTTCTT
39173	G6PC	ATCACCCAGGCTGGAGTGGAGT
39174	CEACAM1	GAGCCCAAGCTCTCCTCCACAGGTGAA
39175	TFRC	AAAAGAGGGGACCAGAAGC
39176	MID1	CCTTCATTTCATCACAATCTG
39177	LYL1	GCCAGCCCTGACGGGACAG
39178	SCO1	GGGGATGTTACCCTTGCGTTCA
39179	PBX2	CTCTCATCCCCCTTCTTCCCACAACC
39180	EPB41	AGGAGGTCAGAAAGAGATA
39181	SFTPC	CGGGCAAGAAGCTGCTTCTGCCCACAC
39182	MFI2	ACAGGAAAGTTGGGAAGCGGGGG
39183	SSTR1	GCCTTGGCTTTCTCCCTCACCC
39184	SLC17A5	TGAGACTACAGGCATGAGCCAC
39185	LANCL1	CCAATTTCATTTCTCTTCCG
39186	ATP8B2	TGAGGTGGGGGCGGGTGGGCAGGG
39187	CNTNAP2	ATTATTGCTGTTACTCTGGATGA
39188	FZD4	TCTGGCTCCCCTCATCCTCATGGTCACT
39189	DIAPH1	CCTCCTTGTGCCCCTCTCAGCT
39190	NGFR	ATGGACTCTACACTGTGAACTTGG
39191	PCDHGA8	GTTTCCGGAGGATTGTCATCTC
39192	CKAP1	TTTTCCTTTGCCATTGATT
39193	KCNJ16	GTTTTTATTTGTTTATGTTATTTA
39194	CBFB	GGTCTCGAACTCCTGGCATCAAGCGAT

39195	RPP30	GGTCTCAAACTCCTAGGATCAAGCCAT
39196	CLCA3	AGATCACTGCAAACCTGCCT
39197	PROX1	CTCCTCATCACGTTTCTCTCATTTTCT
39198	IBSP	GCCTTGAGCCTGCTTCCTCACTCCAGG
39199	A1BG	GGCTGGGATCTCGTGTCCTCA
39200	MAP1B	GGCTAGAAGAAAGTAAAAAGAA
39201	ACRV1	CTTGCTTGTTTTGACTCAGGCAG
39202	IL13RA1	AGAAACCCTCACTCTCTACAGGTTT
39203	MPL	TTGGTGCATGATAGTAGGCCTT
39204	MAK	CCTCCACCTCCTGGGTTCA
39205	MTMR3	CTTGACTCTGCTGAAAGCTGCT
39206	NYX	TCTACCACAATCCTCCTCCTCC
39207	LMNB1	ATATTTTTATATTTCCTTT
39208	IL1RL1	CTTTGTAGACTGTTCCTGTTT
39209	CALCA	GAATCACCTGGGAAAATACCAGAA
39210	CAPZA1	ACCACATTCCCTGCACATG
39211	FCAR	CACCCAGGCTGAAGTGCAGTGG
39212	BCAR1	CGGGGCTGGAGTGTGAGGGTCCTGC
39213	CREB1	GTGGGTGGATCACCTGTGGTCA
39214	FOSB	TTTCTGATGACAGTGTTATCCCAAGA
39215	SUV39H2	AAGGGGAATGGAGCACTTTAA
39216	AQP6	TGCCAGTCTGACCAGCACAGTCCTGGG
39217	HOXA1	CTATCTGGGGAGCTCCTGGCC
39218	CLCN4	GCTTTTGCCCATGCATTCAATATTGAT
39219	FMO1	TTCCTGAGCCTCTCCCAGCTCCAC
39220	PACE4	TGGATTTATTCTGCCAAACCTGTGT
39221	SCG2	CCATATAAACAAAAAGA
39222	CELSR3	TGGGAAGCAGCTTCCTGGGAGATTAG
39223	ACADSB	ACCCAGGCTAGAGTGCAGTGGC
39224	ADCY6	ACCCAGGCTGGAGTGCAATGGC
39224	NDRG3	ACCCAGGCTGGAGTGCAATGGC
39224	RAB36	ACCCAGGCTGGAGTGCAATGGC
39225	PRPSAP2	GTTTTTCTAAAACTTTGTGTTT
39226	PATE	GTGTTATCCTTCTTATCCCACTCC
39227	PPP1R12B	ACGGCACTTGAGATATG
39228	ICMT	GAGATGGACTCTGTCCTCAGCAAC
39229	NR2E3	CTTTCTCTGCCTCTCCCACACTCTCCC
39230	COL6A1	CGCCTCTCGGGGCCTGTGCC
39231	GATA6	TCTGTATAGTGTGACTAACCCACAG
39232	HMOX2	TCCAGCCCTGACTAAACTACCAC
39233	PHKG2	CTCCTCTGGGCTCTGGCCTCAG
39234	BCL11A	CTTAGGAACTAGCATATAATTCT
39235	IL1R1	GCTTAGTTAAGTCATCCACAGCCCA
39236	ERBB4	TTTTCATGCTATCAAATTATCTTC
39237	CYP4F3	AGACCAGCCTGGCCAATATGGT
39238	CDKN1C	GGCCTCGGCTGGGACCGTTCA
39239	SLC13A3	GCTCCTGAGCATACCAGGGGA
39240	EDNRA	GTACAGTCATCCCGCTGGTCTG
39241	TRAP100	CCTCCAGGATGTCTCCCGGTTTC
39242	RBBP9	ATTGCTTGAGGCCAGGTGTTTGAGGCC

39243	MPP5	TGGAAGCTTTCAACAGAGC
39244	DMXL1	ATTATTTTAAAGATTAGATTTAGTC
39245	COL18A1	TCTCCCCTGACCTGTGAGCCC
39246	CAPN10	CAGCTCAGGTGACTGGAGCCCG
39247	NT5C2	TACATGGTATTGTATATCAGTGGAG
39248	IGFBP5	CCCACCCCCAACGCCATCT
39249	CASP2	AGTGGCACGATCTCAGCTCACT
39249	FHL2	AGTGGCACGATCTCAGCTCACT
39249	MEFV	AGTGGCACGATCTCAGCTCACT
39250	NCOA6	AGTGGCGCGATCTCGGCTCACT
39250	TAPBP	AGTGGCGCGATCTCGGCTCACT
39250	TAT	AGTGGCGCGATCTCGGCTCACT
39250	YES1	AGTGGCGCGATCTCGGCTCACT
39251	PON1	AGTGGTGCGATCTTGGCTCACT
39252	ADCY1	TGCCTGTAAGCCCAGCACTTT
39253	PCDHB9	TTCCTGTAATCCCAGCACTTT
39254	SLC4A1	GGAGACCTTCCACAAAGG
39255	WHSC1	AAAGGGAGAATTTGTTAACGAGTAC
39256	LDB3	AAATGTTCCTTTAAATGCAGCA
39257	TRA1	AAAATGTGGGATTATGGGTCA
39258	GRM6	CCTTCATTCCTCATAGGTACTG
39259	IGF1	ACTCAAACTCCTGACCTTGTGA
39260	EXTL2	TGCTTTTTCACTAAAGGTCAGT
39261	SP3	GTCAGCAGATGGTCAGCAGGT
39262	MYO1D	CTTCCTGGTTTTCTGCCTTTG
39263	DGKI	CAGGCCAAGTGTGGTGGTGCA
39264	SOX11	GTGACTTTTGCCCAAGGAA
39265	EYA1	AAGTTTTCATGTGCTCAG
39266	ZNF41	GAGAAGCCTGGTGGTACATTCC
39267	RNF3	CCAGCCTTTACCAGCAGCGTACGGC
39268	NFATC4	CTTCTGTCTGTCTCACTGTCT
39269	RAD9	AGGCTATACTCCAGCTGGCC
39270	ARNT2	GCAAGCAGAGTGCACAGCCCT
39271	RPH3AL	TCCAGCAGAATTTGTGTAGTG
39272	NUFIP1	CAGGATGAAGTAACTAGTGTTAC
39273	MAPRE1	TCTGCCAGGCTGGGGTGTTTTCGGT
39274	CAMLG	GCGTGAGCCACTGCACCTGGCC
39274	TPMT	GCGTGAGCCACTGCACCTGGCC
39275	WHSC1	GTGTGAGCCACTGCACCCGGCC
39275	ZNF264	GTGTGAGCCACTGCACCCGGCC
39276	DFFB	GCTCAGGCTGGAGTGCAGTGAT
39277	CRY2	AGAGTACAACCTGCAGAGAA
39278	CDC6	GAACTCCTGACCCTCAAGTGATC
39279	RAD52	AGGGTCCAGCTGAAGGTGAGGGGATGGAGTA
39280	F2R	GGCAGGCACCTGTAGTCCCAGC
39281	STS	AAGTCTAAACCACCAGCCCATCCTGAGG
39282	ZNF41	CCTCTTGAGCTCCTGGAAAT
39283	HTR1E	AACAGCTTCTCCACAGTGTAGACTGA
39284	FOXO1A	CAGCTTTGTACAGGTCTTTTC
39285	HNRPA1	TTAGTCTACTCTTAAGCCATCTTGGT

39286	TERT	TGTGGGTCAAATTGGGGGGAG
39287	OLR1	CTGTAAGCTAATCCACAACCTG
39288	KCNA7	AGGCTGTCTGTCTGCTTCACATGTC
39289	PLS3	GAATGTCCCTCTCTTGGGACT
39290	LRAT	AGGGTGTGGCAGAATTCAGC
39291	TM6SF2	GACTGTCAACGTTGTCCTCA
39292	ICAM1	TACTCAGAGTTGCAACCTCAGCCTC
39293	SCN2B	TCCCAGCCCAGAGCAGCCATCAGG
39294	SNAP25	CCTACTTAAACAAAAACTT
39295	POU2AF1	GAGGAAGGCTGAGGAATGACTTGG
39296	ZNF36	GAAAGAGAGGGTATGTGC
39297	TEAD3	ATCTCCTCTCCACACCTGCCTGGCACC
39298	SLA	ATCCAAATCCTACTAGGAAGAG
39299	ACPP	GAGCGAGACCCTGTCTCAATAA
39300	PRND	AGTCTCTCATTTCTTTCAAGACAGCC
39301	VDR	GTAGTTCCCTGAAAACCCAGAG
39302	CKTSF1B1	CCCCAAATCTTTGTATTGTCCACA
39303	RBBP5	ATCACTTGAACGTGGGAGGCAG
39304	PER2	CACTGCACCCTGGGTTGGGTGC
39305	TRPS1	AAGGCCAGGAAAGGTTGGGGTC
39306	ENSA	TCGGGTGTGGGCTGGAGAGGCAGA
39307	TBL2	CCTCAACAACACAACTTCACCCACCGC
39308	CIAS1	AACTTCCTGAGTAGCTGGGATT
39309	ABCA3	CCTCCATCGCCTTCCCTGCCTCTC
39310	FLNB	GTCATTTGGCAAAGGAGATGACTTA
39311	PKP1	CTGAGAAGAAACCTAAAAACTGTG
39312	CDK10	GGTGGTCACTCTCTGGTACCGA
39313	MYF5	TCTTCTTCTTTATTATTCTTTGC
39314	SLC26A4	GTCGTGCCACTGCACTCCAGCCT
39315	RAB36	AAAGTGCTGGGATTACAAGGGTG
39316	WHSC1	TCCAATGCTGAATGCCTGTTAG
39317	FZD1	GGCCCGACTGCCAGAGGGA
39318	IL15	GTCAAATTATGTATTGGTGG
39319	SHC1	TGAGTGAGAGGGTTTGAGTCAAAAGC
39320	IL9R	GCTTGTGGTTTCAGATGTGGGCGGCC
39321	CR1	ACTGCAACGTCCGCCTCCCGGG
39322	TRDN	TGACCCTTTTGCATCATATGGG
39323	FXYD6	CTTCCCTGCTTCTGAGACTTCAAT
39324	DCX	CATTTGCAAGATGTGTGTA
39325	AP2S1	TGGGTCTGGGCCACAAGGGAGG
39326	RORC	CCCTGCTCCCTGCCCTCCTGGGCAGCC
39327	RPL29	CCTTTCTCTTCCGGTTCTAGGCGCTT
39328	CDH17	TGAACCACTGCACCCACCTACTT
39329	LRP4	TTGTGAGCCAGTGGCTTGAGTGAATGTT
39330	MHC2TA	TTCATTTCCTGTGTCTTTTTTC
39331	ADCY6	CTCTGCCACCCGGGTTCAAGCAATTC
39332	CX3CR1	TCTGATTTGTTTTCCTCTTAAC
39333	TAF11	TGAACTCCTGGCTTCAAGCAGT
39334	PSEN2	CACAGGCTGCAAGCTGCAGGGAATT
39335	ZNF138	GAAAATTCAAACTGGAGAGAA

39336	CRY2	CCACCTCTTCCTTCCCACTGCCAAAG
39337	PDE4B	AACAGTACTTTTAACTTTTT
39338	F8A	TGCGTCTGGGGAGGAATAAA
39339	DUSP4	GACTCGCTTTTCTGCTTGCAAATA
39340	SS18	TTTGAGACTGTCCTGTGCCTG
39341	CTBP2	TAAGTCTACAGGGGCTGGTGACCTC
39342	INSL5	ACTGTTCTTTTCAAATTCTAC
39343	BCAR1	TGGATGCCCAGGAATCTGTAT
39344	CARD15	AAATCAGTTACTCTTCAGTTAA
39345	GALNT2	GTGGCCTTTGTGTCCCCTGGAG
39346	NEU3	CAGCCTATTACCTTTACGTTGT
39347	TRIM37	ACACATTTAAAGATTCATTCAT
39348	RB1CC1	TGCCTCAGTAGATACTAAAGCA
39349	IL1RN	GCAGAGCAGGAAACATGACT
39350	HSPG2	GGTCCCCATCCCCACCAGCT
39351	F3	TTCATAAGGAAGCACTGTTGGAGCTA
39352	LNK	GCTCACTGCAACCTCCACCTTC
39353	EYA3	TCTCTGTCTGTCTCTCTCTGTGTC
39354	HNF4A	GGCCCGAGAACATGGCCTAA
39355	IGHMBP2	GGAGAGGGGGACGTGCCGGCCGC
39356	UBE2L3	TTGCCCAGTGTGGGAGTTGGTTTAAAT
39357	IGF1	ACCTTGTGATTTGCCCGCCTCAGC
39358	ZYX	TGCCCCCACCTCA
39359	B3GALT3	TATTTATTGAACAATGTAGT
39360	MYO1D	CCTTTCTCATTCTCCAAGCCT
39361	KDR	GTGTCTTCTCCCAGTGTTGAC
39362	DIRC1	GCTCATCTCCCTTTATTCGTTT
39363	FZD8	GCTGGGTTTGCAGTCAGATA
39364	LYN	CGCTGCAGCCTCCAGCCCGCGGCAA
39365	AP2A1	GAGGGGAGGGGCAGGGGGCGGT
39366	CMRF35	CAGGAGCCTGGCACTGCTTCCTC
39367	ADCY6	CCCAGGTTGCACAGGAGTGGGATGG
39368	ZNF3	TTGCTGTCCTCTCTTGTC
39369	MFRP	TCTCCACCCTCATCTCTCTGCGTATTT
39370	SMURF1	CACAGCCCTGAGCTCTTTACGG
39371	SRP46	TTGCTCCTGGGGAAAACACGC
39372	SLC13A4	AGGGAAAGACATGTGAACAGAGTTA
39373	CD3Z	GTCCCGGCCACCGCTGCCTCAG
39374	STXBP1	ATCAGGATATCTCAGGAGG
39375	PLAG1	TCCCTTAAGAATCAAAAGCAGAA
39376	ADRA2A	TATGATGGTGGATCAAGAC
39377	B3GNT3	GTCCCCAGCCTCTGGGCTCCTGTTTC
39378	COX10	CAGGCGAGCATGTTGTGGTA
39379	VHL	ATCTCTTGAACCCGGGAGGCGG
39380	NUMA1	TCCTTCACTGGCGCCTTCTCGGAG
39381	A1BG	GGCTCCCTCCCCTCCTGTTGCAG
39382	CML66	GACTATGTATATATTGCCAATTTTAGT
39383	CD5L	CCTTCACCTGCCTTGGTCATGGCTC
39384	NTSR1	AGACCCATGCCCCCCTCCCC
39385	GALNT2	TGTCTACCCAGACCCTTGTGCGG

39386	SOX11	GGCGGGGGAGGGGAGGTAGGA
39387	KCNJ11	CTCTCCCCCGCCCAAGGCTGCAG
39388	A1BG	GCAGAGCTGGACGCTGTGGAAA
39389	ESRRA	CTCCAGCCCCTGGACCCCTGGGGTGGC
39390	BAI2	GCCTGTCCGTCCCTGTCCCGGGCTGGGGA
39391	KCNQ2	TCTGTCTCTGGTCTTTCTCTTTGA
39392	MLLT3	TAGTTGCTTGCTAATATTTCCAGAAG
39393	MYCL2	CCGAGTAGCTGGGATCGCAGGC
39394	CHAT	GAGAAAGGAGTAGGAGCCTAGCA
39395	AGTRL1	TGCACTGTCTTCTGATCCTGTT
39396	MNT	GGCCTTTGGAGGGGAAATGGGGA
39397	CLCN4	TTGTCCTCTGGCTTATTGCC
39398	SLC22A7	TAAGTGGGAGTGGAGGCAGG
39399	MAN1A1	TGTTTTTAAGTAACCTA
39400	USP6	GATGGGATCTCCTGTGCTTGG
39401	ALPI	CCTGCCTCTATCCTAAGGA
39402	DNAJB9	GAGAGAAATATAAATATTTAC
39403	DLEC1	CAGACTTAACAGCCCAGCACTT
39404	SLC38A3	CCCTGCTCCCATCCAGTGGCC
39405	EPRS	GCTAGAGTTGCAACTACAGCTGGGTTAT
39406	FGF6	GGCTTACAGATTTAAAGCATCATCT
39407	TBL2	CAGATGTTGACTTCTCATCCCC
39408	MC1R	AGAAAGCTTCATCCACAGCCTT
39409	ATP6V0E	GCCTTTTTTGCACTTTGG
39410	NRGN	GAGACCGGACCCGAGAGCAGAGCTGCTGTTTC
39411	SMURF1	TGAAAACACCATGTCATGGAGTG
39412	IFNGR2	AGGCCCCCCAGGGCCGCG
39413	CMAR	CCAAGTAGTTGGGAGGTGTTGGC
39414	EMR1	TGGAGCCACAGTTGAGGACA
39415	FAT2	TGAGTGTGAGTGACAGATACA
39416	SUDD	CCTCCACTCCGGCATCAGCAGCCAGTC
39417	MMP16	TTCTTCAGTCCTTTGTCTTTC
39418	JPH2	GCCTCCAGCCACTGCCCGGGTCTGCGG
39419	BCLG	TTCCACCCTTTCACACAATTCATGTC
39420	KIF5C	CGGTCTGATAAAAGGGTCCTT
39421	BSND	GTGACATCACAGGGCCTCAGTTTC
39422	SLC7A8	AGCTCATTACTGCCTTCCCTCCCA
39423	THBD	CTGGGCTGGGACGGACAGGAGAGGC
39424	APOD	CAGGTTCTACAGGGAGGCTGC
39425	ADRA2A	TTTGATAGCACACATGGGGCC
39426	IMPG2	ACTCAATTAAGGATTCTGTCCTCTCCTCA
39427	C21orf5	CCAACATGGTGAGACCCTGTCT
39427	POLK	CCAACATGGTGAGACCCTGTCT
39428	JUP	CCCAGTGACGGCCCCCTCTTTGCAG
39429	LPL	TGTAACTTGGAGAGGGACGAA
39430	UTF1	CCCTGACCCTCCTGCTGCCTTC
39431	PDGFRA	AGGAGGAGACTGCAAGAGATCATTTG
39432	PCOLN3	GCTGGGAGGCTGAGAGAGGCTTT
39433	FBLN5	GAAGTTTCAGTTGTCCTTA
39434	RCN2	TTTCCTAAATACTCCATCTGTTT

39435	PITPN	CCTGCTGGGACTCCCTGACT
39436	PCLO	TGGAATGTGGATCAGTGTTTTTTGCCT
39437	SOCS5	AGCTTTGGAAGTCCAAAAAGAA
39438	CCKAR	CAGGAAGAGAAGGAGCAGAGCA
39439	DVL3	CGTCTGTAATCCCAGCACTTTG
39440	FUT3	CGCCTGTAATTCCAGCACTTTG
39440	LILRB1	CGCCTGTAATTCCAGCACTTTG
39440	PCDH11Y	CGCCTGTAATTCCAGCACTTTG
39441	MADH1	CTTCTGCTGTCCTTTTGCA
39442	MEFV	TTCAAGAGATTCTCCTGCCTCA
39443	TES	CCTGATTTAGGCAGAGGTGGCATTT
39444	GNAT1	GGCCCCAACCTGCCACCTCA
39445	NFKBIL2	TGGCTCACGCCTGTAATCCCAACACTT
39445	NPHP1	TGGCTCACGCCTGTAATCCCAACACTT
39445	TCTA	TGGCTCACGCCTGTAATCCCAACACTT
39446	ASB4	GTGTGAGAGCTAGAATGAGAAAAAGAG
39447	PKDREJ	AACAACAAAAAGGTACATATGGGTTC
39448	BENE	CTCCAAGGCTGGAGTGCAGTG
39449	CCNA1	TGTTTACAATATAGATGACATT
39450	NFYA	GTTGCAAGCCTTTGTCTTACTCTTTCA
39451	GOT2	CAGAGACAACCTTTCTGTCTTCA
39452	EBAF	AACTTTATACTTAGCAAGTTACTCCAT
39453	VPS26	GCTGTATGGAAACTACTTTC
39454	OTP	GTACTCTCCAAGCTCCTGT
39455	SUOX	TGCCCCCAGAATCTGGGCTTCTT
39456	SIAT6	CCTGCTCTCTGTAGACT
39457	TRIM8	TCCTGTAGTGAGCACTTTG
39458	TBL1X	ACCCAAATAAAAATGCACTC
39459	TAF1A	ACTATGTCTGTTTTCTTTTTTGT
39460	SOX4	GTCTGCCTTTTTAAGGCAGTTCCGT
39461	GJB3	TCTCTACTCCCTCCAGAGG
39462	EIF4EBP2	CTCATACCCTGTAATTTTGTCC
39463	ASTN	CCTTAGCCTTTGGAGCTAGA
39464	KIF5C	GCTGCAGGAGGCGGCCTAGCTG
39465	CD209	TGTCGCTCAGGCTGGAGTGCCAT
39466	NXF2	ACTCCAGAACATCACCAAGA
39467	CALU	CCTCCACTCACACATGTAGACAA
39468	RANBP3	AGGAGCAGCAGCGGAGCGTGCTTCG
39469	CPSF6	GATCTTCTGTTAATACACATT
39470	MME	CATTCTTGTTGCCACAGCTG
39471	VMD2	ACACTGAAGAACATGTCCTACA
39472	CKMT1	CCATTCTACTTGCTCTGGACC
39473	SCO2	GCTTCCTCTCGTGCTTGGTCC
39474	AMPD3	TTAAGATGGAAGACTTCCTTCTTGACAA
39475	ASK	GTACCTGAAGTAGGCTCAATA
39476	RPP20	GGAACGAAGAGAGGCACACAG
39477	ECM2	GCCATCTCACTAGAATAGGATA
39478	PROK1	AGCCCCCAATTCCCACAGCTTTT
39479	AOAH	CTGGGGAGCACAGGGAGGCAGA
39480	PKHD1	AATAGTTACAGATACAGTGTG

39481	HRH2	AGCACTTTGTAAACACCCTCTTGCTT
39482	GAB2	GTGCTGGTTCACTCTGCCCAGCC
39483	SOX1	GGAAACACAATCGCTGAA
39484	LY6E	CCTCCTGCTGCTTTGGTGCCTC
39485	MYBL1	GTGTTTGAAATTTTTGCATTTT
39486	FCRH3	CCTTACCCAGAGTGGCCCACAGG
39487	P2RX7	CAGTTTCAGATCCTGATCTTA
39488	ATP7A	AATTCTCCCTGCCTCAGCCT
39489	ZNF157	GTTTTTTCTTCTGTGCATTGAC
39490	TRAF1	CCTGCTCTCTTTTTCTCCAGGGTC
39491	DAPK1	CTGGGCTTTGGTGAGGCGTGA
39492	TARBP2	TTGAAGCTGAGAAGGCACAGGGCAAGG
39493	ZNF138	GGCAAAGCCTTTAACCAGTTTTCAAC
39494	PLEK	TAGAACATTTTTCCTCATTTTA
39495	CCT2	TAAAGAAGACTGTGGAATCTGTT
39496	COL4A5	TATTCTCCAAGATTATCTC
39497	DIAPH2	TGGTGCTCAAACCAGATCGAAGTTT
39498	NOVA1	TCCAGCCTCTCTCTGAACTGTGA
39499	OXTR	CATGCCACAACATGGATGAGCCT
39500	TNFSF9	TGCCCAGGCTAGGGGGCTATAGAAAC
39501	NFATC1	CTGTGTGATGTCCCGTTAGTGA
39502	HMGA1	CTCCCATGGGCTGAGTGGGGA
39503	DAD1	CTTACTGCTAGCTCTGCTTTT
39504	IL5RA	GAATTTAGGCAACACTCAATTTAC
39505	PIK3CG	TTTTAAACTTTGGCCTGAACAGTTTTT
39506	MGAM	CACTTGAAGAAGAGGGTCTTGA
39507	JPH2	CCAACTGGGTACAGCCTGGGTG
39508	CLN3	ACCCAGGCCCACCCCAGAGACC
39509	NR1I2	TTCCTGGGGCTGGAATGCTGGGT
39510	CASP2	AGGACACTCTTGGCTCGTTTGGG
39511	IL2RA	CCTCCGGCGCGATGCCAAAAAGA
39512	TNFRSF10B	TCTGTCTCCCAGGCTGGAGTGCAAT
39513	AFG3L1	GCATCTGTAGTGTCCATCAGCAGG
39514	MTMR4	TTCAGTTGGCTCATCAGCCAGCATTGGTG
39515	EVC	CGCCGCCCTGGCGGGGACGG
39516	ATP7A	TTCACTTTTCAAAATATTGTAGA
39517	SERPINB9	GCCCAGGCTGGAGTGCAGTGGCTCG
39518	IL1RN	GCTGTATATGTTGGGTGCAAA
39519	FGF2	GCTCACATGCTCTGCTCTCACGTG
39520	ETV1	GGGTGAATGGGCAGAGGGA
39521	ACAD8	TGTTTCTGTTCCTGATAAACACTTTG
39522	FGF23	CATCCCTCAGCAAACGCAGCTCTTC
39523	DIAPH1	TCTCTCTGGCCTGCTGCTCTCTCA
39524	GLRB	TGTAATAAAACTGTGGCACCT
39525	TLL2	GATACTTCTTTTTATCTCTTTA
39526	MAP3K4	CCAAGACTGAAGACTGCACA
39527	IL5RA	GAGGAAGAAAGCATTTTGCA
39528	GAA	CCCAACGTGTCTAGGAGAGCTTTC
39529	MTMR4	CTGCCTGTTTTCAAGGGGAGTAAG
39530	SLC18A1	TCTGAACCTCTTAGA

39531	SLC17A7	ATCTCCAGGGACTCTCAGGCTAA
39532	CDK5R2	GAGCAGCGGAGCCGCCTAGCA
39533	RRBP1	TCTGTCTGGTTTCCTCTTTGGA
39534	BSN	GCCAGAAGTTTTTCCACAGCCTT
39535	MYD88	CTCTGGGGAGAAGGTGCCA
39536	SLC29A1	CCATGCCCAGTTTTTACCCATCATGCA
39537	FGF7	TTATGTTTGTTTTAAGACA
39538	ABCA3	AGGGAGACCTGCTGTGTGGA
39539	CORO2A	AGGCTGAGGTGGGCGGATTGCT
39540	MOCS2	AGGAGTTCGTTCAGAGACCA
39541	KIF3C	CTGTGGCTGGGACAGGAGTTGTGTGTA
39542	GPR1	CCTGGGACAGTGTCCACAAATACCGT
39543	MASP1	ACAAGTCATTCTACCTCTT
39544	SLC1A4	GGTCAGCTCTGCATCAGGTGTTTT
39545	DXS1283E	ACCCCTTCCTTTGATCATTTC
39546	PCDHGA12	GAGGAAGATAAGAATGATTCCTGCGCG
39547	GGT2	GCGGTGCCTGGGGAGATCCGAGG
39548	MAT2A	GGTCTGTAGGTTGCACACTTTGG
39549	HOXB9	TCGGTGGCTGTCGTGAAATT
39550	NR5A2	AAGGATGAGGTGATGTATTGAC
39551	LAMC1	CCACACACCCCCTTCCTCCTACCA
39552	SEL1L	CTTGTGAACTGACTCCTTGCACT
39553	SEPN1	GATTACAGGCGTGAGCAATCGT
39554	SOX8	GAGCATCTCCGGGACCTGCCT
39555	ADAM19	GGGATCCAGGGCAATGTGAA
39556	BRPF1	ACTGTCCTGGAGTGGCACCGGCC
39557	GPX3	TCCCTGAGAGAGATCAACCTCCC
39558	STIM1	CCACAGCCATGATACAGGGCTCT
39559	CLCA3	TACAGTTAGAAATGATACTTCCTT
39560	NFATC1	GTTTGACCCCACGCCCAGCC
39561	IRAK1	GTAGCACAGGCTTCACAGTGATTTT
39562	STE	GATATTAAAGATTTCTTTTCAT
39563	SPAM1	GCAGTGTAGGTGGTTAGCAG
39564	PCDH11X	TGTTGTTTTTATCATCATGTGC
39564	PCDH11Y	TGTTGTTTTTATCATCATGTGC
39565	KCNK3	GCTGGGAGGCAGGAGGCAGCGGCCTGT
39566	MCF2	AACCACAGCACATACTTCTTT
39567	MATK	CCGCCTCGGGGTGTGCAGCCGGCTCG
39568	DHFR	TGCAACCTCCGCCTTCCCAGATTC
39569	ZNF137	CTGAGCCTTGAGAGGAATGTGGTCA
39570	PCDHA2	TTCTAATTTGATCAAAACATTGAGG
39571	SLC7A6	AGGAAGAGCTTGGTA
39572	SERPINB9	GCATGCACCAAACACTGCTT
39573	IGFBP3	AGGAAGGAGGAATGGCTTGCTGGGGA
39574	CETN1	AGACTTGCTTGGGTGGT
39575	HSPD1	GTTAAAATCAGGATTTTAG
39576	EGFL5	TGTAAAAAGAAAAATATGGG
39577	UGT2B11	ATTCCAGCAAGAAAGAAAAGA
39577	UGT2B28	ATTCCAGCAAGAAAGAAAAGA
39578	TMEM2	GCTTTTCTGTTCACCCTCCTGCC

39579	FPRL1	GTTATATCAGACTGGAGCACCAGAGAGA
39580	SOX1	TACAGTAGGCCCTGAGCCGACTGTGAA
39581	KCNS2	GCAGGCTGAGCCCCTTGGTTCACAGT
39582	MAP3K9	GAGGAGGCGGCGGCGGCGGTG
39583	CMAR	ATGCCTTGGTTTTTACTGCTCTG
39583	SPG7	ATGCCTTGGTTTTTACTGCTCTG
39584	ABCC1	GGCCTGGCCCAAAGCAGTGTT
39585	JPH2	GTTAGCTTCCCTTCTGGACCA
39586	KIF5A	TACTCTGTATCTCTTTGTACTCT
39587	MOCS1	CACATCCAGGTGCAGCTGGAGC
39588	RBL1	GGAAGCGGAGGTTGTGGTGAG
39589	TCN2	GCTGCTCAGTGCCTGCCTCTG
39590	IL22RA2	GTAACATCCCTAATAACAACCTTC
39591	MAP3K11	AGCATGGACCTCCTGCCCTGG
39592	SIAT4C	ACCGAGAAGGGGACCTCATCTAG
39593	HDGF	CCTGACCTGGCCCCCTCAGTGTTGT
39594	NOS1	GATGCCTCAGATCTGATCCGCATCT
39595	LOH11CR2A	CAGGCAGCCAAGGAAACACTGA
39596	TAL1	TTTTGTAGAATGAACCACTGCCCC
39597	BHLHB3	CAAGAACAACAAAACAGGTGTTATG
39598	SLC4A4	AGACACAGACACCCACAGACCCTGTCC
39599	LTB	AAGGGTACGGGCCTCTCTGGTACACGAG
39600	HLA-G	ATGACCCTCTTCCTCATG
39601	RPN2	GCAGATACCTGGTGAGCTCA
39602	MAP1B	GGGAGAGAGTGAGAGAGAGTGAG
39603	CLASP1	ACTGGCTTTTTGTTCTTCT
39604	FZD10	GACAACAAAAGAAATCTCC
39605	F13A1	TTCCTGAGCCTTCAGCACTAAC
39606	RERE	TCACCATCATCCTCAGGGA
39607	PPP1R12B	AGGAAATGGACAAAAATGAGAATGA
39608	ADCY3	TTCTGGAACTCCTGTCCCCTTAG
39609	KCNK4	GCTGCAACCCCTCTCCGGCTCCTCTGC
39610	NCOA6	CCCAGGCAACAGAGCGTGACTCCGTCT
39611	CRYZL1	TTGTCCTAGATGCTGGAGTGAGATTATATA
39612	CSNK1G3	CTTTGCCCATCAGTGAATGGAATGG
39613	IL12B	CCACCTCTCTAAAAGACACAGGA
39614	REGL	AGCTGTGCCAATACTGCCTACTGTGC
39615	TCF3	TGGTCTGAGCCCCACGAAGGCCTTGG
39616	EPHA3	ACTGTTCTTCATTTTATTAATAT
39617	TGM3	GGAGCCTGAGAAGAGGCAGA
39618	RNASEL	CTCAAAGCTTCTTTGATTAAGTGCTAG
39619	ASB1	GAACAATGATACCGTTTTATTTACT
39620	SNCAIP	TTTTTCTGTCATTTCTACTTTTTG
39621	RNASE6	GGGCTCGAAGGGTTAGAGAAGAA
39622	ADAMTS13	GGAGGTGGGGACTCTGGAAAAGC
39623	ALPI	CCTGCCCTGTTCCCCGTCCT
39624	TEM8	GGGGAGTTGCGAGGGAGCGAG
39625	ACTN2	CAGTATCCTTCTAGCTCTCC
39626	WNT1	GCCCCCAGGAAACGCTCTCCTC
39627	ASTN	TTTTCCCCTTGGAAGACACTATTGATC

39628	TAZ	GAGCTACACTCCCACTTCTTCA
39629	ZNF24	CAGTTGTCTTTTCTTGAA
39630	WHSC1	TGAGTCAGGGGAGCTCAGTCTC
39631	BASP1	GTACCTGAAACTGCCGCCAC
39632	GJA4	CCCCCTGCCCCCTCCTGGAAGGCT
39633	DUOX2	CCCAGAAACTCCCCTTGTACC
39634	CTNND2	GACGGCTTCTCACGCTTTGTTTA
39635	ZRF1	TTATAATAAAACTGAAAATACT
39636	NCOA6IP	ATGATCACAGCTCACTGCAGGT
39637	EDNRB	CCAGAAAGAAAGAGCAATAATAATTAA
39638	SLC23A1	ACAGCTAGAAATTTTCCTCTGTGAT
39639	GPM6A	AGCCATGGAAGAGAATATGGAAGA
39640	DVL3	CTCCAACACTCTGTCTTGAAT
39641	OPCML	CTCTCCTCATCATCATTCC
39642	EN1	CCTCTTCTCCCCCACCTCCCGGGTC
39643	GJB3	CCTTGCTGTGCCTCAGTTTCCTATC
39644	CSTB	AGGTGATCTTAATTACTTTCAGAA
39645	VHL	AAAGTGGTGGGATTACAGGTGT
39646	CBLB	TATGTATTCTTCACTACTGAG
39647	EIF3S3	CATATTGAAAAGCACAGAGG
39648	RPH3AL	AAACCCTTCCCTGAAGAGAGA
39649	SLC9A6	TATCCAGTTAGAACATTGATT
39650	PITPN	AAGTCCCTGCTCCTCCTCTTC
39651	PKNOX1	GAGGTAGCAGTGGGCACTTTT
39652	ADRB3	AGCGCTCTGGCTGGGACAG
39653	MEFV	ACCATGCCCGGCTAATTTTTTGC
39654	PCDHB16	ACCATGCCTGGCTAATCTTTTGC
39655	EDNRB	ACCAAAACCCAACAATGTGGCC
39656	F2RL3	CCCAAGTAGCTGGGATAACAGG
39657	SSTR1	CCGCTCTCCCTTTGCGCAGCC
39658	DSG1	TCCCTGTGGAGTCAAGGATTCTTCT
39659	SRY	TTGTTTTCTTTTCTCTGGC
39660	PDE1B	GGCTCCCCCATCTGCTCCA
39661	CPNE3	GGTGCCCAGGATAGATGTAAT
39662	RAD50	CATGGTTTTGTGCCATCTGTAGCTATAA
39663	SIGLEC11	GACCAGCCTGGGCAAGATGGTG
39664	CDC23	TCTCCACTGCCATGCCTTT
39665	TGFB3	GGGTCTCTTCCTCTCCAGGCCT
39666	STC1	GCAAACCCAACTAAGCCAGGA
39667	SMT3H1	GCAGCCTGGCAGGGCACAG
39668	MAGEB4	TGGAGGCCTGGGCCAAG
39669	HSPA5	GACCACAGGCTTGTTACCAC
39670	TAL1	CACTCAGGCTGGAGTACAGTG
39671	TOP1	TATTTTTTCTTTTGTAATTGTGT
39672	TOP3B	CCTGCAGGGAGCAGGCGCTG
39673	GRM3	CTGAGCATTGGTGACAGGGTC
39674	WRN	TTGCAGGCCCTGCTTGTGGT
39675	CAMLG	ATCCTTGTGACATTAAAAACACATA
39676	HSPA9B	TTTGTAGATGGGGCAGAGGAA
39677	A1BG	TGTCCTCAGAAGTGCCGGGGATTCTG

39678	SERPINA4	CACCCTGGTGCTGTGCAGCCT
39679	RDX	TACTACCTCACTACTACATCT
39680	RGS6	GTCCCGTCACATGTCTCAAG
39681	MALT1	CCAGAACTGAGACCTCCAGAAA
39682	PPL	AGCATTTTATACATACCCTCGCTGCCA
39683	PPP1CB	GGGAAAAAGGGCAATGTTGAT
39684	AP2B1	CCTAATGCCTTCTCCTGCCTTT
39685	CNN2	TGAAATTCTGAGTTGTTGGGGC
39686	PTPRO	GTAGGGAGATGACAGTGGTGC
39687	HOXD11	GTTATTTAAACTTTGGGAAATGT
39688	TREM2	CAGGACTCCTTGTTCTGCTCTGGCA
39689	EXTL2	TGTTAAGTCTTTTGTGACTGGGA
39690	MTERF	ATTATCCTGAATTACTTTGGAG
39691	ACE	GCTGAGGCAGGAGAATCACTGGA
39692	ZNF16	TTCTCACTGCCACTGCTCTTGCCTCTTGT
39693	MUC4	TCTTCAAGGAGAATGAATACTGG
39694	TRRAP	TAGCTTTAGTCTTTCTGTTCCCA
39695	ITGAL	TCCCCTGCACTGGAGTCCAGT
39696	CCNT2	GGAGCGGGCGGAGGAGGAA
39697	TM6SF1	TATGTACATTCTTGCTCTGCA
39698	HUNK	GCAACATGGTGAAAGCCCGTCT
39699	TAL1	TGTCTGCAGCCTTGAACTCTG
39700	PAX3	GGGTTGCTCCTTTGATTAGAGA
39701	CLCA3	ATTTCATCTAGAAGTGGCAGCATCTC
39702	XYLB	TGATTCTCACTTTGAGTTTTCTTCCT
39703	NKTR	TTGGGGTTTGGCTGCAGTGGCAG
39704	OTX1	ACTGGTTCAAGCTTCCGCCTCGGCGGG
39705	ADA	CCTATGTGTCCATTTCTGCACA
39706	ZNF289	TGCGGACTTGCTGCTGCTGCTG
39707	TRPM2	TTCTCCTCTGACCCATCAGCT
39708	MOG	TGGGGACATTCCAATTTGCAC
39709	CENPB	ACCCCCACCCCCCAGGCCGCC
39710	HNF4A	CTTCATCCCAAAGGACA
39711	CITED4	GCGGCGGCTGTGTGCGCAGGGCCCGGCA
39712	ABCC12	AGAGACACAATAATGAAACTCCCAGAA
39713	HNMT	CTTATCCTGTCCCTCCTCCAGGTA
39714	TNS	CCTGCACTCTAGTGACCCTGGGTGCC
39715	SYNGR2	TCTTTCACCTGTTCCATCCTGT
39716	AR	GAGCGGCTTCAGCACTGCAGCCACGAC
39717	DSCAM	GGAGCAGGTGTGCAGGAGCGCAGC
39718	ARMET	TGCTGTAGTGCCTTCTGCGCCAG
39719	PTPRE	GCGGCTTCAGGAACCCACGGCCT
39720	SCA1	TTCAAACTTAGTGCTGCTG
39721	PACSIN3	CCTGACCTCTGCTTTGGGGTT
39722	FCMD	GGAAGGCAATGTGTTGCCATA
39723	MMP25	CCTTGCTCTCCAGGCTGTTAACC
39724	RANBP3	TCACGGCTTCTCACTGGGAC
39725	KRTHA8	AATTGTACCTGACCCTGTCTTT
39726	NUFIP1	TGAAGATTAACTTTTCCTAACATTG
39727	DBT	GGCAGGAGAATCGCTTGAACCTG

39727	GRM6	GGCAGGAGAATCGCTTGAACCTG
39727	KCNMB3	GGCAGGAGAATCGCTTGAACCTG
39727	LRRC2	GGCAGGAGAATCGCTTGAACCTG
39727	MAP3K9	GGCAGGAGAATCGCTTGAACCTG
39727	MS4A2	GGCAGGAGAATCGCTTGAACCTG
39727	PTAFR	GGCAGGAGAATCGCTTGAACCTG
39727	STAT3	GGCAGGAGAATCGCTTGAACCTG
39728	IL17R	GGCAGGAGAATTGCTTGAATCTG
39729	UBQLN1	TTTGTTGAAAATACAGTAGA
39730	AQP6	TCCTAACTACACACAGGGAGGAGGG
39731	HRH1	AGACATAGGAACATGTAGTTTTA
39732	SLC13A3	GTCTGTTTTGTTCATTACTTTGTTCA
39733	DPH2L2	GTTCCCAGGCTGCAGT
39734	DES	AGCCCAGGCGGGAGCGGTG
39735	GPX3	CCCGTCTGCCCAGTAAAAGCCTT
39736	TDGF1	GTCACCCAGGCTGGACTGCAATGACGC
39737	C10orf2	CATGCGAAACTCCAGCCTAGGCTTTCAAA
39738	GLUL	CCTACCTCTGCTCTTGGAGGA
39739	SLC5A5	AGAGTGAGAGGGGAGGTGGCAGGACA
39740	SLC22A7	CTGCCGGCACCGCCCTCCTGCTGC
39741	ITGAL	CCAGCCTGGCGAAACCCCATCT
39742	SFRP5	GCTCAGGGCACCCTGAGGCGGAGGTTT
39743	JMJ	AGGAAGACGGAAAAGACTGCCTGCC
39744	ASK	CCAACATGGTGAAACCTTGTCT
39744	CPT2	CCAACATGGTGAAACCTTGTCT
39745	PDGFRB	AGTCTCCTCCCTATGATGCCA
39746	PCDHA9	CCCAAAGTGCTGGGATTAAAGCTGTGA
39747	APAF1	AGCTCAGAGAGAGAAAGATCTG
39748	PAK4	GCGGTGGTGGCGGTGCAAGAGA
39749	TCL1A	CCTGGACCAGTGGTCTCACATG
39750	MPP2	CCAGGAATGTGTCAGAGTCACCTCC
39751	ZNF42	GTCGCCCAGGGCTTGGCTACT
39752	APPBP2	GGAGGTGGGGGCCTTCGGGAGGAGGAG
39753	VHL	TTGGCATCTGCTTTTAATGGA
39754	BCL2L2	GGGGAGGTGGTAGGCTGCATGTG
39755	RGS3	CTGATCTCTCTGGGTAGGTGCC
39756	PP	GAAATAAAATTATTTTGCTGAA
39757	RPH3AL	AAGGGCCTTCTCTCCAAGCTGGGA
39758	DAG1	CTTTTTTATTTTTATTTTTTGCC
39759	NAP1L4	GGCTGGTGGGTGGGGTTTTCAA
39760	WHSC1L1	TTCCACATAGAGGCCTTCCCATCCAG
39761	WNT5A	GAAGCTTGAGTTCTGACTCACTGA
39762	FUT1	CAAGCCCCACAGCCCCTCAAAG
39763	PGK1	TCACTGCACCCTGGATTTGCATACATT
39764	ZNF36	CTAAATGCATTTCTCCACA
39765	TYRO3	CCTGCTGAGCTGCCCCTGCTGC
39766	SLC2A1	GAGCACTGGAGTGCAGGG
39767	ADAM19	CCAGAAAGAGACCTGGGTTGTC
39768	CBFA2T2	TGTTGGTCAGGCTGGTCTCAA
39768	DFFB	TGTTGGTCAGGCTGGTCTCAA

39768	MLANA	TGTTGGTCAGGCTGGTCTCAA
39768	SCML2	TGTTGGTCAGGCTGGTCTCAA
39768	SIL	TGTTGGTCAGGCTGGTCTCAA
39769	TNFRSF14	TCACAGACCACACACCCAGCCCTCCTG
39770	MGAT2	AGACTGGGAAACATACACATAC
39771	DIAPH1	GGCAGGCAGGCAGGGCATAGC
39772	ARHGEF12	AGCTGGGATCAACCACAATTAATAGGA
39773	GAS2	AAATGTTCAAAGAGTAGCACTA
39774	SEDL	TTCTCCTTCTTCAGCCTCCCG
39775	DPYSL2	TCTGCGTGCTCTCACTCTCTCT
39776	PTAFR	TGGGCAGATCATGGGTCAAGAGATCG
39777	PBP	TGAGGGTGACTTTTCCTGCTG
39778	EGLN2	CTCCCAGTGAGGTGGTTGCTC
39779	NT5E	AGAGTTCTCGAAGAAAATAAAT
39780	SRC	AACAAGGGGTCTGAGGATGCATTCG
39781	ACP5	GGGAGGGAGGGAGGGAAAGC
39782	SYNGR1	GGGAGGCAGAGCGGCAAGGA
39783	RARB	ACTTTTCTATGCCATTTGCCTCCA
39784	SORCS2	TGTCAGAGTTCCGTACTCGGGAG
39785	VDR	GAGAGTGAGCTGTAGGTGTGCGGG
39786	CDH16	CTGGGAGCTTGGCCTCT
39787	WISP2	CTGGATCTCCTGCTGCCTTTTCTGGA
39788	JAK3	TGCAACCTCTGCTTCCCAGGTT
39789	MUC3B	CACACCTGTAACCCCATCTTCTCT
39790	PAX3	GGCAATGGTTTCACATGGTTAC
39791	CRSP6	GGTTCACTGCAGTCTTGACCT
39791	ICAM1	GGTTCACTGCAGTCTTGACCT
39792	MYLK	TCATATTAAAAGGACTATTTCTCTAAA
39793	ZNF143	GGGCCCAGGAAAATTAGAAG
39794	AK2	TATCTATGTTGGGTCCAAGAAGGAATTTC
39795	LAMC1	TGCCACACACCCCCTTCCTCCTACCA
39796	IL1F9	ACGCTGGTGCTGAGACAGGGGC
39797	CCR2	CTATGTCACCCAATGCATATCCAA
39798	CRTAP	TTCAGGAAACACAGATTCTTT
39799	MGST1	CGTATGAGAAACCTATATTTCAATAC
39800	ABCF1	CAGAAGCCTGCCTCTGATTTACCCTA
39801	VHL	GCTCAAGACCAGCCTGGCTAA
39802	CISH	AGCACCCCCTTGTAAGCTCAGGGCTACTG
39803	CLCN7	CTATCGGCCTCTTGGGAGCCAG
39804	ABCB10	TTTTCTTTTCTTGTGGAATAT
39805	PRKG1	TTTGACTTATACAACATAGTCAG
39806	SCML2	GCAAAATGCTGGGATTACAGG
39807	HAS1	CAAGATTCTTCAGTCTGGACT
39808	PPP2R1B	ATGTTCTTCTTCATTGAATTTCA
39809	HPS4	TTTGGCAACCTGTGTCCTGGCTGAGG
39810	CR1	GCGTAATCTCGGCTCACTGCAACG
39811	LEPR	TGGGAGAGAGAAAAGAAACCAGA
39812	AKAP1	ACTGGTCTTCCTCTGATTCAGC
39813	STE	GTCCAGGCTGGTCTTGAATTCCTGGGC
39814	BACE	CCACATTTTGCTTTATAATTTCTAC

39815	APBB2	ACACATGGACACCATTTCA
39816	MUC3B	CTGTAACCCCATCTTCTCTGAGTACA
39817	TSC1	CACAGGCTGGCAGTTGGTA
39818	CASP10	TGTTACTGCTACTACACTTTG
39819	MTMR4	TCAGCAAGTGGAGGTTTCAATG
39820	IL1R1	GACTGTACTTATTTTCCA
39821	DLGAP2	CCACTCATTTAAATAATACAATCA
39822	RPP20	TCTTTCTCTGGGACCTGGGGTC
39823	CREBL2	CCTACTGCTCAGTAGTCATCTCT
39824	FTSJ2	TCACACACAAACAGGCTTTCCACCCC
39825	RAD52	TGTGAGCCACTGTGTCTGGCCA
39826	TIMP3	CCACTTCTCAGCGAGGATGGCACTT
39827	RAB5B	GGGAGGCAAGATCTCAGGGA
39828	ABCD2	TCTGTGGGTTTCTAAGTGACAC
39829	EXO1	CGTCTGGAATGGGCTTGGGGG
39830	CSPG6	GTTATTGGAAAATACTACCTA
39831	GGT2	GCTGGCCTTTGCCAGCATGTTCAACAGCT
39832	C7orf2	GCCTTAGAGAGCCACAGGA
39833	CDK5	CGCCTCCAGGCTGGGCCTGGCC
39834	AQP7	CTCTGGACTGGGGACACAGGGAT
39835	TNFRSF7	CAGCATCAGCAACTGGGCACAGAAA
39836	GPRK6	CGTGCCTCCCCCTGCTGCCCTGGGCT
39837	PLGL	AAATGGTGCAGTATTTGCATATAACC
39838	KRT19	GCTGTCCTTTGGAGGGTG
39839	SRGAP2	GACTCCTGCCTGTTTTAGTCCA
39840	FGF2	TCGTGCCACTGCAGTCCAGCCT
39841	PPEF2	GATCCCTCAGCCAACTCTGAAG
39842	CDKN2A	AGAGGGGGAGAGCAGGCAGCGGG
39843	GABRA5	TTTTGCTCACAGGGACTCTCCATA
39844	DDX26	TCTTTCTCCACCACCTCGGGCC
39845	SLC9A1	CTCCAGAATTACCCTTCCTCA
39846	RPS6KA1	CACACACCTCCGAGACAGTCCA
39847	MAFF	CCTCACTGCTGCCCTGAGTCC
39848	CAMK2A	GCAGGGATAGTCACTGGCTGGACTCC
39849	C18orf2	GGAAGGCCCTCTCGCCAACAC
39850	ITGA9	AGTATTTTTATAAATATAAGCCTTT
39851	ZNF278	AAAGAACCACACTAGGGTCTCCA
39852	FCER2	GAGGACAGACACAGGCTCCA
39853	EPB49	CTTACTGTCTGCACCAGCCGGCCT
39854	NDST2	AGGGTCCAGGCAGGGTGTAGGGGA
39855	TSC1	ACCCAAAGGTAGGAAGGTCAAGGTCA
39856	CORO1C	TCTTTCTTTTTTAATGTTGCCAAAAC
39857	CELSR3	GTTTCGTAGATGCCCCTCTCTGG
39858	SCML2	GTGCCCAGGCTGGAGTGCAATAGCTC
39859	MAP3K9	GACCAGCCTGACCAACATGGAGATATC
39860	NRIP1	CAGACTGCATTTATCTTGTCA
39861	DDX6	CTTCCCTTTCTACCCA
39862	KRT1	ATTTGAAATTCTCCATGT
39863	AXL	CTGCAACCTTCACCTACCGAGT
39864	G6PD	CCACCCTGGCCCGCCCCTCGCTGC

39865	STE	TGTTGCCTAGGCTGGAGGACAGT
39866	ODF1	TTCTCCTCTCCTTCCCATGGC
39867	ALDH1A3	ATAGACACTAACCTTGATAGTGAT
39868	OPHN1	CTGGTGCGCTGCACCCACTAATG
39869	CHRNE	CCTTCATTCAGCCTTGCTGAC
39870	BCL2	CTGTTTGAGATTTTTATCTCT
39871	CHC1	TGTCCCTAACAGTCCACAGGC
39872	IGJ	TGGGCGGTGGAGCAGGAGCTGGC
39873	ATP11B	GTTTTTAAAATATGCTACTCTG
39874	SIX3	TAACCGCAAACTATCAACAACCCCCAACC
39875	PABPN1	AGTAGGGGAAGGCCCAGGGA
39876	DTX1	TCCGGCATAAGAGAGACACTTGCTT
39877	DLGAP2	CGAGTCCAGGATGGAATTTCACAGGA
39878	GOLGA5	GATTATCCTGCTGCCATCATGTC
39879	ITIH1	CCTGCTGCTGAGGCTGTACCTCCTT
39880	AKAP2	TGGGCAATTGGCACCATCTTT
39881	DPYSL3	ACAAGCTGGGACGTCAGGGAAATGAA
39882	LMNA	CTGGACGGCAGGCTCACTGCCAGGCC
39883	SHOX	CATGTTCTGATTGGTTTTCTGGGAA
39884	SLC22A3	AGACATCCCCTTAGATGATCTGAA
39885	MAPK7	GGGCGGAAGGGGACTTCGGGAGCCAG
39886	NFATC3	CGCCTGTATCCCAGCACTTT
39887	HMGCL	CTCATAGCCAGCTCTACACAGAGG
39888	NRIP1	TACAGAAGAGTAAACTGGTGAG
39889	CHRNA10	AAGTCCAGAGCCTGCCACT
39890	FOXP2	ACTTGTGGTTCTTCAACAGCTGTGCAG
39891	LAMC1	TGGCTTCTCCCAGGCCTCTTCTACT
39892	FLRT1	GTGGCTTTGCCCAGCCTGCTGC
39893	EML1	TGCGGTCAGCCTCTTCACACCCACCTGGCT
39894	ANK1	CTCGATCCTGCACCTTCCTCT
39895	PCDH1	CAGGGAGACCTGGGGTCCTGTGG
39896	DNMT1	GATCAAATTGTGCAGTACTTTGTGCAT
39897	XPNPEP2	TGCAGAGTCCCTGAGCCCACCTCCCA
39898	GPR75	TGTCTTGGGCCTCTTTTGTCA
39899	SNX1	TCTGTTACTCCTGATGGTGCCAT
39900	CRTAP	CTTGCCCAGGCTGGAGTGCAAT
39901	SORCS2	CCCCTTAGCTCACAGTGCCT
39902	NDST2	CCCATCATCTTGGGAGGTGGGG
39903	CNP	GAACTCCTGGGCTCAAGCAATC
39904	MTMR2	TCACTATACAGAGAGTCTGAACC
39905	SYT4	TCATTCCACTACAAAGTCACCT
39906	PRKG2	TTGAGCAATAGTCAGTGGCAC
39907	SYK	GATCCCTGGCCACTGAAAAGC
39908	ZNF83	TGAGCAATAAACAACACATTTTTA
39909	RAB6A	TTTGTAAATACATTGTTTGCAG
39910	MS4A8B	TCTCCCACTGTTTGTACTCTCACCTTC
39911	CCND3	TGTTGTCCCTTCTAGGGTTAT
39912	MCC	TTACTACAGCAAGGCTTTGGTTTCCA
39913	FGF7	AATCTATACTGTGATGATTTGACTCAA
39914	BARHL1	GGGAGGGGGCCCTGCCCGGCCCTCCC

39915	AQP6	CAGCTCAGGCTGGAGCAGGTATATG
39916	SCA1	ATCTGTCACAAAAAGCCAGGT
39917	CD3Z	GGTGAGAGGGCCGGGCAGAGGGG
39918	FMR1	TTGTTTGGTTATAGTGCAATA
39919	JRK	TGATTCCACTGAAACCTCTGT
39920	MAP3K11	AGGAACACTACACTGCACAGGA
39921	EEF2K	CATGATCTTAGCTCACTGCAACCTCC
39922	MRPL49	AGGGTGGAGTGCAGTGG
39923	SDC1	TTCTCCAAACTGAAGCAGCCTC
39924	CMAR	AGGCTGGAGTGCAGGCCGCGATC
39925	SOD3	CTTTGAGCTTCTCCTCTGCTCCAACAGAC
39926	ADRA2A	GCAGCAGGCCCAGGCCAGCGGGCGCC
39927	IDH1	CCAGAGTTTATCTTTTCTA
39928	CENPB	CCTGAGCCTGCTTCTGCCTGCTTT
39929	MAGEA8	GCACTGAAGAAGACCTGCCTGT
39930	MYCBP	AACACAGCCATCTAACTCAT
39931	FMO4	ATTGTATTATCTTCTTCTTTGTTTTCAGT
39932	CBFA2T2	GCATGAGCCACTGTGTCCGGTC
39933	ESR1	TTCTAAAATGGCAGCTTCAGTTCTAG
39934	MLC1	GCTTGGGCTGGAGTGGGCTCTCTGGA
39935	KCNMB1	GCCTTCTCCACCTGCCCTCCCACTC
39936	NUP98	CCTCCATCTACCCCTTCCA
39937	PSCD4	TTCTCTTCTCTCTGGACTTC
39938	GARP	CTCTCCCAGGCAGGCAGCTGCAGG
39939	AP2B1	CATCTCTGAAAAGACTGGGGGA
39940	HIF1A	GGACTTGCCTTTCCTTCTCTTCTCC
39941	SLA	TAGGAAGAGAGTGGGCTGCA
39942	GRAF	GGGAGAGAGGGGAGGCAAAGCT
39943	NT5C	CTGTCCCTGGACCCTGGCTGGCA
39944	CPO	GTCATTTTATATGACTAGTTTACA
39945	GRAF	CGCCCCTGCACTCCAGCCTGGG
39946	IL10	TGCCCCTGTACTCCAGCCTGGG
39947	AKR1B1	TCTACCAGGTCAAAATAGTGCCACTA
39948	SAS	CCTGGTGTGGCTCTAAGGGTAAATCA
39949	HPS4	TCCCAAACCCTCAGGATGGCG
39950	PHF1	ACGGAGGGGCTGGGCCTGGGGA
39951	ADAM11	ATGTAAACTCGGGGGTGCTGGGG
39952	NT5E	GTCCAGAGTTCTCGAAGAA
39953	SH2D1A	CTGCTGAGAGACAGAGCTATTCT
39954	GATA6	CCTAACGGATAGCATTTGTAAATACTC
39955	PDYN	GCTGCCTCTTTGGCACCTCCTCCCAA
39956	GRINL1A	GTGTGTCCCCTCTTGACACTCAC
39957	RNF26	GGCGTTGGGGTTAGTATCTCTC
39958	DISC1	TTCTACTGCCTCAGCC
39959	NUFIP1	ACTAGCACGACTTACATAGCTCAAATA
39960	GPR65	TGAGGGGACTAAGTGTTCTCAG
39961	TCF2	GGTCTACCTCTGTCA
39962	NOC4	TGGAGTGCTGGTGCTGAGCTGTTTGA
39963	ATP11A	CAGAGATACCCAGACAACAGGAT
39964	SOX4	AGTCTCCCCCTTCCTGCAT

39965	WNT3A	AAGGGCGTGGCTCTGGGT
39966	MAX	ACCAAAACACCCCAACTTGGCA
39967	TJP1	TTACTCAGAATTCTCTAGTTTGATTAA
39968	CBFA2T2	CAAGCGAGTCTCCTGCCTCAG
39969	DMD	TCTTCTCACAGTCAAAAGGAA
39970	CCND2	TTCATGCAGCCATCCATTTG
39971	POLH	GTTACGGTCCCATCTCTTC
39972	DDX6	CAGGGAGGGGTGGGAGAGGGAATTTA
39973	PAG	ACTGCTCTACACTGCATGTCT
39974	LANCL1	TATTTACACTGAATTCCAA
39975	CENTD2	CCACTAAGGAGGAGGAGTC
39976	GAP43	TGTTCCAAGTGTGTGTGCAATG
39977	MECP2	GGGATTCCTAATCACTCAGAGCAGTCTGTGAC
39978	SOX9	TGTGTATGATTCATTACCATTTTGAGG
39979	CALU	CCCAAATTGATTTTCTTCTTT
39980	ASTN	GGTTATACAACTTGCCTC
39981	SYT5	TTGCCCGGGCAACCAGCTTTGC
39982	LDLR	CCATCTCTACAAAAACCAAAAAG
39983	CDH12	CCTGCAGCTGCCTTTTCTGCC
39984	FGFR1	TCGTCACGCCTGTAATCCCAG
39985	GNAT1	GCCAGTGACTGTCCCTCCCAG
39986	LDB3	CCAACTTGTGACTGCTCACTTATGACG
39987	HPSE	AAATACTGCTTAGCATTTT
39988	CD5	GCTCTGCACATTCACCGCAGCTGCC
39989	FPRL1	CCAGAGAGAGGCCAAGGCTGAT
39990	HNRPH3	AGCTTGACAAATAATTAGTGT
39991	SHANK2	AGGGAGGTCTCCTGGGCTGCCAG
39992	PPM1D	ATTTCCTTTGAGCATCATGCC
39993	EIF4G1	CGGCAGCAGCGGCGGTGGCAGTGG
39994	CNTN3	ATTAAAATCAGCAGATTGAGTTTTCAA
39995	CTLA4	GGGAATGGCACAGCCCAAAGAAG
39996	KCNQ1	TGAGTGAGAGGGGAGGCCAAGA
39997	SOS2	TAGAAAATGCAGAAACTCCCCAATGCCTTAGC
39998	TMEPAI	CTCTCTAGGTCCCCAGGGGGGCCGGG
39999	CACNG7	TTCCCTGGAAGGTCCCATTCTTTCTCA
40000	A1BG	CGCCTCAGCCTCCCAAAGTGCTGGGA
40000	ALDH1B1	CGCCTCAGCCTCCCAAAGTGCTGGGA
40000	CYP1A2	CGCCTCAGCCTCCCAAAGTGCTGGGA
40000	DNASE1L1	CGCCTCAGCCTCCCAAAGTGCTGGGA
40000	FZD4	CGCCTCAGCCTCCCAAAGTGCTGGGA
40000	MEFV	CGCCTCAGCCTCCCAAAGTGCTGGGA
40000	WHSC1	CGCCTCAGCCTCCCAAAGTGCTGGGA
40001	ZNF256	AGGCACCTTATCAGCAGAGC
40002	IER3	AGGTAGAGGGTTGGGGGTTGGTG
40003	FBLN1	AGGCCTGGCCTGATCTGGCCTCTGC
40004	ART1	CTGTCAATCCCATCTGCAG
40005	PLAG1	ACTGACTGAAACATGAGCCAG
40006	DGAT2	GTTGGAGAGCACAGTTGCCCCG
40007	CPS1	CACTCTCCAGGCTGGAGTGCAGT
40008	AGR2	GGGTGAGGAAATCCAGAGTTGCCATG

40009	NHP2L1	AGGAGAAAGCTGATGGAGCCAG
40010	NCOA6	CGCCCAGGCTGGAGTGCAGTCGTGCC
40011	TAT	TCTCAAACTCCTGACCTCAGGCA
40012	WT1	CTCACTAAAAAGGAAACTTCAGTTGA
40013	ARHGEF12	CTTCTCTTTTCCCTCCCAAC
40014	KCNK10	GGGGAGGGGGTAAGGGAGCCAG
40015	TFRC	TCGGAAGCAGTGCCTTCCAT
40016	OPA3	AAGGAAATGCAGTGTGTTGCAGTGG
40017	IRTA1	TTGGGATGGAATGGCCTCTGAAAGACT
40018	CLASP2	CCTGCAGCGTTCACGAAGTGACATTGA
40019	AP1B1	TTACTCTTATTTTCAGAAAGA
40020	ARCN1	CGCCTCCTGGGTTCAAGCAAGTC
40021	TRIM14	CCAGATCTCATCTGGGGA
40022	CALML3	GTCCCCTCCCTCACAGGCCTGCAG
40023	DGCR2	GAGCTCCCCTGGGGCTCTGGA
40024	ABCG2	CTGGCATTTGTTTCCTCATCTT
40025	CISH	AACTCTGCCCTGGCTTCTCTGG
40026	NT5E	GACCTAGGTCTTTTGAACTCAAGTCCA
40027	IL15RA	GGAAGAAGAAAACTCAACTCAGTG
40028	PIM1	GATCCTCTCTGGGGCTGTGTT
40029	SOX9	TTTTACCTTCTTTAAAATAG
40030	TNFAIP1	CCCCTGCCTTGCCCCTGAGCACTTCTG
40031	TIMP3	CCAAGTAGATTTGGGTAGAGGA
40032	PPM1B	AGCCCCGGAGGCGGCGGTCGAGACCC
40033	ASB1	TGCAATCCGGGAGGTGTTTCCT
40034	NYX	ACTGGGTGGATGAAAGGCCGAGGGAT
40035	EXTL3	GGGCACTGACTGATAGCTTACA
40036	LRP8	TTATTTTCACACAGTCCACA
40037	IHPK2	GCGACTCTGTGTCCCAGGCACAG
40038	GAS7	TCTCGGGGTGGGGTGACTGGGA
40039	OGT	CTGTTACACTATTAAAGGCTTA
40040	PPP3CB	TTAAGACTTACACCCCAG
40041	PSG1	ACTTTTGCTTTCTACCTGACTGCC
40042	DAPP1	TTGCTGACTCACGTTGCTGCCCT
40043	SLC10A2	GGTATTTTCACTGCCTCA
40044	GAS7	AGCTACCAATTTTAGAATATTA
40045	IGJ	TTGGAAAACATGTTCTAGAACTAGTTA
40046	TFDP1	ACCGGGCAGCCAGAAAAATCAT
40047	CAD	TGCTGGGGCCCAGTCTGCCCC
40048	PSMD9	AACTTCTGTGTGGTGGCAGTACTGTG
40049	HP	ACGGGAGTGGACAGGAGTGGATGC
40050	HAP1	AGTTCACATCCACCTGCT
40051	ISLR	GCAGAGAAATAAACAGCATTTCT
40052	WARS	GGGCCTGGCCTCTGTAAGCCTGT
40053	SELENBP1	ACCACACAGCCAAGCTGAGACTGTGGC
40054	CTBP2	CGCGCGCCGCCGCCTCCAGGGTG
40055	STS	ACAAGGTCAGTAATGCTGCAG
40056	CNTF	AGTAATACAGCCTGGTTTTCAA
40057	TMEPAI	AGCCCGTCCTCCCCTGCCTGCCT
40058	ATP1B1	TACACTAGCTTTCTGCATTTAA

40059	TNFSF8	AGTCAGACAGAGACAGCAAGAC
40060	NHP2L1	CCTGCTGTTTGCTTTTGGTAATGTGA
40061	CD8A	ACCCATGCCATCTCAACCTC
40062	STS	TTATGCATTTATCTCTTTTGTGGAC
40063	HMGA2	TTTCTACCTCAGCAGCAGTTG
40064	SNRPA	TCCTTTAAGACTTACCTCA
40065	GALNT3	TCTGGCAGAGCCTCAGCTG
40066	TF	CTCTGTGTTGCCATGTGTGCT
40067	IL1A	GACTTCTTTGTGCTCAA
40068	KRTHA8	CTGGCCTTTCTGTTCCTTGGACATGCCTGG
40069	ADAMTS13	GAGTACAGAGTGGCCCTCACCGAGG
40070	PYGM	GCATCCCTCTCCAAAAGGTCA
40071	RPN1	TGAAGTCTAGGATATTTTTCAG
40072	B4GALT1	CCACAGTTGAGGCTCACACACAGGTC
40073	CGA	ACTGCCTTCCTCCTTATCCTAC
40074	ITGB4BP	GGATTCAGGGCCGGAGGTTCTGGTGG
40075	DLGAP2	CTATTTAGTAGCATGCAGGA
40076	SYT4	ATCAAAGGGCTGAGTTGAGAACACTGT
40077	EPAC	ACAGGCTGGCCACAGCTGGGC
40078	GA	ACATGCTGCTGCTACTGCTAACAGCCAATT
40079	SGCG	CTGCCTCTGGCTGCCTGCGTC
40080	FBLN5	CACATGCTATGTTCTGTCTTCCCAAACC
40081	IL24	GCCTCAAGCTCTGGCTG
40082	IL13	TTGCCCAGGGCTCAGCCTGGTG
40083	STK38	TTCCTAAGTTCATCAGAATGAAGGGGA
40084	B3GAT1	CCTGGCTCCCTGTCCCTGGGCTC
40085	BRF1	CCTGCCTCTGTGGCTCTGCCTGTG
40086	ATP6V1C1	CTCGGTACCTGTTACTGCTGCTA
40087	AMPD2	TCAGCTTCCTGTGCCTCTGTGGGAGAGG
40088	MEF2C	AGGCTGCCGCTGGGTGGCAGAA
40089	PAX5	GAGGGAGGGGCAGGAGAGC
40090	ARCN1	GAGTGTACTGTGCTTGAAGCAGAGCACT
40091	FANCE	TTGCTCTGTCATCCAGGCTGGAGTGC
40092	MADH1	AGAAGTTAAAGAGACTTCTCTGTAA
40093	CTSB	CAGCGCTGGGCTGGTGTGCAGTG
40094	MHC2TA	TATGCCCACGCTGGAGTGCAG
40095	ODC1	TGAGAAGCTGGAAATATTTCT
40096	ZNF41	CATATCCTGGGACATAAAAATA
40097	OTX1	GCTGTTAGCATGATGTCTTACCTCA
40098	SUV39H2	ACAACTGCTGAGAGATCAAAGA
40099	CUTL1	TTTGCCTTGTGTCCTCTTGTT
40100	GPRC5B	GGGGGCCGGGGGAGGACTGA
40101	NR3C1	TATTAAAAATATGGAACTTCTA
40102	MADH7	TCCTGGATCTCCCTGAGATGGGCTTCCC
40103	MMP14	GCCTCCCTCCCTCCTGCCCCGGCAT
40104	ZNF10	AGAGTTGTTGCTGAGAATTAAGAA
40105	MS4A7	TCAGAGGCTGGAGAGCAGAGCACC
40106	SIL	GATCACTGCAACCTCTGCCTCC
40107	USP14	GGAGGCTGAGGTGGGAGAATTGCTTGA
40108	PTPRN	CTACCCAGAGCCTTCTCCTGCCTACA

40109	VNN1	GCAAAGCATGCCCTTCTGCACAGGAG
40110	GASC1	TTCTCTTCCTCCTCCACCG
40111	SIAT8E	ATCCCTTGCTGCGGGCCCG
40112	GPR41	GCTCCCAGCCAGCGAGTCAGGAG
40113	PCOLCE2	GTGGGTGCGGAGGGGCGTGTGTGC
40114	NFIA	ACTAAGCTGACCCTGCTTCAAGCAA
40115	ACR	CTGTCTGACCTGGTTCTC
40116	SCA1	TTTGTGGGTTTTGAATGCATCT
40117	IRTA2	GTGAAGCCCTATAGGTCTCAG
40118	HOXD11	AGCCCCACTCACCCACCCTCCT
40119	CYP8B1	CCAAAGCTCTCTGGCACCCAG
40120	PMP2	GCCAAAACATAGAGCCAGCTT
40121	EIF4EBP1	CCTCTTCGTGAACACCAGCAGAT
40122	ACK1	TCAGTCCTGCTTCTTCCAG
40123	CRY1	GCTCCTGGAACTTGCTCAGGCTCCGG
40124	P2RX7	CCACTGCACTCCAGGCTGGGTG
40125	ZNF142	AGTCCCTGGCTATAAGATCTGGATT
40126	LTB4R	TAGATCATAGCTTGAACTGAAGCC
40127	PRKY	AGGCTGAGATGAGAGGATCACT
40128	GRHPR	GGATGAGACCGGTGCGACTCATGA
40129	BRCA1	CTCAGTCTCCCAAGTAGCTGGG
40129	SAS	CTCAGTCTCCCAAGTAGCTGGG
40130	LRRC2	CCAGGAGGTCGAGGCTGCA
40131	CRKL	GCTGCTTTGTTGTTCTGCCTGTCCTAGT
40132	LRP4	GCTGAGTCTCTGAAAAGTCT
40133	PRDM2	CAAAAGTAATCTACCTCTGAA
40134	NPTX2	TAGACTGCCCCACTTAAACTCT
40135	IFNAR2	CTCCATCTGATCAAAGTGACA
40136	MMP19	AGCAGAGAAGGCACTTGCATCCTA
40137	LPL	GGCTTGGAATGAATTCTCTCT
40138	ESPN	ACGCAAACAACAACAAATGCTGC
40139	SMARCA5	CTTTTTTAAATGCAACAGCTGT
40140	SIM2	GCCTCGGGGACACTAGTGACA
40141	PDE4B	GGCCACCTGGCCTTTCAGTTACTTGA
40142	NEURL	GGTGTGGGTTCCCTGGGCCAAG
40143	TRPM2	TCTGATCTATTTCACCAACCACCCCAT
40144	SH3BP2	TGGGAGCCAGGCAGGGCCAGG
40145	CYP4F3	ACTCGGTCTCAAAAACAAAACAAAAC
40146	UBE2B	GGGCAGCTGCGGAGCATGTC
40147	TRIM34	GTGCAATGGCTTCAAAAATC
40148	FUT6	AAAATACAAAAATTAGTGGG
40149	HYOU1	GACCATGGTGTGAATGTAGAG
40150	PPP2R5D	CCCCAGTCCCAGCCGTGTGCT
40151	NEB	CTGCCTAAGCTGTGGGTTCTCT
40152	VIP	TATTTGAGAGTTCTAAATT
40153	ALDH7A1	CTTTGCAGCAGGCCTGCCGCCTT
40154	GAN	TCTAGAAACTTCCTGTATGGA
40155	TR2	GCTCACTGGTGAACAGTGTCT
40156	CDSN	AATGCTCTCAGAGCACCTCTGACGC
40157	PTGER4	TCCAGCACCATTCTTCACTGACCCATCCC

40158	GPR35	GAACCAGCTCACCTGGCCAG
40159	COX15	GGACCAGCCTCCTGGGACTGT
40160	RBBP5	TCAGGAATGAAGATTTGTGAAG
40161	CRTAP	CCCGAGTACCTGGGATTACAGG
40162	CLCN4	TCCTTCTGCTCAAGGCTGATGTTTGT
40163	CACNG6	GGGACTCCCTCCTGGGAAGC
40164	FCER2	CCAACAGCACCCTCTCCA
40165	MEN1	GCCCCCAGCCTATGAGCATCCT
40166	TRPS1	TTTTTGGGCAAAACTACTCATT
40167	CPD	TACAAGATCTGAATTCTACTGAA
40168	STS	TCCGACATCGTGAACCTGTTCT
40169	PACSIN1	GCTCTTCAGCAGATCCAAACCCCCT
40170	VDAC1	CCCAGTTCATCATCATCTC
40171	NDRG3	GTTACCCAGGCTGGAGTGCAATG
40172	INPP5D	TAGGCAGGACTGCCATGCAGTGA
40173	CD68	CTGAGGCAGAGCTGCTTGA
40174	DSC3	CAGGCTGGAGTGCAGTGGCTCC
40175	SH3GL3	CCAGCTCTAACCAGTCTTTCAT
40176	NT5E	TTCATTCTACTCATACTACACACCCA
40177	EHF	AGCCACAGCTATTGGATTTCCC
40178	CRAT	TCCTCCAGGGGGCCTGCAGGCCCCAGC
40179	NLGN3	GTATACGCACGCACCCACACCCT
40180	CLN3	CTTCCTGGCATCATGCCTTCTG
40181	XRCC2	AAGAAACTATCAAGAGAGTA
40182	EIF5A2	TCAGCCAGGCTGGAGTGCAGT
40183	PLAG1	GCATCAGTATTTATAGCAAAAAGA
40184	AIM1	AAAATGCTGGGATTACAGGCCTGAGCC
40185	JRK	CAGGAGGTGCAGCGTGTGGAGTGA
40186	OCRL	AAAGATCTGTATTTACACTCC
40187	UQCRFS1	TATTTGAGAGGAAGCCTTCT
40188	SUFU	GGTCTTCCCTTTCTGGCTTCTAGGA
40189	LCN1	GGCACCATCCAGCACCTCCGTCA
40190	SIRT3	AGGCTGCCACTGGAATGTCTTCTCA
40191	EIF5A2	ATAGATCATATCATTGCTACTTT
40192	NESG1	GCAAAGCTAACATCCTGCC
40193	SYK	GCCACCTCCCTCTGCCAGTCG
40194	PCDHB16	ATCTTGAACTCCTGGGCTCAAGCCAT
40195	TAT	GACTACAGGCGTGAGCCACCAT
40196	ATM	GGAGTCGGGATCTGCGCTGCA
40197	MECP2	CTAGTTCATCCCTTCTCTTCCAG
40198	CDH23	GCATCTGACCTCTACCTTCAT
40199	OXTR	TAAGAGAAGGGGATTACCTTG
40200	PAFAH1B1	CATTTGAAAGGAGTGGGAGGAATACA
40201	ROBO1	AGCGTTTTTAACCTGTTTTGT
40202	CBFA2T2	GGGATTACAGGCATGCGCCACCACG
40203	PTPN18	TTTTGCCATGTTGCCCAGAC
40204	TNNI1	CAGCCCAGCTCCACGAGGACTGAA
40205	PMM1	CCTGCCTGCCTGCCCTGGGC
40206	ZNF74	GTGCAGCTGTGAGCGCGTGGCC
40207	CDC6	CCTGGGGTCTGTGAGGCAGCGGAGCTGG

40208	MMP14	GTGAGGGGCAGGAGCTGGGGC
40209	ADAM2	CATGATATCACTTCTTCTAGAGTAA
40210	RPIP8	GATGGCCATGGAAGGGTTGAGGGGCC
40211	IGSF1	TGCCAGGGTGAGATGTTTCCT
40212	CYBB	AAATCACTGTTAGTGTGGCCAA
40213	APOL1	GTCGCCAAGTTGGAGTGCAAT
40214	KCNE1L	CTCTCCTCTATTGATTCAGTT
40215	PVR	GTTGGCAGACTAGAGTACAGT
40216	PPP1R3A	AATGGAAACTTAAAAATATCCAT
40217	CTPS	GGCTCCTCTGTGGTGTCTGCC
40218	MAP3K9	CCCTCCACAGTCTTCCTTGCC
40219	CDH1	CCAAGTAGCTGGGACCACAGGC
40220	SOX11	GAGGAAGAAAGCAAACCCGGGGAGCA
40221	SIAT6	GACCAGCACTCAGCCTCATTCAG
40222	DOK1	GTGGGGCAGATGGCAGGGCTGAG
40223	GGCX	CCGAGATCGAGCCACTGCACTC
40224	ALDH1A3	CTGTGTAGTCTTCCTTTTCTCCA
40225	OPA1	TTTCTCACTCTCTATATCCATTT
40226	ADAM12	TGCTATGGTGCTCTGTCTACT
40227	IMPA1	AAGCACTCTCATCAGATATCTGACAT
40228	FS	GGCTCCACCTGCGCCGCCGATC
40229	ATP8B2	TAGGCAAGAGTGCAATGGCACA
40230	CROT	TTTTTTGGGCTGGGTGCAGTG
40231	HLCS	GAAAATTCAGATATTTTCTTAG
40232	DYRK2	CAGTTAGCATTCTGACATTCTAAA
40233	LDHA	ACCAACTATCCAAGTGTTATA
40234	EPB49	CCCAGAAGCCTGGGCTTAGG
40235	NFIC	GTGAACAAGAACACCCCTGCCG
40236	NFATC4	GAGTGTGGGCTGGCTGTTGTG
40237	NR4A1	AAAGGATCCCTGCGGAGGGT
40238	SH3BP2	TGTCGCCCAGGCTAGAGTGGAT
40239	TNFAIP2	GGAACTCCTGGGCTCAAGGGAT
40240	FZD10	GAGCCTCCCCTGGGTTAACAAATG
40241	IRTA1	AGCTCACTGCTGGTGCTGGTGTAGGCA
40242	SDC2	TGCGGCGCGCGTGGATCCTGCT
40243	RORC	CCTGCTCCCTGCCCTCCTGGGCAG
40244	IL5RA	TTTAAGCTGCCAATTGTAGCAC
40245	CTBP1	CCAAAAGGAAAAGCTTGGCA
40246	CA3	AATAAGGCCATGCAAGTGTGCG
40247	B3GNT3	GGGCGACACCTTCCTCCCA
40248	MDM1	CATAAGCAGAGGCTGCAGGA
40249	CIAS1	GGTGACCTCATGTAATTAGCT
40250	SF1	GCAGGTGCCGGTGCCTGTCCCCGG
40251	LTB4R	GTTGGCCAGGCTGGTCTCAAA
40251	MRPL49	GTTGGCCAGGCTGGTCTCAAA
40251	NCOA6	GTTGGCCAGGCTGGTCTCAAA
40251	NDRG3	GTTGGCCAGGCTGGTCTCAAA
40251	NQO1	GTTGGCCAGGCTGGTCTCAAA
40251	PRKR	GTTGGCCAGGCTGGTCTCAAA
40251	TRPM6	GTTGGCCAGGCTGGTCTCAAA

40252	GFAP	TGAACTCCTGGGCTCAAGCAGT
40253	SLC22A5	TTGTTGTTGTATCCTTTTCTCCT
40254	TEAD3	TTCTGCGCTTTAATTGTGGG
40255	PCDH7	TGGCAGGCGGGGGAGGCTGCAGGCTCA
40256	IARS	TTCCAGCCTCAGGAATTTATGGTCGC
40257	GPC5	TTCTCTCTCTGCATATGCCTGG
40258	ATP1A2	TTTTTCTGGGTGCGGTGGCTCAT
40259	SRP46	GTTGCCCAGGTACAAGGCCAGG
40260	KCNN3	GAAGCCAGTCCAGAAGAGGGGTCCGCT
40261	BAZ2A	CTGCCTCTTGGGTTTCAGTGATTTTT
40262	SERPINB4	ACACACACAGCCTCTCTGCCCACCTCT
40263	Rgr	TCTGGCTGGGGAGAGACTAAA
40264	PPP1R12B	AGTGTCCCGGAAGCCCTCCTT
40265	NEK2	CAGAGCTGTGTACAGGATGTAATATT
40266	PFKFB3	GCCAGTGACCTCCTTTTGAAG
40267	ATP1B2	TGCCAGCCTGAAAATTCCAAA
40268	ADCY1	CCATGCTAGGCTTGCCTGGGTG
40269	CYP39A1	CAGGGCCTTCTGGAGGAGTGGCAC
40270	BIN1	GCCGAGCCACCATGCTTGCC
40271	INHA	CCTGGCAGAAGGGGCACGGGGCAG
40272	NDRG1	AGAGTGAGCTCTGGTGGA
40273	THBD	TCCTTGTCACTGGTAGACCAAA
40274	SLC9A5	CTGACAGGGTGGCAGGTGACTTT
40275	PLA2G2D	CCTGGGCAACAGAGTGACACTCTGTCT
40276	KAI1	CCTCTTGCCCACCCTGACTGA
40277	MUCDHL	GAGCCTTCTACGCAGAGGTTGA
40278	SLC20A2	ATTTAAAATATTCCTGCAAAAG
40279	DIAPH2	TCTTCTTTCTTGGACTATGGAT
40280	UNC13	AACAGGACTGTGGTACTAGGGG
40281	PAX5	CCTTGCATAGTCTCTCTTGTC
40282	BCR	CGCGGCCGCCTCCCCCCGGCCCTC
40283	RECQL5	CTCCACCCTCTTCTGGGATGGCT
40284	FBXO7	AGCCCTAGGGGTGGTATGACCC
40285	BST1	CAGCCCTGCAGCCT
40286	G6PT1	GCCTTCAGACAAACAGGAAA
40287	AKAP2	AGATAGGAAGAAGAATGATGGAT
40288	MMP8	CTGTATCCATTCTACCTGTCCTCCG
40289	D12S2489E	CCCTCCACAGGAAATTGCCTC
40290	KMO	CCAAATAGCTGGGGCTACCATGGT
40291	ZIC2	CCTTTCTCCTCCGAGGTGGTT
40292	BCL2L10	TTATCTGAATGCATACAAGGAG
40293	TPD52L2	ACAGTCCTGCCCATCCACGCGGAG
40294	SACM2L	TTGTGTTTTTCAAAGTGAT
40295	TMOD3	GAATGATTTATGATGAATCTTG
40296	CIT	CATTTAGGATCTCCATGAGA
40297	EIF2C1	CTTTCATAGCATTTTTCACTCTTGGC
40298	EGLN1	TTGTGGAATGAGTCCTCCT
40299	A1BG	AGCTAATTTTTATGTTTTTAGT
40300	ATRX	TGCGCTTCTTTTCTCTCATCATCA
40301	SRC	CCTGCCTGCCACCCTGCCCCTTGC

40302	RFP	CTACCTTTTGTGGGCCTGTCCG
40303	SH3GL1	GCACACCTCACACGGGACCACAGCCGC
40304	RBMS3	CCTGTCATCCAGTTCCCTGCCTC
40305	CYP26A1	TTTCCAAATAAAGTAAAATTTG
40306	ADARB1	AGTTCCCTCTGTTCCTTCCTCT
40307	ESRRG	CTTTATTTTCTTCCCGTCTGC
40308	SLC16A2	ATGCAGCCTCTTATGCACCA
40309	TNFRSF10C	ACTGGGTGACAAGGGTGAGGATGAGA
40310	WASF3	TCTGTTCTCTCCTCTGTCCCA
40311	SYNGR3	TCCTAGCCCTTCAGTAAGACCTTGCCA
40312	AK2	GTCCTTTCCATTCTCAAATCC
40313	THY1	GCCATGGAGTGAGACCCAGGAGCCGGAC
40314	DGCR2	ATGCAGTTCTGTGGTGCTG
40315	RFX5	CCAAAATCACATGGATTCCCCAAGT
40316	PBX2	GCCTCTCATCCCCCTTCTTCCCACA
40317	NXF2	TGGCCAGAAGCTTCTCTGGTGAAGTTT
40318	AIM1	TAGGCCTGTAATTTTGGTTCTT
40319	BAP1	ACTGCTGGCCCTGACTCTGCAGC
40320	MSF	CGTCTGTCTGTCTAGTGTCT
40321	UPK1B	GGGAGACAGAGGTTGCAGTGAG
40322	SLC1A1	TATTATGGTGATACTCCAA
40323	DIAPH2	CTGTCTCTGTCCCTTTTAGGCCC
40324	BCL11B	CTACCTGCAGATCCAGGGGCTGCTGT
40325	GAD1	CTCTGTGACTCGCTTAGCT
40326	FSTL1	GCTCTGGGGCTGGAGGCTAGT
40327	POLE2	TTTGCCTCTCCGTCTGT
40328	EFEMP1	TCAGAAATTTTAGATTGTGAA
40329	GRAF	ATAGAAATAGTCCCTGAGAGCACACTGTG
40330	ASTN	TTCCTCTACCTTCTTTATCTTT
40331	BCL2	TGGGGGGAAGTCCATGCCTCCCTGGCCT
40332	NUP62	TGCGAAAGGGCGGGAAAGGCAGT
40333	C8orf1	AAGTGCAATGATACAACAAAAAGA
40334	SH3BP2	CACAGCCCAGTCTGGGGACAG
40335	PTPN7	ACTCCTCTGCTTCCTCTGTTGGCC
40336	FGFR2	GCCTGTAATCCCAGCTACTCCGGGAG
40337	KLK5	AGGGACAGCCCTGACACTCCTTTCAG
40338	TYRP1	CTGTATTTTCTTTCACTTTAT
40339	NOLA2	CACTGACGGCATCTTCCCA
40340	HPN	GGACTCCTGTCTAGGTGCCCCT
40341	DLG5	GGACCCAGAAGCACCTCCTTTGTAGA
40342	G2A	CGCATGCACTCAGAGCACAGAGCCG
40343	ADAM19	AGAAGGCAGCCAGCAGCAGCTGCACTGGAACA
40344	PIK3C2B	AGGAGCTGGGGGAGAGGACTCT
40345	FUT6	CGACAGAGCAAGACTCCATCTC
40346	POLH	CAACAGAGCGAGACTCCATCTC
40346	ZNF264	CAACAGAGCGAGACTCCATCTC
40347	C10orf2	GTTTTACTAAAAAATTTTTCCATTGAAA
40348	SLC12A6	CCATTTATTCATACCTACTCTGAA
40349	SIAH1	GTGCCTGCGTGGGTGTGTGC
40350	XRCC2	GCCTTGAACTCCTGGCCTCAAGGGATC

40351	TIMP4	GCCCTCAGCCTGTTGCCCTGCCT
40352	MVP	CTTGTGAGCCCTGGGCTTAGG
40353	KCND2	CTCCATCTCTGCAAATACA
40354	CRSP6	CAGCAGCCCTGGATTGCTTTC
40355	KCNH5	AAGTCAAACACGAACTCAAAGAGG
40356	SIAT1	TAGGGACCTGCTCTGTGCTCA
40357	IGF2R	CCGGCTGGTGAATTCA
40358	DYT1	TCTTTACTGGAAATGAGCCCA
40359	ARHG	TCCCCCCACCAGTTGTGCCTT
40360	SACS	CACAAATGTTATAATTTATATAGTGTG
40361	KCNMB3	AACAAATTTTCAGGAGGGACGTGCAAT
40362	CCNT2	CTTATAAAAATGAAATTA
40363	GLS	TCAGATCAAAACCATTCTGTAAA
40364	MOX2	TTCTATGAGATTTACTCCAA
40365	HMGA1	GGAGCTCACCCTGCCCGCTCCCAAC
40366	HOXA13	AGACATTCAGCACACTGTGAA
40367	DPYSL3	AGCCAAGGAACAGGATTTCCC
40368	ICMT	GCAGGTTTTAAAGTGGAGATT
40369	NDUFS7	GGTTGTCAATAAACCTGCCCTCG
40370	ZNF16	TCTCACTGCCACTGCTCTTGCCT
40371	FOXD2	TGCGTCTCCCCTCGGGCTGGAAGCGT
40372	F3	CGTCCAAGCAAAAACAAATG
40373	RPS29	TTTACCTCGTTGCACTGCTGAGA
40374	CASP10	TTTCACGTGTACCTGTGTCATCT
40375	COL4A5	TTGATGTTTCTTATTCTTTTTA
40376	DDX26	ACTTATTTCACTATCTTCTTCAAATACA
40377	HNF4A	CTTTTCTCATGTTGAAGCCACT
40378	TNFRSF8	CCCTCCTGGTGCTGCCCACCTTCCCTG
40379	SNRP70	GGAGTGGAAGCCGAAGCAGGAGTTGT
40380	MFI2	GGGTTAGAATCAGCTCTTT
40381	CTLA4	CGAGGGAGAAGACTATATTGTA
40382	ATP7A	CACTAAATTTGTTTGTTGTTGTT
40383	DAF	AGTGAACATTCTGATTTTACA
40384	NUP98	GGGGGCCGCGCGCTGCTCTGT
40385	ALDH3B1	CTGCTCTGGCCCTTCCCCAGGC
40386	ROM1	GGCCTGGAGCTTGGGGTGAGGAA
40387	SOX4	CGGAGAACTCCTTCCCCAAAT
40388	NUP62	CCAGGAGGTGTTGCAGTGA
40389	SLC1A3	GGAGGTTTGGCTTTCTGTGGG
40390	USH3A	CCTTCCCATTGCTCACAAAGGTC
40391	IPP	GGAGGTCAGGGCTGCAGTGA
40392	ARHGEF7	TGTGACCTCCCAAGGGGGTGGG
40393	MDFI	AGGAAGGGAAGGGAGGGAGGTCTG
40394	CORO2B	ACTGTTCTCAGAAGAGTCACAGTTT
40395	CYP8B1	GCTCTGTCGCCGAGGCTGCAGT
40396	CDKN2C	TCTCCAATGGCTCAGTTTTGCT
40397	WHSC1	CCTCCAATTGCAGTGGATTCCTCGG
40398	ESPN	CCTCTCTGCCCCAGATCTG
40399	GATA6	AGAATTTCTTCATACCTTTTCC
40400	FMR2	TCTCAGATTCCACCATCTTTTTGTGCT

40401	ZNF200	CTGTTTAAGTCTTGAGTGT
40402	XPO1	TCTGGCTTTTGAGATGACTTA
40403	LDHB	CAGAGCCTTCTCTCTCCTGTGC
40404	JMJ	AGTCATGTGAGCAGATTTTTT
40405	SNRPA	GGGCCTTCTTGGAGCCGTGTGT
40406	SPAG9	TGAGGTGGGGAGAACGGAATGAC
40407	SOCS4	GGAAAATGGCTCCAAAGGTTAAATGA
40408	GLUD1	TCCTCAAGTGAGTTCTTAGTATTT
40409	USP1	ATAGTTCCTGTGGTTTTTCAC
40410	MEL	GAGAAGGAAAGAAGCCTGGAGCAGC
40411	HPGD	AACAGTTACAGCAATAAAGAATAGTTA
40412	PDGFRL	AGCTTTGGGGTTCCTTTTAT
40413	GOT2	CTTTTCTCCCTTGTCATTGCC
40414	MAP2K2	CTGCCTCTCGGACTCGGGCTGCGGCGTC
40415	DTX1	GGGCTGGCTGAGAGCCGCAGGAGCAGC
40416	CYP8B1	TCACTGCAACCTCTGCCTCCTG
40416	FZD4	TCACTGCAACCTCTGCCTCCTG
40416	SIL	TCACTGCAACCTCTGCCTCCTG
40416	VHL	TCACTGCAACCTCTGCCTCCTG
40417	MSR1	TGCCTCTGTGTATCTCAGCATTTTTATTCC
40418	RHBDL	GCACAGGCCAGGGCTCGGGCATGTGG
40419	DNASE2	TCTGTAACCCCAGCACTTTGGGAGGC
40420	PDGFB	TGGGTTAGAGATGGAGTTTGC
40421	ARF3	ACCATTTTCCTTGTACTCTTCTCTCCA
40422	FUS1	TGCTTTCTTCCAGCCCCTAGGC
40423	IL13RA1	TGGCGCGTGCCTGTAATCCCAG
40424	SSTR1	GAGGGAGGGCGCAGGCGGC
40425	INPP5B	CCACTGCACTCCAGCCTGGGAGACAGA
40426	MCL1	TGGTTCTGGTTAAACAGCTGT
40427	PAICS	CACTGCACTCCAACCTGGGCAGCAGAG
40428	ISLR	GTCCTCTGTTGCTTTTTGGTTCCA
40429	CCNC	ACATAGACATTTCAAAATTAAT
40430	BRDT	TGGGAGGTCAAGTTAAGAGTCAAAAAT
40431	DCX	GGCCTTACTCATATATTGCC
40432	PROL4	AGAGCCTCCTTCAAGATGCTGCTGGTCCTGC
40433	RS1	GGGACCCCCTCACACACCACC
40434	PDAP1	CGGACTGTGTTGCCTGGGTGCTC
40435	GGA3	ACTCTACATCCTACTGCTTTGGCCTC
40436	PARK2	CAAGTTAATGTACTTTCATTCC
40437	PIGB	ACTGCAGCTTTCTTCCGCC
40438	PTPRC	AAACCTTTGAGACTATTGAGAT
40439	GORASP1	CACCCCCTTTCAAGTCCCAAACACTG
40440	KRT16	TCGCTCACCTCCCTCCTTGGCACCATGA
40441	KCNH3	CCTGCATGTGCCCCTGCCTCTA
40442	F2RL3	GGTGAAATCCTATCTCTACCA
40443	LPIN2	TCTTAACATCAAGAGAACTGTCAGGAGC
40444	XK	CTTCAAAATATATTGAAGTAA
40445	PMP22	GTGTTTGAGGCCACCCTGAGGATCG
40446	STX7	ATTTTTCTGGTTCACAACAGCACAAA
40447	GGPS1	GGAGAGTTCTGTGGTGAAATAGT

40448	THY1	CCTGCTGCCCCTCCCTGCCTC
40449	KHK	TCAGGGAGGTCCGATCTGGAACAC
40450	PSG5	GTTGCTTTGATTCTTCCTCAAA
40451	HMGA2	TTGAAATAGTTCAAACTGCAGCT
40452	BMP6	TCAGTTCATTCCCAGAAGTCC
40453	CD97	TTTTCCTCTCATGTCTTTGCTGCAG
40454	MMP19	GGCTCTGACCTCCTTCCTGTTCACCTT
40455	TGFB3	TGGTTAGAGGAAGGCTGA
40456	TOX	GGTTAAATTGGCAAACATTCAT
40457	CELSR1	CTTGCTGTCTTCTCTGTC
40458	SPON1	TCACAGATGAAGACAGCAGAT
40459	B3GALT2	AGAACGGGCAACTACAGCTCT
40460	SIGLEC11	TCAGCACTTTGGGAGGCTGAAGTGGG
40461	DHCR7	CTTCCTGCTCCTGCTGCACAGCTGCC
40462	NEBL	TGAAGCAAAAAGGGTGA
40463	HOXB8	CCCAACAACATGAAACTGCCTA
40464	RARG	CTGTCCCCTCCCCTCTGTT
40465	UPF3B	TTGAAGCCTTGTTCCGATCTA
40466	TNFRSF6	TGGGTGAAGAGAAAGGAAGTACAGA
40467	NOS1	CCCATTTCCAGCTCCTAGTAGCT
40468	CYP4F3	TTGCAACCTCCGCCTCCTGCGTTCGGG
40469	HMG20A	CACACCACTGCAGGCAGGTGGA
40470	BTNL3	TAAAGAGACAACGAATGTGA
40471	TNFAIP2	CGGCCCCTACAGGCTGGCCCTGCAATG
40472	SIL	ATCTTCCCAGGTAGCTGGGATT
40473	AP3B1	CACATACTTTTTAAATCCA
40474	FUT4	GGTCTCGAGCCTCCTGTACCTTCC
40475	ADAR	CTGGCTCTCTGGCTCCTGTGCA
40476	FZD7	TAAATCTCCCATTTTTGTAA
40477	HSPG2	GGGTCAGGAACAGTGGCTGGG
40478	STIM1	CCTGCCTGCCCTGCCTCCGTCCCAAC
40479	MYCL1	TGTAGAGTGTAGACTGTGGC
40480	P3	CCTGTTCCCAGTTCCCTGGGCCTCTGG
40481	STAU	AGCCTCCCGATAAGCTGAGATT
40482	MAP1B	GCGCGCCGCCTCCCCGCCCTCTCTCACTCC
40483	HSF2BP	GATACTCCAAAACCATCACCATGTAC
40484	CENTD1	ACCAGGCTCTATGTGCTGCTG
40485	STCH	TTAAGAAAAACCACAGGGACCAA
40486	FBXL11	GGAAGCTTCCTGCCTTTTTCTTTGGTTGCT
40487	ACE	ATCAGCCTGGCCATCTGGATTT
40488	A1BG	TTTGAGACAGAATTTTGCTCTTG
40489	XT3	TCAGGAGTTTGAGGCCAGCCT
40490	PRKCH	TGTCTCTGTGGGCTTGGGAT
40491	MPP3	TAGAAAACGGGTTCTCTGCCT
40492	TGFB3	CTTCCAGGTCAGGATGCACATT
40493	ADRBK2	CTCAGCCAGGTGGGAATGACGG
40494	FGF5	GGCTCACTGCAACCTCCAACTC
40495	GRB10	AACTCATATAATACAGAAAGAGTTTT
40496	CAPS	GGGCAGGTGGGGGAATGGAGGC
40497	EIF2AK3	GGCCAGCCTGGGAACATGGAGTGGCAG

40498	CAV1	CCTCCCAGCCACCGCCCCCCTC
40499	KRTHA4	CCCAATAAACTTCATTTCTC
40500	SLC7A6	GCCTGCTCTGGCCTAATGGATC
40501	KCNQ2	CTGCTGCCGGAGAGAAGGGGAG
40502	CCKBR	GCCCATAGAAACATGACACTGACCTT
40503	RFNG	GGCTCAGTGGGCTCCCTCAG
40504	GABPB1	CGCCTCGGGTCCCCGCACCA
40505	HDAC6	CCCCAAGAGGGAGCTGATATCATG
40506	RBM10	GTCGGAGCGCCGACTCCCTTCTCG
40507	GPR62	GGGCGTCGGAGCCACCTCCTGG
40508	OXR1	GCTCTTTTGTTGAACCTGTATT
40509	SHANK2	GCCCCTCTTTAATGGTGGAACAAATGT
40510	RRM2B	AGGCTAGAATAGCATTTT
40511	F2RL3	GGGGCAGCCTTCCTGGTTTAT
40512	CSNK1E	AGAATCAAGAGTGAGCCATGG
40513	GAB2	CCTCTTCCTGTCCTTTAGACCTGA
40514	ZFP37	GCATATATACATGTATCTGTA
40515	KPNA3	GGTGCAATGTGAT
40516	ZNF135	ATCTCCCACATCAACCAATGA
40517	MSH3	AGTAAAGCCTTAAGTGGCAGA
40518	MPO	GGCCAGGTAAGGGGGTGCAGCAGTGAG
40519	AXL	GCCTCAAGGTTTTAGGTTCTAA
40520	KCNQ1	CCTGGGCCTGGCTCCCTCACTCTC
40521	PLA2G4C	CCTCGGGAGATCCTGGAGCT
40522	TBL1X	TCCTAGAGTGTTTGGTCGGGT
40523	GYPA	AGGGCATGGCACTGACATCTGCC
40524	BCL7A	GCTGGGGGCTGGGCAGG
40525	CYP1B1	TCACATCTTCGGAGATGAGG
40526	AGL	TATGAATTCAGTAGATATCTTA
40527	GTF2F1	TGCACTTCTCCCTCAAGG
40528	LANCL1	CTGATCTTACGATGCCCTGCCTTTTACTAGC
40529	GCH1	GGGAAGGTGGTGGAATGTCTAT
40530	ITGB4BP	AGGGTTCTGCTGTCCTGTGCCA
40531	IL12RB1	GTGTGAGCCACTGTGGCCGACC
40532	TPO	CATTTCAGAAGAGTTACAGCCGTGAA
40533	AMD1	TACTATATGAAACTTTACAACA
40534	GARP	CTCTAAGCACCGTCCCTGCCCAG
40535	GPR23	CCAGGAGCTGCTGAATTTGTG
40536	IGFBP3	GGAATCTTCCTGAAGACATGGCCC
40537	HDAC4	TAGACTTTGGGCCCACGTGTTTT
40538	ZNF76	GCTGGAGGAAGTGCCATCTGCATGGCC
40539	DTX1	GGCTGAGAGCCGCAGGAGCAGCAGGC
40540	B4GALT6	TAGAATTTCACTTTTGGAGGGGACCCTTGA
40541	A1BG	CTGTCACCCAGGCTGGAGTGCAGT
40541	AASS	CTGTCACCCAGGCTGGAGTGCAGT
40541	CMAR	CTGTCACCCAGGCTGGAGTGCAGT
40541	EEF2K	CTGTCACCCAGGCTGGAGTGCAGT
40541	EIF2S3	CTGTCACCCAGGCTGGAGTGCAGT
40541	FCAR	CTGTCACCCAGGCTGGAGTGCAGT
40541	FSHPRH1	CTGTCACCCAGGCTGGAGTGCAGT

40541	HUNK	CTGTCACCCAGGCTGGAGTGCAGT
40541	ICAM1	CTGTCACCCAGGCTGGAGTGCAGT
40541	NEU3	CTGTCACCCAGGCTGGAGTGCAGT
40541	TERF2	CTGTCACCCAGGCTGGAGTGCAGT
40541	TNFRSF9	CTGTCACCCAGGCTGGAGTGCAGT
40541	TUFT1	CTGTCACCCAGGCTGGAGTGCAGT
40541	ZNF264	CTGTCACCCAGGCTGGAGTGCAGT
40542	KMO	GACTACATACTGCAGCAGAAC
40543	ZNF137	ATCAGCCTAGGCAACATAGTAAGACC
40544	PPARA	CAGGAGTTCTGAAGCTGACAGCACTA
40545	TRPV3	CGTGGGTGGGCGGGTGCT
40546	FLT1	GACTTGTAATAATGAGCTA
40547	FCAR	ACCCAGGCTGAAGTGCAGTGGA
40548	DIAPH2	ACCATGCCTGGCTAATTTTTTGC
40549	TRPV1	ACCATGTCTGGCTAATTTTTTGT
40550	CRY2	ATGCCTCCCTTCTCCCAGCTCA
40551	MAD2L1	AGTATAAAATACAACAAAGGA
40552	EIF4E	CATTTTATGCAGAAGCATATTTTGC
40553	BARHL1	CTCTCGGGTTCTCTCTTTTTTA
40554	SORBS1	GTGCCTCAGCTGCTGTCAC
40555	ALDH3B1	TCACTGAACTCCGGCCTGGGTG
40556	LAT	CCCATGAGACAGTCCCAGA
40557	CBLB	TTTGTCAATAAACTGCCTTT
40558	SIGLEC8	GGTCTCGAACTCCTGACCTCGTGATCC
40559	SOS2	ATAGGAACCAACTGCCTTGCCTTCA
40560	MHC2TA	GCTGGGCTTCAGTGGCAGCT
40561	GRLF1	CGCAGGGATCCGGGGAAGCTGCGGCAGGGA
40562	ATRN	GGAAGCCGCTGAATCCACCTGCTT
40563	STAT1	CTGGTAGGGGGAAAATGTGTAT
40564	TG737	TGGAAACATTCCAAAAACGTGAA
40565	OCRL	ATTGTCATGATTGTCCTTAGTAC
40566	NFATC4	CCCAGCCCCAGCCTCAGCCCTGCC
40567	CRTAP	GGAAAGATGGTGGAAGAC
40568	PTGER4	CGACAGCCACTGAGACCGGCTTT
40569	CX3CR1	GGCACAAAATGATGGACCCAATGCA
40570	SIT	GTGGGTGGGTGGGTATATTCCTCAGG
40571	PRKCM	CAACAGAAGCATTTGTATTT
40572	KCNS2	ACTACCTGCTAATTCTTGCCGCATTTC
40573	MECP2	CCCAGCACCACCCTCCTTCCC
40574	NR2E3	GATCTTTGGGCATGGCCAGGGGA
40575	SLC17A4	AAAGAACAATAATGATTCC
40576	DYT1	CCAACTTGTCACTTGCCAGTCACT
40577	DCK	TTGCTGAAGACTACAGGCAGCCAAA
40578	RARRES3	TCAATAAACAGCCATCTGCC
40579	SGT	CGGGCACAGGGAAGGCAGCTGGGCCGTT
40580	TNFAIP2	AGGCAGGGACAGGCCCTGGGGGTG
40581	GRF2	TCCATCTCTCCCCTCTTGACC
40582	MNT	CTCTGACCTCTGCTGAGTGCT
40583	ZNF257	TGAGAACACTGTGGAAG
40584	PSMD9	CCAACTTGTCTTCTCTCCCT

40585	GJB1	GGCCTCTCTCTGCCTGAAATGTT
40586	HS3ST2	AACTGTGCTTGAAAAACACTGTCTCT
40587	SMAC	ACTGTCCTGTGAGGACAGCTG
40588	FANCE	GGCTCACTGTAACCTCTGCCTCC
40589	TOP1	TAATGTGAAGACATTTTTTGC
40590	HLA-C	TGGGACTGAGATGCAGGATTTCTTCAC
40591	ALDH1A2	ATGCCGTATTTCTGAGTGCT
40592	SNCAIP	TACAGCATAAAGCACATTGCTGAGCC
40593	ADCY1	CCATTTCTTCCCTGCTCA
40594	SIRT1	ACCTGAAAAACAAATA
40595	NPM1	CATGTGAAATAAAACTCAGTA
40596	XYLB	TGAACAAAAAGATAAATCTTCA
40597	PAICS	CACTGCTGCTTTCCCTCCTGGGCT
40598	RNMT	TTTTGGGGCTTTCTTTTCAG
40599	TSNAX	GGCAGGAGACTCGCTTGAACCTG
40600	DFNA5	ACTTTTAGCCACCAGGTACTC
40601	NCOA6IP	CAGGCTGGAGTGCAGTGCCATG
40602	SC5DL	TGGTATCATTTGGAAATCAGC
40603	XRCC3	CCCCACTGCTGAGCTGGCCC
40604	COL19A1	AACTTTTTATTGTATTGTGTTA
40605	NLGN3	CTGGCCAGACCAGGTGACCTT
40606	CXCL16	GCTGGCTCGCGCCTCCTCTCC
40607	MTR	AAGTAATCCCAGAACAATGG
40608	NOS1	TGGATTAAATGTTAAAGCTTT
40609	FXYD2	CAGCGCTTGGGCTGAAGGAA
40610	GCNT2	TGCCTGTAATCCCAGCTATTTG
40610	LILRB1	TGCCTGTAATCCCAGCTATTTG
40610	SCN2B	TGCCTGTAATCCCAGCTATTTG
40611	ANGPT2	AGGCTGAGAATCAGACTGACAGTTTAC
40612	TTF2	AGGAGGTTGAGGCTGCAGTG
40613	TMEPAI	TCTTGTGTCTGTTGAGACTTTAAGGGA
40614	CSRP1	TGCGTGTCCATCATCAGCTGA
40615	ADAM11	AGCTGAGACCAGGGTCTTATCTCTCTGGGACC
40616	PTER	GATACTTGAGCCTCCTCTTTA
40617	VANGL2	CCTGTTCTGGGGGTCTGTCTCT
40618	KL	AAATATTCTGAACATTTTTCTATTCAT
40619	RASGRP1	TTCTTACCCTGTGTTTTCTGCA
40620	PER2	GTGGTTTGTTTGTGTGCAAA
40621	ZNF140	TTCTGATCTCCTCCTTCCCTTCTGTG
40622	DYRK2	TCTTTTCAGCACTTAATTTTA
40623	EMX2	GACCGAAAATGAATTGTAATTTTCT
40624	AKAP13	TTCTGCAGGAAGCACTCACCCCC
40625	SCD	CCTCCCTCTCTCATGAGGCACAG
40626	SUFU	CCCTCCAGGTCCCTGGTGCTAGAGCTT
40627	NUP98	CTGCTGAAATGTGTGGTTTTTA
40628	TBX6	AACACGAGCAAAACTTCCTCTCA
40629	KIF3C	ACCTCATTCAGCCTCTTGGGCTC
40630	PARK2	CTCACTAGAATATTCCTTATGTTGACATG
40631	IL18R1	TGGGTGACTGAGTAACTGAAATG
40632	TEM6	GCATTTTCAGCAGATCCTCA

40633	PCDH7	TCTGGGTGGCCGGAGCCGGAG
40634	GPC5	ATGCATGCATATTCAAGAG
40635	RBL1	CACGCCTCTAATCCCAGGACTT
40636	SOD3	CCGCGTCTTCAGCTGTTTCGCATCC
40637	MAGEA5	GCCACTGCGAGGGGGGCTGGGC
40638	MLLT2	TGGTCCTTTTTAAACTACTAGTTTTA
40639	TNP2	TTGGCTGAGCCACATCTCTCACA
40640	SUDD	TACTATATGATGAATAGCA
40641	CD2AP	AACTTGTGCCTAGAAACTACAGCA
40642	SLC7A8	ACACAGCCAGCACCACCGCCCC
40643	GP6	CCACTGGGCCAAGTGCAGTG
40644	LYL1	AACCACACCCTGGCCCAGACTGCCA
40645	USH2A	ACCAGCACAATCCTGCCTCACTGGCC
40646	LAMC1	CTCCAGCAAGTCTCAGGCC
40647	JUN	CCTGCGGGCTGCCCCGCTTTGCG
40648	IFI35	GCTGGGGCTGAGAGAGACCACAGC
40649	ABCA2	CCTTGCCCTGCTTTGCCTTAAAGCCTC
40650	PTPN18	AGATATACAGAGTTCTCAGACCCCA
40651	IRAK1	GACCAGCCAGGGCAACATGATGA
40652	DNASE1L1	ATTTGGCTCTTGTTCTTTGGTT
40653	SURF4	GGGTTCTCTTCTCCTGTGATCAT
40654	C14orf1	CAACAAGCCAACACAAAAATA
40655	GPR34	GATCTCAAAGCTCTGCTTGTA
40656	EIF2C1	CCTGGGCAGGGAGAGAGGCTGG
40657	WIF1	TTTCAAAATTACAATGCATTTAT
40658	HK3	TCCCTGAGAGAAGTAGCACTCA
40659	WNT3A	CTCAGCCTCTGCCACTGTGAA
40660	GABRA5	CTTTCTGGAAAAACAGGATA
40661	FACL3	AGGACTGGGGAAACAGCTGT
40662	TDGF1	CAGGCTGGACTGCAATGACGCG
40663	FZD10	GCTGCTCTCCGCCGCGGCC
40664	RNMT	AGGTGGGGAAAGGAAGTCTTCCTG
40665	SYNGR1	CCTACTTCTCCCTTGCTCC
40666	FCAR	CCCAGGAGGCAGCTGTTGCAGTG
40667	SHMT2	CCCGGGGCTGCAGCCTCCTCTTTC
40668	HDAC4	GAAGCCCAGATTGGCAAGAGGAG
40669	SLC7A6	GGAAGGCAGGCCAACCAGCAAAATCCTGA
40670	APXL	GGTGTTGTTGGGTGGCAGCT
40671	APAF1	GCCTGGCCTTCAGCAGTTCTTT
40672	FS	GTGCCCAGGCTCAGGTGCAGCC
40673	RAB3B	TCAGAAACACACTTAAGAGAAAAGGAT
40674	PPP1R12B	TCTCTCGCCCAGGCTGGAGTGC
40674	TNFRSF10B	TCTCTCGCCCAGGCTGGAGTGC
40675	ICOS	AGCAGCCCTCCAGACCTGGGTG
40676	POU4F1	AATGCCTGCTTTGTGTACA
40677	MNT	GAAATAAACCTGCACTGAA
40678	ZNF141	CAGAAGTGGGGAAATGGAACTCTTAACA
40679	PML	GCCAGCACTCCTGCCATCACAGGGCCC
40680	B7H2	GGGCTCCCCGCTGTCACTGCCAGTCACC
40681	PSEN1	GTCACAGGACGATTTCACTGACACTGCGA

40682	SIRT3	TCAGGCCATGAGCTGCAGT
40683	ADARB1	TTTCAGGCTGGCATGGAGAG
40684	ATP6IP1	ACATCATCCCTGGCTGTGGATAG
40685	ZNF24	GTCTGAAAACCATTTTAAACCATCT
40686	GGT2	AACCTGACAACCATGTGTACACCAGG
40687	IHH	CCCCACCCCCGTCGTGGTG
40688	ZNF217	CCTTTTTTCCTGTTCACAAGCTGA
40689	PDE4C	GCTTATGCCTGTAATCCCGGTA
40690	MMP14	CCGGAAAAGAGGAGAAGAGCA
40691	OCLN	CTGCGCCCCGCCTCTCGGGC
40692	FZD4	AGCTACTTCTGTATTTTTAGT
40693	GALNT2	GTGCCTGGCTTCTACCTGGGTGC
40694	TLR5	GGCTGACTGCAACCACTGCCTC
40695	PTGS1	CCAACAGCAGTGATCTCAGGGCAGACA
40696	B4GALT1	GCAGAACTCTCCACTTCCCCA
40697	UBE2A	TGTCCACCCCGGCTCGGCGGC
40698	ELL	CCCTTTCCCCAGCCTCTCCTCC
40699	OGT	GACCCTGCAGTAGCGCAAAGGC
40700	PML	CAGAGCCCAGACTCTTGGAGCAG
40701	DEDD	TGGATGGAGAAGAGGTTGCTGA
40702	GRM6	TTCTGTTGCGCTACTGACTC
40703	PRKCH	ACGTTCTGTCAACTGTGCTGTGCTCTTCTTTA
40704	OGG1	GATGGGCTTCTGGGCCCAGCC
40705	ATP5G1	TTGCAGGGCAGTAGGAGTGCAGAC
40706	DIAPH1	TGTCATCACCTCCAGTTTGTTG
40707	MMP3	TCTTCACCTAAGTCTCTGTGAATTGAA
40708	DCLRE1C	GGGAGGTGGTGGTTGCAGTGA
40709	JMJ	GGTTTCTATGGCCTTGCTGT
40710	MKL1	CCCCGCCGCCTCACTGCAGCCAG
40711	SH2D1A	TTCATTCTGGAATAATCCTAAACATAT
40712	TSC1	GCTCTGAAGGTCCAAAGAGTTTCTG
40713	GJB3	AGGTAGGGAAAGGTAAGCCCTCAGAA
40714	MYO1F	CCTGGTCTTCCTCCAACATCAC
40715	SEC13L1	CCCAGGAGGAGTTACAGATGCAGCC
40716	ADCY1	TGTTTGCACTATACTTT
40717	CXorf6	AACACCACCAAGTTCCTCCAGCA
40718	PCK1	GCAATATTTCCCCCTTACTACTT
40719	SCN2B	AGCCATCAGGCTGGAGGTGACG
40720	CDC25B	TCCTCCAGGAGCTTCTTGTTTCC
40721	MKI67	TAGTTTGCCTGGAATTGTT
40722	MTMR3	TGCTGCTGGGGAGGCTGGAAGCATAT
40723	CARKL	GTGGGTGAATCACCTGAGGTCA
40724	ALDOC	GCCTGCCCTGTCTCCTGGGATC
40725	OGN	TAACTGCAAGAATTAAATCTTC
40726	P53AIP1	TTCCATTCCAACTTTAGTTTCTGCA
40727	METTL1	ACCGCTGTTCCCAGACACACTTA
40728	WHSC1L1	TGATTTGGCTGCACTTGAACACTGA
40729	CCND1	TCTTTCACATTGTTTGCTGCTA
40730	COX15	GCCCAGGCTGGAGTACAATGGC
40731	ALDH1A2	TCATAATGTGCCCTGTATCTATTGGCA

40732	TRAF1	AGGGTCCAGAAGGAGACAGGC
40733	SLC21A9	TAATGTTTAGTTCTGTGACACTGT
40734	RBM10	ATCACCCAGGCTGGCAGA
40735	GYS1	TCCTCCATTTCAACTCCAGAAG
40736	SH3BP2	GACTCACTGACATACCTACCTTC
40737	BAZ2A	CCCCAACACGAGAGGAAAGCT
40738	SRGAP1	AGTCACTGATCCATAACTTTCC
40739	COL15A1	TTTAAACCATTGTTGTTGAGTGTAAGA
40740	SOX9	TCTGTTCTGGGAATGTTTCAGCAGCCA
40741	GADD45B	ATCTATTTTGTTACTTGCACTTG
40742	FCN2	CAGGCCTCAGAGTCCCGCTCTGTT
40743	RAG2	ATACATTTTGAAAATATTTTA
40744	GNAI3	TGTGATTCTTTTTGGAAAATCAT
40745	FMNL	CAGCTAAGCCAGGCGCGCAAGGAGTTGG
40746	DSC3	GGAGTGAGAAATCAAGGAGACAGA
40747	PIGC	GGCTGTGTTGTCCTGCCTCAG
40748	SNRP70	GGTCGTCCTCTCCATCTGCT
40749	POLA	GGTTACGGTGAGGATCATGT
40750	FGF23	AGAAATCAGGGGACATGTTATA
40751	GSPT1	CCTACTTCACACCGCCTT
40752	DUT	TACTTCAGCCACCAGGTTTTTC
40753	ADM	GTGGGGACCGGGCTCTGACAGCCCT
40754	CALCB	ATTTTCTTAGCAGTGTCTCT
40755	RAG1	AGTTCCGAAAAGCAACAGGAAA
40756	EPHA3	TTCTGGAGATACTGGTGGAAG
40757	ZNF192	GCTCCTGATGACCTAATGTATC
40758	ALCAM	TCTCAAGTAAAACAAATGAAATTTA
40759	FBXL11	CAGCCCTCTGCCTGCAGCCATGGAA
40760	LDLR	GGCTGAGGTGGGAGGATGGTT
40761	TFAP4	TGGGTCTCTTTTATGACCTCTTTTT
40762	SLC6A2	GCTGGCCATCTGGCCTGCCTGGAGGAGA
40763	INPP5B	GTTGCTGCACTCCAGCCTAGGCA
40764	KRAS2	CTGCTATTAGTCATGGTCACTCTC
40765	RAP2A	ACCTTTCTGTGGTAATACT
40766	NRG1	TGGGAGCGTGAGCAGGACGGT
40767	SWAP70	CCGTTGTACTCCAGCTTGGGCAACAGA
40768	CACNB2	CACCCAGGTGATGTTAGTG
40769	TLE1	GATTACCTTTCTGTTCCTTGCAG
40770	SCN1B	GGGCTGGAGCAGTTTGGGGC
40771	APTX	GCAGGACCCCAAAATGCAG
40772	CYP27B1	CTGCCTCTCTTTTTGGGCTTTC
40773	CRIM1	GGTTGCTGCAAAGCTCAGGCC
40774	HRH1	GTTTCTTGTAACTGGGTTCA
40775	GPRK7	GGGAGCCTGAGGCAGGAGAATTGCT
40776	NUP98	GCCTGTGAGCCCCAGGCACTTTGC
40777	IL12RB1	TGTTGCCCAGGCTGGTCTCAA
40777	MFI2	TGTTGCCCAGGCTGGTCTCAA
40777	TP53	TGTTGCCCAGGCTGGTCTCAA
40778	SORCS3	ACTGTTCTTGGTTTTATTGTTCCAC
40779	DIAPH2	CGTGTGTTGAGGCCCTCTTAAAGAGA

40780	CAMK2A	CCTACTTGCTTTCTGCTTCCTTCTG
40781	TM7SF3	CCAGGCATGGTGGCACATGCC
40782	ADRA1A	AGGGTTCCCAGGGCTGGCCAGGGTTGT
40783	EHD4	TAGATGACTTCTTTCACCTCC
40784	LRRC2	TTGCCCAGTACCATCCAGTG
40785	WARS	AGGGCACTCTCAGCAGCTC
40786	INPP5B	GGGAGTGGTGCCCTGCCTACGATAGAG
40787	CHST6	TGAGAGATAGAGGAGGCTGTGAATGC
40788	LAD1	TCTAGAACCAACCAAGCTA
40789	MSH3	GCAACCAGTTTATCCACCAAGA
40790	RGN	GGGAGGAGGCAGGCTCAACCTTC
40791	ERBB3	GCTAGTGCCTTTAGAGGGTACC
40792	ALDH1B1	TCACAGTCCAGCAATTCCA
40793	POLG	GCTGGTTCTTTGTTCTGTCCCCCATGCTC
40794	HLX1	TTAGGACGCCTTAAATTTGTA
40795	STAU2	GGATCATGTTTTGAACTGACTAGG
40796	UBE2G2	TCCTTTCTTCCTTCATATTTTAC
40797	MYO10	TGGCCTAGGCTGGCTCCAGTG
40798	TAL1	TTTTCACCCTCTGTACCCCATGACC
40799	DMBT1	AAGGAATTTTGGTGAAACTGC
40800	DTNA	TCCAGCCGTGAACCTTTGCACCCCA
40801	CLECSF5	ATTTCCTTACTGATAAAATGGGG
40802	ELMO1	GCTCCACTGCTTCAGGTCACTTC
40803	JAG1	GGTGATCTGCTGCAGAGCAG
40804	ADAT1	GCCTTTCTTTCTTCAGGGAGCC
40805	SCA7	TGTCCCTATCTTAAGGGGA
40806	ZNF35	ATGAGACACCTCTTTGCTG
40807	MAB21L1	TTTATTCCTGAGAAGGTGATCT
40808	HTR1E	CCTCATTGCAACCTCCGCCTC
40809	ICA1	GCCGTTGTGCTCCAGCCTGGG
40810	G6PT1	GCGGCTATAAAGGGAGCCTGGGAGG
40811	SAS	AGGTTTTGCAGGAAAGTCCCT
40812	OCLN	TGCTCATCCTGAAGATCAGCTGACCATT
40813	STX7	TATAATTTATTTACCCTGCTTGACT
40814	EFNA4	AGGGTCTGAGGTGACTCTTGCAGGA
40815	IRS1	GCAACAGCAACAGCCGCAGCGCC
40816	MUC3B	GCAGCCCAGGCTCCTGCTGT
40817	MSH3	GTTTCAGTTCAGATAATTGGCAACT
40818	KLHL3	CCATCTACAAAGTTGCAGTATTA
40819	PTPN1	GAAAGAGAGTACCATGCTGGCGGCGCA
40820	GJB1	GAGGGCAGGGGTGCTGTGGACAT
40821	CLECSF12	GCCCAGGCTGGAGTGCAACGGC
40821	PRND	GCCCAGGCTGGAGTGCAACGGC
40822	HDAC4	GTGGCAAATCCCGTTGGAGGTT
40823	CML66	TTTCTTGCCACAAATTTTGTTTTT
40824	DMD	TATTTGAACTCCTCTCAGCTGA
40825	DIA1	TCCCAGAACCTCAGCATTTCCTT
40826	KCNJ16	TCTTTCTTTCTCTTCTCTCTCCA
40827	LDOC1	GGAGCCTCACTCACTCGGAAGT
40828	CD244	AGGCAGCTGAGGGCTGAGAATGAGGCA

40829	GABRG2	TGGTATCTGCAAGCGTTTTTGCT
40830	WHSC1	CCCTGCACTTTTCCTTTCCAAATGCAT
40831	SERPINE2	CGCTGCCTCTTTCCGGCTGTGACCCTC
40832	TEM8	TTCTAACCAATTGCCTTTTCTTG
40833	AXL	CTCAGCCTCCCAAAGTGCTGAG
40833	CLECSF11	CTCAGCCTCCCAAAGTGCTGAG
40833	GLTSCR1	CTCAGCCTCCCAAAGTGCTGAG
40833	PTPN18	CTCAGCCTCCCAAAGTGCTGAG
40833	SPN	CTCAGCCTCCCAAAGTGCTGAG
40834	PTGFRN	GCCCCTGGAAGCAGATTCCC
40835	PDGFB	ACCCTGCATTTTCCTCTTGTCCTGGCC
40836	REGL	CTCTCCTCTGCTAAATTTGCATGACTG
40837	ACPP	CACCTGTAATCCTTGCATTTTG
40838	CALML3	ACTCCGGCCTAGACAGCTGCT
40839	FBXL3A	AGGAAACAAAACCTATATGTTA
40840	SURF6	TCCAGGCAATCAAAATGAG
40841	STC1	GGTGGTTTGATCATTTCTGCCA
40842	FBXW1B	CCCATAGTATTCATTTGGCTTC
40843	AP2B1	GTGTGCAAAAACTATAGAGCC
40844	AGTR1	TAGAGGAGCAACAGGAGATGAGAGTT
40845	HS2ST1	AGGATTGTTGTAAAGGTTGGGCAT
40846	ANK1	GCTGTTCCCTGTCCTGCCTCAGTGCCTCC
40847	NAV2	GAAGATGACTTCCTGAGCC
40848	SLC1A5	GATGCCTGGCTGCTGGAGTACATGT
40849	H1F0	CCCCGGGAGCCGCACTCCAGAC
40850	TERF2	GACTACAGGCGCCCGCCAT
40851	LHX2	TGACTTGTTCATTTTTCTCTCCCTCTTTT
40852	PRKY	ATTGCGCCACTGCACTCCAGCCA
40853	CXADR	ATCTGAAAGTGGTACTTGATCATTT
40854	CUBN	TGCAGTGAGCTAAGATCACACC
40855	DDOST	TGCAGTGAGCTGAGATCACGCC
40855	FGFR1	TGCAGTGAGCTGAGATCACGCC
40855	HIP1	TGCAGTGAGCTGAGATCACGCC
40855	NPHS1	TGCAGTGAGCTGAGATCACGCC
40855	ZNF14	TGCAGTGAGCTGAGATCACGCC
40856	SPTLC1	TGCAGTGAGCCGAGATCATGCC
40857	BRCA1	TGCAGTGAGCCAAGATCATACC
40857	SUV39H2	TGCAGTGAGCCAAGATCATACC
40858	SIAT7D	GCACTTCAGTGGATATAGCA
40859	SLC6A12	CAACTGAACACACTGTGTTGGATCGG
40860	SIGLEC8	TCCAGCCTGGACACCTCTGC
40861	SLC25A12	CAACAAATCACATTTGTA
40862	NGFR	AGCGCTGCCGCGGGAGGCGGGC
40863	AP1M1	GGAGGTGGGGTTTGGTGAGAGAC
40864	PPP3R1	AATATTTTAGCAAATGCTTTC
40865	ABCD4	TCAGTTGTCTATGTATTACCTTCCTTA
40866	ARCN1	TAACCCAGGCTGGAATGCAAT
40867	RFXAP	TCCAGTATTTTGTCATTGTTTT
40868	TP53BP2	GCACTGCACACCTTGTATATTGTCA
40869	ITGAM	AGCAGCATCTCTCCACTGA

40870	FAT2	TGGACACCTGCCATTGCCTCCTCTCC
40871	MSR1	TATATTTAAATCATTTTAACTTCT
40872	COX8	CGTTCTGTCCCTCACACTGTGA
40873	ZNF255	ATTTTAGTGTACCCATCACCTGAG
40874	AQP8	GGATTCCTGCTGCTCCA
40875	ELAVL3	TTGCCCAGGCCTCCCCAGCACCT
40876	IPP	GACTCCGTCTCTACCAAAAAATATAT
40877	PCDH9	TGTGTTTAAAAAAGGTTCTG
40878	PPEF2	TTGCCCAGGCTGGAGTGCATTG
40879	SPARC	CATGGGTGGACACGGATCTGCTG
40880	CNTN2	CCCTCCAGGGTTTGGGCAGG
40881	CLDN5	CTCCTGGATCCGCTCCTGCCTGCGC
40882	P2RY1	CATGAGCTCTCTTAGA
40883	DSCR1	GGGCGGCGGCGACTGGAGCTTC
40884	TMPRSS3	TGCTCACTGCAGCCTCCGCTTC
40885	SERPINB9	TGATATTGTATTTCTCTACCTC
40886	KIF5A	AGTCTACCTTCCTTATTTGGGG
40887	GNRH2	CTGCAGCTGCCTGAAGGAGCC
40888	STAT6	CTGGGAGCCAGGGTGAGAGTCT
40889	ITCH	AACTATACACAAAGTTCTC
40890	FMR2	GGGCCCTTTCACACCCCACA
40891	CBFA2T2	GGCTGTCTCACAGGTCACAGAGCCA
40892	PODXL	GGCAAGGACTAGAGAGCAGGAGTGC
40893	BGLAP	GAGACACCATGAGAGCCCTCACACTC
40894	TULP1	GAAAACTGCTCCTGTGTCGGGGCT
40895	IGBP1	AACCGACAGAACATGGGCTGTCTTCCC
40896	RNF3	AGCATGAGAGATGACTTGCTCA
40897	MAPK14	GCGTCTCTCTTTCTCCCTCA
40898	SLC2A2	ACACAGATGATTAAACAGACTTTAGCTTAC
40899	FCAR	ACCCAGGCTGAAGTGCAGT
40900	STARD4	GCTCAAGGGGTTATTCTACCTCA
40901	CBFA2T2	AGGCTGGAGTGCAATCGCGCAA
40902	RALBP1	AGACCTCGTCCCTTCCTAGTCA
40903	PAFAH1B3	AACATTAAACTCTCCTTCCTCA
40904	USH3A	GCTGTTTTTCTAGCTATAGTGTC
40905	CTSS	ACTCCACTGCTCATATTTTT
40906	PTGFR	AGCAGTTTCAAACTCTACCATG
40907	APLP1	TCCTCACCTTAATTTATTTTTTAAGTT
40908	AKR1A1	GGGGTGCAGAACTGAGCCCAG
40909	CBFA2T2	AGCCTCTCTGTGCACTTGCTGTC
40910	SLC7A6	CAAGTTAGGCCTGCTCTGGCCT
40911	SRP68	CTGTCTCCTGTACCTCCTGGG
40912	B4GALT7	TGCCCAGGCCTGTGGGTAGTG
40913	CLCN6	CTCCTCTCTCTGCATCTGCGCTTTCCA
40914	NRF1	CAAACTCAGGCGGAGGTGACCATGCC
40915	APTX	AGGAAGAGAAAGAGATCAGGCA
40916	COL4A6	TCTGCTGTCCTGTTTCTGTC
40917	JRK	GACCAGGCTGGAGTGAAGT
40918	POLS	TGGACGTTGTTTTCTGCCT
40919	C11orf13	CCCCAAAGGCCACGACTGCCTG

40920	PTGIS	ATCCAGTCAAAGCGGATGCTGG
40921	PNUTL2	AGGCCCTGGGCTCAATCTAAGCGGGT
40922	GRB10	TCTCTGCTCCTCAGTCAACCCCCGT
40923	PAX5	CTTGCATAGTCTCTCTTGTC
40924	LARGE	GTCCAAGGGTAGGCAACCACCTT
40925	PRX	GTTGCCCACACTGGGGGCCAGAGCTAG
40926	SQSTM1	TGGGCCTCTGGTTCTGACACTTTCTGC
40927	LGR6	GCCCGACCGCCGAGATGCCCAGCC
40928	NUP62	CCCCACCTTGGGCCTCACCTCC
40929	SLC25A15	CAGTGTCCGGAAAGAAGTCA
40930	CDH12	GTGATTTGGAAAGGGGAAACAGA
40931	SLC30A3	TGTGTCTCTGTGCCTATGTGGCTGTG
40932	KCNH5	ATGCAGAAAAGCAGCACTTG
40933	FSTL1	GACTCTGGACTATATCAGTTT
40934	MEST	CTGCTGTAAAGGAAACCTGCC
40935	EDARADD	CACTGCACACCAGTCTGGAGACAGAG
40936	PIAS3	AAATGTTCTTTAGATGGTGGCA
40937	MAGEA9	CAGGTCGCAGAGCAGAGGAGACCCAGGCAGTG
40938	TLL1	TCAAGTTACTGCTGCTGCTA
40939	WARS	AGAGTCAGGGTGGCTTTTCCC
40940	HIP1	GAACCCCAGAGGCAGAGGTTGC
40941	LIF	TCCCTGTCGCTCTCTAAGCACTTT
40942	SOX4	TCATGCCAGTCTGTTGCATGCAGGCT
40943	ZAN	CATGGTTCCTCCAGTCTGGACT
40944	TRPC5	CCGATCTGTTACAGGCAAGTTT
40945	NEU3	AGCATAGTGCCTGCATGCTT
40946	SUV39H1	TCTCAAAAGTCACCTGCCTACA
40947	PAEP	AGAGCAGTGGGACTTCCTCCT
40948	SLC21A2	CAGGCCCCTCACCAGCCCTGGGG
40949	FLG	GCCATTCTAGTGATATATCGA
40950	ITPR3	TGCAGCTCCCTCCGTGCCTC
40951	IL1RN	CCTACTTCCTGTGACTTCAGCTCT
40952	HOXD9	GGGACTCTGTATTTGCTCGT
40953	ITGAL	TGATCTAAATGTGGAGAAACTGTA
40954	LAPTM5	AAAGCAACAACAAGCTTCA
40955	AOAH	TGGACGACTGTGCAATGCTGTGTGCTC
40956	ZNF289	ACTCCACAGTTCCCAGGCTGG
40957	IVD	TTTCTCTTGGGTGAGGCTCTGGCA
40958	HRH1	TAGGGAGGCTCTGAGGGGATGC
40959	DPYSL3	CTTCCTTGCCACAAGCTTCCCA
40960	HIP1	CAGAAGCAGAGGCTAATTCAGTGTCA
40961	IGF1	CAACCAAAATGTCACAACCAAAACTTT
40962	FETUB	ACTGACCCATCCTGGGCCTTGT
40963	CNP	CTTACCTCCCACCTTTGGTCC
40964	ALDH3A1	CCGCCTGGCCTGGCCATACTGT
40965	ATP6V0E	AACTATACTTTCAGGATGAATTTCTTC
40966	LAMC2	GCCTGTAATTCCAGCTACTCAGGAGT
40967	ASTN	CTTGTCTCCATTTTAGTGTTGAGGAAAAC
40968	KAL1	GACTCGTGTCTGTATCATACAAGTACAAAT
40969	SPAG9	TCCTGTTAACTTTATATTACAAA

40970	PPP1R3C	TTAAGCAAATCTGGCTTTGTA
40971	LPL	GTAACTTGGAGAGGGACGAA
40972	A1BG	CAGGCTGGAGTGCAGTGTTGCA
40973	PPEF2	TCCTGCAGGAGCATTGCGCTTAAACTA
40974	YWHAG	TGAGTAATTGAGGAAAAACTGACA
40975	NPY2R	GGACTTGCCTTTGGGCACCTTCCAGG
40976	STAT3	TCTGTATTTAAGAAACTTAAGCA
40977	DCX	TGATAGCTTTTTAACAGTTAT
40978	RECQL	TGGAAAGAAAAAGAATGGCGTCCGTT
40979	GNAT1	TCCCTGCTCCCTCCTTCCTCA
40980	KRN1	CTCCACCCTCAATCCACCAGAACC
40981	GPC1	CACTGCACACGGGAATGCCTAGGTCCC
40982	ZNF261	TTAGGTTGCCATGAGCCAT
40983	IPP	GAGCCCAGGAGGTCAGGGCTGC
40984	ADRBK2	CAGCCAGGTGGGAATGACGGA
40985	BTEB1	TGTCCGCTGGGTGAGTTGACC
40986	BRMS1	CACAGCTGTGGCCGTGGAGCTG
40987	RRM2B	TGTGATTCTAGGTCCTAGGA
40988	ADAM20	TCAGAGGGAGGAGCCAGACCAGC
40989	MHC2TA	TTGCCCAGGCTGGCGTGCAGTG
40990	DIAPH2	ATCTCCCTCTCCTCTGTC
40991	FGFR2	GATTGCTTTCATCTAATTCTG
40992	TRHDE	TAAAATCCTTAATTAAATGAGTA
40993	DNMT3B	GGGTCAGGAGGGAAAATAATGCACTG
40994	SERPINB13	GTTTTTAACAAGATCACATAACT
40995	CABC1	GAATGTTAAGCAGAAGGGA
40996	CALML3	CCCTCCAGGACGGACACCGGGTGACCC
40997	CBFA2T3	GGCGGGGACCAAGCTGGAAGGAGCAGC
40998	MAFF	TGCTGCCCTGAGTCCAGCCATGGT
40999	HK2	GTAGTTAAAGGGCAGAAGGGGA
41000	NGFR	GTCCAGGCCCCAAAACCACAGCCCT
41001	THBD	CAGGGTCTGCAAGGTCTTTGGTT
41002	TCAP	TTTGCCCAGAGTTGGGGGCTAGG
41003	TCF7	GGCAGGGGTCCTGTTAACGTCA
41004	GPR4	AATATGGCTACACATACTTCCTAAT
41005	SLC22A1LS	TTTCTTTTTTCCCTTTGGAT
41006	HDAC5	CCCTGCAGAGGGGCTCCAGGCTG
41007	SOX5	TTGCACACCACACTACATCTTTGA
41008	STAU2	ACTACCTGCAGCTAAGCAGTGAG
41009	MRPL49	GGTCTCAAACTCCTGACTCGAAGTGAT
41010	GNAI3	TGAAACTGTTGCATTTTGGG
41011	UBASH3A	CACGGTGATGTTGTCATAACCTC
41012	HMG20A	ATCATCTGCTATTTCTGCCAC
41013	ITGA11	TCTGCACCCACGTGCATTCAC
41014	DISC1	GCGTTTCCAGAAGGCATCTGGTG
41015	MLC1	TGTTTCATTTGTGAATACTTCTTG
41016	INPP5B	CTGTTAATTGCTAAGTTGCTGCTGCTA
41017	PC	AGGTCCTGTCCACAGCTGGACAGGA
41018	GGPS1	AATCAAAAGCAGCCACAGTT
41019	DUSP2	GTGGGCTCCCCTCTGGGCC

41020	FLOT2	CTCTGGTGCCTTATCTCGAAGGGAC
41021	FGFR2	CAGGCAGCACAGCAGACT
41022	KMO	TCACTCTGTTGACCAGGCTGGAGTGC
41023	TRIM14	GACCGGCGTGACAGCCTCCAGAC
41024	COL4A3	GCTCACATGGTTTACATCCTTCACTGC
41025	MAGEA4	TAACATGAGGCCCATTCTTCAC
41026	ADCY1	ACCAGCCTGGTCAACATGGTGA
41026	IL10	ACCAGCCTGGTCAACATGGTGA
41027	HIP1	ACTAGCCTGGCCAACATGGTGA
41028	NEK2	CTCGGGGGCTTCTCCATCCAG
41029	PPP1R8	CCCAACCTGGTGAGTGGCGGGGCGG
41030	FAAH	TGGCAGGAGTCCCAGCTGCTT
41031	ACTB	CGAGCACAGAGCCTCGCCTTTGCC
41032	MAP3K10	CCCACCCCGCCCCGCCCCGCCC
41033	SHC1	CTTCTGTGACTCCTGGGCCACAGA
41034	EEF2K	CAGGCTGGAGTGCAGTGACA
41035	NDRG3	TTCCCAGAAAGGGGAGAGGT
41036	CAPS	CCACGCCATGCTGACCAGAGGTC
41037	CBFA2T2	TGCTTACCCTGATGGCTGCTC
41038	OPHN1	CCCATGCTGTTTTCCCTTTGCCA
41039	GRM6	TAGGCTGGAGTGCAGTGGCACG
41040	DUSP11	TCTTAAATTTTTCTAAAAGAA
41041	PVR	GTGCAAGTTCATAGGTCTCCA
41042	MPP2	TGGTCCTTGGCTCACTCTGT
41043	PCLO	TTTGATACAGTGTCTGTGATGT
41044	TAF7L	GTTGCCCAGGCTGAATTCAGACTCCTG
41045	ZNF45	GACAAGTGTTTATCAAACTGAAGG
41046	PPP1R12B	TCCAGCTGAGCAGAGATTTTA
41047	ST3GALVI	TTGGCAGCCTGGTCCCTCTTTC
41048	SLC1A3	TCTCACCTCTAGGCCTCAGTGTCCTCA
41049	OPRD1	GCCATGATGTGGAGTGGGGCCAGT
41050	KMO	GGAAGATAGTGTTCTGCTT
41051	TNS	TTAGCTCCCACCTCTCAGCCT
41052	QDPR	TAATGAGTCCTATTTTTCTCTCACA
41053	APOL1	ATCTCTAGAGCTGTCTTGTCG
41054	POLH	GACCAATATGGTGAAACCCCA
41055	IL12RB1	GTCTGTTGGCAGACTGGAGTGCAAT
41056	DDX11	CTCAATTTAAAATGATCCATGG
41057	ITGA6	TTGATCTACTTCTGTAATTGTGT
41058	SNX6	GGTTGGATTTTTCCACTATCTTTTTA
41059	LOH11CR2A	GCCTGTACAACCTACATGTCTTT
41060	CUL3	GGCAAAAGAAATGCAGATTTCCC
41061	YWHAB	TAACTGCACTCCAGCCTGG
41062	RELA	CAACAGCACTGGCTCTCTCCA
41063	ANG	CTGTTCTTGGGTCTACCACACCTCCTT
41064	MAOB	CACAACACACCTTGCCCATGCA
41065	ACE2	CTCTAACTGTGGAGTGAATGGA
41066	EGF	AAACTCATCAAGATTATGCTGCTCA
41067	PAM	CTCACAGCCCCTGTCATTCCG
41068	UBE3A	CCAATCCTCTTTCTTAGTATAT

41069	RAG1	CTCAACACTTTGGCCAGGCAG
41070	DDX11	CCCTGCTCCTCTCTGTGGTTG
41071	ARHGEF7	CCTTTAACTGCACCTGAATCCT
41072	BAZ2A	ATTGCCCAGGCTTGAGTGCAA
41073	ABCC3	TGCCCCCGATGAGGACCAAGG
41074	FEZ1	GATTACAGGCGTGAGTCACCAC
41075	MLLT2	ACCTCAAATATGCAATCCAGTT
41076	RNH	GCCTGTGCCTGGGGAGGCTTCAGG
41077	PDLIM1	GAGTCCCCTCCCTGCCT
41078	SLC22A12	CCCTCCAGGCCTCAGCCACCTGCCCGC
41079	ASK	GGGAAGTGCAGGTTGCAGTGAG
41080	TFRC	TCTCTCTGAATCCTAAGGGCTGGTCTC
41081	CRYBB2	CCTCCAACTATGCCCTCCCCACCA
41082	PRX	CTAAGCCCCAAGGCCCGGAGTGGGAGT
41083	CASQ1	CCCTCCATCTATGCACAGCTTTCC
41084	HNRPK	TTGGGGGGTGGGACAGGGAGGA
41085	ADAM19	GGTCAGAAAGGGATGAGTGAAGAA
41086	KCNJ5	GCGGGTGGATCATGAGGTCA
41086	LDLR	GCGGGTGGATCATGAGGTCA
41086	RAB3B	GCGGGTGGATCATGAGGTCA
41087	ZNF35	GACCTCCAGCATTGGTCATAACCTTCT
41088	SRC	CTGTTGGGAACAGCATGGAGGCAGA
41089	ECHS1	CCTGCGGGTCCTTGTGTCCCTGCCGC
41090	UBE3A	GTCATCTTAAAGGCTTCTCA
41091	WISP2	CTGCCTGGTCTGTCTGGATCCCGAGG
41092	TPMT	TGTTGCCCAACCTGGAGTGCAG
41093	INPP5B	TGGCTAACACGGTGAAACCCCA
41093	PCDH11X	TGGCTAACACGGTGAAACCCCA
41093	SULT2A1	TGGCTAACACGGTGAAACCCCA
41094	BBS4	CCTCTACTGCCCCATAAGCC
41095	VNN1	GTCACCCAGTCCATGGTACTTTGTTAG
41096	ADCY1	CTGCAGTGTCTGTGATTCTGTGTGAACT
41097	MAGEA9	TGGCTTCTTTGAGCATGTAAG
41098	HIVEP3	CCCAGAGGCTGGCAGAGGGA
41099	ATP1A2	GCCCATCCCGATGAACCTGCATCATTCC
41100	FANCG	GGGTCCCCAGTGGGCTGTCTCTCTGTG
41101	CDK10	CTGTCTGCCCTGAACCCACTGCTGC
41102	PTHR2	ATGTGGGATCAATTAAAAATTTGTTTT
41103	KMO	GGTCTGATCTGCATTTCACTTCCAGCTGC
41104	ADCY6	ATGCCCAGGTTGCACAGGAGTGGGATG
41105	GOT2	CTGGGTCGAGGAAACAGAGA
41106	ITPKA	AGGGGAGGGGGCAAAGGGC
41107	SLC16A2	CTGGGGCATGGTTGGCCTCCAA
41108	MTMR4	GTGAAGGCAGTCGTCTCTGTTACA
41109	MX1	TCTGTATTCCTAGAAACTGACA
41110	SDC1	TAAGTTGATTCGGTATCCCCCC
41111	APG5L	TTCCTAAGGTGACCATGGTTGAACTTT
41112	MADH6	TTATTTATGTATGGTGCAATG
41113	MEF2D	CAGCCGGGCTGGAGGCTGTGC
41114	LZTS1	TTTTAATTTTATGAGACAGGGTC

41115	D1S155E	GAAGAGTACACTTAAGTTGAAGAC
41116	HR	GCTGGCATCTCCCCCACCCTGTGCC
41117	EGLN2	CTCCTAGTGGGCTCCCGGGGC
41118	CLCN4	GCTTACTTTGTTGAAAAAGAA
41119	SDC1	ATGCTGGGACTCAGCCTTCAGA
41120	ACHE	CCGGTCCTCTGGCATGTCTTCAG
41121	APBB1	CTACGGTTCCCTGCCTAGGAG
41122	SON	TAGTATGGCATTGAGTTGTGAT
41123	AIM1	AACCTCTGGGCTCAAGCAATT
41124	CXCL16	TCTGCTTTTCACACTGGGTGA
41125	PCDHGA1	ACCCATGGGGGTAGTGGGGTT
41125	PCDHGA10	ACCCATGGGGGTAGTGGGGTT
41125	PCDHGA11	ACCCATGGGGGTAGTGGGGTT
41125	PCDHGA12	ACCCATGGGGGTAGTGGGGTT
41125	PCDHGA2	ACCCATGGGGGTAGTGGGGTT
41125	PCDHGA3	ACCCATGGGGGTAGTGGGGTT
41125	PCDHGA4	ACCCATGGGGGTAGTGGGGTT
41125	PCDHGA5	ACCCATGGGGGTAGTGGGGTT
41125	PCDHGA6	ACCCATGGGGGTAGTGGGGTT
41125	PCDHGA7	ACCCATGGGGGTAGTGGGGTT
41125	PCDHGA8	ACCCATGGGGGTAGTGGGGTT
41125	PCDHGA9	ACCCATGGGGGTAGTGGGGTT
41125	PCDHGB1	ACCCATGGGGGTAGTGGGGTT
41125	PCDHGB2	ACCCATGGGGGTAGTGGGGTT
41125	PCDHGB3	ACCCATGGGGGTAGTGGGGTT
41125	PCDHGB4	ACCCATGGGGGTAGTGGGGTT
41125	PCDHGB5	ACCCATGGGGGTAGTGGGGTT
41125	PCDHGB6	ACCCATGGGGGTAGTGGGGTT
41125	PCDHGB7	ACCCATGGGGGTAGTGGGGTT
41125	PCDHGC3	ACCCATGGGGGTAGTGGGGTT
41125	PCDHGC4	ACCCATGGGGGTAGTGGGGTT
41125	PCDHGC5	ACCCATGGGGGTAGTGGGGTT
41126	TRIM37	CAGAAGGCTGGTTAACTGCCAGAA
41127	PFKFB3	TTTGGGAAGAGCTTTTAAAGA
41128	BLMH	GCCCTCCAGCTCTTTCCTCCTTCCA
41129	FAH	TCCTGCTCTCCGCACGCCACCTTAGGCCC
41130	OGG1	ACTAGAAGGCAGGCTGCCTCAGGGCCA
41131	RAB18	ACATATAAAAACCTCACATTCTACT
41132	LAIR1	TACCCACCTGGCCTCTGCACCTG
41133	KIF5C	TCTGGGCTTTATGTATCTGTA
41134	AXUD1	CACTGCACTTCAGCGTGGCCCACCTG
41135	OVOL1	GCCTTGGTCTCCCCCCTGGGCA
41136	TNP2	GGAGGAGGCCCTGCCCTCAAACGTG
41137	STK10	TAGGTGGAGCAGTTGGTGTGGC
41138	VTN	CTCTGCCTCTCCCTCCCTTCCTCA
41139	GNG5	AATATACAAACTTCTACTTTC
41140	PVR	AAGTGTGGGGAAGAGATAGGA
41141	RHO	GGATGCAGGAAGGAATGGAGGA
41142	FACL4	AGCATGACAGAAAATATGTATTA
41143	BCLG	ACAACCACCCGATGAACAGGGT

41144	KIF5C	GGGAACAAAAAGTGCTGCTA
41145	CCNF	CTTGTCTCCCCGGCTGGAGTGCAGTG
41146	GYS1	AACTGTGCCCTGCCTTCAGCTTTGGTGAA
41147	TAT	GTACAACCACACCCACACTCA
41148	GARS	TAGCCCGACCCTCGCTCCTCC
41149	BMX	CGGGAAAAAGACAAGCATTGA
41150	MAPT	CCCCAGCCAGGTGCAGGCGTAGGAATA
41151	COLQ	TCCGCAGCAGCCTCCTTTCT
41152	RPP30	GCTCACTGCAAGCTCCGCCT
41152	SERPINB9	GCTCACTGCAAGCTCCGCCT
41153	GYS1	TCCCAGAGGCCAGGAATCTGCCA
41154	BCHE	GCCTGGTTCAATTTCTTTCTTTCCTTA
41155	SLC39A4	GCCAACTCCCCCTGCCGGCC
41156	CHRNB4	GTTGTGGGGTGAGAGGATGTGA
41157	PTPN18	AACCTCAAGCAATCCTCCTGCCTCAG
41158	PIM2	GTGGGGAGGGGAGTTCCAAGT
41159	GNAS	GGACAAAGTCAACTTCCACATGTTTGAC
41160	PCOLN3	AGCTCTTGGGAAGGACTTGCTGG
41161	MECP2	TCCCAAAACACCTGACAGCCCCTCCCT
41162	PDHA1	AGGGGAGGAGAAGGAGAGG
41163	PTGER4	GCACAGCCTCACACCTGAACGCTGTCCT
41164	NBEA	TAATAACAAGTCAAACTTT
41165	FANCC	GGTGGGGAGCTGGGGGAGCCACCCCTC
41166	PCDH1	CAGGTTTACTGTGCCTGCCCGTG
41167	FCMD	CATAATGTAATATTCTTTTTAA
41168	RBBP9	AGAGTGGTGGGATCAGAGCCA
41169	EGLN2	CAGTGCACTCCAGTCTGCAGGTAC
41170	DISC1	GTCACCCAAGTTGGAGTGCAGT
41171	PTPN18	TGGAAACAGTGGGCCTGGA
41172	SEPN1	CACTCCCCTCTGACCTCCAGAC
41173	LTBR	CGTGGACTGAGGTAGACCCTGCATGA
41174	FOXM1	CCTGCCTGGCTTCCTTAGCTTGCCCCT
41175	FES	CCTGCTGCTGCCAGGGCTTCCTC
41176	CCND1	TTGTTTGCAAGCAGGACTTTGAGG
41177	SYNGR1	CCCAGGAAACAGAACTGATCT
41178	YWHAG	GGAAAGGGAGGGATGACCTTCCCAG
41179	SCA1	GGGGAAAGGAAACGTGGCTCTCCCTTA
41180	RERE	AGAAGAGTCGAGTCCTCTGAGGTCT
41181	MLANA	GAGACACCTGAGACATGCTGAAATTA
41182	TCF8	ATATTATCCTTGCTTTTCA
41183	SRD5A1	TTGTTGTCTGTGAAATTTCTCTTTTG
41184	THRA	AAGGCCGATGGGGAAGGAGAAGGAGTGC
41185	NFATC4	GGGGCTTCTGGAGGGAGGC
41186	SLC7A6	GTGTCTCTTCATCTACAGGAT
41187	MGAT2	ACAGTTACAAAAGCGACAGTCTTCT
41188	GRM4	AGCAGGAGGAGGAGCCGTGACCCT
41189	DMD	CTGAACACCCTCCTTTCACTCCC
41190	BTG1	AAGACACTGTCTCAACTGTGG
41191	AK3	GTCTTAAAAGTCTCTCCTT
41192	RBL1	CCAGGAAGCGGAGGTTGTGGTG

41193	TYR	TCTATTCCTGACACTACCTCTC
41194	CREBL1	TCCCCAGGCTTGGGGCAATTGGTAAA
41195	IL2RG	CCTCAGTCTGGCCCTTCCTTTTCGC
41196	HARS	TCCAATAAAATGCCTCA
41197	MYBL1	TTATATTTACTCAGTGTTTCA
41198	PARK2	ATATCCTGCCTTTTACCTTCA
41199	MAD2L1	TCAAGTAGTTTGACTCAGTAT
41200	CSE1L	CCAGGCTGGAGTGCAGTGA
41200	EEF2K	CCAGGCTGGAGTGCAGTGA
41200	FANCE	CCAGGCTGGAGTGCAGTGA
41201	IL1R1	TCTCCTGGGCCCGCTTTGCCTGCT
41202	HLA-DMB	CTACCCAGGCTGGGGCTTCTGGGAC
41203	ANKH	CTGTAGTCCCAGCTACTTGGGA
41203	CYB561	CTGTAGTCCCAGCTACTTGGGA
41203	DBT	CTGTAGTCCCAGCTACTTGGGA
41203	IFIT4	CTGTAGTCCCAGCTACTTGGGA
41203	KAI1	CTGTAGTCCCAGCTACTTGGGA
41203	MAFF	CTGTAGTCCCAGCTACTTGGGA
41203	MS4A2	CTGTAGTCCCAGCTACTTGGGA
41203	NPHS1	CTGTAGTCCCAGCTACTTGGGA
41203	SULT1A3	CTGTAGTCCCAGCTACTTGGGA
41204	IRTA1	TCACTTCTGCCTGCACAGCTTA
41205	CACNG3	GGGTGGGTGCTGAGGGAGCGCCAG
41206	TM6SF2	TGGGCGAGCACCCCCATCTGCC
41207	GCLC	GTTTACTGTAAATTTTTGTTCTTT
41208	XYLB	TCTCTCCCACACCCTGCCCTCCTT
41209	SIX3	TTCCCATGGACCCGGCACCCCA
41210	LAPTM5	TTGTTCTGCTGAAGAGTTGTCA
41211	ALDOB	TCCAGTGCTTCTAGTAGGAG
41212	GRM1	CTGTGATCACTTTATTACTCTGAA
41213	C5	TAAATTGGAACACCTCCTCA
41214	RBBP9	TTCATTTCCCAACATTTTTTGG
41215	IPP	CCCAGCACTTTGGAAGGCTGA
41215	KCNK6	CCCAGCACTTTGGAAGGCTGA
41215	NFATC3	CCCAGCACTTTGGAAGGCTGA
41216	XPNPEP2	CACCCTATCCTACACTACTAGGAACTTGC
41217	CEP2	CCAGGTCGGCGGGTGTTCCCAGGAAG
41218	TM4SF2	GCTCCTGTTAGCTCCTCACTGTGG
41219	NOTCH2	ACCAACAAAAATAATTACTTCT
41220	PLEK	GAGACTCCTGCATTCCTCCTCCCC
41221	PPP2R5D	TGTGCTATGCTGGGCAGG
41222	GJB3	TGAACAAAGCACATCTTTCCA
41223	KCNK5	CAGGGGCCTGAAAAGGAGCAGC
41224	BLAME	TGAGCCAAGCAGAACATTCCATC
41225	HTR2A	AGGCTGAGACGCAAGGATCACT
41226	NARS	CCATGTCCTTAGATCTAATCTGTGCTA
41227	LDB2	ATTGCAAATCTTTACTTACA
41228	HTR2B	AAAACAATCCAGCACTCTGGTT
41229	SKI	TGCCAGGGAGAGCAGGGACAGT
41230	SDHC	GGTGAAGCTTTGGGTTGCCACT

41231	ADAM19	CAGGGCAATGTGAATTTTCTTTTTA
41232	HTLF	TCCAGTAATTGGAATGACTCCAGA
41233	TCF2	CACCCGAGCTGGAGTGCAGTGG
41234	CDK2	ACCAGGATCCCAAGCCTCCTGCTGCC
41235	LASS2	GAGGGAGGAGAGGCGCGGGGAGCCAG
41236	UBE2G2	TGCCTGTAATCCCAGCTCTT
41237	GYG2	GTAGACTCTCGATGGTGGTCTCCGC
41238	TSG101	TTTTCTTTTGGTAAAGACTGGC
41239	MDFI	AGTCACCCCAGAGGGCAGGGCTAGGCGA
41240	BPAG1	TAGCCTTGAGAATGGTTTTTTGAAA
41241	AES	TGCTCCCACCTCCACCTGCCCCA
41242	PRM2	TGGGCCCCTCACCCCCAGC
41243	UPF3B	TTCTACAAATTAATTTTAAA
41244	DTNBP1	AGAGGCAGCAGCAGCCCGAGGCCTGAG
41245	TYR	TCATCATTAGTTTTGTAGTCTATTA
41246	CKB	TGGCTAAGATACTGCTGATGCTGAA
41247	EMP2	CTCGCCTCGACTCGCCCTGCCCTGT
41248	EIF4EBP2	TTTTGTCCCAAATCAAATATC
41249	TAF1A	TTCACAGTTGTAGCTACACA
41250	AMFR	TTTGTTTTTATTGTAAAACAA
41251	PPM1D	TTCCCTTCTTTTTCATCCCAG
41252	HMGCR	GTCAGCTTTCAGAGCCAGTGA
41253	ESRRB	GCCATGATGGAAAATGCCCCT
41254	RPS24	AGGAGTAAGGTGCTGCAATGA
41255	FOXE1	TTAACTTCATTTTGTATCTTGCTTA
41256	KCNG1	GCTGGGTCATCAGCCCAGCC
41257	COL5A1	GGCTTCTCCCTCCCCTCCCACCTGA
41258	CBFA2T1	GATGAATGGCGTCCGTGGGTTGCTAAC
41259	PKD2L1	GGCAAGGAAATGAACTCAGGATTCAGA
41260	FUT7	CCAGCTTGTTCTGGGCTCAGGGA
41261	TNFRSF8	TGGGCATCAGACCTTAACCACCAGGCC
41262	GALT	GCCAGCTCTTCTCAAGCAGGGGA
41263	CRY1	CCGGTCCTTTCTCCCGGGCC
41264	PTPRO	CAGGAAGGTCAAGACGCTCTCCAAAGG
41265	KLHL3	TATTTTTCAGTAGCTCCAGGTA
41266	SFRP4	TCATGATGCTTCTTGTCA
41267	PTPN1	GCTGCGTCAGACCAGTACTGG
41268	TEGT	AAATGTTCATTTTACTGATGCACTT
41269	PCDHAC1	TGAGTATCCAGCCCGCAGCAGTG
41270	B4GALT2	CCTCCAGGACTGAGACTGG
41271	NHLH1	AATTTTCAGCCACCACAGACCTC
41272	ICMT	GCTGCCGCTGCTCACGCGCGCC
41273	ACADS	GGGCTGGGCCATGGAGCTGGCC
41274	FGL1	TTCAGTTAAACCTGTGTCCACA
41275	SLC7A6	CACTCAGGCTGTTGTAGTCAGCAGA
41276	RSN	ACACAATGTGTCTTTCTTTTTG
41277	MCC	ACAGCGTGTAAACACATGTTCTGTGC
41278	SMP1	TCTCTTCCTCTTCAGAACTCTTGTCC
41279	DNMT3A	CCTACCACACAGGAAACCTTG
41280	ATM	AGTGTGCTGGGATTACAGGCAT

41281	TERF1	CCCCAAACCTCAACATCACACA
41282	GPR61	AACAAATTCCTGGCTCACTGAGC
41283	NFE2L1	ACTCCATCTCCCTCCGTGCTCCA
41284	DAZ	AGCTAAAAGTTTTCCACTATT
41285	KL	TTGGGTGATTAAAAAACTGACA
41286	HIRA	TTCATTTGGTTTTAATTTTTAA
41287	MAGEA4	GCTGCCCTGAGCAGAGTCATCATGTCT
41288	IL16	AAGAGACTCCTTGAGAGACCA
41289	CEP2	TACAGGTTTGCCAAAGGAAAAG
41290	SLC7A6	CCCAACCTGGTGCTAGGTCA
41291	CRYZ	TACCTTTATAAAGGTTCTCTAGTC
41292	EDAR	AGGGAAAGCCCCTCGGCAAGGAC
41293	GPR85	CCTTCTCTGCTGAGCAATTGTGGCC
41294	GPR45	CCTGCTCTGTTCCCTGGCATGTTGG
41295	HOXD8	GAGAGGAAACAGTGGAGGCAGCGGGGC
41296	DUSP1	GTCATTGTCTACTCCTAGAAGAAC
41297	GNAQ	TGAAGTACAGTCCCAGCACAT
41298	IRTA2	GGCCTTCAGGAGATGCCGGG
41299	BCL7B	AACTTTGTGATTTTATTTTTTGTT
41300	REV3L	ACAAACCTGTGGGCCTGTTGCAATACT
41301	USP9Y	TAGCAGATTGTTTAACTCACT
41302	COL6A2	AGGGTCGTGAGCCCACCCCGTCCATGG
41303	ITGB4BP	GCCTGGACACAACCAGCACA
41304	ASB1	CTCAGGTGCCTGGGCCGCTGAA
41305	SLC7A4	GGAGTACTGATCAGCCCACAC
41306	FMR1	GGGCTGAAGAGAAGATGGAGGAGCTGG
41307	NRGN	GGGCGAGATGAAGGGAAGAGGGT
41308	MPP2	CCTGAGCCCTCACTCCACAGCCCT
41309	MYH9	GCATATGCCTACAAAGCTC
41310	ITPKB	CTGGAAGGCAGGCAGGACGGGGGCGT
41311	NCALD	TGGGCTGTTCATTGTCATTGCTGTG
41312	TCTA	GGAGGCTGAAGCAGGAGATTTGCTTGA
41313	CD4	GCTGGTGGCAGAATCTGTTACCA
41314	MAOA	CGCTCCTGGGTCGTAGGCACAG
41315	CD5	GAGCAAAAAGCCGAGAGCCAGA
41316	STK10	CTGTGGCTGGCAGCTTGGTGGGCCCCA
41317	CLOCK	GATGCAGTATTGAGTGTTCT
41318	MX1	CACTCCCTGAAATCTGGAGT
41319	CRYZL1	CCACATAAACATGATATCATCACACTTC
41320	CBFA2T3	GCACCGTGCCAACCCCACCCAGCTC
41321	FKBP10	CTGACCTGCTGACAGTCACCCTCC
41322	HEPH	TCAGTGGACAAAGAAGATGAGACAT
41323	TUFT1	CTATTTTTCTCTGTAGAGAGC
41324	PACE4	GCAACCAACTGCTGCTGTGCACA
41325	PRSS11	GGGAGCACGATGACTCTGAGT
41326	MMP26	GGGTTTGGCATGCAGCTCGT
41327	PDGFRA	GGAGCTACAGGGAGAGAAACAGGAGGAGACT
41328	USH3A	GCACTGGCTCATTCCTGCCTCAG
41329	RPS15A	CATCCTGCAATCTAAGCCACA
41330	SCA1	TAATGATTTTTATAAACCGTTTTC

41331	FMO4	TCTGATTAGAAGCTGTCTAA
41332	MKI67	ACACTTTAGACTTAGTAGTAA
41333	CAST	TAACTGGAGTAAGCTACAGGAT
41334	KCNJ10	AGGGCACAGATTCCCCAGA
41335	SMARCA3	AGTATTTTCACGTATCTTCCAAG
41336	ATP1B2	GCGTGAGCCACCGCGCCTGGCC
41336	CASP8	GCGTGAGCCACCGCGCCTGGCC
41336	FANCF	GCGTGAGCCACCGCGCCTGGCC
41336	FCAR	GCGTGAGCCACCGCGCCTGGCC
41336	PCDHA9	GCGTGAGCCACCGCGCCTGGCC
41337	PKNOX1	GTGTGAGCCACCGCGCCCGGCC
41338	OAS2	GCATGTAGGATGTTGAGCAG
41339	WHN	ATGCTCTGCAGTCCTGGCC
41340	CDH5	CTCCCCAACCCCTCTCCAGGCCTGTC
41341	TCFL4	ACCAGGATAAGACCACAGGGAAGCAAA
41342	UBE2E3	TAGCTGTAGATTAGTTATGTTT
41343	PDYN	GTCTCTCTTTTGCTCTCTCATTCC
41344	STARD5	CTGTTGCCTTTTAAGCATGTACC
41345	IGSF4	GGATACTTGGATTTAGTTTCAGTAGAT
41346	C14orf1	CCTCACTGCTGCCTCAACTTCCTG
41347	MAPK3	TGTGGTGAGCAGAAGTGGAGCT
41348	FCN2	AATGATCTTAACACCGGAA
41349	ADRBK1	GCCCCCTGTGCCAGTGCTCTGCCTGTG
41350	CHAD	AACAGGTTGGTCATCAGGATGG
41351	LPP	ACCAGCCTGGGCAACATAGTG
41352	TADA2L	TCCAGCCTGGGCAACAAAGTG
41353	B4GALT5	TTGCCCAGGCTGGTCTCGAACTCCTGG
41353	CBFB	TTGCCCAGGCTGGTCTCGAACTCCTGG
41353	IL12RB1	TTGCCCAGGCTGGTCTCGAACTCCTGG
41354	ATRX	GCAGAACCATTGCTGACTTTAG
41355	NT5E	CTTGTCCCTCTCCAGCAAGAGGCT
41356	SLC1A3	CTGTCAGGGCTAGCCTGCCTGCTTACGC
41357	CBFA2T2	TCCAGTGGCCATAAAACTAGCCA
41358	AHR	TGCCGCCCAAACTGGAGTGCAGTG
41359	KEL	CCTCCGAATCAGCTCCTAGAGTG
41360	RAI3	GCTCCCCAACCCTTCTTGCCT
41361	VANGL2	AGCTTGTTTCTACAGTTTGCAGTGG
41362	WHSC1	GTCTGAGCGAGGAGTGACTGC
41363	ACCN2	CTCTCCTCCATGCTGCCTCCCC
41364	SLA	CCTGTCTGTCTGCTCACATAAGCA
41365	PKP2	TTTCTTTCTTTACTTTGTGC
41366	ZNF236	GACACTTGTGAGAAGGCATTT
41367	ADCY1	AGCCTGAAGCAGATTCGCCC
41368	FACL3	TCTTCTTTCATTTTCCCCGCC
41369	RNF18	GACTGCACTTAGAACTGCATTTTG
41370	CDC6	TTAGTGCTTTACACATTCGGGCCTGA
41371	PHKG1	CTTCAAGAGCCTGCAAGCACTTA
41372	APOL1	GGGACTTTGGCATTTCCATAGC
41373	CD4	GCTCAGGCCCCTGCCTCC
41374	TPMT	TGCCCAACCTGGAGTGCAGTGG

41375	UBQLN3	CAGCTGCATTATAAACCAAATTTACTA
41376	PCMT1	TAGATACAATCAGCTGCTTT
41377	ASPH	TTTGGGAAGGAACACTAAAGA
41378	ENC1	GCCCCCAGCCTGTAGGGAACTTTC
41379	INMT	TGGGTGTCCTGTATTTCATCTG
41380	SLC9A1	ATCTCTGAGTGTCTCTGCCT
41381	SNAP23	CTTGTCCAGGCTGGAGTGCAAT
41382	PEX10	CCAGAACATTTCCCTAACCCCAAC
41383	CBFA2T2	CACTCAGGCTGGAGCACAGTG
41384	PRKCN	CAGTATCCTTTTTTCTCCT
41385	PRKY	CATGTTGAGTGTGCCTAATACTC
41386	RASSF1	GAGGTCAGGGAGTGCTGGCTC
41387	MKKS	ATTCCTGAGCAAGATAGTCTGGGA
41388	TSN	TCCTGGCCTTGCTGACCTCA
41389	ZNF215	AGAGAATACTTCTAAGGACAG
41390	FACL5	CCCACACAACAGGCTTATTTTCTG
41391	DIRC1	CATTTACTTTTAAAAACCTATA
41392	SYN2	TCAGCCGCCTCAGTCGCCTCA
41393	TIMP4	TTCTGCCCTGCCCTCAGCCT
41394	DDX11	GCTGGGATCTTCTGCCACCA
41395	LRRC2	CAGTTGCCTGTAATCCTAGCTACTC
41396	MOCS2	CCATCTAGGAAAGATATGGATG
41397	ATF6	ATAAAGTGAATTTTATTTAAAGCTAAA
41398	KCNE1L	CCCTGGAAGGAGAAGCACCACCTT
41399	IHPK3	GCACAGGCCATCTCAGCTTGGTTGC
41400	P2RX7	CGCCAACATGGTGAAACCGTA
41401	GAB2	GAGCATATGGGTCCAGCCACTCAGAA
41402	LPP	TGTTCTGCTTTTTTCATTGTT
41403	WASF3	TACTACTGATAACTGAGCCA
41404	FZD4	AGCTAGTGTTTTGACAATGCTTT
41405	ADCY6	AGCCTTGAGGGCTGGCAGAA
41406	FBXL5	GAACAGTCTTACATTTTTCT
41407	SLC8A2	TCAGTCGCTGTCTCTTTTCTGTGAT
41408	FACL5	TGCCCACACAACAGGCTTATTTTCTG
41409	ARVCF	CCCAGGCCCAGCCTCTTGTTCT
41410	AMACR	TCATGATCTCCCTCTAAG
41411	TLL2	TTGGTTAGAGCCAAGATAGCTCC
41412	SHC1	CCAAACTGGCAGGGGGGCCAGGC
41413	DFFA	TGGTGGCGGGCGCCTGTAATCCCAG
41413	SLC2A3	TGGTGGCGGGCGCCTGTAATCCCAG
41413	SWAP70	TGGTGGCGGGCGCCTGTAATCCCAG
41414	HIP1	TGGTGGCAGGCGCCTATAATCCCAG
41415	GAC1	CTCCTGGGCCTGGCTTGGCT
41416	NYX	CCTTAGCCCAACACCAGGGTC
41417	OXTR	TTCAACAAATGGCACCGAGACAATGAT
41418	NLGN2	GGGAGGCCCTCACCTTCCAGAGAGGA
41419	TLR5	TTGCCCAGCTTTCCTGGCAATTGACTT
41420	FZD8	TTCACAGTGTTGATTGCTATTAGCA
41421	SNX4	GAGCCTAAATTTACTCTGCTT
41422	MGAT4B	ACTTCTATAAGAGCGTGACTT

41423	LRRC2	GACCAGCCTAAACAACATAGTG
41424	IRF6	GGAGATTTGGCCTGGGAGTTTG
41425	FUT7	CTGGAGCATGCAGAGGAGGTGAGA
41426	GPX3	AACCTTGGGGCCAGCATCTCCCA
41427	GNL1	CTCCTTGGAGCTATGAGAT
41428	HLF	GCAGAGGGAAATGGGAGGTCTAAGG
41429	NDUFA6	CAGGAAGGAAGGAGGCCATCTG
41430	NTS	CCAAAACAAAGTAATAGCGCC
41431	FSTL1	CCCACATGCCGTGACTCTGGACTA
41432	GALNT3	TGAGGCAGAAGCATTGCTTGAGCTTGGG
41433	MBD1	TGCAATTTTATTAAATGCATCAATATGTA
41434	SEDL	GTTGTGCAGGCTGGAGTGCAGT
41435	APPL	TCAGTAGATAGGAAACCAGTT
41436	PTPN18	CTTACTATTCACACAGCCTGCCGA
41437	DHFR	CTGGAAAGAACAACTGGCAGG
41438	PTPN1	CCCTGTGGGGCCTGATGGTGCT
41439	MAD	AAATCAGCTTTGTAACTGTTTTCA
41440	ARHGEF12	TCTGGTGGAACAAAGAAATACC
41441	NAP1L4	GGGTTGTGACACACCAGCCCAGGT
41442	NDUFS1	GCAGTTGGAGACCAGTCTGGGCA
41443	FXYD2	AGCCTCTCCAAGCTCAAGT
41444	CALM1	TTTGCTGTCTGTATCCCTTGGA
41445	FCMD	GGGAAGCAGAGTCTGCAGTGAG
41446	RIMS1	TCAGGCTGACTGCTTTGCCAT
41447	ZNF257	TTAACAATACCTCAAACTTT
41448	MLPH	GTGGGAGAATTGCTTGAGGCCAGGAGTTTGA
41449	SLC26A4	TGGTATACTCCAGGGATT
41450	NEURL	TTGTGATGGCGGGGCAGGGAGCC
41451	TCTA	CAGGCAGCCCTGCCATGT
41452	FRDA	CTGAGCTCTTTAGCATTGAAG
41453	TEAD3	CAGCAGCCACCTGTGGGTATTTATGAG
41454	ZNF236	GTGTAAACCTGGCTGTAGCCGCATATG
41455	GYG2	GTGTATCTCACCAGGTAGCTGTCAG
41456	PSMD9	GTGATCAAGGTTCACTGAAGCC
41457	MAP4K2	AGGCCCTGGCCCTGCTGGGGC
41458	FADD	CTCTCCAGGAAGGTAGCCCAGCACTGT
41459	GPR56	GGGCCTTTGTATGAGCTGCATTG
41460	LTBP2	CCCAGCTGGAGTAGGAGCGCGGAC
41461	SOX1	CCATTTTCTCCATAAATTTGTA
41462	ADCY1	ACCAATGCCTTT
41463	LPIN1	CTCCCCGGAGTGCACAGCTCC
41464	AK2	TCTCAAATCCTGTGACTGGGA
41465	JRK	TAAAGTGCTGGGATTACAGGT
41466	CCND3	GCCACTAAGCAGAGGAGGGGCC
41467	CORO2B	GTCAGCACTCATCTCCTCCTCC
41468	NRCAM	TGCACACAACGTTTCACAAAATC
41469	ACTN1	CGCCAGCCCAGCCCAGCCCAGC
41470	SLC4A1	CTGTGTGACCTTGGGTAAGTCCCTTGA
41471	LASS1	CCTCCTCCTCCTCCTGGC
41472	SMAC	ACCACTCCGGGCTAATTTTTGTGT

41473	DUSP6	CCCACACCCCTCCTTGCTGGAATGTGT
41474	BMP8	AACATGGGCAGCCTGTGACCGG
41475	RAD54B	AAAGAATTTCAAAAATGGCTA
41476	ATP7A	CAGCCCAGGCTGGAGTGCAGTG
41477	UNG	AACCAGGCTGTCCAGGAATGGC
41478	SCML1	TGTTTCTAATTAATTTGCTTAATTC
41479	C4orf1	ATCATGTTTTTATGCTTCCATA
41480	ASB1	GTTGCTCAGTGCCTGGATTGCAGG
41481	SOST	TGCTGCTTCCCAGCCTGGCTTCCCCG
41482	MAPT	CCTTGGGGCTCCCTGTGTCAGGGCAC
41483	CREBL2	TTCACACACTTTTCTTGCGTACT
41484	DRD1	CACATGCTCATCCCAAAAGCTAGA
41485	SHOC2	TTTTCTTTGCTGAATTTGATGGATGT
41486	EBAF	AGGGCTTCAGGCTGGGGGCAGT
41487	PSEN2	GGAGAGTGATGTGAGGGAGCTGTGTGAC
41488	AAT1	ACATCAACATGGAGTCCAAGTAATGA
41489	FBLN1	CTGTCTCCTGGCCCTCTCTC
41490	ZIC3	CGCAGCCCAGCCCGGAGGCCGGTACCC
41491	NDRG2	TAGCTGAGGGGTAAGAGGTTGT
41492	SHMT2	CCCACAGACTCAAAGTTACTC
41493	SCN4A	GGGGTGAGAGACCTGCTCAGGCGTC
41494	GDI2	GTTCAGGAGATTCTAAATT
41495	CDH3	CGGCAGCTGCTTCACCCC
41496	B4GALT5	TGCTCACACCCCCACCTGCATTTTGA
41497	COL18A1	CGGTAGCCAGCACACAGGGCAG
41498	POU3F1	CTGCCCGGCTCAGTGCAGT
41499	HAO1	GGGTGTCCTAGGAACCTTTTA
41500	RAD52	CTCCACAACCTCTTGGGCCCA
41501	MEF2C	GGGGTTAGAACATATCA
41502	CD80	AAGCAGTAGTCAAGGAGGAAAGGGATAGT
41503	STK6	CCTTGGGTCGCAGGTGGGAG
41504	CEACAM5	CTCCATCTCAAAAAGAAAAGAAAAGAA
41505	MSX1	GCTGACATGACTTCTTTGCCA
41506	SLC1A4	GTGTGTAGTTACTTGACAGCATCAAAT
41507	SLC22A7	CCAGACACAGCTGTTGTTCGGGGCT
41508	RNF6	TCTCAGGATGAATCAGTCTAG
41509	RAB27A	CTCATGCCATAGGTGACATTCTA
41510	CPNE3	TTCACAGTTTCAGCACTCAA
41511	METTL1	CCAACAGAAAACAAAGCAGCTG
41512	TAL1	TCTGTCACTCAGGCTGGAGTAC
41513	ACPP	TCTCAATAAATAAATAAATAAA
41514	HOXD13	GTTTATTATTGGTTTTGTTCTTGCCT
41515	IFNW1	TACATTGTATTAAGATAACAAAAC
41516	DDX6	TTCTGGGCTGAGTAGATAAAAA
41517	SIAT6	GGCACTACACGGCTGTGAC
41518	RAG1	CCTTTACTGCTGTGTATGGGGCT
41519	NPHS1	AAAATATAAAAAATTAGCCAG
41520	DLEC1	AATGCTACGCACGTGGAGCTGGCC
41521	SCD	GATTCTTGATTCCTGGCTCTACCCTG
41522	ORC5L	TTACCAGGGACCCTGGAGTAT

41523	PIP5K1A	TTGCAATTTGAAATATATTCTG
41524	ADCY1	ACCTGACAGGGGTCACTCA
41525	SLC22A3	TTAGGCCCTGTTCCAGCAATAAGA
41526	SLC6A8	TCACCAGCTCACCTCTGGTAG
41527	MIPOL1	GTCTCGAACTCCTGGGCTCAAACAGTC
41528	MGEA5	GGCAGCAGCAGAGGGAGAGCTCGG
41529	PKIB	TCCCAAACCTCAAAAACGTCTTGGA
41530	FLT1	TCTGGGTGGAATGGGGCTGAA
41531	IL11	GGTGGGGACGGAGGGGAAAGGGAAGC
41532	IRS1	TGGAAAAGCCACTTTCTCCA
41533	CLOCK	CTTGAGCATTCAAATGAAGATT
41534	CLECSF12	CCACTGCACCCAGCCTAGAATCTTGT
41535	SFRP5	CCTGCCAGCTGTGCCTTGCTTGCC
41536	PIGF	GGGGGCTTGGTACTGTGAA
41537	STAT5B	TCCATCTTCAGCTTCTTCA
41538	ADCY3	CTGCTATTCCTCTGCGTGCCTGTA
41539	RANBP2L1	GCTGAGGCTGGAGAATCGCTTGAGGC
41540	ARVCF	GGCAGGGAAGGGTGCCTGGCTGGGCTTTGGGG
41541	GFRA2	GGAGAGGGAGGGGAGAGACCACAGC
41542	APAF1	TGCCTGTAGTCCCAGCTCCTTG
41543	HMOX1	ACAAACCTGAAAAGATGTTGTGTCTTGTGTT
41544	APTX	GGAATTCTGTCTCATCAGTTCT
41545	PKHD1	GCATTCTCTGGATTGACCACCCACA
41546	FOP	CATCAGTGTTAAGAGCATGATGA
41547	AKAP13	GACCCTGCCTTAGTAGAGGG
41548	UNC119	TTCTCCAGGAGCTCCGGACCCTGA
41549	GALNT2	GCCAGACTCCCCTCCCCCTCA
41550	NDRG3	TCTCTTGCCAGCTTTTTCCCGTGCT
41551	GALT	TGGGACTGAGGGTGGAGCAGC
41552	IL1R1	TCTCCTGGGCCCGCTTTGCCTGCTTG
41553	MHC2TA	AGCTTCATTTCCTGTGTC
41554	ELK1	GGAACCCAGGCCTGGGGGGCGGT
41555	WHSC1	GTGAACAAATAAACTTGTCTA
41556	COL16A1	ACCTGTAATCCTAGCTATTCAAGGG
41557	CD5	AGAGCCAGACCTGTTTGTCCTGAGA
41558	FCAR	AGGCAAAGGCTCTCACTCCAGG
41559	TRHDE	AGACATTTTAAGAACCAGAGCCA
41560	PPEF2	GTGACCTTGCTCGGAGCATTGATT
41561	DSG1	TGCATGTAAGAACATCTACTG
41562	DMD	TGATAGGGCTGGAGGGCTATG
41563	PDE1B	AGCCCCATCTCCAGCCTGAT
41564	PBP	CTGCCTGGCCTTTATAATTTT
41565	TSN	CAGGTTAGAGAAAATAGAGATGA
41566	GABRE	CAGAAGCCTCTCGCATCCTGA
41567	M17S2	TCCGCATTTCAATGAAAGGAGG
41568	GALNT2	TGTCATCAGGACACTATCTC
41569	RRAS	CTGTACCCAGGCAAGAGAGAAGC
41570	UNC13	TATTCCCCTCTGATATTCAACC
41571	TNFRSF10B	CGCCCAGGCTGGAGTGCAACGGTACG
41572	ALDH3B1	TGCCTGTAATCCCAGCTACTCAGGAGG

41572	CARKL	TGCCTGTAATCCCAGCTACTCAGGAGG
41572	IAPP	TGCCTGTAATCCCAGCTACTCAGGAGG
41572	VPS41	TGCCTGTAATCCCAGCTACTCAGGAGG
41573	ACK1	CCTGCCTCTGGCCCTGGTCCTGGGCGGGGCC
41574	CCND2	CGGCTCAGGTTTTGAGAAGCCAT
41575	IL12RB1	TGTGAGCCACTGTGGCCGACCT
41576	EVC	ACCACGCCTGGCTAAATCTTTTTTGT
41577	PRPS1	AATTTTCATCTTCCTTCTTTG
41578	FLRT2	CTTGTCACTGTGGAGAAAGAG
41579	SLC22A3	GTGGGATGTGCCGACCAAGGAT
41580	SLC26A2	GCATTTGTATATACACACTGCA
41581	ACE	TGGAGCTCAGCAACAAGGCTGCA
41582	EZH1	TGCAGGCAAGCATTATGCTGCTA
41583	MAGEA2	GAGCCTGAGGAATCAGGAGCTCCAGG
41584	CCND1	CCCTGCAGCCAGCTCACGTCCA
41585	ATP1A2	GGGCCTGGGAATCTAAGTGGGAG
41586	SRRM1	ACAAAAAGGATAGAAGCACAA
41587	SHANK2	TACAGATAGTTTATAAGCACAA
41588	MAP1B	TCTCCTCTTTTGTTTGTGTT
41589	CSRP1	GATCCTCAGATGTGGAGGGAG
41590	PCSK1	TAGCCTAATACAACATGTAGCT
41591	COL19A1	GGTGAAGCCCAAAAGCTCTTAAG
41592	CNGB1	GTGAGGGATAAAATGAGGCTCCA
41593	SCG3	AAACACTTCTAATTCTGTGAT
41594	ARCN1	GGTCGCGAACTCCTGAGCTCAG
41595	PTGIS	CCTTAGACTGATCAAGCCAAAAAAGAA
41596	TBL2	ACACACACGCTGCTGTATCTCCCTGT
41597	CTSH	ACGGGCAGCCTGGGCCTGGGT
41598	HCN2	CTGACGAGCCGAGGCAGCAGT
41599	B3GAT1	GGTCTGTTTTAATTTAACTGTATTTA
41600	AR	CTCAGTTCTTATTTGCACCTACTTCA
41601	MGAT3	TGCCTGTGATCCCAGCACTTT
41602	CLCN6	GGAGGGCCTCCTGTGCCGC
41603	ITSN1	AGCTTTCCTGTACTAGATGG
41604	HPN	CGCCACCGCCTCTGCCTCCAGGCCG
41605	KLRG1	TTCTGAGCTCTTCACACGTA
41606	SDC1	GGGGAGGGGGATCCGACTGCTTT
41607	PRKAR1A	CTTCAGCTGACTCCAGTATAATCTCCT
41608	SLC1A1	TCCAACTGGAAGGCTTTATTCTTCCA
41609	GAS7	TCAGTCTAAAGAGTCTAAAGGGG
41610	HOXC13	CTTCCCTTCCCACTGGTGC
41611	ANKRD3	CTTGGGTGAGTCCTTGTGGACAACCAC
41612	LRP4	ATGTTCTTTCTCAAGTGCTCAG
41613	KIF5B	GGCATCTTAGGAGGGAAAAAGGA
41614	POMZP3	CAGATCGGTTTGTAATAACAC
41615	HIP1	ACGTTTAATCCCAGCACTTTGG
41616	BCL7B	GCATCCCTGCCTCTTGTCA
41617	OAS3	TTTGTCTGCCACAGACACA
41618	LSP1	CCAGCACCCTGTGGGGCCCA
41619	EGFL6	GTTTAACTGTTTGACTCTTATGAT

41620 TEAD3 CCCCACCCACCCTTGGGGGAGCATGATGGGC
41621 SHANK2 CCACCCTGCCCTGCTCAGGGTGGGAA
41622 AQP8 GCCCAGAGGAGCGACCCCCTG
41623 PYCR1 TGCACGTCCTGCCTGACCA
41624 PCDH11X TTTTGTGTATTCTTATTTACTTA
41624 PCDH11Y TTTTGTGTATTCTTATTTACTTA
41625 CSE1L CATTGCCCAGGCTGGAGTGCAG
41626 ZNF264 GCGCCGCCACACCCAGCTAA
41627 C4orf1 ATATTTCCATGGGCCAGTGTGA
41628 RGS3 CACCCAGGAAAGGGGAAATGCGGCCC
41629 JUP TGGAGTGAGTCACCTGCTC
41630 FZD7 GTCCTGTTTTCTTGGTTCC
41631 MUC4 AGGAATGACCAGCTGCCTTCCAA
41632 DMD CTCATTTGAGAACTGTCA
41633 CAPN5 CTGTGTGACCTTAGGAAGTCTCTGCCC
41634 GGA1 CAGCCTGGAGGGAGGCATTGGTGGC
41635 HAL TGGGAGTTTGAGGTTAGTAT
41636 MTERF GCCACATTCCAAAAGAATTTTGCA
41637 TBX6 CACTGCTGGGCCCCTCTGCCTCC
41638 PTPRO GGGTGGAAGAGGGAGTAGC
41639 IGF1 AAATTGCTGGGATTACAGGCAT
41640 BCL6 AGGATCCCTTCCATGAAGGAA
41641 PGAM1 AGAAGCAACAGAGCCTGTCT
41642 ARHGDIA GCCTCTGCTGCCCTTTCTGTGCC
41643 PDE6B TGCTAATTTTTGTATTTTCAGT
41644 HMGA1 CGAACTCCTGACCTCAAGCAGT
41645 CDH1 GTCTTAAACTCCTGGCCTCAAGCAATC
41646 TM4SF6 CTCTCTGTTCTGCTGACAGGCA
41647 SLC22A12 CCCACACAGAGACTTGCA
41648 ED1 AGTGCTGCTGTGGAGTGAG
41649 GJA1 AAAGTCAGGGAATCAAGCCATGCTTA
41650 PTP4A2 GGCAAAGTAGCCAAGAGCCTTTTGTTT
41651 EPO AGCTCACTCGGCACCCTGCAAAATTTG
41652 CACNB1 GCTGTCGGTTTTTACCTGCCTGTT
41653 CPSF4 CCCATCAGGCGTCTACACTGTC
41654 PFKP GTGCTGTCTGTGGAGTGTGTC
41655 ZNF264 GTCACCCACGCTGGAGTGCTGTGATGC
41656 PRX GGGAGAGGACACAGGAGCCTGGG
41657 TRPM6 CCGGGTAGCTGGGACTACAGGT
41658 HIP1 AGAAGTTAAAAAACAGCTGC
41659 PODXL TGGATGGGGAAGGGAAAGAC
41660 MTNR1B CTGATCCAGGAGATGCTCACAGGCC
41661 SET CGATCAGGAATCTTGCTCCAATAAAG
41662 CXCL13 CCCAGACTTCATAGAATACTCA
41663 CASP10 GGCTCACTGTAGTCTCGACCT
41664 IL16 GCTCACTGCAGCCTTGACTCC
41665 CORO2A ACTAGAGCTGGAAGGATCTA
41666 CHST6 TGTCCCTCGTGACAATTATAG
41667 DGKB AGCTCCCTCCTCCTCACCTA
41668 HUNK CAGGGCGGCGGCGGGAGAAGC

41669 SPOCK AGGCTGAGGAAGTCTCTTCTCTGTGC
41670 VHL ACTTTGTTAGAAAGTGCTT
41671 KCNE3 AGAGGGCTGGGACGGTGGAAGAC
41672 RABIF CCTCACTGCTACAGCCT
41673 BARX2 TTGCTTGTCTTGGGCCTGTCAC
41674 RAB5B TCTCCCCAGGATGCTGTTTGTGGT
41675 SLC13A2 GCCTGGCCATGCCCAGGAAG
41676 REGL GCTGTGCCAATACTGCCTACTGTGCTA
41677 TBX5 TGGCTTTTGCGCTCCAAAGAAG
41678 DSCR3 TGTCACCCAGGCTGGAGTGATC
41679 HYOU1 TCCCTGCCTCCTCCTCTCTTC
41680 DAZ ACTGCCTCTGTTCCTCCTTGAGCCTGT
41681 CHRNA2 CTCTCTAAGTCAGGCTGG
41682 SIL TAAAGTGCTGGGATTACAGGC
41683 CLASP1 ACGCACAGCTAATGGCAGTACCTGTC
41684 PPYR1 GAACCCAGGGATTTCACCTCCA
41685 TNFAIP1 TTTTCAACTCCAAGCAGCCCAGGG
41686 JPH2 GCCTGTTTTGGAGTGTGTCTGAGACTG
41687 SLC35A3 TTGTATACTATCTTTAACTGGTTTTTC
41688 SOX12 CCACGTCGCCCCCTCCTGCACAGCC
41689 TAF11 GCCTTGAACTCCTGGGCTTAAGTGACC
41690 ATBF1 AGCCTCCGTACTGGGTGCAATG
41691 PYGO2 TGGGCTCTGGGAGACAGCTTT
41692 PRX CCTTGCCCTCTGTCTTGTCACTAA
41693 KCNAB2 CCTGCCGTCCTGCGGGAGCCTGCTGT
41694 CALU AGAACACTTAGTCTTGCCT
41695 PLA2G5 GAGTCCCAGGAGAGTGACTCTGG
41696 FANCE ATCCAGGCTGGAGTGCAGTGATGC
41697 YWHAE TTGAAGGTGGTATGGAAAAGCCTG
41698 SLC2A8 TAAAGACTGACACAGAAAATCAG
41699 KCNAB2 TGGCCACCCCTCTGTCCTGGC
41700 AP1B1 AGGAGAGCTGCTCACTTA
41701 DCX ACCTAGGCTGGAGTGCAGTGGC
41702 PRKAR2B AACATACATATTCC
41703 CTSH AAACCTACAGACAAGGAGGAGTTCCAC
41704 LRAT GCAAAGTGCTTACTGTGTAAGCCCAA
41705 STS CTGCTTATGCATTTATCTCT
41706 ABCD4 CAGGCCCAGGTTAGATCTGCAAT
41707 PAX9 ATAGACGGAGCCGCCCTGCCCTGCTCAGC
41708 VHL ATTGCTTGAGCCCAGAACTTCA
41709 TFE3 TGGGCAGAGTCCTGCC
41710 SDC4 GTCTTCATTCTCTCGCACATTTCC
41711 ADCY8 AGACCTGGGGCGTCCTGGCC
41712 MITF AGCTTTCTGAGCAAGAGGATT
41713 TRIP11 GTAAAATTCCAGGCCAGGC
41714 ADRA2A CAAGACATAAGTAAATGAGCCTTTCT
41715 ABCA3 GCAAGACGATGGCTGTGCTCAG
41716 CLN5 GAGCCAGACAAGCTTTCAA
41717 AQP3 TTACAGTCTTAGGGATCCG
41718 ATP1B2 GCCCAGGCTGGAGTGCAATGGTGCA

41719	TCF1	TCACCTACTCACACAGGCATTTCCTGGG
41720	CLCN6	AGCAGCTTCACTCAACTCTGGGGAA
41721	KPNB1	GTTTCTTTTTCCCAGAAAAC
41722	CSF1R	CCTTGCAGCCCTGCACCTGCCTGCCA
41723	EPM2A	TTTCATCACAACTTGTTTTCC
41724	CRYZL1	TTTCAGAATACTTTTCTAAATT
41725	PAX3	TCAGGGACCCCAGTCGCTGGAACAT
41726	ENO2	ACTCCCGCTCTCTCAGCGCCGCCG
41727	CASP10	TGCCTGTAATCCCAGTACTCTG
41728	HTR1E	AGGCTGGAGTGCAGCAGCACAG
41729	HIP2	AGTATGTATCCCTTGCTTCATT
41730	COG3	CTTATTACTCTCTATTTTGAGA
41731	TADA2L	GTCTACTTTCTTCTCCATCCTGCT
41732	FGFR1	CTGCCCGAGGAGCCCTGCCTGCCCCGACAC
41733	SLC1A4	GTGACTCCCAGACCCAGCCA
41734	ACTR1B	GCTCCTCCCTCTACCCTCGGCACC
41735	FNTB	TTTGGAGAACACAGTGGCTGG
41736	FCGR2A	CCTACTGCTGGTTTCTGCCTTCT
41737	ABCB9	GGGTGGGAGGCGGGGAGGAGCAGC
41738	MDM4	TGTCTCCCAGGCTGAAGTGCAG
41739	LAMC1	TAGCCTTTAACACTATGCAACTTTGTA
41740	LCP1	CTGACTGCCCGGCACAGATGC
41741	HUNK	AATGGGGTTTCGCCATGTTGCT
41742	HOXC11	AGGGGGTGAAGGGAAGTGTCTG
41743	CTSS	GCCTGTAATCCCAGTACTTGGG
41744	PTHLH	TGTCATAAACGATTCTGAGCCATTCA
41745	IGF1R	AGAGAGAGTTTTAACAATCCAT
41746	CNN2	CACTGCACCTCCACCTTCCGGGCTCA
41747	FUT8	GGGGCAGCCCTTCGGTCCAC
41748	KCND2	GCTCTGTAACTGTCACACTGCACCTG
41749	TRIM9	CCTCCGCTGTCATGCCTGCTTCCGC
41750	PPP2R2B	AGCAGCACCCTCCCCTCCTCC
41751	ENC1	TATAAGTGACTTTAAACTTTCC
41752	RASSF1	TGGTCTCAGGATATCCTTA
41753	SPTAN1	CGGTCCTTCAGCACCCCTCG
41754	GARP	AGAGCCACGTGGCCGCCAC
41755	SWAP70	GACTCCAGTATCCCTCATTCCA
41756	TRPC5	TATCATTGCTATCAAATAATTTC
41757	ASGR2	TAACCCATACCCCACACCTGCCC
41758	UBL1	GAGAACTGAACTGTGGAAA
41759	CRMP1	CCAACTTGTTGTGGCTCTTATT
41760	SET	CTTTGCTCTGCTGGAAGCT
41761	IRTA1	CAACCAGCAAAACATAAACTGAGA
41762	VIPR1	GCTGGTCACAGCCTCCTCTGTCT
41763	CEACAM6	GCTCCTCCAATCCCATTTTATC
41764	CORO2B	TCCCCACCCTCAGCTGTCACCACC
41765	ZNF195	ATACTAGATGGAAGACTTGCA
41766	CNP	TGGGGAGATCGGGGCCAGAGGCAGA
41767	SPOCK	ATTAAAAATCACGACATTGTA
41768	SNAP23	GTCCAGGCTGGAGTGCAATAGC

41769	ADAMTS4	GGAGGGAGGGGGAAGGCAGGGAGGGC
41770	USP1	AACTCATATTCTGCACGATCTGTATA
41771	IL1R1	GATTATTAAGGGAATAAGCCAT
41772	SPAG9	TCCAGATGTGGTTTACTCTGCCA
41773	C1QBP	CCTTTGCATCTGCACGTGTTCGCA
41774	WHSC1	GTTTGCTCAGCACTGTG
41775	FLRT2	GCAGATTAAATGGACTCATCAG
41776	ATOX1	GGTCCCCACAGCCCACAGGATGGACC
41777	SGK	GCCAGCTGACAGGACATCTTA
41778	PROK1	CCCTCAGGCCCTTCACGTGAG
41779	WFDC1	ACAGCTCTGGGTCCCTGTTTT
41780	ADCY6	CAGGGGAGGGGTCAGTAGCAGAAGC
41781	POLL	TGCCACCCCTTCTACCTCAC
41782	BMP8	GGAAGAGACCCTCCCATGTAC
41783	BBS4	TGACATGACACAGGCAGAGCAGAGTG
41784	CTNNA2	AGAGGGAAGGAAACTGACA
41785	HLF	TACCATGCTAATGAGGTGCACAC
41786	FASN	CACCCGCCGCCTCCCACGGCACCTCGG
41787	FCMD	TTTAAAAAATACATGTCTAT
41788	EZH1	CTGGACACCTGTTCTGCTGTT
41789	COL1A2	GGCAAAAGAGAAAAAGAA
41790	P4HA1	TGCCTCTTATTCCTGCTACAGCA
41791	FLI1	ACTGACTTATGAGAAAGCAAAGCACT
41792	ADAM19	TCAAGGCTTGGTTCCTGGAAAGT
41793	OSR1	CGGGCTTCCTCATCCTGCCTG
41794	FUT1	GCCCAGGCCAGAGTGCAGT
41795	CA6	GAAGCCTGACCTAGCCA
41796	YWHAZ	TTCACATTCCATTATTTGTA
41797	ADH4	TAATTATTTGTTAATTCATCTTT
41798	FMR2	AGGCCTTTTGTTGTATAAGGCTGTGG
41799	ARNT	TTTATAGAAGAAATGGAATGAAT
41800	RAD50	CAGAGTATCCTGGGGGTGGTGG
41801	CSPG3	AAACCCAGGGATACAGGTTTGT
41802	NPTX1	TGAGACCAAGGGGGTGTCTTGTGGGCA
41803	GBF1	CCAGTGCTTCCCACCAGGCTTTCCTT
41804	EGR3	GTCCCCAAGCCGCTGGGAGATGT
41805	KCNN4	CCTGCCCCTCCCCGCCCTGCCTGGCCGTCACC
41806	GATA2	TCAGGACCAGGACCCAGGGAGAG
41807	PSME3	ATGGGAAAGTTAGCTCTTCCC
41808	VANGL2	GTGGACAGGATGGAGTGTGGT
41809	PRKAB1	GCACCTTGCTCAGGACCTCTGCCCCTA
41810	INPPL1	TGCCCTGCTCTGGGGATGCACGGCGGC
41811	MCM2	TGCCTTGCCAGTGTGTCTTA
41812	AIPL1	CGTCATTGCACTCCAGCCTGGTCAACA
41813	GALT	AGTACTGGTCCCCTTCTGGGCAA
41814	CCNT2	GTTTGCACAGTCATCTGACTTCTG
41815	GABRA2	TTTTCTACTGTTGCTTAATTA
41816	TMOD2	TGTATCTTAATCAAGGCTGTCT
41817	APPBP2	ACACTGGTCCAGTCCATTG
41818	PIAS3	CCCCTGCCTCCTACTCCAGTATGACAG

41819 PPT2 AGGAACTCCTCGGTCCAGAGACCA
41820 S100A1 GGACTGTTGAAGACAGGTCTCCA
41821 KCNA7 CCTCACACCTCCCTAGAGGGAGGGAGGG
41822 NRXN2 AGTGGGTGGGTGGGGTGGGGTGGG
41823 HSF2BP GTGCTCGGCCACCAGGGTTTT
41824 RNF4 TGGCCCACCTGTCTTGGCTTTCTCATC
41825 RHO ATCTATCCTCTCAGACCCTCGCAG
41826 CSNK1G2 GGCACGGAGCTTCCTGCCTCTGC
41827 GFER CATGGCCGCCTCAGGCCTCCATGGAGG
41828 OGG1 CCATCACACTCCAGCCTAGGCG
41829 KPNB1 TGAGTGTGTGTGAGTGAGGCG
41830 SLC17A2 TTTTAGATACTCCTTAGAG
41831 CASP10 GACTACAGGCATGAAATACTGT
41832 CACNA1A TCGCCCAGGATGGAGAGGCGGGTCCC
41833 PIP5K1A CTACCTTAGTTCTTTCTCTCTGACTCC
41834 WBP2 GGCACCCACTGCTACACTCAGCCT
41835 RALBP1 TGTACACGTCTCCTTGCCTGAATAAG
41836 NHLH1 TGGCATGGAGTCCCAAAGGCCCTG
41837 WNT1 CGAGTACCTCCAGTCACACTCCC
41838 MECP2 TCAACACTGTGACATCTCTATTCCCCAC
41839 TRDN ATGGTATCTTTAAAATAATTGACAC
41840 C18orf1 GCTGCTGCTGCTGCTGCTGCTTCTC
41841 NRL CTGGGAAGCTGTGCCTGTCTGGCTCTGG
41842 ATF7 TTTCCTTTTTCCTCTTCCTTAATTCTAGT
41843 RLBP1 GCTGCCTCTTGGTCCTGACAGGAAGT
41844 PBX3 TCTTAATTCAACACAGGATC
41845 ATM ATTAGGGCAAGGTGTGGTAGCTCACACCTATA
41846 IL8 CTAGGACAAGAGCCAGGAAG
41847 MHC2TA TGCCCACGCTGGAGTGCAGTGA
41848 XPR1 TTCAGAGGCTCTGTGTGCCCTCACTAGA
41849 TAC3 CAGGCAGCGGTCCTAGCCAGTTC
41850 RNASE6 CCACTTCCTGCTGCATT
41851 DAG1 AGGGTGGGTGGGTGGA
41852 FBXL11 GCTCTTAGACACGGCCTTGCCA
41853 FZD3 GGCAAAACATTTTCTCTGTAT
41854 UGT1A1 ACAGGCTGGCATTCTAGATTACTTTT
41854 UGT1A4 ACAGGCTGGCATTCTAGATTACTTTT
41854 UGT1A8 ACAGGCTGGCATTCTAGATTACTTTT
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41855 NGB CCCCATCCATCTGTGTCTGTCTGTTG
41856 AMELX GAGGGGAATGAATACTTCAG
41857 JRKL AGAATCTGCAATTATACCTTCTG
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41859 SLC9A1 TGTGGTCCCACCCAGGAAGGG
41860 CR2 TTGCCTTTCCATAATCACTCAGTGATT
41861 PKNOX1 ACTGCAACCTCCACCTCTTATGTTCAA
41862 AP1B1 CCTGCGGAAGCCTGGCTA
41863 HK1 AACCTGACACTGGGCAAGATGGCCCA
41864 IL2RB CCCTGTTGAGGGTCCTCAGTCCA
41865 FZD4 GCCTCTCCTTTCACATTCCA

41866 ETF1 CTGGTTCTCACACTGTAC
41867 SLC6A2 AAATGATTTCGTGACTGTAGTTTTT
41868 TRO GGTGGACCAAGCACTGGTGTTGG
41869 SMARCD1 CTCCCTGTTCTACACTGGGGA
41870 MAFF GTTATCGTCTTCTGTATTTTG
41871 FYN CCCTCATTAATGACACTTGTC
41872 CMRF35 CCTGAGCTTCCTGTACCCTGACCCTCTCC
41873 AK1 TGGGTGGGTGGGGAG
41874 GSTM5 CCTAACGTCTTCCTTTCCCTGCACTAACGC
41875 HLF GGTATGTGCGTGTGCGTGTTCCTT
41876 ARHH CCAACTGTTGTATTTTCAGTTCTTCCA
41877 NONO CCAAAATGCTGGGATTACAGGG
41878 SULT2B1 CCAAAGTGCTGGGATTACAGGA
41879 TCFL4 AGTCTAAATGTTAACCTCA
41880 IL2RA CCCAGGAGTTCGAGGCTGCAGTCAGTC
41881 PLXNA1 TGGGAGCCACTGGGCCAGGGGCC
41882 PGF TCAAGACGAGGGGCAG
41883 ED1 CTTGTACAGTCTGCTCCTCTTGTT
41884 FGF5 CATTTTCTGCCAAGATTCAAGCAGTC
41885 APOC2 AGGACAGCCTGCCAGAGTCTG
41886 KIF2 AGAGACAGCTGTGCTCACTTTTCCT
41887 MSL3L1 AGCTATTATACACTAACCAGGCATT
41888 HMG20A GCCCAGGCTGGAGTGCGGTGGCTAT
41889 GRM4 GGAGAGGGTAGCAGCATGGGCTACGC
41890 MKLN1 AGTAAAGCTGCAGTGATTGAGG
41891 SP4 CAGCCCAGCGGCGGCCATTCGCGGAAA
41892 DLG4 AAAGGGAGGGTACAGTGGTGGGGGC
41893 KCNB1 GTCGGGATGGAGGTGAGAAGAC
41894 TLL1 TGCTTTATATTTGCCAAAGTCCTAACTGACT
41895 LHX3 GTCTCCCCGCTGGAGAAGGGT
41896 ALDH3A2 CACTGCTCACTTCCTGCCTCT
41897 SRGAP1 GTTCTTTTAAAGGGTCAGCAGAT
41898 KCNS2 GCTGCCTCTTGTGCCTCTGGC
41899 ENDOGL1 CATCCAGGCTGGAGTGCGGTG
41900 HLCS CGTCCAGGCTGGAGTGCAGTG
41901 KCNMB1 CATACCACTTGTCAGGGCACAG
41902 IQGAP2 TACTGTGATATAGGTACTC
41903 MLLT2 CACAGGCAGCATTCACCTTTGT
41904 NPTX1 GCGCCGTCGCGAGCCACAGCCCG
41905 GLTSCR1 AAATCTGAGCAAAACAAGAAACTGGGGT
41906 ELMO1 AACCTGTTTCATGAACAAGCTTA
41907 OGG1 CCTAGTTTCCTCTCCTCCAGCCCAG
41908 ATM TTTGACCTTCCGAGTGCAGT
41909 GPR44 CTGTGCAGCCCCGCCTCCAGGCC
41910 PBX2 TTCTTAATTTTTAATTTAGTTTGGG
41911 CDH1 GCTCACTGTAACCTCAAACTCT
41912 NR3C2 CTGTCTGCTCTTATTTTTGTA
41913 CAPZA1 TCATTTACATTGTTTACACTTCT
41914 CALML3 CGTGATTCATCTTCTGAAGCTG
41915 GRAF CCTGCTGGGGCTGGGTGA

41916	KCNN3	GGGTTGTGTCAGGCTTGGGGG
41917	POLS	GGGTTTGGGGTTTTATTTTGATGTCTT
41918	APXL	CCTGGTGCTCATCTTCTCTTGTC
41919	RAI3	GCAGCCTCGACCACCTGTGCTCAA
41920	BMX	CACTTTCCAGCCTATAGCAG
41921	GFAP	GCTTTGACTGAGCAGACTGGTGAG
41922	TEM7	ATCAGAGGTGCTTTCCTCA
41923	PLA2G4C	CTCAGCTTCCAGGGCACTGTGG
41924	HPCAL1	GGGAGGGTATACAGGGAGCCCCTCCCG
41925	B4GALT3	TGCCTATGCTGGAATAGCTCC
41926	CAPON	CCACCTCCTCCCCTGCCGC
41927	RAB7L1	ATCGCTTGAGACTGGGAGGCAG
41928	PCDH1	GATGGTGGAGTCAAGGGTGGGCAGC
41929	EPAC	GTGGGTGGAGAGTGGAGTGTGCTGGG
41930	PLAU	TGTGCATGGGCTCGAAGGGA
41931	EIF2C1	TACCTGGGGCCTGGCTTTTCT
41932	AAT1	TTCCAATAGTCTGCACTTCT
41933	GRM8	AACTCCCGTTCCTGTCCCA
41934	MCC	CCTTCAATCTTCATTTTGGA
41935	RAB7L1	TAGTGTTTGGCTTATTTTCCA
41936	NDUFS1	CCAGTCTGGGCAACATGGTGAA
41937	DHFR	GTGAGGGATGATGGTTGCTTGA
41938	ADAT1	AGACCAGCCTGGCCAACCTGG
41938	SWAP70	AGACCAGCCTGGCCAACCTGG
41939	PTK2B	CATGTACCTCCCCTGCCTTGCTGTTG
41940	PES1	GGCAAGGCCGGAGTGGTGCCTGCGGCCCC
41941	OGG1	CAGGAGGTGGAGGAATTAAGTG
41942	GTF2I	AGTGAAGATATCTCCTACTTCTC
41943	BAX	AGTGCCTTCTGCCCTCCCTGGAGCCT
41944	NR2E3	CAGGCAGGCAGAGGCTGCCCTG
41945	ADAMTS13	GCTTCCAAGAGTAAACACTGCCT
41946	KCNMA1	TCACAGCTGTACCATCTCTAAAAAGGT
41947	WNT5B	GGTGCTCTCTTACTCTTTCA
41948	HRH1	TTAAGCCCCACAACACCCCACAGGAG
41949	DGKA	ACACACACCCCAAAACACATACAT
41950	IDH1	ACTGCCTTCCCCTCCTGTCC
41951	COL3A1	TAAACTTCAACACTCTTTATGATA
41952	BACH1	TGCAGTAGACGATACAGGTTGCATGTGG
41953	CALM2	TCATTGTCCTAAAACCTTATTTTA
41954	ITK	GCATCAGTCCCTGAGTCACCATGGAA
41955	SEL1L	TGAAAAAATATTAAATCAAGAG
41956	RNPEP	TCTGTCCTTTTTCTTGCTGATTTAT
41957	BTG2	CTAGCACCCCAGGAAGATGTG
41958	KCNA6	CTCCCCACTCTGATCCCCTGACT
41959	TAX1BP1	GCTACTTTGAGTTTGGTGTTACTAGGA
41960	DRIL1	GAACAGCAAAGAAATCCATCA
41961	GNB5	CTTAGAGTTTATTGCAGTGTAGCTTA
41962	SLC1A4	CTGGGTTCTGGGAGACTGCAGGTGCCGCACA
41963	FGF12	CCTGGGGCAAAAATATAACTCTA
41964	BTG2	TAGGATGGAAGGGAACTCTG

41965	SIAH2	CTCTTATTGAATTGTATTTA
41966	TGFB3	GGAAGTCCTGAAGCTCTCGCAGT
41967	AOC3	TTGAATCAGCTGTCCCTCTTCG
41968	PTBP1	GTCACAGGCAGGACCCAGT
41969	TYR	ATAGAGTTTTTCACTTTAA
41970	CEBPD	GAGAAGCTAAACGTGTTT
41971	ELMO2	GGCCTGGGCCTAGACTGTGGTG
41972	HD	GGCTCCTGTTTCTCATCCTAGCTTT
41973	ADD1	GCTGGAAGGTACTGAAGGCTTCTGCAG
41974	ADAM12	AGAGATCCCAAGTAGAATCTCA
41975	RPE65	TCAAACCAAACTTTTTCTCAAA
41976	BCL10	AAAGTGCTGGGATTACAGACAC
41977	NRXN3	GAGGTTGTGCTTTCTCAGGGA
41978	LMNA	GGAGGAGGGAGAGGGAGGTCACTGGAAA
41979	DHFR	TCGTGATTGTGCCACTGCACTCCA
41980	ZFP37	TCTGTATGTGTATGTATCTTTGTA
41981	F13A1	ATTTTGAGACCTCAGCTTGG
41982	SFRS2IP	CCATTTGGACCAAATCTAGTTA
41983	FCN2	GGGCAGAGGCGGTCAGCCTGG
41984	IL16	TTTCATATGACATTCATG
41985	KLHL3	TTCCCTGCCCCTCCCCCACCA
41986	UNC119	TGAGAGGAGCAGTCAGGAC
41987	PITPNB	TTTGCTGACAGTCCTGCCCTGCCT
41988	MTMR3	GGTCCCATACAATCAGCCTTTCT
41989	RFC2	GCGCAGAGAAGCTGAGGGCGGTC
41990	SUDD	TAGGTGACAGAGGGAAACTCCATCT
41991	MLANA	GACGGGGTTTCTCCATGTTGGTC
41992	WDR4	AGGAAGAGGCTCTGGGCTGGCA
41993	DIAPH2	GCCTCTGTACCTGCAGCTCTGCT
41994	TRPM6	TTTACCCAGGCTGGAGTGCAATG
41995	STAC	CTGCGATGCCTCTGCCTCATCTCA
41996	TK1	TCTGCTTAAAGCTTCCCTCTCAG
41997	ATSV	CACCCAGGCTGTGATCTGTCCTG
41998	SLC31A1	CTGGGTGACAAGAGTGAAACTCCATCT
41999	SPG4	TTACATATTTGTGCACCAAACTT
42000	PTPRD	AGATACTGCTGACCTGTGCT
42001	PPEF1	TTGGTTTCAGCATTAGTACCTACA
42002	SI	CATTTAATTAGAAAAAGAGAATAAAAA
42003	NKTR	AGCGGCGTTGGGGTTTGGCTGCAGTGG
42004	WDR4	TCTTCATCTATGACTGCAGTGC
42005	ARNT2	CCTTCCAGCTCTGTCCTAGGAG
42006	CYP21A2	GGCTGGGTGGTGAAGGACCCTGGCTCT
42007	PRKDC	TCAGAAGGCTTCATCACCAAGA
42008	DHFR	TCTCAACAAGGAGCAGTATGTACACAG
42009	CCND2	CTTTTTCTACCTTGTTGTGTTT
42010	GBF1	ATTAGCCCTGGGCCACCTCCTCC
42011	TCTE1L	TATGCTTTAAAGCTATCAACAAAAACTGAATA
42012	NEDD4L	GCACAGCCGCTGGGAGCGCCTCAGACC
42013	PKHD1	TTTTGCAGCTATCATGATCC
42014	IL12RB1	GTAAAGCTCTCAGCATTGGCTT

42015	SPHK2	GTTCGTCTCATGCGCGTCCTCCGTCCC
42016	MS4A7	TGGCAGGAACAGCCAGTGGGAGGTTC
42017	KCNK10	CATTTCTTCCCCTTCTGGGCAA
42018	FGFR4	GAGCCTGGCTGGAGAGCTGCTATG
42019	EXTL3	AGAGTGAGAAAGAATAGGGGCTGA
42020	SOX10	GTTGCTGTCGGCAGGCTGAAG
42021	C18orf2	AAACTCCTGGGCCTCCGACA
42022	RECQL5	AGTGGTCGGCTGCAGT
42023	AEGL1	GGAAGTAGTTTAAATGTCT
42024	RLF	AGGGAAAGGGATATGGAG
42025	TPM4	GCAGGAGGATCGCTTGAACCCAGGAAG
42026	ELL	GGCTGCAAGCCCACCTCG
42027	OPHN1	TTTCCAGTCGGGGGAACTGAGGCA
42028	FCAR	GAACCCAGGAGGCAGCTGTTGC
42029	CNTN2	CCTGCTCTATTTTCCTGGGCAG
42030	CEP2	ATCACCCAGAGGGGTGCCTT
42031	FUT1	AGATGGGACTACAGGCACAGGCCATTATGCCT
42032	BMP1	GGCCAGGGAGCAGAGCTTCCACAAGAC
42033	SLC7A5	CCAGCGGCTGCTCAAGCCGCAAGCT
42034	UPK1B	AGGTGCCTGTAATCCTAGCTACTT
42035	EVA1	CTCCTTCCTAAAGAGCACTTT
42036	HAS3	TTCAGCAGGAGGCAAGCGTGTTCTCAG
42037	KCNG1	CTTATCTCCCCAGGGAATGCTCC
42038	YWHAB	CAGGAGTTTAAAGCTGCAGT
42039	BACH2	TATCCAGGCAACCTCTTTTCA
42040	SLC7A5	GGAGCTGGGGGAAGGCAGGAGCCTTCCTTT
42041	ARHGEF6	TGCTTCTGGTCCAACTTGTACA
42042	PAX2	CTGCAGCTGCAGCGCGAGCC
42043	DEF6	GGAGAGGGAGCTGAGGTCCTGGTGC
42044	ACE	AGCCTCCTTGTCTATCCTTCCTCCCCC
42045	FACL2	TTATTTGAGACTTCCTCA
42046	MS4A6A	ATTTGCCTGACATTGACTTCA
42047	FBLN1	TCTCCTGGCCCTCTCTCTGATCATGCC
42048	RGS9	GGCAGTAGACATGGAGAAATCCTA
42049	ZNF278	CTGTTGGGAACCAGGAAGGTGGG
42050	SLC25A15	AGAGAGCTGCCTTCCACAAGACCAGC
42051	KIF3B	CTACTGCATTCCAGCCTGGGTG
42052	TIMP3	ACCATACACTATCCACAGA
42053	ADAT1	AAATCAGAGTTTGGAACATGATG
42054	EXT2	CAGAGGGAGAGAACAAGGC
42055	FPRL1	CACAGGTTGTAGAGATAGAGATGG
42056	AGL	ACTATAGTATTCTTAGAATA
42057	CSPG4	AGGCATAAGCCAATAGGATAATA
42058	MTNR1B	CAGGACCTGGAAAACACTC
42059	UBE2G2	TAGCACAAAATCATTCTTTGCAACTCA
42060	FECH	TGTTTTTTAAATGAACACAGTTGAGT
42061	DISC1	CTGCAACCTCTACCTCCCAGGT
42062	ZNF165	CAGTCCCTCTCATATTGCC
42063	LIF	GGATGGCCAGGGTCTGATGGCTG
42064	CAPON	TGAGCATGGAATTGGAATGTGTCACA

42065	HRC	AGCAAGGACCAGAGGAAGGTG
42066	FCN2	GGAGAGCGGTCCCCCGTGCTGTGGAAC
42067	GRM4	AAGAACATTTCTAATAAAAATAAAC
42068	EIF2C1	CCGGATTTGCTATGCAAA
42069	FACL5	AAACTATTCTTACATTTGTTTTG
42070	BPGM	GAGATGGGAGAGCAACAAGTAGAGATG
42071	SLC26A2	CTGCAGCAGAGCTTGTAGCTGG
42072	MAML1	CTGCCTCTCCTTCCTCTCTGCA
42073	SDF2	GGCTGTAGTACCTCTGCTGTTGT
42074	BCL2	TGCCTATCTGGGCCACAAGTGAGTC
42075	ADCY3	CCACTTCTCTAGGGCCAGTAGCAGAC
42076	KLHL1	TCTGCGCTCCAGCCTTCGCCTGGCAG
42077	ABCF1	CAGAGCTGGAGGTGAGCTTCT
42078	EHD1	TTTGTCTCCCCTTCCCACC
42079	PDE7A	CCAGAAGCTGCTCTCCACTTGCT
42080	CXCL16	ATCTCTCTCCCAGTACACCA
42081	DCTN1	TGGGGGAGTGGGTAGAGGCCGG
42082	BAZ2A	AAAAGTGCTTGTCAGTTGTTGA
42083	HGF	TTTGTATGTCTACTTTC
42084	MLLT2	TTGCCATAGTGTATGCATTAAACCA
42085	MPL	TCTAAGTAAAGCACAGTCCCT
42086	IL13RA1	CTGCACCATTTAAAAACAGGCA
42087	MPP2	TGGGGTGGAAAGGCCAGGCCTG
42088	SMAC	GTCGTGAACTCCTGGGCTCAAGTGATC
42089	TEM6	TCCCTCCTCTGCTTTCAAAAGTCA
42090	MHC2TA	TTGCCCAGGCAGGTCTTGAACTC
42091	TFAP2C	GTTGTTTCTCTAGCGCTGA
42092	ADRA1A	AGGAAAGATGCAGAGGAA
42093	SIM2	TTTAGCTGCAGGACATGTATTCCCATTGCA
42094	MAPRE2	TTCCTTTGACAGATGGTATCCC
42095	MPHOSPH6	AATTCGTACATACAATTTGGAAT
42096	BAALC	GATACCCCTCAGGGCTCAGCTAGACAT
42097	MUC4	GGTGGCTGGCTGCAAGTGTGACGGG
42098	SOX13	CTGCTTCTCTGGGGGCCTCTTTC
42099	TEAD3	CAGAGGGAGAGAGTAGCAGAAGGCTT
42100	CPSF6	GCTGCAATTACTTGCTGT
42101	DAAM2	CCTCACCTCCATCCTGTCTACTAATC
42102	TEAD2	ACAAGCAGTGTGTTGAACTTT
42103	ERCC3	CTAGGGTTTTATAAAGGAGG
42104	TRIM9	CACCACTGCCCACATTCCTGAAGTGTT
42105	DIAPH2	CACACTTGGGCCTCTGCCTCT
42106	PCDHB11	GGTTTTAAACTCTTGACCTCATGTTCC
42107	HOXD13	GTTTTTAAAATATCTGTTTTTA
42108	EHD1	TGGGAGGTGGTGGTGGGTGGCGGTG
42109	WTAP	ACCATACATCTGTGCATTTTCT
42110	ITPR3	GCGACTGGGAAGAACACTGCCC
42111	ITSN2	GGCTGGGGCTGGAGAATGAGAGACTGCGC
42112	SUDD	CTTTGGAGAAAATGAATGAAGA
42113	RAB6A	CTTCCCTTCCCAGCCG
42114	NCOR2	CGAATGCATTTGGAACCAAAGT

42115	UBE2V1	GCTTTTTCTCCCTCCTCC
42116	DIRC1	GCCTTTTTATTCATAAATTATCCAGTC
42117	NFRKB	CTCTGGCTGAGAAGGGACCAG
42118	HMGN3	CATCCAGCGGCGGCGCCAGCAGTTCC
42119	AKAP1	CCAGAGCGTCCAGATCTGCCA
42120	TNFRSF9	ACCTTCTGCCTTTGTCCTGCTCCCTT
42121	KCND3	AGGATCCGAGATGTTCTGCTT
42122	APBB2	GCACAGCCCCTGCTGGGAAATGGCTCT
42123	VNN2	CTCCAGCCTCATTTGCTTGAGACTTTG
42124	WNT3	GCGTCGCTCCCCCTCTTCATGGTC
42125	GMDS	TCTGCCGCGCTCCGCCCTGCCGCCGACCGC
42126	BENE	CCCCTCCCCTTTCCTCTCCA
42127	PMP22	GTGGAGGTGGGGGTTGCTGT
42128	PMP22	CTTTTGTACCTAGCTA
42129	MMP14	CCCTCCTGCCCCGGCATTGCATCTTCC
42130	NR3C2	TTCTGGCTTCTGCTTCATCCTGCTCCA
42131	ALEX2	AGGGAAGAGAAATAAACGTGGCA
42132	DIAPH2	CTTAACACAACAGAAACTTATTT
42133	GNG5	CCATAATATACAAACTTC
42134	TEM7	GACCAGCCTGGCCAACATAATTAAAAT
42135	BAT1	ACTCCTGAACCCCCATTTCTG
42136	ZNF202	TGGGCAGAACCTCTCAGCCTTC
42137	GJB2	TAAACAGAGGATATCGGCA
42138	CD8A	AAGAAGAGAACTGCCTTTGGCA
42139	LPIN2	ATGAGCCTTCTCCCATGCAAAG
42140	HTR4	AAGCCATGGCCTGCCTGCCTTT
42141	SLC8A2	TGGGGGAGGGGGGACGCGGGAGGGTGC
42142	B4GALT1	GCTAGCCACACTCCGTGGCCCA
42143	CTSS	TGCATAAAAGACAAGCACTTTG
42144	EDAR	CTGGCTTCTAGTTGTGCCACCT
42145	CXCL16	ACTGCAACCCCCATCTCCCAGG
42146	PSCD4	CAGTGCACTCTTTTGGGCCACAGACAT
42147	WHSC1	AATAGAGAGTTGAGACTTGCC
42148	LTB4R	AGCTCACTGCAGCCTCCACTTCCT
42149	CALCR	TTTTCCAGGAAGATCCAGGAGGG
42150	LIFR	CTAATATTTAAAATTTACACTTCT
42151	USF1	GAAGTGAGGGAAGGATGTTTAGCAG
42152	NIPSNAP1	TCCCATTTTACCGAGGTGGATCT
42153	ALK	CGCGGGCGCTGATGATGGGTGAG
42154	PML	AACCATCCTGCCAATGCCCAGGA
42155	SLC12A7	AGTTCCCACAGCCTCTGCCTGCC
42156	IGSF4	CACTGTCTTTAATTCTGTA
42157	EDNRA	AACCTAACTCCCCACCCCAACAT
42158	KCNK3	GAGACCCCATCTCTACAAAAAA
42159	ARHGEF7	AACTCAGGAACAACTCTTGTCT
42160	TFB1M	CTATACAGCTTGGCAGAGAAA
42161	SMARCD2	CTTGCTGCTGGTTTTTTCCTTTCCTT
42162	UBE3A	CAGCTACATATATGAACAAATCCTTT
42163	MIR16	AGGTTGAGGTGGGAGGATCACTTGA
42164	STK19	GGCCGGGAGGGGACTAGAAGA

42165	TLE2	GCAGCCGCCTCCCAGCCCTGCCTAG
42166	PTCH	TAGAACTTTCTCCAATAGTCA
42167	SPN	AGCCCTGGATTTCCTGCTGCCATC
42168	DDX26	ACTTCTCCCAACAGCCCCAGGGC
42169	BDKRB1	CGGCCCAGACTGAAGTGCAGTG
42170	SIM2	CACCTACACCAACTGCTCTC
42171	RAB11A	CGGAAGGCATTGCTGTAGTCAGTCATT
42172	HPGD	TAAATGATGTCGGTTTGCCCA
42173	IQGAP1	CCTGCCTGTTTTTGTTGGTGC
42174	PTGER2	AGTGACTGTACTTTCTATTTTAAT
42175	FUT6	AACCCCTGGTGTCCCTGTGGAAC
42176	TRIM39	GTGGAATGAGCCTGGATCAGGAGAAGT
42177	HD	GGGGGAGCTGAAAGGGAGCCCCTGCTC
42178	TAP2	GAGGCAAATAGTACATGTAAAACAAT
42179	MAPK10	GATCAGGATCGTAGTTCTCAGGCAC
42180	CREBL2	TAAATGTTATATTTCACAAGAA
42181	IL17R	GAATCTGGGAGGCAGAGGTTGC
42182	ITSN1	GCCCAGTCCTTGGTGTGAGTTTA
42183	NTSR1	CCACTTTGCCTTCTCTGGACTCA
42184	OTOF	CAGGTTCTGAGAACAGAACCTGGGAAA
42185	MEA	TACATTCCAGGCCAGAACCAGCAC
42186	UBE2H	ATAGAAAAAGCACCTGCTTTT
42187	NFE2L1	AGGCTGAGAGCACCTCCCCAAACACAC
42188	SHMT1	GTAATCAGGAAGCCAAATGTCACCTTC
42189	ATP2A3	GGCAGGGAGTCTGGTGCCTGCAGAGAT
42190	CD80	GAAGTAGCTCTGGTGACCTT
42191	NCOR2	CGCCTCCATCCATCTGTCCGT
42192	TNNC1	GCCTATGCCCAGCCTCCAACTCC
42193	APM1	CTCGACCTCCCAAAGTGCTGGG
42194	TERF1	CTCGGCCTCCCAAAGTGCTGAG
42194	TRAF5	CTCGGCCTCCCAAAGTGCTGAG
42195	KCNS2	TGCCATGACATGGAAACCTGGTGGT
42196	NTSR1	GACACGTGTCCATGCACCACAGA
42197	KCNH2	TTCTGCTATTTACTGCTCTTATTGTTAAG
42198	SH3BP2	GGGATTACAGGCGCGAGCCACG
42199	TBX5	CCGGAAAGCTTGCTTTGAAA
42200	CLECSF11	CCCTCCTGCCTCAGGCCGCGAAGA
42201	SMCX	CCTCACAACCACCTCAGTCCTCCCTC
42202	IGFBP3	AAAATAGTGTTTTGTAGTT
42203	TFDP1	TACATACTTATAAGTCTATCATTTAA
42204	CRSP8	TCCATGTGTGTCGGCAGTGCTGGTGT
42205	VNN1	TCAGCTCTGCTGAAAATTTCCAA
42206	CNGA3	GAGGCTGCCCCATTTGAGGTCA
42207	OAS2	TATACTTGGTTCTCTCCA
42208	CDH1	TATCGGCCAGGCTGGAGTGCAG
42209	HIP1	GCCATTCTCCCCCTCTTTGGGCAGTGC
42210	TRIP15	ACTGGTTTGTGTTTTGCT
42211	BAZ2A	GCTTACTCAACCTCTGCCTC
42212	USP6	ACTGGGTGCACACATGAGTGGGGCAG
42213	LEP	TCAGGCTGAGGTGTCTTAAGCCT

42214	POLS	CTGCCCGTGGCCCTGCTGTCGGGC
42215	HGF	GGTTAATTCTAAGACTTGCTGC
42216	TNFAIP1	TGACCCACCTCCTGCTGAGAACCTTC
42217	AQP6	ACCCACTGGTGGGGTGGGAG
42218	B4GALT3	ACTGTTCTCAGAGGGATGTGAGGGAA
42219	PFKFB4	GGACATCCAGGGATCAGGGCAT
42220	FGF23	TCTACTTCCAGGTTGA
42221	BMX	AGGAAACAAAAGATTCCCTT
42222	EGLN2	TAGCCATTAGGGTTTTCCCTGGGGGGCC
42223	EFNB1	ACCCCCACCCAACCCAGCTCC
42224	FLT4	GGCTCACCTCTTGCCT
42225	GNAT1	AGAACCACCTGCTCACTCTGTCC
42226	KCND3	CACTGGAGGTGGGGGACGGGA
42227	UNG	AGCACAGACTGCCAAGTACTGTTT
42228	CISH	TGGGAGGATGACATGCAGAGGAA
42229	AVP	CCCTGTCCTCACCACTCTGGG
42230	GRAF	ATGCCATGGCCGGGTGCAGTGG
42231	MAPK14	AGAAGGAAGGAGGCAGACTGA
42232	YES1	AAGTTGGCAAAAACAGCCTTCTAGCAC
42233	PUM2	TGTCACCGTTCCTTCTCATAGT
42234	RECQL5	CTCTGCCTGTCCCCAGGGTCTGCTCC
42235	ASGR1	CTCCTATGGACCCTGCCCGCTC
42236	SLC4A7	AGAAAAACCGTCACTTGCAAAA
42237	PSMB1	CTGTGTGCTCTTATCACCAATCAG
42238	IFIT4	ATTTTTAAAGAGTTGTTTTTTG
42239	SRC	CCCTCTGCCGCTGCTTCCAGGCTGG
42240	EPS15	ACTACCTGTGAGCATGGGAATA
42241	BCHE	TTATGTAGCTGAAACAAAAATGCCAGA
42242	APLP1	CTAGGGCAGCAGGGAGTCTTGA
42243	GPR65	AAACCAAGGATGTTTTGAAGGGA
42244	RGR	TAAACAGAGCTGTGATAAGCA
42245	MECP2	TCCCAAAACACCTGACAGCCCCTC
42246	CRABP2	CCAGTGCTCCAGCCTAGGAG
42247	PMX1	TCTTTACAAAAAGTAAAGTGA
42248	DCX	CCCCCCACTGAATGCTTGCCTTGCC
42249	GPC1	GGCCTCGCCTGCCTTTCTGCCTT
42250	ABCB9	GGGAGTAATGGCGGGCACTTTCACCAA
42251	LATS2	TTTGTTTTAAATTAGTCCGTC
42252	FBXL11	CCCTTCAGAGCAGGGATTGTGC
42253	OGN	GTTATCTCCCCATTTGTCAAAGTTGA
42254	PDE7A	GGGCCTTTGAGAATCAGACTG
42255	P2RY1	TCTAGCATGGTATATAACAAAAC
42256	GATA3	TGTTTGTATGTATAATTCAAAG
42257	CNN1	CCGCTGCCTCTGTTCTCAGCGTCA
42258	ADCY2	ATCATCAGGCCGGGTGCAGTG
42259	PTPRF	GGAGGCGGCGGCGGCAGAGGAG
42260	IL21R	CGTCGCCCAGGCTGGAATGCAGT
42261	GLRA3	GTTGCCCAGCACCTTAGGCACT
42262	TAL1	GCCTATCTCCTAGGGCTATGGTGT
42263	SGCB	TAGCTTCTAAAAGGAAAGATGCAGAT

42264	TOX	TACTTCATTTTTAAAACAACTG
42265	PTPN7	CTCCAGCCACTCCTTCCTGGGGCTGAC
42266	CNTN2	CCTCACCATCCTTCAGTCTAAGGAAG
42267	DDIT3	TGGAGTAGACAAAAGGAAAGG
42268	KLHL3	TCACTGTTGCTGATCAGATTTC
42269	LUM	AAGAATATTGCAAAATACATGA
42270	SFRS7	TTGAGGTGATCAGCATAAGAG
42271	NRXN2	CATCCCAGGCTTGCTGTG
42272	B3GAT1	TGGAGAAAGAACAGTGTGCCTC
42273	NEU3	CTTTTTTCACTTTTCCTCCTCCAAAGAG
42274	PIM1	ACCAGTGACACGTCTCGCCAA
42275	GPR4	CAGGCTGGAGTGCAGTAGTGCA
42276	MBP	GGAGGCACACAGCTGCAGAGA
42277	FGF2	AAATCTAGGCCGGGTGCAGTG
42278	RERE	TCTGTCGGCCCTGCTTCCTGC
42279	PRPS1	CTGTAAGGCAGGAGCAGGCAGCT
42280	CDX2	AGGGAAAGGCAAGCTTGAGGCC
42281	CSNK1G2	GGAGCTTCCTGCCTCTGCTCCG
42282	SCD	CTGATCTGTACCATGACCCT
42283	MHC2TA	TTCCCAAGCTCTGCTCCTCTCCCCAG
42284	AP1B1	GCCCCTGGCTCCTTGGTCTCTC
42285	BACH2	AGCAATGGATAAACAGCTCTG
42286	SSPN	CAGTCTGGAGTTAATTCCTGTTAACTCATT
42287	NT5E	CCTGCACTTGTCCCTCTCCAGCAAGA
42288	CDYL	CCGGCCACGCGGAGAGCTGTA
42289	COL9A2	AGGAATTCTAAAACATGGGGGA
42290	IL1F5	GCTCCTCCTCAGGTCCTGGC
42291	YWHAE	GCTCGCTCAACCTCTTTTGTTC
42292	LETM1	GATGCCTCCATTCGCCTGTGGACC
42293	IL17BR	GGGACACAGCCACTCCCCAAAGAGT
42294	GM2A	GCACCGTTTCTCCCTCCACAGGGCC
42295	GTF2H1	CAGCGGAACTCGACCGGATCCA
42296	TGFBI	CAGCTCTCCGCCAATTTCTCTCAGATTTCC
42297	WHSC1	GCTTCCTTTGGGACATTCTTA
42298	BTEB1	GCAGTGATCATGGGGGAAATGTTTACA
42299	ZNF261	TCTTGTTCCTAGGCATGACCTAG
42300	F2RL3	TCCAGCCTGGGCGAAAGAGCG
42301	TTYH1	CTGGCTCCCCTCTTCGTTCCTTC
42302	A1BG	GCTAGTGATCTGGTTTACTGCCT
42303	NID	TGCTGGCACTGATGTCCCT
42304	USH2A	GACTGGCTGCTGATGCACCTTG
42305	FBXW1B	CCTGCAGGGCAGGTCAGGCTG
42306	SCG3	AATCATTCCTTCCTTGTGATCCA
42307	GNB1	GGAGCGGGGCCGGGAGTGGAGCAGC
42308	KNS2	TGCGCCGTGCCTCACACAGCCGAG
42309	PHF1	CACACACACCGGCACTTTCA
42310	ATP8A2	TTTGTTTATGTCGTTATGAAGCAT
42311	STE	TAGTGTCCAGGCTGGTCTGAAACCCT
42312	MME	ATACTATAACATATGTACATAA
42313	GPRK7	TATGGCTTCTCTTGTCCTTG

42314	BCLG	GAAAGAGAACTTCTCGCCATGG
42315	SPG4	AAATGTTTCCAGTGCAAGAGA
42316	P2RX7	GTCTGTAATCCCAGCGCTTTGG
42317	TEC	GGAGAGAAGCAGCCAG
42318	CROT	GGCGGTGAGGACGGACAGTCACCGACTT
42319	COX11	CAACCTATCCTGGGAGACCC
42320	NYX	ACTGGGTGGATGAAAGGCCGAGG
42321	AQP6	TTGTCCCAGGCTGGGCAGAG
42322	MEF2B	ATCATTCCACTCAGCCTGGG
42323	DNAJB1	TTCATGGACTATGGACTCTTTCA
42324	F2RL3	GCAACATGGTAAAACCCCATCT
42325	SUDD	GCAACATGGCGAAACCCTGTCT
42326	CASP8	CACCGCTGCACTCAAGCTTGGG
42327	TTC1	CCAGCATTTCCTGATTTCCTCTGTGGT
42328	IL16	GCGGCAGATTGAGTTTTCTTCTGTGAT
42329	NFE2L1	ACAGGGTGGGGGTGGGGAGGG
42330	DNAH5	CCCAATGCTTTGGAAAATGCAAGAT
42331	CENTD1	GCGCCGCCTCACCTCGCTTTTCGAA
42332	CLDN16	GACCTCCAGGACCCCACTGTTGG
42333	MECP2	TCGATGCAGACAGGGGGCCAGA
42334	PUM2	TTGAGGAAGTGTTGAGCTTTAT
42335	SHOX	AGTGTAAATTTGACATCGCGTTG
42336	ADM	GACCCCCGGAGCAGGGGTCTGAGCCACA
42337	PTPRZ1	TACTACTGAGTCAAGTTTTCTAGTTCT
42338	EML1	TCAGGAGACACAAAGATGAGACTGTG
42339	SLC4A4	GCAAGAATTCTGTTTCCTAGGCA
42340	IL1RL1	ACTCCCTCTGTGTCACTGTATGTG
42341	INPP5B	TGCTGCACTCCAGCCTAGGCAA
42342	RXRA	GGGCACAGCCTGTCACTGCTCTG
42343	PRKWNK3	CTGCAACCTCCCCCTCCTGGGT
42344	CAPN3	GGTCATCTGGATGCTGGTCAT
42345	CHML	AGACGCTGTTACTTCCTAAAATGGCGG
42346	EZH1	GCACAGGCTGGGGTGGATGAC
42347	WNT7A	GACACAGCCCAGGTCCCTCCG
42348	HSD3B2	GGACTCCTCTGTCCA
42349	RAB5A	TACAAGGTCAGGGGTGGGGAA
42350	SMARCC2	TCTGGGAGAGAGGATAGGATGGGA
42351	DPH2L2	GTCTAGCTAGACCTGCACT
42352	TRIM39	AGTTGGCTTATTGCCTGCCTCTATACCA
42353	A1BG	GGCTCACTGCAGTTTTGACCTCCCAGG
42354	MPL	GTTCTTATCTCTAGCTCAGA
42355	HUNK	CCAGATCTTTCTTCACGCTGTGCTACA
42356	CAPON	CTGAATCCAAACATTTTCTCCA
42357	CRY2	AGGCCTGTGTTGAGAAAGAT
42358	CTRL	CTGCCACGATGTTGCTGCTCAGCCTGA
42359	MUC3B	ACGAGCCTCAGTTTCCTCACCT
42360	PIGR	CAAAGTACTGGGATTATATAGGC
42361	FCGRT	CTGGAACACTGGCATCTCTGAG
42362	B3GAT1	CCTTCTCAGACTCCAGTTGGGCCGG
42363	GRN	GTGGCAAAAGCCACATTACAAGCTGCC

42364	AP3B1	TGTGAAAATGAGATCACATACTTTTTA
42365	CRYZL1	TCCAGCCTGGTGACAGAGTG
42365	GM2A	TCCAGCCTGGTGACAGAGTG
42366	TNFSF10	TCCAGCCTGGCGACAGAGCG
42367	MYO1A	CTCCCATTAAGCCACC
42368	COL19A1	TTAGTAAAATGGTAATTTATCCCGAAA
42369	PTGS1	CTAAGTGTTTACTATGTGCCA
42370	PCDHB11	GACTACAGGCGTGCGCCACCAT
42371	NFE2L1	CTGTTTGCCACTGCTGCCCTCA
42372	PART1	ACCTGAAACATGTTACTGGGAC
42373	IL15	GCTCACTGCCTTCGAAGTCCGGCGCC
42374	BRCA1	GGTGAAGCAGCATCTGGGTGTGAG
42375	RGS1	TGCCATTGCTACTATTGCTTGT
42376	PITPNB	GTGTGGTGAATGTAAAATAC
42377	GALR1	GCCATTTACATAGACATATCT
42378	LTF	AGCAAGAAGTAAAATGAGA
42379	LAG3	CGCTGCCCAGACCATAGGAGAGATGTG
42380	RECQL5	GTGAGGGACAGAGCTAGTGGGGTGGGCTCAGC
42381	IL2RG	CTTCCTCCCTCCCTCTTTC
42382	CYP8B1	GAGTAGCTGGGATTATAGGTGCGCACC
42383	TNFRSF1B	GGGGAAACCAGTGTAGCCTTGCCCG
42384	NPHP1	TGGTAAAATAATGTCCCA
42385	ASH2L	TACCATAAGCCAACAACCGCTGACTC
42386	SOX1	CCCCTCGCTTTCTCAACACCCTT
42387	IQGAP1	CCCACATTGTGCCTTTATTTTATG
42388	PMP22	CTGGGTCTAGGCTGTTCTGTGCCTCCAAG
42389	CD209	ACGAGTAGCTGGAATTACAGG
42390	TIRAP	TGCCTAACTGGACAGGAAGCCT
42391	GLS	GCCGGAACCACACCCAAGTAGCTGCCCT
42392	GRB7	TGACTTCTCTGTCCGAAG
42393	NXF5	TGCCTTCAGGACAATAAGTGGA
42394	LANCL1	ACAAAAACATGCTATTTT
42395	APM1	GTAATGTCCTTCTTTATCTGTGATAAT
42396	BSN	TCTGCTCTCCTCTTACCCACC
42397	IFNAR2	CCACGATGCCAAAGGACAGCCCT
42398	BGN	GACATCCTGATGGGGAGGCAGAGCCA
42399	FUT1	TAGCCCAGGCCAGAGTGCAGTG
42400	GRAF	AGGGAATTTGCTGGTGAAAAGAGGC
42401	VCL	CTGGTTTTTGTAGCCTTCCTCC
42402	LHX1	CACACAGTCGCCCTCATACCCCGAC
42403	SCD	CAGGCAGCCTCCTTTGTGTGT
42404	DDEF2	ACTGAGTGTACCACTGCCTTC
42405	G1P3	AGGCTAGAGTGCAGTGGCTATT
42406	KISS1	TAAGGGAGGGGGCGCTGGAGC
42407	ABCG1	CTCTTTTCCAATGAGAAGTCA
42408	HR	CGCGCTGAGCAGACAGAGCGG
42409	SIP1	AAACAATGCCAATTCAAGTA
42410	ESRRA	CTCAGGGGGTAGGAGAGCACTG
42411	LSS	GCCTCAAGGTAGTGAGGCTA
42412	JMJ	GGGGGAAGAGGAAGAAAAGTCGG

42413	RNF3	GTCGTTGGAGGCTGGAGCGCAAT
42414	PAX2	CCTCCCCCGCCCAGCTTCAGCCCTGGC
42415	CD83	AGAGTGCCACATTTATTTTTATATCTA
42416	S100A3	CCTGCCTGCCGCACCCCTGTGGC
42417	CENTD1	TTTGGTCTGAACAAACCTT
42418	AP1G1	AAAAAGAGCTTTTGTTGAGATTTGGCA
42419	PTPRN	CTCTGTCCCTCTTTGCCTGTGT
42420	P53AIP1	GCAGGGCTCCGGGCCTGCTCT
42421	GYG2	TCACTGCAAATTTCCTCCCATCA
42422	ATP2B4	TCCTCTTCCTCCTCTCGCTGCCA
42423	EPB41L2	CTACCTGCTTTTAATGACTCACTTT
42424	ACO2	CGTGTGCCATCAGTGGATCC
42425	DTR	CCCTCCAGTGCTGGATTT
42426	FXYD2	CCAGGTGGCATCGCCAACTCCTG
42427	ZNF268	TGGAGGTGGAGGCAGTACCCTGGACT
42428	TPM1	CTCGCCCCGCCGCTCCTGCTGC
42429	MUCDHL	CCCTCCTTCTGGCAGTGGGCTGGACCA
42430	CDKN2B	CTGCTTTGGGATTTAATTTCCAGGGTT
42431	PPARGC1	TTACTTATCAAAAGACAGCACTA
42432	CALB1	CTGTGCTGGGGATAACTAAG
42433	NPR2L	GGGCAGGCGCCATTGGGCAGAGGGAT
42434	SLC21A9	ACACACACTCAGCGCGCACTCA
42435	MAML1	TTAAGAGCCTTTTTTGTTTCTGC
42436	AQP1	GATCCCAGGAGGTGCAGTG
42437	M17S2	TGACTTCTTTAATGCTTGAAG
42438	BECN1	GGACTCCTTTCCCTTTCTTCTCTG
42439	P2RX4	GTGGCTTTCAGGGCTGGA
42440	MAFF	CTACTACAGTCTGGAGTGGGGT
42441	UBE4A	CCACCCTGCTATTTCTCTTCCA
42442	GPRC5B	AGGTAGCCTCTTGGAGATGACCGTTGCG
42443	BAPX1	CAGGCAGCCCTCTGCGGAAA
42444	DMD	GCGGCTCTGGGAAGCTCA
42445	RAD50	TCAATCCTGATTCCTCTCTAAGTG
42446	ASB1	TAGCTCCTCCCACCTCG
42447	GRM3	GACATGGTCAGTCTACTAAAAAACAA
42448	MAPK3	GGTGAGCAGAAGTGGAGCTGGGG
42449	CACNG7	GTAGGGAAGGGGGCTGGAAGCC
42450	OTX1	CGCCTGCCGGCCAGAGCCTCC
42451	PTHR2	ATGGCCTCTTTGTGACCA
42452	BACH2	CCAACTGCCACTACTCCTTCA
42453	CRY1	ATGGTAAAGTTAAAATGACAAATTGAT
42454	RAD51L3	ATCGAGGGAGCAGGAGCATCAGGC
42455	PRKY	GTGAGACTCCCATCTCAAAAAAT
42456	TSC1	ACAGAAGCCTGTTTCAGAAATCTGGA
42457	LASS2	GGGCTGTACTGGGGACTGCTC
42458	CDKN1B	ATCTGTAAGTAACTTCACATT
42459	HMOX1	GCCTGCCTCCCCTCGAGCGTCC
42460	SUV39H2	ATGGAAGGCAGACTATTTACAGCT
42461	SLC22A2	AGCCTCGGGCCCTCCTGCCTGCA
42462	COL1A2	TGAATCCTTCCATTTCTTCTGCAC

42463	P2RX7	TCCTGGCTGGAGAATGTGGAGAA
42464	GAC1	CTCTCTGCCCAGAGGCTCCTGGGC
42465	SYT4	TCGGCATCTCTGTGAA
42466	EHD1	TGTTCACACCTGTGGGAAG
42467	PLGL	TCATATTGTTATTTTCTCTCATC
42468	MAP3K8	GGCTCTGGCTTACCCTGCAACC
42469	FLNB	CTGAGCTGCTGGTTCACTCTTCAGCA
42470	IL21R	AGAGTAGCTGGAATTACAGGCACACACC
42471	ITPKB	TGGGGGTGGAGGGTGGGA
42472	ARCN1	TGTTGCCCAGGCTGGTCGCGA
42473	MSH2	AACAGCTTAGTGGGTGTGGG
42474	MAGEL2	ACTGTTCTGTTCTGTATTTTGGC
42475	ITGAM	GTGTGCATGTGTGTGCTCAGGG
42476	LHX3	GGGACACACCTGTGTCCTCCGGG
42477	FGF5	TGCAACCTCCAACTCCCTGGTT
42478	NCOA1	AAGAGCCTCCTTCAGCAGCTA
42479	FHL2	CAGGCTGGAGTGCAGTGGCACGATCTC
42479	MEFV	CAGGCTGGAGTGCAGTGGCACGATCTC
42479	TAPBP	CAGGCTGGAGTGCAGTGGCACGATCTC
42480	NONO	CAGGCTGGAGTGTAGTGGCATGATCTC
42480	PIK3C2B	CAGGCTGGAGTGTAGTGGCATGATCTC
42481	KCNG1	CATCATAGTAGCCCAGACACAT
42482	DCTN1	TGTGTCCCTCTATGAGGGCC
42483	CTF1	CCGTCTCTCTGTGCTTCCCTGGCC
42484	FCAR	GGAGGCAGCTGTTGCAGTGA
42485	BACH2	TTTGGGAGCTTCAGGTGCTTGTTA
42486	POLR2E	GGCCTCGGCTCTTTACTCC
42487	ZNF215	TGGATAGAAAAATCATTGGATAGA
42488	TNS	TGTTTGCTTGAAAGTATCTCA
42489	CTBP2	ATTCTGGACATATGCATCATTGATGT
42490	CNP	ATTTCCCAAGCTGGAGTGCAGTG
42491	MYL4	ACATCATGTCAGGGTGAGCAGAG
42492	CDKN2B	AGGTGGTGGAGTGGAGTGAG
42493	LTB	GGGGTGAGGGAATATGAGTGCGTGG
42494	SLC22A5	TTCAGTGACAAAGGCCTTTGCTGT
42495	SCN3A	TTCTAGAAAAATATATCTAA
42496	GM2A	AGGCCAAACTCCCACTCTCTGCCCCC
42497	DRD1	CAACCACATTTCTGGCCATTT
42498	NFATC1	AGGAAGGGAGACCACTGTG
42499	LAMC2	TGACATCCTTTCTTTTAATGATGCC
42500	SERPINB13	TAGGTTCACCAGTTGAGGGACA
42501	KIF1B	AAATGTTCCACAAGGCGGGAGTGTTTC
42502	HERC2	ACGTCCTCGTGAGATGAGAGCCTGAG
42503	PCDH8	GCGGCTTGCCATTTTCTTAGT
42504	CDK2	AGTTTCAGTATTAGATGCACTTA
42505	ATP1B2	CCTTCCCCTGAGCCCAGATCTG
42506	ADARB1	AAAGTATTTTGCCATGGATATAGA
42507	ADAM12	GGCTGTGTTTGGCTTTCAGGGA
42508	CAPNS1	CTGTGCCAAGCCTAGCACTTG
42509	PTPRO	TGTGAGCCCTTATTTGAGAGCT

42510	FBXL7	CTCTCCTCCGCTCAGGCC
42511	KCNA5	CTGTTCTGTTTCCTGTGTCTCCAAGC
42512	AKAP2	TCATCCAGAAATTATGGAAACAGGG
42513	D12S2489E	CACTGCAAACATGCATGATTCTCCA
42514	P2RY6	CATGCCTGTAATCTCAGCAATT
42515	PPP1R11	AGCCTCCTGACCCTTCCCAGCCC
42516	BAALC	TTTTTCCTTCCTTCCTTCCATTG
42517	ARHGAP6	AGTGTTCTTCTTTCACACTTCTCA
42518	FLRT2	AGCAGTTTTGCTCATGACTTACCATTC
42519	HOXC4	GGAGGGTGGGGATGGGAGGGGAGAGAC
42520	DMXL1	ACTGGTTTTTCATGTGTTTTT
42521	SLN	AATGTGTTAGACAAGCCACA
42522	PPP1R8	TGATTGCCACTGCCATCTGGAA
42523	E2F3	GGGTCCCTCCATCCTTGGGCTTCC
42524	JAM3	GGGATTCACGCTCCAGCCTCCTTCTTGG
42525	GPT	CTCCTGAGCTGCCTTCCCGCCTGGT
42526	NCOA3	TGCCATTCATGTCCTGTAATACT
42527	IL9R	CAGAGGGCAGCAGGAGCAGC
42528	RFPL3	TGGGTAGACTTAGGAATTTTCTACTTG
42529	ACADL	TAAACATGTTTTTACCTGCTCTCTCT
42530	SERPINE2	TCTAGCCTCTTTGTGTTTTTG
42531	VDR	GCCAGCCCTCCCTGTCCTCCTCG
42532	FBLN1	TTTTCGGTGTTTAAAAAATGAGCCCA
42533	ATP6V0A4	CCGAGTGCCTGCTGCAGT
42534	SLC2A8	TTGTCTTCTGGCTGGAGGTGCTTTTG
42535	WWOX	TCACAGTCTCAGTTCTCTTGCTTTCA
42536	MHC2TA	CCACTGCACTATAGCCTAGGTG
42537	IER5	TAGGTGATCGAGGGTGTGCCCA
42538	STS	GGAAATCAGGTCGATTTGTGGTA
42539	SF3B1	GTGATGTAAACTTTTAAACATTG
42540	SOX10	GCTCCTTGCCAGCTCCCTCTTCCCTTA
42541	RPA3	GTACGCAGCACCCACAGCACCG
42542	SCO1	GGCACAGCCAGTGCATTCCTGCCT
42543	IGF1	CTGTGTGACCTTGGGCAAGTCACTTCA
42544	RAD52	CCGGGAGCGGATGGAGAAGC
42545	TES	TTCTACACTTCTTTTTTCCCC
42546	MPL	TGCCAGACTGGAGTGCAGTGGC
42547	ADAM33	GTGGCACCACTGCACTCCAGCCT
42548	SYBL1	CTGACAGATGGTATCTGCCAGT
42549	APAF1	TCAAGGAGCTAGTTTACAGGC
42550	JMJ	GAGGAAGACGGAAAAGACTGC
42551	NRIP1	AGAACAATGCCAACAAAGCTTA
42552	LYN	AGATGGATTCTCCACTCAGTTG
42553	MAD2L1	ACTCTTAAAAATGTTTTT
42554	SRC	CCATGGGTAGCAACAAGAGCA
42555	PARN	GTGTACTGTCCTGCCTGTGCA
42556	NESH	AGCCATTGACTGCAACTTGTTCTTTTGCCC
42557	COX15	ACTTCCATTAGGTGAAGATT
42558	TLR9	GGTGAACTGCAACTGGCTGTT
42559	NVL	GTATAGACTATGGTCGAAGAAAAAGAA

42560	HUNK	CCCCCAGGCTTGGGGGGAAAACAGG
42561	GAS7	ACAGACCCACAGCCCTGCCCTTGT
42562	UBE2V1	CTGCCACCCTCTGCTGTCATCAGCT
42563	ADAMTS4	GGCTAATTTTTGTATTTTTAGT
42563	ADCY6	GGCTAATTTTTGTATTTTTAGT
42563	ALDH1B1	GGCTAATTTTTGTATTTTTAGT
42563	APAF1	GGCTAATTTTTGTATTTTTAGT
42563	APM1	GGCTAATTTTTGTATTTTTAGT
42563	CNN2	GGCTAATTTTTGTATTTTTAGT
42563	CYP2B6	GGCTAATTTTTGTATTTTTAGT
42563	FUT1	GGCTAATTTTTGTATTTTTAGT
42563	GPR81	GGCTAATTTTTGTATTTTTAGT
42563	HLCS	GGCTAATTTTTGTATTTTTAGT
42563	IL21R	GGCTAATTTTTGTATTTTTAGT
42563	INMT	GGCTAATTTTTGTATTTTTAGT
42563	POU2AF1	GGCTAATTTTTGTATTTTTAGT
42563	PRKWNK3	GGCTAATTTTTGTATTTTTAGT
42563	RBBP9	GGCTAATTTTTGTATTTTTAGT
42563	RP2	GGCTAATTTTTGTATTTTTAGT
42563	SEDL	GGCTAATTTTTGTATTTTTAGT
42563	SEPN1	GGCTAATTTTTGTATTTTTAGT
42563	SIGLEC8	GGCTAATTTTTGTATTTTTAGT
42563	SNAP23	GGCTAATTTTTGTATTTTTAGT
42563	TAT	GGCTAATTTTTGTATTTTTAGT
42563	TNFRSF10B	GGCTAATTTTTGTATTTTTAGT
42563	ZNF264	GGCTAATTTTTGTATTTTTAGT
42564	CIT	CTTTTGTACCTAGCTC
42565	BTG2	CTCATGGTCTCATGCTTAATC
42566	ADAMTS12	CTTTGCAGTCGCTGCCTT
42567	SHANK2	GTTCTACATTCCACAGTCTTTA
42568	ROCK2	GAACCCAGGAGACGGTGGTTGC
42569	OPHN1	ACAGTCCCCAGAGTGTGATATT
42570	PRSS7	AAACTATTTATTGTAAGCTTA
42571	MBL2	TTAGTGCTTTTTGTGTCATGTTTAA
42572	GJB6	CTGAATGTAGACGGAACAGTGTGGAAG
42573	LHX1	CTCTGGGCCTCATCAGACCAAACCAA
42574	CDS1	CCTTCTCCTCCTCCTACCTGGGCCT
42575	PSA	TGTGGGGTCTCCTGGGTTCAG
42576	CBFA2T3	AGCTACTCCCCTTTCTTCCAA
42577	ACTN1	ATCTCCTGCCTGGGTTCGGTTTCA
42578	MYBL1	CAGTAGACCTAAAAGGGTTTTA
42579	ITCH	TTCCATTCTTTACATTGTCATG
42580	PTK2B	CTTCCGCCCCTGCCTGCCAT
42581	TCF2	GGAGGGACAGGGAGCAGGGCAG
42582	CDY1	ACAGAACCTGGTGAAGAGC
42582	CDY2	ACAGAACCTGGTGAAGAGC
42583	LILRB4	CACTGGTTTTTTGTTATCCT
42584	USF1	GAGCAAGCTTACACAAGAAG
42585	CR1	AGTGACTTCACAGAGACGCA
42586	PCDHA9	ACACAGCCTTCATTTCAACTT

42587	FSHPRH1	CTATCTAGCTAATTTTTTAAAT
42588	KLK4	GAGTCCAGCCCCTCCTCCCTCA
42589	ACRV1	CCTATCTTTCTTCTTCTAT
42590	TERF1	CGTGAGCCACTGCGTCCTGCC
42591	FACL2	GCTACCTGATTTCTATGAAATG
42592	SSTR1	CCTGCAACTTCTATCCTTTCTTC
42593	HUNK	TTTTTGTATAGCTTCAGACTGG
42594	SIRPB2	CCTCCTGGCCCCATCCTCCTGGTCCT
42595	ATP6V0A4	TGCGGAGTTGTGCCGAGTGCCTGCTGC
42596	BHLHB3	GGAGTTCCTGTTTTGCTCAT
42597	DLG4	AGGGTCTGGGGTCACCCCTGCCTCATC
42598	VDR	GTGTCCTTTTCACTACACCAT
42599	ADARB1	GGGCAGGTGCATACCTTGGGGA
42600	TNFSF4	TGTTATCTGTGAATGCACATATTAA
42601	CALR	CTTTGATTCTCCTTCAGCCCTCACCCC
42602	SPOCK	ACACCACACTGTACTTTTTCCCCCTGCCCCCG
42603	MYO1D	GAGTCCATCCTTCCCAGGTTC
42604	GNE	TCTTTCAGATTTCTATTTTGGA
42605	TRPV1	CTCGGCTTCCCAAGTAGCTGGG
42606	CRYZ	AGAGCAGAAGCAGAAGAGTA
42607	CTLA4	CTTGGGTCCCAGGGAAGTTTTG
42608	GLRA1	GAAAGGTTGGGGGAGGCTGGGAGAGGG
42609	PIGH	AAGATCATAGTATTTCAGTC
42610	XK	CCTTTTCCAACCTACCTCA
42611	ANKH	CAACAGGTTAAAACTCGGCTT
42612	LIPE	GCTGGGTGGGAGCCCAGAAGG
42613	VHL	GGAGGCGAAGATTGCAGTGAG
42614	EHD1	CCTTCCTTCCTCCTCTGTTTAG
42615	DDX11	GGAGGCTGTGGCAGCTGTGGCAT
42616	AP1G1	CACACAGACACACACATGTAT
42617	PDGFRL	GATTGCTTACCTACATACGTGTT
42618	PSAP	TTTGCACTAAAGTTTCTGTGAT
42619	HK3	CCCAGCCACCCAGGACTCCTGGGACATCC
42620	C4BPA	TTAGTGCTTTGAGATTGTGA
42621	SLC23A1	TGAAATCCCAGCCCTGCCC
42622	MATN1	AAAGGCTGGGCGGGCAGTG
42623	DFFA	GGGCGCCTGTAATCCCAGCTACTT
42623	SLC2A3	GGGCGCCTGTAATCCCAGCTACTT
42623	SWAP70	GGGCGCCTGTAATCCCAGCTACTT
42624	APM1	TGTATGTCCTTCTGTTCTGCCT
42625	CDH17	CACATGATTCTCCTGCCTCAG
42625	LTB4R	CACATGATTCTCCTGCCTCAG
42626	POLR2E	ATCACCTACCGGCTGGTGCAGT
42627	PCSK1	TATTAAAAGTGACATTTGTCTA
42628	SCML2	GACCTCAGGTGATCCGCCCACCTCG
42628	TRPV1	GACCTCAGGTGATCCGCCCACCTCG
42629	XRCC2	GACCTCAAGTGATCCACCCACCTCG
42630	MTCP1	CGGCCTACACGCTTGGGGGACAGCCCT
42631	CRSP6	GTTGCCCAGGCTGGTTTCGAACTCG
42632	ACP2	GCTAGAGCCACCATTAGACTCAG

42633	AQP6	AGGCGGTGGCAGTGGAGCTGCTTC
42634	COX15	CTCTCTCTCACCATGTGACACACTGG
42635	SPN	GCCTCGGGAGGTGGTGGAGTGACCTGGCCCCA
42636	NDUFA6	TTCCTGTCAGGGATCAGGGCAG
42637	INPP5D	GCCGTGCTCTCCAGCCTGGCTGCCA
42638	TAF15	ATTGCCAGAGTTTTGCCTGCTGC
42639	NRXN3	TCATTAACCTGGGGTCCGGG
42640	DAAM2	GGCTCAACAGAACATTGACCTGG
42641	IGF2	CCAAAGTGGATTAATTACACG
42642	SLC16A7	TGGAGGTGATATTTTCCTCAA
42643	OGG1	TGGGCTTTTGGATTATGTGTACAGTTGG
42644	DPYD	TACCACTCTTTTACTGTGCACAT
42645	IGHMBP2	CTGAGCCTCAGGGTTTTGTTT
42646	APG5L	GAATGTTGACCCATTTGAGTACGCTAAA
42647	COL1A2	CTTCCACAGAGGGAAGTTTAA
42648	RGS3	ACATCCCGGACTCCATCT
42649	BRIP1	GTTGCCCAGGCTGGAATGCAGTG
42650	SART2	AGCTATAAATTACCTGGTCAT
42651	SIAT4C	GCCGGGATGACAGCTCTCC
42652	PRDM2	CCCTGCAGGGAGTACCGACCTA
42653	PTGIS	CTGAGGCACCAGAATTGCTTGA
42654	SLC9A1	GAGGGAGCTGAGGCCTCCCTTG
42655	MHC2TA	ACAGAGTTTTCACTCTTA
42656	MYBBP1A	CCCCCCTCAGCCCCTGCCTCCA
42657	IL20RA	TGTTTGCCAGACTGGGTGCAG
42658	PPEF2	CTGTTATTTTGGGCCTGATGTGACAC
42659	LGR6	TCCCTTGGCCTTCCTCAGCTT
42660	HD	TTGCAGCTGCTCTTGCATCTGGGCC
42661	SLA2	AAATGTCCCCCATTGAGGACAACAGCC
42662	AQP6	TACCTCCTGGGTTCAAGGGATT
42663	SDC4	TCTTTCAAGTGACTTTTGG
42664	MMP2	AGGCCCTTCCTCTCCACTGCCTT
42665	LSS	GGGGTAGCAGCAGGACAGACAGTGAA
42666	PTGIR	ATTGGAAAAGCTCCCTGCCTTC
42667	NDUFB3	GTCAGATTGCTGTCAGACATGGCCC
42668	PTPN11	TCAGCACAGAAATAGATGTGGACTTT
42669	KCNA5	GGCAGTGGAGTAGGGAATGGGAGG
42670	POLR2C	CTTTACTGGCCCTGACTGCTGT
42671	GM2A	GATACTGGCAATACTCCAGCCTGGTGACAG
42672	RSN	AATCTAGGAAAATATTTTGATCTT
42673	PAX5	TGCCTGTCCTCCAGCTGTCTGACT
42674	AKAP2	CCAGGATGGCAGAGGCGGAATTGCACAA
42675	AQP6	AGGACATCAGACCTCCCTACCT
42676	MGAT1	CTCTCCTCAGCCCATGCC
42677	CREB1	TGCTTGAACCCAGGAGGCAGAG
42677	CUBN	TGCTTGAACCCAGGAGGCAGAG
42677	DMC1	TGCTTGAACCCAGGAGGCAGAG
42677	INPP5B	TGCTTGAACCCAGGAGGCAGAG
42677	KIF1B	TGCTTGAACCCAGGAGGCAGAG
42677	RIMS1	TGCTTGAACCCAGGAGGCAGAG

42678	ALDH3B1	ATACCTCCTGGCTGGGTGAGGCGG
42679	RREB1	CTCGCAGGAGCAACACGTGATG
42680	TRADD	TTGCCCAGGGCACACGCC
42681	MYOC	AACATGGTCACCATCTAACTAT
42682	RALBP1	CCCTATGGGGGAGCTGCCTCAC
42683	MHC2TA	AGGCAGATACAGGAAAAGCTGCT
42684	SLC6A6	AGGAGGCCACAGTCCTTCCTGGGGCAT
42685	SIGLEC8	CAGGTATCATGTCTCAATTA
42686	LIG4	TGGCCTCCTGATGCTGTG
42687	GP6	CCACTGGGCCAAGTGCAGT
42688	PSMC1	TAGCAAAACATCCTGTGTCTTTT
42689	WARS	ATCAATACTGTTTCTTCCT
42690	RTN3	CCAGTTTTCAGCACTAGTCTTA
42691	SLC18A1	CTTCTGCTGGAGTTATTGACATT
42692	OSR1	GGAGATCTGTCAGCTCATTCTTGCCT
42693	PTGES	CCAGATTGTGGTGGGCCCTGAG
42694	BASP1	TGGTTGGGTGCACCTGTAGTTCTGTTTATT
42695	MEIS2	GCACAGCCAAGTTACACTCCTC
42696	ALDH3B2	CCATCGCCAACTCCTGCGATCA
42697	F2RL2	GACGGGACTCAGGTCATCAAAATGAA
42698	RB1	CACATTTAATATCTTCAGCTCTTTTTG
42699	FKBP10	GTGGGAGGGAGGGCAGAGCTCT
42700	BACE	ATTCTCCAACCCAAAGTATTCTT
42701	DXYS155E	CAGGAGGCCGAGCTGCGGCGCGTGGA
42702	TRPS1	GTTAGGCTTGGTTAGAGTGCAGC
42703	DIRC1	TTCCCCCTTGCTGTTCTCA
42704	PDGFRB	TAATGCTGGAGGCTGAGCCA
42705	FGFR1	TTCCTGAGCTTTCTCCTGTCGGTT
42706	PIN1L	GGAGAGAAGGACTTTGGTCTCCGG
42707	DMD	TTACAAGCCTTATAAGAAATA
42708	EIF2C1	TCTGGTTTTCGCTTTCCTCCG
42709	POLS	TTTGGAGCACCACAGTTGTCCTGG
42710	KCNJ3	TCAGAATCTGTGTGAAGTTACACAATT
42711	ADCY6	CAGGCTGGAGTGCAATGGCGCG
42711	CDC6	CAGGCTGGAGTGCAATGGCGCG
42711	MLANA	CAGGCTGGAGTGCAATGGCGCG
42712	ACADSB	CAGGCTAGAGTGCAGTGGCGCG
42713	ICMT	ATGGGGTCAATACCACCTACCTCA
42714	ITIH3	TGGGCACAGAGAGGGGCCTGTG
42715	DYRK1A	ACGATCATAGGTGGTCACTACAGTC
42716	SERPINB13	TTTTCATCTTCCATTCTA
42717	FOXG1B	ACACATTTGCATTGTAAATGATA
42718	PPT2	GGACCCAGGCCAGGTGGGAGTCTGC
42719	VCL	GAGCTGAAATGCTGCATTTTA
42720	CFL1	CATTCCCCACCTGGTCCTCCCCCT
42721	PDHB	TACTTGCTGGCACTGCACCTG
42722	PPP2R5E	GATAAACATAGTAGGGAAGGGAAT
42723	MSX1	GAAAATTTAAGACAAGTTCAACA
42724	MSMB	CCTCATTCTCCTCTGGCCTCTAATA
42725	PTPRA	TTTCTCTCACTGGCAACTCTTCAGAG

42726	CD33	GGGATGCTGTGAGCATTAA
42727	RPP30	CCACATGCAGCCAGATGTTTG
42728	PITX2	GGGAGAGAAGAAGGGGGTCTTTGCCCA
42729	INHBC	TTCTTCCAGGGCCTCTGGCA
42730	MGAT5	CTGGTGCACCTAGAGAGGTTGCCTGGTGG
42731	CYP4A11	CCTTGCTCTCCCAGGATC
42732	HLCS	ACTTAGTCATTGTTCTGTGTT
42733	HAP1	TTTGCTGTTCCCCAGCAGCCTGC
42734	RFXANK	GTGGCGCAGTGAGGAGGGGGC
42735	ZNF239	GTGCTGCTGACTTCACCCCACT
42736	DHCR24	CCCACGGAAAGCCTCATTTGTGTGGAAAGT
42737	RIMS1	CCAAAACAAAGGCAGCATCCGGGGC
42738	GCLM	CTCCATATCAATCCATTCT
42739	TAF6	GGGGGCTTCATCCTTCCAGGGAGGA
42740	TFB1M	GGATGGTGCTTGCCGCGTATCATGG
42741	ADCY6	AGGTGCATACCACCACACCAGGCT
42742	IGF1	TTAGCACTCACTGACTCTTCTAT
42743	ASB1	AGCAGCACCTGGGAATGCTGC
42744	TIMP3	AATTGGATAAATACACACACCATACAC
42745	UBB	ATGGCATTCGCAGTGCCCAGTGATG
42746	CYP4A11	TTCTCTCTCAAACTGTCTTTTCTCA
42747	SNX5	CAACAGCAAGAAAATCTCATTTATCT
42748	PKD1	GAGCGGGCGTCGCTCAGCAGCAGGTCGC
42749	NGFR	CCTGCTGCCTCCCCAACCCTGCCCC
42750	CD209	CTCTCTCTCCCCTTGGAGC
42751	SLC7A8	GTATTTCTATTTCTTTTGGA
42752	TP53	CCAGAGTGCTGGGATTACAATT
42753	IL10RA	GGGCTGTAGGAATGGAAGCTTC
42754	BCL2	CAGCTCCGTTTGGCAGTGCAATG
42755	ASTN	CAGGGAGAGGGTGAAGCAG
42756	FZD4	AGTAAAGCCCTGAAATAGA
42757	ABL1	CTGAGTTCTTGAAGCATTTCA
42758	RORA	CTGCACAGACCTGGAGCGCCAC
42759	DSC2	TGAACATCTAAAGTGTGTAGA
42760	CLCN3	TGAGCTGTAACAAAGCCTCTTTAAAT
42761	GFRA1	GGGCTCTGCTCGGAAATCGTCCTGGCC
42762	MAP3K12	GCTTTTATCCTGGTGCCTGATTGGGG
42763	SOX12	CTGGGGACAGGATCCCTGCTGCA
42764	HFL1	TCAAAGCAACACCACCACCAC
42765	TNFSF4	GCACCTGGCCTGCTCTTCCCA
42766	EPAC	TGTGCCGGGCCAAGATACTCACAGGCT
42767	BARX2	GGGAGAGAAAACCTTCCAGCAGCCCAGTAA
42768	MPP2	TCATCCACAGCTTCTCACTGCC
42769	PCOLN3	TCCTGTCCCCTTGGGCACT
42770	EN2	AAAACATGTGCATTTTACAGTTCAG
42771	EXTL2	GCCCTACTGCAATCTACTGCA
42772	VIL2	GCTGGGAGCAGGACTGATTGA
42773	EN1	TTTCTTCTGCCCCCTCCTGAGTC
42774	SSTR1	GAGTCTGGCTGGAACACTTTC
42775	DUOX2	TTGCCCAGCCCTGCTGGCAATCTCTCC

42776	JUN	GGCTGGAGGAAGGGGGGTTGCAGTGG
42777	CYP8B1	TCGCCGAGGCTGCAGTGCAGCG
42778	SBF1	CCTCCTGGCACTGCTGTTT
42779	SPTLC1	GAAAGAGAGCAAGAACATGTGG
42780	CXCL1	AATATAAAAATAAAGCACTTA
42781	M6PR	TCTAGAGAGGTACAGTTGTAAGTCAGAG
42782	G1P3	CCAAGTAGGATTACAAGCAT
42783	BPAG1	CTGCAGATGGCCTTATTTGTGTATTT
42784	PHB	GCTGTCAATAAATGACACCC
42785	IL13RA1	CATTTTTACTGTTATCCTATTTAG
42786	ADCY1	CACTGCACCCACCAAGTCAA
42787	PTPN1	CTGGAAACCACACTTCTTGA
42788	RARB	GAAGTGAGCTGTTCAGAGGCAG
42789	HPSE	TTAGATCTTTCAATACTCTTAAA
42790	PMX1	AGATTATATCACTATCACCA
42791	ASB1	CCAGCCTGGCTGGCCTGCAGGTGTCT
42792	NR2E3	CATTTATGCAGAGTTCAGGA
42793	CDH5	GTGGCCTTTAGCAAAACTGGAC
42794	ACADSB	CTGTAAAATTTTAAACGGTTGTGT
42795	LDOC1	CCACTGCTCTCCCCCTTGCCCTCC
42796	SCA1	AGAAGCAGCCGGGGGCGCTGAC
42797	MCCC1	CCAGCTTTTCTGGGGGTCTCA
42798	CALCB	CTTGCTTGCTTTATTAGTGT
42799	UTY	CCTGCTTGTACAACATGGTTTGG
42800	HMGCS2	GGGTTTCTGCTTGCTCCTC
42801	PHB	GGTAAAATCACTTCAGATCTCTA
42802	TPD52L2	ACTGAGGGCCTGCCTGTG
42803	POV1	GGTGCCAGCTGTGTCCTGGGTTAGGG
42804	MYCL2	TCTGAGGGGCCCTTGAGGCCAATCT
42805	TNFRSF5	AGTGGGCTGCACCCACCCAG
42806	TFG	TAGCCATCTTACTTGGCTTTTTACTA
42807	RERE	CAGAGGGAGCAGGAAGAGTTGC
42808	SPAG1	GCCTAGAAAAGTTTGGTCTGCACTAT
42809	CENPA	CAGAAGCCAGCCTTTCGCTCCC
42810	MGA	AGAACAATCCTGCAGTCTTG
42811	AKAP13	TCGGGTGGGGAAGGAGGCCCAGAC
42812	OAS2	CCCTATTCCTCCTTCCCTTGCCTTCT
42813	RAD9	CCATGGCGAGAATCCAGCTTTGA
42814	ADAM11	ACCAGGGTCTTATCTCTCTGGGAC
42815	CLECSF12	TCAAGTAGCTGGGACTACAGGT
42816	BCL9	GTTATTTTGGGGAAATAAAT
42817	CPA3	TTGTGCCTTTCATCAGAAAGTCAATC
42818	GDA	ACTTGACAAATAGTTCGAAG
42819	HSPA4	TCTTCCCTCTCTCCCAATAAAAGG
42820	SSTR1	CTGATCCTCAGCCCCTCCAGTCGTTATT
42821	HEXA	ACAGCCAGGCTGGAGTCAGTG
42822	ITK	CTGAGGCTTTAAAAAGCCAAGACA
42823	PUNC	CAGCATTTCTATCCTGACTGCCTCTTGG
42824	IL11RA	CCCATAGACCACATTCATCTCCAC
42825	CBFA2T2	GCCATAAAACTAGCCAGG

42826	SLC7A6	CCGCTGTCTGCTGCTGCCTCTTTC
42827	CRYAB	TGCCCTTTCTTGAA
42828	GLDC	GGAGAGGGGCCAAGAGCGCGGC
42829	HIP1	CACAGCCCAGTTCCCGTGACGAG
42830	PRDM2	GCTGCTCCCTGACAGCACCTG
42831	SMURF1	GCAGGCTGGGCCCAGGAGGTCAGGTT
42832	ADORA2A	CCCCAGGCTGGAGCAGCATGAGGC
42833	ATP8B2	TCACTCTATGTCAGTGTGG
42834	ABCD4	TTGAATCTCCCAGTGTTCAG
42835	CLN5	CACTGCACCCCCAGCCCTGCACCCTCA
42836	DNMT3B	CTTCCTGGGTCTACCACTCAG
42837	ITGAL	CCCAGTGCCAAGCACAGTGCCT
42838	ADAMTS5	AACCTATATGTGATGGAGATCAC
42839	RPS11	GAAGCAGTTCCAGAAGTTCTGGGCTGGA
42840	SLA2	CCTCCATCTCCTGGATTCA
42841	CLECSF12	ACAATCTCGACTCACTGCAGCT
42842	SOX13	TCTCGATGCCACTCCTGCTTCT
42843	PFKFB3	GTGGGGTGGAGCAGCGGGGGAG
42844	PTCH	TGGACACACCCCACTGAAAGAT
42845	GAB2	GTTTCAGAAGCAACAGGACAG
42846	CELSR1	GTGGACCACTGGGCCAGCACCG
42847	PKP2	AACCTCAAAAGCATGCCTTGTTTC
42848	DMD	GTGTAAGAGAAAAGTACCAACAGG
42849	HKE4	GGCTGGAGCGGTGAGAATGAGAGGCCAGAG
42850	HAL	AGAGAGAAATTGGGGACCCTGA
42851	B3GALT3	CTGGACCCGGTTGACCTGTTGGC
42852	CYP1A2	CCTGCCAATCTCAAGCACCTGCCTCTA
42853	CCR9	TGGTATGGTGACAGTGTCTCTC
42854	CCNA1	AAGCACTTCCAGAACTTCACCTC
42855	NPHP1	TCCTCACACCTACTGTAG
42856	ADCY1	GGCCCTCCAGCTCCCCTCCAGTTA
42857	FLNB	GCAGTTTCCCACTTGCCAAA
42858	MAFG	ACCAGCCTGGGCGCAGTGGTGCTGGGG
42859	OGT	GCGATGTTTGCGCTCGCATTACA
42860	CEBPA	TGGAAACATAGGGACTTGGGGCTTGGA
42861	SURF5	GCGTGGATTGTCACAGCTGCGG
42862	AP2M1	GCTTTGCTGCCTTCCCTTTGCACCAG
42863	LMO4	TGCAGAATGCGTGCCTTCATCTCA
42864	PPEF1	TCAGGCTCCCTGAAACAGCT
42865	NAPB	GTGATGTCAGAGCATCTACTG
42866	PRKY	AGGATGTGAGTGGGTGGCAGAG
42867	HM13	GGCTGAGAAACACTGATAGACCAAGAG
42868	PTGIS	GCTTTCTCAGTGTCAGCACT
42869	OXCT	TTTGTATCCTCAAGGGTCCTT
42870	BAZ2B	GGGATTACAGGCATGAGCCACG
42870	CCNF	GGGATTACAGGCATGAGCCACG
42871	EEF2K	GGGATTACAGGCAGGAGCCACT
42872	JUNB	CTAAAGAGTTTATTTTAAGAC
42873	ATM	AGGCTGAGGTGGGAGGATGGCT
42874	KCNK3	AGGCTGAGGTTGGAGGATTGCT

42875	NOLA2	ACACTGACGGCATCTTCCCA
42876	SNK	GGACTCCTCTTTTCCACTGTGAG
42877	SH3BP2	CTGGGAGCCAGGCAGGGCCAGGGCAG
42878	HAS3	GGTATCACTGCAGTCACCTCTTCTACCC
42879	KIR2DL1	AGGGAGACAACAGCCCTGTCTCAAAAC
42879	KIR2DL2	AGGGAGACAACAGCCCTGTCTCAAAAC
42879	KIR2DL3	AGGGAGACAACAGCCCTGTCTCAAAAC
42879	KIR2DS2	AGGGAGACAACAGCCCTGTCTCAAAAC
42879	KIR2DS4	AGGGAGACAACAGCCCTGTCTCAAAAC
42880	TRPS1	CAAAACTGTCTAGAATTTGAA
42881	IGF2	GCCACCATCCTGCAGCCTCCTCCTGACC
42882	TBP	TGCTGTTGACAAGTTGGTTTGAGG
42883	DUSP2	GTGCCCCTCTGCCTGCCTGC
42884	ASB1	AGGCAGTGTCTGGCCATTATT
42885	DLGAP2	GCTTAAGAGGTGAAAAAGATGACCC
42886	HIF1A	TAGAAGCCTGGCTACAATACTG
42887	BZRP	CTGCAGCTGCACCAGCAGGTGCC
42888	NPDC1	AGACAGACGCCCACCTGCTC
42889	BRIP1	TGCCCAGGCTGGAATGCAGTGG
42890	CSE1L	TGCCCAGGCTGGAGTGCAGTGA
42891	SLC5A1	TGCCTGGTCCTACCTTTTGCT
42892	ARHGEF7	TCAGCGATGTTGGAATGTAGCA
42893	CRSP6	CGAACTCGGCTCAAGTGAT
42894	VHL	CTCCTGGCTCACCCTCCTGAGCTGGG
42895	MCSP	CATCTGGAAATGGGAGGATGAAGA
42896	DSC3	AGGCTGGAGTGCAGTGGCTCCG
42897	HKR3	CCTGCCTGGGAGCTTTCTCTTGCATAC
42898	SLC14A2	CTCCACCTCCCAGGTTCAAGAG
42899	PPP2R5C	AGAAACTTGACAAGTATCTCTCCA
42900	IGF1	CACATGGCTTTCCACCAATAT
42901	AXL	GCCTCACTGCAACCTTCACCTA
42902	NEURL	CCTGCCTGCCCTGGCCTGGGC
42903	MAP3K10	GCCCTCTGCCGTTTGGGGGGCA
42904	ASB2	TTTGCTCCCCTATCCTCTGCTT
42905	HNRPK	ACAGCAGCAGAGTGAGTGG
42906	VIPR2	GGAGCGAGAGGGAGGCAG
42907	PLCB2	TGGAAGGCAGAAAGTGGGA
42908	PPP3CA	TACAGATTATGCTTACCTCA
42909	FACL2	TGCTATCTCTGAGATGTCTGCTACT
42910	AP1S1	GAAGCTAGGAGGCAGGAAAATGT
42911	MAD2L1	TTGTACTGTTTAATGTTCTGTGAT
42912	CDK5R2	ATTTCTCCATTTCTGCCGGGGT
42913	PDE7A	TTTTGCATCATTTGGGACTGCCATT
42914	GNA11	AAGGCAGCCTTTTTCTGGCCTTG
42915	IL8	CCGGAAGGAACCATCTCA
42916	SMARCC1	ATGCAGATGATTCATTGGATTGG
42917	ZNF202	CCTCGCTGTCTGATTCACTTCTTACCAT
42918	OCRL	GGTGCCACAGATCTGGAGGTATGAT
42919	PDGFRA	TCCATGTGTGGGACATTCATTGCGGA
42920	GALNT7	AGCAACCCAGGTTCTGCTGCA

42921	ADCY7	TGGGGTCAGCTGGCTGTGGGG
42922	HSPA4	AGGCCAGAGTTGGTACCTGCTTT
42923	FUT3	TGCTCGCTGCCTCTCCAGAT
42924	PRPF31	TGCCCAGGGAGGAGGCCTTG
42925	TOP3B	CAGACACCTCATGGCACTTCA
42926	AIPL1	CAAGATCACGTCATTGCACTCC
42927	MATK	CCAGCCGCCTGGCCTGTGGC
42928	REV3L	CACAGTATTACAGGTGCTA
42929	WDR4	GTAAGTCGAGGAGCATCTGTG
42930	HUNK	GGGGCAGGCCCAGGATCCTCAGAGGAA
42931	ABCC8	CTGCCCATACCCCTGCCTGGGTTTTC
42932	TEX15	TCTTTAACATAGAGATCTTTAA
42933	EIF2C1	AGCATTTTTCACTCTTGGCTTCT
42934	RAD1	TCACTGCAGTTTCAAGTTCCT
42935	TBL1X	CAACTTTGTAATCCCAACACTT
42936	CSE1L	TTTTTGAAGGCATAAAAGCAGTT
42937	NAB1	CTGAGAAGAGTGTATTGACTCTGAGT
42938	ABCA1	AACAACAAATACTTCC
42939	SLC17A5	TAAGATCATCCTGGTTTAAATCT
42940	CDH6	AGGCTGGATACGGTGCAGTGA
42941	TM4SF2	TGCTCCACCTTTCAGCCCACGTC
42942	LPIN1	ACAAAGGCAAACAGATCTGCCA
42943	PIK3CG	CAGCCTATACTTTAGGCTAGA
42944	ACE	ACCATTGTAAAGTTTATGTCACCAGAA
42945	HTR4	CCAGTGCAGGAACCCGGTGCTCGCTGG
42946	RARG	GGGCTCCTCCTGCCCTCCATCT
42947	LAG3	CCCTGCTCTGTTCCCTGGGACACCCCC
42948	EHF	TGCTCACTTCTAGCTATTTAAGAGAGA
42949	MFGE8	GGGGTCTGAGCAGCCCAGCGTGCCCAT
42950	SALL2	GCTTCTCCTCAAGCTGTAGGCTCCAGAG
42951	EHD1	TTGCTGTGGCTGGAGCTGGACAGTG
42952	ZNF6	AGAAAACTCTCACTAACTGTCT
42953	TAF10	CACCAGCCTGTTTTCATAATAA
42954	TGFA	TGTGCAGCCTTTTGTGGGCCTTC
42955	KIF5C	TCTAGGTTCTAAAATGAA
42956	HSPA4	TATCCAGCAGACTTTTCATTATGA
42957	MAPRE2	CTTCCTCACCAGCCAGCCCACAGC
42958	CYP7B1	TTTCCCTTAAGCAT
42959	TDGF1	GTCACCCAGGCTGGACTGCAAT
42960	MOX2	AATTCAGCCTCATATAATGA
42961	INPP5B	AGGTTTTTTCCCACCCAGCAGTTGGTG
42962	HUS1	CCCAGACTGGAGTGCAGTG
42962	SNX15	CCCAGACTGGAGTGCAGTG
42963	ZNF26	ATGTGGGAAAGCCTACAGTTGG
42964	FMOD	GCAGAGTCAGGAGACCCCAAG
42965	KCNAB2	CTTGGGGCGGGCAGGGCCAGCCTCTC
42966	EZH1	CCACTTTTAAAGATGGGTCTCA
42967	DSPG3	TCTATTTCAGATAATGGTTAGCATTACGATGG
42968	SPTBN4	CTCTCCTCCCCCCTCCAGTTG
42969	TRH	GCCTAGGAATTGTGGTTTGTATA

42970	NFE2L1	CCCCTCACAGACTGCCTGAGCT
42971	LNK	AAATGATTTAAAACATTTTA
42972	SULT1A2	GCCACTGCGGGCGAGGAGGGC
42973	ATP2A2	TTTTTCTGACTCCAGT
42974	GNB3	CACTACCTTTGTCCAGGCCTGGGTGG
42975	RAMP2	ACCCCCACCAGGCCTCCCTCCTCC
42976	DAZL	CTGCTGCCTGCCGCCATCATGTC
42977	ZAP70	CCACACACAGCTGGGCTGTGGT
42978	TAPBP	CCGCCCAGGCTGCAGTGCAGT
42979	PRX	CTGTCTCTCTGGCAGGAGTGCCTGTA
42980	IGFBP3	CATCCCAACGCATGCTCCTGGAGCT
42981	RAB23	CATCTGACAGCGTAGATAAAAG
42982	ACADSB	GGAATGAGGGAGAGAAGGGGGCTGT
42983	GNAI1	GCTAGGAGAGAGAAAGGATTCC
42984	FLRT2	TCATTTCTTATGGGGTTCACA
42985	SOCS5	CTGCTTGCTGTGCCTTGTTATGGCTGC
42986	RABL2A	GGCTCGCTGCAACCTCTGACTCCCT
42986	RABL2B	GGCTCGCTGCAACCTCTGACTCCCT
42987	ATRN	GGCAGAAAAAGGGAATGGCAGGG
42988	ARF4L	CCCACATTTGTAGATCCATG
42989	TM6SF2	TCCTGGAGACTCCCATTCTCCC
42990	INMT	CCCGTGTAGCTGGGACTACAGG
42991	CYP3A4	GACAAGCCTGGCCTACATGGTTGAAAC
42992	DNAI2	CCAGATTGAGAACCTGGA
42993	AGTRL1	CCCCTTACCTCCCCCAGTGCCT
42994	SLC1A1	AGACCTCCAGATTATTTTCT
42995	LRP5	GCAGGGCTGGGAGAACTTT
42996	SHANK2	TGTGGAGGCAACCCTGGGACT
42997	MPZ	GCACTTTCTCAACCCCACA
42998	CST1	AGGGCGCTCTGCCCTCCCTCCT
42998	CST4	AGGGCGCTCTGCCCTCCCTCCT
42999	SLC25A15	CTCCACACTTCATCTGATCC
43000	NXF2	TAATCAGCAGAGTCATTTTTCA
43001	EXTL3	AACTCACATACTGACTTCA
43002	PGM1	CTTTTCATGCCCTCCTGCATTGCT
43003	ZNF289	TGGTGGCCATGGAGGGTCTTGTCTGCT
43004	TKTL1	TCTTTACCCTGTGTTTATGTTTGTTC
43005	IL9R	ATCTCCTGAATCAGGCT
43006	SPTLC1	CTTTTTAAACAACACATACTTTTTG
43007	RPIP8	GTGATTGTCTGTGTGTCTGTC
43008	DLST	CTCTGTCCTGGCTGTGCACATT
43009	BTEB1	GCACATCTACTCCAGCATGATC
43010	MAP3K9	GTGCCCAGGGAGCCGCTGATG
43011	CDKN1A	TAGTCTCAGTTTGTGTGTCTT
43012	GNPI	TATTTCTTTAATCTAGT
43013	UNC5C	CCAGGTGAATCACAGCTGA
43014	MUC5B	CCTTGGGCCTCCTCTGCGGAGCCCCC
43015	TPMT	CCACTGCACCTGGCCTGACATT
43016	SQLE	CCTATACAACTTGGCTTC
43017	TAPBP	CAGGGGTAAGGGTGGGCACTGGAT

43018	PRKY	TATCAGAAAAACATTACAAATT
43019	SYT5	CACCTTCCACCCCAACCATCT
43020	BLK	GAATCCAGTGGGCAGAGGCAGC
43021	GRAF	TGCTTTGGGGGTGCCTCAC
43022	DCK	CCTCTTACTTCCTGCCTCA
43023	ACP2	CCCTTCCCTCCACCTCCTAGGG
43024	CYP1B1	TCAGGTTTGTTTTGTGAATTTTCT
43025	NFIA	ATTTTCTGTTATCAAAGCACA
43026	CDKN2B	AGCTGAAAACGGAATTCTTTGCCG
43027	PRKCB1	GGGCCTGGAGCTTGGCTTGTATCCAAG
43028	ZNF165	AAAGTGCTGGGACTGCAGGCGT
43029	KLK8	GCTCCCCAGGCTCTAGTGCAG
43030	IL21R	GCTCTCTGCAACCTCTGTCTCC
43031	SORCS2	GTGCGGTCTCCACACCCTTACGGTTTCCT
43032	GPR44	TCTCATTCCTCCACCTGCCGTGGACT
43033	TIMP3	GCTTTGTGTTGCTTAACCCAGC
43034	WHSC1	GGGCAAGTGAACTCAGCACTCTGCAG
43035	SLC29A1	GCCTCTGGACGGACAGTGGGG
43036	CYP1B1	TTGTGAATTTTCTAAAAGCTTTCA
43037	BAPX1	GGGCTGAGGCAGCGAGTGATTCCCGCG
43038	GALNT1	CTCTGCAGGATGTAAGGTTTA
43039	VIL2	TTCCTTTAGAAAGCAGTT
43040	PLAG1	TTGGAGTCTTAATTTTCAT
43041	TNFRSF11A	TGGCCCAGGCTAGAGTGCAGTG
43042	ELAVL2	GCAGAAAAGGCAGTTGAAGGAGG
43043	SRGAP2	CTGAGGGCAGAGTCTTAGCTGTTTTC
43044	MAP3K12	TGAGGCACAGCCGTAGAGCTGTG
43045	CEBPA	TCAACACTTGTATCTGGCCTCTGTGCC
43046	CCR3	TACCTACATTTTAATGCACCTG
43047	SCA1	TCCTTGTACAGCAATCTCCTCCTCC
43048	NT5E	TCTTGATACAAAATATACTTTTA
43049	EIF2C1	TGGACCTGGAATCATGTGTAACT
43050	SLA2	TGTATTTTTAGTAGACATGGGG
43051	GRIN2C	CTCCTGAGGCTCTCCCTTCCCTGGG
43052	KCNJ5	TCCATATCACATAGGCAATTCCTTTTAAAT
43053	TNFSF10	CAACCAAAAAATTCTACAACACACACT
43054	MSF	GCCACTCACCCCTCCTGGCCC
43055	DLGAP2	AAGCGCAGGAAAGAAAGGCCC
43056	KCNAB1	AGAACAAAATCCACAGATGCA
43057	CASP6	GGCAGGAGAATCACTTGAACCC
43057	EIF3S2	GGCAGGAGAATCACTTGAACCC
43057	FCAR	GGCAGGAGAATCACTTGAACCC
43057	FCMD	GGCAGGAGAATCACTTGAACCC
43057	LUZP1	GGCAGGAGAATCACTTGAACCC
43057	NUP62	GGCAGGAGAATCACTTGAACCC
43057	POLH	GGCAGGAGAATCACTTGAACCC
43057	SRGAP1	GGCAGGAGAATCACTTGAACCC
43057	ZNF36	GGCAGGAGAATCACTTGAACCC
43058	BMP5	GAGGATGTTGTGCTCAGAAATGTCA
43059	COPA	CTAACAGCACCTTCCCCCTGCA

43060	IGFBP1	ATCATGAAACACTTCTCATCA
43061	HOXB3	GGGAGTGGGGTAGAGGAAGAC
43062	PCSK2	CAAAGAAGGATGAAGGGTGG
43063	MEIS2	TCCACGCCACACAGCACTACGG
43064	CYP2B6	GATGGGGTTTCACTGTGTAGGCC
43065	TRPS1	CTAGCTGTTTACATTTGCAAATGTAG
43066	TCTA	TGAGCCAGACCTTAAGCTCTATGGTT
43067	RYR3	ATTAGAAGAAAAGTACTGTA
43068	NEUROG1	TCCGTCGGTCCTGCACAGCGCAA
43069	CELSR1	TCCGTGTCCCATGCTCCCTC
43070	BMP8	TGGTGCATGCCTATAATCCCAG
43071	RBBP5	TGGTACATGCCTGTAATCCCAG
43071	VPS41	TGGTACATGCCTGTAATCCCAG
43072	UBE2B	TAGAAAGCTAATACAAAACTATCCT
43073	FBLN5	CTTCCCAAACCCAGTCTCCTCTCCA
43074	ERBB2IP	GTGTAAAGGTGTTCAAATAAA
43075	TRPM7	TCAACAATAACAAGAAAAGCTTTTCA
43076	PARK2	CTGCGCGCATGGGCCTGTTC
43077	HAL	TGCATGATATGCCTTA
43078	TAL1	GGGGTTGTCAGCTCTCATCTGAGGC
43079	DEK	CTGCTGACCTTTTTATCTTGAGT
43080	MLLT2	AGGCACCAGAATCAGGCTTTATTTCGATA
43081	COL13A1	CGGAGAGAAGGAGAGCCGGTCAG
43082	BCAR1	GCCCAGGGGCCGCAGTGGCCTT
43083	RERE	TTGGGATAGGCTTGTTTTGTCTGTTGA
43084	PPP2R2B	TTCAGGGGACAGAAAGAGAGCA
43085	S100A11	TCCCGCGCCTCGCTCAGCTCCAACATGGCAAA
43086	AQP3	GTTCCAGGGTGTGTATGTTTCAGGGGC
43087	CD4	ACAATTTGCCATTGTTTCTCCTG
43088	SIL	GATACAGCTTTTTGCAGTAT
43089	STC1	TGGCAGCAGCAGCAGCAGCGG
43090	PCDHB9	CAGGAGGTGGAAGTTGCTTTGA
43091	HPS4	CCCTCCCTCTGCTCCTGAGATGCTGA
43092	GTF2F1	CCACTGCATTCCAGCCTGGGTG
43092	PDE7A	CCACTGCATTCCAGCCTGGGTG
43093	BCL2	AGCTCACTTACCTCTCTGTGTTCAGAT
43094	MYBPH	TGCCCTGCGGAGTTGCACTCTGGGTGG
43095	SRI	GCCATTATCAGTCATGCCTTA
43096	FZD6	TTTGAACATTTTATCTTTGGA
43097	ADCY2	AAAACTGCCTGTTCCTTGAATCTGA
43098	SRGAP2	GGGAGCCGAGAGAAGGGACTTTGCTGTCAG
43099	ZNF217	AGTGTTACAGAGAGCTTGCTGT
43100	AK1	GAGCAGCCTGGCCAACATGGCAAAACC
43101	PLA2G2D	GACCAGCCTGCCCAACATGGCAAAACC
43102	AK1	GGAAGCTGAGGCAGGAGGATCA
43103	NAP1L3	TGCCTTCATTAGTTTGCTATAGA
43104	GRAF	ATTTCTATGGCCTTGCTCTCTGC
43105	PPP2R4	AGAGATACCTGCTGCTTCCA
43106	OXCT	TAATTGAAAGGACATCAATAATCATAA
43107	ZNF42	TGGTCCTCCCCTGGTTATTGTGAG

43108	CAMK2A	CAAGTGCCAGAGAAGTGGAGGCAGA
43109	ATP2B3	TGTGGCTGAGCCAAGATTGCACT
43110	SH3GL3	CACTATCCGTTTCTGACAA
43111	IREB2	TGCTAAAGAGAATGTTATTCAA
43112	TRPS1	TCTTTTTTAATAAGGGTGGGGGAGGG
43113	PRDM4	GGTCTTCCCAGTTGTCTCA
43114	PPM1B	TTTTTTGCCAACCTCAGGCATACTCG
43115	ACAA1	GTGGTGGCAGTGGACAGATCAAGGCAC
43116	MPO	ATCTGTGTCCTGGTTAGCAGAGC
43117	NRF1	ATATGGACATACACATTTACAT
43118	TNFAIP2	CAGCAATGGTGGAATGGAAGAC
43119	STE	CCAAGTAGCTAGGACTACAGAC
43120	G6PT1	TGCGCCTACGCCTTCTGCTCCA
43121	NFKBIL2	GAGGGGACACTGGCCCAGGG
43122	UBQLN2	ATACATTTAATTGTAC
43123	GRIK3	TATATTGCCATTTCTTCCACA
43124	DCX	GGGCCTTTTCCCACTAAGTAGTATTG
43125	LTB4R	GGCTGGAGTGCAGTGGTGCG
43126	MFRP	AGCTTCTCCATCGCCTGCCTTC
43127	HSPA6	AGCTCACTATCTCTGGCCATTCACTAA
43128	HIP2	TTTTAAGCATTTGAGAATTCTTA
43129	GALE	CTCTTATCTTCCACAGGGTCC
43130	USP5	CCCTCTGCTCTGTACCCTTTTTCC
43131	CLASP1	TGAAAAAATATCAGCCACCAAAA
43132	SUDD	ACTTCAATGTAATCATGCC
43133	KCNMB3	CTCCACTTCCGTGGATGTCTAA
43134	ATP11A	ATCAGCGGTAAGAACAGTGA
43135	MCL1	TGGAAACAAGTGCATAGATGTGAA
43136	PYCS	GGTGGTGAGGAAGATACTTTGGTTAG
43137	UBE4A	TTGTGGTTTCTCTCTTTCTGG
43138	PCDHA9	GCGCCTGCCACCATGCCCGCC
43139	EXT1	TCCTGGCTCCTGGGACTGCACCA
43140	ALEX2	GGGAAGAGAAATAAACGTGGCA
43141	PPP1R11	TCTGAATCCGATACCGCTTCTCTTAGA
43142	INSRR	TCACCCACTCCAAGAGACTGCAGCCC
43143	ZNF267	GCCAGGGCATCCCGGAAGCTG
43144	TCF7L2	CTGCTTTGTTTATGGTTTTGTTTCACT
43145	HOXC13	CACCTTGCCAGAAAGTCTGGTGGCAG
43146	ARHGDIA	CCTCAGCCCTCCCCCACCCACAGGC
43147	MUCDHL	GCCAGTGACTACTTCTCCCTGG
43148	G6PC	AAGAAGGCTGCCTAAGGAGGAG
43149	NAP1L3	GCTCCGCTCTGCGCCGCTGCTGCCATC
43150	ATM	TGGTGGCGGGCACCTGTAGTCCCAG
43151	GPR17	CTCCCAGCCTCCTTCCCGCTAC
43152	QDPR	GGAGCCGGGCTGGCAGGAGCAGGATGGC
43153	ABR	CTGCTTTTCAGTTCCCTTCCCTGCTGT
43154	PDE4C	CCTGGTGTCTTTCTCCTGGGCT
43155	RAD1	TCCCTCGGGGCCGAATGCGCA
43156	CALCR	AGTAATGCAAGCAAAGTATCAAAGA
43157	CALB1	AAATGCACATTTGTCACTGAATAATGG

43158	SOX11	CGGGAGCCTCCTGGGGGCTCC
43159	NONO	GGGAGGCACTTTGCTGTCTGCAATCGA
43160	ATRX	ATGTGGGAGAAAATCTCC
43161	CBLB	CCAGTTCCATTTCTCTCATT
43162	PSCD3	CATTTCCTTCCTGCGACCATCC
43163	RGL	GGCACCGTGGGGAAACTGGAA
43164	PCDH1	CCCTTCAGCGTGGACTTCCTGG
43165	NDUFA10	CTTCCATTCTGGATGTTTGGA
43166	LGTN	GGCTGGTAATTTTTATGAGCATTTT
43167	GRIK1	AGGAGTGTGTGATGTGTTTCCA
43168	SSR2	CCATAAACAGGAATGCCTTTGGCAAT
43169	FCAR	CTGCAACCTTCGCCTCCCAGGT
43170	FXYD7	CTCAGGCCTCCAGCTCCTGGG
43171	PAX9	CTCTCGCCTCCTCCTCCTGGG
43172	MADH6	GGGAGGCACTTTTGTGGAGG
43173	KIF2	GCACAGCCAAGAAAAATTACATTCCT
43174	BLVRA	GAGGAGGAGGTGATGTAGCA
43175	SLC2A1	CCAGTCCCTTACACGTACCTCTC
43176	SNX6	CCAGTAGTTATATTACAAA
43177	UBE3A	AGGACCCGACACACCAGGCTTCGC
43178	RHAG	CCAAATAAACAAAAAGG
43179	LRP1	CAGGAAGGGAAAGCGGGCAGCCCCGTT
43180	AMD1	GGTGTTGGCCTCAGCCTAACCCTC
43181	DDB2	GGGAAGTTGGCTTAGCTCGGCT
43182	GPR81	CTGAGGCATCAGAACTTTGTTCAC
43183	FIGF	GTATGATCAGTACTGACTTTCTG
43184	TMEM4	GCGCTCTGGAGAATCCCGGACAGCCCT
43185	MS4A6A	CTCTTTGGAGCTTCTGAGGACT
43186	RPE	GGCTGAGAAAATTCTGGAACTATGGAT
43187	TEGT	GAGAGGATCGAGCCATTGAAAG
43188	AIM1	TCAGGCTGGAGTGCAGTGG
43189	KCNJ13	CCAGTAGGAGGTTGGACTAGATGA
43190	NTSR1	GCCTGCACTGGAGTCTGAGGCCTGGGA
43191	EGLN2	GGAGAAGTTGAAGGGTCCTTGTGC
43192	CELSR2	TGACGCCCTTCCCCTTGCCCCAG
43193	MEFV	TGCAACCTCCGCCTCCCAGGTT
43193	PCDHB9	TGCAACCTCCGCCTCCCAGGTT
43193	PIGR	TGCAACCTCCGCCTCCCAGGTT
43193	RHD	TGCAACCTCCGCCTCCCAGGTT
43193	SEDL	TGCAACCTCCGCCTCCCAGGTT
43193	SLC15A1	TGCAACCTCCGCCTCCCAGGTT
43193	SS18	TGCAACCTCCGCCTCCCAGGTT
43193	TMC1	TGCAACCTCCGCCTCCCAGGTT
43194	AICDA	ATGGGTGGGGATGGAGGTATAGAC
43195	ROR2	CCCCACAGGGACCTCAGTCACCTTTG
43196	WASF3	ACTATTTACCAAAACAAATGGAGA
43197	ITGA3	ACTACTGACGTCCTCCCTGATC
43198	EPM2A	ACTTGTTTTCCCAGCATCAT
43199	CAPON	TCTGATTCCTGTTTTGAAAGTCCTGCC
43200	GH2	CAGTGCCTCTCCTGGTCGT

43201	SNX3	ACAAACCTGTTATTCCAGTGTAATCTG
43202	ATP11B	TTAACTTACCCTTATCTGCCA
43203	YWHAZ	ATGATCCCCTCTCTTCCTCCC
43204	GM2A	CGCCTCCTGGGTTCAAGCAATT
43204	TAPBP	CGCCTCCTGGGTTCAAGCAATT
43204	VENTX2	CGCCTCCTGGGTTCAAGCAATT
43205	PAICS	TGGACTGCCACACATT
43206	IL12RB1	AGAGAGGCTCCCCTGGGGCTGT
43207	KPNA4	TAAAAGAGAATAGGCTGCCCAT
43208	CHRNB2	TGAGGAGTGACGGGCAAGGGGCC
43209	EPS8	CAAATGTTATTTTTGGAAACAC
43210	ACO1	TTTTCCTTCAGAGTGAATCATCC
43211	CACNG3	GAGGCATTCACCTTTATGTGTTA
43212	YWHAE	TTTTCATTTTTCTAATTGTTTAAACTG
43213	OTP	GGAAGGCTTCTCAGGAGGAA
43214	ESRRBL1	CGGCTTAGGCCGCAGAGGTCTGT
43215	GFPT2	AGCATTTTGGTCCCTGCTCCTTG
43216	MPO	CTGAGTATGTGGAAGGCAGCA
43217	HTR2B	TTATATAGCTACAAATGAAAACA
43218	PTMS	ACCAGCCTCATTCTTCTCCGGT
43219	SGCA	CTGCTCTGCTCACCAATTGCT
43220	PPP3R1	CGTCATGTTGTGGGATCTTTAG
43221	D1S155E	AACATTTTTGCTTTCTCCAGTT
43222	PLOD2	TTAGAAAACCTTTCCATTTCTT
43223	ELMO1	CCAAACATCTTCCTGAAAATAAC
43224	IL12B	TGACCAGCCTGGGAAACATAACAA
43225	RP2	ACCAGCTTGGCAAGTAACTCTA
43226	MGEA5	GTCACAGCCTCGCTCTCCGCT
43227	GBAS	CCCCACCCTCCAGAAGGGGTCCACGTT
43228	PODXL	TGCAGTGAATGTTCAACAG
43229	CTSS	GCCTGTAATCCCAGTACTTGGGAGGC
43230	PYGB	CCTGCCCAGCCCTGCCTCCTGGCCATG
43231	ATM	AAAATACAAAAATTAGCCGAGCATG
43232	SLC21A3	CATTCTGTTATGTGAAGATT
43233	TIMP4	GACTTTTCTGCCCTGCCCTCA
43234	FLG	AAAGATCTGATATCTGTAAA
43235	PFKFB3	CCGGGGGCGGGGGTTCGGTTTGACTA
43236	SH3GL3	GCCACTGTGCCCAGCCTCTTCTCTCA
43237	TGFB2	TTGTAAAGTCTTGCAAATGCAGCT
43238	SACS	GAGTATTTTAATCCTATTACTTGA
43239	BACE	TCAGTTCTAGCATAGTAAACTACG
43240	VAMP1	AGACCCTCACTCTCTCTGTCAGAA
43241	MAPRE2	TCTTTATTTTTATTTTTTCC
43242	GLS	TATGAGCACACTCTGCTG
43243	ACCN2	TGCCTCCTCACATCTGCCCTG
43244	EIF3S2	CATTGCACTCCATCCTGAGCCA
43245	DAXX	GCAGATGACTGAGGAAGGGATG
43246	SIAT7D	ATGCGGCAGTGGAATCTGGAAGGGCG
43247	SIL	TGTGAGATGGCTGGCTGGTGATAGG
43248	CD28	AGAAGTGGTCAGGCAGAAGGTG

43249	HK2	GAGCTTGGTGGCTGAGCTTGG
43250	CD83	TTTCCCTTATCAAACTTGGGCC
43251	MAPRE2	CTCTAGGGGACCCCTACTAAAGGG
43252	PPEF2	TTTTCTTACTTGTTACTGTAG
43253	CHAC	ATCTTAAGTATTTGCTCCATCT
43254	ADAM12	GGTCCAGGCTGTGTTTGGCTTT
43255	CDKN1A	GCCAGCTACTTCCTCCTCCCC
43256	NCALD	GCAGAGCAGGTGGTAGTGGGACA
43257	GPX2	TTGCCTTTCCCCTCTGCCTGTTTCCTT
43258	PHKA1	TCTGGGAGCCTTTTGACAGCTGGTCCC
43259	PPEF2	AGCAAACAGCTCACTGTCCTCT
43260	C1orf1	GCCAGCCTGGGAAACATGGCAAAATCC
43261	DDX5	TTAAGTTGGATATTTCTCTACA
43262	P53AIP1	ACTGAACTTTCTGGAATGGG
43263	FCAR	CAGGAGGCAGCTGTTGCAGTGA
43264	THBD	GGCGTCCTGTGCCCCTCTGCTCCG
43265	EOMES	GCCAGTGGGACTCAGGAGAGAGCAAGCTA
43266	AR	GAGTGCGGAGCCAGAGATCA
43267	USF1	TTGCCCCAGGACTCTGGCACT
43268	RANBP3	CCCCAGGTTCCTCCAGGC
43269	NPY1R	AGGCTTTCATTTCCTCCCGAC
43270	ALDH3B1	GAGGCATGGGAAACAGTGCAGTGA
43271	CAMK2A	TTTTCTGAGCTCTCCCCAATCACCA
43272	MN1	CCAGCCTGGGCAACCCCACCC
43273	ADAR	TGGCTCTCTGGCTCCTGT
43274	CNTN2	AGGGGAAGCAGGGGACAGGTGTCCAGT
43275	REN	TGGGAAGGGATGGGATTTCTG
43276	TTF2	TTTTGGCATCTACCTCCTGTGG
43277	HHEX	GATATGGTTGATGAGAATCTTA
43278	SIGLEC9	CACAGCCCCTCCAGGCAAGGGAGAAG
43279	MMP25	GTCACTTAGGGGCCACTTCCTA
43280	PPP4C	CTCGCACCACTGTGACTCTGCCA
43281	RAD23B	TGGAAAGTACTTTGGAAAATATAC
43282	FCRH3	AGGAAGAGAGCAGGCAGCCTCTGAGC
43283	SDC4	TTCAGAAGAGACATTGTCTT
43284	CASR	GACTGGGCTAGGGAGAATGCAGAGAG
43285	RPE65	GCCTGCTATATGTCATGGTTT
43286	MS4A12	GATGGCTGTATCTCCCTTCACT
43287	FZD4	GCCACCACACCCAGCCTGGG
43288	FGFR2	AGGCCGAGGCAGGCGGATCATG
43289	VIP	TTGCTTTGGTCATATGA
43290	SH3BP2	ACCTAAACTGAGGTCAGCACTTGG
43291	PCDHGB7	CGGTAGAGTGCACTTTCTCCA
43292	MAP3K7IP2	TGCCCTCATGAGTTCCAATGTTGTG
43293	PCDH9	AGAATTGATTACACTCTCCAGAG
43294	GUK1	TCCCTATCTCTCACTCTGGACC
43295	SRRM2	GGGATTCCACCACACCCAAT
43296	PSA	CAGCAAAACATCCACAACTCTGT
43297	PAFAH1B1	ACTGCTGCTTTGTCACTTTCTC
43298	PHKB	GAGGTTAGGAGTTCAA

43299	SHOX	CAGCTTTTCTTTCTCCCCTAC
43300	SERPINB13	GCTGGGCCATATGAAAAATCAA
43301	PYGO2	TATTCCCCTGCCTTCCTGGCTTG
43302	SLC6A8	CCTGCTTCAGCCCCACCGCACCCCTC
43303	FABP6	CTGCTCTCTGGCCTCCAGCC
43304	ABCC3	GGGAGGTGGAGTTCCGGAATTATTCT
43305	KCNJ8	ACATCAGCCTTCTCCTGTCTCCA
43306	SFN	CCGAGACTGAGGGAAAGCATGTCTGCT
43307	ABL1	TCTGTATATGATTCTCTGTG
43308	GNAT1	TGCAGCCCCAAACCCCAGGACC
43309	FGF9	CTCCACTGTTGCCAAACTTT
43310	MCP	AAGCAGTTTCTTTCAAAGAAGCCA
43311	ADAMTS4	GCTCTTGAACTCCTGACCTCAGG
43312	MLC1	GCTTGGGCTGGAGTGGGC
43313	MSH4	ATCACAATTCTAATGTAATA
43314	CLOCK	GTTCTGACAGTGTTTTAGGTG
43315	ATM	TATCCTTCCTCCTCACCCTGCCGG
43316	SMARCD1	TGTGATCTTGGCCCCTTGGA
43317	CACNA2D2	CCACCTGCCTCTAATCTGAGCTGCAGCC
43318	RAX	ATTCCCAGGAGGCTTGGAG
43319	DDEF2	ATTTTCTCATAGATTTAAGTAAA
43320	PCSK2	AACTGAAGAGACAGTTATTTATAG
43321	ZNF165	CGCCCGGCCAACGTCATTTTCTTTTCA
43322	MTM1	ACATTCTCTTACTTTTTGTAA
43323	ITGA5	GATCTGGAACCTCAGCCTGG
43324	ATM	GCTCACACCTATAATCCCAGCA
43324	CTMP	GCTCACACCTATAATCCCAGCA
43324	LRRC2	GCTCACACCTATAATCCCAGCA
43325	MNT	CCACCCCCAAACCCCCAGAGG
43326	MEOX1	GCTGCCACCCATGCCTCCTCCTACC
43327	VAPA	TTCCTTGGGGAAATGGTGCC
43328	TARBP2	TCTCCCCTCAGCAGTCTGAGTGCAACC
43329	CSNK1D	CTGCCACCGCTGGGGCTGCAC
43330	CYP2B6	CACCCAGGTTCGAGTTCAGTGG
43331	DVL3	TGCCTGTGCCTAGATCAGAGCCCAG
43332	PIGA	AGTGCAGAGAAACCCTCCACATTT
43333	SLC7A6	TTTTGTCACTTCTCCCCTCCGTGGAGT
43334	PIK3CD	GTGATTCTTCTTGCCTCAGCCT
43335	FANCE	GTCTTGAACTCCTGAGCTCAAGTGATC
43336	AK2	TTTAAAAAACACCATGCTTGG
43337	MAPRE2	GGACGGCCCTCTGGCCAC
43338	APPL	AGAACAGAGATTTTACAGTTAA
43339	GABRR1	CACACTACCAGTGTTGTGGGCACATT
43340	TM7SF3	TGGCTCACACCTGTAATCCCAATACTG
43341	HPS4	CTGGAACCCACGCCTCCTGAGG
43342	GGPS1	CATTGCCACCAACTCTATCCTAC
43343	TOP2B	AGCACAGATTTTAATTGTCATGG
43344	NEUROG1	CGCCTCGGGACCCCCTCT
43345	SOX5	CCTTTCTCCCTGGTCAGTTGGTTC
43346	NOTCH2	AAACATTTTATCATTCTAAATGG

43347	LDB3	ATGGGGAGAGAGAGGAAGCGACTGA
43348	TRIM14	TCCAGCCTGGGCAATAGAGTG
43349	MGAT5	TTATGATAGTACAAGACAG
43350	ABCC3	GGGAGAGATGGAGAAGCTAG
43351	CHD2	CAGGAAAAGAGTTTTCTGCCG
43352	GPT	GGTCCTGCCACCTCCTGAGCT
43353	SHANK2	TAACATAGTTTATTTTTACACTGTCTTAT
43354	LSS	AATCTGGGGGCCAGGCTGG
43355	FHL2	TCACTGCAAGCTCTACCTCTT
43356	ZNF216	CCTGCTGCTCCGACCCGCTCCCGG
43357	CDK2	GGAGACTGAAGACTCAGCCCG
43358	CRKL	GAAGTGGGAAAGCATTTTCTC
43359	HAS3	ACTTGAAGATTAATGTAGG
43360	MAP2K1	GCCAGAGCCCTTCACTGCCAT
43361	AQP6	CTGGCTGTTGAGATGGGTGGA
43362	KCNK5	CCTCACTGCCCGCCTTCCCCTC
43363	DLEC1	GCGACTGCCACATCATTGAAG
43364	PRKY	CTCAAGAGGTTGAGGCTGCAGT
43365	RAP1GA1	CAAGTCCTTCACTTCTCGC
43366	PPARGC1	TTTCATTCCTTTGTTTACTA
43367	RABL2A	CACCCCTCTCTGGTACTTGTGGCTTG
43367	RABL2B	CACCCCTCTCTGGTACTTGTGGCTTG
43368	ARAF1	CCAATGGCTGGGATTTGTGGC
43369	RNTRE	GTTTGTGCCCTTTGTTCTGGTCTGA
43370	SOX1	CCAGGCAAGCAGCTTTTACAGTT
43371	CLN6	CCACAGGAAGTCACAGTGGTG
43372	PUM2	AAAACAATTGGGCAAAACTACCTA
43373	IRS2	CTGCCTCTTTCCCTTGTT
43374	ASB1	CCAGCACTTCTGGAACTGTGCTT
43375	CCNT2	TCTCATGCTCTACCTT
43376	MET	CTCCACTGGTTCCTGGGC
43377	TPX1	ACTACCTGAGTTTTTACTTGCATAA
43378	PPP1R8	GGGGTGGAAGGGTGATGGGGAG
43379	SDF2	CCTATTTTCTCTCTCCA
43380	WNT7A	GAGGGAGGGGCGGGGGCTGGAGGCAGCAGCGC
43381	ERBB3	GGAGGCTGAGGCAGAAGGATTA
43382	RNF3	TTCTTTAAGCCCATCAACTCCCAG
43383	KCNMB3	CGCCTTGCCAGGAGTCTGCAGAACCA
43384	FEZ1	AGGAGGTCACTGAGCAAGAGTCATTC
43385	ADAM12	AGGCACTGCAAACCGCCACCTCC
43386	CRYM	AGTGAACTCTCCTTTTGTGCTT
43387	WHSC1	TAAAAACTGCAGTGTCTTTGGA
43388	EFEMP1	AGTCAGCCAAAGAATATTGTT
43389	CACNG3	GCCTCCCAGCAGTGCTATTTTTTGCC
43390	CRY2	GAAAGAGAATCCCAGCTGTCATTGTTC
43391	ADCY1	TGCTGCCTTCTCTGGGCTCACGACTGTT
43392	ATP5G1	GGGCCAAGCAGGGGTTGCAGGGCAGTAG
43393	TAL1	GCCTATCTCCTAGGGCTATGGTGTGGA
43394	SREBF1	GAAGGCCGAAGGCAGTGCAAGA
43395	TAF1	TTTCCCTGGGGAAGGAGGGGAA

43396	GLI2	TACACAGTGCTTTCCAGCCTTTGGTGC
43397	KIFAP3	CCCCATCCTCTCCACGCCGCTGCC
43398	ADAR	GGGCATGCCTTGGAATATTGCC
43399	BMP6	TAGACTGATTACACTGAGGTGA
43400	MSR1	TTTTGGTTTCTCTCTACTGATCAACAG
43401	PFKFB4	GAGCCCAAGGACCATGCCTTTG
43402	IL1F5	GAGCCTTATAGGGTCAGTAGCTCTCCA
43403	TARDBP	TCCTTTTAGGAGATCATGG
43404	ATRX	CGCTTCTTTTCTCTCATCATCATGTTC
43405	OGDH	CCATGGCTGGCAGAGGTTTCTAGGGTG
43406	SPRR3	CACCAGATGCTGGACACCCTCTTCCCA
43407	ADD1	TGCCCTAGTTGTGATCAAAGG
43408	HYOU1	GAGCTGGGGCCGCAGGAGCGGAGGCAA
43409	IBSP	CCCTTGAGCCTGCTTCCTCACTCCAGG
43410	CISH	CCCCACTCCGGAGTCGCCGCTGCCG
43411	XYLB	GGAAGTTAAAAGGAAGGGG
43412	RNF14	TGGGATTTGCATGAACTCCAC
43413	NCYM	GCTCTCCGACCCAGCTACCGGGA
43414	ABL2	AAATGCACACATTTCTGAGGGG
43415	LDB3	TCTGGGAGCCACTGGGCAATTGCCAGG
43416	DLEC1	CGCTCCTGCCTACCCAGTTCCA
43417	CRYZ	GACAATTTATTAGTTTTCTCAGTAT
43418	NDUFV3	AGCCAAGAGAAAGATGAGGA
43419	TMEM2	GAGGTCTTTAGAGGACCAGCTATT
43420	ARAF1	GGCAGGGATTCCACTCAGAACCTCTCTGGAAT
43421	D1S155E	TTTAAATAATGCACAGTTGCAGCCTGG
43422	PAK4	CTACTGAACTCCAGTTTTGATC
43423	ZFP36	GAGTGCAAAGTGACTGCCCGGTCAGA
43424	CHRNA2	TCACTCTTCAGCCTCTGTTTGACC
43425	MCM3	CTTTGGTGGAGGTAGTTCTT
43426	SCN4A	GTCTCTTGTCTACAGGCAGCATCGGGG
43427	AMFR	TCAATGCAATGGCTCATCAG
43428	CST	GGGCAGCCAGCCACAGCCCG
43429	TNFRSF10B	CAGGACAGCCATAGTATAGTGTGT
43430	TOX	CAAGTGATTTTAATTTAAAAAC
43431	BCL10	CACGAGCCACCTCACCTAGCC
43432	FABP2	TAGGACTATGGGTACATTCCAC
43433	BAK1	CAGGGAGGGGAGGCAGATGGAGC
43434	SEPN1	AGATCAGGGCCTGGGTGAACTCCCTGG
43435	IRTA2	GGGCTGCATTTCACACTCCTCC
43436	GNB1	CTGTCTATCTTCTCAGTTGA
43437	EPM2A	GTCTGGGCTTGGGAGCCGCGTG
43438	TPD52L2	TTTTCTGACTTCTTCCTCCTCC
43439	ABCA1	TAATGAGTCACAAAATAAAGCT
43440	P2RX7	GCCACTGCACTCCAGGCTGGG
43441	GPR18	AGTCAGCCCAGCACCAACTCCGACGC
43442	GRIN2A	GGTGTGTGCTGAGCATGGCA
43443	CD37	CGCCTGGAGCCCTCCGCCTTCA
43444	RAD52	CAGTTGCCTCTTGAAGTGGATTTAAC
43445	HPS4	GGGGAGGTAGGCGGGGCGGCGCGTG

43446	IGLL1	TCAGGCCACAAGGACCTCTGACC
43447	NME2	CTGGACACAGCTCTTCATTCCA
43448	KCNA7	GCTGTTCACTCCCATTCTCCC
43449	CASP10	TGAGCTTAGATTGCCTCTCTAGACAACTA
43450	CBFA2T2	GGGTCTCACCCTGTCACTCAGG
43451	DUOX1	CTCCCTTCCAAATAAATCACTTT
43452	AMD1	TTCATAGGATGAAATGAATGACT
43453	IL18R1	TCAGCACTCCGTCAGTGTTGCCATGAC
43454	NR2E3	TTGGGGCAGCTCCTGAGTTCAG
43455	PTGFR	GCAGTTTCAAACTCTACCATGGATAA
43456	RUNX3	TGCGCTCCAGGGTGGTCTCGGTC
43457	TRIM39	GGGGTGAGGCAGGGTCAAGTGCTAC
43458	SYNGR1	TACTGGGCATCCGGCCTGTGCTGGGCAT
43459	SHOX	TCTCGGAACTCCTGACCTCAGGTGATCTG
43460	PBX1	TGGACACTTCTTTATACTCT
43461	RFX2	CAGAGTGAGGGGTGCAGG
43462	FANCE	ATATGCTGGTCAGGGCT
43463	TEM7	TGGGGTGCACCTGTAGTCCCAG
43464	ALDH3B1	GCAGGCGGATCACCTGAAATCA
43465	RFX5	CACCCTGACCAATCACTGTGG
43466	GNAL	GGTTTGGTTGTGTAGCTTCTGT
43467	COL1A1	GGGGGTCATGCCGGGGGAGCCACCAGCC
43468	CTF1	GGGGGAAGGCTACTCCGCATCTCA
43469	CAMLG	ACAGATAAATGTGGTCTCAGC
43470	PIK3CD	CTAAAGCATCTTTAATCTGCCA
43471	LGALS3BP	CCTTCAACAACCGGCCACCAGATGTC
43472	UBE2V1	AATCAGTCTTCATTTTCCA
43473	PKHD1	CACCAACAGAATTAAAAACGAAAAACAAA
43474	IGSF4	ACAGTCCCTATGGAAAGATGGC
43475	EPHB2	CCTGCTGCTCCTCTAGGCCTCACTC
43476	ADCY2	CACAGCTGCTGTGCCAGGACTG
43477	TCTEL1	ACCAGCCATGAATTCAGTGAA
43478	MTERF	GCTGTTCTCCAGCCTTTCTGGAGGGA
43479	CDC6	CTAAGTGCTGGGATTATAGGC
43480	RPH3AL	CTGCAACCTCCACCTCCCGGGC
43481	PPAT	AATAACTGAAACTGTTTGTC
43482	GJB6	GTTTGCCAATCATTGCAAACAACTG
43483	AK2	TCCTATATCAGAAGGCCAGGC
43484	DBT	CCTGTAATCCAGCACTTTGG
43485	BRIP1	AGTTGCTGGGATTACAGGTGT
43486	MAFF	TCCAGCCTGGGCAACATAGCAAAATC
43487	PREB	CTCCTCCTCCCCTCAGCCTTGTGG
43488	ADH5	TTAATCAGGACCCAAGTCTGCTT
43489	ADH1B	ACTTGCCCTGAACATACACATG
43490	MEL	GGCTGGACATGGCCAAGACACAAGGCAT
43491	LTB4R	GACTACAGGCACATGCCAC
43492	FBN1	CTTCCAGCAAACGTACGGGA
43493	SSX4	TCTCCCATCTGCTTTTCTCCA
43494	GALNT1	AACTGTACCTTCTATGGTTTGCTTGCA
43495	TEC	GAAGTGCTGAGCTCTGGGGCAG

43496	CKTSF1B1	AACCTGTTTTCTTCAAGCCTG
43497	HLA-C	CTTACTTCCCTAATGAAGTTA
43498	CDK2AP1	CATCTGGAAGAAAATGACTAAAACTGT
43499	GAS2	ATATGTTACTGGAAAGGCCAC
43500	ADRA2B	AGCTCACTGCCTACTTGCTGCAGGGAG
43501	ACTN1	AACCAAAAAACTACATATTTT
43502	NPHP1	AAAACACAAAATTAGCTGG
43503	PTEN	CAGTTATAGGAACAATTCTCTT
43504	CD83	TTTTCATCTGGGAAAGACATCCATAA
43505	PGF	CTCTTCTCCTCCTGTGCCA
43506	IL17R	CACTCTGAGGTCAGGAGTTTGAGCC
43507	DFFB	GGCTAATGTTTGTATTTTTAGT
43507	DSCR3	GGCTAATGTTTGTATTTTTAGT
43507	ZNF74	GGCTAATGTTTGTATTTTTAGT
43508	HOXA3	CTGAGGCTCACCCAGGTCTCCA
43509	LGI1	GGACTCCTATGTGACCTGTTCTTAGAG
43510	PDE6H	AATGACATCTGCTGTAATTTTGG
43511	LOH11CR2A	GGAGAGGAAGAAATCTTGCATCAC
43512	PPP3CA	AGCATTTTATATTACTACTCA
43513	DBY	ACTCTATCCTGGATAGGCACT
43514	CYP3A4	AGGCTGAGCCGGGTGGATCGCC
43515	SSTR1	CTCTCCTCAATGCTGGGCC
43516	RNF3	CCTTTCTGTCAACCTCTCATTTC
43517	APLP1	ACTCCCAGCCTAGGGCAGCAG
43518	PSCD4	CTGCCTCTGACTCGCTGTGTA
43519	ST7	CTTCAGTAAATGTGATTCACCTC
43520	MUC4	GGAACTCCTCCTTCCTGCTTCA
43521	ZNF42	CCTCCGTCTGCCTCTTTGGTC
43522	PCDH11X	ATGGCGCCACTGCACTCCAGCCT
43522	PCDH11Y	ATGGCGCCACTGCACTCCAGCCT
43523	ADAMTS4	CTCTTGAACTCCTGACCTCAGGTAATCGA
43524	IRF2	ACATTGCAGTCTGCTTCTGCACCTTA
43525	AXL	GTTGCCCAAGTCTGGGAGTGAGGG
43526	ED1	CTCTCCAGGAGGGCTCGGGGTGT
43527	KLHL3	TTCTATCTCCTTGTTGATCT
43528	PXN	GGCAGGCAGGGTCTGTTGGGGTCTCTT
43529	RAP2A	TACTACTGATATTTGCTTTTCT
43530	GPR81	TGCCTATAGTCTCAGCCTCCAGAG
43531	EHD3	TCGGGATTAGAAGGACAAGAGCA
43532	HAS3	TGCTGCTTTTGGGGAATGAGGGGA
43533	TCIRG1	TGCCAGACCTCCTTCCTGACCTCTGAG
43534	ALEX1	AGGACGCTGTGCCATTTGGGA
43535	MKLN1	GGCACCGAGAGTTCTGAAGGGA
43536	AR	CTTTCAGATGTCTTCTGCCTGT
43537	TTC3	GCCCTACTCCTTTGCCCAAGACA
43538	B2M	GGACATGATCTTCTTTATAATTCT
43539	NFKBIA	CACTGCACACTGCCTAGCCC
43540	B4GALT6	CATAGAATTTCACTTTTGGA
43541	ZNF216	AATCTCTGCATGTTTGCAGCA
43542	CHRNB2	CAGGAAGGGGACAGGATTGTCTG

43543	SLC22A3	ACTGGCCTAGCCTGGGCATCACTG
43544	GNAQ	GGCTGCAGCGGAGGCACTTTGG
43545	MADH4	CAGACAGAAACTGGATTAA
43546	JRKL	ACAGATAATCAGAAGATGATAC
43547	RAB36	CCCTTCAACATATTTTTTGTACTT
43548	APPBP2	CCGAGCTGCTGGGGAGGACCT
43549	DPYSL3	CTCTGCTCTGCTGTTACTCAGCC
43550	TBX3	TCCTTAAAATATAACTGAGATTG
43551	CDH5	CGCCAGGCACCACAGCCTCCAAAA
43552	TCF2	TCTGTCCCCTCTCCCCTCATGGA
43553	EZH1	GCCTCTGCCATGTCCAGAGGG
43554	CRHR1	TGCTGCTTACACTCCAGGTGTGGACC
43555	MYD88	GCCGATATTTGCCATTCTTCCT
43556	SLC25A13	CCTGGAAGTGCTAATTTTGAAAAACTG
43557	EGR4	CCTACCGCCAGCCTCCCCGCC
43558	PAH	CTTCCCAGGCTTCTGAGAGTC
43559	IQGAP1	ATAGAGTGCACAGCAAAGGGGATCTGC
43560	POV1	GGGGGGATCGGCAAACAGGCTAC
43561	CDC2L2	CTGTTTCTTCTCAGGCTCAGGGA
43562	PRX	GGAGGGCAGAGGGGGCTGTGG
43563	HSF2BP	GGCGCTGCCTTTCGGTTGCCA
43564	C5R1	GGATGGTGTTACCTTAGCTAACT
43565	GPRK6	CAGACACCTCTTTCAGAAACGCCCA
43566	DCX	TAGGTCTTTGCCTTCCAAGCACTGTAC
43567	LZTS1	CCCGGTACCTTCCATACACAGAGG
43568	XK	CACAAGGTTATCAGAAAGATCAAATT
43569	SLC22A7	GTGGCCTTTGGATATCTGTCC
43570	RASGRP1	ACTTCTCATTTTCTTTGCTGACTT
43571	FCMD	TCTCAATAGAACTTGTATT
43572	TIAM1	GAGGAAGAGGAGGCTGGTTGGTACCAT
43573	MADH9	CCTGTGCTATAAGCAGCAGAT
43574	SPOCK	TCTGAACTCAATGTTTTGCTTTTACT
43575	P53AIP1	TTAGGAGCTGTGTGTACATGGG
43576	SLC2A2	AGTAAACCAAAAAGGCTAGTT
43577	SYP	AAAGGAGGACAGGGAGGGAACAGA
43578	NNMT	AGACTCAGGAAGACAACTTCTGCA
43579	GPR56	CTGCCTGGTGTCTGCTGT
43580	CDK4	GGCCTCTCTAGCTTGCGGCCTGTGTC
43581	LAMP2	CCATTGCACTCCAGCCTTGGGCG
43582	KCNJ13	GGTGGTATTTTGCATTGCAAG
43583	EP300	CATCCCTCTCCAGCCACTGCGACCCG
43584	BAPX1	TGCTCCACCCCTCCTGTGTGTC
43585	ACE2	ACCCAGTCTCTTAAATCTTTT
43586	TMEPAI	CTGGGGGAGAGCCGGGTTCATTCCC
43587	IL13	ATTCTGCTACCTCACTGGGGT
43588	SLC4A1	TAGCCTGGCTTTTCTGGCTGGGGATGG
43589	IL20RA	CAGGACTGACAGCCGAGTGGCT
43590	TXN	TTCCATCGGTCCTTACAGCCGCTC
43591	GSPT1	CGAGGAGGAGGGTTGAGCTGCT
43592	BTNL3	CATCCAGCTAAGCGATCTTGA

43593	ZNF217	TCCTGTTCACAAGCTGAGCCA
43594	PAICS	CTGTCGCCCAGGCTGGAGTGC
43594	PIGR	CTGTCGCCCAGGCTGGAGTGC
43594	SH3BP2	CTGTCGCCCAGGCTGGAGTGC
43595	GJB3	CCAACCTGACCCCCATCTGCCA
43596	CACNA1C	TTTCTTCCTCTTCGTGGC
43597	F9	GCTTGTATGGTTATGGAGGTCTGACT
43598	RAD51L3	CCTTTCTCCTCCGGCAGCCAG
43599	HNF4A	GCTGGCAATTCAGCAAAGA
43600	SIM2	CCAGGCCTCAGTTTCTTCACCT
43601	NOTCH2	TTTACTGATCTCTTAGATT
43602	KLRC3	CCCAAGTTGCTGGGATTACTGACACAA
43603	CLC	CACACATGCCTTTCTGGGGT
43604	CTMP	TGAGCCAAGATCATGCCACATCACTC
43605	HMGA1	GGTGAGGCCCAAGAGCCCTGTGG
43606	GAA	GGGCCTGTAGGAGCTGTCC
43607	GAD2	GGTGTGCCAAACTACCGTTCCCA
43608	IL17R	TCCACTAAAAATAGAAAAAT
43609	WTAP	GCCAAGTACTCGTTTCCACACCAAGAC
43610	PDE6C	AACTACCCTGTGACTATGAA
43611	RFP	ATGAGTGGGATAGATGGGTTTT
43612	NEDD4L	AAACCTACAGACAAGTACTTTG
43613	ING1	TTCCAAATGAACTTGCACTTG
43614	ASB1	CATGATACGCTCTGCGTCTGCT
43615	TM4SF6	CTATTCCTCTCTACCTTTAAGGACAT
43616	ADAMTS13	TGCAGGACATTTGGCTGTGATG
43617	DUSP6	AGCATCAGCTGGGCTGCTTTCTTTG
43618	HIP1	CTTCTGATCTTGGGAAAACAGCGTCTTC
43619	ACCN2	TGGCCTGGAGCTGGAGAGTAAG
43620	SLC26A2	TGTCTAGCCAATAGGTTAAAATTTCA
43621	ZNF266	ACTGTGTGGATCCACCAGAA
43622	CDH18	TCTGCAGCAGAGTGACAGCAGTGG
43623	IL17C	TCCTTGGAAGTACCCCTGTTTCT
43624	PTGIS	GGATGCTGGCCACAGAAAGGCCAC
43625	RAB6A	CTATTAGCTTCACAAGCACAACAAA
43626	PLAG1	TTCAGTTTTTTAAAACTTCAATTGTCC
43627	GATA4	AGAGCCTAGAGCCCTTTGCTCAA
43628	ADCY1	TCACCTGCGTGGTCCATTCCA
43629	PDYN	TTTTCAGGTTGGAGTGCATTCATTCA
43630	EN1	CTTCGCCTGCCTCCTTCCTCCGC
43631	CA11	GAAGGCTGAGAGGAGTAGGAA
43632	HSPA5	CACAAGGTCAAGAGATAGAGAC
43633	CRYGA	TTGTACTAGCTGTGCCTGCCTTGTTGTGA
43634	SLC21A2	ACTGGGAGACTGGGGAGACTGGCTGT
43635	CCT3	GGGTACCCGGCTCTGCATCGCGTCGCC
43636	RBL1	TGGCTCACGCCTCTAATCCCAG
43637	SLA	GTTTCCTGTATCATAAATCC
43638	SLBP	GACTCTTTAGAATACTCCAA
43639	MYH9	GTTGAGGCGAGCAGGGCAGG
43640	F2RL3	AGGAGACTGAGGCAGAAGGATCGCT

43641	GNAI3	GGTAATTACATTGGAAAGTTCTGCAATAAGA
43642	EPB49	GCACTGCAGCTTCCTGCTC
43643	BAIAP3	GTCACCCAAGGCTGGTGGTCAGT
43644	RANBP3	TGGCCATCCCTTCCCCAGCCA
43645	NT5E	AAAGAACAAATACTTAACGTGGGAGTG
43646	M17S2	GCAAAACTTGGACAGGGGCAAA
43647	FVT1	CTTTAGACTCAAATGCTTA
43648	CYFIP1	CGCTGCACTCCGTAACTCAACATGGCA
43649	TR2	GCTATTCTCCCCTAATTAATATC
43650	HSPA4	GGTAATGTATGGAGCATTTT
43651	SLC28A2	CCGGGATCGCGCCACTGTACTC
43652	ST7	TTATGCTTTTGCCAACACA
43653	EPHB6	ACAGACTTCTGAGACTCAGAC
43654	ASCL1	GCGGCAGCCTCACACGCGAGCGCCAC
43655	ZNF255	ATGGTGCACTTGAAAAATCAA
43656	SH3BP2	TCATCCAGCAGGTTGGGTTCTAGGG
43657	GPRK6	AGGGTAGCATGGGATTACAGGGCC
43658	PDE6B	TGTCACCCAGGCTGGAGTGCCGTG
43659	IGF1	TGTCCCCCAGGCTGGAGTGCAGTG
43659	LZTS1	TGTCCCCCAGGCTGGAGTGCAGTG
43659	RPP30	TGTCCCCCAGGCTGGAGTGCAGTG
43660	ETV3	TATGCAAATCATACTCCTGCCCAA
43661	HIP1	CACACGTTTAATCCCAGCACTT
43662	PDE4D	GAATTCCCTGGATACAGCCTT
43663	ZFP36L1	TTCTTCTGGCTTGAAACCCCCT
43664	FZD4	TTCAAAGCTGTGAAAAATCAA
43665	MYL2	CACCTCCATCTTCTTTGCAGCCT
43666	NR4A2	CTCCCTGGAAATAACTGAGCACTTT
43667	NOL3	GCCTTGGGAAGTGAGACTA
43668	IHPK1	AAAAGAAATGTTTTTAGCTGTAG
43669	HSPA4	GTGTTCTCTTCCCTCTCTC
43670	VPS41	GGACTAATGATGTTTCCTCTTGCCT
43671	SUSP1	TGGGTATAGACAATAAAGAACTGA
43672	KRT15	GCTCTATTCCCCCTCTGCC
43673	TMC1	GGCTCTCTGCAACCTCCGCCTC
43674	DCX	AGAGGGCTTGGAATAAAATGAA
43675	GNAS	TCAAGAGCATCTGGAACAACAGAT
43676	LASS1	CCAGCCGCCGCCCTGCTCCAG
43677	HNRPH3	TGCCAGAAATGTTATTAATAA
43678	MDM4	TCCCAGGCTGAAGTGCAGT
43679	ITCH	TCTGAACTAACTTGCTTTTAGA
43680	MTMR3	GCAAAGCCCAGAGCATCTGAGCA
43681	SEPN1	TGTCACCCAGGCTGGAGTGCTATGGCT
43682	CD53	ATGAAGCCCTACATGATCACTG
43683	MAML1	AGAAACTGCAGCCCCACTTCT
43684	TRPC1	CATGCTTACTTGTGGATC
43685	PITPN	CCCTTCAGACCAGCTGCTTCCATC
43686	PPP6C	CTGCTGAAATGCTGCCTCTTG
43687	FLOT2	CCTGCTGCTGCCCCTCTAGGTCTGG
43688	LPIN2	AGGGAGGCCTCCGAAATGCAGA

43689	ETS2	TCTTATAATTGTTCTCAGAATC
43690	CD8A	TTCATTCTCATGATTATTATTTTA
43691	IRS2	TCCAGGGTGGTCCGGGTTTG
43692	NFE2L1	CACTCGGGTGGAGTGGAAG
43693	HTR4	TGCTACCTCGAGAAGCCATGGCCTGC
43694	GRM7	GGTCCTACCCGCTTCCCATCACCGGAGGA
43695	NBEA	ATTTTCTCAGAATTTACACTCA
43696	PTPN11	ATTATCTCTGAGTCCACCAGAA
43697	PGR	CCAGGAGGTGGAGATCCCTCCGGTCCA
43698	PDGFB	CCTCTTGGTGGGTGTGGCCAGCACA
43699	CDH1	CGGCCAGGCTGGAGTGCAGT
43700	GJB1	GCTACTTCCCTTCCTCCCGG
43701	FGFR1	CTCTGGTGGCAGGTGCTT
43702	OTX2	AACCTTTTCTTCCTGGATTTG
43703	EIF4G2	TATTGCCTGTATTTCTACCTC
43704	IQGAP2	ATCATCTGGATTAGGAAATGAATTTGT
43705	TYRO3	TGAGGGGAGCATGCTTCCCTGCAGCTG
43706	SNCAIP	ACAGCATAAAGCACATTGCTGAGCC
43707	SLC21A2	GGAGAGGTGGGGACAGCAAGAAGC
43708	TTN	GACATAAGGAGTGCCTGAATAGCTTG
43709	MSR1	AACTTTTCATGTATTACCTGGTCAT
43710	DEFA5	TCTTTCTAAATTTCTCTCTCCA
43711	PWP2H	GAACAGCTGAAATACTGTCACTAGTGG
43712	TRIM9	ATTCTGACACTTTGGGGTG
43713	CPT2	GCGGCGCTCGGTTTCCCGCCTCCTAGGG
43714	RTN4	GAAGATTTATACCATTGTGGTTT
43715	PSG7	AGTCCCCTTTAAATGCACATT
43716	APPL	GGTCACTGCAAACTCCGCCTCC
43717	PTGIS	TGTGCCCACTTCATAGATGA
43718	AGR2	ACAGAAGTATCAAGCCATGTGCTTTA
43719	UPF3B	CCAGTGTCCTAAAGTTTTA
43720	RBBP9	GAGTGTTGCCAATTTTCTGATT
43721	RNASEL	TAAATATTCATTGAATAATGAATGAAC
43722	PPP1R11	GCACCTTGGTCCCAGTGTCTTCCTT
43723	SURF6	GGGGACACAGTGGTGCTCTG
43724	UGT2B15	TAGCTAACCCTTCGTTGTGCACATGTA
43725	KCNA6	TCTCAAAGGGGCAGAGGAA
43726	CRSP8	GTGTCGGCAGTGCTGGTGTCTGTCGTC
43727	RNASEL	GAGTGTGTGGACCACCCCACAGAGG
43728	LIPE	TACTTAAGTCGGGGGTGGCAAGGG
43729	PPP5C	GAGAGGAAGGAGGTGGAGCAGC
43730	A1BG	TTGTTGCCCAGGCTGGAGTGC
43730	ATP1B2	TTGTTGCCCAGGCTGGAGTGC
43730	CLECSF12	TTGTTGCCCAGGCTGGAGTGC
43730	CNN2	TTGTTGCCCAGGCTGGAGTGC
43730	PPEF2	TTGTTGCCCAGGCTGGAGTGC
43730	PRND	TTGTTGCCCAGGCTGGAGTGC
43730	RAB36	TTGTTGCCCAGGCTGGAGTGC
43730	TRPV1	TTGTTGCCCAGGCTGGAGTGC
43731	NQO1	TCTCATTCCACTGTTGGTAT

43732	PTPN2	TGACCAACATTGAGATATCCTTTATCA
43733	TYR	AACATTTTCCCCTAAGCCCA
43734	BRIP1	GGCTCACTGCAACCTTCACCT
43735	CAMLG	GGCTCACCGCAACCTCCACCT
43736	FCAR	GACTCACTGCAACCTTCGCCT
43737	GA	TGGCTATATACATGGCTTTAGTA
43738	EDARADD	CAGAAGCAGGTTGCAGTGA
43739	KCNH2	ACTAAAATCAAAGTTTCAC
43740	HIRA	GGAGGGCGGGTGGCGCGGGAGGAA
43741	TNFRSF8	CCCATCTGGCCTGAACTGAGGC
43742	HDAC4	TTGTCTCTGGCATTGATT
43743	GJB3	CCCAGCCTCACCCTGCATT
43744	SUV39H2	TTCAGGAGGCGGAGGTTGCAGTG
43745	GLTSCR1	GCGTGAACCACCATGCCAGGAGGGAAT
43746	HLX1	CCCACCCAGTCCGGCTGGACTGCGGC
43747	REQ	AGCTCACTTCTCTGTGTTCTGCCT
43748	MX1	CTCCACCTTGCAGCTCTCCCCTTC
43749	MYO7A	GTCTACCCTGATCACCTCA
43750	PLOD	CAGCAGCCTCTGGGACCTCGG
43751	APBA2	CAGCCCAGCCACGGACGCTGGC
43752	OTOA	CCCAAGCAGCTGGCCAACATGTG
43753	BIN1	CAGGCAGCCTCCGGGCGTGTGA
43754	APPL	AAGTATCTGTTTTAATAAGCTCT
43755	NRXN2	CTGGGGTCACTTCTTTGCCCAC
43756	HPCAL1	CCGTATTTAATGCCTCTGACTGCCTTT
43757	ARSD	TCTGGGAGACCTCGGGGAGTTT
43758	B4GALT5	GGAGCCACATGGATTGATTGTATCCAC
43759	KCNJ6	TACATATATATGCCTTA
43760	WRB	TAGTATTATCTACTTACTTGA
43761	DNASE1L1	GAGCAGCCACACTCGCACCTCCT
43762	FBN2	TCTTGTTTCTTTCCTCCCTGTCTTAG
43763	AKAP1	GAACAAAGGGAACTCAAGATTCTTCCA
43764	FKRP	CGCAACTCAGACCCAGTGAACCCAAGG
43765	SMAC	CCCACTCTGTACAGCTGCTCTT
43766	ALDH1A2	CAGCCCAGTGCCGTGAGCCCTGAC
43767	STARD4	ATCAACTCTCTCAGCTACATGG
43768	COX10	AGCTCACATTCCTGTCCCTT
43769	RHAG	AGGTAGTGCTTTTTATTTTAAA
43770	KCNK5	CAGGTGTTTCCGTACCACAGCAGG
43771	CRYZL1	ATCGCTTGAACCTGGGAGGCAG
43771	F2RL3	ATCGCTTGAACCTGGGAGGCAG
43771	PDE7A	ATCGCTTGAACCTGGGAGGCAG
43771	PTAFR	ATCGCTTGAACCTGGGAGGCAG
43772	IL17R	ATTGCTTGAATCTGGGAGGCAG
43773	EMX2	GGGAGAGGGAATCGGAGGGAGCAGCGG
43774	TNFRSF8	CTGGGAGGCCAGGATGGCACTG
43775	MECP2	TCCTCATTCCCTCGTCTTTCCCA
43776	NT5C2	TAGAAAGAATTTAGCTGCAAGTG
43777	FNTB	AGCCCACGTGGTGTGGTTGGTGAA
43778	IKBKG	GGATGCCACCTGGAGCCCCAC

43779	PAX5	AACAGGACATGATCTCACATG
43780	B3GAT1	CCCAGCCTGATGCCAGAACAAAGGACA
43781	TTC3	TCTTCACTTGTGATATTGTG
43782	BSND	GCCCAGGGACTGGAGCGGGA
43783	SSPN	TGCTTTAAAAATGGCCTTCCTA
43784	SLC25A1	GCCCTGGCCTACCACAGCTGCC
43785	KCNA7	GGTGGAGGGCAAGGCTGGGGGG
43786	FUT8	GAAACAACAGAAGTCTATTCACCTG
43787	ZNF132	CCTGATGATGGCCCTGTTGGCCTGT
43788	PFN2	AGCCTCTCCCCATCTACCTAGCAACTG
43789	GLP1R	AAGGTTTGCCCTGCCTGCAGC
43790	PPP1R12B	GCTCAAGCTGAATAAATAGCTG
43791	PABPC3	AGCAAGGAAACATGGTTTGGATT
43792	FGFR1	AAGAGGCAGATCTTTGCTGCC
43793	PEX1	GGGTCCCGGGTCCTTTGCGGCG
43794	SOX13	AAGACTCCTGGGCTTCAGCCTCTCC
43795	PKHD1	AAAATCCTGAAAACCAGGA
43796	SYBL1	CTGACAGATGGTATCTGCCA
43797	STXBP1	CCACACACATCCTCACCCCACA
43798	LAMB3	GCCAAATAAAAATCTTTG
43799	SMG1	CCTTCTCGGCTTCCTCCTCAGCCCCGGGCCG
43800	FCGR3A	TTTCAAGAAAAGGAAATTGGTGG
43801	ATP11B	GACAGTATTTAAATATTGCAAA
43802	IL1RL1	AGGAGGGACCTACAAAGACTGG
43803	CRIM1	ACGTGACAGGAAGAGGAGGGAG
43804	HTR1E	TTGCAACCTCCGCCTCCCGGGT
43805	KCNJ11	CTGCAACCTCCGCCTCTCGGGT
43806	TIAL1	CCCGGACTCTACACACACAAGCT
43807	HESX1	CAGAGCTGTTGCTCTGTGCAGACCACGA
43808	DSCR4	GGGGACTTTCTACCAGACTCACAGAG
43809	ADRA1A	GGGCACAGGGAAGAGGGAGGGTGTCTCA
43810	PPM1B	TTCAATACAAGGGGAAAAT
43811	HAS1	CGCGGATGCCGCCTCAAGGGTCTTCAG
43812	TAC1	TCAATGATACAGTCCCTAAAGA
43813	PIP5K1A	AGCCTCAGAAGACCTGGAACAAGAT
43814	HSPA2	ATACTTTTTGCAAACAAATGCAT
43815	AF5Q31	TTCCAGTTGCAATTCATAACTAATGAAT
43816	TBL1X	AAATGTTCCTTCCGCCACTCACTG
43817	PDE6C	GTTGTATATTATCTAACTGGT
43818	INMT	GGGGTGAGGAATGGATGCTGT
43819	AGTRL1	TCTGGAGAACCCAGAGGCAGCT
43820	G6PC	CAGGCTGGAGTGGAGTGGCACGATCTT
43821	CHRNB2	GGGGAAGAGAGAGGCCTGGGTGTGACC
43822	PSEN1	GTGATTGCCATTTCTTCCCA
43823	APOBEC1	GGCCACAATACCCACCTCT
43824	EPHB6	CACCCAGGAGCAGGGTGGTGG
43825	SRGAP1	CCGGGACGCAGAGGTTACAGTGA
43826	PART1	ATTATCCAGGCTGAGATGGA
43827	MCM2	GATGTCAGGAGAGCTGCTGCCCTCTTG
43828	FOXF1	CTCGAGGTATAACCGTCGGCAGA

43829	DYRK1A	CTTTTGGACATGCTTTTGCAGACAG
43830	GOLGA5	CAAGCCCAGTTGTTGCAGTGA
43831	RAD1	CTTGGCCTCCCAAAGCGCTGGG
43832	ADAM10	TATTTCTTACGTACACTGTACTTCTGT
43833	TNFSF9	GTCTTGAACTCCTGGACTTAGA
43834	TFE3	AGAAGGAGAAGGCTGGAGAAGGAC
43835	HUNK	CAAACTCCTGGGCTCCAACGAT
43836	B4GALT1	CTCACACACAGGTCTGTCTGTCAC
43837	TBL1X	AATCTTCACATGAATGTCGGTA
43838	PML	AGAGGGGCCTCATCAGCAAAGA
43839	PXN	TCGCCTGAGATGTTTTACTTCTC
43840	TNFSF11	TATTTAAAAATGTCTTG
43841	ABCA1	TCCATTACAGGGGCAGTGCCT
43842	ABL1	TTGGGTGGAAAACAGGGTGCT
43843	COLQ	CGCTACCATTTGGCCAAACAACCG
43844	CYP2B6	GCAATTTTTGTTCACTGCAACC
43845	BNC	CTCATCTCCAAGTCACCTCC
43846	CACNA1S	AGGAGAAAGCCAGATTCCCAGGGA
43847	PHEX	TGCCAGCGGAGGCTGCACTGA
43848	TLR2	GCTCATTGTGCCCATTGCTCTTTCA
43849	MASP1	CAGCACCACCAGCTGTGGGCAG
43850	NPHP1	ATTCAGTCTGATACTTGAATG
43851	ARHGEF12	TCTACTTCCCTGCTAA
43852	TCF2	TGCAATTTCCCCTCTGTGTCC
43853	FOXO1A	TCATTCTCCAACGATATACA
43854	FGF7	ATGAAGGCTTGAGGTCAGCCT
43855	CD86	AACCAAAAGAGATCACAATACTCAAA
43856	PAK4	AACCAGGTTCCTGCCCGGTCAGCGC
43857	INPP5B	TGCTCTTACAAGGCTTGGAAACTATG
43858	IHPK3	GAGCTGCCCTTTCTACTTCA
43859	HIP1	GCCATTCTCCCCCTCTTTGGGCA
43860	CD28	AGAGTAGGGGGAGGGATAGGAAGAC
43861	TCTA	ATCCCTTAAGCAAGCAGGGTGGGG
43862	MMP19	CCTCCTTCCTGTTCACCTTTGCCTTTG
43863	EPB49	GTCCTCTCCCCTCGCGCACAG
43864	SLC9A3R2	GGGGCCTGCTGACTGAAGGAATTTGTG
43865	AGA	GCTGAAAAGGCTGCTCACTCTCA
43866	KCNK3	CTTCCCTTGGTTCCAAAAGCCA
43867	PPP2R1B	CTATTTGAACTACTTAAACAGTATTA
43868	HIP2	TTAAACTGGCATTCTTGCCT
43869	FUS	GACTATGTAATTGTAACTATA
43870	VTN	CCTTCTTTCTGCCCTCCAGATCCACGG
43871	TGFA	ATGGAGCCTGGATTTTTCCCACTG
43872	DPP4	TAATCTTTTTCTAACTGGACTG
43873	WISP1	CCTGATGGTGCTGCTCAGGCCCATGCT
43874	CYP27A1	TGGGAGGAGCGAGGGAGCGAG
43875	CYP1A2	TATCCACCTGCCTTGGCTTCC
43876	PET112L	TTGCCCAAGGGACAACAACAAACAGTG
43877	PSEN1	GGCACCAGCAGCAGAATGGGGAA
43878	TRHDE	CATGATGTGAATAGGCATGATAA

43879	DDOST	TCGGGAGGCTGAGGCAGGAGAAAGGC
43880	MAGEA9	TGGGACAAGATAACATAGCAGAGGAA
43881	PPP1R11	ATGAACACATGGGCCGCCGCTCATCC
43882	SNRPN	CATTGGATTTGGTGGAACAGCAATCAT
43883	GPR62	TAGAAGTAGGAGGCTGGACGAC
43884	GNAI1	TTTTAATAACATGATTTGTTCTTTA
43885	NBS1	TTCACCAGAATGGAAAGACCTGTA
43886	PHGDH	AGGTACTTCTACTCACAGCGGCCG
43887	RALBP1	AGATAGTGTCAGCTTATTTGAAGA
43888	CSNK1G3	AGTGCTTTGCCCATCAGTGAA
43889	PCDHB7	CTAATGCTCTGATCTGTCCA
43890	RPGR	TTCACAGTCACCAAGTGTATTGTA
43891	TGFB1	AGTGAGACCCTATCTCTACA
43892	FMOD	TGTCTGTGAGCAGCACTTGACAGCT
43893	CHRNB4	AGCTAATTTTTGTATTTTTGTT
43894	EZH1	CACAGGCTGGGGTGGATGACTT
43895	ADH6	GGAGTAGAAGAAGGGTCGTCCCTGCTGC
43896	ARHGEF7	TGGTCTCAGAACAACTCA
43897	TRAF5	ATGATCTCAGCTCACTGCAAAC
43898	NRL	GTGGGTTGGGAGAGAGCTGTG
43899	DPP6	TTGCCTGCTGCTGCTGCTGCTGCCTC
43900	COL19A1	ACCATCAAAACAAAGGATGGGATA
43901	LGR6	ACCAAAACTCAGCAGTGTGATC
43902	SPTBN4	CTTCCAATGCTGCCTTGATCTCTGTC
43903	AXL	TTCTAAAGTTCTAAGATTCTG
43904	TRIP12	AGAAATGCAGTGTCTGCCT
43905	AK1	CCGGGAGTGGAGCTTGCAATG
43906	PDE4C	TATGCCTGTAATCCCGGTACTT
43907	DNMT2	TTCTTAAAAATCAGCTATTTA
43908	MEOX2	TTCACTAATTTAGCAATGCATTCATA
43909	APBA2	GCTGCCTCTGCCACTGACTGCA
43910	BLAME	CCAGCACAGTGGCCAGGAAAAG
43911	FSTL3	TGGGGATCCCAGAACCTCCCTGA
43912	NCOA6IP	TACTAATTTTTGTATTTTTTGT
43913	AK2	AGGGTGAGGATGGTGAGGGAGGGCTGG
43914	ZNF180	TAATCTGTTCCTTACAGCACTTGCT
43915	XRCC3	GGCAGGACTCCTGGCAGGGCCA
43916	HR	GGAGAGGGTGGCATCAGGAGCTGC
43917	TCF7	TGTCATCTAATTAAGGGAAT
43918	KLF15	TGCATTCCTTATTTTGTCTAGAAATTA
43919	PCSK2	CTCATTTCTAAAAGAATATTCA
43920	GAB2	GGCCATCAGATTAGCAGGGACG
43921	SYP	TCCTTCTCCCCTCCAGACCCCTACC
43922	SLC16A7	AGGAAACTTCTGCCTCAGGTGGGGAGAG
43923	P2RX4	GTGTGAGCCACCGCCCCCGGCC
43924	FUT6	AGGCAGGCGGATCACAAGGTCA
43924	HM13	AGGCAGGCGGATCACAAGGTCA
43924	INPP5B	AGGCAGGCGGATCACAAGGTCA
43924	LUZP1	AGGCAGGCGGATCACAAGGTCA
43925	FCAR	GCACAGCCATACGGCACTG

43926	HSPB1	ACTTTTCTGAGCAGACGTC
43927	PTPN6	TCCCTGCGCCCCCTTCCTCTCCG
43928	GPR61	GCTTTTGCTTAGTGTTTCCTGG
43929	SEL1L	TTTTTATATCTAACTTTCC
43930	DLEC1	AGTGCCAGCTCAAGTTGGAGTTGACT
43931	KCNS2	CCTGCCTCTCTGGGTGGGTGAGGGGC
43932	HYOU1	GGGTCCCACCCCTCACCCCACCCCCACC
43933	HYAL1	AGCCCTCCTCCTCCTTAACCCTGCCA
43934	PTK2	CTTAATTCCTAAACTACCTT
43935	B3GAT1	CCTGCTAGCCAACATTCAGCTGCTCTG
43936	IL6R	GACAGGTGCGAAAGGATGA
43937	PBX2	GGGGTAGGGAGAGGGAGGAGGTTGC
43938	SPON1	TTTCATTTTTGCAGTGTGGTTC
43939	ZNF266	ATCATGAAAGAAGGCATGCGGATGAGA
43940	PPIF	GGCTGTCAGCCAAGGTGCCTGAA
43941	SPN	TCTCAAACTCCTGACCTCAGGTGATCTA
43942	COL4A6	ATTGAAATGAGGTGCCACCCAG
43943	TCL1B	GGCAGGCAGTGGTTCGGT
43944	IGSF4	AAGACTAGAAAATTAGACTGTGATT
43945	CRACC	AGGCAGTGAGACTGGTGGGGCACGG
43946	PDGFB	GAAGAAAAAGAAGGACTGAAC
43947	TH1L	GGAACTCCACTCGGGGAACTCCTTTCC
43948	SERPINB9	TTGGGACTCTGTCTTACATATC
43949	GRB10	TTTGTATCTCTGCCTGTGATTT
43950	FRDA	CCTGCACTGGGTTGTCCAGGGA
43951	DTNA	AGACCCTTCTCTTAATAGAGAGA
43952	RNASE4	CTCATTTCTTACTCTTTTTCT
43953	PVR	GGGAGAGAGACTGGAGCTGGCAAGGAC
43954	DISC1	CTTCTGCTGCAACGAAAATATTTCCT
43955	PHYH	CAATGTATAATACATTCACATC
43956	PAX5	TGACAGCCACCCAGCCCT
43957	RAD18	AGGTACCAGCTTTGCAGAGGAG
43958	FDX1	CTAGAACCTGTGTCTTATTCCTAT
43959	NEDD4	CTTATGCACCTTACTGCCTAG
43960	CR1	CTGTCTCCCAGGCTGGAGTGCAGT
43960	XRCC2	CTGTCTCCCAGGCTGGAGTGCAGT
43961	CXCL1	CACAGCCGCCAGACCCGCCTGC
43962	SFRS1	TGCACGATGGAATTGTGTTTTGCGT
43963	ED1	CAGATGACAGAGGTTTGAAGGA
43964	MINPP1	ACTGAAGAACATTTTTAATTCTTTA
43965	ALDH3B2	AAGGGAGTGGAGGTGCAGCG
43966	DAB2	CCTTCTAGAACACCTGCCTTCT
43967	LZTS1	CCTGCTCTGTCCCCAAAGGACGCCTG
43968	CCNT2	TGTCAATGTTATTTGAACTTGGGGTAC
43969	HS3ST2	CGAGCTTTCATGTTCAGCATGCA
43970	FZD7	GACCCCTGTGAGGCCCCGGGAA
43971	TIMM23	CCACCCAGGCTTGAGGCAGCGGCGGG
43972	FGF9	TTATTGATTCGCTGTGTCAT
43973	KHK	GAGCTCTTCGGGGCCCTGCGTTGTGC
43974	BCAS1	CATTGCACTCCACCCTGGGCGA

43975	PPP2R1B	CACTGCACTCTAGCCTGGGCCA
43976	BRCA1	ACCAGCCTGGCCAACATGGTG
43977	COL9A1	CTAGAGGGGAACCAGGCTGCA
43978	GPR56	GACCTTCAGGGCCAGAGCCCT
43979	PDE4A	CCTCTGCCTCAAAGACTCTTGTC
43980	TPMT	CCCAGCTGCTTGGGGGGCTGAG
43981	VENTX2	CAGGCTGGAGTGCAATGACGCA
43982	KIF1B	CACGCCTGTAATCCAAGCACTT
43983	CAMK2A	CCAAGTGCCAGAGAAGTGGAGGCAGA
43984	LPL	AATTCAAGGAGATATAAAATCTAG
43985	ROR1	GGCGGAGGCGAGGGAGCAG
43986	AKAP13	CGGGACACCATGTTCTCCATCA
43987	CDK2	GGCTATTTGGACTCAGGTGGGCCCTCTG
43988	TCF7	CAAGTCTTTAATTTAATTTTTGTTT
43989	VASP	TGGCTTCCCTGCTCACACCCACAC
43990	NOC4	ATCCTGTTTGAATTTTGATGTC
43991	MGAT4B	TCATTCTTGCTCACTGGTCCCTGCCA
43992	OLFM1	TAGCTCCTGGACCTGTGTC
43993	GHRH	CTCATTTCTGACCCACTTTTTCCTTT
43994	A1BG	CCTCTACCTCCTGGGTTCAAGTGATT
43994	AHR	CCTCTACCTCCTGGGTTCAAGTGATT
43995	CCND1	CAGCCAGCTCACGTCCAGGTTCAA
43996	LIF	CAGGAGGTCTTGAAGTGTGCTGT
43997	CRHBP	ACGCACACACCACACACATACAC
43998	IRF1	TGGAAATGTCATCTAACCATTAAGTC
43999	CX3CR1	GGGGAGCCAGGGCTATGGGAGC
44000	TNS	AGACCCTTCTCTTCTACAAAGA
44001	CSPG6	GGGCAGGTCTCCTTCCAGGCCAGGGG
44002	PTPRO	TTATGAAAGGACATATTTCA
44003	ANK1	AGGATCACACCTCGACACCCAAC
44004	GPR85	TTTATTTAAGCCTACTCCTGA
44005	FOXE1	CCTCGCTGCCCCCGCCTCGCCTC
44006	KCNJ6	GCAAGGTTTCTGGTGCCTATTTATTC
44007	LSS	TCCTAGCCATGGTCAGACTGT
44008	UPK1B	TAGTAGCCTCAATTCTCCA
44009	ITGB2	CCCATCACGCGGCCGAGACATGGCTTG
44010	SLC24A1	CTCCATCTTAGGACAGAATGAGAGGCC
44011	VANGL2	GGGCTGTGCCTGAGAATGGTA
44012	EBI2	CAGATGTTAATACTGTAACATACTTT
44013	RAP1B	GTACAGTGGGGGTCTACAACAAGAAGT
44014	RNF14	TCCAGAGTGAGCAAGGATTATGT
44015	SHOC2	GTTCAGTATCATTACTTTTAATCTC
44016	SOX5	CTGACTAATAGACCTCAGCCT
44017	TAPBP	AGCTTCCCGAGTAGCTGGGACT
44018	PDAP1	ACCTCAGGGCCTCACCTCTCTGC
44019	EEF2K	AGTCTCCCAAAGCGCTGGGATT
44020	GPRC5C	CCAGAGCCTGGCCTGGGAGCCAG
44021	ATP7B	TCCTCCCAACCAACCAGCAGG
44022	CRYZL1	TGACTGGCTTAGAGGCAGCAG
44023	AMPD2	TCAGCTTCCTGTGCCTCTGTGGG

44024	SYBL1	TACTAAAACTATGGAGAAACTTTG
44025	DACH	TACTCTGGCATTACGCTT
44026	SNRPN	TGATTCCAAGCAAAAACCAGGCTCCA
44027	ZNF253	ATGTGGGAAAGCCTTTAACCAGCCC
44028	RDX	GTGAACATTTTAATGGGTTTC
44029	CUL3	GTCTACTGTAACTTAAGACTTT
44030	MALT1	GTGACCACTCTGAAGTAAGA
44031	ACT	CTTCATAATCAAATATATGACATATA
44032	CAPN2	CAGGAGAGGAGACTCACCTCTGTCGCTT
44033	GRAF	CTGTGGCCCAGGCTGGAGTGCAGT
44033	MEFV	CTGTGGCCCAGGCTGGAGTGCAGT
44034	ZNF264	CAGCTGCATCTTTCTCCTTA
44035	VPS41	TCCAATGGGGTAACTGAAATACT
44036	OAS3	CTGGCTGCAGAGGAGTCTGAGA
44037	N33	CTGTTCCTGACTTTATACTAT
44038	KCNS2	TGGGAGGTGGCTGTCTCCTAGTGTCTA
44039	CD5L	GGGCTTATGCCTTACTCTCAGGGACA
44040	SWAP70	GGGCAGCTTTTCTGCTTTTTCCCT
44041	FETUB	GTCTGCCTTAAAGAGCCTTAC
44042	XPNPEP2	GGGCATAGCCAGAGCTGTTC
44043	TAGLN2	CCTGTTCTGTCTCTGAGCTCTGTGTCC
44044	TIMP4	GGCTCAGTCGCGGATCTGCAGT
44045	KIF3B	TGACAGGCATGCCTTGTACTC
44046	ATP2A3	GGGGAGGCAGGGAGTCTGGTG
44047	CLN5	AGCTCCAAATACACATTCTCGTTC
44048	YWHAE	ATGGAAATTACATTTGAAAGCCATTAG
44049	IGF2	TCCTTGATACAACAGCTGACCTCA
44050	PRKACA	TGCTGTTGTAAACATATTTGAAAACTA
44051	ALDH3B2	TTACATGGACTTCTGTCCTTTAAA
44052	RIMS1	CACCATTGCACTCCAGCCTAGATAACA
44053	MCM5	GGTTTGTGAAGTGCGGAAAACCAGAG
44054	ATF5	GCCAGGTTTGCAGTGCGGGAAGATGAG
44055	NAP1L4	AATTAACCCCAAGGTGTATT
44056	SEPN1	CTCCCCTCTGACCTCCAGACC
44057	INHBB	GCGGAAAGGATGGGGAGAAGGCTGCA
44058	GRLF1	GGCATGGCCAGTCGTGGCAG
44059	TMEM2	TGTTCAGGCTGACACTGGCAAT
44060	ABCC3	CCCCCCACTCTGCACAGCCTAG
44061	IFRD2	GACAAATGCCACCACAGCAGG
44062	FGFR4	AGTGAGGCGGCGGAGGAGCCAG
44063	DMN	TGCCAAAAGTATTTACAA
44064	TEGT	AAAGGCTGATTATGTGTATCAAG
44065	BAZ1B	CATATAACCTTTACTTTGATGGA
44066	EDAR	GGGGTTAGAGTTCACTGCTGA
44067	SLC13A1	TGCAGATGTTATATCACAGCAAT
44068	CYP4B1	ACCACCCTCCCCAGGCTGGGTGTG
44069	XRCC2	CCCAGGCTGCTGGAGTGCAGTG
44070	XRCC2	CCTGGAAGACAACCCAGGCAG
44071	PTGER2	TGTATGAAGCCAAATATTAGGCT
44072	ASH1	TCCTCAGATCCCACAGGCATTGCGA

44073	DCX	CTGTGAACTGTGAGTGCTGAAGATTC
44074	FCN3	CACTCTGGCAGCCAGTGCCC
44075	DFFB	GGAAACACGCGGATCTGAA
44076	SMARCC1	TTATCTTTCTGTTATTATTGTT
44077	POU4F1	GGAGCGCCTGGCAGCAGCAGGAGCAGC
44078	HEPH	TGGAGAAAAGTGTCTGCTCCTA
44079	TXNRD1	AAGTGTTTATGCTTTGTTAGCATTTCA
44080	FGG	ACAGGCTGGAGACGTTTAAAGACCGT
44081	GNAZ	AGGGTCTGTGCACCTTCCCTGCTGGCC
44082	ADAT1	GCCTGTAATCCCAGCACTTTG
44082	AICDA	GCCTGTAATCCCAGCACTTTG
44082	ATM	GCCTGTAATCCCAGCACTTTG
44082	BRCA1	GCCTGTAATCCCAGCACTTTG
44082	CARKL	GCCTGTAATCCCAGCACTTTG
44082	COG7	GCCTGTAATCCCAGCACTTTG
44082	CREB1	GCCTGTAATCCCAGCACTTTG
44082	DBT	GCCTGTAATCCCAGCACTTTG
44082	EGFL5	GCCTGTAATCCCAGCACTTTG
44082	F2R	GCCTGTAATCCCAGCACTTTG
44082	FKRP	GCCTGTAATCCCAGCACTTTG
44082	GNE	GCCTGTAATCCCAGCACTTTG
44082	HIP1	GCCTGTAATCCCAGCACTTTG
44082	IL10	GCCTGTAATCCCAGCACTTTG
44082	IRAK1	GCCTGTAATCCCAGCACTTTG
44082	ITGAL	GCCTGTAATCCCAGCACTTTG
44082	KAI1	GCCTGTAATCCCAGCACTTTG
44082	LAMP2	GCCTGTAATCCCAGCACTTTG
44082	LDLR	GCCTGTAATCCCAGCACTTTG
44082	LEP	GCCTGTAATCCCAGCACTTTG
44082	MOG	GCCTGTAATCCCAGCACTTTG
44082	NT5C2	GCCTGTAATCCCAGCACTTTG
44082	PCDH11X	GCCTGTAATCCCAGCACTTTG
44082	RAB3B	GCCTGTAATCCCAGCACTTTG
44082	RBBP5	GCCTGTAATCCCAGCACTTTG
44082	SCN2B	GCCTGTAATCCCAGCACTTTG
44082	SLC14A1	GCCTGTAATCCCAGCACTTTG
44082	SLC14A2	GCCTGTAATCCCAGCACTTTG
44082	SLC2A3	GCCTGTAATCCCAGCACTTTG
44082	SLC2A6	GCCTGTAATCCCAGCACTTTG
44082	SMG1	GCCTGTAATCCCAGCACTTTG
44082	STAT3	GCCTGTAATCCCAGCACTTTG
44082	SWAP70	GCCTGTAATCCCAGCACTTTG
44082	TCF7	GCCTGTAATCCCAGCACTTTG
44082	TEM7	GCCTGTAATCCCAGCACTTTG
44082	TNFSF14	GCCTGTAATCCCAGCACTTTG
44082	TSNAX	GCCTGTAATCCCAGCACTTTG
44082	USP14	GCCTGTAATCCCAGCACTTTG
44082	WIG1	GCCTGTAATCCCAGCACTTTG
44082	WSX1	GCCTGTAATCCCAGCACTTTG
44082	ZNF36	GCCTGTAATCCCAGCACTTTG

44083	ANGPT1	AGGGTAGAGGAAAGGGTCTAGA
44084	FANCC	AGGCGTGAAGCCACCCTGGA
44085	MALT1	GAATTTCACTGGCCTAATGAG
44086	NUP153	TCTACACCATTATGTGCGCTG
44087	SNRPC	AGCATAAGGAAGACTTGCTCCCCT
44088	SEPX1	GGGCTGAGGCCTGCAGTGCACA
44089	AKT1	GGGGGCCGGGCAGGTCCTGCCCATGT
44090	MAD	AAATCAGCTTTGTAACTGTT
44091	FANCC	TTGGCCTGGCTGGGTGCAGTGG
44092	PARK2	ATTTCAGTTCAATCAAACTTTCAGCTT
44093	SLC22A1LS	TGGTTGAGCAGAGGAAATCGGAGA
44094	ARNTL	TACTATATGTAACTTCAGACA
44095	USP6	TGGCAAAAGTGTCACTGAAAGACAAGC
44096	CYP1B1	AGTTAACATTAATGCCTGCT
44097	MS4A7	CAGAGGCTGGAGAGCAGAGCACC
44098	PML	GCACAGCCTTCCATGCCCC
44099	CARKL	GTACTTCAGACACCAGAAAGTCTGGTGGC
44100	INMT	TATGGGGTTTCACCGTGTTAGCC
44101	TRIM39	TCCCTGCCTCAGCCTTCAGCAGA
44102	ALDH1A2	CAGTTATTCTGGAATAAGGCAAGGAG
44103	THY1	GCCTAGCACGGACATGGTCTG
44104	LZTS1	TCAGCCCTCAGTTCCTTCATTTC
44105	SLC1A4	GCCCAGTCGCTGGCCTGAGGCT
44106	ZNF74	CTCTTTCCCTGAAAGAGAATCTCG
44107	SLC9A1	CAGGAAGGGAGGGAGCTGAGGCCTCCC
44108	RPS6KA2	CTCCGTGTCACCAGGATGGAAGGGGGTGCCTC
44109	SH3BP2	CCCATGTAGCTGGGATTACAGCTGCCT
44110	KCNJ11	CCTCAGCTCAGCCTCCCCCTGCTGC
44111	EPHA8	CCACAGGACCTGGAGTTATCAGGGG
44112	AQP6	GGGGATCTGAGTGATCTTGCTG
44113	MIP	GGGGGTAGCAGGGACCCAGGCACTGTGACCAT
44114	VCP	GGTAGGGGCCACAGTTGCTGG
44115	STMN1	GTGACTTCTTTTGAGTTAGGT
44116	VEGFB	GCAAGTAAGCATCTTACAAC
44117	GDI1	ATCCTCTGCTTCCCCCACCA
44118	KPNA4	GAGTGGGTGCGAGTGAGAATGAGTGGCAAAAT
44119	SELENBP1	TTCCATGAGCTCTTGGAGGCACCAAGA
44120	RGS6	GGACCCCACAGGCAGGCGGCG
44121	PIK3C2B	TGTCGCCAGGCTGGAGTGTAG
44122	TCF1	CCTTCCAGCTAGTGACCCACATGCC
44123	SERPINB13	TTGCCCAGCCACCACCGTCTC
44124	PPARBP	GGGTTCAGAGATCATAGGA
44125	TCTA	CATCATTTCCCATCTGGACC
44126	PDE7A	GGAGGCTGAGATAGGAGAATCGCTTGA
44127	DTR	CTCCTGAGCTCCGCCGCCCAG
44128	EVA1	GTCCGGTCTCTGGGGCCAAG
44129	PODXL	GGGCTGGAAAGGAGGGCAGGG
44130	EPO	ACAGCCGCCCTCTCCTCCAGGCCCGT
44131	SLC22A3	TCGGCTCTGCCCTCTGTGACCTTGC
44132	CD34	TGAGGCTCAGGGAAAGGCCAGTGT

44133	CDH1	TGTGATCATAGCTCACTGTAACC
44134	LPP	CTTGTAATCCCAGCAATTTGG
44135	P2RY6	CCTGTAATCTCAGCAATTTGG
44136	PTPRO	TCTCAACAATGGTTACAGAGA
44137	CYP2B6	TCCCAGGCTGGAGTGCTATGGTGC
44138	KCNA7	CACTGCACTCCAGCCTGGGCAG
44138	ROCK2	CACTGCACTCCAGCCTGGGCAG
44138	ZNF264	CACTGCACTCCAGCCTGGGCAG
44139	FUT1	GTTCATGCCATTCTGCCTCA
44140	HOXA6	CTGGGCAGGGACCAGGCCAGCGCTGCAA
44141	TEM6	AGTGTCAAATGCTGCAGCCT
44142	PDCD2	GTAGGGCTGCACAAGATGCTGG
44143	CAMLG	AAAAGGGCTGAGTTTGTATTATTACT
44144	ABCG1	GAATCGAGGAGGCAAGCCTGT
44145	WISP2	GCCTGGGAGTGACCTCA
44146	FGFR2	GCGTTCTGCCTTCCTTGTTA
44147	MTM1	AGGGTCCACACGGCAATCAGAAGA
44148	ADCY1	TGGTGAGTGTGGCTGCCCTGGCTCCCC
44149	TNFRSF7	GCCCAGCCAGCTGCGCCTGCGCT
44150	KCNQ3	CGCCGCCGCCTCGTTCACGCACCCCGA
44151	RPH3AL	TGGTCTCAAGTGATCCGCCCGCCTCG
44152	REL	ACCTGTAATCCTAGCACTTTGG
44153	SYP	ACCCAAGGTGGTCTTGGAGAGGAGGTG
44154	MLLT2	AAACTTTGCCATTTCATCTGTTTACA
44155	MAGEA5	CACCTTCCAGGGCTCCGTCCAGTAGTT
44156	FMR1	CTTCCTCTGCTAAATTGATGTT
44157	MAP3K9	TGGGAGGCAGAGGCAGGTGG
44158	SNX13	ATCTAGACATGCCTTA
44159	GGA3	AAACTGCTATCCTCCCCT
44160	SCML2	TGTCTTTTTAAATTTTCATT
44161	HOXB7	CATTTTTTAAGGAGGGAGAAA
44162	TOP3B	GGAGTCTAAACTTTTTCATTG
44163	DGKA	CCCCAAGTCACACAGTGGT
44164	IL10	TTTCTATTTATTTACTGAGCTTCT
44165	CHS1	CTGTCTCTCCCATATGATGGCTG
44166	WHSC1	CCCAAAGGAAACTACTCTCGATT
44167	GM2A	AGGTACCCGCAGGGCCTAGCA
44168	COL4A3	AACAAACAAATTTTTCTGCTT
44169	ACOX1	TGTTGTAGCTTTGGAGTGCAGAGTGTAA
44170	FCGR2A	AGCTAATTTTTGTATTTTTTAT
44171	MYO10	ACGCACCACCCTCTGGCCTAGGCTGGCTCC
44172	HOXD9	CCCCAGCGCCTCCTCTGGATGC
44173	EDAR	TTTGCACTCCAGTAGAAGACAG
44174	CRSP6	CTGGGAAAGTTGCTGGGCCAGCT
44175	MAN1A2	ACGTGCCCTCTTAAAAAGCACAA
44176	LRRC2	AAATGTTCTGTATTTGCGTTG
44177	EHD2	GACACACCTACTGCTTCCTCA
44178	RAMP1	CACCCAGGCTGCAGGGTGAGG
44179	COL1A1	TCCCAAAGCACAAAGCAGTT
44180	NDUFS1	CCGAGATCACACCATTGCACTG

44181	ATP11A	CAGACTTCAGACGCTGAAACTGC
44182	SFRS2	AGGTGGCGTGTTGCAGTGCAGAGT
44183	SET7	ATGCACTACGTTTATCTGACAA
44184	SFRP2	CTAGCTGCTCCAGTCTCAGCCT
44185	ARHGEF12	ATCAGGAGAAAAGTAAATATAAAAA
44186	EDG8	TTGACTTTGGGAGACTCAGCCA
44187	SIRPB2	CTCAAGAGTTATCCTGCCTTCCAG
44188	TNXB	ATGACTGCAGGAGTGGGCAGGCC
44189	EIF2C1	GTCCTCTGACCCTTTGGCTCAT
44190	GNAL	GTGACTGCAAGAGCGTTCGTGC
44191	CYP4F3	TTCCCAGGTAAAAGTGGTTTTCA
44192	SNAP23	CTGAACACTTCAAAGCTGTCAGTGTG
44193	HS2ST1	ATATTTCTGAATAAGGCTTC
44194	CYB5	ACCTCCTCAGAAGTCAGCGCAGGAAG
44195	CASP8	AAATGGATTTAAACATATTTC
44196	APOB48R	GAGACCCGGTGCTCTGGGAGCCAGG
44197	PRKWNK3	CCTCCCCCTCCTGGGTTCAAGCGATT
44198	CDX2	CTCCCAGATTTTTACTTTTTC
44199	SCNN1A	GTCTAGCCCATCATCCTGCTTGG
44200	EEF2K	TGCAGTGACATGATCTTAGCT
44201	AXL	TGGAGCTGGGGGGAGGGCCGG
44202	TCFL4	CCCTTTATTCAAGCCTCAGATTTCTG
44203	SPAG11	GTGGCTCTGACTAAGCCTGGACTG
44204	GALC	AATCTTTAACATTACCTG
44205	IL2RB	CCCAGCACCGGGGAGGACTGG
44206	CHN2	TTATTAAAAAACAATGTAGACCT
44207	MSN	CCTCCACTGTCTTCTTCAGGTCC
44208	ATM	TGCATCCTCAACCTCCTGGGT
44209	COL6A2	CCCAGCTGGTGGCCGTGCTGGT
44210	SLC22A2	ACTTGCAGAGGTAAACTCCCCT
44211	NR2E3	GAAGGGAGACTCTAGGAGTTGAA
44212	PTGFRN	GTTCAGGGCTGGAGTTGTTAAGGC
44213	CEBPA	TCTCCCACCTCCCTCCGCACAC
44214	CSE1L	CCACTGCAATCCAGCCTGGGCAACAGA
44215	EHD1	GGGGGAGGCAGGGGTGAGAGG
44216	NGFRAP1	GGGAGAAAGCTGGAGGGAGGGGCTTT
44217	ARG2	CCACATCCCTAACATCATGC
44218	ABR	CCTGGCCCTTCCTAAGGTCCCTGCCTGGCATC
44219	TRPC1	GATAGATAGGAGACACTTTTTT
44220	AHSG	GCACAGAAAACATAGCCACCA
44221	BENE	AGGGGTGGGGAATGGGGAGGGA
44222	IL2RB	CTGGCACACTGGCCTCCAGAAG
44223	ADCY1	GGCCTCTCTGGGAAGGTC
44224	IL4	CGGTTTCAGCAATTTTAAATCTATA
44225	NAB1	TGCATACTTATGAGAATTTCACATTG
44226	HIP1	CTCCATCTCTTTAAAAACAAACAAAA
44227	SF1	GTGTTAGATTCAACACTGCGCT
44228	NR0B2	GAACAGCTCTTCACTCAGCCACACCCC
44229	IGFBP2	GCACCTCCCCGGCCTCTCTCTTCCCA
44230	BCL11B	AACAAGAAAAGTACATTCTTTAGAAAC

44231	YWHAZ	GAATGTAAGCTCCTCAAGAGCAGG
44232	RFNG	CCTCATTCGGAGGCCTCTTGACTGGG
44233	ARHH	TTGCCCAGGCCAGTTAGAA
44234	TM6SF2	GCAGTTTCTGGGTAACAGGGC
44235	TCF1	ATGCCTCTGAGGCCAGCCTGGCCTCC
44236	CACNA2D2	CTACAGCCACATCCCCAAGCCCA
44237	GPR24	CGTTGCTGGGGAGGCCTGGAG
44238	CYFIP2	CCAAAAATGTTGAGGGCATGC
44239	PPEF2	ATTCCTGATCCGTTCACATGAAT
44240	MLF2	CCCACCTCTCCCTGGGGGTCTCAGGGA
44241	CD74	CTCCAGCCTTTGGCCTTGGC
44242	DIAPH2	TCACCCAGGCTGCAGTGTAGTG
44243	ANGPT1	TTAGGGAATGGTGAATGAAGTCAAGCA
44244	HAS3	TCACTGCAGTCACCTCTTCTACCC
44245	ACE	GGGAGCCGGAGGCTGCAGT
44246	KMO	GGTTCACTGCAACCTCTGCCTC
44247	NT5M	CCTGCTGCATGTCCCTTCCCTTC
44248	KCNQ2	CCAGTATGGCCCCACCTGCTC
44249	PRX	GGAGGTGGGTGACTGACCAGGGC
44250	GPR48	ACTTCTGTAATCACTGCCTGG
44251	CHAT	GCTCAGCCTGTCAGCTGAGCACGGGCG
44252	CDK10	GCCCCCAGCCTGGCCTGGCATTTC
44253	IL1RAP	CTATTCTGCTTCCTCAGGCAACACT
44254	KRTHA8	TTCATACTCTCTACCTTCCTTA
44255	F2RL2	ACCCAGACTGGCGTGCAGTGGCACT
44256	NUP62	GTGGAAGGCAGAAGCTAGCGGTT
44257	IFNW1	ATAGTATATACACTTATGACTTTAGTA
44258	TXNRD1	TGCCCCTGTGTGCTACATGATGGA
44259	MMP14	ACAAAGGCGCCCCGAGGGAGTG
44260	ASPA	TTACATCTTACACGGTGTCTTACA
44261	TNFRSF6	TCTTTCTCAGGCATCAAAAGCATT
44262	ADCY1	GACCAGCCTGGTCAACATGGTG
44263	HIP1	GACTAGCCTGGCCAACATGGTG
44264	PCDHA1	CTCGTGCCAAGACTTCTGCTGG
44264	PCDHA10	CTCGTGCCAAGACTTCTGCTGG
44264	PCDHA11	CTCGTGCCAAGACTTCTGCTGG
44264	PCDHA12	CTCGTGCCAAGACTTCTGCTGG
44264	PCDHA13	CTCGTGCCAAGACTTCTGCTGG
44264	PCDHA2	CTCGTGCCAAGACTTCTGCTGG
44264	PCDHA3	CTCGTGCCAAGACTTCTGCTGG
44264	PCDHA4	CTCGTGCCAAGACTTCTGCTGG
44264	PCDHA5	CTCGTGCCAAGACTTCTGCTGG
44264	PCDHA6	CTCGTGCCAAGACTTCTGCTGG
44264	PCDHA7	CTCGTGCCAAGACTTCTGCTGG
44264	PCDHA8	CTCGTGCCAAGACTTCTGCTGG
44264	PCDHA9	CTCGTGCCAAGACTTCTGCTGG
44264	PCDHAC1	CTCGTGCCAAGACTTCTGCTGG
44264	PCDHAC2	CTCGTGCCAAGACTTCTGCTGG
44265	PIGA	CAAAGAGAATCATTTTGGA
44266	SOX9	AGCTCACTCGACCTTGGGAGGCCT

44267	PACSIN1	CTGAGCAGCCACCTCCAGGG
44268	ISGF3G	CACGATTGACCTGTCCTCTT
44269	GLS	TTCTAGGGTAAAGATAAATTCAGAAAT
44270	ZIC3	AACACAATTTACAATTTTGGA
44271	ADORA1	GCCGGGAGCTCTGCCAGCTTTGG
44272	MAGEB3	GACTGGGTGTTACTGGAGGGAA
44273	BAZ2B	AACTTGACCTCATGCCT
44274	PTPN2	TGGAAAGAAAATGACATTTAAATAAT
44275	IL2RB	CCTGGGTTTTCTGCCCCAGCCTCCTC
44276	LIMK1	AGCTATGATGAGAAGGTGGA
44277	VHL	ATGGTGCCACTGCACTCTAACCT
44278	CELSR2	CACTGCACTTTGGACCCCTGGGGCCAA
44279	MCSP	ACCAGTACCTCCAAGTGTTCA
44280	ADAM12	ATGCTTCAGTGCTGCT
44281	PIK4CB	TTAGTTAGCCACTTGTGTCATTTCCAG
44282	ADCY7	GACATGTAAGGAGGACTACTGTCTAGC
44283	GRAP2	GCAGGGCTGACTAGGGTTAGTTTGG
44284	PRPS2	ATTTTGGGGGGTATACATT
44285	CAMK2A	CCTCCTGTCCACTGTGTCACTCT
44286	PSG1	GCAGGAAGAACATTGATTTCA
44287	WNT8B	GCTAACTTGAACACCAAGGGTGCTA
44288	CD28	AATGCCCTTCAGTGGCCCTCACCATTT
44289	GUK1	CCCTATCTCTCACTCTGGACCCAGGGC
44290	MAK	TGTCCAGGCTGGAGTGCAGTG
44291	FGFR1	CGCCCGGGCTGGAGGCGCCGAGCACC
44292	SUDD	ATTCAGTTTATATTTCA
44293	SMAP	CTGCCAGTCACAATCTAAATT
44294	PKD2L2	CTCTGTACTCCTCAAGCACTGG
44295	BTG3	ATTTGTTCTAGCACCTTTGA
44296	C18orf2	GACACAGCCTCTACTGTACTTTA
44297	FBXL7	TGGCATAGAGCACCCAGGCATCG
44298	HPS1	CTTGCTTGCCACTGTTCCCCATGACGA
44299	SERPINA4	CGAGTAAACAACACGATGCCA
44300	NEDD4	TCATGCTGTCTTTAGAGTTAGGTGCCT
44301	FTSJ2	TCTGGGGGCTGGGTGAGGCCACTCA
44302	ZFP36	CTCCCCTGACCTCACGCT
44303	GTF2H2	ATACCTGAAATTCAGTAGTA
44304	IGSF4	CAGTTCTGCTCTGGTT
44305	PDGFB	AAGAGGAAAAGGATCCTTTTCC
44306	BCR	CGCTCCGCCTCACCTGCCACCAG
44307	CIT	CCCTGCAGGAGCGCGAGTCACAGTTGA
44308	EFNB1	CCCACCCCCCACCCTGTTCTCT
44309	CRTAP	TTGCCCAGGCTGGAGTGCAATGGCAC
44309	PTGIS	TTGCCCAGGCTGGAGTGCAATGGCAC
44310	ADAR	CAGGGCAGAGAGGTCTGTGGTTCT
44311	CUL4B	TTCAATATTATTTGACTCCTTT
44312	HK1	CAATGCCATCACTGGAATTTCCCAC
44313	ACCN2	CAGCCTTAACATTCTCTTCCCC
44314	MPP2	GGACTGGCCACACCCACCCCA
44315	DCX	GAGTATTTCCTTGATTGCGGTATA

44316	PCDH11X	CCCTTTCTCCCCCTCGGTT
44317	MBP	GGGGCAGCACAGAGAGGGGGCCACCTCCC
44318	SIGLEC11	TGCCTCCCAAGGTGCTGGGATT
44319	GNE	GCAGAGAAATGTTTTCACTTTTG
44320	MGAT1	CCTGCCTGTCCTTCCTGGGCC
44321	HNF4A	CTGACATGCATCATCTCA
44322	PKNOX1	CCCTTCCTCCTTCCCTCACCA
44323	GALNT1	GTGTCAATTGAAAAGTTGTCA
44324	EPB41	AGAGGACTTTCACGACTAT
44325	NQO1	TTCTGGAAGTCATCTCATTCCACTG
44326	HPS3	TTTGTCCTTACCAGGATTT
44327	GPM6A	TTGATTTTTAACCACTTCCCATGT
44328	CRSP6	GTAGCCCAGTCTGGAGTGCAGT
44329	ATP4A	TGTTTCTGTTCTTAGGACTCCAGTCC
44330	SORCS1	GGCTCTAGATTTATCAGCTATTT
44331	PYGO2	GGAGGAAGATCCGGAGGGCAGGG
44332	SPTBN1	TCACCCAGGAAGTGCAAGG
44333	DNAJB1	GAGCCTGGCCTCAGCAAGGGGCC
44334	SFPQ	ATGCCATTTCTGGGAAATGCATC
44335	MCL1	GAGTGCTCCCCATTGATTGAAGAGT
44336	MECP2	CCTGCTGTCATTGCTTCTTCTGAGGCC
44337	NUMB	GCAAAGCAATCTCCCTTTGTTT
44338	CTSS	GCAGCCTGGCTAACATGGTGA
44339	UPK1B	CTATTGCACTCCATCCTGGATGAAAGA
44340	CDX1	GGGACTCGGGTGCTGGGAGTGTGGCTC
44341	GARP	TTGTGTGACTTTGGAGCCATGA
44342	SACM1L	CAACAAAGACCAAATCTGAACTGCTA
44343	GABRE	GGCGGATTAGCTATCTTCCAACAAT
44344	CD3E	ATTGCTGCTTCCTCTTCCTTTGAAGCAT
44345	GABPB1	CCCCAGGAAACGATTCTTA
44346	OPHN1	GGCTCGTGACCCAAAAAAGTCAAGA
44347	XK	ACCATAAAGATCACACCAAT
44348	ZNF141	TAGAAGAATCATTCCACAAACTTACAT
44349	PVR	CTTTCTGCCAGCATCTGCAGCC
44350	RAD18	CAGTTCACATCCTTGGTGTGT
44351	PCOLN3	GGCCTCTCCGCACCACCTCA
44352	FAT2	AGAGCAGTGGAGCCTTGCCCACAGGGCTG
44353	PPT2	CATTCCCCTGCGTTCTCTTTCCTCACC
44354	KMO	GTCTCAAACTCCTGGCCTCATGTGAT
44355	SMT3H1	ATAGTTCTGCCTATTGTCCTT
44356	BVES	GCATCCAGACTGGTGGAGTCGGAGGG
44357	KCNA7	TGGCTAACACGGTGAAACCCCGTCTCT
44357	KCNJ5	TGGCTAACACGGTGAAACCCCGTCTCT
44357	SLC28A2	TGGCTAACACGGTGAAACCCCGTCTCT
44357	STAT3	TGGCTAACACGGTGAAACCCCGTCTCT
44358	FXYD6	CCAGGAGAAGCCAAGAACTTGTG
44359	PRY	GAGCCCAACCTTCTTTCAC
44360	GRM6	AAGTTTCTGGCATAGAGTCCTGGCT
44361	MAFF	CGTCCTGCTGAGAAATTGCACTGA
44362	MAN2A1	CCTGCCCCGCGCGCCCTGCCGG

44363	SUV39H2	AGGCTGAGGTAGGAGGATCACG
44364	CX3CR1	AGCTTCAGTTTCCTGGTCTGTAGAA
44365	FXYD6	AGCCTGCGGTCCTGCCCACCTCC
44366	DGUOK	AGTTCAGGCTGTGATCTGGGCTCC
44367	VDR	GGAGAGGGTCTGGAGAAGCAGTGAGCC
44368	DPYS	GATTTTCTTTCAGAAGCAATT
44369	GUCY1A3	TGGAGTCACCTGCAATCTCATATCC
44370	MTMR3	CTCCTCCTAATCTGGGCCTCTTGTC
44371	LTK	GATTGCTTTCCCATTATGAGCGT
44372	TRPC6	CTTAACAATGAAAAAAGTTTT
44373	DAZL	GGTCATATGTTTATTCAAAATATTTTA
44374	POLK	TAAAGAAGGATAAATTGTA
44375	NINJ1	GGTCTAAAGTGCCTGGGCTTGGTGGCCAT
44376	RGS3	TGCCAGGCTGACGGGTCCAGTG
44377	CYP3A43	CCTAGTATACTGGGTGAATAATTA
44378	RPLP0	CTCTCCTCAGTGACATCGTCT
44379	PIGA	GAAGGATTGGAAAAGGCTAT
44380	SMAC	GGTCGTGAACTCCTGGGCTCAAGTGAT
44381	RAB36	CTGTCCTAGGGTAACTCACTCTGC
44382	TLR4	TGGGAGCCCTGCGTGGAGGTG
44383	MGAT3	CCTAGCGCTATCTCCCTGCC
44384	ZNF138	GACCACTGACATTTATGGATGTGGCC
44385	DAAM1	TTGTATATTTAAAAGTTGGACA
44386	ADAMTS13	AGCAGGAGGAGCTGCAGGCCGC
44387	PTMS	CTCCACCCTCACTCTGCC
44388	SLC22A1	CCTCGGGCACCTGGAGAGATG
44389	NOLA3	GCCCTGATGCCTTTTTGCCAGCCATAC
44390	SLC18A2	CACAACTCATCCAGAACTGT
44391	SLC28A2	CGCAGGGTCAGGAGATCGAGAC
44392	EIF2B5	CACTGCCTGCTCCTTTGGGTGTGATTG
44393	PMX1	AGCCTCCTCTGCATGCCAGTTTGTGC
44394	JAM3	AGGGATCTTGCCTGAGGAACCCTG
44395	SMN1	TTGATTAAAAGTTATGTAATA
44396	XT3	CCCTGCTGACCTTCTTCCCACCTGTTG
44397	FGF12	CCTAGAACACAGAAGGGTACCAGT
44398	CYP1A2	GCATCATCTCAGCTCACTGCAACC
44399	MEF2C	TTCAGACCCTTTAATAAGTGA
44400	FLNB	AGCAGTTTCCCACTTGCCAAAGATCCC
44401	CABC1	CACTGGCAGAGGTCGCCAAGAAGA
44402	PCDHA9	TGGTCTCTGAGCTCCTGT
44403	MYO3A	CGGAAGGCGCTGGAGCCTGCGGGGCAG
44404	ADCY1	ACAACAGACAGGTGACCTT
44405	NOVA1	ATCAATAAAAGCACCTGTTCTCC
44406	SLC4A4	TTCTGGCTTCACATTTGTATTTA
44407	EPB42	GGAAGACAGAAAGCCCAGAAGGAG
44408	ZFP36	AGTGTCTCCTGGTAACTGGAA
44409	OCLN	TTGTTTGCATAGGTGATCTCA
44410	ED1	GGAGTCTCTGCCAGTTACTTGG
44411	BACH2	ACCTCTAATATATGCCTTA
44412	ID2	GCTCCTCCCGGTCTCGCCTTCCTCGCG

44413	MDM1	GCTAAAATCATCCTATTACTTA
44414	PKNOX1	TGCGTTCCTCATTTGTGAACT
44415	KIF5A	CTCTCCTCTGGAGCACACACC
44416	AQP6	CCGCCTGCGCCCTGCCAGTCTGA
44417	CSPG4	GACCCAGGCTGCTAAGAGGGCAAG
44418	DHCR7	CCAGCACTTGGCAGGTGTCCAGTACCT
44419	VDR	CCAACATGGAGAAACCCTGTCT
44420	HOXC13	TCCTTAGGCAAGATTTCCC
44421	E2F3	GGGGAGGGAGAGGGAGCTTTGTGTTAA
44422	CLCA3	AAGTTTCCTAATTACTTGA
44423	YY1	CTTTGATGTTAACACATTTTGTATAA
44424	PRKACG	CTCTCTTTCTCCTCCCACAGGGTCCCC
44425	NFATC3	TCACGCCTGTATCCCAGCACTTTG
44426	LAMC1	AATATAATTGCTTTCCTCCA
44427	CAST	ACCTGCATTTCTCCCACAGCAATG
44428	ZNF219	TTTTCCTCCTCTTCCCTGC
44429	GUCY1B2	CCAGTCCTTCACATGATGGGCAC
44430	IL1R1	CCACTGCACTCTAGCCTGGCAACAGAG
44431	PPYR1	GTCCCTTGCCAGGCTCTTCCACTTAGC
44432	HEM1	TTCTAAGCCTCATCAGCAACCCC
44433	BRIP1	CAAGTGATTCTCCTGCCTCAG
44433	CD209	CAAGTGATTCTCCTGCCTCAG
44433	CYP2B6	CAAGTGATTCTCCTGCCTCAG
44433	EEF2K	CAAGTGATTCTCCTGCCTCAG
44433	MAK	CAAGTGATTCTCCTGCCTCAG
44433	PRKR	CAAGTGATTCTCCTGCCTCAG
44433	TERF1	CAAGTGATTCTCCTGCCTCAG
44433	TRAF5	CAAGTGATTCTCCTGCCTCAG
44434	ADRBK1	CCCTGCACTGTCCTGCTCCACAGTGTT
44435	SH3GL2	ACCTGCAGTAGTGGATCATGT
44436	INPP5A	AAAAATATTAAAGAGAAACAAAAC
44437	MUC4	CTGTGGACACCCAAGTCGCTGGAG
44438	QDPR	GGAGCCGGGCTGGCAGGAGCAGG
44439	NDRG2	AGTTGTCCTGGTGCCTCCATCA
44440	NRXN2	CCTGTTCTGTGTGTGCCG
44441	GLTSCR1	TAGGGAGGGGGCTGTGATGT
44442	HMG20A	GTTTACAGATGAGGTCTTGCTGT
44443	SLC16A2	TCTTTCCCCTCTATTTCTTTGTATGA
44444	APAF1	CCCGAGTAGCTGGGACTACAGG
44444	ATP1B2	CCCGAGTAGCTGGGACTACAGG
44444	B4GALT5	CCCGAGTAGCTGGGACTACAGG
44444	CASP8	CCCGAGTAGCTGGGACTACAGG
44444	COX15	CCCGAGTAGCTGGGACTACAGG
44444	HLCS	CCCGAGTAGCTGGGACTACAGG
44444	MHC2TA	CCCGAGTAGCTGGGACTACAGG
44444	PCDHA9	CCCGAGTAGCTGGGACTACAGG
44444	RAB36	CCCGAGTAGCTGGGACTACAGG
44444	SERPINB9	CCCGAGTAGCTGGGACTACAGG
44444	SHOX	CCCGAGTAGCTGGGACTACAGG
44444	TAPBP	CCCGAGTAGCTGGGACTACAGG

44444	TERF2	CCCGAGTAGCTGGGACTACAGG
44444	TUFT1	CCCGAGTAGCTGGGACTACAGG
44444	YES1	CCCGAGTAGCTGGGACTACAGG
44445	PDX1	GTTTGGCTCATTTGAGCATTTT
44446	TRPM1	AAACAGGTGGAGACTCAGCCTGA
44447	COPE	AGGACAGAGGCCAGGAGCCAG
44448	ANXA4	AGCATCAGTTGATCCTTAC
44449	SFN	GGCTGAGAACTGGACAGTGGC
44450	EGFL4	CGGGACTGTGGCTGCAGCTTCCACAGCCAC
44451	LZTR1	GCCCTGCCTTGCCCCTGCACT
44452	AP1M1	GTGGCGCCTTCCCAGGGCCAGCCTGGG
44453	VDR	GAAGAATTGAACCCAGGAGGTGGAGG
44454	NOTCH1	CGCAGCCCTGGCAGGGGGCATGCGGT
44455	HMMR	AAACACCTTGGCTTGTTATTGCCT
44456	GRINL1A	CCAGCACTCCAAAATCTCTGTGT
44457	EGLN1	AAGGTTTTTATGCTCTGTAAA
44458	ACADL	GTTAATACAATGATGACAAACAAAAC
44459	GRIA3	TCAGTGCCTTATGGAACAC
44460	INPP5D	GGAGTGAGACAAGGGCTCGGCCTTAA
44461	TAF1C	CGGAGTTTCTCTAGCTGCAGT
44462	PROS1	AAACAAAAGTGCGTGTAATTAA
44463	TNFAIP1	GGGGCAGGCGGCTGCAGGCTAG
44464	RNMT	CTTCATTGAACAAATGGTGCC
44465	TCL1A	GTGGAGAGAAGTGAGAATAGGCA
44466	NP	CAAAGCTGGGATTACAGGTGT
44467	KIF3B	GTGTCTGAGTCCATGAGCCAAG
44468	PCDH12	AGCAGGTGGAGGCTCAAGTTTT
44469	ICMT	GCCTCTCTGTCATGCTGGGAAG
44470	EIF5A2	CTCCATCAGCCAGGCTGGAGTGCAGT
44471	RUVBL2	TCCACCAGAGTTCTGACACTGT
44472	LILRA1	CAGCACAGCCAGAGAAGCCTCTGGAT
44473	GRAF	AGCAGAGGAGAGCATTTGA
44474	EPHA3	CCAAATCTCTCAAATCTGTTA
44475	HIP2	GCATAACTTCATTTGACTTCTC
44476	FOXG1B	AGCCTGCGTCCAACTGCGCTGCT
44477	SF1	CCGGGAGGCTTGCGAAGGAGAAGC
44478	AP1M1	CCTTCTTGTCTTCCTTCCC
44479	TEM6	GGTTTTTCATCCACTGCAGGAA
44480	SLC25A13	TGGGAATGAAGCAATGCTTCAT
44481	TCF7	AGCAGGAAGGGGAATGGAATA
44482	CD1C	TTTCTGAGAGAAAGAAACATCTGCAA
44483	ZNF16	AAACATCCTTTACAGGCTCC
44484	AMPD3	GGCTGGCTGCCTTAAACACA
44485	FXYD6	TTAGCAACTGGAGATACAAAGCA
44486	INHA	GCTGGTGGCCACGCCCCCACCATCATC
44487	GCNT2	GGTAGAGCAATCTGGGCACTTTGG
44488	VAT1	CCTAGTGTCCCTTCAGCCTGGG
44489	RNTRE	AGCAGTATTTATACTATTGTAAA
44490	RERE	CTCTCATTCCATTTCTGCCTTAACTTT
44491	FOXI1	ACCAGTGAGCTGGAGATGGCTGAA

44492	RUNX3	CCTTGTAGTTTCTTCCCTCCTGTTCT
44493	NOTCH2	GTCTTAACTGTTGAGCCTTTCCT
44494	SLC7A5	GGCTTATGTCTCTGCCTTAGGGTT
44495	ASH1	GTTTTGGAGATCCTTGTTTTTT
44496	CDH13	GGCTGGCTGGCGAGGCAGAG
44497	GSTM3	TTTTCAATGAATAGCACTTA
44498	PDE1B	CCCCATCCTTTTTGCCTCCA
44499	MLLT2	TCTCAACAACAGTGTGATCA
44500	AMT	ACCTACTCTTGCCTGCTGGAG
44501	EDN3	TGGGGAATGGCTTCAAAATAAGTC
44502	BCAS2	GAATTAATTTTCAGCCATGTGGA
44503	DHCR24	GGTCAGGCATCTTCCCTTCACTCAAGC
44504	SUV39H1	GGGGAAAGATGGCGGAAAATTTAAAAG
44505	RGS6	AGTAACCTGTTTTGAATCCAGA
44506	NUP62	CCTAGGCAACAGAGACTCTGTCT
44507	BCL2L2	GGAGAGAAGAGCAGTTCTGCAGCTGG
44508	IPP	CACGCCTGTAGTCCCAGCACTT
44509	MAP3K9	CACGCCTGTAATCCCAGCGCTT
44509	RAD51L1	CACGCCTGTAATCCCAGCGCTT
44509	SLC28A2	CACGCCTGTAATCCCAGCGCTT
44509	TRIM14	CACGCCTGTAATCCCAGCGCTT
44510	FBLN1	GGTTTGCACCAGCCTCGAGTCTCCCAT
44511	PCDHB5	TGCATGCTGTTGATTTTCCTGAG
44512	CCNT2	GCATGTCCTAACATTTGTTCTGGTCT
44513	HSD17B1	GCCTGTAATGCCAGCGCTTTG
44514	UCP2	CAGTTTTTCTCCATCTCCTGGG
44515	ADAM8	GCTAGTGCCGCTCAGCCC
44516	MKI67	AAATGTTCATTTAAGGGCTACCC
44517	RFPL2	TGTACTTTTCCCCTGGCAGTGG
44517	RFPL3	TGTACTTTTCCCCTGGCAGTGG
44518	WNT6	AAACAGTTTTTTAGACTGGA
44519	BRF1	CCTCCCCATGGAATGGGCTGT
44520	NAT2	CTGGTTGCTGGCCAAAGGGA
44521	CDH8	TTAGATGATGTCTGTTTCCCGTG
44522	ARF4L	TTTGCATATCTCTCTCATCCTCT
44523	IL13RA1	CACGCCTGTAATCCCAGCAATT
44524	GNAI3	ACACCCAGGGCAGCTGCC
44525	KPNB1	ATACAATAAAAGTAAACACATACAC
44526	STS	CTGTAGTGAGGTTGCAGTGA
44527	CBFA2T2	CCTGTCACTCAGGCTGGAGCACAGT
44528	SLC22A5	ATTCTTGTTTTCCACTGCTGTG
44529	RAD1	ACAATGGGGAAGATAGGAGCAAGGTC
44530	RPL18	TATTAAAAAGATTTTTGCTG
44531	BSND	AAGCGAGCCGCCTCCAGCCCTGT
44532	GFAP	CGTCCTGCCACCTGGGGCA
44533	ANKH	ATGTAAGGCTCAGTAAATGACAGA
44534	PPAT	AGAAGGCAGGTGGTCACTGACA
44535	FCRH1	ACCTAAAATATGATTCTATT
44536	D12S2489E	TTTGGAATAGTAATATCCAT
44537	WHSC1	CGTGAAAGGCAGAGGGTGACTGTGTG

44538	WHSC1	ATGAGTTAGGTGACCATGAG
44539	TPST2	TCCTCAGTTCTACCTAGTTTCACA
44540	SPON1	GACAGCAGATTCCCCACATTCTCATCT
44541	BSN	AGTCAAACAAACAAGTTTACA
44542	POU2AF1	GCGATCTTGGCTCACTGCACC
44543	ZNF36	GGCTGTGCCATCGTCATAGTGC
44544	LIG1	AGCAAATCTGCTGTGGCAGGCTGTGGA
44545	SLC39A4	AAGCAGGACAGGGGCCTGGGGA
44546	TSSC4	CAGCCTGGCCACTGCCTAGCTGGAAT
44547	EIF2S3	ACCACACTTGGCTAATTTTTGT
44548	RNMT	TTGATTTGTATTCAAGTACTCTT
44549	APPBP2	CTGCAGTGAACACATGCC
44550	SFRP1	AAAAGCTTTGAATACTGTGAA
44551	ZNF179	GTGGGGATGAAGAAGAGGGGCA
44552	JPH2	GAGGGGTTAAGGTGCAGTGA
44553	PLA2G5	TACAACACAGAGTACTGACTCTGC
44554	PELO	GAAAGCTGCAAGAATGGCAC
44555	BACH1	AGAGACACTTCTATAGACTGCATCCTG
44556	IMPDH1	TCAGCTGCAGTCGAAGGCTTTAACTTTGC
44557	ADCY1	GCCATTTTAAGGAAATGGTGGCACTC
44558	ZNF138	ACAAATATGAAGAATGTGGTA
44559	GRB10	TGAAACTCCATGTAGCAACCAG
44560	ENTPD3	GCTGCTTAGAGTCAGCCTGGGTGG
44561	PIK3C2B	CATCCCAGGCTGGTGGCAGGAGCTGGG
44562	SRR	ATCAGATCCCATCCTCCTCCTTC
44563	FMR2	AAAGTGTCCAACAAGGA
44564	EBI3	TAGCTGAGAAATGGAGATGTAC
44565	MYOD1	CCAGCACTTTGCTATCTACAGCCG
44566	MSL3L1	CACTGCAGTCGAGCCTGGGCGA
44567	KLF15	TGCTCAGCATGATCACCAGAG
44568	IGF2	CCTTGATACAACAGCTGACCTCA
44569	LMNA	GGAGGAGGGAGAGGGAGGTCA
44570	MSN	CTGTCCCACCATGCAGTGCCCC
44571	STCH	AACTATACTTGAAGGACC
44572	IL1F8	TTCATGCAACCTTCCATTCC
44573	RAD1	AGGTGGGCGGATCACCTGAGGTCA
44573	SIM2	AGGTGGGCGGATCACCTGAGGTCA
44574	CHST5	GCAACTCTTGCCCCTACCTCTT
44575	OLIG2	CAGAAGCAACAGCCCGACCGCGCC
44576	PTK2	ATATAAGTTTAACCACACTTTG
44577	SLIT3	CCTAGCCCCTGCCCGCCTGCCTGC
44578	FANCF	GTCACCCAGTCTGGAGTGCAGTG
44579	UBE3A	AGATCAGGAGAACCTCAGTCTG
44580	CLCN3	CTCGAGCACCTGGCCTGTTTGCTCA
44581	FGF5	CTGTCACCAGGCTGGAGTGCAGTG
44581	RHD	CTGTCACCAGGCTGGAGTGCAGTG
44582	AVPR1A	TGCCTCCTGGATATCTTGG
44583	CDH16	GGGAGCTTGGCCTCTGGCTCCATCT
44584	ARG2	CTCTATTTTGGTGACCAATACTACTG
44585	MAT2A	CCTTCAGAGAGCAGTGCTTTT

44586	AXL	TGTTTACCAGACACAGAGCCCAG
44587	EFG1	GTTCATCTTAATGTTTTTGT
44588	PYGM	TCCACTCCTTGGCTGGAGGCAGT
44589	S100A3	GGAGGCGGGATCTGCTCTGAG
44590	LRRC2	CCTGTCTCAAAAGCAAAACA
44591	SMAC	GAGTAGCTGGGATTACAGGAGCGTGCC
44592	DCLRE1C	CACTTGAGCCCAGGAGATTGAGGC
44593	AKAP2	ACTGCTGTCTATCTTCTTGCTC
44594	FOXG1B	TTCTTTTGTTTACTTTTAGACCAAA
44595	CKTSF1B1	ATCTGGAGGAGAGGATAATTTCCACT
44596	LIMD1	TCTCCTGCCCAATTCTTGGCACAGGCA
44597	TRIM39	GGTTGGGATGTGGGAATGACTGGGG
44598	TRIM14	CTCTGGCCCCTCTCGTGGAGCT
44599	VHL	GGGATTACAGGTGCCTGCCACC
44600	ATP11A	CTCCCACACGTGAGCTCCCACACGTAC
44601	TM7SF3	AAAGGTTGGTGGTAGGGAGGCT
44602	KCNJ5	TGAGCCAAGATCATGCCACTGCACTC
44603	MMP25	GAGGAGGGGGAAATTTGTA
44604	GYS1	AGACACCTCCGGGGTCCCTA
44605	PNUTL1	CCAGACATAAGGAGGCCAGAGGCTGCA
44606	DDX26	CCCTCAGGTTCTATTTTCTTAAACC
44607	G6PD	GCCACCCCGTGCCACCC
44608	SACM2L	GGCATGAAGCCTCCTCAGCTCTTGG
44609	SIX2	CCTCCTCCTTCTCTCTTGGC
44610	EEF1A1	GTTTTTAAAATCAGTACTTTTTA
44611	ZNF256	GAGCACTTCTCCACAGCGGGT
44612	GARP	GGGGTGAGATTGGGGGTTGG
44613	ED1	CTTTCTGCTCTATACTGTGGCC
44614	TMEM1	AACACCCTTCTAGGGGAGGCGGGTGG
44615	CYB561	CCCCCTGGGGCTGCTGGAGCT
44616	KCNB1	CATTCTCTCGTGGCTTTCCATCTCAGCC
44617	FASN	CACAGGCACACAGGGCCCG
44618	HS3ST4	GATCTCCTCCTCCTTCATGC
44619	STARD5	CTCCAGCCTCCAGGCACCCGGGATCCAGC
44620	PITPN	CTTCCCAAGTTCTTTTACAGTCCCTGC
44621	TH1L	CCTGCAGCTGCTTGTTAGCT
44622	NDST1	TGCGCCCCTGGCTGGGAGGAAG
44623	MYO1B	GTGACAGAAGCAGTCCAGTA
44624	PDE6A	TCTTTTGGCTTCCCTGGGCC
44625	HDAC1	GTGCCTGCTTAGTAGCTTTGG
44626	C5R1	AGGGATCTTGTGTACCCTT
44627	SELL	AGGAGAGAAGAGAGAAATAGCCTG
44628	SLC1A5	GCCCAGCCTGGGGAATTTAAACACT
44629	PPP2R4	TGTAGCCAGTTTTCTGAGTT
44630	YWHAG	CTATATCCTTAACCATTCTGTCCAATT
44631	MYF5	TTCTTCTTCTTTATTATTCTTTGCTT
44632	TCTA	ACCAGTAATCCCAGCTACTCGGG
44633	F13A1	CTTTCATTTTGCACCTGCAGCCA
44634	ABCC5	GGGCTCCTGCCTTCTGTCCT
44635	EGFL5	CTTGTTTCTAGGCTGTATCACAGT

44636	SWAP70	AGAATGTCCTTCTTTAAACCT
44637	DVL3	GGAATGTGTTCTCTCAGTGAA
44638	STIM1	CTCCCCAGCTTCTGCTGCTCGCC
44639	B3GALT5	CCTGCAGCTTGTTTTGCTGCGCTTCAT
44640	RAC2	CTGGAAACTGCAGGCCAGATG
44641	BMP8	ACCTATAACCCCAGCACTTTGG
44642	GOT1	AGTTCTCTGTCATGTGTGTTCCCTGCC
44643	TRIM34	GAGGAGCAGAGAGAGCTGCAAAGATT
44644	F2RL2	TATCACCCAGACTGGCGTGCAG
44645	CXCL1	CAACATGCCAGCCACTGTGAT
44646	FHL1	ATGCAAGAGTTGCAGCGGCT
44647	MATK	CAGGCTGCAGGGGGCTGGAGAAGC
44648	KCNJ5	GTTCTCTCCATGCCCTGGGTCACT
44649	RP42	TGCTTTTGAAATGCTTATCTGCCTGTCACATA
44650	STK10	CGCCCGGGGCTGTGGCTGGCAGC
44651	WNT2	TACAAGTGGTTTTACAGCTACCACCCT
44652	SLC4A7	TCTTTATGTTATTCTTTCACTTT
44653	RHD	CTGTGCACTGATTGCATATGCAT
44654	FZD6	CTCACTGATCCTTCTGCATAT
44655	TLL1	AGGTCTCTTTCATTTTTCTCT
44656	BENE	CCGTGGTCCCGAGTTCCCTGGGAGGCTGA
44657	STAT3	CTATAGCTACATACTCCTGGCATTGC
44658	KCNN3	GGAAAGAAGAGAGACCGAGCTAATTA
44659	RB1	TACTATTTTGACAGTTATTTTGA
44660	MBP	GTGGGCGGCAGAGAGGACTGT
44661	DCX	CACCTAGGCTGGAGTGCAGT
44661	SIGLEC8	CACCTAGGCTGGAGTGCAGT
44662	TGFA	TCTTCTGCCAGCCATGGATTCCAGGCT
44663	NUDT1	GGTTTCATCTGGAATTAACTGGATGGA
44664	CREM	CCTGGAGAGCCGAGTTGCAGTG
44665	TIMP3	CCTGCTCTCTCCAGAGAAACTGGAGG
44666	FECH	AGGCTAGTGATGAGCTTCACCCTGGA
44667	GUCY1A2	TTTTCTTGTTTATCACACATACAAGTA
44668	KLK10	CTCTGAACCTCAGTTTCCTCATCTGCA
44669	GPR92	CCCTGCTCACCACTGAGGCC
44670	SLA2	GCGTACACCACCATGCCTGGCT
44671	PYGB	AAAGGAAGCCAGAGTTGACAGTACAAA
44672	HRH1	GAAAGAGAAATGAAATATTTTTGA
44673	MOX2	ATTTACTCCAACACAAATAGGAC
44674	PRAME	TTCATTCTGCATACTTGGACA
44675	TBP	TGATGCCCTTCTGTAAGTG
44676	KCNQ2	GTGCACAGACCACACACAGCAC
44677	NOTCH2	CTATTTTCTGCTACCATTTC
44678	MDFI	CAGCCAGGGCTGGGGAACACTGT
44679	GPR41	TCTGCTCCCACAGTGCCTTTTCC
44680	NHP2L1	AACAAGTGTTCAGAGCAGACAGA
44681	TEM7	GGGAGGTTGAGGCTGCAGTGG
44682	BPHL	TGGCTCACAGCTATAATCTCAGCACTT
44683	GNAI1	GGCCACCGGCGGGAGTGCAGCGGC
44684	CRIM1	TATAGTGGTAACTTTTCAAACAGCCCT

44685	AR	CCCGCAGCTGCCTCAGTCGGCT
44686	TNS	CTTCTTGCCAGCCACAGCTGCTGCCTC
44687	APM1	TGGCTGGAGTTCAGTGGTGTGATCTT
44688	PDYN	ATGGAGTAGAGTCAGGAGAAACCCC
44689	ARHGEF7	TATCTGAATGTTGCATTGTATTGTAC
44690	PPP2R4	GGTCCCTACCCATCTGGCAGCTGC
44691	FMR1	AAATGATTGCTTTTAAAATTTTA
44692	GYPE	CCTAACTCCCTGTTCTCCTGCCT
44693	NXF5	TGTGCATCATGAATGATAAGCT
44694	ILK	GGGGAATGCACCTCCCCAAAGCAG
44695	AFG3L1	CCCAGGAGGCGGCAGGACGGCC
44696	PPT1	ATCATTTCTTAAGGCTGCCTTCCTCT
44697	TBX6	GGCAGGAGAATCTCTTGAACCC
44698	TOX	AACCTTGAATCACTTGAGCATGTAATA
44699	PTPN7	GGCTTCTGCGTGCTTTCTCCCTTCC
44700	DACH	GAGCCCAAGTCCTTCAAACCTCCTCCT
44701	NOX5	CCGCTGACACCTTCCCTTTCG
44702	APPBP2	CTGCCCCCCACCCCTCAGTTAA
44703	MAP3K14	CGTGTAGCTGTTGAGAGGTGG
44704	NCOA6IP	GCGTGAGCTACTGTGCCCAGCC
44705	AIM1	AGTGTTCTGCAGCCATGCTTCA
44706	TNFRSF14	AGTGGAGGGAGAGGTGGGGCC
44707	NEB	TCTCCACTGTTACCTAAGTTC
44708	GNAT1	TGCTCCCTCCTTCCTCATCCAG
44709	PPP4R1	TGTGGCACAAGTTCTCTTGTC
44710	VDR	AACCTGACCAACATGGAGAAACCCTGT
44711	FACL4	AAGTATTTAAGCCTAAAGAT
44712	EGLN1	AAAACATTTGTAATAATTAATGG
44713	INMT	CCGTGTAGCTGGGACTACAGGC
44714	SH2D1A	AACTGCTGAGAGACAGAGCTA
44715	PPARGC1	AAGAAACCACAGGTTCCA
44716	TAF6	GTAGGAGTTCGCCAGGGAA
44717	BBS2	GGGGAAGCCTCTGGGCTGAG
44718	BASP1	TCCTATACTAACTTGTTTCAA
44719	CSPG4	AGTTCAGTCCTCCTGCCCTGG
44720	LDHB	TGCTTGCAATCTGAGCTCTTGA
44721	RFNG	ATGGCCAGGGCCGCAGTGCCCCTCCCCC
44722	PAIP2	CCACACTGTGAAGGCAGTATTA
44723	MMP25	CCCCGTTCTGCTCCCACA
44724	MPP3	TCAGAGAACACAGTAGATGTGT
44725	ATRN	AGGGCATGCCCTGCCTACCTTCTGA
44726	ALDH3B1	CGGGAGGTGGAGGTTGCCGTGA
44726	HRH1	CGGGAGGTGGAGGTTGCCGTGA
44727	MAGEA2	CTTCATTGCCCAGCTCCTGCCCG
44728	SORBS1	AGACAGCCACAGTACCCTCACTTT
44729	FGF5	CTACATTAAACTCAAATGTAATA
44730	PARK2	GGAAGAAATCAAGTTAATGTACTTTCA
44731	ROCK2	ACATTTTCACACTTAAGATTCA
44732	LYL1	AGCCTGGCCCTTATCTGCACT
44733	DAPK1	GACTGGAGACTGATGCATGAG

44734	STAC	GCATCCAGAATTTCCTCCCTCT
44735	MAML1	GGCGGTGGGGAGAGGCCGAGGC
44736	P2RY6	GGTTCTCGGGATTCGAGTCCTGG
44737	UBQLN3	GCCACCATGGCCAAAGGTGGAGAA
44738	AQP4	AGGAGGAACGGAAGAAACCTATTGTG
44739	GART	CTCAAGTGATCCTCCTGCTTTGG
44740	OPTN	ATTGCTTGAACCCAGGAAGTGGCAG
44741	MLLT7	TAGGGGATCTGGAAGGGCCAAG
44742	PNUTL2	GCAGTCAACAACACAGAGTGCTGG
44743	FBXL11	AGGAAGAGGAAGGCAGCCCTG
44744	CACNA2D2	TGGAACATTGAGGATGGAAACTGGACT
44745	PITPNB	ATTTTTCTACATCAAACCTA
44746	HMGA1	CCCTACTCCCTCTTCACTGTGGCCAC
44747	ITCH	CTTTGTTTTCTTGATCTGTTAC
44748	BDP1	GGAGGCGGCGGCGGGGCAGTGAAACT
44749	MSR1	TCTGAGATCAGTGCCTCTGGGTT
44750	PCDH11X	CAGGCAGCCCGGGCTGCCTGA
44750	PCDH11Y	CAGGCAGCCCGGGCTGCCTGA
44751	EXTL1	GGCGAGGAAAGCGGGATGGGAA
44752	EVC	TTCAAGCGATTTTCCTGCCTCA
44752	SH3BP2	TTCAAGCGATTTTCCTGCCTCA
44753	FMOD	AATCCCTGGCTGTCTGTGAGCAGC
44754	TCF1	CATGGCAGATGTAGGAGGGACTG
44755	DDX11	GGACCCGCCAGTTTCAAACTC
44756	MTMR2	ATTTGATATCCCTTTCTCCATTC
44757	REN	CTGGGCTTAGCTGGGCCTCTGA
44758	ABCD4	GGCCAGGCGTTCCCACCTCT
44759	KRT9	CCCTGCACTTGGGAGCCGGTAGCACTCCTATC
44760	SERPINE2	TTGCCTTTTAAATTCTTTTCCC
44761	GPR35	GGCAGAGTGGGGGCAGTGCCTT
44762	GPR35	CCTCCGGCTCCCTGTGCTGCCCC
44763	FGR	GCATGCGCGTGTGTGCACAGGGTG
44764	RGS14	CCCAGCCTGTGCCAAGCTTCAACAGG
44765	FRAT2	GGCCTCGGCGGCTCCTCA
44766	NEDD4	AAGCAAATTCATATTTGCAAT
44767	NRXN2	CGGCAGACACCGCTAGCCCTGG
44768	XPR1	TTTCTTTTCTTTTCTTCTGGTT
44769	FUT1	ACAGTGCTGGGATTACCGGCGT
44770	PPP2R4	AGCATAAGGCTTCAGGGCCCAAGTTGGGA
44771	CMRF35	CTGAAGCCAGAAGCTGTGGGCTGTGG
44772	KCNMA1	AGTTTTGGATATTTGCTTGCTGT
44773	EGFL4	CACCACTGCTGGGCTGCGAGCTGGG
44774	ADCY9	ATTTGGCTGTTGTGCTTTCCAAGCG
44775	OXTR	ACCAAAGACACAAGCAACCAATGG
44776	NCOR2	AGCGAGTGCTCAGAACAGGGC
44777	GAS7	CAGGATTGATAAACAGCTGGGCACA
44778	MFNG	CACTCCTGCCTCCCTCATCTGTGTCC
44779	ILF1	GCAGGGAGGAGCATCTGAGGTG
44780	OSR1	GCTTCCTCATCCTGCCTGTTCCCCC
44781	HS3ST2	TTCATTTCTTCAAGATGCTCTG

44782	ATP1B1	TGTAGTAAGCAGTGTTTCTGGC
44783	SPAM1	ACATTGAGACCAGCCAACTTCTTGCCT
44784	PCDHGA1	GGGGCTGCCAGAGAACCCCAGACCTG
44784	PCDHGA10	GGGGCTGCCAGAGAACCCCAGACCTG
44784	PCDHGA11	GGGGCTGCCAGAGAACCCCAGACCTG
44784	PCDHGA12	GGGGCTGCCAGAGAACCCCAGACCTG
44784	PCDHGA2	GGGGCTGCCAGAGAACCCCAGACCTG
44784	PCDHGA3	GGGGCTGCCAGAGAACCCCAGACCTG
44784	PCDHGA4	GGGGCTGCCAGAGAACCCCAGACCTG
44784	PCDHGA5	GGGGCTGCCAGAGAACCCCAGACCTG
44784	PCDHGA6	GGGGCTGCCAGAGAACCCCAGACCTG
44784	PCDHGA7	GGGGCTGCCAGAGAACCCCAGACCTG
44784	PCDHGA8	GGGGCTGCCAGAGAACCCCAGACCTG
44784	PCDHGA9	GGGGCTGCCAGAGAACCCCAGACCTG
44784	PCDHGB1	GGGGCTGCCAGAGAACCCCAGACCTG
44784	PCDHGB2	GGGGCTGCCAGAGAACCCCAGACCTG
44784	PCDHGB3	GGGGCTGCCAGAGAACCCCAGACCTG
44784	PCDHGB4	GGGGCTGCCAGAGAACCCCAGACCTG
44784	PCDHGB5	GGGGCTGCCAGAGAACCCCAGACCTG
44784	PCDHGB6	GGGGCTGCCAGAGAACCCCAGACCTG
44784	PCDHGB7	GGGGCTGCCAGAGAACCCCAGACCTG
44784	PCDHGC3	GGGGCTGCCAGAGAACCCCAGACCTG
44784	PCDHGC4	GGGGCTGCCAGAGAACCCCAGACCTG
44784	PCDHGC5	GGGGCTGCCAGAGAACCCCAGACCTG
44785	CCR2	TAAAGAATGGAAGGTGGAGAAGC
44786	MAP3K11	GGGGTCAGGAACACTACACTGCAC
44787	KCNJ11	TGCAACCTCCGCCTCTCGGGTT
44788	BCAS1	GGGGTATAGAAAAAGGAATGAATAAGCGTTGT
44789	MARK1	GTCTGCCTGTGAATCTCCCCATGTAG
44790	MGEA5	AGAAGGAGGGGGAAGGACAGAGGG
44791	ATRN	GGCCCACCAAGAGATATTGCC
44792	SLC9A6	CTTGGAAGAATGCTTTTTGATGT
44793	STAU2	ACTACCTGCAGCTAAGCAGTG
44794	A2M	CCTGTTCTCTGAGCTCCA
44795	LZTFL1	TTCCCTGCAAAAGGACACAGA
44796	C21orf33	TCCTCAGCCCCCAGGATTGACCTC
44797	EZH2	ATGGAAATCCCTTGCATCTGCTACCTC
44798	PSME3	GGTTTCTGCAAGTGTGAGGTCC
44799	RAB7L1	CCACCGCACTTCAGCCTGGGTGAC
44800	WNT7A	CTCCACCCTCCCCCAGACACAGCC
44801	CARD15	TGTAAATTGTCAGATGCT
44802	DPYSL3	AGCCTGGATTTTCACTCATCCCTGA
44803	GDF5	TCTCTGAGTGTGACTTGGGCT
44804	MFI2	TGGTCTCAAACCCCCAGCCTCA
44805	FBXL11	GCCAGTCACCAGCCCTCTGCCTGC
44806	ABL1	TGCCCCAGGCCGGAGCCCAG
44807	CKTSF1B1	GTGTGCATGAGTGTGGATGGGT
44808	AXUD1	GCAGGCTCTGGGCCTGCCCCTTGCCCA
44809	SYNGR3	CTTCCTGGCCCAGTCCCTGC
44810	HD	GATCGTGGCCAACGTGGACCTGCC

44811	BACH2	ACTGTACAGTAATGGTCAACTTTGCCA
44812	DGKG	CCAGAAGTCTCCTGAAAGGCTTACAT
44813	GRF2	GCTGGGTGGGCAGAATGCAGAGTAGA
44814	APM1	CCAAACAGCCCCAAAGTCAATTAAAG
44815	NQO1	CTACCTGCCTAAGGGACTTA
44816	BCL11A	GGTAATAAACCTTAGGAACTA
44817	BCL10	CATTCTTGGCTTAATCATTTTCA
44818	DFFB	GCCACTGCGCCCAGCCTGAATCATT
44819	SEPP1	TGCTAAAAAAGCATATATAA
44820	ETF1	CGACAGACATGTATGACTGCAT
44821	FBXL3A	TTTAGGGTCTTCAGTTACACA
44822	DLGAP2	TGTTAGACATGAAGGGAAAAAGAG
44823	CPO	TTCTCCACTCTGCACCCTACC
44824	BLM	TTGTTTGTCAGCATCTGACCA
44825	SREBF2	CTGCCAAGCCCCTGCCTCCAGC
44826	E2F3	AGGTTTATCAGCCTCTGCAA
44827	TCFL4	TCCATCACCTTCCTCCTCTGCTCTGGGTGG
44828	KLRD1	GTTGCCCAGGCTGGTCTTGAACTCCTG
44828	STARD4	GTTGCCCAGGCTGGTCTTGAACTCCTG
44829	SORBS1	AGCCCCAAACTCCTTATCTTTTGCAGT
44830	ADRB3	CTTCCCTTCTACTCTGCGCTG
44831	GTF2H1	CACTGGGTTTCGGCCTCTTCCCA
44832	FACL2	AACCAAAATAAATATTTCTGCATTTCG
44833	XPR1	GCTCACTGTGTTTCT
44834	CD209	GTACTTTTTGTGGCTTGGTT
44835	ENC1	AATCTGCTGCACCTTG
44836	RPS12	AGAGTATTTCAAATGCAAGAAATGAGAA
44837	MMP15	TCTACTTCCCCATGGCCCTGAGCGA
44838	TMOD3	CCCTCCCCACCCCCCAAAAAAGG
44839	SF3B3	TTTGCTACACTTCTCCCCACCTGGTAC
44840	PODXL	ACACCTTGCCTTGCTCTTGCCA
44841	LZTFL1	GCCCTAAATTGACACTCTCTCCA
44842	FUT6	CTGCAGTCCCAGCTACTTGGGA
44842	GTF2F1	CTGCAGTCCCAGCTACTTGGGA
44842	SCAP2	CTGCAGTCCCAGCTACTTGGGA
44843	SERPINB9	CTAGGTGGCAGGCCCTGCATCATGGAA
44844	PDE4A	CACCTTCCACACTCTGATCACAGCCCC
44845	DLEU1	AGCCTTTGCCAGCCATTCTTTCCCTTT
44846	TSLP	TTGTAAATATAGTGAAGCAATTT
44847	PRX	GCTGCCCAGGGCTCCGGAGGTGCAGC
44848	SLC21A2	TGGGGTACGTTTCAAACTGAGG
44849	CLASP2	AGGCAGACGGAAGATGTGGCAGAAGTC
44850	PRND	GGCTCACTGCAGCCTCTGCCT
44851	GFAP	GGAGAGAAAGGGGATGTATCCATGGG
44852	ZNF264	TGGGAGGCGGAGGTTGCAGTG
44853	DLX2	CGGGAGATGGAAGCCTCCCA
44854	TNFRSF10B	GCTCAGCCTCAGGGCTCAGA
44855	PDE6B	GAGATGGAGTCTTGCTCTGTCA
44855	PPID	GAGATGGAGTCTTGCTCTGTCA
44856	IL1RN	CCAGGCACTGCTGCCCAGCCTCCAAGC

44857	HMGCS2	TTGTTAAACTTCTGTGCTGTT
44858	UBE2V1	CCTCCACTCCCCTCTGAGATTGGCTTC
44859	APM1	ATGATCTCGGCTTACTGCAA
44860	ISLR	TGCTGCTAACAGCATTGCCTG
44861	GOSR2	AGCAGCTGGCCATTTGTTCTTGAA
44862	PBX2	TCTTTCTTACACAGAAACATACACATACCGAG
44863	CBFA2T2	AGGGTCTCACCCTGTCACTCA
44864	ATRN	CTCTCTCTTCCTTTCTCTCTGC
44865	KLK4	CCAAGCCCCCAACCCCTCCTTC
44866	RPS6KA2	GGAGAAACTGTGAATTGGAGAA
44867	PCDHB13	GGGAGCTTGGATGCCAAAGGGA
44867	PCDHB8	GGGAGCTTGGATGCCAAAGGGA
44868	EGF	ATTATGCTGCTCACTCTTAT
44869	WWP2	GCAGAAAAGCCTGATCCCAGGAGG
44870	RAB30	AGGCTGAGGCACGGAGAAGAAAA
44871	PODXL	GGGGTCTGAAGTACACTGGA
44872	KLHL3	GGCTGCTTGTGAATGCAGCT
44873	PDGFRA	GAGAAACTTTTATTTTGAAGAGACCA
44874	GPC4	ATTTAGAAAAAGATTCTGGATATCATCC
44875	GPM6A	TATTCAGCAAAAGTATTAATGGGCTT
44876	AP1B1	CCCACTTGCAACCACCAGGCTGG
44877	GPR81	CCCGAGTAGCTGGGATTAGAGGCGCCA
44878	IL18RAP	GATGGGGAAATCAGAAGCTTTGA
44879	PPP1R12B	TCAGAAGCAGCAGGTCCTATCTGA
44880	SLC21A9	GGCAAGACATTGATCCTCTCTC
44881	101F6	GGCTGCAAGACTGCCTCTCCTGCAAGGCA
44882	101F6	GTGTGAATTCCTGCTCCTCATGCTG
44883	SNAP23	TCAAGATTTGGAAGCATTGCCAA
44884	GNAT2	CCTCAAGGACTGCGGCCTCTTCTATCCTCAC
44885	LZTS1	TCACTGCAGCCTCATACTCCTG
44886	STXBP1	TTATCCTCAGTTTCAGATACTTC
44887	VDR	GGTGGGGCTGCTCCTCCAGGGCCACGTGCCA
44888	SLC16A2	CTCCTCTCTGAGCCTTTGTC
44889	PCDHB4	CTTCCCACTGCAATGCCTTTA
44890	KCNAB2	CACCACACTGTGATGTCATCG
44891	SLC22A7	GCCAGGAGGCTGTGAGCAAAGTG
44892	CDH5	CTGCAGCCCAGGCCAGTCA
44893	LAMC2	GCCTGTAATTCCAGCTACTCAGG
44894	PLA2G2D	GCCTGTAATCCCAGCTATTCAGG
44894	PTGIS	GCCTGTAATCCCAGCTATTCAGG
44895	GMFG	TTCGTTGTCTCTGGGCTGGG
44896	SOX11	AACTCACTGCAAAATCACCA
44897	SON	CAATCTGTAAAAACATCTCC
44898	PKIA	CCCCCCTGGCTCTTCTCTCTCA
44899	CST	ACTGGAACTCAGGCTCAAGCAATCCTC
44900	SEDL	AAAGTACTGGGATTACAGGCGT
44900	SNAP23	AAAGTACTGGGATTACAGGCGT
44900	TAT	AAAGTACTGGGATTACAGGCGT
44900	TNFRSF11A	AAAGTACTGGGATTACAGGCGT
44901	VANGL2	AAGAGCCGGCAGCTCCTCCTCATC

44902	TNFRSF18	TGTCCGTGGGTGTGCAGTG
44903	CDK9	CACCCTGGGCTCTGGGA
44904	INMT	GACTCACTGCAAGCTCCGCCTC
44905	MYCL2	GTGCACAAACAATATAAAGGCTTGC
44906	NTRK2	CCTTCACTCTGACAGTATTA
44907	RBBP5	TGGTCAGTCATTTGAAAATTGACTTTA
44908	DPYSL2	GGCTGTGCGTCCACTGGGGACTGGGG
44909	LBR	CAGAGTTAAATTGTTCTCAG
44910	CXCL13	AGCTGCCTGGGAGGCAGAT
44911	TAZ	CCACCTGCCTCTGCCCAGATTTGCCCTC
44912	ADRA1A	TTCATTCTTAAAAGTTAATTGA
44913	COL3A1	GTGCTGAAGGGCAGGGAACAACTTG
44914	HD	GCGCTCAACTGCAGCCCCTCCTCC
44915	KIFC3	GGACGTGGAACCTGGGAGCCAC
44916	BTG2	ACCCAAAGAGTATCCACTGGGGA
44917	SERPINB9	CCAGCCCCCAGCAACCACCAATCTGCTT
44918	PTHLH	CCCTTACTCTCACACCTGGGCAA
44919	MLLT7	GGGGAGAGGGTTTTTCTCACTGTGCCAATT
44920	TM7SF3	CAGGCAGCAATGGGGTTCCTGCAGCTG
44921	IL1RAPL2	CTTCAGCCACTCCGACTGCCTG
44922	KL	GCCTGCCCTTTCTCCCAAAAGGAC
44923	RAD9	GTTGCCCTGAGCTGCAGCCT
44924	ADAMTS4	GAGGTACAACCTGTTCTGCTTTC
44925	SLC9A3R1	GGGTCCAGGGCTGATCAAAGA
44926	PDE4C	TTTCTGCCTCTGTAGTAGCCCTGCACA
44927	GCGR	TGGTGCAGAGGTGAGCAGAGGA
44928	SH3BP2	TTGTACTCAGGAGTCTGACTCCTGGG
44929	CASP10	AGGAGGCAGAGGCTGTGGTGA
44930	STAT1	TTATTTTTACAGTTCTCCC
44931	BRCA1	TCACCCATACACATTTGGCT
44932	ROBO1	TTGGATGGTTCTTGAAAGTGTCTGAGC
44933	HELZ	TTCTCACTTAATTGCTTTGCTGCTA
44934	JUN	CCCTGGAGCGAGCTGGTGAG
44935	PRDM2	TTTTATATTATTGTAACCAATAA
44936	CR1	AGGCTGGAGTGCAGTGGCGTAA
44937	RPP30	AGGCTGGAGTACAGTGGCATAA
44938	NRG1	ATTAACAAAAGCAATTGTATTACTTCC
44939	RFX2	AGAGTGAGGGGTGCAGG
44940	BARX2	ACTTGCTTGTCTTGGGCCTGTCA
44941	TLR6	GCTCTGAAGAAGAACAACCCTTTAG
44942	SLC20A2	GAACACAACCAAATGAACTGTCCTG
44943	NFATC3	CTCGGGAGGCTGAGACAGGAGAATC
44944	PACSIN1	TGGGAAGCTGGCAATCTGCACCTTGG
44945	ABL1	GAGGCAGGGGACAAGGGAGGCAGTGGCTA
44946	GPR44	CAGTTTCAGGGCTAACGACCACA
44947	SGCB	GCCTGAGCCATATTCTCACATG
44948	CYLN2	AGGCATTCAGGGGTGTGTTTGCCACA
44949	STK38	GAACCTAACGAGGAGAGCCCAG
44950	SERPINA5	CAGAGTCCTGGCCCTTGATGCCCAGCT
44951	CD34	TCTTTTTTCTCCCTCTGGATC

44952	EPHA3	TATGATCTTGAGTATAAGAA
44953	PFKFB3	TCCAGCCTCGGAGACCTTCACAAAGC
44954	GALE	GCCTGCTCTCCAGCCTCTGGAGGAA
44955	TP53	AGCCTCCGGAGTAGCTGGGACC
44956	GCS1	GGAGGGAGAGGAGGGGAGCCAA
44957	NR3C1	AACATATTTACTAAGCCACA
44958	DAZL	GCTGCAACTTTTTTATGTCTCTTAGA
44959	RXRG	CCCTGCACTTTCCTCCACCTCCCACCC
44960	CD68	GGAAGTGGAGGTTGCAGTGAG
44961	ARHGEF1	CGCGGACACCAGCCTTGCAGAGCCCAG
44962	FANCA	TTGTCCACATTCGTCACAGATATAG
44963	CANX	AATTTAATGTATTAATCTGTTTGTGCA
44964	LTBP2	TTCACTCAGAGAAGCAAGGCTG
44965	JUNB	AGGCGGTGGGCACCCACCCTGGG
44966	DIAPH2	ACCCAGGCTGCAGTGTAGTGGT
44967	TCF7	TCAGATCTGTCTTGATGTGTCAT
44968	LANCL1	GAAAGGCTGGGATCATATGTAT
44969	CDH8	GATTATAAATAAATCACTGGA
44970	LPP	CCATCCCTTCACTTCTGCAT
44971	EIF3S2	CACCTGAGGTCAGGAGTTTAAGAC
44972	SLC6A2	AGCCGCATCCATGCTTCTGGCGCGG
44973	DISC1	CCAAGTAGCTGGGGTTACAGGC
44974	UPF3A	GCATTCTGTAGTTTCTTCCTTTC
44975	ADCY1	GAGGAGTGAACCCCAAAGGTG
44976	BPAG1	TTGAGATTTAAAATTTGTAACA
44977	NRGN	TCACCCAAGCACACTCACTT
44978	SRGAP2	TCTCTTTCTGACTCCTGCCTGT
44979	PSCD4	GTGGTGGAAGGAGCACTGGGC
44980	DPYD	TTCCAAATTAAAACAAATATACA
44981	ASB2	TACAGCTTGGCTTCTCAGCT
44982	SLC22A1L	GCCCAGACACAGACTGGCA
44983	DMC1	TGTTGGGAAAGGAGTACGTG
44984	EPS8	CAGGCAGCAGCTAGCGAGGCGGTCT
44985	EGLN2	GGGCTCCACTCCACAGCCAAGGGTAAGAATT
44986	ERBB2IP	GACTATACATTTGCTACTGGTGATTCA
44987	FBXL11	TCCCAAACCTCACGTCCTTAACTGTGC
44988	MSF	GTCAGCGAGAAGGAGTGTATG
44989	TAPBP	CAGGCTGCAGTGCAGTGGCATGATCTT
44990	TCF7	TTCTCAGAATCCAAAGATCAC
44991	SPRR1B	CATTCTGTCTCCCCCAAAAAAGA
44992	PAX3	TCATAGTGATAGAGTGCAGT
44993	CA7	AACCTCCTCTGGTCTTCCCA
44994	SERPINA3	ATGTGTGGCCCTGTCTGCTTA
44995	RAB3B	CAGGTCACTACACGGGTGCAGAATCA
44996	COL19A1	CCTGTTTGCTAATTTAAAAATATTT
44997	GJB3	TTAGTGACTATCACAGCCGA
44998	SYNGR1	GCACAGCCCTTGTCGGTGCCCCGG
44999	PCDH9	TGCCTTCATGATGTAACAGA
45000	SLA2	TTCCCTAGCACACTGGCCTTGCCA
45001	PLOD	CAGACTCCAAGGGCTGCCCTG

45002	CEP2	CCTACCACCTGGTGCCCTCA
45003	PDE4C	TGGTGTGCACCTGAGAATCCCAG
45004	TLX1	CTGCACCCAGGAGGGGAACACT
45005	B3GAT1	GGGAGAGAAGGGAGGAGGTGGGCACAG
45006	ARF1	CCTCCAGGAGTCGCTGTGTTGG
45007	F2RL3	ACTGCAAGCTCGGCCTCCTGGG
45008	SORBS1	GCCACTAATTCATTCACACTAAGGTGTA
45009	PRX	GAGCTAGGGTGGGGGGCGAGG
45010	SLC20A2	GTGCTGTGGGATGACAGCGGG
45011	RABL2A	GCCAGGCTGGAGTGCAGTGGCGCA
45011	RABL2B	GCCAGGCTGGAGTGCAGTGGCGCA
45011	SEDL	GCCAGGCTGGAGTGCAGTGGCGCA
45012	SURF5	AGGGCCCCTGCCTGCAGGTTAGAAAGA
45013	CH25H	AGTGTTCTAAAACCTGGCTAAA
45014	TMEPAI	TGCGTGAGAAAGGGGAGGAGAGTGGT
45015	DIA1	GACTACAGTTGTGTTAGCCTC
45016	KCNJ16	CGTGAAATACATTTTGTTGT
45017	PAICS	CTCTGATGTGCTATGCTTAGCTATCT
45018	TBL1X	CACGGACAGCTTTCCCCCTTC
45019	EP300	CTGTGAAGCCAAACAATATGCT
45020	LILRB4	TTGTTCCCCTCCCTGTGTCCA
45021	RXRA	CATAAAGAGAGTAAAGATAAGAG
45022	TIRAP	CCAGTCCTTCACACTCACAC
45023	AKR1A1	TGGAACTTCCCCCTCACCGCCAGAC
45024	FEZ1	AGTGCTCTGCCCTACCTACCT
45025	PDE5A	CCTCGCCCTGGCCCTGGCTGGGC
45026	A1BG	CTTTAAAATATTGGGTTGTTT
45027	TAGLN2	GCTCTGTGTCCTCCGTTCATTCCA
45028	FGF5	AAGAACATACATGATACATTT
45029	AP2B1	GCAAAACTACCCCACACCCCT
45030	VPS26	AAAAATTAAATATTTTGTGTTCAA
45031	CSPG2	GTTTAGGCTGGAAATGGT
45032	CDH1	ATATTCCAGAAGAACAACTTTAGCA
45033	GPRK6	CAGTTTTGCACAGTGATCTTCCCCATTGT
45034	PCDH11X	TCAGTGCTTCCAGTAGATTTTAGAAC
45034	PCDH11Y	TCAGTGCTTCCAGTAGATTTTAGAAC
45035	PTP4A2	TATTTCTTTTAATGACTCCAGT
45036	RNASE6	CGAGAGAAGGGAATAGGGAAGACAG
45037	SOD3	TTCTCCTCTGCTCCAACAGACACC
45038	HTR1E	CAGTCGCCCAGGCTGGAGTGC
45039	LHX5	GCAGCCCAGCGCCAGGCCAGAG
45040	PGK2	CTTCAGCATTAAGATCCAGGTG
45041	CBLB	TGGACAGCTACGGCGCCGAAAGA
45042	PDCL	GGTGAGCCACCGCACCCAGTC
45043	CYLN2	CCAACAGGTTGCTTACAGCTTT
45044	CLECSF12	GTTGCCCAGGCTGGAGTGCAAC
45044	PRND	GTTGCCCAGGCTGGAGTGCAAC
45045	IL12B	GAGAAGCAGACAGATGCAAAGA
45046	BCL11B	ACTGGAATGGAGATGTAGCA
45047	NUP62	TACTTTGCTGAATTCTCTGAA

45048	CR1	ATCTGGTTTGTAGATGTGCTTGGGGA
45049	CYP4F3	CGGGAGGTTGATGCAGGA
45050	GM2A	CTTTTCCTCTGTTTTGTGTTT
45051	CADPS	AACCAAAAAATGAACCCCT
45052	MNT	ACCTCCCAGGGGACTGTTC
45053	PART1	ATTATCCAGGCTGAGATGGAA
45054	CEACAM6	CACTCCCTGTTTTAATTCAACCCA
45055	CELSR1	GCGAGGATCTCCAGGCAG
45056	KCNG1	TCCAGGGCCTGACACGGGGTGTGTGC
45057	ALDH3B2	GCTCCAGGGCCTGGGCCACTTCCTT
45058	PCTK1	CTGAGTGCTTCATTTGTCTT
45059	ALDH8A1	TGAGGCTGCAGTGAGCCAT
45059	DCLRE1C	TGAGGCTGCAGTGAGCCAT
45059	GALT	TGAGGCTGCAGTGAGCCAT
45060	YY1	TACCTTTTAACACCTGATGTG
45061	CDC25B	AGGTTGGATGGATGGGTGGA
45062	TCTA	GGCTGCCTTTGCTTAAGCCATCTTTGTGGT
45063	PML	CAGTCTCCAAATGACAGCTGC
45064	HDAC1	ATGCCAAGTGCCTGCTTAGTA
45065	NGB	GGAGGTGGGAGAGGATGGGGC
45066	SLC24A1	TTGTTGCCCAGGCTGGTGTGC
45067	MHC2TA	CTGTTGCCCAGGCTGGCGTGC
45068	ADAM29	GCTCTGACTTCTGCTCTGGACC
45069	BACH2	AATCTGCTTGAATATTTTTATATTTCA
45070	C18orf1	CTGGACCAGTGTTAGTTATA
45071	PTCH	GAAGCAGCTCCAACTGGGGTGATTAAA
45072	NLGN2	GGCCTTTGAACAACTGGGGG
45073	ARF3	CCCTGTTTGCCTTTCCTTTGCCA
45074	ADAM11	GGGGGCTGTGGCCCTGCCCTTGGCAC
45075	TAF15	ACCCTTGGAGCTAAATGCGTT
45076	STAT1	ATATAATATGCACACAGTGCTTT
45077	FOXP2	ATGAGACAGACTTGTGGTTCTTCAACA
45078	MDM1	TACTTAAGTAGCCTGGAGGTAGGT
45079	SCA1	AAAACATTTGAATAGGTTTAGAATAGC
45080	MDM2	CAGGCTGGAGTGCAGTGGGTGATCTTG
45081	COL3A1	TTCTCCTCCTTCATCCTGTAAAGGT
45082	ARHGEF12	GGGTTACACCTGTAGCCACTTGACACT
45083	KRT4	TCACTGTGTCCAGCTGGGCCCAG
45084	PNUTL2	GCCCTACTTTTGTTCTTCTATA
45085	LZTFL1	TCATCCCACACACCTCTCTAC
45086	MSL3L1	CCCTCTCTGTGAAACATTATTT
45087	WHSC1	GCAACTTGCTTCATTTCTTTTTCA
45088	ICAM2	GAGGTCCAGCCCTGGCTGAAGGACTGTGA
45089	SLC38A2	GCACCACTCAAACTCAAACTCAG
45090	CBFA2T2	TTGGCTGCTGCCCGCTCTC
45091	DSC3	ACTGAAAGCTCCGCCTCCCGGG
45092	CRI1	TCATTTATAAAGCCACT
45093	CBFB	TGCTAGTAATCAGCACTCTT
45094	HIF1A	GGATCACCCTCTTCGTCGCTTCGGCC
45095	SLC4A7	CTTGACTGACAAAATGATCTGA

45096	AK2	TTTTCATTTACTCTGGACTG
45097	FGF7	TGTCATTCAAGTCCCTTTACA
45098	CRHBP	CATTGTGTATGATTTTGATGCAC
45099	CNN2	GTGTGAGCCACCGTGCCCAGGCC
45100	PLEK	TTGTTCTGCTGGTGTCCTTCCTTGGC
45101	DFFB	GATCTGAGCAGCTGGGCAGCAG
45102	SECTM1	GGGCCTCTGTGTCACCCACTCCTGGGT
45103	POLR2E	AAGGCCCCCAGAGGGAGGTCACCTGGGG
45104	LOXL1	AAGAGAAGCACGCCCAGGG
45105	ACTR1B	TGTCACTGCATCCATTGCCACC
45106	CACNA2D2	AGTGTCCCCAGACCCTTCTTGCCT
45107	ADD1	CCTTTATCCCCTCCTTTACC
45108	CD34	ATCCAGTGTCTCACAGCCCT
45109	RAF1	ATTTTGTTTTTATTGCACCTG
45110	PPP1R3A	CATTACTTTATGAACACAGGTGTC
45111	GALNT2	GGCCTTCAGAATTAATGGCCAGC
45112	LSP1	GGGGAAACTGCAGGTCAAGGGCTGATA
45113	IL17BR	CTAACGATTGGAAACTACATTTACAA
45114	TCF3	GTGTCTCTCGCTATTTCTGCTGCTG
45115	RELN	TCTAGGGTGAACCAAGCTA
45116	KCNQ2	TGAGGCCAGACTCATGTCCAGCAAGGA
45117	PPP4C	CTACTTCCTGTGCCCCGCCCGGCCCC
45118	BAZ1B	TTCCTGAATCTCCCCTTCTTTGTGA
45119	PSME3	CACACAGACTCCTACTCCAT
45120	GRB10	TCAGCTGGAAGTCAGTCTA
45121	GABRB3	ATACATATATACATTTTGCAGCT
45122	ANXA7	ACTGAAAGCTCTGCCTTC
45123	DCTN1	CTCTTCCTGCCCCGTTCAGCTTCACT
45124	HYAL1	AGGCCATCAAGGAGTATATGGACACTA
45125	GSTZ1	GGCCTGGAAACGAGAGTCTTAATTGA
45126	DTR	ACTGGTGCCTCGCCGCCTCCTCTCGG
45127	FRDA	TAGAAGCGGCGGGCCACCAGGCT
45128	PHB	CTGTGTGACCAGCGGAAACAGGTGTGT
45129	EGLN3	GAGCACGTATTTTGCAAAAGC
45130	EYA4	TTGGGAGTGGCAGGAGAAGT
45131	CLASP1	ATATCCTACCAGCTGCTCTTCAGACAC
45132	BACE2	TTGCCCAGGGTCCTGTGCCTGGATGG
45133	GYG	ATTTGAAAATAGCAGTGTGTTC
45134	ROBO1	TTGGCTTCATTTCAATCATTGAAG
45135	LIG3	GCCTATTCCGAAAACATCACTGGCGTG
45136	SEPX1	CAGGAAGGCAGGGCGCAGTGGTTG
45137	WHSC1	AGGTAATCCTTGATGGCTGGATC
45138	TIRAP	AGCTGCCTGCCAGCTGCCCTTC
45139	TGFBR1	CTTCAGATCTGCTCCTGGGTT
45140	TLL2	GCACCTTGAAAATCTGCCCTAAAACAG
45141	DSC1	GACTGTACTGTACACCTTCTTGCACCT
45142	MAP3K11	GGGGGTGGGGACCACGGGC
45143	APOA2	CTGGCCTCTAGAACACCCACTGGCC
45144	TMC1	AACTAGCCAGCCACTGAGACCTTCT
45145	RIG	TTTGTCTGACTTCTACTCTGTCA

45146	AKAP2	AGGGATAAGAACAGAGGAGGCAGCAGCAT
45147	HTR1D	GCTCACTGCAACCTCCGCATC
45148	PCDHB11	GCTCACTGCACCCTCCGCCTC
45149	WHSC1	TGTTGGCCAGGCTGGAGTGCAG
45150	COL6A2	CTGCCCCCGACAGGCTGGCTCTCAGTG
45151	CMKLR1	AGCCTTGACTGACTCAAAGCAA
45152	GNL1	CATGGAGGCAGCTGTGGCGGTG
45153	KCNH5	AAATGTTCTCATTCCATGACACTT
45154	RAB36	GCTGCTACTGGAGCCTGCGTG
45155	SFRP5	CCCTGGGATGTTGGGCTTCCTCTCTCA
45156	NRCAM	CTGTTTGCTGAAGACTTCGA
45157	PKNOX1	TTCCAGTTTTATTCTTGTTGA
45158	PRCP	CACTGCAGTCTCCAGCCTGAGCCATGGG
45159	KCNQ4	CATGGACTGGGGACTTCTCAG
45160	NEDD4	GCAAGGACATCATATGTTTCTA
45161	NCOA6	TCCACAAAGTGCTGGGATTACAGG
45162	FACL4	ATCTCACATTTTTATACCTGTT
45163	RAD23B	TAGTGTAATGCCCTGCTTTAT
45164	C1orf1	GACCCTGTCTCAAAAAAGAAAGA
45165	TACC2	CCTCAGAGTTCCTGTATCAGGGAG
45166	CCNT2	TTCACAATAACTTACCTAGTAGAG
45167	EPB49	CTTCCAAGCCTTTTGCTCCAGCCCTG
45168	KIP2	CCCTGCCTGCCTCCCCAACACCGTGGAATC
45169	EGLN2	CCTGCCTGCCTGTCTCTAGTTTCTCTC
45170	PIK3R3	GTCTGCCCTCCTGCTCCAG
45171	ADAM10	CCGGATCGATGTGCTGCTG
45172	CDKN1B	TGCCACCCTCTCCGCTTGCC
45173	LETM1	AGACAATGCCTTCTCCATTACTTG
45174	AK2	ACTAATTTACTAGGCTACCTACTTTC
45175	TAF11	TAGGCTGGAGTGCAGCGGCATGACTGC
45176	ALDH1A3	GGCTTCAAACCAATACTGCCTTT
45177	TGFBR3	CTGTTTCTTCCCATACTGCAT
45178	BAP1	CTGCTGGCCCTGACTCTGCAGC
45179	ILVBL	AGGCTCTCTTGTGAGCTCTTGG
45180	CML66	TCTATCATATTTACTAATGTTCCA
45181	PTGIS	GGGAGAGATGAGTGGGTTAGCTACCTG
45182	GPR56	AGGGTCTCGCTCTGTCACACA
45183	KCND2	CAGTAATATTTTTTGGTCCACTGTAT
45184	GFER	GAGAGTGAGCCAGGAACAGCAAG
45185	PPT1	CCTCTGTGCTATCAATCATCT
45186	TCFL4	CAACCAAAAACAAGGTAGCCAGTGCAA
45187	AIRE	GCCCCCTTCCCCTCCTGACCC
45188	EGR3	CCCTCCAGTGCCTCCCGGCTGC
45189	ENTPD6	CCTCGGGCTGACCCCACCTCCTC
45190	PCLO	ACTCAGTCTGATAATCTGCCTCCA
45191	KCNMA1	ACCTTCAACTGTTGGCACAGCTGTG
45192	ATP6IP1	GCTTCCCTCTTCCTACTGCAGCA
45193	AXL	GGCTAATTTTTATATTTTTAGT
45194	CYP1A2	GGCTAATTTTTGTATTTTTGGT
45195	MFRP	CCTGCTCCTTCCTGTCCCTTTACCGG

45196	HAP1	CTGCTTCTCTTCCAGGCTTTGC
45197	COPA	CAGGGTGGGGGGACAGAGGGGC
45198	HPSE	GCTAGATTTAGCACAGTATTTTG
45199	B3GALT3	TGAAACTCATGAAAAACCCAGAC
45200	B7H2	AGCTCACTGGCCACGTTTGCCGGAGCT
45201	ZNF278	TTTTCACTGCTAGGACAAGCTCA
45202	MASP1	TGGGACCCAGCTCCATCAGAC
45203	GALT	CAGCAGTTTCCTGCCAGATATTGCC
45204	RAG1	AGAAATTTAGAGTTTCCAAAT
45205	OAS3	CCTGTTCTCTGCCGTCTTTGGCTCA
45206	CXCL6	GATAAGTTATTGAACCCTTTG
45207	TEAD3	TCAGGCCACCTCCAAACCCCACCTAG
45208	ZNF264	TGTGATGCGATCTCGGCTCTCT
45209	FCMD	ATCAGACTTTGAGTGACATCA
45210	CTF1	GATTGCAGGCGTGAGCCAC
45211	WHSC1	GATTACAGGCGTAAGCCAC
45212	CLASP1	TGGGAAAGACTGATGTTGATTTGGAA
45213	PIK3CG	CCTTCCTCTGCTGGTCTTGTT
45214	DPYSL3	GGTGGAGGGTGCAGAGGGGCTGGG
45215	GALNT7	TATCACTATGCATTTCTACACAT
45216	RXRG	CCCCAAAATGTGATGCTTATAA
45217	DXS1283E	GCTTATCCCCTCTCATCTTCC
45218	AGR2	GAACATCTGCACTCCTGAACACAC
45219	PDE4A	CCTCCATCCGTACCTTGCCTAGCCT
45220	PTK2	CATAGTGGAAGAGGAGAGCAT
45221	VCL	TAAAGGAGTAAGAACCTTGCCTGA
45222	AGRP	GAATCCCGGAGGCAGAGGCC
45223	AQP6	GCCTGGAGCAAGCCCTGGTCAA
45224	HEPH	GTGTCTGCTCCTAGCCAAGATC
45225	SNX6	CCACCAGCACCACCAAGA
45226	GGA1	CCAGTAGGAGGCTGGGCCTGG
45227	ATP1A2	AAGGAAACAACAAAGGAAGTG
45228	VCL	AGAATCATATGATTCTGCTT
45229	SORCS1	TGGCACAAAGCATGAAGAAACCCCA
45230	AMD1	AAACAGCAATTAAAGTTTTTCTTCCA
45231	S100B	AGGAAGAGGATGTCTGAGCTGGAGAA
45232	PIGA	GCAGAGATGTTTTAACATTATATTTTG
45233	SOX12	ACTCAAGCTGCAGTATACAGCGGGAAAA
45234	AQP6	CCAGGAGGGACCCAGGAAACTAAGATTTG
45235	AOAH	TCTTTCTCTCAATGAAGAGCA
45236	DUSP4	GGGAGAGAGAAAGGGTGGCCACTTTCC
45237	NCOA3	TCATTCTACTAATGTGATGCTTTCATT
45238	ADRA1A	TCAAGCATCCATCTGACTAAGG
45239	AMFR	GTGGAAGTGGAGCCCAGTGAG
45240	NRIP1	CCAAGAGTATCCCAGTATTA
45241	G2A	GGGCTGGAGAACAGTGGCACCA
45242	JAK2	CTTTGTGTCCTTGTTCATTTAT
45243	TCF1	CCCCAGCCTGGGCCTATGGAGAG
45244	UMPK	CGTCCGTTCGCACAGGCAGCGG
45245	RAD1	GCCTGTAATGCCAGCTACTCGGG

45246	NOS2A	CTGAGGTCACAGGGCCTGG
45247	AANAT	TGTGGAGGGAACACTGGGTAT
45248	CYP1A2	CTGTTGCCAGGCTGGAGTGCAGT
45248	SEDL	CTGTTGCCAGGCTGGAGTGCAGT
45249	ATP6V0A4	GTCAGCCTGTGGATTTGATACGACTT
45250	PTPRS	GCAGCAGCTGTGTTTCTGCACCATTTCC
45251	TDGF1	CCCAAGTAACTGGGATTACAGG
45252	BCL7A	GAACAGCTTCCTCTCACTGAACG
45253	PRSS7	TCCAGTTTAGTTTGCTGCTATTAGCAGA
45254	FGF8	CCGCACCCTCTCCGCTCGCGCC
45255	SIAT4C	ACCCAAAGGTGGCCCGAGGCAG
45256	L1CAM	TCCAGGCCCCTCCCTCTCCAG
45257	GRM1	GCGCTGGGCGTCTTGGGGGTG
45258	TTC3	TACCCTGTACCACTCTAGCCCT
45259	HTR7	TGGGATGTCTAAAACATGACA
45260	INHBC	CCTGGCTACCCCCTTCCATGGCCC
45261	PNN	CAGGAAAGACAAAAGGCGTTATGGAAGA
45262	APCS	CTAGGGGGACAGCCACTGTGTT
45263	PCDHGA1	CAGTCAGCACCTACCCCTTCCCC
45263	PCDHGA10	CAGTCAGCACCTACCCCTTCCCC
45263	PCDHGA11	CAGTCAGCACCTACCCCTTCCCC
45263	PCDHGA12	CAGTCAGCACCTACCCCTTCCCC
45263	PCDHGA2	CAGTCAGCACCTACCCCTTCCCC
45263	PCDHGA3	CAGTCAGCACCTACCCCTTCCCC
45263	PCDHGA4	CAGTCAGCACCTACCCCTTCCCC
45263	PCDHGA5	CAGTCAGCACCTACCCCTTCCCC
45263	PCDHGA6	CAGTCAGCACCTACCCCTTCCCC
45263	PCDHGA7	CAGTCAGCACCTACCCCTTCCCC
45263	PCDHGA8	CAGTCAGCACCTACCCCTTCCCC
45263	PCDHGA9	CAGTCAGCACCTACCCCTTCCCC
45263	PCDHGB1	CAGTCAGCACCTACCCCTTCCCC
45263	PCDHGB2	CAGTCAGCACCTACCCCTTCCCC
45263	PCDHGB3	CAGTCAGCACCTACCCCTTCCCC
45263	PCDHGB4	CAGTCAGCACCTACCCCTTCCCC
45263	PCDHGB5	CAGTCAGCACCTACCCCTTCCCC
45263	PCDHGB6	CAGTCAGCACCTACCCCTTCCCC
45263	PCDHGB7	CAGTCAGCACCTACCCCTTCCCC
45263	PCDHGC3	CAGTCAGCACCTACCCCTTCCCC
45263	PCDHGC4	CAGTCAGCACCTACCCCTTCCCC
45263	PCDHGC5	CAGTCAGCACCTACCCCTTCCCC
45264	ASH2L	CTTCCAGTGACTGCTCTTATTT
45265	FNTB	TCCTTCCACTTCAACACTGGAGAACTG
45266	ORC5L	GCTACTTAGCTGGCCAAGGAG
45267	GPC3	AGGAAACTTTTGCAGCGGCT
45268	SOX11	TTTGCATTTGTTCTGTGACACCTT
45269	KCNG1	CCTGCAGCCGTGAAAGGAAGCT
45270	PDL2	TTGTGGAGCTGTGGCAAGTCC
45271	NSEP1	CCAGATAAATAGAACTATCT
45272	COL17A1	TCAAGCCCCAGCCTAGGAAAG
45273	FADD	GTGAATCAGGCACCGGAGTGCAGGTTCGG

45274	BICD1	CCGTAACCCCCTCCTGCCTCC
45275	FZD4	TCTCGAACTCCTGACCTCATGATCTGCC
45276	PCDHA1	CAGCCATTTAAATGATCATTGCTGCTA
45276	PCDHA10	CAGCCATTTAAATGATCATTGCTGCTA
45276	PCDHA11	CAGCCATTTAAATGATCATTGCTGCTA
45276	PCDHA12	CAGCCATTTAAATGATCATTGCTGCTA
45276	PCDHA13	CAGCCATTTAAATGATCATTGCTGCTA
45276	PCDHA2	CAGCCATTTAAATGATCATTGCTGCTA
45276	PCDHA3	CAGCCATTTAAATGATCATTGCTGCTA
45276	PCDHA4	CAGCCATTTAAATGATCATTGCTGCTA
45276	PCDHA5	CAGCCATTTAAATGATCATTGCTGCTA
45276	PCDHA6	CAGCCATTTAAATGATCATTGCTGCTA
45276	PCDHA7	CAGCCATTTAAATGATCATTGCTGCTA
45276	PCDHA8	CAGCCATTTAAATGATCATTGCTGCTA
45276	PCDHA9	CAGCCATTTAAATGATCATTGCTGCTA
45276	PCDHAC1	CAGCCATTTAAATGATCATTGCTGCTA
45276	PCDHAC2	CAGCCATTTAAATGATCATTGCTGCTA
45277	CACNA2D2	CTCCCCGCGGCGCCGCATCTTGAAT
45278	FMR1	CTTTTTACAAGGCTGTATTC
45279	MTMR4	CGTAGATGTTGCCTGGTGCAA
45280	PLAG1	CACATTATGAAGCTGCAGT
45281	BIRC7	CCTGTTCTGGACTGTGTTCTGGGCCTG
45282	UCHL1	GTGAGCTTCAGATGGTGAA
45283	A1BG	GTGATTCTCGTGCCTCAGCCT
45283	CLECSF11	GTGATTCTCGTGCCTCAGCCT
45283	EHD2	GTGATTCTCGTGCCTCAGCCT
45284	KIT	CCTTAGACCTTCCATAATGCTAC
45285	COL19A1	GCATCTTTATGAAACAGGCACAG
45286	RGL	CTTTTAGCTGCTCGCATGCTTGTC
45287	SORD	AGGACTTCCCCCACCCCAGAAGAT
45288	FGF7	GTGGACTGTTTTCTTTCTTCTCA
45289	STARD4	TACATAGTGTTTCAAGTGCAT
45290	LIMK1	CACCTGCCACTGGGCCCACAGC
45291	PACSIN1	TGGTTGGTGAAAGCAGTGGTGCCGGAGT
45292	GPR91	TGGAAGATATATAAAGCAA
45293	KCNA6	GCGGTGCCACCCAATCATGCCCAGCT
45294	MAGEA2	ACAGAGCAGAGGGGACGCAGACA
45295	PRex1	GTGCCTGGCCTTCGGCTCCTGC
45296	TRPM6	CTCCTTCTGTTCAAAGGCCTCA
45297	TCTE1L	TACACTTGAGGGTAAATTAAAT
45298	CXCL13	CAGACTTCATAGAATACTCA
45299	SYN3	CGTCCCCCTCCTGCCTCATCT
45300	DTNB	GGAAAGACAGAGGTTACAGAGGA
45301	ADD1	GGTGGAGGGTAGCCCTGGGGCC
45302	BRCA1	GCTGAAGTTAACAAATGCACCTG
45303	ARSE	AGGAAGGAGCCCAGGAGCAGAGGAA
45304	SRPX	CTTTCTAACTTTCTTTACTCCATCA
45305	TIMP3	TTCTCGCTTCCTCCTTTGGGCAT
45306	WNT5A	TTACCCAGGAGGGACTGAGCAC
45307	TGFBR2	GGCCCGCACATCTGCGCTGCC

45308	KCND2	TGAGAATAACTAATGTGGATTGAAATG
45309	ITGA6	TGGGGCTAATTTAACAAGAACTT
45310	PDGFRB	ACCAGCCCTCTGCCTCCAGGGAG
45311	FCGR2A	ACCCAGGCTGGAGTGCAGTGGTGCT
45312	ERCC6	GTTTGCATGATGTCTACCTCA
45313	ZNF146	TGATAGTGGTCACCTGTGAAGAGTGG
45314	FGFR1	TTCACCCCACTCAGCTCACCT
45315	WHSC1	CCCTGTTGGCCAGGCTGGAGTGCAGTA
45316	BMP8	AGCACAGATGCCATCATTTCC
45317	DAPP1	CCTGTAATCCCAGGACTTTGG
45318	DYRK1B	CTGGGGCAGGGGGGTCAAGGAGAGGG
45319	PPARG	ATTTACTGTGAAAAAGCATTTT
45320	MBD3	TGGTGGAGGGAGCCGTGGGCGTGG
45321	IPP	GAGCCCAGGAATTTGAGGTTGT
45322	FPR1	AGCTCCCAGCTCCAGCTTCGTC
45323	INPP5D	TCCAGCCTGGCTGCCAGGGAGGGTG
45324	UCP2	TGGGAGGCCTCGTACCAGCCAG
45325	OGN	AAACCAATATGCTTATAAGAAATA
45326	SPTBN4	CCAAGCCCCCAGCCCCGATCTGCAGAT
45327	TP53BP2	ACAGAAGTTCCAGTTACTCCAGAAAC
45328	NR4A1	AGACTGCCAGGGAGACCCTGGC
45329	MYD88	TGTCCATGTACTTCTGCCCTGCCTCCT
45330	SALL2	TTCCCTGGCCCCTTGTATTTT
45331	MYBL2	GGTGGAGGCAACAGGGCCATG
45332	EDG8	GAACTCCTGGGATCAAGCCTGG
45333	IL11RA	GTGCTTGTACCTCTGATTTCA
45334	RGS1	CAGAACTGGGAAGGCCAGGT
45335	SSX3	CTGTGGACCCCTCGTCATCAG
45336	RECQL5	CAGCCAGCGGTTTTCCTCTCTTCTCT
45337	SCA1	TTCTATGTTGGTCAACT
45338	SIAT8E	CCACATCCTTTCAGACACATCC
45339	MEN1	TGCAGTGAGCCCAGATCGAGCC
45340	TRIM14	GCCTGTAATCCCAGCTACTAGGG
45341	PPIH	TCCCTGCCTGCTGCTGCCCCATTTGAT
45342	KCNQ2	GCCCTTGTCCCCGCCCTCCTGAGCT
45343	ANXA11	GTGAGGGCGACTGGGTGGGTGAA
45344	FLRT2	GGGAAATGCTGAAAGCACCAG
45345	ADAMTS13	CCGCCCACCCTAGCCA
45346	MAP4K2	CAGCCCAGTCCCTAGTGCCCAAG
45347	ELAC2	ACAAGCAGAGTAACAGGATCAGTGGGT
45348	HUNK	TCTTTCTGACATACACACTGCA
45349	TTF2	CCAGGAGGTTGAGGCTGCAGTGA
45350	AGXT	AGCTGCAGTCCCCAGGCCATGAG
45351	BAAT	CCTACGCTGAAATTTTGGG
45352	GYS1	GTCTTCCCCCACCCCTAACCT
45353	GLO1	CATGTGAGAAAGAAAGCAGGCTAG
45354	GABRB2	GTGGAGAGTGCGGAAAAGGGG
45355	RUNX3	CTGTGGATGCAGAAATCTGCCCTACAA
45356	IL17C	CTCCCCAGAGGGCACCCCCTA
45357	ACVR1B	GCGCTTTCCCCTCCTCCCTGGGAT

45358	RAB5B	TTGAGCCTCTTTTCTCCTCT
45359	FCAR	CTGGGTGACAGAACGAGACTCCACCT
45360	ADK	TGTAATAAACTTTGGATAATT
45361	ADAM17	ACTTCCTGCAGGTAAACAGTTCTTGT
45362	ROCK2	CAGGAGACGGTGGTTGCAGTGA
45363	ATM	CTGGGAGGTGAAGGTTGCTG
45364	TPTE	TCTGACCGGCAGTGGCTCTGGAAGCAGT
45365	COX8	GGTCCCCCTTGTAACAATAAATC
45366	OCRL	TGGGTGTGGGGACGCGGGAGCC
45367	MDM2	ACCCAGGCTGGAGTGCAGTGGG
45368	MOG	TGATGGTCAGACACAAACAA
45369	SFRP1	GGGGCAGCCTGTGCCTGC
45370	MTCP1	CCTGCAGCAATTCACCTGCC
45371	DFFA	CGTGAAGTCAGGAGATCGAGAC
45372	DAAM2	TTGATGAATCTGGCGAGGGGCT
45373	AICDA	GCCAGCCTGGGCAACATAACAAGATCC
45374	TLR9	GGTGTACCCGCTACTGGTGCTATCCAGA
45375	WEE1	CTGAGGAGACCTCAGCCTCGG
45376	MLC1	CCCAGCCTGGCCCCAAGCATGGAAAC
45377	MAP1B	AGTGTAGACTGGCCATGCAAGTGG
45378	IL16	TTATTTTTCTCATGAATCTGC
45379	GALNT3	GCGTGGCTGGGGAAGCTTCACAATCAT
45380	ADARB1	GTGCTCTGCCTGCCAGTGCAGTG
45381	PSD	CTGTCTCTCCTCGGTCTCAGCT
45382	MAK	GTCCAGGCTGGAGTGCAGTG
45383	WRB	TATGTATTTTGGTCATATTGCC
45384	RASGRP1	TCTAAAACATGACTATCATTTCCTGA
45385	ARHGEF12	TCCTTTCAGGATGATGGAATTAGA
45386	SEL1L	TCTTCTTCTTTTTTGTTCATGGGAC
45387	LANGERIN	AGCTGGCTGTGTTTGCAGTGCAAA
45388	AIRE	GCCTGTAATCCCAGCTACATGG
45389	SYT5	GAGGAAGAGGGTATCCCTTTAGGA
45390	ADAM28	AACTTGTCAAATTACAATCA
45391	EPS15	TGCACTACCCTGTTCTGTAGTTA
45392	SLC16A2	GGCAAAATGAGACAAGTAGCCT
45393	DDX26	GGGGTGGGGTGGGGAGCCAGG
45394	GDAP1	TGGCTCGGAGGCAGGAAGAGCAGA
45395	HPSE	CCAACAACAACGAGGTTCCTAT
45396	EZH1	AGCACAGGCTGGGGTGGATG
45397	SYT1	CTGCCCAAGGTGTGTGTAGCACA
45398	OPRM1	AGGTCATCCAACCTCTTTCCT
45399	TMC2	TGGAGCCATCTCTGCACTAACTGCCC
45400	ETF1	CTGGTTCTCACACTGTACTCTG
45401	ZNF141	TTCGGCCACAGCCTCAGCCT
45402	UBE2E3	GCTAGGAATTATGTCATTTG
45403	COIL	GTGCTGCGTATCTTGTCTCAATA
45404	EIF2S3	TGAAATCCAAGTCTTCCTCCA
45405	ARNT2	CCTCGCCCTGCTTGCCCTGCC
45406	NONO	GGCTCACTGCAATCTCTGCCTCC
45407	OPHN1	GTGATGCCCCCACAGCACCT

45408	NFYC	GTCCTCTCCCTATCCCTTGCTC
45409	AUP1	GGGTCCCCTCACCCCGGGC
45410	NR5A2	TTGCTTGTAACTTTATGAATTCTGGA
45411	IFNAR1	GCAGTGAGCCGAGATCACGCC
45411	P53AIP1	GCAGTGAGCCGAGATCACGCC
45411	ZNF91	GCAGTGAGCCGAGATCACGCC
45412	RFC2	GCAGTGAGCCAAGATCACACC
45412	RIMS1	GCAGTGAGCCAAGATCACACC
45412	VHL	GCAGTGAGCCAAGATCACACC
45413	ALEX2	CCCTGCCTAAGCCTCAGCAGA
45414	CHRNA2	CCATGGTGCAACCCACAGCAAAGCCCT
45415	THY1	CAGGCCTGCCTTCTCAGGGACTT
45416	FIGF	TGAGGTTTCAAACTTTCCTTCTG
45417	SOX5	GTTCATTTTTTCTCTTTAC
45418	PTGIS	GGAGGTGGAGGTTGCAGTGAACTGAG
45419	MTMR3	TCCTGCGAGGAGCTGAGCCA
45420	PRNP	AGACCTGAGATGCTGGTCAAGCC
45421	LHX4	AAAGAGACTTGCCTTTTAAGGA
45422	INPP5B	AGACAGAGCGAGACTCCATCTC
45423	P53AIP1	CGACAGAGAGAGACTCCATCTC
45424	F2RL3	TGTGTGCTGGGGGGTTCGGGTGCTGCA
45425	PFKFB3	GAACACCTGGCATCCTTCCC
45426	PTPN14	CTGGAGGAGAGTCACCTCCAGACA
45427	TES	TGATTTATATTGATTGCACTTGC
45428	MYD88	TTCACCCTCAGTTTCCTCACTT
45429	POLR2K	TGGGAATTCAGAGGAA
45430	FZD4	AGCAGGTTGCAGCTTGGAGCGTGG
45431	ABCC11	CTTCTTCTAACTCCTGCTGTC
45432	SYNGR1	TCTGTTTCTCCTCGGGTGCCAG
45433	SCN4A	TGCAGGTTGCAGAGGAAGAGTAGATGA
45434	ZNF278	CTCTCCTCAGCAGAACATGTC
45435	LAMC1	GGATTAGGAAAGTTTGCTGAA
45436	RAD1	TGCACTCCAGCCTAGGCA
45437	SPAP1	AATGCTTGAGGCTTATCACCTGCCA
45438	ALDOC	CCAGCCATCTGCACCCACTTTTG
45439	STC1	TCCATGTGATCATTCTGCCT
45440	NAPB	AGAGCATCTACTGGGACTACAGGTGCA
45441	FGFR3	TGCCTGGGGTGTTAGTGGCACC
45442	IL12RB1	TGTTGGCAGACTGGAGTGCAAT
45443	KLF7	TCACAGACCCACACACATACAC
45444	PRL	CCCACATCCATTTCATCTATTTC
45445	ANPEP	ACATGTGTCCATCCCAGCGGC
45446	ROBO1	TGCTGGAAGAAACTAAAAATATA
45447	MMP9	TGCCCTCACCATGAGCCTCTGGCAG
45448	MCM3	GGGCATCATCTTCCTCATCTG
45449	MAPK7	TTATGTTATTATTACACTGTCTTT
45450	SUV39H2	TACTCACTGTACTTGTATTTG
45451	MGAT2	TCTTGTCGCTCAGCCTGGAGTGCAGT
45452	SKI	GTAAGGAGACTTGAAATTCAGAA
45453	HUNK	TGGGAAGTGAGGGGACGAAGC

45454	RAG1	ATTAAAAAACACAGCAGTTTTC
45455	IKBKAP	TAAAATGATAACTTACCTTA
45456	DSG1	CTAAAACTTGAGGCAGAGT
45457	CITED4	TCTGCCTGCTGCCCCCTCTCTCCTC
45458	INPP5D	CCGTGCTCTCCAGCCTGGCTG
45459	GLUL	CAGTTAATCTTGCTTTCTTTGT
45460	CALML3	TTCATCTGCCTTTCATCCTGC
45461	LY6E	CCCACCCCCACATTGGAGCCCTCCT
45462	ASK	CCCTCCAGAGGCTGAGAATTGCTTGAA
45463	IGSF4	GTTATCTGCAAGTGAGGTGTGTC
45464	RGS9	CCACCGCACCTGGCCTTCCCCA
45465	AIPL1	TGCAGTGAGCCAAGATCACGTC
45466	DBN1	GGGGCTTCTGGAGGAGAGGATGAGA
45467	OPA1	TATTTCCACAGATTTCTCCCAAGG
45468	PPARGC1	TGAGTGTGTGCTCTGTGTCACTGTGGA
45469	KIF2	ATGTTTTGTCCTTCACCTGAATTAC
45470	AVPR1A	CGCACAGACCCAGGATTATCT
45471	FANCC	TCATGACACTGCACTCCAGCCT
45472	DGKG	GAAGAGGCAGAAAGGCTGTGGAAA
45473	SHANK2	TTCAAGTAATTTATTTTGCTACC
45474	NPY	GTTTAAATAAAGTATCATGCA
45475	PSG11	ATTTCAGGAAGACTGGCAGGAGATTTA
45475	PSG2	ATTTCAGGAAGACTGGCAGGAGATTTA
45476	NYX	GGGGCAGCAGGGGGTGTGTTTGTGG
45477	OAS3	ATTTCATTCCAGGCCCTCAGTCTT
45478	CNR1	TTGAATAGTATTGTGTTCCTATATTC
45479	KRT6A	ATTAATTTCTTGCCTCCAGTGTT
45480	LTK	GGCCCAGCCACTTCCAGCTTTTG
45481	BBS4	AAGCCTTGGTTTAACTGAGGT
45482	COL4A3	CTGTAGCTCTAAAATCTGCTTGTATC
45483	DRD2	GGCCTCCTCTTCACCCCGGCAG
45484	B4GALT5	GGTATTTAGAAAATAAAT
45485	RPP30	TGTTGCTCAGGCTGGAGTACAG
45486	EGFL5	AAAAAATCTCCTACATGTGAA
45487	PTCH	TGACCTAGTCAGGCTGGAAGC
45488	SSX3	ATGATGAGTACTCCCCTTGGGGA
45489	WWP2	GGTGGAGGCTGAGTCGCAGG
45490	GCNT2	GACTTTGTCCCAAAACAAAATAGG
45491	PXN	GGCCCCCTCCTCCCTCCTGTAG
45492	CTSS	AAATAAATGTGCATGCTTTTCT
45493	FKRP	TGGAGAGACAAGTAAACTCTCAGAGTA
45494	ZNF175	CAGGAAGGGGCGGCTGGCTTTG
45495	SOX11	ACAGCCGCCTTTGGCAGCGAGCGCTC
45496	MLLT7	GGGAGCTGGGGAGCTTGGCTGA
45497	ABCD3	TTAAATGTTTAACATCATTGCA
45498	MEF2B	CATTCCACTCAGCCTGGGACGATGGG
45499	FGF18	AACACTTTGAGAAACCAAAGT
45500	ETV5	GAACAGCTGTTCCCCACTCCGTGTTCT
45501	LASS1	GGCCTCGGAGCCTGTCTCG
45502	LDHC	GTATTTTTCTGGTGTCACTTC

45503	SEL1L	GGGGCAATGCCTGCCTGTTCACCACT
45504	SLC35A2	GGGGTAGAGTGAGGTAGACACTGGACT
45505	MEFV	ACTGCATCTCTCTTCCTGCTTCTGGCC
45506	F3	CACCATGGCACCTTTTGCACATAACAT
45507	ITPR3	CTGGGACTCAGTTTACCTTAATGCCT
45508	VANGL2	TGGTCTGAGGAGCAGGTTGGG
45509	AFG3L1	CCAGTGCTTCCAGGGGATCCACGTTC
45510	SLC21A2	CAGGTTCTAGAAGATTGGTTGC
45511	HIVEP1	TTAGTATGTAAACTCCATATTTA
45512	SNX15	TGCAGGACTGCCAGCGGGA
45513	ADAMTS5	TACTCTGCTTCTCTTACTAT
45514	JUP	TGCCAGCTTCTCTCTCCAGGGTG
45515	SLC22A3	AGTCCCTGGCCACCAGCACACCC
45516	DSCR1	ACAGGAAGCCGCCTAGTGCAG
45517	TRAF5	ATTGTCACCCAGGCTGGAGTACAGT
45518	ITK	TGTGTACATTCTTCACCTC
45519	OPHN1	CATTTTGCAGAGGCTATGGGA
45520	PLS1	AATCTACTTTCTCCATCTTCC
45521	PPP1R12B	GGTCTCCGCCCTCTGCTCCG
45522	SLC15A1	GCCTCCCAGGTTCAAGTAATTC
45523	SORCS2	CCTCTGCCCAGAGGGGCAGCAG
45524	CACNG3	TCTGTGTATCTGTGCCAGATGTT
45525	PCDHB3	AGAAATTCACTGTCTTTTA
45526	CDC25B	GATTCCCCTGTGTCATCCCATCA
45527	RHAG	TGTCTGATGCTGTCTCTTGCTC
45528	BMP8	ACAGAAGTCCTGTCTGAGGTCCT
45529	IL16	AGATGCCTCATTTTAGAACC
45530	CPSF4	CAGGCGTCTACACTGTCACTCA
45531	GNRHR	TGAGGTGCTACAGTTACATG
45532	MSL3L1	TCCAAAAAGGTTTAGTTTGTACTC
45533	SOX5	TTTAACTGTTAGTCTTAAATAGTTGG
45534	PDE4C	CCAGGCATGGTGGTGTGCACCTGAG
45535	ADAMTS3	GCATATGCTTGTTTAAAGTGG
45536	RHD	CCGAGTAGCTGGGATTACAAGTGC
45537	PPP1R12B	CACTTCTCCTTTGAGAGTTGGGGT
45538	RAD51C	TAAGATATATATGTGCTCT
45539	HS3ST4	TCACTTGCTGGAGTGCCAAG
45540	CASP10	ACTGCACTCCAGCTTGGGCAA
45541	BRCA1	ATGGAAGAAAGTGTGAGCAGGGAGAA
45542	POR	CCCACCCCACAGACTCCGGCCT
45543	KRT4	CTTTATGCCCCTGCAACCAA
45544	AKAP13	GCCTGTGCTTTTGCTCATGGCCT
45545	WNT1	CTACCTCCCTCCCTCTCCGCG
45546	TGM4	TGAAGCCTGCTCCTTCTTGTTCTGCC
45547	ZNF192	TGCTATATTTTTAACAGCACTCCAG
45548	CD2AP	AATGCTGTTTATATTTTGGGTGA
45549	IL8RA	CCAAAACATCAACCTGCCAGCTGGCC
45550	CDH20	GGGGTGAGCAGGCGAACAGAGCTCTCT
45551	HDAC2	ACTTTGGCATGGACTGTATTTA
45552	MAFF	CAAGGAGGGGGATCGCTTGA

45553	CHRM5	CCCTTCTGTAGGAAACAGCAGAG
45554	ELAC2	GCCCAGTGAGATCTGGGAGACCCTGAA
45555	RABIF	CAAACGGTCACATGTCCATCGTT
45556	GRM4	GCCATTGCTCCCCTCTCCCTGCC
45557	P2RY6	TCAGGCTGAGGAGATGGGTGC
45558	CALB1	TTCTAAACTGTTTTCATGTGTTGCA
45559	TRPS1	CACATGTTCCTGATAGTGCTGCAGT
45560	NCOA6	AGTCCACAAAGTGCTGGGATTAC
45561	DLG5	CACCTCCTTTGTAGACAGAGGGCCA
45562	CCND1	CCCTCCAGAACACGGCTCACGCTTA
45563	UBE3A	AGCTGACCTGGAAATGAATGA
45564	NQO1	GAGACAGCCTCTTACTTGCCAAGA
45565	SMAC	AGCAGGGGCAGATGCCACC
45566	PRKCG	TCTCCCACCCGGCCACAGCTGCT
45567	TNFAIP1	CCTGGGTCTCTGCTCTAGCA
45568	ZNF14	CCACTGCATTCCAGCCTGTGCGACAGA
45569	FGFR1	CGCCCGGGCTGGAGGCGCCGA
45570	RPP30	CATGAGCCACCACATGCAGCC
45571	PML	GTCAAGCAGGCCTCTGGAGTGCTACCCTTC
45572	CNGB3	GTCACTGTTACAGCACTTTG
45573	SUFU	CTCCTAATCCCTCTCCTTTCTGGC
45574	RNMT	AAAGAAATTGGCCTTCAGCTGGAGAAA
45575	TCF7	TTCTTTGTACCATCTGTCTTGC
45576	SUDD	CACTGCACTCCGGCCTAGGTGA
45577	OGG1	TCTCTACTGCTTTGGATCCTGGGTC
45578	SH2D1A	GGCTGGTGTCCCTTGTCTTTGCCA
45579	APOC4	AGAAATGTCCCTCCTCAGAA
45580	PPT2	CTACCTCATGTCCTCTCATTTGG
45581	WHSC1	CTGCAACCTCCGCCTCCTTGGTT
45582	GZMM	GGGTGAGGACGGGTGGGAGGG
45583	TRPM4	CGGCTCCTCCCAGAACCAGTCCC
45584	NDST1	GGGTCTGCGGCCTAAGGGACCTC
45585	CDYL	GGCCCGCACTGGCCGCGGAGTGCAAG
45586	HADHSC	GGTTTGCAGGAGGTCGGTTTTCATGG
45587	EIF4E	CTGAGTATTCTCATAGGAGACTGCG
45588	NDRG1	GGACCCCGCAGTTGGGAGGAGGAAGT
45589	CD74	AGACCCCAGGCTGGACATGCTGA
45590	CIAS1	ACACTCCTGGATCGAGCCAA
45591	FLRT1	CCGGGCTGCCCCGCCTCAGC
45592	FMR2	GGGAGGCAAGAGGATTCTCTGTCATC
45593	PIK3CG	GGTTTAGTCTCAATTTTGGTTAT
45594	PKHD1	TTACCTGCACATGCTTTCTTT
45595	CARD4	TGGCTGCTTTTGTCTCCC
45596	KIP2	GCTCCCCAGGAAAGCAGTGGCAGC
45597	UGT2A1	AAAGGGAGTTTAACAAAAAC
45598	PTTG1IP	AGCCATCAAAATTGGACTTTGTATTGT
45599	NGFR	AGTCTGCTGCCCTCCATCCCGACA
45600	LANGERIN	TGTCTCTGCTTAGCTGTGCTGG
45601	FIGF	AGTGAATCCAGACCAACCTTCC
45602	EGFL4	TTCCCACGCTTCCTGGACACTG

45603	APOC2	TCCCAACTCTAGCCTGAATTCTTTTCA
45604	FAAH	CCCCTGCCTCCCAGCCTCCGCA
45605	CBFA2T3	AACTCCAGGACGCCCCAGCTGG
45606	FGFR2	AGTATATAGGTGCTGGATGTATGTAA
45607	WTAP	TCTGTGCATTTTCTCTTTAGG
45608	FZD4	TTCTGATGTACCTTTTTTCTCT
45609	SIRT6	GGCCAGGGGTTACACCTGCCCTCC
45610	STK31	ATAAAGATGTTTGGCTATGCGCTT
45611	CARD4	TCTTCCTTCTCAGCACTTTC
45612	MAP3K11	GCACAGGAAGCCTTCACACTGGA
45613	ATP11A	TGAAGTAGAGGGTAAATCAGCGGTAA
45614	KCNQ2	AAAAGTTATTTTCCAACAGGGC
45615	NCOA6	TCAATGGTTAGATCTTTAA
45616	SULT2A1	CATGCCTGTAATCCCAGCACTA
45617	KIT	GCAGAGTTTGTGTGTTGTCTTG
45618	NTSR1	TCCCAGGAACTCAGGCTTCAGG
45619	TLL2	TTCTCTCTGCCAGGGACATGTCA
45620	WNT5B	CAGGCCTGCCTTTCCAGCGAGA
45621	SUV39H2	TTTCATAATATATAGGATAA
45622	RFX1	GTGGCTTCGTGGTCACTGCTCC
45623	CAMK2A	GCCTCTCTGCCATTTCGGTCCC
45624	CRSP6	TCACTGCAGTCTTGACCTCCC
45625	CHST2	TGGGGGTGGAGAAAGGGGAA
45626	RECQL5	GACCAGCCTGGGCAACATGGCAAGACC
45627	HAO1	TTCACAACTTTGAGAAGGTAGCACTGG
45628	LIG4	ATGGCTGCCTCACAAACTTCA
45629	RNMT	AGCCTGAAACCTCTTCCACGCCAT
45630	COL3A1	TAAAGCCACAATTATTTTAATA
45631	POLR2E	ATCCGGCCCCCACAGCTCT
45632	IL1F8	GCTTCATGCAACCTTCCATTCCT
45633	ZNF264	GAGAGAGACCCAGTGGTTATTGTG
45634	GNAI2	CCCTGCTTCTCCAGCCTGGACCCCCAG
45635	CLASP1	CACTCACTCCTTTATCTC
45636	RBM8A	GCCTCCTACAAGGAGGAGAATGTTGC
45637	HMGCR	AACATTCACACAGGGCTCTTGGA
45638	ABR	GCCTGCCTGCATGCATGTGCACCCTTG
45639	GGA3	CCTGGTTCCTCCCTGCCCCTTGCC
45640	BCKDHA	ACCCCCACCCATCCTCAGCTACC
45641	THBS3	CCAGAGGGGTGGTCACCCCACCC
45642	ATP2B1	TGGAAACATCACTCTGTTGTAAGCTGA
45643	FLOT1	CCACTCCACCCCACCTCA
45644	NRG1	GAGGGACAAACTTTTCCCAAAC
45645	SLC7A5	GCCTGCTCCCTGTCTGTGTCCC
45646	MFAP3	TCGAACACTTACTGAGAGCCA
45647	FCGR3A	CACCTTGCCTCCAGGCTCTTTCCTTC
45648	TEM7	TCTGAACTGGATTTTATAGG
45649	TKTL1	TTCTATGAGGAGACCATGT
45650	F2R	CACTGTGCTCCAGCCTGGGCAA
45650	TADA2L	CACTGTGCTCCAGCCTGGGCAA
45651	PTGFR	TCTTTCCCTGTTAGGCTGA

45652	TNFRSF7	AAGCAGCCACTGCCCAGGG
45653	ASPH	GATACTTAAAGCTTCAAAAAGA
45654	DTNA	TGACTTCTTCTACCCTAAAATATTC
45655	SYT4	TAGGAATAGTCAGACATTTTATGA
45656	SRC	TGCCCCACTCTGCCTGCCTGCTGTT
45657	C14orf1	CAACTTCCTGGGCTCAAGTGACC
45658	ITGB1	TTTTGATACAAGAAAGCAATGCCAATC
45659	MAP3K11	GGGGTGATGCAGGGAGGAGGG
45660	SH3GL3	CATTGATCTGCTTTTCCTAATCATGTC
45661	PRX	GCTGGTGGCTTTGCCCTCCACCTG
45662	ZNF35	GGACACCACACACCAGCT
45663	MAP2K1	GCCTGTATTTTCGGACTTTGA
45664	RNASEL	ATAACAAAAGCAATATATACCC
45665	ALDH1A2	CCCAGCCTGCACGTCTGTCCCTCTCTG
45666	KIP2	GGACCCATGGCCTCTCTCCA
45667	ARSD	CATGCCTTTAATCCCAGCATTT
45668	CD1D	TGGGACACCTCAAATACATAC
45669	CLN5	TTCTCCTGGGAGCCAGACCAAA
45670	HMGB3	CTTCAGGTTGTCTTGTTTCT
45671	SLC22A11	CAGGCAGCCGTGGCCGAGTGG
45672	IGF1	CTGTGCCTCAGTTTCCTCATCT
45673	RBM8A	TTATGTGAGTTTCTATATTAGACA
45674	TAF6	CAGGGAGGAGAAGAGGGACTCCAG
45675	HM13	TCATCCCATGGCCAGGGCGGGCCACT
45676	CRMP1	TTTGTAATCACTCCCATTTTTACTTA
45677	SPS2	ATTGGAATCAGCCCATCTAAAG
45678	MAP3K8	TTGTTTGCAGATAAGAAAGGAAGCTAA
45679	UBE2L3	TTCTTGTTGCTTCTCTGGATCC
45680	ARHGEF12	TAGAGAAGTCCATTTAAAAATTATT
45681	SLC25A14	GGATACTGATGGGTGACATTGAAAACG
45682	SLC19A1	GCAGCCGCCCCGCCGAGTCGCAG
45683	RAD51L1	GGAATGAGAGCAAGGGTTGGG
45684	RPP30	AGCTCACTGCAACCTCAATCCT
45685	QDPR	GCAAACTACATGGACTCTGTCCCTG
45686	PLXNB3	GAACCGAGCCAGCCACTGAGGG
45687	AGTR1	CACCACTGCCCACCTAGCTGTCCTGGC
45688	PUM2	CAGCATGTCCCAGTCACTGCAG
45689	ADAMTS8	GGCAGCACGGCCCACCCAGGC
45690	EXT2	TTTATTCCTTTTTCTACTGTGTCT
45691	NR4A2	AGAGACACATCTTAAGGGGACCCA
45692	RB1CC1	GAAATGCGGACCAAACTACTTCA
45693	LANGERIN	GACAGGCTCCCAAGCTCACTCTTTGAG
45694	CDKN1A	GCAGGGGGAAGGTGGGGTACTGGA
45695	FMO4	TTAGCCAAATTCAGGCCCAGTCATCTC
45696	ALK	AGGTGCTTTCCGGCCGCCCTCTGGTCG
45697	CD8A	ATATGGTGTACATTCTTCCT
45698	RAB26	GCTCTGCTGCCCCCTCCTGGGCA
45699	P2RX7	CTGCACTCCAGGCTGGGTGACAGAG
45700	PSEN2	GCTATGCTCACATTCATGGCCT
45701	WHN	AGCAAGAAGGAGGAGACAGAGA

45702	PCDH15	TGTTTCGACAGTTTTATCTCT
45703	CD209	GCTCACTGCAACCTCTGCCTCC
45703	CYP1A2	GCTCACTGCAACCTCTGCCTCC
45703	CYP8B1	GCTCACTGCAACCTCTGCCTCC
45703	EIF5A2	GCTCACTGCAACCTCTGCCTCC
45703	FZD4	GCTCACTGCAACCTCTGCCTCC
45703	GPR81	GCTCACTGCAACCTCTGCCTCC
45703	MICB	GCTCACTGCAACCTCTGCCTCC
45703	MPL	GCTCACTGCAACCTCTGCCTCC
45703	MYCL2	GCTCACTGCAACCTCTGCCTCC
45703	NQO1	GCTCACTGCAACCTCTGCCTCC
45703	PCDHB11	GCTCACTGCAACCTCTGCCTCC
45703	PCDHB16	GCTCACTGCAACCTCTGCCTCC
45703	PER2	GCTCACTGCAACCTCTGCCTCC
45703	SIGLEC8	GCTCACTGCAACCTCTGCCTCC
45703	SMAC	GCTCACTGCAACCTCTGCCTCC
45703	TPMT	GCTCACTGCAACCTCTGCCTCC
45703	TRPV1	GCTCACTGCAACCTCTGCCTCC
45703	TUFT1	GCTCACTGCAACCTCTGCCTCC
45703	VHL	GCTCACTGCAACCTCTGCCTCC
45704	MPL	TTGAGACAGGGTCTCACTCTGTCACC
45705	DNM1	CCTGCCTGGACGGCTGTTCTGT
45706	BCL7B	TCCAGGCAGCAGTCTCTGCTCC
45707	SKI	TGTCCCCACGGGTACCAGGAAGTGC
45708	POV1	TCTCCTTCTAGCGGTCTGCCTCCT
45709	PPFIA3	CTCCTCTGGCTCCGGGGTTTGC
45710	PSG7	CCATAACAACAGCTGCTCAAACT
45711	G6PD	CCCGCCAGCCTCAGTGCCACTT
45712	COL6A3	AGGACTGCAAGAGTTTTCCTCC
45713	NCOA1	ACCAGCCTGGTCCACTGGGAACTCAA
45714	GATM	TTTTTCTCTCTTTCCAAAAATTT
45715	OAT	TCAGTGGTCCCTGGGAGCCAG
45716	DSCR4	TTTCCCTTAAGGATGTCT
45717	FOXG1B	AATGTAGTGAAATGTTAATA
45718	PSG4	ACTGTCCTTGCTCATGCCTGCCTCTTTCACT
45719	MAFF	CCAGAAGGCAGAGGTTGTAGTG
45720	MEIS1	TCCCTCTTTCTAGCCTGGG
45721	GFPT2	TTTGGTCCCTGCTCCTTGCC
45722	G6PC	GCTCACTGCAACCTCTTCCTCC
45723	TRPM6	TCTCACTGCAACCTCTGCCTCC
45724	CLN2	CCATGCTCCATCATACTCAGGTCTCCC
45725	CD5	GAAAACAGACTCCTCTAGTACTTGGA
45726	MYO7A	AACAACCAAATGTGCATTGAA
45727	MAPK7	ATGGAAAGCGACCTGCACCAGA
45728	DHFR	CACACCTGTAATCCCAGCGCTT
45729	NCKAP1	GCGGGAGGGGAGGAGGC
45730	DEK	CTAGATGATCAACATAATGGACCACT
45731	SON	TACTGTTTCTCTGGGTTGTTTGT
45732	ADAM33	AGGGCTGGAGAACACTGCTGGGCA
45733	ACE	TCATGGCCACCTCCAGGGACAAAGA

45734	PCLO	GAGATAGATCATTGTTCTCTCCA
45735	INPP5D	CCTTAAGGAGCTGAAGAGTCTGG
45736	INPP5B	CTGCCCCTCTCTGGGCCTGTTGCTC
45737	BCL2	GTGATCTTTGTTTTATTAGTAAA
45738	BSN	CTCAAAGCCATCCCCCTAGCCATCGTG
45739	AHR	AGGCTGAGGCAGGAGAATAGCC
45740	GPR55	CTGCCTGGTGGAGTTGAGTG
45741	IL1RAPL2	TCGCGCCCCCTTCAGCCACTCCG
45742	8D6A	GGTAGAACGGCCCTGTGCTTAA
45743	CD79A	CTTCTGGGGGCTTCCTTAGTCAT
45744	PCDHB4	TAAGCCCTAAATTTCTCCCCAAAATCAAGAC
45745	GJB1	ACCCTGTGCTGTCAGATACCCT
45746	CTMP	CAAGATCATGCCACATCACTCC
45747	LAD1	AGAACTCCAGAGTCACCTGTCTCATCG
45748	MPDU1	GGCTGGTTGCTGCTGCAGTGA
45749	SORCS2	GGGCCTCCCTGACTTTGCTTCT
45750	ROCK2	TTGGAGTTTATATCACTCATTCCTG
45751	FOLR1	GGGCCTCTGACAGCCACTTTGAA
45752	ITK	GTACAGTCACTGCTAGTGTTC
45753	LUZP1	TGCTGGCCTCTCAGGGATGAGGA
45754	AHCY	CTTGCCCAGGCCCCACCTCTCCTC
45755	CACNG3	AAGGAGACCTGAATTTTTGGA
45756	PRKCH	AACTCACAACCTAAAGCCCA
45757	MAPK4	TCGCACCCCTGTATTTGCCTCA
45758	BIN3	TCTCACAGGCTGGGGACAGAGGTGG
45759	MEOX1	ATGATTGCCAAATGAGATGGCTGGTT
45760	EPHA2	GCCTGGAGCCCCATCGGCCAA
45761	LZTR1	TATTTGGTGGAGACAATGGGAA
45762	MKI67	TCTGCTCCCGCCTGTTTTCTTTC
45763	HOXD8	AGAGGTGGCGGCGGGCAGAGGGT
45764	CTSB	CTGGGCTGGTGTGCAGTGG
45765	EIF4G2	TCTGAGCTGAGTTTGAGGCCGTCCCCGACT
45766	IFNAR2	AAGAGTCCACTCCAGGACCCTTT
45767	SLC14A1	CCAGGAGGAGGAGGCTGCAGTG
45768	CYP8B1	CTGTTGCCCAGGCTGCAGTGCAGT
45769	E2F1	GTGGTCAGATGGTGGGGTGGGCC
45770	SIAT1	TTGCTCTACACATCTCTTCA
45771	SCML2	CCATATTTATATATTGTTTTA
45772	F2RL3	ACCAGCCTGGGCAACATAGGGGGATCC
45773	SACS	GTGCACTTTACATCTTTATTTAAATTTTTT
45774	MFGE8	TCTGTCTCTCCTAGCCCCTCTCTC
45775	MPV17	TTCCACCTTGCAGTGATGCAGCTTG
45776	TMPRSS3	AGCTGTTGGTTAATTCCTGCCTTC
45777	ENSA	GGTGTGGGCTGGAGAGGCAGAA
45778	UNRIP	GTTGCCCAGCCCAGCCCTAGTGTCAGG
45779	PTK2B	TGCATAAACATTCTTTTAACTTCTTTCT
45780	RFX5	CCAGGTGGCAGCATCTTGTCATACGT
45781	ESR1	ACACAGACCCCTTTGCATTCAC
45782	TP53	GCTGTCCCTCATGTTGAATT
45783	SMARCD2	CTGCCTCTCCAGCGGCTTGGGCCGGG

45784	SLC21A2	GGTCATCTAAGTGCTGTCCATATGAAC
45785	CD209	TTGTCAGATTCTTCCTCCTTTA
45786	PSEN1	CAGGCAGCTCCGGGGTCCGCGGTTT
45787	PDYN	GTAATTTCCTGCTCCTCCAGTACA
45788	HMGN2	TGATGCCACTGAGATGGCACCT
45789	FAU	TCCTCTTTCTCGACTCCATCT
45790	CD209	TCTGCTTGGTGAATTGTGCCTCTCCTGGCTCT
45791	GLTSCR1	CACCGGGCCGCCTCCCCTTCCCCGTCCCC
45792	WDR4	ACCGTGGCAAGGAGGTGTACAGC
45793	CLN2	ACAAGTCCTACTGACTGCACATCTTA
45794	TNFRSF14	CATCGGAAGTGATTTTCTAAATT
45795	GDF5	CACTCCTGGAATCACAGAGGGGT
45796	PTGS1	TGGCAGCTGGGGCTAGGGGAAGGGCTT
45797	YWHAB	CATTACTGAGCACCTTGGTGAG
45798	RBM6	GATACAACCTCCCTCTTGTTTTG
45799	TAGLN2	CTGTGGCTAAGGGGTGGGGTGAGGGG
45800	TNNC2	GCCGGGTCCCCACCAGGGA
45801	RHD	GATTATACCACTAGAGTCTTCAG
45802	CRSP8	ATGACACCTGCCGGCAGTACCCCCACG
45803	USP5	TCTTCCTTGTCCTTCTCTGG
45804	ADH5	CCAAGTTCTCAGCACCTACTTTT
45805	JRK	GATCCCAGCTCACTGCAGCCT
45806	PIK3C2B	TCTGCTGTCTCTTCCTCTGGAG
45807	TG737	TACAAATGATGCAAAATGTGCACCTGG
45808	NRGN	CTCCTGATTGGCTTCCCGGCCGC
45809	FBLN1	AGGAGCCTCTCTGAAGGACCA
45810	RAD23B	GCAGCATTCACTCTCCCTGTCTTT
45811	EPHA8	CCCCGGCTGTATCTCAGGTCTG
45812	WHSC1	TTTCCTTTCCAAATGCATCTC
45813	DDX3	ACATTTTGCCCATAACTTTTTA
45814	SMP1	ACTTGACACTCCAGTCTTAGACAGGGGA
45815	FBLN1	GCAACTTGCACAACAGCCTGGACCTGT
45816	PTGER2	CTGAGTCTCGGAACGCTCCAGCTCTC
45817	FXYD2	CCACTGCACTGGGGCCAGCTGGGAAGC
45818	CDC7L1	GTTTGGTGGCACATTCTAAAATA
45819	PDGFB	GCCCATTTTTCATTCCCTA
45820	FHL1	CTTCCGTCTTTTCTCCCAT
45821	ABCD4	GGGGCCTTTGGTCTGCCCTACCT
45822	ZFHX1B	CTTTGAAGCACCCATGTCAG
45823	ROR2	TTTCTGCTGCCTCCCTGCT
45824	C14orf1	ATCAGCTTCCCAAGTAGCTGGG
45825	WBSCR5	CCCTGGACTCTCAGCATCACA
45826	NDUFS1	AGGCTGAAGCAGGAAAATCGCT
45827	ACE2	TAAATGTTAATTTCATGGTATAGAA
45828	GTF2IRD1	CTAACCTCAGTACTGAATCAGGACC
45829	PHLDA3	CAGCTCAGGGGCTTCGAGCCAC
45830	CHAC	GTAATGGTGGAGAGGCTGCCCAT
45831	DAP	CGCCTCCCACCTGGTGTGCACAG
45832	GFPT2	TTAGTTTTAAAAGACAAGAT
45833	TLL1	ACCTATACTGTTCTATACTACTCCTA

45834	CHST5	ATCATGCCACTGCACCCTAGCTT
45835	TM4SF2	GCTATTGTGTTATTTTACTACTTCTC
45836	PLN	CACAATACTCTATACTGTGATG
45837	HSD3B2	TAATCTCCTATTCCTTCACA
45838	SH3BP2	GAACTCCTGGCTCAATCGATC
45839	DPP4	TTCTCCCAGTCATTTAATAAATGTGC
45840	FOLR1	TTCCCGCAGGAACTGAACCCAAAGGAT
45841	UBE2V1	CTGCCTGGTGACACTGCTGCCGCTGC
45842	FCRH1	TTGAGACAGGGTCTCACTCTGTCACT
45843	SFRP4	GATATCTGTTGTTGCAATGTTAG
45844	STAU2	GAATATAAACAGGTGATTTTA
45845	SCA1	TGTCCAGAAGCAGCACTTTG
45846	CITED4	CTCCTGAGCCTCCCACCCCGCTGCCTG
45847	GPR91	TAACTCATAGACATCAATCA
45848	SSTR1	TCTCCCACTTTCTGTTCCTTCC
45849	HOXD8	CGCTCAGTCACTGGTGCCTGAG
45850	UBE2I	CTGTGCCCCCCACTTTCTCCC
45851	APAF1	TTGCCAGGCTGGAGTGCAGTG
45851	CYP1A2	TTGCCAGGCTGGAGTGCAGTG
45851	SEDL	TTGCCAGGCTGGAGTGCAGTG
45852	NRIP1	TCCAATTCAAAAATAAATTAGAAAAAT
45853	RNPEPL1	CTCCAGCCTGGGACTGCTGTGATGGGG
45854	ASB1	GTGCCCTGCCCTGCCCTGC
45855	NLGN2	GCAGACGGCCCCTCTCTTCCCA
45856	DPYSL2	AGCTGCCTTTTTCTTTTCTTT
45857	IL8RA	TGACTGCAGCTCCTACTGTTG
45858	POU4F1	TCTAGGAAAATGAAACAATTTTA
45859	ZNF137	GGGATTACAGGTATGAACCACT
45860	PTPRC	TCCAGTGAGCTTATCATGCTGTC
45861	MRPL49	TGTTGCCCAGGGTGGAGTGCAGT
45862	TP53	TGTTGCCCAGGCTGGAGTGGAGT
45863	CHD2	ATCCAGTGTACTTTGCATTTTA
45864	HD	GGGAGAGACTGTGAGGCGGCAGCTGG
45865	ILK	TTGAGAAGATGCAGGACAAGTAG
45866	SPTLC1	TATCTCAAATGTATTCCTTTTTTG
45867	PLAG1	CTTTTTGCTTTCTTTTACGAC
45868	ANKH	AAATCCATGCAGTGCAGT
45869	DUOX2	CCAGCTGTCCTAGTTTGCCCAGGACTC
45870	MAK	GTTTAAATCTGCCACTTTCTG
45871	STS	TTCCTTTAGTTCTAGTTAGTC
45872	CENTD1	TTTGAAGTAGAAATAAAATGAA
45873	RING1	ACCAACAACAAACGTGCTTT
45874	EFNB2	TCCACTCCACATCTGCATCA
45875	GPR41	TTCTTGAGGGTGGCAGAGGAG
45876	IL18	CATTGCGCTCTAGCCTGGGCAA
45877	MAOB	CCACCTCTTTGGATGTTTTCACCAATT
45878	PRX	GGTGAAGCTGCCCAGGGCTCCGGAG
45879	RPL15	TTACCCACTCTGTCCACTCCCATAG
45880	CDK10	TTGGAAATGTGCAACCACTGCTTC
45881	NDRG3	GCCTCCCGAGTAGCTGAGACTA

45882	PRKCN	AGAAATGTTATTTTCCCTGTGATAGAG
45883	PRCP	CTCCAGCCTGAGCCATGGGC
45884	TPD52L2	CAGGTCAGGTGGAGGGTGGGGCGTG
45885	SEZ6L	AGGTACCCTTTAAAAAGGGGCT
45886	ST3GALVI	AGAGAGGCCCCAGCAATTCAGCAGG
45887	ALPP	GCTGCCTGCACCCCAGGAAAGG
45888	ESRRG	TTATAGAATACCAATGTATA
45889	CTSS	TTACAGGCGTGAGCCACTGAG
45889	F2RL2	TTACAGGCGTGAGCCACTGAG
45890	COL10A1	AAAGCATTCTCTAACTCTA
45891	KCNS3	CTTCCCTTCTTTTTGGCCA
45892	TRIM39	CAGGAAGGAAGGAGAGGCTTTTCCAGA
45893	TM6SF2	TGCCCCTTCCCCAGACAGG
45894	RNMT	GAGTTGGGACCTCTGTCTTTAAAA
45895	SLC29A1	TTAAAAATATATTTGACAGAAA
45896	ZHX1	ATTCAGTCCAGTTTAATACTGTATG
45897	ABCC3	TGGGGAGGGACAGGGTCGGC
45898	HSD3B1	TCAAGCTCCACCCTCCTGGCC
45899	SERPINB9	GCTCACTGCAACCTCCTCCTCC
45900	ALDH1B1	TCTCACTGCAACCTCCGCCTCC
45901	APPL	TAGTTCTGCATTAGAAATGGCA
45902	FRAP1	TTCCCAGGACAGTGAAACAA
45903	KIF2	TGCCCTTTAACCGGCATTTG
45904	CBFA2T2	GTGTCTGAACCAAACGGA
45905	STXBP1	CTTGTACATAACCCTGGGTGA
45906	ENDOGL1	GGTGGTGGAATCATAGCTCACT
45907	DAAM2	ATCTGTCTGCTGACGCCCCCTGGCC
45908	PIK3R2	TGGGCTGCGCGGCCCCAGCCTGGG
45909	ABCD3	AACACAAAGTCCTTAACATGCCAGGCT
45910	CDKN2B	ATGTGAGGAAGAACTACAGCTCT
45911	MTA1L1	GGAGGTGGGCTGAGAGGTAGAG
45912	ICMT	ATGCCTGCCCTGTGCGTGGC
45913	PHKA2	ATTCCTCTTCGTTCACCTTGGC
45914	IL26	TTCTGAACATGTTTTGTCATTCACA
45915	PACSIN1	GCATCGGCTCTTCAGCAGATCCA
45916	GHR	CAAAATCATGCCTTACCTTTCTTTGG
45917	FGF2	ATATCTTCTTCAGGCTCTGACAG
45918	TFEB	CACCATGGCGTCACGCATAGGGTTGCG
45919	DMD	AATCATGCGAAAGGGGAGCTGT
45920	TIMP3	ATTATAAAAATCTGAT
45921	PCTK1	GAGGGCAGGGGTGGGAGCCCTCCTA
45922	PYGO2	GCTCTGGTGGAGCTGACAACCTTTG
45923	WIG1	CTAACACAGTGAAACCCCATCT
45924	GPR44	CACTGGTAATCCCAAGATCTG
45925	PLAGL1	CTTCCCTTCTTGGTCT
45926	M6PR	ACCTCTGAGATTAGGACAGGAAA
45927	TRIM14	GTTGCTTGAACCCAGGAGGCGG
45928	ANKH	GCGGCAGCAGATGTGTGTGGGGTCAGCCCAC
45929	NEURL	CTCCTGAGCTGCTGTCTCCC
45930	UGDH	TGTGAGCCAGGATGGTCTCAAT

45931	XKRY	AGCATTTTCATGTTTATCTTTA
45932	APBB2	GAAACTTCAAAATTGATGAAA
45933	RDX	CCTCGATCATCAAGAAATACT
45934	CHST5	TGCCACTGCACCCTAGCTTGGG
45935	CSDA	GATGCTGGTGCTAAACCTCCA
45936	BAIAP3	GCTTTGTGCAACCAGGGCCCAC
45937	IL13RA1	ACCAGCCTGACCAAAATGGTGA
45938	PDE7A	ACCAGCCTGGCCAAAATAGTGA
45939	PDGFB	CTGAGCAGGAATGGTGAGATGTTTATCATGGG
45940	COL4A6	TCTTCAAGGAGGCCCACTGTGTCTAG
45941	EGLN2	GCTCTTGCTGTCTGCCCTGCCTCA
45942	RERE	AGTTTGCCATGAGATAACACAGT
45943	MS4A2	TTTCTGCTGCTTCTGTCCACC
45944	NDRG3	TGTTACCCAGGCTGGAGTGCAAT
45945	HD	GGCTGGCTGTTGGCCCCTCTGCTGTCC
45946	EFG2	TTGCCTAGGCTGGCGTCGAGA
45947	LTB4R	TGAGACTACAGGCACATGCCAC
45948	ATP11A	AGGCCTGTGTCTTCACCCACCTGCCA
45949	DNMT3A	GAACACCACACAAGACATTTTTCTACA
45950	CRYAA	CTGACTCCTGCCAGCCTCCAGGTC
45951	ARHGDIA	TGCCTTAACATGTGGA
45952	RNF3	GCCAAAGATGTTGACCAGGAAG
45953	PIP5K1A	GACTTACCAAATGAATTTTAGA
45954	YES1	ACCACGCCTGGCTAGTTTTTTGT
45955	HDAC4	AACATTCCTTCTTTACTGGTCACA
45956	UBE2B	GACCAGCCAGGGCAACATAATAAGACT
45957	PCDHGA1	CCATCCCATGCCTCCCTCC
45957	PCDHGA10	CCATCCCATGCCTCCCTCC
45957	PCDHGA11	CCATCCCATGCCTCCCTCC
45957	PCDHGA12	CCATCCCATGCCTCCCTCC
45957	PCDHGA2	CCATCCCATGCCTCCCTCC
45957	PCDHGA3	CCATCCCATGCCTCCCTCC
45957	PCDHGA4	CCATCCCATGCCTCCCTCC
45957	PCDHGA5	CCATCCCATGCCTCCCTCC
45957	PCDHGA6	CCATCCCATGCCTCCCTCC
45957	PCDHGA7	CCATCCCATGCCTCCCTCC
45957	PCDHGA8	CCATCCCATGCCTCCCTCC
45957	PCDHGA9	CCATCCCATGCCTCCCTCC
45957	PCDHGB1	CCATCCCATGCCTCCCTCC
45957	PCDHGB2	CCATCCCATGCCTCCCTCC
45957	PCDHGB3	CCATCCCATGCCTCCCTCC
45957	PCDHGB4	CCATCCCATGCCTCCCTCC
45957	PCDHGB5	CCATCCCATGCCTCCCTCC
45957	PCDHGB6	CCATCCCATGCCTCCCTCC
45957	PCDHGB7	CCATCCCATGCCTCCCTCC
45957	PCDHGC3	CCATCCCATGCCTCCCTCC
45957	PCDHGC4	CCATCCCATGCCTCCCTCC
45957	PCDHGC5	CCATCCCATGCCTCCCTCC
45958	GLS	TTCCTGGGGATTACACAGCTATGAATGT
45959	UBE2E3	AGCTGTAGATTAGTTATGTTT

45960	MFNG	CTCATTTCCCAGCCTTTCTTGCTGTTA
45961	PTPN11	AGTCTCCGGGATCCCCAGGCCTGG
45962	GJB3	AGCTCGGTTAGGCTGGGGCTGATG
45963	GRIA3	TTAGGCGTAGCATGGCCAGGC
45964	CRYBB1	GCACCTGCCCGCCTGCCT
45965	TBX2	CCTCAACAAGGATCAGGCTGCTGGAA
45966	TGM7	CCACCTCTGTCCTCTCTCTAGCCTGCC
45967	PFKFB4	GCTGTGGACACTGGCAGCCAATGGG
45968	CSE1L	ATTGCCCAGGCTGGAGTGCAG
45969	SH3BGR	CCTTCATGTGCCTGACAGTCTT
45970	KCNJ16	GTTGTATACTCTACTTTC
45971	TNFRSF1A	GGGCCTTCAGCTGGAGCTGTGGACTTT
45972	FLRT2	ACTAGCACCTATCATAATGGTCTTAG
45973	WNT5B	GCTGAGGCCGACCATGCCCAGCC
45974	TNFRSF6B	GAGCGTCATGCAGGTCTTCTG
45975	UMPK	CAGGCAGCGGGAGGAGGGGCGGCGC
45976	SORCS2	GAAGGTCACAGCACGGTCACAGCAGA
45977	HDLBP	TTCCTGTGTCATGACCTCA
45978	VHL	CCAAGGTAAGAGGATTGCTTGA
45979	FHL1	GGAAATCTGGATTTCCACCTAC
45980	METTL1	GACCTCGTCTCCCAGGGATTAGA
45981	CDC5L	TGGAGGAAGTGGCGGCTTTGA
45982	HHIP	TGTCAGCATGTTTGTTCACATA
45983	DDOST	CTGAGGCAGGAGAAAGGCATGA
45984	CYB561	TTCAGGACTGCAGGCTCCGGAGAGTGG
45985	G6PC	TGCAACCTCTTCCTCCTGGTT
45986	SLC18A3	CCTGCATCTGTCTGTCCTTCCTTC
45987	NRCAM	AGTAAAGCTTTTTATATGTAGA
45988	ATP1A2	AGGCCGAGGCAGGTGGATCATG
45989	ATM	ACCAGCCTGGGCAACATGATGTGA
45990	GAS7	TCCCTTGTCTCCAGGGCTTTGGAG
45991	NFATC3	CCGGGAGGTGGCAGTTGCAGGGAGCTA
45992	BACH2	CCTATTTGGCTACCTACTTCT
45993	PIK3C2B	CCTGTCGCCAGGCTGGAGTGTAGT
45994	RANBP3	GAGAGGCTGTCTGAGCAGGGAGGTTGG
45995	SRGAP2	GGGAGGGGCAGTCCTTGGCACTTTC
45996	SCN2B	TGCAGCTCTGCCTTCTCCATGGGGT
45997	CSE1L	GAGCAAATTAGTTGGTTTGTGTG
45998	ZNF133	AAACTTGGCTTCTTTATACATCT
45999	PCTK1	CCTGCCCACTTGTCCCCTGCTGC
46000	AP2B1	CCTGCTGCTGCTATCTGTCCTT
46001	BTEB1	CCGCACGCCTCAGTTCTA
46002	SLC15A1	TTCATTTCTAATACTCTTA
46003	EGFL5	GAGGCTGATGGTCCTCCTCAGG
46004	SURF6	ACTGCTCAGAATTTGGAGGGAG
46005	TAX1BP1	ATCTTTATTTATTCCCTA
46006	TMPRSS3	AGCTGCTTTTTGTTTTTTGT
46007	XPR1	TCATGCCATCCCATAGAAAACCT
46008	RRM1	CAGTTTTGTTAAGGAGATTTAG
46009	PTPRO	AGACTTCAGTGACTTTGCTGTG

46010	EGR2	TGTTTTTAAGTGTGGAGGGCAAAAGG
46011	PLEK	TTGAGATCGTGTAACAAAATGAA
46012	MEF2A	TCTACCCCCCAGGCTGAAGTGC
46013	WTAP	GAGCAGCTGCTCCATTGTGCC
46014	MPO	TCCTCACCCTGATTTCTTGCTT
46015	SELPLG	GACCAAGGAGCTTCCATCTAG
46016	PRND	TGAGCCACCACGCCCTGCCTACTC
46017	RAB7L1	TGGCACGTGTCTGTAATCCCAG
46018	PLA2G4A	TATGTATGAATGTTATTCACT
46019	TAF1A	AGCAGGAGGAGTTACGAGCCGG
46020	MAGEB4	CCTTCTGCCTACACTCCTGCCTGC
46021	DLGAP2	GCGCATCTCTGTTTTTGTT
46022	PTPN1	TCAACAGCAACACATACCTGACCCTCC
46023	SCNN1B	TGCTGGTACAGGATACAGGA
46024	CD209	TGTCGCCAGGCTGGAGTGCAGT
46024	RABL2A	TGTCGCCAGGCTGGAGTGCAGT
46024	RABL2B	TGTCGCCAGGCTGGAGTGCAGT
46025	CDH5	GTTTTTGCATAATAAGCAGGTT
46026	NCOA1	GCCTGGTCCACTGGGAA
46027	REQ	TAGAAAGAGTGGGAGAGCAGCT
46028	FOXE3	CAAGCCTTTGGAAGCCAGATCTGTGAT
46029	BPGM	CTTTGCAGATGTATTGCTGTCCT
46030	TRN2	TGACCCTGCCCTTGCCAGAATTTCC
46031	DLST	AGGGGGGAAGGGGTGGGAGCCAA
46032	MTMR2	TACTCCAAGTATTTCACAAATGCATCTG
46033	MAP3K10	GGGATTTGGCACAAAATGGAGCATTAA
46034	SPAG8	TGGGGAAACTTTTGCCCTATG
46035	KRTHA8	CACCTCTTCTCTTCATACTCT
46036	DHCR24	AGTGAAGCCTCCAACCCTAAG
46037	MYO1D	AGTGCCTGTGTGCAGCCT
46038	KIR2DL1	CCCCTGCCCACCTCTCCAACCTAACTG
46038	KIR2DL2	CCCCTGCCCACCTCTCCAACCTAACTG
46038	KIR2DL3	CCCCTGCCCACCTCTCCAACCTAACTG
46038	KIR3DL2	CCCCTGCCCACCTCTCCAACCTAACTG
46039	APTX	TGCATGGAAAGGTGGTTGGTGAA
46040	PCDH1	GTGTATTGTGCATTAACCTCTTCCT
46041	CSN2	GGAAATGCTACAAACATATCA
46042	AP2S1	CCCCACTTCCTCTGGGCCCTGGCT
46043	RNPEPL1	CCTGGGGCCTCCAGCCTGGGACTGCTG
46044	HNRPDL	TGAGATTGTCCTTTTCCCCTG
46045	C11orf8	TAGGGAGGAAGGATGGCACATGGGAT
46046	GLP1R	TTGTTTGGGAGAGTGCAGTA
46047	LDB1	ATGAAGAGACTGAGCATCTAAA
46048	DSCR1	GCTGTTCCCATGTCTAACAGGA
46049	MADH7	CCTGCCCCTCCTCTCCCTCATCA
46050	PAICS	GGAGGCTGAAGCAAGCAGATCA
46051	PLOD	ACCCAGTCCAGCCTCCTGGCTGTT
46052	SOX10	TGACTCCTGTTTTCTCTCTCACA
46053	IHPK3	AGATCTACCCATCTCACCTGCTCTG
46054	LASS1	CCCAACAATAAATGCCGC

46055	SRGAP1	TTGAACAATGCGTAAAAGGTG
46056	SLC6A8	GAGCCCAAACCATCCTCTCCTTACCAC
46057	FZD10	CAGGGCCCACCCCCAGGAAGGCCACAG
46058	RNF3	TGTTTGACTGTTTAATTTGAAA
46059	KRTHA7	TCAGAATCTCCAAAAATGTAACTGG
46060	SLC20A1	CTTCCCTTGTAGTCT
46061	PYCR1	CCACCATCCTGCCACCACCTT
46062	RNPEPL1	CAGGGAGAGTGTGGGGACAGGACAGC
46063	ITPR2	GAACTTTGAACCTAGGAGGCAG
46064	GLP1R	TCACCACCCTCCCCTGTC
46065	ADAMTS9	CCAGGGAGTGACCTCTCTGACTT
46066	SOCS5	GTAAGCATGTATACACTGTGCT
46067	GPR92	TGGTCTCAGACCCCACTCTTAGAAATT
46068	SIL	CCTCTGCCTCCTGGGTTCAAGCGATT
46069	NOV	ACCATCAAAGGAATATAAGAAAAGTA
46070	OLR1	AACAAACTAAGCCAGGTATGCA
46071	CDC5L	ATCGCTGTTACTACTTCTCT
46072	PIGB	GGTGGCGGCCAGGGATGAGGA
46073	XBP1	CCAAGCCCCTAGTCTTAGAGAT
46074	OPHN1	CTAACAACTGCCCAGTTTC
46075	IRS1	CCTGTGCCGGACTCCAGCCGGGGCGA
46076	ENTPD6	CGCGGTGCATGGAATGGGCTAT
46077	COX15	ACCATGCCTGGCTAATTTTGTAT
46077	LNK	ACCATGCCTGGCTAATTTTGTAT
46077	RAB36	ACCATGCCTGGCTAATTTTGTAT
46078	SQSTM1	GGCAGGCTGGGGAGGCCAGTG
46079	NCALD	CACAAGTCTGAGTTGCTGT
46080	SLC9A1	CACACTCCTCCTGCCAGCTCTG
46081	NDUFS1	GCAGATGCTCTTAAAAGCATTGAT
46082	ATRN	CAGGCTGGGGTGGACTCAGATGCCAGG
46083	EPHB1	CTCTCAGTGGGCTGCAGTTGCCC
46084	EHD1	ATTTCCTACCTTCCTTCCTCCTCTGT
46085	BCL11B	CTTTGGATGCCCCACTGAGGTC
46086	FTSJ2	ATGGAAGGATGGAGAAAAACAGA
46087	SCA1	CACAGCAGGAGCGGTCAGGGCT
46088	DECR1	TCTCTCATCTTTTGACTATTTCA
46089	DSC3	TTCTCTCTTATAGTGACCA
46090	MDM1	GAGATCTTGCATTTCTGCTCTCTTATG
46091	WAS	ACAAGGGCAGAAAGCACCATGAGTGGG
46092	TRPV3	CGTGGGTGGGCGGGTGCTGCAGCTGTG
46093	DNMT3L	GGAACCTTGAACCCACCAGCT
46094	DYRK1A	CCTCTACTGGTAACCAAGGCAATCAGG
46095	SEPN1	AGGCTGGAGTGCTATGGCTCGA
46096	EHD2	CCCAAAGTGATGGGATTACAGG
46097	GRAF	CCCAAAGTGCTGGGATTCCAGG
46098	RBL1	TGTGGTGAGCCAAGGTTGCGCC
46099	MBD3	CCGCTCCACCGTCTGCCCTCCAAGGA
46100	CSPG3	GGTCATCTATGTCACACAAAAATTTTC
46101	HDLBP	GTCATGAGCATTCGAGCTAAGA
46102	PPP2R4	AAGAGGCCCAGCGTCCACCTCTC

46103	FGL1	GACTCACTTCTGACTTTAGTTT
46104	CYLN2	GGAGTTTGTCAGTGGAGGCAGA
46105	RFNG	CCCATAAACAACAGGAGCCTTTTGTTCCGC
46106	KCNJ10	CTGTGGACTTGGAATATCAGCAG
46107	NSMAF	AGTATTCTCTGCTACTTCT
46108	EHF	GTGGATGGATGCCGGGAAGTTTAA
46109	SLC4A4	ACCGGATTTGGTGGTGGTTTTGTT
46110	LENG4	CTTTTAGCTCATCGCACCAA
46111	CUBN	CCCAGGAGGCAGAGGTTGCAGTG
46111	EIF3S2	CCCAGGAGGCAGAGGTTGCAGTG
46111	GALNT7	CCCAGGAGGCAGAGGTTGCAGTG
46111	INPP5B	CCCAGGAGGCAGAGGTTGCAGTG
46111	KIF1B	CCCAGGAGGCAGAGGTTGCAGTG
46111	MOG	CCCAGGAGGCAGAGGTTGCAGTG
46111	RIMS1	CCCAGGAGGCAGAGGTTGCAGTG
46111	ZNF36	CCCAGGAGGCAGAGGTTGCAGTG
46112	EN2	CGGCTGACCCAGGGGTGTGCACA
46113	VPS41	CCTCTTGCCTTCTCTGGTGCCTCC
46114	IL8RA	GCTTCCAGGCTGGCGTGCAGC
46115	MFGE8	TGGAGCTGCTGGGCTGTTATG
46116	COL4A2	GGAGGGCAAGCCCTGCCCACAGAAAGC
46117	MAD2L2	CCTCGACTTCTCAGCCTCCTGGGGTTCC
46118	SPHK2	TCCGGAAGAAAGGGATCTGGGAGCG
46119	ABCB9	GGGAGGCGGGGAGGAGCAGCGGG
46120	CD164	TTACACTTTCCTTTGTACTT
46121	ATP7A	TTGCTCCTTTTTAAATTTTGTAG
46122	PCDHGA1	CCTCAGTCCTTCACCTTGCCA
46122	PCDHGA10	CCTCAGTCCTTCACCTTGCCA
46122	PCDHGA11	CCTCAGTCCTTCACCTTGCCA
46122	PCDHGA12	CCTCAGTCCTTCACCTTGCCA
46122	PCDHGA2	CCTCAGTCCTTCACCTTGCCA
46122	PCDHGA3	CCTCAGTCCTTCACCTTGCCA
46122	PCDHGA4	CCTCAGTCCTTCACCTTGCCA
46122	PCDHGA5	CCTCAGTCCTTCACCTTGCCA
46122	PCDHGA6	CCTCAGTCCTTCACCTTGCCA
46122	PCDHGA7	CCTCAGTCCTTCACCTTGCCA
46122	PCDHGA8	CCTCAGTCCTTCACCTTGCCA
46122	PCDHGA9	CCTCAGTCCTTCACCTTGCCA
46122	PCDHGB1	CCTCAGTCCTTCACCTTGCCA
46122	PCDHGB2	CCTCAGTCCTTCACCTTGCCA
46122	PCDHGB3	CCTCAGTCCTTCACCTTGCCA
46122	PCDHGB4	CCTCAGTCCTTCACCTTGCCA
46122	PCDHGB5	CCTCAGTCCTTCACCTTGCCA
46122	PCDHGB6	CCTCAGTCCTTCACCTTGCCA
46122	PCDHGB7	CCTCAGTCCTTCACCTTGCCA
46122	PCDHGC3	CCTCAGTCCTTCACCTTGCCA
46122	PCDHGC4	CCTCAGTCCTTCACCTTGCCA
46122	PCDHGC5	CCTCAGTCCTTCACCTTGCCA
46123	RNF18	ACAGTCGGGATCTTTTGCTTCA
46124	TRHDE	GCCATCGTTTTCTGTCAAAGTTCCTTT

46125	CYP1A2	CCAAGCACCTGGGATTACAAGC
46126	WSX1	CAGGAGTTCGAAGCTGCAGG
46127	RPP30	GAAGAAGACAAAGAGAGATTGAAA
46128	PTGIS	GCAGCCGCCTCCCTTATGCAGG
46129	CRTAP	ATCTGTTTTCACACCTTCATCC
46130	ALDH3B1	AATCACTGCATCCAAGGCCATTCC
46131	FCMD	TTGACACAGGTTCTATATTCTTCC
46132	PTK7	AGTGAGTCCTCCCCACTCTGGG
46133	TAPBP	TCACCCTGGAGGTAGCAGGTAA
46134	PAP	TTTCAGTCTCTTCATTTTGTC
46135	SMCX	GTGGTGTGGGGAGGGGAGACGC
46136	CRACC	AATTCCATCCACTGCTGAGA
46137	CYP2B6	AGCCTCCCTAGTAGCTGGGATT
46138	ANK2	TCTCACACCAGAAACCAC
46139	RABL2A	TTTTCCTCTTCAGTCTCCCAG
46139	RABL2B	TTTTCCTCTTCAGTCTCCCAG
46140	OTP	GAACAGCTTTCGCCCTGGAG
46141	ABCD1	TGAGGGTGGTCAGCCAAGGC
46142	DUSP4	CCTGCCCCTTTCTGCAGCCT
46143	EIF4EBP2	TCTCCAATGTTTTGGGGATGCT
46144	MTMR1	ACTAACTTTATGTGATTTAATTCATTCA
46145	CNTNAP2	TATCATCATTATATTTCA
46146	DMP1	TCAGCTGTCCTAAGAAGCAGTTGTCA
46147	NPTX2	CCTTCTGTCTGTCCCCTTTC
46148	PCBP1	TTAAAAAACGGATTGGTTAAAAA
46149	PMP2	CTGTCCCTTCCCAATCAGTGTCC
46150	FMR1	TTGTTTGGTTATAGTGCAATATATTT
46151	RAD23B	AATTACTGCTATTTTAAAATTTCT
46152	COL19A1	GGTCCCCTCACTCAGTCTCTCAT
46153	GAB2	GATCCAGGCTGTCATGTGATTTATGG
46154	MLLT2	CCTGGTCCTTTTTAAACTACTAGTTTT
46155	MANBA	GGGGTGAGTGGCTTCACCGCCGG
46156	GASC1	GCTTAGGGCCCTGTCAGGAAAC
46157	EN2	ATTCCTCTCCATCAGCAAGGA
46158	PIK3C2B	CTGGGAAGAGGTCCCTAGGCTGCA
46159	KAL1	GGTAGAGAAGATAAGGTTTATGGCAG
46160	ZNF253	AGGCTGGAGTGCAATGACATGATCTC
46161	RPL5	CCAGCAATTTTCTATGATTTTTTCA
46162	SERPINB5	CTTCTAGCTGACTCGCACA
46163	RNTRE	AAACCACGTGAAACCTACATTGC
46164	KCNE3	CTGTTCTGTTTGTCCAGTTTCA
46165	HSPA1B	CGCCGTTTCCAGCCCCCAGTC
46166	MMP19	GGAAGAAGAAGAGACAGAGCTGCCCACT
46167	KCND2	TGGCCTAGCCCACCTGCAGGAAG
46168	TTN	GCAAAACTACACAGTCTTGACTGTGTAGTTTT
46169	GGA1	CCTCAGGGGGCCAGGCTGG
46170	TP53BP2	GAAGAATTAATCTCTGTTAAGAAG
46171	ARHG	CCTAACCTGCTCCTCTGTGCCT
46172	IL17	TCTCGATTTCACATGCCTTCA
46173	GPM6A	AGTTCTGTAAAATCAAAGA

46174	MAL	TTAGAAAACAGAAATGCCCT
46175	ABAT	CTCAAGCGATTCTCCTGCCTCAGGCT
46176	TLR9	CCGGAAGATGTTGCAAGGCTGTG
46177	LIF	CTGAAAACTGCCGGCATCTGAGGTT
46178	ZNF180	TCACTTCTAAAACCATTATGAT
46179	TNFRSF7	GACAGAGTGCCTTTTCGAGACTGGCAG
46180	NT5C2	CTGGGCAACAAGAACAAAACTCCATCT
46181	PTPN11	CATTATCTCTGAGTCCACCAGAA
46182	HAS3	GGCAAACCCTGGTGCTTTCCTTCAT
46183	PRND	GTGTGAGCCACCACGCCCTGCC
46184	DLEC1	GCCTCACCAGCCCTGGGCTCCGCCCCAG
46185	ATP7B	CGCCTGTCTGTGTGCATCATGTTT
46186	GSS	GGTAGGAGGAGGGGGAGTGGAGGG
46187	RP42	ACTTACTGACATGTGAA
46188	ZNF124	CACATACTCCAGATTGACC
46189	THPO	GCAATACTCATCAGAGCAGCTAG
46190	KPNA4	TCTAGGGCTCTTCACTCAT
46191	IRTA2	TCTCAGCCCTTGGTGGTCCAGG
46192	B3GAT1	CTCTGTCCTCTCCATGCCTGGCC
46193	ZNF202	TGGGGTTAAAGCATGACAGGGA
46194	APPBP2	GAAACAAAAAGGTATTTTGCTGTTACCTC
46195	UNC119	CCCATTTCTCCCCACCCTGGGGC
46196	UGT1A1	TCCTGCTTCATAGGTGCCACCTTG
46196	UGT1A4	TCCTGCTTCATAGGTGCCACCTTG
46196	UGT1A8	TCCTGCTTCATAGGTGCCACCTTG
46196	UGT1A9	TCCTGCTTCATAGGTGCCACCTTG
46197	FOXD2	TCCCTATCCTGGGCC
46198	FZD7	TAAACTTCAAAGTGATTCTGGAG
46199	TNFRSF6	ACAATGTCCAAGACACAGCAGA
46200	ST5	CTGCCTGCCTGCCTGCCTGAGGTCCC
46201	HAS3	CAGGGAATTCTTACAGCCAAGTTGTG
46202	ACTN2	TATCCTTCTAGCTCTCCAGTCA
46203	PES1	GCCAGAGGACCTAAGTGTGATG
46204	ANAPC5	TAAATGATGTATTTGTGACACCCTATC
46205	ATP11A	ACACATGCACACACATATACAC
46206	IGF2R	GGAGGAGGAGGGAGGCCGG
46207	TGFBR3	GAGAACATCCATAATTTGGGGC
46208	PPP2R4	AAGCCTCCCCCTGGCTCTTCAG
46209	TEM7	TGCAGTGAGCTCAGATAGTGCC
46210	PTPRK	CCCAGCACTGGTCAAGAAAACAAGAT
46211	ADCY1	CAGGCGGCTCCAGCCCTGGGCAG
46212	LILRB4	GTTTCCTTCTTTGCTTTCATC
46213	ENSA	CTCTGCCAGATCCTGAGACGC
46214	MMP25	GCTGGCTGTTTCGTGGCATTTCT
46215	SLC21A9	TTTGCTTGCTAGTCTGAACCAA
46216	DHFR	CCACTGCACTCCAGCCGGGGTG
46216	TRPM8	CCACTGCACTCCAGCCGGGGTG
46217	PKIG	GGGAAAGCCCTCTGCCCACAC
46218	POLH	AGTTACGGTCCCATCTCTTCA
46219	BCL2	GGTTGGAGTGCGGGTGGGCTCCTGGGC

46220	BZRP	GCTGGTACGGCTCCTACCTGGTCTGG
46221	PCLO	GACAGATTTTACAGATATTTTT
46222	STK6	GCCTTTGCATCCGCTCCTGGGCA
46223	NUDT2	GTTGTGCTGGTATTTGGCTCA
46224	SFRS2	CTGTTTCCTGTTTTCTCCC
46225	APXL	AGTGAAAAGCAGGCAAAAGACTTGA
46226	MKL1	GAGGTCAGGGGGCACTGTCTG
46227	HK1	CCTCACTTGCCCTGCCACTTTGC
46228	TRIM14	GCACAGGAACCTGACACATAGT
46229	BRPF1	CCCTCCTGCCCTAAGTGCAGCTGGACT
46230	RORA	TCTGGAGGCAGATGGGTAACCAGG
46231	BRCA1	ACCAGCCTGACCAACGTGGTGA
46231	IAPP	ACCAGCCTGACCAACGTGGTGA
46232	PMM1	TCTAGCCTGCCCTGCCTGCCTGC
46233	PODXL	AGAGCCACTTGGTGACAGAGCCAG
46234	PPP2R4	CTCCCTAAGGGTAACCTAGCCA
46235	FUT8	TAACTGGACAAATTCAGGAT
46236	PTP4A2	ATGTGAACTGCCTATTTCCTA
46237	MECP2	GGGGCACAGGGAGAGGCCGGGACACACTTA
46238	LANCL1	CAGGAAGATTTCAAGGCAGGGAGAA
46239	ADCY9	TCTCTGGGTTCTGCAGCAGCA
46240	SNX3	TTAGTAAAAATCCCTCATTCCA
46241	NDRG3	AGCTAAGTTATGTATTTTTAGT
46242	AES	GGAGGGTCAGATGGGAGACCA
46243	NXF3	CCCAGGCCACACAGATTCTCCT
46244	EIF2C1	GCAGGGATATGCAGGGCACTTT
46245	TEM8	CGTTGCTGAGCAACGAGATGGTGAG
46246	MFAP4	CTACCGCACACCACCCTGAAACAGCCA
46247	WDR4	CACCTTCTCCAAGTCTGGCAGCT
46248	ZNF278	AGCCCATGGGGCCTGAAGGGA
46249	SWAP70	GGAGGGGCTGGCTGGGCAGG
46250	CDKN2D	TGGGGTCACCCTCTCCAGCAAGAGA
46251	XK	CCATCAGCAACATCATTCCTG
46252	PTGIS	TGGATGCCATTGTATTTCTTCA
46253	CYP1B1	ACTGAAAAGAAGGAAAGATGGT
46254	NRIP1	GAATGATTTGTAAATAGCTAC
46255	PPP2R2B	GAAGTCCACTTGAAGCTGTGGAAG
46256	NYX	TGGAGGGCAGAGGTGAAAATCCCAGTG
46257	KCNAB2	CCAAGAGAAAACACCACACTGTGA
46258	RASSF1	GGAGACACCTGACCTTTCTCAAGCTGA
46259	PPP1R12B	TGCCTTTCAAAAGTACTG
46260	MAPRE2	GGAGAATTGGAACATGTGTGGCCC
46261	TEP1	TGGCTCACGCTTGTAATCCCAG
46262	VHL	TGGCTCACGCCTGTAATCTCAG
46263	EXT2	TTCTGGCTAACGTTAAATGCTGCTA
46264	GPRK6	GCAGACACCTCTTTCA
46265	SYNGR3	AGAAGGGGATAGCACTGCCCAG
46266	SLC4A4	GAATGTCCCTTTTTTCCT
46267	ITGA6	GACAGTTTTTTAGACCTGTG
46268	MLH3	TGTGAGCCACCATGGAACAGAATCAC

46269	RAMP3	CCAGCTACTGTGGCCACACCCCACCT
46270	SMARCA3	GCTCAAAGGGAACAGTGAATTAGCCAG
46271	TNFRSF8	TTGCCCAGTGTTTGTGCAAGGATGGAG
46272	LGI1	CACCATCTGAATTCCAGAA
46273	RBL1	CAGAAAGTTGGAGCTCTGTCCTTCA
46274	SYN3	CCCGGGCATCCAGTGGCAGCTC
46275	ERCC3	CTCTCTGCTGCTGTAGCTGCC
46276	TACSTD1	TCTAATGTAAAATCCAGAAC
46277	NRD1	GTGGGGGAGGGGTTCAGGCCT
46278	FANCE	GGTCTTGAACTCCTGAGCTCAAGTGAT
46279	FGF5	TGGTCTCAATCCTGGCCTCTTGATAGT
46280	CD244	AGAGTAGATGGTGCAAAGCAAGCC
46281	NESG1	GGAAGCCACCATGGATGCAGTGA
46282	C7orf2	GATTCACGACATTCCTGTCCCA
46283	TSC1	TAGGAGGGAAGGAGCAGT
46284	BHLHB3	ATTCTATTACCTAAATATTGCC
46285	ABCD1	GGAGAGGGACGCACAGC
46286	ADH5	ACGCCCATGCCTCCGTCGCTGC
46287	APOL1	CGGCTGAGGCAGGAGAATGGCG
46288	F2R	AGGCTGAGGCAGGAGACTGGCG
46289	ABCG5	CCGGCCACCAGAAAATTTGCCCAGCTTTG
46290	NFE2L1	AGCTGCTAAATGTTCTCTTTGCCA
46291	GTF2I	TTCTGCGCCTTCCTAGGAG
46292	RAD51L1	CTGCTAAAACATTTGGTTGCTA
46293	CHRNA3	ATGGGGGTATCCTGTGCATTGT
46294	CHRNA2	CATTCCTCTCCTTCCTTGCTGC
46295	SRRM1	CATGTTGTTTGCCAGGACACT
46296	TIMP3	GGCAAGCAGCTAGACTGGTGAAT
46297	SLC9A3R1	ACTCTTCAGCAACCTCTGGCGCCCTGC
46298	DEK	CAGATGTTATTTTTGTATTTTT
46299	ORC2L	GATCAGCCTGGCTGGTACCGTCTAGTA
46300	PKNOX1	CCCTCCGTCTCTTCGGCTGCTT
46301	SMAP	GGTACTTAGTTGCCTGTTACTGAGTTA
46302	MS4A7	TTTCCTGAAATCTCTGCCATTT
46303	ZNF165	CCCCTGCCCTTGAGAAACACA
46304	ASTN	CCTAGTTCCACTGCACATGGCCC
46305	RPL10	TCCTATCTCTAGCAACCTCCTGGGCC
46306	MSL3L1	CCTGTTCTTCCCTCAGCCTCGC
46307	PVR	AGCCTCCTGAGTAGCTATGACT
46308	ACE	CATTGCACTCCAGCTGGGAGACACAGC
46309	IL10RA	GTAGGAATGGAAGCTTCAGG
46310	ALDH1B1	TCGCCCAGGCTGGAGTGCAGT
46310	BCL10	TCGCCCAGGCTGGAGTGCAGT
46310	CASP8	TCGCCCAGGCTGGAGTGCAGT
46310	EHD2	TCGCCCAGGCTGGAGTGCAGT
46310	FHL2	TCGCCCAGGCTGGAGTGCAGT
46310	GRINL1A	TCGCCCAGGCTGGAGTGCAGT
46310	INMT	TCGCCCAGGCTGGAGTGCAGT
46310	KCNJ11	TCGCCCAGGCTGGAGTGCAGT
46310	LYZ	TCGCCCAGGCTGGAGTGCAGT

46310	NCOA6	TCGCCCAGGCTGGAGTGCAGT
46310	ORC1L	TCGCCCAGGCTGGAGTGCAGT
46310	PAICS	TCGCCCAGGCTGGAGTGCAGT
46310	PCDHB9	TCGCCCAGGCTGGAGTGCAGT
46310	PIGR	TCGCCCAGGCTGGAGTGCAGT
46310	PPP1R12B	TCGCCCAGGCTGGAGTGCAGT
46310	SERPINB9	TCGCCCAGGCTGGAGTGCAGT
46310	SLC13A1	TCGCCCAGGCTGGAGTGCAGT
46310	SMAC	TCGCCCAGGCTGGAGTGCAGT
46310	SS18	TCGCCCAGGCTGGAGTGCAGT
46310	STAU	TCGCCCAGGCTGGAGTGCAGT
46310	TAPBP	TCGCCCAGGCTGGAGTGCAGT
46310	VIPR2	TCGCCCAGGCTGGAGTGCAGT
46311	PPID	TCACCCAGGCTGGAGTGCGGT
46312	COL19A1	TTGTTCTCTATCTTACCTCATCAA
46313	CDC23	CACTTCAAGCTGGTCTGTTTTA
46314	FSTL1	GTGTCTGGATCCCAGCATCTTCTCCA
46315	DEFB103	CTGGAACCTTTATAAAGTGA
46316	KCNMB3	AAAAAGAGTTAACTTATCAGAACAC
46317	GNB1	GTTTTCTTTTTTGTCTTGAATGA
46318	COX8	GCTTGGTGGGGTCCCCCTTGTAACA
46319	PIGH	TGGGAAACTGACATCAGATGTCTTGA
46320	WBSCR1	TGGGCTTTTCCTACTGTGTCTT
46321	BCL10	TGCAACTTCTGCCTCCCATGCT
46322	PRAME	AAGCAACAAAGCAGCCACAGTT
46323	PODXL	CGCAGCCGCCGCCGCCGCCGCTCCTCT
46324	TRAF1	ATTCAGGAGCTTCCTGTCCTCCCAGCT
46325	FBXL7	CCAGGAGAACTGATTCTGTG
46326	CD59	ATCCTTAATGCAGAGCTAGA
46327	P2RY6	GCCTGTAATCTCAGCAATTTGG
46328	ANGPT1	TACCTTTTACCTAGCCA
46329	FGF9	ACTGTTGCCAAACTTTGTCGCATGCA
46330	ADAM19	TGACCTACAAGTCAGAGTCCA
46331	SOX12	GCCTCTATGTCAGGACTCCCTG
46332	POLS	AGAGCCACCTGGCAGACTGC
46333	TCF2	TCACCCGAGCTGGAGTGCAGTG
46334	NTRK2	AGACAACCACTGGGATCAGCTGGTG
46335	TP53	GTGAGCCACCACGTGGAGCTGGAAGGG
46336	CREBL2	GCTGGCTGGACACTTTGGTCA
46337	MUC4	GAGAATGGGACGTTGCTGTGGACACCCAA
46338	EIF2S3	CTCTCCTGACCTCAGGGTGA
46339	AQP3	GGAGCAGTGGGACGTGTTTCTGTCAT
46340	VCP	CCTGCCTGGACCTTGTTCCCTGG
46341	GRF2	CTGAGAGCAGCAGCAGTCTCTGTCATC
46342	M17S2	CCCTAGAATGCCTAGAACAGGAA
46343	ALCAM	ACCCAAAGGTGGCAGCTTGTGAA
46344	THY1	GCACACCTCTGGCTGTCTTTTTG
46345	ALDOB	CCAGAATACCCACCCAAGAAAATAATAG
46346	CAMK2A	AGGCTGAGATGGCCCCCACTGTG
46347	HDGF	GGGCCTGGGACAACTGCTCCCA

46348	GNAL	CCCCCAAACCACCGACTCTCAT
46349	SCNN1G	ACCAACAAGCCAACTGCTCACAG
46350	NRXN1	TGAGGCGGCCGGCCCCTCAGCCCAC
46351	PRM2	GCCCAGGAGCCACCAGATCTC
46352	CLCA3	TTGCTCAAGTCCAAACAGCGTGT
46353	DEDD	TGGCTTGAAACCTCTGCCT
46354	INPP5D	CTGTGTGGCCCACAGAGTTCACTGCC
46355	ADD3	TGGGGGATGTAGCAAACTGGAC
46356	HOXC4	GTGGGGATGGGAGGGGAGAGAC
46356	HOXC6	GTGGGGATGGGAGGGGAGAGAC
46357	PMP2	GTAGATGACTGACAGATGATAG
46358	ANK3	GCTTCCACACATTAATGGCATGAT
46359	NRGN	AGTATGGTCCCCATTTGCCCTT
46360	TACC1	GACCTGACAGTGCTGGAGCCTCC
46361	MTMR3	AGACTGGTCAAAATGTTTATGCA
46362	TMEM1	AAAATCAAGGACAAAAATAAG
46363	APPBP2	GTTGCCCAGGCTGGGAGGGCAATGGCA
46364	PRKY	TAGCTCAGGTTCTCTGGAGCCAT
46365	NEDD4L	GCTGGTAGTGGCAGAGGACTGAG
46366	GORASP1	TATTTCTTCTTCCTCAGGGA
46367	TEM7	ACCCATGTCTCCATCTGGTCATACTCC
46368	PCDHB5	CTTCAGGGTGGGCTTCGTTCTT
46369	TPMT	ACCACGCCCGGCTAGTTTTTTGT
46370	NCL	CATCGCCGTCGCTTGGCTTCT
46371	ACTN2	ACTAATTCTCAGCAGCAGTG
46372	MAGEB4	AGACTTTAAGAGATGAGGGA
46373	BTEB1	TAGGTGTCTATAATGGCTGAAACCACT
46374	UTY	CCTGCGCAGCTTCCCTGCCAT
46375	COL4A4	GGAGGTGGCTGCGCAGGGTGGAGGGAG
46376	FGF23	AGAGAGAAGGGGTCTCTCCCAAC
46377	PCTK3	AGCCTCCCCATCCTTCCTTCCCAGCCC
46378	VANGL2	TTTTATTTTTGTCACCAGCCA
46379	GPR87	TCTTAATTAGAGACAAGAAACCTG
46380	F2RL3	GGGTGGGAGTCAGCACATTCAC
46381	ADAM29	AGCTCTGACTTCTGCTCTGGACCA
46382	RAG1	ATCATTTTTGGTGATTATTTTTTGT
46383	TSC1	AGAATGGCCCAACAAGCAAATG
46384	MYO1D	GTTGCCTGTCAAAGGCTGGAGGGCAGGAGGAG
46385	XRCC2	TCCTAGAGTGCAGGGATTACAGGCGTG
46386	CASP2	TTACCTGCACACCGAGTCACGGA
46387	NFATC1	CCACTTGGCCCTGCGGCTGC
46388	TKTL1	TCAATGTTAATAAAGCATTTCA
46389	SHOC2	TCTTCACACTGTGCTGTATTGCTGC
46390	CLASP1	CCTACCAGCTGCTCTTCAGACACACATG
46391	CDC34	GCCACGTCCAGCACAGAGTG
46392	CREB1	GTGGCCCGGGCGGCTGGGAGAAGC
46393	NOL3	TTCTCTCTGGACTGGGAGCTCA
46394	CXCR6	TTTTAAGGACTTTCCTTCCTC
46395	GALGT	CCAGAACCACCACCGCGCCGC
46396	NHLH1	TTTCCTTTTCTTGCTCCTTCTTC

46397	RXRB	TGGTGGAGGTGGGTGTTTGGGAAAGG
46398	RBBP5	GTGGGAGGCAGAGGTTGCAGTG
46399	HD	GGAGTGAGAAGAAGGAAGA
46400	TRPV1	GGGGGCAGCAGCAAGTTGGAGTTTTGG
46401	PAIP2	GGATTCACTGCATCATAGCTATGCCT
46402	SLC1A4	GCTCTGTGGAGCAGAGTCCTTT
46403	SLC2A3	TAGCAAACTTGGAATTTGTA
46404	MCM4	GTGAGCAAGGAAGGCTCCCTGCAT
46405	ELK1	CCATGCTACTACCACCACCAC
46406	TEM7	CCAGGTGTGGTGGGGTGCACCTGTA
46407	ADCY6	GGGGTGAGGGTATAAGTAG
46408	NEDD4	TGCCCACCCTCATTGTCATGCC
46409	RPP30	AACCTAGTGAAGCATCTTTTTA
46410	ITGB3	CCACACAGACTTGGGCAGGGTA
46411	IRAK4	TACCTGTAAATCCCAGCACTTT
46412	EGR1	TATTCCCTTTGACTTCAGCT
46413	KIF1B	CTATTGCACTCCAGCCTGGGTG
46414	PRSS11	GTCAGCATTTGTCTCCTCCTTT
46415	PBX2	ACTATTTGAAAATTGGAGGGGG
46416	SHOC2	TTAAGGCTATGATATTAAGATAGAA
46417	NPY2R	TTCACAGTATTTACAAGCTATTTTT
46418	CASP10	GCTGGTCTCAAACTCCTGGGCT
46418	CDH1	GCTGGTCTCAAACTCCTGGGCT
46418	FCRH1	GCTGGTCTCAAACTCCTGGGCT
46418	TP53	GCTGGTCTCAAACTCCTGGGCT
46419	KCNJ16	TGTGCCCAGAAGCAGTTATGTA
46420	EHD1	TCTTTCTTTTAAGGCTGTTCCTGGGCC
46421	FMOD	TAAGCAGAGTCAGGAGACCCC
46422	FBXL3A	CTTTTATCACTTTGAGAATAAAAAGTTA
46423	SLC20A2	TCACAGCTTTCCCAGATCGGGAGGA
46424	CD28	ACAATGTCATTTGCTGCTA
46425	HS2ST1	CAGGGCTGTTGTGAGGATTAAATGA
46426	DPYD	AAACTCATTTATCTCCTCTTCA
46427	DLEC1	AGACAGGCCCCTGAGTCCTGGCT
46428	MYO1F	CCCTGGTCTTCCTCCAACATCACACC
46429	RAB38	TCCTGCAGGGCCACAGTCGG
46430	CISH	GGCATCCTGGTGCCTGCATACCT
46431	GRAF	CTTGACAGATGGCTTCTCTGTTTCCCT
46432	GNE	CCCCAGGCTGGAGTGCAGTGGCTCA
46433	COL19A1	CTCTTAAAGCTTCAGTGGCCTAG
46434	XRCC3	GTGCCTCCACATGCTGCCTG
46435	ACR	TCTGACCTGGTTCTCAACAG
46436	TP53BP2	TCAGAAATTAGAAACTTGCTACAGA
46437	ZNF198	ATTAGATAGTCATGCTGCTA
46438	TMEFF2	GCCCAGTCCCTGGATGTTGCT
46439	SCAP2	TCTGCTTGTCTGCAAATGCTTTG
46440	FGF7	TTCATATGCTTTTAATTTTAAAGGA
46441	NCOA3	CCTCCAGGAACTGTCATGGATGTCCA
46442	CYBB	AACTATTAAAATGAATGAGCTTTC
46443	GOT2	AACAACCTTATCAACAGGCCGC

46444	TNS	GGAGTCCCTTGGCCCAGACACCCA
46445	CLN2	ACTCAGGTCTCCCTACTCCTGCCTTA
46446	CRKL	ACTGATTCTGTCGTGTTCACCAGAG
46447	APOC2	CCCAGTAGCTCTTGCATCCTCCTCC
46448	CRTL1	GAACTCCTGGATTTCAGGACAAGTGAA
46449	HRH2	GGGACCGTCTGAGGACTGGAGTTTGATC
46450	HIP2	CTGTTTTTAACATGGATCCTCTG
46451	STK13	CCCTCTGTCTCCTTCCTTCTCGG
46452	OTX1	CCCAGGAATGAAAGAGGAGAAGAAA
46453	DAZL	AAGTAAAATATGTCCA
46454	TAPBP	CACCTCCAGGTCCCAGTCCTCT
46455	SLC24A1	GCTGGGGGCAGGAGAATGGGGTGTTCCCT
46456	RNF14	CATGAACTCCACTCTGAG
46457	MAP3K14	GTTCTCCCAGGTCTGGGATT
46458	HAP1	TGACCCAGGCTGGAGGACAGGACCAGC
46459	CLCN3	CATACAGCCCTATTCTAGAGGA
46460	HOXA4	TCATGTGTTTTCTAAGCTTTTCA
46461	MME	CTGTCTCCCAGTTATGAATCAGTGG
46462	ZNF236	GCACATGAAGAAGCACACGGGG
46463	ZIC3	CTGCAGGAGACTCTTGCAGTGA
46464	IRF2	TAAGGGAAAAAGCCTTGACAATAGA
46465	RHO	AAGGGAGAACATATCTATCCTCT
46466	ATRX	TGTACAATTTTGGTTACTTGA
46467	PSMB8	GGAGGTCTTGGCCGACTCAGGGA
46468	ADAMTS4	TGCAGTACCAGTGCCATGTCC
46469	BCL11A	TAGCACTTGACTCTGCCTGTG
46470	AQP3	ATATGTGTTTCTGTGT
46471	IL1F5	CCTTCTTGGAATCTCAGTCTG
46472	LIMK1	GTTCCAGGTGTCTGTGTTCC
46473	CEBPA	GTGCCCCAGCAGTGCCTTGTGCAATG
46474	SLC25A13	GCATGTTGCCCTGTTGCTGC
46475	TMPRSS3	GTGAGCCAGGAAAGGGCTGTG
46476	ATP7B	AGCAGGACAGCCAGCAGCAGGAT
46477	CEP2	AGGAAGAGGAAGTAAATCTGCA
46478	DNM2	CCGGGAGCGGGCGTCTTGCCG
46479	TEM7	AAGTCCTTCACTACATGGCCAGGT
46480	DIO3	TGCCCCCAGGACTTTGCCTCTA
46481	HS2ST1	ACTACCTGATGCAAAAGCTATA
46482	FLT1	TTCTCTGCTCTTTGTATTCTCC
46483	ZNF253	CGTTCACTGCAATCTCTGCCTC
46484	FZD10	TTAAACAAATGATTTCCACAAACAGATCA
46485	PCMT1	GATTCTTCAAAGAGGCACAG
46486	CDR1	TGGAAGACATGGATTAGCTGGAAGAT
46487	MYD88	CAGCTGTTCTCTCCCTCTCTC
46488	PTER	GGTCAGATCTATTGGAAATGACAG
46489	ICMT	GAGATGGACTCTGTCCTCAGC
46490	A1BG	AGGCTGGAGTGCAATGGCGTGAT
46490	NF2	AGGCTGGAGTGCAATGGCGTGAT
46491	PTGIS	AGGCTAGAGTGCAGTGGCGTGAT
46492	SUSP1	GCATATATTATCATCAAATGCAT

46493	CRABP2	CAGGGTCTTGCTTTCTTTGACCTCT
46494	PABPC4	ATCTGAAAACGCTTCAAAATCC
46495	COL18A1	CGCCAGGCTGACCACAGCACAG
46496	BAIAP3	GAGCACAGCTGTGCTGGAAGTGT
46497	GYS1	ACTGTGCCCTGCCTTCAGCTTTGG
46498	MEFV	GGGATTACAGGTGCGTGCCACC
46499	H1F0	GAGGTTAGCAGGAATATCTTTAGGGTG
46500	MAP3K11	GCTCCCCAGAGAGGCGTGGGT
46501	EGLN2	GGGAGTGGCAACTGTCAGGCAGAGGAA
46502	CD58	ATTTTTGAACAACTGTTGGAAATGT
46503	PTPRK	TTGTAATTGACTAAAGCATTCCA
46504	KCNJ10	TCTAAGAAGAAAGAAACAGAGATAATAT
46505	KCNAB1	GCTTGCTGCTCAACCTCTAGTGTCCCTC
46506	FLRT2	GGTGTCTTTGCTTATAGCATTTT
46507	GPR56	AGGGACACAGATGACCGACCTGGT
46508	HPS1	CTGCTCTAGCCAAGGTGGCCGCA
46509	PCDHA9	CTACAGATGTCATTTGTCTC
46510	LCT	TTAGGGTCTTAGACTCTGCTGA
46511	F8	GGACATACATTTAATATTTCT
46512	CST	TCATCCAGAGCTGGAGTGCAGCGGCAC
46513	DAP	TGGATGTCATTTGAGGATCAT
46514	DHFR	GACCAGCCTGGCCACCTTAGTG
46515	GRAF	GGTCTACTTGAGGCAGATGGGATAGTAG
46516	MUS81	GTGTTTGGGGCCCCGTGATCTCA
46517	RGL	TTAATGCCACTTTAAATGTCTTAAATT
46518	KCNK5	AGGAGGGAGAGTAGCAGAGCATGGGT
46519	ADAMTS1	AGCTCCCTCGCTCCGTGCGCTGCT
46520	MEIS2	TCTGCTGCTGCTCGCTGCTTG
46521	SUFU	CAGGGAGGGGTGCTACTGTTT
46522	CYBB	TTCTTCTGCTTTTGCAATTGTGTTT
46523	GAB2	GGACAAGGACATGAGACAGTGGTGATG
46524	BSN	ATCAGCTCCTTCTCTCCA
46525	PCDHB11	TGTATTTTTAATTTTTTCTTTTCTCCC
46526	XRCC3	GGCCTTTGACAAATAAATGTTCA
46527	DYRK1A	TTCATTCTATTGGTCAATTCCA
46528	TEM6	TGAAAGATGGAGCTGGGCCAC
46529	STK24	GAAACTGGAGCATGTTGCCAAGGCA
46530	MYLK2	GGCCTGGTGGAGGGGGAGGGGAG
46531	AGTR2	GCATATGCTTCTTTAAAAACGCTA
46532	EGLN2	TTCAGCCTGTGCTCCAGTTCT
46533	NCALD	ATCATGACCAGGAGAAAAATGTG
46534	EDNRB	GATACCCTTTCCTTCTCCA
46535	TOP1	ATAAGGGAGAGCTGAGCCAGT
46536	RAD1	CTGAGGCAGGAAAATTGCTTGA
46537	MASP1	TGGGCGTCCACACCTGCTGCTCCAG
46538	LAT	GCGTGCGTCTGTGTGTGCCTGTGT
46539	SIL	TTAGTAGAGACTGGTTTCTCCA
46540	NEURL	CTTCCCCTGACTCCAGCCACA
46541	C21orf2	CTCAGCAGGCAGGCAGCAGCCTCCCGC
46542	SLC5A5	GGGAGGTGGCAGGACAGACAGACAGC

46543	GUCA2A	AGGCCTCGCCCCAACACTGTCCTTC
46544	P2RY2	GTTCCCTTCTGCCACCTGCCT
46545	IL17	AGGCCCCTCAGAGATCAACAGA
46546	A1BG	CCAAGTAGCTGGGAGCCTGGGC
46547	SFRS7	CCAGATCTCCATCTCCAAA
46548	BACH2	AGTAGCATAATCCTCTCAAAATGAGGA
46549	SEC22L1	CAATTGCTTTAGGGTAAGTG
46550	HMX1	CGGTGTGCTACCCCTCTCGCGGG
46551	FBXL11	CCCATCCATGGTCCCCAGCAGTGCCT
46552	CNTNAP2	CAGAAAGGCTACCATTTATCATCA
46553	AMPD1	CAGTCTCCTCTCTCTTCTTT
46554	HGF	TGCTAGTCTCCATCATCTTATCT
46555	TGM3	CTCTCCAAACGGGATACAGGAGA
46556	ATRX	TAGGGCATACCATTTCTTCC
46557	TEM7	GTAGACAATCATTAACTCTA
46558	BCL11B	CATGGGGAGAGAAGGAGACTGA
46559	FOSB	CCGTTCCCTGCGCTTCATCTCATG
46560	ADRBK1	CCAGGTGGGGTGAGGCAGTG
46561	CDH12	CAGCTTTGTTACCTAACAGCTTGGCTC
46562	BENE	TTCCTCCAAGGCTGGAGTGCAGTG
46563	TLL1	TTGACCTTTGAGCCAACCCACC
46564	MYF5	GCTCATCAAAATGTCTCTGGTG
46565	FCER2	GGCTGCTTAAACCTCTGTCTCT
46566	HSPA4	CTCTGTTCTCTACCTGTCATGCTTC
46567	ADRA1A	CCATGGTGTTTCTCTCGGGAAATGC
46568	PDCL	AACATTAGAGCTGGAGTGGGGCTG
46569	TRPM6	GATCTCACTGCAACCTCTGCCTC
46570	MRPL49	ACTGCAACTTCCACCTCTGGG
46571	EVC	CCTCGCAGGTACCCTGCCTCC
46572	MAP1B	GGCTTCTATGATCAGAACTGGGA
46573	UBE2G2	AGAAATTTATTGCTGAT
46574	TCL1B	GGATCTTCATGTACCTGCTCTTCTGT
46575	CAPON	CCGAGGGCGAGGAGATGGAGGC
46576	ASH1	CTGCCCCCTCCCTACCTCTACTC
46577	MYO15A	AAGTCTGGCCCACTGTGCAGTG
46578	PFKFB1	AAGATAGGAAGTGAGGCCAGG
46579	MYL1	TCAAGACTGAGCAACTCCCTGAA
46580	XPR1	TGCCCTTTAATACACTCCTA
46581	SCN3A	CCCTAACCATCTTGGATGCTGGGCTTT
46582	CENPA	ATAGAAAACCTGTAAGCTTTGA
46583	WHSC1	GTGCCTCAGTTGTTTCCAC
46584	CAPN3	GCTGGCACGTCACCCACAGCCTG
46585	PIK3CD	GCATGAGCCACCACGCCCGGCC
46586	TXNRD2	CTTGCCTGCCTTCCTCGCCAGTAGCTT
46587	BCL10	ATTTTTAAAAAATATTTTCTCTGTAC
46588	NUFIP1	AAGATGTGATTCCCAACCAA
46589	RBM3	ACAGTGTGGGGAAAAGGAAGAGAGATCA
46590	SET7	ACTCATACCAGATTTAAAATTAGCTAG
46591	SLC4A7	ATGCTCTTTTAAAGCCAAT
46592	AKAP13	GCTCTCATCGGTTGGCTTCATTTTCAA

46593	KIR3DL2	GGCACTTACACACTTGCTGT
46594	JPH2	CTCCCTGCTTAAAGGGAACTGA
46595	SLC14A2	CTGGGAGGGGCCAGGGGCAGAATGATA
46596	SLC2A3	CGGGACGCAGGGGTTGCAGTG
46597	DGCR2	CCCACCCCATCAGTCCCTCTC
46598	IL2RB	TCAAAACCTTGCACAGGTCCCA
46599	DNASE1L1	CCTGCCTGCCTTGTTTGATTTGGC
46600	TAF6	GGCACAGAGGTCTCCGTCTCTCCA
46601	GPR61	AAACTGAGGCACTATCCCAGAGA
46602	ADCY7	TTTACACACCAAAACTTTTTACA
46603	PLEK	GACTCCTGCATTCCTCCTCCCCTCCT
46604	CPNE7	CCTGTGGGTTCTGCCGGTGGGG
46605	NF2	GGGAGCAGGCTGGGAACTGCAGGA
46606	PDE1B	CTTCCCTCCCTTTCTGATACAGTGA
46607	PIK3C2B	CACCCAGCATCCCAGGCTGGTG
46608	NINJ1	AGGGTCAGAACTGGACAGCTGC
46609	NEO1	CCTTCACCAGGACCTGACTTCAAA
46610	HTR7	CTATGTACTTTTCTGTGT
46611	EFNB1	TGGAAGGCAGGGCTGGACACTGA
46612	OPA1	CAATTTTAAAAATCAGTGTACCT
46613	FGF2	ATTAGAAATTATGCTGCTA
46614	RECQL5	ATTCTGAAATCCAGGCAGCAG
46615	PPP1R8	CTGGGCTTGGGAGGCAATGCTCCAT
46616	UNC119	CCAGCTGCCAAGCCACCCAAGG
46617	ODF2	TTTGCTCCTTCCTTTCCTGAGA
46618	RGN	CAGCGTTAAGTTTTAATTTACAAC
46619	SEL1L	CAGGGAATCATCTCACATGCTGT
46620	ALDH1B1	GCCCAGGCTGGAGTGCAGTGGTGTG
46620	APPL	GCCCAGGCTGGAGTGCAGTGGTGTG
46620	PPP1R12B	GCCCAGGCTGGAGTGCAGTGGTGTG
46620	TRPV1	GCCCAGGCTGGAGTGCAGTGGTGTG
46621	EDARADD	CCCTCCACTTCTCTCCTAGGCAA
46622	CLN5	AATAAAAAATACATTCAGTG
46623	DLEC1	GTGATTGTCCTGGAAATCGAGGTGAAA
46624	KCNA7	AAGCTGAGGCAGAAAGATCCCT
46625	LOH11CR2A	CATGGATGAAGACTCTGCTG
46626	OCRL	TGCATTTGTGCATTTCTACTAC
46627	SVIL	TGCTATAGATAGCACTGCCTTC
46628	NDUFB3	GGTTGCAGAGTTGAGTGTCCT
46629	EXTL3	CTGGGGGGCAGGCTGCAGAGGACTCA
46630	CNTNAP2	CACAATCCTAATAGACAGTGTCC
46631	SOX9	AGTATTTTTGTACAGATTTGCT
46632	FGFRL1	CTGGGAGGATGGAGGACGGAGCTGCAG
46633	RAB36	CCTGTTCTGGCTGAAGGGCTA
46634	DSPG3	AAATTTTGAAATGAACACTTTAGG
46635	PDZK1	CACAGCAACCTCTCTGCCTCCA
46636	GUCY1B2	GTGGGGAGTGCAGGGCCAGATGGGG
46637	CD80	TCTCTATTGCTGCTCTCTCA
46638	KCNK9	AGAGAGGCGTCCGTGGATGCTGG
46639	DGKG	TGGGCACTTGTTATTTTCCA

46640	DSCR3	AGCCTCCCGAGTAGTTGGGATT
46641	MCCC1	AAATGATTGTATGCTTATGCTG
46642	PTGER3	CCAAGCCCACCCCCAAATAT
46643	EIF2B1	CCAAACAGTAAAAACTACCAAGAGAA
46644	PTTG1IP	CGCTGGTGCTCCTTCTGCCTCA
46645	TRIM37	TGCTGTGACTCATAGTTTACTTTT
46646	BDKRB1	TCGGCCCAGACTGAAGTGCAGT
46647	PTN	CAATAAGCAAAAACAAAAAGA
46648	EDAR	GTCACCCAGAACTGGATGGTACCTGAC
46649	CORO1C	AGTGCCAGGCTGGAGGCGGC
46650	PXF	GGGACCTGAGGCAGGAGTGTCACC
46651	ADAM22	CCCAAATGTAGCAAGTTTCCTAAG
46652	PPP2R1B	TTTGTTCCTTTGTTAACTGTTGTGT
46653	MRPL49	AGCCTCTTGAGTAGCTGGGATT
46654	SLC38A2	CTGAACTAAAATAAATACATGC
46655	SYBL1	GCTTGATATCTTCTGTTTTCCC
46656	CHST1	CTGTCCCGGCATCTCTCGGGT
46657	ABCA7	GGCAGAGGGGCTGGTGCCCTGGA
46658	HDAC5	CTGTCTGTCCTTTTCCTCC
46659	ADD1	GCTGCCTCTCTTCTGTGT
46660	VPS41	TGCCTAACTTCAGAGCAG
46661	CALM1	CGTACAGATGATGACTGCAAA
46662	FANCE	CATCCAGGCTGGAGTGCAGTGA
46663	EYA1	TTGATGAAATAACACAGCAGTT
46664	AQP6	AAACTCCTGACCTGAGGCGATC
46665	CACNG1	TCCTCTCTCTGAGTTCCTCTGGGCTGCCGCA
46666	NR4A1	ACCGTTTTTAACACATAGCGCCGTGCTG
46667	HMGB3	TCTGTCTCCTTGTGAATACTTA
46668	ACE2	TCTCTAACTGTGGAGTGAATG
46669	MAP3K1	CTCACCGCCGGCCTCCTCGACTTCC
46670	ARSA	GCTCGAGAATCTGAAGGTGCCCTGGT
46671	ALDH1A2	CTTCTGCTTTCCAGTGACTCCACCAGT
46672	GRM6	GAAGCAGTTCTTAGTAGAGGCAT
46673	ADCY2	AAACTGCCTGTTCCTTGAATCTGA
46674	PIP5K1B	TGCCTGATACCTCTCAGCATTTGAGGGCC
46675	FMOD	TGGTAGAGACAGACTCCAGGCAG
46676	COPA	GCTCATACCTGTAATCCCAGCA
46676	PCDH11Y	GCTCATACCTGTAATCCCAGCA
46677	WBP2	AGCTTCCAGGGCTTGGGTGGC
46678	IL19	CACACTGACAGGAGTCCAAGA
46679	TACSTD2	CATTGCCCGGAAACTCAGTCTA
46680	SLC10A1	TCAAATACCCAAATCCCATTCCAAGTT
46681	BACH1	TTTATTAAGGCATGTAATA
46682	DNASE1L1	TCCACCCCTGCCTGCCTTGT
46683	CHRM5	GCTGACATATTAAATGACTCTTGCCT
46684	RALBP1	TGAGGAGATTGAGTACTCTG
46685	ADORA2B	CACACCTGTAATTCCAGCACTT
46685	USH3A	CACACCTGTAATTCCAGCACTT
46686	MAFF	CACATCTGTAATCCCAGCACTT
46687	LPXN	GATACCACTTTTAGCTCTTTGCATCT

46688	B3GALT5	GGTCTCCTCTCCCACCTCA
46689	HTR2C	TGCCCCTTACCTGCCG
46690	AIRE	CCCGCCTGGCCCCTGGGCCTGCCAAGG
46691	CLTB	GGACCGCACTTCCTCTCCGCCA
46692	DAG1	TGCACACAGAGCAGCTACTTCTA
46693	CALB2	TCTCGCTCCCCTCTGCCGGTCCCCCATG
46694	TBL1X	TCTGGTGTGTGTTCCAGCAGTGAGAC
46695	CTF1	TGAACTCCGGGGCTCAAGCGAT
46696	GAB2	GCCCTCTGTTGCTCCCTAGCA
46697	NCOA6IP	AGCTCACTGCAGGTTCAGCCT
46698	TCF15	CAGCCTGCCAGCTCTGGCT
46699	ENG	TGCTCCACCAGCAGCATGGCATA
46700	SPRR1B	GCTCAGAATTCATCTGAAGAGAG
46701	ETF1	GGCGTGCCAGGGTGGTGACAGT
46702	IFNAR1	AGACCAGCCTGGCCAACGTGGT
46702	RBBP5	AGACCAGCCTGGCCAACGTGGT
46703	BRCA1	AAACCAGCCTGGCCAACATGGT
46704	POU2F2	CATGGTTCACTCCAGCATGGGGG
46705	BLNK	GCCTGCACTCTCAGAAATCAGAC
46706	TZFP	TTACAAACCACACTCATATTCGTCACG
46707	NCKAP1	CGGAAGGCAGGAGGCTGCCGGGGCGCG
46708	WBSCR5	GTGGAAATGTCACTTGCTACAG
46709	TRIM9	ACAATCTAAATAAGCTGCAGT
46710	GRAF	GGCTCCCCTCCTTCCTATTAG
46711	COL8A1	GAGACAGAAACCAGCCCCAGAGG
46712	FLNB	AGCAGTTTCCCACTTGCCAAA
46713	FKBP2	GGGAAAGACCCGTGCCAGCGGGCGTG
46714	ATP5G2	GTTGGCTGAGTGCCTTCGTGAGAGTA
46715	TSN	CTTGCTACACTGGCTGA
46716	SNX13	GCTCTTAGGGTACTCAATTTTA
46717	RASGRP1	GGCTCCTTCTTCACTACCTCA
46718	RIMS1	TGCCATGTTTGCTTGGAGTGCC
46719	ALDH3B2	CCTCTGCCCCATCCCAACT
46720	ARHGAP6	GGGTTTCTGTGCTTTTGCCATA
46721	LANGERIN	CATCCAGCCCCTGTCCTCA
46722	COX6A1	CATGGACCAGAAAAAGTATATG
46723	SLC2A3	CCAGCGAGACCCAGAGATGCCTGTA
46724	SNX4	TTTGCAGAATCTTAAAATGTGTACTCG
46725	EGFL3	AGCGGATCCCGGGGCTGGGATT
46726	NDST2	TAATAAACATCCTTATTTTTCTGT
46727	ATP8B2	GAAGAAGAAAGGAGGGCGCGGG
46728	HLA-DQA1	TGGAAGGGAAGGTGCATCGCCATCTA
46729	DLGAP2	CTCGACGTGGTGAATGTGCA
46730	NFE2L1	GTCGTCTGCTTTCTTTTTTG
46731	MLANA	TCAATGCTATTCTAACTAA
46732	PLOD	CAGAGCTTCTCCCAGGCACAG
46733	PFKL	CTGCCTCAGCTGCTGCCTGCCAGAGGCGTG
46734	MAT2A	AGCTTTCTGAACAGCTGGTGT
46735	RNASE2	GGGTATCAGCATCTGTCCTCA
46736	GAS7	GGAAGCTTTCAGTGCTGCTG

46737	EHD1	GGAGGTGGTGGTGGGTGGCGGTGGC
46738	S100A11	CAGCCTTTCTGTCATCATCTCCA
46739	MYH7	CCCAGGCACAGCCATGGGAGATTCG
46740	HOXB7	GAAAGGAGTTTAAAAACATTTTTT
46741	SOX12	GCTGCACCTTCCCCACCCCCTCCTGGG
46742	GCNT2	CCGCATCTCCAGGCACATCCAAAAAG
46743	TRIM39	ACATCTATCCTTTCACAGTGTT
46744	PFKFB1	GTAGTAAGATAGGAAGTGAGGCCAGGT
46745	MAK	CTTCTGCTGCATTATTTTTCCAAG
46746	TLL1	GTGCCAAGTTCTACTAGAAT
46747	APAF1	CAGGCTGGAGTGCAGTGGCATA
46748	HTR1D	CAGGCTGGAGTGTAGTGGCACA
46749	PPP2R1A	CCCCTTTTCACAGAGAAATAAAGGTCT
46750	RAD54L	GGCCTCGGACTTTCACCCCA
46751	TNFAIP1	GGCAGTCCTCACAGGGTGCCTG
46752	FCRH1	CCATGACCCCAAGCCTCAGGCC
46753	KIF3B	GAAATGAGAAATCGCATTTGGA
46754	DES	GAGCCCAGGCGGGAGCGGTG
46755	CDYL	CTTGGCCTCTGCTTTTATGTC
46756	ABCD4	GGGAAGGGAAGCACACTCTG
46757	PPP1R12B	AGAGTGGCAAGACCCAGAGGTCA
46758	FMR1	TTCTTAAAAAGTAACTCCTAG
46759	TSG101	CTGGGGCAGCCCAGCAGCGGCTGAC
46760	XPA	GTGATTGCCTTCTTACAACAGAGATGG
46761	PTGFRN	ATTTGGCTCTCCACTGAGCA
46762	CCNDBP1	TGGTACGGGGCGCCACCCTGGA
46763	FZD4	TTATCACTTTTCCTCCAGGGTTAGAT
46764	ETV6	GGAACCAACAGTCCACCTCA
46765	PPP2R5A	TCCAGCGCTGAGATGTGGCC
46766	AP2B1	CTGCATCCCCCCTCCTCTGCC
46767	DIAPH2	TCCTCACCTCATGAGTCTTAACTT
46768	EEF2K	GTTCTTAGTTGTATGTCATCT
46769	FRK	AGCCCTGCTCCTCTTCTCCCCACCAA
46770	BAT1	GGGAGGCTGGAGTAGAGGGAAGCCTGC
46771	ATF7	TGGTCATTTTTCTGCTCCTGCTTCTC
46772	ARF1	TGGGACGCAGGCCCCATCTGTC
46773	APPL	ACTAAGCTGGTGCTTTGCAT
46774	TNF	CCCTCTCTCCCCTGGAAAGGACACCA
46775	IL1RN	CCTACTTCCTGTGACTTCAGCTCTGTT
46776	TCP1	TTTCCATCTGTACTTTGGTCCTCTG
46777	NUP62	AAAGAACAATGAAGCCCAGTG
46778	CDKN2D	TTTTGGTGTGTTGGACAGAGAAGGGCT
46779	CD164	AGCATGCATACTTTAACTTCT
46780	OGDH	CAGGCTGTGTGTGGGGCCCAAGCAT
46781	EYA1	AGGACCACGTCTATTTCATCA
46782	GRIA1	TGAGAGTAGAGTCACTGGA
46783	PAG	CTTTCCTTTTCTCTGTCTGCT
46784	MAT1A	AGCTTTGACTCAGGAGCCTGT
46785	CD80	GTCCAATAACAGGTCAACTTCA
46786	MFNG	GCCTTTCTTGCTGTTAGGGGCT

46787	F2RL3	CCAACTCCTGCCCTCAAGTGAT
46788	HOXC8	GGGGAGCCAGCTGGCCTGGGGTT
46789	ED1	CCCCTCGGAGTAGAGCTGCACA
46790	TRAF5	GGGATTACAGGCGCCCGTCACC
46791	KCNA3	AAACAACAGACTTACGTTAAACTTC
46792	MSN	TCTTCTCCAGGGATGTCAAC
46793	KRT6A	TGGCTCTCAAACTCTCTAACTTATAAGT
46794	BAALC	AAACACTTTCTCACTTA
46795	DUSP5	CTGTCTCTGTTGCTTCGGGGCA
46796	PTGS1	TGTGCTCCTCTTGATTCCTGGT
46797	CXorf6	GTGGTGTTGTCAGCCCATGCTTATCCCTC
46798	FTHL17	CCTCAGCTGCTGCCCTCGCTACCGC
46799	EPB41L2	CAGGCAGCTTAAAACCTTAGTGC
46800	EGFL3	AGAGAGGCGCCTCCTGGCCTGGCTCT
46801	PTGS1	GACTCCTGCCTGAGTTTCCA
46802	GSTZ1	AAAGAATGCCCGCGCTGAAATTTGGC
46803	REGL	TCTCTGTTATAGAAGAGCCTTCT
46804	BIN3	GTGGCCCTGGTTCACTTGCCGG
46805	HDAC5	TGTAACCCGTTACACTGTGTG
46806	SNTB2	GTCGATCCCCCTCCCTTGGATC
46807	HUNK	GGGGCGGGATCCTGGTGTCCTGA
46808	MAPK7	AGCCTCGGGACCTCTGAAAGCCTTG
46809	TRN2	GATCAAGAAAATTTCTTTCTTC
46810	SPON1	GGGTACAGGCTGAGTGGGGC
46811	PRSS7	CCTTAGTATTTTCCCAACCAATAG
46812	TBX6	CCTTCCCCCAGCCCTGGAGCC
46813	ASB2	GGCTCTCCCTCCATCCTCATTCCT
46814	FOXD2	TGGGAGCCAGGAAGGTGGGGGGTGTCCAG
46815	TNFSF4	AAGAATTGAATGAAAAGTCA
46816	AIM1	GATCTCAGGCTGGAGTGCAGT
46817	POLR2E	GGGTTTGGGGTCCGGGTCTCCC
46818	SERPINB9	TTTGAACTCTCTTTGTACTTG
46819	SCML1	AAAAACCATTTAAACTGCTA
46820	DLG2	AATGTTCTTTGCATGTTACTGTGCAC
46821	COG6	TGAATCTCCTTTCTGTTCTA
46822	CARD15	CCTCAGCTTTGATATTTCA
46823	NP	GTCTGGCATCTCCCACACAAGACCCA
46824	VDR	CCTGTAATCCCAGCAGTTTGG
46825	ST7	CTTGCTTCCTGTCTTATCCTCCACCGT
46826	CTSB	GCTGGGCTGCAGGCTCTCGGCT
46827	KAL1	GGTTCACTGCAGCTCCTGTCACAAGCT
46828	MEF2D	CCCAGCCGGGCTGGAGGCTGTGCAGA
46829	OGDH	CCCCTCCCTCTGCTCTCATA
46830	PDCD2	AAGTTTCTCTTTCATCTGGCCA
46831	SON	AGGTTCTAAAAAGAAAGTGGT
46832	COLQ	CTTCTGGAATGTTGCTGACCCAGGCC
46833	OFD1	AAACCTCTTCTCCAGTCA
46834	DCLRE1C	CAGGAGATTGAGGCTGCAGTGA
46835	RAB36	CTGGACTCTGCGCCTTTGCCTGCA
46836	ACADVL	GCCTAGTGTTCCCAGCACTGTGC

46837	NRXN1	TGCTCTTGTTTCTCAAAAAAGA
46838	DMD	CAAAAGAAAATATAGTCACAGG
46839	P2RY1	TGCACGTTTCTAAGGTAGGGAGGAGG
46840	PRPSAP1	CAGCTCCAGGGAAATGGAGGTAT
46841	RBBP9	CGCTGCACTCATGGCTTCTCCTAGCAA
46842	SSTR1	CTTTCTGTTCCTTCCTCCACTGC
46843	NOTCH2	TCCGGGAGAGAAATGAAGAAA
46844	PPP1R8	CCCCTTTGAGCGATTAGCCAGTC
46845	RNMT	CTCATTTCTATGGTTTTGTTA
46846	POU2F2	GCTCTTCTTGAATCATGCT
46847	MGAT3	CACCTTCATCTAGCCTGGCCGCGG
46848	AOC2	CGTGTTTTTATCACACCTGCTCCCCA
46849	ADCY6	TGTTCCCTCTCCAATCTTCCAGCC
46850	ABCD1	AGAGCCCCAAAGATCCCACGGGAG
46851	NELL2	GCCTCTACTGTGTCTCACATCACCAT
46852	EDNRB	ACGATGGAGAGATGCCAGTGACCT
46853	LRP1	GTGGGCCACACCCAGGAAGGG
46854	UCP3	GCCCACAATGGAGTGGGAGATCAGC
46855	COL11A2	CCACCGAGGAGGGAGCAGTG
46856	JMJ	TTGTTTCTCTGGGCGGTTGTGGCAGC
46857	CPD	CTTATTCAGGTTTAATGGAGG
46858	KHK	CTCACCCTTGGAGCCCACCTTGG
46859	PACE4	CTCTGAGCACCCAAGCCAGG
46860	PTGFRN	TTCCATTTCTTTTGTATTTGTTTTCT
46861	RNF3	GCTCATGCCCAGACACACTCAC
46862	ELMO2	TGTGAGCCAAGATTGTAACCA
46863	PRKAR2B	TGTAGATGCCAAGCATTTT
46864	ATSV	CTTGCAGAATGTGCTCTGGTGGAACA
46865	EN1	GCCAGCCTCACGCTCTGGGC
46866	MPZ	CGGGGGATCGGGGGTTAGGGGTG
46867	G2A	ACCATCATAGCTCACTGCAGCC
46868	SLC31A1	TTCCTGCTCCAATCATCCCTT
46869	NOTCH2	CTGCCCAGGCGGCGGCGGCG
46870	EFNB2	ATGTGCTGCGGTCACTCAGGCC
46871	GP6	CAACATAGTGAGACCCCATCTC
46872	ITCH	CAACATAGCAAGACCCTGTCTC
46873	TGFB1	TAACATAGTGAGACCCTATCTC
46874	ZNF174	AGCAAGGAGTAACTACTGAGAGA
46875	MAPK14	TAGGATGTCAGACAATACCA
46876	CDH1	AACTCCTGGCCTCAAGCAATC
46876	SERPINB9	AACTCCTGGCCTCAAGCAATC
46877	ELAVL2	AAACTATACAACAAAGGCAAGTT
46878	NIPSNAP1	TAGACCCTGTTCCCTCACC
46879	SIL	AGCCCAGGCTGGAGTGCAATG
46880	SLC29A1	AGGAGGGAGAGAACTAGGGGCCCGC
46881	PYGO2	GGCTGTCCTGAAAGTCTGGACT
46882	CAMK2A	CCTGGGATTGACTCTGAGT
46883	SULT1C1	CCTTGAGTGGGCCTTTGAGCTGCT
46884	PDX1	AGAGAATATTTGGTTACTCAGATCCAT
46885	REL	GCGGCCGCCTCCGGCCAG

46886	LTB4R	TGTCATTCAGGCTGGAGTGCAG
46887	HSD17B8	TCTGCCTGGCCTCCTGCTGA
46888	ZHX1	AGATGTCTGATTTACTGTGAATTTGCC
46889	SIAT4C	GCAGGCATGGGAAGAGCACTGG
46890	SORT1	TTTCTGCTGCTTCCATCAAAGCC
46891	SCN4A	TGGGCTCAGACCCCCCTCAGCCCCAGC
46892	ZNF265	TCCAGCTTTACTTTTTTGCT
46893	PRPS2	TCACTGGCAAAAGCATCAGAT
46894	PPP2R5D	ATACATACGCTCCTCTATTCTTCC
46895	RABL2A	AGCGTCCCTGGTCTCTCCA
46895	RABL2B	AGCGTCCCTGGTCTCTCCA
46896	ALDH3B1	GACAGCTGTCGCCTGCGGCTG
46897	RXRA	CCGGGAGGCAGTGGCTTGGAGAGGCAG
46898	KCNK5	ACTGTATGTACATACTGGCA
46899	TCL1B	CTTCTGCTTATTCAGTCCTTCAGCT
46900	ICMT	CCATGATCTTGAGATTATTTTTAG
46901	EDARADD	TCAGGTCTGGAAAGTATGACCTGG
46902	ACP2	AGCTCAGAGGGACACGGTCTTGCCT
46903	STK18	GCTGCTTGGAGCGCTGCCTCG
46904	BDKRB1	GCCCAGACTGAAGTGCAGTGGC
46905	GLI2	TGCTATACTGGATACTCTGCTCCGG
46906	TAP2	CCATTTTACAGATGAGGAAACTGAAG
46907	PCDHB11	GTCGCCCTGGCTGGAGTGCAAT
46908	PLAG1	TTGAGAAGCCACCTAAAGCT
46909	RBBP5	TATCTGAAATTTTGCTACTGGTATC
46910	EZH1	CAGAAGAATTTCATGTGAA
46911	TSC1	GACCACAGGCTGGTGTGTAGGTGG
46912	NBS1	CCCCAAGATTTCAGATATTCTGCTCTA
46913	ICAM1	GCTGGGACCATAGGCTCACAACACCACA
46914	KLHL3	CCTCTACTGGGCGTGCTGCCAAGGCC
46915	PPP3R1	GCATATCAATGTGGTGGAGAA
46916	ABCA1	CCATTTGTCTGTGTTTTCTTCTTGTGG
46917	BAZ2A	CTGCCCTTTTGCTTCCC
46918	PCTK1	CTACATCTTCCCTGCTTACTCTCTGCC
46919	RBBP5	TGGGTCACGCCTGTAATCCCAG
46920	EPHX1	GGGGGCCAGTGCCTGCAGCCT
46921	MRE11A	ATGTAAAAGACTTTTTTCCCA
46922	TACSTD2	TCGGTTCTCCCCTTCCCGGCT
46923	VANGL2	AGCTCACTTAGGCAGGGCCTCTGGCTG
46924	CNTNAP2	GCTTCTGCTACTAAAATGTTCT
46925	BSND	ATGATATGGAGGTTCAATGAG
46926	LHX5	TTCTCTCTCGGGTCCGCACTCA
46927	PXN	TTTTTGGGGGAAGGTCAGCCCAGC
46928	SOX5	GTGCTATAGTTTTCACTCCAGTCA
46929	BAIAP3	GACTCACAAGGGGCTTCTTGGCCTGCA
46930	ADCY2	TGAATCCTGGCTCTGATTTTTTACTGG
46931	TRIM9	ATCCTTGGTACCACAGTCACA
46932	TPI1	CTGCCCTTTCCCTGCATATGCTT
46933	EGFL4	CCCAGGAGGCGGAGGTTGCAGTG
46933	IAPP	CCCAGGAGGCGGAGGTTGCAGTG

46933	LUZP1	CCCAGGAGGCGGAGGTTGCAGTG
46933	NPHS1	CCCAGGAGGCGGAGGTTGCAGTG
46933	NT5C2	CCCAGGAGGCGGAGGTTGCAGTG
46934	DMRT2	CTTCTGTAATTTTTTGCCCACCTGCCT
46935	SIL	GTTCTCATTGTTCAAATAGAGCTGTTC
46936	SLC22A3	CTGTCCTGTACCCTCTACCTC
46937	MYBL2	AAGTGCTTCAACCCGCGCCGGCGGCGA
46938	MAPK3	CCTGCCTCCTGCCTGCCCC
46939	AP2S1	CGGCCCCTCCTGGAATCGCC
46940	GGT1	CGTCATCCAGGCTGGACAGTTCAG
46940	GGT2	CGTCATCCAGGCTGGACAGTTCAG
46941	GCNT2	AGCAGATGCAAACGGGGAGGCAGAG
46942	SMAC	CCGAGTAGCTGGGATTGCAGGC
46943	RAP1GA1	GGGAGAGAGAGTTTGAGACAGCTCC
46944	ENC1	GAGAGGGAAGCTGGCTGGGCTGGC
46945	PF4V1	AAAAGCATTATGAAGGAAGGCTTGGT
46946	EPB42	CTGCCTCTCTTCCGAGTC
46947	EIF2C1	GTCTAAAATGAGAAAAAAGAGAGAAA
46948	ANKH	CTCCTCTTGGAACCAAAGGACT
46949	TSN	GACACCAGCCACTCAGAG
46950	RAX	GAGGAGAGGCCCTCTGGCCGCCTCA
46951	SKI	CCCCACCCTCCCCACCCGGGGAAGCCA
46952	EPB41L2	GGAGAGGGGGAGGGGGCTGTGGT
46953	GLRB	CTGCCACCTGGGCCCGGAGCCTCCA
46954	RABIF	AGACTAGCCTGGGCAACATGGT
46955	SLC7A5	GGAGCTGGGGGAAGGCAGGAGCCTT
46956	F13A1	TTCTCTCTTGTCCTTCACATCACCA
46957	ODC1	CTGCTGTTCCAAGGGCACA
46958	P53AIP1	AGAGTAAATTCTCTCCCTCCCTACTGAGGCC
46959	PRDM4	GGAGAGAACAAGAGGAGAGATGCCTG
46960	LPP	ATGCTGATGACCTCAAGTAGCACTGA
46961	UMPS	GGAAATATTGAGTAATTTGTAATC
46962	PDE4A	TTCTCCAGGAGCCAGGGGGTGACTGG
46963	FHOD1	CCCTGGACTGCAGTGCAGGA
46964	MPP3	CCTGTACTGCAGTGGTGCCTTCA
46965	NCALD	AGGAATGTTAACATGTATGACAGGG
46966	MS4A8B	TGAGGAAACGTCTCTCCCACTG
46967	AQP2	CCCTTCCTCCCCAACCTGCAA
46968	SYT4	GTATTTATTAATTCTGTCATGTGCA
46969	RAB2L	CCAAGCAAAGGCTTCAAGGCTCTGAGCC
46970	MGAT3	GCCTCATGCCTGTAATCCCAG
46971	MAP4	CGGCGGCGGCGGGCAGTTGCAGTGG
46972	HS3ST3B1	GCTTCCCTGTCTCTTCCTGCCTGTGTA
46973	MVK	TGGTTAAATAAGGCAGTGTGGCCT
46974	LDLR	CAGGCCAGGGAAAGCCCGTGTC
46975	IL9R	GTTGCTCCCTTCTGTCCTCAGCA
46976	NF2	TCAAGCCCCAGTAGCAGGAGAAAG
46977	SPINK2	TTTCTTGGCTTTTGCTCCTGGAGTT
46978	MCM6	TCATGAGGTGGAGCAGTTCCTGTGTTG
46979	NCALD	CACTAGTTGAGCTAATATGCGTGT

46980	GJB5	TCTCTCATAGGTGCAACCTG
46981	COL10A1	ACTGTACTGTATTTTTATATTGCTGT
46982	FZD3	ATGCCTAACACCTTCCTCTCA
46983	SCRT1	GGTGACGGGGCCCTGCCGCCGC
46984	GYG2	CTCAAAGCCATTTCCACTCAG
46985	TNFRSF5	TGGCTCCAACACTGCTGCTCCA
46986	OLR1	TGGGACAAGTGGGGAGCCCAAGAAAG
46987	CGA	GTTCCACTGCAAATAAAGCCTTT
46988	MALT1	CTGAGACCTCCAGAAATCTATTCCA
46989	ARSB	AAGCGTCAGCTGAGTTTCCA
46990	CYBB	GGTCCAGCCTGTTCACACTGCAC
46991	NUP98	CACATGCCCATTCACACCAC
46992	DRD1	GGAGAGCTGCTGAGGAGCCAG
46993	EPS8	AGCAGTTTCGATTTTGCCTGTGAATAT
46994	CRACC	CACTGCACTCCGGCCTAGGCAA
46995	DEK	CTTCAAAAACTTTGGGAAAGGGTGGGA
46996	PTPN7	GAGTACACCTAGAGAGCTTGGCTGTTT
46997	DRG2	GGGCCTCCCGCCCACCTGCCT
46998	XRCC5	GACTCACTTCTCTTTTT
46999	TBX1	GGCAGGGGACAGATGTGCTGCT
47000	CNTN2	AGGCCCATGGGAAGAAGGGG
47001	RHD	TCTCAAACTCCTGACCTCAAGTGATC
47001	TRAF5	TCTCAAACTCCTGACCTCAAGTGATC
47002	PGF	CCAGAGGCCCTGGAGGTCTCCA
47003	BIN2	AGGGAGTTGGCAGGATGGCAGAGGGCAAGGC
47004	RGN	GCCTCTCTGTCGCTGTCGC
47005	COL19A1	TCTTGTTTGCACTCCAGAAA
47006	BCL3	TGTAATAAACTATTTTTGTACCA
47007	ATF4	GGGAGTTGGCTTCTGATTCT
47008	FANCE	TCCTCATCAATTCTCAGGCTGCAGGGA
47009	TAPBP	GCGTCCTCCACCATGCCTGGCT
47010	JRK	AGCAGAGCAGGCAGGCAGAGTGGA
47011	GLTSCR1	CCTGCAGCTCCATGTGCAAGAAGCTTT
47012	PAIP2	TCAAGTTGTGAACAAGCAC
47013	TMPRSS3	GCGAAATCCCTGCTCACTGCAGCC
47014	LTF	CCAGGCAGAACCAGGACAGGTG
47015	DIPA	ACGCCGTCCTGGCTGCGCAG
47016	DHFR	GTTGCCCAGGCTAGCATGCAATGGTGT
47017	FANCE	TGTTACAGGCTGCATAGGGAAT
47018	DISC1	GCTATTCTACTGCCTCAGCCT
47019	G2A	GTGCACCACCACACCCAGCCAAA
47020	BAALC	CCAGCACCTGGTTGATGTGTATTCA
47021	PDGFB	GCATTTTCCTCTTGTCCTGGCCCTTC
47022	RAB11A	ACTGCTGCTCCCGCCCTTTCGCTCCTC
47023	FBXW1B	GAAACAGCATTCTTCTTCAGTGAA
47024	FZD4	GAAGTTAAGTGGGCACAGGTGG
47025	EGR2	CAGTGTATATCCACTCAGAT
47026	EGR3	AAACACCTCATTGTTTCCC
47027	PTTG1IP	TCTGAGCACTTCCTTCTGAGTGGG
47028	CACNA1S	AGCAGGAGAAAGCCAGATTCC

47029	SYNGR1	CGTTCATGGTCCCCATTGCTGAG
47030	PTGS1	CCTTTCTCCCTGCGGGCC
47031	TSC1	CCTTTGTGTGCATACGCCTCTTGTT
47032	ABCC3	GCACAGCCTAGACATCCAGGTCCC
47033	ISGF3G	GCCCTCTTTCATCTGTAAG
47034	HMGA1	CCAAAGTGCTGGGATTACAGC
47035	PTPRO	AAAAGACAGCAGTAGCCATTTGTA
47036	CYP2B6	GGGATTACAGGCATGCACT
47037	TCF2	CAGAAGAAAAAGTTGCAGTCTCAGAA
47038	FLT4	AAGAGGAACCAGGAGGACAAG
47039	PACSIN3	CTCAGTTCCTGACCTCTGCT
47040	PDL2	CTGATCTGGACTCACCTCTGG
47041	ARSD	TGCGCTCTGGGCCAGCGCTCG
47042	KCNAB2	GGCAGGGCCAGCCTCTCCTCT
47043	TMSB4Y	GCTGCAGCCTCCGCCTACGTGAGAAGA
47044	TNFSF12	TCTCCACCTCACTAGCTCCCCAATCC
47045	ITGB3	GCTGGGAATAAGTGCCAGGA
47046	SPTBN4	CGGAAAGGAGGGGACTTCTCCTGCA
47047	DTNA	TCCACATCAAAAGAAGAACTATGACA
47048	SIM2	TGCAGTGAGCTAAGATCACATCACTGC
47049	GPR81	AAAATTCAAAATTAGCCTGGTGTG
47050	GABRB3	AAGCAGACACACACATATATAC
47051	CSNK2A2	TCTCCCACTTTTCCATAAGCAG
47052	LRRC2	TGGGTGAATCATGAGGTCA
47053	GRM6	TTTCATTTGTTGCTGAATGCT
47054	LAMP1	GGTGCACGCAGGCACAGCAGCTGCAG
47055	RPL17	ATTTATACTGAATGAGTTACTGTAA
47056	NTSR1	CATTAGTGTCTCCCGGGCCTGTCC
47057	LZTFL1	TGGCCTGGTTTTCTCAGACG
47058	DDOST	TGGCACAACTTTACCTCTGTGGGAGATG
47059	FMN2	GCTAAACATTAACTACAATTCAC
47060	OA1	ACCTTGCTCTCATCACCAGCTAG
47061	EPS15	ATGGCAGCCATTCTGCCTTT
47062	GPR23	ATATTTGGTAATTAGGTTGG
47063	MGAT4B	GCTCACTGGTCCCTGCCAGACTGGTG
47064	ATP2A3	CAGACCAATGGGCTCCATGTTCT
47065	GPR86	TGGAATTCTCCTTCTGTCCAG
47066	RNF18	GAATTGCCTTCTAATGTTAT
47067	ARHGEF12	CAACTTGGCCTCCCACACGTT
47068	CACNG1	CACTGTACCAGCCTCTGATAA
47069	DACH	TGCTAGAGCGAGACCCACACAAC
47070	C1orf1	ACCTGTAATCCCAACACTTTG
47070	GCNT2	ACCTGTAATCCCAACACTTTG
47070	GTF2H2	ACCTGTAATCCCAACACTTTG
47070	TNFSF15	ACCTGTAATCCCAACACTTTG
47071	CBFA2T2	TTCTGTGTCCTTTTATCTCTCAGAC
47072	IL18RAP	TCTCCTGCCAGCACCAAGCA
47073	SP3	TCCAGTCAGCAGATGGTCAGCAGGTT
47074	WHSC1	TCCTCATGGATTTGAATGAAA
47075	MMP25	CTATCCCACATCAGAATCACTGGG

47076	SLC24A1	TGTTGCCCAGGCTGGTGTGCAA
47077	SPOCK	TCATTTGATACTGGTATTAAGCTGA
47078	FGFRL1	GGACAGGCACACACATGCAG
47079	MSR1	ACATTCTTCTACTTGTTTA
47080	ZNF268	CCACAGAAAGCTGTTCTTTACAT
47081	KCNMB3	ATTTTCAGGAGGGACGTGCAATA
47082	OCA2	CTCAAGATTCCCCTCCAGAAA
47083	SLC4A7	TACTGGTTTCTGCTTTCT
47084	IRAK4	TCAAATGATGCAAAATATATACAAG
47085	ZNF256	GCCCTTCCTTCTCCCCAGAAGACC
47086	SIAT1	GCCTCCGCGGCCGAGAGTGCAGC
47087	SARDH	CCCATGCACTTGCACGTCCAGGACTCCT
47088	EFEMP1	CATCTCTATACTGTACACTCA
47089	NR1D1	CCTTCTTGTAAATACCTGCCTCCC
47090	ADAMTS13	GCTGCACACGTGTGGACC
47091	CDC34	GCTTTTTCTCCCTCCCCATGTC
47092	DCX	TTGTTGTTATTTTGAAAAACAC
47093	BCL11A	CTTTGCTCCTGGTGAGAGCTTA
47094	YWHAZ	TTTTCATCTTGAGGTGGCCA
47095	ZNF277	TTCTGCCGGGTAATGGCTGCTT
47096	DAG1	GCCAAGTCCCTGGTGCTGGGTTTGCT
47097	BCAS1	CACCAGGTTCTCCTGCCACCAAGAT
47098	ESPN	GCCCTTGGCAACACTGGAGTG
47099	DXS1283E	TATTTGACCCTGTGGGAGGATGGTA
47100	BSG	TGTGCTTTTATGTTTAATTTTAT
47101	GCNT2	ATATGGGAAACTAAATCTGCCG
47102	MYO10	GCATTAAAAAGCAAAGGGAAAAAGGA
47103	FUT3	GATCCCTTTTCGTCACACTCAG
47104	JRKL	TTGTTCTGCTCATTGTGTTTGTGACA
47105	CTSS	CACGCCTGTAATCCCAGTACTT
47106	GPR56	GCAGCAGCTCGCCTACCTCTGAGCC
47107	KRTHA8	CCACCTCTTCTCTTCATACTCTCTACC
47108	PRKDC	ATAACTTCAAAAATCCCATGGTT
47109	SMAC	AGCTCACTGCAACCTGTGCCTC
47110	OGDH	GCCCCACCCACCCTCCTGGGCC
47111	ANXA9	GCCTCACTCATCCCTCCTGTACC
47112	AGT	GGGGGTGGGGAGGCAAGAA
47113	CUL3	AATCCTTCTCATAGTGAAGCA
47114	ECH1	TTTCTATGCCTTCTGACCCAGTTTCCC
47115	CPD	TGCTTTGGGACTTTGTCATCT
47116	DCX	CTTGTCCATCTGATTCAGGAGATCACT
47117	ABCC5	CAGGCCCCTTTTCACTCCCTCCATCA
47118	TBX3	ATTCCTTAAAATATAACTGAGA
47119	F8A	CCACAGCCCTAAATCCATGATAA
47120	PCDHGA11	CCGATTCACAACCAACCAG
47121	PACSIN1	CGCCATAGAGTTCCAGACATAT
47122	CALB2	AACCCTGCTTCTGCTGCCCTGA
47123	ADH4	ACAAACCTGCACATCCTGCACA
47124	IMPA2	TCGACGTCTCTCTCACC
47125	CACNA1G	CGTTTGTGCAGAATCTCTATGTAT

47126	CREB1	TGCAGTGAGCCGAGATAGCACC
47127	DRG2	CCGCTGTCTGTGCGCCCACCTCTGCT
47128	CBFA2T1	TGGCTTCAGCTCCAGCCCCTTT
47129	LDLR	CCCCCTGGCCCTGCCTCATCC
47130	RAD52	GCCTCTTGAAGTGGATTTAACTAAA
47131	ITSN2	TTGCATATTTCTTAGGACATGCATCTT
47132	SLA2	CCAGGGCCAGGGTTCCAAAAAG
47133	TNFRSF10B	ACAAACAAGGAAGCACATTGTGTACA
47134	FGFR1	CTGCCACCCACACGCCCT
47135	DGCR2	CCTCCTGTCTCTCCACTCTGGA
47136	NDRG1	GGCTTTAGTTCTGCTTTCTGCCTCTCCTCC
47137	MAP3K8	TGCCCCTGACACTGCACTGA
47138	HPCAL1	CTTCTGCAGCCCCTCCCCACCA
47139	PRKG1	AAAGAATAATATATTGGGTACAAT
47140	MADH2	GCACCTTGTGGAATCTGTTTCCTA
47141	KIF5C	TTTTGAATATCCTGGTCACATC
47142	TMPRSS2	CTCTCTGTGGTCCCTTCCAATGCTGTG
47143	SERPINB2	TCTTCTAAAATGGGATCATGCC
47144	PDE6B	GCCGTGGCACGATCTCAGCTCACT
47145	LARGE	CTGGGGAGAAAGGGAAGTCAGG
47146	ETV5	ACCTGATGGAACATTTGCACCTG
47147	TAZ	TTCAGCTTGGGCAAGTGTGTGCCTG
47148	KIF3B	GAGGTTGAGGCGTACTGGA
47149	DGUOK	GGAAACTCTTACAGGCCAGGAAGCCA
47150	SET7	GCGCAGCCCCGAGCTGGGCAGTGTCCCC
47151	HPS4	TCTTCTTGTAAAAGTGCTTTTCA
47152	SAS	CTCTCCAAGAGGATATGGGAAG
47153	SLC14A2	GATTACAGGCGTGGGCCGCCGC
47154	CUTL1	CGCGGCCCAGACCCAGCCCGCGGCCTG
47155	TCL1A	CCTGTGCCTCGGCTTTTCTCAGC
47156	EGFL5	TTCGCTGCCCTTGTTCAGCAGTG
47157	SYT1	CATCATACCACTGCCCTCCAAATCTA
47158	CXCL16	ATCCAGGCTGGAGTGCAGT
47158	FANCE	ATCCAGGCTGGAGTGCAGT
47159	RRAS2	TCAGGCTGGGCTCTGTAGCGT
47160	CALM2	AAAAGTTGCACTATTGCAA
47161	FZD4	CTAGAGGAATAGACTCAG
47162	SHOX	CTCCATCTTCTGCGTTCCCCCAGTT
47163	XT3	CACCTTGCAGCGCATTCCAACCACCT
47164	USH2A	TTATTTATTTAGAAATGCTT
47165	GPR44	GGAGGTTAAGTGACTTGCCCAG
47166	CCNF	GCTCACTGAGCTGCTGCTTTT
47167	DVL3	GGAGGCTGAGGCACAAGAATCGCTTGA
47168	MGAT3	CGGGGTGGAAGTGGGGGTGGG
47169	EHD2	GCCCAGGCTGGAGTGCAGTGGTGAG
47170	PEA15	TGGCCACTGCTGCAGACACCTGCCT
47171	GALNT2	TGTTTTTAAAACTCAGAATTCTTTCCT
47172	ANKH	GGCCACAGACTCTCCTGTCCCCC
47173	CRYZL1	CCGGGCATGGTGGCACATGCC
47174	PACE4	TACCCCGATGGCCAAGCAATT

47175	RNGTT	CTTGGACATACACCACCAGGTC
47176	ZNF134	GCATGACTCTAGTCACAGCAGG
47177	GCNT3	GCTGGGACAGTGTGGGTGGGAGACCA
47178	LHX2	GCAGAGCCGGGGCTGGGCTAG
47179	NOV	GTAAGCTCAGGATATGGCTTA
47180	RARG	TGCCAGGTCAAGGTGGGGGCAGG
47181	ARHGEF1	GCCATCTCTCCCTCCTGCC
47182	LZTFL1	GGACTCAGAATAAATGTAATA
47183	HD	TGGCCAGGGTAGACTTGGAGCTGTCC
47184	MYD88	TCAGCCAGGCTGGAGCAAGGTACCTTT
47185	AP2B1	CACACTGAGGCCACCTAGCAAGGTAG
47186	PAX7	GAGAATAAATATATAAATAAATAC
47187	SRRM2	CCGCTCCTCCAGGTCTCCA
47188	EBAF	CTGGATTCTGGTTCTGACAGGGC
47189	MTMR3	ACAGATGGATAAATGAGGCTGATGTTT
47190	B4GALT5	GTGGTGGCACGATCACAGCTCA
47191	CNR1	AGTTCAGCAAAACTGAAAGG
47192	FGF2	CTGCTCTTTTTCCCAAAAGGTAA
47193	DHH	GAGGGCCTGCTGGCTGAGATA
47194	ECT2	TGGAAATAGATATTTGTGCAGCTCAA
47195	KLHL1	CCTGCCTCTGCTCCTGCCTGGT
47196	PPP2R5B	GGCCTTGCCAGAGTGGCTTCTGA
47197	HSPA5	TCTAGGGCTAGTAGAACTGGA
47198	TPMT	TGAGTGGCTGGGATTGCAGGTGT
47199	MKL1	CTCCACCCTGGCAGGAATCCC
47200	GABPB1	TTCAAACCCCTTTTTCTTGCTT
47201	RGR	GAGAGTGAGGATGGCAGA
47202	ALG6	TCTCTCAAACTGCTAATTGCG
47203	WNT2	TTGGATCTGCAAGAACACTGGACC
47204	TAP2	GTTTGCTTTGGACACCCCAAA
47205	CASP10	ACCACGTTCTTAGCCTAGATTGAGCTTA
47206	PLN	AACATGGCTCACAAATTTCTA
47207	SLC22A5	GCAAAGTGCACTGATGTGTGAG
47208	DLST	CTCCCTCTCTGCACCTGTCTC
47209	SMARCC2	AGCCAGACATCTCTCCCCCTCA
47210	PTGFRN	AACCATGGACTGAGTCACAGCAG
47211	SIAH1	TCATTAAATAAATTTGACTT
47212	ADAT1	TTTATTGAGCTGAAATGATGTT
47213	KRT15	GTACCTCCTGCCAGCATCTCTTG
47214	SOX11	TAATAAAATTGTGTGATCAA
47215	KLKB1	TCAGCACGCCGTAACCAGGGGC
47216	TRH	CTAGCAGTTTAAACCCCACTT
47217	C8A	TCCAGGCCTAAGACTAGGTT
47218	RPN2	ACGGTCGGTTCCAAGTGGGCCTGGG
47219	TRAF1	TTCTCCAGGGTCAGAAACAGGACC
47220	AIRE	CACTGCACTCCAGTCTGGTC
47221	SMURF1	ACTCACTGCCTCATGTGGCCCCTT
47222	IL6R	CTGGGTGACAGAGCAAGTGA
47223	ABCD2	TTTTATAAGATTTTAGCATTAA
47224	GNE	GAAACATGGTGAAACCCCGTCT

47225	FEZ1	GTTCAAGCTATTCTCCTGCCTCA
47226	M17S2	ACCAAGACAATACCTGCTACAGTATT
47227	FUT5	CTGGGCCCTGAGAACGGGTGCCCTTGA
47228	SURF4	GATTGGTGGAAAGTAGGGTGGA
47229	CAPN10	TTCGAATCACTTTTAGGATGTAACTT
47230	CRSP6	GCGTGAGCCACCATGCCCAGCC
47230	IL12RB1	GCGTGAGCCACCATGCCCAGCC
47231	PTGIS	GCATGAGCCACCATGCCCGGCC
47231	RBBP9	GCATGAGCCACCATGCCCGGCC
47232	AXL	TGCTGCATTCTGCCTCTCT
47233	GSTM5	GCTCCCTTGACTCAGGACTGTGCTCGA
47234	XYLB	CCTGTTGCCCCTGCCTGCCCAGATTT
47235	NR5A2	GCCACAGGTATGAAAGTCTTGCCT
47236	SRC	GTCTTCTCCCGTCCATTCCAGTCA
47237	CRIM1	AACACAAAATCTCATTCTACCTGCA
47238	ITGA11	TGCAAGCCAGGGATGAAGA
47239	WNT5B	GTCTTCCCCCACCCCCGGGGA
47240	SCML1	ATTAGCTATTTGCTGTAATGTCAAGAA
47241	ABCC1	GGCATATCTGGTCAGAACTGCAGGGC
47242	YWHAB	CTGTTGACCTTGGTTTTCTCTTC
47243	MTMR3	AGGGCACCTTTCCTCAGTGAG
47244	ZNF253	TAACCAGCCCTCGACTCTTAG
47245	KCNMA1	AGCTCTTCATGCATTCTTTG
47246	MYO1C	TGCCCATCCCTTTCTTGAG
47247	NT5C3	AAGAGGAAGACGGGGCGG
47248	BTEB1	GGCACTCCGAAAGTGTGCGGC
47249	TAF15	TTGCCAGAGTTTTGCCTGCTGC
47250	SCEL	CTGGTTAGCCAAAAAGTCCTG
47251	SNX6	TTCTGAGAAACATGGAGCAGCGC
47252	BHMT2	TGTGCATATTGAGCTCCTGCTGTGG
47253	HD	CCGTTGCGGGGTGGAGTGAGGT
47254	GPRK6	GTGGGTGAAGGGGA
47255	CEACAM5	CACTGCACTCCAGTCTGGCAACAGAGC
47256	CD4	GGGACCACAGAGGGCAGGAGCTTGC
47257	HSPA5	TGGTCTCAGGCCAAGCCCA
47258	MASP2	TGTTTTTAAACTTGTTCTTA
47259	BPHL	AAAAAGAGTTTTTCAAAATTAGCC
47260	COX15	ATTTTGACAAGCTTAATGT
47261	LAMC2	TGGGTTGTGCACATTTCTTTGC
47262	SYCP1	GTTAACTACATATTGTCTGG
47263	ZNF91	GCCCAGCCTGTGTGGCCCTGTGACCTG
47264	COL4A6	ATTATTTGGCTTAAACCAGA
47265	USF1	GCAACCTGTGGCTCAGGGG
47266	LSP1	CCCACTCCAGGGATCTGCCA
47267	TCIRG1	TGGTGGGGGAGGCAGGGCAGG
47268	VIPR2	CCAGCACGAGCCTGGGCGA
47269	WDR4	GCTCTGGGCTGGCACATGTGT
47270	MECP2	TCTGCTCCCCCTTTTCCCTC
47271	IL6R	TTCCTCTCATCTCCCCACCG
47272	HIP1	GTTTAATCCCAGCACTTTGG

47273	LU	AGCCCTCCCTTCCTTCCTCTGCCG
47274	PTGER4	TCCCGCTGCACCTCTTGTTT
47275	GLI2	TACCTGGATGATTCAGGAGAG
47276	BCL10	CCAATATAGAAAAAT
47277	HUNK	ACAATCACAGTTCACTGCAGCC
47278	DCT	GGAGGGAGGGAGAGGGTTTAGAAATA
47279	PAG	ACACAGACCACATATTTGGAC
47280	ADORA1	TTTAGCAGGCTGCAGCAGGC
47281	NAP1L3	TTTCATGTTCTTGTATTGCAACCTAA
47282	WHSC1	CTTGCAGAGTACATGATAGCA
47283	HPRT1	TTCCCTTTTAAATGCAAATC
47284	TEM6	AAGGTTTGGGGGAATTTGTG
47285	NDUFA10	TGATGGCCAAGCTGCATCAGCCGC
47286	MICA	TTGGTGCCTCAGTTTCCTGACCT
47287	HMG20A	GAAGCAGCTGAGGAAAGGGAG
47288	FGFR2	CCTGACACAAGAAGTTCTTGTTC
47289	DPYSL2	GGGGAGGGAAGATAAAGTGAATTGCCC
47290	MAGEA9	AGAGAGAAGGGAGAGGCCTCCTTCT
47291	IRAK4	TGGTGGACACCTGTAGTCCCAG
47292	HLA-DMB	TACCCAGGCTGGGGCTTCTGGGACAGG
47293	DPYSL3	TCTGAGCGTCCACTTCTGCACT
47294	DAPP1	TGTTTATTAAAAAGCATGATTTT
47295	IGF1	AACTCTCAGTCCAACATTATTT
47296	MTR	TACTATATGCTATTAATACA
47297	SCGB2A2	CTTTCTGCAAGACCTTTGGCT
47298	HIVEP3	AGGGAAAGGGGTACACTGAGGGA
47299	SPRR1B	TTTCTTTCCTACACACTCT
47300	CD2AP	TATCACAAAATGATATTTAATA
47301	HMGCR	TGGCAGCATGGAGAGCCTCTTAGTGA
47302	Rgr	CTACTGGTTAGAAGGTGAG
47303	CRIM1	ACCTGGTAACATAAAAGCAGTT
47304	ABCC3	ATGGGGCACTGACCCAGGAGG
47305	BHLHB3	AGGCCAGAATCATTCCTAGTACATTT
47306	ZFP161	AGACGCAGAAAATTGGTGAG
47307	MGAT5	CTGCCTTTTAATGTCTCATT
47308	NTSR1	GAGCTAGGAGCCGGAAGCTGGG
47309	TFEB	TTTGGGACTCAGATGGCAGGA
47310	MS4A2	TTCTCCAAATTTGACAGCAGA
47311	TPM4	ATGACCAAATATTTTGTATCGG
47312	MSL3L1	TCTTCCCTCAGCCTCGCCTGCT
47313	CYP3A4	TCTCTCATTGTCTGTGTAGAG
47314	C8A	TGGGCGTTGATTGTTACAGGTCC
47315	PTPRCAP	AATGGCTCTGCCCTGCACCTTA
47316	SLC10A2	TACTCATATAGATATATTGTCA
47317	IL11RA	TCTGATTTCACCCCAGAGTTG
47318	CD209	ATTTGGCTGTTTCTAAGTTGTA
47319	GDF8	GGATTTTGTTAATCAAATTTAT
47320	SEPN1	CCTCTCTCCCTGCCTGTTTT
47321	ARL2	CTGTCTCTCTGGCTCCTGACCTGGCC
47322	KIF5C	TGTGTTCTCTGGGCTTTATGTATC

47323	TAF7L	CCTGAGTAGCTGGGACTACAGTTGTGC
47324	HFE	TTAGGCATTAAATTTTAGCAAAGA
47325	GAN	ACTCACTCTGTGCTGGGCTTTGGTA
47326	KAI1	CGGGAGCGGAGGTTGCAGTGA
47327	HS3ST3B1	GTTCTCCAGTTGCTGCCTCC
47328	IRAK4	GGGAGGTAGAGGTTGCAGTGA
47329	CYP8B1	CTGCCTCCTGGGTTTAAGCAAT
47330	C7orf2	TGAAGGAGGATGGAAGGGCAGG
47331	SDC1	GGAAACTTGGCTCGAATCTCTG
47332	GPI	TTGTTCACATCCCATGTAGAAA
47333	IFNAR1	TGCAGTGAGCCGAGATCACGCC
47333	MHC2TA	TGCAGTGAGCCGAGATCACGCC
47333	P53AIP1	TGCAGTGAGCCGAGATCACGCC
47333	ZNF91	TGCAGTGAGCCGAGATCACGCC
47334	GALNT7	TGCAGTGAGCTGAGATCATGCC
47334	SUDD	TGCAGTGAGCTGAGATCATGCC
47335	RFC2	TGCAGTGAGCCAAGATCACACC
47335	RIMS1	TGCAGTGAGCCAAGATCACACC
47335	VHL	TGCAGTGAGCCAAGATCACACC
47336	EMX2	CTGCAATGCCTATTCCAAACTTTAA
47337	UMPS	GCCCAGGATGGAGTGCAGTGGT
47338	SLC6A12	ACACCTGCCCGTTGACCCTTGC
47339	RHD	TCACCAGGCTGGAGTGCAGTGC
47340	IL17	TCTTTTTAAAGAAGATAAGATT
47341	CKN1	TTTCTCTTACTTGCTGTACTAT
47342	GATA6	CTGTGGAATATGTGCTGGAAAAATTGC
47343	RORC	CCCTGCTCCCTGCCCTCCTGGGCA
47344	PSAP	CTGGGGGTGTGGGGGTTGGAAGCTG
47345	OVOL1	CCAGCAATGACCTCTGCTCA
47346	SPR	GAACACAGAAGAGAGGAGGTTGT
47347	FZD4	TTGGCTGCTGCTGTTTTCT
47348	GYPB	TATTACTGTATTCTCTACTTCT
47348	GYPE	TATTACTGTATTCTCTACTTCT
47349	SLC10A1	GCTACTTATTTTAAAGACTTGTTCA
47350	FOLH1	GGTGGAGAAACTGGACCCCAGGTC
47351	WARS	TCCTCTGACCTCAGGCCGG
47352	ZNF79	ACTCAGGACAGGTGGGTGA
47353	KPNB2	GGTGGAAATATGTCTCCAGTTACAACTC
47354	WHSC1	AAGCTAAATTATAGTCTTTTGCCA
47355	TRPS1	CTCTCATTGGCCATGTTTCAGATTTTG
47356	MAP4	GCGGCGGCGGGCAGTTGCAGTGG
47357	IL18	CAACAACAGCAAAACTCCATCTC
47358	PMCHL1	GCTCACTGAAACCTCTGCCTCC
47359	PML	ATGGACCTCTGGGCAGGGAGAC
47360	CDH2	TAAAGTATTTACAAAACAGTGACA
47361	F8A	ACCTAACGCAGCCTCCTGCCTCC
47362	OTX1	TTTAAGATATATACAGCAC
47363	BTG1	AGTTGTTATTGTTAACCTTTTCGGCAGCTT
47364	GGCX	CAACTACCCAGGAGGCTGAGGCA
47365	OSR1	GCCTTCTGCCTGCTCTCCTGCACT

47366	RABL2A	TGAGATCACAGGAACAGCAGGT
47366	RABL2B	TGAGATCACAGGAACAGCAGGT
47367	GLS	CCTTTCCTCTTCTGTCATCTCA
47368	KPNA1	TTGTCAGGAATGCTGAA
47369	DGCR2	GAAGGAGGTTGAGCTCTTCACTGTGT
47370	CYP2B6	ACCACGCTTGGCTAATTTTTGT
47371	ADAT1	GAACCCAGGAGGCGGAGGTAGT
47372	STCH	CCTTCACTGCATTATGAAAATATTTCA
47373	PRDM2	GCAGGCAATTTGGATACTTTAGGCTT
47374	HYAL1	AAATACATGCACAGTCATACAAGTCA
47375	CLOCK	CTGCATGAAAGCGTTATCTCT
47376	FGF5	CTGGACACAGCTTCAGCT
47377	ETV5	AGTCTCAAACTGTCCCCCTTA
47378	FKBP1A	CCTTAGCTCCCTGTTCTTGGATCT
47379	DEK	TACTGCTGACCTTTTTATCTTGA
47380	MYH11	AAACCCAGCAGACTGTACTTAGCA
47381	RNGTT	TTACCATGGATTTCCTACATTTCTGAG
47382	ODF2	CCACCCTTCTCCCCTCAGAGAGGA
47383	STK19	ATCCAGTTACCTCA
47384	CAPON	GGGAAGAAATCGGATTCCCAGAGG
47385	NUFIP1	CTGATAGCTCCTCCATGTTG
47386	C1orf6	GTAACTCTCTTCCTTCTTTTTCTCC
47387	ZNF274	CCTTTCTCCAGCTTCTGCTCTGCC
47388	GNAS	TCAAGAGCATCTGGAACAA
47389	IL10	TAGGAAGAGAAACCAGGGAG
47390	ATP8B2	AGCTCACTGCAACCTCCACCT
47390	CSNK2A2	AGCTCACTGCAACCTCCACCT
47390	CYP1A2	AGCTCACTGCAACCTCCACCT
47390	DSCR3	AGCTCACTGCAACCTCCACCT
47390	EHD2	AGCTCACTGCAACCTCCACCT
47390	MEFV	AGCTCACTGCAACCTCCACCT
47390	MPL	AGCTCACTGCAACCTCCACCT
47390	PDE6B	AGCTCACTGCAACCTCCACCT
47390	PKNOX1	AGCTCACTGCAACCTCCACCT
47390	PPP1R12B	AGCTCACTGCAACCTCCACCT
47391	CITED4	CTCTCCTCGGGATCGGGTC
47392	MLLT2	TCATCACCACATGCCTTCA
47393	SLA	CGTTCCAAAAGGCTATTTCA
47394	DMPK	AGGACCCCCACCCCCGAC
47395	IL1A	TGAATAAATGAACCAAATCAA
47396	MTCP1	CCTGGTGCTGGGATTCTACG
47397	OLFM1	GTTGTACTCCCTCCTCCTGGAAGCC
47398	SLC14A2	GGTCTCGAACTTCTGACGTCAAGTGAT
47399	GPR92	ACACGGAGCACAGGTCTCTGCT
47400	SORCS1	CTTCCCTCCAAACCCCAAGTAAG
47401	FGFR2	CCCATATTAAAAGAACTCATTCATA
47402	PSMD9	ACCCAGGCTGGAGTGCAGTGTC
47403	AHR	AGTTGCTGGGATTGCGGGCAT
47404	STS	TGTAGTGAGGTTGCAGTGA
47405	ORC5L	CTGTTTTAAAAGATCATAGTTGCAAAAT

47406	POLH	CCCAGGAGGCAGAGGTTGGGGTG
47407	MST1R	TGGGCACAGTGGACTCAGCAGTGACC
47408	NDRG1	GAGAAGCTGATCCAGCTTTCCG
47409	EPHB4	CGCCTGGGACCCCCAAGCTGTGTCCT
47410	TNFSF8	ATAAGGTGTGATGTGGGGAAGA
47411	PEA15	TGGGTGGGGGGAATGAGCATGA
47412	SNAI2	GCCAATTAACAGTATGTGCCT
47413	HD	TCAGGATTTAAAATTTAATTAT
47414	KCNA4	CGGACTTCTTAGTCTTGAGAGTG
47415	KCNA4	ACATTTAATGGACTGAGCATTG
47416	PDGFRA	AGCAATAATAAAGTACTTGACTACCTA
47417	F13A1	GCACAGGAAGCTGAGATGAACCCTGGCA
47418	NEK6	AACACCCAGGGCCGGGCGGCTGCTGT
47419	OGG1	AGGAGGTGGAGGAATTAAGTGA
47420	B4GALT7	CGTGCCCAGGCCTGTGGGTAGT
47421	CRADD	TGTTGTCTGAGGACTGAACTGTGGAC
47422	PTPRCAP	GGTCTTGGTGTCCCATCCCTGTCA
47423	FZD2	AAAAGAGAACTCTCTGCCCAACACCCC
47424	TLR4	GGGCATTTCAACCAACTCA
47425	AMN	GGGAGAGAGGCAAGGGGTGGACGG
47426	CYB561	TCCAGCCCCATAAAGAGTGTCA
47427	MYB	GTACATTTATTGTACCAAACCA
47428	VCL	CACTGCCTGCAGAGGTCTGTGC
47429	PTGFRN	TGGCTCTCCACTGAGCACCTTA
47430	MMP16	CAGTATCTGCTGTTCTTCAG
47431	LTA	CAGGGGTCGTCACCACCTCTC
47432	CSE1L	GCAACGTTTTATTTTCTCTGTTC
47433	PPP2R4	GGCAGCTGCTGTGCCTGAG
47434	C1orf1	GGAGGCTGAGGTGGGAGAATTA
47435	ITPA	TACAGCCGCCAGGCCTGG
47436	GOT2	TCTAGGCTTGCGTGCTGCTA
47437	MGEA5	GTGGCAAAAGCCTACAATTGACAAACT
47438	BACE2	GCCTTCTCCCCTCCCGCGAGCC
47439	KIF3C	GACACTGTCATTTCTGCTTCA
47440	KPNA3	AGGTGCAATGTGAT
47441	PRKACB	AAGAACATTGGTTTAGATAAATAC
47442	CBFA2T2	TCTGAGTAGCTGGGATTACAGG
47442	TERF1	TCTGAGTAGCTGGGATTACAGG
47443	RNASE6	CAGAGTTGAGACAAAAAGAAATA
47444	CA7	CTCTTCTGCAGGCTCTGCCATG
47445	RAB31	GGGCGGGGCAGGAAATGTACC
47446	ARCN1	TGCCCCCAGTTAAATACCTCCTCTA
47447	F7	AGCCCCACCTGCACGTGATCT
47448	IMPG2	TCCTCATTCCTTTGGTTTTGGCCCA
47449	GALNT2	CCCTGCACGCTGGGCCTTCAGAATTAA
47450	SLC4A4	TTCTCATTTTGAAATATTTGTGTGTTT
47451	MDH2	ATTGTGGGTGGCTCTGTGGGCGC
47452	GAK	CCTTTTTCTCCTCCCGAAGGAAC
47453	RENT1	TCTTTTTCTCTTTGATTGAAAG
47454	SRGAP1	ATGGAAAGAAGTTATTTTTAGG

47455	STAT4	CTCCAGCCTGGCAGTTTCTGCGT
47456	JAM3	ATCGTTTGTGATCTGGACCCG
47457	ANGPT4	TTCCTGAGCCAGCCCTCCTTGACCCAG
47458	TMEM2	AGAAGCAGCAAAATGCCTTTACGTTGT
47459	MCM6	TATGGTCTTCCAGGAAAAG
47460	PHKG1	GGCTTTGGGATTCTTGTCAAGC
47461	STAT3	ACCTGCATTCTGCCACCCCT
47462	SGCG	AAATGCACGTGGATGTGAGACACAAAA
47463	PYCR1	CTGACCTCCCTGGGAGGGT
47464	FST	CAGCTCCCCTGTATTCCCCCAT
47465	STAT1	AGGCTATTCACAACCACTCATTCA
47466	FCGR2A	CAGGCTGGAGTGCAGTGGTGCT
47467	CACNA1A	CCCCGGCAGCCTCAGCATCAGCG
47468	ADORA3	GGCTCCTCTTCTGCTCTTTCCAT
47469	PRKG1	ATATGATAAAAGCACAA
47470	IGFBP3	GAGGGACAGAGAGACAGGGAGAGTCAGCCTC
47471	CKTSF1B1	CTAGGAATGCAGCCCCAGGAAG
47472	GAC1	CTCCATCTCACCTCGGGGGGCT
47473	SELENBP1	CTCCACCCTCATCACCCACACTCC
47474	MAP3K5	CTGTGGCTGGCCAGGCGGTGCGGCTGG
47475	ENC1	TGGAGATCGCTTTTCTCAGACTCAC
47476	MECP2	GCCGACCTGAGGACATGGCTTC
47477	BCL2	CCATGCCTCCCTGGCCTGAAGAA
47478	CBFA2T2	GTTGCCCAGGTGGGTCTCAAACTCCT
47479	GFRA1	GGCCTCGGAACACGCCATT
47480	CAPN10	GCAGATGGGAGCCCGCGGAGC
47481	CCNT2	GCTGAGTGCAAGATGAGGGAG
47482	PHKG1	GGCCTTCAGCCCTCTGTGGT
47483	PML	CAGGGAGACCTGGGTCTTCTCTGGCTG
47484	TPP2	AGTCATTTTCACATCCTCTTG
47485	TACC1	TTCCATAAAGGTAACAAAGGGCA
47486	MCCC1	GGGAATCGGAATAACTCCAGCAAGGA
47487	TP53	GGCATTTGCACCTACCTCA
47488	KCNK3	CAGGGAGGAAAGGCAGAAGCTG
47489	COG3	CAGTATCTTTAATGAGTATC
47490	RAB7L1	CCAACATACTGAAACCCCGTCT
47491	ARHA	GGCTGTAACTACTTTATAACT
47492	C21orf33	GGTTCTTGACTCTGAAGGGA
47493	IREB2	CACCTTATGTAATACTGTAACTT
47494	KCNK1	TATGCTAGAGCACCAGGGT
47495	SMARCA1	GCATGGAGCAGGACACTGCC
47496	KLRF1	TCTTCTCCCTTCTCCCTCCATCA
47497	PFKFB4	CTAGGCAGGCACTGCTCTCTGCA
47498	UBB	GTGGGTGGACGTGGTTGGTGATTGGC
47499	OTP	CTCTCCTCCACTCGCTCGGGCT
47500	ALOX5AP	CAGCTTGAGTTAACCTTGCTTTTC
47501	MRPL49	GTTGCCCAGGGTGGAGTGCAGTG
47502	TP53	GTTGCCCAGGCTGGAGTGGAGTG
47503	BACE	CCACTGCACTTGGTGCTGCTTTG
47504	BAIAP3	AGGTTCCCCTGAGGTCACTCTGA

47505	CAMLG	ATTTTTCTTGTTAATCAGAATTCCTA
47506	HNRPD	TTGGCTCTTTTATCATCAGAATAGG
47507	ANKTM1	CCAGACACTTTTACATTCATG
47508	CLECSF12	ACCGCAACCTCCGCCCCCTGGG
47509	MSH3	TGGCAGAATATAATTCCCA
47510	PRM1	GCTAAGGAACAATGCCGCCT
47511	PPYR1	GACTGGCATTTTGATACTTCAG
47512	SLC1A4	GCCCTGGGGCACTTTTCTGCTTCCTTC
47513	LPL	ATCAGCTTTTAATAAAATTGA
47514	IL6R	GGGCTGAGGTGGGAGGATCTCT
47515	MC1R	TCTGGTTCCTGTGTGACCCTGGGCA
47516	VHL	AAAATGGTGGGATTACAGGTGT
47517	LPL	ACAGAACAAAGAACGGCATGTGAA
47518	D1S155E	GGTCCCTGGCCAGTGGACTGAAGGC
47519	NPTX2	TCTTGTAAGCACTGGACTGTCTTCATCAA
47520	CNTN2	GCTACAGCCACTAAACTTGCTTCA
47521	TSSC4	GCCTTCCCAGTGGGGCTGGTC
47522	TES	AAGAACATGTATAGTTTTTGTAC
47523	FAH	GGGCTGTAGGCCTGGTCCGCCATTC
47524	SOX9	ACTGCCCCCGGTTGCCTGCCTGGGCCCCA
47525	CARKL	TGTGTGCCGGCCTTCTTGCTGC
47526	KCNJ8	CCAGCCGCCGCGCCCGCTACCCGG
47527	ZNF138	AGAGAAACTCTACAAATGTGAAGAA
47528	GRAF	GCTGAACACTGGTGCTGTGGTGGTTTT
47529	MSF	CCGACTTGCCATGTTTTTGCC
47530	KDR	CTAATGAGAGTTCCTTCCAGA
47531	ZAN	AACCCCTGTCAGAATGACGGGC
47532	MECP2	TCTGTCTGGTCCATAGCTGTGGTGTAG
47533	GNE	CCTGCCTCAGCCTCTTGAG
47533	MRPL49	CCTGCCTCAGCCTCTTGAG
47534	RPS5	CTGTTTTCCCAGCTGCTGCC
47535	KIR2DS2	CCCCTGCCCACCTCTCCAACCTAACTA
47536	TPM1	TGCCTGCTTACACCCTGCCCTCA
47537	PEA15	GTTTCCCCACTTTAGGAGGAGGTGG
47538	GNLY	GAAGCACAGGCTCCTGTCCTCA
47539	NGFR	ATGCTTGCCTAGGGCCTGGT
47540	DPEP1	GTCTGTCTCCCTGGGACTTGGGTGGCT
47541	ADAR	TGCCAAGCTTCCAGCTGCCTC
47542	MDM1	TTCCAATAGAACAGTTTACTTGG
47543	GABPA	GTTTAACAGTCAGGAAGGCTAAACTGGT
47544	TIMELESS	GGCTCTTTCACGGATTTAGGCTGA
47545	PNOC	ACAGCTCTCAGCACCTGCTTCC
47546	HIVEP2	CTTAGCAATCTCCTTAGTTCTTGCTA
47547	CRYZL1	GTTCATGTTGCTGAAAGCTGTT
47548	TDG	GCGGCCTCGGGGAATGGAAGCGGAGAAC
47549	APLP2	TACTACTGTAGAACTGCAATTTCC
47550	POU2F2	GCCCCTTACCAGCCTTGTGGCAG
47551	ITPR1	GAGCTCCCTCTTCGCGGACATGGGATT
47552	MYL4	ACGTCTCTCGGTTTCTTCTTA
47553	SNCA	GCCATTTGAAGAAGGAGGAATT

47554	TBL2	ACTGAGGAGAATGGTAGAGAGGAG
47555	C21orf2	GGGCCCTCAGCTGTGAGGTTG
47556	FSTL1	AATATGCTCATTCGACTAACTAG
47557	HIRA	GGAAGCGTTAGGTATTACAGCAGA
47558	CHST5	AGGCTGAGGCGGGTGGATCACC
47558	NPHS1	AGGCTGAGGCGGGTGGATCACC
47558	TNFRSF1B	AGGCTGAGGCGGGTGGATCACC
47559	CENPA	GCACCCTCTGCGGCGTGTCATGGGCCC
47560	GALNT3	GTGAGGCAGAAGCATTGCTTGA
47561	ACPP	TTGGAATGTTGAGAGTGTGGT
47562	CACNA2D2	TCCCTCACTGAAGGACCTGAGCT
47563	TCF2	CACAGGCTGGGATGGAGCACTTCTTCT
47564	TOP1	CACGCCGCCTCGCCTGCCGCCGCGCT
47565	SLC6A6	GCACCTAGCAAGGCACACCAAGA
47566	TCF2	CTCTCTTAGGCACAGGCTGG
47567	GJB3	CTCAGCCTCAGGCAGTGGTGC
47568	GJB2	AGATTGAACCTGAATATTGCC
47569	TMEPAI	TCTGGATTTGTGGGAATGGCTTTGCGT
47570	PAX5	CTTCCTCTCTTCCTCCAGGGACTCTG
47571	GJB3	GTCTAGGGCAGGAGTCCAGCGGA
47572	PLAGL1	AGCAGGAAGCAAAGCTAGTGACA
47573	P2RY1	AAACCAAGAAAATAGTGAG
47574	CSNK2A1	CACTGGCAGACATTGTAAAAGA
47575	ARVCF	GTGCCCCAGTGGTGCGGGCCAGG
47576	VPREB3	CTGCCTCTGGCCATGGCCTGCCGGTG
47577	CTSK	CTTCCACGATGGTGCAGTG
47578	NUMA1	AGTCTGGAGTGCAATGGCACGATCTC
47579	PIK4CB	ACTCACTGCCCTCCAGAAA
47580	BRMS1	ACCGGCAACCACGGGCAGCTC
47581	SLC21A9	TTGCCCAAGATTGGGTGTCAAG
47582	MEIS2	GGGTGCTGTAATCGGCGGGCAGAGGAG
47583	NKTR	GTTCATTTACATGTGGGGAGA
47584	NTSR1	TCGAATGCTACAGTATCTGCA
47585	TAF1C	CACTGTGATGATGAGCCAAGCAATT
47586	HYAL1	GGCCCAGGGGGCAGCTGGAGTGGTG
47587	CLN2	CCCTGACATCCAGAAA
47588	TFAP2C	GAAAGGTTAGGAGAGTAGGGA
47589	DSPG3	AAACCATTCTTACTGCTCTCTTCC
47590	KCNN4	CCTGCCTGGCCGTCACCACT
47591	DAXX	TGCCTCCAGAATGTTCTGGGA
47592	RBM8A	ACTAAAGACTTACTATTCTGTTC
47593	IRS1	GAGGAGGGAGGAGGGGAGAAGT
47594	CD9	TACAGCCGCCTGCATCTGTATCCAG
47595	LPL	AGAACCTCCTATTTTAATTGGA
47596	PPIF	ACTCAGGGCTTTTGTGAAGGTTCCCCC
47597	ZNF142	TGGACTATAACGTTGATTTCTTATTGC
47598	SLC6A12	AGAGGGGGTGTGATTTGCCTGA
47599	NOX5	TGGTCTCACTGACTTCA
47600	RAD54B	TGGCTTTAACAGTCAACACTCT
47601	KCNS2	AATGCAAAGTTAAGCAGACTTGAC

47602	FZD4	AGAACCATTTTAACTCCATCT
47603	PKNOX1	CTCAGGTGATCTGCCTGCCTCAG
47604	KPNA1	CAGCTTTGAGCAATACTCTGCTTTCA
47605	FXYD7	GCCTCCAGCTCCTGGGATCCGGG
47606	TEM7	CACCAGAAGAGTCAGTGTCACA
47607	PDAP1	GCCCTTGCTGGGGGGTGCCTGGGA
47608	ELL	TATTTTGAGAACTCCAGCTGGTGC
47609	CPM	CGCCTTGTAATCCCAGCACTTTG
47610	TRPS1	TACTTGTTTGTAAAGCACTTT
47611	IL15	GCTGACTCGCTCACTGCCTTC
47612	ELOVL4	GACTTTGGGGATTCTCCCCCTGTTCAC
47613	PTGS1	CCTGCCTGAGTTTCCAGCCTGCTAG
47614	TNNI2	GGCTCCAAGCTCAGGACCTCAG
47615	MAP3K7IP1	TGTGGAACCAGGGAGCTGTGGGA
47616	KCNH1	CGCGAGGGTAGCAGCCAGAGGGA
47617	NT5E	ACTCAAGTCCAGCATTCTCAA
47618	HIP1	CTTGTGAGCATCAGAGGGCTGATGG
47619	TFAP4	GGGAGAGACATGGGCGAATGAGTGAG
47620	MADH7	TGCCCTCTCCCCTCAGCCTCT
47621	NTE	GCTCACTCCCCCTCCTGCTGCT
47622	RIG	CCAGAGAGCTGGCACCTGAG
47623	B4GALT3	CTCAGGGGGCTGGGATTTTGATATATT
47624	RXRA	TATTTCTGTTACTACTTGTCT
47625	GHR	TTATCTGAATTTTTAAACAAG
47626	DTNA	AGAGTTAAAGGGAATATCAAGGA
47627	G6PD	CAGCTGCACATTCCTGGCC
47628	ASB1	GCCCCTTCCTTGCCCCTTCAGT
47629	LDB1	CAGGCAGCCGGCGGGCGCTGCGTGTGT
47630	HERC2	AAAAACCAGAAGGCCATTTGGT
47631	NP	TGGCCCCTTGCTGGAGTCATGTG
47632	TNNT2	GTGGGAGCCACCACTCCTGCCTGCC
47633	TRIM14	GGAGGCTGAGGAAGGAGAATCA
47634	KRAS2	TTAGCATTTGTTTTAGCATTACCTA
47635	RUNX1	TGCAAACCACAGGGTTTCGCA
47636	PRKY	TCATCTAGGCTAGGTGCAGT
47637	RFC1	GGACAAAATGAACACTGGCTTT
47638	MEOX1	CCCGAAACCCCAAGAAAAATCAG
47639	LANGERIN	TTTCCTATCTTCCTGTGTCTTG
47640	LMNA	GCTGGGCCGAGCCTGCACT
47641	MEFV	TTCAAGAGATTCTCCTGCCTCAG
47642	DIAPH2	TCACCCAGGCTGCAGTGTAGT
47643	RELA	TCTGGACTTCCTTGCTCTCCCC
47644	PKNOX1	TCTTTCAGGAGCTTTACTGA
47645	SOX11	CGCCCGCAGCGGAGGAGGTTTTCAG
47646	PCDHA9	CATGCCACCGCGCCCAGCTAATTTTT
47647	CHST5	CTGCATGGTGGAGAGGGAGCTGGGGCGC
47648	NFIB	TAGACCAGCAATTGCAGCACTT
47649	APOL1	ATCATGAGATTCAAAAGCCACA
47650	PRX	CCTCACTGCCCACTCTGCCC
47651	CLASP2	CCGCCTAGGCAAGACAGT

47652	RRM1	GCAAAACTGAGTGATAACTCATGAGAA
47653	MAPK10	AGCATTTTCTTTACCAGTATCCTTA
47654	PRY	CCCAGGAGAGTACATGGCATTG
47655	SLC2A1	ACCAGCCCGGCCTGCTCCCAG
47656	SH3BP4	TGTTGGACCTCTTTCACTCCCTGCGT
47657	SRD5A1	CAGGGAGGGGTGCTGGTGGTG
47658	LHX3	GACCAATTAACTGAGCACTTGCTGCTA
47659	B4GALT2	CCACCTCTCTGTGCCTCAGTT
47660	LZTR1	GCCTCCATTAAAGCCACAGCAGTG
47661	CYP4A11	AGCTCTGTGCTGAAGGGTGGAA
47662	STX7	CACAACAGCACAAAGTGTCTTT
47663	CXCL13	AGTTTCTTTGAAAATAGTTATTCA
47664	MBD4	CGGAAGGCTGAGGCAGGA
47665	SLC2A2	CTAAGGGACCTGCTCCCA
47666	TEM1	TCCTGCTCCCCAGGCCCAGCCAGG
47667	ITSN2	AAAACTCAGGACCATGATGGCTCAG
47668	KIF5C	CTGTAAAATAAACACATTGTTT
47669	FRZB	ACTATTGCACATCATATTCTA
47670	ELAVL2	CTTTTTCTGATTAGCTTTGTGTTT
47671	PVR	ACTGAGAGGGGAGAGAGACTGGAGCTGG
47672	MMP14	CCTTGGCAGCCCTGTGCCTCTCGAATGTT
47673	IRTA2	TCATGCTGCTGTGGGTGA
47674	GPRK7	CATTGCACTCCAGGCTGGGCAGCAAG
47675	PPP1R12B	GAGATGGACTAGGAAGTGGAAGCAGGCTGG
47676	MFAP3	AGGGCCCTGCTCTCAAGCAGT
47677	SELL	ACTGGCTTCAGCCTCCCCACC
47678	SRM	TGTGTACAGCGCCATCTCTCTGCCTTC
47679	CAPN1	CTGTGTGGCCCCTGCCTGTGC
47680	HAP1	TTGCTTGTCAGCCTGTGTGCGTGT
47681	SLA2	CTTCCCAAGCCTTTGATGACAAACCA
47682	MECP2	TCCTGCTCTGCTCGCCTCGGATC
47683	F5	CTGCCCAGGTCCTGGGGTGGTGGCAG
47684	MGAT2	TGTGCCAGGCACTACACTAGCTGCCCTACA
47685	P2RY4	TCTTCCTCTTTTCCAGGCTC
47686	P2RY6	AATTTGCAAACTGCCTTC
47687	BACH2	CATTCAAGGCAAGCACCACCTTTGCT
47688	ELMO3	GGGCTGCAGAGTAACAGTCCTGAA
47689	SURF4	TTCAGTGCAGGCCAGCCTGGCAG
47690	REQ	GATTCCTCAAGTTTTCTGCTTAGTGGCA
47691	AMT	ATGCCTGTGTGTAAACTTGGGGA
47692	NEDD4	AAATGTCCTCATTATGTAGAATGGAAT
47693	SMCX	TTGTCCTCACAACCACCTCA
47694	KCNMB3	CTAGGGAGGCTGAGGCAGGAGAATCGC
47695	RABL2A	GCTGCAACCTCTGACTCCCTGGTTCAA
47695	RABL2B	GCTGCAACCTCTGACTCCCTGGTTCAA
47696	OPRD1	GGAGAGGGACGCGGCGGACGCCGGC
47697	CCR3	AGGACCAAGGAGATGAAGCAAACACA
47698	MMP19	AGTGACATGGGACTTCAGCAT
47699	ABCA1	AATGAATTCTTCAACAGGGAAAACA
47700	SDHC	TGCCCACAGCTTGCCTACTCTCGGCCTAG

47701	MADD	TGCCCAGGGCCCGCAGTG
47702	PROK1	GAGCCCAGGGAGGCCAATCAGCCC
47703	FANCF	ATCAAGCAATTCTGACTCAGCCT
47704	GALNT7	CACCTTATTTCATTGACTGCTG
47705	TRIM39	GTGGGAATGACTGGGGTGAGGCAGGG
47706	NEK6	TACCTTCAGGATTGCTGACAGA
47707	BAK1	CCCTGCTCCCATTCCTCCCTCCGGCCA
47708	ALPPL2	GGAGGCTGCTGTGGTGGGGATCCCCAG
47709	TFCP2	GGAAGGAGCCAGGATGGCCTGG
47710	HLA-G	CCCACCCCACAATTCCTCCT
47711	GMDS	AGCCTCCTCTGAATGGCTTTGTGA
47712	ADRB3	GACAGCTAGAGAAGATGGCCC
47713	AGXT	TCCTCCAGGCCTGGGGACAGG
47714	A1BG	GGCTCACAGCAACCTCTACCTC
47715	GYG	ACATATCAACCAATAGCATTAA
47716	SIAT6	CCCAGCAGGCCCAGCATGCAGGT
47717	TNFRSF9	CAGGCTGGAGTGCAGTGGCACCACCAT
47718	CTSZ	GAGCGGGACCCAGGAGCCGGC
47719	SUFU	CCTCTTTCTCACCTACCCCCTGCCGCACAGC
47720	SUFU	GGGGCTGCAGCCAGCCTGGG
47721	DDX26	CACATACATTAAAACTAGGTA
47722	B4GALT5	AAGACCCCCCTCCACCCTGC
47723	DLEC1	AGAGCCCAGTCTCCCTCCAGGAAAGG
47724	PTGER2	TGATATTGGGGCCATGAGTAAAATAG
47725	LNK	TTCTAGGAAACTGGGAGTTTAGA
47726	PCDH1	CTTCCCTTGACTTCCA
47727	SCG3	CTGTTTTTACTCCTCCTTTTCATTCA
47728	PXF	CTGTATCTCTTGTTCTCTCCTATTTG
47729	ARRB2	TGGAAGCTTCTTCAACCAATC
47730	UPF3B	TTCTACAAATTAATTTTAAAGTGTCAG
47731	SLC8A2	CATCTGTCGGTAGGCCATCT
47732	PRND	ACTACAACCTCCACCTTCCAGG
47733	ART1	TCTGGGGACTGAACCTTACCCAG
47734	TFCP2	TGCTAGTCGGGCTTGGGGG
47735	CORO1C	GTGCCCAGGACAGGAAGACGTGTACTG
47736	CNTNAP2	TAGGGAGGAGAGAAAGGGACAAAAGC
47737	TM6SF2	TGCAGTTTCTGGGTAACAGGGC
47738	GABRG2	ACTGAGTCTCATGGAGAGATGTCT
47739	HOXD8	GACTATTAAAACTAATAATCACCATAT
47740	AK3	GCTCTAGCCCAGGCTTTGTCCCAGGC
47741	CYP8B1	CAGAGTCTTGCTCTGTCGCCG
47742	PKNOX1	CACTGCACTCCATCTTGGGCAA
47743	ADAMTS1	ATCTATTACAAGTTTAGA
47744	CALCRL	GTCTAATAATAAAAACCCATACTAGCCTA
47745	OAS3	TGGCCTCTCCTTGCCAAATCTAAA
47746	RAMP2	CCCACCCCCACCAGGCCTCCC
47747	NONO	GGGGTGAGGGACACCAGGGAAT
47748	FGF23	CTGCTTCTCTGGGGTCCCTTCCAC
47749	FNTB	CACCATTCAGTCACCAGACTGGG
47750	APPBP2	CTGGGTGGCAAAGTTACTACTGGAA

47751	SLC14A1	ACCAGCCTGGGCAGCATGGTGA
47752	PGF	CTGTCTGCGGAGGAAACTGCAT
47753	MAP1B	GCACCTGTGGCCTCTCAGTCAAA
47754	ARF3	ATGGATTCTTCACCACCAT
47755	RAD54B	ACTGCTATCTCGCATTCTTCT
47756	E2F3	CCAGGAGGGGGAGCTTGGAGCG
47757	CAV1	GAAGTATTTTGCTGGAATAAG
47758	SELENBP1	CTGGCTTCATTCTGCTCTCTCT
47759	CPNE7	GTGGGTGGAGGGAGGGAGAT
47760	TIMP3	ATCAAATTCTGCAGTGGAATGG
47761	GUCY1B2	CATCCCTGTGGGGAGTGCAGG
47762	ZNF36	GTGGTAGGGAGTGTTTTTTCCCAC
47763	PPP1R2	TAAGTCTGTACATGTGCGTGCACA
47764	GAS2	CAAGACCTGTGCTTCTTTACTCCA
47765	WIG1	GGAGGTGGGTGTGAAGAA
47766	LTBR	GGCAGCCGCCGCCACCGCTGCCCAG
47767	TNFRSF11A	AGGGTCTCTTTCTTTTCTCTTTT
47768	SLC7A8	AGCAATTCTGTCCCCATCAAGGGG
47769	CNTN2	ACTTGAAGCTCCCTGTCCCCCTCA
47770	CHST1	CCTCCCTCTCCCACCTCATC
47771	PRKY	TGTTCCTGTAGTCCCAGCACTC
47772	VHL	TTCAATGCTTCTATCAGACTCAG
47773	B3GNT3	AGGTAGAGGGGCAGAGGCG
47774	LAPTM5	CCAATGCTCACCTATTCAG
47775	NDRG3	GCTCCTCCCCTGGACCATTGCA
47776	ZNF261	TCTAGGAACCCTGGCTTTTATCT
47777	PSMA1	CCAAGGCTGGGAAAAGACAATG
47778	MGAT2	ATACAAAAACAAAATCTTGTA
47779	RBM8A	GTGGCTCAGGCTGGGAGGGACTTC
47780	NEBL	CATTTAGGAAGCAGCACCAAGTCTATT
47781	KIT	GAACATCATTAGAACAAAGGACA
47782	PIP5K1B	TTAAGGCTGATCAGCAGATGGG
47783	OCRL	TTCCTGGGCTTGTTTTCT
47784	TARDBP	TTGTTCAGTGTGGAGTATATTCAGCA
47785	CA12	TTCTCTCTTCTGGAATCGCTTG
47786	PCDH11X	ATCTGCTCAGAAAAATGTATGTGCACA
47786	PCDH11Y	ATCTGCTCAGAAAAATGTATGTGCACA
47787	ADAMTS13	CAGCATCAGGACGGGGGCTC
47788	SCTR	GCAGACACCCTGTGTCCTCCTTCA
47789	ADCY1	CAGGGGCAAACATCTCCATC
47790	ADAM10	TCTTCCTAGTGCCTACAAT
47791	AIPL1	GCCTATAATCCCAGCTACTTGGG
47791	RBL1	GCCTATAATCCCAGCTACTTGGG
47792	HIP1	GCCCGTAATCCCAGCTACTCAGG
47793	LRRC2	GCCTGTAATCCTAGCTACTCAGG
47793	VHL	GCCTGTAATCCTAGCTACTCAGG
47794	TIA1	TTAGATTGAAAACTTTTCTCAGATG
47795	NR5A2	GCCAAAGAACTGCCTATAATTTCA
47796	DDX11	TGTGGAGTCCAGAGTGCTGCCAGGAC
47797	ADAM11	GCACAGTCAGGGGCTGGGCATCC

47798	PPID	TGCATCCTCTGCCTCCCGGGTT
47799	MYO10	GTTTGAGCTGGAGTGCTGCGGGC
47800	ALS2	TGCAAAACTACCACATTCTGTCCC
47801	RHCG	CCTGGTGGGTGAACCTGAGCT
47802	DGKB	CTTTTCTATGCCTCCATTTGGGGA
47803	FLT3	TGTACCTGAAGTACAGT
47804	FCMD	ACCTGCTCTCCCCTGGACT
47805	GALNT7	CTTTGGCCCAATTCTCCAGCTCAACCC
47806	MPL	ATCTTACTCTACTGCTGCTG
47807	RNPEP	GGCTGGCATTCTGATGCTTTTC
47808	FGF2	TGGAGATGTAGAAGATGTGACGC
47809	RPP30	CAGGCTGGAGTACAGTGGCATAATCAC
47810	CD5	CTGAGGTAGTTTCAGTCCATCACA
47811	PPL	TCCCAACCATCATTCACCCT
47812	OXTR	GGGTTTGGGGTTTCTTTTTCGG
47813	PHEMX	GCAGTGAGCTGCGGTCTGAGGCC
47814	ABL1	GGTACTGGTCCCTTCCTTTTGTTA
47815	GRIN2C	AGGCTGGAACTTGTGGTTGAGGCAGGG
47816	EGFL5	CTGTCTTTCTCCCAGATACAC
47817	CCNF	TCAGTTTCCTCATCTGTAAG
47818	OTP	ACTCTCCAAGCTCCTGTCTTTCTTTCC
47819	AXL	GCCACTGCACTCAACCTTAAGACCTA
47820	LPXN	TCATATCTTCTCTAATTTGGTCCTGA
47821	SRPX	GGTTCCTCTCTTGGCAATTC
47822	HTR1E	TTCGAGGCTACATAGTTTTCA
47823	DDX9	TGTTATCTCCCTCCTGGCCT
47824	GOCAP1	AAATACTGTATTTAAAATGTAAA
47825	FY	GTCCCTCCCTTTGCCTTTGAGTCA
47826	SNX3	TTCAGTATACTAACACTCATA
47827	PPM1B	TATTTTCATGGGTTCAGTAACT
47828	MKL1	TTCCTGGCTCCTTATCAGTGCC
47829	VPS41	ACCATTTAACCATAAAATGGAC
47830	ING1	TAAAATGCTTGGGTACACTTCT
47831	ALDH6A1	CGCCTGTAATTCCATCATTTTG
47832	HDAC5	TCTGCTGGCACAGCCTGGGCAA
47833	NGB	TTTGCTCTGTGCTGACTGTGGT
47834	SLC22A12	TTGGAGCCACCCCAAGTGACAC
47835	REV3L	TTTATTCCATTTGCTTGTTTTGT
47836	DAZ	TTGCTATACTCACAGTCTTGTTTTCC
47837	LPO	CCTTTATCTTTCTTCCTGTC
47838	TLL2	GTAAGTTTGGCCAACAAGGTG
47839	NPTX2	CCGATCTGCAAAAGGGCCTCT
47840	RCE1	CCGAAGATCTCAGGAATTTTTGTA
47841	SPAG6	TTTCAATAAAATTTTAAATAAA
47842	KCNJ15	TCTGGGATCTTCAGCTGAGATTGGGCC
47843	LOXL1	TTGCCCAGGTCTGGGCTGAATA
47844	DDX3	GCAATCCTCAAACATGTGGTTAT
47845	SFTPA2	CACTGCACCCCAGGCAGCCACTCCTAG
47846	BACH2	GGAAGAGAGTCCTGAACGGTTT
47847	TNFRSF14	GGGCACTGCCTCACAGCCAAG

47848	TPX1	TGTTTACCTAGTGAGCATTGTGC
47849	SPI1	CAGATCTCCCCTCTCACC
47850	ZNF83	AGAGAAACAAAAACACTGAGAGTG
47851	TXNRD2	ATGATCTCCTGGTGGTCGGCGG
47852	NUP155	TGACTTCCTAATTTGCTACTTA
47853	LIF	CTTCCCTTTTTATCTGCTG
47854	OPCML	TCTGGTATCCTATCCACCCAAGG
47855	SLA2	CCATGCTGGAGTGCAATGG
47856	TFRC	CTTAGGGGAGAGCTTTC
47857	CDX1	AAGGCTCCAGGCCCCACCTCCTC
47858	MXI1	CGTCCGCCCTGCAAATCTGCCAG
47859	F2RL3	TTTCATGTCAATGGAATCATG
47860	SFRP2	CACTCCTAGCTGCTCCAGTCTCAGCC
47861	PPP2R5C	CCTGCCCACTGCTGTCACTTC
47862	SPINK5	TTTGGGAATGGAATCACTGA
47863	IRTA2	TGTGCTCCTTGGAGCTGGTGTGCAGTG
47864	ALEX2	GCCTAAGCCTCAGCAGAACTTGTA
47865	SNAP23	GGGATTACAGGCGTGTGTCACC
47866	PTGER2	AAAAGGAGTATACAAACATTTAAG
47867	MAT2A	CCTCTTTCAGCTCCTGACCAGTTG
47868	GGCX	CCAACATGGCAAAACCCCTTCT
47869	PCDHA9	GAGTAGCTGGGATTATAGGCACATGCC
47870	WNT3A	AGCCCCTCCTCCCTGCCCTCG
47871	ADCY1	ACTGCACCCACCAAGTCAAGCA
47872	ADAR	GACTCCAAGAGCAGAGTGAGGA
47873	FABP2	CACTCAGGCTGGAATGTAGTGG
47874	GABRA6	ACTGCAGGATGGCGTCATCTCTG
47875	RAD17	CCAGTTTTACCAGACTTCCAAAAAG
47876	ASTN	ACACTTTACTACTGCAGAAGGAA
47877	GALNS	TTGTGAACCCCAAATATCTGAG
47878	SLC26A3	TCAACTTGCCACAGCCAACA
47879	FUT8	AGACCTGTGTGAACTATTGAGAA
47880	XK	TATCCCAGCTTTGGGCACATGTAT
47881	RAD1	TGTGGTGAGCTGAAATGACGCC
47882	FCAR	TTCGCCAAGGCTGGAGTGCAGT
47883	VCY	CCTATCTCCCTGGCAGCAACT
47884	CHRNA10	TTTCCCTGCTGAGGGGCTCAGGGA
47885	BRF1	ATAGATTTAGTAAAGCAGGA
47886	CHRNB2	GCGCGCTCCAGCCGGTGTAGGCGAG
47887	PTGS1	ATTCAGTCCCAAATATGTATT
47888	CNGA3	ATCTCAGTTAGGAGAAGAGACA
47889	IL16	AAGGTGGGGACAGGGATGAGC
47890	HDAC1	AGGGTGCCAGGTCTGGGTGAA
47891	B4GALT3	GCCTCTCCCTCACTGCTGGACTG
47892	RNPEPL1	CAATTGTGCCTTCTGTGGGCCAGGCC
47893	SHC1	TCCCTCTCCCTCCCCAGGACTTCTGTG
47894	POLG	CAGCCTGGACCATACACTGCCT
47895	STX1A	CACTCCACTCCAGGTGGGCCACTCCAA
47896	ADAM33	TCAATAAACCATCAGTCCCAGAAGCAAAGG
47897	MAGEA5	GGTGCAGGAAAACTACCTGGA

47898	ACP5	TTGCTGAGTTCCGGGGTGCAATG
47899	BFSP2	TCTGTAGCTTGAGCAATCT
47900	HMGA2	AAGAACATCATAAAATTTTTATATAT
47901	LAMP2	TAGGTATTAATCTTATTGTTTA
47902	CREBL2	AGTTTTAGGATATAGTTGA
47903	IL1RL1	CTGTCTGGCCCTGAATTTGC
47904	DLEC1	TGGTCCCAGCATCCAGCTGCCTC
47905	CIAS1	CCTAGGCTGGAGTGCAGTGG
47905	DCX	CCTAGGCTGGAGTGCAGTGG
47905	SIGLEC8	CCTAGGCTGGAGTGCAGTGG
47906	CLK2	GTGTTGACCATCGCAGGGGTGGGG
47907	AQP2	GCCCTGAGACAGCTGGGCCAGC
47908	CPLX2	CCAGGCCTCCTGCCCCAGCCTACTC
47909	KCNJ3	GTGTATGTATACACACATATAC
47910	KCNG1	CGTGCCTGGCCCTGAGCGAAGC
47911	LYPLA1	TCACTTCTACAAATCAGCAAGAT
47912	LMAN1	GTGGAAATATTCCTCTGAGAATGGCTTTTAT
47913	MCSP	AGCAGTTTTCACAGTGACTACCATT
47914	D12S2489E	TTTGTACTTGCTTGAGTCCCATGA
47915	MRPS12	TCCTGGCTGCCACAGGGTC
47916	RAB36	ATGTTAGCCAGGATGGTCTC
47916	VIPR2	ATGTTAGCCAGGATGGTCTC
47917	STARD4	TATGATCACAGCTCACTGCAGCTT
47918	E2F3	TCCATACTGTATTTTGTTTGCATTAAGTAAT
47919	CALB2	ACCCTGCTTCTGCTGCCCTGA
47920	LFNG	GGCCTGGACGCTGTGGCTTAAG
47921	MSL3L1	GATCAGCCTGGGCAATATAGTG
47922	COX15	ACAGAGCCCTGGGTTGTGGAAGAG
47923	GNE	GTCATTTTAGCTCAAACCCTGTAAGT
47924	TLR4	GGTGACCTCATGAAATGAGTTGCAGC
47925	IGF1	TGGTCCTGGAGTTGGTAGAT
47926	TNFRSF8	GGGGAAAGTTGGAGAAGCCGTGGCCTT
47927	MAPRE3	CTTCCCACCTGCCCTCCCCACCCCCTGC
47928	HOXA13	TAATGATCTTGGAATATTTGCT
47929	CD8A	TGGAGAGAAAAAACTTAAGTA
47930	FUT1	GCTGGGTTTATAGATGTGAGCCA
47931	MTR	CTTACAGACTTGAACATTTGCAGACGT
47932	TCF2	CAGGCAGCAGAAATCATTTTCTTTTTG
47933	GOCAP1	AAATCACTGCCAGAGACAGTCTA
47934	CREBL2	TGTGGAGGGAAGCATTGGAACT
47935	TNFRSF8	GAATGTCCCCACCAATCCCCGCCAC
47936	MALT1	GCACAAAACCCACACAGATTGTCTTAT
47937	CLDN16	CAGCCCTTGCACTGACCTGCCT
47938	CALB2	CCCATGCCACCACCCACCCCAA
47939	MTNR1A	ACCACAACCAACACCACAAACCTTTCA
47940	MPDU1	AGCCTCCTCCTCTAGCAGCAA
47941	ODF2	TCCAGCAGGTTTAGAGGAGATCCAGCC
47942	KCNK5	ACTGGAAGCCGGGACTGCTAGGGCT
47943	ATF2	TGAAATTCAAGTTACATGTGAA
47944	MGAT5	CACTTTCTTGCTCACCTCACCAGTTGCA

47945	HIPK2	AACCGGGAAGTGGGAGGACGTAGA
47946	GALT	TCTCCTGCCAGCTCTTCTCAAGCA
47947	FGFR2	GAGAAGCATCATTTCCCCAACAGGGCA
47948	SIGLEC8	CGCCTCAGCCTCCCAAAGTGTTAGGA
47949	ERBB4	TGATAGTGTCTGAAATTGAG
47950	VPS41	GACTAGTGTGCTTTCTGCTACA
47951	GPC6	TATCTGAATGGCCAACTCACT
47952	GABRP	GAAATAAACCAAGGCTCTA
47953	NR2E1	CGGTTTTGCAAGAGCCGGGAA
47954	NF2	CGAGTAGCTGGGATTACAGGCAC
47955	PCDHA9	TGAGTAGCTGGGATTATAGGCAC
47956	GOCAP1	TTGGGAGCAGTGTATGTTAC
47957	HDAC4	TCTCAAGCTCCAGATTGGCTAGATTT
47958	PCDHB7	GTCACCCATACTTAACATTTGT
47959	ATP1B1	GGGCTAATTAATTTGCTTTAT
47960	MME	ACTCTTCACTGTTAGCTTTTTA
47961	NEDD4L	CCGGGGGGACCTGGAGGCAGA
47962	MECP2	GCAGCATCTGGAAGAGCTAGGCAGGG
47963	TERF2	CACAGCCGAGGAAGCGGCCCGG
47964	NRXN1	GTCTTTATGTTGCTGGAAC
47965	MMP25	AGGCCTGGTCATTGCCTCCTCA
47966	NOX3	AGAACTCCACCAGGAATTCCTGTGACG
47967	SEPN1	GTCACCCAGGCTGGAGTGCTATG
47968	TNFRSF10B	GTCTCCCAGGCTGGAGTGCAATG
47969	TZFP	CACTCATATTCGTCACGTCA
47970	MAK	GCTCATGCTGCTGACCACTGACTCAGCT
47971	FCER2	TGGGGCAGTGATGGCCTCCCA
47972	PCDH12	TGGAGGCTCAAGTTTTCTGCTCA
47973	ITSN2	TTTATCACTCTCTGCTAAGA
47974	NPY2R	GAGACCCTGGACACTGTTCCTGCTCCC
47975	B4GALT1	GCACAGCCAGGGCACAG
47976	HDAC7A	CTCAGACGACTCTGGAAGC
47977	SVIL	TGGTTGCTTTCTAAAACTGAAGGAG
47978	WNT3A	CACAGCCCTGAGATGGGCCGG
47979	ZNF278	TCTTTCTGGGCTCTCTTGCCT
47980	TOP2B	CTCTGTCTCAGACTTTTGTAC
47981	GCG	GCTCTCTCTTCACCTGCTCTGT
47982	FANCF	CACCCAGTCTGGAGTGCAGTG
47983	APPBP2	ATTTTTTGTAAGCCAGTC
47984	CD3Z	CTGGGAGGCGGGCGCACTG
47985	RTN4	GCGCGGAGGCAGGAGGAGCAGT
47986	ATF7	GCTTCTCTCTCTTCATTGGGGT
47987	INMT	TGGAAGCCACGGGCTCAAGCAGC
47988	ARSD	GCTCATGCCTTTAATCCCAGCA
47989	LRRC2	AGACCAGCCTAAACAACATAGT
47990	NFIX	CCCCAGCCCAGCCCAGCCCAGC
47991	TFAP2A	GCTCTCTGGGTGAGAGACCGAG
47992	TIA1	CAAAACTGTGCAGAGTCTAGAA
47993	KAI1	CCCATCTCCCTGCCTGGCCC
47994	TCF3	CCTGGGCTTGGGGGAAGGGACG

47995	HIP1	GAGCCCAGCCCAGGAGTTTGAG
47996	LRP1	TTACAACTAAATAACACAG
47997	WNT6	CTCGCACCTGTGGGACCTCAGGGC
47998	GPC1	GACACAGGTCAGGGCTCAGAGTGACCC
47999	GRIN2B	ACCAGCACCATCTCTCCTCCTTT
48000	UNG	TGATCTTGTTAGCAATGCTGTT
48001	PAK1	CCCTCGCAGTTCCCCTGTCCTGA
48002	MUC4	CCTCTTCCCAGGTTCCCTGGCCCC
48003	KCNJ6	AGCCTCTCGGTGCTGATGT
48004	DTNA	GCTCACATTTCTTTCTGTCACCA
48005	MASP1	AGCTAGCAGAAACTCCATTTTCA
48006	RPS6KA5	GGGTCTGTTTTCAAAAAAGA
48007	BRCA1	GCCAGCCACAGGTACAGGCCA
48008	OSBP	GGAAACAGCAGCCAATCGGCG
48009	KIP2	ATGTGAAGCTGTGGGTGCAGTG
48010	TMSB4Y	TGGCTGTTTCTCACGCTC
48011	CBFA2T1	ATTTCTGCTCCAAGTGCAATC
48012	ADRA1D	CTGCTGGACTCAGGTGCCCAGA
48013	ART3	TTCTTATTCTTTACTTGA
48014	GRB10	AGGCTGAGGACACAGCCACGTGA
48015	PDE4C	AGTCCACCCTCTCCAGTGGTC
48016	BSN	CCCTGCTCACCCCCTTCTCC
48017	CBFB	CTGTTCTGTAATCATGAGTTTGG
48018	TRIM39	TCATGAGAGATGAATGACAGA
48019	PCDHGA8	TTTCCGGAGGATTGTCATCT
48020	PMX1	CTGAGACTGAAGGCCAAGGAA
48021	TMEPAI	AGGTCCCCAGGGGGGCCGGGCTGGGGC
48022	SOX10	CCCAGCCTGTGTGCCCTGTTCCTTGC
48023	CSPG2	CCGGGCCACCACGCTTCCTATGTGAC
48024	CDH1	CCCAGGCCTGGGATGCAGTGA
48025	ICMT	TCACTGCACTTTCTTCCTGCCTTA
48026	PTGS1	CGACTCCTGCCTGAGTTTCCA
48027	BIN3	CACAGGCTGGGGACAGAGGTGGCCCTGG
48028	TK2	AGCCCCATCTACCACATCTTCATGTGG
48029	RANBP2L1	TCGCTTGAGGCTAGTGAGCTGTG
48030	MGAT5	CTTTCTTGCTCACCTCACCAG
48031	DMC1	GCAGGTGGATCACTTGAGGTCA
48032	EIF3S2	GCAGGCGGATCACCTGAGGTCA
48032	TNFSF14	GCAGGCGGATCACCTGAGGTCA
48033	BACE2	GCCAGAATTCACTAGGA
48034	SEPX1	CTCTGGACTCTCCCCTGTGAGGCC
48035	CCNF	CTCCCCGGCTGGAGTGCAGTGG
48036	MYC	AGGCTCTCCTTGCAGCTGCTTA
48037	IER5	GGGTTTAAGAGATTGGGGGC
48038	PRKDC	GCCAGTCCTCCACACCCA
48039	SLC21A2	TATTAAAATATTCTAATTTTGCT
48040	MCM6	TTGCTTAACCTGGAGTGAAGAG
48041	SLC21A2	AGAGGTGGGGACAGCAAGAAGCC
48042	EMP1	TGCCCTTCTGACCCAAAGCAA
48043	COX10	GAAGCAGTTCCTTCTAAAAGGGTAGCC

48044	PPEF2	GGCTGTTATTTTGGGCCTGATGT
48045	MYO5A	TAAACTGGTTCAAAGAAATA
48046	EIF2B1	GGCCAAAACTGAGATGTGTTTA
48047	MAGEA3	TCTCCATTGCCCAGCTCCTGCCCA
48047	MAGEA5	TCTCCATTGCCCAGCTCCTGCCCA
48048	MTNR1A	TAAATGAGTGCCACAAAAG
48049	MTMR2	TGGTACCAAAATGATTTCTTTGG
48050	PTEN	TCGCCTCCTCTTCGTCTTTTCTAACC
48051	KIT	ATGTGTGTAGACAAATATTTGGAG
48052	HCK	GTGCCCAGGTGGTGGCTGCAAGGTG
48053	ATP6V0E	TCCGAGTGAGGCGACGGGGT
48054	MEFV	TCTCAAACTCCTGACCTCAGGTGATGCA
48055	TK2	CACACAGCCTGTGTGCAGTGG
48056	PRSS16	AAAGCAGCTTGTTTTGAAAGAA
48057	PTAFR	TTGGAGGCTACCTCACCTGGG
48058	RAB18	TCACATTCTACTTGATTTACACTTCC
48059	SEPN1	GGGGTGCCCCAGGCTAG
48060	KCNA7	AGACCAGCCTGGGCAACATGGT
48061	POLH	CCTTGGAGGCGGAGGTTGCATTG
48062	NMBR	TGCTGGAAAGGAGATCATGCCC
48063	TCN2	CTCGCCTGACCCTGCTGCCACCT
48064	HELZ	GACAGGATTTGGATGAAGTAATGGAT
48065	RAD50	CCTGATTTCTAGAACCCGTGACTG
48066	VHL	ATGTTGTCCAGGATGGTCTTGATC
48067	PIK3CG	AGGCTGAGGCAGGAGGATTGCC
48068	IGFBP4	CCAAAGCTCAGACTTGCCAG
48069	CRTAP	CCTATCTTCACACCTGCCACCTCA
48070	SIAT8E	GCATGCTGCTGGGCCACACCCCAAG
48071	T	AGGAGCACACGGCACCTTTCCCCAGAGCCCCA
48072	CYP8B1	CCCAGAGACACTCTCCCTCCTCCTCT
48073	CHRNA10	AGGGACAGCCACGGCCAAGTGGTT
48074	TCIRG1	GCTGGCCCCGCCTCCTCCTTC
48075	CORO1C	TTGCCCAGCTCTTGAGTACAGT
48076	CYP7B1	ATTCAGCCTGGGAGACCA
48077	EGFL4	CCGGGCCTGGCCTGTCCTACTGT
48078	VHL	TCTGTAATCCTAGCTACTTGG
48079	GNAT1	CCCTGGCCCCAACCTGCCACCT
48080	OTX2	AAACTAAGTTGTGAAGGAAGGGAGGG
48081	MECP2	CACTCCTGCTCTGCTCGCCTCGGATC
48082	NUMA1	CAGGAGTCTGGAGTGCAATGGCACG
48083	ID4	AGAGAGGGAGGGGGAAGAGCAGA
48084	C8orf1	TTTGACATCCCCTTGTGTCTC
48085	KAL1	ATGTATATACACACAGACACAT
48086	FACL2	TAGTGAAGACAAGCATTTCA
48087	RAD50	TCTGACCACTTGAGGCCTGATCT
48088	PCDH9	TCCATGCACGCTTCCTCTTGCA
48089	PSG11	TGATGAACAGGCTGATACCTTC
48090	NGB	CTTCTGCTGGGAACTCCCTGACT
48091	KAL1	TGTTATCAATATAGAGTGTTGC
48092	NUP62	GCTAGCCGTTTGTGCCTCGTC

48093	DAP	ATGAGACACCACATTCCATTTGTGCTA
48094	SFRS7	GGGATTTGTGATGTCTGTAAA
48095	SYN2	GCTTTTCGCTTTCTTTCTGCATGACTA
48096	TEAD2	TTGGTTGGAGAGCTGAACAGGCTGG
48097	GPR85	AGAAGCAATCTCTCTCCCCA
48098	MYBPH	AGGCTGTGATGAGAGCCAG
48099	BRF2	CCTACTTCTTGCTGCCTCACGGTTGCT
48100	LMNA	GAGGCTTCCTGCGTCCTCCTCACC
48101	PIAS3	AGAGATGGACAGAGAACTTTAT
48102	VNN1	AGCCCTGGCAAATGAAT
48103	FPGS	CCTCCTGGCTCAGGCCCAGCTT
48104	PSCD3	TGTTTTATAGCAAAACAGGAAA
48105	GLTSCR1	GCCTCAAACTCCTGGGCTCCAGTGATC
48106	MSI1	AACAGTGGCCTGGCTGGCGTGGCAG
48107	NKTR	CCTGCATTCCTTCTTATG
48108	MEN1	GAGAAAGACCGTGTCTCAAAAC
48109	BARX2	AGAGATCTACCCGTCTCCCTCCCT
48110	IFNGR1	TGCATACAGTAATTTTAAGTA
48111	BCLG	GTAACTGTTGTCTGTGCCTTT
48112	XBP1	TATCTCAAATCTGCTTTCA
48113	SLC16A2	CACACATGTGGTTGTGCACA
48114	AXL	TCTCACTGTGTCACCCAGGCTGG
48115	COL4A1	TCCTCATTCTGCATCCTGGCTT
48116	PABPN1	CCTTTCGGGGGCAAGGTTCACCTGTCA
48117	GPLD1	TGCCTGTAGTCAGACCTGCTG
48118	ADRA1A	CCGGGTCCCGGGCTAGGCCAGCC
48119	BMP2	GCAGGGAGAATAACTTGCGCA
48120	ESR1	CCTAAAGCCTGGTGATTATTCA
48121	IGSF8	GGACACCCTCTCCCTCTGTC
48122	DTNB	TACCCATCTGTTGTGCGCAT
48123	DMGDH	GGCTCCCAGGGGAATAGAGGA
48124	RGS6	GCCCCCTTGCTCCTTGGTTTAT
48125	PAG	TCTTGCTGTTTTTCCTCTTTATGAC
48126	TERF1	GTCAAGTGATTCTCCTGCCTCA
48127	TCAP	AAGGGAGGGTGGCAGAGACAGT
48128	SPTLC1	ATGTGCCTTGTGATTGCTGCTG
48129	ADAMTS4	GTGATTCTCATGCCTCAGCCT
48129	GPR56	GTGATTCTCATGCCTCAGCCT
48130	PPT2	TTCCATTCCCAGAATATGTTTGCTGCT
48131	GRIA1	CTAATGAGGAAACTGCACTG
48132	GATA1	TTCAAAGCTTTTGTAAAATAAAACCAC
48133	RNF4	CCGGCATGCCTCCTCTTCCA
48134	UTY	CCTTCCCTGTAGTTTCCCAGATGTG
48135	ALOX12B	CACCTCGCCACCTCA
48136	TDGF1	TAGGAAAGAGGAAGCAAATAGA
48137	PMX1	TCCTGCTCTGTTATTTCTTCATCTGCTGGG
48138	POU4F1	TTAACTTGCCCTTTCAGT
48139	FZD4	GGTCACTGTCTCACCTGCACTCTCCAA
48140	ACK1	CTGCCTCTGGCCCTGGTCCTGGGCGG
48141	KCNJ12	GAGGCCCCGCGGTCGCTCAGGGG

48142	ARHGEF12	TTTCTTGACTATAAATTTGTTATTC
48143	MLH1	TGGGATGTGTTCTTCTTTCTCT
48144	MAPK1	TATCCAGCAGATCATTTAGGA
48145	TRPV1	GGGATTACAGGTGTGAGCCGCT
48146	PCLO	CTCCACCAGCCAATGGCAACCAA
48147	BCL2	CCCTACCTCCTCCTCTGGACAAAGCGT
48148	PDE4C	CCCTGTGAGGAGAGGTGCTG
48149	KCNJ15	AAAGCTGTGCTCTGGACAGT
48150	GHR	CTGCAATCTCCACCTCCCACAGGT
48151	FHL1	CCCTCAGATGTTCCTGCAGTGCTGAAA
48152	CCND2	GGAGGTAGGAAGGGGAGGAAGTC
48153	SLC4A4	GGATGCAAAGGCAATTATTCTTTGTAA
48154	RFXAP	TGCCTGTAGAACATAAACATTTTCCTG
48155	HRH2	TTGAAGCCTTCCCCACCCCCTG
48156	A1BG	CCCAAAGTGCTGGGATTACAGG
48156	ACADSB	CCCAAAGTGCTGGGATTACAGG
48156	ADAMTS4	CCCAAAGTGCTGGGATTACAGG
48156	ADRA1A	CCCAAAGTGCTGGGATTACAGG
48156	ALDH1B1	CCCAAAGTGCTGGGATTACAGG
48156	APM1	CCCAAAGTGCTGGGATTACAGG
48156	APOL1	CCCAAAGTGCTGGGATTACAGG
48156	APPL	CCCAAAGTGCTGGGATTACAGG
48156	AQP6	CCCAAAGTGCTGGGATTACAGG
48156	ATP7A	CCCAAAGTGCTGGGATTACAGG
48156	BAZ2B	CCCAAAGTGCTGGGATTACAGG
48156	BENE	CCCAAAGTGCTGGGATTACAGG
48156	CAMLG	CCCAAAGTGCTGGGATTACAGG
48156	CASP8	CCCAAAGTGCTGGGATTACAGG
48156	CBFA2T2	CCCAAAGTGCTGGGATTACAGG
48156	CCNF	CCCAAAGTGCTGGGATTACAGG
48156	CD209	CCCAAAGTGCTGGGATTACAGG
48156	CHRNB4	CCCAAAGTGCTGGGATTACAGG
48156	CYP2B6	CCCAAAGTGCTGGGATTACAGG
48156	CYP4F3	CCCAAAGTGCTGGGATTACAGG
48156	DCX	CCCAAAGTGCTGGGATTACAGG
48156	DFFB	CCCAAAGTGCTGGGATTACAGG
48156	DNASE1L1	CCCAAAGTGCTGGGATTACAGG
48156	DSC3	CCCAAAGTGCTGGGATTACAGG
48156	DSCR3	CCCAAAGTGCTGGGATTACAGG
48156	EIF5A2	CCCAAAGTGCTGGGATTACAGG
48156	FANCF	CCCAAAGTGCTGGGATTACAGG
48156	FCAR	CCCAAAGTGCTGGGATTACAGG
48156	FEZ1	CCCAAAGTGCTGGGATTACAGG
48156	FGF5	CCCAAAGTGCTGGGATTACAGG
48156	GHR	CCCAAAGTGCTGGGATTACAGG
48156	HLCS	CCCAAAGTGCTGGGATTACAGG
48156	HTR1D	CCCAAAGTGCTGGGATTACAGG
48156	HYAL1	CCCAAAGTGCTGGGATTACAGG
48156	IL11	CCCAAAGTGCTGGGATTACAGG
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48156	LNK	CCCAAAGTGCTGGGATTACAGG
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48156	MATN3	CCCAAAGTGCTGGGATTACAGG
48156	MDM2	CCCAAAGTGCTGGGATTACAGG
48156	MEFV	CCCAAAGTGCTGGGATTACAGG
48156	MHC2TA	CCCAAAGTGCTGGGATTACAGG
48156	MPL	CCCAAAGTGCTGGGATTACAGG
48156	NDRG3	CCCAAAGTGCTGGGATTACAGG
48156	NF2	CCCAAAGTGCTGGGATTACAGG
48156	NQO1	CCCAAAGTGCTGGGATTACAGG
48156	PCDHB11	CCCAAAGTGCTGGGATTACAGG
48156	PER2	CCCAAAGTGCTGGGATTACAGG
48156	PIGR	CCCAAAGTGCTGGGATTACAGG
48156	PIK3C2B	CCCAAAGTGCTGGGATTACAGG
48156	PIK3CD	CCCAAAGTGCTGGGATTACAGG
48156	PKNOX1	CCCAAAGTGCTGGGATTACAGG
48156	PMCHL1	CCCAAAGTGCTGGGATTACAGG
48156	PPEF2	CCCAAAGTGCTGGGATTACAGG
48156	PPID	CCCAAAGTGCTGGGATTACAGG
48156	PRKR	CCCAAAGTGCTGGGATTACAGG
48156	PRND	CCCAAAGTGCTGGGATTACAGG
48156	PTGIS	CCCAAAGTGCTGGGATTACAGG
48156	RAB36	CCCAAAGTGCTGGGATTACAGG
48156	RABL2A	CCCAAAGTGCTGGGATTACAGG
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48156	RGS9	CCCAAAGTGCTGGGATTACAGG
48156	RHD	CCCAAAGTGCTGGGATTACAGG
48156	RPH3AL	CCCAAAGTGCTGGGATTACAGG
48156	RPP30	CCCAAAGTGCTGGGATTACAGG
48156	SEDL	CCCAAAGTGCTGGGATTACAGG
48156	SEPN1	CCCAAAGTGCTGGGATTACAGG
48156	SERPINB9	CCCAAAGTGCTGGGATTACAGG
48156	SH3BP2	CCCAAAGTGCTGGGATTACAGG
48156	SLA2	CCCAAAGTGCTGGGATTACAGG
48156	SLC24A1	CCCAAAGTGCTGGGATTACAGG
48156	SULT2B1	CCCAAAGTGCTGGGATTACAGG
48156	TAPBP	CCCAAAGTGCTGGGATTACAGG
48156	TERF2	CCCAAAGTGCTGGGATTACAGG
48156	TES	CCCAAAGTGCTGGGATTACAGG
48156	TIRAP	CCCAAAGTGCTGGGATTACAGG
48156	TPMT	CCCAAAGTGCTGGGATTACAGG
48156	TRPM6	CCCAAAGTGCTGGGATTACAGG
48156	TRPV1	CCCAAAGTGCTGGGATTACAGG
48156	UGDH	CCCAAAGTGCTGGGATTACAGG
48156	WHSC1	CCCAAAGTGCTGGGATTACAGG
48156	YES1	CCCAAAGTGCTGGGATTACAGG
48156	ZNF74	CCCAAAGTGCTGGGATTACAGG
48157	TNFAIP2	CCTAAAGTGCTGGGATTATAGG
48158	EDN3	TTGCCTAGAATAGGCTGCATGGTGTAT
48159	SRP46	TCTTGGTGTTATCTTTTCTCAGAATAAAATT

48160	ALDH7A1	AAATTGTTACAACATAGCCATAG
48161	IL16	GCTCACATCTTGGCACATTTAAGA
48162	NDUFS2	CTTCTGTGGAGCCTGTTCCTCACT
48163	CSNK2A1	CCAGAGATTACAAAAATGTAGCT
48164	SHOX	TCAGTAGAGATGGGGTTTGACC
48165	HCRT	GACAGCCTCAAGGTTCCTGGC
48166	HPCA	CTCAGCTTGCGGGGTGGGGGGA
48167	C18orf1	TATGTTTTTATTTGTAAGGTGCTG
48168	FGF7	GGAATAACAAAACTGTCTGGCTC
48169	FOSB	GGTGGGAGGTAGGCTGTGGGG
48170	CYP8B1	CAGGCTGCAGTGCAGTGGTGTGATCTT
48171	TRPM7	GCCATTCAACTAGGGAAATGAAGAAA
48172	WHSC1	CCTGCCTGGCAGGTGTGCGTGC
48173	PKD2	CTGAATTGCTGTAACAAGCAC
48174	NCOA6IP	CCAAGTGCTGGAATTACAGGC
48175	PVR	AGCTCACTCGAGATCTTTGTGTCCAGA
48176	FUT6	CCTCCTGCAGTTCCTCAACATGCC
48177	CD2AP	TGCCAAAAATTGTTTTATGCTT
48178	UNC5C	TGGGCTGTATGCTGTGTGGTACAGG
48179	CD53	TCAAAGTGGTGAAACTAATATCT
48180	TAPBP	CACAGGGCTATTCCTTTCCTCCA
48181	SUFU	TGACATTTCACAGGCAGAGAGGTG
48182	STK24	GGGAGGGTCAGCTCCTTCCAGCGATCATTTTA
48183	ARNT2	AGATGCAGCCACAGTAAGGCTCCA
48184	CNTNAP2	AGGGATCTTTCTTCTAAAACGG
48185	BPAG1	TTCACAGTGTCATTTCTTCAGAACTCC
48186	LOXL3	CTCAGCCAGAAAGGCAAGGAGG
48187	CDSN	GCACAAACAAGCACATACAC
48188	GNAZ	AGTAAATTATTTGTGGCTTTGCTGAGTG
48189	DSC3	ATGGCAACTGCCATTTGAGTCCGG
48190	WHN	GACAGAGAGCTCCTCCCTGGGTTGTC
48191	UBTF	GCAGCCAGGGAGAGCCCAGGAGC
48192	GYS1	CCGCTCCAGATCTGCACTGGGTGTGGC
48193	CTLA4	TGTTTTTAACTCAATATTTTCCATGAA
48194	RB1CC1	CCAGCATTTGTCCTTTTGTGAAATC
48195	CD1A	AGTTGGAGGTTGGTGACAAGGA
48196	DIAPH2	ACCAAATGCCTTC
48197	GPR85	ATATAAATAAGGAAAATAAATC
48198	PUM2	TACAGAAGAGTACTGTATTTTT
48199	JAM2	TCTGGCTTCTTGTGTCTGGACTAAGT
48200	ITSN2	GTGAACAAAAGAAGACTTTCCA
48201	CDKN1B	TCCTTATTTGCTTCATTGTACTACC
48202	PCDHGA11	ATTAATGATTCACAAACACTTTT
48203	SLC22A2	TCTCAGCCTCGCTCCGGGC
48204	ATP1A2	GAGATCGTGCCATTACACTCCA
48205	GALNT7	GAGGCTGAAGATTGGGTTCA
48206	MAFF	GACAGTGGACAGGGACTCAGA
48207	ENO1	TCTGTGGGTACCCGGAGCACGG
48208	ABCE1	ACCCATCTAAATTTCTTGAG
48209	ADAT1	CACTTGAGGTCAGGAGTTCAAGAC

48209	DMC1	CACTTGAGGTCAGGAGTTCAAGAC
48209	SUDD	CACTTGAGGTCAGGAGTTCAAGAC
48210	ADAT1	GGCCTGTAATCCCAGCACTTTGG
48211	DYRK1A	CGTCCCGGCTGAAGTGCAGT
48212	GRM6	TCCCAAAGTGTTCGGATTACAAA
48213	CHRNB4	CTTCTTCCTCTTCCCCCAGGGC
48214	C18orf1	AGCCTCTCTTCCTCTGTCA
48215	PLA2G4A	AACATTTCTCACCAACTTTCTTA
48216	KRT1	CAGTGACCACCACCCACATGACAT
48217	POLH	TGGCCAACATGGCAAAACCATCTCTAC
48218	SON	CCTTCCCCTCTTTGCTACTATTA
48219	ME1	AAGACCAAAATTACTAATAAA
48220	CD28	GTTATGAAGAAAACAATGTCAT
48221	PODXL	CTGCCTAATTCCTTCCTCACAGTCTGTAG
48222	FANCG	TCTCTGCCACCACCAAGTCAT
48223	CUL3	TGGGTACCACAGATAGGCATGT
48224	DGKI	ACGCGGTAAAACATCATCTCTACTA
48225	CLNS1A	TTCCACTCTGGAGTGAAGT
48226	NCOA6	ATGAATAAACGTCTTGGCTCTGCCCTTTGG
48227	RECQL5	GCGGAGCTGTGAGTGCCTGCAGGAGAG
48228	ZNF26	CCAAGCAGAAGTTATTTAAGAAAGA
48229	ZHX1	TCCTCATATTCAGTCCAG
48230	CTSK	CTGACTTCTCACTTCCTAAG
48231	GAK	TCTCCTCCCGAAGGAACAGCTGA
48232	TMPRSS3	ACTGCTCAGGGAAGTACAGA
48233	GRB10	CAACTCTTCGCCTTTGCT
48234	CHML	ATTTTCTCATTTAAAGGACA
48235	HAS3	CTTTCCTCAAATCAAAAACAGGCAG
48236	UMPS	GGATCCTTCCTATCTCTCCA
48237	LTB4R	TCCTCTGCTCTGTGGTACTTCC
48238	ETV6	CAGGAAAGAGAATACTTGCAGA
48239	A1BG	AGGCTGGAGTGCAGTGTTGCAGTC
48240	MGAT1	GAGAGAGGTGCAGGGAGGAAGG
48241	WASF3	TTTCAGTATTTACTGTGTAATACT
48242	KISS1	TGCCCAGGCCAGGACTGAGGCAAGCC
48243	HOXB8	CTATTCCTGGAAACCACAA
48244	SP3	CAACAAATATTTTCCGTTGC
48245	JUP	TGTCCCACCCACACAGCTGCC
48246	STAU	TTACCTGCATTTGTTCACTTT
48247	RNMT	TTTTCTCAAAATTTAGTGAA
48248	CRY2	TCCAAGTAGAGATTACACCCAGCA
48249	TIA1	TCATCTTCAGCTTGTGCACA
48250	CCBP2	GGAACAGATGGGAACCAGCTCA
48251	PXF	CTGTATCTCTTGTTCTCTCCT
48252	SPOCK	TCTTCTTTGTTACCCTTGAC
48253	PCTK1	GAGGGGAGGGGGCAGTTGGGC
48254	MSL3L1	CATGCTGCCTGCTTTCTGGAGCT
48255	IBSP	AGTGAGAGGGCAGAGGAA
48256	ABCB11	TTATTTCCTCTGGCTTCCTCA
48257	CA2	GTTTTTCTGTAACACAGAATAT

48258	SHOX	CGCCCAGGCTGGAGCGCAGTCC
48259	ARCN1	TGTAATCCATTCACATTCCTCAGTT
48260	KCNF1	GAGGGAGGGGTGTGCAGGAGCCGC
48261	LRP1	CCACTGGGAGAGCTGGTGGTGCA
48262	MAL	GCCAGCACGCCGTCATGGCCC
48263	ZNF165	TGCTGGGACTGCAGGCGTGAGCCACCG
48264	OGT	CTCCTCCTCCTCTTCCAGCAA
48265	GPR81	CCCAGCACTTTGGGAGACTGA
48265	UBE2G2	CCCAGCACTTTGGGAGACTGA
48266	ATM	ACTTGCCTGGGAAACATAGCAGACCT
48267	RFNG	TGCCGCAGGCTGGGTGCACGGCCGGGC
48268	EPB49	CTCACACACTATGCTCTCTCA
48269	NOL3	GGGAAGTGAGACTAGAAGAGGGGAGCAG
48270	HOXB6	GCCAGACATACACACGTTAC
48271	IL1F5	GCCACAAGCTAAGAAACACC
48272	HLF	TATGGCCGTATCAAATGGTAGCT
48273	CTBP1	GAATGAGGCAGTTGGCAAACTTC
48274	CPD	AGCTATTTGGAGCTTATGTAATA
48275	ZNF146	TAAACATCCACTTCTCTTTCA
48276	DDX11	CCTCCCACCTGCAACAGCTGCC
48277	G6PT1	TATAGGTGGGAAGAAAAGGTGA
48278	APAF1	TTCAAGCAATCCTCCTGCCTCA
48279	CYP8B1	TTTAAGCAATTCTCCTGCCTCA
48280	MADH4	GTTATCCTGAATACATGTCTAACAAT
48281	FCGR3A	GGCTGAGAAATAGCAGGTA
48282	YWHAG	GTGAGTAATTGAGGAAAAACTGACA
48283	OSCAR	CCTTAGACCCCGCTGTGCCCT
48284	ATF2	AACACGGCTGTGCTCAGGGCTCGCGGGTGACC
48285	HADHA	TAGGGAGGGACTGGGATGAGAGAAAG
48286	PLG	AGAGGCTGGGACGTGGGTA
48287	CLCA3	TTAAATGTTAATCAAAATGAG
48288	MTMR7	TTCACAGTCAGATTTCCACCATTGAGA
48289	MTMR1	AACATAGTGTGGACTGGATGATGCCTT
48290	FGF5	GGCTCACTGCAACCTCCAACTCCCT
48291	LPIN1	TTAGTGCCACCACCTTCTGAACAC
48292	PRIM2A	ACTGTCACCAAGGCTTAGTGCAGT
48293	COL7A1	CCACTGTCCCTCCCCTTGGTGCT
48294	CDH1	TTACAGACATGAGCCACTGCAC
48295	ZNF14	ACCAGCGTGGTCAACATGGTGTAACCC
48296	MX1	TAGCCACTGGACTGACGACTTGAGTGC
48297	NEUROD2	CCGGTCCTGCCGCTCTCCTGGGGC
48298	RHD	ACCACATCTGGCTAATTTTTTGT
48299	SLC10A2	AACCTGACGAAAAGTAACATCA
48300	PHKA1	GAGCCTTTTGACAGCTGGT
48301	ITGB1	TCCTAAATCTGCCTTTTCATCTA
48302	ZNF264	TGTCACCCACGCTGGAGTGCTGTGATG
48303	HYAL1	AGGCCCTTCAGCCCCAAGGTTGTCCTCG
48304	FKBP1A	GACAGTTTCAATTGAAGGTGCTGTT
48305	AP2B1	ACTGAGACCTAACTCACTGGA
48306	NRBP	CCTCCCCTCTGCACTTTGTT

48307	LRP1	TGGGTGAGGTAGGCGGGAAAG
48308	EGFR	GAAACGGAGGGGATGAATTCTTCC
48309	MECP2	CACCTCTGGGAGCTGGAGTCCACTGGGGTG
48310	PPP2R5E	ATCAATGTCTTGAATCCTTT
48311	CD209	GGTCTCGATCTCTTGACCTCGTGATTC
48312	VDR	CTCAGACTCCATTTGTATTATAGTC
48313	PAH	AGAGACACCCTTTGTAACTCTC
48314	BACE	CACCACCCAGACTTGGGGGCAG
48315	ARHGEF7	GAACGTTTCCCCCACTGTGTTCCAGT
48316	TIMP3	GAGCTGCCACTGCATGTCCCAAC
48317	MGAT4B	GGTGGGCTCCTGGAACTGCAGCAG
48318	TNFRSF10B	GCGTGAGCCCCCATGCTTGGCC
48319	PLA2G2D	AGGCCACCTGTCACTCATGGCCAGG
48320	TPM4	GGAGGCTGAGGCAGGAGGATCGCTTGA
48320	YWHAB	GGAGGCTGAGGCAGGAGGATCGCTTGA
48321	MAPK14	CTGCAGCTGCTGAAGTTCTGAGCC
48322	EIF5A2	GTTGCACTTTCAGCCTGTGT
48323	FMO4	ATCTGCCAGCCCCAGGCCTCTA
48324	GNAT1	GCTAGACGCACAGACTCAG
48325	GRAF	GGACCCCCAAAGTGCTGGGATT
48326	ASPH	AGCTATAGTCTCTTCAGCATTTT
48327	PSG2	CAAAAATTGAAACATTTCCTTTTGCTC
48328	ALDH1B1	TGAGTAGCTGGGATTATAGGTAC
48329	PNOC	CCCCCTGGCATGTTTCACCAC
48330	HPS4	CTCCCTCTGCTCCTGAGATGCT
48331	FGF9	TCCTCCTGGAGGGCTGCCTAGGGCCAC
48332	ANXA9	ATTGAGGCCCAGTTCCTGGGA
48333	FHL1	GCAGGTGATTTGGGAAGTGTAGAAAGA
48334	APP	GGGCGGGTGGGGAGGGGTGCTCTGCTG
48335	IGF1R	CATTCACAAGCCTCCTGTACCTCA
48336	ZNF274	AAAAAGCCAGGTAATTAATAATCTGCAC
48337	MOCS1	CTTCAGCCGTGGTCCTCCTGGGACCGGT
48338	ROCK2	GCCTGGGCAGCTGAACAAGAC
48339	SH3GL3	GCATACACCTGCCTGCA
48340	ADORA1	TGTCTTAGATGTTGGTGGTGCA
48341	ELL	CCAAGGGGGCAGAGGGCTTTCAGCGCCC
48342	BPAG1	GGCCAGAGGCATCCTGGATATTAGA
48343	SNX6	CCTCATTCATGAGCTGGTCA
48344	RBBP5	CTTCTCCTCTCCCCAGATACCTC
48345	SRC	CCCTGCACTCCCTCCTGGAGCTCTGT
48346	DIAPH2	TCTGCTTTCAAATTACAATGGTGGGA
48347	APBA1	CCAACCTTAAACCTCTTCTAT
48348	ZNF2	CCCAAGGTGAACCAGCTGGT
48349	TNFRSF11A	AACCTTCGGAGTAGCTGGGATC
48350	NEURL	CTGCCCTTGTGCAGTG
48351	ALDH6A1	TGCTTCTGGGCAGTAGAGGCGCG
48352	WDR4	TGTGAGCCGGTGGTGGCGGCAG
48353	EIF4EBP2	TCATACCCTGTAATTTTGTCCCAAA
48354	GDF8	TTTAATATTTACAGAAAAAT
48355	COG8	GCAGGGCTGCCTGTTTATTGA

48356	GABPB1	TTCTCCCACAGAAATGATGA
48357	NDUFA5	GCTAAGCTGTTTCCAGGGTGAC
48358	CCND1	AAGGGAAAGCTTCATTCTCCT
48359	TNFRSF1B	CAGACTGGCTGGCTGCAGTGA
48360	SCG2	TGACTTCTATCCTGTTAACACTGTA
48361	ITPKB	GAACTGCACTACAAGACACTTT
48362	TTN	TCTGAACTGTAAATATTTAAAGA
48363	SHOX	TCTTCCTCTGCTATACCCTATGCA
48364	PPAT	TAATATTTCTCCATCATGGCCT
48365	LAPTM5	CAGCCCTCCTGTGCCTGCTTCCCTGTG
48366	SMAC	ATTTCGAATTCCTGACCTCAAGTGAT
48367	PCLO	CTGCCAAATCCACCTCCTGAGG
48368	NOC4	TGGTAGCAGGAGCTCAGTGTGGTGCTC
48369	NOL3	GTCTGGCTTCTCTCTGGACTGG
48370	DXYS155E	GTAATGTTAACTGATCAGGA
48371	PPP1R12B	GCGTAAGGGCCCACGCCCAGCC
48372	MYCL2	CCAGGCTGGAGGTTAATG
48373	RNF7	ATAAAGTGCAGTTTAAAACCCAAAAAA
48374	CYP1A2	TTCAGCCTCCCAAGCACCTGGG
48375	LAG3	CCGCCACGGCCCTGCTCTGTTCCCTGG
48376	DUSP2	CTTCCTCCCCCGCTTCCTCCTAGCCCTGTG
48377	ZNF198	GCAGTGTCTTTCGGAATTTTTA
48378	PSEN1	GCAACTGGTGAAACTCCGCGC
48379	IL11RA	TGTGTGACCATGTGTCTGTGA
48380	EBF	GCCTTTTTAAGAGGAATC
48381	SLC25A15	ATTCTGTTTGCTTAATTCAGAGTA
48382	TCF2	ACCCGAGCTGGAGTGCAGT
48383	TCF7	TCTCCACTGCTCTCAGCCTCC
48384	PTGIS	GCTGCCCAGGCTAGAGTGCAG
48385	DMRT2	GGTGCTGCCTCACACTCCTGAG
48386	CALCR	CAGAAGTGATTTAGTTGTGGAAA
48387	SIX1	TTAATCTCCTCTTCTCTCCA
48388	USH2A	AAAGATGTTCATTTAATCAT
48389	TES	CATGCCACCACACCCAGCTAATTTTT
48390	FRAT2	GAGAGGGACGTGTAGGGAGAGT
48391	KDR	GGTTTCTGGTTTTAGAAGGTT
48392	SLC6A2	CGCTGCGCTCCCACCTCG
48393	ABCA1	TCAAATTTTTCATCTCTTCA
48394	CTNS	TTACCCAGCATCTGGAGTAC
48395	ETF1	CTCAGCTTAGACTGCGTAAGA
48396	PRex1	CACCAGCCCTGGGCACGAGAT
48397	G6PC	CACCCAGGCTGGAGTGGAGTGGCACG
48398	IQGAP1	GAAAACTGAAGGATATGGGGAA
48399	ODF1	TTCTCCTCTCCTTCCCATGGCC
48400	GFI1	CAGATCCTACCAGGTTGCTCCTCC
48401	ACRV1	AGCATTAGGATGCTCAAACATC
48402	ED1	CAGGCTCAGGAGAAGCCAGTGT
48403	HYAL4	CCATCTATTTCACTGAAGATT
48404	SCO1	GCTTTGCCGCCTCTCCATCGTCTTGGGCC
48405	PRKY	CAGGAGGCGGAGGCTGCAGT

48406	PPT1	AAGAACCGTGTTGGTGCTGCTA
48407	FBXL7	GTAAGTGTTTAATTGTGCAAA
48408	RPS6KA1	GGCATCAACCACCATGGATTTTTAC
48409	CDK2AP1	CTTGTTTTCAAAATGGTTACA
48410	SLC7A5	GTGTCCCAGCCACGCAGGGCCATCCACTG
48411	SPOCK	GCACACACACCCATACCTCTCA
48412	PCDHB11	CGCCCTGGCTGGAGTGCAATGG
48413	SLC22A7	GCTGGTTTTACCATCATCGTGATGCCACT
48414	PEX14	GTCCCCAGCCCCAACCCCACTC
48415	CR1	TCCCGGGTTGACACCATTTT
48416	CCRL1	TTCAAATCCAAGCTCTTTCA
48417	PSEN1	TCTGAACTGGAGTGGAGTAGG
48418	BTC	CAACAACAGAAGGGAAATTTC
48419	DUSP7	CTTTGGGCGTCCACCAGGGCCTCATCC
48420	ZHX1	TCAACTCAAGATGTCTGATT
48421	EYA2	GGGGCCCCACAGCCGAGACGACGTGTC
48422	MAPK10	CTTGACAGAAATGTGGCCATTAAGAAG
48423	SHC1	GCAGCAGCCCCTCTTTCACCTC
48424	MBL2	CACAGTTTAATACCACAGCTT
48425	ASB3	AGTGAAACTACTTAACACAGC
48426	FLG	AAGATCTGATATCTGTAAA
48427	HEPH	CTCCCTCATCCTCCCATCCCAG
48428	DHH	GGGGCAGCTGTGCCTGCTGCCCTCTCT
48429	TAZ	CCGCTTTGGACAGAAAATCACT
48430	NHLH1	CTCTCTCACTGAATGCTGCCTC
48431	HPSE	TCTTCCCAGCTCTCTGCTCTG
48432	CLECSF11	AGCCAAGGGGCCACCTCA
48433	GSTA2	AGAGAAACCTCCAGGAGACTGCTA
48434	BRCA1	ACAGATGGGCTGGAAGTAAGGAAACAT
48435	GADD45B	CCGTGGAGCCGCATCCACTG
48436	SRP	ATACAGTGTCTGGACGCTGCC
48437	GCG	TTGTGTAGCCAAAAATTACA
48438	DLGAP2	TTTGCAGAAGAAATGTTCGTTACCTAC
48439	CSNK1D	AATTGCAGAGAATCAGACTCCTT
48440	CLCA3	GGTACGACATTCTATATTGCA
48441	SPAM1	CCTTTCATCTGTGCTCATACT
48442	CR1	ATGTTAGCCAGGATGGTCTGGATC
48443	PTK2B	ACCCCTGGCTGTACTGCTC
48444	GRIA2	TTGCAGAGGAAAACAGCCAAA
48445	GABPA	CAGCCGGCCCTGGAGTGCGGGCGG
48446	CST3	GGGGCTCTGCCCTCCCTCCT
48447	ADAMTS4	CGCCCAGGCTGGAGTGCAATG
48447	FEZ1	CGCCCAGGCTGGAGTGCAATG
48447	NF2	CGCCCAGGCTGGAGTGCAATG
48447	SH3BP2	CGCCCAGGCTGGAGTGCAATG
48447	SPN	CGCCCAGGCTGGAGTGCAATG
48448	MRPL49	AAAGCGTTGGGATTATAGGCAT
48449	SPON2	AGGATAAAGTCATCCCCAAGGCTCCA
48450	GNE	ACCCCAGGCTGGAGTGCAGTGG
48451	DGKB	ATTGCATTTCAAAAACATGCTA

48452	FGF7	AGGAAGAGGTCAATGACCTAGGAGTA
48453	NIPSNAP1	TTGGAATCTGGAATACAGAATTGGG
48454	ANKRD3	AAAAAATTCTCCCTTTGTAACCT
48455	RAB36	GTGCAACCTCTGCCTCCCAGGT
48456	MNT	GGGCCTGGCGGCCTGTGGGTTTGGG
48457	GHR	AGAATCTCATCTCAGTGAA
48458	FANCF	TCACCCAGTCTGGAGTGCAGT
48459	SIGLEC11	CATGTTTCCCTGGCTGGTCTCGG
48460	CD9	CATGCCGGTCAAAGGAGGCACCAAGT
48461	BENE	CTCCAAGGCTGGAGTGCAGTGACGC
48462	PYCR1	CTCCACCCCTCCAGTGGGTGCGGGAC
48463	PCDHB11	AAAGTGCTGGGATTACAGGCGGCCAGG
48464	CALM3	TGTACAGATGATGACTGCAAA
48465	ALDH3B2	AGGAGCAGAGCCTGCGCATCTGGAG
48466	SIM2	AAACCAGCTCCCATGTGCTGAG
48467	TGFB1	GGTCCAAGCCTCCCCTCCACCA
48468	EGLN3	TCTCTAGATCCACTGTGGTTGGCAGTATG
48469	CSE1L	GAGGCGGAGCGGCGGCAGGAGCGGGTAGTG
48470	SHFM3	GAGCCAGCCCTACCTCAGGCTGG
48471	MLC1	TCAGGTCAGAGCCCAGGAATTCTCACAGGT
48472	DSCR3	ACACTAGCCTTCTTTTGTACTT
48473	RXRA	GGACTGTTTCGTTTCTGCTTCTAGAGA
48474	JTV1	AACTGATTTTAAAGGGTTT
48475	IGF1R	TGCCCAAACCCTTAACTGACAT
48476	HOXC10	TTCCTTCCTTGCTGCATTTCCTCC
48477	REGL	TGGCAGGACACAGAGAGGTAGGT
48478	SORCS3	GTGGTCTCCCTTTTTTCAAAA
48479	SLC7A5	CGGACAGCTGCCCAGACACAT
48480	SYP	CTGGCCTTGGTTCCTCCAGCA
48481	ELK1	TTTATTTCTCAGCCTGCCCTTGGGGAG
48482	CAPNS1	GTCCACGGGTCTCCCCATTCCCACC
48483	HEM1	CTTCATCACTATTCTTAGGATAA
48484	KCNQ2	CAAGATCACAGGTTGATGCTGC
48485	KEL	AGATGCCACAGCACAGAAATATCG
48486	EGFL4	TGACCAGCCTGGCCAATATGGT
48487	GPR81	TGCCTCCCGGGTTCAAGCAATT
48487	PMCHL1	TGCCTCCCGGGTTCAAGCAATT
48487	PPID	TGCCTCCCGGGTTCAAGCAATT
48487	ZNF264	TGCCTCCCGGGTTCAAGCAATT
48488	OGN	AACACAAAATTATCAGTGTT
48489	DXYS155E	CGGGCACGGCCTCCCCACGGCCTGTC
48490	EXTL2	TTTCCAGGTTGTTAATCCAGCT
48491	NUP98	CATTCAGCTAATACAAAGCT
48492	GFRA2	CACAGCTGCTTCCCCAGGCTG
48493	FZD5	TTTAAAGGAAAAAGCAACCAA
48494	ZNF35	GCCCCTTCCTGGATGAAGGAGTCAAAGAATA
48495	TAPBP	GCACATGCCACCACACCCA
48496	FOLH1	TTGTGTGGTATGTCACTCAGAA
48497	SLA2	AGAGAATAAGCCTCCTGGGGGGTCT
48498	COL4A3	CATGTGGTATCTGGAGCATTGTGTATA

48499	TNFRSF13C	AGACACTACAGACCACAGCATTCAG
48500	CD59	CTTTGTTATCTTCCACTGGAAAA
48501	RTN4	GGCAGCAGCTGCAGCATCATCT
48502	IGFBP2	GGTGGGTGCTGGAGGATTTTCCA
48503	CCNF	TGTCTCCCCGGCTGGAGTGCAGT
48504	ITPKB	TAGAAAGAGCCCAGAAGCAGCC
48505	SLC22A12	GCCCAGTCCATCTACCTGGCTGGGATT
48506	SLC7A5	TCCAGCCTGGGGACCCCACT
48507	WBP2	TCTGCTGGTCTGTGCTGGTC
48508	BCL7B	GGGAAGGGAAGGGCTTTTCTCCACAC
48509	GNGT2	CATGCTCAGAGGTGGGAAGGG
48510	TEP1	ATGAGGGAGGGAGAATAAGTCAGTCAT
48511	SLC20A2	GTTTTACCGCTGACTGAACACAACCAA
48512	TSN	TTTTTGGGGGTAAAAAATATAGC
48513	FKRP	GGGGACATCCTGGGTCATCTCA
48514	SULT1C1	GAGGGAGGGGCCAGGCAGC
48515	MADH2	CTGAGTGTCCCAAAGGTTTATTAATAA
48516	DTNA	CCCTAAAATATTCCTATAATACT
48517	IL12RB1	GTTTCACCATGTTGCCCAGGC
48518	CNP	CTGCTATTTCCCAAGCTGGAGTGCAGT
48519	RP2	TTTTCCACGTTGGTCAGGCTGG
48520	EGFL4	GGCAAAGCAGGAACCAAGAGAC
48521	PRDM2	CCCCTCGGCCCCAGCACA
48522	MAP3K11	CCCCAGCCAGGGTTGGAGTCTTAGCCT
48523	BDKRB2	CCAGCAGGGCTGCTGTGAATTTGTG
48524	PRPH	AGGGTCTGAGTTTCACATTTGAACCAA
48525	EPB49	CGATCCTGGCCCTCCACCTGCCT
48526	PTMS	CCCACCCCGCGCGCCTCTGCCGCCT
48527	SLC25A17	CTTTTGTATGTCTCAGTGTT
48528	WTAP	GGGCCTTTTGTATTGCACTCTTGATAT
48529	PAM	CTTGCAGCTGTAAACATATTGGAATGT
48530	TM4SF6	CTCTCTGTTCTGCTGACAGGCAGAGAGTC
48531	SDF2	GCACAATGTTCACAGACATCTGTTGCT
48532	RECQL5	TTGACTGATGCCAGCTCTGTGCCAGACACAT
48533	VDR	AAATGCATCCATTCCTCAGGGACAGA
48534	FUT3	CTGGGCTTCACGGCTGCCAGGA
48535	PSME3	CAGTATAGTGGAAAGACTGA
48536	MSH3	TCACTGCACTCCAGCTTGGGCAACAGA
48537	KHK	TTTGATGGGGTCTTCATTGTCCA
48538	SYP	GCCCCTCCTTCTCCCCTCC
48539	VSNL1	TGTAACTGCAGGATGGGGAAGCAGAAT
48540	MAGEB3	TCTGCTGACACTCCTGCCTGCTGT
48541	ZNF36	GCTCTGAGAAACTCAGCAG
48542	DPP4	AAACTCATTTTTGTTTTCATTATCTCA
48543	GALT	GGAGGCTGAGATAGGATCA
48544	CARKL	CACTTTCCATGGGTTCAGTTATCTGCGGT
48545	NCAM1	TCAGCCGCCGTCCACACTCGCTGCAG
48546	SOX4	TTAGCACGGTCTCCAGACTCAG
48547	SP110	AGGATTATCACACCCTCCATCT
48548	ATM	CCAGTATGGTGAAACCCTGTCT

48549	PEA15	GGGAGGAAGAGGAGGAAGGTTGG
48550	FKBP1B	AGAGTGAGGCAGGAAGGAACTCAAGG
48551	FACL5	CATGCCTGTCTTCAAGATCCCAGT
48552	PTMA	CCAACCCAAACCATGAGAAT
48553	MAML1	GACGACCTGTTAGGGTCTCAGTAT
48554	EPHA3	TACCAGCTTGTATGCAATGGA
48555	SLC16A2	AGTCCAAGGCATTAACCTCA
48556	LPIN2	GCTGTCTGCCCCTTGTCAGGCT
48557	PIK4CB	GTGCAGGGGGAGATGGGTGAT
48558	PDGFRB	CCTCCCTGGCTGCTGGCTGAGC
48559	CTSS	ACCATCTCAGTTCACTGCAACT
48560	PPP2R1A	CTCACTGTCCACCTCCCAACGG
48561	PCSK1	AGTCTGTCTGGCTTTTCTCCTATCT
48562	BAIAP3	CGTCACCCAAGGCTGGTGGTCAGTGTG
48563	MKI67	TCACCCTGGTAAGTACAGTATTTC
48564	GNAZ	GCAGCAAAAACCAATACAACAAAACGA
48565	LU	CTGGTCCCCCCACCTGACGTCTTGC
48566	TNP2	TAGGATGAAGTCAATCTTCTTGC
48567	GPR62	AGGGCAGTATCTGGGTTACAGCCAC
48568	CHRNB1	TCTCTGCCTCTTAACTCCTTCACG
48569	PTPRS	CTCTGTGAGGGACCGGGGGGCCA
48570	DNASE2	TCTGTAACCCCAGCACTTTGG
48571	SLC38A3	AGCTGCCTCCTGAGGTGACAC
48572	SERPINB2	AGAGAACAACCAGATTGAAACA
48573	C7	ATCTCCCTGCAACCTCCGCCT
48574	NHLH1	GGGGAGGCAGGGGTTGGTG
48575	CCR2	GCAACTTGTAAATGTGGTAAA
48576	CYP7A1	TTCTCAGAGATTAAAAAAGGTAGTT
48577	INPP5A	TTCACAGTTTTCAGTTTTTAAT
48578	ITSN2	GGCTGGGGCTGGAGAATGAGAGAC
48579	CAMK2A	AAATCTGCCCAGAGCCTACCCTCA
48580	GAN	GGCTGTAGATGTTGGAGGCTAGGGAG
48581	GPR56	CCATCATTCCTGCCTGGGAATCCTGGA
48582	SIAT7D	TCCACAAAAACATTTAATTTATGGA
48583	RXRA	GCCTACAGGTTGGACCGGGAGGCAGTG
48584	RANBP17	GTCCACTGTCAAGTGTTTTACTATCTCA
48585	ZNF136	GGAAAGGTTTTGTCATCACACAAC
48586	CASP8	CAATGCTCTGGGGTCTT
48587	MYBBP1A	CAGTTCTGGGCTGGGATCCTGGCT
48588	B3GALT3	GGCAAGTGGTTCTTTTTCTCTGAATTACAGGA
48589	NOS1	GTCCCCAAGGATGGAAAGGGAATGT
48590	YES1	TTTAAGGCAATATATAATTGAA
48591	ZNF135	ATCTTTATGGAATCACTGTGGATACTGAC
48592	UBE4A	CTCTGGTATTGCTCATAACTTACCAAG
48593	WNT10B	TACTGCAGCCTGGGCTCCCTCT
48594	NFKBIL2	CGCGCTGTGCCACCAGCTGGGG
48595	PKNOX1	CTGCAACCTCCACCTCTTATGT
48596	UBL1	TGTAAACCCCGGAGCGAGGTT
48597	ABCB9	CGGGTGGGAGGCGGGGAGGAGCAGC
48598	WFS1	CTGTGGGGGCGGCTGTGGGG

48599	MECP2	AGAGGGTGAGTCCTCCAGAACTCTTCCTCCA
48600	BAZ2A	CTCAACCTCTGCCTCTTGGGTT
48601	KCNMA1	TGGGGCAATGGTAGAGTGAGAGG
48602	CD4	ATTGCTGCTGGGGCTCCCCATTTGCTT
48603	COX15	TGTTTATGCAAGAGCTGGTT
48604	FUT1	CCCACAGTGCTGGGATTACCG
48605	CENTD2	TCTCTGTCCTTTCCTCCTGGACA
48606	APBB2	AAAGAGCCCCACCCACAGGATTCCT
48607	AKAP2	GGAAAATGAGATCCGTGTTAGA
48608	NOC4	CTGGGCTGTGAACAGCACTG
48609	BRIP1	TCTGAGTAGCTGGGACTACAGG
48610	BCL2	CGAATCAGCTATTTACTGCC
48611	MAP1A	CCCAGACCCTGCTTTATACCATTC
48612	MECP2	GGGATAGGGGCAGAGGAG
48613	CCR9	GGTGACAGTGTCTCTCCA
48614	AVPR1A	CTGCCTGGATGGCCGCTGT
48615	TCTE1L	GCCTTACAATTCACTCATTCCA
48616	TNFRSF10B	CTGTAAGCATCTGACTCATCTCA
48617	PVRL2	GAGCAGAACAGGGAGGCTAGA
48618	DDOST	TTGGTGGTTTTGTTTTGCTTTG
48619	IL1R1	ACGTCAATAGCAGCCCAGGG
48620	KCNS3	GCCAGCCAGCACTCTGCCTT
48621	SLC24A1	GCTCCACCCTCCAGCATGTT
48622	ARNT2	CCTGCTTGCCCTGCCGCAGGC
48623	DLEC1	GGATTTTATGGAGAGCATGCT
48624	PRKY	AGAGGTTGAGGCTGCAGTGAG
48625	FBXW1B	CCCTTCCTGCAGTATTCATACA
48626	FAT2	CCTCCCTCTGGTCCACTGCCTTT
48627	NRIP1	GACAGTTTTCACCATCTCTTGTA
48628	KCNJ10	TTACACCTCCCAGTGCCCTTCTGAAA
48629	DDEF2	TTTGGAATTTGCCTTCTTGAAC
48630	NOTCH4	AGAACTCCACTGTGGGGATGAAGCGC
48631	CACNG3	GCACCCTTCCGAGGGCCATAGGCGA
48632	NPY2R	CCATTTTAAAGAAGAAGTGGATC
48633	FANCC	CACCTGTGATCCCAGCACTTT
48633	SUV39H2	CACCTGTGATCCCAGCACTTT
48634	FHIT	CTCTGTTCCCGGGTCCCTCAGGCGG
48635	NONO	TGGAGGCAGAGGGCAAGGG
48636	KRTHB6	AACTAATGACTCTGCTGCCTTC
48637	PSCD4	CTCACCCCCTCACACAGGCCCAG
48638	IL1RAPL2	CTCATTTCCAGGCGCCCTTCCCTCTTC
48639	MCF2	TTTTTAAAATCATGTATTTA
48640	ANKH	GCCCGGAGTCCCCGTTCACACTGAG
48641	TOP1	AAGAGGCAGAGTTCTGTGA
48642	NEBL	GCTGAAAACAGCAGCATTTTCAG
48643	ZNF278	GCATCTGTCCTTGCCTAGGTGATTTT
48644	SLC7A6	GCACATTGTAACAGCACAGTGTTTTGTT
48645	ZNF74	GAGTGTTGAGAGTCATTTGAGGT
48646	SS18	TCAGCACTGTGGACACCTCCCTGTGAA
48647	APM1	ATGTTGGCCAGGCTGGTC

48647	BCL10	ATGTTGGCCAGGCTGGTC
48647	CIAS1	ATGTTGGCCAGGCTGGTC
48647	F2RL3	ATGTTGGCCAGGCTGGTC
48647	FEZ1	ATGTTGGCCAGGCTGGTC
48647	G6PC	ATGTTGGCCAGGCTGGTC
48647	IFNAR2	ATGTTGGCCAGGCTGGTC
48647	MEF2A	ATGTTGGCCAGGCTGGTC
48647	NCOA6	ATGTTGGCCAGGCTGGTC
48647	NDRG3	ATGTTGGCCAGGCTGGTC
48647	NQO1	ATGTTGGCCAGGCTGGTC
48647	PRND	ATGTTGGCCAGGCTGGTC
48647	SH3BP2	ATGTTGGCCAGGCTGGTC
48648	KIT	CCACTGCAATCCTGTCTTTCTG
48649	PCDH7	TGTCTAACCCCTTCACTGATTC
48650	GCH1	GAAGGGAGAAGAATTAGTGTA
48651	XT3	TTTCCCTGCTGACCTTCTTCCC
48652	NBEA	TCACCAGGCTGTAAGCAATATCTTGA
48653	CRSP6	CAGCAGCCCTGGATTGCTTTCTCCAA
48654	MCP	GTATAGCAGTTTCTGCTTCA
48655	SNAP23	TCATTTATTCACTTCCGTAGC
48656	COL11A1	CTTTGGTTAATAATAAAATGCCTTTGTATAT
48657	ADCY1	TTGCAGGGCGGCCAGTGCAGTG
48658	ANK1	GGACTCCTGCTAGTCCCCTCTTGGCAT
48659	TMPRSS3	GAGGTTAATCTAGGAATGACTCGTTTAAGG
48660	RNH	CCTGCCCCCTGCCCCACCCCTG
48661	SCA1	TCTCCACTGCCACCCTTTCTACTCA
48662	APOB48R	CTGGGCCTCAGTGTCTTGATG
48663	CACNA1G	CCTGCCTCAGTGGCTCTGGGT
48664	MAN1A1	CAGCGCGCTCAGCCCAGCCTAGGAAAGAGG
48665	CCNG1	TCCACAACCTTGTTCTATGGA
48666	G1P3	ATTGTCCAGGCTAGAGTGCAGTG
48667	RBBP2	GGAGGATCTTAAAGAGACCA
48668	TACC1	GCAGTGAGCCATGATCATGCC
48669	CD80	AGCGCCAGAACCCAGATTTCCT
48670	PTPN11	ACTGGCATTAAAGAGTCATAGAAA
48671	MGAT1	CAGGTGGAGCAGTGACCAGGAC
48672	HADHSC	GGGCATGACATAAGATGTGT
48673	PPT1	TCACAATAGAGCTCAGGGA
48674	RGS6	CATGAGCCCACAGACAGAGCTG
48675	CD2AP	CTTTTTAAAAAATTGTTTGCTTG
48676	CKB	GCCCGGCCCACACCCGACACCAGCCCT
48677	TAPBP	TCCGCCCAGGCTGCAGTGCAGTG
48678	COL19A1	AAAGTTTCAGACTTATCTTT
48679	B4GALT5	TGGAACTGAGGGAGTGAGCTTGG
48680	MAT1A	GGAGGCTGGTCCTATGGCCTCA
48681	IFI16	CTTTGCAGATACTTCATTTTCTT
48682	STS	GAGCATTCTTGGTTTTCCGACA
48683	NCF1	TGCCGTCTGGGCTGGAGCGCAGT
48684	CRTAP	CAGGCTGGAGTGCAATGGCACG
48684	PMCHL1	CAGGCTGGAGTGCAATGGCACG

48684	PTGIS	CAGGCTGGAGTGCAATGGCACG
48684	RAB36	CAGGCTGGAGTGCAATGGCACG
48684	SLC15A1	CAGGCTGGAGTGCAATGGCACG
48685	DSC1	ACTTGCCTCCGGACTGTCTTCCAAAC
48686	LOH11CR2A	ACTTCTGCTCAGGTTTCCCTGGCT
48687	XPR1	TTCTTCTGGGTTCAACCACTTTAG
48688	CLCN7	CATGCCCAGCCCTGCCTTGGTCCCC
48689	SMURF1	ACCATGTCATGGAGTGTA
48690	GATA6	CCCCGGGGGCAACCTGTCGAGCTGG
48691	RAD54L	CTGATCCTGGTTTCCACCTCCAGCCCTGGG
48692	DNMT2	GTGGATGGGGAGGATGGTTGCAC
48693	PCDHB16	TTCCACCCTTCACAATAGCT
48694	PIK3R1	GTTGGGACTCTGGAGAGCGGAGGA
48695	NTRK2	TTCAGTTGAAAAGAGGTGGATTC
48696	ELMO1	GAGCAAAGCCCACTGCCAGTAAGAAG
48697	CNTFR	TTGTATACCCCTCCCCTGAC
48698	RNF4	TCTCCAGTGGTATCTGCCTCCA
48699	OVOL1	GATGAGGCAAGGCTGCCTTCA
48700	PDCL	CACCCAGGCTGGAGTACAATAGCGTGA
48701	USP14	GGCTGAGGCAGGTGGTTCACTGGA
48702	SPAG11	ACTGCCTCTCGGCTGTGCTCCGTGGA
48703	RFXAP	TTATCTTATTGTAATAGATGA
48704	PRLR	ATGCTCAAGAATGTAGTCAG
48705	B4GALT5	CAGCAAGAGAACAGAAATACT
48706	IL8	TTCATTCTCTGTGGTATCCA
48707	CPD	AATGTTTCATTTGACGGTC
48708	DHCR7	TTAAGGGGCCGGTTCAAGAAGGA
48709	C20orf1	GGGAAGAAAAGAGGGAGCAGCTAGGG
48710	DNASE1	GTGACGGCTCACATTTGCCCCAG
48711	SPTLC1	TGCCTGTAATCCCAGCACTTTCAAAGG
48712	CYP26A1	ACTCTAACCTCTCCAGCT
48713	MGAT4B	TTTATGTGCTGTGTTTTTTA
48714	FECH	TTGAGTATTTGAAGTGAATTTGAAA
48715	GPR17	CCTGGTGGGGACGGGGAGGGA
48716	XK	AGGAGAGCTGTAAGGCCATTCTTTA
48717	CML66	TCCAGAACTTTTTAGTATTGT
48718	FAT2	TGGGGTGGGCGACAGACAGGAGGGC
48719	GJB2	AGATGAGCTTTGTCTACCTT
48720	TAL1	TCCTGCCTTTGCCTCCAGAAG
48721	RAD9	GGTTGCCCTGGCTGGGGCCCGG
48722	CTSS	CCAGGAGGTTGAGAATGCAGT
48723	EXO1	GGAGGAGGAGAGTCCCTTCTCG
48724	GABRE	CATCTCCCTCTCCTTGCTGGC
48725	GAS7	CACAGCAAACACATTCTCC
48726	HAL	ACTGTGTATTTTGTACTTATCACTACAC
48727	TNFRSF8	ACAGATGGCAGGATGGGCAC
48728	TM4SF2	TTGGGCCCTGCATGTAGTGTGGGAGGC
48729	AQP6	CCCTGCACCTGCGACCCTCAGGCT
48730	NCOA6	TGCCCTGCTATTTTTTGCATTTT
48731	REL	GACTGAGAATATAATACTGTATTTG

48732	ZNF143	CTGTATCTAAAATATCAAAGGTTCTA
48733	MECP2	ACAGAGGCCTCCTGTGGCCTGCCAG
48734	SPAG1	ACAATCTGCTTTTTATTAGTTG
48735	RARA	GCCCCCACTCTCCTTTCATGTC
48736	PCDH1	GCCCTGTGCCCCCTCCTCCCTGCC
48737	AGL	TACTGGGATTACAAGCATAA
48738	CREB1	TGGTGGCTGGCGCCTGTAATCCCAG
48738	F2RL3	TGGTGGCTGGCGCCTGTAATCCCAG
48739	SF3B3	CAGCTCTTCTCCTGGAATGACTGGCTT
48740	ARNT	AAATGTCCTCATATTTGAGGACC
48741	CCND2	TTATTCTCTCACAGTGTACTCTATA
48742	RCV1	GCACACAAGCCCACAGCACAGCTCC
48743	HM13	TCCAGCCTGGCGACAGAGTG
48744	CDC25C	CCTTTTCCCAACTCCTCATGTCTTC
48745	DNAI2	CTGGCAGGACCTGTGGAGATAGGGAAGG
48746	ALPPL2	GCCCTTGACACCACGCCCTTTGCTTTA
48747	VHL	TGCCGCTGCACTCCAGCCTGGG
48748	NRAS	GGTTTGTTTATAATGTTATCGGCTCT
48749	GABPB1	AGATCCAAAACCAGAATAAGCCA
48750	HSPA5	CACTGTACTCCAGCCCGGCACT
48751	NEDD4L	GGCTGAGAGAATTGTAACATAGC
48752	EPHX1	GCCGTGGGGAGTGGGGGCCAGT
48753	MEN1	TTCACCCTTAACCCAAGGGAGC
48754	NCOA6	GTGTACTGTGTGGTAACTGTGGT
48755	TMOD3	GAGCTAAAGCAGGTCTCCA
48756	ACE	TGAGAAAGAGAATGAGAAGA
48757	MGAT3	GTGGCCCTTATGACTGCCAAGA
48758	RAB5B	GACAGCTCCGTCATGGCACTTTT
48759	NARS	TTATCTTTCTGTCCTTTTAAGTGTACC
48760	PXF	CTGAGGCAGGAGTGTCACCTGCGGGA
48761	ENC1	ATCGCTTTTCTCAGACTCACCA
48762	SRGAP2	CGGACAGAGTGCACAATCGGAGGGA
48763	FGD1	CCGACCCAGCCCTGCCTCCTCAGC
48764	PPARGC1	TACTATACAACAATGTTCTTTT
48765	USP14	TAATCAGTCTTAAGAAAATGTTGACA
48766	TXNRD1	CGGAATTGGCCGCGGAAA
48767	LOXL2	GGTCAACTCCTGTCTTCAG
48768	HTR2A	ACCAAATGCCTTT
48769	SPAG11	ATATTTGTGCTCCTTCACGGGAG
48770	MTMR3	GGCATCCATGTTTTGTGCCTGCCCTCC
48771	TCL1A	CCTGCAAACGCTGCCTGCCCACAC
48772	COG3	TAACACTTTTAACCACTGAG
48773	SURF5	GAGGGCAGGAGCAAGGGAGG
48774	ADH1B	GTCTCAGTTTTCACTGTCGACA
48775	APOL1	TCTCCTGACCTCTTGATCT
48776	MUC3B	CCCGTTCCTTCATCCATCCTGC
48777	MAP1B	CATTGGCTTTTTAAATTTTCCA
48778	LGI1	CTGCAGGTCTCTGTTTTGAAA
48779	CHI3L1	TTCCTAATTCCACAGCTGCTCAATA
48780	SOX18	TCGCTGCCGCTCTGCTCTCTCA

48781	RAB11A	TTCTCTTCTCCCCTAGAAGGCT
48782	GATA2	AGCAGCCTGCCAGCAGTTACTGTGAA
48783	IRAK1	TAGCACAGGCTTCACAGTGATTTT
48784	VAT1	GCTCTGAAAGGCAGTGCTGT
48785	C20orf1	TGAGGAAGAAGACTGCGTGGATTCA
48786	SAS	AACTTTCTTCCTCTCTCTCCA
48787	PGF	TGCCTGGGGGCTTTTGCCACTCC
48788	DES	CCATCCCTGCCTGGTCACAGGCATGC
48789	SLN	CCGAGGGCACCTGTGACCTGCACT
48790	SLC1A4	CCCTGCAGTAAGAAGCGTGTCTGGGTC
48791	TCTE1L	ATGTGGAGAAAATGATGAGAA
48792	EPHB4	GACTGGGTGTGACCAGAGGAAA
48793	MYO1F	GGATACTGCCTTCTCTTTCG
48794	CRMP1	CTGTGTGTGTTCTTCAAGCCAG
48795	NFYA	CGTACTTGCTGTGGCTACTTCT
48796	MYCL1	CCCAATGCTCCATCCCAACCAGGCACCTC
48797	CTBP1	TGCTTAGCTGTCAACAAAAAGA
48798	SEPN1	GGAAGAAGTAGTCCTCTCTTCCT
48799	RBM8A	CTGGTTCCCCTCACCACCCAAC
48800	JUN	GAGGAAGGGGGGTTGCAGTGG
48801	MYO1D	GTGGTGAGAGGATGAGGGGGA
48802	PCDHGA1	GCGGGGCTGCCAGAGAACCCC
48802	PCDHGA10	GCGGGGCTGCCAGAGAACCCC
48802	PCDHGA11	GCGGGGCTGCCAGAGAACCCC
48802	PCDHGA12	GCGGGGCTGCCAGAGAACCCC
48802	PCDHGA2	GCGGGGCTGCCAGAGAACCCC
48802	PCDHGA3	GCGGGGCTGCCAGAGAACCCC
48802	PCDHGA4	GCGGGGCTGCCAGAGAACCCC
48802	PCDHGA5	GCGGGGCTGCCAGAGAACCCC
48802	PCDHGA6	GCGGGGCTGCCAGAGAACCCC
48802	PCDHGA7	GCGGGGCTGCCAGAGAACCCC
48802	PCDHGA8	GCGGGGCTGCCAGAGAACCCC
48802	PCDHGA9	GCGGGGCTGCCAGAGAACCCC
48802	PCDHGB1	GCGGGGCTGCCAGAGAACCCC
48802	PCDHGB2	GCGGGGCTGCCAGAGAACCCC
48802	PCDHGB3	GCGGGGCTGCCAGAGAACCCC
48802	PCDHGB4	GCGGGGCTGCCAGAGAACCCC
48802	PCDHGB5	GCGGGGCTGCCAGAGAACCCC
48802	PCDHGB6	GCGGGGCTGCCAGAGAACCCC
48802	PCDHGB7	GCGGGGCTGCCAGAGAACCCC
48802	PCDHGC3	GCGGGGCTGCCAGAGAACCCC
48802	PCDHGC4	GCGGGGCTGCCAGAGAACCCC
48802	PCDHGC5	GCGGGGCTGCCAGAGAACCCC
48803	ADRBK1	TGGGTGCGACCCCATCTGCC
48804	PTPRN	GCCCAGCCTCTGTCCCTCTTTGCCT
48805	CLOCK	GTTCCTGCAAAGCTGCTGGAGCT
48806	KCNK6	AGACCCTGTCTGAAAGAAAGAG
48807	KIF5B	CTGTACTTTTTGTATTTTTTGT
48808	CSNK1D	CCAGAGTTCAGACCCAGGAAG
48809	SIAT8E	CCTGCAGCTGCTGCTGTGGCTGCC

48810	EZH2	ATTGCCTTCTCACCAGCT
48811	APM1	CCTTGATAAATGCCTCA
48812	RAB27A	TGGCCCATGCCTGGGATCTTCT
48813	P2RY6	CAGATGAGTTTTCTGCTTG
48814	CHD1	CAGGAAGGAATGAAAGAGAGTTCTTTC
48815	ETF1	CTCCAGACTGGCAGTTTCAAGGA
48816	RALBP1	CCTTCTCGGTGCAGATCCCTATGGGGGAGCTG
48817	TAF4	GTAGAGGCCGAGCCCAGCAAAG
48818	TNFRSF18	GCTGGCCCTGATGGGGTGGGG
48819	KLRD1	AGCTAGGACTGCAGGCACCATGT
48820	RAD51L1	CATGGCACTGACAATGGGCACACAGGGA
48821	COL1A2	GTGGGCAAAAGAGAAAAAGAAGGA
48822	PRPS1	AGGCAGGAGCAGGCAGCTCAGCTTGA
48823	FGF12	ATCTGTCACTACACCTGCAGCAC
48824	SFRP4	GCCGACTGGAGTTTGGGGGA
48825	TNFRSF18	TGGCAGCAGAAGTGGGTGCAGGA
48826	TBXA2R	GTGTGCCTGAACCAGTGCCAACCTGCCC
48827	OLFM1	GATGGCTGATTCTGGGTGGTCCTGGAC
48828	SLC6A9	GCTGGCAGAGGTGATGAGCGG
48829	VPS26	CTCAAATTGTGCAACCATGA
48830	IL2RA	CAACTGGACATTGTCTGCGTGGTTCCT
48831	HLCS	ACCATGCCCGGCTAATTTTTGT
48831	INMT	ACCATGCCCGGCTAATTTTTGT
48831	TAT	ACCATGCCCGGCTAATTTTTGT
48832	IL6	CCTCCAGGAGCCCAGCTATGAACTCC
48833	TFCP2	GCTGCTGCTGGTCTGACT
48834	DFFA	CTGAGGCAGGAGAATGGCATGA
48834	GNE	CTGAGGCAGGAGAATGGCATGA
48834	GRAF	CTGAGGCAGGAGAATGGCATGA
48834	KCNA7	CTGAGGCAGGAGAATGGCATGA
48834	VHL	CTGAGGCAGGAGAATGGCATGA
48835	SLC26A4	CTAAGGCAGGAGAATGGCGTGA
48836	MAPRE1	GCTGGAGAGATGTATGTAATA
48837	DNAH9	GGGAACTTGGAGAGGTGTGCCTA
48838	IL9R	TCTCCTGAATCAGGCT
48839	MMP7	GAAGTAATTCAAGAAAGAAATA
48840	GAS1	CTTAAAATGTACAGTGTATTTTA
48841	WEE1	ATAATTACTGGTTTTGTAA
48842	ABCD2	CTGCATCTGTCACAGCAGAAC
48843	BRCA1	AAAACAAAAGGTGATTCTATTC
48844	PPARBP	TTATATGGTGGTAGGGAGCTTATAGC
48845	COL4A3	AATGTACTAATATTTCTGTCAA
48846	VDR	TCCTCCAGGGCCACGTGCCAGGCCCGG
48847	NXF2	TCAGATCACCTGAATTTGTG
48848	PRCC	CCAGGATCTCTTTCCCCAAGGACCCA
48849	OSBP	GAGGATGTGTGGGAAAGCTGGAA
48850	PROK1	GGGAGGCAACTACACACCAACCTGCT
48851	SLC30A4	ACTGCCCTCGAGAACTGGC
48852	SDC2	ATATGTAAACTTTAACTTCC
48853	FTSJ2	GAAAACAGGCTCAGGGTTTC

48854	LDB3	AAATGTTCCTTTAAATGCAGCACACTG
48855	EXO1	CTGATAAGGTGTCAACAGGGTA
48856	DGKI	GGAGGCGGAGCTGGCAGTGAG
48857	TRIM34	GAGAGAAACTCCTACTCTTCT
48858	PRCP	CACTGCAGTCTCCAGCCTGAG
48859	TREM2	GAACACCTGACAACTTCT
48860	ADCY3	GGGACTGTGGAGGGAGCACAG
48861	APPBP2	TTGTTGCCCAGGCTGGGAGGGC
48862	PLAG1	CTCTGCTTCATTACTGCTTCC
48863	C10orf2	GAGGGGAATCGGGGACTTCATGCGAA
48864	LZTFL1	TTTGTCATATCCCCTCTCCTTATTTTTC
48865	BASP1	GGGAGGCAAGCTCAGCAAGA
48866	MAML1	TCTGGCTGCTGCCCCGTCTCCC
48867	FBXW1B	GCCTCTAATTTATATTGCTTTGCA
48868	GCN5L2	CTTGCCCAGCCGTGGTGGCCCCCAGG
48869	CARD4	CTTCCTTCTCAGCACTTT
48870	IL18R1	GTAGTGCTTACAATTTTGTGTACCAA
48871	MGAT2	CACTGCACTCCAGCCTGGGCTACAGAG
48872	KLK4	CTCCTCCCTCAGACCCAGGGGT
48873	HDAC4	TGGACTTTGTTGTTTTTCTTTTT
48874	FBXL3A	ATCTTTGTTTAAACTAGCTTTA
48875	HUNK	CCAGGGCGGCGGCGGGAGAAGC
48876	KLHL1	CTGTTTTTCTAATCATATGTGG
48877	RS1	GACAGGCTGCACATCTCAGTA
48878	ATP7B	CCCAGGGGCTTCAGAAAAGGAGTGG
48879	POLL	CAGCCTTGGTGAGGACAGTGT
48880	SLC31A1	TGAGCCAAGATGGCGCCATTGCACTC
48881	GPR4	GCCCAGGCTGGAGTGCAGTAGTGCA
48882	CDK9	GGCTGAGAACCCTGCGTGAGGACAGGG
48883	CPT1B	CCGAAGGGAGCGGAGCGCAGCCTG
48884	DGCR2	GAACACCGCTGCCACTGTGGCTCCAG
48885	KCNA6	GGCAGCCCCTGGCTGGGCGAGG
48886	CENTD2	CCTCAGCCCCAAGACCCAGC
48887	ENO2	GGCTTACCTGACCTCTTGCTG
48888	POLR2C	AGGTGTCCCTAATTTGAGAAGTAACCT
48889	TEM8	AAATGAACCCTACTTGCT
48890	KRT4	TGTGGGGTGAGAGGATGGGTGATGGGGT
48891	RPP30	GAAGAAGACAAAGAGAGATTGAAAT
48892	KIR3DL2	CTGTTCCACCTCCCCTCAGACTATCTTTC
48893	PLAG1	GTGCTACAAACTTCTCTGTCTCA
48894	KLK4	AGTTGGTTTTTCATTTTTTGT
48895	UBASH3A	CACCGAGTGTCTGCAGCTGGGG
48896	SCA1	AAATGACCACCAAGTACTAC
48897	WSX1	GGCTGGGTAACAGAATGAGACCTTATCT
48898	P2RY6	CTGGCAGCAGGGGCTGCTCCACGAGTG
48899	PML	CCAAGTGCCTCTGGAAGCCTC
48900	ANXA11	TTGTCTTAGTTAATTTTGTGCTGCT
48901	GRIK2	GGCTGATTTCAAATGCAGTCCAGTGAG
48902	TBX2	TTGGGAGCTGCTGGGCTAGGTCCAGA
48903	ATP5J	GGTCAAATTAGGCGAAGAAAAGATGG

48904	CTMP	AGAGCTGCTGGTGAACTCCAT
48905	RAB23	ACTAAAATTACATATTTTAT
48906	TCF7	TTGTATTGTTAATGCATCATC
48907	SOX13	TATTGAGTGCCCACTACGTGCC
48908	EMX2	CAATCAAACACCAAACCGGGG
48909	PLD2	GGGAGGCAGGCATTCCTGAAGGGA
48910	DTNA	GCAAGTCCCTGAGCTGTGCTTCCAGC
48911	RAB4A	GTGCGGCTCCACAGCATGGAATC
48912	TBL2	CTCCTTGCAAAGATGATATGA
48913	PPP1R11	ACTGCCAAACTGCCTGTCCTGGG
48914	SERPIND1	AGGACAGTGTGTGCCATGTCTCCC
48915	PEA15	GGGGTGGGAGGGGAATGCCACA
48916	CARKL	AGTTGGCATCCCTGTAGGGATCCCAG
48917	UBE4A	CACATGCTCTAACTGCTCAACA
48918	GFAP	CTGCTCCCCTCCCTCCTCTGTC
48919	CEP2	CGCTAAGCTCCAGTCGGCGCC
48920	SEL1L	AAACTCATAATGTTGATATAATCA
48921	ETV6	CTGAGGAACCAACAGTCCACCTCAGC
48922	PPP2R5D	TCAAGCCCCATTGGTCCCAGAGTAGCT
48923	KCNG1	TCTGGGAGTTCACGGGAGCCGGAGCTG
48924	HIS1	AGAACAATTAAATTCATTTTAGTTAT
48925	TRIM	ATTTTTCTGATTGTTAAGACTTT
48926	CTRL	CCTCCCCAGCTCAACCCATT
48927	MFAP3	TTGGGGTCGGGAGTGCAGGAGG
48928	TBCD	GAGGGAGGCCGGTGTGGAAA
48929	MEIS1	GGGCCCCCCATGCATAC
48930	LRP6	AAGGATGAGGCAGACCATGTAC
48931	PACE4	CAGTGACGCCTTTCCCCAAAACTCTC
48932	GRIK3	TCTTATATTGCCATTTCTTCCA
48933	SLC21A3	GCCTACATCTTCTTATTCTATTTAGGA
48934	IL1RN	GCCTGTCTCCCCCACCGGGCT
48935	GRIK5	CTCTTCCTCTCTTTTTTGGG
48936	F2RL3	GTTGGCCAGGCTGGTCTCCAACTCCTG
48937	LTB4R	GCTCTGTCATTCAGGCTGG
48938	TAL1	GTTCTGTCACTCAGGCTGG
48939	ARF3	TAGGGCTGGAGGATGGCATTT
48940	PFN2	ATGAGCTATTGAGAGCTGCAGT
48941	IL26	AAGTTGTCACTAATTTGCACATTTTCTGT
48942	DAAM1	AACAAAGCTTGCAAAATATTTTA
48943	PIGA	CTGTCCTTTTAATGTAAGTCACT
48944	TACC1	ATCAGCGGCAGATCTCTCCAG
48945	DDX15	AGTAAATATTCCATTCTGATTTCATA
48946	SEL1L	AGCTTAAACTGAATTTGTATTTCAT
48947	SLC1A4	AGTCATGGACACAGGGCACTGC
48948	NCOA1	TGAGGTGAGAGTGAAGAGACTAG
48949	CALD1	TATGTATGTATGTGCATACA
48950	XT3	CACTCCACTCCAGTCTGGGCGA
48951	VHL	GAGTGAAATTCCATCTCAAAAC
48952	PHB	CCTGCCTGCACCTCCGCGGGCTGACTG
48953	JUP	CCTCCAGGGCCCAGGTTCG

48954	GRLF1	CCCATGGTCGGGACAGTGCCC
48955	SIAT1	TCCTCCAGGCTCTGCCTGGCCTGACCC
48956	DNASE1L1	AACAGGGACAGAAGACTCAC
48957	B4GALT1	TGTCTCTGCCAATCTGCTGGGCTGGTC
48958	F2RL3	AGTCAGGAGAATCGCTTGAACCTG
48959	REN	CAACCATGGACCTGTTGCTA
48960	CEP2	CCTAGCACTTCACCACCTCCTT
48961	SFRP4	CATGTTCCTCTCCATCCTAGTGGCGC
48962	PAM	ATTCTTAGCCTGTGGCAGTAAAGAGAAACT
48963	GCNT3	GAAAGAGAACTTCCTTCTGTACTGTTA
48964	EGFL5	TATGTGTGTCCTCTCTTCCACAC
48965	TM7SF1	CTTACCTCTTTAGGTCACTGATGGTCA
48966	CREB1	GGCGCCTGTAATCCCAGCTACTCAGG
48966	CTMP	GGCGCCTGTAATCCCAGCTACTCAGG
48966	DAPP1	GGCGCCTGTAATCCCAGCTACTCAGG
48966	F2RL3	GGCGCCTGTAATCCCAGCTACTCAGG
48967	IL1RAPL2	GTTTGAAGAAAAAGGTACAAA
48968	CANX	AAACATTCACACCTCTGTCCCTCA
48969	MIPOL1	GAACTCCTGGGCTCAAACAGTC
48970	WEE1	AGCCTTCAATGTACCTGTGTGT
48971	ABCB4	GCCGTCCTTGGAGATAATTGGGTT
48972	HLCS	ACCATGCCATCCAGGCTGGTTTCGA
48973	SRP	GGGTCACAGTGATAGGGCCACCCTGGA
48974	CRSP6	TGTAGCCCAGTCTGGAGTGCAGT
48975	REGL	TCCACACACTTATTGCCATCCTCTCC
48976	BACH2	GTCCAACCCAGCTTCTTGGCATGAGG
48977	DSC3	GATCAATCTTGAAATACT
48978	XPNPEP2	CAGGCCGGGGAAGGAGCCCTCCCTC
48979	PTGS1	TCCAGGTCTTGACTCATGGCAGCTG
48980	ELMO2	TGAGGTTGGCTCTAACATCTCT
48981	SLIT2	GGCAGCTCTGTCTTTGGA
48982	ADARB1	AGTTTACAGCGTCTCTGCCCCCT
48983	PPARGC1	TTCAATCTAAGCATCTTGTCA
48984	TGM1	GGGCTCCCGGAGAGGGAGTCAG
48985	ETV5	ACAAACCTTTTGGTAATGTGCA
48986	CRY2	GTCCTCTGTCCTTGGACCAG
48987	DMPK	GGCCTCGGCCGGCCGCA
48988	MHC2TA	GCGGGAGGATGTTCTGGGACA
48989	XT3	AGGAGTCAGGAGCCACTGTGAG
48990	FBXL11	TCACGTCCTTAACTGTGCTCTC
48991	ADCY1	AACAGCCCATGGAGGGAGGTATTAT
48992	BDP1	TCACTGCAGCCTCTGCCACCC
48993	PCDH12	AGAGCCACACGGTCAAGTTGCAC
48994	SCGB2A2	AACCACACCTTCTCTTTCTTATGTCTT
48995	GPD1	CCTCATGCCACCACATTCGCCAGAAATG
48996	HIP1	CATGGTGTCTCACACGTTTAATCCCA
48997	B4GALT3	ACCAGCTGGTCCCAGATTCGCTGCT
48998	CTSS	TGCAACTTCTGCCTCCCGAGTT
48999	COX6A1	GCTTGTGGCAGGAGATGGCTTA
49000	ESRRBL1	CCAGGGGAACACAAAGCAGGAGACAGC

49001	FCMD	CTCCTCTGCTGCAGCTACTGA
49002	EIF2B5	GCTAGCAACCATGTGCCTCCCATCCT
49003	MGAT1	CATGGCAGGATGGAGAGGACTTGGTGG
49004	CRSP6	ACTCTGTAGCCCAGTCTGGAGTGCAGT
49005	PEA15	CCCTTTTTTGTGGTGTCTAGCATTAA
49006	ADORA3	AGTTCTGAGCTCTGTACTTCCTCT
49007	RAMP3	CTCTATCTGCTACCATCTGTGTT
49008	GJB6	AGTATTTTTATAATGACTGGTCTTCC
49009	ARHGEF12	CTCTCTGCTGTCCAGTAGGCTGCTT
49010	AIPL1	TGGGAGGCGGAGGTTGCAGTGA
49010	HM13	TGGGAGGCGGAGGTTGCAGTGA
49010	KIF3B	TGGGAGGCGGAGGTTGCAGTGA
49010	MAP3K9	TGGGAGGCGGAGGTTGCAGTGA
49010	MS4A2	TGGGAGGCGGAGGTTGCAGTGA
49010	TRPM8	TGGGAGGCGGAGGTTGCAGTGA
49010	ZNF264	TGGGAGGCGGAGGTTGCAGTGA
49011	UBE2H	GGTAGAGCGTGAAATCCAGA
49012	SYK	AACTTGTCACCCAAAGCCTGTCCCAGG
49013	PAX5	CCCTGCACCTCTTTGAGCCTTG
49014	CDC25B	CCCTGCGCCCGGCCCTCCAGCCAGCCTT
49015	LDLR	TTATGCCACTGCTTTCCAGCCT
49016	STAM	TTGTATCCTTTAATTCTTCA
49017	C21orf5	CACCTGTAATCTCAGCACTTT
49017	MTNR1A	CACCTGTAATCTCAGCACTTT
49018	DCLRE1C	CACTTGTAATCCCAGCACTTT
49019	HIS1	AATAGTATTGATATATTTTATG
49020	GART	GCCTCAGCCTCCCAAATAGCTG
49020	TES	GCCTCAGCCTCCCAAATAGCTG
49021	ERBB2IP	ACCCTTTAACAACTCTTTGTAAATTT
49022	ATP11A	GGCCATTCCCCCAGGCCTGTGTC
49023	DNMT3A	TGCTTGCCAAGGCTATGGCCT
49024	APOL1	AGCTCACTGCAAGCTCTGCCT
49024	FUT1	AGCTCACTGCAAGCTCTGCCT
49025	KLRC4	ATAGAGCACAGTCCCTGACATCACACAGCT
49026	PLOD	GAGTTTCTATTAAAGGTCATT
49027	SLC2A8	CTCCAGCCCATGACCCGGGGC
49028	TNFRSF9	AAAGTGCTGGGATTACAGACAT
49029	TLL2	CGCTTGCTCCGCGCCTGAGCCA
49030	MTMR7	GGCATTTAATGCATTTCACACAT
49031	STE	TGCCTAGGCTGGAGGACAGT
49032	CAMK2A	AGACTTCTCAGATTATTGTGAG
49033	USH3A	GGTACCCCATTTACTCAGCCT
49034	IL16	CACTGCCTGATGGACCTGTCA
49035	PCSK1	CCTGCTCTTCTACC
49036	SCD	TTCACTACCCTGATTCTTGATTCCTGG
49037	SH3BP2	GCTCACTGCCACCTCCGCCTCT
49038	NUP62	CCCCAGGGCTCCCTAAAGAG
49039	ABCD2	CTTTCTGCTTGCTCTTCTGTTTGCGG
49040	GPR81	GAGGTCAGGAGTTCTAGACCA
49041	PCDHA2	CTTCACAGATGTACTGATGCTATGCCA

49042	FZD10	TCCCTGCAGAGGAAAGACAGGA
49043	EGR3	TATATTGTGTTTGCTGACAATCA
49044	GDF3	TCTTTTAATAAAACTACCTA
49045	LAMA4	CCTAAAACTACCTT
49046	LY9	GGGCCTGGACCAGCTGTCCTTTACACC
49047	AOC3	GCCACCCAGCCAGGAGGGGCTGT
49048	CDC25C	CAGCCAACTCTTTCTCTCTGG
49049	CLASP2	AACAGCCCTGTCCACTGTGAG
49050	OAS2	GTTGCACTTGCCACCCAAGGA
49051	ARCN1	CGAACTCCTGAGCTCAGGCAAT
49052	PPID	AGGCTGGAGTGCGGTGGCGCAA
49053	GAS7	ACTTTCTCCCTTTCTCTACC
49054	GDF5	ACCATTTCTCCTCACCTGGGCC
49055	RAD1	AAAGCGCTGGGATTATAGGTCT
49056	DMRT2	CCGACGGAATTTCTCTCCCA
49057	PCDHB13	AACCTATATCCTATGATACAACTCTAA
49058	GPR3	GAAACCAGAGCCTTCTCCCCA
49059	STXBP1	AGAAATTTGGGTGTTTTTAAAA
49060	DCX	GGCCCCCATAAACCAGCTGGAGC
49061	PRCC	GGAAATCAGCCGTAGCCATG
49062	PIP5K1A	TCTTTAAACTCCTCCTCTCTTG
49063	HELLS	TTAGTAAATGTCTTTTTCCCTCCTTTC
49064	PAFAH1B3	GGGTAGGAGTGGGCGTGGCGGAGCCAG
49065	GCA	CAGCCTCACCTGCAGCTGCGCCTC
49066	GCNT2	ATGGGGCCTTTGGTAAGGGAAGTTTAG
49067	MPP1	TTCCAGTGTTCCAGCTTCTGCGAG
49068	RBMX	AAACTATTCTATCATAACTACCCA
49069	ATP7B	CCCCTGTTTGCTTTAGAGCC
49070	DNAH9	CACCCCACTCCAGCCTCGAGGAA
49071	TCF12	CAGGACCTGCTAGAAGTGGCCG
49072	TGFBR3	AAGATGCAAATGCATGGCAAAT
49073	CD68	CTGGAAGTGGAGGTTGCAGTG
49074	GFAP	GCTGGGAGGGATAGAGGGGGGCTGC
49075	TCN1	AGCAGGAGAGTTAATAACCTC
49076	TGFB1	GCACCTTGGGCACTGTTGAAGTGCCTT
49077	ADAM19	ATGCCTCACAGAGCTTCCTGT
49078	CPNE3	ACTTTCACACCTCATATAATCAGATCTA
49079	IGF2R	TTCTATGCCTTTAGTCAGGAATGGCT
49080	MNDA	TTGTTAGCTTTCATTTCTCAGC
49081	RET	CTGCAGCACACCCCACAGCCAA
49082	CSPG3	TTGCCAGGCTGATTGAAGCAGGCCT
49083	ASK	AGGCAGGCTGATCACGAGGTCA
49084	TTC3	GAAGAATTGCTGTGAAGA
49085	SORCS1	TCCAGCTGAATCTCAAACAGAAGGCA
49086	ENTPD6	GCTGCTTGAGTGACGTCTCTGTCGTGT
49087	EGLN1	CCCACTTTCCACATAGTGTTCG
49088	CTH	GGTTCAGCATGCAGGAAAAAGACGCCTC
49089	LIG4	ATCTTAAAAATCTATGCCTA
49090	CD68	CTGAGGCAGAGCTGCTTGAACC
49091	TRO	CTGTTTGCTGTTCCTGCTTTAT

49092	VHL	CGCCTGTAATCCCAGTACTTTG
49093	GALNT7	ATCATTACAATGAAAGGAATTC
49094	PFKFB2	TCCCTCCAGCCCTGGCCTCCT
49095	PLCB2	GGCCCCATCAGGCCTGCCCTGAG
49096	FMOD	GTTCTTCCCAATGATCTGAGGTCA
49097	SPON2	GTTATTGCTGCTCCAGGAGA
49098	STE	TGAATTCCTGGGCTCAAGCTTC
49099	PXF	CTTTCCTTTCTCAAAATAATGTTATA
49100	APOA4	GGGAGGCATCCAGTGTGGCAAGA
49101	PDE6D	CAGGGCAGGGGACAGGTCTCAAGT
49102	MS4A6A	CCAGAAACATTTCCCAGAAAATGTTTC
49103	CH25H	AGCAACTAACTTATTGCTTTAT
49104	PSG3	CATGCTCAGGAAGTTTCTGGATC
49105	NFATC1	CTCACACCTGGTACCACTCA
49106	ADAM12	CAGAAAAATATGTACCAAGAA
49107	MASP1	CTAGTTTGCAGTGCTGGGCA
49108	ATP7B	GCCTGTCTGTGTGCATCATGTT
49109	SPO11	CTGATTGCCAGAGGCTTTTCA
49110	AP2B1	AAGCTGACAGAAGTTATACCTTA
49111	PCDH12	GTGACTCGGGGCCAGGCCCAGG
49112	SLC21A3	ATTTCAGAAAAGCAGTCTAG
49113	KCNN2	CACGGCGAAGGTCTGCAGCTTCACTCCTG
49114	PAM	ATGAACCATTCACAGTGCAAGAAGGAT
49115	BUB1B	TACCATTGCTGTTCTACTTTTTG
49116	NDRG1	CTCTTTTAAACAGGCAAAACAGGAAG
49117	APOBEC1	CTGTGGCTTGGAGATGATAGGA
49118	SGPL1	CAAGGGGATTCCAGCCTTCAGAA
49119	AQP6	TGGGTGGACAGGAGGAAGGA
49120	DAAM2	TTGTCCAGAGTTCCTGTGTAGCACGGG
49121	TNFSF9	TGTGTGCCACCACACTTGGCTAA
49122	PTGER3	TACATACATCAATTAAACTTATGTCC
49123	EP300	ACCCCCACCGCGGTCCAGCAGCC
49124	GARP	CAGCCCAGGACACCTTTCTCTGCCGCC
49125	TCL1A	AGTGGTCCACATCCCGGGA
49126	JPH2	TCTGCATCTGCATCTGAGCTTCT
49127	NCOA6IP	AAGTGCTGGAATTACAGGCGT
49128	PCTK1	CCAAACACCCCACCATTGGCC
49129	PRKAB1	GACAGTGTTAACCGTGAAAA
49130	CTNNA2	CTGTTTGCATGTAAGATGAGATGAGA
49131	TAPBP	GCTCTAGGACAGTGGTTCTCAAAATTTT
49132	SMG1	TCAAATTCACTTTTATTTCA
49133	AOX1	CTGCTATCACCTTCCTCTTGTCA
49134	UGDH	GCTCACTGCAAGCTCTGCTTCC
49135	USP14	CTGAGGTGGGAGAATTGCTTGA
49136	NDUFA10	CCTGTGGTTTCAGCGTGCCGCT
49137	PRDM2	ACAAGCATGAAGTGCTGTGGCTG
49138	LRP8	GAAGTCAGGAAAAGCCTTTCAG
49139	MAP3K7	AGCCTAACAGAACAGGAGGTATCA
49140	PPP1R3A	GGCCTGTCTTTAAGCAATGCTTT
49141	CRHR2	TCCAGGCCTGGCTTCCTCTCTT

49142	ZNF148	GCAGCTTGGAAATTCAAGCACGTGAT
49143	SF3A1	GGTAAGAGTAGCTGGGTTTT
49144	TEM7	TAAATTGAGAGATAAACAATGA
49145	MOCS2	GAAACTTTCAGTAGATGAAGTCTCA
49146	ALG6	GTTGTCTACACAAAATAAATGTATA
49147	AXUD1	CCCTGCCTGGGCTTTGGTGCA
49148	WNT5A	GCCCCGCGCACAGGATCCCAG
49149	BDNF	GGAATTCCTACCGCTGGGA
49150	COG8	TGGGCAGCCCGCATCATCCAGCAC
49151	ITPR2	AAGATAAAAATCTCTTA
49152	CARD10	GGACCTGGGCCTGTTCTGCTCCTAGGAG
49153	C6	GTAGACACACAAAAAATGAA
49154	CLN6	CCCTGCCCTCCTCTGCACCTGACCA
49155	EPHA2	TAGAAAATGACTTATTTCTGCTCT
49156	PSMA5	CCCCGCGTAGCCGCTGCCTCCTCCTACC
49157	CXorf6	ACATATTTGAAAATTTTGTAA
49158	G2A	CCAGCACTGTGGCAGCGCCC
49159	EFG1	GCTTCTGTTATATTCAAAG
49160	MGAT5	GTCTCCTCCCCACCTTGCAA
49161	B3GALT5	GCTGCGCTTCATCATGGAGTCATAGAA
49162	EYA2	CCAGATCAAGGCTGTG
49163	ITGAL	CACTGCCTCTCCCTGGCCCTCAG
49164	BRCA1	TGAAGTCTCCCTTGGAAATCTGCCA
49165	BENE	AAGCTCCAATTATTGGTCCCCAAAAGC
49166	SCNN1G	GTGCACAGGGGACCCTCTGCCCCA
49167	NRP2	GGATCCCCAACCCTGAGCACTCTT
49168	E2F3	GGGAGGGAGAGGGAGCTTTGTGTTAAGTGCCT
49169	COL10A1	ACTGAGGGTTTCAAAATTCGACTA
49170	P2RY6	GAGTCCTGGCCCTGCTGCTTGC
49171	PLAG1	TTTAGCTAATGAAAAAGTGTTT
49172	ARHGEF6	GCACAGCCATTTAGATATAACATCCTT
49173	NR4A2	AGAGACACGGGCTCAAGGAACCCA
49174	PCOLCE2	TGAGAGGGAGCGCGCGGGCAGC
49175	NID	TCTCTGTTGCTGTGCTGGTCTTTAGC
49176	BCL7A	GTTGCTGCTGTATTTTCCCCCCACTTC
49177	PRDM2	TAAATGTTAACACTCATGAA
49178	MYH9	CTTCCTCTGCTGCATCCCC
49179	FMOD	TGCAGTTACTCTGGGCTCCCAT
49180	EGFL3	CTGCGGGCTCACCAGGCTGCTGGCTC
49181	Rgr	GCCTCGGTTGGCTCCTCTGGAACA
49182	CD209	GAGTAGCTGGAATTACAGGCAGGCGCC
49183	VIPR1	GCCAGCGCCACTCTGCCAGGCTCCCGGCC
49184	TNFRSF1A	AGTGGGTGGTTTGCGAGGATGAGGGAC
49185	GDF5	CTGCCCGTCTGCTGATGTGACCA
49186	DSC2	TGGGTCTGTAGGTTGTTGCAGTGA
49187	AMBP	TGGGATATACCAAGGCAGAGGAG
49188	SLC21A2	CGAGGAGTAGAGAGGCAGA
49189	EPHB2	GCAGCCTGGCCCTCCTGGTGC
49190	TNR	CCTCCTCAACCTTCACCTCCTT
49191	CAPN3	CAGTTGCTTCCTTTCCTTGAAGGTA

49192	YWHAB	CATCTGTTTGTCCATCTGCTGAAA
49193	ARSD	TCCAGCCTGGGCCACATAGCAAGACC
49194	CACNA1A	CACATGGCGCACCGGCAGTATTCCGTAA
49195	SSTR1	GAGAATGAGAAGGGAAGGCCGGGT
49196	F2R	CACTGCACGCCGGAGGCCCCTTCCTCG
49197	SOX10	CAGGGGCTGAGAGTAGCTTTGA
49198	ADAR	ATTCTATGCTCTCTGTACTTTT
49199	PCDHB9	TTTACCTCCCTTTATTTGGTGCA
49200	GPR85	CCACAAACAAAACTCTTCG
49201	RANBP2L1	TAATCATATTTAAATATATTTCA
49202	ADAM11	TAGAAAATATAGGTTCCTA
49203	IL1F5	GACATCATCTCTGATTGTCCTCA
49204	DAPP1	TAAATTGAGAAAGGGTGATAA
49205	OPCML	CCATCCAATTATCTACCCACCTGTCT
49206	TNFAIP2	TCTCACTGTTGACCCTTTGGCCTCTG
49207	PCDH15	GTCATCTGTTTTCTGATAAGAAC
49208	PCDH9	TCTCCAGAGATCTCTCCATTGTGCA
49209	CD28	CCAGCCTGGGCGACAGAGTGA
49209	SCAP2	CCAGCCTGGGCGACAGAGTGA
49210	CAPNS1	ACAAGCTTTTGTTCTCTCAGTACTTG
49211	DMRT2	CCTTCATCTGCCATCACTCGTGTC
49212	GALR1	GAGTCGGAGGCGCCAGCCCACTGGG
49213	RAI2	CAGAGCTGAGTGATGGACGACCT
49214	PPM1D	AGCAGTTTTATCCTGGCCTTGTACTTG
49215	DPEP1	AGGGTTCCCGGAGCTCCGGGAA
49216	LETM1	CCTTGCAGTGTTGCAGGCTCAGGCC
49217	VHL	ATCCTCCTGAGTAGCTGGGATT
49218	EGLN1	GTTTTAAAAATGAGTTTTTG
49219	ANK1	CTCCTGAGGACTTCTGCGGCTGCAG
49220	ALDH3B2	CAGAACATGCCAGGTGTCCTCA
49221	BNC	CCCCAAAACAGCATTTTCAG
49222	DGKG	CTCAGCAGGCGCACGTTGGTTT
49223	ASCL1	CAACCTGCATCTTTAGTGCTTTCT
49224	PCLO	TGCCAGGAAGCAGCACAGA
49225	NHLH1	CCTCTTATCTGCCCTGGAGCC
49226	STE	TGCCTAGGCTGGAGGACAGTGG
49227	HD	CTCCTGTTTCTCATCCTAGCTTT
49228	DLX4	GATCCTGGTGGCTGCGCTTTTTGCTA
49229	FST	AAGCACTCCGGATCTTGCAACTGATCTGCC
49230	LANCL1	TAGGCTTCTTAGTTTTAAAAGGA
49231	CDK5	CCCCCGCCTCCAGGCTGG
49232	IGFBP5	TTTTAATTTCTTGATTTCA
49233	PRPF18	GGAGCGGGAAACTGGAGCTTAAA
49234	TMEPAI	CCGTGGGGTGGAGCATGGTG
49235	ZNF35	TTACGAATGTTTATAAGCTTTCCA
49236	TMP21	TCCTGGGTTCCCTTGTGTGATC
49237	PLA2G2D	GGACCTGGGAGGCAGAGGTTTC
49238	TAL1	GCCATCATTGCTGTCTGCAGCC
49239	FANCF	TGGTCTCAAACACCTGACCTTG
49240	IGF1	TGGACTCAAACTCCTGACCTTG

49241	SDC1	CGGGGGTGGGGAAAGGGGTC
49242	XKRY	TCCGATTTCCTGTTATCACCAGAG
49243	LGR6	TTGGCCTTCCTCAGCTTCACCTT
49244	BSN	GGCCCAGTGCACTCACTTCACAGT
49245	MPO	GGGCCTGTTGCCCTTTCTGTACCA
49246	ADH5	GTCTGCTTCTGTGATATTATCTTTAA
49247	HMGA1	TCTGAGCGCCTCTGCTCTCTCCC
49248	TERF1	GACTGTGCTCACTACCTGGGTG
49249	ROR1	GCCGCCGCCGCCGCCTCAG
49250	PFKL	CTCCTGCCCTCTCCTTGCCCTGCC
49251	MMP14	ACCTCTGAACTCTGACCTCAG
49252	XCL1	CTTTACACATCAGTCACA
49253	SLC2A3	GCCTGTAATGGTGAGACTTTGG
49254	IDH3B	GGATTGTTAGGATGGAGCCCAG
49255	SCN3A	AAGAATTGTAATGGCTACAGTTTCAGT
49256	TCF2	AGAGAGCTAGGGCTGGAGGGA
49257	PARK2	TCATTTTGCAACTTGGAGATT
49258	FZD3	CTTCCAGGCCCTCCTGTAGTGAGTTGA
49259	PITPN	TGGAACCAGATGTCTTGTTACAG
49260	SIGLEC11	GCCTGTGGTCTCAGCACTTTG
49261	CCNF	CTCTCTTTGTGCTGAATTTCTGGGCC
49262	LIF	TCTGGCAGAAGTTTCCAGAAGGA
49263	DUSP1	GGGGCAGAAGAGAAAGGACTCAG
49264	EIF5A2	TGGAATTGTTGCACTTTCAGCC
49265	NR3C2	GTTTCCCTGTGTTGTTCCACACCC
49266	KIF5C	GGAAAGGCAGAGGGTGGAGGGA
49267	ADAM20	CAGAGGGAGGAGCCAGACCAGC
49268	NFKB2	CCAAGCCCAACTCCGGATCTCGCTCTC
49269	NEDD4	ATCAAGTTAAACACAATTCATT
49270	UBE2I	TCCAGCCCAGTGCGAGACAGC
49271	AK2	TGTCTGTCTATAGCTTGGA
49272	FUS1	TTCAGGATCAGTCAAGGGA
49273	SIRPB2	TGAACAGAGCAGGCTTCTGAGGTC
49274	KHK	GAGACAGACCTGGATTCAAATCTGCCA
49275	XRCC2	AAAGTGCTAGGATTACAGGCCC
49276	PCDH12	TGATCGGCGTTTGGACATCTCA
49277	ITCH	TCCCAAGAATCAGAGGTTATATA
49278	HYAL1	TTGCCCAAGGTTGCACAGCAAGA
49279	PRKAR2A	CTTCTGAAGGCCCATTCATTAGA
49280	NCOA4	AAATGCTGTTTATTCATGCTGAGGTGA
49281	MCL1	CTCAGAGTTTAAAAGCTACTGA
49282	NEU3	ACCCAATTTCCATAGATGCAAATG
49283	EIF2AK3	TATTTTTATAATGCAGAAGAAGGAA
49284	CNTN1	TACAACACACATGATGACTGAGGC
49285	LRRC2	GAGCCCATGGGCTGTTTGAATTTGGGA
49286	KCND2	AAACTTCTGGTGTGGCCAGGT
49287	STX7	GAACATCAACCATGTCTTACACTCC
49288	APM1	CGGGGAAAGCCAACTCCATCT
49289	NQO1	CAGAGAAGGTAAAAGACTGA
49290	SOX11	ATCTTTATACTCTTTTACTGTGTGG

49291	PMM1	GTGCCCCAGGCCACAGCTGCT
49292	DACH	ATGGTTTCCATGCTTTTGT
49293	CLTCL1	AGGGGACGCAATGGGAGGCAGG
49294	CA14	CCCTGCACCCCTTCCTGGGA
49295	PACSIN1	GGTTCTGCAAGGAACCAGGGCT
49296	GRAF	CAGAAGGCCAAGATCCTTGCTTT
49297	PABPN1	TTTTCTGTTTTGAGTGTCTT
49298	IL1R1	GGCAGGAGAATTGCTTGAACCGG
49299	VHL	CCAAACATAAGCCACCAGCC
49300	PRPS2	AGGAACCTGCATTGTCATTCTCTG
49301	ITK	CACAGCTGGCAGTCAAGCCACA
49302	BRF1	CTGCCTCTGGCCGCGGCCTGTGGGATGGT
49303	FCRH1	ACCAAACTTGGCCATTTTTTGT
49304	LAMC2	GCTGTCACTCTGTGCCTTTCTACA
49305	SLC21A3	GCTAGCAATCAGCGAGACTCCATGGG
49306	DLL3	CTCTTATCGTTTTGAGCTACCT
49307	SNK	AGCATGACCCGGGTGGCGGGA
49308	NRCAM	AGTTCCTCTCTCTTTTGTAATTT
49309	B3GALT3	GCTGCTGCTGTTATGAGTTTCTC
49310	PFKFB3	CCTCCTGCTCCCAGGGAGCTCCAGGGC
49311	NFYA	GTGGATGTTGGCTTCACTCCTG
49312	DRP2	GATGGGAGAAGGGGAGGCATGA
49313	FGF1	GCTTCTCCAACACTGAAGTG
49314	TGM7	TGGCTCCACCTCTGTCCTCTCTC
49315	CXCL16	CATCCAGGCTGGAGTGCAGTGG
49316	CDH1	GCATGAGCTGCTGTGCCCAGCC
49317	EGR1	CCCTGCAGCTCCAGCCCCGGGCTG
49318	CAPON	GAGCATGGAATTGGAATGTGTCACA
49319	EHD3	CTGTCTCTTGTCAAGTGGGACCT
49320	RIG	TTGTCTGACTTCTACTCTGTCA
49321	PTPN7	GTGATTCCAAGATCATCCTTCACCC
49322	PDGFB	GAAACCAGCTCGTGGGCTGGG
49323	GPR1	AGCAGGAGAATCACTTGAACCTG
49324	CLASP1	GTTATGGGGTTGGAGTGCCGACGGG
49325	CORO2B	CCTCTAACCTCCTGACCTCA
49326	ADRBK1	AGCAAGGAGGCTGGCTGGGGCC
49327	GNPI	GGTCAGTAACAAGTGCAATGGA
49328	ADAM11	GGGCACTTCCTCCACAGTCCCCCA
49329	GTF2F1	TGCAGTGAACTATGATGGTGCC
49330	CKTSF1B1	CTTCTCAGCCTCCTAGCCA
49331	PIM1	ATAGCTGCTGCCCTAGTTTTCTT
49332	ADAM33	CTGGAGCCTGGCTGGCCTCTG
49333	ATP5G2	AAATGTTCGCCTGCTCCAAGTT
49334	PVALB	TGACTGCCCCTGGTCTTCCACC
49335	ATP7A	TGCAGCCCAGGCTGGAGTGCAGTG
49336	IL16	GGACATGAAACTCCACCTT
49337	DAPP1	GCTGCCCTTCCATGATGTTGCC
49338	GDF2	CGGCCGCCTGCAGTCTCCTCT
49339	RS1	CTCCACCCTCTGCCTTGCAATACGCA
49340	NESH	GTGACTGCCCCACAGAGATAA

49341	ZNF76	AACACCCTTCTGGCCCTCAGTCTGTTC
49342	MCM6	TAAGGCCCACGTGGGACAGTCTAATA
49343	PNUTL2	CCATGATCAAGCGTTTCCTGGA
49344	GGT1	CCTCCAGGAATCGGTGTCTCTATCAG
49345	RAB26	CCCGGCCTGGCCACAGGTG
49346	ELL	CCACTGCCTCCTCCCTGGCTGCAGCCT
49347	KRT18	TAAAAAGTTCAGAGTTCATTGG
49348	PTN	TAATTGAGTCAAAGGCAGGATCAG
49349	PTP4A2	TTCATAAGGAATAAACAAGTTG
49350	UROS	TGTTGTCATTGCTCCTGCAGCCT
49351	MAP3K7IP1	ACTATTTCCCACATGTTCTCTGCCTTC
49352	MLLT2	GACCCCTGGCTCTATAAGCTGAAT
49353	CRHR1	AGCCCCCAAAGAGCTGTGGCTGGG
49354	SLC22A7	CCCTGGATAGGAAGCCACTGAGTCTG
49355	CRY2	TCTGCTGCTGGCTCTCTTCCCT
49356	DAP3	TGCTGGACCCAGTAAGATGAGGA
49357	ECE1	AGCCTCCAGGGCATTGCTCAG
49358	LGALS3BP	CCCTCACTGCAGGCTCCCCTCCTC
49359	ZNF143	TTCCATTCCTGATACACTGTACA
49360	RHD	CAGCCTATACTTCCCTTTTTGA
49361	ADORA1	TGGAAGGAGAGAGGTTGAGGA
49362	DDOST	GGAGGCAGAGCTTGCAGTGA
49363	CMRF35	TCCCTGGGTCCAGGAGTGTAGAATATG
49364	TCEA1	TTTGCAGAAGAACACTGTTGTA
49365	GRP58	ATGGAAATACCAGGACCAG
49366	PLGL	GAACCCATGGATACAGAGGGCCAACTG
49367	SLC7A8	TCCCTGCCTTGGTCCCGCCAACACA
49368	IL20RA	GTAAAAAATATTTCCCAAAGA
49369	GNAI1	TTTGCGGACAGCGTCTCCCTCGACT
49370	EGLN2	GTGGCAGTGGTGAGGCCAGTGCT
49371	LZTS1	ACCTGCTCTGTCCCCAAAGGA
49372	ABCB8	AGGGCTGGGGCTCAGCCTGGG
49373	ASB1	AGCCTCCAGGCGCATGCTGTC
49374	WBSCR1	TTTTTCCTTTGCTTTCTCTTTA
49375	PHKA2	TTCCTCTTCGTTCACCTTGGCTCAT
49376	FZD3	ACCTGACTTATGGAGCACTTGTA
49377	SLC13A3	GGAAAGGGACAGATAGCTTTCCAA
49378	GCH1	AATTCAAGTTCAACAGACTTCA
49379	EPHA3	TCTCACTGCCCTCTGCACC
49380	FMR1	GGCTAAAATGTTTTCAGCTAGG
49381	CALCB	GTAATTTGTTATGACAGCCCT
49382	CACNA1D	CTGCTTCTCCCATGTACCAGGG
49383	SLC9A6	CTGTGTACACATCTCCAAGCAA
49384	AKAP2	AACAAAATGTGCTAGCCACTGGGGA
49385	HNF4A	GCTTCAAGGAGTATGCAGGGAGCTGG
49386	FZD4	AGCAGGTTGCAGCTTGGA
49387	MTR	TTTGCAGACGTTATGATCTTGCT
49388	GCNT1	AGGATGTCACCTGGAATCAGCAC
49389	F3	GATGGGGTTTCACCATCTTGGCCAG
49390	SFRP1	GCCAAGGGAGGCGGATTTCCC

49391	MAP1B	CACAAACCCAGCCTGGGGAG
49392	CARD15	CAAATGTCTTCCTGGATTAT
49393	TAF5	GTACAGCCACCCACTGACATCTG
49394	ARHGEF12	GCTTTTACCAACAGCATTTTAG
49395	ST7	AGGCTCTCGCACACCTCT
49396	PKIA	TGTTACTGCTGTGTTATTTACAC
49397	LTC4S	TCTTCCTCTCCTGGGCC
49398	CCNG1	GTAGTGGAATTATGTTTATGA
49399	ATP11A	AGTCACCATGTACCTCTGACA
49400	NT5C2	TCCATGAAAGGTACGTCTGAAA
49401	ITPR2	AACTTCAGAAAGGAACAGGAAA
49402	STAC	TGCTTCTTCCTTCAGAAAGTAGAGG
49403	PTK2B	CTCTGGGCTATGGACACAGGGTGACGGT
49404	CSNK1G2	CACTTCCTTCATGTAAGA
49405	ADCY1	CCTGGCTGGGGCCCTGCTGTCAA
49406	ADAM19	GGCTTCTCCAGCCTTTCTCCCTCACA
49407	DXYS155E	TTAGAGATCCATCTTTCTCCA
49408	NTRK2	CTTTTGAATCAATCTGGCTTCT
49409	TDG	CATGCCTGTAATCCAACATTG
49410	TACSTD2	ATCGGTTCTCCCCTTCCCGGCT
49411	XYLB	TTCCTTTTTCCTTCCTCTTTAT
49412	CASP8	CTTCCCTTGCTGGAAAACCCA
49413	CNTN2	ACAGTCCCTCCAGGGTTTGGGC
49414	NR2E3	GAGAAATGGGGAGAATAAGCCAGAAA
49415	HLF	TGGCCAGACTATTCCCTAGGACAAGGA
49416	BVES	TAGATATATTATTGTTTTAACTTAAC
49417	SEL1L	CACCTAAGGCTGGATGGGAAAGTGCAG
49418	HBE1	GCCTTGAGAGAAAGCCTTCT
49419	PPAT	CCCCAAACCTTTGTTTATGTA
49420	ABCC11	CATATTCTCTGATTCTGGGAA
49421	ATP1A2	TGAAAGGGATGGCCACAAGTT
49422	MYD88	CCGATATTTGCCATTCTTCC
49423	CNTN2	CTGGCTCTCTGGTCCTTGTT
49424	SERPIND1	TCTCCACCAGGCCCCTCATCT
49425	DAZL	GTGACTTCTTCCCTAAAATGTAGAAA
49426	ALCAM	TGGTTTGCCTTTTATGTAAATTTTTTAC
49427	USP14	CCCCAAATCTTGGCTGGGCACG
49428	WHSC1	TTTCCAATGCTGAATGCC
49429	LZTR1	CTGAGTATTCTGTCACAGACA
49430	HMG20A	ACCATCCTGTCTTCTCAGCATCTCCT
49431	PTPRN	GGGGCACGCCTGCCCAGCCTCGC
49432	MAFF	GGGCTGACCCCTGCCTTTGATTGTCATTCTC
49433	SOCS4	TGTCTTTTTAAATGGTCCATTTTC
49434	RGS3	CCTGCAGCTGCCCCAAGCCAT
49435	GNAO1	CACTGGCGGCCCTAAGCCACTCCCGC
49436	GLO1	CTGCAGTTCAGCCATGGCA
49437	GATA6	GCAACAACACTTTACTACCTA
49438	ELK1	TTCTCTGTTTTCTGTCAGTCCCCCAGT
49439	ALOX15	AGTGGTGCCATCACCACGGCTCACTG
49440	MYBL1	TGAACAACATGGAACTGATGATT

49441	DGCR2	TGCCTGACGGACCCTGTTGCCTGCTCC
49442	HOXC11	TTTCCCAAGCGTTTCTTTCCACCTGGA
49443	GNAZ	CCTGCACACAGCTGCTCAGCACCATTTC
49444	IRTA2	GAACCATGGCTTTTCATGCTTCC
49445	RGL	CTCATAACACCATCACACTCTTC
49446	MAPRE3	TTTTCCAGAGCTGACAGCACGGGC
49447	PRG2	TCTCCTGGGCATGGCCTCCCCTCCTCT
49448	FBLN1	GAGGAAGATGGACCTGGACA
49449	TAP2	TCCCAAGGTGGTCGTAGTGGTG
49450	APM1	GTGATAATTTTCTGTGTTCT
49451	S100A2	CTGCCACCTGGTCTGCCACAG
49452	PPP2CA	CCAGCCTCAACAGCCGCCAGAAG
49453	SLC22A1L	GCCTCCTGCTTGGATCTCTCCTGGGTC
49454	SECTM1	GGGCCCTTTGATGTCTTCATCTG
49455	PRKY	GAATATGGAACTCAGGAGGCGG
49456	PYGO2	GGCCCAGGAGTGTGGCTGCA
49457	RAI3	GCTCTGTCACCCAGGCTTGAGTGCAGT
49458	SNAP23	TTCTCTCTAAAGCAGGGCTTA
49459	AHR	CCGCCCAAACTGGAGTGCAGTG
49460	CHST5	CCTGTAATCCCAGCATTTTGAGAGGC
49460	CPT2	CCTGTAATCCCAGCATTTTGAGAGGC
49461	GRAF	CCCAAGTAGCTGGGACTGCAGG
49462	ATP1A1	CCATCATCTGTTGCCCATATT
49463	FSTL3	TCCAGCCCCCAGGCAGTGCCTT
49464	XRCC3	GGTACCTGGTCCCCACTGCTGAGCTG
49465	CPNE6	GACACTCCCTCAGCCT
49466	NSEP1	CCCGCAGCTGCCGCAGCCGGCC
49467	DNASE1	GCTCACATTTGCCCCAGGG
49468	ADRA2B	CTGGGCCCTCCTTTCCCCC
49469	WHSC1	TGTGTGAAAAAATACCCTCTG
49470	AK3	CCCAGTGAGAGCGGAGGGTGCC
49471	GSTM1	TGCCCAGGCTGTGCAGCGCAGCTG
49471	GSTM2	TGCCCAGGCTGTGCAGCGCAGCTG
49471	GSTM4	TGCCCAGGCTGTGCAGCGCAGCTG
49472	GALNT7	ATCGCTTGAACCCAGGAGGCAG
49472	INPP5B	ATCGCTTGAACCCAGGAGGCAG
49472	MOG	ATCGCTTGAACCCAGGAGGCAG
49473	IFNAR2	TGTCTCTGCATCCTAACTTGCTGCCTT
49474	NRG1	AGCAATTGTATTACTTCCTCTG
49475	TM4SF6	TCCAAATTGAGGCATTTATTA
49476	RARB	CTGCTGCTTAGTTTTTGGACTGA
49477	NRCAM	AGGCATAAACAATGTGTATTGCAGTGC
49478	USH2A	AAACTCATAAAGATGTTCATTTAATCA
49479	HTR1E	AGAAATGCTGTGGCCCTTCCCTTTAC
49480	RAD52	GTTGCCCACATTAAGCACTGT
49481	BDKRB2	CCAAGCTTTTGTGATTGTAT
49482	CDH10	CCCGTTTTCTTCGGTTCCCTGCTGT
49483	ATF5	GAAGCAGCTGGGAGCTTGGAA
49484	AVPR1A	CCGGCAGCTGCTCTTTGTC
49485	UGDH	GGCTCACTGCAAGCTCTGCTTC

49486	PSMB8	TGGCGCCGCCTTCCCCTACA
49487	EPHB1	AGGGGGACCAGAGGTTGACCACTGTGG
49488	FLRT2	TGTCTTATGAAAATTGCCAAACA
49489	GRIN2C	TGGGCTTTTGCTGTCCTCTTCTCA
49490	MBD3	CCCATCTCCCTAGAAGAGCCC
49491	KIF3B	GGCCCAAACTCAGAACTGTTCC
49492	BAP1	CCAACATGCCACCATGTTGACAT
49493	ARHGEF6	GAGCCCAGGAGGTCAAGGCTGC
49494	SCML2	ACCAGTACCTCTCAGCTTACT
49495	EDG8	GTGCTCTGTCACCCAGGCTGGAGTGC
49496	A1BG	TCACCCAGGCTGGAGTGCAGT
49496	AASS	TCACCCAGGCTGGAGTGCAGT
49496	APAF1	TCACCCAGGCTGGAGTGCAGT
49496	AXL	TCACCCAGGCTGGAGTGCAGT
49496	CMAR	TCACCCAGGCTGGAGTGCAGT
49496	CSNK2A2	TCACCCAGGCTGGAGTGCAGT
49496	EEF2K	TCACCCAGGCTGGAGTGCAGT
49496	EIF2S3	TCACCCAGGCTGGAGTGCAGT
49496	FCAR	TCACCCAGGCTGGAGTGCAGT
49496	FSHPRH1	TCACCCAGGCTGGAGTGCAGT
49496	HUNK	TCACCCAGGCTGGAGTGCAGT
49496	ICAM1	TCACCCAGGCTGGAGTGCAGT
49496	MEFV	TCACCCAGGCTGGAGTGCAGT
49496	NEU3	TCACCCAGGCTGGAGTGCAGT
49496	PCDHB16	TCACCCAGGCTGGAGTGCAGT
49496	PSMD9	TCACCCAGGCTGGAGTGCAGT
49496	TERF2	TCACCCAGGCTGGAGTGCAGT
49496	TNFRSF9	TCACCCAGGCTGGAGTGCAGT
49496	TUFT1	TCACCCAGGCTGGAGTGCAGT
49496	VHL	TCACCCAGGCTGGAGTGCAGT
49496	ZNF264	TCACCCAGGCTGGAGTGCAGT
49497	DNASE2	GCAGCTATGATCCCGCT
49498	ADAMTS9	ATACTAGCTCACATCTGAAGTCAA
49499	PEA15	GCCCAGCCTAGCGTGCCCTGCCCCTCT
49500	TNFRSF6	TCTCAGGCATCAAAAGCATTTTG
49501	DAAM2	GGGGAGCAATGATGGAGGGAGCCCCTGAGA
49502	NXF2	TGAGGGGAAGTGTAGCTCCCAG
49503	PAFAH1B1	ATGTTAGAGACAAACACAAA
49504	GAS7	TTGGGAAGCTTTCAGTGCTGCT
49505	NXF5	CTCAGAGTGCCTTCTCCATCCCAG
49506	SDC1	GGCCAGGTTCTCCGTTAGCTCCTGT
49507	LAMC2	TCCAGCCTGGGGAACAGAGCAAGACTGTCTCA
49508	SIAT1	AGACCCAGGGCTCTGCACTCTCA
49509	CTNNB1	CGGCCCCGGGAGCGGAGAGCGAG
49510	MPL	TCACCCAGGCTGCAGTGCAATG
49511	GATA2	CAGCCTGCACCCTCTTCTCTTCTGG
49512	CHS1	GGAGAGGGGGAGTGCGCGGCGGC
49513	COX11	TTTTCATTTTCTGTGTTCTAAATAGAA
49514	TSC1	CGCCTGTAGGCTGGAGGGACTGTG
49515	MSL3L1	CACTTGTGAGCAAATTGAGTTA

49516	GCA	CGCCTGTGCTTTTTCTCCCAGCACTG
49517	SPON2	CCCGTCTGCTCTCAGCCTCCTCCTCC
49518	COG3	ATCTGAAAACTACCACACCATAT
49519	MCC	AGGGGTTTCTTCAAGAGCTGAGAAAC
49520	FANCD2	GCTTGTAATCCTAGCACTTTTTGAGGC
49521	LENG4	AAGCTTCCCATTTCACAAAGGGGAAACTGA
49522	PSEN1	ACTTGCCCCAGATGCCTCCTCTGTCC
49523	FAAH	AGTCTGGACCTCCATCCCTGCT
49524	MSL3L1	CCAGGTGTGATGATGTGCACCTATA
49525	CLASP2	ACCAGGTCTCTCAAAAGAAAGGACA
49526	NIPSNAP1	TCCTGTCTCCCCTAATTGACATTCTA
49527	ITCH	TGCAGGGGGTGGGGGTTGGGGAAGA
49528	CPSF4	GTGCCTGACAGTGTTTAAGGTG
49529	CMAR	CGCTGTCACCCAGGCTGGAGTGCAGTG
49530	EXTL1	ATGGGCCTCAGTCTTCCCATCT
49531	USP7	AGCTAGCAAGTCTTGTGTTT
49532	JRK	GTGATCCCAGCTCACTGCAGCC
49533	KIR2DL3	AGAAAACACACTCCTTTGCTT
49533	KIR2DL4	AGAAAACACACTCCTTTGCTT
49533	KIR2DS2	AGAAAACACACTCCTTTGCTT
49533	KIR3DL2	AGAAAACACACTCCTTTGCTT
49534	SLC4A1	TTCCCCACTCTGCTCCCAGCCCC
49535	PTGIS	TGCTGCCCAGGCTAGAGTGCAG
49536	CHAT	CATCCCTGCACCAGGACTCACCAAGA
49537	MAP2K1	GCTGGGCATACTTTCTCTCTAGG
49538	HAGH	GCCGGTGTTTTGCAGTCCTGGGCA
49539	FGF12	CCAGTAAATCCACCCAAGGAGAG
49540	GNE	CCAAGGTGCTGGATTACAGGT
49541	MAD	AATCAGCTTTGTAACTGTTTTCA
49542	GAB2	CATTCCCCTTTCAGCTCCCATGA
49543	NFE2L1	TTTTTCTCCTCTGTCCCGAGGT
49544	GUCY1B2	GCCATCCTGAAACTCTTTGGAG
49545	MAGP2	TAGCCTGGCTTTCTTGCT
49546	SORBS1	CCTTCCTATGTATGACGAAAC
49547	KLHL3	CTGACCTCATTTTCTGCTATG
49548	SSPN	CCAGCAAAAGATCTACATTCTTGC
49549	ADCY9	CACACACACTTGCATTCATGAATCT
49550	SALL2	CCTGCCTCTCCGTCTTGT
49551	FZD4	AGGAATAGACTCAGGGATTTCACCAG
49552	ACVR1	CCTCGCCCTCATGAATAGCTG
49553	ZNF10	CATGTGTTACAAAAGCATGATAA
49554	MUC4	GGCCTCGGGAAGCCCCATCCA
49555	NCOA6	TGTCACCGAGGCTGGAGTGCAG
49556	EGLN2	TTGCCTCTGTCCTGCCTGGTGTGGAG
49557	MEOX1	ATGGAGGAAAAATGACTAA
49558	CD68	TGAGCCAAGATCGCTCCCACTG
49559	LAMC2	GAGTCCTGGAATTTGGACAAGTG
49560	MTNR1A	CCACAACCAACACCACAAACCTTTCA
49561	GALT	TTGATGCATGGGCCTCAGTCACA
49562	ARSB	CGCAAATGAAGGGAGCAGACAGTGATT

49563	SLC29A1	TCTGTGTATGTGTCTGTGTGTCTGCGTC
49564	FOXF2	GGTGTGAAAAAAGCAGACAAGTTGT
49565	SIL	CTGCCTCCTGGGTTCAAGCGAT
49566	CENTD2	GTTCCCGTGTCTGTCTGTCTTG
49567	PIK3C2B	CTGTTATCCTTCCATCATGACT
49568	VPS41	GACGTAGGTTGTGGTGAGCTGA
49569	IL4	TTGGTCTGATTTCACAGGA
49570	CREB1	AAGTACAGTGTTAGATGTGCACAAG
49571	SLC9A6	TCATTAAAAAAGTTATAGCCT
49572	PCLO	CCAATGGCAACCAAGACCAAAGCCA
49573	RGS3	TCATGCCAGGCTGACGGGTCCAGTG
49574	TFDP1	TCATTTTTCTTCTCTGGGAAGGTGAA
49575	GSTM1	GCTGCCCAGGCTGTGCAGC
49575	GSTM2	GCTGCCCAGGCTGTGCAGC
49575	GSTM4	GCTGCCCAGGCTGTGCAGC
49576	LEP	AGCTGGACCTCAGCCCTGGGTG
49577	GPC5	TAACACCTGATTTGTATTCTA
49578	MADD	CCAATGGCCCACGAAATCTGCTA
49579	SLC1A3	ATTTCTTATTTGAAAGTGTTTT
49580	TUFT1	GACCTCAGGTGATCCACCCACCTCG
49581	CLECSF11	GCACACACAATGGTGCCTG
49582	LTBP2	GTGGCAACTACCTGGAAATGGCCTCCAGT
49583	FCMD	AGAATTCTTAGGCAACCTTCATACCTT
49584	ADAMTS4	CCCTAGACGGCCTCAGTCCCTCCCA
49585	FZD3	TTATTTGTCTGGTAAGCATTTT
49586	ADAM19	CTCTGCCTCAAGGCTTGGTTCCTGGA
49587	LY64	CCTAGCCTGTGATGGCGTTTGACGTC
49588	CLDN14	ATGAGACTCGAGGTTTTCTG
49589	PCDH11X	GGAAATTTAAAATTTATGGAA
49589	PCDH11Y	GGAAATTTAAAATTTATGGAA
49590	EDARADD	CAGAAGCAGGTTGCAGTG
49591	HMG20A	CAGGCTGGAGTGCGGTGGCTATTCACA
49592	HTR6	AAATAGCCACACTGTGTCCT
49593	IL17BR	AGATGAAGCTGCAAAGGGTT
49594	BSN	AATTGAGAAACTGGATAGAT
49595	JUP	CGGGGTGTAACTTCCTGCTGCAC
49596	PTK2B	CGGATGGGAGAAACCAGAGA
49597	NIPSNAP1	TTCCCTCACCCTGTATCCTGTCT
49598	CD2AP	TTGCTTGCACTATAGGAGTCATAAAAG
49599	RAG1	TAACATTTACACAGTGCTTTTTACCA
49600	EZH1	GCGGCTCGGGATGGAGGCTGGA
49601	BTG2	TCCTGCTCTCCTTGGGATGATGGCTGG
49602	RELA	TTCTGGTGGGGTGTGTTCCA
49603	FLRT2	CCAATGCCAAGGCAAAAAGAAC
49604	NFYA	TACAGGACAGAAACCACT
49605	CALML3	CCCTCAGCCCCCGCCAGGATTCCCGCA
49606	FCAR	TCTGTCACCCAGGCTGAAGTGC
49607	CHAC	TTTTCTTTCTTGGTTTTTGTCCAAGAT
49608	G2A	CCTGTGCACTGAGCCCACCAGCCACAG
49609	TP53	CACATCTGCATTTTCACCCCAC

49610	ALOX15	TCTTCCTCTTTCTTCATTC
49611	PDE4A	CCCTCATTCTCATTCCTGGGCAG
49612	CNR1	GTGGCCAAACAACAGTCTTCA
49613	ALPP	GCGCCCCGCTGATCTTTGCTTCA
49614	OSR1	CTCTTTGACTAGGTCCCAGGATCC
49615	IL18	CTGGGCAACAACAGCAAAACTCCATCT
49616	BAPX1	TGTGTGTCAGAGCTAGGGTGGGGG
49617	COX11	GCTTCAAAGCTGCACAGAGTCT
49618	SMAC	CACCCCACTCTGTACAGCTGCT
49619	PSMC4	CCCAGGCCACACAGAGGCCGGCT
49620	OCRL	GCTGTCTTAGGGAAGAAATG
49621	SIAT7D	CTCATCATCCTGTGCTCCGTGGTCT
49622	PDGFB	CACCTACTGCACTTTCCCCCTTC
49623	MAD2L2	ATGGCTGCCCTGATTCCAAGTGCTCTTATCG
49624	RP42	CAGAGGCAATAAAAGCTGCAGTGA
49625	TGFBR1	CTGGGGTGAGGCAGCGGC
49626	SLC38A2	AGTCTTCAGTATTAAAACCACT
49627	FBXL5	GTTAAATTATGCAAAACAACTGA
49628	EXT2	CACTGCGGAGCCTGAGCGC
49629	NDRG2	CCCTAAATTCTCCTCCTCCCCCA
49630	GAN	CTGACCCAAGAGCACCATAAC
49631	MAP3K7IP2	ACCAAAACCCAAAGATCAAAG
49632	SLC4A7	TGAGTATTGAGAAGCCACA
49633	CLASP2	GACTTATACCTTTAATAACAAGCAATT
49634	AXL	AAAACTCCTGACCTCAAGTGAT
49635	CD47	GGGAGAAGAAACAAGAAAAGTA
49636	ARHGEF7	GCGGCTGGAGACGTTTGATGCA
49637	ARNT	GGGGTGAGGATAAGGGGTGG
49638	SLC18A1	GTGTGTTCCTACCTTTTCTGAACCT
49639	IL10RA	AGCTTGTCACTGGAAGATCTTAAGGTA
49640	ITPKB	CCTCTCCAGGGCTGCTCAGGCAAGG
49641	DBN1	GAAACCTGGGCTGGAGTGAGGT
49642	OGDH	CCAGGAGGCCGGGGGGGAGCAGGAGGAG
49643	NFYC	TCCTGCTCTTCCTGGACT
49644	IFNAR2	CCTGGCTGGCCCTGTGATATTTCTGTG
49645	JTB	CTTTCAGATCATTAATGAGCAGA
49646	FAT2	TGCATTCTCATACCTGCCCACA
49647	GRIN2B	GAGACTTGGAAATGGGAGAC
49648	MAP3K9	TGCCTTGGGGTCACTAAAGGG
49649	CRH	ACAGAAGTCACTCAATTGTT
49650	EGR3	AGGGACTGAAGGCGGAGCCCA
49651	PI3	CCATTCTTCCTCCCATTCA
49652	NIF3L1	CTGTCCTGGAAAAGGCCT
49653	CD209	AAAGTGCTGGGATTACAGGCCTGAGCC
49653	RAB36	AAAGTGCTGGGATTACAGGCCTGAGCC
49654	EMS1	GTCACCCAGAGCACAGGAGCTGCCATG
49655	CPO	TGCCACTGGTCGGCACTTTG
49656	SPTLC1	TGGCCAACATGCTGAAACCTCGTCTCT
49657	SMP1	GAGCACAACCTCTTTCCCCA
49658	LGMN	TTAGAAAATATGATGATTTTTGATTGC

49659	ATP6IP1	AGTGCCGGGCAGGAGCATGGGGTG
49660	LMO7	AACTATGCCACAGTCTGGATGTGTTT
49661	QDPR	TCTGTCTTCTTTAATCAAATCACA
49662	BENE	GCGATCTCCACTCACTGCAGGC
49663	HUNK	AACCCCTGATGCATTTTCCTTGAGAGC
49664	CLCA3	AACTGGAGACCCTGTCAAATATGAC
49665	ENIGMA	GTGCTGGCCACACCAGCCCC
49666	VMD2	ACAGCCTGAATCAAATGGTTAGCTTA
49667	DHFR	CCTGTAATCCCAGCGCTTTGG
49667	MAP3K9	CCTGTAATCCCAGCGCTTTGG
49667	RAD51L1	CCTGTAATCCCAGCGCTTTGG
49667	SLC28A2	CCTGTAATCCCAGCGCTTTGG
49667	TRIM14	CCTGTAATCCCAGCGCTTTGG
49668	SLC17A5	CCTGTAGTCCCAGCACTTTGG
49668	UBE2B	CCTGTAGTCCCAGCACTTTGG
49669	ZNF148	GGATTTCTGAAGCCTATGAAAGGTAGAAA
49670	HUNK	TCCCTGGCAGGCAGCCTTGCCA
49671	KCNE1L	TTCGCCTCATCTGAGGCC
49672	ZNF202	TCACTGGAGTGCACCTGCCTCTACCTC
49673	KCNK6	ACTTAGCCACGTCTGGCCTGTGT
49674	MAGEA10	TCAGGGGACAGGGAGAGCAAGAGGTCAAGA
49675	ITSN2	CTATCCTTATTCGAGTAGCACTTT
49676	SUFU	CACAGCCCAGCAGGAGGGAG
49677	GOSR2	GAAAGAGAGAGGGGGGCCCAG
49678	TM6SF2	CCCTAGGCTTTTCCTTGTGGACA
49679	KRT14	CCAGCCCCGCTCAGGCCTAGGAG
49680	RAD23A	GACAGCTGTCCCCCCGTCCTCCTCC
49681	RAB7	GTCTGATCAGGCTGAGTTTTGTATGTA
49682	TEC	TTCATTTCCCCCTGAACATCAAATATG
49683	COL1A2	ATTTTCATCTTCTTCCATGGTTCCA
49684	NXF2	TCCTGGAGGCCTCATTCTCAT
49685	MYBPC1	CTGCTTTGAAATCTGGTTGA
49686	GPR81	CACAGGACCCGCATCCTGGGTGA
49687	AQP6	TTCAGTGGCCTCATCAGCAGCTCTCAACA
49688	p100	CACCCAGGCTGGCCGCCAGCTGG
49689	HIP1	CCATCTCTACTAAAAATACCAAAAAT
49690	MX1	GGCCGCACTCCAGCACTGCGCAG
49691	SLC2A4	GGGAGAGCCAGCTCTCTCTA
49692	PXN	AAACCCCTTCTTTACTTCC
49693	CASP7	TTCTCCAGGATTTTAATTTCAGGA
49694	FGFR2	AAGGTGTTTCATTTTGGTGTGC
49695	BCL7B	GCTGGAAGGCTGGCGTAGGACT
49696	RAD54L	CTCTGGGAGAAAATCATCAAGAA
49697	PPEF2	ACCGCAAAGTCCGCCTCCCAGG
49698	IL1R1	GGGAGACGGAGGTTGCAGTGAG
49699	JMJ	AATCTTTCTAACATTCCATCT
49700	SPTBN2	TCTCTTCTGCTGTTTAATTCCA
49701	TSTA3	TCCAGTGGGGCCCCCATTCACGTT
49702	PPARGC1	TAGAAGCTGAACTTACTGCTT
49703	RAD52	AGCTCTCTCCACAACCTCTTGGGCCCAAG

49704	PTGER2	CTGTTTAATCATAGTTAC
49705	OGT	TCTTCCAGCAAGGAACGCACCGAAA
49706	DLEC1	TTGCCCAGGGATTAGGAGCAGCTCTT
49707	ZIC3	CTGGATTTAATCATCCCTGCCCTA
49708	LZTS1	CGGTGGTAGAGAGAGATAAAAG
49709	CALB2	ATGGAAAGGTCCTGCTGTGGAAA
49710	LPP	GGAGGCTGAGACAGGAGGATTGCCTGA
49711	CASP2	AGCTCACTGCAAGCTCCAACTCCCG
49712	OSR1	CCAGGAGGGAGAAAAGAAGAT
49713	G2A	ATGTCAGTGAGCACCATGCTGGAG
49714	Z39IG	CTGGAAGAAAGGACAGAAGTA
49715	ARRB2	GGAGAGGGCGGGCAGCGCCGCGGC
49716	CDC7L1	AGGCAAAGAGAAAAGGACCCAAGA
49717	VDR	CAAGCCTGTAATCCCAGCTACTC
49718	RBL2	CCAGTGTCCTTAGAACATTTTA
49719	FUT7	GAAGGCCTGGCTGGAAGAGGGTG
49720	RPP30	TTGCTCAGGCTGGAGTACAGTGGCATA
49721	CLN2	GGAACTCTCACTCTTGCTCAA
49722	CTF1	ACCACAGCCGGCTAATTTTTTAT
49723	VANGL2	CAACTGGCCCTCCTGTCCCTCACCCC
49724	MEST	GCTCAGTAATTCCTGTTACTT
49725	APOL1	CTCTGCCTCCCGTGTTCAAGCGATTC
49726	SLC10A1	CATCCAGCAAGAACTGCACAAGA
49727	MALT1	GCCATTTCCACCCTCCAGTCATTTC
49728	TDE1	CCACTGGAACTCACAAAGGTCTCCTTCACC
49729	RFC1	ACTTATGAAGACATTCTTTC
49730	AQP5	GCCGCATCCACCTCCTCCGCC
49731	AMFR	CAGACCTGCATTGAACAGTCCTGTGG
49732	GPR50	GAGCAACATGGGGCCCACCCTA
49733	ZNF278	TCTCCACCACCCATTCTCCCAATGGTC
49734	ADAMTS3	AAATGTTCACAACCACAATGCATCTG
49735	FOXE1	TCCAGCGCGTGCCAGCCTGGG
49736	AICDA	TTCATTTGAGTTAACAGTGG
49737	MMP15	CTGGGGCAGGGTGTTTAGAATTTTC
49738	MFAP2	TGCAGCCCTGGGGGTTGCAG
49739	GAPD	GAAGAGAGAGACCCTCACTGCTGGG
49740	KCNS2	GCTGCCTCTTGTGCCTCTGGCACAGCC
49741	F7	AGACTATTCCCCACCTGCTT
49742	PDE4A	CCTGTTCCTGGTTCCCGCTT
49743	GABRB3	TTGCAGTTATGTTATCATTCTT
49744	SOX18	CAGGACCTGTTGGCAGAGTTGCCA
49745	FGFR1	AACACAAAGTGTATAAATCTGAGTA
49746	C4orf1	AGAAATGTTTAGTTACTGAATTGAA
49747	PPID	AGCTTCCCAAGTAGCTGGGATT
49748	LIF	TTGGGAGCTCTGTGCCAGGCCCACCT
49749	WDR4	GTGAACTTGTTTCAGGAAGTGTGAGCACG
49750	SUFU	ATGTCGGCAGCTGTGCCTCTACTGCCC
49751	RASD1	GAAAGAGAACGGGCCAAGACTGGGA
49752	WASF3	TTGCAGTATTACCAATGCTGTTGT
49753	ATRN	CGGAGGAAAGGCAGTCCTG

49754	SRC	GCCCCTGGCCCCGCCTGCCTGC
49755	SLC20A2	CACCTTGCAGTGGCCTTTCCTTGTCA
49756	SMAC	TGCCTCCTGTGGTCTCAGGCT
49757	GJB2	TTCTATGCCTGTCTTAA
49758	HRH1	GAGGCTGAGGTGGGCAGATCA
49759	FACL2	GTTTTAAATCTTCTGTCTCCCTGCTTTT
49760	RBP4	TCTCAGTCTTCAGCTCTATTTATCTT
49761	OAS2	TTGCCTTCTTGGACTTCTTGAA
49762	SLC13A1	ATTGTTGTTCCAGAGAATT
49763	IL16	AATAGAAACATTGAAGATGAACAT
49764	JPH2	CCAGGTGGCCAGGGGGCAGGGTGGGAA
49765	EPHB6	AGCCGGGCTCCAACAGCCTCT
49766	RARRES3	CCACAAACAAGAGGAGCACCAGACCTC
49767	WBP2	CTTCCCGGGCCCTGCCAGACCCTGC
49768	Z39IG	GAAGTAGCTCTGGCTGTGATG
49769	TIMP3	CCTCCTCCTCTTGCTCCTCCAGC
49770	HOXB9	GCACACCAAATTTGGCAAAACAGCCCT
49771	EN1	CCCATAATCCTGCATTTCTCT
49772	ACK1	CGGAAGGCGGCAGAGGCTGGGAGGCGG
49773	CADPS	TTACCAATTTCTGTCAACTACCA
49774	GPR23	TTTAAAAAACTTCGTTGTTTTT
49775	SGPL1	TGGAAGAGGAAGATGCCTAGCA
49776	RAC2	CTGGAGGCCTCCTGAGGCCAG
49777	MYCL2	TGTTACAGCAGGACACTCTGGAC
49778	TAPBP	AGTAGCTGCTGGATGTTGACG
49779	PAM	CTGTGTATTTAATTGTAAACTGTACT
49780	SURF6	GGTCTCATTCCTTTCTGTTCCC
49781	ILK	GGTCCTTGCCTGAACTCCAG
49782	LUZP1	TTCCCCTCTGCTCTGGCCTGTGTGCC
49783	HDGF	CTCCACACAGTGCTCAAGGCCAGCTT
49784	ZNF42	TCTTACTAGGAGGAGATGGAGTGT
49785	MAPK4	TGGGCTGCGTTCACCCTCACACCACAC
49786	Rgr	ATCTGGAGAGGCTCACTGGGGT
49787	CRTAP	CCAACAGCCCAGGCTGTTGATACCTCA
49788	APM1	CAGGCTGGAGTACAGTGACA
49789	POU2AF1	GGGATTACAGGTGCATGCCACC
49789	TES	GGGATTACAGGTGCATGCCACC
49790	BCKDHA	ATTCAGGACTAGAAGCCCCTCTGGGCA
49791	CD1D	CTGGGCTTGGGAATTGGCTGG
49792	GALT	ATCAGATCCTGGGCACATT
49793	GFAP	TCCTCTTGAAGATGCTGAA
49794	RECK	GACCACTTTTTAGAAAGATAAT
49795	ATP1B3	TTCTAGAATTATGAGACCACCTT
49796	PDCL	TGCAGTGAACCATGATTGCACTCCAAC
49797	MKI67	CTGGCTCCCCTCCTGGG
49798	AK1	GCCTGTATTCCCAGCTACTCATGA
49799	CRTAP	GCGTGAGCCACCATGCCCGGCC
49800	CXCL16	GTGTGAGCCACCATGCCTGGCC
49801	ZNF80	CTCCCACACGGACACCTTCTG
49802	TCF20	AAAATCAAGGGATGACCCTCCTC

49803	KRT6B	CTTGTCCTCCCCTGGCCTCCAGTCT
49804	SDC4	CCACAGCACCTGCTAAGTTTGTATTTA
49805	FBXL11	CACGTCCTTAACTGTGCTCTCCCTCC
49806	CXorf6	TGTGAGCCCAGATGAAGACTG
49807	TRPC1	GGCAGCAGTGGGAACGACTCAT
49808	PCDHB9	TCCTGTAATCCCAGCACTTTG
49809	GPR4	AGCCCCCGTGGGCCAGGGGAA
49810	MMP19	AAAATGCAAGAAAACAGCATGGCCAG
49811	ZNF22	TAGGGCTTTTTGCAGCTTTTTGA
49812	CARKL	TGGAAGGCAGGTTGCGAGAAGGAGAGG
49813	TEM7	GGAGGCTGAGGTGGGAGGGTTGCTTGA
49814	COPA	TAGGAGGTGGAGGTTGCATTCAACTGA
49815	HUNK	CATCTAAGACCATCTCTCCA
49816	FCAR	GCCAAGGCTGGAGTGCAGTGGC
49817	DOCK1	GTGGCCTTTAGCGTCATGGAGC
49818	DUOX1	TCTCCCACCATTATGAGAACTTCTAGCCCCTG
49819	KCNG1	GGACTCTGGCATTGTCACCTCCTCCAGAAA
49820	SMARCD2	CGCTAAGCCCTGGCGGCGGCGCCGTGGC
49821	CYP39A1	TTTTCTGCTTCTGGAAGGTGCTGGAC
49822	SIRT1	CGGGAGCAGAGGAGGCGAGGGA
49823	CHST6	TGGAAGGGAAATGGCTCTG
49824	OFD1	GCAGGGATTCCCCCTCGTCTTGGCC
49825	MPP3	ACTCAGCACATCTTAGCTTTA
49826	NPTX1	CTCCACCCCTGCAGCCTCCTGGCC
49827	F2RL3	CTTCCCTTCCGCACTTACCA
49828	INSM1	AAAAAGAGTTTTCTTTAGTATAGC
49829	BRCA1	GACCAGCCTGACCAACGTGGTG
49829	IAPP	GACCAGCCTGACCAACGTGGTG
49830	BTEB1	ACTCAAGCCTTTTTATTCTTTGTGATTA
49831	FBXL5	ACTCATAGCACATTTCTTGTGTT
49832	NDP	TCATTCTCTAATATCCACTTGTCCAT
49833	MYO1E	GGGCCGCCAAGCAGGTCAGGGGCTGGG
49834	GK	TAACATCCTGCTCCATTCC
49835	SOX11	GCCACCGCGTGCTCCTGGGC
49836	ABCC1	GCGCCCAGGGAGGAGTCAGT
49837	NRAS	TCCTGTTGCTGTCTTCAGTCTCA
49838	P2RX7	GCCGGGGGCCTGCATCACCACCTCA
49839	RANBP2L1	TCGTCTTTCCTCCTTAGAAGAAC
49840	P2RY6	TGTGGAATTTGTGCTTATTTCCCATC
49841	EGFR	TCAGCATTTGGACCAATAGCCC
49842	GAB2	GGCTGGGCAGAGGCACAGGGCAG
49843	AGA	TGTGCGCGTGCTTTCTCAGCAGC
49844	KCNJ16	TTTTTAGCTTGTTTTACCTACATCTA
49845	C18orf2	CACCACACCCTCCTGATCACCA
49846	NCOA6	GGAACTCCTGAGCTCAAGCAGT
49847	EXTL3	AGTGTAGAGCAAGCCAGTGT
49848	ADAM12	AGGGGTCTGTAGTGTCACTCA
49849	PRKAB1	AGGGAGGGGTGGCAGAGGAT
49850	PRPH	GGTGAGCCAGGGTCTGAGTTTCA
49851	SORCS1	CAGCAACTTTGAGAGCAGTGG

49852	PIK3C2B	CTGACTCCCTTATCTCTTCA
49853	HIVEP2	CTAGGTGTCTTTAAAAAATTAAGGTGACA
49854	RAB6A	AGCTCAGGAAAAGCCTGCTGAA
49855	GNRH2	CATCTCATCCACAGCTCTTC
49856	RBBP5	AGCCTAGGTGACAGAATGAGACTCTATCTCA
49857	LHX3	CCCTCCTCTGACACAGGGCTGGCCC
49858	ZNF10	GAACTCCTGGAGATAAGCTGTA
49859	MAOB	TGTCCCTTACCTGGCTT
49860	NDRG3	TACCCAGGCTGGAGTGCAAT
49860	TRPM6	TACCCAGGCTGGAGTGCAAT
49861	SLC21A9	GGGAGGCAGCAGACAGGGAGCCAC
49862	CLCN6	TGACTTCCCCAGCAAGGATCTTCCCACTT
49863	HM13	GTTGCTACTTTTATTTTGGA
49864	ANK1	ATTACCTTGAAGAGTGCATTCGGGG
49865	PDE4C	CCCTGGTGTCTTTCTCCTGGGCT
49866	RPP30	AGGCTGGAGTGCAGTGGCTCGA
49866	SERPINB9	AGGCTGGAGTGCAGTGGCTCGA
49867	SIRT6	GCTTAAACAGGAGTGAACTCCCT
49868	CXCL16	CTCAGCCCTCTCCTGCATCC
49869	SORCS2	TGCCTCTCTAGGTAGCTGCTGGCGG
49870	GRM6	CACTGTACTCCAGCCTGGGTGACAGA
49870	SLC28A2	CACTGTACTCCAGCCTGGGTGACAGA
49870	TEM7	CACTGTACTCCAGCCTGGGTGACAGA
49871	LAMC1	ACCTATTATCATGGACACACTGG
49872	EGLN3	TATAAGTGTCCCATGGGGCAGA
49873	CXorf6	GGCAAGGAATTTTCACCTCCAGCCCCCA
49874	ZNF198	TGGAAAACATTTCAAGTTTACTCCTT
49875	EZH1	CTCCAGTCCTGTCTCATCTCCTGGGAGAGGC
49876	ASH1	CAGGTTAATTAATTTTCTTCTCC
49877	TAGLN	CAGCCCTGGCCAAGCTTTGAGGC
49878	KCNJ5	CTTCCTGGCCTACTCCCAA
49879	CCNF	GCCTCAGCCTCCTGGGTAGCTGGGA
49880	MYO1C	CCTGCAATTTCCCACCTCCTGCCCA
49881	PPP2R4	TGAAGGGGAAGAAGCTGACCTTC
49882	DRD3	ACATCTTTGAAGCTGGGGCCCCTG
49883	MAGEA12	TCATGCCACTTGAGCAGAGGAGTCAGC
49884	CALU	TCCTCCTCTCTGAGGGACTGGAG
49885	GYG2	CTGGATGTGTTTACGTGGAGAG
49886	DMXL1	CCTGTTTCTGTCTGTTTTGTGCTGTACCTT
49887	NPEPPS	TGAACCAAGGATTGTAGTTTA
49888	CKMT1	TCCGGCTCCAGCCTCCAATCC
49889	MST1R	GACCTGCTTAGCTGCCTTGA
49890	GHRHR	CTCTCATCCATTCCTCTTACTGGGGCCTGGG
49891	MCM3	TAACAGTGTTGAATTCAACTGAA
49892	EFNA4	CAAGATGGAGCATTGATGGGGG
49893	SIRT5	TTACAGAAAAAGTTTTCTAACCCCTG
49894	PUM1	AACTGTATTTTGCATTTTGTCTACT
49895	OPHN1	CTGGAGGCCAGGGAGCAGTGGCTG
49896	INPP5B	CCATTGCATTCCAGCCTGGGAG
49897	EIF4EBP2	GCCTTTCCTGTTGTACTCTGA

49898	GYPA	TCCCGGAGAAGGAAAAAGAA
49899	ABCC4	GACTATGTAAACCACATTGTACT
49900	HLCS	AGCTGGTGTGGTTGCAGTGA
49901	B3GAT1	GGGCTGCAGGAGCAGGTGCAGTG
49902	GABPB1	CAGTGTTTTATTGCTTTAT
49903	PPP4R1	TCTTGGGAGTGCTGCAGTCT
49904	DDX1	GGAGGGAGGGAGCGAGCAGGCGAAGC
49905	RGS19IP1	TATCTGAATTTGCTGTCTTGAA
49906	COG5	ATTAATTAACATGTCTAGGAGTGGGA
49907	DMXL1	TCAAATAAGTTTCAAGGAGACT
49908	BAP1	ACCCAACATGCCACCATGTTG
49909	TNFRSF9	GGGCTGTTGGGACTTTCTTGAA
49910	SHOX	GGAACTCCTGACCTCAGGTGAT
49911	CRTAP	GAAGGGCAGTCTTCTCTGGCTT
49912	GGT1	TACAGGCTTCAGCAGAGTGTGAG
49912	GGT2	TACAGGCTTCAGCAGAGTGTGAG
49913	ASK	ACCAGTACCTGAAGTAGGCT
49914	PKD2	TTTTCTTTACGAGAGGGTCTCA
49915	GLRA3	CTCTGTGCAAATTTAAAACAAATA
49916	ADORA3	TGAGATCTTTTTGCTAAGCTGGCAGAAAG
49917	SLC17A2	TTTTTACTTCTCTCCATATTCCTGACC
49918	DLST	GAATTCCTTGGAGCCACTGGGA
49919	SIRT1	CTGTGGTAGAGCTTGCATTG
49920	SLC13A3	CTGTCACCATCACCTGCTGCTA
49921	SULT2A1	TGAAACCCTATCTCTACTAAAA
49921	VHL	TGAAACCCTATCTCTACTAAAA
49922	CTSC	TCACCTCTTTTCTCAGCT
49923	ARSB	TTCCTAAGCCTTGGGACAGCTGGGAACTT
49924	IL13RA1	TCTAAACAGAGATGAGGTGGTA
49925	CARKL	GGCTGCAGACTGGAGCTGCGC
49926	CHRNB4	CACACTTCTAGATTCTTCCCA
49927	NF2	GAGTAGCTGGGATTACAGGCACGCACC
49928	ZFHX1B	TGCAATTATTTTCTGTACTTTTTTGT
49929	SNCA	CTGTTGTTCAGAAGTTGTTA
49930	ITGA3	CCCGGCCCACCTGGTGTGACTTCTTTAAG
49931	PIGH	TTGTTGATGTTTGTGAAGCAAAAC
49932	MRPL49	TGCCCAGGGTGGAGTGCAGTGG
49933	TP53	TGCCCAGGCTGGAGTGGAGTGG
49934	DLST	GGGAAGGGAGGTCTCCTCTAGACTGA
49935	SLC14A1	GGCATGGTGGTGGGTGCCTGTA
49936	GRP	CTTCCCAGCCTCTCCGGCGCGCTCCA
49937	OCLN	GGCCTTTCATATTTTAGCTACTATAT
49938	ADAM17	CCCAGCACTTGGAGAGGCTGA
49939	DTR	TTGTTGTTTGTAAATGCCTCTTAAATTATA
49940	HIVEP3	ACTGACATCCTTCATGACGTT
49941	NBS1	TTCCAGGGATTTTTGAGTCC
49942	CRIM1	TGTATTTTTATGAGATTTTAAC
49943	TM4SF4	GTTTTTAAGAGGAAAAAGAA
49944	MYL2	GGCTGCCCCATTTATCCACCTCCATCT
49945	TNXB	GAGCTCGCTGATGCCCACCTCA

49946	DSCR3	TCTGCTTCCAACAGGCACCTC
49947	EBAF	CTCTGGCAAATTCTTCACTGAGTCT
49948	CACNA1A	GCTCGCCCAGGATGGAGAGGCGGG
49949	FOXE3	GGGAGGGGCGAAATGGAGGAGGGTAC
49950	MLLT2	ATGAAGACATCTAAGATCCCTA
49951	APAF1	GAATTAAAAGCCACTGACTGTTATA
49952	GAA	CGGGGCCGCGGGTGGAGGTCGGGGA
49953	VASP	GGGGTTCTCCCTGCCACAG
49954	CIT	TACCATCCCATAGCTCCTGCCA
49955	DUSP5	CAGGAGAAAAGGCAGTTATG
49956	PRAME	GCCAGGATGTGCATGCATCT
49957	CNTN2	GGAATTCTGGTTACAGCCCA
49958	OGDH	TGGGGAGGGGTCAGCTCTGGC
49959	HYAL1	GTCATGGCCTCAGTGGCTCATGGGGAA
49960	TOX	TACAACCTTGAATCACTTGA
49961	TGFA	AGATGGGATTGCCACTCACCCA
49962	KIF3C	GGGGCAGCCAACCCTGGCTCAT
49963	ATP1B2	TGTTGGTCAGGCTGGTCTCGA
49963	CAMLG	TGTTGGTCAGGCTGGTCTCGA
49963	KCNJ11	TGTTGGTCAGGCTGGTCTCGA
49963	PTGIS	TGTTGGTCAGGCTGGTCTCGA
49963	TNFRSF10B	TGTTGGTCAGGCTGGTCTCGA
49964	EML1	TTGAATACCAACAAGGTTGCA
49965	KIR2DL4	CTCTCCTCTTCAAATAAACATGTC
49965	KIR3DL2	CTCTCCTCTTCAAATAAACATGTC
49966	PTPRF	GGCTGTGGCTGGCTGTGGAGCTAGAGC
49967	MGAT1	GTTTCCCTCTTAGGTGCATTTATCT
49968	SEDL	AACTTTTGTGTATTCTCAGCT
49969	HPS4	GCAAACCTGCCGCAGGTGGCCACCCCG
49970	COL18A1	TGCCCATGGACAGGCTGGCTCCAGATGCAGGG
49971	RANBP17	GAGCAGCCTTTATCAAGAGACTCCTGAA
49972	SFRP5	CAGAGCTCCCCCCAGACTGGA
49973	ABCA3	GAACCTGAAACTCTTCCAC
49974	CYP2B6	ACCACGCCTGGCTAAATTTTGT
49975	COL9A2	GTCCTTGGGTCAGTGGGACATGGG
49976	DISC1	GCTGGGCTGCTTCTTTGGCCCAGCT
49977	SIGLEC11	AGGCCCAGCCCCAGAGCCCAG
49978	ZNF26	CCTATCTCCATGTTCACATCC
49979	HPS4	CTGCAGCTGATCCAATACACCAAGCC
49980	ITGAV	TCTGTTTCTCTTTTCTCTTAAC
49981	LAMC2	GCTATGGTGCTTGCTGGTGCCTGCCACCTT
49982	F2RL3	GGGAGGCGGAGGTTGCGGTCAG
49983	PPP1R11	CAGCCCAGATGTTCAGTTCTCTT
49984	MC1R	CTGTGTGACCCTGGGCAGTTCCTTACC
49985	MYO15A	GGAGGAGCAACTCAAATCCCCAAGA
49986	IL13RA1	CTACAGGTTTGGGTACAAGTGG
49987	KRT8	GGGACCCCCCTTGCCCATGCCTCCAG
49988	PPP6C	CTGCTGAAATGCTGCCTCTTGCCTTTTT
49989	BSND	AGAAATACACAGGGAGGGGA
49990	VDR	GCCTGTAATCCCAGCAGTTTG

49991	HIVEP3	TGAGACCACGGCTGGTTTTTGGCAGGA
49992	HPCA	GGTTCCCCTTCCTCCCTCCCTTCA
49993	RRAS2	CGCAGTCAGGCTGGGCTCTGT
49994	AXUD1	TATTTATTTGTTTTAACTTTTC
49995	PKD2L1	TGCTCCCTCTTCCTCTAGCTGAG
49996	CEP2	CCTCCAGGTACAGCCACAGCCAGG
49997	MKL1	CGGCCTATGCCCCACCTGCCC
49998	HYAL4	CACTGCCTCCTGGGTTCAGGTGATTCT
49999	CYP2B6	TGTTCACTGCAACCTCTGCCTT
50000	ATP11A	CCCGGCCACCACCCATGCCCT
50001	ITK	AGGCCCTAGGGTTGAGCAATTT
50002	PMP2	CAGTGTTATTTAAACATTTTC
50003	ANK1	TAGGGAGGGGGAATGCAAGGGGTCCC
50004	PET112L	GCTGCCTCTCAATCCCTGTCC
50005	PRKAR2A	CACTTGTAAAGATTACTCCAA
50006	RELA	AAGGAAACAGTGCAACAGCACTG
50007	IL11	AGCCTCCCGATTAGCTGGGATC
50008	PRKCQ	TCCAGAGACAGGAAAGAATTTGCCTT
50009	MAGEA3	GCCCAGGCTCGGTGAGGAGGCAAGGT
50010	BDKRB2	AACAGCATTACTGTTCTTATTTGCTGC
50011	MAGEA2	TCTTGCCTTATACCTCAGTCTA
50012	CRY2	TGTTTTATAAATGTCTGAC
50013	F2RL3	TGGGACGGGCTCTCCCTCACAGCCTCC
50014	HDAC2	AAAGAAAATATTGAAAGGAAA
50015	HNF4A	GGAACTTGGAGTGGAGA
50016	AKAP4	AGCAGTTGCCTGTGAATGTAAGAGG
50017	NF1	CCAGATGATCAACTCTTCGAA
50018	CASP8	TCAAAGCTAAATTCCACACTAC
50019	RBBP8	AGAAGGGACCTGGCTGGAAAGC
50020	ALDH3A2	AGTCCAGGAATTTGAGACCAGCCTGG
50021	ANGPT1	CTCTGGAGCAGTTCATTTTACAG
50022	PTPRE	TGTTAATTTATTTCATAGTTGA
50023	MGEA5	GGGCAGCAGAGGCAGAGA
50024	OAS1	TTCCAAAGAACTTACCTCT
50025	SRGAP2	GTTCAGACTGGGGCCAGGGA
50026	ARG1	GGAGAGCTCAAGTGCAGCAAAGA
50027	ADAM20	GTGCCTCACACCTTGTTCTCTTC
50028	NRGN	AGCCTCTCCAGCTCTCTTGT
50029	PPP2CA	ATGGAAATGGGAAGAGCAACAG
50030	SHFM3	GCACCTTGCACTAGAGGCTTCTGA
50031	ADAMTS5	TTCAGTATTTTCTTAAGAAATTGCTTT
50032	HSPA6	GGCCCCTGTGTGCCTCAGGGA
50033	GFAP	ACCCTGATCAGTCTAAGATGGG
50034	FRK	TGTGCATTTTATTGACTGGGCAA
50035	TNFRSF8	TGGGGGCAGAGGCCCATCTGGCC
50036	DBCCR1	GAGAGCCGGGAGGCAGAGGGA
50037	PRKG1	ACAGATTTTAAAAATTGATATGA
50038	G6PD	CCCAGCTACATTCCTCAGCTGCCA
50039	ART1	CCTCGCCTGCTGCCTCTGCCCATCCTG
50040	GRIK1	AGCGGCTGTATCTCGGCATG

50041	GH1	AGGGCAGCTGTGGCTTCTAGCTG
50041	GH2	AGGGCAGCTGTGGCTTCTAGCTG
50042	CHC1	GAGTCCATGATGGAGGCAGAGGTAAA
50043	ADAMTS4	GCTCTGTCGCCCAGGCTGGAGTGCAAT
50044	ASMT	CACCTTGCCAGCAGGCTCTGTGCTCC
50045	RAD18	ATGCCCAAGGAAAGATGCTAAA
50046	SUPT6H	CTGTCCTGGGACCAGGCTGG
50047	TAL1	GACCATAACCACTGAAGGGA
50048	MAPK1	ACTTCCCCACTGCTCTCTGT
50049	TGFA	GCAAAAATACTCCATTTCAAGTTAAA
50050	BCL2L2	TCCCTGTTAGCATTCC
50051	CTSS	TTAGAAAATATAGTTTGAGGCCG
50052	AHCY	GGGTCAAAAAGAGAATAATTTGGCCTATAAT
50053	RGS16	GGGATACCTGCCTGTCACCTCAGG
50054	PTPRZ1	TTGTTTCAGCATGTAATTTTA
50055	SCD	CCTTTCTGTAGCCTAAAAC
50056	KCNMB3	GCTGGATGCCGCCATGCCCACC
50057	ARNTL	ATATTTTTAATAAATGTTTCCCT
50058	PUM2	GATGAAAAGGGGCCACTGAAAA
50059	TLL1	ATAGATGCCTCACAATTCAG
50060	GPR86	TGTCATCACTTGGTCCATGAAATAT
50061	ACPP	GAAAGAGAGCACCACGTGA
50062	AXL	AGACCTACTGTTCTAAAGCTCTG
50063	PRKG1	AGAGGAAAACAGGAACCTGA
50064	PLAGL1	GGAAGATGTTTTAAGAAGCATTTT
50065	MANBA	CTCAGCTTTAGCAGGACATGA
50066	DNASE1L1	TACAGGCATGAGCCACCACGCCCAG
50066	PDE6B	TACAGGCATGAGCCACCACGCCCAG
50067	AQP6	GTCTCCAGGAGACTCAGGGCCTGC
50068	FZD6	AGAATAATATGACTCATTTCA
50069	PSCD3	GCATGTCCAGAAGCATTTCC
50070	NUP98	GACTACCTGATGTGCAGTTT
50071	TSC1	GCACTGTGGAGACCACACACCCTTT
50072	MOX2	TCTTCCTATGTTCTTAGGTCTATGAG
50073	SURF4	TTGGTGGAAAGTAGGGTGGA
50074	ABCC3	CAGCGTGGGCCAGAGGCAGCTCGTGTGCC
50075	CREB1	AGAGTAGTTATTAGTTCTGCTT
50076	ACADSB	TGTCACCCAGGCTAGAGTGCAGT
50077	ADCY6	TGTCACCCAGGCTGGAGTGCAAT
50077	CDC2L2	TGTCACCCAGGCTGGAGTGCAAT
50077	EDG8	TGTCACCCAGGCTGGAGTGCAAT
50077	RAB36	TGTCACCCAGGCTGGAGTGCAAT
50077	VENTX2	TGTCACCCAGGCTGGAGTGCAAT
50078	CYP2B6	TGTCTCCCAGGCTGGAGTGCTAT
50079	SLC1A5	GGCTGAGGACAAATACCTGCTGTCAC
50080	LILRB4	TACAGGACCTGCAGCTTTGT
50081	PLAG1	AAGTTGAGTGTGGAAGGATCTTGGCA
50082	PRH1	AGTCTCCTCAGTATCCAGGATTCAA
50083	C14orf1	CGGGGTTTCACTCTGTCACCCA
50084	SNAP25	GTTATACCAGCAAAAGTGCAGT

50085	GBP1	AGACCAGAGCCTTCCTGTCACC
50086	RPS6KA2	AGCAGACTGAGGGGCAGAGGCA
50087	SLC13A2	CTGTTACCCAGCTCCTGGAGG
50088	KCNJ6	TTTCAGTTACTTACCTGCA
50089	PPP1R12B	GACTTCTCATCCTTTTTGGGA
50090	VENTX2	GTCACCCAGGCTGGAGTGCAATGACGC
50091	ALDH8A1	TTGAGCCCAGGCGGTTGAGGCTGCAGT
50092	ATP1B3	TCATAAGACTTAATTTGTA
50093	SERPINA5	ATTTCAGGTATCCAAGGCAGCAG
50094	SALL2	TCCTAACCTAGTAAAATGTC
50095	GNAS	CACCTGCGCTGTGGACACTGAG
50096	F2RL3	GACCACACCCACCCCGTTCGG
50097	EDNRA	CTGGCGCATCATATGCAGTGA
50098	PYCR1	CACTCCTACTCCAGTATCAGCTGGCAC
50099	FUT4	CCCGATTCACGTTTTTCTGGACCA
50100	LAMC1	GCTTTCACTCTGCTGGCTTCTCCC
50101	TDO2	TGCTTCTCAGACAGTGCCTT
50102	GRAF	TCTGTGCAGTGCCCATGAGCTGCT
50103	AP2B1	CATGCTGTGCCAATGGCTGG
50104	GRAF	TGCGGTGAGCCAAGATCGCGCC
50105	ATP1A2	TGCAGTGAGCTGAGATCGTGCC
50105	IRAK4	TGCAGTGAGCTGAGATCGTGCC
50105	TPMT	TGCAGTGAGCTGAGATCGTGCC
50105	VDR	TGCAGTGAGCTGAGATCGTGCC
50106	BRCA1	TGCAGTGAGCCGAGATCGCGCC
50106	OGG1	TGCAGTGAGCCGAGATCGCGCC
50106	WIG1	TGCAGTGAGCCGAGATCGCGCC
50107	ACE	TGCAGTGAGCCAAGATCGCACC
50107	LUZP1	TGCAGTGAGCCAAGATCGCACC
50108	EYA4	GATGTCCTGTTTTCACCAGAG
50109	MME	GCTCTAAAAGCACCTCC
50110	A1BG	GTCACCCAGGCTGGAGTGCAGTG
50110	AASS	GTCACCCAGGCTGGAGTGCAGTG
50110	AXL	GTCACCCAGGCTGGAGTGCAGTG
50110	CMAR	GTCACCCAGGCTGGAGTGCAGTG
50110	CSNK2A2	GTCACCCAGGCTGGAGTGCAGTG
50110	EEF2K	GTCACCCAGGCTGGAGTGCAGTG
50110	EIF2S3	GTCACCCAGGCTGGAGTGCAGTG
50110	FCAR	GTCACCCAGGCTGGAGTGCAGTG
50110	FSHPRH1	GTCACCCAGGCTGGAGTGCAGTG
50110	HUNK	GTCACCCAGGCTGGAGTGCAGTG
50110	ICAM1	GTCACCCAGGCTGGAGTGCAGTG
50110	MEFV	GTCACCCAGGCTGGAGTGCAGTG
50110	NEU3	GTCACCCAGGCTGGAGTGCAGTG
50110	PCDHB16	GTCACCCAGGCTGGAGTGCAGTG
50110	PSMD9	GTCACCCAGGCTGGAGTGCAGTG
50110	TERF2	GTCACCCAGGCTGGAGTGCAGTG
50110	TNFRSF9	GTCACCCAGGCTGGAGTGCAGTG
50110	VHL	GTCACCCAGGCTGGAGTGCAGTG
50110	ZNF264	GTCACCCAGGCTGGAGTGCAGTG

50111	INMT	GTCACCCAGGCTAGAGTGCAATG
50111	RHD	GTCACCCAGGCTAGAGTGCAATG
50112	CAV1	CCAACAACCTCAACTGCCTA
50113	MAPK14	CTCCACCTTGCTCTTCTTTCT
50114	OSCAR	GGTATCTGCCCACCATGGCCC
50115	WWOX	ACGGCCACCACTGCAGCCGGGGGC
50116	AGL	TGCTTTCATTTTTTCACTGATAT
50117	HHIP	TTTTTTAAAATATATACTTCCTTATG
50118	BACH1	TATAGCAAATAATTCGTTA
50119	FLT1	CCATTTTCAACTGCTTTGA
50120	CHRNA5	TGGAAATGCAAATAAGTGAGCCTCCCA
50121	SCN4A	ACTGAGTCTCGGCATAGTCCCCAGAGC
50122	EDNRB	GGGCAGCTGACCCCAAAGTGT
50123	COCH	TTCAAATAACTGCAGAAAAAATATTG
50124	SLC22A12	TGGGCCAGAGAGGCATTGGTGCG
50125	APM1	CCATTGAATTTGCCTTCCTCA
50126	ATRN	AGCAGAAATGAATGAACTGTGAAA
50127	PML	CCTCCACTGTCACAGCCTTT
50128	C18orf1	TCATTTTAGTAATGCTCAGCTGGACCA
50129	CNTN2	CAGCCAGCCCCTTCCTGCTGC
50130	TEM7	CCTGTTCTGATGTCAGTGCCTGTACAT
50131	DIAPH2	GAGGCAGCAGAAAACTGTCTGA
50132	LAMP2	GGGATTTCAAACTTAAACAAAAAA
50133	CTSF	CCCAGCTCGGGACCTGGTGCTGATCA
50134	DKK1	ACTGCCTATTTTTCCTCTTGTT
50135	DHCR24	AGAGTAAGCCTCTCCCCTCCA
50136	E2F1	TCACTGATGTGGGCAGGAGGGGTGGT
50137	DISC1	GTACTCAGTAAGGCAGTGCAGT
50138	EDNRA	CCAAAGTGCATAGTCTGAG
50139	FDFT1	AAGAATGCAAACTGCCTTT
50140	MTNR1B	GAGCCCAACTCCTTCTCAT
50141	NHLH1	AGAGCTCAGTGGCAGACCCCA
50142	MYCL1	GGGGAATGGGGTATGGAAGTTTTCCTA
50143	GOSR2	TCTGAACTGTGAAGACACTTGGG
50144	CBFA2T2	GCTCACGGTAACCTCTGCCTCC
50145	CBFA2T2	TTGTCTCCCAGGCTGGAGTGCAATCGCGCA
50146	TAL1	CCTCTTCTTTCAGACTTGCCATGTGAC
50147	EVPL	ATCCCCAGACCAGGACAGCAGCCAC
50148	IGFBP2	ACACCTGCTCCTTCTTGCTTTC
50149	UTX	TCTGGGCTGATGAATTTGTTTTCA
50150	ELK4	CATGTAACCAAAAACCACTTG
50151	PELO	CTCCTCTCCCGCTCCTGGGC
50152	UBL3	GCATGTCTCCCTGATCTGAACT
50153	HDLBP	CACTCTGGCCTTCATCACGAGAGCTC
50154	RAD23B	TAGCAGTGTTGGCTTTTATTTGGA
50155	PRKACA	TTTCCCCCTCTCATAACTTC
50156	ATP7A	CACATATATATGTACATACAC
50157	DNM2	ACACAGCCTGAGCCTGGCCCAG
50158	KIT	TATTTTTTATATATACAGTA
50159	PLA2G2A	TTAAGGGGAGCAGGAGTGC

50160	UNRIP	TCAGGGCGGGGGCCTGGAGCAGC
50161	ZNF264	ACCCACGCTGGAGTGCTGTGATGCG
50162	UBE2A	TTCAGTTTTTCTGTTGTAT
50163	GRIA3	TGTGGGGTGGAAAGGAAGAGTGAG
50164	ELK4	GAAAACAGTAGGTCCTGAGAACCATA
50165	GATM	GAATGTACACAGATCCAAAATAG
50166	ANKRD3	TTGGGGAAGAGGTGCAGGAGAAGC
50167	PSEN1	AGTGGAGGCTGGGATGGGTGAGAGAA
50168	ARNT2	AAAAGGTACCGTGGCTGCTGCA
50169	OTX1	TTCCAGTCTTTCTGGACAGCTATTAA
50170	HD	TCCTCTTGGAGCTGAGATGAGCC
50171	PDYN	GATGCTGCTGAGCACATCTCTTC
50172	APBB2	CCAAAACAGCATTTTCCTGCT
50173	TYRO3	ACCACTCTGTGGCCAGCCTGGCATCAG
50174	DVL3	TCTGGGAGCTCTAGAAT
50175	TYK2	TGGGAGCACCTGGTGCCTCGGG
50176	OPHN1	TGTTCCCAGCTCCAGCTCTAAC
50177	PTPN7	TTTCCAGGGGACCTCAGGTCTACCTCA
50178	TRIM9	CACATGGTTAAAAACAAGCACAA
50179	CSF3	GGGACACCTGCCCTGCCCCCAC
50180	RIG	TAAAATATTTTGATGCTGAA
50181	COL18A1	CACCAAGCACAGCAGCCTGGG
50182	P2RY2	TGGCTTCTGTGCCTGACTCTGTG
50183	BCAS2	GTGTTTAGAAATCATAGAA
50184	NUP98	TTTTCCATCCCTAGCCA
50185	SEL1L	TTTTAAACTCCTGAAATTCAGA
50186	CD59	CTGTTTGCAGGGAAGCCCCAC
50187	CIT	GCCTGTACCAGTTAGTTCATCAA
50188	LIMD1	TACATTCAACCCTTTCTCTTCCTTCAG
50189	SIAT8E	GCTGTCTCTCCCTCCATTGTTCAG
50190	SNRPN	GCCATATTGGAGTAGCGAGGAATC
50191	GFPT2	AGCATTTTGGTCCCTGCTCCTTGCCCA
50192	TDGF1	CACCCAGGCTGGACTGCAATG
50193	PCBD	GCTGAGTCCTTGCTGTGGGATGTGCCA
50194	PTPRO	CAGGGGGACTGGAAAGGCAGCATGCGCTCG
50195	ZNF146	GGATATTTACTGTGGCTTGATT
50196	RTN4R	CCATCTCCACCCCATCATGTT
50197	HNRPDL	GTCCTTTATAAATAGCCAGCC
50198	SLC25A15	ATCGCTTGAACCCGGGAGGCAG
50198	SUDD	ATCGCTTGAACCCGGGAGGCAG
50198	UBE2G2	ATCGCTTGAACCCGGGAGGCAG
50199	SLC6A3	CTATCCCCGGACGCATGCAGGG
50200	WRN	TATTTGGAAAATGTTATGTGCTCT
50201	PTGFRN	TGAGGCCACTGTGTCTCAGGGG
50202	ACP2	GTGGGAAAAACAGCTAATACCAGGGGT
50203	KCNMB3	TTATCAGAACACAGATTTAAGTGAAAT
50204	CLASP1	GCTCTAGCCACTACTTGGTA
50205	IGF1	TTCAGATCTTTCTAGTCACCTT
50206	MUCDHL	TTCTGTTCTACACCCTCCAGGAA
50207	MFAP4	TCCTGCTTCCTCACTGTGGACC

50208	AQP6	TTCACAGTCCACTGGCTGGACCA
50209	LAIR1	TTCCTAGAAGTCAAGAGCTAGCCTTGA
50210	SLC10A2	GGAGGCAGCAGGGGGTACAGAC
50211	ZNF264	GGCTCTCTGCAACCTCTGCCTC
50212	WNT3A	TAGAAGCCTCTCGTCCCGTCCCTC
50213	MFAP3	AAAATATAACTGGATCTGCCA
50214	SLC25A15	TTTGCTTAATTCAGAGTACAGT
50215	BCL7B	GCCGTCCCCATCCCCTGCCCTCA
50216	SCN2A2	TCAATTGTTTACAGCCCGTGA
50217	IGFBP2	ACCAGCACCGAGCTCGGCACCTCCCC
50218	WNT1	GGCAAAAGGGCAGCTGTGATG
50219	TOP3B	CCTCACCCAGGCTGCAGTGCCA
50220	FLG	ACCATGAAGCTTCCACTCAGG
50221	MMP11	CACTTCCTGAGGTCAGGTCTTG
50222	EIF4A2	AAAGCATTTGAATGCATTTTGTTTGG
50223	PPP1CB	AACCAGATGAAAGCATGATGA
50224	C1QB	AGGCCTGCCTGTGGGCTGC
50225	WBSCR5	CTGGCAGGAAGCCCGCCCTG
50226	APOC3	CCTATCCATCCTGCGAGCTCCT
50227	KCNA3	TGAGACTCTAAGGAGGTGAAATGAATC
50228	KCND3	TGGAGGTGGGGGACGGGA
50229	SLC26A4	AAATCATGTACATTTGAAAATATTTGCA
50230	CDK10	GAAATGTGCAACCACTGCTTCT
50231	AP2A1	GTGAGCTGCTGGCACAGCAGTTCTGGCCCTGG
50232	AIM1	GTTGCCCAGGCTGATCTCGAAC
50233	SLC7A5	GCACAGCCCTGAGTGTCCCAAGCCGG
50234	FMO2	GTTTCTTTTCTGTTGAAAATC
50235	IVD	CCTGCCCAGCTGCTCTTGTCAGCC
50236	INHA	GCTGCACCTACTGCTCTTCT
50237	NEO1	CCAGCTGTTAATCCATCACTCTGAG
50238	B3GNT3	CAGACAACTCAGAAGGTTGGGGGG
50239	SEC13L1	TTTTCCCAGGAGGAGTTACAGATGCAG
50240	APOL1	GCCTGTAATCCGAGCACTTTGG
50241	PAIP2	ACTGCATCATAGCTATGCCTGTA
50242	FZD1	GGGAAGAAGCATGAAGCTTTGTGTGGG
50243	FUT8	GGGCAGCCCTTCGGTCCACTGCTCTGC
50244	AP1S1	GTGGGGAGGGGGAGGGGGAAGT
50245	UBE2A	TTTAAAAGAGGTGTGGGAGCAGAGGAA
50246	PFKFB3	GTGCCTGGCACTCTGCCGGTGC
50247	NTSR1	GGCTGGCCTGGAATGGCC
50248	SYT4	ACGAAAAGTATGCCTTGCCTTGT
50249	NEU1	GGGTCTGTAGAGGGTCTGCTGGA
50250	MAGEB3	CCCTTCTGCTGACACTCCTGCC
50251	DHCR24	CACCCCAGCCACCACTGAGTCCACTC
50252	FZD7	CAAAGCAGCGCAAATCTGAGGTTTCC
50253	CALR	TTGTTCCCCTCCTCCACTCTCCC
50254	PRKCN	AAACCTGAGCCTATTTCTAGTATAAG
50255	MHC2TA	AACCTCCTGGGCTAAGTGATC
50256	MAPT	ACCAGGATGGCTGAGCCCCGCCAGGAG
50257	XPR1	TTTCTTTTCTTTTCTTCTGGTTTAATT

50258	PCDHB16	TGTTTAATCTGTATTTCTTGCTT
50259	D12S2489E	CTCTTCCTCTCTTTCTTCCTTTTGGA
50260	BAZ1B	GGAACTCCTCAAGAACCTGA
50261	LILRA2	TCTCTCTGTCCTGCCAGCACTGAGGG
50262	ATM	CCGCCCAGGCTGGGTGCAGTC
50263	ZNF165	CGTTTTGTAGGACACTTGGGGA
50264	COX10	CCACTCCTCTGCTACACAGCACG
50265	CASP10	TCTGTGTCCCCTCTGCATGCC
50266	SERPINA5	ACCCAAGAACTCCTGAAATCATATA
50267	CAMK2A	CTTCAGCCTCAGTTCCCTCATTGGTTA
50268	NDUFS6	GCAGCATCCTGTGAGCATTTCCGCGGG
50269	TRPV3	CCCCTGCCTTTTCTCCGGTGGG
50270	RAB7L1	CCATTGCGCTTCAGCCTGGGCAACAAG
50271	PODXL	GGGGAAGGGAAAGACTGGGGA
50272	PFKFB3	CTCTCCACCCCACAAAATAACG
50273	BPHL	GGAGGCTGAGGTGGGAGAATTGCCTGA
50274	MLLT7	TTAGGAGACACAGGGAAGTGG
50275	IL2RB	CCTTGCACAGGTCCCACTGCCCT
50276	SLC25A11	TGAGGGGACAGGGAGGAGCAGA
50277	LRP8	TGTGTGACAGGAAAATCTGTAG
50278	ASPA	TACATAGCTCCTAGCACAGTGCCT
50279	ZNF180	GTTGGGCCTTCCTTTTTGGA
50280	ZRF1	TTCATTCTTAAAATTATACTCA
50281	RAD51L3	GTAGGGGAGGGGCGTCTGGAGAGGACCC
50282	TRPS1	TTCTGAGCGTCTTCTAAGACAA
50283	MAP3K5	AATACAGAGCTGATCTTCT
50284	CNN2	AGCAGTTTGTGGTTTCTATGCCCGCA
50285	KPNB1	AGGGTCAGGGATTTTTTACAGTCTG
50286	HDAC4	GTCACAGCCACGTGCTCATTCCA
50287	GPR85	TTATTCTACTGAAGGCACAG
50288	GAN	GGCTGGTAGAATAAACTACCTCA
50289	BLAME	GGCCACATGCCTGGTCACTGAA
50290	STC1	AAAACCAGAGAATCTTAA
50291	MYO3A	TCTGGGGCTGGCACCAGCAGGC
50292	UMPS	GTTACCCAGGCTGGTCTCAACTCCTGG
50293	EIF2C1	CTTTAGACCTAGCCC
50294	TEX15	GGGAAGGTCAAGCAAAGA
50295	NOTCH2	GGACAACACTGCCTTTCAAACTTT
50296	RAF1	AAGAATTGTTTAAGCTGCATCA
50297	RCN1	GCTTATTTCAGAACAAGTCTA
50298	DISC1	GTACTCAGGCAGTGCAGT
50299	MEIS2	CTTCTGCTGCTGCTCGCT
50300	KCNAB2	AGGAGCAGAATTTTCCCACTG
50301	EIF1AY	TTTACAGTCTTTTGGTATGTTTCA
50302	NCOA6	TGTCTGAGGTCCTTATGAAGCAC
50303	TCL1B	CTGGATGGGCTTCACTGGGGCC
50304	AKAP13	AGAAAGATTCTGAATGGAAGAG
50305	DNASE2	TATGTAATCCCAGCACTTTGG
50306	TRPM7	ATACTGGCAGATTGCAGTG
50307	SCN2B	GGAGTGGGTGGGCAGGGGTAG

50308	MAFG	CAGCCTGGGCGCAGTGGTGCTGGGGG
50309	KDR	TGGTGGAGGTGGGCATGGGGTCTGTTC
50310	TM6SF2	AGACCTCCACCTCAACTTCT
50311	NHLH1	ATTTTCTCCCTCCCTGTGTGTC
50312	IL1RL1	AAAGCAAAGGCAGGCACTTCA
50313	IL5RA	GGCAACACTCAATTTACCTGCGAAGCA
50314	E2F3	GGGGGAGGGAGAGGGAGCTTT
50315	GJB6	TCCATCTCTGAAAACAAGAGACTGCT
50316	RET	TTCCCAGGTGGCAGACTCGT
50317	COX11	TGCAACCTATCCTGGGAGACCCTAAA
50318	MAP2K1	TATTAAAATGTCGGATTTATCTTTCCC
50319	ANKH	TGCTTGATCCTGGGAGGCAGA
50320	OPHN1	CATGTTTTGCATGTAAAAGCCTAGGTCTA
50321	RSU1	TTCTCTCTCCAACACTTCATTCT
50322	FAAH	CTCTACGACCTCTCCAGCTTCGTGCGGC
50323	FCMD	CCATAATGTAATATTCTTTTTAAACCC
50324	TCTA	TACTCCCCAGACCTCAGGGA
50325	DCLRE1C	GCTCATGCCTGTAATCCCAGCT
50326	IL18	GCTCACGCCTGTAATCCCAGCC
50326	MS4A2	GCTCACGCCTGTAATCCCAGCC
50327	BAZ2B	ACATAAACGTGCAAGGCACATACAT
50328	GYG	ATTGCCCAGTGCTGCCAGAGTGAGTG
50329	TM6SF2	TGCTCCACCCCCAGGCGGTT
50330	APBA2	TGTCTTCTCCCTGCACAAGCCAGGG
50331	UBE2I	GGGACTTTGAACATGTCGG
50332	ITGAL	AGCCTCTCTTGGTTCCTTC
50333	TRPS1	CTGTTCTGTTTTAGTGAAGGTAGATTT
50334	BCL7A	GTTCTGACTCCCTTTGAGTTGTGTG
50335	PRKY	ATCTTTAGTTCTTCCTACCTAG
50336	TNNI1	CAGTGGTTCTCCAAGTGTGGTCCTG
50337	ZNF202	TTCTCCTCTATCTCATAATGCA
50338	INHBB	GGGAGGGAGAGAAGAGGGGGCTAAATTTGAT
50339	FUS	GCTCCCCAGGTTCTGGAACAGC
50340	UBE3A	GCTGTAAGATAGTCAACCACAGTAGTCACCTA
50341	IL18R1	CTCCCTCTTTCATAACTGGATGCAGCT
50342	TRPV3	AACACCCTTCCGGAACCCTTCGGGGA
50343	ATP8B2	GGATGGCCTGGGCTGCGGGTGG
50344	NOVA1	ACCTAAAATGGAGTGAGGCCAAA
50345	RB1	ATTAATGTTTCTATCTGATTTTGTG
50346	DBN1	AACCTGGGCTGGAGTGAGGTG
50347	CYP4B1	TCCCAGATGGCTCAGGCTGTGACCT
50348	CYP1A2	AAAGTGCTGGGATTAACAGGTAT
50349	KHK	CTGCCCTGCCCACCAGCCTGT
50350	P2RX7	TGTCCCCAGGAAGTTGTGT
50351	ENAM	TGACTTCTTTTGCTCTCAAAG
50352	CDC27	TCTTGGCAAGAATGCTTTAATGTAT
50353	TRIM9	AGCACCTTCTCTCAGGGA
50354	ABCA1	TGTGAGCTCTGGCCGCTGCCTT
50355	SOX18	CCATGTCACAGCCCCCTAGGAG
50356	LRAT	TCCTGTAATCCTTGTACTGTTCGG

50357	MN1	TATGAAAACTTAACTCTGCTG
50358	CHN1	CCATACAGAAGAAACAACAAACCTGCG
50359	SLC13A3	GGGTCTGTTTTGTTCATTACTTTG
50360	OCLN	CAGTATTGAAGCATTTTA
50361	SLC16A7	TTTACAAGAATCACATCTCTGATTTCA
50362	CDH17	AGGACTCAGGAAAAATAAAT
50363	GALR1	CGGTGCCACCAGGCACGGCCAC
50364	TACSTD2	TCTCCTTTCTTTCTCACTTCTGTC
50365	CSE1L	GCAAATCCCAAGCATCATATCATT
50366	ZNF274	CAAAGGACAACTGAGGAGACTGCCCAG
50367	AIM2	GGAGGCTGATCCCAAAGTTGTCA
50368	MCP	CTTAGGTTGAGTAACCCACTCTG
50369	EIF4EBP2	CATTCACCCTCCTTCCCACCTACC
50370	PLA2R1	CACTATTTTAATTATTCTTGA
50371	IGF2R	AAATCATGGGCCAGAGCCTCGG
50372	IGFBP3	TTCTTTATAATTCACACATATATGCA
50373	APM1	TCTAAAAATAACATACGCACTCA
50374	IRS2	ATCTTCTCGATGTAGATGTTTAT
50375	KLHL1	GTCTTCTGGCTCTAGGGGTGCAG
50376	RAB11A	CAAACTAAGAAGACCTTAGAAATA
50377	HMGA1	GGCATCCCAAAGTGCTGGGATT
50377	MICB	GGCATCCCAAAGTGCTGGGATT
50378	DVL3	GAGTGAGATTCTGTCTCAAAAG
50379	ANGPT1	TGTTAAGAAAAATACTTTTTA
50380	HS2ST1	AATCCACTGCCAATTCAGCTCC
50381	KCNQ2	TCCCAGGTCACATGCACGTATGTCCA
50382	CHN2	GAATAAAAGGGAACTTAATTCAT
50383	ABCA2	AGCTTTTCTCTCTTACGATGAAGGCTG
50384	DTNA	CCTCCCACTCTCCACCCTACTG
50385	DHFR	GCACTCTTGCCAGTCCTTGACA
50386	SYNGR1	GGCTCCTGGTCTGGCTCTGTCCTCA
50387	MS4A2	CCAGTGCACTCCAGCCTTGGTG
50388	ASB2	TCCTCATTCCTGCCTGAAGCCA
50389	C18orf2	CTGAAGACAAGAGGGATCTCTT
50390	COG8	TGGGGTAATTGCATTCGTCT
50391	CREBL1	GATCCCCAGGCTTGGGGCAA
50392	MSX2	TAGACTCCATGATGGATGCTTGTTTC
50393	PCDHGA1	CCCCATCCAATCAACTGCTGTACCCA
50393	PCDHGA10	CCCCATCCAATCAACTGCTGTACCCA
50393	PCDHGA11	CCCCATCCAATCAACTGCTGTACCCA
50393	PCDHGA12	CCCCATCCAATCAACTGCTGTACCCA
50393	PCDHGA2	CCCCATCCAATCAACTGCTGTACCCA
50393	PCDHGA3	CCCCATCCAATCAACTGCTGTACCCA
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50393	PCDHGA7	CCCCATCCAATCAACTGCTGTACCCA
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50393	PCDHGB1	CCCCATCCAATCAACTGCTGTACCCA

50393	PCDHGB2	CCCCATCCAATCAACTGCTGTACCCA
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50393	PCDHGB4	CCCCATCCAATCAACTGCTGTACCCA
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50393	PCDHGC3	CCCCATCCAATCAACTGCTGTACCCA
50393	PCDHGC4	CCCCATCCAATCAACTGCTGTACCCA
50393	PCDHGC5	CCCCATCCAATCAACTGCTGTACCCA
50394	TOX	TTTGTACTGCAGAAAAAT
50395	VPREB3	GGGTGGGGTGTGAGATGGGTGCC
50396	EHD2	CCCCACCCTCTCCCAGCCTGCC
50397	PSMD5	ACCAGCCTGGCCAATATGGCAAAACCC
50398	SFTPA2	TGCCACACACCTTGACAAAA
50399	ADAM17	CATGCCTGTAATCCCAGCACTT
50399	AK1	CATGCCTGTAATCCCAGCACTT
50399	ALDH3A2	CATGCCTGTAATCCCAGCACTT
50399	ATP1A2	CATGCCTGTAATCCCAGCACTT
50399	CD68	CATGCCTGTAATCCCAGCACTT
50399	DDOST	CATGCCTGTAATCCCAGCACTT
50399	FGFR2	CATGCCTGTAATCCCAGCACTT
50399	HM13	CATGCCTGTAATCCCAGCACTT
50399	IFIT4	CATGCCTGTAATCCCAGCACTT
50399	IL12RB2	CATGCCTGTAATCCCAGCACTT
50399	MGAT3	CATGCCTGTAATCCCAGCACTT
50399	MSH3	CATGCCTGTAATCCCAGCACTT
50399	OPTN	CATGCCTGTAATCCCAGCACTT
50399	PIK3R2	CATGCCTGTAATCCCAGCACTT
50399	PPP1R12B	CATGCCTGTAATCCCAGCACTT
50399	RAB7L1	CATGCCTGTAATCCCAGCACTT
50399	SLC26A4	CATGCCTGTAATCCCAGCACTT
50399	SLC31A1	CATGCCTGTAATCCCAGCACTT
50399	SPTLC1	CATGCCTGTAATCCCAGCACTT
50399	TNFRSF10A	CATGCCTGTAATCCCAGCACTT
50399	TNFRSF10D	CATGCCTGTAATCCCAGCACTT
50399	UPK1B	CATGCCTGTAATCCCAGCACTT
50399	VHL	CATGCCTGTAATCCCAGCACTT
50400	KCNA7	CATGCCTGTAATCTCAGCACTC
50401	MGAT3	CGTGCCTGTGATCCCAGCACTT
50402	SYT5	TCTGCTCTCCTCTCTCTTCC
50403	LAMP2	AGGTGCTTTAGAGATAATTGCTTGCC
50404	AR	AAGCTCAAGGATGGAAGTGCAGT
50405	PIK3CG	CCGAATGTCTGTGTTTCATTGTC
50406	SWAP70	AAGGAAGCCTTCTTATTTATCTT
50407	CRACC	TGCACCTGTAATCCCAGCTACTC
50408	HSPA5	CCGGCACTCCAGCCTGGCGA
50409	ROR2	TCCAATAAAGTGAAACAAAGC
50410	FBXL11	CCACTTCCATTGGTCTCCA
50411	FLNB	GCCCTTCATCAGCCTGGG
50412	STK10	TTCTTGGTTTTTCAGCCATTCCCTGCAG

50413	MUC3B	CGTGGGTGGGGGCAGGGCATGAG
50414	MTM1	TTTTCAATGAATTAAGAAAGAT
50415	TNFRSF10B	TGGGCAGTCTCATTTGCACCCATAGCC
50416	MME	TCCATTTTGGCGCTATTACAAA
50417	HIPK2	AGATGGCAGATTCCCACTG
50418	MCL1	ACTGTAAGCCTCAGTACTG
50419	UTY	ATCAGCTTTTAAAAAATGTGT
50420	BTG3	CATCAACTCTGTTGGATACGA
50421	JAK3	CCCAGGGTGGAGTGCAGTG
50421	MRPL49	CCCAGGGTGGAGTGCAGTG
50422	PELO	TCTCCACGTACTACCATCTTGAT
50423	ZNF278	GAAGGGAGGGGGCGGGCAGGTGC
50424	B4GALT5	GTTGCCCAGGCTGGTCTCGAAC
50424	CBFB	GTTGCCCAGGCTGGTCTCGAAC
50424	GRM6	GTTGCCCAGGCTGGTCTCGAAC
50424	IL12RB1	GTTGCCCAGGCTGGTCTCGAAC
50424	WHSC1	GTTGCCCAGGCTGGTCTCGAAC
50425	KCNK5	AAGCAGGAAGGGGCATCCACTG
50426	SIX2	AACGCCGCCTCGTCATACGCCCCT
50427	CPNE3	ACAGTTTTGAATAAAAGCATTTACA
50428	PRKACB	TTCTGGCAATAAATTTTGGTAGACT
50429	GAS7	GCCCCCCACCCTCTCTCCTGGGCC
50430	DYT1	GCACAGAAGGAAGGAGCCAG
50431	G6PD	TGGGACCCCTCCCAACCTCAATGCCCT
50432	USP6	AACTTGTTGACAATGCACTGA
50433	TCAP	AGGTACTGGTGAGGGCAAGAGGTG
50434	SHOC2	GTTTCTGCTAATAGAGGAATC
50435	SMAC	CTGCCTCTGTCGCCCAGGCTGGAGTGC
50436	SLC13A3	TCAGGGCCTTCGCATGTGCTGTTCCCTCT
50437	PTCH	AGCAGGAGGATGGACACACCCC
50438	CLNS1A	CTATACTGAGACAACAAG
50439	NINJ1	CTGTCCACTTCCTAACCCAGG
50440	SRP68	TGCTTCTTCAGTACCATG
50441	FSTL3	GGCCTGGGCCTGGTGCCCGAG
50442	CHD4	GGGGGAGGGGAGGGAGTGAGGGGC
50443	CLPS	TGCGCTCTTCACAATTAAAGGCCT
50444	FAT2	CAAGTTTCCCAGGCACTTTT
50445	TCAP	CACAGAGAGGCTGGAGGGACTGTG
50446	FECH	ATACAGTAAGCATTTGTATTT
50447	BLAME	GTCTTCCTGCCTGAAAC
50448	LHX3	CCTGGCGCCCCTTCTCTCCA
50449	ALDH8A1	GGGGGCTGTGGACGTCTTTGGA
50450	BLAME	TGGTCATGAGGCCCCTGTGGA
50451	EXTL1	CCAGGCCCTGCTCTTCCTGCT
50452	ITGB1	TGCTAAAAAGTCCTTGATTTAGCAC
50453	AGTR1	TTTTACTGACAGAAATGCA
50454	LZTS1	CTCCTGCCTCAGCCTTCCAACTAGCTG
50455	MAT1A	GGGAGCTGGGCCTGGTCTCACCCTGGA
50456	HAP1	CAGCCTGTGTGCGTGTGGTGCA
50457	NUFIP1	ACATAACTGAAGCATGTGAA

50458	MAP3K7IP2	CGAGTCTGCTTTAAGTGATTTCTT
50459	RBBP9	CCAAGTAGTGTGAACTAAAGGC
50460	CASP2	TGTCGCCCAGGCTGGAGGGCAG
50461	TAT	TGTCGCCCATGCTGGAGTGCAG
50462	NFE2L1	CTGCCAGGGTGGGGTACGGGGTTTG
50463	ACK1	AGGCAGCGGAAGGCGGCAGAGGCTGGGAG
50464	CLPP	CCTCCTCTCCAGAATCATGTGGAGGG
50465	GJB1	GGGAGAGAGAAGCAGGCAGATAAG
50466	PKNOX1	TGCAACCTCCACCTCTTATGTT
50467	BMP8	GAGCATGGACATTTTACTTTG
50468	CDH12	CAAGCTGGAACCCAGGAGCAG
50469	RGR	GACAGTATGGAGAAATCACCA
50470	ZNF217	GTGTACACTATTGACCTTTTTTCCTG
50471	BDKRB1	GGCCCAGACTGAAGTGCAGTGG
50472	CBFA2T3	ACCTCTGCTCCAAAGGAAATC
50473	MASP1	TAGCTGGAGCACTCAGAGC
50474	DBY	TGAGTTTTGTTATGTGTTTT
50475	RAD21	GTGAGGCTCCAAAATGAG
50476	MYD88	ATACAGACTCACATACAGACAC
50477	PCDHGA1	GCATTTTGCTACCAAGCCTCTTCCCA
50477	PCDHGA10	GCATTTTGCTACCAAGCCTCTTCCCA
50477	PCDHGA11	GCATTTTGCTACCAAGCCTCTTCCCA
50477	PCDHGA12	GCATTTTGCTACCAAGCCTCTTCCCA
50477	PCDHGA2	GCATTTTGCTACCAAGCCTCTTCCCA
50477	PCDHGA3	GCATTTTGCTACCAAGCCTCTTCCCA
50477	PCDHGA4	GCATTTTGCTACCAAGCCTCTTCCCA
50477	PCDHGA5	GCATTTTGCTACCAAGCCTCTTCCCA
50477	PCDHGA6	GCATTTTGCTACCAAGCCTCTTCCCA
50477	PCDHGA7	GCATTTTGCTACCAAGCCTCTTCCCA
50477	PCDHGA8	GCATTTTGCTACCAAGCCTCTTCCCA
50477	PCDHGA9	GCATTTTGCTACCAAGCCTCTTCCCA
50477	PCDHGB1	GCATTTTGCTACCAAGCCTCTTCCCA
50477	PCDHGB2	GCATTTTGCTACCAAGCCTCTTCCCA
50477	PCDHGB3	GCATTTTGCTACCAAGCCTCTTCCCA
50477	PCDHGB4	GCATTTTGCTACCAAGCCTCTTCCCA
50477	PCDHGB5	GCATTTTGCTACCAAGCCTCTTCCCA
50477	PCDHGB6	GCATTTTGCTACCAAGCCTCTTCCCA
50477	PCDHGB7	GCATTTTGCTACCAAGCCTCTTCCCA
50477	PCDHGC3	GCATTTTGCTACCAAGCCTCTTCCCA
50477	PCDHGC4	GCATTTTGCTACCAAGCCTCTTCCCA
50477	PCDHGC5	GCATTTTGCTACCAAGCCTCTTCCCA
50478	M11S1	AGGAGTGGAGTGTGGTTTGGCAGAA
50479	ADAMTS5	GTGCAAAGAGAATTAGGAGAGA
50480	HDAC5	TCTGCTCCCCACCTTACTC
50481	MEFV	ACGGGGGTTTCACCATGTTAGCC
50482	PPARBP	GGCTTTGACATCAAGCTGGGTGAATTA
50483	NUP98	GCACTTTGCATCACAGTCACA
50484	ARHGAP6	ACCCCATGGGAGTGGGAGGGA
50485	BRIP1	TGCAACCTTCACCTCCAGGTTC
50486	NFIA	TGTTATCAAAGCACATGACT

50487	TNA	CCGTGGCTGCTCACTGCGTTC
50488	DTNA	GCTGCTCTCTCCTTCAGAACC
50489	BDNF	GGGCCGGACAGAGGAGCCAGC
50490	SLC22A12	TCCCCCCACACCCGTCCACCT
50491	ZNF42	CTGGAGTGCTCACAGTGTGGC
50492	AVPR2	CCGAGGCTGGGACACTGTGTG
50493	PCLO	GTATTTTTCTATGCACTGGGCA
50494	AIM1	TCTTGTTCCTAGATATATAGCTCT
50495	ROR2	TTCTCTCTGTACCACGTGCACATGAGG
50496	RAI3	TCATCTCTCTAGTGCTGCCTC
50497	HOXC5	CCCTCCTGACCCATTGCTGTTGTCCAA
50498	CX3CR1	ACACAAAACAAATGCCACACATCACCC
50499	PHF1	ACTGCCCAGGCTGGAATCCAA
50500	RPE65	TGTCTATCCAGGTTGAGCATC
50501	SFRP1	ACCCAGTGAGGATGCTGCAGTGA
50502	MTMR4	TCTACTTAGCGTGGCTGTTTTG
50503	DVL3	GGCCTCTTTAGCTCTCTTTATCTTT
50504	GUCY1B2	TCATCCCTGTGGGGAGTGCAG
50505	TEGT	ACATGCCACCCCGAATGGCTCAC
50506	TNFRSF5	GCGTGAGGGTGAGGGGCTGG
50507	AIM2	AACAAATTCAGAATATCAACAGATG
50508	NKTR	AGGAGTACTGTCTCATCTCA
50509	ADAT1	GTGGTGAGCAAAGATCGTACC
50510	BPHL	TGCAGTGAGCTGTAATTGCATCACTGC
50511	DLEC1	TCCTCTGGTCCCCAGGCCCCTCCAG
50512	CLTA	AGGAAGGGGAGGGAAGCTTCC
50513	FACL3	TTACTTTGTTGATTCTCAGTTACTGTAG
50514	ANXA8	TCCTCCCTGCAGGAGCTTCCCAAGCTGG
50515	MICB	AAAGTGCTGGGATTACAAGAATGAGCC
50516	SULT1A3	CCATTCACTACAGCCTGGATG
50517	OXR1	TCATTTTCACATGTTACTCA
50518	FGF4	CCCTCCAGAGGACCCTTGCCTCAGCCT
50519	ATP11B	TGCCATCAAATAAACTGAGT
50520	FLOT2	GAAGTGCTGCGTGTTCAGGCCA
50521	CALM1	AGAAGCAGTAGTCACTTTT
50522	SPF30	TATCAGAAAAACTGTTGGATT
50523	IL1RAPL2	GTCACTGAGAGACAGAGGCAGCATCTGCC
50524	FVT1	ACAGCCCTGTGTTGTGCTCA
50525	RAI3	TTAAGTGGGAGTCTCAGGCAA
50526	DSCR3	GACTCAAGTGATCCTCCTGTCTTGGCCTCC
50527	CRYZL1	CTCCGTTCTCAACACCTTCCTTA
50528	MGAT4B	GCTCACCTGAGCAATGAAGTGAG
50529	PTGIS	GCGGTGCGTGCCTGTAATCCCAGCT
50530	FTSJ2	TGCCTGTAAACCCAGGGCTTTAGAAGG
50531	PMM2	GGTAATGAGAAACCAGGACAGGCC
50532	RANBP17	AGGCCTCCCTGCCTCAGCTGC
50533	ZNF2	TGTATCTCACACAGTGCCTT
50534	MMP19	TCAAGACGAGGTGCGG
50535	EZH1	TCAGAAGAAGCGAGCACAGGCTGGGG
50536	DLGAP2	GCCATGAGACTGTCTTTGGA

50537	PIP5K1A	TTCTGGCTGCCTGTCTTTGCTGCCATG
50538	FYN	ATGTGAGTGGGCTCCGGAGC
50539	SPTLC1	GCCTGTAATCCCAGCACTTTCA
50540	CROT	TGCCTGTAGTCCAAGCTACTTGA
50541	NUP98	CCTCAAGATCATTCAGTGTTTTTCCTT
50542	CYP2B6	TTGGCCAGGCTGGTGGTGAGCTCCTGG
50543	MLLT2	GGCAATTTCTTTTCCTTTCTA
50544	SLC17A4	AGAGTTAGCTTTTGGACAGTTA
50545	JUP	CTCCTGCTTTTCTGTCCTGGGC
50546	OPA1	CCACAGAATCATTTGTTTTT
50547	MIP	CAGGGACCCAGGCACTGTG
50548	NFE2L3	AACTTTTCATGAAGTGCATTGTA
50549	DYRK1A	TTTTCTTTTGCTTTTTCTCGGC
50550	GPRC5B	CGGGCCGAAGGCCAGCTGGAGC
50551	DHCR24	CCGTCCTGCCCCTTCCTCCTTCA
50552	OFD1	GGGAGTGCGAGGCAGA
50553	NEURL	TCCATCAGAGACTGCACCTCTG
50554	AGA	TGCAGAGTCTCAGCATGATCAGTCCTG
50555	FGF5	GAACTATGGCACTAACCAAAAACT
50556	C18orf1	CACATGGACACACACCCAAGCCACA
50557	APPBP2	GGGTTCATGACTTGGCTGTTAAAGATGT
50558	EFNB1	TGGAAAGAGGAAGAGGCTGCCTGGGG
50559	TLL1	CACTAGCTCTTTTTAAATTCCA
50560	BAZ2A	TTGCCCAGGCTTGAGTGCAATGACCT
50561	REV3L	AGGGGAGGGGGCCGTGCCGAGAAGGG
50562	DPYSL3	ACCTCATTGACTAGGCTGTTACTT
50563	LZTS1	AGCCTTCCAACTAGCTGGGACT
50564	ARSA	CCCCTCGGCTGGCCTGGGCATGTGATG
50565	FGF1	TTGCAGGCTGAGTCCCTCCATG
50566	VBP1	TTTCATGAAATTAAAACAGTGA
50567	TAF1C	GGGGTCACCTGGCGAGACGCAC
50568	IGF1	CTTAGCAATGTTCTAATCA
50569	MME	TCCTTTATCACAACCACCGTTACA
50570	LAMP1	GTTTGGTTTCTTCATTCTTTACTGC
50571	HYAL1	GTTGGCCTCCCAAAGTGCTGGG
50572	CRYGS	CAAAGCTACCCATCTGCCA
50573	TSC1	ACACATTTAATTCAGCTTTGTCC
50574	EGLN2	GAACCAGGAGGCAGAGCGGGA
50575	APPL	GTTCACGCCATTCTCCTGCCTCA
50575	CASP2	GTTCACGCCATTCTCCTGCCTCA
50575	CASP8	GTTCACGCCATTCTCCTGCCTCA
50575	INMT	GTTCACGCCATTCTCCTGCCTCA
50575	LYZ	GTTCACGCCATTCTCCTGCCTCA
50575	PCDHA9	GTTCACGCCATTCTCCTGCCTCA
50575	SERPINB9	GTTCACGCCATTCTCCTGCCTCA
50575	SLC13A1	GTTCACGCCATTCTCCTGCCTCA
50575	TAPBP	GTTCACGCCATTCTCCTGCCTCA
50575	VIPR2	GTTCACGCCATTCTCCTGCCTCA
50576	HAP1	CTTTGTTCCTCAATAGCTGGGGGCTGG
50577	ZNF142	TCTGGTGCCCACCTGTCTCCTACCTCA

50578	RECQL5	TGTTCCTGTTCATTGTGAGTCCTGTTTGCT
50579	MLC1	TCTGATCTGAGAAGACATGAAC
50580	GRAF	CAGGCAGCTGGATCTGTTTGCATGCAG
50581	TMSB4Y	ACATTTTCACAGCCCTTCTTGCAGAG
50582	KL	AGCTGTACTGTAATTTCTTTGAGTTGA
50583	AICDA	CCTGTAATCCCAGCACTTTGG
50583	AK1	CCTGTAATCCCAGCACTTTGG
50583	ALDH3A2	CCTGTAATCCCAGCACTTTGG
50583	ALDH3B1	CCTGTAATCCCAGCACTTTGG
50583	ATM	CCTGTAATCCCAGCACTTTGG
50583	ATP1A2	CCTGTAATCCCAGCACTTTGG
50583	BRCA1	CCTGTAATCCCAGCACTTTGG
50583	CARKL	CCTGTAATCCCAGCACTTTGG
50583	CASP6	CCTGTAATCCCAGCACTTTGG
50583	CD68	CCTGTAATCCCAGCACTTTGG
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50583	COPA	CCTGTAATCCCAGCACTTTGG
50583	CRACC	CCTGTAATCCCAGCACTTTGG
50583	CREB1	CCTGTAATCCCAGCACTTTGG
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50583	DDOST	CCTGTAATCCCAGCACTTTGG
50583	DMC1	CCTGTAATCCCAGCACTTTGG
50583	EGFL5	CCTGTAATCCCAGCACTTTGG
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50583	HUNK	CCTGTAATCCCAGCACTTTGG
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50583	IL12RB2	CCTGTAATCCCAGCACTTTGG
50583	INPP5B	CCTGTAATCCCAGCACTTTGG
50583	IRAK1	CCTGTAATCCCAGCACTTTGG
50583	ITGAL	CCTGTAATCCCAGCACTTTGG
50583	KAI1	CCTGTAATCCCAGCACTTTGG
50583	LAMP2	CCTGTAATCCCAGCACTTTGG
50583	LDLR	CCTGTAATCCCAGCACTTTGG
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50583	LUZP1	CCTGTAATCCCAGCACTTTGG
50583	MCM4	CCTGTAATCCCAGCACTTTGG
50583	MGAT3	CCTGTAATCCCAGCACTTTGG
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50583	MSH3	CCTGTAATCCCAGCACTTTGG
50583	NT5C2	CCTGTAATCCCAGCACTTTGG
50583	OPTN	CCTGTAATCCCAGCACTTTGG
50583	P2RX7	CCTGTAATCCCAGCACTTTGG
50583	PCDH11X	CCTGTAATCCCAGCACTTTGG
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50583	RAB7L1	CCTGTAATCCCAGCACTTTGG
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50583	STAT3	CCTGTAATCCCAGCACTTTGG
50583	SUDD	CCTGTAATCCCAGCACTTTGG
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50583	TNFRSF10A	CCTGTAATCCCAGCACTTTGG
50583	TNFSF14	CCTGTAATCCCAGCACTTTGG
50583	TSNAX	CCTGTAATCCCAGCACTTTGG
50583	UPK1B	CCTGTAATCCCAGCACTTTGG
50583	USP14	CCTGTAATCCCAGCACTTTGG
50583	VHL	CCTGTAATCCCAGCACTTTGG
50583	WIG1	CCTGTAATCCCAGCACTTTGG
50583	WSX1	CCTGTAATCCCAGCACTTTGG
50583	ZNF136	CCTGTAATCCCAGCACTTTGG
50583	ZNF36	CCTGTAATCCCAGCACTTTGG
50584	KCNA7	CCTGTAATCTCAGCACTCTGG
50585	SPN	GTCGCCCAGGCTGGAGTGCAATGCACG
50586	FHL2	TTTGTCGCCCAGGCTGGAGTGCAGTG
50587	CASP10	TCTGATTTTCTTTTTCTTTTGC
50588	KDR	ACCACAAAGAAAGGACA
50589	AICDA	TTGAGGAGGGAGGATGGCTTGA
50590	PODXL	AGCATGGAGGACACAGATGACTCTTT
50591	CSK	TTTATTCCTTTCCTTTTTTGAGAT
50592	DNAH11	TGAGGATTTTCTAGCATGTTGCT
50593	CYP8B1	TCTGCCTGCTGCCCACTTCCCT
50594	LAMC2	GCTTGGTTTGCAACCTCTTTGCTCAACA
50595	ARHGEF12	CTGGAGGTGACTGCAGGTTGT
50596	ATP6V1C1	AGGTGAATTCTCCCACAGTGGTCT
50597	IL12RB1	TTCACCATGTTGCCCAGGCTGG

50598	PLAG1	TCCCTTAAGAATCAAAAGCAGA
50599	LAMC1	CACCCAGCCACGTAAAGAGGTA
50600	MAK	AGTTATGCCACTTGATTTTAGTG
50601	CRSP6	GGTTCACTGCAGTCTTGACCTC
50602	PCDH15	ATGTAGTCATCTGTTTTCTG
50603	SLC6A8	CTGGGGGAGGAGGGGAGAAAGC
50604	NOTCH2	TTCATTCTCTGCTTTATTCTCTCCA
50605	UMPK	GCGGCTGCGGAAAGCGGAGGGAG
50606	ZNF264	AGCTAATTTTGTATTTTTAGT
50607	SURF5	GCTGGTGGCCCTGGCCCCACTG
50608	ALK	CTGCTTCTATGTTTCATAGTTGGGGTC
50609	MAPT	TTCATGATTTCAACCACATTTGCT
50610	GCN1L1	TCAAACCCACACACAACTGAA
50611	FCN2	TGTGGGGCTGGGCAGAGGCGG
50612	BAAT	AAACCTGATATTTCACTTATAC
50613	VPS41	GTGACGACTGTCAAAGAGTA
50614	SCML2	TGCCCAGGCTGGAGTGCAATA
50615	SAS	CCAACGTGCTGGGATTATAGGC
50615	WBSCR5	CCAACGTGCTGGGATTATAGGC
50616	ADRBK1	CCCCAGCACCCGGGCTCAGG
50617	KCNMB3	TCTCCACTGCCAATGACAGCC
50618	LRP8	TTCCAGATCAGCCCAAGTTTACT
50619	SRRM1	CCTGCAGCCATTGCAGCTGCC
50620	FLRT2	AGCTGTCAGAATAAATTCCTGGTGGT
50621	SLC26A3	GACATAAAAACAACTTTA
50622	AK3	GAGGCCCTCCTCTGCCTTT
50623	CD3G	AGGAAACCAGTTGAGGAGGAATTGACTCAGG
50624	ATP7B	GCGCCTGGCCTTGTGTGGC
50625	XPNPEP1	GGGAATCAGTGAGTGCTCCATG
50626	TBL1X	CACTCTGTCTGGTGAGCTCTGCT
50627	MLC1	CAGGTCAGAGCCCAGGAATTCT
50628	GPR86	ACATCTATTGAAAGTGTTGG
50629	NRGN	TTTGTGACCCCCTCCTGCCCAG
50630	TCF2	GCTCAGCCACACAGGAAGAAAGTCTT
50631	PTPRN	CCCAGCCTCGCATGCCAGAGCCTGGG
50632	FCN2	TTTGGGAGCTTGGCCCTACGGTTT
50633	LTBP1	CTACCCCGGAAGGCTGGAAATAC
50634	TCF20	CAAGTGTACACAGCAGCAGCAA
50635	STX1A	GCCGGGGAGGGCTACCTCCTCCTCC
50636	TNFRSF7	AGCCCAGCCAGCTGCGCCTGCGCTGCA
50637	FANCG	GCTGGGGTTGGGAGCTTGGGCAGG
50638	GA	ACAGCTCTGCATGTTGCTGCAGCTGAA
50639	RBBP5	CTTCCCTTCCTTTTCA
50640	ITGA4	TTAGGACTTCTTTCAAATTGAGAGA
50641	IL22RA2	ATAAAGTGTTCTATGAAATTCAGAACT
50642	NOTCH1	TCTGAGAAAACAAGCAAGTTCT
50643	PAX5	GGGAAACTGAGGCCCAGCTTGGG
50644	GPR44	TGTTTTCTCTCCATCAGAATGA
50645	NUP153	GGCTTTGTATAGAACCTCTTTGTCT
50646	KCNJ8	GAGAGGGAGGTGGCTAAGCTGGC

50647	APC	ATCTGTGTAACTGTAAAACAT
50648	SEDL	CTCAGGAAGTGCTGGGATTACAGG
50649	LILRB1	CCAGGGAGTCAGAGGTTTCAGTGA
50650	MSX1	GGCAGGGAAAACACAGATGTGTTG
50651	ZNF137	GGTCACCTCCATTACCAAGT
50652	CYP1B1	GGAGGCTGGAGTAATCAGATTA
50653	PPGB	AGCCTGGGGGCAAGTTAGCACT
50654	CACNB1	CCTTCTCCCAAGCTGCAGT
50655	PKIA	TGCAGGCAGACTTTTCCCTACCTCTGT
50656	CHST6	GAGGGGGCTGGGGCGCACGGAGAAGC
50657	CASQ1	GGCCCCATCTCTGTTCTGTT
50658	HDAC4	CAGTCTTTACTCTTTTTCTCTTCAAC
50659	ABCG5	CCGGGGTCAGGTGGAGCAGGCAGGG
50660	KCNMB4	AGGACATCTGGGTCTCATTTGCTTC
50661	UGDH	AGAGGGAGACAAATATAAAGAT
50662	NPTX1	GACATATCTTTATATTGATGTAATA
50663	COL4A4	GACGTGGCTCAGGTCCCGCCCTCATA
50664	KRT4	GGGGTGAGAGGATGGGTGATGG
50665	OGG1	TGAGCAGATGGAGTATGGAAGAA
50666	BAZ1B	ACTCCTGACATCTTGCTTTAG
50667	RAB27A	CAGCTTTATTAGCTTATAAATTACTCA
50668	PPP1R12A	TAATTCCTATTTTCTGCTTCA
50669	USP14	ATCCAGAGCTTTAGAGGAAGAC
50670	F8	CACAAATGATGCAGGTGCAAA
50671	CHRNA3	TCCTGTGCATTGTAGGATCTTTAG
50672	PTMS	GTTGGGAGGCCTCTCTGGGCT
50673	FECH	TGCCCAACCTCCAGATACCTC
50674	ZNF268	GAATGCACAGCATATGGAAAG
50675	LZTR1	CTGCAACCCTGCTCTATGCTGA
50676	CMAR	TCAGCCACCCTGAGTTGCTTTTCA
50676	SPG7	TCAGCCACCCTGAGTTGCTTTTCA
50677	APPBP2	CCAGGCTGGGAGGGCAATG
50678	ED1	ATATTCCTCCAGCTGGGATTG
50679	PMCHL1	TGACCTCGTGATCCACCTGCCT
50680	MS4A7	AGGCTGGAGAGCAGAGCA
50681	MPO	TCAGGTGAGCTGTGGAGGTGGGGTC
50682	ZNF175	TATGTACGTATATTTCTGTATC
50683	GYPA	CAGTCCCAGTTTCTCTTATTA
50684	FXYD7	GGGCCTCAGGCCTCCAGCTCCTGGG
50685	NFE2L1	TTCTTTCTAGAAGATTGAGAAG
50686	DAPP1	ATCAGCCTGGCCAACATGATGA
50687	ADAM10	GCATTTTCTTCACTTGCAGGCA
50688	PTPRO	TCTCCACGAGTGTTCAGTCTTAG
50689	CALM3	GCCAGCACCTCCCGCTTCTCC
50690	NUP98	CCTCCACTTGTTCAGGGCTTT
50691	CREBL2	TGGTTGTAATTCTAAATTACAGAGT
50692	PCDH7	TTCCATTCTTAAAGAGGCGGTTAGCA
50693	CD1A	AGAGGGCCTTCCCTGACTTAC
50694	MOCS2	AAAGCGTTGCAGCTGTGGAAG
50695	AQP6	CTTGTCCCAGGCTGGGCAGA

50696	PSMB1	TGTGTGCTCTTATCACCAATCAG
50697	IL9R	CTGCACTGCTCACTTGTGGCC
50698	CD244	TCTGCTCCCCATCGTCCTCTTGCTGAC
50699	IL1RAP	GGTCTCCGGGGTCCGCTT
50700	DNAJB1	ACTCATTGTAAGTTGCCACTGCCAAC
50701	SLC25A15	TAGCCTCATCATTTTGTGCTGCT
50702	DSC3	CAGGCTGGAGTGCAGTGGCTCCGATCT
50703	PCOLN3	GTGTGCTGGGGGATGTCAGGTGCCA
50704	SH3BP2	GAACTCCTGACCTCAACTGATC
50705	SPS2	AAAGGGCCCTCTTCTCCTCTCGC
50706	RARB	TTAGCAAGTCTGTGAT
50707	INPP5B	TGCCTAATCCTAGCACTTTG
50708	PCDHA1	TTGCAGGGCAGGCTGAAAAGTT
50708	PCDHA10	TTGCAGGGCAGGCTGAAAAGTT
50708	PCDHA11	TTGCAGGGCAGGCTGAAAAGTT
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50708	PCDHA9	TTGCAGGGCAGGCTGAAAAGTT
50708	PCDHAC1	TTGCAGGGCAGGCTGAAAAGTT
50708	PCDHAC2	TTGCAGGGCAGGCTGAAAAGTT
50709	EIF3S2	CCACAAGAGCAAAACTCCGTCTC
50710	SHANK2	TGCAAAGATCAGAGCAGGTGA
50711	RALB	CTTCCCACTCTCCCCGACTTCATT
50712	MRE11A	AATTTCTAGTTCACAGACATA
50713	TRIM34	GAGGTGACCTGTCCCATCTGCC
50714	MAN2A2	GTGACTTCCACCTGCTCAACCTACGT
50715	ALDH3B1	CTCTCTGGCTGATGTCACCTG
50716	XPNPEP2	GTTGGGAGTTGATGGGGCCAGA
50717	SRC	TGGGATGAGTACCCCCTCAAACCCTGC
50718	CSE1L	CTCTTGTCCTTTATATTTTTTGTC
50719	E2F1	GGCTTGGAGGGACCAGGGTTTCCA
50720	SLC21A9	CTGTGTGACTTCAGGCAAGACATTGAT
50721	ASB1	CCTTAGGGAGCTTCCAGTGATTGATT
50722	TRPC5	CTGTCCCAGTCGGCTGCTGT
50723	AMPD2	GGAGGCACCGTGCATTCTGAGG
50724	SHFM3	CAGGAACCTGTTGGAGAGGCAGGACCT
50725	LMO4	TGGTGTATTAAAATGACTGA
50726	SORBS1	TTCATTCTTTTCCCATATCCTTGGCTT
50727	NQO1	GTGGTGTGATCTCGGCTCACT
50728	GCNT2	CTCAGTTCATTTCCTGAG
50729	PKD1	CTGAGATGCTAATTTATTTCCCCGAGT
50730	ATSV	GGTTCTGAGGCCCCTACCCTCCCAGG
50731	FEZ1	ACAGTCCCCTGAGGAGAACTT

50732	IL11	CCGCGGCCCAGCTGACCCTCGGGGC
50733	KCNE3	AGTCTTCCCCCACCTCA
50734	ANKH	ACATTAAAATATTTAGCTGGGCACAG
50735	HLF	GGGATGGTGTTGTCACAAACTGTGGTT
50736	SFRP1	GGGCAGGGTGGGGAGGGAGCCTCGGGTG
50737	PSG4	CCTCCAATTCCATTTTCTCCC
50738	RNH	GAGGGTGAGACACAGGTCAAGCCCACA
50739	DLGAP2	CTGCATGTCTGTTTACACTTC
50740	MECP2	GGGAGGGGGATGGTGACTGAGATG
50741	CDH5	TGTGCTGTACTGAGCACTGAAC
50742	FMOD	TAATTCTTCCCATTTCAAAAGG
50743	SRGAP2	AAGCAATATACCACTAACCTG
50744	ADAMTS4	GCTGGGAGAAAGAGAGAGCTTCTGT
50745	QPCT	TGCTCATTAATTTTTATTTACAG
50746	CYBB	AGATTCTTGGACTCAATTTTA
50747	LPIN1	TTTTGGAATTTCTGAGTCA
50748	AP1B1	CTCCCAGAGCCCCTGTCTCGGGC
50749	MUC4	CCTAGAACTTCCCTTAAGA
50750	HUNK	GATCTTCCTTGGAGACTCTGA
50751	ITGAM	TGTCCATGTGTGTGCAGTG
50752	PLEK	TGCTCACTGCAGCCCCTCTGCCC
50753	WNT5A	TAATTAGTTTAAAATGTCACT
50754	CXCL16	CAGGTGCTCACCACCACA
50755	KERA	TAAAACAATTGCAGATTGCTAAGTA
50756	ADRA2B	GAACACACTAGAGAACCAAAAAT
50757	SLC7A6	GGTGCTCAGGCTGGGCTCTCC
50758	RGS3	CCCGCTCCCCACTCAGTGCCACTC
50759	LYZ	GCCTTCATCTGTTCAGTCATCTC
50760	EIF2C1	CCCACCCCTCACCCCATCT
50761	TMEM2	ACTCAGGCCCAGCTCATGCCCTTT
50762	ATP1B2	CCTCCTTCCATTCCTAAGCTCT
50763	ETV6	GGGCTGGAATTCTGGCGGATGGCACGA
50764	SLA	GGTTCTGCAGAGGGCC
50765	TRAF1	AGAGGCACCTCAAGAAGAAGA
50766	IDH3B	CACTTCCTGGGTATATGACTCGGCACA
50767	TCFL4	GCTGGGCCCGGGAGACTGGACT
50768	PPP1R12B	GATGCATTCACTTCTCCTTT
50769	ABCC3	CCTGAGATTTCCTCCTGGCC
50770	ISLR	CTGAGACTGAAATGTGGGGATCCA
50771	DCX	GAAATTGTTTTTGTCTCCAAAAGTCT
50772	CIAS1	GGCTCACTGCAGCCTCCACCTC
50772	GPR4	GGCTCACTGCAGCCTCCACCTC
50773	CYP8B1	TAGAGACATTGCTGTTCCTG
50774	C21orf5	CACCTGTAATCTCAGCACTTTG
50774	MTNR1A	CACCTGTAATCTCAGCACTTTG
50775	DCLRE1C	CACTTGTAATCCCAGCACTTTG
50776	RNF26	AGCCTCCTTCCCTGCCTGCCC
50777	HIVEP2	CAGATGTTTGTGCCTTTTCTTT
50778	RNF3	TTCAGTGGTCCAGCTTTAT
50779	ENAM	CTACCAGTATGTGCTACTACTAACATTCTTCA

50780	HLX1	CTCTCCGGAAGCAGGCTGG
50781	GARP	GCTGTGCACACCTGCTCTCTCCTCT
50782	HMMR	CTCCTCCCTAATGCTCACCTTTA
50783	RIG	TGTCTGACTTCTACTCTGTC
50784	PNUTL1	CACAGCCCGGCCCGACCTGGAGGGCCC
50785	ARNT	CCTGACATCCACTGTTTGCCTT
50786	INSL4	ACTGGACATCTCATCCATTCTCAT
50787	DNAJB1	CTGTACACTCCTCCTTTTCTGTT
50788	SPAP1	CAGGCAGCACCCAGAAC
50789	EFNB2	TGCAGCTCACTGCTGCTGCCTC
50790	LILRA2	TGTCCTGCCAGCACTGAGGGCT
50791	WASF3	TGAACAAACAGGTGCTCCA
50792	SPG3A	TCCTAAGATTAAAAACAAATG
50793	TERF1	GTCAAGTGATTCTCCTGCCTCAGCCT
50794	PGK1	TCAGTTACACATGATCAT
50795	RRAS	TGTACCCAGGCAAGAGAGAAGCAA
50796	MTMR3	ATCGATGAAGCACTTTTTTAT
50797	HAP1	ACAAGTGTCTCTGTGTGTGGG
50798	MLF2	CAGGCAAGCCGGCCCCCACCTCTC
50799	ELA2	GGCACAATAAACATTCTCTGTTTTG
50800	LDB2	TTGTAAAATATTTTCTGCT
50801	CDH1	CGCCCAGGCCTGGGATGCAGTG
50802	EHD1	TCTCAGCCGCCGCTCTGCCCCGC
50803	BPI	CTGTTCCTGATGGGCTGTGGGG
50804	NFKBIL2	GGAGCAGCACTGGCAGGAGCTGC
50805	PSAP	TTGGAAGCTGTCTGTGGCCCAC
50806	MCSP	GTCATGAGAAGTCAAGCATGGA
50807	DLEC1	CCAGCCAGACCCTGGAGAGCTCACAGA
50808	SPINT2	GCACCTGATCGCGAGACCCCAACGGCTG
50809	GSTT1	CACAGCCGCCTGAAAGCCACAA
50810	IL13RA1	TAGTAGATGTTCTACTTTGTT
50811	ADORA1	TCCACGCCCTGGGGAGTGAGC
50812	T	GGAGCACACGGCACCTTTCCCCAGAGCCCCAG
50813	XBP1	AACCTGTAGAAGATGACCTCGTTCCG
50814	ZHX1	GTTAACTGTTAACTCTTGCCGTATCA
50815	ACLY	TGCTACCTGCTGTATTTATTATATGGA
50816	MAP3K1	TATTCTACTGGCCATGATGCCA
50817	GNAO1	CCTGCTGCTGCCGGCCGCCCAGAC
50818	ENG	AGTGAAGCCTCTGAGGGATTGAG
50819	FMR2	TGGAAAGAGATGCACGCAGTTGGCTC
50820	TYRO3	AACCCAGGCAGCTGGCAGGAGTGGGGT
50821	GRM4	CCTCCTGCCGACCACACGGAGTT
50822	G6PC	ACCCAGGCTGGAGTGGAGT
50823	JAK3	ACCCAGGGTGGAGTGCAGT
50824	DAPP1	CGCTGCACTCTAGCCTGGGTG
50825	TNFRSF1A	TCAAGATCACTGGGACCAGGCC
50826	PTGES	GCTCACTGCAGCCTCCGCCTCC
50827	LRRC2	ACCAGCCTAAACAACATAGTGA
50828	CR2	GTTGCTTGTAAAATTTCACTTA
50829	CTSS	TCTCAAACTCCTGACCTCAGGTG

50829	DFFB	TCTCAAACTCCTGACCTCAGGTG
50829	MAK	TCTCAAACTCCTGACCTCAGGTG
50829	MEFV	TCTCAAACTCCTGACCTCAGGTG
50829	MLANA	TCTCAAACTCCTGACCTCAGGTG
50829	NDRG3	TCTCAAACTCCTGACCTCAGGTG
50829	NQO1	TCTCAAACTCCTGACCTCAGGTG
50829	SCML2	TCTCAAACTCCTGACCTCAGGTG
50829	SPN	TCTCAAACTCCTGACCTCAGGTG
50830	CASP4	TCCCTGGGCAAAGATTTCCT
50831	OTOR	GCAAGGGCTTAGGGGTTGGAGGTG
50832	COL6A2	GGACGCCACCTTCCCCAGGA
50833	CAMLG	GTTGCCCAGGCTAGAGTGCAATGGCGC
50834	XYLB	ATTGCAAAAGCCTCTATAGA
50835	DAAM2	GTCCTCTCCCAAACTGACCAG
50836	RGS1	CCTTGCTACTTTTAAAAACTT
50837	GRAF	GCTGGATCTGTTTGCATGCAGGATGAAGAGG
50838	MID1	TCTCCTTTTACTGTGTCTTG
50839	SFRP2	CCGGCCGCCTCGCCCTTCCCCGG
50840	ADD1	CAAGTCCCCGTCCAAAAAG
50841	HOXC4	AACTCACACCCCTGCCCCCA
50842	CSPG2	GGAAATGGTTTCACTTGCTCTTTGACTGTC
50843	FKBP1A	GTTTTCATTTTGGGGTGAAGATT
50844	TLX1	TCCGTCCCTCTATCTCTGGCTC
50845	CYP8B1	GCCCAGGCTGCAGTGCAGTGGTGTG
50846	ZNF74	CACTGCACTGCAGCCTGGGTGA
50847	ITGAV	TTCAGTTACTGTTTCTGATTTAATGTA
50848	CAMLG	GTAGAACTGAGAAGGAGAAGC
50849	MFNG	TGAATTGAAAAAGGGCAGG
50850	SPOCK	CTGTTCTCTGAGAGTACCATG
50851	CENPB	AGCCTCACTGCCTGCTTATTGCCT
50852	CD34	GGAGTCTGCACATGCAGCTGCA
50853	SNAP23	TCTAGTATTTTCTTTCTCAAT
50854	CMAR	ACCCAGGCTGGAGTGCAGTGCTGC
50855	ADAM17	TGCCTGTAATCCCAGCACTTGGAGAGG
50856	STK24	CACACAGTCTTCACTGTGCTGCAGC
50857	GNAI3	TTAGGTTTTATGTTATATCTGCA
50858	EVC	GCCAGCTCCTCACACCACAGCCAG
50859	MTMR4	ATTGCACTTCACTCTGCCTGTTTTCAA
50860	NUDT2	TTTGCTTCAGCAGGATCCTTGTGGGCC
50861	ATRN	GAGCTAACCCGGAGGAAAGGC
50862	PCDHA1	TCCTCAAAAGAGAATTCAGTCTACAGCCA
50862	PCDHA10	TCCTCAAAAGAGAATTCAGTCTACAGCCA
50862	PCDHA11	TCCTCAAAAGAGAATTCAGTCTACAGCCA
50862	PCDHA12	TCCTCAAAAGAGAATTCAGTCTACAGCCA
50862	PCDHA13	TCCTCAAAAGAGAATTCAGTCTACAGCCA
50862	PCDHA2	TCCTCAAAAGAGAATTCAGTCTACAGCCA
50862	PCDHA3	TCCTCAAAAGAGAATTCAGTCTACAGCCA
50862	PCDHA4	TCCTCAAAAGAGAATTCAGTCTACAGCCA
50862	PCDHA5	TCCTCAAAAGAGAATTCAGTCTACAGCCA
50862	PCDHA6	TCCTCAAAAGAGAATTCAGTCTACAGCCA

50862	PCDHA7	TCCTCAAAAGAGAATTCAGTCTACAGCCA
50862	PCDHA8	TCCTCAAAAGAGAATTCAGTCTACAGCCA
50862	PCDHA9	TCCTCAAAAGAGAATTCAGTCTACAGCCA
50862	PCDHAC1	TCCTCAAAAGAGAATTCAGTCTACAGCCA
50862	PCDHAC2	TCCTCAAAAGAGAATTCAGTCTACAGCCA
50863	IMMP2L	TGCATGAATCTACCTGAGTTGCT
50864	TNFAIP1	GCCCAGTGGTGTCTCTGAGCGCG
50865	SHOX	GCATTAGTTACCACAGCCAGCCCA
50866	BACH2	GGCCTAAACCCACATTTTCTCT
50867	IRF1	AGGCAACCTCTGCCTTCTTCCC
50868	OPRD1	CTTCAACCTTGAGACAGCTTCGGTT
50869	CA12	TCTCTGCTTAGGTTTTGCTTGG
50870	TACC1	TGGAGATGTTGTGTGCAATGCTGGC
50871	HYOU1	CCCTCTGCGGGCTTCTCTTGCTC
50872	CD244	CCATGATAAGAGCAAGGCTGT
50873	SLC30A4	ATTTTGGGAACTCCTGCCTTAT
50874	AXL	CCTATCCCACCTCCATCCCAG
50875	BHLHB3	TAATGATGTCTGACATGCTATT
50876	WHSC1	GTTGGCCAGGCTGGAGTGCAGT
50877	DDX24	CTGAGGTACAGCGGCGGTTTCTGAGGT
50878	BACE	TGTTATTCTCGGACTGTGAAT
50879	KLK13	AGAAGCATTCAGGCACTGCCAGGCT
50880	EPHB2	GAGACAAAAGCAGTTTCTCTCC
50881	ITGB4	CCCAGCCTTTGTTCTGCACT
50882	TM4SF2	GTATGTGTAGGCAGTTTAGTGC
50883	UBE2V1	ATTACACGGCCTGGGGTCTCTGCCTTC
50884	PCDHB16	CCAAGTAGCTTGGACTATAGGT
50885	USH3A	TCCTCCAGAAAGCACCAAGG
50886	FGF2	TGCAGTGAGCCATAATCGTGCC
50887	HLCS	CAGCCAGGGCTTCCTTAGCTTTGA
50888	CNTNAP2	GAGGCACAAGAAAAAGCATTGG
50889	DLG2	TTAGCTACTGCGCCTCTGACAA
50890	RNASEH2A	CCTGCAGTATTAGTTCTTGCAGCTGGT
50891	IL13	CCAGGAGTCCCTGGTAATAAGTACT
50892	PKHD1	AACATACACTATAGCACTTT
50893	SP100	GTCTATAAAGCATTTAAGCTGCCTGTA
50894	ZFHX1B	GTACTTTCCTTTCGCTATTCAT
50895	HRH1	CTCCTAGGGAGGCTCTGAGGGGA
50896	PODXL	CCCACTGTCCTGGCCTGGAGCT
50897	UGT2B15	GGACTCCTCCTTTATTTCAG
50898	PVR	TCCAAGTGATACTTCTGCCTTG
50899	CDH5	TCTCAAATGCTGGCAAATCCAGGCTGG
50900	SET	AGGATCTTATTTGGAATTGACAT
50901	GJB2	TGCTCAGGAAGAGATTTAAGCATG
50902	PSMD5	CCAGATTGATCATCTCCCCTGGC
50903	TLL1	GACAGTTTAATTCAGGAACTGTG
50904	GPRK7	CATCAGCCTTTTACCATCATGTC
50905	CELSR3	CCTCTTTCCTGTCTGTGTAAATTGTT
50906	PTGIR	ACCAGTGGCCTGGCCGACCTGCTCTGGCC
50907	PTGER3	CCAAGCCCACCCCCAAATATAACTGTT

50908	PODXL	GAGAGTGGGGAGACAGGCAGCAAAGCTTAT
50909	LGI1	AATTGTGTAACTGTTCTTTGCAGTGAAG
50910	TNFRSF11A	GATCCTCCCACCTCAACCTTCGGAGTA
50911	PDGFB	ACCCCTTCCTCCCCATACTCC
50912	PDYN	TCTTTTGCTCTCTCATTCCCAG
50913	DDAH2	CAGAGCTCCCAGTCCCCGAGGCTTGAA
50914	SHFM3	CTGTGCTCCTGGGCCTGTGAC
50915	B4GALT6	GCAGTCCACAGTGTTTACAGA
50916	SRC	ATGGAAAGACTGGGACAGCCCAGGAA
50917	SLC22A3	GTGTTCTGCTTTATATGTTA
50918	DLG4	GGGGTCGGGTGTCCGGGAGCCAG
50919	NEUROD1	AGGAGAAAAAATTAAGAGATA
50920	DGKI	GAGGCAGGATACCTGGAGATTTG
50921	CNTNAP2	TTGATTATATTTAAAAGTAATACA
50922	SOX2	AGGAGTTGTCAAGGCAGAGAAGAGAGTG
50923	LRP4	CAGCAGCAGATACTGGTGAG
50924	RNF4	TCTCTGTTCCTCTGGGGTGGTCCA
50925	TNS	CCTGCTGCCTGCACACCACATCGCCTA
50926	SKP2	CTGGGAGGCGAGCAGCTCTGCAGTTAA
50927	TULP3	CCCTCCCTGCCCCAGGACTTAAAG
50928	RAB6A	TGCGCGTGAGAGGTCCCAGATACGT
50929	UBE2B	ATTCATGCCCCAGTATTA
50930	CDK4	GGTAATCCGGAGTGGCAATGGAGTGGCTG
50931	THOP1	GCACTGCGACTGCCCAGTCTGGCC
50932	LBP	TGCCTGGCCTCTGCCTCCACCCTC
50933	FMO4	CTGTCTAAACCTCCTACTCCTCAACTC
50934	PLAU	GGAGAGGTTATAGGTCACTCCTG
50935	NT5E	CTTAAGCCCAGATATGAGA
50936	LETM1	TGCCTTCTCCATTACTTGA
50937	CACNA1D	GCCCTCTCACAGAGGATGGGT
50938	FLII	ATGGGGATGACCCTGACAGGTGC
50939	POU2AF1	CTCAGAGTGCTGGGATCACAGG
50940	MOG	GCAAAACTGAAAGGCATGTGAA
50941	PCMT1	ATTGCTCATCTCAGTCCTCAAA
50942	NAPB	GTCTTAGGGTCAAGTGATCTTTAT
50943	ICOS	GGTGTTTTGTTCAATCTGGAA
50944	WSX1	CGCCTCGGGCGCTGTACCCA
50945	LAT	TCTGTGTGTTTGTGTGTATC
50946	GPC5	CTGAGTATTTTATTAACACCTGATTTG
50947	HTN1	GATACTTCCCTTCCTAATTATCA
50947	HTN3	GATACTTCCCTTCCTAATTATCA
50948	B3GAT1	TTTACCCCTTCTCCTCCAGCA
50949	DBCCR1	AGGTACCCCCACGCCTGCAGTCCCCGC
50950	GABRG2	GCCCCCTGAATATTAATTCCCTA
50951	NHP2L1	TCCTGCCACCATGTGGGTCAG
50952	CORO1C	GTAGGGCATGTGGTTCAAAGAG
50953	KCNJ3	ATCATGTTAATAGACAGTAGCCA
50954	PIK3CD	CAGACTGCCTGGGTCCTGGCG
50955	STAT6	CCTACTCCTGGGTCAGG
50956	FANCG	CCGAGAGAAGCAGGGGAGCTCGG

50957	CTPS	GCAGTTGAAGGGCAATATGA
50958	RAB36	CCTCCTCTGGCACTCATGCT
50959	PDCL	GCAGACACCATGACCACCCTTGATGAT
50960	SQSTM1	GCTCACTGCAGCGCGCTCCTGACC
50961	DLGAP2	CACCCAAGTGGAAGGTGCTA
50962	IL1RN	CACCCTGTTTTACAAAAAAGA
50963	NEDD4	ACTATTTGACTTTTTAAAATCTTCTGACA
50964	NPC2	GATGCGTTTCCTGGCAGCT
50965	PNUTL2	AACAACACAGAGTGCTGGAAGC
50966	DDX10	TGTCATTGGAAACACTGCCTTT
50967	CD28	CTTCCCTTTCTCACTCACCTGC
50968	DPYSL3	CTCTGAGTTAGCAAGCCTTCCTCA
50969	STAM	ATCACACCAGCGTACAGTAGCTA
50970	C20orf1	GATTAGACTCCATGTAGTTAC
50971	ABCA1	TTTCAATATCATTACTAACTTCTTC
50972	FUS2	TCAGCTGAACCTGGATCCTGTG
50973	EHD3	AGCAGGAGAGTGGGCTAGCCTG
50974	GFAP	CCTGCTGCTGCTGCTGCTGCTAATCTTC
50975	PTGS1	AGCAGCATTCTGGAGGGGAGAGCTTTG
50976	PIWIL1	GACTGGGAGAGCCCGAGCCAGAG
50977	ADAMTS4	AATCCAGGGTGGTGGTGATAGGT
50978	GGT2	CCATCTACAACAGCAGA
50979	GGA1	CTCTTCCCCCTCCTGCTCCGG
50980	CASP6	GTATTGAAAATGGCTTTCTCAGC
50981	HNRPH1	AATGTTGCCCTTTGCCA
50982	PRCC	TTAGAAAATTCAGCTCCTT
50983	MAPK3	CAGTTCTGGAATGGAAGGGTTCTGGCT
50984	ATP1A2	TGGTGTGGGCTTGGGATCCTCCT
50985	MEL	GAAGTTGGGGCACCCTCCTC
50986	PAFAH1B1	AGAATTGCATCCTCAGATGATTA
50987	EIF4EBP2	TGGATCTGCTTTGTTTGGCTGCTG
50988	NAPB	TTTGGAGGACTTGGCAGCACAG
50989	BMP3	CGGGTGAGGTCCGCGCAGCTGCTGG
50990	AK2	CTTTCTTGTCGCTGGCAGCTG
50991	CBFA2T2	ACTCAGGCTGGAGCACAGTGGT
50992	WFDC1	CGGCAAGCAGCTAGGTTGCAAGAACATTC
50993	CSRP1	TCCTGGTGTCCCTCAGAGTAAGCCTGA
50994	MAPK7	GGGCGGAAGGGGACTTCGGGAGCCAGT
50995	GLI2	GGCCCGAGCGCCTGGTGCTGAG
50996	MCCC2	TAGACTTCTCGAACATGAGG
50997	GPC4	GTAGAGCTGAGAATACTACATCT
50998	KPNA1	ACTCTGCTTTCACGTACCTGTGCTCAG
50999	PRX	TCCCTTCTTGCCTTCCTTTCTCT
51000	SURF4	ACACCCTGGGAGTTTTAGTAGCTTG
51001	C5	TTTGTAAAGCTCACTTTACTTA
51002	IL11	GGTCACTGCAACCTCCACCTC
51003	ZNF14	AGACCAGCGTGGTCAACATGGT
51004	CDO1	TCCAGTAATATACTTAAATAAGCCAAT
51005	MS4A2	TCCAGCCTTAATTTCTTGCTCCATAA
51006	PRKY	TTAGTCGGGTGTCATTGTGCATAC

51007	MYLK2	GTCTGCTCTCAGCTTGTGCC
51008	GPRK7	CCAAGATCGCAACATTGCACTC
51009	LZTS1	AAAGTGCTGAGATTGCAGATGT
51010	HYAL1	GGCTATGAGGAAACTGAGTCA
51011	PPARGC1	AACTGCTGATTTGATGGAGCTA
51012	RAD54B	ATCTCTCAAAGGCAGCAG
51013	C20orf1	TTCTCTTGGCGACAGGATTT
51014	SH3BP2	TCCAGGAACCAGGTGTCCAAG
51015	LZTS1	GCCTGGCCACCAGCCATCCTCCCTCC
51016	IL13RA1	CTTTTGGGGGGCATATATT
51017	RFNG	TTCCATGGAGGGAAATGGGACA
51018	HYAL1	GAGAAGCTAGTCTTGAATTCCTGACCT
51019	EFNB2	TAGCAGAGAGCCAAATCTGACCTAAAA
51020	PCDHAC1	AAACACTCCTTCTTAGCACTTC
51021	TBX1	GGTGAAGCTTCGCTGGCTGCCAGG
51022	NTSR1	TTGCCCCAGGGAAATGGGCTCT
51023	CD209	TCGCCAGGCTGGAGTGCAGTG
51023	RABL2A	TCGCCAGGCTGGAGTGCAGTG
51023	RABL2B	TCGCCAGGCTGGAGTGCAGTG
51024	LAMB3	AGATTGGCATGCCATTGAAACTAAGA
51025	WT1	TTTCTATCATGGAATATTTATAGGCC
51026	COL17A1	CCTTGGCTTCTTTACTTA
51027	SLC25A1	TCACATGATTCCAGTGCAGT
51028	HIS1	TGAGGGCAATTGCGTTGCTCAA
51029	CLASP1	TTTCTCAGCCTAACTCCATCCCCACCGCTCCC
51030	DYRK1A	TCGTCCCGGCTGAAGTGCAGTG
51031	SC5DL	CCCATTGCTGACGATTAGTTCTAA
51032	DVL3	GAGATCGCACTCCAGCCTGGG
51033	EXTL1	GGGGGACACGGCCCTGCATTCTGGAC
51034	CLECSF12	CTAACTCCTGGGCTTAAGTGAT
51035	TMEFF1	AAACAAATCGTATCAGTGTTTGT
51036	FLRT1	CTCAAAGCTCCCACGCAGCTCTCCCGC
51037	FANCF	ATACCCTTTTTCTTTTAGTAT
51038	PRKY	TGGCACATGCCTGTAATCCCAG
51039	RBL1	TGGCGCATGCCTATAATCCCAG
51040	SFPQ	CAGGAATATGTATTAAGATTGTGGAAT
51041	MAP2	GGCTTTACATGGGTTCAATTGGACAATT
51042	TACC1	TCTGCCCTAGAGTCATTTAC
51043	STAT3	TGAGCAATCTGGGCACTTTT
51044	CYP3A4	AGATTGCACCACTGCACTCCAGTCTGGG
51045	ICAM1	TGTGTAGACAAGCTCTCGCTCTGTCA
51046	CYB561	CCGGCTCCCAGTGTGCGCCCGGCCGGC
51047	NT5C3	GTTCATCCGTTCATCTTGCT
51048	SLC4A7	TCATGCTGTTTATGTGTGA
51049	HMMR	TACTGCTTGTCATCTGCATGTCTACT
51050	LGI1	TAAGACAAAATTTAATTGT
51051	RNTRE	TGAGTCTAATGTAATTTTG
51052	FBXL11	CTCTGCCCACTTCCATTGGTCTCC
51053	FHOD1	CTGGACCCTGGACTGCAGTGCAGGAGAT
51054	GSTZ1	GGGGAGCAGGGTGGGCAGG

51055	PLA2G4B	GCTTCAGAGCCTCGGGCTCAGG
51056	DCX	AGTGTTAGAGGTGTTAGCTTGCTAGTG
51057	TRIM14	TTTACTTCTCAGTGCCATCT
51058	P2RY2	GACCTGGAGAGCAGGGGCTGGT
51059	CPT1B	TGGAGGTGGGGTTGGAGCAGGA
51060	IL1F8	TTCTGGAGAGTTTGTAAAACAA
51061	KRT8	CCTCCACTCCTGCCTCCA
51062	ARF3	CTTGTACTCTTCTCTCCA
51063	F2RL3	TAAGATAAGGAGAGGCCAGGC
51064	BCL6	AAAACATTAAGAAAATCATATTGCTTC
51065	C18orf1	CTGCTGGCAGGGACTTGCAGTG
51066	WTAP	AACTTCTGGGTCAAAACTCAAA
51067	F2RL3	GACCAGCCTGGGCAACATAGGG
51068	TRHDE	TCTGTTCTGTTTCTCTACTGGGTGTTC
51069	GALT	ATTGCCCAGCGTGAGGAGCGAT
51070	PTMA	GCGTGCCCCACCATGTCAGACGCAGCC
51071	RNF3	GGTCTATGAGTAGCTGTGTATGAA
51072	XKRY	AAAAATATAAACAACAAAAC
51073	CALM1	TGGCATGGGTGGAGTGTGTG
51074	ADORA1	TGGCTGGGTTTTCAGGGGCTT
51075	ICA1	ATTAGACATGAAATCTGAG
51076	SRRM1	GTTCCCCCTCCTTCTTTTGTA
51077	PLAC1	TGACCCTCATGTGAGCACTTT
51078	CIT	AGTTCACTGCATGTGCTGCCCCCTTGG
51079	GAS1	TAGTCCTGGACTCGAAAGGGAAGGT
51080	SRP46	CTGCTTCCTGTTTTCTTCTGA
51081	JRK	GGAGAGGGAAGTAGTGGCAGC
51082	ADAM2	CAACTGCCCTGTAACCACCAACTGCCCTTATT
51083	USH3A	ATTGCTTGACCCAGGTAGTCAAAGGCA
51084	ELMO1	CCTAGCTATTTGATGAGAAGACCA
51085	KIF1B	TATTGCACTCCAGCCTGGGTGA
51086	AQP6	GGTCTCAAACTCCTGACCTGAG
51087	ADH5	CCAACCTCACAGCCTCGTAGAG
51088	UMOD	CCACAGAAAAGAAAGTTCATGC
51089	MAT1A	CCCCAACAGCTGGACCCTGACCAGCTC
51090	SCN4A	CTTCTGCTGCATCGCTGTTCTGGGCA
51091	COL4A1	TTCACAGACCTCAGCAGGGCA
51092	CRYZ	CATTTTCTGAACTAAAAACCTC
51093	GALNS	CCAAGGTTAAGGATGCACCTGTG
51094	HTR2A	AAATGTTCTGACAGCATTTCA
51095	DGCR2	GGGCCTACTTGGTGCAGTG
51096	XK	GATGTGAGTTTAATCTTTTCAG
51097	DAAM2	GAGGCCGGGAGACAGGGACTGGTGAGA
51098	GCNT2	GGGAGGCAGAGGGAGGAGGGA
51099	EIF1AY	CACTGTTTTGGCTTTCATGAA
51100	PCBD	TGTCCCCACCAACACCAGGAATTTA
51101	F2R	AGAGAGGGTGAAGCGGAGCAGC
51102	ACTN2	AACCAGTATCCTTCTAGCTCT
51103	SNX3	AATACCCTTCACATGGA
51104	EXTL3	TGCCATTCAAGGCTTATTTATA

51105	NCOA3	TACTTCACCTCCAGGAACTGTCATG
51106	SPAG8	GGGACCAAGCCAGAGAGGGACAGGTAT
51107	RFX5	GACTGACTTTTTTCTCACTGT
51108	TRPV1	AGTTTTGGGGTACCCTGCTTCAC
51109	HOXD1	TGTGCTCAGAAGAGCACCTGCCC
51110	OTP	GCCATTTTACGTACCAGGGAGTC
51111	DDOST	GGCATGAATCCAGGAGGCAGAG
51112	CPT1B	GTGCACAGGTGCCCAGGCTCCA
51113	STS	CCCAACAACAGGATCACAAGCTGGAGA
51114	TCF2	TGTACTCCTCTGACTGGAGTCTAG
51115	TXK	GCAAAACTGTCATTTATTGTGAA
51116	IGJ	GAAAGTTAGCATATTTATTACCAATGA
51117	XRCC2	CTCCCAGGCTGCTGGAGTGCAGTGG
51118	NFE2L3	TTTAAGAGTAAGTTGGTTACTT
51119	GOT1	AGAGACACTTGCAGGACTGAA
51120	G6PC	CCAGCTCACAAGCCCAGGCTGG
51121	PRKWNK3	GACTACAGGCGCCAGCCACCAT
51122	STCH	ACTTTTAAAATATTAAGTGTCTT
51123	RAP2A	CTAATGGCACAGGAAAAACCTA
51124	F2RL3	GGAGAGCACGGAACCGCACGCAC
51125	PTMS	TCTTTCTCCCTCCCCTACCAGCC
51126	CREBL2	CCTCGGCTATTGTGCTGGCTGGACAC
51127	GYPB	CGGCTGCACCTGCTGTTCTCTTCTTT
51128	SLC24A1	GTTGCCCAGGCTGGTGTGCAATGGCGT
51129	MMP8	GGTAGAGTTTGAAGAGAAGATCATGT
51130	MMP25	CACACACATCCCAGCCCTCCG
51131	STK24	ACCTAAAAATGTCTGA
51132	CDK2	TGTCACCCTTGTCCTTGAGTGCTC
51133	GRLF1	CGTGGGGCAGCCACCCCTGCCCAGCGAGAGC
51134	IGSF4	AGCCACAATGAACATCCCTTT
51135	ZNF148	TTTGAACTGCCTTACATGTT
51136	ACTR1B	AGCCCCTTTCACACTCTGTCCTCCTATC
51137	RBBP5	ATATTTTAAAAGGAGAATT
51138	ESRRA	GCCCTCTCCTCCCCCTCCTAGGGGGTGTC
51139	SCN4A	ACTCAGGGCATTCTGTTGGCCTAAGTG
51140	RGS6	AAAGCACCGAGTCAGGTGCCTGATACGC
51141	SLC3A2	GGTCTCGAACTCTTGGCCTCAG
51142	SCO1	CTTTGCCGCCTCTCCATCGTCTTGGGCC
51143	CISH	GGGGAGGTGTCACACAAC
51144	TNFAIP1	CAGCTGGGGGAAAGGCAGTTCTG
51145	B3GALT5	ACTCAGATGGGGTTCATGTGGGA
51146	SIRT7	ACTTTATAGAATCCTCTCTGT
51147	DAP	TAAGGTTAGGAGAAAACCTCAGT
51148	UTY	ATTCAGAATGATAACCTCTTT
51149	B4GALT1	GGCCTGGATGTTTGCCTGGTCCGTGAG
51150	OCLN	TCATTTAATCCTCTCAACCACCTTTCA
51151	MDFI	CGTGGGTGGTGGGCCCATGGCAGAG
51152	ZNF142	TAGAACCTTCCTGGGACTCTGG
51153	NCALD	TGAGTGAGCTGAATTCTTGCC
51154	IL2RB	GGTCCATCCATTTCCAAACCTCCAC

51155	FZD1	GTCACTTCCCGCCTCCTCC
51156	LDB1	GACAGAATGAAGAGACTGAGCA
51157	ZHX1	CCAAAATGCTGCAATGTAGCT
51158	GLO1	TCTAGGGACACCTGGTGATTCCTACA
51159	NDN	CACAAATATAGAAAAGTATACAAA
51160	F2RL3	GAGGTGCCCACCCAGCTACTGG
51161	PRPS2	CTTAAAGGTAATCATTTCAG
51162	TOB1	TCATTTTTCATTTGCCAACCAA
51163	PPP2R5C	ACGCCCAGGGTTACTTGA
51164	PRKR	CTGAGTAGCTGGATTACAGGC
51165	GCNT2	GGCTGGTCCCTATGTCATGTCTTCCAT
51166	BTEB1	CACTACATCCATCTATGCCAT
51167	TCTA	CTAGCATCTTCTCTACCTTCA
51168	PFKFB3	CTTCCCTTCATGGCGT
51169	PTK2B	CAGGCAGCCAGTGA
51170	HPS4	GCTGCCAGGCTGCAGCCTGCTGC
51171	VIPR2	GTGGGGATATCAGGGCACAG
51172	HDAC2	TGGCTTCATTTTATACTACTTTG
51173	ADCY1	CAGGGAGGAAGGCAGCTAGAAATGGGA
51174	TRPM6	TTTTCTCACTATGTATGCAGACTGGAC
51175	SPINT2	TGGGGAAGGGAGGGGAGACTATGTGTGAGC
51176	CNTN2	CCTCACCATCCTTCAGTCTA
51177	C7orf2	GACATATAGAACAGCGCATTCTTCT
51178	MAP3K7IP1	GGTGCCTGCCTTGCTTCT
51179	ALOX12	GACTATGTTCCAATAAAACT
51180	DGCR2	TTCTCAGAGCCCAGGTGCCC
51181	WT1	GCTAATGTAAACTTTGTCATGGTTTCC
51182	CPM	CTTGGGCAACAGAGTAAGACTCTGTCT
51183	CUGBP1	CGGCAGGCTCAGGTGCAGCCGCTGCTC
51184	USP6	TGATGAGGACAGAACTGTA
51185	DDX11	GGGCTCCTGCCCAGGGGCTTGTCACCT
51186	ADORA1	AGCCTCCGTTCCCACCTCT
51187	ECT2	CTCTTGTTTGAATCTGTCATTCAAAGGCC
51188	AICDA	CGTTGCACTCCAGCCTGGGCGA
51189	PACSIN1	TGGGAAGCTGGCAATCTGCA
51190	MKI67	GTGGCAGGAACAACTATCCTCGTCT
51191	PTPRA	AGGATTGCCTTTAATATTTTGTAA
51192	PRNP	GGCTAAAACAAATCTCAGAACAG
51193	FACL2	ACCATGCAGATAAGGAGCCTCTGGCAA
51194	CAV1	GCTTTTTATTCCTCCTGCTCATA
51195	AXIN1	CACTCCTCATAGCAATACTTGG
51196	F13A1	ACTAAGTAATCTCACAGCATTTGCC
51197	HAO2	ACAAACTCACAGCACAGTGTG
51198	C11orf13	GGCCTCAGGAGCTGGGGGTGCAGTG
51199	TNFRSF17	GATCTCTTTAGGATGACTGTATTTTTCAGT
51200	ZNF236	GTAGGCAGTTTCCTCCTCA
51201	PHF1	CAGTTTCATCCCCATCCCCA
51202	ARNT2	GGGAGCTGGGCTAACAGGCTGA
51203	AKAP2	CACAGCCCCAGGCACAGTGGCAG
51204	CEBPE	CTGCAGAGGGCAGGTCTAGGGCAGAA

51205	FGF13	TCATGATCTCACCTATACTTTGGG
51206	STUB1	ACTGTTTCCCCTCTCAGCATC
51207	MASP2	AGCTCCGGGTTGGGCTGAGATG
51208	UBQLN2	GCCTTTCTCCACCGGAGGACC
51209	ZNF3	AGGGACTGACTTCAAAGAAGGA
51210	SELE	GAGACCAAGACTCTGAAATCTCAGAAT
51211	DMN	CTTCTTTCACATAATGCTGTCTCAGCT
51212	DTNA	AATAAGAAAGCGGCTCCTACTCCAGGC
51213	SUV39H2	GATCATACCACTGCACTGCAG
51214	ITPKB	GAACTGCACTACAAGACACTTTG
51215	PTK2	CTGCCAGGCTGGAGTGGAGT
51216	MRPL49	AGCCCCGGGCTCTGATAGAGA
51217	CTSS	CCCAGCCTCCCAAAGTGCTAAG
51218	NCOA6	AAATTAATTTGGTTTTCAGGT
51219	LILRA2	TGATGATCCCAGGAGGCTCTGG
51220	PDE4C	GAGCCCAGGAGTTGGAGGCTGA
51221	EXTL1	GGGTCTAATTTTAGCTCCAGCC
51222	RLBP1	CAGGTGTCACCCTGTTCTCAA
51223	PPP1R3A	TTGTTCAAAGATCCAGTGCAGTTTTTCT
51224	TNFRSF13C	AAAGGCTGGGGCACTATGAGTA
51225	IL2RB	ACTTACAGGCCTTGCTCACAGCT
51226	RFNG	GGGTGCACGGCCGGGCACCACAGTGGG
51227	CLCN3	GGTTGAAAGCCATCCTACTTTA
51228	LAMP2	GGGCGCCTGTAATCCCAGTTACTC
51229	BDNF	CCTCCTGCTCGGGGGGCT
51230	RAI3	GGCTTGAGTGCAGTGGTGCG
51231	FBXL11	CCTGCTTAGAAGCCAGTCACCAGCCCT
51232	NUP98	GTAAAGCATCCTCTACCTCTCAGC
51233	KCNA5	CTGTGGAAATGGTGAGCGCTGTGAGAT
51234	PDE4C	ATACAAAAATTGGCTGGGCATGG
51235	CD34	AGGCTACAATTTTCTCCCAGG
51236	TJP1	TTCTTAGCTCATTCTCCTTG
51237	CYP3A4	GTGAGGAGGTAGATTTGGCTCCT
51238	GRAF	CTTTGGCAGATGAAGCTCAGTCTCTGAAA
51239	HLA-G	CTGACTTCTCTTTGTGCAGAG
51240	NDST1	CCGTTCCCAGCTGCTCCTGGG
51241	TUFT1	TCTTCTCTCTTTCTCCTTCAAA
51242	ACAT2	TGAACAACCTCAATTTC
51243	GAB2	CAGGCCCCAAACTACCAGCCGTATCT
51244	GJB3	GAGGAGCCGCCCAGATTCTTGCAGTGG
51245	APM1	AGCCTCCTTCTCCTGGGTCCAAGCAA
51246	TACC1	AATTATTCTTTAGCAGTGTA
51247	RS1	CCTAGGGCTACCATTTCCTAGC
51248	DSC3	CAAAGAGATAATGTCACAGTGCT
51249	FSTL1	TCTCTTCTTTTTTCTGGACCTCAGTTTCC
51250	TOX	CTTGCTGTCTTTTGTGCCTCTGCAAGC
51251	UBE2G2	CAATCAGCTCAGCATTCTCC
51252	CTLA4	ACATGTGTAATACATATCTGGGA
51253	DTNB	AGGCTACCATTGCATTTTCCT
51254	SEC22L1	CGGGGGCAGAGGCTTTCTCTGGGTGC

51255	TRPC1	AATACAGTCAGTAGATGTTTTA
51256	AQP6	AGCTCAGGCTGGAGCAGGCATATGAG
51257	FGF1	ACCATAAAAAGAGGATGATTTC
51258	CREB1	GGTGTGTTACGTGGGGGAGAG
51259	GAS7	TAGGGAGGGCTCTGTCTCTAAGC
51260	NCOA6IP	CCGCCCAGGCTGGAGTGCAGTG
51260	YES1	CCGCCCAGGCTGGAGTGCAGTG
51261	NCF2	GCCAGCTGTGTTCACACTGTAAACATT
51262	FCMD	CATTGCACTTCAGCCTGGGCG
51263	LANCL1	TATTTGACTTACTAGTTCTCAAT
51264	SOX12	ATGGGCCGTTTGCACCTCGGTTT
51265	IL1R1	GCCACTGCACTCTAGCCTGGCAACAG
51266	SOX15	GGGTCGGGGAGAGGGACCGG
51267	SNRPA	CTGACTTCCTTTTCGGAGGAA
51268	P2RY6	GCTGGGCTCTGCCCTGGGCAG
51269	CNP	CTCAGCCCCAGCCCAGCCCAGC
51270	FLRT1	TTTCAGGCTCCTCACAAAGGAGA
51271	SNX6	TGAGAAACATGGAGCAGCGCACGCCCA
51272	ALDH3A1	CTCCTCTGCTGACCTGCT
51273	EDN3	TGGTGTATGACAGAGCATTGG
51274	ARF3	AAGTGATCTTGGTAGTATCCCTGG
51275	CLECSF12	ACTCACTGCAGCTATCTCTCGCCT
51276	DIO3	AGGGAGAGAGAAAAAGCTGAGA
51277	PPP2R4	GAGGCTGTTTACTGGGGTGGGG
51278	PPP2R4	AGAGGCTGTTTACTGGGGTGG
51279	HMGA2	AGAAGCAATCTCCTTACTGTGTT
51280	SLC6A3	GCTCCAGGGACTGGAGTGTAATGCT
51281	CACNB1	CTGTCTCTCCACAAGTAGAGCCA
51282	ZNF124	TGATAGACATACTGTGTAAAATTA
51283	RCV1	AATCCTCCTAAGCCACCAGCAT
51284	KCNE3	GTCACCCAGGCTGTGGTGCAGT
51285	TAPBP	CTGAGACAGAGTCTCGCTCTGTT
51286	TSC1	CACATTTAATTCAGCTTTGTCCAAA
51287	SLC2A3	CATTGCACTCTAGCCTGGGCCACAGGG
51288	RB1	CTAAAGGTGTATTTAAACTAT
51289	PMX1	AACTACATTACCATGCTGTGCCTCA
51290	ACCN2	TAATGAGAGACAAGTGAGGTGGA
51291	SYK	TGCCTTAGCATGTGACTCCTGAAGGGA
51292	CHRNA2	AATCCAGCAGAATCCTCACAGA
51293	PTBP1	CTGTATCCTCGCTCCGTTCCGCCT
51294	PIGN	ATCAAGGCTTCAATAAGAAGATGGA
51295	TBL1X	AAGAAATGGCCTGTGGAATGTTAT
51296	GALT	GCTGCAGTGAGCCATCATCATGGCATCATT
51297	TCIRG1	CTAGTCCCGGGCTGGCGGGAGTGCAGT
51298	ASTN	ACTTCTGTTCATCCCCACCTTGCTA
51299	DAPP1	TGGCCAACATGATGAAACCTTGTCTTTACTA
51300	RFX5	CTTTGGGCATATATGGGCCTGGCGAAG
51301	DEFA4	TCACATGCTTCTGCAGCTGAGCTTGCA
51302	ED1	TCTTAGCCCTCACCACAGCCTT
51303	YWHAB	TCTGCCTAACGTTTGCTTCTGTGAT

51304	SPON1	AGACTATTCAATAAAAACTCA
51305	GHR	ACTGCAATCTCCACCTCCCACAGGTTC
51306	FLOT2	CTCCTGTCTACAGCAGCTTCCTCA
51307	CACNG2	GTGTGATCTTTATAATTTACACTCT
51308	FNTB	TCATGCCAAGGCTGGGCTT
51309	CNTN3	TTTGCAGAAACTTGTTCACA
51310	NRF1	TTTGGAATTGCATTTTTTAAAG
51311	ZNF147	CTCCAGGCTGCTGGGCAGCTGGGC
51312	CDC2L2	AGGAAAGAAAAATGTAGG
51313	LMNB1	CTGCCGTCCCCTCCTTATCACGGTCCC
51314	IL1R1	CCGGGGAGACGGAGGTTGCAGTG
51315	PCDHB16	ACTCTTGTCACCCAGGCTGG
51316	PHYH	AATAGCCATCTGCTATAACTCTTTCAAC
51317	KIF3C	CGCCCAGGCTGCGGAGGGGCTCG
51318	CTSD	CAGTCCCAGGGGCATGTATTGGCCTGG
51319	SGCA	CCCTCCTGGAACCCAGGCTCTAAACAA
51320	XKRY	AGAGGCTGAGTGTGACTTTATAAA
51321	SOD3	CTTCTCCTCTGCTCCAACAGACACCT
51322	NRG1	CGGGAGGTGGGTGGCTGCGGGGCAAT
51323	SIGLEC11	CTCTGCCTCCCAAGGTGCTGGG
51324	PPL	CAGATCTGGGCTCCAAGCCAGGAAAGG
51325	NFATC3	TGGCCAACATGGTGTAACGCTGTCTCT
51326	GLRA1	AAAGGTTGGGGGAGGCTGGGAGAGGGG
51327	AQP6	GGAGCACCACTCACTTCTGCAG
51328	RARG	CTGGGGCAGGAACAGAGGGTGAA
51329	ALDH8A1	CAACTTGCTAACCCCAAAAGAAGCAA
51330	COL17A1	TGGGGCGCCTTCCTGGAGGTGACAC
51331	ADAM19	TACTGTGAACTGGAAGATGGT
51332	CAPN10	TCCCTTCCTTTCCTCATTTATA
51333	ED1	GGGGTGGGCTTTGTTGTGAGA
51334	VENTX2	AAGTGTTTACAACTGGCATGTGCT
51335	ENAM	TTCTCTCTCCCTCAACCATTCT
51336	CYP8B1	CCCTAGACTGGAGCCTACTGGG
51337	PLA2G4C	ACCAGTGACCAGCTAGACTGTGATT
51338	FBXL7	TTCAGGAGATTGTGCAGTG
51339	AVPR2	TGCACACACGCCAACAGGCATC
51340	BRCA2	CCTGTAATCCCAACACTTTGAGAAGC
51341	KIF2	GCCTTGATTAAGGCTACTGACCC
51342	RNMT	CCTCATTTCCTGTTTCACCTTGATTT
51343	CRYZL1	ACAATTGCCTGTTTCCTGTCCTTTACA
51344	EN2	TGGTCTATGACTTCTGCCACT
51345	NOTCH2	CATGTGGCAACATTCTGTCAG
51346	RP42	TGTGGTTGCCAAATATTTACT
51347	EIF2B1	CAAAACTGAGATGTGTTTAATGAAGA
51348	ARHGAP6	GGCGCTGGCAGGCTGGAGCTGGGAACCCA
51349	SLC7A8	TTCACAGTTTGTTTTTCTA
51350	GATA1	GCCAGCCAGGACACCCCCTG
51351	ATBF1	GAGCTCCCCTCCCCTGTCTC
51352	NMB	CCTGCTGTATTTCCTGCTTCCCTGTT
51353	EHD2	GCATGAGCCACCGTGCCCGGCT

51354	RABL2A	GCATGAGCCACCGCGCCCGGCC
51354	RABL2B	GCATGAGCCACCGCGCCCGGCC
51355	YES1	GCGTGAGCCACCGCGCCCAGCC
51356	TRPC5	AGGAAGAGCTCAGGGTTGGACA
51357	IL11RA	ACCTGTAAGGACCCAGGAGG
51358	TIMP3	CACTACCCTTCCA
51359	MYCL1	CTTGAGAGAAAAAATAGGATAA
51360	GJB3	AACACTTAGTGACTATCACAGCCGA
51361	NRXN2	GTGGGTGGGTGGGGTGGGGTGGG
51362	OGT	GACACACAACCTCCTCCTCCTCT
51363	TEX15	TTTATGTTTCCCTCAGTCATTTGGTT
51364	MYH8	AACACTTCTGAACCTGCATT
51365	ALEX3	AGTCCTTCTTGTCCTGGTCGT
51366	GNAL	GTCCCCTCAGGTTTGGTT
51367	PTPRC	CCAGTGAGCTTATCATGCTGTC
51368	HOXA3	GGAGGGGGAGAGAGCAAGGAGATCGG
51369	CDKN1A	GCTCTACATCTTCTGCCTTAGTCTCA
51370	DSCR3	ACAGTTTTCCAAACTGTGTCAC
51371	ATP7A	GTTTCCTAGCTCTGTGCTCAG
51372	CENPB	CCCACCCCCCAGGCCGCCT
51373	CUBN	TAAGATCACACCACTACACTCC
51374	STK18	ATATAGTGGATATAAAATAG
51375	FZD4	CCTTTCTCCTGCTTCATATAGGCC
51376	GABRA2	AATAACTGCTAATTTGTGATCC
51377	GART	GTAAGTTTGGAAAGTTTAGCAAA
51378	NYX	CCTCCTCCTCCTCTCCAGGGGC
51379	RCN1	CCCTGTTCTTCAGAAGGTGAG
51380	GRAF	AGCTCAGTCTCTGAAAGATGAG
51381	ZNF278	GCTACTGAAAGCTATCCCAGGT
51382	FUT9	GAACCAAATAAACCTACCATTAC
51383	CX3CR1	CTGCCCATCTGGGAAAATACCCCAT
51384	NR2E3	GGGAGAGAGGGGCAAGCATGAT
51385	HDAC5	ACTCTCTCCCTGTGGCTGGTCT
51386	ZNF8	TGGCTGGAGTGCCTCTCTGGTCT
51387	CASP6	GCAGGAGAATCACTTGAACCCAGGAGG
51387	EIF3S2	GCAGGAGAATCACTTGAACCCAGGAGG
51387	FCAR	GCAGGAGAATCACTTGAACCCAGGAGG
51387	LUZP1	GCAGGAGAATCACTTGAACCCAGGAGG
51387	NUP62	GCAGGAGAATCACTTGAACCCAGGAGG
51387	POLH	GCAGGAGAATCACTTGAACCCAGGAGG
51387	ZNF36	GCAGGAGAATCACTTGAACCCAGGAGG
51388	GYPA	GGAGGCTGGGAAGGCGAAGGGCAT
51389	EHF	TTCACTGCAAGAGTAACAGGATTT
51390	SPTLC1	TTCCCTGGGAGTCATCAAAGA
51391	REV3L	CTCCAGTATGTGTACCATCTTGTAAATTC
51392	DYRK1A	CGTCCCGGCTGAAGTGCAGTG
51393	TMPRSS3	AGCCTCCCACAGTGCTGGGATT
51394	LPIN1	CCTGGCCTCAGACTTGGC
51395	MYH3	TCTTTTTCACATGCAATAAA
51396	IL2RB	AAAATCTTTGTTACTCTGTAAA

51397	IKBKAP	AACTTCAGCAGACAACAAGCAATT
51398	C18orf1	TGGAGAGACTGTTCCAAACCCCAAG
51399	AQP6	CTGTGTCTTCGCTTCCA
51400	PSMC6	TTGTAAAATATTGAAAGTGGTTTGAG
51401	GRM7	CCATGTTGGCCAGGATGGTCTCCA
51402	HDAC4	AGGGCAGATGGCAGAGGAT
51403	GPR4	CCCATGCCTGGCTAATTTTTGT
51404	SOX13	GGATCGCTTTGTACTTTGTGCAAA
51405	TNFSF12	CTCAAGGCTGCCCCCTTCCTCA
51406	HUNK	ATTGTGTCTGTGCCCCTGTG
51407	CRK	AGGTATCTTGCCTCCTTTCTCTC
51408	SMG1	CACCACTTACCCGTTCCCCCTTTACCTA
51409	FMN2	TATTCCTCGTCACAGCAAAAACACTT
51410	H3F3B	CAAAACTCCAGCCCACTGAACCTCT
51411	GM2A	CACCAGGCTGGAGTGCAGTGGT
51412	SH3BP2	CACTGGAGGGAGATTTGATGGG
51413	DIO3	GCCTGCAGCCACCATGCTCCACTCC
51414	TAF5	TTTCTGCTGTAAAAACGTAGTTACT
51415	RNF4	GGTTGAAGAGTGGCCCCTTGAGG
51416	CETN1	TCATCTGTTGATCTGGAGGCAGG
51417	ARHGEF1	ACTTGGGTTCCCGCCCAGGAAG
51418	B3GALT2	GTCACCAATCTCTCATATACC
51419	ATP1A2	CCAGCCTGGGCGAAAGGGTGA
51420	ROCK2	GTGGCCTGTAATCCCAGCTACTT
51421	PRSS16	TCATGATTCTGGTGGAGATT
51422	EZH1	CACTGGCAGAGGGTATCTGAAGTGGGA
51423	PAX3	GGCCGCGCTCCAGCCTCACCAGGC
51424	CAV1	TGCCTAGACCCGGCGCAGCA
51425	JUND	CACAAACCCGCGCGTCTCGGCTGCCC
51426	RAC2	GCTCTTACTCCCTCCTGAGGCC
51427	LRP1	CCCAGCCCCAACTCCAGGGGCACCTAT
51428	IFNAR2	CATCTGGAAGAGATGGTTGACCCAGAG
51429	IGFBP3	ATCCAGGACACTGGGAGCACATAGA
51430	CYBB	CATCCTAAAATTAACAACCCAGAAAC
51431	PDE6H	TATGTCACTCCCCACCTCCTC
51432	CELSR2	TCACTGCACTTTGGACCCCTGGGGCCA
51433	GAB2	TACCACTGTCCTCTGCCCCC
51434	CHRNE	CTGATCAATCTGCAGTTTGTGA
51435	KPNA1	AGACTAAATCTTTATCTTGAAT
51436	CEBPE	GGAGGTAGAGAGAGGGCAGCCGG
51437	PDYN	CCTGTCTGTCTGTCTCTCTTTTGC
51438	KIF1B	CTCCTTGTCCAGCACTTT
51439	TSLP	TCTACTTTAATTTATTTTGTGA
51440	SHC1	GTCTGAGCTGGGGAGCGGAAGCCACTT
51441	ADCY1	GAGGCCTGAGCCCTGCCTATGC
51442	AK2	CATGCCACAATCCTATGCTCTTGCCT
51443	C1orf6	TTCCAAACAGCAGGGTGACTTTAG
51444	BRIP1	GGTCTCGAACTCCTGGCCTCGTGATCT
51445	MPHOSPH1	GTACCCTTACCAGCCA
51446	APBB2	GAAGTTAGAGGGTAAAGAGCCCCACC

51447	ID1	GAGGAGAGGGCGCTCCTCTCTGCACACCT
51448	ORC5L	TCTGGGTGGATGTGAGCAGAA
51449	ATRN	TCATTCTCAGGCTGGGGTGGACTCAGAT
51450	AP2M1	AGCTCTGGAGTGGGAGGGTTGG
51451	TMEPAI	GTCCCCGTGGGGTGGAGCATGGT
51452	VIPR2	CCCCACCCCTGCCTGTCGGACGCGGCG
51453	ACADSB	GGGAGAGAAGGGGGCTGTACAG
51454	BRF2	TTCTGGCCCTACGTGCATTCACAGGCA
51455	DDX26	CCTCTTCGCCAGCTCCCAGGTCCC
51456	TNFRSF17	GTCAGATCTCTTTAGGATGA
51457	ZNF133	GTCTAAGGCTGGAAGTTTAATGAA
51458	GATA6	GCCAGGACTAGGACCTGGGCC
51459	FOSB	ATCCCAGACCCATTCCTTAGCTATTTA
51460	HM13	TCTGCCACTTAATAGCTCTGTGAT
51461	CMAR	CACCCAGGCTGGAGTGCAGTGC
51462	MTMR3	GTAGGGTTCCTTAGAGAAGTGACAT
51463	VIP	TTCTGTGAAATACATTTTGGA
51464	MAX	GGCATTTGCTGATTTCTAGTGTAT
51465	TFRC	TCAAGCCAGTACGTGCTAACA
51466	ABCB11	GCAGGAGGGATTGCTGGGATT
51467	PYGO2	TCTGCTCCCTCTCGCTCTCTC
51468	CAMLG	GACCTCAGGTGATCTGCCCACCTCG
51468	FTSJ2	GACCTCAGGTGATCTGCCCACCTCG
51468	NF2	GACCTCAGGTGATCTGCCCACCTCG
51469	ARHGEF7	GCAGAGCTTACTGTCATGGCTC
51470	101F6	ATGTGTCTGGATGAAGCTGGGGCT
51471	EMP1	GGGAAGTGGAGGTTGCTGTACAGGAA
51472	BECN1	GGACTCCTTTCCCTTTCTTCTCTGAAA
51473	RNF4	CCATTAACTTTCTTCTGGGC
51474	GABRE	ATCTCCCTCTCCTTGCT
51475	PCSK2	TCATTTCTAAAAGAATATTCAGAG
51476	PCDH11X	GCTGCACTCAGCTGCCCGCGCGGCAA
51476	PCDH11Y	GCTGCACTCAGCTGCCCGCGCGGCAA
51477	NGFR	GGGGCCATGAGGCCTCAGTGGA
51478	GRIK3	AGCCTCCTGCCCTTACCTGCCA
51479	DNASE2	GCTCACATCTGTAACCCCAGCA
51480	SURF5	AGTCCTAGAGTTTTCCAGGGGG
51481	TEX15	TTCATGCTCTTGTCATA
51482	CD2	CAGCCTATCTGCTTAAGAGACTCTGG
51483	RGL	TCAACCTCTGCCTGCATCTGCCA
51484	UROS	CCTGACCTGGGGCTGGCCTCAGGCC
51485	LRRC2	TGGGAGGTGGAGTTGCAGTGA
51486	PACSIN1	CCTCTGTCCTCTTCTCTGGC
51487	KCNF1	CTCCTCTATGTTGCCTGCTGT
51488	HPSE	AGACGTTCAAACAGGCCAGGCTCCAG
51489	LRP4	CCCACCCCATAACTGTTCCTAAGCCT
51490	COL4A4	CTCTATCTTTAAACGAAACAAAGACA
51491	CTBP2	GCCCATCGTGTGAACTATAGAG
51492	WASF3	TCTGTTCTCAGGATGGAGAGAA
51493	MYH9	CCTCTCTTGCCAAAAAGCA

51494	POU2F2	CCTCCATCTCCAGCAAGTCTCCT
51495	ABCG1	GCTCAGCCACTCTGCCCAGCTGGG
51496	OGT	CTGACTTCTTTATTTCAGAG
51497	SOX10	CCTGATCCAATTCTGTGCCA
51498	IL12RB1	GTCTGTTGGCAGACTGGAGTGCAATCATGG
51499	AP2A1	TCCCCATCCAGGGGCTGTGTAT
51500	RAD52	CTGGTTCCTGTCTGCCGTTTTCCC
51501	CDC25A	GGGCCTGGGACTTCCATGCCTTAAA
51502	GCK	GCCCCAGGGAAGCAGGCTAGGA
51503	GP2	GCCATTGCACTCCAGCCTGGG
51503	NT5C2	GCCATTGCACTCCAGCCTGGG
51504	ZNF85	ATGCTCACACCTTACTGCACAGAAAAG
51505	DFFB	GAACAGCTATCACGTTGAACCACGTGA
51506	ATRN	TCATTCTCAGGCTGGGGTGGACTCAGATG
51507	MAGEA8	CTTGCCTTACCTGTACCT
51508	EHD3	GATGCAGCCACTGTCTCTTGTCA
51509	DCK	CTCTTACTTCCTGCCTCAGTCTG
51510	KAL1	TTGCACAGATGTGTAAGCTTGT
51511	PLGL	GTTTTATTTGAAAAGTAATGTATCTT
51512	UBE2V1	GCAAACTGAGTGATGAAGGAA
51513	FGF5	TGCTATCCCTCCCCTCTCCACC
51514	TRPV1	ACAGTCTCCAGAAGATCAGCTC
51515	GPRK6	AGGGTGGTCACACCTGAGCCTTCA
51516	CRIM1	GTATTTTTATGAGATTTTAACC
51517	DISC1	GCAGCCCAGGCGGAGCGGGAGGAG
51518	ZNF74	GGAGGTCAAGGCTGCAGT
51519	GRPR	AGAAATAGCATCTAAGGGAA
51520	FGD1	CCCAGCCCTGCCTCCTCAGCC
51521	RDS	CTGCTCCCCTTTTAGAATTTACC
51522	PLAG1	CTTCTTTCCTTTTTGTAGGGC
51523	PLAG1	GCATTCCAGGCCGAATTTTGTAT
51524	GPR48	AGCCTATTCAATAGCTCAGAG
51525	EGLN2	TCCTACCCTGTCTGGTCA
51526	PCDHGA1	GGGCCTCTGTGGGTGCTGGGTA
51526	PCDHGA10	GGGCCTCTGTGGGTGCTGGGTA
51526	PCDHGA11	GGGCCTCTGTGGGTGCTGGGTA
51526	PCDHGA12	GGGCCTCTGTGGGTGCTGGGTA
51526	PCDHGA2	GGGCCTCTGTGGGTGCTGGGTA
51526	PCDHGA3	GGGCCTCTGTGGGTGCTGGGTA
51526	PCDHGA4	GGGCCTCTGTGGGTGCTGGGTA
51526	PCDHGA5	GGGCCTCTGTGGGTGCTGGGTA
51526	PCDHGA6	GGGCCTCTGTGGGTGCTGGGTA
51526	PCDHGA7	GGGCCTCTGTGGGTGCTGGGTA
51526	PCDHGA8	GGGCCTCTGTGGGTGCTGGGTA
51526	PCDHGA9	GGGCCTCTGTGGGTGCTGGGTA
51526	PCDHGB1	GGGCCTCTGTGGGTGCTGGGTA
51526	PCDHGB2	GGGCCTCTGTGGGTGCTGGGTA
51526	PCDHGB3	GGGCCTCTGTGGGTGCTGGGTA
51526	PCDHGB4	GGGCCTCTGTGGGTGCTGGGTA
51526	PCDHGB5	GGGCCTCTGTGGGTGCTGGGTA

51526	PCDHGB6	GGGCCTCTGTGGGTGCTGGGTA
51526	PCDHGB7	GGGCCTCTGTGGGTGCTGGGTA
51526	PCDHGC3	GGGCCTCTGTGGGTGCTGGGTA
51526	PCDHGC4	GGGCCTCTGTGGGTGCTGGGTA
51526	PCDHGC5	GGGCCTCTGTGGGTGCTGGGTA
51527	USP9Y	TTAGATTTGCCATTGTAGCTTTTCT
51528	EHD3	GGGTCCCCAGGGACTCTGCAGTGT
51529	ABCC3	TAGCAAACACTGGGGGCACCTTA
51530	LAD1	GGGGTGAGATAAGCGGCCATGTGATCC
51531	IL17R	GCCAGCCTGGCCAACATGGTG
51532	FCAR	GGAGGCAGCTGTTGCAGTGAG
51533	APLP2	GCTCACTGCTTCTGCTTTT
51534	P2RY1	ACAAGTGTTCACTCACATCTGTAAAA
51535	FPRL1	GCATTTTCTACATGTATTA
51536	PPM1D	ACTGCCTGGCTCTGCTCGCTCCGGC
51537	CSRP1	CCTGCTTCTCCAGGCCTCTTGCCTTTGA
51538	PPP1R2	ACTGCTGAACTGTGAGTGCAGT
51539	SIRT5	ATTTCTATTTTCAAGGTGTTAA
51540	PRKCSH	GACTTGACCTGTGACCTCA
51541	MAP3K7IP2	GGCCCTGTATCTTCTCTAAAACC
51542	KCNJ1	CTCTTGCATCAAAGGTGCAG
51543	ADORA1	TGGAAGCTCTGTTGCAGGT
51544	ADAMTS4	TCGCCCAGGCTGGAGTGC
51544	ALDH1B1	TCGCCCAGGCTGGAGTGC
51544	CASP8	TCGCCCAGGCTGGAGTGC
51544	FEZ1	TCGCCCAGGCTGGAGTGC
51544	FHL2	TCGCCCAGGCTGGAGTGC
51544	INMT	TCGCCCAGGCTGGAGTGC
51544	KCNJ11	TCGCCCAGGCTGGAGTGC
51544	LYZ	TCGCCCAGGCTGGAGTGC
51544	PAICS	TCGCCCAGGCTGGAGTGC
51544	PCDHB9	TCGCCCAGGCTGGAGTGC
51544	PIGR	TCGCCCAGGCTGGAGTGC
51544	SLC13A1	TCGCCCAGGCTGGAGTGC
51544	SPN	TCGCCCAGGCTGGAGTGC
51544	SS18	TCGCCCAGGCTGGAGTGC
51544	STAU	TCGCCCAGGCTGGAGTGC
51544	TAPBP	TCGCCCAGGCTGGAGTGC
51545	DFFB	TTGCCCAGGCTGGAGTGT
51545	HYAL4	TTGCCCAGGCTGGAGTGT
51546	REGL	GCCAATACTGCCTACTGTGCTA
51547	PPP1R11	CAGCCCCCTCCTTCCCTCTCTTCTGC
51548	TRPV1	TTCCAGCAATTCTCCTGCCTCGG
51549	TTC3	GATATTAAGTAATTTCCCCACTCTGAG
51550	CASP3	TGTCAATGACAGTTTCTTTT
51551	NOTCH1	CCTGCACTCCTCAGGGCAG
51552	CAMK2A	CGGTACCCTCGACCCTCCTGGG
51553	H1F0	TTTTCTCTCTTGATGCTCA
51554	INPP5D	CCTCCTGCTGGCTCCTCCTGCC
51555	TGFBR2	GCCGGCCTCCAGGCCCCTCCTGGCT

51556	PPP2R2B	GTGAGCTTGGCAGGGCCAGGC
51557	MIR16	GGGGGCAGAGTTGCACTTTT
51558	SET	TGTATAACATCACTGTCAAACTTT
51559	IDH2	CACCCATGGCTGCAGTGGAGGG
51560	ADD3	TTTATTTCTCAATACCTGCTTCA
51561	TTC3	AGTGAATACTTTGATGATTGCCAA
51562	IL1A	CCAATCATTTTAATTATTATTCTT
51563	TCF2	CTCCTGCCTGCTCCAAGAAAAGGGC
51564	PTGFR	GTCTTAAAAATGATGTTAACCC
51565	HSD11B1	AACTTTATAAATTCATAACTGGT
51566	ALDH1A1	TCTCTAGCTTTGTCA
51567	CTSG	CCAGCTCCACAGTGTTGCCAGAGCCTT
51568	ECEL1	CCCTCCAGGACCCGGTCCCCCTGCTGC
51569	HPS3	ACACATATATGATACAAATGCTT
51570	TEM6	GGCCCAGCTTCTGAAGGGA
51571	NFATC3	CAGAGCAAGACTCCGTCTCGGG
51572	CAD	GAGCTCCCTTCCCATGGCGGCCCTAGT
51573	FLRT2	ACAGGCTTTATTTTCACCTTGTGTACA
51574	F2RL2	CACCCAGACTGGCGTGCAGTGG
51575	GPRK7	GTGGCTCATGCCTGCAATTCCAG
51576	EFNA1	TGGATGGGCAAAGCTTGTCAA
51577	CASP10	ACCTGTAATCCCAGCTACTCGG
51577	PAICS	ACCTGTAATCCCAGCTACTCGG
51577	RFC2	ACCTGTAATCCCAGCTACTCGG
51578	FLOT2	AGAGACACTGTCCTTCCCCTCATCCA
51579	ADCY1	GTAGACCTGTGTGTGGGACCT
51580	SPN	TGAGATTACAGACATGAGCCTC
51581	PPP1R11	GAGGAAGAAGAGGGCTGTGGT
51582	EDNRB	TGCATTTTTCGGACACTGGAAA
51583	TEM7	ACCTACACCAGAAGAGTCAG
51584	KCNK7	CCTCCAGGACCTGGGAAGG
51585	PMM2	CACGTGCTCACCCACCCGCA
51586	USP9X	CAAAAGTTAATTTTCTTGTTACA
51587	DUSP5	TCGGGACTGAAGGAAGGCCAAGCCATT
51588	USP18	CATGAAGATGGAGTGCTATG
51589	TH1L	CAGAACCCGTTGTGGAAA
51590	GOCAP1	CTCAAATTGAAACTTTTCTGCACA
51591	SMAP	CATCAACCCTCTAATTCACCTT
51592	NGB	CTGGAGGGGGCGGGGGCCGTGGCGGCTTT
51593	RPS6KA1	CCTTCTCCTTCCCCAGGATGGACTCT
51594	APCS	CTGGTCACTGCTTCTGCTATA
51595	CHRNA2	CAGGTGAGGTGGGAGGTTGGA
51596	MID2	AGCCCAGCCTCCGTGGTTCTTAATGC
51597	KCNJ10	CTCTCCTCTGCCATGAGGCC
51598	SLC3A2	TGGCTTCTGATTTTTCTCTTTTTT
51599	MPHOSPH6	TTCTTAAAGCCCCAGGATTAGATGGAT
51600	KCNQ2	GGGCCCACAGGCAGGGGTA
51601	PXN	CTCTTCCTCATATTTCAGCAGTG
51602	ADAM30	TGCCCCTCAGTTTGTGACC
51603	ADCY6	GCGATCTTTGCTCACTGCAACC

51604	GSTM4	CCTGCAGCATGGCCCCTGCCTTAGGC
51605	RFXAP	TTTCCAGGAACATCAATGTGG
51606	PDE4A	CTTGGATGAGGCAGGGCCAGG
51607	FLRT2	CTGACTTTGATCCTGTTCCACTTTTGA
51608	LMO4	GACGCCTGGGTGCGCCTGCCTGCCGGC
51609	KITLG	AAACACCTAGCTTTATTCTT
51610	GALNT7	GATGTCAGGGGTTTGAGACCAGCCTG
51611	JPH3	CTGTACTGTGCCTGCCTCAACTTCC
51612	WASF3	TGTTTGTGAAGCTGCCTGGTGTT
51613	LAIR1	ATGCCACCTCCAAGCTTGTCCTA
51614	IGF1	CACTCACTGACTCTTCTATGCA
51615	RPL10	TGCTGGTTTCAGGGAAGGAGT
51616	STAU	ACCATCACCACTGCTTTCTCTTCCA
51617	VASP	TTGGGGCCGGTCCCTCTGCTG
51618	MSN	CTCCCCTCCTCTCCCCTCCA
51619	LTC4S	CGCTGCTGCCGTGGGCCTGAGA
51620	OPRM1	CTGCACATTAGAGGGACAGCCAAA
51621	CRYGA	CCTTTTGTGTTGTTTTTGCC
51622	PTP4A2	CTACATCTCCCTTTTCCCCCGATCCA
51623	ZNF138	GCCCAGCCTCTGTGGCGCT
51624	SYNGR1	TTCGTGGTCTCTCAAAGGA
51625	SORBS1	CTGAAAGAAAAATAACTGACA
51626	HPS4	TCCTCCAGGCCGTCAGCCTGA
51627	TFG	AGAGCATTTTTTATGATATC
51628	APAF1	CAGACTCCTGGGTTCAAGCAAT
51629	SPTBN1	CTCACCCAGGAAGTGCAAG
51630	EGFL6	TAGACTTTTGCCTAAGTGGCTT
51631	IRTA2	TGGAGAGGGAATGTGTGGCTC
51632	ARG2	TGTCACTTAGGGATAACACTGT
51633	FLG	GCGGGGTCCAGGAGAAGCAGGCG
51634	IGF2	TACTCTCCTCGGCCCCCTCCATCG
51635	LATS2	AACTTTGACAAATCATGCTGCTGT
51636	INSL5	TATTAAAATGATGGCTTTTGG
51637	GRB7	CAAGGGCACACAACTGGTTCCGTTA
51638	MPL	ACCCAGGCTGCAGTGCAATGGC
51639	AOAH	TGGGGAGCACAGGGAGGCAGA
51640	MMP19	GATGCCATGATGCTGGGTGA
51641	AQP6	GTCAGCTCAGGCTGGAGCAGGCATA
51642	PPIF	GGAGGGCCCATGGGGGTAGGAGCAGT
51643	TLR6	TGGACTCATATCAAGATGCTCTG
51644	SOCS4	GTTTTCATCTTCTAGTTTGTCTA
51645	INPP5D	GCCTTAAGGAGCTGAAGAGTCTGG
51646	AHR	TGCCGCCCAAACTGGAGTGCAGT
51647	SLC18A1	GCTGCAGGAGACCTGTAGCTG
51648	HLX1	GGGCCTTGCGTGCAGCCTCCCA
51649	PTPN7	ACTCTACCCCGAGACTGCCTTC
51650	ALDOA	CCGTTATTTTAGGAGGTCCCTG
51651	PRX	AGGCGGCCACAGGCGAGGGTG
51652	RGS16	GAGCCCAGGCTGGGGAAGTG
51653	ABCC3	CCTGCCCCTGCCCCATTTCCTCCTC

51654	IL4R	CTGGGAAATGCCACCTCCTGGAAGGCA
51655	TAF11	CACCTAGGCTGGAGTGCAGCG
51656	ARHGEF6	GGAGGTCAAGGCTGCAGTGA
51656	ZNF74	GGAGGTCAAGGCTGCAGTGA
51657	MCC	CTCCTCTTTCCTCCTGCTTCAT
51658	CBFA2T2	AGGATTACAGGCATGAGCCACT
51658	MPL	AGGATTACAGGCATGAGCCACT
51659	P2RX7	TGGGAGGTGGAGGTTGCATTGA
51660	IL1F5	GCAGTTTCAGGGCCCCTCCCTAGGCC
51661	KLF7	GGGGTGAGCCAGACAGACTGA
51662	ABCA1	TGCTCAGAGTCTATCAACATT
51663	FGF7	GTCATTCAAGTCCCTTTACA
51664	DNMT3B	TCCAATACTCAGGTTAATGCTGAA
51665	E2F3	TCACCCCGAATTGTCCTTCCTCC
51666	HNRPK	TGCTGGGAAGAAATTCCATC
51667	VDR	AGAGACACCTGCACCTCCC
51668	MCL1	TGCTAAACTTTGTTCTGTTCAG
51669	PUM2	ACTCATTCCCATTTGTCCCA
51670	F7	CCTCAGGCTGCTGCTCTGCCTTCAT
51671	GDF8	AAAATTACAACACTGCCTTT
51672	SH3BP4	TGACTCACATAAAATCAGGAACTTGA
51673	CALM1	AAATTACAGTTTACGTCCATT
51674	TXNRD1	TGCTGTTGCCAAGACTGCAAACCACTG
51675	NHLH1	GGAGTATTTGCAGAAGGCTCAGGCA
51676	HNMT	AAAATTATATTTTGAACAACTCGA
51677	NF2	CCTGGATTTCCACCAGGAG
51678	TRPM4	ATGTCCATCTGGGCCACTGTC
51679	ABCB9	AGGCCTGGCCTCGCCCTGT
51680	ABCC3	CCTGCCCCATTTCCTCCTCA
51681	IL6ST	CCGTGCATCGCACCTATTTAAGAGGGA
51682	MLC1	CTGCCTCTCTCATGGCTTGGGCT
51683	DUOX2	AGCAGTTTGTTCCTTTTCA
51684	DTNA	TGCCCAGAGTTAAAGGGAAT
51685	AXL	ACTGCAACCTTCACCTACCGAGTTCAA
51686	OPCML	TGCCACACACAACAAAAC
51687	OGN	TCTCAACAATGAGTAAAGGAACTTAAG
51688	ATP8B2	GGTACCCATGAGCAGAGGGTAGTGG
51689	PKD2L1	AGGCTGGGCTGTGCCTCTGCTC
51690	LILRB4	TTTTTGGTTTCTTGCTGTTGC
51691	F2RL3	CTCACTGCAAGCTCGGCCTCCTGGGT
51692	KIF3B	CTTCTCTCAAAATGGATCCGATA
51693	AICDA	AGCATTGCAAGGAAATTGTGC
51694	CDS2	GGAGAGGGAGCTCTCGGGTCGGGGCTAGGGA
51695	COL19A1	CTCAGTGTACTTAAAATTTTA
51696	RAP1A	GCCAGCTGAGAGGTGGTAGAGCAGGA
51697	NCOR2	GGAAACCAAGTCAGGCCAGGT
51698	SCD	CCACAAACCCTGCTGAACACAGTGTCT
51699	CNTNAP2	GTAATACACTTCCTGTAAACAAATGGGG
51700	RFC1	TGGCCTTTATAGGACCAATGCTGAT
51701	TCF3	CCCCGAATCTCAGCCACCGTGTCACTC

51702	DDEF2	ACATAATATGCAGCTTAGG
51703	HUNK	AGAAATCAGAGAGTGGCTGCCATG
51704	YES1	TATATGCACAAATCTGCCA
51705	SIAH1	TAATCTTGAAGGTTAGAGATAAA
51706	KCNMB3	GGGAGGCGGAGGAGGTTGCAGTGAACTGAG
51707	NRCAM	GCAGTAAGAAAGATGTC
51708	TRPM6	TTTGGAGCAGAATCCTGCACATT
51709	GALT	GCATTAATAAAACTGTGCATCTCAA
51710	WHSC1	CTCCAAAGGGGGGAGCCTTCT
51711	HPS4	CGTCTGTTTGTAGGGCTGCCAG
51712	HS2ST1	TTTCCTGGCTAAACGTTGGTGA
51713	CLTB	GCATGGGCTGGGCCTGGGCACA
51714	MAN2A1	AGTCCACAGTGCGCTGTCTC
51715	KRT16	TTCCTGAGCACCTTTCCTTCTTTCAG
51716	C2orf3	GAATTAAATGCACTGGAGCTTT
51717	SFRS7	AGATAATTCAACCATCTAATCAAAATG
51718	ATP1B2	TATTCCACCTCCTTCCCCTGAG
51719	SOX9	GAGTCATTTGCAGTGTTTTCTGCCACA
51720	KCNB1	CAAAGAGACTGTGTGTTACTGAA
51721	MYBL2	AGGGGTTGTGGGGGCAGAGGGG
51722	CLECSF12	TGCCCAGGCTGGAGTGCAAC
51722	PRND	TGCCCAGGCTGGAGTGCAAC
51723	ALOX15	GACACCCAGGCTGGAGTGCAGT
51724	MTMR4	CTTGACACCTTGAGGGTAG
51725	B4GALT6	TTTTGAGCTTTAGACCTCAGCC
51726	CLCN5	TCTAACTGTTGTTACTGGA
51727	NKTR	ACCATAAAAATGAAATT
51728	ATP7B	AGTATTTAGGATGACTGCTGT
51729	SNK	GGGGAGGGAGAAGGGAGGAAGC
51730	SERPINA5	GAGGCTGGATGACTTGCTCAA
51731	COL15A1	GCACATAATTACTACCTTCCCCTTGGCGGCT
51732	DCLRE1C	CCAGGAGATTGAGGCTGCA
51733	THY1	TAGTGCCACCACAGCTTATGGCAT
51734	SOX8	AGTGGCTGAGCTCCAAGTGCCTGCTGAA
51735	CD97	TGTCTTTGCTGCAGAACTGAAGAGACTA
51736	MCP	GAAATCTTTTTTGTTCAAAGATTAATGC
51737	SIX3	TTCTCCTCTCCTCTCAGGTCAGTCCAT
51738	IL12RB1	TGGAGTAGCTGGGACTACAGACATGC
51739	UPF3B	TGGTTCTAAAATCAAAAGCTGT
51740	DEDD	CCAACATGGCGGCGCCGAGCCT
51741	NOTCH2	TTCTAAAGGTAGTTAAGATGAA
51742	ERBB2IP	GAGAATTGCTGTGGAGA
51743	PITX2	AGGACTAGTAGAGCGTCGCGCTCCCT
51744	ADORA2B	CACCTGTAATTCCAGCACTTT
51745	MAFF	CATCTGTAATCCCAGCACTTT
51746	FTSJ2	TCTCGAACTCTTGACCTCAGGTGATCTG
51746	TRPV1	TCTCGAACTCTTGACCTCAGGTGATCTG
51747	RP2	TCTCGAACTCCTGACCTCAGGTGATCCG
51747	TRPV1	TCTCGAACTCCTGACCTCAGGTGATCCG
51748	CLASP1	GCTGGGAGGGAGTCATCGTGACTGC

51749	LNPEP	CCTGTTTTGGAATTCTGTTCTATTCCT
51750	ITGB7	GTGGAAACTAAAGCCCAGAGAG
51751	PLSCR1	GGAACAAAAATCAGGAGTGTGG
51752	ZNF165	AGAAGAAAAGTTGTCTGGGA
51753	BHMT2	TCAAGCCTGACCTGGAACC
51754	ZNF161	CCTATGGGAAAGGTGATACCAGCTCTG
51755	KCNA6	CCCCTTTTGTTTCTCAGTAAC
51756	CMKLR1	CCCTGGGAAGCCTCCGGGTGATAGG
51757	FPGS	AGGCATCCAGGCCAGGGCTCCT
51758	CBFA2T2	TCGGTCAGGGAGCGGCCTGCCTC
51759	TNFRSF1A	TGCAGGGGCAAGCAGGAGCTAGC
51760	NFE2L1	GTACACAGACACAGGGTG
51761	RAD23B	TGTCTTTTCCCCTTCCCTCAGCAG
51762	EIF3S10	TTTACTTGAGAGAAGGTGAGT
51763	DAG1	GTTTGCTCTCCCGCTGTTGCC
51764	ARF3	TGTTACCCAGGATGCAGCAGGT
51765	HMX1	CCAAGCCCAGCGCAACAAAGGA
51766	BCAR1	GGTCACCAGACGGGGCTGGAGTGTGAGG
51767	EPHB4	GTGACTCCCTTGCCAGCTCCAGA
51768	TACC1	TCATGCCACTGCACTCCATCCT
51769	ACCN2	CTCAACAAGGATGGAACTGA
51770	IL1R1	CTGTCTCTGTCCCTCACTGCCT
51771	SCAP1	AACCCAGGAAATATATTCTTCC
51772	SLC4A8	TCAGCACTTGGCATCTTGTCA
51773	CAPN1	GGGCTCGGGATGGACTCCCTGG
51774	CLASP1	TTCTTCTCACACAATTACTTA
51775	IL24	CCTTCCTATGCTGTTCACTGG
51776	ROCK2	TACGCCTGTAATCCTAGCACTT
51777	MXI1	TCCTCACAGTCCCACTGTGCAGGTGCTATTG
51778	TAP2	GAGCCCAAAGCCTTTGGTTCCTCAGTT
51779	HRH1	AGAGACACGTGGCTAGGGTTCCA
51780	SNAI1	TGGGCCTGGGAGGAAGATGTTTACA
51781	IGFBP4	CTGAGTCTGAGTCCTGTCTCTG
51782	ITPR3	GTTTCATGACCGCTTGTTTTTC
51783	RIG	GAAAGCATGCTTATACAATCA
51784	MYOC	CAGGGCCCAGGCAGCTTTGA
51785	RANBP2L1	GCCAGAATAAAACCACCAGGAA
51786	GYPA	GCATGGCACTGACATCTGCCTTGT
51787	ZNF135	ACTGTCTCAGTAAACAGCTGT
51788	SYT4	TGTGTTTGATATCACAGTGTTTG
51789	SALL1	CTATGAACTACAACATTATGAAGA
51790	RP42	AGGCAATAAAAGCTGCAGTGA
51791	GRAF	AGAGTGCAAAAAATTAGCCGGG
51792	IL2	TTGCTACCTATTGTAACT
51793	CLCN3	CCTGTTTGCTCACATGCAAGACACA
51794	PAX3	TTACCCAGACTGGTTTGGGCAAGCAG
51795	LDLR	GGACACTGCCTGGCAGAGGCTG
51796	RABIF	TTTGAGACTAGCCTGGGCAA
51796	SLC4A8	TTTGAGACTAGCCTGGGCAA
51797	EDN2	GAGGAAGAGATATGTCGTGAGCTGGAG

51798	IL11	ATTAGCTGGGATCACAGGTGT
51799	BSN	TGGAAAGTAGAGAGCAACAGACACAT
51800	MEOX1	AGCTTTGGAACCAGCTGGCGAC
51801	ADAM10	AACGAGGGGGAGGGAGGTCCC
51802	MEP1B	TGACTCTGCAAAATCATGCT
51803	CLN6	CCTCCTCTGCACCTGACCACACTCCC
51804	CYP8B1	CCCTGAACCACTCCTCCTCC
51805	CSPG3	CCACAGCTTTTCCTCCATGTCTG
51806	NINJ1	CCTCATCTGCACCATGTC
51807	ESR1	TTTAGCCCTGGGGCATGGAGCT
51808	MFAP1	GCTTGGGTTAGAAAAGTGGAC
51809	CSF3R	GGAGAGAAGCTGGACTGCAGCTGGTTTC
51810	PPP1R8	GAACCGAGAGCCTGGAGCCCAG
51811	AF3P21	CACCTTGCTGTCCTCCCTTCCCTGCA
51812	FXYD6	AGGCCTTTGCTTCTCTGCCT
51813	WBSCR5	GGAAGCCCGCCCTGCCCGCCC
51814	PCDH9	AGTAAGAAAGTTTCATGGA
51815	CASQ2	ACTGTCTTGACTGTCACGGAACAGATCT
51816	SH3BP2	GAGCTCCCCTGCTGGTTGGGGC
51817	POLR2E	GCCACTGCTTCCTCCTGGGCC
51818	GPR62	CAGTATTTCACAACTTCCTGGTCGCTGAGA
51819	SHOX	CACCTGCCACCACCACCCCCGCCAT
51820	MAGEA4	TTGCCTGCACTCTTGCCTGC
51821	RTN1	ACAGCTGTTTTTAGGCTGTT
51822	SLC8A1	GCAGGGCCATCTTTGCAGCTCAGTCTA
51823	CLECSF12	TTGTTACCCAGGCTGGAGTGCAGT
51824	MMP12	TCAGTGTACCACTACTTAGAGATATG
51825	MSF	CGGCGGGGTGGGGTGGGGGTG
51826	C14orf1	GTCAAATCTTCTTTTTTCTCA
51827	GNRH1	AGGGCTTTATGTGAGGATTT
51828	DNMT3B	GACATACATTTCTCATACCTTCC
51829	ZNF3	CTGTTTTTCTCACAGCAGAGGAAC
51830	FACL4	CATTTTAGCTTTCTCAGTT
51831	PDX1	GAAAGAGAATATTTGGTTACTCAGA
51832	TNFRSF18	GTGTCCGTGGGTGTGCAGTG
51833	ZNF36	CTCAAGACTATCAGTGTGACC
51834	SLC7A7	CCCCTCCCTCACTCCTTCCTTTGCGG
51835	SHOX	ACACTTCCTATCTTGTCA
51836	PTGER1	GCCAGCCCACCCTGGGCTGGGCCCAG
51837	PAX5	AGGACTTTCCCCCACACCCAGATCACA
51838	EIF2S3	TGCATGAAAAGGAAATGAATGGAT
51839	VDR	CGCCTAGTGGGGTCTCCCTC
51840	ANK3	AAGATTTTATCTGTAAA
51841	SNAP23	GGGCCAGAGCAGTTACAGCCC
51842	KLRG1	AGGGCAAGGTGGTACTTCCTCCTTCTG
51843	MEN1	CATGGGGCTGAAGGCCGCCCAG
51844	ADA	ACCCTGTGGAGTCACCCCAA
51845	AICDA	GGAGGTTGAGGAGGGAGGATG
51846	CYBB	CTAAGAATGATGAAGCA
51847	HIP2	ATGTAACCATTTTATGAAGGTT

51848	SMN1	GTATGTGGCAAAATGTTACA
51849	EGR2	GGTGGTTGTTTTTAAGTGTGGAGGGCA
51850	FOXD2	CAGTTCTGAGGTAGGTGTTACTAGCC
51851	MUC4	CATCTGCACTCCAGCCCAGGACTGTGG
51852	BCL7A	GGCGGGGGATCCCGAGCA
51853	RTKN	CTGGCCTCCTGTTCCTCTGCTGG
51854	HSPA5	GAACCCGGGAGGCAGAGGTTGC
51854	LAMP2	GAACCCGGGAGGCAGAGGTTGC
51854	RPN1	GAACCCGGGAGGCAGAGGTTGC
51854	SUDD	GAACCCGGGAGGCAGAGGTTGC
51854	TNFSF10	GAACCCGGGAGGCAGAGGTTGC
51855	SCN2B	GAGCCCGGGAAGCAGAGGTTGC
51856	GPR1	GAACCTGGGAGGCAGAGGTTGT
51857	XRCC2	CTGCTGGAGTGCAGTGGCACAA
51858	CTNNA2	GCTGTCCTTTGCAACATTCTCAT
51859	ESRRB	GTGGAAGAGAAATGAGCTTGGCT
51860	PARG	TACCAGTTTTGGAGACTGCCTG
51861	RSU1	TTCCAGCACCTTCTCTCTCCA
51862	MTAP	CTACATCTAGCAATTTCTCTTTA
51863	TNFSF4	TTCTATTGGTCAGGCAATTGTCATA
51864	AP2S1	CACTTCCTCTGGGCCCTGGCTGTGG
51865	TLR4	TCTCAAGGAGCTTCCAGTGCAG
51866	OTX2	AGAACCTCTTTTTGTGGGTGAT
51867	MCC	TTTGGAGGCAGGGCTGGGAAGG
51868	FHL2	GCACGGCAACCGCGAGGCCT
51869	ETV6	ACCAGGATTGCTGGAAGTGTGACG
51870	GRLF1	TCTGCAGCTGCCCTGCCCGTGCC
51871	NAPB	ATGCACCAGCCCTTGTGCATTTA
51872	HUNK	TTTCCTCTGCGGAGTGTAGCAGCC
51873	WHSC1	CAGGCGGCCGCTTGGCCGGATCCA
51874	GBE1	CATGTATGATTATTTCTGTTAA
51875	MYCBP	AGACCTACAGTCAGATGTTTTG
51876	PITPN	TTTCAGTCTTTCAAATAGCTG
51877	CIAS1	TGTCGCCTAGGCTGGAGTGCAGT
51878	PABPN1	GAGGTGCGCTTATTTGATTGCCAAGT
51879	WBSCR5	GTTGCCTAGGCTGGTCTGGAGC
51880	MAP3K7IP2	GCATAGTGCCATTGGATAGGGAAG
51881	MAK	GAGTAGCTGGGATTAGAGGCGT
51882	IFNAR2	AGGATGTTTCTGCATCATGTC
51883	ACPT	CCCTCCAGGGGGCCCTGGGCCTC
51884	DGKI	AGGTACCTCTCTTAGGGACTCTGTGAT
51885	CPS1	TCTCCAGGCTGGAGTGCAGTGG
51886	PARG	GGCTGCAATCTCTGCACTTTGG
51887	SMP1	CCTCACGGTCACAGAACTAGTTTT
51888	KCNA3	TTCATTTCTAGTACACGCCCTATTTA
51889	GCGR	CCTCTCCCTGCACCTGCCTTGT
51890	UPF3A	CTGCACGCACCTGGCCTCCATGGA
51891	MAP4K2	CCCACCCCACGCCTTAGCTGCAGGCCC
51892	MLLT7	GCTTGGGGCCAGGGAAGGGACTG
51893	PIK3R3	TACAGTGGTTTCTGAAGCTTTTGCAGGGA

51894	CYP2B6	AGGCTGGAGTGCTATGGTGCAA
51895	SRRM1	ACAAGTTGATTTGGAACAC
51896	TSC1	GCTTGAAGAGTGGAGAGGCGAGAGG
51897	MVP	GCTCCCCAGGTTCATCCTGTGT
51898	NET1	TGCTTTATATTAGTTTGTTTTTCACTGT
51899	FBXW1B	GCTTGAGACACTAATACAGA
51900	PPT2	TTAACAAATGCAACCACCAA
51901	AK1	CCAACATGGCAAAACCCCTTAT
51902	BMP1	GGTCAGCCACACCAGGGCACCGCAGCC
51903	DMPK	GGCTTCCTCTGTGCTCTACCTT
51904	PPP1R12B	TGGGAAAGAGAATGTTCCTGGTA
51905	KPNB1	CCGCCTCCCGAGCACCAGCGC
51906	SUOX	CCTGCCATCCTGTCAGCACAGTCTT
51907	IL13RA1	AAGCTGAGGCAGGTGAATTGTT
51908	HSD3B1	GTCCTGCTGCCTCCCTTTCATACA
51909	MRPL49	GGCTCACTGCAACTTCCACCT
51910	PCDHA9	TTCTCCTCTCAGCTCATACATAAC
51911	BAZ2B	GGTAGTGCCTGCCTTTGA
51912	IL10RA	ACTTTGCTGCCCCACCATCTT
51913	CAMK2A	CCTCCTGTCCACTGTGTCACTCTCC
51914	SMP1	ACCACTGCACGACGGGGCTGGACTGA
51915	APPBP2	TGCCAAAACATGATTGAAGCCTT
51916	KLK3	GGTTCCTTGGACCGTATCACTGG
51917	EZH1	CCTGCTGTTTGGAAAGGGTGA
51918	ARMET	AGTTCAACTGCTTACTCCCAAA
51919	ZNF36	GGAGACTGTTTCACACACAGGAGATTG
51920	TDGF1	TGCAACCTCCGCATCCGGGGTT
51921	BCL7A	GGTTTGCAGGTGCAGGGGGACCTTAG
51922	MAP3K7IP2	CCTTCCCTTGAAGAAATGCAGCA
51923	KLHL1	TGCAGCCGCCTCCGGAGCTTCGG
51924	FMR1	AAAAACTGAAGTTCTGCCTCT
51925	LTB4R	GGTAGTGCCAATCTCCTTGCCC
51926	SIM1	TTGCATTGTGACTATCCAGTGATC
51927	HBA1	CTGGTCCCCACAGACTCAG
51927	HBA2	CTGGTCCCCACAGACTCAG
51928	PARN	GCCTGTGCATCTTCTCGCACTGAGA
51929	HELLS	CTTTAGGTACTTCAGTTATGA
51930	PCLO	TACAGATATTTTTTCTAACCAT
51931	CCND1	CACCTTATTCATGGCTGAAG
51932	SAH	TGTGGTGATTCCATTTTACTTCC
51933	PDE4C	GACACTGTCTCAAAAAAGA
51934	C8orf1	ATATTCTTCTAATAATTTA
51935	MTMR3	TTCCCTGGTGCTCTCAGTCCA
51936	SHANK2	CCAAGGTGGCCAAGCAGA
51937	CFL2	TCAGTGATTGCCATTAGACTGTTG
51938	SLC20A2	GATCGGGAGGAAAAATATGGAA
51939	KRT15	GTCCCTTGCCACTCCCCA
51940	KIF1B	CCTGTAATCCAAGCACTTGGG
51941	CALCB	TATTTGGAAAGTGTGTATTTA
51942	STAT1	AAGTGTAACTGGCAGTT

51943	CASP2	CCTGCACTTCATATCTAGATTTCTAG
51944	RAD54B	TGGTGTAGGACTTAACCTCA
51945	GSTZ1	CCCTGCTCCCCATAACAGACC
51946	TIMP3	CTTCCCTTGGACACTAACTC
51947	CAPN3	TTCCAAAGCCATTTACCTCA
51948	NDUFV3	CTGGCCTCCAGAACTCAGCCT
51949	HKR3	TTCTGCCTCCCTGCCCTCCAGACCATGGA
51950	ARHGEF7	GTGACCTCCCAAGGGGGTGGGAACTTG
51951	SIP1	AGCCTAACTCTGAGGAAAACAA
51952	PLA2G2D	TTCCCCCTGCCCCACCTCTCCCACCA
51953	TRPM8	AAAAAGTTTATTTTCCTTTTG
51954	IMMP2L	CTACCTGAGTTGCTGGCATTGGGAGG
51955	AAAS	GGTACCCGTCCGCATACGAATCTAGC
51956	ZNF256	ACAAATAAGTTTATATGTGTACA
51957	PTPRO	GGAGCAGTAAGTGGAGAAGAGC
51958	PTGIS	CAGCCCAGACAAGATGGCTGGA
51959	HOXC4	GGAGCTGAGACAGGCTCGGCAGCGGCA
51959	HOXC6	GGAGCTGAGACAGGCTCGGCAGCGGCA
51960	BRMS1	CAGGGCCAGGGAGCCAAGTTTCC
51961	AQP6	TCAAGAAGACCAGAGGAA
51962	HDAC4	CCCTCGAAGCTGCTGTTCTCTTGTC
51963	KLHL1	ATAAATGATCAAAAAATTTGCATTTA
51964	SLA	TGGGTTTGCAGATGGGTGCCCTGAA
51965	T	TCATAGTTGAGGACAGCAGGT
51966	CTLA4	GATTACATCAAGGCTTCAAAAATACTC
51967	OGT	TAATCAGTGCATTTGAAAATTCA
51968	PROCR	GAAAGTTTCAGCTCACTGTGAA
51969	CPO	TCTCCACTCTGCACCCTACCTCGT
51970	NEBL	ACTTCTTAGCTGTCACTTTGG
51971	TIMP3	AGTTCTCGCTTCCTCCTTTGGGCA
51972	DSS1	TGCTTGGATTTATTTGTGTTTTTGTAA
51973	BCAR1	GCGTCGGTCCTGGTGCCCTGGA
51974	CD53	AGACTTCTGGTATTATCTCTCTA
51975	LMO2	ACACTTCAAGGTGACAGAAGGACCAGC
51976	SHOX	CGGGAGGTGGTGACCGCGCTGG
51977	SOX4	CTCCCATCCCCCACCTTCCCG
51978	FGF5	TCTCCACCCACCCCACAGCAGGCC
51979	LRP4	AACAGGGGCTGGGAATGGAGG
51980	FGFR1	CTCTGGTGGCAGGTGCCT
51981	HSPA8	CCAAGTGTAGATGTAGCA
51982	CTNS	TCTCCTGCTACCAGTCTGTGCC
51983	GSTM4	GATACCACTGGCTTTCCTGCTTCT
51984	IL12RB2	GCACAGCCTGCCCCAATTCCCC
51985	MGAT3	GCTATCTCCCTGCCTCCTGCC
51986	PVR	AGAGGGGAGAGAGACTGGAGCTGG
51987	RARA	GGGAGTGGCTCGGAAGGGGCC
51988	STK10	CATGGGTGTGAATGCACACACATACGC
51989	RB1CC1	ATGTTCTTTAACTATATACTAT
51990	CYBB	GTCCAGCCTGTTCACACTGCACCTCAG
51991	DEDD	GCTTGGGCAAAGGGCATCATA

51992	MLLT2	TTTCCCTTACACAGATT
51993	DGAT1	TGGTCCCAGGGAGGCCTCTCTGC
51994	BACE2	TCTCTGTTCTGCTCCCAGATGCCTTC
51995	PDE4A	ACACCGCCAGCCTCGGGCCTGGGAT
51996	TBX5	CATCTTGCCAGCTCTGTCTTTCCA
51997	ATP1B2	TTCTCCTCCTCTCCATCCCTATTCCCT
51998	GAN	CCCAACAAATTAAGGTTTGTGCCTA
51999	PEA15	GTCCCTTTTTGTCTCTCATGGGCC
52000	UVRAG	GGCTACTGTCTGGGCTGAGCAGTAGTG
52001	SNAI1	GGAATTCCCTCCTGAGTGCCCCA
52002	CASR	AGGGAGAAACTTCTGGGAGCCTC
52003	HFE	CTGACGAACTCCTTGATTTTAG
52004	PLAG1	TCACTGAATAATTATAGGCTTTTCCTCACA
52005	ARAF1	CCTGCCCAGCCCCACCTCAGC
52006	PPEF1	TGGTTTCAGCATTAGTACCTACA
52007	ZNF138	GGCGCTGTGATCTGGTTATTGGGA
52008	SACS	TTTTGAAGGAGCTAATGAAACACTGG
52009	GATA3	TTTCCTTCTCTCTCAATTTTC
52010	RNMT	CTCTGTTACAACCTCAGCACTTTG
52011	CLASP1	GCTGCTGTTTAGGGAACTTGAGGGACG
52012	MAP3K12	TCAGGCTGAAGAACCGGGGTGCTGTTT
52013	MYO1D	GGGCAGAGGTGCAAGAGAGGGATGTACTGAAG
52014	PCDHB9	GTAAATGGGCTTTAGTCTGGAAACC
52015	PTAFR	CCTGGCAACAGAGCGAGATTCCATCT
52016	PC	AGGTCCTGTCCACAGCTGGA
52017	NXF5	GAAGTGGAAGGATGGTCTCAGGGTTCTGA
52018	ATM	AATGGTCATTCGGGCTGGGCGCAG
52019	SRP	CAAACCTGCATGAAGCAAGAACAACT
52020	VIPR2	CACCTTGGTTTGCAAAACCCATATCCC
52021	CITED4	GTCCTCTCCCCCTCGCCGCCC
52022	ABCC1	TTCATTTCCTTGGGGCTGCAGT
52023	GRLF1	CATGCAGCTCTCAGCACTGGGTGG
52024	TGM2	CATTGTGAAGCACCTACTATGTGCT
52025	LRRC2	GGAAGCAGAGGTTGCAGTAAG
52026	CTSS	CAGTTCACTGCAACTTCTGCCTC
52027	MYO1D	GTGAGCAGAGTCACCCACAGGGCCAGCCCCTC
52028	RANBP3	TTGGCCATCCCTTCCCCAGCCA
52029	RBBP9	CCAGCACTGTGGGAGGCTG
52030	APBB2	CCCAGCTCCCCGGATGAAACAGATATA
52031	FBXL11	TACAGAAGATCAGCTAGACACACCCAG
52032	NHP2L1	GGTGGACACTTGGCACCAGCT
52033	DAPP1	TGCTTGAACCCGGGAGGTGGAG
52033	SLC2A6	TGCTTGAACCCGGGAGGTGGAG
52034	DTR	CTTCTGGTGCTACTCCATGCAG
52035	BACE	TTCATTGTCTCTATCTGAACCACCCT
52036	ARHGEF6	AAGGTCTTCATTTTACAGTGA
52037	RBBP5	TGCAGTGAGTGGAGATCGCACCACTGC
52038	FGF2	TAACATTTGCTGTTTTATAGG
52039	PKHD1	ATCTATCAGTCTTACTCCAA
52040	CYBB	AGAGACACTTAGGTCCAGCCTGTT

52041	DDX11	GCCATTGCTGCTGTGCAGAAGGTCAGT
52042	MPL	CCTTTCTCCACAGGCAGGCT
52043	RNASE6	CCCTTCCCTATACACACAGGGCTC
52044	FCN3	CCGGATCGTCAGCCACCTTGCC
52045	C14orf1	TCACCCAGGCTGGGAATTGCAGTG
52046	CRTAP	CAAAGAGACTTCCTCTTGGCGTTCAGG
52047	EDNRA	CTGCCCTTTTGTGTGTTAGC
52048	ARRB1	CGGGCCGGCCCTGCCTCCAC
52049	ZNF180	CTATTCAATTTCTCAGTTTATGTTG
52050	WISP1	ACTATCCTGATTCCAAATAT
52051	NR2F2	AAATGAACTTTTACAGAATGCA
52052	PACSIN1	TGGTTCTGCAAGGAACCAGGGCT
52053	ADCY1	TTAGCAACAACAGTGTGAGGCTCCA
52054	FOXD2	ACACAGCCTTGCTACAGCGGAGGCAGC
52055	GRIN2A	CCTGTTAGCACAGTGCCT
52056	GYS1	CTCCCCGCCTGTCCTGCCTCTC
52057	SMCY	TTCTTTTCTCCCCTTGGGTCT
52058	LARS2	TGACACACAGGATCCCAGGC
52059	HMGA2	TCACCTTCTTTGTAATCCCTTCACA
52060	SEC13L1	CAGGACTGCCCCTTCCTGGGCC
52061	PIK4CB	GTTTTCTGGGGGAGTGCAGGGGGAG
52062	AP1G1	ATTCTCATTCTTTATCCCACT
52063	KIF3C	CCTAGGAGGCTGCATGCGGAT
52064	PCOLN3	CCTGTGGACTTTCACCCAGCACTGTGG
52065	CACNA2D2	CCTGCCCCACCCCACCTCCAC
52066	DLK1	GCAGCGTTCCCACAGCCCC
52067	AOC3	GCCTGGTCCAGGCTTGGGCTCCATT
52068	MSL3L1	TGGAAGCCTGGTGGCCTTCCTTTC
52069	SLN	GTAGTGCTAGGATTGATTATGTGTTC
52070	C5R1	GACAGCCTCATGGGCCACTGTGGCCCGAT
52071	ANXA11	TCCGGAGTCCCCGTGGCCAGGG
52072	DUSP5	TGAACCCTGAAATGTTGTGTAGACACCC
52073	SOX12	GGGGTGCTGCCTCTCCCTCCCT
52074	ZNF264	TTCACCATGTTGCTCAGGCTGG
52075	CLECSF12	AGTGCAACGGCACGATCTC
52076	RELN	CTCTAGGGTGAACCAAGCTATAAAAGC
52077	GPR81	AGCCTCCAGAGTAGCTGGGACT
52077	HTR1D	AGCCTCCAGAGTAGCTGGGACT
52077	MTR	AGCCTCCAGAGTAGCTGGGACT
52078	FACL3	TCATAGGCACCACATTTTTCA
52079	SULT2A1	TGCCTGTAATCCCAGCACTATG
52080	FANCC	GCATGCATCTGTAACCCAGCT
52081	KMO	TGACCAGGCTGGAGTGCAGT
52082	VPS41	AAAACACAAATTAGCCAG
52083	GTF2I	AGTCAGAGGTCAGTATCTCAG
52084	POU2AF1	TTGCCCAGGCTGGAGTACAATGGTGC
52085	RGS19IP1	GCCCTGTTCCCCACCCTACCTCA
52086	PRKCN	TAATCCTTCACTTTAATACAATAGGCT
52087	UBE4A	TCTTAATTTTGTTATACAGTCTT
52088	CPT1B	CAAAAGCAGACCTGCGAGATCTCTT

52089	PAX5	TTCCTTCCCCTCCTCTCTCC
52090	HPS4	GACCATCCTGGCCATAGCAGCCAAGCC
52091	RAB36	GGCTCACTGCAAGCTTCCCCTT
52092	RBBP5	GAACGTGGGAGGCAGAGGTTGC
52093	GAGEB1	CCTGCTGTCCGGACACTTTTTTC
52094	ASK	CTCGTTTGTGCTTTGCGCCTTCCTCC
52095	ESPN	GCCCTCCCCTCCTGCGCT
52096	GPR4	CAGTCCCTTCTCTCCTGGTCTG
52097	MYO10	CTCAACACTTTAATCATGGTTT
52098	CRMP1	ACTCCACTGGCTCCATGATTCT
52099	HEPH	CACACTCAAAGGGGCATGGGTG
52100	KCNQ2	GGGGGCACCCTTTGAGCTGTGGGTCT
52101	EHF	GCTGCCTCCCCTCCATCAGCC
52102	ALDH6A1	ATTGCTTGAGCCCAGGAGTTGA
52103	CAMLG	TTTGGGAGCTGAGCTAGTGCT
52104	LRPAP1	GGGTGTCGAGGCAGGAAGGATTGTT
52105	A1BG	TCTCACTATGTTGCCCAGGCTGG
52105	GRM6	TCTCACTATGTTGCCCAGGCTGG
52106	LDB3	AACTCACTCTATTCTGTCCTCA
52107	CNTN2	CTCTGCTCTCCCAGCACTGACT
52108	ITGB4BP	CCACCCCATTAAAGTGCAGT
52109	EEF2K	GCAGGAGCCACTGAGCCCAGCC
52110	GALT	GGCTGGGGCCAACTGGAACCATTGGC
52111	DLEC1	CCCAACATGCCTCCTGCCCTGC
52112	NEDD4	TACTTTGTAAAGTGTTATACAATCA
52113	PRND	TCTGCCTCCCAGGCTCAAGC
52114	XKRY	TTCATGTTTATCTTTAA
52115	PPP1R12B	TGCCTGTAAACACAACAGTATTTAT
52116	RFX5	CCCTCCAGATGTATCCTTGGGAAAAG
52117	SSTR3	GGGCCCCTGCCTTCAAGAGCCA
52118	JPH2	GAGACCCCATGGATCCTCTGGCTGGGA
52119	CDH20	GGGGTGAGCAGGCGAACAGAGCTCT
52120	FUT1	GTGTTAACCAGGATGGTCTC
52121	MAD2L1	TTTCATGTGTTTTATAAAATCAAG
52122	JRKL	TTCAAGACATTGAAACTACTTT
52123	MBD3	GTGGCCTCCCCTCTGTCTGCC
52124	SLC21A9	AGGGAGCCACCAGCAGTGGCTTC
52125	GP6	GTCTGTAATCCTAGCACTGTGG
52126	CHD1	TGGCTGTAAATTATTGTAAAT
52127	DEFA5	TTCCTAGATAGAAACCAAAGCAG
52128	NFATC3	ACGCCTGTATCCCAGCACTTT
52129	SNX15	CCCAGTAGCTGAGATTGCAGGC
52130	RRM2B	ATACCAGCCTGAATAGTGT
52131	CNK	CCTCACTGGGGGCTTTGGGCC
52132	GALNS	CCTGGAGGAAGGATGGCTCTGGCCTCGGT
52133	KMO	TCTCTGCTGTTCCTCTCTACA
52134	PRODH	CAGGAGCAGAGGCTTTGAGAAGCCAG
52135	CISH	CCACTCGCTTGCCTGCCCTGG
52136	AQP7	GGCCCTAGAGCACTTCTA
52137	GPR81	TTGTGATCCCAGCACTTTGG

52138	GP9	CCTGGTCAGCCCAAACCACCAGAAGC
52139	CBFA2T2	CCTCCTCCCCCTCCACAGCC
52140	TAF7L	TCTGTTGTTTTTAGGATGGAGCT
52141	EHD2	GGGACCCCACCCTCTCCCAGC
52142	ABCD4	GACCCTACTGGAGCAATTTGTG
52143	PSMD2	GTCGCCTCCTGCTCTTTTGT
52144	ANGPT1	TGCTGGCAGTACAATGACAG
52145	PON1	GAGGACCCAGTGTTCTTAGCTGAA
52146	C11orf13	TTGCCAGGCCCCAAAGGCCAC
52147	COL10A1	CTGTATCCCCTAAAATATTTCTG
52148	TNFSF14	TGCTTAAACCCGGGAGGCGGAG
52149	BCL6	ATCCCATTCTGCGTCATGCTTG
52150	MX1	CTGTATTCCTAGAAACTGACACATGCT
52151	GALNT7	AGTTGTTATTGTTATCCCTTG
52152	SRP46	GTGTGACCCAAATTTGTATA
52153	C10orf2	CCTAACCTAGAGCAGGTT
52154	FMR2	CCCTTTCCTGATTCCCTA
52155	PACE4	GCCCCCAGAGGCTCAGCACTTTG
52156	PPP2R1B	ATTGCTTGAACCTGGGAGGTAG
52157	RAF1	AGAAGCCAGCAGGCACCACT
52158	ALDH1A2	AAGATAACATGTAGGCCAGGCAGGTC
52159	PIK3R3	TCTGGAAGCTTTTCTCTTTGC
52160	DLX4	CACCTTCACTCCAGCTGGACAA
52161	FCGR2A	TGTTACAGGTTACATGAGAGC
52162	MTMR4	CAAAATTGGGAAAGAACATGTGTCCATTT
52163	LARGE	AGGGGTGACAGGGAGTAAAAGG
52164	ITGA4	TTTGGGCCACGCCGGGCTGGG
52165	B3GALT3	AGGATAGTGAATCATTCTTTA
52166	EGLN2	AATGGCTGAGGTGGGGTTTGGG
52167	PLAG1	GTCCTGGCTGATTATGCATCA
52168	PTGIS	ACCAGAATTGCTTGAACCCAGGAGG
52169	RALBP1	GATGCTCTGAGGCTTCTGGGAG
52170	CD8A	GGAGAGCCCCTCACACAGCCCT
52171	GLUL	TTAATTTCTTCACACCTACCCTCC
52172	FZD4	ATAGATTTCATTTCACTCTAG
52173	RBM8A	TTGCAGCTGATCATAGCTCACTGCAG
52174	FGFR1	CCCAGAAGGCAGAGGTTGCAGTG
52175	CSE1L	ACCTTCAGGCAGCCAGTGTGACA
52176	SNRPN	GCGTCATACCTTTATCTATAGCCTT
52177	ZNF147	AGCGCCATGGCAGAGCTGTG
52178	BDKRB1	TCATAGCTCGCTGCAGCCT
52179	NDST1	AGAGGACCTCCAGAACACCA
52180	SLA2	TGAGGACAACAGCCCCAGCTC
52181	SLC9A5	CCTCTACTCTGGCTCAGGACC
52182	SLC18A3	CTCAGGGCCCACCTCCTCCAG
52183	APP	TCTCTATACTACATTATTAATGG
52184	UBQLN1	AACTTTAAAATACCTGCTTTAT
52185	GGT1	GGCTTCAGCAGAGTGTGAGGG
52185	GGT2	GGCTTCAGCAGAGTGTGAGGG
52186	NFYA	TTCAGAGATGGCTTCCAGGCAA

52187	PIK3CG	GGAGGCTGAGGCAGGAGGATTGCCTGA
52188	C18orf1	CCCCAGGCCAGTTTTGTACTGAAGGC
52189	P3	TTTACTGATTTTTTATTCTCCAGCT
52190	CDR2	GATGCTGGCGGAAAACCTGGTA
52191	BBS4	ATACAGTGTGTGTTATTACG
52192	APXL	AGCTTCCTCCTCCTCTCCAGCTG
52193	CASP10	TCACAGCCCTGCAGTGCCCTA
52194	TK2	GCTCAGTCTCCTTGGTGATT
52195	NFATC4	AGAGAAAGGGAGGGAGGGAGCCACCCGGG
52196	MEF2A	CTACCCCCCAGGCTGAAGTGCAGT
52197	MTMR8	TACAGCAGGTAACTGTGAA
52198	GPR4	CCAGCACTCCCACCCACATTGCCTGAA
52199	SRP19	CTCTCATCTTTATCATCGGAGTTGAC
52200	POLR2H	CTTCTGCTGCTCTCGTGGCCCCCT
52201	NFE2L2	TCATAGATTTATATGATGATATGACA
52202	IL17R	CCGAGATTGTGCCATTGCACTGCAGCC
52203	FBXL5	TGAGGCGGAGGCTGAGGCAGTGGCGA
52204	C10orf2	GCAGAAGGGAGCTGGGAAGA
52205	KL	CCCTTTCTCCCAAAAGGACA
52206	MECP2	ATTACTTTAGAAAATAAGT
52207	UNC13	AGACACCTCTCCACTCCTCA
52208	LDB1	CTTGCAAACAAAGAAGGCTCCG
52209	DEK	GGGAAAGGGTGGGATTAAGTA
52210	C9orf19	CACACAGGGCGGGAGCCCAGGCC
52211	PITPN	CCCCAACAGAAGCAGCAGTGCCTCT
52212	AGL	AGAGGTAGATTTCAATTTGA
52213	NR3C2	GCTAGCAAACAAATGGCTTACTTACA
52214	CNN2	CAGGGACCCCCCACCCAGGG
52215	SPI1	CCGAGGCAGGGGATCTGACC
52216	PCTK1	TTGTCTTTTTTCCTCCTTGCA
52217	PKHD1	AGTTACTATGAAGTTAACACAGC
52218	DDX3	CTGATAGTCTTTAAGCCATTCCA
52219	PTGIS	GTTACCTGAGATACTGAAGTGCAGC
52220	PPP2R4	AGGCCTGCCCTTCTCCACTGCCCCC
52221	BAZ2A	AGCTTACTCAACCTCTGCCT
52222	GP2	ATCAGCCTGGCCAAAATGCTGAAACT
52223	ABCC11	ATAAAGCAAGAAGACTGATT
52224	GARP	CCTGCTCTCTCCTCTCTCCC
52225	ROR1	AGGTTAGAGGGACAAAGAGCTTTGCA
52226	SNAP23	CCGACTGCTGCTCTGCCTTCCTT
52227	LAMC1	CAGTGGGACTAGCCAGGAATGAGGGAG
52228	C5R1	GGGTGCCTGTAATCCCAGCTACTT
52229	CNTNAP2	CTTCTGCTACTAAAATGTTCTCATCCT
52230	SURF5	CTCGACACAGACTCTGCTG
52231	ARHGDIA	CTGCTCCGGGGTGGAGCTGGGGTG
52232	SLC22A2	AGCCTCGGGCCCTCCTGCCTGCAG
52233	CR1	AATATACTAAATTAACTTTTT
52234	HD	TCTATGTAGGTGATGTTTCCAGCT
52235	ARHGEF12	CAGAAGGCTCGCTTACTTTGGG
52236	SAS	TCTGTAACCGTTTTGGTTTGAGAAAAA

52237	DSCR3	CAGCCTCTGTAGTTCTTTTTACA
52238	LAT	TCTGCCCTTGAGGGGCCTAGGG
52239	PEPD	CCCTTTTGCAGGCACCACCTT
52240	FGFR1	CCCAAACCCCACACTGCGCTGGTT
52241	COL4A6	CTTATCTAGAAGCAGTGTTTAG
52242	PHKB	ATCCTGCCACTGCACACCAGCCT
52243	PPT1	ATACTCCAAACTGTTTCTG
52244	CD209	GTCGCCAGGCTGGAGTGCAGT
52244	RABL2A	GTCGCCAGGCTGGAGTGCAGT
52244	RABL2B	GTCGCCAGGCTGGAGTGCAGT
52245	ZNF26	TGTGGGAACTCATTCATTCT
52246	SMCX	ATGGATGGGCTGGTGGGCAGGGGGGT
52247	NDRG3	CTGTTACCCAGGCTGGAGTGC
52248	PLOD3	GGCGCGTAGCGGAGATCCCAG
52249	PEX3	GACATAGGTCTAGGATGTGTG
52250	SLC7A6	GCATGGTCATAGTTGCCCTGGGTTCAG
52251	SSPN	GCTTTAAAAATGGCCTTC
52252	COL4A4	AGACTGGCAGAATATTTTTTAA
52253	MC1R	AGGGAAGAGGCAGGGAGGGAGCTGAGG
52254	EDARADD	AGATCCCTTTGACCAGGATGACTGGGG
52255	PPP2R5E	GACAACAACATTACTAACCTG
52256	PPP2R2C	GCAATGCAAGGAGGGGAAGA
52257	FLT3	CATAAAACAAAAGCATTTTGCTAAGG
52258	GNAZ	GGCCAAATCTCGTGGTGTTTCGCA
52259	ZNF74	GATCCAGACCACCTTCCTCCA
52260	WHSC1	AGGAAAAGGGCAAAAAGACCAAGAAGA
52261	RNF3	CTTGCTTGTTTTCTCTGAACAGCAA
52262	APM1	CTCAGCCTCCCAAGTAGCTGGA
52262	FCAR	CTCAGCCTCCCAAGTAGCTGGA
52263	GART	CTCAGCCTCCCAAATAGCTGGG
52263	TES	CTCAGCCTCCCAAATAGCTGGG
52264	FUT1	CCCAGGCTGTTCTTCAACTCCTGGGC
52265	RAB5A	GACTTATTTCAAATTTGGACATGGCTA
52266	GAS7	TTCCTTCAGTTCCCCAGGCTCCTCCTC
52267	LDB3	GCTATGTCCCTAGCTGCAGGAAGCC
52268	ADD1	ATGTCTGACCGACGATCCCTC
52269	SPOCK	ATAACTTTTTCTCAAAGTCA
52270	RAB36	AAAGTGCTGGGATTACAAGGGTGAGCC
52271	STIM1	GACATGTGTGCCTCAGATCTG
52272	PTHR2	TGTTTGTAATGTATTTTGATAGCAA
52273	HYAL4	TTGCCCAGGCTGGAGTGTAGTGGTGTG
52274	PDZK1	TTGCCCAGGCTGGAGTGCAGTGGTGCG
52274	PON1	TTGCCCAGGCTGGAGTGCAGTGGTGCG
52274	TMC1	TTGCCCAGGCTGGAGTGCAGTGGTGCG
52275	UMPS	TTGCCCAGGATGGAGTGCAGTGGTGAG
52276	APOC2	CTAGCCTGAATTCTTTTCAATA
52277	EHD2	TCTCCATCTGCACGTCTCTCCG
52278	HM13	CCCTCCTCTGCTCCTCCCCACA
52279	TNFRSF1B	GATGTCAGACTGGCTGGCTGCAGT
52280	SOS2	TACTGGTTTGTGGCCTTTT

52281	HLA-G	TGACTTCTCTTTGTGCAGAG
52282	DIAPH2	CAATGGTGGGAACAGGCAT
52283	MPP2	ACATGGTCAGTAGGCACACTGCCCCT
52284	ENDOGL1	CATCCAGGCTGGAGTGCGGTGGT
52285	HLCS	CGTCCAGGCTGGAGTGCAGTGGT
52286	GPC4	ATTCTCTATTTTTATATTGAAACATAA
52287	ENG	AGAGAAGAGGGCCCAGCCCAGAGCC
52288	OGG1	TCCTCCCCACACAGACTCCACCC
52289	STAU2	AAAATGAAAAAGAAGGTCATGT
52290	STARD4	CCAAAGTGTTGGGATTATAAGC
52291	BRCA1	TTTGCATGCTGAAACTTCTCA
52292	TNFRSF7	CTGCCCAGGGGGTGCAAAG
52293	XPC	GGGAGAGAGCAGAGAAGTACAG
52294	LRRC2	ATCTCCTCTGTGGTCTTGCC
52295	ARSD	ACTGTATTAGTCCATTCTTGC
52296	SLC17A7	TTACTCGTCCCCGCCATTCCA
52297	ALDH6A1	GGCTCACGCCTGTAATTCCATCATTTT
52298	DCX	TCACCTAGGCTGGAGTGC
52299	MYO15A	CTCCAGTACCTTCTGCCAGA
52300	AK2	TTACTAGGCTACCTACTTTCATGAGT
52301	FCMD	TGGGCTGGTAGACTTTTTCG
52302	SERPINB5	CCAGCACTATGCTTTCCTTCTTTGGGA
52303	SLC18A3	GGCTCAGGGCCCACCTCC
52304	PRKCN	GTTGCTCTGCTACTCTGAA
52305	DIAPH2	GGCTTATCTACAGAGCACACTTT
52306	WASF3	ATTGCTGTTAACTACTACTGATAACTG
52307	CEP1	AAACACCTCCACTACCTCA
52308	IQGAP2	GCGAGCCTGGCCAGCGAGGGTAG
52309	CAV1	CAGCCCAGGGAAACCTCCTC
52310	CACNB2	CTAGGAGGCAGAAGCTAAGTG
52311	PTPRS	CTCCTGAGGCCTGGACCCCCAG
52312	ACOX1	TTGGCACAGTCTCTGCCTGCT
52313	ELK3	CCTGCTCTCACACACACC
52314	ESRRG	GTTTAAGTAACTCTCAGCATTACAAAAGA
52315	KCNK7	GCAGCCAGGAGTGGCTGGGGAAGA
52316	XRCC4	AAACTATTCATTCAGCATGCCTA
52317	TRPM8	CACTCCTGTAATCCCAGCTACTC
52318	CPS1	CTCCAGGCTGGAGTGCAGTGGC
52319	DNAJB1	CAGTGAAGCTGAATGTCCTCA
52320	SOX11	TTTTTCCTGACCGGCCTGTGTC
52321	CPNE7	TGGTGCCCCCACACCCACCTACCC
52322	PCDHA9	AGTTCTCTACATTTCTCTGGATGGA
52323	PPP2R5E	AAGTGGTTCTACAAATGCTA
52324	IBSP	CAATCTGTGCCACTCACTGCCT
52325	EMX2	AGTCTCCCCCCTTCCACCTCA
52326	NCOA6	TGCCCAGCCTGCAATTATTCTTTA
52327	CALCB	AAATGGTACTTAAACATTTTT
52328	EGFL4	GGATCCAGGAGGAGCAGGGGCCAG
52329	CAMK2A	GCTGCCTCTCTGTGCTTTTGGCCTCTG
52330	NOS1	GCACCAAGACCCCAAAGGCCC

52331	CENPB	CTCCTGAGCCTGCTTCTGCCTGCT
52332	GALT	CACTGGTTAGTACTGGTCCCCT
52333	RPS4X	TCAGATCTTTGTACGTAATTAAA
52334	TTC3	CTCTGCCTTTGTTCACTGTGAGTTCTG
52335	PDGFRB	AATGGACAGTGAGGACAGTTATGT
52336	ACPT	TGGACACACCCCGCCATAT
52337	COL4A1	TATCACTGTCTAGCTGTTTCA
52338	ADAM12	CACTCTGGCAGGCCCCAGCCC
52339	PDE4A	CCCTACCTTTTGCCCTAGGAG
52340	BCKDHA	GCTCCTCCCGTGTTACATTCTCA
52341	NR4A1	CCACCCAAATGTTAGAAAAAT
52342	CYFIP2	CATGCTCTCCCATGACATCTCC
52343	PIK4CB	CATGGGCAAGGAAGGGAAT
52344	S100P	TGGAGATGTCACAGATTCCTGCAGAGC
52345	TGFBR1	ACTATACCAGTAAGTGCCACTT
52346	ZNF175	TTGTTTTTATAAAAATTATTCCCT
52347	ITPR1	TCATTTTACAAGAGAATCTCT
52348	CCNT2	ACCTGTATTTATAGTTTATGG
52349	CTMP	TGACTGCCAATCTCAAC
52350	PIP5K1A	AGGGAAAGGAATGGGGAA
52351	SUPT6H	CAGGCTGGGAGGGGAGTGTGGCA
52352	PUM1	CCCTCATTCCCGCTGACCTCACTGGCC
52353	CLECSF12	ATTTTTCTAGTTAGTAGATCCC
52354	CYP2B6	TCACACACTGCTGTAGTCTTCCCCA
52355	MYH11	GTGCGTCAGATCCGAGCTCGCCA
52356	CA4	CCTGCTGGCCGGCTTCCTGC
52357	CYP8B1	CCCAGCACCTCTGACTCA
52358	DGKB	GCTTTTGGCACTGGGAGTAGA
52359	SIM2	TGGTGAGCACCTGTAATCCCAG
52360	LAMP2	ACTAAAATTAATGCAGATTTCTC
52361	CHRM5	CAAGATGTGGAGGTGGAAGAC
52362	IFNGR2	TCTCCAGGACGTTCCGGGAGGCTCC
52363	LTB4R	ACTTCCTATTAATCTTAAAAC
52364	LZTFL1	TAGACTTTATTTATGTGGGTCTATAAT
52365	CD209L	TCCTTTTGGAGATTAGACTATT
52366	LRRC2	CAGGAAGCAGAGGTTGCAGTAA
52367	MGAT2	GCTCAGCCTGGAGTGCAGTGAGCTGA
52368	GRIK3	GGCCAAAGGAAGCACATGCCTC
52369	ADK	GGGGTGTGTGAGGACGCGCTCCCAGTCGCTG
52370	BFSP2	GGGGTGATGAGTGAGAGGCGAGTGG
52371	KLHL3	TACCTGGCTGTGGGTTGGAAG
52372	SH3BP2	TCATGCCACTCCCCACTGTGGCCA
52373	FMN2	TTCCTTTATGAACTGTCACTA
52374	GJB3	TGGTGCCAGCCTTTCAGACCCTGC
52375	ARHC	CGCCCTCTCTTCCTGCAGCCTGGG
52376	SLC25A12	ATGTGTGTAGACCCTCCTCTGTTC
52377	EPHB4	GCCCCTCCCCCAGCTGCTGCCTT
52378	COX15	GCTCACTCTGCAACCTCCACTTCC
52379	CELSR1	CAGGCAGCTGGCACAGCGTGG
52380	CCNF	TTTCTGGGCCATTCTTTTCC

52381	GJA5	GGCTCAGAGAGGAAAGACGT
52382	SOCS4	CCCTGCATCTTGCACTTTGG
52383	WFDC1	GACTGTGCATGCTCCTGTCCCCA
52384	CPD	CCTGCTGTATGAAAAGCTTCTTGGCAA
52385	PTHLH	TTCTGAGCCATTCACACTTT
52386	CDC25B	CCCTCCAGCCAGCCTTCTGCCGG
52387	ANK1	CCGCCGCTCTGCGGGAGTGTCC
52388	TMPRSS3	TTGCCCAGGCTGGAGTGCAGTGGCGAA
52389	MTR	GGAGGAAGTGGAAGGGACAGGAGCACA
52390	FACL2	AAACTCATGTTCTTCTCCAGTCC
52391	ARHGEF6	TATGTATGTGCTTTGCTTACT
52392	WISP2	CCCGAGGTATGGCAGAGGTGCAAG
52393	RAD51L3	GGTCAGCAGAGGGAAGGCTTGGCCTTGAT
52394	KIF5A	AACCCCTGTTGTTGGACTGTAC
52395	KLHL1	ATCCCAGTGAGGTGTATCCAGCT
52396	MGAT1	GCTGCATCGGCCTGCCTGTG
52397	CCR3	AGGACTTCACTAAATTAGCAG
52398	PPP2R1B	ATCAGAGGTTATCTGTCTGCA
52399	LIMK1	GGTGCTGGGCAAGGGCTGCTT
52400	IL1F5	TAAAGAGACTTACGTGG
52401	LAMP2	CCTGACTAACCCCTCTCTTAGA
52402	ACOX2	GGGTTGGAAGTGTCTCTCCA
52403	SIAT1	TTTGGGCTCCAAACTAACCA
52404	KRTHA7	CAAGAGGCATCTCAGATTTGT
52405	MBD1	AGAATTCAGAAAATTGTTGG
52406	C1orf1	ATCCTCTCTCTATTTTCAAAAA
52407	EEF1A1	ACCCATTAAAAAAGTTAAATG
52408	LRRC2	CCCTGTCTCAAAAGCAAAACA
52409	ITGA3	ACAGGTCCTCACGCCCAG
52410	SRGAP2	CCATCGTAGCACAGTATTA
52411	KCNH2	ACTTCCTCCCCCTTTGCCTGTCC
52412	GAB2	CCATGGGCTGTGGCGTATGTCA
52413	FCAR	ACTGCAACCTTCGCCTCCCAGG
52414	VENTX2	CAGAAGCCTGGGCGAGGCCCTC
52415	CYP2B6	CTCAGCTCCCAAGTAGCTGGG
52416	NDUFS2	GACCCTGCCAGCTTCCAAGAGGG
52417	ADCY1	GGGCGGCCAGTGCAGTGA
52418	DPYSL2	GTGTCTGTTAGCATCTTCCTTTTCAT
52419	KHK	CCTCCCTCTTTGTGTCCATT
52420	SULT2B1	TGGCCTCTGTGCCGCCTGCTCCCTGC
52421	UBE4A	TTTTAAATATCCACTTAGCCCTGT
52422	SVIL	TATTTGGGCTAACTTTTGGGAT
52423	RAD23A	AGTCCAGCTTCCTGTCCTCCTAAAG
52424	CANX	TCCCTCCTCCCCTGCAA
52425	NAPB	GGGGTGTGAGGAGTGGTTCT
52426	EZH1	GAGAGGGGAGACAGAGGCAGCTAGG
52427	EPHA8	CCCAGAGGGAGTGGCGAGCCCA
52428	MECP2	CTTCCTACTCTTCTCTCTGCTCTG
52429	KIF5A	ACAGAAGGTAAAATGGAAGGGC
52430	EDARADD	CCACTGCACACCAGTCTGGAG

52431	LDHB	CCGCACGACTGTTACAGAGGTCTCCA
52432	BCL11B	CCCCACTGAGGTCCTAGAGTG
52433	CLCN7	CCTGAGCCCCATGCCCAGCC
52434	MHC2TA	GCAACAGGCTGGGCTTCAGTGGC
52435	GALT	GTACAGCCGCCAGGAGCTACTCA
52436	ITGAL	CCTCGGGCGAGTCACTGCCTCT
52437	TRIM34	CATCTCAGATGTGGAGTGTCGG
52438	NR2E3	CCTTTCTCTGCCTCTCCC
52439	ATP2A3	GCCTCCGCCCCCCACCCTTGCCA
52440	NFATC1	GCGTCTCTTGTGTCTCACTCACG
52441	PTPRO	GTGGGTGGAAGAGGGAGTAGCTGATT
52442	FANCF	ACCCAGTCTGGAGTGCAGT
52443	IL1RN	GCCCAACCTGCTCTCCTCTTGCCACTGCC
52444	CRYZL1	ACTTACTCCTATGATGGTGCCAT
52445	BCL2L2	GCCCAAAGGGACAAATAGGGAC
52446	TBX22	CCCTTCACCCCCTCCAGGGA
52447	HADHB	GACATTTGTAGTTCCTAGCTCC
52448	FOLR2	CTGCTCCATGGTGGGGCCAAGAGTCACTTCT
52449	APOC1	CCCTCCAGCAAGGATTCAGGAGTGCCC
52450	EN2	TGTGTTACACATATGTCTGTA
52451	BCAS2	TGTCTAGCTTGGTGGTATTTTTA
52452	POU4F1	GGTTTAAACTACTGATTTTTCCTGT
52453	TRADD	GCAGAGAGCGGCGGGAGCCCGGACGT
52454	NUP50	GTCTCTGGCTGAACCGGCGCTC
52455	MN1	AACACACCCTACACACTAGACT
52456	SYNGR1	CTCAGCCTCAGTCCACTTACCT
52457	AQP6	CAGCCTATCCCAATGCATCCCCGCC
52458	LZTR1	GCAGGGCCTTTACCACTGGGAC
52459	TOX	GAGTTGAGCGCTTTTCCCCCC
52460	IMPDH1	TGCTGCAGCCTGCTCCAGCCTGGCCCCCACCC
52461	CREB1	GGAGGCAGAGGGTTGCAGTGAG
52462	FABP2	TTTCACTCAGGCTGGAATGTAG
52463	PLCB2	GCTCTTGGGTGCTGTTCCAC
52464	MS4A2	TGAGGCAGGAGAATCGCTTGA
52465	BARX1	GCTTCTGGGCTCTAACCTGGGAGA
52466	MECP2	CTTGACAGAGCCTGCCCCAGCGCTGAC
52467	TYRP1	ATCCTTCAGGATTGTGAGCTGGA
52468	MGAT2	GGAGGCCAAAGGGACAGGGCAG
52469	PTGFR	CATGGGAGTCACACTGAAA
52470	LAPTM5	TCAATCAGCTCTGACACTTGTT
52471	SRGAP1	GCCTAGTAGTTCGAGTCCAGCCTGGG
52472	MASP1	CTTCCTCGGGGCCTGCCTCCC
52473	ICA1	CTGCTTTTCTTCCCAGCAAAGGTTG
52474	MPP2	GCCCCAAGCTCTCCATGGCCC
52475	ACADM	ACAGAAAAGTGGGCTTAGAAAG
52476	FUT6	CTCAAAGCCACATCGCATTGAAGCCAC
52477	PCDHGA11	AACCAGCTCGAGAAACCGCG
52478	CCNT2	TAATCCAAGGACTAGTATAGA
52479	COG3	CTGCAGAATGAAATAGAAGCA
52480	CTSK	TCCATCCTGCTCTTCCATTTCTTCCA

52481	PMX1	TTCCAACATTTAAAAGGCAAT
52482	DSC3	CAAAAAGTGAAAAATGTTAAAACAGA
52483	SORBS1	TAAGCAAGACATGCCCAGGG
52484	LIF	TCTCTTCCCCGTGATCTTCCCTGCAGC
52485	NOS1	CGCCTCTCTTGACGTCTGCCTGGTC
52486	MYO7A	TTCAGGCCCATCAGCTACCCC
52487	BAK1	TGCCCTCTCTCTGGGCCCAGGGCTGTGG
52488	NR2F6	CTGATCATCCAGGCCTCAGCCT
52489	PCTK1	TTACCTCCCCTTCCTCCACCCTAAGC
52490	CEP2	TGCAACCCTGGGGAGGACCCCAACTCACC
52491	FMR2	TCTCAGCCCTGCAACTTGACCCAGG
52492	TEM7	CATGGCTATAGAGTTGGCATTT
52493	GAS1	TCATTTTTGTTCTTTACATCAAGAAATTT
52494	SULT1C1	AGTAGAGTGTGCCCTTAGTTC
52495	GPR35	CAGAGTCCCAGCTGTCCTGGA
52496	BYSL	GCGGGCGGGGGTCCGGGAGAAGC
52497	SIGLEC11	GTCTCGGACTCCTGGGCTCAAGCAATC
52498	CD34	AACCCTTATCACCAGCTGCCTC
52499	MLLT3	AGCGGACCACTCTTCTCTCCA
52500	F13A1	AAAGACGACCTTCCATGTGATGCAC
52501	IGF1	TATACAGTCTTTATGAATTTCTTAAT
52502	RRAS2	GGAAACACTAAGGCTGCTTCAAAGAT
52503	HSD11B2	TCACTGCAGCCTTTCACAGGACTCTGCA
52504	DLG5	AGCTTTGACAAACCTCCTGCTCC
52505	SGCG	CAAGTAAGTCAGGTTTCACAAGA
52506	EZH2	ATCTGCTACCTCCTCCCCCCTCC
52507	C18orf1	TGAGAGGCCTTCAGGGCCTG
52508	ATP7A	CAGGCTGGAGTGCAGTGGCACCATCTT
52509	GAA	GAGGCAGCAGGTAGGACAGTGA
52510	PSG11	CAAGATCATACCACTGGACTAA
52510	PSG2	CAAGATCATACCACTGGACTAA
52510	PSG3	CAAGATCATACCACTGGACTAA
52510	PSG5	CAAGATCATACCACTGGACTAA
52511	RET	GGCAGGCAGGTGCCTCTCAGAGGCCAC
52512	TIMP3	CTGTGTCTGTCTGTGTCTGCATGTAAGAG
52513	MYO1D	AGGCTGGAGGGCAGGAGGAGGG
52514	FBXL7	TACAGCTGGCAGAGACAGATGCCTC
52515	ATP11A	GGAGCACGGCCAGCCTTCCGC
52516	CTBP2	TTCACAAGCTGTTTGTACTC
52517	TAF11	GGTCGTGAACTCCTGGCTTCAAGCAGT
52518	ADAM19	TGGCTTCTCCAGCCTTTCTCCCTCACA
52519	TK1	GATCGCCCAGGCTGGAGCTGGCC
52520	PYGM	TGGCCTCCCATCCTGGTTCA
52521	GPLD1	CCATAAAGAAAGAACAAGATCA
52522	SCN4A	TCCCTGATGGGGGACAGGATTT
52523	SLC7A6	AGGCCTGCTCTGGCCTAATGGA
52524	UBE3A	ACCTTCAAGTATGTGCTACTTTTTTGT
52525	SLC9A6	AGAACAATTTCTCATTTC
52526	DYRK1A	ATCGTCCCGGCTGAAGTGCAGT
52527	LPL	CCTTGCAGCTCCTCCAGAGG

52528	IL10RA	AGGAAGCTTGTCACTGGAAGAT
52529	MGAM	CAGACAGAGAGGGAGCGGC
52530	RBL2	TTAGAATAGTGTTCTCCCCAAAT
52531	HAS2	ATAATGCCACCAAAGGAGACAT
52532	TOX	GTCACCCACTCTGGAAGAAATAGT
52533	AICDA	GGCAGGAGGACTGTGAACAAGAC
52534	SOX4	ATGGCATGATGATAGCATATGTGTT
52535	MSL3L1	CAGGCGCCAAGCACCCAACTCCAGAG
52536	MOG	TGTCCCCAGGAACAGTAGAGATGGCAA
52537	GPR3	CCTGAGCAACCAAAAATTCCTCTGCG
52538	JRK	GAGTCTGACAGGGTCACCTCC
52539	JUN	TGGGGAGGGGCGGCAGGAGGGAGGTT
52540	CNTN2	GGCAAATGCTAGGGCTTCATCAGACC
52541	GRB10	GACCACACTCTAGTTGTTTTCCA
52542	DCC	CATTCCTTCTTTCACAGGCATCAG
52543	LY64	CAGAGGGAGGGACTGGGCAGGGACTG
52544	UPK1B	TGCCTGTATCTCTCACTATT
52545	RPS6KA1	AGGCCGGAACCACAGGGCCAGAGGGAG
52546	UBE2B	TACTTGGCAAAAAATTCCGCACTA
52547	NDRG3	TGTTACCCAGGCTGGAGTGCAA
52548	TCF2	TTCATTCTTCTGGCAAAGCTGGCTTCT
52549	CBFA2T2	TGCTCAGCCAGGCTGGAGGCGGCAGGCGGC
52550	INPP5B	CTGAGGTAGGAGAATCGCTTGA
52551	AK1	GCAGGAGGATCACCTGAGGTCA
52552	GAD1	TCCAACAACTCCAGGAAAACTGTTTT
52553	HSPA5	TTCTAAAACTGCCTTTCTGG
52554	IL12B	GCCTGGGAAACATAACAAGAC
52555	AMY2B	CTGGCACATCACTCAACTACTA
52556	MAK	TGTCTCAAAGCTGTGCAGTCTTT
52557	CORO2B	CTCCATCTCAGTGGACCAGGAAGCAAG
52558	DAF	TGGCTGTAAGGCATTTTCATCTTTCCT
52559	PTK2	AATTCAGTGCCTTCTGCAG
52560	MBD4	CAGGAGGTCAAGGCTTCAGTGA
52561	CRH	TAGAGGGAGAGAGGGAGAGAGC
52562	SLC14A2	GTCACCCAGGCTGGAGTACACT
52563	PIK3CD	TGATCCTAACATATCAGGCCATGGA
52564	SOST	TTGCACCTCGCTGCCCATCAGAAAGCCTGAG
52565	ALOX15	ACCCAGGCTGGAGTGCAGTGGT
52565	AXL	ACCCAGGCTGGAGTGCAGTGGT
52565	FCGR2A	ACCCAGGCTGGAGTGCAGTGGT
52565	ICAM1	ACCCAGGCTGGAGTGCAGTGGT
52565	MEFV	ACCCAGGCTGGAGTGCAGTGGT
52565	NEU3	ACCCAGGCTGGAGTGCAGTGGT
52565	NQO1	ACCCAGGCTGGAGTGCAGTGGT
52566	SLC39A1	GCCCAGGCTGGAGTGCGGTGGT
52567	FANCE	TGTGAGCCACCACACCAGGCCA
52568	CPT2	AGTGCCTCAGGAGTCCTGACGCAGTG
52569	CR1	CTCCCAGGCTGGAGTGCAGTGG
52569	XRCC2	CTCCCAGGCTGGAGTGCAGTGG
52570	KLHL3	GGGTGCTCTGTCCCTGTGGTTGTCATA

52571	AK2	CTCAAATCCTGTGACTGGGA
52572	CD209	GCTCTCTCAGCAACCACTCCTCA
52573	NUCB1	CTAGGCCCAGCCCCTCAGCCT
52574	GLUL	CTGTGGCAGGCCAGCTGTGGTTTTCTT
52575	APBB2	CGTCCTTGGAATGAATGATG
52576	PTX3	AGTTTAATGCTGTGTCTCTGTCA
52577	INHBA	GCTCATAAGTTGCCCAGCC
52578	RBM8A	GTGTTCTCTTCAAGATTCCAT
52579	SLC1A3	GGCAAAGTTTCCATGTGGCCTTGAG
52580	MPP2	GGTAGGGGCAGGATGGAGGG
52581	POLK	CACTGTACTCCAGCCTGAAGAGC
52582	MS4A6A	GACATCACAACCTGTTCCCA
52583	AIRE	TGTGGAGGGGGTGCTGGCCCC
52584	IDUA	GGAGGCGGAACCGGCAGTGCAG
52585	SRR	GGTTTGTCATCCCTGCCCTAG
52586	DAP	CCCTAGGGACATGAGACACCACATT
52587	NRXN3	GCTGCTGCTGCTGCTGGTTTTC
52588	KCNMB3	TCTGAACTGGGATTTCATTTTGTT
52589	GM2A	CCCAAGTAGCTTGGACTACAGG
52590	MAML1	TGGAGAAACTGCAGCCCCACTTCTGTT
52591	HFE	TGTGGGTAGTATGATGGGTGTTTTTAG
52592	LEP	AGCCACTCGGGAGGCTGAG
52593	VENTX2	CCCAGGAGGCAGGCAGTGCGGGG
52594	CCNT2	AACAGATGGTCATATACACTGTGAG
52595	DGKI	GGCAGTGAGCTGAGATCACACC
52596	PIGA	AACTGATTTGTTAAAACATGCTA
52597	PIK3CD	TTAGTTAAGTATCACTGATGT
52598	EIF4EBP2	GCTCTTTCCTTTCCCCTCTAGTTTTGGGTGT
52599	OPCML	CATTCCCAACAACATCCTCTG
52600	CLASP2	CAGGCAGCAGCAAAGCCAGTTC
52601	MCM6	CTGTCTGAGGCTAAGGCCCACGTGGG
52602	CD74	CCCTACACCCAGACCCCAGGCTGG
52603	CHRND	AGTCCAAGGAAGGGAGGGAG
52604	CORO2B	GTGACCCCAGAGACAGAGCCA
52605	NDRG1	CCCTAACCTTTCGCCGAATGGGGC
52606	SELE	TAGGGTGCTCTGGAAGAGAGGAATGC
52607	ADH1C	GCTAGGAAATATCATTAATTCT
52608	YES1	GCTGCATTAAAAGTAAAGAAA
52609	CTSS	TTGCCCAGGCTGGAGTGCAGTGGCACC
52610	PHKB	CACTGCACACCAGCCTGGGTGA
52611	GTF2H1	GATGCTTACAGGTTTTGTGAG
52612	BLAME	ACCATCCCCACCTGCCACCT
52613	TLR6	ACCCTTTAGGATAGCCACTG
52614	NEB	CCTTGAGTTTGTAGGTGCCAC
52615	BTG2	GAGAGGGAGCAAGCAAGGTTAGC
52616	ISL1	CAGGAAGGTGGAGCTGCATTGG
52617	SMP1	CAGTCTCTACGCTGTGAATATTGCC
52618	NXF5	TGGTCTCAGAAGTGCCTTCA
52619	KCNMB3	TCCCTCCAGTCCCCATGGATTGGAAAT
52620	DDX11	GTCTGTTTCTTCCCCTCCTACGAG

52621	ADORA2A	CAGGTCCCAGGGGAGAGGTTGGGGCTGG
52622	TRIM9	GCGCCTCTCTGGGTGTCCGTGCCAGT
52623	RP42	GAGAGTGAGAGAGATTGACAGA
52624	PIP5K1A	GGGGCCTGGTATCTCAGGCAGATTGTTG
52625	IL1F8	CAGAAATTTTTCTCTTTTCTTG
52626	KCNQ2	TGGGGAGGGGCTACAAGGAGTAATTG
52627	COL19A1	TACTCTTAAAGCTTCAGTGGCCTAG
52628	GRM7	CCCTATTCTCTCAGACGGTGGAA
52629	NOTCH2	GGAGAGAGAAGGGGAGAAG
52630	DPYSL2	TGCTGCTTCCTGGTTAAGTA
52631	FGFR1	AAGGCATTTGGACCCCTGCCTTT
52632	KCNK3	ATTGCTTGAGCCCAGGAATTCG
52633	MLC1	AGCAGGAGCATGGCCGCAACTTC
52634	KIF3C	CCACCCTAGGAGGCTGCATGCG
52635	COL4A3	TCTGGGTCTCTAATCTGTGCTG
52636	IL17	CAAAACAAAGCATGTCTTTGAGTA
52637	MCM6	CTTCCTTTGGTGTGTTTCCTGT
52638	PMX1	TTTTCTTGAAGATGTTTTAAAGCTGGA
52639	MAPRE3	GTCTTTTGGCTTCTCAGTAGCT
52640	FCGR1A	GATGTGTTATTCTTGCCCTC
52641	SLC39A4	ACTGAGCACGCTGGGAGCTGAG
52642	GRM6	CTCAATTTCTTAGGCTGGAGTGCAGT
52643	VANGL2	GCCTAGCAGGCCTTCCTTTTCA
52644	ABL1	CTGCTTCTCGGGGTCCAGTGCATTTT
52645	MINPP1	ACAGCTCTAGCATTTTCTTAATCAG
52646	EPHB6	CACCCTGAGTCTTGCAAAAGCTGCAGCCCCAC
52647	IL8RA	CAGGGCTGAAGCTGTGTCCTC
52648	EDAR	AATGCTTTAGGGGGAAAATCAGT
52649	OAS3	TTACAGTGTATATGTGGGCTA
52650	ITGA4	TACATCTTTGATACTTGTTCA
52651	DRD2	GGTGGGGAGAGATGGACAG
52652	JTB	TTTGCACTCTTGGTTCTTTGGA
52653	RNF14	GAAGCATCCTTCTAAGACATTCT
52654	PTEN	CTCCCCTCGGTCTTCCGAGGCGCCCG
52655	PRKRA	TAGATTCCATCAACACTCCA
52656	BTG2	GGAGGGTCTGGAGGAAAACTGGC
52657	IL1F5	GCTCAGAAGATAAAAGATAAGTAGGG
52658	DKC1	GCACTTCCTCAAAGCTTGTGTACAG
52659	SEDL	GTTGTGCAGGCTGGAGTGCAGTG
52660	DPP4	CACTGTCAAGATGATGATGATCTTTAA
52661	AP2B1	GGCCACCTAGCAAGGTAGT
52662	UBE2B	GGAGGCAAAGGCGGGAGGATCA
52663	CYP8B1	CCCAGTAGCTGGGATTACAGGC
52664	CRMP1	CATTGTCTTGTTCTGTCCCTTCCACTT
52665	LRP4	GCATGACTGCTTCTCTGAGAGAAC
52666	STS	TTCTATTTCAAACGTTAATTTTGCT
52667	PGM1	CCAGGAGGTGGGCTGGCGCGGAGGGAG
52668	TXNRD2	AGACCCAGGATGGCTGCAGGCCAGGT
52669	RAB3B	TCAGAGCAAGATGAGTTGCTGCTA
52670	ATP4A	GACAGCCACCAAGATATCTGAG

52671	TRAF1	CAGGGCACAAAGATGGGTGAA
52672	COX15	AGCTCACTCTGCAACCTCCACTTCCCA
52673	BCL2	ACATTCTCTCCACAGCTCACTTACCT
52674	ZNF264	TTTGTACTTATTTACAAAACAGTCT
52675	CPLX2	CTCACACCTCCCTTCATCCCAG
52676	ZAN	CCCAAGGCTGCTTTCCAGAAA
52677	APOL1	GGGATTACAGGCGTGAGCCATCGCT
52678	DXS1283E	CACTGCTGAGAAAGACATACCCA
52679	FEZ1	TCGCCCAGGCTGGAGTGCAAT
52680	PTGIS	TGGGATGGGCTTTCTCAGTGTCAGC
52681	EGLN2	GCTTTCCCCTGCCTGCCTGT
52682	DNMT3L	GAGCTCTTAACCCTCCCCACCT
52683	THRA	GAAGGCCGATGGGGAAGG
52684	WSX1	CAGGAGTTCGAAGCTGCAGGGA
52685	KCNE3	GAGTATGAGAGACAGGTACATGGTCCAG
52686	IFI27	ACCATGCCAGGGGAGAAGGCAC
52687	PCDHA9	ATCAAATTATGTCAATAAATGTTATA
52688	TRO	TGTTTGCTGTTCCTGCTTTAT
52689	EPB41L2	GGGGGAGGGGGCTGTGGTGGT
52690	TXNRD2	CTTGCAGAGTAGACACGATGACACCTT
52691	PXR1	AAGGTTTGCTTGTGAAATGAGGCTG
52692	MUC4	CACGGAGGAGTGAGGAGCCCAGGAA
52693	NR2E3	GGGCACAGAGAGACAGAGGTTCA
52694	PTPN18	TAGCTAGGGTATAGTGGCTGGTGAG
52695	GSS	CTGACTTGGGATAGGACTGAGTG
52696	STIM1	TCCACCCCACTCACAGTGGTTCT
52697	DRG2	CCCCTGCACTGAGGGAGCAAGTT
52698	HTR1D	GCCAGGCTGGAGTGTAGTGG
52699	EGLN1	CCCTATTCTCTCAGCCCTCGGCG
52700	ACADS	GGCTGGGGTCAGGATGACGAGGC
52701	MRC1	GGGAACTTGGATTAGGTGGAGA
52702	NPHP1	ACCAGCCTGGCCAACACTATCTGTACT
52703	TRPM5	CACCCTGCACGTTGTGCACTGA
52704	SHOX	TCGCCCAGGCTGGAGCGCAGTC
52705	GRIA3	AGGAAGAGTGAGCGAGCA
52706	CHRNB2	GGCGCGCTCCAGCCGGTGTAGGCGA
52707	WHSC1	TCACACACCACACCTGATTCCTGTTG
52708	LAMP2	TATACTGCTATTTACACTATTATTTC
52709	CDX2	AGGCCAAGATGGCTGCTGCCTGCTC
52710	GALR1	AAGATCTGGAGCGGTAAGGCGGAGA
52711	PCSK2	TGCAGATTTAGCATCAAGCACAG
52712	CITED4	CTGCCTGGGCCCTGTGGTTGC
52713	RAG1	CATACAGTCTTAAAGCCACAGA
52714	PLAG1	ATAGATCTACATAAGTTGTGCAGTTTTGT
52715	TAF11	CAGGAATAGCAGAATAATTGG
52716	SH3BP2	CCTGCCTTATCTCTGCCTGCACGC
52717	PCDH7	TTCTTCTGTGGCAACTAAGTGGATAA
52718	ADCY3	CCGTTCCCAGTCCACTTCTCTAGGGCC
52719	PTPRE	GGAGACACACAGAGGCCAGGC
52720	SHOX	GGCCGTGCGTCCAGCCCGGGCCTCTCCAAGG

52721	BMP8	GGTGGAGGTTGCAGTGAGCAGAGATC
52721	IL13RA1	GGTGGAGGTTGCAGTGAGCAGAGATC
52722	SEPP1	TCCAGCATTTTTATAAACTACCAA
52723	TNFSF4	CCAGAAAGGTGGAGGGCTGTT
52724	IL16	GGCTCACTGCAGCCTTGACTCCG
52725	EXTL3	GGACTGTGCCTCAGGCCAGGGCTCAC
52726	EFNA4	GTATTTTTATAAGTATCTAGACC
52727	MEP1B	ACAGCCACCTCATTCTTCT
52728	IL1F5	CAGGAAAGACAGAGGAA
52729	ASTN	GACTTTCTTCCTCCTGTTTCTCG
52730	MME	GGGGAGTTATGTTTTGTTAC
52731	EGLN1	TAAGGTTTTTATGCTCTGTAAA
52732	CD209	AGCTACAGTTCCTTCTCTCCA
52733	SMAP	TCACAATCTAAATTAATTTTGGCAAAAG
52734	SIRT5	TGCCCCAGTAAATGGAAATGT
52735	DISC1	GGGTCTCAAACTCCTGACCTCAG
52736	LZTS1	GCTCACTGCAGCCTCATACTCC
52737	G6PT1	TGTTATAGAAGATTAAAACTAGA
52738	DUOX2	ATCCAGTTTTGGTCCTACTAAATAT
52739	HYAL4	GGCTGGGACTGCAGGAGCATGC
52740	ADAM29	AAACTCATAGTGCATAACTTGTCA
52741	CEP2	TCACCCAGAGGGGTGCCTTGCCCTGG
52742	DCLRE1C	CTGGGAGGTGGTGGTTGCAGTG
52743	TBX6	CTCACCTCCGTGTGAATGGAAGG
52744	HNMT	TCCTGCTCTGTCTTTCTCAGAAAACCAAA
52745	ATP7A	TAAAGACATTCCTGGAATCAC
52746	AP3B2	GCCGCAACCTCCTCCTCG
52747	ZNF42	GCCCTCACTGCTCTCTCAGTCTTC
52748	KDR	GACCTCGGACTGCAGGGAGCCAGT
52749	ADAM19	TTCTTATTTGACAGAGGGTATGGAAGACT
52750	CDH16	GGGAGTGCTCCAAATGTCAGGGTG
52751	PX19	CTGCCCTCCCTTCATTGTACTTTATCA
52752	SMARCC1	TCTCACTTCACATTCTCAA
52753	UBE3A	GGTGAGACATTGATATATCCTTTTGC
52754	BCL2L2	CCTGCCTGCCACCCTCCTCTCCCACTC
52755	UBE2G2	GTTCCCTGTGGGCCCCATGAGGA
52756	RIG	ATGTAGGGTGGTCCTGATGGTT
52757	AK1	CACCTGAGGTCAGGAGTTCGAGAG
52758	EN2	TGAGAAATGAATGAATGTTTCTATT
52759	FCGR3A	CTCTGGATTTGCAACCCTATCA
52760	MGAT2	CCCTCTTTCCTCTATTTGTCTCC
52761	UBE2V1	TCACTCACTCTCCACCAGCCTGGGAAATGAA
52762	EDG8	ACCCAGGCTGGAGTGCAATGGGCACA
52763	DNAH9	ACCAGCACCCCACTCCAGCCTCG
52764	HAL	CCCTGCTCCTGCCCCTGCTCGGCT
52765	CPT1B	ATTTCTCCTGGAGCCTCCAGGGC
52766	POU2AF1	AGCAATAACATTTTATGTCA
52767	TLR5	GCCGCCCAGGCTGGACTGCAGTG
52768	MEL	ACCGATCGCCAGGACCAGGAA
52769	CENTD1	CCAGGCTCTATGTGCTGCTG

52770	GPR85	TTCCAAAATTCAGTATTTA
52771	TNFRSF5	CAGGAGAGACAGTGAGGCTGCA
52772	PTPRO	GTGGGTGGAAGAGGGAGTA
52773	CLECSF12	GCTATCTCTCGCCTCAGCCCC
52774	RNF3	CCCGCCCCACCCCGTGCTTCAGCCT
52775	TEM6	GGCCAGGTTCCTTATCCTTCTGAT
52776	ARL2	CTGCTGCTACCGAGGCTGTGGGCCTCAT
52777	CNN3	GCCCGAACCACCATGACCCACT
52778	PRKAG1	CACAACAAAATTCTTCA
52779	MTMR4	CCTCTACTGGTGATACCCTCACC
52780	PLAU	TGTGTGTGTATGTTTGCACACTTGT
52781	PACSIN1	AGCACTTTCAGCATCGGCTCTTCA
52782	SIGLEC8	TTGCTCTGTCACCTAGGCTGGAGTGC
52783	GM2A	TTGTCACCAGGCTGGAGTGCAGTG
52784	ESR1	GCCATTTCTAAAATGGCAGCTT
52785	RLBP1	CCCGAGTGAGCTCAGGTGTC
52786	ACCN2	GGCCTGGAGCTGGAGAGTAAG
52787	CDC7L1	GGGAATTTAAAATAATACATAC
52788	ABR	ACAGCCGCCTCTAGGGGCTGGG
52789	CST	GGAACTCAGGCTCAAGCAAT
52790	SET	TTTGACAGACATCCTTGCAGT
52791	MATN1	ACTCTGAGTGCTGTGAATTTC
52792	SORCS2	CCTCCTCCCCCTCCTCTCTGGC
52793	CTH	GCCTCTGAAGGAGGTGAGATTTGTGC
52794	PLA2G2D	TGCCTGTAATCCCAACACTTAGGGTGG
52795	PRKCN	TCTTTACTGCTGTTATTTTAAAAACC
52796	TIRAP	CCCCACAGGCTCTGCTCCACAGA
52797	MGA	TGCTCCTCAGCTTCTTATCC
52798	GRB7	TTCTCCTCTGCTTCTTTGCC
52799	SPTBN2	CACTCCATCTCCAGCTGCTCTC
52800	MYOD1	CGATATACCAGGTGCTCTG
52801	ZNF124	ACACATACTCCAGATTGACC
52802	JPH2	CCTGCACTCCCTCCCTTGCCTGTA
52803	HUNK	GTGATTTGCTGAGTGCTGTG
52804	HAL	AAAACTTTTCTTTCTTTCTTA
52805	CNN2	CAGGCTGTGCTGGGAAGAAGAG
52806	DECR1	CTCTCATCTTTTGACTATTTCA
52807	MATN1	GCACACACACCTCCATTCA
52808	NOS1	CTGCTCACTCTTCCACAGATATA
52809	ZNF135	AGATTTGCCATTATGCACATCACA
52810	LZTS1	AGGTGGAGTTTCTCTGTTGTTTGGT
52811	SYN2	TGCTTTTCGCTTTCTTTCTGCATGA
52812	SLC6A3	GGGCTCCAGGGACTGGAGTGTAAT
52813	GATM	GCCTGGTTTGCTTCTATTACTTTTC
52814	MYO1D	AATCAGATACCTGCTGTCACCACA
52815	SLBP	TGCCCTGCTCTACTCTGCGCTCTCTGC
52816	SART2	AAGCTATAAATTACCTGGTCAT
52817	BSN	GTCAAACAAACAAGTTTACA
52818	STK19	CTTGGGAAGGCTTGGGAGCCAG
52819	NPAT	AAGAATTGGTTTAAACTTTTA

52820	TAZ	TGCCCCTGTGGCATGTCGGAATGAATG
52821	GGA1	GTGACTCTTCCCCCTCCTGCTCCGGCC
52822	DAAM2	CAGAATTTGGTTCAACTGTTGA
52823	DLEC1	TCATCTCAGTCATCCTGCAGGCACATGAGGG
52824	DNASE1	CCTTTAGCTGCTGCCCTGCCCTTG
52825	NCALD	GGCTATTCCAGCGAGCTGGGACA
52826	ARAF1	CCCAGCACCCCATGTGGATTTTGGGGG
52827	PABPN1	GACTGGGTGCAGGTACACCCAAAGGAA
52828	SNAI1	GGGCCTGGGAGGAAGATGTTTACATTT
52829	FLT4	CAGGCCTGGATAATATCCAGCCTC
52830	NIPSNAP1	ACAGCTCTGCCCAGGCCCTT
52831	PXR1	GCCTCAACGTAGGGGTGGGT
52832	LPIN2	GGCCTGGGATCCCTCCTTT
52833	MAG	TGTTATTTATTGCTACTTCCTG
52834	SNX13	GCCCGGGAGAAGACTGAAGGAGCAGT
52835	NR2E3	GAAGGGAGACTCTAGGAGTTGAAATG
52836	SNAP23	ACTGCAACCTCCGCCTCCCTGGTTCAA
52837	CARD15	TTTCCAGTGAAATCAGTTACTC
52838	MGEA5	CAATATTAGGTCAGCATGTGAA
52839	GAS2	TAACTGCAGCTGGGGTCTGATTTGCCC
52840	NFE2L1	ATGTTCTCTTTGCCATAAAGACTCCGT
52841	TP53	CAAACTCCTGGGCTCAGGCGAT
52842	DLEC1	AGGACCACCTCCTACACTATTG
52843	KCNA3	CCCCAACAACTATCAAAGTCTA
52844	ATP1A2	GGAGGTAGGGCTGGCTGGAGGAAGGA
52845	NSF	CCTTTATTTTAAATGATCTGTACT
52846	SMP1	ATGTTGCATTTCATCTGTGT
52847	GCLC	TGCCTCTCAGCCCGTGTGTATAATA
52848	SYNGR2	AGCTAAGGAGCCTCATAGCCTG
52849	IL9R	CCTCTCTGTGCCTTACTGAGGC
52850	FZD4	CCTCTGCCTCCTGGGTTCAAGTGATT
52851	GABPB1	AATTCTGCAAAATCTGTGCTTTT
52852	CAV1	CCTTTTAATTTTCCTGGTGCCAA
52853	CROT	CCAGGAGGTTGTGGCTGCAGT
52854	HSD17B1	CTTTGGGCCTTTTATGGAGAACTCCAT
52855	ALPPL2	GCCCTTTGCTTTATCTTGCT
52856	NUP98	CTCAGGTAGAGAAAAAAGGACAGTGA
52857	BRCA1	GCTCAGGGCTATCCTCTCAGAGTG
52858	SCN8A	AGAAGCAGAAAGCATCACTTTAAAAGT
52859	SUV39H1	TGGAAGGGAAGTGGGTGTCCAT
52860	LZTFL1	TCTCCTCACCTGTCTCTCCATATTTAGGTC
52861	MTMR1	TACTGTGCGTCAAGCACAG
52862	FGF5	TTTAAGGGATTCTCCTGCCTCA
52863	ASTN	CCTGCCGCAGGCCCCACCCTC
52864	BVES	TCTTTTTCCTCACAGTCTT
52865	KCND2	TCGTCTTCTCTATCCTACACTC
52866	VANGL2	TTGTTGTGATTTGTTCTTCCGTGC
52867	AXUD1	AGTCTGCGTAACAGTCTCCCAC
52868	STK6	TAAAGCTGTTGGAATGAGTA
52869	KHK	AGGTGCCGGCTCCTCACACACCATGG

52870	AF1Q	GGTGCTGATGAATCTGCCAGAGTTGA
52871	DLG1	GCCGGTGGGCTAGGGCAAGGTGTGTGC
52872	SCN4A	CCTGCTTCCCAGTCCTGCCTGA
52873	ZNF74	ATCACTTGAGCCCAGGAGTCTAG
52874	BMP8	CTGTGTCTTGGGCCTGTGAG
52875	GLRX2	GTTTTTTCTCCTCCGTTTCCCCAG
52876	STARD4	CTTAGCCTCCCAAAGTGTTGGG
52877	HDAC1	TGCAGGTGGAGGTTGCTAGTCTAGTT
52878	CEBPE	AAGGGCGTGGGGGGTTGCAGCTGGG
52879	DLGAP2	TCCCTAGGGGAGCAGATTAACC
52880	GRM6	AGCTGTTTTCCTCCCCTCTGTGTACT
52881	KCNK6	AACTGCTGATTCTACTGGGCTG
52882	ELAVL3	TGGGGTAGGAGGAACAGGTTTAAAAA
52883	PAX5	CTGGGTGACCCTGGCAGGTGCGCTCAG
52884	ADCY3	CAGTCGCCTTTGCTACTGCTTTAA
52885	FADD	TGAGCCACAGACCACCTGCTT
52886	ALDOA	CCAAAGATTTATTTCTCTTGACA
52887	GAS2	TCCTATTTTGCTATGCTTTCTA
52888	DCX	GTGGCTACCATTCACTGGCA
52889	ELL	ACGTCTGGCCCTGGCGGGTGGCTGC
52890	DMRT1	CACATTTGTAATACTTTAGGGTCCGT
52891	RAI14	TATATTAACAAAATACTTTTTA
52892	CD8A	TGCAACAGCCACTACATTACTTCA
52893	LZTFL1	ACTTCTACAGTTTAGAAAGTATCTG
52894	CTF1	GCCCAGGCTGGGGTGCAGTGGC
52894	RPH3AL	GCCCAGGCTGGGGTGCAGTGGC
52895	F3	GCCCAGGCTGGAGTGCAGTAGC
52896	TRIM39	GTGACTTCCTCCTAACTGTCAGGG
52897	MAGEA2	GCGGGCCTCACCCCAGACAGAGGGC
52898	TNFRSF9	GCAGAGTGCCTGAGTTTAGGGTCAAG
52899	SLC17A7	CCTTGTTCCCAGTGCTGTCAA
52900	ENAM	CTCATCTTTTTCTCTCTGTATAT
52901	RPE	TGCTGTTGTGTTAGCTCTGAGT
52902	ELMO1	CCATGCCCACTTTGCGTCTGCA
52903	BMPR1A	AACCATCGGAGGAGAAACTCTA
52904	DNAH9	AACGGTAAGAAACCATGAGCAC
52905	PUM2	GGAATTTGTTTTATCTCTTTGGGATA
52906	ESR1	AGGGAAAGTAGGGCAGAAACTGGATAC
52907	ARHGAP6	CCAGCTGGGCCATTTCTCAGACA
52908	SPTBN1	AGCCAAGGGAAGGCATGACAGA
52909	LEP	GGCCAGGGGTCTCCCTGGAGTGCAGTTTCCAA
52910	G22P1	TCCACATTCCTCACTACTAACCA
52911	COG8	CACTTTCACTTTGAGCTGGGCAA
52912	KDR	TCCTTGCCAAGCCCCAGGAAGAAAATG
52913	ZNF216	TGTTACAGGCAGAATTGGATA
52914	PCDHA9	GAGAATTCACTTGTTCTGTCA
52915	NPTX1	TTTCCTTCTTTCTTCTGGC
52916	IFNAR2	GGATGTTTCTGCATCATGTC
52917	PIK3R2	CCAGTGACGAGTGGCCCTTGTAAGG
52918	LTBR	ACAGGACTCTCCCTACTGCCT

52919	CD80	GTCAGGCAAAGTGCTGCTG
52920	RARRES1	TTAGACTGAATTCATGTGAA
52921	VCL	CCTTATCATTCATTCTTAGCTC
52922	GPR81	CCAGAGTAGCTGGGACTGCGGGC
52923	MAP4	CCTCTCCCTCTGGTCCCACA
52924	CUTL1	TGCATATAGAAAACAAAGGAGCA
52925	FCMD	AATTGGGACTCCCATTCTTTGCCA
52926	MGA	ATCCAGAAGAGACACTTTTTA
52927	CREB1	GAGGCAGCAGAATTGCTTGA
52928	IDS	ACGTGACATAGGGAAAGCTTGCAAT
52929	LEP	GGAGGCTGAGACAGGAGAATCGCTTAA
52930	8D6A	GGGGGTAGAACGGCCCTGTGCTTAAGACAC
52931	TBX22	CATCATTACAATACAGTATTTCTTTG
52932	CD81	TCAGCTTGGCCAACTTGGGGGGCTGT
52933	ZNF14	CATGCCTCTAATCCCAGCTACTC
52934	BHMT2	TGCTATCTCCAGCTGCT
52935	TARBP2	CTGCCTCTGGGCTCATGTATCTGCGC
52936	PLN	TTTAAGGCACTGTAGTGAA
52937	DVL3	GCTACCCCTTACTCCCCTCTGCAACC
52938	ADAM29	AACAGGGACTTCAAAATCACTGTGA
52939	DAPP1	ACACTAAAGCTACAAGAAATA
52940	SLC24A1	AAACATTTTGGCATTGAATGATGG
52941	ALDH3B1	AGCAGCGCCTGCCTCCTCCCTCC
52942	ALX3	CGTGGACTGAAGCTCTTCATGATGAG
52943	TRPM6	TTTGTCACCTCACCCACAG
52944	PTGES	TGGGCCCTGAGTCCTGGTTTC
52945	GRLF1	GCAGAGGGCCCCATGCCAGACAGCCCT
52946	DGKB	TGCATGATTTATTAGTTTCTCTCCA
52947	P2RY6	TCTCTGAGGAGGGAGCATCTGAGCCA
52948	IL6R	AAAAAGCATAAAAATTAGCCAAGTGTG
52949	PPARGC1	ACTGTAAATGCAGCCTTCTTTTCA
52950	DNM2	GCCCTATTCCTCTCCTCCTCCTCC
52951	ATP1A2	GAGGCAGGACCAGAAGGCAATCAAGAG
52952	DBY	CATGGTTATTTCTGTCAG
52953	PSCD3	CCTCCTGCCGTGGCTGGGGTC
52954	HBA1	TTCTGGTCCCCACAGACTCAGAG
52954	HBA2	TTCTGGTCCCCACAGACTCAGAG
52955	ADCY6	ACTCTGTCACCCAGGCTGG
52955	APM1	ACTCTGTCACCCAGGCTGG
52955	C14orf1	ACTCTGTCACCCAGGCTGG
52955	TDGF1	ACTCTGTCACCCAGGCTGG
52955	TNFRSF9	ACTCTGTCACCCAGGCTGG
52955	TUFT1	ACTCTGTCACCCAGGCTGG
52955	ZNF264	ACTCTGTCACCCAGGCTGG
52956	DDX3	CCCTCATTAGGGCCCTGGATGATTTTT
52957	GPRC5B	CTGCAGGTTCCATGAAAACAGCCCT
52958	C11orf8	TCAGAGGAACATTGTGAATTTGTA
52959	SP1	CCCATCTGTATCATCAGTGCCT
52960	MMP19	ACCTTAGAGGTATGGGCCAGA
52961	C1orf1	CCTGTAATCCCAACACTTTGCGAGGC

52962	ADAM17	CGCCACTACACTCCAGCCTGGG
52963	CRACC	TCTGCCCTCATGAAATTGGC
52964	GPM6B	GGATAGGTGAAGAACAGAGCCT
52965	BACH1	AACATCTATTTTGAATCTGTAAA
52966	ASTN	GAGTTTCAGTGTGATTTCA
52967	AOC3	TTTCAGAAAGGAGTAGAA
52968	FMR2	GGTGAAGCCTCACATACTTCTC
52969	PTMS	GCGCCTCTGCCGCCTCTTCCAG
52970	AGPAT2	CCCTGCAGGGGGCTCAGCTG
52971	TPK1	CACTATACAATTCAGTACTGATTATTC
52972	NMBR	TCATGCCCTCTAAGTCTCTTTCCAACC
52973	RAI3	CCAGCCTCAACCACAATTCTTCC
52974	USP14	CTGGAAGGCAGAAGTTGCAGTGAGCT
52975	ADARB1	TTTTCAGTCTCATGTGAAAATC
52976	WBSCR14	GTTCCCTCTCTCTGCTCCTTCACT
52977	FMR2	CACCAAATGATCTCAGCCCTGC
52978	CLTCL1	GCACAGGGGACGCAATGGGAG
52979	DSC3	TCTGGGCACTAAGAAGGTCTAT
52980	UBL1	TTGGTGATCAAGCCTCAGTCC
52981	NOTCH2	ACTCCTCTTCTGCCTGCCTTTG
52982	IGF1R	AGCCTCCTGTACCTCAGTGG
52983	ASPH	CTACCACCACAGGAGGACCAGCC
52984	PRKRA	CGCTCTTCCTCCAGCCGCTGAGCCGTC
52985	MCCC2	GTTCTGTAATCTGTAAACTCAGTT
52986	MGAT5	CAAGTTAATCACCTTTTACC
52987	DMRT2	CCAGAAGTACACATTTACAATAGAT
52988	ZNF289	TTCCCAGGCTGGGGATGCTTTG
52989	MPL	TCTCCAATCCCATCTATTCTCTGCCTT
52990	MIR16	AAGCTGAGGCAGGAGGATTACT
52991	IL16	GCAGCCTTGACTCCGTGAGCTCAGGGA
52992	FOSB	TTGGGGGTTATGAAATTTCATTAA
52993	KCNS2	GATAATTCTTCTCCATCA
52994	BAPX1	GGGCCCTGATCGCCCACCTGCCT
52995	ZNF35	TTTGCTGTTTTCTTCCTCC
52996	PDE6C	CTAAACTTCAAATATCATTTTA
52997	HK1	GACTAGGCTGGAGTCTGGC
52998	SIAT1	ACCCAATAAACCTTCCCTCCCA
52999	ADM	GGGAGGCACCGTCCGGCGGCGA
53000	PSMA1	ACCTATGTTGGATGTTGGTCTACT
53001	PITPN	TCCAGCAGAACATGTTCCCTCA
53002	TBX5	GACTGTGATAACAGTGCAAG
53003	GA	ATCTCTACTTCCAGCTGTGTTC
53004	WBSCR14	CTTGGCAGCTGTGACATTGGGGG
53005	RAG1	TTCTGATAATATATGTTTACTTA
53006	RXRB	AATTAAAATCGCTGTTTTCTG
53007	JPH3	GAGGGAGGGGGAGGGATCGGC
53008	ADRA2A	TCTCCCTACTCTCTCCCGCCGCTT
53009	COL4A1	GCTTGAAAAACAGCTCTGT
53010	RNF14	ATTTTTAAAGATCTTCTCTA
53011	CPD	GTTCCTCTTGGGAGAACACTGC

53012	D1S155E	ATTTTAGGAGCTTTATTTGG
53013	PPP3CB	GTGGAGAGCAGTGAGCAAGGGGC
53014	GJB1	GGAGTTAGGGAGAGAGAAGCAGGCAGATA
53015	RARA	CCTGCCCTCCCGGGCAGTACTGGG
53016	MATN2	CCTTGCCCCTCTTGCTCGCCTTG
53017	COX10	CCCACCCCACACATTCTCAACCA
53018	TEM8	ATAGATCTAGGCAGAGTGCCTT
53019	SLC22A12	TGCCACGGCCACCAGCTGGAGC
53020	SH3GL1	CCGCCTCCCGGGCCTGCTGT
53021	CHRNB2	GAAGGGAGGGGAAGAGAGAGGC
53022	GABRE	CCATTCACTGAGTCTTCTCAGC
53023	MNT	CCCAGTGGGGACAGGGAGGGGGAC
53024	ADRB1	GAGGCAAAGAGAAAAGCCACGGA
53025	NRP2	GGCGAGGACAAGAGCAGGGCGGC
53026	ZNF253	TTGAGAGTTTATATGGAACAC
53027	GGT2	CTGGCTGCCCTCGGCCTCC
53028	C1QG	CCCACCCCCACTGCACCC
53029	MAPK3	CTGCCTCCTGCCTGCCCCTCT
53030	PRKCA	TCTCTCTTACAACCAAGAACATTA
53031	IRTA2	GACTGACTGAATGAATGAATG
53032	MATN2	ATACTGTGGACACAACTTGCT
53033	GABRB3	TAGAAAATATATTTGCA
53034	SOCS5	GGCAGAATTTATCTCTTTTTTGT
53035	GPR56	TTCTCCTCCTCTCCCAGGGC
53036	CSPG3	CCACCTAGGGGTTCAGT
53037	PRKACA	TTCCTTTCGGAGTAATCCTGCCTGGG
53038	HDGF	ACCCAGACATAAAGGAAAAGACAC
53039	TEM7	GGAGGCTGAGCCAGGAGGATCA
53040	ITCH	AGGCTGAGGTGGGAGGATCCCA
53041	OVOL1	CTCCAGGTTCCAGCCGTCTCATGGC
53042	TPMT	CCAAAGTGCTAGGATTACAGGT
53043	LPP	CCTTATTCCACAGATATCTT
53044	CACNA1F	GCTCAATAAACCTCCTGCCCTCCCCTCC
53045	HEBP1	CTAAGTCTCTTTTCTCACGG
53046	SHB	ACTAGCACACCACTGCATGTCTCTA
53047	CDX2	CAGCTGGGCCTCCTGCCTCCGG
53048	TMPRSS3	GAGGAAGGGGACAAGTAGC
53049	F8	ACGAGTGTCCATAGATATAAAGCCAT
53050	ZNF45	CAATTGTCGTCATTATCATCT
53051	MLLT2	CTTTTTAAACTACTAGTTTTAA
53052	MSN	TAGGGAGGCTGGGGGAAAAGGTTAGA
53053	MPP5	TAGCTTCCCTTCCCTCATCA
53054	ATP2A3	GATGGCTGATTCCCCAAGGG
53055	CMRF35	CCTGAGCTTCCTGTACCCTGACCCT
53056	AGL	GGCCTCTGAAAGTACTGGGATT
53057	CDYL	GACATGTGCACTCCTTCCAGGAG
53058	HOXB4	CGGGGTGGGGGTGGGCAGTGAG
53059	PRKCI	TAGTTGAACTGGTTTTTCAGT
53060	XT3	TGCTCACATGTTTCCCTGCTGACCTT
53061	CD209	CACAAAATCTCTGGGACTGTTC

53062	RAB5A	GAACTAATAAATGCACCTTA
53063	RBL1	TAAGAAAAAATTGCACAAAAA
53064	MAPK4	TGGAGACCTCATGACAAAGGAG
53065	NDUFV3	CTTCACTGCATCCTGGAGTGCAA
53066	POMZP3	ACTCTGACTGCTGTTATCC
53067	RABIF	TGCTTATGTACTAATAGTTGA
53068	G2A	CCTGGTTTCCCTATCTGTAAA
53069	SNX15	CCACCTGCAGCCAAATCTGGCCCACCT
53070	FTSJ2	TTATCCAGGCAGTGGGTCTGC
53071	ATP7A	AAAGACATTCCTGGAATCAC
53072	CLIC3	GGACGGGGAGAGCGTGGGTCACTGC
53073	SERPINA5	CACTTTCCCTCTCTGGACC
53074	ZNF268	AACTGAATTTAGTAACCACTCTGAA
53075	MKI67	CTCGTTCATCTTCATTTACTTTCCA
53076	TNFSF15	AAGTCACCCACTGTGAGAGCTGGTCTTCTA
53077	TLR2	GTCTTTGTCTAGTTGGGATCTTTAT
53078	ATP2A2	CCAAGTCGCCACATTTCTCTGCA
53079	ALPL	GCCAGTGCTCTGCGCAGGATTGGAACA
53080	SNX6	GCTGGCTGAGTGCGTTTTGTCCTTCA
53081	ENTPD6	CCTGCTCTCCTCACACATTGTGTGGT
53082	CA11	TAGAGGGAGACTGGAGGGT
53083	ALDH1B1	TCTTGAACTCCTGACCTCAGG
53084	ETS1	GGGGAAAGAAAGGCAGCGGGAA
53085	PSEN2	CTGTGTGACCATAGAAAGTGA
53086	NIPSNAP1	TCCTGTCTCCCCTAATTGACA
53087	SYN3	CTTGGTTCCTGATGGGAACA
53088	TNFSF4	AGCCTCACTCCACCTTCCTTCCAT
53089	COL4A5	TACTACTGCTGCCGTCAATGGTGCTAC
53090	CHD3	TCTTAGGATCATCAAAAGAAAAAGAG
53091	ATP11A	GGGAGAGAAGAGCCGTCCAGGGACCCA
53092	AKAP13	ACCTCCGAATGCCTTT
53093	AP1M1	GGGCCAGCCTGGGTCACGAGATGCTGT
53094	IRAK1	CAGGGCTGTAGCACAGGCTTC
53095	ADAMTS4	CGCCTCCCGGGTTCAAGTGATT
53095	GRAF	CGCCTCCCGGGTTCAAGTGATT
53096	FOSB	AGATTGTGGGGTGCAGCTGGGTGGGG
53097	HDAC1	TTGAGATACTATTTTCATTTTT
53098	UBE4A	GAGCAACTTGAATAATACTGTGAA
53099	PSME1	GCTCAGCTTCTCCACAAGGCTA
53100	LNK	ACCGGGCTGGAGTGCAGTGG
53101	CTNNB1	CTCGGTCTGTGGCAGCAGCGTTG
53102	SIAT4C	CCAGCACCAAGAGATTATTTA
53103	PROS1	TTAGAAAACAAGTGGGACATATTTTCC
53104	SNX6	GGTAAAGCATCTTAATCAGACTTA
53105	MMP15	GGGGTCTGAGCTCCAGCTCCTTTGGG
53106	BSG	TGGGAACCCCCCTCCCACCCACC
53107	APM1	CCACAGAAACATTTTCATTT
53108	GPR80	TTCAAGTAATCATGTGCCAAA
53109	RAF1	CTTTGCACCTGTCTTCAGG
53110	SLC22A12	CCTCGCGTCTGTGCCTGCCTCA

53111	TEM1	CTTCCTGGCCCAGCGCTCGT
53112	RANBP3	CCTCACACACTGGCTCCAGCTGCCAGC
53113	SLC19A2	TCACTGGCAATATTTGTTCTGG
53114	DPH2L2	CAAATGTTATCTGTGGGGGA
53115	SMURF1	TTTGTTTCTCAACCACTTTATA
53116	GRM8	CTTGTATTTTTCTGTGAT
53117	FBXL11	CTCTTTGCCACCTAGGCCAGTTT
53118	MAP3K12	CTCCCCTCTGAGGTTTCTCAGGTGGC
53119	MAFF	CACTGCACTCCAGCCTGGGCAACATAG
53120	TPMT	CACTGCACGCCAGCCTGGGCAACAGAG
53121	NGB	CCTCCCCTGGCCCTCCTTTCTGG
53122	PCSK1	TCTGGCTTTTCTCCTATCTTGCTTCT
53123	PTPN7	AGGGGACCTCAGGTCTACCTCA
53124	PDE7A	GTGGGACAAACTGCCTCCTG
53125	OGT	GCTTTATGATATCCTACTTGGC
53126	STX1A	ACGGGAAGAGGCAGAGGGA
53127	IL12RB1	GTCTCAAACTCCTGCCCTCAGG
53128	CYP8B1	GCGATCTCTGCTCACTGCAACC
53129	RBBP9	GCTGTTGTATTACTTATTCTTTGCCTTGTTC
53130	KCNA6	GGTGCAGTTCTGAAACTGAAAGGACTG
53131	HPS4	CCAGGAGATTGTGATTGGGAGAGGGTA
53132	LILRB1	TCAGTGAGCCAAGATCGCACCACTGC
53133	MDM1	GAGTCCTAAGGGAGAGATCAAGTTGAGAC
53134	MEF2A	TTTGTGTTACTGCAGTGACCTG
53135	HSF2BP	GCAAATTCTGGGAGGTTTGGGC
53136	APOB48R	CAGGATGGACTTCCTCCGGCTATAC
53137	GDI2	GGGAGTCATTTGGAGAAAGCC
53138	HNF4A	GTAAGCACTGACTGGGACCAG
53139	ARRB2	TGGCGCGGGGAGGAGCAGGGATCTTGGCAGCG
53140	GRIN2C	GGTGAGGGCTGGGCTTTTGCT
53141	B3GAT1	CTGGGGAGGGAAAGCGCCTTTTC
53142	MME	TAGAAAACAATGCAAAACCTTT
53143	PTGS1	GGTACTTCCTTTCTCCCTGCGGG
53144	SNAP23	TCTTGTCCAGGCTGGAGTGCAATAGCGC
53145	NLGN1	GCCTCAACACAATGCCTTA
53146	PRIM2A	ACCAAGGCTTAGTGCAGTG
53147	ADCY1	TGCAAGAGGCAGGATGGTCTCCA
53148	MADH4	ACTTTTGTTCTGCTTTAT
53149	HOXB8	CTTCCCTTCTCTTGGGGGCCG
53150	PXF	TCACATGCATTATGAGTCGCTTTGAGC
53151	CBFA2T3	AGGACAGACAGCAGGCACGGCCCGCAG
53152	PTPN1	GCTTATTCTCCTCCCTGTTATCTGCTAGATC
53153	MSN	AGATCGGATCTGTTGCAAACTCA
53154	NGB	GGAGAGAAGAGAAGGCAGCAGCAG
53155	NUMBL	TGCCCGCTGGGGAGGGGTCCGGG
53156	SLC7A7	GTGCTGAGCCAAGAGCTCC
53157	GRM8	AGTTACAGCAATCATTCAATCTGA
53158	ARF3	CACGGGCCTCTCTGTGTTTGCGT
53159	PP	TCATCTGGATGTATTAGAAGTAA
53160	DR1	ATGATATCTGAATTCACCAGCTGAGTT

53161	IREB2	CAGCAGTTTGCCACTGTGAC
53162	CXCL16	TGTCATCCAGGCTGGAGTGCAGT
53162	FANCE	TGTCATCCAGGCTGGAGTGCAGT
53163	ZNF36	ACAGTGAGTAAATACCATGGAA
53164	HBE1	GTGACCCTGACACCCTCCTTCTG
53165	SURF5	CCTGCCCTGCCCTGCCCTGC
53166	MAP1A	CAAACGACTGGGAAACCAAAAT
53167	PUM2	TTGTAAATTTTTTAAGGTTCTT
53168	KIF1B	ATGGCAGCAGGCGGTGG
53169	PPP2R1B	CACTGCACTCTAGCCTGGGCCATAGAG
53170	WNT5A	GCTCTGCTTGGAAAACAGTTCACT
53171	CBFA2T2	CGCTGTGGGCATCTTCTGCCCA
53172	SPN	CAGTTCACTGCAACCTCTGCCTC
53173	CSRP1	GATCACATCACTCCACCCCTGC
53174	NCALD	CCAAAACTTGCCAAATTCCTCCA
53175	RAB33A	GGGCGCACACAGGCAGAAGGCTCGGGG
53176	ATRX	TTTGCTTTAGGTATCACTGGA
53177	DLEC1	CTGATGGGCCAGCAGGAGCCAGC
53178	NTRK3	ACATCTCCCTTCCACCTCACA
53179	SPTB	GAGAGTACTAGCCTCCTCCACTCC
53180	CORO2B	CACCCTCTTGTCTTCAGGGAATTCAGAGGA
53181	CBFA2T2	CTGGATGTGCTGTGCAGGTTGGT
53182	EVX1	GCCTTTCTTTCTCCCTCTTGCAACC
53183	NUP62	CCAGAGTAGCTGCCGCCACCAGAGTC
53184	WNT6	CCCTCCCTCCCCTTGGCC
53185	RAB7L1	AAAGACACCTGGAACCC
53186	EMR1	CCATTTTGTTTTCTCCTGCCCTT
53187	SPAG9	AGATGTGGTTTACTCTGCCACAGTC
53188	ZNF3	AGTCTCAAGAGCTCTTGCCT
53189	PRPS2	AGAGCTAGTTTTAAAATAATGATCTCAGATT
53190	NKTR	TTCTTTTCTCCATGGAAAAGGACA
53191	SLC7A7	CTACATACTGTTCCAGACTTTT
53192	IL6ST	AAGGGGTTCGTGCGCTGTGGAGA
53193	GRIK3	CTGCCCTTACCTGCCA
53194	MYOC	CTCCAAGCTGTACAGGCAATGGC
53195	BTG2	CCCTTCCTTCAATTTCTCAGTGACATT
53196	CDKN2C	ATGAGTGCCTACAGCAGA
53197	CD244	AATTTACAGATCAGACATGAATGGGTG
53198	AQP1	GGCGGAGGGAGGGGAGGGGTGA
53199	FMR2	ACATCACAATGTAAATATCATTTTT
53200	SLC10A2	TGCTACCTCTTGAAACTGACAT
53201	XK	ACACATTTATAAGGACAGAGATT
53202	DGKB	GTTTTTCTTCAACATCTTAACTC
53203	APPBP2	TGTTGCCCAGGCTGGGAGGGCAAT
53204	ZNF74	GGGCTCGTTCCCCACCTGGCCT
53205	P4HB	GAAACCCAGGGAACCTCTCTGA
53206	MAPK10	AGCCTGCTTCTTCCCCAGGGTT
53207	NR1D1	TCCTGTCTCAAATCCAATAG
53208	CXorf6	GTCACCCAGGATGCTGGGGCACTTTAA
53209	AIPL1	CCAACATGGTGAAACCTCATCT

53209	IL18	CCAACATGGTGAAACCTCATCT
53210	SEL1L	AGAAATGATCAGAACAAA
53211	CHRNA3	ATTCTATGTGATTAGTATGCT
53212	GPR81	CCTGGGTCTCTCATTTCCTGGCTGAAG
53213	PDGFRB	CCCTCTCTGGGCCTCAGTTTCCCCTT
53214	FLOT2	GTTGCACTGCCCCACTGCCTGTCC
53215	SLC22A12	GCCCTGGCCTCTTTGCCCTGGGCC
53216	SLC9A6	ACTCTGTAGACTGGATCTGTTT
53217	ANXA3	CTCCACCTTACTTCTTCTCA
53218	CHC1L	AGCACAGTGCCTTGTGTATAATAGGCA
53219	KCNQ3	GTGGGGAGGGGCGCGCGGATCATGGC
53220	MICA	CCAGGCAGCTGGGATTCAATTCCCTG
53221	PROK2	ATTTGGCTTTTTTCTTAAATGTC
53222	WAS	CCTGCCTGGTCCTCACACTCACCCAAC
53223	CLN3	CCCTCGGGGGACCTGAACTTGATGCG
53224	ICAM1	TCAGATACAACAGCATTTGGGGCC
53225	KCNK7	AGCTCACCTCCCTCCTGTTCACA
53226	MOX2	ACTTGAATTTGACACAAGAGAAAAGCA
53227	ADCY1	TGCAGGGCGGCCAGTGCAGTG
53228	IL12RB2	GACAGGCAAGCCAGCTCTGG
53229	CCNF	AGGGAATTCTGGCCACCCTGGG
53230	CR2	TTACTGTTTGAGTTTCTCTCACA
53231	IL11	TGCATGCTGTGATCCCAATTTTGTGTT
53232	EMX2	AAGACAGGTTCTGTGTGCTTTTTA
53233	WBSCR1	GTAGGGAGTCCACGGAGAAGATGCAGT
53234	TRPM6	TCCGGGTAGCTGGGACTACAGG
53235	TNFAIP1	AATTTTTCCTTTATCACATAACTGTA
53236	CIT	TTCCCCACCCCCCAGCGTCATCTC
53237	EMP1	TGTCCCTCATGGAGACCTCA
53238	MTNR1A	GAAAGAGAATTTTATTTATAAATGA
53239	GPR62	CAGTATTTCACAACTTCCTGGTCGC
53240	GNAT1	CTGTCCCTTCGCCTGCTGCTG
53241	ED1	AGGTGCACTCCAGACTCTGGGGG
53242	COL19A1	GCCTGCCAGCCACAGCAATC
53243	CRTAP	ACTGCAACCTCCGCCTCTTGGG
53243	MHC2TA	ACTGCAACCTCCGCCTCTTGGG
53244	SEDL	CACCTCCTGGGTTCAAGCAATT
53245	EMP1	CTGTGAGCCATTGTCCCTCTTTG
53246	TM4SF2	CCCACAACGTGCAACTGACACTC
53247	CORO2A	ACAAGCAGATGTCATGGCACCCCCAGT
53248	PKNOX1	GTTGCCCAGGCTGGAGGGCAATGGTGC
53249	KCNA7	GGCAGGGTGGAGGGCAAGGCTGGGGGG
53250	SOX4	CCCCTTCCTGCATCACCACCTT
53251	TOX	TGTGATTATTAAAATGACTGTAGCT
53252	G2A	CTTGCTCTGTTGCCTGGGCTG
53253	CLOCK	AAAAGGAGAAGTACAAATGTC
53254	SLC24A1	GCCCAGGCTGGTGTGCAATGGC
53255	SEPN1	GCGTGAGCAATCGTGCCCAGCC
53256	PTPN2	TCCTTTATCACAGGATTT
53257	TPM4	TCAGCTCTCTTATTTTTTCCTT

53258	ICMT	CAGTTCTTAAATAAAACTGC
53259	EFNA1	TCTTAGAGTGTAGCTGTAAGGGC
53260	GDF8	TCCTAAAACATGGAAGGTTTTCCCCTC
53261	DTR	GCCACTGCGGGAGCTCTGTATGG
53262	DRD2	CCTGCTTCCCACCTCCCTGCCCA
53263	BFSP1	TGCCCAGGCTTGATGGGATAAAATGT
53264	KCNE3	GCCATGATTGGAACCCAGGAACTCTGG
53265	GPR44	GCTGCCTCTTGTCTAGCTGCTGTCAGG
53266	RLBP1	GCGCCACAGCAGGCTGCCTC
53267	POLA	AAGATTTAGAAGCCTTGCACTC
53268	ADRA2A	TGTTCCCTCTCTCCCTCCAGGG
53269	RERE	CAAGGGAGATCCTGGAGTTAAGAC
53270	IL11	AGGTCACTGCAACCTCCACCT
53271	KISS1	CTCCGCCAGACTCCTGCCCAG
53272	FGF2	GCGCAGGAGGGAGGAGAACTGGG
53273	ARCN1	TTGCCCAGGCTGGTCGCGAAC
53274	BNIP3L	GGGGAAAGGAAAAGCCCCTGGAAATGC
53275	RNTRE	CTGCATTAGCAGTGTGGTTA
53276	SRGAP1	ATTGTTATCTGAAAGGCTTTCA
53277	EDARADD	ACTTCTAAGCTCTTCTTCTTCCTTCATTGGCC
53278	NAB1	ACAAGGTCAATTGGTTACCTCAGTAT
53279	PAFAH1B1	TTTTGGAGCACTATTCCATTGTCAG
53280	IFNAR2	GAAGGGAGGAGGAGAGCCAG
53281	SHANK2	CCTCAGTTCTGTGCCCAGCC
53282	PPP1R3C	GGTCCACTCTGTACACAGGCATTC
53283	GUK1	CCTTCACTCCTCTGTGGCTCTGGA
53284	TMPRSS4	CCTGTGTGGGGAGGCCCTCCTGCTGC
53285	STK38	GCCCAATAGAAGTACAGAGCCA
53286	TADA2L	AAACCACAGTCTGTAATCCCAG
53287	EPHX1	GTGCTTCTCCCTGTGCTGAGG
53288	MRPL49	GGGCCCAGCCGAGCAGCCTGC
53289	THBS1	ACACAGGATCCCTGCTGGGCACCAACAGC
53290	PRKY	AAGAGGTTGAGGCTGCAGTG
53291	PTTG1IP	CCACCCAGCAGGCGCTGGTGCT
53292	RABIF	TCACTGCTACAGCCTAGAAG
53293	IL1F8	TTTCTTGATCTTACCCCACCA
53294	MPP4	CTTTACCTCATATGCAGCT
53295	AGL	TTATAAGATTCATTCTCTTTCA
53296	FGF5	CCTATTTGAAAGTCTCAGGGG
53297	UQCRB	AAGTCTGTGGATGCAGCTGTTATGAA
53298	F2R	CCGAGATCGCGCCACTGTGCTC
53299	MAFF	CTGAGATCGCACCACTGCACTC
53300	ABCC1	GAGAGTGAGCAACCAGCTGGAAGGTAC
53301	SOX8	CTTCCCTTGAGGGCAG
53302	ITGB4BP	AACCTGCTCTGTTGTGCTGGC
53303	EFEMP1	GAGCTAAGTATACACTATCTGGTGA
53304	ADRB3	TCTGTGGCCCAGGCTGAGAGC
53305	DVL3	CCCATAAGCTGGGTCTCAGGCTGG
53306	OPCML	CCCAACAACATCCTCTGCCAC
53307	TEC	GGCTGCTCTGGGCAGCGCCTT

53308	AMD1	AACTTTAGTAACACAGCTGGAAC
53309	IL2RG	TCTGGCCCTTCCTTTTCGCAGG
53310	PRDM2	GCAGACTCCAGACAAGGAT
53311	PTGFRN	ACCTAGTTCCTTCTAGGGATA
53312	RNMT	CACTGCACCATCAGGCTTGGCCCTGCT
53313	SERPINB4	ACACACACAGCCTCTCTGCCCACCTCTG
53314	MHC2TA	GCCAGGGTCTCACTATGTTGCC
53315	UMPS	TCAGCACAGCTTTTCTTGTGT
53316	RBM3	AAGAGTTGGCTTTAAAATGTTT
53317	SRD5A2	ACCTGGGTGGCTTATGAGAGAG
53318	IHPK1	GCCCCCAGAACCCCTTCCTCTC
53319	IRAK1	GGAGAGGGGCTGCTGTGCAGGGGTGTG
53320	SLC1A4	TGGCCCTTCCCCTTGGAGGCGA
53321	TCTA	TCCCTCGGGGCCATACTTCTGTTTCCA
53322	IRTA2	TGAATGAATGAATGAATGAGG
53323	LDLR	TTTGGTTTCTTCCTTTCCTGTGA
53324	ID4	TGTAACTTTTACATGTGAA
53325	SYT1	AACACAACAATCTGTGCTTAT
53326	KCNMB3	TTTTCAGGAGGGACGTGCAATA
53327	ITGAM	AGAGAGGGAAACACAGCAGC
53328	RARA	CCCCTGCCTCGGTTGGTGACAGA
53329	PBX2	GGGGGAGAAGTAACCAGGCGGG
53330	TNFRSF11A	GCGTGAGCCCCCACGCTGGCC
53331	ALEX3	GCTCCCTTCTGTCATTTTCATTGA
53332	FMR2	CTCACCTGGGGTTCTCTGTGTG
53333	SFTPA2	TAGGCCATGGGACAGGGAGGATCCTGT
53334	FANCD2	ATGCTTGTAATCCTAGCACTTT
53335	CD164	GGAGAAACTTAAGCTAAAGTC
53336	CYP4F3	TGCCTGTATTCACAGCTGCTTGG
53337	KCNA6	CCTGCCCACCTCCCCTTTTGTTTC
53338	COX15	TCTGAACTAGGTGATCTCAGTTCTCTT
53339	WNT11	TGGGAGGCGGCTTGTGCTTTG
53340	BCR	GCTCCGCCTCACCTGCCACCA
53341	CLTA	AATATCTTAATCCTACTCAGTGAA
53342	PMX1	TGACCAACTACATTACCATGCTGTG
53343	BMX	TGCCTCAAAGCAGTAACT
53344	TOX	TTCTTTTACTCCTGAGCCCAG
53345	TIMP3	GCCCAGACTTGATGTTTTGGG
53346	FBXL11	AGCCCCATCAGCTGCC
53347	TBL2	CCTCCTGGCTGCAGCTCTGAA
53348	FBXL3A	TCACTCACTTTTCTATTTTGGA
53349	BDP1	CCCCTGCCTCCGCCATGTTCCGCAGG
53350	POLR2C	TCAGCACTGTCTCCAGAT
53351	SACM2L	AGCCTCCTCAGCTCTTGGAATTGCTG
53352	GRB7	CTGACTTCTCTGTCCGAAG
53353	ITGA7	GAAGGGCAGGGGTGTCCTGATGC
53354	PAICS	CTCAGCCCACTTAGGATAA
53355	CDKN2A	GGAGGAAGAAAGAGGAGGGGCTGG
53356	DRD2	CTGCTGCTCTGCTGCCTGCCCGC
53357	RNH	CCCACCCCACCCACCC

53358	CNGB3	AGCAAACTGGCAAAATCACA
53359	TNFRSF5	GGTGAGGGGCTGGCACTGACTGGGCATAGC
53360	MAPK10	CCTTTCAGAACCAAACACATGCC
53361	CHRNB4	TCCATTCTTTGCTCCAATGTCA
53362	AMD1	TGATTCTGTAATGAGCACAGCA
53363	CCND2	CCAGGTGTCAGGAAACAGACTA
53364	EDNRB	TTTTGAATCACTAATATTTTCA
53365	KIF5B	GTTTAAATTACCTAGCTA
53366	ABL2	GGGAGGGAGAGACCGGAGCAGCGCCAG
53367	VAPB	AAGGGACCAAGCTAAATTTGTA
53368	ADRB3	GCCTTTCCACAACCTCTACCTT
53369	OPHN1	AGGGGAGGGGACAGTGC
53370	CDKN1A	TGCTGAATATACAGCAGGTGCTCAATAAAT
53371	INPP5B	TGGTGACTCATGCCTGTAATCCCAG
53372	SLC2A8	CCTCCTTCCTGTCATGCTCCCTCCAG
53373	CTMP	AGGACCACCTGGATTCATTCA
53374	KRT17	AGTCCCTTCCCCATGCTTCCTTGCCT
53375	IVD	GGGCATGCAGGTACCCACCTCTT
53376	FTH1	GTGACTTCCTGGTCACCAAGG
53377	ELMO2	CTGTGGTGAGGTCACTAGATTCTACT
53378	LGMN	GATTTTTGATTGCTTTTGTATTTA
53379	CA7	TGCCCTGGGGACAGGAAGGAGC
53380	POLRMT	ATGTCGGCACTTTGCTGGGGC
53381	RARB	ACTGCTGCTTAGTTTTTGGACTGA
53382	ALDH1A2	GTGATTTTGGTCTGTCACACTGTA
53383	ZNF155	CCTCCTTCATTCAAACTGCATCACC
53384	HMGB2	TCAGTATAAAAACTGTACA
53385	FCMD	AGCAGTTTGAGAAGCTAAGGCA
53386	PKD2L1	CAGGCTGTGTGGAAACAGCTGC
53387	MEIS2	AGAGGAGAGGGAGGCCGCGGA
53388	NRXN2	CTCTCCCTGGCTGCCTCAGGCTTC
53389	B3GALT3	GAAGGACAGGATACTTTGTGGAAA
53390	CIT	CGCAGCCAAGTAGGTTCATCCTT
53391	BDP1	TGTTGCCCAGGCAAGAGTGCAGT
53392	FZD4	ACATCTGCTTTGGCTTTGCC
53393	TNFSF6	AAGAGGGAGAAGCATGAAAAAGCAGC
53394	SNX6	TTTAAAAGCATATACCACCTT
53395	KCNQ2	GCCCCTGGCTGGCCGAGGAGACTGGCT
53396	HM13	GGAAAGCTTTTAGCACAGTAT
53397	HUNK	GCGTGAGCCACTGTGCCTGGCC
53398	AK1	ATGCCTGTAATCCCAGCACTTT
53398	ALDH3A2	ATGCCTGTAATCCCAGCACTTT
53398	ATP1A2	ATGCCTGTAATCCCAGCACTTT
53398	CD68	ATGCCTGTAATCCCAGCACTTT
53398	DDOST	ATGCCTGTAATCCCAGCACTTT
53398	FGFR2	ATGCCTGTAATCCCAGCACTTT
53398	HM13	ATGCCTGTAATCCCAGCACTTT
53398	IFIT4	ATGCCTGTAATCCCAGCACTTT
53398	IL12RB2	ATGCCTGTAATCCCAGCACTTT
53398	INPP5B	ATGCCTGTAATCCCAGCACTTT

53398	MGAT3	ATGCCTGTAATCCCAGCACTTT
53398	MSH3	ATGCCTGTAATCCCAGCACTTT
53398	OPTN	ATGCCTGTAATCCCAGCACTTT
53398	PIK3R2	ATGCCTGTAATCCCAGCACTTT
53398	SLC26A4	ATGCCTGTAATCCCAGCACTTT
53398	SLC31A1	ATGCCTGTAATCCCAGCACTTT
53398	SPTLC1	ATGCCTGTAATCCCAGCACTTT
53398	TNFRSF10A	ATGCCTGTAATCCCAGCACTTT
53398	TNFRSF10D	ATGCCTGTAATCCCAGCACTTT
53398	UPK1B	ATGCCTGTAATCCCAGCACTTT
53398	VHL	ATGCCTGTAATCCCAGCACTTT
53399	MGAT3	GTGCCTGTGATCCCAGCACTTT
53400	FZD8	CTGGGAGAACCTCTTTTTCTCCC
53401	PODXL	CCGGCACCGCAGCCACCTGCT
53402	SPTBN2	CTTGTCAGGACAACTGCCTGCTGC
53403	KCNJ3	ATCTGAAAGTATATTTTCCTCC
53404	LDLR	ATTGCGCCACTGCAGTCCGCAGTCT
53405	BCL10	TGTTGTCCAAGCCACCGTCTT
53406	SPAG1	GACTGGGTCAAAGTGAAGGA
53407	CAT	AGAAATTTTTATTTTTCTAAGG
53408	CNP	CCCAAGCTGGAGTGCAGTG
53409	GNAT1	TCCAGCACCAAATCTTTGCTTA
53410	F2RL3	TTCAAATGATTCTCCTGCCTCA
53411	FMO4	TTTCCAATGCATCTTCTACCCTGCT
53412	CLCN4	GTGCCCCTCATCCTTTTCA
53413	PTGS1	GACAGGGCAGAGCAGGAAGGACAGGAA
53414	WBSCR14	TCAGCATCCTCATCCGGCCTCTGTTTG
53415	NOTCH2	GGCTACACTGCAACTTCCGTCCAGTGCT
53416	CKTSF1B1	GCATCCTCCTTTCCTCCTCCTCCTCACA
53417	KCNJ10	TTCAACATTAGACTTACCTTA
53418	NCOA6	TACTGTGCCCAGCCTGCAA
53419	S100A5	CCTTTGCTGCTGACCTCGGCT
53420	PRB1	CAGACCTCCCCAGTGCAGCCT
53421	RAG1	GCCTTGGGATTAATAAACATGCACTG
53422	ITGAV	AGCTCTTTAACTGCTGTCCTCA
53423	CYP4F3	CCAATATGGTGAAACCACGTCT
53424	CHST6	TGCAGCTCGGGCAGAGCCGC
53425	AVPR2	GGAGAATTGGCCAGAGCCTGTGGCCC
53426	TM6SF2	ACCCCTTCCCTCATCAGGCACACCCA
53427	NGFR	ATTTCTCCCAGCTCTAGAC
53428	SCD	TTGAGGCATGACTAATGCTTTTTAGAA
53429	RBBP9	TCTCCCAGGCTGGAGGTCAGTG
53430	ZNF7	GGCCTTGAGCGCCTGGTGTGGGAG
53431	SLC17A4	TTCAGTAGGATTCAATTCAATGTGG
53432	GABRB3	TGGAAGACAAATACACATACAT
53433	CDH1	TTACTGTTTCTCAAGTGTTTT
53434	DRIL1	TGTTGTGTAAATATTCTATTTTATT
53435	PCDHB12	TGCCTGTAAAGTAGTATTTTTGATCAC
53436	GPRK7	ATGCCTGCAATTCCAGCACTTT
53437	SORD	AATGGCTGGACATGGGTGGG

53438	SLC13A3	TCTCTCTCTTTCATGCAGTTCA
53439	CTMP	TACTCTGCTCCCTCACTGC
53440	PDE6A	ATCTTTTGGCTTCCCTGGGCC
53441	MPP5	AGGTGTTCATTATAATCTGTATTG
53442	EGLN2	CTGCCTGTCTCTAGTTTCTCTCACA
53443	PTGIR	CATGTGCTTGGTACAAAAAGG
53444	ZNF137	GCTGACACAGATGGTCACCTCC
53445	TAT	CAAACTCCTGACCTCAGGCAAT
53446	PSCD4	AGAACATCCCAGACAGATGGGA
53447	CELSR1	CCGTCACCCCACACAGGCTGCG
53448	ATP2A3	TCTGGGCCCAGCTGTGTACAGC
53449	CEP2	ACCCGGGGCCCGCTTGCCTCAG
53450	ARHI	TTAGTAATGAATGTAATGAG
53451	SET7	ATGTAAACAAAGATATCTTTGCTTTAA
53452	CYP1A2	TGTCTCCTAAGCTGGAGTGCAG
53453	SUV39H2	CAAGATCATACCACTGCACTGC
53454	KLF4	CCCCAGCTGCTTCGGGCTGCC
53455	TAZ	CCCGGCGACCGCTCCCCAG
53456	PDYN	TGTGGACCAGTTCCCTCAGCCCTCAT
53457	KCNQ1	TGGTTGGGACCCAGTGGCAGGG
53458	SLA2	TTTCATTTTGTGGCTTAC
53459	EIF2C1	ATGGCAGGGATATGCAGGGCACTTTT
53460	IL12B	GACCAGCCTGGGAAACATAACAAGACC
53461	ITGA1	CCCCCTGGCGCTGAGGCTGCTCCGGCC
53461	PELO	CCCCCTGGCGCTGAGGCTGCTCCGGCC
53462	ITSN2	GTGACCTCTGCTGGGTCACAGCC
53463	FNTB	GAGCCTTGCATCTCTCCA
53464	STC1	GAGTACTGGAATAAACAGTGA
53465	RUNX1	AATAACTGCATGTGTCTGGTC
53466	EVA1	GAGGAAGACTTTGGTATGGAGCA
53467	AQP2	CGGGGAGGAGGCTGCCGGAG
53468	MRPL49	CACCGGCGAACCTGCCTGGGCAG
53469	VPREB3	CTTGCCTGCCTCCCTGCCTCTGG
53470	NRG1	TGCTGCATCTCCCCTCAGATTCC
53471	EEF2K	ACCCAGGCTGGAGTGCAGTGAC
53472	TRPV1	ACCCAGGCTGGAATGCAGTGGC
53473	CAPN2	TTCCAAATGTACTGTTAAATA
53474	ADAM17	TTTGAGGCTTTCAGGTTTTAGTTT
53475	SEPX1	GCTCTGAACAAGACCTTTTCGT
53476	STS	TTATTTTATAATCAGAAGAAAAGGAA
53477	DKK1	CCTTCTTTCTCCCTCTTGAGTC
53478	GPX2	TATCAGTCCCCTTCACTGC
53479	TRIP15	GTAAAGGTTTAGACGAAACCCC
53480	MCC	TCTCGTTTCTCCTCTTTCCTCCTGC
53481	DBY	AATCTTAAGACTAACAAATCCT
53482	KCNE3	CACCCAGGCTGTGGTGCAGTAA
53483	BAT4	CATCTATTTTTGTTTGGGAAGAGG
53484	NFIB	TTCTTGGGCATCTCCCGGAAAGTG
53485	TNFSF15	TTCAACACCTTCCTGCTAT
53486	DTR	CAGTGCAGCAGAGGACAGTCT

53487	GABRG3	TGCTCAGAGTGAAGAGTGAAGAG
53488	GPR18	CAGGAGGTGCTGCTTTCTGTG
53489	CDC6	AAGTGCTGGGATTATAGGCGT
53490	ADAM12	TCACATTAGAAGACAATTGACA
53491	REGL	AGTCTGCTGCATCTTCTACCTC
53492	KCNN3	CCAGAAGCATTACCCATAGGTCTTA
53493	MSN	GGAGGCTGGGGGAAAAGGTTA
53494	ACP1	TCAATAAAAATCTTTG
53495	IPF1	CTACAGCACTCCACCTTGGGACCTGTT
53496	EIF2C1	CCCTGACCCCACTGGACCA
53497	TRPM1	GCTGTGCCCTCTCCATTCCAC
53498	SNK	ACCATTTTAAACCGTTGGCAATAAAGA
53499	SLC4A1	AGAGAGGCGTCCTGGGTGAAGG
53500	NR2E3	ACATCTATGGTGTCCCAGGCACAG
53501	ABCC3	GAGACCTGAGTCTGCATGTGCACG
53502	DDX11	AGCAGATCCTGTATTTGCTGG
53503	MKKS	ATTCTATGCTGATTAGCTTC
53504	GRAF	ACAAGCTAGTTTTCAAATTTTGTGT
53505	SALL2	CCCTTTGGTAGGTGCACCTGAG
53506	ARHGEF7	TGACAAGTGTGGAGAAACTCCTAATTT
53507	REV3L	TCCTGAGGAGGCGGCGGCAG
53508	ZNF18	CCCCTTAAAATGAGTTCTAGA
53509	IL1R1	GACTTCCTCTCCAGCCTTCT
53510	CPNE3	TGAAATTGCATGTTTATCATA
53511	FCMD	CAAACATAAGTGGGAACCAAAGA
53512	C1orf6	CTTGTCCTCCCTTCCGTCTTCTCCCTCA
53513	IGF1R	AGTAAAACACATTTGGGATGTTCCTT
53514	FCAR	GTCACCCAGGCTGAAGTGCAGTG
53515	SMAC	CAGGCTGGAGTGCAGTGGCGAG
53516	NFE2L1	ATCACTGGTGTGATAAACCCCATTT
53517	GGT1	CCGTCATCCAGGCTGGACAGTTCAGTG
53517	GGT2	CCGTCATCCAGGCTGGACAGTTCAGTG
53518	GFRA2	TTGGGCACCAGCTTCTTTCTCG
53519	TK2	GACTCAGCAACTTTCCCTTGCCCTGG
53520	KLRF1	ACACTGGTCTAGCCTCAGAGTAACC
53521	SCA1	ACCTACTCTTTCAGTTTTCTGGC
53522	SLC12A7	TTCATGAGCTGAGGCGTGGGCC
53523	IL17	TATTTTAGCAAACTCAGCTCTTC
53524	FUT6	GACTTCTGCTTTGCACTGCCCTGCAGG
53525	HSD17B1	AGCTCCCGAACCCTGTCCTTT
53526	GC	GCTATCAAAATAAATTGAAATA
53527	ABCC3	GAGACAGTGACTGGTGCCAGT
53528	F2R	AGGCGGGTGGATCACGAGGTCA
53528	KAI1	AGGCGGGTGGATCACGAGGTCA
53528	PCDH11X	AGGCGGGTGGATCACGAGGTCA
53528	PCDH11Y	AGGCGGGTGGATCACGAGGTCA
53528	SLC14A2	AGGCGGGTGGATCACGAGGTCA
53528	SLC26A4	AGGCGGGTGGATCACGAGGTCA
53529	TNFSF14	CACTGCACTCCAACCTGGGAAACGCAG
53530	TCF20	GGGCCCCCTGTCCTCAGCACAT

53531	SLC1A1	TCCAACTGGAAGGCTTTATTCTTCC
53532	FKBP1A	GAAAGTAGATCATGTTCACTGCAATGCTG
53533	LNK	GGACACATCTGACATCCTGTG
53534	TSC1	TCCCTTTCCCCACCTCTTACAG
53535	FZD4	GGTCTCGAACTCCTGACCTCATGATCT
53536	VAPB	GCATGCTGGGGAGTGCGGTCAGCTCC
53537	TPMT	CACTGCACCTGGCCTGACAT
53538	SNTB1	TGTGCAGATCTTAATCATCCCAGT
53539	CLASP1	CTAGATGTCACAAGGGACTCCTTT
53540	VPS26	GCAAATATTATTTTCTTCATACA
53541	CLN5	CTGTTCCTGCTGATTGCTTTTTAAGCT
53542	SPON1	GAGACATCCTTTCTGAATACTTC
53543	CYP8B1	GTTGCCCAGGCTGCAGTGCAGTG
53544	RBP1	ATCCCTCTTTGCACAGCATGA
53545	ST5	GCCCAGCCTGGGACCCTCTGGGCT
53546	PSG7	TGATGTCTGAGCCACTCAGAA
53547	MASP1	CCCTTTCCACTACGGGTGGGT
53548	ACPT	GTGAGCCAGAAACCAGGGCTTCCCTAC
53549	ALEX2	AGAAATTTCATGATTTTGCAGTG
53550	OPHN1	AACTTCCTGCTTCCTCAGAGG
53551	WNT5A	CAAACCTCCCTTCCCCAGCA
53552	TEM7	AAAGTGTTCACCACTAAAGCTA
53553	SH3BP2	AGTGTTCTAGTCCACATATA
53554	LSS	GCAGGGATGGGGACAGGGTGGGT
53555	BMP1	TGCCCAGCCTGTGGAGAGACCCTGCAA
53556	NCALD	AGCCAGGCCTGGAATATTCAGTTTCC
53557	GNA15	TCCCTGGGGGGTGACCCCCAAGGAAA
53558	HSD3B1	GCACAAGCTCAGGTCCTGCT
53559	DTR	TTTCTCTAACTCCTGCCATT
53560	RHD	GCCTGAGCCACTGTGCCCAGCC
53561	CAPN5	ATGTCCCCACTGGGCCTGAGTC
53562	CDH23	GGAGAGAGGGACGCGGGCTGCAGG
53563	SLC9A5	CCTCCACTTCCTGCTTTAGCCCC
53564	VIPR1	CCAAGTCTCAGTGGCTTCATCTGTCA
53565	ASB2	GGGGTGGGGTGAGGTTAACCTCATTGTTGTCT
53566	ARF3	AGCTGGGAAGTGGGGTGACATA
53567	MBD4	CCAGGAGGTCAAGGCTTCA
53568	101F6	TGTGTGAATTCCTGCTCCTCATGCT
53569	DNA2L	TTCAGTATTTCAGTATTCTAGA
53570	LIMD1	ACCCCTTCAAATCCTTACTCT
53571	WNT3A	TGGAGAAATGGTCCGCTTTCCTGGAGC
53572	IL12B	ATGGTGAGCCGTGATTGTGCC
53573	FGFR1	TATAAGCTTTGAGAGCAACGTCA
53574	SSTR1	GCATCTTTCCCTGCCCTCCCCTGT
53575	CDH1	GGTGCAATCACAGCTCACTGCAGCCT
53576	CHRM5	GAACCCATGCTGATCTCCAGGGA
53577	POLA	AGCTTCCTCTGTGCCTCC
53578	FASN	TCTCAGCCTCCCACAATTAAACCGC
53579	HRC	AGGCAGCAAGGACCAGAGGAA
53580	ACE	CTCTCCATCTTCCACGAAATGGGCCA

53581	RBBP9	AGGCTGAGGTGGTTGTATTGCT
53582	KCNJ11	GGCTAACTTTTGTATTTTTAGT
53583	CTNND2	TAAAGAAGAAAAGCGCGTTGTG
53584	COL4A4	CAGTCGGTCCGGCGTGTCACAGGTG
53585	ATP6V1E1	CGGTTCTGCAGCACTAGGGGAGGGGGC
53586	ALEX3	CTGAAAACATGTTTGTTGCTTTTT
53587	RNF3	GCCTGGGTCCTGGTGCCTTGGA
53588	MAN2B1	GGCATTTTCCTACCTTCCTGTAACGAC
53589	ADCY6	CCAGGCTAATTTTTTGAAATTT
53590	AXIN1	AATCGGCGACGGAGCACTGCAC
53591	CDX1	AGCCCATAGCACTGGGCTCTGATGGCTGCTCC
53592	WHSC1	CGAACTTCTGAGCTCAAGCGAT
53593	SNX9	TTTGCACTTCCTTCCTAATCTTGGT
53594	SPTLC1	CTGTAATCCCAGCTACGTGGGA
53595	CLC	TGAGCCAGGAGACAGAAGCTGTG
53596	COL19A1	TGCCTAAACAGTCTTTCTGTTGGTTA
53597	IL1R2	GCTTTACTGCTGAGCTCCTGCT
53598	NCOA6IP	AATTACAGGCGTGAGCTACTGT
53599	MMP19	TGCCTTTGTCCAGGGAGAGTCCTGGCC
53600	CDH3	TTTTATACTGAGTGTGCCTAG
53601	C1QG	TCCTGCTCTTCCCCGACTAGGCGGGCA
53602	PRKWNK3	TGGTCTCAAACTCCTAACCTTGTGATC
53603	CLDN16	TATTAAAATGAAATGATACTTAAAC
53604	GSTM4	TTAGTGGTTGTATCTGCTTTGAA
53605	RUNX1	GAGCTTGCTTCTTTCTTGCTTTG
53606	MECP2	CAGCATTTCAAGCGTCACTTTAT
53607	TAZ	AAACTATTTAACTTGAGCTTTAAAAAT
53608	HOXC11	TACTCCTCTGCGTGAGTGCGTGTG
53609	NDST1	GTCCTCCAGGCTGTAGGGGAGGAGAGC
53610	ARHD	GCCAGAACCCACACCCGGCCCC
53611	TXNIP	AGCACTTTGTTCACTGTCCTGTGTC
53612	CD80	GCCAGAACCCAGATTTCCTAAC
53613	AIPL1	CCACCCAGGCAGGGAGCAAGTG
53614	SORCS1	CTGTGTTTTCCAGGAATCCAACTGAGC
53615	TARBP2	TGTGGGTGCCATCTCTACCTC
53616	BRF1	CTGCCTCTGGCCGCGGCCTGTGGGAT
53617	TCF7	GCATGGTCACAAGCACAA
53618	ALS2	CCAGTCATGTGTGCATCATGTC
53619	MAPK14	TCTGTTCTGTTGATCCCA
53620	PIK3CD	TGAGTAGCTGGGATTACAGGTGT
53620	ZNF264	TGAGTAGCTGGGATTACAGGTGT
53621	LDB1	CCGTACCTCTCCTGGCCCCCTCA
53622	FMR1	CTGCCTCTGATGTATTTTGTG
53623	FZD4	CCAGGGACTCAAAATTCCAAAAAG
53624	SYN3	GCCAGCACCACCCCATCCGCA
53625	FOLR1	CCATGAGAGCCTCAGCACTCTGAA
53626	TACR1	CACAGGACTCTGCTGCAGAGGGG
53627	HPS4	TCCTCCAGGCCGTCAGCCTGATGCATA
53628	LMNB1	TCTTCATTATTCTCTGCTAT
53629	GHR	AAACCTTTCTTCACCAAATCT

53630	BACE	ACTCACTGCATTTGGGGCCTTT
53631	FLT1	GTGGTTCTATGTCCATTCTCAT
53632	CYP1A2	CAGGTTGGAGTGCAGTGGCGTGATCTC
53633	MPL	CAGACTGGAGTGCAGTGGCACGATCTC
53634	PRKWNK3	CAGGTTGGAGTGCAGTGGTGTGATCTT
53635	CTH	TCCAGAGCTGCTATTAGAAG
53636	TXNRD2	GAGATGGTCAGCGTGGAGCGCAA
53637	ARF3	GCTGTTGCTACTGCGTCTCTCT
53638	CD3Z	CCTGCTGTAAATTTGGCTTCTGTTGTC
53639	HSPA5	GACCATCTTTGCCAACATGGTG
53640	SOX11	CAAGATCTAGCACCTCTGCCAGTG
53641	COL4A2	TCAGGTGCCAACCCAAAAAT
53642	TMEFF1	AAGATCTGAAGTGTGAGTAGA
53643	SRR	ACCCATGCAAGAGCCTGGTT
53644	MCM3	GGGGTGAGGAAAGAGGAGAC
53645	HSPA2	TCTATTGTTGGAAGTCTTTGGTATATG
53646	HEM1	CCCTCCTCTCTTTGCATTTCCTC
53647	MKKS	TCTTTCATAGGTGTCCATCTTG
53648	SMARCB1	TGGGCCGCCTCTCCTCCATCT
53649	COL19A1	AGAAGCTGCAGCAAGAGGTAC
53650	CNN2	CATATCCCAATACGTGTAGGGCGA
53651	HPCAL1	CTCCACCTTGCTCCCTCC
53652	TCF7	TGTCTTGATGTGTCATCT
53653	ADD1	CATGGTCCTGGCTGGAAGGTACTGAA
53654	HDAC6	CAGGCATGGCAAGGTTGCATATGTAATA
53655	RAB18	AAAGTCTGCTTTTGCTATTCTTTTTG
53656	PODXL	CTTTACTGGGTTCTAAATGCTCTCTG
53657	TNNI3	CCTGTCCTCGCCCTGCCTCCTGC
53658	PHKG1	GCTAGGGGGCAGGTGGGGAGGG
53659	RXRG	GCCCAGCCTGTGCTCCCCGGGCTGCT
53660	NUP62	CAGGAGGTGTTGCAGTGA
53661	PCDHB7	CTGAGCATCCATCCCAGATCTG
53662	CDH11	TGAAGAAGAAGCTAACTGGG
53663	LGALS3	TAAAGGTTTCATGTTCACTGTGA
53664	TMOD3	TTTCACCACCTCCCTCCCCACCCCCCAA
53665	TIMP3	GGCAACTTTGGAGAGGCGAGCAGCAGC
53666	AMHR2	TCTGCTGCTGCCATCCTCCAG
53667	DIAPH2	CAGTTACAGACATTTCTGTCTCA
53668	APAF1	ACCCAGGCTGGAGTGCAGTGGCATA
53669	PVR	GAGTTTTTTGTTTGTCTTGAGA
53670	SRD5A2	AATGCTGATGAAAACTGTCAAG
53671	TEM6	AAAAAGAGAAGAAACCCCGGTA
53672	ZNF74	TTTCTGTTGGTGCTAGCTACTGG
53673	PPP1R3C	TGTTACGAGAATGCAGTT
53674	TEM7	AGGGTTCTCTTCTGTGTCTT
53675	MSL3L1	CTGAAGCTGGCGGATCGCTTGA
53676	CASP3	CCTGTTCCATGAAGGCAGAGCCA
53677	HDAC7A	CTCAGGACTGCACAGAGGAG
53678	UGP2	AAATACTGTGGACACTTAAA
53679	PRDM2	TGCATACCAGGTTTTACACTTGCATCTC

53680	MYLK	CCCTCGTGTCTATTTTCCAGAAA
53681	TOX	TGAGCATGTAATAACTAATAAA
53682	RNH	CTGGCTTTGTGGGCAGCCTGCCTGGCCCGCA
53683	EPHA8	CACCCATGGGGGCGGGGGA
53684	KCNH2	AGGGCAGGCAGGCTGCAGGGAGCCAA
53685	TOP1	TTTTGTTTTTATTTTCAAGAGGGCAAG
53686	RAP2A	TATTCATAAGTTTTACAATCA
53687	FUT1	GATCACATCCCCTGTCTACTC
53688	F5	GCTGCCCAGGTCCTGGGGTGGTGGCAG
53689	ARSA	TGGTCCTGGAGGAGTTCCGT
53690	MASP1	TAATCCTTCCTCTAGGAGAAGAGCA
53691	RET	TTTGCTGCTGTGAATCCCACCTGCCAC
53692	RANBP9	CGGGCAGCAGCGCCGCGGCCC
53693	CLASP1	TGGAAACATGGGCTGAAAATGAA
53694	PMP2	ATCTACTCTCAAAAAATTCAGAA
53695	SPAG11	CGGAAGGCAGGGATGTTGAAGTATCCC
53696	MS4A3	CAAACTCAGGAGAACATAAGCCTGCTC
53697	RFC2	CAAGATCACACCATTGCACTCC
53697	RIMS1	CAAGATCACACCATTGCACTCC
53697	VHL	CAAGATCACACCATTGCACTCC
53698	ATP1A2	TGAGATCGTGCCATTACACTCC
53699	AHR	CTGCCGCCCAAACTGGAGTGCAGTG
53700	VPREB3	CCCTCTGCCTCCCATTTCTGCC
53701	ANKH	TGGTAGCACATACCTGTAATCCCAG
53702	INHBB	GAGATAGTGCCAGGGTGCGG
53703	IFNA2	GACTCATGTTTCTGCTATGACCA
53704	TRAP240	AAAGAACAAGGAAAAATGGATG
53705	ROCK2	CTTGGGAGGCTGAGACAGGAGAATCGC
53706	PKHD1	GACCTTGGCCATGACCTTA
53707	TSNAX	CACGAGGTCAAGAGATCAAGAC
53708	C18orf1	TGAGCTGGAATGATGATT
53709	DVL3	CCAGGTTTTATTTTTCACCTTA
53710	ANGPT1	GTGGTTATCATGCAGTTGCAGTGA
53711	NPTX1	TTGGAGGAGGTCAAGAGAGAG
53712	LILRB5	GTTTTTGTGTCCTGCCAGGCA
53713	TYRO3	AGCTGCCTCCAGCCTGGTG
53714	EGLN2	TCACCCAGCAAACGGCCCTGGGCCAGG
53715	DHCR24	GTGAGGGCTGGGGGCATCCAGGC
53716	HRC	CAGGCAGCAAGGACCAGAGGAAGGTGG
53717	RPLP0	CCAAAAAGCAACCAACTTAGCCA
53718	INHBA	GAGGTTCCCTTGTGAGCTTGA
53719	BACH2	CCCTTGCCCAGGCAAGGA
53720	KLK3	GTGTGAGGTCCAGGGTTGCTA
53721	YES1	AGGGTCCAAACAAAATAGAGCTAAGA
53722	ADCY1	TCTCCCACCTGGTTACCACAG
53723	PFKFB3	GTGAGCCCTGAGATCCTCCTCC
53724	HAL	TTCACATTCTTATTGTAACCTTCCTCA
53725	PYGB	TGTACACACAAGGGCCAGGCTCCA
53726	NCYM	CGCGCGGAGCGGTGCAATG
53727	KIF3C	ACCTCTTTCTCGTTTGTGGACA

53728	AF3P21	CAGCAAGCCATGCCCCTGGGGTGAGG
53729	SIM1	TGAGAAAGAGAGAGATACATCTTATAA
53730	GTF2H2	CCAGCTCCTTCAGGTGTTTGTTCCAGC
53731	MAN2A2	GGATTGGTCCTACTTTCTTTCTCT
53732	PML	TGGAGGCCTCTCAAGTCCAAGTGCCT
53733	TIMP3	TCTCCTGGGTGTGGAGACAGCT
53734	ALDH2	ACATTGGGGTCAAAGGCACACATT
53735	PPID	AAGTAGCTGGGATTACAGGCACGTGCC
53735	TRPV1	AAGTAGCTGGGATTACAGGCACGTGCC
53736	IL12B	GCCACTGCATACCAGCCTAGG
53737	KCNA6	CTCTAAGAGGCTTTTTTGCTGAGTCA
53738	PRKG1	AACTATATAGGTGCTATGTA
53739	SQSTM1	TTGTCAGCAGGCAGGCTGGGGAGGCCAGT
53740	TAC3	CTCCACTTCCGGACTCCTGGACTGC
53741	CHST7	TGAGCTGTTCAATAATGACGGA
53742	EDNRB	CTGCCTAATTTTTATATCTTCTAAGCA
53743	GM2A	TTGTCACCAGGCTGGAGTGCAGT
53744	WBSCR14	CTCTGCCACTGTGCTCCAGCACCGT
53745	NDUFC1	TGCTCCGTATAGTGATTGTAGCTGTTC
53746	SC5DL	CCAACTTGTATTTCTAGCAGCA
53747	GPR62	AAAGTGATCCGCCAAGCAGG
53748	POLR2E	CGAGATGCCAGCTCTGGAGTT
53749	AP2B1	CCAGAATGAAGGTGTAGCC
53750	GGCX	CATACAGCTAGTGACGAATGGA
53751	HPS4	TCCCTAAATAGGAGTTTACA
53752	NDRG2	GGGACTGGGGAGGGAGCTAA
53753	DBH	CTGGGTGTGGCCTGGCTTCTGGGA
53754	ITPA	CAGCCGCCAGGCCTGGGGTCCTGAA
53755	ALDH3A2	GCCTCTACTGAATTATTCCTCTTTTA
53756	PACE4	TCTTTACCTCCTTTTCTCTTTCA
53757	LHCGR	AATTCGGTACGCACTAGCCACA
53758	MYEOV	CCAGTGCTTTCACCAGCCATATTAGC
53759	TRIM9	AGCTAATTATTTACTTTTGT
53760	KMO	GTCTCAAACTCCTGGCCTCATGTGATC
53761	KCNQ2	CAGAGGCTGGGGCATTGGCAAGATCAC
53762	PLN	GCTGACCCTTGAACATGGGGGTTAGGG
53763	BLAME	CCTGCTCAGAGGTTCCCTGTTGG
53764	SLC6A9	CACCCCACTCCAGCTCCGGAG
53765	UBE4A	ATTTCTCTTCCAATTACTGTTCAAA
53766	SURF5	CCTGGGGCTTGGTTTCCCTGCCCT
53767	RSN	CTCAAAGCACCTGAACAGTTTATCGA
53768	SSX3	CCCCAAAACAATTACACACAAC
53769	FUT3	TCTGCCTGGGGCCTCACCTGCTGGAGT
53770	GART	TTTGGCCTCCCAAAATGCTGGG
53771	TJP1	GACAAGGGGCAGTGGTGGTTTTCT
53772	PRND	GGAACAACAGCTATCTA
53773	GRM1	GCTGGGAGGAAAAGCCTGG
53774	FHL2	TACAGGTTGCTGAAAAGCCAGGA
53775	HOXB8	ATCCTCTCTCCCCTCTGCAACCC
53776	HRB	CACATTCATTATGCTGCAGT

53777	CYP4F3	GTTTTTGTCCTATGAACAAGCAGAC
53778	HS2ST1	ATAGGTATTTCCTGAAAGTGTATAC
53779	TYRO3	GTTGTCTGAACCCAGGCAGCTGGCAG
53780	KCNS2	CTTATGCAAAGTGGAAGCAAGG
53781	HUNK	TCTCAAACTCCTGGGCTCCAACGATC
53782	KCND2	TTTTCTCCAATAAATCAGGAG
53783	BAPX1	GCTCCACCCCTCCTGTGTGTC
53784	FMO4	CCTCCTCTGCTCTCCATCATAACTGCT
53785	PFKL	CCCTGACAAGCCCACCAGGCC
53786	KIR2DL2	GGGCATCGCTCTTCCTCACACCA
53786	KIR2DL3	GGGCATCGCTCTTCCTCACACCA
53786	KIR2DS2	GGGCATCGCTCTTCCTCACACCA
53786	KIR2DS4	GGGCATCGCTCTTCCTCACACCA
53787	KIF3B	CTGACCAAGGGTGGTTAAGTGACACA
53788	PRKACB	AGAACATTGGTTTAGATAAATAC
53789	SLC7A6	AGTATTTTGTCACTTCTCCCCT
53790	IL17	TTTCCTCCTCTTTGTTTTTAAAAGTT
53791	NESG1	CCCCAGCCCAGGGCCAGAGCG
53792	P2RY12	GAGCTGCAGAACAGAACACTTTCTCA
53793	EXT1	AGCTGCAAGATGCACTAGCCGGCT
53794	PCDH1	TGACCTCATGACCACGCTGGC
53795	SCN2B	ATAGTGCCACTGCAATTCAGCCT
53796	TRIM9	TAATTAGTTGTCTAAATATTTTT
53797	PIK3R2	CAGACTCCAACTTCCCCTC
53798	DPYSL3	CTGACTCATCTCTGCACAACCTCTCTGTGCCA
53799	DVL3	GGAAGCAAGCGGAGGTTGCAGTGA
53800	KIF5C	CATTCAAATACATCTGTGTA
53801	SCA1	CTGGGGCAGAGGGGGGAGGGAGG
53802	RAB36	CCACTGCTGCCTCTCCATCCCTCT
53803	GTF2F1	TCTCAATAAATAAAAAATAAT
53804	RBM3	GGGGAAAAGGAAGAGAGATCAG
53805	PEX10	CTGGGGGGCCTGCTGGGCAGG
53806	PIK4CB	CCTTCCATGTTCTCTCACCCGCTT
53807	CORT	AACATTGATTTCAGGGCTGCCAGGAAGGA
53808	CCND1	CTGGATGTTGTGTGTATCGAGAG
53809	ARHGAP6	GCAGCTTTCACTTTGACTATGA
53810	SUFU	AGTTCCCCCAGTGCCTGCCCTACGCACC
53811	ELOVL4	TACTACATAGGTTAATTTTTTA
53812	GRIK2	AACAGAAGAAGTTATCAACATGCACAC
53813	GOCAP1	AGGCTCTCTGTCAGCTTTCA
53814	INPP5B	TCCATTTATGTGTGAGCTTTG
53815	BCR	GGCTGGCTGAGCTTAGCGTCCG
53816	EGFL5	GTCCCCATTTTATAGATGA
53817	TRIM9	ATGTGGTAGCTACAGCTTC
53818	TTC3	CTGATTTGGTCACCTTCCTCT
53819	ECT2	TCATTTGATATGAGCGTTACCAAAAT
53820	CRYZL1	ATAAAAAGTTTGGAATATACAAA
53821	TAF7	GAACCTAGTCTAGAGACAATGATGCT
53822	USH3A	GAACATAATTGTTAGGACCACTGAG
53823	EIF4G1	CTCTGTGAGATCAAGGGTCT

53824	SLC10A2	TTCAAAAGAGACACCAAGTGACA
53825	GPR17	AGAGACACAGGCCACACATTTCA
53826	D12S2489E	CCCTCCACAGGAAATTGCCTCATGGG
53827	NONO	TGGACTAGCCAGAATTCTAC
53828	TNFRSF10B	CTCGCCCAGGCTGGAGTGCAAC
53829	D10S170	TTTGCCTTCGAATGCAGTA
53830	FGF1	TACAACACCTATATATCCAAGAAGC
53831	C1orf1	TACACCTGTAATCCCAACACTT
53831	NDUFS1	TACACCTGTAATCCCAACACTT
53832	AMY2B	TTCAAGTGATCTTTCATCCCAG
53833	ATP8B2	CTGCAACCTCCACCTCCTGGGT
53833	CDC2L2	CTGCAACCTCCACCTCCTGGGT
53833	EHD2	CTGCAACCTCCACCTCCTGGGT
53833	IGF1	CTGCAACCTCCACCTCCTGGGT
53833	MAK	CTGCAACCTCCACCTCCTGGGT
53833	PDCL	CTGCAACCTCCACCTCCTGGGT
53833	SEDL	CTGCAACCTCCACCTCCTGGGT
53833	TAT	CTGCAACCTCCACCTCCTGGGT
53834	PCSK2	CATGTGTGTATATATGTGTATA
53835	BRF1	CGCAACCTCCTGGACCGCCAGGCTT
53836	RAX	CCTCTTTCCCTGTCGCCT
53837	FZD3	GCATATTTAAACAAGGGTCCTCA
53838	ACP1	TGTAAGGTAATTTCTGTGTA
53839	DLST	ATGCCTCTTCTACCTCTTCC
53840	SGCB	GGCATCAGCGTTTCATGCTCTGCCTTT
53841	B2M	CTCCATGTTTGATGTATCTGAG
53842	FACL4	CTTAAGGTTGGGTGCTGCTA
53843	DDX26	GGCCACTTATTTCACTATCTTCTTCA
53844	TCF15	GGCCCTCGGGACATCTCCACCCG
53845	RPS6KA2	TTGTGTCTCTGTTGCACAGAT
53846	HEXA	CCACTGCATCCTGGCCAGGGG
53847	EIF5A2	CATCAGCCAGGCTGGAGTGCAGT
53848	IMPDH1	GGAGCCCAGGCGGAGCCCAGT
53849	TRO	GCTTGGAGAGAGCAGACGCCTTCT
53850	ADCY1	AGATGAAAATAAGGATGATGGGG
53851	GLI4	GTGACACCTTCAGCAGGTCTCA
53852	RECQL5	ACCAGCCTGGGCAACATGGCAAGACCC
53853	EFNA1	GTATGCCACACCTGGCCTTA
53854	CLDN14	GGAGGGTGGCAGCGTCCCGGC
53855	SLC29A1	CTGTACAGTTGCCACGTTACTGCCTTT
53856	MS4A2	AGTATGCCCACCTCAGGCAGACACA
53857	DDX20	CTCGCTCCCAAGATCCCCGCCTC
53858	CD4	TGGGACCACAGAGGGCAGGA
53859	RPL22	AGGATTAATTTCATTTATCTGGAA
53860	VDR	CCCTTCAGTGCCCACCAACATCCCAT
53861	SIAT1	TCACAAACCAATGCTCTA
53862	ENAM	TCCATTCTACTTATGGAGATCCACAC
53863	NPEPPS	GGCTTCTTGGTGAAGAGCATTTT
53864	COL4A2	CGGGCAGCAGCCCTGAAGCCGA
53865	BMP8	CATTGCACTTCAGCCTGGTGACATGAG

53866	IFNGR2	GGCTCCCTGGAAGAGATCAAGCCATCGG
53867	SCNN1A	GGCACCTCTGCCCTGTGTC
53868	CCND2	CTGTGTACGCCATTTATGGCAT
53869	LHX2	TGAGGCGGGGGGCAAGCCCTCCCTC
53870	F8	AATATGAAAGAAAAATGGAT
53871	PLOD3	CCTCCGGAGCTGGGATCCAGGC
53872	CDX1	GAGAGGGAGGCCCTGGGAGGAGAGAA
53873	RAB18	TCTGATGTGTGAGGGAAAATACT
53874	GPX3	AGTGACAACCCTTTCTCTCCA
53875	FCN2	CCCAGGCCTCCCTCCTACTGCCT
53876	KCNC4	TCTGTTGTTTCTGCTGACTGTGTGG
53877	MYLK	CCCTGCAGCCCCTCGCACTA
53878	LAMC1	TCCTAACCTGCAGCACGGTGGTT
53879	RGS19IP1	GTGAGGGGAGGTGGGGCCAGGC
53880	EBF	CAAACAAAATCACCGACCTTGCA
53881	MAP3K8	CATGCCCCTGACACTGCACTGAGCACT
53882	H1F0	CGGAGCTGGGAAAAGGGAGGCAGA
53883	SLC8A2	CTTGGGAAAAGGGGGTGACAGA
53884	RAP1B	TACTATATCAGTTTGCACATTCTAA
53885	CACNB1	AGAAGTATTTTGCCATATATAAA
53886	TBL1X	CTTGCAGAAACATCGAGGTGACA
53887	PTPRN	CTTCTCAGCCCCGGGCCTGCCTCTG
53888	AQP6	TACCCAGGCTGGAGTGCAGTG
53888	CLECSF12	TACCCAGGCTGGAGTGCAGTG
53888	FCGR2A	TACCCAGGCTGGAGTGCAGTG
53888	MDM2	TACCCAGGCTGGAGTGCAGTG
53888	NQO1	TACCCAGGCTGGAGTGCAGTG
53889	CYP1A2	CACCCAGGTTGGAGTGCAGTG
53889	PRKWNK3	CACCCAGGTTGGAGTGCAGTG
53890	SERPINB9	CACCCAGGCTGGAGTGTAGTG
53891	TRPM6	AGGCTGGAGTGCAATGATGCGATC
53892	ZNF289	CCTTGGGTCCCCATCCTCTGGAACCA
53893	PRKAR1A	TTTTCTCCTCTCCCCAATCCATGC
53894	NFATC1	CTCTCCAACAAGAAGGAAAGCAGGGAG
53895	DMBT1	ATCTGCAAAATGAAAATGTCAATA
53896	GABRP	TGTTCAGGTTGCGGGTGAGCTGC
53897	COPA	CTCATATTTCTCACACTAAATAAATCTCT
53898	GPR56	CTGTCACACAGGCTGGAGTGCAGTG
53899	MAPT	GGCAGGGGCTGGGCAGAGGGG
53900	PLA2G2D	TCATCCAGGCCCAAGG
53901	PCDHB11	CCTCTGCCTCCTGGGCTCAAGA
53902	TEP1	ATCGGGAAAGAATGAGGGAG
53903	GJA4	GGCCATCGTCCCCACCTCC
53904	BCL11A	TAAGCTAATATTGATACAATGATGATT
53905	HDC	CGCCTTCCACCTCCTGCGTGTCCATC
53906	TTF2	CAGGAGGTTGAGGCTGCAGTG
53907	MPHOSPH6	GTTTCTCTTAATATAGTTCTCCAGTCA
53908	KIF3B	GGAGGCTGAGGCACGAGAATCA
53909	BCL2L2	TCTGCAGCTGGCC
53910	TNFRSF1B	CTGGGGCTCTGTGCAGGGAGGA

53911	SIAT6	GGGTTCTGCCTTTAGCCTGGACCA
53912	MPP3	TGCTTTGTTTGATTTGTTCTAT
53913	EGLN2	TCAGCCTGTTGAGGCATGGA
53914	TNFSF6	AGTGGACCTTGAGACCACAGGGTT
53915	GALR1	TTGCAGTCTACATTTTAAAGCCAAT
53916	MGA	CCAATGCCAAGGTGGCTGC
53917	AMPD3	TAGGACTTTCCTCTGTGAAGAGGA
53918	ADAT1	AATAGCCTGTGAGCCAGCCCT
53919	CD5	TCAAGGGAGAGGCCAGGCGCAGC
53920	TRPM7	AAGCAGAAACCTAACTCACTCGTCA
53921	PSCDBP	ATTTCTAAGCAGACAGGAAA
53922	EPHB3	AGAGCAGTCCCTCCCTCAGGAA
53923	ADD2	CCTCAAAGAAGAAAAAGAA
53924	PTGS1	GATCCTTGGGCCCATCACTGTATAGACATGC
53925	LPIN2	TGCAGATACAGGCTTGGCGCTCGGG
53926	TNS	GCTGAGCCACGCTGCCCATGCAGCAG
53927	SLC9A1	ACTCCCTCCTCACACTCCAG
53928	CDH5	ACACACCTTGGAGAAGTGGCAT
53929	A1BG	CTGAGTAGCTGGGACTACAGGC
53929	ALOX15	CTGAGTAGCTGGGACTACAGGC
53929	DSC3	CTGAGTAGCTGGGACTACAGGC
53929	FCRH1	CTGAGTAGCTGGGACTACAGGC
53929	FUT1	CTGAGTAGCTGGGACTACAGGC
53929	GHR	CTGAGTAGCTGGGACTACAGGC
53929	PDE6B	CTGAGTAGCTGGGACTACAGGC
53929	PRKWNK3	CTGAGTAGCTGGGACTACAGGC
53929	PTGIS	CTGAGTAGCTGGGACTACAGGC
53929	RPP30	CTGAGTAGCTGGGACTACAGGC
53929	SHOX	CTGAGTAGCTGGGACTACAGGC
53930	LDLR	CTGTGATCCCAGCTACTTGGGA
53930	NPHP1	CTGTGATCCCAGCTACTTGGGA
53930	USP14	CTGTGATCCCAGCTACTTGGGA
53931	ATRN	CATCCCTGCACACAGCCTGGG
53932	C11orf8	GTATAGACTTAAATGGATGCAATGGA
53933	DOK1	CAGGTCTGTGGAAAGTGGTGCA
53934	RAD51L3	CCCAGTAACGCCTGCTGTTTACT
53935	OSM	GATGTCTGGGTGACCTCACTTTAGGCAGC
53936	IL1RL1	GCCATAAAATGTGCTTCT
53937	CRTL1	GCCTCCTTCTTCCCAGGATCA
53938	SLC1A4	CCTTGTTCTGTGTGTAGTTAC
53939	FOXD2	GGGGAGGGAGAAATTAAGCGGA
53940	SLC22A3	CCAGAAGAACAGAGCAGTGGCA
53941	ALOX15	AGCGTCCTGGGCTCAAATGATC
53942	CPT2	AGGCTGAGGCGGGTGGATCACT
53942	IL10	AGGCTGAGGCGGGTGGATCACT
53942	TNFRSF10A	AGGCTGAGGCGGGTGGATCACT
53943	CLTB	ACTGTCCCGCTAGTGCCTGCTAGGTG
53944	PRKCM	TTAGAAATGTAAACTGCCATATAT
53945	ZNF236	AAGTACACCTTTAAGAATGTTTC
53946	TEGT	TTGAAGCCAAACTCCACCTTCTG

53947	KIF5C	CAGGGGCGGGGCAGGGCCAGG
53948	CHRNA3	TTTTGGCATTTCGAGGTTTACTTA
53949	AKT1	GTCACCAGCTATCTGTCATCTC
53950	DGAT2	GGGCCGGGGAGGAAACCCAACC
53951	ACRV1	CATCTGCCTCTGCCTGAGCAT
53952	AIPL1	GCCACCCAGGCAGGGAGCAAGT
53953	CD80	CACATCTCATGGCAGCTAAGCCACA
53954	NEU3	GCCTCCAACTCCTGGGCTCAAGGCATC
53955	ICMT	GTGAAGCCTTTCGTGAGGGCTTGCAG
53956	KCNMB3	GCAATCCTGAAGAACCAGAG
53957	IL7R	CACTCAACATGAGTCAAGAG
53958	KDR	CCTTGCCAAGCCCCAGGAAG
53959	SACM2L	GCCCTGAGATCTGCCGGTCATCTC
53960	PCDHB15	TCTTCCTCACTTTTCACCTTAGTTT
53961	RCV1	TGGAGTGCTGGGTAAGCAGTTTCCAA
53962	EZH1	CTGTCCCAGGCTGTGGTGC
53963	PLSCR1	TTAGTAAAGAACAAAATGATTCTCTCC
53964	ROBO1	GATATTCAACCTCACAAGGGCTCTC
53965	GYS1	CCCTCCAGGGAATCCGCCTGCAGAGG
53966	MEN1	CCGTGAAGTCGAGGCTGCAGTGA
53967	CYLN2	GAGCCCAGGGCAGAGGCAGC
53968	KIF1B	GGGAGCCTGAGGCAGGAGAACTGCT
53969	ACE2	AATGTAAATGTCTGTTGAATT
53970	TRPM2	GCAGCTGGGAACATGTGCA
53971	MLLT7	GGAAGGGCCAAGGTCTGAGCA
53972	FCGR2A	CCAGTAGCTGGGATTAGAGGCAT
53973	PMP2	AATGGATGATTCCAAAGCAAGGG
53974	DIAPH2	TGCTGCCTTTGCCTCCAGTGCA
53975	ATF5	ATGCTTGTAATCCCAGCACTTT
53975	CD28	ATGCTTGTAATCCCAGCACTTT
53976	ERBB3	ATGCCTGTAATCTCAGCACTTT
53977	GPC4	ACAGCCTGGGCTCAGGGA
53978	GJB3	AGGAGTCAGATCATAAGGCTCCA
53979	TBX6	GCCTGTAATCCCAACTACTTGGG
53980	CBFA2T2	GTCTCCCAGGCTGGAGTGCAATCGCGC
53981	KRT6A	CTGCAGAGCCCTCTCCTCAG
53982	DLG4	GAGAGTGAAAGGAAGAGACAGA
53983	SNX5	CTGCTTTATAAGATGGCCAGATC
53984	PAG	CCCTGTATTCATGGCTTGACTTTGT
53985	COPA	AGGAGCAGGATGTAATAAATAC
53986	PLXNA2	GGACCTGTCCAAGCTGTCACACTGGG
53987	MTF1	TCCTAGAGTGAACTTGTGGCTTATGG
53988	EDNRA	CTTGGGGTTTTCAGTATGAACC
53989	CHRNA10	CCAGAAAGGGACAGCCACGGCC
53990	LPO	GCCTCTCTATACCCCTGGATGA
53991	SWAP70	AACAGCTTTGGGGGCCGGGCGTGGG
53992	ADAM10	AGCTTTTGCCTTGGTTCTTCCTAGTGCC
53993	GPR85	CCTAGCTATTTGGAATAACCG
53994	ANKH	GTCACAAAAGCGCATCTCC
53995	ZNF85	AGAGAAACTACTAACCTGAAAGA

53996	MB	TCACCCTGGGAACCGGGAGTGC
53997	IL1F5	GAGCTCAGTCCACGGTCCTCCC
53998	PSG1	TACATGGTCCATTGCTACTCTT
53999	OCA2	TACTTCGAAGGCTGTGCTCCGCTCAC
54000	PTMA	TGTGTATGTACTTAGCTGTACT
54001	STS	CTGCCCATGACCCTGTTCCCTGTCTATAAAT
54002	XKRY	ATAAAATTACCTAAGTACACA
54003	APBB1	GGCTATTCCTAGGCCTCAGGCC
54004	JDP1	CTAGTTTTTGCTATGTGGA
54005	SLC16A7	GCATTAGTACCTGGTGCTAGAG
54006	GSTM4	CTGCCTATCCTGGGACCTCC
54007	ACT	TAGTGTTTGCATTCCTGGTTAT
54008	CD209	CAGGCTGGAGTGCCATGGCGCG
54009	FMR1	CATTTTCCTGCATTGGGTGA
54010	CRTAP	ATCCGGGAAAGATGGTGGA
54011	HPS4	GCAAACCTGCCGCAGGTGGCCA
54012	CRYZL1	CTGAGGCAGAAGAATCGCTTGA
54012	EGFL4	CTGAGGCAGAAGAATCGCTTGA
54013	TACC1	ACCTACCTAGGCAACATGGTGA
54014	MEL	ACAAACCATTTTGCCCCCTCA
54015	GJB3	CAGAAAGGGAAAGAGTTCCATGGCTCG
54016	MASP1	CTCAACCGGCTCATCAAACACACTCCTTT
54017	TAF4B	CCTATTTGTTACTACCTGCCTCA
54018	SLC7A6	CATTACTATCCAGTCTGTATT
54019	PXF	GTCTTTCTCAAACTATGTATGG
54020	SLC38A2	TTCCATTCCAGAGAATGGACA
54021	GAB2	GAGTTTCTTTGCAGTGAGCAGTGCAG
54022	ATRX	TGGACAACAGGTCAATCATTTTC
54023	GPX1	CCCTCCTACCCCGGCTGCTT
54024	CTMP	ACAGAAATACTTCCTGCGAGCAT
54025	TNFRSF10B	ACAGGCTGGGACAGAGGCAGATGGGT
54026	AMD1	AAATGATTCCAGTTACTCATTTTG
54027	ADORA1	TGATGATTTGCTGGAGTGCTG
54028	CHRNA4	TGAGAAGCCTCATGGGAGTCAGG
54029	PDE4A	CCACAGGCAAGGGGGTTGCAGTGG
54030	CRHR2	CCCCTCGGTCGCCCACCTGCACA
54031	WBSCR5	TCCCTGCCTCGGCCTCCCAACGTGCTG
54032	PTGES	GCCCAAGCTGGAGTGAAGT
54033	FBXL11	CCCTTGAGCCCTTCCTCTACAG
54034	OXCT	CTGTTCTCTAGGCATGCTGTGACAT
54035	UTY	CCCTGCAGAATTTTCCTTAGTTAAAAA
54036	STATH	TTCACTACTTCTGTAGTCTCATCTTGA
54037	CYP1A2	CCTAAGCTGGAGTGCAGTG
54038	DMRT2	TCCAGGATGGACTCAGTGCAGAG
54039	PTGFRN	TCTTAACAAAAAGGAACTTTATAAAAG
54040	KCNJ10	TTAGAAGCAGCCAGGTCTGGTGA
54041	MMP16	GGAGAAAAAGAAGAAAAGATTCTTT
54042	MAP3K14	GTGGACTCTGTTACCATTGAGGATGTT
54043	TLR5	TGCCGCCCAGGCTGGACTGCAG
54044	KCNA5	ATGCCTGGTAAGTGGCTTTTT

54045	SFRS7	TGTAGCTCTGGGTAAGATGACCTGAGT
54046	GAS7	GAGCGAGAATCAGACAGAGGGC
54047	PSG6	TGCTAGGATTAAAACATGA
54048	LZTR1	CCTGCCCCTTCTGCCCTGCCTTGCCCCTGC
54049	D12S2489E	TCTTAGACTCCACAGGACCAA
54050	CASP8	ATGAAGTAAGCAACAAGGATGACA
54051	ASK	ATTGCTTGAACCTGGGAAGTGCAG
54052	FGF23	GGGAGAAGGAAAAGGCCAGTA
54053	SLC12A7	TGGCCAGATCTTCTCGCAGGT
54054	VIPR2	TCCCACATCAGGGCGGCCTCCCAGGT
54055	MSF	GCCTTTATCTCAGCCATCCGCA
54056	CAPN10	TGTGCCAGCTCAGGTGACTGGAG
54057	HD	AGCTGGGGAGCAGCTGAGATG
54058	RASSF1	CCGGCCGGTTTCCAGACGCCCAG
54059	B3GALT5	CAGCCTGGTGGTCTAGATGTGT
54060	KCNJ6	GGCAGTTACAGGGCCCAGGTGAGCTGA
54061	TNFSF14	CTCCATCTCAAAAACAAAACA
54062	FECH	CTGCTTCTGGTCTCCAGGGACAGTGCT
54063	POLR2K	ACTTGGATTTGCTCTCTTCC
54064	TRIM9	TCTCCACCGATACACATCATGTGCC
54065	SFRP4	TCTGGATTCCTGTTTTTTGGTTACCTGA
54066	BMP1	TGGCATCATTAGTCCCAGATAGCT
54067	GAS7	GAGAATTGCTTTCGTATAGTTC
54068	SLC4A4	AGAAGGCAAAAGAGTGATGGTAGGCA
54069	TBL1X	AGAATTCTAATGACCAGCCGT
54070	RAD1	TTGCCCAGGCTGGTCTCCAACACCTGG
54071	CDH17	CCTAAGTAGCTGGGTTTACAGG
54072	ADCY2	ATTATACCACTGCACTCCAGCCT
54073	SLC9A6	CTCTTGGACTTGTTTTCC
54074	MATN2	GCTTCTGCCTCATCCTGCCTTA
54075	PPP1R12B	GGACAGAGCACCTGACCTCAG
54076	CFTR	GCAAATTGTCACAGGACAGCCCT
54077	TNA	GGGGCCTGGAGGAGGGCAGGAGCCGC
54078	LTBR	CCCTTTGGGGTTCCACACTTCAC
54079	NBEA	CAACTTGCATGTTCCTTACTCCTGTT
54080	ATP1B1	GTGTTTCTGGCCCCTAAGTATTGC
54081	GRIN2A	CAGTTTCAGCTTTCTTGTTATGCCT
54082	GALNT1	AAATCTTCAGTTCTGTTGT
54083	ZNF236	ATTTATTTTGATTTTAGCATTAA
54084	NUP153	TTCATTCTCCTATCACCTGTC
54085	FGFR1	GGAGGGCAGGGAGTGGGAGCCAATGAAC
54086	CDH13	AGTTCCATATATTGTATTTGT
54087	HTR2A	ATTGCTGCTTTCTCTTCTACTTCTTG
54088	CTSL2	GACGTCTGTAATCTCAGAGGCTT
54089	ABCC12	ACCAAAACCACCCCAGTGCCTGAGA
54090	RPL10	TTGGCCATTCCTCCTTGGTGGGAATCA
54091	PRKY	AGCCAGGAAGGAAATAAAGTCACAAC
54092	BACH2	TGAACAAGGTGGACACTCACTG
54093	RPL26	CTTCCCTTTTGCGGCCA
54094	CDC25C	CCTAGATTTCCTTTCATTCT

54095	PACE4	GCTTTGGAGCAGCTTCTGGGAC
54096	PCDHA2	CAGAAATTTGGTGGGTTTTTTGTT
54097	TIMP3	CCGAGGCAGCCTCGCTGCGCC
54098	HTR3B	AAGTGTTCTTCAGTAATTGTGCTGGCA
54099	LSS	CAGGTCCTGGCTTTGCCTTTG
54100	TBL1X	GCTGCCGGCTGGAGGGAGGT
54101	PHKG1	CTGGGGGCTGGCCAGTCAGGGAG
54102	CHST6	TCCCTGCAAAGCAAGCAGGG
54103	MAP2	AAGAAGCCAGAAAATATTATCA
54104	FBXL11	CCTACAGAGTTAGGGAATGGAGCCCAG
54105	RBBP9	TCAACAGCAATCATCTTTGGGG
54106	BHMT2	GACTCACACCTGCAATCCCAG
54107	SH3BP2	CCCACTCACCAGTTCTGCTGCCTC
54108	GPR81	TGTGTCCCAGGCTGGAGTGCAGTG
54109	PRX	TTGTTTCTCTCCCTGGGCCTCAGTT
54110	SPAG6	TTTTCCAAACCTCCTTCCCCACCCTATCT
54111	NFATC4	ACCTGGCAACCCCAGCCCCAGCCT
54112	LMO1	AAGCGGGTAATTAGAGCCCG
54113	NPTX1	CCTGTCCCCTTAAACACAGGTCC
54114	SEDL	CTTCAAGCAATTCTCCTGCCTCA
54115	PSG3	TTCATTCTTCCTCAAAGTATTTACCA
54116	MKL1	CTGGTGAGCCAAGGGATCATGCC
54117	LETM1	TCCGCCCACACAGAGCTGGCT
54118	MYBL1	TTTTCTGCTCTGTTTGTATGTT
54119	RERE	AAGGCATTCTTGTTAGCTTTGCTTTTC
54120	ZNF135	CAGATTTGCCATTATGCACATCACA
54121	FANCC	GTGACATCTGTGGAATTTTTTAGCTCT
54122	NOTCH2	AGAAGGTTGGAAAAGGAGGA
54123	KMO	CCCAAATAGCTGGGGCTACCATG
54124	CRYZL1	CACTACTACACTCCAGCCTGGTGACAG
54125	SH3GL3	GACTCTGGGAATCATGCTC
54126	SART2	GGATGTTTTACTACAGATCTGGATGG
54127	TXNRD1	ACAGCATTGCGCCTGGGTGCAGCAG
54128	IL10	CCCAGGAGATGGAAGTTGCAGTG
54129	KIF3B	CCATGCACGCATACTCTGAA
54130	MPDU1	TGGGGCTGGTTGCTGCTGCAGTGAG
54131	GNAT1	AGCAATAAACCTTTGCATCA
54132	B4GALT5	AGCTCACTGCAGCCTCCATCTC
54133	KRTHA2	CTTTGTGCCAGTGGATCCTGGAGGG
54134	MX2	AAGCCCAGGCCTTGGACATTTAGTG
54135	TARDBP	CAGTTCTGTGTCCTGTGCT
54136	FCMD	CTTGGGTTAGGTATATCCAT
54137	EMD	TCCTGGCTGACTGCCTTAGCAGTGGGG
54138	MAP2	AAGGATTCTGGCAGCAGTTCTCAA
54139	CEACAM5	AGGACAGCAGACCAGACAGTCA
54140	EPHA1	TTTCTGCCTCCATCCCACC
54141	NBEA	TCACTGAAAGCCACATTCTTAGCC
54142	FAT2	GCCTGACAGACAACCACTACGCGGGC
54143	TOP1	AACTTAGAGGAAAATGAGTATTTGG
54144	PPP2R2B	CCTCCCCGTCTCCTCCTCAGGCT

54145	DSC3	CCGAATTTGTAATTCTTTTCTCTCAAA
54146	ELMO2	CAAGAAACTGCTTCTTGAAATG
54147	CRTAP	CACCCACTGAAAAACAAGTTGAGTA
54148	NOTCH2	ATGGAACACATTTGTCCCAGAT
54149	IL19	CAACTCCTGACCTCAAGCAATT
54150	BNC	GCTGCGCAGCCTGGGCGCTTGGG
54151	CCNT2	AAAGAAAAGGTCAGCCTCCCA
54152	GALGT	GTCATGGTCCTCATCACACAC
54153	TRPM2	CACTACTGCTGTGCCCTCAGGCT
54154	RNPEPL1	AGAGGATGGTTGTCCCTGGGGA
54155	GALNT1	TTCATTTTGTTTTCATCTGTGATAG
54156	ITGA6	AATGTCGGAAAAGGGTGTTGGGAGG
54157	TCF20	CAGGCCTGTGTTGCCAGAGCTG
54158	FLOT2	CCTCTGTCTCCTTGCTCCAATGGA
54159	CAST	AGCTACAGGATCTAAAGCA
54160	DPH2L1	CCAGCGTCAGGCCTACCTCA
54161	XPNPEP2	ACCTGGGTCCACATCCTGC
54162	FCMD	TCTCTCTCTTATATCACTTGAATGAT
54163	JAK3	ATCTCGAACTCCTAACCTCAAGTGAT
54164	RHD	ATCTCAAACTCCTGACCTCAAGTGAT
54164	TRAF5	ATCTCAAACTCCTGACCTCAAGTGAT
54165	BACE2	AGCCTCCTCCCCTCCCGCGA
54166	SMAP	GGGAGAGAAGGCCCGGAGGGGCTCT
54167	CLC	TCAGGTTGGTGCAGAGGCGCT
54168	NRP2	GGTTTTTCTTTTTCCTTTTTGTTGAT
54169	COX15	ATGCCTGGCTAATTTTGTATTTT
54169	LNK	ATGCCTGGCTAATTTTGTATTTT
54169	RAB36	ATGCCTGGCTAATTTTGTATTTT
54169	TRPM6	ATGCCTGGCTAATTTTGTATTTT
54170	LMO1	CCCTCCTGGGGCCAGGCCGGGCCTGTA
54171	KCND3	GCCTGGAAGGAAAAAGAG
54172	ZIC3	TGAGAAGCTGGATTTAATCAT
54173	KIT	GTATGAACACCTGGGCTTAAGA
54174	PLCD1	TAGCCCAGTCCCTGGAGCTGTCCTTCA
54175	SMG1	CACCACTTACCCGTTCCCCCTTT
54176	PTPN13	TGAAACCAGTATTTAAGCTTTAAATGA
54177	EPHA8	CCCCTCTCCCTCCTGCAATAA
54178	PPP2R5B	AAACCCAGAGCTGTCAGTCCCT
54179	HAL	TTTTCTTTCTTTCTTAAC
54180	RFX5	TTCTCATTTGGCTATTCTTTTCC
54181	ADCY1	GCACCTTTCATCTTCCTTGGGTG
54182	ABCB10	TCACTCTCCTGAAAAGAAGATATT
54183	FACL4	TTCCAATGCCTCTTGTCTTCCT
54184	TFRC	CAGTTTCAGGTGTTTAGTTGCA
54185	DDX15	AAGTTGTGAAATGTTACAACTTGT
54186	MHC2TA	AGGTGTACCCTGCACTTGCAG
54187	HAP1	TTCCAGATCTCCATCCACTTTTC
54188	DBT	CAACATAGTGAGATCCCATCTC
54188	MLPH	CAACATAGTGAGATCCCATCTC
54189	CALML3	TCTGCTGCTTCTTAAGCTCCAGCGTCT

54190	LRRC2	GCAGTGTGCTGTGATTGTGACACTGCC
54191	PIK3R3	GCCATGCCGCTGCACTGACAT
54192	DDC	TCTCATCAACAAAGAAATATT
54193	CACNB2	TGGGAGTAGAAGGTGGGAAGA
54194	TLR6	TGCCTTCAGGAAAGACTTAA
54195	ITGA5	TTAGGAGAAGCCAGGAATTTCCCAGGAC
54196	JPH2	TTCTCAGCCTCCTTCCTCATGCCTCCAG
54197	ATP8B2	CCTGCCTGTCAACCTCTTTGAGC
54198	EIF4G1	AGGGGTTTCTGGCACCTACCTAC
54199	AKAP2	GCTTTAATCTTTCTGTCATTTAAAGCAA
54200	PRKY	ATGCCTGCAATCCCAGCACTTT
54201	NCOA6	GTGTGAGCTACTGTGCCCAGCC
54202	CTF1	CGCCCAGGCTGGGGTGCAGTG
54203	SLC35A1	GTTTAACTGTTGGGCTCTCAATA
54204	KRT18	AAAGTTCTGAGGCATTAGCCAG
54205	TRPM8	TAAAAGTCTCTCAAATTAGGCCAGA
54206	TTK	CTTGAATCCCTGTGGAAA
54207	AMT	AAGCTGAGGCAGAACTCACT
54208	IL15	GTGAATCCTCTTCTTTATACTGT
54209	USP14	CCTGGAAGGCAGAAGTTGCAGTG
54210	DLGAP2	TAGAGTGCTTTCCTTGTG
54211	SIRT2	CTGCCCCCGGGGGCCTGTGGCTAAGT
54212	GNPAT	AGGAAGAGACACATCCTCTCA
54213	IL8	CAGGAATTGAATGGGTTTGCTAG
54214	RSN	GTGAAGCCTCCAGTGGAGAACTGGG
54215	PHKA2	TAGGTTCATTTCTCTGGAACAT
54216	MAPT	GGACATGAAATCATCTTAGCTTAGC
54217	C1orf1	TGGCTTACACCTGTAATCCCAACACTT
54217	NDUFS1	TGGCTTACACCTGTAATCCCAACACTT
54218	HTLF	AACTCACAAACTTGAACTGGCTTCA
54219	STX1A	ACTGTCCGTGTTGCCTTCTTGAACA
54220	HPS4	GCCAAAAAATGCTGGA
54221	PSEN1	GAGGTACTGTGAGGAAGAGCAGGCA
54222	KLRD1	GTCTTGAACTCCTGGCCTCAA
54223	EGFR	AAAAGCTTTTTACTCAAAGAGTAT
54224	SLC17A5	GCCACATCACCTGAGACTAGGG
54225	CLECSF12	AAGTGCTGGGATTACAGGCGT
54226	APOC3	CCAAGTCCACCTGCCTATCCATCCTGC
54227	GALGT	CTAGTTCCTCACTCTTCCTTTTCAG
54228	HFE	CCAGATTTTTACACATGTATCTATGCA
54229	HTR1D	CGCCAGGCTGGAGTGTAGTG
54229	PIK3C2B	CGCCAGGCTGGAGTGTAGTG
54230	EFNB2	TCCCTTGCCTTATGGGCTGAAG
54231	RABIF	AGAAGGAAGTTTATTATATAACC
54232	DTNBP1	GGAGAGGGGACCGGCGGCGGCGGC
54233	BCL9	TCCTCACCTCCAGGATGAGCACTGCAG
54234	DDX19	CATCCCTCGAATCCACCAGCACGAGC
54235	PDZK1	TTGTAACAATGTTGTGGTTGCTA
54236	MUC4	CGGCCTGGGGCGAGCACTGTGA
54237	DGKB	ATGCCATAAGGAAAACGAGTGCC

54238	SRGAP2	ACTTGTTCATCACCATTACTG
54239	TSN	AGTAATGCTTAAGGGAGTTTAATAG
54240	PTGFR	GTCACATTTGACAAATAGGACTGCCTA
54241	TRIP12	TTTCCAGGCTGGAACAATA
54242	PRCC	GCTCCTTTCTGTCCTGGAGCT
54243	RAB36	CCCTCCTCTGGCACTCATGCT
54244	ADD2	TTCCAAGTCTCCCTCAAAGAAG
54245	PTPRO	GCTGGGAGAGGGAAAGACATT
54246	MAT1A	CCCTGGAGGCACCTGGTGGCCATGCTCCTCT
54247	KCNA7	CTCCTGAGTCCCGTAGCCTCAT
54248	NFE2L3	TTACATGGACAAATGTTTAGG
54249	FBXL11	TCTGCTCCCATGACCCTCTGCCCACTT
54250	ZNF143	GAAGCCCGGGCCCAGGAAAATTAGAA
54251	GPRC5B	TCACAGCTGGTGGGCCAGACTG
54252	CYB5	GCCATTGCTAACTACTTCAACTGA
54253	FCN1	GCCAGGACCCCTCCACATGCACCT
54254	MAP3K7IP1	GGGCAGGCCAGGTGGAAAGGAGCCAG
54255	MMP2	CTTCTCCTTTCACAACCTTCT
54256	PACSIN1	GCTGGCAATCTGCACCTTGGG
54257	ECT2	CCACTTCTGAGAGTAGTAAAT
54258	TFDP1	TTCAGTGGTACGGTGTCCAAGCAAACAGCA
54259	PVRL2	GCTGCATGGGGAGCCCGGGGAG
54260	SMARCC1	GGGGGCAGTGTGAGCTTTGA
54261	ALDH3B1	GACTATATCAACCTACAACTTT
54262	BAIAP3	CTGCCCAGGACACAGTGCAGGC
54263	SH3BP2	GGGTACCTCCTGAGTGGCTGT
54264	MYH11	ACACCCTGACTGTGCTTAA
54265	SORCS1	GGGCAAAGCCCACTATAAACTATAGGAG
54266	SNCA	TCGGAATTCCCTGAAGCAACACT
54267	NYX	TTTCCCTTAGCCCAACACCA
54268	KCNQ2	CTGAGATATTAACTTACTCA
54269	GRINL1A	GGCTCACTGCAATCTAGGTGGAGGTCT
54270	TAZ	TGCCCAGGAGGTGGCGTCCAGCAGTC
54271	WNT10B	AAACAGCTTTAGGGGTGGTGGG
54272	GPR85	AATCAATGCCATTTGTAACTCAA
54273	RET	GAGTCGGATTACCAAAACACTGCCT
54274	SOX8	GGGTTTGGGAAGCAGGACTCCGTCCC
54275	LANGERIN	GACTGTGGAGAAGGAGGCCCCTG
54276	HOXB8	CCCCAACAGCCCCCAACTATAG
54277	TDG	TGCCTGTAATCCAACATTGGG
54278	PRKCH	AACAGGGCATATATCAAAGATG
54279	SOX5	AGAAGGTTTGGACTCACTTG
54280	RAB5B	GACTCCTGTCCCTTCCCCTTCTGCTT
54281	WEE1	GGTCGGCAGAGGTGGAC
54282	DSCR3	GTCACGCAGGCTGAGTGCACT
54283	LPP	GCCAGTGAAACACTTGCT
54284	PPP1R12B	GGTTGGACTGGATAATCTTTAT
54285	EYA2	GACTAGTCTCATTACTCCGG
54286	PCDH11X	TAAGAAGGATTCCACAGATCACATA
54286	PCDH11Y	TAAGAAGGATTCCACAGATCACATA

54287	DPH2L1	CAACAAGCCCAGGCCAAGAAG
54288	NFE2L1	GCTCTCAGCCACAGGCAGCTTC
54289	SLC30A3	TCTCCCCATGGTTCATGTGGA
54290	INHBA	GGCTCAGAGATGAAGCAGTGAAGAGAC
54291	CD1A	CAGTCTCTTCCTGGTCTGAACTCCCGC
54292	SLC3A2	GACTCAGAGTTGGGGTCTCACTGTGT
54293	PTAFR	AAAACATACAAAAATTAGCCGG
54294	ADAMTS4	CCCGAGTAGCTGAGATTATAGG
54294	SEDL	CCCGAGTAGCTGAGATTATAGG
54295	STE	CCATGCCTGGCCCAGGTAACATGT
54296	CHST6	GAGCTCAGGAAATGAGAGCCTA
54297	RET	GCTCTACTGGAATTTTCATACA
54298	STAM	TAACTGCATTAGTGGCCATT
54299	SCP2	TTATTGAAAAATCAGTGTATTA
54300	NPAT	GCATGACCTGCACTTTCATTGTACTGAA
54301	MPP2	CCACAGCAGGCACAGGTCTGAG
54302	ADPRT	TCTTTAGTTTTGATTTTGGA
54303	ITPA	CCTTAGGATTCACTGCTCTCTCCT
54304	AMD1	TCAGTAAATCAAGTCAGCT
54305	CRSP6	AGGATTACAGGCGTGAGCCACC
54305	IL12RB1	AGGATTACAGGCGTGAGCCACC
54305	SMAC	AGGATTACAGGCGTGAGCCACC
54306	EPHA8	GGAGAGCGAGGGAGCGCGCTCCC
54307	TRIM14	CGGGCAGCGGAGGTTGCAGTG
54308	C5	AAAGGGAGTATTACAAAAAC
54309	ZNF74	GTCACCCAGGCGGGAGTGGTG
54310	RGS9	GCAAAGAATGCTCTGGCTGGTTACCAG
54311	IRTA2	GAGAAGCAGCATTGAAGTGG
54312	GPD2	AAAACATTCCAAAACTTTAAGG
54313	THRA	CTTCCCTTCCTCAGCAGGCCA
54314	LETM1	GGACAGTTGGCTTCCAGAGGTTT
54315	TOP2A	GGCTTGGTCGGGGGTGGTCTCGTGGGGTC
54316	CASP7	ATATTCAGAAATTCTCCAGGATTT
54317	CYP8B1	TTGCCCAGGCTGCAGTGCAGTGGTGTG
54318	RNF28	TGTCAGAAAGAGGGGAAGGAA
54319	PRG1	TATCTGTGTATTTTCAAATGTTAC
54320	MS4A2	TGCCTTTTATAGTATGCCCACCTCA
54321	SCN4A	GGGTCTGAGGCCCCTGCCTCCAAGAT
54322	SLC17A7	ATTGCCTCTCAGGGGTAGTGAAGCTG
54323	MHC2TA	CACGCTGGAGTGCAGTGAGCCGAGATC
54324	LAMB3	CTATGCCACCTGCAAGTGTGCTAC
54325	CPM	CACCTTGAGGTCAGGAGTTCAAGAC
54326	SLC21A2	GCCTCATCTGCCCCACCCTGGGCC
54327	CBFA2T2	CAGTTTCACACAGAAGTCA
54328	AP3B1	CACTACTGCTGCCTTT
54329	TRPV3	CCTGCCTGGCGCCGAGGGCAGGTGGC
54330	TAL1	GGCAGTAGGCCGGTGTGCCTGACTGCCC
54331	HSPA4	GGTTCTTAGCACATCCTCTG
54332	CCRL1	AAGGTAAAACTGCTCTGCCTTT
54333	TKTL1	TGCCATCCCACCTGCA

54334	ARCN1	GTAACCCAGGCTGGAATGCAAT
54335	FCMD	TCATTTCTACTTTCTGCCCTCA
54336	RGS5	ACCAAATTGTCTTTAGAAAAATTAA
54337	ANXA9	GAGTTTTCTTTGATAGTTTCTGCCTCA
54338	SUFU	CCTCCCAGCCTTCAGGCTGTAGGGC
54339	F8	TCATTATGAGGGGCACATTCTT
54340	B3GAT1	CTGGGCCCCTGCTCTTCCCA
54341	RBM6	GTGGCGGAGGCTGAGGAGAAGGAGGAG
54342	ABCB9	GAGCTACAACCTGGCCTTCA
54343	EEF2K	CAGGCTGGAGTGCAGTGACATGATCTT
54344	NT5C2	CAGGCTGGAGTACAGTGATGTGATCTC
54345	GA	AAGTGCTTTCCTAAGGGGGTGG
54346	ADAM12	GGGTCTGTAGTGTCACTCAAGG
54347	SFRP4	ACAAACTGTTGTGCTATTGGA
54348	EVA1	TTTATGGCTGTTAGGTGTTTCCCA
54349	SMURF1	TCCTGGTGGTGGTATCCAAAATC
54350	LIMD1	CCTCCATCTTAGGCCTTTGCCTCAT
54351	ATP11A	CTGCAGCTCCGCCCGCCGGGCT
54352	GABPA	CTCCAGCCATGACTAAAAGAGAAGCAG
54353	EHD2	GGTCTCGAACTCCGCATCTCAG
54354	CSPG3	AGTAGTGACACCTACCTGCGGTCA
54355	CLCN6	CCCTTCAGGAGGGCCTCCTGT
54356	TMEM2	TCCTGGCCATGGAGAGGAGATCTGGACCCGA
54357	PTPRJ	TTATATGATTCACATGCTAAAGCCAG
54358	CEACAM1	GCTCACTGCAGTGCTGATGTATTTCA
54359	DBCCR1	TGGACTTTTCCTGTTGTTGTAC
54360	GNAT2	ATTTCATACGTTCTTTTCA
54361	CYP1A1	TGTGCTTGAGCCAGGAGGCCT
54362	RAD51L3	CTTCCCGACAGCCAACAGGTTT
54363	CHD2	ATGCTTTCTGTTTCACTGTGGATAGTT
54364	JRK	GTTGACCAGGCTGGAGTGAAGT
54365	PMP2	TTGCCTTTTTTAAATTCAGCATCATGTT
54366	TP53BP1	TCCTCGGTTTCCCTGTCCTTGCCC
54367	SEMA3F	GGGGGCAGTTGGGTAGATGGGTGGG
54368	THBD	CACTGCCACACAGGGTCTGCA
54369	REGL	TCCTGTGTGTTTCAGGCATTC
54370	SS18	GTTTCATCTAAATGAAAGTGGTAATC
54371	WHSC1	GTGGCATCTGACTGCGGCTCAT
54372	PFKFB3	GGCTCCTGCAGGTCCACACAC
54373	FCMD	TCTAAACAAAGTGATATTTTA
54374	BCL2L11	CCCAAGTACTGGGATTACAGCTTCCA
54375	LRRC2	CACAGCCGGGTAGAAATGCCTGAG
54376	DAF	TTCTGATTTTACATGTAAAACAA
54377	SRD5A2	CCAGCATGAGTGCTGAGATATG
54378	CDH13	ACTTGATCTTCTGGGAGCAGGA
54379	GAC1	TTGCCCTTACCTCCTAGGGTCA
54380	MAP1A	TGGGAACACTGGCTGCCTCTCCAAACC
54381	ZHX1	TCTATTCTTTGAGATGTGAT
54382	PBX3	AAATACTGAGAAACATTTTGAA
54383	TTYH1	TGCCACATCCCAGTGGGCTCTGA

54384	SDC1	GGCCCCGTTTCTGGTGGTCTGTTGGCA
54385	PCDHB2	TTCTATGCATGTTACTGGTATTTATA
54386	CASP10	GCCTCCCAAGTAGCTGAGACTA
54386	CYP1A2	GCCTCCCAAGTAGCTGAGACTA
54386	LTB4R	GCCTCCCAAGTAGCTGAGACTA
54386	SERPINB9	GCCTCCCAAGTAGCTGAGACTA
54387	COL1A2	TAGACAGAGATGAACTGAGGTCCT
54388	RARG	TGCCCTCCATCTCAGCCATTGGG
54389	FMR1	TGGAAACACTAAATGTTAAA
54390	RARG	GCTCCTCCTGCCCTCCATCTCA
54391	P53AIP1	CGCATGTGGAGCGCATGGGGAG
54392	MYH9	ACCTCACACACCTCTGCCCCTTGGGCC
54393	CDA	GTCCAGCCTAGTCTGGACTGCTTC
54394	AVPR1A	AGTCCTCCGAGACGGGGAGGGAG
54395	SERPINE1	CTATTTCTGTTCCAGTCACA
54396	AIM2	GGTGAAGGGAAGTGTTTAT
54397	ZNF36	AGATGTGATTTTTGTTGCTTTTC
54398	FBN2	TCTGTAACACTTTGGGTATTTTGC
54399	ABCD3	TCATCATTAATGACTTTATGTATTA
54400	DUOX2	GTCCCTGGGCTCTGGGGCTGAAG
54401	AKAP13	CTGTGGTCTCCTGTGTGCTGCT
54402	CLOCK	TGGCTATGCCTTCACTACA
54403	KCNS2	TTCAATGCCAGTGGGCCAA
54404	ZNF214	AGATGGAAACACACAGAACTTAAAACTCAG
54405	HK1	GCTGCTTCCTCCCCTCCTGGCACCC
54406	LTBP2	TCCTTCAGAATCTGTGGAGCA
54407	BSN	TACAGAAGGTCCTGTGTGACCCT
54408	EGLN1	CCCTGCGCTCCTCCACAGCCTGGGCC
54409	MECP2	GTCCCCAGCCCTTCCTCTGCTC
54410	DOM3Z	GCCTGCCATGACGTCATAGCTCTGCG
54411	MUC4	CTGCAGCTGCTGGGCCGTGGAGCTTC
54412	BHLHB3	CCACTCTCATTAATCCATCATGTT
54413	ITGB1	CAGCCCAGAATAGCTTTGAA
54414	ATP7A	CCAATGCCTATGCCATCCTCCATGCTT
54415	PCOLN3	CGTGGGTAACAGCCTTGGGGA
54416	PNUTL1	GGCCTCGGCCTCCGCCGCT
54417	FEZ1	TCACCACACCTGGCCCATGGTGGG
54418	ITGA5	TCCTGGAGGCCCAGTTCACCCT
54419	MAT2A	TGCTTGCCCTAAGCAGAAAGTGCCTT
54420	BHLHB3	TTAAGGAGGTTCAAGCAGA
54421	SCN1A	AGGGAAATGATGAAAATAAAT
54422	MAGEL2	CAGCTGGAGCAGCCCTTTCAGGGA
54423	CEACAM5	AGTCCCAGTTACTCGGGAGGCTGAG
54424	FZD10	GGGGCCCGCCTCACACCCCAGTGGAT
54425	RIMS1	TGTGTGCCTGGCACTCAGTGTGTG
54426	NFKB2	TCTCCACCGGATCTCACCCGCC
54427	FAAH	TCAGAAGTGGGTCTGTGGGAT
54428	MLLT2	TAAGCAATGCTTAACACAGGCA
54429	KCNMB1	GAGAGAAGAAGAAATATTTCCA
54430	PVR	AAGAAGGTTGTCAGCTGCAGCC

54431	TMEM2	ACTCAGAACATGAACCTCTTTAA
54432	CYP8B1	CTCTGTCGCCGAGGCTGCAGT
54433	ARCN1	TTCACATCCACATGTAATCATGTCTGC
54434	EIF2C1	CAAAACAATCTATCCCAGGTT
54435	TAT	CCCATGCTGGAGTGCAGTG
54436	CNTFR	TTTAATGCCCTGTCAGTCCC
54437	ASTN	GCTTGAGTGAAAGGAGG
54438	ABCD4	AGAGCCTCTCCCATCTGACCCAGGCC
54439	SDC4	TTCTACCCTTTCTGCCTTCTGT
54440	VANGL2	GCTTGGTTCTCAGGCCCAGCC
54441	TSC1	CTTTTCTCGCTGAAAGCACT
54442	CBFA2T2	AGATTAGGAGGAGAAAAAGAG
54443	PHF1	GCCTGCCTCTGCCCAGCTCCCCATTC
54444	RGS19IP1	GAGGGAGGGAGGGACGATGGC
54445	CACNG7	CGGAGCTCCCCCTGCCTCCTCCTCC
54446	COL5A3	CCCAATGCCTGCCTCCTCACTCC
54447	ICOS	TCTTTAATGGGCCAGCATTCTCAT
54448	CAMLG	AAAGATTCATACATGTGAA
54449	FBLN1	CATTCTCCAAGATGCAGCCCAGGAGC
54450	PELO	CGGAGCGCCTCACAGCTTAG
54451	AKAP2	GGGCTGAGAACCCAGCGATA
54452	HOXC13	TCCTCCTTGCGCTCACCTTGCCA
54453	TAGLN2	TGGCTGGGAGTCACTGATGCTGCCTC
54454	ELK3	CATCTGGGTATGGAGAGTGCAATCACGCT
54455	FKBP10	GAGGAAGAAAACAAAGGGCA
54456	CDH10	TTCATTTCATCAAATTCTATCT
54457	MMP8	CAGAGGCAGAGATTGGAGTGA
54458	PDE4B	ACTTCTCTCTGTTTGCCTGCCTCCA
54459	TMEPAI	AGGAGACACCTTTTCCCCCCTG
54460	NOVA1	AAAGAACAATGAGTGTGATG
54461	MRPL49	GCGCCCACCACCACAGCCTG
54462	LPL	TGTTCTCTGGGTAGGTGTT
54463	CLECSF5	GAGAAAGAGGCCCCTGCAGCT
54464	RLBP1	CCAGGTAGCCCCAAGGAG
54465	GAMT	GGGTCCCACCAGCCCAGGG
54466	SUDD	CAGCAGCCAGTCGCCCGTGTC
54467	SPOCK	CTACATTCCTTAGGATTTCTCTCCCTATCA
54468	TACC1	ATGGAGGAGGCCAGGCTCAGAGCT
54469	RGL	AACAAATTTGCACAATGGC
54470	MAP3K4	CAGTATAAGCCTTTTTAACCTTCCA
54471	VCL	TCTATCCCAATAGGCAGACTG
54472	HOXA6	CTTTTCTCCCCGCCTGCTCC
54473	AQP6	GTCAGCTCAGGCTGGAGCAGGT
54474	SP110	AGGACCCAAACCCAGACACTTCA
54475	TGFBI	CCAAGTCCCTGGAAAAGGAGCTTCAG
54476	IGSF4	GACTAGAAAATTAGACTGTGATT
54477	GRAF	TATGTGTTTTTAAGCATCCCT
54478	LMO4	CCTACTTCTAATTTGCTGA
54479	RNGTT	CAGCATTTCTGTCCTGA
54480	MLC1	GCTACTGCTTCTAACACCTCT

54481	IGFBP4	ACTCATTCCTTCACTCATCCA
54482	FBXL3A	TTCAGTTACACATACACCTGTT
54483	NFIA	TGAATTGAGTAAAGTGCAATTT
54484	DIAPH2	GCACTTCTTCCTCTGTTCCCAC
54485	BCL2L2	GCTCCTTGCCACCAGTGCTGTGTCTT
54486	MOCS1	GACATCGTGTTGGAGGAGATCAAGC
54487	BRCA1	ACAAAGGCAGAGAGTCAGAC
54488	TIMP4	CCCCAGGAATATGTGTTTTCC
54489	SF3B3	CGCTGCAGGCTTTCTTGGA
54490	BMP8	TGGGTGGAGAGGTTTGTCTCAGCCT
54491	GBP1	TCAGGAGAAGTTTATTCTTCC
54492	SURF4	CCTTTTCTGAGCAAGGTCTC
54493	HUNK	TACATGTGTGCCTCTCACAGCAGT
54494	PKHD1	CAACATACACTATAGCACTTT
54495	ADCY6	CAAAGTGCTGGGATTACAGGT
54495	IL12RB1	CAAAGTGCTGGGATTACAGGT
54495	NCOA6	CAAAGTGCTGGGATTACAGGT
54495	UMPS	CAAAGTGCTGGGATTACAGGT
54496	IL2RA	ATCCTCTAAGCTAACCCCCT
54497	HTR6	CTCATCTGCTTTCCCGCCAC
54498	RAD18	TGGATAGTTGAGTATGGGTTAGAAA
54499	ROR1	CGACCCAGGGCGACTCACGCCCA
54500	AIM1	CATACTTTTTTGCTAAACTCA
54501	GRAF	CAGAATATGAGCCAATGAGTA
54502	ABCD1	CCTCTCAAGGCCCTGACCTCAGGGGCC
54503	F2RL2	ACGGCACAGGAGAGCAAACTTC
54504	GPR85	AGGCATTCAGTCTGTGACTGTGGAAT
54505	NOTCH2	GGATAATCACTTTCTCATTTGGGT
54506	IL10	CCCAGGAGATGGAAGTTGCAGTGA
54507	SOX8	CACAGCCCAAGGACCAAAGGAGGGG
54508	NCOA6IP	TTCAAGCAATCCTTCTGTCTCA
54509	BPHL	GAGACTCCGGCTCTACAAAAAA
54510	PIR51	TTTAACTGTTCAGTTTTATCTGGCAG
54511	GABPA	AAAATGAAAAATAAATGAAGTA
54512	SON	ACTTGGGTCATAAGAAGGGAG
54513	SLC4A7	CTCTGCCTTGTCTCTCTTTGTCTTA
54514	ENAM	CCTAAAAACATACTTTATAACTTTA
54515	POLA	TGTTTTTAAAAAACATTGACCTG
54516	GPR81	GCAGTTAGCAGCATTTCCTATCC
54517	VIM	CAAGTATCCAACCAACTTGG
54518	GDF2	AGCACGGCCGCCTGCAGTCTCC
54519	MAT1A	CCTGGTCACCTAGGAAGCCTCAGATTCCTTCC
54520	EFEMP1	CTCATAAGGAGGCAGCCATCATAACCA
54521	CLECSF6	ACAGGGAGAGAACATGAGTCT
54522	TSC1	GTGACTGATTCCCAGCCTGTGG
54523	SLC22A12	CTGGGAGGTGGGCACACAGGGGCACCG
54524	BTG1	TTGTACAGATTTCTATATTTTGGA
54525	LBR	TTCTGGCTTTTCTACAAAATACTCCTG
54526	C9	TGCAAATAAATGCCTTA
54527	ANK3	AAATTCTTGCCATCAGAAGGG

54528	FLG	TCCAGAAGTGCAAGCAGAGAAACACGT
54529	DSG1	TCTTCTTTGTGCCTGAGTGGCCTGTA
54530	LYZ	CTAATACTGGTGAAAATTTACCT
54531	NPY5R	TTGATTCAAGAAAGACTATA
54532	MKKS	CTGAGAGAAAGGCTCTCTGAGT
54533	MYH11	TCATTGCACTCCAGCCTGGGCAACAGA
54534	DISC1	GCATCTGAAGAAAGGATCCCT
54535	TNFRSF14	GTTCCTCTGCTGGAGTTCATCC
54536	NDRG1	GGAGTTTCTTAATGAGATATT
54537	SH3BP4	TGAAACCATTTTTTGTACAA
54538	CDYL	CACTGGCCGCGGAGTGCAAGAG
54539	MASP1	AGCCCCCAGGACCCTGAGAGGCAGAG
54540	IRAK1	GGAGAGAAGGAGGTGGCCCTGC
54541	GALE	GCTTTGGCACGCAAGCCTGGG
54542	ARHA	CAGCTGCAAGGTACTCTGGTGAG
54543	WNT5A	ACCGTCATATTCTAATAGCTCATG
54544	GNPAT	AGAGACACATCCTCTCATACTCCC
54545	MEFV	GCTCTTGTCACCCAGGCTGG
54546	ARHG	GCCTTTTTCTCCTTAAGGAGGCC
54547	TRIM9	TTGCAATTACAGATGCATACA
54548	CNR1	CTGTATCTGTGCTTTGCCCACATGCC
54549	NCOA4	ATCCTCTCACTGCAAGCACAG
54550	IGF2	TCTGCCCCCCTCTATCCTTGATACAAC
54551	SNAP23	GCGATCTGGGCTCACTGCAACC
54552	AIRE	GAGTGAGACTCCGTCTCAAAAA
54553	CASP7	GCCCTCACATCTTCCACCAGC
54554	DYRK1A	GGACCTCCAGCTTCCACAAACACCATC
54555	C20orf1	TCTGTGTCAGCACAGTGTA
54556	SLC35A1	CCCTTTAGTGCTATATTTGTG
54557	BMP8	TGTCACCCTGGATGCCCAGCAG
54558	NUP62	CAAGATCACACCACTGCACTCC
54559	BRCA1	TGACCAACGTGGTGAAACTCCGTCTCT
54560	ALOX15	GCTCATGCCATCATGCCC
54561	ANK1	GACCTCCAGGCTTCAATC
54562	ADRA2A	TCCTTTCCCCCCTCCGTGCT
54563	MAPK10	CTCAGATCTTCACTATGGCAACTT
54564	PCDHGA1	CCTCTCCCCAACCAGCCCA
54564	PCDHGA10	CCTCTCCCCAACCAGCCCA
54564	PCDHGA11	CCTCTCCCCAACCAGCCCA
54564	PCDHGA12	CCTCTCCCCAACCAGCCCA
54564	PCDHGA2	CCTCTCCCCAACCAGCCCA
54564	PCDHGA3	CCTCTCCCCAACCAGCCCA
54564	PCDHGA4	CCTCTCCCCAACCAGCCCA
54564	PCDHGA5	CCTCTCCCCAACCAGCCCA
54564	PCDHGA6	CCTCTCCCCAACCAGCCCA
54564	PCDHGA7	CCTCTCCCCAACCAGCCCA
54564	PCDHGA8	CCTCTCCCCAACCAGCCCA
54564	PCDHGA9	CCTCTCCCCAACCAGCCCA
54564	PCDHGB1	CCTCTCCCCAACCAGCCCA
54564	PCDHGB2	CCTCTCCCCAACCAGCCCA

54564	PCDHGB3	CCTCTCCCCAACCAGCCCA
54564	PCDHGB4	CCTCTCCCCAACCAGCCCA
54564	PCDHGB5	CCTCTCCCCAACCAGCCCA
54564	PCDHGB6	CCTCTCCCCAACCAGCCCA
54564	PCDHGB7	CCTCTCCCCAACCAGCCCA
54564	PCDHGC3	CCTCTCCCCAACCAGCCCA
54564	PCDHGC4	CCTCTCCCCAACCAGCCCA
54564	PCDHGC5	CCTCTCCCCAACCAGCCCA
54565	ANKTM1	CTCATTTCTATTTGTTACTCCTTTTTA
54566	A1BG	GTTGCCCAGGCTGGTCTTGAACT
54566	CTF1	GTTGCCCAGGCTGGTCTTGAACT
54566	DSCR3	GTTGCCCAGGCTGGTCTTGAACT
54566	JRK	GTTGCCCAGGCTGGTCTTGAACT
54566	KLRD1	GTTGCCCAGGCTGGTCTTGAACT
54566	MPL	GTTGCCCAGGCTGGTCTTGAACT
54566	PVR	GTTGCCCAGGCTGGTCTTGAACT
54566	STARD4	GTTGCCCAGGCTGGTCTTGAACT
54567	AQP6	CCCATCAGGTCAGCTCAGGCTGG
54568	SMAC	CGAGTAGCTGGGATTACAGGAGC
54569	EGLN2	CTCACTCCTCCAGCCTGGAATGTG
54570	SFTPD	CCTGGGGCCTAACAAAAAGA
54571	SACM2L	TCATTTCTCCAGTCTGTCACCCTCCT
54572	SLC7A6	CTGGTGGTATGGCACAGCAGA
54573	CLECSF12	GCGTGAGCCACTGCACCCAGCC
54574	VENTX2	GCATGAGCCACTGCACCCGGCC
54575	HOXD9	GGTTTGTCCTCAGTGCATTGGA
54576	PEX6	GCCCCCCAGGGTCTGGGACCCCGCT
54577	RDS	TAGGGTCCCTAAAAGCATTTGACACAC
54578	MEF2D	CGGGCTGGAGGCTGTGCA
54579	PKNOX1	AGCTCACTGCAACCTCCACCTCTTATGTTC
54580	PRex1	ATGCCCCACGCTGGGCCGCGGCCTCT
54581	GNAO1	GGCCACTGCAAACCCTGCTGCTGCCG
54582	BSND	CACCCAAGGCTGGATGTTTGTG
54583	SLC4A4	GCTTCTCCCTTCTCCATGATG
54584	CYP1A2	CTCCAGCCTCGGCCTCCCAAGTAGCTG
54585	VENTX2	CTCCAGCCTCAGCCTCCCAAGTAGCTA
54586	MCC	GTTTCTCCTCTTTCCTCCTGCTTCATG
54587	PPP2R5C	TTTTCTTTCTGCTCTTTATTGAAGAC
54588	ADAM17	CCAGAGAATGGACACCATCCA
54589	CDS1	TCCTGCACTTCCTCCTCATGTAGTCTGGA
54590	STIP1	CCGCTGCCTCTGGGCCCTCCCAGCACA
54591	LAMP2	CTCCATCTTCAAAACAAAACA
54592	TCP1	AGAAATTGAGGTTGTTCAAAGTTTAAGCA
54593	SPTBN2	ACCCCCACCCTGTAACTCCAGCTGCC
54594	AHR	GCTTTTTAATTAAGCAAAGCACC
54595	CALCB	GTGTGGGTATATTTCTGGGTTCT
54596	PPP1R12B	CTGTGGACCCCTCAACTTCCTGCTGCT
54597	ITGAV	TTTGTATAGGTACTTAATG
54598	SEPN1	GGAAGTGAAGTGACTTGCCCAG
54599	ZNF14	TAAGCCTTCAGTTGACCTAAT

54600	AXUD1	CTGTGAAGACTATAATTTATTTCCA
54601	UNC13	GTACAGGCTGGATGGAAGGGGC
54602	AQP6	TGTCCCAGGCTGGGCAGA
54603	RHO	GCCATGCTCACCCGCCCACA
54604	TFE3	CCCCTAGGGACTGTCCTAGCCA
54605	ITPR1	TTCATTTGTGCCAAAAATATTAA
54606	ARHGDIA	ACCAGTGCCTGGCCAGCCTGCCCCCTTC
54607	TIMM17A	AGTTGTAGACTTCGATGTTT
54608	IL2RA	CTGAGGCAGGAGGATTGCTTGA
54608	TEM7	CTGAGGCAGGAGGATTGCTTGA
54609	CLECSF12	GGTGCATGCCACCATGCCAGGCT
54610	RGS9	TTAGTAAAGACGGGGTTTTGTCA
54611	DHCR24	CCCACGGAAAGCCTCATTTG
54612	IL1RL1LG	CGTCCTCAGCGGGCAGGGAACACCTC
54613	MAPRE1	CCAGGCTGGGGTGTTTTCGGTA
54614	SOX18	CCTTTTAAAAAATATACCTA
54615	WNT5A	CAGCAATGTTTCTCTTTTCTTA
54616	AVPR1A	TGCATTTTCATATTGCTACCA
54617	GPR4	CTTCCCTCCTGTCATAATTCC
54618	EIF2B5	TGCCTAGGGAGGAGCTAAGCAGGCCC
54619	IL1A	AATACAAAACTGAATTCTTCC
54620	PTGFRN	CCCTGCTCCCCCACAGCC
54621	IRS1	TTTCTGCTGCCTCCAGCCCTGT
54622	CA3	GTTGTACTGATCACCAGAA
54623	FZD4	GAGGCTTTCAAAGCTGTGA
54624	SGCB	ACAGAGTTTGTGATAACTCATA
54625	LIF	GGCCCCTTGCTCACTTTGTGCAGTG
54626	FSTL1	GAGCACCAAAGAGATCTATGAGGA
54627	APPBP2	TTAACACAAGTACTAATAAA
54628	SERPINB9	CCTGGTCTTCAGTTCTGTGCCCAACGT
54629	NDRG3	CATAATTGCCGTCTGGACC
54630	DBY	TAGGACTGTTTGAGTTTTGCAGACT
54631	CRSP6	CGGCTCAAGTGATCTACCTGCCT
54632	ASC	TCCTCCTGGTCGGCGGCTGCAGCGGGG
54633	RAI3	GCCTCTCTCAGCCCACTGGCCTG
54634	PCDHA9	AAAGTGCTGGGATTAAAGCTGTGAGCC
54635	AQP6	AGGAAACTAAGATTTGAGATTCAG
54636	IL16	TAAACAGAGGAGTACAGGTG
54637	SH3BP2	AAGCCTCCTCCGGGTACTATAG
54638	NFATC4	AGGAGGGAGGAGGGTGAAGACTGA
54639	C18orf1	GTCCTCACCCTCCCCACCACATAAACAC
54640	DMPK	AGGCTGAGGCCCTGACGTGG
54641	MXI1	TCACACCTCACTCTTTATA
54642	USH2A	AAGCTATTCAACTTTGCTTAGCTAATC
54643	KCNA5	CACACTGTAACCTCAGTCTAC
54644	ADRA2B	CCTGGGCTTTCTGCTCCCTGCCCAGATCC
54645	HFE	GTGTGAGCCACCCTGCCCAGCC
54646	CLCN6	GGAAACACTCTGCTCCTGGG
54647	PER2	TTGCAAACCAGGCTGTGACCAACACATGTG
54648	YWHAZ	AGCTTTTCATGTAAATTAGTCTTGG

54649	DLGAP2	GTCAGCCTTGCTTGGAATTCTGGCAGG
54650	WTAP	TGGGGGAATGTGTTCCTTC
54651	MHC2TA	AGGCTGGGCTTCAGTGGCAGCT
54652	MFAP3	ACACACACAACTGATCTA
54653	CUTL1	TCTAAACACACTAGTTTGGATT
54654	HOXA4	CAAAACAAACCCAAATTGGTA
54655	MYO9A	TGAATTCCTGGGCCTCCTGCAGA
54656	SHMT1	TGGACTTTTTTCATGTTTTCTTCAC
54657	PDE4D	GCCACCCTCAGTGCCACAA
54658	GAS7	GCCTGTAATCCCAGCTCTTTG
54659	GHRH	CTCATTTCTGACCCACTTTTTCC
54660	GJA5	CTCCTCCCTCTACTCAGCCTTAA
54661	ZNF202	CTTGCAGCCAAGTTCCCTGGTTTCTGG
54662	ADCY6	GTGGAGCTGTGGCAGGGGGCACT
54663	TNFAIP1	CTGCCTTGCCCCTGAGCACTTCTGGAG
54664	SHOX	TGACATGGAGTGAAGTGCAATA
54665	XT3	GTGAAGGAGGGAGGCCTCTTTGCAGTT
54666	FGFRL1	CTCACACACGTGCAGATATTGCC
54667	FBXW1B	GCTGCTGCTGTGGCCCCAGCAGGTTC
54668	ALDH3B1	CACCTGTAATCCCAGCACTTTG
54668	CASP6	CACCTGTAATCCCAGCACTTTG
54668	CRACC	CACCTGTAATCCCAGCACTTTG
54668	DMC1	CACCTGTAATCCCAGCACTTTG
54668	EHHADH	CACCTGTAATCCCAGCACTTTG
54668	FANCD2	CACCTGTAATCCCAGCACTTTG
54668	FUT6	CACCTGTAATCCCAGCACTTTG
54668	GPR1	CACCTGTAATCCCAGCACTTTG
54668	GRM6	CACCTGTAATCCCAGCACTTTG
54668	HUNK	CACCTGTAATCCCAGCACTTTG
54668	IFNAR1	CACCTGTAATCCCAGCACTTTG
54668	LRRC2	CACCTGTAATCCCAGCACTTTG
54668	LUZP1	CACCTGTAATCCCAGCACTTTG
54668	MCM4	CACCTGTAATCCCAGCACTTTG
54668	P2RX7	CACCTGTAATCCCAGCACTTTG
54668	PCDH11X	CACCTGTAATCCCAGCACTTTG
54668	PTAFR	CACCTGTAATCCCAGCACTTTG
54668	RAB7L1	CACCTGTAATCCCAGCACTTTG
54668	SIM2	CACCTGTAATCCCAGCACTTTG
54668	ZNF136	CACCTGTAATCCCAGCACTTTG
54668	ZNF137	CACCTGTAATCCCAGCACTTTG
54669	CD2AP	CAATGCTGTTTATATTTTGGGTGA
54670	EPHB1	CACTCCTGCCCACGCCCAC
54671	LHX4	CCTGCTGTTCTGCTTAGGGGCTTGGCT
54672	TIMELESS	AAGTCAGAGTTGGAAGGGTCAT
54673	SLC21A2	CTTACCTCACCTCCCTCCATTTA
54674	SCNN1A	CTATAACATCTGCTGGAGTGTT
54675	RAD51L3	CCACTTCTGGGAGGTCAGCAGAG
54676	CORO1C	ATCTGTATTTGTTTCTTTA
54677	ZNF264	TACCTGTAATCCTAGCACTTTG
54678	GPR35	GCAGAGTGGGGGCAGTGCCTTG

54679	SCNN1G	TCTCACTATGTTGCCCAGGC
54680	PDAP1	AGAGGGGCTATCATCTGGGAGCCTG
54681	NCOA6	GCGGGGTTTCGCCATGTTGCC
54682	GGA3	GCTTGTCCCAGCCACTCTAGCTGCT
54683	CCNF	GACTCTGCTCCTGCATGGAAAG
54684	ACVR1	TATACTCTAAAATGGACATTTTC
54685	SPOCK	AAGACCCTTTTTGATTACCCA
54686	CGA	AGCTTGTTCCACTGCAAATAAAGCCT
54687	HPS1	CCAGAATGGACCCAGGGACAAG
54688	TEM8	GGCTACATAATCACTCCATGCGG
54689	STK11	GGGCGTGGGAGGAGGGAGGCGGCCTCCA
54690	FZD4	GGCCTGGAAGGAACCTCTTAAA
54691	FGF5	CTGTCACCAGGCTGGAGTGCAGT
54691	RHD	CTGTCACCAGGCTGGAGTGCAGT
54692	CHRNA4	GGCAGGGCAGGCAGAGCTCAGC
54693	DKC1	GACTTCTCTGTTTGAGTTGGGA
54694	CD36	TATCTTTAATTCTGGGAGAAA
54695	NOX4	CACAACTGTAACCGCTGCCCCG
54696	TGFA	AGACCCTAGCTTTAAGAGAAGCTGTAT
54697	ZNF265	GCTTCATTTAAAACCATTTCAG
54698	SLC2A1	AGAGGGCCTGTGGGAGCCTG
54699	ELAVL3	AAAGAATGCAGAGATGTGCCCCCACCC
54700	TLR3	TCACAATTACATCTCTTCTAGGAAA
54701	SHANK2	ACATAGTTTATTTTTACACTG
54702	PRCC	CTGGCCTGGCCCCCAGCTTC
54703	NFYC	GCATTAAAAACTGTGCTAGTCTC
54704	SET	TCAATTTGCCATTGGTTTCTGA
54705	TFE3	AGAGTTATCAAGAGACACTCCC
54706	PABPN1	CATTTTCAGCAACATCCCA
54707	ARAF1	TCTCTGCCCTGATGCTGCCTCA
54708	CIAS1	CAAAGTGCTGGGATTACAGGC
54708	EIF2S3	CAAAGTGCTGGGATTACAGGC
54708	SLC14A2	CAAAGTGCTGGGATTACAGGC
54709	TNFAIP2	TAAAGTGCTGGGATTATAGGC
54710	CCND2	CCATGCGGGTCCATAACAGCCA
54711	DHFR	CTAAGGCAGGCAGATCACTTGA
54712	ARHGEF6	CCATCCACAGGAAATGGACTA
54713	PPP2R1B	TTTGCCTCCACGAGCCTGC
54714	SSTR3	ACTCACCCTCTCTGTGCTGTC
54715	TNFRSF8	CCCTGACCCAGAGCCTAGGGG
54716	TEM7	CGTGCCTGTACTCCCAGCACTT
54717	ARNT	GGGGTGGGGGAGAAAAAATCACT
54718	SYP	GTGGAGAGGGGACTTGGATAGGAGC
54719	EXTL1	GCTGGGTCCCACCTGGCCTCCTCCTGCC
54720	EPS15	ACTGTGAGCTTTTGCCTGCCTGTG
54721	ATP8B2	ACACCCAGCTCAGGGA
54722	ADRB1	CCAGGGGAACGAGGAGATCTGTGT
54723	PTGFRN	GCCATGATTTTGTCACTGACAT
54724	PTCH	CATTGTGATGGATGCTGGAAC
54725	SEPN1	CACCCAGGCTGGAGTGCTATG

54726	TNFRSF10B	CTCCCAGGCTGGAGTGCAATG
54727	CNP	TCCCAAGCTGGAGTGCAGTGGT
54728	FUT9	TTGTTGTGATTTTCAGCACCTGG
54729	KLF8	GTGAACAAACATACGCTGCTTTA
54730	RASGRP1	CCCAGCATACTTTGTGAACCTGGCT
54731	ENC1	CCCAGCCTGTAGGGAACTTTCTGGAC
54732	FGF20	AGTCAAACCACAACCATTCTTTCTTGTC
54733	AMD1	TTGGTGCCATAATTTCTCCTTTCAC
54734	CLECSF5	AAAAGAGATGCCTTTTGTGTTT
54735	ATP2A2	TTGCTACCTCAGTCAGTATTGTTTTGG
54736	YWHAG	TGTCCTCCTCCTTCTCCGGC
54737	THY1	GGGAGAGACTTGGATGAGGAGTGGTTG
54738	EIF1AY	GTGTGTAGTTTCTGAAAGCAAAC
54739	CRI1	CCGCTATCTTTTGGGTTCATTCCA
54740	NCOA6	CAGGCTGGAGTGCAGTCGTGCC
54741	SURF5	CACTGGCCGCCTCTCCTTGCCAG
54742	PIK4CB	TTTGCTTTTTCCCTGCCTGTCTTG
54743	OPTN	GGGGTCAGGGTTTGAGACCA
54744	HS2ST1	TTTCAGATGGAAAACTTACA
54745	CSNK2B	AACCCTGTATGGTTTTTAGTTTA
54746	ITPR3	TGGCTCCAGGTGGCCTGGTG
54747	NTRK2	GAGGTGGATTCATGTCCAGAGCTCA
54748	ACE	CTGGGCTTTGTCATGTCTCTGG
54749	SLC38A2	ATTGTCCCAAAAGTACCTG
54750	ABCD2	GACACTCAGACTTGCCCTAAT
54751	PTPRCAP	CACAGCCGCTCACTCCCCGTGCCTCTG
54752	UQCRFS1	TTTCAGTCTTTATGTCACCTCA
54753	FAT	CAGATACATGAACATGTCTTACATGGG
54754	HDAC4	GCCCTCACTGGCCTTGTGACGG
54755	SMURF1	GGCTGTATCCAGCCTTTCCTTGCAT
54756	SCN4A	GGCAGTCTCCCCTTCCTGGCA
54757	ZHX1	TACAGGTGTCAGATCAGAATTTTTAA
54758	TAGLN2	GGGGTGAGGGGATGGAGAGGGAG
54759	OPCML	AGACCCAGCATACAAACAAGAGCT
54760	SLC2A3	CCTTCCTCACTTCCATACAG
54761	CHRNA10	CTGGCCAGGAGGCCTCACATCCAG
54762	TCTA	CTTCCATCTGGCTGCCTTTG
54763	NPTX2	CTGGGGCAGTGTCTGTCACTGGC
54764	KCNK4	TGCACACACATTGGCGGGTGGGGTGCA
54765	PKLR	CCAACAGCACCAATTGTACATTCTCTG
54766	SEL1L	CTTGCAGAGACACGTACCACA
54767	TEM8	CAAGTGAGAAGGGGAGCAG
54768	NIF3L1	AAATGTTCATTATAAACTCTA
54769	SLIT2	GGCTCTACTGCCTTGTTCCA
54770	PCDHB11	TGCACTCCCCTCAGCCTCC
54771	ACVR1	ACACTATACTCTAAAATGGACA
54772	PDE4A	CCACAGGCAAGGGGGTTGCAGTG
54773	LANCL1	GTGGCTCTCTTTTCATCTTTGATGT
54774	C8orf1	GTAATATATTTCTGTGGCATCAAATTTTA
54775	CHEK2	CGAGTGGGGTCAGGTGCCTGCAGCGC

54776	SULT1A2	CTGACATCTGGGCCCCGCGCCAC
54777	TNFSF15	GGGGAGGCAGAGGTTGCGGTGA
54778	ANXA8	CAATGCCAACCTTAGTGTTTC
54779	DSC3	GGGCCCCCTTCTTTCGGCTTTC
54780	ATP8B2	GGCTGGCCAGTCACTGAGGGAA
54781	KCNQ1	GCACAGCCTGCACTTGGGGGCTCA
54782	RAB38	CTCTTTGGAATCGTGAACACAGGTGTGCTAT
54783	NOX1	ACGGTAATCTGCATTTTGTCTCTTT
54784	MPP2	AGGAGGTTCCTCACACACAAC
54785	KCNK5	GGAGGTGGGAGTGAGGAGATGAGGGC
54786	LEP	CTGGCCCTGGCTGACCCCAAAGAG
54787	SFRP1	GGGCAGCCTGTGCCTGCCTTTGTG
54788	MTL5	GGGCCCAGGGAGTTTACTCAGAGCTC
54789	CYP1A1	GTGAAGGGAAGAGACAGCCCAG
54790	MEL	CACAGCCGTCACATGGTCCTC
54791	GPR44	TTTATTATGTTTTCTCTCCATCA
54792	TAF4	AGCAGTTTCTGCATTATTTGTGCATTT
54793	ZNF75	GTACATGTTACACTTCACAAAA
54794	PDE4D	AGCAGATAAAATCTACTCCAA
54795	DMD	TGGTGAGTAAAAGCTGCAGATA
54796	NPY2R	GTTTACTTAACAGTTGGTTGGGTAGT
54797	KIT	AACATCATTAGAACAAAGGACA
54798	YES1	GTTATGGCTTCACATTCATTGCAGTG
54799	CTSS	GGTCTCAAACTCCTGACCTCAGGTGAT
54799	DFFB	GGTCTCAAACTCCTGACCTCAGGTGAT
54799	MAK	GGTCTCAAACTCCTGACCTCAGGTGAT
54799	MEFV	GGTCTCAAACTCCTGACCTCAGGTGAT
54799	MLANA	GGTCTCAAACTCCTGACCTCAGGTGAT
54799	NDRG3	GGTCTCAAACTCCTGACCTCAGGTGAT
54799	NQO1	GGTCTCAAACTCCTGACCTCAGGTGAT
54799	SCML2	GGTCTCAAACTCCTGACCTCAGGTGAT
54799	SPN	GGTCTCAAACTCCTGACCTCAGGTGAT
54800	SLC12A6	GTTCAATGTTGACACTGTGAG
54801	GYPA	GTGAAAAATTAACATGTGGA
54802	FLT4	TGGATAATATCCAGCCTCCCA
54803	BDKRB2	CTGGAGGGCTAGAACCTGGAAGGG
54804	KCNK5	GCCCGCTGGCCCCAGGACCTGCACT
54805	PLSCR1	TTTGCAAATGCCATATATTCAAA
54806	STK24	ACACACACAGTCTTCACTGTGCT
54807	NEDD4	AAAGCATTTGAAGAAATAGTACGACAA
54808	SLIT3	AGCATGAAGGAAATGAAGCTGGAG
54809	AHR	CCCGAGTTGCTGGGATTGCGGG
54810	ITK	TGTGGCATCAGTCCCTGAGTCACCAT
54811	DGKB	TTCTGAGCAGTCTTGTAATATT
54812	HOXA4	CTTACCTCCTCTTCCCCCATTAAGGCA
54813	GPC1	TTCTGCCTTTTAATTTTGTATGAGG
54814	DOCK1	CCAGAGTTGGGGGCCTCTGAGT
54815	KCNH5	CCAGATTGTGGATTGGCCTGTA
54816	IQGAP1	CCCCAACAAACTCATGGCGTT
54817	ATP1A2	GCGAGCCTGGCCAACATGGTGA

54818	TRPM6	CTGCAACCTCTGCCTCCCGGGC
54819	ZNF74	CTGCAACCTCTGCTTCCCGGGT
54820	COIL	GATCAGATCCCTCCTTCAGCTGT
54821	CRY1	ATGGTAAAGTTAAAATGACAAA
54822	FCMD	TCAGCAGGGTGCATGATGCCA
54823	HD	TGCATTCACAAGGTGACTGGGA
54824	MTR	CGCCCAGGCTGGAGTGCAGG
54825	AGR2	TGCCCAGCCCCTCCTGATTTCTTTG
54826	SGT	CACTCCCTTTTTGTAACTCCC
54827	CREBL2	GATTGTATTTTTGCACCTTA
54828	DGKI	CCAGGAGGCGGAGCTGGCAGTG
54829	MAP3K12	TTCTCAGGTGGCAATGTAACTC
54830	GAB2	CCCACTACCTCCTCCAACAAAGGAGT
54831	SCN3A	CCACTTTCTGCTGCAGTATTG
54832	TCF3	GCTGCTCTCCCTTGGAACC
54833	BRCA1	ACTGTCTCAAAACAAAACA
54834	WASF3	CCCTGAAAAGCCTCATGTCTG
54835	POLB	CACAACCCAATAGGAGTCT
54836	GALNT1	CACAAAGTTTCTCATATCCTGTT
54837	AQP4	GGAACGGAAGAAACCTAT
54838	P2RY6	TTGGAAGGCGGAGTTCAGGCT
54839	SGCD	TGCCGGGAGTGTTGAGTGAAGGG
54840	MADH4	CACATTCTTATTAATTCTTCA
54841	TRPM7	ACCATTTTCAAGAGGGACGGTATT
54842	HLA-DQA1	ATTTATCATATCCCTTTTCTCCT
54843	DGKQ	TCTGCTCCCGCCAGCCTTGTTTTC
54844	SLC25A1	TACTGTGAACCCTGTGCCTGTGT
54845	GYG2	CCTGGTTGAGAAGCAACGAGGGCT
54846	CD83	GAAATGCTGGGCTGACGGTGCAGTCTG
54847	OAS3	CAATCAGCAATTGAAAGCT
54848	IRF2	GACGAGATAATGTGAACTAGCTGGAAT
54849	PCOLN3	CATCCTCACTCAGCTGCTGCCTC
54850	OGN	GCACAGACATGAACATCTATTG
54851	ARHGEF12	CCAGCTTTTATGACGCACCTGAA
54852	BLAME	CCCAGCCAACAGGACGTTCTTG
54853	GPR30	CCCGCCAACCCTGCCTGCCGC
54854	DMGDH	TCAGCAGTCAACTGA
54855	SCA1	CCCTCTGCCTCACTCTCTTGCT
54856	SURF6	ATCTGAAAAGAATACATACTCTTTCCA
54857	TAF11	AACTCCTGGCTTCAAGCAGTC
54858	MADD	CACTCTGTGAGGAGTGAGGGAA
54859	MAPK1	ACTAGCACTGTTCTGTCCTCA
54860	OAS2	CTTCCCTTGATGGTCC
54861	PKNOX1	CCTCAGGTGATCTGCCTGCCTCA
54862	ZNF264	GTAGGTTTGCCAAGTCTTT
54863	ALDH1B1	GGAGATGGAACATAGATTAGT
54864	JUN	AGCCGGCCCCGGGAGGAGAG
54865	BTEB1	GCAGTTTCCTCTCCCAGCGCCTCG
54866	EGLN2	GGGGATGAAGACACTGCTGCCAT
54867	CCND2	TGGCAGGATAAGAAAAATAGGTCAGA

54868	NPAS2	GCAGCCGCCCCGATATGCCCCG
54869	TEM8	TCAGACGGGTATGCAGAAGGAT
54870	GCNT2	CTTGCAGAATGGTCACCTCACCCACTT
54871	KCNN3	GCTGGGAGGGAGGGTTGTGTCAGGCTT
54872	ACK1	CGGGCTGTCAGGAAACCTACCTGAAC
54873	SIAT1	AAACCAATGCTCTATATTGCT
54874	PPP1R11	CCGGTCCTTTTGCCATACAC
54875	GLUL	TGCTTGTTTGCTTCAACTGTC
54876	PPT1	AAAGAACCGTGTTGGTGCTGCTA
54877	PRCC	ATTTTTCTTAACAAGTTAGAAAATTC
54878	GAS7	GGGACCACCCTGGGCCTCCTTTCT
54879	PTPRE	CTCAGCCATGAGCAACAGGAGTAGCT
54880	SMAC	TCACACCCAAAGCATTTTGCCTACC
54881	GABPB1	TTTGAAAGCTCAGTGTCTGTGCTATGACTTG
54882	PLA2R1	CAGCACAGATGCCATTAGAATGTGAA
54883	EIF2C1	GCTCCATCCTTCCTCTGTGCA
54884	GRIA3	TAAGGGGAGGGGGTGTAAGAGCCAG
54885	SLC13A1	ACTGCAAGCTCCGCCTCCCAGG
54886	BCL2	GCACAGAAGATGGGAACACTGGTG
54887	ASK	GCCACAGGATCCCAGCACTTTGG
54888	SLC14A2	CACTGCACTCCAGCCTGGGCAACGGAT
54889	CNR1	CACTATATACATCACGTTAAAGTA
54890	PAG	AGACAACCCTGGGTAGCCTGT
54891	PCDHA9	GCCCAGGCTGGAGTGCAGTGGTGCC
54892	DCK	GCTTCCTTCTGTCATTCCCCTCTT
54893	SLC16A2	GGAGCTGGGGGAGGCAGTGGCGGCT
54894	EIF2C1	AGCAGCAGCAGCAGCAGCACAATT
54895	CABC1	GCAAGAATGAAGATGAAGCC
54896	CSRP2	CTCCCTGGACCCTCCCTCCA
54897	MCC	CCCCAGTTCAAGACTTAGCTC
54898	LANCL1	TCCTGCAGGTAGCAGTCTC
54899	ITGA11	TCCCGAAGAATGAACCCAAGAGCAAGGGC
54900	PLD2	TTAACTCCCTCCACCAGCCT
54901	CDH17	TGTCGCCCAGGCTGGAGTACAG
54902	SNX15	TGTCGCCCAGACTGGAGTGCAG
54903	FGFR1	CACAAGGTCTGGAGACCCCGGGTGGC
54904	SRGAP2	CCAAATCTTTGCACCTAGTAGA
54905	ASK	CACTGTATTCCAGACTGGGTGA
54906	KCNK3	TCTCCGACTGTGCCTGCTTGC
54907	COX15	GGCTAATTTTGTATTTTTAGT
54907	LNK	GGCTAATTTTGTATTTTTAGT
54907	NF2	GGCTAATTTTGTATTTTTAGT
54907	PKNOX1	GGCTAATTTTGTATTTTTAGT
54907	PPEF2	GGCTAATTTTGTATTTTTAGT
54907	RAB36	GGCTAATTTTGTATTTTTAGT
54907	SIL	GGCTAATTTTGTATTTTTAGT
54907	TRPM6	GGCTAATTTTGTATTTTTAGT
54908	FKBP1A	GGCCTCCTCCCTTAGCTCCCTGTTC
54909	FLT1	CCAATCATTTGCCATTTATGACA
54910	MSH3	CACTGCACTCCAGCTTGGGCAACAGAG

54911	TRIM14	CACTGCACTCCAGCCTGGGCAATAGAG
54912	LETM1	ATGCCTTCTCCATTACTTGA
54913	LHX4	CATCCTCCTTTTTAACTTCTCTCCTCC
54914	GALNT7	TTTGGCCATCAAAATCCAG
54915	CBFA2T2	TGGAGCTTCCCTCACAGACCCCATCTG
54916	CSF1R	TGCAGCCCTGCACCTGCCTGCC
54917	NCOA6	TAGAGTGCTGGGATTACAGGT
54918	AF3P21	TGTCCTCCCTTCCCTGCAGCTCCAGT
54919	DUOX2	ACATTTCCATCACCCCAGA
54920	T	GTTTCATATTTTTCTTTTGAC
54921	PLA2G4C	CCAATGCCTTCCACTGCTCC
54922	SFRS1	AAACACTTGCAAACATTTTATTCAG
54923	ST5	CCCACCCCCAGCTCTGCCAGTGCTCTC
54924	CD74	CCACACAGCTACAGCTTTCT
54925	VDR	CTCTCATTCCCCAGGTGGCTGACCCA
54926	TCF1	GCAGACCCTGCCCTTGTTTGGGGCAG
54927	NDUFS1	CCATTGCACTGCAGCCTGGGTG
54928	FGF5	TTCTGCCAAGATTCAAGCAGTCG
54929	SLC22A7	CAGGCCCAAGGGACAAAAAGAACAGA
54930	RBP3	TTCCAATAACCACCTAA
54931	AQP6	GCCCTTGGGCTTCCTGCCTT
54932	UNC119	CCATGAGGGGCCAAGACACTGCCT
54933	B7H2	CTGTTTGCAGGGGACACGGTCA
54934	TPI1	GTGCCTCTGTGCTGTGTATGTG
54935	SCA1	CAGCACTTTGACTGCTCTGGAGTAGG
54936	PMX1	CACGAAGTTTTCATTAAAGCCACA
54937	LFNG	GAGTAACAGCAGCCACCGCC
54938	TOX	CTTAAAAAGGTTACTTCTTGG
54939	ASB1	TTCTGCCTTGTTCCAGAAA
54940	RAB7L1	CGCTTGAGACTGGGAGGCAGAG
54941	SEPN1	GCCAGCCTGGTCCCATGGAAAATGATG
54942	REN	CTGTCTCTTAAAGGGCCCCGGGCCG
54943	CPD	ATCTCAAGTGCTTCAGTCTTT
54944	TCIRG1	CTAGGCCCACTGCAGGTCCTGCCAG
54945	SOX2	AAACAGCATGGAGAAAACCCG
54946	MAFF	AGCGCCGCCTCTGTGCCCAG
54947	PDGFB	CCTCCAGGCAGGCCAGGCTGCCTCGG
54948	TMEPAI	CCTTGTCACTGTCTCCCTGCCTG
54949	MCM6	CAGGCTTCAGCACTTCCTTTGGTGTG
54950	DGCR6	GAGAGTGAGGCTGGGGGTTCT
54951	STK18	AATGTAAACCATGTATCTG
54952	TGM4	TCCTACCTTGTGCTTAGCTTTCAG
54953	WHSC1	CATTAGACTTAAATTTTAATTCTTCA
54954	DLEC1	TCTCAGCCCTTCAGTTTGGTCTGC
54955	ZNF264	TGTCATCTGCAAATACAGAC
54956	ALDH1B1	ATGATTACACCTGTAAAGTAA
54957	DMD	TATGGGACTGTTTACAAATGAGTGA
54958	SH3BP2	AGCTCAGTTGCCCAGACTGGAG
54959	SLC4A4	TTCTCTCTTGCATAGATACA
54960	HM13	ACAGAGGCATCAGCATCGA

54961	CD2AP	ATATTTCTCATTATCTTGTCACTTA
54962	PTPN1	GGGAATGGAAGGCTTTGCCATG
54963	HLCS	CTAGCTGGTGTGGTTGCAGTGA
54964	OPHN1	CTTCAAACCTTTGTGTGCGGAGTCA
54965	FXYD2	GTCAGAGACCGCTGCTTCCCTC
54966	SPAG1	ACTAGATTTTAAAAAGCTACTTTC
54967	MTR	GGGCTTTTAAATAAATAGATGT
54968	P2RX7	CCAACATGGTGAAACCGTATCT
54969	ZNF236	AATTGCAGAAGCACAAGCCA
54970	CLCN4	TATGAACACACGTGAAGTGTTG
54971	SDHD	AGACAGTGTTTAATTTTCGAAAA
54972	RAMP3	TCCTGCACCAGCCCCAGCTCC
54973	KIF5A	TCCTCCCTCCTCTTTCACA
54974	DLG5	CTCTCGTTTCTCCTCCATCTGTGCTTAT
54975	CREB1	CAAATTGACATGTTGTCACA
54976	MNT	GAGGAGGGGGAGGTTGGTTCCT
54977	GGT2	GCATCCAGCTGGCCCGCCAGGG
54978	SLC21A2	CCACCCTGGGCCACTGCCTGCTCC
54979	MAP3K7IP2	TGTAATAGACAACTCCAGATTGA
54980	CD4	AGGGTCCATCTCAGAGAATTTACGAGC
54981	GOLGA4	TTTGAGAATGAAGTTGTCATT
54982	TNFRSF1A	TTCTCAGAATTCTCTGGACTGAGGCT
54983	TCFL4	ATGAGATGTCACCAGGATAAGACCA
54984	SIAT8E	TAGGAACCGGGGCAGAGTCAGCTCTG
54985	MAT1A	TGGACCCCCCTTTCACAGGCAGC
54986	OGT	ATTGCACTTCACTGCAGCTT
54987	KCNQ2	CCCCTCCCTGTGCTGGAGCCTGTC
54988	SDC2	ATTCCTTAAAACCAGAAACTGA
54989	FUT5	GTGTGCAGGGCAGGTCAGGGAAGGGCA
54990	S100A5	GCCCTCCTCTCCCTCCCAGATGGAC
54991	APAF1	TGCAGTATTGCATTCATTACAAA
54992	RAI3	AGCTCGCCTGCTGCCCTCTTGCGCGCGGG
54993	RAG1	CTGTAGGAACTATTTTGAATGCATGTG
54994	FADD	CCAGCACTGTGAAGACCCAGCAGGAAG
54995	NFYA	CTGAGATACATTCTTCCAATCTGTGGT
54996	CLASP2	TAGTGCCATGCGAGTCCTGAAC
54997	TNFSF9	TGCAGCCTCCAGCCTCGACCTCC
54998	BMP8	GCACAGCCACTGCCAACAGATAT
54999	ADCY6	GCTCACTGCAACCTCTGCCACCCGGG
55000	GPLD1	CCAGTGCTGCTGCAGCTCTGA
55001	CBFA2T1	AGGCATCTACCCCTGGCCT
55002	ESR1	AGGGCAGCCTTCCCTGGGCCTTTGC
55003	PCOLN3	TTCCATTTCCTAAAGTTTACT
55004	TRAF5	GATTACAGGCGCCCGTCACCAC
55005	TEP1	ACGCTTGTAATCCCAGCACTTT
55006	VHL	ACGCCTGTAATCTCAGCACTTT
55007	STAT1	GTTCCATTCTCTCTCCTGTACTTT
55008	SCN2B	CCTGTACAGTGACCCTGCCTGCTCGC
55009	EIF2C1	GCAGAACTGCAACCTTTTGTACCTTTC
55010	PRKY	TATGAGGTCACAGGGCCCAG

55011	CELSR2	CTCACCCCACCTAAGGCCATCT
55012	DMN	CCCATGCTCATGGGCCGCG
55013	SHANK2	CACACACGCGCTTTTCCAGTCA
55014	G1P3	CCCAACAACCTAGATGTGAAAACAG
55015	PAWR	ATGATAGATAATGCCTTT
55016	TNFAIP2	CCGTGACAGGTTTCCACAAACTTC
55017	SOX2	GGGAGAGAAGTTTGAGCCCC
55018	SIRT5	GGGCCCAAGTAAATGGAAATGT
55019	EIF2S3	TCTCCCTCTCCCTGTGATGCC
55020	GA	TCTCCTCTTCCTCTCCCTGAAGA
55021	RALBP1	TGCCCACCGGCCCCCGGCAGTGCAGTC
55022	CARKL	GAGCAAGACTCTGTCTCATAAAT
55023	HUNK	AGAGGCAGTTCTGAATCATTCTCTC
55024	ABCC2	AGCACAAAATTCTACAGAAGGCCCCAT
55025	DVL3	ACGTCTGTAATCCCAGCACTTT
55026	FUT3	ACGCCTGTAATTCCAGCACTTT
55026	LILRB1	ACGCCTGTAATTCCAGCACTTT
55026	PCDH11Y	ACGCCTGTAATTCCAGCACTTT
55027	PIR51	GTAAAACTCTTCAAGACTTCA
55028	DCX	TTCCCCAAGGTCACACAGCTGGCTGGGG
55029	CCNT2	CCTGCTGTTGCTGCCACTGCTTC
55030	MECP2	CAGCCTGCCTTGCCCACTCCTGCTCTG
55031	COL3A1	TGAATCCTAGCCCATCTGCAGA
55032	CHIC2	TCGGGCTGTTGCTGTGGTTT
55033	PDCD2	CCAAAAATAGAGGTGCAGAG
55034	DCTN1	AGCCCTAGGACAGTGTATTCAAGAGTT
55035	MAN2A2	CTGCAACCGTTTCCGCCTCCTGCTAG
55036	MPP2	TGGTCAGTAGGCACACTGCCCCTGCC
55037	AP3B1	CCAGCACCGCGGCAATGTCCA
55038	OAS3	ATATTAAAACATACTATGAAGCCTCT
55039	DFFB	GGCTCACTGCAACCTCCGCCTCTCA
55040	IL24	CAAGAAGAATTGAGGCTGCTTG
55041	CDH1	GTCTTGCTATGTTGCCCAAGC
55042	CD209	AAAGGAGGAGACAAGCAGAGGTCT
55043	COL19A1	CACAGCAATCAGGACTCACAGCTCTTC
55044	SCN4A	CTGGGACTGTGCCTGGCTCCCTGATG
55045	C18orf1	TCTGCAGGGCTGCTCAGTTCACAGGAGGC
55046	AP1G1	ATCTTATCTATTACTCCAA
55047	SIRT2	GGAGAAGCAGACATGGACTTCC
55048	CCNF	GCTCACTGAGCTGCTGCTT
55049	PTGIS	GCCCAGCCTGCCCCAGCCTGCCCCAGC
55050	PUM1	CCAACCAGCAACCAGAAATGTTCTAGTG
55051	NUP62	CATCCCAGCTGGAGTTCAACCTTCAT
55052	BMPR1B	CAGAGAAGCTCCCAGAAGGAGAGAT
55053	BCAS1	ACTCCCACAGGGGCTCAGCAGGA
55054	NCF1	CCGTCTGGGCTGGAGCGCAGT
55055	TNFSF11	GGGAGGGAGCGGGAGAGGGAGGAGA
55056	CLN2	ATCTTCCAGAGTAAAATGCAAAT
55057	IL17BR	CACTGCTGCTCCTTTTTTCTAG
55058	C9	ATTTTTTGTTCCCTAATGAGAA

55059	IL7	CTAGCTCCCAGTCGCCAAGCGT
55060	PTPN7	GGCCCAGCACCCCACCTCA
55061	HLCS	GAGCTAGCTGGTGTGGTTGCAGTGAC
55062	CRSP8	TGGCCCCAGCCTCAGACCCCA
55063	RBL1	CAACAAGAGTAAAACTCCATCTC
55064	AKAP2	TTTGGGGCCAATCTACAATGGA
55065	SH3GL1	CACCTCACACGGGACCACAGC
55066	DGUOK	TTTTCCTTTTTGAGCCGCCTGA
55067	FGFR3	TCAGGGTGGTCTCTTCTTGGGGC
55068	MSL3L1	CTGTGGCTGAAGCTGGCGGA
55069	TBX6	CTCAACTTCACACCTTGATTTCA
55070	ZNF137	GCTAGTTAGCTGACACAGATGGTCACCTCCAT
55071	EN2	TCCTCCTCCTCCTCACCA
55072	ICMT	GGGTGAAAGACGAGTAAGGGGCA
55073	PRDX3	TCTTCTTTCTTAGCCTTACTTGAATCT
55074	PPARG	TGTACTACAGAGAGTCCTGAGCC
55075	NEFH	CAATTTTCACTTTTTCTGTCTTTA
55076	HOXC4	GCTGCCTCTACCTGCCTGGTCCAGC
55077	CLU	AGCCTCTCCCCGCTCTGGATCCTG
55078	PRKACA	CTCCCCGCTGCTAATCTCCCCTGGGCC
55079	COL4A6	CACATTATTTGGCTTAAACCA
55080	IL5	AATTCTTAAAATATATTTCA
55081	MLC1	TCAGCACAGCTGTGGTGTCC
55082	GADD45B	TTGGGAGCTGGGGCTGAAGTTGCTCT
55083	DAAM2	GCATCCAACTCCTGGGGCTGGGA
55084	ALK	CTGCTTCTATGTTTCATAGTTGG
55085	ZRF1	AATCTTTGTTGTGTGTGCATTTTTA
55086	ST5	GCAAATATTTGTATATTCCC
55087	UPK1B	CTATTGCACTCCATCCTGGATG
55088	HMGA1	GCCCTCTCTGCTCCTTCACT
55089	BCL7B	TCCAGCATCCCTGCCTCTTGTC
55090	PUM2	AACTGTATCAAAAATAAAAAGCTG
55091	PIGA	AGAGCTTTGGGTGCTGAAGGGCCAAAC
55092	PCDHGA2	ACAGGAGGGAAATGGCGGCTC
55093	SLC13A1	CCAGCTGTTACTGACCTTGTCATTTT
55094	KHK	CTCCCTCTTTGTGTCCATTCC
55095	MHC2TA	TTATGCCCACGCTGGAGTGCAG
55096	MAPRE3	GGGCACCAGCCTGCATATGTGTT
55097	APPBP2	ATCTGATAGACCAGCACTTCTGA
55098	LSS	GGCTGGAGGCAGGGATGGGGACAGG
55099	IL16	TTTAAACCATTATTTCCAAGTTGACA
55100	G2A	TGAGCAAGGGACACGACACTC
55101	PXN	GGCCTGGCGACTGCCCCTGC
55102	FLII	CCCCTCACTCTTCCGCTAGGGAT
55103	NCYM	CACTCTGAGAACCAGCTGCGC
55104	FUT1	AGCCCAGGCCAGAGTGCAGTG
55105	NPR2L	GGCCTCGAGGCTGTCTCTGACAA
55106	FANCC	CTTCCCTTGTGTCTCCCTGGAC
55107	CXCL16	CATCCAGGCTGGAGTGCAGTG
55107	FANCE	CATCCAGGCTGGAGTGCAGTG

55108	GLTSCR1	AGCCTCCCAAGTAGCTAAGACC
55109	OPA1	TTTCTCCTGTTGACAGAGCCA
55110	CKTSF1B1	TGGTTAACCTGTTTTCTTCAAGC
55111	CBFA2T2	AGCTCACTGCAGCCTCGACCTC
55111	JRK	AGCTCACTGCAGCCTCGACCTC
55112	MHC2TA	GGCTCACTGCAGCCTCAACCTC
55112	NCOA6	GGCTCACTGCAGCCTCAACCTC
55113	SULT2A1	ACCATCCTGGCCAACATGATGA
55114	AF3P21	GTGGGAGGGGATAAGGTGGCAGAAGG
55115	STK24	TGGTACTATTTCTTAGTGTTTTA
55116	GAB2	CCTCCTCTGCCCACTCGGGGCC
55117	HS3ST3A1	GCACGACTTTGGCTGGGATGG
55118	FUT3	TCGATGGCTTAGCTTGGGCTCA
55119	SLC25A13	GTCCAGGCTTTTTTATCATGT
55120	ABCB10	GGGCTGAGGCGTACGGGTCGCA
55121	NRAS	CTGTCTGACCAGAGAATGCACCTC
55122	FOXI1	AAATACTGGTGCCTGCAGA
55123	FCMD	TGTCCTAATTTGCATTCTCAA
55124	TK1	GGACTTGGATCCCAGGGGCTTA
55125	ADAMTS4	AGCCTCCCGAGTAGCTGAGATT
55125	EIF2S3	AGCCTCCCGAGTAGCTGAGATT
55125	SEDL	AGCCTCCCGAGTAGCTGAGATT
55126	PIK3CG	AAGCTGGCATTTCAGAAGTAT
55127	CAPZA1	TCTAGCTAAATGGAAGACAC
55128	FAAH	CCTGGAGCGTCCCTGCCTAGAG
55129	GOT1	TTGAGCCATTCTATTGTGTTC
55130	IL6R	GGGCCAGAGGGAGAGGAGCCGA
55131	HOXD10	CTAGAGATGTCAGCCTACAAAG
55132	RNF6	TTTAGTTTTAAAATCTAAAAG
55133	TRPM2	GCCAGGATGCAGGCATCCACAT
55134	SYNGR1	CCTACTTCTCCCTTGCTCCCAAAGCTT
55135	FXYD1	TTCCAATAAAACGTGCGTTCCTCTCGA
55136	ATP8B2	TTTTGGTTCTCTCTCGTTTTTTA
55137	OCA2	TGCTTTCTGAATATAGACTTT
55138	SEL1L	CATGCAAATATTTTTCATCAGTCAT
55139	CYP2B6	CGAACTCCTGAACTCAAGTGAT
55140	MPHOSPH6	CAGGTCATTGTCAGTTTATGG
55141	CUL3	TTGGATTTCATTTCCCCAGGT
55142	CLTC	ATGCTAGTATGTTTTGCTCAC
55143	PRKCB1	GGGCCTGGAGCTTGGCTTGTA
55144	IL18R1	GGGCCTTTCACTTTGGATGCTCTG
55145	IPP	CCAGGAGGTCAGGGCTGCAGTG
55146	ST7	TTTGTTTTTACAAAATAATA
55147	HDGF	GTCTTCTCCCTGGAATGAGTTGAGGC
55148	MKI67	CCCAGCCTCTCTTGGGC
55149	CCND2	TTTTGCCCTCTCCTTAGCT
55150	EN2	GGCCCTGGGAAGCAGCCC
55151	DPYSL2	CACCAGTTCAGAAGTGCTA
55152	KIFC3	GCCAGGCCCAGGAAGTGAGCCG
55153	ZNF141	GGGCTTCATCTCTCTGCGTTCTCAGT

55154	RRM2B	ATTGAAATATTACAGATGGAAA
55155	FVT1	GAACAGGATTCCAGAATGATCAT
55156	FCRH1	CCCATCATTCAGTCCAAGTGCTTTCTCTGC
55157	TTF2	CCAGGAGGTTGAGGCTGCAGT
55158	DHCR24	AGAGAAACCCCTCCAGAACTCCC
55159	KCNK6	AGGCTGAGGTGGAAGGATCACT
55160	GALNT7	ATGCCTGTAATTCCAGCACTTT
55161	ATM	GCTCACTGCATCCTCAACCTCC
55162	TTC3	AAGAATTGCTGTGAAGATTA
55163	MLC1	CGTCCCGGGCACTGTCATGCCCAGCT
55164	RAI3	GGTCATCTGAGCTCACGCTGGCTCACA
55165	DNAJB9	TCTTAATCATCTTTAA
55166	NEBL	TCTGTAACATAGGCAGCTGC
55167	RAP1B	CCACCAATGTTGTACATGTAT
55168	ECM2	AGACATAATCCTCCTGTTATACTCA
55169	AKAP2	GCCACTTAGAGAGCAGTAGGG
55170	ADAM19	CCGCACTTTCCTGGTGCCCCA
55171	MMP15	TGGGGCTGCGGGGGTTCCGTG
55172	RRM2B	TGTTTCATTGTATCACATAGAAATATG
55173	CAPN3	TGCTGCTGGTAGGAGACCCCCAA
55174	TIMP3	CCCTCTCTTCCCTATCATGGGTCATCT
55175	IL11	GTTGCCTAGGCTGGAGTGCAGT
55176	NR2E3	GTCTCAGTTCAACAGCATACAGCCAAC
55177	KCNJ12	CTCAGAGGCTATCACAGGCTCA
55178	SH3BP2	CGCCCAGGCTGGAGTGCAATGCCGTGA
55179	TRIM9	ATGACCTGTTCCCATTTGGAGTACAGT
55180	FABP2	TCACTCAGGCTGGAATGTAGT
55181	ITPR2	TTGCCCAAAAGGCTGGAGAGGGCAGGGAGC
55182	CKM	TCTCCCTGGCAGGGTCCTC
55183	XPNPEP2	AGGAAAACTGAGCTTCAGACA
55184	PODXL	AGCCTCGTGTACCCATCTTCCCA
55185	CHS1	ATCTAAAGAGAAAATATGCAGA
55186	EPB41L2	GCTTTGTATTAAACCTCTTTGTCT
55187	SPAG9	AGGCCCCCAATCATCAGAAGGA
55188	STUB1	CTCTCAGCATCGCTTTTGCT
55189	FMR2	CCCTGGAAGCCTAGGTTTTAAGCA
55190	MST1R	GCTGCCTCTGGGCCATGCCAGGC
55191	ABCD2	GTGGAAGAGAAACGCTGCAGA
55192	MECP2	GAGAGGGGAGAGCTGAACAGATGACCC
55193	PSG5	AAACTATTCATGAGTATTCA
55193	PSG9	AAACTATTCATGAGTATTCA
55194	CARD10	GGACCGTGCCTCACAGGGCCCACTCCCT
55195	DPYSL2	TGCACTTAGAGGAAATTTGAA
55196	LTB4R	GGGTAACCACATGGGCAAGCAC
55197	VCAM1	TTCATCAGACTCCTGTGC
55198	RGR	TTATTTCTCATCCCTCACCCCCTCCC
55199	SLC5A1	ATTGATGTCTGACGTGAGTCTGTCT
55200	SORCS1	ACTACCTGAATTCTACCTGCATTTCAA
55201	HIP1	TGTCCAACATGGTGAAACCCCCATCTC
55202	TNFSF5	CGGACAGTTATTCATTCTCTT

55203	SLC13A3	GTACAGTTGGGATAGGAGGCCA
55204	SLC20A1	GCTTTTAGCCCTCCTGAGCC
55205	RIG	CCTTTCAGAAGGCCGTGAAGCA
55206	BAZ2A	AAAGTGCTTGTCAGTTGTTGA
55207	IL2RB	CAGTCCCAGCTAACTCTGA
55208	MAGEB4	TAGTTTCAGAATCTAAGTTTA
55209	TCOF1	GTCTTCCTCTCGTCAGTTCTTT
55210	C18orf1	AGGAGAGAGGAAAAACACAGGCA
55211	CHC1	AGTAACTCTTATTTGGAGAGAA
55212	TNFSF11	GCAAAGTATTGTAAATTATATTTGT
55213	ADRA2B	CCTTCCACTTTTCCCAGTGGGG
55214	MAPK1	TCTTCCTTCCTCCTCCCGGTCA
55215	CRAT	AGGGGCCAGGGTGTGAGGTTTCACCTC
55216	IRAK1	TGCACGAGTCCTCAGCACTCTG
55217	PRKY	TGTAGGAGAGATTGCCTGA
55218	ZNF207	GGACTTCATGTCCCCAACCTAGCTTGGT
55219	AMN	CCCTCCTGGTACCAAGCTGCTGGGTGC
55220	MAP3K9	GACTCTCTGAATGCTGCTCCA
55221	GAB2	GCTACTTCCAAAAAGCATCCTTCA
55222	CSH2	CGGCAGCCGCCGGACTGGGCAGATCCT
55223	TMSB4Y	TTTGCAGAAAAGCCGTGGCTACA
55224	SLC6A4	ATCAAGTCTGTGAAAGTCTC
55225	PFN2	ACAAACCTTTATTCATAGTGTCTACA
55226	PLAU	CCTGTGACCAGCACTGTCTCAG
55227	GP2	TGGGGCTCTCGGCTGGGCGCAG
55228	EHHADH	GGAGGCTGAGGCAGGAGGATTGTTTGA
55229	PODXL	ACAGGAGGCCAGAAACCACAAGTAT
55230	CST	TGTCATCCAGAGCTGGAGTGCAG
55231	PRDM2	CCTGTTTCCCACCCAGCTAAAAACCGT
55232	KCNK5	CAGGGAGCTGCAAGAGTGAGGCT
55233	ASB2	CCTCCATCCTCATTCCTGCCTGA
55234	PLA2G2D	TCTGATCTCCCCCAACTAGACTGGAGC
55235	PTK2	CCTTTTTGTCTTACCTGCCTTTT
55236	TCF12	CTGTCATTTGGATGGCTGGTC
55237	ADAMTS3	ATTACAGCTACTGACAATATAAAGG
55238	PLAGL1	GAAGATGTTTTAAGAAGCATTTTA
55239	CAPS	CACAACACAGCTAACACAAGGC
55240	MAB21L1	AGGAAGGGAAAAGCAGCAGCAGCAGC
55241	IGFBP3	CGAGGCACAGCTTCGCGCC
55242	IRTA2	CAGCCCAGTGCAGCCTTGCA
55243	PFN2	CAGTGTCTTTTCAGCACTTTG
55244	CD5L	GCCAAGCGGAAGTGGAA
55245	MAFF	TCCAGCCATGGTTTTCAGGGGGACAG
55246	MYO15A	GCTGGGCCTCCCTTCCCCATAACA
55247	S100A10	GTATTGTTTGCATCCCCTTGCCCTCA
55248	SLC26A3	TTTTGACAGAATATGTTTCA
55249	DMC1	AGGAGGCAGAGATTGCGGTGA
55250	RGR	GCTGCAAAAGACATGATCTCGTTCTT
55251	SULT2A1	CACGGGGTCAGGAGATCGAGAC
55252	CIAS1	AGGAATAGTGAAGAGTTTGTCCAATG

55253	SH3BP2	CGCCCAGGCTAGAGTGGATTGGCGTG
55254	NCAM1	ATGATTTTAAGACAAAACA
55255	SMP1	AACTGGAGAAGATCTTAGAGG
55256	TRPM8	TCCTGTAATCCCAGCTACTCAGA
55257	HIP1	TCCAGCCTGAGTGACAGAGCG
55258	CSE1L	ATTGCCCAGGCTGGAGTGCAGT
55259	SPTLC1	TTGCCTAGGGACGTGTAACTACAGGCT
55260	HMG20A	AGTGCCCTGTGGAGCAAGGC
55261	SLC13A3	GGCTGGAAGTGGTGTCTGCCTTC
55262	PCTK1	GCCTTTCAGAGACAGGGACACAGCCC
55263	PTGES	TCCCAAACCTAATGATCATCTG
55264	ORC3L	ACATTGCTAACCCCAAACAGGCA
55265	IL5RA	GCCGTACAGGGTAGCACCTCCTCA
55266	PDE4A	CGGGACTCCCCAAGCCCAGCC
55267	ACVR1B	GCCTGTAATCGTAGCGCTTTGA
55268	ACPT	CAACCTTGCCGGGCTGTTTCCCG
55269	PPP1R11	GGAGGATCCTGGCTACCACTCTGAA
55270	LZTS1	AGAGGAGTGCAGCCTTCTCCATAT
55271	FRK	AAGTTGCCTGGTGAAGGAA
55272	MYCL2	GCCCAGGCTGGAGGTTAATGGC
55273	MAN1A2	ACATTTGACATAAGATGAGAAC
55274	CDR1	GAAGACATGGATTTCCTGGAAGAC
55275	SCA1	CACCCACGCTGGTTTCTGTGCAGTG
55276	MECP2	CAGAGCCCTGCTCCCTCCGGGTC
55277	GZMM	TCCCCTCCAGGGGTGCAGTG
55278	DDX38	GACTTGGCTGTGGCTGTCTTT
55279	TRPC6	TTGAAGCCATATTATTTTCTG
55280	AQP4	GCTGCACTCTGGCTGGGGAAGGCATG
55281	CHST6	GCAAAACTCGGAAGTGAA
55282	AICDA	ACGCCTGTAATCCCAGCACTTT
55282	ATM	ACGCCTGTAATCCCAGCACTTT
55282	BRCA1	ACGCCTGTAATCCCAGCACTTT
55282	COG7	ACGCCTGTAATCCCAGCACTTT
55282	CREB1	ACGCCTGTAATCCCAGCACTTT
55282	DBT	ACGCCTGTAATCCCAGCACTTT
55282	EGFL5	ACGCCTGTAATCCCAGCACTTT
55282	F2R	ACGCCTGTAATCCCAGCACTTT
55282	F2RL3	ACGCCTGTAATCCCAGCACTTT
55282	FGFR1	ACGCCTGTAATCCCAGCACTTT
55282	FKRP	ACGCCTGTAATCCCAGCACTTT
55282	GNE	ACGCCTGTAATCCCAGCACTTT
55282	HIP1	ACGCCTGTAATCCCAGCACTTT
55282	IL10	ACGCCTGTAATCCCAGCACTTT
55282	IRAK1	ACGCCTGTAATCCCAGCACTTT
55282	ITGAL	ACGCCTGTAATCCCAGCACTTT
55282	KAI1	ACGCCTGTAATCCCAGCACTTT
55282	LAMP2	ACGCCTGTAATCCCAGCACTTT
55282	LDLR	ACGCCTGTAATCCCAGCACTTT
55282	LEP	ACGCCTGTAATCCCAGCACTTT
55282	MOG	ACGCCTGTAATCCCAGCACTTT

55282	NT5C2	ACGCCTGTAATCCCAGCACTTT
55282	PCDH11X	ACGCCTGTAATCCCAGCACTTT
55282	RAB3B	ACGCCTGTAATCCCAGCACTTT
55282	RBBP5	ACGCCTGTAATCCCAGCACTTT
55282	SCN2B	ACGCCTGTAATCCCAGCACTTT
55282	SLC14A1	ACGCCTGTAATCCCAGCACTTT
55282	SLC14A2	ACGCCTGTAATCCCAGCACTTT
55282	SLC2A3	ACGCCTGTAATCCCAGCACTTT
55282	SLC2A6	ACGCCTGTAATCCCAGCACTTT
55282	SMG1	ACGCCTGTAATCCCAGCACTTT
55282	STAT3	ACGCCTGTAATCCCAGCACTTT
55282	SWAP70	ACGCCTGTAATCCCAGCACTTT
55282	TCF7	ACGCCTGTAATCCCAGCACTTT
55282	TEM7	ACGCCTGTAATCCCAGCACTTT
55282	TSNAX	ACGCCTGTAATCCCAGCACTTT
55282	USP14	ACGCCTGTAATCCCAGCACTTT
55282	VHL	ACGCCTGTAATCCCAGCACTTT
55282	WIG1	ACGCCTGTAATCCCAGCACTTT
55282	WSX1	ACGCCTGTAATCCCAGCACTTT
55282	ZNF36	ACGCCTGTAATCCCAGCACTTT
55283	CPD	TTTGGAGCTTATGTAATAATGGC
55284	DDX11	GCATTCTCTGTAACCTGTGCG
55285	MPP1	AGCGTTTTTAACTGCAACTTTCTATAATGCCA
55286	RENT1	TCTTTTATTTCTTTTTCTCTTTGA
55287	EXTL3	CTGGGGAAGAGGATGAGCAGAGGG
55288	PXN	ACTCAGGGGGTCTGGAAAGAAGGTCAT
55289	LIMK1	CTTCCCGGGCCTCTCCCCCAAGGCTCC
55290	PACSIN1	GTTCAGCAGAAAGGAGGAATCCTGGCC
55291	DDX19	AGTAGAGAGAAACTACCTACCTCA
55292	CDO1	TCTGAACTGTAATTAGCAAGA
55293	JUP	GGCCTCCAGGGCCCAGGTTC
55294	LANCL1	AAAGGCTGGGATCATATGTAT
55295	LEPR	CGGGCCGTGGCAGGAAGCCGGAA
55296	ETV5	TACAGTGCAGAAAGGCTTGA
55297	ZNF214	TGTATTTTCACTGTCTTCA
55298	ATM	CCGGGTAGCTGGGGCTACAGG
55299	G6PC	TCACTGCAACCTCTTCCTCCTG
55300	LY9	TCAGATGTCTTTGCCCCATTTGTCACCTC
55301	HSPD1	ATATAATGGTTTACTGCTGT
55302	APM1	AGCCTCCCGAGTAGCTGAGACT
55302	NDRG3	AGCCTCCCGAGTAGCTGAGACT
55303	CYP1A2	GGCCTCCCAAGTAGCTGAGACT
55304	TLR1	AGGCCCTCTTCCTTGTTAGAAG
55305	SLA2	AGCCTCCAGAATAGCTGGGATT
55306	TNFRSF1B	CACCTCAGGCCAGGTGCAGTG
55307	MAPK1	GTATGTACTTCAGTGCACCTTA
55308	BMX	TATAGCAGAAGCACATTTTCA
55309	TERT	CGCTGGGAGTCTGAGGCCTGAGTGA
55310	PTER	AGGTATCCAGCCCTGATATTTT
55311	TSSC3	ATCTAATATCTATGTATTTA

55312	OPA1	CTTCTGCTGTTCCACCTTTCT
55313	ABCB4	TCAAGATGGAAGAAATAACAGTA
55314	ACADSB	AGCTCACTGCAGCCTTGACCTC
55315	ADAMTS4	CCTGTTCTGCTTTCCTCTTCCT
55316	COX15	AGCCAAATAAACCTCTTTTCT
55317	GLUL	AATTTTGTATCTTGATGTCTTT
55318	ADAMTS4	GGTCTCGAACTCCTGACCTTAG
55319	CAMLG	GGTCTCGAACTTCTGACCTCAG
55320	IL11	GGTTTCGAACTCCTGACCTCAG
55321	RAD9	TTCCTTCCTGAAGTCCTGGGC
55322	CCND2	GGTGACTGACCCTTGAGCTTAAA
55323	CHST5	CACCTGAGGTCAGGATTCAAAACCAGC
55324	PRKY	GGCGAGGGCGCGCATGGGGAG
55325	VRK1	GCTGTGAACCAGATTTCCT
55326	TR2	CGCAGCCGCCTGCGTTTCGG
55327	PTGER2	TCTCAACAAGAAATAATAGAAATGTCT
55328	MTNR1A	TCAGCTGGCAGAGTTAGCATTG
55329	TCF7	TGTAATCCCAGCACTTTGGCAGGCCG
55330	ASB1	CCCACATTCTGTGACTCTTTGCATCA
55331	SCA1	TTCTAACCTTGTCATTAGAGTT
55332	CENTD2	GGAGCCCCTGTCCACCCTCCCCCAGGGGCCT
55333	NPEPPS	CTGGCAGCTGCCGCCCCCTCC
55334	CR1	CTGCCTCTTTGTGTGCGTCACTGTG
55335	SH3BP2	CACTTCCGGCCTCTCTGCCCTGGCTTATGT
55336	AXUD1	CTGCCTGGCTCCTAGATGGCTCTGC
55337	KCNA7	CCGTCTCAACAAACAAACAAAAAGA
55338	NEUROD1	TTACCTTTCCCATGCTGAATTA
55339	GLDC	AACAAAAGAGGGCGTCTTCT
55340	LAMP2	ACCCAGGTCCAGCGAGCCTTTT
55341	ZNF134	AGGGTCTGAGCTGTATCTGCTGGTGGC
55342	MYEOV	ACTTTTTCCCCACCTTGGACAG
55343	LIMD1	CTAGAAAGAAAACACAAGG
55344	PITPNB	TTGTAACCTCCTGTCCCTCCTAAAAC
55345	FZD4	GTCTCGAACTCCTGACCTCATGA
55346	OPA3	GAGGTGGAGGTTGCGGTGA
55347	GJA4	GCCATCGTCCCCACCTCCACCTGGGCC
55348	CD86	CCTAGCACCTGGCTAGTTTCT
55349	CAPS	TGCCCAGGTGTGGAGCGAGGGGCACA
55350	CNGA3	ATTGCAAATTATGACCTCAAA
55351	PTGIS	ACCACAACCTCCACCTCCTGGGT
55352	SUPT5H	CTTCCTGTACCTCCTCCCCACAGCTTGC
55353	SCML2	TGCAACCTCGCCTCCCTGGTT
55354	PP	GAGCGGCTTCAGCACCGAGGAG
55355	APM1	ACCCAGGCTGGAGTACAGT
55355	PCDHA9	ACCCAGGCTGGAGTACAGT
55355	TRAF5	ACCCAGGCTGGAGTACAGT
55356	HUS1	ACCCAGACTGGAGTGCAGT
55357	CASP10	CAGACTGGAGTGCAGGGGGGCA
55358	MGST1	GACAGGCTTGCTGCTTCCTCCT
55359	SURF5	AGTGTGGAGGCAGGGACAGTCATG

55360	NTRK2	AGGAGTAAAAAGACTACTGGCC
55361	OLIG2	CTGAGTGTTGAGATTTTAAA
55362	AP1M1	TTGAGCTCCCAGGTACCAAAAAG
55363	PACSIN1	CCTGCCTGCACCCACGATGCTGC
55364	SIX6	CATGCAGGCTGGTGGTGATGG
55365	CX3CR1	AATGCTTGGCTTCTCATACGTCCA
55366	PSMD7	CATGAATTGCATTATGTTCTCTGGTAAC
55367	MSX1	TCACCTCTTTGCTCCCTGAGTT
55368	HEM1	CTCTCCTCTCTGAATCTCAAACAAGTT
55369	RNF3	AGCTAAATCACAAAACATCCA
55370	SLC12A2	TTTCTTTCACGATTTCATTAA
55371	CPNE7	GGTGGGTGGAGGGAGGGAGAT
55372	ADD2	TCTAGTGCTTAGCAAAAGGGGTG
55373	MME	CTGCATGTTACCATCTTACT
55374	RBP5	AAGATCCCTCCAGACAGCACCA
55375	IL18	TGGGCAACAACAGCAAAACTCC
55376	STXBP1	AGCACACCATTTGTGCTGCTG
55377	GRAF	ACTGGTTTCCCCATGTCCTCCCATTCA
55378	SMARCC1	ATTTTTGCTCTCTTGCAGTTTTTTGCT
55379	RAD52	TAAGAAGATACACTGCAGCT
55380	MMP25	CCATGCGCCACGTCCTGGGTG
55381	TCL1B	GCCTGGTGTCTCCTCATGCCC
55382	GRIN2A	AGCAAATCAGTGTGTTCGTGATGACTG
55383	SPARC	TTAAGGCCTTTTCCACACGC
55384	PTGER1	ACCCCTGGCGCCTGACATGAGC
55385	CYP2B6	GAACTCCTGAACTCAAGTGATT
55386	ALS2	TGGTGATGGAGTGTTCCCACTG
55387	LGMN	CCACTGCCACCACGGTCGCCTGCCAC
55388	COL19A1	TTCCATTCCAAAACATGTGTTTATT
55389	TDG	CTGGCCCTTACCTGACAGAGCCC
55390	RBBP2	TTGAGCTCTAGGGTGGCTGGTT
55391	TRAF1	GAGCAATGTATAACCCCAAAGAAA
55392	LZTFL1	TGCCCTTTTGGAGCTTTTGTT
55393	LGALS3BP	GTGGCTGGAAGCGAGGAGGCTCCA
55394	CDR2	CTCAAAGCTCTAGCCTTTAG
55395	SHANK2	CCCCTCTTTCTCCTGCACTTGGCTT
55396	KCNK3	AAACCCAGCAGTCCCTAAAGCT
55397	RAD1	CATGTAAATAAATGTTTTCCTG
55398	CBFA2T2	GTTAGGAACTGCCTCCCACATTCT
55399	SLC9A1	AGTCCCAGCTCCTCAGTCACTTTCCTCAG
55400	PTEN	GTCTTCTCCCCATTCCGCTGCCG
55401	MYH9	TCTCACTGCCTTTGTTT
55402	RARS	TTGGCACTGTTTGCTTTTTTACA
55403	DLG4	TTAGTAAAGCCTCTGAGACCTTCC
55404	EPB41L2	CAGCATTCCAGAACAGGAGGGAA
55405	GHR	TCGCCAGGCTAGAGTGCGGTG
55406	DLEC1	CCTGGAGCTGCTCTCCTATCAGAAGCT
55407	ZNF180	GAGCAGCTCGGCCCTTCAAACTTAACCCC
55408	ABCD2	TCTGGAAATGAAACAAGTTATA
55409	COL4A1	GCTTCATTGACCTCTACTTGCTGAAGGAG

55410	MS4A1	TGAGATTTGAGGCCTTGGAGACTCAG
55411	BYSL	CGGGCCATCATGCAGAGGTGGTTGTGG
55412	LIPA	TTATTTTTAATACACCTGCTTCA
55413	B7H2	GGCTGTGATCCTGGAATGAGGCC
55414	REQ	GGTCACCCTCCTGGTTCTGC
55415	GPR84	ACTGTGACCCTAGTCACCAGAA
55416	NCOA6	GCCACTGCGCCTGGCCTGTTGC
55417	CRTAP	ATTTCTCCAGCCTCACAATGGTC
55418	KCNAB2	TCCTTTTCTGCTCCAACCTGCCCCA
55419	TEM8	GCCTGGAGTTACGCACACTGAG
55420	GPR30	CCCAAACCACCACAGGTGCTCCTCCT
55421	ZNF8	TCATTAAAATGAAAGTAATTT
55422	ST7	CGGCAGCAGAGAGGAGCGCTGA
55423	EGLN2	AGGTACTTCAGAACCTCAGAGC
55424	RRAS	CACTGTGTGCCTTCTGCCA
55425	P53AIP1	TGGGGAGGGAAGGCTGGGGTG
55426	SLC38A3	CCATAGCTGGGGCCAGCAGGTT
55427	DBY	TCAGAAATTGGTTTGAAGATGTAAT
55428	FUT8	ACAGAAGTCTATTCACCTGTGCACT
55429	HSPA4	GTTACAGGCTCTAAAGTGCAATG
55430	EGFL3	GCGCGCCCGCCCGGAACCCAGAA
55431	GNRHR	AACATTGTACCTGCTTTGGCTGCT
55432	CHRNA3	CGTACTTTCTGTTATCAAGCTA
55433	CACNG7	GTCCCATTCTTTCTCACCGGCTGG
55434	ABCB1	GAGCAGTCATCTGTGGTGAGGCTG
55435	FBXL11	ACGTCCTCAGAGGGAG
55436	CD22	ATACCTGCCCTGACATGCACACCTCC
55437	VHL	ATCACAAAATGTAATTTAATG
55438	TCTE1L	TGCTTTAGTTACAACCATCTGT
55439	ITCH	GTAGTCATTTCCATTCTTTACATTGTC
55440	RASAL1	CCAGCCTGGCCCTGAGCTGCTGGATAC
55441	FHIT	GGGAGAGAAAGAGAAAGAAGG
55442	UBE2A	CAGTATGGGACAAGGCTTGTAAA
55443	CAPS	GGAGAAACGCTCTCCCCACCCACGCC
55444	ADORA2A	CACCCACACACCACTCTCCCTAGACTC
55445	SLC5A1	CAGCCATCTGTACCTACTGGAG
55446	GCA	AAGGCATTGTTTTTTCCTTT
55447	PROC	GGGCTTTTGCATGGCAATGGAT
55448	DRPLA	GCCGTCCCGAGCTACCAGCAGGTT
55449	KAL1	CTTTGCAGAGATTTGCCTT
55450	COL18A1	GCCGTGCTCGCCCCAGCAGGTGCTGAC
55451	CARP	ATACAAGACTCCTTCAGCCAACATG
55452	EDN1	GGAAGGAGATTCCACACAGGGGTGG
55453	VHL	CTCAGCCTCCCAAAATGGTGGG
55454	KLKB1	CAAGTCAAATTCTGAGCCTGGGG
55455	GABPB1	GAAAGAATACAATCTTGAACTGTA
55456	FCMD	GGCTCACACCTGTAATACCAGCAG
55457	ESPN	GGGACCCCACCTCTGGCCCCAC
55458	F2RL3	GTGAGACAATAAACTCTCATTG
55459	DTX1	GGGCCAAGGACTTTAGAGCTGTTT

55460	CORO1C	TGCCAGGCTGGAGGCGGCAGCGGTTGGAG
55461	ZNF264	AGAAATGTCATCTGCAAATACAGACCA
55462	XRCC2	ACAACAACGAGATACCATCTCA
55463	CRY1	CCCGGGTGAGGCAATTCTCTTGGA
55464	XRCC5	CCCCATACAAGTTTATA
55465	ADCY6	GATTACAGGCGCCCGCCACCAC
55465	CIAS1	GATTACAGGCGCCCGCCACCAC
55465	ZNF264	GATTACAGGCGCCCGCCACCAC
55466	IFNAR2	GATTACAGGCGCCTGCCACCAT
55466	MEF2A	GATTACAGGCGCCTGCCACCAT
55466	VHL	GATTACAGGCGCCTGCCACCAT
55467	CTF1	ACTGCAGCCTCAACCTCCTGGG
55467	MHC2TA	ACTGCAGCCTCAACCTCCTGGG
55467	NCOA6	ACTGCAGCCTCAACCTCCTGGG
55468	SIAT8E	CCTGGCCTGGCCCCCACCGGTGC
55469	TYRO3	TTGCCCAGGAGCAAGTGAGGCCGGAG
55470	VDAC1	CAGAGTATGAAATAGCTTCCAGGAGCTC
55471	TACC1	GGCAACATGGTGAAACCTTGTCTCT
55472	TNFAIP1	TGACTTTCCCACAGAGACTGGA
55473	IMMT	TTTCCATTTGCTATCATGTCA
55474	PTGS1	CTTCCCTTCTAACCC
55475	B3GAT1	CCCCCTGTACCTCAGGCTGTGGCGG
55476	FPGS	GGACGAAGAGCAGGCCAGC
55477	LDB3	ACATGCCCAAACTCTGGGTGGGGAAGA
55478	KCNH2	GAGGAAGAAATGCTAGCCTGGAAGCTC
55479	N33	TACTATTTTGAATTCATTCATT
55480	GLP1R	TAGGATGTAAAACACATCA
55481	CD3G	GGAGAAGAAAGGCCATCAGAGCA
55482	PRKWNK3	TGCAACCTCCCCCTCCTGGGTT
55483	RAD50	TCTAAGTCAGTACCCACCACCTT
55484	PBP	TTGTGCTGTTTGCTTGTAGTTGA
55485	STX7	TCCCCAAAATTTAATTTTTGA
55486	RET	TTTATTTGTAAATGTCTGACT
55487	SRGAP2	GGGAATTGCGAGCTTGGGAATTA
55488	MEIS1	GCCCGGGGTGGTCCAATGGGTGTG
55489	INPP5B	AGGCGGGCGGATCATGAGGTCA
55489	UBE2G2	AGGCGGGCGGATCATGAGGTCA
55490	PKHD1	CTCTCCAGGAGATTTCAATCCAGGCTA
55491	LIPE	AGAAGGATAGAACCTGGAAGAT
55492	BARHL1	GGGAGAGAAGGGGAGTGCGGAGCCCC
55493	ACCN2	CAGATCTTTCCTCTTGTCTGTGGTAA
55494	TIMM44	AGCCCCGGCCTGGGTCAATCAAGGCA
55495	AHSG	CACCATTTTGTCCAAGCCTGGG
55496	PRND	TCTTAGAGGTAGGTGTATTCC
55497	GFRA2	AAGTCAGAGAGAAACGGTCCT
55498	TCF20	GGAGGGACTGTCGCTGTGATCAG
55499	FMN2	TGTGAGACATTAAAAAATGGCCCAGGG
55500	RNH	AGTGCTTGGCAGGTGCTCAGGGA
55501	PPP3R1	CTGCACATCATGGGCTCTGTCTG
55502	DLG4	TTCTACCCCTTTTTCTGCAATTCTCA

55503	TDGF1	CTGTTGTAGAAGACAAAATGTTCACA
55504	IPP	GAGGTCAGGGCTGCAGTGAGCCG
55505	UGT2B15	AGGATAGCATTTGGAGATATAC
55506	TRPV3	ACTTGGCAAACAGCTGGT
55507	LANGERIN	TGCCTTCATGAATTCACCT
55508	TNFAIP1	GTGTTGGCTGGCATGCCCATCAGCT
55509	ZNF147	TGACCTACTCCCCATTGTTCTG
55510	HOXC11	CTGTGGCCAGGGCTGGCCCCCACCGCTGT
55511	GFAP	CCTGTGTAGCTGGGATTATAGAT
55512	MPP2	CCCTGCTCCCCACAGGGCC
55513	SLC22A3	GAAGGGAGAGCACAAGACTAAC
55514	PCDH1	TACCCCTGGGGCCATGGTGGGAT
55515	TXN	TACAGCCGCTCGTCAGACTCCAG
55516	COL6A3	TCTAACAAATGATCTAGTTCAGA
55517	CRP	ATGATGTTATAAAAAACTCATAAGGCA
55518	LMNA	GGGAGGAGGGAGAGGGAGGTCACTGGA
55519	TNFRSF10B	TCTATTATTGTTTTAAGACCTCAGTAACC
55520	PSG4	GACATGTGAGCCACTCAGA
55521	MGEA5	GCAGTTATTCTGCTTTTTGTAA
55522	EGLN2	AGTGAGGCCTCGGCAGGGAGTGGG
55523	CRMP1	CCAACTTGTTGTGGCTCTTATTTCTGA
55524	SLC6A3	GCTCCAGGGACTGGAGTGTAATGC
55525	PGR	CCCGAAACCCCCTCCTCCTTC
55526	CTSK	TCTTCCACGATGGTGCAGTG
55527	ANGPT1	GGGGGAAAGAGTCAAACAAACAAGCA
55528	RRM2B	TACTACTGTTAGCACCACTACTAAT
55529	HAS3	GGGTTCTTAGCTTGTCTGTGAT
55530	PA2G4	CCAGCTTGCTGCTCCTGCCTCA
55531	SPAG1	GACTGGGTCAAAGTGAAGGAA
55532	HESX1	TATACACGTGGGGCAGAGCCAGCAG
55533	FZD4	CCAGGCTGGGGCGCAATG
55534	P2RY6	CCTCATCTGCTGCCTCTCCAGACTTC
55535	CSNK2A1	TGACTGCCAGATCTCCAAA
55536	IL2RB	GCGTCAGTGCTGGAGGGAG
55537	EIF2B1	GCTTAAGAAAATGCCTTC
55538	SIM1	CAGCCAGCTCATTTGGTTCAG
55539	GPM6A	ATTTTGTCTGAAGATCAGTGGCCA
55540	XYLB	CCCACCCCATACCTTGATCTACCA
55541	PLAGL1	GCACTTGCTCCCTGGGCAACTCCTT
55542	CRH	GGGAGAGAGGGAGAGAGCCTATACCCC
55543	RNF26	AAGACTCCACTTCCGTCTTACCCACTT
55544	ID4	GAGGGAGGGGGAAGAGCAGAAGT
55545	PARK2	AGCACAGATTCAAGTGCAATCC
55546	LDLR	ACTTTCTCAGTTCAGAGTTGTACACT
55547	ERBB4	TCTGAACTCCATTTTGGA
55548	CACNA1S	GGCAGGGTGGTCAGGAACCACCTCA
55549	JJAZ1	TTGTTTGCACAAAAAGTTGGTGA
55550	ED1	AGAGAGGGAAGATGACCTGCCCCA
55551	PRKR	CCTGAGTAGCTGGATTACAGG
55552	RAB30	GCACTAGGCACTCCATGATCTGCAGAGCATG

55553	DCX	GTGTACACTGCTCCTGTGGCCTT
55554	CNTNAP2	TTAAACAGATTACACAAAAA
55555	P53AIP1	GCCTCGGAGCACCAGTCACTTACTCC
55556	UBE2G2	CACAAGGTCAGGAAATTGAGAC
55557	C5R1	CTCTGTCTCAAAAGCAAAGCAAAAACA
55558	CYB561	AGGCTGAGGCAGGAGAATGGTG
55558	FUT6	AGGCTGAGGCAGGAGAATGGTG
55558	KAI1	AGGCTGAGGCAGGAGAATGGTG
55558	LDLR	AGGCTGAGGCAGGAGAATGGTG
55559	MCL1	GGAGGCAGGTGGTCTAAGT
55560	WHSC1	GGCTTCCATCTCAGCACTCTGTGG
55561	PITPN	TCTGACTTGGAAAGTTGGAGA
55562	TACC1	TTAGCTTTTGACTTTGCCAAAG
55563	MPZ	AACAACCAAACAAAAAGCAGGA
55564	SLBP	AGCCTCGGCCCTGCGCTGCG
55565	PRKY	TGCCTGCAATCCCAGCACTTTG
55566	PPP1R12B	CTGGAAGGTAGACTATGGCATAAGTG
55567	ZNF264	CCGCCCTTCAGCCCCGCGGTCTCCA
55568	FUT8	AGAATGAGAATGGACGTTTGG
55569	UBE3A	GATCAAGGTAGCAGCTAGACTGGTGTG
55570	CORO2B	ACCTCTAACCTCCTGACCTCA
55571	ST3GALVI	CTGTCTGTTGCTGCCTG
55572	RAD17	CCCCAGCCCAGTCCCTCCCGGC
55573	AGR2	GCCCCTGGACTATGGTGCTGTATATAA
55574	BF	TGGGATTGAATTAAAACAGCTGC
55575	ADM	CATGAAAGAGAAAGACTGA
55576	SLC1A1	TTTAGAAATTCTATAAGAGACA
55577	MEF2A	TCTCGAACTCTGGACCTCAGATC
55578	KIF3B	GCACCTTGCTGGCACGGTGCCTCA
55579	TTC3	CTTGTGCATTGTGTGTCACA
55580	ARHGDIB	AGAGGCACCCCGGACAGAGA
55581	LMO2	TGAAAAGAAGATATTTTTCAA
55582	DHFR	GGAACCCAAAGCAGATTGCAAGACTGA
55583	LILRA3	CATCCACAGAGCAGTGCAGTG
55584	INMT	AGTGCAATGGCACGATCTC
55584	PMCHL1	AGTGCAATGGCACGATCTC
55584	PTGIS	AGTGCAATGGCACGATCTC
55584	SLA2	AGTGCAATGGCACGATCTC
55584	SLC15A1	AGTGCAATGGCACGATCTC
55585	STAT1	TTCTCATCTGTGATTCCCTCCTGCTA
55586	BCLG	TGTCATCAGACAGAGAAAGTA
55587	KPNA3	AGAACAACAGCAACAAAAGGCTCCA
55588	BACE	GGGCTCCGGATCCCAGCCTCT
55589	CAST	CAAGTTAAGGTATCTGGTATCTGCA
55590	ALPP	GCCTCCTGTCGTCCTGCCTGGCCTCCAGC
55591	ARCN1	AGCCTCCGAGTAGCTGGGACT
55592	GPR35	CCTCTGAGCCCTCCCTGCTAAG
55593	LDLR	CTGTGATCCCAGCTACTTGG
55593	NPHP1	CTGTGATCCCAGCTACTTGG
55593	USP14	CTGTGATCCCAGCTACTTGG

55594	XT3	ACTGTTCTTTCTCTATACTTTGTCTCT
55595	APPL	CCATCATCTCCATAGGTCAGATC
55596	BRCA1	GACAGAATGAATGTAGAAAAGGCTGA
55597	CHC1L	TCAGCACAGTGCCTTGTGTA
55598	A1BG	TCCCAGTCCAGGGTGGTAGTGCT
55599	KCNK6	TCTCTCTGGCTCTCTGGCA
55600	AGTR1	GTTCTGTCCAGTTTCCAAAGGG
55601	GDF2	GGGGAGTAGAGGGAAGGAGCAGGCCGCG
55602	ADAMTS3	AACCAAAAAGGCTAGAAACCAGAGGA
55603	TBX5	TGAGGCTGAGTGTGTTTAAGTACGTG
55604	FGF2	CAGTTCCTTTGTTTCTTGAG
55605	PRKCA	CTCTCTCTTACAACCAAGAACA
55606	OLFM1	GCAACGTTCTTCTGTTATTCCCTTGAG
55607	PRKY	ACTCAGTAGCTCAGGTTCTCTGGAGCCA
55608	PPARGC1	TCAACTTGAAGCAAGCTTTCTCTCATA
55609	KLHL3	TTCGTTGAAAGAAAACTGAAGACA
55610	TCF3	TCTGAACTCTGGCTGAGA
55611	PAX4	TTGCCTGGCCCTGCCTCGATGC
55612	MFAP3	GAGATCTAAATTTCCACACC
55613	VHL	TGGCATGCATCTTTAATTCC
55614	BIN1	AGACCCCCAGGCAGAGGGGC
55615	GNAT1	TGGGGACAGAGTCCAGCTCCC
55616	EHD3	GCCTCCCAGGACAGGCTGG
55617	KCNH5	TAAGGCTGGGGAGGCCCGAAG
55618	COPS3	GCGGCAGCCTTTTCCCGC
55619	CRY1	CTCATTCCCCTCCGGTTCTCCT
55620	PLA2G4C	ACTGCACTTCTAGCCAGTAGCTCTGC
55621	IRF6	CTCTTCAGATCCCTGTGGACACACTG
55622	GNAI1	TTTTCTTTTGATTATTCATGAT
55623	KCNB1	CTGTCCATCACCTCCTGGATGGAT
55624	DDX3	GAAGTGTCCAGATTCTCAGA
55625	CASP7	TCCCAATGTTTGACAAACACAGCCAAG
55626	MYO6	TTCCTAGTGTCTTTTTTGGCCTT
55627	SUV39H2	TACCACTGCACTGCAGCCTGAGTGACA
55628	PTAFR	CATGAACATCATGGACTGAGCTG
55629	CLN6	CATTCCTGGGGGCTGGAGGGTGGGGTG
55630	BRF2	CCTACTTCTTGCTGCCTC
55631	RBBP9	TAGGATTGTTGAACTTTGCTGCCA
55632	SLC22A5	CAACGTTGTCTTTTCTCTCAAAGCTGT
55633	AICDA	TGCATGGTCACCTTCAAGCTACTTTAA
55634	RCV1	TCCTCCTAAGCCACCAGCATCTC
55635	MMP19	AAGACCGTAGATCTCAGGCCT
55636	BCL11B	TCTTCCTATTTGAGTCTCTTGAGA
55637	LAMP2	AAAGAACATCAACGTGCAATG
55638	SIM2	CACTGTCAATGGACTGCACCTTG
55639	KIF1B	GCCTGTAATTCCAGCTGCTTGGG
55640	B4GALT2	CACTCCACCTCTCTGTGCCTCA
55641	BCL2L2	GGGAGGTGGTAGGCTGCATGTGCCAC
55642	SIAT8E	CCGGGGCAGAGTCAGCTCTGTGCT
55643	FLI1	AGGGAAGACAAAACTGG

55644	IL1A	CCTTTCTCCCAATCTCCATTCCC
55645	MYO1A	CGTGGCGCATGGCTTGGGGA
55646	CDKN2D	TTCTGTTGGAAGCTTGTTTTCC
55647	BGN	TGATGGGGAGGCAGAGCCAG
55648	PIGN	TCAAGGCTTCAATAAGAAGATGGA
55649	GYPB	TGGCCTGCATGCTGCCTGTA
55650	IGF1	GTCCCCCAGGCTGGAGTGCAGT
55650	LZTS1	GTCCCCCAGGCTGGAGTGCAGT
55650	RPP30	GTCCCCCAGGCTGGAGTGCAGT
55651	PDE6B	GTCACCCAGGCTGGAGTGCCGT
55652	MGAT1	ACCCCCACTTAGCCCTTCTCTCC
55653	SSTR1	GGTTAAGAACTGTGAAATTTACAA
55654	SLC38A2	TGTCCCCAAACAATTTGGTTCATTCAG
55655	M17S2	TTGATGGGTGGGACCTGTC
55656	FBXL11	AGGAGGAAGAGGAAGGCAGCCCTGG
55657	RBM8A	TGGCTCAGGCTGGGAGGGACTTCAGT
55658	DFFB	CTGTCGCTCAGGCTGGAGTGCAGT
55659	MGEA5	CTGGTTATGAATATTAAGGTTGGAA
55660	RNTRE	GCAGGAGAAGTTGCAGCTTACTGA
55661	TFAP4	CGGGACCTGGCTCGTGCAGAGGAG
55662	MTA1L1	CGGCTGAGGCAGCGGAGGTGCC
55663	PRKR	ATTCAGTTTGCCTTCCTGGATTT
55664	EMP3	CTCGGGAGGGTGAAAGGAGG
55665	ANKTM1	GAGCACTTTTTCGCTGCCTGTG
55666	CD28	TCAAGATCATTTTGAGACTCTGAA
55667	ANK3	TAGACACCTTTCAGTAAGCCA
55668	PTK2	CTGTGTCACCCAGGCTGCCAGGC
55669	ALDH1A2	ATGTGGGAAGTGTTAGCTTC
55670	PTGIS	TCCTGGACCTGAAGGCATCTGAG
55671	GPR17	GCGGGGACTCAGCACAGCTCTGG
55672	STK19	TGCTCATCATTGCTCAGCTCCT
55673	NEURL	GCCGAACCTCCTGGGGCCGGA
55674	SIGLEC5	AGCAATTCACTGCATCCCTCTGTGCCT
55675	ATF2	ATGGAAACTTGAGAAAGGACTGCTTA
55676	SPTBN1	AAGAAGGAGCTGATGTGGAGGAGCAGC
55677	MCM6	CTTGCCTTGATGTCTGAGCTTTCCAGT
55678	DVL3	AAGGACACAGGAGCCCACAGGCCAGT
55679	FUT5	CCTGCCTGGGGCCTCACCTGCTGG
55680	ITCH	GCTCATACCTGTAATCCTAGCA
55681	KRT4	CCAAGCCCTGCTGCTCCAGGACA
55682	DCK	ATGAGACACACTTAACTACTT
55683	HHLA1	CTTCCTGGCTCATCCTGGCTCAAAA
55684	SQLE	CCTATACAACTTGGCTTCACATACTTTT
55685	CASP10	ATTCCTGGAACTGTATTTTGAA
55686	GPRK7	TTGCACTCCAGGCTGGGCAGCAAGAGCAAG
55687	TRPS1	CTGCTTCTGTGCTGTATGCCA
55688	PCDH11X	TATCTTGTATGTGCACATT
55688	PCDH11Y	TATCTTGTATGTGCACATT
55689	ZNF141	TTCATCTCTCTGCGTTCTCAG
55690	HIS1	AGGACTAGCTAAAGGCGTCAC

55691	CD209	GTGAGAGTCCTGAGTCCCTCAGTG
55692	CD3Z	ATGGGAAGGTGGGCGGGCAGGGGAGGG
55693	DLG5	GGCAGAGTGGGACTGAGATG
55694	CTSS	GGTCTCAAACTCCTGACCTCAG
55694	DFFB	GGTCTCAAACTCCTGACCTCAG
55694	DISC1	GGTCTCAAACTCCTGACCTCAG
55694	MAK	GGTCTCAAACTCCTGACCTCAG
55694	MEFV	GGTCTCAAACTCCTGACCTCAG
55694	MLANA	GGTCTCAAACTCCTGACCTCAG
55694	NDRG3	GGTCTCAAACTCCTGACCTCAG
55694	NQO1	GGTCTCAAACTCCTGACCTCAG
55694	SCML2	GGTCTCAAACTCCTGACCTCAG
55694	SPN	GGTCTCAAACTCCTGACCTCAG
55694	TAT	GGTCTCAAACTCCTGACCTCAG
55694	TES	GGTCTCAAACTCCTGACCTCAG
55694	TRPM6	GGTCTCAAACTCCTGACCTCAG
55695	DDX9	TGTTATCTCCCTCCTGGCCTTTGTAGC
55696	TNFRSF10B	GAGCCCTGTTTGGGCTCAGGAGA
55697	GARP	GGCTCCAAACTTCCTTTCTGTGCCTCA
55698	AHR	CACTGCACTCCAGCCTGGCAATAGACC
55699	NDRG1	ACTCTCCTCCCCTCCCTCAG
55700	ADH4	TAGGACACGGAACTCCCT
55701	ICOS	CATGTGTAATGCTGGATGTGTACA
55702	STAU2	TGATCATGTATTTATAAATATTTTA
55703	CXCL1	CCTCCTCGCCAGCTCTTCCGCT
55704	CHRNB4	GGCATGGCTCCAATCCATTCTTTG
55705	CDH1	GCTTCTGCTCATTACTACACT
55706	HCFC1	TTCTCTTTCTCTCTGTTTTTA
55707	PCNA	CCTCCTTCCCGCCTGCCTGTA
55708	ZNF24	TCCAAATAATGAACTACCTG
55709	CCR2	TGCAACTTGTAAATGTGGTAAA
55710	BLAME	CACTTAAGGAGCTAAACTTACCT
55711	NUP98	TACTATGTGCAGGAACCCTTGG
55712	CYBB	GCCTGAAGGGTTCTGCACATT
55713	TMEPAI	GCTTGAAATCTTGCTGTACTAT
55714	BAK1	GCCCTGCGTGGGGGCCAGT
55715	DSC3	TTTTCTCTCAAATGAAAATT
55716	HMGA2	CAACAGCAGCCCTCGCAGCCCGCCAG
55717	CORO1C	AGCAGATGGCAAAGATAGCAGCCTGA
55718	SIGLEC11	AGTGGTGCAATCTCGGCTCACT
55719	FDFT1	TGCAAACTGCCTTTTCCACACAAA
55720	PPP3CB	AAGGATGAATTAGCATGGTCTTAAA
55721	NF2	TCTCGAACTCCCGACCTCAGGTGATCTG
55721	PKNOX1	TCTCGAACTCCCGACCTCAGGTGATCTG
55722	ZNF140	CCAGAGATTAGCCCCGCATTCCGCATCTGTC
55723	CHRNB4	TTTCGAACTCCTGACCTCAGA
55724	GLUD1	GGCTGACTTCCTCACTATCCTCTTCA
55725	GOT2	GCCCTGCTGCACTCCGGCCGCG
55726	SFRS2IP	TTATGATTTTTTCCCTCT
55727	MNT	TCCAGGAGCATAGAAGCCACA

55728	CHST5	CCAACATAGTGAAACCCCCTCT
55729	TRIM14	GGAGGCGGAGATTGCAGTGAG
55730	CA12	GGAGGCGGAGGTTGCAGTAAG
55731	UCP2	TCTCCAGTTTTTCTCCATCTCC
55732	ALX3	ACTCTGGGCTGGAGGCAGGG
55733	MTNR1B	TGGTGGTGTCTTGGGGA
55734	HMOX2	TCATGCCACACCGGTACCCT
55735	SLC1A5	GACAAATACCTGCTGTCACT
55736	TGFA	CTGACCCATGGGGCCTGCCTGTG
55737	CTSS	ACATTTAGCTTGTTCACACTTTG
55738	TRIM14	ACAGCTAGTGGTGGAGCTGGAG
55739	CMAR	GCCAAGGCTGGAGTGCAGGCCG
55740	SCN3A	TTGTAACTACACCAAACAC
55741	CETN1	TGACTCTCTGGGTTGCCTGCTTC
55742	HOXB9	CCTGTTCATCTGTGCACCACTT
55743	PCTK3	CTGTATCCCCCAGGTCTCCT
55744	PEX3	ATGGAAATGGTGAATTCCAA
55745	RORB	ACTGTGCATGTATGTAATA
55746	BYSL	TGGGGGGTCAGGAAAAACATGCG
55747	WASF3	CTGCCTGGTGTTAGGTCTCTGC
55748	SELP	CCTTAGATTAGCTCTGGACCA
55749	DSG2	GTACCTGATTTTTCATGAGCC
55750	CRYZL1	CACTGCCTTTTCCTCAAGGGA
55751	ANGPT4	CTCTCCCTCCCCCTTCAGGGGCT
55752	DTR	CAAACCTGGTTCATATTTATAC
55753	HMGA1	TGCTCCTTAGAGAAGGGAAGATGAGT
55754	SIGLEC8	CTCTGCCTCCCAGGTTCAAGCAATTC
55755	CELSR3	CAGCTTTTCTGTCTCCTGGG
55756	PVRL2	GGACTTCTCCCGTCTCTAGGG
55757	CR1	CGTCCGCCTCCCGGGTTGACACCAT
55758	TCF20	GCGTTTTAGCCAGTCTGGACA
55759	HSF4	GCACATCCTTCTTGGCTTCC
55760	DCN	AGGCCACTATCATCCTCC
55761	WBSCR1	GGTGATGGCAGGGCCAGG
55762	COL1A1	TTTCCACCCTCTCTCCACCTGCC
55763	TNFSF9	CAACCAGGCTAGAATGCAGCG
55764	MMP19	GCTATAATCCTAGCACTTTGG
55765	SLC21A3	TATTCTATTTAGGAATCGTTCTT
55766	DLEU2	ATTAGGAAGTGGTAGAAACTTTA
55767	PAX5	CTGCCATGGACACTTCACCCACCC
55768	IFIT4	CCAGCTTTTCGGAACAGCAGAG
55769	RAB6A	TCTTTGAGGTCAAAATTCAGC
55770	WTAP	CTCAGTTTTTATGAACTGTTGTAT
55771	GPR4	ATCTTGAACTCCTGGGCTCAAGAGAT
55772	IL12RB2	AAATGTTCTACCTCTGCACTC
55773	MAPK14	GTTCTGTTGATCCCACTTCACT
55774	CELSR3	TTTCAGCTTTTCTGTCTCCTGGGGGGTTT
55775	ADCY7	TCTCAGACACATGCACCAGA
55776	OAS1	CCAACAGCAGTCCAAGCTCAGTCA
55777	KCNH1	GTGCGGGCCCCGAGGCCAGTTT

55778	G6PC	GGCTCACTGCAACCTCTTCCT
55779	CLOCK	TACCAGCCAGCAGGAGGTGATCA
55780	CBFA2T2	CATCTGCCTCCTTAAGCCACA
55781	TCIRG1	CCCGGGCTGGCGGGAGTGCAGT
55782	TRPC5	TCATGCCATTTTCCCGCAGAGCT
55783	NTE	CTCCCCCAATAAACTCGCCTCTT
55784	GNPI	GTTTGAAGCTACTGCTGCCTCC
55785	MHC2TA	CTCAAGTGATTCTCCTGCCTCAG
55786	NPAS2	TAAACCCCTGGCTTTTGTGCACA
55787	HCN4	ACTCGGAGCGGGACTAGGATCCTCCC
55788	ADCY7	GCTGTGCATGTTGGCTTCTTTGGA
55789	ARNT	GCTAAGCTTTACAGTGGCAAA
55790	NCOA6	GGTCTCAAACTCCTGACCTCAAGTGAT
55791	STARD4	AACTAGAACAAATACAGTCTTAG
55792	SLC30A3	GAACATCCTTTCCCTGCAGTCC
55793	GGT2	AACCTGACAACCATGTGTACACCAGGG
55794	CRTAP	GGCTAATTTTGTATTTTTAAG
55795	OPA3	CCATGAGGTGGAGGTTGCGGTG
55796	AQP6	GGGAGCTATAGGGACCTCAGGGA
55797	ZNF146	AGGAACAGACAAAAATAGATGACATG
55798	DISC1	CCAAAGTGCTGAGATTACAGGT
55798	DSCR3	CCAAAGTGCTGAGATTACAGGT
55798	PTPN18	CCAAAGTGCTGAGATTACAGGT
55799	FZD4	CCAAAGTGCTGGGATTACAAGT
55800	SH3GL3	CCAGAGTGCTGGGATTACAGGT
55801	PBX1	CCTCTCTCATATCACTGA
55802	SH3BP2	AGTTGCCCAGACTGGAGAGCAG
55803	AP1G1	TCTCCACCCCTCCCACATTTACAGCC
55804	UGT2B15	TTATTCTATGTCAATGATTTTTAAGCT
55805	ZNF83	GCAAGTATAATGAATGTAGCA
55806	SHANK2	CAGGGTTGAGAACAGAAGGTG
55807	CGA	ACATCCTGCAAAAAGCCCA
55808	SLA	CTTTTTAAAGGAACTTCGTG
55809	CYP8B1	AGGCTTCTGAGTAGCTGGGATT
55810	FGFR1	TGCTGGTGAGAGGTGCAAAGAG
55811	TNFRSF8	TTGCCCAGTGTTTGTGCAAGG
55812	SNX15	AGGGGTGGGGACGGCGAGGAGGTG
55813	FSTL3	ACTGCCTCTGTGTGCCCCTT
55814	PCDH15	TTAGATACCCAACTTAAACCAAAG
55815	PPP1R12B	CCACAAACACTACAACTGCA
55816	BAZ2A	CAGCCTGACATGGAAATGGAGGCAAACGAG
55817	FUT6	AGAGCAAGACTCCATCTCA
55817	GAS7	AGAGCAAGACTCCATCTCA
55817	MSH3	AGAGCAAGACTCCATCTCA
55817	PPP1R12B	AGAGCAAGACTCCATCTCA
55817	TSNAX	AGAGCAAGACTCCATCTCA
55818	ADAM19	TCAAGGCTTGGTTCCTGGAAAGTAAAGG
55819	IL15RA	TCTCCAGCTGCTCTGCACACATGGACAGGG
55820	PDE1A	CATGTGCAGAAGATGAGGTAT
55821	ARCN1	GCTCACTGCAACCTCCGCCTC

55821	CDH17	GCTCACTGCAACCTCCGCCTC
55821	CRTAP	GCTCACTGCAACCTCCGCCTC
55821	EEF2K	GCTCACTGCAACCTCCGCCTC
55821	PCDHB9	GCTCACTGCAACCTCCGCCTC
55821	SLC15A1	GCTCACTGCAACCTCCGCCTC
55821	SS18	GCTCACTGCAACCTCCGCCTC
55822	LHX2	CTACCTGCAACACAACATTTG
55823	GNAS	ACCCTCATTTCACCTGCGCTGTG
55824	CD8A	CCCTGGCCTCTGCTCAACTAGCA
55825	DSCR1	GCGGAACTCTTCCTGGAATGC
55826	SORD	TATGGGTGGAGGGTGAGTTTGAA
55827	RABL2A	ATCATTAACACCTTCCCCA
55827	RABL2B	ATCATTAACACCTTCCCCA
55828	IL1A	GACTATGGCTACCAAAAAGA
55829	ROCK2	CAGCCTATTTTGATTAACAAA
55830	GSTA2	AAGTGCTTTACCTAAGTGTTGA
55831	UCP2	CCTCTCCTGCTGCTGACCTGATCACC
55832	BSN	CTGATGGTTTGGTTTCCTCTCTG
55833	STC1	GACCTATACTGAAAGATCTCTGT
55834	GLUL	ATAATAAGGAATAAACCCCACCT
55835	ST7	TCTTCATTCTTTTATACTCAGCTT
55836	IL19	AACTCCTGACCTCAAGCAATT
55837	HEBP1	AACTTACTGGAAGTGTGCCTCT
55838	HIP1	CATCCAGGCTGGCCAGTGCTGCCC
55839	BCL11A	CCCGGCTCTCCCGATGTGAACC
55840	WNT8B	GGCAGAGGTTGAAGATGGAAGA
55841	NFATC4	CAGAGAAAGGGAGGGAGGGAGCCAC
55842	B3GALT2	CCTGCAGTTTTTAATTTGGTAGA
55843	PTGIS	GACGGGGTTTCCCCATGTTGGTC
55844	HGF	AAAATGATGCAAAATCAAAATGAGTG
55845	APAF1	GTCTCACTATGTTGTCTAGGCTGGTCT
55846	GAB2	ATTTCCAGAGTTCTTCCTTCCC
55847	SLC19A1	CTGCCTGGCCATGCTGTCCCTGC
55848	PCDH15	AGGTATTTCAAAATAAAT
55849	DUOX2	AGAGTGAGGGTGAAGGCAAGA
55850	CDH11	AAATCACTGTGTTTTCAGCTCA
55851	TH1L	CCACTCGGGGAACTCCTTTCCA
55852	MYH9	AGGCGATCTTGTGTCTACTCTA
55853	MDM1	TTCTGTTCCACTGCTCTTCTCTGGTTC
55854	STX1A	CCCCACCCTCCCTCGGCTTTACTCCTG
55855	IL16	ACTGACACTGGTATTCCTGCCTCC
55856	COL4A3	TCACAGCCAAACCACTGACATTCCT
55857	ADCY7	CACGCCAATCCCAAAGGCAT
55858	B4GALT6	ACCCTTGTGTGAAATGAAGG
55859	WDR1	GGTCACCGTTTCACCATCATGCT
55860	ROBO1	TTCCTTAAAATCTCTAATAGA
55861	MHC2TA	TTGCCCAGGCTGGCGTGCAGTGG
55862	SLC38A2	CTCATTTTGCATTACTGTCTTC
55863	AGA	TGGGGAACTTGATCTGTACTGT
55864	PDGFRB	GTTGCACATTTGTCCAGATGAAGCAA

55865	CR1	CTCGGCCTCCCAAAGTGCTGCG
55866	DDX3	ACTCTATCCTGGATAGGTATTTAGA
55867	SREBF2	CCCTACTCTCTCCTTTTTGCTTCCTC
55868	FSTL1	TTCCCACATGCCGTGACTCTGGACTAT
55869	EPHA2	AACTTGACTGGGTGAGACCCAAA
55870	NCOA6	GTCGCCCAGGCTGGAGTGCAGTC
55871	ADCY1	AGATTGTTAAATTGAGACAAGTAA
55872	PTPN7	GACTCTGGTTACCCTTGCCT
55873	HDGF	GGAGGAGTGGGGACCGGGCGGGGGGT
55874	MCC	TAAACACATGTTCTGTGCCTGCT
55875	SQSTM1	CAGGCAGGCTGGGGAGGCCAGTG
55876	CSPG2	TCCAGTGCAGTCCATTTCCTAAT
55877	CACNG3	CCTCTCTCTGTGTATCTGTGCCA
55878	BACH2	GGAGGACTTGCTGGGGACCAG
55879	APXL	CCTCCTCCTCTCCAGCTGGT
55880	MYLK2	CACAGGAACTCTGTGTGAGA
55881	ETS2	ATAGCACATATGGAATTTTG
55882	OPHN1	TACCCTTTTTCTTGAATATTTGCCACC
55883	GCS1	GTCTCCTTGCTGTCATCCCA
55884	NFE2L1	TGGGGGAGGCAGACATGGGAGTGCCAA
55885	EGLN1	TGCCCTGCGCTCCTCCACAGCCTGGG
55886	CD5	TGAGGCAAGAGAAGGCCAGAAACCAT
55887	CALM2	TGTCATTGTCCTAAAACCTTATTTTAG
55888	EPHB4	GGGGTGAGGAGTTGGCAAT
55889	PDCL	CACCTCCTGGGTTCAAGCAGT
55890	SLC2A2	ATGATTCCTTGAGCATTTT
55891	MEL	CAGCCCAGCTGACTGTGCCTGTT
55892	NRIP1	ACGTGACAGAATTGGTACTCA
55893	ANXA9	CACACACCCCCACTTTCCTCTAC
55894	DAG1	GAGGGTGGGTGGGTGGA
55895	BHLHB3	TTTTGGGGAGGATTTGCTGAA
55896	CDC6	GGGATTACAGGTGCCCACCACC
55896	PMCHL1	GGGATTACAGGTGCCCACCACC
55896	PRND	GGGATTACAGGTGCCCACCACC
55896	SHOX	GGGATTACAGGTGCCCACCACC
55897	RP42	TAGGGCTGAAAAGAGAAGACTGA
55898	FMO3	TGTTGACCTATCATCATTTTC
55899	WHSC1	GCTGGGCTTCTGTCCTCCT
55900	GPR81	CTCGGCCTCCCAAAGTGCTTGGA
55901	TFDP2	GACCAGGCAACATTTCATTTG
55902	GPR48	GAGAGGCCAGGGACAGGGAGACCGGTGCGA
55903	CYP8B1	CCTCCTCCTGATTTCCCTGCTCT
55904	BTG2	TTTGCAATGAAATTTTGGG
55905	PPP1R12B	TGTCCAAGTAGGCTAGGCTCCA
55906	SBF1	CCTGGCCTCCCAGCCCTGCCCGGCTGC
55907	GCK	GCTCCCCACGCTGGCTGCTGTGCAG
55908	RPL10	GCAAACCCTGCAAAGGGCTGGGA
55909	MADD	GCCCCTGGCCCCTTGCTGTTC
55910	DDAH2	GGAGGGTTAGATAGAGAATGCTGAA
55911	ADCY8	GTCTGACCACTCTGACAGGTCTCCA

55912	CHRNA3	GCATTGTAGGATCTTTAGCAG
55913	KPNA3	AGGGCTCCAAGATTCGCCGC
55914	PCDH15	TCTTATACTTTTTCAGTTGCTGTCTTA
55915	CPT1B	GTGGCAGCTCACAGGCATGAG
55916	CSRP1	CTTCCCTTTAACCCAAGACCC
55917	OPTN	AAAATTACAAAAATTAGCCGAG
55918	MTNR1A	CCTGGCTGCTGCCATAGTTTCTG
55919	RAB23	CCTTTTGCTGCTCACTGAGAACCC
55920	CD34	CCTCCTGCCGACTCCTGGGTTGAGCTGTTG
55921	ATP6V0E	GCACATTTGAATGCCTTA
55922	LAMC1	GGCAAATACTTGCACTCAGTAT
55923	WSX1	GATTGCACCACTGCACTCCAGG
55924	F2R	ACAGATGAAAAGCCTCTGTTTTGAT
55925	B4GALT5	TGTTGCCCAGGCTGGTCTCGA
55925	CBFB	TGTTGCCCAGGCTGGTCTCGA
55925	GRM6	TGTTGCCCAGGCTGGTCTCGA
55925	WHSC1	TGTTGCCCAGGCTGGTCTCGA
55926	CALM1	CCAGCCCAGGCGTTGGGTGTTAGT
55927	MAP4	AGACCTACAGGCTGACGTTCCG
55928	POLR2H	GGCGGCATCTTTAACTGGCC
55929	MAGEC1	TGAGTCTAGGGCAGATTCTTCCCTCT
55930	BCAS1	CCGAAGTTGCACCATTGCACTC
55931	SLC3A2	CACTACCCTTCTCCT
55932	BLAME	CCTGCCTGGCCTGCTCA
55933	TAPBP	CAGCCTCTCTGGGCACTTGC
55934	MAPK4	TGACACGCAAAGACACAGCCCT
55935	SERPINE1	GACTCACTTCAATGTGTCATTTC
55936	MAX	AGCCTGAAGAGCCCCAAAGCAG
55937	REGL	TTGTAAGGAGAAGTTCTCCTT
55938	BAALC	CATACCTGCTCCTCATCTGCC
55939	PLXNA1	CTCGGGCCGCCGCAGTGCAGCG
55940	PRIM2A	GGTGGGGGGTCTCCCTATGTTGCC
55941	MYBL1	ACCAAAATACTACTATGCCTTA
55942	WFS1	TGTCTGGAAAAGCACTTTACAGAT
55943	HS2ST1	AAGTTATAACCTCCTGCCTGG
55944	TBX6	AGAGTAGACAAGCAGACAAGAGA
55945	ATP6IP1	GCTCCCTCTTCAGCCCGCTGAGG
55946	TCFL4	CCCAGCCACCAGCCCTCATCCTCT
55947	INPP5D	GGTACTTGGGACCCCAGTGCCTTG
55948	ZFP161	TTGCCAGTAAGCACCTCTCTCCCT
55949	ECHS1	ATGGGGCTGCTCTGAGGGAAACGCTGTC
55950	SLC12A7	AAGAGATAGCTTTCAAGGGCCCA
55951	ARHGDIB	CCACCCCGTTCCCCACCCTTGCCACCT
55952	SLC8A1	TATCAGATATAGTAAATTTATA
55953	COL5A3	GCTCTTTCTCCCCTCCCTCCCC
55954	ADAMTS7	CCCTCCAGGGGACACAGCTCC
55955	JUN	GATTGCTTCTGTAGTA
55956	PPP2R5B	GGGCTCCCACCCTCTGCTCCTGGCCT
55957	ADAM33	GCCTATAATCCCAGCACTTTGG
55957	AIPL1	GCCTATAATCCCAGCACTTTGG

55957	ALDH8A1	GCCTATAATCCCAGCACTTTGG
55957	GRAF	GCCTATAATCCCAGCACTTTGG
55957	IL1R1	GCCTATAATCCCAGCACTTTGG
55957	IPP	GCCTATAATCCCAGCACTTTGG
55957	LRRC2	GCCTATAATCCCAGCACTTTGG
55957	NPHS1	GCCTATAATCCCAGCACTTTGG
55957	PDE4C	GCCTATAATCCCAGCACTTTGG
55958	FGFR1	GCCTGTAATCCCAGCACTTTAG
55959	RPL15	TGGTAAACACTGGTGTGTTTTGAA
55960	TRAF1	CTCCTGAGGGAGCTCCAACTCA
55961	TRIM14	GGCCAGTGCCTGGTGCTCTGGC
55962	C7	CTTGGCCTCCCAAATGCTGGG
55963	PIK3CG	TCATGTCCTTACACTCC
55964	HSD11B2	TCACTGCAGCCTTTCACAGGACTCTG
55965	ZNF42	GTCGCCCAGGGCTTGGCTACTGT
55966	MOX2	CTATTTTACGTCATTCTAAATT
55967	RARS	GTTTTTACCAAAGTGGCCA
55968	KPNA4	TCAATTGAGGGGAAAGTGCAGT
55969	RGL	CTAGCCATCATGACACCTCTGG
55970	SECTM1	TTGGACCCAGATCTGTTCATGCTTTT
55971	ABCC5	GCCAGGTTTTCTGGGTGTCCAAAGGA
55972	NOVA1	TTTCCTGATCCCTTCCCCTTCCACT
55973	PML	CAGGACCTGCGGCATCAGCATCC
55974	HSPA5	AAATGTTCTATTTAACAACTG
55975	BPAG1	GTCATTTCTTCAGAACTCCCC
55976	FABP2	GGCCTCAAGCAATCCTCCTGCCTCAG
55977	GTF2H1	TCTGCTCCACGCCAACTCCC
55978	MAPRE3	GAGAGGGAGAGGGGGCTGAGGAGGTAGT
55979	IMMT	CTGTTCTAAATGTTAACACCTGT
55980	CRYBA2	GGTGAATGCCCTCTGCTGGGGTGGGG
55981	BACE	TCCAGGGCATAAAACTCAACCC
55982	HEM1	AGGAGAGAGGGTCAGGAGCCAG
55983	IFNGR2	CTGCCTCTAAAAGGCCTGTCCCTGCA
55984	S100A3	TTGCCCAGGTCTTCTGCGATC
55985	CSNK2B	CTGGTCCCCGTCCAGCCGCTGAC
55986	SREBF2	TGGGAGGCAGGGGGCAGGCCTGCGGA
55987	IL10RA	GGCATTATGGGCCCTGCCTCCC
55988	RERE	GTTAGAAGGCTGCCTTCTCA
55989	CLK2	TGAGTTGGGCTGGTCACAGCCTTGT
55990	RPS6KA2	CGAGTGAGAGGTTCCGGGCAGCAG
55991	UBE2B	TGCCTGTAGTCTCAGCTACTTAGGAGG
55992	IGF1R	CTCAGTGAAGGTGGGGAGA
55993	LPIN1	AAAATATTGCAATAAATGAGACCGATG
55994	LANGERIN	GCACTCAGGATGACTGTGGAGAA
55995	CENPA	CTGCCCTTCAGAGTAGCCTCACC
55996	EPB49	GAGAGGGCCAGGCAGTCGCACTGTGA
55997	PPP2CA	GCCAGCGCCAGCCTCAACAGCCGCC
55998	CNR1	AGACAGGAGAGATTATTTACAAGAA
55999	MHC2TA	CCCGAATAGCTGGGACTACAGG
56000	HS2ST1	GTATTTCTCATTCCTGCCTCCTCA

56001	IL18	GCCACCTGCTGCAGTCT
56002	TITF1	GGCTCTGTGCTGACATGGCTCTG
56003	PER2	GTGACTTCCCTTTGCAAACC
56004	ATP7A	GAGTAGCTAGGATTACAGGTGCCTGCC
56005	MAP3K9	GCCCTACTTCTTGCACTGA
56006	MDS1	TCCTCGTTTTGAAAGCAGTT
56007	NOTCH4	GCAGACATCTTCCACGTGGAGAAGC
56008	TNXB	ACTGCAGCTGCTCGGTTGCC
56009	POLK	TGGCTGAGGCAGGAGAACTACT
56010	NFE2L1	AGACGGACAGGGTCCTCACCCTA
56011	CXCL16	GTGCAGCTGGCTCGCGCCTCC
56012	IL6R	AGCTTTGAAAATTCAGTGGTGT
56013	RNF26	GGTCCTTTTCCTGCCTCCTTCACA
56014	LY9	CCACCTTCTCAACACTGCTGAAA
56015	OXR1	AACAGCTTGGGTTTGTTAGAA
56016	SOX12	TCCGTCGCCGCTGCCTCCTCCCCC
56017	NFE2L1	AGAGTCAAAGGGTAGAGTGAACAG
56018	PDE4B	GCTGTTGCTGGGGGCCGATTCTGATC
56019	RDS	CTTCTGCATCAAAGGAGATTCTTTG
56020	FASN	GCCGCGCTCCAGCCTCGCTCTCC
56021	PTPRH	CTAGGCCTGGGACTCCTGGGT
56022	CLECSF11	GTCACCCTGCTCCCAAGTGCAAC
56023	GATA6	CCGCGCCGCCTTCCCCCATCTCTTCC
56024	APLP2	CCTCCACCCCCTCCTGTCACCGGCC
56025	CASP6	ACCAGCCTGACCAACATGGAGAAGCCC
56026	RAD1	ACCAGCCTGACCAACGTGGAGAAACCC
56026	TNFSF15	ACCAGCCTGACCAACGTGGAGAAACCC
56027	BMP8	TGGAGAAACAGAAAAATCTTGGG
56028	CAPNS1	ACCTGTGCCAAGCCTAGCACTTGTGA
56029	CD1D	CGCCTTGCCACATCTGTGTCTCTGGA
56030	NSD1	ATCAATGTCACATGAACAAA
56031	RNASE1	ACCTCATCCTCTCCACAGCTGCC
56032	LAMC2	CAGCTACTCAGGAGTCTGA
56033	NCOA6	GCTCACAAAGCTGGAAATACT
56034	DRD3	AGCTGAAGCGTTACTACAGCA
56035	NGFR	CTGGTCCATGATGGAGTCAGG
56036	FZD4	TGCCTCCTGGGTTCAAGTGATT
56037	KCNMB3	ATCGTACCCAGCCTGGGCAA
56038	S100A4	TCAGCGCTTCTTCTTTCTTGGTTTGATCCT
56039	BRCA1	CCAACATGGTGAAACCCCATCT
56039	COG7	CCAACATGGTGAAACCCCATCT
56039	CORO2A	CCAACATGGTGAAACCCCATCT
56039	CRACC	CCAACATGGTGAAACCCCATCT
56039	DBT	CCAACATGGTGAAACCCCATCT
56039	FGFR1	CCAACATGGTGAAACCCCATCT
56039	IL17R	CCAACATGGTGAAACCCCATCT
56039	KIF3B	CCAACATGGTGAAACCCCATCT
56039	LAMP2	CCAACATGGTGAAACCCCATCT
56039	MOG	CCAACATGGTGAAACCCCATCT
56039	PDE4C	CCAACATGGTGAAACCCCATCT

56039	PPP2R1B	CCAACATGGTGAAACCCCATCT
56039	RBM3	CCAACATGGTGAAACCCCATCT
56040	ZNF264	CCAACATGGCAAAACCCTGTCT
56041	SFRP1	TCATAACTTCATAGATGCAGGA
56042	PAX7	AGAATAAATATATAAATAAATAC
56043	GNAZ	CCTCTGCAGTGTCCTCTTGTT
56044	FY	TCCCACCCGACCTTCCTCTCTGT
56045	CDH1	AGCTCACTGTAACCTCAAACTCTGGGG
56046	DGAT2	GGAGTTGGAGAGCACAGTTGC
56047	RAD1	GGTGTGGTGGCTTTAATCCCA
56048	ATP7A	CAAAGAGAAGCTGTCTTTACAGGA
56049	LMO1	GCGCCCGAGATGATGGTGCTGGA
56050	SLC22A5	TTGTCCTCTTGACCTGTGTC
56051	VPS26	CAGGTTAAAGATGGTTGCAGCTGGA
56052	MOV10L1	GCTGCTGCTGCCCTGACTTTGGC
56053	PDGFRB	GCCAGCACCCAGCATCTCCTGGCC
56054	ABCC3	GGAGGCACTGCTGATTGAAGA
56055	GABRE	GGACTCCTGCCTTTCCTGTTTAG
56056	NUFIP1	ACTAGCACGACTTACATAGCTCAA
56057	PRKCI	GGCGCTGCGGGCGAGGTGGGCAGG
56058	FLG	CAGGGTCCCATCACAGCCACACCAC
56059	ITK	GTTCCAGGGACTTTTTATTTGACCC
56060	TFDP1	GCCGGACCGGGCAGCCAGAAAA
56061	ZNF133	AGGACATTTGACTGTTTACTTTCTCCA
56062	NEK6	AGCAGGAGCATCTTCTTGGCAGC
56063	CD81	CCTTGTTCCCTCCTGCCCC
56064	INPP5B	TGGCACATGGCTATAATCCCAG
56065	DPP6	GCTACTTCCTGTAATGAGGA
56066	IGSF4	TTTGCTGCTGCCCATGTTTCAA
56067	PAG	CCAGTGCTTGCCAATGCAAATTGCCT
56068	UBQLN3	CAGATCTGGGCCTCCTGCTGC
56069	SLC8A2	CCTTCTCCGCCCCCTCCCCTGGCT
56070	NFKBIL2	GACCCTCTGGGCTGTGCC
56071	EYA4	TTTGGTTAAAATCTCTGTAGAT
56072	TCERG1	GGCCAGAATAGAACCACTGGTTAAAC
56073	ATP8B2	GAAGTCTTGGCAGGGAAATCCCTTTTG
56074	APM1	CACACAGTATTAAGTGACAGT
56075	PCDH11X	AAGCCTGTAGTCCATTATTACTTGG
56075	PCDH11Y	AAGCCTGTAGTCCATTATTACTTGG
56076	PUM2	TTGTTTTATAACATAGTTGTTGACT
56077	COL5A1	CCTAGCTGCACCCCAGCGCCTGGGCC
56078	FZD4	TTTCCTGATCTCTGAGACTGTTGCT
56079	ZNF36	CCCTACTTTGGCCAACATCCTGC
56080	TNS	TGACCCTGCCCCTTGCCCAGG
56081	CPT1B	CTCCACCCTCCCACTCCTTGGATTTCT
56082	NYX	CTGCAGATGGACTGCCTGG
56083	MBL2	GCAATACTTGCTTCTTCCCA
56084	VHL	CAGGCTGGAGTGCAGAGGTGCG
56085	PRKCN	AATTTCTGCTTTTTAGCCAGGGCC
56086	DTNA	TGTCCCCTACTGCAGGTCTTACAGTGGA

56087	GATA2	GCGCAAGCCACAGCCTGTCTT
56088	DMN	GGAGTCTTCTCTCCACTTCTG
56089	C6	TTGAAGCCCAGCTTTCATAT
56090	SHOC2	TCTAGAATTTCTTTAATTTTGCTTCTCT
56091	BSN	AGTCTCATCTCTAACGTTCTA
56092	EIF5A2	CTCTTAGACCTCTCCCATCA
56093	TNFRSF10D	CTGCTACGTCCTGCCTGTG
56094	IGF2R	CCAAGCACCTCCAACCAAATAAGAC
56095	PDE4C	TGGCTTATGCCTGTAATCCCGG
56096	PLAGL1	TATTAAAAGAAGATTACGTTTTA
56097	SF3B3	CCCCTCAAATTGGCACTGAGAT
56098	PRKACB	TTTGTGAGCCTAGGGTAGG
56099	CASP6	TGACCAACATGGAGAAGCCCCGTCTCT
56100	CRTAP	GCTCACTGCAACCTCCGCCTCT
56100	DFFB	GCTCACTGCAACCTCCGCCTCT
56100	KCNJ11	GCTCACTGCAACCTCCGCCTCT
56101	KIF3C	CGACACTGTCATTTCTGCTTCA
56102	GGT2	AGGCTATGAGCTGGCACACCAGCG
56103	FANCC	CAAGGGGAGTCAGGGTCCCTC
56104	ARHG	TCTGCCCTCGCTGCTCTTGGAATTGCG
56105	MEL	GCAAACCTGGGTGATCGGGAACA
56106	FGFR3	CGCCTCCCCACCTCC
56107	ABCD4	CTACCTGCAGCCGAAGTACGCA
56108	UBE2L3	GGAGGAGGGGCGAGCTGTGGAGCAGC
56109	NOX3	TTGATTCCAAAGAACTCCAC
56110	ERBB3	GCTCCCTGTGGCACTCAGGGA
56111	BDKRB2	CGGGAGAAGAGCGGCCCTATGCAT
56112	VNN3	GGGACCACATTTTACGACCACCT
56113	NARS	CAGCATTTTACTCACTTTAT
56114	ATM	TACAGTGAGCAAAGATTGTGCC
56115	PUNC	CGCTGCTGAGCAGGCATGCGGCCC
56116	EIF4G2	TGCTCAGTAATACTTGAGTT
56117	IRF2	TTATGAGCTCATCTAGCAATCAG
56118	ADCY6	GATGCCCAGGTTGCACAGGAGTGGGAT
56119	DLGAP2	CAGAAACACGCTTCTCCAACACGGGC
56120	BDP1	TTCAACAGATTCTCCTGCCTCGG
56121	BDNF	CTTCTGAAGCGCCCTCCAGGGA
56122	VANGL2	CTACAGTTTGCAGTGG
56123	BAZ2B	TCTAAACAAGGACAAATGAGA
56124	RARG	GCTAGCCTCTGTGCCCCGTCCTTGTG
56125	PRPS1	CCATCACCATCTGCTTGACTATGTAGCTTG
56126	SFRS2	TGTTAAGGTGGCGTGTTGCAGTG
56127	COL19A1	TTGTTCAGAAGAACTGAGCA
56128	ARHI	TATTACCTTTAAATATTTCA
56129	CTSF	CCCTCTCCATGTCCAGGA
56130	RRM2B	TGGAGAGAATGATTGCTTTTTGTACAG
56131	SNRP70	CGTCCTCTCCATCTGCTGT
56132	BPHL	TGCACACTCCAGTCTTGGTGG
56133	ELK1	TATTTCTCAGCCTGCCCTTGGGGAG
56134	FBXW1B	TTCTTCAGTGAAATTTTGGG

56135	CTF1	CCCCAGCAGCTGGGACTACAGG
56136	TEM6	GTGTGCATGCGTGCGTGTATGCGT
56137	TEM6	GCTGGGGTTTGGGAATGTGCT
56138	SLC6A3	CTATCCCTGGACGCATGCAGGG
56139	RASGRP1	TCTTTGCTGACTTACCTTTTTACT
56140	MNT	CGTCCCCTGCAGCCT
56141	SIAH2	TTGGTGATTTGGATGCTGTTCTGTGAT
56142	EGLN2	GCACTGTGCTGGCTGTCTTCCCA
56143	COL10A1	TGTGATTAATTTGATTTCTTTAA
56144	AGL	GGTCTAGGTTTTTAATTTTTTA
56145	PAEP	CACAGCCGCAGCCATGCTGTGCCTCC
56146	PTPRN	CTGCCCCACCAGCCACCTCTTGGGC
56147	C21orf5	GCCTGTAATCCCAGCTACTTGGG
56147	C5R1	GCCTGTAATCCCAGCTACTTGGG
56147	CTSS	GCCTGTAATCCCAGCTACTTGGG
56147	DFFA	GCCTGTAATCCCAGCTACTTGGG
56147	ROCK2	GCCTGTAATCCCAGCTACTTGGG
56147	SLC2A3	GCCTGTAATCCCAGCTACTTGGG
56147	SWAP70	GCCTGTAATCCCAGCTACTTGGG
56147	TSNAX	GCCTGTAATCCCAGCTACTTGGG
56148	DIO1	CCATCTTTGAATATATTTCA
56149	A1BG	TTGCCCAGGCTGGAGTGCAATG
56149	ATP1B2	TTGCCCAGGCTGGAGTGCAATG
56149	CDC6	TTGCCCAGGCTGGAGTGCAATG
56149	CRTAP	TTGCCCAGGCTGGAGTGCAATG
56149	MLANA	TTGCCCAGGCTGGAGTGCAATG
56149	PMCHL1	TTGCCCAGGCTGGAGTGCAATG
56149	PRKR	TTGCCCAGGCTGGAGTGCAATG
56149	PTGIS	TTGCCCAGGCTGGAGTGCAATG
56149	RAB36	TTGCCCAGGCTGGAGTGCAATG
56149	SAS	TTGCCCAGGCTGGAGTGCAATG
56150	RPH3AL	TGCAACCTCCACCTCCCGGGCT
56151	NR3C1	TGGCTATATGGCAAGAAAGCTGGT
56152	RXRA	GATGGCAGAGGAGAGGGCTC
56153	PACSIN1	GCCGCACGGGTGCCTCCAGCCTGAGACATC
56154	FSTL1	ACATGATCTGAGGACCATTCATGGA
56155	PTPRF	GTGGCTGGCTGTGGAGCTAGAG
56156	A1BG	GGCTAATTATTATTTTTTGT
56157	ASCL1	AGCATTTTCACCTTTTTTGCTCCCA
56158	CSPG2	AGGACTCCAATGTCGAACTCTTCTTTG
56159	CHC1	CTGTGTCAGTTCCTGCCTTTTCTCAT
56160	TMC1	CCCTCCAGGAGTTGCTGAAATTTAGGA
56161	MTMR1	GATTCTGCTTTTCATCCTCTGTGGT
56162	EHHADH	GAATAGATAAACCAAATCTGGTA
56163	ANXA4	TGTTTTTAAAAGATTACTTTCTA
56164	CBFA2T1	CCTGTCATCCTCCACATTTCTGCTCCA
56165	IL1R2	AATCCCTGCTTTACTGCTGAGC
56166	ABCA1	GCTGTTCTGGTGGCAGTAACATG
56167	BAI3	GTTCTGACCATCCTGTGTTGTAAGTA
56168	FBXW7	CCTGTTCTTTTACCACTGACAGCTA

56169	HCFC1	GGACGTGAGGACAGCCAGCTCC
56170	COX15	CAGTAGAAGTGTCACAGCCATAGTCAA
56171	SIRT5	GTCTTGAAAACCTATGATTGTCTC
56172	MAPRE1	GGACTCCTCTTTGGCTCCTTGAAGTTT
56173	TNFSF12	GCCCCCAGTGATCTCGACTC
56174	FY	GGGTGAGTATGGGGCCAGGCC
56175	IPP	ATCGCTTGAGCCCAGGAGGTCAG
56176	INSRR	TCCTCAAGGAAGCTTCTGTCATG
56177	UTY	TTTGTTGTTTCCATGAAATCCTGCG
56178	LOH11CR2A	TTCCCTGGCTGCTGGACACAAG
56179	CRSP6	TGTTGCCCAGGCTGGTTTCGA
56180	GRB10	GCCTCTCTCCAATAGACAG
56181	SIGLEC9	CCAGGCAAGGGAGAAGTCAGAGGC
56182	MGAT2	GCTCAGCCTGGAGTGCAGTGA
56183	TCL1A	GGCCTGAGCCTGGCCAGCCTACAATGGGG
56184	MRPS12	GGTGGCCTGAAGGACCTTTTCTGCTGGGACA
56185	CXCL13	GCTCAAGTCTGAACTCTACCTC
56186	MDFI	AGAGCGTAGCACGGCTCGCAC
56187	RSN	TTAGTAGGTGAGTTTTCACCTC
56188	MCM5	CGCCTCTAGCGCGGTTCTGGGAA
56189	GART	TTTATTCCTTGCGTTATCA
56190	NOC4	CCCAGCGGGAGTGACACCACTGATGCCA
56191	CCND2	GCCTACTTTGGGGAAATAAAGTGCCTT
56192	SRGAP2	CTCCTCTTCTGATCACTTCC
56193	CYBB	GCCAGATGTTCTTTCTACAGAAGAAT
56194	MTERF	TTGCCTAGGATGCCAATG
56195	GABRA1	TGAGTGAGAGGCAGAGCGAG
56196	SCNN1G	TTCACCCACACTGCCAGCCTGGG
56197	UBE2G2	CGCCTGCAATCCCAGCACTTTG
56198	MOX2	TCTTCTGCTTTGTCTGTGTCTAT
56199	DYRK2	CTTTCTTTTGGATTGCACTGA
56200	MSH4	TTATTTTTCTCCTTAGAGATAAGGAA
56201	TAF4	CCTAGATTAAATAAAATCAAAGTTGAGA
56202	SLC1A4	CGTGCTGTTTGTGGCTGTTGA
56203	TAPBP	CACTCTTCCGCCCAGGCTGCAGT
56204	PCTP	TATTTCTATGTCAAAGGCACAG
56205	TRPM5	TGGCCCTGTGGCGTGACGGGGGA
56206	AHCY	TCAAGCCCCGGTCATGATGGAG
56207	RSU1	CTTCCCACCTTACCT
56208	SCN4A	TCTCCTCTATGGAAGGAGGCC
56209	TADA2L	AAGTAGGTATTTCAGTACCCTGT
56210	STARD4	AGCTCACTGCAGCTTTGATCTGACCG
56211	CACNB1	CCCCCTCTCCCCTGGGGCATCCCTTT
56212	OTOF	CCGCTCCCCAGCCCTGCCGC
56213	B3GAT1	TGGGCCGGACTCTCCAAACCTGCTT
56214	RPA1	ACTGAGTCAGATGGGTCT
56215	UBE2L3	CCGCCTGGTTTCTTGAA
56216	NUP62	GCGGGCAGATGACTTGAGGTCA
56217	CLECSF12	GCCACTGCACCCAGCCTAGAATCTTG
56218	ATP7A	ACAGCTAGAGTAGTAGTATT

56219	SOX1	TAAAACTTTATGTATCTGAG
56220	CHRNB4	TCGCCCAGGCTCAAGTGATTCTCCTG
56221	PMP22	TATAACTGCTTTTGTACCTAGCT
56222	SYNGR1	GGGCTGTAGGGGAGAGTGTGGCAGGTG
56223	NAP1L4	GGCTGGGAAGTCCTGCGTTTCA
56224	RBBP8	CCCGCTGCTCTGCTCCGCCCATA
56225	RANBP3	TGAGGAGAAAGAGCCCCAGAAAA
56226	DPYS	GCCCGGCCCGCCCAACCCAGC
56227	CXCL13	AGGGAAAGCATTTAAAGGGTGAT
56228	C1orf1	CCAGGAAGCAGAGATTCCAGTGA
56229	PPP3R1	GTAACTTTCTTCCTCTGGATCA
56230	ACPP	CCTGTAATCCTTGCATTTTGGA
56231	MEFV	GCTCTGTGGCCCAGGCTGG
56232	CHN1	ACAAACCTGCGCCTGCACCGCCTCTGC
56233	GPRC5B	GCTCCCACTCTTATCACCTCTCCC
56234	FGF7	TACAGATAACAGGATTATTACAA
56235	SLC4A7	CACTCTGTTCTCTGCCTTG
56236	CDK5R2	CATGTGTCACCATCTTCCCTCCTGT
56237	DFFB	TTCAAGTGGTTCTCCTGCCTCA
56238	MAN2A2	GTTCATTCACAGAGACTGCCTCT
56239	AQP8	TGTTTGTGCCATCTGATCCTGATGTCT
56240	KIF5A	AGGGACTGAGGCCTCTTCTCA
56241	IGF1	CTCATGTATTTTTATCACACTTATA
56242	NBEA	GCATAATTTGAAGACACAGCAGA
56243	JUND	CCCTGCCTTTCCTTTACTTTTACTTT
56244	ABCC1	CTTCATTTCCTTGGGGCTGC
56245	RAB4A	GGCTGTGAGACTAGCACTAAGG
56246	ABR	GCTGAGTCTTAAAGAAGGGTTT
56247	PDCL	ATTGCACTCCAACCTGGGCGA
56248	CARD15	GCCCTGTCCTGCCTAAGGCTGAAC
56249	AP2A1	AGGGGAGGGGCAGGGGGCGGT
56250	HADHSC	CAGCACCTGGATCTTGCCTTTATA
56251	CLOCK	TCTTAAATTTGGGTTGCAAA
56252	PGF	GAGAAAGAGAGAAGCCAGCCACAGA
56253	KRT4	CTCTCATTCCCTCTTATCCA
56254	ARHGAP6	TCAGGGTGATTTCACCTGGAACAGCATGT
56255	CASP8	AGAGGTCCAAGGCTGCAGT
56256	CARP	TTCCCAGACACTGATTCTGGAAT
56257	APPBP2	GCTGCTGGGGAGGACCTCAGTTAAC
56258	MGA	CTTGTGCAAAGGGATCCAGAAGAGACA
56259	TNNI1	TCTCCTGGGCTCAGTCCTGGCTCCAGC
56260	C14orf1	CTTTGACCTCTGCTAAGACAAGAGCATGG
56261	NPY2R	TTCATTCTCTAGACAAAATCCATCAGG
56262	FMN2	AAAGCAGAATGAAAATGAGTCATTGC
56263	PITPN	GTTCCTAGTGCTACTTGTTTTACAAACT
56264	SERPINA4	GGGGTCCACTCCAGGA
56265	SLC4A8	AGACTAGCCTGGGCAATATGAT
56266	GRM1	GCTACTGCTGCTGCTGCCTTAAGTAG
56267	PLAGL1	TTGTCTCTTCTCACAGGTTT
56268	COX15	TTCTGCCATGATTGTAAGCTTCGTG

56269	PRLR	TCGTCCATTTTATTAGGATT
56270	PRY	CACTGCCCTGGGCCTTACTTCCCA
56271	GALGT	CTGTCAGGCTGGGCCTGCCTC
56272	STK10	CCTTTTCCCTCTTGCGTCTGTGCCA
56273	CSNK1D	GGAGAGGGCAAGCGGGACCGGT
56274	POLH	CGAGGCAGACAGATCACCTGAGGTCA
56275	DLGAP2	GTAGGGAGTGGGGGAGGTGGGT
56276	SLC7A6	TCCTGCCAGCCTCCCCTTCC
56277	JUNB	GGGAGCTGGGGGAAACGACGCC
56278	GNA15	GGGCCGGCTGGGCTGGGGGTTGCCCTG
56279	SIM2	GCTCCCCAGGACGCAGA
56280	P3	GCCTGTTCCCAGTTCCCTGGGCC
56281	SULT1C1	GTCTAATGCCCATTTTCCCA
56282	POLS	ATATGGCTCCTGGCTGCGTCAG
56283	CD2AP	AACAAAACCCAAAGCTTTTCA
56284	MAPRE1	TCTCCACTGTAATCCGAATACTTT
56285	APTX	GCCTCAAGATGAACAGCTGGTAGATCA
56286	MAB21L1	TGGATACTTCCAGACATTTTCCA
56287	EFNB2	GACGCCCATTCGGACTGCTGT
56288	IPP	TAGAAATGCCATTTATGCTGTA
56289	HEXA	CAGCCAGGCTGGAGTCAGTG
56290	HAT1	TATTGCATTTAAAGAAAGA
56291	PFKFB4	AATTCAGAAACACTTGTATGGTCCT
56292	KCNK6	GTCCTTTCTCTCATCCTCT
56293	ZNF217	GGGCTGTTAGAGGGGTGAGTGACA
56294	ENTPD1	AGCTGCTCTGTTCTTCT
56295	PPP1R12B	GGCACTTGAGATATGTGCAGTG
56296	TCTE1L	CCATTAACTTAAGAATTTGTCAGT
56297	FOSB	AATATTTTTGGACTGGCAGACT
56298	EDN3	GAAGAAGAAAAAAGGATCCTTG
56299	BACH2	TGGAAGCTTTTTCCCAAGG
56300	PPP1CC	ACATGCTGCCTTCTTGGGG
56301	BCL11B	TGAGGTCCTAGAGTGCCTCCAG
56302	C14orf1	TAGAGACGGGGTTTCACTCTGT
56303	SLC7A8	CTCTTCAGGAACCGGAGCTCA
56304	FHL1	GCACCTTGGAAGTTGTTTTCAACCA
56305	D12S2489E	TCTCAATAAAAGCCAGGAACAGAGA
56306	PAG	GTAGAGACCAGCTCACTGGA
56307	CDH16	TGCCCTGGGGTGGAGGCACCATCACCA
56308	CHAT	TGGGGAAGTGCGGTGACTGGGAAATGC
56309	SELE	GTGTGAGAATCAAAACTCTCCT
56310	IL1RL1	TTGATGAGCAAGGCTTTTCTC
56311	E48	GCTGCATGGAAGGTGGAGGACAGA
56312	COL6A2	CAGGCTGGCTCTCAGTGGAGGCCGAGA
56313	LDB3	GGAAAAGAAGAGAGACAGAGAGACAG
56314	THPO	CTCTTTGGTCTATTTTCTGCA
56315	CYP2B6	GTCTCCCAGGCTGGAGTGCTATGGTG
56316	TNFRSF10B	GGTGCTGCTGCCTCCTGGTCTTT
56317	LDLR	ATGACACCTCCATTTCTCTCCA
56318	GALT	GATGGTGACTTAGACTCGGGT

56319	CYP21A2	CTGCTCCTGGGCCTGCTGCTGC
56320	COL4A3	CCTTCACTGCTCACGTGTTTGCT
56321	ANXA9	TTCTTTGATAGTTTCTGCCTCAC
56322	PPARG	CATGCTGTTATGGGTGA
56323	LAD1	GGCCATGTGATCCCACCTGG
56324	CDKN2A	AAGATCTGAAGGGGGGAAC
56325	DUSP4	AGAGAGAAAGGGTGGCCACTTTCCCGA
56326	HMGA2	CTCACACACACTCATCCCC
56327	SEMA3F	CACAGCCGCCTTTGGGTTCCAT
56328	MEF2A	CTGCAACCTCCGCCTCCAGGTT
56329	LDHA	CCACAGCTATATCCTGATGCTG
56330	FETUB	GCTGAAATCTCAGCATGAAAGCA
56331	TNFRSF10B	CACTCTGTCTCCCAGGCTGGA
56332	ABL1	GGAGGCAGGGGACAAGGGAGGC
56333	GPR35	CTTGGAGCCTTGGGTGGGCAGG
56334	CYP1A2	GGCAACTGCTAATCTACTTTCTG
56335	SIAH1	TCAATACATAGTGCTGCTG
56336	KCNJ5	CATGAGGTCAGGAGATCGAGAC
56336	LDLR	CATGAGGTCAGGAGATCGAGAC
56336	RAB3B	CATGAGGTCAGGAGATCGAGAC
56337	HDAC5	CTGTGGCTTCCACCTCAGCTCTAGAA
56338	RAB36	AGGACACACAGATGGACAG
56339	TGFB1	GCCACTGCGGGGAGGAGGGGGA
56340	TXNRD1	AGCAGTTTCTTCTCTCA
56341	COL7A1	CCCCTGTGGACAAACCCCCA
56342	FMN2	CGTCACAGCAAAAACACTTTCC
56343	RNMT	TATCTGGTTTCTTTTCACCAATAT
56344	ISL1	CATCTAGAGAAAAACAAAAATAGAAA
56345	ORM1	ACACAGCCTTGGATCAGGACAG
56346	LUZP1	CTTCCCTTGGTTTGCCA
56347	MTMR2	ATCTATGAGAGAAAGTTCAGTCA
56348	ADRA2B	GCTGAGGGGGAGGAAGAAACGAAGACTGA
56349	HUNK	GTTCACTGCAGCCTCAACCTC
56350	WNT8B	CTAGAGGCAGAGGTTGAAGATG
56351	CLASP2	CATGTCCCTTCTATGATCCC
56352	CYP1B1	GGCTGTCCCGCGCCACTGGAAA
56353	PPP2R4	AAGCCTCTGTTTTGCACCTGTA
56354	JAM2	CCTCCTGCTGCCCCCTCGCTA
56355	AICDA	GGGAGAGAAGGATGGGGAAGCATTGCA
56356	HMG20B	CCATAGCCACACAGGAAGCTGCCTTG
56357	FRDA	CACCTGTAATCCCAGCACTTTT
56358	PCDH7	GCTATGTTATTTACAATGCAGGATTTT
56359	PCDHGA1	CAGAATACTGGTAGGGGCCAAGGCCAT
56359	PCDHGA10	CAGAATACTGGTAGGGGCCAAGGCCAT
56359	PCDHGA11	CAGAATACTGGTAGGGGCCAAGGCCAT
56359	PCDHGA12	CAGAATACTGGTAGGGGCCAAGGCCAT
56359	PCDHGA2	CAGAATACTGGTAGGGGCCAAGGCCAT
56359	PCDHGA3	CAGAATACTGGTAGGGGCCAAGGCCAT
56359	PCDHGA4	CAGAATACTGGTAGGGGCCAAGGCCAT
56359	PCDHGA5	CAGAATACTGGTAGGGGCCAAGGCCAT

56359	PCDHGA6	CAGAATACTGGTAGGGGCCAAGGCCAT
56359	PCDHGA7	CAGAATACTGGTAGGGGCCAAGGCCAT
56359	PCDHGA8	CAGAATACTGGTAGGGGCCAAGGCCAT
56359	PCDHGA9	CAGAATACTGGTAGGGGCCAAGGCCAT
56359	PCDHGB1	CAGAATACTGGTAGGGGCCAAGGCCAT
56359	PCDHGB2	CAGAATACTGGTAGGGGCCAAGGCCAT
56359	PCDHGB3	CAGAATACTGGTAGGGGCCAAGGCCAT
56359	PCDHGB4	CAGAATACTGGTAGGGGCCAAGGCCAT
56359	PCDHGB5	CAGAATACTGGTAGGGGCCAAGGCCAT
56359	PCDHGB6	CAGAATACTGGTAGGGGCCAAGGCCAT
56359	PCDHGB7	CAGAATACTGGTAGGGGCCAAGGCCAT
56359	PCDHGC3	CAGAATACTGGTAGGGGCCAAGGCCAT
56359	PCDHGC4	CAGAATACTGGTAGGGGCCAAGGCCAT
56359	PCDHGC5	CAGAATACTGGTAGGGGCCAAGGCCAT
56360	STAU2	GTTGTTTGAGGCATAACAATGTGTA
56361	TIRAP	ATATTTTTATGAGTCTTCC
56362	PCDHB16	TGCCTCCTGGGCTCAACGGATC
56363	TPK1	CACTATACAATTCAGTACTGATTATT
56364	UBE2A	ATCTCAGTCATATGAATTACA
56365	KLRD1	ACTGCCCAGGCTGGAGCATAGTG
56366	CYP1A2	CTCCTAAGCTGGAGTGCAGTGG
56367	IRF1	GCAGAGCCAACATGCCCATC
56368	KLK8	TAGGCAGCAAGGGCTGTTCTAGGA
56369	HTR4	CAGCAACTCTGGAGGGAAGC
56370	CMAR	GGCTCACTGCAACCACCATCTCCCA
56371	NCOA6IP	CAGGCTGGAGTGCAGTGCC
56371	RHD	CAGGCTGGAGTGCAGTGCC
56372	POLK	GCCTGTAATCCCAGCTACTCAGATGG
56373	CDH6	ACAAAGAATTTAAAATAACAC
56374	RFNG	CAGGCTTCCACCCCAGCACTT
56375	PML	CTGAGGTCTCTTCCAGCCCTCAGTCTG
56376	TRIM39	TCTCAGATTCCTTTCTTGTCTGTTAGA
56377	RTN1	TTACAATTTGTATTACTTTCTCTGTA
56378	DNASE1L1	AGGTCAGGAAAAACACTGGCTGGG
56379	PRX	AGTTGTTTCTCTCCCTGGGCC
56380	TSLP	AAAGTGCAGCAGGAGAACTCTTTT
56381	TM6SF2	TCTCCCCCTCTCCCTGAGAGTC
56382	KAL1	AACATGTGCTCTTTTCAG
56383	DDX6	CTAAAAGTTTGAGGAATATTTCA
56384	F13A1	GGGCACCTCTGGAGGGGAGCGC
56385	LPIN2	GTCATTATTCTCTCAGTTACTCC
56386	C21orf2	GGACCTGAACGCCGCTCCAGCC
56387	CDC34	CCCCTCGGGAGGGGAGCTGAGCCCG
56388	SLC1A4	TTCAAGTTTTCATGAACTAGC
56389	UBE2L3	CTGTGGACTAAATCTGCCACGATT
56390	GPC4	TCCTTTGTTAGAGTGGTCGAGATTTCA
56391	ESRRB	CCTTCCAATCAGCTGCCTTCA
56392	GUCY1A2	GCCCAGAACATGGGTCACCAATGGGGG
56393	SPAG8	TGGAAAGAATGGGGGTTTACAGG
56394	STK24	TCGTTTGTTTTAAATGGGAGAAA

56395	PCDH11X	CTTACTGAACCAACAATCAAA
56396	FMR1	CATCAGGTTAGGCAGTATAAAGAAT
56397	YWHAH	CCTGCAGCCTCCGGCCGGCC
56398	PDCL	TGTCACCCAGGCTGGAGTACAAT
56399	NCOA6	CCTAGAGTGCTGGGATTACAGG
56400	SIRT5	GGTCAGCAAACTACTGCCTGTGGGCCA
56401	DDX11	GAAGGCCCTGCTCCCTATCCTGTC
56402	MUC4	GGTGGGGTAGTGGGGTGGGG
56403	ABL1	GGGCCTGCGCAGTCCTGGTC
56404	HOXC6	TCACACACTCTGTATTTATCA
56405	KNG	CCATCCCTCAGCTCCTAGAGGGAGAT
56406	MEIS1	GTATTTTTTCATAGTCCCACC
56407	IAPP	TGTCTTCAATTAAAAGACCACAGACTT
56408	PYGM	CATCCCTCTCCAAAAGGTCACTTCAG
56409	RARG	CTCCCAGGCTGGGGCAGTG
56410	ALDH3A2	ATCCTGTTCAACCTCCTAGTGCC
56411	IL1RL1LG	GGGCCTGGAAGACCACCTGCCC
56412	PDE6B	GATTTGGGTTCTGCCTGTGGC
56413	TPST1	TTTTCAAGGAGAGGGTTTAA
56414	SIAT8E	ACGTGGCCCGCCCCCGGCAGGGCACAG
56415	AEGL1	TTAAAGGAATCCACAAAGCAAACA
56416	RAD9	CGTTGCCCTGAGCTGCAGCCT
56417	SH3BP2	CTATCTATCCTTCACTGCTCTG
56418	CYB561	AGGATGGAGTCAGAACAACTACAGT
56419	RGS2	CCTTGAATTCAGCCTGGGTG
56420	PCDHA1	GGAAACAAGCCACTTAGCCAG
56420	PCDHA10	GGAAACAAGCCACTTAGCCAG
56420	PCDHA11	GGAAACAAGCCACTTAGCCAG
56420	PCDHA12	GGAAACAAGCCACTTAGCCAG
56420	PCDHA13	GGAAACAAGCCACTTAGCCAG
56420	PCDHA2	GGAAACAAGCCACTTAGCCAG
56420	PCDHA3	GGAAACAAGCCACTTAGCCAG
56420	PCDHA4	GGAAACAAGCCACTTAGCCAG
56420	PCDHA5	GGAAACAAGCCACTTAGCCAG
56420	PCDHA6	GGAAACAAGCCACTTAGCCAG
56420	PCDHA7	GGAAACAAGCCACTTAGCCAG
56420	PCDHA8	GGAAACAAGCCACTTAGCCAG
56420	PCDHA9	GGAAACAAGCCACTTAGCCAG
56420	PCDHAC1	GGAAACAAGCCACTTAGCCAG
56420	PCDHAC2	GGAAACAAGCCACTTAGCCAG
56421	TNFRSF1B	CTGGAGCCCAGGAGTTTGAGGCTGCA
56422	ABCC12	GAACACCATCAAAGATGCCTTCAA
56423	BCL2L2	AGTGGAGTTGGTGGATGGGTGGG
56424	FGF18	CGGAGCAGCAGAGTCTGCAGCAG
56425	SOX4	TGCTCTAAGCTGCAGCA
56426	IFNGR2	CCCACTGCACTCCAGCCTGGTGACTC
56427	ACVR1B	GGCCTGTAATCGTAGCGCTTTG
56428	IGHMBP2	ATGCACGTCCCTTCCCCTTACTCCCC
56429	SHANK2	CACCTGATGCTCACCTGCCCCTCTTTCTC
56430	PKIB	TAGTGGTTCTGTTTTCTTGAG

56431	SFRP1	ACATTTATGATTGTCCCTCTGGGC
56432	PML	CTCTGTTCCCTTCTCCTTTCATCCCAG
56433	ABCD3	TCTATCTTTTCCTTCAGTGAA
56434	DTNA	AAAGAATGTTTGGAAAATGC
56435	SCML2	GGCCTTGCAAAATGCTGGGATT
56436	MPL	CCAAGTAGCTGGGAGTACAGCGT
56437	CEACAM5	GGACAGCAGACCAGACAGTCA
56438	PTPN2	CAGGTTCCTCTGAACCCCAAACTGTAAAT
56439	PAP	TCCTCCCCGCTGTCATTTCA
56440	GASC1	CTCTTCCTCCTCCACCGAG
56441	BVES	TGGCTTTTAGGTTATTCTGCTTTAG
56442	F2RL3	CCGGGGCGCTGAGCTCAGGCC
56443	TULP1	CCCCTCTCCCCGGGACC
56444	PPARGC1	GGAATACTTGGTTTCTTTTCT
56445	CDH15	GTCTGGGGGCAGAACCTGAGT
56446	HOXC10	CACACACAGCATTCTGTTCTCCATG
56447	MGAT5	CTGGGAAAGCAATACCCCTGCTT
56448	KCNE2	GGAATTTCATCCTGCCCACAC
56449	TFEB	CAGGGAGGGGCAGGGTGTTCTAGAGG
56450	DIO3	TGTCTCATTACACTGCTGGCTT
56451	MGEA5	GCATTTGTTTGTGGCAAAAGCCT
56452	ECT2	TGATAGTGATTTTGATGTAATTTAT
56453	DCTN1	TGCCCAGCCCTTAGTTTCTGG
56454	P2RX4	GTGAGGTGGCGGCCTGGTGCCCGGTGGA
56455	KL	ACTGACACAGGGTCATAGTGT
56456	Rgr	GCCACTGAGAGACCCATCCCCCTCA
56457	PCSK2	AAGACCCTGTTCAGTCTCTTT
56458	C21orf5	GGCGCCTGTAATCCCAGCTACTTGG
56459	ZNF2	CCCTCTCTTGGAGCATTTT
56460	RASAL1	TCCAGCCTCGGAACCTGAGC
56461	RNF14	ATACTGGCTCAGAAGAATTTAAGTTCTATT
56462	SCN2B	TGGCCTCCTTGGGGCTCCTGT
56463	ADPRT	GTCTTTAGTTTTGATTTTGGA
56464	MALT1	CACACACATTATGAGCTTGAATTCTTA
56465	PPP2R2B	CACTTGAAGCTGTGGAAGATGGTT
56466	B3GAT1	TGGCAAGCCCCACCACACAGGAG
56467	TAF1	AACTCCATTTATTGCTTTT
56468	BACH1	AATCTGTAAATATTTTA
56469	EGFL5	GAACCTGGGAGGCAGAGGTTAC
56470	SOX4	GCCGGGGACCCACTCTGCCCAGCCGGA
56471	GJB3	TTTCCCCAAATCCTACTCCCTCA
56472	ZNF261	GCCATGGTGTCAACATGCTTAG
56473	TEM7	AGGGGCTAGCAGCAGAGGCTTCA
56474	EPHB3	TGGAGGAGGGGACTCCAGGAATGGGGA
56475	AIM1	ATTCTTCCTCTTTTTGTCCTCA
56476	PODXL	GGGACCAAGGAAACATGATGGG
56477	ZNF26	AATGTGAAAGAGCCTTCAGTGCCAAGTC
56478	DPYD	GGTTACCACTCTTTTACTGTGCACATA
56479	ENTPD3	TTTTACTGCCTTTGCTAGGCTTTT
56480	CAD	CTCCTACGGGGGCAGCACACTTAGATAT

56481	SOS2	AGACTTTTAAAATATGTGTTTT
56482	INPP5B	GGAGGCAGAGGTTGCAGTGCGCTGA
56483	BHMT2	AGACCAGCCTGACCAACATGGT
56483	COG7	AGACCAGCCTGACCAACATGGT
56483	CORO2A	AGACCAGCCTGACCAACATGGT
56483	CPM	AGACCAGCCTGACCAACATGGT
56483	IL18	AGACCAGCCTGACCAACATGGT
56483	TCTA	AGACCAGCCTGACCAACATGGT
56484	FANCD2	AGACCAGCCTGGCCAACATAGT
56484	FCMD	AGACCAGCCTGGCCAACATAGT
56484	MS4A2	AGACCAGCCTGGCCAACATAGT
56485	FRAP1	AGGGTTCTGGGATGTTTTCA
56486	FEZ1	ACAGCTCACAGCCAA
56487	INPP5B	GAGGTGGGCGGATCACAAGA
56488	PCDHA9	CTGCCACCCAGGCTGGAGTAC
56489	TAPBP	TGCCATCCTGTGGAAGCCACCATCATC
56490	PKHD1	GGGATCATGAAAAGGTCTGGTCAG
56491	CDSN	CCCATTCCACCACAGTGCCCCT
56492	FPGS	TCTTCAGCTGCATTTCACATGCC
56493	FSTL1	TCTTCAAACTCCACTTGTTCAGTCTGA
56494	PTGFR	GTCACATTTGACAAATAGGACTGC
56495	CASP10	GCGAGCACCTGTAATCCCAGCT
56496	GAS2	AAATGTTCATTGATTTCATGT
56497	GALNT7	CATTTGTTGAGCCATATCT
56498	DMXL1	GGGAAGGAGGGAGGGAAGC
56499	WBSCR1	CGAGTGGACTGTCCAAGCAGA
56500	NEU1	TGCCTCCCGGGACATTGATT
56501	MAP2K2	CTCCACCCACCCTCCTGCCTCA
56502	HDAC5	CGTCTGTCTGTTATCGTCTGTCT
56503	CDH13	TCATTTTGACAGCATCTTCCTCCCTCC
56504	TNFSF8	GATACAGCTCCAGGGTTAAAAAGA
56505	CDH1	CCAAAGTGCTGGGATTGTGGGC
56506	NUP62	TCCTCCAGGAAGCCTTCCCAGCTACCC
56507	RGS16	TTCTCTCTGTACCATGAGCTCCTCCAG
56508	XKRY	GGAGGTGGGTTGGGAGAA
56509	ZNF253	TTGTCACCGAGGCTGGAGTGCAAT
56510	MNT	TTTGGAGGGGAAATGGGGAAAGC
56511	EGR4	CAGCAGCCGATTGGATGTA
56512	EZH2	AGCTTCAGGAACCTCGAGTACTGTGG
56513	GNAZ	TGCCCGAGCTCTGGCCTAGGGACCTT
56514	CD2AP	TTACCTTTCTGTCCTTGATAA
56515	EIF4G1	GGCTGCTCTGTGAGATCAAGGGT
56516	BID	TGCCCAGGCCATGGACTGTGAGGTCA
56517	LATS2	GCTCCAGCCACCAGTGCCCGGTC
56518	HPCAL1	TATTAAAATGATAAAATAAATGGCATT
56519	TEM6	TGCACCAAACCAAGTGCCTC
56520	PMCHL1	CCTCGTGATCCACCTGCCTCGG
56521	SCAMP1	TATGTTCAAAAAAGTACATG
56522	CACNA2D2	ACCCCTAGCCACCAGTGTCCTC
56523	CACNA1C	GGGGAAGAAGAAACGCTGCAGA

56524	ART3	AGCATCACTTAAACTTCCTCC
56525	COL1A1	CTCCTAGTCTGTCCTGCGTC
56526	HUNK	GGGGAAAGACAGCTTTCTTTGGGAA
56527	PRG4	CTAAGGTATACAAATCTGTCTACATG
56528	PTGIS	AAAGTCCTGTTTATTGAGACCC
56529	OGG1	GTCTGCCCCTGGAGAACCCAGAA
56530	ERBB2IP	GCATGTCCATGCATTTTCTGTGT
56531	LANGERIN	TCTTTCAGAGAAACCTCAGCTTC
56532	TPD52L2	CCGTTACAGTCTTTTTCTCAGG
56533	GPD2	TAGAAAACATTCCAAAACTTTAAGGT
56534	MAT1A	GTGTTCTCCTGCTGCTC
56535	TIF1	TAGACTTTTATGAACTCTTTAA
56536	USP6	ATGCAATTTCATGCCATTCAG
56537	KCNAB2	CCGTCTTCCTCCTACACACCA
56538	SKIV2L	CGAAGAGTGAGAAGCAGAGGGC
56539	ZAP70	TAGTTTCAGACAAGCCTGCTTGCCG
56540	CHES1	GAACTCATATTGACACTCA
56541	RGL	GGCACCGTGGGGAAACTGGAAA
56542	DAZ	TAGCTGTATGAGCAGTTCCAAGGCC
56543	TCF2	CACCCGAGCTGGAGTGCAGT
56544	ATM	GCCCAGGCTGGGTGCAGTCACGGC
56545	AQP8	CACTGCTTGGGCCTGCTTTCTCA
56546	TAF11	CTTCAAGCAGTCCTCCTGCCTCAG
56547	MPP2	CTCCTGACCTGTGACCCCCTG
56548	BLAME	TCACTCTGACTCCATCAAACT
56549	TAC1	GTGTTTTAATTCCAATATGATG
56550	MYD88	TCTCATCTGCATCTTTCACACCT
56551	AOX1	CCAGAACCTCCGCCTCCCGCTCCGGG
56552	NOX5	GCCCAGGCTGGTATGCAGTCAT
56553	RGS6	CATCCAGCATTTGCATCACCTCCCTG
56554	CBS	GCATCCGTCTCCCCTCGTTAAC
56555	GRLF1	ACTAGGAGAAAAAATGGAAA
56556	TCP11	AACTGGTCCATACCCATTCATTAA
56557	MAPK14	AGTGTAGATAGTTAAAAGACTGCAGCTG
56558	CDK5R2	GTCATGTGTCACCATCTTCCCTC
56559	BCAS1	ACTAGCCTGGCCAACATCATGA
56560	GGCX	GTCCACTCAGAGTTCTGAGGGGGCC
56561	VHL	CTCAGCCTCCCAAAGTGGTGGG
56562	GPRK7	GACAGGCAGCAGGAGTCTCGGC
56563	FGF1	TAAGGGGTCGGCTAAGTGGGA
56564	ETS1	GGGGAAAGAAAGGCAGCG
56565	NR1I2	GGGCACTGGGTACCCAAGTGAAGGTTC
56566	PRSS16	TTTCCACTGCTCTATTTCTGACTCT
56567	PPY	CTCTGGCCAAAGCTTGCTCCCT
56568	PYGO2	TTCTCATTCCTCTCAGCCA
56569	ADAMTS13	CTGCAGCGTGAGCTGTGGGA
56570	MADH4	ATGAAGTATACTTTTCCCCTG
56571	C14orf1	AGCTTCCCAAGTAGCTGGGACT
56572	SWAP70	CTCCATCTCAAAACAAAACA
56573	HSD3B2	CGCTAGAATCAGATCTGCTCTCC

56574	MAP3K8	AACAGTAATGGAGTACATGAGCAC
56575	NRAP	CCTGCTGTTGTGGCCATGTC
56576	GM2A	GGACTACAGGCCCTGCCACCACGC
56577	APOC3	ATGCCTGGCCCCCCTCCAGGCATGCT
56578	IKBKAP	TTTCATGATTTCTACCTC
56579	CHRNB2	GCCCTTCCTCATCTCCATGCTCTTTCACC
56580	PVR	GAGAGGGGAGAGAGACTGGAGCTGG
56581	AK1	GCTCCTCTGCATCTTGCTCTGTGCC
56582	SH3BP4	AGAACAATGCCATTTGAGAGTGAGGT
56583	KIF5B	CCCGGCCGCCTCCACCCGGGGA
56584	C9orf19	GGTTCTGTGTTTTGCCTGAA
56585	CBFA2T2	GGCTTTCCTGGTTTGTTCCTCTCTCCA
56586	CYR61	CGGCCTGTCCGCTGCACACCAGCT
56587	TTF2	GGATGGCTTGAAGCCAGTAGTTCA
56588	ADRA2A	TCAGAGCAAGCACTGGACT
56589	CDKN2A	GAGGGGGAGAGCAGGCAGCGGGCGGC
56590	PTPN7	TCATAACCATCCATGCAG
56591	FMR2	TTTAAGATATGAATCAATGTGT
56592	SDF2	TGGAAGCTTCAGCCCTGC
56593	JRKL	TTCATTCTCTTACATTTGTGTGGGTTG
56594	BNC	ATGTGGTTCTGATGGTTGTTG
56595	CHRNA10	CTACAGACATTTCGCCCCAAAT
56596	DCX	TAGGCTGGAGTGCAGTGGCACA
56597	PPM1B	ATCATTAGCATTTCCCATCAT
56598	PCDHGA7	TCTATTATTTTGCAAAACAAA
56599	CD86	GCAACCAGAGGAAACTTGCA
56600	GABPB1	CTGTATTCTGTGCCTTCCATC
56601	TBXAS1	AGAGCACGGTTCCCATAAGGGC
56602	MEF2A	CCCCCCAGGCTGAAGTGCAGT
56603	DUOX2	ATCTCCCAAAGAAGATAAAGA
56604	CHST6	CAGGCAGCCAACATCACTCAGGA
56605	PTN	AGGAAAATCCAAAGTGGAGAGAG
56606	STAC	CCTCCGTTTGCAGTAGGCA
56607	OGN	TCATTCTTCTTTTATTATTCA
56608	BSN	TCTGAGCAAGGGCTGAGGGAA
56609	TNFSF15	TCCAGCCTGGGTAACAAGAGCA
56610	TLL2	ACAATAGCACCTTGAAAATCTGCCC
56611	MCF2	AGAAGCAGCTCGTATTTCA
56612	PPP3CA	GTCTGACATATACTGGAAATGT
56613	IL12RB1	GGTCTCAAACTCCTGCCCTCAGGTGAT
56614	KIR2DL1	GCTTTCAGTCTTCTGTCAGCAGTAAAAC
56614	KIR2DL2	GCTTTCAGTCTTCTGTCAGCAGTAAAAC
56615	CYP2B6	TCACTGCAACCTCTGCCTTC
56616	HAS2	CACACACAACACCTTAGTTCCTCTAGG
56617	WHSC1	CCAACAGCATCATCTGCACTGCCCACT
56618	CBFA2T1	TCCTGGTGGCATCCTCCAGATC
56619	PLAG1	ATTTAAAATATTAATTTGCTG
56620	CA3	AGTCTATTTCATTTTTCCACAC
56621	DTNB	CGCATCAGGAATTCACCTGGAG
56622	MRPL49	GGATAGTGCTGGCTTCCATG

56623	CASP8AP2	TCTCTAATTTCACATCAGCA
56624	GAC1	TAGAATGACTGCCCTGGGAGGGTG
56625	MAML1	CCCTGCACTCCGCCTTAGTCCTGGGG
56626	NCKAP1	ACCATGTCGCGCTCAGTGCTGCAGCC
56627	AMHR2	TCCTCCAGCAAGATGCTAGGG
56628	RPL10	CTCTAGCAACCTCCTGGGC
56629	LPIN1	TATTTGCTGACTAGTCTCATT
56630	FACL4	GTTAGATATAGAGTCATTGTAATG
56631	BACE	GTCCCATTCTCCACTCACTGCATT
56632	LAMC2	CCACTGCTCTCCAGCCTGGGGAAC
56633	OAS3	CATATCCAAGAGCTCAGGGC
56634	MYD88	GGACTACATGCTGGCCACTGCTGTG
56635	NLGN2	CCTCCCCCAGGCCTCAGGCC
56636	CDKN1A	CTCCACCTAGACTGTAAACCTCT
56637	MYO9A	TTCCTGGGCCTCCTGCAGAAGCAG
56638	CAPN5	CACCACTGCTAAGGGACTCT
56639	FANCC	CACCTGAGCCTTTCTTCTGAG
56640	FSTL1	ACTCCTGATTCTTCCTTTTC
56641	MPL	CACCTCCGGGTTCAAGCGATT
56642	EIF5A2	GTGACTTCATTCTTTTTAGAC
56643	PER2	TCTTTTTGCCCAGGCTGGAGTGC
56644	KIT	TTGGAGGGGTATTTTTGCCCTG
56645	RARG	CTGTGACCCCTCCTTTCTTCC
56646	CACNA2D2	TCCAAGTGCCCCCTCACCTCTCCAG
56647	DUSP4	GCATCAAACAGCACAGCTCTGGGGGAT
56648	HLA-DRA	CTTCTGCTTTAATGACTTTACAAAGCT
56649	TACSTD2	TCCAACAACAGGAAACCTGACTG
56650	PCSK2	GAGTGCTGGATATTTTACTACCA
56651	GUCY1A3	GTGGAATGCCATGGTTATTAA
56652	LSS	TGAGCAGCTCACATGCTCAG
56653	BSND	CAGGGCCTCAGTTTCCCTATCT
56654	FLT4	TCACTTCTCACAATGTCCCTTCAGCA
56655	SCG2	TTATGTCCATTATTCAAGAAAGA
56656	ALX3	GTCCAAGTCCATTGTCATCTC
56657	RDX	CCTTGCCCTTTCCATA
56658	FZD3	AACCAAAAACAAACGCCTT
56659	COL1A2	CGGTGACCCAGGGGCTCTGCGACA
56660	FS	AAGTGCCCAGGCTCAGGTGC
56661	BCL2L2	GAACAGCTTCAGATTATGGCTT
56662	ESR1	CTGTTCTCTCACAGGTGATAAACAATG
56663	DAF	TCACATTCTTAGCACACCTACA
56664	FLT1	CACTGGCTGGCCTGAGCAA
56665	STK38	TGTTTGCCTCTCAGTCTTTCAT
56666	NGFR	CCCCTTGAGCTGAGATGGAACC
56667	YWHAZ	GGCTAAGTTATACCCAAAGCTCACTTTA
56668	RRM2B	TTTTCTGCTTTTTCTATTGCC
56669	PRKCSH	GCCCCTCTGGGCCTGCCTGTG
56670	DAPK1	CAGTGTTTTGGACTCCATCTC
56671	TNFAIP2	GAGCCCCTCCACAGTCGGCCTCA
56672	APOC2	AGGGGAGAGTCCCCTACTCCCCT

56673	SORCS1	TACTACCTGAATTCTACCTGCA
56674	LAMC3	ACATGACCCAGGGGGTGCACA
56675	PLA2G2A	TTAAGGGGAGCAGGAGTGCAGAACAAA
56676	RAD54B	CTTTGCAGGGCCAGTGGTTTCTGTCAG
56677	DBN1	CCTTCCTCTTTGCTTGGGTT
56678	UBE2G2	CTGTAGTCCCAGCTACTCTGAA
56679	KRTHA7	CTGACTTCCCACCAACAGCTAAC
56680	PCDHA11	GAGGCCACCTTAACAACTGAAT
56681	KPNA3	ACAACAGCAACAAAAGGCTCCA
56682	BUB3	AACTTAGCTTGGCCTATTCTAG
56683	TPST1	GCCCTGCAGTAAGGAGCCCAG
56684	ALS2	CTTCCAGTCATGTGTGCA
56685	ZFP36L1	GCCTCTGCCCATGGCGGGGTGG
56686	MAG	CTCTGTCTGTCCGTGTT
56687	GAD1	TTTATGGGAATGCCTTT
56688	CST2	GGTACACACACCCCCACCTCC
56688	CST4	GGTACACACACCCCCACCTCC
56689	DPYSL3	AAAGGAATTTGGAGATAGCCAAG
56690	MFAP2	TAGGCCAGGGTGGGAGCAGTG
56691	SCO2	GAGCCCAGGGAGCTGGAGGTCG
56692	ZNF3	GCAGCTCTGGGACCAGTTACCCCATT
56693	TXNIP	GCCAGCACTTGGTCAGTCACTCT
56694	FKRP	CCAGCCTACAACCTAGGAG
56695	IRTA2	TTGCTGAGAGAGCTTCTTCT
56696	DDX3	GGGGAGGCTACCCGCGGAAGAG
56697	EGFL4	GAGAGGGAGAAGCACTGTGAGGC
56698	EPHB3	AGCTGGGACTTCTCCAGGCCTGTGT
56699	RNTRE	AACTCGCACATCTCTCCTGTCTGTT
56700	DLG4	CAGCTGGAATTTAGTGGGGAG
56701	MAGEA3	TATTCTTTGTTTCCTGTTGG
56702	CTNS	GGGCTAGGACTTTGGGGTTAGG
56703	HERC2	TGTTTACTAAAGTGTGTAAA
56704	RTN4	AAGCACATAAGCTAGAAGAAGAAATA
56705	SIAT7D	AGCCTCCTGCGAACCCCAGCCTGCA
56706	ARSD	CCATGGTGGTGTGCACCTGTG
56707	KAL1	ATCTAAAAATGCTCCT
56708	MDM4	TCCAGCCTGGGTGACAGCGCG
56709	RAB5B	GGAGGGAGTAAGGAAACATTCCTT
56710	ACOX3	TTGCCCAGGCGGACGGGAGGGAGGCAC
56711	JRK	CAGGATCAGCAGAGCAGGCAGGCAGAGTG
56712	CBFA2T2	CTGGGCAACAGAGCAAAACTCTGTCT
56713	ARIH1	GCCCTCTCCCCGCCTCGGCCAGCGT
56714	MUC3B	TCACCCAGCCACCGGATTCTC
56715	GAB2	GGGGGCCTGGAGAGGACTGA
56716	SLC14A2	CCGGGAGGTGGAGCTTGCAGTG
56717	APM1	TAGATATTATTCATTCATTTAC
56718	RBM10	CACCCAGGCTGGCAGATCATGGTAGCA
56719	EGFL5	ACAGAAGTTAAACCAATAGAGAGAAA
56720	AMBP	GAGGCGGTGGCCCTTCTGTTGCT
56721	CELSR1	GCCCTGCTGAGGTCACTGTGGGGCAC

56722	ARNTL	TGTGTGCCGGGCACTGTGGTTT
56723	KCNQ2	ACAGAGCAGAGGCTGGGGCATTGGCA
56724	ATP7A	AGAGAAACCAGGAATGTAATG
56725	UBE1	GTCCACCCCTCTCCACACCCC
56726	GLUD1	TTAGTATTTTATATCAGCAAA
56727	ZNF202	ATTGAGGCTTCTCCTTCACTGGA
56728	CD244	AACAAGGCTGTGGGGAGCAGG
56729	BENE	GACCTCAACGGGCAAAGTTGTGCACAC
56730	PLAT	GCATTTTCCCAGATACTTCCCATTTT
56731	ALPPL2	AGGTCCATTCCAGCACCCACCTGAGTTCCG
56732	MFGE8	ATCCCAGGTGCGTGTGTCTCTGTCTCT
56733	UMPS	CTGTTGCCCAGGATGGAGTGCAGT
56734	PTGES	TGCCCAAGCTGGAGTGAAGTGG
56735	TITF1	TGGGGACACTCTGCCAGCAAAGA
56736	SPARC	TTAACGGTGCTAAAAATGAA
56737	APXL	AGTGTGTATTCCTGTTAAATT
56738	CXorf6	GCAGGATGCCCATAGAAACCCC
56739	DUOX2	TCCCTCCAGCTCCAAAAGGAGCAGCCC
56740	ECHS1	GTCACCCAGCCTGTGAGGGTCCTG
56741	RECQL5	GGGCCATCTTGGTTTTTGCAAGAA
56742	GHRH	AGCAGGAACTCCCAGGGA
56743	IGSF4	AAGACTCCAGACTCCAGCTAACAGTCC
56744	CYP2B6	ACTGCAACCTCCACATCCTGGG
56745	TFE3	CCCCACCCCTTCCCTATAGGAACAGCC
56746	SMCY	TATCTCCTGGCCTGGACCTCAGAAG
56747	PRKDC	TCTGATTGGCTTTTAGCTTTTTG
56748	FETUB	TCTCAGCATGTTGACTGGGA
56749	CRHR1	ACAACGTGCTGCTTACACTCC
56750	STAR	GGTCTCCTGCAGCCCTCTGCTCCT
56751	RXRA	CCACGGGGCTTGGGCGACTACAGGGTC
56752	MGAT5	CTTCAAGATCCTGCTACCATTTTCT
56753	CELSR2	CTCACTGCACTTTGGACCCCTGGG
56754	FGF5	GATTAGGTATTAGCAGAGACAAA
56755	KRT17	CCACAGTCTCCGGCCTCTCCA
56756	FGF1	AGTAAACCCTATCTGTGATT
56757	FLRT1	TTGCCCAGCCTGCTGCAATC
56758	ESRRA	GCTGGGGTCTGGGCAGTGCC
56759	SNX3	AGCCTCACAAACCTGTTATTCCAG
56760	EXTL3	TCTCCTCTGACCTGCCTGTACCA
56761	ABCC3	GCACCTTAAGATTTTGCACCTG
56762	CUBN	GTATGGTTTTTCACCAAACCA
56763	HTR2A	TGCTGGCATTTGCTGCATTTCAA
56764	PPP1R8	GCCTAATTTATATTCACTATCCT
56765	MRPS12	CTCACCTTTAGGTCCTGTGAGGG
56766	DUSP4	CAGCACAGCTCTGGGGGATGTCA
56767	SLC8A2	AGCCCCGGCGGGGAGGAGCGGGTGGG
56768	HDAC4	GTGAACTGTGCGAGCACTGTGGT
56769	RPL19	GGAGGAAGAGACCAAGAAATA
56770	TRPM2	CCCAGCCAAGGGACACATCTCA
56771	APOC2	CCAGTAGCTCTTGCATCCTCCTCC

56772	APOB48R	ACCAGCCTGGGCAGCATAGCAAGATCC
56773	HSPA5	CTCCATCTCTACTGAAAATACA
56774	PTPN1	AGGCTTTGCCATGGGCCTGCTGC
56775	ZNF277	GTAAAGTTTTATTGTGTGATCA
56776	ETV5	CTGCGCCGCCAGGGCCGCT
56777	BYSL	CAGTCAGCTGTCCTGGCC
56778	PRPS2	TGTCCAGCAAGCCTACTCTGA
56779	CBFA2T2	TTTATCTCTCAGACCACACAC
56780	NCAM2	TTCCTAAATCTCTATCTCT
56781	CTSL	GCAGCCAGCTACCCCACTGTGTG
56782	EGFR	TGATCGGGAGAGCCGGAGCGAGC
56783	G6PD	AGCGGGTATGGCAGGCAGCCGGCGGG
56784	SOX11	TCAGTGGCTGATTGAAACTCA
56785	PXN	CTTCTGAGCCCCCCTGCTTCTA
56786	MSX2	CACACACATATTTTTAAAGTTTTTCCT
56787	TAT	CAGCGGCATCAGGCTTTCTTAAA
56788	IL2RA	GTTGTGCTTGCCTGCGTTTTGG
56789	PLOD3	TGGAGCTTTCTGTAGCCTCCGGATACG
56790	ITK	TGCTACCTCTCTCCTTGAAGGGA
56791	PPP1R3A	TGTAATAAAAATCATGGCAACA
56792	A1BG	GCCCAGGCTGGAGTGCAATGGC
56792	ADAMTS4	GCCCAGGCTGGAGTGCAATGGC
56792	CDC6	GCCCAGGCTGGAGTGCAATGGC
56792	CRTAP	GCCCAGGCTGGAGTGCAATGGC
56792	FEZ1	GCCCAGGCTGGAGTGCAATGGC
56792	MLANA	GCCCAGGCTGGAGTGCAATGGC
56792	NF2	GCCCAGGCTGGAGTGCAATGGC
56792	PMCHL1	GCCCAGGCTGGAGTGCAATGGC
56792	PTGIS	GCCCAGGCTGGAGTGCAATGGC
56792	RAB36	GCCCAGGCTGGAGTGCAATGGC
56792	SAS	GCCCAGGCTGGAGTGCAATGGC
56792	SIL	GCCCAGGCTGGAGTGCAATGGC
56793	PTGIS	GCCCAGGCTAGAGTGCAGTGGC
56794	CDC7L1	TAGCCACAAGTTCTTGTTTAGAGACCA
56795	CORO1C	GGGAGGCACTGCCATTTGGAGA
56796	FHIT	ACCAGTGATCCCCCACCTCGGTCAC
56797	COG7	GGACGCCAGGCCTGAGGCAGT
56798	DAD1	ACTTACTGCTAGCTCTGCTTTT
56799	PAFAH1B1	GTCTGCTGTCTAACCCTG
56800	HR	GATGGAGAGGACCAGGAGCCAG
56801	ZNF10	TAAGTTAATAACCCACAAAAG
56802	ATP2A3	GTCCCAGCACGGACATGGCCTC
56803	ATP6V1G2	TGAAACCAGGACAAGCTACTTA
56804	AF5Q31	GCCCTTTAATATTTCCAATGTG
56805	UBE3A	TTCAAAACATGTTAAACGTTACTTT
56806	FADD	CCAGCTCAGAGGCCCAGGAATCGGAGCGAAG
56807	CENTD2	AAGCCTCCGGGAGACCAGAGCTGGG
56808	ADAMTS5	TATATTTTCACAACTACTTTCTCTCTCCAGAG
56809	WBSCR1	CTTTTCCTACTGTGTCTTGTTA
56810	RPH3AL	TGAACTCCTGGTCTCAAGTGAT

56811	WHSC1	TGTTGGCCAGGCTGGAGTGCAGT
56812	MLPH	GACCTCCTGGGCAACATAGTG
56813	CREB1	ATTGCTTGAACCCAGGAGGCAG
56813	CUBN	ATTGCTTGAACCCAGGAGGCAG
56813	DMC1	ATTGCTTGAACCCAGGAGGCAG
56813	INPP5B	ATTGCTTGAACCCAGGAGGCAG
56814	SYNGR3	GGAAGGCACAAGGTAGCTGTGG
56815	FACL2	GCTGTGACGCCTGAATAACTGTCTACT
56816	ZAP70	CTCAGGCCACACCGGCCTT
56817	IL1RN	CAAGGCTCTGAGCAAATGTGGCTCCTGG
56818	SLC35A1	GTGCCAAAGCCATTTCTGTACTAACTGTT
56819	SYBL1	TCTTGTTCCATGCCTCCAG
56820	AKAP1	TCAGCCTGGAATCCCCACCT
56821	AKAP13	TGTTACCTTCCTGAGGCCTCAGTATTA
56822	MICB	ACGACTGCTCCTGCCAACAGAAGGT
56823	APAF1	CCAAAGTGCTGAGATTACAGGC
56823	ATP8B2	CCAAAGTGCTGAGATTACAGGC
56823	AXL	CCAAAGTGCTGAGATTACAGGC
56823	COX15	CCAAAGTGCTGAGATTACAGGC
56823	HUNK	CCAAAGTGCTGAGATTACAGGC
56823	SNX15	CCAAAGTGCTGAGATTACAGGC
56823	TRAF5	CCAAAGTGCTGAGATTACAGGC
56824	MHC2TA	CCAAAGTGCTGGGATTACAAGC
56825	ICMT	GTCCCTTCACTGCACTTTCTTCCT
56826	CLASP1	TGACGACATGGAGCAGCTTCG
56827	CHRNB3	GATTTTGAACCCCTGTATTTTCTTTT
56828	PIGA	AAAATGCTCATGCCAGTTAATGCCAG
56829	SCA7	GTTACACCTCCACTCAGCAC
56830	RPS6KA2	AGCCCCGGAGAGGGTCCTGA
56831	DBI	TCGGGAAAATAACCAGTTAA
56832	ZNF136	TGAACAGATGTTTTGGCTCT
56833	EPS15	CTTCATGTTAAAAGACCATC
56834	E2F1	CAGGGGTCCCTGAGCTGTTCT
56835	NCAM2	GGGTTAAATGCGGAAATCTCTCCTTGCGT
56836	SYNGR1	CTGCGTGTCCCACAGACGCTTGTTC
56837	IL11	CACCTCCCGGGTTCAAGCAAT
56837	SEDL	CACCTCCCGGGTTCAAGCAAT
56838	CDC6	AGGCTGGAGTGCAATGGCGCGT
56839	LIFR	AGCTAAATTTCTGAGCTTTA
56840	NPC2	TGCTGAGACTCTTGACAGCACCTCCAG
56841	NPAT	TTGTTTTAAAGAGAGAATT
56842	CYP1B1	CCTGTTGACGTCTTGCCCTAGGCAA
56843	CASP4	ACTTCAAGGAGCACCTTCATTAG
56844	ACTN1	GCCCAGCCCAGCCCAGC
56844	HS3ST3A1	GCCCAGCCCAGCCCAGC
56845	AKAP13	CTGGGATGGTGGCTGCCTGTG
56846	GSTT2	CAAATGTCATCAGTGTTTTAA
56847	ED1	TCTCGGCTGCCAGGGGCTCTGT
56848	GPR80	CTCCACTGGGGAGATATAAGAA
56849	ARHGEF7	CCAATCATTTCTTCACTTCTCTGGGACAC

56850	DEK	CCGCCTCGGCCCCTGCTGC
56851	F2RL3	CAAGTAGCTGGGATAACAGGCGC
56852	MGAT1	CCTGCCTGTGTTTCCCTCTTAGGTGC
56853	GLTSCR1	GGAGAGGGGGTGGGGGAGCCAG
56854	SEC22L1	GTTAACCTTTGTTGTTTTCC
56855	GPR44	ACTGCCTCCAGGGCTGGAATCCTGTG
56856	CHC1L	AAACCCAGAGTTTATGTAGAA
56857	USH3A	ACCTGTAATTCCAGCACTTCAGG
56858	RASA1	TCAGGAATTTGGGAAGCTGGCTC
56859	CENPF	GAAAAAGTTTGGAAGCACTGA
56860	KRTHA2	TTAAGCCCTCATCACTTCAA
56861	F2RL3	AGACTCACTGCAAGTTCCTGCCC
56862	LENG4	TACTCGGAGCTCGGATCCCAGT
56863	APM1	CTGCAACCTTTGCCTCCCAGGT
56864	CNTN3	TACATACTTCAGACTTTT
56865	BACH2	GAGTGACCCTGAGACTAATGAACA
56866	GAS7	GCCTGGCCTGTACCTGCACCCCACT
56867	CD80	GGCACAGAAGTAGCTCTGGTGAC
56868	FZD6	TATTGTGATATTTTAGCACTTTGG
56869	SLC4A1	GGTACAGGCAGGATGATCCAGG
56870	MYLK2	CCTTGCGACCACCAACACAC
56871	NUCB1	GCCCAGCCCCTCAGCCTCATCTGGAGC
56872	ODF1	CTCCTCTCCTTCCCATGGCCC
56873	CPSF4	GTGCATTTAACTGTTTCATGCGC
56874	ITPR3	GCGACTGGGAAGAACACTGCCCCCTCC
56875	TNFSF4	GCCTGCTCTTCCCATGTTGGCC
56876	FOXD2	CTCTCCCAGGCCCAAGGCTGCGGGCGCC
56877	SIAT6	GAAAGGCTTTGAGAAGGACGTGGGC
56878	PAFAH1B1	ATATTGATTTAAACTGTGTTTCA
56879	MRPL49	TTGAGTAGCTGGGATTACAGGC
56880	POU4F1	AGTGTCCGTTATCCTGCCTGCA
56881	DXYS155E	GGAGGTCCCACAGCAAAGA
56882	NDUFA2	CCTCTAACCCCTTAATGGTGCAACCAC
56883	ZNF255	CTTCCACCCTCCCCATTTGGAGTC
56884	TULP1	AAGAACATCTGGAGTTGGAGCCGCAC
56885	WHSC1	GCCGGGCAGCCTCCTGCTCT
56886	BMP7	AAGAAAAATGGCCGGGCCAGGT
56887	RAG1	TAGATGGAGTCCAAACGCAGT
56888	ITCH	GCTGAGTCTCTATCATAGCTGAACCCT
56889	SLC4A4	TTTCAGTAGTTCTACCTC
56890	PYCR1	CCACCACCTTCTCTTCTCTTGTCA
56891	DMRT2	CTACCTCCCCCAGTTA
56892	MNT	CTATCCATGTAATAAGCACTTG
56893	REQ	TTTTCTTTCTTTAGTTCCTGTATTCTA
56894	CBFA2T2	GGAGGCGGCAGGCGGCAGGCAGCAGG
56895	APG5L	ACCTGTGTTCTTTACACACTACA
56896	PTGES	CAAGCTGGAGTGAAGTGGTACAAT
56897	PDGFB	AATAGGAGGGAGACTGTGGTA
56898	VAMP8	CACTTACTGACCGGCCTGGGCTGCTCTG
56899	RAB27A	CAGCTTTGTAAATATTTCTTTAA

56900	BDKRB2	ATCCAGCTTTGGTGCAATGGC
56901	NET1	TTTACATTCATTTAACCTGCCGA
56902	SNAP23	TTGAGGGAAGGACAAGAGATA
56903	DAG1	CTCTGGCACTCCAGTCCAGCTTGGGCC
56904	RAD1	GTTGCCCAGGCTGGTCTCCAAC
56905	TTN	CTACACTCATTCTTAACTTTTC
56906	G6PT1	GGCTGGGTGGAGGAGGGAG
56907	C21orf5	AGAGAATATGTTTAATCCAT
56908	RABIF	CACTGGCACTCCAGCCTGGGCAACAGAG
56909	DSP	TTGATCAATTCTTTAATTTTGGA
56910	NAP1L3	CCTTGTGTATGTGACATATA
56911	CDYL	CACTTAGAATATATTTTATTTA
56912	MECP2	CAGGCAGCCGCGGTGC
56913	RNF14	TTATTTTTAAAGATCTTCT
56914	ADORA2A	GAGAAGGGAGCCCCAGGCTGGAGCAGC
56915	IL6R	GCAATGTGATAAAACCCCATCT
56916	NCOA3	TTCACACATTTAGCCAATCTTTCTAGA
56917	CHAD	GTGCTTTGCTGTCCATCTTCCCA
56918	SECTM1	GCCTCTGTGTCACCCACTCCTGGGTG
56919	EGFL5	AAATTGTGCAAAATGGCATA
56920	MICB	GTATCATTATTTCTGTTGTTTTTGTT
56921	PTMS	AGTCCAGCCACTCTTCACCTGGCTCC
56922	NR1I2	CGGCCACATCATTCTGTGTCTCT
56923	EHD3	ATGCAGCAGCGGCTGGGCTTGG
56924	FAAH	CCCACCCCGTCCCTGGCCATTC
56925	DISC1	GCTGTGCAGCACTTCTGTCCTCA
56926	GFER	GCTGGGCATCCCTGTGCCTGTCCCTGGCGGC
56927	MAK	TGTCCAGGCTGGAGTGCAGTGG
56928	MAP3K7IP2	CATTGACTGCTTAACCAAAG
56929	TRHDE	CCTGCCTGTGTTCCAGCATGCTTA
56930	ADRBK2	TCCAAGTGTATGGGATTAACTAATCAT
56931	CTF1	GGCTAATTTTTTATTTAATTTTTTGT
56932	ZNF3	CCTGCTTGCCCTGCCCTCTC
56933	ZNF142	TCTTCACCATCACTCCATCAAAGTC
56934	CUL5	CTTTTTGGTGTTTATGAAAATC
56935	PCDH11Y	TGCAGTGAGATGTAACTTTCT
56936	EFG2	CATTCAGAGAACTAGATAAAAG
56937	CD2AP	CTTGTGTCCTCCTCAGTCAGA
56938	ACTR1B	ACTTGCTCCTCCCTCTACCCTC
56939	CDK2AP1	TGAGAAGTTACAGTTCATCTCCCCTGT
56940	GABRP	TGTTGCCATGAAGGCTTGCAGA
56941	CAV1	ATACAAGATCTTCCTTCCTC
56942	VAT1	GGGAGGGTCAGAGGGAGGCCGG
56943	ZNF135	GAATTTGCCATTATTGCACATCACA
56944	IFNA1	TCAGCAAGCCCAGAAGTATCTGCA
56945	DDX6	AAGGTTGCTGGGATTAAGGGGAT
56946	TGM2	TCTAAACTTGAAACAAAACA
56947	GPR81	CACCGCACCCCGCCCAGCCTGGCAGA
56948	SDC1	TATCTGTCTGGTGGCCCCGTTTCT
56949	DMP1	TGTAATAAAGATTATAATACCC

56950	BRMS1	TGGGCCCTCCCACTCCATCT
56951	KCNMB1	CCTGCTCTCCGAGTCTGTGTCTCC
56952	LRP4	GTTCTGAGCCTCCCCACATTA
56953	SYBL1	AGCCATGGCGATTCTTTTTG
56954	FMR1	GGATGCAGAGTTCAGGGAAG
56955	POLK	CCACTGTACTCCAGCCTGAAGAG
56956	TM4SF2	CTTACCCCACAACGTGCAACTG
56957	CMAR	TGGGAGGTGTTGGCTGCACGTGCGGGT
56957	SPG7	TGGGAGGTGTTGGCTGCACGTGCGGGT
56958	TFRC	CCCTTCATCCTGCGGGGCTGGCT
56959	TGM1	CTGCGGTTGCCAACACTGCTG
56960	ATP1B2	CTGGGCAGGTCTTCTCCTCC
56961	CHAT	GGTGACTGGGAAATGCTGAG
56962	GLDC	TCGAAGCTGATGGTTGGAAGAC
56963	UGT1A1	GATTACTTTTCTTACTCTGA
56963	UGT1A4	GATTACTTTTCTTACTCTGA
56963	UGT1A8	GATTACTTTTCTTACTCTGA
56963	UGT1A9	GATTACTTTTCTTACTCTGA
56964	MAP3K9	TAGTTTCTTGGGGGACTCACTCACT
56965	FZD3	TTGAGTATTTGAAAATTGTTG
56966	TNS	TGGCCCAGACACCCACCTGACTT
56967	WDR4	CAGTAGCTGCTCGCCACACAGGCT
56968	ITM2B	TCTATATATACAATGAGTAA
56969	SEL1L	CTTTTAACTCAGATGAATTTAT
56970	SLC25A12	ACGAGACATAGTGCTGCTA
56971	MELK	TGAGTGTGGGTGTGATACA
56972	DHFR	AGACCAGCTTGGGCAACATGGC
56972	SFRS2IP	AGACCAGCTTGGGCAACATGGC
56973	MGAT2	CTGAGCACCTGCTGTGTGCCA
56974	GBE1	CCATATTTTCAAGTCATCTTA
56975	TCN2	CCTGACCCTGCTGCCACCTCCTG
56976	CPD	ACATTCTTAACCTGTATTTGAA
56977	MTMR4	GCCAGCATTGGTGAATATTCA
56978	HIVEP3	TCCAGCGTGGCATCTCTTGTG
56979	NYX	TAGGATTCAGGAAGGTAGGC
56980	MAP3K8	GTGTCTGCTGACTGTTTCA
56981	ENDOGL1	GTGTCATCCAGGCTGGAGTGCGGT
56982	SLC22A12	CCAGGCCTCAGCCACCTGCC
56983	REGL	TCTCTCTCCATATCAATCTGGACCAT
56984	NIPSNAP1	CAAACCTCGTCACCACGGTCAG
56985	CYP1B1	TTAGTAGACATTTATAACTCAAGGATA
56986	EIF4EBP2	CTCCTGAGGCTGCTGGCTGAG
56987	KCND2	TAAAACCACCAAATGGCATTT
56988	PAK1	GCCACAGACGCCTTCCCCCTTG
56989	HS3ST2	TATGGTCTCAACTGTGCTTGA
56990	OGG1	AGGAACAATAAAATAGAAACATTTGTA
56991	DXYS155E	ACTGATCAGGAAGTGCAGT
56992	GAS7	TGACAGAGCAAGACTCCATCTC
56992	PPP1R12B	TGACAGAGCAAGACTCCATCTC
56993	LRRC2	CAACAGAGTGAGACTCCATCTC

56993	SWAP70	CAACAGAGTGAGACTCCATCTC
56994	B4GALT5	CCTACCCCACATCCTGTCTTAGCCG
56995	COL7A1	GACTGGGCCCAGATAATGAGCTG
56996	PF4	ATCTAACTGTGAAAGAAACTTCTG
56997	USP1	CTTTAGCTTATCTTTTGAAGCTACTGG
56998	EZH1	GTAATCTGCTTTCCTGTCTG
56999	PPP3R1	TTCATTCTGCTACTTTGTAACTA
57000	CRYZL1	AGAGGCAGCAGCACTTGGTAAAAGT
57001	DYRK1A	ATACCTGAAATTTTCCGTGGTAATA
57002	LPIN2	AGGATGGTGAGTTGAAGCATCA
57003	BACH2	CTGACACAGGCTGACACATTCTTTC
57004	PCDHGA1	TTACCTGCACCCAGGCCTCA
57004	PCDHGA10	TTACCTGCACCCAGGCCTCA
57004	PCDHGA11	TTACCTGCACCCAGGCCTCA
57004	PCDHGA12	TTACCTGCACCCAGGCCTCA
57004	PCDHGA2	TTACCTGCACCCAGGCCTCA
57004	PCDHGA3	TTACCTGCACCCAGGCCTCA
57004	PCDHGA4	TTACCTGCACCCAGGCCTCA
57004	PCDHGA5	TTACCTGCACCCAGGCCTCA
57004	PCDHGA6	TTACCTGCACCCAGGCCTCA
57004	PCDHGA7	TTACCTGCACCCAGGCCTCA
57004	PCDHGA8	TTACCTGCACCCAGGCCTCA
57004	PCDHGA9	TTACCTGCACCCAGGCCTCA
57004	PCDHGB1	TTACCTGCACCCAGGCCTCA
57004	PCDHGB2	TTACCTGCACCCAGGCCTCA
57004	PCDHGB3	TTACCTGCACCCAGGCCTCA
57004	PCDHGB4	TTACCTGCACCCAGGCCTCA
57004	PCDHGB5	TTACCTGCACCCAGGCCTCA
57004	PCDHGB6	TTACCTGCACCCAGGCCTCA
57004	PCDHGB7	TTACCTGCACCCAGGCCTCA
57004	PCDHGC3	TTACCTGCACCCAGGCCTCA
57004	PCDHGC4	TTACCTGCACCCAGGCCTCA
57004	PCDHGC5	TTACCTGCACCCAGGCCTCA
57005	TCTA	CTGAAGCAGGAGATTTGCTTGA
57006	TNFSF7	GGCAGGACAAGAGAAGGCATTGAGCTTT
57007	FKBP1A	GGGCCCTTCACTGCCTTTGCTCCT
57008	HYAL3	CGCAAACCAGGGGCGGGTT
57009	PIM1	CCTTCCAGATCCTCTCTGGGGCTGTG
57010	KCNAB1	TGGAAACTTAGCTTCAAAGAAAATGCA
57011	DMPK	TGCTGCTGGGGGGATCACAGA
57012	FUT1	ATGCCTGGCTAATTTTTGTATTTT
57012	POU2AF1	ATGCCTGGCTAATTTTTGTATTTT
57012	PRKWNK3	ATGCCTGGCTAATTTTTGTATTTT
57013	ANGPT1	TCCTGTCAAGTCATCTTGTGAAAGG
57014	SORCS1	TACCTACTGAATTAGAAACTCTAG
57015	SFRS2IP	TAGAAACTTCTAAGTGCACTGG
57016	KCNQ2	GAGAGGGACGGTTCACAAGGC
57017	NFIB	AGGGTCGATGATATTTCACTGATGG
57018	DAB2	GCTGCCTGCCTTCTTGCCA
57019	KDR	TGCAGCTCTGGCTCCTTGTCTC

57020	DUSP11	TCTACTTAGGAGATAATTTCTTTA
57021	C14orf1	GTTGTCCAGGCTAAGAGGTGGG
57022	LTK	CAGGTGTCCATGGGGAGCACTGGAT
57023	JPH2	CTTGGCTGGAATCCAGGACTGT
57024	MAP3K4	CTCCTGTTTGTTGAGTGCACTGA
57025	ARSA	CTGGGAGCCTGTGGGGGAGGCTCAGG
57026	FHL2	CCCAGCCTCCCAAGTAGCTGGG
57027	ARNT2	TCTGCCTGGCTGACCTCTGAGCCCATG
57028	PPP1R12B	GGGAAGGAAGAGAGTTTCACAG
57029	LDLR	GTGGGTTTGTACCTTCCTTAAGCCAGG
57030	NPTX1	CACTCCTCCATCTCATGGGCTCACGG
57031	DIAPH2	CAGACACTCTCTCCCTCAGGAA
57032	EFG1	CGCATATATCATGACACTTCT
57033	HYAL1	GCATGAGCCACCACTCCTGGCC
57034	DISC1	TCAGTTAGGCAGTGCAGT
57035	AKR1C3	GAGGAGAAGCAGCAGCAAACATTTGCT
57036	AIPL1	GCAGTGAGCCAAGATCACGTC
57037	GNA14	CCCACTCCTCCCCTATAACAGAAGAT
57038	NYX	TCTCCCCTCAGGTAGGGGTC
57039	PROX1	TGCCCAGCTGACGAGCTTTTGA
57040	UTY	GGCCTTAGGGCCAAAAGTCTTGAGG
57041	ICAM1	GGTGCAATCATGGTTCACTGCAGTCT
57042	MAPT	AACTCCATCTGCTGCCATGA
57043	NFATC1	ACCCCTGGGGTTCAATACTGGAAGTG
57044	CAPZA1	ATGCAGATGTTGAAGGAA
57045	ATRN	GCCAGGCCCACCAAGAGATA
57046	ID2	CTCCCGGTCTCGCCTTCCTCGCGGTC
57047	APBB1	GCCAGGCCTCATCCTCCTGGACC
57048	IL6ST	CTCCACCTTCCAAAGGACCTACTG
57049	KCNAB1	AGCTTGCTGCTCAACCTCTAGTGTCC
57050	EIF2AK3	ACTAAAATGGATATATTTTTA
57051	C14orf1	TCACCCAGGCTGGGAATTGCAGT
57052	LDB3	TGCTGGCAACAAAGGATTCGGG
57053	GPX2	CCTTCACTGCAGAGCCTTGCCT
57054	MYBL1	AAAATTGATGAAATGCCCCA
57055	FLG	GGGAAGGTCTGATGCCTCCCA
57056	CORO1C	TTCAGGGCATCTGAATGTTTGATGTG
57057	C1orf1	GGCTTACACCTGTAATCCCAA
57057	NDUFS1	GGCTTACACCTGTAATCCCAA
57058	PEX1	TCTTCTTAATTTAACAAATTT
57059	HPN	AGCCTCCAGGGCCCGAGGTGATC
57060	MYCBP	CACTCTGTTAAAAACACATA
57061	IER5	GACCCGCTTCAGGGCCAGGAGTGGCGT
57062	HDC	TCAAATTCTCATAGGGGC
57063	MPO	CCTCAAGGAGGTCTGG
57064	BLAME	TCTTAGCAACCTCATTTCGACA
57065	ADAM19	TTCTGCTCTCCTCAGAGGTCCCGGGCT
57066	HTR1D	GCCAGGCTGGAGTGTAGTGGCACA
57067	BVES	TCTTAGCAATCTCTCAATGCCTTTTCA
57068	TDGF1	TAAATGATTGAATTATATGTTCA

57069	TEM7	CAGTGTGTGAAGTACCTACCTCCTTGCC
57070	KCNE3	CTCCTTGCCTAGTGCTTTTCA
57071	HPS4	ATCTAATTTGTAGCTACTGG
57072	STE	GGATTACAGGCTTGAGCCTC
57073	ESR1	TTCTGTCTCCTGCATACACTCCGGCAT
57074	DPYSL3	ACAGAGCAAATGACACTTCTCT
57075	HIP1	TGTCAGATGTCACATAATTACTTT
57076	AQP7	GCTGAGAATCAGAGACATTTCAG
57077	STAT3	CAGCATAGCCTTTCTGTATTTA
57078	CYP4A11	GGCCTTTGGAACACCAAGCTCTG
57079	PTPRN	GCCCCACCAGCCACCTCTTGG
57080	ARF3	GTCCCAAGCCCCACTCCATGGGGCCA
57081	SIGLEC7	GAGGCTGATTCCAGTAGAATTA
57082	RRM2B	ATCTATGTTGATTTGCTTTTGTCTATT
57083	SRD5A1	GCCATTGTGCAGTCATGGCCC
57084	SLC9A3R1	TCATTTGATTTTGTTAAGAGTGCAGT
57085	CUBN	ATCACACCACTACACTCCAGCCT
57086	MAFF	ATCGCACCACTGCACTCCAGCCT
57086	NFKBIL2	ATCGCACCACTGCACTCCAGCCT
57087	TNFSF14	ATCACACCACTGCACTCCAACCT
57088	ZNF74	TGGGAGGCCAAGGCAAGGGGATCACTT
57089	SPAG8	AACCCAGTAGCTGGAGTCTGAAGATG
57090	JDP1	AGTGTATTTAAATATTTCATTGACA
57091	EXTL2	GCTTCTGTCAATTACTGAAGCTATA
57092	ADAMTS4	TGCCCCCTCTGCCCTGCGGGTC
57093	GRIN2B	CAGTTAAGAGAAATGAGCTTGA
57094	TRADD	GCCCCCAGCTCACACTCAGCGTGGG
57095	MSL3L1	TCAGTAGACATTGCAGTTAGTT
57096	CASP2	CAGGCTGGAGGGCAGTGGCACGATCTC
57097	CDH1	GTGATATACTCCAGGACT
57098	MFAP3	TTGTGGTCTTAGGTATGGTGCTA
57099	CRYZL1	TACTACACTCCAGCCTGGTGA
57100	PCDH12	GGAGCACGGGGCTGATCAAGC
57101	IL12RB1	CGAACTCCTGGGCTCAAGTGAT
57102	WISP1	AGATGCCAAACCACAAGACT
57103	ALX3	TGCCATGCAGTCATCTTCCCCTCCAA
57104	BMP1	GCCTAGACTGGATAGTGGGGGTGGG
57105	GTF2F1	GCCTTCTTATTGTCCTCCTCCTCC
57106	HNRPD	GTGTCCTCCCTGTCCAAATTGGGA
57107	ITGAV	TACCTCTGTTTAAGCAAGGTAAT
57108	RASGRP1	GGTCACTTCTCATTTTCTTTGCTGAC
57109	ALDH3A2	CACCTGCATGCTTCCCGCCTC
57110	HTR3B	TGCCCAGGAATGTTGTCAAGTG
57111	IFNAR1	CCAGCCTGGTGACAGCGTGAGACTCT
57112	MYEOV	GCTGCTGGGGAGCTCAGA
57113	COLQ	TGTCCATTTCCTGTCCAGGAGA
57114	PART1	AGCCCCATTATTTTCACAGTGCCAGCCT
57115	SLC21A9	AGGATGTTTATATTCCTTCATCCCT
57116	AKAP13	CTTCTCTCAATTCCAGTCAT
57117	OAS2	TGGAGGTGGTTGCACTTGCC

57118	HOXC13	TTTGCCCCACTGCCTCCCCTGT
57119	PVR	GGGAGAGAAGACCTTGGGCCAAGATGC
57120	HGF	TAAAGCATTTCTTCAGTGCTCAG
57121	SLC14A2	AGGCTGAGGCAGGAAAATGGCG
57122	CST2	GTACACACACCCCCACCTCCTGCAATTA
57122	CST4	GTACACACACCCCCACCTCCTGCAATTA
57123	CD5	TGGGGAGGACAGGAAGGGGACTCC
57124	M17S2	TAATTAGTCATTAGCCATAA
57125	MAP1A	GGCTACTGCTGAGTCCTTTGGGGTT
57126	GALT	CCAGGAGTTTGAGGCTGCAGTGA
57126	KCNK6	CCAGGAGTTTGAGGCTGCAGTGA
57126	KLRG1	CCAGGAGTTTGAGGCTGCAGTGA
57127	MYO1B	TGCAAAATATTTGTTGTACT
57128	TPMT	AACTCTGCCTGTATCACCGG
57129	KLRD1	TTCATTCTCTATTTTTGCTAAATTTCT
57130	AKAP1	GTACCTCTGTTACTCTCAGCC
57131	CD5	GCTTTTCCTCCTTCCTGACA
57132	AF1Q	TTCTCTCTCCCATCACCTTGCCC
57133	NFKBIA	CACTGCACACTGCCTAGCCCAA
57134	ADAM8	CCTCCCAGCCACACCTGCCCCT
57135	CENTD2	GGGCATAAGTCAGGAACTTGG
57136	IL15RA	GGCGACACCTCCGCGGGCACTCAC
57137	ADD1	CCCCACTGAGGCCCCTACTGAGGC
57138	RDS	GAAATCTGAAAAATGGCCATG
57139	FCAR	GCCAAGGCTGGAGTGCAGTGGCACG
57140	CHD2	TCTGCTCCCTGCCTTTGCCTCACTT
57141	ARHGEF7	TTCAGCCAGATAGTAAATGGGAT
57142	GJA1	TCATGTATTGGTACAAGCAGA
57143	BCL9	CCCCGCTGGTGACCCTCTG
57144	CTNS	GGCCATTCAATAGCCTGCCTTC
57145	MTMR2	TTCTAGTCTTAACATACTTGCATCC
57146	ZNF36	TGGCCAACATGGTAAAATCCCGTCTCT
57147	MASP1	TAAGCCCCAGGCTGAATACTCA
57148	PATE	ACTCCAAAGAAAGCACATAACT
57149	PDCL	TCACCCAGGCTGGAGTACAATAGCGTG
57150	MYO10	AGCAGCCGGAAGTGCCTT
57151	RABIF	TAAGCCAAGATCACACCACTG
57152	TYRP1	CACTCTTATTTCAAGCAGA
57153	PLS3	TCTGTTATCTTTTGCCCTCTTAGA
57154	VIL2	AGGCCAGGACCAAGGGCAGAGGGG
57155	NDUFA8	GTCCGTGGCCCACACTCGGTCA
57156	NID	GTGCTGGTCTTTAGCCCCACTGCTG
57157	LMAN1	ATGGGGTCAGGTCAATATTATGAA
57158	SHOX	ACCCAGGCTGGAGCACACTGGT
57159	SLC14A2	ACCCAGGCTGGAGTACACTGGC
57160	LHX5	CCTGCAGCTGCTGAGACAAGAGGCG
57161	KIT	TGAACACCTGGGCTTAAGAAAT
57162	MN1	TGCATTTTCACGCTGTGCTAAGCA
57163	RELN	GTTTTTTCATTGTGTTT
57164	ORC1L	GGCTCACTGCAGCCTTGACTTC

57165	KIF5C	GAAAGTTGGCTTTGATGTCT
57166	NDUFS1	GTCTGGGCAACATGGTGAAACC
57167	MYL1	GCCCAGCCGCTCCATCATGTC
57168	SEL1L	GGCACAAGGAAGCATTGAATTCCT
57169	FGF2	TGTCGGGGGTGGAGATGTAGAAGATG
57170	HSPA5	TGCCCAAGAGTGGGGTTTTCTTGAA
57171	LIFR	TCTGTTCTGTTGTTTGTGGTTTTCTCA
57172	PCOLN3	TGGGCACAGCCTGCTGTC
57173	MGAT5	GCTGACACAGGAGCCAGAGTGAGACC
57174	GUCA2B	GCAGCCCAGCTCCTGAATAAAG
57175	NOX4	AGAACTCCCTAGTGAGGAGCTGA
57176	GGA3	GGAACTGGCATACTGCAAA
57177	GNAZ	GCAGAAAACAGGGGGCCTAAAGAA
57178	FTSJ2	TGGGATTACAGATGTGAGCCAT
57179	ASB2	ACCAGGATCTCACTGGGTC
57180	CD68	CCAACATGGTGTAAACACTGTCT
57181	SALL2	TCCCTTTGGTAGGTGCACCTG
57182	CDC2L2	ACCCAGGCTGGAGTGCAATGGT
57183	CYP2B6	TCCCAGGCTGGAGTGCTATGGT
57184	GPRK2L	TGGAACCCAAGCAATGCTGGCACCCC
57185	KRTHA7	AGGAGGTCAAAGCACTGGAGCCAACA
57186	IPP	ACGCCTGTAGTCCCAGCACTTT
57187	COX11	GCCTTTGCAACCTATCCT
57188	KCNE3	TCCCAGATCTCAGCTAGAACCA
57189	VAX2	AGCACAGCACCTTCCCAGTCTCC
57190	G2A	CCTGCCTGGCTGGCTCCCTTGGCTGT
57191	PTPRM	CTCCTTGCCACCGGCTTTCTA
57192	AIM1	AGGTATTCACACATTTAAGGAA
57193	PEA15	TGCCCCTCTGGCCACTGCTGCAGA
57194	ALOX12	AGTCACTGTCTCAACTACTCA
57195	KLK8	CAGGAGGTGGAGATTCCCAGTTAAAA
57196	STAT6	ACTGGAAGGGAAGTTCAGGCTCTGAGA
57197	RGS3	GCCCCCAGAGGCTGTGTCTCT
57198	KCNJ6	TCCGTTTCAAGAGAGGAGATCATGA
57199	CBFA2T3	TCACACACTTTCTCTTCA
57200	FXYD1	TTCCAATAAAACGTGCGTTCCTCT
57201	PPP1R12B	GATGGGGTTTTGCCATGTTGCC
57202	VIL2	CCACTCATTCCTTCTCGTGCACTGCTTT
57203	EEF2K	GAACTCCTGGACTTAAGTGAGC
57204	GGT2	ATCAGAGAGTCTCTGAAGAAGATTCTG
57205	GNPI	GGAGCCGCCCTCACACATTTTCCAG
57206	SULT1C1	TCTGCTTCCTGTGAAAGTCCTTTCCGT
57207	TP53	TACATCTGGCCTTGAAACCACCTTTTA
57208	BTC	AAGAACATTAATTATATGTAT
57209	PCTP	ATTTTAATCACTGTGTATAATGAT
57210	FZD6	AAAATCAAGATATTTCTTTGCTGAA
57211	ITGA1	AGAGAAAGATGCCACTGAAATG
57212	OXR1	TACATATGATCTGCAGGTTTGG
57213	C7	TCTCCAACTCCTGACCTCAGGTAATCCG
57214	AKAP2	GACATGACTTGGCTTTCTCATCCA

57215	SHANK2	TAGTTCCTAAAGTTTCTTCTAC
57216	NTF5	GGGTTTTGGAGGTTGAATAGGA
57217	ANKTM1	ATTATGCTATAGCTTCTAT
57218	VAMP1	TCACCCACCCTGTACCCTCTTCTGTGT
57219	CASP2	GACTACAGGTGCCCGCCACCGT
57220	HM13	AGCTCTGTGATCTTGGGCAAGTTACTT
57221	F2RL3	CACCAGCCTGAGCAACATGGTAA
57222	E2F3	CCCAAGGAGCAGCAGGCATGG
57223	RHBG	CCCCTGAGAGGACACGCTCCTTTT
57224	EPB49	TGGGTATTGCTCCTGCCCAGAC
57225	MYOG	CCTGTTCTGGTCTCTTCCCG
57226	ENAM	TCCATGCAGAATTACTTACAG
57227	GAB2	GTGATGGCCATCAGACAGAGACTT
57228	RRAD	TAATCCGGATCCTAGTCCTGAG
57229	GATA6	GGCGCCAAGCTGAGCCCCTTCGCA
57230	CPT1B	TCACCAAGGAGCCCCACTGG
57231	TBL2	CCGAGTTCTTTCAGGCCAAAAAG
57232	GHR	AAATAAGAAGAATGCTTA
57233	RPA3	TCCGTGGGTTTCCCGCCAGCCGCAG
57234	PTPRO	TGTTTGTTTTTCAGTGCAATA
57235	SCN3A	TTCTAGATGGCTTTAATTTTGAA
57236	CPNE3	AGTAAAGCTCTTTGGATTAGA
57237	TFE3	TCCTGGGGGAAGAGGAGATGTGA
57238	EPM2A	AGGATTCTACCTGAACTGAAAGGACTGTG
57239	DYRK1A	GTCTCAGATTCCTGGGCTTAAGCAG
57240	WBSCR14	GACACCCTTCATGGGCTCGTGAG
57241	CYP27A1	CTGGGAGGAGCGAGGGAGCGAG
57242	GFAP	AGGGCACTGCTGCTGCCTTT
57243	FOXO1A	CAGGCTGGGGTTAGTGAGCA
57244	CHRNE	ATTTCATAGCCAAACAGGAGA
57245	GAS1	GAACAATGCAACTTTTTATTTA
57246	NFKBIL2	GCCTGGGCCACCATCGGCCGCACCC
57247	PPP1R12A	GTCTCCCACCTGGAACTGAATTGCTTG
57248	SWAP70	GATATTTCTTTCCCTAACCAT
57249	PFKFB4	TGAGAGAAGTTAGCGTCCCTGG
57250	WHSC1	ACTGGTAACTCTTAACTGAGACA
57251	B3GAT1	CTCCTCAGACCCTGTTCTTGGCC
57252	TBX6	GGGGGGCGGAGGGCGGTCACCTGCCAG
57253	PAG	GGAGACGTTTCTTCTGTGGAAG
57254	ESRRBL1	CTCCACCTCTGCAGTGATCATAAGT
57255	TAL1	TCACTCAGGCTGGAGTACAGT
57256	FLNB	TGCCTTCAGAAATAAGTCCTAGA
57257	IFIT4	TGGAAGGAAGAGGTTGCAGTGA
57258	LRRC2	GACACTGCCCTCCAGCCTGGG
57259	DNASE1	GGAAGGCAGGCGTGTCCTGG
57260	IL21R	TTGAGACAGAGTCTCACTCTCGTCGCC
57261	SLC16A7	AGGAAACTTCTGCCTCAGGTGGGGA
57262	CCND1	CACAAGTCCTGGATGTTGTGTGT
57263	SRC	TCTCCCTGCACTCCCTCCTGGAGCT
57264	CLASP1	GACCATTCTGCTCCTGCTGCTG

57265	TP53BP2	TGGATTACAGGTGTGAGCCACC
57266	MMP2	TGCACAGTGCATCTCAGCCCAC
57267	PLOD3	TGGCTCAGCCCAGAGTCCCTGTCTCCC
57268	DDOST	CCAGGAGGCAGAGCTTGCAGTGA
57269	NRF1	AAAGCTCCCGGGCCTCAGCCT
57270	PINX1	TCACCCAGGTCCAGAGGCGGCG
57271	DGAT1	GATGCCAGCTGGGAGTCTTGC
57272	PTPN13	AAATAAGATCACAGAGCAGCA
57273	HDAC4	AGCTAAGAAACTTACTTGATTC
57274	SMCX	CAGACCTCAGCTCCTGGGGGCC
57275	RFXAP	CCGTTAGGCCAAGCAGGTGCTA
57276	MEIS2	GTCAGCCCATGGGGAGCTTTG
57277	SOX11	TTTCTGTGGTGAGGTGGAAAC
57278	LGALS3	AAAGGTTTCATGTTCACTGTGA
57279	ENAM	TTTTCTCTCTGTATATCACTTCTTACATA
57280	KCNA5	ACTGTAACCTCAGTCTACCCCTCTCCT
57281	P2RY2	GACCTGTTTTTCCTGTTTC
57282	DVL3	GGCCACCGGAAGAGTCGCGGTCGCCAG
57283	PTGIS	CCAACATGGCGAAACCCCGTCT
57284	IL12RB2	CCCCAGCCCCTGCTCCAGCAGCTGTCA
57285	ATP1A2	CCAACATGGTGAAACCCTGTCT
57285	BHMT2	CCAACATGGTGAAACCCTGTCT
57285	CPM	CCAACATGGTGAAACCCTGTCT
57285	FGFR2	CCAACATGGTGAAACCCTGTCT
57285	LAMC2	CCAACATGGTGAAACCCTGTCT
57285	LILRB1	CCAACATGGTGAAACCCTGTCT
57285	PAICS	CCAACATGGTGAAACCCTGTCT
57285	SCAP2	CCAACATGGTGAAACCCTGTCT
57285	TBX6	CCAACATGGTGAAACCCTGTCT
57286	IL1R1	CCAACATGGCAAAACCCCATCT
57286	MSH3	CCAACATGGCAAAACCCCATCT
57287	GAS7	CTAACATGGTGAAACCCCGTCT
57287	KAI1	CTAACATGGTGAAACCCCGTCT
57287	NFKBIL2	CTAACATGGTGAAACCCCGTCT
57288	FECH	TTGCTTGAATTCTTTCTTAATTTACG
57289	WNT5A	CTTCTTCCCTCTCCAGAAGTCC
57290	HYAL1	ATAAGGAGTTAGAACCACAGCAGA
57291	APXL	AGACGCGTGCGCGTGCACAGAT
57292	DLK1	TCTCTCTTAATGCATGATACAGAA
57293	PTK7	GGGCCCTGAGGCCCCTGCCCTAGTGCA
57294	EFNA4	AGGCTGAAGACCTGGGACAGGTCGATTGCTGG
57295	PRIM2A	AGCCTCCCAAGTAGTTAGGACA
57296	TOP3B	CTCACCCAGGCTGCAGTGCCAT
57297	FVT1	TGCTTATACTGCTGTAATATT
57298	BMPR2	CCAGCACTGCTGTTTACCTTGCAG
57299	NFATC1	AGAGCGCGGCCCTGCGTCAGAGC
57300	MSF	GCTGAGGGAGGGAGCCATGGAAGG
57301	SET7	CTAAGCGGTAACTATGGCAATTT
57302	P4HB	TTCTCCTCTTTTTGAAAATTCC
57303	DAPK1	TGTCTGTGGATGGTCATTGCAGTTTAAGA

57304	NPR3	TAGCTTAAGGAAGCCCCCC
57305	GRIN2A	ATCTTCTGTCTGTGACAC
57306	CSE1L	CAGGCTTCTGAGCACAGCTGC
57307	DKC1	TCAGTCCTTTGCACTTCCTCA
57308	MEL	GTAACATCTGCTGAACGGGCC
57309	MAPRE3	TGGGACCCCTGTCCACACCCACCCTAT
57310	RPL10	AAATGAGAGGAGTGCTAGGTGGGTGG
57311	ARF3	AGTGCTTGTGGGATGCAGTGGT
57312	P2RX7	AAGTCTGCCTATCCTGGCCAGGT
57313	IL5RA	TTTTGCATCAGCCTGGAGTG
57314	MAGEB3	AAATGTTCCTTTTATTTAACATTGTAA
57315	CML66	AGTTATACTGTAACCTCTTAAGT
57316	ZNF266	GACTGTGTGGATCCACCAGAA
57317	IGSF4	GGACTCCTCCTTTTTCCATGCCCTAAA
57318	ADCY1	AGTGGGAAGTCAGGCCTCTCTG
57319	PABPN1	CCAACAGCTCACTAGCTGGCA
57320	CCKBR	AAGAGGAATAAGAATGGAGCAGTACAT
57321	BAPX1	AGGACTTGTCCCCTGGCAGCTG
57322	CHST1	ACTCCCCAGCTTGGAGCAGT
57323	LZTFL1	CAGACTTCAGATTAGACTTT
57324	TSC1	ATTCAGTCCTGGGCAAAGGTATT
57325	MNT	CGCCTCTCCCTGCATCCTGAGCCA
57326	FXYD6	ACTTGCCTCCCCACTGCAGCCT
57327	HMGA2	GCCTTTCTCTCCTAGTGAGTGTGCT
57328	MYEOV	GTTTATCTGGAGTGAGGTGGC
57329	HSD3B2	GGTCCTGCTGCCTCTCTTTCA
57330	LIF	TGAGCGGGCTGCCGGCCTCCAA
57331	NUCB1	CTTCCCTTCTGTCCT
57332	ALDH1A2	AGCTAGCAGACACATCCAGTATCTCCT
57333	CPE	ACATGTTTACAAAGAGGTT
57334	PTPN22	TACCTTGTAAATCTTCCCA
57335	SSPN	TAGTCCTTCCCACCTCCAGTCA
57336	RPS6KA5	AATGTGAGGAAAACCTAAAGGGA
57337	ALDH3B2	TGCTGGAGCTGTCACATGAC
57338	PIK3R3	GCAGTCTGCCCTCCTGCTCCA
57339	FOXM1	TGCAACTGAAGCAGAGTGTGGGT
57340	CAPN2	ACTAAGCTTCCATAGAAATACA
57341	GALNT3	GTGAGGCAGAAGCATTGCTTGAGCTTG
57342	MMP11	AATGTGTGTACAGTGTGTATA
57343	ATP8B2	AGGATGGATGCCCTGTGCCAGT
57344	INPP5B	GTTGCTGCACTCCAGCCTAGG
57345	VDR	GTAGGTGGATCACCTGAGGTCG
57346	PAIP2	GTCAAGTTGTGAACAAGCAC
57347	HLA-G	GTGATGGGCTGTTTAAAGTGTCA
57348	RPL17	GTGGAAGCAGTGCTGTAGTTAC
57349	ASNA1	CGCTGCCATTTCACACTCAC
57350	CFL1	CGGTGCCCTCTCCTTTTCGTTTCC
57351	SUV39H1	GGAAAATTTAAAAGGCTGCA
57352	FXR1	CTTTGACACCTACTGTGTT
57353	IL16	TGACCCAGGCTGGGCAAGGAGGCCACG

57354	DSG3	AGAAGCAGCGGCTCACTTGGACTTTTT
57355	VDR	GGGGGCAGAGGGCAGAGG
57356	GAB2	GGAAAGGGGATACCTTCCCAC
57357	PER2	GTCCCTGGTGGAAATTCAAAG
57358	TCTE1L	AGGTGATGGGGAACTCCAT
57359	COX10	AAGTTATCCTGTGGCCAGGT
57360	ATP6V1G2	CCGCAGCTTTGGGCCTGGTC
57361	SET	ACTTTTGCAGGATGACCTCA
57362	CDO1	TGTCTGTGTCCCATGGTCATAGTCAAA
57363	ZFP161	TGGGCGTTCAAGGCATTAAGATA
57364	ACPT	CCCAGCTGACAGGGGGGATCCT
57365	MGAT2	TATTTGACCAGATTCCCAAC
57366	TRIM9	TCCAACAATTCTAACCAACAAAGGACCTAGAC
57367	ANXA3	CTATAACAACAACAACAAAAGCGA
57368	LAMC1	GGAGTTTCCTAGTGGGCTTCT
57369	SLC9A6	TTCTGGAGCACTGATTGCAGCAG
57370	MFRP	CCCTTTACCGGTCCCAGGCTGCTGACTGG
57371	CSHL1	TGCTCCACATCTCCCTGCTGCTCATC
57372	PYGO2	GAAGAGCCTGGATTGCTCAC
57373	ATP5J	CCCTCCACTTCCTCCTCCTGTTTGGCTTC
57374	B4GALT5	TGTCCCTACACATGACCTTGGA
57375	ADD3	ATCTGTCTGAATTACTTCAG
57376	CTBP2	TCCTTTATCAGTCCCTTGGGCACAGCA
57377	BCL3	CACATCTTCCATTTCCA
57378	TM4SF2	CTGCTCCCTCTACCCCTTACCCCACA
57379	GCNT2	TCAGTAATTACAAATTAAGGGTT
57380	HOXA7	TTGTGGACTGAGCGGCCGCAGAG
57381	ICOS	CTTTCCTCTGCTGCTCAATAG
57382	DSC3	GACGCACAGGCTGGAGTGCAGTG
57383	IL1RAP	AATAAAAAATCACTTCATTGTA
57384	CFTR	ATGGTGGTATGTTTTCAGGCTAG
57385	EBI3	AAGCCCCGGGACACCTGTTGGAGG
57386	SMARCA3	AGATCAAGCATTACACACAAAAAA
57387	GIF	GGATGAGAGACATAGACGAGA
57388	POU2F2	GACCCCTGGAGGTCCAGGGGG
57389	WHSC1	GGCTGGCTGGGTCCCCTTCGCA
57390	DLGAP2	TGTTGAAATATCCTCAATTTCTCTA
57391	PPP3CB	CTGGATGGAGGCTTGAGGGC
57392	TCF2	CATCACCCTCTGGGCAGCTGTCA
57393	KRT13	TCAACTTCTCTACCCCAAAGAA
57394	RPL15	AGTTATTTCTCTTGTTCTGGCC
57395	MTBP	ATCTCTGAGGAGATGGATCGGTACCTG
57396	DNAJB1	GCACAGCCCTAGATACAATCCCT
57397	IL6ST	GCATACACAGATGAAGGTGGGAAGGA
57398	NESH	CCCTGGCTTCCCCCTTCCTCTGGGCAGGGGAC
57399	CDKN1A	GCTACCCTTCTTCTCCA
57400	FGF5	TCACTGCACTTTTTTATTG
57401	GDF2	CCTGCAGTCTCCTCTCTGGGTGA
57402	RFC1	CCCCTGAGAGATCTAGTCCTGTCC
57403	SPP1	TTCATTCTATAGAAGAAATGCA

57404	MMP14	CCAGTGGAGGGAGCAAGAGGAGAGGG
57405	CDC25B	CTCCCCGCATCCCTCTCCTCCCTCGCGCC
57406	TMPO	CTATAAAATTAAGGACAAAAAGA
57407	CHRNA2	GCGTGAGCCTGTGTGCTTGTGTGCT
57408	EGLN1	CTTAAGACAAATAGCAGCAG
57409	KCNA4	TTTCTATGGAGACCTCAGAGCT
57410	NFE2L1	CTCCCATTGTCTCCATCAGAGCC
57411	PIP5K1A	AAATGGGATTGCTGGACTTGGCAGCT
57412	KIR2DL5	CCTCTTAACATGGCACTGAGAC
57413	NPM3	TGAGAATTGGAGGTTAGTGCCTGAAG
57414	CLCA2	AATAGCCCCAAGCAGAGAAAAG
57415	MAGEB4	AGAGAGCCAGAGACAGTGTTGC
57416	LIMK1	AGGTCCCCGACTGAGCCAGGGCCACT
57417	IL16	CACAGCTGCTGGAGACTCCTAGGC
57418	FANCC	GGCCTGGCTGGGTGCAGTG
57419	SYNGR1	GCTTGCAGAGGCCGGCAGCCCT
57420	TRIM	GATGGGATGGTGGCTTACCTCTT
57421	ATP7A	TATTTAAACTGAATTTCCAG
57422	FOS	AGCAGTGACCGTGCTCCTACCCAG
57423	HDAC6	GACCAGCTGTAGCTCATTCCA
57424	COL19A1	GTCAGCAAATGCATGTTAAG
57425	NFATC3	GCTCTACAGTGCTTACTGCAGCCTTGTG
57426	PDGFRL	ATTAGTGCTTTGCCAGAGGCTGATG
57427	IL1F7	AAATGTCCTTTGTGGGGGAGAACT
57428	MTCP1	GCGCGGCCTACACGCTTGGGGG
57429	TRIM37	CCAAACTTTGCCATTGTGCTCCTGCA
57430	FGR	AAGTCAGGAAAAGTCTTGGCTGGA
57431	HTR4	TCTGCTACCTCGAGAAGCCATGGC
57432	NUP98	TAATCTTTTTCTTTACCTCC
57433	FCAR	CCCAAGTAGCTGGAATTACAGG
57434	TES	CCCAAATAGCTGGGATTACAGG
57435	KCNA6	TTTTCTCAAAGGGGCAGAGGAA
57436	ABCD3	AATCTTCCCAATGTTTGGGATATTA
57437	KCNG1	AGGCACTCAACCACTATTTGTTGAA
57438	DHFR	TATTTCTTTAATAAGAACAATTCCATC
57439	HMGCR	AAAAAGCTCAATGCATTGTCTT
57440	SLC35A1	GCCAAAGCCATTTCTGTACTAA
57441	CAV1	GAACTCAAACTGAGGAATTTCA
57442	PCDH7	AGTGTTCTATAATGATATGCA
57443	ENTPD6	AGGCGGTGCAGGCTGTCCTGGCT
57444	MADD	TCCACTGCAAGAGTCTGGCT
57445	NKTR	TCTGTATTACTTCAGGCTTGTGGGC
57446	GNRHR	AAAGAATGTTTTGAGAATGT
57447	FZD7	CTCTCCTCCCCTGCCCCCTCCCGCC
57448	JAM3	CCCTTGCTTCATCCAGCACA
57449	RB1	TGTTTTATAAAATTTTGCT
57450	CYP8B1	GGCCTCCCAAAGCTCTCTG
57451	SIL	AGGCTGGAGTGCAATGGCAGGA
57452	AQP1	CTGCCAGACCTGCATGGTCAAGCCT
57453	COL6A1	GCCCTCCCTCCTGCCTGCGCA

57454	MTL5	CTTTGCAGAATCTTCTTGCTCA
57455	PIM1	GAAGAGGCTACAGGGCCAAA
57456	NR3C2	GGGAAAGCTGTGCCTTTTTTA
57457	ZNF255	CTGAACAAAGGCTTCACTTGTC
57458	UVRAG	GTGGTCAGGAACTAGGCATGCTT
57459	NPTX1	TCCTCACCCCTCCTCTGACCCA
57460	CENPE	TGACTTTGTTTATGTGTCTATCCCT
57461	COG6	GCTGCCTCCGTGGTCCCTGCCTGGCTGA
57462	KCNJ16	TACAAATGACTCGAGTTGTGGA
57463	GASC1	ACAGCCTGAAAATGTACTAGTGTT
57464	IL16	GGAAGGTGGGGACAGGGATGAG
57465	USP6	TGGAAGATTTTAAATAATTTCTTTA
57466	SAS	GGCTCACCGCAACCTCTGCCT
57467	DAG1	CCCAGCTCTGGGACCAAGTCACTT
57468	KCNA4	CTGGCTGTCAGACACTTGCT
57469	ARSF	CTGATAGACAACAAGAAGGTATTCCA
57470	AGR2	CCTCTGGCAAGTAGCTTTCTC
57471	LIMD1	CCTTTCTCTTCCTTCAGGAAAATACC
57472	SURF4	TTGGAAACACATCAAAATAAAT
57473	FZD4	GCTGCTGTGCCCAGTCTGAGTACC
57474	SULT1A3	AGACCAGCCTGGTAAAATAGTGA
57475	EGLN1	CTCTCTATTTGTTTCACCTTCTGTA
57476	FPRL1	TGGTGAGAGAAAGTGAAATGAAA
57477	RBBP5	CACTGCCCTCCAGCCTAGGTGA
57478	UNG	GCACAGCCCTAGTTTGGCGCCTGCTGC
57479	DIAPH2	ACACCCTTGGGCTTATCTACAGAGCA
57480	GABRE	GGCCCCCAGCCCCAGCCTCT
57481	APM1	TAGAAATTACCAGAGTTGTTCTGTC
57482	APOL1	CCATCGCTCTTACCCGGTAAGTAAACAGTC
57483	PRKACA	AACTTCTCCCCATCCCAGGAG
57484	P2RX7	TGGTGGCATGCACCTGCAATCCCAG
57485	SLC17A1	AGGCTGAGGCTGAGGGGCAGTCACC
57486	KMO	GCAACCTCTGCCTCCTGGGCT
57486	PCDHB11	GCAACCTCTGCCTCCTGGGCT
57486	PCDHB16	GCAACCTCTGCCTCCTGGGCT
57487	PRKY	TGTGTCATGCCTGCAATCCCAG
57488	SMARCC1	CACCATGAGCTGGAGTGGGGATGACAA
57489	EVC	GGAGCCCCTATCTCAGGAAT
57490	SEPN1	CATGCCACCATGGCTGGCTAATTTTT
57491	AMPH	GCCGCTGTGGCTGGAGGTAGG
57492	NF1	AGCTTGCTTGCTTTCTTTTTTAAAATCAA
57493	TYK2	CCATGATCTTGAGGGACCCAACATTTG
57494	STCH	AACTGATTCTGCAGAAATAATGGTTA
57495	TRIM9	AGAGCCACCATACAAGGTTCAT
57496	DDX9	ACACGGTCCTAAGAGCTGGGCACCAG
57497	EGFL5	GACTTACTATGATTCAAGCAATA
57498	CLECSF12	CACTGCACCCAGCCTAGAATCTTGTA
57499	TPK1	TGGAGAAAGCTGTGCAGAGGAA
57500	F2RL2	AAGTAGCTGGGATTACACCACCATGCC
57501	NAV2	GAACTGCACTACCTTCTGTTGTACTTT

57502	SNX5	CAGCTTCTTCTTTCCTCGCACAG
57503	ERBB2IP	TTCATTTTTATTTACTAAGAAA
57504	ANKH	CGAAACCATCTACTCCACACATGC
57505	OGT	AGCTAAAATGTTACTCCCTGTTTTAGT
57506	BAK1	TAGATGGGGGAACTGTGAATAC
57507	DFFB	TTTGTTGCCCAGGCTGGAGTGT
57508	FHL2	TTTGTCGCCCAGGCTGGAGTGC
57508	NF2	TTTGTCGCCCAGGCTGGAGTGC
57508	SPN	TTTGTCGCCCAGGCTGGAGTGC
57509	VDR	GCCTGTAATCCCAGCAGTTTGG
57510	PROCR	CAGACAGAATCACCTGAGGCGTTCA
57511	SLC1A1	CTTGTCTCCTCCTCCAGGAG
57512	SFRP1	TCTCAGAGTCCCAGGACCTTGAGTGT
57513	GALNT7	TGGCTCATGCCTGTAATTCCAG
57514	SULT2A1	TGGCTCATGTCTGTAATCCCAG
57515	FLRT3	CACTGGAAAAAGAGACTGAAAA
57516	ITPR2	ACTTCAGAAAGGAACAGGAA
57517	MYO1B	ATTTACAAGGGTTCATTTTGGA
57518	CYB561	TAAAGTATGTTGGTGGTGAAAGC
57519	RAI3	CCCAGGCTTGAGTGCAGTG
57520	BPHL	GCACACATCTGTGGTCCCAGGT
57521	APOL1	AGTGTGGGGAATGGGAAGA
57522	GPX2	CTTCACTGCAGAGCCTTGCCTTT
57523	NFE2L1	AGCGGGAAGAAAATCAGAGGGA
57524	C8A	GACTAGGTTTTGCTGTCTACA
57525	PRPF31	CTGCGTGTGTCCAAGGTGGCTT
57526	BCL7A	TCAGTCTGGTACTGAAGTCAGGA
57527	CYP4A11	CAGCCTCCATCCTTAGCTTTGG
57528	GALNT1	TTTTCCTTGGGGTGCTGAAA
57529	EFG1	CACATACTTTCCATCTACCTT
57530	HOXB7	AGGAAGAGAAGCCCAGCTCTG
57531	ASB1	TGGGCCAGAGTCCTTGTGGCC
57532	FOSB	ACCCCCAGCTGACTGTTGGCTC
57533	IL10	GGAAGAGAAACCAGGGAGCCCCTTTGA
57534	PLAG1	CTGCAGCTTCTTGTGGCC
57535	WHSC1	GTATGACGCCACTCTGAA
57536	BIG1	ACAACTCAGGGAGAGCTGTAT
57537	DNASE1L1	AGGTGTCCCGGAAAGGGGCT
57538	GZMM	GGACCCTTCCCCTCCAGGGGTGCAGTG
57539	HM13	ACAGATGGGGGCTGGGCCCAC
57540	RHD	GCCTCCAAAGTAGCTGGGATTACA
57541	CYP1A2	ACTACAACCTCCGCCTCCCATGTTCAA
57542	CD209	CGCTGTACTCCAGGCTTGCTTC
57543	MYCBP	GCACTATATTCTTGTTTGTTAGTCC
57544	BAT3	GAAGTGACGAGACCTGTCGGCCATGGA
57545	DSPP	CAGTGGGCCACTTTCAGTCTTCA
57546	TCL1A	CGTTTACTATGCCTGTGTC
57547	ADARB1	TGTGTGTCCAGTTTACAGCGTCTC
57548	PRKY	ATGGGGTGCCCGGGTTCCTCTCG
57549	SH3BP2	TGCCTGGGGTGAGAGGTCAGT

57550	G6PC	TTTGAGGCCAGAGGTGCTGTCA
57551	MTR	AAGTGGAAGGGACAGGAGCACATAGGT
57552	AHR	TCTCAGTGCTTTCCTCCTTCACTGTTTCA
57553	RRM1	AAACTCATATATTGGGATTTTCA
57554	SULT2A1	CAGGGATGCAAAGGTTGCAGTGA
57555	ZYX	TCTGGTCCTCGCCCATCCTGCA
57556	TFAP2C	AGCTTCTTCAGAGATCAAGTCCTCTG
57557	HHLA1	ACAACAAATGTTTCTTCT
57558	GALR1	TATCTATTAAGTGGAAAGAAG
57559	KCNJ11	GCTCCTCCCAACCCAATTCAGG
57560	AMT	GTGTAAACTTGGGGATGGCTGAGGGAACA
57561	PLA2G2D	CTGGGATCGGGCTGAGGCCAGGCCTCTCC
57562	JRKL	TTTCATGTTTTGGCCAAA
57563	LAMC2	CGCCTGTAATTCTAGCACTTTG
57564	OPA3	CGCCTGTAATCCTAGCACCTTG
57564	XT3	CGCCTGTAATCCTAGCACCTTG
57565	GRAF	GCTGGGACTGCAGGCATGAGCCATCA
57566	NCL	TCTGGGGTTTTTACTGTTACC
57567	CD3E	TATTTGTGCTATTCACTCCCTTC
57568	BRCA1	TCGCTAGAACCCGGGAGGCGGAG
57569	SURF5	GAAACTTAGGCTGGAGACAGG
57570	NUP62	CACTGCACTCCAGCCTAGGCAA
57571	CNGA3	TGCACACAGGACTCTCATTACTTTTT
57572	GALE	CCTACCTCAAACCCCAGCTGG
57573	ATF5	CTGGCGCCTTCATCCCCC
57574	MUCDHL	GCCCCTTGGTTGACCCTGCACT
57575	USF2	GGAGGCAAGAGGGAGGGTACAG
57576	ELK1	ATGGACCCATCTGTGACGCTGTGGC
57577	HNRPDL	CTCCGCACTGGCGAACCGAGGG
57578	EIF2C1	TCTCCCTTACTCTACTCA
57579	LDB3	GGCTTTCCTCACCAAAAAAGG
57580	CCND1	CACCAGCCAGCGTAGCAGGGTCG
57581	CARS	TGGCTGCTGTCTGCCTCAGTGAC
57582	SCA1	TCCAGACAGTGAAACAGTCA
57583	PPP2R5D	TGCTATGCTGGGCAGGCCTTCTCTTGTC
57584	B4GALT5	AAAGTGCTGGGATTATGGGCGG
57585	KLF15	GAAATGTTGGGTTTCCAGAGAG
57586	KRT16	CCCTGCTCCTCTGCTGGTGGTGGGCT
57587	FOXE1	TTTCATGGCTGTTACTGCCCAG
57588	CRHR2	GCACAGCTCCCCTGTCCTCCTCC
57589	TMPRSS3	GTCCATCTGGTTTTCTCTCCA
57590	RAD23B	TTTGTGAAATTAGCACTTTTGG
57591	MFNG	GACATGGGTGGAATGATGGCAGAATCCA
57592	VCL	ATCATGTTTGCTCTCCCGGTTCTTCC
57593	MAGEB3	AGATAAATAACCATATATGTCTGGCT
57594	WHSC1	TTTACTGTGCTGTTAACTTGGAA
57595	RAMP3	GGAAGAAAGTTCCCTGGGGA
57596	OPHN1	TGCCATGTCAGCGCTCTGGTGCTGCAG
57597	SHANK2	ACTGTGTGTTGCAGAAAACTGCCTTC
57598	SFPQ	AATGTCCCTCAAGTTTATGGCAGTGT

57599	MAK	GGAAATGTCTACAAATGTCT
57600	ARSD	GACTGGGTATTTTATAAGGAAAAGAGG
57601	RB1	AGGAAGAGAAATGGGATCTCAGGACC
57602	SCD	GAAAGGTTAAAAAAGCGAGGTG
57603	PDE4D	AAGCTAAGCACCAGCCTCTGCTGGG
57604	GORASP1	GGACCCTCAGTTCCCACACTGC
57605	STE	CCCAAGTAGCTAGGACTACAGACATGT
57606	KCNK6	CTGAGGAAGGAGGATCGCTTGA
57607	TBX6	CAGGGAGGACTACGGTGCTCGGGA
57608	JRK	AGCGATCCTCCTTCCTCATCCT
57609	CSPG2	GCGCAGCGCTGCAGTGA
57610	CCR9	CTTGTTCTGTTCTGGGCCA
57611	DCX	GGCATTTCTCAACCATCTCTCA
57612	PTCH	TTTCTGTTTAAAATATTTTA
57613	RFXAP	AACAAATTAAATGTCAAGAGAGT
57614	ADAM28	CTATCTCACCAGTATTTGCTCTCGACTC
57615	LNK	TTTAAAACATTTTACCTCA
57616	EIF2C1	CTTTCCTGTGCACACAGTCCAGCCT
57617	PMM2	TACACTCAGAATAGCCTGCTG
57618	ONECUT1	AACCAAAGACTTAGCTCACCTGCATT
57619	PTHLH	TTGCTGGAGAAGTGTATTTCTT
57620	NRCAM	TTTCATGTCTCTATATTCATT
57621	TMSB4Y	CGCAAGCTCCAGCTGCAGCCTCCG
57622	SAS	GCCCTGTAATTTAACCAGTCTTTAAGG
57623	EGR2	GGCTTTTCTGACACTCCAGG
57624	SLC21A9	CCCCTGAGAAGATTTGCCTCCT
57625	MEOX1	CTTCACCCTCTTCCTTCCCCAGCC
57626	HYAL1	AGGCCCTTCAGCCCCAAGGTCAGCAGGG
57627	FANCD2	TGCTTGTAATCCTAGCACTTTT
57628	AP1B1	TTGCAACCACCAGGCTGGTGCCCTGCAGCTG
57629	MADH7	GCTGGGGTCCCAGCAGCTGCC
57630	NT5E	ACAAATCTCTGCTTTATT
57631	REQ	GGGCATTCAGCCTCCTGCTCTTAACT
57632	CSK	CCTCATTCCCCATTCTGTGTCCCA
57633	SLC6A6	AGGGCCTTATGTGGAGCAGAG
57634	PART1	TCTTCTTTTGCCTAAAAT
57635	KCNK5	GTGGGGTGGAGGCTGCTGGAGGTGG
57636	VIP	TCCAGAAGAGTTAGAAAAAT
57637	EGLN2	GGTCCTACCCTGTCTGGTCAT
57638	PDL2	ATGCCTTTGGATGACCCAGCACTTT
57639	DIAPH2	ACACTCTTCCCGTGTCTTCCAG
57640	OAS2	TGTAACTTGAAGGTGGCTACAAAGA
57641	MLC1	TCTGACCGGGCTTCCTCCCTCC
57642	NFE2L1	GAAGATTTTAAAAACCAAAAAG
57643	EIF2C1	TAGATGGGGAAGAAATAC
57644	NAB1	CTGTGGAAACCAGGAAGATAAA
57645	AQP6	CGTCATGTGTGGATGAGGACA
57646	ORC2L	TTGAAAGTGTTGTGTTTACA
57647	LNPEP	TAATTTTTCTACTTTGAAGATAC
57648	GNB1	ATCCTGTCTATCTTCTCAGTTGA

57649	HOXB8	CTCTCGCTCTCTCTCGCTGCGTCC
57650	RNMT	GCTTAGTGCCATTATGTCATTTTGATT
57651	PLAG1	TATTTTCATTGTTGGCCCACGG
57652	BACH2	AGGAAGAGTGTTTGCACAGTA
57653	UPK1B	GGCTAGCAATCTGCCTGTATCTCT
57654	RAF1	CTTCCATCATGCTGAATTTTGTC
57655	RNH	CAGAAGGGGGCCATGGAAGCTGACACC
57656	LAPTM5	CAGTAAAATAATTTGGTCA
57657	ITGA2B	GTTGGAGCTGTTCCATTGGG
57658	MEF2A	TTTTGCAGAGAAACGTGTACCCA
57659	LTBR	GGCCCGGGGAAGCAGAGCCC
57660	SPN	TCACTGCAACCTCTGCCTCCTA
57661	KIF2	CACTCCTAGAGACAGCTGTGCTCACTTTTC
57662	BCL11B	TCAGCCGAAGGTCTCGTGGAACAC
57663	FZD1	CTGGAAAGCTTTGTTAAGGAG
57664	HTR1E	GTCGCCCAGGCTGGAGTGCAGCA
57665	BENE	AAGGCTGGAGTGCAGTGACGCG
57666	CRSP6	CCGAGTAGCTGGGACCACAGGC
57667	ICAM1	CTGAGTAGCTGGGACCATAGGC
57668	ZFP36L1	CTGCAAATTGAGTTTCTTTCTCTTTA
57669	OPCML	GAAGGGAGAAAGTGTCAGTGAC
57670	ALDH2	CCACCCGCTTCGCTTGCATCAGCT
57671	BLNK	TCCCAAAACTTCATATTTT
57672	F2R	GAACCCAGGAGGCGGACCTTGT
57673	IDH3A	CACATCAAAAAGAGTGAATGTGGTA
57674	GRAF	CGGGCAGGTGGTTGCAGCATTGCAGAAGA
57675	ADAM19	GAGACTTGCTGATTTTCTGGTTGGAGT
57676	EMP1	GGGGGATGGTCAGAGCCCAGTCG
57677	NIF3L1	TCCTGACTCAGACTTAACTGGC
57678	EDNRB	AAGATCAAACCTCACAAAGAG
57679	HM13	AGAAATGTGCAGCTGGTGCCCGAG
57680	FGFR3	GCACAGCCACTCCCCGGCATG
57681	AGTR1	CAGGCAGCAGCGAGTGACAGGA
57682	IGF1	CACAATGATTCCTTCTTTTCTAGGCAA
57683	CPO	TTCAGTTATTTCTGTAGTTTGTA
57684	CTRL	AGCAAGAAGCCAGAACTGTTGGA
57685	HEPH	GACTCAGGCTGGGGTCTGCAGTG
57686	PRKWNK3	AGAAATGTGCAGTTTGCAGATAGAA
57687	SCN3A	TGCCTGTAAAGTCTCCTCTAATATTTA
57688	CHES1	AAAATTACCATTGCTTCCTCCA
57689	NXF1	CGTCTGGTTGTCGTCTGTCAT
57690	IF	TCTCTCTCTTCATTCTATTCTTTT
57691	PAG	GTGTCTGGAGACGTTTCTT
57692	SFRS7	ACCACATTCCCAACTAGAAAAATCTT
57693	KLKB1	TGTCTGCTGAAGCCCGCT
57694	PTCH	TAGTGCTGAGCCTTGGCTGGGCCA
57695	SCN3A	ATCCATTCTATTTTTAACTTCCATATC
57696	PTTG1IP	CCACGTGCCCCGGAAGCAGGTGTGTCC
57697	SNAPAP	CTTCTTCAGGACTAGTTAACCAGA
57698	PDE4B	GCAGTGTGCCCTGCTGTGTCTTGG

57699	DLEC1	GCTGTTGCTTTGGATCTGATCTATAT
57700	POLR2E	CGGCGGCGGAGGCTGCCATGG
57701	KHK	GCCTTCTCCCCTCCATCCAGCC
57702	BGN	GTTCTGTTCCTCCTCCTCATG
57703	PPEF2	ACCTATCCATATGCATCAGA
57704	IQGAP2	TACTTCAATTGTGCCTCT
57705	MUC4	ACGGAGGAGTGAGGAGCCCAGGAAC
57706	GRM6	GTTGCCCAGGCTGGTCTCGAACTTC
57706	WHSC1	GTTGCCCAGGCTGGTCTCGAACTTC
57707	RGS3	TTGGCCTCGATTTAGAACAGGGT
57708	NOG	CTGCCGGCCCTGCGCCTGCCCAGC
57709	ELK1	CCCCTGAGAAGCCATTCCTTTG
57710	GABRA5	GATAATTCTTACTGTTCTGAAA
57711	CAPN3	TCTGTTCTGGTCATCTGGATGCTG
57712	NR2E3	TGAGGCAAAGGCTGGGCCAGGC
57713	PLCD1	TCTCCACCCTCCGGCC
57714	IL1F5	GAGGCAAAGAAGAATTCTTCC
57715	RNF3	GCCACCACATCACATGACCTTA
57716	CPA3	GGACCCAGCAGAAAGCA
57717	LPP	GTTTTTAAAGTAAATCTCTTTTTA
57718	SORD	CAATTCCATTTCTTTCTGGTTATT
57719	ADAMTS4	TCTGCCCTGCGGGTCACAGGA
57720	FSTL1	TAAAAGCAAGAAACCACAGT
57721	BCL2A1	CCATATTGTGAAACCGGCCT
57722	TR2	GAATGTAATGTCTTGGAACTTG
57723	ZNF43	CTGGTCCCTGCACCCAGGGACC
57724	UBE2G2	CCTTTCTGGGTCCCTCCTGGTTC
57725	ALMS1	AACCTAGAGAAGCAGAATCCT
57726	AXUD1	TGAAATCAGGTGGCTTCTGCCACC
57727	ZNF2	TCTTTGTATCTCACACAGTGCCT
57728	GPRK6	CAGCTCTTCTCCGTGGAGCTCG
57729	SLC2A2	GATTGATCACTTTGTTAAAAATATTTTC
57730	LAPTM5	AATCAGCTCTGACACTTGTTTAGACG
57731	HADHSC	AGCGAGCAGCACCTGGATCTTGCCT
57732	ADAM11	CACGGGGTCTGCAGCAATGA
57733	HMG20A	GTTCTCTTGCTCTTCTGTATTTTCCT
57734	RNH	TTTGCCCAGGGAGAGGCTGCGGC
57735	PIK3CD	TCCTCTGTTGCCCAGGCTGG
57736	CYP7A1	TGGTAGCAGGCACCTGTAGTCTTAG
57737	MS4A2	TCTGCTGCTTCTGTCCACCTTAAT
57738	HOXC11	ACTCCTCTGCGTGAGTGCGTGTGTAC
57739	MATN3	TGCAGATACTTATTAAGAGCAA
57740	SH3BP4	CCATAATTTCTCCCAGAGACC
57741	CLTC	TATTCAAAGAAAAGCTAAAGCA
57742	EPHB3	GATGCCTGGCCTTAGGCTGT
57743	PCDHB7	GCTGGAGGCTGAGTGAAAGTCATT
57744	ABCC3	GGCCTAGACCTGGTGCTGAG
57745	IL24	CTCTGGCCAACAACTTTGTTCTCATCG
57746	MFRP	CCTTTCTCCCCCTAAACTTTGGCC
57747	CYP2B6	CTAGTAGCTGGGATTACAGGCAT

57748	ANXA8	CAGGTCAGCTGCCCTGGCCTTGCACCC
57749	GSTM1	CTGCTGCCCAGGCTGTGC
57749	GSTM2	CTGCTGCCCAGGCTGTGC
57749	GSTM4	CTGCTGCCCAGGCTGTGC
57750	TMPRSS2	GTAGTGTCCCCAGCCTACCTCT
57751	MECP2	AGTAGGACAAGGTGCAGGCAGGCTGGC
57752	DRG2	GGCACCTCACTCCCTCAGCTCTT
57753	MPDZ	TTAAGTTTCTTTTTCTCATCT
57754	NPR1	CTCTCCTCCCTCAGCC
57755	HOXC4	CCTCCGCCCCTCCTCTCTCCCA
57755	HOXC6	CCTCCGCCCCTCCTCTCTCCCA
57756	MBTPS1	CTGGGGTCTTCTGACTGCAGGGGAAGGATG
57757	ADH5	AGGGAAAGGAAGCAGGGCAG
57758	POLG	GTCAAACCCATTTCACTGACAGGAGAG
57759	INPP5D	ACCTGGCTTCTCAGTTCTTTGGTTG
57760	FUT3	GCTGTCCCTGAGGGCCTGTGT
57761	EPHB6	GGTCCACCCCGGAATCCCAG
57762	C4B	TCCTCCAGCCATGAGGCTGCTCTGGGG
57763	MHC2TA	ATTGCAACAGGCTGGGCTTCAGTGGCAG
57764	CDC7L1	CTTCTCAATTTTCTTCCTTCTCTGC
57765	DNASE2	CCACGGCACTTCAGCCTGGGTG
57766	TTYH1	GCCTGGCTCCCCTCTTCGTTCC
57767	TNFRSF1A	AGCTAGCAGCCGCCTACTTGG
57768	LSS	GCTTGGGTGAGGAAGGGGGC
57769	TRPS1	ATAAACTGAAGAGTCTCAGTATGGCTA
57770	MAML1	GCTCAGACTTTTGTTATACACATT
57771	LIMK1	TCCTCAAGGAGGTGAAGGTCATG
57772	INSL4	CATCCATTCTCATATGTATTCT
57773	TRIM39	GGAGGTTTCTTTGGTCTTCTATTCC
57774	HK1	TCCAGATGGACTGTGAGCACAGCCTGA
57775	TFAP2C	AAGTACTGGCTCTTTATTCA
57776	WARS	TCCGATGCCAAGGAGTCCTGGCC
57777	PTGES	GTGGGAGGGGCCCACAGGAAGC
57778	ZNF289	TACCATCTGCTGTGGAATGCAGG
57779	RAP1GDS1	AGGTAGAGGGAGGACACAGAGCCG
57780	TAGLN2	CCTTGCCCCTGCCCTCCCACGAATGGT
57781	GAGED2	CAACGCAAGCTGGTTTTATA
57782	DGKQ	GGGCTCGAGCCATCTCTGCTCCCGCCAG
57783	RANBP3	GGGGAGGAGGCGGAGAGCAATGTGTTACAGAT
57784	NEF3	TAAGCCATATGACAATTTCA
57785	FLRT2	GCCATGCTCACTGGCCAATAAAGAG
57786	SHC1	ACATTTATACATCACCTTTTTGA
57787	DLGAP2	AGGCCACATTTTCACCATTACTTAAG
57788	GORASP1	CCAGGAGGCAGCAGGGTCTGGTCATAA
57789	BDP1	GTTGCCCAGGCAAGAGTGCAGT
57790	PIGN	CAGCTCTTCCCAGTGATGTTGAGAGCA
57791	PMP22	AGACCTGAATAATTCTGTGTAATA
57792	PTPRH	GGGACTCCTGGGTCCCCGGCAGT
57793	SPAP1	TGAGTATTTGCAATAAACTATGATA
57794	KMO	CTGTTGACCAGGCTGGAGTGCAGT

57795	GPR45	CCTCTCTGCACCTGCTCAA
57796	LSS	CAGGCAGCAGTTGTAGTTA
57797	SLC13A1	CTTCTATGTTTATTCTATTCATTTGTT
57798	HDAC4	GAACATTCCTTCTTTACTGGTC
57799	NXF2	CCAGGCTGACATTTCCTCAATCTTTAT
57800	SP110	TACTACCCTCTCAGTCACCA
57801	EGLN2	TGCCTCTGTCCTGCCTGGTGTGGAGG
57802	HTR2C	AGTTGAATGATAATAGCTCACAG
57803	D12S2489E	TGGGCAGGGCCACAGCAGAGAGAC
57804	TRPV1	CTCCGCAATGGCACATGCTTCC
57805	SNRPN	CCAGGCTGAACTGAGGCAG
57806	P2RY6	TCTGGGAAGGGGCATTTGAGCTGGG
57807	GRM6	TTGCCCAGGCTGGTCTCGAACTTCTGA
57807	WHSC1	TTGCCCAGGCTGGTCTCGAACTTCTGA
57808	MAN2A2	GACCCCTGGCAAACTGGGC
57809	IGHMBP2	AGCATCTTCAGCACTTACCGAT
57810	GLB1	TGGAATGTGGAAATGGAAAAGGA
57811	ZNF261	GGGATCTGTGGTCAAAGGACA
57812	LZTS1	ACTGCAGCCTCATACTCCTGGG
57813	CLC	AGATTCACACAGAAGTCTGGACACAAT
57814	ARSA	CTCCTCACTGGGAGCCTGTGGG
57815	AKAP1	GTGGGGAGGGGAACTGGTATCCTGC
57816	DHCR24	GGAAGCATCTGTCTTGTCATTCCA
57817	YWHAG	CCCAGCATGACTTTCCTTAGG
57818	KIF1B	ACACAAATGTTCCACAAGGCGGGAG
57819	PIP5K1A	CCTCCACTCCAGAGTTGGGTGG
57820	BAZ2A	AGGGTGGAAGAGGAGAGGGTGGA
57821	PDE4A	CCACGGCCACAGGCAAGGGGGTT
57822	UBE3A	GCAGGAAAAATGCAGCTTTCAAATCA
57823	TBL1X	TGCACACCACTACTCACCCT
57824	SYCP1	GGAACGGGCTTTCTTTTCAG
57825	C11orf13	AGGAGCTGGGGGTGCAGTGG
57826	SIGLEC11	TGGGACTACAATTGTGAGCCAC
57827	TBXAS1	CTCATCTGGAAGACCACCACTCTGGGG
57828	EGFL4	CTCCACCTGGGGGCCCCTGGAC
57829	B3GALT5	ACCACTGCATTCTGACCTGCTGTACA
57830	NUMA1	TGTGGAGGCTTCCACCAGGAG
57831	MAGP2	TCGGTGGAAAGAGCAGAACA
57832	F2R	CAGGAGGCGGACCTTGTAGTG
57833	ITGA3	GGCATGGCGGGATCCTCCACA
57834	CYP1A2	GTCTCCTAAGCTGGAGTGCAGT
57835	ZNF80	AATGTTTTGATGAATACAATGT
57836	VDR	AGCTGTGTCCTTGCACCTGC
57837	CAV1	GGTCATTTTATGTTAAGGGAA
57838	ACHE	GCTCCTCCCCGCGTGCCTTCGCC
57839	ABCD3	TGTCTTGGAGTGCATTTG
57840	TITF1	CTGCCTCACCGCTTCCCTCCTGCCC
57841	EHD2	GGCACACGCAGGCATCCATCCATCC
57842	DBT	ACGCCTGTAATCCAGCACTTT
57843	PROK1	CCCTCGATTGGTTAACTCCTTA

57844	CD79B	CCGCAACCACTCCCACCCCAGGGAGG
57845	FBXL2	GCATTCCTCAAAAAGACCATCAG
57846	RET	GCTGGCCCTGATGACCTGTCCTTA
57847	MAX	CTCATTTCTTTGTCTTTTTCCTACTCC
57848	ALK	CTGGGCCCTGGCTCGGTCGCACACTCA
57849	DRD1	TGCTTTATTTGGGGAATTCAGGG
57850	FABP2	ACCTCAAACTCCTGGACTCAT
57851	KCNQ2	CACTCCTCGCACTTCCAGCCTTGGAG
57852	KIR2DL4	ACCCCTGGCCCACCTCTCCAA
57853	SRRM1	CTGCAGCTGCTGTGACCCCTGCAGCC
57854	MAP1B	CTAGAAGAAAGTAAAAAGAACA
57855	KLF15	GTGAGGGTGGCTTTGTCTAAGATGCCT
57856	KCNAB2	TACCCAGGCTTTGCAGACCACGCGGG
57857	GNPI	ACTCCTGAGTGTCCCGCTCTC
57858	TLX1	CTGGCCTCAGACTGCACCCAGGAGGGG
57859	CNP	CGCCACATCCCCGCTGGCTGGGG
57860	SORCS2	GACCCAAAGCTCTCTCCCCACCCTACCT
57861	B4GALT3	CTCCTCACTGTTCTCAGAGGG
57862	CRSP9	AGCATCATATATTAGTTCA
57863	TGFA	TCTGTTCAGAGCTGACCCCCTA
57864	SUFU	CCTGCCTGCAGCCTGCA
57865	RFPL1	CAAATGCTTTTTTATTTCTGTAAGTTCAAAT
57866	SCD	ATTTCCTCTCCACTGCTGGAC
57867	DLG4	GGTCTGGACTGAATTGCCCAA
57868	METTL1	ACTGACTGCTTACTCTACCTT
57869	PTGS2	TTCCCATTCTAATTAATGCCC
57870	NT5E	GTCTCTATTTTTTCACTTTA
57871	SRGAP2	TGTTAAAATGTGAAATTGTAATTTTTA
57872	COLQ	TGGCCAAACAACCGGCTACA
57873	POU3F2	AACACAAAATGCAGCTTCCTGATGCTT
57874	EGFL4	CGTCACTGCACTCCAACCTGGG
57875	SEDL	CTCAGCTTATCTAAACCTAATGA
57876	PRKG1	TCTGTAAATGTCAGTGTCTGAACAG
57877	MLF2	GCCTCTCTTGTACAGGCTGAGAGGCTG
57878	POLK	AGTGCAATAATCCTTCCTCAGA
57879	FOXE3	TCCGACACTCCTGGGTCAGA
57880	DNAJB9	GAAAGGTTGAGAAAGGAATGGT
57881	NF2	CCTGTGGCTGGGATGACTGC
57882	MCSP	TTCACAGTGACTACCATTTCCA
57883	DAF	AAAAGGCAGTCCTGGAATCAC
57884	SMAC	CTGCCTCTGTCGCCCAGGCTGGAGTG
57885	EYA1	CTGTGGCGGGTTTCTTCCTGGGGAACAC
57886	EIF2B2	TGAAGAGGAGACTTGAGTGTTGCT
57887	BCL2	AGGAAGGCTAGAGTTACCCAGAG
57888	CLECSF5	ATACTTGCAACTCTTTTTG
57889	PCDHB12	TGCATGTGTAATGGTTTATGTCAA
57890	IFNAR1	ATGGTTTAGGATTAAAGCCAGG
57891	RAB4A	TTAAAGCCTCTTCATCCAGG
57892	IFI35	GCTGGGGCTGAGAGAGACCACAGCCCT
57893	PRV1	ACTCAACCTCCCTCTGACCTCA

57894	SHOX	CCAGTTTTATAAACAGCAGAT
57895	UVRAG	TCTGTAACCCAGTAGCTGTGACGTTCC
57896	CX3CR1	GTAGACATTTCTCTTACTGCAA
57897	PSCD4	CTCTTTTGGGCCACAGACATCATTGC
57898	GGCX	CTTCGTCTCAAAATAAATAAAT
57899	STS	GAAAGAGAAGAAAGAAGTGA
57900	FGF13	ACAAAACAAAACAAAATTAACTGCTT
57901	SH3BP4	CTTGAAACATGTTACTTCCT
57902	MPL	CCCAAAGTGTTAGGATTACAGG
57903	C18orf1	CCCTAATTTTAAAACAAAAGAACA
57904	CBFA2T2	GCTCACTGCAGCCTCGACCTCC
57904	JRK	GCTCACTGCAGCCTCGACCTCC
57905	MYL2	CTTTGCAGAGTGGTCCCTGCCCT
57906	PART1	TCACCCAAATAGCTGAGTGCAGTC
57907	MAPK4	TTTGCCTCACCCCTGC
57908	HTR4	GATCCAGCAGCACTGGGG
57909	GNAQ	AAGAGGGACTGTATTTCTGTGGAAA
57910	LARS2	TTGCCTTCAGGCTGGATGAGGAA
57911	ACE	GTCATGTCTCTGGTGGTGCTG
57912	EXT1	GGCGGACTGGAGCTGAAAGTGTT
57913	PLA2G4C	TCCACCTGGCCTTCCTGTTCTTC
57914	EPHA8	CCTCCTGCCAAGGCTCTTGTCCCC
57915	MAPT	AGGGCGCCTGAGCCTAGGCGG
57916	EGR3	AAAAGACAAACCAGATGTA
57917	TRPM5	ACCCTGCACGTTGTGCACTGA
57918	BACE2	ACCAACATAAAACAAAAC
57919	EXTL3	AAATGTTCATTTTATTTGGTGCC
57920	MMP8	CAGAGGCAGAGATTGGAGTG
57921	CD74	GGACCCATAATCCTTTCTGCCG
57922	DYRK2	TTTTCCTCTAGTGCTCAA
57923	BCLG	GACCACACCTCTTCTTCCCAAGGTCCC
57924	EVA1	GTCCTGGATGATGGTCCATAAGAA
57925	JRK	AGGCTGGAGTGAAGTGGTGTGAT
57926	KLRD1	AGGCTGGAGCATAGTGGCAAGAT
57927	AOC2	TTTTATCACACCTGCTCCCCA
57928	PEX14	TTGCCCAGGGTGTGTTTGCTGAGTGT
57929	BSN	ACACTGCCACCATCTCAAAGCCAT
57930	CAST	TTCCTCTGGTGCAACCAGCAAG
57931	ZHX1	CACCACTGAGCTTTTCCTCATAACA
57932	SLC19A2	GGGAAAGGAAAAGAACACTAGCTAAG
57933	FZD4	TACCTTGCCTTAGGCCTTCTAATCAT
57934	HTR1D	TTCAAGAGATTCTGCCTCA
57935	SPTLC1	CCAGAGAATATTCATTATACTTC
57936	ZNF14	GCTCCTTCTGAATACACAAAAGAGTTC
57937	ITGAL	CATTGCACTCCAGCCTGGGCAACACAG
57938	PSD	CTGGTTTCCCCTCCTTCCTCCC
57939	FMR2	TTTCTCTCTGGGCCTGTATC
57940	CYP8B1	GCCCACTTCCCTAGACTGGA
57941	SCN8A	AAACAGAAGAGAGGCTGCCGG
57942	ATP11A	ACACGGACGTGTGATACACACATGCAT

57943	YWHAZ	AGAAAACTGCCTACATACTGGTTTG
57944	NAP1L4	ACTCCATCTAACTCGTTTTCA
57945	KCNA6	TGCAAGTGCCTTCCTGAGCAG
57946	KAL1	CAAGTCCCAAAAACTAAGG
57947	CROT	AGGCTGAGACAGGAGGATCGGTTGAG
57948	SEPN1	TCTACCTCTGGGGCACCACGGA
57949	RNASE1	CTGCGTGATTTTGGGGGTG
57950	ED1	CCAGAAGTCCCTTCAATTTCT
57951	SOX11	TAATTAGTTTTATCTGTTCCATG
57952	ADRA2B	AGCTCACTGCCTACTTGCTG
57953	LALBA	CTAATGCCACCTCAGTTTGTTTC
57954	XCL1	TAAATGCTCATCTGGTAACTCAA
57955	ZNF174	GTGTTTCTCCTCCCCCTTGCT
57956	FHL2	AGCTCACTGCAAGCTCTACCTC
57957	RP42	ACATTTATAATTCCAACATTGTGG
57958	PCDHB2	GTGAGCCAGAGCTGGAGCACGTTTGGT
57959	NLGN2	GAATGGTGGAGGGAGGCAGTGG
57960	SFRP1	GGGGCAGCCTGTGCCTGCCTTT
57961	CCNF	TGTCTCCCCGGCTGGAGTGCAG
57962	P2RY6	CAGGGGGCGAAGTGCAGTGGCTCATGCC
57963	RAB36	GGCTGAAGGGCTATCTCTGGCACCTC
57964	FLNA	GCCTGTCACTGCAGCTGCCCCTGCCCTGT
57965	PTGIS	GCTGCAACCCTGGTGTGCTGGG
57966	PKNOX1	CTCTTATGTTCAAGCAATTC
57967	MYL4	GTGCCTGGCCCTTGGCTTTAG
57968	CRY1	CGCCTCCAGCGCCCCCGCCTTCT
57969	EGR3	CCGGAATAAAGAGAATTTGTA
57970	EIF5A	CCCCACCCCCTCAATCTGTCGGGGAGC
57971	MDM2	GACCTCGTGATCCGCCCACCTCG
57972	C5R1	TGGTAGTGGGTGCCTGTAATCCCAG
57973	GNGT2	TCCTTAGGAAGCACTTACACCACCTGGGAAC
57974	PCDH12	GGCAGGAAAGGGTGGCCTTCTTGGGTA
57975	C18orf1	CCCAGATCCTAAATGCTAGTTC
57976	BCR	TCACTGTTGTATCTTGAATAAACG
57977	C14orf1	GTCACCCAGGCTGGGAATTGCAGTG
57978	SIM2	AAAATACAAAAATTAGTTGG
57979	GRM4	CACTGCTGGCAGCCTGGGCAA
57980	KLF8	TCTTTTCCACTTTCTCCTTCAGG
57981	PSMD7	GAACTGCAGCTTTCGCTGCTG
57982	KCNJ16	GACTCGAGTTGTGGATTGCAAGAA
57983	BACH2	AGCTGTCTTAGAAATGACTTCA
57984	CNTNAP2	GTATTAAGTAACTAAGTGCCAAAT
57985	NDST1	GCATGCAGCACCCCCGGGCCTGTCC
57986	PIGA	CAAAACAATAAGGCACTTGTGGGTG
57987	NHP2L1	GGACTCCGGAGGCAGCCTGGGTGGGT
57988	FGF5	TTGGGTTGGTTCCAAGTCTTT
57988	OPHN1	TTGGGTTGGTTCCAAGTCTTT
57989	GNAO1	CCATAGAAAACAATCTGCCCACCG
57990	ALK	GGAGAGGGAACGGAAATAAAGGAGTTA
57991	DCX	TGCTGCCCTGATCTCAGTGGGA

57992	NLGN2	CCTTCTCTTCCTACCTCCATCC
57993	DLGAP2	AGGGACCACCAGAGGCAGAGGCC
57994	OGN	GCCCAAATTTGAGATGCATTATTCC
57995	RAD54B	GTGCCATTAAGACAACTACAGCC
57996	PTCH	AAATTACCTGGGAAATCTTAACAG
57997	AIRE	TGCAGCTCTGATGAGAGAGTGCTGA
57998	TNFRSF10B	GATTACAGGCGTGAGCCACCAG
57999	ITCH	GGACTCTGCCTTTTTGTTGGT
58000	KCNC4	GGTCTGATGTTCTGTTCCATT
58001	ENTPD3	TAGCAAGATTATTGCATTCCA
58002	AKT1	GAGCCAGCCTGGGTCAAAGAAG
58003	PPEF2	TCATGCTGGTTTACCCCAAA
58004	GNAT1	TTGGGTGCCAGAGTGAGACACAGCAGG
58005	IHPK3	ATTATGCTCTAATGCTGCTTA
58006	FEZ1	ATCGCCCAGGCTGGAGTGCAAT
58007	FBXL11	CTCCCATGACCCTCTGCCC
58008	NT5M	AGGTGACAGCGGCCACCAGGCT
58009	ARHGEF7	GATGGGGTTTATGTATGTTCAGCC
58010	F8	AATGCAAATGTGCATTTTTCTGACGA
58011	CDC25A	TTGGAGCCCAGGGCATCTTGCTG
58012	ADAM21	CTTCCCTTACATTAGTAC
58013	PTPN18	CTGTAGCATTCAAGGCTTGAGGC
58014	MATK	CCCCTGAGCAGGTGAGCCCCCG
58015	SLC2A8	CAGCCATCAAATCTTGTTGAG
58016	SLC39A4	CCAGGAGGCGGAGGAGGCTAGTG
58017	FOXF1	CCTGTTTATTTATTCTACTTTC
58018	STAT1	TGCTATCGCCATCACAGCTGA
58019	GBP1	ATTCTTAACACTCATACTTG
58020	GRAF	GAGCCAGACTCCGTCTCAAAGG
58021	TSNAX	CTGAGGCAGGAGACTCGCTTGA
58022	NRXN2	CCCTTCCTCCTGCCGTCCA
58023	CLTB	CCTCCTGGCCCTCTGGTCCAGC
58024	ARMET	CTGCTTACTCCCAAAACAGCCT
58025	BRCA1	GGAAAACTTTGAGGAACATTCA
58026	ZNF219	TGGGACCCATATCCCAGCCCCAGGCGG
58027	LAMC1	GTTCTTGATGATCCCACT
58028	PTPRA	ACTCTTCAGAGTGCTGTTCCTACTC
58029	CARP	AAGACTCCTTCAGCCAACATGATGGTA
58030	SLC4A1	CCTGTTGCCACACTTTCACT
58031	POU4F1	AATCCCGGGAAGTGAGTGGGA
58032	SHANK2	CCAGCCACCACCAGGCCTGGAGTAT
58033	CLECSF11	TGAACTCCTGGCCTGAAGCAAT
58034	C8orf1	GTTCATTTTATTGCAGTATTA
58035	CXorf6	CGGGAAAGAAGCCCTCGTGGATGGAGG
58036	SLC21A2	CAGTGTTGAGTCCTCCATTGAGGA
58037	SOX13	TTAACCAGCACATTTCTCCTGTTTACA
58038	PBX2	GGAGAGGGAGGAGGTTGCAAAAAGCCA
58039	ARHGDIB	CTGCTCCCTCTGATCCTCCATCA
58040	MAP3K11	TCAGGAACACTACACTGCACAGGAAGCC
58041	KCNS3	TCTTCCTCTTCTCCCTTGCCAGCC

58042	MN1	AGGCGGCGGACGTGGCCCGGAA
58043	PTPRG	AGGATAACTCTGTATTACAGCTTT
58044	LIMD1	AGAAGTAGCTGGGATTTGTTTGC
58045	MAPRE1	TTGGAACCTGCTGTCAACAGGTCTTAC
58046	BCL2	TATCAGAGAAAAACAGGAAAG
58047	MS4A2	GGATGCCAAGATTAAAAGGTGACAGGT
58048	SMARCD2	TTCAGCAGATGCCTCCTCTGCC
58049	CNGB3	GCTATCCTGTTTCAGATAATAT
58050	AQP6	TGCCACTGCACTTAGCACTTTC
58051	MS4A6A	TTTTACTGAAGTTGCTAGAA
58052	EIF4G1	GGGCCCCAGGGTGTGCAGCCACT
58053	DTR	CTAGACTGTTACTTTGGCAATTT
58054	ARHA	GCCCTCCTCTGCACTCCCACC
58055	ODF2	AAAGCAGCAGAAGGTGAAGCAGGA
58056	OVOL1	AGCAGGACTTCCTACCCAGAGGAG
58057	RPH3AL	GGTTGGGCTGGGGGGTTTCCCA
58058	IGSF4	AAAGAGACAGTGATATTGGA
58059	GPR81	TTACTGAATTCGTATTTGGTGGC
58060	ADAMTS5	CCTTGCAATATAGAAAAACTT
58061	PLAGL1	AGCCTCCTGTAGGTATTTGCCCATGTT
58062	PDE4C	GAGCAAGACACTGTCTCAAAAA
58063	SEL1L	TTCCTTTACAGAGGTTCGGACTAACA
58064	SERPINB4	AATGTACTTTTCCTTCCAGAAA
58065	CHST5	TGGTGGCACACTCCTGTAATCCCAG
58066	MMP26	AACTGAAAGCACTAGAGCAGCCTTG
58067	NEUROG1	CAATACAATGAAAAGGCTTAAAAAGC
58068	CXCR4	GCAAAGTGACGCCGAGGGCCTGAG
58069	MAGEA2	CAGGTCACAGAGCAGAGGGGACGCAGACA
58070	SHOX	CAGGATTCAGACGCAAAAGACTTG
58071	MRE11A	GGGAGGCAGTGTCTGGATGATGC
58072	SCN8A	TATTTGGAGAAAATGGTAAGAG
58073	GPR50	CCTGGCTGCTGATCCTGAGCCTGCTGGGAGAT
58074	SLC7A6	TCCTGGTGTGCTTATTATC
58075	DYRK1A	TATTCAGCAAAAGTTAATATTCAGA
58076	FCAR	ACCCAGGCTGGAGTGCAGTGGA
58077	ELMO2	AGGCTTTTGCTTTTGTCTT
58078	CHRND	GGAAGGGAGGGAGCAGC
58079	PPP1R2	CAGTATCACTTTCTGTGCTTA
58080	UPF3B	TCTCAGCTTGTTTCGTTTTGAT
58081	HLA-G	AACAGGGGACATAGCTGTGCTATG
58082	TRIM9	TGCAGGAGGATGTAGCGCCTCAGTTTA
58083	DCX	GGCTCGCTGCAACCTTCACCCT
58084	PTPN11	TTTCACCCTCTCCCTAAAAAGATCAA
58085	AP1M1	CCTGCAGCCATCATGTCCGCC
58086	IL11RA	GGTGCTTGTACCTCTGATTTCA
58087	MS4A2	GGTGCTGAGAAATTCCACACAT
58088	UTX	AGTTTAAAAAAGACTTTATGT
58089	PTMA	CTCTGTCCTACTTCTGACTTTACTTG
58090	IL1R1	TGCAGTGAGCCGAGTTTGGGCC
58091	ADORA2B	ACCAGCCTGTCCAATATAGTG

58092	IL15	ATGTACTTGCTATGGGCCTA
58093	RHD	GCACTACCACACCCAGCTAA
58094	FOXO1A	ATCATTCTCCAACGATATACA
58095	DNASE1	AGGCTGAGGAGGGAGGATTATC
58096	RNF4	GCACTATTAGTGTCCCCCTCA
58097	NF2	AATGGCGTGATCTCGGCTCACC
58098	LSS	TGGGGGCCAGGCTGGAGGCAG
58099	AMFR	TCAGATTCAAGAGATGTTTCCCCAGGT
58100	SLC26A4	GTCACATTTAGTAAATGCTGAAA
58101	RBM3	TGTGCATCAAGCCAGCCTGA
58102	VPS41	ATTGTCACTCATTTGATGACACC
58103	EDARADD	ATTGCGCCACTGCACACCAGTCT
58104	MTM1	TCGGGTTGTGGCAAACCCCAAAGAG
58105	C8orf1	CATATTCTTCTAATAATTTA
58106	IL6R	GGCTGAGGTGGGAGGATCTCTTGA
58107	DNMT3L	CGCCCCCGCGGGACACGCCCAG
58108	B3GALT5	GCTCAGAAACCACTGCATTCT
58109	SNX3	CCCCGAGTCCCATGACACCGCTTC
58110	TEC	ATACTGGGATCTTCAGTGGCAGGA
58111	FBN2	TTAGTCATTTAAAAAGATATT
58112	SERPINB9	GGCCTCAAGCAATCCGCCTACCTCA
58113	EGR3	CCAAGCTAGAAGGAGGAATC
58114	GAD1	ATGCTGCCAACCAGCTTGT
58115	TNFRSF18	TCATGGCCCCCTTCCTCCCTTG
58116	CSE1L	TAGAAAGAGCATAATGAAGCC
58117	GALT	GGAGTTTGAGGCTGCAGTGAG
58117	KCNK6	GGAGTTTGAGGCTGCAGTGAG
58117	KLRG1	GGAGTTTGAGGCTGCAGTGAG
58118	NEBL	GTTTTGAAGAAAACATTGAATGTTTTA
58119	HM13	CCCTGCAGAGCCGGTGTCTCCGCCTGC
58120	GPR37	TCTCAACAGTAATCAACAGTCAGGTGT
58121	FXR2	GAGGCACGGGGAAGGTTTTGGAG
58122	STXBP1	CCTTGTACATAACCCTGGGTG
58123	ZNF76	GCCCCCACCACTCCTCAGCTGCC
58124	TNFRSF10B	GTGCAACCTCCGCCTCCTGGG
58125	ICMT	CCTTCACTGCACTTTCTTCCTGCCT
58126	LTA4H	GGGCTGTAGGTCGCTGTGCTGTGT
58127	TBL1X	ACTCACTGAAGTTTTGCATTC
58128	ZIC3	GAGAGGAAGTTATAGAAGGCTTGTTGG
58129	SCRT1	CCCTCCAGGGTGCCCCCGGCTTT
58130	PPP2R1B	GAACAGCTCACCACTGTGCC
58131	GYPA	AGGGCATGGCACTGACATCTGCCTTGTAACT
58132	ABCC12	GCCCGAGCTCTTCTCCGTAATTCAAAG
58133	GRB2	CCCCCTGCTTCAGGCTGCTGAGCAC
58134	TBX22	CGTTAACTGCATTTTACACAT
58135	AMFR	TGCTGTTAGTAAATTTCTGTGAT
58136	ADD2	CCTTGGGCTCCCTCCTGCCTCC
58137	SSPN	GGCATGAAATAGCTTAAA
58138	GNAI3	GTAGTTTGGGCAGTGCCTT
58139	G6PC	TAGGATTACAGGCATGAGCCAC

58139	MPL	TAGGATTACAGGCATGAGCCAC
58139	PTGIS	TAGGATTACAGGCATGAGCCAC
58140	VENTX2	TGGGATTACGGGCATGAGCCAC
58141	LPL	TTCTGGCTTTACATTTTATTTA
58142	TRPS1	TGGGATAGAAAAATCATAAAGA
58143	CUL3	TAGTATTTTGCATTCTGTAAA
58144	COL19A1	TCAGGCAATAGGACAGATGAGTG
58145	TCF2	GCAACAACAAGGACCCTGTTTTCC
58146	WNT5A	AGAATGGAAACCCATGCCTAT
58147	EED	TCCAACGGACCTTACATCGTG
58148	PYGB	CACTTTGCCAGCCACTGGTGGTCCCT
58149	NEU3	TCACAGCTCACCACAGCCTC
58150	TEM8	CTGATTTCTTCACAATCCTTCTCA
58151	JAM2	GTTTTCACGCCCTCTAGCCCCTACC
58152	CPNE3	GGTAATCACTGTCAATTGGATTTGGT
58153	ITGA5	AGATCTGTCCTCAGCCTTGCCA
58154	ABCA1	CACATCCTCATTCACTAAGCCATGCCATG
58155	NRGN	TGCAGCTCTGCCTCCGCAGCCTC
58156	IL11	ACTGCAACCTCCACCTCCCGGG
58156	LYZ	ACTGCAACCTCCACCTCCCGGG
58156	RPH3AL	ACTGCAACCTCCACCTCCCGGG
58156	SEDL	ACTGCAACCTCCACCTCCCGGG
58157	IL8RA	GCATCCCTAGAAAGCCATGTGCA
58158	TIMP2	ACATCGAGGACCCATAGCAGG
58159	MFAP2	GTGGCTTAGGCCAGGGTGGGAGCAGT
58160	FGFR1	TTTTAAAAAGGTCATATATTTT
58161	SNAI2	GACAGTAACCTTTCTCTTCA
58162	PRDM2	TTAGAAGGCAGGTCAGCTCACCTGCT
58163	IGF1	GCTCCAGGGTTTCTGTTACTA
58164	SMTN	GCCCCTGGTGGAGGTGGACGACATGAT
58165	KCNQ2	CAGGCACTGTGAGGGCTTCTCC
58166	GAB2	TTTGGAGGGAAGGGCTGGGGCT
58167	ACK1	GGCCAAGGCTGCGGGAGGCTGGG
58168	P2RX7	ACCTGCAATCCCAGCTACTCGGG
58169	VRK1	ATTAAAGGCTAATTTATGAAATTTGAA
58170	CMRF35	AGCTGTCAGCACCGGCCTCA
58171	GPX3	GCCCCCACCCCGCCATGGCCC
58172	VENTX2	GCCGGGACTGTACCCACAGCTTG
58173	TLR3	ATGAGACAGACTTTGCCTTGTATCT
58174	SBF1	GCCTCCCAGCCCTGCCCGGCTGC
58175	PIK3CA	AGAACAATGCCTCCAAGACCATCATC
58176	FHL2	TTCAACACAGAGAAGTTGCTGCT
58177	VAMP5	CCAACATGTGCACCCCTGCAT
58178	DCX	CTTCATAAGTAGTATTAACT
58179	TRAF5	GCTCACTGCAAACTCTGCCTCC
58180	ABCC1	CCAGTCCTAGCAGAAAAAT
58181	UROS	TGTGTGCCAGGCCGGGTGCTGG
58182	BTEB1	AACCAAACTGAATTTTTGAA
58183	DIAPH1	TGGGAGGTGGAGGGTTGTACTGTG
58184	HSPA6	GAGAGGCTCTCAACTGGGC

58185	USH2A	AAGCTATTCAACTTTGCTTAGCTAA
58186	HSPCB	CCTGGCTCCCCCTGCTGGTGTC
58187	MYCL2	TCCTGGTGTGTTTTAAAGGATC
58188	TTID	TAACTGCAGAAGACTATCTTA
58189	SFRS2	GACTCGGCATTCGTTCATTCCTTA
58190	IKBKAP	CTGGGTGCGGACTGTGGGA
58191	IGF1	TCTCCCACTGGGTCACCTCAAG
58192	HD	GGGTAGAATTGTTTGGCAATGCACTGAA
58193	PPP1R12B	CCTAGAACCTCCCTGTCTTCC
58194	TLL2	GCGCCTGAGCCATGCCCAGCAGCCCT
58195	CACNG7	GGGCTCTTTTCTGCTTCCTGAAG
58196	B4GALT4	TGAGAAGGCGTCCACAAAAG
58197	SYK	CTGTGTGATTTTCATACAGGTTATTTT
58198	ALDH3B2	CAGGCCCAGTCACAGGGGCAG
58199	H1F0	CATGTGTGTGTTTGTGTATA
58200	CENTD2	AAAGTGCTGGGCTGTGTGGGTCG
58201	FGFRL1	GCCTGGACACACACATGTGCAC
58202	ITGA5	TTCCTGTCCAGCTCCAACCTGCA
58203	KLHL1	GCGTGAGCTGCCAGCCTTTTGCC
58204	TTYH1	CCCTGCTCTTGGCCACTGTGCTCC
58205	PRY	AGAGAACTAAAGTAGTTGAAACA
58206	ZNF146	GAAATCATGAGGGAGGTTGT
58207	SLC7A8	GGGGAGGTAAAGGCAGTCTCCTG
58208	CHD2	ACTTTTAAAAAATTATGCTTTCTG
58209	SLC7A5	CCACGCAGGGCCATCCACTG
58210	SOX11	CTGCATCTTCGCGTGTGCTCAG
58211	YWHAG	ACCACAGACTCAATGTGCTCT
58212	SFRP1	CTGGGGACTGCGCCTTTTGTCCCCGGA
58213	ADAM19	CTTCTCCTCCAGACTCCTAGC
58214	NDRG2	CTTCTGCTATAACAATAAACT
58215	SSTR1	GAGACTTTAATCACTGCTGAAG
58216	CDK5R2	CGTCTGTCTGCGCCCCCATTTCT
58217	MMP25	GCATTTCTGTGGCTCTGCAGTG
58218	PITPNB	CACAGGTTCTCAACCACGT
58219	IL20RA	GACTATGTAAGGGAGAGTTTATT
58220	GBF1	TCTGCCTCCAGCCCGGCAG
58221	CELSR1	GGCTGGCCAGAGTTCAGGAACG
58222	CYP4F3	GCCTGTATTCACAGCTGCTTGG
58223	PLAT	TGAACAACTAGGCTTCAGCATA
58224	SPON1	GTTGGGGGCCGCGAAGATGAGGCTGTCC
58225	TNFRSF8	TTGTGCAAGGATGGAGTGGGT
58226	H3F3B	AGCTTTTCATTGTGTTGTGTGGTTGG
58227	IGFBP5	TCTCCACTGCATCCGATCTCATTATTT
58228	DGAT2	AGTTTACCTTCCCCAGATC
58229	CLK2	CCACCCTCACCTGCCCCCTCA
58230	RIMS1	CTGTATGTTTAGTTTCTTTTCTCCC
58231	HS2ST1	CAGTGTTGAATGTAATTTTCGGAA
58232	PRX	CGCCGGCGCCTCCAGCTGCCTC
58233	ADCY6	CTGGGGCAGTGCCAGACTCTGAT
58234	KCNA6	GGACCAGGGCTTTAGGGCTCACGGA

58235	CYP2A6	GCTTGGGAGAGGGGCGCAGCTAAGACTG
58236	CD5	GGCTCAGAGGCTGTAAGAA
58237	GPR35	CTCTCTGCTGACCTCCGGCT
58238	NDUFV3	TTCAGAAGGAGCGTGGCCCAGCCAA
58239	TOX	TACCAAATACAGTAAAAACAAATG
58240	SCAP1	GCTGGTTTGAAAAGCACAA
58241	ACPT	CCCACGGTCTTCCACTACCAGCCTGGG
58242	PCTK3	TGAGGGAGAGGAACGTGG
58243	HTR2C	TACAAGTGTTTCTAGTAACAGTATT
58244	NOS2A	TCGAAAACTGAGGCTCCGGCCGCA
58245	ZNF132	AACTGGCATTTCTCTACTTTC
58246	DGKB	TCCACTCCCATCTTTATGAC
58247	HAL	TCTTAACAGTTTCAACAGGCCACT
58248	UMPS	GTGGTGAGATCACGGC
58249	SLA	GGGAAGGACAAAGCCACTCTCACAAGA
58250	UNC5C	TCTAAGTGTAAAAAAGAAATAACT
58251	BRF1	GAGGTTAGTCGCGCGCTGA
58252	OTOA	CTGTGGTTGCACATTTGGTTCATCTGA
58253	FOXE1	CAACCCAGGGATCACTTCCG
58254	RAB7L1	CCGAGATCATGCCACCGCACTT
58255	STAU2	GTTATTTAGGAACACAAAGGACA
58256	SLC1A4	TGGAGCAGAGTCCTTTCTGCT
58257	PTPN2	GAGTGTATGAAATGTAGAAAGAT
58258	FGFR4	GCCCCTGGCCCAGAGTTGCTGT
58259	RNASE2	GCTGAAGTGCCTTGTGAACCCTGCAAT
58260	DCX	TGAGGCATGAGAATGTTGCCCCATCT
58261	XBP1	TCCATTTATTTAAAACTACCCA
58262	PIWIL1	GGGCTGAGGTGCAAGGACCAGGACT
58263	HIS1	CCTGTTCTGGCACATATGGTCCA
58264	MNT	CCCTAGCCCTTCCAGCCTGGGACACACA
58265	FZD4	AAAAACCAATGATTTTGCTGCAG
58266	MSH3	ATAAAATTATGACCATGG
58267	PNOC	GTATTTTTGTAATTCCTCT
58268	ENAM	TTTTGAGCCTTTTTGATACTGAACATG
58269	JAK3	CGTTACCCAGGGTGGAGTGCAG
58270	PTPN22	AATGTTGTGGAAAACTGGAA
58271	NFE2L1	AGCGGGGACTTAAATGCCTTC
58272	MAGEA5	CTGCCCACACTCCTGCCTGTTGCGGT
58273	ADAM19	GCAGCTTCTCCTCCAGACTCCT
58274	MAP3K7IP1	CCATCTCCCAGTCTCCCTGCCCCCCAT
58275	CEACAM6	AGCCATCAAATAGTGAATGGTCTC
58276	SLC13A3	GACCTCCAGTGGCCCACTCAAGTCCAT
58277	TAPBP	ACCATGCCTGGCTAATATTTTGT
58278	CLCN4	GTCCTCTGGCTTATTGCCTCAGA
58279	WASF1	TTGGAGTAAAGTTGCAGTGG
58280	GPR1	CATTTCAAAAGCCAGATAAAAG
58281	ADH1B	ATGACTTTTATACTATTTCTTTAT
58282	ATP1A2	TACTTAATAACACTTCACCTT
58283	SCA1	AGTTTTACCTCACAAAAACTACTA
58284	ARHGEF12	CCTGCTGTGACACTGTGCTCTCTTCTG

58285	CD5	TAGGGAGGGCAAAGGTTCGGGGGC
58286	RAI3	GCTGTTATTTTCCATGGACT
58287	ALPP	GCCCTGTGGCTGCCTGCACCCCA
58288	TNFSF14	CTGAGGCAGGATAATTTTGCTTAA
58289	DSPG3	TAGATGTTTTTAATTAAACTTTTCTCT
58290	CTNNA1	GCCTACTTCTAGCTGTATTTTTTGT
58291	RAB7L1	CATTGCGCTTCAGCCTGGGCAA
58292	PTP4A2	CACACTCACACGCACGCTCACA
58293	DISC1	CAGTCCAAACTCTGATTTACAT
58294	G6PC	ATCACCCAGGCTGGAGTGGAG
58295	GAS7	AGCTGTGCCCACAAGCTGTTC
58296	PKD2L2	TGTAATGTTCTAGAGATCATT
58297	PPBP	TTCATTCTGTCTCAAAAATCACA
58298	ALDH3A2	CTCACTTCCTGCCTCTGCTGCCACCAT
58299	MT2A	CAAACCTGGATTTTTTATGTAC
58300	SHFM3	TCCTTTCTGCCCCTTCCTGGAA
58301	GAS7	ATGGCAGGGCTGGGACTGCTGT
58302	RIMS1	CATTGCACTCCAGCCTAGATAACAAGA
58303	KLK8	GCTCCCCAGGCTCTAGTGCAGG
58304	CENTD2	AGACCTCTTGGCCCAACCTGCT
58305	WBSCR1	CGGAGGAGCAGAGGTGGCCGCCGTGG
58306	FUT1	ACAGGCCATTATGCCTGGCTA
58307	ASH2L	GGTAGGACTGCGGGAGACTGC
58308	HAS3	CTTTCCAGAAACCAAACTAGGAGA
58309	PROCR	TATGCTTTGCTGAATTAGTC
58310	OPHN1	AAGGGGAGGGGACAGTGC
58311	VIL1	TAGGGTCTCATTTTCTCACCG
58312	SOLH	AGAGAGGGCCTGGGAGCTTG
58313	INHBC	GGTATGGGCAGCCCAAGGTTGCATGG
58314	CFTR	TGTTAGTGCAAATTGTCACAGGACAG
58315	GALC	CAGTGGTTTGTTCCTTCTT
58316	APLP2	TGGGGTGGAATAGGGAACTGT
58317	BCL7A	CGAGAGGCTACAACCAAGA
58318	TRN2	GGGGAACCGGAAACCTAGGAATCCCAACC
58319	TNFRSF11A	CTGGCCCAGGCTAGAGTGCAGTG
58320	HNRPA1	TTCCTTCAGGGTGATGCCAGG
58321	PML	CAGCAGAGCTGGAGGAGGGGGTGACC
58322	MHC2TA	GAATGAACCACATCTTGCTCTGCT
58323	CTSB	CTCCAAGCAAGTAGCTTTCCA
58324	SLC4A8	AATAGTGTCCTTTGAAAAAACTT
58325	SLC22A3	CCTTGCAACTGTCAGTGCCTCCA
58326	C20orf1	CGGTGCTCGGTCGCCGCCTAGGCGG
58327	SIL	ATACTGTATATTTAAGAAGGT
58328	DSC3	ATCTCAAACTCCAGCACTGG
58329	LGI1	CTCACGAATCAGCTGCAGGTCTCTGTT
58330	ZNF179	ACAGGAAGGAAGGAACACTGGGCA
58331	GLUL	TTCATTTCATCTACCATTTTCT
58332	LAMC1	TCTACTATGGCAGGAGATGTGGT
58333	FBXL7	ATGAAGCCTATTGGGGTTAAG
58334	PPP1R14B	TATTGTTATTAAACTGATGGGA

58335	SMPX	GAGAGGCACAGAGCTATTTCAGCCACA
58336	NLGN1	ATTCTACCATTATACAGTCTTTC
58337	CNTN3	TCACACACTCTCACATGTACAC
58338	CHST1	TCCCTGCCTCCTGCCCCTGACGCCCAT
58339	ZNF36	TGGGAAAACGTGTTGCAAGTCAACCA
58340	IFI27	GCCATCCTGACCCAGCGAGGA
58341	PTHLH	TTCATTTCTTACGTTCTTTCACTTC
58342	NF2	TTTGTATTTTTAGTGGAGACGGGGTT
58343	CPD	CTTCAGTTTTGATGCATTTTGCTGA
58344	HOXB4	AGAAGAGGGGGAGGGGAAGC
58345	ZNF264	TGTCACCCACGCTGGAGTGCTG
58346	HOXB8	TCCCAACAACATGAAACTGCCTA
58347	NEDD4	ATTTGGCTTTTGTTAATATGC
58348	AKT1	GTGTATTATGTTGTTCAAATGCA
58349	PELO	AGAGAAAACTTAGGAAGTTGAAGTT
58350	PRIM2A	TTACTTTAGTGAAGATTCTTAGCAGTTTTATA
58351	COL19A1	TTCAAAACACTTTCAGATAG
58352	CCND2	ATCAGCAAATGTGTACGTGCATG
58353	CTSD	TGAGGGCCCCTCTGCCCAGCT
58354	RHEB2	TCCATTTTCAAATTTTAAGCAATCATA
58355	PRKWNK3	GCTCACTGCTGCAACCTCCCCCTCC
58356	DAAM2	CATGCTGTCTCTAAGGGTGG
58357	PAH	ACCACGCAAGAGACACCCTT
58358	SCN1B	CCTGCTTCTGCTGCCTGTTTGGG
58359	SFPQ	TTCAAATAAATAGAAAAAT
58360	MIP	GCAGGGACCCAGGCACTGTGA
58361	FTSJ2	ATCTGAAATTTCCATCT
58362	NDUFA2	TCCACTGAGGATTAAGAGCAACAGCCCCAGA
58363	EZH1	GTCCCCCACTTTTAAAGATGG
58364	ASB1	GCAGTCTCCATGTGTGTGTA
58365	SERPINB5	GGCAGAAATACAGTCTTCCACAAAGA
58366	MPP2	CACTGCTAGGGATGCTCAAGGGG
58367	PTGIR	CTGGTCCCCCACCAGGCTTGGGAGC
58368	CBFA2T2	TGTCTAGGGTGAGACCAGTGCTCAGC
58369	RBM3	TACTGTGTCTGTGTAGAAAGA
58370	SCML1	TCTTCTTTCAAATTGTTTGTATGA
58371	VAT1	TCCCAGCCATGTCCGACGAGAGAGAGG
58372	GPLD1	GGAGGAGGGAGAGATCAGGAAAAAT
58373	FANCF	AAACACCTGACCTTGTGATCCG
58374	PCYT1A	CTGTTTATGTTCACGTGATCTCA
58375	HOXA1	GGCACATTTCATGAGGGGAAAGGGAGA
58376	RRM2B	TGTAATCTTTTAAAAATATTATC
58377	PKHD1	ACATTTCAGAAGTGAAGGCTTTTGAGG
58378	GBF1	GGCTGGGTGGGGGACTGCCCACAGGAG
58379	KCNJ13	TGGAGTGGTCTAAGACTGA
58380	RAB13	AGGGAGACAACGGCAGAGGGA
58381	TMPRSS3	TGCTCACTGCAGCCTCCGCTT
58382	RAB36	CTGCTGCCTCTCCATCCCTCTCTC
58383	TERT	CTGGGAATTTGGAGTGACCAAA
58384	ETS2	TCGTGGACTGAGTGGGAAGCCCATCCT

58385	PRKACB	TGTCTTATCACCAAGGAAATTT
58386	CDH17	CGCCCAGGCTGGAGTACAGT
58387	SNX15	CGCCCAGACTGGAGTGCAGT
58388	EPB41L2	CACTGACTGTGCACTGTGCTTAG
58389	CKM	CTTCAGCCCAGCCCAGCCAGGT
58390	PDAP1	TCCTGTCTGACTGACCTCA
58391	HUNK	CCCCAACAGAAGAGAAAGACTGAAGGA
58392	PDE4C	CAACATAGCAAGACCCCCACCATCTC
58393	FCMD	CCAGTTTGCCTCCTTCTCTCAAT
58394	LIPA	ATCACAGCTGTGCCAGT
58395	PIGR	AGCTAAAATTTAATTTCTTTTTTCCT
58396	C18orf1	GCCTCAAGAAGGGGCTCAGA
58397	GNL1	CTCCCAGATACTTTCGTTTTGGAC
58398	MYOC	TACATGGTTACCACAAGCCACAA
58399	GLUL	TTCCCCCTCTCCCAGTTGTC
58400	OXTR	TAATTTCACTCCAGTATATTTT
58401	FMR2	GTTTTAAGCAGGAGAATAGCTG
58402	GFAP	GCTTGATTCTCAGCACTTGGG
58403	CAMK2A	TCCTCCTGTGCTGACCTCAGGGTGG
58404	CALM3	AGCAACAAAAGATTTGTCC
58405	C21orf2	CCTGAGCTGCTCAGCAGGCAGGCAGC
58406	FANCA	CGGCCACACTGGTCACAGGCAAAG
58407	F13A1	CACAAATGGCTACATCTCCAAATATCA
58408	IGF1	TTAGGTATTAGAAAGTGATAC
58409	CBFA2T2	GTGCTCAGCCAGGCTGGAGGC
58410	ABCD4	GCATGGCCAGCAAGCTCATCATCTC
58411	VTN	CCTCTCCCTCCCTTCCTCAGGCATCAGA
58412	RIG	TGCTGTTTTTGTCTGACT
58413	TRIM34	GAGGCTGAAGAAGGAAGAGGAGGAAG
58414	INPPL1	CAGGCAGCGGCGGCTGCGCGGTGA
58415	CCND2	GGCAGGATCAGATGACTCTCTCCA
58416	PABPC1	GCATTCCTTTCTTTAATTTTGTAA
58417	KCNA6	TACTGTCTTCCCCTCCCTACCT
58418	CD209	TTGTCGCTCAGGCTGGAGTGCCAT
58419	CAPNS1	CACGAGGGCCGCGGTGCAGTG
58420	MSLN	CTCCACCCTGGCCTGGGGCC
58421	GDI2	AAATGATTTCTGTACTGCAAAATA
58422	TOP1	CTGAGCCAGTTGTCCTATGGA
58423	TRPM6	GGGTGATTTGTTGATTGGCAATGAGGAT
58424	G6PC	AGGTCCTCCTCTCTCTACTTGAA
58425	TNFRSF1A	GCAGGGGCAAGCAGGAGCTAGC
58426	NUMBL	CGTCTCCTCCCCCCATGCAC
58427	DISC1	ACCCAAGTTGGAGTGCAGTGGCCCCGCA
58428	PPP2R1B	CTGGGAGGTAGAGGTTGCACTG
58429	GPR65	TAGCATGTGAGGGGACTAAG
58430	GPR55	TAAGAACCACAGCCACAGAGTCAGGCT
58431	ISLR	CCCTCAGCCTGCAACCTCTATCCTG
58432	PPP1R7	CTCTCCTCGGAAGAACTGCC
58433	CHEK2	TTCTCTGAGAAGTCCTTTTCAGTCTGA
58434	FAT2	TGTCCAGGCTGGACACCTGCCATTGC

58435	FCMD	CTGCAGCTACTGATATCTGGCC
58436	FPGS	GCCTGGGACACTGCGGGACAGA
58437	EPB42	GGAGAGAAGAAACATGTCAGGGTGCT
58438	ADORA2A	GCTGCACTTGGCTCCTGTGAGGAA
58439	CSNK2A1	AAACTTCTGTTCAGTAAGAATCATGTC
58440	MAP1A	GCTCCACCCTCCCCGTGCTGCT
58441	IL6ST	TCCGTCAGTCCAAGTCTTCT
58442	EVC	AAGCTTCCAGACCAGCCCTTCACACCA
58443	MAPK10	GGAGATGATGTGATGGAACAC
58444	IMPG2	AGGATTCTGTCCTCTCCTCATT
58445	PIK3R1	GGTCCAGCCTGGTTTAGCCTGG
58446	FCMD	TCCTTTCCAAATCCAAAAAG
58447	PRKY	CATCATGATCAGCCTCCAGCC
58448	ACE	GCTGGGAGACACAGCAAGACTCC
58449	CPSF4	CCAGGTGGCAGCGGTTGAGGAGGGGTA
58450	MKI67	TTGTAGATATAACTCGTTCATCTTCATTTA
58451	SRGAP2	ACAGTGGAAGGGAGCATCAGGAGA
58452	FBXL7	AAGAGGGAACACACTGAGATG
58453	TBP	CTCATACCGTGCTGCTA
58454	CAMK2A	ATGTGAAGCCTAATTTACCTGCAGGAA
58455	RAMP1	AGCCAAGAAGAGCTCACAG
58456	GGA3	CAGCATCGTCCTGGAATGGCC
58457	HPS4	CAGGAGTTCGAGGTGCAGTTT
58458	UBE2G2	CGGGAGGCAGAGGTAGTAGTGA
58459	SUFU	TCCTTGCCACCATGACCAGCC
58460	BIG1	GCCCAGAAGCTGTTGTGGCCGA
58461	PMP22	TAGAGCTTGGCTGGGTCTAG
58462	NTF5	TGCAGGATGGGTGAAACCACATGGGG
58463	SYT4	CACCTCACAGCATCTTGCTCCA
58464	DGKG	CAGCCTAGTGAACAAAACTCCATCAC
58465	SELP	TGAGTTTGGGATTGTGGTACAAT
58466	CRYBB1	CCGCCTGCCTGTCCTCCAGCA
58467	PRKY	GCTCACACCTGTAATCCTAAGTA
58468	CYP1A2	AACCATCACCAGAATTAATT
58469	BMP7	TGAGAGTATTAGGAAACATGAGCAGC
58470	PIK3R3	ATTCCTGCCCCCATCATGCCC
58471	TOP3A	GGAAAGGCTCAGTGACTG
58472	TEM8	GTCTTGGACCTCCTGCATCAG
58473	ATP5J	CTTCCTCCTCCTGTTTGGC
58474	SYCP1	CTTAAAAAATACTTGCATGA
58475	IRTA1	AAGTCCCAGGCCCAGTGCAGT
58476	HM13	GGGCTGGGCCCACACAGGC
58477	FSTL1	CCTAACCAAATTTTAAAAATACTT
58478	STS	GGCAAAGCTCACCATCTTCACTACAAA
58479	FMR2	TGAGCCAGTTGTCAGTGTTCTGTTACA
58480	GPC4	CCAAATTCTGCAGAGTGGT
58481	GRAP2	AGAGGTGGGGAGGAGGAGGCAC
58482	VAT1	CCTGTTTCCCACCTCCTT
58483	GPR56	CCAAGCCCCCAAATAGCTCCAGGCGCC
58484	SIGLEC8	CCCTGCTCTTCTCTCTTGCCTGCC

58485	BTG4	GGAAGATGAGAAGAAATCTTCAGGGTG
58486	IRAK1	CTGGCAGCAGCTCTTTGCCCAT
58487	ITGB4BP	GCCTGGATCTATCATTACTGCAAA
58488	NRP2	CTTTTTTCTCCTCGCCTAGTTTC
58489	SDC4	CTTTCACAGCCGGTCTCTCTGC
58490	LRP8	CCGAGCGTCACCGAACCTGCTT
58491	PPP2R1B	TTCCTGTTTCCATCCAGTTCC
58492	TNFRSF11A	GGAGTAGCTGGGATCACAGCTGCAGGCC
58493	TRPV1	GATCCAGCAAGGATGAAGA
58494	WBSCR14	CGTGAGCACACTCAGTGCCCAGCC
58495	RAG1	TTCTCCAAATGAAACCTGAATCAAT
58496	LANGERIN	CCATCCAGCCCCTGTCCTCA
58497	P2RY6	ACCAGCCTGGGCAACACAGTAA
58498	DIAPH2	AAAGTGCCGGATTACAGGTGT
58499	GPR17	GACCCCTGTCCCTTCCTCCCGG
58500	ELAC2	TCCCTGCACACCAGAGACAAGCAGAG
58501	TSC1	CGGGGAGGGGGATAGGAAGACGC
58502	BAZ1B	CTGCAGCTCCTAGAACATGAGAATCA
58503	CD164	GTTGATCAGGTTACTGTAGAT
58504	GPR81	GTTCCTCTGTTATCATGCC
58505	SELP	GAAATACCAGTGAACCAAAG
58506	SLC1A4	ATCAAGCCACACCCCCTT
58507	YWHAG	GCCGTCACCCACTCTGCACTGGGGCG
58508	PCDHA11	TTCTCTCTCACTCTGTGTATAAGTA
58509	CBFB	AGAGCTGTCTGCCACAGCCTT
58510	EGFR	GCCACTCTGTCCCTTCCTGGGCAAAGAA
58511	SIGLEC11	AGACCAGCCTGGGCAAGATGGTGA
58512	TEX15	TATTGGCAATGAAGCACTTT
58513	SLC10A2	AAACAGAGAACGTGTCCCA
58514	MEN1	GACCGTGTCTCAAAACAAACAAACA
58515	SREBF2	TGGGCGTGAGAGGATAGGTGGCAGG
58516	RAD21	CTCCCCCCTTTCCCCACCCCCTCC
58517	SSPN	CCGCATTGCCTATTGATACACTTTA
58518	H1F0	GCCAGCCGGCAAAGGAAGGAGG
58519	PCOLN3	CCTGCCCTCCCCTCCTCAGTC
58520	SLC13A2	CCCCATTCCCACTCCTCTGAGCCCGGAGG
58521	RP2	AGCCTCCTGAGTAGCTGGGAAT
58522	FCER1A	TAATTACTCAAGAAATATTTGCA
58523	BCL7A	CCCATCACTGCTTTCTCCCA
58524	FXYD6	CCCCAGAAAGCAGAGAACTGAGTGCAGC
58525	TTN	CATTTTACGCTGTCTCTGACATAAGGA
58526	MHC2TA	GGAAGCACAGCTTCATTTCCTGTGTC
58527	PMP2	TGTTTTCTTTGAGACAGTCTGATTC
58528	ZNF179	AGGCAGCATCTGGGGGCAGTGG
58529	PRDM4	CCCATGCACCTGGTCATTGTGTCTCCCG
58530	ATOX1	GATCAGGACTGGAGGGGGCGGA
58531	MAGEA9	CAGGCAGTGTCAGCAGTGAAGGTTC
58532	DISC1	GAAGGCATCTGGTGCTTTGCTCAG
58533	TEK	GGCCTAGACAGAACATCTGTATACCCTC
58534	HTR4	CTGCCTCTTCTTCGCCCTGTTC

58535	AP2B1	TGGAGGCAGAGATGCAGTTACC
58536	TEGT	TTTGCACACATTACAGGTGGT
58537	IFNAR2	CTCCTGCCTCAGCCTCCCTCGCA
58538	MS4A2	GAAAGAGAATGGGAGCATATGTGA
58539	DLGAP2	GTTCACTGCATGTAGGTTGATTTCTT
58540	RANBP17	GGAACCTGTTAAATGAGTA
58541	SIAT1	TTCTGTCTTCTTTGATAGCCA
58542	DNASE2	CACATCTGTAACCCCAGCACTTT
58543	PIGC	GCCTGAGTTTGAATGAAAGGATAATGTA
58544	IRF1	GGCCTCCCTCCTTGGGTCAT
58545	HTR1D	CTACAAACGTGTGTCACCAGGCC
58546	RBBP9	TGGGAGGCTGAGGTGGTTGTATTG
58547	ANK3	TTTTTAAAAGCTTCAGCTTC
58548	GAD1	TAATGATTTAAGCATTTTA
58549	PAFAH1B1	CCCTCTTTTCCTCTGGATGCACTCT
58550	CAPN1	GCTTTCGCTTGTTCCTGCCTCG
58551	FGF18	AGCCGCCGCCTCCCTCCCGCCCAG
58552	PPP2R5E	TCCAGCTCCTGCGGCTCCTCCTCC
58553	GPR1	CCATTGCACTCCAGCCTGGGCAACAAG
58553	MAP3K9	CCATTGCACTCCAGCCTGGGCAACAAG
58553	NT5C2	CCATTGCACTCCAGCCTGGGCAACAAG
58553	VPS41	CCATTGCACTCCAGCCTGGGCAACAAG
58554	ANXA4	TACAAACCATATACATCTGGTTACCA
58555	GNAT1	GGGTACTGTTGACACCAGCT
58556	TMEFF2	GACTCCCGTCTCCTCCTGTCCTCCGGCTT
58557	NRGN	GCCGTGTTTGTGACCCCCTCCTGCCC
58558	RASAL1	GGGGGCGCGGAGGTTGGAGAGAG
58559	PTGIS	TAAGAGGTGGTGGGGACCAG
58560	GPRK5	AGACCCTTCTCCTTAGAAGTGGA
58561	SLC15A1	GTCCAGGCTGGAGTGCAATGGCAC
58562	FOXO1A	CCTTGGACCTGTTCACGTTGCCAC
58563	IL12B	TATTAAGCAAAATGTTTAAAGACA
58564	CAMK2A	CCTCCTGTGCTGACCTCAGGGT
58565	FKBP1A	CTGAATGTGTTCTGTCACTCAGCTT
58566	ATM	AGACCAGCCTGGGCAACATGATGT
58567	PPP2R5B	GGAGAGGCAATGGTGGTCTTGGC
58568	BCLG	AGCTTCCAGACCAGGCCCAACATGTG
58569	PTPRO	AGCTCCACCCAAATCACTCTT
58570	ARHC	CCCTCCTGCCCAGGACTGCATTGTTTT
58571	TACR1	CACACAACTCAGCCTGGCTGA
58572	NR2E1	GATTGAGTGAGGTAGATTGCTGT
58573	TBX6	ACCAGCCTGCCAACATGGTGA
58574	NR3C1	GGGAAGGGAAGGGCTACTGCAGCTTT
58575	CORO1C	TGCCAGGCTGGAGGCGGCAGC
58576	ST3GALVI	GCGCCGCGAGAGAGGCAGCAG
58577	RFX2	GGCAGATCCGCAGCTCGAAAAAGAA
58578	CTSL	ATCCGTGGAGTGCGCCTGCGCA
58579	TSC1	TGTGACCACAGGCTGGTGTGTAGG
58580	RTN4	ACCTGTATATTTTACTTTGT
58581	KLK3	CATCCCCAGCCACAACTGCCAGC

58582	SMARCA1	GTGTACTGTATTTTGTGCATTTC
58583	MFAP3	GTGGCTTGGGGTCGGGAGTGCAGG
58584	ARHGEF7	TTGCTCTTGTCCGCTGTCTGA
58585	FECH	TGTATTTCGTGGTAGTCCTTGCCTGTA
58586	EDNRB	ATGTTCTCTAATTATCTTGCCAA
58587	IMMT	TTTGCCCTCGGAGCAAACTGAA
58588	HSPB1	CATTTATCTTCTGTTTTTCTCA
58589	SLC28A2	GGGAGGCGGAGCTTGCAGCGAG
58590	MPDU1	GAGTCTCCCAAGCCAAAATTTTGACA
58591	SIGLEC8	TTCTCTCTCATTTACTCTCG
58592	CHC1	GTTTCTCCCCTTTTCCCTACC
58593	PYCS	CTTGCAGCTTCCTGCATCCAGG
58594	ACADSB	AGCTCACTGCAGCCTTGACCT
58595	LRP4	CTGCATTGGGCAGAGGAAGCTGTGC
58596	AES	GTGAGGGTGGGCGACCCAGGATTCCCC
58597	CRYGS	GCCATTCCTGAATTTCTTTCAGCACTGGGA
58598	ALEX1	TCTTGGGGCCGGAGGCCAGTCC
58599	SPAG1	CATAGAACATGTATATTCTACA
58600	SCNN1G	TTCTTGAACTCCTGGCCTCAAATGAT
58601	PITX1	TCTGTCTGGGCGAACAGCCCCCTC
58602	AQP1	CCAGGAGGTGCAGTGGAGGGGGCAAGC
58603	PRKG1	TTACAGGTTTACCAGATCTG
58604	PTHLH	ATGGTTTCTGAAAATGTTTAAGTAT
58605	GLI4	GACACCTTCAGCAGGTCTCAGGGA
58606	LPL	CATGTGTGGATGTGTAAA
58607	MAGEA2	TGTGGGTCTTCATTGCCCAGCT
58608	C18orf1	GGGACTGGAGGGGCCAGGT
58609	FPGS	CTTCACAGTGACACTGGAC
58610	FLRT1	CTCAAAGCTCCCACGCAGCTCT
58611	SH3BP5	TCTCTTTCTCTTCTCACCCTCAG
58612	TNFSF12	ACAAGAGACCAGGTGTGG
58613	CDK10	CACTTCCTGTTCATGTACGA
58614	C5R1	GAACCTTGGAGGTGGAGGTTGT
58615	PTMA	TTTTGTGTATGTACTTAGCTGTAC
58616	IL17BR	AAAGCACTGGCTGAAGGAA
58617	RAD54B	TGTATTTCGCTCATCTGGACCCTGC
58618	HDGF	CCAGTGTCATTTCTCATCCACA
58619	CDH13	GGACACAGATCATGGTA
58620	KLHL3	TACCCTGTGGCATGGAGAAGCCTCA
58621	GPR56	TGTCACACAGGCTGGAGTGCAGT
58622	DDX11	TCTCACTGCCTTCTGTCTGCCC
58623	PAK1	CCACAGACGCCTTCCCCCTTGGACTC
58624	ATP11B	TGTTTGTAATCATGGTAATTTAGA
58625	HUNK	TCAGATAGTCATCTCAGTCC
58626	PTPRK	GAAGAAGAAAAGAAAAGCTGTGCA
58627	PROK1	CCACATGTATCCCTCGGTCTG
58628	CDH15	CCCTGCAGAGGCAGCCTGAGGTCACCG
58629	RALB	GGTCATCTGTGTGTCACAGCCTCAGAA
58630	SLC21A3	TCAGAAAAGCAGTCTAGCAAA
58631	GRAF	GGTGAAGCCCCGTCTCTGCTAAG

58632	SLC4A8	AAGCTGGAGGATTACTTGA
58633	PTPRF	TGTCCTCAGAGCAGGGGCCAG
58634	CACNG1	ACCTGGCCACAGTTGGGGGAGGCAGAG
58635	AXL	CAAGTAGCTGGGATTACAGGTGT
58635	SAS	CAAGTAGCTGGGATTACAGGTGT
58636	ATM	TCCGCCCAGGCTGGGTGCAGT
58637	LAD1	CTGCTCCCAGCCACTGAGGCC
58638	SOCS5	TTAGGCTTTTTCATACAGTAT
58639	HIP1	AGCAACAAAATCATGGCTTAGG
58640	MAFF	CAAGGGAGGGGGAGAGAAGC
58641	LRAT	AATTGCTTTCTTAACTGTCAAGAATC
58642	NRXN3	ACCCGATCCAGAGCAGCAGTG
58643	TFCP2	GCTGCCTCTGGGAAGTCTGCAGTA
58644	PI3	TGCCCACGGCTGGAGCTGCCTCTCTCA
58645	NEUROD2	TTCCTCCTCCCCCTCCTCCCTGCAG
58646	CCNK	CATCTCTTTGCAAATTCCTGTACAT
58647	USP6	TGGGGAGGAGGGAAGGGTCC
58648	G22P1	CTTTCGAGGCAGCAGGATTT
58649	TERF2	GCTCACGCCATTCTCCTGCCTCA
58650	SIGLEC11	ATTGGTTGAACCCGGGAGGTGG
58651	CTSK	CTTCCTACTTTGCTTCTCTCCA
58652	ITGA2	AGATGGACCACACTTTGAGAAACACC
58653	NFATC3	TCCTCCACCTCAGGCCTTGG
58654	NPC1	CTGTCTGTCCTCTCCTTTTTAGGA
58655	PYGM	TCCTTGGCTGGAGGCAGT
58656	ALEX3	TCAATGCTGATATTTAACTGA
58657	ATRX	CATCCAGCTTTGGCTGCTGAAA
58658	SLC17A2	CTCTCCATATTCCTGACCATAG
58659	IL11	TGGGGTGGGGACGGAGGGGAA
58660	CDK4	GGAAGGAAGAAAAGCTGCCATT
58661	FGFR1	ACTGCTTGAACCCAGAAGGCAG
58662	CNP	AGGCACCATTCAGGAACCTGG
58663	PTGS1	TGTAGAGAGAACAGGTGGGCTG
58664	CASP8	CGCTGCACTCAAGCTTGGGTGA
58665	SORD	ATGGGTGGAGGGTGAG
58666	ADAM10	GAGAGGGAGGTGCTTCGCCGT
58667	FKBP1A	ATGTTCCACTCCACTTTGTATAGACA
58668	GRB10	AGCCTTGCGTTTCCACAGCCTTCA
58669	TPMT	TCCTTTGGAGAGGAGATTATGA
58670	ALDH3A2	CCACTGCACTTCAGCTTGGGCAACAGA
58671	RIMS1	ACACTCCTCTTGATGTGACTAAA
58672	PRLR	GGAATGATTGGTTAAAATGTGAT
58673	CRSP6	GTAGCCCAGTCTGGAGTGCAGTG
58674	BMP8	AGAGCATGGACATTTTACTTTGGAG
58675	ARAF1	CTCAGAACCTCTCTGGAATTTGT
58676	NAPB	GACCTGCCTGCTGTGGTATG
58677	CTF1	GAACTCCGGGGCTCAAGCGATC
58678	SSTR1	TGAACTCCTGGCTTTCCAGGAGAC
58679	TBL1X	TCTCAGATCATTGATTGGCC
58680	SPAG6	TCATGGTCATTCGCATGCATAG

58681	PCK1	ACACCATTGTTCCTTACCTT
58682	SH3BP4	GGACCATTTGGGATCCCGAATCTCA
58683	PAX3	TGTGTACCTCATGGATGCTTTGGCAAT
58684	MAP3K8	TCCAGAAAGAGCAACAGTA
58685	PPP2R1A	CAGGCCCCTTCCCCCAGCACGG
58686	TNFRSF6B	GCATGTCGGTCAGGCACAGCAGG
58687	ATP6V0E	AGTAGGAGAGCACGTTCAGAGGGA
58688	MEOX2	CTGTAAAATATTAGCTG
58689	ADARB1	TGGCCAGTAATCCCAGGCTGG
58690	MAPK3	TGGCAGTTCTGGAATGGAAGGGT
58691	ZNF3	CCACACACCCATTTTCCTCA
58692	SFTPA2	GCTTCCTTATTCCCCATCTGGTC
58693	PTPN1	AATAAATCCTCAGGTAGTACTGGG
58694	ATP2A3	AGCCTGGTGGGCTTCCTGGACTC
58695	HOXA1	TTTCAGATGACCTTTTGGAA
58696	ADH4	ACTATAGTCAACAGCAATTTAA
58697	GP6	AGGCCAAGGCAGGAGGATCGCT
58697	IRAK1	AGGCCAAGGCAGGAGGATCGCT
58698	HPS3	GTTGGAGACATGACAATCATTTT
58699	EPHA2	TTGCTTTCCTGGGCCTTTGC
58700	TCAP	AGGGAGGGTGGCAGAGACA
58701	BCL11A	CCTTTTTTGTTCCTTTTTCCTGCTGC
58702	CHD2	CAGTCCTTACCTGCCA
58703	CD209	TAGCTGCTATGTCCCCT
58704	DSC2	GGTCTGTAGGTTGTTGCAGTGA
58705	CASP10	GGTGACTCATGCCTGTAATCCCAG
58706	NDRG1	TACTACTGCCTTGTACTTTTCA
58707	HOXD13	TCCAGGCCAGTATAAAGGGACTT
58708	FSTL1	GTGCTCTGGGGCTGGAGGCTAGTA
58709	CDH10	TGGTATACAGACATTTGTGCAATTT
58710	MAPK1	TTCCTCCCTCTCCTGAATCC
58711	PDYN	TAATTTCCTGCTCCTCCAGTACA
58712	PUNC	CTGGGCCCTGACACTGTCACCCTCCAC
58713	FMR2	TGGGCCCTTTCACACCCCAC
58714	GYS1	GGCTTACAAATTCTACAGCA
58715	TACSTD2	ATTGCCCGGAAACTCAGTCTA
58716	CASR	AGGGAGCTGTTTGCCAGCACCG
58717	TIMP3	CTCTGTGCCTGCTCTCTCCA
58718	FCRH1	GATTCTGCTCTTTGAAAACC
58719	AQP6	CACAGCCCACTCTCAGGCAGGAACAAT
58720	BHLHB3	GTTAACACCTTTGACGTCTTTGGA
58721	RFC1	ATGAACACTGGCTTTTGTTCACTTTG
58722	HSD17B1	CGCCTGTAATGCCAGCGCTTTG
58723	SEPN1	CACCACCCTCTCCTTGCTTTCAGCC
58724	RGN	GCGTTAAGTTTTAATTTACAACTT
58725	PRND	AGCTCCATGTTTAGAAATAAATGA
58726	IL22RA2	TCTGGTGACCTAAGGCTC
58727	GALR1	TGAGATACAGTCGGTTTACCTCA
58728	KRT7	CCTCCCACCACTCCACTCCTCCAGCCA
58729	FZD4	CCACCACACCCAGCCTGGGTCTCTCT

58730	KRT13	TCCTGCTCTCACCATGAGCC
58731	MYEOV	GATTTCTGGACGCTTCTGCTCGTTGCCT
58732	WHSC1L1	ATTCACCGTGCCTGATCTGCACATTTCA
58733	TCF2	TGTCACCCGAGCTGGAGTGCAG
58734	ZNF146	ATGTGGGAAAGCTTC
58735	DUSP2	AAATCAGCTAGACGCTATACC
58736	YWHAB	CACGGTGTTGCTCTTCAGTCA
58737	DUOX1	TTCCTATTTCTGGCTGCCTCAG
58738	PPARBP	GATGGCGGCGGCCTCGAGCACCCTTCT
58739	WHSC1	CTGGCAGCAGGATGCTCAGTGA
58740	LAMC1	CACTGTCCTTTTGAACCAGGAAAAG
58741	SLC2A3	ATTTATTTTATCCTCTGGTTTA
58742	CDO1	GAGCGTCAGTGAGGGTTTTCAT
58743	PRKCG	CCCAACTCTCCCCAGTGCCT
58744	TRIM	TTTTCTGGGCATGCTTATGTATGTACA
58745	TMEPAI	TTCTGGTGTGTCTGTTGATC
58746	TBX3	CCAGTCCAGTTCAGGCTGCCGTGC
58747	SFRS2IP	CTGTATCCTTCCTTCCCCTCCA
58748	KIFC3	AGGGTTCCCGCAGCTGGGGGGTGTGCG
58749	PCSK2	GCCTGGAGCACCTTTCCTTCAA
58750	SH3BP4	GGTGAGCTTCAGTGGGCAGAGTGAAGT
58751	CCNF	GTCTCCCCGGCTGGAGTGCAGTG
58752	SOX11	TTGGAAAACATGATGAAAATTTTGGTG
58753	EIF2S3	GGCGTGATCTGCAACCTCTGCCCCCCGGG
58754	SMP1	CCACAGCACAACAGCCCT
58755	NQO2	AGCGGTCCTTGGGGA
58756	PCNA	AAAATTCAAGAAAATAAAACTAAGCTC
58757	LNK	TCTCGAATGTCTGACCTCAGGTG
58758	RECK	ATTTCTATTTTATTATGAAGAAGGT
58759	HTR2A	CACTGCCATTTCCTCCTGGGCAA
58760	GJB1	CTCTCTGCCTGAAATGTTACACA
58761	ADORA2B	GCCTCTCTTGAGCACTTCCCTG
58762	PPP3R1	TAGGTTGGCTTTAATTTAATATAC
58763	NR1I2	TCCATCCTCCCCACTCCTGGTC
58764	PMX1	TCTCCAATTTTCTTGTA
58765	TEGT	CCCTCATTTCCTTTTTGCACACA
58766	FRDA	AAATGAGAGAATAGAGTATGGTTGAT
58767	PMP2	TTTTAAATTCAGCATCATGTT
58768	MAP3K8	TGAGTCAGGGGCAGAGCAGGGCGGT
58769	NEBL	AGGTTCTGAAAACAAAGCTGTAT
58770	WRN	CAGGTGGGAAGATGGGAATGAG
58771	ADAM33	GGGCTGGAGAACACTGCTGGGCA
58772	CLCN3	CTGAGCTGTAACAAAGCCTCT
58773	AGA	TTCCTTGTGCAGAGGTGGGTATGGCAA
58774	C4orf1	TGAGTTCTTAACATGTGGACC
58775	RTN3	TTGGAGGTAAGAGAGAAAATGAAAGA
58776	GPR37	ATTGATTATAGCAATGTGAT
58777	GALNT2	TGGGGAAAGAATTAGGAAGGGTCA
58778	ATP1A2	GCCTGTAATCTCAGCTACTCA
58778	DVL3	GCCTGTAATCTCAGCTACTCA

58779	NEU3	TTATATTTTAGAGACAGGGTCTCG
58780	NUMA1	CCTACTGTCCCTCTCAGTGCCT
58781	IFRD2	GGCCTTTCCCTTCCTTTCCTTTCTC
58782	GPR23	ATTTTCATGTCAAACTTCAAA
58783	IL17E	GAGAGGGAGAGGAGCAGAGATGCTGC
58784	RBL2	CTGGCAAAGCTTTTAGAAA
58785	STE	AGCCTCCCAAAATACTGGGATT
58786	CMAR	TGCTTTTCAGCTGAGGTTTGCACTTCCTCTC
58786	SPG7	TGCTTTTCAGCTGAGGTTTGCACTTCCTCTC
58787	HDAC5	GCTGGCACAGCCTGGGCAA
58788	MLPH	CCTGCACTGCTCACCTGGGTT
58789	PPP1R11	CCAGTCAGATTCCAGGAATTTGCGCCCTA
58790	IPF1	AGTCCTCCTCTTCCTCTGGC
58791	IGLL1	GGCCACATGGACTGGGGTGCAATGGG
58792	IER3	ACGTCCTCCTAGGTGATGGAG
58793	EGR1	TTCAGTATCATCTCCATCAT
58794	EBAG9	CCTGTTTTTCTCATCTGTGCAG
58795	ARNT2	GTCAGAGGCCTGGCCCTTCTTT
58796	ADAM28	CAATCACAGTTAAGAAAATGATG
58797	CD44	ATCCATTGTGCTCTAAAGAG
58798	PCDH11X	TGTTCAGTAAAAATAACAAATA
58798	PCDH11Y	TGTTCAGTAAAAATAACAAATA
58799	COPS3	TCCATCCTGAGCTAAACAAGAG
58800	SIGLEC11	TGCCCGCCTCTGCCTCCCAAGGTG
58801	CUL3	AAGTGAGACATTAAACATTTTA
58802	PSMB9	GACTTCTCTTTCTTATTTT
58803	FGFR2	AAGATACAAAAAATTAGCCGG
58804	B3GAT1	GGAGGAAAAGGAAAGGGCCCCAGCCTACT
58805	MMP19	GCCTTTGTCCAGGGAGAGTCCTGGCC
58806	MAPRE2	GTTATTTGACTTAGCAGGTGCAACAAAAA
58807	RTN4R	CATACGGGGTCTCTCTCCA
58808	TTF2	TGCCTGTAATCCCGACACTTTG
58809	PCP4	AAAGAACAACACCCTAGAGAGA
58810	ADARB1	CATCCAGCGTCATCCTCCAGA
58811	CNTN2	AGCCCCTTCAGCTTTGAGGGG
58812	SERPIND1	TGAAGTGCCTTGGGGGCACCC
58813	ASGR2	CCTGGCTTTAACCCCTCCTTGGCC
58814	PRKY	AGAGGTTGAGGCTGCAGTGA
58815	SUDD	TTTAAAATGTAAATACATCAGT
58816	OPA3	GCTTGTAATCCCAGCTACTCGGG
58816	PCDHB9	GCTTGTAATCCCAGCTACTCGGG
58817	RNGTT	TGGTGAGGGAGGGCAGCTCTG
58818	INSM1	CTACATACATTATTTTCT
58819	IL13RA1	AGAAATCAGTGTTGGCCATG
58820	SERPINB13	AGCCACCACCGTCTCTCCA
58821	RNF3	TTGGAGGCTGGAGCGCAATGGC
58822	FMR2	TCATGCATATTTTAAACAGAAATT
58823	NEU3	CCACAGCCTCCAACTCCTGGG
58824	MOX2	TCCATGCGTTAACTTTTC
58825	CTNS	CTCCTGAGCTCTGCCTCTT

58826	PCYT1A	GGGGAAAGAAGACCTAGGACTGGGGGA
58827	DRD5	AAATGTACCCAGCCTACCAGAG
58828	DEDD	GAGAGAAGAGACCTGGGA
58829	RAD51L1	TCCTATTTCCCCCTCCTCCC
58830	CDH1	CTCAAGCAATCCTTCTGCCTTG
58831	DPYD	TCCATAAAGTACAAATGAAGAAAGTCAAAAA
58832	CISH	GGACACACCCCTGCCCAGAC
58833	EHD1	GACCGTGGCTTCCTTCCTCACCTG
58834	RAB38	TGTCTGGTAGGAATGACCTCA
58835	ATRX	GTCAGTGATGTTGCCTAGAAT
58836	LNK	CAACCGGGCTGGAGTGCAGT
58837	L1CAM	TGGGCACACGCTGCTCTGCC
58838	CAPON	CGCCGCGCCCAGCTCCAGTCTCCCCT
58839	IL1RAP	TTTAAATGGTATAAACATGATT
58840	TOP3A	GGTTGCTGTTAGCAGAGGATTGGTGCA
58841	MDH1	TTCAAAGCTGAAGAATCTAA
58842	NSD1	AGAACTCTTGTGACATTAGCCAG
58843	POLH	CTCCATCTCAAACAAAAACA
58844	GARP	GCCCTCTCCCTTCCTGGCA
58845	SPF30	TGTAAGAAACCTTAGGATGAGCTC
58846	TCEB3	CTCCCTGCCTGGAGCACACTTTA
58847	BTG1	GGAGGCGGAGGCAGCTGGGGAG
58848	CRSP6	CTTAGGTGATCCTTCTGTCTCA
58849	SMARCA5	AGAGGAAGAGGAGGAGGCGG
58850	IGF1	TCTCAACAAAACTTTATAGGCAGTCTT
58851	MEOX1	CAGCCTCTTCCCTAGGGCCT
58852	MPL	CAGGGTCTCACTCTGTCACCCA
58852	TNFRSF9	CAGGGTCTCACTCTGTCACCCA
58853	GFAP	CCCTCCCTCCTCTGTCCCT
58854	CHC1L	AAGGAATAACTTTCACAAAATAA
58855	CARD15	ATTCAGGAAGCAGCTTTCCC
58856	TMPRSS4	ATACACAGAGAGAGGCAGCAG
58857	RGL	AAGTATATGTAGCCTCAGCCTGA
58858	FMR2	TTTATTTTGACAAGTTTTAGGCA
58859	HTR7	TTCTTGTTGAGCTGCATTGTGTTA
58860	XRCC5	AAGCAGCTGGGTTAGGAA
58861	ARHGDIA	GTGGGGGAGAGAGGCCGCAGCCAG
58862	NPTX1	CCCAGCACCCCTCTCCTTTGGCCTCC
58863	BCL2	CTTACCTCTCTGTGTTCAGATGTGGCC
58864	SIM2	TCACTGCACTCCAGCCTGGGTAACAGA
58865	CSPG3	GATCCACAGCTTTTCCTCCATGT
58866	PRX	CTGCCCAGGGCTCCGGAGGTGCAGCT
58867	PODXL	TCACATTTGCTTCGTGAGATGGGGGC
58868	DBY	GAAACCACATGTAACTTAGCCAG
58868	DDX3	GAAACCACATGTAACTTAGCCAG
58869	TAP2	GAAGAAGCTAGGGTCTGGAGGGA
58870	NR1I2	CCCCACTGCTGGCAGTAAGTCC
58871	TRH	AGCAGTTTAAACCCCACTTTCCTCCAC
58872	CALB1	AGAACAAACAGAAACGAGATTTGCCA
58873	ED1	CCAGCCCAAACCTGGGAAGG

58874	ELL	GCTGCCCTGGGTCCTGCCTGCAGTATT
58875	CLASP1	CCACCTCCCTTTTCTCAGCCT
58876	ZNF175	GCTTCTGGCTCCTGGGAAAAGTGGA
58877	RAX	GCAGGGGAGGCGGAAAAATAGAG
58878	AGTRL1	TGCCTGGAACTCATCTGTGAA
58879	DBN1	GGAGGAGGCAGGGGGAAGG
58880	NPTX1	CCTTCCTCACCCCTCCTCTGACCC
58881	B4GALT3	TCCCAGATTCGCTGCTGGAGTGCTGGATG
58882	EEF1B2	GCGCTCTCTTTCTGCTGCTCCCCA
58883	GLUL	TGGAGAAGGTGGGCACTGGAT
58884	CXADR	GTCTAAATTGTGTTACTAGCCTC
58885	GPR24	GGAAATGCAGGAAGGCCGGGT
58886	BDKRB2	GGGCTAGAACCTAGAGAAGCT
58887	ATM	CTGGGTGACAAGAGCGAAACTCCATCT
58888	ARHGDIA	TTCTATCTCCCCGTCACACCC
58889	SNX15	AGTGGTGGGATCGCGGCTCACT
58890	TRIM37	TATACATGTGAGAGACATCTCA
58891	POU2AF1	TTTTGCTGCTCTCCTTGAGGATACGTGCAA
58892	HIVEP2	AGAGAGGGAGGGGTGCAGC
58893	PITX2	CCGTCGCTCGCCTGGGTGCCTGGAGCT
58894	EPHB2	AGAAGGTGCTTTCTGCTTACTG
58895	GPR35	CCCTGCTCACTCTCTGCTGACC
58896	MYOZ1	GGAGAGGGAATGCTGAGCAGA
58897	PLIN	AGGATGATCTGTTCCCCCTCT
58898	AHR	TCACTGCAACCTCTACCTCCTG
58898	AQP6	TCACTGCAACCTCTACCTCCTG
58898	RHD	TCACTGCAACCTCTACCTCCTG
58899	VIL2	CAAGGGCAGAGGGGTGCTCATAGCGG
58900	DEFA1	CCTTCTGCTCAATTTCCTTTCC
58901	SLC28A1	TGCTTCTGCGCTTCTGAGGGC
58902	RRM2	TGGCAGTCTTGGCTTTAAAGTGAG
58903	RAP1GA1	CCCTGAGCATCCCTCTGGACTCA
58904	PRG1	TATCTATCTTATTGTTCTTGAA
58905	ARF3	CCTCTGGAGCTTGACTGGGG
58906	ADCY7	CTTATTGAGGAAATTTCCTAAC
58907	RDS	CCAGGGACACCCACACAGGTGGCCA
58908	KCNQ2	GTGTGGGCATCGCTACGTGTT
58909	SEDL	CTTGGCCTCCCAAAGTACTGGG
58909	SNAP23	CTTGGCCTCCCAAAGTACTGGG
58910	SRD5A2	TTCTGGGAGGGCAGCGGCCA
58911	FOSB	GTTTCAGGCTTTCCCCGGAGACT
58912	COL4A4	ATGTTCTCTTCTGCATTTT
58913	EPHA8	TCCCGCGGGGACACCAGCACT
58914	PNUTL2	CAGGGGGAGATCCCAAGCCTAGCC
58915	PRKCA	CTCCCCAGCCCCCAGCCCTC
58916	DGKG	TACAGACAGGAGGATGTTGCCT
58917	NQO1	GTTACTAATATGCCTAGCACAAGTACCA
58918	ATRN	GGGTAGTGACTGAGATGTAAAAATAG
58919	IGFBP5	TCTGACCCGCTCAGGCTTGAGGGTTTCTC
58920	PATE	GGCTGGGGGTTGGAGAATAAAAGCAGGAG

58921	SMCY	TCTTTTCTCCCCTTGGGTC
58922	CD4	CAATTTGCCATTGTTTCTCCTGGGTT
58923	PRKCN	CAGTACTGGATTCCAGCATTCA
58924	BICD1	TCCTCACCCCTATCTTCATCTC
58925	GAS7	GACTGCACTTTGGAGAGGCAA
58926	SMURF1	CTACCTGCGTGTGGGTTTGCCGC
58927	PAFAH1B1	TTTGATCTTAATGCTTCTGAA
58928	PRG2	TGGCCTCCCCTCCTCTGCTTGC
58929	APPL	GTAATCACTTTTAACACTGCTA
58930	MDM2	GGCTAATTTTTTGTACTTTTAGT
58931	POR	CCCTTGGAATAAAGTTCTGTTTTCTGT
58932	PRX	AAGGGAGGGCAGAGGGGGC
58933	KLF7	TGGCTGCTTACTTCAGCACTATTG
58934	ADAM30	CTGCCTCTCCCTCTGCCT
58935	TRIM9	TAGCACCTTCTCTCAGGGATGA
58936	BTD	TTGGTCTCAAGCTAAAACA
58937	TJP1	CATGTTCTTAATTCTTAGCT
58938	BSCL2	CAGACTCCTCACATTCCAGCACTT
58939	RFXANK	GCCAGGAGGCTGGTGGAGCG
58940	CDC23	TCAGCTCTTCTTGTTTCTACAG
58941	TM4SF2	ATGCATGAAGGAAACTGAACT
58942	TFRC	GACTTGTGCTGATCGTGCTA
58943	SLC25A15	CATGGAGCTATTATGGCTGGTC
58944	LNK	CCCCAGGCTCACAGCAGTGGC
58945	KIF1B	GCCCTCACTCGCCTTCGAGAG
58946	ACTA1	CCCCGCAGTCACTTTCTTTG
58947	MAN2A2	GGGAGAGAAGGCCCTTGGTCAG
58948	HS3ST2	CCTCTGATCTCCCTCCAACAAACCCTG
58949	SLC8A1	CAGGGCCATCTTTGCAGCTCAGTCTAG
58950	G6PC	GTCTCGAACTCCTGACCTCAAGTGATC
58950	IFNAR2	GTCTCGAACTCCTGACCTCAAGTGATC
58950	IL12RB1	GTCTCGAACTCCTGACCTCAAGTGATC
58950	SNX15	GTCTCGAACTCCTGACCTCAAGTGATC
58950	XRCC2	GTCTCGAACTCCTGACCTCAAGTGATC
58951	ROCK2	AACCTAGCTACTGCCTTCTATGAAAGCAG
58952	DSP	ACAGCGGCAATCTTTTCTTTGG
58953	OPRM1	AGGAGAATGTCAGATGCT
58954	MAN2A2	CTGATTTGTGGGATGGTGGCA
58955	MMP13	AAGGGCATAAAGTAAATACATGC
58956	CD209	TTCCTCTTGGACATTGTTGTA
58957	DNMT3A	TGACAGTCAAAACCCCACC
58958	DCX	CAGATATTTTGAAAGGCACAG
58959	OSR1	CTTTATGCTGACCATCGGTAACGGA
58960	PDYN	CACCTTTTCAGGTTGGAGTGCATTCA
58961	SIL	TAGCCCAGGCTGGAGTGC
58962	PRKAR1A	CACCTATTGAATTACCATAG
58963	DSCR3	CAGGGGCTTCACCCATGAA
58964	COG6	AGCGGGGAAGTGGTCGCAGTG
58965	DMRT1	ACGAGTGGCAGTGCCTGCTGC
58966	SLC12A7	ATCTTCTCGCAGGTCACAAGA

58967	OLFM1	AACTCCCGTATTTGCAGCTGGAAC
58968	IMPA1	TACTATGTCTAGGTTTGCAAGAATTGA
58969	MXI1	AGTTAAGTTCAGCACTTGTCTCA
58970	FCN2	GGCACACCATCTACCTGCCCGACTGCC
58971	GDI2	TGAAGTTAAACAAACATTGGGA
58972	RET	GCTGTTTTCACATCCTTTCCCTTA
58973	RPA3	ACCACATTCTTCTTACTTATTTTATG
58974	GJB3	GGAGGTCTTCCAGCAGCAGCAGGT
58975	MKLN1	CAGTAAAGCTGCAGTGA
58976	CEACAM1	CCCCTCTCTCAGTGTCAATAG
58977	NYX	ATGGGCTGAGGGAGTGGAGGGGG
58978	PTK2	GTCACCCAGGCTGCCAGGCTGGAGTGG
58979	EIF5A2	GTGACTTCATTCTTTTTAGACATCAG
58980	RBBP5	CACCACTGCCCTCCAGCCTAGG
58981	SREBF2	TCTGGGCCACTCAGGCCAGTGC
58982	DMD	TCTCATGCTATTTCTACCTC
58983	SLC25A3	ATTCCTGATATAATTACTGTAG
58984	SLC38A3	CCCTAGGCCCTTTTCAGACTCCTGGGC
58985	HOXA13	GACATTCAGCACACTGTGAA
58986	TRIM34	GAATGTCAGGAGAAACTCCA
58987	CD81	TCTGAACTTTCCTGTTACCTTTTCAGG
58988	ENTPD3	GGGGAAAGAAAAGGAAGCTGCAGG
58989	FZD4	CCCAGGCTGGGGCGCAATG
58990	MPP2	TAGGGGCAGGATGGAGGGCTGAG
58991	PSMD5	ACCTATAATTCCCAGCACTTTGG
58992	CLOCK	TTCAATGCTTCTTTTAGTCAG
58993	HSD3B2	TGCCTCTCTTTCACACAATGCCCA
58994	CTPS	TTCTTCCAGGATGGTGTTACTGCAGT
58995	ITPA	CTGAGAAACTCTGGCAAGTGG
58996	TFDP1	AGCAAGACTCTGTGGAGTTTGTT
58997	ENC1	GAAAAGAATCACAGTACTTTCCAGCA
58998	LZTR1	GGGCGTGTTGTGGACTCAGCACTG
58999	KIF5A	GTCTCTCTTCTGTCTTATTCTCA
59000	SACS	GTACTTTTTAGAGTGCACTGA
59001	PLA2G7	ACTAAGCTGAAACTGCTGCTC
59002	LRAT	AAAATGATAGCCACAAGCAGA
59003	KMO	CATTTCAATACCTTGTAATCCTCCAA
59004	RDS	ATGGACTCTTAAGGCATTGAGGGCTCT
59005	SIGLEC8	CCTCTGCAGGATTGGCCCCCAGG
59006	B3GNT3	TCCCTGGATGGCTGGAGGA
59007	GALC	AGTGTCTTCATCACAAGA
59008	NHLH1	CTTCCGGGGTTTATTGCTGAG
59009	ITGB1	TGACACCTGCGGTCTCCCGCCGGGCT
59010	PTPN23	GCTGCCTTTGGCCCTGCCTGGCCCAGC
59011	IGSF3	GCTGAGGCTCTCCCTTTCTCTGTGA
59012	EIF2C1	GGATAAGCCTGGGGCTACTGT
59013	FETUB	GGAGGCGATGGGGACGATGGACAGAGAC
59014	MMP19	GCACCCAGATGATGTGGCAGGGAT
59015	PTPRO	ATTTCTTCCCAGCTCCTGGCC
59016	IRTA2	TTCCCAGGGGATGCTGATGCTG

59017	SLC17A5	GAACTCCTGGCTTCAAGCGATC
59018	NFE2L1	AGGGAAAGTGAATGTGGTCTGGAG
59019	LYN	GCCGTGCCTGGATCCTGAA
59020	LOH11CR2A	AGGAAACACTGATTTTGCTGCTGAA
59021	SOCS5	GTTACTTATTCAGATAAACATGGTGCC
59022	TRIM37	GGCATTGGTGCTCTACTGTCTTT
59023	CNTN1	CCGAGGCGAGCAGGAGCAGGGAACA
59024	BSN	GAGTTTGAAATTCTGACATCTGC
59025	PKHD1	TCCTGAAAATCCTGAAAACCAGGATTT
59026	GPR41	CGCATTCTGCTCCCACAGTGCCTT
59027	ERBB2IP	TTCTTCTGTGGGAGGCCAGTCCA
59028	SFRP5	AGACAACCAATACATGCAGGGTTGGGT
59029	MSN	CCCCCCACTCTGTGCCTGACC
59030	EYA1	TTAGCACATTGCATAGTAGTTTTA
59031	OPA1	AGAAAGGGAGGAGAGCTCTA
59032	RECQL5	TTCATTTCTCCTGTCACCTTCCGGG
59033	FRAT2	TTCCACCCTTTCTGGTGTC
59034	PCDH9	TCTCCAGAGATCTCTCCATTGTGCAAATTT
59035	NEU3	TAGGACTTTAAAACACTGGAC
59036	SYNGR1	CGGCTCCTGGGCTGTGGCCGTG
59037	SLC14A1	GAGCCCAGGAGGAGGAGGCTGC
59038	UBE4A	TTTTCACCCTCTGTTGTCTCTTC
59039	FOXP2	AGCAACAGTTCAATGAATCAAAATGGA
59040	PACSIN1	GCCCTCCTCCCTCCTGCACA
59041	NTS	TCACTCACTTTCAAAGCCAGCT
59042	IL17C	TCCTCATCTCCAGCCTCAGTAG
59043	IL10RA	TTGTCTAATTCGTAGGGATG
59044	EPHA2	TCAAGCCCCATTTCCTCACACTAAG
59045	CHGA	TCCTGACTCCTACCTGCCCTGGAACAT
59046	TRHDE	GAGTAAAATTACCATTTCCA
59047	ISLR	CCTTTCTCCCCAACTATGCATCTGTT
59048	SP3	TCCAGATTCCAAGTGCTGCTA
59049	ABCD4	ATTACCTTCCTTACCTTCATA
59050	C18orf1	CTGGTGCAGAGCACTTCAAATATGTCC
59051	FGF9	CTGCACTTAAAGGCTTCTCCTCCTGGAGGGCT
59052	MAPK14	GTCTTGCTATTTGAGCATGCACAG
59053	PBX1	ATCTGGACACTTCTTTATAC
59054	BCAS2	GGACAACAGCATCTTCCCAAAAC
59055	MYOZ1	GCTGCTTGCGCTCATCATCTCTATTAA
59056	COPG2	ATGCACACTACATGGTCAGTGGGCTT
59057	NQO1	CCCTAGTAGCTGGGATGACAGG
59058	DGCR2	CCAGTCTGGGACAGGCACAGTG
59059	WNT3	CAGGGCGCTGGGAAGGGGTG
59060	GABPA	CTCTCTGCTGCTTTAGATGTTGCT
59061	CAMLG	TAGTATCTTAATTTTTACTCCA
59062	CNP	GCTCTCTACCCAGCCCATCTTGCCT
59063	GRM6	CTTCTGACACATTTATTATAG
59064	RECQL5	TCTGTAGCTACTTTC
59065	UPK1B	ACCATTTCAAACTGGAGAGAA
59066	DSPG3	AGTTAGGAATAAACCTATAACATTTAC

59067	GNAO1	GACACACAGCCTTTCTGTATCA
59068	MEOX1	ATGGAGGAAAAATGACTAAGGACT
59069	TNFAIP1	GGCCTATTTTCTCAGCTGCCCTCT
59070	NR1I2	GAGGCTGAAGAGTGAGGACTCTTCAG
59071	MAOA	GCTCCTGGGTCGTAGGCACAG
59072	RRAS2	GGTACCCGGGACCCCAGCCCGGCCGC
59073	HMGA2	TTCCATCTCTGGTAAAGTTACA
59074	CBFA2T2	GCATTAGAATCTGGTTTTTCTGTGC
59075	NOTCH2	ATGGCTACACTGCAACTTCCGTCC
59076	SCN2B	TGAGCCCGGGAAGCAGAGGTTGCAGTGA
59077	AQP6	CTGCCTTGCAGGACCTGCCTGGAGGTTC
59078	KCNJ16	TTGTTTTACATTGTTGCTGCACTGGCA
59079	CYP1A2	CCCAGGTTGGAGTGCAGTG
59079	PRKWNK3	CCCAGGTTGGAGTGCAGTG
59080	TGFBR3	GATGCCACTTTGCAGCTAAAATAAGC
59081	DUSP4	AAGTTGGGACTGAGCAGCTGGGAGCAG
59082	USP6	AAATGAACTTGCTTGTG
59083	MPZ	GAGGAAGAGGCTGCACTGCAGCC
59084	PSG4	GGTAACAACAGAGTGTCAGA
59084	PSG7	GGTAACAACAGAGTGTCAGA
59085	STAU2	TTTAACATATCTTCACTGTAGTC
59086	HADHA	CCATCTCTCCCTCCTGGTGAAGTGT
59087	GAGEC1	GGCTGATGTCACATTGAAAA
59088	SLC6A9	CACCCCACTCCAGCTCCGGAGCAC
59089	CCND2	CTGACTGTAGCCATTACAGTATCC
59090	AQP6	AGGATCCCCAGAAAGCTGTTG
59091	CEACAM1	GAGCCCAAGCTCTCCTCCAC
59092	TXNRD2	ATGTGCAGTGAGCCACCATGGAGGA
59093	SIAT6	GGACCAGCCTGTACCTTGCTGT
59094	A1BG	AAGCTTGTCTTGAACTCCTGGCCTTA
59095	KLRD1	TTTTCATTCTCTATTTTTGCT
59096	PLAG1	ACATTCACATCCAAAGAA
59097	CORO1C	TGAAAGGGACAGCACTGTGTAT
59098	HEBP1	ACGTCCTCCCGTGCGTCGGGAG
59099	BAT5	GGGGTGAGAGGAGACATGAGGAAAG
59100	RPL10	TGACCAGCAGCGTTTATTTAG
59101	APOL1	GGAATGGGAAGAAGCAGTTTAC
59102	ARHGDIA	TGTCCCTGCTTCTTTTCTGA
59103	MFI2	GAGTAGCTGGGATGACAGGCGT
59104	DKK1	CTTTGTTTCTTTATGGAACT
59105	ZNF18	GGACAATGCCCGTTGACTTG
59106	TP53	CGTGATCTTGGCTTACTGCAGCCT
59107	BBS4	CAGTTGAGCCTAAGGTCCTTCT
59108	MAGEA8	CCACCACTTTCCCTGCTCTG
59109	PTPRH	TACTTCAGAAACCAAATCA
59110	BIRC7	ACTGTGTTCTGGGCCTGCTGAGGAT
59111	PKNOX1	TTTCAGTTTGCAAAATCACTGCCCAG
59112	C9orf19	CCACCACCACCTCTTGCCCCC
59113	KCNA7	CACTGCACTCCAGCCTGGGCAGCAGAG
59113	ZNF264	CACTGCACTCCAGCCTGGGCAGCAGAG

59114	AIM2	AGTCCTCTGCTAGTTAAGCT
59115	FGF7	TACTGTACTTCATCTTACTTGCCA
59116	ZNF41	ATTCATACAGACCTCTTGAGCTCCT
59117	DLGAP2	GAGCTCCTGGGAACAGGTGGTG
59118	GPRK7	CAGGAGGCGGAGGTTGTAGTG
59119	RAD1	CGGGAGGCGGAGGTTGTGGTG
59120	SIGLEC11	AGAGAATTGGTTGAACCCGGGAGG
59121	CKM	TTCAACCAGAGTTCCAACCAA
59122	SH3BP2	GGAGAATTGGGTGCGAGATGTGGTTTC
59123	GCNT2	CAAAACAAAATAGGTGAGGG
59124	CYB561	GGGCTCCCTCCTTGTAGC
59125	NTSR1	GAGGACCTGGACTCAGAGCCAGA
59126	PXF	TCTGCTGCTCAAAAATAATCGT
59127	TBX6	GCCTCCCGGGGTGGGGAGGGAG
59128	APPBP2	GCTTAAGAAAACATTGCCAT
59129	KLHL3	GCAAATAAAACTGACCTCA
59130	EGR2	CTATTCTAACGCAAAACCACTAACTGA
59131	CRYZ	TTTCAAGCCTACTTACCTTT
59132	SLC6A6	CCAGCAATAGATCTCATTTTC
59133	GPR55	GGAGCCTGCCTGGTGGAGTTG
59134	KCNA7	GGGAGAGAAACAGAGACTCAGGGAGAG
59135	BMP6	GCCAGTGCCTTATTACCCAGGAA
59136	PSAP	CGCTTTCCTGGGCCTCTCAGTT
59137	C2	TGCCTCGCTGCCCCACCTCC
59138	EDG8	GGGACTTGCCCTAATTCAGGT
59139	SRGAP1	TGGTGCACACCTGTACTCCCAG
59140	IL2RA	CAGGAGTTCGAGGCTGCAGT
59141	CLCA1	GTAAAACACATCAGGTCAGGGGGTTAA
59142	B4GALT2	CTCCACCTCTCTGTGCCTCAG
59143	SIAH2	CCCAACAAAGTTCATTAACCTG
59144	SLC13A2	TTACCCAGCTCCTGGAGGCAGTG
59145	TYRO3	CCTAGCTGTTAGGGACATTTCCAAGC
59146	PIK3CG	CCAACATCTTCTCATAAAAGGGGA
59147	KCNJ10	CTGGAAATGGGAAAGGGAGG
59148	IL6ST	ACTCTTCTGGGAGTGCTGTTCTGCTTT
59149	B3GALT5	TGGCTTTAGCTTTCAAACCAGA
59150	FRAP1	CTCACCCCTGCCACCT
59151	GRAF	TTGCTACCTGTCAACATGAATGTTTCT
59152	LARS2	TGGTTCCTCTGCCTGTGTC
59153	PRKWNK3	ATTTAAGTTGTCCTTAGCTC
59154	PLGL	TTTCAGAGTGCAAGACTGGGA
59155	ABCC1	ATTGATTTTGTTCTTTTTTCTT
59156	NAB1	CCCACAGATTGCATCTTTAAATTC
59157	LANCL1	TCCTGCAGGTAGCAGTCTCCTATTATC
59158	EHF	TATAGGAGCTGGTGAG
59159	HS3ST3A1	TTTTTCTCCCTTTTTCCCGTGCC
59160	PSMD9	CTCAGCCGCCCAAGTATCTGGG
59161	LSS	ACTGTAGGTTCATTTCTGAAAGTAGCTTG
59162	CASP3	CCATTTATCTGGGATTATGGT
59163	CNTN2	GGAAGGGCAGAGGATAAATGTGG

59164	ANKH	GCACATACCTGTAATCCCAGCT
59165	FUT8	GAGCTAAAGAGCTCTGGTTTTTCCTAC
59166	ALDH1A3	AAGGCGGGGCTCCTTCCTCAAA
59167	TAF4B	CAGATGTTTAAAATTATTCCA
59168	CD33	ACTCCCCACAGGCAATGGGTTT
59169	COL4A4	GGAGGGAAGACGTGGCTCAGGTCCCGCC
59170	PPP1R8	GGCTCAGAAACCCCGGAATGGTTGAG
59171	ARVCF	CCAGCCCTGGGCAAGGAAGCTTT
59172	F2RL3	CACTGGACTCCAGCCTGCGTGA
59173	ZNF134	GGAAGGCAGGGTTTGTATTGTCAGTC
59174	TBL3	CTACCGGTCCGGCCTCTCTCCA
59175	SPINK5	GATTGTTGAAAGCCATGAGGGA
59176	CNTNAP2	TTATGATTTGTTTGCTCTTT
59177	BCLG	ACTACCTGAGTCTTTCCAAACGACAAG
59178	CXCL6	ACAGCTCAGCTAATGAAGTACTAATATA
59179	AP2B1	CCTGCTCTGTGTCTGTGTT
59180	AMPH	TTCTAAAGTAGCTTTCTCCA
59181	HNRPM	GCGAGTGGGGCCAAGGAGGCAGC
59182	KCNN2	TCAGAATCCTGGGAACCTGAACACTAA
59183	RANBP3	TTCATTTCCCACTTCCCC
59184	DVL3	AGTACCCAGGTGAGATGTGCAA
59185	SLC2A4	CCCTCATTCCCCTCGTGTGACTCTCTT
59186	EGLN2	CCTGCCTGCCTGTCTCTAGTTTCTCTCACAT
59187	SLC7A5	CCTCCTGCTGTGCTGGAATT
59188	C18orf1	CCTGCTGGCAGGGACTTGCAGTG
59189	RPLP1	TGGTCTTTTTGACTAACCTCTTTTAT
59190	CDO1	CTGCCAGGGGCCTGGGGGTG
59191	BDKRB2	CATCCAGCTTTGGTGCAATG
59192	ADAM19	AGGGCTTGGTTGAGGGAACG
59193	MPZ	ACAAAAAGCAGGAAAAACAAATG
59194	PUM1	TCCAGGATTACTCCCTCCTCC
59195	CASP6	GAACCCAGGAGGTGGAGGCTGC
59196	PRKY	GAACTCAGGAGGCGGAGGCTGC
59197	EXO1	GAGACAGAGGGATAAAGTGAAGATGGT
59198	ARF3	GTCATCTGCCCCTTCCGTGTTG
59199	FRK	AGAAGCCCTGCTCCTCTTCTCCC
59200	CANX	TTGATACAAAGTACAGAAAAAT
59201	STAU2	TTCATATTCTTCACTGTCTTCT
59202	GPR62	GGTGAAGCCTGAGAGCCCAAATGGCCA
59203	BCL7A	TTTGCACACCCTCCAGAAA
59204	FCMD	CCTGCTCTCCCCTGGACT
59205	ITGAL	CTTTCACACTTCCACCACCC
59206	OPCML	CTGCTTCTCATATCACAGACTTTAATC
59207	INSM1	AAAGAGAGTGCGCCCTGCACGCCCCG
59208	MYO6	GCCGCCGCGCACCTGCCTTCGCTCCC
59209	HPSE	TTCAAACCTCATAGCAACCAG
59210	PMP22	GGGTGACCCAGTGCATCCAACA
59211	SLC22A3	TCCTATTCATTCTTAGCACTTTG
59212	KLHL1	CTTGTTACATTGATCTGTACA
59213	INHBA	CCTTGAGGTTCCCTTGTGAGCT

59214	p100	GTCCTCTGGGATGATGGGCACTGC
59215	COMT	GCTCCTGCTGACCTTCTGCGGCT
59216	PKD2	GGAGCCCTAAGTTGTCACTCAGTTT
59217	PRKCM	ACAAAAGTTCCCTGAAACACGAAACTT
59218	COL4A2	CCTCCACTGCTGGGGGTGAGCTGTACT
59219	KCNQ2	CAGAGAGACCTGCTGCCGGA
59220	SDC1	GTTTGTGTGTTGTCTCTTGAGTT
59221	GSTM5	TGTCTTGTCTTATTCCCTGAGG
59222	HLCS	ACTCACTGCAGAGCTGCTGCCTGCCA
59223	CTMP	CAGCTCTTCACCAGAAGCTTT
59224	SSRP1	TGGTACCAGTTTCTCCTCATG
59225	MANBA	CACGCATTTGAGCGATTGCTCTGTGAA
59226	LNK	TTCAAGCGATTCTGCCTCG
59227	EVA1	ACACAGTAACTACAAAAGGTTAC
59228	SLC7A8	TCCCCCACTCCTCGCAGGTC
59229	LZTS1	TTTTCCTCCTCTGCCTACAGCCAGGT
59230	YWHAG	TACTCTATTGATACAATATTGTG
59231	NFKBIL2	CGCAACCACACGGAGCTGCAGAGGGCC
59232	LIMD1	CTGCCGTCTTGGTTCATCTCA
59233	SLC25A13	CCCTCCTTGAACTAGGATTGTAGTC
59234	SPR	CTGCCCTGCCCTCAGGCACAG
59235	B4GALT6	TTTGCCTATAAACAGTGAACTT
59236	UNG	GATCTTTGAAGGAGTCCTCAGGCC
59237	PTPRK	CCTGTTACACTTGTGCAGAAAGAT
59238	PRDM4	GGCCTCTGCCCAAGAAATTAGCTTTGA
59239	XRCC2	GGCTCACTGCAGCCTTGAACTCCT
59240	LIF	AGGTAGCATTTCCCTGCAGATGGT
59241	SH3BP5	TTAATATATGCCAAATCTTACA
59242	CPT1B	ATAGCTGTCCACGCCCACGTGTT
59243	TGIF	TGCAATACTTAGAGAACCTATAGCATCTT
59244	MYH9	CTCCCCTCCTTTACCGAGGACAGCCT
59245	SYT1	CAGCAGCATCCAGGCTGACCTCAA
59246	NIPSNAP1	GGGCTGGGGAAAGGGATGGGAGCCAG
59247	MS4A2	TACCCTTTCACTGTGTATCATGCTAAG
59248	HS2ST1	GAGTACTGGACAAGGAGTCA
59249	CMKLR1	TGGGACTAGCACAGCATCACTTCTAC
59250	AVPR2	CCCGAGGCTGGGACACTGTGTG
59251	GJA1	TGGTAATTGTGGCTAAATATTT
59252	CEACAM6	CCTGTTCTCACTCCCTGTTTTAATTCAACCC
59253	CD86	TGCCAAGAGGAGACTTTAAT
59254	EHD3	ATGCAGCCACTGTCTCTTGTC
59255	CARD10	TCTTATGTGTGTCTGTGTCTTC
59256	FANCC	GACATCACCTTTTCGCTTTTTCCA
59257	CHST5	AAGACCTCTGGCTTTCCTGGA
59258	PCDHB5	TCTGGGTGGATTGTGTACGGAG
59259	PLS1	ACACAGCTTTAACTATGTCATGCAA
59260	PLCD1	AACATAGTGTCTGCTGCTGCCT
59261	CYP8B1	TGTTGCCCAGGCTGCAGTGCAG
59262	A1BG	GAACTCTTGGGCTCAAGTGATC
59263	SNAP23	CTTGTCCAGGCTGGAGTGCAA

59264	C21orf2	TGGGAGAGAGTTTTGTTTTCTTGGCCGG
59265	EIF2C1	CAGGCTCCATCCTTCCTCTGTGCA
59266	EMP1	GAGAGCCTCCCTGCAGCCACCA
59267	PDGFRA	GAGCAAATGATTAGTTTTAGA
59268	IGF1	ACCCATTCATAGCATAGCTAGA
59269	DAG1	CTCAAAGCTAATTTTTTACTAA
59270	BMP8	GCCCCTTACTGGCTCAGGTCGTGAG
59271	AIRE	TGGCCGGGACATGCAGCTCTG
59272	HEBP1	CGCCCCCGCCACCTCA
59273	PTGIS	CAGAGCAGCACTGGGGTTTGGGG
59274	FKBP10	AAAAGATTAAACCAATGG
59275	AQP6	GGGCTGCCACTGCACTTAGC
59276	KIF3C	TCTAGGTATCTCAAGTGATAAGTAA
59277	C21orf33	TTCAGACCTGCTGAGACTGCT
59278	PFKFB4	GACTCTGGGGAAGCCAGGCCC
59279	GPRK6	GTGCCTCCCCCTGCTGC
59280	PRKG2	ACATTATTTGCTTTTCTCAACTGC
59281	LEP	AAGCCTCCTTTTGCTTGAA
59282	BCL11B	AAAGGAAGAAACTAGCGGTG
59283	NBEA	AATAGGAGTCATGGGCGTTAGTTCTGT
59284	KCNMB1	ATGGAGGTGCAGGGCTTGGGTA
59285	HNRPH3	AAAACAATCCTGCAGTTGGGTTTTGT
59286	MYCL2	AGGGAACTTTCTGTCTTCACAAGG
59287	ABCC12	CAGATTGTAAGGTCCTGGCGGCTGA
59288	KPNB2	CTGGGAGGGGCGGGAGGGAGGTG
59289	PAG	TGTAGAGACCAGCTCACTGGA
59290	MATN3	ACAGTCCTTTAAATTTTGCAC
59291	RANBP3	CTCCCGTCTCCATCTGTC
59292	CHI3L1	TCCCAGGCTGAGCCTCAGTCTCCCTCC
59293	TMPRSS4	CCCTGCACTCGGGCCTCCTCCAGCCAG
59294	PGK2	AACTCTTAATATCAGCACAGCA
59295	ENC1	TGTATACTTCAGTGCTCACCC
59296	HDAC7A	TTTACCCTGCTCCCTCTCTCTGTC
59297	TJP1	CTACCTTTGTATTCTCTCCTGTACC
59298	PPP2R4	CTTTCCTCTGCTGTCTCTGCA
59299	CHEK2	CCCAGGAGGCATTGAGGCGGCG
59300	EGR3	TATATGCATGCATGTGTATA
59301	NRL	GGGTTGGGAGAGAGCTGTGT
59302	EGFL4	GGGGTGCTGGGGGCAGTGGGCAT
59303	CLCN3	TGAAAGCCATCCTACTTTACT
59304	TRPV3	CTTCGATCTTGGCACCTGCGGCCTCCC
59305	CAMK2A	AGAAGGAGGGGTGGCATGATGA
59306	PER2	GTGATGATTTGTTGAGCCTTGCTG
59307	ABCC3	CTAGCTGACCTGGAGATGCTGCCTG
59308	USP14	AGCTGGATGTGGTGGTGCA
59309	CDK2AP1	CGCCGCACCCGGGGCCTGGGTGA
59310	IL1RAP	CCAGTCTTCATTCGCAGTTTATGG
59311	CNTF	AGTTGAGTTAAGGGATGGCTT
59312	P2RY6	AAGGAAGGAGGAATGCTTGA
59313	BAX	GCATTTTTCTTACTTTTGTAA

59314	RAP1GA1	GTGGGGGAGTGAGCACTGGGTTGGGA
59315	ITPR2	GAGGGAGAGAATAACCTGGTG
59316	PPP1R12B	GCCTGTAATCCCAGCACTTCAGG
59317	TNFRSF11A	AGTTGCTAGGAACATGTGGTGGGA
59318	PKNOX1	AGATATAGAAGAGTGCACTTTT
59319	BCL11A	GAGCTAAATGTCTGTCTCTAAAGGGTT
59320	MAFG	CGGGGCCACTAGGCACATGGC
59321	DLGAP2	CCCCAAAACACTACCATGCCCCAGCCC
59322	CD79B	CTCATGGCCCAACCCCTTTCCT
59323	PRex1	TATTTGACATTTTACATTTCAAA
59324	RPA1	TTTGAAGCCTTTTGTTTCCCTT
59325	MAX	AGGGCAGCACCATCTCTGCCTTCGATGG
59326	VHL	ACCCTCCTGAGCTGGGATT
59327	SPK	GCATTCCAAGCAGACAAGTCA
59328	SOX13	GGAGAGGCGCCCTCCCTTCCT
59329	GJB1	CTCCCCAAGGTGTGAATGAGG
59330	TAL1	TCTCCACCCCTATCTTTCC
59331	ACLY	GCAGAAAGCTGTGAAATGT
59332	HOXA3	CAGCATCTTGGCTGTCTGCTA
59333	DGKI	AAGTGTGGTGGTGCACACCTGT
59334	CPSF4	CCCTTCAGATCATCTGTGC
59335	C1orf6	CCCCTAGCCCAACCAATGCTA
59336	EGFL4	CCGCTTCTACCTGCTGCTGC
59337	NLGN1	AGCTAAAATGTTTATTGCTGTTTTGTC
59338	SPON2	GGGCATTGGGAAACAGCCTCCTCCTTT
59339	OGG1	GGGGAAGGACGTGGCTCTGAAGACGGA
59340	MKKS	TGGTGCGCAGGTACACTGATGCTGAA
59341	PPAT	CAGAAAGCTAATGATTGTT
59342	AMMECR1	GGCCTCTCTGCAGACCTCTTCCCA
59343	CPD	TTATCCTATTTTTAGCAATA
59344	MPL	GTTGCCAGACTGGAGTGCAGT
59345	G2A	CTTACTGAGGGGGGAGTGCAG
59346	PYCR1	TGACTTCTGTCTGCCACATGAG
59347	LY9	GCCCCTCCCCCTCCTTCTCA
59348	LAMC2	CAGGAGGCGGAGGTTACAGTGA
59349	RFXANK	TGGAAGAGAAAAGTTTGTGACTTGG
59350	CALM1	GTCTACTCTTCCGTTCATTCAAT
59351	SCA1	GCTTCAAATACGTTACCTTACT
59352	CLN5	GTGCTTTAATTAGAGCCAG
59353	WDR3	GTCCTCAGACTTAACCTTCT
59354	PIGR	ATATAGGCATGAGCCACTGAG
59355	ADRBK1	CCCGCTCCCAGTGTCTTCCTGT
59356	MYO6	ATAAAGTGAACAGATTTTATTAATCAC
59357	RB1	AGAAAACAAAATTTTATTTTGTGC
59358	RAG1	GGGGGTTTAATGATTTGCTCAAAGTCA
59359	PDE4A	AGACCTCCTCCACTCTCCATCC
59360	CST6	GGTTTGGGGCCATGGTGGAGGG
59361	IL12B	GAGCCCAGGAGGTCAAGGCTAT
59362	ALEX3	AAAGAAGAAGGGGCGAACTGCTTG
59363	G1P3	CCCAAGTAGGATTACAAGCATGC

59364	SLC22A5	TCTGCAGCTGCCACTGGTGCA
59365	KCNK6	TCAGGCTGAGTGTGGTGGCTC
59366	FBP1	GGCACTCCCTAACCAAATGCTGTC
59367	AF1Q	CACCTTGCCCTCATTGTCTTCCCTCT
59368	TEM8	GAAATGCTGGGGTCCCTGGTGT
59369	AMFR	ACCGAGCGTGTGCCACTGGACC
59370	ASCL1	GTATATATTTTTTAACTTCC
59371	IL16	CTGAGTGCCTGGCCAAAGGGA
59372	SET	AACATGTATCTGTCTACTTTC
59373	PRKCH	CAGGGAGGGAAGGAGGGGAGGGAAAA
59374	GABRE	TATTACACAACCAACAAAAC
59375	PYCR1	CCAGCCCAGAACAGGGGTGG
59376	EGLN2	GCCACTGCAGTGACTTTGGGC
59377	EXT1	CTCCTGGGACTGCACCAGACTGCTCCA
59378	UGDH	GGTCTCAATCTCCTGACCTTGTGAACC
59379	ZNF264	GGTCTCAAACTCCTGACCTTGTGATCC
59380	PCDHGA1	CCCTGCCCTCCTGAAGCCTCAGTCCTTCACC
59380	PCDHGA10	CCCTGCCCTCCTGAAGCCTCAGTCCTTCACC
59380	PCDHGA11	CCCTGCCCTCCTGAAGCCTCAGTCCTTCACC
59380	PCDHGA12	CCCTGCCCTCCTGAAGCCTCAGTCCTTCACC
59380	PCDHGA2	CCCTGCCCTCCTGAAGCCTCAGTCCTTCACC
59380	PCDHGA3	CCCTGCCCTCCTGAAGCCTCAGTCCTTCACC
59380	PCDHGA4	CCCTGCCCTCCTGAAGCCTCAGTCCTTCACC
59380	PCDHGA5	CCCTGCCCTCCTGAAGCCTCAGTCCTTCACC
59380	PCDHGA6	CCCTGCCCTCCTGAAGCCTCAGTCCTTCACC
59380	PCDHGA7	CCCTGCCCTCCTGAAGCCTCAGTCCTTCACC
59380	PCDHGA8	CCCTGCCCTCCTGAAGCCTCAGTCCTTCACC
59380	PCDHGA9	CCCTGCCCTCCTGAAGCCTCAGTCCTTCACC
59380	PCDHGB1	CCCTGCCCTCCTGAAGCCTCAGTCCTTCACC
59380	PCDHGB2	CCCTGCCCTCCTGAAGCCTCAGTCCTTCACC
59380	PCDHGB3	CCCTGCCCTCCTGAAGCCTCAGTCCTTCACC
59380	PCDHGB4	CCCTGCCCTCCTGAAGCCTCAGTCCTTCACC
59380	PCDHGB5	CCCTGCCCTCCTGAAGCCTCAGTCCTTCACC
59380	PCDHGB6	CCCTGCCCTCCTGAAGCCTCAGTCCTTCACC
59380	PCDHGB7	CCCTGCCCTCCTGAAGCCTCAGTCCTTCACC
59380	PCDHGC3	CCCTGCCCTCCTGAAGCCTCAGTCCTTCACC
59380	PCDHGC4	CCCTGCCCTCCTGAAGCCTCAGTCCTTCACC
59380	PCDHGC5	CCCTGCCCTCCTGAAGCCTCAGTCCTTCACC
59381	COL19A1	GGGAGGCTTCACTAAATGAG
59382	CTSZ	GGAGGGAGGGAGGGAGTTGG
59383	RBBP2	CAACATATCTATGCAGAGGGTG
59384	CNP	GCCCTCTGTTCAGTAACA
59385	GJB1	GCCAGTGCTCAAGGTTACTGGGAGTGT
59386	PODXL	GGGCCCCCCATCAGCGATGTGTCTTCA
59387	C9orf19	CAGCCCAGGCCTGGTCTGGGAG
59388	SGT	CAGGCAGCCTGTCTGGGTTCCTGA
59389	BRF1	AGAGGGGGTGGCCTTGAGGCAGA
59390	TCERG1	GGTGTGGAAGTCAGTGACTTGGTGAC
59391	SYT5	GCGAGGACGAGGCAGAAGTCAGC
59392	CA5B	CCCCCTAAACATTCATA

59393	LYL1	CTGGAGCATTGAGGCCGGACCCTCGC
59394	MYO15A	AGCCTGAGGGAGGAGGCAGG
59395	POLH	TGGAGGCGGAGGTTGCATTGA
59396	PMM2	GAGTAGCACATTAAAGTGAT
59397	SLC22A11	CCTCTTCTCCCTGCCCT
59398	EZH1	GCTGTTGTGTCCTGCCATTCTCCT
59399	PITX1	CCTCTGCTCTGCTCCCGGGCTAGGAG
59400	WARS2	ATCACAGCAAGGCTTTTGTGCCTT
59401	PCDHB16	GTTGCCCAGGCTGATCTTGAAC
59402	GJA1	ATTCTATTATGAGTTTAGCAGTCTTTT
59403	BCL11A	TATGCTAAAATACATTTATGGTCTT
59404	ATP8B2	CCATGTCGGCTCTGCCTGCAGT
59405	ADD3	TTTGAAAACTTCCTTTTTTATTAGT
59406	IL6R	GGTAGAGTGTGCCTGAAGTCC
59407	ALDOC	GGCTGCGCACAGGGAGCTGTC
59408	MYBPC1	GACTTACACTCAAGCAATC
59409	EGFL4	ATGAACACATGCACATGTGCACA
59410	IL16	GGCGAGCCAGGGTGGAGAAGAGCCA
59411	RBBP9	TGTCTCCCAGGCTGGAGGTCAG
59412	KIR3DL2	CTTGCTGTTCCACCTTCCCTCA
59413	FKRP	GACCAGCCTCGGCAACATGCCAAGACC
59414	GNAQ	ACAGTCCCAGCACATTTCC
59415	ATP5J	ATGGCGGAGGCTGTGCCAGGGGACC
59416	ADH1B	ACACATATACAAATGTAT
59417	BMP8	TCCAGCCCAGGTGGTCTCAATCATCA
59418	UCP2	TGGCCTCTCCTGCTGCTGACCTGAT
59419	DCTN1	TTAGAGAGGGGAGGGAGAGAG
59420	PON1	TGCTGGTGGGTTTTTGTTTAA
59421	TXNRD1	GAAGTTATTAATATCATAAGTTA
59422	CYP2B6	GGGATTACAGGCGTGAGTCACC
59422	FEZ1	GGGATTACAGGCGTGAGTCACC
59422	PLA2G10	GGGATTACAGGCGTGAGTCACC
59423	PTPN7	CTGCGTGCTTTCTCCCTTCCGTC
59424	GNPI	CTCTGGCTTCCTTTCATTGTCTTA
59425	MHC2TA	CTGTGCCATGTGCCAGGTTTTTG
59426	VAT1	AAACTCTGTTTACATGGGTGG
59427	EPHA3	CAATGGATTTTCAACCAGATA
59428	C21orf33	CCTGCAGGCGTTCTCTCTCTA
59429	PTGFRN	GACAGAGATCTTCCACATCCC
59430	AMFR	AATAACAACAGACAATATTT
59431	ATP5G3	TTTCCAAAGTCATTTCATTAAAGATGA
59432	EFG2	TTGCCTAGGCTGGCGTCGAGACTTGAG
59433	GJB5	CCTCAACTCCAGCCACCTGCC
59434	CBFA2T2	AAATCACTGAAAATAGAACA
59435	B3GALT3	GTCAAAGGGGAGCACTCCTTG
59436	GRAF	TTCTGTGAGCTCTGGTGTCA
59437	TAF4B	TTGTATATTTAAATGCTTACC
59438	NFATC3	CCAGCCTGGCCAACATGGTGT
59439	PRKY	GCCTGTAATCCCAGTTAGTCGGG
59440	MS4A8B	CCTCCTCCCTTTCTGGGCTTCCA

59441	STAU2	AGCATTTTTCATATTCTTCACTGTCTT
59442	WBSCR14	CCTTCACTGCTGACCCAGAGGGGCT
59443	PRY	GGATGAAGGGATGCAGTGA
59444	AXIN1	CCTGCAGGGCCTCTGTCAATTGTACG
59445	ABCB4	AGTAATAAACTTTGCCAACCA
59446	MYH9	TGCCCCCTCCCCTCCTTTACC
59447	FKBP2	TGGGGAGGGGCAGGGGGAGAGGCCCC
59448	TDGF1	AGGAAAGAGGAAGCAAATAGA
59449	HOXA3	TGGGCCTTTTGTTCAATTGTGT
59450	BTC	CGTTTCCTTCTGCCTCCGGGATT
59451	HOXC5	CCTCCCCAGCCTGCGCCTGCTGC
59452	HBQ1	AGTAAAGCCTCTCCCAGG
59453	FANCE	GCTCACTGTAACCTCTGCCTCC
59454	GAS7	AAACATTGCAACCAAAAAGGTCA
59455	CDH5	AGGCAAGGCCCTGCCCTGC
59456	ENTPD6	ACACTGGCTCTGGGACTTGCA
59457	REV3L	GGCATTGTGAGGAACTGTGCAAA
59458	APLP2	CTCCACCCCCTCCTGTCACCGGCC
59459	LDLR	CTGCCTGGCAGAGGCTGC
59460	HPRT1	TCCGCCACCGGCTTCCTCCTCC
59461	SFRS2IP	TTGATTAGGGCAATGGAGTGCATAAATTAG
59462	VAT1	CCTCTGCCTCATCTTTCCTC
59463	HMGA2	CACTACTCTGTCCTCTGCCTGT
59464	HEM1	AAGGAGAGAGGGTCAGGAGCCAG
59465	COL11A1	AGGCAGGGCCCGGCAGAGGAA
59466	LPP	TTTGACACCAGCCTGGGCAA
59467	EN1	CCTGCCTCCTTCCTCCGCGCA
59468	LMO7	AGAGTGAGAGAGTAGAAGAGAAGGG
59469	CALML3	CCTTTCATCCTGCAAAAAGCCC
59470	ADAMTS4	CGCCCAGGCTGGAGTGCAATGG
59470	FEZ1	CGCCCAGGCTGGAGTGCAATGG
59470	NF2	CGCCCAGGCTGGAGTGCAATGG
59471	GPR44	GGACTCCTGCCGCAGTGATCAA
59472	GPR81	TCTTTGTATTTCAAAGAAGGT
59473	RNASEL	TCCTTCTGGTGTCAGCCCCACA
59474	PYGB	CCCTTTCCACCAGTGCCACAG
59475	GRAF	ACTCTGTGGCCCAGGCTGG
59476	PPP2R4	CTTCGCTGTGGTGACTTTAA
59477	TPM4	CACAAGTCATTACTAAGTTGAGCAAAA
59478	LIMD1	TGGGGTGGAAGTGGGGTAGGGGAA
59479	ATP2B2	CCATCACCCGGCAGCCTCT
59480	ALDH1A3	AAGTTTGCAAATTAAGTTGGGGAGGGC
59481	DVL3	ACCCTTCTCCCCTTCCTGGTAGACC
59482	KCNC4	TGCAGAGCTATGGTCCCTTTCTCCA
59483	ACOX1	ATGGAGGGAAAAAATGAACAGA
59484	SHMT1	CACAGCTTGTACACACTGCCCCCTCA
59485	TK2	GAGGCAAAAGGTCTATGGCT
59486	CSPG3	TGTTTGCCAGGCTGATTGAAGCAG
59487	BAK1	TCCTTGCCCAGACTACAGGG
59488	SPI1	CTTGTGCTGGCCCTGCAATGT

59489	CYP27B1	CTTCCCCTAATGCCTATCTGAC
59490	IRF2	TGCTGTGTCCAACTCCAGTACCTGGAGC
59491	NOX5	TGCGCCCAGGCTGGTATGCAG
59492	KCNQ4	TCGTACTTGAACTCACTCCCTCA
59493	HMG20A	TGCCTCTGGTGGCTGGGATT
59494	POV1	CTTTCTTCCTCCTTGGGTTG
59495	MYH9	ACAAGATGTTGAGGCGAGCAGGGCAG
59496	EPHB2	ACAGGGCTGAAAGGGGCTTTTGT
59497	TNFRSF7	CCAGCACCTGCGGGAGCTGCA
59498	DAG1	TCCCCAGGGGGTACTCTGGAGTGAGCAGT
59499	RABL2A	GGCCATCCCCTCTTCTACCTC
59499	RABL2B	GGCCATCCCCTCTTCTACCTC
59500	NCALD	ACTCCTCTGCTGGGCTGTTCATTGTC
59501	PBX3	CGCCGCCGCCTCAGCCTTCGCCTCAG
59502	GJA1	CCAGGAATAAATACTTCCTGAACAT
59503	IL17BR	CATTCCCTGGCATAAAAAGTGCTCAA
59504	HCRT	CCTGTCCTGGCCCAGGCCTCTGC
59505	RBBP5	TTTTCCTCTCATTGCATGTTTC
59506	PTP4A2	GTCCACAGGCCATAACAGGGTA
59507	CYP2B6	CTGTGTAGGCCAGGCTGG
59508	ADCY1	GGAGGCAGACAGGGTGGGCTGGG
59509	FBLN5	CAGTTCCTATGACACAGTTAT
59510	SLC24A1	CACTTGAGTTTTTAAAACTGTGGTTAA
59511	DSCR3	TCACCCAGGCTGGAGTGATCTC
59512	PIK3C2B	ACTCACTGCAAAATCTGCCTCC
59513	SUFU	CACTGTCATTCAGGGCCTGGGTCTCCAGC
59514	FXYD2	CCGTCACTGCCAGCGCTTGGGCT
59515	GRIN2A	TGTAATTTTCTCATCAGAAATGCCTAA
59516	CDC23	GCTGAGAGTGAAAGAAAGGAGG
59517	TNFSF9	CTCAGCCTCCCAAGCAACTGGG
59518	SCG3	ATCTCAGTTATCTAAACTAGATTAG
59519	KCNA6	ATTATTCTCTCGAAGAGCAACTTACG
59520	GNE	TGGATTACAGGTGTAAGCCATCACA
59521	BCAS1	TCGCCTGTAATCTCAGCACTTT
59522	DCLRE1C	CTTGTAATCCCAGCACTTTGAGGTGG
59523	RAB23	GTAATCATGTGTCAGGACATAAA
59524	CYP1A1	GGTCTAGGACACAGTTCCTGG
59525	CRYAA	AGGAGAGCTTAGGGTCTCAGGGTGTCCC
59526	SELL	AATCCTTCCATGAAACGTTTT
59527	GAS7	TGGGCCAGTCCATTTTTGGA
59528	IL16	GTTGCCCAGGCTGGAGTTCAGCGGTG
59529	ARSB	CTTAAACCACACCGAGGTGTCTA
59530	ADCY1	AGACAAGCCCCACACCCACCTCAGCCCT
59531	MAX	CCTACCAGCTCCTCCAGCCCTGCCGG
59532	ZNF136	GGAGTTTGAGACCAGTGTGCAAA
59533	GPR34	TCTGCTTGTATTTGTGATATTTCA
59534	EBI3	TTGAGCCTCAGTTTCTCTAGCTG
59535	C5R1	CCAGAAGACCCAGGCAGTGTA
59536	SCA1	TGGGTGAGGAAGCAGAGCTCTCGGTAC
59537	ASTN	CCATTTTAGTGTTGAGGAAAACGAGG

59538	IGF1	TCATGCAAATTCTATATTTTACA
59539	ANGPT1	AACACAAATGCTCAAAGAAATCTACTA
59540	ICA1	CTGCCTGGTTCAGCCTCTTCGCTGAC
59541	NCOA6	CCTGCAGCATAACACAGACC
59542	CLASP2	AACATTTTTGGGGCTCAGCCA
59543	STIM1	TCTCTCTACTCCCACCCACAC
59544	GPR81	GCATTTTCTTATCTGATCACA
59545	RGS6	GCCAGCACCAGGCACTGCTTTCAC
59546	PTCH	GTCACATTGGCAAAGGGAGAAC
59547	PLD2	CCCTGCCCCTTAACCCCAAGGAC
59548	SCG3	GAGCAGCTTTCCTGGAGGAAAAGGT
59549	IL10RA	CCAGCTACAGACCCAGAGGATAAG
59550	KCNA6	AGCCAAATACTCTTTGTGCAAGTGCC
59551	EYA2	CCTCGCCTTCCCCACCTCCCC
59552	FUT8	ATGCAGATGAATTTCTTTTGG
59553	CLOCK	TGAGGAAAGGGAGGAGAGGA
59554	PHEX	AGACAGCATCTGTTCAAAGTCGTAGGG
59555	AKAP13	GTCTGCCTGTGGTTCAGGCTTA
59556	SDC1	TTGCCTCTGTGCTGTGTGTG
59557	CAMK2A	GAGAGGAGGAGGGAGGCTGT
59558	HOXC13	TACTGATTTCCAGAGGAAAGCTA
59559	IL1R2	ACAAGGCCACGTGCTGCTG
59560	CALD1	ACAGAAACATGGCAGATAGGTAT
59561	TACC1	TGCACTTTTTTGTAGTTTTTTGT
59562	TPST1	ACAGACTGAGCAAGTGGA
59563	OAS3	CACACACATATCCAAGAGCTCA
59564	BUB1B	TGTAATTTAATTTAGGACACAT
59565	PTPRC	TTGTAGAAGGGTTATATTTTA
59566	EYA1	TTTTCATTTTATGTTTTTGTACTCTGC
59567	ZNF137	CTCCCCTCTGTCTGGGGCAGGGTGGG
59568	AQP6	GCACATTTACTCCTAACTACACAC
59569	YWHAG	TGAAACGCCACAAAAATAGAGAA
59570	LPXN	GGCTCACTGTCTTACAATCA
59571	CREB1	TCAGGAGGTTGAGGCAGCAGA
59572	LMO2	AGGCTTAATAAAAATGACAGA
59573	RARA	GCTCCTCGGCAGAGCTGCCTC
59574	HOXA4	CTTACCTCCTCTTCCCCCATTAA
59575	LYN	GGCAGGGGTGGCTGCCTCAT
59576	NCOA6	AACCTCCTGGGCTCAAGCAACC
59577	STE	GCCTAGGCTGGAGGACAGTGGCACA
59578	TEM7	TAGGGAGGCTGAGCCAGGAGGATC
59579	C18orf1	AGGGAAAGAATACCTCAGGAA
59580	ALPL	GCCAGTGCTCTGCGCAGGAT
59581	MCM3	AACAGTGTTGAATTCAACTGA
59582	TACC1	TCAAGCCAAAGGTCTAAGA
59583	CYP2B6	GTCTTGAACTCCTGATGTCAGG
59584	LGR6	GTGTGATCTATAGCAGGATGGCCCAGTC
59585	TYR	AGGAAAGGATGCTATTTGGTA
59586	ABCB4	TGATAGTGGCTTGCATGATGGTGG
59587	NRL	TGGGAGGTGGAGGAGGGTTGCAGCTC

59588	SHOX2	GGCTCCTGCCCGTTTTCCTACTCGAG
59589	SOCS5	CCACTGCATCAGAAGCAGGTT
59590	NPY2R	AGAATACAACTTGATACTTTT
59591	RAD51L3	GGGGAGGGGCGTCTGGAGAGG
59592	SHANK2	CAGGCCTGGAGTATGAGCTCAGCAGAT
59593	SOX9	GCAGTCTTAAGAAAGAGGTA
59594	HDAC7A	ACACAGCCCCAGGCTCCACACAG
59595	UBE2G2	AAAATTACAAAAAATTAGCTGG
59596	SLC39A4	AAACCTACAGCCCAGAAACCCAG
59597	PEA15	TCCCTTAAGAAGAGAGAGA
59598	CDKN1B	AATTTTGGGGAAGGGTTTGAA
59599	SOX11	CCTGCAGCGGATCATGGTGCAGCAGGC
59600	AMD1	CCTAGAAAAGAGAAATGTAGTT
59601	SALL2	GGTTCTTAAGAGTCCCAGCT
59602	WHSC1	CGTGGAATTCCTTCATTTC
59603	MFNG	GTCCCGAGTTCCTGAAGGG
59604	MGAT2	GTAAGTCCAGGACCAGGCTGGGA
59605	PTK7	CCACTTCCGCCAGGCCTGGGTG
59606	DNAJB9	TCATTTAGGCTGGAAAAAAGTT
59607	KNG	GGGCAGAATCTTCACTCCAGG
59608	CDH11	AGAAGCTTCCACAAAATTAGAA
59609	FANCE	CCCAAGTAGCTGGGACTACATG
59610	GSTT2	CGCGTCGACGCCTTCACTGCCATC
59611	DDX3	CTTTGCAGTAGGTCACCCTGCCAA
59612	NOTCH4	AGGAGGAAGAAGAGGGGCAGTGG
59613	PER2	CTTGGGGAAAAGTGAGGCCAGTCT
59614	C1orf1	GTTAAGATTGCTTGGAAAAAGAA
59615	RNTRE	CATAGGAGTCTAGGATTTTGAT
59616	SORCS2	CTTTGCAGGGATTCTTGTCCT
59617	RABIF	ATCACACCACTGGCACTCCAGCCT
59618	CABC1	TTTTCTGCCCTTTTCCTCTCCAGC
59619	PCDH1	TGATTTGCAACTTTTCTTGTTG
59620	ACP2	GGTGCCTGTCACTCAGCATTCCCATG
59621	MMP8	TGCAGAGGCTTATTCAGTTCTTA
59622	MTX1	TCCCAAGACTGGTTTTTCTACTCTCAT
59623	TAL1	GATGGTGGGATGTGGTTTTC
59624	KIF5C	CTTGCTTACTCCAGCCATCTGCAG
59625	BHMT2	TAAAGAATGTTTTGAGCAATGGTAGCA
59626	HLCS	ATTGCTCTCCCCTCTGTGGCT
59627	BMP5	GGATAATTGGAAATCTGAGT
59628	BRDT	AACCATCCACTTAAAATGAATGGTAAA
59629	GPR55	GGACCCAGGAGCTGCATGGCTGT
59630	COPG2	GAAAGCTCCTGGCAATGCTGGA
59631	PTPRN	TCTGTCCCTCTTTGCCTGTGT
59632	GPR24	TGCAGCTCTGGTGACATTCTCTCCACG
59633	GAS7	TCCAAACATTCAAAGCCAAT
59634	KCNAB2	GTCCCGGGGGTCTCCACTCAGT
59635	DXS1283E	CTTACCCCTTCCTTTGATCA
59636	CA2	TAGACCCTTCATCTCTTACTTGA
59637	IGFBP2	TGGGGAGGGGGAAGAGAAATTTTTAT

59638	BAK1	GGTTTGTTATATCAGGGAAAAGGAGT
59639	UMOD	GCCTTCTTTTCTCCCTTTTAATCCTGGCT
59640	PDE1A	CAGCTTTGTACATCAGCACTGTTTTGA
59641	TRADD	TCTTTTGCCAACCCTCA
59642	AGR2	CCCAAGAAAATCACATCACTACCTA
59643	CYBB	GAGTCTCTAAATCACTGTTAGTGTGGCCA
59644	TEM7	CACCCAGCCTTCTAAAACACAATG
59645	SMCY	TGTACGTTGTAATTACCAAAAAGA
59646	VANGL2	GATCCACATGGAGGACCTTTCTGATG
59647	BAZ2A	GGTAGGGATAGGGCATGATCAAAGG
59648	PRKR	TGCAACTTCTGCCTCTTGGGTT
59649	MIPOL1	CTGGTCTCGAACTCCTGGGCT
59650	ALDH1A3	AACAAAAACAAATGTGTTATCCGACGG
59651	FGFR2	TGTGCTTCTCTCTGGCAGCTG
59652	PPP1R12B	AAGCCTCCTACAGGACCTGGT
59653	POLH	GCTGCCCTCAGGCTTGCCTGTA
59654	RNASEH1	CAGGTAGGACCATTGCAGTGA
59655	CRYZL1	TAACAACAGAAGAAAACCTTC
59656	MTF1	GCTTAAGGCCTGGCTCACAGGCT
59657	ZHX1	GGAACTTAATGTTGTGCCA
59658	SOCS5	TACAAACCAGGAATTTCTTTA
59659	BRF1	ACCCCCACCCCTGCCTCCTCC
59660	TEM8	TTGCCTATATTCCACCTGCCA
59661	LOH11CR2A	GACTGCAGGGGTCCACTGTGAG
59662	SFRP1	CCACGCTCCAAACCCCAGGGTA
59663	RASA1	CCGGGCCTGGTGGCCCCTGGG
59664	BDNF	AGAGAGAGTCAGATTTTGGAG
59665	RXRB	TACAGCTCTCCTCCAGCCCTGGG
59666	GAS2	GGGGTCTGATTTGCCCAGCCTGTCTTT
59667	SIRT6	TTCTGTCCCCGGGAGCCTCAGGGCTCTG
59668	CACNG6	GGGTCCCCAGAGAAGACTGGCGGGGAC
59669	ARHGEF7	GATCCAGTATCTTCCTCGGCTTT
59670	FMR2	GAGCTGGTGCGTTGGTTTCTCTCATA
59671	MRC1	AAAGTCAGGTACAAATTTCCTC
59672	GPR56	CACACAGGCTGGAGTGCAGT
59673	JPH2	TTCAGCCTCTGCTGGCATCCTGCT
59674	TCF12	AAAGCCGCCTCCCCCTCCCAG
59675	FOXE1	GGCCTCGGGGGCAGGGCATG
59676	SCN4A	CTCCATGCTGGGTCTGAGGCC
59677	PTK2B	CTGGAGTCCGCGCCTCCCTGGGACT
59678	TEGT	TGTGGGTGGACAGTCCTAATGGGGATC
59679	ZNF36	TGCAGTGAGCCAAGATTGCACACTGCA
59680	SLC13A3	GTGGCTGCAAGGCGGTCAGTTGC
59681	TRA1	TTGGGAGAGACTTGTTTTGGATGCCCC
59682	RNGTT	AAACAGCAAAGGGAATGCCA
59683	GPC1	TGGGGTGGGACAGGGAGGGC
59684	BACH2	TCCCTGGGATCCCTCTGTCA
59685	GBP1	CTCAGGAGAAGTTTATTCTTCCA
59686	PCDHGA1	CCTCCCTCTTTCGGCTGGTGTAGA
59686	PCDHGA10	CCTCCCTCTTTCGGCTGGTGTAGA

59686	PCDHGA11	CCTCCCTCTTTCGGCTGGTGTAGA
59686	PCDHGA12	CCTCCCTCTTTCGGCTGGTGTAGA
59686	PCDHGA2	CCTCCCTCTTTCGGCTGGTGTAGA
59686	PCDHGA3	CCTCCCTCTTTCGGCTGGTGTAGA
59686	PCDHGA4	CCTCCCTCTTTCGGCTGGTGTAGA
59686	PCDHGA5	CCTCCCTCTTTCGGCTGGTGTAGA
59686	PCDHGA6	CCTCCCTCTTTCGGCTGGTGTAGA
59686	PCDHGA7	CCTCCCTCTTTCGGCTGGTGTAGA
59686	PCDHGA8	CCTCCCTCTTTCGGCTGGTGTAGA
59686	PCDHGA9	CCTCCCTCTTTCGGCTGGTGTAGA
59686	PCDHGB1	CCTCCCTCTTTCGGCTGGTGTAGA
59686	PCDHGB2	CCTCCCTCTTTCGGCTGGTGTAGA
59686	PCDHGB3	CCTCCCTCTTTCGGCTGGTGTAGA
59686	PCDHGB4	CCTCCCTCTTTCGGCTGGTGTAGA
59686	PCDHGB5	CCTCCCTCTTTCGGCTGGTGTAGA
59686	PCDHGB6	CCTCCCTCTTTCGGCTGGTGTAGA
59686	PCDHGB7	CCTCCCTCTTTCGGCTGGTGTAGA
59686	PCDHGC3	CCTCCCTCTTTCGGCTGGTGTAGA
59686	PCDHGC4	CCTCCCTCTTTCGGCTGGTGTAGA
59686	PCDHGC5	CCTCCCTCTTTCGGCTGGTGTAGA
59687	PLS1	ATCTACTTTCTCCATCTTCC
59688	PRKAA1	AGAAAACTTTGCTTATTTCTT
59689	NAP1L4	GGGTTGTGACACACCAGCCCAGGTGAGAG
59690	IFNAR1	TGAGACAAACGTTTCCTACATTCTTT
59691	B3GALT5	CCTTCAGTTTGCTCCGCTGCCTCCT
59692	MICB	TTGAGACAGAGTCTCACTCTGTC
59693	SLN	GGAGGTGAGGACAAGCCAGAGGTCCT
59694	MMP19	GGGAATCTGAAAGGGGAGA
59695	EFG1	TCGCATATATCATGACACTTCT
59696	SIL	TAGCCCAGGCTGGAGTGCAAT
59697	TCIRG1	GGCCTGCCGCGGCTTCCTCATTGCCAG
59698	CRACC	TGCACTCCGGCCTAGGCA
59699	ABCB11	GCAGCTCAGCCACCACTCAGTGCTTCTC
59700	PTAFR	CCTAGATTGCACCATTGCACTC
59701	ISG20	CGTCAGCCCTGACTCGGCCCGG
59702	SPAG8	AACTCAAGAGGACAGAGGCTG
59703	AXL	TTCTCAAGTTCTAAGATTCTA
59704	DVL3	CAACATAGCAAAACCCTGTCTC
59704	EHHADH	CAACATAGCAAAACCCTGTCTC
59705	FANCD2	CAACATAGTGAAACCCCATCTC
59705	TNFSF10	CAACATAGTGAAACCCCATCTC
59706	ALDH3A2	GAGGGAAGGGAGGCGAGGCTGCA
59707	GRIA1	AACTGCACTGTTTTATTTTA
59708	RBM10	TTGGGTGTCCATCCTGGGGCAGG
59709	ZNF138	ATAAGAAAATTTACACTAGAGA
59710	DCX	GCTGCTGCCCTGATCTCA
59711	MICB	CCCGAATAGCTGGGATTACAGACAGGC
59712	POU2AF1	GCTCACTGCACCTCTGTCTCC
59713	MICB	TGCCTGGATCTCACCAGCACTTTC
59714	BTG2	GATGCTGCTGCCATGATCCCTT

59715	PKHD1	AGGCCAGAATTGACTCTTT
59716	CTBP1	GAAAAACAAAACAAAGGCTGTTT
59717	SLC13A1	GTTTTTAAAATAATATTTAACATACG
59718	NUMB	GGCCTGTATTAGAGATCAAGA
59719	HSD17B1	AGGCGGAGGCAGGAGGATCGCT
59720	SLC16A2	GTCTATATTTCTACCTGGGCC
59721	UBTF	TGGGGGAGGGGGCAGAAGT
59722	TRPM8	TCCTTTATGTGTTTCTCCAGAATGGTGC
59723	OTX2	TCACTCGCCACATCTACTTTGATAGC
59724	EMP1	CATCACATTCCAGTCTGAAGTGCC
59725	FKBP10	AGGGCAGCCCTACCTCTCCCAT
59726	CD164	AAGGTGGCAAAAATTAGCTATACTG
59727	GFAP	GGGGGATCTGTTGTGTACGTGGAGAGG
59728	RPS11	GCTCCCCACAATGAAATAAAGT
59729	KCNE3	CACCCAGGCTGTGGTGCAGT
59730	BCL7A	CCCGGAGAGGCAGGATCGCAGTG
59731	PRX	TGTGGCCGTCAGTGGAATGCAGCT
59732	PLOD	TGGGACTTCTGCCTCCATGGCT
59733	CPSF6	TATCAAACCACTTCTGACAA
59734	PVR	TGTTTGTCTTGAGACAGGGTC
59735	ADRA1A	AGGTACCCACCCCACTTCCTTCT
59736	CALM2	CTTATCTGTAAAAGGTTTCTCC
59737	MUC3B	TCTCCTGCCCTCTCCTGATCTAACTCC
59738	BRF1	TCAGCTCTGGCATGGCTGCCCCGG
59739	VIPR1	CCTGCCTGGAGCGTTTCTAGC
59740	PPP1R12A	ACTCAACATTTTTTGATGTGCCA
59741	THPO	TGTACATTATAAACCTTCAGAAGCTA
59742	KCNE3	GGCTCTATCAGTTCTGACATTCTAGGC
59743	SLA2	GAGTCTCTTCTCAGTGAGGGTCT
59744	NGB	AGGAACCCAGCTAGCTGGCCAGGT
59745	B4GALT1	GCTGCCTACAGCCTGGACAG
59746	KIR2DL5	GAGGAACTCACAATTCCAGACATACA
59747	MADH9	CCAGAAGAACGGGCGGGTTGGTCCCT
59748	FCRH1	GCAGTGGCACAATCTTGCCT
59749	SOX12	CCATTGTCAGAGGAGGAAACGGGGT
59750	SNRPN	GATGAAAGATACACCACAGGGTG
59751	ADD2	ACCAGAGCTCTGGAAAGATGATCATGT
59752	NDUFA10	CGCTCTGTGTCATTCAGGTTGTGCACA
59753	ADRA1A	CACCATGGAGCACGGTTTAA
59754	TRPC5	CCTTGAAGCCCCAGGTGCCAC
59755	VIPR2	CCAGATCAGGAGAGCAAGGTCA
59756	TTF2	CCCTGCAGCCAGCCATTTTTGCAGTTT
59757	DBH	TGAGCCAATAAAGCTCACACTTGGGC
59758	PRND	TCTGTTTTAAATTTAAAACAA
59759	RNTRE	AACAAATTCAAGTTCTTGGC
59760	ICMT	CGCTTTAACCTCTTTATTTCT
59761	TLR5	ACTGCAACCACTGCCTCCAGGG
59762	RFC1	TTTGCAAATGATTGGATTAAA
59763	HDAC4	CTTTGTTGTTTTTCTTTTTGAT
59764	RGS3	TCCCTCGGGGGCTTTGGGAAAGCATG

59765	GDF5	CTTCTGCTGCTACTGCTGCTGCCGCT
59766	OAS3	TCCAACAACAGTGTCCACACTAGTCA
59767	KIF1B	TGGTGGCACATGCCTGTAATTCCAG
59768	GRIN2B	CACTCCCTTAATCTGTCCGTCT
59769	TMOD2	TTGCATTGTAGTATGCATTAATCCT
59770	MDFI	AGGGGCAGGGCTGGGGTGGGG
59771	TRIM14	CCGGGCAGCGGAGGTTGCAGTG
59772	HIP2	GAACTGCCAATTTTATTTCTCTTGCA
59773	DHFR	TGCAGTGAGTCGTGATTGTGCC
59774	FBXW7	AGCTGGCTTTTGGAAATGAATCA
59775	KCNA6	ACTGAGCTAACAGTCTCTTAGG
59776	SLC38A3	GCTTCCTGAACTGGGAGCAGGG
59777	ZNF6	CAAAACTGAGACAAGAGAATGTAGTA
59778	INHBC	ACCTGGCTACCCCCTTCCATGGCCC
59779	EPHB2	CCATGGGGACGCCCTCAGTCTA
59780	DTR	AGGCCACAGCGTGGGAACTCACTTTCCC
59781	ICA1	CATGATCTGTACCCTTCGGGAG
59782	ARCN1	TGAAGGCTGTGGGTTCAGGGAG
59783	EVI2B	TTTAGCTGATCTTCCATCCTCAA
59784	FZD4	AGGCCTCTCCTTTCACATTCCAGA
59785	AQP2	CTGAGTGTGAACAGGTTTGCCTACGTT
59786	NR4A1	CCTTGGGGAGGGGGATGCCTTCA
59787	MYC	CTTGCAGCTGCTTAGACGCT
59788	F9	TTCTTTGCTTCTCCAACCAA
59789	EMX2	GGGCGGCGGAGGCAGCGTGCG
59790	RBMX	AACTATTCTATCATAACTACC
59791	TBX5	ACTCCTGGCTTTTGCGCTCCAA
59792	BCL9	ACCCAGCAAGCAGTGGGCCAGT
59793	PTPN18	CCGAGTAGCTGGGACTACAGG
59794	PLD2	CCTTGAACCCCCTCCCTGTCCC
59795	RAP1GA1	CACTCTCCCTCTCTGGGCATGTCTGCTAC
59796	PTPN13	CTCAGCTTCTGAAGTGCATGA
59797	TLR5	AAGTAGCTGGGATTACAGATTGATGTT
59798	LIG3	AAAACATCACTGGCGTGAT
59799	TIMM17B	TCTCACCCCAGCTCCTTTGTGTGGC
59800	CYP4F3	TTCTGGCACTTTAATGGCTTGA
59801	SREBF2	CTTGTCTTCTTAGCTGTCACCTGCCGA
59802	HIRA	GTGGACACTAGCCCCTGCTGCTG
59803	ABCC3	GGCTTTGGAGCTGTCCCACCTGCAC
59804	H3F3B	CCTGGGAAAATCATTTTTATAGA
59805	MICB	GTCACCCAGGCTGCAGTTCACTG
59806	ABL1	TGCGCCAGGCAGAGCTGAGGGCCC
59807	MNT	GCTCTGGGAGAGAGCCCTTTT
59808	SLC2A3	GAGGGATTGGCCGCTTGGCACATGACA
59809	SLC4A4	TTTGTAGCTGCCAGGCTTTCTGT
59810	VPS41	AAAAACACAAATTAGCCAGGC
59811	LAMP1	TCTGGAGCGGCTTCAGTTCAG
59812	FBXL7	TTGCCAGGCTGGATGCTGT
59813	CD209	ACTTCCACCTACCACCTCCTGCACCCCT
59814	KCNMB3	CAGACCATCAGGAAAGCTTT

59815	DOK1	GGCACTAGGGATCAAAGA
59816	HDAC4	AATTTTACATTTTTCCTCACCAT
59817	MFGE8	GGTTGCCTCTCTTGCCCCTTGT
59818	ALX4	GACTTTCCTCTTAGGAACCTGG
59819	NAPB	GGCTTCCTGCTCCA
59820	TCIRG1	TGGAGCAGCCCTGCCCAGCC
59821	PAX3	TTCATAGTGATAGAGTGCAGT
59822	MS4A8B	GTGGGTTAGAGGAACAAATA
59823	PAX6	TTCAAACCATTGTGGTCTTCAAGCAA
59824	EXT1	GCGCTGGATCAGTCCACGGCTTGGGGA
59825	APXL	GCGTGGCAAACAAGCACACGAAAA
59826	MAPT	AGGCAGGGGCTGGGCAGAGGGG
59827	DNASE1L1	GATTCAGCCCCACCTCCTGCTCA
59828	CENPF	AGGACTTCTCTTTAGTCAGGG
59829	SH3GL3	CCCAGAGTGCTGGGATTACAGG
59830	JAM3	CTCCAGCCTCCTTCTTGGTTGTCATAG
59831	TRH	CCTTGCCCTCTTCCTTT
59832	SECTM1	TACCTGTCCCTTGGCTATGAGCAGGCTTT
59833	IPP	CACTGCACTCCACTCTGGGCAACAGAA
59834	POLK	TCAAAGCTGCAGTCAGCCAA
59835	DAP	CTTCAAGGCCCTGTCACCACCTA
59836	OSR1	CCTGCTCTCCTGCACTGACCCT
59837	SKI	ACCCACTGCAAAATTTTCTACTGGCC
59838	ADAR	AAACTGCTGACTAGGTCATCCTCT
59839	PRKWNK3	ATTTTCCCTCATTTGAGTTTACTT
59840	MBP	CACAGCTGCAGAGACAGAGAGGAC
59841	DRD2	CGCTTGGCTCCATGCTCCTCA
59842	GPR56	TCGCTCTGTCACACAGGCTGGAGTGC
59843	FTSJ2	GGGTCTGCTTTGGTTTTTGCT
59844	RAP1B	TTTGCAGCTGGTAAAACCAGAGGCT
59845	SP4	CCTTAGTAGTTTGCAGGCTGG
59846	ENTPD5	AAGCCTCCACCCAGCCACATCTTGGG
59847	DDX3	TTTAGCGGAGAGCACGGGAAGTGTAGC
59848	PLCB2	CTGCCTTGGCCCTGCTTGGCTGAGTCA
59849	PTPRK	TTCAGCCTGTGGCCCAGCACT
59850	STAU	GCTGGAATTTTTCTCCCCATGGAAT
59851	MEIS2	CCACGCCACACAGCACTACG
59852	PPP1R12B	TAGCTCTCCATGGTCCTCC
59853	BDNF	AGGGTCTGCGACACTCTCGGG
59854	TNFSF8	CAGGAATAAGAAGTCAGACAGAGACAG
59855	TMPRSS4	GCCCACAGCCTCAGCATTTCTTGGAGCA
59856	CLN2	GGCTGTTTCCTCGTCTGTTAAGTGTGAAT
59857	ENAM	CCTAGCACAGTGTCTTCAACATA
59858	MSF	GAGACTCCACTCAGGTGCACACATCAC
59859	HSPA5	CTGGGTCATGTGCATCTGGTG
59860	CASQ1	TTTCATGCTCTCTCCTGCCTTC
59861	SLC17A4	CAGAGTTAGCTTTTGGACAGTTA
59862	SMURF1	GCGGGCGTCCGGCTCTGAGGTGGTGGA
59863	PROK1	GGAGCAGGGCAGGGGCTGAAAGGGG
59864	MSL3L1	TCCTCAGCCTTTCTTTTTTGCC

59865	RS1	ATTTAGGTGATCATACAGGACAG
59866	EIF4E	TCATTCAAATCAGTGATCT
59867	ZNF36	CAGTTTCATCAGCATTACTTGG
59868	HSD17B1	AAAGTGCTGGGATTAGAGGCAT
59869	MMP16	GCTGTTCTTCAGTCCTTTGTCTTTC
59870	MMP19	AGCAGAGGCTGGACTCCCTGGTTCA
59871	GAS7	AGCTAAAATTAAGAGTTTTATG
59872	MPP1	TACTACCAAAATGTAACTGCTA
59873	SPON1	CAGCTCCGAGCTCCCTCTCTC
59874	BCL7B	TTCTCACCTCTACCTGTCATTC
59875	PRKCABP	ACCAGCCTGGCCGGGACCCGGCTGTGG
59876	TNFRSF1B	AGTCCTGGGAGAACCTCAGGCTTC
59877	ZNF14	GAACCTGGAGACAGAGGTTGC
59878	CACNA1C	CAGAAGTGCCTCACTGTTCTCGT
59879	PLCB4	TGAACAACTCTTCCTTT
59880	ANGPT1	TGACTCAGGCAGGCTCCATGC
59881	STK13	CTTCCTGGCCCTGTCTGCCTCTGTTC
59882	CHRNB4	TGACCTCAGATGACCCACCTGCCT
59883	PRKY	TTTGGGAAAAGCGAGAAACAGA
59884	EIF4E	TTGCTACAAATTTATGCATTTCA
59885	NEURL	CTTCCCTTGTGCACTTGGGTCG
59886	FUT5	TCACCTGCTGGAGTCTTTGGTG
59887	SURF5	TTTTCAAATTCTTGCTGGTCTTAGC
59888	RRM2B	TTCATTCTTCTTTAGCAAGTACA
59889	STC1	GTACTGTACATAAATTCCA
59890	NTSR1	GTCTCTCAGGATGGTGCTCT
59891	CBFA2T2	CACTCAGGCTGGAGCACAGTGG
59892	CPNE3	GAAAAGAAAACTAACCCT
59893	FCGR3A	TTTTCCTTGGTCTCCAGTGG
59894	SNX6	ATGCAGGTTATATCATTCCA
59895	DAZL	TAGCTTTATTGAAGTCTTCTTA
59896	KCNJ1	CCATCTTCCTAAAAGGGACCAG
59897	TRIM14	GGGCAGCGGAGGTTGCAGTGAG
59898	PPP1R12B	TGTCCAAGTAGCTAGGCTCCA
59899	GNA15	CCTTCCAGGAACCTGTGGACTAGG
59900	TSGA10	TCTCATTTGCCAGCAAAATAATA
59901	H1F0	GGAAAAGGGAGAAACTGA
59902	IL16	GCATCACAGCTAACAATTGTGAAGTC
59903	TCEA1	GCATGTAGCTACAAATATTAAAGGA
59904	MCM6	AGTATTTTAAAAATAAAT
59905	KCNA6	AGCGGTGCCACCCAATCATGCCC
59906	AFG3L1	AAATACTGATCTAAATGCAAG
59907	AP3S1	TTGCTGTTCTTGCTCAGTGATT
59908	COX15	TCTTGAACTCCTGACCTCAGGTAATCCG
59909	YY1	GAAGCATCTTCCAGAAGTGTGAT
59910	CSTA	TGTCCAGCAAAGAAGCAATCAGCCAA
59911	JAM2	TCTCCTCCTGCTGCCCCCTCGC
59912	LDB2	CATGCAAATATCTATTTCTAAACC
59913	CLTC	GGGGAAAACAGGCAACGTGTT
59914	ZFP36L1	CTACCGTCGCTTTCTATTTCTCTTT

59915	EFEMP1	AGGTATTTCACTGGAGAAGTTTTAATT
59916	LBP	CCTCCACCCTCCTCCTCTTCACCA
59917	PCDHB11	CGCCTCTCGGGTTCAAGCAATT
59918	MMP19	CCGAACTCCAGCCACCACTTTCC
59919	GNE	ATTAATACCACTGAGACCTTCAG
59920	CCNF	CCCCGGCTGGAGTGCAGTGGCATG
59921	ZNF179	TGTGGCCCAGACCCCAGAGCAG
59922	CD209	CTTCTCTCCATCCTTCG
59923	Rgr	ACCAACTGCTCCTGCTGGCC
59924	NIPSNAP1	CGCTCCGCCACCAGGGCTTGGGGG
59925	AKAP13	CTCAGGGTAATACTATTCAGA
59926	SURF4	CCCTCCCTTGGTAAAGGCACAG
59927	SCRT1	TCCAGCCCAGCTTCCCGGG
59928	ADAR	AGCATTCCTAGGAATATTTTCC
59929	CALM3	TCTGGCTCCCCCCACCACCTC
59930	CCND1	ATGTGATCAATTTTGACTTAATGTGAT
59931	EFNA4	ATGAGGTTGAATTTCATGCCA
59932	ZNF192	ATTGAGTCATTGAGCATCTGTACA
59933	PTPRO	GGGGGATGCTTCACCTGCTTATTA
59934	CREBL1	GTGGGGGTTAAGCACTTATTTGA
59935	KDR	CACATGAGAGGTCTGCTCAGA
59936	TNNI3	CTGCCCCTGCCCTGAGGAGGGCCACT
59937	HFE	CTGTTCATTTCCTCAAAAAGA
59938	ITPKB	CTGCATACATGGGCTCCTGTCA
59939	LEP	AGGAGGGCAAGGGCCATGCTGAA
59940	GPR81	GGTCTCGAGCTCCTGACCTCAG
59941	CLC	CAGACTTCATGTTGCCAAGG
59942	RPP30	AACCTCAATCCTGGGCTCAAGTGATC
59943	BCL10	ATGGAAATTTTGCTATCAA
59944	EIF5A2	GATAGCTTCAGCAGATGTGATTTGTC
59945	HK2	TCTTGTCAGAATTGGCCTCAGTGTA
59946	SLC17A7	TCTCCACCCGTTCTGCC
59947	PTTG1IP	TAAAGCTTGGAGTGCCTT
59948	DNAJB9	TTGACCAACCTGAAAACTGATA
59949	ADRA2A	CCCTCCAGGGCCACTGCTTG
59950	CAST	GCCTCGGCCACCAAGGTGTCA
59951	LILRB4	CCTTTTGTCTATTTTTGCT
59952	BTK	CTGTCCTTCCTCTCTGGACTG
59953	CDK2	GAAGTTTCAGTATTAGATGCACTTA
59954	EPB49	CCTGCCCACCGACGCCAGCCTGCTTGGATGA
59955	KCNC4	TTGTTTGCACAGGACTGGTG
59956	GCK	GGGAGGCAGCTCCAACAGCTTGA
59957	FGF7	AACAGGATTATTACAAGGATGA
59958	KCNJ16	TTTTATAACATACTTTGACAACCCCA
59959	USP6	GGGCGGGGAGGGCTGAGGTCAGGGA
59960	SUPT6H	ACTGCCCAGCCCCTGCCTGGCTGC
59961	ADCY2	CTGTAGTCCCAGCTACATGGGA
59962	SLC3A2	CTCAAGTGATCCTCCTGCCTTAG
59963	FGR	TTTCTCACTCCATCCCCACCCAAAAG
59964	COL19A1	ATGCCTAAACAGTCTTTCTGTTG

59965	NOS1	TTCTAAACTCCTTTCCTG
59966	KL	GCACCTCTAAGTGTTGTGAA
59967	LRRC2	CATTTAACTCCAGCCTTGGGTTTGACC
59968	RRAS	CTCCGGGTCACTGCTGTATATAACTCC
59969	TYK2	TCTTTCTTGGCCGTGAGCCTA
59970	UTY	GCATTTAACTAGCACAACCTA
59971	NMB	AGACACAACAGCGTGGCTTA
59972	CLASP1	TGGTATTTCTTTTTTACACTCT
59973	PRND	AGGTGCCCACCACCAAGCCCTGC
59974	DSC1	AGATTGCCACTGCACTCCAGCCT
59975	SLC7A6	CCTAACATAAGTTTTCACTGTGGT
59976	LASS2	GCTTGTCACCCAGTTGCCTTT
59977	GAS41	TACTATTTAAGCAATCTTTAA
59978	SYT4	GGAAGGAAGCATGGTGTGTGAG
59979	PIK3CG	AGCATAGCAATCATCGAACTTGG
59980	SEDL	CAGGCTGGAGTGCAATGGCAGT
59981	MGEA5	TCTTCCTTGGTTTATTGA
59982	EIF2S3	ATTATACTACTACTAATTTTT
59983	CST1	TGCAGCTCCAGCTTTGTGCTCTG
59983	CST4	TGCAGCTCCAGCTTTGTGCTCTG
59984	IMPA1	TTAGGAAACATACCCAGGAAG
59985	LILRB4	TTAGTTCCTTACATATTTTTG
59986	NDUFS1	ACTCCAAAGCCTGTTGTTCTTA
59987	TSSC4	TGTGGGGTGTGGGCTGGAAGCAC
59988	CRY2	AGGAGCCTAAGACAGCACA
59989	REGL	ATCTTCTCATTGTCTTATAGG
59990	ANXA9	CCCTGGCCAGAACATCTCA
59991	B4GALT1	CCTTAGACTGACCCCTCAGGCC
59992	ATRX	ATACAGCTGTGAAGACTTGCCTTTGT
59993	TCF2	CTCGCTCGGTCCGGCTGCCTCAG
59994	KCNN4	TGCGTGCTGCGAGGTGGGGGACCCTGGG
59995	YWHAZ	GGAGCACTTACAAGGCTGTGGT
59996	MATN2	ACTTGCTTCTGCCTCATCCTGCC
59997	ARNT	GGTGCTCTCACCTTATCTGGAA
59998	CSTA	GTGTTCTGATTCCTTCAACTGGCTACT
59999	EMX2	GGATGGAGGCTCCTTCATCAA
60000	JPH2	GCAGGGTGGCCAAAGAGGACTGGACT
60001	MAD2L2	ACCTCGACTTCTCAGCCTCCTGGGGTTCC
60002	RBM3	CAACAGCGAGAGCTCCATCTC
60003	CPT2	CCACTGCACTCCGGCCTGGGCG
60004	AQP6	AGAGGTGGGATAGAGGAAGGG
60005	TAF5	AAAAGCAAATACCTCAGTG
60006	EIF4EBP2	TGTTTAATGTATCCCTGTTCTG
60007	TNFSF10	GGGAGGCAGAGGTTGCAGTGTG
60008	CST	GAGGGGCTGAGCAGGACGCCGC
60009	HOXA13	TTGCCCAGATAATGATAATAATG
60010	PPP2R1B	TCCCATAGTTTATTTCTCTCTCA
60011	EIF2C1	CAGAACTGCAACCTTTTGTACCTT
60012	INPP5D	CTCAGTGAGCTGCCACTGAGTCG
60013	D12S2489E	CTCCAGCCTTAAGATCTTAGGACGTTT

60014	TCIRG1	GGAGGCAGGGCAGGAGGTTGGAGCAGC
60015	NDUFS1	TCTTAACTGCAACATATTATTTC
60016	WNT10B	CCCAACAATTGGAGGGTCTTG
60017	IL17R	CACGCCTGTAATCCCAGCACAC
60018	HOXA13	GAAAGAGACAGAGACTGGCA
60019	ZNF141	TTCTGTTGAAAGACTTCAGAA
60020	ZNF264	ATCTTACAACTGAGAGTGATCTG
60021	INHA	GTGTGGGATGGGGAGGGGAGA
60022	HSPA5	GTTCCTGAAGAAAAGAGTCCAG
60023	BCL7A	AGACGCAATCTCCCCTCCCTCCCATCCCC
60024	IRAK4	AGAATTCTCCTTGTAAGCCTT
60025	KIF3C	TCAGATCAGAGGTTCGACTGTGG
60026	LRP4	CTCTTCCCTGCCTGCCTGTTCCTTC
60027	PKNOX1	CCCTGCACCTGTGGAGCAGGAG
60028	PIK3CA	GCACAATCCATGAACAGCATT
60029	COL15A1	CAGAAACAGGACTGCTCAAAT
60030	SCAP2	ATTGCTTGAACAAGGTAGGCAG
60031	LMO7	AAGAGAAGGGAGCAACTTATCCTTCAG
60032	BCL11B	CACAGGCAAACCCGTGATTTTGG
60033	AIRE	CGGGAGGTGGAGGTTGCAGTG
60033	BRCA1	CGGGAGGTGGAGGTTGCAGTG
60033	DAPP1	CGGGAGGTGGAGGTTGCAGTG
60033	SIGLEC11	CGGGAGGTGGAGGTTGCAGTG
60033	SIM2	CGGGAGGTGGAGGTTGCAGTG
60034	IL1B	TTGAGCCAGGCCTCTCTCACCT
60035	RASAL1	CTGTCTCCTTGGACCTCTTTGATTCT
60036	FANCC	AGGGAGGCAGGGATGGCAAGGCGTG
60037	GRM1	GGACCCCCTGCTGCTCTG
60038	OSR1	GCCAGGATATGGACATCTTGGGATATC
60039	UBE2G2	CTAATACAGTGAAACCCCATGT
60040	DUOX2	CATCCCCTCCATACTCAGCTCTT
60041	RGN	CTCAACCTTCAGATTCCCAGGGCCTCT
60042	ANKH	GGGAGGCAGAGGTTGTAGTGA
60043	GAS7	GCCTGTAATCCCAGCTCTTTGG
60043	UBE2G2	GCCTGTAATCCCAGCTCTTTGG
60044	UBE2G2	AGTATTCCTCACAAAGGGCT
60045	HMG20A	CCATCATCTGCTATTTCTGCC
60046	CASP8	GATTCTGCCTTTCTGCTGGA
60047	STK38	CCATCATCCAACATTATTGAGATTGTC
60048	SLC38A3	TGGGCCCTTGGATACTCTTCTCC
60049	GPR80	AGGATGTCTCCCTCAATGGA
60050	SEL1L	TGTAGAGATTTGAGTGCAGTT
60051	SURF4	GTCCTAGTGGGTGTTCCTGTTTC
60052	CELSR1	ATGTGGGAAAGGTGGAGATAC
60053	RAP2A	GGGTGATCTCATTTGAAAGCT
60054	APOL1	GCGCCTACCACCATGCCCAGCT
60055	UBE4A	TTTACTAACATACTCATTCTTCA
60056	LDB3	ATGAAGACTCAAAACCAAGC
60057	CTSD	TGCTGCCTGCCTGTCTGTCTCTCCA
60058	FEZ1	GAAAGAGAAGGGGGTGA

60059	PTGS1	GGTCCAGAAACTCCTGTTTCTCCTTAGT
60060	SERPINE1	TTTGGAGTGTAGGTGACTT
60061	GAD1	ACCATGTTAAAGAGGCGTC
60062	UGP2	GGAGAGGAAGAGAGACCTGCCCTGTAGCGTG
60063	SURF4	CAGGGAGGGGAGGATAAGT
60064	FZD8	TGGCATTGAAGCCTCCCAGACCCAGCC
60065	ENC1	TGTCAATGTTAATCAGCCCCTCA
60066	NELL1	CTCATTCTTGCTAACCTAGTCTA
60067	KRT10	AAAAACAACTTTCTGTTCTCA
60068	GLUL	GGAGAGAAGGTAGGGGTTGG
60069	IREB2	GCCCCAGGTCACAATCATTCT
60070	PEX14	AGCCTCGGGGCCCAAGCCCCTCC
60071	MGAM	AGGAAGAGTCAACTCACTTG
60072	ATRN	GGAAAGGGACAGCCTCCCAT
60073	AIM1	GACAGCCTCAGGTCTTGGGGGC
60074	C5R1	GTGGGTGGATCACCTGAGGTCA
60074	FRDA	GTGGGTGGATCACCTGAGGTCA
60074	NPHP1	GTGGGTGGATCACCTGAGGTCA
60074	PCDH11X	GTGGGTGGATCACCTGAGGTCA
60075	PCDHB8	GGTATCTGTAGAAAACCACAGC
60076	MAP3K14	AGGCAGAGACCCTTTGCCCCTGCCTTT
60077	NFATC1	CCACTCTCTGCTTCATCTAAGA
60078	CBFA2T2	TCCCAGGCTGGAGTGCAATCGCGC
60079	PPP2CA	TATAACTTGAGATTTAAGTCTTTGGG
60080	ZFP161	GCAAACCCACCGGGATGGTGGGG
60081	MNT	CTGCTGCTTCTGCTCCAGCCCCTTTGC
60082	CIT	CTCATAGATGGCCCTGCTTTCCC
60083	CUL3	CGGGGAGGGGACGAGC
60084	ESRRBL1	GAGAAAGTGTATGTAAACTACCT
60085	YWHAB	GTATGTCTTTTAAACAGTTCTAGTTTC
60086	DSCR4	CAAGGCTGAGTAGGTCCACAAA
60087	LIPE	GAGATCTGTGAAGAGAGAGGGCTGG
60088	TGIF	CGAGGGCCGCAGGGAGCCAG
60089	GLUL	AACACTTGTAATTTTGTATCTT
60090	FUT1	GCCCAGGCCAGAGTGCAGTGGCGCG
60091	MADH3	TTTCTCCCTCAACTGAAGGGG
60092	EBAF	ACTCCTCTGGAGACTGAGCCTTGCC
60093	IL2RB	TCAGCAGGGCCCTGGAGAGATG
60094	CST	GACTACAGGCATGTGCCACCAC
60095	HYOU1	TCTCCCACCATGCGATGAGCATCCTT
60096	KLHL3	ACGGGGACCAGAACACTGGTACG
60097	NRCAM	TGGCCCTAAATACTTTCATGTCT
60098	CD86	GAAAACCTGGCTCTAAGGTGGG
60099	SRGAP2	TCGTCACTGGAAACTTCCTCTCTCG
60100	RASD1	TAAGTCAAATCCAACGGCCCGGTGCGC
60101	SLC2A6	CCCTGCTGGGTGACCTCAGGCC
60102	ZNF217	GGGCTTTCAGATTTCTCTTTTTA
60103	MUC3B	GTGTTGCCATTGCCTCTCTC
60104	CDH16	GATCCAGCAGGGGACAGGA
60105	UROS	GTGAGAGCTTCCTGTGCCCAGCAGG

60106 YWHAB ACTGCACTCCAGCCTGGGCAA
60107 STX1A GTCCTGGGCCTCAGCTTCCCTT
60108 ATP1A2 ACAATCAGATTAGACACTATG
60109 KCNMB3 TAAGTCAAACCCTGTTCAGGACGCTGT
60110 CYP4F3 GCGGGGTTTCGCCATGTTACA
60111 STAT6 CTCCAATGCTGCCTGGGAGCCAGGGT
60112 ADORA2B GCCCCAGCCCCGAGGCTCAGA
60113 C7 TTGCCCAGGCTGGAGCGC
60114 LSP1 CCTCCTTTTGCTCCTGGACCC
60115 CPS1 TGGACTTTTCTTTTCTTTTT
60116 PDCD2 GCAGTTTCAGGACTTCATTCA
60117 FSTL3 CCAGCCCCCAGGCAGTGCCTTA
60118 LMAN1 CTGTGTACTTCATCTATTTGTGTAC
60119 BLAME CCACCTACAGTCAGGCCACA
60120 AQP6 GCCACCTTGAGGCAGCCTATCCCAATG
60121 EIF5A2 GCTCTTAGACCTCTCCCATCATGCC
60122 ELL TTTCCCCAGCCTCTCCTCCTTGGGCAG
60123 SLC22A7 GCATCCTCAGCCTCTGGTGG
60124 NCOA6 GGTCTATTGTTCTGGAGTGTACTGTG
60125 IL19 TCCCACTGGCTGGCCTCAGGCT
60126 PIGA TGCTGAAGGGCCAAACGTTTTCTGGGCAT
60127 GLI2 GGACTCCTACAATAATGCTATA
60128 IL2RA GAGCCCAGGAGTTCGAGGCTGC
60129 ATF5 CTGGGAGCTTGGAAACCTGGTCT
60130 MRPL49 GACAGGGGATACAGAAACTAG
60131 RNMT CCCAAAGGAGAGCCAGGATTT
60132 TGT AGGGAGGGAGGGGCTGGAAGAT
60133 TNFRSF14 AGGCGGATTCTCTTTCTCTTTCTCT
60134 CASP7 TGACTTCTGGAGAAAGCTCA
60135 PTTG1IP GGACTTAACGTCCTAACCTCA
60136 VIL2 GGGTTCTGCTCTGACTCCAGG
60137 SMARCD1 CTCTTCCCTCTCCCTGCC
60138 ABCD4 GCCAGGGCAGCCTGATCTCCATGTGGTGG
60139 ARHGEF12 CTTCCTTTTCAGAGAACAGTTA
60140 AMFR GTAACATCTGTTATCAAACTGC
60141 AVPR1A ATAGGGTAATAAATAGCATGCATCAAA
60142 SLC26A4 AATCATGATCACAACTGAGAT
60143 SSPN CCGTAAGTGGATCACTTGCCA
60144 TLR4 CAGCCATGGCCTTCCTCTCCTGC
60145 GRIK3 TGTTCCCCTAGCACAGCTGGGGTGGGG
60146 CNGB3 TCAAATGATATTAAAATACAAG
60147 SRPX TCTCCTGCCGCCCCCGGGAAGCG
60148 SUFU TGGAGCCACTAGGCCTGGCCTC
60149 PXN AGTCAGTGGTTATTTGAAAATTTGATTTTGAT
60150 UBE3A CCAGGACCCGACACACCAGGCT
60151 FUT3 ATCCACTGCTCGCTGCCTCTCC
60152 EIF2S3 CCCGAGTAGCTGAGATTACAGG
60153 RECK ATCAAAGCATCTTGCATTATGCAAT
60154 SEMG2 TGTCACCCGACCTCAGTGAAG
60155 AQP2 CTGGGGAGGGAGGCAGGTGG

60156	NUP153	TTCATTCTCCTATCACCTGTCTTGCCT
60157	D1S155E	TTTAACACCTTCCTCGTGT
60158	SLC22A12	GGAGGTGGGCACACAGGGGCAC
60159	BRF1	TGCCTGTATATTCCACGCTTTG
60160	KCNK6	TCCAGCCTGCGGGACAGAGTG
60161	FGF2	CAGACAGATTAATCCAGAAGCA
60162	ACAT1	GACCAGAAGGCCTGCTGTAATCAG
60163	SLA	TTTCCTGTATCATAAATCC
60164	ACTB	GGCTTGACTCAGGATTTAAAAACTGGA
60165	CUL3	TGCCTTCATTATCAAGTCCAGG
60166	FEZ1	CAAGAAAAGGGATCTGAGAAAA
60167	NOL3	TTCTGACCAGTGACTTACACAA
60168	VAT1	CACCCCATTACCACAGCTGCC
60169	PIK3R3	ACCCCTTCTGTCCTTCCTGCCTGTTTCTCT
60170	SPO11	TGCTGTACTCCAATTTTCTTTGCAA
60171	ELF5	CACTGCACGCTGGTGCTGGGAGCGCCT
60172	RGS16	CAGGACCTGTGAATAAGGGCTA
60173	COX15	GCGTGATCTCAGCTCACTCTG
60174	ADCY1	TAGCCACCTGGCCTAATGCTGTG
60175	CENTD1	GCACTGTCATTGTATGCAAGCATTTT
60176	SIX2	ACGCCGCCTCGTCATACGCCCCTCC
60177	CA14	CTTCAGCCTCTCCAAACATGTAGGAG
60178	ZNF202	AAAATAGGCTGTTACATATCC
60179	TJP1	ACATTTTTCTTAGGGAAGGAT
60180	TCF20	CTGGAAAGACTTTGTTTAAATGAAA
60181	ABCB4	TCCAGCATGCAGTTTCAAGTC
60182	PYGB	GCCCCATGTAGCCCCAGTCATCCT
60183	PELO	AAGGATAGAGGAAGTGCTGCC
60184	GART	GTTTCACCATGTTGCCAAGGC
60185	RIMS1	CATTGCACTCCAGCCTAGATA
60186	TLR9	CCCTGCTCTCTGCCTGAGCTCTGGGCC
60187	CRACC	CAGAAGCAGATGCACCTGA
60188	ADORA1	AGTAATCATTTCTGATGATTTG
60189	LCP2	CCACAGGGTAGCTGGGAGTTGGAAGAGC
60190	CD53	TGTCTCGGCCACCTCA
60191	XK	TACAGGTATCCCAGCTTTG
60192	SDC1	TCTCTGACTTCTGCCTGGAGAC
60193	KCNMB4	AGAGGCTCATCCCTCAGTGGC
60194	UBASH3A	CCTGCAGCATGTACACCGAGTGTC
60195	SYN3	AGACACTGTAGTCAGACCTCA
60196	EMP2	ACCCCCAGCCAGTCCGTCGATCC
60197	SOX1	GGGCGCTGACACCAGACTTGGG
60198	ABL1	GTGACATAGCCTCATGTTCTGT
60199	HM13	CTCCAGCCAGGCCTCTGTGGC
60200	KCNJ12	CACAGGCTCAGGGCAAAGAAGTG
60201	PRKWNK3	AGAGTAGATGGTGATAAAAAGGGAGG
60202	GUCA2A	CCCCAACACTGTCCTTCCCTG
60203	ELMO2	CTTTGTCTATCACTATGGCTGGCCTG
60204	SMT3H1	GGGGTCTGAGGCCCAGGACCCACCCCC
60205	ASH1	CTTGTAACTGCTGCCCCCTCCCTACCTC

60206	ABR	CCCAGCCTGCCTGCATGC
60207	HOXB6	GTGTTTCCCTGTGGGTGGGG
60208	PFKFB3	AAGAGGCCGCTGGGGACACTGTC
60209	NRL	TCTCCTGGGATGACAATTTGCT
60210	GM2A	GAGTGCTCTGTTGTTTACA
60211	CRLF1	AGCTCTGACTCCCACGTGAG
60212	CPD	TTTAGTATTTTTCTTTGTTTTAAA
60213	GPLD1	CCGGTGGGCAATGAGATCATGT
60214	CREB1	TTAGTAAAATGCTGATCAGTAAACCA
60215	DLG4	GGGGGTCGGGTGTCCGGGAGCCAG
60216	SCN4A	TTTCCCACCTCTCTCCCCA
60217	COL19A1	ACTCATGTTAAGTGCAATGGC
60218	GJB1	CTAATCTTAACCCTGTGCTGT
60219	ITGA1	CTTGGTACAGGGTTCATTCA
60220	KIT	TGTCTTGCCATACTTTGTCTGA
60221	RNMT	GGGGTTAGAGAGAGCAAGA
60222	PLP2	TCTCTCTGCAATCTGCAAATAACTCC
60223	HSPA9B	GAAGCCAGAAGGACAACATATGAA
60224	DNCI1	TATCGGGTACTTTAACAATATTTCA
60225	PAFAH1B1	GGCCCGGCGGAGGCGGCGGTGCAGCGC
60226	B3GALT3	TGCACATCAGTAATCTCTTGGACTTTG
60227	PAX5	TTGTCAAGTCAGAACAGCCAGG
60228	GALNT2	GGCTGGGTGGGGTGGGTGTGGGGA
60229	PPARGC1	CCCTTAGGTGAGCTTCAATCTAA
60230	PRKCN	GATAAGAAAACTGAGGCAAGGGGA
60231	SLC16A7	ACACCTGTCGCCAGGTTACTTGA
60232	ADCY1	GGCAGGCCAGGATGGAGCCCA
60233	MLLT7	GGCTGCAGATAACAGAAAGGCTTTTTA
60234	ITIH4	GGAAGGCAACAGTCGCCAGCA
60234	ONECUT1	GGAAGGCAACAGTCGCCAGCA
60235	TLR9	GGGACCCTGTCCTCCTCACTG
60236	LASS1	CTCCACCCCCTCCAACTCTGCT
60237	DAB1	AGGCTCTCTTGTATTCTTTCACCTCTT
60238	SPON1	CCTTGTTCTTGGAGGGACCAT
60239	DR1	CCAAACTCATCCTAAATCTCTCACA
60240	LDB3	CAGACTTCAGACCTTGAACAAA
60241	NAP1L3	TATTTTAAAAATAGTCCTA
60242	DDX6	TTGTGCCCTTGTACCGATGCAGCT
60243	SP1	TGCCTTGATAAATATATATGATCAT
60244	FKRP	CTCTCCAAGCCCCTGTGGGAGG
60245	ANKTM1	TCCATCATCCTGATTAGCATGTTT
60246	SMG1	GGATGCCGCGGAGCACAGAGTGA
60247	CCS	GGAGAGCTCAGTACAGGGCAG
60248	GPR55	GTAGGGAGGGACGGGGAGGGGAGC
60249	PTGER4	ACATGTCACATTTAGCTGTGCTCAG
60250	BMP1	CACAGGTCCCTGAGCCTTGGGGA
60251	ANXA4	TCATGGGAGACTTCCTTCATCAC
60252	PPP1CB	AATCTCAGTATTAAACCACATT
60253	PKD2L1	GCTCCCTCTTCCTCTAGCTGAGA
60254	SLA2	GTGTGAGCCACGGCACCCAGCC

60255	APPL	CTTTTGGAGACTGGAGCTTTCTGTTC
60256	MTR	GCTGTTCTGGTTCCTCCTGGTAGGCT
60257	AVPR1A	GGTTGTTTCCCCTCCTTCCCAGGGCC
60258	SLC22A2	CAATAAAAAATGTTAGCATTATAA
60259	GPRK6	TGGAGAGCGGGACGTGGCAGAGGAG
60260	OTX2	CTAGCCATGTGCAACCAAACACCAC
60261	PCTK1	ATACAGACTGGCTGGGCCCCACCCCC
60262	MOCS1	CGCAGCCCTGCCCTGTCCTGTC
60263	CD80	TGTCATTGCTTTATAGACTGTAAGA
60264	TNFSF9	GAGTCCGAATCCTACTCCAT
60265	CAPN10	CAGGATCCCAGAGCTTCCCAGG
60266	SLC31A1	TTTGAGACTAAATACAGGCTTAGA
60267	ZNF289	GCTGGCCAGGGAAGCAGAGGATGTG
60268	IQGAP1	AAAAGGAGATAATGTTTTTA
60269	MGAT5	GGGGTCTGGCAAACAGGCTGG
60270	NSF	GGCCACAGTGGCACTTGGGTGTGGCTC
60271	PAM	TAGCCCCAGCGCCAGGGCACGCG
60272	DNM2	CCGCGGCGCAGGAGCTTCAGTGGTCTGG
60273	PDE4A	GGCCACAGGCAAGGGGGTTGCAGT
60274	FY	AGCCTCCTAGCTCCCTCTTGTGTCC
60275	SCN3A	GAATTCAACCTGCTCTGTCCA
60276	TRIM39	TACCTCTGAATTCATGAGAG
60277	AIPL1	CTCTCATTCCTTCCGTGCCA
60278	MAFF	TGGACAACATGGTGAAACCCCGTCTCT
60279	CKN1	TGTATGGTCTATTCCTGACAG
60280	SOD3	GCGGCTAGTGCCAGCCACTGTGTTGTC
60281	TNS	GGCTCTCTCCTGGTGCCTGCACCTGC
60282	EMP1	GTCACATACTTCCAGAAGAGC
60283	HOXC6	TCAGCTCTGGACCCCCTCCCTCA
60284	ROBO1	AAACCTAGTAAAACCTTGTTCTATTTT
60285	OCRL	TCTGAAGAGTGAGAGCATTCATGT
60286	HOXA11	CCACACCCTCCCTCTACTGGGAGCCTA
60287	HIP1	CCAACATGGTGAAACCCCCATCT
60288	CBFA2T2	TCTTGCCACCACAAGTCCAC
60289	SLC6A6	GTGGAGCAGAGGTTGTCTCTGA
60290	LU	GCAAGGCAGGGACCCACAGTGGCTGCCT
60291	LIF	TTGTGCCCCCTGGAGCAGTGGGCAA
60292	PPP2R2B	GTAGATGGGTGGAGTCCAGAAAA
60293	FZD4	CACCCAGGCTGGGGCGCAAT
60294	ASTN	TATCATCTGGCACACAACTGTC
60295	RCV1	GGTCTTCAGCTCACACCAGCCTTGAG
60296	POU3F1	CCCCTCTCCCCGCGTGGACT
60297	GPR4	GCAATCAGGGCAGACTGCCT
60298	XK	CGGAGGTCAAGAAAGCAGTATA
60299	RGL	TTAATGCCACTTTAAATGTCTT
60300	PKIG	AGGCTCCCCAGAGGCCTCTGTGGCCTCC
60301	ARPC2	CTTGCCTCCCTTACCCACCCTCA
60302	BMP8	GCACAGATGCCATCATTTCCC
60303	SYNGR1	GGGGAGCGATGAGCTGTGGAGG
60304	KCNMA1	TGGTTCTGCATGACCTAGCC

60305	POLL	TTGAAGCCCCAGGTATCCCCCTTCC
60306	ZNF236	TCCACCTGGAGGAGGTGGTGC
60307	OPHN1	GCAAGTTAGAGAATCTGGCAATGGAT
60308	CYP2B6	TCTGTAGACAATGGCTCTGACTCCCCG
60309	ATP1B2	GACTACAGGCATGTGCCACCAT
60310	WRN	GTTGCAGGCCCTGCTTGTGGT
60311	MGAT5	CGCAGACGCACACTTCCCCCTTCATAAT
60312	DTNA	TGGCTCACCAAAATGTGCTCAA
60313	MGEA5	CTTGCATGTTTGTATCTAATTTCT
60314	DUSP5	TGCCCAGTCCTTGCACCTCAGAGT
60315	AIM1	TCTCAGGCTGGAGTGCAGTGGC
60316	PDE4C	CTCATCTACTTCGGGCCAGCTT
60317	PTGS1	AAAATACCCATTGCCCCAGACCTGG
60318	DUT	AACTCATATGATCTCCCTTCA
60319	HMGCL	TCTCCTCTCTGGATGGAATCC
60320	MLLT7	GTGCTAGATTGGAGTGGGGAAGT
60321	HSPA4	CCTGTCATGCTTCAAGAGTTCCAGCT
60322	SOX11	AGACACAAGCTCATAATGTT
60323	TAL1	TGACCATAACCACTGAAGGGAAT
60324	MAP3K7	ACTTGAATGAGCAGCACTTTGC
60325	GALR1	GACCCCTGGCCACCCCCGGC
60326	ADCY1	CATTGCACTCCAGCCTGGGCGA
60326	BRCA1	CATTGCACTCCAGCCTGGGCGA
60326	CREB1	CATTGCACTCCAGCCTGGGCGA
60326	RFC2	CATTGCACTCCAGCCTGGGCGA
60327	ANKH	CATCGCACTCCAGCCTGGGTGA
60328	FEZ1	GTGTGCGCCACCATGCCCGACT
60329	FMOD	ACAGAAGTCCACGGGCACCCT
60330	IL13	GGCTGCTAGCACTTGG
60331	MCM4	TTGAGGCAGGAGAATCGCTTAAACCCA
60332	HR	AGGATGAGGCAGGGCAGACACA
60333	MGAT4B	CTAATTCCCCTGGTTTTCTCCC
60334	PDE6H	GCTGATAGGAACAACATTCAGCTC
60335	DYRK1A	TACAGTCTCAGATTCCTGGGC
60336	LANCL1	AGAGGTAAACATACTTTCA
60337	SLC35A2	GTTCTCTCTTCTTGCCCTTGGCCCAG
60338	GPR85	AAGCTGCCTGACTCCACCTAGCT
60339	P53AIP1	TCACAGTCTGCTTCCATTTCCTCTCA
60340	ATP1A2	AAGATGGGGAGCTCTGGAGGTGT
60341	APPBP2	TATGTAGAAGCCTAGGATCACAGGGTG
60342	BCL9	CACATTTTCTCTGTTTCTCTCTCCG
60343	HOXB3	GGGGGAAAAAATTTGGAACCATA
60344	SLC29A2	TCATCCACTTGGAGTGCTGCGGGGA
60345	BENE	CCAAGGCTGGAGTGCAGTGACGCGA
60346	STAR	CTTGAGAGAAGAGGCAGCAGC
60347	PRX	CCTGGAGCCCAGGTTGCAGGTGG
60348	ISLR	CTCTCCTCTCAGGGGCAGCATGCT
60349	FBXL11	CTCTGCTCTCCTGTCCCTTGAGCC
60350	PTGIS	TTCACACCATTCTCCTGCCTCAGCCT
60350	YES1	TTCACACCATTCTCCTGCCTCAGCCT

60351	ADH1B	GTGTTTTTATGACTTTTATACTAT
60352	PIK3R1	GTTCCTAAGCTGGAGTGCTTA
60353	JJAZ1	AAGAACATTTGTTTTTACATTA
60354	ALDH1A3	ACAGAATCAATAGCCCAGAGAG
60355	GPC1	AGCTGCACTGCAGGGCACGGGGA
60356	IL6R	CTCTCCTCCCTTTCTTCCCTACAGTTG
60357	RORB	GAGCAGCTTCATGACTACGCGGAG
60358	FKBP6	ATGGACGCGGCTGAAACGTGTT
60359	ADCY1	CAAGCAGAGCTGGGTGGGCTGAGACC
60360	GAS7	TCTGCTCTCCTCTATTCTCCA
60361	HOXC13	GAGGAAAGCTAGAGGATCTAGTTC
60362	SLC15A1	TGCCCTGACCTCTGCCCCCAGGTAG
60363	HS2ST1	GGACATTTTCCAAGCTGACTCAG
60364	NSF	ATCCTGTGATTCCTGGTGGCCAGTAT
60365	ZNF207	CACAGCATTTCAGATGCTG
60366	HOXB7	TGAAAAAATACTACCTATAGGAA
60367	RRM2B	GGCTAGAATAGCATTTT
60368	SIM2	TGGAGGCTGAGATAGGAGGATCA
60369	RABIF	GAAGGTGAGAAGCAGATTTTA
60370	PIK3R3	TACAACATAATTTAGGCTTC
60371	PPP1R12B	CTGGTGGCAACAGCTCA
60372	CMAR	TCAGTAGTCCCTGCACAGTGAC
60372	SPG7	TCAGTAGTCCCTGCACAGTGAC
60373	CEBPE	GGGCGTGGGGGGTTGCAGCTGG
60374	CLECSF12	CTCGGCCTCCCAAGTGCTGGG
60375	GPR87	CTTCCCTGCTGACCTTAGTTTCAAAG
60376	SYNGR1	CTACTTCTCCCTTGCTCCCAAAG
60377	RBM6	GGAGGCTGAGGAGAAGGAGGAGCG
60378	DPYSL3	TCTCCAATGTTACGCTCGCTTGCCTAG
60379	TLR9	GACTCATGGGACCCTGTCCTCC
60380	HEXA	CACAGCCAGGCTGGAGTCAGTG
60381	PTPN11	GCCATGGCCATGGCAACATGCTCAG
60382	SUV39H1	CCCAGAATATATTTGTTTTTGCACCTG
60383	DLG5	TCTGGCTGAAGATTTGATGTGGTTC
60384	ADCY1	CGATAACCACAGGGGAAGGGCA
60385	PPP1R3C	TTTAACATGTGTGATGTGCCA
60386	PIK3CD	GCCCAGGCTGGAGTGCAGTGGTGCA
60386	UGDH	GCCCAGGCTGGAGTGCAGTGGTGCA
60387	PRKWNK3	ACCCAGGTTGGAGTGCAGTGGTGTG
60388	SLC39A1	GCCCAGGCTGGAGTGCGGTGGTGCG
60389	RFC1	GGGCTTTGGAGTCAGATTTTAGT
60390	TGM2	GTAGAGAGGGGACTGGGGGACTGGGAG
60391	PTGER2	TTTTATTTAGGGGAACATGGTT
60392	BIN3	ATGCATCCTGGCCCACGGCCTGAGCAA
60393	CBR1	TCGAGCAGTCTCTGGAACAC
60394	DSC1	AGATTGCCACTGCACTCCAGC
60395	CSNK1A1	AACTATACTGCTTTGAGATC
60396	HPS4	CCCTCTATTTTATTTTTCTTG
60397	FAAH	ACCTTGTGATTTGTACTGTTTGCTGC
60398	HTR2A	CTCAGGTTTCCGGCTACTGA

60399	B3GNT3	CGAGCTGAGAGGAGCAGGTAG
60400	ALDH3B1	CTAAGGCAGGAGAATCGCTTGA
60400	IAPP	CTAAGGCAGGAGAATCGCTTGA
60401	RALBP1	GAGGAGTTGGTTGAGGCACTTCTTCAA
60402	HDAC8	GCAGACTGGGAGGTGGGGAGA
60403	PBX2	AGGGGTGATAGCCAAAGGGGTT
60404	MSX2	TACATTTTTATACAGCAGA
60405	PON1	ACTGCAACTTCTACCTCCGAGG
60406	APLP1	GCCGGGCCGGGCGGGAGTGCAGG
60407	KCND3	TCTGCGAGGTGTTTACACTGGAGGTGG
60408	PAG	AGTCTCTCATAAGCACT
60409	SP4	ATTCAGTCAGTAATAATTTACGTGTAT
60410	HD	GTCCACCCTCATTTCTGCC
60411	NHLH1	GGCAAGGGAAGAGACCCCCAA
60412	PCDH12	CAGCAGCCGCCTTGCTGCGTGGA
60413	PTPRN	CCTCCTCCCACCACCCTCCCAC
60414	PPP3CA	AATGTATGTATACTGGCGTACT
60415	ASB2	GCTCACATCCTCCTGGGTGA
60416	LZTS1	TCTGTCCCCCAGGCTGGAGTGCAGT
60416	RPP30	TCTGTCCCCCAGGCTGGAGTGCAGT
60417	NOS2A	AGTGACATAAGTGACCTGCTTTGT
60418	PRKWNK3	ACTGCTGCTGTTTTACGATTTC
60419	STAT4	AAGTCCCAGAGACTCGAACACTGA
60420	PLCB2	TGCCCCCATCCCACT
60421	KIF5A	CCACGGCTGCATACCTGCACT
60422	PCDHB16	TCTCAACAGCATTAAACAGTCAATAAC
60423	ADAM20	TCAGCACTGCAGCTCTGA
60424	MTAP	TTCCTATACTGCCAA
60425	PCTK1	TCTGCCTGCTTTCCTGCCTGCCCCACCTG
60426	MAPRE1	TCATTCCTTAACTCTCCCTCA
60427	FVT1	CAATAACCATGATGACCTGAA
60428	RPA2	GGCTTCTAGGAAGTAGGTTTCATCTATC
60429	LIMK1	GCTCCCTGCCCCTCCTCATGCCC
60430	KCNQ2	ACACAGCCGTCTGAGCAGGGCAGGTGC
60431	AVPR1A	CTGGGGCCTGAAAGTGATGA
60432	ERCC5	GGGGAAGAAAAAGGAAAACCTATTAAAAAA
60433	MEIS2	CCATGAATTCTTCTTTTCTCAGC
60434	DNAH9	TCCACTTGGATACCAGCACCC
60435	NCOA6IP	GTTGCCCAGGCTGGTGTCAAACTCCTG
60436	CELSR2	TGTCTTCTCCCCTCAGCAATTCC
60437	LDB2	ATTTTCTGCTTTTTGACTTGCATCTG
60438	DAP3	TATTCCCTTGTTCCTAAAAC
60439	CHAC	GGTTTGCTTACTCTACAGTTAT
60440	FCGR2A	GCTCACTGCAAACCCGCCTCC
60441	SNCB	TCCTGTTCCACTCCGGCCTTCCTAGCGG
60442	PER2	GTCTCGAACTCCTGACCTCAAGCGATC
60443	CRYAB	ACCCCTCACACTCACCTAGCCA
60444	RAP1B	ACTGCTAAGAGACATTCTTCATCCAC
60445	DIAPH2	TTATTTAGATTTCAAAGGCAAA
60446	SLC4A1AP	AGGGAACCATATGTTTTGAGA

60447	RAD52	GCGAAGAGACAAGATCTTGA
60448	IGFBP4	GCACCATCTGCTTGGTTGGCTGG
60449	RYR2	TCATTCAGCTAAATTCACATTTGCC
60450	MTAP	TTAGAGACTCCTGAATGATTTAGACAA
60451	ASH1	TTGTCTCTCCTTTCTTGCC
60452	FBXW1B	GCCTGCAGGGCAGGTCAGGCTG
60453	CCNDBP1	GAGGCCTGTGTTTGCGGCCTT
60454	BACE	AAGTATTCTTCTTTTCTTA
60455	HELZ	GCTATTTGGGTGATACCCAGTG
60456	TACSTD2	GCCTTCCCCCTCCCTTTTGCGCAC
60457	FACL3	GTAGCTTACTGTCAAAATGTTCAATGA
60458	ANK1	GCTGTTCCCTGTCCTGCCT
60459	MMP11	CTTTCCTCTGCCATGGCTTGGATGCC
60460	CHST5	ACCAGCCTGGCCAACATAGTG
60461	CD86	TTGTGTACCTGTGACTAAACAA
60462	RTDR1	GGGCTGCGGAGGCAGTGAG
60463	CAPN5	CCACCATCTGCATGTCCCCA
60464	MAML1	CCCTCGGGGGCATGGCGCG
60465	SLC13A3	TTCTCTCTCTTTCATGCAGTTCA
60466	PAX2	ATCCTCCTCCCTGACTCGCAG
60467	LAD1	CACATCCCAGAGGCCATTCCCGGGTCG
60468	JAK2	GCAATGTTAAAGATGCACAGAA
60469	NKTR	GGCATTTTCAAATTCTGCCTACC
60470	AK1	ATTGCGCCACTGCACTCCAGCCT
60470	DFFA	ATTGCGCCACTGCACTCCAGCCT
60470	KCNA7	ATTGCGCCACTGCACTCCAGCCT
60470	MGAT2	ATTGCGCCACTGCACTCCAGCCT
60470	SRGAP1	ATTGCGCCACTGCACTCCAGCCT
60470	TSNAX	ATTGCGCCACTGCACTCCAGCCT
60471	NHLH1	CCATGCTGCTGATCCCCACCTGCGC
60472	ADAMTS13	CCCTGGCAGGAAGCTTCCAAGAGTAAAC
60473	SSX4	TGTATCCATGCACCTACCTCA
60474	MRPL49	TTGCCCAGGGTGGAGTGCAGTG
60475	TP53	TTGCCCAGGCTGGAGTGGAGTG
60476	MT1G	GTGCAGCTGCTGCGCCTGTGTC
60477	FCMD	GTACATTTTATATTTTCTGAATTTAT
60478	TK1	TCGCCCAGGCTGGAGCTGGCCCC
60479	ESR1	TGGGCACTGTACTTGGATCTTCCCG
60480	NR3C2	ACTAAATAAACTACTTTGAATAG
60481	FGFRL1	GCCTTGACACACACATGCACGG
60482	HSPA5	TGCCAACATGGTGAAACTCCA
60483	GPC4	TTAGCTAGCCCACCCTGTGCTA
60484	VAPB	GCACACACATACACAGATACAC
60485	GGA3	CTGGTCCCGTCACTCTCCATGC
60486	CPT2	AGAAGTGCCTCAGGAGTCCT
60487	SURF5	AAAATCAAGATTCAGTCCAGCAGATG
60488	DPYSL3	GAAGAAGGAGGGAGGGAGCCAG
60489	GJB3	GGAGTCAGATCATAAGGCTCCA
60490	GTF2I	GCTATCTCTCATGGTTCC
60491	SOX12	TGCCCCTCCCCCGCAGACACA

60492	ED1	GGATGATAAAGGAAATAGGATC
60493	GNS	TGGTCTCTTCCTTTAGCTGACAAGGACA
60494	ZNF255	CCAACTTGTAGCTTTTTATCCCTTACC
60495	DUT	GTGACCTGATGTAAACAGTGT
60496	CD28	TTTTCTCGAGTGACTAGACCAAA
60497	PCDH7	AGCTATGTTATTTACAA
60498	PARK2	ATAAAGTGCCTATAAAGGAAACACGTT
60499	SOX8	GGGGTGGCAGGGGCCTTGCAGGGCGC
60500	FZD4	CCACCACACCTGGCCTGGAAGG
60501	KCNK5	CAGAGCCCACCTCCCCAACATGTGAA
60502	SOD1	AGCTGTAGAAATGTATCCTGATA
60503	CEP2	CACACCTACAGGTTTGCCAAAGGAA
60504	PAP	GACTCCTGATTGCCTCCTCAAGTCGC
60505	GGT1	GTCATCCAGGCTGGACAGTTCAG
60505	GGT2	GTCATCCAGGCTGGACAGTTCAG
60506	SERPINE1	CAGAAATGCAAGGGGCTGCATG
60507	CCND2	GATCCTCCCTCCCCTTCAAG
60508	SSTR3	GGCCTCCCTGAACTGTTAGGGCTGTG
60509	PPP1R3A	AACACAGCTGAACTATTTCAGTGTCA
60510	MAPK9	GGAAATCAGTATTTAAATGCCAAA
60511	BPHL	AGACCAGCTTGTGCAATATAGG
60512	GRM4	TTCTCCTCTGCTTCATTCTCGT
60513	AIM1	GGTGCTCTTGTCACAGGTAGAACAG
60514	FGFR1	CCCTGTGTCCTGAGTTACGTAC
60515	PIM1	GGTGCCATGGAAGAGGCTACAGGGC
60516	KRTHB1	ACCTGCGGATCAGGATTT
60517	DNAJB1	TTGCTTCTGATTACAGGAGCACTGTGG
60518	TGFB3	GGCCCCAGACGCATAGACTGAGGTA
60519	ALAS1	ATCTGCTCAGGCCTGGCATGACCTCA
60520	OLFM1	GTGTTTCTCCCTTTCGAGCC
60521	SLC21A9	CCTGCTGTGGCTCACCTGCTGC
60522	AQP3	CTGGGAGGAGGGGGCCACAGCTTAGGT
60523	BHMT2	GCCTGTAATCCCAGCTACTCGGG
60523	GP2	GCCTGTAATCCCAGCTACTCGGG
60523	IL13RA1	GCCTGTAATCCCAGCTACTCGGG
60523	MCM4	GCCTGTAATCCCAGCTACTCGGG
60523	RPN1	GCCTGTAATCCCAGCTACTCGGG
60524	BMP8	GCCTATAATCCCAGCTACTCAGG
60525	OPA3	GCCTGTAATCCTAGCTACTTGGG
60526	ZHX1	CAGCCTATTTATATATGTTGA
60527	SLC6A3	TTTACAAGAATAATTAGCAATA
60528	DYRK1A	GTCCCGGCTGAAGTGCAGT
60529	CNTNAP2	TGCCTAACTTATTGGAGCAC
60530	KCNK4	TTCTGCTCTCCCCGGCATGCC
60531	SLC2A1	GACTCCTGCCCTGTTGTGTATAGATG
60532	MINPP1	ATAATTCCTTTTTACTTCTA
60533	HSD11B1	GCCAGCTCCCTGTCGGATGGCTT
60534	KCNJ10	ATATCTATCCTGGATTCTGA
60535	HSD11B2	ACCCCCACTTCATGCCCACTGCC
60536	SH2D1A	TACAGGGCTCACAGAATTCATT

60537	CRH	GGGAGAGAGGGAGAGAGCCTA
60538	AKR1B1	GCCTGTGTCACTCAGCAGTG
60539	PIK4CB	GTCATTTCCAGGTTTTCTGGGGG
60540	ILF1	TGGATTTCATTTGGGGCAAAGAAACAA
60541	IGF1	AACTATACATCATTTTTGCCCTCTGCC
60542	ATRX	AAGACTTGCCTTTGTTTCTGTTAGACT
60543	DVL3	CGTCTGTAATCCCAGCACTTT
60544	FUT3	CGCCTGTAATTCCAGCACTTT
60544	LILRB1	CGCCTGTAATTCCAGCACTTT
60544	PCDH11Y	CGCCTGTAATTCCAGCACTTT
60545	TSN	GCCATCCACACCCAGGCATAGCCTG
60546	TFE3	GGGGAAGAGGAGATGTGATCAG
60547	RHO	GGAGCAGTTGTTTTTCCCTCCCTGGGCCT
60548	TFRC	TCGGGAACAGTGTTTCCCAT
60549	GPR61	TCACCCCGGCTGGAGTCATGTGGGCCG
60550	THBS1	AAGGAACAACAATAAATCATATG
60551	PCSK2	CCCTCCAGCCAGATGCTGG
60552	GFRA1	GGGCTGTAAAGCAAACTGGGGCTGTGT
60553	IRAK1	GGGAGAGAAGGAGGTGGCCCTGCTGTT
60554	EN2	TCCATGCTCACCAGCAGCCGCCCAGG
60555	DAAM1	TGGCAATTTTTTCCTTCATCTG
60556	PPP4R1	AGCTCTGAGGTGCAACTTCTTCAC
60557	MTNR1B	GGAGATGCTCACAGGCCACAG
60558	PPP1R12B	TTCAGGAGGCCGAGGTGGACAGAT
60559	HOXA10	CTGGAGTGCTGTGCTGTGTTTAATCAG
60560	CTSK	TGACTTCTCACTTCCTAAG
60561	RBM8A	TTAGAAAATATACTGTAATTCA
60562	PTGFRN	GAAACCCAGCAATTTGCTGTTATG
60563	MTP	GGCTTTTAAAAGACTTGTTAG
60564	RIG	TCTGACATTGAATAGAAAACAGCTC
60565	IL6R	CTTTGGGTTGCAGGACCTCAGGTGAGAAG
60566	HM13	TGCACACTGTAGATGACTAGGA
60567	ZNF76	TATGGCAGAGAGGCAGGGAGT
60568	HPSE	AAACTATCTATTTGCACCTTA
60569	SERPINA4	TGCCGCCTGAGAGTGCAGAGGATGC
60570	ALPP	CTCTGCTCTCCTGGGAGACAAAGCAAT
60571	ENTPD1	AGCTTCCTTGGCTTTTACTGAA
60572	PMX1	AAATGTCCTTGAGTTTGGAGCC
60573	SMG1	GTAGACAATGCAAAATTTGTA
60574	EGR4	TAACTGCACACGCCCCACGCCTTC
60575	BSN	AGGACAGCATGGTCCTGCCCTGTTGTC
60576	POU4F1	CACTACCAGTCTCCCAAATAGAAA
60577	CDKN2B	AGGGAAAGTGCATATGAA
60578	LRRC2	AAGGCCCAGGCTGGGGTTCAG
60579	ARHA	GGCACTCAGTCTCTCTTCTCTCCA
60580	FANCC	GTGGAGGCGGCCTTGCGGTG
60581	HUS1	ACCCAGACTGGAGTGCAGTGCC
60582	SFRP5	TACTGGCACAAGGCCTAAGGGAT
60583	SEPN1	CCTGGCAGAGGAAGAAGGAAGGCA
60584	ED1	TGCTGCTGTGGAGTGAGGTG

60585	TJP1	TATGGCCCTGGCCTAGCATACGTACA
60586	NPHS2	CCGCGCTGCTGCTCCAGCCGCCC
60587	SLC2A2	AAGGGAACCGTCTGTTTTT
60588	CHAD	TCTGTTCTCTTTCCCTGCCAC
60589	DYSF	GGTGAAGCCCTTCAGCTGGG
60590	ADARB1	TAGGTTGTAACAGTCTCTCC
60591	TOP3B	TCACCCAGGCTGCAGTGCCATGCAGA
60592	MAF	CCGCTGGCCACCCAGCACAGCCCG
60593	ATP1A2	GCCTGTAATCTCAGCTACTCAGGAGG
60594	PRSS11	AAGTTGCCTCTTTTAGGAATCTCTTTGG
60595	ZNF189	GGTTCAGAGCATGGGTGCTCT
60596	TIMP3	CATTCCCCCGCTGGTTCCACCA
60597	MMP25	TCACTCAGGGTGGGGTCAGGAATCTG
60598	PPIC	GCTGTCCCAGAGCCTGTGT
60599	CBFA2T2	TTCAAGCGAGTCTCCTGCCTCA
60600	IBSP	CACCAGTGAGCTCCAGCCTG
60601	FOXI1	ACTGGCCACACTTACTATTGACAGTCA
60602	PATE	AGAATCAGATCTGTTTGGGGCTGG
60603	GADD45G	AGGCTAGGACGTTGGCCTCAGGGCCAG
60604	SURF4	AAATCAGCTTGGATTGGTGCC
60605	GNAZ	AGACCTCCAGCCACTCACAGCTCTTTT
60606	PTPRO	AACCAGTTGCTGTTTCTTCCCA
60607	RNMT	TTTGCTGTCTGTGACAGATGAA
60608	TARBP2	GTGAAGAGGAGCAAGGCTCCG
60609	RAD54L	TGATCCTGGTTTCCACCTCCAGCC
60610	OGT	AGACTTGCTTCCTGCATGGTAGGGAG
60611	CNP	CTGCAGCCTCGAACTCCTGGGC
60612	PRX	AAAAGTGCCCGAGGCAGCCCT
60613	RXRA	GTGACATCTTCATCTGCTCT
60614	PER2	TTTGGCAAACCAACAGCTTTGG
60615	ZNF16	TCTCACTGCCACTGCTCTTGCCTC
60616	NOS1	TGCCACTGCTTTCATTGAAGACCC
60617	CRTAP	CCGCCTCTTGGGTTCAAGCAAT
60618	PPT2	CTGGAGGGAGAGCGGGGGGCCTCAGT
60619	SMCY	CTTCAATTTTTGTTTGTTTTTTGT
60620	CDKN2C	TTAATGTCATTTGTTAAAATAC
60621	PCBD	GGGGTGACTGAACTGGGAG
60622	FLNB	TCCTAGACTGGACTCTTGAGGGA
60623	SIRT2	CCCCAAAACTGGGGTCCCAGCAACCCT
60624	SNRPN	GCATTCTTAGCTGAGACACCAAGA
60625	GPR81	GTGTCCCAGGCTGGAGTGCAGTG
60626	IRAK4	TGGCTCATACCTGTAAATCCCAG
60627	TFDP2	AAGTCCCCAGGAGAGGGGAGCTGTGT
60628	SURF5	GCTTTTTGCAAGAGGAGGGGGACCAGC
60629	IL1R1	AGAATTACAAGTAGAATGGCA
60630	DEF6	ACCATAAACAGTCCAGG
60631	SYNGR1	TGTCCCACTGAGGTCCAGGGTA
60632	PIAS3	GCTCTATTTCTTCTTCACATCCATTG
60633	PARG	TCTAAACTCCCTCCATCCTGACTCAC
60634	KCNQ2	CCTCTGGCTGTCTGCACTTTTGTT

60635	CXCL16	TCCCACCCTCCCTCCTTAGCAGGTGCC
60636	PHF1	CCTGACCTCTGACCTCACC
60637	DSC3	TTTCATTTTTCTCCTCACTGC
60638	TMPRSS2	GCCAAGCAGGCTGGTTTGCAAG
60639	MAP3K7IP1	GGCATAGGAGAAGGGTCGGGCCAG
60640	BRCA1	CAAGATCATACCACGGCACTCC
60641	VIPR2	TGTGTGCCAAGCCCTGGCCCC
60642	SLC4A1	TTCCTCTTCTGTAAAATGGGTA
60643	FCAR	AGGCTGGAGTGCAGTGGCACGAT
60643	FHL2	AGGCTGGAGTGCAGTGGCACGAT
60643	GRM6	AGGCTGGAGTGCAGTGGCACGAT
60643	MEFV	AGGCTGGAGTGCAGTGGCACGAT
60643	ORC1L	AGGCTGGAGTGCAGTGGCACGAT
60643	TAPBP	AGGCTGGAGTGCAGTGGCACGAT
60643	ZNF264	AGGCTGGAGTGCAGTGGCACGAT
60644	NONO	AGGCTGGAGTGTAGTGGCATGAT
60644	PIK3C2B	AGGCTGGAGTGTAGTGGCATGAT
60644	SERPINB9	AGGCTGGAGTGTAGTGGCATGAT
60645	CYP1A1	AGACTCTGTCTACCTGGTCTGGT
60646	IGF1	TCAGATCTTTCTAGTCACCTTAGA
60647	SEL1L	TTCACCAGCCTGTATCTTGTCTGAGAC
60648	GNAS	ACTACTGCTACCCTCATTTCACCTGC
60649	ITGA1	CCTAAAAATTTTCCCTCCCTGCCCA
60650	SLA2	GCTCACTGCAACCTCCATCTCC
60651	ALPL	TGCATCTCTGGGCTCCAGGGAT
60652	DCX	TTGAGATACAGGTTTATAACA
60653	MECP2	GGGAGCTGGAGTCCACTGGGGTGG
60654	CYP2B6	CCATGCCTGGCTAATTTTCTTGTAGT
60655	KIF1B	AGACCAGCCTGGCCAATGTGATGAAAC
60656	CNTNAP2	CAGATGTTATGATTTGTTTGCTCT
60657	MAPT	TCTGGTTGCTTTGGCCTGCTGC
60658	HIS1	CTGTCCTCTGCTGAGGCTACGGCC
60659	GJB3	ATAACTGCAACTTCACAGTAT
60660	SHOX	TTACTGACATGGAGTGAAGTG
60661	USP1	TAAAACACGGGGGTCCTGAGACTGAG
60662	IL8	ATACTCCCAGTCTTGTCA
60663	EMP1	TAGTATGTTATTCCTGGTTAA
60664	PRX	GGTGCAGCTGCCGAAAGTGCC
60665	HK2	CATCCGTGAGGCTGGACAGCGATAAACCCCT
60666	ATF5	GCTTATGCTTGTAATCCCAGCA
60667	KRT9	GGACTGAACTGACTTGGCATATGTGCT
60668	SOST	TGCTGAGAAACTGCAGAGCATAAT
60669	GCN1L1	CAGCTCTGGCAGTTCCCAAGTCTGG
60670	GRAF	TGTGAGCTCTGGTGTCAC
60671	RARB	TACATCCCAAAGAAACAGGCAT
60672	PPYR1	TTCATTCTGGTGACACAGCA
60673	HPS3	ATGCAGTTAAGGCTGGGCAGAAATTCT
60674	MAP3K14	GAAACAAAACAGGGATCTTTT
60675	PPARGC1	CATATTTAGAAGCTGAACTTA
60676	SLC4A4	TCATTGAGCTTCATTGCAGCCT

60677	ITGB3	CCTTTTGCCATCCCCTCAACCCAGC
60678	ADAMTS1	TCCGGGAGCTTCGGCTGTAGCCGGCT
60679	SERPINB6	CTCTCCTCTCTGTCCCCTGACACTCC
60680	PNUTL1	GCCCCCAGCTGACCCTAATTTATTCTC
60681	NCOA6	GCTCTGTCACCGAGGCTGGAGTGCAGT
60682	ZNF24	CTCACCATTATGATATTTATCTTGAAA
60683	HRG	TTAGTAGTTAATTCTGTCACTCA
60684	PSD	CTGGTTTCCCCTCCTTCCTCC
60685	MNT	GGTCCTGGACACCTCCCAGGGGA
60686	IRF2	AAAAAGCTTTTATGAGCTC
60687	FGF7	GCCTTTTAAAAATGTTCTTT
60688	PPP2R5B	CACTGTCCTGGGTGCACAC
60689	GBA	GTGCCCAGGGCTGGAGGCCCCT
60690	RGS16	AACAAGGCAGAAAAGGATCC
60691	PTEN	GTCTTCTCCCCATTCCGCTGCC
60692	TH1L	ACGGAGTTTATAGCTCACTGCAA
60693	SORBS1	CCCATTCCCTGCCCACCAGAA
60694	KLK10	CTTAGACATGTTGTGAGGAGACTATGA
60695	ITGAV	CAAAAGTAATGGGTCTTGG
60696	ADCY1	TGGCAAAAATGGGCAGTAGGGGAAAT
60697	TEX15	GGGAAGGTCAAGCAAAGAACTGTAACC
60698	RAB7L1	TCTACTAAAAATAAGAAAAAT
60699	IL15	AACCTATAGTTATATAATCTGACTCTC
60700	RASA1	TCTGCTATTTCTCTTGCTGGA
60701	DAD1	ACATTTATTAATCCAGCCTCTGCCTTT
60702	PFKL	TGGCACCTCACCTCACACCTGCTCCCTG
60703	ALDH3A2	ACCCTGTCTCCGAAACAAATA
60704	IGF2R	ATTTTAATTCTCTCCCCCTA
60705	TUFT1	GCCTCCCTTCTGTTGTAGACTGGACTC
60706	CST	GTGTCATCCAGAGCTGGAGTGCAGCG
60707	CYP4F3	TGTTGCCCAGGCTGGAGTGCGG
60707	HMG20A	TGTTGCCCAGGCTGGAGTGCGG
60707	SLC39A1	TGTTGCCCAGGCTGGAGTGCGG
60708	SERPINB9	TGTCACCCAGGCTGGAGTGTAG
60709	SMAC	AGCTCACTGCAACCTGTGCCT
60710	CALM3	CTCTCTCTTCAACACTCCCCTG
60711	AQP6	TGTTACCCAGGCTGGAGTGCAG
60711	CLECSF12	TGTTACCCAGGCTGGAGTGCAG
60711	FCGR2A	TGTTACCCAGGCTGGAGTGCAG
60711	MDM2	TGTTACCCAGGCTGGAGTGCAG
60711	NQO1	TGTTACCCAGGCTGGAGTGCAG
60712	CYP1A2	TGTCACCCAGGTTGGAGTGCAG
60712	PRKWNK3	TGTCACCCAGGTTGGAGTGCAG
60713	PTK2	TTTGTAGCAATGTTATTTCTCTTGGA
60714	NXF5	GCTGCCAGGAGAATGATGGAA
60715	SCD	AACTAGAAGGCTTCTCTCCA
60716	ATP11A	GCAGGCAAGGAGGGGGGTCACAGGCC
60717	CASP10	TCATGTCTCACTTCACAGCCCT
60718	PYGO2	GACTTACCCAACTCCTTCCCCCTCAG
60719	SLC21A9	CTTCCTGGCCCTGTGCTGGGGGTGGG

60720	ABCA1	ATCAGTTGACAGAATGGTGCC
60721	DCK	CTTACTTCCTGCCTCAGTCTGCTTT
60722	UBE2B	CAAATATTGAATGCCTTA
60723	PRKR	ACTGCAACTTCTGCCTCTTGGG
60724	SHMT2	CTGGGAAATGAGGCCCACAGACTCAAAGTTA
60725	TAF1A	AGCTAGAGAAACAATATTACTGCCTTT
60726	DUSP4	GCATCAAACAGCACAGCTCTGGGGGATGT
60727	FXYD6	TCCCTGCAATTGGGTCTCTGGCA
60728	NOVA1	GTCCAGGCCATTTGACACACCATCT
60729	IL18R1	TGTAGAGAAGCATACTGGAGAAGCATA
60730	CDKN2D	TTCTTCTGCGCCTCAGGCTGCTGGGGCC
60731	RAB36	CCTGGTCCACTAAATGCAGCCT
60732	ALDH1A3	CTTCCCTTCATCAGCTA
60733	BCL2L2	CCCTGCCTGTGGTCCTGAGCACTGAT
60734	NKTR	TTACATAGAGTCTTGTACATAT
60735	SURF6	CTGCCTGTTCCCCACTGCCTGTGTT
60736	MYH9	GACAGACACCACAGCCTCCCCTTCC
60737	EXTL1	CCCTGGCCTCTGCACTGTGATA
60738	RAP2A	CTTGCAGAATGCGTGGTGTTAAT
60739	PML	ACCCCAAGCCTCTCCACTAGGCCTCT
60740	FSTL3	GCATGACTGCTTTTCTCAGC
60741	RAMP2	CCCACCACAGATCCCTGGATTGCTGGGA
60742	DGKI	CACCACTGCAATCCAGCCTGGG
60743	CDS2	GTTGCCCAGGTCAGGAGTGTTTT
60744	FMNL	GGAGGAGCTGGAGGAGAAGGGGTTA
60745	HOXA10	CCGATGGCTGTGACAATGTGGT
60746	TSN	TCTTAAAAGTGCCCATGATGGTCA
60747	SET7	TACTACATCTTTATTCTCT
60748	PSMD9	GTCTCGAACTCCTGGGCTCAAGCAGTC
60749	ADD1	GAAGGCTTCTGCAGCTTTGG
60750	MADH1	TTGACCTCTGTGACCAACTGTTGGATT
60751	GALNS	GGCCTCGGTCCTCCCCCAAC
60752	COL6A3	GTCTTCCACCAAAGGCCGTTCA
60753	BSN	CTTCTCCATACCCCTCTCCCCAGCA
60754	NOS1	AGTGGTTTCCTCGGCCCTCCTGGGTT
60755	DSCR3	ATGTATGTTTGCTCCTGTTGTTA
60756	CBFA2T2	TGGTCTCAAACCCCGGACCTCA
60757	TTF1	GGGTTGGGAGAAAGGTGGCGG
60758	GALGT	CCTCTCCCACAGCCAGTGCCAAGTCCT
60759	EDAR	GGTTTGACATAACATTTAT
60760	PMX1	CCTGAGCTCTGGTGAAATGCTGATACA
60761	ST7	CGCACACCTCTGCACCTTTGC
60762	PLA2G5	CCCTCCAGCGAGTCCCAGGAGAGTGAC
60763	SIGLEC6	TGTTGGCTTTGAGATGGCTGTCTC
60764	APPL	TTCACGCCATTCTCCTGCCTCAGCCT
60764	CASP2	TTCACGCCATTCTCCTGCCTCAGCCT
60764	CASP8	TTCACGCCATTCTCCTGCCTCAGCCT
60764	INMT	TTCACGCCATTCTCCTGCCTCAGCCT
60764	LYZ	TTCACGCCATTCTCCTGCCTCAGCCT
60764	PCDHA9	TTCACGCCATTCTCCTGCCTCAGCCT

60764	SERPINB9	TTCACGCCATTCTCCTGCCTCAGCCT
60764	TAPBP	TTCACGCCATTCTCCTGCCTCAGCCT
60764	VIPR2	TTCACGCCATTCTCCTGCCTCAGCCT
60765	TRPC5	CAGCTCGCAGCCACCCCAAAGGGAG
60766	SH3BP4	AGGGAGGAAGGGGCGGCTGCTCAGACAGAT
60767	ZNF202	TGAACCTCACCTTCTCTGATTGTGGG
60768	FASN	TGTCCCACCCACCCGCCGCCT
60769	HS2ST1	TAATGATTTTTATAATTTTC
60770	DNASE1L1	CCAGCTCCCTGGGTCTCC
60771	SMAC	CAATCAGGCGAGACGCCT
60772	MAGEA9	TTGCCTTATACCTCTTTCTCT
60773	NPY1R	AGCTGAACAGTTGACCTGCTTTGAAGAAA
60774	KCNK3	CTGAGGTTGGAGGATTGCTTGA
60775	DSCR1	TGCGGAACTCTTCCTGGAATGC
60776	STCH	ACCTTTAATAAAATGAAGGAATG
60777	GPR86	TCAAGAGCATTTCAC
60778	PTGER2	CTTTATTTGAACAATGAAGTTGA
60779	MASP1	CCTTGACCATCTCCATCTGCC
60780	GPR41	GCTGCTCTGGAGAACAAT
60781	TCF20	CGTGCCTGCCCATGCCAGCACTT
60782	MOCS1	GAGAGCAAAGCACAAGCTTGCC
60783	ADCY2	ACTGCAACTTCTGTCCCTTGTTTTTGA
60784	ABCA3	TCTTACATCCTCTCTCTCCA
60785	GNS	ACTCCTGAGGTCTTTGTTCTC
60786	RENT1	CTTTCTGCGGGGCATCAGGCTGC
60787	HYAL1	CACGAAAGAACCCGGTCTCCA
60788	PLAG1	TCAGTTTCACTTCCACATGTATGTA
60789	GPR3	CCCCACCCCTCTGCCAACCGGGGTA
60790	PLN	ACATCAGCTTAAAATCTGTCA
60791	NRAS	CAATGAACTTCCATTTGTATTC
60792	SCN2B	CCCAGCCCAGAGCAGCCATCAGGCTGG
60793	D12S2489E	AGGAAGAGAAGGCCAGCA
60794	ARHGAP6	CAGCGGGCGAGCAGGACAGT
60795	OGG1	CTCCAGCCTCTCCTCCATTCCCTATGGG
60796	FANCF	TGTCACCCAGTCTGGAGTGCAGTG
60797	HS3ST2	CCAGAGAGTCCCTGCCACT
60798	HCFC1	GTCACCCACAAGGGAGGCTAGGGCAAT
60799	GLTSCR1	AGGGTGCTGGGAGCTGGCAGGGTC
60800	ZNF236	TGAAAAAATATCCCCAAAGTGGAAAT
60801	GRINL1A	AGGCTGGAGTGCAGTGGCAGGA
60802	HSPB1	TTAGCCTGGATGCCCACCCCTGCTGC
60803	SMG1	AGCCTGGGCAACAGAGCTAGA
60804	SLC1A3	GTCGCCAGGCAGGAGGCCATTCCAGG
60805	NLGN2	ATGGTGGAGGGAGGCAGTGGG
60806	CNGB3	GGTTTTCAGAACCACCTCA
60807	FLT1	CCAACCAAACCAATTCACCA
60808	ASB1	ACTGCACCTTAACCTGGGCACTGGGA
60809	FCAR	AGGCTGGAGTGCAGTGGCACGATCTC
60810	NCOA6	AAAGCTGTCAAGTGTGGTGTAGT
60811	ITPKB	GAAGGGAATGTAAAATTTGCCTGA

60812	IRAK4	GACCGGCCTGGCCAACATGGTG
60813	LARGE	GAGAGTATTATGAGGGAGGCCGA
60814	FGFR1	ACAGCAGTAGGGAGGTCAG
60815	HARS	CCCAGGAGGCTTAGTCCAGTC
60816	PGF	AACATTCAGCTCTGGAGAACAGT
60817	NFYA	GCAATCAGGAAAGCAGCAGCCCACTCC
60818	KCNA3	ACTTCATTCTCCCTCTCCCTGCTGCT
60819	MVP	CTACCTGCACTTCTAGATGCTCC
60820	POLA	CCAAGGAGGGGGTAGTTGA
60821	TREM2	CCAGGAGAAGTCCCACCAGGGACC
60822	WWP2	CATTCTCAGCAAATGAAGGTTT
60823	RARA	GCTCTGCCCCGACCTCCTTCACC
60824	BCL7A	CCCAGCCTCCGTCTCCCCGC
60825	CDC6	GCCCAGGCTGGAGTGCAATGGCGC
60825	MLANA	GCCCAGGCTGGAGTGCAATGGCGC
60826	LPIN1	AGTTGCCCTATGGAAATGAATCCTACTT
60827	NRXN1	TGAGGACCTTCCAGGAGGA
60828	ALEX1	GCCTGGATCCCAGCAGTAGG
60829	ADCY1	CAGGCCCGACCTCAGGTCAT
60830	CTNNA2	TTTAACCTTGAAGTC
60831	TERF1	ACTGTGCTCACTACCTGGGTGA
60832	WHSC1	AGCGAGGTTTCATGACACAACCTT
60833	ASGR1	CCCTATCATGACCAAGGAGTATCAAG
60834	APOL1	CGCCAAGTTGGAGTGCAATGGT
60835	SCA1	GGGCGGGGAGCCTTCAGGAGCCCCG
60836	CHAC	TAAGGACATGAGGTTTTCTTTC
60837	DEFA5	TCCTGCTCTCCCTCCTGCAGGTGACC
60838	WASF3	TTCAGTATTTACTGTGTAATACT
60839	BNIP3L	TATTTTATTCAAACTCTGTTG
60840	PPIF	CAGACCCCAGAGCTTGGCTTTTGAA
60841	KLHL3	CTGGGAGAATCAAGAACAGAA
60842	PMM2	GCCCAGGCTGCCCTGCACT
60843	TEM7	GCAAAGAAGAGAAGTGACTTTTC
60844	TLR5	CTGTCCGAACCTGGAGACAGGAAA
60845	MICB	GTCACCCAGGCTGCAGTTCACTGGTGT
60846	IL1RAPL2	GGGAGTGGAAAAAACAGGCG
60847	KCNJ13	TCTCTACATCACGGTAATCATGCC
60848	NELL2	GCCCATTGGATCTGTGAAAGCCTC
60849	PXN	GATCTTCCCCAAGAGGGACTGG
60850	TNR	CCCAACAACCCAGGTTCTTTTCCTT
60851	PPIL1	TTTCTGACACTTCAGACATCCCACG
60852	PABPN1	CCTCCTGCCTGCTCCTGTCCAGCC
60853	MRC1	AAATATTTTAGATAAATGCAC
60854	EDN2	CCTGGCTGGCTGTGTCCTCTCCAG
60855	TIF1	TTCTCATCTCTGTTTTGCA
60856	IRAK1	GGTGTGGAGTAGGGAGCTGGCTCCC
60857	DSC1	TTCATTTCTCTTTTACACTTTTGTACT
60858	ALB	TGCTATCCTGAAAATTCTGTAGGTTCT
60859	CELSR2	CTCTCCTCAGTTTTGCCGACTGC
60860	TSN	CTCTGCTTTCTGATGTTGCC

60861	POLH	TGGCTCATACCTGTAATGCCAG
60862	PCDH15	CTAGTAACATTTTCTTGATGATATGA
60863	ATP4A	TGGGACCCTCTGGACAGCCACC
60864	CBFA2T1	CTCTCTGCTGCCACTCATTCCA
60865	TRPM1	CAGATTCCTATGGAGTTCTTGAA
60866	BCL11A	TGTCTTTTTAAAAATACTGGCA
60867	PAX9	CGCCTCCTCCTCCTGGGAAGAAGCGG
60868	PLCB4	GGACATGTTGTAACTGCAG
60869	SLC17A4	TTCTGCCCCACATCTGCTTTTT
60870	LPIN2	AGGGTCCCTGAACTGCTGCGGGCCCA
60871	PDE4A	TGTAGATGCTCCTGTTCCTGGTT
60872	IL17	TGGGGAGCCCACACTCCCCAAAGCAG
60873	RALBP1	CGGCAGGCACAGGTGTAATGG
60874	GPR56	TCGTAACCTCCACCTCCCGGGT
60875	PLN	CAACAGATGAGAACTGGTGGTTAATA
60876	MOG	TTTCCTTCTACTTACACATC
60877	PPP1R12B	TGCCTGTAAACACAACAGTATTTATAA
60878	SP110	GCCCCTGGAAAGGGGCAGGA
60879	SERPINE2	TCTCTAGCCTCTTTGTGTTTTTGT
60880	TH1L	CCAGAACCCGTTGTGGAAA
60881	APPBP2	GCCAAAACATGATTGAAGCCTT
60882	GSTM4	ATGGTTTGTTGGAGACAAGATCACCT
60883	MLC1	TGTCCTGGCCCGGGAGCCGCAGGG
60884	KLHL1	CCTCCCCCACCTGCTGACCAGCC
60885	WWOX	ATCTTAAGTACCAATGGGAA
60886	ADCY1	TCTCAGACTTTAAAGCCACC
60887	CHST5	AAAATGCAAAAATTAGTCCGG
60888	NAB1	CAGTTTATTTTACTTGA
60889	VBP1	TGGAGAGGCGGGCCTGCAAGTG
60890	HMGA1	GCCATTTCCCCCTCCTCAGATGGGGC
60891	KCNQ2	TAGAAAGAGCTGGGCTCTCAGCT
60892	CSPG4	CAGTACTGGGTGTGAGGCCT
60893	CTNNB1	GCTGAGTTTCCTATGGGAACAATTGAAGTAA
60894	ZNF74	GATCCAGACCACCTTCCTC
60895	ATRN	AACACAAATGTGAAGAACTTGTA
60896	ACADSB	GCCCAGGCTGGTCTTCTGGC
60897	COL6A3	CCTGGGCTCCAGCCTCCTGCAA
60898	CACNA1A	CCGGTGGCCGGCATCTGGCCC
60899	PRKY	GAAGGCACTGGGGCCAGGC
60900	RAB18	CAGCATTTTTAGTTATGTGG
60901	CUL5	AAAACAACTATATTTTGCCAA
60902	WWP2	GGGGACTTCTCTTCCACCAGCT
60903	BDKRB2	TGTATATGCAGTATTGAGCACTGTAGGC
60904	XK	CACAGCCGCCGCCACTGCGTCCGTCCC
60905	TNFRSF1B	TACCATGGTGTGAAAGTCAGA
60906	INPP5B	CCAACATGGCGAAACTCCGTCA
60907	ALDH3B1	CCGGGAGGTGGAGGTTGCCGTGA
60907	HRH1	CCGGGAGGTGGAGGTTGCCGTGA
60908	MAN1A1	TATTCTGCTCCATTCCCTTCACTGT
60909	EGFR	GCTCAGATGAAATGCATCAGG

60910 MAP3K7IP2 GAACAACAAGGTTAAGCTTC
60911 KCNJ10 GAGGCATTCATGAAGGCTTTT
60912 ACOX1 CTGGGGCCTGGCTTAAAAGCAGGA
60913 GCKR ATGTGGGAGGAAGAAGCCCC
60914 UBB GTGGGTGGACGTGGTTGGTGAT
60915 DGCR2 GAGCCTGAGAGCTCAGAGGATTCCTGCC
60916 NCOA3 CTACCAGAACTAAGCACTTT
60917 ITGBL1 TTAGAATCTAAGGAAAACATGCAT
60918 ADAM17 CAGGCCGCCTGCAGCCT
60919 CHRND AGGAAGGGAGGGAGCAGCCACTCCTC
60920 LZTR1 GCTGGCTTCAGCCCCTTGAGCA
60921 GALNT1 GTAGTTTCTGCTGAACGTGCT
60922 KLHL3 ACTTACAACTTGCTTCTTGAGCTAT
60923 ABCC3 ACTCAGGCCAGTGTGTCTCTGAAACGGATCCA
60924 TM7SF3 TTACCTTTTGGTTTACAAATCT
60925 ADCY6 TCCAAAGTGCTGGGATTACGGACG
60926 DMD TGGTCAGAGATTCTGTGCCTGCT
60927 PRX GTTGCCCACACTGGGGGCCAG
60928 GOLGA4 GGACTTGCCCACAGCCTCAAGGAGGA
60929 CASP7 TCAGGATCCAGTCTGGAAAACAGAAAC
60930 TNFRSF1B TGCAGCGAGCTATGATCGCGCC
60931 SLC24A1 TCGGCACACCACAACCTTCA
60932 NPY2R TCCACGGACCCATTCATA
60933 TCF2 CTCCACCCTCCTCTCTCGCACC
60934 BLNK CCATGCTGCTCCCTAGGAG
60935 CCBL1 GGCCTCTCCCTGCCCCTCC
60936 B3GALT5 TCTGCTGCTCTCTCATTTCATC
60937 APBB2 TGTTGTCCAGGCAGCTCAT
60938 F13A1 CTTACCAGGGAGATTTGCTCAA
60939 HLCS TAAGTTGAGCAGAGAAGATATGCCT
60940 SP4 TTCATTCTTGGCTTCTTTAAGTATTCC
60941 TNFRSF10B GAAGGCACAGGGTGCTGCTG
60942 NAT2 TGTGTATGTATCACCCAACTCACT
60943 THPO TCCTTTGCTTCAAATTCAAGG
60944 ZNF264 CACGCTGGAGTGCTGTGATGCG
60945 EIF3S10 CTCTCCCGGCCCGGGCCACT
60946 SERPINA5 ATATAGTTATAATCTGATGGGCCTG
60947 GRINL1A AATAATTACAGAAAAGGGCTAC
60948 HIP2 GGAATAGAAGTGTGTTATAAATCTAG
60949 PPP2CA TCAAGGGCACTACATAACCTCTCTG
60950 DHFR CTCCATACTGCTGAGATACAGGGAAATG
60951 TCF7L2 ACCCATTCTTATTTCAATTTCTCCTTT
60952 CARD15 TATACTCTTATAGACAACATG
60953 APOA2 GCTGGCCTCTAGAACACCCACTGGCCAG
60954 ADARB1 GGCCATCTTTCCCACCTCT
60955 ACAT1 CAGAAGGCCTGCTGTAATCAGTG
60956 IL13 CCTCAGCCTTCCCCTTGCCCAGGGCT
60957 TCTE1L TGAAAACAAAATCAGTTTTGCAT
60958 CPNE3 GTGCCCAGGATAGATGTAATA
60959 PTPRF TAGCACATGTCTGTCCTCA

60960	ABCA7	GGACTCAGGCTGGCAGAGGGGCT
60961	STK6	GATATATGTACAGACTTGTA
60962	HOXB6	GGCTGCGCTCCTCCTGGGTG
60963	DTR	GACTTCAGTCTTGCCTAGGCG
60964	PRDM2	ACCTCAGATCAGGTGCACCTG
60965	MOCS1	GCCTTAGCCCAGGTTCCTGGGCT
60966	OPCML	TAGCACTGTGGTTTTCCTTTTGCA
60967	A1BG	CTCACAGCAACCTCTACCTCCTGGGT
60968	RB1	TGTCTGACTACTTTGCCTTCTTTT
60969	BACH2	GTCACAAATAGGTGTGTGC
60970	COG6	TCTTATGCAATTTTAAGTATACACTCA
60971	HD	TGTCCACCCTCATTTCTGCCAGC
60972	CRLF1	GTTGGTTGAGTTGCCTAGAAC
60973	PTGS1	CTGCCCTTATGGAGCTCACACTCCAGT
60974	FBXL7	GGGCTGCAGCTTCCAGCACTGA
60975	HNMT	CGTTCAAATATTGACTCAGTA
60976	CHST5	AGCTGGGGCGCATGGGGAA
60977	CLCN6	GCACCTGGCCCTGGCAGCACAG
60978	STAU2	GTAAACCCTTCTTTGGCTTTCC
60979	CBFA2T2	ATGTTGCATTCATCTTTTGGA
60980	SLC26A2	ATATTATTCCTCCTTTGAAGCTA
60981	BCL11B	CACACTGATGATATTGTAGG
60982	DTNA	ACAAAACCAGGTGGCAGGTT
60983	P3	CGGAAGGGAGGCGGCCTCTG
60984	GRM4	CACTGCTGGCAGCCTGGGCAAACCGG
60985	IL2RB	AAAAATCTTTGTTACTCTGTAAA
60986	VHL	TAACTAGGCGCTTCTCTCTCA
60987	CENTD1	TTCATTCTAGTTCACTAATGACCA
60988	OPA3	TGAGCCAAGATGGCACCATTG
60989	KCNQ1	GTAGCACAGGCTGAGTGCAGG
60990	SYNGR2	GTGGGAAGGGGGACAGAGAGGGC
60991	GPR2	ACTACCTCTGTGCCTTGCCACATTAAA
60992	ANXA8	CAACCTTAGTGTTTCTCCAGCC
60993	NGB	CCAGGTGGGGAGGGGCTGGGGAC
60994	CTSW	CATGCCACTCCAGACTGCACCGGCAT
60995	ABCB10	CATTTCATTGTTATGTTTTAT
60996	DSCR3	ACTGCAACCTCCACCTCCCAGG
60996	FEZ1	ACTGCAACCTCCACCTCCCAGG
60996	MEFV	ACTGCAACCTCCACCTCCCAGG
60996	NUMA1	ACTGCAACCTCCACCTCCCAGG
60996	PDE6B	ACTGCAACCTCCACCTCCCAGG
60996	PPP1R12B	ACTGCAACCTCCACCTCCCAGG
60996	SEPN1	ACTGCAACCTCCACCTCCCAGG
60996	SLC14A2	ACTGCAACCTCCACCTCCCAGG
60996	SNX15	ACTGCAACCTCCACCTCCCAGG
60996	STAU	ACTGCAACCTCCACCTCCCAGG
60997	BCL6	CCAGTGAAAAAATCTTGTGGCTT
60998	ZFHX1B	CTGTTTCTTCGCTTCCACCTTTTTCTC
60999	DFFA	TGGGAGGCAGAGCTTGCAGTGA
61000	SLC25A13	TTCTCCTCATCTCCCCATCA

61001	MTNR1A	CCAGAGGCAGAGGTTGTGGTG
61002	DBN1	GGCTGGAGTGAGGTGGAAGGATGT
61003	HTR7	CCATGTTAGAAAACAGAATCCAGTC
61004	LAMC2	GGGACATTTGAACATGTTTAATGG
61005	MS4A12	GCTGTATCTCCCTTCACTGTCT
61006	PXN	CTGCTATTTGGAAACCCCT
61007	AXUD1	TCTCCCACTGGCTGGCTCACCCACAG
61008	WNT5A	AAGAATTGGGATTCCA
61009	TSC	CCTGCAGCGCCGGTACATAGCC
61010	MMP2	TCCTGACAGAAGGACTCA
61011	EDARADD	TCATCAAGGAGAAATATGG
61012	FMO5	TCTCTTTCGAAAGCATTAA
61013	TRIM39	GTTGAGAGTCCTCTCCCT
61014	ITK	TGGTTCCAGGGACTTTTTATTTGA
61015	TRPS1	TAGGCTTGGTTAGAGTGCAGC
61016	GAA	GTGGGGTATGCACCTGAGCTCCTGCTT
61017	NXF5	TCAGGGTTCTGATCTTGCCTTCATG
61018	MPP3	CGTCACTGTAAACCATTTCTGTCA
61019	F2RL3	ACTAGCACGGCTCAGCCTCCTGCTATCC
61020	PFKFB4	CGCTTGCTTCAGCACATTGGGA
61021	SYNGR2	ACTCTGTCTGTGCCGAGTGTA
61022	IKBKG	GCAGAGCTGGGTGGCAGCTCTT
61023	GLP1R	ATGAACAGCAGAAAGACTGG
61024	KERA	CTTTCTAACAAAACAGAATA
61025	SUOX	AGTCAGTCTGACCCACAGTTGTCCT
61026	SOX11	TTTACTGTGTGGTTCCCTGCTTT
61027	FZD3	CCTGACTTATGGAGCACTTGTA
61028	TMP21	AACACCCTTAACTTTCTCTTTA
61029	PYGO2	CATATCCTCTTGGGCCTGGTGATTAA
61030	SERPINB9	AGCTCACTTCAAATTCTTCTT
61031	EGFR	GCCCAACTGTGAGCAAGGAGCAC
61032	WNT1	CCTCAAACCACTTGCCTGGGGCGGCA
61033	DDX6	CCAGAGAGAGCAAGGAAGCTTCA
61034	CENPB	TGGGCCCAGAGTCCAGCCGTCCAGCT
61035	SIGLEC11	GCTGGTCTCGGACTCCTGGG
61036	RTN3	TTATTCTATTTCCCCTCCCTCT
61037	SLC25A19	TGCCAGGAGAACAGAACACACT
61038	FRAP1	CTGAACACAGGGAAGGTCTGGT
61039	CHEK2	TCCGCTCTCCCTTCTAAACT
61040	C21orf5	CACACCTGTAATCTCAGCACTT
61040	MTNR1A	CACACCTGTAATCTCAGCACTT
61041	CBLB	CTTCCCTTGAACTTTGAACCT
61042	DCLRE1C	CACACTTGTAATCCCAGCACTT
61043	DVL3	CCAGGTGAGATGTGCAAGAG
61044	ADRB3	CTACTCCTCCCCCAAGAGCGGTGGCAC
61045	ENTPD1	CTATTAACCTGCCTTTTTTGTCAGC
61046	MS4A7	CTCTGCCATTTTAGATACTGT
61047	STK38	CCAGTTCCTGTAATTTTGTGA
61048	WBSCR14	TCAATCAGCAGATGACCCCCAGGCC
61049	FMOD	TCAGAAGAGGAAAGGCCAG

61050	POU4F1	TCTCCTCCCTTACTTCTATCAGA
61051	SLC13A3	GCTGGGAAGGCAGCGCCCAGCT
61052	KCNJ15	GTCATGCTTGCTGATTACAGTTA
61053	HSD11B2	AGAACTCCGCTGGATGGGGAGTCTCA
61054	PRKCD	TGGTACTTCCTCTGTGAACTGTG
61055	PMCHL1	TGGAACTATAATACAAATGTAT
61056	TRAF1	CCATCAGCTAAACACCACGTC
61057	PTMS	CGCCAGGTTCCGGCCGCGGCC
61058	CSK	AGTGCCCCAAGAGAGCTCTAATGGTA
61059	JJAZ1	TTAATTTGCTAAAGCTGTGCACA
61060	HEPH	CCCAGATGGCTCCTCTGGGCCA
61061	GP2	CCTGGGCAACAGAGCAAGACTCTGTCT
61061	HRH1	CCTGGGCAACAGAGCAAGACTCTGTCT
61061	TPMT	CCTGGGCAACAGAGCAAGACTCTGTCT
61062	LRRC2	CCTGGGCAACAGAGTGAGACTCCATCT
61063	C18orf1	CCACCACCGCCAGCTGCCAGC
61064	KAI1	GGTGTGAACCCGGGAGCGGAG
61065	PDE7A	CTTGTAACCCAGCACTTTGG
61066	A1BG	TGTTGCCCAGGCTGGTCTTGAACTCTT
61066	JRK	TGTTGCCCAGGCTGGTCTTGAACTCTT
61066	PVR	TGTTGCCCAGGCTGGTCTTGAACTCTT
61067	NR2E3	GGAAGGGAGACAGGGGCACAGA
61068	C4orf1	GTCTTAAAACTTACTGGAATG
61069	CDH6	TAGTTGATTTTCAAAAGCATTAA
61070	WASF3	TGGCCATGAGAGTATTTAG
61071	BCL9	TTCCATGTGTGAAAGCTACT
61072	RBBP5	GCAGAAAAGAAAGTGCTTGAAAG
61073	PPP2CA	TTTGTGGGTTCTTCCTGCATAT
61074	CLN5	AACTTTACAACTTCTATAACTTTT
61075	LAMP2	ATTATTATGTTCTTAGCAATA
61076	FGF23	TTATGAGAGAAATGTTGGG
61077	ACCN1	TTTATGTTTGTCCGATGGAGATT
61078	UBE2V1	ATGCCTTGGTTTTGGTGCTGCT
61079	NID	CAGAACCTCCCAAATTTGAG
61080	FOXM1	TGCCCTTGCCCCTGTGCTCAA
61081	KCNJ3	GGCTACTGGCATTAATTATTAATACCA
61082	DSP	CCCAGCACCAGCCCCCCTCT
61083	HARS	GCCAGGTACAACACCTTTTTCATACA
61084	CDH12	TTATTCTGCCAACAAGAGATA
61085	AP1S1	AGTGGGGCCTTTATCCAGTGCCAGGG
61086	CSDA	ATTTTTGCTTTCTTATGTGACT
61087	TGFB1	CCATTTTAAAGGTTGAGGAAACAAGC
61088	KCNJ16	TTTTTAGCTTGTTTTACCTAC
61089	NOLA2	AGGCAGCTCTAACAGCCCT
61090	MPP2	CAGACTCCAAAGCCCTGGTCCTT
61091	NEBL	TGAAAACAGCAGCATTTTCAGTAATTC
61092	OLFM1	TTTGCAGCTGGAACTGCAGCC
61093	HARS	TCCAGTCTGTGCTCCTGGGC
61094	HDLBP	AGGCTGACAGAGGCGGCCTCAGGAC
61095	MCP	TTTTTTAAAAAATGGACTCTTG

61096	RNGTT	GTTTTAAGTAAATGTATTTA
61097	CRTAP	CCCGGCCTCTTTCTCACCT
61098	SLC2A8	AGTGTCTCTGGGCTTTGTGC
61099	RBBP5	TTATCCATCTCCAGCAAAGA
61100	SORD	TTCCTGGTTCCACTGCTACTGA
61101	KIR2DS4	CGCTCATGGTCATCATCATGG
61102	SLC21A3	TCATTTTCAGCACTTACTTCA
61103	NOLA1	GTACAGTGCCTGGCACTCTGGG
61104	RGS16	CTCCTCACTGGCCTCTGGGCT
61105	SMCY	CCTTCATTGTACATCCTTTTCTT
61106	CTNNA1	GATGCCATAATCAGAACACACT
61107	TMEM4	CTGGGAGCAGAGGTGGAGCGA
61108	CBFB	GCATAGAGCTGTCTGCCACAGCCTT
61109	CD1D	CCTCAGGTTCCCAAGACTTCAGTCCTGG
61110	DIAPH2	AGACTTCTAGAAAACCTGAGAGG
61111	UBE2A	CTTTTTAAAGGATCAGTGCTGCCCTA
61112	CA11	ATGAAAAGAGAACGGAGAGG
61113	GPRK5	GAAAAGTTTTGTAAATTTCT
61114	CCR9	CTTCCATGCTTCTCCTTTTCTTA
61115	CENTD2	GGGGGCCCCAGCCAGAGTGATGACCAA
61116	LTBP2	CCTGAGAAAGCAGCAAGAGGACATGA
61117	BDP1	GCTCACTGCAGCCTCTGCCACCCAGA
61118	GPR56	CGAGTAGCTGGGATTACAGGTGG
61119	EPB42	CCTGCCTGGGCCTCCTGGC
61120	HBA1	CCTCCTCCCCTTCCTGCACC
61121	PRDM4	ATGTGCAAAGTTAGGTCTTCCCAGTT
61122	SPG3A	TTTCACTGCATTGTATATTTT
61123	FLI1	AGAACTTGGAAAAGTTGTAGG
61124	RXRB	GGGCCCCCACAGGGGATGGTTT
61125	DMRT2	CCTTCAGGGTCATCAGGCTGTCCCAG
61126	CLC	TGCCAACACCTGTTGAGCCAGG
61127	CD97	CAGGGTGGGGACAGGGGCTGGC
61128	GPRC5B	TGTTGGTTGGAGGTGGGGGGCTCCCAC
61129	ELF3	CTGCCACAGCCGGACTCCGCCA
61130	EEF2	GGGGAAAGGAACACGCGGGTA
61131	OVOL1	AATTCAGAGGGACCAGCCCA
61132	NEUROD1	AGCATTTTACTACTTGTTACCTTT
61133	NDUFS1	TGGACAACTGTAGTGCAGTGATCCTT
61134	CDH1	CTAGGTATTGTCTACTCTGAA
61135	LNK	GTCAACCGGGCTGGAGTGCAGT
61136	SLC13A4	CCCGTTTATCATCCTTTCCCAGTTCCT
61137	KCNK3	GGGCTGGGTGCAGTGGCTCA
61138	ELL	CCAGACAGCTGCTCAGAGCC
61139	ADAMTS13	GGCGGTGAGGATCGGAGGGCGCTATGTC
61140	FAT	TGCTAGCCATTTCCAGTGTCCC
61141	ARVCF	GGCCCAGCCTCTTGTTCTTAGGGCTT
61142	MS4A12	TAGTCTTTAAAAACTGTGTTTGA
61143	GRAF	CCTGCAAACAACAGAGTTATCCGTATCTT
61144	GPRK7	CATTGCACTCCAGGCTGGGCAG
61145	ZNF14	GCGGGCAGATCATTTGAGGTCA

61146	HDAC5	CTCCTGGGGCCTTTTGTT
61147	THRA	CTAGACTGTGTCTGAATCATGTC
61148	HUS1	GACCTCCTTGGCTCAAGGCATC
61149	ATF5	GCCTCTACCTTCATTCCA
61150	CREB1	TTCAATACTGAAAATTTGTCCT
61151	AOX1	TCCTATCTCTGTGCTGGAAGATGCT
61152	DAXX	CCTCCCCTTCTCCCTGCCTCCA
61153	KIFAP3	TCAAACCACATCTTGATGCTA
61154	CAMK2A	CCCCCACCCTCTCCCCTGCCA
61155	CALB1	GATGTGTGGCTCATTCTTTTCAG
61156	CDX2	GGACTGGCAGAAGCATTGCCTGGACTGACC
61157	KCNJ16	AGGCAGGAAGGAGGCTGGAATAA
61158	FLOT2	CCTTGTGCCATCTTTCTTCCTGGCC
61159	GIPR	GACCAGGAGCAGGACTGGGG
61160	RARA	ACCCCAGGTATTAATTCTCGCT
61161	HSD17B1	GGCTCAGAACAGGGTGGGGAGAGCG
61162	GNAI3	TGCTTTAGCCTTTGTCTGAGA
61163	CHRNA4	CCCCCAGTGTCCCCAGGGGCACACTT
61164	PPM1B	TGCCTGTACTACAGTATTTTT
61165	PACSIN1	CTGTCCTCTTCTCTGGCCTGCCTGGGGAGCC
61166	GCN5L2	GACTCAGCTTGAGACACTCCA
61167	TARBP2	TGGGCCCTGCCTGCTGC
61168	CRP	CAGAGTGCTCATCATCATGTCATAGAA
61169	GYS1	CCAAACTGTGCCCTGCCTTCAGC
61170	AXL	CCTCACTGCAACCTTCACCTACC
61171	PYGB	TTACTGCAGCATCTGGGCTGCCA
61172	UBE2G2	TTTATTGCTGATTGGCCAGGTGC
61173	NTSR1	GCTCTGAGAGAGGGCAGAG
61174	TRPV3	CTGGGTTGCCTGAATTTGTG
61175	SHMT1	GGGCCCACTCTGGACCCACCTGGCGCCA
61176	GALNT2	TACTGCTGTGGCCAGCTGGGGG
61177	ZNF215	GTCTTAAATGTGTATATAGCTC
61178	ELF3	CCTGCCGGCCTGCCTGCCAC
61179	PART1	CCTAGACCTTGGAACCAGTTTCCTGG
61180	MUC12	CTCTGGAATTTCCCTACCAATAA
61181	WWOX	TGAAAGGCAGGAAGGGAAGCGT
61182	PLN	GACTAAAACTTATTGTTACCAT
61183	HMGA1	CTCAAGCAGTCCTCCTGCTTTGG
61184	BMP1	CAAGTACGACTTCGTGGAGGTGCGC
61185	HTR2B	ATGAGATGTAAATGTGCCCA
61186	DAB2	TCTTCTACTTGTAAAATGCTTTTCA
61187	DISC1	ATGCTCAGTAACACAGTGCAGTG
61188	CACNA2D2	AGTGATACCAGTTCAGACACTACCC
61189	TREM2	GAATATTGGACATTTTAAACA
61190	SF3B4	CACATTTTCCTTCCTCCTGTTA
61191	GCNT3	GTTCTCTCACCCCTAACCCTAG
61192	CLN2	AATTTCTGCTTCTTCATGGAATGCT
61193	SON	CTCATGGCTAATGCCACTTGC
61194	PLD2	AGGAGGGCACATTAACTCCCT
61195	NCOR2	CCTCCATCCATCTGTCCGTCCA

61196	EPHB2	TCCAATCGGAGACAAAAGCAGTT
61197	PLAUR	AGGAGAGAAGACGTGCAGGGACCCCGCGC
61198	VDR	CTCGTCCTCCCCCTGCCAGTGCCT
61199	HS2ST1	TTATAGAAACATCTTTAA
61200	CD28	CTCCATCTCAAACAACAACA
61201	PSMD7	CCCAACAAGAGCTCTCTGCCTC
61202	ACCN2	CGACAAAGGAAGCTGTGAATCAC
61203	BMP8	TTCAAATGATCAGCACAGCCACT
61204	AICDA	CACCTGTGGTCAGGAGTTTGAGAC
61205	TRIP15	GCAAAACTACTGTCGGTTGATGTG
61206	RBMY1A1	GATACTAACTTCCTCCATGA
61207	SH3BP2	AGAGCTGAGGCAGAATCCCT
61208	MMP16	CAGGAGTTTGTGGTAACTTGA
61209	IGFBP4	TCTGCCTCCCTCTCCATATCTCC
61210	IGFBP4	TCATTCCTTCACTCATCCAGCCAC
61211	ARHGEF6	TATCCCAGAAACTAGAACTGTG
61212	SERPINB5	GGATCAGATCTGGGGCAGCAACC
61213	GLTSCR1	GGAGGGAATGTTCTTTCTTG
61214	KCNC4	TGTCTTCTTTGTTAGGCTGTGTC
61215	TARDBP	GTCCCATTTTTATCCGCTACTCT
61216	SLC21A3	TTCATTTTCAGCACTTACTTCA
61217	TNFSF9	CCCAAGCAACTGGGATTCATCCTTTCT
61218	TRPC5	ATTATGTTAGATATATATCA
61219	IPP	CAGGAGGTCAGGGCTGCAGTGA
61220	SORCS3	CCCATTCTTCTTTGTGAGACA
61221	MLLT2	TCATGGACGGAAGACCCCTGG
61222	HMGA1	GGTCTCGAACTCCTGACCTCAAGCAGT
61223	ZNF179	CGGGAGAAAAGGCATCCTTACCTCTGG
61224	TAF6	GGACGGGTCTCCGTCTCTCCA
61225	EXTL1	TCTCAGCCCAGCTCCCAGGGGGCCCGG
61226	B3GALT5	CCCAGCTCTGGACAGAGTTCTT
61227	INPPL1	TGCCAGTTTGCTTAGTTCTCACTGT
61228	CNTNAP2	GGCATCTGGGGTTCCTGACTGAT
61229	UMPS	GCTAAAGTCAGCACAGCTTT
61230	PTPRG	TTTACCTCCCTGCTTTCCTCTTTTCG
61231	APOL1	GGGAGGTGGAGCTTGCAGTGAG
61231	SLC14A2	GGGAGGTGGAGCTTGCAGTGAG
61232	HOXB7	TCCCCCAGCCCCATGCTCCCTTTT
61233	NUFIP1	TGTCTGACAGTCTTTAGCTATGGTG
61234	ATP2A3	CCTGTCTCCTGGACTCTCCTGGGAAGTTCC
61235	KCNMB1	TCGTCACCTCTGTGCCTGAGTTC
61236	SCA1	AGAAGCAGCCGGGGGCGCTGACTCCCG
61237	PXN	GGATGAAAGAGGAGCCAG
61238	HOXA13	GGGAAAGAGAAAGAGACAGA
61239	FCMD	TCTATGCTATTTAGGACTACTTTC
61240	NUMB	CATCCCCTTGACAGTTGCAGCCT
61241	MOG	AAACTGAAAGGCATGTGAAGGGA
61242	SIL	TTCCTGCTTCATCTTCCCA
61243	ATP8B2	ACAGCTACTTCATCAACTGG
61244	NOLA3	TGGCATCACCCATAAAGGGAAC

61245	NR1I2	GGGCTGGAATGCTGGGTATGC
61246	RRM1	CAGTTTTGTTAAGGAGATTTAGTTTTA
61247	ZNF74	GGCTGAGCCTGGTGTGGGGA
61248	KCNJ10	GGCTTCTCTTCTTCCTTTCC
61249	ITGAV	GTTTTTAAGTTATGCTACATCTTG
61250	ACP2	CACGGTCTTGCCTCTCAGTGCTTAT
61251	EGFR	GCTTGCTGGTAGCACTTGCTACCCT
61252	HOXB6	GTCCCCTCAGCGGGGGCC
61253	THY1	GTGCCACCACAGCTTATGGCAT
61254	DCX	AAGCTCAGGGTTTTCTTAGTGCCTC
61255	RPL10	CCCAGGAGGTGCGAGTGTGGCTG
61256	IL1RAPL2	GGCAGCATCTGCCATTCTAACTACGGA
61257	AGR2	ATCAGAGGTTACTAGGGTTTA
61258	CST3	CTCCAGCCTCTCGCCTGCGC
61259	PROK2	GAAAGAGAATTTTACTTTTGG
61260	RXRA	ATTCTTTGCCTTCCTGGAGCT
61261	SPAG4	TAGGCAGCAGGGGGTCAGGA
61262	PRKY	GAGATTTCTCCCTCTAGCACT
61263	HOXB8	GAAGTAGCTTCAGCTGGGACTGCCAGGG
61264	ADCY8	GCCTTTCTCCACGTCCGCC
61265	RARB	ATCAGCCATTTCATGCAACCAGAAACTAGT
61266	CALCB	TCTTAGCAGTGTCTCTCACA
61267	TRAF5	AGGAGCAGCAGCCGCGCCTGCAGACCG
61268	MYCL2	TGTCGCCCAGGCTGGAGGTTAA
61269	WNT1	TGGAGCCATTGAACAGCTG
61270	PLXNA2	TGGAGAGAAAATGACTGTCTCCTT
61271	MLF2	TTCCCTACACCCTTCTCTGCCT
61272	IRS2	TCCCGGATGGGGCATTCATCATTGT
61273	FANCF	TGCAACCTCTGCCTCCCAGGATC
61274	KCNMB3	CACAGGAAGTCTGAGTGTGAGG
61275	RAI3	ATTCCTGGGGCTGATACTTCTC
61276	KAL1	TTTCCTGATATGTTATCT
61277	TRRAP	AAATTTGTACAGTGTGA
61278	SLC21A9	GTTTAGTTCTGTGACACTGTTTT
61279	HYAL1	CCCTCTCACTTGAAGATCAGGCACAGA
61280	PSME3	AGTTTCTTGAGGAGACTCCTAGT
61281	MTMR2	ATGATTTCTTTGGTAATTGTGT
61282	MAPK10	GAGAAATGGCGTGGCAGGGGAC
61283	NR2E1	AGCCTTGCAGGCTGGAGGGCGGCTGG
61284	USP6	GTCTGAAGCTGGTCCTGGGCTCCGGG
61285	PRSS16	GTCTCTATTTCTGTCTCTCCTCTG
61286	SUOX	TACTACTGTACTTGTTGGCTCTTCATG
61287	NF2	TCTGACCTGAGTCTTTGTTTTAAG
61288	MAML1	GTGGAGAGAAAAGAGAATGCTGA
61289	MPL	TCTAATTCCAAGATCCAATAG
61290	MGAT2	CTAGCTGCCCTACATGAAGCAA
61291	EMP1	GCAGCTATTTTAAGCCATCTCA
61292	SLC21A2	GCACTTCCCTGTCTGGACT
61293	PCDHB16	AAATGTTCATTGAATTTTATTT
61294	ARNT2	AGAGACACAGAGGCACCTGCC

61295	DAAM1	TAGAAAGCTCATTAGCAGCCCT
61296	ITGA11	GGGCAGCAGGGGTAGGGGTAGGGA
61297	BUB1B	TTTGTAAAATGTTCTCTTATGA
61298	ATP4A	TGAGGGCCCTTCGTTAAAGACAC
61299	CLDN14	ATGCTCATCTACAGCTTTCTTGGA
61300	ZNF192	TTCATTCTTTTGAACTCTGGTGCA
61301	CYB5	CATTAGAAACAAAACAAAAAGA
61302	FBLN5	TTGAGTATTTTTAAAAAATATGTCG
61303	ST14	GCTCCCAGGGTGGACTTCAGTG
61304	EGFR	GATCGGGAGAGCCGGAGCGAGC
61305	SFPQ	GGTCATTTTGTTGCATTTCCCCATTTCTTGT
61306	NKTR	CGCTCAGGCTGGAGGCCAGCCA
61307	SOCS5	AGTGCAGTTCATTCTTAATGGA
61308	IL17	TAGGAATAGAGCAAATAAGATAATGGC
61309	ARHGEF12	GGATGTAATTTTAATGCTTCC
61310	SEL1L	GTCTGTCTTCCTGCCTTCG
61311	NXF5	GGTCTCAGGGTTCTGTCTTGCCT
61312	ACTN2	TTCCAGGTTCCCATGCTTTTTG
61313	LEF1	TTTCTTTCTTTTCTTTTCTCCT
61314	GPR85	CAGTAAAATGTATGGATCTA
61315	MECP2	TCTTGCTCTCCTAGGTAGCC
61316	ASCL1	TCTGTGTCCCCCTCGCGGGCC
61317	EPS15	GGGAGAGAAGAGACCTGCCAG
61318	ZNF266	ATGTGGGAGAGGCTTTATTCACTCC
61319	UVRAG	CACCATGGTTTATAAAACTTTGG
61320	SMCX	CCCTTCTCTCCCCAGTTCTGGTCC
61321	USH2A	GCCTCACTGGCCTTACCCTCCTCC
61322	HOXC13	TCATGACGACTTCGCTGCTCCTGCAT
61323	NR2E1	TTCTTCTTCTTTTTTAATACCA
61324	SON	AGCATGCTAAAGCCACA
61325	NLGN1	GAGATGGACTTAAAGAGC
61326	FGFR1	AGCCTTGTCACCAACCTCTAACTGCAGAA
61327	CLOCK	AGTGAGGTATGATGTGCTGCT
61328	FOXF1	GGAATTCTGCTGAGGTCCC
61329	PIK3C2B	GAGAGAGGTTCACTGTAGTCCTGAA
61330	DAPP1	ATTGCTTGAACCCGGGAGGTGG
61330	SLC2A6	ATTGCTTGAACCCGGGAGGTGG
61331	CENPF	TTAGCATTGCCATTCCTCTACT
61332	CALM1	TGAACAACGAATGTAAATTTGGTCAAG
61333	MEF2D	CCAGCCGGGCTGGAGGCTGTGCAGAA
61334	IGF1	CCACCTCCTGGGTTTAAGCGAT
61335	ANKH	TCTCTTCCCTCTCCCATCGTATTTTGT
61336	RPS6KA2	CCTCACTGCGCCAGCCTCC
61337	RAD17	GTTGAGCCCGGGTAGGGCCAGG
61338	KCNMB3	GATCGTACCCAGCCTGGGCAA
61339	OTX1	GGGAGCCCTGCACCGCTCCTGGCC
61340	CHRNE	GGTTTTCTTGGCCCAGCACTG
61341	SNAI1	ACAGGTGGGCCTGGGAGGAAGAT
61342	FCMD	TCCCATATGCTACCTAGTTTGCT
61343	ORC2L	GGCTTTTCCCGTTGGGGCCGA

61344	UTY	TAGTCAGTGAAGTAAATATTTTA
61345	CAMK2A	TGACCCTTCCCTCGGTGTGGG
61346	COL18A1	GCCCTGTGCAACCTCTTGGCCT
61347	GPRK6	AGCCCCTGGCCTGGCTGAGTTTGGCAG
61348	MMP16	AAAAAGAGTTTAAACAA
61349	MECP2	CCCAAATTGTCACCTGCTTCTCT
61350	TNFSF6	TGATTCTTTGTTACAGGCACCG
61351	KLRG1	CACTGTACTCCAGCCTGGGAGA
61352	ACE	TTGTCCTGATGCTGTGCTCAA
61353	ILF1	CCTGCTGTCTACTCCCCACCTTCGG
61354	GDF8	GGCATTTTCCTACACCTCCAAATGAGG
61355	TNFSF14	AAGTCGTGCACAGCCCAGGAGTGTT
61356	CACNB2	GCATGCCTGCAGGAACGGTGGCTTTTT
61357	THY1	AGGGCAGCCCTCCTTACCAC
61358	ACCN1	GGATGGCCCCAGTGCTGGAAAG
61359	OLFM1	AGTGACTGAAGAAGCAGTCCA
61360	ATP2B1	TTTTCATACTTAAAAGATTTTC
61361	ARHGEF7	ACGAAGCCTGTCCTCACCGCGGCTC
61362	B3GNT3	CATCAGGGTCCCCAGCCTCTGGGC
61363	NF2	TTTGTCGCCCAGGCTGGAGTGCAATG
61363	SPN	TTTGTCGCCCAGGCTGGAGTGCAATG
61364	KCNJ15	CCCAGCACCTGGACTCA
61365	SEL1L	CAGATAGAGTGTGGCTTCATTTGTC
61366	CYP4A11	GGCTCCTTGCTCCTTGCTCTCCCAG
61367	UNRIP	CTTGCTGGTCGCAGACTCCCTGACC
61368	EHD2	GCAGGCACGCGCCACCACGCCCAG
61369	FLT1	ACGCAAACCACCTGTGACA
61370	OPHN1	AGTTGGCATGACTCTTGACTCTTGCCT
61371	NPTX1	TGTGTGCCCAGCTCAGCTAG
61372	PCDH11X	GTTTCTCTGTTTGCTCTGAATCAACAGCC
61372	PCDH11Y	GTTTCTCTGTTTGCTCTGAATCAACAGCC
61373	NT5M	GCCCTCTGGGCGCTTGGACATA
61374	ESR1	GTCAAGGGTTTATTATAGCAC
61375	ATP6V0A4	CCGGGAGGGGCGCTGCGGGGAAGC
61376	IQGAP2	GGGACAAACATGTAAACCTATTTTCCT
61377	C9orf19	GCAGCCCAGGCCTGGTCTGGGAGACA
61378	CREBL2	TTTAGTATCAACCTGCTGTATATT
61379	CBFA2T3	ACTCCAGGACGCCCCAGCTGG
61380	HOXB5	AGAAATTCGCATGTTTAATGTGA
61381	NOS1	CTGAAGCCTGGATCCTCCTGGTGAAAT
61382	CGB	CCAGCATCCTATCACCTCCTGGTGGCC
61383	LMO7	ACTAAGGTATAATTGATGTAATA
61384	TSNAX	AGGTAGGCAGATCACGAGGTCA
61385	HMOX2	GGTGGAAGCCTCAGAGGCCTTG
61386	PXR1	GGCTGGGTGGGAGCGGGGAGGGAC
61387	TBX1	TGCAGTAAGCTATGATCATGCC
61388	CD3Z	TGGTGAGAGGGCCGGGCAGAGGGG
61389	ATP11A	CTACACACACCTCTTCTTTTCTTGGTAT
61390	CORO2B	TCGAGCCTCACGTCTACTCCCT
61391	VCL	GTTTCTAGCCCATGGACTTCACA

61392	DDX9	CAAAGAGATTTTGATTAATTCTGGG
61393	SLC14A1	TGCAGTGAGCTAAGATTGCACCACTGC
61394	GGCX	CCTGCCACTTGTAATTTTCAGAATC
61395	TCIRG1	GTCCCGGGCTGGCGGGAGTGCAGTTC
61396	ABCC1	TGAGAGTGAGCAACCAGCTGGA
61397	EIF2B5	TGGAGGAAGGCCAGAGGAA
61398	TPST1	AAAGAGCTCTTGATCCCGATTTCATGC
61399	ABCA1	CAGCTAGCTTGAAAACTTGCTGAA
61400	RHO	GGGTTTTGTTGCTTTCACACTCTATC
61401	CELSR1	TGCCCCAGCAGATCAAAGG
61402	MPDU1	CTCTGCACTTGCAGACTTTCTGAGCCA
61403	COG6	TTATAGAATATGACCTATTTATCTGA
61404	PRDM4	TTCTAAACGGTCCTTGCCCCA
61405	GLP1R	TGTTGTTTGGGAGAGTGCAGT
61406	PDE1B	TGTGTGGGGAGGGGAGTGGATTC
61407	ZFHX1B	GTTCATTAATTTTGTCAGTATTA
61408	FEZ1	AGCTTTCTTTATATCAGTGGAAA
61409	IGF1	TAACATCTTCAGTTTTTCTCCC
61410	TBX6	GTCATCTGTTAGGAAGCCATTCTA
61411	RIMS1	TTACATCTTTAATTTCATATCCA
61412	OTX2	TTCATAAGGAGTCAATATGTAGTTT
61413	OCRL	TAAAGAGACTGGCCAACAGGA
61414	CISH	AGCACCCCCTTGTAAGCTCAGGGC
61415	PVR	CACTTTCTGCCAGCATCTGCAGCCA
61416	PXF	TGTTCCAGGCTGAGAAC
61417	GCS1	TGGGGTGAATGTGAATCCAGAGTCTAT
61418	AMN	CCTTTCCCCCTCCTCCGGGGGCC
61419	NOLA1	CATGATCTGTTTCTACTATGGA
61420	SF3B4	ACATTTTCCTTCCTCCTGTTACA
61421	FZD4	TCTGTCCAACCTCCTTTCTGGTAGA
61422	ATP11B	TGCAAGGGTATATCATATATACAAA
61423	STARD4	GCAGTGGTATGATCACAGCTCACT
61424	RAB36	TTCCCCAGCCTCTCTGCCCAGTA
61425	DFFA	ACCATCCTGGCTAACATGGTGA
61425	GAS7	ACCATCCTGGCTAACATGGTGA
61425	KAI1	ACCATCCTGGCTAACATGGTGA
61425	NFKBIL2	ACCATCCTGGCTAACATGGTGA
61425	PCDH11Y	ACCATCCTGGCTAACATGGTGA
61426	SLBP	AGCTCATGCTGAATTATTTTTG
61427	SIGLEC5	ATTCACTGCATCCCTCTGTGCCTC
61428	CXorf6	CCTGAGCTGCCACCTGCCGA
61429	FAT2	AGCTCTGAACCTTCTTTGTTA
61430	LPL	CCTACCCTTGTTAGTTATTTTA
61431	AP1S1	AGGTTTTAGAAGCTAGGAGGCAG
61432	STIM1	CCACTCACAGTGGTTCTGTTT
61433	OCLN	CGAGTTTCAGGTGAATTGGTCACC
61434	SPINT2	GGCGAGGGCGCGAGTGAGGAGCAGA
61435	AHR	GCCCAAACTGGAGTGCAGT
61436	DCX	AGCAGATCTTTACAAGCAGTTT
61437	SLC7A7	TGGAATCCTGATGTGGAAA

61438	MHC2TA	CAGGCTGGGCTTCAGTGGCAGCTG
61439	YWHAB	TCCAGCCTGGGCAACATAGCG
61440	TEM7	CAGGAGTTCAAGGCTGCAGAGA
61441	TXNRD1	GGGAAGGGAAGATATTTTAAGGCGTGT
61442	WNT5B	CCCTGCACTCTGCCTCACAA
61443	MB	TCACTGGCCCCTTGAAGACAGCAGAA
61444	MUC3B	CCCTTTCTCTCACCCCTGGAGCC
61445	MPHOSPH9	AAACAGTAGTTTTACAATCA
61446	PCDHA1	AATCATACCATTGAATGTAG
61447	HOXB3	TGTCTCTAAAGAACCAAATCAA
61448	NUMB	TCATTATGGCTATGTATCTTGTCCATACC
61449	GALT	CAGGAGTTTGAGGCTGCAGTGA
61449	KCNK6	CAGGAGTTTGAGGCTGCAGTGA
61449	KLRG1	CAGGAGTTTGAGGCTGCAGTGA
61450	SLC6A12	GGGGTGTGATTTGCCTGACCTC
61451	KRTHA7	AGGTAGATAATCAAGGCAGGAGGTCAAAGC
61451	KRTHA8	AGGTAGATAATCAAGGCAGGAGGTCAAAGC
61452	RPS21	AAGAACTTTTGCTGGAGAGAAT
61453	VHL	CAGGAGGCGAAGATTGCAGTG
61454	ALPP	TCCTGCTGCCCTCCAGACATGCTG
61455	GRB10	GCCTCTAGATTGACGTGGGCCAGC
61456	ABCD4	CTGAATCTCCCAGTGTTCAGTCT
61457	PKP1	CTGTCCATCCTGTGCAGTATTT
61458	PCSK1	GTCCCAAGTTGGAAATATTCATG
61459	EPHA3	ATTGAACTTCTTTGAATTTACTGGA
61460	APPBP2	GATAATGCAAAAATTATGTAATA
61461	BTEB1	TAGAAGCAGATGTTCTGTTTGG
61462	DSC1	CTGAGTGGTTTAAAAAGGACT
61463	BACE	AGACAGTGGCAGCAAAGGAAGA
61464	OPA1	TGAAAAAATACTTCCGAAACCAGGAA
61465	GLRX2	TACAGTGTCAGTTATTTAAAG
61466	LRP4	CTCTCCTCAGAGAGCCAGGTCTAATGCC
61467	PCP4	TCTCTATGTTTCTCTCCATTTTCATTCC
61468	KLRG1	ATCTACCACTATATCCCAAATACCTA
61469	MAF	CCCGCTGGCCACCCAGCACA
61470	CYP2B6	GTCTCGAACTCCTGAACTCAAGTGATT
61471	FMR2	TTCATTCTCCTGGTCCTGTGCA
61472	ELF3	GTCTGACAAAATCAGAGTTAGG
61473	BARX2	GGAAAGTGCTTAGCTCTCTCCCTCCT
61474	PRPSAP2	GTTCCTCCCTCTCCCCTGTAACC
61475	SEPX1	CCACACGTTGGCCATTCCA
61476	PPEF2	AACGGTGACTTTGTGGATCGAGGC
61477	ABCB10	TTATTTTATAATACTTTTGGA
61478	F2RL3	CCCGCTGACCGCTCCTCCAG
61479	DAF	AGATCTGTAATGTTATTTCC
61480	SPON1	AGGGAAAGGAATATTATGGGAT
61481	B3GALT3	TGGACTTTGTTAAATATTTTAC
61482	GPR30	ATGCAAGGTGCTGGTGGGTC
61483	DBI	ATTACTGACTTTCCTTGAGT
61484	ARCN1	TGTTTTTAAAAAGTTTTCTCTG

61485	ARF4L	TCTGGAGAAGTGGGCGCTGCA
61486	LECT2	GGCCAATGGTCAGATCTTCAA
61487	SLC39A1	TCTACTGCTGCTGTACCCTAGGAAT
61488	CTF1	TTCGCCATGTTGCCCAGGCTGG
61488	WHSC1	TTCGCCATGTTGCCCAGGCTGG
61489	SORCS1	CCATGATCTGTTGATATCTTTGAA
61490	NR2E3	CTTTGGGCATGGCCAGGGGAAGCAGA
61491	AIRE	CAGCCATCATGTGCCTGGAA
61492	PLAT	TGAACAACTAGGCTTCAGCATATTTAT
61493	CLECSF12	ACCCAGGCTGGAGTGCAGTGGCACA
61493	HUNK	ACCCAGGCTGGAGTGCAGTGGCACA
61493	PCDHB16	ACCCAGGCTGGAGTGCAGTGGCACA
61494	FHL2	GCCCAGGCTGGAGTGCAGTGGCACG
61494	MEFV	GCCCAGGCTGGAGTGCAGTGGCACG
61494	ORC1L	GCCCAGGCTGGAGTGCAGTGGCACG
61494	TAPBP	GCCCAGGCTGGAGTGCAGTGGCACG
61495	HOXA6	GGCCAGCGCTGCAACCTCCTTC
61496	GNA15	GGCTTCCTGGGTGTTTCAGGCAAGG
61497	CLASP1	CTTCATACAAAACAAAAGGAATAAGA
61498	PTTG1IP	AATAAGAAATCTTTGGGG
61499	CPSF4	TTAACTGTTTCATGCGCTTGTT
61500	ITGB7	GAGGTGCGGCCACCACCCTACTTCA
61501	MTMR4	ACCCTTGCCACGGTAGAATGGG
61502	MAP3K9	CTGCTCCCTCTCCTCAGCC
61503	GBF1	AGAACAACAGTGGACTTT
61504	TBX6	GACCAGCCTGCCAACATGGTG
61505	PSG3	TTTTATTGGACTAAATAGTCA
61506	PRKCG	CCAAGCGTTCCTGGCCTTCTGAA
61507	MMP1	CAAGACAGAAAGAGACAGGAGACA
61508	CYP2B6	TTGGCCAGGCTGGTGGTGAGCT
61509	MAB21L1	AGAACGGCTGGGCTCAAAGAT
61510	HRMT1L2	CCCGGCTCTCCCGCCCTGCACGAGCC
61511	BIG1	CCTGTCACATATTTCTCTTAGG
61512	SERPINE1	GAATGTCCCCCATCATGTGGCCC
61513	SLC25A15	GGCGGGATATGTGGTGCCTGTC
61514	WHSC1	ACAGAAATTCATTATGCTGCTA
61515	ZFP161	GGTGGGGGGTCTTGGAGCCAAGCTCTT
61516	CLCN5	ACCACAGAAACCTCTGAATGTAATG
61517	DHFR	GGTACGGAGAAACTGAACTGAGAA
61518	MARK1	TCGCCCGAAGCCCTCCCTCG
61519	HTR1D	CCAGGCTGGAGTGTAGTGG
61519	HYAL4	CCAGGCTGGAGTGTAGTGG
61519	NONO	CCAGGCTGGAGTGTAGTGG
61519	PIK3C2B	CCAGGCTGGAGTGTAGTGG
61519	SERPINB9	CCAGGCTGGAGTGTAGTGG
61520	PRKWNK3	CCAGGTTGGAGTGCAGTGG
61521	PIK3R2	GCTGCGCGGCCCCAGCCTGGGCACCCTGA
61522	CRABP2	GCGCCGCCACCATGCCCAACT
61523	MAT1A	CTCGTTTTTTCTTCACTGCAA
61524	TFE3	ACCCAGTTCTTCATTTGGAG

61525	CTF1	TCGCCCAGGCTGGGGTGCAGT
61526	AIRE	AGTGGGCCATCCAGAGCATGGC
61527	E2F3	TGGGTGTATGTTTGGGAAGAAAA
61528	ITCH	TCTGGTTAATAATCCGAAATGTTACCG
61529	BTG2	GGCTGGCTAGTCAGCCTTGCATGTATT
61530	MYCBP	CATTATCAGTGAACTACTCTGAG
61531	GDF8	TTCCAGAGTTTTTGAGCTAGAAGGAG
61532	DUSP4	TGGGACTGAGCAGCTGGGA
61533	MSR1	ACCCTAACTTGGAAGAGTGA
61534	SART2	TCCATATACTATATTGTG
61535	JRK	CCCTCCAGGCCGACAGGAGGCCATGC
61536	DLG4	GGTGCGGTGCTGGTGCCTTGGG
61537	ACADSB	ACTCTGTCTTACTCTGTCA
61538	SCD	CATCTAGCCTAAAGTATACA
61539	DDEF2	TCCAGGTTATATAAAACTGCAT
61540	PLXNB3	CCTGCCTGCCACCTCCCCTGCCAGCCC
61541	CASP2	CCGCAGCCTGTCAGCCAACATT
61542	KLRD1	ACTGCCCAGGCTGGAGCATAGT
61543	HOXB4	TGGGGTGGGGGGACAGGAGGGGG
61544	UNC13	GCTCATCTGTGGCCACTGCCTTC
61545	GORASP1	TTTACTTTCCCTTCCCCCATAAGTTG
61546	CDH1	GATGGGGTCTTGCTATGTTGCC
61547	ADAM19	TTGCCATAGTCCCTTCCCCCTGA
61548	NKTR	CAGGTCAATAGACAGAAAGTACATTAGAA
61549	KLRC2	GCAGTTATCATAGAGCACAGTCCCT
61549	KLRC3	GCAGTTATCATAGAGCACAGTCCCT
61550	WISP1	TAGAGCTGGAGGCTGTGGGA
61551	DMN	ATGGACTCATGAGCTATTGTTGGT
61552	GRM1	GCCCTTCTCCCCGCTGGGCT
61553	MAGEL2	CGCTAAATCATTGATGACTCCA
61554	IRS1	CTCAGCAGCTGCGTCCTCCTTCAGCTG
61555	GLO1	ACCTTCAGTGAGTTTGACCATTGTGC
61556	IL9R	GGGGGATGGCACCTCTCA
61557	NEDD4L	CTGTCCTCACCAACTGTTTTGT
61558	LAMP2	TGCGGTGAGCCAAGAGCGCACC
61559	IL4R	TGTTGCTGAGTCTGCAGATGAGGA
61560	VDR	AAGGCCGCTGTTCACCACAGGGCTAAG
61561	CDC25C	TAGGTTTCAGCAGAGCTGAAAGCTGGTGG
61562	PIP5K1A	GCCAGAAGCAGCTCCTCTTTAA
61563	PTGIS	CCCAAGTAGCTGAGATTACAGG
61564	SIL	CCCAGGTAGCTGGGATTACAGG
61564	XRCC2	CCCAGGTAGCTGGGATTACAGG
61565	HOXB9	CCTTTATCTGCACCTAGAACCTCCC
61566	NLGN3	TAAACCTGAACAAACCCTTTAAATGGG
61567	OPA1	AAACTATTTGACCATGATAATTCA
61568	CKM	AAATATCTCCCTGGCAGGGTCC
61569	LTBP2	CCAACCCAAACTAGCTGGGAGT
61570	ACADL	GTTTTCTGAATCTTGCCTAGGTGTTTCA
61571	SLC13A3	AGCCCGAGGCTGGAAGTGGTG
61572	WASF3	TATCTGTCATCTTGCAGTATTA

61573	p100	CAGGCTGGCCGCCAGCTGGCAC
61574	NFATC4	GGGCTCCTGCCGGATCCA
61575	GJB1	GGAGTTAGGGAGAGAGAAGCAGG
61576	C5R1	TGCCTGTAATCCCAGCTACTTGG
61576	CTSS	TGCCTGTAATCCCAGCTACTTGG
61576	TSNAX	TGCCTGTAATCCCAGCTACTTGG
61577	NOS1	AGCTATAATCTCCCCTGCCTTC
61578	TAPBP	CTCAATGCTCATCACACACAG
61579	CTNS	TTACTCTCTTCTGCCCTCTCTC
61580	MSL3L1	AAGCTGGGATAGATGGGCAGCAG
61581	RET	AAATTGGTAGTGTCTGTTAAGTT
61582	EPO	TTAAACTCAGGGACAGAGCCA
61583	MLPH	CTCCACCTCCACATGCTCCGCCTCCA
61584	ATP8B2	TGCCTCTGTTCCTGAATTACA
61585	ZNF264	AGAAATGTTAAACTATCTGGGGGAA
61586	MYLK2	CCAGGAGAATTAGGAAGGCCAT
61587	CUL3	TATTGCATACAAGATTTATTGC
61588	FABP2	CTTTTTCACACTGATGTAGAT
61589	SIRT3	TCTGCTTTCTGTGCCTAGTTGAA
61590	PRKCM	AAACTCAAGACAATGCACCTAGCT
61591	PSMD5	AATCTTTCTTTTCATTGAC
61592	ABCD2	CTGACTCTCTGGTTTAGTGCT
61593	KAL1	GCCTAAACTGTGTTTTTTATGTCCA
61594	CDH2	ACATGTGTATGTATTATTTGGAC
61595	PMCHL1	TGTTCTGCTCTGTTTTTGACTC
61596	HYAL4	GTGATCTCGGCTCGCTGCAGCC
61597	FKBP1B	TTACCTTTGCTGTCACTTTCTC
61598	INMT	CTGAGTAGCTGGGACTACAGGA
61599	CGA	AGCTTTACTGCCTTCCTCCTTA
61600	NMBR	ACTACCTGGAGAGAACTTAGTAA
61601	COL4A3	GGCAAAGCAGCAACTATTCACAAAATA
61602	DVL3	TGCCTGTAATCTCAGCTACTCAGGAGG
61603	RP2	CTTGAGGTTCAAAAATAATTCATT
61604	EXTL2	TCACCCATTGTCTGTGTTTAG
61605	NEDD4L	GCTCAAGCTATTGAGCTG
61606	SNAI2	CACAAATGCAATAATACAATACCCCTT
61607	ARVCF	CAGTAGAGAGCCTTTCTCCA
61608	HPCAL1	CACAGCCGCTTGCACGTATAG
61609	FUT8	GACAAATTCAGGATACCAGAAGGC
61610	ATP2C1	ACTGTTCTTTTCTTTCTTTTTGT
61611	AKAP4	TCACGTTTTCAGCCAAACATCTA
61612	TRIM9	CTGCAGTCTTTACACCCACAGCTCT
61613	WHSC1L1	TGATTGTCCATTTACAGCCCT
61614	TTC3	CAAAACTGTAACTGCATTAGAA
61615	ABCA2	CTCCTCTGGCCCTGCTCTCCTGC
61616	PTMA	TCTGTCCTACTTCTGACTTTACTTG
61617	KCNS2	AATGCAAAGTTAAGCAGACTTGACCAATG
61618	APM1	TCTTCTGCCTCAGCCTCCCGAGTAGCT
61618	TUFT1	TCTTCTGCCTCAGCCTCCCGAGTAGCT
61618	WHSC1	TCTTCTGCCTCAGCCTCCCGAGTAGCT

61619	IL2RG	CTCTTTCCATCTACCCTCCGATTGTTCCTGA
61620	MYO1B	TTTCTTTCTTTTTCTTCAAATT
61621	IL1A	CATTTTGGTCCAAGTTGTGCTT
61622	DLG4	CCTGCCTCCATCACCTGGGCC
61623	AICDA	CACGCCTGTAATCCCAGCACTT
61623	ATM	CACGCCTGTAATCCCAGCACTT
61623	BRCA1	CACGCCTGTAATCCCAGCACTT
61623	COG7	CACGCCTGTAATCCCAGCACTT
61623	CREB1	CACGCCTGTAATCCCAGCACTT
61623	DBT	CACGCCTGTAATCCCAGCACTT
61623	EGFL5	CACGCCTGTAATCCCAGCACTT
61623	F2R	CACGCCTGTAATCCCAGCACTT
61623	F2RL3	CACGCCTGTAATCCCAGCACTT
61623	FGFR1	CACGCCTGTAATCCCAGCACTT
61623	FKRP	CACGCCTGTAATCCCAGCACTT
61623	GNE	CACGCCTGTAATCCCAGCACTT
61623	HIP1	CACGCCTGTAATCCCAGCACTT
61623	IL10	CACGCCTGTAATCCCAGCACTT
61623	IRAK1	CACGCCTGTAATCCCAGCACTT
61623	ITGAL	CACGCCTGTAATCCCAGCACTT
61623	KAI1	CACGCCTGTAATCCCAGCACTT
61623	LAMP2	CACGCCTGTAATCCCAGCACTT
61623	LDLR	CACGCCTGTAATCCCAGCACTT
61623	LEP	CACGCCTGTAATCCCAGCACTT
61623	MOG	CACGCCTGTAATCCCAGCACTT
61623	NT5C2	CACGCCTGTAATCCCAGCACTT
61623	PCDH11X	CACGCCTGTAATCCCAGCACTT
61623	RAB3B	CACGCCTGTAATCCCAGCACTT
61623	RBBP5	CACGCCTGTAATCCCAGCACTT
61623	SLC14A1	CACGCCTGTAATCCCAGCACTT
61623	SLC14A2	CACGCCTGTAATCCCAGCACTT
61623	SLC2A3	CACGCCTGTAATCCCAGCACTT
61623	SLC2A6	CACGCCTGTAATCCCAGCACTT
61623	SMG1	CACGCCTGTAATCCCAGCACTT
61623	STAT3	CACGCCTGTAATCCCAGCACTT
61623	SWAP70	CACGCCTGTAATCCCAGCACTT
61623	TCF7	CACGCCTGTAATCCCAGCACTT
61623	TEM7	CACGCCTGTAATCCCAGCACTT
61623	TSNAX	CACGCCTGTAATCCCAGCACTT
61623	USP14	CACGCCTGTAATCCCAGCACTT
61623	VHL	CACGCCTGTAATCCCAGCACTT
61623	WIG1	CACGCCTGTAATCCCAGCACTT
61623	WSX1	CACGCCTGTAATCCCAGCACTT
61623	ZNF36	CACGCCTGTAATCCCAGCACTT
61624	DSCR3	GCAGGCTGAGTGCACTGGCA
61625	DISC1	GATGGCCATGCTTAAGCCAGCAATTG
61626	JUP	CCCACCCACACAGCTGCCCTA
61627	PAK1	CCCTCGAGGAACCTGGTCTC
61628	GPR92	GTGCTGCTGGAAATGGCTTCTTTA
61629	IFNAR1	CCAAAACAGTGGCCACCCGTC

61630	SLC17A4	ATAGTACACTTTAACTCTTTC
61631	HHLA1	ACCCCCACTCCTGCCCGCC
61632	BRF2	TGTCATGAGATCCTCTACCTC
61633	BAALC	ACGGTCTGGTGTAAAAGTAGTGAGTTAA
61634	PDGFB	GGAGGCACCTCCAGGCAGGCCA
61635	FMOD	TGGGCAGTCAGGGGCAAGGACTG
61636	MPDU1	CCACTCATTCACCCAACCTCAG
61637	CD79B	CAGCTCTTGCCAAAGGGCCTG
61638	MEOX2	AGAAAACAAAATTCTGAAT
61639	GATM	CATCTACCTCTGTTTTTAATTTTCTTTCCAA
61640	MGEA5	AGGATTTCAGAGTTAACCTCA
61641	ZFHX1B	CTCCCCCACACTTCGCGGCTT
61642	CD79B	CCAGAGCTGCCATTTGTCTCCA
61643	GSPT1	TTTCCCAAGATTCCTGTCCCTAGCCCT
61644	AOC3	CTACAACTCCAGCCACCCAGCC
61645	FN1	GTGAACAAACAATATGTGGTCA
61646	NFIA	ACAATATGTTAACTACATTAAATGCT
61647	MLLT2	TTCTGGCTGAAAACTTGCCTTA
61648	C4BPB	GTATTTTTGCAGTTCCTCC
61649	PIK3R3	GGAAGCCTCTGAAGAGACCA
61650	ADCYAP1R1	CAGTGGGAGGCCAGTGGTGCT
61651	BACH1	TTCAAAACAAATGTGGATACAGTCTT
61652	COX15	TTTCATGTTGAAAATCAGT
61653	REN	TGCACACACCCAGGAAGTTCTG
61654	C21orf5	CGCCTGTAATCCCAGCTACTTGG
61654	DFFA	CGCCTGTAATCCCAGCTACTTGG
61654	SLC2A3	CGCCTGTAATCCCAGCTACTTGG
61654	SWAP70	CGCCTGTAATCCCAGCTACTTGG
61655	TNFRSF1A	TGGCCTTTGGGGTTCAAGATCACTGGG
61656	LIFR	CTGTTGTTTGTGGTTTTCTCATA
61657	C4B	CAGACAGACAGACGGATCTA
61658	BNC	ATTTTTCTTAGCCCAAGAGGTCTT
61659	ITGA2	ACTCTCAGGATTTCACCAGAA
61660	DLC1	GCTCCCAGCCAGGACATGGCCGC
61661	GJB3	ATAGGTAACCCACAGGCCCAG
61662	IGF1	TGCAGGAGGGACTCTGAAACCTCAAGCTG
61663	WNT2	CTGCAGTCATCTCCCCTCCTGGCGAGTT
61664	BACH2	GGCCTCGGCTTGCTCTTG
61665	ZNF75	TTTCCCTGGCTATTTTCTACCCACAG
61666	CEACAM1	TTATTCAGAAGTAAAAAAGCA
61667	TRIM39	CAAGGTGGGACCCTGAACAGTGGT
61668	NDUFA10	TTCCATTCTGGATGTTTGGA
61669	FLT1	GAAGAGAGGAGTGGGACAG
61670	DNAJB9	TACTGCATTCTTACCATCCTTCT
61671	TRPC5	AGGCTGAAGAGATTTCAAAGA
61672	AMFR	GAACAGTCCTGTGGAAAGGC
61673	SORCS2	AGTAGCCCCTTCCTCCTCCTCC
61674	CARKL	GGAGGCTGAGGCAGGAAAATCA
61675	PODXL	TCAGTGTTTGTTCCCACTTA
61676	FEZ1	GACTACAGGTGTGCGCCACCAT

61677	KCNK6	GTCAGGGCTGAAGTCGGA
61678	CXADR	GCAGCCGCCGCCCACGGCACGG
61679	IL20RA	CCATCCAGCTGGGTAGCCGGGG
61680	PPP3CC	TTGTTTTTCCCTTTTTTCTCCA
61681	CHEK2	TCTGAAGGAACGGTTGCAGTCC
61682	LU	CCCATCATCTGTGGACACTGGAGTCT
61683	NLGN1	CTCAGACCACAGGAAACTCTTC
61684	PRDM4	AACATGCTCTCCTGCTCAAGGCACA
61685	COL4A3	TATCTGGAGCATTGTGTATAGAACTGG
61686	PES1	TTCTCCTCCTCCTTTCTCCAGC
61687	EMP1	GGGGGTGGGGAGGAGGAAGCC
61688	PRX	GGGAGTGGGGACCAGGAAGAG
61689	ADCY1	GCAGAGCTGGGTGGGCTGAGACCAGCA
61690	N33	TCTCCTCCTCTGCGTCCTCGGC
61691	PTP4A2	GGGAGCACACTCTTGGCACAT
61692	SCN4A	GGCAGTCTCCCCTTCCTGGCAC
61693	LILRB1	TGAGCCAAGATCGCACCACTG
61694	PKIA	CTTTGCAGAGAAAGCCCCCCT
61695	PDZK1	TCTCGGCTCACAGCAACCTCTCTGC
61696	CYP11B1	TCTCCCACATGCACAGCTTCC
61697	GADD45B	GCTCTGTACCCATGAACTCCCAG
61698	WT1	GGAGCCGGCGTCTCAGCACAC
61699	MADH4	ATTGACTGTACCACAGACACA
61700	MYO1D	CTCAGCCAGGAGCCAGTGGCAGG
61701	FBXL11	TTATTCCAGAGTGCCTCAGTTAG
61702	ED1	CTTATTTCTCAAGCTGTGCCTTCCCTT
61703	MAGEA2	CTGCCTCTGCTGCCGGGCCTGGACCA
61704	ST5	AGGCCCAGCCTGGGACCCTCTGG
61705	SDHA	TGTGGTGATGACAGAATCAGCT
61706	CBFA2T2	AAGGCTTAGGTTTGGTGTGCAGA
61707	PPP1R12A	GAACAGTTCAGCCATTTGAA
61708	CD28	TCACTCACCTGCACATCTCAGTCA
61709	DES	CTCTTGTGCTGGATGGAGCCCA
61710	TBL2	ACTCCCCCGCACAGG
61711	PPP1R12B	CTCACTGGTGACTTCATCCCTCAGGCT
61712	STARD4	TTTTGACAAAGTGGAACAGTGG
61713	B3GAT1	GCCTCAAACTCCTGCCCTCCCCAGGCC
61714	COL18A1	ATGGGAGCTGAGGCCACACTCAGCA
61715	MMP25	CCCCTTCCCTGCTTGCACCCTG
61716	PYCR1	GGAGGGTGGTTACTGTGGGT
61717	CDC45L	GCACTTATTTCCCTCCTGTCC
61718	EIF5A2	ACTCCATCAGCCAGGCTGG
61719	CCNF	GTCAATGTGAACACCTCTCTTTGTGC
61720	GALC	CTGAGGTAGCTCTCTTCATCTTA
61721	LUZP1	TTCACTACCCACTATCTTATTCA
61722	LRRC2	GACATCATGACGAAACCCCA
61723	S100A3	CTCTGGGGCCCAGCCTGCCTGC
61724	HS2ST1	CCATATTTATGTAGGTGGTTTTA
61725	TM4SF6	TGAAGTAATACTGTGTT
61726	RFC2	CCAACATGGGGAAACCCTGTCT

61727	G6PT1	CCTTCAGACAAACAGGAAACTTCTG
61728	TAPBP	GGAGTAGCTGGGATTACAGGCAC
61729	TNFRSF6B	CCAGGAGGAGAGGCTTGCCGTG
61730	HYAL2	CTGACCCTACTCCCTTGCCCTAG
61731	ARNT2	CTTGTTCTGCCAGCTGGAGCCA
61732	MDM1	GGCAAAGTGCTGGGACTTTTT
61733	CLASP1	TATGATACAGAGAACCTGAACTCTGAA
61734	PTTG1IP	TGGGCTTTTTTATACTCTTCTCA
61735	EMD	CCCTGACTTTGTTTTTGTGGACA
61736	NFYA	TTCATTCTTCCCATGGCAGCT
61737	YES1	ATTCATTGCAGTGGGATA
61738	HPGD	ACACTAGTAACAGTGAAAGCACAA
61739	SLC7A5	TTGCTACCACAGACTTGCACT
61740	RAC2	TCCTCCAGGATCCCCACCCAAAGCCTG
61741	BRCA1	CGATCCTATCACCTCAGTCTCCCAA
61742	RBBP9	CAGGCTGGAGGTCAGTGGCACA
61743	XYLB	GCCCCAGGGCAGGAAAGCA
61744	SOX13	TCTGGATTCTCTGGGTCTATGT
61745	NTRK2	ACCACAACTAACAATGCCTTG
61746	NPAS1	GGGGACTGGGACTGGCAGAGCTGCCGGC
61747	ED1	CTAATCAAATTCTGTCTGGGGA
61748	FBLN1	CCTTTTCCCCACGGCCCTTGCCA
61749	RB1	ATTTAAGGTAGCTTCAGCTAG
61750	SLC2A2	TTCCATTTATTGCACTCAGCTT
61751	TAZ	CCACAACCACCTCCAGCCTGGGAGATAGG
61752	UNC13	GCCATGTCACTGCTCTGCGTG
61753	APAF1	GTTGCCAGGCTGGAGTGCAGT
61753	CYP1A2	GTTGCCAGGCTGGAGTGCAGT
61753	SEDL	GTTGCCAGGCTGGAGTGCAGT
61754	NAPB	GCCCAGTTAGTGGTGTGCAAA
61755	SLC22A3	TTCTAAACATGTGTCTCTCCCA
61756	TM7SF2	TCCATCTCCTGGGAAATGGGGCG
61757	HNRPA1	TGTGAACTCAGCCAAGCACAGTGGTGG
61758	LDB2	TCGTTTTTGGGCAACTCCAGT
61759	DIAPH2	TTCTAATCTGAACACAGTTATC
61760	SIRT1	AGCATGTCAAAATGAATGTTTAC
61761	DSCR3	CAGCAGTTTGAGCTTGCTGGAGAGTGG
61762	GRM4	CAGCTCCTCCTGCTTTCTTGGG
61763	YES1	CTGCCGCCCAGGCTGGAGTGCAGT
61764	EGFL4	ATCCTGGGGCTTCAATGCTTC
61765	BENE	ATCTCCACTCACTGCAGGCT
61766	HLF	TACTAAGTTTCCTTTTAATTCTACCA
61767	RP42	TAAAAGAAAAAGGAAAAAGAA
61768	USH3A	ACCGTCGATGGTGAAGTTGCC
61769	GNPI	TGGTTCACACATATGACACACTCCCGT
61770	MLLT3	CTCTTCATGAATTACAGC
61771	NACA	GGTGTCTCAAAGGAGTAACTGCAGCTT
61772	ARHGEF12	GGGTAAGTTTCAGAATTGTAATTTGAGA
61773	PSAP	AGGCCATCAACCCTCTTGGTTGAG
61774	SMAC	TGAACTCCTGGGCTCAAGTGAT

61775	STARD4	TGAACTCCTGGCCTCAAGTCAT
61776	KIF13A	AGTGTTCTGGTAGCATCTACC
61777	MAGEB4	TTCTCCAGGAACCACATCACCTGCCCT
61778	HDAC5	CAGGGGAGGGGCAGGAGTCCCAGC
61779	SLC21A3	ACCCCTTTCTTTGACTCAGAA
61780	MIR16	ACTCTGTGGAAGGGAAGGGGT
61781	GPLD1	ACTCATGTCTCCTTCCACAGTTTAC
61782	SLC12A7	TTTTCCTTGGCTGGATTTACCCAGTGG
61783	HEBP1	CCTGCCACCCTGCCGCCCTGCCGC
61784	MKI67	CCAGGCTGGGGCAGGTTCTTA
61785	CDH5	AACTTTGAAGCAACTGTGAA
61786	TFRC	AGGCCTTAATATGTTAACCTCA
61787	RBBP2	TGCTGTTTCCAACACTGGTG
61788	FVT1	AAAGGCTGATGATGGTATAAA
61789	SOX4	AGAGAAACTGTGTGTGAGGGG
61790	DHFR	CTGCAACCTCCGCCTTCCCAGA
61791	LNK	CTTGTCAACCGGGCTGGAGTGCAGT
61792	WNT6	AGTTTTTTAGACTGGAAA
61793	JAG1	AGTTTTGACAAGCTGGCTTACACTGG
61794	JUN	GCTGCTCTGGGAAGTGAGTTCGCCTG
61795	KLRC3	GTCTTGAACTCCTGGCTCAAGA
61796	REGL	TCTGTGCTCACCCAGGCTGAGGGTGC
61797	AICDA	CAGGAGGTGGAGGTTGCAGTAAGCTG
61798	LARGE	GTTCTTGCCTGCTTCACTGTGG
61799	KPNB1	CCAACAGCAGCGCTGTTA
61800	CARKL	TAGATCATCCTCAGAAAAGCCTT
61801	FTSJ2	AGGATTTCTTGTGCCATTTTCAT
61802	GPR61	GTTTCCTGGGTCAGGAACAGA
61803	JUN	GGAGGCTGGAGGAAGGGGGGTTGCAGT
61804	RPL23	CTTTTTTCTTTTTTCCGGC
61805	IL10RA	CTCTGCCTTCAAACAAAGGCA
61806	DDX11	CAGGTCCTTAAATAAAAGTGTGCTGT
61807	WRN	TGGGCTGTGGTGGGAGGGTTGCAGCGCCGCG
61808	APM1	TCAATCCTATAAGGCACAG
61809	ADAT1	ACCTGTAATCCTAGCTACTCGGG
61810	AICDA	ACCTGTAATCCCAGCTACTTGGG
61810	CD68	ACCTGTAATCCCAGCTACTTGGG
61810	GALNT7	ACCTGTAATCCCAGCTACTTGGG
61810	IL10	ACCTGTAATCCCAGCTACTTGGG
61810	RAB7L1	ACCTGTAATCCCAGCTACTTGGG
61810	ZNF36	ACCTGTAATCCCAGCTACTTGGG
61811	IRTA2	TCCTTGGAGCTGGTGTGCAGTG
61812	SORCS3	GCAAAGGATGCATCTTCCCA
61813	ATP5G1	GTTGCAGGGCAGTAGGAGTGCAGA
61814	BAP1	CAGGATCAAGACAACCCGTTGG
61815	MSF	CCCTCCTGGCCCAGGCCTTGCTGACTC
61816	WNT10B	CAAACTCCTTTACTGCAGCCT
61817	ATF5	ACCAGCCTGGGCAACATAGTAAGACC
61818	TTPA	GCAGCATTTCTGAGAGCATTCA
61819	EEF2K	GCCTCTGCCAACTCCTCTGGACCC

61820	MKI67	GCAGGGAGGGGACATCTGAGGGC
61821	RNMT	CAGGCACCACCTTCCTCCTTGAGCTT
61822	PDE6B	GAAGTGCTGGGATTACAGGCAT
61823	PTGIS	AAAGTGCTAGGATTACAGGCAT
61823	SEDL	AAAGTGCTAGGATTACAGGCAT
61823	SERPINB9	AAAGTGCTAGGATTACAGGCAT
61824	VENTX2	AAAGTGCTGGGATTACGGGCAT
61825	APOBEC1	CCATCAGCTGCTCCATCACC
61826	PACSIN3	GGGCCTCCCCAGGAGCTGTGGA
61827	PET112L	CCGACCAGCAGCCACCCCGCC
61828	GPR30	CCGGTGTGAGGAGCATCTGT
61829	TADA2L	GAGGTTGCAGCGAGCTGAGATCACGCC
61830	ADCY1	TGGTGCAAGAGGCAGGATGGTCTCCAGACA
61831	ST7	GTTTAACATACAATCATGTGAA
61832	FUT6	CACATCGCATTGAAGCCACA
61833	RPL9	TAAATGATGCAATAAAAGACCTA
61834	MSN	TTGGGTTTTTAAAAAATTGTTT
61835	CCND2	AGCCAGAGTTTTCTCAAGAG
61836	DHCR7	GTGTAGGCAGGTGGGCTCTGCTTCCCGA
61837	RPH3AL	CCCAGCTCAGTGCCTT
61838	CNGA3	GACTTTTTGTCTCAGTCCCA
61839	GALR1	TTTATCCTGTGAAACTGGCT
61840	CACNG7	AGCCCCGGGGTGGCGTAGGGA
61841	WHSC1	GCAAAGTTAACTACACAGAG
61842	HMGCR	CCACGAACGCTCTTAGCTTTCTCAGGGGGTCA
61843	HAL	CCAGCTGAGGACCTCAGGCTGC
61844	ATRN	ACAAACCTGCATGTTGTGCACA
61845	EPB41L2	GAGCAGGCCTATCTCTTTCA
61846	HEM1	TTGCTGTCTGGTGCTCCTCTCTC
61847	FUT6	TATGTCCCTTACCTGGGATTT
61848	TPT	TAAAGAATTTTGTGGAATAC
61849	HIVEP2	AGTTTATAGCATGCCTGTCCTAA
61850	MAPRE3	GCAGTGTGCCTGGCTTGGCTTCCCTT
61851	TLX1	GTGTTACTGTCCCTCCTGGTGTC
61852	KRTHA8	CTTTAGAAAATCTGGCTTCT
61853	MGEA5	TTTAATTTAGATTCTGTGTTT
61854	GALT	TACAGCCGCCAGGAGCTACTCAG
61855	WAS	TCCCCGCAGGACATGGCTCC
61856	EVI2A	AGATGATCTTTGTCTGAA
61857	KLK3	CTGATTCCCCAAATCTGCATCCTTT
61858	F2RL3	GGCCCTGCCAGCATCTCTGGCTCGGCT
61859	CENTD2	CCCGCCTGGCCGGAGCTGT
61860	CYP3A4	TGGTGGACTCGCCTGTAATCTCACTACAC
61861	IL17C	GCTCCAAGCCCAGCCTGCCCCGC
61862	OPCML	TGCTTCTCTCCTCATCATCATTCCC
61863	AANAT	GGAACATCTGCTACTACAGCCTT
61864	ABCC12	AACCTTTGCCATTTCTCTGCCATA
61865	AQP3	GGGAAGAGAATGGGCAGCA
61866	UBE4A	CTTGCCTGGCAGTGTTTGTTC
61867	RORB	TCCGGGGTTCGGGCTGGGAGCAGC

61868	IL17R	CATTGCACTGCAGCCTGGATGACAGAG
61869	UQCRC2	TAAAATAAGGCATAAATGCAGGTA
61870	ALEX3	GAGATTGGAAAGATTGTTGGGAGT
61871	TH1L	AGCTTGAGTTGAAGAAGACACTG
61872	F2RL3	GCCTGTTCTGGGCATTTCA
61873	HAS3	TTGCAATCCAGGCTGTTCTCAGCG
61874	NHLH1	TGCATTTCTGTGCTCCCTCCTCC
61875	KIF3C	TGGTTCCTAGGGGGATACTCCTT
61876	PRKCN	CAGTTCCTCAGTCTGTAAA
61877	RPH3AL	CCTTCCTGCCTCCTGCCCCA
61877	STARD5	CCTTCCTGCCTCCTGCCCCA
61878	ESR1	TGGCAGCTTCAGTTCTAGAGAA
61879	PPP2R1B	CTGTAGTGCCTCCTAATAAGCAG
61880	SLA2	CAATGCCAAGACGGAGACCAC
61881	RALBP1	ACTGACCTTCCTTAAAAACAG
61882	TYRP1	CACTGTGTTTCCCTGCCTCT
61883	DDX3	CTAATAACGCATGCTAGTGTT
61884	SERPINB5	TTGGGGATTTTCAAAAGATAAT
61885	CRIM1	ATGGAGAAGGGTATTCCTTTA
61886	SCD	TGAGCCCCAGTGCTGGAAGGGAGG
61887	AP1G1	GTTGTATCTGTAACACTGGCACTG
61888	GARP	AAGAAGCCGGGAGACACTCTA
61889	G6PC	TCACCCAGGCTGGAGTGGAGT
61890	HEM1	AGACTTGTTCAGACCCCA
61891	RECQL	AAATGTAAAATATTTGAGAATAAGTTC
61892	HPS4	TTGATTACAAGTTCTCTGCTG
61893	IRF6	CCTGCTCTTCCATATCATGGCCC
61894	UBE4A	ACTCTTTTACTCAGCTCTG
61895	RHCE	CCTCAAGCCCTCAAGTAGGTG
61896	ASCL1	CTCTGTGTCCCCCTCGCGGGC
61897	HMGA1	TTGCTCTCTGGGCTTTTGGT
61898	VPS41	CTTCATCTTCCTTGGGATATAT
61899	PIGR	CCAACTGGCCAGCAGGCTGTGTCCCTG
61900	DFFB	GTGTGAGCCACTGCGCCCAGCC
61901	LMO1	TGTAATTCTAGCTGAGTGCAA
61902	IBSP	ACTCACTGCCTTGAGCCTGCTTCCT
61903	DLC1	CAGGACATGGCCGCACCTCTC
61904	REN	TAGTATCTGTGGGTCCTGGCC
61905	SLC3A2	TTCCAAGAATGCTGAGGTTACAGGCAC
61906	TRIM14	CATGTAGCAGAGACAGAGCTA
61907	GM2A	ACATGGCATCTGCCACAGCAGA
61908	MMP25	GGAAATTTAAGTTTGCAGAT
61909	EHD1	CCCAGTGTTGCATTTCCTGGC
61910	DIO1	TTGGTGGTGATGATGGGTGAG
61911	B3GAT1	CCCACCCCATTAAGACTCACCA
61912	EXTL1	AGCTGGTGCAGCGGCAGAGTGGA
61913	PX19	TCTGCTGTCTACGTGGTGGGTTGTGGG
61914	WHSC1	AAGCTTCCTCTGGCCAGGT
61915	PCDHA9	CTTTTTAAACAAGTGTTTCCTTTCTT
61916	NT5E	TCTCAACTATATCAAGTTACTGTTCAG

61917	ANGPT1	TTGTTCTGTGGTTATCATG
61918	SHANK2	CATGTTATTTCAGAATTATGCAAAACG
61919	SLC18A1	TGCCTCAGTGACCACCTCTTT
61920	RRP22	TGCTCCTGGAGCTTCACTGG
61921	RS1	CTGTTCTGGCCCCAGACACA
61922	RNF14	GGGAATTTGGCTTCATACTCTT
61923	IPP	AAACTTTTTATTGGCAGCAGAT
61924	RPP30	AAAGTGCTGGGATTACATGAGCCA
61925	M6PR	GGCTCACTGGCCGTTTGTTT
61926	NRCAM	AGAAAGATGTCAACATGCTAG
61927	SLC7A6	TTACTTGGTAAAGTGCAGT
61928	MAP3K8	GAGTCTGACTCAGTACTTTTCTCACTC
61929	G6PT1	TGTCACCCGGGTGGCGCTGGAAGTTAT
61930	PMCHL1	GGCTCACTGAAACCTCTGCCTCC
61931	EIF5A2	TACAAAGGAAATTTCTAAAGCACAA
61932	PRKCSH	CGCCCCTCTGGGCCTGCCTGTG
61933	PSMA1	TATATATGTATTATCAAATATGTAAG
61934	CUL5	TGTATACAAAAGTTTTAACTACTTTT
61935	UBE4A	ACTAATATCAACAGTATATCTCAG
61936	MAPRE1	CCTTGGGATCTGCCAGGCTGG
61937	SELL	CTCAGCTTTTTGTCTTTTCTGA
61938	WWP2	CCTGTCCTCTAGACCCCACCCTGGGTG
61939	IMPDH1	GGGACACCTCTCCCCCTCATCCCCCGAT
61940	WTAP	TTCCATTCAACAGGCACATGTTTAAAA
61941	ETV5	ACAAACCTTTTGGTAATGTGCACTGTG
61942	WSX1	CGTCTGGCTGGGGGCTGCCAG
61943	COL14A1	AGAGCATCTGCCCCAGTCAACTTCTCA
61944	MTERF	CAGGAGATAGCTGTTCTCCA
61945	MYO7A	GGTTCCATGCCTGCTCTCGAGGCA
61946	DDEF2	ACCTAAAAATGTTTGC
61947	SNX6	TGGAAACAAACAAAAAGCAGCTGA
61948	MATN3	CCCCCGACGGACACCACCAGGCCCA
61949	ALDH8A1	TGCAGTGAGCCATGATCATTCC
61950	PLOD	GTGGGGAGGGGAGTGACAGGTCCACA
61951	NTSR1	AACCCATGTTTCTCATTAGTGTCTC
61952	SHFM3	CTAGAGGCTTCTGACTCCTGGGACTTTG
61953	T	CCTCCTCCCGGGTCTGTGCCG
61954	RB1	TGTTAGTCATTGTTATTTATAC
61955	SUV39H1	GGCTGGGACCAAGCTCTGCCTTC
61956	PTGS1	AAGCAGCATTCTGGAGGGGAGAGC
61957	CBFA2T3	ACTATCACACACTTTCTCTTCA
61958	ATSV	GCCACCCAGGACAGGACGGGGGTCAGC
61959	SPOCK	ATCAAATTAAGATGACACTTAAAGA
61960	SDC4	ATAATATATTATTATTCTTCC
61961	FHIT	AAAAGCTCTGTGCATCCTGCC
61962	SOX11	TAAGGCTGTTTTGATGAGTGCGTT
61963	TFEB	CTTCTGAGCCCGAGCCCCTCAT
61964	DLGAP2	TGAGCTCCTGGGAACAGGTGGT
61965	FGF2	AAGGCTACTATTCATCCTCTGTGAT
61966	SLC4A7	AAACTATTTATTAACTAATGTA

61967	NOL3	GTGACTTCTCTCCACATAGGG
61968	ABCD2	TGAACTCCTGTTTAAGGAAG
61969	BIN3	GGAGAGTAGGAAGAGCTGTGGAGG
61970	SOX2	GGGAGAGAAGTTTGAGCCCCAGGCTTA
61971	NCOA6IP	AGCCTTCTGAGTTCAAGCAATC
61972	EGLN2	AGGCCCTTCCTTAGGCCAGGT
61973	TRIM9	CGCCTCTCTGGGTGTCCGTGCC
61974	INPP5D	AAGCCCAGTGCCCTCCTGGA
61975	CASP6	CATTGCACTCCAGCCTGGGCAACGAGT
61976	FACL3	TTTATTACTGCTTGCCTGTTGTTA
61977	ADCY1	AGATTGCACCATTGCACTCCAGCCTGGG
61978	ENO3	GTAAAGGCCATGGCCATGCAG
61979	ATP2B4	CGTCAGCTGCTGTGTTAACA
61980	BENE	CTCCAAGGCTGGAGTGCAGTGACGCG
61981	IFNA17	ATGCTGATGTCTCTGTTCATCTATTT
61981	IFNA4	ATGCTGATGTCTCTGTTCATCTATTT
61982	ZNF147	TCTCCAGGCTGCTGGGCAGCTG
61983	MGAT1	GAGGATTATTCTCCCGTTCTCAA
61984	STAT1	TAACTGCATTGAGAACTGCATATGT
61985	KIF1B	TGGCTCACGCCTGTAATCCAAGCACTT
61986	PKDREJ	GCATCTGGGGAGACAGCAGG
61987	ANKTM1	CTGGAAAGCTTCATGTTGAAA
61988	TSLP	CTCAAGAGGAAAATCCAAAAG
61989	PATE	CAAACTCACAAGGAGACATCAACCT
61990	GAB2	CGGGAAGTGAGTTTCTTTGCAGTGA
61991	GNLY	TGAGCCCCAAGGGCAAGAACACTTCT
61992	FUT3	CCTGTGAGGGGTGCAGAGAGATCATCA
61993	HD	CTCCCTTCTCTCTTTTCTTC
61994	LRAT	TTTACCTTCCTCTCTCCTCA
61995	MLLT2	GAAGCAAGAAGAAAGCCATTGTGTC
61996	MADH3	GAAATCTTTCTCCCTCAACTGAA
61997	CALU	TTTTCTTCTTTTTCCCCCTGTAGGAC
61998	FCMD	TGAAATCCAAGACATCTTGGCCC
61999	CPD	TTTGAACTTCCCTTCCTTAAA
62000	TXNIP	GCCCCTCACTGCAGCTGCC
62001	EGLN2	GCTGCTCCTTCCCTGCCAC
62002	RHD	TACTTCCCTTTTTGAATACCA
62003	CSHL1	CTTCTGCTTCTCAGACTCTATTCCGAC
62004	KIF1B	TTTGTGATATCACTTTAATTTTTCTTGGG
62005	RNF28	GGAGAGGGTGGGGAGGGGCCCAGC
62006	GNB1	AGCCTCTCTGATGTTGTC
62007	ZNF192	CTAGTTCCTGTGCTTCTTCCCAT
62008	ZNF35	CACCTCTTTGCTGTTTTCTTCCTCCT
62009	BCAS1	GTCACCTAGTTGGGTCAGAAGAGTCGA
62010	ADRA2B	GGTGTGTGAATTCCTACCCCGAACTGGAA
62011	PAX2	AGAAAGAATCTCATTTGCAAAA
62012	MAN2A2	GTGACTTCCACCTGCTCAACC
62013	ELK1	CCACCACCACCACCAC
62013	TRN2	CCACCACCACCACCAC
62014	ZNF14	CGCCACTGCATTCCAGCCTGTGCGAC

62015	ED1	AGAGAATGTGGAAA
62016	BACE	GAAGAGACCAAGCTTGTTTCCCTGCT
62017	ATM	CAGAGGTTACAGGTTACAGTGA
62018	BNC	TCCTAAAATTCAGCATTTGCAGCA
62019	BIG1	GGCATGGTTTGCGGAGGTTAG
62020	VSX1	TGTCAAAGGCTGAAAATGTGCAT
62021	HHIP	CCTCCCGCGCCCAGCCCCTGCTGC
62022	OPA1	CCTTCAGCTGTATTTCCACAGATTTCTC
62023	NEU1	GGGTATTCTGCCTTCAGGACTCTGCCTT
62024	B4GALT2	TGAGAGAGGAGGCAGGAGCCCCAGGGC
62025	KCNK5	GGGACTGCTAGGGCTGGTGGCCAGGGA
62026	B3GAT1	GGCCTCTGGGGCCCACTGGAAA
62027	GFER	TCCTACCCTCTCCCTGCC
62028	LASS2	TTTCTACTGCTTTTGAGGCC
62029	MAML1	CACAGCCCCGTCTTCCAGGAGCCACAA
62030	MYO1C	TCTCCTCCTCCCCTTCCCA
62031	SLC25A13	GGGAAATGCCTTTGTACTTTAGGGAA
62032	RNASE6	GGCATCCACTGCATTTCCTTTCAT
62033	FADD	GCGAAGCAGAGAGGTGGAGAACTGGGA
62034	DTNA	TGCTGCTCTCTCCTTCAGAACC
62035	SOX18	CCCAGGCCACCCTTCCTGGGCT
62036	IAPP	GTGGCTTTCAGCAAACCTCA
62037	CMAR	ACTGCAACCACCATCTCCCAGG
62038	HDAC6	GCAGTCCCCTGAGGAGCGGGGCT
62039	PLA2G2D	CTCTACCCTGTTCCTCAGC
62040	BIN3	CTTCAAAACCTCTTTTTTCT
62041	IGF1	CAAGTATTTTAACTCTCAGTCC
62042	CABC1	CGGCCGTGGAAACCCACC
62043	CTSB	CCGCTCCGCTGCGCGCAGGCTGG
62044	FBP1	TGCAGCTCCGCACCTGCGGCCAGTGCC
62045	SEMA3F	TCAGCCTGTGCTGTGGCAT
62046	ATP2B2	GTGTGCTGAGGACAGCCACAAGCAGCCAT
62047	FGFR1	CAGAAGGCAGAGGTTGCAGTG
62048	WNT10B	AAGAGGACTGTGTGAGAGGGGCGCCT
62049	ABCA1	TTGCAACAATGCAAAAGCCAAG
62050	POLK	TAGTAGTTAGCTTAAGTAGTTTCTCCA
62051	LRP1	GGGAAGGGAGAGTTCTTTG
62052	COL16A1	CTGTTGCCCTCCTTTTCCCG
62053	INSM1	TTTTCTTTAGTATAGCCACA
62054	SCD	TCTTCAGCCCAGGCTTTTGCT
62055	GRB10	CTTCAGCCTTGCGTTTCCACAGCCTT
62056	CHST5	CCTGTAATCCCAGCTACTTAGG
62057	LRRC2	CCTGTAATCCTAGCTACTCAGG
62057	VHL	CCTGTAATCCTAGCTACTCAGG
62058	COL19A1	CTTTGCAGATTTGTCCATTGCTCT
62059	MAF	GGGCCGGGGCGAGCGAGGGAGCACATTGGC
62060	MAPK10	GGTGGTGCTTGCTATATGCTTACCTTT
62061	NR2E1	TCTGCCTCTGAGACTGCGGTA
62062	IGHMBP2	TGTGCCAACCCCTCCTTGTTGC
62063	IL21R	GCCCTGTGCATGTCTGGACT

62064	SCGB2A2	GGCTTCCTTGATCCTTGCC
62065	HUNK	TCCTGCAGGGACTAGGTCTT
62066	BRMS1	AACCATCACGATGAGATGGAGGTG
62067	ARHGEF6	GGTCAAGGCTGCAGTGAGCTGT
62068	CHRNA1	TTTAGTAAATGAAACTAATCACT
62069	SDHC	TCTGCCCTGGGGATGGGCCGGG
62070	PCDHB14	CTCTTGTTTTTCTCACAGTTTC
62071	RS1	CAGGGGTAATTTTCTGCTCA
62072	DHFR	GGCTCACACCTGTAATCCCAGCGCTTT
62073	ATP1B1	ACCATTTTCATGGTGGAAGAATT
62074	ZNF278	GCTGGAATTCCTGGTGCTC
62075	CYP1B1	AAAGTCAGAAGTTTTACTCCAG
62076	PTPRH	TCCCAGACTCCTGGGTGCTGTGGG
62077	NRGN	TAGTTAGTTCTGCAGTCTAGT
62078	BDKRB2	CTGGAGAACTAGAACCTGGAGGG
62079	REQ	ATGTTCTCGGTCACCCTCCTGGTTCTGCC
62080	AOC3	TTGCTGTCTGGCTTTCCCGAA
62081	TNFSF10	TCAAGAGATCAAGACCATAGTG
62082	IL13	GCTGCCCGTCTTCAGCCTAGCCGA
62083	MTMR3	TTCTGTGTCATCTAGTCGTG
62084	HR	GCAGGGCAGACACAGGCCAG
62085	CASP10	CCAGGAGGCAGAGGCTGTGGTG
62086	TEAD3	GAGCATCTCCTCTCCACACCTGCCT
62087	PTTG1IP	AGGGAAAGCAGCGTGCGGGGAA
62088	BAX	TCACCATCTGGAAGAAGATGGG
62089	CD74	CTCCATCTGTCAACAGGGGCGTGAGGT
62090	KRTHA7	ATGGCACCACAACAGGTAGATAA
62090	KRTHA8	ATGGCACCACAACAGGTAGATAA
62091	TLR5	CAGGCTGGACTGCAGTGA
62092	PRELP	GTCATCTAGCCCTACTCCGCCA
62093	S100A7	AACACACACATCTCACTCATCCTTCT
62094	GGPS1	TAGGTGAGTAGGGGTGGTGCA
62095	TMPRSS3	CCCCAGTAGCTGGGACCACAGG
62096	SLC24A1	ATGAATGATCTTAAGGTA
62097	TRPC6	TGCCCTATTTAGTTTGTGGCTAA
62098	IMPA1	TTTCTATAATAAAAAGCACTCTC
62099	CD209	CCCGAGTAGCTGGGACTCTACTAAAAG
62100	LUZP1	TGAGCCAAGATCGCACCATTG
62101	EPB49	TGGGGTGGAAATAGGGTGGG
62102	AFG3L2	GAAAGGTTGAGCCCAGAGTGGC
62103	SRGAP2	CCAGGGGTCAGGAGAGAGAT
62104	PKM2	GCCTCTCCAGTTTGCACCTG
62105	SLC31A1	TTCCCCTGGGTCAGTGATGGAAA
62106	XPO1	CAAGATCATGTGCATATCATCC
62107	KCNK10	AGTGCACCCAGGACGCAG
62108	CCNDBP1	TCATTTCTCAGAGATTCCTAGGAAAG
62109	PCOLN3	TGTGTGCTGGGGGATGTCAGG
62110	SSTR1	AACTACATTGGAAGCCTGAGCAG
62111	KERA	TATTTAGCTTGAGAATGGGTA
62112	NRG1	ATCGACGACTTCCCGGGGCGAC

62113	FKBP10	ATGGCAGAGGAGACATCTCTG
62114	PSMD9	TTCTTAAAAACTTAGGCTTGGCCTC
62115	STAT1	TTCATCTTGGTCACATACAATTA
62116	HSD3B2	ACCAGAACTTTCTGTCCTAA
62117	ITGA2	TTTACACACTTGCATGAATTACT
62118	COL15A1	ACAACAGCAACCAAAGAAAACA
62119	FOXE3	CCCAAGCCGCCTCCTCCACC
62120	FCAR	CAGGAGGCAGCTGTTGCAGTG
62121	LCT	TCTCCTGCCCTTCTGCAAGCT
62122	ITGB1	TGCTATATACTATATGATTCCA
62123	NOTCH4	CAGGCTGGAAGGCCTTCCTGGTT
62124	ADCY6	AGCAGAGGGAGGCCTCTTGCCT
62125	CLCN4	AGGGCGTCACGTGGCAGCGTGGGGC
62126	MOG	AAACCTACAGAATACTAGCCAGAGCTC
62127	MYD88	CTGTAATGATGTGAGCAGGGAGCC
62128	MDH1	CTGTTAGTGTGCATTCTAAATAAATAT
62129	ALDH8A1	CTCCCAGGTTATGTTTTCA
62130	STIP1	AGACTCGTACCTGCGCTGTT
62131	RALBP1	AAACCCAGTGGACTGGGCT
62132	CYFIP2	ATCCTGCAGACCCTTATCTGGAGG
62133	METTL1	AACACAAAGTAGGATCCCAGTGCA
62134	PPID	CTCAGCTTCCCAAGTAGCTGGG
62135	FGD1	TTAAAAAATATATTCCTACAGTGATG
62136	ECT2	TCCATGAATGAATTTATGGAA
62137	MADH6	GGGGTATCAACAAGCCTGCCTTT
62138	CUL3	TGTAACTTAAGACTTTCATAGAA
62139	LMO2	CGTCTTCACTCTTAGGCACTTTG
62140	CYB561	TGACTAACAAACACAGTGAAACCCCGTCTCT
62141	PCDHA1	TCCTCAAAAGAGAATTCAGTCTAC
62141	PCDHA10	TCCTCAAAAGAGAATTCAGTCTAC
62141	PCDHA11	TCCTCAAAAGAGAATTCAGTCTAC
62141	PCDHA12	TCCTCAAAAGAGAATTCAGTCTAC
62141	PCDHA13	TCCTCAAAAGAGAATTCAGTCTAC
62141	PCDHA2	TCCTCAAAAGAGAATTCAGTCTAC
62141	PCDHA3	TCCTCAAAAGAGAATTCAGTCTAC
62141	PCDHA4	TCCTCAAAAGAGAATTCAGTCTAC
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62141	PCDHA6	TCCTCAAAAGAGAATTCAGTCTAC
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62141	PCDHA8	TCCTCAAAAGAGAATTCAGTCTAC
62141	PCDHA9	TCCTCAAAAGAGAATTCAGTCTAC
62141	PCDHAC1	TCCTCAAAAGAGAATTCAGTCTAC
62141	PCDHAC2	TCCTCAAAAGAGAATTCAGTCTAC
62142	MGEA5	TGCGAGAAGGAGGGGGAAGGACAGA
62143	SPON2	GTCTGCTCTCAGCCTCCTCCTCC
62144	CASP10	TCCTTTCGGCATGTGGAGGA
62145	GPR44	TGCCTAGGATTGTGCCTGTATGCA
62146	HUNK	TGAGCCAAGATCATGCTACTGCACTC
62147	TNFRSF1B	AGCCCCGCGCCTCCTTCCTTGCTG
62148	NUP50	CCCTGCCGAACACAGCGTGAGGAG

62149	CD209	TCTTCTTGTGCCTTCTGCTCTCTCA
62150	CD68	TGAGCCAAGATCGCTCCCACTGCACTC
62151	FUT8	ACCACTGAATTCACTCCAGTCAAC
62152	IL1RN	CTGCCCCAGGGCTCCCGGCTATG
62153	NFKBIL1	CCACCACTGCTCCTTGACTCT
62154	KIP2	CCCAGTCCTTTCCTACTCCAGAAA
62155	LY6E	CTGCACCTCCACCTGCCCCA
62156	PFKFB4	GTGACTCTCCACAGGGCCTCTACCAT
62157	CXorf6	CCGCTAGCTCTTTCCTAATGAG
62158	CAPZA1	AAGTTAACCGGTTTTCTAGC
62159	KCNMA1	CAACAGCAAATAAGCAGACGGACCA
62160	ZNF26	CTTTAGAACCTGCTTCTCTG
62161	UMPS	TGGTCTCAACTCCTGGGCTCA
62162	DAAM2	GCAGCCTCTGTCCAGCCTGCAGGTG
62163	TARBP2	TTGCTCCCTGCTCTTTCTGCC
62164	PRV1	ACCCCCACGATTCTTCACCGCTGCT
62165	MEF2B	GAAAGTCACGGACAAGTTCACTGAGA
62166	ADAM19	GGGATCCAGGGCAATGTGAATTTTC
62167	TERF1	TCTCCAACTCCTGACTTCATGA
62168	IL13RA1	TTTGAGACTCCTCAGTTCTTG
62169	VWF	GCTTTATCTCCCCCAGCAGTGGGGACTC
62170	GFER	CACTGCCTGTGGGGACCTGCCC
62171	TEC	GAATTAGGGCCTTCCTTTTTGC
62172	EXO1	GTTGCCGGCCGTGGGTGCTCTG
62173	ADRA2A	CTGACAGGGAAAAGATTTCTG
62174	RET	CTGGAGCAGTTGCTTTTTGAAA
62175	RTN3	TAACCCTCAGTATCAAGCACAA
62176	HOXB6	GGAGGGAATCTGGAGGGGGC
62177	DLG5	GCCTTTCTCTCCTGCCTTCCACAGCC
62178	MAN2A2	CTCATTTCATCCTCTGGCTTCCTCA
62179	PCLO	TAGATCATTGTTCTCTCCA
62180	ITGB3	CTGTACCTCTGCCTCCTTTCCCCTCCC
62181	SETDB1	GAAGTCTCTGGGCTAGCTACT
62182	MHC2TA	GTTGCCCAGGCTGGCGTGCAGT
62183	ODF2	ACCCGCCCTCTCCGCACGTCCGCC
62184	AHR	TGCAACCTCTACCTCCTGGGTT
62184	AQP6	TGCAACCTCTACCTCCTGGGTT
62184	RHD	TGCAACCTCTACCTCCTGGGTT
62185	VHL	TGCAACCTCTGCCTCCTGAGTT
62186	ADAM17	ATGTAGCAGGGAAAATATATATCTAA
62187	TAC3	CAGCACCAGTGTGTGAGGGGAGCAGG
62188	GAN	AGATGTTGGAGGCTAGGGAGGC
62189	TLR5	GCCGCCCAGGCTGGACTGCAG
62190	TSLP	GGCAAAACCTGGTGCTTGAG
62191	ITGA4	ATGTACACTGGTTTGAGCTTA
62192	ITGA6	GGTCATCACTATGACCTAAATTA
62193	ADCY7	TCAAGGACTTCCTTACAA
62194	COL6A2	GCTCACTGCCCCCACGCCTCCTGCCA
62195	CTSS	ACCTCCAAAAGCACAGGGACACA
62196	D12S2489E	AGCAGGAATCCTTTGTGCATT

62197	DEFA6	CTGCTCCTGCTCTCTCTCCTCCA
62198	RXRA	GCTCAGCCCAGTGCGGCCTGGC
62199	TNFSF7	GGCATTGAGCTTTTTCTTTCATTTTCCTAT
62200	DNAH9	GGAGGCTGCCTAGAGGGACA
62201	CALM1	GTACATGTAAATGCCCACAGCCCA
62202	CRTAP	GCAATTCTGCTGCATCAGCCTC
62203	TBX1	CCGCCCACCAGGGCTCAGGGTCCTCC
62204	EGFL4	CACCGAGGGTGCCCACTGCCA
62205	MCM5	CTGCCCCAGAGGAAGGAGCTGTAGTGTCC
62206	PDE7A	ACTTGTAACCCAGCACTTTGG
62207	UBB	TTACAAGTTTCAGTAATAGCTG
62208	EGFL3	ACAGGTGTGGGCGCCAGTGTGG
62209	HOXB6	CTTCAGGGCTCCAGCCTCTTGAT
62210	ACADSB	GGGATTACAGGGATGAGCCACC
62210	PRKR	GGGATTACAGGGATGAGCCACC
62211	PACSIN1	CTTCTACTCCTAGCCA
62212	SUV39H2	ATCACTTGAATTCAGGAGGCGG
62213	RAG1	GATTGGTCAGTGAGGTCAA
62214	SUOX	CACCCAGGGATGGAGAGTCATG
62215	ALOX15	AGGCTGGAGTGCAGTGGTGCCA
62215	PCDHA9	AGGCTGGAGTGCAGTGGTGCCA
62216	P2RX7	TGTCAGTTTCAGATCCTGATCTTA
62217	DCC	GCAGTTCAGAAGGAATAAGCA
62218	AIRE	CCACTGCACTCCAGTCTGGTCGGCAAG
62219	NRXN2	CTCCCCTCCCTCTCCACTCGGCACCATG
62220	CNTN2	TGGGACCCTATACGGACTCCGC
62221	AFG3L1	TTCAGCAGGGATGAGTCTGTTT
62222	DMXL1	CACAGGCATCTCTGCATGA
62223	OPTN	AGGAAGTGGCAGTTGCAGTGA
62224	MYCBP	TCTTCTGCTCTTGTTTGTG
62225	ITGAL	GCCCTCGGGCGAGTCACTGCCT
62226	CAPN10	GGAGGAGGAGGAGTTCCTCAGGGA
62227	SIGLEC11	ACGCCTGTGGTCTCAGCACTTT
62228	XRCC2	CCCAGGCTGCTGGAGTGCAGTGGCACA
62229	CD2	TCTTTTTCAATAAAAAGCACT
62230	PYCR1	CTGTGGCCACCACCTCCTGCTCCTGA
62231	USF2	GGCCACGTCCCACCCCACCTCT
62232	ADCY8	TGTCTGACCACTCTGACAGGTCTCCA
62233	HPS4	GGTCGGCAGACCCAGAGCACTTGAT
62234	MHC2TA	CCCAAAGTGCTGGGATTACAAGCGTGA
62235	STIM1	CCAAAGCTCCCCAAGCATCAA
62236	SYNGR2	CCTCGCTTTTAATGACCTCAGCCCCGCC
62237	BCAT2	TGACTCACCTGAAGTGCAATA
62238	TRAP240	GCTAAGCTGTAGTTGCAGAGTAC
62239	GASC1	GAACAGCTGTCACCTAGTGCGGA
62240	IFIT4	CTCCAGCCTGGGCTTCAGAGC
62241	APM1	GGAACCAGAGGCACAGAGACA
62242	PTMA	CGCAGCCGCCTCCGCCGCGCGCCTCC
62243	ZNF255	TATTATATACACAATTTATTAGCTTC
62244	ETS2	GGGTAGGAGGGTGGGAAGG

62245	NTE	GTAAATCCCCGGCAAAAACCAGCAGCG
62246	KCNMA1	TCAGGAAAGAGCAAGTATTTTTCC
62247	BRCA1	TGTGCTGTTAACACTGCAAA
62248	ADCY6	GCTGGCAGAAGGGTTAGGAGGTTGAA
62249	TNFRSF11A	TCTGGCCCAGGCTAGAGTGCAG
62250	PFKFB4	TTTGGAGTTTTGGTGACTT
62251	RRM2B	AAGTGTTTTTACATCATCTCA
62252	TPM4	AGGAAGTGGAGACTGCAGTGA
62253	LAMC1	GATTATTATACTGCTATTTTT
62254	TRPM4	TTACAAACCACAGCATGCCCGGCTCCT
62255	CELSR3	GCAGGGCTGGGGGGGTGGTCTGT
62256	SLC7A7	TCCAGACTTTTAAAGGGGACAAT
62257	INPP5B	TCTGGGACTAGAGGCCAGGATGAAGT
62258	CLCN6	ACCCAAAGTGAGCATCTGGGCA
62259	IL2	ATCACTACTCACAGTAACCTCA
62260	SLC3A2	TGAGCTGCCCCTTGCCCACAC
62261	TFAP4	CCTGGCCTCTCTCTGCCAAAAAG
62262	PTPN1	CTCTCTTGCCAGCATTTTCACA
62263	SLC7A6	GCTCACTGCAACCTCCGACTCC
62264	EGFL5	CTGCTGGACCCTCTTCCACCA
62265	SH3BP2	CTGTCTACCCTCCTTCGGACCC
62266	PIK3C2B	AGAAGAGAGAGGTTCACTGTAG
62267	EEF2K	CCCAAGTAGCTGGGATTACTGGTGCAC
62268	RNF14	GGTTTTGTTGGCTTTTTGAA
62269	GLTSCR1	TGCCAGGAGGGAATGTTCTTTCTTGAA
62270	XPNPEP2	CAGCTAGTCTCTTCTCTTCTGTGAT
62271	GTF2H1	CTCTAGTATTTGACTGTTACTG
62272	PIGR	GGTCTCGAACTCCTGGCCTCAAGTGAT
62272	PTGES	GGTCTCGAACTCCTGGCCTCAAGTGAT
62272	RBBP9	GGTCTCGAACTCCTGGCCTCAAGTGAT
62273	PAX3	TCGTACCAAACTTTTCCGCCCTGG
62274	WBP2	CTGCTCACATTCCCTCTGCTG
62275	GAMT	CCCAGCTGTGTGTCACCAGAA
62276	MYL4	CGGCCAGGCTGGGCTCTG
62277	DHFR	CATGGCAGGGCAAGGATGGCAG
62278	STAR	GCTCCTCCCGGCCGCTGCACA
62279	FANCE	TTCCCCTCAGCCTCTGAGCTGAGGCC
62280	MECP2	CAGGATTCTCACCAGCTGTGTCCGG
62281	P2RY6	GGCAGGGGGCGAAGTGCAGTGG
62282	EDARADD	CACCAGGTACATCTCACCTGAC
62283	MVK	TGAGACTCCAGACCTGAGGCGAG
62284	TNFAIP1	AAGGTCAGATTTTCTTGTCAG
62285	CNTNAP2	CCTGGTGTGTAACGACACAATC
62286	COL4A4	TTTCAGTGGTTCCTTCTGTTTTGT
62287	CDA	AGTTTCAGGATGCAGGGT
62288	SDC1	TGCGGGTGGGGCTTGGGGCTCACA
62289	CAPON	GCGCCCAGCTCCAGTCTCCCC
62290	EZH1	TGGACACCTGTTCTGCTGTTGT
62291	HOXB6	GCCCCCGCCCGCACAGCTCCC
62292	PLAG1	TGCCTATTTGTTGCTTGTGCTTTAT

62293	SPANXC	AAGATTCAAAACCTACAAAAGCCTGCCGCA
62294	MYOZ1	CCTCCTCTGATTTGCATCATTTCC
62295	RABL2A	CCAGATTTTCGTGTACCCACTCTGTT
62296	HFE	GCCTTCTCTGTTCATTTCCTC
62297	WHSC1	CAAAAAGTCTGAGCGAGGAGTGACTGC
62298	JPH2	GGAGCAGGCCCTGCCCTCCAC
62299	ATP6IP1	CTGGACTGAAGAGCTTCCCTCTTCCT
62300	USP6	GGAAAGTTTTGATCCGAGTGCT
62301	TNFSF5	CTATGAAAAGACAAGGCCAT
62302	OTOF	GGGGCCAGACCCTGCCCACAAGTCCC
62303	SALL2	AGCTCCACCTCCACTACCACTC
62304	FBN2	CCATTATTCTTCTCAACCCAAGA
62305	ESR1	TTTATCAGACAATTGAATGTAGTA
62306	SLC7A8	CCAAAGCTTCCAGAAGCCAAAAAG
62307	WHSC1	ACCTTTGACAAGGGCAGGCCT
62308	CPT1B	CAGGCACCTCTTCTGCCTTTACTTG
62309	EIF2B5	TCAGGGAACAGCAGAGAGCAGTTGG
62310	DMP1	GGAGTTGGAAGGTTGCATAGGG
62311	FUT3	CTCCCACTCTGGGCTCAGGCTGTC
62312	P4HA1	CACTAACTGGGTTCCATGTGATT
62313	PCDHA9	CTCCTGACCTCATGATCCTCCCGCCTC
62314	CDKN2B	TGAACAAACTAAAGGTGCA
62315	GNAI3	CATGGGGCAGCTACAAGCAT
62316	TOX	CAGATAGCAAAAGAAAAGGGA
62317	HOXC9	GCACAGCCAAGGGAAAAACAAAAACCC
62318	RNF4	ATGTAAACTGCTCTTTTGTTTCCA
62319	SLC6A8	TCACATCACCAGCTCACCTCTGGTAGCCATA
62320	TCTE1L	TGCTATCTGCTCTGTTTCTAGTTAAA
62321	SEDL	GTGCAGTGCTAAGTGTCACA
62322	NUP98	TGTAAAGCATCCTCTACCTCTCAGC
62323	PCTK1	GGACAGTCTCCAGGGTCAGTCCCTG
62324	BAPX1	GGTTTTCAGGCCCTCTGCTCCA
62325	KIFC3	CACGCCCTCGCTGCGGGGCCTGTGGAGAGT
62326	PDE6D	CTGCTAGCCCGAGGTCTCCA
62327	SLC7A5	TCCCCCTCCTGCTGTGCTGGAATTCCAC
62328	IGF2	GGCCAGAGCGGCGCTGGCAGAGGAG
62329	ADAMTS8	CGGGGTGGGGAGGAGGCAGGAGGC
62330	LARS2	CTGCTAACTGAGCCTCCAGATG
62331	WHSC1	CCTTGAATTGGGAGCAGCAGC
62332	PTGS1	GCAATCAGACACCCT
62333	PSMD9	AGGCTGGAGTGCAGTGTCGTGAT
62334	MYBL1	TCTATGTATGGAAAGCACACATGATT
62335	GYPA	TCTTTGGTAGTTTTTTGCACTA
62336	FGF7	AATTACATAGCAATGCTGAA
62337	PDGFB	CCTTTTCCTCTTGGAGGTTGG
62338	FSTL1	TGGAAACATTCCCACATGCCGTGACTC
62339	TMEPAI	AGCCCCATTTCCCAAGCTCTGTT
62340	NCALD	TGGAACCTAGAGCTGGAGTGAGGAGTAG
62341	MMP15	TGGCTCCCAGGGGCTCCCTCCGC
62342	APPBP2	TGCAACCTCCGCCTCCCGGGTT

62342	GRAF	TGCAACCTCCGCCTCCCGGGTT
62342	HTR1E	TGCAACCTCCGCCTCCCGGGTT
62343	PTGIS	TGCCCGGCCTAAACTTTGTTTTT
62344	CUBN	CCCCTGTATTCTCAGCACTTTG
62345	RBM8A	AGATGTTAAGATCTTATGGCA
62346	MAT1A	ATAGATGGGGGAAAGCAAAGCAC
62347	TNFRSF8	CCCAGGCATCTGCTTTACTCTGGACCA
62348	CCNC	CTACAGACAGACATACATAGAC
62349	G1P3	AGGATTACAAGCATGCGCC
62350	NEU3	AGCATAGTGCCTGCATGCTTCATGATC
62351	ANK3	GTTTTTAAAAGCTTCAGCTTCTCCAG
62352	FBLN1	CCTAGAGACCGCCACTGTGA
62353	OPHN1	GAGGGAGGGGGTGCAGGTTCAGT
62354	CASP2	GCCCAGGCTGGAGGGCAGTGGCACG
62355	GPD2	TTTCTCATTTTCAATGCACATT
62356	ZIC2	GGGCTTTCTCTTTTCTCTTTTTA
62357	EP300	CTTGCCCTTACCTTTTCT
62358	DEC1	GTAGTGGCAAGGTGGCCAGAGCAAT
62359	FKRP	CGAGGTGGGAGGATCGCTTGA
62360	CUL3	TTCATTCATTTAGTTGTCATA
62361	STS	CCCAACAACAGGATCACAAGCTGGAG
62362	ENG	GCCCAGCACCCCCTCCCCGCC
62363	SIRT2	GAACATCCCCCAATCTCTTACAGCTCC
62364	EPB49	GCTGTCCTCTCCCCTCGCGCACAGGGCTC
62365	TSN	TGTCTTCATGTACATTTGGAACTAACA
62366	COL11A2	CTGGCCCATGTGCCCACTGTCT
62367	ZNF8	GATCATTAAAATGAAAGTAATTTATGG
62368	PPM1B	AGACATCTTCTCCCTCCCTTGCCT
62369	SFTPA2	GCCAACCCTGTGACTGACAT
62370	DTR	GAAGAAAGCAACAAAGATTGAGAAG
62371	CSF2RB	GCCTGGGAAAGGAGATAGCCTTG
62372	USP6	TCTGTCTGGCCTCGCTTTCCTT
62373	BCL11A	GCCAAATAATTGGCATGTGAA
62374	CRYZL1	ACATAGCCTTACACTTCTCTC
62375	PCDH11X	GCTCAATTGGCCGGGAAA
62376	ACADSB	AAAGTGCTGGGATTACAGGGAT
62376	PRKR	AAAGTGCTGGGATTACAGGGAT
62377	EVC	CATCTCCCGGGTTCAAGCGATT
62378	MYCL2	GGTCTTGACCTCCTGACCTAGG
62379	BIN2	GGATGGAGGGAGGCAGGCTGG
62380	PIM2	TTGCAACCTCCTCCTGAGCCGGG
62381	SFRP1	CAGATGTTTTGATGTTATCGCT
62382	FLT1	GCCCAGCAAATAGTGATAACAAATA
62383	TCTA	TCACCCAGGCACTGGGCAAGTG
62384	PCDHA1	TAGAGACCTCAGAAATCTGCAG
62384	PCDHA10	TAGAGACCTCAGAAATCTGCAG
62384	PCDHA11	TAGAGACCTCAGAAATCTGCAG
62384	PCDHA12	TAGAGACCTCAGAAATCTGCAG
62384	PCDHA13	TAGAGACCTCAGAAATCTGCAG
62384	PCDHA2	TAGAGACCTCAGAAATCTGCAG

62384	PCDHA3	TAGAGACCTCAGAAATCTGCAG
62384	PCDHA4	TAGAGACCTCAGAAATCTGCAG
62384	PCDHA5	TAGAGACCTCAGAAATCTGCAG
62384	PCDHA6	TAGAGACCTCAGAAATCTGCAG
62384	PCDHA7	TAGAGACCTCAGAAATCTGCAG
62384	PCDHA8	TAGAGACCTCAGAAATCTGCAG
62384	PCDHA9	TAGAGACCTCAGAAATCTGCAG
62384	PCDHAC1	TAGAGACCTCAGAAATCTGCAG
62384	PCDHAC2	TAGAGACCTCAGAAATCTGCAG
62385	EBAF	AGCCCCACTCTGCCTCCTGCT
62386	SMARCA3	ACAGGTTTTTATTTTTCCTA
62387	CACNB1	TGTATTGCTAGAGCCAGGAGTGCCTT
62388	FRK	GGAGGTTTTACCAGGGGTT
62389	SOLH	GCGGGCTAGGCAGCCAGGAGCTCTGT
62390	RAI3	CTGAGCTCACGCTGGCTCACACAGCT
62391	ANKH	GGGTATGCCCTTCCTGATCTA
62392	GRAF	GAATGTTCAGTTCTCAATGTGCTGC
62393	VPS26	GATTTTGAAAACCAATTGTATTTA
62394	CXCL16	CCTAAGTAGCTGGGACTACAGG
62395	FCMD	CCAACATAGTGAAACCCCGTCT
62395	MS4A2	CCAACATAGTGAAACCCCGTCT
62396	TEP1	CTAACATAGTGAAACCCTGTCT
62397	IPP	TGTAGTGAGCTACGATCATGCC
62398	MICB	AATGAGCCACCGTGCCTGGCC
62399	PPT2	AGACCCATGCAGTGTGCTGCCA
62400	PART1	CTAAGACTGGCAGGGTATTAA
62401	GALGT	GGCTGGTGGTTGGTGAAAGCCATT
62402	OGDH	ATGGCTGGCAGAGGTTTCTAGGGTGG
62403	M11S1	GTGGTTTGGCAGAACAACTGCAT
62404	NOX1	GGTTCAGAGTTATACAACTAATCCCAG
62405	SOX5	GGTGCTGTGCTGGCCATTGGTG
62406	CCNDBP1	CCTGCCTCCTCTTCGGCCA
62407	SELE	AGACAGAGGCAGCAGTGA
62408	DSCR3	GCCTCCTGAGTAGCTGAGACTA
62409	CCNF	TCTCCCCGGCTGGAGTGCAGT
62410	NLGN3	CTGAATCTGACCACAGACACTCCTGG
62411	TNFSF10	ACTAAAAGATCGCAGTTTGCCTGG
62412	MMP10	TGCTAGCGAGATAGGGGGAAGA
62413	SNAP23	GGAACACTTTATATAAATGAGTG
62414	FMO4	TGTCTAAACCTCCTACTCCTCAACTCA
62415	E4F1	CGGGCAGGGACAGGGCAGAGGAC
62416	IMPDH1	AGGGCACCTCCCTGCCCCTAGC
62417	EIF4EBP2	ATCCCAGGGTGAGAGTAACAGG
62418	UGT2B7	AGCAAGAAAGATTGTGATG
62419	SRC	TTCCAGGCTGGGCAGCACAAGGC
62420	KCNK3	GTCAGGGAGGAAAGGCAGAAG
62421	CYP1A2	AGAGACGAGGTTTCACTGTGTT
62422	PIGN	CTATTTCTCAGGTTTTCTCAGT
62423	PPP1R12B	AAGCTGCTGGGCTCAAGCAATC
62424	RAB5B	GCCATGACTAGCAGAAGCACAGCTAG

62425	KCNE3	TTTCAGTTTTGACTGAGTGATGTGA
62426	PCDHB3	TCCATTCAAATTTTACA
62427	LZTR1	CTCTATGCTGACCCTTGTC
62428	SCML2	TTGTGCCCAGGCTGGAGTGC
62429	PSCD3	AGACCCAACCCCAGCAGAAAGA
62430	OGG1	CATGCTCAGGAGCCACCAGCAA
62431	ESR1	CCACTAATGGACAGCAGAT
62432	PFKFB3	TGCAGGAAGTCCCTGAGCTGAGACGCAA
62433	SRI	TTACATCACGACTTTCTCTTAACAGCT
62434	ADCY7	AGAAGCTCTGTGCCTGGTCTGTA
62435	GFI1	CAGGTGTAAACAAAAAGCTGA
62436	OSR1	ATCTGAAAACCTTCCCCACAA
62437	COL4A3	AACTTCTGTTTTACCAGCATA
62438	HTR1D	GACGGGGTTTCATCATGTTGGCC
62439	ITPR3	CTCCATGATGGACGATCTTGCT
62440	LZTS1	CATACTCCTGGGCTCAAGCAA
62441	SLC19A2	TCATATGCTTCCCAGAGAAGCTC
62442	SORCS1	CTGTAGGAGATTAGTGAGGCAAG
62443	PTMS	CTGCCACCCTCTTCTTTCTCCC
62444	ADCY6	GTCACCCAGGCTGGAGTGCAATG
62444	CDC2L2	GTCACCCAGGCTGGAGTGCAATG
62444	EDG8	GTCACCCAGGCTGGAGTGCAATG
62444	RAB36	GTCACCCAGGCTGGAGTGCAATG
62444	VENTX2	GTCACCCAGGCTGGAGTGCAATG
62445	ACADSB	GTCACCCAGGCTAGAGTGCAGTG
62446	SIAT4C	TCTGCCCACTTTTTATAAAAACTT
62447	SUSP1	GGGTATAGACAATAAAGAACTGA
62448	MAP3K7IP2	TGGAACGACTTCAAAGAGA
62449	PDGFRB	AGAAGCCATCAGCAGCAAGGACACCATGCGG
62450	NR3C1	TGGGAAGGGAAGGGCTACTGCAGCT
62451	EZH1	AGAAAGATGAAGAGGAGGAG
62452	CLASP2	TACATGGGTCTTAGAAACCACT
62453	SORCS1	GGCCCAGCCACCTATTTTAACAAGCC
62454	ADAT1	CCAGCTCAGACCATGTGGACC
62455	LIG3	TTCTCCACTGTCTCTTCTGGACCA
62456	CHS1	TTCATTCTGTTTCTACTAACCTATACC
62457	SYBL1	TGCCTCCAGGTTTATCTTTGTCT
62458	KCNA7	TGAGTCTCAGAGCAGGGGAGTGGCTTCCC
62459	NPR2L	GGCTTGTCATACTGTCTAGA
62460	HRH1	TGAGCCAAGATCACGCCACTG
62460	SLC14A2	TGAGCCAAGATCACGCCACTG
62461	HSPA5	TGAGCCGAGATCACACCACTG
62461	TNFSF14	TGAGCCGAGATCACACCACTG
62461	TRIM14	TGAGCCGAGATCACACCACTG
62462	WNT5A	GGGCTGCTCTTCCCCATCTGGAA
62463	ZNF217	GAACCCAGGGCTGTTAGAGGGGTGA
62464	DCN	CAGAGCAGCACCTACCCCCTCCTC
62465	TM7SF2	GCCCCTGGGTAATGGGGCAGAG
62466	ADSL	CTCAGTCTCACATTTCTCAAC
62467	DDX11	CTGTGGGAAAATATCCCTCC

62468 ABCC3 GAGTGTTATTTGCACACTGC
62469 F8 TACTTTTTTCCCCTCCTGGGAG
62470 CORO2B GTGTCTCAGCACCGCTATCTCA
62471 CYP1A2 AGACGGGTTTCACCATGTTGGTC
62472 SEDL GGTCTTGAACTCCTGACCTCGTGATCT
62473 AKAP2 GCACAGCCCCAGGCACAGTGGC
62474 PPP2R5D GGCAGCGCCTCTCTAGCTACT
62475 ARHGAP6 TGCTACTCTTAATTTTCATG
62476 RAB26 CCTTGTCCCTTCCTCCTCCCA
62477 IL22RA2 CACTGTTACACCTTGGGGA
62478 GSTT2 TTCATTCTGTTACTTACTTGCC
62479 GOT2 AAAAGAGAAGGCTCTCTTTTCT
62480 SPAG8 TAGTGATTCTGTGAGTCACTGTGT
62481 NCOA6 ACTCATTTATTTATATATTGTCCATAT
62482 LRRC2 GTGTTACTTGGTCAGGACAGAGA
62483 BTG2 AACTCCAGGTCCTTTATTACTGCCTTC
62484 MOG ATCCCCTCAGTCTGTAGCC
62485 FLII GCACAGCCCCAGGCTTGGTGAGG
62486 SHANK2 TTCTAACATGGAAAAAGATTCTC
62487 BRF1 CCTGTCACCGCAGTCCTGGGCT
62488 C7 CCAACTCCTGACCTCAGGTAAT
62489 SEPN1 TCACCCAGGCTGGAGTGCTATG
62490 TNFRSF10B TCTCCCAGGCTGGAGTGCAATG
62491 HUS1 CAGACTGGAGTGCAGTGCCACAATCAT
62492 ADCY1 GAAATAATGCATATATTTGTA
62493 CIAS1 CGCCTAGGCTGGAGTGCAGT
62494 EGFL4 GCCTATAATCCTAGCACTTTGAGAGGC
62495 KLF7 AGGGCCACTGGATGTCTGCCTTC
62496 IL16 AGGGCAGAGTCACACGGGGGCA
62497 LUZP1 TCTTTAAAAAAGCAGATGACTC
62498 HLF ACAGTATTTTTCAGATATAAA
62499 JUN CAGACAGACACAGCCAGCCA
62500 RANBP3 ACTGTGCCCTCTGTGTCAGTGTGTG
62501 LZTS1 GGACCTGGCACTGGGAGGCAGGG
62502 GAN CGAAAGGGAGAGCAGAGATGGCAGC
62503 B4GALT2 TGTCTGAGAGAGGAGGCAGGAG
62504 KCNAB2 TTTGCAGCAGATGTGTGA
62505 HTR2C CTGCCTGGTCTTCCTCCCGGACGCTA
62506 BRCA1 CTCTTCAGTCCTTCTACTGTCCTGG
62507 FOXE1 GGCCCCATCATCTTGGATGCTGCC
62508 ADCY1 GTTCCAAGCCCTTGTGTTTTCC
62509 NCOA6IP CAAACTCCTGGGCTCAGTCAGT
62510 GRIK3 CGCACTGGGCTTGGGGA
62511 KPNB1 GGTCTCAAGCCCACCTTCGCTGTACC
62512 MAP3K7 AGAAGTCAGCAGCAGAAACGACAAGGCACTT
62513 CEP1 TACTTCTTCAGCCTAGGTCTTTCCC
62514 FCAR GGAGGTGAAGGCAGAGAGGAGCCAG
62515 MEOX1 TCAAAAGGAAGGAAATGACAGA
62516 DYSF GCTCCTCCAGACCTCCTAGGCC
62517 ZNF132 GGTGTGAATTCCTGGGTAACATT

62518	BRCA1	AAGGCTGAATTCTGTAATA
62519	MRPL49	CAGGGTGGAGTGCAGTGGCATGATCTT
62520	ADAMTS8	TAAGGGGGAAGAGGAGAGGGTAT
62521	NINJ1	GCCACTGGCTCTGGTCTAAAGTGCCTGGGCTT
62522	LIMK1	AGGGTGAAGGGGGTCCCTTG
62523	METTL1	GTCTCCCAGGGATTAGAGAAAAG
62524	SLC9A5	CCCCAGCATGGTCATGTTCG
62525	ADAMTS3	AGCAAATTTGCAGCTGTTGTGT
62526	RERE	TGGAAGACCTCTTATTTGTATTACAT
62527	APLP2	TGAAACTGAGTCTGTGGACACTGTGG
62528	TLX1	AAGGGAGGAGGAGCTTCTGGGG
62529	ZNF264	GGGATTACAGGTGTGCGCCGCCACA
62530	PABPC1	GCCCCCAGCCCCGGCACTC
62531	AIM1	AAAATGCTGGGATTACAGGCCT
62532	IRF2	TTCCCCAGCCTCTCTTCCTATCCCAT
62533	HIVEP2	ATGGGAAAACATTCCACCC
62534	NDUFB9	CCCCGCTCAGTCACCCGCAGCAG
62535	RTN4	TCTCCACCCTCCAGCCATGGAAGACCT
62536	OTOF	GCTCATCATCAAGATCGTGCTGG
62537	p100	TTTCTGATACGTCCATTCTCAA
62538	ABCB4	GGCGAGAATAGACTGAGAAG
62539	HMMR	GTCTGAGCTTCTTTAGCTAGG
62540	HTR4	CTGTGTCTGATCTGTCTCA
62541	PKIB	TCACAGAAATGCATACCACTG
62542	DGKI	AGCCCAGGCTGCTGGGCTGTAGCCAA
62543	SON	TCAGCACTAAGTCCTGCATT
62544	NID	GTCCTCTGGCTGAGTGGCCAC
62545	TNFRSF5	GGTCACCCAGGAGGATGGCAA
62546	FLNB	GCCCGGACCTGATGTGAAAGGACCACGG
62547	DHFR	AGCCGGGGTGACAGAAGAGACCTTGTCTCGA
62548	FOXO1A	AAATCACTGTTAAAATCTTACTA
62549	SERPINE2	GCAAAGCAACGACTACTTTGC
62550	NCOA6	CACCGAGGCTGGAGTGCAGTGG
62551	PLAGL1	TACATATACATTTTCTTGTGGAGCA
62552	CMRF35	GCTGTCAGCACCGGCCTCA
62553	ADCY1	CACCTAGAGGAGCCCTGGGAC
62554	DCX	CACCTAGGCTGGAGTGCAGTG
62554	SIGLEC8	CACCTAGGCTGGAGTGCAGTG
62555	DFFA	GGCGCCTGTAATCCCAGCTACTTGGG
62555	SLC2A3	GGCGCCTGTAATCCCAGCTACTTGGG
62555	SWAP70	GGCGCCTGTAATCCCAGCTACTTGGG
62556	CLASP1	CGCACAGCTAATGGCAGTACCTGTC
62557	ITGAV	AGCAATAGCATGATGTTACAGGAA
62558	MYO1D	ACTCATAGTTTTGCCAATTA
62559	GBF1	TCAGCTGTCATCTGCAGCCT
62560	SDC1	GCCACTCCGAGAGGTGGGCCAGT
62561	PITX3	CCCCTGCCTGCCCTCTAGATCGCCGCC
62562	IGFBP4	GAGTCTGAGTCCTGTCTCTGCCT
62563	KCNAB2	CCTCTGCTGAGAATCCCCACT
62564	MDFI	CCAGGGCTGGGGAACACTGT

62565	EPHB3	AGACCTTCCTGCTCTCCAGCA
62566	EVA1	CCCCTCTGGAGCCAGCACA
62567	AKAP2	TGAGGGAGGTTGGCATGGA
62568	ITPKA	GGAGCCCCGCGGTGCAGGGCAG
62569	STK4	CAGCACTTCTGCTCTGTCGTCTCTCC
62570	GNRHR	ACATAAACACATATAAATGCAC
62571	CHST1	AGGACCACTTGTCTCTAATT
62572	LTBP2	CCATGGTGGAATAAAGAAATGTGCA
62573	TBL1X	AGAACCTCGCATCTTTTGGTGTG
62574	MICB	AGCCCAGTTTCAAACTCCTGACCTCAGGTGAT
62575	SLC22A2	TGGGGGCAGAGGTTATGTGGGA
62576	HSF2BP	CATTTCTTTGAAAAGCAATT
62577	CDC27	ACTCTTGAGCTGGCGGTGTCATCG
62578	AVPR2	CCAACAGGCATCTGCCA
62579	HOXB8	GGGGAAAGAAAAGGATTTAAGCA
62580	UNG	CCACAAACAACAAAGGCTACCC
62581	DRP2	GGCATCCCTGTCTCAGGGA
62582	TH1L	AGCTCACTGCAAATCTAACTTC
62583	HRB	TGTTTTGCTACAGTTTGCAGGTGA
62584	SHOC2	TAAATCTGCTGGTCCCACACAC
62585	CTNNA2	AACTTGTATTGCTTCTGTTTCAGTGCA
62586	MSF	GCGGGGACAGGCTGGAATGAGGGAG
62587	CD28	CCTTGAAGAATGCCCTTCA
62588	PIK3CD	GGCTCACTGTAACCTCCGCCT
62589	BTEB1	CGTGAGCCAGGAGGCCCGGACC
62590	ZNF179	AGCCCCAGAGAGCCTGTCTGTGCAT
62591	SFRP1	TTCAGTGCTCATACGTATCTGCTCATTT
62592	RAB18	TTTCATTTTGTTGTTTTGTTGC
62593	NR4A1	CCTTGGGGAGGGGGATGCCTTC
62594	EOMES	GGTAACTGAAACAAACCTAGCA
62595	CD86	TCTGGAAAACTGCCTTTTATCT
62596	BPHL	GCTTCAGGCTGGGCACGGTGGC
62597	LAMC2	CGAGACAGCTTGGGAATCCTGCTA
62598	DGKI	CCACTGCAATCCAGCCTGGGCG
62599	SORBS1	CCAGCAGCAACCAGGACGTCTGTTC
62600	IL12B	GATCAGTCCCTATTATGCAAAATGTGA
62601	CHRNA2	GCAGAGCTGAGAGCCATGGCCT
62602	CDH10	CCCGTTTTCTTCGGTTCCCTGCTGTCCAGA
62603	STAT1	CATCTAGCAAATGTTATGCA
62604	NPTX1	GCATGTATTTTGGAAGAAAGA
62605	ABCC12	CAGATTGTAGAGGTCCTGGCG
62606	RYR3	GGATGGAAGCATGAAGGAAAGGG
62607	MADH7	CCTGCGCCTGCTGCCCCAACTCGGC
62608	SELP	TAGTCTCTGTGCTTTGACTCACCTGT
62609	PTPRO	GGTTACAAAAAGACATGAGCTG
62610	CHST5	GAGGCTGAGGCGGGTGGATCA
62610	CPT2	GAGGCTGAGGCGGGTGGATCA
62611	NOL3	GCTTCTCTCTGGACTG
62612	APAF1	TGTTTTGTAGTTTGCAGATGA
62613	PFKFB4	CTGGTGAGAGGGAGAGCCCTTCCCAT

62614	CDK3	GCCCAGTGCCTTCTGTTTCCCAG
62615	LPXN	ACTGACCTTCTGCTTAATAG
62616	ZNF175	CTGCAGGATCTCTCTTCATAGCCCAGT
62617	CARKL	CTTGCCAGGAGCATGTCTGTGCAGCAGT
62618	PYGO2	TTGTTTCCACTGGCTTTCCATCC
62619	MGAT1	CCAGGAGGAGGGGGCCTGGCGGACGCC
62620	KERA	GTCCACTGCATTCTTATAAGTTC
62621	CD209	GCTCTGTCGCCAGGCTGGAGTGCAGT
62621	RABL2A	GCTCTGTCGCCAGGCTGGAGTGCAGT
62621	RABL2B	GCTCTGTCGCCAGGCTGGAGTGCAGT
62622	RHD	ACTCTGTCACCAGGCTGGAGTGCAGT
62623	WHN	TTCTTTCCCAGAAGCGCCCTGTATTTA
62624	NXF5	CCGGGATTGTTTCCCCAAGT
62625	GATA6	AGCTGGGAGGACTTGCTGCTGTTC
62626	JPH3	GGGCAGGGTGGCCCACCCCAGTGGGC
62627	PCDHA1	AGGAGACAAAACTACCCCCACTG
62627	PCDHA10	AGGAGACAAAACTACCCCCACTG
62627	PCDHA11	AGGAGACAAAACTACCCCCACTG
62627	PCDHA12	AGGAGACAAAACTACCCCCACTG
62627	PCDHA13	AGGAGACAAAACTACCCCCACTG
62627	PCDHA2	AGGAGACAAAACTACCCCCACTG
62627	PCDHA3	AGGAGACAAAACTACCCCCACTG
62627	PCDHA4	AGGAGACAAAACTACCCCCACTG
62627	PCDHA5	AGGAGACAAAACTACCCCCACTG
62627	PCDHA6	AGGAGACAAAACTACCCCCACTG
62627	PCDHA7	AGGAGACAAAACTACCCCCACTG
62627	PCDHA8	AGGAGACAAAACTACCCCCACTG
62627	PCDHA9	AGGAGACAAAACTACCCCCACTG
62627	PCDHAC1	AGGAGACAAAACTACCCCCACTG
62627	PCDHAC2	AGGAGACAAAACTACCCCCACTG
62628	TNFSF12	GAGACTGGGCCTAGGCCAGGAGTTCC
62629	CELSR1	GGGCACAGACCAAAGACCGC
62630	RARA	TCACCAGCAAACGCCAGGA
62631	CRSP6	TGTAGCCCAGTCTGGAGTGCAGTG
62632	CNTN2	TTCTCAGCCTCCAGCTGGGCTGTC
62633	VDR	CTGGCTGCTGGGCTCTCCACCTCA
62634	HAS3	TGGGCAGAAAGCTGTGGGA
62635	KIFC3	CCCGGGGAGGTTGAGAACTGGG
62636	KCNC4	CATGGCATCATACTCAGGA
62637	ALS2	CCCTATACTTCACACTGAACTCAG
62638	INHBC	AGAGAGGCCCTTCTTTGGATTCAC
62639	GALNT7	TTATCATCTGCAGTTACTGTT
62640	WHSC1L1	AGGGAAAGTTAAGGATGCTGGAG
62641	MEF2C	TTGTAGAAGTTTTGTTTTTGAAA
62642	DPEP1	ACTGAACTTGAACACCAGAA
62643	SLC1A3	TCACAGGCTCTGCATACACATGCAC
62644	ITGA6	GTTGCACTCAGGTGACATCCTC
62645	CCND1	CTTGGTTTGTGTTCTTCT
62646	TM6SF2	GAGCTGTGGACTCAGGACCCAGG
62647	FUT1	GACTACAGGCGCCCGCCACCAC

62647	SERPINB9	GACTACAGGCGCCCGCCACCAC
62648	PCDHA9	GACTACAGGCGCCTGCCACCAT
62649	FGFR1	CTGGTGAGAGGTGCAAAGAGGCAGA
62650	LEP	CCCATCTCCCCCTCACTGAATGCC
62651	B3GAT1	CTTCCCAAAGCTGCCCCCAAATCAGAC
62652	SCG2	GTAGCGTTTTGTGGAGTACTGG
62653	OXTR	GGCCTCCTACACGTACTTCTACCA
62654	PSG11	AGAACTCCATTTCATTGGACTAAATA
62655	BRCA2	AGCTGAGGTGGGAGGAGTGC
62656	ALOX15	TGACACCCAGGCTGGAGTGCAG
62657	IGFBP4	AGAGGAGAAGAGACATGTACCTTGA
62658	FOXO1A	ACTACCTGTTTTCTGCGGAA
62659	ZNF147	TCTCCAGGCTGCTGGGCAGCTGG
62660	MEOX1	CAAAAGGAAGGAAATGACAGA
62661	PTPRK	TCACATGCTCCACGTAGCTGTA
62662	MKL1	TTCCGTCATTGCTGTGAATGGGCTGG
62663	TNFRSF6B	CCTGCAGCATCTGAGTGGGGCC
62664	NOLA1	GTGCCTGGCACTCTGTGGGTGCT
62665	MEIS2	ACTATGTCAGCACAGAGCCCCACA
62666	CASP10	CTGCTGTCAACGATGATGTGAGTCGA
62667	HOXA11	TGAAACTTGGATTTGCTCAG
62668	RABL2B	GTTTGTTTCTTTGTTCGTTCTGA
62669	CA3	TCCACACTGAGCAATGAATGTGAG
62670	RNF3	ACTGTTTAATTTGAAAGTTTACA
62671	SNTB1	TCTATTGACAGTATCTGCA
62672	RNF7	AGCAGTTTCAGAGAACTTTTTGCATGC
62673	STCH	TGAATCCTTCACTGCATTAT
62674	B2M	TGGACATGATCTTCTTTATAATTCT
62675	CDR1	AAGATCTGGATTTGGTGGAAGA
62676	TEM7	GTTGCTTGAGCCCAGGGGTTT
62677	ZNF79	CAGGACCTGGCGTTGGGCGGTACTT
62678	PHEMX	ATCGGCCTGGCCCTCACGGTG
62679	IGSF4	TAATCAGCCTTTTTGTTTCA
62680	MAOB	GGCAGGCAGGACTGGGATCGAGGC
62681	SPON1	ATTCTCATCTTTGGCCTGTTCA
62682	KL	ACACTGCCCTGGCCTTTGCAGAG
62683	DDIT3	GTACATTTATTTATTACTGTCCC
62684	PTAFR	CCAACATTGTAAAACCCCATCT
62685	ACP2	CCCCAGCCCATGGACAGGAGATCCTGG
62686	APAF1	ATCACCCAGGCTGGAGTGCAGT
62687	SLC6A8	TCAGCTCACATCACCAGCTCACCTCT
62688	WAS	GACATGGCTCCCCCTCCACCTGCTCTG
62689	CYP3A43	TACACGTTGCATACTACAAAGCA
62690	CDK5R2	GCCGGGTCCCCCGGGGCTGCAGT
62691	IL5RA	TTGCCATGAAGCCAGTGAAG
62692	CACNA1D	TTGTCCAGATGGGCACTGCTGTG
62693	ADAMTS9	AGTCATCTCTTACATTCTAGTTCTGGT
62694	FZD8	TAACAACTCTCACTTTAGTGGA
62695	ARF4L	TTGGATGTGTTTGGGGCCGGGGGGA
62696	BRCA1	AGCTGTTGCTTTCTTTGAG

62697	PRIM2A	TCACCAAGGCTTAGTGCAGTG
62698	GPR41	AGAGTAGACATCTAGCCTCCCTAAGGGTATG
62699	SGCA	CCCCTCATTCTGGACCAGCACTGCAGCCCA
62700	TGM3	GGGGCTGGGTCCACCCTGTCCTATG
62701	POLS	GATTGATCTCTGAATGTGAT
62702	ZNF264	TGCAGTGAGCTGAGATCTCACC
62703	ARNT2	AGCTGTGCTGGGCACTGAGGG
62704	PTK2B	CCTGCGTCTTCCGCCCCTGCCTGCCATGT
62705	MYO7A	AGGGAAAGACCCAGAGGGA
62706	KLHL2	CTGTATACCAGGAACTGAA
62707	DIAPH1	TTGCCTCTCTGGACGCTCTGCACC
62708	SLC6A3	GGCTACTGCCACTCAGGCAGCCT
62709	BHMT2	TGCCTGTAATCCCAGCTACTCGG
62709	IL13RA1	TGCCTGTAATCCCAGCTACTCGG
62709	RPN1	TGCCTGTAATCCCAGCTACTCGG
62710	OPA3	TGCCTGTAATCCTAGCTACTTGG
62710	UPK1B	TGCCTGTAATCCTAGCTACTTGG
62711	FOXE3	CTGGACTCAAACTCCTGCTACA
62712	ATP1B3	GCATTTTTAGGTTAGCCAGTGTGA
62713	KLRD1	TTGCCCAGGCTGGTCTTGAACTCCTGG
62713	STARD4	TTGCCCAGGCTGGTCTTGAACTCCTGG
62714	AK1	TTTTTTGACCTCATCACTGAGA
62715	CAV1	ACAGAGTCTGGTGAAGCTCA
62716	PRKAR2B	TTGTTTTAAAGTTTTCTAGCT
62717	REGL	CACCCAGGCTGAGGGTGCCTT
62718	UQCRC1	GCTGTGGCTGCAACTCCCCGCCC
62719	TSSC4	GTGTGGGCTGGAAGCACTGGC
62720	HOXA10	GCTGGTTTGTTCTGACTTTTT
62721	CGB	CCAGCACCTTTCTCGGGTCAC
62722	UNC13	ATCTCCATGCCACACCTTATCCA
62723	RBL2	TTGCTGTATATTTGTGATAGCACTTT
62724	TAF7L	CAGCAGATTATTCAGCCATGCTTCTA
62725	C20orf1	GGGGAGCCTCACAGCAGCCACG
62726	TNFRSF8	GAGGCAGCAAACAGATGGCAGGA
62727	DPYSL3	CCGCTGCAGCCACCACCGCCAC
62728	CYP2C9	ACTATCTGTAATGCCTTT
62729	EN2	CCTCCTGCACCTAACTCCC
62730	PRKAB1	GAGGGAGGGGTGGCAGAGGATCTGCAGC
62731	EMP3	GGATTGGAGGGGAGAGCAAGGGAGG
62732	NDRG1	CTTTCTGCCTCTCCTCCACAGCCCC
62733	GNAT1	GCTCTGAGCCCTGCTAGCCTTGAG
62734	SOX13	CTGGATTCTCTGGGTCTATGTA
62735	MAPK10	TGGCCATTAAGAAGCTCAGC
62736	RNF4	CAGGTTCTCCAGTGGTATCTGC
62737	KRT16	ATCTCCCCTGCTCCTCTGCTG
62738	HMGA1	TCTGAGCGCCTCTGCTCTCTCCCGGTAT
62739	ISLR	CTGCAACCTCTATCCTGGAACCTGTC
62740	TNP1	AATGCCAGTTGTGACGAAATGAG
62741	ZNF255	ATTCCTGAGTTACTTCACTTAGA
62742	LIMK1	TGTAACCTCTGTCTTGGCAGGGCT

62743	PRPSAP1	TCTGGGTATCTGAGTGGCTCTGAAGTTGCA
62744	SF3B4	TCCTGAGTATTTTGCAAATGCACA
62745	PCDHA9	CTGGGACATTGAGGCTGCAGTGA
62746	VCL	CCTGGCTGAGCCTGGCTGGCA
62747	DGKA	ACAGATGGCCAAGGAGAGGGGCCTAAT
62748	PTBP1	TCAGGGTTTTTTCTTCCTTC
62749	TGM4	CTTCCCTTATTCTAAAGCTG
62750	PPBP	GTTGGTTAAAAGATGGCAGAA
62751	PAFAH1B1	TTGCCTCACAACCCTGC
62752	MFAP2	GGGCCTGACGGGCCCTTCTCAGCCCGT
62753	LRAT	ACCTATTCTAACCACTTAAAAT
62754	DPYSL3	CTGTAACCCTGTGTACTAAGTGC
62755	SRC	GCACGCCTCTCCCTGCACTCCCT
62756	APBB2	AGAATTATAGTTCACTATGGCC
62757	AOC2	CTCCGTGTTTTTATCACACCTGCTCCCCA
62758	CORO2A	CTGGGAGGCTGAGGTGGGCGGATTGCT
62759	SULT1A3	CTACACCACACCCATACTCAGCCCC
62760	FLOT2	CCTTTCTCCCTGACCCCAAGGGCACA
62761	RAP1B	TATTACTGCTAAGAGACATTCTTCA
62762	IGFBP5	CTCCACCCCAGGACGCC
62763	FKBP10	GTGAGGGAAGCTGCATGGGTG
62764	EPHB1	GGCGCTCTCCCGGCGCTGCT
62765	TCEA1	TGTTCACAAGCTTGGAATATT
62766	PDGFRA	TCTCAGTGGTGTGTGAAGTTTGG
62767	HIP1	CGCATGCCTGTAATCCCAGAACTTTG
62768	CLECSF5	TGTGGGCCCAGCCTAGGTCAG
62769	CTSS	CACATACCATTCTTATTCCTAGGCAA
62770	ESRRG	TCTCAGCATTACAAAAGAGTA
62771	MSF	GGAGCCAGAAGCCCCGGAGATGTA
62772	CRB1	TTCAAGAAATGCCTTG
62773	CAMK2A	ACTGTCTGCACTGTTTTCTTTGCATGACTT
62774	RTN1	GCAGCCACCGAGCCTCTGCCCAG
62775	NT5E	TTCATTCTACTCATACTACACACCCAG
62776	TNFRSF11A	CACCATGTTACCCAGCCTGGTCTCAA
62777	TFE3	ATCCTTGCCCAGGTGAGGGA
62778	TAL1	TGAACTCTGGGCTCAAGCAAT
62779	FBXL4	ATGAGACATGCTTTTCCAGCTG
62780	HOXB6	GCTATTTGACAATTCCTGCCTCT
62781	ADORA1	AGGCTGCAGCAGGCAGAGGAG
62782	WASF1	CCTTGATTATACGAATACACTCA
62783	POU2AF1	GCAGAAACGTTGCACCGGTGCCTGAG
62784	SIM2	AGGCTGAGATAGGAGGATCACT
62785	TM6SF2	CTGGAGCCTGGCCACGCCCTT
62786	GJB3	TGGCTCGGGGTGGAGCTAGGGTG
62787	NYX	CTCATCTTCCAGGCAACAGTGCCT
62788	CORO2A	CTGAGGTGGGCGGATTGCTTGA
62789	RGS5	ATGGGAAAAATCCCAGGGG
62790	IGF1	GAGTCCAGAGAGGAAACTGTGGAAT
62791	DAAM2	GACTTAACCGGGGAATGAGGGACTTGGT
62792	CYLN2	AAGTGGGTCCTTATGTACACAC

62793	CDH10	CTGCCCTTGCAAATGAAGCT
62794	HTR2A	AGGCTCGTGCATGTAATCCTAGCACTT
62795	ADRBK2	GGGGATGGGAGAGCCACAGT
62796	ETFDH	CTTTCTGCATATTACTGAAC
62797	ALDH3B2	TTCACACCGCACCCTGCACTCACCCA
62798	CD2AP	ACTGTTGTGCCTGTTTGTC
62799	DPT	TTCCACTGCAGAGAAAGTGGTTGTT
62800	POLS	AACTCAGATATTTTTTATTTAA
62801	MME	CCTCACACATCCAGACATCATG
62802	GYG	AAATGCTTTTGTTCAGTTCTGG
62803	SEPN1	TGCATCCACAGAAGCACAA
62804	PITX1	CGGCCCCAGGGCCCTGCGCCCACT
62805	SDC4	GCCTTCCTCCCTTCCTTTCACA
62806	CD86	GTTTTTAATAAATGCTTGTTA
62807	OSR1	CCCTTCTTCATTGCTCTCTCCAGAAA
62808	PPEF2	TGTGAATGTCACCATTGCTTTTCA
62809	RECK	TTTGTGTCTGTGACTTTTGTG
62810	PRX	CTGTCTCTCTGGCAGGAGTGCCT
62811	CDH12	TTTTTCACAATCACACTGAGAC
62812	MYEOV	TTTTTCTCCCCATTTTCCAGGGAGAA
62813	ATF2	TCATTAGTGACTTCAAAGGGAAATCAAG
62814	STAU	GTCCCTACGCAATAGCAGCTGCC
62815	SVIL	CACTGCCTTCTTGTTCCAGCTAGGCAA
62816	NEK6	TCCAGCACCTGGCGTGGATGCACCGTG
62817	GCA	AAGATCTTTGTCTGTGAA
62818	IL9R	ACTGCACTGCTCACTTGTGGCC
62819	TRADD	CCCTCCACCAGCCGGCTCACTCC
62820	NRCAM	TCTCATAACTTGCATCAAG
62821	SLC2A8	CTGCCTCCTGTTCCAGCTCCTGCTGC
62822	FCRH1	GCCTGCTGAGTAGCTGGGACTA
62823	MLLT2	AACTTCTAATGGCCATCTGTAAA
62824	ITGAV	TTTCACCTGAATATCATAATGCT
62825	RABIF	TGCCTCCTGCTTAGTTCACTTT
62826	FCGRT	CCTAGTTGTCCTCCCTCTGGAGCCCCGTC
62827	FCER1G	AGTCTCACTCTCTTGTCCCACCC
62828	OGDH	GCAGCACCTGGAGCCCACAGAG
62829	VIL2	CCTGTGTGATACAAGAGTCAGCATCA
62830	SCN3A	TCAAATGATCAGACAAA
62831	SDC4	TGGTGGCTTAGCCTGGGCAGG
62832	PIK3C2B	CTGTCGCCAGGCTGGAGTGTAGT
62833	ADCY1	TGAAGTCCAGGGGCATTGAGGCA
62834	SYT4	AAATCCAGTTAGAAGTGCAAT
62835	MSL3L1	CTGTAAAATGTTATTTTTGGTG
62836	KCNJ6	ACTTACCTGCATGTGTTGTACA
62837	TCTEL1	AAAAACCAAATGACCGCACTGTGA
62838	TGM3	AGCCCTGCTCATTCCTCACGCC
62839	GATA3	ACAAGTCCCTGTAATTGTTGTTTGT
62840	CD1B	CTCCTCTCCCATTCGCAATAA
62841	PPP2R1B	TGTTGTTTTTCATCCTTGGCAGCT
62842	MAB21L1	CACACTCAGCACACTTTTCCTCC

62843	SLC2A8	GCCCCAGGGGAGCCAGAATCCAGCC
62844	AOC3	TGCTGTCTGGCTTTCCCGAA
62845	IGFBP3	AACAAGGGCGTGGATCCCT
62846	FBLN1	GCCAGTGACTGTGGTCTGTACTTG
62847	ADAM29	GCTCTGACTTCTGCTCTGGACCA
62848	NDUFS2	CAAGAGGGCGGCTTCACTGTGCGAATA
62849	SFRS7	TCCTGAAAGAATGGACTGAAG
62850	HTR2C	TGGAAACATCTGATTTCTGAA
62851	FUT6	TGAGCCAAGATCGCGCCATTGCACTC
62852	BARHL1	CCCCGGTCCGGGGGCAGCCAGGCCT
62853	KRT17	GCAGCCGCCCCATCTGCCCCACAGTC
62854	UNG	GTGGCCTTTGAGAAGCTGCTGTTAAC
62855	DES	GAGCCCAGGCGGGAGCGGT
62856	PTGFR	AACTCTCATTCAGGGGCTCCAGGAT
62857	MAP3K14	AGGGATCTTTTTCTGCCCCTG
62858	AKAP13	ATGTCTTCTCCCTTGTTTGAG
62859	FUS1	GGAGTGGGGACTGGGTGGGGGC
62860	MUCDHL	CCCCTCGGAGGACAAGCGCT
62861	PROX1	TTTCTACTGCTAAGAAGGTC
62862	KRT6A	TCTCCTCAGCTCTCTCATCTCCTG
62863	DLGAP2	CTCTTTCTCACGCTTTTATGG
62864	SOX12	GCTGCCTCTCCCTCCCTGTTTGAATCT
62865	GHRH	CTCATTTCTGACCCACTTTTTCCTTTG
62866	ARF3	CATTGCCTCTCCTTCCTTGAACT
62867	TIMP4	CCTCAGCCTGTTGCCCTGCCTCCCAAACCCC
62868	SACM1L	TAATCAGCTTGAACTGCC
62869	CEP2	CTTGCCTCAGCTTCTTGCTGCC
62870	TYR	GAGGAAGAATGCTCCTGGCTGTTTTGT
62871	LILRB4	AAGATTCATGTCTCTATAAAATAGACA
62872	ARF1	GTGGTGGTGGCGCAGCAGAC
62873	PLAT	GCAATCCATGTTAGTTTTTACTTTCTG
62874	TM4SF2	GTGAAGCCCTGTTGTGCCACAG
62875	TGIF	GAGAGTCGGCTGTGAAGGAGA
62876	POMZP3	GGCCTCCTACTGTACCTCGTGCC
62877	MAPT	TCTTGGGGCCAGCCTAAGATCATGG
62878	PLCG1	GCGAACTGGGTTCTTTGGA
62879	FACL2	ATACTATAAATGTGCTAAGTT
62880	NEK2	AGAGAGACACAGAGCTGTG
62881	CEACAM5	ATCGCACCACTGCACTCCAGTCT
62882	FEZ1	TGCCTCCCCCTTGCTGGTGTCAG
62883	PYGO2	CAGAGATCCAGGAAACCAAAG
62884	IL1R1	GACTCTTGCCTTTCCACCTGCTTTCT
62885	ADCY1	GGAGTGTAGACCTGTGTGTGGGA
62886	SFRS7	CTGTTGTTAATCTTCAAGCTAG
62887	DEK	TCGGCCGCCGCCGCCTCCCAG
62888	SIM2	TCCTGTTTGCTCGCTGGACCA
62889	EGLN2	AGAGAAACCAAGCCCTGCAATG
62890	F9	TCATGAAGAAAGAACACAGGAGTA
62891	MUC4	TAGGCAGCTGTGCAGCTTCACCTCTT
62892	ADD2	ACCTCCTGCCATGGAACTCCA

62893	CXCL13	AGAACACCTGCATTCTTCC
62894	ZNF278	CTGAAGGGAAATGAGGCAGCTGCTG
62895	LPIN2	TGTTGTGTTTTGCTCTGTCTAAAAA
62896	HSPA4	TCCAAGGGAAGCCTGTGTTTG
62897	BRF1	AGACCCCTGCTCCAGGGCCACT
62898	XRCC2	TCACTGCAGCCTTGAACTCCTG
62899	AKAP2	AACTTTTGCTATTACTCCTA
62900	SLC1A4	CACTGCAGCAAAAACAAAACCACCA
62901	RXRG	ACCCCCACCCTGCACTTTCCTCC
62902	SOX11	AGTCCGGGACGCGCAAGGCAGAG
62903	C18orf1	TCTTCCATCCAGCGGCTCTTCC
62904	PDCD2	TTGACAGATTGCTTACACAGT
62905	EFNB1	ATGACCTCATGGGGGGTGGAGGGAG
62906	MAP3K7IP2	ATTGGGAAAGTACAGTCTCAAA
62907	GAS7	TTGTTCCTTCTCCTTGCCGGGAAGTA
62908	EIF3S10	GGGGTTTTCTTTAGATTTTACT
62909	FBLN1	GTGCAGGCTGGAGAAGAGAAGGC
62910	TXNRD1	TCAGCAGTTTCTTCTCTCATA
62911	CBFA2T2	CCCTCCTCCCCCTCCACAGCC
62912	IMPG2	TTTTGGCCCAAATGATTATGTTTCCT
62913	PTK2B	GCTCAGGCTGCAGCTGGACAG
62914	RAP2A	CGATCTACAGGGTGATCTCA
62915	TIMP3	AACTAGTAACTGAGACTCCTC
62916	GPR56	GTCACACAGGCTGGAGTGCAGT
62917	LASS2	AGGGAGGAGAGGCGCGGGGAGCCAG
62918	SSX1	CCAACTCGCCACCACTGCTGCCGACCTCG
62919	CDKN2D	TCTTCTGCGCCTCAGGCTGC
62920	GAS7	ATCGGGCCACTGCACTCCAGCTT
62921	PMP22	TCCCACATTTTTCTTACGGTCGGAGCA
62922	CYP1A2	CTGTCTCCTAAGCTGGAGTGCAGT
62923	TEX14	AGCTCCTTTCTTCTCTTTCTGCTTCA
62924	F13A1	CCTGGCCTCATTTAAAACAAGACTT
62925	KCNAB1	AAATGTTCATTGTTTAATTAGCACT
62926	RABL2A	ACAATTCCTTGGGCTTCTCCT
62926	RABL2B	ACAATTCCTTGGGCTTCTCCT
62927	KCNQ1	CCTCCCCTTGCCAGCTGCTGAGCC
62928	ABCD3	GTGCAGTCTTGCTTACAAGGAG
62929	CNGB3	TCCTCAAGCACTTGCTGG
62930	CKN1	TTGCTGTACTATCAGCCTGC
62931	EFNB2	CCCACGTCTCCTCCTCGAAGCCA
62932	HSPA5	TGGATCACAAGGTCAAGAGATA
62933	GRM7	TTTCCATTCTCTTTCAATTCT
62934	ELK1	CTGTCTCTATTCTAGGCAAGAGA
62935	CTMP	TCACGCCTATATCCCAGCACTTTG
62936	PTGIR	CCCCTTTCTGCTCCACAAAAACCAC
62937	PCSK2	CACTTTTCACTCCCAAAGAAGG
62938	ATP2A3	GCTGGGAGGGGGCAGCCAAGAAGC
62939	SMARCA3	GACTATACAAGAATTAATTTT
62940	PTGIS	GGCAGCCGCCTCCCTTATGCAGG
62941	LILRB1	AGACCATCTTGGCCAACATGGTGAA

62942	LRPAP1	CTGCTGTCAGGTCTGATAGTC
62943	ATM	GTGTGCTGGGATTACAGGCAT
62944	APOC4	AGACCAGCCTGGGCAACACAGC
62945	PRKCD	ATGGTACTTCCTCTGTGAA
62946	BLAME	CACCAAGGAATTGCCTCCAGCC
62947	IPP	CGAGGTGAGACGGGAAGATGG
62948	GYPE	TGCCTAGAACCAGCTGCACCTG
62949	NRCAM	GGCGGTCCAGGGTCCTGGGC
62950	MMP12	ATGGTTTTTGTTAGTTCACTTCAGCT
62951	CHAD	CCAACTCTGCCAGCCCCCACCT
62952	THRA	GCTGTGCCCTAGGGCCTGGGTGG
62953	MAP3K11	CCAGGCTCCCAGGACTGCTCCAGAACCG
62954	ELK1	ACAGCTTATCCTTTTTCAACCAACTTT
62955	BACE2	TGTCCCCGCTCAGTCTTTGAG
62956	GAS7	AGGGAAAGCCTGCTATGCAGGGGGA
62957	TAPBP	CTCAATGCTCATCACACACAGGGCTAT
62958	LILRB2	CACGCAGCTCAGCCTGGGCGG
62959	HYAL1	TCTCCCCTGCCCTCCTGGAGCC
62960	C20orf1	TAGACTCCATGTAGTTACTTC
62961	KRT12	CAACTGGAGTAGTCTTTTAAC
62962	DCTN1	TGCCTGACGACTCCTGTGTC
62963	ARSD	AGGCTGAGGCTGCAATGACT
62964	CRY2	GAAAGAGAATCGGGCCACTGCCA
62965	VHL	CACTTCTTAAATACAATCA
62966	TCL1B	CCCTCAGTGAGGATCTTCATGT
62967	PCDHA9	ATATGTACTTACACTTTG
62968	FADD	AGCAGAGAGGTGGAGAACTGGG
62969	CLECSF5	TGGGGGCACGGAATAAGCACAT
62970	MCC	GGAGATACTGAACATTTTGCAAAA
62971	EBAG9	CCTGTTTTTCTCATCTGTGCAGTGGGT
62972	MUS81	GGAGATGGAGTCAGTGGGGC
62973	HD	AGGGAGCTGCTCAGAATGCC
62974	EIF5A2	CTCTTAGACCTCTCCCATCATGCC
62975	NHLH1	CCTGGTCCCATCTGCCTCTTTTC
62976	RANBP17	CATGGATCCTGGATTGAGACG
62977	SNX1	CTTAACCCCTTCCTCCCTGTCCCCAC
62978	PRSS11	GCAGGCAAAACAAATGTAATG
62979	SDHD	GGAAATGCTGATAGCTCATA
62980	MADH7	GGGCCTGTCCACAGGCTTCTGAG
62981	RUNX1	AGCACATACCCCCACCCAGTACCAAAT
62982	PARK2	GACACAAATACCAGAGCACAG
62983	ALOX5AP	TCACTTATCCTGTTCTCTGAAGA
62984	PSEN1	GTCTGAACTGGAGTGGAGTAGGA
62985	SORCS1	ATCATGAAAGAAGGCTCAGAGA
62986	ASNS	GACTTGCTGAGCAAACCCTGCCG
62987	CD209	TCTTGTGCCTTCTGCTCTCTCAGCAACC
62988	ZNF3	TCATCATCTGTGATGATGGTGTC
62989	AKT1	GGGCTGTCTGTCACCAGCTATCT
62990	PFKFB1	AACCAAGGAGCTATCTAGCTCT
62991	AF3P21	GCTTTGAAAGCGGGATCTTGGAG

62992	CD5L	TGCCTGTAGATGTGAGCTGTTG
62993	MKL1	ATGAGGGCAGAGGTGCTACCTGGC
62994	ZNF174	AGACTTCTCCAGGGTCATGATCCCA
62995	MAG	TGGAATCTCACTGGTGCCCCA
62996	CALR	CCTGGGGGGCAGTGGTGTGGAGAAGC
62997	RB1	TCATTTAAGTTTCAAACTTACT
62998	ITPKB	GTTCCTAACTTTTCCTTCACT
62999	GHR	GCTATGGTTTTCTCCAAGAGCTA
63000	GTF2F1	TGGCTCGGCCTCCCTCACACTGACCAAGGG
63001	LDLR	CGCCACTGCAGTCCGCAGTCTGGCCTG
63002	CRY2	CCACCTCTTCCTTCCCACTGCCAAAGG
63003	FBP2	AGAGCAACAACAAACTGCTTA
63004	RABL2A	CTCTTCAGTCTCCCAGTCATCTG
63004	RABL2B	CTCTTCAGTCTCCCAGTCATCTG
63005	RGS6	GGCCCAGCCAAAGCACCCCTC
63006	ALDH8A1	ATCATTCCACTGCATTTCAGCCT
63007	BCL2	TCCAATAAAATAGCTGGATTA
63008	FLNB	TGTGTAGTGTGGTCTGGGCAGGC
63009	SOCS5	AAGCAAAATGGGGATTGAAGGGA
63010	ADORA2A	CACCCACACACCACTCTCCCTAG
63011	GCNT2	ACCTGTAATCCCAACACTTTGG
63011	GTF2H2	ACCTGTAATCCCAACACTTTGG
63011	TNFSF15	ACCTGTAATCCCAACACTTTGG
63012	ZNF137	ACCTGTAATCCCAGCACTTTGA
63013	HMG20A	ACAGGCTTCCCTTCCTTCCCCCTCCTTAGT
63014	CUBN	GAACCCAGGAGGCAGAGGTTGC
63014	EIF3S2	GAACCCAGGAGGCAGAGGTTGC
63014	GALNT7	GAACCCAGGAGGCAGAGGTTGC
63014	INPP5B	GAACCCAGGAGGCAGAGGTTGC
63014	KIF1B	GAACCCAGGAGGCAGAGGTTGC
63014	MOG	GAACCCAGGAGGCAGAGGTTGC
63014	RIMS1	GAACCCAGGAGGCAGAGGTTGC
63014	ZNF36	GAACCCAGGAGGCAGAGGTTGC
63015	GSPT1	AGCCTACTTCACACCGCCTTCTCTTATT
63016	ADORA2A	GCCTCAGGAACCCTGAAGCTGG
63017	NINJ1	GGTCTAAAGTGCCTGGGCTTGGT
63018	CXorf6	AACAGCATGCTGCTGCTCAAAATGCCA
63019	IGF1	GGGGCAATATGTCATCTACCTACCTCA
63020	ASB1	CTCTTTGCTGTTGGGCATGTGA
63021	MAPT	GCGAGGGCAGAGGTGATCACCTGC
63022	BRF1	GGAGGGGGTGGCCTTGAGGCAGA
63023	GM2A	GAGCCTCACCAGCAGCTGCTTT
63024	SLC7A8	CTCCTCTCTGGGCCTTGGC
63025	CYR61	TCAGAATCATGGAGAAAATGG
63026	OLIG2	CGCTGTGTGCATTCCTCACTAG
63027	ABCA3	CGCCCAGGCTCGGTGCTGG
63028	USP6	ACACTCCTGCTCAAATGGTGTTATTGC
63029	GJB6	GGCTTGGATGTTTTTAGTTCTG
63030	MAP3K9	GGTGGGCATCTTCCCCAGCAAC
63031	STAT6	CAATCCACTCCTTCCTTTCTATCA

63032	TBX5	CCCTCATTCCTCCGGAGAAAGCCG
63033	CAMLG	AAGCTACTTTATTAGATATAG
63034	LDLR	GATGCCACTTCCCAGAGGCAGAGCCT
63035	PPARGC1	GCAGAGAGGGAACTTTGCACT
63036	TNF	CTTCCCAAACGCCTCCCCTGCCCCAAT
63037	CBFA2T2	GTGATCACAGCTCACTGCAGCC
63038	MHC2TA	ATGATCACGGCTCACTGCAGCC
63039	DISC1	TACTCAGGCAGTGCAATACTCAG
63040	WSX1	GGGCTCCCCCACATCCTTTCCTTGC
63041	ETF1	TCCCAGTTTTTACTTTTACTGG
63042	GRLF1	GCCCTGGACCCCAGCAGATGAGGA
63043	NEBL	ATGCTTGAGATTTTCCTGCTGC
63044	WBSCR5	CAGGCCACGCATCACAAGA
63045	MEF2D	CAGCCGGGCTGGAGGCTGTGCAGAAG
63046	NAPB	CACGTGTTTTTATGTCCTT
63047	CPN1	GCAGAGAGGCCCTGCCTGAA
63048	HTR2C	CCGAGGCGCGAGGTTGCGGCGCGCAGC
63049	DLEC1	GCAAGGTGGAAAGGGAGATTCCACGGAAGA
63050	GRAF	GGGGATGTGCATTCACATACTATTAC
63051	GPR91	CAGAATTTGTTGAACAACTACG
63052	MYO1D	GTGGGCAGAGGTGCAAGAGAGG
63053	SEDL	GGGCTGGTTTCAAACTCCTGACCTCAGTTGAT
63054	MARK3	GCGCTCCACTTCCTTCACA
63055	PSG4	TCATGCCTGCCTCTTTCA
63056	TP53	TCTTGTTCCCCACTGACAGCCTC
63057	SGT	CCCTCATTTTCTGGTCCTCGCGACTGA
63058	PKHD1	TTTCCTGAGCTCTATACCATGCATTT
63059	TCF7	TGGCCAACATGGTGAAACCCTGTATCT
63060	RP2	CGCCTCCTGGGTTCAAGCGATT
63060	TNFRSF10B	CGCCTCCTGGGTTCAAGCGATT
63060	ZNF264	CGCCTCCTGGGTTCAAGCGATT
63061	TAF6	CCTCCACTGATCTGAGGAGATCC
63062	TNFSF14	CACGAAGCAGAGGCTGGGCGTGG
63063	GATA3	GCGAGAGTCCCTGCAGTCCCT
63064	MTMR2	TTCCCCTCACCTTCTGCAGAAGTC
63065	SLC13A1	AGGCTGGAGTGCAGTGGCGGGA
63066	GALT	CCCAGGAGTTTGAGGCTGCAGTGAGCC
63067	GLP1R	ACATTTTCTCCTAGGAGAAGCAGCC
63068	DCLRE1C	CATGCCTGTAATCCCAGCTACGC
63069	JPH2	ATTCATGTGCCCGATTGGCCAAAT
63070	DAAM2	TGTCCTTTTTCACTTGCACCTT
63071	MMP15	GTGCCTAGGCCTGGGCAGTG
63072	IRS2	GGCATATGCAATATTTACATTTTT
63073	SLC22A12	CCCAGCTCCCCACACAGCGCTGGGCCA
63074	ADORA2A	CCCTGCAGAGGGCCTGGTTTC
63075	AASS	TGGAGTCTCGCTCTGTCACCCA
63075	FANCF	TGGAGTCTCGCTCTGTCACCCA
63075	PDCL	TGGAGTCTCGCTCTGTCACCCA
63076	SEPN1	CGGAGTCTTGCTCTGTCACCCA
63077	TRPM6	TCTTTTTACCCAGGCTGGAGTGC

63078	VSNL1	CTGGTCCACACACCACAGA
63079	SLC22A11	GTTCCAATCTCACCCCACCA
63080	IL6R	GTGGGGGATCACAGCCTCT
63081	RCV1	CCTCCACAAAGCTCCTGGGCC
63082	EPHB4	GGTTTGTAGTCCCAACTTGCTGCT
63083	EBAF	CCTGGATTCTGGTTCTGACAGGGC
63084	MUCDHL	CCCTCCAGGAAATGACAGCAGGTGCCA
63085	NME4	CCCCACGCAGGACCAACTACCTC
63086	CDKN1B	TGGGGAAGGGAGGGCAGGGTGGGGC
63087	ARHGEF7	TCTCAGATGAGTTTGCTGCGT
63088	MECP2	GGGAGGTGTGAGGCAGGA
63089	GAN	GGGCTCCAGCTTCTGCTCAGAGCGC
63090	PPP2R2B	ATCTTGGCACCCGGAGGCAGCG
63091	REGL	CACGTCTGCCCCTGTTCTGGCC
63092	TNFRSF8	GGATTCCAGACCCAGGAGGAG
63093	LHX2	CCCGCGGCCGGCGGCTCCTCCTCC
63094	AKAP1	TGCCACATAGAAGGCTCTCAACATC
63095	UBE2I	TCCTCAAGTCGCAGCTGG
63096	SMAC	ACTGCAACCTGTGCCTCCCGGCTTCAA
63097	MAT2A	CTGGCTGGTGTTAACAGAAGGG
63098	WISP1	TCCATTTCTGTCTCTAACCAT
63099	MEF2D	CCCCTCCGTAGCACTGAGGA
63100	RENT1	TCCCTGTCCCCGTCCCCAGGAGGTACCGA
63101	KL	GGAAGTAGTAATTGCAAGA
63102	FOXF1	GGACGCAGAAAGGTTAAGGCACTTTT
63103	CYP1A2	TTGGGAGGCCGGGGTTGGAGGATCATT
63104	DPYSL2	TGGGGAGGGGCCGGGGTCAGGGAGAG
63105	SPN	AGCTGCTTTTTTGTATTTTTGGT
63106	IL11RA	GGGAGTGTGTGTGGGTCCT
63107	LY64	CACCACACACCCCGCCCCTGAAAGGA
63108	JAM3	CGCCTGAATCAAAAGCAGTT
63109	NKTR	TTCTAAGTTCATTCAGGTTGTTGGCG
63110	CYP4A11	ACTTTCTCTCTCAAACTGTCTTT
63111	KAL1	GGTGCACTTTTGTTTCACCATCT
63112	ADCY1	TTAGGCTCTGGCTTCTGTGAT
63113	SRPX	TCTTTCTAACTTTCTTTACTCCA
63114	CR1	GCTTGGGGAGAATGGGGGCCTCTTC
63115	EEF2	GTTTATTTGGGTACATGGCCC
63116	ZNF36	GCTCTTAGAATTCTTTGCAGTT
63117	SPTBN4	CACCCCAAGAAGTGGTGGGGAG
63118	SNX9	TTCTCCCCACTTGATTTTTCTTCTAT
63119	DPYD	ACAAAGCTCAAAGTATGCAA
63120	NR4A1	TGGGCAGCCTTTCCAGCCTCC
63121	CYP1B1	TATTATATACATACTGCATCTTGGTT
63122	OGN	TCTCAACAATGTGTAAAGGAACTTAAG
63123	MLC1	TGCCCAGCTTGGAGTGCCACGTGG
63124	RORB	CATTGGAGAGAAAGAAAAAGA
63125	STAR	GCTGTTCCCAACTGTGCCCAGCT
63126	MLLT2	TCACTCCAGAGTGTTCTCAGCT
63127	RXRA	CTCCCCAGCCTGAGTCTTCTC

63128	PTPN18	CCAGGCATAACCACAGCCAAGCA
63129	COL18A1	GGATGGCCGGAGAGGACCGGCGG
63130	DRD2	CCCGCACCCCGATGTGGACC
63131	SMARCD1	CTTCCCTTTGCCCCA
63132	EPB41	AGGAAGAGGGTGAGGAAGCCATAAAC
63133	ENSA	GGCTCCTGCCCCTTCCTGCTTTTGCA
63134	LASS2	GGCCTCGGAGCAACCACCCG
63135	ABCD2	TGTGGGTTTCTAAGTGACAC
63136	ADAMTS13	TTCTACCACTGGGGTGCTGCTG
63137	GAB2	AGGAAGAGAAAATGGGCTAGTGGAAG
63138	CNR1	ATCAGAGGTATCTTACTTTCCTCTGA
63139	A1BG	TGAACTCTTGGGCTCAAGTGAT
63140	ARHGEF6	AGAAATTTGGCCAGATGGGGAA
63141	SELE	AAGTTCTGGCTGAACACTGGCAACGACA
63142	NPY1R	ACATCTGTTTAAAAACAAGCACAA
63143	MCM3	GTCATGAAAGCTGCCATGGGGTG
63144	FSTL3	GCCTGCGTGTAAACCACAGC
63145	DIAPH1	TCTCTGGCCTGCTGCTCTCTCAACATCA
63146	CST1	GCCATTCGCACCAGCCACCACCCACTCC
63147	B4GALT6	TACTTAAGATCGGAAGTTAAGAGA
63148	TSPY	GCACAGGAACTAAAGGAAAAAGAG
63149	DMD	TTTGGTTTTGGGGTGTTCCTG
63150	GM2A	AGGTACCCGCAGGGCCTAGCAAGAGAC
63151	DAZ	CCTTTTGCTATACTCACAGTCTT
63152	PAM	TACATGTCAATAAAACCACT
63153	SMPX	TTTCCCAAGCTACTTCCTACAGTATTT
63154	PTPN7	TGCCTCCATGGTTGCTGGCC
63155	GP1BB	CCCACCCCACCTGCAGGCCCAGACCA
63156	SLC9A3R2	GGGGCCTGCTGACTGAAGGAA
63157	PPP2R4	GCCTGCCTTCCCCACCCCAGCAGTG
63158	C7	CAGGCTGGAGCGCAGTGGGGTGAT
63159	PHKG2	TCCAGAAGAAGGGTTTTGATCA
63160	NEBL	GAAAATGTGTGTGATCTTTAA
63161	AFG3L2	TCATTGGGCTCCCAGACGTGC
63162	PCTK1	TCTGCCTGCTTTCCTGCCTGCCCC
63163	TNFRSF8	AAGACCGTTTGGAGGTTTCA
63164	TRIM14	CCTAGATCAGCGTGGCTGGTC
63165	TCFL4	TTGGCCTCTCCCATGTCTCAG
63166	TEM6	GTGCTCTGTGCCTCCTGCTC
63167	COG5	ACTATTTTAAGAATGTAATTGATTG
63168	MYEOV	CTCCTTCTGGTCATTTTCTCAGCT
63169	ATP8B2	GCGGGGCTGTGTGCTGCGAAACACCGA
63170	CYP7B1	TTGTTGTGATTTTCACCTGT
63171	FGF5	GTCCCATTGTCAGAAATATTCT
63172	MYOZ1	TGAATCCACCTCCACAATGCCGCTCTCAG
63173	JAK3	GTGCAACCTCTGCTTCCCAGGT
63174	FOLR2	AAGACATGGTCTGGAAATGGATGCCAC
63175	PBX2	GGCAGGACTGGGGACAGGTTGGA
63176	PRKCB1	AAGTCAAGAGCTAGTAGATGTGT
63177	G6PC	GTGTGACTCCAGCCTGCCCTCA

63178	CRI1	ACAAAGAAAACAAACCATTG
63179	FOLR1	AAACCAGACACCGCACATGTGT
63180	IRF1	TGACTTAAAATTGGAAATGT
63181	ZNF264	TCGACCTCTTTACCCATTCCA
63182	SUV39H1	TGTGGCAGAAGGCAAAGTACAGGCCA
63183	KAL1	AGCCCCGGCGCGGAGCAGGGA
63184	THBS1	GCAGGAAAGGGAGACAAAGACTG
63185	CHN2	TTATACATTTTCCACTTACAAAAAGA
63186	XRCC2	GCTCATGCCTGTGATCCTAGCACT
63187	PKHD1	ACAAGGCAACTTCCTGGCTTTTTAC
63188	CANX	TCTGTGGTCACAGTGACCTT
63189	P2RX4	TGCTCAGAAGCCTCCTGTCTCCA
63190	EGR3	TCTTTGCAGAGACAGTATTTTGCTG
63191	PTPRN	ACGCCTGCCCAGCCTCGCATGCCA
63192	NIPSNAP1	AGTGGCTAGAGGTGGGGTGGGA
63193	PGF	TCAAGACGAGGGGCAGGGAAGGACAGG
63194	CNP	TCACTGCAGCCTCGAACTCCTG
63195	GRLF1	GTGCCTCACTCAGCTCCTGCTGCTCTT
63196	IFNGR1	TTCCTGGACAGTTTTCTGCTT
63197	PCSK1	GTCTGGCTTTTCTCCTATCTTGCTTC
63198	BPGM	GAGCTAGGCTGTGGAGTAGAG
63199	LGMN	AGCTGAAACCTCTTTAAATCT
63200	CD209	GTCGCTCAGGCTGGAGTGCCATGGC
63201	RAB7	TCCCTGGAACCAGAACTTGGA
63202	EPM2A	CTGTGTGACCTCCCCCAAGCCAACCAC
63203	IGF2	GCACAGCAGCATCTTCAAACATGTAC
63204	PUM2	GCAATCTTCTGAGCACAATAT
63205	ELOVL4	ATTAGCCTTGATATTCTCCA
63206	GABRB3	GGGTGAGCCACTGGCAGTGTGCT
63207	COL8A1	GTCATCTCAAGAACAAAAGACA
63208	TEM7	GCACTGATCAGGGGCTGCACTCAGACTCCCT
63209	ZNF74	GCTCACACCTGTAATCTTAACA
63210	ADAR	TGTCCCTTGATAACAGTGACTTAACAA
63211	CARD10	CTGTCTCTGGCCCTGCCGAGCCTATGGG
63212	LILRB3	GCCCCCAGTGGACACCAGTGAACCC
63213	FABP2	CACTCAGGCTGGAATGTAGTG
63214	NEUROD2	AACCTCCAGTCTCCGCGTTTT
63215	SEDL	GACCTCGTGATCCACCCACCTCA
63216	GPR4	GCCCAGGCTGGAGTGCAGTAGTGC
63217	KCNA7	ACCCAAAGGAAATAGCAGTGGGGA
63218	SLC31A1	TTCTTGCTCCTCTTTGTGC
63219	ANPEP	TTGCCCAGTCTGCCTGTTGTG
63220	SMT3H1	GCCTTTTTCTCCCTCTTAATAT
63221	COIL	TCATCTTGCCAGCCCCT
63222	CDX2	ACCAACCAGGCCTTCATCCTCCTCC
63223	AKAP1	AGCAGATGTACCTCTGTTA
63224	ARHGAP6	CAGAGCCAGCGAGCAGGAGCGC
63225	BENE	CCTCCAAGGCTGGAGTGCAGTG
63226	A1BG	GCCCAGGCTGGAGTGCAATGGCGTG
63226	NF2	GCCCAGGCTGGAGTGCAATGGCGTG

63227	PTGIS	GCCCAGGCTAGAGTGCAGTGGCGTG
63228	PDE1A	TGCAGAAGATGAGGTATTTTA
63229	PPP2R1B	ACTGGGTGGAGAAAGAATGGAA
63230	CLASP1	ACTTTGTCTCATCAGTCTTTT
63231	CD209	TGAACTCCCGACCTCAGATGAT
63232	PPEF2	TGAACTCCCAACCTCAGGTGAT
63233	RNF3	TGGCCACCATTCAGGCTTTCCA
63234	UTX	TACTGCTCCTACTCCAGG
63235	KLHL1	TCTGAGCTGCAAGGACAAGAAC
63236	POLR2K	AATTCAGAGGAATGTCTTCACTT
63237	ISG20	TGAGTCACCGCTGAGAGCAGCTGCAGT
63238	NRIP1	CAGTAATATAATTTGCCA
63239	DIAPH2	TATGTCTGTCTCATGTGTAAA
63240	IL17	ACATTTTTCTCTTCCTCA
63241	CYP2B6	CACCCCCGGGGATCAAGCAACTC
63242	FMO5	TCTCAATAAAGAAATTACT
63243	RP42	TGGATTTCATCTTATATCTG
63244	MTR	GAACATTTGCAGACGTTATGATCTTG
63245	CD244	AAGAGGAAGGAATGATAATGGTGACTC
63246	CDY1	GCCCAAATGTGATTATTTTATGCACA
63247	WHSC1	CACTGCACCCGGCCCTTGCCT
63248	ABCC3	GCTGGGAGAGATGGAGAAGCTAGA
63249	LCP1	CTCTGGATCTGTTCCTTGGCAGTGG
63250	SLC1A5	CTGTGAACTCACAACTCTAA
63251	CACNG7	TTTTCTGCTTCCTGAAGGTT
63252	CREB1	CCCAGGAGGCAGAGGGTTGCAGTG
63253	RPP30	CTCAATCCTGGGCTCAAGTGAT
63254	F2RL3	GGTCTCCAACTCCTGCCCTCAAGTGAT
63255	TEM7	TGCACACACAGGTATTTTG
63256	MAP3K14	TTGCACTCTGATGACCTCAA
63257	GUCA2B	CCCTTCAGCCCACCACCCTGG
63258	FBXL5	CCCCACACTGGCGGATGAAGCAG
63259	PIGC	TATCTCAGTACTACTCTTG
63260	PLXNB3	CAGACAGCAGCAAGCCGGATCCA
63261	MCM3	CAGTGTTGAATTCAACTGAAGGC
63262	MAP3K12	GTAGAGCTGTGGCTAAGGGCAAGCCCC
63263	KCNK5	TAGGAGGGAGAGTAGCAGAGCATG
63264	CX3CR1	TCTCAACCCTTTTGTCTGCCTCTTAGA
63265	VHL	TCTTTCTCCTCTTTGAGACCC
63266	WARS	TGACCTCAGGCCGGCTGTG
63267	DCLRE1C	TTGAAAAGAAGGTTGGAGTGCAGCTTGAA
63268	IL11	AACCCTGTCTCAAAAAAGAAAGA
63269	CCR2	CCTTAGCCCCATCTGCCA
63270	NDRG3	GGCTCACTGCAACCTCTGCCC
63271	NONO	GGCTCACTGCAATCTCTGCCT
63272	OGDH	TTCATCTTGAGCCTGAGCCTTAG
63273	CACNG7	CCTGGGCTTCCTTTTTCCCTGCCTA
63274	RPA2	ACCTGCTGGCCTCTGCCTGT
63275	GRB10	CTGTTGACTTTGTATCTCTGCCTGTG
63276	XPNPEP2	ATTCTCTGAACCCACTGTGG

63277	SOST	GCTGTGTAACCTTGAACTACACAATTC
63278	SH3BP2	CGCCTCTCTAGTTCAAGCGATT
63279	PRKACG	GGGGCTCAAACTTAACTCCA
63280	NFE2L1	GGGCCTAGATCACTGGTGTGAT
63281	AQP6	CACACCAGCAGAGACAGAAAC
63282	ALK	AAGCCTTCCCGCAGCGGAGAGAT
63283	OPA3	TACACTGGAACACCTTCTTCTTTT
63284	PPARGC1	TGAGTGTGTGCTCTGTGTCA
63285	EYA2	GAGGGACTGGAGTTCCAGGCAGAGGGA
63286	FMR2	TTTAAGGCCTTTTGTTGTAT
63287	RFNG	GTGTCAAGGAGCAGGCTCCA
63288	PDCL	GGGCGACAGAGACCCTGTCTCAAAAA
63289	S100A1	GCCACATTTGCAACCTTGGCCATC
63290	PEX6	CCCTCCAGGAGATCCCAGGGTGC
63291	ZNF202	CCTGGTTTCTTCTCCTCTATCTCATAATGC
63292	SCG3	ACACAGCCCTGGAAACATACAG
63293	VIP	TGTCTAAATTTGAATGTTAAGCA
63294	ATP11A	TCACTTACACCAGCTGCTCTG
63295	ARNT2	TATTTTATCTGTGTGTGCTCAG
63296	SYN2	GTGCTTGTAATGCTCA
63297	NOVA1	AAAAGCACCTGTTCTCCATCT
63298	SMP1	AGGAAAGGAAAAAAGGGCA
63299	NRXN2	TGTGAGCCTGCAAGGGAGCCC
63300	PTPRJ	TCACATGCTAAAGCCAGG
63301	RAB7L1	TGACATCAGCTGGCTGTGATG
63302	GGCX	CACTGCACTCCTGGGCAA
63303	DMN	TCCAGTAACACAGCATCATCA
63304	OPHN1	AGCATGGGCAGTTTCAGTTTCAG
63305	GALT	GGCCCAGGAGTTTGAGGCTGCAGTGA
63306	UROS	GTTGTCATTGCTCCTGCAGCCT
63307	SLC7A7	TACTGTTCCAGACTTTTAAAGGGGA
63308	DCX	TCACCTAGGCTGGAGTGCAGTG
63308	SIGLEC8	TCACCTAGGCTGGAGTGCAGTG
63309	NEFH	TTTCCAAATAAGTGCATTTA
63310	NDUFS2	GGAGCTGTGGGAGGAAACGC
63311	HS3ST3A1	TCGCACGGCCACAGGGGCGCA
63312	PTPRM	TGAATTCTGGCTGTGGTG
63313	PRKCN	GCTGTATTATCAGCACAGCAAAT
63314	ATP11B	ATCCTGAACTGTTACTCCAA
63315	SLC3A2	TTTTCTCACCCAGTGCATGTGGCAGGA
63316	ADCY1	GAGCCCCAGCCAGGGCAGCT
63317	PON2	TAACCAGCAACATTGACCCAG
63318	ASB1	CTCTGGGTGGTTATGAGCCTCC
63319	CKM	GGCAGGGTCCTCTTCTTTTCCC
63320	CYP8B1	CCCTGCTCTCTCTGCTCAGAAC
63321	GPR30	CACAGGAACCCTAAAGCAAATCTGCCA
63322	SCA1	AAATATGTTGCCAAAATTTATT
63323	MSN	TTGGCATCTAGAGCTTGATGCCAGTAGGCTCA
63324	HS3ST4	CGGGCTTCATTTTCTCTATTTAGAGAT
63325	PKHD1	GAGAGGATGGTACAGATCAAAGA

63326	PCTK3	GTCCCCACTCTTTCCATCAGCCC
63327	E4F1	AGGTCTGCGGGGTCCTGGCC
63328	SLC22A12	CTCAGCCACTCTGGGAGGTGG
63329	GNA15	GCGATGCCACCCGGTGCCGA
63330	MCSP	GAGAAGCAGTTTTCACAGTGA
63331	EIF4G1	ATGCCCCAGCCCCTGTACCACC
63332	CRYGS	CCCAAATGCTGGCTGGCCTTGTGGTCC
63333	UBE2G2	GCCCAGGCTGGGGACAGAGC
63334	RAB7L1	GTCCCAGAAGTCACTGTATTTTTGAAA
63335	NAB1	TAAAAGATGCAGTAATCTTCCA
63336	DUSP3	TACAAGTGTGTCCCAACACAGTCCTGG
63337	HCFC1	GAGGAAGCAGAGGCAGATGG
63338	CMKLR1	GCAGAAAGAAGCCAGGGTGTGCA
63339	LOH11CR2A	GCTGTCCTGAATCCTAGATACCAGTT
63340	A1BG	CACCCAGGCTGGAGTGCAGTG
63340	AASS	CACCCAGGCTGGAGTGCAGTG
63340	ALOX15	CACCCAGGCTGGAGTGCAGTG
63340	APAF1	CACCCAGGCTGGAGTGCAGTG
63340	AXL	CACCCAGGCTGGAGTGCAGTG
63340	CMAR	CACCCAGGCTGGAGTGCAGTG
63340	CSNK2A2	CACCCAGGCTGGAGTGCAGTG
63340	EEF2K	CACCCAGGCTGGAGTGCAGTG
63340	EIF2S3	CACCCAGGCTGGAGTGCAGTG
63340	FCAR	CACCCAGGCTGGAGTGCAGTG
63340	FSHPRH1	CACCCAGGCTGGAGTGCAGTG
63340	HUNK	CACCCAGGCTGGAGTGCAGTG
63340	ICAM1	CACCCAGGCTGGAGTGCAGTG
63340	MEFV	CACCCAGGCTGGAGTGCAGTG
63340	NEU3	CACCCAGGCTGGAGTGCAGTG
63340	PCDHB16	CACCCAGGCTGGAGTGCAGTG
63340	PSMD9	CACCCAGGCTGGAGTGCAGTG
63340	TERF2	CACCCAGGCTGGAGTGCAGTG
63340	TNFRSF9	CACCCAGGCTGGAGTGCAGTG
63340	VHL	CACCCAGGCTGGAGTGCAGTG
63340	ZNF264	CACCCAGGCTGGAGTGCAGTG
63341	INMT	CACCCAGGCTAGAGTGCAATG
63341	RHD	CACCCAGGCTAGAGTGCAATG
63342	HAP1	CTGACCCAGGCTGGAGGACAG
63343	GALNT7	CATTTTCATGTTAATGAGAATTTCC
63344	SLC31A1	TGGCGTGGCCTTATCGATTGCAGTGG
63345	DAP	GGTGCCATTAGCAGAATTTGCC
63346	ATP8B2	CTGCCCCTGCCCTGCCTGGGACCCA
63347	RAB7L1	CGGGCACCTGTAATCCCAGCTACTT
63348	BMP4	GCCTTGTTTTCTGTCAAGACA
63349	CABC1	TGAATGTTAAGCAGAA
63350	TRHDE	TCTACTTCTTGAACAGTGGTC
63351	PNMT	GGCTCAGAAGGTTGGGCTGTGGGG
63352	PRB1	AGCCTCCCCAGTCATCTAGGATT
63353	ALCAM	AGGAGGAATATGGAATCCAAG
63354	AHR	GGCAGGAGAATAGCCTGAACCTG

63355	CAST	ATGCTCACAATAAAAAAGCAGTT
63356	GRIN2B	TGTTCCCTCTCAGATTGTACCATTG
63357	FUT6	GGGCCTCACCTGCTGGAGTCTTC
63358	ELK1	TGTCTCTCCCCCGCTGCCATT
63359	FMR1	GCGCTAGCAGGGCTGAAGAGAA
63360	PHB	AGAGTGGAAGCAGGTGTGAGA
63361	TRAF5	TTTGAAACTTAAAACTCTTAGA
63362	ADAR	TCTCTGGTCCATCTTGGGCATTA
63363	ITGAV	CCTTCTCCTTATAAATAAGTTC
63364	HDAC8	CCTGGGAGAGAGGGTACTGA
63365	MSI1	GGGCTTCATGGTTTCTGCTCAG
63366	RP42	GCTTTTATTTAGAAAATGTCTG
63367	CRYPTIC	CGTAAGCTGAAGCACTGGGTGAA
63368	MYO1D	GTTGCCTGTCAAAGGCTGGAGGGCAGG
63369	DISC1	CAGTAATGCAAGGGCATTTCA
63370	RNGTT	CAGATGAACCAAAAATGTATTTA
63371	DES	GGTGTTGGGATACTGCAGGGCCAGG
63372	TIMM17B	TACTCTGCTCCCTAGTCCCAG
63373	CDC42	TGTGGAATGATTCACATC
63374	FOXM1	CCTGGCTTCCTTAGCTTG
63375	RNH	CCTGCTGCTGCTCTCCCTGGAC
63376	STK4	CAGAGACTCCTAGTTGAGTGAT
63377	DNMT3A	CCGCTGTTACCTCTTGTT
63378	KLRG1	CCCAGGAGTTTGAGGCTGCAGTGAGCT
63379	DAP	CCCCTGCCCTGCCGCTGC
63380	SLC9A2	TGGAATCCATGTAAAACTCTCT
63381	COL1A1	TCATCCCTTGTGCCGCAGGCTGGGCGG
63382	GPR3	CCAACCCAACTCAATAAAAAAT
63383	ATP7A	TGCAGCCCAGGCTGGAGTGCAGT
63384	CA7	CCTGGGGCTGCCTCTGCTCTCCAAGACCCAA
63385	APOA4	CTCCTGAGGACCTCTCTGTCAGCT
63386	RPE	TCATTAAATCTGTAAATCACCT
63387	WSX1	TCTGATTGCACCACTGCACTCC
63388	NUFIP1	TTACAACTGAGTTGATATTCTA
63389	HLF	TAGATTAAAATATCCTTTCATCA
63390	MTR	CCAAAAACAAGCAAAACCAAAG
63391	PML	GTCTCTGAGTCCCAAAAAGA
63392	HLCS	CTTTAGCCAGGCACAGGACAG
63393	SQSTM1	TCTGCCTTCTTCCAGGATCAG
63394	KCNA4	CCAGGATCATTCTTCCCCTCCTCC
63395	ZNF41	GAAGGAAATTGGAAAGCCCGCCTC
63396	TPX1	AGGTCTGTGCTCTGGAGCCAGGGTA
63397	RBBP9	CTCAGCCTCCCAAGTAGTGTGAA
63398	AP1G1	GAACTCTGGGAAGGAGGTTGT
63399	NSD1	AGAAGAAATTGTCTGCTGCC
63400	ARL2	TCCACCCCAGCCTGCTGCTGCTACTG
63401	MAPK8IP1	CGCAGCCGCCGCCTCCTCCGCGCCGCGCTC
63402	KCNJ1	CTTCATCCCCATCCTGGGC
63403	CRSP6	TTTTCCATGTTGCCCAGGCTGG
63404	NDRG3	TACCCAGGCTGGAGTGCAATGG

63405	SF3B4	CTTTCAGCACCCCCACTCCATTCC
63406	ZNF45	CAGGAAGGATGAGTCTGATCTG
63407	RECQL5	AGACCAGCCTGGGCAACATGGC
63407	SUDD	AGACCAGCCTGGGCAACATGGC
63408	HEM1	AGAGCAAGGAACATGTAATTGCA
63409	PFKFB4	CGGCCTCTCCCCTGTTGCTGCCC
63410	PES1	AAGAGGCCTCTGTGCCCAGCC
63411	RALBP1	GGCTCGGAAGACAAACCCCACACACAC
63412	ADCY7	ACAGAGGCATTCTGGTAAATGAAGC
63413	CYP3A4	CGCCTGAGGTCAGGAGTTCAAGAC
63414	PXF	TGGCCAGACTGTTCTGTAGGT
63415	MKI67	AACACTGAGCAGGCACTCGGTAA
63416	ARHGAP6	TAGGAAGAGGAAGGTATGGCG
63417	GPX2	TCTCCTACTCCATCCAGTCCTGAG
63418	G6PD	CCACTCACTCCAGCCCAACAGAAGGA
63419	C8orf1	CCAACTTGGTGTAACTTAAGCTTTCAT
63420	SERPINE1	CGGAGCCCACACTGCCACCT
63421	DIAPH2	CCTCTGCCTCTGTTTAATAAGGATCCT
63422	PRKRA	TGTTGATAATTCTGTTATTTACAT
63423	PRKCQ	GGATAGGTTTTTATGGGAATTCTTTAC
63424	FUT7	CACAGAGGTCAGGAAGCAGGGG
63425	ATP1A1	CTTCCAGCTGCTATCATGGTATTCTCA
63426	COL4A5	CTCCTGTGGCCTCTGCTTGTACAGA
63427	NOVA1	GTAATTTGCATGTTTTGTGGAGCA
63428	HMMR	TCACCTTCAGTTTCTGGAGCT
63429	INPP5B	AGCCAGTACACCAGAGCCAG
63430	GADD45B	CTTTGGGACTTGGGAGCTGGG
63431	CD209	GTCGCTCAGGCTGGAGTGCCAT
63432	IGBP1	AAGAGTGCTGAGAAATGGCTCTGTAT
63433	NRL	GCTGTGTGCAGAAGTCTGGAAACC
63434	FCGR2A	AGTGGTGCTATCTTGGCTCACT
63435	SUFU	TCGGCAGCTGTGCCTCTACTG
63436	KCNJ11	GGAGGTAAGGAAGAGTCTGGTGGGGA
63437	HTR4	GTCAGGGGACATAATGGCCTCC
63438	NR2E3	AGAGACAACCGGCAGTGACCTC
63439	HSPA5	TAGCAGTTGCTCACATGTC
63440	SEL1L	TGCTAAGAAATGTTATCTTTTA
63441	FLRT2	TTTTCACTGCTAATAATTCT
63442	LGI1	ACTCTTCTTATCACACTTGCAAATG
63443	SCA1	TGGGTGAGGAAGCAGAGCTCT
63444	TMEPAI	TCTCTAGCCTTGTCACTGTCTCCCTG
63445	DNAJB1	CGACAGCATTAAAGACTGATG
63446	PTTG1IP	CACGAAGCCGCCTGACGGCACCCAG
63447	DSS1	GGAGGCGGTAGTGACGGTGGCGTTTC
63448	BMP1	TCTCAGCCCATGGCCGGTCAGCCACAC
63449	EYA1	GTGATTAAAGGCCTCTGCCT
63450	SCG3	CTTGCAGAGCGTGTCTATTACAAGATG
63451	LTC4S	GCAGCTCAGGCTGGCACCGCTGT
63452	RFP	GAAGGCTGGGGCAGATCACTTCAAGC
63453	RNF7	TAATTTACCCATTTCTATACA

63454	MRC1	TTTAAGGAGCTCCCAAAATGTGTTACC
63455	DCX	CCATCAGTTCACCTTGTGTCAT
63456	ABCC3	AGCTGCTACCCCTACATCATCT
63457	MTR	CCCTAAGTAATCCCAGAACAATGG
63458	BIN3	CCACAAGAATTCACAGGTCTCAA
63459	UGT2B15	ATCTGAAAATAAAGTGTCATCC
63460	SPG3A	CTGAGCTTGGTTCATCTGC
63461	ITGB7	TACAATAAAGTCTTACCTCA
63462	TNFRSF11A	GTCTCAAACTCCCCAGCTAAAGCAGTC
63463	CCK	CCTGTTCTGAAAATGTTGTTATGCTA
63464	WHSC1	TTGGCCAGGCTGGAGTGCAGTA
63465	PRKACG	TCTTTCTCCTCCCACAGGGTC
63466	MLPH	GCAGCCCAGTCCAGCCTTGC
63467	NOX3	TTCCAAAGAACTCCACCAGGAA
63468	GUK1	CCCTATCTCTCACTCTGGACC
63469	PEA15	GCAAATAGAAATCAGCACATTCCTCC
63470	FAT2	ACCTGCCATTGCCTCCTCTCC
63471	RFP	CCAGGCACAAGGCATCTTGTTG
63472	UBE2I	TGAGGATCTGTGTTTGGTGAAAAGGAGCCA
63473	SLC5A1	TAATTTATGCATTTGAAGCCAGTGTGA
63474	RNH	ACTCAGGAAGCTGGGGGTG
63475	MYCBP	TTCAGGATATGAACACAGGTACAG
63476	NCALD	GCTGGAGTGAGGAGTAGAGGT
63477	WBP2	CCCTGGATGCGCTAACATTCAC
63478	SFRP4	CCATGTTCCTCTCCATCCTAG
63479	HDAC8	GAAAGAGATCAGGTTTCCAGAGCTGAG
63480	TGFBR3	ACTCAAGGAGTTGGTAAAG
63481	FZD4	CTCCTGACCTCATGATCTGCCCGCCTC
63482	MAGEC1	CATCCTAAAAGCACCACAGCAGA
63483	GPR56	GTAGAGAATTTGGAAACTGTAGA
63484	SH3GL2	TCATTTGTGCAGATTCTGCCCTCA
63485	B4GALT4	GTTTTTAAAGAGTTTTTGTA
63486	PSMB10	GCTCACTGGCCCCGCTTGTCT
63487	RFX1	GTCTTCTCCCCAGCCCCGTC
63488	TBX5	TTGTCCTGCCTTCTCCA
63489	WARS	TGGGCCTGGCCTCTGTAAGCCTGTGT
63490	GUCY1B2	TGCAGAAGCAAGTGCTCA
63491	SMT3H1	TAGTTCTGCCTATTGTCCTTCCC
63492	ADRBK1	TGGCTGAGAGAGTGGCATTGGCAGCAG
63493	ADCY6	ACAGAGCAGAGGAGGGAGAAGCTCTGG
63494	LYN	GTTTGAGAAGAAAACATCTAT
63495	SCML2	ACTGCAACCTCGCCTCCCTGGTTCAAG
63496	CD34	ACCAAAGTAACCTTTTGCACCTG
63497	HM13	TGTGACTACAGAGATGTCCCAGTATGT
63498	OBP2A	CCACCTGGACCTACCCTCCAGCC
63498	OBP2B	CCACCTGGACCTACCCTCCAGCC
63499	PPP2R4	GGCTCAGAGCATAAGGCTTCAGGGCC
63500	PHF1	TTCACACACACCGGCACTTTCA
63501	HOXA1	GGGGTCTTCTACCTCAGACACTCTGACTAC
63502	PRX	CTCCCCGAGGTGCAGCTGCC

63503	CBFA2T2	ACTGCAGCCTCGACCTCCTGGACTCAG
63504	THY1	ATCCTTGCCCATCGGGACCAGAAACCT
63505	IFNGR2	CACTGCACTCCAGCCTGGTGACTCCGT
63506	KCNA6	GCGGTGCCACCCAATCATGCCC
63507	TCF7L2	TCCCTCTTTTCCCCTCCCCAGGAGAAAAAGA
63508	INHBB	GCTTGCTCCGCGCCACTGCCCGCC
63509	ALDH1B1	CCAGTGATCTGTAATTTGTA
63510	MAPK9	GGACTTGCCCATCTAGCACTTT
63511	BLK	GCCTGTGCCCTTTTCTCAGACCCGGAA
63512	SRGAP1	GACTCACGCCTGTAATCCCAACATTT
63513	SCAMP3	TCTCACACGCCCCAACCCAGC
63514	DAAM1	ACTGTTCAGAAGCACAA
63515	VSNL1	TGAAACACTCGTGTGCATGAG
63516	CLOCK	TATCAAGGAGCTCTTCTAG
63517	APPBP2	AAGCAAGTCTATAAATATCGGC
63518	BSN	TCATGCCTCTCCTCTGTGGC
63519	MAT1A	AAGACCCTGGCTTTCATTTTCTCTCAG
63520	SLC38A2	CTGGAAAGAGTTGCTGAC
63521	SFRS2IP	TTCTCTCTCCTTTTGCTTA
63522	AR	GTGCAGTTAGGGCTGGGAA
63523	DNASE1L1	TCCCAACAGCATTACTGCAGG
63524	DR1	GACCAGAGCAGGGGAGTTTTTAAAA
63525	BACE	CCTGCCTGGATTTCTTCCTATTAGGC
63526	PABPN1	CCTCTTTCTCCGGCTCCCTGCCCCTCCAG
63527	HSPA9B	TTCAGTCTTTTTACTGTGTTT
63528	ELK1	GGGAGTCTTGGCCAAGGAA
63529	FGF2	GATACACACCAATATCTTCTTCA
63530	MAPK14	AGCATTTTTATTCATGCCATCT
63531	EGR3	TCTTCTCTCAATTACATAGCA
63532	PMP22	GTATTGTTTGCTTTTTATGTTGACC
63533	GFRA2	GGACTCGGGATCTTCATCGGG
63534	PIM2	ATTTGGGAAGGAATGGAAGATGGACACCA
63535	COL17A1	GCTCCTTCCTCCCCTGTTCATT
63536	PDAP1	GGAGATGGGGTAAGAAGAGC
63537	BAALC	TTGCAATTTTGCATAGCTTTCCA
63538	SLC4A8	TTGCATAGGACTTTCTGTCTTTT
63539	MFAP3	TGCCTAACTGATCTTCCAAAGTGA
63540	KRTHB1	GCTCAGCTACTTCTCCTGCACT
63541	PCTP	GGCGGGCTGGCTCTTTTGCA
63542	INHBB	GGGAGGGAGAGAAGAGGGGGCTAA
63543	BACH2	TCTTTCTCCTTTCCTTCTCCAAAGGC
63544	NR3C1	GGAAGAGGGAGATGGAGACTG
63545	EXTL1	CCCTCCTGGCCCTCCAAGGCGGGGGGGACAC
63546	ED1	TTGCCTCTGTCCGTGCCCCTTCCCTG
63547	RAD23B	CTTTGTGAAATTAGCACTTTTGG
63548	G6PD	CCATTAAATCCGCAAACAGCCA
63549	A2M	AGTGCTTTGCTGGAGTCCTGTTC
63550	KCNQ2	GGGTGTCTGCGTGAATGAGCGTGG
63551	MSL3L1	TGCAGTGAGCTCTCATTGGGCC
63552	ACPP	AGTCATCTGATGAGAACAAGCTATTTG

63553	ADCY8	ATCCGCCAAGCTTCGGTTCTCAGCCT
63554	TRPM8	TGCAGTGAACCAAGATTGCACCACTGC
63555	TNFSF10	GGGCCTTTTTAGTTGGCTACTG
63556	ELOVL4	ACAAACTATTTCAGAATATTTTGTAA
63557	MYH11	AATTCTGTTTACATGAAATGGGGA
63558	FACL4	ATTTTAATTTTTAAATGCAGTT
63559	ITGA6	AGAGAGAGTTGTTTTAATAACTT
63560	BCR	AACCTCTGGCTAATCGGGCCAT
63561	TNFSF14	TCCATCTCAAAAACAAAACA
63562	HDGF	TTAGATCTCTGAAGCCACA
63563	GPX3	TGTGTGCCTGCAGCTGTGTAGT
63564	FUT1	TGGGATTACTGGCATGAGCCAC
63565	ANXA6	CCCTCTGACCCTCAGGCTTTCCCAG
63566	LTF	TCTGCTTACAATTCCCTGCTGT
63567	MYBBP1A	CCTCCATCTGCCTGAGACGCCTATT
63568	PIAS3	CAACACTGAGCAAGTATGCTGTGGA
63569	RNGTT	AACAGCATTTCTGTCCTGA
63570	BYSL	CCATCATGCAGAGGTGGTTGTGG
63571	CAPN2	GTTCTTATAGAAAGGACACAAG
63572	STAT6	TGGGAGCCAGGGTGAGAGTCTGGGTC
63573	STAT6	GCCCCAACATGCCTGCACCTG
63574	OTP	ACCCTTGCCCAGTCCACCCAGTCACAT
63575	ENIGMA	CCTGGCTCCTGGCCCGAGCCTGGGC
63576	LRP8	TGGCTGCTGTGACTCCTACC
63577	KCNAB2	AGCCTCCCACCGTCTTCCTCCTACACA
63578	ITGA6	TAGAAGCCTGCATAATGTTTC
63579	GALNT7	TGGCGCATACCTGTAATCCCAG
63580	PPP2R1B	AACTGTTTCCCTTTGATTCTCCA
63581	MAG	CCCCACACCTGGCCCTGGG
63582	RNMT	CACTGGCAGGAAGCAGAGATAAGA
63583	CCND3	GGCCGCTGCCACCCACCTCC
63584	BAZ2B	CCAGCAATGTGAACTGTATTT
63585	OPCML	CATGTCAGGAACCTATGGCTGG
63586	GABRE	TTCAAATTATTAATAAATGG
63587	NLGN3	TAGCTCTTCCTCCCCAGGACTTGGTCT
63588	HSPA6	TGCCCCGATCTGCCCGAACCTTCT
63589	TIMM17B	AGCAGAGGGCAGCACTTCCTCCA
63590	GNAL	TCATTGCCGACACTGCAGCAGAATCT
63591	PCOLN3	GCAGCTGATGAAGGGAGCTCAGGAGA
63592	GNPI	TTGCTCTGGCTTCCTTTCAT
63593	ADAMTS6	CTCCCAAGACTATCTTGAAG
63594	MAPK1	GTCACTCTGTAGTTACTGTGGT
63595	WBSCR14	TGTCACCTCCACTTGCTCCCCGACAG
63596	MGAT4A	AAATGAACCTCTCTTATTGAT
63597	AQP6	TGGTCTCAAACTCCTGACCTGA
63598	NTSR1	TCCTCGGGGGCCTGGGGAACCGCGCG
63599	DMN	CATTCTATTTGCACAGGTTCCCTG
63600	PPP1R12B	TATCCTGAGACTGTTTATAGCTTAAA
63601	ITGBL1	AGTCATCTGACATTAAATCATTTA
63602	IL4R	CCCAGCACTTTTGGAGGCTGA

63603	CALCB	ATTCTACACATATCTTGTTA
63604	PDHA1	GGGAGGAGAAGGAGAGGTTATACCTT
63605	LAMP1	TTTGGTCTTCTGTTGACATTCGG
63606	ATP8B2	TTTGCCTCCCCATCTGGTGC
63607	OPCML	GCCACCTTTGCTGTCTTGTCTCCTGGG
63608	TACC1	AACTGATTTCCTTTTTAGTCCTCTA
63609	EYA4	CTCTCCTTTCCTCCTCCCCCTCGGAGCC
63610	COX15	CTCCTGAGTCCTTAATTCTGCCTAAA
63611	SORBS1	CCATTGTCCCAAAGTCTAGAGTC
63612	SPR	GCCCTGTGGCTCCCCACACCCTG
63613	HR	GGCTCACTGCAGGCATGCTGAACAAGG
63614	TNS	CATGCAGCAGAGGGCAGAAGGCTTGCA
63615	ABCA7	AGGCTGGAGAGAAGCCGTGGTGGTGA
63616	POLK	CCAGCCTGAAGAGCGAGACTCTGTCT
63617	MHC2TA	CCTCAAGTGATTCTCCTGCCTCA
63618	GRM6	GCTTTCTCACATTCGGTCTACT
63619	MMP13	TGCCCTTCTTCACACAGACACTAACGA
63620	RECQL5	GCTGCCTCTTGAGCAGCCTCGTGCCTG
63621	FGFR1	CGCTGCTGCCACCCACACGCCCTCCCCAG
63622	LIMD1	TCCACACACAAAAAATACCTCA
63623	FGF2	ACATTTTTGGGGTCAGCTCTTT
63624	GP2	CGCCTGTAATCCCAGCTACTCGG
63624	MCM4	CGCCTGTAATCCCAGCTACTCGG
63625	SORD	CCTTCTTCCTGGAGTGCCTTCA
63626	PML	GACTGGGTGGCCCCTGAGGTCTCTTCC
63627	LHX3	CTGAGGCCCAGCCCAGCCCAGC
63628	CORO2A	AGCTGTTGCAGACTCTGCCT
63629	FAT2	GCAGCTGTGAGGAGGTCATGT
63630	HOXA6	GCAGCTTCAGGGGAGCCCGGAGCT
63631	CNTN2	ACAGATGAGGAAATGGAGGTGGTCCAG
63632	TNFAIP1	CCAGCCTGGCCAGCAGCTCAGAGTGC
63633	PCDHB13	GGTATCTGTAGAATAACCACAGC
63634	AXIN1	GCAGATGACCTCGTACTCAG
63635	TCTA	CGTTGTACTCCAGCCTGGGCAA
63636	FNTB	AACCAAAAATCTATCAGCCCACGTGG
63637	TM4SF2	CCTCCATCTGTACTTGGTCCA
63638	MECP2	CAGACTCACCAGTTCCTGCTTT
63639	MHC2TA	GAGTAGCTGGGACTACAGGCACCCACC
63639	SHOX	GAGTAGCTGGGACTACAGGCACCCACC
63640	UGDH	AAGTAGCTGGGACTACAGGCACCCGCC
63641	PRDM4	TACAGAAGAGTCTCTAATGAAAACACT
63642	RAD54L	CCACCTGCCTCCTCCCCAATCCCACACT
63643	PLXNA2	TACCACACACCTGTATATTCTCA
63644	HDAC4	CCCAGGCCCACAGGTCTCGAGACGC
63645	CACNG6	GGACCTGATGGGGTAGCTGGGGTG
63646	WWP2	AACTCTCCCCTGTCCTCTAGACC
63647	KCNK10	CCTGAGAGCACCTGGAATTTGTTGGAAG
63648	CDH11	ACCAGCAGAGACATTCCATCCCAAGA
63649	BLMH	GAGGGAGGGTGGCCTAAGAGTTGAGC
63650	SRR	GCAATCAGATCCCATCCTCCT

63651	HPCAL1	AGCCTCCGCCTGGTCTCTGGGT
63652	MMP19	GGCTATAATCCTAGCACTTTGG
63653	WBP2	CCTGCCTCCCTGCCTCCCAC
63654	ACE	AGGCTGAGGCAGGAGAATCACT
63654	CASP6	AGGCTGAGGCAGGAGAATCACT
63654	CYP3A4	AGGCTGAGGCAGGAGAATCACT
63654	EGFL5	AGGCTGAGGCAGGAGAATCACT
63654	EIF3S2	AGGCTGAGGCAGGAGAATCACT
63654	FCAR	AGGCTGAGGCAGGAGAATCACT
63654	FCMD	AGGCTGAGGCAGGAGAATCACT
63654	HSPA5	AGGCTGAGGCAGGAGAATCACT
63654	IL18	AGGCTGAGGCAGGAGAATCACT
63654	LAMP2	AGGCTGAGGCAGGAGAATCACT
63654	LUZP1	AGGCTGAGGCAGGAGAATCACT
63654	NUP62	AGGCTGAGGCAGGAGAATCACT
63654	PDE4C	AGGCTGAGGCAGGAGAATCACT
63654	PLA2G2D	AGGCTGAGGCAGGAGAATCACT
63654	RAB7L1	AGGCTGAGGCAGGAGAATCACT
63654	SLC31A1	AGGCTGAGGCAGGAGAATCACT
63654	SRGAP1	AGGCTGAGGCAGGAGAATCACT
63654	SUV39H2	AGGCTGAGGCAGGAGAATCACT
63654	SWAP70	AGGCTGAGGCAGGAGAATCACT
63654	VHL	AGGCTGAGGCAGGAGAATCACT
63654	VPS41	AGGCTGAGGCAGGAGAATCACT
63654	ZNF36	AGGCTGAGGCAGGAGAATCACT
63655	GALNT7	AGGCTGAGGCAAGAGAATCGCT
63656	SLC6A6	GGGAAGATGTCCGTGGAGAGG
63657	SRC	GGGGTCTGAGGATGCATTCGAGA
63658	CCND2	TTCTATTGGTGTGGACTCAGAG
63659	PRKG2	GTCAGTGGCACCATTTCCTAAA
63660	RAI14	GCTGAGGCCTCCTGCAGTGAATG
63661	CRP	CTGTCTCTGGGCCTTTGTTCC
63662	H1F0	GGGCCCAAACCCAGTTTCCTTCTCAT
63663	HEBP1	CTTGCCGCCCTGCCACCCTGCCGC
63664	TAGLN2	AGCCCCAGAGCTCTCAAGCTCCT
63665	TNS	CAAAAGAGAAGGAACAAACCTC
63666	TAPBP	GAGTAGCTGGGATTACAGGCACATGCC
63667	ACTA2	AAGCAGCTCCAGCTATGTGTGA
63668	NR2E1	ACTCACTGCTGCCATGCCCT
63669	SLC39A1	TCTTATTTTTGGAGACAGGGTC
63670	ACT	AAGGCTGAGTCCACACTGCAAG
63671	VIPR1	ATGTGCACCCATGGGCTCTGACAGAAAG
63672	RGR	ACCAATATCTGTAATTTTTTGA
63673	ALOX5	GCCAGATGGACTCCAGCCTGCCTGGCA
63674	TNFRSF8	GCACCGAGGTTGGGGGCAGAG
63675	EN2	TTGGAGTGGCTGCTTCTGCTATA
63676	TNFSF5	CATGAAACCAAAACGGGCCCTG
63677	ABCB11	GCAGAGAACTGTCTTTCATTTT
63678	WHSC1	TGGTTGGATACCTTTGAACTCCATGGTTA
63679	NGFRAP1	GCATTTTCCTAATATGCCTTTA

63680 ARHGAP6 GGGCTTTGCTCTCCACCGCCCTG
63681 CASP8 AGGTCCAAGGCTGCAGTGA
63682 CPLX2 CTTCCCAAGCCAGGCCAGCCA
63683 B3GALT3 CAGTTTGAGCTGCTGCTGTTATG
63684 EDARADD TCGCAATCTGTTGCTTCTTCCA
63685 PBX3 TACAAACCAATAGAATTTCA
63686 SDC1 TCCTGTGGCCCCACCCTGGGCC
63687 NUMB AAAAAGAGGAAAGGCTGGAAGCTGC
63688 SCN4A AGAGGAAGAGTAGATGAGCCGGGTCC
63689 LARGE GAATTACGAGGGCTGGCTGTTTTA
63690 SLC13A3 GTCAGTTGCTGCTTGTCCCAGCAGGTGGCCTT
63691 BACE2 CTGAGCCCGGCGAGGGTGGGG
63692 ARF5 CCTGCCTGCATGTTCTCTCTGTTGT
63693 XT3 CTGTGGATATATTTGCACAGAT
63694 ITGA6 CTTGACAGTTTTTTAGACCTGTGTTAC
63695 PX19 GCCCTCCCTTCATTGTACTTTATC
63696 TBX5 CCATGTGATGTTTCTGAAAAGCCT
63697 SYNGR2 GTGCAGCTGACACACAGCT
63698 KIF13A TATTTCATCAAATCTGTGATTCCTTT
63699 CD4 ACCCTGTGCAGAACCTCCT
63700 CXorf6 CTGTCTGCCAGCATATGCAG
63701 TSC1 TCCAAAGGAAAGCTTAAAACCCAATAC
63702 SLC35A3 CCAGCGGACTCGGCAGCCTGGGGCGCCCG
63703 ADAMTS4 TGCGCAGGCTGGCCCTGCCCTG
63704 FSTL3 TCTGGGGTGAGGAGTGTGGGGAGCTT
63705 CXCL16 CGGTTTCTTCCAAGATTCCTGGCC
63706 SDHC GGTGAAGCTTTGGGTTGCCACTGCCTG
63707 ARSD ATTGCACCACTGAACTCCAGCCT
63708 KIR3DL2 ATGCCTAAGGTCGCCACTGCCTGCTGC
63709 CDH1 AGAGTATTGGGATTACAGACAT
63710 NPHS1 CCCATTGTCCTGCACCTGCAG
63711 GABRE GGACTCCTGCCTTTCCTGTTTAGACAC
63712 MAGEA9 GCCCACGCTCCTGACTGCTG
63713 POLQ CATCTGTCTGGGTAAACCATGAAG
63714 REGL CTGTCTCTTTCTGAGTCACGTCT
63715 WHSC1 AAAAACTGCAGTGTCTTTGGA
63716 ADAMTS4 GAGCTTCTGTTGCTGCCTC
63717 VIPR2 GAGAGGGAGGCAGGTGGACGCTGC
63718 RAI3 AAACAGGATCTTGCTCTGTCA
63719 LPIN2 CAGAGAAGAAAAAGAACAGTGTG
63720 STAT1 AAGGTGGCAGGATGTCTCAGTG
63721 TRAF5 AGTGGCATGATCTCAGCTCACT
63722 CYP2B6 AGTGGCGTGATCTCGGCTCACT
63722 F2RL3 AGTGGCGTGATCTCGGCTCACT
63722 PTGIS AGTGGCGTGATCTCGGCTCACT
63722 STAU AGTGGCGTGATCTCGGCTCACT
63722 TERF2 AGTGGCGTGATCTCGGCTCACT
63723 JPH2 ACTGCTGCTGTCCTCCCTTCAT
63724 MAG CCCTCATTACGGCTCCTCTCTAACCTC
63725 UBASH3A CTTTGTAACTCCCATCTGTGGACC

63726	MAP3K9	GCCTGTAATCCCAGCGCTTTGG
63726	RAD51L1	GCCTGTAATCCCAGCGCTTTGG
63726	SLC28A2	GCCTGTAATCCCAGCGCTTTGG
63726	TRIM14	GCCTGTAATCCCAGCGCTTTGG
63727	SLC17A5	GCCTGTAGTCCCAGCACTTTGG
63728	BAI2	CTGGGGAGGGGGGAGGGGAACT
63729	BRS3	TGTCTTGGATTTTCTTCCCA
63730	VGF	GCCAGACCCCCCTCCCGGGTC
63731	LENG4	TAGCTCATCGCACCAATAT
63732	EVA1	CCCGTTTTCCAACCAGTTCTGC
63733	HELLS	AGTAGGCTTTTCATGGGGAG
63734	EGFL5	CATTTCACTCCAGCCTGGGCGA
63735	MTMR4	CTCTGGGTCACATTGCTTCTTAT
63736	STAM	TGTATCCTTTAATTCTTCA
63737	NUMB	CAGGCTGGGGAACAGAGAGGCA
63738	ACK1	TGGCTGCCCGGGGTGCAGGAGGGACA
63739	PRND	TAGTTTTTCACTTTAGCAAAGGGGCA
63740	HGF	CTAGGTACACATGTACATGCA
63741	MLLT3	TGGAAACATCTGGAACATCCTGGG
63742	MAX	CTGAGCCTGAAGAGCCCCA
63743	SOX9	TGTTTTCTGCCACAGACCTT
63744	SFRS2	GCTGTTTCCTGTTTTCTCCCGA
63745	CALML3	TGGGCACTGTGGCTTCCTCC
63746	NPM3	GGGCCTCCCTTCCCACCTGCCT
63747	CYP39A1	GGGCCTTCTGGAGGAGTGGC
63748	DDX11	CCAGGCCCATTCCCAGCTGCTGCAGT
63749	TSG101	TCTTCTCTTCCTTTTATCAGTAGG
63750	TYRP1	GACATCCTTCAGGATTGTGAGCTGGA
63751	F2RL2	GGCTCATTGCAACCTCTGCCTC
63752	MEFV	GAAGTAGCTGGGATTACAGGCGC
63753	NFIA	ACTAAGCTGACCCTGCTTCAAGCAATT
63754	WISP2	GTGCCCAGGCCCTTGGCTGCAGGCAA
63755	CAPN3	TTCTCTCTCCCTCTGGCATGCATGCTG
63756	RTN4R	CAGCAGCCAGGTGTGTGTA
63757	FOXI1	TGGAGGCCAGGATGGAGAATTGGTT
63758	GPRC5C	CTCCCTCTCTGCCAGTGTT
63759	FSTL3	GTGAGTACGGAGAGTCTAGCCTGGGTG
63760	MAFG	CTTTTGTACCAGGGCCATGCAG
63761	PDE4A	TGGGCAGCCCTTCCTTCCAC
63762	NOV	TTGTAAAATATTATGTTTGATT
63763	CALCR	AAACCCTCCAAATCTCCA
63764	POU3F1	GGACTCCTGAGCCTGCGGGTCCA
63765	FANCC	TAAAGAATTGGCCTGGCTGGGTGC
63766	MST1R	GCCCACTTGCTTAGTTCTTGGGCTGG
63767	CHRNB4	CCTGTCTTCCTTCCCTGCACC
63768	TEM7	GTAAACAGCTAACTGTTTTTGTT
63769	MFRP	CTTGGGCTGTCACAGGGACTCCAG
63770	SAT	GTCATGGTGCCAGCCTGAC
63771	FUT4	GCAAAGTGCTGGATTGTCCTTGGA
63772	HPS4	TTCACACATTACGACCGCATTCA

63773	CYP1A2	CCCAAAGTCCTGGGATTACAGG
63774	RTN4R	GCAGCGTTTGTTCCAGAACGCCGCCTC
63775	SNX4	GGCAAGCATCTTCATTTTGCTAGC
63776	DLX2	TTGCGGATGACCTCATTTTGA
63777	KIF3C	AGCACTTTCTGGGACTGGGA
63778	RGS19IP1	AGCAAATGCAATAATGCCCTCA
63779	CD80	GACTATGTTTCTATTCTAAG
63780	PIP5K1A	CCATCTTCTTCCTGAAGAAGAAC
63781	SIRT6	CTGCCTTTGGGGCTGGAGGGAGACGTG
63782	CPSF6	CGAAACACTTAATTGTGAA
63783	ALOX15	TGGCAAATAGCCACAATTATATAA
63784	C11orf8	AACACAAATGATGCTAGAG
63785	B3GAT1	CATCCAGCGTGACCAGGGCCCGAGA
63786	AQP6	CCGCCTGCGCCCTGCCAGTCTGACCAG
63787	SCN2B	GTGGCCGGCCCTGCAGCCT
63788	ETF1	CTGTAAACCTTCAAAAGTTAAT
63789	PAX2	CCTGCCTGGACTGCGCGGC
63790	ACP2	GCAGATGGGGAGGACCAC
63791	ASH1	ATCCAGTGGAGCTAATCAGTCCTGCCT
63792	G1P3	GATGCGAACATAGTACACTGCAGCCT
63793	DLD	GGCGGAAAGGAAAATACAGCG
63794	MTL5	GGCGGAGGGCAGAGCAGGCCCTGCGGA
63795	ZNF32	AACAGCCCATGGAAGAATCATATG
63796	ADAR	CATTTCCTTTCCCTTTGTGTTT
63797	MGAT4B	AAGTGAGGTGGGCTCCTGGAAC
63798	PPT2	ACAAGTCCCCCGAACGCTGAGT
63799	DBI	GCTAAAACGATTACTGACTTTCC
63800	QPCT	TCTGATTTCAGACAAATGCTG
63801	SLC2A2	ATTAAATTGGAATTTTCTTA
63802	SCA7	AGTTCAGCCACCGAATTGCTTTTATC
63803	USH3A	CTCTTCTCTGCCATCCTTATTGTGTTA
63804	RPA3	ACTGCCTCTCGCCCTGTATCTGTCAAC
63805	ARHGAP6	AGGAAGAGGAAGGTATGGCG
63806	COL16A1	CCTGTAATCCTAGCTATTCAAGGG
63807	EDN3	CCTGCAGCTCCAATTTCATGCAGGAAA
63808	RAB5A	AACTAATAAATGCACCTTA
63809	SLC10A2	CAAGTAACAGAAACCTGGTTGAAATG
63810	ADD2	GCCTTGGACAGGGCTGGGCCAGC
63811	MLLT2	CTGGCAGCAGGGCCCGCGGGGTGA
63812	CDH23	GCTTGGCCCTGGCAGCCCGCATCAG
63813	CORO1C	ACTGTACAACAGGAAGACTTG
63814	KIF1B	AATTTTTCTTGGGTGGCTTAGAGA
63815	IGF2R	AGATTTGGGGTATAGGTCTCAT
63816	FUS1	CCTCGATTCCTCCTGTGTTGGACAGAG
63817	LIMK1	CCCTGTCCCCACCTCTGGAGAATCCA
63818	SERPINB9	CCTCCTCCTGGATTCAAGCAAT
63819	ABCC5	GTCCTCCTACCGAAACCTTGCCTTTCTC
63820	HDAC4	GGGGAAGAAGAAAAATGCCTT
63821	DEF6	CTTCCCAATGTCATATCCACCA
63822	MGAT5	TGGTCTGAGGCAGGTGGTGGG

63823	NCOA6IP	TCTATCTCCTCATCCAGGGCTT
63824	SLC25A15	AGGAACGGAAACTTAGGTTGGGAGA
63825	NGB	TCTGTCTGTCCTGCTTCTTC
63826	GRM3	GGTCCTTGTTGTAACTAATTTAG
63827	CLASP2	CCCAGTTTTAGTTTTTTGT
63828	NPY	GAAATGAGACTTGCTCTCTGGCCT
63829	CR1	GCATGAGCCACCGCGCCTGGCC
63830	PTGIS	GTGTGAGCCACCGCGCCCAGCC
63831	GRM7	GTACAGTTTGTGAGGACCT
63832	BTD	GACTCTGGCCATCATGTTG
63833	RAB11A	TGTTTGGATTCCTCAGTTATTGTTT
63834	CPO	ACATGGCCTTGCAGCTGGGCAGGCTGA
63835	PRKR	GTCTCAAACTCCTGACCTCAAGTAATC
63836	GFAP	CTCCGCCTCTGCTGGCACA
63837	HNF4A	CTGTGCCTCAGTTTCCTCACCA
63838	PPP3CA	TTCTCATCCTTCCACTGAGTCC
63839	DHFR	GCCACTGCACTCCAGCCGGGG
63840	FOSL1	AGATGCCACCCTAGCCAATGTCT
63841	PSG11	GATCATACCACTGGACTAAG
63841	PSG2	GATCATACCACTGGACTAAG
63841	PSG3	GATCATACCACTGGACTAAG
63841	PSG5	GATCATACCACTGGACTAAG
63842	ABCD4	TCTTCTCTATCATGGAATGATCTT
63843	SMG1	CGGTTATTTAAGTCATTTCTGTGAT
63844	MYOZ1	TGCATCATTTCCCCTCTCTGGCTCC
63845	VCL	CACTCTGCTCTGCC
63846	DSP	TTCTTCTCTTCTGTGTTTCG
63847	EFG1	CAGGCTGCTGAAACAAGAAATTCTGAG
63848	OGN	AGTAAGACTGAATGTCTACG
63849	AKAP13	TGTCATCAGATCCAGAAGAAATAT
63850	BCAT2	ATGACTCACCTGAAGTGCAAT
63851	OGG1	GGGGCGGTGCCTGCTGTGGAA
63852	EGLN2	TGGCTGTCTTCCCAGACACTT
63853	DLGAP2	ACTATATTAAATGCCTCC
63854	TAZ	CCTCCTGCTCTGCCCAGGAGGT
63855	PPFIA3	CCCACTCCACCCCACGTCCCTCCT
63856	PDE4A	CACCTCCTCCTCTGCCTCAA
63857	KIFC3	GCTGATGGTGGAGAATGAGCGACTGAGG
63858	MSF	GGAGCTGAGGGAGGGAGCCATGGAAG
63859	PCDHA9	GGTCTCGAACTCCTGACCTTGTGATGC
63860	APM1	AGCCTCCCGAGTAGCTGGGACC
63860	APPL	AGCCTCCCGAGTAGCTGGGACC
63860	GPR4	AGCCTCCCGAGTAGCTGGGACC
63861	PTPRO	GTGAGACTGAGCATAGTGAG
63862	CRY2	AGGGTAGAGAGGGTATGTCCAG
63863	TYRO3	TTGTCTGAACCCAGGCAGCTGG
63864	MMP19	GCCACCCACGGTGAGAAGCAGA
63865	TM6SF2	TGGGTTTGAATTCTGCCT
63866	RGL	CACCCGGGCGCCCAGCATCGTTCTA
63867	SLC22A7	CCGACACATCTCACTGTGCT

63868	LNK	TTGTCAACCGGGCTGGAGTGCAGTG
63869	ACCN2	CATCCCTCTGAGAAGCACAAGGAGAC
63870	RAD21	CCTTCAGCTACAAAAAGA
63871	MYEOV	TGTTTCTCTCTTTGCTTTGGCTG
63872	INPP5D	GGTACTTGGGACCCCAGTGCCTT
63873	KCNQ2	GTCTGAGCAGGGCAGGTGCCC
63874	DKK1	CACTGCCTATTTTTCCTCTTGTTA
63875	PES1	TCTGCTCCCAGGAGCCAG
63876	BECN1	ATCTCTCTCAACTTCCTGCACTTA
63877	DIAPH2	TTTCTGATGGTAGAACATTCTCAA
63878	MYLK	CTGCTTCTCTGGGGCTGGGCT
63879	SPR	GATGGCCTGGATGGGAGGAAGGGCAG
63880	ENO2	ACTCACTGAAGCCTGCGTT
63881	ZNF266	GTGTGGGAAATCCTTCAGTTACTCC
63882	SLC2A6	TCATCCCTGCCACCAGCCAGAGCACAG
63883	LIF	TCCAGATCCCGTCCGGCAGCTT
63884	E2F3	GGCTAAAAGTTACAAGTGTGCAAA
63885	TNFRSF10B	CCCATCTATGGACAGGCTGG
63886	HOXC4	AGAGAGGGAGAGTGACAGCAGC
63886	HOXC6	AGAGAGGGAGAGTGACAGCAGC
63887	EDARADD	TACAGAAGCAGGTTGCAGTGA
63888	PLAUR	GAGAAAAGCTGGAGGAAGGC
63889	TCF12	TGTCATTTGGATGGCTGGTC
63890	ZNF14	CTGGAGACAGAGGTTGCAGTGA
63891	PACSIN1	TGGTTTCCTAACCTCTTCTTC
63892	FOXE3	CACGTAGACACACCTGGCTGCCTTC
63893	SOX12	CGGGAGCCCTAGGTTTCCTCTCCA
63894	LETM1	TGAGGCATGAGGATCCGGCACAGGGC
63895	MHC2TA	TGCAACAGGCTGGGCTTCAGTGGCAG
63896	PDCL	ACAAAGCATCCTAAAGAC
63897	GPX1	TGGCAGTTGCAGTGCTGCTGTCTC
63898	GLO1	AGTGTTCTTTCAGTAAAGTACA
63899	PTMS	GGGCTGGAGGTGGGGGTGGGGGCA
63900	F8A	ACTTCTTAACATATTCCTGTGTCTT
63901	DMD	CAGTGTTGGGATCACTCACTT
63902	MYCL2	AGCCTTCCGAGTAGCTGGGATC
63903	GALGT	GTACTCTGTGTACCTGCTCCA
63904	AXL	GGCCTCCCAAGTAGCTGGGATT
63905	CDC6	AGCCTCCCGAGTAGCTGGGATT
63905	DFFB	AGCCTCCCGAGTAGCTGGGATT
63905	F3	AGCCTCCCGAGTAGCTGGGATT
63905	GPR56	AGCCTCCCGAGTAGCTGGGATT
63905	GPR81	AGCCTCCCGAGTAGCTGGGATT
63905	JAK3	AGCCTCCCGAGTAGCTGGGATT
63905	LYZ	AGCCTCCCGAGTAGCTGGGATT
63905	MAK	AGCCTCCCGAGTAGCTGGGATT
63905	MEF2A	AGCCTCCCGAGTAGCTGGGATT
63905	NF2	AGCCTCCCGAGTAGCTGGGATT
63905	PIK3C2B	AGCCTCCCGAGTAGCTGGGATT
63905	POU2AF1	AGCCTCCCGAGTAGCTGGGATT

63905	RHD	AGCCTCCCGAGTAGCTGGGATT
63905	SEDL	AGCCTCCCGAGTAGCTGGGATT
63905	SEPN1	AGCCTCCCGAGTAGCTGGGATT
63905	SH3BP2	AGCCTCCCGAGTAGCTGGGATT
63905	SHOX	AGCCTCCCGAGTAGCTGGGATT
63905	SMAC	AGCCTCCCGAGTAGCTGGGATT
63906	VENTX2	AGCCTCCCAAGTAGCTAGGATT
63907	NPPB	GCAGACACCTGCTTCTGATTCCACAAG
63908	TFRC	CCACAGTGTCTGTATCGGAG
63909	SOX8	GGGGCAGCCTTGTCCCGGCCCAG
63910	NOVA1	AGCCTCTCTCTGAACTGTGATC
63911	CDSN	ATCACCCCTTCCTCCTTCCT
63912	TNFRSF11A	GTGCCCCTGCTCACAGTGTT
63913	NXF2	TCCGGCTCCAGGAACTGGCATT
63914	ZNF134	CCTCCAAGTCACCTGGCCTGGGAA
63915	PCK1	AAAGAGAAGAAAGGTGACCTC
63916	BAZ1A	CACCCTCCCTTTTTCCTGACA
63917	UPK1B	TTTGGGAAAATAAATACATTCGAAGG
63918	B4GALT2	CCACTTTGCCATTGCCATGGACA
63919	SLC35A3	TGTATACTATCTTTAACTGGTTTTTC
63920	TEM6	AGGGAGATGTCATGGTGAAATGC
63921	ZNF91	CGCCACTGCACTCAAGCCTGGG
63922	SLC10A2	GTCAATTAGATGTGCAGGAGTAAGTAGT
63923	UVRAG	TGCTGTTGCTTTATACGTTACGTACCC
63924	PATE	TACTTCCAGGAGACAGAGCCA
63925	TGFB3	GTCCCAGAATTGTATCTCATACTGT
63926	WHSC1	GCATTCCCTGCCCTGAAGGAA
63927	BCL7A	GCCCTGCACTCCACGCTGGCCAAGA
63928	CCKBR	GGCCCTGCCCTCTCCTTCCTTACCC
63929	POMZP3	CAGGACCTGCGGAATAGGCCT
63930	KIF3C	TGCATTGTCTTGTCACACCTCCCTCA
63931	DCX	CTGTGTACATTTGCAAGATGTGTGTAA
63932	WHSC1	CTAAGCTGTGTTACTCCAAAGGAC
63933	MAX	GGCAGCACCATCTCTGCCTTC
63934	CR1L	GGATTGTTGTGTCCACTAACCGG
63935	RAD9	TGGTGATCCAGCTTCTCTGCCA
63936	ABCG2	ATATATGACAAATGTATTAA
63937	KMO	TGCCATTCTTCATTCCTACAAAGGACG
63938	EVC	ACCTTTTATTGACTGTAATATT
63939	SLC20A1	CCTTTCTCTTCTCCGCC
63940	PTK2	GGCTGCCAGGCTGGAGTGGAG
63941	PPP1R12B	TCTTTCATTTCCAACCATTTTTC
63942	IRF1	CCCTCACTGCAGCCCCTGCGTC
63943	DPYSL3	GGCCCTCTTCGAATTCACTGGCA
63944	LDHA	AGGCTACAACAGGATTCTAGG
63945	PLA2G2D	GGCAGCCAACTGCTCCAATCTGCC
63946	GPR30	AAGAGGAGAAGGAAAACATGCTGCT
63947	SMPX	TCACCTTTTAAATTATGTCACT
63948	LPIN2	GGATCACACCCTGTAATCGGGCCCGTG
63949	PRKCH	CTGTGGGCTTGGGATGTTAACA

63950	CYP27B1	CTTTGGGCCTGTCCCTGCCCAGGCCTC
63951	SLC13A4	AGGGAAAGACATGTGAACAGAGTTAAG
63952	ITGB3BP	AGAGGAAGATCTTGACTTATA
63953	PPYR1	GGGGTGAGGGAAGGAGCGCTTGG
63954	SEPN1	CACCCAGGCTGGAGTGCTATGG
63955	TNFRSF10B	CTCCCAGGCTGGAGTGCAATGG
63956	DGKE	GGAACCCCCAAAAGGAGAATAG
63957	MLLT2	CCTCCCCTTTTGTCCTATCATTCCCTA
63958	C21orf33	TAATCAGCGTAAGGGGATTTCT
63959	EP300	CCGAGGAGGAAGAGGTTGATGGCGGCGG
63960	ROM1	CACCTCTGCACTCCCTTGGG
63961	SH3BP2	CCGAGTAGCTGGGATTCCAGGC
63962	WHSC1	GGTGGAGGCCTGCCTGGCAGG
63963	STE	CCAAGTAGCTGCAACAACAGGC
63964	FCGR1A	TTCAACAACACCAGAACTGTGTGTCT
63965	KCNJ1	GGCCTCGGGTACCCTCACCTAG
63966	SALL2	ACAGAGCAGAAACAGCTTCACA
63967	KCNJ15	CCAACTTGTTTTTGACTGACA
63968	STK13	GCCAGCCAGGAAGTACCTCTCTG
63969	ADAT1	ATTGCTTGAACCCAGGAGGCGG
63969	GPRK7	ATTGCTTGAACCCAGGAGGCGG
63969	NPHS1	ATTGCTTGAACCCAGGAGGCGG
63969	NT5C2	ATTGCTTGAACCCAGGAGGCGG
63970	DSC1	ATCGCTTGAATCCAGGAGGCGG
63971	KCND2	GAATTCGAGCCCTGGCTGTGAAAAGAAT
63972	SDC4	CTTCCTCCCTTCCTTTCA
63973	PFKFB4	CCTGTTGCTGCCCGTGTCCAC
63974	SLC1A4	GCCTTTCTCGCACCTGCTCCTGCGCC
63975	CLPS	TGATTGCGCTCTTCACAATTAAAGGCC
63976	OAS3	GCAGAAGGCAGAGGCCACCACTGGACT
63977	NEBL	TGGCAGAAGGACAGTCTGGTTA
63978	VHL	AGGCTGGAGTGCAGAGGTGCGAT
63979	SP1	GCACCCATCTGTATCATCAGTG
63980	CDH1	GTTACCCAGGCTGGTCTCAAACTCCTG
63981	COL4A4	GCATTTTAGAGAAAACTAAAGAAATTTC
63982	TAGLN2	TCTCAAGCTCCTTTCTGTCAGGGTGG
63983	ZNF137	GAGTAGCTGGGATTACAGGTAT
63984	AMPD2	CAGGCCTGGGCTTCCTGGCC
63985	ITPKB	CTTCCTGGCTCTTGTTTAAAA
63986	LY6E	CTGTGTACGTGGGTGTGCAG
63987	ITPKB	TCTCTTCCTGTTCTGCACCCCTCTCC
63988	APXL	GTCTTAAAAGACTAGAATC
63989	NAP1L4	TGGCAAAAAGGGCCGAGGTCTGGTGA
63990	IKBKAP	TGGCTATTAGTGCTACATTTGGT
63991	IL11RA	GGTCCCTCAGCCTCTGATCC
63992	KLK3	GCATCCCCAGCCACAACTGCCAGCTCT
63993	FGF2	GGCGTGTACATGTGGTCTCAGATACTT
63994	PRKY	TTTAAGGCTTTAAAAGACAGTGAA
63995	RPL10	ACTCAGCCCTGCTCATGAGGCAGC
63996	BTG2	AGCTGCTTTTCTTGAA

63997	RLN2	CTAGATTTTGCTGAGATGAA
63998	SLC4A4	AACATAGTTTTCAGTAGTTC
63999	MYD88	AATAATTTCAAAGATATCTGAG
64000	PCBP2	AGACGGGTGGCATGGGGAGCAGC
64001	SLA2	AATGGCACGATCTCAGCTCACT
64001	SLC15A1	AATGGCACGATCTCAGCTCACT
64002	POU2AF1	AATGGTGCGATCTTGGCTCACT
64003	CLCN6	CGTGGTTTCCTTTTCTCCTCTCTCTGC
64004	MEOX1	ACCTCCCCACCCCAAAAAGGG
64005	NUMA1	TTCCACCAGGAGTCTGGAGTGCAA
64006	STK18	CCTGACTTTGCTCTTAGA
64007	JUN	AACAGCTTCATGCCTTTGTAAGTTAT
64008	ALPP	CACGAGGTCAGGAGATGGAGAC
64009	SEDL	AGTGTGTTGCTTCTGTCACTTTATAT
64010	EHD1	GGAAGTCACTGTTGAAGTTGCAGTGG
64011	BENE	CCTAGAGTAGGTCTAGGGGAATACTCA
64012	NOTCH2	TGCCCAGGCGGCGGCGGCG
64013	RAI14	TTCCAAAACATGATTTAATTTC
64014	ADRA2B	GAACAGTTGGAAGTGTGGAAA
64015	ATP7A	TTGTCATGCACTGACACAGCATT
64016	TBX5	CCAGCCCCAACCTTCCAAACCT
64017	GATA4	CCCTGGGACCCCTGCTCCAGCCCG
64018	CCR3	CTAAAACAGTCCTTCAAACTTC
64019	SLC17A5	TGGGAGATGGAAGTTGCAGTGA
64020	SFRP1	TTTTATTTTCATGCTTTTTC
64021	ZNF141	ACAAACCTGAATGAGCAGA
64022	KLHL3	TGGAGAACAACAAGGTACCCAGAAT
64023	LIFR	AAAACTCAAGATTGGGAGCTCTTTGTG
64024	CCND2	GGCTGACTCCCTCTCAGGTGGAAG
64025	GRM1	TCTCTTTATTAGTGAATCATGCT
64026	A1BG	ACCCAGGCTGGAGTGCAGTGTTGC
64027	GORASP1	GCCCTGCACTCCACCTGGG
64028	TLL1	AGAGCTGATTTATTCCAGTA
64029	NRXN1	CAGGAAGGAAAGACTTTTTA
64030	PRKRA	ATCTGGAGCAACTTAAAAA
64031	POLS	CTGCCCTTTTGAAGCAGGACT
64032	DLGAP2	GGTGAAAAAGATGACCCCTTTCTGA
64033	CALML3	ACGAGGCAGGAATCTCCATTTTTGTG
64034	INPPL1	CCCAGCCTCAGCCCTGAGC
64035	KCNQ2	TGGTGAGGACCTGCGGCCTTGG
64036	EDAR	GTCACCCAGAACTGGATGGTACCTG
64037	USP6	TCACATGCCATCTCTTCCTGACAG
64038	SNTB1	AAGGTTAAAGAGGTGAGGTGA
64039	RBBP9	TCAGTGAGCTATGATCGCGCC
64040	CEACAM5	GGACAGCAGACCAGACAGTCAC
64041	SORCS2	CTCAGAGACCTGCGGAAAGCCCCCTC
64042	SCN8A	TGAAAGATTGTTTACAAACTTC
64043	WEE1	CGTGGCTGCCCACTGCCACGCCCACTACGC
64044	HMMR	TCAAGAGTCTAAACCCCAGATTC
64045	NAB1	TTCCAACTTCCAATATTTATCCATTCG

64046	HOXB3	ATGGGATCTGCAGAGTTCGG
64047	KCNN2	GCCAGTGCGCTCCGGCAGCAGTACGCG
64048	B3GALT5	TACCATCCTAATTTTACAGGC
64049	VBP1	TAAGGGAGATCTTGGCCAAC
64050	CYP1A2	TTTGTAGTTTTAGTGGAGATGGGGTT
64051	TRPV1	GGCTTCCCAAGTAGCTGGGATT
64052	ZNF137	AGCTTCCCGAGTAGCTGGGATT
64053	KDR	ACCTGGGGAGCTGACACTTCTGTA
64054	HRH2	ATTTTGGATCTGTTGGGAGCTTGGA
64055	GRB10	CCACAGCCTTCAGCCTGTTCTA
64056	BACH2	CTTTCTGCTCATATCATAACCAGGTCC
64057	PXN	GTGTGCTGGGGTCTCCGAA
64058	P4HB	GTCACTCAGTACCGCCTGCAGT
64059	BACE	TTCAAAGCTCTAATAGAGTCACAGCTT
64060	RAD1	GAACCCGGGAGGCGGAGGTTGT
64061	POLR2C	TCCAGCAGTCATGAACCCCTTCACCT
64062	LRRC2	TCAGTAAAGAGCAAAGGCA
64063	AQP2	AGCAGGCGGGGAGGAGGCTGCCG
64064	MYH11	CACCACCCTCCAGCCTGGG
64065	FGF23	GGGGAAAGAAATCAGGGGAC
64066	ACK1	GGCAGTGGGAGAGCGTCGGGCGGG
64067	MAP3K7IP1	GGGCTGAGGCAGGGGCCGCT
64068	KRTHA2	TGGGCAGCCTGGTATTCAGTGGCCAC
64069	CTNS	GATCTCAAACCTCCTTCCCTCTGC
64070	RXRB	GCTCAGACCCAGACGTGGTGCT
64071	PIGR	ACCCAGACTGGAATGCAGTGAC
64072	PCDHA9	ACCCAGGCTGGAGTACAGTGGC
64072	TRAF5	ACCCAGGCTGGAGTACAGTGGC
64073	DHFR	CACGAGTTCAAGGCTGCAGT
64074	POU2F2	CTGGGGCAGATGAGGCTGGC
64075	ARHGEF6	TTCTTTGGCTTTTGTTTTGTGTTT
64076	TDG	TACTAAGAAATGTTATTTGCAT
64077	PAH	GCAGGTGACCTGGAGCATCCGGCA
64078	VDR	AGAAGCAGTGAGCCGCATCTTCTCCAT
64079	RBBP5	TTTCTCACTTTGCCATCATGTG
64080	BCL2	TTCATGGTATTCAGGATTACATG
64081	SCD	GAGGCTGAGGGACAGGATCTATAGGC
64082	UBL1	TAGCATGTGATTACTTCACTCCT
64083	DCX	TGGTCTCACTGTGGTTGCCCTCA
64084	CCNF	CTCCCCGGCTGGAGTGCAGTG
64085	KLRD1	AGCCTCCCAAGTAGCTAGGACT
64085	STE	AGCCTCCCAAGTAGCTAGGACT
64086	APAF1	AGCCTCCCGAGTAGCTGGGACT
64086	B4GALT5	AGCCTCCCGAGTAGCTGGGACT
64086	CASP8	AGCCTCCCGAGTAGCTGGGACT
64086	CD209	AGCCTCCCGAGTAGCTGGGACT
64086	COX15	AGCCTCCCGAGTAGCTGGGACT
64086	CYP1A2	AGCCTCCCGAGTAGCTGGGACT
64086	MHC2TA	AGCCTCCCGAGTAGCTGGGACT
64086	PCDHA9	AGCCTCCCGAGTAGCTGGGACT

64086	RAB36	AGCCTCCCGAGTAGCTGGGACT
64086	SERPINB9	AGCCTCCCGAGTAGCTGGGACT
64086	SHOX	AGCCTCCCGAGTAGCTGGGACT
64086	TERF2	AGCCTCCCGAGTAGCTGGGACT
64086	TUFT1	AGCCTCCCGAGTAGCTGGGACT
64086	WHSC1	AGCCTCCCGAGTAGCTGGGACT
64086	YES1	AGCCTCCCGAGTAGCTGGGACT
64087	APOL1	GGCCTCCCAAGTAGCTGGGACT
64088	CRSP6	AGCCTTCCGAGTAGCTGGGACC
64089	PITPN	AATCTCTAGTTACTACTCTTA
64090	HYAL4	GTGGTGTGATCTCGGCTCGCT
64091	APPBP2	TTTAATATGTAATTCTTCCA
64092	COG2	GCAGTGCTTCTGATCCTGCT
64093	IHH	TCCACCGCTGCCCTCCTGGAA
64094	APAF1	CCGAGTAGCTGGGACTACAGGT
64094	ARCN1	CCGAGTAGCTGGGACTACAGGT
64094	B4GALT5	CCGAGTAGCTGGGACTACAGGT
64094	HLCS	CCGAGTAGCTGGGACTACAGGT
64094	PTPN18	CCGAGTAGCTGGGACTACAGGT
64094	TUFT1	CCGAGTAGCTGGGACTACAGGT
64094	YES1	CCGAGTAGCTGGGACTACAGGT
64095	CHS1	TAGGAGGTTGAACCTAAAGAAATG
64096	PRKG1	AGCATTTTCACTAAAGTTATTA
64097	NEURL	GACATGTGGCCTGGCTAGTGCAG
64098	SERPINB3	TATTTCTTTTCTTTCTCATCT
64099	GPLD1	AGGAACAGAAAACCAAACACTCCA
64100	SLA	TTGACTTCCCGCATAAGGCAGGGTGAC
64101	PACE4	TGTCTTCAGGAGTCTCATGGC
64102	RAB36	CAGGCAGCCTTCTGATCAGTAC
64103	VPS41	CCCAGGAGACGTAGGTTGTGGTG
64104	CLCN6	AGGAGGAAGATGGCGGGGTGCAGGGGG
64105	FLG	CTGACAGCTCTAGACACTCACA
64106	KIF3B	TTACTCTTCATTTGTCACCATCT
64107	NCOA6IP	AAACTCCTGGGCTCAGTCAGTC
64108	CEBPA	TCTAAGATGAGGGGGCCAGGCGG
64109	MCM4	GGCGGCAGAGGTTGCAGTGA
64110	HYAL1	GCCACCACTCCTGGCCCCAGA
64111	C18orf2	CATGCAGATGAGGAAGGCCCT
64112	TEM8	CCACAGGCCATCAGCAGCTAG
64113	TPST1	TTGGGCAGTCTCCTTTTGAAA
64114	TSNAX	TGGTATGTGCCTGTAATCCCAG
64115	CALCR	TAATCAGAGTTACCATTAT
64116	NEFH	GGAAGGCTGGGGGCAGGGCAG
64117	HMG20B	CTCCAGCCGAGGGACCCTGGTGGGGGT
64118	EPHA2	TCTTTCCTCCCCCTGCAACTTCCGCT
64119	TEC	CTTCCCTTCAGGAGTTG
64120	TAF6	TGCTCCACCTGCCAGCCCCCGGA
64121	NPTX1	GGTCGGCCTGTGTGCCCAGCT
64122	TGIF	GCGTGAAAGAAGCTTGTGATCCTGCC
64123	SYBL1	GGACTGTAATCATATCGCTACTGG

64124	MXI1	GCTGCCACCTCTCCATCCTGCT
64125	IRS2	TTAATTTCTTCTTCTTTTCC
64126	TSLP	TTGCCGCCTATGAGCAGCCA
64127	TM7SF3	GCTCACACCTGTAATCCCAATA
64128	CARD15	TACTTTTGCCATTGACTTCTTCCCA
64129	ZNF147	TGGGAGGTGGGATTTAGCCAGGA
64130	PRKCQ	GCCTTCTCCCTGGGAACTGGTTC
64131	ADAMTS4	GACGGGGTTTCACCATGTTGGCC
64131	APAF1	GACGGGGTTTCACCATGTTGGCC
64131	EHD2	GACGGGGTTTCACCATGTTGGCC
64131	GHR	GACGGGGTTTCACCATGTTGGCC
64131	LTB4R	GACGGGGTTTCACCATGTTGGCC
64131	PIK3C2B	GACGGGGTTTCACCATGTTGGCC
64131	POU2AF1	GACGGGGTTTCACCATGTTGGCC
64131	TAPBP	GACGGGGTTTCACCATGTTGGCC
64131	TRPV1	GACGGGGTTTCACCATGTTGGCC
64131	XRCC2	GACGGGGTTTCACCATGTTGGCC
64132	CASP2	GACAGGGTTTCACCATGTTAGCC
64132	TAT	GACAGGGTTTCACCATGTTAGCC
64132	VIPR2	GACAGGGTTTCACCATGTTAGCC
64133	PTPN1	GCTACTCTCTTGCCAGCATTTT
64134	SLC14A1	TCCAGGGTCTCAGCAAACTGCTGTTTT
64135	TMPRSS2	TGCTGTTGATAACAGCAAGATGGCT
64136	IGFBP3	GATTCACCCATGTTTGTTGAACTTAGA
64137	DFFB	CGAGTAGCTGGGATTACAGGCAT
64137	PIK3C2B	CGAGTAGCTGGGATTACAGGCAT
64137	SEDL	CGAGTAGCTGGGATTACAGGCAT
64138	FOXD2	GCGGATTCCCAGACCCATGAACAG
64139	CRYAA	ATGTAGTGCCGCTCTTGGGGA
64140	RAB18	TTCAGTTTTCTCACCTCTTGCTA
64141	GALNT7	TGCCTGTAATTCCAGCACTTTG
64142	SULT2A1	TGTCTGTAATCCCAGCACTTTG
64143	TCFL4	TATTCCATCACCTTCCTCCTCT
64144	PTGS1	TCCAGCCTGCTAGTCTGCCCT
64145	DCLRE1C	GACTGTGCCACTGCACCTCTAGT
64146	ARHGEF6	AGTTAGACTGTGAGGAGTTACTTTATGT
64147	HLCS	GGCAGGGCCACCTGTGCTAGT
64148	TNFSF14	TGGCTAACATGGCAAAACCCCA
64149	JUP	GCCTCCCTGTCTCCAGCTGCC
64150	GCNT2	TGGCCGACATGGTGAAACCCCA
64151	TNFRSF1B	TGGCCAACATGGTAAAACCCCA
64151	VHL	TGGCCAACATGGTAAAACCCCA
64152	HTR2C	GCTTTGCAACCTTGTACTTT
64153	KCNAB2	CAAGAGAAAACACCACACTGTGA
64154	LHX5	CAGCCCAGCGCCAGGCCAGAG
64155	CCNDBP1	TGAGGCAGCTGTGACTGTGTC
64156	HOXD11	TTTAAACTTTGGGAAATGTACTTTTA
64157	WT1	TTTTCTATCATGGAATATTTATAGGCC
64158	MUC4	GCATCTGCACTCCAGCCCAGG
64159	AP1M1	AGCCTCAGACTTTTTCCCACTG

64160	ATP2A3	TGCAGCTCTGGCCCAGGAGCTGC
64161	GCNT1	GTCAGCCTGTTCAAAGTGCTCA
64162	HNRPD	GGCCAGGGAGAGGCGCAGGAGCCTTTGC
64163	TBX2	CCTGTTAGTCTCCCCACCTCTTC
64164	STS	ATTGAGATCACATTTCAG
64165	CDKN2C	AGCCTCCTTAAAACTCTGCCG
64166	WWP2	AGGTCTGAGGGACGGGCCCTGGG
64167	ADAMTS4	CATCTCCCAAAGTGCTGGGATT
64168	ATP6V1C1	AAAGAGAAGGTCTCTTCCTTA
64169	CORO1C	TCCTTTGTATTTTGCTACTTTGCAGTATT
64170	AXUD1	GGATGTAGGAGGGGGAAGGAGGA
64171	UBE2G2	GCCTGCAATCCCAGCACTTTG
64172	FLRT2	AGCAGCCCACTGCATGGGACAAT
64173	ARHGEF6	GGAGGTCAAGGCTGCAGTGAG
64173	ZNF74	GGAGGTCAAGGCTGCAGTGAG
64174	SERPINA3	CTCTTCAGTCTGGAGGGTCCTGG
64175	PCLO	TTGTTCTCTCCATCTCCCTAGTCATCA
64176	MN1	TCCTCGGCTCGGGGGCCGGCACCGGCGATGC
64177	OTOF	TACAAGTGGCTCATCATCAAGA
64178	OVOL1	CTGAGCCTGGGAAGATGTAC
64179	ATP2C1	CTAGGGGTGGTGGGAGCAGCCGT
64180	PMM2	GCCCAGGCTGCCCTGCACTCCTGC
64181	PITX2	TATAGAGAAAAGGAAACCACT
64182	LRP4	TCTTGTACTCCATCCTGGGCC
64183	POMZP3	TGGGCGTAGGCCTGGCTGTGGTG
64184	FETUB	GCTGCACTCTACCCTGTACACTGCCT
64185	CLCN6	GCCCTGTGGTTTGACTCTCCT
64186	PPP1R12B	CTCGCCCAGGCTGGAGTGCAGTG
64187	ATP7B	TCTCCAATGCTCTGGAGTGTGCATTTC
64188	ACOX1	GTTGTAGCTTTGGAGTGCAGAG
64189	TRIM39	TCAGGTATTAGAGGAAAGAGAAG
64190	DNASE1L1	GGTTCAGAAAGAGGAATGAAGAT
64191	SURF4	TGGGTTCTCTTCTCCTGTGATCA
64192	FMR1	ATTTTTCTTAAAAAGTAACTC
64193	TCERG1	GGAAGTCAGTGACTTGGTGACG
64194	HDAC4	TACACTCCCTCGAAGCTGCTGT
64195	SORD	ACAGAAGTCCTTAAGCAGAGGAATTG
64196	DCK	TGCTTTGTAGTTTGCTTTGC
64197	RNMT	TGGTAGACCACCTTCTTTAGCAG
64198	GABRB3	TCATGCCTTTATTTCTGTATCTGACA
64199	CCND2	GCTGATAAGTAGCATGATC
64200	HELLS	GCTTTTAAAAGTTCTTA
64201	B3GAT1	TTGGAAGCACAATTTTCCCCCC
64202	HDAC4	ACAGCCTCCCAGCCTGGGCCCCCGGC
64203	PTP4A2	CCTGCTGGAATTTGCTGTGCAGAGCCA
64204	GPR81	GGTCTCTCATTTCCTGGCTGAAGTTT
64205	NHLH1	GCCCACCACTTCCACCTGGGCC
64206	FBXW1B	AATTCCCAGCCATACTCTG
64207	GGT2	GGAACCTGACAACCATGTGTACA
64208	MXI1	GGTCAATGCTATTTTTGTT

64209	CHST6	TTTCCTTTGAGTCCTCTGGAGCT
64210	IL6R	TAAAACACAAACGGGCTCAGC
64211	CTMP	AACACAGAAATACTTCCTGCG
64212	AP3B2	CCCATGACACCTAGGCTGTCAGT
64213	EPHB4	GGTGTGACCAGAGGAAAAGGA
64214	RABIF	TCCTCATTCCTTTACCCCCA
64215	SHOX	TTTGTCGCCCAGGCTGGAGCGC
64216	CUBN	CCTGTATTCTCAGCACTTTGG
64217	CD5L	AGGCAGAAAGAGATCAGGGA
64218	SRP	ATGACCAGGTGTGCTCTGCTG
64219	MMP15	GGAGAGGGGGCTGGTGGGTGCCTAGGC
64220	SPTLC1	ACTCCTTAGTATTTCATAGAA
64221	GNAS	AAAGAGGCGATTGAAACCATT
64222	GDF2	TTGCGCGGGCCTAAGATGTGT
64223	WFS1	CCTGACTGTGTTCAGTGCCTTG
64224	COX15	AGCAAATCTTCTGTTTTTTAAAAATAA
64225	TEC	GCCTGAGCTGTGGCGGAGGATCCAGGAA
64226	ZNF239	CTTTATATTCCTACAAAGGAGA
64227	ICOS	TCACCCTGGGAATCACAGTGGTCT
64228	GABRG2	TAATCTGGTAGCAATCCATCTC
64229	NRG1	CCCGGGGCGACAGGAGCAGC
64230	LRRC2	CACACCTATAATCCCAGCACTA
64231	TPK1	TTATTCTTCTTACATTATTAATCATT
64232	SLC4A8	TCACATTCTTTCAAAAGGTCTAAT
64233	KIF1B	TGCAGTGAGCCAAGATCGCGCT
64234	KCNS2	ATTTTTCTAAACAAGAAGGCTTA
64235	LDB3	TGTTCCTTTAAATGCAGCACACTG
64236	PITPNB	CTGACAGTCCTGCCCTGCCTGCTCC
64237	ACTN2	GTCATCTCTTCATTATTTAGGG
64238	SF1	CCTGGAGTTCTTCCTGTGCTCCTTGATCAC
64239	LUZP1	GCTGGTTCAGTATAGCTCATT
64240	SNK	GCTGGAAAAGTGCATTCCTTGTTA
64241	IDH3A	AATTACTGCCCTCTGCCTCA
64242	HSPG2	ACGGGCATCGCAGGAGTCTCTGCCACC
64243	SPTBN2	AGCCTCGTGCCTCTGTCC
64244	PLCG1	GCACACACATCTGGCCCTGACTTCTGGA
64245	SLC1A3	CAGGATGGCTGTGTGTGGTGGTCACCAGG
64246	ZNF261	GTTTCTGTGTTTGTCTCTCTGC
64247	YWHAG	GCCGCCCCAGTGTCCTCCTCC
64248	P2RY1	TGCCCCCAATTAAGTTGATCTT
64249	TEM7	CCGGGAGGTTGAGGCTGCAGTG
64250	DDX11	CCTTCCCCTCCTCCTTCCTGAGTCA
64251	NEUROG1	CCAGCCACCACTTCAGTGTGAT
64252	BCL11A	GTTCTGAGAGAAAAAGAGAGAGA
64253	C1D	CTGCTTTGTTGATATTCAAAGTGTGA
64254	ACPP	GAAAACTGCTACTATCTGTTTTT
64255	CCNF	ACCTACCTCACAGGGGGTTGTGAGGAT
64256	PIK3CD	CACGCCTGTTCCCAGCAAGT
64257	NT5C2	ACCAGCCTTACCAACATGGAGAAACCC
64258	KCNK7	CCCAGCACCTTCTCCTCCCC

64259	RHAG	CAAAAAGGGAGTAACCAAAGA
64260	KCNE2	TATGCTTGCTTGTTGGAGCAA
64261	MPP6	AGTGACTGCAACAAATAAACCT
64262	C18orf1	TTGCAGAAACTGTGTCAGA
64263	THBD	TGTTCAGAAGGTTGCTCTAGAT
64264	NHLH1	CTTGCTGGCTTTACTAAGCCAGCCACAC
64265	MAP2K1	CTGTGCCAGGCTGAATTACAGT
64266	NEBL	GAAATTTCCTTGTTCCCTAGGCTGA
64267	COX10	ACCAGCCCACAGAGCTCACATT
64268	CASP4	TCAAGGAGCACCTTCATTAG
64269	MYO10	TACACAGTCTGTATATTTTAAT
64270	CD28	AAACTCTGGGCTCAGCTGCT
64271	IL1RL1	GGAGCCTTTCTTGGCCCTCAGTTTG
64272	MAGEA2	CCTGCCTCTTTGAAGAGAGCA
64273	SCD	CTAAAGCTCAATTCAAGTGACAC
64274	KAL1	GGTTTTGACAATGGTACTTGCTTC
64275	ARHGEF6	ACTGCCCTATGTTGTCTATAAGAC
64276	C14orf1	TGCAACCTCTTCCAGGCTC
64277	ELMO1	CCCACGCCTTGGAACCGTCCTTT
64278	PPEF2	GATGCAGATAAAGTCGGTTTAATCACC
64279	ITPKB	AAACAGTGGTGAGCTCCTGTG
64280	FLRT2	GTCCTCTTCCCCTTGGCTGTG
64281	ZNFN1A3	CTATATGAAACATTCTTTCTG
64282	MAP3K14	CCTCCAGGCTGCTGTGAGAGTGT
64283	LNK	GTCAACCGGGCTGGAGTGCAGTG
64284	CNN2	GATGGGGTTTCCCCATGTTGGCC
64285	SEL1L	AACTGAGAAACTTCTTACCAG
64286	APOB48R	GCCCTGCTCCCTCTGCCACTGTGGAC
64287	LAMP1	TGCAGCTCAAGGGCTGGCACTT
64288	COX15	TCAGAAACATCTGTTTGAGGAT
64289	KIF5C	AATCTGACAGTAGCAGTG
64290	CDX1	ATCCACCCTCTGCATCCCCTTGGCC
64291	PFN2	AAACAAGAGCAAAAAGCACTTCC
64292	GADD45B	AATCTATTTTGTTACTTGCACTTG
64293	CRSP6	TGCACTTCTTGGAAAAAGTGCCTA
64294	PSMD9	CAGTTCTGCCAGGCAAGCCCTGTGTT
64295	TCIRG1	CCCGGGCTGGCGGGAGTGCAGTT
64296	MAOB	CCTCACCTTCCCTAGTTC
64297	PRKCG	GTCCCATTCTAGATCCTGCACC
64298	TNC	CCTCACCTCCTCTGTGATTTCTTT
64299	GPR86	CACACATGTATATTTCCCCCTGG
64300	MGA	GGGAGAGAGAGGATGGGTACCAT
64301	BRCA1	TCTATTCAGAATGAGAAAAAT
64302	ACOX1	AGCTTGGAGATTACTGTATTTG
64303	PDE4D	GGAGCCGCGAGCCAGGATGGAGGCAGA
64304	TK2	TGCCTCTCCCATGGCTTTGTGCTGC
64305	LYL1	CCACACCCTGGCCCAGACTGCCAGC
64306	ASTN	GAACCTGCCCAGAGAGCTTTA
64307	APOL1	TGGGATTACAGGCGTGAGCCAT
64308	TBX5	CTAGGAGCAGCAGAGGATGTGGTGA

64309	RARG	GGCCAGGGGATCCCTCTCT
64310	ADCY1	GGGCTTCCTGCCTTATCCTTCTGTTTGT
64311	FBXL5	ATGCATTTTTTACAAATGGAA
64312	F2R	GGGCCACTACATTTGCTCCATCCTCC
64313	PLAGL1	TTCCCAGGTCATCTTCTCCCTT
64314	HMOX2	GCCACACCGGTACCCTCCTCC
64315	GPR4	GCACTCCCACCCACATTGCCTG
64316	SPK	TCCTGGATGAGATCATCG
64317	ST7	TGAATGTCATTTTAAAGCAT
64318	PKIB	GGCTTTTGTGTATGTCTGACT
64319	KPNA1	AGCTTTGAGCAATACTCTGCTTTCACG
64320	BACE2	CCAGGGTCCTGTGCCTGGA
64321	ESRRBL1	CTCCCACCTGGTGGCTCA
64322	YWHAG	AGCTTTGCCGCTTTTGTGCCTCTCACA
64323	GNB1	ATCAAAACCAGAGAGTCTAGGGCA
64324	TUFT1	TGGGGGAATGAAGTTCCTTCCACAAA
64325	CYP8B1	GCACCACCACACCCGGCTAG
64326	MAP3K9	CTTTCTCAGGGTTGGACCCCCTG
64327	SLC1A1	CGCAAAACTACCGGGCTGGCAGGGCGG
64328	RFP	CAACCTAGACTGGAATAAGGCC
64329	LAMP2	TATATACTGCTATTTACACTATTATTTC
64330	STAU2	GTTTTGGGGGGTATTTTGCATGTT
64331	SRGAP2	AAATGGACCTGCCTTTCACTGAATTTTC
64332	RBM10	AGGAGGTGGCGGCGGGCAGAGGTGA
64333	XRCC3	CATCCCCAAGCCCCAGAGAG
64334	PPP1R12B	CCTGTAATCCCAGCACTTCAGG
64335	NUMA1	CAGTGCCTTCTCTCAGCTCCCA
64336	CCND2	ACAGATTCTGCCTTGTTTCAT
64337	SIRT1	TATTGGCTCATAAAACTAACCT
64338	ADRBK1	CCCAGCACCCGGGCTCA
64339	RFC2	AGACCAGCCTGGCCAACATGGG
64340	RNH	GCGTGTGGACCCGAGCCCAGCC
64341	YWHAG	AGTCAGGCTAGCTGTGCTGGTAT
64342	FGL2	TTGACATCCTTTGAGATATTTT
64343	GRM7	AACTGAATAGAGGTCTTGATCTTTGGA
64344	DSP	TTTCTTCTCTTCTGTGTTTCG
64345	CLN2	CCCTCCCCAAACCCCAAGGAA
64346	TIMM23	CCACCCAGGCTTGAGGCAGCG
64347	IL1A	TCATTTTCAAAATGGAGGGA
64348	DRD1	GCCCTCTGCTGCTTTCCAACACA
64349	MAPK3	CCCGCCCTCCCCACGGGGCCTC
64350	CAPN3	TAAATAAAGGCATGTGTATGGCTGGTC
64351	PCDHGA11	GTTTGGTTTGAAGTAAGTTGAA
64352	PRND	GCCCAGGCTGGAGTGCAACGGCATG
64353	LAD1	CCTGTTCCTTTTTTGCCTGTGGATCT
64354	PIAS3	AACCTAGGCAGTGGGAGGCAAATGGG
64355	NT5M	AGGTTTCTCACACCTCTGTTCCCA
64356	EPM2A	CTGGGCTTGGGAGCCGCGTGA
64357	SOX9	TACAGATTTGCTTTCTCTTACAAAAA
64358	EIF2C1	TCTGGTTCTTTTTCTCTTTACCTGGGGCC

64359	APAF1	TCTTAGAGGTTTTTTGCACTCT
64360	BAK1	ACTTCTCCCCAGAAAGTGTTTA
64361	C8A	AAAACTCAATCATTTTATTCAG
64362	GNPI	GATCAATGGATTTGTTTACAATGTGAT
64363	ATP2A3	TGCAGCTCTGGCCCAGGAGCTGCAGGC
64364	PTGS1	AGATGCAATCAGACAAGTGT
64365	FRAT2	GAGTCTTTTCTTTCTCTTGCTCC
64366	RNPEPL1	TCTGAGCCACCCTCCCCGCACAGCC
64367	HGF	CCATTTCTCTGATTTAGTTTTCTTGAG
64368	GPC5	CACATGCTTGCTCTAGGAATA
64369	TSC1	TAAACACACAGATCTGCATCTGATAG
64370	UGT1A9	CTCTGATGGCTTGCACAGGGTGGACCA
64371	IRF1	CCCAGCTGCCTGGAGAGGGTCT
64372	DSC1	TTCATTTCTCTTTTACACTTTTGTAC
64373	RHD	GATGTAGTCTTACTCTGTCA
64374	PYCS	TCCCCCGTGATGCAGCTGGAAC
64375	SLC2A3	GAAGCTGAGGCGGGAGAATCATGTGAA
64376	GM2A	GCATGAGCCACTACACCCAGCC
64377	TDG	TACCTGACAGAGCCCTGGCTTTG
64378	GCNT2	GTAATGTTAACCGTTTCAGGA
64379	RING1	TCCAAAGTGCCCCACCAGGGG
64380	SLC38A3	GCCCTTTTCAGACTCCTGGGCC
64381	GALNT1	ACTAGCTGTGAACCAGCCT
64382	EBI3	ACCTGTAATCCCAGTCACTGGG
64383	SIL	GATCACTGCAACCTCTGCCT
64384	CBS	CCAGGAAGGGGCGGGGAGAAGC
64385	LPIN1	ATTGTTAGAATCACAGGAGGCAA
64386	ABL2	GTTAGCCTGGTGGGAAAATGCACA
64387	PTGES	GGGATTACAGGCGCGTATCACC
64388	CD79A	CCTGCCAGGCTGCCCCCGCCTGCTGT
64389	ADAMTS8	CAGGGGGGCAGGGGCCAGTCT
64390	HOXA10	TTTGTTGTTTTCTGGGGGAAAAAGCC
64391	LEP	GGAGGGCAAGGGCCATGCTGAA
64392	TAPBP	CGCCCAGGCTGCAGTGCAGT
64393	COLQ	TCTCGGGGTGGCTCACAGCT
64394	F13A1	CCTGGCATTTGGCCTCTTGTA
64395	MSF	CACTTGCAGAGGAGCCCAG
64396	ARHC	TTTCAGTTCCCTCCTGCCCAG
64397	CNP	TCCCAAGCTGGAGTGCAGTGGTGCG
64398	MAGEB4	TTTATTGCTGTTTATCAGGTTGG
64399	ALPP	TGCCACTGCACTGCAGCCTGGG
64400	TEM6	TTGGGGGAATTTGTGACCCTGGAACAT
64401	HEM1	TTGCTGTCTGGTGCTCCTCTCTCA
64402	ZNF157	CATCTGTTTTCTTCTGCTGAAG
64403	YWHAZ	CCCATCATGACATTGGGTAGCATTAA
64404	SURF6	TCAGAATTTGGAGGGAGGGAGCAGT
64405	PLXNA1	GCTCAGACTCCTGGGTGGCTTCCAGA
64406	LTB4R	GCTCTGTCATTCAGGCTGGAGTGCAGT
64407	SDHC	GCTTTCTCATCGAAGTAAT
64408	ZIC2	GCCAAAGTCTCCCTTCTGTTT

64409	PRKCQ	ACTTCACTAATGACGATGCC
64410	RBM8A	CTGTAATTCAGACACTCAGCTT
64411	VIPR2	GCCAACACGCCTGGCTAATTTTTTGT
64412	NSF	AGAAGGCAGACTTTCTACATGCA
64413	HNRPDL	CATTCAACATGCAACTTTAGGGA
64414	TES	AGCGGAGCCGGAGGCCAGCT
64415	TNS	GTGGGGAGGGGACCCATGAATC
64416	CREB1	CTTCTGCTTTTCAACCCCCACC
64417	SLC25A15	TTTCTACTTTGCTTTTCTCTCCA
64418	HMGB3	CGAGACAAACCCTTGATG
64419	HUNK	GATCCTCAGAGGAAGATGGAGAGGAG
64420	LDLR	AGGCTGAGGTGGGAGGATGGTT
64421	CIT	TTGGTCCACAGTATTTGGAAAGG
64422	GALNT7	ATTTCTTTTTAGAAAGTGTATT
64423	ROCK2	CCCTGCTCCCGCCCGAGGACT
64424	LPO	GCACAGGAAAGTTCCCTTTGGTC
64425	SLC4A4	ACAATCAAGTGATATTTTGTAG
64426	TNFRSF14	GGCTTTGCCTGGACAGCTCCTGCCTCC
64427	CFL2	ACACATGCTTTTGTATCTTGTCA
64428	ESR1	ATAAACAATGCTTTTTGTGCACTACATA
64429	CAPN2	AAGTTTAAAATGCAGCTGTTGATTC
64430	AIM2	TGTAAGTTACCTGAAAGCTGCAGT
64431	MOX2	TCTTCTGCTTTGTCTGTGTC
64432	KCNS2	TGTCTGACACCATGCCTTTGCA
64433	KRT16	GCTATCTCCCCTGCTCCTCTGCT
64434	GPR44	TCTGCACTCTAACCCTAGGCATCACA
64435	PCDHB12	CTAAGTCAGTGACTTTGCTCCC
64436	POP4	TTTATAGACCACCTCCAGCCAG
64437	MYB	AGTATTTTTTCCTGTGATGG
64438	UBE2L3	CTTGCTCTCCACTTCCTCCGTGCA
64439	EGFL3	GGCTGAGGAAGTCCCGCTCTCCC
64440	SF1	AGGAGAAGCCGCCGCAGAGGAA
64441	POU2AF1	TCCCACAGCTTGCCCCACACCACCTT
64442	SPTBN4	TTCCAATGCTGCCTTGATCTCTGTCT
64443	GTF2I	TCCTGTGATAGTTCAGTTCTTT
64444	ASGR2	GCCCAGCCCAGCTCCAGCTCCAGC
64445	ECHS1	CGCTGGTCCCTCTGGGCATGCTGTGC
64446	FGF1	CCAGCCCACAGAGCCTGAATTTGTAAG
64447	TEM6	TGCTGGCATTTTCAGCAGATCCTC
64448	MAOB	TGTCTGTAATCACACTCTC
64449	ZNF36	AGGGAAAGGCTAATCTTACGGAT
64450	DMD	AATATTCATACAACAAAGAGG
64451	MMP2	AAGTCACTGCACAGTGCATCTCAGCCC
64452	CTNND2	TTGTGTATATTACACCAATGCCGC
64453	MSR1	TAATTAGCTTGTTACAATTCTA
64454	TACC1	CTGGTCACATCATTAACTGCTA
64455	CCNF	CCACATCTGCTGGTTTGGGG
64456	F8	TTCTGCTTCCTTACACATA
64457	ICMT	TCCCAACTAAGATTCAGTCAG
64458	ICOS	TTCATTTAGCCTGAAAGCTGCAGTTA

64459 ADORA2B CCTGCTCTCGGTGTGGGCC
64460 IL22RA2 GTCATCTTCTTCATGGTGTTAG
64461 UBL3 CTTCAGAAACCGTTCAGAACAGTCTGCCTG
64462 TIMELESS TCTGCTGTCAGTCTTTGTT
64463 SYT4 GAGTTCTTAGAGAAGTATGA
64464 TMPRSS2 TGTAGAGAGCAGCATTCCCAGGGA
64465 ABCC3 ATGTGTGGCTCAGTGCCTGGAC
64466 FMR2 TGCTGGTAAAATGTTTAACAA
64467 APM1 CACCCAGGCTGGAGTACAGTGA
64468 BCAS1 GGAGGTGGAGGTTGCAGTGAG
64468 CPT2 GGAGGTGGAGGTTGCAGTGAG
64468 GGCX GGAGGTGGAGGTTGCAGTGAG
64468 IFNAR1 GGAGGTGGAGGTTGCAGTGAG
64468 LDLR GGAGGTGGAGGTTGCAGTGAG
64468 PDE4C GGAGGTGGAGGTTGCAGTGAG
64468 RFC2 GGAGGTGGAGGTTGCAGTGAG
64468 TBX6 GGAGGTGGAGGTTGCAGTGAG
64468 VDR GGAGGTGGAGGTTGCAGTGAG
64468 XRCC2 GGAGGTGGAGGTTGCAGTGAG
64469 AP1M1 AGGGTCCAGAGAGCGGGG
64470 CDKN1A CCCACAGGAAGCCTGCAGTCCTGGAA
64471 TNNT2 CCTCGCTCGCACCTGCCTCC
64472 PKNOX1 GCTCACTGCAACCTCCACCTCT
64473 APM1 CAGGCTGGAGTACAGTGACACGACCTC
64474 TYRP1 TCCTCTACGTGCTTCAGTCTTC
64475 ABCD3 GCTTACAAGGAGGGGTTACCAT
64476 PHLDA3 GCAGCTTCGTTGTTCCCTCTGG
64477 PPP1R3A TCCCATATAACTAAGACATATG
64478 PPP2R5C CTGCTGTCACTTCAAGCCAC
64479 BUB3 CCCTTTGCATTCTTTCTGGACCTTAAAT
64480 SET CTTTTGCAGGATGACCTCAGGGCTATGTGG
64481 LUZP1 CACTACCCACTATCTTATTCAGTCCCT
64482 CALCA GAGCAGGACTCACAGGTTGGA
64483 HSD3B2 GCTCTCCAGCATCTTCTGTTTCCTGGCAAGT
64484 PIP5K1A TTCTGGCTGCCTGTCTTTGCTGC
64485 GPT CTGGTCCTGCCACCTCCTGAGCTGCC
64486 DDB2 GCAAGCAGAGGTGGTGATTTGTTAAAG
64487 MAP3K7IP2 GCCTGTAATTCCAGTGCTTTGG
64488 NSD1 TCAGACCTGTGAACTACCCAGAA
64489 AVPR2 CCCCTGCCTGGGTCTCCACATCCCCAG
64490 LPL TGCCCACTTCTAGCTGCCCTG
64491 EGLN2 CCTGGCCGGGCCAGGATGGGAGTGG
64492 GP9 CAGCTGGTTTCCCAGAGGAGAAGG
64493 RANBP2L1 GAGCGAGACCTTGTCTCTAAAAA
64494 DAAM2 TGCAAGACAAGTGTTGGGGAAGA
64495 COX10 ATTCTGTTTCTTCCTCCTCACA
64496 NT5C GCCCCAGGCCCAGCCACCCGGTACCTC
64497 KIF3C GGTGTTCCCTGAGGACAAGAGACATCC
64498 HPCAL1 TTGTGATCCCAAGTGACTCTGT
64499 GRIN2B TTCTACAAACCAAGGGAGT

64500	TRIM34	AACCTTGCCTGTTGTTTTCTA
64501	DCLRE1C	AGTGGCGGCGCGGTCAGGGCT
64502	TPP2	AGTCATTTTCACATCCTCTTGAGGTTCA
64503	MAN2B1	GAGGCATTCCGTCTTCATAGCCCGTGA
64504	DSCR2	GGATATATTTTGAGAATGATGAAACGGA
64505	MOX2	GCTGTTCTTCATGTGCTTCTATG
64506	PRKAR2B	TCATAGTTGAAATTAGTGCAG
64507	SPOCK	TTCTCAGCTTGTCCAGACCTGG
64508	IL16	TGCCCAGGCTGGAGTTCAGCGGTGC
64509	AICDA	GAACCCAGGAGGTGGAGGTTGC
64509	CPT2	GAACCCAGGAGGTGGAGGTTGC
64509	PTGIS	GAACCCAGGAGGTGGAGGTTGC
64509	RFC2	GAACCCAGGAGGTGGAGGTTGC
64509	TBX6	GAACCCAGGAGGTGGAGGTTGC
64509	VDR	GAACCCAGGAGGTGGAGGTTGC
64509	XRCC2	GAACCCAGGAGGTGGAGGTTGC
64510	FZD4	TTGAGACTGAAGTTAAGTGGGCACA
64511	MFNG	GTGGCCAGAGAGGCTCCA
64512	AMBP	GCTTCTCCAACTGCAACTGGCCGGTCT
64513	RNF12	ATCAGTCTGCAGCACAGCGCAGAAGT
64514	FPRL1	TCTCTGAAAAGGAATTGA
64515	CARP	AGAGACACTAGCCATAAAATCTA
64516	CXCL16	TGTCATCCAGGCTGGAGTGCAG
64516	FANCE	TGTCATCCAGGCTGGAGTGCAG
64517	LMO4	CGCCGCCGCCTCCGAGCCGGG
64518	BCL7A	TCCTCCCTGCCCCAGGACTTCATCG
64519	MAPK1	GAGAAGTACAAAGGTTGCAGTGCTGAGC
64520	NOTCH4	CCCAGTCCTCCTCCAGAAA
64521	FGF2	CGTTTTGCCTCTATTTTTCTTGTT
64522	EPS8	ACTAATTATTTTATCCCCATCCCAG
64523	MECP2	CCCTGCTCCCTCCGGGTCTTCC
64524	ZNF236	TATATTAAGAGAGGAGCTCATTTC
64525	TFCP2	CTGGGGCAGCCAAGAACGAGC
64526	HSPA5	CACCACTGTACTCCAGCCCGGCACTCC
64527	ILF1	GTGTATGTTTAAAACGACAGAAC
64528	CENTD2	GGCTTCCCCTTCCCCCACCTCA
64529	HOXD3	ATCAGCCGCAAGGATCCTTCC
64530	ACP2	GAATCAGGAAACTGCTCTCCCTCAGC
64531	PCYT1A	CCTTAGAAGCCTGCTCTGCATCCA
64532	TLE1	CGGGAGCGGGAGCCGGAGCAGC
64533	GCK	TTGACCAGACCTAGACCTGGG
64534	MAP1B	TGACTTCTGCTAGGTAGAGG
64535	LSS	TGGGGGCCAGGCTGGAGGCAGG
64536	MKI67	CAGCCTCTCTTGGGCTTTCTTACACTAAC
64537	MS4A3	ATGAGACATTTTTTCCATTA
64538	EMP1	TCCAGAAGAGCGGACCAGGGCTGCTGC
64539	PA2G4	GGGGGGATCTCCCTGCCCCCAC
64540	INHBB	GCCCGCATAGCACTTGCAGACCTG
64541	PAG	GACCCTGCGGGTGAAGGG
64542	BCL2L2	GCTGCTGCCTCCTGGGCTCTGA

64543	LENG4	CAATGTGGGGTCGGAGCTTG
64544	PITPN	GTGAGGAAGTCCAGGCTCCA
64545	RERE	TCCTTTTCTCTCAGACACTGGAG
64546	TBX3	TGTCAGGTTTTGTGTTCTTGTTTTCC
64547	PDE4C	TGCCTGTAATCCCAGCTACTGGG
64548	OSR1	GTTTCATAGTCTTTGTCTAACTGC
64549	GPR65	ATGAACACATGGACTTCTGTTTATTA
64550	IL1R1	AGGAAGGGAGACATATTCTTGGAGAA
64551	NEBL	TGTTTACACACTTGCAGTG
64552	WBP2	TGGCTGCTGGGTGGGGCCGGGAACA
64553	ANG	TGGAAGAGATGGTGATGGGCCTGGGC
64554	CTSS	GTCTCAAACTCCTGACCTCAGG
64554	DFFB	GTCTCAAACTCCTGACCTCAGG
64554	DISC1	GTCTCAAACTCCTGACCTCAGG
64554	MAK	GTCTCAAACTCCTGACCTCAGG
64554	MEFV	GTCTCAAACTCCTGACCTCAGG
64554	MLANA	GTCTCAAACTCCTGACCTCAGG
64554	NDRG3	GTCTCAAACTCCTGACCTCAGG
64554	NQO1	GTCTCAAACTCCTGACCTCAGG
64554	SCML2	GTCTCAAACTCCTGACCTCAGG
64554	SPN	GTCTCAAACTCCTGACCTCAGG
64554	TAT	GTCTCAAACTCCTGACCTCAGG
64555	IFNAR2	GCAAGTAGCTGGGATTACAGG
64556	IL21R	CTGCAACCTCTGTCTCCCGGG
64557	CAMK2A	TGAACACTGCTCAAACTTT
64558	LZTS1	GAGGTGTAGGGGTGGAATGAGCCGCG
64559	IRS1	TTCGCATGGAAAAGCCACTT
64560	ED1	TGGTTGCTAATGACAGCC
64561	PPGB	GCCTGGGGGCAAGTTAGCACTTTAT
64562	ATM	AGGTGAGCGGATCACAAGGTCA
64563	ALDH8A1	TGCCTTGACTTGGCAGAAGGTTATCTCTAG
64564	CYP1A1	GGATACTGGCACAGAGGTA
64565	SLC12A7	CCCGCCCTGGGCTGCAGCCT
64566	F2R	GAGAGGGTGAAGCGGAGCAGC
64567	RANBP3	TGGGTGGAGAGAGGCCGGGGGCTGC
64568	CD34	CAAGTTTTAGGACAAACAGCTC
64569	CROT	CAGGAGGTTGTGGCTGCAGTGA
64570	ZNF74	CCTGTAATCTTAACACTGTGG
64571	NR5A2	TATTTCTGCTACTGTTGCTGAA
64572	SFRS7	TTTTGCCAGGCTGGTGCAAA
64573	NPY2R	CATTAAAATGGACCTATCTG
64574	LZTR1	AGGAGCTGGGGCAGAGGCTGA
64575	SUDD	TTGTAACCCATGTGCCAGATGTGT
64576	CCND1	CTCCATTTTCTTATTGCGCTGCTAC
64577	DSC1	AAAATATAAGAAATTAGCCGG
64578	MME	TGTCTTCAAAAGAAGCATTGCAGC
64579	IL1RN	CCTGCTCTCCTCTTGCCACTGCC
64580	CD244	ACAAAGCCTGGTTCTTCAATTTTC
64581	WHSC1	GCGCTTTAGGGTGCTGGACTG
64582	ROR2	TGGAGCCCTGCTCCTCTCTGTC

64583	BACH1	TAGCTTTTATAAGTACACTCA
64584	TMPRSS2	CCTCCTGGCCAAGCAGGCTGG
64585	LEP	TATCATGGAGTGACGGTCCCACA
64586	SRGAP2	GGGGTGGCGGCCAGGAGGAAAGGC
64587	ITPKB	GCATTTGGAGATTCGTGGAGAA
64588	LIFR	CCTCTATCCACAGCATTCACAA
64589	GNE	CCTGGCCCTAGTGACAGGTT
64590	ARNT2	TCTGCCTCCAGCAGGCTTGAGCTTGC
64591	PML	GTCCTCAGGCCACCAGACCCCTC
64592	TSC1	CCTCATGCCCAAGAGATCTGTGCCA
64593	SOX5	ATCCTTGCCACTGCTCTTCCCTTGCT
64594	COL4A3	GAGTGGCGAGGCGAGCTTTCCA
64595	KCNQ2	TGTGGAGGGTGCCCAGCAGAC
64596	CRSP6	GTGTGATCATGGTTCACTGCAGTCT
64597	GJB3	AAGTCAGAACTCAGAACACTGCCT
64598	GLP1R	ACTGTGGGTGTAGATTACCTGCCA
64599	HYOU1	CCTTTCTCACCCCTGTGATTTGGAGG
64600	DRD2	CCTCCACTGCTGCTCTGCTGCC
64601	CDC23	GCTCTTGGAGAGTTTCAGGCCT
64602	SLC13A1	ATTTTACACATGTATTTA
64603	SYNGR1	CCCTGCCTGCCACCCTAGGCAG
64604	POLA	CCACTCTGGCCCTAAATGCTCC
64605	MECP2	TGGTGAGCATTACAGGCAAGGGGAA
64606	CLCN4	AGGAAGGGAGAGGCAAGCAACTAGGT
64607	USH3A	AAAAGGAGAAAAGCCAAGTA
64608	HIP1	CCCAGGAGTTTGAGGCTGCAATGAGCC
64609	TNFRSF1B	GCAAGTCCCTGACTCTCTGTGACCTG
64610	TFF3	GCAGGCTGAGCACCCTTGCCCG
64611	HRH1	CAAGCCTATAATCCCAGCATGT
64612	CYP1A2	TCTCCTAAGCTGGAGTGCAGTG
64613	UNC13	AGTAGAATCCACTGATTTTCTGTG
64614	PRLR	CGCGAAACAGCTTTCCACACAAT
64615	LAMR1	ATGGAAAAATGGTTGATGGA
64616	GLB1	ACAGTAACGTGCATACATATCTGCA
64617	OPHN1	GGGGTCTTACCTTGAACTGAAGGCCACTTG
64618	LHX3	CCCTCCAGGGGACGCTGACCTAGGAGG
64619	MAP1B	CCATGAGGTAAAAGAGCCAAG
64620	STAC	GGAAGAGACTATCACAAAAA
64621	GLTSCR1	AAACGTCTCCCCTGCCAAAG
64622	DGAT1	CTGGCTTCTCACTGCCACCT
64623	IMPA2	CTACCCCAGAGGGAGTTGTCA
64624	STAU2	TGCATTCTTATAGAAACAAAGCACAA
64625	SPAG6	TGTTCCTTACCTTTCATGGGCC
64626	NOVA1	AATAAAAGCACCTGTTCTCC
64627	CYP8B1	GCCCAGGCTGCAGTGCAGTGGT
64628	RBL1	TATTTATCCAAAATGTAGTTGACA
64629	HEPH	GACTCAGGCTGGGGTCTGCAGTGC
64630	BMP8	TTGGCACAGAAGTCCTGTCTGAG
64631	FSTL3	CCTGCTGCTGTCCACGTCAGT
64632	GJB2	GCTTGCTTACCCAGACTCAGAG

64633	GSPT1	TGAGCTGCTGCCGCCGCCGCCTC
64634	P2RY2	ATCCTCTCTCCAGGCCCCAGGTC
64635	C1orf6	CTCTCTTCCTTCTTTTTCTCCC
64636	OPCML	AGAGTCTCCTTTCTGCTCCA
64637	FKRP	TGGGGACATCCTGGGTCATCTCA
64638	CASP8AP2	TGCACACACATAAACGGCTTTG
64639	CLCN4	GCATGGTCAATGCGGGAGCGA
64640	F8	GCCACTGCAGCACCTGCCACTGCCGTC
64641	FCRH1	CACTGCAACGCCTGCCTCT
64642	CD2AP	AATGATTCCTTTATTCTAGCA
64643	ALDH3B1	ACCTGTAATCCCAGCACTTTGG
64643	CASP6	ACCTGTAATCCCAGCACTTTGG
64643	COPA	ACCTGTAATCCCAGCACTTTGG
64643	CRACC	ACCTGTAATCCCAGCACTTTGG
64643	DMC1	ACCTGTAATCCCAGCACTTTGG
64643	EHHADH	ACCTGTAATCCCAGCACTTTGG
64643	FANCD2	ACCTGTAATCCCAGCACTTTGG
64643	FUT6	ACCTGTAATCCCAGCACTTTGG
64643	GPR1	ACCTGTAATCCCAGCACTTTGG
64643	GRM6	ACCTGTAATCCCAGCACTTTGG
64643	HUNK	ACCTGTAATCCCAGCACTTTGG
64643	IFNAR1	ACCTGTAATCCCAGCACTTTGG
64643	LRRC2	ACCTGTAATCCCAGCACTTTGG
64643	LUZP1	ACCTGTAATCCCAGCACTTTGG
64643	MCM4	ACCTGTAATCCCAGCACTTTGG
64643	P2RX7	ACCTGTAATCCCAGCACTTTGG
64643	PCDH11X	ACCTGTAATCCCAGCACTTTGG
64643	PCDH11Y	ACCTGTAATCCCAGCACTTTGG
64643	PTAFR	ACCTGTAATCCCAGCACTTTGG
64643	RAB7L1	ACCTGTAATCCCAGCACTTTGG
64643	SIM2	ACCTGTAATCCCAGCACTTTGG
64643	SUDD	ACCTGTAATCCCAGCACTTTGG
64643	ZNF136	ACCTGTAATCCCAGCACTTTGG
64644	ADORA2A	CTGGCCTGGCCCTGAGACTGGGGAGTG
64645	SLC16A2	GCCCAAATCTCTGTTTGCTGA
64646	DBT	GCCTGTAATCCAGCACTTTG
64647	BCL2	GGGATGATCAACAGGGCAGTGTGGTCTC
64648	FZD4	TCACATTCCAGACAATGGAGAGTGTTTA
64649	COL1A1	GTTTTTAAAAAAGGAAGCTTGGTCCA
64650	MIR16	AAGCTGAGGCAGGAGGATTACTTGA
64651	FGF2	GCAGTGAGCCATAATCGTGCC
64652	RET	GCACAGCCAGGTTCCCCCAGACCCC
64653	TGFB1	CCAGGCATTTGAGACCAGCCTGGGTAA
64654	SULT1A3	GGGAAGCAGAGGCTGGAGGA
64655	CLDN16	CTAGTATGTCAATGCCTACCATT
64656	GALNT7	ACCATGAAAATTAAAGAGTGAAG
64657	CLASP1	ACCCTGACAGTCTCCTTCCAGCTCTC
64658	GAD1	ATGGGAATGCCTTTTCCCTCTG
64659	EPHX2	AGATGTAAACGCAGCGTGTGCCCA
64660	SURF4	GCCGGCCGCCGGGCACTTCCTG

64661	WFDC1	TCTGGGAGGTATGTACCCATCT
64662	LEP	CCACAGCAGCTGAACAGCCA
64663	RP2	GTTGCCCAAGCTGGAGTGCAATGGCGC
64664	ADAMTS4	TCTGTCGCCCAGGCTGGAGTGC
64664	ALDH1B1	TCTGTCGCCCAGGCTGGAGTGC
64664	CASP8	TCTGTCGCCCAGGCTGGAGTGC
64664	EHD2	TCTGTCGCCCAGGCTGGAGTGC
64664	GRINL1A	TCTGTCGCCCAGGCTGGAGTGC
64664	INMT	TCTGTCGCCCAGGCTGGAGTGC
64664	KCNJ11	TCTGTCGCCCAGGCTGGAGTGC
64664	LYZ	TCTGTCGCCCAGGCTGGAGTGC
64664	MTR	TCTGTCGCCCAGGCTGGAGTGC
64664	NCOA6	TCTGTCGCCCAGGCTGGAGTGC
64664	ORC1L	TCTGTCGCCCAGGCTGGAGTGC
64664	PCDHB9	TCTGTCGCCCAGGCTGGAGTGC
64664	SERPINB9	TCTGTCGCCCAGGCTGGAGTGC
64664	SLC13A1	TCTGTCGCCCAGGCTGGAGTGC
64664	SMAC	TCTGTCGCCCAGGCTGGAGTGC
64664	TAPBP	TCTGTCGCCCAGGCTGGAGTGC
64664	VIPR2	TCTGTCGCCCAGGCTGGAGTGC
64665	HYAL4	TCTGTTGCCCAGGCTGGAGTGT
64666	CAV1	GCTGCCTGGTATATCCAAAAGCTT
64667	NQO1	AGCAGTCTTGCTCTGTTACCCA
64668	CHRM5	GTGGTCTATACTATACTGTGGT
64669	SCD	GATCTAAGGGAAGATCACTGTAGTTTA
64670	HYAL4	CACTGCCTCCTGGGTTCAGGTGA
64671	STAC	CAGTTTGATTTATTTTGTTAC
64672	HK1	ATCAGGACTAGGCTGGAGTCTGGC
64673	LBP	TGGATCTGCTTGTTGCATTTCCA
64674	CLECSF12	CGCCCCCTGGGTTCAAGCAATT
64675	SURF4	GCTCACTGCATGAAGACTGGCTTG
64676	FMN2	ACAATGAAAAGCAGAATGAAA
64677	TRPV2	CCACATCTGCTGGCTCTGGGG
64678	RGL	GGTAGGAGTATGAGGCAGAGTGA
64679	ZNF192	GTACTAAAAGGCAGAAAGGTCAT
64680	COL18A1	TTGGGACTGAAGGGGAACCCCGGGGTG
64681	KCNS2	CCAGGCTTTGATATCTGTGAT
64682	PKD2	CTCTAACCATAACACAGGAGAATTGG
64683	E2F3	TGTGTAATTCTCTTTGCCA
64684	MSH4	TCATCTATATATTCTATATGAAAAATAT
64685	CDH13	ACTTTTGCTCCGAAGCTACTTCT
64686	ALDH3A2	TTAAGGCTGTCTAAAATGTGATGTCT
64687	STAU2	CTATCTCTTCGCTCTGTCTTCCA
64688	CLTCL1	ATGAGACCCAGCTGATTGCACTA
64689	SPON1	GTTCCCCAGGGCTGCACT
64690	DLST	GTCCTCCTCCTGGATCTTTAG
64691	HARS	AGATGCCTCCCCACCACCAATTGCCAAAGGT
64692	NDRG3	CTTTAGCTGATCAGATCTCTCCA
64693	TRAP100	CGCTCCACATGGTGCAAGAG
64694	CD28	TCAACTATAAATGGAGATAATGGT

64695 GABPA TCAGCCGGCCCTGGAGTGCGGGCGGGG
64696 VBP1 GACTTAGTGGTCCTCTGTTGCT
64697 CXADR AATCAAATACATTTTAAGCAA
64698 CLCA3 CGACTTCAGCAGACTCACCTCTGG
64699 GALNT2 TCTTCCTTCCAGCTTTCACTTC
64700 SYP CCACCCCTATACCCTAGGTCTCCA
64701 DBY GGCCAGATGCAATGATCTTTAA
64702 MTF1 TGCTGTTTGGTGGTCTGCCTTC
64703 ELAVL2 GAGGTACAGGGTTTTACCTGTCACA
64704 ZNF35 TCCTAGGTAATTTTTTAAAAGCCAGTC
64705 YWHAB AATCTACTTTCATTGTTAACA
64706 LAMC2 GTGAGTGGGTGGGATGGGGACA
64707 GATA2 GCCCCTGGCCCAGGAGGAGGA
64708 CPO CCGTGCCTTAGTCTTCTCCACTCTGCA
64709 CFL2 CAGCCTATCAGTGATTGCC
64710 CCNG1 CATCACGAGATAAGCATGATGG
64711 STK38 AGCTTTGAAAGGAAAGTATGT
64712 NPTX1 ACTGACACCTGAGCAGTGTCC
64713 SERPINB3 TGCTTCCTCTAGGAACACAGGA
64713 SERPINB4 TGCTTCCTCTAGGAACACAGGA
64714 OCRL CTAGGCCTACAAGCAC
64715 G2A GGGAGCTTGAGGACACTGTGGT
64716 SEL1L CACTTCCTTCAGAAGGAACTGTTA
64717 SEPN1 CCATGCGAGCCCTTCTCCTGCTGC
64718 NCOA6 GTTGCCCAGGCTAGTCTGGAAC
64719 SH3BP2 GTCGCCCAGGCTAGAGTGGA
64720 MOCS1 CCCACCCAGGCCTGGAGCTGGGATGCA
64721 SLC38A2 ATCCTCTGGCTATTTAAGGTTCAA
64722 HSD11B1 AACATTTGCAAAATGGAAATGTAATA
64723 NYX AGCCGGAATGGAGGGCAGAGGTGA
64724 PCOLCE2 TTAATAAAATATTTTTAAAGG
64725 WEE1 ATATCCCACTGGGAGCACTTT
64726 BDKRB2 TTCAGCACCAGAGCACGTGATG
64727 RPA3 TGTGGGCAAGGCCCAGGAATCTGGA
64728 VDR AGAGCCAGCCCTCCCTGTCCT
64729 PHEMX GCTGCACTCTCACCTGGAGGCTCCGG
64730 SDHD TCACAATAAGGAAGAAATAAC
64731 TAF12 GCTGAGACGAACGCTTCACTGGG
64732 SMARCC1 TGCCTGGCAGAACATACCACT
64733 COPA ATCCGAGAGTTCCCCTTAGAGAA
64734 RARA TCCTTGGACAGAGGCCTGGGCCC
64735 VIL2 ACCAGCGTGAGTGGTGGAGGA
64736 SERPINB2 TTATAGAAGCAGATGATCTGT
64737 ADCY1 GGTCTGGGCAGGGGCAGCAG
64738 IL19 GTCTCAAACTCTTGGCCTCAAGGGATC
64739 KCNAB1 GAACAAAATCCACAGATGCA
64740 PPP2R4 AGCACAGCACAGGGGCTCAGCCT
64741 SRC GGCCCCTGGCCCCGCCTGCCTGC
64742 SSR2 CCCTGCTCTCAGCCATAGTGAAGGACC
64743 RPE65 TCATACTTCCTCTGTGAG

64744	SLC18A3	CCCCTGAGCCCAGCAGCCGCGG
64745	NGFB	GCCCCTTCTACACTCTCCTGGGCC
64746	CBFA2T2	TGGAATGGGACAGGCAGCTCTAGTCAG
64747	DRP2	AGGCAGCCCAGCCCCGGCCTCCCAGCTT
64748	MYD88	TCAGCCAGGCTGGAGCAAGGTACCTT
64749	FGFR4	GCCTTGGGCCTTGGGGCTCAGCCACAG
64750	ACCN2	CCTTTCCTCCTTCTGGGTGCCCA
64751	JRK	TGTTGACCAGGCTGGAGTGAAGTGGTG
64752	RANBP17	TCTCACTGCTGTTTTTATGATTC
64753	ATP2B3	TCCATTCAACAAGGGTGCA
64754	CACNA2D2	CCTTTCCCACCCTCCTGCCCCA
64755	NEK6	GAAACCAGAAATGTGTTCCTTATTTC
64756	BACE	CACCATTCCTTTAAATTCTCCA
64757	GRP	TGACTATTCTGTATCTTTCA
64758	SOX4	GCAAGAGAAACTGTGTGTGAGGGGAAGAGGC
64759	ATP11B	TCCATCCTGAATTTATCAAGTAGTTC
64760	IL1B	CCTGTTGTCTACACCAATGCCC
64761	ZNF134	TGACTTGCTCAGGTTTTTTGCC
64762	NAP1L4	GGTGTGACCGCTTGGCGGCTGGTGG
64763	GPR85	TTGCTATTTCTAAATACCACTTTCCT
64764	ARNT2	GCAGTGTGACATGGACTTGCTGT
64765	ZNF265	TTTAGCTAATAGTAGTTTACA
64766	PBX2	GCCGCATTTGATGTGGAGG
64767	PML	CTTGCTTCCTTCCTCCTGGCT
64768	ADAR	TGAGTCACACAGGACAGAGGAGGCAGA
64769	FXYD6	TGTCATCATTCTTCATGGACTCCTTT
64770	CRSP6	TAAAGAAGTTTCCAGAAACTTTG
64771	LRP8	GCTCAGAAAGTCAAGATAGGA
64772	GPR44	TCTGCACTCTAACCCTAGGCATCACAT
64773	VCP	GGAGAGGGACCAGGGGTGC
64774	BDKRB1	CCAGACTGAAGTGCAGTGGCAC
64775	POLH	TGCTAGTGCGCTCCAGCCTGGG
64776	ETS2	GTATGTATTATTTACATTTAA
64777	CLASP1	CCACCTCCCTTTTCTCAGCCTAACT
64778	KCNA6	GGGTCCGGAGCGGCTGGAGGAGCGCAGTG
64779	MPL	TTGCCTGTTGCCAGACTGGAGTGCAGT
64780	SREBF1	CGGCGGCCATGATGGTGCTG
64781	ADCY1	CTGTGGGCATCCACCTCCCAGG
64782	PAFAH1B1	TGAAAACAGACATTCCAGTG
64783	KCNJ16	TTATTCCTCTTGTTTTATGGA
64784	USP1	TTGGGCATGGACTAATTTGTA
64785	MAL	GAAAACAGAAATGCCCTTGATGGTG
64786	PKD2	GGAAGTGGCTGTCCTGAATT
64787	ADAM8	CAGGCTGGGATGAGCTGTGTGCT
64788	MAML1	GTCAGCTTTCAGGGGAGAAGGA
64789	GTF2H1	AGACAGAACCAAATGAGCTA
64790	PTGIR	AGACAGATGGAGAAGCTGGCAGAT
64791	GPR17	GCCTCTGCCAGACACACACT
64792	TAT	GCGTGAGCCACCTCGCCCAGCGGCATC
64793	GRAF	TTCACTACTCAGTTTATCAGCTCA

64794	PMX1	CTGTGCCTCAGTTTACCC
64795	AIM1	CGAACCTCTGGGCTCAAGCAAT
64796	ATM	TGCTGTGGGCCAAAATCATGCCA
64797	SH3BP2	TTTAGCTAATTACCAAGGAGATTG
64798	BSND	TCAGTTTCCCTATCTGCA
64799	MRE11A	TGCTTCTTATAAGACTAAATG
64800	NEU3	TTCTCATCTTCTCATCCCTAGGACAA
64801	SERPINB2	GAGATGTTTTCTACATATTTCTGCTCT
64802	GARP	CTGCTCTCTCCTCTCTC
64803	PTGIS	TAAACTAGCTAAAACCAAAGG
64804	ELK1	GCCCAGGCCTTGGGACCTGGGGG
64805	HPS4	CTCCAGGCTGACACCAGCAG
64806	TNFRSF1B	TCAGACTGGCTGGCTGCAGTGA
64807	RAD1	AGGCTGAGGCAGGAAAATTGCT
64808	MAPRE3	ATGGAAATGACCTCCTGGCACCAG
64809	CBR1	AATTGAGCAACCTACGCACTC
64810	ZNF267	AAATTATTTTAAACTGTGCTCAA
64811	FCN1	ACCCCTCCACATGCACCTG
64812	KCNQ2	GCACATGCACACAGGTGCACAGACCACACAGC
64813	GNAO1	CTAATACCCAAACCCTAAACCTCTTCA
64814	FCMD	CACCTGTAATACCAGCAGTTTG
64815	ELMO1	GCCCCTAGCTGGCATCTTGC
64816	RREB1	TGGCACAGCTGTGGCGCCTCCCA
64817	ALDH1B1	CTGTCGCCCAGGCTGGAGTGCAGT
64817	CASP8	CTGTCGCCCAGGCTGGAGTGCAGT
64817	EHD2	CTGTCGCCCAGGCTGGAGTGCAGT
64817	GRINL1A	CTGTCGCCCAGGCTGGAGTGCAGT
64817	INMT	CTGTCGCCCAGGCTGGAGTGCAGT
64817	KCNJ11	CTGTCGCCCAGGCTGGAGTGCAGT
64817	LYZ	CTGTCGCCCAGGCTGGAGTGCAGT
64817	NCOA6	CTGTCGCCCAGGCTGGAGTGCAGT
64817	ORC1L	CTGTCGCCCAGGCTGGAGTGCAGT
64817	PAICS	CTGTCGCCCAGGCTGGAGTGCAGT
64817	PCDHB9	CTGTCGCCCAGGCTGGAGTGCAGT
64817	PIGR	CTGTCGCCCAGGCTGGAGTGCAGT
64817	SERPINB9	CTGTCGCCCAGGCTGGAGTGCAGT
64817	SLC13A1	CTGTCGCCCAGGCTGGAGTGCAGT
64817	SMAC	CTGTCGCCCAGGCTGGAGTGCAGT
64817	TAPBP	CTGTCGCCCAGGCTGGAGTGCAGT
64817	VIPR2	CTGTCGCCCAGGCTGGAGTGCAGT
64818	PPID	CTGTCACCCAGGCTGGAGTGCGGT
64819	COL4A4	CTTTCTCCTTCCCAAAAAGCTT
64820	PKD2L1	AAACCCCCACCTTCCAGTTCCCTCA
64821	P53AIP1	AAGCTTGTGGGCTCTGAGGAGGG
64822	SLC2A1	CTGGGCTGCCGGGTTCTAGTCTCC
64823	C5R1	CCACAGGGATCCCCAGGATGCCCACT
64824	CD74	TGTCCTCTCCCCTCCAGCCTTTGGCC
64825	GRIA3	GCGAATTCTTTTTCTTTTTCTAT
64826	TRPM6	AGTCAGCTGGGAATATTGTT
64827	GPRC5B	TGCCTCCCTGGCTGTGTCTTTCTTGAG

64828	MEF2B	CTCAAACAGGCCATCAGCATCCGG
64829	CD59	CACACTCACAGATGTTTGAGGCT
64830	GABPB1	GACTGATGCTGGAATTACTCCTG
64831	IL21R	GTCGCCCAGGCTGGAATGCAG
64832	GYPC	CTCCCCCATCTCCATCAGGAAAAATA
64833	ARHGDIA	CCCACCCCACCTGGGCCCAGCCA
64834	PCDH11X	GTTCAGTGTTTTGAAAATATTCA
64835	BRMS1	CTGTGCGGGAACTCTGAGT
64836	HIVEP2	GAAGGTGGGAAGAGCATTTGTA
64837	TBX1	CTGCACAGCTGGATGGTGGAAGCAGTT
64838	CRTL1	CGAACTCCTGGATTTCAGGACAAG
64839	AMBP	CCTCTTGGTACTGCTGACCCCAGCCAGGCT
64840	HEM1	TGCCAGTGCCATTTTGATATCAATCTC
64841	B7H2	CCGCGCCCCGAGGTCTCCGCGGCC
64842	KAL1	CCAAACTCCGCCCCAAAAAG
64843	TGFB1	CCTGTAATCCTAGCACTTTTGG
64844	KCND2	CATGAACATTGGCTATGATG
64845	PFKFB3	GCCTCAAACCCTGGGGTAGG
64846	LPIN2	GCCAGAGAAGAAAAAGAA
64847	CLNS1A	GCCTCTTCCACTCTGGAGTGAAGT
64848	CENTD1	GCTGTTTCCCTTTCTATTCTG
64849	CASP2	GCACCTTGCTGCAGTGTCCAG
64850	LPL	AGAAAGCTCTGCATGTGTGT
64851	ICAM1	TCACATGACTAAGCCAAGAGGAA
64852	EGFL6	GCTGAGGAGAGAGGAGGCGGCGGC
64853	OAS2	GGCTCCACCCTCTTTAGCTGTTAAT
64854	PPP2R1B	GCCTGGAACAGTGTCTGGTGCACATA
64855	PRKAR1A	TCTGTACTTTGTGTTTAGCTACC
64856	RAB5A	TATGTTAGTAACAATCTTGCAGCCT
64857	ALEX1	TCTCTGGGCCAGAGCGAGCCTGTT
64858	GPC1	CACTGCTGAGGAGTCTGAGGAC
64859	IL26	GTGGGGGGTGGAGGGGGAATGACAGA
64860	TFAP2C	AAGAGTTTGTTACCTACCTTA
64861	MUC4	TGCTTTTGGGAGACTGGAAA
64862	DHFR	GCCTTTGAGAAATGAATGA
64863	IL24	CACTGGTTTGTTCCCTGTGTCATTTCA
64864	CHAC	AACTGTGAAGAGAATGATGCAGGA
64865	CASP3	CTCCAGGCCTCAGCAGGTGCG
64866	ANXA11	ACGGCTGCTGCGCCCGCGGCTCCCC
64867	DIO3	GGGAGAGAGAAAAAGCTGAGA
64868	NOX1	TGCCTCTCAAGCCTTGACTCCCTGG
64869	SCNN1A	ATCCCTTAGAACCCTGCTCAGA
64870	TR2	CCTGCTGCTGTTTAGTTCTCCTT
64871	WHSC1	AGAACATTCAGCAGCAGGTGCTTTT
64872	GARP	TCTCCTCCTTCTCTGCCTGTTTCCCT
64873	HSPA5	GGGTGGATCACAAGGTCAAGAGATA
64874	ZNF151	CACAGGCAAACTGTCAGAAAAGA
64875	PXF	GGAGTAGGGGTATAGCTTGGG
64876	STC1	GCACATCTCCAGAAAAATGAA
64877	IL6R	TCCAGCCAAAGCCTCCTCCAGCC

64878	GJB3	GTCTAGGGCAGGAGTCCAGCGGAGA
64879	ADCY6	GTGGACTCTGTGCTCACTGGGT
64880	EIF4EBP2	TTCATCTTCCCATTCTTTTACTTA
64881	PITX1	ACCTGCGCAGCCCCCTCCTCC
64882	CANX	GGTCCCCGGGAGGCTAGAGATCATGGA
64883	UCP2	CTCTAGCCGGGCCATGCTTTCCT
64884	PCSK1	AATAAGAAAGTTTCACCCAATAAAATA
64885	SCNN1G	GGAGGGGGAGCATCCCACCCA
64886	DACH	CCTGGCATAGAGTCACCTGTTA
64887	LZTS1	ACCTCTTTTTCCTCCTGGACACA
64888	ADD2	CCCTTCAGGATTAATCCTCTTGC
64889	DES	TCCTCACCCCTGTCCTCACTGCTC
64890	PPP2R2B	ACCCGGAGGCAGCGGAGGCAGG
64891	LTBR	GGGCCTCCTGCCTTCCTCCC
64892	PPID	GGTCTTGAACTCCTGACCTTGTGATCC
64893	NDST1	TGAGCCAGACCTGCAGAGTGGGAAGC
64894	ACRC	GGGATCTACCTTGGGTCTTACTTGA
64895	SIRT3	CTGCTTTCTGTGCCTAGTTGAACGGCA
64896	TNFSF4	AGATGATTTGTAACTTCTCT
64897	MADD	GTCCACCTTCTCCCTCTCC
64898	CDK2AP1	CAGTTCATCTCCCCTGTTCAG
64899	SLA	CATGTCGGGCGATGCTTGGAA
64900	DCTN1	TTTTCTCTCTGTCTTTGGCC
64901	STAU2	TCAGCACTCCTTTATGGA
64902	CD244	GGGAATTGGCACAGTGGATGACGGCA
64903	CML66	ATGGGAAAGTAGATCTAAATTT
64904	KCNG1	CATTGCCATCCACTGCAGACGCCT
64905	ORC2L	GTTTTGTTTGCTATTCTGTGTGTC
64906	VASP	TGCTGATTGGCTGGGGAGGCCCCCGCCCTTT
64907	CDH17	AGCTTCCTAAGTAGCTGGGTTT
64908	SNX6	CATGGAGCAGCGCACGCCCAG
64909	SYNGR1	GTGAGGTGGCAGGAGCAGC
64910	EIF2C1	AAACTAGCCAAAAGGCA
64911	ADAMTS5	CCCAACAACATTAAAAAATACTCG
64912	VIPR1	ATCTTAGTGGTTCCCCACCG
64913	DRPLA	TGCCCAGGCAGAGGAGAATGGGGTCT
64914	TADA2L	CTGTAATCCCAGGAGAATTGCTTGA
64915	SERPINB9	CTGCAACCTCCTCCTCCTGGAT
64916	LY6E	GGGGGTTGGGGTTTCTGCCA
64917	CLECSF5	CTCTCCTCAGTCTGAACTAAGGCT
64918	ZNF180	GCTGGGATTTCTTCCTTTTTATTCATTCTTT
64919	GCNT2	CCCAGTATTATCTTACTTGCAAA
64920	YWHAZ	CCATGTATATCTGTGGAATACTCA
64921	RBM10	GGCTGGGAAGTGAAACGGAGCCAG
64922	DHFR	ACCAGCCTGGCCACCTTAGTGA
64923	HPCA	CCCCTTCTTGCAGGTCTCAGCT
64924	CTSK	TCCTACTTTGCTTCTCTCCA
64925	GABRP	AAAAACAATGATAAAGATGTG
64926	ABCD3	ACTGTAACCTGATTCATCCTGGG
64927	PTMA	TCCAGTAACTTTTTTGT

64928	TNFSF10	CCGGGAGGCAGAGGTTGCAGTGTGGTGA
64929	DAZ	GCCCACTGGGGTCTATGATTT
64930	DLG3	ATGGAAAGACAGACTCTGGACAGCTGC
64931	MYL2	CCATGTGGCTGCCCCATTTATCCACCTC
64932	DMXL1	GTTAAAGGTGTTTTGTTTTCT
64933	B3GALT5	GTCACTGATTAGTTCCCACTTGGT
64934	SCN4A	CTGCTTCCCAGTCCTGCCTGAACAGCC
64935	DSC1	GAATCCAGGAGGCGGAGGTTGC
64936	EEF1A1	GGGAAAGGAAAAGACTCATATCA
64937	BMP1	CCACTTCTTCTCAGAAAAGA
64938	YWHAZ	TCATCCTATTTACTGCAGCAAATCTC
64939	ITPKB	GGTCCCTGGCTGGGAGCAGGGC
64940	MKI67	GCGCGGCGCCGGCTCCTCCTGC
64941	WSX1	ATGTGGTCAGAAGTGACATA
64942	ST5	CAGGCAGCAAGGGCTCTGGGTTTGCAG
64943	ADCY7	CAGTAACAACAGAAACCCCA
64944	CARD10	TCTGTTCTCACACCTGTGCGCAGGTTT
64945	GAA	GCAGCAGCTGTGTGCGGGCCT
64946	ERBB4	CTGAAAGAGAAAGATAGGAGGA
64947	TCF12	CTCATAAGGACTTGGACAACTCA
64948	HDAC4	TGTGACCCAGCCCTCACCGTCC
64949	HK2	GGGAGGGTGGAGGGGTGACAGTGG
64950	SYN3	AGTCAGACCTCAGCAATATAGGAGGCA
64951	AGPAT2	ACGGCAGGGCATGACCTGGGGA
64952	ALDH1B1	TGAAGTACTGACACATGCTGTG
64953	PGAM1	TAGAATCCCTTCCTGCCTTGT
64954	ECHS1	GAATGGGGCTGCTCTGAGGGAA
64955	PMS2	CCTGGGTGTCATTTCTCAGAACTGCCGTAGT
64956	CREBL2	ATCTTATTTTTATTTACTTGA
64957	IL1A	CCCATAGCCAGGAAACTCTGC
64958	TSC1	ATGGACGTGTCTGCACAGGGTCCTCAG
64959	TNS	CTCCTGGGCCTGCTGCCTGC
64960	WISP1	GGACTACACCCAAGCCTGATC
64961	XPR1	TATACTTCCTCATTCATA
64962	COL19A1	AAGGCTGTATCCACATGGTACAAG
64963	USP6	TGCCAAACACTGTTGTGCCAT
64964	MGMT	GGTACTTGGAAAAATGGACAAG
64965	SVIL	TTTGACATCCAAAAAGCCTT
64966	ADRA1A	ACGAAAACCACCATGGGAAACA
64967	ATM	ATTGCCCAGGGTGGTCTCAAA
64968	IER3	AGGTAGAGGGGTGGGGGTTGGTG
64969	EGLN1	AGCTAGCAATTCCTTTTTCT
64970	SLC6A8	TACCCCTCTGCCCCTAGCCA
64971	GJB3	GACTCATAACTGCAACTTCACAGTATAGTA
64972	ARCN1	TCTCACTTTGTAACCCAGGCTGG
64973	ATP6V1G2	GTGGGAGCCATCTGGTACTTTGACAGC
64974	IMPA1	TCAGCATTCTGTACTTTTGCTTC
64975	PCDHB4	TTGTCATAACCTTTCAATAAATAAAAC
64976	GBE1	CACACAGCTTATAACATGTAT
64977	PAICS	ACCTACGATCACAGCACTTCGG

64978	MUC3B	CTGCAAAACGGGTACAGCATT
64979	VAMP1	TCTTCTGTGTGTCTCTGCTAT
64980	GGPS1	AGCCATTCTTGATTGGACCTCATAG
64981	CROT	GTTTGAGACCAGCCTGGGCAA
64981	DBT	GTTTGAGACCAGCCTGGGCAA
64981	ICA1	GTTTGAGACCAGCCTGGGCAA
64981	PDE4C	GTTTGAGACCAGCCTGGGCAA
64981	TRPM1	GTTTGAGACCAGCCTGGGCAA
64981	WSX1	GTTTGAGACCAGCCTGGGCAA
64982	XRCC2	AAATCCTGGAAGACAACCCAGGCA
64983	IL1F5	CTTCCCTTTAATCCTGCCA
64984	CASK	GCCTTGTGTCAGCAGGTC
64985	CD5L	GGGCTTATGCCTTACTCTCAG
64986	HUNK	TGGGCAGCCGCTATTGTCTAC
64987	FGF7	ACACAAAAATCAGATTTAGTA
64988	CLN2	CTTGTCTGCCTTCCTTTCCA
64989	PSCD4	GGTTGGGCTTGGCCCTCTCTG
64990	GCNT2	GAACCCAGGAGGTGGAGGTTAC
64991	PPP2CA	ATTATATGATTTGTCTGCACTCAGTTT
64992	TRPM2	GCAGAAGCTCTCCCTCCCTACTCCCT
64993	PCDHB13	AGTTGAATGCAGATGCCTGTGCCCA
64994	RCN2	GAACTGACAGGACAATGTTTTTAGGTT
64995	IL20RA	AGAACAGATGTATTACACTAA
64996	DRG2	TGGCTGCTGTCATGGCACCTC
64997	CLTCL1	GCCTCTGCTCCCAACTTCGCCAG
64998	SLC6A12	ATCTCCAGCTCCTGCCCTAGTTCCGCA
64999	PPP2R2C	CAGCTGCAGAGGTGGCAGTGTGTGGA
65000	TAL1	ACCAGTAGGAGATCAGAAAAATGGA
65001	TAL1	TCTGTCACTCAGGCTGGAGTACAGTG
65002	KCNJ10	GGGGAGATTTCAGAAGA
65003	FACL5	ACACAACAGGCTTATTTTC
65004	KCNK3	GGCGAGCTGGGAGGCAGGAG
65005	PPP1R11	TCTCACTGCCAAACTGCCTGTCCT
65006	MAGEB4	CCTGCTGCTTTCTCTGTTCCTG
65007	OPA1	AACCCTGTGTCTTGTGTCTGTAGTTCA
65008	AP2M1	CTCCTCCCTCCTGCTTTGC
65009	VDR	ACCCCCACTCTCATTCCCCAG
65010	GAS	TCCTAGAACCAAGCTTCAGAGCCTAG
65011	LTA	AGGCAGGGAAAGGCTCTG
65012	PVR	CCACTTTCTGCCAGCATCTGCAGCCA
65013	RUNX3	TTACTGTGAGCCTGTCAGTAGTGG
65014	RELN	TGATCTGTTGTAATATCAG
65015	SLC16A2	CACTGGGTGGAGGGGCAGGGAG
65016	DEC1	GAAAGACAAGGAGAAACCTGA
65017	FZD4	TGAACAAACAAAAGTACTGTA
65018	TRPV1	TCTCTACTGGGACATGTTAGGCC
65019	SHFM3	CTTGCCTGGAGGGTGCAGTG
65020	TP53	GCATTTTCACCCCACCCTTCCCCTCC
65021	LTB4R	AAGTAGCTGAGACTACAGGCACATGCC
65022	PLN	CTATCAGAATCTACATTCTAAAACAGAAA

65023	TNFSF4	TTTGTGGGAAAAGAATTGAATGAAA
65024	SLC22A1LS	CTCAGCTTAAGCGTGGCATGG
65025	SULT2A1	TGTACATGTACCTGACTGGGG
65026	CTF1	TCTGTCTGTCTGCTCTTAGCTGTC
65027	NRXN2	ACTGCCAGCTGCCCCTCCTGGG
65028	MBD4	TGCCACTGCACTCCAGTCTGGATGACA
65029	WSX1	ACTGCATTTGGGCACCATCTCA
65030	AGXT	CCTCCCTGGCCCCAGGCAGC
65031	CX3CR1	TTTAGCAAATACATATTTTATA
65032	RAB11A	GATCAAATCAAACTAAGA
65033	EIF4EBP1	CCATGTCCGGGGGGCAGCAGCTGCA
65034	GA	CTCTCTGAAACTCAGGCTGA
65035	GNE	CCCCAGGCTGGAGTGCAGTG
65036	CLDN16	TCTCCCTGGCTTTTGGTTCACT
65037	PRKACB	CCACTTCTTTTCATCTGTACCACACC
65038	RAB18	CTCTTTAACTGCTATTTTAGGGACC
65039	FLRT2	GAACACACTCGTGTGTGCACAT
65040	CYP4F3	AAAGTGCTGGGATTACAGGCCTGGCCC
65041	JPH2	GGGAAGAGGGGTTAAGGTGCAGTGA
65042	SCNN1G	CTCATGGAAATGATATGA
65043	GPR27	GCGGCTCGGGGAGCCCAGGAGG
65044	UBE2G2	TGTAAGCAATAACAGATCTGCCA
65045	DLC1	TGACATGTCTGTAGCTATCAGAAAGA
65046	MOCS1	GGCTTACACCTGCCCTTCTCACC
65047	DVL3	TCCCTGCCTGTGCCTAGATCA
65048	EXTL1	CACTTCCTGAGCTGGTGCAGCGGCAGA
65049	GBF1	AAAAAGAGAATGTTGATAGCCC
65050	FLT3	GAGAAGCTAATATGATTTTTTAAGTCT
65051	MS4A7	TAATTTCTCTTGAAAATAATTTCCTCAA
65052	SRR	TTCCTAGTATTGTCAACTCTTAG
65053	FKBP6	GGCAGCCACCTTCCAGGAGCAGGGG
65054	CDK6	AACACCCTTGGTGGCTTATGGGT
65055	ITGA2	TTCCACACCCCATCTTGCT
65056	INMT	GTGTAAGTTCATACTTGGT
65057	HSF4	AGACCCCGCGCCTCTGAAGGGG
65058	CEP1	GAAAGAGAGGAAACATCCTGTGA
65059	AP2B1	GACTGAGACCTAACTCACTGGA
65060	NCOA6	CAGGGTCTCGCTCTGTCACCG
65061	KCNG1	TCCACTGCAGACGCCTGGAGAGGGACAGGC
65062	DBCCR1	AGCGAGAGAGCCGGGAGGCAGAGGGA
65063	PML	AGGCAGAGCCATCTGCCA
65064	B3GNT3	TATTCTGGCTGGCGAACTCCT
65065	ASB2	TAGCCCCTCAGACTCTTCTTA
65066	CLDN14	GCTGCCCGGCTGGCCTAGGCAG
65067	SYNGR2	GCAGAGCCACACCCCAAGTGCCTG
65068	HAO2	GTCTAAACACTTCTTTCCCT
65069	MICB	GGGATTACAAGAATGAGCCACC
65070	NRXN2	CCTCTCCCTGGCTGCCTCAGGCT
65071	USH2A	CTTTGCTTAGCTAATCATGCC
65072	TEM1	CTTCCTGGCCCAGCGCTCGTGA

65073	GPRK7	TAATGTTGAAGCATTTTA
65074	HARS	CCGGGATGGCAGAGCGTGCGGCGCTGGA
65075	MAPK10	CATCCAGCATGTGTGTGTCTCT
65076	KLHL3	CTCCATCTACAAAGTTGCA
65077	MYD88	TTCCTATATCCTGGAATATATCTTGCAT
65078	DSC1	GGAGGCGGAGGTTGCAGTGA
65078	EGFL4	GGAGGCGGAGGTTGCAGTGA
65078	IAPP	GGAGGCGGAGGTTGCAGTGA
65078	LUZP1	GGAGGCGGAGGTTGCAGTGA
65078	NPHS1	GGAGGCGGAGGTTGCAGTGA
65078	NT5C2	GGAGGCGGAGGTTGCAGTGA
65078	SLC31A1	GGAGGCGGAGGTTGCAGTGA
65078	SUV39H2	GGAGGCGGAGGTTGCAGTGA
65079	PAP	CAGTGTGAGGACTCACCCTGGA
65080	SLC22A11	CCCTTCACCCCCTCCGCAGAGCT
65081	CNR1	TGTCCCGAGGACCAGGGGA
65082	DLEC1	AGGGCACTGTGTTTGCCTTGCA
65083	ADORA2A	CCTGCTGCTAACCTGGCACCAGAGCCT
65084	MTF1	TTTTCTTCCTCAGAGCAGAAGGGC
65085	SLC9A6	AGAACAATTTCTCATTTCATATTTGG
65086	CSNK1D	CAGACTCCAAGAGCTGCCACCGC
65087	MECP2	GCTGGGGAGAATGGGGCTGGGCCC
65088	SURF5	TGCCCTGCCCTGTTCCGCATGA
65089	KIF3B	CACTTGAACCTGGGAGGCGGA
65090	CYP4F3	TGAGCATCTTTCCATGATATT
65091	ADSL	TGTCTGTAAGTTGGAAGAGAATTAAACGA
65092	ORC4L	ATGTGGTACTCATACCATCCACA
65093	GPR4	AGTTTCTAGATAAACAGCGATCTCCA
65094	ITPA	CAGCCGGAAGTTTTCTGTCACTGG
65095	CDKN1A	TGCTCCAGGTGGCTCTGAGG
65096	IL26	GGGGTGGAGGGGGAATGACAGA
65097	HNF4A	GAATAGCTTCTCCAAAGGCTC
65098	PPP1R12B	AGAGTTTCACAGAAACAAAGCTTT
65099	ERBB4	TGGCTTGAATTCCATGGAATT
65100	WHSC1	GCCAGGTGCTTTAGCAGCGTGGCT
65101	AXUD1	CCGGCCCCCCACACCCACAGC
65102	ASB1	CCTGCTCCTGGGGTAACACATGCGCTTGT
65103	IL21R	ACAAGTGTGCACAGTAAACGTGTTTG
65104	KCNJ11	GGCTCACTGCAACCTCCGCCTCTCGGGTTC
65105	DMPK	AGGTTCTTCTTGAAATTCA
65106	NEDD4L	TGAGTTCCTGCCTTTCCCACCA
65107	TNFSF9	CCTGCTGCTGACCTCCCCTTGAG
65108	ADRB3	AGAACAGATCCCTTCTTTTCC
65109	CTH	CTCGCCTGATCCTTCTGTCTCT
65110	HYAL1	ACTGAGTGCCTACTCTTTGCCA
65111	GRM1	GGAGTGAGCTGGTGGAGCCAG
65112	ID1	GGATCTGAGGGAGAACAAGACCGATCGGC
65113	MASP1	CCTTCATGCCTGGGGTTTCTCTCCCA
65114	ESRRG	AGTTTCTTTCTACTTTCTCCATCA
65115	RAB27A	TCTCTGTCTTTACCAGCAGGCTCTGTA

65116	TAT	GGAAGGCTTCGCTAGTGATGGA
65117	SRC	AATTCCTGGCCCTGTTCTCC
65118	NPY2R	TGAATAAAATTGTTATTTCAA
65119	DIO3	GGAGAGGGCGAGGGGTCCCAGGGGGCT
65120	BCL11B	TTCCGAATGCGAGGGCCTGGGA
65121	CD5L	CTCCTGAGCCCTGATTATCCTCAT
65122	ACPT	TGTACTCAGCTCATGACAGCACCCTGCTG
65123	STAU	CTCCCAGGTCAGCGATTTTCC
65124	SALL2	TAGTGTGCAGAGGTGTACCAGGGA
65125	DNASE1	TGGAGGTGATGCTGAA
65126	FGF5	CCCAAGTAGCTGGGATTACAGACTCAT
65127	LIF	TAGGGAGGGAGCTAGAAGAAGGTGCC
65128	SPS2	TATTGTTGATAAATCTAAATT
65129	ALPP	TTGGCTGCTCTCGGACTCCC
65130	SRRM2	GCGGCCCAGGCGGGGTGCGAG
65131	DUSP5	AGTCATACTTGAACTTGTCTCATTCCA
65132	ADD2	AGGGATAGAGTAGGACCCTGGA
65133	HIP1	AAAATTCAAAAACAAAATTAGCCGG
65134	SLC6A6	GGCAGGAGCTGGGGTCTCAGGGCTCA
65135	RPN1	GCTGACATCTGTAAAAGGCCTT
65136	JPH2	GGGGTGAGGGCCAAAGGCTATGGTTTC
65137	CLOCK	TTGGGATTTGTTGAAATCTTT
65138	WBP2	GGGCTGTGCTGGGGCTTGGGGA
65139	STS	CCAGTGCAAGCAGATGACAAAAAGG
65140	AKR1B1	AGTTTTGACTGCTTGGAACTGGAA
65141	RAB2L	AGGCTCTGAGCCCCAGGGCAGAGGGG
65142	HOXA10	AGATAAATAATGTAGTTTTGTT
65143	ADAM2	TCAGTAGGGGCATGGTATAAGGAAAT
65144	CPO	CATGCCACTGGTCGGCACTTTGCCAC
65145	CHST6	CGGGAGGAGAGTGCATGGTGCA
65146	NDP	CTAAGCTGTGCAGCAGATAC
65147	REG1A	CTACAGCTACCTGGCCTGAGAA
65148	DDX11	GCATCTCCGTCCTGCCCACCTTCTTAA
65149	CAST	ATTGCAAATATCCACTTAGA
65150	MAK	CATGCTGCTGACCACTGACTC
65151	SCML2	GCCCAGGCTGGAGTGCAATAGCTC
65152	AVPR1A	GAGCAGGGAGAGGGGCCAGC
65153	SORD	TGCTACTTGTGGACCTCACCAGAG
65154	WHSC1L1	TTGTTTTTAAATAAAGCATCATT
65155	TLE1	GCTTCTGCTTGGCTTTCCGGCT
65156	TSNAX	ACATTTCCAGTTGGTTTTGTAA
65157	SUPT6H	AGCCATTTTGAACTTCTGCCCTCA
65158	HIP1	AGGCTGAGACAGGAGAATCACC
65159	CEP2	TCACCCAGAGGGGTGCCTTG
65160	PRKAG1	TCTGGGAGCTAGGGAAGGTATG
65161	NCOA6	TAGATCTCCTAATGATGTATT
65162	FBXL11	GACCCCTTCAGAGCAGGGATTGTGCCGGGA
65163	TAPBP	AGCCTCCGGAGTAGCTGGGATT
65163	TNFRSF10B	AGCCTCCGGAGTAGCTGGGATT
65164	C1orf6	TGAAGGAGGAGCAGGTGA

65165	MPZ	TCAGGGTTTATTTAGGTTATTATTTTT
65166	LHX1	TTCACTCCTCCGCGGGCTCTG
65167	ID4	GTTTTCATTCGTCATTCCA
65168	DGCR2	ACTGAGCTGCCTCCTGTCTCTCCA
65169	MHC2TA	GCCCAGGCTGGCGTGCAGTGGT
65170	IVD	CTCAGCAGGAAGCATATTGTCTG
65171	SPAP1	ATGACAGCTGGAGTTCTCTG
65172	TFEB	CAAGAAGTTTGAGGGACGCGCG
65173	MMP16	TTCAAACCAGAGGGTTGCTG
65174	APAF1	TTCCTTGAGCCCTGGAGTTTGAG
65175	CLCA3	CTACCTCAGATTTTCAAGAAGGTGAA
65176	USP14	TGGATGTGGTGGTGCACACCTGT
65177	EPM2A	GAGCCCAAATGACCAAATCCAT
65178	GPR68	CCCTTGGTAGAGCTTGAACCACCTT
65179	HSF2BP	TCCCTTCTCCCCAGATCCCTCATTTGATACTC
65180	LAPTM5	CCTGTGAGCTGCTCACAACTGGGTC
65181	SELE	GTCAAAACAGAGATGTGATAA
65182	GLUL	TGTGTAACTGCCCAAAGCAG
65183	C18orf1	ATCCAAATCCCTGCCTTCCTC
65184	BLAME	CCTGGCTCTTCTCTGGGCAA
65185	MTR	TGGTGCCACCACTCAAGCAAC
65186	FMN2	TCAGCTGACCTGAGAGTGGGAGGGA
65187	BRCA1	GTGCAGCATTTGAAAACCCCA
65188	SLC4A4	TCACTTGCCAAATTCTGGCT
65189	IRAK4	ATTACAGGGTTAGCAAAAAGA
65190	LASS1	GTCCCTGCGGCCACCACCTCCTC
65191	NDUFS1	GGTGTGGTGGCTTACACCTGTAA
65192	TBL1X	ATCAGACATAGAGAGCTTTG
65193	POU2AF1	GGAACTGGCTCACCCACCTGCTA
65194	PIK3CG	TGCCTGTAGTCCCAGGTACTCAGGAGG
65195	FOXO1A	TTGTAATACTGTGATGGGCCTC
65196	SLC12A7	CAGTAACTACAGCCATTTAC
65197	COL1A1	GCTGGGCGGGAGAGACTGTTCTGT
65198	GAB2	TTAGGACCTGGGACCACAA
65199	HRH1	AGGTACCCAAGGTCACATAGCTAGTT
65200	F8	GTGCAAATGGTTTATAGCCCTGT
65201	Rgr	TTCAAAACACCTCATTTGTGCATC
65202	FETUB	TTCTTGGTCTCAGCATGTTG
65203	CHRNA10	GACTAAGTCACAGGGATCTGCT
65204	TNS	ACCACTCTTGAACCCAGAAGGAGG
65205	KAL1	ACCTCTACTGAATATTCTAG
65206	CYP1A2	CACCTCGCAGGTTCAAGCAATC
65207	RBM8A	TTTTTGGGGGGAACTAGGAGAGCAGG
65208	CLASP2	GAGGCTAGTCCATCTAGGC
65209	TCF2	CCGAGTACCTGCTCCATCATGCT
65210	NBEA	ACATCTGGAAGACAAGTTCA
65211	LIMD1	GGTACATCGCTTGCACCTGTTTTTA
65212	PDE7A	GTTATTTTTCTTGAAGAGGCAGC
65213	F2R	GGAGGCGGACCTTGTAGTGAG
65214	ASPA	ACAAATTCTGCTAGTCTGTAAGC

65215	ACT	ACTCAAACTTATGTCTCAGA
65216	MPL	TCTACTGCTGCTGACATAAAACC
65217	SORCS1	TAGGACCTTGGCCAGTTGTTCTCAA
65218	HNF4A	TCATCTCATTTAATCCTCCCTTC
65219	CTNNA1	TAACTGCAGTGTTTCCGCCTTG
65220	CDC25C	AAAAGACACTGCAGAAACCCT
65221	DLGAP2	CAGAAAACACGAGGCTCCTT
65222	RFX2	CGTGTCGTCCAAACAGCAGTG
65223	ANXA11	GAGTCCCCGTGGCCAGGGATTATT
65224	IL10RA	CAGAGTCATCTCAGCCCTGCCTTTC
65225	ENC1	TCTGTAGTTTATGATGCAAATCTGCCA
65226	MIR16	GTGAGGCTTCAGTGTACAGCAACCAA
65227	BTK	GACTGAGCACACAGGTGAACTCCA
65228	GNG5	CAGTCCTTAACATCTACCTC
65229	PAX9	CAGACTTCCTTTTACTTCTTCCTT
65230	ARNT2	CATCAGTGTCCTTCTAGCTTTA
65231	SH3BGR	AGGCATGGAAGTTCTCTGTGAT
65232	AGR2	CTTTGCAGTATCTGTTGCTTG
65233	RAD17	AACTATTCAACAGTTTAGGATGCA
65234	NUP98	ACAGAGGTTCCCTGCCTTGT
65235	PAPSS1	GTCTGCCTTATGAGTTCTGTTTTGA
65236	FADD	GAAGGTAGCCCAGCACTGTGA
65237	FBXL11	CAGGCACCATCTCCTTGTTCCCCCTCTCTCTT
65238	EPHA3	AATGGACATGGTGGCTTTGTT
65239	CASP10	ACTGCTACTACACTTTGCTCCT
65240	DMD	TCTGTGCCTGCTTTATCTGTGCTTGGCTA
65241	MYL2	AGAGTGGTCCCTGCCCTCAT
65242	PDE4A	CAGGCAAGGGGGTTGCAGTG
65243	ECEL1	CCAGGTGGCCCAGGTCTGCACCGCGGC
65244	KCNJ11	AGCTTCCTGAGTAGCTGGGATT
65245	MEFV	AGCCTCCTGAGCAGCTGGGATT
65246	BMP8	CCCAGGATGACAATGCACAG
65247	RHO	TTGTTTTTCCCTCCCTGGGCC
65248	STAT3	AGGCCGAGGCGGATCATAAGGTCA
65249	SCAMP1	TACTCCAAGCTGCAGGATTT
65250	LIFR	AGCACAGATTTTAAAACTTCT
65251	CDC6	CATTCGGGCCTGAAAACAAATA
65252	EIF2C1	CCTCCCTCCTCTGCACTGTCCTG
65253	TNP1	GAAATGAGGAATGTATATGTTGGCTGT
65254	NYX	CAGGACGGTAAGCAACATTTGAG
65255	TGFBI	GCACCACGGCAGCTCTCCGCCA
65256	EXT2	CTGGAAGGAAACTTCACGGACAGGAA
65257	GLO1	TTAAGGCGGCACAGGGCCGAG
65258	LILRB1	CCATTGGACCCCACCCAGCCTGGATCTACCC
65259	CCND3	ACTCTAGCTGGGGGTGGGCCAGG
65260	HMG20A	CTTGCTCTTCTGTATTTTCCTATTTCC
65261	NFIA	TCCGCAGATAGGAGTAGTCTTTA
65262	TEAD3	ATCTCCTCTCCACACCTGCCT
65263	VIL2	TGGAGCTGGACCTGCCTGCTGC
65264	SPTLC1	CCTGGGCAACAGAGCAAGACTGTCT

65265	DNA2L	TTTCTAAGCTTTCTG
65266	CLECSF5	CAGTTCTGGAGAAAGCCTGATACC
65267	FKBP2	CTGGCTGCTGTGGCCTCCCCT
65268	CTSW	CAGCCCCACCCCCAGGTTTTTGCCCAT
65269	MCP	AGATGCATCCTTTCATAAGAAGTGA
65270	HTR1D	GACTACCCTGTACCCTTCCTTCTTCCC
65271	EIF4E	TTCAGTTTTTCATTTGTTTTGCTT
65272	EIF4E	TTTATAGAAGGAATTTGTACTT
65273	DMRT2	ACCTTCAGGGTCATCAGGCTGT
65274	PRIM2A	AGCTCAAGTGATCCTCCTACCTCA
65275	STAT4	AGCATTTCTAGAATAGAGTGGGTG
65276	MAP3K9	GGGAGTAGAGTCTCAAGGTCATTC
65277	CDC2L2	AAAGCACTGGGATTACAGGCGT
65278	CBFB	GCTGGCTTCTGTTTTATTCAG
65279	CHST6	AATGGCTCTGGGCTGGAACTGTCTT
65280	NKTR	CAGGCAATAACTGCCCATCTCA
65281	PACE4	CAGGTCACAAGAGTCTGGGGTC
65282	PPP1R8	AAGAGGAAGAACTCACGGGTGACATTC
65283	JAM3	AGCTCACTGTTGCCTCGCTGTCT
65284	MUC1	CCATTTCACCACCACCATGACAC
65285	MUC3B	CATTGCCTCTCTCGGATCCTCCAA
65286	ADAM30	TGAGGCTGAGTAGGGAACAGA
65287	C14orf1	CCTCACTGCTGCCTCAACTTCCT
65288	PPP1R12B	TACTACCTCTGTCTGTTAATTCTTTCCTAAC
65289	C7	GTCTCCAACTCCTGACCTCAGG
65290	MGAT4B	TCTGCCTGGCGTCGGGCTTGGGC
65291	LPL	AATGTTCTCTGGGTAGGTGT
65292	CDKN1B	TTGATGAAGCAAGGAAGATATACATGA
65293	IL1R1	CTCCATTTCTGGCTTCTAGTC
65294	WNT2	GGAATGAGAGTTCCTTCTCACTTAGA
65295	APG5L	AACCTGACCAGAAACACTTCGCTGCTG
65296	GPC1	CAGGCGCAGAGGTCCCAGCCC
65297	ARSE	TCAGGAAGGAGCCCAGGAGC
65298	ACADL	CTCTCTCTATAGAGAAGGAAATA
65299	PRX	AGGGAGGGCAGAGGGGGCTGTG
65300	DLGAP2	GGACCACCAGAGGCAGAGGCCA
65301	IL1R1	CCTTCCTCCTCCTTTGCCTAGGAG
65302	SMARCA3	AGAAAGATGAGATCGGAGAC
65303	NDUFA2	TCCTCATAAAGCTTGTGCTGT
65304	DCX	TCTGTTCTTCATCGCATTCTCAT
65305	WHSC1	CAGGCTGGAGTGCAGTAAGTGGCA
65306	CCND1	TTCCGTAGGTAGATGTGTAA
65307	HOXB6	AAGAGGAAGAGTTGAGTCTGTCTGGGA
65308	BCL7A	AACTCCTCAGACCTTAA
65309	PTPN6	CTCTCCGGAAGCCCCCAGGATGGTGAGG
65310	HDGF	TCTCCCACCCTCTTCCTACTGGTC
65311	CAMK2A	CATTGCCTCTCTCCCCTTGGCGTCTGA
65312	RBL1	TGACCAACATGGAGAAACCCCA
65312	VPS41	TGACCAACATGGAGAAACCCCA
65313	ADAM33	CCACTGCACTCCAGCCTGGGTG

65313	ADCY2	CCACTGCACTCCAGCCTGGGTG
65313	AK1	CCACTGCACTCCAGCCTGGGTG
65313	APOL1	CCACTGCACTCCAGCCTGGGTG
65313	CTSS	CCACTGCACTCCAGCCTGGGTG
65313	CYP4F3	CCACTGCACTCCAGCCTGGGTG
65313	DBT	CCACTGCACTCCAGCCTGGGTG
65313	FGFR1	CCACTGCACTCCAGCCTGGGTG
65313	GCNT2	CCACTGCACTCCAGCCTGGGTG
65313	GTF2F1	CCACTGCACTCCAGCCTGGGTG
65313	IAPP	CCACTGCACTCCAGCCTGGGTG
65313	IL6R	CCACTGCACTCCAGCCTGGGTG
65313	IRAK4	CCACTGCACTCCAGCCTGGGTG
65313	KCNE3	CCACTGCACTCCAGCCTGGGTG
65313	MDM4	CCACTGCACTCCAGCCTGGGTG
65313	OPTN	CCACTGCACTCCAGCCTGGGTG
65313	PCDH11X	CCACTGCACTCCAGCCTGGGTG
65313	PCDH11Y	CCACTGCACTCCAGCCTGGGTG
65313	PPP1R12B	CCACTGCACTCCAGCCTGGGTG
65313	SULT2A1	CCACTGCACTCCAGCCTGGGTG
65313	TBX1	CCACTGCACTCCAGCCTGGGTG
65313	TEM7	CCACTGCACTCCAGCCTGGGTG
65313	USP14	CCACTGCACTCCAGCCTGGGTG
65313	WIG1	CCACTGCACTCCAGCCTGGGTG
65314	ZIC3	TCTCAGATGGTTGTTTAACTGCGA
65315	REGL	GCTGCATCTTCTACCTCCTGATTATCA
65316	RPA2	GGCAGAGGAGACAGGAACAAGC
65317	SLC17A5	GCCTGTAATCCCAGATACTCAGG
65318	PIM2	GCGCTCCCTCCAATTTTGCAG
65319	CYP4A11	CTTCCCTTCTTCCCACCTGCCT
65320	STK6	TTTACTCAGCAGGTGTGCCTTA
65321	SLC4A1	GGAGGTGGGTGAGCGGGTGGGGTGC
65322	CASP6	CCAGGAGGTGGAGGCTGCGGTG
65323	POLI	CAAGGGAATACCATTATTTTCG
65324	CRTAP	CCTTTCTCCCCATCCGGGAAAGATGG
65325	MLC1	TCACCCAGAGACCAGTGCTCCCAACG
65326	DXYS155E	GCAACCGGGAGCCCAGCAAGG
65327	SPARC	CCTTTTCCACACGCATTAATAGTCC
65328	SCNN1G	TGCTGGATGAGCTCTGGGCAGG
65329	COL4A5	TTTCCCTAGCTATCATCTCC
65330	MEOX1	AGTCAAGGACAGCAACTCAGCTG
65331	SNAP25	GCTTAATCTAGAGCTATGCACA
65332	PXF	GCATTTCTCTAGCCTTCCTTTTCTGC
65333	GJB3	CTGTGCCTCAGTTTCCTATCT
65334	ZNF193	TCCATGAAATGTGTTTGAAA
65335	LIMD1	AGAGCCACTTGCAGACATCAC
65336	FBLN1	GGCTCTTTGAGGGCAGGGATTGTGTCT
65337	PTHR2	TATCACTGCATTTATTTTGCCT
65338	MEOX2	ACATTTTATCCTGAACAGCCA
65339	MYOG	ATGCCCCAGCTCAGGGGGCAAA
65340	SLC16A2	CCTGCGCACACAGCATTTCAG

65341	MYO1B	AGCATGGGTCAGAGTGGGAGG
65342	SLC2A5	GGGCTGCCTTGCTGTTCTTGAA
65343	EIF2AK3	CCTACTTCTTAGAATATGCCTG
65344	CAMLG	ACCTTCCTGGTTCAAGGGATT
65345	USH3A	CAGGAGTTCGAGTTACAGCCT
65346	P2RY1	CCGGCACTCCGGACAGAGCTGGGCCTG
65347	MYB	TTGATAGCCAGTCACTGCCT
65348	MAN2A2	TAATTGTCATTATTTGTAGACAATAA
65349	TNFSF10	ATCTTTCAGGACTCTACCTCA
65350	LYZ	TCAGCTCATTTTGTCTCTCTCACA
65351	NAB1	GTAAAACAACATACATCTGCC
65352	GHRHR	GCTCTCATCCATTCCTCTTACTGGGGC
65353	XT3	AGACATAAGAAACTCCATTTT
65354	EFNA1	GCATTCTCTCCCATCCTGGG
65355	RNASE4	AGATACTGATGGCTCTGCAGA
65356	NRXN1	ATACTCACATTCCCACATACAT
65357	RFC1	GATATGTGTACAAATTCTTTTTAAGATT
65358	PRKCB1	TGCTACCTCAGTGTTGTAGTT
65359	MAP3K14	CCCAGCACTGCCCCAGACTCGCTGGCA
65360	TPM1	TCTTAGCATCCTGCCTTAGAGCCA
65361	ARF3	CCTCTTCTCCTGCCTCAT
65362	AQP2	CTTGTGAGGCCCGAGGCAGA
65363	ATP8B2	GAGCAGTTCCAGGAAGTTGCCAACAC
65364	SP3	CCTTACTTGCCTCTGGAACA
65365	MEF2A	CCCAGGCTGAAGTGCAGTGG
65366	SLC1A3	ACACTTCAATGGGAGTGAACA
65367	GGCX	CGCCTGTAATCCCAGCATTTTG
65368	CPM	ATCGCTTGAACCCTAGAGGCGG
65369	EIF2B2	GTTGCTGCTGAAGCACATCCTT
65370	TP53BP2	CGCCGCCGCCTCGCAACAGGTCCGG
65371	RAD1	TGTTGCCCAGGCTGGTCTCCAA
65372	GALNT1	TAGTTTTAATTTCTCTCTACAG
65373	OPTN	CCAGGAAGTGGCAGTTGCAGTG
65374	HNF4A	ACAGCCGCCTGGAGATGACTTGAG
65375	HLA-DMB	GGGAGTTAAAGACCCTCCTGGGG
65376	ARHGAP6	GAGAGTGAGCTGGATGTGGCCGG
65377	LIFR	AGCCCAAATCATAATCAT
65378	FCAR	TGTCACCCAGGCTGAAGTGCAG
65379	KCNMB3	ATTGCAGCAGAAAGCAGTGA
65380	SLC21A9	TGGGGCTGAGTTTGAGCAAG
65381	TMC2	CGGCTAGGACTCCAGGGAGCCTCG
65382	SNX9	ACACTTCAAGAGGGAGGACGCTGGGGG
65383	BRIP1	CTAAGTTGCTGGGATTACAGGT
65384	VHL	TATGTTGAGAATAAGGCCAGG
65385	NOVA1	TCAATAAAAGCACCTGTTCTCC
65386	CXorf6	GTCCTGTAAACTTTTCTCAGTGTC
65387	TCERG1	ACCATTAAGTGATCTTTATCAATA
65388	UBE4A	GAATGTAAGATTCATTCAGTGTG
65389	CCND2	CGAGCAGGGGAGAGCGAGACCAGT
65390	MPP5	GACAGTTTTTGCATTTTTATGTA

65391	UNRIP	GTTCATTGTACACTGCCTCT
65392	DIAPH2	AAGCTGCTACAATAGAAAAATCAA
65393	MECP2	TTGCTTTTGTAATTCTTAATGAGCAATA
65394	PPP2R4	CTGCCCCCTGGGCCTGAGGC
65395	TP53	GGTCTCAAACTCCTGGGCTCAGGCGAT
65396	PRSS16	TCTGTCTCCCTGAGGCTC
65397	LTB4R	TCTGCTCCCCTCAGCCTCC
65398	DLGAP2	TGCCTGGTCCGCCATGTTCCAAAGAAG
65399	CSF1R	AACATACAAACTCTGCCTTC
65400	LPL	TCAGCTTTTAATAAAATTGA
65401	PLCB2	TTGTCCACTCCTTGAGGCAGAT
65402	MPP2	CACCTGTCTGTGCCTCTGGC
65403	PKP1	TGGGAAAGTTCACAAGA
65404	TPI1	GGCTTCTCCTTGGCTGAGAGA
65405	ATM	GACCAGCCTGGCCAGTATGGTG
65406	SOX11	GCAGACTCAATGCACTGTCG
65407	CAMK2A	TACTGTCTGCACTGTTTTCTTTGCAT
65408	GNAI3	GATGTAGTATGATAAAGTCAGCT
65409	WNT3A	CCCAGCCCCCAACCCCAAGACCAAGCT
65410	CDH13	TCAAAGCTCACACCAA
65411	SLC13A3	CTCCTTTATCAGTTAGCTGTT
65412	RENT1	GCCTGTCCCTGTCCCCGTCC
65413	PKP2	ACTGCCTGGCCAGCCTGGGGC
65414	CDYL	GTGGGTACTGATTCCAGACTCC
65415	RAD50	TAATTACTGCCTTGAAAATTTATGGTTTTG
65416	SAT	AGGGGCCTGGTCCGCAAAGGGA
65417	MLLT2	ATGAAGGACTCCACTGTGCCCCA
65418	OGG1	AACAGGTTCTTAAAAAGGAACA
65419	APPBP2	TTAAGAATTTGTGACATGTAGCA
65420	NUMA1	TCCACCAGGAGTCTGGAGTGCAATGGCAC
65421	SFRS2IP	TTGTTCTAAATAAATATAGGTCTGC
65422	NUP98	AGAGCAGATTCAGTGTTACAGTGCT
65423	UBL1	CCGGGTGAAGCCACCGTCATCATGTCT
65424	SOX1	AAATTTAAGAGACAGAGCCCATTTTCT
65425	CA1	CTTAAATTTTAGTTCTTACTGCTT
65426	DCK	TCAGTCTGCTTTCTCTACTGTCTG
65427	SLC31A1	CCAACATGGGGAAACCCCGTCT
65428	SRC	CCTTCCCCACTTCTGTGCCA
65429	CRSP8	GCCCAGATGTGTACAGCTGCT
65430	IL8RA	TGGATGAACAAAGAGAAAGAGGGTTTGGA
65431	CYP1A2	CCCGAGTAGCTGGGACTATAGATGCGC
65432	ARNT2	CTGGTCTGTCTGTGCATCCACTGTGCCG
65433	SUDD	GCTCAAACCTGTAATCCCAGCA
65434	PPP2R2C	GTGTGGCCTCTCCACTTCTGTGGA
65435	CLN5	CTCCAAATACACATTCTCGTTCA
65436	ABCB9	CGGTGGGGCAGAGGACCCGGTGCCTGCC
65437	MTMR7	GAACACCTGAAACACAACCCCA
65438	JAG1	TGTTTTTTGTTTTTCTGCTTTA
65439	JTB	GCAAAAACATATCGATTTTTC
65440	MNT	CCTTCCTGTTCCCTCCTGGTCC

65441	SLC22A7	GCCTTGCTGGATGGAGTGTGGCTGTC
65442	PIGN	CTATTTCTCAGGTTTTCTCAGTCAACCA
65443	EVC	GCTTTCTATAATCAAATCAAT
65444	UBQLN2	CCAGCGGCCTACGCCCAG
65445	PDAP1	GGGCCTCCTCTTCATCTTGGC
65446	VAMP1	GCTCCTCCTTGCCTAATGCAGG
65447	APOC4	TGCCTGTAGTCCCAGCTACTCAGGAGG
65447	DHFR	TGCCTGTAGTCCCAGCTACTCAGGAGG
65447	HM13	TGCCTGTAGTCCCAGCTACTCAGGAGG
65447	SLC25A15	TGCCTGTAGTCCCAGCTACTCAGGAGG
65448	TRIM37	CCTCCAGGCCCTGCATGCCGT
65449	USH2A	CCGTTACTGAAACTCCAAAAAG
65450	AVP	GCACAGACAGGCCCACGTGTGT
65451	NME2	CCCGGACCATGGCCAACCTGGAGCG
65452	B3GALT3	TTGGAAAGAGAAGAGTGAAGA
65453	ITPR1	GAGTTTATTTTTTCTTCATCTG
65454	SLC1A3	CTAGGCCTCAGTGTCCTCATCT
65455	BCL2	CTTACCTCTCTGTGTTCAGATG
65456	ESRRB	CCTCTAGCAGAGTGGGGCGGAA
65457	IMMP2L	CCAGTCCTCACAAAGGGGCC
65458	TSGA10	AGATACAATAAAAAGGCTTAAATCTA
65459	B4GALT3	CCTCACTGCTGGACTGGAGCT
65460	TACC1	ATCATGCCACTGCACTCCATCCT
65461	GRIK1	CCTCTGTCTGTGCCTATCCCC
65462	ALOX12B	CTTCCCGTCTCTCCTCTCCCCATTCTGTGC
65463	ABCA1	TTTAGTTTTTTACCTATACCTATGTGA
65464	CDH5	AAATCCAGGCTGGTGTTCTG
65465	MUC4	GTCCAATGGCTCCTTGAGCCTCAC
65466	SS18	GCCATATTGTCACCTCAGCACTGTG
65467	PCTK1	CTTCTCAGGGTCTCCCCAGCCCAGTC
65468	RIMS1	GCTAATAAAAATTGTTTGA
65469	DYRK1A	AGTGGCACGATCATAGGTGGTCACT
65470	DXYS155E	AGTCACACTGGCACTGAA
65471	RUNX3	CCCAGCTGGTGGGAGCCTCTGGCTGCA
65472	BSG	GGGTCTGAGTCATGGCCGGGTGGGC
65473	SELP	TACCACCCCTTCCTGTCCCA
65474	TNFAIP1	ATCTGTTTCTTTAAAGCACTTTGT
65475	IFNW1	ATTGACACAGCTGAAGTTTACTGGAGT
65476	PTN	AGGGGCTTATAATAAAGGACTGT
65477	RBL1	TGAGCCAAGGTTGCGCCACTG
65478	F2RL3	TGCGGTCAGCTGAGATGGTGCC
65479	FBXL11	AGAGTGAGAGATGGAACCCGAAGA
65480	A1BG	CAACTCCTGAGCTCAGGTGATC
65481	RFX5	GACTTTTTTCTCACTGTTGCATC
65482	SPG4	GTTATCCCAATGGACACTAAGTTA
65483	ATP7B	ATGACTGCTGTGAAATGGAGAAC
65484	PRODH	GGCTCTGAGGCGCGCCCTGCCCG
65485	LMCD1	GATGTGACAGCAAGCAAGTGA
65486	CLN2	CTCAACTATTGACTGCTGCAG
65487	AR	GAGCAAGCCCAGAGGCAGAGGAG

65488	CCKAR	TCGGTCATTAGAGGAATGAGCCGGG
65489	SLC12A6	GAGCTCCCATCTGATCTGC
65490	SUPT5H	TTTCAATAAAAAGAAGCT
65491	PPIL1	GGCCTGGCATCTTGGG
65492	FOSL1	CGCCTGAGCCCTACTCCCTGCAG
65493	RNF17	GTTGGTTGAGACACTTTCTC
65494	FABP2	CCTCAAGCAATCCTCCTGCCTCA
65494	PTPN18	CCTCAAGCAATCCTCCTGCCTCA
65495	OA1	CCCCAAACCTTGCTCTCATCA
65496	SLC15A1	GGTCATCTTCCCTATCACACAA
65497	AHSG	AGAAAACATAGCCACCATTTTGTC
65498	STAU	TTTTCTTTTGATTGATATGA
65499	SHANK2	CAGCTTTGCTTAGCTTTCTTTAT
65500	IFNAR2	TTTTGAGCCAGAATGCCTTCA
65501	CNTN2	ACCCATTCTGCACAGTCCCT
65502	XK	GCTTTACAACTTGAATGCTGATTC
65503	MAGEB3	CACTCCTGCCTGCTGTTCCTGACTAC
65504	HMOX2	GGGCTGACTGGAGGCTGGCGGAC
65505	EYA4	GGGGAAAGAGCTGCGGGAA
65506	HSD11B2	CTCTGCGCCTCTCCACTGTTTCATGAG
65507	TLR4	TGTTATAGCCATCATAAAACC
65508	CLECSF12	GCCCAGGCTGGAGTGCAACGGCACG
65509	SWAP70	CGTTGTACTCCAGCTTGGGCAACAGA
65510	UTX	AATTTGTTTTCATCTGTCTTT
65511	FCMD	CACTTGAACCCGGGAAGCAGAG
65512	RALB	GGTCATCTGTGTGTCACAGCC
65513	MME	TTCTTGTTGCCACAGCTGGAGCTCT
65514	AXL	GACCTCAAGTGATCTGCCCACCTCA
65515	PPARG	GCCATTTTCTCAAACGAGA
65516	DSC3	GTGTTAGCCAGGATGGTCTC
65516	INMT	GTGTTAGCCAGGATGGTCTC
65516	LYZ	GTGTTAGCCAGGATGGTCTC
65516	MDM2	GTGTTAGCCAGGATGGTCTC
65516	PIGR	GTGTTAGCCAGGATGGTCTC
65516	RPP30	GTGTTAGCCAGGATGGTCTC
65516	TAPBP	GTGTTAGCCAGGATGGTCTC
65516	TERF2	GTGTTAGCCAGGATGGTCTC
65516	YES1	GTGTTAGCCAGGATGGTCTC
65517	MBD3	CCTCCTGGCCCTGCTGCCCAGT
65518	SLC5A1	AGAAAACCATTAGTTTGCTGTTA
65519	EYA2	CCCCTCGCCTTCCCCACCTCCCCACCG
65520	CDH5	GGTGAGGTCCTGGTGCCTATCTGCCT
65521	CACNG7	GGGCTGGAGAGCAGGTTCGGGCA
65522	HIS1	CCCCTCGGAGGCAGCGTCATCGGTAGT
65523	PAG	TCTGACATTGCAGAGTGAGCTA
65524	SH3BP2	AATCTCCAGGGTTCAATCGATT
65525	SLC6A12	TGATCACAGATTCTTTCCCACCTCACAA
65526	MAPK7	TGCCATCAAAATGAGGCCTGTGAAA
65527	CYBB	ATGTACCAGGATGGTTTCTG
65528	CPNE7	TGCCGTCGGGCCTCTGCACCTG

65529	POU2AF1	GCTCATCACTGGCCTGGGGAG
65530	EYA2	TCTCCACCTGCCATCTCACC
65531	ADCY2	TAGTGAACAGGTTCTCCAGGTGA
65532	BCAS1	TGTTCTCCTTACTCCATCT
65533	DHCR24	GTCATTGTCCTCTGAGCTGCAGTTTC
65534	CDH13	CAGGTCCACAGAGAGGGAGA
65535	ATF5	GGTCAATACCAGCCTGGGCAA
65536	CBS	TGAGAGAGAAGTCGGCCAG
65537	HEPH	GGACTCAGGCTGGGGTCTGCAGTG
65538	ZNF202	GTTTGCAGAAGATACTGTCCT
65539	TIA1	GTGAAAATCAAATACATAC
65540	DCT	CTTTGACATAGGTTCTTCTA
65541	ZNF10	GGTTAGAATCAGGAGACTTGAG
65542	IL12B	CCACTGCATACCAGCCTAGGTG
65543	PDE1B	CAGCCTCTGGATTCTCTTCATG
65544	CCKBR	TCCTTACCCAAACTGTTCA
65545	MTR	CGCCCAGGCTGGAGTGCAGGGGCGCA
65546	HOXA1	AGGGAAAGTTGGAGAGTAC
65547	ITPR2	ATGGAGTGAAAGCCATTTGACTCAA
65548	PATE	ACAAGTCCCTCTTGCTGGAAC
65549	NCOA1	CTCCCAGGTGTGAAGTTTTTCA
65550	PPL	TAGTTTCAGTGCTTTACAAGTCTCG
65551	DLEC1	TTCATCCTGAGCTTTTCTCCTCATG
65552	SOCS5	CCTGGCGGGGGCATCCGGCGGA
65553	PSMB8	GATTCAGAGACTGCGCCCT
65554	HPRT1	TTATTTGCACTATGAGCCTAT
65555	GPR23	CCAGCAGTGTGAGTTTAAAAAACTT
65556	BCS1L	GCTCAGCTCTCCTCCTCTAGCTCAATAAAC
65557	CALCR	AGAAATTTAGAGTCAATTTGCTGAA
65558	FGFR2	TTCCTGAGCCCACCGCAGCTGAAG
65559	TARDBP	GGCTTTGGTGAGAGAGTGTGCAGA
65560	MEST	AGAGCTGAGTCCTCTTTGTCATACCTT
65561	ROM1	CTCTGCACTCCCTTGGGCAG
65562	LTB4R	TTCCTATTAATCTTAAAACAAAGCGAAA
65563	IGSF6	TGAAGTCACTGAAAATCCAAC
65564	CTSS	TCTTGCTAATCTCTCTTTTGTTA
65565	CNGA1	TCATGCCATTTCCATTGTTGAGTGAAG
65566	DIRC1	GACCCTGCATCAGTTGTTAAGCTA
65567	AHR	CCTTGATAATATATTGTGTTGACTTTA
65568	FCMD	ATTTGCTTGTGCTCAGTAT
65569	MX1	GCCGCACTCCAGCACTGCGCAG
65570	SLC25A3	TGAATCTGCTTGTTGATCAGTGTTTG
65571	SLC6A6	TGGAGAGGCAGAGCTTTCATACTGA
65572	NRG1	ACTGCCTCTGCCTGTCG
65573	CTSS	ATTCCTTGAACCCAAGAGGTTG
65574	SIGLEC7	GGTACCCACCATTCTCCTCTGTAC
65575	GLRA3	GCTGTTGCTGCTCTTCTTCCT
65576	RGS3	GCCAATGCCTTG
65577	MCM6	GGATTTGTTTTCAGAAACAAG
65578	HEM1	CACACAGAGAATGTCACCAAGA

65579	NPEPPS	AGGCTTCTTGGTGAAGAGCATTTT
65580	DKK1	GGATCTCTTGGAATGACAAATGATA
65581	ZNF261	CAGCTGCCTTCTCTGCCCTGT
65582	FBLN2	GTGATGACCTGAGGACCAGAGACAC
65583	CREBL1	CTGATCCCCAGGCTTGGGGC
65584	GAP43	CCTCTTCTCAGCTCCACTCTGAA
65585	PTGIS	AACTGATTTTTGTATTTTTAGT
65586	RNTRE	TTATGTTTTTCTCCAAAACCT
65587	GBP1	AATTCTTAACACTCATACTTG
65588	B4GALT1	TTCCAGATGACCAGGACAG
65589	DNASE1L1	CCTCAGCTGTGCCCTGCTGCCTGGC
65590	TRAP100	TTCTTTCAAAATTTCCTCTCCATCT
65591	SMG1	TCGTCCTCCTCGTCCTCCGGGGC
65592	COL17A1	TTTTAGAATGAGACTTACTTCTCTG
65593	EYA1	GCCATGAGAATGTTTTAGCACAGCGTTATGTG
65594	CDKN2C	TGTTTTTAAAATGGTTTGTCCTG
65595	CYP4F3	TGGTGTTGAACTCCTAACCTCA
65596	PHEMX	TCTGCCCCTCTCCTGCCACCT
65597	LNK	CCCCCAGGCTCACAGCAGTG
65598	ADAMTS12	AGCTTTGCAGTCGCTGCCTTC
65599	HTR2A	GCAATTGCTTCTCTAAAACAGCACT
65600	SUFU	TTGCCACCATGACCAGCCTCTCCCTG
65601	GPR81	CTTGGCCTCCCAAAGTGGTGGG
65602	IL2RA	TCTCCACCCTATATGTA
65603	IL17R	TGCAGCCTGGATGACAGAGCG
65604	PUM2	AGTCACTGCAGCAACGCCTT
65605	PCDHA9	TAAAATGATCAGCCATGTGAA
65606	USP6	GCTTCGTAGAGTGGGTGCTGTTCCCA
65607	LGALS3BP	TCTGCCCTTGTCACTGGT
65608	ITGAL	GAGGTGCAGAGTGCCCAGAACTGGACT
65609	EDN1	GGCTGGGATCAGAGCAGGAGCATCCTCTG
65610	CXCL13	TAAGGCATGAGGACTATGTGA
65611	GRAF	AGAACTCAAGAAAGCCACTGGGGAAAA
65612	PRX	CTCTGTCTTGTCACTAACCCA
65613	CENPF	AAGGCTGTGCCTACAGGACTTCTCTTTA
65614	DMP1	CTTTTTAGCTTTATTTTTTCTAA
65615	DLEC1	CTGCCAGGAGTAGTGAGCTGT
65616	PTGIS	AGGCTGAGGCACCAGAATTGCT
65617	CRSP6	GTGTATGGCTCATGCCCAGCC
65618	CAPN1	CTGATGTGTCCCCTCTCCCCA
65619	KCNA7	CTGTAACCCCAGCACTTTGGGAGGC
65620	SCN4A	CATTCTGTTGGCCTAAGTGCCTCT
65621	PART1	CTCCTGTCATCACGATCAATTAA
65622	PFKFB4	GAGTTCCCCAGAATGGATGGTAT
65623	PCDHA9	GCAACTCCTGGATTTCTCTTACA
65624	SRRM2	CCAGCAGAGCCGTGGGAGGGTCCTTG
65625	HOXA1	GAGCTCAGGAAGAAGAGA
65626	PIK3CG	CCCAGGAGGTGGAAACTGCAGAG
65627	MEIS2	GGAGTAGGGGTTCCCGCTTCC
65628	RFX5	CAGCTAGACCTGCTTTCTTTTCT

65629	KAL1	ATACATGTATATACACACAGACA
65630	ECM2	TAGCATCTATCTCCTTTGCCT
65631	ROR1	GAGGCTGCAGCCAGAGGGCTGGGAAG
65632	EFNA3	AGGGGACTAGATGGGCAAGGGGC
65633	DLEC1	TGGTGTTTACTCAGAACCTGCTC
65634	PER2	CTTCCCTTTGCAAACCAGGCTG
65635	ADRBK2	ACTGGGCTGTACGACAGTGAG
65636	ALDH3A2	GAGAGGCGGAGGGAAGGGAGGCGAGG
65637	PVRL2	GAGGGAGGTGGAACAGCACACTGGACT
65638	SKI	GACCGTGGCTGGCGGTCACGCCC
65639	FIGF	GCTTTCTGTAGCTGTAAGCATTGGTGGCC
65640	TSC1	TATCTTTCATTAAAAAGAATA
65641	LOXL2	CTCCAGCCATCGGAGACCAGAGC
65642	PPP4R1	CTCCCAGGAAGGACTTGCTGGG
65643	ITPKB	CCTGAACTGCACTACAAGACAC
65644	ASH1	CAGCTTAGGTTTTTCTGTCATCCTCA
65645	MHC2TA	GTGCAGTGAGCCGAGATCACGCC
65646	TNFRSF1B	CCTGCAGCCCCGCGCCTCC
65647	GPR4	TGAACTCCTGGGCTCAAGAGAT
65648	EN2	GCAAGGAAAGCGGACCACAAAAGTCC
65649	KLKB1	GAAGCAGTCCAGAGTCTAGGCAA
65650	CDC6	GGCCTCCCTAAGTGCTGGGATT
65651	B4GALT5	TTAAAAAACACTTTTCACAAAAA
65652	BRF2	CTCTACCTCATAACAAAAGGACA
65653	CHST6	CTGAGAGATAGAGGAGGCTGTG
65654	HCFC1	TGTCACCCACAAGGGAGGCTA
65655	AQP3	TCCAAGGGCCACTCCCAAGA
65656	LRRC2	AAAATGCAAAAAATTAGCCGG
65657	SLC21A2	AGAGACACAGCTGCTACGTGAT
65658	RECQL	GTTTCATCCTTCCCTTTCC
65659	PFKFB4	CTCCTGACCTGCTGCTA
65660	ZIC2	CTTCCCTTCCCTAAAGT
65661	RSC1A1	TGTGTGGTTTGCATTGTTAA
65662	PTGFRN	ACCCACCTGCCCCATGTCCACTGGG
65663	CD59	GTTGGACAAACCGAGTGCAAT
65664	MAPRE2	CACAGCGGTTTGTTCCCCTTCT
65665	TCP1	CACGACTTCTGCCCATTCTCTCCA
65666	ADRA1A	AGGAATGATCATGAATGCAAA
65667	ED1	AGTACAGATGTTTTTCATCCATTCC
65668	SERPIND1	CTTTCATCTGAAGCGCCA
65669	IGFBP1	AAATACTGCCTAGAAAATGCAAA
65670	GPX3	GTGGGTGCAATGTGGGTGTTTACA
65671	MAPT	AAGAGGGAGAAGGAGAGGC
65672	DCLRE1C	GGGAGGTGGTGGTTGCAGTGAG
65673	MECP2	CTGCTGTCATTGCTTCTTCTGAGGCC
65674	GRAF	TTTCTGTGAGCTCTGGTGTCACTCA
65675	PACSIN3	GAAGTCCTGGGACCCAGGGAGGG
65676	DEDD	GCCAGGAGGTCTAGAACTGGA
65677	PRKCG	GTTGGCTGTTCCAGACTCAG
65678	RAI3	GGTGCGATCACAGCCCAGTGCAGCCT

65679	SLC2A2	AAACTATTCTATGGCCATTACTAACAC
65680	IGHMBP2	GGCCCAGGCCGGCGGCGGCGATG
65681	ACHE	CATCCTCCCTCTCGTCTTTCGCA
65682	DBT	GTGGCCAGATCACCTGAGGTCA
65683	EP300	AGGAGGAAGAGGTTGATGGCGGCGG
65684	A1BG	AGCCTCCTGAGTAGCTGGGACT
65684	ALOX15	AGCCTCCTGAGTAGCTGGGACT
65684	DSC3	AGCCTCCTGAGTAGCTGGGACT
65684	EHD2	AGCCTCCTGAGTAGCTGGGACT
65684	FEZ1	AGCCTCCTGAGTAGCTGGGACT
65684	FUT1	AGCCTCCTGAGTAGCTGGGACT
65684	G2A	AGCCTCCTGAGTAGCTGGGACT
65684	GHR	AGCCTCCTGAGTAGCTGGGACT
65684	INMT	AGCCTCCTGAGTAGCTGGGACT
65684	JRK	AGCCTCCTGAGTAGCTGGGACT
65684	PDE6B	AGCCTCCTGAGTAGCTGGGACT
65684	PRKWNK3	AGCCTCCTGAGTAGCTGGGACT
65684	PTGIS	AGCCTCCTGAGTAGCTGGGACT
65684	RPP30	AGCCTCCTGAGTAGCTGGGACT
65684	SHOX	AGCCTCCTGAGTAGCTGGGACT
65684	TAF7L	AGCCTCCTGAGTAGCTGGGACT
65685	BENE	AGCCTCCCGAGTAGCCGGGACT
65686	CNTNAP2	GAAGAGGAAGCGGGAGGAGCTTG
65687	NCOR2	CCGGGGAGGGGGCACGGCAGGC
65688	CASQ2	TCTTGTTCTTTGCTGGACCA
65689	BRMS1	AGATGCCAGGCCCCCCAAGGTG
65690	TNFSF10	TGCCTGTAGTCCCAGCTACTTGAGAGG
65691	RNASE1	TGCAGATCCAGGCTTTTCTGGGAA
65692	PART1	TCAGGACTTGTATTAGCAGGTT
65693	IAPP	AGAAAATTAGTAATTGTAAGT
65694	SPTBN2	GCCTTGAGTCTGGCCAAGGAGGTG
65695	AKAP2	AGGGCCCAGGCTGGTGCAGC
65696	SMARCA5	GCAGAACGTTTGGGAGTGTGCAGCTCCTG
65697	COL19A1	TGTTTACTGAAAAATGAGTTTA
65698	BRMS1	GTGGCCGGGCTGGGCGCCGGTAGTG
65699	MAPK3	CTGCCTCCTGCCTGCCCCTCTCCCG
65700	DNAJB1	CCTTTCTACCAGTTGTGGACC
65701	CNP	CTTTGTTTTTAGAGACAGGGTC
65702	RPP30	TCATCAGCCACAACAAAAATA
65703	PABPN1	CCTTTCGGGGGCAAGGTTCACC
65704	BAZ2B	ATGTGGGAAATGGTTCTCC
65705	ADAM19	CTGGGCACCTGGCTCA
65706	C8orf1	GACTATGTGAACCATATCCAACTACT
65707	KLK5	TCCTTGCCCTGTCTGGAGGCTGCTAG
65708	BAP1	GGGCCCTGGGCTCTGGGCCCTGCTGC
65709	TTF2	GCCACTGTTTTCCAGCCTGGG
65710	AKAP1	CGCCATGAGCGAGATGACGGGGA
65711	PEA15	TTGGTGAAGAACATCCCAAGCCAG
65712	CDC7L1	TAAAACAATGAGGAAATGTTGGTCATG
65713	NCOA6	CCACTGCGCCTGGCCTGTTGCT

65714	TNFRSF1B	GCCTTCCCCCTCCCAGGGCC
65715	CTRL	TAAATAACTGCACATTCTCC
65716	SLC29A2	CCCCTCCAGGCTCTTTGGCA
65717	TMEM1	GATTGGGAAAAATTATAACTCT
65718	CENTD1	TGAACAAACCTTGTAAAGTTCCA
65719	NR2E1	AACTGATTTGTGAAGTTA
65720	PPP2R5A	TTGCACATAGATATGGTAGTC
65721	OSR1	CTGGTTCAGACCCAGCGAGGG
65722	DAB1	TAGCGCAGGTCTGGGAGCCAGA
65723	TNFRSF6B	CCTCCTGTGCTTACCCACAG
65724	TAPBP	CGCCCAGGCTGCAGTGCAGTG
65725	CARKL	CCCAAGTTTTCCCTTGTGCATT
65726	EBF	TTGTACCTCCCAAGTATTTGGG
65727	PROK1	GTGGGAGCAAGGGACAGGGAGC
65728	ROR2	GCTGCCCTCTGCTGCCTGTTGGGGT
65729	GPR55	AAGAGGAAGGTCCTTGGAGGGTATCAG
65730	STAT1	TAACTGCATTGAGAACTGCATATGTTT
65731	HOXD9	TCCAGTGAGGCTTAGAGGAGCC
65732	YWHAG	CACGGACCATCTTTAGCAGTTTCC
65733	MFAP1	CGCTGCCATCAACATGTCGGTCCC
65734	PLXNA1	CACCGCATGCGTGTGGAGTGTCCG
65735	ADAMTS4	TCGCCCAGGCTGGAGTGCAATG
65735	FEZ1	TCGCCCAGGCTGGAGTGCAATG
65735	NF2	TCGCCCAGGCTGGAGTGCAATG
65735	SH3BP2	TCGCCCAGGCTGGAGTGCAATG
65735	SPN	TCGCCCAGGCTGGAGTGCAATG
65736	EVC	AAACTTCCAGACCAGCCCTCTCACTAC
65737	FGFRL1	GCACACACTTCCGGACACACATGCAC
65738	DUSP4	CAGAAGTGCCTGGTTCTGGG
65739	RNF3	TAGCTAAATCACAAAACATCCA
65740	CLASP2	CCTTCCAGGAAGCCTGCAGCGTTCA
65741	ADAM19	TCTCCAGCCTTTCTCCCTCAC
65742	FUT7	GGTCCCCGAGACACAGGCACGG
65743	IL13RA1	TTCTCTCCTCACACACAGACTCA
65744	PAICS	GTCTCAAACTCCTGAACCCTAG
65745	PRNP	AGGTTGGAGATGACAGA
65746	GSTZ1	AACTCTAGCCCTGGATCTGCCTTC
65747	PCTK1	GCCGCCGCCGCCTCCTCCTCC
65748	IL1R1	AGGCGACTTCCTCTCCAGCC
65749	BPGM	AGAGCTAGGCTGTGGAGTAGAG
65750	PDCL	ATAGCGTGATCTCGGCTCACT
65751	G6PT1	CCTTAGACTCCGTTAGCTCC
65752	CACNA1C	GGTGTTTTCACATTTCTTCCTCT
65753	PAICS	TCTAACCCCTCCTTTCTTAGGCTAGA
65754	IRTA1	AGCAGGCTTCCATGCTGCTGT
65755	PACSIN1	CCCAGGCCCATCTGAGGGACCA
65756	OTOF	CCAGAGGAAGACTCCTGAAACCCT
65757	GNB1	TCAGAAGCCATGGGGCCAAG
65758	ABCE1	GTTTTGTATACAAATGGGATT
65759	ZNF146	AAAGTGGGAAAGCTTTCATT

65760	MPP3	ACAGTAGATGTGTAGTCAGTT
65761	S100B	CACTACCGGGGGCTCTGAGCCA
65762	HPS4	ACTGTCAGAAATGCCTCC
65763	APG5L	TGGTGGAGGCAACCTGACCAGAAACAC
65764	DGAT1	CAGTCTGATGCCAGCTGGGAG
65765	LAMC1	CTTACCCACACTTCCCTCTGATTTG
65766	ETV5	TGTCCCCCTTATGACCAACAGCACATT
65767	ZNF207	ACCCACCAAGGTCATGTGACTTT
65768	ABCC5	CATGTAAACAAAATTTAGTTTTTG
65769	IL1RL2	TCCTGCAGGCAGCCCGGTTTG
65770	ETF1	ATGTGGGACTTACAAGCACTTCTCAC
65771	KCNA7	GGGAAACACTGAGTCTTGTTGGG
65772	MYL3	TCTGCATTCTTCTCTCCACATGCC
65773	ATP1B2	CCCTATTCCCTCCTCTGAAATG
65774	HMGA1	CCTGTTCTGTTGGGGAGGGGTAGCCA
65775	CKMT1	CCTGCCCCCGCATCCCCTGCCTCCA
65776	DGKG	CACCTTGCCATACATTCTGTTTCA
65777	ZNF138	TACCTGTCTGGAACAAGGAAAAG
65778	FOSB	CAGAAACTTTGCCATTGTTGGA
65779	TSC1	ATTCAGCTTTGTCCAAAGGA
65780	ZNF36	CACACTGCACTCCAGCCTGGG
65781	GPR81	CTTTGTATTTCAAAGAAGGTGCTG
65782	ATP11B	TAAGTGACTCAGCACCCTGCCTCA
65783	PCLO	CAGATGTGTTGGGCATGTGAA
65784	GCNT2	GAGGCGGGATCTGGCTGTAATA
65785	IL4R	TGGAAGGCAGCCAGGCTGGCAGATTTC
65786	BRF1	CAAGCGTCTGCATGTGTGTGATCAGATG
65787	RASAL1	GGACCTCTTTGATTCTGTGGTT
65788	MPP3	TCTCCACAAATTCCATCATCGA
65789	MBD1	CTGGCTACTGCTGCTTCCTGTGGCC
65790	CASP7	CCATGACAAGAACAAAGCCACT
65791	TNFSF12	ACCTGTACTGTCAGGTGCACTTTG
65792	ETF1	GTACTTTTAACACTTTAGTGCCTG
65793	CD22	TTGCTACCCAGAAATCATCT
65794	M6PR	GGGCCTTTTATAAGCCTTAGGAAAAGA
65795	XRCC2	ATTAGTTCAGCCATTGTGGA
65796	ADAM19	CAAAGTCCAGGGTCTGGTG
65797	TLR9	ACCTGACACAGAGCAGGCACTCA
65798	CALD1	TCAAGACGCAGGACGAGCTC
65799	PER2	ATGAGGCTTAAAAGGGACCAG
65800	HAP1	AGCCTGGCTCTACCTGCTGTGCT
65801	GPR44	CCTCTGTCTGCCCGCTGCCTCTTGTC
65802	LSS	TGCCGCCTTCTGGGCAGGTAGCAGT
65803	KRT19	CGCAGCTTCTGAGACCAGGGTT
65804	ALPL	AGAGCCACCTGGCAGGGCTCAC
65805	OGG1	CTCCAGCCTCTCCTCCATTCC
65806	ABL1	GTACTGGTCCCTTCCTTTTGTTA
65807	MAPK10	GGTGGTGCTTGCTATATGC
65808	HUNK	GCAGCCTGGGCAACATGGTGAA
65809	NRF1	ACAGAACTCTCCCTGCTGGAC

65810 UQCRC1 ACGCTGGTACTTTAGCCCTGGGCT
65811 DVL3 CCCCTGCCTGCTGCCTCAG
65812 AKAP13 AGGTCCTGGACAATAAGCAACAGAT
65813 SMARCA3 AGGACAGCTTGCTTCTTTG
65814 HD TGAAACCAGGGTAGAATTGTTTGG
65815 FUT8 ATCATAAAAACGACTGT
65816 PCDHB2 GGAGCACGTTTGGTGAGAGACCA
65817 KCNA4 AATCTGAGCAGTCATTTATCAGTG
65818 PDGFRB CAGCAAGTCTCAAGAACACAGCTGC
65819 SOX5 TATCTATTGCACACCACACTACA
65820 HHLA1 TCACCCAGGCTCCAGCTAGATCATCA
65821 HMGA2 AGCTAGCAGCCCGTCCCCCTCCGACTC
65822 IL16 CCTCCACCATACTCCATCAGTT
65823 ANGPT1 TACAAGTGATATTTGCAGG
65824 PTPN14 ATGGACACCCTTTTCCCTGCCTGGAGGAGC
65825 CLDN14 AGCTGCCCGGCTGGCCTAGGCAG
65826 HUS1 AGACCCTTCTATTTAGAGTAGA
65827 PTPN7 CCCCATCTCAGAGCTCAGAGGGTACA
65828 CORO2B TAAGTGCTGGACTGCAGGCTG
65829 ASTN CTGTGACCCTCCTTTTTTGGCCTCCT
65830 ADCY7 GAAGCTCTGTGCCTGGTCTGTA
65831 DMP1 CAGCTGTCCTAAGAAGCAGTTGTCA
65832 TSC1 AGTTGCTTGTGTTTAACTGTGAAC
65833 EN1 CCTTCGCTGAGGCTTCGCCTGCCTCCT
65834 IL9R GTCTGGATGGAGGCTGGAGGC
65835 CDC2L2 CGAACTCCTGACCTCAGGTGAT
65835 DFFB CGAACTCCTGACCTCAGGTGAT
65835 FCAR CGAACTCCTGACCTCAGGTGAT
65835 IL11 CGAACTCCTGACCTCAGGTGAT
65835 MEFV CGAACTCCTGACCTCAGGTGAT
65835 PDE6B CGAACTCCTGACCTCAGGTGAT
65835 PIK3CD CGAACTCCTGACCTCAGGTGAT
65835 RP2 CGAACTCCTGACCTCAGGTGAT
65835 SAS CGAACTCCTGACCTCAGGTGAT
65835 SH3BP2 CGAACTCCTGACCTCAGGTGAT
65835 SHOX CGAACTCCTGACCTCAGGTGAT
65835 SLA2 CGAACTCCTGACCTCAGGTGAT
65835 TNFRSF10B CGAACTCCTGACCTCAGGTGAT
65835 TRPV1 CGAACTCCTGACCTCAGGTGAT
65836 TNFRSF14 TCTGTTCTGCTGTGGCCTGAGCTC
65837 PPARGC1 CTCTGTACAAAAACAAAACA
65838 HNMT TAGAATACTAATAAAATACATAC
65839 LRRC2 AGGCTGAGGTGGGAAAATCACT
65840 CDKN2B TGTCTCAGGGTGCAGAGGTCA
65841 IL16 AGAAGAGAGTCTTCCCGAGAAGGCAGA
65842 ZNF74 ACCTGTAATCTTAACACTGTGG
65843 PSEN2 AGAAACTGAGGCCACAGAGCTA
65844 RAD54B AAAGGAAAAGGAATGTAGCT
65845 ADCY6 AGGGGTCAGTAGCAGAAGCAGAGGGAG
65846 GPR81 CTTCATTTTCCTCGTCTGTCAAACAG

65847	PLAT	AATGCCTCCTCCCTGGGCAG
65848	FBXL11	GGGAAGAAAACGGCCCTGTCTCCAT
65849	COL6A1	GGCCCTCTGGGGCTCAGCTCTG
65850	CPS1	TCTCCAGGCTGGAGTGCAGTG
65851	SCG3	CCAAGCCAAGTTTTCTCAAC
65852	MAGEA12	CCTGCCCACACTCCTACCTGCTGC
65853	MAGEA2	CCTGCCCGCACTCCTGCCTGCTGC
65854	P2RY2	GCAAGTAGCTGGCTGTACTGCCAAGGT
65855	GPR24	CCTCTCACTGGTGCGATGGAAG
65856	PIK3CG	CGGCAGCCAGGCTTCATATTC
65857	MAML1	GCTTTTCTCCCAAAAATCGGCT
65858	OFD1	CTAGTCACGTGAAACCTCTTCT
65859	AICDA	TTGTAACATTGCAGTAATGG
65860	CACNA2D2	ACATGCCACTGCCTGCACCT
65861	TBX2	GGAGAGGCCTCATCCAGGGCCCAG
65862	IRAK4	GATGTGGTGGCTCATACCTGTAA
65863	PFKFB1	TGTGGGCAGTGATGTCATTCGGTGC
65864	STK31	CTGTTTGCAGAAAGTGGGT
65865	FOXE3	GCTGGGAGAGGAAATTAGAGGGG
65866	KCNK7	AAATCACTGGGGGGCTGGGCCTT
65867	TNFAIP1	GTGATGCTTGCCTTTTGA
65868	DDX6	TTTAAAAAATGTTTTCTGG
65869	PSMD9	GCGTGCACCACCATGCATAGCT
65870	GALNT1	TAGACTTCTCTAGCTTTTCACTAG
65871	LPXN	AGACTTTACATGACTAGGCTGA
65872	TRIM39	CCCAAATTGTCAGCCTTCTTAC
65873	PRKACB	TCTTCCTTTTCAATTTCATTGG
65874	MAG	GCCTGACCTCCCCCTCCTTCCC
65875	DLEC1	TTTGGGGCTGAAATGAGTGATCCTGCC
65876	PPP2R1B	GTTGCCCAGTGTTCTCCTGGTTTAGCA
65877	HTLF	CAATACTCTTTCACTTAATTCTTTA
65878	CA14	AACCCATGATACCCTACTGAAC
65879	ELMO1	TCTGGGGTTTCCTCTCCCTGCCCC
65880	FUT6	CACAAGGTCAGGAGATCGAGAC
65881	ITCH	GAGAGGGAGAGCTGTGGTACTGGC
65882	PCDHA1	CTTTGATACACAACCTTCTCTAACCAA
65882	PCDHA10	CTTTGATACACAACCTTCTCTAACCAA
65882	PCDHA11	CTTTGATACACAACCTTCTCTAACCAA
65882	PCDHA12	CTTTGATACACAACCTTCTCTAACCAA
65882	PCDHA13	CTTTGATACACAACCTTCTCTAACCAA
65882	PCDHA2	CTTTGATACACAACCTTCTCTAACCAA
65882	PCDHA3	CTTTGATACACAACCTTCTCTAACCAA
65882	PCDHA4	CTTTGATACACAACCTTCTCTAACCAA
65882	PCDHA5	CTTTGATACACAACCTTCTCTAACCAA
65882	PCDHA6	CTTTGATACACAACCTTCTCTAACCAA
65882	PCDHA7	CTTTGATACACAACCTTCTCTAACCAA
65882	PCDHA8	CTTTGATACACAACCTTCTCTAACCAA
65882	PCDHA9	CTTTGATACACAACCTTCTCTAACCAA
65882	PCDHAC1	CTTTGATACACAACCTTCTCTAACCAA
65882	PCDHAC2	CTTTGATACACAACCTTCTCTAACCAA

65883	ADRA2B	TAGACTTTTGTTCTGTCCCTGGGGTGT
65884	AMBP	GCCCCTTCCCCAGCCTCA
65885	ASGR2	CTCTCCTCTCCCCTGTGAGCT
65886	CSF3	CTGTCACCCTCCACCTCTTCACC
65887	CR1	CTCCCAGGCTGGAGTGCAGTG
65887	XRCC2	CTCCCAGGCTGGAGTGCAGTG
65888	SFRP4	TCCTACTCTCCACTACACAGAG
65889	STS	GGGGTGAGGGGGATAAGGTCTGT
65890	DFFA	CACGCCTGTAATCCCAGCACTG
65891	KRN1	CCTATAAGAATATCCCAAGA
65892	GLRX2	GAGGATGTTTTAAATACATGC
65893	GH1	ACCTAGCTGCAATGGCTACAGGCTCCC
65894	DDX11	CCCTGCTCCTCTCTGTGGTTGGAGGAA
65895	ETV5	AGTCTATACATAGATGCATATT
65896	PTPN18	TCCCTCACTTGGACACTCAGGG
65897	PTGFR	ACTATCTGCAGCTAGTGTGTTT
65898	TCF20	AATCCAATTACAGCTATCAGCCTCAA
65899	ITPR3	CCCCAACAGGGGATGCTCATCA
65900	SOX11	GCCTACATTTTCAACCACAATAAAGATG
65901	HSPA6	GGGAGAGCCTCACTGCTGAG
65902	CRSP6	TTGGTAACACTGAAAGTAGTAT
65903	VHL	CTCACCCTCCTGAGCTGGGATTACAG
65904	XK	TCACCCAGTTCAGGTGTATAGGGAAT
65905	ADAMTS4	CAGAATCTCGCTCTGTCGCCCA
65905	CASP8	CAGAATCTCGCTCTGTCGCCCA
65906	EHD2	TAGAATCTTGCTCTGTCGCCCA
65907	ANXA8	TCCAGTGCTTTCCAGCCGGGTT
65908	GM2A	AAAGCGCTGGATTACAGGCAT
65909	RDS	CTTACAGAGACTCTCCCTGACG
65910	CAST	TTTGTTATTCTTTTCCAGAAA
65911	ACHE	CATCGGCCGCCTCCAGCTCCCGG
65912	RELA	GCATGGACGAACTGTTCCCCCTCA
65913	FCMD	GATTGCATGACTGAATTTGCTTAAG
65914	PEX14	CGGACAGACGCCTTGCCCAGGG
65915	RNF26	GCCATCCTGCCATACATCCAGGA
65916	CBFA2T2	GCTCACTGCAGCCTCGACCTC
65916	JRK	GCTCACTGCAGCCTCGACCTC
65917	MLF2	GGTGGCAGCTGTGGGA
65918	NT5C2	AACTGTTTCACCAGTACAGTGA
65919	PRKDC	AAAGAAATTCCTATTTGAAATG
65920	ARG2	TTTCCTCCCTCCTCCCACA
65921	KCNK4	CGGGACCTGTGGACCACGACCA
65922	CTSS	CCTGTAATCCCAGTACTTGGG
65923	GAB2	GCAGGGTGGAGCAGAAAGTGAAGGAG
65924	TGFBR3	TATGTGTATGCAAGTACAAGTATATAATAT
65925	SLC16A2	AAATACTGGAGCAACAATGCCCCTGCT
65926	MMP19	GGGAGGGAGATGAGAAGT
65927	CYP3A4	GGGAGGCGGATGTTGAAGTGAG
65928	CROT	GGGCTGGGTGCAGTGGCTCATGCCT
65929	ILF1	CAGCGTAGGAGAAAGGCCAC

65930	TRPM7	GCAACAACCCAGAACTTACAAACTTC
65931	PPP1R12B	CCCTTATTCCTCCCTCATACCT
65932	HFE	AAAGTGCTGGATTACAGGTGT
65932	TP53BP2	AAAGTGCTGGATTACAGGTGT
65933	SNX6	AGTATTCCTTATGGCTGCCACTCTT
65934	TES	TCTACACTTCTTTTTTCCCCCTCA
65935	PCOLN3	TGTTTTTGTTTTTGCCAAAG
65936	PPP1R12B	GATGCCTGTAAACACAACAGTATTT
65937	OPA1	GTCTCAAGAGTAAACCCTGTGTCTT
65938	HTR4	TGGCTTTGTTGCTGCCAAAG
65939	SLC38A2	CCACATGCTTGGCTGTGTCAT
65940	DIAPH2	GCTAGCATTTCAGCATGATATTGCA
65941	LDLR	GCAAGTGGCTTTCAACACACAAC
65942	ZNF257	AATTCATATGGAGAAAAACCCTA
65943	HNRPM	CACAAAGCCCAGACGCGGAGAAAATGGCG
65944	PACSIN1	AGCTGGCAATCTGCACCTTG
65945	AP2B1	AGAATAGGTGCAGAGATGAAGTGA
65946	TP53BP2	GTTGGGGCAAAGGTGTCCCGTG
65947	TBL1X	TTTTCCTGTGGGCAGAAGGGCTGAGGA
65948	RAD1	TGCCAGCTACTCGGGAGGCTGAG
65949	CSE1L	CACTGCAATCCAGCCTGGGCAACAGAG
65950	DRD2	GGGACATCAGAGGTTCTTTGA
65951	TMC1	AGTCTGCGTGGTGCAGTGGAACA
65952	IL15RA	GGCGACACCTCCGCGGGCACTCACCCA
65953	CIAS1	TCGCCTAGGCTGGAGTGCAGTG
65954	FADD	ACAGGCATCTACACAGCCTGG
65955	SCG3	GTAAGGTAGAAATAGAGATAAAAA
65956	NFATC1	GGCCGCGTCCCACCTGC
65957	ZNF278	GGCGGGCGGGAGGGGAGGTGGCAGG
65958	DPYSL3	ATTGCCTCTGAACCCAGATGGCAA
65959	PCM1	GGAGCGGGAAAGGAGCAGT
65960	HOXC5	CACAGACAAAAGCGCTTTTCC
65961	MINPP1	GAAAAGATTTTTCACTGGA
65962	PRSS16	TCAGCAATAAATACTTCTCA
65963	RNF3	CAGAAAGAGGTTGCTGCAGTTTGG
65964	COL4A2	ATCCAGCAGCAGCACTTA
65965	EMP1	CTGTCTTTGTGCTGAATACGCTAAGCC
65966	CD37	GCTGGGCACTTCCCTGCTGCCTGTA
65967	HOXA13	CTCAGAATGAAAATTCATT
65968	GRIN2A	CTCTTGGATCTACCCTGAGTATCCTCCAAA
65969	PPP1CC	ATTAAGTAATCTTTTTACAGTTGCA
65970	ELK1	GCCTCGGAACCCAGGCCTGGGGGGCGGT
65971	CNP	CAGAGCTGGGTGAGTGGGGAGACACC
65972	ABCC1	TGCCTGGAACTGGCTGTGAA
65973	SLC14A1	GACAGGACTGCAAGAGGGA
65974	SP110	GCTAGCATCTCCCTGTAACTCTCCC
65975	8D6A	GGGTACCCGGGCACACCAGCCCTCAGA
65976	PLGL	TATTGTCATATTGTTATTTTCTCT
65977	PPT1	CCTTTCTCCTTCTGGAGATCAACCCA
65978	FBXW1B	TTCTCACCTCTGATTCCGGCTC

65979	GRIN2B	TGGATTCTTGAACAAACTGGAAA
65980	CHS1	CCACAAACAAGAATACAGGTATCTTGG
65981	PMSCL1	GTTGCTTAAGAAATACTTGTTG
65982	KCNK5	CCAAGCAGAGGTGGAGAAGGG
65983	PCSK1	GCCGCCCAGCCTCTCCTCT
65984	EDN1	GCCGACTCTGCACTCTCCACCCTGGCTGG
65985	IL1RAP	GCAGGCAAAGACTTGTTCA
65986	F13B	AACTTCGGAGTTTTTCCTTGCT
65987	RBBP9	GCACAAATCTCAGCTCACT
65988	IL1A	TCTACTTTTAAGTTGCTGATGAACTCTTA
65989	CTNS	CTTACCCAGCATCTGGAGTACAG
65990	TCL1B	GTGGCTGGCCCTGCTGGCCCTGC
65991	CXX1	CTCTCATTTTCTCTTGTGGACC
65992	SCA1	CCAGGGTGGTCCATTCAAGC
65993	SLC9A3R1	GCCGCTCTCAGTGGACAGGGCA
65994	TNFSF10	TGTGGTGAGATCATGCC
65995	CHST6	GGCTTGGAACACTGTCTTACA
65996	PRKY	GACCAGCTTGGGCAACATAGTG
65997	CD3Z	GCCGGGCAGAGGGGCAGATGGAAAGG
65998	IL11	CACGCCTGTAATCCTGGCACTT
65999	IER3	TTCCCTCTGCTGTAAATGCAGGTCTC
66000	TUFT1	GTTCTATAGCCTTCTCTTGC
66001	HMGA2	TTGTAGGTGAGATGCAACAAGCCCTGCT
66002	CD5	ACCCTCACCTGCGGTGCCCAGCTGCC
66003	B3GAT1	CCTGGTTTGAGGAGGAGGGACTC
66004	MECP2	GCCTCCTGTGGCCTGCCAGTCATCGA
66005	MAP4K5	AAACTGCACTATGATTTGCTTT
66006	PCDHA9	GCTCTCATCATATGCAAATTCTCA
66007	PRKACB	TGTGAGCCTAGGGTAGGGGCACTG
66008	CUL5	TTTGGGGAATGAACAGCAGCA
66009	NUMBL	CCCACCCCAAATCTGGTCGTCTCCT
66010	DYRK3	CACAGCTCGTGGGCCTGGGCGG
66011	SERPINB8	TTTCCTTCTACCTATCTTGCCT
66012	EPB41L2	CCTCTACTAAAAGATTCAGGCAGCTTA
66013	RAD9	TCTCATTGAGCCTCAGGCT
66014	TPMT	ACCCAACAACTAAATGGTTTAGATTGT
66015	CHD2	GTTTTCTGGGTCATAGGGAGCACATT
66016	ED1	CAGAACCTCTAAGTGCTGCTG
66017	GNE	GGAACAGACATGGACCTTCTCTCCA
66018	FGB	TTATCCTTGTCGTAGGAAAACCATGA
66019	PAG	TTCTGTCTTTGTTCCTTCTTA
66020	KIF5C	TGACATACTGGGAAAGGCAGAGGGTG
66021	EBI3	CTGCCTAGCCTGGGCTGGAGTCC
66022	EYA1	AGCTTTGACCCGAAGTAGTTGAAGAGC
66023	SRD5A2	CGTTCTGCCAGCTGGCCTGGGGAT
66024	ASH1	CCTCTTCCCCACTTCCCTGCACT
66025	GNAO1	AGAAGGCACAGGCCACTGCA
66026	UGDH	TTTGCAGTTCAATGAGAAGAGGGA
66027	STAU2	TCAGATTCTTCATCTGTATA
66028	MAPT	GGGACTTCAAAATCAGTGATGGGA

66029	PTPN1	CTCAGGTAGTACTGGGAATGGA
66030	SOX12	CCTCCCCCTAATTCTCATC
66031	SFN	GCTACTTCTCCCCTCCTCTTGCC
66032	AAT1	CAAGTGTCCATCTCCATCGGA
66033	DBT	TGGCTCACGCCTGTAATCCAGCACTTT
66034	DMC1	CCAGGAGGCAGAGATTGCGGTG
66035	GABRA1	AGTAATTCCCATCTGCCTTT
66036	ACCN2	CCCACCCCAAGTTCCACCT
66037	BUB3	TTGAGAATCAGTTTTGACCT
66038	KLRC2	TCCCTCACATCACACAGCTGCA
66038	KLRC3	TCCCTCACATCACACAGCTGCA
66039	OLIG2	CCGCCTCGGCGCTGCCTGCGTTGC
66040	ZNF264	AAGATGTAATTTTTACTTTATCTCT
66041	MPL	CTTAGTTTTTTCATCTGTAA
66042	MECP2	CCAGCCCCAATCCAAAACTGGCAAGG
66043	PPEF2	GATCCACCCTCCTCAGCC
66044	B3GNT3	GAGAAGGGAGAGATTCAG
66045	CAPN5	TGGGCCTGAGTCTAGCCTGGGAGCCAG
66046	MAML1	GTCACTGTGCAGTTGTGCACA
66047	COL4A4	GGGAGTGGCCAGCGGCCCTGCCCAGAT
66048	NPHS1	TTCTCCAAAAGGACAGGGCA
66049	AMD1	CTGTGGAAAACATACATTCTGTG
66050	BAP1	TCAGCTCTTCCTGCTACTCCAG
66051	MAN2A2	GGGGCTGTCTCTGGACATATCA
66052	MAPK7	GAGAGGCTCAGCCACCGGAA
66053	ADRA2B	ATCACTATTTCAAGTTAAAGGATCTC
66054	BRCA1	TGCCATGCTCAGAGAATCCTAGAG
66055	USH3A	GCCCTGCTCAACCTCTTGCAGGAGGG
66056	HNF4A	CAGAGGACGGGAGGCTGGAAGC
66057	SOCS5	GTTTCCTTACCTGCTGCTA
66058	DSC1	CTGAGTGGTTTAAAAAGGACTTTTAAGT
66059	PFN1	CATACACACACAAACCATTTTA
66060	SLA	GCTGTGGCATCACAAAACATTG
66061	SHOX	CACCCAGGCTGGAGCACACTGG
66062	SLC21A9	AGCTCACTGCACTCCAGCAGTCATGGG
66063	GAS7	CCATCTGTAAAGTCTCCTCT
66064	NPTX1	TCTGTCTTCTGTTCCTTCTAG
66065	CHEK2	GAAATGTACCTTCTTTCACTCT
66066	TP53BP2	CCAAAGTGCTGGATTACAGGT
66067	RNASEL	ATGATCTTGCAAAACAGGGAT
66068	IMPA1	CCAGTTGCTTTTCCCCAGAT
66069	LRP8	AAGGTAACCACAAAGTTATGATG
66070	SIGLEC11	GGCTCACTGTAGCCTCAACCTGCCA
66071	PDHA2	CAGTCTCTCAATGGAATGTTCATGGTC
66072	MASP2	GGAGCTCCGGCCTGCCCAGC
66073	ACHE	TGAGTGGTCGGACCGTGGGGAAGG
66074	RFP	AAGGCATCTTGTTGCCTTGCCAC
66075	PPP3CA	AGGGGAATGAACATGTTTTCC
66076	CDKN2C	CTTCTCGGGGGCCCGCCGCACG
66077	HGF	AAGCTCTTATACTAAAAAGCCTT

66078 STAT3 ATCGCTTGAACCTGAGAGGCGG
66079 NDRG1 GCGTAGCAGCACACACTTC
66080 GAB2 ACTCGGGGCCCAGCTGTGATT
66081 RAG1 TTTCTATAATGATCAGTTTACTTTC
66082 SMG1 CCGGTTATTTAAGTCATTTCTGTGAT
66083 MUCDHL TGTGGGAACCAGCACCTCCCACCAAC
66084 LIF TGATGAAGCTGAGCAGAGTGGAAACT
66085 SUDD ACCAGCCTGGGCAACATGGCGA
66086 NUFIP1 TTACTAGTTAGCATACACATTTTA
66087 ZNF76 GCCATCTGCATGGCCACTCTTGCCCCCAAG
66088 ZNF74 TCGCTCTTCAGGGCCTGCCCTGG
66089 SS18 TTCTTTATAATTGAATTGGT
66090 C5R1 GATCATTGCAAACTCAACACAAT
66091 CAPN10 CTCTGCCATACGCGGGCGCTGC
66092 DSC3 ACTTTCTCAAAGAGCAAC
66093 SIGLEC8 TTCTCTCTCATTTACTCTCGTTTTGCC
66094 RAD21 AACTGATTAGATGGGTTG
66095 CHST1 CTTTATCTGTGTTTTCTGTAAA
66096 TLE1 TTCTGTTCCTTGCAGTTCACCTCA
66097 RFP ATTCTGCCCAACTCCATCCTCT
66098 CAMK2A CTGAGATGGCCCCCACTGTGA
66099 ICA1 TGCATGCTCAGGACCCATA
66100 PRex1 CGCCTGTTACCAGAGGATCCCCG
66101 PLOD CCCAGTCCAGCCTCCTGGC
66102 CYP8B1 AAAGTTCTGGGATTACAGGCAT
66103 PTGES AAAGTGCTGGGATGACAGGCAT
66104 DDAH2 CCACAGCTGGGGCCTGGCCTTG
66105 HDAC4 ACATTCCTTCTTTACTGGTCACA
66106 HMOX2 GGGTGCGGTTTGCTCAGCCCC
66107 RPH3AL GCCACCCCCTCCAACCACTGCCCTC
66108 FAP GCTCTGAAGACAGAATTAGCTAACT
66109 PRKACA CCCCCCAGCCCCTCAGCCCTC
66110 BCAR1 GCCGCAGTGGCCTTCCCCAGCA
66111 NT5M TCCCTCCTAGACTCCTGGGC
66112 DSCR3 CTGGAGGAAGCTGTTTTGAGCCAGGG
66113 PPP2R1B TCAGCGGGGCCTCTGTCTTTTGTG
66114 PUM1 CCTCATTCCCGCTGACCTCACTGGCC
66115 ATP8B2 CAGCCTGTCCTTTACTTCATCCAC
66116 SLC1A4 GGAGCAGAGTCCTTTCTGCTGGTGAGG
66117 FXYD2 TCTCCCTCCTCTGTCACCA
66118 ZNF85 TAATTTATGCTCACACCTTACTGCACA
66119 HD TCCAGAGGGGTCACGTGTAGGAG
66120 YWHAE TCACCATTAGCAAATGGAAATT
66121 BENE CGTATTAGCCAGGATGGTCTC
66122 CLCN6 CCCAGCTGGAAGGGACACTTTC
66123 CHST7 TCACACTCTCAGAGTCTGGG
66124 CKTSF1B1 AAGCTGTTTTTATTTCGTTTTT
66125 LIG4 AACGGAGCTTGCCCGAGGCCAGTTAA
66126 BAZ2A GAGCTGAGGCATCCAAGAAATG
66127 PTK7 GTGACTTCTCTACCAAGTCTGATGTC

66128	GRM3	AGCACAAAATAAAAAGCATCTGTA
66129	ATP8B2	CACCTAGGCAAGAGTGCAATG
66130	TADA2L	GGCGAAGTGCCTCACTTCCTTCTCCCG
66131	HMGCR	AATGTTCTTTAATGTTGTCAGGAAAC
66132	KCNH5	TCCTACTTCACCCATTCATCTA
66133	OPHN1	AGCCCTAGAAAGCTGCTGTGATCCC
66134	PPP1R12B	CTGCAACCTCCACCTCCCAGGCT
66135	MFRP	GGATCCAACTGGCTGTCTGCCTCTA
66136	CHD3	GAAGGCGGCAGACACTGTGA
66137	BTG1	TTGCTAGCTTGTAGTTTTCTA
66138	HUS1	GTCCACTCCCCTCTTGATGCC
66139	HS2ST1	TTATAACCTCCTGCCTGGG
66140	EPS15	TTTGCCGTGGCCCTGTCCTGTTTA
66141	XT3	GCACAAAAGTGGCCATGTCGA
66142	NIF3L1	TCCAGAGAGTGTCTTCGAGGGTATCAT
66143	MSL3L1	CTCAGCTGCTCGCAGGCT
66144	PTHR2	TACATTGTACATGGCATGTGGGATCAAT
66145	MAK	CCACCTCCTGGGTTCAAGTGAT
66146	AXL	CCACTGCACTCAACCTTA
66147	IL10	TAACCAGCCTGGTCAACATGGT
66148	IFIT4	CCCTGCACTCCAGCCTGGGCTTCAGA
66149	PHKB	CCAGGAGACGGAGGTTGCAGTG
66150	DISC1	ATTCCCTTTTTCTAAGGCACAG
66151	SIAT7D	TCCAGCCCAGTCGGCCCGGC
66152	RAG1	GCCTGCTGAGCAAGGTACCTCAGCCA
66153	BMPR2	TTTCTTTTCTTTGCCCTCCTGA
66154	BCL9	AGACCAAGCAGACAATAGGCC
66155	ASTN	TGAAGGATTTATTTCAAACTCTC
66156	PAX5	TTGCTTTTCTGTGGGCCTGAAGGTC
66157	C1orf6	AAGCCCAGTGGCAGTTCTGGG
66158	NRG1	CAGATGTTTTTCTTCATTAACCA
66159	ADAM17	GCCTGTAATCCCAGCACTTGG
66160	PCDH11X	TTGTGATTTCAAAATTAGGCTA
66160	PCDH11Y	TTGTGATTTCAAAATTAGGCTA
66161	IRS1	TCCCTGTGCCGGACTCCAGCCGGGG
66162	PCDH9	GCATTTTATTTTGACCCTGGACTG
66163	CA12	TGGAGATGAGTCAGTGCCATGAC
66164	HLF	AGTAAGAGTACTATTAATAGAACAC
66165	SYP	GGAGAGGGGACTTGGATAGGAGCTTCC
66166	CML66	ATTGAGATATATACTACAAGTGC
66167	INPP5B	GTAGCTGTGTAAAGTGTGGG
66168	GRM1	TAACTGCAATTAGAAATTGTCTTTTG
66169	LTB4R	ATTCAGGCTGGAGTGCAGTGGTGCG
66170	ABCG2	TCATCCCAACATTTACATCCTTAA
66171	ZNF264	GTCACCCACGCTGGAGTGCTGT
66172	BSN	GAGATGCCATCTCTGTCT
66173	APPBP2	GAAACATCATTATTGGCAGTTT
66174	PAX5	GATGGCAGAGAGCCAGGGCAG
66175	AHCY	AGAACAGAGAAGTGACAGCTAG
66176	CHD4	TCTGCAGGAGCTGGCGGGCTG

66177	SLC6A6	CACTCCCCACTCTCAGCCTGGGAGA
66178	CANX	TTCAAGACATCACCATCAG
66179	ZFP161	ATAAGTAAATTGATTTCCTAAT
66180	ALDH1B1	TCGCCCAGGCTGGAGTGCAGTG
66180	BCL10	TCGCCCAGGCTGGAGTGCAGTG
66180	CASP8	TCGCCCAGGCTGGAGTGCAGTG
66180	EHD2	TCGCCCAGGCTGGAGTGCAGTG
66180	FHL2	TCGCCCAGGCTGGAGTGCAGTG
66180	GRINL1A	TCGCCCAGGCTGGAGTGCAGTG
66180	INMT	TCGCCCAGGCTGGAGTGCAGTG
66180	KCNJ11	TCGCCCAGGCTGGAGTGCAGTG
66180	LYZ	TCGCCCAGGCTGGAGTGCAGTG
66180	ORC1L	TCGCCCAGGCTGGAGTGCAGTG
66180	PAICS	TCGCCCAGGCTGGAGTGCAGTG
66180	PCDHB9	TCGCCCAGGCTGGAGTGCAGTG
66180	PIGR	TCGCCCAGGCTGGAGTGCAGTG
66180	PPP1R12B	TCGCCCAGGCTGGAGTGCAGTG
66180	SERPINB9	TCGCCCAGGCTGGAGTGCAGTG
66180	SLC13A1	TCGCCCAGGCTGGAGTGCAGTG
66180	SMAC	TCGCCCAGGCTGGAGTGCAGTG
66180	SS18	TCGCCCAGGCTGGAGTGCAGTG
66180	STAU	TCGCCCAGGCTGGAGTGCAGTG
66180	TAPBP	TCGCCCAGGCTGGAGTGCAGTG
66180	VIPR2	TCGCCCAGGCTGGAGTGCAGTG
66181	PPID	TCACCCAGGCTGGAGTGCGGTG
66182	DFFB	TTGCCCAGGCTGGAGTGTAGTG
66182	HYAL4	TTGCCCAGGCTGGAGTGTAGTG
66183	EGLN1	TCTGGGAGCCTGATTCCTGGATTCAGT
66184	FMR2	TCCATGTAAGGAAATGAAAAGAC
66185	PTK2	TGGCAGCTGCTTACCTTGACC
66186	PPP1R2	ACAATTGATGAATTGTGTACA
66187	SOX4	ACTGGAAGGGGGTTCACGGTCAAACTG
66188	DNMT3A	AGAGGTCCTGAGCCCACCCTAGTTGGG
66189	C18orf1	AGAAGTTAGATGAGTGCAAGGA
66190	HSPA1B	ACAAAGGCTGGGAATG
66191	CD28	GGAGATAATGGTTACAAATGTCT
66192	PACSIN1	CCTCCTGTAGCCCCTGCCTGCACCCACGA
66193	CLCN5	CTCTCATCTGTTGCTTTCCA
66194	TAL1	TCTGTGGGCGGGCCCAGCACTT
66195	CNTN2	ACCATCCTTCAGTCTAAGGAA
66196	LCP1	GGCTTGACAAAGCTGTTCTGC
66197	SLA2	AGCTCACTGCAACCTCCATCTC
66198	RIG	AGCCACTGCAAATGACTTGCAGTTTC
66199	FAT	TGTCAGTGCCATTATCTAGCACC
66200	DSC3	GGCTAATTTTTTGTATTTTTAAT
66201	YES1	GGCTAGTTTTTTGTATTTTTAGT
66202	RASSF1	AGACACCTGACCTTTCTCAA
66203	HPS4	CTGAGGTATTTCATATCTCCTGCTGTT
66204	PPP1R12B	CTGTGCCTTTGCCTGTCCTTTCTCCC
66205	SLC19A2	TTTTGCATTATTCATATGCTTCC

66206	DBN1	TTCCTAGGCCTCCTCTCCCTGCTGGCAGA
66207	GPR56	TCTGTCACACAGGCTGGAGTGCAGT
66208	ARF3	GCTTGCAGCCAGGACACTGCC
66209	HAP1	GGGACTGAGGCCTCCTGCAGGTACCT
66210	FGF13	TCTGTAACAGAACCTTACCTCCAGGTG
66211	STK13	TCTGAGCGGTTGGTGCCGGGT
66212	ITK	GATCTTAGGTCTCTTCTTTTA
66213	COMT	CTGCCCGCCGCGCTGCCTGCGC
66214	GPR81	GCGCCTGGCAGTAAGTGCTCAA
66215	SFRP1	GGGCAGGGTGGGGAGGGAGCCTC
66216	CHS1	TATTAGAATAGGGTTGCTA
66217	SORCS1	GCAGTGTACAGGTGCTCTA
66218	RBM10	CTGGGGCAGGGAAGGACAGAG
66219	PLCB2	TTGAGGCAGATCCTGGCACT
66220	ZNF10	CTGATATCCTCATCTGTAAA
66221	TPSB1	GGGAGCGGCCAGGATGCTGAA
66222	B4GALT5	CAGCACTGGCTTTCTGTTTTCA
66223	PTPRO	TCAGAATCCGGAGCAGAGAGG
66224	TBL1X	TTTCCCCTCAGCCTCAGGAAAGGTGGT
66225	FZD3	TTCTGGCTGTGTTTTTATAACTTA
66226	WTAP	ACAGTCCCACTACGAGAAAGCTGTG
66227	WBSCR14	CAATCAGCAGATGACCCCCAGGCC
66228	PDYN	GCTGGATAGGAGAGGAAAAGGCTTG
66229	ATSV	GCAGCTTTCCCCAGGAAAGG
66230	COX15	GGTCTTGAACTCCTGACCTCA
66230	EIF5A2	GGTCTTGAACTCCTGACCTCA
66231	NHLH1	TCTCTGACCCAGGCACCTCGAGGGC
66232	PSMD2	ATGGAGGAGGGAGGCCGGGACAAGG
66233	HRH1	CGAGGCACGAGAATCGCTTGA
66234	ATP2B4	GGAGACAAATATCCCCAAGTG
66235	GPR87	ATGAGGTGAATGGACAGCCAG
66236	SS18	TGTTACAGACTGAAAGGTGTGAAC
66237	CORO1C	CATGTGTTTCTGCAGTTTGTTAC
66238	SCA2	TCAGCTAGCAAAAGAAGTAACAAGA
66239	AMD1	ATGATAGTGTAATCATTTTGAATTG
66240	PCDH7	CAGATTATCTTCTGTAAA
66241	MAPT	GTGAGTGTGACGGGGGTTGGGGTGGGG
66242	MOCS1	CACCCAGGCCTGGAGCTGGGATGCAA
66243	ZNF3	CACTGCCTCTCTAAGCTGGCCTCAGGT
66244	ASB1	CTTCAGATATATTTAGGAAGGCGCAG
66245	C8orf1	AGTTTCACATCTTAATGAAA
66246	AIM1	GATCTCAGGCTGGAGTGCAGTG
66247	DMC1	GACCAGCCTGGCCAACATGGAGAAACC
66248	LPP	ACTACCTGAACATTGTAATA
66249	PLAUR	CTGTGTGACCTCAGGCCAGTGTGCCGA
66250	CMAR	GCCGACTTGGCCCAAGTAGTTGGG
66251	UPK1B	CTGAGATCGTACCTATTGCACTC
66252	SYNGR1	ACTTGTCCAAGGTCAAGCACAG
66253	FANCG	TGTGGCAGCGAGGAAGGGCCG
66254	ADAM19	CTGGCAGCTTCTCCTCCAGACT

66255	TGM4	AGCCTGCTCCTTCTTGTTCTGCCCT
66256	CHRNE	TTCCCCCTGCTGATCAATCTGCA
66257	EGLN2	CCAGGAGGCAGAGCGGGAGGGTG
66258	BCL11A	AGCGCTGTGAATGGAAACAGAA
66259	SMARCAL1	GGTTGACATTCCTGCATAAGCATTTC
66260	CORO2A	GCCTGTAATTCCAGCATGTTG
66261	PARK2	CACTGCATGCGGCAAACCGCATG
66262	CASP10	CACCCAGACTGGAGTGCAGG
66263	ESRRG	GTTTAAGTAACTCTCAGCATTACAAA
66264	DHPS	TGGTCAGCTACGTCTCTAGAATAAGA
66265	MDS1	AGGAGGTGGGGGCCGCAGGGTTGGGG
66266	SURF5	TGGGCCAGCCTTTTTTGGGCAGTCAGG
66267	SLC3A2	GTGGCAGGAGCGGTGAGATCACTGCCT
66268	FCMD	CCTCCCACTTCATAACTACAAAAA
66269	FAT2	GTCACACCACTGGCTGCCAGTCA
66270	SFRP1	TGGTAGTGTAGCTGTGTGGCTT
66271	TNNT2	AAACCTGCACTGACTTT
66272	HPS4	CAGTTTGGCAACCTGTGTCCTGGCT
66273	BSN	GCTGCCAGGTGAGTCACCGCC
66274	TBX5	GGAGCAGCAGAGGATGTGGTGA
66275	MUC3B	GTCTGTGGGCACCAGCACTTCA
66276	SYNGR1	GGAGGTATGGGAGAGCGCTGGGGGCCCATC
66277	ACCN2	TCTCCACCCCATCCCCTCTTGTC
66278	HOXC11	GCAGCTAAATGTGATCCTGCC
66279	BACE	GACCACACCTCCGTGGTTCAC
66280	DHCR24	CCTTCCTCCTTCATGCCTGGGCC
66281	ARHGEF7	TCTGCCTGGGCTCAGCGTGGACCTGC
66282	FOXD2	TCGCTGCTCTTAACTACTA
66283	B3GNT3	TGGTGGAGGTGTGGGCAGAGGAGGGAG
66284	GPR61	GGGAGCCGGGACTGCTCAGCAAAGA
66285	TRIM14	CTCCGCACCCTCACCCCACCA
66286	PIM1	GCACAGCCCCGGCTCCGGCTCCTGCGG
66287	PDE7A	GGAGTGTGAGGGATGCTGAA
66288	SHOX	ACTGGTGCGATCATAGCTCACT
66289	MUCDHL	CGAGGACATCGGGACGGAGGCAGAC
66290	MMP19	TGGAGGTCAATGGTGGAGGGAGATG
66291	MNT	GGTCAAGGACAGGGCTGAGCGTG
66292	CDC5L	CCTTTCAGCCACCCAATATCTC
66293	PMCHL1	TGCCTCAGCCTCATGAATAGCT
66294	SIM2	GGACCAACCCCAGGCAGAAGGTG
66295	LRRC2	CACTGCCCTCCAGCCTGGGTG
66296	AKT1	ACCAGGGATGGGGGATGGGCCAGG
66297	SRP46	GTCACCCAGGCCTTGCAGATAAATAAT
66298	FCMD	ATCACTTGAACCCGGGAAGCAG
66299	HTR1E	CGCCCAGGCTGGAGTGCAGCAGCACA
66300	DDX3	GAGGAAGAAGAGTGAAGGCCAGTGTTA
66301	ATP2B2	CTCACCACCACTGTCACCAGCCC
66302	CPM	AGAGGCGGAGTTTGCAGTGAG
66303	CNTN2	GACTCTGCTCTCCCAGCAC
66304	CA14	TATACCCCAAAGTCCTCTACCCCCTCA

66305	ADRBK2	AGGGTCCATTATTTCATAAGA
66306	NAB1	TTAGCATTCAGTCATATAACATCTG
66307	VENTX2	TGCCCAGGAGGCAGGCAGTGCGGGGT
66308	LAMC1	GCTGGGGTAGAGCAAGTAGCC
66309	APM1	GTGGCCCTGGCTGGAGTTCAGTG
66310	SLC8A2	TTTGATTGCCCTGTTCTGTGTC
66311	F2RL3	CCACAGCCCAGAGCAGCCTGAGT
66312	KCND2	CAGGTCGCCTTTTTGAGACTC
66313	FCAR	CAGGCTGAAGTGCAGTGGAGCA
66314	GPR61	AGCTTCAGTGACAAAGACTTAAATC
66315	PTGS2	GCCAATTCAGTAGGTGCATTGGA
66316	ALDH3B2	ACCAGCACTGCCTCCCCCAGGGATCC
66317	IL2RA	CCACTTCTAAATAGCAATT
66318	IFNAR2	CTGATCAAAGTGACACTTCTGA
66319	TAL1	GTCACTCAGGCTGGAGTACAGTG
66320	C21orf2	GAAGCAGCTAGACTAGGGGAG
66321	FRAT2	TTCTGCTCTCTTCTGGCCCTCCATGGAG
66322	REQ	GGAAGGATCAGGGGGCCAGGC
66323	HPS4	GCTCCCTCTCTGCCATACTGAGCCTG
66324	ADORA1	ACTGCCTCTGGGACCCCTGCCGGCC
66325	SHANK2	ACATGGAGTTAGTCAAAGCACAA
66326	CLN5	TTCCGCACTATTGTCCCTTCTTCCTCA
66327	PCDHB16	GGTGTCAGAAAGAAAAGGAA
66328	SLC20A2	CTGTGCTTTGACATTCTAGCACTTCAGG
66329	DGKB	AAAACAATGCTTGAGAGAAATGGGTT
66330	ILK	CACTCCACAGTCCTCAGGCTTC
66331	EYA2	AGACTATTGCTTATTTTTGTTTT
66332	GPR56	TCCTCCTGCCAACATTCAGTCTGG
66333	FXYD2	CCTCTGTCACCACCAGCCTC
66334	TNFAIP6	TGAAATTTTGGAATCCTGCTC
66335	C1orf1	ACCTGTAATCCCAACACTTTGC
66336	DAPP1	CGGCGCTGCACTCTAGCCTGGG
66337	LDB1	CCTCCATCCACCCGCTTCAG
66338	PRND	TTGGAACAACAGCTATCTAGATAGCT
66339	SNAP25	TATGTCAAATGGATGTAATA
66340	MAX	TGGGGTTGGGACAGGGAGGGT
66341	DNMT3A	GCTCCCTTCCCTTCCTCCCCCTTC
66342	SHOX	GGAGGTGGTGACCGCGCTGGGGAC
66343	UBE2G2	CGGCTGAGGCGAGGTCGCT
66344	C10orf2	GTTGCTCAGGCTTTGTTTGAGGT
66345	KRN1	CTCCTGAAGATCTGTGCTTTCCA
66346	SLC1A4	TTCTGGGAGACTGCAGGTGCCG
66347	CSF2	TGCTCTCTCATGAAACAAGAGCT
66348	LAMC1	CCCACTTCCTGTTTCCATCTGCTTGGG
66349	DLEC1	TGGTCTCAGCCTAGGCCCTCA
66350	AQP6	ACCACGCCCAGCTAATTTTTTGT
66351	NPDC1	GGCCTCGGGCTCCAGGCCCTG
66352	PPP1R12A	CTATATTTATCTGAGTGCTGTCTAAAACTG
66353	FXYD2	GCTGCTTCCCTCACCTGCCTGCCTGTC
66354	CREB1	CAGGAGGCAGAGGGTTGCAGTGA

66355	LDB3	CTCAGGTTGCAGACAGCTGA
66356	NEU3	TCATCCAGAAAGCATCATTTTCTAGGG
66357	CNTN2	TCCCTCCAGGGTTTGGGCAGGAGATGG
66358	MX2	ATACTGCTATCATTCTTC
66359	CHD3	TCAGGATATCTGGAACAA
66360	BACH2	GGGGAGAGAGTTTGGACATCTCA
66361	DGKB	TGCTATGTCAATCTCAGTTTTGCTTTCCT
66362	IFIT4	CCTGGAAGGAAGAGGTTGCAGTG
66363	TLR4	ATCTCAAGGAGCTTCCAGTGCAG
66364	TAF1C	GAGTGCTGGCTCCTCGTGTTTGGTGA
66365	SLC2A6	AGCTCCTATCTGCAAACTGTGTTCACCCTTT
66366	MGAT2	TGCAGAAGATCATGGGCATCTCC
66367	PPEF2	CCTGTCACTGTGAATACTTGGCCAG
66368	TP53	GCACATCTGCATTTTCACCCCAC
66369	KCNK5	CGTTCACTCTCTGCCTTCT
66370	ITGA2	CCTCCCTTACTGAACCA
66371	GPRC5B	GCTCCCACTCTTATCACCTCTCCCCAG
66372	TPT	CAGACTCCGACCATGGCCTC
66373	ACE	AGAGGCTGCTGCAGACAAGTGG
66374	SLC24A1	GACTGATTTCTTCTGTGGTTT
66375	RFP	TCTCTCATGCTACCTTTTGTG
66376	ASK	CTGGGAAGTGCAGGTTGCAGTG
66377	RHO	CTTGGCTAATGATATGG
66378	PRKY	AAGAGGTTGAGGCTGCAGTGA
66379	EVC	AGCATGATGGGGACTTCCATGC
66380	AQP2	CGCCCAGGCCAGTGCTGTG
66381	PNOC	TTTGTAATTCCTCTAGCTACC
66382	ZNF174	GAGCAAGGAGTAACTACTGAGAG
66383	CHML	AGCATAATCACACCTCATTTCTTTCA
66384	DAAM2	GACTGGCCCTGCCTAACCTCTACCATC
66385	ATP8B2	GCAGAGGAGCTGACCAGGGAG
66386	MDM2	GGAAAGATGGAGCAAGAAGCC
66387	ELOVL4	GCATGTGTAGGATGTATGCTG
66388	RABIF	CACCACTGGCACTCCAGCCTGGG
66389	PTMS	CTGCCCCCCTCCCCTCCCTT
66390	EGLN2	CAGTGCACTCCAGTCTGCAGGTACTGC
66391	PPARBP	GTTAGTGGTGGGGAAGGGCTT
66392	VANGL2	GAGCAGTTTCCCCACTGTGTCTGTCC
66393	BZRP	AGCCCCCACCCGGGAGCAGTG
66394	SUV39H2	TGAGACAAATAGGTGATACTG
66395	ARF3	TCCACCCTTCTTAGGGCTGGAGGA
66396	FRDA	TGCCCCCAAGTTCTG
66397	PPYR1	GCCAGGCTCTTCCACTTAGC
66398	BMP1	ACGCTCGGAACACATTCTCC
66399	LIFR	GGATTTGCAGGCCAGGGAGAAA
66400	PTGFR	GCAGTTTCAAACTCTACCATG
66401	WEE1	TGAACCATGGGATGATGATT
66402	MYO10	AACGCACCACCCTCTGGCCTAGGCTG
66403	EBAF	GCTTCAGGCTGGGGGCAGTGGA
66404	RRM2	TCCTGTCTGTTTATAGTGCTGGTAGTATCA

66405	KCNS3	GCTTCTTGGATGATGATGGACGTCCCAC
66406	FZD8	TTCTGGCTTGTCATTCTGTA
66407	SLC2A3	TAATATGGGCATTGTAGT
66408	ATP2B4	ATGTTCCTCTCCTGAATTCTGGA
66409	ASPH	AAGCATGGAAAATGTAATA
66410	CSPG2	GAAGATGGCTTTTCCTGGACAGC
66411	APPBP2	CGCCGTCCCTCAGTTTGCCCCC
66412	PPP1R8	TGGGTGGAGAGGATGATGAA
66413	CKTSF1B1	AATTTTGAGGGTGGGAGAGA
66414	CCNG1	GCAGGCCCGGGGAGGGTGGTTACCGC
66415	CYP1A1	ACATCACATTCCTCTGCCCTTC
66416	FCAR	CCAAGATCACGCCATTGCACTC
66417	SLC24A1	AGAACCTCACCCCTGGAGGGGTGGA
66418	HLA-DQA1	TACATGCCTGGGGTAAGCCACCCGGCT
66419	APOBEC1	TTTGGCACATGGATCAACAAAAT
66420	CBFA2T2	GAGTAGCTGGGATTACAGGCAT
66420	DFFB	GAGTAGCTGGGATTACAGGCAT
66420	PIK3C2B	GAGTAGCTGGGATTACAGGCAT
66420	PKNOX1	GAGTAGCTGGGATTACAGGCAT
66420	PPEF2	GAGTAGCTGGGATTACAGGCAT
66420	SEDL	GAGTAGCTGGGATTACAGGCAT
66421	DFFB	TACGGGTCAGTAGGGATAA
66422	KMO	TCTCTGAAACTCCTCTTTGTCATACTGC
66423	ABR	CCCTGCTCCCAGATGGCGGTCT
66424	EMR1	TGCAGGAGCCTACCCTGAAATCTCT
66425	RAD23B	AATCAGCTTTTGCAGGTCTTTATTTC
66426	FUT7	GGAGGGAGGGCGGTGGACAATAAA
66427	GALT	CAGTCTTGCTGAATTAAGCAGAAAGGG
66428	TNFSF14	CTCCAACCTGGGAAACGCAG
66429	MEFV	CTGCTTCTGTCTTGAGGATATGGGAAG
66430	IL18R1	TTGTAGTGCTTACAATTTTGTG
66431	GSTA4	AAGAATGGGCAGGATCTCTT
66432	CEACAM1	TCTTTCAGGGTTTTCTAACCCTG
66433	BTD	TCCCTCAGTGTCTTCCTCTTAAACCTCA
66434	IL17R	GCCTGTAATCCCAGCACACTGG
66435	MTNR1A	TGGTGCACACGCCTGTAATCCCAG
66436	GPR85	ACCTTCTCTGCTGAGCAATTGTGGCC
66437	VHL	CACCTGAGGTCAGGAGCTCAAGAC
66438	AQP6	CAGCTCAGGCTGGAGCAGGT
66439	TLR4	CAGAGTCTTCCAGGTGGGCATTTCA
66440	ABR	AGCTCAGTTCCCATTGCTTGTGCT
66441	PF4	TTCCAGTTTCAATCTAACTGTGAA
66442	IL22RA2	TGTGCTTAGGCAAGTGCAAA
66443	MAK	CTCATGCTGCTGACCACTGACTCAGCT
66444	NLGN1	ACAGTCTTTCATGATATGA
66445	VTN	TGGAGGGGGCAGAGGGGATGGGCTGG
66446	PTP4A2	GCTGTAACCGTCGTCTGTCCGGG
66447	AICDA	CGCCTGTAATCCCAGCACTTTG
66447	ATM	CGCCTGTAATCCCAGCACTTTG
66447	BRCA1	CGCCTGTAATCCCAGCACTTTG

66447	CARKL	CGCCTGTAATCCCAGCACTTTG
66447	COG7	CGCCTGTAATCCCAGCACTTTG
66447	CREB1	CGCCTGTAATCCCAGCACTTTG
66447	DBT	CGCCTGTAATCCCAGCACTTTG
66447	EGFL5	CGCCTGTAATCCCAGCACTTTG
66447	F2R	CGCCTGTAATCCCAGCACTTTG
66447	FKRP	CGCCTGTAATCCCAGCACTTTG
66447	GNE	CGCCTGTAATCCCAGCACTTTG
66447	HIP1	CGCCTGTAATCCCAGCACTTTG
66447	IL10	CGCCTGTAATCCCAGCACTTTG
66447	IRAK1	CGCCTGTAATCCCAGCACTTTG
66447	ITGAL	CGCCTGTAATCCCAGCACTTTG
66447	KAI1	CGCCTGTAATCCCAGCACTTTG
66447	LAMP2	CGCCTGTAATCCCAGCACTTTG
66447	LDLR	CGCCTGTAATCCCAGCACTTTG
66447	LEP	CGCCTGTAATCCCAGCACTTTG
66447	MOG	CGCCTGTAATCCCAGCACTTTG
66447	NT5C2	CGCCTGTAATCCCAGCACTTTG
66447	PCDH11X	CGCCTGTAATCCCAGCACTTTG
66447	RAB3B	CGCCTGTAATCCCAGCACTTTG
66447	RBBP5	CGCCTGTAATCCCAGCACTTTG
66447	SCN2B	CGCCTGTAATCCCAGCACTTTG
66447	SLC14A1	CGCCTGTAATCCCAGCACTTTG
66447	SLC14A2	CGCCTGTAATCCCAGCACTTTG
66447	SLC2A3	CGCCTGTAATCCCAGCACTTTG
66447	SLC2A6	CGCCTGTAATCCCAGCACTTTG
66447	SMG1	CGCCTGTAATCCCAGCACTTTG
66447	STAT3	CGCCTGTAATCCCAGCACTTTG
66447	SWAP70	CGCCTGTAATCCCAGCACTTTG
66447	TCF7	CGCCTGTAATCCCAGCACTTTG
66447	TEM7	CGCCTGTAATCCCAGCACTTTG
66447	TNFSF14	CGCCTGTAATCCCAGCACTTTG
66447	TSNAX	CGCCTGTAATCCCAGCACTTTG
66447	USP14	CGCCTGTAATCCCAGCACTTTG
66447	VHL	CGCCTGTAATCCCAGCACTTTG
66447	WIG1	CGCCTGTAATCCCAGCACTTTG
66447	WSX1	CGCCTGTAATCCCAGCACTTTG
66447	ZNF36	CGCCTGTAATCCCAGCACTTTG
66448	GPR92	CACGGAGCACAGGTCTCTGCTGCT
66449	TNFRSF8	CTGAAACCGCTCAGATGTT
66450	ZIC1	TCTTTGTTTTCTTGTAAATAC
66451	BCL11B	GGGAGATGGGGTGGCCTGCAGTGA
66452	SERPINA3	CCCATGGACTCTTCAGTCTGG
66453	APBB2	GTTGAACCTTTCCTTGATTTTATG
66454	FXYD7	CTCCTTGTCTCATCCCCGAAG
66455	ELMO1	TCCTCATTCCCACTGGCTTTGAACATT
66456	TCF2	AAGCCCAGGGACTGGCTTCTCTTTCTC
66457	CRY2	CCAGGAGGAGACCAGGTTGCAGTG
66458	PRKCG	GTCTCCAGCTCCTCTCCCTTCCA
66459	GLO1	TAGTTATCTTCTGGGGTTTCA

66460	HS2ST1	GCTGTGTGATCTTGGGCAAGTCACTT
66461	CNGA3	CCATCCTTCACTTATGTAACAT
66462	UBE3A	GCCTGATTTTAGAATTCACCAGCTCCTCA
66463	TCF2	CCTGGTCTCTTGCGGTCCTCCT
66464	RASGRP1	CTGTCTCAAAATGTATAATA
66465	EZH1	GTGCTCACACCACTGCTGCTCGAGTCT
66466	KCNK2	GACTTCTCTATGCTCTTTATGA
66467	PP	CTCCGGCACTATGAGCGGCTTCAGCA
66468	GAS7	GGGGTCAGGGAGACCCCTGCTT
66469	AP2A1	GTATTTTTATTTTTGTTCATCTGCT
66470	DIAPH2	CCTGCAGCTCTGCTCTCGGGATGGTGC
66471	C1R	ATGGAGGAGGAGGACTGGCCCAGA
66472	HUS1	CTGGGAGCTTGGTACTTTCCCTCCAG
66473	CTMP	GGAGGAAGAGGTTGCAGTGAG
66474	PUM1	TGCATATATACAAATTTGTAGTA
66475	GTF2F1	GGGAGGTGGAGGTTGCTGTGAG
66476	FNTA	TGCTGCTGCTACTCAGACTAGCTCT
66477	HDAC5	TATCTCCAGGGCCCCACCAATC
66478	UBL1	GACTGTGACTTTCAGTG
66479	SET7	TCCTCTTCCTCCTCCTCCTCCA
66480	CNTN2	CCTACTTTAAACAGTGCCCTT
66481	MADH1	CAGGCTCCAGGAGAAAGCAGGCG
66482	CBFA2T2	TGAGGAATGATTGCAGGGACCAG
66483	SCN4A	CTGGGGCGTGCAGCAGGGAAGGCCCA
66484	SH3BP2	CCCCAACAGTTGGTTGTCTTGTCTT
66485	APPL	CGGCAGCTGCGTCTCCTGCC
66486	C4orf1	ATTGCAAATTGTAATGCTGGAA
66487	PAX8	CCACGGCCTTTGACCATCTGTAGT
66488	VPREB3	TGCCTCCCCTCTGCCTCC
66489	NPY1R	CATTTTGGTACCTGACAACAAG
66490	WARS	TTGGCACACCAGTGTTCTCCTGCC
66491	RTN4	AGCAGATCGTGACAAGAGATG
66492	SEPN1	CCTGAGCCACTGACCACGGCC
66493	ZNF85	ATGCTCACACCTTACTGCACAGAAA
66494	SCNN1G	CTTGGAGTGTTGGTGGAGATCAGAGT
66495	ZIC3	TGTTTTGTAACAGCCTTC
66496	C4orf1	GCGGAGGCAGAAGGCGGTG
66497	GNAL	CCCCATGCCATGGTAGGAGGCAGAGTCT
66498	NDUFS2	CTACCATGGCTTCTCTTTTCTCA
66499	RTN4R	TACATACGGGGTCTCTCTCCA
66500	LTB4R	GTCATTCAGGCTGGAGTGCAGTG
66501	ZNF10	AGAGAATTGGTCCTGGAAGGGAA
66502	RARG	GGTCCATTCTGCACCTCTTGGCT
66503	EIF3S2	ACCAGCCTGACCAACATGGAGAAACCT
66504	IL1RN	ACTCGTATATGTCTCAGGTCCCTGCAGGGCC
66505	ZNF134	AAGGATGAAGAGTCATCTTCTGAAC
66506	PPP1R12B	CCTGGAGAAGAGAGAACTATTT
66507	SYNGR1	GCCCAGGCTGCCCGACTGCAGACCA
66508	AGL	AATTAGATTTTTAACAGGTGTCA
66509	EIF2C1	ACTCCTCCTTTACTTTTTTCCTGC

66510	C14orf2	CCATCATTGTGAAATAATTACCTCAGT
66511	CANX	ATCAGAGCCTCTCCCACACCA
66512	TAF7L	CATATTGGAGAGGAGCTAAGGTAA
66513	APOL1	GCTCACTGCAAGCTCTGCCTCC
66513	FUT1	GCTCACTGCAAGCTCTGCCTCC
66513	PTGIS	GCTCACTGCAAGCTCTGCCTCC
66513	YES1	GCTCACTGCAAGCTCTGCCTCC
66514	SLC17A7	CCTCTCCACCCGTTCTGCCTCA
66515	RECK	TCTGTATAAATGTCTTTAATG
66516	PROK2	TGCCTCTTCCACCTCA
66517	HIP1	CCAGTGCACTCCGGCCTGGGTG
66518	SH3GL1	TCTCCTGCAGGGCCCTGCCTCC
66519	TCP1	TTCAAAGTTTAAGCAATTCATT
66520	HMG20A	TTGTTTTTGTTTTGACACTGC
66521	BAIAP3	TGCCCAGGACACAGTGCAGGCCAGAG
66522	CELSR2	TCTCCTCCCCTCTCCTCAGTTTTGCC
66523	ARHGEF6	CTGGGTGGAGTGTGCCTTCA
66524	ATRN	GTGGACTCAGATGCCAGGAAAGG
66525	RBBP2	ATGGACTCTGTGGGTTACATTGCTCTA
66526	FMO5	GACGAGATTGACTCTCAGTTT
66527	VDR	GAGCTCAGACCCCCACTCTCAT
66528	XRCC2	GGTAGCTGGGATTACAGGCACCCACC
66529	ARHGAP6	CCAGAGCCAGCGAGCAGGAGCGC
66530	HRH1	CAGGCACCTGGGCTTTCTGGAA
66531	SMURF1	GAGGTCAGGTTCATTTTGTTAC
66532	NCKAP1	TTCTAAGAGCAGCAGCATATGTTGTT
66533	D1S155E	TGCTGCTGCTTAGATCACTGCAGCTTCT
66534	SPR	CCCTGGGTTATAAGGAGGCTTAG
66535	BCL2	TGCTTCCCGGCGTGTCCCTACCTCCTC
66536	OPHN1	CAAATCTCTACAAATTTTTCTGTGG
66537	CAMLG	AGCTAATTTTTATATTCTTTAGT
66538	SHANK2	TGAATCGGTCTCTATCTCTATCTGCT
66539	TFR2	CTACACATCTCTCCA
66540	CBFA2T2	GTGCTCAGCCAGGCTGGAGGCGGCA
66541	ZNF277	TTTCTACTGGTGCCACCCCGCCTC
66542	FCGR3A	GATGGAGAAGACAATTGTTGCT
66543	IL1F8	TCTGTTATTTCTTTTCCTGATGTAC
66544	CDH2	AACAGCTTTGCCTCTGTATTGTGTAC
66545	SLC7A8	CCCCTGCCTCCTGCATCCAGCCCCCAA
66546	RRBP1	ACCAAAATGCCTTA
66547	MYEOV	CTGTAGACCCTAGACTGGTGG
66548	IL5RA	AGAGATCCTGTGTCTCTTTCAT
66549	PNUTL2	CCAGCTCTGCTCAGGCCCCTT
66550	STS	CACACAGCGGTTTGCAGAGAATGTTAG
66551	UBE2I	ACTGGACCTGCCTTGGCTTCTTTGATCCCA
66552	AR	GCCAGCCACACAAACGTTTA
66553	SMARCA1	AGTGCAGCCACTGCCGCCGCCCA
66554	RAB18	TTCGGATGATGCTTCTAAAACAG
66555	HDC	TATAACACAGAAATAAATTATGC
66556	SLC22A3	GTACATTTGCCCTTTCTCTTCC

66557	MARK3	AAATACTGAATGACTGCTAAGAATTAA
66558	IL13RA1	CCAAGACCTTTCAAAGCCATT
66559	SURF1	ATGCAGTATTTCAAGACTGCCT
66560	LARGE	CAGTTCTGAAGATTCACGTATCC
66561	MUC3B	CAGCCCAGGCTCCTGCTGTTCTTGGGC
66562	C1QG	CCCTCCAGGGAGCCCACCCTGA
66563	WBP2	TTGAAGCTGTAAAATGAGCTTCCA
66564	MEP1B	TTACAGCCACCTCATTCTTCT
66565	MNT	ATCCCTTCCTGTTCCCTCCTGG
66566	CTSS	TGGTCTCAAACTCCTGACCTCA
66566	DFFB	TGGTCTCAAACTCCTGACCTCA
66566	MAK	TGGTCTCAAACTCCTGACCTCA
66566	MLANA	TGGTCTCAAACTCCTGACCTCA
66566	NCOA6	TGGTCTCAAACTCCTGACCTCA
66566	NDRG3	TGGTCTCAAACTCCTGACCTCA
66566	NQO1	TGGTCTCAAACTCCTGACCTCA
66566	PRKR	TGGTCTCAAACTCCTGACCTCA
66566	SCML2	TGGTCTCAAACTCCTGACCTCA
66566	SPN	TGGTCTCAAACTCCTGACCTCA
66566	TAT	TGGTCTCAAACTCCTGACCTCA
66566	TES	TGGTCTCAAACTCCTGACCTCA
66566	TRPM6	TGGTCTCAAACTCCTGACCTCA
66567	CARKL	CCCGTCCTGGTATCACAGTGCTTCTG
66567	TRPV1	CCCGTCCTGGTATCACAGTGCTTCTG
66568	CD209	GCTCAGGCTGGAGTGCCATGGC
66569	SIGLEC8	ACCAGGCCAGGCTAATTTTTGT
66570	FSTL1	GTGCTCTGGGGCTGGAGGCTAGT
66571	APG5L	CCTCCACTGCCATCATTAAACCTC
66572	ADCY1	ACCACAGTCTCCATGGGTCTTTT
66573	TAPBP	CCCTTCTGGGGGCCTGGAGGT
66574	MRE11A	GCTTTTTCTTCTCTTTCATACA
66575	C21orf33	CCTTCCGACCCCGCTGTCCTCA
66576	CSNK1D	GGTCTAGGATCGAAATGTTAACA
66577	SMARCC1	TTGCTTTGTCTTATGCTTCTA
66578	CASP3	GAATTTTTATGATATTCCCCC
66579	CRYBA2	CTACCCAGGTTGGGCAGGCTGTG
66580	HEPH	GGCTGAAGTGGGGGATGTCA
66581	DISC1	AATGCTCAGTAACACAGTGCAGT
66582	CRSP6	TTGCCCAGGCTGGTTTCGAAC
66583	CORO1C	TTGCCCTTTTCAGCAGCTTGCC
66584	TSN	GGCTCACACCTGTAATCCCAGCACACT
66585	ITGA4	GCCGGGCTGGGCGGCTCACAGCGAGGGG
66586	PDYN	TACAGAAGGGAGTGAAAACCTCT
66587	PLA2G2D	ACGACTGATCCCCACCTCCTC
66588	NRP2	GGTGAGGTGGAAATTCCAGCAAGA
66589	CYP4F3	GCCACTGCGCTCCAGCCTGGG
66590	UGDH	CACAGTGCCTGGGCTAATTTTTTGT
66591	KCNB1	TCCCCATTCTCTCGTGGCTTTCC
66592	MMP14	CTGTCTCACCAGTGGCCTGCCCTC
66593	ARHGEF6	ACTGGGTGGAGTGTGCCTTCAGGGCA

66594	PSEN2	CGCTTTGGGGAGCGCCTCGCTTCAC
66595	ANK1	ATCTGCCAGGTCTTAGAAGTCAGGA
66596	SSR2	GCCATAAACAGGAATGCCTTT
66597	ABL1	GCCCAGGCAGGTCTGCAAGGGC
66598	AF3P21	CACTGACAGTGGGAGGGGATAAGGTGG
66599	KPNA4	TGATGCTATGAAAAGCTTT
66600	FACL4	ACCTGTTTAAATTGCTCACAG
66601	UGP2	GGAAGAGAGACCTGCCCTGTAGCGTG
66602	OTOR	TCTAGTATTTTTGTTACTTTTAATATT
66603	TRPS1	TGTCTTTGGTTTGAGAGCCATGGC
66604	CCND3	TTTCTGCTCAGCTTCTCC
66605	TRIM9	GTGCTTTGGGGAGCAGTTGTCAGTCTA
66606	APPBP2	TTTTAAAAAATTCATTTTGCAG
66607	FLNB	TCATCCCAAGGTCCGTCCCATG
66608	CRSP6	TGCAGATCAACTATAAGCACAA
66609	REGL	CAGTCTGCTGCATCTTCTACCTC
66610	PCDHGA1	TCCATCCCATGCCTCCCTCCTCC
66610	PCDHGA10	TCCATCCCATGCCTCCCTCCTCC
66610	PCDHGA11	TCCATCCCATGCCTCCCTCCTCC
66610	PCDHGA12	TCCATCCCATGCCTCCCTCCTCC
66610	PCDHGA2	TCCATCCCATGCCTCCCTCCTCC
66610	PCDHGA3	TCCATCCCATGCCTCCCTCCTCC
66610	PCDHGA4	TCCATCCCATGCCTCCCTCCTCC
66610	PCDHGA5	TCCATCCCATGCCTCCCTCCTCC
66610	PCDHGA6	TCCATCCCATGCCTCCCTCCTCC
66610	PCDHGA7	TCCATCCCATGCCTCCCTCCTCC
66610	PCDHGA8	TCCATCCCATGCCTCCCTCCTCC
66610	PCDHGA9	TCCATCCCATGCCTCCCTCCTCC
66610	PCDHGB1	TCCATCCCATGCCTCCCTCCTCC
66610	PCDHGB2	TCCATCCCATGCCTCCCTCCTCC
66610	PCDHGB3	TCCATCCCATGCCTCCCTCCTCC
66610	PCDHGB4	TCCATCCCATGCCTCCCTCCTCC
66610	PCDHGB5	TCCATCCCATGCCTCCCTCCTCC
66610	PCDHGB6	TCCATCCCATGCCTCCCTCCTCC
66610	PCDHGB7	TCCATCCCATGCCTCCCTCCTCC
66610	PCDHGC3	TCCATCCCATGCCTCCCTCCTCC
66610	PCDHGC4	TCCATCCCATGCCTCCCTCCTCC
66610	PCDHGC5	TCCATCCCATGCCTCCCTCCTCC
66611	PRDM2	TATCACAGATCAAGAATGGAGTA
66612	PTPRN	AGCCTCGCATGCCAGAGCCTGG
66613	SCN3A	CTCTGTGAAGCAGGGTAT
66614	SLC2A5	CTGTCTCTCTCCATGTTGGCCT
66615	ASB1	CTGCTGTCCTGGTGACTTGTC
66616	ENDOGL1	TCCAGGCTGGAGTGCGGTGG
66617	MYB	AAATGATTTATCTGGTATTTTA
66618	CD4	TCCTCCAGACCATTCAGGACACAGGG
66619	PTCH	GTGGATGTGGCCCTGTCACAGGTAGAAAAA
66620	P3	TGGGACCCACCCATGAACCCTTCTCAG
66621	SOS2	CAGTTTGAAACATTTGATCTCA
66622	PLS3	GCACGCCTGAAATGTGCTCATAGCCA

66623 SRD5A1 GTTTTTGCTTTCTGTTTTGCT
66624 Rgr TTACTTTTCTCTTCCCCCTCA
66625 RUNX1 TCCCACCTGTGCGAGACCCCCTG
66626 ZNF175 TCTCCACCATCTATAGTGAGCC
66627 BHMT2 CACACCTGCAATCCCAGCACTT
66627 F2RL3 CACACCTGCAATCCCAGCACTT
66628 FBP1 GCCTACTGCCCTCTCTTGCCGCCCGC
66629 TFAP2A TCTCCGACTCTGCACCCGCCTCGA
66630 OAS3 TGAGGGAGTGGGTCTATCTCAGAGGAA
66631 CD48 CTTTGTTGTTTTCTAGTACACAGAGAT
66632 SCAMP3 CACTGCTGCCACCTCTCACACGCCCCAACCCA
66633 HUNK GCTGGTTCTGTAGAAAGA
66634 COL11A2 CAGGGCTCTGACTCTGCCAGGGTGGGG
66635 ACP2 TTTCTCCAAACAGGATTT
66636 ADH1B TAATGCTTTGTTAATGCTTTTC
66637 HTR6 GGCCTCGGCTCATCGGGTGCCCCTC
66638 COL4A2 GAAGTGGAGACCCTTCTAGACATCAC
66639 FGF1 GCCTCAAGAAGAATGGGAGCTG
66640 HOXA6 GCTGCAACCTCCTTCGGCTTTGCCCCC
66641 SLC13A3 TGCCTTCAAGGGTTAATCCCTCT
66642 MEIS2 GAGCAGTGAGCCAAGGAGCAGC
66643 CPSF4 CGTGGGTTTCATCACTCTGAG
66644 PPP1R2 CTCTCACTCTTCTGTCATTTGCTGCTA
66645 SLC1A3 AACACCCTGTACCATCCATGGA
66646 AP1B1 TGTAGGTGCCGGCAGAGGGG
66647 GPR18 TAGTTCTTGATCTGCTGACCA
66648 RERE TACTGAGAAAGGAATTGTGGCCATTT
66649 PRPS1 CTTGGATTCTCCTTTGTACCTATCCCT
66650 B4GALT1 GGGGAGGATACCTGGGAGACAG
66651 ED1 GGCTTTGGGAAGTTTGCTGTGC
66652 SURF4 CAGATGTTTTGAGAACTTTATTTGC
66653 COL4A3 AGACCTACAGAATCAGAAACTCTTGG
66654 RHD CGAGTAGCTGGGATTACAAGTGCGC
66655 RANBP2 TTTCAGGTGTACTTGTGTTTATGTAC
66656 PIGA GATAGTCCATCAGTTACCAGCAC
66657 VIP GCACCTTGAGATATCCTACAACCA
66658 FBXW1B TTCTTCTTCAGTGAAATTTTGGGTG
66659 VIPR2 TGGGGAGACAGGTGAGGCGGTTGGA
66660 APTX AGGAAGCTGAGGCTGGGACAGGGC
66661 BTEB1 GAGAATGCAGGCAACATGGAA
66662 HYAL4 TCGCTGCAGCCACTGCCTCCTG
66663 SSTR1 CCATTGTCATGAGTCCATGA
66664 SLC6A8 ACTGCAGACATAGCAATA
66665 SLC25A15 TCATCATTTTGTGCTGCT
66666 C18orf1 GTGAAAGGACAATTGAATGACAGG
66667 C21orf2 CCGTGCAAGCTCTCCAGAAG
66668 ARHGAP6 CGTGGGAGTCACAGCTATGCCA
66669 GPC5 GGGCACAGAAGTGACTTTGA
66670 VDR TGGTGGCGCAAGCCTGTAATCCCAG
66671 SLC17A5 AATCATCAAAATAAACCTTTGTGAAT

66672	SERPINA4	ACCCTGGTGCTGTGCAGCCTCTGGCAG
66673	PGM1	TATAGGTGGAGCATCAGCAGTGA
66674	DLEC1	GCACAGAAGCTCATCTCAGTCATCCTGC
66675	ARHA	CTCAGGCAATTAGACACTTTGG
66676	UBE2L6	CATTCCCCATTCATTTTTCCCTTCT
66677	LIMK1	CCCTGCTGTAACCTCTGTCTTG
66678	COLQ	TGCTGTTAACTCAGTCTGACT
66679	LHX4	GCTCAGTGCTTTGGTAGCACAAGGTG
66680	KCNAB2	GGTGTAGGGGGAGAGGGGAAAG
66681	EPB41L2	TTAATGCCACACCACTATTCCAG
66682	TIA1	TCTAAAGCCAGTGGCTTGAGGC
66683	CACNB1	GAGCCCCTTCACTTACCTGTCTCTCCA
66684	MYL1	TACATCTTCAGTTTTTCTCTGAATTG
66685	TCIRG1	GGAGCAGCCCTGCCCAGCCCCGTG
66686	AKAP2	GTCCTGATGTGAAATGGGAGG
66687	EMS1	GCCCACTCCGGCTTGTCCTCA
66688	MUCDHL	AGAGACACATTCCCCTCGCTGCTCCCA
66689	PRX	CTGTCCCACCGCCTCCTGCCTCTCTC
66690	FRDA	CCCAGCATTCAGTGGTCCTGTC
66691	GPR4	TCTTGAACTCCTGGGCTCAAGA
66692	GPRK7	AAGGCAGATGGATCATGAGGTCA
66693	SAC	GTCTTAAAAGACCTAGTCCCTA
66694	ABCF1	ACTTGTTTGTTCTGCTTCTCTT
66695	CPS1	CTCTCCAGGCTGGAGTGCAGT
66696	ZNF10	CTTAGAATAGTGCCTGACATATA
66697	RELN	GTTGCACTCTAGGGTGA
66698	PPFIA3	GCCTCCAGGTGACCTCACTCGGACGG
66699	CCND2	CTCTAGGGCCTCTCCAGACTGTGCC
66700	TRAP240	GCCTTCTTGCTTTAAAGCAATT
66701	FY	AGAGACCTTGTTCTCCCACCCGACCTTCC
66702	SHOC2	GGGGGAAGAGAAACTTGCAGTGAAAAGGA
66703	HMGA2	TAACTGCAGTTGACTTTC
66704	TEM8	CAGCCATCTATCACCTCTAGAA
66705	IRF1	CCCTGCTCCCTGCTTTGGCT
66706	MAPK1	AGAGAATTCCTCCTGGCAGCCCT
66707	PAX9	GCACAGACTTCCTTTTACTT
66708	TEM7	AGACCAGCTTGGGCAACAACAA
66709	ESRRG	TGAGTTTCTTTCTACTTTCTC
66710	TTF2	CTGAGGCAGGAGGATCCCTTGA
66711	B3GALT2	AACGAAAGAGAGAATATGAAAGA
66712	HMGB1	AGTTGTCTCTGATGCAGCT
66713	GRB10	TTCCTTCCTCTTCACTGGC
66714	RAD54L	TACTTGACGTTTTAAACTCCTAG
66715	GRIK3	GGGAGAGAAGAGAATGCACAA
66716	PDE4D	AATTTTACTTGCACCTTA
66717	KIF3C	CCCCCAGTCAGATCTCAGGCTTG
66718	TRAF5	GAGAAAATGTCATAAATGGATA
66719	ORC5L	TCTTTGGCTCTATTGGATTTGTC
66720	CLCN6	AGCCTTTTCAGCATCTCACCCA
66721	TM7SF3	CCAGACATGGTGGCTCACACCT

66722	ADCY6	TTCAAGCAATTCTCCTGCCTCA
66722	APAF1	TTCAAGCAATTCTCCTGCCTCA
66722	CLECSF12	TTCAAGCAATTCTCCTGCCTCA
66722	EIF5A2	TTCAAGCAATTCTCCTGCCTCA
66722	FCAR	TTCAAGCAATTCTCCTGCCTCA
66722	GM2A	TTCAAGCAATTCTCCTGCCTCA
66722	GPR81	TTCAAGCAATTCTCCTGCCTCA
66722	IL11	TTCAAGCAATTCTCCTGCCTCA
66722	PCDHA9	TTCAAGCAATTCTCCTGCCTCA
66722	PPID	TTCAAGCAATTCTCCTGCCTCA
66722	RHD	TTCAAGCAATTCTCCTGCCTCA
66722	SCML2	TTCAAGCAATTCTCCTGCCTCA
66722	SEDL	TTCAAGCAATTCTCCTGCCTCA
66722	SIGLEC8	TTCAAGCAATTCTCCTGCCTCA
66722	SLC24A1	TTCAAGCAATTCTCCTGCCTCA
66723	ABCB1	TCATTTCTCATTCTCCTAGGAGTACT
66724	TLR4	CATATCAGAGCCTAAGCCACCTCTCT
66725	RAP1GA1	TGTGTGGAGGAGCGATGGGCAGAACCAG
66726	CRAT	CCCCTGCCACTGCCACAACCCCCGATG
66727	SF3B3	CTCAAATTGGCACTGAGATTTG
66728	THBS1	AAGGTGCCCATTCCACTCTGCCTTT
66729	NFATC4	CCAGCTGAGGTGTGGCCCTCAGGCC
66730	ARHGEF7	TATTTTCAGCAACCAGCTGC
66731	APBB1	CCCTGCTCCATGGGCACCTCTGCTGTA
66732	ANXA11	TACAGAAGTGGAGTTGCT
66733	EIF3S2	TTTGAATTTGAGTTTGAGG
66734	GPC1	GCAACCCGCTGGAGCCCACAGCGAGCCT
66735	SEDL	CACCTCAGGAAGTGCTGGGATT
66736	WHSC1	GCCTATTGGTGTCTAAACTTCATA
66737	PRDM4	TGTTAAAACATTGCCAACTCA
66738	PRDM2	TTTTCCCCTCCCAGCATTGAAATCATT
66739	COG8	TGGACCACCTGCAGGGCTGCCT
66740	IL22RA2	ATGCAATTCAGTAGTCCTGAA
66741	PPP1R3A	CAATGCTTCACATCTCTTCA
66742	IL16	TGTTTTTAAACCATTATTTCCAAGTTG
66743	CDH13	GTACAGACATACATTTATGCAC
66744	ADD2	CACAGGCTCAGACTAAATCAGAG
66745	SNAI2	CATAGGAAGAGATCTGCCAGAC
66746	CEBPA	CGCCCTGGGCCAGCCTCCGGC
66747	DHH	GCTGCCCTCTCTGGTGCCTGTGGAGAT
66748	TTC1	GATTCTGGCTGTCCTATGTCC
66749	LEP	TTTGTGTGGTGGGTTCTTTGGA
66750	CLECSF5	TGCTGTGTGAATCAGTACAGTTT
66751	NFIB	ACTTTCTAGATGCCTTA
66752	PTK2	GCTGCCAGGCTGGAGTGGAGTG
66753	IL1R1	CTCCCAGACCACCTCCCTGCCCTGTCC
66754	ADCY1	GTCTGGGCAGGGGCAGCAGCATC
66755	PCDHA9	TCTGCCACCCAGGCTGGAGTACAGTG
66756	BCL11B	TCTTTTACTACAAGTTTGGA
66757	CKTSF1B1	CAGATTCTTACTTGGCTTAAACCTA

66758	ELMO2	CTTCCCTTCCTAGTGC
66759	LIMD1	AGGTTCTGCTGTTGAGTCCTGGGT
66760	CENPF	TTTCCAGTGAGGGCTGCAGGCTT
66761	MADH4	CACTTTTGTTCTGCTTTAT
66762	ITGA3	GCCTCCCACCAGAGCCGGGAGGAAAAG
66763	KCNH5	CTGGCCGCTGCTCTCCAGACC
66764	ITGAL	AGCCTCTCTTGGTTCCTTCCTTGGAA
66765	XPC	TAGGGGAGAGAGCAGAGAAGT
66766	ING1	TCATGCTTTTGCTATCACCAATCATAGTGT
66767	NTS	TGTGATAAAATAGGAACAGCTGA
66768	PRKR	TGACCTCAAGTAATCCACCTGCCT
66769	JPH2	GGAGGACGGGGAGGTTGTCAGGGG
66770	RNF3	TTTCTAGGAGTTCATCGTGCA
66771	EPHB2	GGAGTGAGATTTGGGTGTGGA
66772	ETFA	AATTATTTGTGGTTCCAAACAATTA
66773	HUS1	CTCTCTCTTGCTGAGGACTCA
66774	PARG	TTGCTTCTGCAGCCCGCAGATGCCCAG
66775	E4F1	GCCTGCCTGGCCTGGTAG
66776	SERPINB9	GGTCTTGAACTCCTGGCCTCA
66777	KIF5B	CATTCAATGACTATAACCTCTACTCC
66778	AK3	CTGCCTTTCAAAAGGCTGG
66779	LRAT	TCAGTATTTAATTTTTCAAA
66780	PSEN1	TTCCAAGTCTTCCTGACCACCTT
66781	EDAR	GCAGGTAGGGTTCAGGTGAGCAAAAAGA
66782	IL1RL1	CCAATCACCTCCCACCAGGCT
66783	AKT1	GCCTCAGTTCAACCTGGTGGCA
66784	PTTG1IP	ACCTGTACCCAGTTCTTCAGGCTGATTTCCC
66785	CCND1	TGTCCCCAGAGACCAGGCTGTGT
66786	IL26	GGGGGAATGACAGATTTCTGGA
66787	DDX3	ACCTCAAGTCACTGTAGCTTTAGTAAT
66788	GRM6	ATTTCTTAGGCTGGAGTGCAG
66789	LPP	CCTACTTCTCTTATCTTTGATCGTATA
66790	MHC2TA	GCAACAGGCTGGGCTTCAGTG
66791	WEE1	TGACTTCTGACATTCCAAGTTTTTC
66792	NGFR	TGGAAGGGACTAGGAGCACTG
66793	SFRS2	AAGGTGGCGTGTTGCAGTG
66794	BMP8	GTGAGCCAGAAGCAGCCTCATAACCCT
66795	TRPV2	GCTGGACCGAGCAGCCTCCTCCTCC
66796	IL12RB1	TGCCTGTAAAGCTCTCAGCATTGGC
66797	BCL7B	CCTCCTGGCCCTGCCTCTAT
66798	TM6SF2	GTCGCCTGGTGGCTGGACCCCCGGGA
66799	PSMD2	TGCCAAGGGTGGACACGGCTGCAGAC
66800	SEL1L	TGCAGTTGGTACAGTACTTTG
66801	TPI1	AGAAGGCAGGAGTGCTGCC
66802	RANBP3	CCTGCTGTGGGGCCCTGCCTTTGT
66803	JAM3	CTGTGATGTTCCTTTTCTCAC
66804	DBN1	GGCCTCCTCTCCCTGCTGGCAG
66805	PLAGL1	GTGTCTCTCCCTTTCTAGGT
66806	ITCH	TGACTCAAACTGTGAGAACTTCA
66807	CAMLG	TTTGGGAGCTGAGCTAGTGCTTTTAGG

66808	PDGFB	CCCTGCACCTGGCCTGGGCCA
66809	SYT5	GGAGGGGCGAGGACGAGGCAGA
66810	EHD1	GGGAAGTCACTGTTGAAGTTGCAGTGG
66811	PCDHA9	GTTCTTTTGAAATTCAGAG
66812	GPR81	GTGACTTCCTGGTAGCCCAAGAAGAA
66813	LILRA1	GCCAATCATTTTTAGAGGGAGGAATC
66814	PAFAH1B2	ACTTCAGTGTAGAATGAGCCAAGGAG
66815	MECP2	CCAGAAACGCCACATCCCCCAATCCAT
66816	FMO1	GCTGTTCTTGACAGCACTCTGAG
66817	ZNF16	GAAACATCCTTTACAGGCTCC
66818	NRG1	CGGGAGGTGGGTGGCTGCGGGGCAATT
66819	LMAN1	CATATTCTTGAATGTTTCTTCATTCCA
66820	PLA2G2D	CACCCACACTCTGGGCCTGTGG
66821	SORD	TCAAGAATGAGGATATAGTAGCC
66822	ATP1A2	CAGGCAGCCTTGCCCATTCTCTA
66823	HOXA5	TTTTTATTCAAACTACCTATA
66824	AAT1	GATTCCAGGAGGATTCTTCC
66825	MAP3K14	GCTAGCCTCAACCTCCTGGGGC
66826	CD74	CCCCTAGTTCCCTCTGCTCAG
66827	ICMT	GCCTACTCTCTGGGCCACTGCTGCAGA
66828	EZH2	TGCAGTATGGTACATTTTTCAACTTT
66829	COLQ	GCTGCTTCCACCATCACAC
66830	FXYD1	GGAAGGCAGGCTGTTGCCATGGTGG
66831	MYF5	TCTTCTTTATTATTCTTTGCTTAGATA
66832	PRKY	AGGTGAGAATAATTAGTA
66833	POLK	GGGATGCAGCTGTGCTGCATTCTG
66834	TCIRG1	AGACCTCCTTCCTGACCTCT
66835	NR3C2	TGCCTCGGGCTCTCCCGCTGCA
66836	MFRP	CCAGGGAGGGGGAAGAGAAGT
66837	ITGA2	TGAAGTACTTTTTCTTCCA
66838	WNT2	TTCTGCAGTCATCTCCCCTCCTG
66839	NKTR	TTCAAACCAGCCTTCCTGCTC
66840	GAS7	CAGGCAGCTGTGTGGACCCAGGGA
66841	ACVR1	GTGACCATAGCCCACTGCAGCC
66842	CSNK1G3	TTCAGTATTACTGATGGTACTG
66843	SPOCK	CCCTGCTCATCCCAGGATGCC
66844	ADCY1	GCACTATACTTTCTGGAATCTTATTTA
66845	TRIM14	GACAGAGGGAAGATGAATAC
66846	PIP5K1B	TGTTGCTTGCTGAACTGTGAAG
66847	BSG	CCAGGTCCTTGCCCTTTGTGGAAA
66848	SFRP5	GGTCTCAGAAAGTAGGCAGGGGAGGAGA
66849	BCL10	ACTTTTTTAAATATTTTCTA
66850	GM2A	AAGCGCTGGATTACAGGCAT
66851	IL9R	CTAGGCCGGCTCCCCCAGACTCAG
66852	ADAM11	ATGTAAACTCGGGGGTGCTGGGGCCAG
66853	COLQ	CCTCCTGCTGACCCCTGACAGCGTC
66854	TRPM5	GGGAGCACCCCCATCCAGAC
66855	TH1L	CCTTTCCAAGCTGACCTCAGTTT
66856	RANBP3	CACCGAGTCCTGAGCCTCCAGGT
66857	GM2A	TACTGGCAATACTCCAGCCTGGTGACAGAGT

66858	PLAG1	TCACTGCAGATTGCAA
66859	AIPL1	CCAAGATCACGTCATTGCACTC
66860	OLFM1	GCCCAGCCCAGCCCTGCCCAGC
66861	KCNJ13	GGCAACAAAGCATTTTCAAACTCAAA
66862	FLRT3	TATAAACCATTTACTTTGTGTTCTA
66863	THBD	TAACGAAGACACAGACTGCG
66864	ABCD3	AACTGATGTACTGAATTCCATAATACATA
66865	REN	TTCTCCTCCTCCTGTGC
66866	PPP1R12A	CTTTTATTTGGACAAATAGCTTTTATA
66867	USP6	TCTGCCCTTGGGCAGTTGTGGA
66868	CDX1	TGCTTGCAGAGCATGACCTGA
66869	PHEMX	CACCAGCAGGTCGCCTCCAGCC
66870	TERF2	GGCTCACTGCGACCTCCGTCTC
66871	GPM6A	ACCAAATTTGGTGTTTGTT
66872	EGR1	AGAGCCAAGTCCTCCCTC
66873	TRIM8	GCACAGCCCTTGTTGAGGTCAGCAG
66874	GPR1	GACACCTGTAATCCCAGCACTT
66875	ABCC5	GCATTTCATTCTTCTCTAGCTGGT
66876	PBX1	CTGTCAGCCTGGTTTTCGTCATC
66877	FTSJ2	GGAGATGGAGCAGGACAAGT
66878	PLCD1	GCCCAGTCCCTGGAGCT
66879	POLK	CCTGTAATCCCAGCTACTCAGATGG
66880	FXYD2	CTGCTTCCCTCACCTGCCTGCCTGT
66881	PTPRF	GGCAAAGCCTCCTTTTTAATACATT
66882	BAZ2A	ATCATCCACGGAGGGTGGAAGAGGA
66883	HAGH	GGGAAATTCAGTCTTGATTTAACCTTA
66884	SHANK2	GTCCAGTCTCCCCACACCCCAGCAG
66885	EIF4A2	TCAATGCTCATAACGGATCAG
66886	PKHD1	TAACCTCTTCTTTAGGCATCT
66887	CDYL	CCAAGAAGGTACAGATACCTCAGAT
66888	PCDHA2	AGAATATTTAAATTTTTGCAAAA
66889	GRIN2C	GGCAGGCAGGATTGGGCTTTTCTGGC
66890	ZNF124	TTAAAGGTCATGTGAAAACTCC
66891	TAPBP	GACTACAGGCGTCCTCCACCAT
66892	FHL2	GCTGCTTGTGATCTCA
66893	RBBP2	GGCTTTGAAAAGTCTTGCTGT
66894	TNFSF9	TACATGCCAGTACAATTTATAA
66895	PELO	CATTATTTCTTTATTTTAATTCTGCT
66896	SEPN1	GTGCTATGGCTCGATCTTGGCTCAC
66897	PTP4A2	CCGGGACCTTGTCTCACACTGATGA
66898	FACL3	TGCATTTGAGAGAAATAAAT
66899	SUPT6H	CAGGATTGCAGGGGACACAGGGAAGC
66900	SF3B3	CCCACCACCATCACTGCCACCT
66901	DLGAP2	GACAGGAGGCCCCCGTGCCGTG
66902	MGAT1	TCTGGCCCAGTGCTGCCCAGCCTCCCC
66903	IL1RAP	GCATTCCTTTTGCACTTTTGGA
66904	DNMT3A	TTTAAAAAATTAGTTGCCAGT
66905	HOXB13	GACAACACCCTTCCCAGGCCA
66906	ITK	ACATTCTTCACCTCCTGGTGCC
66907	KCNK3	GGGGTCAGGGAGGAAAGGC

66908	ADRA2A	GATCAAATGTGAAATAAATATGA
66909	ADARB1	TGAGACCACGTGCTGCTGGCGTAG
66910	MYO1F	GGCAAAGTGCCAGGCACAGTTGGGGA
66911	NFIB	GAGCCCCGTCCTGATTGATCGC
66912	DAZ	GAGCCCTTTTGCTATACTCACAGTCTT
66913	PDGFRB	GAGAGGTGGCCGCTTGGAGTTTGCCC
66914	COL4A3	TTCCATCAACTGTGAAAGCTGGG
66915	MALT1	GGCTCAGAATTTCTGAAAAATGCCTCCTT
66916	ADAMTS9	GTCTACCAGTGACCTCAGGGC
66917	COL4A4	GCCCAGGCGGGGAAGTGGGGTGCGGTC
66918	PPP1R12B	CTCCACCCTTCACCCTAGTTCC
66919	GPX3	CCTACTTCCTGAAGGGCCCTCCCAA
66920	NDUFA1	TTCTTCCGGAGCCGTACGTGGCAC
66921	TBXAS1	GGCGAGATCAGCCTCCTGTCTCA
66922	CARKL	CTGAGATCGCGCCATTGCACTC
66922	VPS41	CTGAGATCGCGCCATTGCACTC
66922	XRCC2	CTGAGATCGCGCCATTGCACTC
66923	ESRRB	AGGCTCACTGTCTAGGCCAGGCCCACC
66924	SRRM2	TGAGTTCTTCCTGGTTCAT
66925	NDP	GACAGAAGAACAAAAGCATTTGG
66926	RHBG	ATTCCTCCAGCTGCAAGAAGGGAGCCA
66927	CPSF6	CGGCGGCCGAGGCTGAAGGAA
66928	SERPINA5	GCTCAAGTTCACCAGCATGGT
66929	CORO1C	CTCCTGCTCTACCCTCTTCCTCA
66930	IGF2R	GGGTCCCCGAGTGCCTAGGTTT
66931	SSTR2	AGGGTCCATTAAGGTGAGAATAAGA
66932	SLC38A3	GCCAGGCCCCATGTCCTCTCTG
66933	CHC1L	TTGCTCTAGAAGACAACTTTAC
66934	HOXA5	ATCTCTTTGTCCTGAATGGCTTTGTCT
66935	FSTL3	CACAGTGGGGTTCACACCCAGGGCTCC
66936	VIL2	ACTCTGTTTGCTTGTGTT
66937	FBN2	ACTAATTTTAAAGAGGAAAAATAATAAT
66938	PRKR	CAGGCTGGAGTGCAATGACACA
66939	GLI2	CTCATTTACACAGTGCTTTCCA
66940	USH3A	ACAGCTGAGCCTGGAACTGA
66941	HPS4	GCAATTCCAGGAGCGGCA
66942	NEU3	CATAAGCCACCAGGCCCAGCC
66943	PABPN1	CTCATCTGCAGGCGCTCAC
66944	GYPA	GGAGAAGGAAAAAGAACTTACG
66945	PRDM2	TGGGCTCTGTTTTCTCAGCTCCAA
66946	RBM8A	AGTAGTTGGGATTACAGGCACATGCC
66947	KCNAB2	CCAACCTGCCCCACTGGGTCCCGGCAG
66948	PPT2	GTGAAGCCATCTGCGCCAAG
66949	PSD	GCTGGAGGTGGAGGAAGGGCGT
66950	AIPL1	CATTGCACTCCAGCCTGGTCAA
66951	PTGS1	GCTTTGTGCTTGTCATTCCA
66952	CAPZB	TAGAAAACTCGTTTTCTGCTCC
66953	FSTL3	TCTGCGTTGATGCTCAGAATC
66954	SLC10A2	TGACATCCTAGCTTTATTGTTTTTTA
66955	JAG1	CAGATGTCCTAATGGTGATGCA

66956	RGL	ACCTTTTGGTTAAACTAATA
66957	F3	TTGCACCCTCCGTCTCTCGGGT
66958	HM13	ACTAGGACAAGAACAATGACCTCTCTG
66959	SCN4A	CTGACACCCAGGCCCGAGCGC
66960	MPL	TGTTGCCAGACTGGAGTGCAGT
66961	HYAL1	GACTTTGCAACCTGTTCTC
66962	PCDHA9	AGGCTGAGGCGAGAGAATCGCT
66963	RAD52	CAGAAGCCTGAGCTCATCCGCCGTGG
66964	NOTCH2	AAGTTTCAGCCAAACTTCG
66965	VIPR2	AGCCTCCCATAGCTGGGACT
66966	NFATC1	CAACATTTGGAACGTTTCCTGG
66967	SUV39H2	AAAGGACATGATAATGGGACCAG
66968	E2F1	CCTCCAATCTGCACTTTGATTTGCTTCC
66969	NEK6	CAGGAGACTTGCAGGAGACCGTGTG
66970	GAS7	ACCTCCAGGAAGAGCCACTT
66971	SOX11	GGCAAATTATTTGTAGAATGA
66972	HAL	AAAGCTCTCCCCTCCTGTGACC
66973	RGL	CCTGCCTGCCTCTTTC
66974	LPXN	TTGCGGTCCTCTTCTTCAGCACATGCCA
66975	MTMR4	TATCCTGAACACTTGACACCTT
66976	MAFF	TGCCTGTAGTCCCAGCTACTTGGGAGG
66976	NPHS1	TGCCTGTAGTCCCAGCTACTTGGGAGG
66977	GM2A	CCAAGTAGCTTGGACTACAGGC
66978	p100	TGGCCAGCCCATTCTGTATTTAA
66979	ZNF278	GGGGGACCTGGGCCCTGCCCTTGGC
66980	LANCL1	TGTAGCTTTAAAATAACAGGGTC
66981	CYB561	CAGGCTGGGAGGCAGAGGGCA
66982	WNT8B	CCTCTGCTGCACCTCTCTTCT
66983	SLC4A1	CCGTGCAGCTGGGATTTGAACCAGGC
66984	HSD17B4	TAACTGCAGATTTTCATTTTC
66985	ASB1	GTCTTCTGGCTCTGGGGCTACAG
66986	UBE2V1	ATTCGATTTAATCAGTCTTC
66987	ACE	CTTGTCCTGATGCTGTGCTCAA
66988	EGR3	GGGGGAGGGGGTAAGGAGCGC
66989	KCNC4	TGGGACAATGGAATATCCCAGGGTGG
66990	LIMD1	AGGCCAGAGGTCAGTACCCTTT
66991	UGT1A1	AGGATGACATGTGCCATTTTTCA
66991	UGT1A4	AGGATGACATGTGCCATTTTTCA
66991	UGT1A8	AGGATGACATGTGCCATTTTTCA
66991	UGT1A9	AGGATGACATGTGCCATTTTTCA
66992	CLASP2	GGCAACTTCTGGATGTGCAGCAATCAG
66993	RBBP9	TGTGACCACAGTCATAAGCATTC
66994	ZNF215	AGGTGCTTAGCTCAAGCCTGAGAATT
66995	CBFA2T2	TCCCAGGCTGGAGTGCAATCGC
66996	INPP5B	TGGCTTATGCCTGTAATCCCAG
66997	RGS9	TGCCTTAAAACCAAT
66998	GHR	GCATTCAGAAGAAAAAGAAGCA
66999	ABCA4	GGCAGCTGGAGGCGCAGGAGCCTGT
67000	DGKG	TAGCACACCTTAGATGTGGTATTT
67001	GPR85	CCTGCTTCAGTGTCTTAATGACCAA

67002	CAMK2A	CTCCCAGACCTCTCCTCTTCCAG
67003	DNASE1	CCAGGGAAGGTCACAGCTGCCT
67004	ZNF264	GACGGGGTTTCACCATGTTGCT
67005	SH3BP5	CTGGGCCCTGGCCGATGTGCATATCAA
67006	ATP11A	GCAGAACATGCACGTGTACAC
67007	HIP1	GCAGTCAGCCCTGATTGTGCCAG
67008	BENE	TCCAAGGCTGGAGTGCAGTG
67009	EMS1	GCCCATCAAGTGCAGTCGGGACC
67010	TEM8	GGAACTGCAAATGTATGATGATT
67011	POLL	GGCCGGGATCCAGCCATA
67012	LIG4	AATTATCTTGAATGTAGTA
67013	MUCDHL	CTGCCCTGTGCCTCGGTGCCTGTG
67014	CKTSF1B1	AACAACCAGATTCTTACTTGGC
67015	B4GALT5	TCGCCTAAGCTGGAGTGTGGT
67016	KCNMB3	GTAAACAAATTTTCAGGAGGGA
67017	ITK	ATGACCCTTTAATTCTCACA
67018	SACM2L	ACTGCCTCTGAGTCATTGTG
67019	PCDHB5	TTATCCCAAACTTTTTCAGATCT
67020	IL10RA	TGGAGCCTCAGTTTCCTCATCT
67021	CTBP2	TAAGTCTACAGGGGCTGGGTGACCTC
67022	DYRK1A	GCTGCTTGAATCAGGAGGAG
67023	SULT1A3	GGAGTTTCTTCAGGAAGAACC
67024	CLDN14	GCTGCCCGGCTGGCCTAGGCA
67025	CDC2L2	AGGCTGGAGTGCAATGGTGAGAT
67026	BST1	GGGACTGGAGGGACCAAAGT
67027	CNTN2	TACAGATGAGGAAATGGAGGT
67028	CD53	TGATCACTGCAGGATGATCCTC
67029	TBX1	CCCAAGTCAGGAGGTCAAGTG
67030	ALDH8A1	GGCGGTTGAGGCTGCAGTGAG
67031	FCGR2A	CCCAGTAGCTGGGATTAGAGGCATG
67032	CHST6	GCCAGCTGAGCCCAGCACTGCGG
67033	SFTPA2	GATTCACTCCTTTGAGTCTTTGGA
67034	SURF6	GGTCTCATTCCTTTCTGTTCCCCAGTG
67035	TAZ	CTGCCCAGGAGGTGGCGTCCAGCAGTC
67036	DAG1	TCAGGCGGTTGCTAGGCTCCGGCC
67037	DES	GGCCCTGTCCCTCCCACCTCT
67038	MUT	GACTATTCCCATTTCTCAGTTTA
67039	TIMELESS	CTCCTCCGGGCTTCTGAGGACC
67040	CD3E	AGCTGGCCTGCCCTCTTGCCAGGATA
67041	PRKACA	TCTCAACTCCAGTCAGACCAG
67042	CSNK2A1	GCCGAGCCGTGTGTCTCCTCCTCC
67043	HLF	GCACTGGTCTCTCTTGGAATTA
67044	FCGR2A	CAGGCTGGAGTGCAGTGGTGCTATCTT
67045	COPA	CCAACATGGCAACACCCCGTCT
67046	LGALS3BP	CAGCTTCAAGAAATTACTGGAA
67047	SLC21A3	GCGAGACTCCATGGGCGTAGGAC
67048	FANCC	GCAGCTGCCATCATGGTCATTGCCT
67049	PTK2	GCTGCCAGGCTGGAGTGGAGT
67050	OSM	CCAGGCTGGGAGACAGAGTCAGGCTG
67051	NPR1	AGGGGAGAAGAGGGGTGGCGCAG

67052	MMP20	GCCTAGTCTTCTCAAGCAATGAGG
67053	STK24	TTTCTGTTGCACCTTG
67054	DPYSL2	TTCTCTCTCTAGCTTTTTAATTCA
67055	HIP1	GGAGGCCAAGACGGGATGATTGCTTGA
67056	LRRC2	ATCATGGGACTGCACTCCAGCCT
67057	DMP1	GAGTGACACCAGTAACACAGC
67058	PDE7A	TGATCATAATACGAAGACCAG
67059	XRCC2	CTGCCTCTTGGGTTCAAGTGATTCTT
67060	TRIM39	GTCTGACTTGCTCAAACCAGA
67061	TBXA2R	GGGGGTGCTGGATGGACAGTGG
67062	SLC6A12	CCTCTGCCTCTGTCTCCTGCC
67063	NFYA	GATGATATTTCAGAAGAGTTGGCTG
67064	SLC6A1	GGGAGGTGGGAGGACAGTTAGACCCC
67065	SSX1	GGCTCCCTCGTCATCAGGTGCATAGCAAG
67066	DDX6	GTTTTTAAAAAATGTTTTCTG
67067	MVK	CGCCTTGGCCTGTGTT
67068	TRIM14	CTGTCTTGGGACAAAAAGGGTA
67069	JAG1	AGTTTTGACAAGCTGGCTTACACTGGC
67070	CALCR	TCAGAAGTGATTTAGTTGTGGAA
67071	RAD52	TTGCCACCAGAAACCACAA
67072	HMMR	TGCATCTCATCAACTTAAAAGT
67073	PDE6B	AGCTTCCTGAAGTGCTGGGA
67074	SFTPA2	CATCTGTGAAATGGGGATAAAAA
67075	PSMD9	CTGGATTGTGGGCAAGTGGGCGGAA
67076	NPC2	AACTGAGCTCCGGGTGGCTGGTT
67077	TGFBR3	TTTTACCCAGACTCAAGGAGTTGGTAA
67078	CORO2A	TCTCCTGCCAGCTGTTGCAGACT
67079	SLC26A4	GCTATGCGTACACTTGCATCCTG
67080	PIGA	CTACATCTTTGCTTTGTTGGCA
67081	BAT3	GGACTTTCTCGTCGTGCCCCA
67082	COL4A6	ACCTGCCACTCTGCCCCTTGCC
67083	TP53	TCTCTTGTATATGATGATCTGG
67084	EDNRB	TTCACACACCATATGGATTCTATTTAT
67085	MEN1	GGGCACAGTCGTAGAGAGGGGGCGGG
67086	NGFR	GTTTTGCCTGAAGTTGGAGTGAGT
67087	ATP6V0A4	GGGAAGCCACCTGCGGATTCACT
67088	COX11	TTGTCTTCCAGGCTTCAAAGCTGC
67089	JRK	CCCCACACCCTGGAGTGGCATGGT
67090	PML	CTCTGTTCCCTTCTCCTTTCATCCCA
67091	RANBP17	AGAAGCAGCGTTAGGGACTTTGGGCTG
67092	NEURL	ACAAAGCTCATACCCAGCCCTACCAA
67093	TPST2	GGGGGGAGAGCCGGGAGTCGC
67094	PAK1	CTCTCATTCCCTTTTCCACGGAGCCCC
67095	SPARC	CGTTCACCTCCAAGCATTTCA
67096	SYT4	CAAAGAATGTGTTTCACTATC
67097	NLGN1	TTAAAGGTATTTGAAGAAACTAT
67098	ANKH	CTGCAGCTGTGCCATCGCGCC
67099	CRTAP	TTCATTCTTTCAGTAAATATTTATT
67100	MDM4	TCCAAGGTAGCTGTAAGAAAAAT
67101	HR	TCGGGGTGGGGACAGGTAGACCAGGT

67102	LRP4	TAACCAGGTTGTGAGCCAGTG
67103	TM6SF2	TCACACACCCCTTCCCTCATCA
67104	PSMC1	GGGGGAGTTGCCCAGAGGAA
67105	ASB3	TGAGAATGTTTATGTTTACA
67106	KRTHA5	ATGGGTGCCAGGGTCTCTGTTCTC
67107	RGR	TCCTAGGCTGGACACAGGATTCAG
67108	ATP2B3	AAAAAGGGGGAGGAGAAGGTTCTT
67109	EXTL1	CCAAGGAGCAGAGGGGTGCGGGTAAACG
67110	HHLA1	TACAACAAATGTTTCTTCT
67111	ADRB3	TGAACTTCACTCCTCCCTCAGTGGT
67112	CRACC	TGCTGTCTGCCCTCATGAAATTGGCT
67113	PDGFB	TCCTCTTGTCCTGGCCCTTCAGTCTGC
67114	ADCY1	CCCTTCAGTCACCACTCCTCT
67115	C18orf2	GGACTCCAGCCCCATGCAACTTCAAA
67116	MMP15	TTTCTGTAAATAATGTGCACTGA
67117	CASQ1	CTTCCCTTGTCCTTCCCT
67118	SOCS5	CCACAAGGGCATAGTGCAGT
67119	RAPSN	GGGCCCAGCTCCCCTCCCTGCCT
67120	MLC1	TCTCCTTCCCCTGCCTTCAGCTC
67121	CPSF6	TACAACACAGATGTACCGAAAC
67122	DPH2L2	TCACAGCAACCTAAATAAACCA
67123	SLC12A4	CCTGCAGGAAGATCTGGCTCAGTCTA
67124	SDC1	TTCATTTGTGTAACGACAATAA
67125	SLC6A8	GAGCCCAAACCATCCTCTCCTTA
67126	NOVA1	GAAAGAGAAAAGCTGTAGTAAACTGTG
67127	WISP1	AGTTTCTCTTCACCCCTACACTGT
67128	GDF5	ACTGAGTCCCAGGAAACAGTGCTTTCC
67129	MLC1	GGTTCACCCAGCGCCCTCTACCTC
67130	LNK	AATTCAGGCAATTACTGAAATAGGA
67131	TIMP3	GCACAGAAAACAGTCTTCTATCA
67132	PNN	ATCCTATACTCTTCAG
67133	TNFSF10	TGCCTGTAGTCCCAGCTACTTGA
67134	MCC	TTACCTCTTCTCTCTCAGTT
67135	ALPI	GCATCCCCTTCAGGGAGCAGGAGCCCAG
67136	SCD	AGGCTGAGGGCCCCAATGTAT
67137	GPRK5	CTTGGGCTGAGAGCAGGAACAACGCGGT
67138	EIF2C1	GCTTCTTTTCTCCCTTGATGGTC
67139	DBH	CCCGGCTGACTCAGTGCAGGG
67140	C18orf1	CACCCCACATCCAGCCTACACAG
67141	TGFA	TTCCATTCAGGATGCCGGCTTTATT
67142	SOX5	GATTAATCCACTGAAGTCCAACTTTG
67143	LIMD1	ATTTGGCTTTCACACTGGAC
67144	CNTNAP2	TTTTTCCACCCCTGTGACAC
67145	SVIL	AGAAAAATAAGGAATTGCAGTGTGATT
67146	MCM6	GGAGTGAAGAGGTAGAACTGTG
67147	ORC5L	AAAGCCATATGGACACTGTGA
67148	ROBO1	CCGTGGAGGCAGGAAACGGCACTA
67149	VEGFB	GGGTGACTTGCCTCAGAGGCT
67150	PRex1	CGAGAGCCACACCAGCTCT
67151	ABCC3	CTCTCTGGTGTTCAGGGTCCTT

67152	PTPRO	TGCTGTCAAAATGACATTGATG
67153	USP5	CCCCGACTTGCCCTCCTGCCTCAG
67154	DGCR2	CTGCCTCCTGTCTCTCCA
67155	NFATC1	TGCACCCTAAAGCTGCTTAC
67156	CHC1	TGGGGTGGGGAGAGAGGGTG
67157	TNFRSF8	CCCCACCCACTCTGTCCTGGGAAATGA
67158	PPP2R4	CCCACCCCAGCAGTGGCCCCT
67159	APG5L	CTTGATGTTTTGACAGATTGA
67160	RAB7L1	TCTTGGCATCAAGAATAGTCAA
67161	LGALS7	TCCCAGCCATGTCCAACGTCCCCCACA
67162	ANGPT2	TGGGGAGAGAGGAACAAAGGACCGTG
67163	SLC26A2	GAGAGGGAAAGAATGTTGCACCTGC
67164	ADAMTS5	AAGACTGTTTCCACACCATAGGCAAT
67165	GFER	ACATGCCTGCCAGCGTTGTGTCA
67166	STAC	GCCCAATTAGCATCATCTAGG
67167	CSNK1D	CAGAGTTCAGACCCAGGAAGCGGCCGG
67168	S100A3	GAGGCTCAGCAGAGCGTGCACCAATGA
67169	SEL1L	TCATGCTTTTTTCCCAGAATCCCTCATC
67170	ED1	CCACCCACAAACTCCAGGCTGG
67171	PCDHB16	TTCTCTTTCTTCAGTCTTT
67172	TEM7	TATAGGCATTAAAGACAAGTCG
67173	PPP5C	GGGGCTGGCCAGAGGGTCTGCTCC
67174	SLC28A2	CCGGGAGGCGGAGCTTGCAGCG
67175	FOS	GTGTCTCTTTTCTCTTTCTCCTTA
67176	MLLT2	AGTTGTGTTGGTTTCTCGGTGACTT
67177	B3GAT1	GGGGTGAGGGTGGCACCCAGGCAGC
67178	TSLP	TACAGAAGAGTTTCTTAACTTACT
67179	ALPP	CCTGCCTCGCCACTGTCCTGCTGC
67180	HNRPK	GCGGCCTATAGGCTACTGCAGCA
67181	GRM6	AAACAGCCACCGAGAAGGTTCT
67182	TMEM1	CTGATCGGGGTGGATTTGTGTCC
67183	SULT2A1	GAGCGAGACCGTCTCAAAAA
67184	SCNN1A	CCCCAAAATTGATCACTCCGCCTT
67185	CHST5	CTGTAATCCCAGCTACTTAGGAGG
67186	NEDD4L	GAGGCGATGGCAGAGAGCAGC
67187	VENTX2	CACGTGCTCACCTGTCCCCCTCC
67188	SEPN1	AAGTGAAGTGACTTGCCCAGGG
67189	OGT	TGACTAGATGAGTAATCTGATT
67190	SERPIND1	TGTCCAGGGAAGAAGCCACCTCA
67191	AQP2	GGAGGCTGCCGGAGGAGCCTGAGCCTG
67192	SLC3A2	GCCTCCATGGAGCTACAGCCTCCT
67193	SOX12	AAACACCTGGTCATTTCAATCCA
67194	MASP1	GGACAGGAGGGAGCCTGGGGA
67195	SHANK2	GTGGCTTCTGTCATCTTGAA
67196	HPCA	TGGAGGGGAGAGAAGGATTCTAG
67197	SCA1	ACTAAAATCAGAGCCATCCAG
67198	HOXD8	TTCCTAATGATTAGCACTTAA
67199	LSS	GGGGTGAGGGGCAGGCAGC
67200	PEX14	GCCATCCCCCTCCCTCCCTGGGCC
67201	TRIM	TGGATTTATTTTCACTGTTATA

67202	WHSC1	GGAGAGGGCGAGCATGAACTGGC
67203	PACSIN1	CACTCCACTCCAGGCTGCCGGCAC
67204	ACPP	CAACATAGTGAGACACTGTCTC
67205	MAP2K1	TCAGCAGTTGACATCCAAATCTAGCCA
67206	SEL1L	TCACATGCACATTTCAAAACA
67207	MAML1	GGGTCCTGTATCCTGGAGTATTATGTC
67208	PPP3CB	CCCTTCAGTAGAATTAGATTTTGT
67209	ROR2	GGGCTCCATTTCTGCTGCCTCCCT
67210	VENTX2	AAAGGGGTTGGAAAAACTGATT
67211	FS	GTGCCCAGGCTCAGGTGCAGCCCCCA
67212	GRIA1	CTGTCTAATGAAACCTGTGTC
67213	PPP1CB	TGCTTTATACAGGAATTGACACTGAT
67214	SCAP2	ACACATTTAATTCCTATTAAGTAC
67215	ATP2B2	CAGACCCTGACACCTCTCATT
67216	HLCS	AGATGGAAAAGGGAGGCAGG
67217	PTGFRN	CTCTTGCCCATTGTGGGGGG
67218	EPHA8	GGTTGCACTGCAACCAAGTGTCA
67219	TAF7L	AATGGGGTCTTGTTATGTTGCC
67220	SSTR1	TTTCAGGAGTGCAAGCAGCACTCAAACCT
67221	NPY2R	TTCACAGTATTTACAAGCTATTTTTGC
67222	LZTS1	CAGAGCCCCAAGCAGGACGAAAAAGAG
67223	LZTS1	GAGGGGAGAGACAGGCAGCCCAGCAGTG
67224	KIF3C	GACTATACGGGACATATGTAATA
67225	PPARGC1	CTCCGAGAACAACAGTTGGGCTGTCAACAT
67226	MCCC2	CTGTGGCTCAGTTTTACCACCC
67227	LHCGR	TAACTGCATTATTGAATTGTTCTTA
67228	ATP7A	GGCTCACTGCAACCTCTGCCTA
67229	TMC2	TTCCTCTCACATACATGCTCTGTC
67230	DMC1	CCCAGGAGGCAGAGATTGCGGTG
67231	LAD1	GAGACCTTAGAAGCGAATTCCTCTCTG
67232	DCLRE1C	TGGGAGGTGGTGGTTGCAGTGA
67233	CLASP2	TGTCTGTGTCTTATTGAAAC
67234	LOH11CR2A	ACTGCCTGAAAGACTTGGGTTG
67235	CTMP	GTTTCCATCTTCTCAACTTTTTA
67236	WAS	AAATTCTCAGTTCTCTTCACTC
67237	TAF4B	ATACCTGGCCCTTCTGAAGTGC
67238	CITED4	TTCAGCTTTCGGACTCTGGTTCTTGG
67239	GPX4	CCTGCCTGCAAACCTGCTGGTGGGGCA
67240	SLC7A7	TTTGCGGGCTGCCTCACCTCCTC
67241	PTGFR	TGCATGGTCATGACACCCAGAA
67242	FBXL11	TAGGGCAGCAGAGAGCTTTTTGCAC
67243	FUT8	CAAACTCAGTTCAAACCATTTC
67244	LILRB1	GGCAGGAGAATCGCTTGAACCAG
67245	SLC25A14	TTCTATGTTTGTGTTACCAT
67246	EPHA8	CTGCCTCTCTGTGGTCTCCATC
67247	ZNF267	AACAGAACCTCTGTTGCTCTGCG
67248	EIF4A2	AGTGCTAAGTGTGAACTGGAC
67249	GATA4	GGCCGGCCTCCTCTGCCTGGTAA
67250	XRCC3	GGGCTGCAGGCAGGCGGCTCCTCCTCA
67251	PPP2CB	GTTTTATGTTGATCTGCATATTTCT

67252	NPY1R	CTCATCCCATGACTTCCCTC
67253	RAB30	CTAGGCACTCCATGATCTGCAG
67254	TNFSF4	GTTTGTCTTTGATGTCATGGTCC
67255	SEC22L1	CTAATCAACATTCCTTTTGTTGGTGA
67256	UVRAG	ATGAAGGAGGGACTCAGGATCATTGTT
67257	POU2AF1	AGTGACGAAGAGAGGGACAG
67258	ABCC1	GCCTCTGCACTCCCACGCCTGTCCTC
67259	PCDHGA1	GAGTAAGGTGGTTGGGGTG
67259	PCDHGA10	GAGTAAGGTGGTTGGGGTG
67259	PCDHGA11	GAGTAAGGTGGTTGGGGTG
67259	PCDHGA12	GAGTAAGGTGGTTGGGGTG
67259	PCDHGA2	GAGTAAGGTGGTTGGGGTG
67259	PCDHGA3	GAGTAAGGTGGTTGGGGTG
67259	PCDHGA4	GAGTAAGGTGGTTGGGGTG
67259	PCDHGA5	GAGTAAGGTGGTTGGGGTG
67259	PCDHGA6	GAGTAAGGTGGTTGGGGTG
67259	PCDHGA7	GAGTAAGGTGGTTGGGGTG
67259	PCDHGA8	GAGTAAGGTGGTTGGGGTG
67259	PCDHGA9	GAGTAAGGTGGTTGGGGTG
67259	PCDHGB1	GAGTAAGGTGGTTGGGGTG
67259	PCDHGB2	GAGTAAGGTGGTTGGGGTG
67259	PCDHGB3	GAGTAAGGTGGTTGGGGTG
67259	PCDHGB4	GAGTAAGGTGGTTGGGGTG
67259	PCDHGB5	GAGTAAGGTGGTTGGGGTG
67259	PCDHGB6	GAGTAAGGTGGTTGGGGTG
67259	PCDHGB7	GAGTAAGGTGGTTGGGGTG
67259	PCDHGC3	GAGTAAGGTGGTTGGGGTG
67259	PCDHGC4	GAGTAAGGTGGTTGGGGTG
67259	PCDHGC5	GAGTAAGGTGGTTGGGGTG
67260	ABCA3	CCTGCTGTGTGGAGCCTCTTCTG
67261	TEM8	TCATTGTTATAAAAAATCAGTTATCA
67262	CDC6	GCGGAGCTGGGTGAAGGCTGCG
67263	KCNAB2	GGAGCAGAATTTTCCCACTG
67264	BYSL	ATCAGATCCTGGCTGGGAATGCGG
67265	AKAP2	TGGAAGTATTGCATTCTGCCG
67266	RRM2B	GAGACATTTGAACTGTATTCAGG
67267	PHKG1	GGCAGGTGGGGAGGGGAAGCC
67268	MAGEA9	GTCATCATGTCTCTCGAGCAGA
67269	CUL4B	GTGTTTTCAAAAGGTCTTCCCA
67270	PLCD1	CCTGCTCCCAGCCTCTTGCTCAGAGCT
67271	DPYSL2	ACCAGCCTGGGCTAAGCTCCTGGGC
67272	RENT1	GAACACCTCCAGATTCCGGCTTCTA
67273	HLA-DRA	AACTTCTGCTTTAATGACTTTAC
67274	KRT3	CTTCTGCTGCCCCGGAGTCCCCT
67275	FLI1	CCTTGTGGAGAGGAGGGATT
67276	LPIN2	GTTGCTGTCTGCCCCTTGTC
67277	FLRT3	CCATGATCAGCGCAGCCTGGA
67278	NPTX1	TGTGTGCCCAGCTCAGCTAGC
67279	PON1	GCATCAAAGCACTGTTTAACT
67280	MS4A4A	CTCATTTCACTGGCTCTTTATCG

67281	GRM6	TTTCCTCCCCTCAGTCAACCCCCAT
67282	RFPL3	ACAGTCATAGGAGAAAGATATG
67283	SIRT3	CCGAGTCTGCTTTCTGTGCCTAGTTG
67284	TACSTD1	ACACAAATTACAAATGTGT
67285	FLRT2	CATTTCACTCTGTGCTGCATAT
67286	PLOD	CTTTGCCGACAACCACTGCCCA
67287	CHST2	GTGGGGGTGGAGAAAGGGGAA
67288	CORO2A	CCAGCACTCTGGGAGGCTG
67288	TBX6	CCAGCACTCTGGGAGGCTG
67289	ATM	CCAGCACTTTGGGAGGTTG
67290	ADAMTS4	GCTCACTGCAACCTTCGCCACC
67291	GYS1	AACTGTGCCCTGCCTTC
67292	TRPM6	CTTAAAGCTCAGGGGTACTATTAGTTA
67293	RAB36	CAGCTCCAGGGCACAGTC
67294	KCNH5	TGGGGCTATTGTCTGAGGACCCCAAGA
67295	KCNA4	GAACTCCAGAGGAACCAGGAGTCTTG
67296	CLECSF5	GGGTAGCAGAGGCTCTCCTCAGTCTG
67297	ITPR3	TCCCTCGGGTTGGGTGGCCCAGCCA
67298	FZD6	TTGTATATTAGGCCAAGTGCAATT
67299	BAI2	GAGGGCTGGGCAGGGAGGCGCC
67300	CALM3	AAGGGTGGGGAGAGGGAAGAT
67301	SP1	CTGAGCCTTGTTGTGACAC
67302	CCNF	TCCCCGGCTGGAGTGCAGTGG
67303	NOX5	CAGGCTGGTATGCAGTCATGTTGTA
67304	KCNAB2	AGAGGGGAGAGAGGGCAGGACAGGCCAG
67305	SLC1A4	GGCTAATGTCACCTGCCTCT
67306	GDI1	TATTTCACAGAAAACAAAAC
67307	LNK	TTGTCAACCGGGCTGGAGTGCAGT
67308	LMO2	AGCTAGTGGAGAGGCAGGAAAAAGGA
67309	MAP3K8	TACGGAGAGAAAGGGGAAATGGAAAAGT
67310	KIF3B	TTTGTGGAAGAAAGGAGG
67311	FOXM1	GGCGGCGACTGCAGTCTGGAGGGT
67312	FZD4	GTCACCCAGGCTGGGGCGCAATGGCAC
67313	ASCL1	CTTTGCACTCCAATCATTCAC
67314	MLLT2	TCTATTGGAAGGAGGTGTAACGGC
67315	RNGTT	ACATTTATTTTCAAAGCGAG
67316	GTF2E2	CTGCCCTTCTCACTCAGCATTATGGAT
67317	TRIP12	TTTTTCCAGGCTGGAACAAT
67318	MHC2TA	GCTGCGTGGTTGATGATCTTT
67319	FZD4	CCAGGCAAACTTCCTGCTACACATGCC
67320	BCAS2	GCCATAAAAGAAAATCTTTA
67321	REGL	TCATTCTCTGTACTTCTAGG
67322	PPL	ATGAGACAGGCACTGGCTG
67323	CHST7	GGAGAAGCAGCGCTGTGGGGG
67324	LRRC2	CCACATTTAACTCCAGCCTTGGGTTTGAC
67325	LSS	TCCTAGCCATGGTCAGACTGTACAAAA
67326	NCKAP1	TAAGGCGGAGGTCGCGGGCGGG
67327	P53AIP1	ACCAGTCACTTACTCCAA
67328	IL7R	ACTCTTCCTGAGTTCAGTGGCACT
67329	SEPN1	GTCACTCAGGTAGAGTTGAGA

67330	CUTL1	TATTAAAAGGGGGCTTTTTA
67331	COG3	CTGCCTCGTTTAAATGGTCACAAGAAAT
67332	AGPAT2	GCTGGGATGATAAAGATGAGGCTTGCG
67333	GNAI2	GCCCCTGCTTCTCCAGCCTGGACCCCC
67334	SFRP1	CAAAGTGCCTCATGCAACCGGGCCCT
67335	LAMA4	TCAGATTCACCTTTCTTCCAG
67336	ALPPL2	GCAGCTGCCTGCATTTCAGGAAAAG
67337	CRACC	AAGGTCAAAGTTCACAAAGATGA
67338	PRND	GGCTCACTGCAGCCTCTGCCTCC
67339	RAB30	GCACGAGGCTCCAGCTGAGCTAAG
67340	SPARC	TCCTGCAGGGCTTCTCCTCCTCTGTCT
67341	NFKB2	TAAAATTCTGGGAAGCAGAACCTGGC
67342	RAD52	AGTTGTTTTGCATAACGTCTGCCT
67343	LILRB1	CTGTAATCCCAGCTATTTGGGA
67343	SCN2B	CTGTAATCCCAGCTATTTGGGA
67344	PIK3CD	TGCCCAGGCTGGAGTGCAGTGGTGCA
67344	UGDH	TGCCCAGGCTGGAGTGCAGTGGTGCA
67345	ANGPT1	TGCTTCAAACTACTACTGGACCTTA
67346	KMO	TGCCTCCTGGGCTCAAGCAATC
67347	IL22RA2	TCAGTTTCTTCATCTGTAACATCAA
67348	P2RX4	ACAGAGACCTGGCTGGCAACGAGCAG
67349	IPP	AAACTCAAGAATGATTTTTCTAAAAA
67350	GCH1	GGGGCAAGATGGCAGAGGTA
67351	TCF2	ACCCGAGCTGGAGTGCAGTGGTGCA
67352	AKAP1	AGCACACACACCCTACCTTCCA
67353	SHOX	GTCGCCCAGGCTGGAGCGCAGTC
67354	GNE	CCCCAGGCTGGAGTGCAGTGGC
67354	IGF1	CCCCAGGCTGGAGTGCAGTGGC
67354	LZTS1	CCCCAGGCTGGAGTGCAGTGGC
67354	RPP30	CCCCAGGCTGGAGTGCAGTGGC
67355	PDE6B	ACCCAGGCTGGAGTGCCGTGGC
67356	SLC10A2	CCAGTGGCAGTCCAAAAGCAGA
67357	PTGES	AGACGGGTTCACCATGTTGCC
67358	MSN	TCAACTAGGGAGTGAGTGCAAAAAGCT
67359	DUT	CTTGTTCTTCCCTTCTCTTCAC
67360	USP6	GCCCTCTGCCAGCATAAACCA
67361	JPH2	AGACCCAGGGGACTCTGAGAAT
67362	PFKFB3	CGCCTGCCTTTAGCCTGGGGGCCCCC
67363	RPH3AL	GCCTTTCTGCACCCCTTCTCTCCTGGG
67364	BMX	GCTCCTGATATAACACTTTCC
67365	GJB3	GAGGCCGGGAGTCAGAAATTCAGGAGCCA
67366	MTR	GCTCTGTCGCCCAGGCTGGAGTGCAGG
67367	ATM	TCCAGCCTGGGAGACAGAGCG
67367	INPP5B	TCCAGCCTGGGAGACAGAGCG
67368	RAB30	GCCAAGTACAGTCTCTGTGGTGCG
67369	RANBP3	TGAGCGAACAAACAAGAACATTTCCTCCCT
67370	LTA	CCAACAGCTCAAGTCTTCCCTGATCAA
67371	GPR37	TGTTTTTCTTTTCCTCTAGAGAC
67372	PRKY	CACAGCCGCGCCCGTGCCGCAG
67373	EPHA2	TGAGCTGGGGACTCAGGGA

67374	CD68	CCCAGCACTTTGGGAGGCTGA
67374	DNASE2	CCCAGCACTTTGGGAGGCTGA
67374	DVL3	CCCAGCACTTTGGGAGGCTGA
67374	EHHADH	CCCAGCACTTTGGGAGGCTGA
67374	IFNAR1	CCCAGCACTTTGGGAGGCTGA
67374	IL1R1	CCCAGCACTTTGGGAGGCTGA
67374	INPP5B	CCCAGCACTTTGGGAGGCTGA
67374	LDLR	CCCAGCACTTTGGGAGGCTGA
67374	PDE4C	CCCAGCACTTTGGGAGGCTGA
67374	RAB7L1	CCCAGCACTTTGGGAGGCTGA
67374	SUV39H2	CCCAGCACTTTGGGAGGCTGA
67374	TEM7	CCCAGCACTTTGGGAGGCTGA
67374	USP14	CCCAGCACTTTGGGAGGCTGA
67374	ZNF136	CCCAGCACTTTGGGAGGCTGA
67375	POLS	CTGGCTGCGTCAGCCTCCCCC
67376	GNAZ	AGCTGCTCAGCACCATTTCA
67377	HSPA1A	CAGTTCTCAATTTCCTGTGTTTG
67378	CDH1	TTACCCAGGCTGGTCTCAAACTCCTGG
67379	DNA2L	TCATCATTTAAGCACAGTCTT
67380	ALDH3B1	TGGCTAACATGGCGAAACCCCGTCTCT
67381	ANKH	TGGCCAACATGGCGAAACCCTGTCTCT
67381	INPP5B	TGGCCAACATGGCGAAACCCTGTCTCT
67382	HIP1	TGGCCAACATGGTGAAACCCCGTCTCT
67382	HM13	TGGCCAACATGGTGAAACCCCGTCTCT
67382	IRAK4	TGGCCAACATGGTGAAACCCCGTCTCT
67382	LEP	TGGCCAACATGGTGAAACCCCGTCTCT
67382	NUP62	TGGCCAACATGGTGAAACCCCGTCTCT
67382	RIMS1	TGGCCAACATGGTGAAACCCCGTCTCT
67382	SLC2A6	TGGCCAACATGGTGAAACCCCGTCTCT
67382	UPK1B	TGGCCAACATGGTGAAACCCCGTCTCT
67383	PPL	GGTGCAGGCCAAGCATTTT
67384	CPS1	ACACTCTCCAGGCTGGAGTGC
67385	HAS2	TCTTCCATGTTTTGACGTTTGC
67386	KLK5	TGCACCCACATCTTTCTCTGTCC
67387	DRD2	GGGGCCTGGCAGGGAGGTCAGG
67388	RFX1	GGCTTCGTGGTCACTGCTCCA
67389	ALPI	TTCCCAGGGGGGCTTTGACACAG
67390	ADARB1	AGACGCTGTCAAATACAGACAAAGGAT
67391	IL17BR	AGCAGAGATGGGTCCAGTGCAGTG
67392	INPP5B	TGCCTGTAATCCCAGCACTGTG
67392	RBBP9	TGCCTGTAATCCCAGCACTGTG
67393	SERPINB9	CACCCAGGCTGGAGTGTAGTGG
67394	AQP6	TACCCAGGCTGGAGTGCAGTGG
67394	CLECSF12	TACCCAGGCTGGAGTGCAGTGG
67394	FCGR2A	TACCCAGGCTGGAGTGCAGTGG
67394	MDM2	TACCCAGGCTGGAGTGCAGTGG
67394	NQO1	TACCCAGGCTGGAGTGCAGTGG
67395	CYP1A2	CACCCAGGTTGGAGTGCAGTGG
67395	PRKWNK3	CACCCAGGTTGGAGTGCAGTGG
67396	CYP4F3	TGCCCAGGCTGGAGTGCGGTGG

67396	HMG20A	TGCCCAGGCTGGAGTGCGGTGG
67396	SLC39A1	TGCCCAGGCTGGAGTGCGGTGG
67397	FUT1	TGTTCCCAACTCAGCTGCCACG
67398	SLC25A11	TTTATTTCCCTTCCACAGTGT
67399	ITGA6	AAATTCAATTTGGATTT
67400	MSI1	CAGGCCGAGCCCCTGGAACC
67401	BAZ2A	TATTGCCCAGGCTTGAGTGCAA
67402	PFKFB1	GACGAATAAAGACTTACTGCCTAC
67403	TMPRSS2	ATGAATGATTCTACAGCTAGGACTTA
67404	P4HA1	CAATTGCTTACTTTGTGGGTTCTTTTA
67405	KCNC3	CCCCGCTACCTCGCTCCTCCTCC
67406	BAI2	CGCGCGGGAGAGCGGGAGCCTCGGC
67407	MPHOSPH1	TTAGAAAAGATCTCAAGTCTTT
67408	MTNR1A	CTGGCTGCTGCCATAGTTTC
67409	ALDH1B1	TCTATTTAAATCAGAGATGGG
67410	SORCS1	TAATGAGAGCCTACAAATGGG
67411	CDK10	GGAGAGCATCTTCCTGGTGAT
67412	SLC22A2	AATGCATGTGTGGGGGCAGAGGTTAT
67413	IFNA16	TATGTTCTTCATATTTAGTT
67414	ITSN1	AGCTGTTTGGTTTGAGTTCTTT
67415	SERPINB9	GGCTCACTGCAACCTCCTCCTCCTGGATTC
67416	ADAMTS3	GAGAAGTTAGAATTACAGCTACTGA
67417	RGS2	CAAGAAGGGAATAGGTGGTCTG
67418	EEF1A2	AATCACTGCAGCCCCCCTC
67419	DPYSL3	ACCATTCCACCAGAACCTTTGA
67420	WNT1	TCTCCCACTTCCTCCTACCTGGGG
67421	KCNA4	AGCATTTTCGGACTTCTTAGTCTTGA
67422	HOXA10	CTGGTCCCCTCCCTCTGTCT
67423	CSF2	CCACAGCCATGGTGGGAGTGG
67424	BUB1B	TCTCACAGATTGCTGCCTCA
67425	CSHL1	CCTGGCCCTGAAGGTGCCAC
67426	FCAR	TTTCGCCAAGGCTGGAGTGCAGT
67427	AHR	GCGTGAGCCTGTAGTCCTAGCT
67428	SLC9A3R1	CAGCACCCACATCCCCTTTCTTGACAAATG
67429	B4GALT3	CCTCCCTCTTCCATGGAGAGA
67430	EED	CTTAATACTGCCCTCTTAATCCA
67431	CLCN6	TATGCACTGACATGACCCTGGGTGA
67432	CDA	GCAGCCAGAGAATGCCCACTGCCT
67433	THBS1	GCTGCTCTGCCCCTTGTGCTCAGAG
67434	FPRL1	CCCACTGCATTTGCAGCCTTGAGG
67435	LEF1	TTGTAAAAAGCCCAGCACTTG
67436	RNF3	AGCAGCTCAAGAGACCTTATCTT
67437	TAF4B	CTTACAGACTCAGATTCATCT
67438	ZFP36L1	GGGAACTGGCGTGTGGGACTCCAGACA
67439	STIM1	GGGAATGGGTTGGGAGAGG
67440	BMP4	GTTCCCATCCACTCACCCACAC
67441	LDLR	CGGGAAGCGGAGCTTGCAGTG
67442	BCLG	ACTGTTGTCTGTGCCTTTTTGAAAAACT
67443	GNAS	CTTCCCTTTTTCTCCTCA
67444	TNFSF4	GCCTCACTCCACCTTCCTTCCATCA

67445	KCNK7	AGCTCACCTCCCTCCTGTTCACACCCCA
67446	ESR1	CCTCTGCTTTCCCCCACTCTGAG
67447	TAL1	CACTCAGGCTGGAGTACAGTGG
67448	SKI	GACCCAGGTCTTCCTGCTGC
67449	GRAF	AAAGGGAATTATTTCTCAGTCT
67450	KLRD1	TGCCCAGGCTGGAGCATAGTGG
67451	MAD2L2	GGAGGATGCCTCCCCCAGGAG
67452	ADCY6	AGGGCCTGTCCACACCCTGGA
67453	DAZL	GTCAGAATTTTGTTGGTCTGAATACAAA
67454	POU3F4	TTTCCTTTCTCTCTCACTCTCT
67455	KRT5	CTGAGCTCTGTTCTCTCCA
67456	STMN1	TGCATCTTTTCTACTTCAGTA
67457	NTF5	CAGGAAGGAGGGGGCCACCTGTG
67458	SLA2	CTAGAACCCCAATTCAGCCTCCTGGG
67459	MYH11	TAGTAAAACCTCATCTA
67460	NEDD4	GGAAAACTGAAATTTGGAAAAAGAA
67461	CLASP2	AGGCAGACGGAAGATGTGGCAGAAGTCCTCAA
67462	MOG	CGCAAAACTGAAAGGCATGTGAAGGGA
67463	COL4A6	AAGCCTGAATTGGCTATGCAGTA
67464	RAD9	GAGGCCATGGCGAGAATCCAG
67465	ABCB9	GCCCAGCCCGGCACCCAGCGCT
67466	ADAMTS4	GAGGGAGGGGGAAGGCAGGGAGGGC
67467	EDARADD	GCCCATCAATAAAACTATTGCACCTG
67468	LPP	AGGCTGAGACAGGAGGATTGCC
67469	ADH1B	GCAAAATTGTTTTCAATCTAGA
67470	MPL	GTCACCCAGGCTGCAGTGCAATG
67471	DNAI1	CGGACAAACTTTTTGTCTTCA
67472	COL13A1	GGAGTGTGTCAAGTTACAGAGG
67473	AKT1	AGCCCTCCCCCTTCCCCTTCTGTGTCA
67474	TSN	CTCCATCTCTATATAAAAACA
67475	PIP5K1A	TTCGTAGAGTTCCCTCAGA
67476	SOCS5	GTCAGATGCTACCTGCTGTTACT
67477	CALU	TCAGGTGGTGCTGGGTGA
67478	LIFR	TTCTAAGATTATTCTCCTCTATCCACAG
67479	SLC7A5	TCCTGCTCTGGGAGGTGGACATGCCTC
67480	TM6SF1	TGAAGGAAAATGGAAATTCTTGA
67481	SOD3	TCTGCTCCAACAGACACCTT
67482	DRPLA	TGCCCAGGCAGAGGAGAATG
67483	KCNK4	CCTGGAGCGTTGACTCCCTTCTCG
67484	B4GALT5	TCACTGCAGCCTCCATCTCCTA
67485	NCOA6	CAGCCTAGAGTACAGGGTGAGCA
67486	TCEB3	CCCGCCTCCCTGCCTGGAGC
67487	RNMT	CAAAACTGGTACTTACGTGAA
67488	SHOC2	CCTGAAGTGAGTCTTTGGG
67489	ENO2	GGCTTACCTGACCTCTTGCTGT
67490	EGLN1	ATGGGATAAAGAAAAATAGACAAC
67491	ZNF74	TTCACAGCACTGCACTGCAGCCT
67492	FSTL1	CAGTGTCTGGATCCCAGCATCT
67493	AIPL1	CCTGCAGCCATGGATGCC
67494	PCDH11X	TGCAGTGAGCCGAGATGGCGCC

67494	PCDH11Y	TGCAGTGAGCCGAGATGGCGCC
67495	VHL	TGCAGTGAGCTGAGATGGTGCC
67496	CMKLR1	GGTTCAGAGGGGGATCTTGAATGAA
67497	SLC4A1	GCCCCAGGGCTGTGGGTGGGGAAGG
67498	CTSS	CCACTGTACTCCAGCCTGGATG
67499	MBD4	CCACTGCACTCCAGTCTGGATG
67500	ARSD	GTGAGAAGCTACTCCCTCCGCA
67501	LPIN2	TCAGGGTCCCTGAACTGCT
67502	NDUFS1	TAAGCCGAGATCACACCATTG
67503	TCF3	TTGGTTTTGTCATGTGGAAAGTGAT
67504	RBBP5	GCCTGTAATCCCAGCTACACTGG
67505	CYP4A11	CTGTCTCCTTCTTCCTGCCTGGCTTGTC
67506	SULT2A1	TTCAGAGAACCAGGGTTCAAA
67507	GCA	CTGCAGCTGCGCCTCCTTGCA
67508	ASB1	GCAGTGCCCTGCCCTGCCCTGCAGTGT
67509	TBL2	GGGAGGGCCCGGCGCAGAGGATTGAGG
67510	PRX	GTTTCTCTCCCTGGGCCT
67511	AMT	GATGCAGAGGGCTGTAAGTGTGG
67512	SURF5	TCCTAGAGTTTTCCAGGGGGTTCTGAG
67513	SLC19A2	CCTTAAATCTGCCTTTGTTTCTA
67514	DBY	CTATTCGGTCTCACACCTACA
67515	APOBEC3B	ATCTTCTTCCAAGAAATGCAAAC
67516	SIGLEC8	GGGACCCCCTGCCCAAC
67517	ZYX	ACCGCAGTCCATGCCCCATTGTGGACC
67518	NYX	TCCTGGGGTCTGAGATGTGTT
67519	HBE1	AGAGGCAGCAGCACATATCTGCTTCCG
67520	AGL	GAAAGTACTGGGATTACAAGC
67521	NCOA6	GCCATCACTTTTGCAGAGAACTTCT
67522	VIL2	CAGCTGGCAGAGAGCACAGTG
67523	XK	ATTCTTACCATCTTACTCCTGCCTCC
67524	RXRA	CAGGACAGACGATGGCAGAGGAG
67525	TPK1	GGAGAAAGCTGTGCAGAGGAA
67526	ROM1	CATTAGCCCAGCTCAAGCCGGG
67527	ATP11B	GGCTTCTAGAATTGGACTGGCAG
67528	M6PR	GCATCCCTCCCCCACACCCT
67529	LHX3	GCAAATTTCTCCCCTTTATTGACC
67530	NOG	AGCCTCGGGTGAGCCGCCTCC
67531	CD8A	GATCCTTCCTTTTGAGGGAGCA
67532	MRE11A	TGGATGCCCATTATATTGTTTTCTCCT
67533	BRIP1	AGGCTGGAATGCAGTGGTGTGC
67534	PLA2G2D	TGGCTGAGGCAGGCAGATCACC
67535	CEACAM6	AGTTGGTTTGTATCTTGCCT
67536	TPST1	TTGTTCTCTTTTCTTACATTAT
67537	PPP1R12B	CAATCCTCAGTCCTCACCTGC
67538	GARP	GCTGTGCACACCTGCTCTCTCCT
67539	GPR81	ACTCTGTGTCCCAGGCTGG
67540	FMR2	TCTTCCTAGTGGCTTGAAAATCTGGA
67541	WFDC1	CTGTCCCCACTCACAGGCCCACGCAG
67542	HTR2C	GACGCCATCCTTCAAAAACAACTA
67543	GPX3	GACAACCCTTTCTCTCCAGTTC

67544	RASGRP1	TAAACTCAGAAATACCCAAAGC
67545	EYA1	ACTTTGACAGCGCACAGCTGCT
67546	CPO	CTCTCATCTTGTTTTTGTTTCA
67547	NDUFS8	CCGGCCTGCAGCCCCTGCTGC
67548	AK1	GGGCCCCGGATGACTTGGGGA
67549	GAB2	TGACACATGGTACAGGCTTGGAGCTTG
67550	SRGAP1	GCCTGTAATCCCAACATTTTG
67551	SH3BP2	AGCATCCTGGGGCCCAGAGCCA
67552	SNX15	AGAGGAAGAAGAGCGCAGGCCTGG
67553	ANKH	CATGCCTGTAATCCCAACACTT
67553	BRCA2	CATGCCTGTAATCCCAACACTT
67553	CTSS	CATGCCTGTAATCCCAACACTT
67553	PLA2G2D	CATGCCTGTAATCCCAACACTT
67554	MGEA5	ATCAGCTGTTTAACTTTGAGCT
67555	LIF	GGAAGATAGAGAGGGGCCTCTGGGAT
67556	RORB	GAACCCAGGGCAACAATGCCA
67557	POLK	GGTTTCTTCAGGAAAATAAAT
67558	AQP3	GCTATTGGGGGAGCCCAGAGAC
67559	CSNK1A1	GAACAGTCTTCAGCCACAGTTGTGATGG
67560	KCND2	CTTTCCAGATCCTTATAGATACGGTA
67561	SHANK2	CCAGCAGAGCTGTGTTATATTTTCTA
67562	TNR	CAGGTATTTGTGATTTTGTCAC
67563	RAP1GA1	CCCAGCCTGGGGGTCTGCGCT
67564	PPP2R4	GGGCCTGAGGCCCCCTGTGTCCAAGC
67565	HDAC7A	TAGGAATAGCCTGACTGA
67566	IL1RAPL2	AGGTGGACAGGCAGAGTCTG
67567	TCL1A	TCCTTGACTTAGATTCTGGTGGAGAG
67568	SLC7A5	CTGGGAGGGGGTGGGGGATCTGGGC
67569	HDGF	AAGACTCCTAGCTGTCCTTT
67570	ZNF26	TTAAGGAAGCATTTTCCCATTG
67571	LHCGR	AACATCTGAAAGCACATTTCAGCC
67572	VDR	GGTTTTCTTCCCATCACTGGAG
67573	RRM2B	TTAGATCTTTGTATTTTTAAT
67574	CYP1A2	TGCAACCTCCACCTCGCAGGTTC
67575	MIR16	CCCTAGCTGAGGCACACAGGGAG
67576	MYO10	GAGCTGGAGTGCTGCGGGCA
67577	OGN	TAACTGCAAAATATTTTCCTTT
67578	FMR2	GATGGAGGCCACCTCAGCTGGA
67579	MOG	ATCGCGCCACTGCACTCTAGCCG
67580	SPTBN1	TTTTACAGCGAAACCCTTACATGAGTA
67581	IL5RA	CATGCCTCAGTGCCTCAGTGAA
67582	PCDHB16	CCCAAAATTCTGGGATTACAGG
67583	F2R	TGTTCTGAAATGTCAGTTCTG
67584	RXRA	CTCAGAGGGGGCAGGTGGCCT
67585	AVP	GGGGTCCACCTGTGTGCACCAGG
67586	PIP5K1A	AGCTCCTCTTTAAACTCCTCCTCTCTTGATGA
67587	BHMT2	TCAGCCTGGGTGACAGAGTGA
67588	DLX4	GACTGAATCGCCACTACAGCCTGGGTG
67589	PACSIN1	GCCTGAGGTGTGTCCTGGGCTCCTCAGA
67590	CST	GCTCAGGCAGTGGGTAGAAAGG

67591	RXRA	CCTCCAGGCTGCAGGGGCGGG
67592	GALNT1	TAGTTTCTGCTGAACGTGCT
67593	KCNK4	CCCTGCTGCAACCCCTC
67594	ORC2L	CCAGTGAGAAGCCAGGCTAG
67595	CYP1B1	CCTGCGGGTTCCTGTTGACGTCTTGCCCT
67596	TES	ATAATTGTATCTTTCCATAGCTTT
67597	NR0B2	CCACACCCCACATTGGACTTCCT
67598	FOSB	CGGCTCACCCCGGACTTGCACCTTA
67599	SLC5A2	CAGTGGGGTGAGAAGGTCCTGGCT
67600	PKD1	ATCCTCCTTCCTGGCGGGGGTGGGCCG
67601	SFRP1	CCGCAATGTGGAGCAGCAGC
67602	GGA3	GTATTTCCCCTTCTCCAGAAGCAG
67603	F2RL3	AATCCTATCTCTACCAAAAAT
67604	SORBS1	CCAATGCATCTTCCCACCAC
67605	AP2B1	TTCTCATTCCTCTGTTCTTATTGGGTC
67606	GCH1	TTTGGCATTTTAAAGTAAAAACAAGTG
67607	TRIM9	TCTTTGCCAGTCCCTTCAGTCTTG
67608	EIF1A	GGCCTCCAGCACCTACTTGGTCCCGC
67609	LAMP2	TGAGCCAAGAGCGCACCATTGCACTC
67610	SFRP5	CTGCCAGCTGTGCCTTGCTTGCCCTCT
67611	DAAM2	GTGGAGGAGGTGGTGATATTTAAACCAT
67612	DGCR2	GAACACCGCTGCCACTGTGGC
67613	ARHH	CTGCAGCTGCCCACTGAGGGCT
67614	AOX1	TCCTTTTCTGCTATCACCTTCCTCTTGTCA
67615	VHL	GTGTGAGCCACCGCGTCCAGCC
67616	MLC1	GCCTCTCTCATGGCTTGGGCTG
67617	ECM2	CACTATTCCTCACTCAAGATTA
67618	TAZ	CCACAACCACCTCCAGCCTGGGAG
67619	CPT2	CACTTGAGGTCAGGAGTTTGAGAC
67619	FGFR1	CACTTGAGGTCAGGAGTTTGAGAC
67619	PAICS	CACTTGAGGTCAGGAGTTTGAGAC
67619	POLK	CACTTGAGGTCAGGAGTTTGAGAC
67619	RIMS1	CACTTGAGGTCAGGAGTTTGAGAC
67619	ZNF136	CACTTGAGGTCAGGAGTTTGAGAC
67620	TNFAIP1	GGAAATGTGACTTTCTAAT
67621	ALDH1A3	TTCCCGGGACACATTCTTCTGG
67622	CYLN2	CTGCAGCCTCCACCTCGCCGCTGGGG
67623	DVL3	GTCTGTAATCCCAGCACTTTGG
67623	SULT2A1	GTCTGTAATCCCAGCACTTTGG
67624	FUT3	GCCTGTAATTCCAGCACTTTGG
67624	GALNT7	GCCTGTAATTCCAGCACTTTGG
67624	LILRB1	GCCTGTAATTCCAGCACTTTGG
67624	PCDH11Y	GCCTGTAATTCCAGCACTTTGG
67625	EPO	CTGTTTTCGCACCTACCATCA
67626	MGAT1	TCCTGGGCCCCTCCTTGCCA
67627	CDR2	GGCCTGGAGTTACTACAGTATGGG
67628	BRCA1	TCAGGAGGCTGAGGCAGGAGAATCGC
67628	CTMP	TCAGGAGGCTGAGGCAGGAGAATCGC
67628	DSC1	TCAGGAGGCTGAGGCAGGAGAATCGC
67628	IFNAR1	TCAGGAGGCTGAGGCAGGAGAATCGC

67628	LRRC2	TCAGGAGGCTGAGGCAGGAGAATCGC
67628	PTAFR	TCAGGAGGCTGAGGCAGGAGAATCGC
67628	SLC25A15	TCAGGAGGCTGAGGCAGGAGAATCGC
67628	UBE2G2	TCAGGAGGCTGAGGCAGGAGAATCGC
67629	MCC	GGTGATCTCTGGGAGTTATAG
67630	NRIP1	GATCTACAGAACAAGAATCTCT
67631	SIX2	CGTACGGCAGTGACTCGGGGC
67632	EGLN2	CTTCCCAAGCCCTTAGGGACCGCAGAG
67633	GRAF	TGGCCGGGTGCAGTGGCTCA
67634	HSD17B1	TGGGATTAGAGGCATGAGCCAC
67635	TLR4	CTGATCCCAGCCATGGCCTTCCTCTCC
67636	MAPT	TGGAGGGGCAGCGCAGCCTCCCA
67637	RFC1	CCAGTAGGAACCAGGCTGG
67638	MAGEL2	AAGCTTTGTACATTTTTTAT
67639	DBN1	AAACCTGGGCTGGAGTGAGGTG
67640	RPS6KA1	GTCTTTTTTCATTTCTTCCTCA
67641	TEM7	CCTTGCTCCAACTCCTTGTCTCT
67642	RRM2	CCTCACAACCAGTCCTGTCTGTTTAT
67643	RAB5C	GACCAAATCATGATGATGAGTATTTGG
67644	ITK	GGGCTTCCTGCCTGGTTTTTCTCTTCT
67645	CD83	GCCACCTTTTCAGCGATGTATGCAGCT
67646	LRRC2	GGAGGCTGAGGTGGGAAAATCA
67647	PDE4D	CATAGCAATTAACTGATTTGTAGTG
67648	SHMT2	CAGCCTCCTCTTTCTGTCTCTGATCA
67649	ARHGEF7	GAAAGTTGGGTGGCTTCATT
67650	AGA	AATTGTGTTGATTTTCTTTGCTT
67651	MMP19	GCCTTGGAAGCTCCCTGATCCT
67652	IL9R	CCTCTACCCTCAGCATCCTGGC
67653	PCDHA1	ACTTACTCTGTGCTTGTGTATGTG
67653	PCDHA10	ACTTACTCTGTGCTTGTGTATGTG
67653	PCDHA11	ACTTACTCTGTGCTTGTGTATGTG
67653	PCDHA12	ACTTACTCTGTGCTTGTGTATGTG
67653	PCDHA13	ACTTACTCTGTGCTTGTGTATGTG
67653	PCDHA2	ACTTACTCTGTGCTTGTGTATGTG
67653	PCDHA3	ACTTACTCTGTGCTTGTGTATGTG
67653	PCDHA4	ACTTACTCTGTGCTTGTGTATGTG
67653	PCDHA5	ACTTACTCTGTGCTTGTGTATGTG
67653	PCDHA6	ACTTACTCTGTGCTTGTGTATGTG
67653	PCDHA7	ACTTACTCTGTGCTTGTGTATGTG
67653	PCDHA8	ACTTACTCTGTGCTTGTGTATGTG
67653	PCDHA9	ACTTACTCTGTGCTTGTGTATGTG
67653	PCDHAC1	ACTTACTCTGTGCTTGTGTATGTG
67653	PCDHAC2	ACTTACTCTGTGCTTGTGTATGTG
67654	HLF	TCCAACAAAGAAAGGTGCCATG
67655	UTY	AAAACACCCAGCACAGACACTCCA
67656	LIG4	TCATGGCAACCCCGCAGGAAACCA
67657	HYAL1	AAACCCAGGCTGTCTAGCTCCG
67658	LMO2	TTGATTTCTTTTCTTCCTGGC
67659	FGF1	GGGAAACTGGCTGAGGGGATA
67660	GALNT7	GCTACAGAAAGGAGGTTTAGGATTGC

67661	APPL	TTCTCGATCTCCTGACCTCATGATCC
67662	MADH4	TAATCTGAAGATATATTTCA
67663	FKBP6	AGGGCAGCTAGGACATGGGGGGA
67664	WNT2	CTTCCCTTCTACAAGGACTCCA
67665	ENTPD3	AGTTTCCATTTCCCTCCCTCA
67666	ZIC3	CAGCTTTTGATTATAACTGCTTTAGCATTA
67667	ITGAV	TTTCTCTTAACGATTATCACTGT
67668	BMP8	AGGTCCTTTTCAGGGAGTGACAAGTAG
67669	HEM1	GGTGGGAATGGGGTGGGG
67670	EFNB1	GGCTTATCCTGGCAATGGGGTAGTCA
67671	TYRO3	CCTGCTGAGCTGCCCCTGCTGCTT
67672	RFNG	CTGCCGCAGGCTGGGTGCACGGCCGGG
67673	KCNA4	CTTCTGCTGACACCTCATCTAGCA
67674	BRCA1	CCAAAGTAGCTGATGTATTGGACG
67675	NOC4	TGTTTTTAACACAGAGTCTCTA
67676	CDSN	CCAGATCACCACCCCTTACAA
67677	ABCB1	AACTGACTGCCTTGCTA
67678	KCNH5	CCGGCAGAAGAATGAGGTGACCCTC
67679	RNH	AGCCTCCTCTCCAGGTTCCTGCCC
67680	GNLY	CTCCTTGCAGCCATGCTCCTGGGC
67681	PXN	CTCTCCATCCTCCCCAGGGGTAGAGGC
67682	ADAM17	TGGCTCATGCCTGTAATCCCAG
67682	AK1	TGGCTCATGCCTGTAATCCCAG
67682	ALDH3A2	TGGCTCATGCCTGTAATCCCAG
67682	ATP1A2	TGGCTCATGCCTGTAATCCCAG
67682	CHST5	TGGCTCATGCCTGTAATCCCAG
67682	CORO2A	TGGCTCATGCCTGTAATCCCAG
67682	CPT2	TGGCTCATGCCTGTAATCCCAG
67682	DCLRE1C	TGGCTCATGCCTGTAATCCCAG
67682	DDOST	TGGCTCATGCCTGTAATCCCAG
67682	FGFR2	TGGCTCATGCCTGTAATCCCAG
67682	GP2	TGGCTCATGCCTGTAATCCCAG
67682	HM13	TGGCTCATGCCTGTAATCCCAG
67682	IFIT4	TGGCTCATGCCTGTAATCCCAG
67682	MSH3	TGGCTCATGCCTGTAATCCCAG
67682	OPTN	TGGCTCATGCCTGTAATCCCAG
67682	PIK3R2	TGGCTCATGCCTGTAATCCCAG
67682	PPP1R12B	TGGCTCATGCCTGTAATCCCAG
67682	RAB7L1	TGGCTCATGCCTGTAATCCCAG
67682	RBBP9	TGGCTCATGCCTGTAATCCCAG
67682	SLC26A4	TGGCTCATGCCTGTAATCCCAG
67682	SPTLC1	TGGCTCATGCCTGTAATCCCAG
67682	TNFRSF10A	TGGCTCATGCCTGTAATCCCAG
67682	TNFRSF10D	TGGCTCATGCCTGTAATCCCAG
67682	VHL	TGGCTCATGCCTGTAATCCCAG
67683	FUT9	TAATGTAAGCTTGTGGTTTG
67684	TRPC5	CCAGAAAGGTTTCTAAAGTTACA
67685	CDC2L2	CAGGCTGGAGTGCAATGGTGAG
67686	PVR	CAGACTAGAGTACAGTGGTGAG
67687	TPO	GGGTAATCTAGTACCATGTCGT

67688	KRT4	GTGCTTCCTTCACTTCACCTC
67689	PART1	ATACATACTAGTACCATTATCTTCT
67690	KCNJ16	GCTTGTTTTACCTACATCTAGTTTC
67691	TTF2	TCCAGCCTGGGCAATACAGTG
67692	ITPKB	CCCTTCCCTTTGTCTCAGTGGGA
67693	DAPP1	TCCAGGTTGTGCTATTAACCAAG
67694	SHOX	TCTCGGAACTCCTGACCTCAGGTG
67695	CASP10	GAAGAGATACAGCCTTCCGTA
67696	KCNJ11	GCCAGCACAGGCTGAGTGCAGC
67697	IFNGR2	CCGAGATCGCCCCACTGCACTC
67698	NBEA	CTTGCATGTTCCTTACTCCTGT
67699	SMARCD1	CCAGCCCTCTGGGTTGGCCTGCTGT
67700	PLXNA1	TGCTGCACTCTGCTTGGGCCT
67701	CRSP6	TGTGATCATGGTTCACTGCAGTCT
67702	IL2RB	TTCTGCCCCAGCCTCCTCCTTC
67703	APBB2	AATACTCCTCATCAGCCTT
67704	LTB4R	CCAAAGTGCTGGGATTACCGGT
67705	RECK	TTTGTGTCTGTGACTTTTGTGAAAGG
67706	PKHD1	GTAAAGAATTTTAATTAATTCTG
67707	DISC1	GAACTCATGGCCACTGTGGA
67708	SLC6A12	GTGCTCAGGCCAGTGTCTTCCCA
67709	GYG2	CAGCTCTTTCCAGAGAATTCTC
67710	BLVRB	TCTGGGAGGGTGGCATTCT
67711	IL2RA	CCTGGGCAACAGAGCAAGATCCTGTCT
67712	LZTFL1	AGGGAGAGAATAAAATGCA
67713	TPM4	TCCAGCCTGGTCGACAGAGTG
67714	PART1	CTCACACTGAAACAAAGGAAGTGATG
67715	CARD4	CAAAGTTGGTGCCAAGCTTCT
67716	P2RX7	TCATCGACTTCCTCATCGACAC
67717	CHST6	TTCAACCAAATGAAACTTGA
67718	WASF3	CCTCACCTCCACCCTTCCTGTTGTTC
67719	CCRL1	CTCTAGGGAAAGAACAAAACAGCTTGA
67720	TBX5	GTCTGTCCCTGTCTTGGTGT
67721	ITGA2	AGTTATCCCCTCCTTTACCCC
67722	TDGF1	GCATGTGTCACCATGCCCAGCT
67723	CCND1	TTTGCTTGCTCATATGCATGTAG
67724	DUSP6	AGGTGTCAAAATGACACCAGCT
67725	CCNF	TGGGTAGCTGGGATTACAAGCAC
67726	SFRS7	GAGTTTTCTGGTCAAGCTTTTACCA
67727	E2F3	GCCTCCATCCCTGGCCTCCTCCCC
67728	APTX	GAGGAAGAGGCAAAGAACCCTGGCC
67729	SOST	AATTCAGAGTTGTGATGCTCT
67730	JAG1	ACCATAAAATGTCCAG
67731	JPH3	CCCCTGAGTGGCAGGGCTGACT
67732	ADCY6	TGCAACCTCTGCCACCCGGGTT
67733	PKHD1	CATATGCAACTGCTCTAGGCT
67734	SMARCD1	CCAGAATGAAGAGGGTCTCA
67735	LYPLA1	GCTGTAATTTGACATTCTGG
67736	NEUROD1	AGTGCAAATACTCCAAGCTTCAAGTG
67737	NDUFS1	TAAGTTATACATGTATGCA

67738	CTSB	AGCCTGTGGTTACAGTGCAGA
67739	TBL2	GGCAAAGTTTTCTGGGACTTGATCATA
67740	GRIN2A	TTAGTGAGACAAGCAATTTCTCCCTTCTG
67741	SCG3	GCCCCACACCCACCCTCCTGGCTC
67742	AQP6	AGCCTCCTCCCAGGTGCTTGCCC
67743	NRXN1	ACGTTTTCACACAAAATTTCA
67744	NRXN2	CACCCTCCAGCTTCTGGCGCC
67745	ZNF2	GCCGGCGTTTGCACACATTTTCGGAC
67746	CARD10	TGCCCACTCCCCTCTACTTGCTGCT
67747	ASTN	GGCCTTAGCTGTCCCACACAAC
67748	GALNT7	TCAGAAGAAGGAAAGGGAGCTACAGA
67749	FGG	TTCAGAAATTCTCTGAAAGTTTCTTC
67750	SCN3A	TGCTATCTCCTAATTACTTGGTGGCT
67751	CYP2B6	AGCTGCCTCTTCCTACTGCTTCC
67752	B3GALT5	TAGCATAAAACTAGACACAT
67753	CACNA1C	AGCATGTTGCAGTTTCTTTTCGG
67754	GFAP	GGCTGACCTTGAACTCCTGGGCTC
67755	IL6ST	GTGGAAATAGAAGCAAATGACAAA
67756	FAU	TCTTCCTCTTTCTCGACTC
67757	KLHL3	TTCTTTACTACTGATCC
67758	TTC3	TCACATTCCATTTCTCTCCA
67759	LMO7	AAACTATGCCACAGTCTGGATG
67760	ADORA1	AGGCTCTGAAGAGATACCCACAGAGT
67761	TNFRSF9	CCAGCTAATTTGATTAAAATTC
67762	MYL2	CACCTCCATCTTCTTTGCAGCCTGGG
67763	HLCS	GGTTTCGAACTCCTGACCTCGTGATCC
67764	POU2AF1	GGTCTCGAACTCCTGACCTTGTGATCC
67765	MAP3K14	AGCACTTTCATGGCTGCCCTCT
67766	NPHP1	CATTGCACTCCAGCCTAGGCAACAAGA
67767	MAP2	TCCATTTGCAACAGGAAGACACTGGCTT
67768	NDRG1	CACTCTCCTCCCCTCCCTCA
67769	RREB1	CCAGGAGTGGTGGCTCTGAGGTGTGA
67770	ACADSB	ATTGCCCAGGCTGGTCTTCTGGCTTC
67771	ANGPT1	ATACATACATGTAACTTCATTATTTTA
67772	C6	TAAATTCTCCTGTTCACATTGTACA
67773	TRDN	ACAAGGACAGTAACACACATG
67774	MKL1	TGGGACAAAGATGGGGAA
67775	HRH1	AGCCCTCCTGGAATGGAGCT
67776	RAMP1	GCACCCAGGCTGCAGGGTGAGGC
67777	RPS6KA2	GCTGTGGCTTTGTGTTGCGTT
67778	TNFSF9	ATTGAGCATCTGTAATGTGCCA
67779	WNT5A	AAACATCTTTTCCTTCTTCCCTCTCC
67780	LIF	CCAGCAAATTATCACCATCTGT
67781	ARCN1	CTAGATGACTTCTGCACTTTTAG
67782	GBA	CAGGAAAAATGGCAGCTCTTAAAGG
67783	LIFR	CCCACTCATGAGTCTTTTCATCATGCC
67784	BCL2L2	CTTCAGATTATGGCTTTTTCT
67785	DXS1283E	GAAGAAATTTAAGCTGCAAA
67786	GNE	CCCCAGGCTGGAGTGCAGT
67787	PDE6B	ACCCAGGCTGGAGTGCCGT

67788	BTEB1	TTTCCCTAAGAAATCATGCGCAGAG
67789	EPHA3	GCCTCAAAATGTGTAAGCAGGAGAG
67790	P53AIP1	CTGAGTCTCAGTGTAGGTGTCTG
67791	PTPN14	GTAAGCAGCTATCTTCCAGAGGGCCACAC
67792	PRND	CTCATCCTCCCAAGTAGGTGGG
67793	P2RX7	AGATACAGCTGCTTAGAAAGGA
67794	SUDD	AACCTGTAATCCCAGCACTTTG
67795	USP4	CGGAAGGTGGAGGCTGCCGTG
67796	MECP2	GGAGTTTCTTTAGCTGAC
67797	KRTHA5	AAAGGCCAACCAATGCCCAC
67798	GCDH	TGCTGGGTGTTGGAGCAGAGTGAGGGA
67799	VAT1	GGGCAGCCCCAAGCCTCCTGGG
67800	RXRA	GCAGCTTTCCAGCCTTGGTGG
67801	KCNQ2	TTGCCCCCTTCGGGGCTGGAGGTCTCAGT
67802	PTPRA	CAGGAATTGGGCAGCTTCCACATCCGA
67803	PPP1R3A	CTGCCTGCACTCTGTCTCTCCAAGTAC
67804	NT5M	GGTTTCTCACACCTCTGTTCCCAG
67805	GGT2	TCTGCAGTGGATGCAGCCATTGCA
67806	HDGF	AGGGGTAGGAATGGAAGGATGG
67807	ITPR3	TGCAGCTCCCTCCGTGCCTCAGATCTG
67808	LY64	GATGCTGCTGTGAGAGGCACAGAGCCC
67809	ARHGEF6	AGGCTGAGGTGGGAGGATCATT
67809	ZNF74	AGGCTGAGGTGGGAGGATCATT
67810	HOXB7	CTTCCCAGCAGCGGCACCAAGG
67811	IL10	ATTGCTTGAACCCAGGAGATGG
67812	SSX4	GGCTTGTGTATCCATGCACCTACCTCA
67813	ARHGEF7	CACTCAGACCAATTTCTGCTTCA
67814	MAN2A2	CTGCCTGAATTCTCTTTGGCTTCTGT
67815	SLC7A6	GACACCAATAAATTCTTTTTG
67816	LIF	TCAGGTGCAGAGGTTCTGAGGGA
67817	PPGB	TGGCCTGGCCCCTTCTCTGC
67818	B4GALT2	GTCTAGGGGGCAGTGTCTCTTCCAGGGGG
67819	PTPRF	GCACAGCCCACGGGGATCACAGCGTT
67820	DELGEF	GAGAATCTTTAATAAAGTGGCT
67821	FBXL11	TGACTGCCCTTTTCCATGTGTCTT
67822	MRPS12	CTGGCTGCCACAGGGTCCTC
67823	OLIG2	TCCCTGAGAGCGTGGCCTGAC
67824	MUCDHL	TCAGCACTGACCACTGTGAT
67825	IGJ	GGGCGGTGGAGCAGGAGCTGGC
67826	FBLN5	CAGGAATAAAAAGGATACTCA
67827	NXF5	TGGTCTCAGGGTTCTGATCTTGCCTTC
67828	ISG20	GGGCGCAGAGGCAGGCAGCATCTCT
67829	ASB1	CACTTCAGACAGGGACAAGGCTTCCT
67830	EIF1AY	ACAGAAATCTGCATTTAGA
67831	GAS7	AAGTCCTGGTGAGAGAGAT
67832	JPH2	GCTGGCCATGGCCCACAGCTCT
67833	NESH	GACCTAGAAGCAGCATCTTCCCA
67834	SPON1	TTGTTTGCAATGGGGAATTTATAAGA
67835	PKNOX1	CTTTTCATTGAGACAAACTCCAGG
67836	TCFL4	TTGGGATGGGCGTCTGCTCTGG

67837	PDE4A	GCTTCTCCTCTTGTTTCTGCC
67838	SET	TGGATAGTATGTAATTTCTGCA
67839	TARBP2	CCTGCCTGCTGCCGTGTCCTC
67840	ADD2	CCATGGAACTCCACTCTGTC
67841	GAS7	TGCAGAGTGGGAGACCTTAAA
67842	SARDH	CCTTGCCCTCTTGAGCTCATTC
67843	C10orf2	CAGGGAGGGGTTTCTGCTTAGC
67844	PRX	GTGCAGCTGCCAAAAGTC
67845	TMOD2	AGGTTGTGATTGGTGACATTCTGA
67846	CLASP2	CTGAACACAGGTTCTGATG
67847	LZTS1	ATGCCTGCGCCTGCTGCCTGCT
67848	NOX1	TTCCAGTGTTACCATCTCCTGAGTTT
67849	KIT	CTCTTTAAAAACAAAACAAAACA
67850	FOP	TCTGCTCTCTATTGGTGCC
67851	NF2	GGTGGAGAGGAGGATGGGCCTCAGG
67852	SCML2	AAAATATATGTCCCATCGTT
67853	POP4	TCAGTTGCATCTGTGAT
67854	PTPN1	AGCATTTTCACATTTTGCCTTTCTCGT
67855	AKAP13	ATAGCCCCTCCAAGAAAGATTCT
67856	PLD2	TTCCCTTCCTCTTCCTGCCCTTGAACC
67857	RAD52	GCTTCCACGCCAGTTGCCTC
67858	LIM2	TCCTGGTTCCTAGGGGAATGAGGGGG
67859	THY1	CCTACTTCTCTGAGTCAGCTGA
67860	DRD1	GGACACTACAAACATGGGGAGCCAT
67861	CD59	TGGGAAGACCAGCTTTGCAGTGA
67862	CTLA4	ACAGAAGAAGGCAGCAGGTGGCA
67863	IRAK1	GGGAGAGAAGGAGGTGGCCCT
67864	TEM7	AATGGTAGAATTCAAAGATCTGGGGA
67865	TTC3	GTTTGAAAAACCTGTTCTGGTAGCTC
67866	CSNK1G3	TGTCTTGTGATTAAAATCATC
67867	PPP2R1A	CCCAGCCTGGGAAGATGTCTCACT
67868	FMR2	AGCTATTTGAGGGACTAAGGGATGGAG
67869	CD59	CTGCGTAGTCCGCTTTCTCTTGC
67870	TLL2	CAATAGCACCTTGAAAATCTGCCCTAAAA
67871	HTR1E	CGTCCACAAGAGTCTC
67872	DYRK1A	CATGACTGAAGGACATCTGACAATG
67873	WNT11	CCCGCCGCCTCCGCTCTCCCCGG
67874	TPX1	ACTACCTGAGTTTTTACTTGCATAAAC
67875	B3GALT5	CCACTGCCCCAGGAGCACTTT
67876	ESR1	TGCCCTTTTGCCGATGCATACT
67877	HSF2BP	CCCCAAAATGCAAGTTTACTTT
67878	ATF2	ATAAAGCTCATGGCCCACCAG
67879	CDH5	TTTCACTGCAAACACACCTT
67880	GPR86	AAATGCTCTCTTACATTTTATTATCC
67881	PTPN7	GTGGTGCTTGCAGTCACAGGA
67882	ERBB4	CAGGGGTGGCCCAATGAGGGAA
67883	RANBP2L1	TGAGTATGCCAGCTGCATTAG
67884	ECHS1	CTCTGCTTGGAGAGGACAAGTGCA
67885	RHBG	TGCCCTACCAGCCTGCACATGGGTAG
67886	ZNF264	CTGTCACCCACGCTGGAGTGCTGTG

67887	NR2F2	CCCTGCCCCTCCCCAAAAGAAACCA
67888	SHOX	TTTACTGACATGGAGTGAAGTGCAAT
67889	RP2	CTCAGCCTCCCAAAGAGCTGGG
67890	ZNF175	ATCCAGCTTCTGGCTCCTGGG
67891	TOP1	GTCACTCTCTATTGTCATG
67892	DNASE2	TCGGGAGGCAGAGGTTGTCATG
67893	LMNA	GGAAAGGGGAGAGCCTGCTGGC
67894	FMOD	GAGCATCTGCCCAGCAACCT
67895	IFNAR2	CTCCCCACGATGCCAAAGGACA
67896	PTK2B	CTTCCCTTGCCACTTTGCAC
67897	DISC1	GTACTCAGGCAGTGCAATA
67898	SOX12	CTGCCTCTCCCTCCCTGTTTGAATCT
67899	GCGR	CCCACCCCCAGTGTGGCTG
67900	STARD4	AGCCTCCTGAATAGCTGGGAAT
67901	PITX2	AGAGAAGAAGGGGGTCTTTGCCCACT
67902	MTMR2	GATTCCTGCCTCCCCACTTTGGTTCA
67903	LAPTM5	TCTCTGCCCTGCTCCAGGCACCAGGC
67904	APOB48R	CACCCTCTGGGCCTCAGTGTC
67905	B4GALT7	TAGTGTTGCCAGATCTTCTGATT
67906	HS3ST2	GTGGACAAAAGCACATAATTCT
67907	IGHMBP2	GGGACTTGCCAGCTCAGCCCGTTAGGA
67908	AKAP2	TATAAGCCGTATATAGATCAATG
67909	CNGB3	TTAGTAAAACAAAGTGAT
67910	SLC19A2	CTGAGCCTCTTTTCAATT
67911	PPP1R12B	CCATTCCTTCACAACTGTATTG
67912	ADRBK1	CTGCCCAGGACGGGGCCGGCCAGGTG
67913	ATP8B2	CTTGAATTCCTGACCTCCTGACCTGCCCACCT
67914	AXL	CGATAGAGTCTCACTGTGTCACCCAGG
67915	SLC35A3	TAAATGTTTTTGGTTCAATTACATAAA
67916	OPA3	TGCCTGTAATCCTAGCTACTTGGGAGG
67917	AIM1	AGGATCTCAGGCTGGAGTGCAG
67918	GYS1	TGCCTTCAGCTTTGGTGAAAGG
67919	TIMP3	CTCCTCTGTGCCTGCTCTCTCCAGA
67920	ATP1B2	TCACATCCTTTTCCTTGACTTC
67921	STC1	GGTGGGAGGAGAGAGGGCACATCTCCAG
67922	LTB4R	TGGAGTCTCGCTCTGTCATTCA
67923	MUC5B	CCTCCACTCTGGGAACAGCTCACACCCCCAA
67924	MSX2	TGACTTCTGCTTATGGAAAACAAAG
67925	ADRB3	CTTACTCCCTTCCCTTCTACTCTGCG
67926	ENG	TGGTGTGAACTCACCCTGGG
67927	CIT	CCCAGCACTCCTGGGTCTCG
67928	CDK10	GCCACCGCCCCCAGCCTGGCCTGGCATT
67929	PTGIS	CCTGCCTGGGCCTCCCAAAGTGCTAGG
67930	FGF23	CATCCCTCAGCAAACGCAG
67931	CD1A	CATGGGAAAATATTGAAAAGGACAGA
67932	ABCD1	GGGAGAGGGACGCACAGCACTGCCT
67933	APM1	TGCTGTTGCTGGGAGCTGTTCT
67934	NOVA1	TTGCTCCCATGATGGAGTCTTTGCAGC
67935	ITGA11	CTTTGCACTTGACCTCATCTCCC
67936	LEPR	GGGAGAGAGAAAAGAAACCAGA

67937	ADRA2A	GGGAGAGATGCCTTCCAGGCAGACACAGC
67938	TRPV1	CTCACCCAGGCTGGAATGCAGT
67939	RPL17	GGTGATCTGTGAAAATGGTTC
67940	MLLT2	TGACTTTTGGTAAAGGGTTTT
67941	ZNF179	GACCCTTCCCAAATCTGCTCCA
67942	ENIGMA	TGGGCTCCCTGGCCCTGCCCCAC
67943	SOX1	TGTCTTCAAGTAATCTGACAGC
67944	TBP	TGTTTTTCCCCATGAACCACAGT
67945	NPHP1	CAACAAGAGTGAAACTCCATCTC
67945	RAB7L1	CAACAAGAGTGAAACTCCATCTC
67946	SERPINA4	AGCGGGGAGGGGCACTGAGATG
67947	EVC	AAAGTGCTGAGATTAGGCGT
67948	SMARCD3	AGCATTTTGCCCCGGGCTCCA
67949	DUSP4	GGGGGATGTCAATATTGCATACCTTTT
67950	CCR2	CTTCACAGATGTGTGATTCACAGT
67951	WT1	GGAAAGCAGGATGTAGTTCTGCCA
67952	SALL2	AACTGTACATTCCTTCTTCCT
67953	LDB1	TGGGCAGCCTCCATCCACCCGC
67954	EGFL5	TGGTCAACATGGCGAAATCCCGTCTCT
67955	HOXA10	CTGGTCCCCTCCCTCTGTCTTCA
67956	GNAO1	CAGCCTTTCTGTATCAAGCCC
67957	PPP2R1B	CCTGTTCTGTTTAGTGAAGGCCCAAAG
67958	NFIB	AGCAATTGCAGCACTT
67959	DDOST	TGGTGGGCACCTGTAGTCCCAG
67959	LDLR	TGGTGGGCACCTGTAGTCCCAG
67960	PDCL	AGCCTCCTGAGTAGCTGGGCAC
67961	CAV2	AACATAAAAGCACCACTGTTCTGTT
67962	RAB5B	ACTCTGGGGCTTGGGGG
67963	KIFC3	GCCACGCCCTCGCTGCGGGGC
67964	JRK	GAGGATTTGGCTCGCTGTGGTTTCTCGT
67965	KRN1	TGCTCCTCTACCTGCTCCA
67966	HCFC1	CTTCCCTTCCTCAGGCTC
67967	LRRC2	CAGGCAGAGCATTCTAAAACCACATGG
67968	RBM3	GATCGTCCTTCCAAATGGCTGTATTTA
67969	GPR86	TTAGGCTGCAACTGTAC
67970	IRTA2	TTGCCCAGATAGACAGGGCTGAC
67971	ADARB1	TTACTTCTAAGTAATCACAGAT
67972	PRKAG1	CCTCCAGGAGCGGTGGGATGATGAGG
67973	COX15	TGCTTAACAGGCTTTGTGTC
67974	CELSR1	ATTATTTCTTCAGTTTTCTTTTCT
67975	VIPR1	CACTACCCTATTCTCTCTTTACGCTTA
67976	POLR2C	GACCCTGGCTGTCCCCTCCCCACCA
67977	FLOT2	GCTGGTGGTTTCAGGGGGCTGTTGTG
67978	FCGR1A	CTTACAAGTCAAGCCTAGCCTGA
67979	NDRG1	GTTGTTGTGTTGAGATCCAGTGCAGT
67980	ADAMTS13	CCCTGGCAGGAAGCTTCCAAGAGTAAA
67981	ATP6V1C1	TGTCTGACTTTCGTATGATTTAATT
67982	SIL	AGCCCAGGCTGGAGTGCAAT
67983	GAS41	GTGTATATTTAATTTCTTCA
67984	ACE	CCGCCAGATCTGCACCACCTT

67985	BARHL1	TCTCCCCAGGAGCGGGTGCGGC
67986	MYH11	CCACCACCACCACCACCAC
67987	S100A4	GCTGTTGCTATAGTACGTGTGATCCT
67988	ED1	GGGATGACCTCCAGAAGTCCCTTCA
67989	SEPP1	GGCCTTTGTATCTTTCTTTCTCT
67990	PRKR	CTGCCTCTTGGGTTCAAGTGATTCTC
67991	HIP1	ACTACTTCCCTGCCGG
67992	ITGAM	GCGTGTGTGCGAGTGTGTGCAAG
67993	UNG	AGCATAAGGATGTTTTGCAACTTTCC
67994	PCDH7	TGCCTGGAACGTGAATTGGA
67995	EHHADH	ACCAGCCTGGGCAACATAGCAAAACCC
67996	PML	GACAGCCCCTTCCTCCTCCTCC
67997	POU4F1	AAATCATGCATGATCTGAAAGG
67998	SRGAP1	TTGCTGAATCACTAAATGACCA
67999	DSCR1	ATCATACTCACGGGAGGAATC
68000	TBL2	ATGACTGCCTCCAGTGACAC
68001	EOMES	TTTTGTTGTCTTCTTTGCCT
68002	PTP4A2	GTTCAGTTTAACCACTGATTGCCTTG
68003	G6PC	CTCCTCCTTGCCTGCTTTTCTTT
68004	SEPP1	CAACAAAGACATGCTTTCCA
68005	TFAP2C	GCTATCTCCTAACTTTGGACCT
68006	TPD52L2	GGTCAGGTGGAGGGTGGGGCGTGG
68007	PIK3R3	GGAGAGGCCGAGGAGCAGC
68008	RFX2	TCACAGCCACAACTTCAGAAAGCAGCC
68009	GPX2	CACACAGATCTCCTACTCCAT
68010	EXTL3	GGGGCAGCAGGAGGAGTGG
68011	ALDH3B2	CAGTCACAGGGGCAGTGTCACCCTGGA
68012	COX11	CAGTGTTATCCTGGAACTGTT
68013	RPP30	TGTTGCTCAGGCTGGAGTACAGT
68014	SDC1	AATCTAGATATCGACTTGTTTTTGCA
68015	CD86	CCTAGCACCTGGCTAGTTTCTAACATG
68016	GSTM3	CAGGAGGCAGACTTGCAGAGCTTGTT
68017	NUP153	CCTAAGGACTTCTTTAATTTTGGA
68018	ARHGEF7	TCTTAGATGTTTTCTTGCTGTTCCTTGTCT
68019	TCF21	GACTCTGCAAGCCTTGCTGGTC
68020	SMAC	TGTTGCCCAGGCTGGTCGTGAACTCCT
68020	TAF11	TGTTGCCCAGGCTGGTCGTGAACTCCT
68021	PTAFR	GCTTTGGGGGAGTGGGCGCAGT
68022	PTGIS	CGCCACGGCACTCCAGCCTGGG
68023	VIPR2	CTCCTGCCTCAGCCTCCCATA
68024	SNX2	TGACCCTCTTTGAATTAAGTGGA
68025	IGF1	TTCTCTCTTGCCCAAATAATA
68026	EFEMP1	AAACTGGTCTTCTTCAAGAG
68027	IGSF4	TTTTCAGTGAGTAATTTTGGA
68028	KRAS2	GATGAATGTAAAGTTACACTGTTCACA
68029	FOLH1	ACTGGACCCCAGGTCTGGAG
68030	STK31	GGCCTGAATGATCTCCATGAAGA
68031	ESRRA	TCTCCCAGTGGGTGATGCTTTTGCT
68032	MAP1B	AGAGAAGGAGATGTAATGACAGA
68033	PPP1CB	GATGTGATTCTAAAAGCTTTTA

68034	PRKAG2	TTTTGCCTCATGAACACTGGCT
68035	IL1R1	GCTGTTCTGGAGCTGCTGTTCCA
68036	ADAMTS1	CGGAAGGCGCAAGCTGGGCAGCGA
68037	WHSC1	ATCATCTGCACTGCCCACTTCAC
68038	PCDH9	ATTATCCTTGTTACTGCTTTGCCAG
68039	NEUROD2	TCCCTGCAGGCCCAAGGCGTT
68040	CRYGC	ACTACCAATTTCCCATTTTGGA
68041	HOXB5	GGGCAGCAGTTGAGGTGGGGTAGTGC
68042	WNT5B	GCCCCAGGTGTACGGTTTCTCT
68043	NFATC1	CTTCCCTTGTCTGCGCGG
68044	PTPRF	CAGTGTGTGTTTAACATTCACAGC
68045	HTR7	TAGCAGATCATCTCAGCAGTAAGC
68046	FASN	GCCGCGCTTCAGCCTCCCGCTCC
68047	SULT1A2	AACATCGGGGAGAGGAGCCTACTGGGTGG
68048	EIF2C1	GGGAGGGGAAGGAATGAGCTAA
68049	BAZ2A	GGGCCGGCCTCACAGAGAGCGCC
68050	SLA2	GATTACAGGCGTACACCACCAT
68051	MADH7	AAACCAGCTCAGCACTGCCT
68052	BTK	TGGCAAGAATGAAATGGTGTCATA
68053	HMGA2	GTTTTCAGGACAACACTTCA
68054	TCTA	CTCACCCAGGCACTGGGCAAGT
68055	CD74	GCAGCAGAGGCGGTCTTCAACATC
68056	DGAT2	CCTGTGTGTTCTGTTATCTCTT
68057	LMO1	ATGGCCCTTCCTCCTCCACCA
68058	CNTNAP2	ACACATTTGAACCTCAGGTTCAT
68059	AXUD1	GCTGGCTCACCCACAGGTGCCAT
68060	INHBC	TGTCCTTCTTAGTTGTCCAGGTGA
68061	FGFR1	TTGGGGGCAGTGTTGTGGCCCTG
68062	LSS	GCTCAGGGCCACCTGAGACTGTCAC
68063	PPT2	AGAAAGGGGGAGGCCTGTGTTCTT
68064	DIAPH2	CTGTATATATAATCTACCTCTGCCTCT
68065	SSX1	GAGAAGCAGAACGTGGTGA
68065	SSX2	GAGAAGCAGAACGTGGTGA
68065	SSX3	GAGAAGCAGAACGTGGTGA
68065	SSX4	GAGAAGCAGAACGTGGTGA
68066	B4GALT2	ACCTCCAGGACTGAGACTGG
68067	PCDHB6	CTCCAATGTCTCATTTTGCAGTAACT
68068	SPON1	TGGATGCCAGAGACATCCTTTCTGAAT
68069	TIMM8A	GCAGCCTGAGAGTCTAGAGGCCTT
68070	C18orf1	AATGATACTGGTTCATTTTA
68071	MME	TGCGGCCTCTGCCTTGGGGAGTT
68072	PIK3R3	GGAGAGAGGGGGAGGACCCTG
68073	KCND2	CTCCTGAGCTCTGTAACTGTCACAC
68074	RNMT	CTCAGCTTCACAAAGTCATTGA
68075	RCN1	ACATGTGAAGAACTATAGTA
68076	BDNF	AACCAAAACATTCCGTTTACATTTTAG
68077	ASTN	ACTCTCTAATGCACCTG
68078	HDGF	TTTGTAACCCACTGAGAGGAC
68079	CSH2	GCTGGGGGAGAGAAACATGCTGC
68080	AICDA	AACTTGAATGCACAACTGTCTTATTTTA

68081	TFAP4	TCTTCTTTCTCCTTTAAGC
68082	SFN	CCTCCAGTCCCCCACCCTGCCGA
68083	AR	GATGTCTTCTGCCTGTTATA
68084	TRIM	AAAAAGAGTTTAGGAATTCTAC
68085	SLA2	GCCCATGCTGGAGTGCAATGGCAC
68086	REPS2	TGCCCTGAAATTAATTGCTGCAGCA
68087	CSF1R	CCCAGGAGCTACACTGATACTG
68088	SLC13A3	GGATACTTTCTCTCTCTTTCATGCAGT
68089	P2RY6	AAACTGCCTTCTTGTCA
68090	SNX9	AAATGAATATGAGAACATCTTG
68091	SULT1C1	TAGTACAAACAATCTCTGTGAT
68092	RNF4	CCATTTTCCTGAGATCAAAAAGA
68093	PLIN	TGATGGCCACATAATAACTACTGCATA
68094	CAPN5	TTTCCCACTCTTCCACTGACTT
68095	MCP	GAGATCTATATATGTATAAATATGTAT
68096	HLCS	GGGAACAAAGAGAGGAGCCAG
68097	PXF	TTCCCAAGGCACTCATTTTTATTTTG
68098	C8orf1	TTAGAAATGTAAACTCTCAGGCCC
68099	TOP3A	GACAGTGACCCTCTTCCCAG
68100	ARF3	CTATCCTTGCTCAAAATGTGGGATA
68101	PDGFB	AGCTCAAAGAAGAAAAAGAA
68102	WHSC1L1	TGGTATTCACCGTGCCTGATCTGCAC
68103	RAD23A	CCTGTCCTCCTAAAGTGGCCCCTGTTCCCAT
68104	PCDH7	CCTGGTGCAGGAAGCGACTCACGTTTG
68105	PP	CAGTTGTCATTTGGAAGTCAC
68106	DIAPH2	AAACACACATACACAAATGCAC
68107	CYFIP1	TTGGCTGCTGATTGTTGCCA
68108	AGR2	AGGTGGGTGAGGAAATCCAGAGT
68109	BMP7	GGAGGAAGGGGGCGTGGCAAG
68110	HSD17B1	TGGCTGTCGCCTGTAATGCCAG
68111	FBXL11	TGAACTTTCAGGGCAGTCAGGGG
68112	CML66	TTGAGGTGCTAGGTAGAAAGTTAG
68113	KEL	TCCTAGAGTGGAACCAGGAAGGATTCT
68114	IFNW1	ATAGGGCCTGACTTCCTACAT
68115	SLC25A14	ATCCTGCTACCCAGAGGGTGAATGGGT
68116	UBE3A	TTGAGTATTTAAAAAATATATA
68117	ZNF2	AAGCACTCCCTTCCTGCTG
68118	FANCE	TTTTCTTTTTCATTTCTTTTGTT
68119	HS3ST4	AGAGGCAGAGGAAGGCTAGTC
68120	TLE2	TCAGCCTCCCCCACTCTTGCCG
68121	ALDH1B1	GAACTCCTGACCTCAGGTGATC
68121	CDC2L2	GAACTCCTGACCTCAGGTGATC
68121	DFFB	GAACTCCTGACCTCAGGTGATC
68121	EIF5A2	GAACTCCTGACCTCAGGTGATC
68121	FCAR	GAACTCCTGACCTCAGGTGATC
68121	GNE	GAACTCCTGACCTCAGGTGATC
68121	IL11	GAACTCCTGACCTCAGGTGATC
68121	MEFV	GAACTCCTGACCTCAGGTGATC
68121	PDE6B	GAACTCCTGACCTCAGGTGATC
68121	PIK3CD	GAACTCCTGACCTCAGGTGATC

68121	PRND	GAACTCCTGACCTCAGGTGATC
68121	RP2	GAACTCCTGACCTCAGGTGATC
68121	SAS	GAACTCCTGACCTCAGGTGATC
68121	SH3BP2	GAACTCCTGACCTCAGGTGATC
68121	SHOX	GAACTCCTGACCTCAGGTGATC
68121	SLA2	GAACTCCTGACCTCAGGTGATC
68121	TNFRSF10B	GAACTCCTGACCTCAGGTGATC
68121	TRPV1	GAACTCCTGACCTCAGGTGATC
68122	ATP7A	AAACTCCTAACCTCAGGTGATC
68123	TES	AAACTCCTGACCTCAGATGATC
68123	TRPM6	AAACTCCTGACCTCAGATGATC
68124	NIF3L1	GCCCTGCCGCACCAGAGCACAG
68125	LAPTM5	ATTCAGTCATAGGCGAATCTGTTCT
68126	XT3	CTGAGGCACAAGAATCATTTGA
68127	HDAC1	TGAGCCAAGAAACACTGCCTG
68128	VDR	GCAGTGAGCCGCATCTTCTCCA
68129	SNX6	CACCAGCACCACCAAGA
68130	TEM7	GCCCTGTTCTGATGTCAGTGCC
68131	DVL3	TCCCTCTCCCCTCTCTACT
68132	LOH11CR2A	AGGACCTGCCCTACACACTCAGCATGGT
68133	UMPS	CACTGTGCCCAGCCTAATTGCAG
68134	PACSIN1	CTCCAGCCTGAGACATCAGGGGAGAGC
68135	MKI67	TTGTAGATATAACTCGTTCATCTTC
68136	CRY1	CTCCGTTCCCGGTCCTTTCTCCC
68137	PLEK	GGCAGCCTGGAAAGTTGTGTCTTCTGG
68138	HRMT1L1	ACTGTCCCCACCTCCTGTGTTAGT
68139	FANCF	TGTCACCCAGTCTGGAGTGCAG
68140	PSMD9	GTTGGTCTCGAACTCCTGGGCT
68141	SMAC	CGAGTAGCTGGGATTGCAGGCGC
68142	CASP7	CTTTGCAGAGAGCGCCCT
68143	BTNL3	ACCATAAACTCTGTTTGCTTAT
68144	HOXC13	GTTTCCGTAAAAGCTGGAAT
68145	EPO	TCCAGGCCCGTGGGGCTGGCCC
68146	MPP2	TTTTCTTTCTTTTTCCTTGGATTAAAT
68147	CAPN10	GGCTGCACGCGGCGGACTGGGCAGG
68148	PSME3	AGCTCTTCCCAGACCTAAGCTGCCTTC
68149	LHX2	GGGCGCTGAAGCCGGGCGGGCG
68150	PCDHB16	GGTGCATGCCACCATGCCTGGCT
68150	POU2AF1	GGTGCATGCCACCATGCCTGGCT
68151	GATA2	GGGGACCTCAGCCTGCACCCTC
68152	IDH1	GGGACTTTTTTACAATTTTTAT
68153	UBE4A	ACAGAGCATAAGTCTACTGGGTG
68154	CORT	CGGGCACTGGGCTTTTCTTCTGA
68155	CMKLR1	GCTTGGATTTTTCTACCAGGAGGCTCAGGG
68156	LDB2	GTGTGTTAAAAAACAGCTGT
68157	HSPA9B	AGGTAGGAATGAGGCTAGA
68158	SERPINB9	GGCTAATTTTGTATTTTTCAG
68159	MPP2	GAGGCTATAGGGTCACTTGCCAT
68160	IL24	CCCAGCACAAAGCAGATCCTCA
68161	ORC3L	CATTGCTAACCCCAAACAG

68162	MPL	GATTCATATATCCGAACTACTGTTA
68163	COL10A1	ACCATTCTTTCAAGGCTTTTCA
68164	SEDL	CTGATACAGAGTCTCACTCTGTT
68165	PRDX3	TGTTTTGTTTTTGTAATTCTGGC
68166	PML	CCAGGAGCTAGAACCAGGGAG
68167	NCOA6IP	TTTACCGCCCAGGCTGGAGTGC
68168	SCML2	CGCCTCCCTGGTTCAAGCAATT
68168	SNAP23	CGCCTCCCTGGTTCAAGCAATT
68169	IPP	TATATCCCAATTAATAAAGAGCTC
68170	POLK	GACGACGGGTAGAAAAGCAGGAGGAGC
68171	DISC1	GGGGAGCCTCACTGTGA
68172	NPEPPS	TCTACTGTTAATGACAGATGTTCTGTT
68173	ACADL	AAGATATTGGTACATTTTATAGG
68174	CDY1	ACCATGAGACAAAGCCCAAGC
68174	CDY2	ACCATGAGACAAAGCCCAAGC
68175	ST3GALVI	TCCCTCCTCTGCTCCCCCGCCAGATC
68176	STK38	GCCTTCTGTTTCACAGCTGCC
68177	CREM	CTGGAGAGCCGAGTTGCAGTG
68178	MSL3L1	TCTCTTTATTTGTTAGCATTAA
68179	PPP1R11	AGGAGGAAGAAGAGGGCTGTGG
68180	RP2	TCCGCCTCCTGGGT
68181	PPM1B	GTCCTTTGTGAAATGGAATTCATGG
68182	SEL1L	ACACTCCTGAATGCCTGAG
68183	PAG	TTTCTGCCCAGCTCGCCAGT
68184	MHC2TA	TGCCCAGGCTGGCGTGCAGTGGTGCG
68185	IRF1	ACCAGGCAACCTCTGCCTT
68186	ATRX	TTCAGTTATATGTGCTGAAATAATTAC
68187	DBCCR1	GAATGGAGCAAGAATGAGAGGAA
68188	LAT	TCCTGCCCTTGCTCCAGCCTGACAA
68189	TCF15	GCCAGCCACTGGCTGGACAGGG
68190	PPIF	GGAGGGAAGCATTTCCTGGTAGG
68191	STAC	AGTCCTCTGAGTACATCTG
68192	P4HB	AAACCCAGGGAACCTCTCTG
68193	IFNA10	TCCATCTCAAGTAGCCTAGCA
68193	IFNA4	TCCATCTCAAGTAGCCTAGCA
68194	PYGO2	GTGGCTGCAAGAGAAAAGGGGCTGGA
68195	MECP2	CAAGATTGATGTTTCCTTGAG
68196	UBE2I	GGGAGTGGAGGGTGGAGGA
68197	TBR1	TAACCTTTTTTGCACAGCA
68198	CYP2B6	CTTAGCCTCCCAAAGTGCTGGG
68198	SHOX	CTTAGCCTCCCAAAGTGCTGGG
68199	GNB2	GGAGGGGCCCTGCCCATGC
68200	CTNND2	GCATTCAGCAGTTTCTGACAA
68201	BBS4	TTCTTGAGAGGGGTCAGTCTAG
68202	SCO1	CCAAAGTCTCCCAGGAAGCTGTG
68203	DMN	TGAGACAAAACAGTACTCACTG
68204	ALDH3A2	CTTGGGCAACAGAGCAAGACCCTGTCT
68205	FBXL4	TTAAGCCTGTGACCTGGCAAGTGTTTT
68206	IL9R	GGCCAGCCTGGGCCCAGTGGACACAGG
68207	COLQ	ACCCAAAACGCCATTGCCTT

68208	MFNG	CAGAGCCTCAGCTCCTACCT
68209	AMPD2	CAGCTCTGCACTGGGTAGA
68210	ARHGAP6	TCTAAAGAAAACAAGCTGAACCTACT
68211	GP6	CATGTCTGTAATCCTAGCACTG
68212	SURF5	GGAGCAGGAGTGGAGAAAGGGAAAGGC
68213	NTSR1	CCACAGACACACCCACGACACCT
68214	EGFL5	CCCCGATCTCCCCAGCAGCAGCAA
68215	HOXB3	GGATCTGCAGAGTTCGGGCGA
68216	SCA1	CCTCCTCGGGGTCTGTGTCCT
68217	BCL7B	GCCCTCCGCCTCCTGGCCCTGCC
68218	SOST	CTGCAACCCAGGGCAGGGGGC
68219	TIAL1	GCTGCTTGGATGGGTGGATTTGG
68220	AGTRL1	GGGGGTAAGGCAAGAGAGGGTGGAGG
68221	CALB2	TCAATATTCAACAGCTCACCAACTACAGAAA
68222	DHCR24	GCTCCAGTAAAATCTTGCCT
68223	SOX10	CCCTAACCCTTGGCTCCAGGAGA
68224	METTL1	GTGACCTCCCAAACCAGCCTGC
68225	LDLR	CACTGCTTTCCAGCCTGGGCAACATAG
68226	SH3BP2	AGCACAGCTGTCCACGTCTGTG
68227	PTGIS	CTGCCCAGGCTAGAGTGCAGTG
68228	XYLB	CCCATTTGTCGACATGGCCC
68229	C9orf19	CTGTGGCTGCAGCTGTGCT
68230	DUSP1	GTGAGGCTCTTCACATCCCATTGGGAC
68231	CHAC	AACCTTCTCCGAGCCTCTGCAG
68232	NRXN3	CAGTCCTTCTTATTCTCTTCCTC
68233	OPA1	CACATGAAAGAAAAATGGGT
68234	STCH	TTGGTACTGTGTTTTCACTCA
68235	CBFA2T2	CCCTGTCACTCAGGCTGGAGCACAGT
68236	MAML1	CTCGCTGGCCCTGCACTCCGCCT
68237	STAC	TAGATCATATGACTGCCTTTCTGTAAA
68238	WHSC1	TTTCTGATTTTTATTCTCAA
68239	MEN1	CCACTGCATTCCAGCCTGGGCG
68240	EIF5A2	GCTCTTTGCCAGCTGAAAGTTCCCA
68241	NCF2	ATGAAGCCCTATTACTTGTTTG
68242	MAPK3	GGGCCTGGCCACCTCTCTCCT
68243	COL9A2	TCCCATCTCACTCTCTGGA
68244	TTF2	TCAAGCCTTTCACCTTCCTCA
68245	KDR	CAGGAAGAAAATGATGCAGCTCTG
68246	PRKY	CCCCACTCCCTCTCCATGCC
68247	CCRL1	AGTAATTTTATAAAATCCACCT
68248	TNFSF12	GCTGCCCCCTTCCTCACCTACTTCGGA
68249	EPHA8	TGCCCAGCCCTGACACCTGCCCTTTG
68250	UTX	TCCTCAAGACCTAAAATGTCAGACTGG
68251	BAALC	GTGGCTTCTCTTTACAGCTTT
68252	GALNT7	AACAATTGCTTTCTCTCTGGCC
68253	ABCC3	GGAGGGACAGGGTCGGCCTGTACCCCG
68254	DGCR2	GCAAGGCCTGCTGCAGT
68255	GABRP	TCAGGGCTGTTTATTCGGTGG
68256	ARNTL	TTCCAATGTGGAATCCTGGGC
68257	TRPM8	ATTGCACCACTGCACTCCAGCCG

68258	TCFL4	CAGCTCTGTAGCCTGACAAGAAATA
68259	E2F3	TTCTCTAGCTGTGATCTTACCA
68260	CCND2	TTCCAAGTCCTGAAGTAGATGGTTGA
68261	CIT	GCCATCTTCACTGGAGGGTGGGGAGCTC
68262	DLX4	TGGAGAGAGAGCCATTGGCTGGAGTTG
68263	TRIM14	GCTGCAAGAGCTTCTTAGCAGTTCCTGG
68264	NDST1	ACTTCTGCTCTGCACAGGACC
68265	SIGLEC11	TGTGAGCCACCATGCCAGGCT
68266	IL5RA	TCCTCACCTGCCAATCTTTGCAATTTG
68267	PTPN13	CTCCAGCAGACTCCTGCTCTCTAT
68268	RNH	CAGACTCAGGAAGCTGGGGG
68269	HSD17B1	CCCGCAGGAAGGCTTATCCT
68270	TYRO3	TTGCCCAGGAGCAAGTGAGGCCGGAGA
68271	HTR1E	CACTCACCACCATGCCCGGCT
68272	TK2	GAGCAGTTCCCAAGGACAGTCAGC
68273	OCRL	ATGATAGACACTGGGGTAGGG
68274	GHR	CGACTCGGCCTCCCAAAGTGCTGGGA
68275	SOX11	GGGGGAAAGAAAATGCATGGCA
68276	TFAP2B	TTACCCTCCCTTCCTCACATTGTTA
68277	DEDD	TGAGTGTTGCACTTTTATTTA
68278	DUOX1	CAGGCCGGAGACAAGTTGCAGTCCCGGGC
68279	SLC6A4	AGGCCTCCAGCCACTTATTTCCATGGA
68280	CDH5	CACAGGCACGATCTGTTCCTCCTGG
68281	IDH3A	CACCACATGAACCTCTGTTTAG
68282	COCH	TAACTGCAGAAAAAATATTGTAGTTTG
68283	LMAN1	CTGGGTATTACAGAAACAGTCT
68284	MAGEC1	GGGTGTGAGGGACACATACATCC
68285	SEL1L	AAACTATTCATTTTGCTTCTA
68286	FCAR	CAAGATCACGCCATTGCACTCC
68287	HIP2	TACAATTCTTTTTAAATTTTTA
68288	RUNX1	TGTCCAAACCAGCAAACTTC
68289	CAPN10	GTCCTGAGTCTTGGCCTGCCTCCC
68290	GAPD	CATGTACCATCAATAAAGTACCCTG
68291	BARHL1	CTGATTCCCAGGCTTCGC
68292	YES1	AGTTATGGCTTCACATTCATTGCAGTG
68293	TRPM6	GATTACATCAGCGTCTCCTTGGGA
68294	NR1I2	AAATGCACTCAGAATTACTTAG
68295	RAB6A	ACAACAAAAGTCAGTGTCTTCATTAT
68296	REGL	ATCGTTTGGCAGGACACAGA
68297	RHD	AAAGTGCTGGAACCACAGGCCT
68298	ADAMTS5	GTGATGATTTTCAGAAAGTTGTTG
68299	ADCY6	CAGGTTGCACAGGAGTGG
68300	FANCA	AAAGGCTTGGCTCCCGAATGTCGCATT
68301	C18orf1	CGAGGCTGGGGCTCTGTAATG
68302	T	GTCCCAGGTGGCTTACAGATGA
68303	MAK	TAGAAGAGTCAACTGTTCA
68304	OGG1	CGCCATCACACTCCAGCCTAGG
68305	EGR1	CGCCTGCACGCTTCTCAGTGTT
68306	MS4A3	TTCCATTACAGAGAAATGCTTCT
68307	ADCY6	GAAGCAGAGGGAGGCCTC

68308	SIAT7D	TCTGCCTGGCCACCTGCCTGGACCACC
68309	BST2	CCCTCCAGAGCCTCCCTCCGG
68310	KCNAB1	GCAACTGCTCAACCTCTCGTGACTGCC
68311	BCAS1	CCATTGCACTCCACCCTGGGCG
68312	GRIK3	GGGAGAGAAGAGAATGCACAAACAGAG
68313	DCX	CTAGGCTGGAGTGCAGTGG
68314	BUB3	CCTAATCATCCTGTGAAAGTGGTT
68315	HAS3	ATCATCTCCAATGGAAAGCTTTTCA
68316	VIPR2	CTGCAAGCTCCGCCTCCCGGG
68317	MNT	TCCCTTCCTGTTCCCTCCTGG
68318	LETM1	CTTGACAAAATAGGAACAGGA
68319	PKD2	AGCTCAGTCTAATAAAAAAGA
68320	NPM3	GCCCGGGGCCTCCCTTCCCACCTGC
68321	KCNE1L	ACTGGCAGCTGCTCCAGGGGCTGCC
68322	SLC22A11	GGAAGGCAGAAGGTCTTGGTGG
68323	BSN	CTCCCTTGCCTCTCCCCCTCCA
68324	EXTL3	TCTGTCTGATTCCAGGGTGTTT
68325	CRAT	TCCTCCAGGGGGCCTGCAGGCCCC
68326	KCNJ5	ATCATGCCACTGCACTCCAGCCT
68326	PDE4C	ATCATGCCACTGCACTCCAGCCT
68326	SPTLC1	ATCATGCCACTGCACTCCAGCCT
68326	TBX1	ATCATGCCACTGCACTCCAGCCT
68327	PCDHB12	TTTCTTATAAACCAGTAATCTTGCT
68328	NR4A2	CCTGCATTGCTGCCCTGGCTATGGTC
68329	RAB7L1	TCATGCCACCGCACTTCAGCCT
68330	JAK3	CTGTGTGACCTTAGGCCCGGA
68331	GLO1	TGATTCACATTTGATGAGTTTTTAA
68332	EPHB3	AGAGCCAGAGATGGGATGTGTG
68333	EGFL4	AGTGTGACCCAGATCAAGTGTGAGGA
68334	ASB2	GGGGTGGGGTGAGGTTAA
68335	SORCS1	TTATGGACTGGGCAAAGCCCACTATAA
68336	RAG1	GGTCATCTGCTGTCATGGAT
68337	SCAP2	GAACAAGGTAGGCAGAGGTTGC
68338	SCA1	GCATGTGCAATACTTTCTGTGC
68339	CELSR1	TCTTCAGTTTTCTTTTCTTGCACTGAT
68340	GPR92	AAGCACTGGTTCTCAAACTTT
68341	TRPM1	GCTCATGCCTGTAATCCTAGCA
68342	SULT2A1	GTTCATGCCTGTAATCCCAGCA
68343	CAMK2A	CCCAGGCCCAGAGGGCTTCCCA
68344	GFER	CTCCGATTCTCCTGTCGCCGAG
68345	TH1L	GACGGAGTTTATAGCTCACT
68346	NR0B2	ATTGGACTTCCTTGGTTTGGA
68347	HSPA4	ATGGAGCATTTTCACTTCTA
68348	ATP4A	GGCCTCGGGAAAGCCGCCACC
68349	NRG1	CTTCCACCACAACCCCACGCGC
68350	PITPNB	GCAAAGTGTTTGGTGCGAGGAA
68351	EIF2C1	GTTCTAGCTTGGTCTCTGT
68352	CLASP1	GCAGAAAAACAGGATTAGAAAC
68353	CSPG3	TGCCTTCAGAGTTAGGAGTGAGA
68354	ATP12A	ATGCTCACTGATGTTTTGCACTTTAAA

68355	DNASE1L1	CTCAGGCACCAGCCCCTCCTTG
68356	HMMR	GTCCAGTTCAAATAAGAAATA
68357	ADCY8	CCGACAAATCTGATTTGCCA
68358	AP2B1	CATGGCAGTAGGAAACAGCAT
68359	RET	ACGTTTCCGCTGCAGT
68360	PPP1R8	CCCGCATCCCTCTGTGGT
68361	SLC7A6	TGTGATGCCCCCAGACACTGTCA
68362	AK3	AGAGTTCATGAAGAGGCCCTCCTC
68363	MECP2	AAGACTCCAGAAATGTCCCTT
68364	PUM1	ATAGCTCTTCCCCACCTCCTC
68365	PPP2R5D	AGCAGCCCTGGGGTCACAG
68366	DRPLA	CTGCCCAGGCAGAGGAGAATG
68367	TRAF5	AGCATTTTCATTCTTCCTGCTGAAG
68368	JRKL	ATGGGAAAGCTGATCTATAA
68369	BCLG	ACAGATACCATCATCCTGCCTTTGT
68370	MPP2	CTTGAAGGACAGTTGCCCTCCAGGAG
68371	ARCN1	TGTAACCCAGGCTGGAATGCAA
68372	OPCML	AACACTCCTTTCTATTCTCTC
68373	GCS1	CGCCTCTCCGAGCTCTTGT
68374	HTR1E	TCCTAGTAGCTGGGATTGCAGG
68375	RANBP2	TACTACCTCAGAAACTGCAGCT
68376	CCNF	ACTGTAACCTCCGCCTCCCGGATACTC
68377	CXorf6	GTCACCCAGGATGCTGGGGCACTT
68378	SMAC	GACCTCAAGTGATCCACCCGCCTC
68378	SNX15	GACCTCAAGTGATCCACCCGCCTC
68379	MSH3	GGGAGGCGGAGGTTGCAATGA
68380	STAT3	GAGAGGCGGAGGTTGCAGTGA
68381	C18orf1	TGCGGGAGAGGGTTAGAGCTATAGAG
68382	GNAO1	CTGCGGCTTGTACTGCCTCTTGTC
68383	DFFB	CCAAAGTGCTGGGATGACAGGT
68384	DNM2	CCTGAGCCTGGCCCAGCCTCGGCTGC
68385	OTP	CCTCTCTTGGCTTGCAAGATAACGCT
68386	SEDL	GGCCTCCCAAAGTACTGGGATT
68386	SNAP23	GGCCTCCCAAAGTACTGGGATT
68386	TNFRSF11A	GGCCTCCCAAAGTACTGGGATT
68387	AASS	CAGGAGATGCAAGCCACTAACAGAG
68388	PPP2R1B	GACCCAGACGTGGAGTGGAGTG
68389	YWHAG	TCCAGTGAGCAGTGTTGCG
68390	MMP3	AGCAAGGCATAGAGACAACATAGAGC
68391	AHR	TCTGGGCACCACAAAATATACAA
68392	HAS3	GACAGTCACTGCATTTGCCTGCTTC
68393	HUNK	CCCTGTGTGTGTTTTGTGGACAGCCGT
68394	CD4	GGGGAGTGTTCAGGGCCAGCCCTGG
68395	SPAG11	TCGGCTTCAGAGGCCAGGAGGCAG
68396	CTGF	CACATCTCATTTTTCCGT
68397	ID4	CTCTGCTTGCTACCAAAGGACA
68398	ATRX	TTGACACAGAATTGTGTGCAATA
68399	COX10	CCCCATTACTGTACCTCTGGAGTCA
68400	NFE2L1	AACTGTTTGCCACTGCTGCC
68401	FUT1	ACTGCAACTTCCGCCTCCTGTGTTCAA

68402	PIK3R1	TGGCTTCAGAATTAAAACTATGA
68403	SELE	CTCTGGCCCTTCTTGCCTACT
68404	BAP1	CTCCAGTTTCCTCAGCCTCTGC
68405	RRM2B	TTTGATCTCAAAACAGCTTGACA
68406	OCA2	ACATAGGAAAAGACACACATCCAC
68407	RBBP9	CCCAAGTAGTGTGAACTAAAGGCATG
68408	AGR2	TTAGAAATTTGGTTTCAAGTGTACA
68409	MB	GGCTCACTGTGTTCTGCATGGTTTGGA
68410	SLC16A1	GCAGTTCATGACCCAGGATATCTGAAA
68411	PML	ACACCAGGGCCAGGAGCTCTTC
68412	BBS2	AAGTTTGCAGGGTGCAGCTTGGATGTGG
68413	GTF3A	TAAAGGACTGCAGACCAAGGAG
68414	SOX12	ACCTCGGTTTTTCCACGTGAG
68415	CML66	AGTTATACTGTAACCTCTTAAGTTTTAA
68416	SCA1	CCATTTACACTTTACAGTTTTACCTCA
68417	HK3	GGTGGCCACCTTCCACTGTGGA
68418	PCDHGA1	CCATCCAGCGGGGCTGCCAGAGA
68418	PCDHGA10	CCATCCAGCGGGGCTGCCAGAGA
68418	PCDHGA11	CCATCCAGCGGGGCTGCCAGAGA
68418	PCDHGA12	CCATCCAGCGGGGCTGCCAGAGA
68418	PCDHGA2	CCATCCAGCGGGGCTGCCAGAGA
68418	PCDHGA3	CCATCCAGCGGGGCTGCCAGAGA
68418	PCDHGA4	CCATCCAGCGGGGCTGCCAGAGA
68418	PCDHGA5	CCATCCAGCGGGGCTGCCAGAGA
68418	PCDHGA6	CCATCCAGCGGGGCTGCCAGAGA
68418	PCDHGA7	CCATCCAGCGGGGCTGCCAGAGA
68418	PCDHGA8	CCATCCAGCGGGGCTGCCAGAGA
68418	PCDHGA9	CCATCCAGCGGGGCTGCCAGAGA
68418	PCDHGB1	CCATCCAGCGGGGCTGCCAGAGA
68418	PCDHGB2	CCATCCAGCGGGGCTGCCAGAGA
68418	PCDHGB3	CCATCCAGCGGGGCTGCCAGAGA
68418	PCDHGB4	CCATCCAGCGGGGCTGCCAGAGA
68418	PCDHGB5	CCATCCAGCGGGGCTGCCAGAGA
68418	PCDHGB6	CCATCCAGCGGGGCTGCCAGAGA
68418	PCDHGB7	CCATCCAGCGGGGCTGCCAGAGA
68418	PCDHGC3	CCATCCAGCGGGGCTGCCAGAGA
68418	PCDHGC4	CCATCCAGCGGGGCTGCCAGAGA
68418	PCDHGC5	CCATCCAGCGGGGCTGCCAGAGA
68419	SS18	CTTGTCGCCCAGGCTGGAGTGCAGTG
68419	STAU	CTTGTCGCCCAGGCTGGAGTGCAGTG
68420	SLC22A7	GGACTGGCGATGGCTTCTGC
68421	TM7SF3	GGCTCACACCTGTAATCCCAATACTG
68422	MYO1F	TGCTCATTCTGTCATCACTA
68423	NOX5	GCGCCCAGGCTGGTATGCAGTC
68424	ARHA	ATTATCTGTCAGCTGCAAG
68425	CD4	TCTCCACCCCTGCTCCCCTGAGCT
68426	CLCA2	TCTTTTTGGGGGTAGATTAGA
68427	ATP6IP1	GGGAGTGCCGGGCAGGAGCATGGGGTG
68428	CSF1R	TGCTATGCCAACTAGTAGAA
68429	PCTP	TACACACTACCACATCCTTTCT

68430	TTID	CTTCCCTTCAATAGTGG
68431	ANKTM1	TGTCTGATTTTCTCCATCATCC
68432	FGFR2	GGGAGGCGGAGGTTACAGTGAG
68433	KRTHA7	AGGAACTTCTCATGGTAAACTCA
68434	SCNN1A	GGAGTGTTGCTGTTGCACCA
68435	TBR1	CAGCTCTTCCCCAGCTCCGCCTC
68436	EIF2S3	GCGTGAGCCACCTTGCCCAGCC
68437	PPP3R1	CACACAGTTTTATATATAGATAGA
68438	BAK1	CCCTCATGGCTCTGGCACAGTGTAA
68439	HDAC7A	CTCTAGGGGCTAGGGGGGAGTGGGGAG
68440	HUNK	AGAAGGCAGAGAGGCAGTTCTGAAT
68441	MICA	CAGCCAGGCAGCTGGGATTCAATTCCC
68442	DMN	AGGGAAAGAAAGTTGATTGGAA
68443	TYRO3	CAGCCTTGGTGGGGGAGCCTCTGGAATGCATG
68444	MAGEA9	ACTGACGAAGACCTGCCTGTG
68445	AGL	CAATTTGAATCAGAAAGAAATA
68446	SLC16A2	CTGTGGCTTCCCAAGAACTGGG
68447	RBBP8	ACAGAAAAGGTCAGAAAA
68448	FBLN1	TAGAGCTTTCTCCTGTTCTGGACC
68449	ADAM10	GGAGGCGGAGGTCTGAGTTTCGAG
68450	GRM1	GTCTTGGCTGTCATAACTTT
68451	ARF1	CCCTCTGCTTTACTCTCATGTGGC
68452	VNN1	AGCCCTGGCAAATGAATCAAAGA
68453	HPCAL1	CCGGTGGCTGCGCCTCCCTCCTCC
68454	PLAGL1	AAGGCATTTTGCTGACTTT
68455	SH3GL1	GAGGGGCGCAGAGATGAGCAC
68456	TM6SF2	TCTGCCTCTTCTTGCTCACTGTGT
68457	ATP8B2	ACACATTTCTATACTTGCAA
68458	TAP2	TCAGGGTTCAGGTCTTCCAG
68459	GSTM2	CCACAGCAACCAGCACCATGCCCATG
68460	RASSF1	GATCAACAGCAACCTCTTCATGAGCTT
68461	PAX3	GATCAGATAATTATGCTTTTAAACTGA
68462	PRPSAP2	TGGGATGGATTTCACAGGA
68463	CTSS	AGAGCAGCCTGGCTAACATGGT
68464	PLA2G2D	AGACCAGCCTGCCCAACATGGC
68465	EIF2S3	TGGCTCTGTCACCCAGGCTGGAGTGC
68465	FCAR	TGGCTCTGTCACCCAGGCTGGAGTGC
68466	KCNQ2	AGGCCCTGTCGCCATTGAGGTGCCTC
68467	NLGN3	GCACAGCCAATCTCCAGGCTCC
68468	SMG1	CATGTTTTTCATTTGATACT
68469	WSX1	CCAGGCAGAGCTGGGATTGAAGGA
68470	AQP6	AACAGGACCTGGGAATGCACAG
68471	PCDHGA7	TCTATGTTCCAACCTACTTTC
68472	INMT	TAACCAGCTCATAAATCTCCTAAA
68473	PON1	GCTGCCTTGCCATGTCTTGTTCA
68474	KCNA7	AGAGACGCAGAAGAGAGGAACAG
68475	RBL2	GGCAAAGCTTTTAGAAATACTGC
68476	NET1	AATACCTGCAAATAATGAG
68477	FGR	CTGTCCGGGCATCAACCCTCTCTGGCG
68478	APPL	AGACTGGAGCTTTCTGTTCCATT

68479	CDC2L2	GGAAGCCAGGTGAGGCCAGGC
68480	GLRB	GGGGAAGTAATAAGTTGAAAAA
68481	KCNJ5	GGGAGAAAGTTGAGTGTCAGGGG
68482	ZNF289	GGAGAGAAAATGGCGGCGGAGCCGAA
68483	STAT3	TCTGGGCACTTTTAAAAATAGAGAA
68484	TNFSF12	GGCTGCCTGGGCCTGTTC
68485	CHRNA3	TGCATTTCTCGTTCTTTACTGGGTCTA
68486	IQGAP1	CTGAGCCTCTATTTTCTTTCTT
68487	MCP	CAAGAAAATTTAAGCTGCAAA
68488	CRACC	CCCAGCACTATGCTGAGCTTA
68489	C14orf1	CCTCACTGCTGCCTCAACTTCC
68490	MANBA	TTTAGCCCTTCACCTCTCAGCT
68491	HDAC5	ACTCTTCCTTCCTCCTCCTCC
68492	GJB5	CTGCCTGGACTGGTCTGGC
68493	LZTR1	AAAATTGAAGGACGGTTGCCAGT
68494	GLTSCR1	AAACTCTTTGGCTCAAGCCATC
68495	WRB	CCAACTGGAAAGTCAAA
68496	IL1RL1	CTACTCTTCCCAACTCAGTCTT
68497	NDST1	GCACCCAGGCGGATCTGCAAGC
68498	MMP7	TTTATGGTGTGACTGTGTCT
68499	ITGA6	GAGTTGTTTTAATAACTTATC
68500	TEM7	AGGCAGGCGGATCACCTGAAGTCA
68501	PCDHB11	CTGGCTGGAGTGCAATGGTGTG
68502	PTGIS	TTTCTTTCTTTTTAAGCTCAGTGGC
68503	FEZ1	AGCCCCGGGATCCGCCTCC
68504	TAF1C	TTGAGATTTTGCAGGGACCCGG
68505	SLC17A4	TAACTCTTTCAGACAACTTGCA
68506	PCDHGA11	TTTTAGTATTATTTTTCTATTA
68507	C18orf1	ATGGGGGTGTGGGCAGGGGAA
68508	TRPM6	TTACCCAGGCTGGAGTGCAATGATGC
68509	GJA1	GAGGGAGGGGATAAGAGAGGT
68510	TMOD2	TGGTGACATTCTGACACTGCCCA
68511	KCNS3	TGCCTGTTTCTCTTATCCTTT
68512	BDNF	AAGTCCGAAGCCAATGTAGCT
68513	NRXN2	GGGCAGCAGGGAAGAGGGAGCAAG
68514	NKTR	TGGTCCCCTCCAGCTTCAAA
68515	ATP2A2	TCTATTTCTGCTGAATTTTCACATGAA
68516	PAH	GCGTCCCCCACACCCTCCCTCA
68517	EPHB2	GGGCTTTTGTCCTCCTGGGTC
68518	HOXB5	AAAAATGATCCTCAGTGCAAA
68519	CKTSF1B1	GACTATGTCAGTCTAAT
68520	TEM7	AGTTCTGCAAACCTCCCCTGGACC
68521	CADPS	GTTTTTATATCTGTCATGTACA
68522	BIN2	CCAGGGCGGCGGCCCCCAGG
68523	BPHL	GCTATAATCTCAGCACTTTG
68524	INSRR	ATCACACCGTTCTCCCCAGAGTCA
68525	USP18	CAGTGGGGAGAGCAGTGGCAGT
68526	VCL	TTCAGAAGTGAGCTTTGCTGCTA
68527	HDGF	TGGGAGGGGCAATCCTCAAATGCG
68528	GNB1	CTGAGGGCTTTGTTCATCTGG

68529	PRH1	ACAGGGGCAGTCTCCTCAGTAT
68529	PRH2	ACAGGGGCAGTCTCCTCAGTAT
68530	FANCE	CCAGGAGGTCTGGGGTACCAGTG
68531	COL5A3	AGCCTCCTCTCACCCCATTCCAGGTGG
68532	MATN1	CTGAAGCCTGGGCCAGG
68533	TM7SF1	ACTGGTACTTCCTTTCAGTAGG
68534	CLN6	GATTTGGATCATCTCAGGAT
68535	RNH	AAATGAGAGGCAGGGGCTTCCCGGG
68536	DSCR3	CTGAGTAGCTGAGACTACAGGT
68537	ITPKB	GGAGCTAGGGACACAGAGGGAGACTATGGAC
68538	COL9A2	CCTTCTCTTTCTCGCATAACTCC
68539	NLGN1	AAGATTATTATACAAAAAA
68540	ABCA3	TCCCAAACCTCAGGGTTGCCCTGCC
68541	G6PD	ACCATCCTGGCCCCTCCAGACCCTGC
68542	DR1	TCCCTGCACAACAAAAACAGTG
68543	GLS	TCAGAACTTTGCCATTTGTCTACAGAA
68544	FLRT2	TGAGAATAGCAGTTTTGCTCAT
68545	PIGR	GAACTCCTGGCCTCAAGTGATC
68545	PTGES	GAACTCCTGGCCTCAAGTGATC
68545	RBBP9	GAACTCCTGGCCTCAAGTGATC
68546	CD97	CCGGGCAGGAGGTTCTCACTGTT
68547	SOCS5	TTTATCTCTTTTTTGTAA
68548	NIPSNAP1	GCCACCAGTCCCCAGTTATC
68549	SHMT2	AGAAGGAGGGCCCAGGCACTTTCTGTTT
68550	KIF5C	TTCAGGTTTTTAGACTATTGCTC
68551	HMX1	CCGTTCCAGGAGCAGGCAGGCTGG
68552	CALB1	CCACCAGGATTAATCTCTAAA
68553	ARHA	GCACAGCCCTTATGCGGTTAA
68554	MIR16	TGGGCACAGTGGCTCATGCC
68554	TRPM1	TGGGCACAGTGGCTCATGCC
68555	MLLT2	GATCTTGCCCTTCCTAACTA
68556	TRPV3	GGGAGAGATGGATGGCGGGAAAG
68557	ZNF266	ACAAACCTTAATGTGTGTATGTGAACT
68558	PIR51	GAAATCTTATAAGCTACTTA
68559	PTGIS	AGCTCTATGGATTATCCACTGCAAAGT
68560	TP53BP2	ATTAGAGGACATTTAGCGTGATGA
68561	SNRP70	GGCCCCTTGGATTTAAAAATA
68562	PCDH8	CTGTCTGTAAGACAAAAAACAAA
68563	PPP2R5A	ATTCCTCCTCTTCCTCTCAAAGGC
68564	B3GALT2	GGAGAAGAAAACATTTTTGTCA
68565	SEPX1	CCGCCCTGGCCCTGGTCACTGC
68566	TSC1	CCAGGACAATTAGAAAAAT
68567	POLL	CCGGCTCCCAGTGTCTGCCCAGCCCTC
68568	SCA1	TGCATCTTGTGGATTACTCCTTA
68569	RABIF	CAGCAGACGTGTTTAAGCCTTCAACTTGAT
68570	TNFSF9	GTCAACCAGGCTAGAATGCAGCGGTGC
68571	CISH	AGAGGATGGGGAGACAGGCAGG
68572	NDUFB7	CGGGTAGGAGCTAGGTGACCCTC
68573	NUP98	AGAAGCAGCATCCTCCACTTGTTCAGG
68574	WDR4	TCTGTGTCACCAGCACAG

68575	FAT2	TGCTCCACGTCAGGCACTGTGCTTTGCACCG
68576	CYP1B1	TTGTACCTCTTTTGCTTGCCAAAG
68577	CHD4	GGCTTCTCCCCACTGTAACGC
68578	HMGA2	GTCCCCAGCCCTATCACCTCATCTC
68579	ABCC5	ATTGCCATTCCCTGCCTGGGGCGGG
68580	PPP1R3A	AAAGTGGATCTCAGGGA
68581	COG2	GTGCTTCCAGCATCACTCCA
68582	DTNB	TGTTCTTACTTAAAACCAGA
68583	FGF7	TAGTAACTAAAGGTTGTAAA
68584	TP53BP2	TCCGCTCCCCTCCCCCGCATCC
68585	TLR4	ACAGAAGCTGGTGGCTGTGGAGA
68586	JPH2	CTGCTTCCCCCCTCCTGGGGTGCAGTG
68587	SCAP2	AAGGTAGGCAGAGGTTGCAGTGA
68588	EGLN2	CTGCTCCTTCCCTGCCACCGCTG
68589	DMD	GCTTGGCTATGACTCTACCTC
68590	TDGF1	CACCCAGGCTGGACTGCAATGA
68591	CLECSF5	CCTTAAAAATGTTGTGGCCAAGC
68592	PCDH11X	CAGGAGTTTGGAAGTGA
68592	PCDH11Y	CAGGAGTTTGGAAGTGA
68593	TLR9	CCTGCAGAACTCTGGAGATGGTGCCTA
68594	PAX5	TCTTTGCTGTGGGACCTCAGACA
68595	MAD	CGGCTGTCTCCTTGAAGGTTC
68596	KIF3B	TCACATTTCCCACTTGAGGTT
68597	VHL	AAGGCATTGGCATCTGCTTTT
68598	CA6	GCTTCAGTTCATGAGACGGG
68599	XRCC2	CATTCAGGACATAGGCACAG
68600	RAB36	GCCAATGGTGCTGCAGTGGCCA
68601	NDP	TGATGATGGATTGCAAGTGCAAA
68602	IGF1	TCTCCCATCTCTCTGGATTTCC
68603	PART1	CCCATTATTTTCACAGTGCCA
68604	ADCY1	CTTCCTCTGCTGTAGAGCC
68605	CTSB	CACAACCTCTCTGATCTTGTGC
68606	ATP7A	AACACAGCCAGTTATTCTTCCA
68607	P2RX7	TCTCCTCCCCTTGAATATGGGTGGC
68608	TACSTD2	TTCTTTTTTGTAAAATGTTTGTA
68609	D1S155E	AGATCACTGCAGCTTCTAGGACCC
68610	STS	AGGTATCCTACCCTGGTGAAGCAGCT
68611	CDO1	CTGTATGTTTGCCTTGGACAAAAAGG
68612	AP2B1	ACCTAACTCACTGGACTCAGAG
68613	IL10RA	TGAGGGGAGACAAAGGGAGCCGAGACCC
68614	SEPN1	GACATCTCCGCAGCCACTCCTGGGCC
68615	LAMC1	TTTCCTGGCTAGTTCATTTCAT
68616	TREM2	GCCCAGCCTGCATACTTGCCACT
68617	ADAM8	TGTCTCCAGGTGGCCGCTGGTC
68618	LIMD1	CATGTTTTGACTCATTTGGTAACC
68619	DSC3	GGGAGCTGAGGGGAGGATCTTACTGA
68620	IL1F9	GCTTTCTTCTAGGGGTGGGT
68621	XRCC2	AACCAAAACAGCATAGTACTGGCACAA
68622	ARHA	CTACCCAGACTAGATGTAGT
68623	TRIM37	CCCAAAACAGTTGCCAAACTTT

68624	GSTT2	TCTTGCCCCAGTCCCTTCTCTCCA
68625	PTGIR	CTCCCTCTGCTGCATTTCAAGCT
68626	ZNF124	CTCACTCAGAGACACATGGTA
68627	IGFBP1	AGAGCATCGGCCCCTGTCTGCTGCTCG
68628	BGLAP	CAGTTCTGCTCCTCTCCAGGCACCCTT
68629	RGS5	AAGATTTCTCTTTTATACCTTCCTCA
68630	OAS3	GGGCCAGTTCTGGTGGGCAGC
68631	NUMBL	CAAGTTGGGGGCCCAGGAGGCGG
68632	VIP	AAGATAAAAAGACATTCTTCC
68633	F13A1	TTTTAAAATGAAATGCATTTTGCTA
68634	NFATC3	CCAACATGGTGTAACGCTGTCT
68635	GGA3	GCTGTGATCTCCACCTTGAAGCCAGGC
68636	RXRA	CACTGCCAGGAAGCCCCAGCTG
68637	DNM1	TGTGCCACCTCCAGTGAGCCTC
68638	APG5L	AGTAGGTTTGGCTTTGGTTGAA
68639	RANBP17	CTCTACTGTTACTAGGCT
68640	CLECSF5	TGGAGAGAGGTCTGGGCAGGATAGGAA
68641	LIF	ATCCGGCTTAGCTTGGGGC
68642	PPBP	AAATAAATAAGCCTGGTT
68643	FY	TGCCTTTCCTTCTGACCTTGCACTGC
68644	ZNF2	CTCTAGACTGGGAAACTAAGCCTG
68645	KCNMB3	GTCCCCATGGATTGGAAATGT
68646	LHX3	GGGGACACACCTGTGTCCTCCTCA
68647	PITPN	CTCCACCCTCCCAAGTGACAGGCC
68648	ANKRD3	CCCTTTGTAACCTCAGTGCTGG
68649	C18orf1	GGGGAGGCCTCCTGACACCAG
68650	PAICS	TGCCACTGCACTCCAACCTGGG
68651	ACPT	TGAATGCTATCCTTGCAAACTTC
68652	MTRR	GTGTCTAATTCCCTGTTATA
68653	MECP2	CTTCCCACTCTTCTCATCTTGACAG
68654	ELL	GGTCTCGATGCTGCTGGCCTCCCTCCG
68655	FLOT2	GCTTCCTCAGTTTCCTACTGC
68656	PLCB2	TCTGCCTGCCTGTGTCTGCTGAGATTCTGCA
68657	DCX	TAAACCAACAACTTATAAT
68658	SLC6A6	CTGGGGCATTCCAGGCAGAGAAGGAG
68659	NR3C2	CCCAAGAAAACCTGTTTTTAACATGT
68660	SOCS5	GAACAAATTATTAATATTGGATGA
68661	CPNE7	TGAGGGACTTGGAGGGAGCTGG
68662	CXCR6	CTGTTCTCTTCTTGAACACTCAT
68663	MAFF	AGACCAGCCTGGACAACATGGT
68664	TGIF	ATCACAGAATTGTGCCAGT
68665	PKNOX1	CTTTGCTCTCCCCGGGTAGTGATGAAC
68666	BCL2L2	CTCTGCTGCTTCTTTCCAGAAA
68667	CYP4A11	CCTGCCTGCTGTCCCCCAGTCTGCCTG
68668	SLC22A1LS	AGTCCTTAACTTACTCAGCTTAA
68669	PPP2R1B	TATTTTTCTCCACTGCTTGGAT
68670	MYO1B	TGCCTCTTCCTAGCCA
68671	CALCB	TTTTCATTTTCTTAGCAGTGTCTCTCA
68672	PCTK1	AGGGGAGGGGGCAGTTGGGC
68673	COCH	AGACCAAAAGCAACATTCGTTCT

68674	GYG2	AACGCTGTTGAACCTTGTGCCTCT
68675	SLC22A3	AAACAGCACAACCCCCTCA
68676	CX3CR1	GCCTCTCCCCTGATTACACC
68677	SLC7A5	CTCTGCGTGGCGCAGGTGCCA
68678	TOMM22	ATGCATTACACCTGTAGTGTAA
68679	PPFIA3	TTTATTGATCAGTTTCTGTTGGGA
68680	ALPPL2	GGGATTTGTGCCTGGCAGCTG
68681	RECQL5	GCAGGAGAGACACCCAGGAGG
68682	VHL	CCCAGGAGGCGAAGATTGCAGTG
68683	P53AIP1	GCCATCTGACAAAATGACA
68684	MSH3	CCGAGATCACGTCACTGCACTC
68685	TST	AGGCCTGGCCGTGACCTCTTCTGC
68686	PDE1B	CCATCTCCAGCCTGATCCTCTG
68687	ASB2	GATCTGCCTGGCCAGCAGTGAGCCTGA
68688	ACK1	ATGTTTTCCCACCAGCCTGT
68689	TRIM	GTGGATTTATTTTCACTGTTA
68690	BCL10	AGACCCTTACTAGGAAGAACGTTTTTTCC
68691	MPP2	GTTGGAGGGGCTAAGGAGGAGTGCAGA
68692	HS2ST1	TGGAGCTTTCTGATTTCTTGGA
68693	SLA	GATCCTGGGGAAGGAGGGGAA
68694	ZNF124	CTAATCAATCCATTTATGT
68695	AMPD3	CTCTTGAAACTGCCAGTGCCT
68696	BRF1	CTGCCTCTGTGGCTCTGCCTGTG
68697	IGF2	GGCGCCACCATCCTGCAGCCT
68698	SOX13	GGTCACATGCTTTGTTTCCATTCTTGT
68699	LCP1	TCAAGCCATTCCAAAGTTC
68700	BCL7A	TGTTACGATGCTGATCATCATTGAGCTT
68701	XRCC3	CTGCCTCTCCCTGGGTCTGGGGA
68702	CRAT	TCGCCACTGCCACCTGCCTCCC
68703	PUM1	TTTTATTTGTCATCTAGTCTCAA
68704	HDAC4	ACCGGCATGACTTTATATTGTATACA
68705	SIM1	ATGAATATGGAAAGGCCAGAGGC
68706	MGAT5	TGAGAATTCACATTTCCCACTG
68707	MADH1	GAGCCTTGCATGTACTTGAA
68708	CTSB	GGGCTGGTGTGCAGTGGTGCG
68709	CCNF	CGGATACTCCTGCCTCAGCCT
68710	TK2	GCTCCCGTACTGTCTGTGTCCT
68711	AREG	AGACAATGGACCCTTTTTGTTA
68712	ASB1	GCTGGTGGCTGCAGCCTCAGAG
68713	PDZK1	AGCAACCTCTCTGCCTCCAGAA
68714	NRG2	GTAACATCCTGATTTACAGCTTC
68715	NFKBIL1	TGAGGCAGAAGGAAGGGTAA
68716	STAT6	TGCTCTGGACACTTGCTCATGCCCTG
68717	ARCN1	ATGATCTCAGCTCACTGCAACC
68718	AUP1	TTCATGGTTTTCATTCATA
68719	EML1	AACTGATTTGCACAGCTG
68720	STAT3	CAAGCCCCAACCGGATCCTGGACAG
68721	SERPINB9	GGTGTCGATCTCCTGACCTCGTGATCC
68722	PTGIS	GGCTCACTGCAAGCTCTGCCTC
68722	YES1	GGCTCACTGCAAGCTCTGCCTC

68723	GABRE	TATTGCCTTTGTAGTGCTTT
68724	MATN3	TGCAACTTTGAGAACAAAAC
68725	MFAP2	AGTGGACTGCAGCCCTGGGGGT
68726	ZNF236	TACTACTGTAGGCAGTTTCCTCCTCA
68727	C1orf1	TTAGACATTTCAGACACTCCT
68728	PER2	TCATTCTTTTCATGAGCCCG
68729	FOXG1B	TGCAGTATTATAAGTTATCAT
68730	CBFA2T2	GTTGCCCAGGTGGGTCTCAAA
68731	ANK1	GGCGGGCGCCCCCAGGGCCAGG
68732	VCL	TGTCAGGAAGAAATCACAGA
68733	AQP6	GGGGCTTCCTGAGGACAGAGACTGCTCT
68734	MMP19	CCCTCCAGGCTGTTGGCAGGCGGTGG
68735	CD3E	TTCAGTTCCCTCCTTTTCTTGC
68736	DDX11	CCCGTAGGAGAAAATGGGGGA
68737	MYCN	ATATTACTTTATCACTTTTT
68738	PCDHB3	ATAGAGCAAAATATCAAATCCAGG
68739	EIF4G1	GGGTTTCTGGCACCTACCTACCTGCT
68740	C11orf8	CAGAAGTAGGCATGGAAAAGACTTCTTTTC
68741	DDX3	ATGTAAGGATTTAAACTTGCTGAA
68742	ADAMTS13	CCTTCGGCCCCAAGGCTGTCG
68743	XRCC5	TTACCACATTACTCTGCCTCT
68744	OSR1	AGGCTGAGATTTCTACAGCAATA
68745	PCDHB9	CAATAAGAGCAAAACTCCATCAA
68746	CRYZL1	TACATAGCCTTACACTTCT
68747	ZNF192	TAGTTATACATTTTGGTGACTT
68748	HDAC5	TGGGGGGAAATGCCTTA
68749	P2RY2	GAACACTTCAGCCTGTGCA
68750	EVC	TTTGCCCAGGCTGGAGTGCAGTG
68750	PER2	TTTGCCCAGGCTGGAGTGCAGTG
68751	PTPN13	TGCATTTCCATTTCTCTCCTTAACC
68752	ALEX3	CAGTCCCACAGCCTTCCTCCCCCA
68753	FGF1	TGTTTCTCCCCCTGCCAGTC
68754	PPP3CA	CTTACCTCAGGTTTCTTTAGTGTGCTT
68755	IL6R	CCAGTGCTTGTTCCTCTCATCTC
68756	RPS6KA2	GTTTGGTCAGACTCCCGACACCCAC
68757	SLC2A6	GGCGTGGCCACTTCCTCCT
68758	NFIA	TAGGGACTGTTGTAATTTCTCATA
68759	ATP6IP1	CATCCCTGGCTGTGGATAGTGCTTT
68760	POLG	GGGAGCAGCAGACCGGGAAGCACCGTGA
68761	DCX	GCAGTTTCCTTATAGCTCA
68762	GAB2	CTTGGAGCTTGCAGGTCCCTTTCT
68763	CD164	CCTGTGGCTGTCTTATTTTAAATAGC
68764	MMP25	CTAAGTTGCTGTCCAGCCTCAGTG
68765	KLRF1	TCTTCTCCCTTCTCCCTCCATCATCGA
68766	UCP2	GCCATGATAGCCACTGGCAGCTT
68767	SLC24A1	CCTACGCTCACTGTTCCCTGATCATTCCA
68768	RP2	TTGCCCAAGCTGGAGTGCAAT
68769	TERF1	ATGAGGGTTTGTGCTACCAGAG
68770	UBTF	TTCTGCACTTGCGGTTCCGGCATGGAC
68771	UBE2B	CCACCTGTAGTCCCAGCACTTT

68772	DGKA	TTTATTATCCTGCACCACCT
68773	NRCAM	ATACATTTCAGAATCTAAGA
68774	USH2A	TTGGAAGTCCCATGACCTCT
68775	HOXB3	TAGAGGAAGACGAGACAGGACGAGGCAGA
68776	FGF12	TATCCACAAAGCAATGTCTC
68777	HSPA5	ATTGTAATCCTAGCACTTTGG
68778	DEFA1	ACTGCTGTCTGCCCTCTCTGGTC
68779	RCN1	TGTAAGGAGGAAGTGAATGAAA
68780	MT2A	GTGCAGCTGCTGCGCCTGTGCT
68781	PPP2R4	AGGAGTCAGTGGGGAACTCCAC
68782	CTSF	AGGGTGAGCAGAGGGCACTGG
68783	DEF6	CCCAAGGACCCGATTCCTGGGC
68784	NFATC1	TGCCAGGAGCTGAACATTAATATG
68785	LTA	GCCTGGGCCTCGGTCCCTCCTGCACC
68786	PIP5K1B	TGCCTGATACCTCTCAGCATTTGA
68787	ADD2	ATCTCTTCTCTTTCCACTTTGG
68788	CORO2B	GCATTATACTCCATACCTGCTTTTCC
68789	FZD4	TCATGCCACCCCACAGCTCCA
68790	FOXE1	GGAGGTGGGGCGAGGCAGCC
68791	PPARGC1	TCGTATTCTATTCAAAAGGAAAT
68792	CHC1L	AAATGTTCCATTATTCAGCTGGCTG
68793	DBN1	CCCCGAAACCTGGGCTGGAGTGAGGT
68794	PITPN	GTGAACAAATAGACCGTCTGGTGTCA
68795	PRY	GGGCTGAGGCCAGGGGAGACATCACA
68796	GRIN2A	GTGAGACAAGCAATTTCTCCCTTCTG
68797	AK2	GCTGGGCAGAGGGGAAGGGTG
68798	TLL2	GTAGAAGATATCACTGCAGCC
68799	ATP11B	TGGTCTCAAATCGATTTGCCTCCCTTT
68800	GLI2	GAAAAGACACAGGACTGTGAA
68801	IL5RA	CCTCTGATGAACTCACACATGCCTCA
68802	WHSC1	GTCTCTCCAACAGCCCGAC
68803	NR2E1	GCCCACACTCTGCATGCC
68804	CPNE3	TGCCCAGGATAGATGTAATA
68805	APLP2	TGCTGAGAAATGGGGTGGAATAGGGA
68806	RPN1	CCGGGAGGCAGAGGTTGCAGCC
68807	HDAC5	CCTGTGCGCCCCGGCCCCCATCCCTCT
68808	HYAL4	CTCAAGTGATCTGCCTGCCTCA
68809	SPN	CTCAGGTGATCTACCTGCCTCA
68810	TUFT1	TGGTTGCTGCCATTGCTGCTGCCT
68811	HNRPH3	AACAGCATCTGGTCTACTAGA
68812	NCALD	TGGCCTGCCACTGACCCTGTC
68813	ODF2	CTACTTCCTTTTTCTTGGCTGCTGCT
68814	CREBL2	TGGAGGGAAGCATTGGAACTGGAGTTG
68815	TAPBP	GCAGTGCTGTCCAATAGAAAGATAAT
68816	UCHL1	TGCTGATTTCCCCTCTTCCC
68817	EPB49	TTGCCCAGGTCTGGGTATTGCTCCT
68818	RSN	ACTACCTGTTATCAGTAGTG
68819	ATP1B2	AGGTTCCCGAGTAGCTGGGACT
68820	LPIN2	TCAGGGTCCCTGAACTGCTGCGGG
68821	EIF2B2	CCAGCACTGTGTCTTGCCTTTCAGATC

68822	MCP	GGTAAATTCTCTATTTTTTGT
68823	NRAS	GTGACTTATCTACCATTGAAG
68824	CNTNAP2	TCTTACATTCCAATACAT
68825	GAGED2	TGAGAGTGAAGAGGAACCAGCAG
68826	VIPR1	AGCCTCCTCTGTCTGCCCTTCA
68827	TDRD1	TCAAAGCTACTAAACCACTGTTAATG
68828	TSNAX	TGACCAACGTGGCGAAACCTCGTCTCT
68829	GPC1	GTTCACGGTGACACAGGTCAG
68830	KCNJ6	CAGCCAGGAAAAGCACAAAGA
68831	SNCA	ATGCTGTACCTTTCTGACAA
68832	MPP5	TCTCAACTGATTTACTCACTTAG
68833	MMP19	GCCTGGACAAATGGGAGTGACATG
68834	CD97	TGTGACCCAGGGTGGGGACAGG
68835	GFER	CCCAGCCTTTGGGCCTCCCCAGCCAG
68836	CNP	GCTCAGCCCCAGCCCAGCCCAGC
68837	SON	GCTAGGCTACTGTAACACTTGCCTGTAA
68838	GARP	GATAATGCTGGCTCCAAACTTC
68839	CPM	GCTCACGCCTTGTAATCCCAGCA
68840	ITGB4BP	ATGCTGGCAGGGAGGTGGCAGAG
68841	CD209	GTGTGAGCCACCGCGCCTGGCC
68841	HLCS	GTGTGAGCCACCGCGCCTGGCC
68842	CDC2L2	GCGTGAGCCACCGCGCCCGGCC
68842	KCNJ11	GCGTGAGCCACCGCGCCCGGCC
68842	ZNF165	GCGTGAGCCACCGCGCCCGGCC
68843	BRIP1	TGCCTCCCTAAGTTGCTGGGATT
68844	CACNG1	ACAGTTGGGGGAGGCAGAGCCAG
68845	ALDH3A2	AGCAGGAGGATTGATTGAGCCTG
68846	SH3BP2	CATGTGACCCTATCTATCCTTCACTGC
68847	FACL4	CCATTGCAACAAAATACATTCTTTTTG
68848	RRM2B	GTGGAAACCAGGAGGTTATCATGGTAG
68849	CENPF	GTCAGGGCATGCTTTATTAGTG
68850	MTAP	ATGTGGGAAAAAATATTACATTTTA
68851	DBT	AACTGTAATCCCAGTTATAGGG
68852	KCNJ15	CTGCTATTTAAATAAAGCTCATA
68853	MOCS1	CTGACCTCTGCTGCAGTGGCC
68854	APAF1	TCCCAAGTAGCTGAGACTGCAGG
68855	COL13A1	GCCCCTGCGCTCCTCGCCAG
68856	IRAK4	CCTGTAAATCCCAGCACTTTGG
68857	HIP1	ATTGCTTGAGCTTGGGAAGTCGAGGCT
68858	PPP2R5A	AGTTGTCACTGCCTGGCTTT
68859	SMURF1	CAGCCCAGAGCCAGAGGGCTGGG
68860	HIP1	CAGAGGCAGAGGTTGCAGTGA
68861	CDKN2B	CTTCTCTCAATGTTTGTAATAA
68862	RET	GGGGTAGCGAGGTTGCAGGAGCTGGC
68863	SOX4	CTTTTCTCTCTTTACCCACCTC
68864	COPS3	GACAAGTGTTCGGAGGGCAGCAGA
68865	MAPK10	TTTTACAAATTTCCTTTTTTGTCCTCA
68866	RAB11A	CATTGTTGAAATCAATGAA
68867	RPE	TGCTGTTGTGTTAGCTCTGAGTA
68868	WHSC1	AGGACACAGTGGGACAAAGTTGGGTTG

68869	EXTL3	AGGATTCTGTTCCCTGGGCTGAAACTGAAATA
68870	ARF1	GTTCCCAGGGGCCAGGCTGG
68871	ARHH	CCAACATGGCTAGATCCATCA
68872	SCML2	TTCAAATTGGCAGTTCTTT
68873	PTPN18	AGAAATGAGTTTTTGCCATG
68874	GPRK7	ATCAGCCTTTTACCATCATGTC
68875	EFNA3	ATCCTCCTGGGCCTTTTTC
68876	MCSP	CACTAGGCTGCTGAGGAAGATCAATA
68877	NFIA	CGCACACCCAGACGCACACGC
68878	EDNRA	ATCGTACTTCTTTAATTGATCTA
68879	PER2	GACCTCAAGCGATCCACCCACCTCG
68880	IL13RA1	CCAAAATGGTGAAACCTCCTCT
68881	CYP27A1	ATGTCTCAGATGAGGAGGGAG
68882	RBM15	GATAGACAAATAATTTTCCCAATG
68883	ITGA2	ACTTCCTATAATACAAATACACAA
68884	ZNF174	ACAGGGTGCAGAGAAGGCAGGTCTGGGCA
68885	TFE3	AGAGACACTCCCCCCTCCATTCCC
68886	GYS1	CTGTCCTGCCTCTCTGCTCCA
68887	PPEF2	ACCATTGGGCAGGAAACTAGACTTCTA
68888	NEU1	GGGGAGAGATGACTGGGG
68889	SSTR1	ACCGCTCTCCCTTTGCGCAGCC
68890	HUNK	TACTGCACTCCAGCTTAGGTGG
68891	ADORA3	CAACAGCACTGCTCTGT
68892	AHR	AGGTACCGTCTACATTTCACATTA
68893	ASNS	GATCGTGCTCGTGGCCAGGG
68894	D12S2489E	CCTTTGCTATGATTTGTACTT
68895	PPP3R1	GTCATGTTGTGGGATCTTTAG
68896	CML66	CCTTTGTCAGAATGCAGTTTC
68897	POU4F1	CTCCCCTCGGATTTGGAGTGTC
68898	AKAP2	GAGCCAGATTTTCTCTGTGCTCT
68899	MCF2	ACTTAAATTAGTTGTGCTCTGCT
68900	DVL3	CCTGCCTGCTGCCTCAGTCTGCAACCT
68901	LDOC1	TCCCACCTACAGACTACCACCTT
68902	ADAMTS3	TTGCCCAGTAGTTGGAAAGTG
68903	TK1	ATCGCCCAGGCTGGAGCTGG
68904	CD74	GGCCCTGCTGCCCAATCTCCATC
68905	HSPA5	ATATTGTAATCCTAGCACTTTG
68906	NCOA6IP	TTGCCCAGGCTGGTGTCAAAC
68907	BAK1	GTCTCCTCAGGGTGGGGGGTGACAGT
68908	LIMK1	GAGGCTGGGCCAGGAGGCAGC
68909	EDAR	AGAAGCAGCTCAAACATTTTG
68910	POU3F1	TCTCCATCCCCTCTCCCCGCGTGGACTCC
68911	MAN2A2	TTTGGCTTCTGTGCTCTGTATGCTGC
68912	ARCN1	ACTCCCACTCTGAACATCTGGCC
68913	FACL2	CAGGACAATGCAAGCCCATGAGCTGTT
68914	NRP2	GGAGGTGAGGGCGGGCGCCA
68915	STS	CCAGCTGTAGTGAGGTTGCAGTG
68916	STE	AACTAATTTTATTTCTATTTTTTGT
68917	RASSF1	GTGTGAGTGTGACAGGGCCAGTGGGGC
68918	GRINL1A	GTTTATATACATTAACTAAATCAGTA

68919	ZNF79	GAGGAAGAGTCCGGCCTGGGAGCCGTC
68920	HK2	AGGCAGACGTGGGGAGGGT
68921	SWAP70	TGGGAGGCGGAGGTTGCAGCG
68922	ADORA2B	GGAAATGGACTGCCTCTCTTGAGCACTT
68923	FGFR4	GCTGCTGCTGCCCCAGCGTCTTG
68924	NYX	GGGCAGCAGGGGGTGTGTTTGTGG
68925	PPT2	GCCCTTCCCCCTCCCATCCGTC
68926	CBFA2T2	CTGAAGCTCAGTTTGCAAACCT
68927	TAF1C	GTCACGTTTTTTAGGCTGGACAGCGTC
68928	MEST	CCAGAAACTTTAAGAACAAACTCTGAA
68929	GLUD1	GCTAGTGCTGGGGAGGAACA
68930	CALU	GTCCAGCAACTGAACCTGCCATTACCT
68931	TPST1	CCCACTGAGAGGATGGAGGTGTCCGC
68932	DIAPH1	TGGGAGGTGGAGGGTTGTACTGTGA
68933	TCP10	CCCAGGAGGTCTCTGCAGAGCAAGTG
68934	NSEP1	CCATCTCTACCATCATCCGG
68935	IL1F8	TCACCACCATCTGATCTATCTTGTTCTCTTC
68936	ILF1	TGGCCTTAACACTCCTTA
68937	CPM	CATTGTACTCCAGCTTGGGCAACAGA
68938	GNA15	GTGGACTCTGGCGCACTCTAGTGGACA
68939	GPR85	GATCATGAGACTTGACTGAGGC
68940	COG3	CTAGGGCAGACATGCAGTGA
68941	POU2AF1	ATTGCCCAGGCTGGAGTACAA
68942	TNFRSF6B	GACCCCAGGAGGAGAGGCTTGC
68943	APAF1	GGAGGCTGAGACAGGAGGATTCCTTGA
68944	PDE4B	GGGCCACCTGGCCTTTCAGTTACTTGA
68945	ADCY8	GAAAGTTGGCTTTGCCAAAAGACGCA
68946	ACPP	AGATCAGCCTGGGCAACATGGT
68947	EHD2	GGGCCCCCAGCCCCTCCCCTGGCT
68948	PHGDH	GTCCCTGCCTCTGGGGCTTTTCT
68949	NOTCH2	ACCTCTGTGGACCACAGCGTA
68950	NR2E3	GGCCTCCCGCAGGCAGGCAGAG
68951	CCND2	GAGGTCAGGGGAACGCTCTCCC
68952	TLL2	CCACAGAAAAGAGAAGCTCTG
68953	DIO3	GCACCCTCAGCCACATGAACAATCTCCCCT
68954	SEPN1	GAGACGGAGTCTTGCTCTGTCA
68955	SFTPC	CGGGCAAAGGGTCTTTTGCAGCTTTTGCAGAC
68956	HS2ST1	AAAGAGTTTATATACTTCTA
68957	CALCB	AAAGACTGTTATTTCACCATT
68958	SLC2A8	CCCTCCTTCCTGTCATGCTCCC
68959	TRPS1	TCAGCTCTCAAAATGTCTTCTGT
68960	RASSF1	CTGTTGAGCAGGCCTCTCTGCCT
68961	KCNJ13	AAAGCATTTGAACATGACACCAGAACA
68962	MECP2	AGCTCCCTTCTGTTGATGC
68963	GPR85	GTAAGTCAGGCTGAACTGCAGT
68964	GLTSCR1	CAGATGGTGGAGGGTGCTGGGA
68965	TAPBP	CCGGAGTAGCTGGGATTACAGGC
68966	GRAF	AGGCTAGGAACCTCTCTGCCAC
68967	FPGS	CCCTAACCTGACAGAGGTGTC
68968	PPP2R5D	CCTACCTGCTCCTCACCCACAG

68969	POLL	ACTGGCTACCCCTCCTGGCC
68970	CBS	CCCTGTTTACGGCCTATGAGAT
68971	PPEF2	TCATAGACAGTGATCATTCAG
68972	SLC7A4	TGCACAGGCTGGGGAGTCCTCAGG
68973	RANBP2L1	ATGACAGATGTATTTTAAAAGT
68974	WNT10B	GGGCTCCCTCTTGTGGGATAATGGGAG
68975	FCGR3A	AGACCCACCCACCTTGCCT
68976	EGR2	GGGGGATGTACATATTCTCTGAAACTA
68977	BPHL	CACTGCACTCCAACCTGGGCAA
68978	CD68	CACTGCACTCCAGCCTGGGCGA
68978	F2RL3	CACTGCACTCCAGCCTGGGCGA
68978	KCNJ5	CACTGCACTCCAGCCTGGGCGA
68978	NFKBIL2	CACTGCACTCCAGCCTGGGCGA
68978	NPHS1	CACTGCACTCCAGCCTGGGCGA
68978	P53AIP1	CACTGCACTCCAGCCTGGGCGA
68978	SCAP2	CACTGCACTCCAGCCTGGGCGA
68978	SLC17A5	CACTGCACTCCAGCCTGGGCGA
68978	SLC26A4	CACTGCACTCCAGCCTGGGCGA
68978	TNFRSF1B	CACTGCACTCCAGCCTGGGCGA
68979	DDT	ATGCCGTTCCTGGAGCTGGACA
68980	PYGB	GCCTGGCACTGGGAGGTGGGGGTGA
68981	MAP2K2	CCTGCCTCTCGGACTCGGGCTGCGGC
68982	VEGF	AGAGAGAAGTCGAGGAAGAGAGAG
68983	TNFRSF1B	CCAGCTGCACCTGCCAGCCTGGCTTCTGGA
68984	NPTX1	CTCCAGGAGTCTCATCAGCAAACCGC
68985	ICAM1	GTCCTGTTTGCATTTCACTGGG
68986	TDE1	GAAGAGAGTTCTTTATAAAGCCT
68987	LPP	TCTTTTTCTTACCCTACTTCTC
68988	C11orf13	GGAGCTGGGGGGTGCAGTGGGGGAC
68989	TPST2	ACCCTTACTTTGAATTCAAAGAA
68990	IL12RB1	TCTGTTGGCAGACTGGAGTGCAAT
68991	DRG2	GCCCAGCTGACACCCTCCACAGCCTA
68992	FZD3	GTGAGATGTGATCTTGCCAAAG
68993	ANXA9	TTCCGGCCTGTGCTCCTGTGCTGCTG
68994	ADCY2	ACCTGGTCCCTTCTAGGTGTGG
68995	TZFP	GTCGATCTCATCACCATAATAA
68996	BSN	GGTCATCTGGAACTGTTCATATAA
68997	CCND1	GTCCCTCCTCTCCGGAGCATTTT
68998	CHRNA4	CCCCATCTGCTGAGCTCTGACCTGCCC
68999	HTR1D	AGAAGTTAGGGGTAGCGGGGG
69000	PROCR	GCTCACTGTGAAGCCAGACTCC
69001	POU3F2	GAGAGTGAGGAGAGTGTGTGA
69002	MTNR1B	ACAGGACCTGGAAAACACTCTTGG
69003	FMR1	ATTGCCAAACATTAATGT
69004	CORO1C	CAGAGGGTGCGATTGAATGAGTA
69005	RAB4A	GACAACACCGTTAGATGTGT
69006	RAC2	CCTGAGGCCAGCTGCTCTAATATC
69007	HLA-G	ACTGCATTCCTTCCCCAATCA
69008	TMEM1	CCATTGTCAGCACAGCCTAGGAG
69009	GALK1	GACGGGGCTGTGCCGGAGCAGC

69010	TGFA	TGAGAAAGGAGAAAAAGATGGG
69011	TDE1	TTGGATATTTGAGGCCATGCT
69012	GIPR	GGTGGCAGGGGCTGCAGGAGCAAGT
69013	XPR1	ATACCTCTTTCAGGAGACAACTTGCA
69014	DSC3	GCTCACTGAAAGCTCCGCCT
69015	JPH3	CAGACTTCTTTACTACACTGCA
69016	AHR	GCCCAAACTGGAGTGCAGTGGCACA
69017	NEDD4	TCCTCAAGGAACTTGCAAATGTGTCTA
69018	KCNJ3	GATACTCTCCCTGACATTTCT
69019	ARHGEF12	GCCTCTATTTTTCCTGTCCCCA
69020	IGFBP7	GGATAACTACATTACCTGTTCTTGCCT
69021	ARSD	AATGTGTCTCCTGAGACA
69022	DIAPH1	CCTGCCCTGCAGCATGTGCC
69023	PRX	TGGGGATGATGTTTGGGGAACAAGATACTTGA
69024	KPNA1	GGCTTTGGAGATCCGCACTTAC
69025	GRAF	CTCTGCTCCCACCCTTGCCTGCCTCTA
69026	PTPRCAP	CAGACTGTCACCCCTACCAGTT
69027	SUDD	CAAACCTGTAATCCCAGCACTT
69028	CYP8B1	CCAAAGTTCTGGGATTACAGGC
69029	PTGES	CCAAAGTGCTGGGATGACAGGC
69029	RAI3	CCAAAGTGCTGGGATGACAGGC
69029	SHOX	CCAAAGTGCTGGGATGACAGGC
69030	CCBP2	CTGCCTCTCTGCAAAGTTGAGCACTAC
69031	IL7	CACACTTGTGGCTTCCGTGCACAC
69032	SLC2A6	CCTGGGACCAAGAGGCAGCAGT
69033	CHD2	TCTGTTGACTTTTAAAAAATTATGCTT
69034	CTSL	TCTGTGATATTTTCACACTGGTAAATG
69035	SRC	GGGGAGAACCTCTAGCACAGG
69036	GALT	CCCAGCACTTTGGGAGGTCA
69037	NPDC1	CCAGGGAGACCCCCGAACCTTTGTG
69038	MEN1	CCCAAGGGAGCACAGGTCCCA
69039	OXTR	CGCTGGGGGCTCTGGGCTTGTGGCCGGT
69040	NFATC4	CCTGCCTGACCACGTGAACTGT
69041	GABRA5	CCTCCGCCCAGCTCGGCCAAGGGC
69042	EHD3	GTGCTTCCACACCCGGGCTCT
69043	GPR92	TGGTTCTCAAACTTTTTGGTCTCA
69044	AQP1	CAGTTCTGCTTGCTCCCAAGCC
69045	REN	CCATCCACCACCAAAGTAGCCGG
69046	FANCG	CTCTGCCACCACCAAGTCAT
69047	FOXF1	AAGGAGCCACGAAGCAAGCGGCCGTC
69048	TTF2	GGAGGCTGAGGCAGGAGGATCCCTTGA
69049	MITF	CCATTTTTATTCAGGGGAAACTTGAT
69050	CRP	TGTCTGGTCTGGGAGCTCGTTAA
69051	TNR	GGCACACACATTTTTCTACCCTTCT
69052	IER3	GCACAGCCCAGCTGGGCTAG
69053	EXTL3	GGGCACTGACTGATAGCTTACACTGAG
69054	CSF3	AGACCCATGGCTGGACCTGCCA
69055	TLR5	CCCAAGTAGCTGGGATTACAGATTGAT
69056	TNFRSF1B	TAAAGGAGAAGGCATGAAATTGTC
69057	CDK8	CTCCGGCCTCAGAGGCTGTGACAATGGAC

69058	RBM15	ATGTGGAGTTTACATGGGCCTC
69059	PSMD5	GTTCATAAGTTGTACAACC
69060	VRK1	GTGAGTCTTGCGAGGTGGAA
69061	RECQL	AGAAATTTGGATTATTTTAGAA
69062	MCL1	ATTGATTGAAGAGTCACTGTCT
69063	PSAP	TGTGGGGGTTGGAAGCTGTCTGTGGCCC
69064	SLC4A8	CCCTGTAATTCCAGGGCTTTTGG
69065	XRCC3	CAGCTCTTCCAGGGCAGCGGC
69066	KDR	CGTGTTCTTCGAGTTGGGCT
69067	IRS1	TCAACTGGACATCACAGCAGA
69068	FUT3	CCTCCCACTCTGGGCTCAGG
69069	DHCR24	CCCTGACAGCCCAACACCACCTT
69070	BAT5	CCTCTTGCACGTTTCCCCTCA
69071	NAPB	GAGGTGGGCTGGTAGAGCAGGAAGC
69072	CCKBR	GGGTTGAGGCAGGGCAAATGACA
69073	BHLHB3	GGCATAAACAAGAACAACAAAAC
69074	EXT2	GGAAAACACTGCAGCGGTGCTCGGA
69075	SIM2	GGGCAAAGGAAAACCGAGTATCTGGCC
69076	AXIN1	CTTGTCTCTTGCCTGCCACTGTG
69077	MLLT3	GTATCTCTCTGTGGTGGTTCATT
69078	DGCR2	ATGCCCCCTTTGCAAGGCCTGCTGC
69079	CAMLG	GGCTCACCGCAACCTCCACCTT
69080	LAMB1	CTTTGGGCTCGGGGGCTCCCGGA
69081	FBP1	CCTGCAGCTCCGCACCTGCGGCCAGTG
69082	PTP4A2	AAGGAATAAACAAGTTGAATAG
69083	LANGERIN	CAGCCTCCCTTCTCCTTCCACT
69084	THY1	GGCTGGTGCCTGAGCCCCTCAGACA
69085	SYT1	TAGATGTTTTTAATAAGATGTTCTA
69086	JRKL	ACTCACAAATGTTGTCTATAA
69087	POLH	GTCATTTTCTTCACATTCTCATCT
69088	HMG20A	AGGGAATTGTCCTCTGTGGAAG
69089	AAT1	CCAAGTGTCCATCTCCATCGGA
69090	ZNF138	CTAGAGGCCCAGCCTCTGTGG
69091	HIP1	CTCACTTCTAGATCTCAGCCATTCTA
69092	CLDN14	AGGGCGCAGGAGGGAATGAGCTGTGG
69093	DISC1	CCACGAAGCACAAGCCTGGGAGTGACG
69094	CKAP1	CCCCTGCTTCAGCTCCTAGCT
69095	KRTHA8	GCCTTTCTGTTCCTTGGACATGCC
69096	PIK3R3	CCTGTTTCTCTGAGATGAGGA
69097	SHANK2	GTAATTTATTTTGCTACCTCTT
69098	SCN4A	CTCAGCCCTGCTCCCTGCCTCCTGCC
69099	PTPN7	GGACTTGCCCACACCTCCA
69100	LPP	TCTGCAGCTCAAAGATGTGGG
69101	CST	AAGGGGAGACCTCAGAAGTAAA
69102	ABCC1	TCATTTCCTTGGGGCTGCAGT
69103	SH3BP2	GGAACTCCTGGCTCAATCGAT
69104	ASTN	TCTTCCTCTCTCCTATCTTTCCCTC
69105	GATA3	AGAACTGCTTTCTTTCGTTTGTT
69106	FAT2	CAGCCCAGGCTGTTGTCCCTTGAA
69107	ANKH	TTTGCTTGATCCTGGGAGGCAG

69108	RAB6A	TTGTTTGCAGGACGAAAACTTCTGAGT
69109	BACE	TTGAGGGGAGAGGAAATCTTAAGATTA
69110	PKD2	TATCAGCCAAAATTTGAGTTAGCA
69111	ANGPT4	CGAGCAGCTGTGCCAGAGGCTG
69112	WASF3	GAAACTCAAGAATGACAGCTTC
69113	DBH	TGTGGCCTGGCTTCTGGGACA
69114	CROT	AGGAGGTTGTGGCTGCAGTGA
69115	NDUFS1	GCAACATGGTGAAACCCCATCT
69116	SFRS2IP	GCAACATGGCAAAACCCTGTCT
69117	ZYX	CCGCAGTCCATGCCCCATTGTGGACC
69118	PRSS16	GCTCTTCTTCTGTGTCTCTA
69119	SCO1	CGCCTCTCCATCGTCTTGGGCCCT
69120	PPP2R1A	GCTGTCACTCCCTGTGCATGGTCT
69121	CD5L	AAGCGGAAGTGGAAAATATCACT
69122	IRTA2	ACTACAGATATGCAACTAAAATAGAC
69123	TCFL4	CACCAGGTTCCTCCCCTCACCCC
69124	COL10A1	AACTTTTAAGCTGTGCCTCA
69125	SPTLC1	TGGTGGATACCTGTAATCCCAG
69126	ADAMTS8	GAGAAAGCGGTTGGGGTCTCCCAGGGA
69127	A1BG	TGAGTAGCTGGGACTACAGGCAT
69128	PIP5K1B	GAAATAAAATATTTTGTTCTCA
69129	KRT4	TGTCTTTTCTGGAGGAGGGAG
69130	BCHE	CTCCTTGCAAACTTTACCATCTTTGTTGCAG
69131	WWOX	GGGGGGCCAGGTGCCTCCACAGTCA
69132	LASS2	CAGACGGAGTACACGGAGCAGC
69133	TPMT	TGGATTCATGGCTGTTTATTATGA
69134	RAB30	CTTCCCTTGCGTGCGT
69135	SNX15	CCAGAAGTCCCTGCGGTCCTACT
69136	TEX15	AAGATCCTAGTCAGACAGAGCCC
69137	POLA	TCTCCCTTGGGACTGTGTCTCA
69138	UBE2H	CACTACCAGGCCCTGCAGCCA
69139	PDYN	CAGGTTGGAGTGCATTCATTCA
69140	UMPS	GTTGCCCAGGATGGAGTGCAGTG
69141	EN2	TGAGAAATGAATGAATGTTTCTATTTACA
69142	USF1	GCAGTGGCTGGTGCCCATGAA
69143	SLC12A6	CTGTTTTCTTAAAAGGCCT
69144	GGA3	GGGCCCTGGGCATTTCTGCTGAGAACCA
69145	CCR9	CTGTCCCAGGGAGAGTTGCATC
69146	AMPH	GGAGGTAGGCTAGTTGGGATGGGCAGCTAAGC
69147	NHP2L1	CCTGCTGTTTGCTTTTGGTAATGTGAT
69148	HIP1	AGGCAGGGGCGGGTGGATCAC
69149	CDC25A	CAGAAATGCTGCTGGCCAAATAGCAAA
69150	EYA1	GTTCCTCTCCACCTGCATTAT
69151	C7	AGATTAGTTTGAAGCATTGA
69152	ASPA	TTCTGAATTGCAGAAATCAGATAAAAA
69153	LAMC2	CAGGAGGCGGAGGTTACAGTG
69154	CACNG6	GCAGCCCCTTGGAGCTGCAGGGAGCT
69155	TSC2	CCCCAGTGCACAGACATAGAGGCAC
69156	CABC1	GTCAAGCTGACCCAGGCGGCCGTGGAA
69157	B3GAT1	AGCCCACCTCATGTCCAGCT

69158	AQP6	CAGGCTGGAGTGCAGTGGCATGATCTC
69158	CXCL16	CAGGCTGGAGTGCAGTGGCATGATCTC
69158	FGF5	CAGGCTGGAGTGCAGTGGCATGATCTC
69158	IGF1	CAGGCTGGAGTGCAGTGGCATGATCTC
69159	CA12	CCTCTGACTCTAAGAATTCTCTCTT
69160	PMP2	GGTTATCAAAATTAACCTCA
69161	ED1	GTGCCTGGGCTCAGCCTGG
69162	SNAP25	CTTTGTTGCTTAATCTAGAGCT
69163	GRB10	TGCAGTGACTGTAAATTGGCCTGGC
69164	DUOX2	GCCCAGGACTCTCCCTGTTTTAGCACT
69165	PRSS8	TGGTGACTCGTCCACACTGCTCGCTTC
69166	VANGL2	GCAGTTTCCCCACTGTGTCTGTCCCA
69167	DLX2	CCCTCCTTTTTATTTTTTCC
69168	MAN2A2	TCTGTTTCAGAAACCAACAGTGATGGC
69169	SDHB	GGGCTGGACGTCAGGAGCCAAG
69170	RABIF	AACTGTTCCGCTGCCTTCTTGTCTGTGCTA
69171	CCND1	CTTCATATTCTAAAACCATT
69172	PSCD4	TGCTCCAGCTTCCAGCTGGAGAT
69173	FBLN1	CTCTTTGAGGGCAGGGATTGTGTCT
69174	EYA2	AATCCTGCCGGAACTGAGGC
69175	LARGE	AAGATTCACGTATCCATCTGGAG
69176	POU1F1	GCCTTTTTCTCCCGTTTCATTCCTTTCTC
69177	DIO3	CCAGGGAGAGAGAAAAAGCTGA
69178	E2F2	ATTAATTGGTGGCCCTGCCTGCCC
69179	ABCB8	CTGCGGCTGCTCCTGCTCACAATAAAGCC
69180	LDHA	GGTGGAGGTTGTGCATGTTGTC
69181	ARSB	ACACTCCTGCTGTTGGCTGGA
69182	PRKY	TAGTCCCAGCACTCTGG
69183	GNAZ	GCACAGCCAGCGTTGTGGCCTG
69184	KCNAB2	CCTGCTGCCTGCTTCACCAGAAG
69185	RNH	TGCTGCTCTCCCTGGACGACC
69186	STE	CCTACTATCATCTCTTAAATTT
69187	CYP1A2	ACCCAGGTTGGAGTGCAGTGGC
69188	SERPINB9	ACCCAGGCTGGAGTGTAGTGGC
69189	MAGEA5	GTGACATGAGGCCCATTCTTCT
69190	ADCY7	CTGTCTGCCTGTGCTGTG
69191	DDB2	AGGCCTTGGAGCCCACACATGG
69192	TM6SF2	GGGCTGGACTTCTGGAGCTGCTAAGCCA
69193	FNTB	TCTATCTTTCTTCCACCAGAC
69194	FGFR2	GCAGGCAGCACAGCAGA
69195	RORB	GCCATTTTCCTGTTTCAAGAAT
69196	KITLG	GGGAAGCAGGGACAGTGGAGAGG
69197	FGF5	AATCTTGTAAATAGAAAATGTAATA
69198	ADCY1	GCTTTGCAGGGCGGCCAGTGCAGT
69199	DDX3	GCTAGCACTGCATGTGCTGTGCATA
69200	C4orf1	CCTCTGAAGATTTCACTCCAT
69201	ISLR	CCTCAGCCTGCAACCTCTATCCTGGAAC
69202	PKD2	CTCCATCTCTACAAAAAATGCA
69203	CCNF	CCCCGGCTGGAGTGCAGTG
69204	NDRG3	GTTACCCAGGCTGGAGTGCAATGGC

69205	KLK3	GATCCCTGGGTTCAACTCTGC
69206	ZNF137	CCGGAGCGGTGGCTCACACCT
69207	GP9	CCTGCCTGGGGAGCCCTGTTCC
69208	PRSS16	GCTCTTCTTCTGTGTCTCTATTTC
69209	CACNA2D2	GCCTTTCCCACCCTCCTGCCCC
69210	IL21R	ACAAGTGTGCACAGTA
69211	KPNA1	ATGAGTTCTTCCACAGTGAACCCTTGGA
69212	ELK1	CCAGGTCTCCCTGTCTCTCCCCC
69213	G2A	GTCACCCAGCACTGTGGCAGCGCCCAG
69214	CXCL6	ACCATTTTGTTATGAGGAATT
69215	GPR48	CATGGAGCAGCGGGAAGGGCGA
69216	CTMP	TGGTGGGCGCCTGTAATCCCAG
69216	LAMP2	TGGTGGGCGCCTGTAATCCCAG
69216	SLC31A1	TGGTGGGCGCCTGTAATCCCAG
69217	CYP4A11	CTTCCCTTCTTCCCACCTGCCTGCTG
69218	TNFSF9	GGTCTTGAACTCCTGGACTTAG
69219	ALS2	GTTGTTCTTCCCTATACTTCAC
69220	ANXA8	AGACCCCAGCCCCATTCCCATCT
69221	B4GALT3	CTTTCTCTGCCCTCTGTGACAT
69222	LCP1	GCAGAAGTAAGCCTCATCAT
69223	RAD23B	TGCCCTGCTTTATATTTCTTTGA
69224	CASP7	CACACAGCCAGGAGTTTTCCA
69225	IL24	CAGAGCATTGGGGTGGGG
69226	MARK1	ATGCCTAATGTGGTCTGCCTGTG
69227	INPPL1	GCCCCCACTTTCACCAGTTTCTGCG
69228	DIAPH2	ATTTTTCCTGAACAACCCCATCTC
69229	OGN	ATTTGTCAAAGTTGACCTCA
69230	MMP20	CCAGGAGGAAGACTAGTGGTG
69231	POLK	GGCAGGAGAACTACTTGAACCTG
69232	SNX6	CTCTGTGGCCCAGGGCAGGTTTGCTT
69233	NOTCH2	TTTCTTTCTTTGACTCCTCTTC
69234	TEX15	TTATGTTTGGTTATGGCAAGATGTTA
69235	GPC4	TACAGCCTGGGCTCAGGGA
69236	DPP6	TCAACATGGTGAGGGGCTACAA
69237	ARF3	ACTCACCTTCTCTATCCTTGCTC
69238	PTK2	AGGCTGCCAGGCTGGAGTGGAGTG
69239	SCAMP2	AGGCAGCAGCGTTCGCGGAGTTCGCC
69240	EED	GGGAGTTGGGGAAGGGAAGGAGCCAG
69241	RIG	GGAGTGGCGTAGAGTTCAGTGTTCGCAG
69242	PDE4B	TGGAGAGAGCTGGAAGGAAGGAGCCAG
69243	IREB2	TAACTGCAAGGGATGGAACCTGC
69244	ATP7A	CTCTTCTGTATTCACTCAGCAACCAT
69245	REQ	ACACCCTGGAGTAGCCTTCCCCCTTGGCCGT
69246	CD209	TCCGTTAAACAGAGAAAGAGCT
69247	SPINT2	GGCGAGGGCGCGAGTGAGGAGCAGACCCAG
69248	PKNOX1	TCCAACTTTGTTGGACTCCTTA
69249	CBFB	CCCAGAGTACTGGGATTACAGG
69250	LARS2	AGGGATCTTCTGAAGTTGCTTTG
69251	TNNI1	TTCTAGGTGATTCTGATGCAC
69252	JUNB	GCTGGGAGCTGGGGGAAACGACGCC

69253	AKR1C3	TAAATCCGTCCTGTTTAGCG
69254	ADRBK2	GTTTGTTTTCTCCCACTGCCTCC
69255	GLTSCR1	AGTCACAAAGGCCTCCTTCCCTGC
69256	ULBP2	AGAGTCCTTTAGAGTGACAGGTT
69257	GCNT2	GTCTCCAACAGGGCAGGAGTGAGT
69258	DDB2	GGACTTGCCTCCAGAGACTGCTCCAG
69259	HPCAL1	CATCCGTGTTGTGAGCACAG
69260	ENPP2	GCTTGTAATAAATACTGCAGCTTGAGA
69261	HTR1D	ACGAATGTCTCAAGCTTTGAAAAGAGC
69262	TRIM14	CCAGCCTGGGCAATAGAGTGA
69263	AOX1	CTTGTCAGAATGAATATAGACACA
69264	NELL1	CGTGATTAAGGATAGGAATCG
69265	PTPN6	TCTTCCTCACCTGGCTTGGGCC
69266	DLST	AGTGGGAGGAGAGGGCAGAGGTCCCCTG
69267	MUCDHL	GAGGCTGGAGGAACAACTGGGC
69268	ACPP	TACTGTACTCCAGCCAGGGCAA
69269	RARS	TCCTTCATAGGTTTGAACACTGT
69270	NKTR	GGCATTTTCAAATTCTGCCTACCACAG
69271	EVC	TTGTGCAAAGCTATGGCTTCCTTGG
69272	ALEX1	ATGTGATTTGTAAATTCTTT
69273	NTS	AGGAAAGAGGAAGTGCTAGA
69274	RUNX1	CACTTTCTCCCTCCTCCTTTTCC
69275	ZNF264	TGGTCTCAAACTCCTGACCTTG
69276	BLAME	CTCAGTCCCTAAAAATGATGTGG
69277	ZNF8	GTCCCTTTGGCTGGAGTGCCTCTCTGG
69278	PRSS8	AGCCCTGACTCCTGGACTCCG
69279	AXL	TATCTGAAGCCCTCCCAGGTGTTAACA
69280	CRP	CTCAGCGCCTGAGAATGGAGG
69281	MAK	CTCGGCCTCCCAAAGTGCAGGG
69282	ITPKA	CCTCAGGCCAGCTCTTCTGAGGAGGCT
69283	ACVR1	AATGTCAGACTTTGCTGCATTTTACAC
69284	OPHN1	GAGATGGCTTACAAAAAGA
69285	ALS2	CTTTTTAAAAAATGCCCTA
69286	GPR86	ATTTGTAGGCTGAACTAATGAC
69287	FZD4	AGCATTTTGCTCCTACCA
69288	SERPINB13	TCCCTAGGCTAGAAATTGCTGGGCC
69289	COX11	ACAGTCTAGTAGAAGAAAGATTAG
69290	BCL2	GAACCTTGTGTGACAAATGAGAA
69291	PCDHA9	GACCTTGTGATGCTCCCACCTCG
69292	DNMT2	CCAGTATCTTTTACCACCAAAGTCAT
69293	SIRT2	GCCCCCACTCTGTCTCCTGCC
69294	ATP8A2	CAAAAAGAAATCCAGGAAGAAATA
69295	SOX1	TAGCTGAGATTCATCTCAGGAT
69296	ESRRB	TCCAGTGATTTGGGAGCTGCA
69297	TNS	GCTGGTGCCCATCACCACTG
69298	CTSD	GGAGGTGGGGTTGGGATTGGGGGC
69299	BACH1	TTCTCTCTGTCACTGACTTA
69300	OTOF	CTCCAGAGGAAGACTCCTGAAACCCTC
69301	PHB	GTCAATAAATGACACCCAGACCTT
69302	CALU	AACACAAACACTGTCCTTTTGGG

69303	EIF2B5	CGGCAGTTGGAGGAAGGC
69304	PTK2	CTTCAGTTGCAATATGCTAATCCCACT
69305	SPTBN4	CCCAAGAAGCTGGGGTGGTG
69306	RNASE4	GCTTCCTTTTATAATACTGGTC
69307	TRIM14	CCGGGCAGCGGAGGTTGCAGTGA
69308	UBE4A	GTTGGGCCCTTATTCTCTTATGA
69309	MOG	GTCTTGGCAGCCTACTAGGGACCTG
69310	CRABP1	CCCCACCCCCCTGGCCTTGGTG
69311	KCNH2	ATGTGGTTCATTCTAGCATTTCT
69312	CDH5	GGCCTGGGGACCCAAACCCCCT
69313	PIM2	AAGCCATGTGTGGAAACCCACT
69314	MKL1	GCTGTTGCCAATGAACTGCAGGAGCT
69315	LAD1	TCGGCTCCCAGCAAGTGCCTCTTTGTC
69316	MAP1A	CAGAATTCTTCCAAACTCCCT
69317	CRIM1	TTGGTTCCTGTTGTGCTCTTGT
69318	MSL3L1	CAGTTTCAGACATTTTCACCACTCC
69319	DGKG	GGCTGGGCCTCCACTTCAGCCTAGTGAACAAA
69320	OAS3	GGCTTACTTTGTCTGCCACAGACACA
69321	ARSB	TGCCACAGGCTGGGCTCTTGTGCTAGA
69322	PPP1R2	AAAATGTTGGGATTACCTGTTTAAATC
69323	NT5M	GCCAGAAGCCCAGGGGCTCAGG
69324	QARS	AAGGTGTGGCTGGAAGCAC
69325	MAN2A1	GCAATAAAGAAGCACATTATTTT
69326	VCL	CCTCAGTTTAATCCTTCTAGTTTCC
69327	BCL11A	CTCTGCCTGTGATATCTGTATCTTTT
69328	GNRH1	GGATAAATAGAAAAATGTC
69329	XBP1	TACTATAATTGAGAACTACAGCTTTTAA
69330	MSX1	ACTCTTCTAGCATTTAGATCTACA
69331	UTX	TGAGACCATGATGGTTACA
69332	COL4A5	TTACATCTTGTTTTTACTCAT
69333	SMAC	CTGATCTGCCCCCACTGTCC
69334	FXR1	TACAATAGTGCTTGTACAA
69335	TRIM	TTACTTAAACTTTCTTTCCAGTCA
69336	PMX1	CCATGCTGTGCCTCAGTTTA
69337	IL11	GTTGCCTAGGCTGGAGTGCAGTG
69338	CLN6	ACAGGAAGTCACAGTGGTGCCCAGGGA
69339	TEM7	GGGAGCCTGAGGCAGGAGGATTGCT
69340	SURF4	GGTGGTAGAAGCTGCTGTTTATGA
69341	ENTPD3	ATCTCCAAAGTCGAATGAGAAA
69342	PPFIA3	CTGTACAGACCAGCGGGAGTGCGCGC
69343	SEPN1	TGCTGCTCTGGGAGGGCCAG
69344	PEX3	CGTGCAAATATCAGAATTGTTAA
69345	VCL	CTGAGCAATGTCTGTGCTAGGGAAAC
69346	GAS2	AACAAATTGGTCATGACAAGGGGACCC
69347	KCNH5	AAGTGACCACTTTGCTATATACA
69348	ADAMTS13	GCCTCTCTTCACACACTTGGCGG
69349	SLC13A1	GCAGATGTTATATCACAGCAAT
69350	CASP8	CCCTGCTGAGCACGTGGAGTTA
69351	EPO	AGCCGCCCTCTCCTCCAGGCC
69352	PKHD1	ATAAGCTGGGGAAGTGAGGACTGT

69353	F2RL3	TGGGAGGTTGTGGTTGCAGTGA
69354	PAICS	AGCTAATTTTATTTTTTGT
69355	RFC1	GCGACAGCCACTTTTTACTCTCCCT
69356	NAT8	TTTCACTGCAATGACCTTTC
69357	FLRT2	AGCAAAATAAAACTGTGATG
69358	ADCY7	ACTCCCTCTCCCTGGTGGGCCTGGCAATGAC
69359	CNGB3	CTGGCAAAATCACATTGCA
69360	SIRPB2	TGGGCTCTGGGCACTGACTT
69361	HYAL4	GCTGCAGCCACTGCCTCCTGGG
69362	MYO1D	CCTGTGCCTCACCCAGGGCC
69363	MEN1	CCCAAGCTCCTCCTCGGAACCG
69364	CYP1A2	CTGCAACCTCTGCCTCCCAGGT
69364	MICB	CTGCAACCTCTGCCTCCCAGGT
69364	NQO1	CTGCAACCTCTGCCTCCCAGGT
69364	PER2	CTGCAACCTCTGCCTCCCAGGT
69364	SIGLEC8	CTGCAACCTCTGCCTCCCAGGT
69364	SMAC	CTGCAACCTCTGCCTCCCAGGT
69365	GNB1	TCTTTGTTTTCTTTTTTGTCTTGAATGAA
69366	CDC25A	CGGAGGCAGAGGAAGAGGGAGCGGG
69367	TNFSF4	GGCTAAATACTTACATTTACAA
69368	C14orf1	AACTTCCTGGGCTCAAGTGACC
69369	CEACAM1	TACAGCTAGAAAGCTGCACTGGTG
69370	IL17R	ACATGTCTGCATGTGTATA
69371	MYLK	AGGTCCTTGTTCCAGGGAACAGCTGC
69372	GAGED2	CACAGAACCACACAGCCAGTCCCA
69373	IL11	CCCGGAGCAGGGACTGTCATT
69374	ADORA2A	GCCTGGTTTCAGGAGACTCAGAG
69375	FAT2	GTGATGGAGGGCAACAAGGACTCCG
69376	WT1	AACCAGTACCTCTGTATAGAAATCTAA
69377	CDH17	ACACAGACCCACAGAAGG
69378	CRHR1	CACCTACAGGACTGGGCCGGGCCCAG
69379	ACRV1	CTATTCATGCTTTTATCCATTCT
69380	SSPN	TTAACTCATTTTATCCATTCC
69381	MAP3K7IP1	GAACTGTCTTTACCACTGAT
69382	ARF3	GGAGAGAGGAACCCACTCACTC
69383	CD209	TGGGGTCTTGCTCTGTCGCCA
69384	EZH2	GCAAAGTGTTTTGTACCAGTGAA
69385	BTC	AAGTGCCTTGCTCATTTGAAAATGGACAG
69386	TOP1	TGTCAGCGTTCTACCAGGCAAATTC
69387	CLASP1	AGTGAGACAAGGCTTGCTGT
69388	SQSTM1	GCAAGGCCTCTCAGACCCAGA
69389	SPTBN1	GCGAGATTTCCAGGGCGCAGTCC
69390	PTPRA	CCCAAATTGTGTATATATCTTA
69391	PIR51	ATAGTATTTAAAGACA
69392	DAB1	CTCAAAAAGAGTGAATGAAA
69393	GFER	AGCGGGCCTGGCTGGGCATCC
69394	GM2A	GCTTTGTCACCAGGCTGGAGTGCAGT
69395	HIP1	CATCCAGGCTGGCCAGTGCTGC
69396	CHRNE	CATGGGCTAGAAGAGGAGAGGGGGG
69397	COL6A1	TCTCCAGGAAGGTGGCGCTGG

69398	ZNF266	AGCCAAGGACAGAGACCTGGAACAGATG
69399	MEF2A	GGAAAACAAAAATATCTTGCAA
69400	CCNDBP1	CCGTCTCCACAGGAAACCCAGAA
69401	AP1M1	GGGAGGTGGGGTTTGGTGA
69402	LAG3	CTGCCCCCTTTCCTTTTCTGACC
69403	ACT	GCCAAAGCATGGGTTTCAACACGTTTTGTATT
69404	TCTA	ACCAGTACCTGAAAGCACTGTAGCCC
69405	KMO	GGTCTGATCTGCATTTCACTTCC
69406	LZTFL1	TGTACTTGTTTTCTTGGTAGCAG
69407	GRM4	TTCATTCTCGTCCAGCCATTGCTCCCC
69408	MBD1	CTGCTTCCTGTGGCCTCCATGGCTGA
69409	MAP3K10	CCCCAGCCATGGCCCTCAGGAGCTCCC
69410	CDX1	GAGCCCCCAGAGGACTTTAT
69411	C11orf13	TGGCCTCAGGAGCTGGGGGTGCAGTG
69412	INSM1	TCTTGAGGAATAAATGCCTTTA
69413	TNFRSF14	CTGTCCACCTGGCGGAACCACCG
69414	IL17R	GGCACGAGGGCGGAAAAGAA
69415	CHRNB2	TGTTGGGTGGAGGATGGACGAG
69416	NONO	CTTAGCCCCATTGCTCCATTCACTCCC
69417	ACE	TCTTCATGACCTACTTCAAA
69418	CDK2	ATCCCAAGCCTCCTGCTGCCA
69419	COL9A2	AGCCAGCCCCACTACTTCCTTCC
69420	PTGIS	AGACTGCGCCACGGCACTCCAGCCTGGG
69421	SLC9A1	GACCTCCAGTCCTGCTGGCCTGCTCT
69422	GAN	TCGAGAACAGGAATTTCTTCTA
69423	MCM7	GAGGAGCCCCTCTTTCTCCCAT
69424	C21orf2	AACTGCAGGAGGGCCCTCAGCTG
69425	KCNH5	GCAGTTGACTGCATGCACACTTTA
69426	PDE4C	TGCCTGTAATCCCGGTACTTTG
69427	KDR	TCACATTTTGTATCAGTATTA
69428	VIPR1	AGGAGCCTGCTGGTCACAGCCTC
69429	PLSCR1	TGCAAATGCCATATATTCAA
69430	VIPR1	CCCCACCCTCCCTGGCGTGTGGCTGAG
69431	GGCX	TGGCCAACATGGCAAAACCCCTTCTCT
69432	SEDL	CTGGGAGCAGTTGCAGGCCACAGTGA
69433	SLC7A6	CAGGCAGTGGCGTGATCTTGGCT
69434	C9	GTCCTCTGGCCCTTTGCAAAT
69435	SCG3	AGCTCCAGGAGCCCAGCGCCGG
69436	MSF	CTGATGAGACTCCACTCAGG
69437	NPTX1	AACCTATAAATTAACTCAACCTATATC
69438	JAK3	GTTACCCAGGGTGGAGTGCAGT
69439	TRADD	GGTGCTGCAGATACTGCAGTGA
69440	LANCL1	TCAATACCATCATCTCTTATCTCTAT
69441	SFRP1	AACACAAAAAGGGGGATTGGGCG
69442	ADRA2A	CCTCCGTCGCGGCTCCTGGAGAG
69443	IHH	CTTTGGGTGGGCTTGCGCCTC
69444	SERPINB9	TGAACTCCTGGCCTCAAGCAAT
69445	MECP2	TTCTCTGCCCAGCTTTTCA
69446	GFER	TCCTCCAGGAGTCTCAGCCTTTCCCTG
69447	SUV39H2	AGGTTCTTCTTAAAAAGTAATCTA

69448	ADAMTS8	AAGAGGAGAGGGTATGGGGCGGC
69449	PDE6B	AGCTTCCTGAAGTGCTGGGATT
69450	HP	GCCTGAAAGCAAGATTTCAGCCT
69451	SLC12A7	CCTGGAGGAGAGCAGGCTAG
69452	SALL2	AAGCCTGGCCCCACCAGTGCTGT
69453	FGFR1	ATCACGCCACTGCACTCCAGCCT
69453	HRH1	ATCACGCCACTGCACTCCAGCCT
69453	IFNAR1	ATCACGCCACTGCACTCCAGCCT
69453	KCNE3	ATCACGCCACTGCACTCCAGCCT
69453	NPHS1	ATCACGCCACTGCACTCCAGCCT
69453	P53AIP1	ATCACGCCACTGCACTCCAGCCT
69453	PPP1R12B	ATCACGCCACTGCACTCCAGCCT
69453	SLC14A2	ATCACGCCACTGCACTCCAGCCT
69453	SLC17A5	ATCACGCCACTGCACTCCAGCCT
69453	TNFRSF1B	ATCACGCCACTGCACTCCAGCCT
69454	MBD4	ATCATGCCACTGCACTCCAGTCT
69455	MUC3B	CCTGCTGCATCTCTTGCTCTCATTCCT
69456	TMEPAI	ACTGTCTCCCTGCCTGTCAATC
69457	SUOX	TCTCTGTGTCTTCCTCTCACC
69458	AKAP1	TTTATAAACTTCATTTAGGTCTC
69459	BCL10	CACTAATTTTTGTATTATTTTTGT
69460	ADCY1	TCTCCTGGGCATTGGTTCCTGCT
69461	OAS3	TGTCTTAGACAGCCTGACTCTCCA
69462	OXTR	GTAATCAGCTCAGTGTGTTACTGGT
69463	CENTD1	TTAAATTACCATATGTTTTTAG
69464	GAS41	TAAGGTGGGCTTCACTGGA
69465	CTBP2	TATAGAGTTTGTGGACAGATTTATA
69466	STC1	CCACATCTTCACTCAAGCCAGGAGA
69467	BACE	CTTAACAACAGCTTCTTGCTTG
69468	FGF13	TGTTTAATATTTGTTGTTGTAT
69469	BCAT2	GCCCCCAGCCCCTCGTCGC
69470	RAB27A	TTTTGCAGTCACAGAAGAGTGTATTTA
69471	BMP4	TTTCCAGCAAGTTTGTTCAAGA
69472	SORCS1	CACAAAGACGTGCACAGGAG
69473	CALB1	TAGCGTGTAAATGGAAGCAC
69474	CD28	CTGGCAGGCGGAGGTTGCAGTG
69475	EVC	CTCCCACCATTCGTGGCAACCAA
69476	SULT1A3	CGAATCTACCCTGACCAATGG
69477	NDP	TGCAAATATAAAAGGCAAG
69478	SLC26A4	CTGTAGTCCCAGCTATTTGGGA
69479	NHLH1	CTTCCTCCAAGATCTCAGTCTC
69480	TRPS1	CTACAGTGTACGTATGCAACAAA
69481	NDST2	CTGTGTGATCCTGGGCAAGGTAGAGGG
69482	GAS41	TTGACCATGAATTTCTTAGCAATA
69483	GPR85	TTGAACTGTATTATGTGGTTTTTGTTG
69484	MYO5A	TTAGTAATCAATTATGTTGAT
69485	A1BG	CCAGCAGGTATGGGCAGGTTGCTT
69486	PUM2	GGAATGCTGTAATTACAGGAGCAAGAG
69487	MDM4	CCAGGCTGAAGTGCAGTGAGTCA
69488	RAD9	GGGCTTGCTGGAGCTGAGCTGTTT

69489	DTNA	GCATCAAAAGAAGAACTATGACA
69490	CPT2	GAGCGAGACTGTCTCAAAAA
69491	ADAMTS4	AGCTAATTTTTGTTTTGTTTTGT
69492	RAB5C	TAGGAAGGGAGAGGCAGCTCTTCCTTC
69493	NR1I2	CCTGAGCTCACAGAGTTTATA
69494	DPYSL3	CCTGCCATCCCCCCAACCTCCTC
69495	BAZ2A	GATGCTCCTCACATGCTGAG
69496	CLOCK	CCTTTGGCAATATCATATTCTAA
69497	MYD88	TCTGAGCCATTCACACATCT
69498	NDUFS2	GAGAGGCAGAGAGTGAGGGAA
69499	DSCR3	GTCACCCAGGCTGGAGTGATCTCAGC
69500	GP2	AGGGGGTGGAGGTTGCAGTGA
69501	WHSC1	AATCTAAGCTGTGTTACTCCAA
69502	TEAD3	GCTGTCCCTTTTTAACACCCA
69503	CD209	ACTCCTCATGTAATCTTTGCCTCTCTC
69504	PMS1	CAGAAACTACATGGAGTGTG
69505	FGF2	TGTCATTGTCTCCCAAAGTATTTAGGA
69506	ZNF266	AACTCACTGGGGAGAAACCCTA
69507	RXRA	TCCTTAGCAATGCCTTA
69508	HUNK	ATCACTTGAACCTAGGAGGTCG
69509	HD	GTTGCAGCTGCTCTTGCATCTGGGCC
69510	KCNA4	CTGCTGTCTAGGATTTTGTT
69511	TRIM14	AGGAGGCGGAGATTGCAGTGA
69512	MYCL1	TGTGCCACTAAACTACATTGTTCTT
69513	H3F3B	TGACTGCACTTGTTCTCATAGTA
69514	CDH20	GAGAGTGAGAATGGGGGTGAGCAGG
69515	EPHA2	GGAGTGTCCTGCCCATGC
69516	ENTPD6	CTGGGAACTCTGGACTTGAGTGT
69517	GPR30	CCCAAACCACCACAGGTGCTCCT
69518	XYLB	GAGTATTTCATCAGCTGAAAAGTGAT
69519	SCN8A	CCGCAGTCCCGCCCGCCGCATCCTCGGCGCCT
69520	LNK	TCTATCTCCTTGCACACATGGGCACA
69521	OVOL1	CCTATGTCAAGAGAAGGGATG
69522	HIP1	CAGGAGTTTGAGGCTGCAATGA
69523	HDAC4	GGGGGGTCTGCACCCGGGTGGGG
69524	BCL11B	TGCATTTTTAAATAAAATACC
69525	CPT1B	AAGCCTGTGCTCCAGAGCCTCCAG
69526	PLN	TTCCTGTCCTGCTGGTAT
69527	BNIP3L	TTAGTGCCACCAGACTAGA
69528	EDNRB	CTGCCTGGTGCAGTG
69529	PCTK1	CCTAGCTAAGGTGGTAAAGGCCA
69530	CDR2	AAACAGTTTGAATACTGTGAA
69531	ANK2	ATGTACCAGAAGCACTAGACCA
69532	DGCR2	CCTGTCCCTGAGCTTGGCCTGCTGGAGCAT
69533	ATP1A2	CGAAAGGGTGAGACTCCATCTC
69534	EBI3	GCCTGGGCTGGAGTCCTTGCTTTGC
69535	KCNE2	GCTCTCTGTTGAGAATTTTCATGGA
69536	TNFRSF18	AGGTGGCAGTGACCAGCGCCCTGGAC
69537	NGB	CTTACCTCCCCTGGCCCTCCTTTCTGG
69538	LRP1	CCTTCCCTGGCCCCGCCGGATGT

69539	SLC4A7	TATTAAGAATTACCTTTCAT
69540	EFNA4	GAGCAGTAGACAGCCCT
69541	HFE	GCTCACGCCTGTAATCCCAGGG
69542	HS3ST4	AAGGGCTGTCTGCAGAAACCCC
69543	ADRA2A	TGATTTTTGTTCTCCCTTCTTGAAG
69544	PRKY	TTCATCTAGGCTAGGTGCAGTG
69545	PCDH12	ATCCCCACTCTACAGATGAG
69546	TK2	ATGTCTGAAAAATGCCTGCTGC
69547	OLIG2	AAAACGGAATAAATGACTGAGTG
69548	CACNA2D2	AGTGATACCAGTTCAGACACTACCCCATA
69549	ITSN2	TCAGTTTGGAAAACCCAATGG
69550	BVES	TGGCTTTTAGGTTATTCTGCTTTAGTGCAT
69551	TAF9	CTGTGTTTCTTTTTCTCCATGAGAAAG
69552	KCNJ12	TTGCTGGTTTTTAACTTGGGGA
69553	MBD4	AGCCTAGTGTGTGTGCTTTCTTA
69554	RBBP5	AATACTGTGCTTACTGTGAA
69555	NUDT2	ATAGAGGCCTGGCTGACTGGAGCAG
69556	VAPB	GAAAAGAATGATCTTTATTAATGACAA
69557	CHD2	GCCTTAGAGAGAGCGCGCTCTGCT
69558	PIK3CD	CTCTGCCATTGTCTAAGCCACCTC
69559	BTEB1	AAAGTCAGTGAAAGACAATCTTT
69560	TRPV1	TCTCACCCAGGCTGGAATGCAGT
69561	LAMP2	AGCATTTTGAGATCAGTCTTTA
69562	SEL1L	CATGCTGTTTTTCCTATTTGGTTTGA
69563	ZNF2	AGACCTCTTACTTCCACTGCTAGT
69564	PTK7	GCCCGCTCAGGATGGCCTGGGCAG
69565	ITPR2	GAGGGAGAGAATAACCTGGTGTGTTCA
69566	PDX1	TAGCTAAAATATGTAAACCTTTCT
69567	IL1R1	CCTCACTGAGGAAGGGAGACATATT
69568	C18orf1	GGCCCTGCTGGCAGGGACTTGCAGTGG
69569	TF	TCCATGAGTTTGCCCTGGTTTCACTGG
69570	NOLA2	GTCTTCTGTCCATCAGTGCCATTTCC
69571	NCOA6	TGCTATTTTTTGCATTTTTTGT
69572	GAPD	TCTGCTCCTCCTGTTCGACAGTCAGCCGC
69573	NAV2	GCCAGCCCCCAGCCACAGCCTT
69574	STARD4	GCTTTTGTTTTTATTTATTTTTTGCC
69575	DLEC1	CGAAGACAACCATCACACTTATC
69576	CBFA2T2	GTGTTAATTCTGGTCAGTTTCAC
69577	TOP3A	CCAGCTGAAGCCCACTGTGTGCCAAAGG
69578	CTNS	TGCCCTGCTGGGGAAGGCCTCACCCAGC
69579	DDX3	CTCCATCTTTTTACAGTGGCA
69580	CTSB	TGGGCTGGTGTGCAGTGGTGCG
69581	CYP27B1	GGGCTTTCATAGTGTTCATTG
69582	WNT11	CTCAAGGACCCTCAGCAACTGG
69583	EXTL1	CCTGGTCTCGATGGGCCTCAGTCTTCCCAT
69584	NCF2	TCTTTCAGCCTTCAGGCTGTTTTTGGCT
69585	F7	TATGCACACACAGATGCACACACAG
69586	EHD2	TGTCCGCCCTTCACACCTCCAGC
69587	WHSC1	CGTTCTGTAAGGAGCACCAGGAC
69588	TRIM39	TCCAGTCCTGAATCATCTTGGAG

69589	ZNF74	TCACCCAGGAGGAGTGGGGTC
69590	HOXD4	CTGCGGGGGCAGGCCGGGCCTGCTGT
69591	DAG1	TGGCCCACGACCAAGGGGTC
69592	XRCC3	TCTGCCTCTCCCTGGGTCTGGGGACA
69593	HYAL1	GAGACTTTGCAACCTGTTCTCAG
69594	RAB36	GCCCAGGCTGGAGTGCAATGGCGTA
69595	FRK	ACCTTCCTAGTGAGCAGCTGCC
69596	PKD1	TGTCTGTGGGCTTCAGCACTTTAAAGAG
69597	CUBN	CCCTGTATTCTCAGCACTTTGG
69598	TNFRSF10B	GGCCTCCGAAAGTGCTGGGATT
69599	HOXD3	GCCCTGCAGAGGGACCAGAGCTTGG
69600	CLOCK	AGCTGCCTCTTTGCTGCTTTGT
69601	PDGFRB	GTTTGCCCCTCACCCACCAGCT
69602	RNMT	TCAATGATTTTTCACAAGTGGA
69603	SLC9A3R1	AAATGATTTTTCTAGAGAACTATGTTC
69604	GALNT7	AATTTGAGAAACTTACGTATAT
69605	CDH13	CGGTTTTTTATTTTCTTTAC
69606	ED1	AACCAGCCAACCATCATGTGTAG
69607	GPR81	GAACTGCACAGCCCTTG
69608	FTHL17	TTCACTATCCGCCATTCTTGTCA
69609	CD74	TTACCTGCAGGCTGAGCCACTCTCTTC
69610	PODXL	TGACAATATACTGGAGAAACTTTG
69611	FUT3	CTCTCCAGATCTTCAGTTGCTTCAGG
69612	CDR1	ATTTTTCTGGAAGAACTAGATTTA
69613	TCF2	CCAGGGGCCTCTGGGAGCCTG
69614	NR4A1	TGTGTCCTGGGGACTTCCTCAG
69615	SLC13A1	CAGGCTGGAGTGCAGTGGCGGG
69616	CLASP1	AGCAGATTGCAGAAAAACAGGATTA
69617	AICDA	CGGGCGGATCACCTGTGGTCA
69618	ITPKA	GCTCTGCCCTCTCCAGAGGTGCC
69619	TRPS1	TGAGCTTTGGATCAAACTTT
69620	L1CAM	CCATCTGCTGTCTTTTCTTTGCCA
69621	PTP4A2	AGATGTGCGTGCAGTCTGGCAGCCTTAAG
69622	POU4F1	TTCACAGTCTACTGCCTGTTTCCA
69623	KCNQ2	CGAGGCTTGGACCTGCTGTGGAGG
69624	ESRRB	ACAAGCAGGGATCAGAGCAACTC
69625	RAD51L1	AGCGATTTCAGACCTAGCAGGGAA
69626	PDGFRA	ATTAACTGTTGCACTTTTGA
69627	FLT1	GGGAATAGGGAGACAGGGTAGGAAAGG
69628	A1BG	GCTGGGACTACAGGCATGAGCCACCA
69629	LBR	TTCTTTTAGTTTAATAGATGTGCATA
69630	RBBP5	TCAAAGCAGCAACCACATAGT
69631	ADAMTS4	CAGACCCCTGGGCACCTCTC
69632	NAT1	ATTTGCTTTCGTTTTGTTTTCCTTGCT
69633	CTNND2	TAGGCTTCAGGTTGCATTGG
69634	RPH3AL	GCAAATGCTTCTGGAAAACCCT
69635	SLC4A1	CCAGGAGACCTTCCACAAAGG
69636	RARB	GCTGGATTGGCCGAGCAAGCCTGGAAA
69637	PIP5K1B	TGGACTTTTGCATTATTTCATTGTGC
69638	SPOCK	ACGCCCATTTTCCTACCCACAG

69639	FAP	TTTTTATGTTGTAAAATGCTAGTA
69640	CTSZ	CCGGAGCGGGACCCAGGAGCCGGCG
69641	CLCN3	AGGATGTGCCTGATAGTGCAG
69642	AIM1	GCACAGCCCGCCCCAAGGGTCACGCCC
69643	RTN3	GAGAGGGAGTCAGCAGGCATGCTGC
69644	HYAL1	GCTGGAGCACAGCCTGGGGGA
69645	MAK	TGTGTCCAGGCTGGAGTGCAGTG
69646	DFFB	TGTTAAAATGTACTTTTTA
69647	PPP2R1B	GGGAGGTAGAGGTTGCACTGA
69648	JPH3	CATGGCAGAAGGAGGCCAGCAC
69649	EPHB2	CCACCCTTGGCTCCTGTCCCTGCTGC
69650	GSTM3	GAGGAAGGATAGGCTGTGGAAA
69651	MGAT4B	CTGGAACTGCAGCAGCCACCCCCCGGGGCC
69652	ARHGEF12	AGGTACTGCTGATTATAAGGCC
69653	CTSC	AGCTCCCTGCAGCATGGGTGC
69654	SGT	TCTGTGAGAAGCCTCTTTCCGAGTCG
69655	BST2	AGTCCCCCCTCTTGTCTCCCAC
69656	SLC39A1	GGGTCTGAGAGTCACTGGA
69657	TGFBI	TCTCAGATTTCCACAGAGA
69658	TADA2L	TAGCAGGCCCCCCAAAGTAG
69659	RNF3	TGTTTATGTGCTCTCAAAACATGGA
69660	IL16	CTTGCAGCTGGGTGGCACTGCC
69661	LILRA1	GCTTCTCTGCTGATCTGAGTCTGCC
69662	EGR1	GATCCTCTATTTTGTGATGATGCTGTG
69663	FCN2	TGCCCAGGAGCTGAAGGTGGGGGTGA
69664	HAS1	CCTCAAGGGTCTTCAGGGGAG
69665	EGFL4	CCAGGAGGAGCAGGGGCCAGCAGTG
69666	ARHGEF12	TTTAGTACCTGGAGGTTTG
69667	CDH11	CCCTGTGACATTCCTTCGTGTTGTCATTTG
69668	DCX	GCATTTCTCAACCATCTCTCA
69669	PPP2R1B	CTCTGTGTCTCTCCATCATTCCA
69670	MLLT7	GTGGGGTCTGGTCACACACAGGT
69671	GASC1	GGAGGCGGGTCCCCTTGTGCG
69672	MIPOL1	CTATGGCAAGGATCTCTGTCACT
69673	PCTP	TGCCTGTACCTCTCAAGCTTTG
69674	CRSP6	TTTTCCATGTTGCCCAGGC
69675	XRCC2	CATTGCACTCCCGCCTGGGCGA
69676	FOXE1	GCCTCGGGGGCAGGGCATGGGCGGCC
69677	DDX11	TCATCGACGAGGCGCACAACCTG
69678	ADAM19	AACCTCCACATCTCCAAAAATC
69679	ENTPD5	AGAGCCCTGTGAGCCAAAAAG
69680	GRM6	TTCTCCTCTGAGAAACATTTC
69681	TFG	TAGCCATCTTACTTGGCTTTTTACTATTAAC
69682	FLG	GCAGACAGCTCCAGACACTCAG
69683	HSPA4	AAGCCCAGTTAGTCTTACTGAG
69684	TBCD	TGCCTCCAGCTGTTGAAGGGTA
69685	PGAM1	AGGATCTGGCTCTAGGTTGGGATC
69686	TAF11	CTCTCCCCTCCAATCCTATCC
69687	LIFR	TCAGCACTGGGCATTCTTGGA
69688	NR2F2	ATCTTAGAGTTTACAGTTTGTGTTTT

69689	VCL	TTCATTTCCTGCCCTTCCTCA
69690	OSR1	TCTCTAGCCCATCATTACCTGTGA
69691	LIPA	CTGTCCGGTGGACAAAATGACA
69692	MYO1A	AGGGCAGCCTTTTTCCCAGCTTCC
69693	HTR7	TCTGCAGGGTCTCTGTGAT
69694	TMC2	CCCCAGTTTCACACATACC
69695	GRM6	AGCTCACTGAAGTTTCGACCTGGGCTC
69696	KIF3B	GCTCCACCCACACCTCCATGACC
69697	CCNC	TTTGCAAATAGTTTTTCTTTAA
69698	BCL10	GAGGAAACGCCCGCTGTGGGCG
69699	CENTD2	GGCAGGGGGAGGGGAGTGTGAGGA
69700	HNF4A	TTCTCCTCTCCTAGCCCCTGTCATGGT
69701	FCRH3	CTGCAGCTGATGGAAGATGAGCC
69702	HSPA4	TGTTACAGGCTCTAAAGTGCAATG
69703	CCND3	CTGTTCGCTGCCCGAGTATGGAGCTGC
69704	GP6	ACTGGGCCAAGTGCAGTGGATCATGT
69705	SERPIND1	TTGGCTGCTTTCATCTGAAGCGCCACT
69706	F8	CTAATATGAAAGAAAAAT
69707	PPP3CA	GGCAATCAAAGCATGCACTTGTA
69708	KIR3DL2	CTTTCAGCCTTCTGTCATCAGTAAAAT
69709	OGG1	GGAGTATGGAAGAAATGCCCAA
69710	NCOA6	TTGAGGCAGGGTCTCGCTCTGTCACC
69711	XBP1	TCTCTTCCCCCTTTTTGGCATCCTGGC
69712	SPON2	GCCCTCTGGTGGCCGGCACG
69713	VMD2	AACAGGGATGAAGCACATTCCTACC
69714	CORT	AGGAAGGAAGAGCAGCAGCA
69715	MGST1	TAACATAGTAATTCTTAAGTCTT
69716	TNFRSF13C	CCCTGCCCTCCCTCTGGACCCCCAGC
69717	KCNMB4	TCATCCCTCAGTGGCAACAGAAACAG
69718	SLC21A2	TGCCCAGGCTCACTTCAGTGTTGAGT
69719	PTK7	TCCCTGCCACCTCTTCCTCTATCA
69720	PCTK1	CACTGCTCACCTAGGCGCTAGCAAA
69721	IGF1	CCCCCAGGCTGGAGTGCAGTG
69721	LZTS1	CCCCCAGGCTGGAGTGCAGTG
69721	RPP30	CCCCCAGGCTGGAGTGCAGTG
69722	PDE6B	CACCCAGGCTGGAGTGCCGTG
69723	PES1	TGCCCCCATTCATCCTGGCTTTC
69724	EDN1	CCGACTCTGCACTCTCCACCCTGGCTG
69725	NDUFS5	ATGTCTGGAGGCTGATTTTCCTG
69726	SMARCC1	CACCATGAGCTGGAGTGGGGATG
69727	FUT1	AGTCTTGCTCTGTAGCCCAGGCCAGAGT
69728	SHFM3	GGGAGGAAGCAGAGGGAGGCAGA
69729	APBB2	TCATCCAGCCCAGAAACCAAGA
69730	KLK5	CTCAGGGCCCATCCCTTCTCT
69731	CTSB	GCGCAGGCTGGGCTGCAGGC
69732	HOXA3	GGACTCCTGGTCTCCTCCG
69733	GRB10	ATGAAGAGACAAAACCTTTA
69734	GNAS	GGAAAAAAGGCCACAAAAG
69735	F8	TCTCCCTCCTCAGCTCCAGGGCAGTGTCC
69736	RCV1	TCCTAAGTGTCACCCCGCTGTAAGCT

69737	CORO1C	CCTTTTCAGCAGCTTGCCCA
69738	PCDHA9	ATATGTACTTACACTTTGGGCCA
69739	NCOA6	AGGTTGCAAACTGGCAACCTGTGGT
69740	PPP2R1B	TATGTTCTTCTTCATTGAATTTCAT
69741	LSP1	ACCCTGTGGGGCCCAGACTACAG
69742	ADRBK1	GGCTGGCTGGGGCCTATCAGTGTGCCC
69743	CYP1A2	ACTGCAACCTCCACCTCGCAGG
69744	MMP19	AGGCAGGGTGTGCTCTAGCCTAGCG
69745	CLASP1	TTCAGCTCTGGAGCACAGACTTT
69746	CA3	TCCCAAACACCACCCCAATCT
69747	PGK1	CCTGTGCACAGCCCCTAAGTCAACTTA
69748	VIP	GTGAAGTGAATGAAACACTCAG
69749	OTP	ACTGTGTGAGAGTGTAGAAGGG
69750	SLC1A3	GGGAAACAAAATATTTATTTGTTTTGG
69751	KRT13	GGTGGGCCCTCTGTGCTCTTCTC
69752	MCM2	CAGCTGCCATTGCTCCCTGTCT
69753	PPP1R12B	ATGCATTCACTTCTCCTTT
69754	FOXF2	CCATATTTTAAAGATATTTTTA
69755	BID	GTGACTTCTATTTTAAAG
69756	CAPN3	CTCCTCCATTTTACCCCCTA
69757	SH3GL3	CCAGCCTCTTCTCTCACTATCCG
69758	CFL2	CACTATGCATTAAAAGCACTTT
69759	TNFAIP2	AGTCCACATCAGAGGCAGAGTCAG
69760	ZNF136	ACATTAAAATACTCACTGAAGAG
69761	SULT1A3	TTGCCCCCACCCTGGCTGCCTGC
69762	FGFR1	CCCTGCCTGCCCCGACACCCAGCCCA
69763	KL	GTCTCTCTATTACACTGGAGCTG
69764	NOTCH1	ACTGTGGCACTTGCCTGGGTCACACAC
69765	DTX1	CTGGCCCCTGAGGCAGTGGCGG
69766	CASP7	AGGAAGAGTTTATGGCAA
69767	JUN	AACACAGAGAGACAGACTTGAGAACTT
69768	NUP62	GGCTTCTGTGGCTTTCATTTGAG
69769	EPHB3	CAGTGCTGGAGGTCCTGGCAGGGTC
69770	TYR	AGGACTAGAGGAAGAATGCTCCTGGC
69771	COX15	CCTCATTTACAAAGCAAAAAGA
69772	PRKWNK3	AGCCCTTTTTAAATGTGATTTCC
69773	AXIN2	GACCACTCTTGGCTATTGAA
69774	MPL	TCCAATTATTACAGTCCTT
69775	SYT5	GGACCCCGGGAAGGGAAGGC
69776	KAI1	TACTGCACTCCAGCCTGGGGGA
69777	EN1	CCATAATCCTGCATTTCTCTAACA
69778	ABCC12	CATGGGAAAATGCCTTA
69779	CKB	CCTGGGCAGTGCCCACCATGCAC
69780	SEDL	TGTGCAGGCTGGAGTGCAGTGG
69781	DFFA	CATACAGCAGCGGGAAGTGTGCCAAG
69782	SLC22A3	CATCATATACAGCTCTCTGCTCC
69783	HNRPH3	TCTTTAGTTCCTCCTGGACAA
69784	HCFC1	AAGGGTGGAGAATGGAGGGGAACCAGGC
69785	MS4A3	TGCTTCTTGACTTTAACATCAG
69786	CELSR2	GGAGCAGGTGGCTAGAAAAAGAG

69787	FGFR3	CCCGCCATGGGCGCCCCTGCCTGCGC
69788	ATP8B2	CCACCTCCTGGGTTCAAGCGAT
69788	TAT	CCACCTCCTGGGTTCAAGCGAT
69789	CHGA	TTCTGACCTTTTGGTGAAAGCTGAGAA
69790	TEC	TTTGGCCTATGTAATCCTGCC
69791	CLN5	TTGATGCCATTGTTTTCTTGACCT
69792	FS	TGCCCAGGCTCAGGTGCAGCCCCCAG
69793	B4GALT1	AGTATTTTTATTCTGGTGTTTT
69794	CCND1	GTAGTGACCTGTTTATGA
69795	MME	CTTTAGGGTAAAAATTGCG
69796	DUSP7	CACTCAATACGCTGGAGTCCACGTG
69797	XRCC2	TAGAGAATTTAGAAATGAGAC
69798	HLA-C	TCTCAACTTCATGGTGCGCTGAG
69799	MAP3K11	CTCTCTGGATGCCTTCCTGCTGC
69800	XT3	GTTCCTCCCTGTCACCTGCCTCCTCAT
69801	MEFV	TGACTGATGCCCAACACTGCATCTCTC
69802	NMI	TTCTGCAGGAGGCAGCGACAGTTTCGA
69803	NR5A2	AGTCCAGGGAAAAGACTTGCTTGT
69804	ANGPT1	TCCACTATGCCTTA
69805	KCNJ11	ACGTACTGGGATTACAGGCGT
69806	OSM	CCTCCTATGCCTCATCATGTC
69807	NCOA6IP	GCCCAGGCTGGAGTGCAGTGCCATG
69808	BAPX1	CTTTTTATTTGTGTAAAGGAGG
69809	SSTR1	CGGAGCTGCAAACTGCAGAGCCC
69810	SUDD	CACGTTCAGAAGAATGGAAGGAAAGCT
69811	CLDN16	CTTTTCTCCCTGGCTTTTGGTTC
69812	SFPQ	ATTGGATCTTCAACTTTGCCA
69813	OAS3	ACATACTATGAAGCCTCTGATACTTAAA
69814	THBS1	CATCAGCATTCAGCCTCCAATG
69815	CAPN3	CAGTTTCACCCTCTATTTCCAAAGC
69816	GAS7	AAAATACAAAAAATTAGCCAG
69816	IFIT4	AAAATACAAAAAATTAGCCAG
69816	KCNJ5	AAAATACAAAAAATTAGCCAG
69816	NFATC3	AAAATACAAAAAATTAGCCAG
69816	PPP1R12B	AAAATACAAAAAATTAGCCAG
69816	SLC14A2	AAAATACAAAAAATTAGCCAG
69817	PSMC3	CTCCCGTTGCGGCTCCCGCCTG
69818	PPP5C	GGGAGGCCGTCCTCGGGGTGGGG
69819	RAB5C	TGGGAGTAGCCACATGCTCTTGC
69820	ZNF202	TCCAATAAATGAAAATCTGTCAGA
69821	ACTR1B	AGGGTCAGGCCCTTCAGAGCCAG
69822	HD	TGTACATCCAAATTAAAGGGAAA
69823	TK1	CCTGCATGCTGCCCAGCCACTC
69824	VCL	CCACTCCCGGCACTCCATGCTTAGTCACTGC
69825	KPNB1	CCTTCTTTCTCCCTCCGCC
69826	RARG	ACCCCTTCCAATGAGCTCC
69827	PCDH1	TGTTACCAAAGGTGGGGTAGGG
69828	PRX	GGACCCAGGAGGCCCAAGGAGCT
69829	FGFR1	TGCTTGAACCCAGAAGGCAGAG
69830	PCDH12	TCTGAATCTAGCCCACTTGGCG

69831	ZNF266	AGAGAAACCCTGCAATTTAAATG
69832	RDS	AACACTATTTCTGGAATGCTTC
69833	PDE6H	CTTTCAAGGTCATTCCCTATCA
69834	NLGN2	GCCCAGTCTCTTCTCTGGATCTG
69835	IFI27	GCAGAGAAGAGAACCATGCCAG
69836	FOXE3	TCTGCCCTCAGCTTCTTCCTGGGAGAG
69837	CBFA2T3	TCCTGTAATGTTAAACTCTTTGG
69838	PDYN	CTTCTAGTGGGTTTAATGTTTA
69839	CD2	GCCACAGCCACCTCTGCATCTT
69840	STXBP1	TGCAATTGGTGCACAGCAGG
69841	DYRK1A	TGCAGACAGTCCTTAATGCTGAA
69842	TSC1	AGAAAGTCAGCTCTTGT
69843	ICMT	GCTGCTCTCCGTTTATTTGG
69844	ABCC1	CAGGGAGGAGTCAGTACCCCTGGTA
69845	DXS1283E	AGAAATTTAAGCTGCAAAA
69846	RS1	GGGGGAGGGGCAGGAGAGGGATATGG
69847	GPR56	TCCTGCAGGAGTCAGCGTTCAATCTT
69848	ZNF239	ACCTGGACTCTGCTCCCAGGAAG
69849	DISC1	TGCCAATAACAAATTCCTACTTCG
69850	NFE2L1	TGGGACTGCTGTGAGGCAGAGGAA
69851	GML	AGCCAGAGACCCTTATCCACTG
69852	GRAF	CCTGCACTCCAGCCTGGGTGA
69853	SGNE1	CCAGAGTAAGAGAAGATGCTAG
69854	GRLF1	AAGCGTGCAGCCCAAATGGGCACTTGC
69855	PITX2	ATCTCTGCTGACGTCACGTC
69856	RPL11	TCTCTTCCTGCTCTCCATCATGGC
69857	SLC21A3	TGCTGTACAACTTAATTGTTTTA
69858	PCDHB9	GAACCCAGGAGGTGGAAGTTGC
69859	LOH11CR2A	TTACTCCACTTCGCTTCTCTGCTCCA
69860	STC1	TATGAAGCCTTTGGTGAATTCCTT
69861	APBB2	TGTGATTTTTGCTAGTCCATGTGCTAG
69862	ARHA	TTACCTAAGATTACAAATCAG
69863	GPR37	TATTCCCTCTAGGAACCTTGGAGGG
69864	SH3GL3	GGTGGCCGGGCTGAAGAAGCAGT
69865	IFNA2	ATGGAAATGATTTTCATTGA
69866	MNT	TTCCTGTTCCCTCCTGGTCCTGGA
69867	LIMK1	AAGGAGGTGAAGGTCATGCGATG
69868	SYT1	AGGGCAGCCTATTATCCCAC
69869	SURF4	AGAGACACCTGAGAATCGATGGCTCAG
69870	PXMP3	TTCTAAAGATAAAGATTTTGGA
69871	IHPK3	ACCGTCACAGTGCACCTCTGG
69872	SLC5A1	TTGCCCAGGTGGATAAATGTGTACAT
69873	ADAMTS4	AGCTCACTGCAACCTTCGCCACCTGGG
69874	CDH18	AAGATGCTCTGGCTTCTCTCTT
69875	MYBPC1	GGTCTTTTTCTTTCCTCCTAAT
69876	CA12	AGCAGGAATTCAAAGCTGCTTGCTGT
69877	DCK	TGCTTTGTAGTTTGCTTTGCTTTGT
69878	HMGA1	AGCAGTTTTCCCCTGGCCTCA
69879	HS3ST2	TCATTCTCCTTTCTGCCCATA
69880	RGS9	GGGATTACAGGCTTGAGCCACC

69880	SERPINB9	GGGATTACAGGCTTGAGCCACC
69881	PLOD3	TCTCACTCTGAATAAAGGACA
69882	PLN	TTCTCTCTCCAAATATTAACTAA
69883	GPX2	TCAGTCCCCTTCACTGCAGAGCCT
69884	MAP3K9	TCTGTCTGCTGCTCCCTCTCCTC
69885	PAX3	CGGATAGTTCCCGAGGGTCAT
69886	CSRP2	CCTGAACTAAACATCACACACTG
69887	PPP1R12B	CTCAGCTTTCTTAAAATGGGATCT
69888	SCN4A	TATGCTTTTATAGGCCTGTGT
69889	SLA	GCAGTTACACAGTTTCCTGTA
69890	COL11A1	GTTATCTGTGTCCATTTCCAAAAC
69891	MPP2	TGCCCTCCAGGAGGTTCCTCACA
69892	XRCC2	CCTGTGATCCTAGCACTTTGCGAGGC
69893	ITGA11	GGGACACCCCTACACACACCCAGGCCCAC
69894	IDH1	TACTTCAGAAGCGGAGGCA
69895	TARDBP	GAAAGGTTGAAATATTGAGTGGT
69896	CD2AP	CCTTAGGTAAAACAAAAATATT
69897	EIF2C1	GCCCTGCAGACAAAAGCTGGTT
69898	NBS1	TCTTTTGTTTGATATTTTTTCTCTCC
69899	OPHN1	CTTGCACTTTCAGACTCTCTCT
69900	NPR1	CCAAGCCCACGGCCATGCACAGGG
69901	ZNF264	CTGTGGAAAACCTTCTGTTGCT
69902	PMM2	CCTGCTGCTTCTCTGTCTCCGA
69903	CASR	CTAGGGAGAATGCAGAGAGGT
69904	CDS1	GGCCCGGGCAGGGAGAAGTGTGCGGG
69905	KIF1B	GCAGTGAGCCAAGATCGCGCT
69906	RAP1GDS1	ATTTCCCCTCTGTCCTCCATCC
69907	KCNH5	CCTGTAGTTTATAGTAATGACGGT
69908	CAPN9	CTCGCTTCTTCACTTTCTTTTCC
69909	TNNC2	TCACCAGCAACCATGACGGACCA
69910	LILRB1	CCACTGCTCTCCAGCCTGGCGACAGAGG
69911	PMP2	AGCCTCTACTCCAGCCAACATTTTAA
69912	CHST6	CTGCACGTTTCTTTCTCTCTT
69913	DAG1	GCGTTTTGCCTTTAACACTAA
69914	TGFB3	CTTCTTGCCAAGCCTCA
69915	CMKLR1	GAACAGTGTTTTATGCTGGG
69916	LZTS1	AGGAGCTTGGGCAGTGCCCCA
69917	HS3ST3B1	TGCAGCTCCTGCCGGGCAACATGTCAA
69918	CFL1	GGCAGCCCCACACCTGCCCTTG
69919	ITGA2	GTCATCTGTTTAATTTACACAC
69920	PODXL	CCTGTGCCACAGGAAAAGAGGGCCTG
69921	GDA	TGTGCCCAGGTGGAGTTAGA
69922	M17S2	ATTTAACAGTTGCCTTTTTTCTTA
69923	IGSF4	TGGGTGGAAAGGTGTGAG
69924	ABCA7	GGCTGGAGAGAAGCCGTGGTGGTGAA
69925	JJAZ1	AGGATTTTTATGAAATTATATTGC
69926	LFNG	AAGGGAAAAGTTCTCAGGGA
69927	TFAP2C	TAAAGAGCCTTCACTGGTTCTGC
69928	TNFRSF11A	GGCCCAGGCTAGAGTGCAGTGGTGCG
69929	CXorf6	CAGAAGTATTTATACTTCATTTTG

69930	HK2	CAGCTGTCGCATCTCAGCGGGGC
69931	CHRNA2	TCTGTAACCACAGGTTCGGTGGTGAGA
69932	8D6A	GAGCTAGGATGGGGAACCTGCCACA
69933	PHKB	TGCTAAAAGATGTTAATATACAT
69934	GTF2F1	GCCACTGCATTCCAGCCTGGG
69934	MEN1	GCCACTGCATTCCAGCCTGGG
69934	PDE7A	GCCACTGCATTCCAGCCTGGG
69935	MYCBP	TTGGAGACTATGACCAAGCCAAT
69936	C18orf1	ATGATACAAACTTCCATCTG
69937	CDKN1B	ATTTTCTCATTTTCTTTTCACT
69938	NFATC4	TCTTTCCCCAGCTTCTGTCTGTC
69939	ZNF136	AACCAAACAAATGCTTTTTGG
69940	MPV17	TTCCCACCACATACTAGGCAC
69941	UMPS	AGGATGGAGTGCAGTGGTGAGAT
69942	HYAL4	AGGCTGGAGTGTAGTGGTGTGAT
69943	LTB4R	AGGCTGGAGTGCAGTGGTGCGAT
69943	PON1	AGGCTGGAGTGCAGTGGTGCGAT
69944	PRKWNK3	AGGTTGGAGTGCAGTGGTGTGAT
69945	MYCBP	GGAGGGGGTCCAGAAGATCAT
69946	HIP2	CTTGCATGCTTGTACTTGACTTCTTA
69947	EBI3	AGCCTGGGCTGGAGTCCTTGCTTTG
69948	FHL2	CCAGCCGCCCGCGCCCTCCAGCCCCG
69949	MAP1B	GGCATGGTAGGCTACTTTTCAG
69950	TCF7	CCAGCACTTTGGCAGGCCG
69951	CAPON	GCTTGTCTGCTGCTCCAAATCACTTAG
69952	ADCY1	GGAATGGCTGAGGGAGGCAGG
69953	LZTR1	GCACCTGGAAGTGGAGTGCAGGCTGCA
69954	FCAR	CTTTCGCCAAGGCTGGAGTGCAGT
69955	CACNA2D2	CCTCTGCTGCCGCCCTTCCTG
69956	FCAR	AGGCTGAAGTGCAGTGGAGCA
69957	PIR51	CTAGCACCTGGTGTGGTACAGGAGGA
69958	TERF1	ATTGGTATTAACTATGATCAT
69959	GPR23	ACAATTATAATCACCAGCAGTGTGA
69960	ACTR1B	TAGGCCTGTGGTTCCCCTGCTC
69961	CYP3A4	CGCCTGTAATCCTAGCAGTTTG
69962	ITGA11	CAGGCCTGTGGCCCCACCGAGCTG
69963	ZNF278	CCTGGGGTTTCTAGACTGGGGCC
69964	DNMT3A	GTGAAGGAGGAGAACTTGGGAGCCAG
69965	OPHN1	AGTGAGTACATGCACACTCATG
69966	NSF	TAAAACTCCCTTCCTTATGCA
69967	GCNT2	CGGAGTTTTAGCAAAACAGCTAGC
69968	MAPK14	CAGGCAGCCTTCATAGGCGGTCA
69969	GABRB1	CCATGTTTACTTCAAAAAGA
69970	GABRB2	GGGAAGGGAAGAAGAGGACGA
69971	SIM2	GAGAGTGAGAAATGGCAGTCTGCCTGC
69972	CCNT1	GTTTTTAAGAAAGAACTTCTAACCCC
69973	BACH2	TCCAGTCCTCCCCTTGGATC
69974	NF2	CGCCTCCCGGATTCAAGCAATT
69975	CD209	CGCCTCCCGGGTTCAAGCGATT
69975	PTGES	CGCCTCCCGGGTTCAAGCGATT

69976	MGAT2	GCAGTGAAATCACAGTTACAAAAGCG
69977	PRKCG	CTCCGAGGCTCCCCGCCTC
69978	WHSC1	GTTTTTAAAAGGTCCAGTTCTA
69979	B3GNT3	CCTGATCTTAACCCTTTCCTGGG
69980	EDN1	TCTCCACCCTGGCTGGGATCAGAGCAG
69981	BCLG	TTCAAAACCATTATTCCTGTGACTGGAG
69982	ZNF35	CAGTACTCATCTTGGCCCTGGGAA
69983	PTPRO	GTATACGGGGTTACAAAAAGA
69984	FGFR2	AGAGAATATTTACAATATAT
69985	CDH12	GGTGCTGCTGCTCCTGCAGCTGCCTTTTC
69986	ZNF14	GCCTCTAATCCCAGCTACTCAGG
69987	CALM1	TTTGTAGCTTGTTAGATTTTCTG
69988	BLM	GTGGTTGCGGCGCGGGAAGTTTGG
69989	STAT3	CACAGCCAAACCCCAGATCATCTGAA
69990	CRYZL1	TTCTCTCTACTGAATATCATACGTTAC
69991	NR1D1	CGGCTGAGATTGGCAGAGTGAA
69992	EGLN2	CAAGGACAGCTTCCTGGGGGCAGCAC
69993	CDH1	CCAGAGTATTGGGATTACAGAC
69994	DSC3	TTTAGTATTGCTATTAAAAG
69995	IQGAP1	CAACCAAAGTGTGTCAACCCT
69996	XK	ACCTGAAATGCCTTC
69997	ITGAM	GTGTCCATGTGTGTGCAGTG
69998	CD209	TCGCTCAGGCTGGAGTGCCATGGCGC
69999	MSX2	TCCTGCTCTGCTAACCCTGCGTGCACC
70000	DRD2	CAGCACATGCTGGCCAGCCTGGG
70001	ESRRBL1	AGAACCCAAACTGCCTTTGCCTCA
70002	NEO1	TTTCCTCTCATCACTGTGA
70003	SSR2	AGGGTGGAAGATGAAATGAA
70004	STAT1	GGGGCGGGGCGCCAGCGCTGCCTTT
70005	OASL	CTTCACCAGTTTTACAATGAGTTATC
70006	MPO	GCTCAGGAACTAGACTGCCTG
70007	KCNJ5	CCCTCCAGGGGCTGACACCTAGAGAGA
70008	CENTD1	TGGAAGAATACAATATATG
70009	CDS1	TGCAGCTCAGGTTTCGGGGTGCTTG
70010	NR4A2	AAGACTTGGTGCCACCGCCAGCAATAA
70011	INPP5B	TGGCCAACATGGCGAAACTCCGTCACT
70012	MBD3	TGCGGCCAGTCCCTGGTGCCCT
70013	FTSJ2	CTGTAAACCCAGGGCTTTAGAAGGC
70014	NESH	GCCTGCCCTTTGCAAGCAGGTT
70015	MCP	ATGCACAAACTTGGCTTCTTTA
70016	TRPM6	TACCCAGGCTGGAGTGCAATGA
70017	AQP6	TCCTCCAGGGACTGCTGTGAAATCAAG
70018	PTER	AACAGAGCTAACACCACCTT
70019	FGD1	GCTTTTAAAAAATATATTCCTA
70020	KCNB1	GCACCCCCAGCAGCCCACAGCGCT
70021	ARHGEF12	TTGCTCTTAACGTCACACACTAC
70022	NR1H2	TCATCCCTTGGGATAAGCCCCAG
70023	ZNF76	AGTCTGTTCCCCTTCTCAGGTAG
70024	FZD8	TGACCTTAGGCATGGAGAAAATTACTTGTT
70025	IGF1R	CCACAGGCACACAGGTCTCAT

70026	ADCY1	GTGAGCTATGGGAAGGCCATTGGT
70027	SIGLEC11	GACTCCTGGGCTCAAGCAATC
70028	UNC5C	AGGCAAGAATGCAGCAGGAGCCAGAA
70029	ZFP37	CCTTTAGCAAGATGTCACACCTTGTTGTACAT
70030	IL8RA	CAGGTGTGTTGCAGTGT
70031	HEPH	ACAGTACATCTGGAGCCTGGAGATATCCTCAG
70032	LMO4	TCCATGCCATTGCACCTTCTTTAGTCT
70033	LIG3	GGTGCCACAGCTGAAGTCAGT
70034	TBXAS1	CTTCCTCTTTATAGGGAGACACTCTGA
70035	IL9R	TCTCTGAGAAGTGGGGTGTGG
70036	MOG	CACTGTTTATTCAACAACTA
70037	EZH1	TGTCCCAGGCTGTGGTGCCACCCTCTC
70038	CELSR2	GTGGGTGGGGGAGGAAGAG
70039	PSCD4	TCACCCCCTCACACAGGCCCAG
70040	IL1RAP	CAGTTTATCTAGGTTGCAGTGGC
70041	GPR65	GATTTTTACTTCCAACTGCTGATA
70042	WHSC1	TAGGGTGCTGGACTGTATGG
70043	SLC6A12	ATAATTGGAACGCACACTGCC
70044	LZTS1	CTGACTCCTCTGGCTTTCCC
70045	ABL1	GGGAGCTGAAAAGGATCGAGG
70046	FOXO1A	GCTGGGGAGAGCAAGCGGC
70047	ZNF179	TACTGCACTGCCCTGGTCGA
70048	NT5M	AACCTGCTCACCCCACATGACCTTCTGTGT
70049	IL11	GCTCACGCCTGTAATCCTGGCA
70050	PEX14	AGCGAAGCCTCGGGGCCCAAG
70051	WHSC1	GCCAGGTGCTTTAGCAGCGTGGCTGCCT
70052	EPHA8	CCACGGCCCAGGTCTCCT
70053	NOX3	AATTAAAATATATTATGTTTCTCCA
70054	MID2	CTGGCACCTGGGAACGCTATGG
70055	EIF4EBP2	CAGTGTTGCAAGAGTCTGGGCT
70056	MAGEA10	CTGTGTTTTAAAAGGCAAGTCAAATAC
70057	NEU1	CTTGGGCAGGTCTAGTGAGCTGTA
70058	NRP2	TGAACTCTCAGACATCTCT
70059	F2RL3	CTAACATGGTGAAATCCTATCT
70060	ZNF36	CCAACATGGTAAAATCCCGTCT
70061	FOXO1A	TGAAATCCTGTCATGAATCCTTGGTA
70062	TRPM8	GGGAGGCGGAGGTTGCAGTGAACCAAG
70063	FBXL5	GACTTCTGATCTTTGTCTACT
70064	PRKDC	TGTCTCCGTAAATGGAGGAAATGT
70065	APPL	GGAGCTGTGGGCGGCAGCTGCGTC
70066	RARB	GTCCCAAGCCCCCCATCTCCACTTCC
70067	RNASE2	TGAAGTGCCTTGTGAACCCT
70068	BHMT2	CCCAGGAGGCGGAGCTTGCAGTG
70068	SMG1	CCCAGGAGGCGGAGCTTGCAGTG
70068	UBE2G2	CCCAGGAGGCGGAGCTTGCAGTG
70069	TP53	CCCAGAGTGCTGGGATTACAATTGTGA
70070	IHH	GGCTCCTGCCATCTCCTCTGCCATGA
70071	SIGLEC8	CAGGACTCCCCCATCTTGCTG
70072	RSC1A1	TGAGAGAATGGAAGCAACCAA
70073	ZNF207	TCTGCTTCCTGTGGGACGTGGTGG

70074	AVP	GGGGAGCCACTGGGGAGGGGGTG
70075	ITGA6	TCACAGTACCCAAACTGCTTTTTCCAAC
70076	FCMD	AGTGGTCTCATTCACAAAAAA
70077	RAP2A	ATTTTATGCCCTGATCAGACTAGC
70078	SELE	TATTCCCTATTTGTTTTCTTCT
70079	APOB48R	GGACACATCCTCTCCACCCTCTG
70080	RAD52	AATTCACCTGTGTTTCGTGTATATGCC
70081	GIPR	GGGAGAGACAGAGAAGTGGGCAGG
70082	SCA7	GGTGGATGAGGAAACAGGCACC
70083	GALE	CTCTAACTCTTATCTTCCACAGGGTC
70084	TDG	ACAGAGCCCTGGCTTTGACCTGCTCAG
70085	PER2	CTGAGTAGCTGGGACCACAGGC
70086	BRS3	AGGCATTGGACGTGACAATCA
70087	GOCAP1	TGAATCCTTGTATCTTTATTTG
70088	OVOL1	CCCGCTCTGCTGCATGCC
70089	CACNB1	GGCATACAGCACCCTCTACCTC
70090	CXCL16	GACGGGGTTTCACCATGTTGACC
70090	F2RL2	GACGGGGTTTCACCATGTTGACC
70091	EVC	CCCAGCCTCAGGTGCTCCGGGAACGC
70092	CMKLR1	CAGCCAGAGGAGCCTGTGATT
70093	PRKACB	TTCCTTAAGGATTTTAGCCAG
70094	NAPB	TCTGTGTTGCTGTGAAATGAATGAAG
70095	HSPA5	TATTGTAATCCTAGCACTTTGG
70096	ARSB	GCTGGTGGCGCCACAGGCGCTG
70097	FAAH	GCAGCCCAGCCTAGTCAGGG
70098	ADPRT	CAGGTAGATAAAACTGACA
70099	CBFA2T3	GAAGACACAGAACCAACAAAAC
70100	COL15A1	TAGAGATGAATTTTCTGAGAA
70101	CDH1	GCACCTTGCAGATTTTCTTA
70102	GRAF	AGTTAGTTGCTCACACACTTAGGCT
70103	GGT1	CATCCAGGCTGGACAGTTCAGTGA
70103	GGT2	CATCCAGGCTGGACAGTTCAGTGA
70104	GALNT7	CTTTGTTTTTCTCCACTGAGCA
70105	LTBP2	TGTCCACCACCTTTCCTGGCCTTGCT
70106	EGR1	CACCAGCTCTCCAGCCTGCTCGTCC
70107	KCNAB2	CATCCTCCAAGACCACCCAGCTT
70108	ADAM33	CACTGCACTCCAGCCTGGGTGA
70108	ADCY2	CACTGCACTCCAGCCTGGGTGA
70108	AK1	CACTGCACTCCAGCCTGGGTGA
70108	APOL1	CACTGCACTCCAGCCTGGGTGA
70108	CTSS	CACTGCACTCCAGCCTGGGTGA
70108	CYP4F3	CACTGCACTCCAGCCTGGGTGA
70108	FGFR1	CACTGCACTCCAGCCTGGGTGA
70108	GCNT2	CACTGCACTCCAGCCTGGGTGA
70108	GTF2F1	CACTGCACTCCAGCCTGGGTGA
70108	IL6R	CACTGCACTCCAGCCTGGGTGA
70108	IRAK4	CACTGCACTCCAGCCTGGGTGA
70108	KCNE3	CACTGCACTCCAGCCTGGGTGA
70108	MDM4	CACTGCACTCCAGCCTGGGTGA
70108	OPTN	CACTGCACTCCAGCCTGGGTGA

70108	PCDH11X	CACTGCACTCCAGCCTGGGTGA
70108	PCDH11Y	CACTGCACTCCAGCCTGGGTGA
70108	PPP1R12B	CACTGCACTCCAGCCTGGGTGA
70108	SULT2A1	CACTGCACTCCAGCCTGGGTGA
70108	TBX1	CACTGCACTCCAGCCTGGGTGA
70108	TEM7	CACTGCACTCCAGCCTGGGTGA
70108	USP14	CACTGCACTCCAGCCTGGGTGA
70108	WIG1	CACTGCACTCCAGCCTGGGTGA
70108	ZNF36	CACTGCACTCCAGCCTGGGTGA
70109	EDNRA	CCTGTAGCAACCTTCTGCATTCATA
70110	STIM1	GCTAGGCTGCAGACTGCCTTGTACTCCCTG
70111	OTOF	GCTGCCCCTGCCTGTGT
70112	KLHL3	CACTGACGGGCACTGAGCCT
70113	HD	TGTTGCCAGGTTGCAGCTGCTCT
70114	MYO1D	GGGGCAGCAGCACAGCGTGG
70115	DLX2	TGTGCAGATTTTCCCACTG
70116	CAMK2A	GGGTGTCCACAGCACTGGC
70117	MCM2	GCCATTGCTCCCTGTCTGTTTCCCC
70118	ABCC3	AAGCAGCCATTGGCACTGTG
70119	SLC4A4	CCTCACTTGCCAAATTCTGGCTTCA
70120	AK2	GCCACAATCCTATGCTCTTGCCT
70121	TGM2	GCCTCCTGAGCCTGTGGGTCCCCACT
70122	SLC17A5	GCAGTGAACCAAGATCACGCC
70123	PPP1R2	TTTCTCTCACTCTTCTGTCATTTGCT
70124	CORO2A	GGTGGAGCTCCTGGAGGCTG
70125	CDK2	GATTTGTTGCCATGTGCACC
70126	SURF5	AGGCTGGAGACAGGGAGGCCTTCCACT
70127	ITGA5	CACCCTGGTGGGCCAACAAAGAA
70128	VIPR2	TGGTTGTCCACTAAACCCCATA
70129	CHRNA10	GGGAGCACATGGGTTATAATG
70130	TAZ	CAGAACCATAAAGCATATGTGTT
70131	AGTPBP1	GGTTCCGCCGCCTCCAGCGCCCCATC
70132	LEP	GAGCAGTGAGTTACAGCGAGAGGCAGA
70133	TNFAIP1	GAGCACTTCTGGAGACTGC
70134	SERPINE1	GGACCATCTGGGGCACCTGCTTCCA
70135	PART1	TTATCCAGGCTGAGATGGAAAACAAG
70136	KCNN4	GGGGGAGCTGGGGAGCCTCCCCCTACC
70137	COG3	ATCTCTAGCCCAGCTACAGCAGAATAC
70138	CRSP8	AGGAAGCTGTGCAGCATGCTCCT
70139	ILF1	GGTTGGACTTCACCTCTCAGCACTG
70140	NRP2	CCAGCCGCCACCGCCGCCGCACCAG
70141	HEM1	CATTGCAGAGCTACTTTTCT
70142	OSCAR	TCTGCCCACCATGGCCCTGGTGCTGATCCTCC
70143	EPS8	TCTGTCATTCAGGGCATAGCTCACT
70144	TBL2	TGTTTCACAACACTCCTGGCC
70145	STAR	CTGCCTCTGAAGCCAGGTGTT
70146	CD68	GGAGGCTGAGGCAGGTGGATCA
70146	GP2	GGAGGCTGAGGCAGGTGGATCA
70146	PDE4C	GGAGGCTGAGGCAGGTGGATCA
70146	PHKB	GGAGGCTGAGGCAGGTGGATCA

70147	SERPINB9	ACATCTTGGATGTCAAGTGC
70148	NUP98	TTCTCTCTCATTTGGACTTG
70149	IL7	TGTCTAAATAAGTTTGCAATTTGG
70150	TRPM5	GCTGTCTCCCCTGACAGGCACAACTC
70151	TRIM9	TTCTTTATTAAATTCATCCTGC
70152	MAFF	TCCGGGGGCTGGCCAGTCA
70153	ARNT2	AGACTCTAACTTAACCCCAAC
70154	HAP1	GCCTGTCCCCATTCTCATGGCCC
70155	SURF5	TTGCTGGTCTTAGCAGTG
70156	PSMD9	AATTCCCTCAAACTCTATTT
70157	TRIM34	TACAGGCTAATCAGCATCTGGCCA
70158	ARG2	TTCTCAGTGCTGCGGATCATGT
70159	MMP11	GGGCTGTAGGGCAGGGCCACT
70160	SFRP2	GGGCAGCTTCCCCCTGCCTTT
70161	IL1RAP	CCATTCTCTTGCCAATGCTGCA
70162	RNH	TCCGGCCTGTGAAACTGTGAGGGGAT
70163	PPEF1	AGGCACTTTTCACACTCTGTC
70164	KCNC4	TCTTCTTTGTTAGGCTGTGTCTCC
70165	LDB3	GGAAAGTTCAAATATGCAGG
70166	DNMT2	CCAATTTGTCACAAGAAGAAC
70167	PAX5	CTGTCCATTCCATCAAGTCCTGAA
70168	OGG1	TGGACCAAGGACGTGGATGAC
70169	MYO1F	CCTCCAGGAGCCCAGACACCAGCCCC
70170	MAGEL2	CACACTGCCGCTCCAGCCTTCCTGGCA
70171	CBFA2T2	CTCAGCCAGGCTGGAGGCGGC
70172	LUZP1	CATGCCTGTAATCGCAGCTACTC
70173	CRYAA	CAGAAGGAGGGGGTGACCTC
70174	NDRG1	CCAAAGGCGGGGTGGCGGTG
70175	PDX1	GGGTGTCTTCATCTTCAATTTG
70176	ESR1	TTGAGAGGTGATGTCTGTGTTAGCCAATG
70177	FCMD	GCAGTGAGCCAAGATCGCGGC
70178	HLCS	GTGGTGAGTTAGAGGTATGCT
70179	EDNRB	AATACAGCTCATCTTGAAGA
70180	GPR3	CCACGTATTTTGTTATTATTTTGGATT
70181	PPAT	ACAGGTGAGTTAAATATACCATTTCAC
70182	UPF3B	AGGAAACTGCACCAGTGTCTATTCC
70183	TNFSF6	GATTCTTTGTTACAGGCACCGAGAAT
70184	CYP4F3	CCTGTAATCCCAGCACTTTAGG
70185	NTRK2	TCAGTCCCTACTTAGGAAATACTCA
70186	EGLN1	TTGTTCTTAACCATTTCAGGGCTTC
70187	HAS3	TGGTCGTCAACTTTCCTCAAAT
70188	NUP62	TGGCTCACCCCTGTAATCTCAG
70189	EYA1	TCTTCATTAATTTTGTGTTTAAGTTAA
70190	PKNOX1	TGCCCAGGCTGGAGGGCAATGGTGCAA
70191	XK	TATTCTTAATAGGCCTAAAAT
70192	HNRPH2	CATGCCTTTCTGTAAAACTCAAATATA
70193	FRDA	CATACGTGTCTGTGTGTATA
70194	F2RL3	ATTGCTTGAAGCCAGGAGTTTG
70195	POLL	CCCCAGCCTTGGTGAGGACAGTGTTG
70196	BCL11B	ATCTCGTTCTCTCTCCTTCC

70197	LILRB4	TTCATTCTTCTTCATATGAATATCCC
70198	RAD54L	CCTGGGAAATTTCCTTTCTCCAGA
70199	MAP1B	GTGCTACTTGAGAGTGGGGGAGA
70200	IL11	AGGTCACTGCAACCTCCACCTC
70201	TCF2	GCCTCGAACTCCTGGTCTCTTGCGGTC
70202	SORCS1	CCTGCCTTTTTCAAATATCCCTGCCTT
70203	DNASE1	CACTGCACTCCAGCCTTGGCAACACAG
70204	OPA3	CATTGCACCCTAGCCTGGGCAACAGAG
70205	GPC6	CACGCACACACATCCCCAAGAACCTCG
70206	GAD1	GCGTCTTGTATTTTCTTCCCA
70207	RAB5A	ATCTTGCAGCCTTCCTTTCCA
70208	EIF1A	TGATCATGACAAAGAAGATTAA
70209	ZAN	CTGTTCTGGACTGTGCCTGTTAGTT
70210	CRKL	TGCTGTTGCCCTGTTTCCTGCT
70211	KPNA4	TCCTGGAGTGACTGTGTACGA
70212	INPP5A	GTTGCAAATATTTTTCTCCTA
70213	SURF5	AGGCTGGGCAGGAAGGGCCTGCT
70214	FGFR3	CCTGCAGGGAAGCCCCACATGTCCAG
70215	RGS2	TGGTCTGAACGTGGTGTCTCACTCTGA
70216	TIMELESS	CTTCTCTGCTGTCAGTCTTTG
70217	MGST1	AAGAATTGCACGTATGAGAAA
70218	PIGL	ATAATAATAGCTACACTGCT
70219	GBA	TAAAGGAGAAAATGTTTGAG
70220	PRKACB	AGAGTTAAACTGGGTTCATTTTA
70221	ITGAV	TATCTTGCCATATCTCATA
70222	CDH12	AGGGAGCCACAGAGAGGGGTC
70223	OXCT	AGTGCCTTTAATTCAGCCTTAT
70224	TRPS1	CTACATGACTCCAAGTATATGAG
70225	TIMP4	CCATTACCACCTGACCTCTTGCTGCC
70226	ABCC5	TGTAGGAAGAGTAGCATTTCATTCT
70227	MUCDHL	CCCCCCGGTATGGGAACCAGCACC
70228	AIM1	TCTCGAACCTCTGGGCTCAAGCAATT
70229	CTNNB1	GGAGGCGGAGACGGAGGAAGGT
70230	FGL1	TTCTGAACATATCCATGCGCAAT
70231	SFRP4	GCTTAAAAATGGCCTTC
70232	BSN	TCTGACATCTGCCACTCCTC
70233	NEU3	GCATAGTGCCTGCATGCTTCATGATC
70234	HPS4	TGACTGAAAACACTGAAACCTACCAC
70235	ITPR1	TCTTGTCACATGATTTCTTT
70236	CRYZL1	TACTACACTCCAGCCTGGTGACAGAGT
70237	CBFA2T2	AAAGTGCTGGGATTACAGGCAAGAGCC
70238	RNF3	CCCTCATTTAAATTGGTCCA
70239	BMP1	GAAGGAGAAGAAAGAGCCTTG
70240	SAT	TCTGTTTAAAGTGGCAATCTCAGATGC
70241	EIF4E	TTAGGTTATTTTGCTTTGGTTAAA
70242	IL1RAP	GACTATTCTGCTTCCTCAGGCA
70243	LUM	GTCAGTTTTCATAGTATCCATATTTTAT
70244	Rgr	AGACACCAGGGAACCACATCTA
70245	NHP2L1	CCCTGCTGTTTGCTTTTGGTAATGTGA
70246	ZNF10	AACTGTATAATGAGGTTACTACTAGTATCTA

70247	BBOX1	ATGCCTGCTCTAATTTCTTTTGCC
70248	ITGA7	TGCCTCCCCGGAAGTGCCTT
70249	TUFT1	GACTACAGGTGTGCCACCAC
70250	KIF5A	TCTTCTTTCTCATCTACTCGTC
70251	CRYBB2	CAGGACCCAGGTCTGCTGCC
70252	RGS16	GGGAGGCAGGTTCTGCAAAGCAAGTGC
70253	GPR86	CTGTCCAGCAAATACTCTAATGA
70254	INPP5D	TGGGCAGCCATCACCAGCCAC
70255	MGAT1	ACTGGGCTTGTTGGGGCCAGA
70256	ZNF264	GTCACCCACGCTGGAGTGCTGTG
70257	ITPKA	CCTGCAGCTTTGTCCCCACTGTGCATG
70258	RBM3	CACTGTACTCCAGCCTGGACAA
70259	PSEN1	GCATTGCCAGCTCTTCCAATCTCCA
70260	SCA1	TTACATTTAGGGTTCACCAGGA
70261	EXTL3	TGGGACCCCCTTTAGCGGGACTCAGTG
70262	CPSF6	CCATAGTCAGTGTAAATACAGCCCT
70263	POU2AF1	TTGCCCAGGCTGGAGTACAAT
70264	ZNF215	GGCTCCTAGGGGGTTCCTTCCAC
70265	SGCA	CTGGAACCCAGGCTCTAAACAAGC
70266	KLK5	AGGAAGGGAAGGAGAGGTGTCTGT
70267	DSC3	TTCAATTTCAACATGTATGTA
70268	POU3F2	TCCTGGAGAGAGTGAGGAGAGTGTGT
70269	IL2RB	TGCCTGCTGCATCTTCCCA
70270	B4GALT1	GGATAAGAGACCTGAAATTAGCCAG
70271	MYLK	AACAGCTCTGCCAGCAGCCTT
70272	NEURL	CCATCATCTCATTACCTCTGTC
70273	TRPC1	TTCAGTTTTTGTTATTGTAA
70274	RIG	GTGGAGAACCTTTCCCACCTG
70275	GRIK1	TGCATCTGACCAAAGGACG
70276	OTOR	TTCTAGTATTTTTGTTACTT
70277	AHR	AGCCTCCCGAGTTGCTGGGATT
70278	KLRC3	GGCCTCCCAAGTTGCTGGGATT
70279	HTR1E	CCTAGTAGCTGGGATTGCAGGC
70280	ELAC2	GCACAGCCGCGGGCCAGGAGGCTGC
70281	SLC19A1	TGGATACCAGCTCAGGGGACA
70282	A1BG	GTTGCCCAGGCTGGAGTGCAATG
70282	ATP1B2	GTTGCCCAGGCTGGAGTGCAATG
70282	CDC6	GTTGCCCAGGCTGGAGTGCAATG
70282	MLANA	GTTGCCCAGGCTGGAGTGCAATG
70282	PMCHL1	GTTGCCCAGGCTGGAGTGCAATG
70282	PRKR	GTTGCCCAGGCTGGAGTGCAATG
70282	RAB36	GTTGCCCAGGCTGGAGTGCAATG
70282	SAS	GTTGCCCAGGCTGGAGTGCAATG
70283	CELSR3	TGGGGTGGACTCAGATGGGTGGG
70284	MMP11	AGGTGCCTGCATCTGTCTGCCTTCTGGCT
70285	SLC26A4	GAGAAGCACTAAGACTGCTT
70286	DDX11	CCCTGCTCCCTATCCTGTCCC
70287	CSPG3	TTGCCAGGCTGATTGAAGCAGGC
70288	NPTX1	CTGCTTGTGCGGCGATGATCTGTTTGTG
70289	RNMT	TCCACGCCATGGGTAACTTGGGGGAGA

70290	TPMT	GGGCTGAGGCGGGAGAATCACT
70291	CRTAP	GAGTACCTGGGATTACAGGCAT
70292	SHB	GCGGACCAGACCTGCCCTGCTCTGT
70293	CR2	CCTTACTGTTTGAGTTTCTCTCACA
70294	ADCY7	TCTTCTTTCCTTTAGTCTTCAC
70295	ALDH3A2	CCTCTGCTGCCACCATCAC
70296	ELF3	TGCTGGGACCCTTAGGATGGGGCTCCC
70297	PCLO	ATTTGAAAACACAACCTATTT
70298	INPP5D	GGCTGAGAGCAGGGATCTACCTGGCT
70299	SRGAP2	CGGCCCAGGGTGGCCTTGGTG
70300	FKBP1A	CTCAAGTTTTATTATTGCAA
70301	TIF1	CACCGAGCGGCCTCTGAGGA
70302	PAX5	CTTCACCCACCCTCCAGGACCCCAG
70303	ATP7A	AGAAATTCCCTTGTGAGTGCCTGGTAG
70304	PLAUR	AGGAGAGAAGACGTGCAGGGAC
70305	THBD	GCTGGGACGGACAGGAGAGGCTGTCG
70306	GRLF1	GCATGCAGCTCTCAGCACTGGGTGG
70307	OPHN1	AGGTGGCCTTCCTGCTGTTA
70308	ATP1B1	TAAAGCTGTGTCTGAGATCTGGATCT
70309	OPA1	ATATAAAATCACAGTAGCCTGCTAAA
70310	APM1	ACCAAAGCTCAAAACAATCAA
70311	ESRRG	CCTGTATTATGTGAACAGTCTT
70312	SNCB	CAGCACAATTCTGTCCCTG
70313	E4F1	GGGCAGGGACAGGGCAGAGGACTCTGA
70314	MYOZ1	TCTCAGGCTCTAGGTGCAATGTGA
70315	PIN1L	GAGGCTCGCAGACCCAGGGCAATGTG
70316	DNASE1L1	GAGCAGCGCTTCCAGAGCCAGA
70317	HGF	AGTGTGAGACACTGGAAGGCAAGA
70318	ARMET	CTTCGGTCCTGCTGTAGTGCC
70319	RIMS1	GTGCCTGGCACTCAGTGTGTGAA
70320	ALDH3B1	CTCAGCCAAAGCAGAATGCAGG
70321	GPR48	AACCAAAATCAGTGTTTATAG
70322	ACE	GCACACGGCTGCCTGACACTGAGCC
70323	ZNF24	AATGTAAACATAAGGGTAATGGTCTG
70324	PPP1R12A	GCATATAAGGAAAGTGTTCAAG
70325	SOX10	GGACGAGCCCCAGACTGGA
70326	GART	AGAACAATGGCAGCCCGAGTACTTA
70327	HMGA1	TTGCTCTCTGGGCTTTTGGTTTGGG
70328	SLC7A5	TGGGGGATCTGGGCAAGGTGGGT
70329	KCNK5	CCTCCTTGTTGGTCTACTCAGGCC
70330	FLT1	ATGTAGAAAGAAAAATGGAGA
70331	NDST2	GAGATGGCTGAGAAGGGAAGGGTATCCTTT
70332	GABRA2	TCCTGTACAACCCTTTGTGGACC
70333	SLC14A1	TTTATCAGCCACTGCCTTC
70334	LRP4	CTCCTTTATGGACGTCTAGTC
70335	SLC14A2	GTGTTTGGCAGGTTCCTGCTCCAC
70336	ADAMTS5	ACAAAATTTATTTTTATTTTTT
70337	SLC2A6	CCAGCCTGGGCAACGAGAGTGA
70338	BAP1	CACAGCGAGGTACTGCAGCTTCCTCCA
70339	MTR	TCGCCCAGGCTGGAGTGCAGGGGCGCA

70340	CR1	TGTTAGCCAGGATGGTCTGGATCT
70341	GNA15	CCAGCACTCAAGCCTTGCCA
70342	CDC6	TGTGAGGCAGCGGAGCTGGGTGAA
70343	IGF1	ATTCAAATCACATGGCTTTCCA
70344	SMARCA1	TGGAAAGAAGGATGTCAAGA
70345	AHR	ATCGCCCCACTGCACTCCAGCCT
70345	IFNGR2	ATCGCCCCACTGCACTCCAGCCT
70346	RBBP5	ATCGCACCACTGCCCTCCAGCCT
70347	CLDN16	TCATTCTCTCTGCTAACCTTCCACCT
70348	STAU2	TAGAAAAACATGTAGATTGTTTCT
70349	LILRB4	CCTGCAGCTTTGTTACATAGGTA
70350	PITPN	TGCTCCTGTGGGGAGCGGGGAT
70351	ADAT1	CTGAACTGCCTTCCTCCACGCA
70352	CASP2	CACTCTGTGCCGCCACCTCTACCTG
70353	HYAL4	CTGCAGCCACTGCCTCCTGGGT
70354	B4GALT5	CTTCTGCTCTGGATTCACTCTTCCCTG
70355	ITIH4	CCCCTCGCCGCCTCTGCCTGGCCACA
70355	ONECUT1	CCCCTCGCCGCCTCTGCCTGGCCACA
70356	ADAM12	TGTCTGCTATCATTATTC
70357	PPP3CA	GTTCTGTTCTGTCATGTGCCA
70358	P2RY6	AAATTTGCAAACTGCCTTC
70359	FCRH1	AGCCTGCTGAGTAGCTGGGACT
70360	HDGF	CTTTTTCCTCTCCACACAGTGCT
70361	GRP58	GGACTCTTCCATCAGAGATGGGAAA
70362	LYZ	AACCCAGACTTAATCTTGAAT
70363	C20orf1	CTGTGGACTCCAGTTTTGTTG
70364	KIF5C	TCCTGGAGCCTCCTCTGGGCAG
70365	GNLY	CGTCAGCAACCTCTGCCG
70366	EDAR	CTGCCAAGAGCTCAGGAGCCAGG
70367	MLPH	ACTATACACAGTCACCGTCC
70368	FUT4	GCAACCTTTTTCCCTCTTCCCA
70369	SON	GCCTGTGGACATCTCTACAGCA
70370	OGG1	ATTGGCGCCTCCTACCTCCTCC
70371	CCND2	AGAGGCATTCAGTTAGCAAAGA
70372	KCNJ15	CAGATCTCTGGGATCTTCAGCTG
70373	LPIN2	AGAGGAAGAATGAGAGCTTTGT
70374	RNPEPL1	GCACAGCCCTGCACCCCGCCCC
70375	CASQ1	CCCCAGCTAACCTCTTCTGGACCA
70376	HDAC2	AGCAGGAGGAGGAGCCCGGTGG
70377	THBS1	TTCATTCTAGATGTAGCTTGTGCAGA
70378	ECM1	CCGTAACAGCCACCAGACAAGCT
70379	HK3	AACCTCCAGGCTGAGGAGGTC
70380	MYO10	TTTGAAAAACACGTGTTGACTCCATT
70381	DCLRE1C	CCTACTTCCTGTCCCACTGCCACAAAG
70382	RAD23B	GGGGGTGGGGAGGGAGGGATCT
70383	XRCC2	CTGTCTCCCAGGCTGCTGGAGTGCAGT
70384	ELMO2	GCCTTCCAGTCCAAGAAACTGC
70385	BRCA1	CCGGGAGGTGGAGGTTGCAGTGA
70385	DAPP1	CCGGGAGGTGGAGGTTGCAGTGA
70385	SIGLEC11	CCGGGAGGTGGAGGTTGCAGTGA

70385	SIM2	CCGGGAGGTGGAGGTTGCAGTGA
70386	USP6	GGGTGCACACATGAGTGGGGCAG
70387	SURF6	CCGCCGTCTTCCGTCCTAGGAG
70388	AGXT	ATGGCCTCTCACAAGCTGCTGG
70389	PAX9	GGTCTCACATCCCACCCCT
70390	SCML2	GCAAAATGCTGGGATTACAGGC
70391	CRY2	CTGAGATATCCTCAGGTTTTCTCA
70392	APM1	AACTGTCACCACTAACTCA
70393	PDCL	GATTGCACTCCAACCTGGGCGA
70394	PRKG1	GTCACACCAGTGCTAGAAGTTT
70395	SHANK2	AGCAGTTGTCTGCCATGAGCAC
70396	IFRD2	TCCCTGCACTCAGCCCTGTGG
70397	KAI1	CTTCACTGCGAAGACCCTCTTGCCCACCCT
70398	ALDH3B2	AAAATACAGTGCCCTGCCTTC
70399	CRY2	CACGTCAGGCTGTGGAGCAGGAG
70400	MEOX2	AGACAATCAGTATGTGCTTA
70401	COX10	TTACCTGCAGCTTTTTAGTCCTTT
70402	MEFV	AGAGAAACGCAAGCAGACTGGATTG
70403	ADCY1	GCAGGGCGGCCAGTGCAGTGA
70404	PTPN1	GTCATTGTCGCTCAGCAATAGG
70405	IL15	TGCTGCTTAGACATAACAAAAC
70406	ANGPT4	CTGAGGGTCACAGTACCTTG
70407	SYT4	GCTGAGTTGAGAACACTGTGGCT
70408	ZNFN1A3	GGGGTAGCCAGAGAAACACTGT
70409	SERPINA4	GGGCGGGCCCTTTTCACAACAGGCTGG
70410	TGM2	TCTGGCCAGCGACTGCCTTC
70411	SSX2	GCGTGAGAGAAAACAGCTGGT
70412	C9	CCATTTTTTGTTCCCTAATGA
70413	IL17BR	TTCACCTCTCAGTATGTCTCTTTCA
70414	ZNFN1A3	GAGGAAGAGCTGACCAGCTGACCTTGC
70415	CTMP	TCTCAACTTTTTAACACAGAAATACT
70416	MUCDHL	GTTGAGGCCCACAACACGGTGA
70417	NR3C2	TGGCTTCTGCTTCATCCTGCTCCA
70418	IL1R1	GACCAGCCCAGCCAACATGGC
70418	TPM4	GACCAGCCCAGCCAACATGGC
70419	EGFL5	ATAGTGCAGCCCAAAACCACT
70420	UPK1B	TTCTCATCTGCACTATGTTTCCA
70421	SLC16A2	ACCCTGCTCAGCATTTACATTTTTGCC
70422	ADPRT	TTCTCCAGGAATACTGAACATGG
70423	ANGPT2	AGCTGCTGGTTTATTACTGAAGAAAGA
70424	GRAF	TGGGACTGCAGGCATGAGCCAT
70425	HUS1	TCAAAGCTGATTCAGTACTGG
70426	FLOT2	CCACTCTCTTCAGCAGCCACCCGGCC
70427	SLC21A3	CAAATGTCCCTTCTGTATGTA
70428	FXYD7	CGCTGCCGACCCTGCCTGAGCGC
70429	CYP2B6	TGTCTCCCAGGCTGGAGTGCTATGGTG
70430	HPS4	ACACAGCCATCAGCAGCTTGCGCCCT
70431	APOC3	ATACCCCAAGTCCACCTGCCT
70432	MYCL1	AGCTCCAGCTTTCTGCCATC
70433	TNFRSF1B	CCAGCCTGAGCAACAGAGTGA

70434	FBXW7	ATATACTCCCTGCCCTTCCCCCTGCA
70435	MEF2C	CCATTGTATATACTAGTTTC
70436	VPS41	TAGTGTGCTTTCTGCTACACT
70437	PKHD1	GAGAAGCCTTATTTTATTTCTC
70438	IL1F5	TGGTCATAGAGTCAGGGATCTAT
70439	GLTSCR1	TGTTCTTCCTGCCTCCAGCCGCCCGC
70440	EDNRA	TGTCAAGTACCAAAATGTTAATGTATGT
70441	WISP1	TAATTTCTTCTTTAGATGCC
70442	EGFL4	CTGCCGGCCCTGCCAGTGC
70443	TOP2A	TACTCTACTACACTCAGCCT
70444	CHST6	TTTTCCTGCACTTTCTGCTTCTTAATT
70445	CHN1	TGTGCTTGTAATCCAGCATGT
70446	RNPEPL1	TCTGAGCCACCCTCCCCGCACAGCCCT
70447	MAK	GCTTACTGCAACCTCCACCTCC
70448	CYP2B6	GCTCACTGCAACCTCCACCCCC
70449	CYP8B1	AACCCCTGCCTCTTCCCTGAAC
70450	WARS	GTCCGATGCCAAGGAGTCCTGGCC
70451	FUT8	TTCCCTCCTCTCCAGGCC
70452	ATP2B1	TAAATGATACAGATCTGTTTA
70453	PLAT	GGAGAGGGAAGAGTGCATTTTCCCAG
70454	F8	GTCCATAGATATAAAGCCATT
70455	FAAH	TCTGCAGCCCAGCCTAGTCAGGGC
70456	RPS6KA5	TGCACTGTTTAAAGCATTTGCACTGTATTTT
70457	SORCS2	TCCTCAAGGTCATCCTGG
70458	ZNF138	GTGGCAAAGCCTTTAACCAGTT
70459	TAPBP	GGGGCGCAGCGCTGAGGTCACCCTGGA
70460	EXTL2	TATGGGGTAAAGCCATGTA
70461	ZNF219	GCGGTACCCACCCAGCCCAAG
70462	FOXE3	ATGTTTTTCCGACACTCCTGGGTC
70463	DNASE2	CCTTATGGCCAGGTGCAGTGGCTCA
70464	P2RX4	CCCAACATCACCACTACTTACCTCA
70465	F3	TGGTAGACATGGAGACCCCTGCCTGGC
70466	EBI2	CCCTGATATACACCTGGACCA
70467	RFXANK	CCTCCTGCTATATCCATTGGAAGA
70468	PTGIS	CTACCTGCTATGCGCTAG
70469	NTS	TGAAGGAAAGAGGAAGTGCTAGA
70470	CFTR	CTCTCCTCTCCCCATGATGTT
70471	AKAP1	TCTCAGCCTGGAATCCCCACCTTGCCC
70472	DISC1	TGATGAGTTAGAATCTGATT
70473	HS2ST1	GTTTCATACCATTCATTTTTTAA
70474	MATN1	TGCCAGAATGTGAGTGTGAGA
70475	CASP10	GCTCACTGTAGTCTCGACCTCC
70476	PDE7A	TTCTAATTCTCATTTAATTTTAG
70477	AQP6	ACTTCGTCCTGTTCCCCGA
70478	PLIN	TTGTGTTTACACAAGCTGTGGGG
70479	MKKS	TTCAGGTAAAGAAGCAGCTTTGA
70480	XRCC2	TGCCTGTGATCCTAGCACTTT
70481	EIF2C1	GCCTGCCTGCCTGTCTGC
70482	SF3A2	AGCCCAGCGCCAGGTGCTCTTGCCT
70483	KCNH3	CCTGCTCCTCTGACCTCCCGGTC

70484	APOB48R	CCACCCTCTGGGCCTCAGTGTCTT
70485	ARHGEF6	CTGTGTGCATATGTGTGTGCG
70486	ST7	TTTAAAAAATACATTGTTGTAAGA
70487	TFG	CCTCTGTTCTTCCCCCACCTGCCAC
70488	ESPN	CCTCTGGCCCCACCTCCCTC
70489	BENE	CTTGCAGACTGAGCGATGACACCACAC
70490	RAB5A	TTTTAATAACATGCATGGGTCCCTCT
70491	CLTCL1	TGACGGCAACCTCTGAGCCA
70492	POLK	TATTATCATAAGAATTTTTCAG
70493	FCN2	CTGTGATGTTTCAGGGAGCTTG
70494	CBL	AGGTTTAGAGGACCAGTGAGTTGGGA
70495	TBL1X	TGACTTTTGTTTAGTCTT
70496	F8	TCTGCAGCTGCTCCCAGATTACTCC
70497	TNFRSF11A	TTCCTTTTCATAACTTT
70498	EXT1	ACTCAACTCCTGGCTCCTGGG
70499	CDC6	GCTACAGTCTTCATTTTAGT
70500	TRAF5	GATCTCAAACTCCTGACCTCA
70501	FBXL7	TCAGAGGCCACACAGCCCA
70502	PRX	CCCACACTGGGGGCCAGAGCT
70503	LTBP2	GGAGTTGATGAGAAAGGGGAGCCAAGGCTT
70504	WASF1	CAAAACTGAATGCAAATGTCCTTTGT
70505	DMD	CTGCGAGTAGTTCCACACAGGTTTGTA
70506	SUV39H1	CCCCTTTCCCTGTCCCAGCCC
70507	LAMC2	TGTGCACATTTCTTTGCATTCCAGCT
70508	MECP2	CAACCAAACTCCCATCAGCCCAATCCC
70509	PABPN1	GAGGGGAAGCTGGGGTTTGCAGTG
70510	ASB1	GAGTTCTTTTTTCTTTCTTCTTT
70511	PIGA	GTCAGTGTGCAAAAGGCTTTACTTCA
70512	TYRP1	ATTGAGTTATTAACTGTATT
70513	TCF2	TGTCACCCGAGCTGGAGTGCAGT
70514	FGFR2	TGCGCCTGTAATCCCAGCTACTC
70514	MCM4	TGCGCCTGTAATCCCAGCTACTC
70515	PLN	CTAACAACAGAATCTAATCTT
70516	ZNF264	AACAACAACAACAAAAAGTCC
70517	EML1	AGACCCTGCCTTTTAGATCCA
70518	P2RY4	TAGTGCTTCAACCACTGCTCTCC
70519	ANXA6	GGTGGTGAGGACTAGGCCACAGCTTTGG
70520	GIF	TAAAAACATGGAGAACCACTA
70521	ATP2B3	AATCCATTCAACAAGGGTGCAGCCT
70522	TPM4	CCACAGCGCTCCAGCCTGGTCGACAGA
70523	PPP1R8	CTGCTGAAGTTTCTTATTTAATTCCA
70524	HTR1E	TCGCCCAGGCTGGAGTGCAGCA
70525	CELSR2	AGGCTGTGGGCAGGAAAGAAAGG
70526	HRMT1L2	GAGGGCACATCGTGACTGTGTT
70527	LZTS1	TTTGTTGCCAAAGCTGGTCTCAAACT
70528	METTL1	GGTCACTGCTGCTTACTCTACCTT
70529	DGUOK	GAGAAACTCTTACAGGCCAGGAAGCCA
70530	GLRA3	TGCTGAAGCTTCCCAAGCATCAGTCTA
70531	HMOX2	AAATGCTGGGTTTAAGAAAGG
70532	LHX2	CTACCTGCAACACAACATTTGTGTCAC

70533	IL10RA	GGATGGGGCTTCCAGCTCAGA
70534	RAB6A	GAGCACTTGGATTATGGATCTGAATAG
70535	RASA1	ACCGTTGACCGCTCCTCCAACT
70536	MEIS2	TCCCCCGGTTCTCCTGCTGC
70537	EFNB2	TGCAGCTCACTGCTGCTGCCTCTGAAA
70538	UGDH	TCACTGCAAGCTCTGCTT
70539	NOL3	AGGGAGAGGCAGGAGGACACC
70540	WHSC1	AAGTACTTCACACAGAAGCCTAGGTAG
70541	BBS2	AAAGACAAAGAACTACATGTGAA
70542	LGI1	TCACAGTACCTCACAGGTCTCTT
70543	CDH1	ATCGCCCAGGCCTGGGATGCAGT
70544	PTGFRN	TACAAGTGAGAATTAAAGAGA
70545	PTPRO	TCTTCCTTGGCCCTTTTGG
70546	MAGEC1	TCTGCAGTTAAATAGTGGGTAAAGGA
70547	ADCY8	CTCCTGCAACGGGTCAGCCTAGGATAAAAA
70548	PKP2	TATTGGTTTCTTTCTTTACTTT
70549	TPTE	TCTGACCCAACAGTTACCC
70550	CNTF	GTCCCTTCTCTCTTCCTTGCTTT
70551	ZNF264	TGTCACCCACGCTGGAGTGCTGT
70552	B3GNT3	CGCGAGCTGAGAGGAGCAGGTAG
70553	PAFAH1B1	AAGTGGTGGTTATTAGGGCTTT
70554	ADAM19	CTGCTGTGGCCCTGCCCAGGGC
70555	KCNC4	CCTTTCTCCACTGCACTGGAGCT
70556	CREB1	GGGCGACTCCATCTCAAAAA
70557	FOXI1	GCAATAGAAATACTGGTGCCTGCAGAGCA
70558	SMARCB1	GCCATCCTGAGGATCGGGG
70559	GCNT2	GGCTCACACCTGTAATCCCAA
70559	GTF2H2	GGCTCACACCTGTAATCCCAA
70559	TNFSF10	GGCTCACACCTGTAATCCCAA
70559	TNFSF15	GGCTCACACCTGTAATCCCAA
70560	MDM1	GTGAGTCTGGCAGGCAGGAG
70561	MUCDHL	GCCCTGTGCCTCGGTGCCTGTGACCTG
70562	ARF3	TTACCCAGGATGCAGCAGGTGTGTG
70563	IL17E	AGGGCTGTGCTGAGAGGGAG
70564	ADCY7	TCAACCTAACTGTAACAACAGGGT
70565	NEU3	TAATCAAAAAACTTAATATTCT
70566	USP5	TGGCATGAGGGAGAGGGGCTGA
70567	HDAC6	GGCCAAGCCTCCTCAACTATGAC
70568	NOS1	TGACCCCCTCCTCCAGCA
70569	BCL11A	CATAGCAATATCATAATTAATGTAGTA
70570	PTPRJ	GCCTTTTCTGAATTATGCTTCCACAG
70571	EGLN2	AGGGCTGGGGTGCAGAGGAG
70572	COL18A1	TGCCCTGTGCAACCTCTTGGCCT
70573	BPGM	TGAGATGGGAGAGCAACAAGTAG
70574	G2A	TGCCTGGGCTGGAGAACAGTGG
70575	FLRT2	AGTCATCTTCAGGGACCAGTCTG
70576	GFPT2	AGACTTCTCCACTACTGTG
70577	PPP1R11	GAGGATCCTGGCTACCACTCTGAA
70578	TAZ	AACTTGGATGTAGCCATGACCTTA
70579	PITPNB	AATCTGACCAGTATCTTGCAGTG

70580	RAP1GA1	TCCCCACCCTCCCCATGGCC
70581	SCD	TAGAAGGCTTCTCTCCACAG
70582	IL6R	GCCTGTAATCCTAGCACTTTGG
70582	KIF3B	GCCTGTAATCCTAGCACTTTGG
70582	ROCK2	GCCTGTAATCCTAGCACTTTGG
70582	TRPM1	GCCTGTAATCCTAGCACTTTGG
70583	PTGIS	CACCTCCTGGGTTTAAGCAATG
70584	MEOX2	GTGGCCTTTGGAACCGTCGTGAAG
70585	FLNB	AGGGCAGCAGCTTATTGGTGG
70586	GALNT7	TTCCAGCACTTTGGGAGGCAGAG
70587	ELMO2	CTGGTGCTGCAGCACTTGTA
70588	PPP1R12B	GTTCTGAGAGGAGGCAGCAATCCAGA
70589	GPM6B	ACAGAGCCTCTCAATCAGA
70590	CD79B	CCAGCAGAGCTTGGGAAGGGCCATGG
70591	SLC12A7	ACTCTGTTCCTTGACTGTCTTT
70592	M11S1	TAGGCTTTGATTGGCACTTTT
70593	MSF	GTTGATCTACCCGTGCCTGGGCC
70594	SQSTM1	GCAGGCTGGGGAGGCCAGTG
70595	AP1S1	GTCTGCCTTTATGTCCTTTCTTC
70596	GOLGA4	TGGAGAAATGGTGATAGTTTTTTCTTC
70597	LAMA4	GGAGAGGAGGGAAAATAAGCGAGGC
70598	BMP1	GCTCTCTTCTCCCCACTGTGCC
70599	LDHB	CTGTAGAAATTTAAAAACTACA
70600	CNN2	CAGGCTGGAGTGCAGTGGCGCC
70600	PER2	CAGGCTGGAGTGCAGTGGCGCC
70600	VHL	CAGGCTGGAGTGCAGTGGCGCC
70601	CAMLG	CAGGCTAGAGTGCAATGGCGCC
70602	CIAS1	GGTTCAATCAATTCTCCTACCTCA
70603	S100A1	AACCTGCTCCCACCTCA
70604	LOXL2	ACATAGATAATGGTGCCAC
70605	BENE	CCTCCAAGGCTGGAGTGCAGTGA
70606	TMEM1	TCAGCACAGCCTAGGAGGGT
70607	CASP2	GGTTGGACCTATTGCCAGGAAT
70608	CDR2	AAACTATTTAAGAACTGATGTTCCG
70609	SLBP	AATACTCCAAGAGTTAGGGCAGCAG
70610	SNX4	CTTCTCAAATAATTCTTAACCTCA
70611	ADD2	ATAGGAAAAAGTTGTTTAATGCTCAGGG
70612	IQGAP1	CAGGAGCTAATGGAAGTGACAG
70613	ATP2A2	CTCCAGTTCATTTTCAGTTATTTT
70614	SUV39H2	CTCTCTCTAGAAGTCCAAAATGGCTAG
70615	MLLT2	ACATTTATACCTGACCAGATGGCT
70616	RPL10	CAATCCCAGGCTGGGGTCAG
70617	SLC1A4	GACCCAGCCACTGTTTCTGCCA
70618	SCA1	GGGGGTGGGGGAGAGGGAGAGAG
70619	REN	CACTGGGCTTAGCTGGGCCTCTGAGGCCT
70620	SOX10	CCAGGAGGTGACGAGGCAGGGGCTCCA
70621	GAS2	CACTATTTATTTTTAATGCTTCT
70622	DCX	CTGAGTATTTCCTTGATTGCG
70623	BCL9	CCAGAGAATGCTGGAGCTGCAAG
70624	GJB3	TAACTGCAACTTCACAGTATAGTA

70625	HADHA	GTGGGACCTGGTGGGCTCA
70626	GALC	CCTGGTGTGTTCCCTAACATTC
70627	KIF5A	TACTATGTTTGATGTCTTCT
70628	WASF3	CAAGAATGACAGCTTCTATA
70629	LUZP1	TGAATCCAAGATTCCTGTCTCT
70630	NPAS1	TGCAGGAGACTCGGGGCTCGGAGCCC
70631	GSTM1	CTGGTTTACAGGCCCTGCTCCTGCAGC
70631	GSTM2	CTGGTTTACAGGCCCTGCTCCTGCAGC
70631	GSTM4	CTGGTTTACAGGCCCTGCTCCTGCAGC
70632	APAF1	TGCCAGGCTGGAGTGCAGTGGC
70632	CYP1A2	TGCCAGGCTGGAGTGCAGTGGC
70632	SEDL	TGCCAGGCTGGAGTGCAGTGGC
70633	FES	GCTCATATGCTGACAGCTCTTC
70634	ITK	AGAGATGATTTCTGGAACAT
70635	KAI1	CCTGCCTGGCCCCCAACCTCAGGGC
70636	BACE	GGGTTCTCTTCATTCCCACTGCACTTG
70637	KCNF1	GGGGTGAGTGCCCCGGGCGAG
70638	PMM2	AGGAGCTGCTCTCCTATCTGCACT
70639	STCH	GACAGTGTTGGAATTTGGAGG
70640	MMP19	GTCTTTTTCTCCCTTAAGTTC
70641	P53AIP1	CCCTCCTCCTCCTCGGAATCCTG
70642	AMD1	AATACAAGAGACTGAACTGTA
70643	ITSN2	CGCCCAGGCTGCCGGTGCTGAGGG
70644	SOS2	TTTCATTATAAGGAACAAAGGGGG
70645	GPR30	CCTGCCGCTGCACCTGCCTGCCGC
70646	CBFB	CTATTTCTCAACCTTAGGCA
70647	BLK	AATCCAGTGGGCAGAGGCAG
70648	TIAM1	CCCTGCAGATGGCCCATTTG
70649	ALDH3A1	GCCCCACTCCTCTGCTGACCTGCT
70650	GRLF1	CCCTGTGCCTCACTCAGCTCCTGCTGC
70651	ZNF266	CTTTCATTATGGCCTCCAGAGG
70652	NPHP1	ATGGGAAAACATATTTGCAAATCATCT
70653	SCN4A	CCTGCCTGTGGCCCCTCCCCTGCAGAC
70654	CD74	TGAGGTCCCAGGAAGTGGCCA
70655	SURF4	GCAGGGAGGGGAGGATAAGT
70656	STXBP1	CCCGCTGGAAGCCTCCATCTC
70657	TGM3	GTCCACCCTGTCCTATGACT
70658	PKNOX1	GTACATACTCCAGTCTAATTT
70659	MDM1	TTCATATAATGCCTTG
70660	PTGS1	TGAGGGTGGAAGGATGGGATGGG
70661	SFN	TGTCCCCAGAGCCATGGAGAGAGCCAG
70662	DAP	GGTTGGATGTCATTTGAGGATCA
70663	TM7SF2	GTGAGCGCCCTCTCTCTCCG
70664	MPV17	AAATGCCACTCATCCCCAC
70665	KIF3B	CCCAGGGCACATTTCTGGAT
70666	DEDD	TCTGCCGCCTTTCCTCCATTC
70667	APXL	AGAGACTTCTCCCATAGCAAAGAGG
70668	IKBKG	GGGTGCTCTCCTTTTGGGCT
70669	SERPINB9	GGTCTTGAACTCCTGGCCTCAAGCAAT
70670	SIGLEC8	TCTCCTCCTCCTTCCCACAGGC

70671	MASP1	GGGCGTCCACACCTGCTGCTCCA
70672	P2RY2	GAGCAGAACACTTCAGCCTGTGCAGGTTTAT
70673	HSPA1L	TGCACCACCTATCACACTCCCTCACA
70674	MCP	GCAGAGCAGAGAGGCTGAATA
70675	CCR2	ACCTGGGAGTTTTGGTGGAGTCCGATG
70676	CBFB	AGAGTACTGGGATTACAGGCTC
70677	PIK3C2B	TAAGCTCAGGAGCCCGAAGG
70678	CHS1	AGGTATCTTGGATTTCAGACACAT
70679	ADORA2A	CAGTCCCAGGGCCATCTCTTGG
70680	ABL1	CTCCCCCAGCAGAATGGAGG
70681	TMEPAI	AGCAAAAATCAGGGCTGGGGGA
70682	MRPL49	TGGGGAGGGGTTTGCAGGCAGGAATA
70683	KPNB1	TAGCTTTTCTGTCTTTTGGCCA
70684	CIAS1	TGTCGCCTAGGCTGGAGTGCAGTG
70685	INPP5B	CGCTGCCCCTCTCTGGGCCTGTTG
70686	FGF12	AACTCACAAACTGATGTTATATACTCA
70687	CD209	AAAGTGCTGGGATTACAGGCCT
70687	CYP4F3	AAAGTGCTGGGATTACAGGCCT
70687	RAB36	AAAGTGCTGGGATTACAGGCCT
70688	GDF8	TGGAGAAACTGCATTATCTTA
70689	APOL1	TCTGTCGCCAAGTTGGAGTGCAAT
70690	PTK2B	GGAACCTCAGGCCCGCGGATGGG
70691	STK24	AAACTGGAGCATGTTGCCAAGGC
70692	C5R1	TGGAGGTGGAGGTTGTGGTGA
70693	BRF1	ACTCTCCAGGATGGAGGAGCAAC
70694	LTB4R	GCTCTGTGGTACTTCCTCTCTGG
70695	JAM2	AAGAGGTACACGAGGAAATGGAATTGGTAT
70696	KLHL3	CTCTAACCTTTAAAAGAGGGGTC
70697	PCDHB7	CTGATTTGAAAGTTTGTTTTTAAA
70698	VIPR1	CACCCATGGGCTCTGACAGAAAGCAG
70699	PTPN2	TTGCCTCACAGTTGTTTGTTTA
70700	KCNQ2	TTGTGGGGTGGAGTTGAGTG
70701	ZNF8	GGTAGAAATGTCATGGGTGA
70702	DLGAP2	ACTCTCCTTAGAGCCGACAGGTT
70703	PDGFRA	AATATAATGATCAGCAAAAAGA
70704	TNFRSF11A	CCGGTGCAGCCTCTAACTCCTG
70705	FGF7	CAATTCACAGATAGGAAGAGGTCAAT
70706	GCS1	AGGGAGGGAGAGGAGGGGAGC
70707	SLBP	GCCAGGAAGAGAAACAGCTCCTC
70708	PBX1	GGACACTTCTTTATACTCT
70709	COL1A2	TTTTCATCTTCTTCCATGGTTCCA
70710	DISC1	GTACTCAGGCAGTGCAGTA
70711	DMD	GGTTTTGGGGTGTTCCTGATAATT
70712	TRIM14	CAGAGTGCCCAGCTGTCTGGA
70713	RS1	GCTACTCAGAGGAGGCTCATTAGCTG
70714	CNR1	GGTGCTTGTTGGGCCTTTTTCCA
70715	GGCX	GCCACTGCACTCCTGGG
70716	FGF2	GGGAGGCCAAAGCAGGAGGATCGC
70717	CHST5	GTGGCAAAGCAAAACTCTATCA
70718	COG3	GAATTAGGAAGATTGTATTTA

70719	SULT2A1	ATCTCTGATCCCTTCCTTGTT
70720	AIPL1	GGGCGCCTATAATCCCAGCTACTT
70721	NLGN2	TCCTCCTCACATGGCAGGTGAGCACA
70722	FXYD6	CCAGAAAGCAGAGAACTGAGTGCAGCCA
70723	MAP1B	GAGAGTGAGAGCACAAAGATAACGCAG
70724	PLXNB2	GAACCAGCATCGGGTGTTCACTGTCGA
70725	SSTR1	ATCCTTTCCTCTAGCTTTT
70726	STK24	ACACTCCTATTTGTACCTCAA
70727	HPGD	ATCATTTTAAAGGAGATACTTGAATT
70728	CAPN3	TGCTGCTGGTAGGAGACCCCCAAGTCAA
70729	KCNH1	GAGGGCGCGAGGGTAGCAGCCAG
70730	SLC7A6	TGGGGACTTCTGTTTTCTCCCT
70731	TLL1	CTTCCTGGGATTCATTTTTTCAA
70732	ANXA7	TTCTGTATTCATAAACACTTTCC
70733	ATP7B	CAGCTTGAACCTGCTTCCTGGCTC
70734	LIMK1	TGCCTTCTCCCACCCCGTGG
70735	APC	CCCAGCCTGTTTGCTTTACTGCATGA
70736	MEL	TCTGCTCTCCCCGGGAATCTCTAACA
70737	TR2	TTGAATTGCTTTTTCATGTTCATCTTA
70738	FCMD	ACTCATTCCTTTTTGAGTTTGTGACC
70739	LGMN	ATTGCTTTTGTATTTAATTCTGCA
70740	GNPI	GCATCAGGAAATACAACCCTTTTGCC
70741	MAT1A	GCCTGTCCTGTCATCATCATGGCC
70742	PYGB	ATTTGTTTTCTTGCTGACTTTGC
70743	MATK	GATGCTGGCGGCGAGCCGGGTTGCTA
70744	HIP1	GTTAGCATCCAGGCTGGCCAGTGCTGC
70745	RORB	TAGAAAGAGAAGACCCAGA
70746	CD5	CCAACTTGGTTTTTTGCTTCACC
70747	EML1	GACCCTGCCTTTTAGATCCA
70748	NXF2	TATTGGTCTTCCACAGCCCT
70749	F2RL1	GAGAGGCTGACTTTCTCTCGGTGCGTCCA
70750	PDE4C	TCACTTTCCCACCCATTTAGGG
70751	SMARCD2	AGCCCAGACTCTTCCTAGCCT
70752	FKBP6	GAATGTCCCTGAGTCAACACC
70753	LPXN	TTCTCCAATCAAGCACTTG
70754	IL1RL1LG	GGAAATCTCACATGGTGGGCACTGCA
70755	DLG2	CAGGATCGTGTGTGTGGGGCTT
70756	IL21R	AGGTACCCCCTCCACATCCCTAGGGCT
70757	ST3GALVI	TCTTAAAAGTGCAGGTGAGCCA
70758	AGTPBP1	GGACAGGTTCCGCCGCCTCCAGC
70759	MASP1	AACATGCACTAGATGACAGATTG
70760	OAS2	GTAGGATGTTGAGCAGCATGT
70761	C14orf1	ACCCAGGCTGGGAATTGCAGTGGC
70762	SFRP5	TGCTACTGCTGTGAGGCC
70763	SURF4	GGCAGGGGGTGTGGCAGGAGCTCCCAGC
70764	PRKR	TCCCAATAAAAATCAGGAGACCCT
70765	KCNMB3	TCACGAGACACAGGTAGGCA
70766	HTN1	TTCCTCTCCAAAAGCAATAA
70766	HTN3	TTCCTCTCCAAAAGCAATAA
70767	GDI2	CCTCTACTTCTGTCTCAAAATGGCT

70768	COL16A1	GGGGCATATACCTGTAATCCTAG
70769	ABCA4	CGAAACTGACTTGCTCACCTGGAACAC
70770	GABRE	GTGACTTCCTGGGGCCAAGAAACTAA
70771	FANCF	TTTGCAGCTGTATCTCACACTATGAT
70772	PACSIN1	TGTTTCCCCTCAGTCCTCCTT
70773	HOXB3	TCCACGCCCGGGAGTGGGGTAGA
70774	GATA6	TGCAACAACACTTTACTACCTA
70775	HLCS	GATTTCTGCTGGCTGCTATTATA
70776	STC1	GCCTGCATCTTCTTGCATCTA
70777	IDH1	CTCTTTCTCCTCCTGGCCTGGCC
70778	ELL	CTGCCCTGGGTCCTGCCTGCAGTATTAC
70779	GABRP	AATCCAGCCAGAGATGCACATT
70780	NLGN1	TTTTAGCACGATGTGCATGATAA
70781	ANKH	ACCAGCCTGGCCAACATGGCGA
70781	INPP5B	ACCAGCCTGGCCAACATGGCGA
70781	PTGIS	ACCAGCCTGGCCAACATGGCGA
70782	F2RL3	ACCAGCCTGGCTAACATGGTGA
70782	VHL	ACCAGCCTGGCTAACATGGTGA
70783	SLC22A2	AGACTTTACAGCCCCATGCTACAGGCCA
70784	AVP	TTGGTCCCTTATCTTGTTGTCAC
70785	HYOU1	CATGCAGCTCCTTTCCCCCTGG
70786	SLC22A7	TGAGCAGCACCTTCTGGACAGGGG
70787	GPR3	ATTTCTGACCTCAGTTCCTGGAGGG
70788	KCNQ2	CCAGTGTCCTCTGATCCTGTC
70789	LNK	CGAATAAAAAACTGGATTCT
70790	NTSR1	GGGCTGTGTTCAGCCACTTT
70791	PPP1R8	TCTCCCACTTTCTAGGATCATTT
70792	NRL	GGGGGTGGAAGTGTGGTGAC
70793	JRKL	TCATCATCTGTGTCTTTTGTC
70794	MYOM2	GATGGGAAAATATGCTTGGCAGA
70795	RASAL1	TTGATTCAGACTGGAGTGGATAGGATA
70796	ITSN2	AGCTAGCAATCTATGCAAACACCTTTC
70797	GNE	TCTTGAACTCCTGACCTCAGGTGATCCG
70798	PITPNB	GGAGATAGTGACTTTGAGATA
70799	CA12	TCCTCTGCTGGGTGCCTCCTTGCC
70800	ESRRB	TAGGACACCAGGAGGCCAGGGAAAGC
70801	CTSZ	TGTGCCAGGCTGGCTGGCAGGAACTGG
70802	LRRC2	GAACCCAGGAAGCAGAGGTTGC
70803	MAPK14	GGCACGGAGAGAAGGCCCATACCTT
70804	B4GALT5	ATGTTGCCCAGGCTGGTC
70804	DSCR3	ATGTTGCCCAGGCTGGTC
70804	IL12RB1	ATGTTGCCCAGGCTGGTC
70804	RAD1	ATGTTGCCCAGGCTGGTC
70804	SMAC	ATGTTGCCCAGGCTGGTC
70804	WHSC1	ATGTTGCCCAGGCTGGTC
70805	HMOX1	TTGGAGCCACTCTGTTCCTG
70806	BTEB1	ATTCATCACCCCTGTCCTCTCATCC
70807	COL4A2	CCAATGCCACAGACAACTCAC
70808	GALT	AGACAGCAACCATCGCCTGCCA
70809	CD37	GTGCGCTGGGCACTTCCCTGCTGC

70810	EIF4G1	GGGTTTCTGGCACCTACCTACCTGCTTCCC
70811	VSX1	AATTTGTGATTGAAAGCACTTT
70812	TCF2	TGTGTGCTGACAGGAGACCCAGAGAGCTA
70813	CLN5	TTCTGGCTGAGATTTTGGA
70814	NVL	CAGCCGGTGTGTCTCCAGCAG
70815	SPTLC1	CCGAGATCATGCCACTGCACTC
70816	XT3	TGGGAAGGGAAAGACCTGACTG
70817	UBQLN1	TTCTGGTTATCTCTTTAAGGA
70818	FGF5	TGAAAGAACATACATGATACAT
70819	IL1B	AGAGCTGTACCCAGAGAGTCCTGTGCT
70820	CALM1	ATGATGTTTATTAAACACTTCT
70821	SLC7A7	TTCCTGAGAGAGCACCTTCT
70822	ALAD	GCCAGGCCCAAGAACTAGAAC
70823	NCALD	AGGTGGTAGTGGGACAGGACAATTGGAGC
70824	SOX5	CTGCTCCCAGATGTCCTTTCTC
70825	LASS1	CCTGCTGCTGCCCTCGCTGCCCCTG
70826	ADRB3	GTGGCCCAGGCTGAGAGCAGCAGGGTA
70827	HAP1	CCACTTTTCTCCTGGGGGCTGGGC
70828	ZAP70	CCGGGAGGGTGCGGCTGTGCAGCC
70829	CDH5	AAGAGGGAGGAAGGGGCCCCATGGC
70830	MFAP4	CCAGCACTCCTCTGGGCTG
70831	LMO4	ACATCTTGGGGAGGGGGAGGGAG
70832	FIGF	ATAGTCTTCCAGTTTAATGA
70833	PCDHA1	TTCTAGTAACAATTTTGGA
70833	PCDHA10	TTCTAGTAACAATTTTGGA
70833	PCDHA11	TTCTAGTAACAATTTTGGA
70833	PCDHA12	TTCTAGTAACAATTTTGGA
70833	PCDHA13	TTCTAGTAACAATTTTGGA
70833	PCDHA2	TTCTAGTAACAATTTTGGA
70833	PCDHA3	TTCTAGTAACAATTTTGGA
70833	PCDHA4	TTCTAGTAACAATTTTGGA
70833	PCDHA5	TTCTAGTAACAATTTTGGA
70833	PCDHA6	TTCTAGTAACAATTTTGGA
70833	PCDHA7	TTCTAGTAACAATTTTGGA
70833	PCDHA8	TTCTAGTAACAATTTTGGA
70833	PCDHA9	TTCTAGTAACAATTTTGGA
70833	PCDHAC1	TTCTAGTAACAATTTTGGA
70833	PCDHAC2	TTCTAGTAACAATTTTGGA
70834	SWAP70	CACCTGAGGTCAGGAGTTCAAGAG
70835	CD79B	AGAGCTGCCATTTGTCTCCAGCC
70836	TPST2	GGACACTCCAGGGTAGAGAATGA
70837	IMPDH1	GCCGCCTGCCTGTCATTCCT
70838	ALDH2	GAACTCATAGAATCATGCAAGCTTCCT
70839	LARGE	TTGTAACCAGAGGGTCCTGGAGGTG
70840	HOXB6	GCGAGGGGAAAGGCCTGTG
70841	CAST	GAAACCTGCATTTCTCCCACA
70842	SERPINB9	TCCCTCTTCCTGTGTC
70843	CASP8	AGGCTGGAGTGCAGTGGCGTGAT
70843	CIAS1	AGGCTGGAGTGCAGTGGCGTGAT
70843	CYP2B6	AGGCTGGAGTGCAGTGGCGTGAT

70843	EIF2S3	AGGCTGGAGTGCAGTGGCGTGAT
70843	EVC	AGGCTGGAGTGCAGTGGCGTGAT
70843	F2RL3	AGGCTGGAGTGCAGTGGCGTGAT
70843	FUT1	AGGCTGGAGTGCAGTGGCGTGAT
70843	KCNJ11	AGGCTGGAGTGCAGTGGCGTGAT
70843	PAICS	AGGCTGGAGTGCAGTGGCGTGAT
70843	PRND	AGGCTGGAGTGCAGTGGCGTGAT
70843	STAU	AGGCTGGAGTGCAGTGGCGTGAT
70843	TERF2	AGGCTGGAGTGCAGTGGCGTGAT
70844	PCDHA9	AGGCTGGAGTACAGTGGCATGAT
70844	TRAF5	AGGCTGGAGTACAGTGGCATGAT
70845	DFFB	AGGCTGGAGTGTAGTGGCGCGAT
70846	BLVRB	AGCCAAGAGCTTCAAATTACTCTAG
70847	MYF5	ACATAGTTCCAGTAATACT
70848	TBX5	CCATCTTGCCAGCTCTGTCTTT
70849	C7	CAGGCTGGAGCGCAGTGGGGTGATCTC
70850	MLPH	TCCTCCACCTCCACATGCTCCGCCTC
70851	BARX2	GGTTCCTTGCTGACTCAGCACTTATTTC
70852	EIF2B5	GGAGTCATCTGAAGATGACTGAGTCA
70853	THBS1	TGCCTGTAGAGTTAGTATTTCT
70854	IL21R	TGATGTGAAGACACCTGCAGCCT
70855	HHIP	TGTTCACATATGCACATACAC
70856	SLC22A11	GGTTCCCCTCCCTTTCCCTGCCA
70857	MPP5	ATAAGATGGAAGGCAGCAGT
70858	JAG2	CCTGCCGTCTGTGCTTCCTCCT
70859	SRGAP2	TCTCTCTCGAGGCCACTGA
70860	NOC4	CTGTGGACTCTCTCAGTTGTATGTTGC
70861	KIF5C	CATCGTTCTTTCAGAAGTGCTG
70862	GNAT1	AGGCCAGCTGCTCACCCTGCC
70863	EGFL4	CGAGCCCACAGAAGATGGCATGG
70864	LCN1	GCACCATCCAGCACCTCCGTCA
70865	DKC1	TAAGTCTGCTCAGTGAAATGC
70866	FCRH3	TGCTTCTGTGGCTGCTGCTGCTG
70867	SLC4A4	GAGACAAACTCCTATGTCAT
70868	NCOR2	CCGAATGCATTTGGAACCAAAG
70869	XT3	TAGGAGGTGGCGGTTGCTGTGA
70870	PPARGC1	GCAAGCTTTCTCTCATAACGTAATGA
70871	CYFIP1	CTGGCAGCTGTGTCATAAAATGCTG
70872	SNK	ACTTTGGACAATCCCAAGA
70873	ADCY1	ACCAGTGACAGGTGCTGCCTGTTTAC
70874	THY1	CTCGCCCATCAGTGCCAGCCC
70875	NEDD4L	TGACACCTCCACCCTCTACTTTATTA
70876	ZIC2	GGACTCCTCCTTTCTCCTCCG
70877	ELMO3	GCCGCTGTGCTGAAGGAGGTGTGCGACGC
70878	MBTPS1	AGGGGAAGGATGTACTTTCC
70879	VIPR2	CCAGGCCAGGTGCCCAGGAAAGGACG
70880	STAC	CAGCTTGTTCTTTCTTTCTCTTCAGT
70881	SERPINE2	CGCTGCCTCTTTCCGGCTGTGA
70882	NDUFS1	ATCACACCATTGCACTGCAGCCT
70883	ELMO2	CCACGAGGAACAAACAGCAGAT

70884	WHSC1	GGAGTGCATGGCGAGAATCAAGCAC
70885	WHSC1	TGGGAGCAGCAGCCACCTGGCC
70886	DAAM2	AGTATCTTTCCCTTCCTTCTCT
70887	BRCA1	GTTTCAAAGCGCCAGTCATTTGCT
70888	COL4A6	ATTGTTATCTTTACCTCCTGAGTAATA
70889	OGG1	TCCGGTTCTTGGTGAAGACA
70890	C18orf1	GCACCGGGTAAAAAGCACAA
70891	TNS	GAAACCAGCTTCTTGCCAG
70892	LARS2	AACTGCAGGACTCAGGTGCAATG
70893	ALDH8A1	CCACTGCATTTCAGCCTGGGGGATACA
70894	ITPKB	TTGGAGGTGGTGTTTGCACTG
70895	PSCD3	CGCGGAAGGCGTGGCAGGGAG
70896	RAP2A	AAGTGTTTAATAACTGGCATTAAGCT
70897	RFX2	TTCTCATTCACACAGAAGGT
70898	GNB3	CCAGATCAGTCCTTTCTAATCTCAGCT
70899	PBX2	CTGGCCTCTCATCCCCC
70900	MATK	GAGGAAGAGGAGAAAGTCTTCA
70901	LIG3	TTGCTGTCTTCCCTCTCCCTCAGGCCA
70902	GALNT7	CAATTCTCCAGCTCAACCCAGC
70903	IFRD2	ACAAATGCCACCACAGCAGG
70904	A1BG	ACACCCAGCTAATTTTTATGTT
70905	HSPA6	ACTGTCAGCTAAAGACCTGCA
70906	CMAR	AAGGCCTGCAGCAGATGA
70907	EDNRB	TGTGAACTGCCTGGTGCAGTGT
70908	G6PT1	GCCCACGAGCTGCCCAGTCCCT
70909	CLECSF11	TGTTACAGCAGATCCTGCCTCC
70910	STXBP1	GTGGGTGGAGGCTGGGGTGTC
70911	PDE1B	CGGGAGGCCTTTCCTGGGACCTT
70912	PDE4A	CGGCCACAGGCAAGGGGGTTGCAGTG
70913	C10orf2	CAGGGAGGGGTTTCTGCTTA
70914	FGF4	GTCGCTTGCCTCCCGCACCTCCTC
70915	NCOR2	ATGATGTGTTGGTTTACAGGGTA
70916	SLC6A12	CTCATTGTCTTGCTGCCCAG
70917	PTGS1	CCCTGAATCTGTGCCTGCACT
70918	BRS3	GAACTGAGAAGAAGAAATA
70919	SLC12A7	GCAAATGCACTGAAACCCAGGG
70920	LDB1	GGGTTGTCTATACCCACAGCCCT
70921	TRAF5	TGATCTCAAACTCCTGACCTCA
70922	MSI1	GTTTCCCACCAGGATGACCCCACAGCC
70923	PKIA	AGCGCCGTTTCCAGGCTGCCTTC
70924	CALB1	TTGCTTTCACAAATATAGTTGA
70925	MAGEA2	CTCCTGCCCGCACTCCTGCCTGCT
70926	KCNK4	GGCTCCTCTGCCACCCACCTCC
70927	TAP2	GCAGAAGTCCCCGGAGCTGCGGTCTC
70928	HYOU1	TCCAGTATTCCGTCTGTAGCAGG
70929	ZNF236	CCACAGCCGCATACACACAGGGGAGC
70930	APLP2	ATGCTTGTACAGTTGATGTCG
70931	INPPL1	GGGCAGTATCTCTCTGCCT
70932	NESH	GTTCTGTCCTTCCTCCCATCGGA
70933	TAL1	TCCTGTACCAGTAGGAGATCAGAA

70934	AP2M1	TCTGAGGCTCCTGCTCTCCCA
70935	MTMR3	TTCTCCTCCTAATCTGGGC
70936	CLASP1	GGAGGAACGGAAGGGAGCCCTGCTGG
70937	IL13RA1	GGTTTACAGTCTATTTGAGACTCCTCA
70938	CNTNAP2	ACACAAAATTTCACTCTCTAAA
70939	LAMB3	TGGAGATTGGCATGCCATTGAAACTAA
70940	KCNA5	CCCAGCTCTCCCCAGAGAGGGGCC
70941	PAICS	GACATGAGCCACTGTGCCTGTCT
70942	NFKBIL1	CGGGCCGCCACCACTGCTCC
70943	NRAS	CTGACTTCCTGGAGGAGAAGTA
70944	ACE	TCCTGGAGAACACGTTGGCTCAG
70945	P2RX7	GGGAGGTGGAGGTTGCATTGAG
70946	USP11	GGCTACTGTTCTCCTGTGCCGCTGCAT
70947	SOX12	TGTGTTGTGAGCCAGGACGCAACTTGCC
70948	TPM1	AGCTGGATGTCCCACCTCTCTG
70949	GEM	AATGAGTTTCTTCAAAGGAGG
70950	ADAM12	GCTGCAACTTAATGCTCTGATATGGCT
70951	GCG	GGGCTTGCTCTCTCTTCACCTGCTCTG
70952	SYT1	ATCATACCACTGCCCTCCAAAT
70953	MADH1	GCTGTCATTATGAATGTGACAAGTTT
70954	MAP3K9	CACAGCCCTTTCTCAGGGTTGG
70955	SCN8A	TTTTCATTTTATTGATTCTC
70956	SSTR1	CTCCAGTGTATCTCAAAAGACCGGGCGCCAGG
70957	CALCR	TGAAATGCTTATGCTTGTGTA
70958	GNAS	GGTGCCCCCCGTGGAGCTGGCC
70959	SLC19A2	CAGCAGCCACTTGACTAATACCTTGTG
70960	COG3	CTGTCGGGGTCCCCTCCATCTCGC
70961	PCDH9	TATGGTTGCTTCTGTCCTTCT
70962	HUNK	AGCCTTGCCAGAAGGCAGAG
70963	FCMD	TGCTTCTTTTGGGTGCAGTG
70964	NFE2L1	CCTTGGCCTTGGCTCCACAGGGTG
70965	MYO1D	GCCGCTTTCCCTCTGGACCA
70966	BGN	CAGACATCCTGATGGGGAGGCAGA
70967	MMP7	ACAATCAGAATTGATAAGCACTGTT
70968	ASGR1	GGGAATCCGCCCATCTGGGG
70969	B4GALT3	TCACTGCTGGACTGGAGCTGGGC
70970	GSN	GAGTCCTTGCAAAATTGTCTA
70971	Z39IG	GCTCAGCTCTGCCAGCTCAGAGGACCAGC
70972	IL1R1	CTTGCACAGCCCACACATGAACC
70973	TMPRSS2	GGTAGTGTCCCCAGCCTACCTCT
70974	TRPM8	AGGCTGAGGTACAAGAATTGCT
70975	RBBP9	CCATTTTCTTCTGATCATACTTCCTCA
70976	CYP2B6	ATCAAGCAACTCTCCTGCCTCAG
70977	OPTN	TGGCCAACATGGCGGAACCCTGTCTCT
70978	AFG3L2	GTGGCCGAGGCTGGACCCTGT
70979	MAPK14	CACCTTGCTCTTCTTTCTGAGAGTTG
70980	TEM6	AGGGGAAAGAGGAT
70981	IL11	TCACCCAGACAGCTCTGTGGAGGCAGG
70982	ZNF42	CCTTTGCCCATGTGTCTATGAGGTTA
70983	NKTR	TTGGGGTTTGGCTGCAGTGG

70984	PDGFRA	ACAGGTTGGTGTGGGTTCATTGGCA
70985	VHL	GTGAACAAATGTCTTAAAGGGAATCA
70986	FCRH3	ATTGAGATACAAACAGCATTTAGG
70987	CYP4F3	TCTATTAAAAATAGAAAAAT
70988	CDK5R2	GGAGTGGGGACGGAAGATGAG
70989	PUNC	TTTTCTCAGGATGGATTTTTGCTGT
70990	EHD3	CCCCAGATACCAGACCTGAG
70991	RRAS	AAGCAACCACCACAAGCTCTCGGGA
70992	LPP	GGGAGGCTGAGACAGGAGGATTGCCTGAG
70993	EN1	GGAGAGACAGCGAGATCTAT
70994	OCRL	GGCTAAACCCTTTCCTGATTGAGAGTTAAAG
70995	IGF2	TCTCCCACTATCTCTGCCCCCCT
70996	DSG1	TGTCATCACTAGTGGCAAATGA
70997	CLN5	CAAAACCCCCAAACCTGGAGCAG
70998	UBE4A	ACCAAAACCAACCCCAGAGTGCAGATA
70999	PDE4A	CGGCCACAGGCAAGGGGGTTGCAGTGG
71000	AGRP	CTGGAAACCTCACCCCAAAT
71001	MSN	TGTCCCTTGGAGCTGTAAACCAGA
71002	CAPN11	TCAGCTCTCCAGTCTCTGC
71003	EYA4	GGAATGAGCAGCTTTAGCAAAGA
71004	C5R1	GACCCAGGCAGTGTAGCG
71005	MGAM	AGGTTAAACCTTAGCCCTGT
71006	EXTL3	TGGGAGGCTGTGATTTGCTGTG
71007	EFNB1	GCGGCAGCGGAGAGCCCAGGAGA
71008	ZNF10	TTTTCCCTTTTGCCTAAATC
71009	NRD1	TCCAGCTTGGTGGTGAATGCTGA
71010	EDG8	TGTCTTGTGGCCTCCATGGGA
71011	KIP2	CTGCTTCCCACCCCTGCCTGTTCCCCTTC
71012	CRAT	GGTGAAGCCTCTGGGCTTCCTGAAGCC
71013	AGTR2	TGCTTTGGTTCTGGGTTGTTTCCTAA
71014	NCOA6	CCGAGGCTGGAGTGCAGTGG
71015	AXL	CCAAGTAGCTGGGATTACAGGT
71015	FANCF	CCAAGTAGCTGGGATTACAGGT
71015	SAS	CCAAGTAGCTGGGATTACAGGT
71015	ZNF253	CCAAGTAGCTGGGATTACAGGT
71016	APM1	CACCCAGGCTGGAGTACAGT
71016	PCDHA9	CACCCAGGCTGGAGTACAGT
71016	TRAF5	CACCCAGGCTGGAGTACAGT
71017	HUS1	CACCCAGACTGGAGTGCAGT
71018	CRYAA	ACTCCTGCCAGCCTCCAGGTCCCC
71019	CLCN7	GAGGGTGACCTCCCTACCT
71020	ALDH3A2	TAAACATACTAATCCTCTTTCA
71021	DAAM2	TGCCTTTCACTTGCATCCAACTCC
71022	TDG	TGCGGGTGCTTTGAAGTGCCTT
71023	DBN1	AGGCCGCCCACCTGCATCAGCCTCT
71024	PPT2	GAGCTCTTCTCAGGAGCCTT
71025	FSHR	TTCTCTGCAAATGCAGGAAGAAATCAG
71026	C14orf1	CTCAAGTGACCCTCCTGCATCAG
71027	TXNRD1	TGCTGTTGCCAAGACTGCA
71028	PAFAH1B1	TTCTGGATGTAGATTGAGCTTAT

71029	WHSC1	TGCACTTAGAATGATGTAATA
71030	SHFM3	CACTGTGCTCCTGGGCCTGTGACCCCA
71031	PRKAR2A	TTCTGAAGGCCCATTCATTAG
71032	OGDH	CCTTGGGGAGGGGTCAGCTCTG
71033	MEN1	CATTTACTCTCTGGCAGTGT
71034	APPBP2	ACCACGCCTGGCTAGGAAATTTTTTGT
71035	AVPR1A	GTCAAGAAAAGCATGAAAACTGAGATG
71036	AKAP1	TGCCTTCTCTGCCGATGACATCCTGGC
71037	SUV39H1	CTGGTCTCAAAAGTCACCTGCC
71038	PLS3	ATGTTATTTCTTGCTCTGTTA
71039	HOXC5	CGGGGGCAGGTGCTGGAGCACTGGGC
71040	PDE4A	CTGCTTCTCCTCTTGTT
71041	IRAK4	TACCTGTAAATCCCAGCACTTTG
71042	PDE4A	GGTTCTGCAGCTGGACC
71043	PPP6C	TTTGCTGCTGAAATGCTGCCTCTTG
71044	PFKL	CCTCTCCTTGCCCTGCCTCAGCTGC
71045	CDK10	GACTTCCTCCCACTGTCTGCC
71046	HOXB9	AGGCAGCACGTGGTTTTATGA
71047	EPHB1	CGCGCACACACTCCTGCCCACGC
71048	PACSIN1	GTGGCCCCAGGGTAGGTAACAGT
71049	POLS	AGGTTTGACAAAAAGATATCATGT
71050	MLPH	CCCTCCACCACAGCCATCCTGT
71051	PRDM2	TTGCGTTTGTATATCCAAATGGACGTT
71052	STK4	GGCTTTGGGTGAATTCTGGA
71053	EBAF	GCCATAGCGCCTGGTGTATCCATTGAG
71054	SLC2A2	AGCCCAACTCCTCCCTCTCCTTGCTC
71055	SLC22A7	CTAGTGGGAGTGGAGGCAGG
71056	SHOX	GACTTCGGAATCCCAGGAGGCAG
71057	LBP	CCACTGCACTGGGAATCTAGGATGGGG
71058	APBB1	CCCTTCCCCCTGCTCCATGGGCACCTC
71059	SOX13	GTGCTCCCCTTCCTGCCAGCGTCA
71060	GGT1	CCAGGAGGACAAGGCTGACA
71061	KCNS3	CCTCTTCTCCCTTGCCA
71062	ITGAL	CCTGTGCAGTGGCCCCCACAGAAAG
71063	IL22RA2	GCACACAGTGGGTAGCAGGAGA
71064	HTR6	GGTCCCCGTCCAGCCTGCGCTTCGCC
71065	ACPT	AACCTTGCCGGGCTGTTTCCCG
71066	ADD3	ATTACTAGTTTTAATTAGCTCTGCCC
71067	SCNN1G	CCTTGGAGTGTTGGTGGAGATCAGAGT
71068	CIAS1	CTGCAGCCTCCACCTCCCGGGT
71069	NCAM2	AGAACAGAATTCTTGTGCCTACC
71070	SSTR1	CTGCTTGCCTAGCCCCAGGT
71071	NR1I2	TTCCCCTCCTCTTCCGAGC
71072	ABCC12	GCTCATTGGTGAAAACAGTTCTCAG
71073	TPP2	TAGAACCAGCACAAATGAGTG
71074	HYAL1	TGGGAGATGGCAGAGGCC
71075	PPEF2	TGCCCCAACCCCACCTCA
71076	GALNT2	GTGGTAGAAGCAACTGAAC
71077	ARNT2	ATAGGGGTGATGGAGGGGGAGAAGC
71078	APAF1	GCTCAGAGAGAGAAAGATCTGA

71079	SOX9	GGTTGTTGGAGCTTTCCTCAAAGGGTAT
71080	MCC	TGCATCAGTGGGATCCCAGAC
71081	SIAT1	CCAGGTGTCCATCCCCGTGCTGA
71082	CAPZA1	TTTAAAAAACCAAGTAGTGTCTTC
71083	HCFC1	CTAAAGAAAGCACATTTTACC
71084	PPP1R2	TGCTGAACTGTGAGTGCAGTATTCTA
71085	BENE	CCAAGGCTGGAGTGCAGTGA
71086	GABRE	TCAAAACCACAGCCACTTAGTG
71087	SLC38A3	TCTTCTCCCATCTCCCTTCACA
71088	MMP16	AAGAGGAGAAAAAGAAGAAAA
71089	MEIS2	AAAAGGAGCAAGAGAATACTGTA
71090	SLC25A17	GTGATTCTCCCTTGACTCTGG
71091	LZTFL1	GTCTACTAAGAGACATCATTCCAT
71092	HSPA9B	GCTGGCTGTGCCATGTTTGTAGATGG
71093	DAP	AGCTCACTCGCGCACGCCCGCCCGGCC
71094	MYCL2	CCTGCCTGAGCCTTCCGAGTAGCTGGG
71095	CDC42	TGTATATGCATTCTTTTCAGAT
71096	ZNF2	ATCATTGAGGGAATGCCTTG
71097	PRSS16	AAAGAAAGCAGCTTGTTTTGAAA
71098	ZNF14	ACACAGCCTTTTGAGCACACATGAGAA
71099	ADAMTS6	CCTTTCGTGAACACATTCTT
71100	SOX13	GCCATTTTTAGCTCTGATCAGC
71101	GAS7	TTAAGAATGAGGTAGTT
71102	HSPA6	GGGTGAGGCGCAAAAGGATAAAAAGC
71103	SEPN1	CTGGGCCTTTTATGTGCCG
71104	TGFBR3	TGGCAAATCTGTCGGTCTCCA
71105	LMNB1	GGAGGGAGGTGGAGGGAGGGAAGGG
71106	COL4A1	ATTCCTCATTCTGCATCCTGGC
71107	PTPRZ1	CCTCCCTCTCCACTCTGAG
71108	PDGFRA	CTCACTCTCCCTTGTACAGCCTTAT
71109	NT5C3	AAGCTCCTTTTCTCCACCTCTCTC
71110	COL17A1	GCTGTGCCATCAGCTC
71111	IL1R1	TTGAGCCTCCATTTCTGGCTT
71112	HDGF	CAGGCCACCTGGCTCTCACCTCTA
71113	CDH17	AAGTAGCTGGGTTTACAGGCACCCACC
71114	PLEK	CTCCAGCCTCAGGGCCTCTTCTGGAAA
71115	CTMP	GACATTGAGAAAAGGATGG
71116	UQCRC1	CCACAAACACAGCACTTCGGCTCCTCT
71117	ALDH1B1	TGTCGCCCAGGCTGGAGTGCAG
71117	CASP8	TGTCGCCCAGGCTGGAGTGCAG
71117	EHD2	TGTCGCCCAGGCTGGAGTGCAG
71117	FHL2	TGTCGCCCAGGCTGGAGTGCAG
71117	GRINL1A	TGTCGCCCAGGCTGGAGTGCAG
71117	INMT	TGTCGCCCAGGCTGGAGTGCAG
71117	KCNJ11	TGTCGCCCAGGCTGGAGTGCAG
71117	LYZ	TGTCGCCCAGGCTGGAGTGCAG
71117	MTR	TGTCGCCCAGGCTGGAGTGCAG
71117	NCOA6	TGTCGCCCAGGCTGGAGTGCAG
71117	ORC1L	TGTCGCCCAGGCTGGAGTGCAG
71117	PAICS	TGTCGCCCAGGCTGGAGTGCAG

71117	PCDHB9	TGTCGCCCAGGCTGGAGTGCAG
71117	PIGR	TGTCGCCCAGGCTGGAGTGCAG
71117	SERPINB9	TGTCGCCCAGGCTGGAGTGCAG
71117	SLC13A1	TGTCGCCCAGGCTGGAGTGCAG
71117	SMAC	TGTCGCCCAGGCTGGAGTGCAG
71117	SS18	TGTCGCCCAGGCTGGAGTGCAG
71117	STAU	TGTCGCCCAGGCTGGAGTGCAG
71117	TAPBP	TGTCGCCCAGGCTGGAGTGCAG
71117	VIPR2	TGTCGCCCAGGCTGGAGTGCAG
71118	DFFB	TGTTGCCCAGGCTGGAGTGTAG
71118	HYAL4	TGTTGCCCAGGCTGGAGTGTAG
71119	PPID	TGTCACCCAGGCTGGAGTGCGG
71120	ITGAL	GCTATCTCTCAGTGAACT
71121	PDGFRB	CACCCTCTCTGGGCCTCAGTTTCCC
71122	H3F3B	TTACTGTCCTGGGAAAATCATTT
71123	B4GALT5	GTCGCCTAAGCTGGAGTGTGGT
71124	UBE2A	TTGATGTGTTTGTCACCTCC
71125	CTSL	TGAGGTGGGGAAGCCGGGGAGGGC
71126	C14orf1	GAAGAAGAGAAACTGGGCCAGCA
71127	GPR30	TTCCAGGATGGCAGCAATGGC
71128	PXMP3	CGGAAGCCTTGGTAATCCAGA
71129	PTGS2	TCCTCTTAAGAAGATTAAA
71130	SDC1	TCTGCCTGGAGTGTATGACTGC
71131	BHMT2	AGCTACTCGGGAGGCTGAG
71131	CASP10	AGCTACTCGGGAGGCTGAG
71131	DDOST	AGCTACTCGGGAGGCTGAG
71131	DGKI	AGCTACTCGGGAGGCTGAG
71131	EGFL4	AGCTACTCGGGAGGCTGAG
71131	F2R	AGCTACTCGGGAGGCTGAG
71131	KCNA7	AGCTACTCGGGAGGCTGAG
71131	LDLR	AGCTACTCGGGAGGCTGAG
71131	MEN1	AGCTACTCGGGAGGCTGAG
71131	NFATC3	AGCTACTCGGGAGGCTGAG
71131	NUP62	AGCTACTCGGGAGGCTGAG
71131	OPA3	AGCTACTCGGGAGGCTGAG
71131	P2RX7	AGCTACTCGGGAGGCTGAG
71131	PAICS	AGCTACTCGGGAGGCTGAG
71131	PCDH11X	AGCTACTCGGGAGGCTGAG
71131	PCDH11Y	AGCTACTCGGGAGGCTGAG
71131	PCDHB9	AGCTACTCGGGAGGCTGAG
71131	RPN1	AGCTACTCGGGAGGCTGAG
71131	SMG1	AGCTACTCGGGAGGCTGAG
71131	STAT3	AGCTACTCGGGAGGCTGAG
71131	SULT2A1	AGCTACTCGGGAGGCTGAG
71131	TCF7	AGCTACTCGGGAGGCTGAG
71131	TPM4	AGCTACTCGGGAGGCTGAG
71132	CDK5R2	GCTCAGCGCCCCGGCTGGGCGGAG
71133	TAL1	TGGGCATGTGGGCTTCAACTCCTC
71134	HADH2	AGCTTGGGAGGAAGCCCAGTAG
71135	KLK10	CTTAGACATGTTGTGAGGAGACTATGATATAA

71136	USP5	GTGCCTCCCCTCCCCCTTTGTT
71137	APAF1	ATGAAAATGTGAATACATAC
71138	HTR4	TAGCTTCCTCCTGGTGTCCTGGCC
71139	MAP3K7IP1	GTTCCCAGGAGGGAAGAGGTTCC
71140	PPP2R2B	GTGAGCTTGGCAGGGCCAGG
71141	RNF26	TGCCCACCCCTCCATGCTCCAC
71142	LRP4	GCCCACATTCTCTTCCCTGCCTGCCTGT
71143	IL1RL1	ACTCAGCTGCTTCTTTGGTCA
71144	SCAP2	GAGTCCTGGAAAAGGAAAATT
71145	GHR	TTCTGCTACTTTGCTGCTA
71146	GLRX2	TGCTAATTTCTTTTGTTTTGT
71147	MLANA	TTAGTAGAGACGGGGTTTCTCCA
71148	TRIM39	GGGTAATCTTCACAGAAATGACTGAG
71149	CSE1L	TCCAGCCTGGGCAACAGAGCG
71149	DFFA	TCCAGCCTGGGCAACAGAGCG
71149	FANCC	TCCAGCCTGGGCAACAGAGCG
71149	POLH	TCCAGCCTGGGCAACAGAGCG
71149	SRGAP1	TCCAGCCTGGGCAACAGAGCG
71149	UBE2G2	TCCAGCCTGGGCAACAGAGCG
71149	ZNF264	TCCAGCCTGGGCAACAGAGCG
71150	SIM2	TCCAGCCTGGGTAACAGAGTG
71151	HYAL2	CAGGGGGTGGACAAACTGGAG
71152	TBX6	GCTCACGCATGTAATCCCAGCA
71153	PTPRG	TCTTTGTTATGACAGTGAATATTGC
71154	VAV1	GGCGGGTGGAGACTTTGGGATGGACT
71155	BASP1	CTGCCCACAGGGCCTGTGCC
71156	SCP2	TTTCAGAATAAAATTAGGAACAGTAAAATCC
71157	ZFP36L1	CCCTCCCTCTCCCCCTCATAACC
71158	CRTAP	CTTGCCCAGGCTGGAGTGCAA
71159	SOX2	CTTTGCAGGAAGTTTGCAAAAGTCTTT
71160	SNX6	AGGTTTGCTTGACCTCTGCCTCA
71161	ITGA5	AGATAACTAGGAAATCCATTC
71162	BTG2	CTGTATTTTTAAATGAAGAGCT
71163	GSTM1	CTGAGCCCTGCTCGGTTTAGGCCTGTC
71164	MAPRE1	CAGTGGAGAAATGTAAAGA
71165	USP9X	AGGCCTTACAGTCCAACCTTTT
71166	DAPP1	CTACTAATAATAGAGCACTTG
71167	NR2E3	TTGGGAGGCAGAGGGCAGCTACTGCAG
71168	ELAVL1	CGGAATAGATAATTAAGAGTGA
71169	LPIN1	CCCTTTTGCAGGTATTAAAAATAATTA
71170	SGCA	GGGGTGGGGTGAGAGTGTGTGG
71171	MS4A2	CTATCCCACGATGCAGTATTG
71172	PRKACA	CTTCCGCCTCCCCCATCCTGGGC
71173	ELOVL4	AGCAGGAGAAGACGCAGCCGGGCCGC
71174	BMP1	CCTGGGCAGCTACAAGTGCA
71175	NR4A1	TTCTCCTCCTAGCTAGTCCTGTCCTGC
71176	CASP2	CGCCCAGGCTGGAGGGCAGTG
71177	TAT	CGCCCATGCTGGAGTGCAGTG
71178	TIA1	TGCAGTTCTAGTTTGCATTCCTGA
71179	ENG	GGCCAGCCCAGCCAGGCCAACAGC

71180	INPP5A	GCCGTTCTTCTGTGTAATATTAAG
71181	CHD4	TCCCCTGGGGGCCTGAGAGAC
71182	PCP4	AGCTTAATCTCTATGTTTCTCTCCA
71183	KCNH3	TCTGCAGGCTGGGGGCAGAGG
71184	ACPT	CCCACCTGCCCCTGCCTCTCAGC
71185	CAV1	AGATGGGGGAGGAGGCAGTAATAA
71186	SH3GL2	TTTCTATCCATCGTCTTCATT
71187	MSL3L1	TGAAGTGAAAGAAGAACCAG
71188	SLC22A5	GAGTTTGATTCTTACCT
71189	SSTR2	CCACCCCTCACACCTGGCTTCTAGAA
71190	FMOD	AAGCCCAGGCCAGGCAGCCAAA
71191	PACE4	GGCTGCCTTTGGAAGTCCAGAGCTGGA
71192	TNFRSF10B	TTAGTAAATGTACTTGTTTA
71193	MPP1	GCTCAGGCTCCTGAAGGGTTG
71194	WHSC1	CAACTTGCTTCATTTCTTTTTCA
71195	HRH1	ATCCTCTGGGGTTTCAGCTTAT
71196	F2RL3	GGCCTCCTGGGTTCAAATGATT
71197	SLC22A12	CTACCTGGCTGGGATTCTGGT
71198	CYLN2	CGGAGCCCAGGGCAGAGGCAGCTCAGAGTGG
71199	PYCS	AGCTGGAACCCAAGCTGCAGCA
71200	RB1	TTCATTGTCTCTCACAGA
71201	PRKY	AATCCAGGCGTGAGAGTGT
71202	SCN4A	TCTTCTTTTTCTTCTTGTTTCTCATGA
71203	GABRB2	AGGTCCTTGTGGTTTTCCAGTTA
71204	GPR75	TCTGTGAGCTGAGGCC
71205	CD34	CAGGCCACCTCCAGAAACGGCCA
71206	DYRK2	TCAGCACTTAATTTTAATGTAAG
71207	PRND	TTTAGTTTTTCACTTTAGCAA
71208	SMAC	CAGGCTGGAGTGCAGTGGCGAGATCTC
71209	ANXA7	TTCATTCTTACTAGTTTCATTCTAATC
71210	LDB1	CTCTCTGGGGGCAGGTGCCA
71211	VDAC1	ACTATTTTGCAGCATAGCTACC
71212	GPR81	TCTGTGTCCCAGGCTGGAGTGC
71213	KRT14	TCCTGCCCAAGCACTTC
71214	PLA2G2D	GGCAGGAGAATCACTTGGACCTG
71215	ELAC2	GGCGGCACCTTTCCTCTAATCCAGCA
71216	RAD18	TCTCTCTCTAAAAATACTGACATTTC
71217	SEPN1	GTTCTCTCCCCACCCCCTCACC
71218	GCH1	TTCTGAGCACTCAACTCATGTTTGGCA
71219	ENAM	TGCTTCTTGAGATCTCCCTG
71220	CYP3A4	CACTGCACTCCAGTCTGGGTGAGAGT
71221	PRDM2	GTTACCACTTGTTAGAAGGCAGG
71222	MADH6	CAGATATATTTTCTTTCTCTTCCTC
71223	PMM2	GAGCCCCGGATCCGGTGGGGTGAAAGC
71224	PUM1	ACTGTATTTTGCATTTTGTCTAC
71225	MHC2TA	GTGGTATGATCACGGCTCACT
71226	PIK3C2B	TCACTCCTGCCACTGTTCCA
71227	VHL	TTTTTGTTGGGGGGTGGGAGAGG
71228	P2RX7	GCTGACTTTGCCAACCTGCCCAGCT
71229	TRPM8	GTAAGCTTTTTCACTTAGTAT

71230	SORCS1	ACACTCCCCTCTCCCTCTTTC
71231	TFRC	CTTCATCCTGCGGGGCTGGC
71232	ABCC5	CATATTCCTTTCTATCATTTTTGTACA
71233	GDF5	TCCTGGGTGGCACATCCCAAGA
71234	VDAC1	GCCACATCCTCTGAGAAGA
71235	STK13	ACATCAGTGAGTTGGCTACAGCAGA
71236	DNAI2	CCCAATGTGCTGGGATTACAGTTGTCACG
71237	GLTSCR1	AGGGTGCTGGGAGCTGGCAGGGTCCTT
71238	EDARADD	TGCAGTGAGCCGAGATTGCGCC
71238	F2RL3	TGCAGTGAGCCGAGATTGCGCC
71238	KCNA7	TGCAGTGAGCCGAGATTGCGCC
71238	LDLR	TGCAGTGAGCCGAGATTGCGCC
71238	TSNAX	TGCAGTGAGCCGAGATTGCGCC
71239	PTPRS	TGCCCCATCTGACGCTCGGCT
71240	XT3	CTGGGCCTCCATGGCCCCAAAAACTCCCT
71241	ADCY1	CAGGCCTGGGGGCCCCATGCTAGGCTT
71242	GRLF1	CCTCACTCAGCTCCTGCTGCT
71243	ZNF42	GCTGGTGCCTCCTCCTTCACC
71244	HGF	ATTTTTATCAAGGCTAAGTCCCC
71245	DSC3	TTAGAGGCTAGAGGGAGCTGAG
71246	PXF	CTGTCACTATGCTCTCTTGCCT
71247	ADAMTS4	CCGAGTAGCTGAGATTATAGGC
71247	SEDL	CCGAGTAGCTGAGATTATAGGC
71248	TAT	CTCAACCTCCCAAGCAGTTGGG
71249	PROK2	AGCCCCATTTGTGCCCTGCCGCACAA
71250	SCNN1A	AGCTTTGACAAGGAACTTTCCTAAGAA
71251	ZNF3	TGCCCTGCCCTCTCACCTCTGACACCCAGC
71252	POLR2G	AACTACTGCCTCCTCATTTT
71253	KPNA4	CTTTGTTTTCTATGAAAATGATATGG
71254	FETUB	CCTGAGCTGCATCACCTCCTA
71255	HUNK	TTCCCTGGCAGGCAGCCTTGCCA
71256	PHLDA3	GTGCGCGGAGCAGTCAGGGCGCAGGT
71257	GPR48	TGGCTAAACTACTAACTAATGTGGG
71258	AR	TGGCACCTTCAGACTTTGCTTCC
71259	OTOR	AAATGATTTCAGTTGAATAACTTG
71260	GJA4	TGGCCTTTTGCAGCTGAT
71261	CACNA2D2	CATGCCACTGCCTGCACCT
71262	UBQLN1	CCACAGCCATGGCCGAGAGTGG
71263	GJA4	CTGCCTGGGATGCCCCCTGC
71264	MS4A2	GGGTTCTCTTCACACTATCA
71265	BCLG	CTGTTGTCTGTGCCTTTTTGAAAAAC
71266	ADAM28	GCAGGGGTGGCAGAAGTACTGT
71267	AIM1	GCCTGTAATTTTGGTTCTTGG
71268	BIG1	GAATCACTGCAAAATGAATCCA
71269	ADCY6	GCTTGGATCATGCTCGTCTGCCCTCA
71270	PYGB	CTGGGAGGTGGGGGTGAGCCCCTCACA
71271	PRND	CGAACTCCTGACATCAGGTGAT
71272	CDH10	CTGGGATTTGTCAAGAAGTGAA
71273	HADHSC	TTCATTTCTGTGTATTTTCTAA
71274	B3GAT1	GGAGGGACTCTGGAGTAGCAGAGGGG

71275	MAP1A	CCAAGCCCCAATGCCAGAATTCTTCCA
71276	NOS1	TCCTCCCAAAGGCTTTCTTTCCAA
71277	PTGES	GTGAGCCAAGGACAGGGCTGGCTCCTC
71278	CEBPA	GGGGAGCAGGCCCGTGGCAGGAGGAG
71279	GRM6	TCGGATTACAAACGTGAGCCAT
71280	NEDD4L	ACTGCCTGAGTTGTGCCTCTTGTG
71281	AHR	GGGAATCGGAGGTTGCAGGGCCAAGAT
71282	CNGA3	GTATATATTTTAAAAGCCT
71283	MEFV	TGAGCAGCTGGGATTACAGGTGC
71284	ADCY6	TGAGTAGCTGGGATTACAGGCGC
71284	CIAS1	TGAGTAGCTGGGATTACAGGCGC
71284	MRPL49	TGAGTAGCTGGGATTACAGGCGC
71284	PTGES	TGAGTAGCTGGGATTACAGGCGC
71284	TRAF5	TGAGTAGCTGGGATTACAGGCGC
71285	CRHR1	CCAGCAATGCCCTGCCTTGCTGC
71286	CLASP1	CAACAGCAGCTCCTCCTCCG
71287	MN1	CCTGAAGGCTCTGGGCTCACCATACA
71288	M6PR	TTTAGTCTGAGCCTGGAGATGTTCTAGA
71289	DSC3	TTAATCAGTTTGCTTTCTCCA
71290	FGFR4	AGGAGCCAGGTGAGGAGGAGCCAG
71291	RNASEL	CCTCCACTGGAATGTAGGCTCC
71292	TNFSF14	CTAACATGGCAAAACCCCATCT
71293	GCNT2	CCGACATGGTGAAACCCCATCT
71294	HIP1	CCAACATGGTGAAACCCCGTCT
71294	HM13	CCAACATGGTGAAACCCCGTCT
71294	IRAK4	CCAACATGGTGAAACCCCGTCT
71294	LEP	CCAACATGGTGAAACCCCGTCT
71294	NUP62	CCAACATGGTGAAACCCCGTCT
71294	RIMS1	CCAACATGGTGAAACCCCGTCT
71294	SLC2A6	CCAACATGGTGAAACCCCGTCT
71294	UPK1B	CCAACATGGTGAAACCCCGTCT
71295	TNFRSF1B	CCAACATGGTAAAACCCCATCT
71296	ALDH3B1	CTAACATGGCGAAACCCCGTCT
71297	ANKH	CCAACATGGCGAAACCCTGTCT
71297	INPP5B	CCAACATGGCGAAACCCTGTCT
71298	DFFA	CTAACATGGTGAAACCCTGTCT
71299	AMPD3	TGTTTTTAGTGAATTTCTTA
71300	IVD	TAAACCTAGCCTAGCCA
71301	GNB3	CAAAGAACTGCCCCATCTCCTC
71302	TCF12	GGACCCAAATCACTATGTAGCT
71303	EGR3	AGCAACAAAAGAAAATGCACTCTAAC
71304	APM1	ACTCCAGTGATGTTTTTC
71305	NXF5	ACTTCACCTCCATCCTGGT
71306	VAPA	CCTTACAATCCTGTCCCA
71307	ADRB3	TGTGGCCCAGGCTGAGAGCAGCAG
71308	APPL	TTAGATGATTCAGCTTTTGTTCCATT
71309	NCALD	CTTTGATTCTCCTTTGGTAGG
71310	ENTPD1	GCTTCCTTGGCTTTTACTGA
71311	FABP2	ATTCATGCCAAAGCAAAAGA
71312	TFDP2	CTTAAGTGACATTTAGATAA

71313	ALOX5	CCTGCCTGGCAGGCTGTCTGGCCA
71314	RAMP3	TGCTGCCAATCTCCAGCTACTGTGGCCAC
71315	MTL5	AACGTGCACTTCCTGTCCTCG
71316	ITGAM	CTCAGTGGTGCCTGCAACCCCTGGTTC
71317	FRK	TCAAAGTTGCCTGGTGAAGGAA
71318	USP18	CGCTTCCTGGAAGTGAAG
71319	IL15	TATGCTGGTAGGCTCCTGCCA
71320	ZNF195	TATCTGCTCGCATCCCACT
71321	KERA	TGGAAGGCAAGGTGCTATAATGGCAGG
71322	ABCC1	TCCTTGTCTGGGTCTACCAGGAA
71323	ASB1	TCCTGCTCCTGGGGTAACACATGCGCT
71324	TNFRSF17	ACCATTTCGACTCGAGCAGTGCCACTT
71325	EDN3	CCCATCAATTGCTCAAATACTCA
71326	BCS1L	CTCAGCTCAGCTCTCCTCCTCT
71327	MAPRE1	CAGTTTCTAAATAAAATTCTGT
71328	EGR2	TTCTACAATAGGTTGGG
71329	GA	ACAACCTGAGGCACTGTGCTCGG
71330	KCNA6	ATACTCTTTGTGCAAGTGCCTT
71331	FANCA	AGCTCAGTCTCAGCCTTGTGTT
71332	HOXD9	GGCTTTGGGGTTTCGCCCTAT
71333	SIAT8E	CCCAGTGACTAGACCTTCCAG
71334	MUC4	TCTCTCTGACTTTTTGTGTCTCC
71335	NF2	TGTCGGTCAGGCTGGTCTCGA
71336	LPO	TTGGTCCACAGGGCCATTTCAAGCAAG
71337	AQP6	AGGAGATCAGAGACCAGAGGAA
71338	HMGN2	GTTTTGAGAGACTTCCTCTTGGC
71339	ATP2A2	TGTTGGGGAAAAAGAAAAGTAAAAA
71340	ZNF146	ACTGTATGGTGGAGAAAGAAGTGGGAA
71341	CDC42	TCCTCTTGGAGAAAATAACA
71342	ACOX1	CCCTGGGGCCTGGCTTAAA
71343	CHAT	GCCTCAAGGGGTGCGGCCCTCTCAG
71344	CCNK	GGGGTGAGTGACCCACCGACTGAGGGC
71345	RBBP9	CAAACTTTTCTATTTCACTGGG
71346	MAFF	GACCAAAACCTGGGTGTCCTCA
71347	MAT2A	GGTCTGGCTGGTGTTAACA
71348	CML66	TTGCTCTGCCACAGACATA
71349	FZD10	TGGGTTAACAAATGAGCCAT
71350	TBL1X	CTCTCTGCTGCTGGCATGTT
71351	NOTCH2	TCAGTTTCACTGGGTATCTGCA
71352	SHOX	ACTCACTGCAACCTCCGCCT
71353	GCN5L2	GTGCAGCTCTGTCCCAGCCTTCACTG
71354	ASCL1	GCCTGGTCAGGCCCTGGTGCGA
71355	B4GALT2	GGGGCCTCCTGCCTGGGCAG
71356	TNFRSF6B	CGTCCTTCCTTAGACAGAGGCCAGCA
71357	RAB23	TTTCCATCTGTACTCCCCTCAT
71358	ABCC3	TCCTCCAGGAATTCCCAGCAGGCTCTC
71359	PLS3	GTACCTTAAATTTGCATCTTCCCT
71360	SQSTM1	TCAGCTCCCCGGCACTGCAGTCT
71361	CASP2	GGGAGCATCAGAGAAGGCCAGGAAGAAT
71362	MANBA	GTAGGTCTTTCACAGCTAGCT

71363	ANXA6	CAATAAACATCCTGAACCTCTGT
71364	RNF26	CCTGCCTGCCCACCCCTCCATGC
71365	ATP2A3	CCCTCCACTCCACTCTGCT
71366	SULT2B1	GAACTCCAGCACCCACCTCCCT
71367	HUNK	GGCTATTGGGTTTTACTAGATTA
71368	FGF12	ATGACTCCAACAGACAGGAT
71369	TBCD	TCCTGGAGCCCATACCTCAC
71370	IL15RA	CAGGCCTCTCAGAAGTCCCAGCAGGA
71371	GRM1	TGCCTTAAGTAGGAAGAGAGGGAAGG
71372	CREB1	TCTTCCATAGGGCAGTTGTTGC
71373	HAS1	GTGGTTCTCTGGGCCTCAGTT
71374	SLC20A2	TGTCATCAGAGTAGAGAATGC
71375	PACSIN3	GGGGTGAGTGTAGTTCTGGCCTAGCA
71376	POLR2C	AGGTCCCTGCTGGAGTGTTTCCAGTG
71377	PCLO	CTACAGTGATTTGTATTTTTCTA
71378	EHD1	GCCGCCTCCCCCTCCTCTGCC
71379	TOP3B	TATTAAAATGCATTTTATC
71380	CHRNA10	AACTGTACTGCTGCATTTCCTGTCTTC
71381	PPP1R12B	CCCAAAGCGATAGGATTACAGG
71382	CCT2	CCCCTGTTAGCATTCCCACGT
71383	TEC	GCTGCTCTGGGCAGCGCCTT
71384	CYP1A2	TCACCCAGGTTGGAGTGCAGT
71384	PRKWNK3	TCACCCAGGTTGGAGTGCAGT
71385	SERPINB9	TCACCCAGGCTGGAGTGTAGT
71386	MEN1	GGAGGCTGAGGCACGAGAATCGCTTGA
71386	PSMD5	GGAGGCTGAGGCACGAGAATCGCTTGA
71387	SFRS7	ATCAAAGTCCAGATCTCCATCT
71388	PTK2B	AATTGGGAGTCCAGGCACAG
71389	SHOX	TCGCCCAGGCTGGAGCGCAGT
71390	LNK	ATTTAAAACATTTTACCTCA
71391	SDPR	TTAGAGCCACCGTGCCATCC
71392	CHC1	AACAGGTGTCCATGGGACAAAAAAGA
71393	ELAVL3	TGCGGGGGAGCAGGCAGTGGGG
71394	CAPON	TTTGCAGCACTTTACCTCTCTGAAAGC
71395	NDRG2	GTGTCAGGGGGAGACTTGCTGGTGGGTT
71396	MBD3	CACCCAGGAGGAAGGCCGTG
71397	SYNGR1	GCTGGGCCAGAGTTAAGGGAA
71398	OPCML	TTGTGGACTCTTTAAAATCTGGTATCCTA
71399	RAB38	CTCTTTGGAATCGTGAACACAGGTGTG
71400	FAT2	ATAGAGCTCCAGAAACAGCAC
71401	CPT1B	TTGCTGTCCATCCTTTTTCA
71402	HAP1	CAGCCCAGGGGGCAGGAGAAGC
71403	TAL1	TCTCTCTAAATATGCCCCAGGATGACCGAG
71404	TMEPAI	CCTCAGCTTCATGTCCAGTGGA
71405	MAPK14	AGCTGCTTGTCCTGCTCTCTTCA
71406	SCA1	GGCCACACTGGGGCAGAGGGG
71407	MHC2TA	GGTGGATGCCTGGTGGCAGCTGC
71408	MME	AGGCGCTTGGCTGGGCTCTCAGCCCGC
71409	TNXB	CAGGAAGGAGGAGGAGTCTG
71410	ABCB10	GGGAACTATGTTTGAATATGT

71411	RAD9	TTCTCATTGAGCCTCAGGCTAT
71412	MYOG	GCTGGCCACAGATGCCACT
71413	HSD17B1	CAGATTAGAGTCCTGCCTTGGGCAGC
71414	EED	TCTTTCAGCATTCAATCAGGCTGAGCTGA
71415	SPF30	TTGGATGTGTGATGTTTATA
71416	MEF2B	CCTCCGCGGTGGGGGCTTGGAG
71417	CSE1L	TGTGATCATACAGTTATGTGGGT
71418	TFCP2	GGGAGAGAGCGAGACCTGGGAGGGAGG
71419	VHL	TTGCCCAGGCTGGAGTGCAGAG
71420	IVD	CTTTCTCTTGGGTGAGGCTCTGGCA
71421	TTF2	AGGCTGAGGCAGGAGGATCCCT
71422	PTS	GACAGCGCCGGGAAGATGAGCAC
71423	SEPN1	CTCACCCCACCCGGGGCTCACTC
71424	IL16	TGTTGCCCAGGCTGGAGTTCAGCGGT
71425	MHC2TA	GGCTAATTTTTCATTTTTGG
71426	NEDD4L	CTGCCTGAGTTGTGCCTCTTGTGTGCTA
71427	RNF26	AGTATCTCTCGGGTGCCCTCA
71428	GLRA3	CTTCCCAAGCATCAGTCTACACCA
71429	INSM1	GCCACAAATGCCTTG
71430	KCNN3	GCTCAATCTCAGGTCTTCACGCGGGG
71431	CALCRL	AAACACCTTGTCAACCTCTTCCT
71432	IL1R1	GTTATTATCCTGCATTTTACGTCT
71433	MGAT5	CTCAGCCCTGCACCATGCTGCT
71434	TNFAIP1	GGCAGGCGGCTGCAGGCTAGGGGC
71435	SERPINB2	TATAACATTAACTTTTACTTTG
71436	LPIN2	GATGAATGGCTAATATTTTGGTG
71437	IL20RA	CTCTGGCCTCTTGGTTCATT
71438	MAP3K7IP1	GTTGTGAGTCAGGCTGGGGGACTTG
71439	PDE7A	TTGTAACCCAGCACTTTGGGA
71440	BHMT2	CACCTGCAATCCCAGCACTTT
71440	F2RL3	CACCTGCAATCCCAGCACTTT
71441	TAP2	CCAGTATTTTGAGCTGGCAAA
71442	ANXA9	GAGTGGAGTTCACTCACATGGA
71443	GLP1R	GAGAGACACTCCCAGGGACAAGGGAA
71444	ANXA8	CAGAGTCTCCTGGGCACAGGTT
71445	NRBP	TCTCCTCTTAAGCTCACTCGGGCC
71446	SH3BP2	GCCCCACTCTGAGGGGCTCAGA
71447	IL12RB2	TCTTAGGAACTGGGAGTTGGT
71448	CNN1	GCGTCAGTGCCGCCACTGCCCCC
71449	TAZ	GCTCCTCCGTGCTTCCTCAGTTACA
71450	CDK10	GACCTTTCCCCACCACCGCAACAA
71451	TGM4	TTCTCCTCTCTCTATCCCTGAAATCCA
71452	C9	GCTTGTTCCCTGTCCTCTGGCCC
71453	GPR3	GCTCCACTCCAGCCTGGCGTCCAGGG
71454	NAB1	AGGAAGATAAAACAACAGCCACAAAAG
71455	SF3B4	ATTCACATTTTCCTTCCTCCTGTTA
71456	FOXE3	CAGGCAGCACCAGGGCTCCTGA
71457	TYRO3	CCGGACTGACCAAATCACCCA
71458	PSCD4	TGGTCACCCTGAGAGTCCCATCGCC
71459	RAD23B	GCAGAGTTATTTTCCTGTTT

71460	CLASP1	GGAAATTTACAGACATGTAGGA
71461	G2A	GGCCCTCTGGGCTCCTGCCTCAG
71462	SLC1A4	TGTGAAGCCAAAAGGGACCAGG
71463	HOXC10	GCTTTTCTCCCACCCCTCCTAGCACCC
71464	FGF5	TGTCACCAGGCTGGAGTGCAG
71464	GM2A	TGTCACCAGGCTGGAGTGCAG
71464	RHD	TGTCACCAGGCTGGAGTGCAG
71465	CA9	ATGGCTCCCCTGTGCCCCA
71466	CSPG3	CGCTGAGATTTGGTGGTTCTGCATGTGT
71467	GAGED2	GGAGGGTTGTGTGGTCAGTGACTCAG
71468	CRTAP	CAGGCTGGAGTGCAATGGCACGTTCTC
71469	VANGL2	CCTGAAGGTGCCTCTTGGC
71470	CPA3	AGTTATCCCCAAATGCAGCT
71471	APM1	GGCTCACTGCTACCTCTACCATGAGCA
71472	TNFAIP2	GCAGCCAGGCTCAGGGA
71473	RXRA	CCTGCAGGGCTGGCCCTGGCTCGGGC
71474	FZD4	GGAATGCCAGCATTTT
71475	SCP2	AATTGCATACAACTGTGCATT
71476	HOXC13	CACGTGGCTTCAACAGCTTTGG
71477	CAMK2A	GGCAGGCAGGGGAGACTCACAGAAAAA
71478	AMPD1	TCTCTCTTCTTTTCTACTGTGCTA
71479	CAPN1	GGCAGAACTGTGTGGCCCCTGCCTGTG
71480	SKI	AACATTCTAACATTTACACTTTT
71481	CAD	CTGACTTAATAAACAGCCGAG
71482	ADORA3	AGTCCATATAGAGCTGTCC
71483	RXRA	AACTCACAGTTTTGCCCTCG
71484	FGF5	AAGTAGCTGGGATTACAGACTCATGCC
71485	ZNF41	CTAACTCCTAGAGGCTGCGGCGG
71486	PCDHA9	ACTATGTCATCAATAATCATAA
71487	EFNA3	GGCCCCTCTTTTGTCTTCTGTGA
71488	RAB23	GCATGCAGATGTCTGGTACTGGA
71489	CYBB	AGAGACACTTAGGTCCAGCCTGTTCA
71490	BGN	CAGAGCTGCCCCTGCTCTCCCA
71491	FGF13	CTTTGGGGATGATAATCCAAA
71492	PTAFR	TCTAGCCTGGCAACAGAGCG
71493	IL19	GAGAGGAGACACAAGGAGCAGC
71494	OAS3	TCAGGACCCCAAACTCCACCT
71495	PRKG1	TGCTTGGGGTAGGGTGGAGTG
71496	PDE4C	CACTGCACTCCAGCCTGGGGCTGACAG
71497	MEN1	GGCCCCGGATCAGAGCAGGA
71498	FGF2	TCAGGCAAAGCTTTAATTTATAC
71499	XBP1	AACCTGTAGAAGATGACCTCG
71500	HLA-G	CTGATGTGTGTGGGTTGTTGAGG
71501	SLC9A1	TCCATGGAAATGCCTCTCTAAA
71502	POLH	ACCTGTAATGCCAGCACTTTGG
71503	PDCD2	ATCTTAAAGCCTTGAAAAATGTTAATA
71504	MECP2	TGGCCCAGGGTGAGGTGGCATG
71505	ENDOGL1	ATCCAGGCTGGAGTGCGGTGGTGGA
71506	RAB23	TAGAGTTGGTACAGAAACCATTTCAG
71507	SLC14A1	GTTCCTGGCTTAACCTGTTCTTAC

71508	RGS3	TGTTTGAGACGGAGGCAGA
71509	SLC13A3	GGAAAAGACACCAGCCCAGGG
71510	FECH	TTTAAATGAACACAGTTGAGTAT
71511	DMD	AATACAGCCACTAATTGCCTTAC
71512	GCNT2	GGCATGGGAAATGAAAGAAA
71513	SYP	CAGACAGAGTGGATCTGGAGTCTG
71514	FOXE3	CCTTCATTTTCCCACAAGTTTG
71515	CBFA2T2	TCCCAGCCTCTGCTGACAGCACCTCAG
71516	CHRNA2	GCAACCCACAGCAAAGCCCTGAC
71517	RAD52	TGACTCAAGAATTAATCAG
71518	GPC1	TTTACTGACACTTCCTGTCC
71519	TLL2	AGAGAGGCTGTTCATTGATCCACT
71520	BCL7B	GCACCTTCTAGAAGAGAGCGTGCC
71521	GLS	CAGAAATGCTCTAAGCTACCAAAGTTA
71522	CLASP2	CAATCAGATTTATCATTCGGCATA
71523	KLK4	CTCCTCCCTCAGACTCAGAGGT
71524	COL18A1	CATTCGTTCTGTGGAGGGACAAG
71525	DMPK	CTTGTGAGGGGTTAAGGCTGGG
71526	LANGERIN	ATGGAAAGGAGAATTCAGG
71527	KIF3C	GGCTCGGGGGCAGGAAGGTCAGAGCA
71528	EIF5A2	CAGGGTTTTAAATCAAACAATGTAGCA
71529	CYBB	GAGAGTGTTTCTCCAAGGTTT
71530	MAP3K7IP2	GTATGCACAGAATAACTTTCC
71531	HUNK	GCAGTGAGCCAAGATCATGCT
71532	KCNE3	CTACCACTTAAGGTGAT
71533	BACE2	GATGGCAGGAGAATCAGCCTGG
71534	WHSC1	TTATGCTGTTAAAACTACTTTAGGTGA
71535	C14orf1	ACACAGTGTGTGTATCCAAAAGGCCAT
71536	TGFBR2	CCTCCAGGCCCCTCCTGGCTGG
71537	MAN1A1	TACTACACAGAGAGGTGAGC
71538	SKP2	ATAGACTTGTTTTAAAACAA
71539	JAG1	AGAGGGATGGAGGAAGAACTGAAAGGC
71540	MN1	GCAGGCAACTTTGGGTGCTGCT
71541	AKAP2	CCCTAGACAATGACATATA
71542	NRAS	GGTCCTAAATCTGTCCAAAGCAG
71543	TSNAX	GACCAGCCTGACCAACGTGGCG
71544	HMOX1	GGGTGGTTTTTGAGCCATGCGTGG
71545	AMPD2	TGGGTGCTGGGTTTTCACGGAGTAT
71546	TUBG1	CAGGACAGGGACCCTCATCTGCC
71547	DSCR1	CTTTTCTGGTAGGTTCTGTCTGTGCCA
71548	ATRN	ACTCACCTGCATGATCACA
71549	EGLN1	TGGATATTGGAATGAGCATTGA
71550	MBD3	CCTGAGGTTGGTGCCCACTGGCTG
71551	B4GALT6	TGGACTTTTATAGACATTTTTTAT
71552	MEF2C	GCTCGCTCTGCTCGCAGTCACA
71553	MTR	GCAGTGAGCAGGGTTCCTGTGGTTTC
71554	APM1	AGGCTAGAGTGCAGTGGCATGAT
71555	COX15	AGGCTGGAGTACAATGGCGTGAT
71556	SAS	AGGCTGGAGTGCAATGGCATGAT
71557	SLC22A7	CTGTGAGCAAAGTGGCCGCCGGG

71558	PPP2R1B	CCACTGCACTCTAGCCTGGGCCATAGA
71559	HOXB8	TCGGCTTCGAGATCTTCTTCGCCTT
71560	ATP7A	CTCATAAGTAAATTCCTAAC
71561	G2A	AAGGCCTTGCCTAGACCAGGTCACACTG
71562	UBE2L3	AGGATGCTGTGCACACTGTGTGT
71563	ARF3	AGCTGTTGCTACTGCGTCTCTCT
71564	OTP	ACCCTCCTCCCGCGCCCGGCAA
71565	CYLN2	GGCAGGGGAACGGGATCCTTCTCC
71566	WWOX	GTTCACTGCTCCTTGCTGCAT
71567	DAG1	CACTCCAGTCCAGCTTGGGCCT
71568	EPHA3	TGAGTACAAATGCCTTAAAAT
71569	MASP2	TCCGGGTTGGGCTGAGATGGCTGTGCC
71570	PTPRJ	AGCATCAGAGGTTTGCTTCCTCAG
71571	KCNK5	CTTCCTAACCTTCCATCATCC
71572	TNFSF4	TTGATGTCATGGTCCCCTCTCTT
71573	FOLR1	CTGTGGCTGCTCAGCTGCC
71574	RIMS1	GCTAAAATCTAAAGCTTTCAA
71575	APOL1	TTGGAGCTTGCAGTG
71576	BPHL	AGTCTTCTCTTTGCTTGCTGAT
71577	MS4A2	GGAAAAATTTCTATTCTCTCCA
71578	ADAR	CCTCCAAACTGCTGACTAGGTC
71579	KDR	AAATGATGCAGCTCTGGCTCCTTGTC
71580	AVPR1A	GCATTTTCATATTGCTACCA
71581	SMG1	TGATACTTTTAATTTACACTTAGTAAA
71582	PPP1R12B	CTCAGTTGAGTGGTTCACACTCAGA
71583	SPOCK	CTGCCTAAATCACTTTTCTCGCA
71584	CLCN6	CCAGAAGCAGAGGTAGAATCAGGCGGG
71585	DIBD1	CCCCAAAGGACAACCATCTTGTT
71586	LDLR	TGTCCGCCCACCTAGTGCTTCCAC
71587	VAV1	TGGGTGGTGGAGGCTGCGAGGGTG
71588	AICDA	ATTTGTCCCTAACAACTGTCTTT
71589	NUMB	AGGCTGGAAGCTGCAGACAGGA
71590	TPTE	GCTCCCCCTTCCCCTTCTGGGA
71591	SMT3H1	TCCCACATTTCTCATTTGGTAATGGTG
71592	LOXL3	CCAGACCAGCAACCAGATTATCTAGTGCCA
71593	RHAG	CTTGCATGAATATTATTCTTAATTCCTT
71594	PRPS1	TGGAGTGCTTAGGGTAGTTGG
71595	EVC	CTCTCGAACTCCTGACCTCATCGTC
71596	CBFA2T1	TGACCTCATTAACCGATGCTTTA
71597	TEK	TCTGTTTCCCTTTCACTGGCA
71598	AMD1	TCTTGCATGAATGCTCTCTTCTGTGTT
71599	CA7	CTGGGGCTGCCTCTGCTCTCCA
71600	YWHAB	AGAGAAGCAGGAAGAGCACTGGACT
71601	CIAS1	ACTGCAGCCTCCACCTCCCGGG
71602	PRKY	CTGAAGCAGAAAGATTGCTTGA
71603	LAMC2	GGAGGAACCAGAGGCACTTCC
71604	DYRK1A	TTTCTTTCTTTCTCTTACCTGAAATGAACT
71605	TAPBP	GCGATCTCGGCTCACTGCAAGCT
71605	YES1	GCGATCTCGGCTCACTGCAAGCT
71606	CASP2	ACGATCTCAGCTCACTGCAAGCT

71606	FHL2	ACGATCTCAGCTCACTGCAAGCT
71607	GA	AGTACAGCTATCCAGAGAGA
71608	GRIN2D	CCCTGGTTCTGGAGGAACCGC
71609	PRX	CGCTGCTCCTGAAGTTGTAGAG
71610	POLS	GCACAGCCCAGCGTTGGGGCCGG
71611	ARNT	AGGCACCCACAACCAGAGGAA
71612	IL13RA1	TTCCCATCCTCTTCTTTTAGC
71613	CHI3L1	GAGCCTCAGTCTCCCTCCCTTGGGGCCT
71614	NAPB	TGAGGTGGGCTGGTAGAGCAGG
71615	SORCS1	ATTCTTGGCTCTAGATTTATCAG
71616	GHRHR	GGTGGAGGGAGCCACTGCTGGGCTCA
71617	DGKI	GGCAGGAGAATGGCGTGAACCC
71617	SMG1	GGCAGGAGAATGGCGTGAACCC
71617	UBE2G2	GGCAGGAGAATGGCGTGAACCC
71618	PDCL	CCATATAATTCCACCAACCAAAATTAAT
71619	CDYL	CCCCAAACCAGACATATG
71620	CREBL2	CTGTCATGGAGGGGGAGGAGGAGGC
71621	SLC25A17	GGACCTGTTGTCACCTTAA
71622	FUT3	ACCAGCCTGGTCAATATAGCAAGACCA
71623	KCNQ2	ACACACACGTGCTCACATACAT
71624	PKD2	GACTGAGTCTTCTCAGTTGA
71625	IL12RB1	CTGTTGGCAGACTGGAGTGCAAT
71626	EXTL3	AAGGAAACCGCTGCCTTT
71627	KCNG1	CCCTTGCCAGTGTTTAGAACAGTGTC
71628	SON	TGGAGAGAAGGAGAAGGATTAG
71629	RAPSN	TCTCCACTGCATGCCAGAGGCCC
71630	CLASP2	AGATGCCAAAGACAAGGTT
71631	CCND1	ACCATTTTTAAAGTAGAAGAGGGTTTT
71632	ATM	GCATCCTCAACCTCCTGGGTT
71633	TEM6	CCACCATGGTGAGTGCTCTGTGCCT
71634	ANKRA2	TGCTTCAAAATATCAAGGAGTAACACAGT
71635	DDX9	ATTGCTGCTGCTACCTGCTTTCC
71636	CD59	CATCTGCATCCAGCCTCCTGC
71637	TGFB1	GGGAGGAGTTCCTGCCCACC
71638	DEDD	GAGTAAGGGAGCTATGTGGAAA
71639	ST7	ATGAGCTTAGTGCACAAGCAC
71640	QARS	ATCCTCCTGGAGGGTGTGGCTACCCTC
71641	LRRC2	ACAACATAGTGAAACCCTGTCT
71642	MYF5	ATCCTTTAGTTATATTGTATTAAA
71643	ASB4	GCAAATAATTTGTTTTGCCTTGT
71644	ITGA5	AGGGGTCTGGGTACTTCTTGAA
71645	AK2	GGAAGAAGGTTTTTGCTCAG
71646	RHO	GCTAGGCATCAAGGCCAGACCAGG
71647	INPP5B	TCTGGGACTAGAGGCCAGGAT
71648	ASK	TGTCAACAGGCCGGGGGAAGCCGT
71649	CXCL13	CTGAACTCTACCTCCAGACA
71650	CUBN	CCAGGAGGCAGAGGTTGCAGTG
71650	EIF3S2	CCAGGAGGCAGAGGTTGCAGTG
71650	GALNT7	CCAGGAGGCAGAGGTTGCAGTG
71650	INPP5B	CCAGGAGGCAGAGGTTGCAGTG

71650	KIF1B	CCAGGAGGCAGAGGTTGCAGTG
71650	MOG	CCAGGAGGCAGAGGTTGCAGTG
71650	RIMS1	CCAGGAGGCAGAGGTTGCAGTG
71650	ZNF36	CCAGGAGGCAGAGGTTGCAGTG
71651	GPR1	CTGGGAGGCAGAGGTTGTGGTG
71652	LAMP2	CCGGGAGGCAGAGGTTGCGGTG
71653	DLST	CCTCACGCTCTCCATCATAGGCT
71654	FGF2	AATAGGGGACATGCATAT
71655	ZNF133	AGTCTAAGGCTGGAAGTTTAATG
71656	FGF12	CCAGGTGGTGAGGTATAAGTTACTTGC
71657	PTK2	CACTGGCCTCCCCTAGGAG
71658	MAN1A1	CGTGGGACAGCGCGCTCAGCCCAGCC
71659	TRPM6	TGTTCCAGTTCACAGGCAGCAAACCT
71660	CNN1	CCCCCTCTCCCTGCATGGCATCC
71661	SRD5A1	GCATGGAGCACGCTGCCCAGCC
71662	DLEC1	GCACTGCCAGCATCTGGAGACCGTC
71663	LANCL1	TGCCCTGCCTTTTACTAGCTACT
71664	NQO1	GGTCGGCAGAAGAGCACTGATC
71665	DYRK1A	GGCGGGGATCAGAACTCTCCTATCTG
71666	HYAL1	TTCCTCCAGTGGCTGCCAGGATTT
71667	ATP11A	AAGAACAGTGAACACAGTGGTT
71668	SLC25A19	TGCTGTTTCTCCTCTGACCA
71669	HAP1	CAGCTTGAGGCCCCTCCTGCTGC
71670	ATP1A1	CAAGACGTCCTGGAATGAAGCAT
71671	AKAP13	GGCTGAGAAGTGGGTTCAGGC
71672	CASP10	TGGGGATGTGAACAACCTGCTC
71673	SCN3A	ATATATTTTCTACCATTCCA
71674	MYCBP	AGCTTTAGTGGGTCCTAGTGCAC
71675	ZNF175	TATGTATGTATGCCCTCAGTGCAGT
71676	PPP1R12B	TAGCTTGACCTGCTTTCA
71677	HOXA11	TGGTTCACTCTTGGAGCCTGCAG
71678	HSPA5	TCCAGCCTGGCGACAAGAGTG
71679	APPL	AAGGTAACAACTATGTTGAAATA
71680	FZD7	AGAGCACCGCTGCACTCGCGGCCG
71681	EXTL3	CTCCTCTGACCTGCCTGTA
71682	ENTPD3	CCTGGAGTCCAATGGCTGCTTA
71683	SPON1	CTTCTGGGAAGCCAGCCTTCT
71684	TES	ATTTTGAGCAATTCTCCTGCCTCAG
71685	ADAM11	GGGTGCTGGGGCCAGGGCAG
71686	NRIP1	AAGTTGTGATTACCTGC
71687	MALT1	CTGCCATTTCCACCCTCCAGTCA
71688	CBFB	ATCAGAGGGTTTTCTCTAATCA
71689	PSME1	ACTCCCTGGCCCTGTAGGCTGT
71690	CPD	CTACCTGTTCCAAGGCTAGATC
71691	NFATC3	CGCCTGTATCCCAGCACTTTG
71692	CACNB1	GAAGTATTTTGCCATATATAAA
71693	EPAC	CTCGAGTCCCTGGAGCAGGCAGT
71694	KCNJ11	AGGTGCGCACCACCATGCCC
71695	SLC16A7	CAATCCAGATTCACTGTTATA
71696	LTBP2	TCAGAATCTGTGGAGCAAGAAAGG

71697	IL18RAP	GTGTAGCCTTGACCAACTGAAA
71698	CXCL16	TGCAGCCGCCTCACAGGTCGGCGG
71699	SLC2A4	CCCTCATTCCCCTCGTGTGACTC
71700	LUZP1	GCCTGGGCAACAAGAGTGAAATG
71701	CHN2	TGCAGTATTATCATTGACAT
71702	PRKRA	CTTGACTGTCATCCTGTTCTTGTTAGCC
71703	KCNS2	TTTTTATAAATGATCTGTAGTTCC
71704	CFTR	TCTGGAGGGAAGCCTTGGGGCTG
71705	BAZ2A	GAAAACAGGCCAATCTGTGGGCAAGG
71706	NOX1	CAAGGCTTGATAGCAGAGGTTTGGTG
71707	FEZ1	GCAAGAGTCATTCCATCACAGGGA
71708	SOD3	GCTAGTGCCAGCCACTGTGTTGTCAC
71709	RHD	TGAACTCCATTGCTTAAGAAAC
71710	ZFP37	TGCATATATACATGTATCTGTA
71711	SERPINF2	TCCAGACTCCCTGCCTGGACCA
71712	KCNK4	CCCTTCCCTCACTTCCATCCAT
71713	HRC	GGTGTACCTCCCCCTGCCTTC
71714	SREBF2	GTCTCTGAGCACCAGGGAGCAG
71715	HUNK	TGCAGTGAGCCAAGATCATGCT
71716	PPP1R3A	CTGCACTCTGTCTCTCCA
71717	B3GALT3	CAAGATAAAAAGGATAGTGA
71718	APOL1	GATGGGGTTTCACCATGTTGGCC
71718	BRIP1	GATGGGGTTTCACCATGTTGGCC
71718	CYP1A2	GATGGGGTTTCACCATGTTGGCC
71718	DCX	GATGGGGTTTCACCATGTTGGCC
71718	EEF2K	GATGGGGTTTCACCATGTTGGCC
71718	GM2A	GATGGGGTTTCACCATGTTGGCC
71718	MRPL49	GATGGGGTTTCACCATGTTGGCC
71718	RHD	GATGGGGTTTCACCATGTTGGCC
71718	TRPM6	GATGGGGTTTCACCATGTTGGCC
71719	EMX2	CATTCACTGCAATGCCTATTCC
71720	BCAS1	TGGCTCTCGCCTGTAATCTCAG
71721	OSR1	CCTGCCTGTTCCCCCACACCTGCC
71722	PIM2	GCTTCCGGGCCACCAGTTTCTC
71723	EXT2	GGGGGATGTCCTGCGCCTCA
71724	EZH1	CCTGTCTCATCTCCTGGGAGAGGCA
71725	ZNF14	GGAGACAGAGGTTGCAGTGAG
71726	NPHP1	GAAGAATTGTTTGAACCTGGGAGG
71727	NDUFS1	GTCTCAAGAGATATAATTTAGATTC
71728	PITPNB	TACAGCTTGGAAACTATGCAAA
71729	DHCR24	TGTAGTTAATTTCAGTGCCTT
71730	OGN	AACACAAAATTATCAGTGTTTTAGAAA
71731	LPP	ATGTAGGATCTTGATGGGCCTT
71732	FABP2	TTCCTGCCTCAGGCTTCTGAGTAGCT
71733	B3GALT5	CTCTTTCTCTGCTGGAGCT
71734	RP42	TGTTAGATTCTTCTCCTGTCT
71735	ABCA7	GCCGAGACTGTGCTCTGGCCT
71736	RBP1	GCCAGGATCCCTCTTTGCACAG
71737	EFNA3	TGGGGAGGGGACTAGATGGGCAAGG
71738	OPA1	TACAGAAGTTAAATTCGAACTAGCCAC

71739	PDGFB	GTGCCCAAACACCAGTCACCTC
71740	SMURF1	AGCCTAACCCGCGGGAGGCGGAA
71741	MCP	TCTCTGCTTTCCTCCGGAGAAATAACA
71742	ATP2C1	ATGAAATTATGCAACTTTGA
71743	BACH1	TTCAAAACAAATGTGGATACAG
71744	CENTD2	TGCTGCCATCATTATCATCCC
71745	FCGR3A	GATGGGTGGAGGGGCTGGGGAA
71746	TNFRSF7	GAGAGTGAGACCTGGCAGCCACAACTG
71747	Rgr	GGAGGCTGGGGTCACAGCTGGCCA
71748	TFCP2	CAGTTCTGCAGCTGTTTTAGTT
71749	KCNMB1	CTTCCTGCTGAAGCTCTGTGGCCTCT
71750	TAPBP	GCTTGGGCTCTTCAAGGCACTGGGCTG
71751	GABRE	TTCAATGCCCTTCATCCAATGGG
71752	PDE6B	GTCACCCAGGCTGGAGTGCCGTGGCAC
71753	AIPL1	GGCAGGAGAATTGATTGAACCTG
71754	NEBL	TGCTTAAGAATATGTTATTTCCAC
71755	MGAT5	ACTCTGTTGATAGGCAATGGGAA
71756	GZMM	TGGGGACCCCCTCGCTGTCTCCAC
71757	POLH	GTCCCATCTCTTCACAGGCAT
71758	DYT1	TGTGGCTGGAGCATGAGCCAG
71759	IRAK1	CAAGACCAGCCAGGGCAACATGATGAG
71760	RNF3	CCCCTGAGATGTGCGTAGCCTCCG
71761	STC1	AGCAGCAGCAGCAGCAGCACAAACATT
71762	FBXL5	AATAGTTTTAGACAGATACTGAA
71763	AGL	GAAAGTACTGGGATTACAAGCAT
71764	FLRT2	CTTTTTCCCCTAATCCTGGC
71765	WTAP	CAGCAAATTTTTATACAGT
71766	CTSS	ATTGCACCACTGCACTCCAGCCT
71766	IAPP	ATTGCACCACTGCACTCCAGCCT
71766	IL6R	ATTGCACCACTGCACTCCAGCCT
71766	KCNA7	ATTGCACCACTGCACTCCAGCCT
71766	TRIM14	ATTGCACCACTGCACTCCAGCCT
71767	MLLT2	GGCAGAATAGCATCGTGTTGGGGGT
71768	SLC14A2	TGTCACCCAGGCTGGAGTACACT
71769	ADCY6	GCCTCAGCTCCTGAGTAGCTG
71770	SCT	CGCAGCTGCATTTGGGGTGGGG
71771	CLCA3	GGGATGTAATCATGAGCTCT
71772	MHC2TA	CCCACGCTGGAGTGCAGT
71773	GRB10	ACCTGACAGTATGACCGATCTCTGCG
71774	CCND2	TGTAATGTTTCACAGAGTGTGCT
71775	UTY	TATTAAATGAGATTATTTCTG
71776	SIGLEC6	GGTCTTTCCTCTGAGTGTGTTT
71777	PLOD3	ACTCAACCACTCTGCCAAACCTGCC
71778	JAK3	GAGGGGCTTTTTCTCTCTGTGC
71779	MKI67	TGGGAATACTTTTCTAACTAG
71780	C18orf1	TGAAATATATTCAAATACATAC
71781	DVL3	TTCTCTCTCACTCATGTATGCATACAT
71782	USP6	CTCTCCAAGCCCAGGATTCTGGCA
71783	B3GALT3	ACCCAGACTGGAGACTGGA
71784	RSN	GGATTTTCTTATCACAAAAAA

71785	CTF1	AGTGGCGCGATCCCAGCACTGCAGCCT
71786	WBSCR14	CCGACCCGGGCCGCATCCCTG
71787	USP18	AGTGGGGAGAGCAGTGGCAGT
71788	TACR1	CATCACACAACTCAGCCTGGCTGATT
71789	CACNG3	CCGTCTGACTGACCTCTGACC
71790	MCP	AGACTAAATCAACCACTCCA
71791	POLH	GCCTGTAATCCTAACACTTTGG
71792	PTPN22	ATGGATTTATTTTTCATTTTTG
71793	CYP4A11	CCTCCACCTGCCGTCCTGTCTTCC
71794	CR2	GCCTCAAGATCAATGAAATGATGT
71795	HMGCR	TGTAATAAAACTTATGCTA
71796	C7	CATCTGCACAACTGGGCACTGGAC
71797	ZNF192	AGCATTTTTCTTCATGTATCACCTTCA
71798	SMAC	GTTGCCCAGGCTGGTCGTG
71798	TAF11	GTTGCCCAGGCTGGTCGTG
71799	RAD50	CCTCAGTTAAGCCTTTGTGGACT
71800	ADAM29	CACACCACCTGTGACTCCAGCTCT
71801	CRYBB1	GCCCCAACCCTTCTTCATGTTCAATT
71802	TACC1	CAGCGGCAGATCTCTCCAGGGAA
71803	MPL	AAAGTGTTAGGATTACAGGCAT
71804	UBE4A	TATCTCAGTGTGTGAGATATATA
71805	VEGF	AAGTCGAGGAAGAGAGAGA
71806	MYO15A	TGCCTATGACACAGAAGCCCCACACCAG
71807	TEM7	CCCGGGAGGTTGAGGCTGCAGT
71808	SLC9A1	GGGCCATGGGTCCTCGGCCCATCTGTC
71809	DYRK1A	TTTCATGAGGCTGACCTAGGAACTTGGCC
71810	MAP1B	TGCTACTTGAGAGTGGGGGAG
71811	CYP8B1	CACTACAACCTCTGCCTCC
71812	SLC12A7	TTTCCCTGTCTGTCTGTGTTAGT
71813	GABRA5	GGAAACTTGGACATTTATGTACAAA
71814	DGKB	CACTCTGCATTAAAGTGCTAATG
71815	PML	TCCTGAGTGAGGAAGGCATGA
71816	MSF	CCTGCTTCCTGTTACCTGTCTTGCTCC
71817	FGF1	CCAATGCCTATAAAATGCCC
71818	PKIA	CTACCTCTGTCATTAGCAATG
71819	NPY1R	ATCGTTTTCCATACAGCAGTG
71820	ATP11A	TTGCAATTTCATCTGCTTTCTA
71821	FKBP2	GCCCCCTTCTCACTGGACTG
71822	CAT	GTTAATTCAGCACTGATTTCA
71823	CPM	GGTTACTGCAACCCTAACTC
71824	MAP3K7IP2	GCAAGTGGCTGTGTTTTAAATGGGATT
71825	CD209L	TGGACCTTCACAAATGCCCTG
71826	SLC22A3	ACCCTTTATTCACAGTCACTTG
71827	DNMT2	TCTGACATATGCGGTGACATG
71828	GCLM	CGAGCGCAGACCAGGCTCCA
71829	MCP	CTTACCTCATCTCCTAAAAGGCA
71830	ADK	GCTGAGTGCCTGAGCCGGGAA
71831	SLC38A2	TGGCTGTAAGGTTTGCCCTTGAACTAA
71832	MBD3	CACAGGCACCCAGCTTTGG
71833	RAP1GA1	TCACCCTACCCTGCTTCTTGAGGTCCCT

71834	DISC1	CTGTCACCCAAGTTGGAGTGCAGT
71835	BACH2	CTGGGTTGATTCAAAGGGA
71836	EYA1	TTGCTGTCAGTCTTGACCTCTGCCTTT
71837	FABP3	TTCTTCTGGGGTCAGGTGCCA
71838	ZNF266	GACAGAGACCTGGAACAGATGCTTTC
71839	PRKCD	CTCCACCCACACCTGCC
71840	NEU3	TCAGGTTTCCATCTGTAAA
71841	PLOD	GGCCCCCTTCCCCCACCTCT
71842	VANGL2	TGTCCCCAAAGGGGTGGGTTGTGGAGC
71843	GAB2	GCAGCAGCCACAAGTGGGCCCA
71844	KAL1	TACCTCTACTGAATATTCTAG
71845	ARNT	TTTATCATTCCTTTCCAGTTCATA
71846	MHC2TA	AGCTCTGCTCCTCTCCCCAG
71847	ATP1B2	TCTCCTGTGGATGCTCCTGGAATG
71848	EML1	GACACAAAGATGAGACTGTGTTTG
71849	KIFC3	CTCTCCTCAGCTTGCAGAGCTGGCC
71850	IL17R	CATTGCACTGCAGCCTGGATGA
71851	ETF1	TTAGGGTTTTGCCATTGTAAA
71852	EYA4	TCCTTTCCTCCTCCCCCTCGGAGCC
71853	WRN	GCCCTGCTTGTGGTGGCGCTCCACAG
71854	GPR62	CCTGGCCAAGCCCCCAAGAGG
71855	KCNQ2	GGGCTGGGCAGGGCCCTGTGGCTC
71856	SLBP	CCCTGCTCTACTCTGCGCTCTCTGCC
71857	ADRA2A	AAGGGCATGGCTCACAAAAGG
71858	RBL2	TTGACGTCTCCAACAGAAGAA
71859	EPS8	GCTGCTCTTTAGCTGGGTGCAG
71860	HIS1	AGGGAAAGTCGGGGGAGGAC
71861	ZNF134	GTATCTGAACATTGACACAAA
71862	HOXB9	TTGCTCTCGACCGGCCCTGCATTCTTCCGC
71863	SPR	GCACAGCCAGCTGTGAGCTCC
71864	PLA2G4B	CTACCTTGAGTAGTTGGAGCACTTG
71865	TES	AGCCAAGCCACCCATTTGCTTTTAAT
71866	ELMO2	GCCAGAAACGACGGTACCCAGGAGAAG
71867	PLS1	GTTTTTCTGGACTTCCAAATCTC
71868	GFPT2	CCTCCACTTCTCCAACTTC
71869	HR	TCGGAGCTCATCTGGGCCCATGACCT
71870	EGF	GGAGTTTCTTAGTCATTACT
71871	CLCN4	CCTCAGAGTTGCAAGATGGT
71872	LFNG	CACTTATGTGCCTCTGCTCCG
71873	TPX1	TAAAGAAGAAGACTGTA
71874	GJB3	CGGTGCTTCCAGCCTTCGTAA
71875	TKT	TGTACTGAGAGGAGGGGTAA
71876	ATM	TGGGAGGTGAAGGTTGCTGTGG
71877	ZNF36	ATTATAAAAATTAGCCGGG
71878	HSD17B1	TGGGCACATTCTGTCAGCC
71879	CLCA3	GATCACTGCAAACCTGCCT
71880	RFPL1	CAGGTTAAGAAAATTACTTGG
71881	CRACC	TGGTGTGCACCTGTAATCCCAG
71882	CASP14	GGATCAGACAAGGGTGCTGAGAGC
71883	NPHP1	CCATTGCACTCCAGCCTAGGCAACAAG

71884	CREB1	TGGAGTGCTTTTTATGTATG
71885	SIRT2	ACTGTCTCTAACCACTCCTGGG
71886	EVPL	GGGAAGTGCGTGTGTTGGGCCAGGT
71887	DBN1	GCTCAGCCCGGCCCGGCCACAGC
71888	DCX	ACCCCAAATGATGAGGATCTC
71889	ABCA1	GCAACAAAAATGTGGGTGTCTCC
71890	RAB7L1	GTCTGTAATCCCAGCTACTCTGG
71891	XT3	GCCTGTAATTCCAGCTACTCTGG
71892	SIAT1	CCTGCTCTGTGCTCACACCTCGGCT
71893	MYCL2	AATCCAGGTGCCTGCCTCCA
71894	WHSC1L1	GCCAGCCGCAGGCTCCTCTCTGG
71895	RPIP8	GCCCAGCCGTGATCCAGCGACGGGTTT
71896	ZNF217	CTGTGTGTATTCCTTTTCTCTA
71897	AICDA	GAGAGAGGGCCGGGCGTGGTGG
71898	RNF3	AGGTGTCCTTCGCACCCAAC
71899	HNF4A	CGTATGTGCGTGCATGTGTATA
71900	PCDH11X	AGAGAATAATTGCATTTTAA
71900	PCDH11Y	AGAGAATAATTGCATTTTAA
71901	TNFRSF1A	CACTGCCCTGAGCCCAAATGGGGG
71902	OPCML	TCTCCCACTGTATTCATTTATAC
71903	HMGA2	CTACAGAGCCAAAATGCCATTTAGCA
71904	EBAF	GGGCTTCAGGCTGGGGGCAGT
71905	DACH	AGTTCTTCCATAACCACCTTT
71906	STS	TGGATTCCTTTGGAAAACCAA
71907	PCDH11Y	CAATTGTTTAGTGACTGTAAGTG
71908	CTSD	CCTCCCACACACACCCACAC
71909	MAP3K14	GGGGTGATGACAAATGTTAA
71910	RAB5A	TCAGGTTTCTTTACCTCCA
71911	G2A	GGTCCGTACAGGGTGGGGTCCCCA
71912	IL2RB	GGGCTCCACACCTTTGCTGTG
71913	SOX1	GTTAAGATGAAATTATATTTTT
71914	GRLF1	TTCCCTGGCAAACAAAGGAAC
71915	GM2A	CACGTCACAACCTCTGATCTCA
71916	RNF3	CAGGGAGAGTGATGCTCCAGGCAA
71917	FBXW7	GCAACAAAAAGTCATTTTTCT
71918	RORA	CACAGCCCCAGTTTCTGGAGGCAG
71919	TGFA	GCTTCTTCAGGACAGCACTGC
71920	DCX	TAAGAGACCTCCTTCTGGG
71921	SNCA	GCTGTTGTTCAGAAGTTGTTA
71922	SERPINE2	GCTGCCTCTTTCCGGCTGTG
71923	EBAF	CTCCAGCCATAGCGCCTGGTGT
71924	C18orf1	CTTTGCAGAGTTCAAGTTTA
71925	SORCS2	TGCTTCTTCACTCCCACCTG
71926	IER3	TCTCAACTCCGTCTGTCTACTGTGTGA
71927	KCND2	CCCGAGGAGTAGAGGCAGCAGC
71928	ACE	CTGAGCCTCCTTGTCTATCCT
71929	CTF1	CTGCAGCCTCAACCTCCTGGG
71929	MHC2TA	CTGCAGCCTCAACCTCCTGGG
71929	NCOA6	CTGCAGCCTCAACCTCCTGGG
71930	TRPM8	TAAGAAGAAGTCAATATGCTTA

71931 TNFRSF14 GCACTGCCTCACAGCCAAG
71932 HIP1 TGGGGAGGCTGAGGCAGGAGAATC
71932 PDE4C TGGGGAGGCTGAGGCAGGAGAATC
71933 ADAM8 GACCAGGTTCCCCTCCGTGC
71934 PPP1R12B TCTCGCCCAGGCTGGAGTGCAG
71935 PFKFB3 TGGCATCCTTCCCCAGCACTTGCATT
71936 M17S2 GAAGCTGCCTCACAGCATGG
71937 CNGA3 CCTTGCCGTTCAGCCACTGTGAA
71938 HM13 AGTGCCCTTCCCATGGGGTC
71939 IGFBP6 AAAGCTGTGCTTGGGGTCAAA
71940 CD209L CTTCTTCTCTCCATCCTTGG
71941 LIFR TAATATTTAAAATTTACACTTC
71942 SORCS1 CCTCTAGAACCTGCCTTTT
71943 M11S1 ACCGCCACCCTTGCCCCCTCAGCTGCC
71944 SNAP23 ACCACATGAATTCAGATTTACCTCA
71945 SEL1L CACAGACACAGACATACTT
71946 GABRE TGCTCAGACTGCCCCCAAGAT
71947 CALM1 GGCTGGGTGGTTGGTAGAGGAGATGTT
71948 RNH TCTCCTGGGCTCTTCCTGCTGC
71949 EIF5A GCTCCCAGGATGGCGGTGGTGGCAGC
71950 RAD1 CTGAGTACAGTACTCTT
71951 TEGT CCCTTGCCTGACCCTCAGGGA
71952 SLC7A5 TCCTTTCTCCTGCCCCAAGGGCC
71953 PREB GGAATCAGGAGCCTGGACACTGCCA
71954 ENC1 GAGGTGCAGGGGAAGACCAAAGT
71955 MBL2 TAGATATTACCAGTTTTCCTAA
71956 TSC1 AGCTTCCTCCCCACTTCGCAG
71957 DBP CAGATTTTGCAAGAGCCAGGCT
71958 ITGAL GAGGGCCGGGGCTGGGCGCGG
71959 AQP6 GGGGCGCAGAAGAGAGGGGAGCCCTTCTC
71960 TNFAIP2 TCCTGCACTCCTTCTGGAGG
71961 PAH ATGTTGACTAAAGGCTTGGTTGGTAGA
71962 TIMELESS TCATTTCTGTCTCCTGTTTCTCCACT
71963 BAX GACCCTCTGACCCTAGCTCT
71964 MPHOSPH6 GCCTTAAGCGATGGCCCAGGG
71965 PODXL CTGCAACCCTATGGCCTCTTGGAG
71966 DBT CAGGCCTGTAGTCCCAGCTACTT
71967 FCRH1 GTCTCAAACTCCTGGGCTCAAGCAATG
71968 STAM ACGATCACATTCTTTATTTCT
71969 PRKG1 TTCTGCAATTTCATACTACCTA
71970 PTPN1 CCCCACCCTCAAACCCTGTGGGGCCTG
71971 MCL1 AACCTGTTTCTTACAGCTTT
71972 TLX1 GCACCCAGGAGGGGAACACTGCCC
71973 REN CACTGGGCTTAGCTGGGCCTCTGA
71974 DNAJB9 CAAAGTTGCATGTTCTATGACA
71975 CNN3 ACTAAATTTAAGATGCAGCATTTTAG
71976 DIAPH2 CTCAAGGGATCCTCCTGCATCAG
71977 CAPN1 CACCGGGAAGCCAGCCTCAGGGAC
71978 USP6 GATTGGCACCCCACAGCCCT
71979 PSME3 GAGTCTAATGAAACTCTCAT

71980	CFL1	GGAGCATCTGGCAGCCCCACACCTGCC
71981	EPHX2	CTTAGCAGAGATTGGGATGCCTT
71982	TAF4	GCATTTTATTTGCTATAGTTTGTAAAG
71983	PCDHB16	CCTCTGCCTCCTGGGCTCAACGGATC
71984	NPTX1	CTGTGTCTTGGAGCTGACTTAC
71985	ATRN	GGATAGAAGGGGGGCTATTTTA
71986	C18orf1	CAGACGTGTGTGAGAGGCCT
71987	ALPP	GGGATTTTGACACAGCCTT
71988	TMOD2	AATTGAATCTTTAACATGACTTTA
71989	GRIN2A	TCATTTCTGAGTCGCCTGCATTA
71990	BACE	AGGGAGCTGAGGCCATTCCCTGTAGGAG
71991	YWHAZ	ACCAAACAAAAATGCCATT
71992	PLCG1	ATTCCTAAGAGTGGAGGAGGAG
71993	BIN3	GCTGGTCCTCCAGCCCTGGCAG
71994	BAZ2A	TCTTATTGCCCAGGCTTGAGTGC
71995	SIRPB2	GTGGGACCCTCATCTCTGCTGCCTC
71996	RAMP3	CTCCGAGCCCTCCTGGTGGGA
71997	ACAD8	TGGATATTTGGAAACTTAC
71998	FZD4	GTTTTGACAATGCTTTGGGT
71999	ZNF205	GGGAGCTGGGGCGGTGAGGGCATGG
72000	XPC	GATTGTATTCATTACTAGATAA
72001	TIMP3	TAGGGCAAACTGTGGCCCCCAGG
72002	CRSP6	GTGATCATGGTTCACTGCAGTC
72003	ARHGDIB	CACTCAACGTGGTCCCTAGAA
72004	SPF30	ATAAAGTGTTTTTAAAATCTCC
72005	KCNJ13	TATTACCTCCTTAATTTTTAACAACTA
72006	PABPN1	CAGTCCCCTCCTGCCTGCTCCTGTCC
72007	DLD	AACTCATATTTTCATGCTGTTCA
72008	B3GAT1	GCTCTGCTCCTCTCCTGGGCC
72009	REN	GTGAGCCCCAAACCTTACTGGG
72010	PCSK1	AGTTGACAAAAAGCTCTT
72011	NT5E	CCATACAGCTAATGCTGACAGA
72012	TXNRD2	CCGCCGCCAGCTCCTCGGAGGC
72013	PRKG1	CTGACAGATTTTAAAAATTGATA
72014	FGD1	TCTCCTGCCCCCGCGGCTGGAGCA
72015	ZFX	CTGCCGTCTGTTCCCTGAGCTGTGCT
72016	LPXN	TTCAATAAGCTCTTCCCACTG
72017	SH3BP2	GCCAGTCTCATCCAGCAGGTT
72018	PABPN1	CAAATGCCTGTTCAATCAACCAAACATCTA
72019	LRRC2	CAACATAGTGAAACCCTGTCTC
72020	WNT7A	GGAGGCAGCAGCGCCCCCGCACTCCCC
72021	BMP8	TGGGTGGAGAGGTTTGTCTCAGCCTCTGC
72022	WBP2	TCTCACTTCCTTCTAGAAGGA
72023	PCDHA9	ATTTTTCTGAGACGGAGTCGT
72024	AOC3	TTAGGCCACCTCCAAGGACTCTA
72025	CYP4F3	TTGTTTCAGCCTTCCTTA
72026	YWHAG	AACAACAAATATGTTCTCT
72027	LZTS1	TGCGCCTGCAGGCAGAGCTGGA
72028	REN	TCTTCTCTCAACCTTTTGGG
72029	MLPH	GAGAATTGCTTGAGGCCAGGAGTTTG

72030	PRKY	GAGGATTGCTTAAGGCCAGGAGTTTG
72031	VAX2	CCGCAGCTTGTGTGCGTGAGTGCAGTG
72032	HOXA10	GGATTTCCTTTATACTGTGAA
72033	CD2AP	ACTATAGTCACTACTTTTTCCA
72034	PPP2R5C	TCTTTCCAAAATGTATCTGTA
72035	ITPR2	GCTGCCTCTTCGCGGGGTGT
72036	ADCY6	TATCTCCTTCCTTCCCTACCA
72037	ADRBK1	CCTGCTGTCCCCTCTTGCC
72038	ZNF42	GCATTTTTCTTACTAGGAGGAGATGG
72039	PMM2	TCTCCTATCTGCACTCACCCAGGC
72040	EHD1	GGGCGCGTTTGCAGGCCAGTGGCCAC
72041	AKT1	AGGGCACAGGGCCATCTGTC
72042	TCF21	TCCTCGGGGTTCCTTCTCACA
72043	SH3BP2	GTCGCCCAGGCTAGAGTGGATTG
72044	HFE	TGTGGGTAGTATGATGGGTGTT
72045	EGFR	AGTATGAGCCCTAAAAATCCAGA
72046	MOCS1	CAGCCAATCCAAGCATTTTCTCCTGGG
72047	SLC25A19	CCGTCTGGCCCTTCCCTGCAGGC
72048	RAD54B	TAAAGAAGACACTAATTGTC
72049	EPHB1	TGACATTCTTTTCTTTTCTCCT
72050	ALOX15	CCCAGGCTGGAGTGCAGTGG
72050	APAF1	CCCAGGCTGGAGTGCAGTGG
72050	ATP7A	CCCAGGCTGGAGTGCAGTGG
72050	AXL	CCCAGGCTGGAGTGCAGTGG
72050	BCL10	CCCAGGCTGGAGTGCAGTGG
72050	CLECSF12	CCCAGGCTGGAGTGCAGTGG
72050	CNN2	CCCAGGCTGGAGTGCAGTGG
72050	CSNK2A2	CCCAGGCTGGAGTGCAGTGG
72050	EVC	CCCAGGCTGGAGTGCAGTGG
72050	FHL2	CCCAGGCTGGAGTGCAGTGG
72050	GNE	CCCAGGCTGGAGTGCAGTGG
72050	MEFV	CCCAGGCTGGAGTGCAGTGG
72050	PCDHB16	CCCAGGCTGGAGTGCAGTGG
72050	PER2	CCCAGGCTGGAGTGCAGTGG
72050	PPP1R12B	CCCAGGCTGGAGTGCAGTGG
72050	SS18	CCCAGGCTGGAGTGCAGTGG
72050	STAU	CCCAGGCTGGAGTGCAGTGG
72050	TNFAIP2	CCCAGGCTGGAGTGCAGTGG
72050	TRPV1	CCCAGGCTGGAGTGCAGTGG
72050	VHL	CCCAGGCTGGAGTGCAGTGG
72051	AKT1	TAATATGGAACCTTCCCTCCA
72052	CACNA1G	GACTTGTTTCCTTCTACTTTT
72053	KMO	CTGCCTCCTGGGCTCAAGCAAT
72054	MMP19	ATGGGTACCTACAGAAGCCTCT
72055	SLC22A7	AGTGGTGACGAGCTGTGGGA
72056	LILRA2	GTGGAGCCTCAGGGACAGATCTGATG
72057	PACSIN1	CACTCAACACCGAGTGTGGGGG
72058	DUOX1	CCTCCTCCTCTTCTGGGC
72059	TPMT	TTGCCCAACCTGGAGTGCAGTG
72060	DLGAP2	TGGGACCATTGGGAGCAGAGCTGATATTAA

72061	SLC22A12	CTGGGCTGGAGAAGCCACTGTGGG
72062	PRKCN	TTCAGCAGGTGCAGATCTCGGCTT
72063	MPHOSPH6	CTCCCAGGTCATTGTCAGTTTA
72064	ARHH	TGGGGAGAGGGAGGGCCGGGAAGC
72065	AGT	CCTCTGCCCCTGGCCTTTGAG
72066	CA2	ACCATGTCCCATCACTGGGGGTA
72067	HMOX2	TCTCCTCCTCCGCCTGTGT
72068	NEDD4L	TGAACATTAAATGTGATGATGATT
72069	KCNQ2	CGGAGAGAAGGGGAGGAGGACTCCAG
72070	VPS26	ACTCAGGAGGACCTGTGAA
72071	STCH	ATAGATGAATTTATTTTATTTCTA
72072	NSF	CCTTTATTTTAAATGATCTGTACTA
72073	PLSCR1	AAACTCATACCTGTATGAATTA
72074	APG5L	CTAAGCTGTGATGAAGAAAGTGTGGTA
72075	HDAC5	TGGGGATGGTGAGAATGGAGGT
72076	BMP1	GCTGCTTGTGGCGGATTCCTCA
72077	CASP2	CGTCCATCTCTCTCCCTTACTATTCC
72078	RFXANK	TTCGGCGCGGGGGGACAGAGGAGGC
72079	NEBL	GGAAGAAGGAATGACCTCTGG
72080	PPP3R1	CCTCTGGATCAGTGGCATGGCTTA
72081	SEPN1	CCCCAGCCCCCAGTTCTCTC
72082	ANKRD3	TGGGGAAGAGGTGCAGGAGAAGC
72083	TRIM14	GAATTGTGACAGGCAGAGGGT
72084	EMX2	AGGGCACAGGGTCCCAAACCGAGGCC
72085	PTGER2	CTGTTTAATCATAGTTACTGTGT
72086	DLG1	AACTCATGTTTCTCTGTTTCT
72087	NRL	ATGGAGCCTTCAGTCTCCTGGG
72088	BAZ1B	GCTTATAATCATGCATATAACCTTTA
72089	IPP	TGGCTTGTACCTGTGGTCCCATCTGCT
72090	TACC1	TGGAGATGTTGTGTGCAATGCTGGCCTGTG
72091	HOXB6	GAGAGGGAGAAACAGGCGCGGGGTCT
72092	HGF	CCCAATGCCATATGTAATAG
72093	ENO2	TACTCACTGAAGCCTGCGTT
72094	XRCC3	CGAGGTTGAGAGGAAGGAGGGTC
72095	PTPRG	GCAGGCAATGCTGTACTTTTCTTCAG
72096	RFX5	CACCAGGTGGCAGCATCTTGTC
72097	PDGFRB	CACCCTCTCTGGGCCTCAGTT
72098	GPRC5B	CTTCCCTTGTAGAGCCA
72099	CYP8B1	TCTGTTGCCCAGGCTGCAGTGC
72100	NFYA	TTTGAAAAGTTGTGGCCTGCTTGTCC
72101	HOXB5	TCTCCCCTCCCCATCTGTGTT
72102	TRPM8	GGTTACTCTGAGAATTTTGCTTATG
72103	APOL1	TGGAGAAGAAACAGGCTGTG
72104	PNUTL1	GAAGCAGCAGATGCAGGACCAGTGCGCTCGC
72105	SLBP	ACAATCAGTTAATTTACCATGTAAAAT
72106	CLOCK	AGACTGCTATCAGTCTCTT
72107	BARX2	TCAGCACTTATTTCTGTAGTTTTAAAA
72108	SYT5	CTTTGTTGTGCGTGGGGCT
72109	NRXN1	CTCACATTCCCACATACATTCACTAT
72110	DGKB	TGGAGCTAAACAAAATATTA

72111	SSRP1	GGGAGAGATAGGGTGGGAGGCAG
72112	ABL1	ACGGAGCCCCTGAAAGCCTCACGTA
72113	CHD2	TTTTGCAGGAATACCTGAGGCTG
72114	SLA2	CTCCTGCCTCAGCCTCCAGAATA
72115	MHC2TA	AGCCTCCCGAATAGCTGGGACT
72116	ITGA11	GCCAGCTGGCTTTGCACTTGA
72117	KMO	TGTGAGCCACCGCTGCCAGCC
72118	ITPKB	GGAAGCACCAGCCTGGACCTACCACC
72119	GJB2	GAGACCCCAGGCTGTTAGGG
72120	PDGFB	TCCCGCCTTCCAAAACCTGCTT
72121	ITM2B	CAGTAGCCGCCTCTGCCGCCGCGG
72122	FOLR1	TGCAGGAGAAAGCTAAGCCTC
72123	SOX15	AGGCTTCTCCCAACCCATGG
72124	ADAMTS4	TCCTCTCTGCCCTAATGCGCAGGCTGG
72125	VIL2	CGCACACACAGTGATTCCCTCCTCCCGTC
72126	GNAL	ACCCCCAAACCACCGACTCTCAT
72127	GUCY1B2	GGAGAATACTTTCAATTCTGA
72128	HTR1E	TCGCCCAGGCTGGAGTGCAGCAGCACA
72129	P2RY6	GAAGAACTGGTTCTGTGGAATTTGTG
72130	FACL4	TCAAAAGCCAAAGAATAACAAGAAATA
72131	NT5M	CCTCTGTGGGGCTCTGACCTCAGGGC
72132	GSTM4	GTTCAGCCCAGCTGAGGCCTGTCTGC
72133	PPP1R12B	GGCAGCACCACTGCCTGCTCCCT
72134	C18orf1	GGAATATCCTGGAGTGGTCCCC
72135	PUM2	TCTGTGGATGAAATGAATCA
72136	NELL2	TGTCAGGCAGTGAATG
72137	TRO	TTTGGCAGTGGAGCCGCCAGTCT
72138	PACSIN1	CCTCGCCATAGAGTTCCAGACATATTTTCCG
72139	MPP5	CAATGCCATCACAGTACAC
72140	FANCA	CCTCACACCTGGGGGACAGAG
72141	FLT1	ATAGCCCAGCAAATAGTGAT
72142	FAAH	GTAGGAGGGTCACATCCACTTGGT
72143	ATRN	CAGTAACTGAATTTGTGCACA
72144	MGAT4B	ACCGAGCCACCAGGAGGTTGTTGA
72145	ACK1	CTGCTTCTTCCAGAGAAATA
72146	PIK3R3	TAGACAACATTATTATATGTGCT
72147	USP4	GAGAACATCTTTGACACTCTGCAGAC
72148	CX3CR1	CTTCCCAAAGGACTCCACCCATCCTAT
72149	AP2B1	TCATTTCAAAAGCAGAAAAAGA
72150	PRAME	AAAGGGAGATTCTGGCTTGGGA
72151	TAL1	GCAAGAACTCATCACTGTGG
72152	P29	TCCTTCCATGATCTGATCATGT
72153	AES	GTGGATACCTGCCCTGACATGT
72154	ILVBL	GCCTTCCTGCCCCTGGACTG
72155	STXBP1	AGTGCAGCTGTGGGTGGAGGCTGGGG
72156	ZNF41	AGAGACACTCCCAAGGAGACAGCCA
72157	SLC4A4	CTGCTTCTCTCTTGCATAGATACA
72158	BDNF	TCACATAGCTAGAAAGGCCC
72159	ABCC12	ATCAGTACTTCATCCAAAGGCCTGTCA
72160	SOX18	CCTGCAGCGCTTCCTCCCGCAGCC

72161	EPHB1	CTCCCACACTCGTTTCCCTTTG
72162	ITPR1	CTGCTAACCCCTCTCCTCGCC
72163	RNASE2	AGCCAAGATCCCATCTCTCCA
72164	PBX1	GTCCCCGCCCTCTCTCATATCAC
72165	GCGR	AGTGGGGGCTGTGCCGTGAACTG
72166	IGLL1	GCCACATGGACTGGGGTGCAATGGG
72167	ZNF26	TGGATACGATCCCTTTAGAACCTGCTT
72168	APPBP2	GTTGCCCAGGCTGGGAGGGCAATG
72169	SNX15	CACCTCCCAGGTTCAAGCAGT
72170	HPSE	AACTATCTATTTGCACCTTA
72171	FOXE1	GCGCGTGCCAGCCTGGGCCGCTGGG
72172	PTEN	ATTTTATGCTGGACTCTGGACC
72173	SHFM3	CACTGTGCTCCTGGGCCTGTGA
72174	CCNK	GTGACATTCTCTCCCATGACACC
72175	DSCR1	TGTACTTGTTCTTTTCTGGTAGGTT
72176	EED	TCAGGCTTTTTCTCCACACTTGTAT
72177	IGHMBP2	GCAGTGTTCCCCCTCCTCCTCACC
72178	A1BG	CTCAAGCGATCCTCCTGCCTCAG
72179	TBX2	GCCTGGGACACTTCCCTGGGCC
72180	MAFF	AAGGGAGGGGGAGAGAAGC
72181	GSTA4	CTTATCCTTATCCCCTCCAGTCTCTGCC
72182	GTF2H1	CCTTTTCTCTAGTATTTGACTGT
72183	IFNGR2	TTAAGGCTTCTCTTAAACACTAAAAA
72184	SNAP23	TAACATGAGAATTTCTCTCTAAA
72185	TNFAIP1	CCACTGGCCTATTTTCTCAGCT
72186	RGR	TTAATTTCCATTTCTCTGATGACTTT
72187	SH2D1A	TTGTGATTGATTATATGTCA
72188	CDKN2C	CACACTCCTCACAGAGATCTG
72189	HSPA9B	AGGTACAGCTATTAAAACAAGGTAGG
72190	ALG6	TTCTCTCAAACTGCTAATTGCG
72191	GLTSCR2	CATCAGATGCCGGAGACTCGCC
72192	CRSP6	TCCGAGTAGCTGGGACCACAGGCATG
72193	SHANK2	GAGAGGAAAGCAGGGAGGTCTC
72194	PFKL	CCCCTGCCTCTATCCCTGGCCACCTGC
72195	NOS1	GTTCAGTTTGGGTGTCTGCTAAAGAG
72196	BSN	GTCTCATCTCTAACGTTCTA
72197	HGD	AGCATTGTGGCTTTATATCCTC
72198	PPEF2	AGTGTTTATATAATTTTATGTTCTACT
72199	PRDX3	TAGCCTTACTTGA
72200	SLC38A3	AGACTCCTGGGCCCTTGGATA
72201	VNN1	TTCCTGTTCCTCTCCCCACCA
72202	HM13	TGCCCGAGCCTCTCAGGGCCA
72203	CLASP2	TGTCAGATGATAAACATGACTGGGA
72204	KCNS3	ACAACCAGAGAACAGGATTCTTCC
72205	CNTN3	TTTTCATTTTCAAGATGATTGCTCTAT
72206	GPRK2L	CGTCTCGTCCCACCTGG
72207	ZNF274	AGCTTCTGCTCTGCCCCA
72208	PLAG1	TCATGCATCTCTGGGAAATGA
72209	PSA	GTGCTGAATCTACACATCTGT
72210	ODC1	AGAAATCATGAACAACTTT

72211	NDST2	GGGAGGTGGGGAGGAATGA
72212	ART1	CTGTAGGAGTGAGACTCTGAA
72213	PIGC	CTAGGAACTTGGCTGTGTTGT
72214	FUT6	CCATTGCACTCCAACCTGGACGACAGA
72215	LDLR	TCTGCCTGGAGTCCCGCCCCTGC
72216	LFNG	CCCTTCCTCCTGGCCTGGACGCTG
72217	TCF7	AGCATGGTCACAAGCACAA
72218	CD83	GAGAGGGAGAAGAAGTCAGAGAGGGT
72219	PRIM2A	GGAGTTTCTATTAAAATCTGTC
72220	KLRD1	CTGCTTCTTATTCACACTATAATACA
72221	UBE2V1	GCTGCTGCTGCTTCCCAAGATCCT
72222	SCAMP3	GGCAGGGGCGTGGAGGGCAGAGGGCCGCGG
72223	CDH6	CGCATCCCAAGAGCTGCAGTTTCAGCC
72224	PRKY	GTGGGTGGCAGAGTCAAAAGGAA
72225	ACVR1	CAGCAATATTGCC
72226	METTL1	GGCTGTGGCTATGGTGGCCTGTTAGTG
72227	IBSP	GAGTGAGTGAGAGGGCAGA
72228	TNFRSF6B	AGCATCTGAGTGGGGCCTCTA
72229	ATP1B2	GTTGCCCAGGCTGGAGTGCAATGGTGC
72230	CYP1B1	TGCTTGGAGTTTACCTGGCT
72231	HUS1	CACCCAGACTGGAGTGCAGTG
72232	APM1	CACCCAGGCTGGAGTACAGTG
72232	PCDHA9	CACCCAGGCTGGAGTACAGTG
72232	TRAF5	CACCCAGGCTGGAGTACAGTG
72233	RXRA	CCTGAGCCCTGTCCCTGCCCTTCTCT
72234	AEGL1	GATTGCATACAAGATGCATGTT
72235	PHF1	TGCCCAGGCTGGAATCCAAGAGTG
72236	GAB2	TGCAGTGAGCAGTGCAGTG
72237	GLRA3	TGGAAAAGCTTTGTATTTTGGTTAGC
72238	FAT2	AGACAACCACTACGCGGGCCGTA
72239	AIPL1	CACCCAGGCAGGGAGCAAGTGG
72240	DRD1	TGGAGAGCTGCTGAGGAGCCAG
72241	SFRP1	GAGCTCAAAATAAATTGGAAATGT
72242	SMAC	GCTCACTGCAACCTGTGCCTC
72243	BDKRB2	TAGAAGGGCTAGAACCTGGAGA
72244	PSCD4	TGCTCCAGCTTCCAGCTGGAG
72245	HNRPH3	TCTTTAGTTCCTCCTGGACAACACTGTA
72246	BRF1	AGAGTCCTCTTCAGAAGATATT
72247	FRAP1	ACCCTCACTGGCCTTCTGCAGCAG
72248	TEM6	GGCCCATGAGGGGAAAGAGGA
72249	NUP50	GTGGCCTTTCGTACAGTGGGC
72250	ICMT	TTTGGCTGGTCACATCTAGTGC
72251	ZNF141	CACAGCCTCAGCCTCCGTCGC
72252	CDC27	GTGACTTGATTGCCAAGGAA
72253	ADD1	CTCAGAGCCTCAGCTTCTGGGGGAGACA
72254	DDX6	AAACTATTTGCGACTCACCCA
72255	USH3A	CAGCAAACAGATCACTAGGCCTCTGA
72256	LNK	GACCTGACACTGATCCA
72257	TTID	GCACATTTAACAATTACAGGTTAT
72258	POLH	GAGCGAGACTTCATCTCAGAAA

72259	ENC1	GAACAATGGGGACTTTGTTG
72260	PATE	TTTCTGTGTTATCCTTCTTATCCCACT
72261	CXCL1	TTCACAGTGTGTGGTCAACATTTCTCA
72262	COPA	CACTTCATTCCAGCCTGGGTGA
72263	IRF1	CTGCTTTGGCTGAGGGGCTTGG
72264	POLK	TAACATTGAACATTTTATCA
72265	ITK	TGAGAGTGCCTACTCTGGCTTG
72266	FOSB	CATCCCCCTTCTTCCTCCCCTCAACA
72267	TPP2	ACAGGGTTTTAACGTGCTCAA
72268	PHEMX	CCTCTGCCCCTCTCCTGCCACC
72269	APM1	AATGGGGTTTCGTCATGTTGGCC
72270	SURF4	TTATTTGCAGAGACACCTGAGA
72271	EPM2A	ACACATTTCCACTATAATTTTAC
72272	HIPK2	GGGAGAGAAGGAGGGAGGCGC
72273	PRND	CAGCCTTACACTGGGCACATGGA
72274	ZNF147	TGCCTGCAGAAGTCCCAAGACCCT
72275	PLIN	CAAAAGCTCTTGGGTGTTT
72276	NFATC3	GCTTATTGGCATATGGTTGGGC
72277	TRPC6	TGACATAGTAACTCTTCAGCTCCGTCT
72278	LPL	TTTGTTGTTTTTAACAACT
72279	VPS41	AAGCTCATTTCCAGAAAAGTTTA
72280	TARDBP	CTTGAAGCAGAGTTCACCAGTGA
72281	SLC1A4	GGCTGATTTCAAAATATAGAGCCC
72282	MPL	CACCCAGGCTGCAGTGCAATG
72283	ABCD3	TGTCTTGGAGTGCATTTGACTC
72284	FCAR	CCCAGGCTGAAGTGCAGTG
72284	MDM4	CCCAGGCTGAAGTGCAGTG
72284	SMAC	CCCAGGCTGAAGTGCAGTG
72285	RRAS2	CCGCGCTGACCGGCCCTCCAGACGCCTCC
72286	FN1	AACTCACAGCTTCTCCAAGCATCACCC
72287	UVRAG	AAAGGTCTGTGGCCATCTGTGAG
72288	NDRG3	GTTACCCAGGCTGGAGTGCAATGGCGC
72289	SLC8A2	CCCTTCTCTCCCCCAGCTCATC
72290	BTG2	TTGTCGTAGACTTGTGCAATA
72291	NEDD4	TGCGTGCCTAGCGCTGTGCTAT
72292	BAI2	CTCCTGTGGGCATGGCTCAGGTTGTGCG
72293	TEGT	ACAGTGCACCATGTCACTGTGCT
72294	RXRA	AGGACAGACGATGGCAGAGGAG
72295	DBY	TCTTGGAGATTGTTGAATGCAGCCAG
72296	ZNF2	TGGCCAGAGAGTGTCTCTCTAGACTGGGA
72297	PIM1	GGCAGGTCCTCCCCTCTCTTGTCAG
72298	RNMT	TTACCTTTCTTCATTGAACAA
72299	ACE	GACCAGCCTGTCCAACAGAGGG
72300	NESH	TTTGGGTCTCACGCAGAGGAA
72301	SLC6A1	GCTGGTGACCTTTTTAATCCA
72302	NFIA	ACTGACACAAATGCTGGTGCCCATTC
72303	CASQ2	TCTGCCCCACACCCAGCCAGCT
72304	MRPL49	TGCCCAGGGTGGAGTGCAGT
72305	HPS4	CTCCCACTTTTGGCTTTCCTGGA
72306	GNAT2	GAAGTAGGGAGTCTCAGTCAATGTA

72307	COX11	TTCAGTTTCTCACATTTTATGCTTTCA
72308	TACSTD2	ACAAGGCTTATCACCAATGGA
72309	NRCAM	GTGACATTCTCTCTCAGCATTCT
72310	GPR86	ACAAACAGCCTCTTTCACATTACA
72311	ACVR1	CCCACTGCAGCCTCCACCTCCC
72312	RAMP1	ACCCAGGCTGCAGGGTGAGGCCAGGC
72313	ST5	CTGGCTCCCAGTCAGTGGTGGCCA
72314	CLTB	GCAGCAGCTGCTACCCACAGCCTA
72315	IGF2	CATCAGGTTCCATCCCGAA
72316	SEPN1	CTGTCACCCAGGCTGGAGTGCTAT
72317	TNFRSF10B	CTGTCTCCCAGGCTGGAGTGCAAT
72318	CCND2	AATAAAGTGCCTTACTGACTGTAG
72319	MYBL1	AAGTATGCTGCTATAGAAAAT
72320	LHCGR	TAGTCTATGACCACTGCCACA
72321	COPG2	GTACCTGAAAGCTCCTGGCAATG
72322	HM13	CACCACTGCATTCCAGCCTGGCGACAG
72323	RAB23	GTGCAGTATTTAAGAAAATGACA
72324	VAMP8	CTCCCACCTGCCCTTCTTTTCA
72325	CKB	TGGCGAGCCCTTAGCCTTGC
72326	LPIN1	ACTGACCTTCTTTTGGAATTTCTGAG
72327	SCN1B	GGTGGGAGGGGGCAGGGGGCTTGGC
72328	DFFB	TCAAGTGGTTCTCCTGCCTCAG
72329	TMEPAI	TGGTTTTGCCTTTCCCAAAAATGA
72330	DAPK1	CTCTGGCTTGGACAGGGTC
72331	LIPA	AAGTGTCCTTGTTCATTTTCA
72332	CTSS	CAACATAGTGAGACCTTGTCTC
72332	LPP	CAACATAGTGAGACCTTGTCTC
72333	SH3BP2	CCTGCAGCTACAGCTGCTTCATTCC
72334	TNFSF7	GGCATTGAGCTTTTTCTTTCATTTT
72335	PELO	CCTGCTGCTGGCTCCTCACTG
72336	ASK	TACCAGTACCTGAAGTAGGCT
72337	GNPI	GGCTTCCTTTCATTGTCTTAGGCC
72338	TNNT2	CCTAGGTGGGAGCCACCACTCCTGC
72339	HEPH	CTGCTCAGATCCTGCTTCAGTGGACAA
72340	P2RX4	GGCTTTCAGGGCTGGAGCTGGCTTTGCT
72341	SOS2	CAGATAAGTGAGTAAAGCTTT
72342	FSTL1	CCCTGTCTCTTCTTTTTTCTGGACCT
72343	PMS2	TGTTTTAAAATGAAACCTGCTACTTA
72344	JRKL	TTGTAGGAAACTGGGAAATAAA
72345	TDG	TGTCAACAAGTAGAACCTCAGT
72346	PPP1R12B	CAGGCAGCTTTGAGGACAAAAAGG
72347	MPP2	AATATTTATTACAAATGTTAG
72348	LPIN2	TACTCTTAGTTACAGTAAAGCAATT
72349	MCM4	TCGGGAGGTTGAGGCAGGAGAATCGC
72350	OSR1	GGACTCGGAGGAGCAGGAGGC
72351	OGG1	CTCCACCCTCCTACAGGTGCT
72352	SEDL	TTGTGAACAGTGTTATTTATAA
72353	MCL1	CCCATCTCAGAGCCATAAGGTCA
72354	PLXNA1	GGTCCCGGGGCCCGGTTGGCAGCTGG
72355	ANKH	TTCTGGGGTTGGAGCTTAA

72356	CDC25B	TGTCCCACCATACGAGCACCTCCAGC
72357	KRTHA8	TCAGGGTTTCTAGCTTTGA
72358	PPARBP	TTTAGGGTTCAAAATGATGGA
72359	MOX2	GTTGTTTTTGCTGTTAAATT
72360	C14orf2	TGCTTCAAAGTATTATTAAAAACA
72361	SH3BP5	TGCTGCACTAGTATTCCTTA
72362	FBXW1B	CTGTTCTCTGTCCCCCAACCAT
72363	SIGLEC11	GCAAGATGGTGAAACCCCATCT
72364	NEBL	ATGGAGGTGGGAGAGCTTTTAGTTAAG
72365	EDARADD	TCATTCTGGGGAGACTGAAAA
72366	BCL11A	AGTCCTGCAGAGTCCTTCCAGCC
72367	KIF3B	GGCTCCTTGAAGTTATTACTG
72368	FOLR1	GTTCAGCCCCACAGCTCC
72369	NFIC	CCGACTCCCAGCCCGGCCAAAAAG
72370	FOXE1	AGGAAAGAGAAAAATTAAGTTAGG
72371	PKP2	CAAATAGTGGTCTTTGTTATTAGGGCT
72372	FHL2	TCTCACCCAGGCAATCTTGCCT
72373	GIF	GCCCCTGGGCTGGTGCTGGCAGTGGGA
72374	CD34	AGCCCCTTCCTTGCTCTGCACC
72375	PPP3CB	CAGGCTCTCTTACTTGA
72376	SCGB2A2	CTGCAAACCACACCTTCTCTT
72377	DGKB	CTGCATGATTTATTAGTTTCTCTCCA
72378	MGAT5	GGAGAGGGGTGTGATGGGGCAGA
72379	TMOD2	CAATCTTTCACTGCATGTGAA
72380	TRIM39	TTCATGAGAGATGAATGACA
72381	KCNK3	TGGGACCCCGCACAACATCCCTC
72382	TEM8	GCATTTCCTATCCAGTGTGA
72383	MTAP	GAATGATTTAGACAACTTC
72384	MECP2	GACAGTTCATTCAGGGCCGATGGGG
72385	KCNQ2	CAGTCCGTGAGTCTTCCAGCTGCCACC
72386	HOXB7	GAGGAAGAGAAGCCCAGCT
72387	MAPK14	CCAGGTGTTGCCATTTCTCTGCT
72388	USP6	ACACATGTGCACGCATGTGCACA
72389	ALPP	AAGTGTTTGTAATCCCAGCACTT
72390	MYLK	TATTAAAAGGACTATTTCTCTA
72391	TFRC	GGCCTTAATATGTTAACCTCA
72392	ANK1	ACCATTCTCCCTTCACCAGCCGAACC
72393	ATP2B4	ATGGTAACATGCACATCCTGTTTAC
72394	TBX6	TGCCATTGCATTCCAGCCTAGG
72395	ADCY8	TCTCCTGATCCTCCTAGCTC
72396	RPS6KA5	CAGATGTCTGCCAACAAGAAATG
72397	LBR	ACTTTCAATGTAGGGGAATGTAATA
72398	CACNG3	TCTCCCACATTTTCCCCTCACCCTCCA
72399	CLC	GGCTGGGCGTGTGATGCGAT
72400	ADAM29	AAGGAGCAGTGCTGCAGCTCTGA
72401	HPN	GGGGCCACCATGCTCCTGCCCAGGC
72402	CSNK1D	TGAGAACTCTCCTTATTGCTG
72403	SELL	ACTGGCTTCAGCCTCCCCACCTTCTT
72404	ARF3	GTTATAGTGGTAACTGCAGTTC
72405	SNX3	GGCCTCCCGGGAGCCGGGCGT

72406	IFNAR2	CAGGACCCTATGATATTTCTCTTCTTT
72407	EXTL3	CCTCTGCTGGAAGGGGCAGCAG
72408	PCDHA9	CCTGCTAACGCATTAGCATTAG
72409	SCD	CTGTGTGACCCTGGGCAAGTCACTTAA
72410	LILRB4	CCTGCAGCTTTGTTACATAGGTAGGCT
72411	COIL	CCTGCCTGGTATGACCTCTCC
72412	FZD3	ATCTTCATGCAGAGATATTCAGGGT
72413	NEUROD2	AATATCTTCGCTGAGGTTTCCTCCTC
72414	HM13	CAGGAGGCCAAGGGCAGCTCCAGGACA
72415	DNAI2	TTCCTAGGATCTCCCCACCA
72416	CNTN2	TACTCCAGGCTGTTTGGGGTGGGAG
72417	HSD17B2	AGCAAGTCACTGAGAATGAGCACTTT
72418	KPNB1	TTGGAAAAGAGAAAAACAATGGA
72419	UBTF	CCAGGCCAGGACTCTGCAGCCT
72420	NCOA3	ACCAATAAAAATAAACTGCTTGA
72421	YWHAG	CTGGGTGCAGAAGCTGTGGGG
72422	ARNT2	TCTTGGATTTGAGGAGAGTTTATGA
72423	WNT10B	CCCCAACAATTGGAGGGTCT
72424	CGA	ATACTGCAGCTTTACTGCCTTC
72425	CRYZL1	CTACTACACTCCAGCCTGGTG
72426	HMGCS2	TGCCTTCAAGATCCAGA
72427	PCDHA4	ATGCAGCTGCACTTGACTGACC
72428	TIAL1	CTTTGGTGAAGGACACGTGTCTT
72429	ATM	GAGGCTGAGGCAGGAGAATCTCTTGA
72430	TFE3	TCCCTATAGGAACAGCCCAGCACA
72431	PIAS3	AGCTAGGAGAAGGGCTGAACCCTC
72432	MUS81	AGGGAGATGGAGTCAGTGGGGC
72433	SOS2	AGGGCATGTATCTCATTCAGATGTGCC
72434	TCOF1	GTGCCTCATCCCGTGCCGCTC
72435	RAB36	GGACGGGAGAACCTGCCCAT
72436	RHO	GGGGGAGGGGGACGGTGAAGGC
72437	MAP3K11	GGCTCCCCAGAGAGGCGTGGGTCTGGG
72438	TMSB4Y	CTTGCAGAGGCATGTGTGCT
72439	KCNE1L	TCTGAGGCCCAGATAATGGTGA
72440	KLK3	CCTCCTTCTTCCTAGCCA
72441	RFC1	ATAGAGGTTGATAGGACTGCTTG
72442	MADD	CGGACTGACTGGACTCCATCT
72443	DLGAP2	CTGCATGTCTGTTTACACTTCT
72444	SLC22A2	TCTTGGCGTCCACATCTGTTCCTCA
72445	UBQLN2	GAGTCCCTCCCTCCTACTTCCCTCACTC
72446	BASP1	TACAGGATGTTGTCCCATCAAGGGA
72447	SLC7A5	TCCCCAGCCAGAGGTGGAGCC
72448	FBXL11	AGAGTGCCTCAGTTAGGGGAACTTCT
72449	GAD1	TCTCTCTCTTCTCCTGGCGCTCGCGT
72450	XRCC2	CAACCCAGGCAGTACCA
72451	LTBP2	TACCTGGAAATGGCCTCCAGTC
72452	ESR1	ACAGGGGTGAACTGTTCACTGTGG
72453	ZNF189	TACATGTAAAGATTATGTTAG
72454	TRADD	TCAGGGCAGAGGCCACAGGA
72455	ING1	AAAATGCTTGGGTACACTTCT

72456	PKHD1	TATTATCTTCTTATTTATCCTCTAT
72457	NR1I2	CAAGTCAACTTTCTGTCCAGTGG
72458	EPB49	CTATGGACTTTCTTCCCCCTCA
72459	MAP3K7IP1	CTGTTTCAGAGGAAGCAGGCCGAGA
72460	PKP4	CGCGGCACTTTTTTAATTTTTTC
72461	M6PR	CTGTCCACATACAGCCAAA
72462	PXN	TCCTTATTCCTCCCCCGACCTAATTGT
72463	PCSK2	TCTCTAACACCTTGTGACCTTC
72464	DIO1	TCCCTGAGACCCAGCTGGCTTTTA
72465	FUT9	AGGAAGTGACAGTTCTACTT
72466	TP53	AGCCAGACTGCCTTCCGGGTCA
72467	COL14A1	TCTCAGTCAACCTCCAGATTTTTA
72468	ADAM33	GGCCGCAATCCAGCCTGGGCGG
72469	CD2AP	TATTTCTTAACTGTGCTGGG
72470	NUP98	TTGGCACTGTTTGCCATTCTCTG
72471	SLC9A1	TCCATGGAAATGCCTCT
72472	ITCH	CAGAACCTTGCTTAACATGAGA
72473	MAPRE3	CGCAGCCTCTGCCGCAGCGCC
72474	STC1	CCCAACAACTTAGCGGAAACTTCTCAG
72475	COX15	AGCCAAATAAACCTCTTTTCTTTCT
72476	TNFSF10	CTGTAGTCCCAGCTACTTGAGA
72477	RNF3	GCAGAAAGAGGTTGCTGCA
72478	TEM6	TTTGCCTCAAGCAACCTACCCTGATGT
72479	PRKAB1	GGAGAGGGAGGAGTGAGCTCC
72480	ZNF16	TTCTCACTGCCACTGCTCTTGCCT
72481	TRH	AGCAGTTTAAACCCCACTTTCCTCC
72482	CSNK1G2	GCACGGCTGCTGCAGTCTCTTCCCA
72483	DGKA	CCCAAGTCACACAGTGGTATCA
72484	DDB1	GCAGTGTAGGGAGTTGTGGGTAGTGG
72485	ESR1	GCACAGCCAGACTTGCTCAGGTGGCCC
72486	GRM3	CTTTCTAGGCTGAGTCTAGTG
72487	FGF5	TCATGCCACCACGCCAGCTA
72488	GALNT7	TCTTCTTTGGGATTACACTCA
72489	IDS	CCTGCTGCAGCCTGTCCCCGCCGCTC
72490	SMARCD2	GGAGGCCGGGGACGGAAGGCGGGC
72491	CHRNA4	CCGCGCCACGGAGCCCACAGCCCG
72492	LOXL2	CCCCATTTCTCCTCCTCTTAGGTCA
72493	DYRK1A	TTCATCCTGAACATTTTTAAAA
72494	GYS1	CCTGTCCTGCCTCTCTGCTCCA
72495	SIL	TAGCAGCCAATTGGGAAGAGTGAC
72496	TTC3	TGGTCACCTTCCTCTGCCTTT
72497	THPO	ACTCACTGATTCTCTACATGCTC
72498	NLGN2	TCTCTTCCCAGCACTTCCCTGCCTCC
72499	CIT	AACTTTGTTGTTGAACAATTAGTGA
72500	PTPN1	GAAATGAGAAACTTTGATCTCTGCTTA
72501	ABL1	TCTTACAGCACATCACCTCTTT
72502	CELSR1	GCAGGGTTCTCCCCTCTGGAGTCTGACC
72503	TNFRSF10B	AGCCATCCAAATAGCTGGGACC
72504	SWAP70	TTTTCTGCTTTTTCCCTTCC
72505	EIF5A2	GTTTTCCAACTATGTTGAATAAATAGTAAT

72506	SNRPA	GTCCCCAGACATTGCACCTG
72507	FANCG	GGGGAGAGAGCGTCCCATCTGTC
72508	AGT	CTGGCCTTTGAGGCAAAGGCCAGC
72509	ABR	CCTTCCCAGCCTGCCTGCATGC
72510	KIF13A	TTATGTATCATTAAGAAAAA
72511	NOTCH2	TGTTTTTCTGTGTATGGGCCTGGTC
72512	MUC4	GGAGCCACAGAGCTGGTGCTGCCGC
72513	NCOA3	TGTCCTGTAATACTTCACCTCC
72514	STK38	TCCTGTGTGTTTTGCAAGAATGTGTG
72515	TPT1	TCTTCATTTATTTTGACTGTGATTTAT
72516	EIF2C1	TCCTGGAGGGTCCAGTCATTCA
72517	BACE2	CCCTCCCGCGAGCCTCCTCCCC
72518	FCMD	CTTTTATTCCTCCTTTTGGTAAACA
72519	NRG1	ACGATATACTTTGATTTTGTAG
72520	PDE4C	CATCACTGCACTCCAGCCTGGG
72520	SIM2	CATCACTGCACTCCAGCCTGGG
72521	SLC2A3	CATCATTGCACTCTAGCCTGGG
72522	SERPINB9	ACTGCAACCTCCTCCTCCTGGATTCAA
72523	TXNRD1	TCCCGGGAAAGAGAACTGTCC
72524	CHIC2	GGCGTCTGTGCTTGTGGAGGTGT
72525	SERPIND1	CTGACTCTGTCACTCAAGCCT
72526	DISC1	ACCCAAGTTGGAGTGCAGTGGC
72527	PGAM1	TCTGTCCTCTGCTCTTCTGCAGTCA
72528	ARNT2	AAGAAAGGAAAAGATTTCATAAGCA
72529	CARD15	CTGGCCTCTGCTGATCCTCCC
72530	HYAL1	AAGAGTACACTCAGCCACTGTCACAG
72531	ASH1	GTGGAGCTAATCAGTCCTGCCT
72532	SORBS1	AAGAGTAAGACCTGTTGTTTTGGA
72533	SOX9	TTGAGCCTTAAAACGGTGCTGC
72534	SCNN1G	CAGGCTGTTCTTGAACTCCTGGCC
72535	CCNT2	ACCAGATGTGTGCAGTGCAACAGATG
72536	IRAK1	GTTACCCAGACAGTGAGAAGCCCCTGG
72537	SNX6	CTCCTGAGCGCCCGTTCTTGGTCTAAT
72538	ABCC5	CAGGGGCGCAGGAATTCTGATGTG
72539	WWP2	CCGGCCAGTTAATTCATTCTCAG
72540	TRIM34	GCCAGGGAAGCAGTGCAATGGC
72541	FOSB	ATCCCAGACCCATTCCTTA
72542	NFIB	TAACTGACTTTCTAGATGCCTTAA
72543	WEE1	GACAAGGTCGGCAGAGGTGGAC
72544	B4GALT4	AGAACCTGTTACAGCTCA
72545	MPO	ACAGCTCAGGAACTAGACTGCCT
72546	GNE	TGAACCCCAGGCTGGAGTGCAGT
72547	CYR61	TCTGCACTCTAAACTGCAA
72548	ATP8B2	TCACCTAGGCAAGAGTGCAATG
72549	TNFAIP1	CCTATCTCCCATCCTGTGGAACCC
72550	DAXX	CCCTGCCTCCAGAATGTTCT
72551	HGF	CATTTCTCTTCACCATGTAT
72552	ZNF135	TCTGTTCTCCCTCTACATTTCTC
72553	LCP2	AAACAGTGTTTGAAATGAAGACTGTC
72554	PDE4A	CCCACCCCCAAGCAGGGCTCCT

72555	IKBKG	CCTGACTCGCTGCTCTTTTTG
72556	NOG	CGCTGCCCCAGCCTAGGGG
72557	SOX11	AGTAAGACTTTCAGGCACTTCTTCC
72558	CHST5	GCCTGTAATCCCAGCATTTTGA
72558	CPT2	GCCTGTAATCCCAGCATTTTGA
72559	SRGAP1	GCCTGTAATCCCAACATTTTGG
72560	PXMP3	AGCTGCAGGAACAGGAAAAAGAG
72561	IER5	CCGGCTGCGAGGACGCCCAG
72562	PABPC4	CTCGCCGCGCCGGTGCCACCT
72563	MAP3K9	CCAACATGGAGATATCCTGTCT
72564	TSLP	AGAAGTACCTTTGTTACAGCTACT
72565	IGF1	CATGGACTCACCACTGTGTG
72566	IRF2	TTCATTTCCATTTCACACAC
72567	KLRD1	AAGATCATAGCTCATTGCAAGCT
72568	RB1CC1	TGACGTAACTGTATCAGAGGGTG
72569	ENG	TCCACCCGGGGGAGCCCAGTGA
72570	CARKL	AGACCAGCCTGACCAACATGGG
72571	ITGB4BP	TGTCTTCAAGCTGAATGAAGCCCAGC
72572	TIA1	ACTTCAACATTTACATGTAT
72573	NRL	TCTGCTCCCTTTCCAGTTCTGGCATCT
72574	CXCL16	CCATGCCTGGCCCTATGTGTGTTTT
72575	ADH5	GGCTCACTGCGTGTTACCTAAGACGTA
72576	FGFR2	AGGCTGAGGCAGGAGAGTCACT
72577	NFATC3	AGGCTGAGACAGGAGAATCACT
72578	NEBL	CTTTGCAGGCTTTTGCTAGCCCT
72579	OPRM1	ATCATGGGGGATTTTTCA
72580	DNMT3B	ACATTTCTCATACCTTCCCCA
72581	SHANK2	TGGCACCCCCCTAGACTTTGCTTCC
72582	HIVEP1	CCTTAAAGCACATTTTTCTGAC
72583	ESRRBL1	CTTTACCTTGCTCCACCTCT
72584	GLO1	GGCTCTTGGGCTGGAGTACCGTGGTG
72585	ZNF192	CCCAGCACCTGTGTCAGTAAAGA
72586	TNFRSF1B	CGTTTGAACCCGGGAAGCGGAG
72587	OPCML	TTCTACCACGTGTAGGATAA
72588	THBS1	CATCTCAGTGAGCACCAGCTG
72589	ZNF265	ATTACCTAGGCTTGCCTGAACTTTGGG
72590	PLA2G2D	GCCTGTAATCCCAACACTTAGG
72591	JAM3	CAGGTCTGAAAAAGTAGAGAGA
72592	LILRB4	TTCATTCTTCTTCATATGAATATCCCC
72593	PIGK	TGAAGAATGCATGGAGGACTGC
72594	SLC21A3	CCCCTTCCCCCACCCCACAACAG
72595	GAS7	CTGGGAGGCGGAGATTGCAGTG
72596	TPMT	CTGGGGGGCGGAGGTTGCAGTG
72597	DYRK1A	TTTCTTTCTTTCTCTTACCTGAAATG
72598	RABL2A	TCATTAACACCTTCCCCA
72598	RABL2B	TCATTAACACCTTCCCCA
72599	NFYA	TTCATTCTTCCCATGGCA
72600	GPR85	CTTTTGCAGATATCAGCTGGT
72601	SOX11	TCTTTTGCAAGAGTTTTTCAC
72602	FSTL1	TGGGAGGAGGGCAAGAGTACACCAA

72603	BARX2	GGGAGAGAGCGCCTAGGAGCTGCCTGC
72604	NLGN1	CACTGAGGTTCATTCACTGGA
72605	AQP2	CAGGTTTGCCTACGTTGGTGCA
72606	SLC5A1	TGGTCTCCCTGGTTCCTGCCA
72607	M11S1	TCTATCATTCCTTATGACATG
72608	BAPX1	GAGTCCCGGAAGGAGGAGAGCGCACAC
72609	BICD1	CTGTGGACGAACATCTGGGG
72610	TMEM2	TCAGAATCGTGGAGAGAATACTCAG
72611	CTF1	ACGGGCAGGGTCTCTGTCGCC
72612	ADD2	AGCCTCCCGAGTTCCAGGAGC
72613	SOX12	CAAAACAATGTGTGTTGTGAGCCAGGA
72614	GRB10	GCAGTATTTCATATTTATAAA
72615	HADHA	TGCACTAACCCCAGCTGCCGGC
72616	ADCY2	CCTCTCATAGAAATTGCCTCCA
72617	AOAH	TTGGGAGCTTCCAAAGCCGGGTGATC
72618	SACM2L	TGACCTAAGATCTCAGCAATTTG
72619	ASTN	CCAGAAAGTTGTTAGGCCTGCC
72620	ITSN1	TCACAGAAAGTCATTATCTAGAA
72621	NR1D1	AGGGAAAGGCTCGGGCAAAAGGCG
72622	DSC1	ACTGTAATCCCAGCTACTCAGG
72623	SIAT1	CTTCAGGCTCTCTGGGCAG
72624	KLHL3	TTGGATGGCTTCAAAGGAATATAC
72625	LSS	GGCTGCCGCCAGTCTCATGCCC
72626	SERPIND1	CTCCCCACTCTTCACAGCAAACC
72627	ADD2	AACTCCACTCTGTCCTCCTTACT
72628	SPP1	CCATGAGAATTGCAGTGA
72629	NRD1	AGGAGGTGGGTCCTGGGAAGCGGGA
72630	CLCN6	TGGTTTCCTTTTCTCCTCTCTC
72631	HIVEP2	ACACAGGATGGTGACTGGAA
72632	SHMT2	TCTGTTTGAACCCCTGTCATGATCACAGTG
72633	GYPA	CACTCACTGAAGCTTCGATTTC
72634	GPR30	GGAGCGCCCGCCGTCTGCTCCG
72635	CYP4F3	TGCAACCTCCGCCTCCTGCGTTCGGGT
72636	SMAP	TGTTATAGTAGAGCTGTTC
72637	F11	TCCCTGAAGGACCCAGGATTT
72638	ABCD3	TGTGTGTCTTGGAGTGCATTTG
72639	HS2ST1	TGGGGGAGGGGGACTGGAGAGGC
72640	POU2AF1	GGCTGGCTGGCTCCGAGTGTGGGGCGC
72641	ALDH3A2	CACTGCGGTTGGTCATACTGA
72642	F9	CCAATCAGCCAACTAAGTTGTC
72643	C8A	AGCCTGTAGACATCTTTTACTCCAA
72644	M6PR	GCTTTTGATTTGCATCTTCTCA
72645	SECTM1	TGAGGGTCGGGCCGGAGCCAG
72646	RALBP1	TCTCTTCTCAGACTCTTCCTCTGTCA
72647	PRX	ACCTCCCAGAGGTGCAGCTGCC
72648	PRKAB1	TTGCTCATTTCACACTCTTCA
72649	HK1	GCTGCTTCCTCCCCTCCTGGCACCCA
72650	CCR9	TTTCAAAATCAACTGACTAGTGCA
72651	TTC1	GTGGTGTCTGTGCAGCTGGTGTC
72652	GFI1	TCTGTTGACTCCTTTCTTTTGGG

72653	EIF2C1	GTCTCCGGGCCGCCTGACCTCCGCACGG
72654	GSTZ1	GATCTGCCTTCCTGCTGAAA
72655	GSTZ1	ATCACCTGCTTTCTGTGCCA
72656	GRIN2C	GGCTCCGAGCCAGCTGGATT
72657	IL1RN	GTGCCTCTGCCTGTCTCC
72658	RNGTT	ACACCCAGATATTTTCTTCAA
72659	TM4SF2	TGAAGGCCATGATATTTTGTTTTTCCCCA
72660	ARSD	CCAGGAGGCTGAGGCTGCAATG
72661	SH3BP2	CGCTCACTGCCACCTCCGCCTC
72662	HBG1	GGCTCACTGCCCATGATTCAGAGCTT
72663	SLC22A3	GTTTTTAAAATAATGCTACAATCTTC
72664	DRD2	TCCTTGACCTTCCTCTGGGGCTC
72665	BRF1	AGCATCAGACGGGCTTCCAGGA
72666	NHLH1	CTGCCTCTTCTACCCCTATGTC
72667	RAB36	CTGGGTCTCAGAGCTTCAGGCCT
72668	ZNF2	TGATCAGAGAGACACATTCCCT
72669	HMGA1	GTCTCGAACTCCTGACCTCAAGCAGTC
72670	PPP1R3C	CACAAAGGGCTCTGAAGCTCAAGTCAGA
72671	DSCR3	GAGCGCAAAGTGCTAGCCACTGGAA
72672	CLCN5	GCTCCAACCTCCTTTTTGTCTTTTG
72673	L1CAM	AGGCTGGAGTTGGGGCAGAG
72674	GUCY1A3	CACCTGCAATCTCATATCCTGGT
72675	TNFRSF9	CTCAAGTGATCCTCCTGCCTCA
72676	LSS	TGCTCAGGGCCACCTGAGACTG
72677	SCA1	TCTGCCTCACTCTCTTGCTATCGG
72678	HSPA9B	CACCGCATCGCGCAGCTCTTT
72679	PTPRH	TCTGGATTCCTGGTTCCCTGAAGG
72680	RPL30	CCTTTCTCGTTCCCCGGCC
72681	MMP19	ATGGGTACCTACAGAAGCCTC
72682	PFKFB3	CTCAGCCTGTTGGTTTCTCCTCATT
72683	MECP2	GGGGCAGCCTGCCTTGCCCAC
72684	MHC2TA	CCCTGCACTTGCAGACTCTACAGAGG
72685	MEF2A	GGTTCACTGCAACCTCCGCCTC
72685	MHC2TA	GGTTCACTGCAACCTCCGCCTC
72686	WNT3A	GCCTCAAATTCTGCGTTTTTGGTTTTA
72687	CHRNB2	GGGGAAGAGAGAGGCCTGGGT
72688	SLC6A3	TCATGCTGTCTGTGTGA
72689	SSX2	CCCTCCTCTCTCCCCAGATGTGACT
72689	SSX4	CCCTCCTCTCTCCCCAGATGTGACT
72690	TCF3	GCATGGGGACCACACCCTGGAGCCCG
72691	FBXW7	CTTTGCATCTTCTGATAGTCTA
72692	CANX	TAGAACTTTGCCAGTCTTTAAG
72693	NRG1	ACTGCCTCTGCCTGTCGCATGAGAACA
72694	DUSP4	AGTACAGGCCTCTAGCCCCACCA
72695	AR	GGAAAGTGCCTGGTAGGACTGAC
72696	LGR6	ATGGCCCAGTCCCTGGCTCCACT
72697	ESR1	TGCCTCTGATAAGCACTTTTTAAAT
72698	ECEL1	CCTCCTGCTGGCTACCGGGGCA
72699	CSTA	GCTACTGAGTCATGATCCTTGCT
72700	CASP7	CAGGCACTTTGAGTCTCAGTCT

72701	GRM6	TGCCTGTAATCCCAGTTACTTGG
72702	FSTL1	AGGAAACTGCATCACGATTGAAAGA
72703	MBL2	TTTCCTAATTTTGAGAAAGTCTTATTTA
72704	VIM	GCGCTCCCACCACCCACACCCA
72705	PPM1B	GGAGGTGGCGGCGGCCGAATCGGC
72706	SLC22A7	TCTGCTAGCTGTCACCCTGCCTTGTGC
72707	FHL2	TTTCTCTCACTGTCTATTTA
72708	KIF1B	GTGTGAAGGGAAATGCCAAGG
72709	PLA2G2D	ACTGATCCCCACCTCCTCAGGG
72710	SOX3	GGTTTTCAAGCTTTTACTCTTA
72711	STEAP	TCACCAACATTTCAAGTTTGTAT
72712	RAD21	GTTCTATTTTGTAAATCATTCCA
72713	ZIC3	GGGCTGGAGTGGGTAGAGTA
72714	SLC29A1	TGACTTCTGCTTTCCACGG
72715	TGFBR3	AGACAGTGCTGAGATTGGAAA
72716	PPP1R12B	GAAAGAGAATGTTCCTGGTA
72717	FGF13	AGACAGGAACTGTGGAACTGTGATG
72718	BCL2	TGTATTGAAGAGGGATTCACATC
72719	GNAO1	AACCTCTTCACGGTTTCACT
72720	SLC6A3	TTACAAGAATAATTAGCAATA
72721	DHCR24	CCCAGCCTCAGCCTGGGACACCTAGG
72722	PLA2R1	TTGGTTATTTTTCAGAAAGA
72723	DLGAP2	TCTGTAACTCTGTGGGCTGGGTC
72724	ATP11B	TTTCAGTCTGTTGCTGAGGCC
72725	INMT	CCTCCACTTGTTATATAACCT
72726	UBE2B	TGCCTAGGAGGTTGAGGCTGCA
72727	AR	GAGACAGACTGTGAGCCTAGCA
72728	WHSC1L1	CTTGGTCTTTTCTTGCCTTTTAT
72729	UTF1	GGCAGTCTCCCCTCTCCAG
72730	ATRX	AAGAATTACCTAGTTTTGCTTAA
72731	LEP	GGGCCAGGGGTCTCCCTGGAGTGCAGT
72732	OGDH	CCTCCCCACCAGTCTCACCCACTAG
72733	CD34	TCTTCCCTGTATTTTCTTTCTCTAC
72734	EGR1	CTGCTTGACCGTACTCTCACA
72735	MEF2C	TTTTCTTTCTGTTTTCTTTTAC
72736	KIF3C	TTTCCCTTCATCTGTCACAGGAAACAG
72737	WNT5A	AAGTGGCTTTCCCCACATCGGCTC
72738	PRKCH	CAATCTTGAAAATATGTTGTGCACCAAGAC
72739	EPHB1	TGCACACCCACACCCACGCGCGC
72740	VIL2	GGGCAGTGGTGGAGCTGGACCTGCC
72741	AIRE	CCACTGCACTCCAGTCTGGTC
72742	OGG1	GCTCTGAAGACGGACAGCCCTG
72743	TES	TGTTTTATAATACTTCCAAGCCTG
72744	PPM1B	GCCTGTAATTTTTCTTTCAAGGAT
72745	ZNF264	CACCCACGCTGGAGTGCTGT
72746	CYP4A11	GGACCCACTTTCTCTCTCA
72747	MTF1	GCTGTTTGGTGGTCTGCCTTC
72748	ADAMTS13	CTGTCCAGGAAGAGCTGTGTGGCCTGG
72749	RASGRP1	AAGAATACAAAGTATACATAC
72750	ADRBK2	TTTAGGTTTCAGGGGCAAGAGCA

72751	CYP7A1	CCCTCACCACACAGTCCCTT
72752	LPL	CAGAACAAAGAACGGCATGTGAA
72753	EGFL6	CGAGGGGGGCTCAGGAGGAGGAA
72754	PTPRO	TCAAGACGCTCTCCAAAGGGCAGGAAG
72755	EFNB2	TTACCCAGGGCTCTGCAGCAC
72756	ABCD3	GACTCCAGGAAAAGCCATTT
72757	EZH2	CCCCCCTCCTCTGAAACAGCTGCC
72758	MECP2	GGCAGGCAGGGGCCCTGCAGC
72759	GPR62	GGGCTGAGTTGCTGGAGCTGGGC
72760	CHST5	CATGCCTGTAATCCCAGCATTT
72760	CPT2	CATGCCTGTAATCCCAGCATTT
72760	GP2	CATGCCTGTAATCCCAGCATTT
72760	VHL	CATGCCTGTAATCCCAGCATTT
72761	KCNA7	CATGCCTGTAACCCCAGCACTT
72762	TACR1	GCCTTCCACCCTCCTGTCTGCT
72763	UBL3	AAAAAACAAAATGTGCCTGTTT
72764	DSC3	AAGAGAGAGCTTCCTAGGCCT
72765	HSPA4	TCTGTTCTCTACCTGTCATGCTTC
72766	SCN7A	GGAAATGTTGGCTTCACCAGAA
72767	ADD2	AGGGAGGAGGAGCAGACGGCAGAGGAA
72768	THY1	CCAAGTCAGGTGGGGTGGA
72769	NDST1	CAGTCCTAGGCTGGATGGGAGGGTG
72770	DTNB	GCCTCCCCCTGCACAGCCCTGCA
72771	PPP1R11	GCACCTTGGTCCCAGTGTCTTCCTTTT
72772	LZTR1	CCACCACTGCTGGCTTC
72773	FLRT2	AGCAGTTTTGCTCATGACTTACCATT
72774	SCN7A	GAAGTGCTGTTGTTCAACAGGTAC
72775	OSR1	CCATCATTACCTGTGAACTGCAGTGGG
72776	UBASH3A	AGAAGCACGAGACGCACTTTT
72777	TFE3	TAGGGCAAGAGGATGAAGGAA
72778	APOB	CATACAGTGAGCCAGCCTTGC
72779	UBE3A	GTTTTTCTGGGCCAGCCTT
72780	COL11A1	AAGGCAGGGCCCGGCAGAGGAA
72781	IGF1	TTCAATGCTAGTGTTTAATCCT
72782	UNG	TTTCAGTGACAGATGTTGGGGTGTT
72783	KCNMB3	AGAGGTGTGGGATGTCAGAACA
72784	LTB4R	TGGTCTCAAACTGCTAACATCA
72785	CUBN	CCAGCATGGTGAAACCTCATCC
72786	IL22RA2	TCTTTCTAGTGAGGAGATACATAT
72787	ZNF264	TCCCTAGCTCTCTGCACTGA
72788	SLC6A8	CCACCCCCACCCACAGTGCT
72789	PLIN	TTAGCACTGAACTCCTCTGTGAT
72790	DAAM2	CTGGCCTCTCCCTGCATGTCT
72791	SIAT8E	CAGCTCTGTGCTGAGCCTCCTGGCC
72792	FLRT2	TTCCTTCCCCACCAGGGAGGACAA
72793	TFDP2	AAATGATTGCTTCAGTCTTTGCCT
72794	IER3	GCACAGCCCAGCTGGGGCTAG
72795	ARSD	GACCAGCCTGGGCAACATAGTG
72795	DBT	GACCAGCCTGGGCAACATAGTG
72795	GP6	GACCAGCCTGGGCAACATAGTG

72795	TRPM1	GACCAGCCTGGGCAACATAGTG
72796	PPP1R12A	GATACCACCATCATGTTCAGACCATTT
72797	RPE65	TGTTTAATTGTATTTAAGCATTGTGCA
72798	ILVBL	TGAGGAGGGGATGGAGGGGT
72799	NUMA1	TCCTCTTAGCCTCTGGATCTAGAAG
72800	MAPK4	CTTGGGGGCAAGGAATCCAGA
72801	GABRA5	AGGGCCTCTCCCCTTGCAGGCC
72802	PSCD4	CAAGCAGTGGATTCCTGGAGGTGGCAC
72803	ZNF85	AATTTATGCTCACACCTTACTGCACA
72804	TCEA1	TGGCATGTAGCTACAAATATTA
72805	ADCY6	CCATATTTCAGGAGAATGTTTCC
72806	BAT1	GGAGGCTGGAGTAGAGGGAAGCCTGCA
72807	FOS	GAGAAACACATCTTCCCTAGAGGGTT
72808	SERPINB9	TGCTACTTAATCAGAATCTTGAGAA
72809	CAMK2A	GCTGGGGTCGCTGCGTTGCTGTGCC
72810	RAB31	CTGAGCCCCGGCACTGCCTGG
72811	DDB1	TGTGTATGTGTATCTCACACTCATG
72812	PCDH7	GCTTTGCCTGCCACTTCTGCCTCC
72813	TFAP2A	TCTCCGACTCTGCACCCGCC
72814	CLECSF11	CTTGGCTAATTTTTTGGATTT
72815	DYRK1A	GTCAGTTGAAAATTATGGCTGTACTAT
72816	MCP	TGCTTCTTTGAAACTTGTATG
72817	RB1	GGTAGCTTCAGCTAGCTTTTAGGAA
72818	CAV2	ACAGTAAGTTGACACCACTTA
72819	KLF8	TTTTCCTACAGTAACAAAACAGGAAT
72820	UBE2I	CACTTTCTCCCTGTCTGGCCC
72821	TBL1X	CATCTCTACCCCACCCAAATAA
72822	RORB	ACCACCACCAACTCCTCCTCC
72823	DOCK1	CTGAGTCTTGCCCAAACATTCT
72824	ABR	TGGAACCTCCAGTCACTGTGCCA
72825	MPL	TGGTCTTGAACTCCTAACCTCG
72826	PSCD4	CTTCTCTTCTCTCTGGACTTCGGTG
72827	DLG4	AAGGTAGATGGCAGAGGCAGA
72828	NXF5	GATGCTCTGCTTTTCTGTCAA
72829	BASP1	ACCTGTAGTTCTGTTTATTGGTCAGTG
72830	POLA	GAGTCTAATGTTCGTAAGCATCA
72831	FCAR	CTGTCACCCAGGCTGAAGTGCAGT
72832	SURF5	CTCTCGGCCCCTCTGCTGGCGTCCCC
72833	MUCDHL	CATTCCCCTCGCTGCTCCCAAA
72834	TAGLN2	GCCTCTGCCTTCTGATGCTGGACTG
72835	FGF1	CTTTGCAGAGCCTTTTACCCCT
72836	MAP1B	AAAGAGTCTTAATTTTCTAAAACAA
72837	PBX1	CCTTCCCTGCCTCCAGCTGTCAGC
72838	C4orf1	ACTGTGGTTTGATGGAATGAATCA
72839	SLC20A2	GGGATGAGAGGGAGGGAGAATC
72840	SLC8A2	GCCATAAAACTTTG
72841	RUNX3	GGAGCTGGGTGGAAACTGCTTTG
72842	PDE7A	CGAGGCGGGCTGATCGCTTGA
72843	BAX	GGTCTTGAGGGGGTAATAAACCTCC
72844	DGUOK	GCCGCCTGAAAGTACAGCTGG

72845	BDKRB2	AGCCATCTCCATCTTGAA
72846	BAT2	GCCTCACTTCCCCTCCTCCCCC
72847	FGFR1	ATGCCACCTGGAGCATCATAA
72848	AP2B1	AGCAGGAGAAGCAAACACC
72849	SLC1A4	CTTCCTGGTTTTCAGTCCACAG
72850	G22P1	TGGTGATGGTGTAGCCCTCCCA
72851	CR1	TGTCTCCCAGGCTGGAGTGCAG
72851	XRCC2	TGTCTCCCAGGCTGGAGTGCAG
72852	GSTT1	AGCATTTTCATTTCTAATGGCCCATGG
72853	HPS4	CCCTCTATTTTATTTTTCTTGA
72854	FMR1	TGGAAACACTAAATGTTAAAGATGTAG
72855	CD8A	AAGGGGCAGGCCAGAGCTACCCGCA
72856	SORCS3	TCGTTTTTGTTCCAAGAATGATATGA
72857	RECQL5	ACCTTCTGTGAAGAACTGGGGTA
72858	MGAT5	AGCTGGGTGGGAGGAGCAGC
72859	FCMD	AGTCATCTGATGTAATTCTCTCACTTA
72860	DSCR3	CCCCTCGGAGCTAGGGAGTGTGTGCG
72861	UBTF	CTGCCCTGGTGGCCCTCTCCCCTGCCC
72862	COG2	AGCTGATTTCTAAAATATGATTAAAGT
72863	SNRPN	CTGCCCCCTGCCCTCTCTC
72864	UBQLN1	GGGACTGCATTTCTGGAAACATAC
72865	CRP	CCAGAGTGCTCATCATCATGTC
72866	AOAH	TTGGGAGCTTCCAAAGCCGGG
72867	IL1A	GTTCTCTTCTCTACCCTGCCCTAA
72868	MAPRE1	CAGGCTGGGGTGTTTTCGGTATCTGCT
72869	STIM1	GCTGTTGGAGGGGGCAGGCTCGCGGGTGGCTG
72870	EN1	TTCTTCTGCCCCCTCCTGAGTC
72871	MINPP1	AACTTGATTGAACTGTCTAGGAACT
72872	SERPINB9	TCTGGCTTCTTTCACTTA
72873	CR1	TCTCCCAGGCTGGAGTGCAGTG
72873	XRCC2	TCTCCCAGGCTGGAGTGCAGTG
72874	CDKN1A	TTCCCCTCTGCTGCTGTCCCTCC
72875	CHRNA4	CCTGCAGGACTCGGGCTAAGTCCAGC
72876	EEF2K	AAGTAGCTGGGATTACTGGTGCACACC
72877	UCHL1	ATTTCCCCTCTTCCCTTCAACA
72878	KIFAP3	ACCCCATCCTCTCCACGCCGCTGCC
72879	OGDH	CCTGTTAACCCTCCACCTCCTC
72880	CEP1	ACTCCACTGTAGTTTACTTTGCCTGTA
72881	AQP6	ACTGATCTACAACTTCGTCCTGTTC
72882	F8	CTCTCTCCCTCTACTAATTTC
72883	PTGES	AGAGAGAAGGGAGACTCTAT
72884	SECTM1	GGACTCCCTTTCTGCCACCCCA
72885	HPCA	GGAGGGGAGAGAAGGATTCTAG
72886	CARS	CTGCAGATGGCCCAGAATGG
72887	FBLN5	ACCCAGTCTCCTCTCCATTTTAGCCCA
72888	TKTL1	GCTGCTTGTGATGAGAGCCTCC
72889	KCNK5	ATGCGGAGCTCCAAATTCAAACAGCTG
72890	GRIN2B	GCTGTGTCTCCCTTCATCCTTCTGG
72891	GAS7	CAGGGGGAGAGCACAGGACTGGC
72892	ARF3	ACTGGTTACCCTCCTCTCTGCAG

72893	RHD	GGCTGATCTCAAACTCCTGACCTCA
72894	JAK3	GGCTGATCTCGAACTCCTAACCTCA
72895	COL4A6	TCACAAACCTGAATGGTCTGAA
72896	ABCB4	CATTTCTACTCCAGCATGCAG
72897	MBD1	TGTGCTGCTGCTTCACTTCCGC
72898	SQSTM1	GGCCTTCTCTTGAGGCCTGTGCTC
72899	OGG1	TGGCCCTAAAGGACTCTCCAGCC
72900	HPS1	CGTGGAGGAAGCCCACCCAG
72901	PDE6B	CAGGCTGGAGTGCCGTGGCACGATCTC
72902	ZNF289	GGTTTCATTTGGGATCAGACCG
72903	SYNGR1	GGGGTGCTGAGTCATCTCACGAAGAA
72904	KCNK3	AGACCAGCCTAGGTGACATAGT
72905	CLIC3	CCCACCCCGCGTCTGTCGCCC
72906	AICDA	CCAGGAGGTGGAGGTTGCAGTAAGCTG
72907	SLC13A1	TGTATACAGACAGAAAAAT
72908	MASP1	AGTGACACACCTCTCCCCTCA
72909	SDHC	AGCAGTTATTCTCTCTCCA
72910	CDS2	AGGTCGGAGGAATGGAGGCTTACTAA
72911	RPL30	TTCCTTTAATAAAATTTGCTTGTT
72912	DLG4	GAACAGCTACAGTTTCACAGTAGGA
72913	G2A	GCCTGGGCTGGAGAACAGTGGC
72914	RGS3	AAGCCCCCAGAGGCCGTGT
72915	GOSR1	ACATGGTCAGGTTGAGCTGAAGCCACA
72916	DNASE1	CCATGATTGTGCCACTGCACTCCA
72917	KLRG1	CTATGATTGTGCCACTGTACTCCA
72918	GSTA4	CCTCCGAGTGGACTCCAGAAA
72919	ADAM12	GCCATGATGCC
72920	DHH	CGTACTGAGAGGAGGTGATACCGGGTC
72921	TCN2	GTAGCTGGGGAGACCTCAGCAGGGC
72922	ARHGAP6	CATAGGAGTCAGATACAAAAAGA
72923	PPP2R5B	CTCCCACCCTCTGCTCCTGGCC
72924	HS2ST1	GAGAACATCCGTGTAAATCATCT
72925	AP2B1	GTTGCCCTAAGAATGCTTCTCA
72926	EVC	GGGACTGTCACCCTCAGCACTG
72927	PPP1R12B	TGAGGTGGGCATGGAGTGAGC
72928	SELL	GCAGAAGAACTAGAGAAGGACCA
72929	NTSR1	GTGTCTCTCAGGATGGTGCTC
72930	DAAM2	TGTTTAGGGCAGTGGGAGGAG
72931	TRPM8	ACAAAAACCGTCACTTAGGAAAAG
72932	LNPEP	GCAGTATGTAGTTATTTATTACAAA
72933	NT5E	GGCTTCACCTTAAAAACAGTGTGCAAA
72934	MDM2	GTCATCTGCCACCACACCTGGCTA
72935	BAALC	TCAAACACAAGTGGGTAGTGTC
72936	ATP6V1C1	TGCCTCGGTACCTGTTACTGCTGCTACT
72937	DLX4	GCTCAGAGAGACACTTTCTCCGGGA
72938	TACC1	TAAAGTCATCTTTACTTTCC
72939	FMO1	TTCCTGAGCCTCTCCCAGCTCCA
72940	PIK3R1	AGAGCTTTCTTTCACAAAAAA
72941	ZNF3	CACTAAACTGTTTTTCTCA
72942	ATP8B2	GTACATCTTCTCCGACAAGA

72943	ANXA9	GTCCTCTCCCACATCTGGGAGGG
72944	PTPRH	GCTGGGCTCCCAGACTCCTGGG
72945	CASP2	CTCCCACATGATGTCACCTCCCCATCA
72946	CKMT2	CCTTTGTCCCGTTTCACACTAAACGGG
72947	E2F3	GGGCTGTAGAATGGGGTCTGGCC
72948	GPR81	ATCAGTTTTGTCCTCTTATTGCAA
72949	ZNF192	TGACTATCCTGAAAAGAAATAATAATCA
72950	TRPM8	ACTGAACACCTGTAGTCCCAG
72951	GBP1	AAAGTTTATAAAGGCATGTGGTACAAT
72952	AGTR1	CCAAAACAATGCCCGTAAGATGGCT
72953	NFIB	ATTCCCTTAAGGTTA
72954	TOX	GTTAGTCTGGTTGGAAACCAAGAGAA
72955	MFRP	TCGAAGTTCTGCCTCTCTG
72956	DVL3	CACACACAACCTCCCCTGTTTTCA
72957	MLC1	ATCTCTCGTTTAGCTACC
72958	GGA3	GCCCCTTGCCAGGCTTCCTTATTCCTT
72959	ANXA8	GCTGGTCACAGAGTCTCCTGGGC
72960	IL22RA2	TCCCTGTATGCTCAGAAAACATTGATT
72961	TBR1	GGTCTGTGGATTTCTAGTTTATGA
72962	ADRBK2	GTTTTCTCCCACTGCCTCCAGGCC
72963	FABP2	TTCACTCAGGCTGGAATGTAG
72964	PDGFRA	CTGAGGGAAACCAGAGTCTGTA
72965	HPS1	CCCTGCTCTAGCCAAGGTGGCC
72966	PAH	CATACTCAAGAGCATAATGGTAA
72967	CDC23	CTGTGCATGTGTGTACAGCA
72968	VAPB	CTGGTATTGCTGCTGGAGGGCTGTGG
72969	ADAMTS13	CCGGTGTATGCCAAGTGGCCCCCGGG
72970	KCNA6	TTGTGCCTCAGTTTACCCACCC
72971	CMAR	CACTCACTGCGGCCTCAACCTT
72972	DSPG3	CCTATAACATTTACAAAAAGA
72973	TIMP3	CGCCAGACCCTGCCCCACCTCA
72974	LARS	AGAACTTCATGATGATT
72975	APLP1	GGGCCGGGCGGGAGTGCAGGG
72976	CNN2	GCCCCGGGGCCAGGTGGAGAA
72977	SLC24A1	GACAAGCTCCTACGCTCACTGT
72978	DNM2	TCTCCTCCTCCTCCTCCTGGGTCCCCCAG
72979	LIMK1	CAGCCCCTTCTCTCGCTTTGG
72980	NOS2A	TTATCTGAGGTCACAGGGCCTGG
72981	CCND1	GTTTTTAAGGGTTATCTTA
72982	MEL	ATCAGCAATAGTCTGCTCTCCCCG
72983	TAL1	AGGCTGGAGTACAGTGGTGCCA
72984	SH3BP2	ACCGGGGTTTCACCATGTTGGCC
72985	ASTN	TCTCCTGGTTTTCTTCCTAGGCC
72986	GGA1	TGTGCCGCTGGGGTCTCCATCA
72987	UBE2V1	ACAACAGCCCTCTAGCCTGGG
72988	SLC2A3	TTTATGTAAGAGCACCTTCCTCA
72989	OSR1	GAGGCCTGCCTTCTGCCTGCTCTCCT
72990	F2RL2	TATTTTAAAAATGTTAATGCAGGA
72991	CSRP1	CTGTGGGAAAGAGGTTGAGCTTC
72992	CSNK1A1	TTCCTGCCGCCCTCCTCCGTAGCCTTGC

72993	MUC4	CTTGGAGCTCTTTGAGAATGGG
72994	HS2ST1	TGAACAAAGAGCATGGCTTGA
72995	DEK	GGTATTTTCACAGGTTTGTTTCTTGAT
72996	ACADL	CCTGCTCTCTCTATAGAGAAGGAAAT
72997	POP4	TAGACCACCTCCAGCCAGTGACGCTCC
72998	IQGAP2	GCGAGCCTGGCCAGCGAGGGTAGCCG
72999	ARCN1	ATACCCCATTTCCTTCCAGTCA
73000	TAL1	GACCCTCTGCTGAAGACTTGCC
73001	CTNS	CCTGCTACCAGTCTGTGCCTTAGAGGTC
73002	FGF12	AAAGTGGGATGATCTGTCACTACA
73003	VCL	TGCAGACTAGAATTCTAGTGCTGCTG
73004	FCAR	GCAGCTGTTGCAGTGAGCCAAG
73005	G2A	GGGCTCCTGCCTCAGAATGTCAGTGAG
73006	PKHD1	TGCATTTAGCTGCCTAGTGAGAATA
73007	DLEC1	GGGCTGCTAGAAGCACGATCCGCCA
73008	AMH	GGACTCCTGCCCCGAGGGTCCG
73009	SLC5A5	GGAGAGGGACAGACAGCCGGCTGC
73010	PDE4C	GGGAGGCTGAGGTGGGAGGACTGC
73011	ARMET	AATCAGCGGCCACAACTGTCTAGGGC
73012	DDX9	TATCAGTATTCCAAGCCTGGG
73013	CYP27B1	ATGTCCCCTGCCAGGGCCTGT
73014	CHC1L	CTGATACTTACATTTCATG
73015	BAALC	AGCTTATTCTTTCCTTCCTTCAT
73016	MT1G	ACTGCCTCTTCCCTTCTCGCTTGGGAA
73017	DMD	TGTGCACACCTGAGTTCACAG
73018	MS4A8B	TGGAAGCATCTTTCACTGGGAC
73019	VIPR1	TCCTACCCACACCTCTGCCA
73020	BCLG	ACTACCTGAGTCTTTCCAAAC
73021	DBT	GGCTCACGCCTGTAATCCAGCACTTT
73022	HOXB7	CCTTTTCTATGTTGCTATTGTAAG
73023	CHC1	ACAGGTGTCCATGGGACAAAAAAGA
73024	CRI1	GCTGTTAAAAGAGGAGGAAACTACTT
73025	BCL11B	TTCCTCTCCATCCTTCATCC
73026	PSMD9	GGTCTCGAACTCCTGGGCTCAAGCAGT
73027	KIF5C	GGGAAACTGACTGTGCT
73028	MGEA5	TGGCTTTTAGTAATCATGTTGG
73029	NFYA	TGCAGGGTCAGGAACTGGGC
73030	PPP2R1B	CTGACTCAACAGAGACGG
73031	REGL	CATCTCTCTCCATATCAATCTGGACC
73032	CCND2	ATCCTCCCTCCCCTTCAAGGCAG
73033	MDM1	TGTACTTTGAAAACACCAGCT
73034	COL5A1	CTTCAAAAAATGTTCCAAGGTAA
73035	GFPT2	TCCTTTCTCCTTTTCTTTCC
73036	PYGO2	GCTCTCTCACTCCACTACTTTT
73037	GPR86	CACACATGTATATTTCCCCCTGGTACAC
73038	LHX3	TCTGACACAGGGCTGGCCCGCC
73039	HIP2	CAGGTGGGGAAATGTGCTGAAGGAC
73040	PIK3R2	GACCAGCCACATCCAGGGGTCCT
73041	CPLX2	GCAAAGGTTGTCACATCTTCCCA
73042	KIF2	TCTTAGCATTTTCTTTGTA

73043	MLLT7	AGGCCTGGAATTAGCTTGGG
73044	HEBP1	TTTTCTCACGGTAGGAA
73045	MADH5	AACATGCTTTTACTTTATTGCCCT
73046	PKD1	GGAGCTGGCTGTGCCTGCTTCTGTG
73047	GPR92	CATCTGCTGACTTCTGTCTAGGCT
73048	JUP	CTTTGCAGGCTTTTCCTCCTCT
73049	CLCN6	CCCTGCAGGAGGACCCCGGCCTC
73050	ICOS	TCTACTTCCTGTCTGCATGCCCA
73051	WASF1	TAAAGGAATGCTTGA
73052	FCN2	GTTTTCCAGCGGAGGGTGGATGGCTC
73053	SRGAP2	TTCGATTCCATTTTACCTCCTCT
73054	SHANK2	GGGGAGACCTGGCCAAGGGAGCCAG
73055	MTR	TCGCCCAGGCTGGAGTGCAGGGGCGC
73056	FMOD	AAGCAGGAAGATTCTATA
73057	CARD15	TTTCCCAAGCCTACTTTTGCCA
73058	ZNF24	TATTAAAAAGCATACAGTCTA
73059	WWP2	AGGGCTGGAGTCAGGGGACTTC
73060	DSCR3	GCAAAGTGCTAGCCACTGGA
73061	LSS	GGGGGCCAGGCTGGAGGCAGG
73062	RFXAP	TCTCAGCCCACCAATGCCAAGA
73063	GRB2	CCCTGTGACCCTCTCACTTTGG
73064	IDUA	CCGGAGGCGGAACCGGCAGTG
73065	STARD4	GCCTCCTGAATAGCTGGGA
73066	COX6A1	CACTGGTTTGGACCGTTACTCTGCACA
73067	ELF5	AGCGCCTGCCTTCTCTTGCCT
73068	CTPS	CAGAGACAAAATCTCTATACTG
73069	UNC119	GCTCTTCTGTGGTCTGCCACCATTCCC
73070	AAT1	TCCAAGTAGTTTTGGTTCACTATTCAC
73071	SYNGR1	ATCCCTTTTCCTCCCAGCTGCC
73072	UBE2B	TAGGAGGTTGAGGCTGCAGTGA
73073	CHC1L	ACTGGGAGAAGGAATAACTTT
73074	TRPM2	CTCTCTAGCCACCCCCTTGTCC
73075	CAD	AGGCTCTGGACTGGAGCTCTC
73076	BCAS1	GTACCCAGGAGGTGGAGGTTGC
73077	GASC1	TGTCTTCTCTTCCTCCTCCACC
73078	POU2AF1	TGGGCTGTTGTAAACAGGGT
73079	SURF5	TGTCCATCTTGTGCCTTCTCCTGGA
73080	ATP7B	TGTCCAGTCATCCTGCCCTG
73081	CDH3	AGGATGGAGGAATGTGGGCAGTTTGA
73082	NR2F2	AAGAAAAGGCAAAAGACTGG
73083	PACSIN1	GGGACCACTCTCTCAGTCCCCAG
73084	HD	GAGCAGCCTCCACTGTGTCCAGAG
73085	PSMD5	CAACACCTACACCCACCTGTTT
73086	STXBP1	CAGCTGTGGGTGGAGGCTGGGGTG
73087	ALDH8A1	TGCAGTGAGCCATGATCAT
73087	TACC1	TGCAGTGAGCCATGATCAT
73088	MAP3K14	CTGCCCCTGCTCCAGTCG
73089	CIAS1	GGCTCACTGCAGCCTCCACCT
73089	GPR4	GGCTCACTGCAGCCTCCACCT
73090	PPT1	TTGCCATCTTCTGTTACCA

73091	SUDD	CCGTCCTGCCACCTCTCTGCT
73092	PIK3R3	ATTTGGAGGCGGTGGGAGCTTTT
73093	ADAM11	CCTTCAACTTCAGCACCTGCCCCG
73094	TOX	AAAGAAAAGGGAAAGCCATCCAA
73095	BLAME	GAAGCACCAGCACGTTTCACACCTCCCCCTTC
73096	FGF2	TTAGATGATTCAGCTTCATCATT
73097	PRX	CCTCTCGGGGGCAGGAGGGCGAT
73098	MAPK1	GGGAAGGCTACTACCTAGGG
73099	CABC1	GGGAGAGAGTCCTTACTCCCT
73100	GATA3	CCAGTTCTGGGCAATCAGTGTTACCG
73101	HMGN1	CCTAAAGAAAACCACTCTTTG
73102	IL6R	GCTGACTGTTTTCTCTTGAGA
73103	ABR	GTTCTTTCATTTCCTCCAGCA
73104	SLC2A2	ACAATGACAGAAGATAAGGTCAC
73105	PRDM4	CCCATGCACCTGGTCATTGTGTCTCC
73106	MSL3L1	GCCACTGCAGTCGAGCCTGGG
73107	CCNDBP1	CTTCCACTGCCGTCTCC
73108	RPS7	GCTCGGCAAGTTCTCCCAGGAGAAAGCCAT
73109	LIPE	TGAGGGAAATAACAATGGAGCCAG
73110	ZNF179	GAGACTCCACCCTCCCCACCT
73111	CDKN1B	TACTACCTGTGTATATAGTTTTTACCT
73112	SECTM1	CCTTTCTGCCACCCCAGGCTGG
73113	TNFRSF1A	TGGAAAGGAGGGGTCCTGCA
73114	SORBS1	GGGAGACTGACACAGGAAAATGAACT
73115	BSN	GGACCAGCACTTGGTGCCTTGGA
73116	KCNJ5	TGCAGTGAGCCAAGATCATGCCACTGCA
73117	ADCY6	GGAGGGAGAAGCTCTGGGGAGCCAG
73118	KCNE3	TGCATAGTGCCATGATTGGAACCC
73119	DNAJB1	GGGGTGAGAGGCAGACCAGCAGA
73120	FBXL7	TTCTCATCTATTTATTTCTTTATACA
73121	OA1	AGAGCCCCCTCCAGACCACTCTA
73122	ZNF200	ATAGCAATTCATATAACCCTCTA
73123	CHC1L	TGGTCTCAGTATATGCTATTCTGGCCC
73124	CORO2B	TGCACACCCTTTTCCCATTCAATTTG
73125	WSX1	AAAATAAACAAACTAATAAA
73126	ABCA3	CTCCATCGCCTTCCCTGCCTCTC
73127	PODXL	AGAGGTAAGAGGAACACTAG
73128	SH3BGR	TTCATTTCTTCCACTTCTCCAGA
73129	CUL5	TTGGAACTTCCTAATTTTGGG
73130	EPB41L2	GCTGTGGTGGTGTTCTGTTGGT
73131	FBXL11	CCCAGATTCAACAGGAAACCGATCTT
73132	CACNG3	TCCCTTAATGTCATTCCTCTCTCT
73133	GRF2	TCCAGGGAGAGAGCAGC
73134	BCAS1	CCAGGAGGTGGAGGTTGCAGTG
73134	CPT2	CCAGGAGGTGGAGGTTGCAGTG
73134	GGCX	CCAGGAGGTGGAGGTTGCAGTG
73134	LDLR	CCAGGAGGTGGAGGTTGCAGTG
73134	PTGIS	CCAGGAGGTGGAGGTTGCAGTG
73134	RFC2	CCAGGAGGTGGAGGTTGCAGTG
73134	TBX6	CCAGGAGGTGGAGGTTGCAGTG

73134 VDR CCAGGAGGTGGAGGTTGCAGTG
73134 XRCC2 CCAGGAGGTGGAGGTTGCAGTG
73135 SUV39H2 TCAGGAGGCGGAGGTTGCAGTG
73136 ADAMTS4 AGGCTGGAGTGCAATGGCACAA
73136 FEZ1 AGGCTGGAGTGCAATGGCACAA
73137 GPR81 AGGCTGGAGTGCAGTGGCACAG
73137 SEDL AGGCTGGAGTGCAGTGGCACAG
73138 NONO TTACTCTGTCGCCCAGGCTGGAGTGT
73139 CDH10 ATCAAATTCTATCTGCTAATGTTTTA
73140 MAGEB4 CTGCTTTCTCTGTTCCTGTGATGCA
73141 IL17E ACCGGACCTGCTGGAGGCT
73142 BCL7A CCAAGCCCACCATGGCCCAGATGG
73143 ZNF179 GAGGCAGCATCTGGGGGCAGTGG
73144 EHD3 CCTGGGCTGCTGGATGCAGCAGC
73145 PCDH1 TCATGGACAGCGGGGCGGGCGGCCGG
73146 TRIM37 TGATGTCTTGCTGAATGCTGTG
73147 RANBP3 GGCTTCCTGCCTCTGCACGCCA
73148 TAPBP TCAATGCTCATCACACACAGGGCTAT
73149 SPRR3 TTTCTGGTCTTCGGCTGCTCAG
73150 CREBL2 AGTCATCTCTGTAAATCTG
73151 MCM4 AGGTTGAGGCAGGAGAATCGCT
73152 COX10 CCAGAAGCAGGGTTCTGGGA
73153 UBE2G2 GGAGGCTGGGTGCTGTGGCTC
73154 KLRD1 TATTATTACTAATTGTCTACTTCT
73155 DBT ATGCTTTGGTATTTTCTTGGGGA
73156 EPHB3 CAGGAATGGGGAAATGTGACAC
73157 SACM2L CCCAGGCCCTTGACATGGCTT
73158 FCRH1 AACTCCTGGGCTCAAGCAATG
73159 EML1 TCCGGTGAGCTGAGCGCGGCGCG
73160 CX3CR1 CCCCAGACTTTACATGACACAGCTTT
73161 CA12 CTCTCTGCTTAGGTTTTGCTTGG
73162 SFRS2IP ACTGCAACTTCTGTATCCTTCCTTCCC
73163 CAPS CCTGGGCCCCTTCTCTCCTGGGCAGCCAC
73164 MAML1 GCTCCTCCTCCTCCCTCCCA
73165 BCL11B TGGGTGGGGTGGG
73166 ITGA7 GCCTGGCCTGTGGCTGCCCT
73167 PUNC CCACCGACTTTGTTTTCTCAGGATGGAT
73168 ELOVL4 TCTAGTCAGAGTATAATTTTGGTTGTAA
73169 IFNAR1 GGAGGCTGAGGCAGGCAGATCA
73169 TCTA GGAGGCTGAGGCAGGCAGATCA
73170 LMO1 CTCTACCAGTGCAGGCTGG
73171 PRKR CTCAAGTAATCCACCTGCCTCG
73172 ARIH1 TCCCCGCCCTCTCCCCGCCTCGGCC
73173 PHF1 AGCTCCCCATTCACACACAC
73174 ARHGDIA TGTGGGGGAGAGAGGCCGCAGCCAG
73175 TADA2L TTGAACACAGGAGGCAGAGGT
73176 HTR2B GTCATATATCAAATCATCTCTTTAA
73177 RBBP9 TGTTCTGTTCTATAGAGTTAAACCT
73178 NRAS GGTTTTTCATCTGAAAAGCAGTTCATGTC
73179 ITK TCCTATTCTGTATCCTTACCTT

73180	PHKB	CCAGGAGACGGAGGTTGCAGTGA
73181	ADAMTS13	TCAGGGTGCCTGTCCAGGAAG
73182	GP9	CTGTCCCATGCCTGCCTGGGGAGCC
73183	SLC10A2	AGAGTGATCAGGAAATGAGTA
73184	SUV39H2	CCCAACTCCGGGACGCACGCTG
73185	HOXA3	CACGGGTGTCAAACCCCTGTCA
73186	NT5C2	TCTTGTTTTAAACAAGAATGAATCA
73187	BFSP2	CTGACCCAAGAAGTTGCTTGA
73188	CD53	CTCTTTCTCCAAAGGG
73189	MAP1A	AGGACTTGGGGAAAATGAGATGGAG
73190	SUV39H1	GAGGAAGGCAGTGCAGAGCT
73191	PHGDH	CACTGCACTCTGACCCTGTAGTAC
73192	DISC1	CTTATAGTAAGGAAACTCACTTG
73193	LILRA2	TCATTTCTAGAGACAGCAATC
73194	TMPO	TCCAGATAGGGCTAATTACAAA
73195	DCN	GCACCTACCCCCTCCTCCTTTCCACA
73196	PELO	TATTTTAATTCTGCTTGGTGTT
73197	GLS	CTTCAAAAAACGGATAG
73198	GNL1	CAGTTCTGGACTTTCCTCGACGTC
73199	MAPK4	GGTGCAGATCGGAGAATCTGCAG
73200	KIF5B	CATACCCACAGGTGTTAAAAAGTAATC
73201	YES1	TAACTATAAAACTAATTTTTCT
73202	MGAT4B	AAGGACAGTGAAGAGCTAGCACCA
73203	KMO	CAGTCTCAAACTCCTGGCCTCAT
73204	CD97	GCTGCAATGCAGCATGTTGCC
73205	EIF4EBP2	TTTTCTTGCCTTTCCTGTTGTA
73206	LHX1	CTCCACCCTACTTTGATTTCC
73207	PCDH1	GTCCCTGGACCCTGGACCAGCTACT
73208	GPRC5B	GAAGTGACCATCACATTTGGA
73209	FXYD6	TGTTTGTTAGTGAACTGTGGAC
73210	ADARB1	AAGCTCAGAGATTTGCAACCAG
73211	LANGERIN	TGCTTCAAAATTGTCCCACAGTGGCAT
73212	OPCML	AGCATCAATCGCAGACCTGCCCTGC
73213	SVIL	GCTATAGATAGCACTGCCTTC
73214	KIF5C	ACTACTTCCTCTCTGATCGT
73215	ACADL	CTAAACATGTTTTTACCTGCT
73216	ANKH	TGGCTCATGCCTGTAATCCCAACACTT
73216	BRCA2	TGGCTCATGCCTGTAATCCCAACACTT
73216	CTSS	TGGCTCATGCCTGTAATCCCAACACTT
73216	PLA2G2D	TGGCTCATGCCTGTAATCCCAACACTT
73217	NEK2	AATTTTTCTTTCTTCTTTTAAGAACA
73218	ATRN	CCCTGCACACAGCCTGGGGAGAAGC
73219	SNAI1	CTGGGAGGAAGATGTTTACATTTTTA
73220	CDK4	CATTCCCCTCCCACCTCTCCTT
73221	MS4A2	TTCTAAAATACAATTTTGTTTCTCCA
73222	BAZ2A	ATTGCCCAGGCTTGAGTGCAATG
73223	DOCK1	CCCTCCAGGGAAGCTCCTGATTTCCCC
73224	STXBP1	CCCTGGGTGACGTGCACATT
73225	KLRF1	TGTTTCCAGGCTTTTGCTACTCTTC
73226	MAX	ATCAGAATGAACCCTCCTCCTTT

73227	IGFBP4	CCTGCCTGGGCCGGGCCGAGGATGC
73228	PTPRH	GGATCCTGCCTTGATTTTACTTCA
73229	IL16	GTTGCCCAGGCTGGAGTTCAGCGGT
73230	RAD1	GTTTCAAGTTCCTGGGCTCAAAGATGG
73231	PXR1	GTGCTCATGGTTCTGTCATTCTTGGACC
73232	TK1	CACACCTTGGCCTTCTGGGAA
73233	ADRA2B	AGAACAATGGATCGGCTTCCTTA
73234	DRPLA	CTGCCCAGGCAGAGGAGAATGGGGT
73235	PBX3	ATACAAACCAATAGAATTTCA
73236	ZNF264	TGAAATCCCAAACCTTCTA
73237	NDUFS1	CAGGCAGTTGGAGACCAGTCTGGGCAA
73238	SPAP1	TAAGTTTTTTATTACTAATTCA
73239	DDX1	GGAGGGAGGGAGCGAGCAGGCGA
73240	CRP	TTGCAGTGCTTTCTTAATTTTATG
73241	GSPT1	GACCCTGCACAATACTGTGAGGA
73242	P2RY12	ACTTTCTCATGTCCAGGGTCAG
73243	LZTFL1	GTATTGGCCTGGTTTTCTCAGA
73244	AHR	AAAGAAAAAATGACACCATCTT
73245	TAGLN	GGCAGCTCCTCCCTGTGCCCCC
73246	FGF7	AACAAAAGTCAAATAGCAAACAG
73247	SHANK2	GCCAAGGGAGTGGCAGAACTGGG
73248	ADAMTS3	GCAAATTTGCAGCTGTTGTGTAAATACTG
73249	PPP2R2C	GGACAGCTGCAGAGGTGGCAGTGTGTGGA
73250	ICMT	TTGAGCATATACAACTACAAATCCAAGCA
73251	TEAD3	GGAGAGGTGGGCAGAGCTGGA
73252	PAX3	ATTTACCCAGACTGGTTTGGGCAA
73253	NEO1	TCTATTTGAATTGAATGAAA
73254	HEM1	TGGAGAAAAATTTGAATTCTCA
73255	LFNG	GTGTAGCTGCCACCTCCCCGCTGGG
73256	ABL1	GAGGCAGGGGACAAGGGAGGC
73257	RFXANK	GGGGACTCAGACACTCAGGGA
73258	PSG2	ATTTTCTATTTGAAAATGTG
73258	PSG3	ATTTTCTATTTGAAAATGTG
73258	PSG5	ATTTTCTATTTGAAAATGTG
73259	SLC6A4	TAGAACCTTCTAATCCATGTGC
73260	ZNF140	TCGGTCCGGAGCCCTGGAACGC
73261	HRH2	GAGAGGGAGATCCCCAGT
73262	FVT1	TCTTCCTTTCCAATTTTGCTTATACTG
73263	DSCR4	ATTCTTGTGTCTACTTCTC
73264	DLG4	AGCTGGGCTCAGCTTCTTTTTGA
73265	MHC2TA	GCGTGAGCCACTGCACCGGGCC
73266	OTOF	GATGTTTCTGCCACTGCTGGGC
73267	SLC4A4	AGGAATAGAGAAGGGCTTTGATTTCT
73268	JPH2	CTGCCTGCACTCAGTTCTCA
73269	UBE2B	GTTAATAAGTCTCTAGCTCTCC
73270	GYS1	AACTGCTCTGCCCACTGTGAA
73271	WHN	AGCAAGCGTCTGGGCAAGAGGAAAATGCC
73272	CABC1	TGTTTTCTTCTTTTTCCTGAT
73273	CDX2	CCTCCCCTCCCACCCACAG
73274	MMP15	TGCCTCCTCCCTCCCTCCCGA

73275	CHD1	TGTTGAAGAAAATTCATCTG
73276	LANCL1	GAGCTGTAGACGAACTGTTT
73277	IFITM2	CTCACTGAGAACCATCCCGGTAA
73278	ANXA8	GAACGGCAACTGAGACTGGGTACCTG
73279	CRHR1	GCTGCTTACACTCCAGGTGTGGACC
73280	ARNT2	TATTTCTTGAATGTTCTCTATG
73281	FNTB	CTCCAGTGCCCACCTGCCTCAC
73282	CTSL2	ATGTCTGGGGAAATTTTATCTTG
73283	ATRX	ATGATTTTAAAGGGCCTGAATT
73284	CA9	GGCTGGATCTTGGAGAATGTGAGAA
73285	PER2	TCTTATGGCCATTAGATGTTA
73286	HSD17B1	ACAATCAGATTAGAGTCCTGCC
73287	RAI3	CTGTCCTGAAGAGTGGGACA
73288	SLC14A2	GGTCTGTTCTGTGACTCTCTC
73289	SIM2	GGAGCAGTTCAATAACAAAGGT
73290	SDHA	CTTGCCAGGAACCCAGTGGCCAGG
73291	KLKB1	GAACAGCTTGAAGACCGTTCA
73292	RAB5B	TCTTCCAAAGAATTTTCACTGG
73293	DHFR	CTCAGGAGGCTCAGCAGCAGGA
73294	SCD	TCTCAGCTGGCAGTGCAATGCT
73295	NBS1	GACATTGGATAGAACATGGGATACTTTA
73296	SCNN1B	GCTCTGAAGAATCAACGGTGCTGG
73297	HTR1D	ATCCCGGGTTCAAGAGATTCTG
73298	IFNAR2	CGCCTCCCGGGTTCAGGTGATT
73299	HLA-DMA	GGCTTGCATCCCAGGGATCCCAG
73300	MGAT3	CTGCAGGATCTCACCAGGCAGCCTC
73301	FAT2	CACCACTGGCTGCCAGTCAGGG
73302	ABCC3	CCTTTGTGTCTGTGTCCTTGTT
73303	SERPINB9	GATCACATCTTTCTTTATGAT
73304	CPT1B	GGAGGCTGAGGCGAGAGGATCA
73305	PIK3C2B	GAAAAGAGTGAAATGAGGACAT
73306	MAN1A1	GCAGAGCTCTGCTATCACTGA
73307	SLC16A1	AGCTGCGTGGGTACTGGAACAAGC
73308	NCALD	CAGGTGGTAGTGGGACAGGACAATTGGAGC
73309	RREB1	ACACAGACTCATTTTCTACTC
73310	C18orf1	GTCAGGTGTGCCCACAGATGCGG
73311	RAD9	GCCCCTGGTGATCCAGCT
73312	MS4A2	AGTGACTTGGTATGCTTTAT
73313	YWHAB	GACCTCATCTCCAAAAAAGA
73314	SLC9A6	TAGACTTTTAATCTTTAT
73315	NEU3	GCCCAGCCTATTACCTTTACGTTGTAC
73316	KCNK6	TTGGTCGCTACACCCTGGAC
73317	PRCP	TTCAATTTCTTCTTTTATGTTCA
73318	OSR1	TGGGTTTTTGCTTAAGTTTT
73319	ACPP	AAAACTGCTACTATCTGTTTTT
73320	F2R	TGGTGGCAGGCACCTGTAGTCCCAG
73321	SLC25A13	TCAGAGGCGCATGAATTTGTG
73322	B4GALT6	GAGAAACGTTTGGATAATAT
73323	SLC7A6	CCTGCTCTGGCCTAATGGATC
73324	DMN	GCACCTGGTCACAGACATGGCTTG

73325	ICA1	GCTCAATGCATGATCTGTACC
73326	GFI1	TCTGCTCCCTGCTTGCCTCCACTC
73327	CACNG1	TGGGGGAGGCAGAGCCAGCAGG
73328	PTPN1	TCTCCACCTTGTTACACATTATGTT
73329	ARHGEF6	CCCAGGAGGTCAAGGCTGCAGTG
73330	MADD	CGCTGGCTGCTCTGCCTGAGCAT
73331	ADAMTS5	TCTCCACCTTTTTCTTATGAGTCTCAC
73332	USH2A	CACTGTGTTCTCTGAGCAA
73333	TNFRSF14	TCACAGACCACACACCCAGCCCTCCT
73334	SLC39A1	AGGTTGTTGCAGCCATCTACTG
73335	WNT5A	GCCTCCTTGGCAGCCTCTGGCGG
73336	PRKACG	CTTCCTGGTCCCTCTGTGCTTCTCTC
73337	GTF2E2	TGACGAGAAGCAGGAAGAGGGTG
73338	TRIM	CCTTACAACAAACAAATATCAAAAAGA
73339	STK6	AACCTGACAGGAACATGCTACTGAAGT
73340	RNF3	GGAATTGGTCAAAATTCATCTCTTT
73341	PFKL	CCTGCTGCTGAGCCCCACGCCAA
73342	AIM1	GGCCTCCCAAAATGCTGGGATT
73342	GART	GGCCTCCCAAAATGCTGGGATT
73342	SIL	GGCCTCCCAAAATGCTGGGATT
73343	PAICS	AGCCTCCCAAAGTGCTAGGGTT
73344	CSNK2A1	AGTCCACCCTCTCCTTGATGCA
73345	PDE4B	GAGCTGGAAGGAAGGAGCCAGC
73346	ELMO1	ATCCTCCTTTCCCCTCTCTC
73347	PML	CTCCCCTTCTCCTCCATGGCTTCCCAG
73348	IGFBP4	TCCCCTGGGCATCTTCTGGCTTGACT
73349	POP4	GCACACCGGGGTTAACACTGGTT
73350	SLC1A1	GGGCTTATCAGAACTCCTTT
73351	DAAM2	CAGCCTCTGTCCAGCCTGCAGGTG
73352	ZNF236	CCCCGGGCAACCAGCCA
73353	RGN	CAGGGCCTCTCTGTCGCTGTCG
73354	B7H2	CTTCCAACCTGCTCCGGCCG
73355	JDP1	GAAGCTCACTGTGCCTCTTGTT
73356	PGK1	AGCATTTTCTGCATCTCCACTTGGCAT
73357	PRKCB1	TTTGGGGTTTTATTTCTGTTGTT
73358	HARS	GGACTGGCACTATTTGAGGTTAA
73359	SIX1	CGGGAGGTCGGAGGCAGCAAGGCCTTA
73360	MCM4	ATCGCTTAAACCCAGGCGGCAG
73361	PKDREJ	GTCCTCTGCTCTTGGGAGTGT
73362	TIMM8A	TGACTGTCTCAGCATTACCTCTTTGGA
73363	MAN1A1	GCGGTCTGTCGCGCGTGCCTGTGT
73364	ROM1	GGGGTCAGGGTGGCATTAGCCC
73365	BDKRB2	GCCTGCTCAGGGACTGTTCCT
73366	ZNF265	TTTCCCATGTTTTTATGTCTTA
73367	ROCK2	AGAAAACTGGCAACTGGG
73368	RNH	AAGAGGAAGTGTTTGCCCAGGGA
73369	RELN	CAGTAACTGCCATTTTTTGTCTGTGAT
73370	GADD45B	CTGTGGGAAGGTTTTGGGCTCT
73371	KCNAB1	AGCTTGCTGCTCAACCTCTAGTGTCCCTC
73372	FANCC	TGGCCTGGCTGGGTGCAGTG

73373	TSC1	CTCCACCCGCCCTAACCCCC
73374	OXCT	AACGAAGTGCCTTTAATTCAG
73375	LHCGR	AGCACAGACACAGAATATTTTCATCA
73376	SMARCC1	CTTCCCTCCCTTCTGTCCTTCCATGTG
73377	ALDH6A1	TAACTAAAATCTTCCTCAGGAC
73378	HPSE	TTCAGAGGCGAGGAGATTCTGT
73379	SOX11	ATGGTGGCAAAGCAGACTCA
73380	KCNC3	CTCCCCAGCCCTCCGCCTCAC
73381	SOCS5	TAGTTTCCTTACCTGCTGCTA
73382	RXRB	CTTCCCTTTACAGCTC
73383	SLC14A2	ACCTGTATTCCCAGCTACTTGGG
73384	MPDU1	TGGGGGTAGAGTCTCCCAAGCC
73385	IRS1	TTATCCAATCCTCAGGATTT
73386	CD59	TCACATGGAACGCTTTCATAA
73387	SGCG	TCTGCCTCTGGCTGCCTGCGTCCTCTC
73388	CLECSF12	CACTGCACCCAGCCTAGAATCT
73389	TEGT	AAGGGGAATGGTTGAGCCTCTGG
73390	APM1	TCATGCCACTGCGCCCAGCTA
73391	HMGA2	AAAGTTACACTTTTATTTCCTGTA
73392	TPK1	AAGTAACTGTTTTCTTCTTGGTGCTA
73393	PPP2R5D	GAGGCTGCTCTGAGAAGTA
73394	MAX	CCCTGGCAGCAGGAAGCCTTCAAGGAGCCAT
73395	TGFA	ATGGGTCACCAGTTGCTTTTTC
73396	RBBP9	GGGGAATGGGCATTTTGGTAGG
73397	DPH2L1	CGGGTCCTGCCTTCCA
73398	OSBP	ACTTCAGGAAAGCACCAATGA
73399	HDAC5	TCTCAGCCTTGCCCCTCCTGC
73400	MAK	GCGTGTGCCACCATGCCTGGCT
73401	CHRNA2	GCCCTCATCCCCTCCTGGGGCC
73402	SLC22A7	AGGACTAGCATATGAGACTTCTGGTA
73403	USP6	TTTTCTTGCTTTTTGTTTTTGCC
73404	FBXO7	GCCAATCTCCCTGCTCTTGGTTC
73405	SOX12	AGCCCTAGGTTTCCTCTCCAGCC
73406	COX10	GGACTGCCAGCCCCTGTCCTCCCTTCA
73407	DDEF2	GTCTTGTATTTCTATAATACTCCAA
73408	CTF1	TGTCGCCCAGGCTGGGGTGCAG
73409	DISC1	TGCTGTGCAGCACTTCTGTCCTCA
73410	REN	GCCTGTTGGGGTTTGAGTCACTGGGAT
73411	IL15	TTCTTACTAGTGCACTTGTGTTT
73412	GSTA2	AAGAGCTTATAAATACATTA
73413	MOX2	AAGCATGCCCTCCCTGTCCATTTG
73414	PDE5A	ACCCAAAGGCAACATGACGGAA
73415	NOV	CAAAATCAACATGACTGGTGG
73416	BMP8	GGGCCTCCATGTGCAAGCGCAGAGGAA
73417	TEGT	TAGCCTCTTCCTCTACTCA
73418	HYAL3	CACTGCCTCTTCTTTTCCCTGCTGCCA
73419	BRIP1	TGTTGCCCAGGCTGGAATGCAG
73420	ALOX12	TAGTATCCCACTAGCCCAGGG
73421	P2RY2	GGCGAGAGGAGCCCCTTGTGGCA
73422	PAH	AACTATGATTCCAATTACTACTTTGTTATT

73423	DSC3	CTGTGGGAAGGAAATAGGGAATCCAATGGAAC
73424	TNFRSF7	CTCCAGAGGCCAGCATCAGCAACTGG
73425	ALPI	GGACCAATGAGGCAGAGGCTTGC
73426	GNE	GAGTGGCTGGGATTGCGGGCACATGCA
73427	IL1RL1	TTTGCTGTCTGATCTTTGTAGACTGTT
73428	CDH1	ATCGGCCAGGCTGGAGTGCAGT
73429	ISLR	GCTCCTCCCTGCCGCCTCCTCTCAGT
73430	STAU2	AGTATTTCACACTCAGTTCTCCCTTT
73431	TAGLN2	CCCACCCCAGGCCTTGCCCCT
73432	ZNF265	TTTCATTGCTTTTCAAAACAATACA
73433	DOCK1	GTTCTCACCATGGAGTGAGT
73434	FBXL11	CCAGCCCAGATTCAACAGGAAACCGA
73435	HSPA5	GGATTCTCTGAGAAATGATGGGG
73436	AMPD2	AAGGGGCAGAGATGGAGGC
73437	PCDHB13	GCAACCAATAGTTAAGATTATATTTTA
73438	CDC42	CTGTTATGTAGAGGAAATACGAGG
73439	PPEF2	TGTTGCCCAGGCTGGAGTGCATTGGCG
73440	PCDHA9	GGGACATTGAGGCTGCAGTGA
73441	ABCD2	GCTCTTCTGTTTGCGGTATCTACTTGA
73442	ETF1	TTCTGGTTCTCACACTGTACTCT
73443	ACLY	GTCTTATGTTCTCTGTATTTA
73444	LIF	AGAGAGATGTCTCCGGGCCCTTATT
73445	SYNGR1	AGTGAGGTGGCAGGAGCAGC
73446	ITGA3	GGACCCGCTATTATCAGATCATGCC
73447	RPP30	GTTGCTCAGGCTGGAGTACAGT
73448	FLT1	CAGTTGGGACTCAGGATATTAGT
73449	CACNA1C	TGCATATGTCCTGCCCGTGTA
73450	LZTFL1	TCAGCATTTTTTGCAGC
73451	RIMS1	GTAGATTCAAAAATCCAGA
73452	ACP2	AACTGCTCTCCCTCAGCTGGGCT
73453	GOCAP1	TCAGCTTTCATGTACATATGGTATAG
73454	AGL	GGAAGGAGAAAGAGACATTACAG
73455	DCX	TGTCTTTGGCCACATAGGGC
73456	JRKL	ACTGGGAAATAAAAACCTGGGGA
73457	WIG1	TGACCTACCTACCCCATCAGAAATAACTTT
73458	ADORA2A	GCCCCAGGCTGGAGCAGCATG
73459	EDAR	TGAGGTCCTGAATATTTAATAT
73460	HYAL4	CACTGCCTCCTGGGTTCAGGTGATT
73461	GYS1	GCCCCCCGTGTGGCTTACAAATTCTAC
73462	GALC	CTTCCCTTCTTTTTGGTTT
73463	PIAS1	CTGTTCCCAGGCCCTGCTGCTCCCATCCC
73464	GCN5L2	AGGCTTGGATTCCTGGGCCTG
73465	SLA	GCATTCCGTCCATCTAAGCTCATCGT
73466	LMNA	AAGGGAGAAGAAAGGTGAGTTTG
73467	ENAM	CTTCCACTGCCACTCTCT
73468	M11S1	CACTGTTCATCTGGCCAAACAACTG
73469	ITGAL	GCCCACCCCTCCTTCC
73470	GNAT1	AGAGCAACCTCCAGCCTTCTCCA
73471	PRKACA	CCCCACCCTCCAGGGTTAGGGG
73472	ATP6V1E1	CTTCCTGGGTCTCCACTCTCCG

73473	DNASE1	CCACTGCACTCCAGCCTTG
73474	CYBB	CTCAACACTTATTAGTGACA
73475	CPS1	AGTCACACTCTCCAGGCTGGAGTGCAG
73476	CCND2	TAAAAAGAATTCCACCAGGCT
73477	INSL4	GGCTGAGAACACCCAGAACAGGAG
73478	EPHA8	GGTTGCACTGCAACCAAGTGTCAGAGTC
73479	CORO2A	GCTGTTGCAGACTCTGCCT
73480	RERE	TCTCTTCTGCCATTGTGCTGGTCC
73481	GATA4	TGGGACCCCTGCTCCAGCCCGAATGAC
73482	RHO	ATCCTCTCAGACCCTCGCAGCAG
73483	EXTL1	CTATCTGACCTTAGACAGGCGGC
73484	TBX5	GGATAGTTGGAGAGCAGAACCTTGCGC
73485	PROK2	ACTTGTGATTGTGCCAAAC
73486	KCNA5	CATATGATTGTATTTGTGTATA
73487	TCF3	GCTTCCCTGCCGCATCCTCTCCCCTC
73488	MAGEB4	ACACTCCTGCCTGCTGTGCCTAA
73489	RABIF	CCTTTACCCCCAAACTTTCTAAGG
73490	NRIP1	CTTCCATCTGCATCTTAACATGCTCTC
73491	CRYAA	TGCAGCCCTGGCCCATCATGGGGGGA
73492	PROX1	GTTTCTACTGCTAAGAAGGT
73493	TCF20	TGCCTGCCCATGCCAGCACTTCC
73494	BLNK	TCATCCAGTAATAAAATGGAAGA
73495	KCNC4	CCACTGCACTGGAGCTTTGAAGACCTA
73496	PBX2	CTATTCTGTTTCTCTCCTGGGCT
73497	SIGLEC8	GCAATCAGCAGGCTGGGCACCC
73498	SPAG6	TCAGAGTTTACATGCATTTTTA
73499	SWAP70	GACAGAGAACCTCAGGTGTTCTT
73500	CPT1B	TCATGCTGGTGGACTTCGAG
73501	IL18	CCTGCTGCAGTCTACACAGCTTC
73502	ADAM28	TCCAGAAGCATGAGCAACAGCTAAGCA
73503	POLH	CCAGGAGGCAGAGGTTGGGGTGA
73504	RAD54L	CCGCCCAGTCTGGGACTCCACCTGCCT
73505	CALCRL	TTGCTACAACTTCTAGTTTA
73506	RAD52	GGGGATGGAGTAGACCTGCTGC
73507	TBL2	CCAACTTGTCCTTTGACATCACT
73508	KRT5	CCTCCCGGAAGAGCTTCAAGA
73509	MRE11A	CTGGTCCCAGAGGAGCTTGA
73510	BRCA1	AGTCTTCCTGGAAGTAATTGTAAGC
73511	PRPSAP1	TTGATGGGGAGGAGGGAT
73512	DR1	GATATCTGAATTCACCAGCT
73513	POLA	ATGTTGTGCCTTCTTCTTAAG
73514	HMGA1	GAACTCCTGACCTCAAGCAGTC
73515	SYT1	CAGCATTTTGTCAAGCACTGTGC
73516	GNG5	TGGAGCTGGAACAGAGGGCTGG
73517	GPR1	CTGCAAACCCAGCTACTCGGGA
73518	CCND2	CTCGTCTTTACTTCCATCTGTTTG
73519	MTMR3	TAAATCAAGAATATTTGTGG
73520	SH3BP5	TTGTGGAACATTCCGTATAACGGCA
73521	PTK2	ACCCAGGCTGCCAGGCTGGAGTGGAGT
73522	SERPINB6	AACCCAAGTGGCCTTATCCGTGCAGTG

73523	GGA3	TTGGCCCCTAAAAGGACCTGTT
73524	CDX2	CTTCCCTTCCCAGACCA
73525	ACADS	ATAAACACACCTGTCCCCC
73526	DMRT2	AAAAGTGCCTACAGCCCC
73527	PATE	GAACAGCTTCAGGATACTTCCAGGAG
73528	PYGO2	TTCTACCCACTCCTTTGCTTC
73529	KRT6B	GCCAGCTCTCAGTCCCACAG
73530	NUP153	GTCTACACCATTATGTGCGCTG
73531	APXL	CCCCATCTGTGTTCATGGCCT
73532	SDPR	TCTCCAGCACGACTCACCCACTC
73533	CKTSF1B1	TCCTGCCTCTGCTGAGTGTACC
73534	MICB	ATTCACTCCATGGTGCTCATTGGA
73535	LRRC2	ATATTTTTATATGAATCATCTCCT
73536	FGF5	AAGTCTTTGCTATTGTGAAT
73536	OPHN1	AAGTCTTTGCTATTGTGAAT
73537	PIGA	ACCATTAGACACTCACCAGATGTTTA
73538	TLR4	GTGAAATCCAGACAATTGAA
73539	CTSD	TCTGCAGCTGACCTCTGTTGTC
73540	FUT8	CTTAAAACATGGTGCCTATATCTGAG
73541	CMAR	GGCTCACTGCAACCACCATCTC
73542	SEDL	AGTGTGTTGCTTCTGTCACTTTATATT
73543	TRIM37	CTTATTTCTTCATTATCTCGACC
73544	RPL28	CGCCCCACCAAGAGCTCCTGGCC
73545	PCDHB13	GCCATAGTTGACTTTTACATTCCATA
73546	XPA	GTTATGGCTTAAAAGCAAGTTTCA
73547	FCGR1A	TTCAACAACACCAGAACTGTGTG
73548	RAD23B	GGAGGGATCTAGGATACAGGGCAG
73549	WNT8B	TGACCTACTTCCTCCTAGCA
73550	KERA	TGTTATACTTTAAAACTGCCTTC
73551	DRD1	GTAGGTGCATGCCTTCA
73552	B4GALT5	GTGCCTCTTTGTTTTTCCCCAAACCA
73553	CDH5	AGGAGTGACAGATCACAGGGTG
73554	BACE	CCAAGCTTGTTTCCCTGCTGG
73555	ZNF174	CGCTACCTCACACCCCCGGCT
73556	CLN5	CCCCAAACCTGGAGCAGCAAGTGGGCA
73557	GSPT1	CGAGTGTGTGTGCACATGTTACA
73558	KLF7	CCATTGCCTCGCAGAAGAAAGCTCT
73559	CBFA2T2	CACTGCAGCCTCGACCTCCTGGACTCA
73560	ALDH3A1	CTCCCACATGGGCCCAGGCCTCACCAT
73561	MAP2K1	TTCTACTCTTGTCATT
73562	GPC1	CACCCCCCAGCCTCCAGAG
73563	EPHX1	CAATTGTCAGAAGGCCGTGG
73564	ANKRA2	CTCGCTGTCTGCTGTCGTCGGTGGTC
73565	WBSCR5	CTCCCCGGAAGAAGATGAGGA
73566	SLC7A5	ACCCTGTGGGCTTATGTCTCT
73567	ZNF264	TTCATTCTTCTTTCTTGAAATCCC
73568	MAPK4	GACAGCCCTATCTGGTCCCAG
73569	POLH	CCAATATGGTGAAACCCCATCT
73570	SFTPA2	CCTTGACACTCCCCTTGCAAACC
73571	FTSJ2	CGGAAGGAAGGGCACTGTG

73572	SCN2B	GAGAGGGAAGGGAAAGC
73573	S100A7	ACACACACATCTCACTCATCCTTCTA
73574	MAP3K7	GTGACTTGAATGAGCAGCACTT
73575	CLCN4	TGTTTAATTACAACAAGGTGGCA
73576	TAF6	TGGAAAGAGGACGGTTGGTTGTGTGT
73577	GRIK2	TCAATGCCCAACAGGGCAACCAA
73578	GPR92	TGTACACACAAGAAGGTGGGCTG
73579	TRIM8	GGTCCTTGCCTGGATTTTGA
73580	PSCD3	CGCATTCACTCGGGGCAGTATTA
73581	COX7A1	GGGAGAGATCCGGGGAGGAGTTGCACT
73582	DISC1	CAGGGCAGCTAGTACTCAGTA
73583	GNAI1	GCCACCGGCGGGAGTGCAGC
73584	DAP	TCCTTTGCCTTACATTTCCATA
73585	AKT1	CCTCCTGGCCAGACGCTGCCGCTGCC
73586	CSNK1A1	CTCCATCTTCGTCTCTCAGGATGGCGA
73587	RANBP3	GGTACCCATACATTTGCCTGGCCA
73588	TAL1	CGGTGTCTTGTTCTGTCACTCA
73589	GAK	TTTCCTTTTTCTCCTCCCGAAGGAAC
73590	SMURF1	TGGTGGAGGCGGCGGAGGCGGCGGCG
73591	TSNAX	TTCTGCAGGCTGTTTTCCCA
73592	B4GALT4	AGCTCAACTTGAAGCTTTCTTGCCTGCAG
73593	FCAR	AACCTCTTGGGTTCAAGTGATT
73594	RGS9	CTGGGATTACAGGCTTGAGCCACCGC
73594	SERPINB9	CTGGGATTACAGGCTTGAGCCACCGC
73595	KRTHA7	GCCTCTAAGCTGTATTTTTTGTTGTTGCT
73596	ZNF74	TCACAGCACTGCACTGCAGCCT
73597	ADAMTS4	GGGATTACAGGCGTGAGCCACC
73597	ADRA1A	GGGATTACAGGCGTGAGCCACC
73597	APPL	GGGATTACAGGCGTGAGCCACC
73597	AQP6	GGGATTACAGGCGTGAGCCACC
73597	ATP1B2	GGGATTACAGGCGTGAGCCACC
73597	BENE	GGGATTACAGGCGTGAGCCACC
73597	CASP8	GGGATTACAGGCGTGAGCCACC
73597	CDC2L2	GGGATTACAGGCGTGAGCCACC
73597	CRTAP	GGGATTACAGGCGTGAGCCACC
73597	EIF2S3	GGGATTACAGGCGTGAGCCACC
73597	FANCF	GGGATTACAGGCGTGAGCCACC
73597	FCAR	GGGATTACAGGCGTGAGCCACC
73597	INMT	GGGATTACAGGCGTGAGCCACC
73597	KCNJ11	GGGATTACAGGCGTGAGCCACC
73597	MTR	GGGATTACAGGCGTGAGCCACC
73597	PCDHA9	GGGATTACAGGCGTGAGCCACC
73597	PER2	GGGATTACAGGCGTGAGCCACC
73597	PIGR	GGGATTACAGGCGTGAGCCACC
73597	PIK3C2B	GGGATTACAGGCGTGAGCCACC
73597	SEDL	GGGATTACAGGCGTGAGCCACC
73597	TAPBP	GGGATTACAGGCGTGAGCCACC
73597	TAT	GGGATTACAGGCGTGAGCCACC
73597	TNFRSF10B	GGGATTACAGGCGTGAGCCACC
73597	YES1	GGGATTACAGGCGTGAGCCACC

73598	IGFBP5	TCCCTCCACCCCAGGACGCCACTCATT
73599	BTG1	TCGCTCGTCTCTTCCTCTCTC
73600	RAD1	CCTGGGCTCAAAGATGGGA
73601	IL11	TGCAACCTCCACCTCCCGGGTT
73601	LYZ	TGCAACCTCCACCTCCCGGGTT
73601	SEDL	TGCAACCTCCACCTCCCGGGTT
73602	CFTR	GCTGGAAAAGTATGTTAGTGCAAA
73603	ZNF219	AGTGCCTTAGAAGTGGCAGAGGTGAG
73604	OCRL	CCAGAAAGTGATCACAAAAAGA
73605	GRAF	ATCAGGTATTAATGGAAA
73606	DIRC1	GCTTCTCATCACCAGAAGGAA
73607	BSN	GCATTTCTCATGCTTTTCTATAAGAT
73608	HPN	GCTCCTGCCCAGGCCTGGAGACT
73609	PML	AGTGCAGGCAGAGCCATCTGCC
73610	GPR81	GTGTAAGCCACCGCACCCCGCCCAGCC
73611	TADA2L	CCAGCCTGGGCAACAAAGTGA
73612	MADH6	CTCATGGACCAGCCGCACAACTTTTGAAG
73613	RGL	AAGCCCAAACTTTATTTTTAT
73614	HNRPDL	ATTTCTACCACACCTTTGAA
73615	PIN1L	TGCCTTCAGCAAAGGTCAGA
73616	MCM4	CAGGCGGCAGAGGTTGCAGTGA
73617	PCDH7	ACTGCTGGTTTAAAAATATTT
73618	FBXL11	ATCCTCTCTCTAGGGCAGCAG
73619	B4GALT4	ATGTCTGAGAGAACCAGAG
73620	COX10	TATCTGAAATCTTCCCTCTTGGC
73621	CXCL16	TCTCCTGCCTCCTCCTAAGTAGCT
73622	FRDA	TAGAAAGAATGTGTTGCCTCC
73623	INPP5B	TAGTAGATTGTTTTTTCCTA
73624	ICMT	AGGTACCCCTTCTTATCAGCG
73625	BMP6	ACTGGGAAGGCAATTTCATACT
73626	CXorf6	TTATAGAAAACCCACACCCACTGTCCT
73627	SCG3	TTTTACTCCTCCTTTTCATTCATA
73628	ARNT2	GGTTGTTAAGGAACTTACACTGGGGA
73629	GLP1R	AGAGAGGCTGGCAAGGAGTTCG
73630	EVC	CTTTTGCCCAGGCTGGAGTGC
73631	RHO	GCAGCACAGAGTCCCCTGGGGCT
73632	MASP1	GATCTTCCCTGGGGGACTTT
73633	SECTM1	CTCCCTCTGCCCTCATCAAACCCACAG
73634	SNX9	TTTCATAAGTAATTCTCCCCACTTGATTT
73635	CSE1L	TAATGAAGCCTGCATGTGCCCA
73636	OGT	TAGCGCAGCAGTTCGCAGCGAT
73637	KCNH5	CGCGGATCCTGGCCGCTGCTCTCCAG
73638	ALDH8A1	CTGAGGTGGGAGGATCGCTTGA
73638	SFRS2IP	CTGAGGTGGGAGGATCGCTTGA
73639	ZNF85	GCTCACATCTTACTCAGCATCAGA
73640	P2RY1	TTGCCCCACTGCTGTGCAATG
73641	GTF2F1	CCCTCCAGAACTTCAGGCTCTCAGTG
73642	DNMT3B	CATACATTTCTCATACCTTCCCCACATCTGAG
73643	ATP1A2	ACTTCACCTTCTGTAATACT
73644	IFNAR1	GCCTGAGGTCCTCACCTTCCTC

73645	FETUB	GTCTTCTGTAGGGGTATGGTG
73646	CASP8	AAATGATTTTTACAAGTTTTA
73647	HMG20A	CTCTGGTGGCTGGGATTCAGATGCCAC
73648	RGR	TGTAAGGGGGTACAGTGCAGT
73649	SLC20A2	CACCCAGGCTGCGGAGACTCAC
73650	AFG3L1	AGCATCTGTAGTGTCCATCAGCAGG
73651	CD4	TCTCTGACCCTCTCCCCACTGCT
73652	CLECSF5	GGAAAAGAGAAGGGCTGCTCAGGGA
73653	STARD4	GCTCACTGCAGCTTTGATCTGACCGC
73654	MYO7A	CCAACTGGGCCTCTGATGTTCTTCCAG
73655	CLECSF12	CCAAGTGCTGGGATTACAGGC
73655	SH3BP2	CCAAGTGCTGGGATTACAGGC
73656	MYCL2	GGACTTGCCTCCTGGT
73657	PARG	TGAAATCCCATGGAAGGTTGTGCTCA
73658	KLF15	TTCAGCCGCCACCGGCACGGCCAG
73659	ZNF42	AGTTCACACTGTGTCCCCAG
73660	ALDH3A2	TTGGGAGGCCGAGGTGGGAGGATTGCT
73661	RANBP3	TGTCGCCAGCCTCTGGGTCCAGC
73662	GNAO1	CCAGTAGCTGCCAAAAAGA
73663	MECP2	TCAGGAAAACACCCAGGGAA
73664	PPP2R1B	TTTTAAACTGCCAAATTACCTT
73665	GMPR	TGGAATGCTGTGTCCTCTCTTCTGT
73666	TXNRD1	CCAGACAAAGCCGCGAGCCCA
73667	MTNR1B	CCTCCTGCCTTGGCCTCCTGGCTGCT
73668	SCD	TCTCTCTCCCTCCCTCTCTC
73669	HAS2	ATTTTTTAAAGTGGGGAAGAATC
73670	CPLX2	AGCTCTCCCTCACACCTCCCTTCA
73671	RABL2A	TTCAAACGATTCTCCTGCCTCA
73671	RABL2B	TTCAAACGATTCTCCTGCCTCA
73672	SPF30	GTTCCTCCCTTCCCCCTCGCC
73673	APBA2	GGGTTTTCCAATGTGAC
73674	SEDL	ACCTTCTCCCCCAAGTGTGACA
73675	BTC	TGTCACCAGGATTACTAGTC
73676	IPP	GACTCCGTCTCTACCAAAAAATATATAA
73677	HAP1	TCTGCAGCTGGTGCAAAAGCT
73678	DSCR1	GGGCCAATCACTGAGTTTGTGGT
73679	CYB561	AGCACCCCCCTTGCGGCTCAGC
73680	PIK3CG	AAAACACTCTTATCAGCCTGGGCAA
73681	IL6R	AGCTGGTTGAGGTTTCAAACCTC
73682	MBTPS1	ATGACAGTACAGACTGAGATTTG
73683	LCP2	CAACAGGGGTGTTCCACAGGGTA
73684	KDR	TTTCCTCTGCCTGCGCC
73685	FGF2	GAGGCTGAGAGGTCAAGGTTGCAGTG
73686	HMGB3	ATTCTGCTGCCATCTTAGCT
73687	RFC2	AGGAGGCGCGAGAATGGAGGTGGAGG
73688	GALE	AGGGTCCAAGAGTTCATCAGGA
73689	PHEX	TTGAGACCAGCCACCAAACC
73690	C4BPA	GAAGCAGCAGGCCATGCACCCCC
73691	IL9R	TCAGGCTGAGGGTCTTTGCTGTGCAC
73692	OGG1	TGAACTTTAAGAAGCAGTGTTTTA

73693	SCA1	CCCACGCTGGTTTCTGTGCAGTG
73694	TCFL4	TTATAGCAACCTCTCTCTACCC
73695	EGR3	GTACTTGGTTATCCAGTGCAGT
73696	SLC20A1	TCACATGCACAGGGATTTAACA
73697	MSL3L1	TGGGCAATATAGTGAAACCCCA
73698	WBSCR1	TTTGCTTTCTCTTTACTTTAGACA
73699	MLLT2	TGAATTTCCTCCCTTGGGGAAG
73700	CNTN2	GGCTGGGTTAAGAACTCGAGTCTTCCA
73701	IDH3B	CTGGGGCATGGAGAGGTCTGA
73702	SLA	GAATGTAACACTGTGGACATTG
73703	SHB	GATCCCGGCCAAGGCGGAG
73704	RP2	CAGGAAGCAGAGGAG
73705	SCA1	GTCCCATTTCATTCTCTTGCTTT
73706	EN2	AGCAGGAAGCAAAGTTGGTT
73707	CRYZL1	CTACTACACTCCAGCCTGGTGACAGAG
73708	B3GAT1	CCTGCAGCTCTTCAGAGCCACAGACC
73709	EGFL5	GCCTATCTATTGCTCTTAGTTTTCCC
73710	NR4A2	CCCTTTGCACACAGGGGC
73711	NME2	GACTGGGTCTATGAATAGAGGTGGA
73712	DDX11	TGGAGCAGGCCCATCTGCC
73713	PKHD1	TGCTGGGACAACTAAGAAGAGAGA
73714	ENO1	TCATGTGAGCCTCGTGTCATCT
73715	ADAT1	GCGCACACCTGTAATCCTAGCT
73716	PFKL	CCTCTCCTTGCCCTGCCTCAG
73717	ESR1	GGTTTCTGAGCCTTCTGCCCTGCG
73718	BACH2	TCAGATCCAGAAGGAGCAAGAATCAAGTTTGG
73719	LMO7	CAAAGCCCAGCCTCTTTGTCT
73720	UMPS	AAAGTCAGCACAGCTTTTCTT
73721	CACNA2D2	TGATTCCTTGTAAAATATTTTC
73722	TACR1	CCCATAAAAAGCCTTC
73723	F13A1	ATAGCACATGATTTGGGCTCTA
73724	RP2	CTCACCCTGTGCGTGGCCTTGT
73725	LAD1	ACCTCTGCTCCTTCCTGCTCACATC
73726	SOX11	GGGGAGCAGGGGGTGGCAGAGGGC
73727	PLN	AGTTCTGCTACAACCTCTAGATCTGCAG
73728	PCDH12	GCAGCCGCCTTGCTGCGTGG
73729	FGFR1	GACCAGCCCGGCCAACATGGTG
73730	GALT	CTGTCTCTCTTCTTTCTGTC
73731	CLECSF12	CCAAGTAGCTGGGATTACAGTCAGGC
73732	GUCY1A3	AGATCCGGAAGCACAGCCCCG
73733	SLC38A2	CCAAGAATTGGCAAATTTGCA
73734	IPP	TCTGGGCAACAGAATGAGATCCTG
73735	NOC4	AGTTCAGAGAGCGGTACCTT
73736	RAD17	CTACATTAGAAAGCAGCAGAT
73737	POR	GCCTGTAATCAGCTCTCCTG
73738	MATN1	TGGGTGTGGGATGAAGGTG
73739	DSC3	CGCACAGGCTGGAGTGCAGTGG
73740	RS1	GGGAGGGGCAGGAGAGGGATATGG
73741	G2A	ACCAGCCTCGGCAACATGGCAAAATCT
73742	ZNF6	AGAACTCCGGGGAAACTGG

73743	ITGA5	CAGCCCAGAGACATACTTGAA
73744	CTSS	AGTTCACTGCAACTTCTGCCT
73745	APAF1	AGGCTGGAGTGCAGTGGCATAA
73746	HTR1D	AGGCTGGAGTGTAGTGGCACAA
73747	DBN1	CACCTGCATCAGCCTCTGGCCAGACGG
73748	RRP22	AGTCTCCGCCCTGATTGGATGAGGAAA
73749	ARL2	GCTGTCTCTCTGGCTCCTGACCTGGC
73750	LSS	TCTGGGCTGGGGTCGGCCCTGGGCAG
73751	HIP1	CTGGGCAACAAGAGCAAAACTCCGTCT
73751	VPS41	CTGGGCAACAAGAGCAAAACTCCGTCT
73752	DAAM2	CACAGAACAGTTCCAGATCTAGACTG
73753	CXADR	CCATCTGAAAGTGGTACTTG
73754	LDB1	CCCCCAGGGCATTTGCCTCCA
73755	MNT	CCCCTTTTCTCCAGAAAAGC
73756	SSPN	GGAGGTGGGGGAAGAGCTGAA
73757	FAAH	GTGCCTCACCTCCCCCTGCCTC
73758	EGLN2	TATCAGCTAGCATCAGGACAG
73759	TCEA1	CACTGTTGTAGTTTAGAAGGCTTTTCA
73760	MSR1	CTCCAAATGACTTTGGTTCCC
73761	RNF12	GGAATCACTTGCTTTTATGTCCAC
73762	EPS8	CATTACAGTATTTTGCTTAA
73763	BDKRB1	GCCCAGACTGAAGTGCAGT
73764	DAB2	CTTTTCTCCCATTTCTTGCTAGCT
73765	CLECSF12	AAAGTGCTGGGATTACAGATGTGAGCC
73765	FTSJ2	AAAGTGCTGGGATTACAGATGTGAGCC
73766	RP42	ATGAAAATTTTTTAGGATAA
73767	PPT1	CTCCTGAGAATTCCTGTTACAG
73768	CA6	GACCTGTCTGAATTATAAACCAG
73769	FBXL11	GGAAGCTTCCTGCCTTTTTCTTTG
73770	HARS	TGTGCTCCTGGGCTACAAGGACC
73771	PPP2R1B	GGGTGGCCAAACAGGTCAG
73772	DUSP2	CCTGCCTGCCCCACTGTGCTGGCAGGA
73773	IFI35	TGTGAATTCTGCCACTGTGCCCAGCT
73774	TUBB	TGAACTTCTGTTGTCCTCAAGCATG
73775	EVPL	CTAACATGGTGATGGGCTCCCTCCC
73776	TCF2	TCGCACCCACCCACCCCCTCA
73777	KMO	TCGGAGGCACAGAAGCTGCAAA
73778	SCA1	CAGTGGAGTCCTGGCTCCAGAGC
73779	TDGF1	TGTCACCCAGGCTGGACTGCAA
73780	RRM2	AGTTAAATCACTAGAAATTTA
73781	PSMD5	GACCAGCCTGGCCAATATGGCAAAACC
73782	GGT1	CTCCCTGGCCTGTCTCCCCAC
73783	GRAF	TAAGAGGGAGAGAGGGGAGGC
73784	FASN	CAGTGTACACGTCTGGACC
73785	ABCA3	TCTCTCTCCAAGTTTATCTCA
73786	EVC	TGGATGTGGATTTGGAAGGGGAC
73787	IGF1	TCTCTCTGGATTTCCTTTTGCT
73788	EPO	CCTGTTTTCGCACCTACCATCA
73789	SGNE1	AGCAAGACTATGAAAGGCTCAGATTTC
73790	SMARCD2	GTGAGGAGTGTCTGCTGTCACC

73791	TNFRSF10C	GAAGACTTCACTGTGGAAG
73792	SEL1L	ACCTAAGGCTGGATGGGAAAGTGCAGT
73793	HPS4	ATCTTCTTCTTGTAAAAGTGCTTTT
73794	VDAC1	GAAACCTATTTCCAAAAAAGG
73795	NR5A2	TCCTCAAGAGTTGGGATGG
73796	RAB5B	TCTTTGGCTCTGCTGTAGTCTGATTGGAG
73797	OAS3	CTTGGAGAGAGGTGAGCAACCAA
73798	HSD3B2	CAGGGGCACAAGCCCAGGTCCTGC
73799	PCOLN3	CCAGCACTGTGGGGGCCTTCA
73800	SLC2A8	TTGAGTTTAAAAAATAAACA
73801	DPYSL2	TGATGCAATTACGTCATCACCCAGCTGA
73802	TNFRSF17	CGACTCGAGCAGTGCCACTTTAAA
73803	HSPA6	TGATGGCCCTTCGTGATAAGTCAGCTG
73804	KLRD1	CAAGATCATAGCTCATTGCAAGCTCA
73805	RFX5	GTTGCATCTTCTGTAGGACCA
73806	GHR	AAGAATTGACTGGGGCAATAACGTTTA
73807	SI	ACCAGGATTTAAGTTTCACAGCACTTA
73808	THBS3	TTCTCTGGCTCCCAAAAGGA
73809	KLK4	CTCCTCCCTCAGACCCAGGAGT
73810	SFRP1	AGAACAATGACAAACACCCACTTA
73811	CHRNE	GGCTGCCCTGACCCTTCCACAGTCATTTCT
73812	SLC4A4	AGCTCTCCAGGACTGGAAA
73813	PPP1R12B	GGGCAGGTCACCCTCCCTGTCT
73814	ADAMTS3	ATGGAAAGTGAACCAAAAAGGCTAGA
73815	GRM1	TTTATTCCTGTGTCTTGGCTGTCA
73816	GPRC5B	GCCCATTGTTTCTGTCATGGTTTCC
73817	MPDU1	GGGGGAAGGGGGACGGAGAATGAC
73818	UMPK	GGCTGCGGAAAGCGGAGGGAGTCCGACG
73819	DAB2	TTTGGAATCTAACCACTTAAGG
73820	CIT	CCACCGAGGCATAGTGTAGAA
73821	PODXL	GTAGGGGGAGGGGCTGGGGAAGA
73822	GPR50	CCTGGCTGCTGATCCTGAGCCTGCTG
73823	GM2A	CTCAGCCTCCCAAGTAGCTTGG
73823	PCDHB16	CTCAGCCTCCCAAGTAGCTTGG
73824	EIF2B1	AAGCACATTCCTCAGCAGGAT
73825	CPT1B	CCGCCTGGCCATGACCGGGGC
73826	EXTL3	CCTGCTTAGGATTCTGTTCCCTGGGCTGA
73827	LPXN	TAACTGGACAACTTTGAGTACTGAC
73828	PRKCQ	GGTTCCTTTTTCAACTTGGAAAAAGAA
73829	SULT2A1	AGGCTGAGGTAGGAGAATCGTT
73830	USH3A	ATGATGAGGCCTTCATCTACTG
73831	ADCY2	ATTCCTGGTCAAAGCTCCTT
73832	SNCG	GAGACTAAGGGCTACAGGCCAGCGT
73833	CSPG4	GGGGAGGGAAGGGACAGAGGAA
73834	SURF5	GACATGAGGCAGCATTTCCTCCA
73835	PTP4A2	GGTGACGCCACAGGGCAGCG
73836	SLC6A6	ACATCTCAGCATCTCTTA
73837	ENPP3	TTGTAAAATAAAGTTTTCTA
73838	LY6E	CTGCACCTCCACCTGCCCCAGCCCCTGCCTC
73839	DMC1	TCTGGAGGCTGAGGCAGGAGAATTGC

73840	BMP6	GCACAGCCCAGGCCACAGCCAG
73841	CLTCL1	GCCGACAACAGAGACTGGACTGTGGG
73842	SLC13A3	TCTCCACCCCCTTACTCTGCT
73843	RORB	CTGAGCGGGATTTTTGGGCTCTCCGG
73844	STS	CAGTTCTGCAAAGATTCGTC
73845	HDAC7A	TTTCTGGGGCCTCCCCCACCA
73846	PITPN	TGCTTCCTGGGAAGATCTTTGCAATT
73847	IPP	GGAGGCTGAGGTTGCAGGATCGCTTGA
73848	ASTN	CCCAGCCAACAGGAAGCCCAGCCTT
73849	ASNA1	CCCCTCGGGGCAGAGTTTGCACA
73850	PLEK	CACTGCAGCCCCTCTGCCCCT
73851	FZD1	CCTTCGACTTCCTGAAGCTGG
73852	SRD5A2	TGACCTCATTTCAAATTTGTGCAGTG
73853	CENPE	TTCAATTCAGTCTTTACTTTGCCA
73854	ADAM22	ATGGATAATCCGCATGACAGA
73855	MECP2	GCACTTCCTTGCCAGTCTTTAGTGATCAGG
73856	CYP4F3	TCGGTCTCAAAAACAAAACA
73857	F8A	AGCCTCCTGCCTCCGCCTTTGTTT
73858	DDX16	GCTAGGGTAGAGAAGGACGCA
73859	CASP7	ACTGTGTAACTTTCTCTTAAGA
73860	LNK	CTCATTTCTTAGCAGCCTCTCTACA
73861	RAB36	TCATCCACAGGGTTTTCTCACTGC
73862	Rgr	CCTGCCTGGGCCCCTCCTGGGACTTTA
73863	M11S1	ACTGTGGTTAAAAACACATG
73864	VAMP5	CACTGGCCGATTCTGGTCTCCA
73865	CNTF	GTTGATTTAAACTCTTAGA
73866	TNFSF8	TACTTCTCCTTCTGTCTCTTGGAAA
73867	BAK1	CAACACCACTAGGAATCCCAG
73868	BBS2	AGGGCTTCAGAGTCCAATTTTGCT
73869	ANK1	CACACACTCTCTGCCATGCACAC
73870	IL16	CTTCAGAGCTGACACAGGATGAAGGCA
73871	GYPE	CTAACTCCCTGTTCTCCTGCCT
73872	RABL2A	ACAGCAGGTGACAGGCCTAGCTATAG
73872	RABL2B	ACAGCAGGTGACAGGCCTAGCTATAG
73873	FUT6	TTGCAGCTTCACCTGCCTGGG
73874	RPL10	CTGTGGCTCCCAAAAGGCCT
73875	AP1G1	GGCATTCGGAATGGAAATGTAATA
73876	PML	CTAGTGTCCCCATCTGTAAA
73877	NYX	TCTCTACTGCTGGACTTTTCAGAGTC
73878	RGS16	CTTCCTGGATGTGCCCTCTC
73879	CLCN6	TGACTTCCCCAGCAAGGATCTTCCCA
73880	ZNF36	CATAATAGTTGAAAGATCAAGAT
73881	FGF4	AGCCTCGGGAAGCCCCTGG
73882	STCH	ACATTTAGATACAGGAAAATTTTAC
73883	MKI67	TGTGATAAGTTCTAGTGCAGT
73884	MPO	TATTGAGCACCTACTACATGCA
73885	HPS3	TATTCACAACCATGTGTCTTCA
73886	PRLR	TGGAATGATTGGTTAAAATGTGAT
73887	FZD4	GTCACCCAGGCTGGGGCGCAATG
73888	VAT1	AGCCAGTCCCCCCTGTTGTGTTCCATGTGC

73889	BACE2	GCCTGAGCCCGGCGAGGGTGGGGAGGG
73890	STX1A	CAGGCCTGCAGTCTCATCCTGCCCTT
73891	GAB2	CCTCTCCTGGGGGCCTGGAGAG
73892	LAMP1	TACTGCACTCAGATTTAAGCCTTACAA
73893	IRS1	TTTGCCTCGGGAATCGCTGC
73894	ADAM19	TTTCCTTGAGCTCTCTGGACACT
73895	RAX	TCGCGGACCTCAGCCCTGCA
73896	MUC12	CCTGCCTGTGCTCCTGCTGGGGAAGGC
73897	L1CAM	CTGGCCGCGGGGGCAGGGGAG
73898	WDR1	ATTGCAGTTCAGCAAAGCCGGA
73899	IL10	CAGGAGATGGAAGTTGCAGTG
73900	TEAD2	GGCTGTGATGTAAAGGGGTTGACCTCA
73901	TM6SF2	GGCGATCTGTGCTAAGAGGTCA
73902	ARHH	CTTGCATTCCCCTTGCTGAATGGCGT
73903	DMC1	CCACTGCACTCCAGCCTAGGTG
73904	CD209	TCTGTCGCCAGGCTGGAGTGCAGT
73904	RABL2A	TCTGTCGCCAGGCTGGAGTGCAGT
73904	RABL2B	TCTGTCGCCAGGCTGGAGTGCAGT
73905	CCND3	AAATGCTCTAGTGCCTT
73906	C10orf2	CTAGGCTTTCAAAGTCAAAGGGTGA
73907	FCMD	CACACCTGTAATACCAGCAGTT
73908	VANGL2	CCCAGCCTGCGGCCCTGGAGCGCT
73909	ATP1A2	AGACAAGCATTGGGTCAGACCCAT
73910	IL1F5	GGAAACAGATCTCAGCAAAGC
73911	RERE	CCTTCTTTATCCCCTCCTTTGGCATCCA
73912	DRD1	TCACTTAAAATCAAATTTTTCTGGGAA
73913	AP1G1	AAAGTGCTCCTAAGCCCA
73914	EGFL5	TTAAAGGTGGTGAGAAGTGAACATT
73915	ARSB	CTGCTGTTGGCTGGAGCATGTG
73916	TM4SF2	CTGCTCCCTCTACCCCTTACCCCAC
73917	POLR2A	GCACCTAGGCGGAGGCGGCGCAGGCT
73918	ASTN	CTGGGAGCAGAGGTGAGGCCAGAAAG
73919	EXTL3	CAGAGATCGTTTTGTGGAATAGCA
73920	RPP30	CAGGTATTTTTGTTTCATTTTGTTTT
73921	SYK	CAGGAAAATGTATCCAGAGGAA
73922	PPP1R3C	TTTTCATCTTGCTGTTTTC
73923	NOS1	ACAACTTGGGGTGGGAA
73924	PGK1	GGGCAGCAGCAGTGG
73925	THY1	CCTGCTGCCCCTCCCTGCCTCC
73926	NOTCH2	ACTGCAACTTCCGTCCAGTGCTGTGAT
73927	PPARGC1	GACCATGGTGTTGTTCTTGATGACAT
73928	SFRP2	GCTGCTCCAGTCTCAGCCTGGG
73929	NAP1L4	CCTAACCTTAGAACACATTTGTAACT
73930	HARS	TAGTCCAGTCTGTGCTCCTGGGCTAC
73931	MECP2	AATTCTCCTTTAGGGACAGCTTAGA
73932	PET112L	TTCTCACCCTCTAGGCCCTGTGCC
73933	PPEF2	CTCGCTACGTCTTGAACCTTTTGTAT
73934	ZNF200	GTAAAAATCTCATTATTGCCA
73935	WHSC1	ATTTGGCTTTTCTTTACCAGTT
73936	HOXD11	ATCCCTTCCTTCCTCTTCGGTGA

73937	EHF	TTATATTGTAGAAGGAAACACCAAGA
73938	ANGPT1	TCATATATTTCTCCTTCAGTCCATTCC
73939	PTPRO	TCAAGACGCTCTCCAAAGGGCAG
73940	DUSP4	GCTCCAGGACCTCGGCCCTTGG
73941	FGF1	TCCACTGTGCTATTACAAA
73942	BACH1	AGTATGTTAGATGCAGTAGACG
73943	TRPV1	GCTGCTTCCTGTTGGCTGG
73944	TNFRSF5	GGCTCCAACACTGCTGCTCCA
73945	CTF1	CTGCAGCCTCAACCTCCTGGGC
73945	MHC2TA	CTGCAGCCTCAACCTCCTGGGC
73945	NCOA6	CTGCAGCCTCAACCTCCTGGGC
73946	HNRPM	CGAGTGGGGCCAAGGAGGCAGCCGGGA
73947	SIL	TGTAGCCCAGGCTGGAGTGCAATGGC
73948	DIAPH1	CTATAGTGAGGCCTTATTGCCAG
73949	GLUL	AGACCTTAACCCACCAACCTGCCT
73950	DISC1	ATGTTCATTCTCATCAGTGTGA
73951	DFFB	TGTCGCTCAGGCTGGAGTGCAG
73952	CD5	ATCAAGGGAGAGGCCAGGCGCAGC
73953	CX3CR1	ACTTTACATGACACAGCTTTATC
73954	ARNT2	GCACAGCCCTTGTTCTGCCAG
73955	FRDA	TGAGGTCTAACCTCTAGCTGCT
73956	EPOR	GACCCAGCTGTGGACTGTGCCGG
73957	IL17R	GCCATTGCACTGCAGCCTGGATGACA
73958	DSCR1	CCTGCAGGGGCCACTCTCTA
73959	SERPINB13	TGGGTTGTCTGTCTTGTCTTCTCA
73960	AKAP2	GTTTAGATTCTGTAGGTGTTA
73961	FRDA	ACCTGTAATCCCAGCACTTTTGGAGG
73962	REV3L	GAGGAAGATTTCTCTCAAAAT
73963	GRIK5	CCCATTCTGGGACTGCTCAGGCTCC
73964	TAP2	GAGACGGAGCGGACCTCAGCGCTGA
73965	HPSE	GAGGAAGAAAATGAGCCATTTT
73966	GYPC	AGCTCACTGGCAGGAAAGTCCTTGTTG
73967	PLEK	TCGTGCCTCAGCTTTAAGCACAA
73968	ICOS	TATGCATACATATATACAC
73969	FUT1	TGTGAGCCAGCACACCGGGCC
73970	FN1	GGAAAGTCACCCAAACACTTCTGCTT
73971	TRIM8	CAGGGAGGAGGGGCTGCCCGGAG
73972	GCNT3	TCTCCACCTGTCTCCCATTCTGTGACG
73973	MAPK1	CTCGGCGTCTTCCTTCCTCCTCC
73974	Rgr	CTGACATCTGGGGACTTCCCCCAC
73975	CDK5R2	CCGGGTCCCCCGGGGCTGCAGT
73976	STK38	AGCTAAAAGTTCCATAGTACT
73977	DCX	GTTATCAGTCTCTCTTTCCACAGTAC
73978	RAD51L3	TGGTAGACATTGGGACCTGGGGG
73979	APAF1	TGCCTCCTGGGTTCAAGCAATT
73979	PCDHA9	TGCCTCCTGGGTTCAAGCAATT
73980	TAL1	TTGCCCAGGCTGGTCTTGAAGTC
73981	HERC2	CCTTTCTGTGAACAGCATCATAACTTC
73982	ATP6V0A4	GATATTGTCTTCATGTGGGG
73983	ZNF266	GATCCACACTGGAGAAAAACCCTA

73984	SLC2A8	ATCTTTGTCTTCTGGCTGGAG
73985	WHSC1	CAGCTTCCTTCTTTACAAAACC
73986	DNM2	CCCGCGGCGCAGGAGCTTCAGTGGTCTGG
73987	ACK1	TTCAGTCCTGCTTCTTCCA
73988	TES	CCACAGAAGAGGTATTCTATTG
73989	ARHA	TTCGGCCCCATGTATCTCA
73990	SMP1	GGTCATCTGACAGTCTCTACGCTG
73991	MAP3K7	TCTGTGACTTGAATGAGCAGCACTTTG
73992	COL2A1	GCAAACCCAAAGGACCCAAGT
73993	SIRT5	ATGATTGTCTCTAACAAACAGG
73994	ALDOC	AGTCAGAACAGGATGGCTGGGTC
73995	HPGD	ACAATTGCCTTCACTTTTAAGGAGTAA
73996	TXNRD1	TCTCGGGGAAGGGAAGATATTTTAAG
73997	SLC31A1	CCAGGATTGATGGCAGCTGAG
73998	PMCHL1	AGACCTTTGTCAAGGAGAGTGCAGT
73999	MECP2	TCCAAACATGAGGTTCTCTCTAC
74000	ADORA1	CCGGGAGCTCTGCCAGCTTTGG
74001	NGB	GTGGGGAGGGGCTGGGGACCGGC
74002	CAMK4	GTTTTTGCTTTGAAAATC
74003	NQO1	CAAGGAGAATATGATAAAACACTGCC
74004	GALNT3	ACCAGCCTGGGCAACATAGCAAAATCT
74005	DCX	CTCCTGAGAGTTATTTCTCAG
74006	MAPK3	CATGGGCCTGGCCACCTCTC
74007	MSF	GGGCCAGGCCTCGCACTTGCAGAGGAG
74008	FMR2	GCATTATTACATGGCAGTATAA
74009	SHANK2	GACAAGGGGAGGGAGTTTTTCT
74010	FUT6	ACCCAGCCTGCTGAGACTCCTC
74011	YES1	CTGCCGCCCAGGCTGGAGTGC
74012	AP1S1	CCTCCCCCTAGCCA
74012	IL13RA1	CCTCCCCCTAGCCA
74013	COL6A1	ACCAGCACTGACCCCGACCTCA
74014	ITCH	CCCTCATCTGCAATATTTTC
74015	TTF2	GTTCTTTGCATTTCAATTTCAC
74016	TRPM2	CTGCCTGGCCACTGAGCACTGG
74017	TRIM9	TAGAGCTGTTTAGAGAGGGCCT
74018	KCNJ15	CAAAATCAATCTTTTCCTTTGATCTTG
74019	BCL6	AGGAAGAGAGGAAAGTTTTTAAGTA
74020	IL6R	GTTTTTAAAAAACTGCTGACTG
74021	PRIM2A	GTTGCCCAGGCAGATCTCAGACTCCTG
74022	MTNR1A	TCAGTTAATGGCTCATCAACAATCACAACCA
74023	ARNT2	GCTGTGCTTCTCTTGGATTTG
74024	EXTL3	AGAGGAAGGAAGGGTCC
74025	PNUTL2	GCCCTGCATCAGCGGGTCAACATC
74026	NOS1	GTGGTTTCCTCGGCCCTCCTGGGTT
74027	VIP	TGCCATAATGACTCAGAATATTGCT
74028	F9	CGTGTGTGTAGACACACACGCATAC
74029	HRMT1L1	GCGTGTAGGGAACACTGCCCT
74030	FGF5	ACTGCAACCTCCAACTCCCTGGTTTAA
74031	CDX1	GGAGAGAAGGGGGCAGAGTCTTCCCTA
74032	IRTA1	CTGCTTTGGCAATCTGGGCTGA

74033	HUS1	GCACCACCACACCCAGCTAA
74034	TEC	TAGCCCCAGGGTTTGGCCATT
74035	ID2	CGGCGGCCTGAGCTTCAGGGCAG
74036	UBE2V1	CACTCACTCTCCACCAGCCTGGGAAA
74037	LCP2	CCCTCCCCATGAACACAAGGGTT
74038	AIPL1	CAACAAGAGTAAAACTTCATCTC
74039	APBA2	CTGCCTCTCCCGTCGTC
74040	SMARCD2	TGAATGGGGAGGCTGGGAGGAC
74041	MSN	ACTAGGGAGTGAGTGCAAA
74042	PLAU	AGGTTATAGGTCACTCCTGGG
74043	DGCR6	TCCCAGGCCCAAGCTCTGTGT
74044	PDE4B	GGTGCTTCTGCCTTTAGTTTTA
74045	FGF1	CTTCCCAAGGTTACTCAGCAGCA
74046	KAI1	GCTACTGCACTCCAGCCTGGG
74047	PRKY	TGTTAAAGACTCCAAGGCTCCA
74048	PDCL	TTTTGTTTGTTTTCTTTGAGATGGAGTC
74049	VHL	CCTGTAATCCCAGTACTTTGG
74050	DGKG	CACGGAGATAGACAGCTTTGG
74051	PPT2	CGTTCGGGAGGCGGAAAAAGAT
74052	RP2	CTTGAGGTTCAAAAATAATTCAT
74053	GABRQ	CCAGTGCTCCAGAACAGCGGGAGCAC
74054	USP11	TAAAGCACCAGTCTGCTCCCC
74055	ZNF195	CCGTTAGTATCTGCTCGCATCCCACT
74056	ARSF	GATAATACGGCTGATAGACAACAAGAA
74057	TNFSF11	TTTGGAAACATTTTTTAAAACAA
74058	SLC39A1	TGGCCTCTCCAGTCCTGCTTACTCC
74059	IL10RA	TCAGAGCTTCCAGCAGGAGGAAGG
74060	CRHBP	AGCCTTTCATACCAGTCAGTATTTCC
74061	CSF3	GGGACTGGGGATGTGGGAGGGAGCAGACAG
74062	INSL5	TTGAAACCACAGTGATCTCTA
74063	CDC23	AGAAGTACTTCTGTCTCACTTA
74064	USP14	CCGCAGCTGCTCCTGGTCCCC
74065	FCGR3A	GTGGGGCTCCCTTGCCAGAC
74066	XT3	TAAAGAAGATGAGGAAGGTG
74067	CBFA2T1	CCTGGTGGCATCCTCCAGATCGTACTG
74068	EHHADH	GTGTAGTTAAAAATTAAGGGGCTGGTC
74069	ARHGEF7	TTTATTATAAGTCACTGCAGCT
74070	GRIA3	TCTGTAGCCACACCTGTGA
74071	SLC7A7	CCCCGCTACTGTCCTGTCCTCA
74072	SULT1A2	ACTGGGTGGAGGCTGGGGGTCCCAGC
74073	CRMP1	GTGAATTCTCGGAATGGCAG
74074	MAT2A	AGACCTACAGGGGGTCTGG
74075	ALDH8A1	CCAGGCGGTTGAGGCTGCAGTGA
74076	LETM1	CCTCCTGGCTCCAGAGGCAGCTGGGC
74077	ACAD8	CCTCCTGTCTGTGTCGTTCTCTGTGCC
74078	GATA6	ACTCCAGCCAGCCCGCCTCCGGGG
74079	BRPF1	CATAACTGCCTAGAGCCTGGG
74080	BRCA1	CAGAGGACAATGGCTTCCATG
74081	GRINL1A	CTTGTTCTTTTAAATTTTGTGA
74082	MSL3L1	GCTCCTGAGAGAAAGGTCTGACT

74083	ZNF36	AGGATATTTCTACCCATGCAACGGAA
74084	PAFAH1B1	GCTGTCTAACCCTGTGCCTTGCCTGGGATAA
74085	PDE4C	CTGTAATCCCAGCTACTGGGGA
74086	RBMX	TCCACAAAACATCTAGCCATCTA
74087	CIT	TGAATTGGTTTCTACTTTTTT
74088	FZD4	GGCAAAGTCTTGGCTTTTGAG
74089	SOLH	TCCTCGGGGCCACTGCACTGGGTGAT
74090	ZNF155	GTGGTTTGAGCCAAGTATGTGTCTTGCG
74091	ACTN2	CGGGGATTAAAAAGACTACCCAAA
74092	FCN2	CTGGGAGGTGGGAGGGCCAGGCCAACT
74093	8D6A	GGGTACCCGGGCACACCAGCCCTCAG
74094	NFIB	AAGGTCCTTCAGGCCCTTGGGGA
74095	PRKCD	GGGTTCCTGGACAGATCAGGCTAG
74096	MPDU1	GGGGCTGGTTGCTGCTGCAGTGA
74097	SCGB1A1	AGAGCATCCCCCTCCTCCACCATGAAA
74098	NR2C2	AGTGGTATTTTGGTATGTGCAAA
74099	DDX11	CCCAGGAGGAGAGTGTGGAG
74100	DCX	ACTTTTCTTTATAAGTTATC
74101	USP14	CTGGAAGGCAGAAGTTGCAGTGA
74102	P2RX7	CCGGGAGGCAGAGGTTGTAGTGA
74103	SH3BP2	TGTCTACCCTCCTTCGGAC
74104	FSTL1	TGGTGCTCTGGGGCTGGAGGCTAGT
74105	ITGB1	AGACTTTTTTATGAGTACTT
74106	PDGFRL	CGCAGCCGCCGCGCTCCTGCGCTCCGA
74107	PRG1	AATTGGCAGGTAATATTTCA
74108	GORASP1	CAGGAGGGAGAGAGAGGCAGT
74109	INPP5A	CTGGGTGTTTGTGTGGGATAAATACTACCAC
74110	LY64	GTAAACCCACCAAGCAATCCTAGCC
74111	CLCN6	CACTGACATGACCCTGGGTG
74112	SRRM1	TTGTTCCCCCTCCTTCTTTT
74113	TIMP3	CTCCTCCAATACATAAAGGACA
74114	FER	ATTCTTTTGGTGAAGGACGCTTC
74115	GA	GCTCTTCACCCAGGTCTCCTCT
74116	ADAT1	CTTTCTGTTTTGATCTGGAGCT
74117	SVIL	GGACTTGAAAAGCTGAGATATGATGATT
74118	TEAD2	TCTACCACCCTCACTCCATGACC
74119	MGAT2	CTCTTCTGGCTCCTGGTTACG
74120	SOD3	AGCTTCTCCTCTGCTCCA
74121	GGA1	TACGTCTGTCCATCCATCTGTCCGT
74122	IL6R	CGCCTGTAATCCTAGCACTTT
74122	ROCK2	CGCCTGTAATCCTAGCACTTT
74122	TGFB1	CGCCTGTAATCCTAGCACTTT
74123	RPP38	TCGCCATCGTGAGTTCCAGGATTT
74124	CENTD2	CTGTCAGGGTGTTGTGGGGGTG
74125	RXRA	GGTGGGCCTGAGGCTTTCAAGGGT
74126	POU4F1	GGAGAGAAGGGCATAGTCTTTGA
74127	APOL1	CCAAGTTGGAGCTTGCAGTG
74128	RXRA	GCCCCTGGCGGGTGTGGTGGAAATGGC
74129	DOK1	CCTACTTCCCCAAATGA
74130	HNRPK	GCAAAAACTAACATTGAAATTTTG

74131	ABCC3	CGTGGTGGGGCCTGTGGGCTGTGGGA
74132	PCDHGA1	CATCCAGCGGGGCTGCCAGAGA
74132	PCDHGA10	CATCCAGCGGGGCTGCCAGAGA
74132	PCDHGA11	CATCCAGCGGGGCTGCCAGAGA
74132	PCDHGA12	CATCCAGCGGGGCTGCCAGAGA
74132	PCDHGA2	CATCCAGCGGGGCTGCCAGAGA
74132	PCDHGA3	CATCCAGCGGGGCTGCCAGAGA
74132	PCDHGA4	CATCCAGCGGGGCTGCCAGAGA
74132	PCDHGA5	CATCCAGCGGGGCTGCCAGAGA
74132	PCDHGA6	CATCCAGCGGGGCTGCCAGAGA
74132	PCDHGA7	CATCCAGCGGGGCTGCCAGAGA
74132	PCDHGA8	CATCCAGCGGGGCTGCCAGAGA
74132	PCDHGA9	CATCCAGCGGGGCTGCCAGAGA
74132	PCDHGB1	CATCCAGCGGGGCTGCCAGAGA
74132	PCDHGB2	CATCCAGCGGGGCTGCCAGAGA
74132	PCDHGB3	CATCCAGCGGGGCTGCCAGAGA
74132	PCDHGB4	CATCCAGCGGGGCTGCCAGAGA
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74132	PCDHGB6	CATCCAGCGGGGCTGCCAGAGA
74132	PCDHGB7	CATCCAGCGGGGCTGCCAGAGA
74132	PCDHGC3	CATCCAGCGGGGCTGCCAGAGA
74132	PCDHGC4	CATCCAGCGGGGCTGCCAGAGA
74132	PCDHGC5	CATCCAGCGGGGCTGCCAGAGA
74133	PSEN1	TCTACTTTGCCACAGATTATCTTGTACA
74134	MAN1A2	TTCTAAAGTATTCTCTCCA
74135	CENTD1	AATTGGATTGTCTGGTGAG
74136	CD34	TGCACACACCTCAGAGGCTGTTC
74137	AGA	TCATGTGTTCTAAAGTCTTTTTG
74138	IQGAP1	TCAGATAAATTCAGAATGGGTCAAGGC
74139	DUSP6	CCCCGCCCTCTCCCGCAGCT
74140	KCNK6	AGGATCGCTTGAGGCCAGGAGTTTG
74141	HDAC1	CCACCTTGCCACCCATTCTTCCCG
74142	TOX	TGGCTGATGTCTCTTTCTTGGA
74143	PPP1R3D	CTCTCTGCGGCTTCTGAGCAC
74144	ATP1A2	AGGCATGGAAAGATGGGGAG
74145	CRH	GAGGGAGAGAGGGAGAGAGC
74146	STS	CTGTCATGTGGAAACTATTTA
74147	RIMS1	AAGTTTTCTCACACTCCTCT
74148	NDUFA2	CAGAGCCTGGGCTCTGCTG
74149	DGCR2	CCTGCTGCAGTCCCCAGTCTGACCAG
74150	SELE	GTGAAGAGACCAAGACTCTG
74151	COL4A1	TGGTGCTACTTCTTCTTCTTTTTG
74152	HUNK	GGAGGTCGAGGCTGCAGTGA
74153	MECP2	TACTTTCCAATTCTCCTTTAGG
74154	CBFA2T2	GGCTGCCCAAAGTGCTGGGATT
74155	MAD1L1	CTTCAGACTTGGACTGTGTCACA
74156	GALR1	CAGGCACGGCCACCGGATCCC
74157	NDUFS2	CCAAGAGGGCGGCTTCACTGTGCG
74158	FCAR	CACCCAGGCTGAAGTGCAGT
74159	ALPI	GAGCCCATGGGCCCTCCCGGGA

74160	MTA1L1	GCCCTCTGGTGTTACCACC
74161	COL4A4	TGCGCAGGGTGGAGGGAGTG
74162	COX8	CCAGAGTGAGGGGTCCGTTC
74163	ADCY3	TCCTCAGCCTTCATTTGTTC
74164	XRCC3	GTCAGGGTCCAGGAGAGCCTGGGGGTG
74165	SOX3	TGTCTTGTTAGTTTGCAGTTA
74166	TRPS1	AAATCAGCAAAACACCAGA
74167	TRIM9	CAGGATTGAGACTTCCTGTGGGCAC
74168	MCL1	GCACCCTAGCAACCTAGCCA
74169	GPRK7	GCCTGCAATTCCAGCACTTTGG
74170	F2R	AGGTGCTGAGTGTACAGAGT
74171	COL19A1	GCAGTTTCCCAGCGTTATTTCTTAAT
74172	HDAC1	AAGGGTGCCAGGTCTGGGTGAA
74173	GEM	TATTATTTTTGAATTCATGGAG
74174	VPS26	TACCATTCCATGGCTTCCAGAA
74175	CYLN2	CCTGCCTGCCCAGCGAGGCCCCCAGG
74176	RING1	TCCCACCAAGGATCCAAAGTGCCCCA
74177	NEO1	TCTCATCACTGTGAGATTA
74178	MBP	TGTGTGAAGATCACGTTCCTTC
74179	ADD3	CTTAAAACATGAGCTCAGATGCCAGC
74180	ADRB1	CCACGGACCGTTGCACAAAAAGG
74181	HHLA1	TGAAGAATTCACCCAGGCTCCA
74182	MAFF	GCACAGCCTGTGCACAGCTCC
74183	CTNNA1	CCTACTTCTAGCTGTATTTTTTGTATG
74184	P2RY2	AAAGTCAGGTGCAGTCCCAGTCCTT
74185	HOXB6	TGTCCCCCGTGCACGGTTCAATGGTAGA
74186	UBA52	TCCCAAGAAGAAGGTCAAATA
74187	PIM1	CCTGCTGCTTCTCCAAAAATCTGCCT
74188	B3GALT2	TCCGTAGGACAAGTTTTAGTTAAA
74189	APAF1	TGGGTTCAAGCAATCCTCCTGCCTCAG
74190	CYP8B1	TGGGTTTAAGCAATTCTCCTGCCTCAG
74191	MAPK1	GCCCGTCTTGGCTTATCCACTTTGAC
74192	DMN	GCACCTGGTCACAGACATGGCTTGCA
74193	MAML1	AATCTGAAGGGGAAGAGGGTGACCTCA
74194	ATP11A	CCTGCACTGCATCCTGCCTCC
74195	WWP2	CTGATCCCAGGAGGCCCTGCAGT
74196	GRM4	GCTGTCTTGCCTGCCCGTG
74197	BACE	CTGAGTCAGTTTTTTATCT
74198	SURF6	AGGGAAAGGGTGAGGGAGACT
74199	PPT2	GGCTAGGTGCCTGCTCCTGT
74200	COL9A3	GGAGAGGGAGCGCCCCTGGCTGC
74201	AQP5	CCCGCCCCCGCCGCATCCACCTCCTC
74202	TCEB3	CAGGAATACAAGGACAGTGGGGGTTGG
74203	GPR81	ATGAATGATTAAGTGCATGTA
74204	HMG20A	TCTGACTGATTTTAGAAAAAACTT
74205	AK2	CCCTGCTCTTAGGTGCTGGGCAGAGGG
74206	IL8RA	CTCAGCTTCACCCTGAGGTGA
74207	DDX3	TGATAGTCTTTAAGCCATTCCA
74208	FPGS	CCGCCTGCCTCCTGGCTCAGGCC
74209	ZNF74	TCACCCAGGAGGAGTGGGGTCAACTAG

74210	FCGR1A	GCTGCTCTCATACTTGGGCT
74211	CUTL1	GCCCCAGTCTCTTCAGACTCATGG
74212	CPNE3	ATATTTCCTATGTCTACAGCA
74213	PSMD5	CCATCTATATTTCACAAAAGA
74214	EFG2	ACATTGCCTTTTGCCTAGGCTGGCGT
74215	MEFV	GCATGAGCCACTGTGCCCGGCC
74216	MPL	GCATGAGCCACTGCGCCCGGCT
74217	NLGN2	CATCCAGCAGCGCTAAGG
74218	IL16	GGTGCAGATGAGGTTGCTAGAGA
74219	JUN	GAGGCTGGAGGAAGGGGGGTTGCAGTG
74220	CLECSF12	CAGGCTGGAGTGCAACGGCA
74220	PRND	CAGGCTGGAGTGCAACGGCA
74221	HTR2A	AGGCTGAGATGGGAGGATCACT
74222	ACE	GGGAGCCGGAGGCTGCAGTGAG
74223	DLG5	AGCTTTGACAAACCTCCTGCTCCTTGGTGG
74224	GSTM3	ACTAAAATTAATCTGGAATTTAAG
74225	ADD1	TTCACTTGGGTCTCTGGATTCCTGTC
74226	AK1	CCAAGAGAGCCTCTTGTGGACC
74227	KLK13	TCACCATGACTTCCTCAC
74228	ATP6V1E1	TCTGAAAGTGTGACAGTGTCC
74229	DRG2	ACCCTGGCTCTGCACGCCTGGG
74230	SLC4A4	CTCACTTGCCAAATTCTGGCT
74231	WHSC1L1	TTGATCTAGATGTCTGTTTGTTGTATGG
74232	CRYAB	TCACACTCACCTAGCCACCATGGACA
74233	MMP14	TGGGGCCGGGCAGGCCAGGC
74234	NPHP1	AAAATAAGTGCTCTGTCAA
74235	PRKWNK3	AACCAATACAGAACATGAGCCCTTT
74236	TLR4	GGGCTAGAGGCAGGAAGGAAGTG
74237	EPHA3	GAGCGGGGTTCGCGGAAAGGC
74238	SLC31A1	TGACAAGAGTGAAACTCCATCTC
74239	CPNE7	TGAGAAGGGGCAGGGACTGGGG
74240	CTF1	TGTTGCCCAGGCTGGTCTTGAACTCCG
74241	SIM2	GATACCACCGACATTTTTCAATA
74242	GBA	AACACAAGATCAGGGCTGAGGGTAAGGA
74243	C18orf1	GGCATCTTGAATCCCATCTA
74244	CLASP1	GCTGCAGCTGCCTTGCCTTGCC
74245	COL17A1	TCTGAACTCCTTGGCTTCTTTACTTAG
74246	B3GALT5	CACTGCTGACCTGCCTAGCGAGCAG
74247	LARS2	GCTGGTTCCTCTGCCTGTGT
74248	ADORA2B	ACACCTGTAATTCCAGCACTTT
74249	MAFF	ACATCTGTAATCCCAGCACTTT
74250	MYLK2	GCTGGGGGGTCTCAGCATGTAGGGCT
74251	P2RY6	GTCATCTGGATAGTGTCTA
74252	MYOD1	GTAATCTATTCCTGTAAATAAGAG
74253	HIS1	AGGGAAAGTCGGGGGAGGACGCGGAAG
74254	ANK3	GTCAGGGTATAAACACTATTTGTT
74255	TEM6	CCATTGCTATACTGTACCAGTGTCA
74256	RRM2B	TTTTCATTTTTTCAAATGTCTGGCCAT
74257	CD5	CTGCCCAGGCTGAGGCAAGA
74258	CDH12	TCTGATCTCCACCTTCTTCTAATTCAA

74259	NDUFA1	GGGCTTGCTGGGAAGAGAGGCGAAGCCAG
74260	DUOX2	GAATCTCCTCAGAGCCCAG
74261	LILRB4	CAACCCATTACCTAGTTA
74262	PAFAH1B1	ACTTGGGAGATTGCCACAGCCTGCTGC
74263	GRINL1A	CTCAAAAATGAAATCATA
74264	HAP1	TAGACACCTCTGATCCCCTTCA
74265	PCBP2	TTTCTGCTGTTCACCACCACCCATG
74266	PCDH11Y	TCAGAAATAAAACTGTATCTGACA
74267	MAPRE1	AGCAAGAGGCATCGTTGCCTGG
74268	ALDH3A2	GGAAGTTAGTTGCCAAAGTCA
74269	ZNF217	TTTTGTCCCTGAATAATATTTTTC
74270	MAD	TGGGCACTGCGGCTGTCTCC
74271	CYP11B1	TTAAGCGGGATCCCAGCATCTCA
74272	APOBEC1	CAAGGTACCCCAAAACTCTGTAG
74273	CD209	AGCTAATTCTTGTATTTTTGGT
74274	USP6	CTCTGCCAGCATAAACCACTCA
74275	AXIN2	GGCTTTGGTGAACTGTTGG
74276	GJB3	CTGAGCCTCAGTTTCCCT
74277	INHBC	AAGCTCTCTTTGCATACCTTCA
74278	LRP8	GTTTTATACACTTTTTAACTGGT
74279	DAB2	TTGCTCCTGGGTTCAAGTAGTA
74280	SOX12	GGAGCCAGGGCTGAGTGTGGAAA
74281	NOTCH2	CTTGTTTCTTTTTCTTGGAC
74282	AKR1B1	GGCCTGTGTCACTCAGCAGTG
74283	PSME3	CAGAGGGAGGGAGCGAGCGAGC
74284	KEL	ATCCATGGAATCAGAGCAAGA
74285	PSAP	GAATGAACGCACAGATCTGTTTGACTTTG
74286	PPM1B	AGCATTGCCTGTACTACAGTATTTT
74287	TACC1	CCAAACCTTTTGTTCTGTAAA
74288	GAS7	GGATGCAGAAAAATCTGGGCT
74289	SHOC2	AGAGAAACTTGCAGTGAAAAG
74290	NKTR	TACATCCCACACAGTCTGTA
74291	CDH23	GGCTCGGGAGAGAGGGACGCGGG
74292	TFG	TCAGAAATTTAAAAGCAGAGCATT
74293	PIK3CG	CTTCCTCTGCTGGTCTTGTT
74294	PDE4A	AGCCTTCCATCCCTCTGTCC
74295	MXI1	GTGGCCCTCTCCCTTACCCTGG
74296	TLL2	AATTCATAACACTTGGCACTTG
74297	TRPV1	AAGTAGCTTGGATTACAGGTGAGCACT
74298	KCNMA1	TCCAGACATAAATAGCTCACTGCAGGA
74299	SPARC	TTCATCACCATTTCCTCCTTTA
74300	BTG2	CTTTCCAGCCAGGAATCTAAA
74301	PDCL	ACCCAGGCTGGAGTACAATAGC
74302	COX7A2	TGCTGGTCAGTAACAGCCAA
74303	KCNH2	CCTTTCTACCCTGCCTGTGC
74304	KRTHB6	CCTCCTCTCTTCCCCAAAAAG
74305	TAF1C	GGTGCCGGTGGGCCTGTGT
74306	LZTS1	TTCAAACCATTGCTCTTA
74307	GGT2	CGCTGAACATCAGCCTGGGAGA
74308	TMSB4Y	CCCAGCCTCAGACGGCTCTGCGGGC

74309	ZNF74	TCAACTGTTGTATCCTCGGA
74310	LNK	CCGCTGCAAAGTTTCCCCGGCG
74311	SELE	ATAAGGATCAGAACAGCAGA
74312	LIG4	GCCTCCTGATGCTGTGCTCTTCATCT
74313	SMARCD1	ATTCCCTCAGATCTGCCCTAA
74314	POLK	TATTTAGTGAAGGCAAGTGCA
74315	ARVCF	TTCAGTGCCTGCTGTTCGTGACT
74316	HBE1	CAGGTCAGCCTTGACCAATGA
74317	MALT1	CAGGTTCTGAGATAAGTGTTATGT
74318	HMG20A	CTGTGTTGCCCAGGCTGGAGTGCGGT
74319	MEIS2	TTTGCCAAGCCATCCCCACCA
74320	KCNA6	TAGGGAGGAGGTGGCGGCTGTGGC
74321	RNH	GGCCCCTGGCGGGTACCTGAGC
74322	CPA1	ACTGGCTGACCCTTTGACA
74323	CHRNA3	CATTTCGAGGTTTACTTATTTTCCACT
74324	AK3	TCTCCTTTTCAGACATCCTGGGATGAA
74325	HPGD	AAACTCATAACAACACAGACA
74326	GYS1	TGCAGTTGAGAGGGGAGGGCAGG
74327	MAP1A	GTTGAGGGAGATGGGAGCTAGG
74328	GPR87	TGCTTACAGTGCATCACAACT
74329	PPP3R1	TAACTTTCTTCCTCTGGATCA
74330	PCDH11X	TCTCTCTGCTGTCATGTT
74330	PCDH11Y	TCTCTCTGCTGTCATGTT
74331	BACE	GGAGAAGGAAAAGGCTGGCA
74332	CDH11	TCTTTTTGCTTCTACTTTCATCT
74333	CYLN2	CCAGGGTCAAATACAGCTCTTT
74334	MATK	GCAGGAAGACACCAGGCTGCA
74335	CBS	CCTAAATGGCCCTGTTTACGGC
74336	ADAR	TGAAGAGGCAGAAACCTAAGAAGTTATCTTTT
74337	USP6	AGCCCCCTCCTGTGGGGACAGC
74338	APBB2	AGCATTTTCCTGCTCCTTC
74339	SIAT7D	CTGCCTGGCCACCTGCCTGGACCACC
74340	ZNF175	AAATGTCCTTCTGAGTACT
74341	MOCS1	GCAGCCCTGCCCTGTCCTGT
74342	SRGAP2	TCAGGCTGTGATGCACTGTGGCTG
74343	CEACAM5	CACTGCACTCCAGTCTGGCAACAGAG
74344	GCNT1	ATGGGGCAGGATGTCACCTGGA
74345	CXCL13	TATTAAAAGCAGGCTTCTA
74346	ARNT2	AGCTAGTGTTATGGTCAACAACAGGC
74347	TCF2	CTGCTGTGCTGTGCCTAGATGC
74348	BCL2L2	ATCCCATGGGTGTGAGGGTGA
74349	DNAH9	GAGGCTGAGCTGAAGGAATGTGGGCC
74350	PTPRN	CATGCGCTGCTCAACCTCTCTCCTT
74351	RP1	TTCAATATCAGCACACTCATT
74352	DGCR6	GAGAGTGAGGCTGGGGGTTCTCACACC
74353	GPR30	CTTCAAGGAGAATCACGCTTCTTTCT
74354	METTL1	CCTGCCTGGTCACTGCTGC
74355	CHRNB4	ACCTCGGGGGCCAGGACCGGCGCTCA
74356	B3GALT2	TGCACTTTTATGAAGTTTTTAA
74357	TP53BP2	AGACTTATTTTAATGACAATGTAGCT

74358	TEM7	CCTGTTCTGATGTCAGTGCCT
74359	BCL10	AAGTGTGTGCCACCATGCCTC
74360	TTC3	CTGATTTGGTCACCTTCCTCTGCCTT
74361	SLC25A4	AATTTATCATACTTGTACAATT
74362	GPR55	GGGTGGACCTAACCAACTATCAT
74363	ITSN2	CATGCACGCTGGGGGCTCTGTTTTCCTG
74364	GDF8	TGCTATCTCAACAATAACTGTTACT
74365	KCNJ10	ATTCAACATTAGACTTACCTTA
74366	ETV6	TCTCCATCTGTAATTCCTCACCCTCAC
74367	IL21R	CCAGAGTAGCTGGAATTACAGGC
74368	SLA2	CCAGAATAGCTGGGATTACAGGC
74369	CREBL2	TCATCTGTAAAAAAGGGGGGAG
74370	STS	TCCAGTGTAATTCAGAATC
74371	TBR1	CTCTAGAAACATGAAATACTCA
74372	ADAMTS13	CGGGGACCCCGGAGAGGGAGTCAG
74373	SSR2	ATCCAGGTGCTTTCCA
74374	ITCH	AGTTATCATTTCTCTGACATATGTT
74375	CYB561	TGCTCAGGCTGGGAGGCAGAGGGCAC
74376	PKD1	CTGTCTGTCTGTGGGCTTCAGCACTTT
74377	NOVA1	TGTTTTTAAGACTGAATTCACTA
74378	PITX2	GGGAGAGAAGAAGGGGGTCTT
74379	RABIF	CAACCCAGGATACAAACTTC
74380	MAFK	CCCGTGGGAGTCGGGACATATA
74381	OAS2	TGCCTTCTTGGACTTCTTGAA
74382	CRSP6	CTGTAGCCCAGTCTGGAGTGCAGT
74383	ALDH8A1	CCATAATTTGCCATCTTTGGA
74384	SYT4	CTACAAAATCGTTCAAGAG
74385	GGT1	GCTGGCCCAGCTCCTGAGGCT
74386	NR3C2	ACAGTTTCTCAAGTTTAAAG
74387	ABCD1	GGGGGAGCTGTCTGCGGAGCCAG
74388	ACCN1	CTTCTCTCCCTGTGACACAGCTT
74389	ADCY7	ATCACCAGAGCATCGCCAGGATTT
74390	RAF1	TCATGCTGAATTTTGTCTTCCAG
74391	MFAP1	GCTGTGTTCGCGGACTCAGGTGGAAG
74392	IL1A	AGGATCAAGACTTCTTTGTGCTCAAA
74393	GPR92	AGCCCACATTCCCATGACCTC
74394	LOH11CR2A	GCCATAAAAGTAAAGGATGCTT
74395	PSME3	GGAAAGCCTGTTCCTCTCTG
74396	VENTX2	CCACTGCACCCGGCCCTGAG
74397	USP6	TGAGGGAAGGGGAGCAGTTGCCAATA
74398	ICA1	CCTTCGGGAGGGCACTCACATGCC
74399	MEIS2	GATGACTGCCTCCTCACTTC
74400	LPIN2	CTTCAGTGACGGGTGACGGCTCAGGGA
74401	APAF1	GCCCTGGAGTTTGAGTCCAGCCTGGG
74402	PDE4A	CCCGACCACCTCCTCCTCT
74403	TUBB	TGCCTCTGTTAGAAATTCACACTGTTG
74404	FADD	AGCACTCTCTAAATCTTCCTTGTGA
74405	MNT	GGAGCGCCTGGCCCTCCCTCCCT
74406	ANGPT4	AAGCCTGGCCACTGTTGGCTGC
74407	TCFL4	TACAACACCTCACACTGGTCAG

74408	SUV39H1	TCTGGTTCTCCTCTTGTACA
74409	KCNS2	CAGGCTTTGATATCTGTGAT
74410	PAX4	TGCCTCGATGCCTCTCTGGCG
74411	KCNJ3	TTCAGGGCGATAAAACTAAATA
74412	IRF2	GTTTTGCTTTCGATCTGGACTG
74413	PSME1	ATCATCCTGAAGAACTTCGAGAA
74414	CSF3	CCTGCAGCCCAGCCCCACCCAGA
74415	TRPV4	CCCGGAGGCTGAGCAGTGCAGAC
74416	PRDX3	TAAAGGATATTTATCAAATCCAGG
74417	POLH	CTTTAACCTTGGAGGCGGAGGTT
74418	TSSC4	CACCCAGCAGCCAAGAGAGGTG
74419	CORO2A	ATCCTCTCCTGCCAGCTGTTGCAG
74420	CCR9	TGCTGGAGGTTTTAACCTAGACAAGGA
74421	CD209	ATGTTGACCAGGATGGTCTC
74422	POLH	CCAACATGGCAAAACCATCTCTACTA
74423	CEACAM6	AGGTGTGTGCCACTCAGAG
74424	ATP8B2	TTTGGAGCTGGGAGTGGG
74425	KCNJ12	GGGGCCCCGGGTTTGAGCAGAAC
74426	PRPS1	GTCTCTTGTAGAGGAAACTAATA
74427	ACE	TACTGACCTGGCTGGTGACAG
74428	LARGE	TGGGCAGCTTCCTTCAGGATGATCAC
74429	CENTD2	GACACACAGAGTCACACACACTCAC
74430	ITSN1	GACATTTCAACAGCTCTTTTTG
74431	FANCE	GAACTCCTGAGCTCAAGTGATC
74432	PPP2R5C	ATAGTGAGAAGCAGACACTGCT
74433	GRPR	CAGGAAAGACGCTGTGGGAA
74434	TPMT	TCTGAGACCTGCTCCCA
74435	PKD2	TACCATGTTGTTACATGTA
74436	GAB2	GTCAGAGGCAGGAGTGGGGGATCAG
74437	HLCS	AAATGTCCTTAGTTAGGGACT
74438	C4BPB	AGGTGTCTGAGCTGGGTGA
74439	PDAP1	CTGGGCCGCGCTGCCAGGACCTCTGCTGT
74440	BUB1B	AAGTCTCACAGATTGCTGCCTC
74441	KCNK6	AGGGCTGAAGTCGGAGAAGCA
74442	NUMA1	ACCAGGAGTCTGGAGTGCAATGGCACG
74443	PPEF2	ACCCAGCAAAGAAGCAAACAGCTCAC
74444	TCEA1	TTTTATTTCAAAAACAAAGTACA
74445	TCEA1	TTGTAATTTCTTGTACATGTAT
74446	IRTA2	GCAGACAGAACACATACTGGAACAC
74447	MAP3K7IP2	AACTTCAGAAATCTGTGGTACTCT
74448	NUFIP1	ACATACAGCTAAAAGGGA
74449	COL16A1	TGGCTGAATTCCCCACCTGCCTTT
74450	CYP8B1	ACTGCAACCTCTGCCTCCTGGG
74450	FZD4	ACTGCAACCTCTGCCTCCTGGG
74450	KMO	ACTGCAACCTCTGCCTCCTGGG
74450	PCDHB11	ACTGCAACCTCTGCCTCCTGGG
74450	PCDHB16	ACTGCAACCTCTGCCTCCTGGG
74450	SIL	ACTGCAACCTCTGCCTCCTGGG
74451	SAS	ACCGCAACCTCTGCCTCCCGGG
74452	PML	CTCAGCTTTCACACTGGTGAAG

74453	PLA2G5	CCCTCCAGAGAATTTTACGCAAG
74454	MAGEA2	CAGTGGTTCTAGGATCTGCCA
74455	XT3	AACTGCATCCTTCATTCCA
74456	MTRR	TCTCCACTGTTCTAATATA
74457	LIF	GGGGGGCCTGGCTGGGCCAGA
74458	LZTS1	TCCCTGCAGACCTCAAGCCATCATGCG
74459	MAD	GACCAAAATCAGCTTTGTA
74460	ZNF278	CTGATGGGGAGAAGAAGTAC
74461	PSEN1	TGGGGAATGGAGAGGTGGGCAGG
74462	TMOD2	AATGAAGCAGGTGACTGCAGCC
74463	TH1L	GTGTCTGGAGAAGCTGGACACTG
74464	DBT	GAGCCCAGGAGTTCAAAGCTGT
74465	FCAR	TCGCCTCCCAGGTTCAAGCAAT
74466	DAZL	AAGGTCAGAATTTTGTTGGTCTG
74467	ATP1A1	AGAAGGAAACCTACTATTAC
74468	MTMR3	CCCTGTATTCCTCTTCCCCTTGG
74469	FPRL1	CCACTGCATTTGCAGCCTTGAGGTCAT
74470	MTMR3	TGCTTAAGCTCTGGCCCTGCCCT
74471	JDP1	GCTCACTGTGCCTCTTGTTTCC
74472	BCAS1	GCTCTCGCCTGTAATCTCAGCA
74473	DGCR2	GAGCTGCCTCCTGTCTCTCCA
74474	SLC21A3	GAGCAACATGGGAGAAACTGAGAAAAG
74475	HD	GAGTGTCACTGAGCTGTGTTT
74476	MYOD1	GGCATTCAGACTGCCAGCACTT
74477	CYP4F3	GGGAGAGGAGGTTGTGTGG
74478	RNH	ATTCAGGGCCTGTGCCTGGGGA
74479	PAFAH1B1	CAAATTGGCCACTTAAGAAATA
74480	PLA2G1B	TCTCCAATAAAGCACCTTGTT
74481	SLC29A1	TCTCTGTGTATGTGTCTGTGTGTCT
74482	FACL5	CTCTATGCTTATTTACATCTTCT
74483	PPP2R5D	CACACAGCCCTGGGACACTGCC
74484	GRIK5	TCTTCCTCTCTTTTTTGGGGG
74485	ABR	CGGCAGGAGTCAGGAGCCAGG
74486	ATP2A3	TGAGCCAGAAGTGGCGCTGGGAACAG
74487	SLC25A11	CTGGACCCCTCTATTTATTTC
74488	ESRRG	TTGTGTGCCCAGTCTGGTCC
74489	TAL1	ACATAGTGCATTGTTTCTGTGGGCGG
74490	ETF1	TTCAAATTGGGTACTTTTAA
74491	RIMS1	ATTCTATGTTGATCCCATTCTTGA
74492	NTRK2	ATGATTCTTTTCCCATCACCAGAA
74493	ARHGEF7	GCCCTGGTTGTGTGGACTCCTTA
74494	ARHGEF5	TCTCTGAGAGGAGTTTCGTGAGCTGA
74495	CDKN2D	TCTTCTGCGCCTCAGGCTGCTGGGG
74496	HOXB6	GGTGCTGGAAAGGGAGGGAG
74497	HS2ST1	GGCTTCACCATACTGTAAGCATTTT
74498	HMG20A	TTTATACATCTCCATTTTCT
74499	REV3L	CCTCCTCTGCTGGCATGTGAAATGGC
74500	EGR1	CTTGTACAGTGTCTGTGCCA
74501	DBT	AGGAGTTCGAGACCACCCTGGCCAACA
74502	MHC2TA	GCCCACGCTGGAGTGCAGTGAGC

74503	BCL2L2	TTCAGGGTAAGATTTTATT
74504	DIRC1	ATCCAGTCTCAGGTAGATCTTTAT
74505	CRYZL1	GTAACAACAGAAGAAAACCTTC
74506	LTK	GGGAGCACTGGATTGCTTTCCCATTA
74507	PPP2R4	TGCCTTCCCCACCCCAGCAG
74508	RGS1	TGTTTACATGTCCTTGCTAC
74509	G2A	GTTGAGGTCAGGAGTTTGAGAC
74510	CASP10	GGCTGTGTCAGAAACTGAAGCTGTTC
74511	MASP1	TCATATGCTTCACCATTCTGTAAA
74512	HDAC4	CTTTTTCTTCCTTTGCAAAGGCCT
74513	SNAI1	GGGCCTGCGGAGGCGGTGGCAGAC
74514	FGF12	GCAGCTTCCAGACCCAGGAAGCCTGAGG
74515	PPP2R2B	CCCCGTCTCCTCCTCAGGCTCGGACCA
74516	PRDM16	CGGTGGCCAGAGCGAGGGCAC
74517	GPR23	GGATTGCCAAACTCTTCTGCTT
74518	RAB18	CTCCTATCATTTTCTGAATTACTTGG
74519	MAP1B	TAGAAGCTGATCTGATTGGTCCA
74520	RIG	CAGCTCCCTATTTGATCTTA
74521	PRPS1	ACCCGGCTTGCTCCAGTGTAGC
74522	PCDHB11	CGAGTAGCTGGCATTACAGGCGC
74523	G22P1	CGTGAGGGATAGCTGAGATG
74524	RAD23B	CAGGTCTTTATTTCTTCTGTAAA
74525	MTMR4	CCCTTGGCTGATGCCTCCTCTGGGTCA
74526	DDX11	CTGCAGCCCAGCTGGTGGTGCTG
74527	LHX2	GGGCAAGCCCTCCCTCGGAGGAG
74528	HEPH	ATACACAGATGAAGTGGCCC
74529	FMR2	TCTGTAAAAATGATATTG
74530	FMR2	TTCCATCTCAAGACAATTTGTCA
74531	E2F3	GCATTAAGTAATTTTCTTTTTG
74532	HNRPD	GCTGGTGCTTATTCTTTTTTAGTGCAG
74533	FIGF	TCTCTAGCTGCCTGATGTCA
74534	CYP1B1	TCTGAAGGTAGCATTCTTTGGA
74535	EHD1	CCATACAGTATTAGGTGAGGA
74536	NPHP1	AGGCTGAGGTAGAAGAATTGTT
74537	ZNF268	GGCTGCAGATCTGGAGGTGGAGGC
74538	DBY	AGGGAGCTCAAAGTCACAAGA
74539	PFKL	GGGGCTGCGTCCCTGCTCAGCCCAT
74540	PMM2	TCACCCAGACTTTACCGCGGAGGCGGC
74541	MPL	AGATCTAGAATCAGAGCTGGA
74542	KCNK6	AGGTGTTGAAAGCACAGGCAG
74543	ACVR1B	CTGAGGCAGGAAGATAGCTTGA
74544	SCML1	ATGTTATTCCTTACATGTCATA
74544	SCML2	ATGTTATTCCTTACATGTCATA
74545	IL13RA1	CTGAGGCAGGTGAATTGTTTGA
74546	NEK6	AACACCCAGGGCCGGGCGGCT
74547	BMPR1A	TTTATTCTCAGTAACTTTTA
74548	USP6	CTTAAGAGCTATGTGCCTTCCA
74549	ENC1	GATGTATGTGTCACTGCATGGCTTCT
74550	ARF3	CTGCAGTTCCTCCTCTGGAATGTAGAC
74551	RASSF1	GTTGGGGTGACAGTCATCATCAGGGCCT

74552	SACM2L	GCTCCCATACACCCAAGGCTT
74553	DAZ	GTAGTGTCCTCATTTTA
74554	TM7SF3	ATTGTGTCACTGCACTCCAGCTT
74555	PTEN	CCCCTTCTACTGCCTCCAACACG
74556	RABIF	CACTGGCACTCCAGCCTGGGCAA
74557	SGNE1	CCTCGGTTGACAATGGTCTCCA
74558	CACNB2	TGCTAAGAAGCAGTCACATAAACAGCAG
74559	FADD	GGAGAGGCATGGCTGGGGTGGGG
74560	DIAPH1	GATCCCTCCTTTCATTGCTGTTG
74561	STK38	TAGCACAAAGTGCCTTCTGTTTCA
74562	HAP1	CAGCAGCCATTGCACGTGCA
74563	HHEX	AGAGAAACTGACCTGACTAA
74564	DMD	AGAGATTCTGTGCCTGCTTTATCTGTG
74565	PRKCG	ACTCCATCTTGGTAGTTCTGTGCCTCC
74566	HPS4	ATAGAGGAACGGTCACAGCT
74567	TEX15	AAGCCTCTTTATACTCACTTA
74568	WBSCR5	CAGTGTTGTGACTGTCTCATGGG
74569	SFRP1	GAGCTGCACTATCACGAGCCTTT
74570	ZNF192	CAGTCCCAGCACCTGTGTCA
74571	AEGL1	CCATATTTTCAACCACTCTGATTATCT
74572	ODF1	CAGTTACTCCAGCCAGGCAG
74573	IL1R1	TTTCCATCTGCTTGTATTTTCCA
74574	ARSD	TCTGCAGCTGCACAGAAGCATGGC
74575	GALNT3	TTCTCATAAAACTGTGACTAG
74576	MAP1A	GGTTGAGGGAGATGGGAGCTAGGGGGAG
74577	C18orf1	CTTCTGCTTCTTACCTCT
74578	NPM1	TGTAACAGTTGATATCTGGCTGTCCT
74579	FN1	GGAAAGCATATGCAGCCAACCAA
74580	NEBL	TGATTAAAGTGATAAAACCCCA
74581	AKAP1	GTTCTGACAGGAACAGCATG
74582	GPRC5B	GTCACCTAGCAGGGCTTCAGG
74583	RIMS1	ACCACACACCCCTGTTAAGT
74584	PPP2R2B	GCTGTGACATGAAGTGAATGAAG
74585	GATM	CTGCATCTTTGGTCATCTAAGA
74586	PIK3CD	GTATGGCTCCTCCCAGCCCTGGGCC
74587	SIAH2	CCTAAACAACACTTGACAGGCT
74588	CTSS	ACACAAAATACAGCACTTTGACA
74589	SNCG	CTGCTGCACCAACCTCACTGC
74590	NR0B2	TGTAATAAAAGGTATGAAACACTA
74591	PARG	TCTGCCTGGCAGAGGCTGC
74592	HTR1E	CGCCCAGGCTGGAGTGCAGCAG
74593	ALDH1B1	GTCTCACTGCAACCTCCGCCTC
74594	SERPINB9	GGCTCACTGCAACCTCCTCCTC
74595	HIVEP3	TCAGGCAGAAAGTGCTGGTGCGT
74596	RAG1	CTGAAAGCTCAGTAACTCAG
74597	ELF3	GGTCAGAAGCATCTGCTGTCATGAC
74598	SRGAP1	CATTGGCTTCTCTTCTCTCCTTA
74599	FTHL17	GCCATGGCCACCGCCCAGCC
74600	C14orf1	CCTCACTGCTGCCTCAACTTC
74601	BBS4	GAATAGAATGAATGACCCCAA

74602	KLHL1	TTCATGCTTGTATCTTGCA
74603	TLR4	CTCCTGAGGCATTTCTTGCCCAG
74604	NOTCH2	AAAGTTTCAGCCAAACTTCG
74605	ALEX2	CTTCCTTTTGGGCTCTGTGCAACT
74606	CYP8B1	CCTTCCTGGAAGCCTTCCTG
74607	UBE2I	TGTGAGGAGGGCGTGGGGAAGG
74608	CABC1	AAGGCTCCTCACAGGCGCTGTG
74609	CPSF4	CAGGGAGGGAGGCAGCTGCTGGGG
74610	TNFRSF9	GGCTGTTGGGACTTTCTTGAA
74611	GNAL	CTGATTCTCCCTTTATGAAG
74612	CYP2C9	CCCTGCAGCTCTCTTTCCTCTG
74613	WNT8B	TCTTGGCTTCCTTTAGAGA
74614	ROM1	CTGACACCTCTGCACTCCCTTGGGCA
74615	NR2E1	AGCCTTGCAGGCTGGAGGGCGGCTG
74616	BTEB1	TAGGACTACTAGAGTTCATTGAACAC
74617	SURF5	GAGGCGAGCGTGGATTGTCACAGCTGCG
74618	MTCP1	GGAGTGGGTTGAAAAACTGCTCA
74619	PCOLCE	CCCCCGGGGCCATGCTGCCTGCAGC
74620	MCC	GATTTCTCCCTCTCAGTGGAGCC
74621	FMO5	AAGACATTTTGTTTCACTTGCTAT
74622	BRCA1	CCAAAATTGAATGCTATGCTTA
74623	H1F0	GAACCCAGGAATTGTGAGGTTAG
74624	SIRT1	CCAGAGAGGCAGTTGGAAGATGGCG
74625	SMAC	TTGCCCAGGCTGAAGTGCAGTGGGGCG
74626	MEIS2	GCACAGCCAAGTTACACTCCTCCCCA
74627	PYGM	CCAGCACTCTGCCTGCTCCTTCTTGTA
74628	Z39IG	TTTGGCTCTGGGCCCTT
74629	MSN	ACATACTAGAAGGGCATTGGCCA
74630	TNFRSF1B	TGGACTTGAGCTTGGCAGCTG
74631	ITGAL	CCATTGCACTCCAGCCTGGGCAACACA
74632	ICAM1	CCAGCTATTTATTGAGTGTCTT
74633	BMP5	CCGTCTTCTGCTACATCAATGC
74634	ADCY2	GACCAGCCTGGGCAACATAGCAAGACC
74634	PDE4C	GACCAGCCTGGGCAACATAGCAAGACC
74635	TNFRSF9	TTTGGCCTCCCAAAGTGCTGGG
74636	HS3ST2	CTTGAAAAACACTGTCTCTGA
74637	MYOZ1	ATCTCAGGCTCTAGGTGCAATG
74638	MAP3K9	TGTTCTGACAGGGCGCGGTG
74639	ADCY6	GTGGGAAGACCTCAGCCTTGG
74640	NPAS2	ATCAGCTTTAACCAATGG
74641	PRLR	GCACACTGCTTAGTATTCTTGA
74642	NFIL3	CATGTTGTCTGTTTGGTGTCT
74643	HIP1	CAGTGCACTCCGGCCTGGGTGA
74644	MGAT5	AAATATCCTTCTGTCTCCTCC
74645	GPC4	AGCTAAGATCACTATAGGTCCA
74646	C8orf1	CATCTGAAGTTCTCCATGGCA
74647	SALL1	GACTAGAGTGCTGTAAACTTGCT
74648	PLXNA2	TCTTTATATAATGCCTATTTCCA
74649	ITSN1	CAAGCCCCGCACATCCCGGGGCAAAG
74650	RXRB	GCTCTCCTCCAGCCCTGGGCACATAG

74651	TAL1	TCTGGGAGGTTGGTTT
74652	DHCR7	AGCCTCGGGAGGGCACCTCC
74653	MLPH	CCAAGGTGGGAGAATTGCTTGA
74654	TGFB3	ACCCTAAAGGGAGAAGGAAGGGCAGA
74655	MXI1	TTCCCAGGGGGCAGAGGCAGGG
74656	SHMT1	TGCAAAACATAGATGACCATTTT
74657	AGR2	CAGGTTCTCACTAGATGACTGT
74658	ANXA9	TGGATTGAGGCCCAGTTCCTGGG
74659	OAS3	GCTCACATCTTTCCTCCTGCTGCAATCCA
74660	AFG3L2	GTGGTTTCAGCTGGTGCATTATTTCA
74661	IPP	GCCTGTAGTCCCAGCACTTTGA
74662	MAPT	TCTTGTGCCCTGCTCTTCAGCACCA
74663	CDH16	AAGCCCCAGAGAACTGGGCTGGGCCC
74664	FMR1	GGTCATTTCCATGTATGCATA
74665	DYRK1A	CATCGTCCCGGCTGAAGTGCAGT
74666	ENAM	AGACATTTTGGGAAACACTGT
74667	MADH7	GGGCCTGTCCACAGGCTTCTGAGCAGCGA
74668	TRPM6	TGACCTCAGATGATCCACCTGCCT
74669	WBSCR14	CCTGCTGCTCACTCAGCTGCC
74670	CCNK	CAGAGTGGTCCTCACACCTAG
74671	ZNF36	TGCTCCTGGAGGGAAAAAGAA
74672	GDF8	ATGAGGAATGGATTTTCTTTAA
74673	GRIK5	ATGAGACCTCCCCCAGGGA
74674	MYCL2	GTCTTAAAAAGACACAAGTTTT
74675	PPGB	CTCCCAGCCTCTCCCGCTA
74676	PKD2L2	AGATTCTCTCTGAGTGCCTGCA
74677	IL12B	CAGGAGGTCAAGGCTATGGTGA
74678	PHKB	TGCAGTGAGCTGAAATCCTGCC
74679	IL17BR	CCTCAGCTGACTCCATATTTTCCTACT
74680	SLC17A1	GAGGCTGAGGCTGAGGGGCAGTCA
74681	BRF1	GGTCTCAGCTCTGGCATGGCTGCCCCGG
74682	MME	AGCTCTGCATCTCCTGTCTTTTCAGGT
74683	HTR4	CTGGCTTTGTTGCTGCCAAAG
74684	PCDH11X	AAAATACAAAAAATTAGCCTGGCGTG
74685	ADCY8	TCAGGCTGGGACCCTGGGGCGA
74686	RPL5	CCGCTGGGCCTGCAGGTCTCTG
74687	EYA4	CAGCATTTGTGTGTTACAATGTAA
74688	GHR	ACTCACTGCAATCTCCACCTCC
74689	TAPBP	GCTTACTGCAACCTCCGCCTCC
74690	S100A3	CCCTGTGGCCTCCCTTGTGGATG
74691	DBCCR1	AGCGAGAGAGCCGGGAGGCAGAG
74692	CXCL16	TCCAGGCTGGAGTGCAGTG
74692	FANCE	TCCAGGCTGGAGTGCAGTG
74692	HLCS	TCCAGGCTGGAGTGCAGTG
74692	MAK	TCCAGGCTGGAGTGCAGTG
74693	FGD1	AGGCTACCCAGTATTTTATCGTCCAGA
74694	OGG1	CTCTGGAGACACTTCCCGAGG
74695	HLA-F	ATAAAGTGTGGACAGCTTCCTT
74696	COL4A6	TTGCCATCAGATGTGTGCAATG
74697	SF3B1	CAGCTACTTCACACCTTAAACTTG

74698	DIO1	ATTGGTGGTGATGATGGGTGAG
74699	MEIS2	GTTATGGACATTCATGCCC
74700	PPP2R4	GGTTTTGAGAGCAGGGGCTGT
74701	IL17R	GCAGGTGGATCACTCTGAGGTCA
74702	P2RY6	GGAAGGCGGAGTTCAGGCTG
74703	SYN3	CCTGTTCTCTGACTAACGCCA
74704	SRRM2	GACCTCTCCCCCTCGGAGGCGGCGG
74705	PSG7	CCTCCAATTCCATCTTCTCCC
74706	SIM2	CCCTCCAGGCCTCAGTTTCT
74707	PSMC6	ATTTGCTGCGTGAGCATTTT
74708	GABRE	GGGGTCTCCATCTACTTTTTG
74709	AGTR1	GTAGTGTCCTCCTAGTATATTA
74710	WDR1	GGAATCACTGGTAAATGTTGGCTGA
74711	PIK3CD	GTTGAGACCAGCACTCTGTGA
74712	TACC1	CCTGTAATCCCAACACTGTGG
74713	SALL2	CCTTCTTCCTCCCCCTGCTCC
74714	DDX3	GGCAGATCATTAATTATGAGCTA
74715	C14orf1	ACTATGTAATCACAGCATGGTGAAGAGTT
74716	ASH2L	AACACAGCCTCTCCTTTTAGCA
74717	AGL	CCAGTTTAGTATGCTGTGGTAT
74718	HOXA1	GAAGTGAGAAAGTTGGCACAG
74719	RBBP9	AGGCTGAGGCAGGATTGCT
74720	GALNT7	GTGGAAGCAGGTCTTGCACAC
74721	NPY1R	GGGAATAAGAATAAGCTGAACA
74722	RAB27A	TATGGCTTTAGTTCACTGTGATTGTAC
74723	DDOST	AAGGCATGAATCCAGGAGGCAG
74724	MASP1	CTGTGGTGGCTCCTGTGGGA
74725	GNE	AGCCTCTTGAGTGGCTGGGATT
74726	RNF4	CCCTCCAGTCCTCAGTTCCCACTGCC
74727	JAK3	CTCGTTACCCAGGGTGGAGTGCAGT
74728	ALPPL2	GCCGGACCTCCACCTGGAG
74729	ITGB3	GGCTGATTGTATTTACCTTCTACCTC
74730	KCNS2	CACTGCCTTTCATGGGGGGTGA
74731	CLCN7	CTGAGCCTCAGAGCGTGGAAT
74732	HIP1	CATGCCTGTAATCCCAGAACTT
74733	HDAC5	CCCAGCACCATCGGTTCATAGTGTGCT
74734	JPH2	GGGACCCCTCCACCCCACCCTTTCAC
74735	FZD7	GAAGGTTGAGACCAGCAGAGACTG
74736	GAS7	ATTTCAGAAATTTCTCTGTTTGCT
74737	BLAME	CAGGGGTTTCTCTTTCTGGCCT
74738	FBLN2	GACTCCTGTGGCTTCTGGACCCCTCC
74739	TNFSF15	GGCTGTAATCCTGGCTACTCAGG
74740	ABCB4	CTCAACTAAATTCATTTCTACTCCAG
74741	OTOF	GGGAAATTGATGACTTCCTCA
74742	FACL2	CTGTCCCTTCTCACAGGCATTC
74743	CHS1	GGTGAAGCTTTGTTCTAAG
74744	KCNA6	AATGTCTGGGAAGCTGGGGA
74745	CLCN6	TGATCTCCGTCTTCCTGATGAAGCAGGC
74746	SLC25A15	AACCTCCAGGTTCCTTAAGCTTTT
74747	CUTL1	AGACCCATGTGATTTCTGCTT

74748	GCH1	CACAGGCTGTTGTCTTATTAGTA
74749	ATP8A2	TCGCAAACCTGGAGTGCAGACCACAG
74750	DNAJB1	TCAGACCTTTAGACTCATTGT
74751	PARK2	TTAAATCGGCAACAGGGC
74752	KERA	TCACATGCATCACAGCCTGCA
74753	MAPK14	GGCGGGGGCCCCACAGGGCCACC
74754	MEOX1	CTTGCCCACCTTCCTCTGTAG
74755	T	CAGGTCCCGAAAGATGCAGTGA
74756	C5R1	CGCCTGTAATCCCAGAACTTTG
74757	G2A	CGCCTGTCATCCCAGCACTTTG
74758	RELA	GCTGTTGCCAAGCTGGACGGCACGAG
74759	STK24	ACAGTCTTCACTGTGCTGCAG
74760	MASP1	CAGAGCTCCAAGATATAAGCCCTC
74761	BLK	CCAGTGGGCAGAGGCAGCTTCGCAGGG
74762	NKTR	GTGACCTGACCCAGGTGCAAG
74763	C7	TCTCCCTGCAACCTCCGCCTCC
74764	DIAPH1	CTGTCTTTCTCTCTGGCC
74765	MMP2	AGCCCTGCTTTGGGCTGCCCTGG
74766	MAGEA12	CTTGGCTTCTTTGAGAATTTA
74767	YWHAZ	TACTCTTATAGCCTGCCTTC
74768	KMO	TCCTCCAAGCTTCAATCTGC
74769	MAPK4	TGGTGGCAGTGACCTCACTAGGAGAA
74770	SIAT7D	TGCTGGGCTCAGGCCTGGGTG
74771	FBLN5	CTTAATCTTGCTTTCTTTAGAA
74772	HLCS	GCTCTGTGCTTTCCAGCAGGCG
74773	EPB49	GGAAGAAAGGGAGAGAGGGCCAGGC
74774	GRAF	TCGGGAGAAACAGAGCTGCT
74775	DLEC1	CCTGGACTTTGGCTCAGCGGTGCCAC
74776	CLCA3	ATATTTATATATACATAGTA
74777	CRB1	CTGAGGCACCCGCTCCTCTCTG
74778	KCNJ6	CTCTTATCTTTCCCCACTTCATTCCA
74779	ROM1	CCTCTGCACTCCCTTGGGCAG
74780	FOXI1	CCAGCACTGCCCATCTGTAAA
74781	P2RX7	CAGTGGCTTCAAGAGTCCTTACTGAGCC
74782	HSD17B2	GGCCCTGAGCACTTGAAGGTGC
74783	SORCS3	TGGAAGGGAAGAGGCATTTGTG
74784	CRAT	CAGGACCTGGAGACAGGATTG
74785	TCIRG1	CGGGCTGGCGGGAGTGCAGTTCTGAGTCCCG
74786	RTKN	TGGCCTCCTGTTCCTCTGCTGG
74787	DAZL	CCACAGTCTTTCGTTTCCA
74788	MAML1	CGGTTGGTATTGTTAACTTTTTAT
74789	TMEM4	CTAAGCTGCCTGTTCGCGC
74790	NEBL	TTGAGTTAAAGATGACTGTGTA
74791	GCN1L1	GGAGCTGTTTGTCCAGTTTAGCA
74792	CDH10	ACTTCTTAATTTGTTCATTAATTA
74793	RAD52	TGCCCTGACTGGAGTTCAGTGGTGCA
74794	BAZ1B	AATGTGGCCTCTGCTTCCTCCG
74795	PLAC1	GACCCTCATGTGAGCACTTT
74796	EPS15	TATTGATCTGTGTTAATCT
74797	LETM1	TGGCCAGGCTGGCCAGGGCGTG

74798	GAS7	GGAGGGGAAGGGACGGATGGGTGC
74799	PAG	TTTTGGATTTAATAATCTTGCT
74800	HDAC7A	AACTGGAGAGGACCCTGAGAGGAG
74801	GNAO1	CTAATACCCAAACCCTAAACCT
74802	ADAT1	TGGCGCACACCTGTAATCCTAG
74803	CYP4F3	TCAGTGAGCCGAGATTGTGCC
74804	RASGRP1	TTCATATTCTTCACTATTCTTG
74805	FUT6	CGGTTTCCTGCAAGATCCCTTGGCC
74806	ICA1	AACCATATGAATTTACTACTTTAAAGAG
74807	COL4A5	CCTAGGATGCAGTGTCTCATTGTCCCCA
74808	LPP	CTCCAATGTACCGTTTCCTTATTCCA
74809	CACNA2D3	TGAAGCTCTGGGCCTCGGCTTT
74810	WHSC1	GGCCAGGCTGGAGTGCAGTAAGTGGC
74811	ABCA3	CTTCCCTGCCTCTCCAGGACA
74812	SUV39H1	CTGTCCCAGCCCCATCTGTG
74813	DEC1	TGAAAGAGTTTCCTCGGAGCAT
74814	PCDHGA1	CATGCCTTGACTTCCCCCACCTCCTC
74814	PCDHGA10	CATGCCTTGACTTCCCCCACCTCCTC
74814	PCDHGA11	CATGCCTTGACTTCCCCCACCTCCTC
74814	PCDHGA12	CATGCCTTGACTTCCCCCACCTCCTC
74814	PCDHGA2	CATGCCTTGACTTCCCCCACCTCCTC
74814	PCDHGA3	CATGCCTTGACTTCCCCCACCTCCTC
74814	PCDHGA4	CATGCCTTGACTTCCCCCACCTCCTC
74814	PCDHGA5	CATGCCTTGACTTCCCCCACCTCCTC
74814	PCDHGA6	CATGCCTTGACTTCCCCCACCTCCTC
74814	PCDHGA7	CATGCCTTGACTTCCCCCACCTCCTC
74814	PCDHGA8	CATGCCTTGACTTCCCCCACCTCCTC
74814	PCDHGA9	CATGCCTTGACTTCCCCCACCTCCTC
74814	PCDHGB1	CATGCCTTGACTTCCCCCACCTCCTC
74814	PCDHGB2	CATGCCTTGACTTCCCCCACCTCCTC
74814	PCDHGB3	CATGCCTTGACTTCCCCCACCTCCTC
74814	PCDHGB4	CATGCCTTGACTTCCCCCACCTCCTC
74814	PCDHGB5	CATGCCTTGACTTCCCCCACCTCCTC
74814	PCDHGB6	CATGCCTTGACTTCCCCCACCTCCTC
74814	PCDHGB7	CATGCCTTGACTTCCCCCACCTCCTC
74814	PCDHGC3	CATGCCTTGACTTCCCCCACCTCCTC
74814	PCDHGC4	CATGCCTTGACTTCCCCCACCTCCTC
74814	PCDHGC5	CATGCCTTGACTTCCCCCACCTCCTC
74815	RAD1	ACCAGCCTGACCAACGTGGAGAAACC
74816	UCHL1	GCAGACACGCCTTCCCCTCA
74817	HM13	TGCTAAGTGCCATGTTGGGCTC
74818	P2RY6	ACAAGGGCAAGAGTTAGCCAGATGC
74819	G6PT1	CGAGTGTCCAAGAAGGCTGA
74820	SEPX1	AGGAGACAGAATGGAAACGGAGG
74821	MAPRE3	CCTGTCCCCTCCCCCTCCGCCTCCGCC
74822	NFYC	TCTCCCCAGGGGTGTACGGT
74823	ITGAV	GCACATTTAGTTGAGGTATAC
74824	SLC6A12	ACTGTTCTTGCAGTGTTTCAT
74825	NPTX1	CCGATCTACTGGACCGCAGACCACCTT
74826	GGT2	ACAAGATACTCACCAGGATGA

74827	SOX11	GACAGAACCACCTGATGTTTTA
74828	LALBA	CTCCACACTCCTGGAATAC
74829	BCL2L10	CCCACCCCAGACGTTTTTATCT
74830	CDC25B	CTGGGGCCTGACTGCTCAGAACTTGCT
74831	ALOX5AP	AGGTTGTGCAGCTGGAGGCAGA
74832	ADCY1	TTGCCAGGGTGGAGGAGGAGCATTG
74833	OPA3	TGGGAGGTGGAGGCCAAGATTGTACCA
74834	HTR4	TGTTCTTTCATCTCTGGACCCCACTTT
74835	CDK2AP1	TTCCTCCCATGGTTCACTTGGCTCTG
74836	CALML3	CCCCATCCCCCTGCCTCCC
74837	AIM2	GGGAAGTGTTTATTAGGGGTACAT
74838	MYO1B	TCTCTCTTTCATATGAACTGA
74839	BCL7A	GAGGCGGCGTTACCTCCAGATTCCG
74840	ADRA2A	TAAATGAGCCTTTCTGCCTCAC
74841	SLC22A1LS	ACCCCCACTCTCTGCGACGGC
74842	XPC	CCTGTTCCCATTTGAGAAGC
74843	PCDHA9	TCGCTTGAGCCTGGGACATTGA
74844	NYX	TCTCCATCCATTTCCTTGCTGGGTTGTC
74845	MTM1	TTGTGTTTATGCATTTCA
74846	VEGF	AGGAAGAGAGAGACGGGGTCAG
74847	TNFRSF11A	TGCAGCCTCTAACTCCTGGGC
74848	SAS	CTTTTCTTCTGCTCTCTCTA
74849	BAALC	GGGGCGGCGGGCACCGCAGGAGCTCCGC
74850	HIPK2	GCAGAGAAGAGAACATTTTTAAAAGGA
74851	FACL2	GCTCAGCTGTGACGCCTGAATAACTG
74852	MTM1	CAAAGAGAGCACTGTCCAAGGA
74853	TIMP3	CTTCCCTTACTATCGCAG
74854	FLII	CCTTCTGCAAGGCCCTGGCC
74855	S100A1	CGGTCCAAGCCTGCAACTCATCT
74856	BIG1	AAAACTTGAATCACTGCAAA
74857	DNMT3A	CAAAGGGTTTCACCAAGGATGGA
74858	ARHGEF12	TTTAACATCATGATTACCACCTT
74859	PIWIL1	TGGGGTTTCAGCTCATATCTTA
74860	GRP	CTTCCAATTAATGCTTTTTTAT
74861	ATP2B2	CCCTCATGGACCCCGCTGTCA
74862	FXYD6	TCAGGTGGAAGCCTCTGGAA
74863	MKI67	CAAGATCATTTCATCCAGTCC
74864	RAB23	GTCATGTAGGCTTTTCTGCGGA
74865	RAD1	CTATGTTGCCCAGGCTGGTCTCCA
74866	MME	GAGTTCTGGTCAAAGAAAGAA
74867	SLC18A3	CATCTGTCTGTCCTTCCTTCCATTGCT
74868	PDGFB	TTCCTTCCCCTGCACCTGGCCTGGGCC
74869	FACL2	TTAACTTGCCTTTTTCCCCAAA
74870	SMAC	GTTGCCCAGGCTGGTCGTGAACTCC
74870	TAF11	GTTGCCCAGGCTGGTCGTGAACTCC
74871	ASB1	ACCGAGCCCTGAGTGCTGTGCTGCTG
74872	SRGAP2	GGGGTGAGCCGAGGTGTTGCC
74873	SRI	TACACCATTTAGAACTTTCC
74874	ATP2A3	TTGGCCTCTTTGAAGAAATGGCCA
74875	MRPL49	GTTCCTGACTCCCCAACT

74876	HTR2C	ACACAGTAAGATAGGTTCTGCTT
74877	SLC19A1	TCGGAGCTGGTTCCTCTCTCCCA
74878	LAMC1	TGATACCTTAATTACACTCC
74879	SURF5	CCACTGGCCGCCTCTCCTTGCCA
74880	NT5M	CTTCCCTTCCCCAGCCC
74881	TRAF5	GGCTGCATAAGAACTGGTGAATGGGG
74882	XRCC2	TGCCTGTGATCCTAGCACTTTG
74883	HDAC4	TGGTAGGCACACTTGCAGTGTTACGA
74884	SMT3H1	TGCCTCTCCCCTGCTCACTCC
74885	RTN3	TTTCCTCCCTCTCCCCTGCC
74886	ART3	CTCTTTGTTGCTCTGTATTTG
74887	EP300	CGAGGAGGAAGAGGTTGATGGCGGCGG
74888	RASA1	CTGTCTCTTAGAGAAAGAACT
74889	GBAS	GTCAAACTTTTACATGTGAA
74890	B3GAT1	GGACGTTTTCCCCAACCTCT
74891	PCDH11X	GTTTTCTTCTGTTGTCTGTTATTT
74892	SUFU	ATCTCTAGCCCATGGTTTTGGAG
74893	TRIM14	CTGTAATCCCAGCTACTAGGGA
74894	CIT	AAGCAGCCGCAGCTCAACTCTTCCAGC
74895	HLA-DOB	CTGCAGTCTCCACAGTCTTCA
74896	LMO2	CCACCAGGATTACATCATCTGCTG
74897	PPAT	AATATTTCTCCATCATGGCCT
74898	PRIM2A	AGAGTGCTGGGATTACAGTTGT
74899	PLA2G2A	AGAGGAGCTAGGCCAGTCCATCTG
74900	DFFB	AGCTAATTTTTGTATGTTTAGT
74901	TNFRSF1B	AGGCTCAGTCTCAGGAGCATGGG
74902	ADCY1	TGTGGAATCTCCAGGCTGCCATC
74903	PFKL	CTGCCTCTATCCCTGGCCACCTGCCA
74904	MAPK1	TAGCACTGTTCTGTCCTCA
74905	TDGF1	CTGCGTGTGTGCAGGGAGAC
74906	TEK	GCTGGGTTTTTGAAAGGATCCTTGGG
74907	EYA1	TTCAAACCTGTGAAGAAAGGACCTGCA
74908	LZTS1	GGCATTTTCCTCCTCTGCCTACA
74909	MGEA5	CTGAGTTTTCCTCAGTTTTCTCGTCT
74910	PAICS	AAAGTGCTAGGGTTACAGACAT
74911	CASP8	GAGCTTCCTGCCTGCCTGTA
74912	MAP3K9	CCCTGCAGAGTCACTCAGCCAAATCTG
74913	LY64	CCACTACCCACCCCCACTACAG
74914	CDH11	AGAAAGGACAACAGTTCTGAGC
74915	CPSF4	CCCTGCAGTCGACATCATGTTTG
74916	PDHA1	GCCGCTGCCGCCACTGCCTGT
74917	CDH13	TTTCTGGTGTGTTAACA
74918	ZNF146	GAAATGAGGAAATAATGGA
74919	CDH10	TCATGGAATATATATGACA
74920	MCC	TCTCCCCCTCCTCTTCTGGTCTGGC
74921	GGT1	CAGGCTGGACAGTTCAGTGATTTGCCT
74921	GGT2	CAGGCTGGACAGTTCAGTGATTTGCCT
74922	ATP7B	CCTGTCTGTGTGCATCATGTT
74923	HS3ST2	TTCATTTCTTCAAGATGCTCTGGG
74924	ITGAL	TTAGCAGCTATCTCTCAGTGAA

74925	GRINL1A	ATAGCATTTATTACATGTCTTTCAG
74926	STEAP	GCGCTCTGGAGGCTCAGGCGCCGCG
74927	THBD	GCCCTTCCCACCAGGCACTTCCTT
74928	FBLN5	GTACACAGAGAAGGCTAT
74929	LAMB2	CCCTCTTCAGGATGGAGCTGACCTCA
74930	RTN1	AACTGATTTCCCACCGGGGACTG
74931	S100A4	TTCTTCCCCTCTCTACAACCCTCTCTC
74932	101F6	GGACCTGTTGAACTCTCTCAG
74933	LAMB3	TGCAGCTGAGCCTGAGCCA
74934	NBEA	TGCATTCACACTATGAAACAGAAAGA
74935	TCL1A	CTGCAAACGCTGCCTGCCCGTA
74936	ASK	CACGAGGTCAGAAGATCAAGAC
74937	INPP5B	CACAAGGTCAGGAGATCAAGAC
74938	ADRA2A	TACATGTTTTAGACAGAGACA
74939	OLIG2	GGAGGGGCGCAGGACCATGGACTGGGG
74940	STK10	CAGATTCTGATTCTACAGCTGC
74941	CACNA2D2	CACCTGCACACTCCATCTCCT
74942	ARHGAP6	TGCCACCCAATTACTGCTGTT
74943	SLC21A2	GGGTGAAAGGAAGAAGGAAGTGGCTGAG
74944	ADCY1	CTCTCTCAGCTGTGCAGTGGAAG
74945	RPN1	AGGAAGAGAAACCAGGCCCTGCGTCA
74946	CACNG1	GGCCTGGAACCTTCCAGAGAGGA
74947	MUT	TACATTGTCTTGAGCACCAGA
74948	RABIF	AGGGGTACTCAGCTCCATCT
74949	TRPM8	CAAGAATTGCTGGAACCTGGGAGG
74950	NDUFA2	TAAGAGCAACAGCCCCAGAGCC
74951	ACRV1	TCCTGTCTTCCCTGCTCCAACTCTTTCTC
74952	APM1	CTTTTCTTGACAGACTCTCGT
74953	APBA2	GCCAGCCGTGAGTGCAGA
74954	NRG1	GGGGAAGGAAAAGGGAGGCA
74955	NEUROG1	CACCACTGCAGACTCGCTCTAGG
74956	MBD1	CAGAGATTCTATGAAGCCCACCCAG
74957	KIP2	AGCTGTGGGTGCAGTGGCGCC
74958	ISLR	CTGGGAGGTGGTCTGAAGCAGACAGGG
74959	PTEN	TTATTAAATATGTTTTCTCAAT
74960	TEAD3	GAGCACCTGTTTCAGACTGGG
74961	GSTM1	CTGCTCCTGCAGCATGGTCCCTGCCTTAGGCC
74961	GSTM2	CTGCTCCTGCAGCATGGTCCCTGCCTTAGGCC
74962	STCH	GAATTTGGAGGCAGTAGTTGA
74963	A1BG	CTACCTCCTGGGTTCAAGTGAT
74963	AHR	CTACCTCCTGGGTTCAAGTGAT
74964	MYCL1	TCCCTGAGACAGGGAGGGAAGA
74965	CDC42	GATTCACATCCTCTCAAGTTAG
74966	RANBP2L1	TGATACCAGGCCACAGCCCT
74967	MGMT	GGAGGCACCGCTGTATTAAAGG
74968	DSC1	ATTCTCTCCACCTGAGTGGTTT
74969	PRDM2	CGACAGCTCTGTATCTGCCA
74970	HYAL4	ACATTATTTTATTTGCCTCCA
74971	DUOX1	ACCAGGATGTGTCTCAGCCTGG
74972	MLC1	TCCCTCCACGCTTAGGGTCTGTCCCGG

74973	KPNA1	TCTTTGGTCTGGGCACATTTAATTTGT
74974	HLCS	GTGGAAAGAAAGTTTGATGGA
74975	TNFSF4	CTGGCTTCACTACTCAGAAGAT
74976	PRKCN	TTAATTTGTCTTCCCATTTCTCTTTAT
74977	WHSC1L1	GGACTGTTTTTGGTTTTTTGT
74978	CEBPE	AGGGGTGCCTCAAGAGCAGGTGGGGGC
74979	CTSD	TGGAAACCTGCCCTGCCTGAGGGCCC
74980	PBX1	GAGTCTCCTTCTCTTCTCTTCTTT
74981	PLG	CGCCAAACCTCGGCATTTTTTGTGTT
74982	SMCY	AAAATAAAACAATGAGTA
74983	GART	CGTAAGTTTGGAAAGTTTAGCAAA
74984	DDB2	TTGTAGTCCCCGCCTTGTTTCTCCC
74985	SEDL	GGGATTACAGGCGTGTGAGCCACC
74986	GPR56	CTCTGTCCATCTGGGCCTTTGT
74987	LPIN1	AGCAGCACACCCTGCAGGCGGAGTTT
74988	SHFM3	GCTCAGGCACCTTGCACTA
74989	SLC13A1	ACCTGCTGGTATAACTCAGAG
74990	APOL1	GGGAGTGAGAAGGGTGCGTTGCAGA
74991	AMELY	CTGAATATATTTAAAGAACCATCA
74992	MKI67	GGAGTGGAATATTCTGTTTAG
74993	NCOA6	GGCTGGGACTGCAGGCATGTGCC
74994	TIMP3	GCCAGCATGTCACTGGTTTTGAAGGGA
74995	RCN2	TCTTTCCTAAATACTCCATCT
74996	ZNF257	AGAGAAACTCTTGAAATG
74997	SOX9	TTGGAGCTTTCCTCAAAGGGTATGGT
74998	CHC1L	TGCCCAGGACTGAGTCCATATG
74999	SELE	TGCAAATCCTACTGAATGCTCTG
75000	FMR1	TCTTCCTCTGCTAAATTGATGTT
75001	ANK3	CTGCTTCTAGTCAAAGCTTTCTCTCTA
75002	SVIL	TCTGCCACCAATATGTATCTTCA
75003	FKRP	CACAGCCCCAGACCCGAAAAAAG
75004	N33	TAGTAAATTTAATTTACAGA
75005	HIP1	AAGGTGGGAGAATTGCTTGAGCTTGG
75006	CRSP6	ACCACGCCTGGCTAATTTTTGT
75006	CYP1A2	ACCACGCCTGGCTAATTTTTGT
75006	IL21R	ACCACGCCTGGCTAATTTTTGT
75006	RBBP9	ACCACGCCTGGCTAATTTTTGT
75006	TNFRSF10B	ACCACGCCTGGCTAATTTTTGT
75006	XRCC2	ACCACGCCTGGCTAATTTTTGT
75006	ZNF264	ACCACGCCTGGCTAATTTTTGT
75007	LIMD1	GTGCTTTTGCCTTATGCATTTCA
75008	RBMS3	CTCTGAAGCCTCATCAGTCACCGG
75009	DGKG	TAATCCTTGGCAGGGCTCAGCAGGCGCA
75010	THBS1	TTATCAGGAAATACTGCCT
75011	ADCY1	TTTTCCATTATGTTTAGTGCCTCT
75012	DISC1	AAAGTGCTGAGATTACAGGTGT
75012	DSCR3	AAAGTGCTGAGATTACAGGTGT
75012	PTPN18	AAAGTGCTGAGATTACAGGTGT
75013	FZD4	AAAGTGCTGGGATTACAAGTGT
75014	NCOA6	AGAGTGCTGGGATTACAGGTGT

75014	SH3GL3	AGAGTGCTGGGATTACAGGTGT
75015	CDKN3	AATGAAACCACCAGTGTTATCA
75016	TEAD3	CTCCTCTCCACACCTGCCTGGCAC
75017	PROK1	AAGCAGGCAGTGTTTTGCCTTC
75018	SYK	GCCATGAGACTGATCCCTGGC
75019	MYBL2	TGGGGGCAGAGGGGGTCTGTGA
75020	VPREB1	AGCTCTGCATGTCTGCACC
75021	ADAM33	GTGTCGGGGGGACAGAGGGAACC
75022	ARCN1	TAACTGCATCAGGGAAGAATTCTTA
75023	RXRA	TCCAGTTCAATTAAGGTGATTTTTTGT
75024	CHEK1	TCCTAGAGAAGATTATCC
75025	ABCB4	TTAAGCTTGAGATGTCTGTTA
75026	CHGA	GCAGCCTCCAGCCTGCCCAA
75027	FMR2	CATTATTACATGGCAGTATAAATATT
75028	NEBL	CTGCCCTTTGAGCTTTATT
75029	IQGAP1	ATGTCTTAAAATGTGGGTGATAGG
75030	HNF4A	GGAACATGTTGTAAGCACTGACTGGG
75031	PPP1R12A	GAACAGTTCAGCCATTTGA
75032	PIK3C2B	AGGATTCCATTTTGAGGAAAAACTAC
75033	CD3Z	CGCTGCCTCAGCCTCTGCCTCC
75034	KCNJ11	AGCAGGAACCTGTACTGGGTT
75035	AHR	ATCACCCTACCAACTTTAC
75036	NCAM2	TTCCTAAATCTCTATCTCTTTA
75037	APXL	GAGACTTCTCCCATAGCAAAG
75038	ARHGEF6	CACTGCACTCCAACCTAGGTAA
75039	DMC1	CACTGCACTCCAGCCTAGGTGA
75040	RAB30	AATTGCACTAGGCACTCCATGATCTG
75041	PCDHB13	TCCTCATTCATCCTGGAGAGGATTG
75042	ADD1	GGGCTGAGGGGCGGAGAGGCCT
75043	CELSR2	TTCATCTGAGTCACCATTTA
75044	NHLH1	CTCTTCCTGTTTCTGTCCATCTTGT
75045	INMT	TTGACGCCATTCTCCTGCCTCAGCCT
75046	RAB5A	CCAGCCCATTTCTCCACA
75047	CPLX2	GCCTACTCCACCTGTTACTACTTCT
75048	COL19A1	GCAATCAGGACTCACAGCTCTTCA
75049	CSHL1	CTCCCAGACCTCCTTCTGCTTCT
75050	WBSCR5	GGGCAGGCACCTGGTACCAAGGG
75051	ASPA	AGCACAGTGCCTTATTCGGTAG
75052	GPR1	ACATGTGTACTTAATTTCTTTATGT
75053	RAD51L3	GTTCTCAGGCTGGCCAGA
75054	RNF26	CCTCCTTCCCTGCCTGCCCACCCCT
75055	STK19	TGGGAGCCAGGATGAGTGTC
75056	ASB1	CACACTCACAGGAAGCTGATGT
75057	LCP2	CATGAACACAAGGGTTTTATCCTTTCC
75058	ZNF75	GTTGATACATAAGGAGTACTTTA
75059	BAI3	ATATATTTCACATCTTTATTATTGC
75060	NAPB	AGTTGGTACTTTTTCACTCCCT
75061	VDR	GGAGGCTGAGGCAGAAGAATTGAACC
75062	HPRT1	TTATTTGCACTATGAGCCTATAGACTA
75063	PELO	ATGGAAGAGAAAACTTAGGA

75064	PCSK1	TGTTTTGTCATGAATTCTTAT
75065	DHFR	CGAGTTCAAGGCTGCAGTGAG
75066	GABPA	ACTGTTTCCCCTCTCTGCTGCT
75067	MTMR2	ACTTCTCTGCTGAGAACCTTCC
75068	AQP6	AGGCTGGAGTGCAGTGGCATGAT
75068	CXCL16	AGGCTGGAGTGCAGTGGCATGAT
75068	FGF5	AGGCTGGAGTGCAGTGGCATGAT
75068	IGF1	AGGCTGGAGTGCAGTGGCATGAT
75068	LZTS1	AGGCTGGAGTGCAGTGGCATGAT
75069	CBFA2T2	AGGCTGGAGCACAGTGGTGTGAT
75070	TAF11	AGGCTGGAGTGCAGCGGCATGAC
75071	BMP1	CTGTGGTTCTGAGAAGCCCGA
75072	ARNT2	GTCAACAACAGGCCAGGGTCT
75073	GRINL1A	GCCCAGGCTGGAGTGCAGTGGCAGG
75074	EDNRA	AGCGTGAAAGCAGATGAGCTGT
75075	GADD45G	TGCAAGTGTCTGGAGCGGCTGC
75076	ITGB2	GCTCGTCGGGGGGACAGCTCCAC
75077	MC1R	CGCAGAGAAAAGCTCCATTCTTCC
75078	KIF3B	CCCTCCAGGCAGAGCCTAAGATGCTGG
75079	KLK5	TGGTTCCTCTCTACCTGGGGA
75080	ABCB11	TCAGTGCTTCTCTGTGCAGGAGCCAG
75081	QDPR	TCTGTAACCCCTGTTTGTGGTAC
75082	LZTFL1	GTGGCCTTCAGAAACCATTCAAT
75083	COX6B	TCCCCACCTCTCTCAGCTTCCGG
75084	ADAM22	GAATCACTGCAAATCTATCTGCTCT
75085	NT5M	GCACCAAGCTGCCAGAAGCCCAGGG
75086	PCTK3	ACGTTTCATCTTTTTCCCCTCTG
75087	KRT3	GGGTGGGATGCTCACTACAGCTCT
75088	CD5	AGGCTGAGGCAAGAGAAGGCC
75089	MINPP1	TTCTCTCTGGGTTTGGACATGAA
75090	KMO	TGACCAGGCTGGAGTGCAGTGG
75091	DLGAP2	GTTCCAGGGTTCTCTTGTTTTGATCTG
75092	SIRT1	TCCATCAAACAAATCATATGTAATA
75093	NEBL	TACATGTTTTTACTAATAATTCTT
75094	FMR2	TGTTCTCCAGTCTCTGCAGCA
75095	CIT	AGTTCACTGCATGTGCTGCCC
75096	CPNE6	ACTCCCTCAGCCTCTCAGTGCC
75097	NFATC4	AAGGCGTGTCTAGAGTGTGGG
75098	CDH1	CAAACTCTGGGGCTCAAGCAGT
75099	CASP2	GCTCACTGCAAGCTCCAACTCC
75100	FUT8	GGCCTCGGCGGCACCCCTCG
75101	TNFSF4	CTGCTCTTCCCATGTTGGCCT
75102	TFRC	AAACCCAACAGATACTGGAAGT
75103	HMGA2	ATGCAAACAAGAAACGTGTCACA
75104	SNX15	GAGGAAGAAGAGCGCAGGCCTGGGC
75105	IL1R1	TCTCTAGCTGATCAGAATTTTA
75106	ADRBK2	TGTGTGACAGTCATTCTGGTT
75107	APBB2	AGCCTTTCATCCTTAGTTTG
75108	WISP2	GGACTGGCCATTTTTCTGG
75109	CDKN1B	ATACTACATCTTTAAACAGTATTTC

75110	PGM1	GCCATCAGGTACAGTTTACA
75111	CRY2	GCCATGTCAGCTATCCCAGTA
75112	REST	CTGCAGCCCCACTCCTGGG
75113	POU2AF1	ACTCCATTGCCCAGGCTGG
75114	SLC3A2	CCTGTTCTGAGCTGCCCCTTGCCCACA
75115	ARSD	CTTGCAGAATCTGAATGTGTCTCCTGA
75116	TRIM8	GCATCCAGAGACCTGCCCTTCTACCT
75117	INMT	GCACCCAGGGACGTGGTTTTA
75118	EVA1	ATGAGACACATCTTGTTTTACTG
75119	STS	GTGGAAATGCTGCAGGACCTAAATAAC
75120	TNFRSF10B	CTTTTCTGTCTCAAGGCATTGTGTGT
75121	KCNA6	TGTTCTGAGATCTTTTGGGTGCAGTT
75122	NRG1	CCTTTTGGTATCTACTTCTA
75123	CRYM	TGCTTGAGGAATATTGCT
75124	BRCA2	CACTACAAGTATTATTTTACAATCA
75125	TGFBR2	CCTCCAGGCCCCTCCTGGCTGGC
75126	RAD51L1	CCTCCTCCCAGCTCCTGGAAAC
75127	FANCF	CTTGGGGCCACAGTTGCCTTA
75128	NCALD	GTCTGAGTTGCTGTTTGGTCTGGTGAC
75129	PROC	CTGGGCTTTTGCATGGCAATGG
75130	RBMX	TCCACAAAACATCTAGCCATCTAAAATG
75131	TP53	TTCATGCCACCATGGCCAGCC
75132	MDM2	GCTGCTTCTGGGGCCTGTGT
75133	GPRK7	TTGCACTCCAGGCTGGGCAGCAAGA
75134	AICDA	AGGCTGAGGCAGGAGAATCGCT
75134	BHMT2	AGGCTGAGGCAGGAGAATCGCT
75134	BRCA1	AGGCTGAGGCAGGAGAATCGCT
75134	CEACAM5	AGGCTGAGGCAGGAGAATCGCT
75134	CTMP	AGGCTGAGGCAGGAGAATCGCT
75134	DBT	AGGCTGAGGCAGGAGAATCGCT
75134	DNASE2	AGGCTGAGGCAGGAGAATCGCT
75134	DSC1	AGGCTGAGGCAGGAGAATCGCT
75134	GRM6	AGGCTGAGGCAGGAGAATCGCT
75134	IFNAR1	AGGCTGAGGCAGGAGAATCGCT
75134	KCNMB3	AGGCTGAGGCAGGAGAATCGCT
75134	LILRB1	AGGCTGAGGCAGGAGAATCGCT
75134	LRRC2	AGGCTGAGGCAGGAGAATCGCT
75134	MAP3K9	AGGCTGAGGCAGGAGAATCGCT
75134	MOG	AGGCTGAGGCAGGAGAATCGCT
75134	PCDHB9	AGGCTGAGGCAGGAGAATCGCT
75134	PTAFR	AGGCTGAGGCAGGAGAATCGCT
75134	RBM3	AGGCTGAGGCAGGAGAATCGCT
75134	SCN2B	AGGCTGAGGCAGGAGAATCGCT
75134	SLC25A15	AGGCTGAGGCAGGAGAATCGCT
75134	STAT3	AGGCTGAGGCAGGAGAATCGCT
75134	UBE2G2	AGGCTGAGGCAGGAGAATCGCT
75135	HPN	GCGGGGCCACCATGCTCCTGCC
75136	CBFA2T2	CTGTTTGCAGAAAACTGGGT
75137	SOCS5	GGGTTTTTAAATAAGCATTAA
75138	KCNA5	AAGAAAGAGTTGTCCTGATGTT

75139	CD5	AGCTCACTGCGGCCTCTAAGAAGGTGA
75140	OPHN1	TACACTGAGAGCCTTTTTGAAAGTAA
75141	OTOR	GTTTTTCTATATTTAACTGGAAA
75142	SYP	CTGTGGCCCCTCCTTCTCCC
75143	PTER	TGAATCCTCACTATGCTATTTG
75144	EML1	TGACTGATGAAGTGCACCTTT
75145	PDE1A	GGCTACTGTATAAGTGTGTA
75146	RPE	TATCTGCACCTGGACGTAATGGA
75147	EIF2C1	CCCAGCCTCATCCTCTTAGTTGGGT
75148	ZNF2	GCCCCAGGTATCACTGCA
75149	ZNF264	ACTTGTCATCTGAAGAGTCATATTAG
75150	B3GALT3	AGAAAACAACAAAAAACTTAAGCTT
75151	SOX5	ACTTTCTCATACACT
75152	TACSTD2	GCCTTCCCCCTCCCTTTTGCGCA
75153	FBXL7	ATCAAATTACATGTGTAATCAAGGCT
75154	HRH1	TTAAAAAAGTGGTGGCAAAAG
75155	ZNF74	ATCATTTGTTCCCACTCAGA
75156	RAD54L	CCTGGTATTCCCCTCCTAACCTGGGTT
75157	BCL2L2	TCTCCAATGCTAACTTTCTGACA
75158	B3GNT3	GTACTGTTCCAGCATCTTCCCTGGATG
75159	CRYZ	TTAGTTTTCTCAGTATTTTCCCAAATATT
75160	TNFRSF1B	CCTCCCAGGGCCAGGGCCCT
75161	BTD	TGGTCTCAAGCTAAAACAAAA
75162	AQP6	TGTCAGCATTACAGGATCCCCAG
75163	EDARADD	CCCCAGACATACCCACAGCAT
75164	PPP2R5D	AGGTATCTCCCCTCCTCTCTCTCCC
75165	RBP5	CCTTTCTCACACTCCACTGCC
75166	MAGEB4	CTTTGTTGTATTTTCCATGATGTTTCT
75167	STXBP1	CGCGGGACGAGGAGATCGGAGC
75168	GFRA1	TATCTCCTTTAATGACATTGATT
75169	CELSR2	CTTCCCAGCCTCTCCTCAGTTTCCCA
75170	PMP2	GAGTTCTGGAATTGGAAAACC
75171	MEF2A	AGCAGGAACCAAGAAAGCAATACTGTA
75172	CYP8B1	GTGTCTTGGTTTCTGCCTGCTGC
75173	METTL1	GTCTGGAGATCCGGGTGAAGG
75174	ABCG2	GTTGTTTTCTGTTCCCTTGCCAT
75175	DVL3	AGCAGCCCCTCAGGGCTTCCCAAGGATG
75176	CYP27B1	GGTGAAGCCTTATTTGTTTT
75177	PPID	CACCCAGGCTGGAGTGCGGTGG
75178	B4GALT5	GTTGCCCAGGCTGGTCTCGAA
75178	CBFB	GTTGCCCAGGCTGGTCTCGAA
75178	GRM6	GTTGCCCAGGCTGGTCTCGAA
75178	IL12RB1	GTTGCCCAGGCTGGTCTCGAA
75178	WHSC1	GTTGCCCAGGCTGGTCTCGAA
75179	ALDH1B1	CGCCCAGGCTGGAGTGCAGTGG
75179	BCL10	CGCCCAGGCTGGAGTGCAGTGG
75179	CASP8	CGCCCAGGCTGGAGTGCAGTGG
75179	EHD2	CGCCCAGGCTGGAGTGCAGTGG
75179	FHL2	CGCCCAGGCTGGAGTGCAGTGG
75179	GRINL1A	CGCCCAGGCTGGAGTGCAGTGG

75179	INMT	CGCCCAGGCTGGAGTGCAGTGG
75179	KCNJ11	CGCCCAGGCTGGAGTGCAGTGG
75179	LYZ	CGCCCAGGCTGGAGTGCAGTGG
75179	ORC1L	CGCCCAGGCTGGAGTGCAGTGG
75179	PAICS	CGCCCAGGCTGGAGTGCAGTGG
75179	PCDHB9	CGCCCAGGCTGGAGTGCAGTGG
75179	PIGR	CGCCCAGGCTGGAGTGCAGTGG
75179	PPP1R12B	CGCCCAGGCTGGAGTGCAGTGG
75179	SERPINB9	CGCCCAGGCTGGAGTGCAGTGG
75179	SLC13A1	CGCCCAGGCTGGAGTGCAGTGG
75179	SMAC	CGCCCAGGCTGGAGTGCAGTGG
75179	SS18	CGCCCAGGCTGGAGTGCAGTGG
75179	STAU	CGCCCAGGCTGGAGTGCAGTGG
75179	TAPBP	CGCCCAGGCTGGAGTGCAGTGG
75179	VIPR2	CGCCCAGGCTGGAGTGCAGTGG
75179	YES1	CGCCCAGGCTGGAGTGCAGTGG
75180	DFFB	TGCCCAGGCTGGAGTGTAGTGG
75180	HYAL4	TGCCCAGGCTGGAGTGTAGTGG
75181	PDE6D	ATACATTTAACTTGTAAAATAGAC
75182	TXK	TTCTTCACAAGGCTGAGAGTGCTTCC
75183	CELSR3	TAGAGGGAGAGATGCAGT
75184	EIF2C1	AGCAGCAGCAGCAGCAGCACAATTCTG
75185	SIRT1	TTTAGTATTTATTACAATAAAAA
75186	GLUD1	CCTTGCTCTGTGGCTTTTCCCAACACA
75187	MAK	GTTCCTTGACCCTGGGAAATGT
75188	EVC	TTTTGCCCAGGCTGGAGTGCAGT
75188	PER2	TTTTGCCCAGGCTGGAGTGCAGT
75189	RPL10	CAGCTTTTTAGCTTACATAACTGG
75190	SIM2	TCCTCACCTTGAAATCGGGCTT
75191	ASPH	CTTTGTTGGCACCTCAGATTAATCATA
75192	NLGN1	GTGATGATTGAAGATGCTGCTCCAATA
75193	PACSIN1	CCTCCTGCACACCTGGCCTCCTGGG
75194	MTMR1	GGGGGAGCTGGTGCCTGGA
75195	LUM	TCAAACCATTTGCCAAAAAT
75196	ARHGEF12	AGCTTTTTGGCTTTCTTTTTTCCC
75197	ALDH3B2	CCCAGCCTCAGGTTGCTGGAGC
75198	LRRC2	TCTCCTCTGTGGTCTTGCC
75199	TPK1	CTGTGTGCCCTGAAAATGTTACCA
75200	PFN1	CGTTCCCAGTACTGCCTCGTCTG
75201	CPNE3	AAATCGTGTATCTGTCATTCTA
75202	DVL3	TTTAAGCCTCAGGGCTGGTC
75203	ARCN1	TCCTGTCAAGGGGGCAGCAG
75204	COL5A3	AGCCTCCTCTCACCCCATTCCAGGT
75205	TLX1	CTCCTCCCCACCCTCCTGGCCTCAG
75206	MPL	AATGGCGCGATCTCAGCTCACT
75207	INMT	AATGGCACGATCTCGGCTCACT
75207	NUMA1	AATGGCACGATCTCGGCTCACT
75207	PMCHL1	AATGGCACGATCTCGGCTCACT
75208	CALU	ATACATTCAGGTGGTGCTG
75209	TCF7	CTATTGCACTCCAGTCTGGGTAACAGG

75210	CARKL	GGGAGGCAGAGGTTGCAGTGAG
75210	F2RL3	GGGAGGCAGAGGTTGCAGTGAG
75210	HSPA5	GGGAGGCAGAGGTTGCAGTGAG
75210	IL17R	GGGAGGCAGAGGTTGCAGTGAG
75210	PDE7A	GGGAGGCAGAGGTTGCAGTGAG
75210	PSMD5	GGGAGGCAGAGGTTGCAGTGAG
75210	RBBP5	GGGAGGCAGAGGTTGCAGTGAG
75210	SPTLC1	GGGAGGCAGAGGTTGCAGTGAG
75210	SUDD	GGGAGGCAGAGGTTGCAGTGAG
75210	TCTA	GGGAGGCAGAGGTTGCAGTGAG
75210	TEM7	GGGAGGCAGAGGTTGCAGTGAG
75210	TSNAX	GGGAGGCAGAGGTTGCAGTGAG
75211	USP14	GGAAGGCAGAAGTTGCAGTGAG
75212	C8A	CTCAATCATTTTATTCAGCAACTGG
75213	CALCB	ATTGCTTTTTCATTTTCTTAGCAGTG
75214	ALOX12B	GACACCTGCTCACTCACCACCAGCT
75215	CSPG2	ACAGGAGCTGGGACCAAGATCTTCGGCC
75216	RBP3	AGGGCAGACAGAACCTCTGGGACAC
75217	VHL	ACTTCCACCTCCAGCCTCTGGTC
75218	PPP2R5A	GTTGGCGGGCGGCGAGGAGAAGC
75219	DYRK2	CCTTCAGCTGTGTATCCCAGACTG
75220	CDH1	CATGAGCCACTGCACCTGCCCAGCT
75221	YY1	GTGTAATTTCTTTGCCTGTTCA
75222	KMO	CTGCAACCTCTGCCTCCTGGGC
75222	PCDHB11	CTGCAACCTCTGCCTCCTGGGC
75222	PCDHB16	CTGCAACCTCTGCCTCCTGGGC
75223	PYGO2	CAGCCTCTCTCGTGCTTTTCTCC
75224	SMTN	GGTTGCTGAGCGGGCCTGGGACA
75225	XT3	TACCCTTAGTGGTAGCCATGACACGA
75226	ATM	CCATTGCACTCCAGCCTGGGTG
75226	CARKL	CCATTGCACTCCAGCCTGGGTG
75226	FCAR	CCATTGCACTCCAGCCTGGGTG
75226	SFRS2IP	CCATTGCACTCCAGCCTGGGTG
75226	SLC31A1	CCATTGCACTCCAGCCTGGGTG
75226	UBE2B	CCATTGCACTCCAGCCTGGGTG
75227	GALT	TGGGAGGTCAAGATGGGAGGATTGCTT
75228	C5R1	CCACTGCACTCTAGCCTGGGTG
75228	CA12	CCACTGCACTCTAGCCTGGGTG
75228	IL13RA1	CCACTGCACTCTAGCCTGGGTG
75229	STIM1	GGGCTGCTGCTGTCACTCCCTCTCCAC
75230	PPARG	TTTACTGTGAAAAAGCATTTT
75231	TCTA	TTAAGCAAGCAGGGTGGGGTT
75232	PTK2B	CTTTGTTTTGGGGGTCAGGCAGCCAG
75233	ITPR2	GAAAATGCTTAAAAGTGATAG
75234	CYP27A1	GCCCGGCTTTGAACCCGCCCTGCACT
75235	PCDH9	TTCTCATATGATAGCTTATGATGCC
75236	ACTR1B	GGAAAGGGTTGATGCTCAT
75237	RPL17	TATTTATACTGAATGAGTTACTGTAA
75238	HTR1D	GCATTCTTCAAATAGTCCG
75239	GAS7	GGAAGGCTTGGCTCCTGTCT

75240	LPIN1	TAGTCCTGCCTGAGGTTGCAGTG
75241	WBSCR14	TTGACCAGATGCGAGACATGTT
75242	ITSN1	AACTCATGTAACCCTCCTGTTTCTTA
75243	PACSIN1	CCTGTCCCTCTTAGCACTCTAGCTGCC
75244	COL1A2	TCTTGGGCAAGCAGAAAAAT
75245	AIPL1	CACTGGAGCTTAGCCTGAGAGG
75246	HEPH	TAGAAGCTCCTCAGGAAAGCCA
75247	LILRA3	CCATCCACAGAGCAGTGCAGTG
75248	p100	TGCCTTTGCATCTCCACACAT
75249	RP42	ATTAGCTCAGTTTTCTCATCA
75250	HSD17B1	AAGCCCCGGAGTTGGAGACCAGCCAGA
75251	IL1RAP	ATATACTTGCTCCAAATAAGTCA
75252	MRPL49	CTTGGCCTCCCAAAGCGTTGGG
75253	POLK	GAGCGAGACTCTGTCTCAATAA
75254	UBE2G2	GAGCGAGACTCAGTCTCAAAAA
75255	SFRS2	CTGTTTCCTGTTTTCTCCCGA
75256	MDM1	AAAGTGCTGGGACTTTTTGGTAA
75257	NCOA6	GCCTCAACCTCCTGGGCTCAAGCAACC
75258	RRM2	TCATAAGAAAAATCAGCTGAAGT
75259	UCP3	AACAGGGGCTTCTTTCTTTTCGA
75260	SERPINB5	CCTCGCTTGCCTGTTCCTTTTCCAC
75261	ADAM8	TCCTTCTCCCCGCCTTGGCC
75262	NCOA6	GAAGTCTTGCTCTGTCGCCCA
75263	DRD1	TGTATACAAACAGGTGCTAACACTGT
75264	BCL2L2	GTGCATTATGCACTTGCTGCTGCCTC
75265	MMP19	TGGCTATAATCCTAGCACTTTG
75266	TAPBP	GCCCAGGCTGCAGTGCAGTGGCATG
75267	YES1	TGCTTAGTATTGACACTCTCT
75268	PRKY	CCAGCACTCTGGGAACCTGGGTTG
75269	PKNOX1	TACCATGTTAGCTGTGTA
75270	CASP6	CTGTGGCTTCAGGAAGAGGAGGGCAAG
75271	PIK3R2	GTCGGGAGTTGGAGGCCAGCCT
75272	CBFA2T2	TGACATCTTCAGCTTCCA
75273	EMS1	CCTGCTCTGCTGTGAGCC
75274	SUV39H2	CACTGCACTGCAGCCTGAGTGA
75275	GRAF	CCCTGCACTCCAGCCTGGGTGA
75276	TEM8	GTTCCCCAGGCTCACAGTGTAGA
75277	KCNK2	CCAGCACTTTCTTTCTGATGAT
75278	GCNT2	ATTTCATTCAAACCTCACAACAGTCTT
75279	APPL	TATTAAGCCTGCCTACTTCT
75280	CELSR1	GTCCCTTTAAACGTTTGCCCCTG
75281	CCR2	TAGTGGGGTCAGGGCTGAGAGGAG
75282	ANK1	CTCGAGGCTGTTCCCTGTCCTGCCTCA
75283	KAL1	TGGAAATGTTTTATGCTACAA
75284	CENTD2	GCCCGCAGTCTTTTTCTCTG
75285	COX10	GACTGCCAGCCCCTGTCCTCCCTTCA
75286	LRP4	ATGTAGAAAGGACATATTTGA
75287	MAP3K7IP1	GCACAGCCTCTGGGGTGCT
75288	ADAM33	TCACTTGAGCCTGAGTTCAACACTGC
75289	CD83	AGGAGAGAAGAATGAGCCTA

75290	CASP8	TTCTATTAACTTTAATTCTCTTTCA
75291	PFKFB3	TTTGTTTCGTTTCTGTGATCT
75292	PLXNA1	CCTGAGCACTCCTCTCTCTCCA
75293	HAS3	ATCCTAAGGTTCTTGCTTTCTCTCTCA
75294	DNMT3B	CCAGGACCCAGGAGGTGTG
75295	EED	CTGAGCTGAATGTAGTGATGTTTACA
75296	G6PT1	CCTGCAGCTGCAGGGCACTAATGACC
75297	TCP11	GTCCATACCCATTCATTAATAAAC
75298	GALGT	CTGAGCCTCTAGTTCCTCACTC
75299	EGF	CAAAATCAAGCTGTTTTCTTTTGAAAG
75300	HUNK	AGCTCCTCAAACAGGGTTCAG
75301	PRSS11	CAGCATTTGTCTCCTCCTTTAACTGAG
75302	LIFR	TATGCTTATTTCTGTGCCTACTGTA
75303	PDGFRA	TGAGAGAAACTTTTATTTTG
75304	NR3C1	GAAGCAGTTGAGTCGTCAT
75305	TSC1	ACTGGTTTTAAGTGCTTTCCTTCT
75306	SERPINE1	AAACCTACCAGCCAGAGGGTAG
75307	ABL1	CCCTGCCTCTGTGTAGCCGCCCTGAG
75308	ORC4L	AAACTATTGTCCATTAACATGATATGC
75309	HEXA	GCACAGCCAGGCTGGAGTCAGT
75310	PIK3C2B	TTCCACCATAGAGATGGCGTCC
75311	MAX	TCACTTCTCTTCCTCCCTCA
75312	ORC1L	TTCCACCTTCTTTTCATTTCT
75313	TGFA	TCACCTAGGTGAGGTGTGTGCAGCAG
75314	MYO1D	CAAAACAGATCATGCCAAATGAGTTGCCTG
75315	ALDH1B1	ACAAGCTTGGAAAGTGTTAGG
75316	CORO2B	CCTCTAACCTCCTGACCTCATGCT
75317	IL13RA1	TTCCCTTCATCTGGGCACTGAAGGGA
75318	AIM1	GATGGGGTTTCATCACGTTGCC
75319	RECQL5	GGCTTTGTGGTCATCATGTTC
75320	PTPRO	TGTCAACAAGTTGGCTCCAGTCAGA
75321	RAB23	CTGGAATACTTTCACAAAATAA
75322	PRKG2	AATGGGAAGAGGAGAATGGTGT
75323	SERPINB4	GGGAGACACACACAGCCTCTCTG
75324	CST	GGGGCAGCCAGCCACAGCCCGA
75325	PPP2R5C	TGCAGCTCTGGTACCTCCTGCCCA
75326	SNX9	CATAGAACAATGTTTATGCTATAGCC
75327	ARNT2	AGCCTCCTTCCCTTCCAGCTC
75328	MGST3	TTTGTTCTGCTCCAGCTGTTCG
75329	ATP2B2	ACCAGAAGACGTGGAGGGGAG
75330	ADCY8	CGACCTACAGGGAGCCCTA
75331	CSPG3	GCACCCTCATACACATTTAG
75332	NR2E3	GCAGGAGACAGAGATCCCCTTGC
75333	MUC4	GCTTTTTCGAAAACAGCCCAC
75334	MEF2A	TCTCGTACCTCAGCCTCCCGAGTA
75335	SLA2	GGGATTACAGGTGTGAGCCACG
75336	DMXL1	TGTGTTGAGCAAGTTGCAGTG
75337	EGFR	CAACATTTGCAGATGTTTTAGAAGG
75338	GAS7	CGCCTGTAATCCCAGCTCTTTG
75339	TEM7	TGCCTGTACTCCCAGCACTTTG

75340	REQ	TCTGCCTCCCCTCTGGTCTCC
75341	ZNF137	CAAGTAGAGTCAGGATGAACTATGTG
75342	PRDM2	GGATGCAGCTCTTGGGACCGTGTT
75343	TR2	GTTTAGTTCTCCTTGTCATA
75344	RAC2	GTCAGGACTTTTGCTATTGCAA
75345	LU	ACCAGCCCTGCTCACGCCATGCC
75346	CXCR6	GAGCAAGCTCATCTCTGGAAC
75347	SDC4	TTCCAGTTTGATGTTGCTGG
75348	MMP19	GAAGAAGAAGAGACAGAGCTGCCCA
75349	PPP2R5D	CTGGGCAGGCCTTCTCTTGTC
75350	SIL	GGGATTACAAGCGTGAGCCACC
75351	FOS	TGTTCTGACATTAACAGTTTTCCATGA
75352	TLR4	TGACCTCATGAAATGAGTTGCA
75353	PXMP3	ATCTAATCACTGGAAACCATGTGAT
75354	GDF5	CCCGGCAGACTTCAAGAGTCTCAGAC
75355	MYEOV	CCAGGTGCAGGCATGAGCCAG
75356	DLGAP2	CTCCACATGGTTCCTGCCTGCTC
75357	LDB3	CAACTTGTGACTGCTCACTTA
75358	HNRPK	ACTGTAACATTTGGGGGGTGGGCCAGG
75359	MOCS1	CTGCTGCTAGATGATCTCTAATGA
75360	MGAT3	GCCTGTGATCCCAGCACTTTGG
75361	DTR	TGCTCAAGGAATCGGCTGG
75362	CPNE6	GGGTCCTGCTCCTATCTCTCCA
75363	GPR3	CTCCAGCCTGGCGTCCAGGGC
75364	TEM6	CACAAGGTAAACGTGGTCAAGGG
75365	RNF14	GCCCAAAGCTCTGAATAGTTAAAAAT
75366	EDAR	AGGGGCAGCAATGCTGAA
75367	LIFR	TTCTCATAAGCGATGTCTGGAGTGATT
75368	PCOLCE2	CGAAAGATGGGACTGGTTGAC
75369	NEDD4L	TACCTGCACAGTTTGATTCTTT
75370	CCNF	AGAGAGCAGAGAGGATGACT
75371	CRACC	CACTGCTGAGAAATCTCCTCAAACCCA
75372	WHSC1L1	ACTGAGCAGTAGGTAGGCTCACTTCT
75373	MS4A1	ATACGCACCACATCTCTATCTGGCCT
75374	WNT2	CTCCCTGGGGGCCCCAGGATGGGGG
75375	PRNP	AGCTCTGTGTGTACCGAGAACTGGGG
75376	IL6ST	CTATCTAGCAACCCTAACA
75377	WSX1	GGAGCAAGAAATGAAAAGGAACCTGA
75378	CIAS1	CTTGGCTAACTTTTCAAAATTAAAGATTTTGA
75379	STAR	CCCACAGTGGGTGCCTTCCAGAAA
75380	PCDH11X	CCCCTATGCCTTCCTTCTCTTT
75381	BPHL	GCCTCTAGCTTCAGGCTGG
75382	BRCA1	CTGAGGCAGGAGAATCGCTAGA
75383	RFC2	CTGTGGCAGGAGAATCGCTTGA
75384	LDLR	AGGGAAAGCCCGTGTCAATGAA
75385	PCDH11Y	GGCTGGGAAAACATGGGAACAAGAG
75386	FHIT	GCAGTTTCTTCATCTCACCATCCTGT
75387	C6	CAAAAATTATTTTCTGTTAG
75388	P4HB	GGGAGGTGGCCAAGGATGCTGGA
75389	SECTM1	CCCTGCCGGAGCCTCAGACAC

75390	PSCD4	TTCTTCTCCCTGGCAAGGCTC
75391	TUFT1	TCACCCAGGCTGGAGTGCAGTA
75392	ACADL	TCAGCTAAGTATTTGCCTAACCCTG
75393	CAPNS1	GTACTTGTTACCCAGCTTCTCAACATC
75394	ZNF264	TTCATTCTTCTTTCTTGAAATCCCAAA
75395	FTSJ2	CCCCAACAGCACAGCTAAATTTCCAAG
75396	SGK	TGGATTTTGTTATAAGCATCA
75397	ACADS	GCCCTGGCTCCTGGGGGCGGG
75398	KIF3C	GGAGGTGGTGGCGGGGGTTATT
75399	LIPA	AGCTCTCAATTTCATGGCAGGCCAT
75400	GJB1	GCTGGAGGGGTGGGGAGCTAGA
75401	RPS6KA2	CCCTGGGTGTGCACACAGGGC
75402	ATP7B	CTGGGTGAAACCCTTTTCTCCC
75403	TRPM8	TGGGACTGGAGGTTGATAGTTTAAGT
75404	MTMR4	AGACCCATCTCTCCTCCA
75405	CAPN1	CCTTCCCTGGCCCTGCTGCCGA
75406	ARL4	CCTGTCTGCCCTCCTGGATGCT
75407	SERPINB5	AGAGAATGTTCCAGACATTCTCGCTTC
75408	INMT	GACTACAGGCACGCGCCACCAT
75409	FUT7	TCAGGGAGGGAGGGCGGTGGA
75410	NCOA3	ATCCTTTGACTGGTTAGCCAGTT
75411	MYO1E	AGGTAGCCTCTTCATAGGAACCA
75412	GLRA2	ATTAAGGTAGCAGCATTTTTA
75413	IFNAR2	ACAGGATTTTACCATGTTGGCCAG
75414	PDE9A	GGCTGCAGTTCTGGACGGGCTGGC
75415	FS	CCAAAGACCTGCAGCCACCAGTGCT
75416	HOXC4	CAGGAGCAGGAGTTGAGCTTGG
75416	HOXC6	CAGGAGCAGGAGTTGAGCTTGG
75417	OGN	CAGTAAAATATTTTCTTTA
75418	HOXC5	GCTGCCCCATCTCCCCTCAGCTCGGCT
75419	TMOD2	TGAGGAGAAGTGAAGTTTCACTGTGG
75420	AVPR1A	TTGTTTCCCCTCCTTCCC
75421	MYO1D	ACAGACACTTCTCCTGCCTTCC
75422	HTR2C	AGCTTTGCAACCTTGTACTT
75423	SCN8A	CAGAACAGCTGTGGAGA
75424	CCRL1	TTGGGGAAAACTGGGTGAA
75425	PPEF2	GCAATGCTCAGCTTCTCACTAGACTA
75426	ZNF146	GCCAGTAACAAGAAAAATTAA
75427	LYPLA1	CCCAGGTAACAGGAATAATTCTG
75428	RTN3	TTATTTGGGGGACAGGAGTGTGGATACCT
75429	SOX11	ACAGACCATCTGCATATTTTGTAG
75430	SLC2A4	AAAGAATCCCTGCAGCCTGGT
75431	IL9	ATCAGTATCAGTTGTGATTAT
75432	CLN5	TACTTCCTGAGAGGTTAGTACAT
75433	MAN1A2	CTAGGAATGAAGAGGAGGCT
75434	SOX13	TTCCATTCTTGTCCTGGCTGGACCA
75435	HOXB2	TTCCTCCTCCCGGTCCTTTCGA
75436	GA	CTCTAGCTACCATGCACATGTA
75437	WASF3	TCCATTGGGTGCAGTCATGTAGATCTG
75438	HFE	CAGAGCTGGGGAAATGGGCCCGC

75439	CD1D	CCCAAGACTTCAGTCCTGGTCTGCTC
75440	GYG	AAAGATAGGCTATCTCAACACTGCT
75441	SSRP1	TTCTGTGCCATCTGAACATGCTC
75442	APPBP2	GGCTCACTGCAACCTCCGCCT
75442	DFFB	GGCTCACTGCAACCTCCGCCT
75442	GRAF	GGCTCACTGCAACCTCCGCCT
75442	KCNJ11	GGCTCACTGCAACCTCCGCCT
75442	MEFV	GGCTCACTGCAACCTCCGCCT
75442	PIGR	GGCTCACTGCAACCTCCGCCT
75442	RHD	GGCTCACTGCAACCTCCGCCT
75442	SEDL	GGCTCACTGCAACCTCCGCCT
75442	SNAP23	GGCTCACTGCAACCTCCGCCT
75442	VENTX2	GGCTCACTGCAACCTCCGCCT
75442	WHSC1	GGCTCACTGCAACCTCCGCCT
75442	ZNF264	GGCTCACTGCAACCTCCGCCT
75443	CYP1A2	AGCTCACTACAACCTCCGCCT
75444	SGK	CTTAGCAATCTTATTGCACACTGTTC
75445	PRKDC	TTCCATGAGCTGATTTTCCTGA
75446	EFNA1	ACCAGCCCGACAGTGCCATCC
75447	PAFAH1B1	CCCTCTTTTCCTCTGGATGC
75448	CACNB1	GGGGTTTCTTTGGTGTTACC
75449	SMARCD2	AGTTCTCTAGCATGGCCTGA
75450	TERF2	CATTTCCACAGAATTCACAGGA
75451	NR2E1	GCCTTGCAGGCTGGAGGGCGGCTGGA
75452	OPTN	GAACCCAGGAAGTGGCAGTTGCAGTGA
75453	CYP4F3	ATTTTATCATCAGTGTGTCT
75454	PKLR	CTCTGGCCCAGCCTACCCTTGTACCCC
75455	FKBP1A	CCTTTGAAAGTAGATCATGT
75456	STC1	TTCATGTAACTCTCCAGCCATTGTA
75457	HTR2C	TGAGTGTTAGAAAAAACTGGAA
75458	AHCY	CTCTCTGGGGCTGATCACTTAG
75459	EIF2B1	CCTGCACTCCAGACTGATCTGCCTGG
75460	TRAF5	CAGGAATATACTGAAGAACTAGA
75461	ED1	CTCTGTCTGAGACAGGTGCCT
75462	IKBKG	TCTACTCCTCCCTCCTCCTCC
75463	RFC1	TGTGAGGTATATACTAAAATGAA
75464	JAG2	AACCAAATGTTTATTTTCTA
75465	IGLL1	TGGAGGTCCCGCAGAAGCTACAGCTGCC
75466	NRF1	GGGCTGGCCCAGGTGCTGACCTTGCCA
75467	VIL2	ATTGAGTCTGAAGCACTCT
75468	FUT6	CCAATATGGTGAAACCCGTCTC
75469	ATM	ATCATGCCATTGCACTCCAGCCT
75469	SLC2A6	ATCATGCCATTGCACTCCAGCCT
75470	EIF2B1	GCACATTCCTCAGCAGGATCA
75471	AR	CCCATCTATTTCCACACCC
75472	CDH5	TTCTAGCTCTCACAGACATATA
75473	CD164	CACTGCTCTAACAACAAGCATAATAT
75474	EPAC	AGTGGGTGGAGAGTGGAGTGTG
75475	MAT2A	GGGTCTGTAGGTTGCACACTTTG
75476	LARGE	TTCCTTCAGGATGATCACCGAGG

75477	BACH2	TCTCATAACTGGTCAACGACT
75478	POLQ	TGGAAAGAACAGA
75479	SPOCK	TGAGAGCCCATCAAATCCTGA
75480	FANCD2	GCTCATGCTTGTAATCCTAGCA
75481	GJB3	GCAGGGCTTCAACCAGGAAG
75482	PTAFR	GCATACTACAGTAACTGTGACTG
75483	CLCN5	GGCTTTGCTTTTCAAACCAGA
75484	JRKL	AGTGAAAGTTAGAGATAACTGAACAG
75485	CNTFR	ACCCACCCACCAAAGACCCCCTCA
75486	FBXL7	TGGCCAAAGCACTTCACTGCTCTG
75487	SORCS2	GCTGGCCACCCCACCCACACCTGTCCCT
75488	SOX4	GCCGAGAGACAGCAAACTG
75489	PAX5	CCCAGCCTGGGAAGGAGAGCTTGC
75490	WHSC1	GGCTGATGGGGGTTTGCTCAGCACTG
75491	GCNT2	AAAAAGAGAATTGTAGATAATAC
75492	CLTC	GAAAATGCTAGTATGTTTTGCTCACTTCAT
75493	GTF2I	ACATGTGTTGAGATTTCACAAGC
75494	ACE	GAATCACTGGAACCTGGGAGCCGG
75495	NRG1	TGTCACCTGTAGATTTCCACACGC
75496	FGFR2	ACAGTGAGCCGAGATCATGCC
75497	PLAG1	GCTGCCTTGGCCGTATTTGG
75498	DHCR24	TGTGTTCCTGGAGAAGGCA
75499	TSC1	CTTAGTGCCTACGGAGGCCTC
75500	HLCS	AAATGTCCTTAGTTAGGGACTGACTTT
75501	TCF8	TCATGCAGTTTTCAAAGTTAGG
75502	PRND	GGCTCACTGCAGCCTCTGCCTC
75503	HNRPF	TGTAAACCATTCAGAATTTTCCTGCTA
75504	ADD2	CCAGAAACACTTGCTTACAGACCGAAA
75505	SLC38A2	ACTTTATTCAGAAGCAGTTA
75506	E2F1	TACTGAAGGAACTGAGGCCTGGGTGA
75507	DIRC1	CCTGCTGCTGCTCATCTCCCT
75508	SMG1	CTGCAACCCCAGGGTCAAGGGT
75509	GSTT1	CTCCCGAAGCCACCATCCCCACCCTGTCT
75510	THY1	CCTCCCTGCCTCCACCCACAG
75511	NRAS	GTGAAGTGCCTTTTTCCTAGAA
75512	MPDZ	TCAGAGAAGAACACTGAACT
75513	DNAJB1	CCAGTCTGCCCCACTGGGTCTGGCAGC
75514	USP18	AGTGAAGTCGTGCTGTCCTGAA
75515	UNC5C	GGAAAACAGATACAACTGCCCAT
75516	IDH1	TTGCCAGGCTGTGGTTGTGAGTCTGA
75517	TRIM39	CCCTGCACATCTTTTTAGGGG
75518	NT5C2	CAAGTCAAGGCCAGGCACGGCGG
75519	PMCHL1	TAAAGAGACCACCTTCACTTGTTGA
75520	IL1RAP	CAGTTTATCTAGGTTGCAGTG
75521	BAZ2A	GCTGCCACCTCTGTGTTCCTGTCATAGCAA
75522	TST	GCTCACCCTCTCTCTGTC
75523	ADCY1	TGTGCACACTTCCAGGCCTCC
75524	SCA1	AGAACTTGGGTTGAGGGCACTACCAG
75525	RPS6KA5	TTAGGGCTAGATTTGAGCTGCT
75526	HAS3	AAGTGCAATGGGTAAGGGAGG

75527	TRPC5	TTTATAAAAATGGCAACTTTA
75528	NT5C	GGCATCGTGCTGGTGCCTCTG
75529	DNASE1	CTGAGGACATCACCATCATCTCA
75530	NDRG1	GCAAGCATCTCCGCATCGC
75531	NDP	GATGATGGATTGCAAGTGCAAA
75532	FGF2	GCCTATATTCCCTGCACTTTGG
75533	GCNT2	TGTTAAGGAATAGGGACAGCTGGTCA
75534	AGTRL1	GGAAATTCTGCAGGAGACAGGC
75535	ZNF124	TTAGAAAACCTGCACTTTCTCT
75536	TCF1	CCAATGTACCCACCGGGCCACTCCTTCC
75537	PRKCQ	CGCACTTGGAAAGGTTTCAAG
75538	NRGN	AGTCCCTATCCCACACCTGCCT
75539	ENO2	CACCAGAGCAACCTCTCACTC
75540	C18orf1	CCAGCAGAGGAATTTTGTA
75541	PCDHB12	TCAGAAGCATAGATTGTAGTGTACCTT
75542	HSPA1A	TCTTCTTTTTAATACACTTAAC
75543	MAT1A	CCAGAAAGCCCCACCCAGGCCAGGCATGT
75544	FZD10	CCCTTCAGTGCTACATTTTGT
75545	KCNJ13	ACTGTCCTTAAAACAAAACA
75546	SOX2	GGGTGGGGAGGGCGGGGGAATGGACCT
75547	DCK	ATGAGACACACTTAACTACTTATCTCT
75548	UNC13	CCCAGCCTGCCGGCCGGTACT
75549	PDLIM1	GGTTAATTGACTCACACCAGCT
75550	PLAG1	TTGAATTTAACAAAAACTGGGAA
75551	FECH	TATGGATTTCAGAGGTGCTCTTAGA
75552	BCKDHB	ATATTTCCTCCGACTTACCTCTT
75553	GBP1	TAGACTTTGTCTTATGTGTCAAAAGTC
75554	TRIM39	CTGTCAGGGTGGGGAGCTGGTTCCC
75555	MKI67	GCTCTTAGCAGAGGCACTTTGG
75556	DLG4	AAGGGAGGGTACAGTGGTGGGGGC
75557	MCOLN1	CCCCGACCCCGCTTATTTATT
75558	COL6A2	TTGCAGATGCACCGTGGCCTGG
75559	MYCBP	ACTAACTGTAGAGCCTTGGG
75560	CYP7B1	AATTCTCACAGAAGAAGGAA
75561	BMPR1B	GAGTTCAGCCTACTCTTTC
75562	BENE	CTCCTGACCTCGTGATCCGCCCGCCTC
75562	SIGLEC8	CTCCTGACCTCGTGATCCGCCCGCCTC
75563	DYRK1A	TTCTGCATACTGTGTTATGTT
75564	ZNF264	CTTAGCTCAAAATGTCAGTGG
75565	EDAR	ACCGTATGCCTTA
75566	SPAP1	TATCAGGCTGATGCTGGCTTCATAG
75567	GLO1	CGGAAAGGAAAGAACACTAGTGTTCT
75568	SERPINE2	TAGCCTCTTTGTGTTTTTGT
75569	TLR5	CAAACTGTAGCAACCATCTCCTATCAAAGG
75570	GJB3	TTCAATGATCAGTTTCATCTGTAAGTG
75571	ABCE1	AGCTATACAAATTACTTCC
75572	P53AIP1	CACCAGTCACTTACTCCAA
75573	GALNT7	CCTGCCCTAGCTCTTCTCTAACTT
75574	TNFSF14	CGAGACTCCATCTCAAAAA
75575	ITGBL1	TGTACTCTCACTTTAAACTCA

75576	EOMES	AGATACTAGGCCCAGGAGTCA
75577	IL6ST	AGCACCCTGTATCACAGACTGGCA
75578	NELL1	TCATTCTTGCTAACCTAGTCTA
75579	ARSD	CACTGAACTCCAGCCTGGGCCACATAG
75580	PMCHL1	GATTACAGGCGTGCACCAC
75581	TMEM2	TCGAGTGGCTTCCTGGCCAT
75582	MGAT5	ACTGCAGGCTGGAGCCCTGGGGA
75583	ATP7A	GTTTCAGTTCACTCCTGCCAAG
75584	RAPSN	GGGGGCAGCTGGCACTGTGA
75585	CREBBP	TCCGAGCCATGGAAGGGTGG
75586	SLC21A2	GGAAAAGCCTCATATGGTGATATGCCA
75587	APM1	GTGGCCCTGGCTGGAGTTCAGT
75588	EMP1	GCTGTCCCTCATGGAGACCT
75589	EIF1A	ACGCAGGCGGATCTCTGAAGAGCTG
75590	FXYD2	TGCCTCGTGCCACCTCA
75591	CDYL	ATACTTATATACACGCAGGTGTA
75592	APM1	TGCTGTTGCTGGGAGCTGTTC
75593	SET7	CTACATCTTTATTCTCTAAA
75594	EMX2	AGGACTTTTTTGTTTTTTGC
75595	SLC26A2	ACAGGTTTGTTCTTGTAGTTTTCTAT
75596	RLN2	CCCTGTCTGAGATGCAGCCAG
75597	VPS26	TGGAGTGTAGGAACCAAAATGAA
75598	CASQ1	TGCCATAGAGCTAACTGGGGTC
75599	IL11	CGCCTGTAATCCTGGCACTTTG
75600	PCDHA11	AAAGAACAATGTTATAATG
75601	HTR1E	GCCCAGGCTGGAGTGCAGCAGCAC
75602	LZTS1	GGAGGGGAGAGACAGGCAGCCCAG
75603	RAG1	TCATTAAAAAACACAGCAGTTTTCCT
75604	CYP1B1	TTTGTGAATTTTCTAAAAGCTTTCA
75605	ZNF91	CACTGCACTCAAGCCTGGGCGA
75606	RUNX1	GCCCGCGCAGCCTCCTGCGCC
75607	LRP3	GGCCCGGCATGGAGAAGCGCGCGGCCG
75608	MGP	TGCTTCTTTCCTGTATATTCTCTTGTC
75609	NT5M	TTCAGCCTGACCTCAGGCAGCAGG
75610	BRF1	TCTGCCTCTGGCCGCGGCCTGTGGGATGG
75611	PLA2G4B	GCCTCAGCAGTTTGCAGTGG
75612	MUT	TTCAATACCTGATTTGTACTT
75613	TLR5	GCCGCCCAGGCTGGACTGCAGT
75614	ITGA3	GCTGGTAGCAGCAGGCTCAGGCACATACA
75615	EDG6	AGGCAGGCCCTCCTGGGGTACAG
75616	PON2	TGACCTCACTTCTGGCACTGTG
75617	MECP2	TCATTCCCTCGTCTTTCCCAAAGGCATC
75618	MMP19	AGAAGCAGAGAAGGCACTTGC
75619	IL21R	CGGGCAGTCAAGCCAGGTGACCCC
75620	CMKLR1	GCAATTTATGCTTCTTGGGAGGCCA
75621	EN2	AAACATGTGCATTTTACAGTTCA
75622	BCL7A	GGCAGGGTGGAGCGAAGGAG
75623	SIM2	CTTTTGGGGCTGTATTTA
75624	MB	GGAACTTGTGTGTGCCTCCTCA
75625	EFG2	TCATGCTGTTCATCTATGA

75626	ZNF41	TAGAGGCTGCGGCGGAGGGGAGAAGC
75627	VDR	GCAGAAGAATTGAACCCAGGAGG
75628	LRP8	TACCATGGTTTGTGCAATTATGTAGTA
75629	CPM	CTAGAGGCGGAGTTTGCAGTG
75630	BLVRA	CCAGCATTTGGTTCTTCTCAAGAGTTG
75631	STK11	GTTTTTCCCTTCCTTTTGGGGT
75632	UBE2L3	CCCTCACTGCACTCTGCTC
75633	HLA-DMB	GAGATCATCTACCCAGGCTGGG
75634	ANKTM1	CAGATGTTATTATGCTATAGCT
75635	TDGF1	CTAAGCCTCCCAAGTAACTGGG
75636	SLC22A12	CCCAAGCCCACACAGAGACTTGCACAGC
75637	LDLR	CCACTGCTTTCCAGCCTGGGCAACATA
75638	LCP1	CCAGATCTAACATCTTGAATACTCTGCCCT
75639	CTF1	GACTACAGGCACGCGCCACCAC
75640	TTF2	TGGATGATTTTGGAAAACAAC
75641	TCEB3	GGAAATGGAATCTGGGGAGGCAGG
75642	ANXA4	GTTTTTCATGGGAGACTTCCTT
75643	WHSC1	TGTCATTGTCCTCAAGTCCTTCGCAGA
75644	SET	AGCAGAACCTGTAGGATCTTAT
75645	PSME3	ACTGGGCCAGGGCCAGGGCCAGG
75646	SLC4A7	ACTTTTGTTAGTGCTTTAT
75647	DEF6	CCCGATTCCTGGGCTAGGA
75648	PCTK1	GTTGGGTTCCTGAATGCACCATAATCGCT
75649	CLCN6	GCTGTTGCCTTAAATGTGTGAGAGGG
75650	BCLG	AGACCATCACAGACCAGGTCCTAATGGGT
75651	GRIN2A	AAGAGGAAGAAGATGTAGGGAGG
75652	VDAC1	CCCAGTTCATCATCATCTCTTTTA
75653	OPHN1	AGCTCTGCCTTTGCTCTGGTCTA
75654	DAZ	CTCAATGTATAGTTAGCTTTAT
75655	PPP2R5C	CATTGGAACAAGTAGAAAGA
75656	RET	TAAGCTTCTTGTCATTCTTCAT
75657	CDH2	CAATTTCAACTGATATTCCCAAAAAG
75658	HAL	CCCTCCTGTGACCAGCTGAGGAC
75659	GRM1	CTCTGAATGCCTACTATTATCCTGATT
75660	RPS12	GGAGGCGGAGGCTTGGGTGCG
75661	NFATC4	TCTGTCTGTCTCACTGTCTTC
75662	SEDL	CACCTCCTGGGTTCAAGCAAT
75663	GCA	CCAGCACTGCGGACGCGACTCG
75664	C8orf1	TTACAACTCAGATTTTATTTAT
75665	REG1A	CAGACTCAGCCAACAGAGATTGTTGAT
75666	ADAMTS13	TGGGACCCGCCGCGGCCTCAAC
75667	FCGR3A	GGAAACATAGAACTCAGAGCCA
75668	HSPB2	CTCTACCTCCCAAGGTGATATGGG
75669	RAB26	AGCAATAGGGTCTTCCTCAC
75670	GOLGA5	ATCAGGGAAACTAATTGTATTTA
75671	NR2E1	AGGAGCCTTGCAGGCTGGAGGGC
75672	LPP	TTGGGAGGCTGAGACAGGAGGATTGC
75673	OGN	GCCAAAACATCCTCTAAGCTTT
75674	TCFL4	TCCATCACCTTCCTCCTCTGCTCTG
75675	AXL	GGGAGTGAGGGAAGGAGGCAGG

75676	SFRP4	GCAGTGCCATGTTCCTCTCC
75677	JAM3	AGGAAGGTAAATTGGTTGCTGGAAGAG
75678	GLUD1	GGGCCTTTTGAACAGTAGTG
75679	RECQL	ACAGAGGCTCACTGAGTGATAC
75680	RERE	CTCTTAAAAACCGTGTTTGGTTTC
75681	BCL11A	GAGCTAAATGTCTGTCTCTAAA
75682	PTGDS	CTCCTCCTGCACACCTTCCGCA
75683	TNFSF9	CCCTGCTGCTTTCTCTACCTC
75684	RFX1	CTCAGCCAGGGCAGGGAGGGGG
75685	REV3L	CCTCACGCGGGCGGGATTTTCTTGCCT
75686	DIO1	GAAGAATTCCAGTTGTTAGGAAG
75687	P2RX4	CTCCTTCCGGGCCCTCCTCCGCGA
75688	MBD1	ATTCCAGCAAGTACAGAGA
75689	XPR1	TGTGGAATACACTGGCCCATATT
75690	RPH3AL	CTGGGTGTCTGGTGCCTGGA
75691	NRXN3	CCAACTCCTCGCTTCACTTCAC
75692	PRKAB1	CAGCTGGATGATCCTCAGGAC
75693	WHSC1	TAAATGATGTAATATTCCA
75694	TSC1	AGTGGCAGTGGCAGAGAATCCAAACTCAA
75695	MSR1	TCAGCATTTTTATTCCCACTCTT
75696	ENTPD6	CCTGCTCTCCTCACACATTGTG
75697	RPH3AL	TGTTGCCCAGGCTGGGGTGCAG
75698	NPR1	CTCTCCACCTGGACTCAGGCC
75699	ZNF134	CATACTTGTAATCAAGTTTTTCCAGCC
75700	TRAF5	AGCTCACTGCAAACTCTGCCT
75701	OSR1	CTTCCACCTCTCCAACATTGTC
75702	BCL11A	TTTGAGCCTTTCTCTTGTG
75703	FZD7	TGGGGAAGGCAGGAGGCAGAAAGACGG
75704	JJAZ1	CTGGATAGTAGATCTCGAGCG
75705	DYRK1A	GAGAATGGGTAATTCAAGAGG
75706	ASB1	CCTGTGGCCCAGCCTGGCTGG
75707	INHBB	GGAGAGAATGGGGTGAGCAGCCACCA
75708	KIF3B	GTGGGTGGACCACCTGAGGTTA
75709	TNFRSF1B	GCGGGTGGATCACCTGAGGTTA
75710	PCTP	CAGAATGGGATTTATTAATGTGGGATAC
75711	DGKG	CACTCACACACAATTTATGTGCACAC
75712	TK1	CTTTCACTGCTGAGTTTCTGTT
75713	MAPT	TTTGAACCAGGATGGCTGAGCCCCGC
75714	APBA2	GGCCCCCACAATGGTCCCAAACAGCTG
75715	ANK2	TGGCCACCTCCATTGTTCTTTGCTTCT
75716	EPB42	AGAGAGGCGCTTCTGCGGCCAA
75717	ISL1	AAAACAAAAATAGAAAATTTTCTAG
75718	EPB49	GGGGCAAAGTTCCCTGCCCACC
75719	ANK1	GCCAGAATCAGCACAATCCCG
75720	EYA4	GGATGTCCTGTTTTCACCAGAG
75721	PPP3R1	CATGATACGTCATGTTGTGGGATCTT
75722	SLC7A5	GCCGAGGCCTGGCCAATGCGGCCCACTT
75723	HAP1	TGGGTGGGATGGTGGAGCAGC
75724	CD34	GCTCCTCCCTTGTTCTCTAAGTTCCA
75725	ADH6	GGAGTAGAAGAAGGGTCGT

75726	MYO1D	CCCTTTCTCATTCTCCAAGCC
75727	KCNAB3	CTCTCCTCCCCTTATTCCCGAGGCC
75728	SLC22A3	CTTGCAGAGATGCACGTGTGCA
75729	TLR9	CTGTTCCTGAAGTCTGTGCCCCACTT
75730	PAP	TCTTCTGTTTCTTCCTCCCCGCTGTCA
75731	DBY	AGACCCGGCATTGGCAATGTAGCT
75732	RTN3	TTAGGAATTTGGATGGGTAAA
75733	GNB1	GCAAGATCTTTTTTCCTTCACT
75734	SRY	GTTTCGAACTCTGGCACCTTTC
75735	MYO5A	GGTCTGAAGTGATGTCCAGGCAA
75736	RIG	ACAGGGCAAAAGAGATTTTGCA
75737	DISC1	CCCAAGTAGCTGGGGTTACAGG
75738	IRS2	ACCTTCCCCACCGCCTGGGCC
75739	ZNF261	CTACATCTTCTCTCTTCCCCATCTTGC
75740	ZNF236	ATGTACATAGATATATGGGCCTC
75741	PCSK1N	CACGCCGCCTCTTGCCACCCTGG
75742	PTPRJ	ATCAGAGGTTTGCTTCCTCAGT
75743	EGFL3	TCCCGTGGAGCCCGCCTCTCCAG
75744	SLBP	AGGGCAGCAGAGTGGAGCGA
75745	RHCE	GGTGATGCCTGGTGCTGGTGGA
75746	UTF1	GCAGTCTCCCCTCTCCAGGCC
75747	GRIK5	CAGGGAGGGGGTCAGTTGGGC
75748	CD28	ACCAGCCTGGTCAAGATGGTGA
75749	TRIM14	ACTAGCCTGGCCAAGATGGTGA
75750	NME4	GGGGAGGCATTAAAATTCACTGTGC
75751	PIGA	AGGTGCTTCCAGAAAACCTT
75752	PCDHB9	CGCCTCCCAGGTTCAAGCGATT
75753	NTSR1	GATGGTGCTCTGAGAGAGGGCA
75754	OTX1	ATCAAAACCACTAAGAGTTCCT
75755	MTP	GGCTTTTAAAAGACTTGTTAGCCAAC
75756	INHBC	TTTCCTAGGGCATAGTCCATCCCGCT
75757	BRCA1	ACAGCCACTACTGCTGCAGCCAGCCA
75758	RAD52	GCAATTTATTCTTGCTTCATT
75759	IQGAP1	AAAACTGGGACCAACCAAAGT
75760	ATP2B3	CTGGAGAAACCAGAATCCAAG
75761	APS	CTGGCCGCTATCATCCCAGCAGTG
75762	SCNN1G	ACGACTGTGTCACTTTGCTTGGGGA
75763	CXorf6	AGTCACCCAGGATGCTGGGGCAC
75764	MAP3K7IP2	GGAGGCCAAGATGGGAGGATCA
75765	BMP1	GCAAGTACGACTTCGTGGAGGTGCGC
75766	MYBL1	CTGGTTGAATCCTTCAGTTAA
75767	SOD2	TTGTAGCATTTCTTGATGT
75768	TARBP2	TGCCCGGGATGGCAATGAGGTGG
75769	ALS2	AGGAATTTTGTTTTTGGTTTCTTTAT
75770	TSN	CTGGGAGGCCGAGGCAGGGGGACTGCT
75771	IFI16	CAACATCCTGCGGTTCC
75772	TRIM14	ACCTAGATCAGCGTGGCTGGTC
75773	BTG1	GCAAAGTTGTACAGATTTCT
75774	MTCP1	TATGCTCCTTTGTTCTGTTCAG
75775	BAK1	AGCAGGACCTACTAGGAGAGGGG

75776	LMO7	TCAGAAGCAAGTTACCAGAGTGA
75777	LECT2	AGAAAGAAAACATTTTGATT
75778	TJP1	ACATGCTACACACTGCATGTTT
75779	PLAU	TCATCCAATCCTCACTGGGTGG
75780	ATP2B2	AAAGAAGAATGTAATTTGTTTA
75781	MAPK8IP1	CCCCTGCCAGGGCTCGGGCGCTGTGGC
75782	JJAZ1	TGCAGTCAAACTTTGATCCTTG
75783	PPP1R12B	TCATTAGGTCCAGCTTTCTATTA
75784	GCK	CCTGGGCCAAAAGGGCAGCCAG
75785	PKNOX1	GGGATTACAGGCATGCGCCACCACA
75786	DBH	ATTAGCACCAGCTTGCTTCTCT
75787	CYP3A43	AACTCAGAAGACAGAGCTGAAAAAGAA
75788	WHSC1	TTCATTTCTTTTTCATTTGACTTA
75789	P2RX4	CACAGCCCCATCAAAGAACAGAGAGG
75790	CNTN3	TGTCCTGTGGTGTATTAACTCCTTT
75791	FCAR	TCGCCAAGGCTGGAGTGCAGT
75792	SLIT3	TGGGACCCCCTGGTGATTCAGC
75793	IL6ST	TCTGGGCAAATGAAAATGTTTCA
75794	TRPS1	ATGAAACCCTAGGCAGAGGAG
75795	DVL3	GTTTCATCAAGAGGAGTCGCGGCGGC
75796	KLK8	CTCCCCAGGCTCTAGTGCAGG
75797	HOXD8	GTGTTTAAAAAAGTTTCTA
75798	PCLO	ACTGGCTGTTTCTCCTTTGTT
75799	TMPRSS2	GGGGTGAGAATATAGACAGTGCCCT
75800	PCDHB9	CTCAGCCTCCAGAGTATCTGGG
75801	BMP1	GGCAATGATGTGTGCAAG
75802	PPP2R5C	CCCTCGGGAAAAAGCAAAATATCAAT
75803	ZNF74	GACAAGGGGAAAGATCTTTCTT
75804	BRCA1	TGGCTAAGGCAGGAGAATCACT
75805	SLA2	TCACTGCAACCTCCATCTCCTG
75806	ZNF198	AAACATTTCAAGTTTACTCCT
75807	NR2C2	GTGGTATTTTGGTATGTGCAAA
75808	NEURL	AGGGAGGGGGCAGAGGCAAATCA
75809	CSF3R	CCTTCTTGGGCCTGCCTCTT
75810	PPP1R12B	ATAAGCAGGCAGCTTTGA
75811	ECM2	TTGTTAATTTCTTATAAGGTCCT
75812	PRND	CCAGGAGGCTGGCAGTACAGAGTGCAG
75813	F8	TTTGGCATTCTTTTCCCATTG
75814	CALM1	AAGGCAGGTGGAGGGGAGGC
75815	RAB11A	CAGTGTACATTTCCACAAAT
75816	NID	CCCCAAAACATGCACCCTGG
75817	PSMA1	GGTGACTGTCTCCTGGAAATGTTATGCAG
75818	SLC22A2	CTGGATAAGAGAATCCTTTTAGCA
75819	KCNK4	CTTCGTTTCTGCTCTCCCCG
75820	IL7R	TCTCTCTCAGAATGACAATTCTAGGT
75821	SHOX	GCAAAAATCACGGGTGTA
75822	CD59	TTGGGAAGACCAGCTTTGCAGTG
75823	TAT	GCCCATGCTGGAGTGCAGTGGC
75824	C7	GCCCAGGCTGGAGCGCAGTGGG
75825	CASP2	GCCCAGGCTGGAGGGCAGTGGC

75826	IFRD1	TCAGCCGCCCGCCGCACAG
75827	TIAL1	GTTCAGTCAGATTGGACCCTGTAAA
75828	SLC7A8	GGCCCCACTCCAGTGCTGCC
75829	MBD3	TGGGATGACGGGTGCCTCCCA
75830	EEF2K	CACCCAGGCTGGAGTGCAGTGA
75831	TRPV1	CACCCAGGCTGGAATGCAGTGG
75832	GML	CCATCTTCACCTGTTCCGCAGA
75833	OPHN1	AGCCTAGATGAGAGAGATAGAG
75834	TMOD3	TCTGTGTAGGAGCTAAAGCAG
75835	SNX15	CCCCAGTAGCTGAGATTGCAGG
75836	SMARCA5	CTCCTGGGCCCGGCTCAGGCCCGTCG
75837	NCOA6	TCACCGAGGCTGGAGTGCAGTG
75838	PTPN2	GCTATCTGGATTTTAACCTGCACT
75839	GPR62	GCGGTCTGGGCCCAACACTGCATAGCAC
75840	CYP1A2	TGTTCAAGCGATTCTCCTGCCTCAG
75841	ITK	CTACTCTGGCTTGAGCACTTC
75842	GNE	CTTGAGTGGCTGGGATTGCGGG
75843	FBXW1B	GGGCTGTCTTGGCTCTGGAA
75844	ZNF141	TCTTCCTCAGTCTTTTCTAAATC
75845	ILF1	ACAGGACCCACCAGGCA
75846	RP42	AATTTTAAAATGTAATGCTTTTTA
75847	SOX8	GGCCCCAGTGGCTGAGCTCCAAGTGCCTGCTG
75848	ITGAL	TGAGCCAAGATTGCGCCATTGCACTC
75848	MAP3K9	TGAGCCAAGATTGCGCCATTGCACTC
75849	EFEMP1	ACATGGCCTTCTTTGTGTACA
75850	GCNT2	ATGGTCACCTCACCCACTTGTAA
75851	APAF1	GACCTCCTGATCAGGAACTTTAGTTGA
75852	PRKY	TGCAGTGAGCCCTGATTGTGCC
75853	UCP3	ACTGCAGCTGCACCATCACACATGCA
75854	PACE4	AAGTTGAGGCAGGAGGATTGCT
75855	BID	TCGGAGCTGCCGCGCTGCCCAG
75856	ANXA9	TGGCCAGAACATCTCACTGAT
75857	IFNW1	GAATTAGTTCTGCAAATACT
75858	CBFA2T2	CCATGTTGCCCAGGTGGGTCTCA
75859	KCNJ4	AACTTGGCCCTGCGTCTTCCCA
75860	ARHGEF7	CAGCTGCAGTGAAACTCCATTTA
75861	NFIL3	ATTGTGTTATCACTCTGCCTGTG
75862	TAF11	GGCTTAAGTGACCCTCCCACCTCA
75863	DISC1	GGAGGGTCTCAAACTCCTGA
75864	NRAS	CACACCTCAACACACCTCTGCCACCCCA
75865	WASF3	GCGTAGACCTAGGGAAGGGATG
75866	ACCN2	GCCCCCAGCTGCCTCCTCACATCTG
75867	LILRA1	CTTCCCTTGGTTGGATCCT
75868	CLCN4	GTCTTCCCCCCACCCCGCGCACAC
75869	MAGEA12	TGTTAGTAGTGAGTTTCTGTTCTATT
75870	DYRK1A	ATCTCCACCATTTCTTCTGCA
75871	PHTF1	TGCTAAAAACCTGTATTTTCAT
75872	KIF5C	GATGGTTGCAGAAGATCCAC
75873	ATP1B2	AGCTCACTGCAACTTCCGCATC
75874	RGS5	AGCAGCCACTGTATGATATT

75875	DRD3	CCCTGTGATCTATACCACCTT
75876	GNAQ	AGGAAAAACAGAGGATGCTGAA
75877	OASL	AGACCAGCCTGGGTATCATAGG
75878	HLCS	CTACCTGCTATAGCACACTCT
75879	AKAP2	AACATAGTTGCTGCAGGCGG
75880	SCNN1G	CCTCAGGCAGCAGAGAACTGGCCCAGAG
75881	SMARCD2	GCCAGAGGGCTGCCTCTCCAG
75882	ZIC1	TGCAGTAAAATGTTGTTTCAT
75883	PTPRO	GAGCATAGTGAGAGCAGTGGTGGAGC
75884	BAZ2A	TTCAGATTTTCTCTCATCC
75885	ENTPD3	ATGTTGAAGAATTGACCTCA
75886	SET	TCAGCAGAACCTGTAGGATCTTATTT
75887	CHGA	GCTGCTTCCGGTAGGGAGGCAG
75888	GAS7	CCACATCTGGCTTTCTCAGCCACTGT
75889	CSPG3	GGGATGTTTTTAGGACAACCTCCCT
75890	WEE1	GTGAATTAGACTTGTATATCCCACTG
75891	EPB49	CCTCACCTGCCCCTGCCCTA
75892	HIP1	AGCAACGCAGTGCTCTGCTG
75893	PRKAR1A	CAAACTTTTCTTTCTTTTCTTT
75894	POU2AF1	CACACCACCTTCACACCCACAC
75895	PLAU	ACTGGGTGGGGTGAGGACCACTCCTT
75896	GLTSCR1	CCCCCGAACCTCTCCCCAGCTA
75897	ITGA3	TGGGCTCGCCGTGTCTCAGCCT
75898	VHL	CTCTTGAACCCGGGAGGCGGAG
75899	AKAP13	AGAGCACGTCGCCACAGAGC
75900	RBBP5	GGTGTTTGAAATTCTCTGAAAATC
75901	WEE1	GCCCGAACCTGAGACTGGACCTG
75902	MECP2	AAGACTCCAGAAATGTCCCTTT
75903	KITLG	GAACAGAATGTTTTACTGTGAA
75904	CA3	GGAGGCTGGAATGAATGATCA
75905	CDH6	AGTGGACAGTGACAAAGACTCCTATCTGTTG
75906	RNASE2	TAGCCAAGATCCCATCTCTCCA
75907	EFNB2	TGGGAAAGGAACAGGCTTGG
75908	ADAM17	CTGACTTAAGTGTGCAAA
75909	NPR1	TGCTACCCTGTGACTTACTGGGA
75910	SRD5A1	GTCTTGCCAAGTGTGTATGAGACTA
75911	RDBP	CACTCCCTTGCCCCAAAAGG
75912	ATM	CTTGCAGATTGATCACTTATTCATTAG
75913	EVC	CCATGATTGTGAAGTTCTAGCCA
75914	CNR1	CATGACTCTTTATTGTCTGTAAA
75915	PYCR1	AACCTCAACCTCCTTTCTTCT
75916	MYCL1	CCCAATGCTCCATCCCAACCAG
75917	TNFRSF6	GCCAGCCCTGGCTGCCCAGGCGGAG
75918	EIF5A2	CAGGGTTTGTGAGGACCT
75919	ABCB4	AGATTATCAGTGACTTTTATA
75920	IL11	CCTGTAATCCTGGCACTTTGG
75921	AKAP2	TTAGAGATGGTGAATATATTCC
75922	PCTK1	GTCCCTGGATGGGTGGTTACCTCCCCT
75923	ADAM11	AGCGGCACCAACATCATCA
75924	MKI67	TCGCCTCCCAGGGCCTGTGC

75925	TAL1	CGACCTAGGCAGTAGGCCGGT
75926	SORD	ACTGACCCAGAGGGGAATGAGGGCTGAGTT
75927	PTAFR	GGGAGGCAGAGGTTGCAGTGAACCTAG
75928	ALDH3B2	AGAAAACAAGCAGCTTCTGCGC
75929	HS3ST2	CCCTGCTCCCTGTGGACA
75930	GNG5	AAGCTCTGCCTTCCCTCCCT
75931	SLC24A1	TGTTGCCCAGGCTGGTGTGCAAT
75932	HTR4	TACTCCCTCTCTGTTCCTGTCTTAGCC
75933	F9	ACATGTCTATCAAACCCAGACTTGCTTCCAT
75934	ED1	TAGCCCTCACCACAGCCTTC
75935	GCNT2	TTACTTGCAAAATGGAGACCAAATT
75936	SYNGR1	AGATGCCAGGGCATGCAGGGCA
75937	DNASE1L1	GTTGCCCTGTGACTGTAGTCC
75938	KLK3	CTCCTGAGCCCCTCAATCCTATCACAG
75939	TSNAX	AGGCTGAGGCAGGAGACTCGCT
75940	CASP6	CCTAGCAGAGAACTGCCT
75941	PTGIS	CTCCTGAGCTCGTGATCTGCCCGCCTC
75942	WHSC1	TCGACGAGGAGGAGTGCATG
75943	ABCC3	GGATGGCCAGAGATGCTGGACTT
75944	GPRC5B	GTCACCTAGCAGGGCTTCAGGGGTTCC
75945	MSF	CCCCTGCCCTGCTCCTAAGGGTAGAAA
75946	CCNF	GGAAAGGGAGCCTGGGAGCCAG
75947	SLC30A3	GTGTCTCTGTGCCTATGTGGCTGTG
75948	CNR1	AAGGGCCAAATTCCCAACCTGCTC
75949	DFFB	TCTCGAACTCCTGACCTCAGGTGATCTG
75949	SH3BP2	TCTCGAACTCCTGACCTCAGGTGATCTG
75950	PTPN1	GCCTCGGGGCTAAGAGCGCG
75951	GPR61	CAACAGGATGAACGTGTGCA
75952	PPARA	TTTGTGGCAAGACAAGCTCA
75953	DIA1	CTGGGGCCCCGGGTTCAGCCTGG
75954	HTR4	AGGGTCAGAGATCTGTCAGAGGAA
75955	CELSR2	GCCATCACCAAAAGGAAAGGACA
75956	EGLN2	TCATCAACGGGCGCACCAAGG
75957	ABCG5	CGGGGTCAGGTGGAGCAGGCAGGGCAGTCT
75958	BAK1	ATTGCATGGTGCTAGTGCCCTCTCTCT
75959	REN	AGCTGGAACACTCTCTGAGATG
75960	CD33	TGTATGATGTCACACAAGCTCCTTAACC
75961	UTY	AGGGCCTGGCTTACCGACTGAGGTCA
75962	RNF6	GGTTAAAATATTCAGTCTACA
75963	DPP6	GGAAGCATGAGACCCGCCCACAC
75964	HMG20A	TGTCTTCTTTAGGAGTAATGAT
75965	EDG8	ACTGCAGCCTGGAACTCCTGGG
75966	MLLT2	CAGTTGATAAATGAAAATCACT
75967	ADRA2B	CCCACCCCAAAACCTGGCACCC
75968	SHMT1	TGTAGAAATGGCCTCCTCCCTCC
75969	UPF3B	AGAGAGAAAGGGAGCCGCTGTGC
75970	IL15	TTCTAAACAGTCATTTTCTA
75971	EYA4	CTACAGAAAAGAAACTCTATGG
75972	DDX5	ATGCAGGCAGTGTTTTCAC
75973	FABP2	GAGATCATAGCTCACTGTAACC

75974	CAV2	CAGATTGCTTAAAAGCATTTT
75975	RORB	CCTTTATGTTAGACAATCAGGATTT
75976	PRKY	TATAGAAATAGATCAGAGCACAGTT
75977	PTPRN	GGGCGCTCTGCCCTCCCTGGCCT
75978	F13A1	ATGCATTTTATAGAATGTGTCACA
75979	CSPG3	TGAGTGTGTGTGCGTGTGAACG
75980	BCAS1	CGCCTGTAATCTCAGCACTTTG
75980	VHL	CGCCTGTAATCTCAGCACTTTG
75981	TEP1	CGCTTGTAATCCCAGCACTTTG
75982	TNFRSF9	TTCACCATGTTGTACAGGCTGG
75983	RFX1	GGTGTCGCATCTTCTCCAGC
75984	LAMP2	CGCCTGTAATCCCAGTTACTCGG
75985	RAD18	AGCCCAAACACATCAGCTTTCAAATG
75986	PDCL	TTCTAGGGTCAGGGGAAATGTA
75987	USP18	GTAATTTTTCACTTTGAGAACC
75988	LUZP1	TACTCTGCTAACCTTTCTTACTCA
75989	PPGB	AGGGAGGTGGTGGACGGACTGT
75990	RNGTT	CATCATGTCCTACATCACTGCC
75991	MOG	CGCCACTGCACTCTAGCCGGAGTGACA
75992	CDC25B	GCCAGCTGTGCCGGCGTTTGTT
75993	AP3B1	ACTACTGCTGCCTTTCATTTATAATA
75994	MAP3K9	ACCAGCCTGACCAACATGGAGATATCC
75995	P2RY12	TTTCTCTCTAGAGCACTCA
75996	PFKFB2	CCCACCCCTGACACTTCACCA
75997	CD8A	CTTCCCTTTCATTTTTTCCA
75998	CASP3	CTCAGCAGGTGCGGAGCCGTCACTGCA
75999	SRGAP1	TTTGGGAAATGCACGGACACTGGG
76000	SULT1C1	AGTGCAAATACTATCTTCAA
76001	PSAP	GGCCATCTGCCTGAATGTAACC
76002	CREB1	TGTTGATTGCCAAATTGACATGTTGTCA
76003	MAK	ACAAACCTGTCACCAGTGTAGCA
76004	PRND	TGCAGCCTCTGCCTCCCAGGCTC
76005	WISP2	TGCCCAGGCCCTTGGCTGCAGGCAAC
76006	CORO1C	CATTCCTCGGTTAGCTGGAAC
76007	OPA3	CATTGCACCCTAGCCTGGGCAA
76008	GPR4	ACTGAGGATGAAGAGGGAGAATGTCAG
76009	SPN	GCCTCCAGCACCTTCCCTCTCA
76010	PFKFB3	GGGTGAGGGTGGGAGATTTAG
76011	MYH7	GCTCAGCCCTGGAGGTGCCAG
76012	MAP4	GCTTAAGCCACTGCCTCT
76013	PRKR	TGAGTAGCTGGATTACAGGCAT
76014	C5	AAAGAACAGTCCATTGAAAGG
76015	TTC3	TATCTGGAGAGAGAGGAAAAGTCAGCA
76016	HCN4	CCCTGGGGAGCCTCAGAAGCCTGCG
76017	DGKG	GGCTTAGGCAGCAACCTCCACATTC
76018	EHD2	CCAAAGTGATGGGATTACAGGC
76019	AIM1	GGCTCAGGTGATCCTCCCACCTCA
76020	RHD	CACCAGGCTGGAGTGCAGTGCCGCA
76021	KCNJ10	TGCTTAGGCTCGCAAACAAGAAGTG
76022	IFNAR2	GCTCACTGCAACATCCGCCTCC

76023	TRPV1	GCTCCCTGCAACCTCCGCCTCC
76024	C14orf1	GCTGCCTCAACTTCCTGGGCT
76025	IQGAP1	TGTCATTGTTTTTAAAACTGTTTTATA
76026	SMARCC2	GCCAGACATCTCTCCCCCTCA
76027	ABCA1	CAGAAAACTTATTAACAACTGTGA
76028	COL1A1	TGCCGCAGGCTGGGCGGGAGAGACTGT
76029	FABP2	GACTATGGGTACATTCCACAGTGC
76030	SSTR1	GGGTTGCTGCCTTTCAAGCGGTGCCTA
76031	PLA2G4C	GGCACTGTGGGCCTGTTGGTC
76032	LDB1	CCCACCCCTCACAGCCCCA
76033	PRDX5	TCTGGGCCCTGGGCCAGA
76034	RPL15	ATTATGAATCCCTTCAGTCACA
76035	C18orf2	GCTTTCTTCCAAACTCCTGGGCC
76036	ACPP	CTAAGGCAGGAGGATCACTTGA
76037	HTR2B	CCAGCACTCTGGTTAAATTTTAAGGTA
76038	PMM2	ACAGCTGGGCTGGAGAGTTGGTG
76039	MOCS2	AAACTATTATTATTGATCACA
76040	PCDHB9	GTGTGGTCTGTTCTTTACCTCC
76041	HS3ST4	TTCATTCTTATCTTCTGCTAGTTAATA
76042	DSC3	TGACGCACAGGCTGGAGTGCAG
76043	FLRT3	TTTTAGTAATTTGTACTGTATT
76044	FBXL11	CCCAGATTCAACAGGAAACCGATCTTCCCC
76045	GDF5	GTTCTCTTTGGTGTCATTCAG
76046	INPP5B	TGCAGTGCGCTGAGATCGTGCC
76047	LAD1	CCCCCTCTTCTCACATTAAGG
76048	G2A	ATGTGTTTAGAAATAAAAGCACAA
76049	IL11	TCTCCTGCCTCAGCCTCCCGAT
76050	GPR86	TGCTTGTATTTATTTACCTTGGTATTTT
76051	TEX15	GTGACAAGAGAATTGGTTTGG
76052	WNT5A	TATTGCATAATGATATTCACATC
76053	CHST1	AGACGCTGGTGGCTGTGGACTCCCCA
76054	SPK	TTGAGGGACGAGAATGTGAACGTGG
76055	TKT	GTGCTCAAAGATGTACTGAGAG
76056	SREBF2	CCTGCCTCCAGCCTTCCTGA
76057	RCN1	GGAAAGGGGAAATTCTGTTTAA
76058	GLRA3	TTCAATGCTATTAAATCATACAA
76059	EDNRA	GGCATTTTCCCAGATGTTTACA
76060	TCF1	CCCACATGCCATTTGTACTGACCCC
76061	ABCB9	TGAGCTACAACCTGGCCTTC
76062	FGFRL1	GACCACACCCCGTCCAGGCCA
76063	ALEX1	GGTTGGGTTTAGGATGAACCA
76064	COL4A1	TTGATGAAATAAAATATCAATATTTTC
76065	MMP15	CCTCCTTCCTCTTTTCCTTCCCA
76066	TAL1	CCCAGGCCTATGTTGATCCATCCAGCT
76067	TXNIP	CTCACTGCAGCTGCCAGCACTT
76068	DHFR	TACAGAAGCAGGAAAACCAATTATAAG
76069	ETV5	AGCTAGCAGTTCCCATTCA
76070	NDRG3	AGCTGATCAGATCTCTCCA
76071	DES	AGACCTCCCCAGCCCCTAGCCCAGGAGAG
76072	MS4A4A	GCCATCTCCCCCTCCCTTTTTCC

76073	ZNF264	GGGCTGAGGCAGGAGGATCAGT
76074	PKNOX1	CCCCATTGGCTCAGAGCTAGG
76075	CTBP2	CAGACTCCTGCAAGTTCCCCTA
76076	IL2RA	TTTGAGACCAGCCTGGGCAG
76077	IL10RA	GCCACCAGGCTGAAGTCAGC
76078	PPP2R1B	AACTGGGTGGAGAAAGAATGGAA
76079	GALR1	GGCAGGGGACCCCAGTGCTCTC
76080	EHD4	CACTGCCCTCTCTGTGCCTTGG
76081	APM1	TGCTCTGGCTGAGTTGTGTGCC
76082	CDKN2C	TGCAGTTCTGCCTCACACGGCTCAA
76083	PGM1	CCCTCCTGCATTGCTGCTGCGTGGGTA
76084	UGDH	AATTGTCCATAGGCCACACTTT
76085	COX10	TCTGCTGTCTGTAGTTCTGTGAGCTCA
76086	FMO4	CCTCCTCTGCTCTCCATCATAAC
76087	CAPS	GGCCATCCTGGAAGGAAGTT
76088	DDX6	TTCTGGAGCTTAATTTTCTGTGGA
76089	TRPS1	TGGGCAATATGACAAGTATTAC
76090	ADCY2	TGCCTGTAGTCCCAGCTACATGG
76091	COL18A1	ACAGCCAACACGCACCTGCCT
76092	PPT2	TCAGGCTGGGGCCTGGGTCAGAGCGG
76093	PRND	TCTCCGTCACTCCATTCTCAG
76094	HAGH	TTATCGGACATTCTAATGCA
76095	IL16	AGGGTCCACAGGAAGTGAAGA
76096	DNAJB9	GTCATTTAGGCTGGAAAAAAGTTGA
76097	TEM7	GCCATTTTTTACTCTGGGGAGAAGCAG
76098	DBT	TGGCCAACATGGTGAAACCTGGCCTCT
76099	TNFAIP6	TTTTGGAATCCTGCTCTATGTACA
76100	GALT	CTTCTGCTTCCCTTGCCTATT
76101	BTG2	TCTCTCTTCTCTTCTTTAT
76102	ADCY2	CTCATAGAAATTGCCTCCAGTCCAG
76103	ZNF214	GTGGACTGAGTGTTTTGGCCAT
76104	IL15	CTGGGTACCAATGCTGCAGGTCAACAGCT
76105	HPGD	TCTTGCCCTATTTTAATTCTGCTA
76106	MYD88	AACTGCAGACACAGCTGTTC
76107	TES	ACTTTTTACTTGTATAGATGA
76108	TIRAP	TCCTCCCTCCTCCCCCTTCACC
76109	KLHL3	CTGCCTCTACTGGGCGTGCTGCC
76110	SLC22A2	CTTCCAGCTCACTTTATTCTCAG
76111	SSX4	TCTCTCCATAGAACAGCACTACC
76112	FBXL5	GGCGAGGGTGTCTATGGAGAGG
76113	TACSTD2	CCCTCCAGATTTCTATCACTTTGG
76114	RHCE	TTAAAAAATTAAAGACTAAAAA
76115	GCLC	CTGTTTTCTGGGCCAGTGAGCCAGA
76116	EPHB6	CGGAATCCCAGGGACTCTCGGCGCCG
76117	JJAZ1	TATGTCATCGTAAAAGCTGGA
76118	IL12RB1	AGCCTCTGGAGTAGCTGGGACT
76119	SMURF1	TGTCAAAATCAAAAGTATTTA
76120	GNB3	CCTTTCTAATCTCAGCTCCTGCCTGT
76121	NLGN2	CTGGGCCCTGAACCCTGTAGACAGATG
76122	EPHA3	TTTTGGTGTGTAACTTAGAAGGATTGA

76123	SIAT1	TGCCACTCTGGGCAAATGCTC
76124	KTN1	AATACTGATGTTGTACACTGTTTTAC
76125	ATP2A3	CCCAGGAGCTGCAGGCTGGGAGGGG
76126	PTGIS	GGAGAAACAGGCTCTGAGATTTC
76127	PTGIS	CACCTCCTGGGTTTAAGCAAT
76128	PSMD9	CTCAAGCAGTCCTCCTGCCTTGG
76129	NCOA3	TTTTGGCATTCCACCTCCTAGGG
76130	CD2AP	TTTCCAGCAGATTTCAGGCTGTTCTTA
76131	ACCN2	TCTCCCACATCCTCTTCCCCAACT
76132	DCTN1	CTAGCACTCCTTTCCCCTGCTG
76133	F8	CCAATATAACTAGGCAAAAAGA
76134	CRI1	TTGTCATAACCATTTTTAAAAGTCA
76135	GABRP	GCTGTGTAGAAGTCCTAGCATTATAGG
76136	MAPK4	GCATTTCAGCCAGAAAGAGCCTCT
76137	SUFU	CCTCTCTGTAATCTAAGTG
76138	PPP1R12B	TCACCATACTCTCTCGCCCAGGC
76139	NRXN3	CCAGTTGGGAAACCCAGGAAG
76140	PRND	TGGAACAACAGCTATCTA
76141	ALEX1	TCTTTTCAGCTGCTATTTTGGA
76142	B3GALT2	TCAATTTTAAGGAAACTTTTTA
76143	STC1	AACCAAAAAGAGCATCCCT
76144	TARDBP	GACTTGTCAAGTGAATTCTTT
76145	KCNE3	TCGTCACTGGGGTGGGAGAAG
76146	ED1	TCTTCTTTCTTCCACCCAC
76147	BRCA2	GAGGAGTGCTTGAGGCCAGGAGTTCA
76148	SMCX	GATCCCTGGCCCAGACCTCGGGC
76149	POMZP3	GGGGACTGAGCCGCGAGCCCCGAGGT
76150	EXTL3	AACACCGTCCCAGGGCTCTGCAGGCCAC
76151	TCL1B	TTCTCCTCTGTGCCCCTCATGCT
76152	HOXB3	ACCAACCAACGGACTTACCTTA
76153	IL18	GAGGTCAGGTGTTCAAGACCA
76154	TCF2	CCTCCAACTCCTGGTTCAGCCATTGC
76155	INPP5B	CATGCCTGTAATCCCAGCACTG
76155	RBBP9	CATGCCTGTAATCCCAGCACTG
76156	LASS2	TCGTATTTTCCTCCCTACCCGCCAA
76157	NFATC4	GGAGGCGGCAGCGACGGAGGAGGGG
76158	BCL7A	CCCTTCGCCACCTCCCCAGGAGGGCGTCC
76159	GPR24	GGCAAGAGGTGGAAGGGTACTGA
76160	COMT	CACTGGGGCTGGGGCCTGTGCCTTAT
76161	PTGER2	ACTCAGCATCAAAATATTTCA
76162	HOXA3	ACCTGTGTAGTGGGCTTGGGGCTACGC
76163	DXYS155E	GTCCTTACCTCATGGCTGTGA
76164	YWHAB	ATAACTGCACTCCAGCCTGGG
76165	LZTFL1	TGGCTAAAGGGCTAGTGTGGCCT
76166	SCNN1G	AGCTAGGATTTGACCCCAGACAATCTG
76167	WNT3A	CACAGCCCCTTAAGGGAAAG
76168	TIMELESS	CATTTTGTTTCCTATGATCATC
76169	KCNQ2	TGGCTCAGCCTCGAATCCCAG
76170	DPP6	CACCCATTAAAAGAAATA
76171	ATP1B1	GGATCTGCCCATCACTTTG

76172	UPK1B	TTTCTCATCTGCACTATGTTTCCA
76173	SRR	CTTTAGATACTGAAGACA
76174	CD209	CCCAAAATTGCTGGGATTACAGG
76175	PSCD4	GAGACCCCCGTGGGCCAGGA
76176	APOL1	CTAACACAGTGAAACCCCGTCT
76177	CBFA2T3	CCGACCAATTAGTCACTGCTGCT
76178	NDUFA5	CTGTGATCTTATGTATGTAAAGTGAA
76179	CALCR	TTCTCATTAAAATCCAGTATTA
76180	NFE2L1	TCCTCTTCTGGGACTGCTGTG
76181	STC1	AACACAAAACATTCATGTA
76182	LRP8	ATGGCTACTGTTCAAATACA
76183	SNAP23	CCATGAAGAAGGAAGCTGTAGA
76184	EPHA8	ACCAGCACCAGGCCCACCCTC
76185	COL6A2	AGCTCCCTGCCAGCTTCCTGTCCCTG
76186	FCRH3	CACACATCATCCATCTCTCCAG
76187	B3GALT3	CATGCAAACATTTTCCAGTTAC
76188	CLASP1	AGCACCCACCTCCCTTTTCTCAGCCT
76189	FMR2	TACAAGTGGGAGTTAAGAGA
76190	PPP1R11	TTCTGACTTGCTGCTA
76191	CALM1	CACTACCAGTCACCTTTGATTCGCGAC
76192	NEUROG1	ACCCCAGGCTGTTGGGAACGTAAG
76193	FMR2	AAACTAAGCTCAGTAACAAGAAGGCATAAA
76194	SYNGR3	TTCCTGGCCCAGTCCCTGCCTCTC
76195	NDRG3	CCAGGCCTCTGCTCTGAAGAGCA
76196	CLK2	CTCAAAGACAACAACTACCTG
76197	GRLF1	CCAGGTCAGAAAGTGGCCCAGGAAG
76198	B3GAT1	GGAGCATGGCCCTCCCTGGCT
76199	CRSP6	TAGCCCAGTCTGGAGTGCAGT
76200	IL22RA2	AGGAACACTGGTTGCCTGAA
76201	CAPG	CTTCTCTGGCTGCCTGGTCAG
76202	CYP1A1	CAGGCTCCAAGAGTCCACCCT
76203	C18orf1	TTCACAGTCCTTACTTCTCTA
76204	BCL10	GCCCAGGCTGGAGTGCAGTGGCGCA
76204	LYZ	GCCCAGGCTGGAGTGCAGTGGCGCA
76204	PIGR	GCCCAGGCTGGAGTGCAGTGGCGCA
76204	SS18	GCCCAGGCTGGAGTGCAGTGGCGCA
76204	TERF1	GCCCAGGCTGGAGTGCAGTGGCGCA
76205	CYP1A2	ACCCAGGTTGGAGTGCAGTGGCGTG
76206	PPID	ACCCAGGCTGGAGTGCGGTGGCGCA
76207	ANG	CCTCCTTTTGCCCTCCGCAGGAG
76208	SUSP1	TCTAAGATATTTTGAACTAAGCAT
76209	MELK	TGTTTTTAAACAAAAGATATTATTTTG
76210	KCNA7	CCCTGAGAGGTAGAGGCTGCA
76211	TCIRG1	CCTCCTTCCTGACCTCTGAGGCAGGA
76212	AICDA	CCAGGAGGTGGAGGTTGCAGTA
76213	BCL2	AGCTTTCACCTCCAGGATCTATT
76214	PLAT	CTCCAGGAATGCCTCCTCCCTGGGCAGAA
76215	ITGB2	GTGCCAATTTATTTACATTTAA
76216	POV1	GGGCCAGGAGGGCAGGTTCCCTCTCTG
76217	MIR16	CCAGAAGTTCAAGGCTGCA

76218	WIG1	ATTATGCCCCAGGCTTCCCTA
76219	ST14	GCTGGGAGGTAGAAGGGGAGGA
76220	FMR1	TTTTCAGTTCAAAGTCATG
76221	CFTR	TCCAGAAAGTGACAAGCTCACAG
76222	STK11	GGTGGATTTGAGCTGTGGCTGT
76223	LTA	TTTGGCCATTCCAACAGCTC
76224	PRKWNK3	TGGTCTCAAACTCCTAACCTTG
76225	MASP1	TCCTGCTCTGCCTTCTGGGACT
76226	HPS3	TACAAGTGTCAGTCATGTATC
76227	FGD1	GGCCTCGGCTGCGGCG
76228	RNF17	AGCCATGTAATA
76229	C9orf19	GCTATGCCTCTAATTTCACCAGGG
76230	SFTPA2	CCCATCTGGTCCAGTTCCTT
76231	EDNRA	AGCTACAACAAATACTACAG
76232	EPHB6	CCTCCGCCTCTCCACCAGCC
76233	PKNOX1	GGGAAGCTCTGGCCTGAGA
76234	CD72	GAGGACAGTGGATGACAGGGAAGACGAGTGGG
76235	NRL	CTTCCTGGACTTGTGTTACTTCA
76236	EHD4	AATTCAATCAAATCCTGTCCTAGTGTGT
76237	RALB	CCCTGCTCTTCAGTGGGTC
76238	RAD18	CACAGGTACCAGCTTTGCAGAGG
76239	TSN	CCTGGCCTTGCTGACCTCAGCGGTTGCC
76240	FMR2	GAAAGTGTCCAACAAGGA
76241	ASTN	ATGTTCTCCATCTGCATGAT
76242	SLA2	CTGTTGCCCATGCTGGAGTGCAAT
76243	DTNB	GCATTTTCCTGCTCTTTCATTCTCTG
76244	CBFA2T2	AGAGAGAATGAGGCTCAGTTG
76245	EEF2K	AAAGCGCTGGGATTACAGGCAG
76246	CASP10	AAAGTTCTGGGACTACAGGCAT
76247	TLR9	CAGCTGTGGTGCAGGAGCCAAGA
76248	MSF	GGAGAGAACGGGCGTCAG
76249	TFAP4	TCCACCCCAAAAATGTCTGTCT
76250	MEF2D	CAGCCGGGCTGGAGGCTGTG
76251	JUN	CCTCTTTTCTGCATCATCTGTAGA
76252	CLASP2	ATGAAGCTCATCACAGCGAACCAG
76253	LOH11CR2A	GGAAACACTGATTTTGCTGCTGAA
76254	PMX1	TTGTTCCCAGCCATGCTTTTG
76255	PWP2H	GAATGTTGAAAATGCGTCTCAGAG
76256	CHN2	CAAGGGTGAAGGTGAGGGAA
76257	WNT10B	CCTCCCACTTCTCAACTCCAG
76258	PTGS1	CTTCTGCTAATACCTCTTACT
76259	SULT1A3	TGGGAGGTTGAGCTGGTAGGA
76260	SURF4	GTCTCTTGGTCCACACCTCGCTCCCTGT
76261	BACH2	CGAGCAGGAGTGATAGTTACCTTCAC
76262	POLH	ACCAGCCTGGCCAACATGGCAAAACCA
76262	TRPM8	ACCAGCCTGGCCAACATGGCAAAACCA
76263	SLC17A5	TCCAGCCTGGGCGATGGAGCG
76264	THOP1	GGCACAGTGCCTGGGACTGGC
76265	RPS24	GTTAGCTGTGGCCACTGTGGA
76266	LAMC2	AGGAGTCTGAGGCAGGAGAATCGCT

76267	ELF3	CAGAGCAGGGGCTCCAGCACTT
76268	CALB1	TCATTCTTTTCAGCTTGTTTCTA
76269	NRAS	CTGAGATACGTCTGTGACTTATCTACC
76270	TLL2	TTTCCTGCCTCTCCTTTCACCA
76271	EZH1	GCTTCTCCCTTCTTTCTGGGACT
76272	NFIL3	AGCTGGGCATTTAGAAAGATGTCA
76273	CNGB3	GGAGGCTACAAAGGCCAGGC
76274	MLLT2	GGCTATATTTTTCTGCTACA
76275	ADD2	CCCTCAAAGAAGAAAAAGAA
76276	TERT	ACGTCCCAGGGAGGGAGGGGCG
76277	CDH17	TCTGTGTCATTAACCATCTTTAA
76278	DUOX1	GTCACCATGTGTGGGCTCAGGGA
76279	PCDH15	AGCATAATTTGTTCTACA
76280	PKD2	GTTAGCAACACTGTTTTCTTTA
76281	EIF2S3	ACCTCAGGGTGATCAGCCCACCTCG
76282	CAPON	TTGCAGCACTTTACCTCTCTG
76283	DISC1	TTAGCTTGTTCCTGGACTTC
76284	CSNK1G3	CTTCATTTTGTGGTTGTCTTAC
76285	PSG6	AAAGTGCTAGGATTAAAACAT
76286	XKRY	CATCTGGAGAAAATTCAGT
76287	MADH1	TGTACTTGAAGGATGGATGAGT
76288	CYP4F3	TTCAGTGAGCCGAGATTGTGCC
76289	ERBB4	TGGAAATGCCAAACCAAGC
76290	ABCB11	CCCAATGTCAAGTGGCAGCTC
76291	CD164	TTCCATTCCTCCCAAGGTGGCA
76292	CHAC	ATCTTAGATAGTGTATTATGCTTCCA
76293	TRPV4	AGGCCCCAGCCCCTGCCTCTCCATTA
76294	PBX2	CCAGAGGACAAACCCCAATACAG
76295	LENG4	GACTCGCGCTCTCGGCTTCTGCTCCG
76296	SOX9	AGTGCATTTCCTCCTGCCTTT
76297	CSF1R	GCACCTTGCAGCCCTGCACCTG
76298	ID1	AACTGCATCCAGCCTGGGGCTGAGG
76299	BCL11B	AAAACTCAAGTGACACAAGTTACAAGT
76300	AXL	CCTCAAGGTTTTAGGTTCTAAAGTTC
76301	MS4A4A	TCTCCCACCTTCTACTGGGCATAATT
76302	TCF12	TTGCAAGCAGTGTGTCGCTTCTGCAC
76303	SCN7A	TAATAATCAGTTCTTTACAACC
76304	PDE7A	AATTTAGAACCAGATA
76305	HIP1	GGAGGCTGAGGCAGGAGAATC
76306	CRYGA	TTTGTACTAGCTGTGCCTGCCTTGTT
76307	HIVEP3	AAACCCAGCAGCCTCAACCTAGTT
76308	CRY2	GCCACTGCCAGAAAGAGAGTCAAGC
76309	STIM1	TTCTCTTCCTCCTCCACTTCTGTGC
76310	RRAD	TCATGGTCATGGACAGATAGACAG
76311	DAAM2	GGAGATGGGGATGGAGGAGGAA
76312	SOX13	TGGTCTTTATTCCTCCCTCA
76313	CTMP	GACCAGCCTGACCAACACGGAGAAACC
76314	EXTL3	TGCTCTTTCTTGGATTGGACAGGAGAT
76315	CACNB2	ACAAGGCACAGTGCAGCTTGGTGA
76316	ZNF45	CTTGGCACTTCTCCAGAAG

76317	REQ	TTTCTGCTTAGTGGCACTGA
76318	ICA1	CTTTTCTTCCCAGCAAAGGTTGGCCTT
76319	STAT6	CCAAGTCCCAGATCATGTC
76320	NR2E3	CTGAGGGTTGCATGAATCTGCAG
76321	KIF3B	CTCACATTTCCCACTTGAGGTT
76322	PTP4A2	CAATGATGCCTAGTGAGTATGTGTCCA
76323	ADH7	TTTGCAGAAATACAGATCCAAGA
76324	TAF6	TCTCCACCGGGGGCTTCATCCTTCC
76325	LSS	TGCTCTGGGCTGGAGCGAGGGCCAGGT
76326	HOXA10	CTCCCACACTCGCCATCTCCTG
76327	HOXA1	AAAATTCCCTCATTTAAACCCA
76328	ZNF24	GATTCATTGTCCCTTTCTTGAA
76329	KLHL3	TATTGTTGGGACAGGTGCCA
76330	RAG1	GCCACTCAGGTGCATTGCAG
76331	ASK	CCCAAATGTAAATATTAAAAATAAATA
76332	ZNF14	TAGAATATAAGCAACATTCTGAA
76333	MGAT4B	TCCAGAGACACAGGCACCAG
76334	WHSC1	TTTTATGCTTTTAAAATCAATAG
76335	ATP8B2	CATCAATGGCCACAGCTATGGT
76336	LGMN	CCGCCGCCGCCACCACTGCCAC
76337	ENTPD5	AACCTTGGAGTGAGAGCCCAG
76338	NPY2R	TTCATTCTCTAGACAAAATCCA
76339	MRPL49	ATCAAGGGATTCTCCTGCCTCA
76340	ZNF80	AGAGCCACACTGAGGAGAAGCAC
76341	MTR	GCGTGAGCCACCGAGCCTGGCC
76342	TLR1	GAACAGCTTCTACCTTTAGGAA
76343	PTP4A2	CAGCCTTAAGCCCACCTGGGCACTTTT
76344	DLEC1	CAGTCTCCCTCCAGGAAAGGCCT
76345	P2RX7	TGCACTCCAGGCTGGGTGACAGA
76346	PML	TGTCCGCTCTGATTAGCAGATCGACA
76347	PFKFB3	TTCTGCAGGAAGTCCCTGAGCTG
76348	MKI67	GTCCTCCAGGCTGGGGCAGGTTCTTAG
76349	DSS1	CTAGGGCAGAGAACCCAGGATGGGACA
76350	FZD5	GGACCCAGGCTGGCTGGGGAC
76351	CDH17	CAGGCTGGAGTACAGTGGTGTG
76352	TPP2	CCTGCCTGCCAGCACCTAGGACT
76353	PSA	GTATTTTTCTCAAATGAAC
76354	SLC16A1	GATTTCTGGCATATGTTTCTGCTAGC
76355	THOP1	GGTGGAAGGAGGGAGGGAGCCGC
76356	MAGEC1	GGCCTGGTTGAGGCTGGAGAGAACACAGTG
76357	KIF3B	CTGAGGCACGAGAATCACTTGA
76358	SPRR2C	TGTTTCCTTTCTGAGGCTGCCATG
76359	ZNF264	GCTCTCATCTTTTTTCTTTTTCCA
76360	GBA	GGCACTGGGCTCAGCCTGGG
76361	NFKBIL2	CGCCTGTAATCCCAACACTTTG
76361	NPHP1	CGCCTGTAATCCCAACACTTTG
76361	RFC2	CGCCTGTAATCCCAACACTTTG
76361	TCTA	CGCCTGTAATCCCAACACTTTG
76361	TPM4	CGCCTGTAATCCCAACACTTTG
76362	CYP27A1	CCTGCAGCTCCCGCGTCGCT

76363	MLLT2	TGGCAGCAGGGCCCGCGGGGTGA
76364	AIRE	CGGGAGGTGGAGGTTGCAGTGA
76364	BRCA1	CGGGAGGTGGAGGTTGCAGTGA
76364	DAPP1	CGGGAGGTGGAGGTTGCAGTGA
76364	SIGLEC11	CGGGAGGTGGAGGTTGCAGTGA
76364	SIM2	CGGGAGGTGGAGGTTGCAGTGA
76365	MAGEA2	GGCTCAGTCGCCACCACCTCA
76366	TG	CCAGCCCTTGAGCTCCCCAAAAAC
76367	JRK	CCCACCTGAGGCAGGAGGGCATGT
76368	LIPE	TGCCTTAAAAAGGAAGACCAGTGA
76369	DNA2L	CTTGGAAATCTTCCATTTCTCTTGAGG
76370	PSG7	CTTGCTTGTGCCTGCCTCTTTC
76371	CAMLG	CCGCAACCTCCACCTTCCTGGT
76372	PSAP	GGGCTCCCCCACCTCC
76373	PCDHB9	TGGGATTTACAGGCATGAGCCAC
76374	LHX2	CGCCCAGGCGCCCCGCAATG
76375	SLC17A5	GCCTCACAAAGTGTTGAGACTA
76376	CEBPA	GGTGGGAGAGGGAGACCTAGAGATCTG
76377	RAB36	GCTTGTTTGTTGTTTTCACCAGAG
76378	EGLN3	TTACTATGTAATTTACTCACTTA
76379	DPYSL3	CCACCTTTCCATTCCAAACCA
76380	SIX1	CTTAATCTCCTCTTCTCTCCA
76381	SEPX1	AAAGAGACTCATTTGCTGATGG
76382	DAAM2	GTGCAAGCCTGGCTGACACAG
76383	ABCD1	ATTCGTAGCCATCTCCGTGGCCAATG
76384	TFE3	GAAGTGAGGATGAGACCCAG
76385	FAT2	CCCCTCTGCCCCTGCCTCAG
76386	DIAPH2	CTGTCTCTGTCCCTTTTAGGCC
76387	KCNE1L	AGCTGCTCCAGGGGCTGCCAGG
76388	TNFSF14	CCACTGCACTTGCCACCTGAGTCACAT
76389	DGKI	CTGTCTCTCTCCTGCAAGAATCTACCT
76390	KCNJ8	AGTAATAAAAAGTAACACACCA
76391	CDKN1A	CCTGTACTGTTCTGTGTCTTTCACAGCTCCTC
76392	LHX4	AACTGGTGTGTCTCACACAATGCCTC
76393	IL16	GACCTCCTGCCTCCGCCTCA
76394	MMP19	TCACATGCTCTCAGGAGACA
76395	ORC2L	GGTTTTGTTTGCTATTCTGTG
76396	GAP43	TCCCCACCCTCCCCTCTCCTGAGCC
76397	ARSB	TTAAACCACACCGAGGTGTCTAATT
76398	HS2ST1	CTGTTTACTTTCAGAGGAAGCAGAGA
76399	BSG	AGGTCCTTGCCCTTTGTGGAAA
76400	GRM6	AGCCTCCTGAGTAGCTGGTGCG
76401	FN1	AGTAATCATCTTTCCAATCCAGA
76402	DGKG	CCTGCTGCTGCTGTATACACTT
76403	SRGAP1	TATAAGCCCTGAAGCTATGTG
76404	S100A5	AAAGGCAGAAGGCAGTGA
76405	CYP27A1	GAGGAGGGAGAGAAGGAGGCCGC
76406	RET	TCCCTCCAGCCGTGGCCCCAGCGCGCA
76407	ADAMTS13	ATCCTGTTGGACACCCAGTGCC
76408	ITK	TGGAAACAGTCAGGCACTGACTGGG

76409	COL7A1	GGAGTCGGGGTCTCAGCAGAAC
76410	KCNJ15	TTCCATTCAAAATGTGGTTCACA
76411	SLC1A4	GTCAGCTCTGCATCAGGTGTTTT
76412	CHRNA2	CCCTCCTGGGGCCAGGCTTGGGTTT
76413	FLT1	GCCCCAGGGGATCACTGGCT
76414	MOG	ATTTCCCTTCTTCTGTCATCTA
76415	SURF5	AGAAAGGGAAAGGCAGGTCTG
76416	CST	CATCCAGAGCTGGAGTGCAGCG
76417	D10S170	ACAATGCGGCTTCCCCCTTTCGTAC
76418	PPP1R14B	GGCCAGGCCTGGTGCCATGAG
76419	DBP	GCATGATCTCCCGGGACCCTCTTGAG
76420	ATP2A3	CCCTTGCCACCACACTCGCCCAC
76421	LPL	GTGCTTGTAAACCATCGCGTGCAATG
76422	MALT1	TATTACCCTGATACTAGAC
76423	GRM6	GCCTGTAATCCCAGTTACTTGGG
76424	DHCR24	CCCTTCCTCCTTCATGCCTGGGCC
76425	BCL7A	GCAAATCCAAGAAGACCCAGAA
76426	MKI67	CCACAGCCACCCTACAGCAGCCT
76427	CELSR1	CGGCTGTCATTTTTCACCTGGTCAT
76428	B3GAT1	ATCTCCCACAGTATTCATG
76429	FTSJ2	TGGTGAGAAAACAGGCTCAG
76430	MAT2A	GTCTGTAGGTTGCACACTTTGG
76431	MADH4	CGATATGTATATCATTCTA
76432	JTB	TTCCCCATCTTCTTCTTTCA
76433	FUT1	GTAGCCCAGGCCAGAGTGCAGT
76434	EIF2B5	GAACAGCAGAGAGCAGTTGGCT
76435	LIFR	TGCTTCTTACAGGAACAGTTACCCAAG
76436	GRAF	AGCTGGGACTGCAGGCATGAGCCA
76437	P2RX4	CCCACAGCAACGGAGTCTCAACA
76438	LOX	TTCAATTCTGTAATTACATATT
76439	ADCY1	CACGGGGTTTGTCTGTAAGCTGCAGT
76440	TAL1	GGTCTCTGCATTTTTCTGCAGAAGAG
76441	IL11	TGTTGCCTAGGCTGGAGTGCAGT
76442	PDGFRB	CTGGGCCTCAGTTTCCCCT
76443	MME	GATGAAAGCAGGGAATTTCT
76444	PPARGC1	TATGCACTGTAAATGCAGCCT
76445	ZNF35	GTCCTTAAAAGTTATAGTTTTCAGGA
76446	PYCR1	CTCCTTTCTTCTCTGCTCCCAAACCA
76447	DFFB	CTGTGGGACCCAGAGGGCTTGAGGAC
76448	NRIP1	AGGTGTTTCTTGTGTTTGAGAACC
76449	ARHH	GGAGAGGGAGGGCCGGGAAGCCAGGAA
76450	HLCS	GCACACTCATACCACATACAA
76451	AGPAT2	TGGCTGGAGGATGGGCAGAGGGG
76452	EGLN2	CTTGCTGTCTGCCCTGCCTCACCCT
76453	MAD2L1	AACTCATAATCTATAAACA
76454	GRINL1A	TCTGTAAATAGTGATATGA
76455	CTSL2	CTGCGACGGCTGCTGGTTTTGAAA
76456	CBFA2T2	GTCTCCCAGGCTGGAGTGC
76457	BDKRB2	CTAGAATCTGGAGAGCTAGAACCTGG
76458	FIGF	GGCCCCACAGCCGAAAGAATCCTTGTTCAGCG

76459	STC1	TCCCAGCCCACCTCAACCCAGA
76460	SMARCC1	CTAATCTCTCTCTTTTTCAGTGAA
76461	SLC26A4	AACCTATAGGATAAGATTCCAG
76462	SET	TCTCTGTATATTGGGCTCAGA
76463	DAAM2	CTTATCTCCCCTTCACATGATTCC
76464	P2RX7	AACTTCACTGTGCTCATCAAGA
76465	EGFL5	CCGAGATGGCGCCATTTCACTC
76466	MTNR1A	CAGAGGCAGAGGTTGTGGTGA
76467	DNASE2	GGGAGGCAGAGGTTGTCATGA
76468	PPP2R1B	TATAGTAAGTTTCTATTTTATG
76469	C14orf1	ACAGGCAATGCCCCTGCCCTGTGGGCCTTATA
76470	UNRIP	TTCTCCGCTTCTCCCCATCCCCTAC
76471	ATP6V1G2	CCAGAGACCTTCTGATCTCCAAAAAG
76472	ARNT2	CCGAGAAAGAAACCAGTCCCAGGGA
76473	SLC6A8	ACACCCAGACAGAGGCTGCAGGGCTG
76474	TNFRSF9	CAGATGAGGACAGAGCTGG
76475	CNTN2	AGTCTTGGAGATCCCACCTTC
76476	ZNF74	CGCTCACTGCAACCTCTGCTTC
76477	PPP4R1	TAATTGTCACCGAAGCCTTAA
76478	TAZ	TTCTTCTCTGCTGCCCCATGGC
76479	AVPR2	AGGCTGAGTCCGCACATCAC
76480	COPA	TACCACTTCATTCCAGCCTGGG
76481	PDGFB	CCTGCCTGCCTCCCTGCGC
76482	PEA15	GGAGAGGGGGCAAGGGCAACCCACCAT
76483	KCNAB1	CAGAGAGTTTGAATTTTTTGCCCG
76484	ANXA8	AGAGATGGCCTGGTGGAAAGC
76485	GRB10	TGCAGTATTTCATATTTATAAA
76486	ANXA5	ATGCCTGGCCATTTTCCATTTA
76487	RAB27A	TCATTATGTCTGATGGAGATT
76488	SEDL	CTGTTGTGCAGGCTGGAGTGCAGT
76489	CYP8B1	AGGAAGGGGGAGTATCTGTG
76490	GARP	CAACAAATCTTCACTGAGCATGT
76491	ATP1B2	GCCCAGGCTGGAGTGCAATGGT
76492	TNFRSF11A	GCCCAGGCTAGAGTGCAGTGGT
76493	TTC3	TGAGTGTGTTTTGTACA
76494	GAGED2	CACAGGCAGATCCAACTGGGAGTTGA
76495	RPL36A	TTTCTTTCTTTCCGCGCCGAT
76496	MGAT2	CCCAAGGTCAGAGAATGGGGC
76497	DLGAP2	GTTTTTAATTAATAAATCCTA
76498	VCP	TTGCCCAGGAGAGGGACCAGGGGTGCG
76499	SMURF1	AAACAGTGATTGTACAGCAGGCTGGG
76500	PLOD	ACCACTGCCCAGCAGCCTCTGGG
76501	VIP	ACCATTCATACCCACACAC
76502	NINJ1	GGGCCAGCCTCTGTCTCAGGAC
76503	LAMC2	CCAGGAGGCGGAGGTTACAGTG
76504	BIRC7	TCCCTGCTGTCCCCAGGGTGGGCCCC
76505	P2RX7	GCCTATCCTGGCCAGGTGTGGTG
76506	FKBP10	AAATGTTTGGATTTGCAAAG
76507	GRM1	AGGGTCCACATAGAAAAGCAAGA
76508	TRHDE	GTGGCCTTGAACAACTGGTT

76509	FBXL11	GCCTATCTCCCCCAAGCTGGAGGCGGC
76510	DNMT3B	AGATGACAGGGAAAACTGCAAA
76511	UGT1A1	TAAAGAAGGGAAGCTTTGTA
76511	UGT1A4	TAAAGAAGGGAAGCTTTGTA
76511	UGT1A8	TAAAGAAGGGAAGCTTTGTA
76511	UGT1A9	TAAAGAAGGGAAGCTTTGTA
76512	SLC4A4	TTCTAAGCATCCATTTTTCCCT
76513	USP6	CAGCAGCAGTCACTTCCCTCCA
76514	BMP1	TAGGAAAAGAGGCCAGCTCTG
76515	EIF5A2	ATATATTTTCAATTGTGTACA
76516	F3	TTGCCCAGGCTGGAGTGCAGTAGCACG
76517	FOXD1	TGGGGTAGGGAGGAAGAGGGTG
76518	RASSF1	TCAGAAGTGAAAATCTTGGAG
76519	PX19	AACTTCCAGCCCTGTCTGCTGTCT
76520	CACNB2	CAAAAAGTCTTTGGGGTCTACACTGC
76521	TLE2	TGTGGGGGCCGATGGGCAGG
76522	BACE2	TAGGAGGTCATCAACCGATG
76523	MYD88	TGCTCCACTTTCAGCCAGGCTGGA
76524	CTNS	CGTCTCAGGCAGGACTGGGCACCAAGCTTGCA
76525	GABRB3	ATACATATATACATTTTGCAGCTATGGA
76526	EPHA8	CCTGCCAAGGCTCTTGTC
76527	SIAT7D	CCCATTCTGGCGACACTTGG
76528	PTX3	GGACTCTCTGCTCCA
76529	PMP2	AAGGTAGGAACAAGATGAGCTTGA
76530	CRTAP	ACCAATTCTAGCACCCACTGA
76531	GPR44	CTAATCAAATCCAATGGGGGA
76532	BAT1	GGTCCCTTGCGCCTGCGCTCTTGCA
76533	AHR	TGGGAATCGGAGGTTGCAGGGCCAAGA
76534	DCX	TGTCACCTAGGCTGGAGTGCAG
76534	SIGLEC8	TGTCACCTAGGCTGGAGTGCAG
76535	SLC17A4	ATGTCTGGAGAAATGTGTGTAGTGCTT
76536	TAPBP	GGGTGTAGGGATTTTAAAAAGTTACTTAGGCA
76537	ASCL1	TTGGAAGCAGGGTGATCGC
76538	ZNF80	CAAATGATGTGGGAATTTGTG
76539	TRADD	GGACGTGCTGCAGATGCTGAA
76540	SMCY	GTGTCTTGCCAGCAACATTCCTG
76541	FANCC	ATCATGACACTGCACTCCAGCCT
76542	MUCDHL	GCCCAGGCTGGGCGCCCATGC
76543	KCND3	AGAGGGCCAGAGTGGGTAG
76544	ATP1B2	AAAGTGTTGGGATTACAGGCGT
76544	CASP2	AAAGTGTTGGGATTACAGGCGT
76545	FOLR1	TTTGGTTCCTGCTCCATGGTCGGGCC
76546	ADARB1	TGCCGGGTTCCAGGGAC
76547	ABCC3	GGTGAATGACACGCCTAAGGTCACAGC
76548	CUTL1	CCTCTCAGCCCCCACCTCAGGTT
76549	ATP11B	AACTGTCCTCTTTCTTGGG
76550	ZNF214	CCGGTTTAGAAACCCCAGAGAC
76551	RNF6	TCTCAGGATGAATCAGTCTA
76552	EFNB1	CCAACCCAGCTCCTGCTGCTGT
76553	IL4R	TGCCTATAATCCCAGCACTTTT

76554	NIPSNAP1	CACTTGCTGGACAGTCTGAGCCA
76555	FGF7	AAAGAACCCAGTTCCAGCAGGGA
76556	CD83	TCCCCAGCAGGGTCTTTTCA
76557	SCA1	TGTTATTAATGTTATTTTCAG
76558	RAB23	TGCTGCTCACTGAGAACCCAGCTTTGA
76559	TYRO3	GGCCAGCCTGGCATCAGTTTAGGCCTT
76560	CNGA3	CAGCCCCTATCCTCCATTCTTGA
76561	EDAR	ACTGAAAAAATGCTTTA
76562	CD34	GTTTTAGGACAAACAGCTCAGT
76563	CREBL2	AGCTCCTAAAGACCTCTTGTACTTGGT
76564	CORO2B	AACCTCTAACCTCCTGACCTCA
76565	CHRNB2	GGGAGGGGAAGAGAGAGGCCTG
76566	FTSJ2	CAGGCTCAGGGTTTCATGACTTGTTGA
76567	CRY2	GCCTCAAATCCTGACCCAAGGGCCAGC
76568	IL5RA	TCAATCAGGAATAGATTTGCCA
76569	OGG1	ACTCATTTAACTAAAGTTAAC
76570	HKE4	GAGGGCCCAGAGAGTCTGTAAAGTGGC
76571	OSR1	TTCTAGCAACCTTTGTTAGGA
76572	REPS2	CCGCCGCGCCCCCTTGCTGGC
76573	GOCAP1	GGTTAGCCCCTTGCTGCCTGCT
76574	CHRM3	GCACACATCAACCCACAGACCTT
76575	DUSP4	CCTGCCCCTTTCTGCAGCCTAGGCGG
76576	GNPI	CTGTGTTTTTGTGAAAGGCCT
76577	SOCS4	TGGAACTAGAATTATTATTA
76578	TCP10	AGAGGGAGACAATTCTAGTCAC
76579	SH3GL1	GTGGCTCAGAGATAGGACCCTG
76580	FOSB	TGCTCCAGCTGTCGTCTGACT
76581	YWHAG	GGCTAGCTGTGCTGGTATTGGAA
76582	ITGA11	GGGACACCCCTACACACACCCAGGCCC
76583	FUT3	GACCAGCCTGGTCAATATAGCAAGACC
76584	PAX2	CCCTCCCAGCCTCCTCCTCC
76585	CDH16	GAGTCCCCTGGGAGAGAGCCCAGCACCCA
76586	ITK	CAGCTGTAGTCTTCTTGAA
76587	ATP6V1E1	CAGCGATGCCCCTCTGTCACTCA
76588	BSND	TCTTGCTCTCCCTTGAAGCC
76589	PFKFB3	GGAGAGGGTGGGGTGGAGCAGC
76590	SMARCC1	TTCCCTCCCTTCTGTCCTTCCA
76591	GPR3	CCAGCTCCACTCCAGCCTGGCGTCCAGG
76592	NAPB	AGCAGGAAGCTCTGTGATG
76593	ELMO1	TCAGCCCCTAGCTGGCATCTTGCTCACCGC
76594	SRGAP2	TCTGCCCAGGCCCTTGTTCCCGGCAGT
76595	PCOLN3	GCAGCTCTTGGGAAGGACTTGCTGGG
76596	SULT1C1	CCCAGGGCCAGGTCACAGGGTT
76597	NP	TGCCTTATCTAAATCACCAGAG
76598	PRKACG	CCTTCCTGGTCCCTCTGTGCTT
76599	IRTA2	TGTCTCAAACTCTAAGGTCG
76600	CDS1	TCAAACACTATAAAATGAGTA
76601	DGKQ	GGGCTCGAGCCATCTCTGCTCCC
76602	TRIM9	GTAACATGTAGTTTACACTGAATTGC
76603	S100A4	TCTCTACAACCCTCTCTCCT

76604	ASB2	CTGGGGAGGGGGACCGGGGGGTGGGGT
76605	CLC	AGCCAGCTAACAGCATGATCT
76606	ADAM30	CCACAAGTTTTGATCAGCAAATAA
76607	PRLR	CCATTTTTAACCACTTGCCT
76608	MSI1	GAAGCCCCAGGCCGCAGGGGG
76609	LMAN1	CCTGCCACTACATTCTGGTTT
76610	TCF2	CACCCTCTGGGCAGCTGTC
76611	RXRA	GGCAGTGGCTTTCCTGAG
76612	NCOR2	ACCACGCACCTCCACGCCACTGCCTCC
76613	MAPT	CCCTGCTCTTCAGCACCATGGGCC
76614	CASP10	TCCCATTCGGGAGATCATGT
76615	COL8A1	AGTCATCTCAAGAACAAAAGACA
76616	ANXA9	GGCCACAACAACGACACCCACCTCA
76617	BMP8	CCAACACAGTGAAACCCCATCT
76618	TM4SF6	GTTGTTGTTTTCCACTGAGAAAGCTA
76619	KCNN4	GGGTGTGGTGAGTAGAGGTGTGT
76620	RBBP9	TGAAGTCCTTTCCTAAAAAAGA
76621	FAAH	AGGCAGCAGCAGGCTGAAGGGA
76622	E2F2	GGGGAGCGCGGGGCGTCCCGGG
76623	ARF1	AGCAGGAGCGCGTGCAAGCCGG
76624	VAPB	TGGAGGTGGGGTTTATTGG
76625	RNPEPL1	CCTGGCAGAGGAACAAGGA
76626	RAB5B	AGGGCTGCCTCCTGACAGCTCC
76627	PCDHB12	TGCCTGTAAAGTAGTATTTTT
76628	KCNQ2	GAGAGGGACGGCTCACGAGGC
76629	FKBP1A	TGAATGTGTTCTGTCACTCA
76630	ENSA	CGGGTGTGGGCTGGAGAGGCAGA
76631	NFKBIL2	TGCCTTTCCCCACCCTCACCGA
76632	PSMD5	CTTTGTTACCAACACTGTTATATTTCT
76633	MAP1A	CCAGACTGAGAAACCCAGAA
76634	CD244	AGGGGGAGTGGGCTGAAGGGA
76635	ATP2A3	CTTGCTCCCCCTTGTTCGGAAGCTG
76636	HUNK	GGAGGTCGAGGCTGCAGT
76636	IRAK1	GGAGGTCGAGGCTGCAGT
76636	LRRC2	GGAGGTCGAGGCTGCAGT
76637	MAG	GCCCTCATTACGGCTCCTCTCTAA
76638	MAK	CGAGTAGCTGGGATTAGAGGCGT
76639	TOMM22	CATGCACACAATGTGAAACAG
76640	SHFM3	CCTCACTGCCCCACTGTGCTCCTGGGC
76641	OSBP	AGGCTCTCACTGGGCGCTGTA
76642	PCLO	GGAGATAGATCATTGTTCTCTCCA
76643	GFAP	GCTTGATTCTCAGCACTTGGGGGAT
76644	ALPP	TGCAGTGAGCCGAGGTCATGCC
76645	USH3A	TACAGCCTGGGCAATAAAGTG
76646	GLO1	TCTGGTTTTCAAGCAGTGCTTTA
76647	SEC22L1	TTTCTCTCATTTACTCCTTAA
76648	LZTR1	TGAGGGGATGTGGGGGCCCCAA
76649	RASGRP1	CAGTCCAGCAAGGGCCAAAGA
76650	KCNK4	TTCCCTCACTTCCATCCATCTC
76651	AGTR1	GCTGTCCTGGCCTGTGCCCAAT

76652	FKBP1A	ATAGACATCTGCCCTGACTGAATGTGT
76653	KCNA7	TGTCAGACAGGCTGGGGGCCTC
76654	DSCR4	CATAAACCACATCCAGCCACCTCCTT
76655	CYP1A2	AGCCTGCCTCCCCTGCCTCACCAG
76656	SLC2A3	CCATGAGCACCCCAAGGCTGCG
76657	CFL2	ACAGAACGTTGCCTTGTTTTCC
76658	MYLK	GCTATGGGTCCCTGAGGCCTGGCT
76659	RTN1	CTGATGTTTTAGCATTTTTCCAACACA
76660	EPB41L2	TGAGAAAATATTAATACAGATTAAAA
76661	SCNN1A	TGTGTGGAGGGGAAGCAAGA
76662	ESRRG	TTGTAGACTTTCATAGCCAAA
76663	GLI2	CAGTGCTTTCCAGCCTTTGGTG
76664	CTNNA2	TATTTATGGGAGTGGGAGGGA
76665	KLK5	GATGTTGAGAATGTTCATCTCTCCA
76666	NGB	GCTAGCTGGCCAGGTGGGGAGGG
76667	CDX1	GGGACATGGTGGACAGTCACCT
76668	CYP3A4	TGGCCTACATGGTTGAAACCCCA
76669	UNC13	CTCCACCTTGCAGAAAGAATCTAG
76670	SRGAP1	AATGATGCTTATTTCTTTGCCA
76671	DYRK2	GGCAAAGTAACTGAGAGTTTGGT
76672	SLC7A8	CCCACCCCAGCCAGGGCTCCCT
76673	ELAVL2	TTCTTTGAAGAAGGTGGACCT
76674	LPIN1	CTGAGTCATTTATTTTCCTTAGCTTTT
76675	ROBO1	GCCAGCAAGAGGGAACAAAAC
76676	FKBP10	CCTGCTGACAGTCACCCTCCCT
76677	WNT10B	GGCTGGGGAAGAGGACTGTGTGAGA
76678	KCNJ16	TTGCCCAGGTAGTGATCAGTG
76679	TAL1	AGCCCCATCTGTGCATTC
76680	GAS7	GCCACTGCACTCCAGCTTGGG
76681	SPON2	TGTCCTTCATCGTCCAGGGGC
76682	EPB49	AAGCCTTTTGCTCCAGCCCTGCGGCT
76683	ADAM19	CAGCAAGCCCCTCAGGCCAGCACTT
76684	MYH9	ACTCCTCCTCCTTTCTTTGC
76685	SLC21A2	CCAGACTGACTCTGCACCTGGC
76686	SOX11	AACCATCAGATTTCAGTAGTA
76687	GPR81	ACCAGCCTGACCGACATGGAGAAACCT
76688	RAD17	ACAGTGTTACCAAGAAATTTTGTAA
76689	CRYZL1	AACATGATATCATCACACTTCT
76690	ARCN1	TAACCCAGGCTGGAATGCAATG
76691	MTA1L1	TTCTCAGAAATAAAGATCTTTTG
76692	MTNR1A	CTCGCTCTTGACAGATGTCTGGGAA
76693	PACE4	ATTGCTTGAGCCCAGGAATTTG
76694	BCL7A	GCGTCACTTCTCAGACACTGAAG
76695	PER2	GGCGACTGCCACCACACCCAGC
76696	MN1	GCCAATTAGCTCATGGTCCTG
76697	MTNR1B	ACTGGAACTTGGTAACTACAAGGGC
76698	IGHMBP2	TCTGGCCTGTGCACCTCTCTC
76699	F2RL3	CCTCGGCTCCAGAAGCTGGGGCTCAGG
76700	AQP3	GGAGCCCAGAGACAGGGGAAG
76701	GNE	AAGGTGCTGGATTACAGGTGT

76702	RAD51L1	CACGAGGTCAGGAAATCGAGAC
76703	CYP21A2	GTGCTCGGCAGTCATACTGGGGTGCGAG
76704	OPHN1	TCCATGTCCCTACAAAGGATA
76705	ATF7	CATGCCACTTCCTGCCAGATAGAGGG
76706	TCL1B	ACCAGGATGTGTGCCCAGCCAG
76707	LRP4	CTGGTGCCACCACTGGCCAG
76708	FUT1	GCCCAGGCCAGAGTGCAGTGGC
76709	MOCS1	CCCTGACCTCTGCTGCAGTGGCCGCCC
76710	MAP3K9	CTGTGTCCTAAGCCCTTTCA
76711	BAZ1A	TCCCATCGTGTAGTCAAGAGTCTGTGCC
76712	C1orf6	TCAGCACTTTTTGGTGGG
76713	BENE	TCTAGGGGAATACTCAGTCTG
76714	KMO	TCTTCATTCCTACAAAGGACGAACTTG
76715	SLC25A15	ATGGAGCTATTATGGCTGGTC
76716	PTGDS	CCCCTGCCCCCGGCTCCCCGCCAAAGCA
76717	FRDA	TACAAATGTTTTCAGGCTTC
76718	IL17	TCCTCAAGCAACACTCCTAG
76719	ADORA1	CGTCTGCTGATGTGCCCAGCC
76720	PITPN	CTGTCTGACCCCGAGGAGCTC
76721	MS4A3	GGAGGGTTAAGGCTCAGGGA
76722	ZNF274	TCCTTTCTCCAGCTTCTGCTCTGCC
76723	ISGF3G	CCTGGGGGACCCATCTTCCACCTCA
76724	MAN2A2	TGAGGAGGCAGTATGGCTGTGCAGG
76725	FBXL4	AGCCAGGTGTGGTGGCACA
76726	ABCD3	AGTAATACTCATTCCTTGTGTGTG
76727	FHL1	TTCTGTTGTGATTCCTAGGACTTTTC
76728	ITPR1	TCAGCATTCATTTTAAGAAAAG
76729	IL11	CTGTTGCCTAGGCTGGAGTGCAGT
76730	SURF5	AAGCCTTTGCGAAGCTAAT
76731	TPP2	TGCTGGCACGGGGATGTGCCCT
76732	HCN4	TTCATTTAGAGAAACAGCTGC
76733	GJB1	CCGCTGCTCGGCCTGCTGT
76734	SIGLEC11	AAGGTGCTGGGATTGCAGACGT
76735	EMX2	TATTTCTTGGACATTCCCTT
76736	LZTS1	ACCTCAGTCCCCTCACGGAG
76737	RPS6KA1	TGGCAACAGGACAGAGTTC
76738	PMP2	TCATGCATTCTTTTCTGTTTGCC
76739	MAPT	CACAGACTAGGTCTTGTGGCTGGTC
76740	GJB3	TCCCCAAATCCTACTCCCTCAGCCT
76741	ENC1	TGGTTCCTAGATGTGTTCTAA
76742	XPR1	ACTATTATGATCTGTCCACAGTGCCC
76743	GSTZ1	TGAGGCTGAGATGAGAATGCGGA
76744	SIGLEC11	GGAGAGTGAGAGGACCAAGTCC
76745	PTPRK	AGGCCTTGCTGACAACTTGCA
76746	ZNF137	GGGATTACAGGCGCGAGCACC
76747	KLRA1	TCCTGGAGAAGAGGAGATTTTCT
76748	AR	TGCACTACTCCTCTGCAGTGCCTT
76749	THOP1	GGGGCAGGCTCTGGCACAGTGCCTGGGA
76750	ELAC2	AGGCCAAGAAGGTCAGAGCCCAG
76751	RAI14	GATCTGTATTGGATAAGGACCAATGA

76752	CLDN14	TGCTTCTCCCCTGGGCTGCT
76753	AGL	AGCATATTTAATCAAAGCAA
76754	SEDL	TGTGCAGTGCTAAGTGTCACA
76755	PCDHB11	GTCACCCAGACTAGAGGTCAGTG
76756	AMD1	GCCTCTCTTTTATTGTAATG
76757	ITPKB	GTGAGTCTGATATGGAAGGGAA
76758	CASP7	ATGGCAGATGATCAGGGCT
76759	GAB2	GTGTGCATGGTGGTGTGACATGAG
76760	TRPM2	ACCATGTCGCTGGCAGCTGGTGCTGG
76761	TCF2	TGTCACCCGAGCTGGAGTGCAGTG
76762	TAX1BP1	ATGCTTTCATGCACCCTTTACTGCACTTTCT
76763	SLC22A12	TGAGTGGAGGCAGGAGCCACGGGTGGG
76764	DLX2	ACTGCAGTTTAGCAGTGACCTC
76765	C1QG	GGAGAGGGGAAGCAGATCTGAGGACAT
76766	VHL	CCAGGAGGCGAAGATTGCAGTG
76767	RGS6	CCAGGAGGTGGCTGGATTGCAGGGCTG
76768	ZAP70	AGGGCCCTGAGCTGAGGGCAT
76769	RASGRP1	AACCTGGCTCCTTCTTCACTAC
76770	CREBL2	GTGGGGAGGACAGGAGTGAATGTTC
76771	RAB23	TCTGTACTCCCCTCATCCTCCTAATGTTG
76772	ACE	TCCATCATCTTCCGCGCAGGTGCCA
76773	CD209	TGTCGCTCAGGCTGGAGTGCCATGGCG
76774	DISC1	AGTACTCAGTTAGGCAGTGCAGT
76775	HOXD9	GGTGAAGCCCGGCGGGGTTGCC
76776	PIGK	ACAGAAGTAACTTTGGTTAATTATT
76777	IL18R1	CCTCTTGGTGCTTCAGTTTCC
76778	MFNG	AGAGAGGCTCCAGGGGCTAG
76779	MAK	GGCTTACTGCAACCTCCACCT
76780	SSX1	CCATCTGCTTTTCCCATTGCC
76780	SSX2	CCATCTGCTTTTCCCATTGCC
76780	SSX3	CCATCTGCTTTTCCCATTGCC
76781	MTMR3	ATCCTCCTCCTCTGCCTTCAA
76782	MS4A6A	CCAGAAAATGTTTCCCAGAAAA
76783	TEGT	CCAATCCCTGCAGTTTTGTGG
76784	CXCL16	GTCATCCAGGCTGGAGTGCAGT
76784	FANCE	GTCATCCAGGCTGGAGTGCAGT
76785	CASP2	AGCTCACTGCAAGCTCCAACTCCCGGG
76786	MFNG	CATGGGTGGAATGATGGCAGAA
76787	MAPK7	CCGGAGGACCGGGATCTCTGTGG
76788	NPHP1	GCCATTGCACTCCAGCCTAGG
76789	PACSIN1	TGTCTGGTCTCCGAGCTTCGGCTGCAG
76790	PCSK1	TTTCAATTCTCAAAAGAAAAGGCA
76791	HPS4	AGTGACAACAGGACCAACCTG
76792	TNFRSF14	AAGGCTGGACTGGGTTGGCTGCA
76793	MAN1A1	TCAGCCCAGCCTAGGAAAGAGGCAGC
76794	RGR	GTAAGGGGGTACAGTGCAGTT
76795	PPP2R1B	TTTGCCTCCACGAGCCTGCTGT
76796	PSG4	CAAACTTTTACGTAACATCTCA
76797	MOX2	CTTTGTCTCTGCTGGCTTCTTTTTCC
76798	AQP6	GTAGAGGTGGGGACAGGGGCAGGGGC

76799	UBE2G2	AAACAAGGCAGACTTGCA
76800	AMFR	TGTGGGCCTTGCAAGATGGGAGAG
76801	CAPN3	TCTGTTCTGGTCATCTGGATGCTGGTC
76802	LZTR1	GAGGTGAGGACACAGCAGGCCCA
76803	FMNL	CAAGCCCCAGCCCCGAGGACCGTCCA
76804	NTF5	CTCCCTCTCCCCTCATGCT
76805	ZNF80	TATCTAATCTAATGAGAAACTCA
76806	SORCS2	GGAACCTCATCTCCCTGGGTCGGG
76807	PLA2G10	GATTACAGGCGTGAGTCACCGC
76808	CTSL2	GTCTGTAATCTCAGAGGCTTGTTTGC
76809	DDX20	TCATCTTTCCTCTCCTCCCTCT
76810	ADAMTS13	CCCAGGAGGCCTGCAGCCTGGAGCC
76811	RARB	GGCTTTTTGCAAGCATTTA
76812	YY1	TTTGCTATCTTAATTTTGGTTGTAT
76813	HDGF	TCTCCCACCCTCTTCCTACTG
76814	SDF2	TGCGTGGGTCAGTTCTTTCTGAGTA
76815	ATP1B2	CCCCTGAGCCCAGATCTGCCCCCACCA
76816	SMARCAL1	AAGCATTTCTCTGTGAAAATGT
76817	WHSC1	TTGAGCTGACATATACTGGGTGGGG
76818	GPR30	ACATCAACATGGCAATTGCACTCATG
76819	PRLR	CTCGTGCAGGAAGTACTCATCGA
76820	KCNJ3	ATACATACATACATATATATCT
76821	AGA	TAAAGCCACAAGAATCAATGATG
76822	JPH2	AGAGAGAAGCGCCCTGGTCTCTTG
76823	MTRR	TAAAAAATATTTTAGGATAA
76824	PMX1	GGCAGAGAAAAGCAGGAGAGGAGC
76825	ESRRB	GGGGTGGAAGAGAAATGAGCTTGG
76826	HYAL1	TCATCCTGAACGTGACCAGTGGGG
76827	BAZ2A	CTCTCCTCCCCTGTACGTGCC
76828	MMP2	CTTAGAAATTGCATTTCCTGAC
76829	GALT	CTGGCATGGTGAGGCTTTTCAAGTACC
76830	DLX2	GGCCCGCTGCCGCCACCCACCTCT
76831	PTPN7	CTACCTGAGAGAATGAGCACCCCTCATC
76832	ATP8B2	GCAGAGGCTGAGGCACGGGGAGCCAG
76833	ZNF274	CCCAGCACATAATGAATAAATA
76834	BCL11B	GGGAGGCACCCCACAGACTCAGCGCCG
76835	IAPP	TGCCTGTAGTCCCGGCACTTTG
76836	ZNF14	TGCCTATAGTCCCAGCACTTTG
76837	CRYPTIC	AGGAAGGGAAGGGAACATCCACATCT
76838	COL4A6	GAGATGAGCCCACCCTGCTGAGA
76839	PDE4A	TTCTCCTCTTGTTTCTGCC
76840	ALDH1A2	ATCCAGTATCTCCTTCTGGAGCAC
76841	ADAMTS3	TTGATGTTATGCAAACATCTTG
76842	RASGRP1	GCACTGTTTTCTCTTTCAGTTA
76843	DAZL	GCCTCTGCTCCTCCTGGAGCC
76844	ALPP	TGCAGCCTGGGCGACAGAGCG
76845	DMC1	TGGCATGTGCTTGTAATCCCAG
76846	XPA	TGGAAACAGTGGGGAACTACTGCTGGA
76847	NP	TCTCAAAGCTGGGATTACAGGT
76848	SMARCB1	GGCTTCCAGGTGGCCCTTCCCGGCA

76849	PHLDA3	CAGAAGGCTACGCAGGGCTGAG
76850	SCA1	TACCCTTTAACATCTGTGACTACTAAG
76851	SORCS1	TGAGATACCTGGCATTTTGGGAAGTG
76852	ASTN	GGAGAGGGTGAAGCAGGTATCAGA
76853	PTPRJ	GTGTGATTTGTGCTCCATTTTT
76854	PDCD2	GAGAGGAAGACTCACTTTGG
76855	GGA1	GGAGAGGGAGGGGCTGTGTAGC
76856	EHD4	GTCTCCTTGGTGGGTGGCAGGATTT
76857	RAB23	AGCAGTAAGCAGTTTTCATCTGAC
76858	LAMP1	TGGGTTAAATATTTTGCTAACTGGTTAAACAT
76859	MSH3	TGGCCAACATGGCAAAACCCCA
76860	WBP2	TGGGGAGGGGAGGGGGCGC
76861	SFPQ	CAGGAATATGTATTAAGATTGT
76862	ANK3	GGGGGTATTTAAAAAGGACTGAACA
76863	IMMP2L	TGCCCCCAAAATATGCAGACCTT
76864	COX4I1	CTCTTCCGGTCGCGGGACAC
76865	IL4R	GCCCAGACCTCAGGTGCTAGGGA
76866	RABIF	CTGTCGTAGAAGGAAGTTTAT
76867	GAS7	GCTCACGTCTGCTGCAACCTGAAGCTTGCAT
76868	IL11	TAGGCTGGAGTGCAGTGAGGCA
76869	DAAM2	ATCCCTGGCTCAGGGTTATTGCCAG
76870	ENC1	AAATGTTCATGTTCATATGTACTT
76871	CA3	TAGCTACTAAGATTACTTGG
76872	DSP	CTGTTCTGGCTTTTTATCT
76873	MAFF	TCCGGGGGCTGGCCAGTCAGAGAA
76874	CLN2	AGGACTAGAATCGTGTCCTATTT
76875	EOMES	ATCCAAGGTTCTGTATTTA
76876	DAG1	TGAGGGTGGGTGGGTGGACCCAGGC
76877	PTAFR	GGGCAGGGATGATGGCAGAGCCAGGCTG
76878	PVR	GGGAGAGAAGACCTTGGGCCAA
76879	FANCE	ATCCAGGCTGGAGTGCAGTGATGCG
76880	GIP	CCTTCACTTAGCACCTGCCTCA
76881	DNMT3B	CCACTGGGGTGTGTGGCAGAG
76882	BHLHB3	AGAGCCCCAAAAATCGAAACAG
76883	BMPR1A	GCAGTGGGAGTTGAAGTCATTGTC
76884	SELE	GGGTCTCTGGCCCTTCTTGCCT
76885	F7	GGATGCACACACAGATGGTCACACAG
76886	CHRNA3	TTCCACTTATCTTGGAATCATGCA
76887	OGT	ACAATTTGCCTCCATGCCTGAA
76888	RPE	AATTTTGTTGTTTCTCAGCT
76889	HIVEP1	CATTTTTCTGACATAAACTCA
76890	IL8	TCCTTGTTCCACTGTGCCTTGGTTTCTC
76891	RPS26	AAGACAGGCTATTCTCTG
76892	DISC1	TCTTGGTTAGGGAGTCAAA
76893	HKE4	CTGCCTCTGTCCCTCTGGTC
76894	SFRP1	CTTCCTGAAGAGTCCGTGGTT
76895	RXRB	TGGGAAAGGCAGGGCCCTGAAATG
76896	FGF2	ACACACACATATGTAGATTTCA
76897	F2RL2	ATCACCCAGACTGGCGTGCAGT
76898	MRC1	AACTTGGATTAGGTGGAGAG

76899	GDF2	ATCTGCATGCCAGCCTGGAGG
76900	LAMC2	TCAAGGATCTGGACCCCAAAGAA
76901	SCA1	ACTCAGAAAAACACACACCACCTT
76902	LGI1	ACCATCTGAATTCCAGAA
76903	SLC14A2	CCGGGAGGTGGAGCTTGCAGTGA
76904	RAP1GDS1	TCATCCCATCTCTAATTTCCCCTCT
76905	DCC	GAAGCAGTTCAGAAGGAATAAGCATTC
76906	RAD52	GCCCTGACTGGAGTTCAGTGGT
76907	BRCA2	GCTGAGCTCGGTGGCTCATGCCTGTA
76908	ABCE1	TATTAAAAGGAGTATTTACTA
76909	HEM1	CTCCTCTCTCAGTGGCCATCATGTC
76910	HS3ST4	TATCTGTCATGGGCACCTGCTGTCTA
76911	VHL	GCACACATCTGTAATCCTAGCT
76912	TAF7L	GCCAGTATAAAAATGTAGTA
76913	HNF4A	CCTGGAGATGACTTGAGGCC
76914	SNX3	ACAAGGGCTGGAGCAGTTTATAAACAA
76915	SLC4A10	AGAAGAAAGCTGACTCAGGGA
76916	BCL2L2	AGCCTGGATGGGTGGAGGCTTAGGTA
76917	AR	GACGGCTGCCTTTGTCCTCCTCCTCT
76918	IL11	ACAGCAGGCTACAAAACCACT
76919	TPM4	CTCAGCAGGAATATGGTGGAGTTCAGT
76920	STAT3	CACTGCACTCCATCCTGGGCG
76921	PMM1	CTCTGGCCCAGGACGCCTGCT
76922	FGF5	TGGTCTCAATCCTGGCCTCT
76923	TARBP2	GCCGGCCACTGTGTGTCATGGCTC
76924	BIN3	TTCAAAACCTCTTTTTTCTGG
76925	DISC1	TCACCCAAGTTGGAGTGCAGTG
76926	ADK	CGCGCTCCCAGTCGCTGAGTGCCT
76927	MXI1	TAGATGTCTTTTATAGTGGAAAAACAC
76928	CLCN3	GGATACTTGAATGGACCTCTA
76929	PTPRO	GTAGAGTGTCTGACTATACTGGG
76930	DUSP5	AGGTTCTCGGGACTGAAGGAA
76931	GNAT1	AGTTTGACACCTGTCTACCCAG
76932	GPX3	CTGTGTACTGCCAGGCATGTGGGT
76933	PTHLH	TACAAGGATATAGGTTTTTCTC
76934	POU2AF1	GAAGAACAATAAACTAAAGGAAAGC
76935	COX15	AATGGCGTGATCTCAGCTCACT
76936	MYCL2	AATGGCATGATCTCGGCTCACT
76937	ACTA1	CAAATGCTTCTACACACTCCA
76938	CYP27A1	CAGTGGTTCCTGGCTGCTG
76939	CENTD1	GCCTGGATGCTGATTGCACTGTCATTG
76940	SH2D1A	AAATTTCAGCAGCTGCAGCTCA
76941	GNAZ	TGCAGCAAAAACCAATACAACAAAAC
76942	ABCG1	CTGCAAGCAGCCTCTCAGCTGA
76943	GPR81	TCTCGAGCTCCTGACCTCAGGTGATCCG
76944	HYOU1	GGGAAGGGAGGGACAGCTCACTGGTT
76945	EIF5A2	TGCATGCCACCACGCACAGCTAC
76946	SFRS7	TGTAGCTCTGGGTAAGATGACCTG
76947	TPX1	CCTGCAAGAAAGAGCACAGTA
76948	CADPS	TTTTATTTTTTGAAAAACAAAAGGCA

76949	UBE4A	TTCAAACATTTTTGGTGAGTGCTGCTT
76950	B4GALT1	GGCTGAGCTGGTGCCTGGCCCCAGTCTTATC
76951	ADCY9	CGAAGGGGGCATGTCACGACAGCT
76952	E2F1	TGCTCCCAGAATCTGGTGCTCTG
76953	UBE3A	CAAAAAGCATGTGAAAGTGCACTTA
76954	ODC1	TGTTTTTAAAATAAAGTATCTTG
76955	SIAT1	CTGAGGTAGCAAGTGCAGCCTCA
76956	ADAR	AGGAGGCAGAGCTTCTGCCCACT
76957	SUV39H2	GGAGGCTGAGGTAGGAGGATCA
76958	KCNMB3	CAGGAAGTCTGAGTGTGAGGGGCT
76959	SERPINB5	AGAGAATGTTCCAGACATTCTC
76960	APTX	CCCAAGTAGCAGGGACTACAGAGTGAT
76961	CARKL	CTCTGCCGTGCCATCTGGGATGC
76961	TRPV1	CTCTGCCGTGCCATCTGGGATGC
76962	CARD4	TGCCACTCTGGGCAGTCTTTTGTGTCA
76963	PLA2G4B	CCTCAGCAGTTTGCAGTGG
76964	BRCA1	GCTGCTTGTGAATTTTCTGA
76965	EXTL3	TCATCAGGTACCTCCTCCCTTT
76966	JAK3	GACTCTCGCATCTTCCCA
76967	HDAC4	CCCAGGCCCACAGGTCTCGA
76968	PRKCABP	GGCTGGGTTCTGGGCCTGTATC
76969	RXRB	GTTCTCCCATGATTTGGGGTGA
76970	FANCC	GGCAAAGCCAAATTTTCAAGCCACAGA
76971	SPR	GCCCACATAGATGCCCCTTG
76972	XYLB	GAAGAGCCAAAAAGACCCAGAA
76973	THBD	CCAGCTCTACTGGTCTTGTGG
76974	ATRN	AGGCCTGATAAGCGATCAGAGGAA
76975	CPT1B	CAACATAGTGAGACCCCCATCTC
76976	PCDH11Y	TAGACTTTTATTTATACTCTT
76977	NCOA6	CTGTCACCGAGGCTGGAGTGCAGT
76978	MSR1	GGTGCTGTTTGGGCCTCTGCTCCCATGCTC
76979	BLVRB	CAGCAGCCAGTGGGTTCCCGCGCGTGC
76980	SF1	AGCAAATGGTTTTGGGCAAGGGCTTT
76981	WHSC1	ATTTTCTGTGGCATCTTTTATG
76982	RAI3	GACCACCTGTGCTCAAGCAATC
76983	EGLN2	TTTTCTCAGGATGGAGTGAAGA
76984	NOTCH2	TATCCTCCCTTTTCCTTAAGCACA
76985	TEM8	AGAAAACAGAAAGGAGCAGCAGTGTTT
76986	ADCY1	AGACATTCCTCCTGCGCAGGGCCA
76987	AIPL1	CTGGGAGGCGGAGGTTGCAGTG
76987	HM13	CTGGGAGGCGGAGGTTGCAGTG
76987	KIF3B	CTGGGAGGCGGAGGTTGCAGTG
76987	MAP3K9	CTGGGAGGCGGAGGTTGCAGTG
76987	MS4A2	CTGGGAGGCGGAGGTTGCAGTG
76987	TRPM8	CTGGGAGGCGGAGGTTGCAGTG
76988	CROT	ACTCTCAAAAAATGAAATTCTCAA
76989	TEX13A	GTACTTCCTCTGGCCCTGGCTGA
76989	TEX13B	GTACTTCCTCTGGCCCTGGCTGA
76990	ZYX	CCCTCCCCGCCCGGCTGGAGGCTGCTCCGGAC
76991	TM4SF6	GTTGCTTGGCTGGAGAACTGA

76992	ITCH	TTTACTTAGAGCTTTTTCTTA
76993	C5R1	GGCTCTGTCTCAAAAGCAAA
76994	NFYA	GGAAACAATAAATTCCTGAGATACATT
76995	DIRC1	CTTGCACTTTCTCTCCAGTCA
76996	IGF1	TACTGAAAACACCATCCATTT
76997	GATA2	CTGCACCCTCTTCTCTTCTGGCT
76998	ADORA1	GGAGGCTGAGACTGCAGAGGAGCCA
76999	GPR91	GAATGGGACGACAAGAATGTACTGGTTTCTT
77000	HMG20A	CCTAGCCAGTTCTCTTGCTCTTCTGT
77001	CLCN6	TCCTGCTCCCTGTGTTC
77002	CASP8	TTCTCCTCCTTTTATCTTTTGTGTTTT
77003	ZNF16	GGCTTGTTTTTACAGCTTGTG
77004	EIF3S10	TTTTACTTGAGAGAAGGTGAG
77005	CSNK2A1	TCCATAAGCGCTTCAGTGGGG
77006	LDLR	ATCGAGCCACTGCACTCCAGCCT
77006	ROCK2	ATCGAGCCACTGCACTCCAGCCT
77007	APPBP2	TCAAATCTCTGTCTCTGCTTGGTT
77008	CA12	CAGGAGGCGGAGGTTGCAGTAA
77009	GRAF	CGGGAGGCGGAGATTGCGGTGA
77010	TRIM14	CAGGAGGCGGAGATTGCAGTGA
77011	LDLR	TGAGCAACAAAGCGAGATCCC
77012	MAGEA4	TGCAGCCAGGGCTGTGGGGAAGG
77013	OTX1	CGCGCACAGAGCCGCATCCCGCC
77014	TEAD3	GAGGTGGGGATAGGGGACACCTTCAGC
77015	HSPA4	TCTTAGCACATCCTCTGTTCTCTACCT
77016	ZNF85	GGGACCCCCTGGAAGCCTAGAAATGG
77017	PROS1	ATCACGTTTGAATCTACCATTCATA
77018	HOXC13	GAAAGAGAAGAACCGCGCCGCCCGGA
77019	CIT	GCTCTAGCCTGTACCAGTTA
77020	ZNF157	GGGCTGAGGCCCAGGG
77021	LDLR	TTCACTTCCCCAATCTTGTCGTTGAT
77022	TNS	CCCAAAGCCTCCAAAACTAACCA
77023	SHOC2	GGGGAAGAGAAACTTGCA
77024	WEE1	CCGCCCCTAACAGTCACCCACC
77025	MN1	TCTTTGGAGCAAGGCTGCTGCCCGT
77026	ITGB1BP2	AATCATTCAACCAACGCTTCCA
77027	KCNK1	TGTTTTATAAATAGGTTTATGTGT
77028	VSX1	GAGTAATTTTGTGTTTTCTTGAG
77029	EML1	GGCTTGCATCCCCCATCCCTTGTTCA
77030	DIAPH2	CTTTGACCAAATGCCTTCTATGGT
77031	MEOX1	ACAAGAATGAACCCATGACAGCA
77032	WBSCR5	TGGTGTTGGCATCAGCTTGGGCAGG
77033	HHEX	CAAACAATGTTTATAATGTGTA
77034	BAZ1A	ACATTCTTTCAACACTACA
77035	DAG1	CCGTCCATCTGCATCTCTGTCCCA
77036	RNF3	ATTGCCTCTGGGTGTCATGTG
77037	CHRNB2	GCGCGCTCCAGCCGGTGTAGGCGA
77038	SLC16A7	ATAGGTTTATTTCCATACCTG
77039	PAIP2	GGAAGTATGTAATTTGAGAA
77040	CACNB1	TGAAAGGGTGGGTGCCTGAA

77041	BCL11A	AGTACTTACATCAGGAAATTTGG
77042	DAG1	AGTGTTGATTCCATGGAACT
77043	AXUD1	TCTATCTCCACAACGTGAGCCT
77044	WBSCR5	GCACAGCCTGGGAAAAGACAGTTAC
77045	ART1	GAGACAGCAACTGGCCCAGGG
77046	ITPKA	CTGTGCATGCCGGCTTGAGACTGGAGC
77047	MAPK1	CAGGTACCTGGAGTTTAATACAGTGA
77048	MBL2	TGGGCACTTGGGTATCTTCTTC
77049	STAT6	CTTCCCTTCACTCCCCTATCCC
77050	ATF2	TATTAATTTTTCTGTGCTCAA
77051	MCP	ATTCTCTATTTTTTGTAATGTG
77052	COG5	GTGCTAACCCATTCATAGTTGGC
77053	TNS	CATGCAGCAGAGGGCAGAAG
77054	CABC1	TCCTTCCTCTGTCCGGAGAGGCACAG
77055	SMCX	CAGTTCTGGTCCTGGCC
77056	TMPRSS4	CAGGACCTGTGTGGGGAGGCCCT
77057	BDNF	CCCTCCAGGGAAGTTAAGAGTTTTGAC
77058	ED1	GCCTAACCTGGGACCTGTGGTC
77059	SLC6A6	CATTAGATTCACATAGGACCAGGTTT
77060	TEM6	CACTGTTTGCCATCATCTAAGCCACTGAATC
77061	MDM2	CTACTTTGGTAGTGGAATAGTGA
77062	EPB42	AGATAAAATGAACAGGGTTACTCCCA
77063	TMPRSS2	GAGACTCAGCCTTCCTCCTCATC
77064	EEF2K	CCACAGACACTACATGAACAC
77065	CARD4	TCAGTGTCTTAAAGGGGCC
77066	C4orf1	TGTAGATTTGGAGATACTG
77067	GPLD1	GTCTATAGCCTTGGCTCAGA
77068	ATP7B	CACCCTCCTCACAGACCTCTG
77069	ORC5L	AGCCCTTGTTTATATGCCCATTCTTTTCACTT
77070	XDH	GTCAAGATGGGATTTGGAAGAC
77071	TERF2	ATGCCTAATTTCATTCTTTGTGA
77072	SP4	GCACAGAAAACAGATAGTTAACTG
77073	C4BPB	GCTGGGTGAATTCCAGCCTGGGGAG
77074	TERF2	GGCTCACTGCGACCTCCGTCT
77075	WEE1	CAGTCACCCACCCCGGGG
77076	SLC15A1	GATGGGGTTTCACCATGTTAACC
77077	HOXA3	CGGGTGTCAAACCCCTGTCAGAG
77078	GPR30	CCTGCCGCTGCACCTGCCTGCCG
77079	MGAT2	GTCCCTGCAGGAAGCTAAAGGG
77080	ZNF192	TACTATTATTCCATACTACTATATTCT
77081	ISLR	CTGGAACCTGTCCTCCCTTTCTCCC
77082	CALU	ACCAGGCCTTTTTCTGTGTCCACTGGA
77083	EGR1	CAGAGTGTTGTTCCGTTAACCTTTTTG
77084	NGFR	ACATGGGGTTGGCTGGGCCCAG
77085	STXBP1	GCACGCCCTGGCTGGCACTGTTGCCG
77086	CANX	TTGATTTTTATCCATTTCTTTTAC
77087	PHEMX	AATCCCTGCAGCTGAGCC
77088	IGF1	ACTCTTCTATGCAGTTACTACATATCT
77089	C21orf2	CTCGGGGCCATGCCGTGCCACCG
77090	MYBL1	AAAAAGAGTTTTTTCTTTATTAGTAAA

77091	AIM1	AGGCTGGAGTGCAGTGGCACAA
77091	CLECSF12	AGGCTGGAGTGCAGTGGCACAA
77091	CPS1	AGGCTGGAGTGCAGTGGCACAA
77091	DCX	AGGCTGGAGTGCAGTGGCACAA
77091	HUNK	AGGCTGGAGTGCAGTGGCACAA
77091	PCDHB16	AGGCTGGAGTGCAGTGGCACAA
77091	XRCC2	AGGCTGGAGTGCAGTGGCACAA
77092	TFAP4	GGGGGCTGGAGGGAGCCGG
77093	RGL	CAAGTGCCACCAGATAAAAACAA
77094	PDGFRA	AATCTCAATGCAAGCCCCAACTTTCT
77095	CRI1	AGAAAACAAACCATTGCTT
77096	SSX2	GTATAAGCATCTGCCATCTGC
77097	BRCA1	TCCTCAGAAGAGAACTTATCT
77098	MLPH	CACATGCTCCGCCTCCAGGTCCCGCT
77099	ADCY2	TGCCTGTATCTTTTATTTTCCTGTCTT
77100	MTAP	TTCCTATACTGCCAAAGAATGT
77101	HAP1	CCCAGCCAGAAACCCCAAAGTC
77102	JAM3	TACACAGATGCTACAGACTTGTA
77103	TBCD	CTGGCCCTTGGAGGCTGGCAC
77104	SHOC2	TTTATATCTTGACTTGCCTTGT
77105	PAX5	GCTCTTTCCTTCCCCTCCTCTCTCCAGGG
77106	LZTS1	CCAGCGGGGCTGCTCACCCACC
77107	SERPINB9	CAATTTCTGTCCACTTCCTCA
77108	HOXC4	GGGCAGGAGGAATGCAGGAGCAGGA
77108	HOXC6	GGGCAGGAGGAATGCAGGAGCAGGA
77109	SYBL1	GTTCAGTGTGCTGATCATTCA
77110	FCGR2A	GCCTCCCAGTAGCTGGGATTAGAGGC
77111	ATP11A	CCTGCACTGCATCCTGCCTCCT
77112	DDC	TGCCTTCATGGAACTCAGCTGTC
77113	DXYS155E	CCTTACCTCATGGCTGTGAAGCT
77114	GSTP1	TCTTCGCCACCATGCCGCC
77115	TP53BP2	ATTGCCATTTGGCTGAAGTGTGGT
77116	PPP2CA	TTCTTCAGATTAACTTCAGGATTT
77117	NEU3	CTCTCTGGACCTCAGGTTTC
77118	CLECSF5	ACAGAACTCTAGCCAAAGGCAA
77119	MAGEA8	CCAGGAGGTCAGGAGGCCCCAGAGAAG
77120	KCNH2	AGGGCCATGTGGTTCCCTGCAGCCT
77121	APC	TTCCTTTAATTATTGCTTGTC
77122	CUTL1	CCGCTAGGTCCAGAGAGCGAGCCCCCAATG
77123	M6PR	TTTAAACACATTTTCACAAGT
77124	HOXA4	TTGTCCAGGATGCTGGCTGGTG
77125	DUOX1	CACCTCTGTTCTTCCTATTTCT
77126	MAPK8IP1	GCCCTGCCCCATCCTGGGCC
77127	FNTB	TTGGTACTTTCTTGTCA
77128	MAP3K9	GCTCACGCCTGTAATCCCAGCG
77128	SLC28A2	GCTCACGCCTGTAATCCCAGCG
77128	TRIM14	GCTCACGCCTGTAATCCCAGCG
77129	AMPH	TGCCCTGCAGAAGATGTGATGA
77130	SPTLC1	TGCAGTGAGCCGAGATCATGCCACTGCA
77131	MECP2	GCTCCGACTTGTGCACAGGCAGAG

77132	DBP	CTTCGCCTCTCCATGAACCC
77133	MRPL49	TGCTAATTTTTGTATTTTTAGT
77133	SLC14A2	TGCTAATTTTTGTATTTTTAGT
77134	ESPN	AGCCCTCCCCTCCTGCGCTGGA
77135	DNMT3B	AGGTCCCCAGATGAGAAGTCTGCTACC
77136	SIRT5	GCCATATGTTTGTATATTGTG
77137	EDAR	GGCATGAGAGTTTCAGACTCAGC
77138	RAB27A	CTTAATGTAATATGAGCAACCAA
77139	MFI2	GTTTTGTTTTAAAATAGCTTTGCAGTG
77140	FGFR1	GTCAGTTTGAAAAGGAGG
77141	C5R1	CCGGCCATTCTCCCTCTTGTT
77142	DLGAP2	AGACCTGATTTCTCCTGCG
77143	GAB2	CCCAGGAGGCTTCCTTCCAGCC
77144	NTS	ACTATTGTTAATTCTTCCTATTT
77145	PITPNB	CCTGCCCTGCCTGCTCC
77146	GAS7	GCGCTTCCCTTCCAGCATCACC
77147	SLC7A6	CAGCATTTTTCCCCTCTGTGCTGGATA
77148	CDR1	CTAGATTTTTCTGGAAGAAC
77149	UGT1A1	GCTTTGGGGAAAAAGAA
77149	UGT1A4	GCTTTGGGGAAAAAGAA
77149	UGT1A9	GCTTTGGGGAAAAAGAA
77150	GPR18	GTGCTGAAAAATGCTCATCTCT
77151	CSPG3	TTCCTTTGTTTGCGGGGGGCTGGGGAT
77152	OTC	TGGAAAGACTGGCAATTAGAG
77153	PIR51	CTTTTCAGGAAGCTTAGATCTG
77154	TRAF5	AATGGGGTAAGCATTTTCATTCTTCC
77155	CAMK2A	GGCTGACACACCTCCTGTCCACTGTGTC
77156	LPXN	TAGGTTTCTCCATTTTCACCTC
77157	ATP7A	ACATAGGATTTGTACTC
77158	EIF3S10	ACCCTTTAAAGCAGTGAATCTG
77159	SCML1	TATAAACTTTTATTATGTGCTCTTA
77160	AGTR1	TGAACAAAAGCTTTTCTTTC
77161	TPM1	CTCTTAGCATCCTGCCTTAG
77162	ADAM12	TATTGCAACGGTCAAGGCT
77163	FRDA	TTGTCTTCACTCTTCATTCTTTGAAGGA
77164	DSCR3	GGGGATTTGGCTGGTGCCGAA
77165	SET7	CAGTGGTTTTTCCATAGTGCTT
77166	ADAMTS13	GGAGAGGGAGTCAGCCGAGGTCCTGGC
77167	HSPE1	AGTCTGAGGCGGAGGGAG
77168	AQP6	CCTGCAGCTGGTGCTCTGTGTC
77169	SPN	GCTTCTCAGCCCTGGATTTCCTGCTGC
77170	MAN2A2	CCTCACTGCCCTGTGACTTCCACCT
77171	CDC7L1	TCAAAAGACTTAATTTGTA
77172	FNTB	GATCACACAGAGATGAATGG
77173	ARHGDIB	GGGCTTTCACCCAACCTGCT
77174	TIMP4	TGACTTTTCTGCCCTGCCCTCA
77175	PDE7A	CCAGAAGCACGAGGCCCTTGAGAACTG
77176	UBE2L3	GCCCCTGCTGACCCCCTCCTCC
77177	HSPA5	ACACTTGGATTTCATTTGTAACTT
77178	F2RL2	CCCAAAGTGCTGGATTACAGG

77178	HFE	CCCAAAGTGCTGGATTACAGG
77178	TP53BP2	CCCAAAGTGCTGGATTACAGG
77179	SHOX	ACACAGCAAGGGGTTTGGTGACCTC
77180	ACVR1	CATATGCAGAACGTATTTAGCCATTAC
77181	SLC2A1	AAAGCAAGACTGTTGCTCAA
77182	AMPH	AATCATCTGTAACAATTATGTT
77183	TNF	CCTTAGGCCTTCCTCTCTCCA
77184	RAD23B	CCAGCATCTTTTATTGCATTGG
77185	EIF2C1	GGCATTTTCCACACCTGTCCACT
77186	IGF1	TTTTTAATCTTAAAAGATTGTG
77187	SPON1	AGACATCCTTTCTGAATACTTC
77188	BMPR1A	ATAGATGATGATGTGTTTGGG
77189	ENG	CAAGTCCCTGTCATTTGAACCT
77190	EBI3	CTGACTGAACTGTCACTGTGA
77191	SLC6A9	CACACACCCCACTCCAGCTCCGG
77192	PIK3CG	AAACACTCTTATCAGCCTGGG
77193	RPL11	TCCTGCTCTCCATCATGGCGCAGGATC
77194	PYGB	GACCAGCGGGCATTTGTTTTCT
77195	MSMB	GAATGTTCTCCTGGGCAGCGTTG
77196	JPH2	CTTTGGCTTTGTGGCAGGGCCTCCCCAGG
77197	TPM4	TGCCATCTTCGCTTTGCTGGA
77198	DAZL	ACCACAGTCTTTCGTTTCCA
77199	IDH3G	CACAGCCCCCAGGGGAGG
77200	SERPINB9	CCAAACACTGCTTTAGGCACTGGGGA
77201	TEM7	CCCTCAGCTCTTCCTTGCC
77202	IFITM2	CTGCCCTCATCTGGCCCTGGCCAGCTCTGC
77203	CCNDBP1	AGTCTTCTCTCAGCTTCCACTGCCGTC
77204	FGF23	AGGATCCTCACACCAGCT
77205	SMARCA2	CAGATTGAAACAAACAAAAAGCTTT
77206	PLAU	AGTGATCAATAAAATGTGAT
77207	ILK	GGATCACTCCACAGTCCTCA
77208	SPF30	AACTTAGCTGTCGTTCAGTTAA
77209	TEAD2	ACCCCCACTCCTCTGCATGTC
77210	HR	AAGATCTGGGGAGTGTGAGGAGA
77211	RORC	GCCCTGCTCCCTGCCCTCCTGGGCAGCCAG
77212	KCNK6	CAGGGAGGACTTCCTAGAGGAA
77213	LILRB3	TCATCCCTCTGCAGAGCGCGG
77214	CPSF6	TGTTTAATGGGGCTGATGTGTAA
77215	SCNN1G	GCAGGTGACCCAAGACAGAGCTGA
77216	JUP	GTGTTCTGCTCCTGCTTTTC
77217	IL9R	GTGCTGGCTGGTCACTGCCAG
77218	KLK3	CTATCTGGCCTGAGACAACAAA
77219	TACSTD2	CGGAGGAGGCGGGAGCAGC
77220	DVL3	GGCTGCGTTCCTCTCTCCA
77221	OPA1	TCTCGAATGGAAGAACAGTGG
77222	PCDHA9	CCACCGCGCCTGGCCTAAAATG
77223	EPHB2	CACCTGCCTCGGCTCACCTCTT
77224	IER5	CCACTCCTTCCCCAGGGTTT
77225	PTGS2	GCTCAGGACTGCTATTTAGCTCC
77226	PCDHB16	TCTTGAACTCCTGGGCTCAAGCCATC

77227	ADH4	CTGATTTGATGAACCAAGGAA
77228	EMR1	TTTGTCGCCTGTCTGACT
77229	PON1	TTTGGCTATCTACTGAGACA
77230	SLC19A2	GAATGACACAGCTGAACAG
77231	FMOD	GGTGGCTAACCTGACCAATAA
77232	HSD11B1	GTCACACCTGACAAATGGAAGGAG
77233	TGFB1	ATCCTAGCACTTTTGGGAGGCAGAG
77234	CRSP6	GCCCAGTCTGGAGTGCAGTGGT
77235	PDE4C	GGCATGGTGGCGGGTGCCTGTA
77236	NEK6	TCTTCTTGGCAGCCAGGCTGG
77237	PRSS16	TTATCTTTCTGTCCTTCAATCTG
77238	TIRAP	CCAGAAATTGGAGGTGGTAGG
77239	PROK2	CCTACTTAGAGATATTCTAGAA
77240	HUS1	CTGCCCCTTGGAGCCCAGTGACAG
77241	GFI1	ACTGGAGGTAAAAGCACAA
77242	CABC1	GGCCTCCTCCCCTCTGGGCAG
77243	HYAL1	GGTGGAGGCAGTAGCCCAGG
77244	RGS5	GGATACTTATCTACTGTCCG
77245	SDPR	ATTTTTCTTAATAAATAAAGGACA
77246	MASP1	GGGTTTCTCTCCCAAAAGCTT
77247	HAP1	ACAGCTTGAGGCCCCTCCTGCTGC
77248	VTN	TCTTATCTCCCAGCTCGCCCAGG
77249	SLC8A2	GCCTCCTCTCCTGGGACT
77250	FOXF1	GAAGAAAAGCAACATGTGAG
77251	B4GALT5	GGTCTCGAACTCCTGGACTCAAGCAAT
77252	GPR45	TGCGAGCCCTCTCTGCACCTGCTC
77253	WDR1	TTGAACAGATGTCTGTCTCCCTAGT
77254	POLG	GGGCCTGGGGTCGGGGGAGCAGC
77255	MALT1	ATAGAACAGGCTGAAATTTC
77256	BMPR2	TTTCTTTGCCCTCCTGATTCTTGG
77257	LNK	AGCTGAAGGTCAAAAATGATTTA
77258	IRF1	GGAGCTCTACCCTGCTCCCTGCTT
77259	RPH3AL	AGGGCACGTGGCTCCCTCAGCCATGAA
77260	PDE7A	GCTGTTCTTTCGCTCTTTGTGCTTCGC
77261	SSTR1	CGCTGGGCGGCTGTGGGCTGCAGG
77262	LAMC2	CTCAGCTTTCCTTAAGGATATCAGTAA
77263	IL12RB1	GGCTCACTGCAGCCTTGAACTCCCA
77264	RBM8A	GGGACTATATGATTTCTTAC
77265	BCAS1	AGGCCGAGGCAGGTGGATCACC
77265	GRM6	AGGCCGAGGCAGGTGGATCACC
77265	RFC2	AGGCCGAGGCAGGTGGATCACC
77265	TCF7	AGGCCGAGGCAGGTGGATCACC
77266	TRPM2	ATGCAGGCATCCACATGCC
77267	ETF1	GTAATTATAAACTCCTGACCTCCTGGTGGGGT
77268	101F6	TGGAGGCCCGTGTGTGAATTCCT
77269	PCDHA9	GTTGGCCAGGTTGGTCTCGAA
77270	PLA2G2D	GTCCATGTGGCTCTATCTTTTAAAACC
77271	PDE7A	ACTTGTAACCCAGCACTTTG
77272	KRT4	TATCCATCTGCAGGTGAATCTTCA
77273	ZNF236	ACTACTGTAGGCAGTTTCCTCCTCA

77274	ETV5	CCCTAGAGCTAGCAGTTCCCATTCAGG
77275	RFC1	GTGAGGTATATACTAAAATGAA
77276	AIPL1	GCCACCCAGGCAGGGAGCAAGTG
77277	FUT7	GTGGGTGGAAGGGCTGGGTGTCGAAA
77278	MRE11A	TCAGTATTTTAATATGGTTACATTTA
77279	SSTR1	TGCAGGCAAGCGGTCGGGTGGGGAGGG
77280	ITPKB	GGCTCTCTTCCTGTTCTGCACC
77281	BCL9	CCTTTGGCAGCTGCAATACACAGTGTT
77282	CRKL	TGGACAACAGGAAGTGAACCTT
77283	BRCA1	AGACCTACATCAGGCCTTC
77284	CTSK	GTCTATGTTTTCTACTCCAA
77285	ATP11A	ATGGGCATGGGAAGATGGGCTCCCTG
77286	SH2D1A	GAAGCTGTATACTGTGTGCTAA
77287	CYP3A4	CCACTGCACTCCAGTCTGGGTG
77288	GRM6	CCACTGTACTCCAGCCTGGGTG
77288	KCNK3	CCACTGTACTCCAGCCTGGGTG
77288	SLC28A2	CCACTGTACTCCAGCCTGGGTG
77288	TEM7	CCACTGTACTCCAGCCTGGGTG
77289	CLDN5	CCTCCTGCCAGCCACGCCTGCGAGGCG
77290	POLB	CTGGTACCTCCTTCAAGCTGG
77291	PPP2R5A	CTGGCTTTATTTAAAGGAACTGCA
77292	NRL	CCAGGCCCTGCTCCATGGAGCC
77293	BRIP1	CTGAGTAGCTGGGACTACAGGT
77293	FEZ1	CTGAGTAGCTGGGACTACAGGT
77293	G2A	CTGAGTAGCTGGGACTACAGGT
77294	ENDOGL1	CTGAGCAGCTGGGACTACAGGC
77295	WHSC1	GCTTCCATCTCAGCACTCTG
77296	GJB1	GTTAGGGAGAGAGAAGCAGGCAGA
77297	P2RY1	AAAACAATACTACCTA
77298	PCDHA9	AAAGTGCTGGGATTAAAGCTG
77299	TBX5	GCGCACAGCAGAGGAGGTGTGTGT
77300	STC1	CTGTGGAATATAAATAGCTGAAAACTA
77301	TTC3	CACATTCCATTTCTCTCCA
77302	SORCS1	TAGTATTGGAACTACTTCT
77303	SH3GL2	ATGGTGATGGATGATATCCTCT
77304	AVP	GAATCCAGAGCGCTGCAGTCACA
77305	MARK3	GGCCCCATCTCCATGTGCCTCC
77306	SLC19A1	GGAGCGCTAGTGCCTTGCCCACAGGTGCG
77307	CNR1	CTGGCTCCCTTACTTTACCTCTCTGTCATG
77308	GABPA	CATATATTTTAGAATATGTGTATG
77309	RDX	ATTCATAACCATAGCCTCGATCA
77310	MUC4	CAGTACACCAGCAATGCTGAG
77311	DYRK1A	TTGTCTTGCATCATTATCTCT
77312	FTSJ2	TGGGAAGAGAAAGTTATCAAGA
77313	MCM4	CACTGCACTCCAGCCTCAGCAA
77314	USP9Y	TGAAACAATGTTTTTATAGATGGTGTG
77315	ERCC5	GGGGAAGAAAAAGGAAAACCTATTAAAAAATA
77316	CREBL2	AATAGGAGTTACAGAAAACTGTTA
77317	STX1A	CCCAGGACCCTCTCCCTTGTGGACAGGCAG
77318	NR4A2	CCCTGGAAATAACTGAGCACTTTG

77319	FZD1	GGAGCGGCGCCAAGAGAGGAGCCGAGAAAGT
77320	USP11	TTTGCCCTTCCAGCAGTGACCCTC
77321	PDE6C	GCAAAGCAAGCCACACCATGGGTGAG
77322	TKTL1	CAGGCAGCAGCGAAAGCTTGTTAGGA
77323	ATP5J	CACTTCGATAACCCTAACGAAC
77324	SCML2	CCCATAAAAATATTTTA
77325	LDHA	TATCATGTCTTGTGCATAATT
77326	NRCAM	TGAAGGAATGCTCAGTTTCATTTGCCA
77327	PSME3	CTGTGGGGCATTGGATCCTCCC
77328	TAPBP	GAGGGATGATGGATAAGAGGGTG
77329	DGKB	GCTAGGAACTGCTTTTGGCACT
77330	PRIM2A	CCTGTTTCCTGTTTTTAAGATTTTGCC
77331	MAPK1	TCTTCCTTCCTCCTCCCGGTC
77332	EGLN3	ACTCAGTCTCCTACATTAGCATTC
77333	CD209L	GCTAGCCTCAGCCTCCATTGTGGT
77334	ENAM	AGGAAGATGGAGAATGAGGAA
77335	DHCR24	GTGGGAAAGTGGAGTCCACCC
77336	NPAT	AGACATTTAAATACACAATCAC
77337	DNMT3A	CATAATAAAACACCAAGA
77338	TCN2	GCAGAGAGCCAAGCATCTTCCCTGGGAA
77339	TBX5	GGTCTGAGGTGGACTCCCACCTCC
77340	IL6ST	ATGCAGCTGTTTTAACTATCCCTGCC
77341	BENE	CTTGCAGACTGAGCGATGACACC
77342	NOS1	TTGTCCCTCAGGCTTGTTGC
77343	CCND3	GCTAGTCAAGCTCCTCCTCC
77344	NTSR1	CGCCCCGGAACGTGTCCAGGAGGA
77345	NCOA6	GTTGCCCAGGCTAGTCTGGA
77346	RNASE2	CTCACAGGAGCTACAGGCCGGAGACTGGG
77347	DAAM2	ATCTTCTGCCTTTCACTTGCATCCA
77348	EBAF	ACCAGAAACCACATGTATTTGCA
77349	SURF5	CCCTTCAGGCTAAGTCTCAGGC
77350	MAPRE1	TTTGCGGAAAATACAGTACCGTG
77351	PCOLN3	GGACTTTCACCCAGCACTG
77352	TTC1	AGGCTATCCAGTAGAGCCCAG
77353	UMPS	GTTGCCCAGGATGGAGTGCAGT
77354	SET	CTGTAAAATATAGTCGCTG
77355	MDM4	TGTCTCCCAGGCTGAAGTGCAGT
77356	FUT7	GTGGGGGGTGCAGGTGGGCACTGGAGCATGC
77357	CAPN10	CACTACCAGGCTGTGGGTCTGCACC
77358	ZNF289	GGTAGGGAAAGCGGAAGGTAGAA
77359	TCF21	GGTGCGAGTCTGGGAAAGGC
77360	PRND	AAACCCACGCGTGTTCTGAAGGTGCCCAG
77361	SORCS1	ACTACCTGAATTCTACCTGCATTT
77362	GIF	CTGGTTTGCCCTCTACCTC
77363	PCDH1	CATTGTGCCTTCTGTGTGTA
77364	IFNA21	AATTATTTTTGTCCATGTAATA
77365	VDR	GAGAGTGTGAAATAGACATTTGTA
77366	CBFB	GCCTTCTGACAAAGTTTACA
77367	SLC22A3	TGAACATCTGGGAATCCTGTTA
77368	NR0B2	GCCTGTATAGACAGCACTTGGCTCCT

77369	TLR9	CTGCCTGAGCTCTGGGCCTTAGCT
77370	DNMT2	TCTATTATCTCCAACCTCTCTT
77371	ABCB4	TAGGCTAGAAACAAAAAGTTAGA
77372	LZTS1	TACTCCTGGGCTCAAGCAATC
77373	HK1	GTGGCGTGGAAAGATGGCAAAAAGAGC
77374	GCNT2	TCTCATGTAGAACAAGAAATCT
77375	PCDHA9	TTATATTTTTCTTTCTCTTTC
77376	MXI1	TGTTTTTAGAATCATTACCTTTTA
77377	PNUTL2	GGGAGAGAAGATTGGCGCTGGGTGCCG
77378	ARMET	GCCACAACTGTCTAGGGCTCAGA
77379	SOX11	GGGAGGAGGGAGGCTGGGAGGC
77380	KCNJ5	GCCTGTGATCCCAGCATTTTGG
77381	DHFR	AAAGTGCTGGGATTACCGGCTT
77382	AP2M1	TCCTGCTCTCCCATCCACC
77383	TAZ	AGGAGCTGCTCACTACCTCCTCA
77384	PPP1R12B	CTCGCCCAGGCTGGAGTGCAGT
77385	GABRP	AACTATACATGTTTTTTACTAAATC
77386	C18orf1	AGAAAGGCTCAAAAGGAAGCACTTTT
77387	CSE1L	GACTATGTTTGGAGTTTAAT
77388	MAP3K9	GGCGGGCAAGGGGGACAGCCAGC
77389	PAICS	CCATTTCTCCCTGTCTGTCCC
77390	ZYX	TCCCACCCTCCCCCATGCTGCC
77391	LASS2	CTCGGGGCCTCGGAGCAACCACCCGAG
77392	UBE2B	TCTTTCTCCACCCCGCCGAGCC
77393	RBBP9	CTGTCTCCCAGGCTGGAGGTCAGTG
77394	SH3BP2	CTGGGAGCCAGGCAGGGCCAGG
77395	SOX11	TTTGGGAAAAGAAGGGGCTGA
77396	GPR62	AGAGACACTCAGAAGGACTTCCCTGAC
77397	MOCS1	GCTGGGATGCAATGTAGGCTGAGGGAA
77398	SCA1	TACCCTTTAACATCTGTGACTA
77399	HTR7	GGGTTTTCCATGAAATGTGAT
77400	MYO6	GGAAAAATAAAGGAAATTCAGATT
77401	DAAM2	CTGGAACCCAGGTGAGGGC
77402	SHOX	GCCAGCCCAGAGAGAAACTATCT
77403	FRDA	TTCTGATTTTTAATTTCTATGGA
77404	EGFL6	GAGGGGGGCTCAGGAGGAGGA
77405	MHC2TA	TCATTTGTCACACACTTTG
77406	ESR1	ACAGCTCTCTTTCCCCCTTGCTATG
77407	RAB7L1	AGGCTGAGGCAGGTGGATCGCC
77408	SLC38A3	TACCCTGCTAGGCTCTGGAGCT
77409	SNAP23	GCATCACAGTTTTGCAACCTCTGCTCCAAAGA
77410	NTRK2	TGTGAAGCCTTTATCTATGGGAGATT
77411	SP1	CCAGTTTCTTCTTACACTTCTT
77412	ALDOA	GCCTCCTCGGGGCTCCAGGCTGG
77413	OSR1	ACTTGTCACACCTTTTGTTTCA
77414	ATP11A	CCTCGTCCTCATGTCCCCTTGTCCTGTCACC
77415	KCNE3	TTTGGGCCTGCATAGTGCCATGA
77416	LPIN1	TGTTAGTGCCACCACCTTCTGAAC
77417	ALDH1B1	ATGGGGACCAGGCTCAGAGTT
77418	TCP1	TTCATTCTCTCTGAACACACATTGCT

77419	SLC4A1	AGAGGCGTCCTGGGTGAAGGAA
77420	UGDH	TTTCTTTCTCTCCCCATTA
77421	ADRA2A	CCTTGGGAGAGATGCCTTCCAGGCA
77422	SLC2A6	GGGAGGCTGAGGCAGCATTGCTTGA
77423	TP73	GCTGCCTCCCCTCTCCTTCC
77424	NHLH1	GGGGTTAGAGTGGGGAGTGGGCTTCT
77425	IGF1	TTCTATATTTTACATTCTTGGAAAG
77426	BTEB1	ACTTAACTGTTTGGGAGCTGGA
77427	COL4A3	CAGAAAGCCTATTCCATCAACTGTGA
77428	SPN	TCGCCCAGGCTGGAGTGCAATGCACG
77429	CHES1	TCATGGAGAAGAAATGGGGTA
77430	IHPK3	AGAGATCTACCCATCTCACCT
77431	GPR35	ATGACACCTGCCGCTGCCCCTCGGGGC
77432	IL16	ACATGCCAAGCACTGTGCTCAG
77433	SRGAP2	GAGCGCCCAGTTCAGACTGGG
77434	MAP3K12	CCAGGGTTGTCTTTATATTCTT
77435	FOXF1	CTTCTGTTATGTTTTGTCTTGAAT
77436	LAMC1	TCAAGGTTGCAGCAAGAGGACTGA
77437	KRT1	TTTCTGCTGTTTCCCAAT
77438	RBBP9	CAGACTAGGGCCTTCACCTC
77439	TEM7	TCTTTTACAACTCCTGCTGTG
77440	BPGM	CACAATGACAGAAATGACAACAAGGC
77441	TACC1	GCCAGGCTCAGAGCTGAGATGTGGCC
77442	PACE4	TCAAGAGCTTACATAATTTTAAC
77443	PCDHA9	TGCAACGTCTGCCTCCTGGGTT
77444	HOXD8	AAGAGGTGGCGGCGGGCAGAGGGT
77445	FGF5	TCTTGATAGTCCTGACCTCA
77446	A1BG	GTGTGAGCCACAGCACCTGGCC
77447	RABIF	CAACCCAGGATACAAACTTCCA
77448	SLC1A4	TGTCAAGTTAGAAATACT
77449	DGCR2	TGCAGGAGGGGTGGCTGAAACCACCATCCT
77450	BAP1	GGTACTGCAGCTTCCTCCACA
77451	NRXN2	CTCCCCTCACCAGGAG
77452	INSM1	GAGTTTTCTTTAGTATAGCCACAAATG
77453	BID	CGCCCCCGCGGCTGGAGGGTGG
77454	SLC14A1	GGAGGAGGAGGCTGCAGTGA
77455	MFRP	CTGCCTCTCCTCTGGCCCTGGGAA
77456	AIM1	GAACCTCTGGGCTCAAGCAATT
77457	POLH	GATTCTAATCCCACTGCTGACA
77458	BRCA1	CCGGTTTCCAAAGACAGTCTT
77459	CYP4B1	TTCAGGAGGCTTGTAGTT
77460	HAS2	CGGGGGCAGAAAGACTGA
77461	NUP98	TTGTTCCTGCCTTTAGAGTTCCA
77462	UBE2V1	TGCTTTTTCTCCCTCCTCC
77463	SREBF1	GTCTCTAGCCACTTTGGTCCCGTGCAG
77464	SNX15	GCCCAGACTGGAGTGCAGTGGTGGG
77465	RAD50	TCTATGGCATGGTGAAAAGGTCAGT
77466	CCND1	GACTACAGGGGAGTTTTGTTGAAGT
77467	CLASP1	GGGAGCCCTGCTGGAGCTGCTC
77468	CENPB	CCTGCTTATTGCCTCTTTCTCAGAATC

77469	RABL2A	TGTGTCACTTTAATACAGGAAATTT
77469	RABL2B	TGTGTCACTTTAATACAGGAAATTT
77470	METTL1	AGCTGACAAAGATGTTCTTC
77471	THBD	TAGAGGGAGGAGAATGAGCCTCGGC
77472	EPB42	CAGATTCTTAAGCCAACAAAAGTG
77473	IRTA2	CTAAAATAGACGTGGAGCAAGAG
77474	PAX2	AACACAAAAGCCCACCAGGCTGCTGCT
77475	IL13RA1	GATGGCCATGAAGAGGATGCTGT
77476	SBF1	CCCAGCACTTGTGTGTACAGCCCCCGT
77477	APOL1	CATGCCTGTAATCCGAGCACTT
77478	GALNT2	GGAGAGGTGCCTGGCTTCTACCTGGG
77479	SELPLG	AACTGCAGGTCCAGTGCAGGCA
77480	TNFRSF10B	GGCTCAAGCGATTCTCCCACCTCA
77481	SCML2	TTCTGAGCCATTTATTCTGCTACACT
77482	PIWIL1	AGTAAATCTCTATATTAACATT
77483	EDAR	TTTTCCTCTCTCTGCCTC
77484	SH2D1A	ATTATATTTACAAATGGGAAA
77485	KRT5	CCAGCCCAGTTCTGGAAGGG
77486	HMG20A	TGTTGCCTATTCAGTGTTAC
77487	BMP1	CTGGTGGCAAGAGGGAATGTCA
77488	SMURF1	AGGTTCTAGAATAGAAGGGCTGC
77489	EXTL2	GACTCCTGGCATTTGCCTTAAGGACC
77490	ZNF236	CATGGGCTTCACGCAGAAGAG
77491	RET	ACCAGCACCACTCAGCCTGC
77492	IL12RB1	GCTCACTGCAGCCTTGAACTCC
77492	XRCC2	GCTCACTGCAGCCTTGAACTCC
77493	PPM1D	AAATTATTTTATATCATACAGTTT
77494	ZNF261	GCTCGTGTGCCATCCATATCC
77495	SLC6A6	AGTTTTCTAGAAGGTTGGGAT
77496	E2F1	CCTAACAGCTCTGTTCCCTCCTGCTTTGGTT
77497	DDX24	TTTCTGTATTGCAGTG
77498	IGF1R	TAGGTCTTTCTCTCAGTGAAGGTGG
77499	COPG2	TACATGGTCAGTGGGCTTTT
77500	IGF1	AAGGAGCAACCAAAATGTCA
77501	ENDOGL1	TGTCATCCAGGCTGGAGTGCGG
77502	HLCS	TGTCGTCCAGGCTGGAGTGCAG
77503	B3GAT1	GGATGCAGGAGCCTCCTCCTCA
77504	APPBP2	TGTTTTTAAAAAATTCATTTTGCAGAA
77505	SEPN1	GCCTGCCCCTCCTCCAGCC
77506	XDH	AAGAGAGAGTCCTCAGCAGAGTCT
77507	KHK	CCTGCCCACCAGCCTGTGA
77508	ARHGEF7	TGCTGTTGTAGCAGGTTTTAACT
77509	MAX	TGTATGGGAGATGGCAGCAG
77510	B3GNT3	AGGGGCGACACCTTCCTCCCAGGA
77511	PAX5	CCTAGCCCAACTTCCCTTGTGGGAAACTGA
77512	PAEP	GGGGCAGAGTCTCTGGCAGAGGTTATTAA
77513	GRIK3	CTCAGATCTTCTGTGGGTTTCTA
77514	ATP7B	AGGGGCTTCAGAAAAGGAGT
77515	HERC2	ACTTCTATCATGGAAAGTGTACTA
77516	IRF6	CAAGGCTAAACTGCCTGGAACAGAATCC

77517	LAMC1	TGGAACTAGTGTTAAGTATCT
77518	ITGA3	TCTCCTTGGCCACAGACTGAACTCGC
77519	TSC1	ATGAGGAACTGCACCTTTAG
77520	BIN2	GGGGAGAAGAGAACATTAGACT
77521	NTE	GTCCAGCTGGAATCAACCGATG
77522	SPOCK	TGCACACACACCCATACCTCTCA
77523	ROCK2	TAGATGTGTTTTTATTCCT
77524	GNPI	CTGTTGCTCTGGCTTCCTTTC
77525	NUP62	TAAATGAAAGAACAATGAAG
77526	CD5	GCTTCCTTAACTGCAAGTGAGA
77527	DYRK1A	ACAAAGTGCAAAGCTGCTTGAA
77528	COL4A6	GACTATTCATGGCTACCTCA
77529	SH2D1A	CCTCGGCCTGCCCAAGAGTCCACCAG
77530	NRL	TGCAGAAGTCTGGAAACCTGGGTCCTA
77531	BLAME	GGCCACATGCCTGGTCACTGA
77532	ADH1B	AAACACCTGTGTTAATGCTTTG
77533	SPOCK	GGCCCACATATCTATCTCTTGCCT
77534	PTK7	CCACCTCTTCCTCTATCAGGGACAGTG
77535	RAB1A	TTTCTCACAGCAATGAATTTGC
77536	METTL1	TTCCCAGACACACTTATTCTGGGT
77537	TNFAIP1	CATGATCTTAGCTTCTTTAATCAGAC
77538	SUOX	CCTTCTCTGGTGATAACTCC
77539	EHD3	GGAGCAGGGAGAGTGCGCTCCCGGC
77540	TBL2	GGAAGGCAAAGTTTTCTGGG
77541	GPR61	TGAGAGGAGCTATCACATGGGAGCCGG
77542	IL11	GGAGCAGGGGTGGGAGGCAGG
77543	DHFR	GGCACATCTTCATTCTTTTTATGTAG
77544	RELA	TCAGGAGGCATAGTTTTTAGTG
77545	ACP1	CCCTCCGTAGGAGCTCACAGTCTAG
77546	GPRK5	GGCTGAGAGCAGGAACAACGC
77547	APOBEC2	GGGGCTGCTTAACACAAACAGCCTCAG
77548	CA2	TTTCTAGACCCTTCATCTCTTAC
77549	CLTC	TTCTCCTCCTCTCCCTTGGAGAGCCCG
77550	TCTE1L	AAGCAAAATGAAAAGCACTTA
77551	FUS1	CTTCCCTTTTAACCCCTAGTCA
77552	METTL1	CTGTCACCGCTGTTCCCAGACACA
77553	PRKY	TTCTGTTAGGAAAAGCCATAC
77554	PLA2G2D	CCCTCACAGGTTTCTCCAGAAA
77555	BARX2	GCTTAGCTCTCTCCCTCCTGACC
77556	RS1	AAAGTTTATCACCCCAAAGAG
77557	CRHR2	TTGCCCTTTGCCCTCCAGTCTCCCCT
77558	IRTA1	GCGGCACCTGGAATGATCAACTCA
77559	TBX2	GCTGCTTGGGACGTGTACAGCA
77560	GPR61	TAGGGCTGAGGCTGGGGTCTCT
77561	GOLGA4	GCTGCTTGGAAAACTGTCCA
77562	AGTR2	CCAGTGACTTTCAGGAATTGCCCAT
77563	AMPD3	GACTTCTCCTTGGGGATCTGGGAGC
77564	CBFB	ATGCCTAAAGAAGTCACAGGCTGGCT
77565	BRF1	GGATCTGGCCCTGGGCCTGCAGC
77566	IL17F	AAAATGTTAGGAGAAAAATTAA

77567	NINJ1	GCCACTGGCTCTGGTCTAAAGTGCCTG
77568	EXTL2	GACTCCTGGCATTTGCCTTAAGGAC
77569	CD5	AAGACACCTTCCTTTCCA
77570	CEACAM5	CCGGGAGGTGGAGATTGCAGTGA
77571	DSC3	CTTCTTTTAATGTAATCATTTTGA
77572	WBSCR1	GTAGGGAGTCCACGGAGAAGA
77573	EBI3	GCTGCCTCCAGACAGCACCTG
77574	YWHAG	GCTGCTGCAGCTCCCTCCTCA
77575	SIRT2	CCACTGTCTCTAACCACTCCTGGG
77576	WHSC1	CTTCATTTCTTTTTCATTTGAC
77577	GJA5	AACTGATGCTTTCTCACTGTC
77578	S100A1	TCTCCACCCTCCCAGACCTGCC
77579	NP	CTCAAAGCTGGGATTACAGG
77580	PRKACB	TCATATTTAAATGAGGGTTTACA
77581	SULT1A3	ACCAGCCTGGTAAAATAGTGA
77582	MYH9	ATGTCTCAAGTGCAATG
77583	F2R	TTCTATAATTTCCATTTACTTA
77584	MAPT	TTCCTCCCTCCCTGCAGGGTA
77585	FCMD	CCAAGATCGCGGCATTGCACTT
77586	ATSV	GTTTCTTGCAAAGACTTTCCTCTCTTT
77587	ADAMTS9	CCTACTTCCTTGTCTTTGAAAT
77588	RANBP2	TTCTTTCGTTAAAGATTTGCTTTAT
77589	SLC4A7	TAATCAGGAGTTAGAATTCTCT
77590	BAP1	GCTTGACCCCTCTAGCCCCT
77591	ANKH	GTCAGTCAGGATGACACTTCGGC
77592	NFE2L2	GGAGGATTTGACCTTTTCTGAGCTA
77593	ADAMTS4	TTCCAGCAATTCTCCTGCCTCAG
77593	NQO1	TTCCAGCAATTCTCCTGCCTCAG
77594	IPP	GGAGGTCAGGGCTGCAGTGAG
77595	TNXB	CTGCAGCTGCTCGGTTGCC
77596	KCNA6	CCAAATACCTGGACTATCAACCTTGTT
77597	PDYN	TATATGTGCCCCTTCCCCATGCTCA
77598	SLC17A7	GCACCCACACCCCCCG
77599	BCL7A	GGACAGGCAAGGGGAGTTGGCGC
77600	ADCY1	TGCCCAGGCTGGTCAGAGCTCAGCAC
77601	GALNT7	ATCACTATGCATTTCTACACAT
77602	PTPN2	TGTGGTTTTATCTACGTT
77603	ZNF236	ACTCAGGGTATGCTATCTGGAGGCCTG
77604	PRIM2A	CTCAGCCTCCCAAGTAGTTAGG
77605	HPS4	GGCACTGATGTTTGAACTGGAA
77606	SNTB1	CAATGCCACCAGAGAACGTGATGTCA
77607	PAX3	GTGATGTTTGCCATTTGCTGGA
77608	ASK	TGTTTTTCATACCAGTACCTG
77609	GNAO1	AAAACAATCTGCCCACCGACCCCCTT
77610	CPE	GGCTTCTAGTTAGCTGCTTTAAATCTA
77611	BCL7B	TCCCTGCCTCTTGTCACAAACTGCCCC
77612	GAB2	TTCACCCACTTCCAGCTCCACTTCT
77613	M6PR	CTGTCCCTTCTGCTGGCTCAGGGA
77614	FUT9	AGAAAATCTAAGACAGTTCTTTCTGCTA
77615	APBB1	GGGTCCCTTCCCCCTGCTCCA

77616	CD28	CAGGCACCTGTAATCCCAGCTGCC
77617	GCGR	CGCGGGCCCTGAGGCTCAAAGGGG
77618	UQCRB	GGTTGGATAGCCTATCAGTTTATGG
77619	UBE2L3	TGTCCGTTTGAAACTCCTAGCTCAT
77620	SI	CTAGTTACTAAACATGTATGTA
77621	CLDN14	ATGCCCAGGTTCAGGTGTATCGTG
77622	STCH	ATGAAGGAATGTCTTCAATCATATTTT
77623	BTAF1	GGCCTCCTATCTTTAGTCA
77624	WHSC1	TGTCCTCCTCTGTGTCCCGGC
77625	GGCX	CCTGGGCAACAGAGCAAGACTTCGTCT
77626	POLH	CCTGGGCAACAGAGCGAGACTTCATCT
77627	HOXA10	CCCAGCATGATTCTTGGC
77628	KCNJ15	TGGCAATGGATGCCATTCACATCGG
77629	AR	CTTCTCTCCCGCAGCTGCCTCA
77630	FOLR1	CCACTAAACCACAGCTGTCCCCT
77631	MAFG	GAGTTGCGGGAGAGAGAAGGAGCAGGCACGC
77632	FMR2	AGTGTTGAAGTTGACTTGCTCC
77633	GYPB	GCCTGTATTGCCTGCATGCTGC
77634	HNF4A	CTTACTCCCAGGCACTGTCT
77635	MPHOSPH1	AGGATTTGGAGAATAAGTGTGTA
77636	CLECSF5	GCACAGCCTACTGACCCCAAGGAGCCT
77637	CXCL6	GTATTGTCATTTGGAGAAACAA
77638	ARNT2	TGCAGTGTGACATGGACTTGCTGT
77639	AMT	ACTTGGGGATGGCTGAGGGAA
77640	DLEC1	AAGCAGAATTCTGCATGGTGAC
77641	HOXA3	CAAGTCGGTGCCACTAGCCCAGGCAGAGC
77642	AXUD1	TCTCTCTGTGTCTGTGCCAAG
77643	PARK2	AACAGGCGTTCTCAGCCTCCGGAT
77644	ABCB4	GCATGATGGTGGTAGAGCTGGA
77645	CTSZ	TGCAACACAGGAAACGATGGGAC
77646	POLS	ATTGATCTCTGAATGTGAT
77647	ADCY2	GCCATCCGTCACCAGAATTAGTCCT
77648	C18orf1	GCATTCTTAAAGGAATGCAGTG
77649	DRP2	GGGAGAGACAGAGGGAGAGTG
77650	TFCP2	AAGGTCTGCAAGAACCTGACTCGTC
77651	XK	GGAGTAGCCACCAGCCTCCCA
77652	CLECSF12	CCACCACACCTGGCCCCAAGCTTGAA
77653	SH3BP2	CCTTCCAGGCTGGATTTTTAATG
77654	SIGLEC6	ATCAGGGTTGGTCCCTTCTAA
77655	C6	AACAGACAAAAGCCTTTGCCTTCATGAA
77656	ESR1	ATCCAAAATCAGGGTTTGG
77657	NGFR	TTGCCTGAAGTTGGAGTGAGTG
77658	DLGAP2	AGAGGTTTACCTCCCTACTT
77659	SH3BP4	CACAGGCTGTTGAGGTTTTTA
77660	CDC42	GAATGCAGCTGAAGACCTGTTATGTAGAGGA
77661	JPH2	GGAGAGAAGTTAGGGCTGGCACACCT
77662	SDHD	TTCTACTTGTTCTAAAACAA
77663	CALU	GTTATGAGTTTGGTTGCAGTG
77664	GM2A	CTACCACCCTGTTACATCATAA
77665	RNF4	AACATCTTCAGGGCGGGAAAGGGG

77666	CALU	CTTTGGTCTTCCACAGTCA
77667	SYNGR1	AGCCTCCCTATGGGAGGCAGAG
77668	BRCA1	TATCACTGCAGGCTTTCCT
77669	POLR2C	GGCAGCCTGGAGAAAACCA
77670	POLL	TCCCTCCAGCCTCAGCTGGCT
77671	INMT	GGAGCTCGCCACCACACCCAGC
77672	HDAC4	CCTCGAAGCTGCTGTTCTCTTGTC
77673	MS4A2	GCATGGATGTTCACATACAG
77674	HOXC4	CATCCCGCTGCCTCTACCTGCCT
77675	GFER	GGGCTCAATTCTCCACTCTGCTCAG
77676	CDR1	AAGATCTGTATTTGATGGAAGA
77677	EGFL5	TTAGAAAACAAAACTGCCAGTTTGTGC
77678	LPIN2	GGGCCTGGGGCTGGAGGCCTGGG
77679	OAS3	GCTCACATCTTTCCTCCTGCTG
77680	CD209	ATGAGTGAGCTGGTGTGGGATGCC
77681	JAK3	TCGTTACCCAGGGTGGAGTGCAGTG
77682	ANPEP	TGTCCATCCCAGCGGCTGGTG
77683	EIF5A2	GCATGAGCCACCACACCCAGCC
77684	FZD4	GTGTGAGCCACCACACCTGGCC
77685	NR1I2	TTGAGGCTGAAGAGTGAGGACTCTTCA
77686	DLG5	GAGAATGCTGTGCTGTGGATG
77687	H1F0	GGAGAGAGGTGGTAGGGAGCAGC
77688	PROCR	GCTTTGCTGAATTAGTCTGA
77689	IL2RA	GACCAGCCTGGGCAGCATAGCAAGACA
77690	GPR37	GGCTGAGAAATGCACAAGAT
77691	GRB10	GGAAGTGAACACTGGAGTGAAGAA
77692	COL13A1	AAAACCTGCATATTTTGTACA
77693	STIP1	CGAGTTCCATGTCTCTTTCC
77694	ASK	GGAAGTGCAGGTTGCAGTGA
77695	PRKACG	GATGGGAGGGTTGGATTGAACAGCCAGAGGG
77696	ABCA1	TGGAATATCTGAGAATTGCA
77697	CLDN14	GGAGGCAGGGGTTCCAGCACAAAGTTTA
77698	PRND	TATTATCATTTCTCCTTTAA
77699	ALDH8A1	TCCCAGGTTATGTTTTCATAGTGTTT
77700	PIP5K1B	GTGCCTGATACCTCTCAGCAT
77701	SLC7A6	TGCCTGAACGCTAAGAACATGACTTCT
77702	INSM1	GTGAACAAATCAAATTGCTTAA
77703	SLC4A7	GTTAGTGCTTTATGGGAAGAATAGGGA
77704	FECH	CTTGCAAGCCTCTCCATCCAGCA
77705	CABC1	TCCACAGACTTCTCTTCAGCCTC
77706	AIPL1	GACCAGCCTGGCCAACATGGTG
77706	CRACC	GACCAGCCTGGCCAACATGGTG
77706	DBT	GACCAGCCTGGCCAACATGGTG
77706	DNASE2	GACCAGCCTGGCCAACATGGTG
77706	FGFR2	GACCAGCCTGGCCAACATGGTG
77706	GTF2H2	GACCAGCCTGGCCAACATGGTG
77706	KIF3B	GACCAGCCTGGCCAACATGGTG
77706	LAMC2	GACCAGCCTGGCCAACATGGTG
77706	LAMP2	GACCAGCCTGGCCAACATGGTG
77706	MOG	GACCAGCCTGGCCAACATGGTG

77706	NFATC3	GACCAGCCTGGCCAACATGGTG
77706	NUP62	GACCAGCCTGGCCAACATGGTG
77706	OPA3	GACCAGCCTGGCCAACATGGTG
77706	PAICS	GACCAGCCTGGCCAACATGGTG
77706	PDE4C	GACCAGCCTGGCCAACATGGTG
77706	SLC2A6	GACCAGCCTGGCCAACATGGTG
77706	TCF7	GACCAGCCTGGCCAACATGGTG
77706	UPK1B	GACCAGCCTGGCCAACATGGTG
77706	VHL	GACCAGCCTGGCCAACATGGTG
77707	EIF2C1	TGCTCCTCCCCCAGCTGCCACC
77708	FRAT2	GGACACAAACAGGCAGAGAGGGA
77709	RCV1	CCAGGGCCAAGAGAAAGGCCTG
77710	CELSR1	CAAATAGGAGAAACCATAAA
77711	TNFRSF1B	ATCACCTCAGGCCAGGTGCAGTG
77712	SLC4A7	ATTAGCACATATTGAACATTTGACTTA
77713	TRHR	TGGATGACAAAGAAATTGA
77714	ZNF267	CAGATTTTTTACTTGTTACCCA
77715	MSF	GTGTCCATGTGTATGCGTGTCCGTCT
77716	TAZ	TCTCCATCCTTTCTGCC
77717	PITPNB	ACAGCTTGGAAACTATGCAAA
77718	GNPAT	GCAATCAGTTTACTCTTCC
77719	TK2	CATTTGGCTGGAGCCCGGTG
77720	PRKCN	GGTTACCATTATGTGATGTTA
77721	TRPM4	ACTCACAGATTCCTCACACTGGG
77722	BDKRB2	ACTGAGTCTGCGGGAGAAGAGCGGCCC
77723	TCTA	CCAGGCAAAGGAAATTGTCATCTGCCA
77724	ASGR2	TAGGAAAGAAGAAACAAATGCTTG
77725	AVP	CTCAGAGATGGTCTCCAGGTGA
77726	ADAM19	GCTCTGAAATGACAGCGCCAC
77727	HGF	TCTGCAGATGATCTTCTCTGGTT
77728	ABCA3	AGAGCTGACCCAGGAAGGG
77729	STXBP1	TGTGGGTGGAGGCTGGGGTGTC
77730	PPT2	GGCTTTGGTGTGCCTGTGACCACCTCA
77731	TNFRSF6	ATGTAAACTGTGAAGATAGTT
77732	CDH1	TATAGCTTTATACTCTCTCCA
77733	IL12RB1	GCGTGAGCCACCGTACCCAGCC
77734	IGSF1	AGCCCCATCTGCTGTTCCTTGGT
77735	HRH1	AGGCTGAGGTGGGCAGATCATT
77736	ITGB4BP	GAGGTGGCAGAGAGCTCA
77737	KCNK5	GGCAGTGGGGCCAGAGCCCACCTCC
77738	BAIAP3	TGCTGGAAGTGTGGGGAGAACCCGGA
77739	DFFA	GAACCTGGGAGGCAGAGCTTGC
77740	FABP2	TTACTCTTTCACTCAGGCTGGAATGTAG
77741	NR1D1	CCGAACTTCCCCTCCTCCCC
77742	ENTPD6	CCAGGGCAGAGCTCCCCTTCCTGC
77743	IL17BR	TCCGACATAAAGGAACAGTTGTGCTC
77744	NCOA6	GTTGCCCAGGCTAGTCTGGAACTCC
77745	CBFA2T2	CCTGGTTTGTTCCTCTCTCCACTGAA
77746	GPR1	CCCGAGGTCAGGAATTCGAGAC
77747	JJAZ1	CTCTGATTTTTGCCTCTGGATAG

77748	PDE4B	TAGTCTTCCTTCTTTCTTGGG
77749	TMPRSS3	ACAGTGCTGGGATTACAGGCAT
77750	SLC38A3	TTCAGCCCCTGCTCCCATCCAGTGGCC
77751	THRA	CCACCTTCCCTTCCTCAGCAGGCCA
77752	SREBF1	CCCTGTCTCTAGCCACTTTGG
77753	TEM7	TTTTCCTCCTCTGAACTGGATTTTATA
77754	ZFX	TGGGAAAGACATAGAAGAA
77755	PTGS2	GAGAATTTTATTTATAGCTAAT
77756	CACNA2D2	CACCTCCACTCCCACCTCA
77757	CSF3	CCTCCACTGTCACATTGTAACTGAACT
77758	GAS2	TCATGAGTAAAAGCACTCCAGA
77759	TNFSF4	CCTGCTCTTCCCATGTTGGCC
77760	EEF2K	ATGATCTTAGCTCACTGCAACC
77761	CXCL6	TAACTATTGTATTTCTATCATACATTCC
77762	TRIM9	CTCTCCTCCGCTGTCATGCC
77763	SGCD	GGGACTTGGCTGCAGTTCTGCA
77764	FOXO1A	GCTTTGTGAAATGTGCAAA
77765	FRDA	AAGAAGGAAAAATTCCAGG
77766	HOXB6	GAGAGGCAGATCAAGATATGGTTCCA
77767	FACL4	ATGGTGATTTTAAATGTGTGA
77768	SRRM2	TCTGCTCTCCTTTGAACC
77769	LAMA4	TCTTAACCTTGAATCCAAAGTGTC
77770	ABR	CCTGTTCTTGCTGGGCAATGGCTGATG
77771	LILRB1	CTGTCTCTCCTAAAAATACAA
77772	PRDM2	TGCAGCTCTTGGGACCGTGTTCT
77773	CHD2	TGCCTTCATTTTTGAAAGTAGT
77774	KCNMB3	ACTCTTCTGTTCACCAGACACCCT
77775	GATA2	CCCGAAGGCCGACACCACTCC
77776	PLCD1	AGGACTAGCTGGAGGAACCCAGTGGG
77777	FUT6	CCTGCCTGGGACGGTCACCTGTTGC
77778	ZNF174	TGCGACAGCTTGAACTTTTCCTAGGG
77779	NCALD	CACAAATGGTAACATATTCCAAA
77780	SERPINA5	AAGCCTTTTGCAAATAGTAGAGTGTC
77781	TXK	GGACAGTTTCAGAGGCCTTA
77782	ZIC3	TGCTATTTTGGGGGGCTGGAGTGGGT
77783	APOL1	TGTCGCCAAGTTGGAGCTTGCAGT
77784	PPP2R4	TTGCTTTTCCCTTCCTGGAGTCG
77785	S100A12	TTCCCTCACCAAAACCCAGCCTTGC
77786	MYBL1	ACTAAGATTATGCCTTA
77787	MGA	CTATCTAGTTTGTAAATA
77788	SLC26A4	TGGGGACTTTTCCCATATATTTC
77789	LOH11CR2A	TTCCTATGAGGCATGCTTTCCG
77790	IRTA2	AAGGCTGGAGGCATTTGTCA
77791	F2RL2	GGCTCATTGCAACCTCTGCCT
77792	DDX1	TGTCAGTCGGGAGGGAGGGAG
77793	HUNK	GCAGCCTGGGCAACATGGTGA
77794	C14orf1	AGGCTGGGAATTGCAGTGGCACAA
77795	EYA4	CCTTTCCTCCTCCCCCTCGGAGCC
77796	LRRC2	AGGCTGAGGCAAGCAGGTTGTT
77797	LTK	GCGGCCTCTGTTCCCTGCAGTCTGTG

77798	ABCA3	GGGCCCATCTTACATCCTCTCTCTCCA
77799	DNASE1L1	GTGCAGCCACACTGGGACTCAGAACCC
77800	AVPR2	GGAGAGCTTCAGGCCCCAGGACTGTGG
77801	TAPBP	GCTGGGAGCTCTGCGGAATCTGAGCCA
77802	FRAT2	TTCTGCTCTCTTCTGGCC
77803	KIT	CACTGCATGAGCTTTTATACT
77804	CD69	ATCTGCACTGTGGGCTTTTATTGCCAT
77805	RNTRE	TGGCTTCTCCCCACGAAG
77806	MTMR2	GTATTACAATCTCAAAGCCAGT
77807	SF3B3	GCATTATGAAAGTCAACAGCTCTTT
77808	TMEPAI	GGACGTTCCCGGACAGTGCCTCA
77809	RNMT	AGCTTTGCCTGTCTCTTGCCT
77810	ZNF140	CTTCCCTTCTGTGAGCT
77811	SLC9A6	AGCTTGAGTCAACTAAATCTGCCTTC
77812	SNAP25	TTGTGAATGTTGTCCTGTGTC
77813	MNT	GCTGCTTCTCCCCCCATCCCGGGTC
77814	E2F1	GGCAGGAGGGGTGGTGAAGG
77815	SORCS2	GGGAAACTGAGGCCCAGGGAGGAGA
77816	CRYBA4	CGCTCTGGAGGCTGTGGTGTGTTCT
77817	TERF1	AGCTCACTGAACCTCTGCCTCC
77818	WASF3	TGCACATCCAAAAATTCTGGGT
77819	OTP	CTCTTTCTGCATGTGCTGGTCA
77820	FSTL1	GCCCTTGGACACTATGGGAGGA
77821	TTC1	TACTTCCTGATGTAATG
77822	USP5	TGGGCAGAGCAGAGGGGCAGCGA
77823	ITGAL	TGTGCCCTCGGGCGAGTCACTGCC
77824	PRDM4	AAATAATGCCTGCTGGATTGT
77825	CALU	GCTCACACTCAAAGATCAGAGGA
77826	UBE2G2	CGTGCCTGTAATCCCAGCTCTT
77827	PITX2	GGTTCTTGGGGGAGGGAGGGAG
77828	GGA3	CTGCATGTTAAATAAAACCATT
77829	THY1	CCTGTTCTGTGACTGTGTATAGTGCCA
77830	SNX6	TTAAAAGCATATACCACCTT
77831	EPHB2	CTTCCCTTCCCTGGAGA
77832	JRK	TTGACCAGGCTGGAGTGAAGTG
77833	CHC1L	AGAGAAACTGAAATGGAACA
77834	NEURL	GCAGAGGCAAATCACCGGGCAGAGGGA
77835	LECT2	TAGCTATCCATGGAATATTAGAACTTG
77836	RAB5C	GCCCGCTGCCCCCGCCTCCTCCGCC
77837	ADAM19	GGTTGCGACTCCTGACTCTGG
77838	SLC25A5	TCCTGGCTGTCAGTTTCTCAGTGGC
77839	NDUFA8	CACACTCGGTCATGTGCTCAG
77840	HDLBP	TGCGGCCGCTCCTCCAGGCCT
77841	CA3	CCTAGGATTTTACATGTTGCC
77842	PPP1R3A	ACTTAAACATATTCTGTTCACT
77843	IMPG1	CGCAGGGAGATGCAGGTCTCTCTAAAC
77844	APPBP2	TGCCCAGGCTGGGAGGGCAAT
77845	RSU1	TTCTCTCTCCAACACTTCATTCTCTCT
77846	PSMB1	GGACTGTCTGTGTGCTCTTATC
77847	AICDA	GGCACCTGTAATCCCAGCTACTTGGG

77847	RAB7L1	GGCACCTGTAATCCCAGCTACTTGGG
77847	ZNF36	GGCACCTGTAATCCCAGCTACTTGGG
77848	CAV2	GATTGGGATACTGTAATACT
77849	FCAR	GGCTCATTGAACCTCTTGGGT
77850	GNAL	CCGAAGAGACCAGACCATCTCTT
77851	SIAT1	CAGGCTCCTCACTCTTCTCCATCA
77852	LTB	TGGGGCCGTGATGGTGGGGTGAGGGAA
77853	CALM1	CCCTCCAGGGAATGCTGAGTTCCA
77854	NCALD	GTCAGTTCCTCACAGTGGTTCTG
77855	BCAS1	AAAATACAAAAATTAGCCAG
77855	CREB1	AAAATACAAAAATTAGCCAG
77855	EIF3S2	AAAATACAAAAATTAGCCAG
77855	F2RL3	AAAATACAAAAATTAGCCAG
77855	GGCX	AAAATACAAAAATTAGCCAG
77855	GP2	AAAATACAAAAATTAGCCAG
77855	GRM6	AAAATACAAAAATTAGCCAG
77855	PHKB	AAAATACAAAAATTAGCCAG
77855	PLA2G2D	AAAATACAAAAATTAGCCAG
77855	SLC14A1	AAAATACAAAAATTAGCCAG
77855	TBX6	AAAATACAAAAATTAGCCAG
77855	UPK1B	AAAATACAAAAATTAGCCAG
77856	PAH	ATATGAGTACATACTCAAGAGCA
77857	NFIA	TCCACATTCAATAAAAAGTATA
77858	ETV1	TTAAATAATAATACACAAAAA
77859	SURF6	CAGGCAATCAAAATGAGTG
77860	SLC28A2	CCGTCTGTGCCTAGGCTGCTT
77861	DSC3	TTTCTATTCTCTCTTATAGTGACC
77862	MAGEA10	GGGTCCCCATCGCCCAAGTCC
77863	PRNP	AGCCCTTTTAGTGGTGGTGTCTCACT
77864	F2RL3	ATCGCTTGAACCTGGGAGGCGG
77864	GAS7	ATCGCTTGAACCTGGGAGGCGG
77864	KCNMB3	ATCGCTTGAACCTGGGAGGCGG
77864	MAP3K9	ATCGCTTGAACCTGGGAGGCGG
77864	MS4A2	ATCGCTTGAACCTGGGAGGCGG
77865	PBX3	AACACAGCTTTATTACCTCAT
77866	SLC18A3	GGGTCCCGGGATCGGCTAAGAGTAG
77867	HPCA	TCCCAGTTCTGGAGGAGCCAGGT
77868	SNX6	AGTGCTGTTTGAACTGTTGA
77869	M6PR	GCCAAAATGCCTAT
77870	SLC2A8	ATTTCTGGCTACTTCCTTGGGCTCAG
77871	TCAP	TTGCCCAGAGTTGGGGGCTAGGGGAGG
77872	ADCY1	CTCCCACCTGGTTACCACAG
77873	KRTHA7	ATTGCTTTAATGAGCTG
77874	SFRS2IP	TAACTTGACCATTTTCTCTCTCCTTTTG
77875	PRKAR1A	CTGCCTCCTGTGCCTCCCTTTTCTCCT
77876	ADAM19	CTGGTGCCCCACGCTTTTCTCTC
77877	PCDHB16	TTTGGGAATGAATTTTCCAA
77878	EHD1	TCTGCAGGAACTGGCCTTGTTCTCCT
77879	ZNF289	AGGGAAAGCGGAAGGTAGAAGGCTTTT
77880	DFFB	TGCAACCTCCGCCTCTCAGGTTC

77881	MSF	CTGGAGCCACAGGCAGGGGTG
77882	CRY2	ACCTACCTTTTCAGGATTT
77883	ELOVL4	AATTAGCCTTGATATTCTCCA
77884	AQP6	GTCAGCTCAGGCTGGAGCAGGC
77885	FLNA	GCCGTGCTGCGCTCACCTGCCTCC
77886	CDH5	CCTAGCCCTGCTCCAACTCC
77887	CDS2	CCTAACTGTGTGTTTTCAGGGA
77888	RAD54B	CTCAGGTTGTCAGGTTCTGCCTTC
77889	PCDH12	GCAATAACGTCACTGCCT
77890	NR3C1	TGACCTGCTGGGTAAACTGT
77891	ZNF264	TCGCACATCTTCTGTATTCCA
77892	PDE6H	TTTCAAACTTGACCACCTT
77893	CXADR	GCAAATCAAGCTGAGCTTTGA
77894	MHC2TA	GGTCTCGAACTCTTGACCTCGG
77895	FGF12	TTGCTCTTAGCATTTGGTCTGA
77896	COL11A1	CAGAATCACATGGCAAAAGCTTT
77897	UNC13	ACCCCAGGCACTAGGGGCCACCTGCCT
77898	BHLHB3	TGTATTTTCTGGAGACCAAACCA
77899	WBSCR5	GCGTGAGCCACCGCTCCTGGCC
77900	CDC2L2	GGGAGCGCAAGATGCGGGAGCAGC
77901	MLPH	CCTGGCTGCCCCACCATCCTC
77902	GGCX	AGGCTGAGGTGGGCAGATCACT
77902	GTF2H2	AGGCTGAGGTGGGCAGATCACT
77903	ATP7A	GCAAAGTTTACAACCTTATTCCA
77904	HSPA5	CCAACATGGTGAAACTCCATCT
77905	FRK	TGAATCCCATCAGGCTGTTATT
77906	GCG	TAGGACACAGAGCACATCAAAAG
77907	IL18R1	TTCAAGAAAATCACCAAGTGA
77908	MTNR1A	CCGAGATCGCGCCAGTACAT
77909	MPL	CCTTAGTTTTTTCATCTGTAAA
77910	RABIF	ATGCTTATGTACTAATAGTTGA
77911	GBP1	AATTTGCAAAGATGGACTTTAA
77912	TRAF1	CCCCTGCCCTGGAGCAACTTAAACAGG
77913	LGR6	TTCCTTGTCATGTCTGAAG
77914	PRDM2	CGTGCCTTTCACAAAGCCACATCCTGC
77915	SUDD	TTCAGTGTTAACACAGCAGTG
77916	SON	AACCAGCCACTATTTTGTTGA
77917	MAP2	CTTGGCAGGAGTGGGCTCTGAGCAGTTG
77918	STXBP1	GGTAGTGCAGCTGTGGGTGGAGG
77919	CDH1	TTGCCCAAGATAGGAGTTCTC
77920	CDH5	TATCCCTTGGTTTAGAGGAACCCAAGA
77921	TNFRSF11A	GCCCAGGCTAGAGTGCAGTGGTGCG
77922	DSC3	GCTCTGACGCACAGGCTGGAGTGCAGT
77923	MSR1	TCTTCTTTCCTTTACGTTTTAAC
77924	GNPI	GTCCTGCTTAAATTCACATGG
77925	FGF2	CTCCCTTTTATATTGCATCTGCT
77926	MAN2B1	CTCTCCTCTTGGGGCTGCTGCATTAAA
77927	LIG3	TGCCATCTTTTTGTTTTCTTTGAA
77928	OXCT	GTGGGGGAGGGCAGGGAGAA
77929	SPTA1	GGAAATTTACTGGGGGGCAAAG

77930	SURF5	TTGCGAAGCTAATGACCTGCC
77931	SERPIND1	CTCCCGCTCCGGTGACCCCATCCTTGC
77932	MHC2TA	CAGACTCCGGGAGCTGCTGCCTG
77933	SUFU	AGTTCGCCTCCATTCCTTGCCA
77934	ARCN1	ATCTCTAGCTTGGTTTCCACATGAGGT
77935	LZTS1	TCATCCCAACCTCTTTTTCCTCCTGGA
77936	OTC	GTTACTTCTACTCACCTTCACA
77937	DPYSL3	CCATTCCAAACCACCTGTTTCCCCTTCCAT
77938	PTEN	TCTCTCCCCTTCTACTGCCTCC
77939	MAML1	TCAGCTTTCAGGGGAGAAGGA
77940	TCF1	GGGCAGGAGTAGCTGAGCTCAC
77941	LIMD1	TTGCCTTATGCATTTCAGCA
77942	MPP4	TGTTTACAGTCTTGCAGTG
77943	ATM	TGGCTTGCGCTCAGGAGGCAGA
77944	TGFA	AAAACTCTAACAAGTCACCTCC
77945	DAZL	CTAGGGTCTATAATTCCTTAAAATTT
77946	CPA3	ACCCTCAGTTTCTCACAGATTTTC
77947	NR1H2	CGTGACCCCACCATGTCCTCTCC
77948	BACE	CACTGCACTTGGTGCTGCTTTG
77949	SDHC	AGCTTTTGGCTCCTTCTTCCTGAG
77950	LUZP1	CTACATGATTGATGATGGTCTCCA
77951	FCAR	GAGAGTGAAGTGAAGAGAGGCAAA
77952	COL11A2	GCTGCCTGGCCCATGTGCCCACTGT
77953	PLCD1	CCCCTGAGTGGGCTGGGCCCTCT
77954	RAD9	CCCCAGCCAGTGGCAGAACTGGGTCTC
77955	LAMC2	CTTCTTGCTGATCAGAGTTC
77956	JAK3	CGCTCGTTACCCAGGGTGGAGTGCAGT
77957	WEE1	TTCCAGGGTTAACCACTGTGGTGGTGT
77958	RUNX1	CCTGTTTATGGGTTTCTTCCAGCAGAACAG
77959	CNTFR	CTCCCCTCTGCCCTGTTTTGT
77960	ADCY2	CACACAGTATTCGTGAATAAGT
77961	TEGT	GTGGCCTTTTAGGCGGGAGTTAGGC
77962	SURF5	AAACCTGAGGCAGCCCTTTGGATGCC
77963	IGF1	GGCAATATGTCATCTACCTACCTCA
77964	IL4R	GGAGGGTGGTCATTGCCTAGAGGT
77965	SPTBN2	CCCCTGCCTCAGGGTCATTCTCCTG
77966	LANCL1	GCTTGCTTCCGGCGTCATGGCTC
77967	RGL	TGTGGAATATTGACATGTGTAAGAAG
77968	TNXB	AGGGAAAGGCCCTGGGAGGGGCT
77969	CEACAM5	GACAGCTTCATGAAACTGTCCACCAA
77970	SORCS3	TTTTGTACCTGTTAATTTTTGTGGG
77971	XPNPEP2	TCCTGGCATTCGAGGAGCCCT
77972	LILRB4	GGCATCCATTTCCATACAGGAACA
77973	DSCR1	CCTGTTTCTAAGTGGCCTGCAGG
77974	ARHGEF7	TCCACTCTGTGAACATCTCA
77975	PSMD7	TCTCAAATCTGAACTGCAGCTT
77976	SHANK2	AACAGTACAACAGCTTCTTTGAGGACCCA
77977	RBP1	GATCCCTCTTTGCACAGCA
77978	HOXC13	CAGTCAACATGTGGAAATCCAAGGA
77979	CALCRL	TTTTATTTTATAGTCTCAA

77980	PRPH	ACTCCTGAATTGTCTCCTCTCCCTC
77981	HMGA1	GCCATGATTTGTCCCAGCCTGGG
77982	CHST6	CTTTTCCTGCACTTTCTGCTTCT
77983	PYGO2	TCTCTCCCTGCTCTTCCAGGGTGA
77984	TCF20	AATGTGGGTTCTAATGCACAG
77985	MLPH	GCTCATACCTATAATCCCAGCC
77986	NRP2	GCAAGTCTTGGTTTTAATTATTATTATT
77987	TCTE1L	AAGGAGTTTAATGCAGTGA
77988	TCF2	GGTGTGCCCACACACCACT
77989	GAS7	TACATGGTGGCAGGGACAGGACCACAC
77990	MAP3K11	CTCTGCAGCTGCCTCAGTTTCCCCAG
77991	DNM1	AGACCTCCCTTTCCAAGCCTGCCT
77992	MTMR3	TCTCCTCCTAATCTGGGCCTCTTGT
77993	FUT6	CTGTGAGGTGGAGCTTGCAGTG
77994	IGF1	ATGTGGGAAGCATTTGATTTTC
77995	CDK2AP1	GGACCCCAGCCCCCCAAACTTTGGCA
77996	GNAT2	GGGATAGCTATTGCAGCTTAAA
77997	RALBP1	CTGGCCCACTCTCCTCTCTC
77998	MKI67	CCTCCCCATTCACCCACCTTGCCA
77999	PPP1R11	TCTCCTCCCTGTCCTGAG
78000	DDX1	GGCGCGGGCCTTTCCTTCCA
78001	COL4A2	CACATCCCTATAGACCACTGGGTTT
78002	NDRG2	GGGACTGGGGAGGGAGCTAAGCTTG
78003	FOSB	GGAGCCTGCACTTTCAAGAGGTACAGCGG
78004	APOL1	CCACTCTCCCTTGTCCTCCTGGGGGCATAT
78005	DSC1	CCACTGCACTCCAGCCTGGGCAACAAG
78005	RBL1	CCACTGCACTCCAGCCTGGGCAACAAG
78006	RXRA	GCCTCTTTTGCACTGG
78007	IL17	TCTGTCTGATCAAGGCACCACACAACC
78008	COPA	TGGCCAACATGGCAACACCCCGTCTCT
78009	SECTM1	ACAGACACCGGCTTGCTTGGCAGGCTG
78010	TNC	GCCGCAGCTCCACACTCCA
78011	LZTFL1	TTCATTCTCACCCTGTATTTCTTTA
78012	SIAT1	GCTGTGCCACTCTGGGCAA
78013	RBBP9	AGGCTGGAGGTCAGTGGCACAA
78014	LAMC2	TGGTGGGCGCCTGTAATTCCAG
78015	JAG1	AGACAGGCAGGTGATCTGCTGCA
78016	LMNB1	ATGTGAATTTTTAAGCTGCAAA
78017	TYRO3	TGAGCTGCCTCCAGCCTGGTGGCCC
78018	HTN1	TTCTGAGTAATAGAAATTCATT
78018	HTN3	TTCTGAGTAATAGAAATTCATT
78019	SNX13	AAATGATTTGGTGCATATTTTGCAA
78020	GNAI1	CCACCGGCGGGAGTGCAGCG
78021	CD86	TGGAAAACTGCCTTTTATCTGCCCA
78022	DAG1	AGCAGCTACTTCTAAGCCATA
78023	TLE1	TGGGTGATCTGGGGATCACGCC
78024	PLA2G2D	GCCAACTGCTCCAATCTGCCT
78025	CACNA2D2	TCCTTCGGGGGCGTGCGTGTA
78026	TSNAX	ACATACAATGGAAATGCTTT
78027	PIP5K1A	TGTGGAGGGGGTGCGGGACG

78028	IL16	ACTGCGGGCGAGATGGAGCTGAGGGAA
78029	FOXD2	TGCGTCTCCCCTCGGGCTGGA
78030	BAZ2A	TTTGCACCTTTCCATCCTCC
78031	GPR17	TGAGCTATTTCCCTTGCTAGTGTGCAG
78032	MKI67	TTTGCCCTCAGCTTTGCAGAATGAAGC
78033	PCSK1	CTACAATGCTGGCTTTCTCCCA
78034	SEPN1	TCTTTTTATATGTGCAGAAAAGT
78035	MAP3K7IP1	AGAGCTCAGACCTGAGCCAT
78036	COL19A1	GAGATGCAGAAGATAATTGAATTTGTA
78037	BCAT2	TGACTCACCTGAAGTGCAAT
78038	PTPN18	AGTCCCCCAAATGAGTACACATC
78039	NCF4	CCCCAAAGGCAGCTCCTGGGGA
78040	AK1	GCAATGAGCCAAGATTGCGCC
78041	SFRP2	ACATCTTCATCAGCTCCAGAC
78042	PDE1A	AGCTTTGTACATCAGCACTG
78043	MAZ	TCCAGAAGGAAAGGAGGAAGAAATGTT
78044	DGKE	CTGTTTTGAGAGTGGGACTCACTCTGA
78045	MAPK1	CAGCCCGTCTTGGCTTATCCACTTTGAC
78046	SMAC	CCTAGCGCTGCAGGCTCCTGGGC
78047	SNRPN	TTCTGTGGGGTCTGCAGTGGCAAG
78048	EBF	AGGGACACTATAAATAAGAC
78049	SLC21A9	GTGACCAGGGGCCACCAAAGT
78050	PIGR	AGGCGTGCTGGTCCCCTCCTCA
78051	CLPP	CCCTGCTCACCCCTTGTTGCTGGGCT
78052	CYP1A2	CCAAGCACCTGGGATTACAAGCAT
78053	APOL1	GCCAAGTTGGAGTGCAATGGTGCG
78054	SRGAP2	CCAAACATCTCCCACCGAGTTATTT
78055	IRS2	ACTATACAGATGGTTCGTGTTC
78056	SMAC	CAGGCTGAAGTGCAGTGGGGCGCTCTC
78057	EGLN2	TGTGGGAAGAGGGTGCAGCACTGGAC
78058	PLA2R1	GGTGTTCTATTTAATAAACTATT
78059	EXTL3	GCACATCTGCTGTGGTCTGA
78060	CNGB1	CAACATAGCGAGACCTCATCTC
78060	YWHAB	CAACATAGCGAGACCTCATCTC
78061	AF1Q	TCTCTCTCCCATCACCTTGCCCTCATT
78062	MTR	GCCCAGGCTGGAGTGCAGGGGC
78063	OGN	AAGTACACCTACACTAATAGTC
78064	ANGPT4	GCCAGCCCTCCTTGACCCAGAA
78065	EHD4	GCAAAACTTCCCGTTTGCATGTCA
78066	FOXM1	GAGTGAGGACAGCAGGCAGG
78067	ABL2	GCGGAGCCGCCGGTGGCCCAGCC
78068	APPL	GGTCTCAAAATATAACTCG
78069	BMX	ATAGCAGAAGCACATTTTCAGACTGC
78070	PTGFR	GAGAGGGAGATGACTTGAGTGGT
78071	MAK	AGGTTCTCTTGGCTGGACATCAT
78072	CLCN6	CACTCTGCTCCTGGGTGTGAGCAGAG
78073	SLC22A11	CCTGTGCAGATGGCCATGCCCAACCAA
78074	CST	GTCATCCAGAGCTGGAGTGCAGCG
78075	PKD2	CCTGAATTGCTGTAACAAGCAC
78076	VHL	TGGAAGGTGGAGCTTGCAGTGA

78077	MAN1A1	AGACATTTTATATTTTATTCTG
78078	IL17BR	CTGGCTGAAGGAAGCCAAGAGGATCA
78079	RGS6	TATCTGAAGGCCCAGCCAAAGCA
78080	HERC2	GTAGGCTGCCTGGTGTGTCTGATGAG
78081	PGF	GCGTCCAGCCCCCCACTCAGCTCTTC
78082	F2R	CCAGGAGGCGGACCTTGTAGTG
78083	SUV39H2	AAGATCATACCACTGCACTGCAGCC
78084	PDGFRB	CAGCCGGTGTCCTGGAAAGCC
78085	CDC42	TCCTCTTGGAGAAAATAACAAG
78086	LRRC2	ATTGCTTGAACCCAGGAAGCAG
78087	ABCC12	CACTCACTTCCATCTTGACTGGGTGA
78088	SEDL	GTTGTGCAGGCTGTAGTGCAGTG
78089	KCNK3	CTCCAGCCTGGGTGACAGGGC
78090	LYN	TGCCGTGCCTGGATCCTGAA
78091	SSTR3	GTGCCTGGCCTCCCTGAACTGT
78092	BACH2	TACATACTTTTTACACAGATTCT
78093	ULBP2	TTTTCTTTCTTCTCTTTTTGTTTGGAA
78094	RNF3	TTCCTGTGGAACTGAATCCCTC
78095	KCNMA1	TCATGCATTCTTTGCAAAGGAGGT
78096	AOX1	CCGGGAAGAGTTCCTGGCAAAG
78097	LHX3	ACCAATTAACTGAGCACTTGCT
78098	NF2	CCCAGCTGAGTGAAGAGCCCAG
78099	IL21R	GGCTCTCTGCAACCTCTGTCTC
78100	PCDHB3	ATTAATATTTCAATATTTTATG
78101	ZNF42	TAGACAATGCCCCCACGCTTG
78102	ARHGEF12	CTTCTGTGGGCTTAATGGTTC
78103	BCL2L2	AGCAGGACACAGAGGGGAGGGG
78104	DUSP4	TTCCGATAGAAATTTCTTACCTCA
78105	PER2	GAAAGATCTTCATGGCTGTTT
78106	ITGA2	CTCTACAGCCTGACTTTCTCTCCA
78107	LIF	CACTCACTTTGCACCTTTCCCTG
78108	LARS2	AGGTAGAGGAGGCCATCTGATC
78109	CYBB	GAATTCTTAAAACTGTGCTCAA
78110	SIX2	AGGGAAGAGGAGAGAAAAGACAGG
78111	CH25H	TATTTTTGTGGATGGTGTTGACTTC
78112	TCEA1	GAATATTAGATATTATTTTGCATCTGTAAC
78113	MBTPS1	TGTCGGTGAAGAAAATTTTCAAT
78114	PPIL1	AAGGAGATTTATATTCTGGCCT
78115	TEX13B	AATTGCTTCCTCTGGGGAGGCGAATA
78116	EHD3	TATGCAGGCCCCCTGCAGCCT
78117	RRM2	GTTCATTAACAGCATCTTTAA
78118	MAPK3	CATTCCTTAGTCTCAAGGGC
78119	ST5	CCTGCCTGCCTGCCTGCCTGAGGTCCC
78120	LZTS1	GTGACCACTCTTCTTTAAGCC
78121	ADAMTS4	TCCATGTCTCTGAGCATTAG
78122	CD80	CTCTTCTGGGAACTTCCTCA
78123	BAT1	CCCTACTCTTCACCCCTTGTTTTCACC
78124	CYBB	CATACTCCAGTTTACTAATAC
78125	NAP1L4	TGTAGCTCTGGACTTCCCTGGGCCTT
78126	ZNF3	GCAGAGAAAGAGCAAAGCCCAAAAG

78127	LARS2	CTCGCCTAAAGGTGGAGAACGAG
78128	MAP2K2	CCTCCACCCACCCTCCTGCCTCA
78129	OPHN1	GGGGCTAAAGACTGATCTCAGGGG
78130	FDFT1	AAGGAGTTTAGCTTTCAGAGA
78131	CYP1A2	TGTGTTGGCCAGGATGGTCTCCA
78132	LASS2	GGCCTCGGGGCCTCGGAGCAACCAC
78133	PTK2B	TCCTTTCCCTTCCTCTTCG
78134	ZNF253	TCACTGCAATCTCTGCCTCCTG
78135	PCYT1A	AGGAAAGACAACTGGGGAA
78136	PTGS1	CTGCCCTTCTCAAGACTTTAGC
78137	NPTX1	GCACACAGCCTGGTTTTGTCCTCA
78138	HSPA1A	GCGGATCCAGTGTTCCGTTTCCA
78139	F7	GCGCACACACACCGATGTACACACAC
78140	SGT	GGGGAAGAGAGAGACCTCGGAC
78141	NELL1	TCTAGGTGACCTACAGTGCCGTG
78142	REPS2	GCAGCACCCCAGCTAGGGA
78143	MDM1	CAATCAGGTAGCTTAATGGATGTAATA
78144	IGF1	TTTTAGTATAATGGTGCTAT
78145	IFNAR1	TTACCCTAGAAAACAGCTGCA
78146	MTA1L1	AAACCTCCCTTCCCTTTCGTGTCG
78147	RIMS1	CAGAAATGCTGCAGTACAAACTTTCCC
78148	CASP7	TGCGGGGACACGGGTCGCTTTG
78149	MUT	ATTGTCTTGAGCACCAGAA
78150	IMMT	AGCAAACTGAATAAAGCAACA
78151	PLA2G2D	ACTTTCTCCTGCCTCCAGGCATT
78152	LAMA5	TGCAGCTGCCTCACACCGCCCCT
78153	FUT4	GCTCCTGAGAAAGGTGAGGAGGGCAGTC
78154	MMP19	GGCTGGGCTTCCTACTCCCCAT
78155	IL7	ATTAAGAGTGAAAATTGTCTTCTTCT
78156	BTEB1	TTTAGCTCCACATCATGCTT
78157	PAG	CAACCCAGAAGACAACCCT
78158	GNB1	TCCAGCACCATGTTCCTCCTGACCC
78159	AQP2	GCAACTGGTTTTACTAGTGTGCAAG
78160	TAPBP	TAGAAAGAGGTTCCTGGGAGTT
78161	CTNNA2	CTGTAGCCTGGGAAGGAGACAG
78162	MEF2C	CTCATTAAAAAGGATCAGAGA
78163	FMR2	AGGAAGCTCCATCTGAGC
78164	FCGR3A	TGGGTGGAGGGGCTGGGGAA
78165	TRIP15	ATAGTGGCATACTGTCACTTA
78166	SOCS5	TCTGCTTGCTGTGCCTTGTT
78167	TRPM6	GCGATCTCACTGCAACC
78168	MLH1	TCTTCTTTCTCTGTATTCCGAT
78169	EPM2A	TCAATGAATGGGATGTCTAATG
78170	P2RX7	CTGCAATCCCAGCTACTCGGGA
78171	BCL2	GGCTCCACCTGGATGTTCTGTGCCTGT
78172	KCNN4	AGGGCACAGGGCTCTGCTGTGCC
78173	RFX2	TGATGTGATGTTTACTTTGAC
78174	CHRNE	GGAGAGGGGGGTCGGGAATGGGGGG
78175	GNGT2	TCTTTTCCCTCTACTCTCATCCTAGG
78176	PODXL	GAGAGTGGGGAGACAGGCAGC

78177	DGKI	TAGCCATCTTTGCCTTTTGCT
78178	ASB4	TGCTTGAAATTGGGTGTGAGA
78179	PKNOX1	CAGGCTGGAGGGCAATGGTGCA
78180	ATP6V1G2	TCAGATGCTCATTGCTTTCTAA
78181	MICB	GCTATATGATCAAACAGCAAA
78182	BACH2	CACTTTTAAAACCTGCCTCT
78183	CHST5	TTTCCTTTGAGTCTTCTGGAGCT
78184	FGL1	AGCTGGACTTCGTTTTTACTTA
78185	PRPS1	CCATCACCATCTGCTTGACTATGTA
78186	SERPINA3	CAGTCTGGAGGGTCCTGGCC
78187	SHANK2	TGGCCAGCTCTGCCTCTCTAAAACTGAC
78188	FLI1	CTGTAACCGGGTCAATGTGT
78189	PDE1B	CCTTCCTCTCCCCTGGGGCT
78190	ATM	ATCCTTCCTCCTCACCCTGCCGG
78191	LDB3	CTACCTTTGGATCTGTGAGAAGGTGAA
78192	PRKY	CTCAGTGGAAAATGATGTTCAGATG
78193	PKHD1	GCCCTGCCTCAGTTTACCTGCACATGCTT
78194	PACE4	AACCAACTGCTGCTGTGCACAT
78195	PLSCR1	GACACATTTTAAATACTCCTTCACTCTAAAAC
78196	SPAG9	GTGGCAGCAAGCTGAATGACAGA
78197	MAP3K11	CTCTGCAGCTGCCTCAGTTTC
78198	TACSTD1	TTCAAATGTGTGCATTAAA
78199	FUT6	AGGTGGAGCTTGCAGTGA
78200	HLA-G	CTGATGTGTGTGGGTTGTTGAGGGGAAC
78201	FMR2	TCCAACAACAGAAGTGGCATCTG
78202	CRIM1	CAACTACTGGAATATTGTC
78203	DLEC1	TGTGGGGCGAGTACTGGGACA
78204	TMC2	CTCTGCACTAACTGCCCTCCCAAATATCTT
78205	SEDL	CTGCCTCCTGACTTCAAGCAAT
78206	CYP1A2	GTCTCGAACTCCTGACCCCAAGTTAT
78207	ZNF18	TTGCCAGGCTGGACAATG
78208	ADAR	TCCTAGAGGGTATAAAATCATCT
78209	XPNPEP2	CTCTTCTCTTCTGTGATCTCA
78210	GJB1	CTGCTCGGCCTGCTGTGCCA
78211	PARN	CTGTCATGAATGTGTACGTGC
78212	PKIA	GTATCTGTGTGTTACTGCTGT
78213	CXCL16	CCAGTTGTTCCTCCCCCACCTCAGCCCTC
78214	AKAP13	CCGAGTTCCCCTCCTGGGATTTGCA
78215	RAB4A	CCTGCTCTGTTTTTGGCTGTGAGACT
78216	AANAT	GCGCAGGAACAGCGGCTGCTGACTGGGC
78217	PXN	ATGTTTTACTTCTCTATACACCAT
78218	PNUTL1	GAGACCCCATTTTCTGTCGAGG
78219	MOG	CACGAGGTCAGGAGTTCAAGAC
78220	MAP1A	TGGCTGCCTCTCCAAACCCGCTC
78221	RTKN	TGGTACCGAGGGACTCATTCCTGG
78222	GALT	CCATTTCTGGGCTCCTGGGGC
78223	NUP155	GCCCTAGGCGGCGGATCTAAGCTAAC
78224	BRF1	CAGGCTCGCTCCTTGTGGGGCC
78225	FKBP1A	CCTGTTCTTGGATCTGCCA
78226	STAU2	TTTTACCTTAAGAAACACAAT

78227	RXRA	GGAGGGCCCTGCCGGAATGTGC
78228	ADORA3	GAGATGACTCTGTCTCATTGAC
78229	FSHPRH1	GCGCAATCACGGCTCTCTGCAGCC
78230	RAB23	TCCTGCTCTCATAAGGTCAGCC
78231	DVL3	AGCAAACTAACAAAGAAAAACA
78232	SOX5	ATTTTTGTTTTTCCTGTTGA
78233	DSCR3	GGGATTACAGGTGACTGCCACC
78234	LUZP1	TCACTACCCACTATCTTATTCA
78235	RNF17	TCCTCTGCTGAATTTTTAAATGTT
78236	ELK3	CCAACTTCCTGCTCTCACA
78237	PTK2	ATGTTCTCTAGCCTTCCACCAG
78238	PPP1R2	TGAACAACAGGATATATAGACTGATAA
78239	DXYS155E	TCTCCAAGTGAAGCTCAGAAATACC
78240	RGL	GGGGCTGAGAAACAGGCTGC
78241	RP42	CACGATGCAAAATACCAGTCTGGCT
78242	HEPH	CTCAGGAAGCACATCTGTAGTGC
78243	ARNTL	AGGGCTTCCTGTGTGCCGG
78244	ARHC	ATGAATAAAGGCTACAGGCTCCA
78245	MGAT5	ACTCCACCCTCCCCGTTTTTGCT
78246	CDR2	CTTATTGAACCTCTAGCTCT
78247	LDLR	GGCAGGAGAATGGTGTGAACCC
78248	FXYD7	GCTGCCGACCCTGCCTGAGCGCGG
78249	SOCS4	CTTTGCTGCTATCCACTGTGAT
78250	HPCAL1	ACGCGCCACCTTCCCCGGTCGCGGT
78251	FRAT2	GAACTCCAATTAAGGGACTGGA
78252	DNMT3A	AGGAATGAATGCTGTGGAAG
78253	CNP	GGAGACACCTCAGAGCCCCG
78254	ADCY6	GGAACATCCCAGCAGGCTGTGCTTGGA
78255	SYNGR3	TTTGCGCCATCCGGGGCCAAG
78256	LMO7	ATTACATAGAAGCATTGTAGTCTTG
78257	MTM1	AAGTGTTTTACAATGATTTGT
78258	SLC6A3	GGCTCCAGGGACTGGAGTGTAATG
78259	IL13RA1	AATGTATTTTCTTCACCTC
78260	ZNF79	AGAGTCTGCAGCCCAGAGCCA
78261	TNFRSF1B	TGGCTTCCAGAAAACCCCAGC
78262	ARNT2	GGGTCCAGGGTGCAGTGAACTCAGT
78263	MBD4	TCATGCCACTGCACTCCAGTCT
78264	TEM7	TCATGCCACTGTACTCCAGCCT
78265	TNFRSF1B	TCGCGCCACTACACTCCAGCCT
78266	C14orf2	GCAATCAGAATCTCACTGAGCCACCCA
78267	PCDH9	TCATGGATTAGAGTGACTGAAA
78268	TSC1	ACAGTCTAGTTTCCTGGTTCCGTTT
78269	CAMK2A	CTGTCCGTGGAGTGGAGCTGC
78270	KCNJ5	TGTTCTCTGCTGTTATCTGCC
78271	MPST	GGGCCCCGCCTCCTTTCTGTTTTA
78272	CD97	CTCCACCCTCCCTCCC
78273	FCN3	ATCGTCAGCCACCTTGCCTTTGCC
78274	BACH2	TGGCACCTCCAAGTGGTGTCATTTGA
78275	SORCS1	CTTAGTATGCTCAGCCTCCTTCTTT
78276	LZTFL1	TCATATCCCCTCTCCTTATTTTTCT

78277	CYP1A2	GCAGCCTGGCCAACATAGTGG
78278	GAS2	GGCTGTGTTTAGAATGATCTAGTGTAA
78279	CYP4F3	TAGCGAGACTCGGTCTCAAAAA
78280	GRM6	GTTGCCCAGGCTGGTCTCGAACTTCTG
78280	WHSC1	GTTGCCCAGGCTGGTCTCGAACTTCTG
78281	EXTL3	CTCAGTGAGCTGGGGCC
78282	KCNB1	AGAGCATCTGACTGCCCTGCCT
78283	BCL7A	CTGTGCTCTCCCCTCCTTGGGGCGTTT
78284	SQSTM1	TGCCTTCCACCTCA
78285	MYOD1	GAGGGAGGGGTGGGGGACAGT
78286	ATP11B	TGGACAGTATTTAAATATTG
78287	BCL2L11	GGAGGCTGAATCCTTGAAGGAGGAGGT
78288	KCNK6	CCACCCAGGGCTCGCGGGG
78289	MAPK4	CAGGCCTGTGCACACACCCCCTCAGCA
78290	EFG1	AGCTAAATCAAATGTAATTTATAG
78291	APBB2	GCTCTATCCCCCTCTGATGCT
78292	DISC1	ACTGCAACCTCTACCTCCCAGG
78293	PER2	ACCCAGTCCTGTTTGGTTTTC
78294	GATA2	GGTGAAGGCAGGAGTTGGGGGCAGG
78295	DACH	AGCTTGCTTACAAAGGGAGCATTAT
78296	SUFU	ACAGATTCTGGTTTGAGGTTTGACTC
78297	RFX1	TTATCTGTTCCAGTTTTCTCAGTGTTTTC
78298	TFE3	TGCCTTCTTCCTTGAGGGGCAG
78299	IGF2R	GCGTGGAGGAGGAGGGAG
78300	BDKRB2	CTGGAATCTGGAGAGCTAGAACCTGG
78301	TLL2	ACCAAATGCCTAA
78302	MMP19	TGAGAAGTTTCTGAATAGGTG
78303	CTSS	CTCTAGATTAGTAGATGCATCTAA
78304	CAV1	TTAGAAAACATAATCTTCTGCCT
78305	UBE2L3	GCTCTCCACTTCCTCCGTGCA
78306	FGF5	ATTTTTCTGACTTTTACAGATTAA
78307	IRS1	GCCGGTCCCCAGCTGCAGT
78308	PBX2	ACACAGAAACATACACATACC
78309	ZNF189	GGAACCTTTGGGAGTGCCTT
78310	APAF1	TGGAGACAGAGTCTTGCTTTGTTGCC
78311	NDRG3	TGTTACCCAGGCTGGAGTGCAATG
78312	LGALS3BP	CTGTGGCTGGAAGCGAGGA
78313	ELK1	GGGGAGATGAGGGAGCCCTGTCTG
78314	PSME2	AGCCGGGAGACCAGAGATCTAG
78315	DNCI1	ACAGCATTTCTATCTTTATTATTTC
78316	CDH18	AAGGAAGAAGTGTGGAAA
78317	MYBL1	TGTTAATAGAAATGGAAATACT
78318	SNRPN	CCACCACCTGATGAAAGATACACCACA
78319	TBX22	CCTCCAGGGATGGCTCTGAGCTCTCG
78320	SHOX	AAGACAGAGTCTTGCTCTGTCA
78321	PABPN1	GCTGGGGTTTGCAGTGGTTTGAT
78322	GPR63	GCATCTCTGCTTGCATCTTCCATCCTAC
78323	ANGPT2	TGCGCACTGTGTCCTCTTCCA
78324	PTGIS	CCTGACCTTCTCCAGGGACAG
78325	PIN1L	TGCAGCTCGGCCAAGGCCAG

78326	BDP1	TTGCCCAGGCAAGAGTGC
78327	LNK	CGGGGTCCCTATGCCCAGTC
78328	PTN	GATCAGGTTCCCCGCCTTCCAGTC
78329	BHLHB3	TTCGGAGTTCCTGTTTTGCTCAT
78330	TAF7L	GTAGAAAAGGCCAGTATA
78331	RPE	TGGGAGCCAGCGGTATGGCGTC
78332	PPP4C	TCCTCTCTCCCCACTTGAACC
78333	NOTCH3	CTGCTGGTGGGAAATGGGAGCCAGG
78334	PEX14	CCTCTCTGGCCCTGGGAGGGCAGC
78335	GRB10	TCCTCCTCTGCTGGCTTAGGGTC
78336	CD22	TCTCTCTGGCCCTCTACCCCTGATCTG
78337	HIVEP2	TACAAGTGCATCACTGGTACA
78338	ANK1	GAGAATCCCCTACCCTACTCTGAT
78339	DAZL	GGTTAATCAGAGTATCTGAAGGGAAT
78340	GCDH	GGAAGCAACTCCGTCTGCTGCA
78341	CSRP1	TGCTGCGTGTCCATCATCAGCTGACCAAG
78342	KCNJ10	TCTCCTCCATTATTACCCAGGC
78343	EPHA8	TGACACCTGCCCTTTGTCCCCCA
78344	ITSN1	AAAGGACAACAAAGTTTACATT
78345	FAAH	GCGCCGACTCCCTGAGTCTGGACC
78346	OSR1	AGGGAAAGAAAAGTTGGAT
78347	RREB1	TTTGGCTGTTGAGGAGTGAGA
78348	SIM2	ACTGCTCTCAAAATGTGAACT
78349	EIF1AY	ACATTTCTGCCTGATAATCATGCT
78350	IL1R1	GAAACACCTCCCAGGGGCTCCA
78351	ZNF3	AGAAGAGATTCCAGAATCATCATCT
78352	ASH1	GCATTTGCCCCACCCCACAGCTTA
78353	NLGN2	GCCTGGTCTAGCTCCTCTCCAA
78354	EZH2	AACTTTTTATTGCCTTCTCACCAG
78355	FBXL5	GGCTGCTGAGGCGGAGGCTGAGGCA
78356	RAD21	TATGCACCTGGTCAACTTA
78357	KMO	GGGTATTCCAGACACTTCTTATGA
78358	SYBL1	CAAAACAATATAAATGGATA
78359	CPNE3	CAGTTTCAGCACTCAACCTCA
78360	AP2A1	GCTGCTCTGTGCCCTGTCCGGCCAGG
78361	SYNGR1	CGCAGCGTTACTGCCTGTGT
78362	INPPL1	TTGGGGTTGGTTGGGGTGGGG
78363	PRKY	CCATTGCCCTCCAGCCTGGGTG
78364	TFF3	GGGCACCTCCAGCTGCCCCTGGGATG
78365	RARA	TCTCAGGATGGGTCCTGGGGGCC
78366	PTGIS	CTGAGACTAGATTCTCACCT
78367	KMO	ACTTCAGCCTCCCAAATAGCTG
78368	PUNC	CAGTATTTCTATCCTGACTGCCTCTTGG
78369	TNFAIP2	GCATCAAGGCTCACTGCAGCC
78370	CD74	CTCCATCTGTCAACAGGGGCG
78371	FBXO7	CTACCCCTCAGCTCCGGTAGTCGCC
78372	PIK3CD	GGTTCAAGTGATTCTTCTTGCCT
78373	MS4A2	TGGGCAAGAGAAAAGTCCACAGTGATA
78374	PTMA	GGATCACCGGCGTGCCCCA
78375	MCL1	GTATGCAGACTGGTTGTAGT

78376	DLGAP2	AGAAGGCAGAGGTGGTCCGTGG
78377	ACADSB	ACCCAGGCTAGAGTGCAGTGGCGCG
78378	ADCY6	ACCCAGGCTGGAGTGCAATGGCGCG
78379	NCOA4	AATGCTGTTTATTCATGCTGAGGTGA
78380	GNAI1	CGTGTTGTCACTGGGTTGA
78381	APP	TCTCTCCTGATTATTTATCA
78382	GPR81	GACCAGCCTGACCGACATGGAGAAACC
78383	CR1	TGGCTCTGTCTCCCAGGCTGGAGTGC
78384	KAL1	TTCCTTTGATTGATAGAGAAGGACAGT
78385	RAB23	GTTTTGGGAGGAAAACAATTGAATTACAT
78386	SULT2A1	GGAGGCAGAGGTTGCAATGA
78387	MTMR1	GTCTCATCTGTTGCACTGTATTTCA
78388	MGAT5	ACACTGGTCTAGAATTGAGAGGTTG
78389	FOSB	TCTTCATTTTCTTTTGGAGGAC
78390	SPK	AGCGAGACATTGAGTTGCTGCTG
78391	NONO	TGCTGGAGGCAGAGGGCAAGG
78392	TNFSF13B	TGTACAGTAGGGGTAGAGATGCAG
78393	CACNG3	GAGGCATTCACCTTTATGTGTTAGAAA
78394	RAP2A	TGCCTATACTAAGAATCTATACTGCAG
78395	PTGIS	GAGCAAGACTCTGTCTCAATAA
78396	KCNK5	CCTCCTGCCCGCCTGAGAACTGCA
78397	IL1R1	CTCCAGCCTTCTCTCTCTGGTC
78398	PTPRJ	CGGCTGGCGGAGGAGGAGGCGA
78399	HM13	TGCCACTTAATAGCTCTGTGAT
78400	MTAP	TTCTAATTCCAGTCATTTTGG
78401	RTN3	TCCCTCTGCCACTATCCCCAGGGAAGGAAAG
78402	CBFA2T3	CAGGAGGTCGGGAAAGGCAGTCCTG
78403	PDCL	GTCACCCAGGCTGGAGTACAAT
78404	KCNJ5	AGTTTCCCCATGGTGAATGTTACCGGA
78405	PCMT1	TCTTCTGCTCTTTCTTCTTCCAC
78406	NDUFV3	TCACTGCATCCTGGAGTGCAAAA
78407	ARHGEF7	CCGGAAGCAGAAGCCTGGTGG
78408	SHC1	TCTCTTACCGCGAGACTGAGAG
78409	TMEPAI	TGGAAACTGCTTGAAATCTTGCT
78410	COL18A1	CCCAACTCTCCCCTGACCTGTGAGCC
78411	PAH	GCGTCCCCCACACCCTCCCTCAGCCCC
78412	NCOA3	GGCTTTGCAGAAAGGAAATGAGA
78413	PACSIN1	CCTGCTGCTTCTCCCAACAGCCC
78414	AKAP13	CTCACCCCCCACACCTTCCCCG
78415	OPTN	CAAAACTGTTGGTAAATGTCAGATTT
78416	EPHA2	CCCCCTGCAACTTCCGCTGAGGGG
78417	CDK10	ATGCCGACCTTTCCCCACCA
78418	TIMP4	TCCCTTTCCTCCCCAGGAATATGTGT
78419	ASB2	TGACTTCAGAGCTTTCTCTCCA
78420	NPTX1	CCCTCCCTTCTCACCTCTGGAGCTG
78421	FANCC	GGCTCACACCTGTGATCCCAGCACTTT
78421	SUV39H2	GGCTCACACCTGTGATCCCAGCACTTT
78422	UGCG	ACCGGGCGCCCACCCTGTCCTCCTCC
78423	DAAM2	CTTCTCACTCTAAAAGAAAGATATT
78424	PCYT1A	CCTAAGGACAGCTACAAAGGAAAGA

78425	MAP3K8	CAACTTGAAGATTGTAGCAATA
78426	UVRAG	GTCAGAAGGTCAGCATTTAC
78427	RTN4	AGCAGGAATGACAAAGCTTGCTTT
78428	CYP4A11	CCTGCCTGGCTTGTCTGTTCC
78429	TRPM2	TGGAGAGAGGACTGTCCTGAGGG
78430	HK1	CTCTCTTCAAGCGGCGACCCCCTA
78431	ITCH	CTCATTTCATAAGACTTACAATAACTC
78432	SNAP23	TTGTCCAGGCTGGAGTGCAATAGCGC
78433	IDH1	ATCTTTTCTATAAGTTTACA
78434	B4GALT1	CCTCCTGTTCCACCTCAGGTT
78435	KRTHA4	AGCCTGTTTGTTTCTAAAGATGTT
78436	BACE2	GTTCTCTTCTCTCTTCAATCTCT
78437	ZNF140	AGTGATTTGGGAATGCCTTCA
78438	SLC10A2	ATCTATTGCTCTACCTCAGGGGTCC
78439	TSC1	CCAGCAGAACTGAAGTGTG
78440	THBD	GAGACAAACACCTCCCAGGAGACAGT
78441	HTR1D	ATTGCCCACCTGGGTGTGAT
78442	OXCT	GTACAGTACGATATATCATTCCT
78443	PPEF2	CAGCCTATTTTATACTTTTTATTTATT
78444	EGR3	AGATGCACACATATCTGTACATATACA
78445	PAX5	CTGTGTGACCTGGGAGTGA
78446	ENAM	TTTTAATCACACATTGAAAAATTCA
78447	SOX8	TCTGTGTTATTTTATCTTTAA
78448	APOL1	GGTCTCGATCTCCTGACCTCTTGATCT
78449	PLA2G1B	GGTCATCTCAGTTTCTTTTCTCAC
78450	C18orf1	TCATGCCACGAACATGCTCCACAGCCT
78451	IL18R1	GATGCAGCTGCTCATACTCAATCCC
78452	ALDH6A1	GCCTGTAATTCCATCATTTTG
78453	CBFA2T3	TCAATGAAAAAATCGAATTGGTGGCTT
78454	MEFV	CTCAGCCTCCCAAAGTGCAGGG
78455	GLI2	CCTTCCTGGCCCAGCAGCCCATGGC
78456	DTNA	AGAGGAAGAATTAAGGGGCATGTTGG
78457	FGD1	CTCCTGCCTCTCCCATGGCTTACAGCT
78458	PRKAR1A	TAGAAAGAGTTCTATGGAGACT
78459	VDR	CACGCCTGTAATCCCAGCAGTT
78460	MAP3K10	GCCATGCCACAAGGTGGGGGAGG
78461	AP1B1	CAGGGAGGGGTTCCCCTTGGTA
78462	TCTA	TCTTAGGTTTCTTTTCCTGTCCCTCTTCC
78463	TAP2	TGGAAGTTCATGATATTTTGATTTCAA
78464	E2F3	CTTGCAGAGTAAGTCGGGTGGCA
78465	KCNQ2	CACTGCCTGTCTGCTCTGTTC
78466	GM2A	GGCCACGTCACAACCTCTGATCTC
78467	RP42	GTCATTTCCCTGTTCACTTACTGACAT
78468	SRGAP1	GAGCGAGACCTCTATCTCAAAAA
78469	PDE6A	TGCTGGCTGGACGGCACCACCCT
78470	SUV39H1	CTGCCTTCACAGTGCAGTG
78471	MECP2	TAGCTGTAACAGTTCTTTTTG
78472	PTCH	GGGCAGGTCTCTCAACCAGGC
78473	PAM	TATTTTCCCAATAGCACTTTCA
78474	CYP1B1	AAGTGTGCTAAAAATGAGCTTGA

78475	MPHOSPH9	TTTGCTGCTGCTACACATCCTC
78476	MMP19	CTGAGAGAACTGGGTGATGACAGGGG
78477	AGTRL1	GGGACAGAAGCAGAGGAG
78478	REN	CTGGTGGGGGGTGGGGCACACATT
78479	MEF2B	CATCTACACTGTGGAGTACGCCTGCAG
78480	JMJ	CTTCATGTGGTTTATTGCGAG
78481	HMOX1	CGTGGGTGGGGAGGGAGGTGTT
78482	TLR4	GAGGAAGAGAAGACACCAGTGCCTCAG
78483	GBP1	CACTGGATTAAACAAATTCACATA
78484	ELF3	GCAAAGGAAGCAGCTGAGACTG
78485	RIG	CAAAATGGAGCAGCCTACTATA
78486	GPX3	ATGATAATAGTTCACTTATACC
78487	TNR	TTCTACCCTTCTTCTGAGATGTCCTCT
78488	C18orf1	CCTGCTGGCAGGGACTTGCAGTGG
78489	KCNH5	TTTGGAATCTGACCCCTTGGAT
78490	IL6R	TCTAATACTCTACCCTCTTAGA
78491	ARSF	GAACAGCCTGTCTGTTCTGCTCCTAGACA
78492	SSTR1	CTCCCACATCCTGGCCTCTCCTCTCCA
78493	SCN2B	CCACTGCAATTCAGCCTGGGTG
78494	ADAM17	TGCGCCACTACACTCCAGCCT
78495	ACTB	GTCCTCTCCCAAGTCCACACAG
78496	FXYD7	CGTCCCCCTGGCCCCTCAGTGTCCATG
78497	MCP	TTACATGTGTTTTTCTCTCCC
78498	RAG1	CTGTGTGTGTTGGGGAGCTGT
78499	HMGA2	CTTCCCTTTCCAAGCCG
78500	COG3	TGTTTTTAATAAATGTGAATTTTTTA
78501	CALCB	TGAATCTGCGGATTGCTTTTTC
78502	FANCA	AGTGGGCCCAAGCAAGGGGCC
78503	RAB5A	CTTACTAATTTGGGCTTTTCA
78504	FBXL11	CTTCCCCTGACTCCCCACC
78505	SCN4A	ATTGCCCCTCTGCCTTGCCCTCCTGGG
78506	SPAG8	CAAGAGGACAGAGGCTGGTGAG
78507	HADHSC	GTGCGAGTGCACCATGCTCACTGTTGCT
78508	DFFB	CTGTGTAGAAACTGGAAGCTGTTC
78509	HPS1	GGACCAGGGATGCTGTGCTGCT
78510	HAO1	CAGTGGTTCTTAAATTGTAAGCTC
78511	MUC3B	CCCTTCTGAGCCTGTCCATTCATCGG
78512	TIMP3	ACTCCTCCAGCCTCCTCCCT
78513	NXF5	ACACCTGCTTCCTCCCTCG
78514	PMSCL1	TATTAAAAGGGATATTTATTC
78515	NEURL	CCTTCTCTTTCTTCGTTCCCTGCCCACTGGG
78516	TMOD2	GCTTTTAAAACAGTACATTCCTG
78517	CASP8	TGATATTCTCACCATCCTGACTGAAG
78518	NDRG3	GGGATTACAGGCATGAGTCATT
78519	SIM2	GCTTCTAAGTAGGCTTGCTGT
78520	DDX11	CCCTGCTCCCTATCCTGCCCC
78521	MIPOL1	ACATCTGGTGACCAGGCTGCTT
78522	OPCML	TTCTTGGGAAGCAGATCAGCCT
78523	FXYD7	GACCGGGTGGAGGCGGTGGGGACCCAG
78524	ABCF1	TTGGGGCAGGAAAGGAATGCTGCTGAA

78525	LIG4	AAGCCTGGCCTCCTGATGCTGT
78526	OSR1	GGCCTCTCCCCGGCACGTTCTCAGCT
78527	STK38	GGCACAGCCATGTTTTGTCTTCTCTCT
78528	SYP	CACACACACCCTTCCCCACTCCCGT
78529	DSCR3	TAGTTGGGATTACAGGTGACTGCCACC
78530	CDKN2B	AGAAATGTTAAAGGTTCACAGGG
78531	DUT	ATAATACTTCAGCCACCAGGTT
78532	TXNIP	AAACTGGTCTACTGTGTCTCTAGGG
78533	DHH	CAGCAGCCAGGTGCACGGAGC
78534	MAP3K8	CTGGAGGCTGGTTCTGCTGCC
78535	CHST6	ATGGAACCTCTGGAAAGGACAGGG
78536	RAD23B	GCATTGGAAAGACTGGCAAA
78537	CALM1	CCCTCCAGGGAATGCTGAGTTCCAGTT
78538	PIK3CG	ACTGTACTTACAGTGTTTCCA
78539	TNFSF12	AATCCCTGACCCTTTGAGGC
78540	MSH3	TCCTATTGGAAACAGAGAGGTTTTTCT
78541	CNN2	CAAGCGCTGAGATTACAGGTGT
78542	ESRRB	TTTGGGAGCTGCAGGTCACACA
78543	EPB49	CTGCACCAGCCGGCCTCAGCCTGG
78544	PIGR	CTCAAGTAGCTGGGACTACAGATGTGG
78545	CENPB	CCTGCTTATTGCCTCTTTC
78546	SSR2	TTCCATCGTGAAGCCATAAACAGGAAT
78547	CBFA2T2	ACTGGGTGGTAGCGTGTCTGAA
78548	PYGB	GCCAGCCACAGGGAAGGGCCAAGCCC
78549	DGKA	ACTCCTGCCAGCTTGGGGGAGTG
78550	NGFR	CATGAGTTTTTTCTCTTGGG
78551	FLII	GAGGAAGAGGAAGGGGCCTCATC
78552	CHRNA7	CACAGATGGGCAAGGCCTT
78553	RPS6KA5	TGGAGCCGCCGCACCCCGACTCCTGGG
78554	PIGN	CATTGCTGTGGCTGAGCTGGAAG
78555	PIGB	TGTATGAACTGCTTTACCAAAT
78556	APOL1	ATGTTGGCCAGGATGGTCTC
78556	GM2A	ATGTTGGCCAGGATGGTCTC
78556	PIK3C2B	ATGTTGGCCAGGATGGTCTC
78556	TP53BP2	ATGTTGGCCAGGATGGTCTC
78557	TAL1	TGGGAACACTGGCAGACTGTGTAAAAT
78558	BZRP	ACTGCAGCTGCACCAGCAGGTGCC
78559	LOH11CR2A	TTTGAGGCCTTGGTGGATGGGA
78560	CHI3L1	CTGATCACCTGCCCTGCTGAGT
78561	CRSP6	AGTCTGGAGTGCAGTGGTGTGAT
78561	FANCF	AGTCTGGAGTGCAGTGGTGTGAT
78562	PPP1CB	TAGTAGCAATAATTTCTGTA
78563	PRKY	CGCTCCGTGGACTGGAAAGCTGTTC
78564	SNX9	GCCTTTGCCTGCGCGGCTCAGA
78565	PRKY	GCACATGCCTGTAATCCCAGTT
78566	YWHAH	AACTTGCTCCTTTCCATCAG
78567	CASP10	TGGGCTCTTCTTGGCAGAGGGG
78568	DGKE	ACTTCAAATGAATAGTATTA
78569	ADRA1B	ATCCCCCAGGCTATGGAGGGCGGA
78570	DFFB	GGCTGAGGAATTCTTCTGTTCTCT

78571	RAB30	ATATACAAGCTCCATAACTC
78572	GPRK6	ACAGCCTGGTCCCTGATACTGGGCT
78573	PTP4A2	TTCACTTTCCCCATCACACTCAC
78574	MS4A8B	CACAGCAAAGAAAAGGAATAGGA
78575	FLOT2	TGTCTGGTCTGGGGCTTGGATGTTGCA
78576	SOX2	AGAAAGGGAGAGAAGTTTGA
78577	RAC2	TGCTCCTGCCTTCCTGAGGGCCA
78578	GABRB3	ACTTACTATTTAGATGAGATCTT
78579	TERF1	ATGCCTAAATACAAGATTCTCTGATA
78580	ADSL	CTGAGGCATGAAAATTGTGTTA
78581	HIS1	CACCCGTGGAAGTGGGAGGAGGTGG
78582	EGLN2	GGGGGCCTTTGAGGCTGTGGTTGG
78583	SEL1L	GTGCAGTTGGTACAGTACTTTG
78584	TRIM14	GGGAGGCTGAGGCAAGAGAGTTGCTT
78585	WRN	TACATGGTAATTATGTGATATAA
78586	ADCY1	TCCAGGCCTCCCTGGAGAGGTG
78587	E2F1	CACCCTCCAATCTGCACTTTGA
78588	PLS1	ATTAGTCCATTTCTGCTGCTA
78589	PTPN22	TCTCAACTAATTTCTACATTGCCAGAA
78590	SGCG	GGGAAGTAAACGCTTCCAGAGGAA
78591	PDCL	CACCTCCTGGGTTCAAGCAGTT
78592	GFAP	TCTCCTCTCCCCTCTAAGGCC
78593	AGTR1	TGCAGCACTTCACTACCAAAT
78594	SURF4	AAGAAGTCCTTGGGGAAGCTGCTGGT
78595	SUDD	CAAACCTGTAATCCCAGCAC
78596	AGTRL1	CGGGGGTAAGGCAAGAGAGGGTGGA
78597	KCNAB1	GGACTATAGATCATAGGCAATGCATGAA
78598	PROS1	ATAGGTGGGGAAATCTGAAGTGGGTAC
78599	DGCR2	GTCCCTGGGGAGACTTGAAA
78600	MECP2	TCTCTGCCCAGCTTTTCA
78601	SUPT6H	GGCTGGGAGGGGAGTGTGGCAGG
78602	CBFA2T2	GCTCAGCCAGGCTGGAGGCGG
78603	ALDH3B1	CTCAGTTTTTCCATTTGTTCAG
78604	AKAP13	TTTCCCCTTCTGTGTCTCA
78605	IRF2	ACTCTAATTCTAACCAGAGCA
78606	EXT2	AAACTTAACATTAGCCAG
78607	BLMH	TCCTAGAGTAGAGTGGAGGGAGGGTGG
78608	GRLF1	GTGCCTCACTCAGCTCCTGC
78609	TCF1	AGCAGCCAGCCCTGCCTGGAGG
78610	AGTR2	CAACCAAAGGCATAAGAACTAGGAGCT
78611	MYCL2	CCCAGGCTGGAGGTTAATG
78612	UMPS	GAGGCAGGGAGAGGCGGGACTTCGCGGG
78613	LZTS1	GCATGATCATAGCTCACTGCAGCCT
78614	SLC1A4	ATTAGGACTTTTATCATGCCC
78615	EYA2	ACTCAGGGAGAGCCTGGGGA
78616	DPP6	GGCTGTAGGTGTGCACTGTCTATT
78617	NT5C2	CAGGCGGATCACCTGAGGTCG
78618	ANXA11	CTGGCACCTGGGGCAGCCGCGC
78619	FSTL1	ACAAGTGTCTGCTACAGTCGC
78620	TXNIP	CTCTAGGGTTAAGCCAAAAGACAAAAA

78621	DEFB103	GAGAGTGTTGTAAAGTGTGGAAA
78622	SLC20A2	AGCTAGCAGTTTGTCCAGCCTCT
78623	CLCA2	CCTTTGTCTCTTCATACCGGTTTT
78624	EGLN1	AGCTAGCAATTCCTTTTTCTGTGTTCC
78625	CLECSF12	TTTGTTACCCAGGCTGGAGTGCAGT
78626	TRAF5	AGCTCACTGCAAACTCTGCCTC
78627	ASTN	TATCTTTCCCTCAGTCTCCCAA
78628	KRT1	AACTGCATTTGAAATTCTCCA
78629	PLAG1	CACTTTCATGCATCTCTGGGAA
78630	PLS1	ATCATTCTTTTTTATGGTTCA
78631	EGFL5	GCATCAAGAAAGAAGTTATTCTTCC
78632	SORCS1	CATCATCCTTCATG
78633	TGFA	AGAATTCTGCCCAACACAGGAGA
78634	BCL2	GGAACTTGAGGAAGTGAACATTTCGG
78635	FGF5	CCCTTTTATAAGGAAACTTCTG
78636	FGFR2	CGACAGAGCGAGACTCCATCT
78637	PLAG1	ATTTGTCTTGTTTTTCTCACACTGTGT
78638	MTMR2	TGTGCTTGGGGGAAAATGAAGGGGAG
78639	PLAGL1	CCTCTGCTTACTTGCCCAACACA
78640	TUFT1	ACTGCAACCTCTGCCTCCCGGATTTAA
78641	D8S2298E	TGAGAATGAGGTTGAAATG
78642	STARD4	GTCTCATATTCTACTGTTCTATCTAG
78643	PTGS1	GTACTTCCTTTCTCCCTGCGGG
78644	CASP8	CTGTCTCCTTTCTCTTATGCTTA
78645	B3GAT1	ATCCTCTCCCCACGGCTGATGG
78646	MAPK14	ACAAGGTGTCTTTTCCACTCCTA
78647	FANCE	AGGCTCCTGGGCTAAGGGAGC
78648	CCNA1	CCCTGCTCGTCACTTGGGATGGAGACC
78649	PGLS	AAAAGCCACGTCGTGCTGCTG
78650	TPT1	GGCTTCTGCTTGTCATCCACACAAC
78651	SLC24A1	TCTCAGCCTTCCTGACCTCTGC
78652	ABCF1	CCTGCAGCTGACCTGGCAACC
78653	SLC2A1	CCAACTTGTAAATACACCACCTCACTC
78654	MBD4	TTCAGTGAGCCATGATCATGCC
78655	CUGBP1	TCCCCTCTGAGACTGGAGTGAGAGGGTCT
78656	TLL2	TCTCCATTTCCTGCCTCTC
78657	ELMO2	CTCTGCCCACTCCATCACC
78658	CHD2	ACCTTGAATTTACAGTGGGAA
78659	HTR2C	GTTTTGATCTCAGCATCCTG
78660	GOT1	CTGTCATGTGTGTTCCCTGCCTGCACAAACCT
78661	UVRAG	AGCAGTAGTGCCTCTCGGGTGGCGG
78662	IL12B	AGGATGAGGCAGGAGGATCTCT
78663	ICAM1	GACTTCCTTTGTGTTAGTTA
78664	FGA	AACAATCTCCCAAGTATTGAT
78665	PTPN13	CATCATCTGTTTGTAATCATTATCTC
78666	PTCH	TCTCCATCCTCCCCGTCA
78667	CXCL16	GGTCTCGAACTCCTGACCTGGTGATCT
78668	CNR1	GGGCTAAGGAACAAATCTCTCCTTTGCT
78669	SOX8	CAGGAGGTGGAGTTGCAGCTG
78670	MYO9A	GGATGGTGCCAGCTGTGCCTTGGCTG

78671	PRG4	TATTAAAATTTTACACTTTTAC
78672	PKP1	GAGAAGCCCTCAGGCCTCGCTG
78673	KCND3	TGCGCTTGCTTAGTGTTGACATTTGA
78674	LMAN1	AGGATTTAAATTCACAAAACCTGCCA
78675	PRKCN	CAGTTAATGCTACAGTTACTGTA
78676	TNFRSF10D	CCCCAACAAACTCTACTATCCAATATG
78677	GNLY	TCAGGGGAATAAAGTGTCA
78678	PTPRA	ACAATCAGGATGACAATCACC
78679	TPT	TGGCAGCTATCTTACCAGACTGTGCCTAA
78680	LRRC2	GAGCCCAGGAGGTCGAGGCTGC
78681	EN2	GCTATAGAGAACATTCTTCC
78682	SLC4A4	TTTCAGATGATTTCATTGAGC
78683	CELSR1	ACAAAGCCACAGCCACACTCT
78684	ATRN	GCTAAAACTGCAGCATTTTAC
78685	GLP1R	CAGGTATTTGAGTTGTTTTGGTGC
78686	TCIRG1	AGTCCCGGGCTGGCGGGAGTGCAGTT
78687	SLC6A6	GCTGGCAGGAATGAGGCTCACAACT
78688	C18orf1	GAAAGATACTTGGTTTCTGTTAA
78689	PPP2R4	GGGGTCGGGTGGTGGAGAGG
78690	KLRA1	AGATATTGAGACAGGCTGGAGTCCAGA
78691	FOXP2	TGAGACAGACTTGTGGTTCT
78692	MYLK	GCTGCTTCTCTGGGGCTGGGCTCTAC
78693	CRYZ	CTGGTAACATAATAATGTGTAA
78694	RHD	TTCAAGCAAATCTCCTGCCTCA
78695	TLL2	GAGGTAGTTTTGAATGGCATTTCA
78696	ZNF26	ATGTGGGAAAGCCTTTAGTTTG
78697	WNT1	GCCTTTCTCCTCCCCACCTGTAGCT
78698	PDE1B	GGCTCAGGGCTGCTGCCTTC
78699	GLP1R	CCCTCCCCAAACCCATCAGACAG
78700	YWHAB	GATTTCTCCCTGTATTGAGGCT
78701	WNT8B	GGGTTGGTTCCTAGAGGCAGAG
78702	EMD	CCCCTGCCTTGTCCCACCAGG
78703	CHD4	TTGTGTTTTCTTTTCTCCT
78704	HYAL1	TCAGCCACTGTCACAGGCATAT
78705	FREB	TCAGTGTTGGGGTTGCAGGA
78706	ALOX5	CTGTGGGAAGGCCAGCTGCC
78707	MSI1	GGACGCTCTGGCGAGGGCAGACCCCA
78708	CBFA2T2	CATCTGAAAAGCCCTCCTGGA
78709	CASP7	TTAGGGCAGATTTTCATGC
78710	RENBP	AACTCTGTCTGGCTTCCTAGAGGA
78711	DNAJB1	CAAGGACTGACCAGGGACCTT
78712	WTAP	TGTGTCTTCAGACAGTTTGAA
78713	ARF3	CCATTCCTGCCTTCCAGTGCCCCA
78714	STX1A	CCTCCTCCTCCTCACCACCTTGGGGC
78715	ZNF255	TTTACCTTCACACCAGCAGTG
78716	RFX2	CCAACAGGGTCAGTGTCACAGCCA
78717	PTGFR	GGCTCCGTCTTCTGCTCCTCAGAG
78718	PIGH	TGGACTTTGGTTTTCAGACA
78719	UBE2I	CTGACCTGGCCCCTTTCTGCGGCTGC
78720	NET1	TTTAAAGTGTAGCATTTCAG

78721	PCSK5	CAGCCATCTTAGATTTCTTTGTTCCTG
78722	AGL	GGGTAAAAGGAATGACTGTCCTTGA
78723	ELMO1	GTTGGGAAAGATGGACTTACGGG
78724	FUT6	GCCACCAATATGGGACCTGTG
78725	IARS	CAACAACAGCAGACTTC
78726	SLC12A7	GCAGACACACCTGTCCCCCAGTGATG
78727	PCDHB5	GCATTTATTTACATAGTGTCATTCCA
78728	OLR1	GGCTCTGGAAGAAAAGGAAAAAGTC
78729	SQLE	ATGCTGAGGAGAACTACAGTTTT
78730	TFAP2C	AAATGTTCCCCAAATAATTGTT
78731	TRIM8	GCTTCCTTCTCCTCACCATCTTCCCA
78732	FMR2	AAGCTGATGACTTTGCAGTG
78733	JPH2	TAGTTCTGCCTTGAGTCCTGCC
78734	PSEN1	CCTGCTGTCAGACCTTCTTCCACAGCA
78735	SIAH2	TAGATGTTTTATTCCA
78736	HAS3	AGGCTGGAAGGCAGCAGGCATTT
78737	ORC2L	TTTGCAGCTGCAGAATGTGTAGTACCT
78738	UTY	GGTGACAAGGCCTTAGGGCCAAAAGTCT
78739	MGA	AGTTGCTGTAGACTGAACTGTAGC
78740	KMO	TCTTCATTCCTACAAAGGACGA
78741	GALNT2	GCTCCTCCCTGTGTCTTGTATG
78742	GPR86	GGAGAAACGTATATCCCTACAAACCT
78743	IFNG	GATCCCATGGGTTGTGTGTTTATTT
78744	TAF11	AGTCTCCTGAGTAGCTAGGACT
78745	GPM6B	GTTATTTACTGACAGTGGTG
78746	GSTM1	GCCCTGCTCGGTTTAGGCCTGTCTGC
78747	LILRA2	AGGAAACTGTCTGGGGTGATTCCTA
78748	SLC1A3	GCAGCTAGCAAGGGTGCTTGTAGT
78749	EGLN2	CCTGCCTGGTGTGGAGGGCTCTGTCTG
78750	GRM7	GACCTCGGGATCCTCCTGG
78751	KIF3C	TTCTCTCCTTTTAATTTTGGTGTATC
78752	RPL36AL	AGTTACCCGAGGGAAAATAAAT
78753	ADARB1	CGGGAGGTCAGGAGCGCGGCGGGCGA
78754	FRAP1	ATGCACAGAGGGGATCACTGTGCAGTG
78755	USP6	GCACAGACATGTTTATCCACATACAC
78756	KCNN4	CTGAGCCCCAAGACCCCGGGGGCCATG
78757	HOXB3	CTGTCCGTTTAAATGCTGCT
78758	TRPM5	CCTCCCTCGGACACATGGCTGCTT
78759	MAT1A	GGCGGGGCTTGCCTTCTGGTGTTG
78760	SMARCA2	CTGTACTCTGGGTGACTCAGAG
78761	ST7	CCACAGCAACTATATATTTCCA
78762	MADH7	GCCTCTCCCCTGCCTGCC
78763	MEN1	TGCACACAGAGTAGGCATCTTTA
78764	DAPP1	ACAGAGCGAGAAGGTGTCAGGAGCAGC
78765	CYP1A2	TGAGACTACAGGCACACACCAC
78766	POLH	CCAGGAGGCAGAGGTTGGGGTG
78767	OGG1	TCCTGATAACATTATGTGGCC
78768	KCNK4	GCTGCGCGTCTCCAGCCTCTGCACACACA
78769	PEX7	CTAACAGCAAATAAATTAACTA
78770	SAS	GCGTGAGCCACCACGCCCCGCC

78771	PSEN1	CTCCGCGCCTCACGCCCCGG
78772	TRPV1	ACTGAATGATAGCACAATCCAG
78773	AMBP	CTGTTGCTAGACCGAGCCTGTGGGA
78774	CTMP	ACCTATAATCCCAGCACTTTAGG
78775	SLC4A7	AAAGTGCTCAGATTTCAACTGTGT
78776	HS2ST1	GGATCTGCATTTAGCAATG
78777	SLC4A4	TGGGGCTGGGGAGAGGACTTA
78778	OPHN1	CCTGAATAAAGCAGACAGGTGT
78779	APXL	GCCCGGAGTGCATGGGCGCG
78780	CREBL2	TCAGCCTGCTTTCTCATCTGTAAA
78781	RAB3B	TCTCAGCCCACTCTCCCTGT
78782	MSR1	GTACACTTTCTGTCTCAAACCC
78783	SHMT2	AGCCTCCTCTTTCTGTCTCTGATCA
78784	AP3B1	CTCAGCTTGGTATGTGAAAATGA
78785	EGLN2	CTGCCATGGACAGCCCGTGCCAGCCG
78786	MAP3K7	TGCAGTGAACTGTGGCTGTATATGCAT
78787	GPR35	GCAGAGTGGGGGCAGTGCCTT
78788	THRA	GGGCATCCTGGATGGAATTGA
78789	MAP3K14	TCTGCCCCTGCTCCAGTCG
78790	PHLDA3	CTGGGCCAGCTGGGGTAGAGCGGAGG
78791	TRPM2	GGGAGGGAGCTCTTTCTCTGGCCCTGCAG
78792	RERE	CTCTCATTCCATTTCTGCCT
78793	NID	GTGTCCTCTGGCTGAGTGGCCA
78794	MPZ	GGGGGAGGGGGCAAATGAGC
78795	TBR1	ACCTTTTTTGCACAGCAGTC
78796	SLC19A2	AACAGCATCTGCCTCTATTCAATTTAA
78797	HD	TGCCCTTGTGCCCTGCCTCCA
78798	NTRK3	TGCCTCACATCTCCCTTCCACCTCA
78799	AK1	CTGCATCTTGCTCTGTGCCTTGGCCCTGACCC
78800	SFRP5	GGAGAGGGCGCAGCCGATGCGGGCGGC
78801	SON	CTGTTTCTCTGGGTTGTTTGTC
78802	WFS1	TTTCTTTCTTTTGTGTTGGAT
78803	LEP	GGCCAGGGGTCTCCCTGGAGTGCAGTT
78804	FY	TGAATTAAAGTCTACACTGCCT
78805	OPA3	TGAGGTGGAGGTTGCGGTGAG
78806	CNR1	CTATCTGGTGATTTCTAGCTCT
78807	EDARADD	GAGTGACCAACCCAAAGAGG
78808	PPT2	TTCCATTCCCAGAATATGTTTGCT
78809	ITGAM	ACCAGGAGCCTCCTCCACACC
78810	CRSP8	TCCATGACACCTGCCGGCAGT
78811	CAMK2A	ACCAGGGGCTGCTGTAATTACCGAGC
78812	ZNF137	GTCCAGTGGAATGCAGGT
78813	CNTNAP2	TGGAATATAATGGAATATTCT
78814	PART1	ATTATCCAGGCTGAGATGGAAA
78815	HS2ST1	GGGAGGCGAGAGCCCGGCAGC
78816	RAI3	ACCCAGGCTTGAGTGCAGTGGT
78817	CACNA1C	GGGTTGTCTGTGTGCATATGTC
78818	HOXD3	GTCTAGCTTAGTTTCAGAGA
78819	TDG	ACTCCTGAATATTCTGATTTCAT
78820	MLLT2	TAATATTTTGTAACAAAAAGA

78821	PPARGC1	CAGATAGTGTAATTGCTACATTCTCTG
78822	PAFAH1B1	GTGCCCAGAGCACTACTCTCAA
78823	KCNK5	GCCCTTACCCCTCCTGCCCGCC
78824	CDC2L2	TCTCGAACTCCTGACCTCAGGTG
78824	DFFB	TCTCGAACTCCTGACCTCAGGTG
78824	FCAR	TCTCGAACTCCTGACCTCAGGTG
78824	MEFV	TCTCGAACTCCTGACCTCAGGTG
78824	PDE6B	TCTCGAACTCCTGACCTCAGGTG
78824	PIK3CD	TCTCGAACTCCTGACCTCAGGTG
78824	RP2	TCTCGAACTCCTGACCTCAGGTG
78824	SAS	TCTCGAACTCCTGACCTCAGGTG
78824	SH3BP2	TCTCGAACTCCTGACCTCAGGTG
78824	SHOX	TCTCGAACTCCTGACCTCAGGTG
78824	TNFRSF10B	TCTCGAACTCCTGACCTCAGGTG
78824	TRPV1	TCTCGAACTCCTGACCTCAGGTG
78825	DDB2	GGGCCAAAAGTATCCAAGGTTAG
78826	PRKACB	TGCGTTTCAGTGACCTACCTTA
78827	ABL1	TCCTGCTCCGTGGACTGCAGTC
78828	PRKY	CCTTCCAGGAATTCCTTGTTGA
78829	DBT	AGGAGAAGGAAGAGTCTAATAGTA
78830	CRHR1	AGCAATGCCCTGCCTTGCTGCCTTC
78831	NPTX2	CTCAGGGTTCCCAGAGCTCATT
78832	GIP	GCCCCACTCCAGAATAGCCAA
78833	CLDN14	TCAAATACTCCGTCCTGGAAGC
78834	PRSS16	ACTCCAGCTCCTGGGTTAGGG
78835	NPTX2	GGGCAGTGTCTGTCACTGGC
78836	WISP1	AGGAAGATGGAGGTTTACCGGTTGTT
78837	YWHAE	TCCTCCCCTCCTTCGCTCGCTCA
78838	PGF	GAGGACCTGGAGTGGCACTG
78839	GSTZ1	GTAGGGAGTGCGTAGCAGGGTGGAGT
78840	BAI2	CCTTTCTCTCCCTCTCAGTAAAGCAA
78841	ZNF135	CAAACCAGAGATGTTCAA
78842	CRP	AAATGACTGGTTTTTGTTTGCTTGCA
78843	CYP8B1	CTGATTTCCCTGCTCTCTCTGCTCAG
78844	HAS3	CTCTGCTGGGGAGATAAAAA
78845	PLAGL1	TTCTCCATTCTCTAGCATCCCTCC
78846	WBP2	CCTGCCAGACCCTGCTCACATTCCC
78847	NFE2L1	TGTAGCAGCCTCCAGGCAG
78848	GNAI3	CAGTGTGGAGTGTTGAGACCAGACA
78849	PTPRO	TGTGGGTGGAAGAGGGAGTA
78850	MAGEA4	TAGTAGTGGGTTTCTATTTTGTT
78851	TLL2	TGCATTTGCAAAATGTGCAAA
78852	ASMT	TGGAGCAGCAAAGAGAAGAACAAAAGCGCAGA
78853	MTMR2	GTGTGGGAGGGAGGGAGGAGGAAT
78854	TAF6	GGGTCTGAGTGGTACCCCGGA
78855	GSTM5	CTGTATGCCCTGCTCCCTTTGCTG
78856	AKAP1	GCACACACACCCTACCTTCCA
78857	RBBP2	CAGCAGATGCTGTTGAATAACACCA
78858	LPP	ATTGCAAACTATTCCTCAGG
78859	MOX2	CTCACAGACTGACTTGGGCTC

78860	CTSS	TGCTTCTTTATAAATGCATTAAATAAGA
78861	NCOA6	CAACCTCCTGGGCTCAAGCAAC
78862	CEACAM1	GGTGAAGACAGGGCCAGC
78863	SLC22A1LS	CAGAGGACTTCCCCAAAT
78864	CASP10	AGCTGAGGCCTGGGGATGTGA
78865	SLC39A1	TAGCGCCTACCCTCATACCTATCT
78866	GPC1	GCCCTCCTTCCCTCCTGTGCC
78867	RAP2A	GATAGTGATGGTAACTGATGCCTTT
78868	ABCC3	TCCTCCAGGAATTCCCAGCAGGCTCT
78869	DMD	TCATTTTGATTTTCTCTCTCACA
78870	ANXA3	CCTAACAGGAATTTTCATTGTTC
78871	CASP8	AACAACAATAACACTGTCTCC
78872	CD209	AAGCACCAGGGAATTAATTCCC
78872	CD209L	AAGCACCAGGGAATTAATTCCC
78873	EIF2S3	ATTTTTCTCCCCTTGCTCTTCCTGGCC
78874	B4GALT4	GTCGGCTGCAAAGGCAGCAG
78875	GJA1	AGAGGGAGGGGATAAGAGAGGT
78876	IDH1	AACTCTTCGCCAGCATATCATCCCG
78877	HIP1	CCTGTAATCCCAGCACTTTGAGAGGC
78877	ZNF137	CCTGTAATCCCAGCACTTTGAGAGGC
78878	KIF3C	CATAGCTCATGCCCTTCAGCTTTGA
78879	NPAS2	TCAGCTTTAACCAATGGATGA
78880	LAMC1	TGTATGCTGGGGTAGAGCAAGTAGCCC
78881	ZNF76	GGCACCAGGGACTTCCTGAC
78882	SLC7A5	GAATCCAGGAGGCAGTGGACAT
78883	GTF2F1	AGGCTGAGGCACGAGATTCACT
78884	CAPN10	GGGGAGTTCTGGGTGGAGGAGGAGGA
78885	PPP2R1B	AAACCTGAAGTGTGGCTGCAT
78886	PCDHGA1	CACCCAGGCCTCAGAGTTTCAGG
78886	PCDHGA10	CACCCAGGCCTCAGAGTTTCAGG
78886	PCDHGA11	CACCCAGGCCTCAGAGTTTCAGG
78886	PCDHGA12	CACCCAGGCCTCAGAGTTTCAGG
78886	PCDHGA2	CACCCAGGCCTCAGAGTTTCAGG
78886	PCDHGA3	CACCCAGGCCTCAGAGTTTCAGG
78886	PCDHGA4	CACCCAGGCCTCAGAGTTTCAGG
78886	PCDHGA5	CACCCAGGCCTCAGAGTTTCAGG
78886	PCDHGA6	CACCCAGGCCTCAGAGTTTCAGG
78886	PCDHGA7	CACCCAGGCCTCAGAGTTTCAGG
78886	PCDHGA8	CACCCAGGCCTCAGAGTTTCAGG
78886	PCDHGA9	CACCCAGGCCTCAGAGTTTCAGG
78886	PCDHGB1	CACCCAGGCCTCAGAGTTTCAGG
78886	PCDHGB2	CACCCAGGCCTCAGAGTTTCAGG
78886	PCDHGB3	CACCCAGGCCTCAGAGTTTCAGG
78886	PCDHGB4	CACCCAGGCCTCAGAGTTTCAGG
78886	PCDHGB5	CACCCAGGCCTCAGAGTTTCAGG
78886	PCDHGB6	CACCCAGGCCTCAGAGTTTCAGG
78886	PCDHGB7	CACCCAGGCCTCAGAGTTTCAGG
78886	PCDHGC3	CACCCAGGCCTCAGAGTTTCAGG
78886	PCDHGC4	CACCCAGGCCTCAGAGTTTCAGG
78886	PCDHGC5	CACCCAGGCCTCAGAGTTTCAGG

78887	TSC1	AACTGTTCTGAGAAGGTGAA
78888	PTN	AAGAGAGCCCCAGAGCAGAGGAA
78889	TSN	GTCTGGAAGAAAGATAAAATAGTGA
78890	GUCY1B3	CCCCAAGACTTTCTTCTAGATATATCT
78891	PXN	GCTCCTCCCCTTTCACA
78892	ADK	ACATAGTAATCTTTAGCTTTT
78893	TGM7	GGCTCCACCTCTGTCCTC
78894	BFSP2	CTGGACTCTGTAAACCCACTGGGC
78895	TNC	GATTCAGCAAAAATCTCCCAGTGA
78896	MAP3K9	CCTGTGCACAGGTAGCCCCTCATGCTG
78897	MBD1	TCACTGCTCACCTGAGGATAACTCAA
78898	ZNF134	TTCCAGCCTCCAAGTCACCTGGCC
78899	CDH20	ACACTGTGTGCGAAGGCTTGGAGT
78900	IPP	ACGATCATGCCACTGCACTCC
78901	SLC15A1	GGTCTCGATCTCTTGACCTGGTGATCT
78902	SMG1	CAGAACAGCAGCAGACGTGTCGGGA
78903	CIT	TCTCCAGGAGGGGCAGGTGG
78904	KMO	ACACTAGAGTCATATAAGAAATA
78905	CD83	TGTAAACCACAAGGCTGTTGCATGGG
78906	FAAH	AGAGACAGCGTGATGCCTCCCA
78907	GPR55	TTTGATGCCCATTGAGTGC
78908	HOXB6	GGACAGGGAAGGGAGCAGGAGCCTGC
78909	TRPS1	TAAATTGAGCTTTGGATCAAACT
78910	CTNNA1	CCTCTGGCTCCTGAATATCAGTCACT
78911	RNGTT	TCCCTGTATTCAAAAACAAATG
78912	HMGCR	AGGGAAAGTCAGCTTTCAGAGCCA
78913	TGM2	CCTGCTCCCAGCCTGCTGAGAGCC
78914	SOLH	ACGGGGGCCGAGGCCAGGCT
78915	ZNF143	TCCTAGAGTCTACATGC
78916	RAB7L1	GAAGAAGAAAAGAGAGAAGTTAA
78917	LPIN2	GGCCAGCAGTGTGTGACTTTGG
78918	MAPT	AACTCCATCTGCTGCCATG
78919	IRS1	CCTCCTCCCCAGCCGCCTGGAGCG
78920	NFIC	CACAGCCGGCCCCCGGCCCACGTTTTC
78921	CKTSF1B1	GGGTGAGGCCAAATCAGGTCCAGCAA
78922	COL4A5	TTTTGCTTTGTAAGTA
78923	DLGAP2	GTTCCAGGGTTCTCTTGTTTTGATCTGC
78924	NSF	ATTCCTCTAAGATCTTGCCTC
78925	PYGB	CCCATGTAGCCCCAGTCATCCTGC
78926	EPAC	TGGAGCTGGAGCAGGCACTTGC
78927	ACPT	GAAGCACCTGGGGAATCCCGCCA
78928	RDX	TCTTTTTTCTTTTGGTCCAG
78929	PIK3C2B	GGTGGGTGGGTGGA
78930	HPSE	GGCCAGGCTCCAGCACTTCAGTACGTCA
78931	CDH1	CGGCCAGGCTGGAGTGCAGTGG
78932	SRRM2	GCCCAGGCGGGGTGCGAGTGGC
78933	PITPNB	TGTTTACTCTCTGGGCACTGTTGTAAGA
78934	CASP10	AGAGGGGATGTCTGGCTTGCCTGA
78935	NLGN1	TAACTGCAGTAACAGAAACCTTT
78936	ART3	GAAAGTTGGTCCAGATATATGTCACA

78937	CAMK2A	TCATGCCTCATCCTGCAGCCT
78938	DIAPH2	CAGGCTGCAGTGTAGTGGTGCA
78939	CYP1B1	TGTACCTCTTTTGCTTGCCAAAG
78940	CACNA1C	GGGAGGAAGAAGAGTGTTTA
78941	CGA	TATACTGCAGCTTTACTGCCTTC
78942	COL19A1	CTCTGTACACATGATATGCAA
78943	DOCK1	TGGAAAGAGTGTGCTGCCCC
78944	KCNK4	CTCAAAGCCTGCATCAATAAATGAA
78945	CYP8B1	AGGCTGCAGTGCAGTGGTGTGAT
78946	SLC9A5	TGGAATCCCTGTGGGAAGTGCTCCC
78947	GAA	GGGCGGAGTGTGTTAGTCTCTCCA
78948	PPP1CB	CCTGATCAAGTTTATTGCAGCCT
78949	FMR2	TGTTTTTAGTTAAAAGTATCTACTTA
78950	CLECSF5	AGAGACACTTAAGCTAAAAATTCCCTT
78951	SEL1L	TATCTGCTGGGAACACTTGCATTTG
78952	COL6A1	GAGTTGGCATCACCTGCGCAG
78953	GNAS	GGCCACAAAAGTTCCCTCTC
78954	AGTR2	ACCTGTCAGGGCAGTACAA
78955	CD47	TATTCAAAGCAGCTGTAATT
78956	CYP4B1	TCCTAGAGGACAGTGCTATGT
78957	CDH1	TGAATTTCAACTTTTGACAATCA
78958	DTNB	AGTACCCATCTGTTGTGCGCA
78959	GLRA3	CTCTGTGCAAATTTAAAACAAATAACA
78960	CACNB1	CCAGCTCCCGGGAGCCCTTAAGCCCCA
78961	IRF1	TCAAGCCCCAGCAGCCCTCAACAGG
78962	GRLF1	ACAGGTGGAGCTGACCCTCG
78963	SLC21A9	CACTCACTGATTCCTACACATTGCCAA
78964	TEM8	ACTTTCTTCTTTCTGTGATAATTCA
78965	C7	CAGGTAATCCGTCTGCCTTG
78966	RRM2	TGTTAAATCAGAAATTTTTT
78967	PTK2B	GTGCCGATCTTAGCTGCTGCCTG
78968	GLRA2	TTGATTGAATCTGGACAATAA
78969	STAR	GGGCCCTTATGTACCCACCTAAAACCA
78970	NR2E1	AGAGGGAGAGATCGAAGACTGA
78971	AVP	TGGCGGCCGTGGGCTCCTGGG
78972	EPHB2	GCCAGGACCCGGATCATTCACTGTGA
78973	MTR	TGTCGCCCAGGCTGGAGTGCAGGGGCGCA
78974	SLC4A8	TCAGCACTTGGCATCTTGTCATCTAC
78975	FCGR2A	AAAGTGCTGGGATGACCAGCAT
78976	ANAPC5	GTGACACCCTATCTTGTCA
78977	MGAT4B	CTGGGCCCAGCTGGAGGTTCTGACAGG
78978	SPTB	AGACTGAGGCAGGCGGAGCTGCT
78979	ARHH	GGAGAGGGAGGGCCGGGAAGCCAGG
78980	CORO2A	AACTGATTAAGGGTGAGCAG
78981	RPA3	CACTGCCTCTCGCCCTGTAT
78982	TCIRG1	TTCTCCTCTTCTGGTCCTGCCCGGGAG
78983	FZD8	GAGGGGAGGGGGCGCCCAGGAGGGGT
78984	DNASE2	CGTATGTAATCCCAGCACTTTG
78985	HDAC4	ATAATAGAGTTTATTGTATTTA
78986	ADAM12	GGGGAGAAGCAAGGGTTGGGCCCAGT

78987	FUT6	GCTGCCAGGAACCTCATTTTCCTGG
78988	POU4F1	TCAGAGGGAGCGCCTGGCAGCAGC
78989	CDH17	TTGCTCTGTCGCCCAGGCTGGAGTAC
78990	PCOLN3	CCCACCCCGTGCAGCCCATGC
78991	DBT	CACTGCACTCCAGCCTGGGTGG
78991	IAPP	CACTGCACTCCAGCCTGGGTGG
78992	GRB10	ATTGCCTCTCCAAACGCCTGCCTGACGACTG
78993	CD209L	CCTTTTGACTGGGGACTTGCTGG
78994	KCNJ16	CAGCTGAAAGCACCTAGCTCA
78995	FAT	ACCAAAACCACCATGACA
78996	P2RX7	GCAAAGCTCTGTGGCCACATT
78997	FGF5	CTCTTGATAGTCCTGACCTCA
78998	RPP30	TAAACAACAGCAAATATACTTG
78999	H3F3B	GGCAGTTTTTATGGCGTTTTGTA
79000	FGFR1	TCACCAACCTCTAACTGCAG
79001	GUSB	TCAGGGCGACTTCCACAGCAG
79002	HSD3B2	AAACTCCACCCACCTGGCT
79003	CTSH	TGGGACCCCCAACATTCTGCCCTCACC
79004	IL2RB	CTCCTGCAAGGGGCTCAACCCCCT
79005	WSX1	CCACTGCACTCCAGGCTGGGTAACAGA
79006	PRKCH	GAAGAATTTAAAGGTCTTTTTAAGGAA
79007	C20orf1	TCAGAAAAGGGGTGAAAGAGAA
79008	AIPL1	CCACCCAGGCAGGGAGCAAGT
79009	CAMK4	AACAGCTTCCTTCAGATCTGGAA
79010	DLG4	GGGGTGAGAGGAGGCCCAGGAGGAG
79011	CEACAM6	TGGGACCCCCCTCAGCCCCTCCCT
79012	TSN	TCTCCTTGCTCCTGGCCTTGCTGAC
79013	CALML3	GGATACGCTGGCAGCAAAGA
79014	SLC26A4	ACCATCCTGGCTAACATGGTAA
79015	MADH9	CCTGCTGTGGCCTCTTATGCACTCCAC
79016	BAI2	GCGCGGGAGAGCGGGAGCCTCGGC
79017	KCNJ15	GCCACATCAGCACCATCCGAGA
79018	CFL2	ACACTATGCATTAAAAGCACTTT
79019	PPEF1	GTTTTTAAAGGCTTTCTA
79020	ABCA3	GCACCGTCCCACAGCATCTCCTA
79021	GFER	GGGCGCAGGCCCACCTTGGCATGGC
79022	LTA	AGGGCATGCGCACAAGGCTGACCA
79023	ADCY2	CAACATAGCAAGACCCCCATCTC
79024	BYSL	CGGGCGGGGGTCCGGGAGAAGC
79025	KCNJ16	CAGAAGGGTACTAACAGGGCCAAG
79026	RBBP6	AATCAGAAAAGCTAACAACTAGGAAGAA
79027	BAALC	GCTTGTCTTCTTGACTGTCTTCCCTCT
79028	STS	CTGTCTGACCTCTACGGACCTC
79029	PDGFRA	TGGTGAGAGTCCAACAGACACAA
79030	EHD3	AGTTGCCTGAATCATCCCAGCTCA
79031	SUFU	CCCAAGATCCTGCAGGGGCCA
79032	SH3BP5	TATCTAAATGAAAAAGAAAGAAA
79033	MYBPH	GCAGAGATTGGAGTGCCCTGCGGA
79034	KCNQ2	TGCTCTTTCCTCCCCCACCA
79035	BCL6	TCTATCTCTCTTTGCCTATCTC

79036	P2RX4	GCCAGCTGTACTGCCGGCTCTG
79037	HIP1	CACCTGAACCCCAGAGGCAGAG
79038	NOS1	CCAGCTCCTAGTAGCTTTCCTCCCAAA
79039	PRX	GGAGGGCAGAGTCCCCATCAC
79040	SIAT6	TAGGAAATCGTAAATCATGTGAA
79041	SUPT5H	CCTTCCCTGGCCCTTGGCTGTGAC
79042	DOCK1	CACCATGGAGTGAGTGGCCTT
79043	FCAR	GCGTGAGCCTGTCGTCCCAGCT
79044	FBLN1	CCTGGCCTGATCTGGCCTCTGCCC
79045	IL16	GGAGCAAAGGCTGAGAACACTGTGA
79046	CTSH	CACCTCTGTGCCCAGCCTGGAAACCT
79047	MEIS2	GTCATTTTTCATCAAGCAACAGAGGAC
79048	ASTN	GACTGGGAAGGAAGCCTGTGATG
79049	PCSK2	ATCTGAAAACCCCATTT
79050	PIN1	GAGGGAAGATGGCGGACGAGGAGAAGC
79051	MBD4	AGGAGGTCAAGGCTTCAGTGAGCCAT
79052	TES	CCAAATAGCTGGGATTACAGGT
79053	TLR5	CCAAGTAGCTGGGATTACAGAT
79054	ISLR	TGCACATCGAAGGTGGGGTGGGA
79055	RORB	TATTTTCTATTTTTCACCAGAA
79056	CD209	GGCTCACTGCAACTTCCGCCTC
79056	FUT1	GGCTCACTGCAACTTCCGCCTC
79057	SCN2B	GCCACTGCAATTCAGCCT
79058	EML1	TTTGATGCCATCACCAGCCTA
79059	NEDD4L	CTGACACCTCCACCCTCTA
79060	ASK	TGTATTCCAGACTGGGTGACAG
79061	MMP3	AAATGTTCGTTTTCTCCTGCCTGTGCT
79062	CACNA1C	TGTGCCCGTGCACACCAGTGACTAC
79063	CDH1	TTACCCAGGCTGGTCTCAAAC
79064	PTEN	TTTTATGCTGGACTCTGGACC
79065	AIPL1	GCCTATAATCCCAGCACTTTG
79065	GRAF	GCCTATAATCCCAGCACTTTG
79065	IL1R1	GCCTATAATCCCAGCACTTTG
79065	LRRC2	GCCTATAATCCCAGCACTTTG
79065	NPHS1	GCCTATAATCCCAGCACTTTG
79066	F2RL3	GCCTATAATCTCAGCACTCTG
79067	LEP	TGAAGGAGGTGAGGGATGTGA
79068	DHFR	GTGGCACTCTTGCCAGTCCTTGA
79069	MTNR1A	CTTGACAGATGTCTGGGAAAGCAGAGT
79070	PPEF2	ATCCTGTGGAGTGATCCCAT
79071	ITGA4	CCCCACTGGGTGGGCAGAGGT
79072	TNFSF6	GTGGACCTTGAGACCACAGGGTT
79073	DNMT3L	GCCTGGATCCTTCCAGCTCATTCTTTG
79074	NTS	TGCTTCTGACTTTTACGGACTTGGCT
79075	P2RX7	TGGTGCGGGCACCTGTAGTCCTAG
79076	NEBL	ATCCTCTCCATGCTGAGCTTGACA
79077	PRSS8	GAGGCTGGGGCCCCATCTTGAT
79078	FCRH3	GTTCCCCAGGAAGAGAGCAGG
79079	TMPRSS2	GAAGAAGAGAAAGATGTGTTTT
79080	FOXD1	ACCCGGGCTGGGGCGCAGAGGGA

79081	NHLH1	CGGAGTATTTGCAGAAGGCTCAGGCA
79082	EYA2	TCTTGTCTTCTTTTTAATTTA
79083	FGFR1	AGAAGGCAGAGGTTGCAGTGA
79084	SYT1	TGTTTTTAATAAGATGTTCTATTTTAA
79085	ITGA11	AGAGAAACCCAGGGAGGAAGA
79086	IL11	AGCTAATTATTTATTTCTTTTGTATTT
79087	ATP6V1C1	GTTTTGTTCACTGTATTTA
79088	VPREB3	TCTACTTGCCTGCCTCCCTGCCTCTGGCC
79089	CAMK2A	CCCCTGCCAGGCTGGGGCT
79090	SIM1	CCTGTAACTTAATTTTGTGA
79091	SPARC	CTGCCGCCTGCCTGCCTGCCACTGA
79092	UCP3	CTGCAGCTGCACCATCACACATGCAT
79093	CLCN4	TCAGAATCTGAAAGCGGAAGG
79094	SURF4	AGCAGTCAGCACCAGTTCTGCACCA
79095	MYBL1	GAGGGAAGCGGCTAGAGGATCG
79096	UBE2I	TCTGCTCTGCTGACTGGGGAAGTCA
79097	BARHL1	ACCCATGAGCCCGTGACCGTGT
79098	AR	CTACTCCTCTGCAGTGCC
79099	SPN	ACTGCAACCTCTGCCTCCTAAGTTCAG
79100	RORB	CCGGCTGCAAATGAGGGGACA
79101	MARK3	GCCCGCGAGCTGAAATTCGCGG
79102	GCLM	GGCCTCGGGCACCGCGTCC
79103	STK38	CACTCCTCAGTCCTTGGCACAG
79104	INHBA	TGGGAGGGAAAGGGAGAATG
79105	TCF2	GAGTCCCCAGAACCAGCTGCAGATGGA
79106	RB1	AGATACAAATTAATTTTACTCCA
79107	LPIN1	TTCTGGCTTCTGAAAGTGAGAT
79108	NEU3	TACCTTTTTTCACTTTTCCTCCTCC
79109	TNFRSF1B	ATCGTTTGAACCCGGGAAGCGG
79110	SPOCK	ACTTAAAGATCCTTAGCATTAA
79111	DLEC1	CTCCTGGCCCTGGCCAGAAGC
79112	TIMP3	ATACACACACCATACACTATCCACA
79113	CPSF6	CTGTTTTTACCTAGTTA
79114	KCNQ2	GGCTGAGCTCTGAGGGGTGGGTGCTCA
79115	PDXK	GCTGAGGTCAGAAGGAGGCGT
79116	ARPC2	TCTCCCACCCTCTTTTCCAAGCT
79117	KLF7	TATGCCTTGCCCTAGCCA
79118	CLN2	GCATCTCATCTTTCTCTTTTCA
79119	PPP1R2	TGAACAACAGGATATATAGACTGA
79120	RARB	TTCATGCAACCAGAAACTAGTTAA
79121	SLC4A4	GGCTTGTCTTTGTCTGGTAGA
79122	RSN	GATTTTCTTATCACAAAAAAGA
79123	USP6	CTGAGTATTCTCAGGAGGGACG
79124	ARSF	GCCTGTCTGTTCTGCTCCTAGACATTAGA
79125	CLASP2	TGAAGCTCATCACAGCGAACCAG
79126	PRSS15	CCAGAACTGAGCGCTGTGGG
79127	APAF1	GGTCTCGATCTCTTGACCTCATGATCT
79128	RAD50	CATTCAGAGTCAGCCAGGACCA
79129	COL4A3	GTTCACAGCCAAACCACTGACATTCCTCC
79130	RPA3	AGTCGTCCGTGGGTTTCCCGCCAG

79131	GBP1	ACAGAAGTGCTAGAAGCCAGT
79132	HMGCR	TTTAAGAAACACAGGGTTTTGT
79133	NHLH1	GCTCCTCCCCCAGCTCCAGGGC
79134	TACC1	ATCTTTTTAAGCTTATTGTGTTT
79135	HGF	TTCATAATAAGATATGTGCTGGTA
79136	UBE2L3	CGCCTGGTTTCTTGAA
79137	STS	GGAGTGAGAAGGGCATGGTATTGGGA
79138	PPAT	CTGGCCTTACTTTGATTTTTAAAACAA
79139	ABCG5	AAGACTCCATTTGTGCCTCTTGGATCC
79140	TERF1	CCATGGGACAAAATTTGTA
79141	HYAL1	GTTGCCCAAGGTTGCACAGCAAG
79142	SNX6	CATTGTTGAAACAAGATAAAGA
79143	PER2	TCTCGGAGCAGCTTCAGGCCTCTGCCA
79144	CYP1A2	CCCTGCCAATCTCAAGCACCTG
79145	LIF	CCATCTGTCCATCCCAACAGCAAGA
79146	ALDH3A1	CTGACCTGCTGACCTGTG
79147	GALT	GGGGTTCGGCCCTGCCCGTAGCAC
79148	GALNT3	CTACAGTGAGCTATGATTACACCACTGC
79149	REL	CACCTGTAATCCTAGCACTTTG
79150	CA12	CTGTGTGAGATTGTGAAGTGG
79151	HS2ST1	AAAATGCTGTAAATATTGCAT
79152	CFTR	ATCAAGGGTACACTGCCTTCTCA
79153	ADAMTS4	GACAAGGACTAGGGTCCTGGGGA
79154	ETS2	GGACCCAGGAAAGGCAGGATTGA
79155	BAZ2A	TCTGCCTCTTGGGTTTCAGTGATTTT
79156	GBE1	TCTTAGCAGCTAGGATTCTCAAATGGA
79157	ADCY2	AACCGCATCTGCTCATCTGA
79158	PLXNA2	AATCCCTGTCATAAACCAGGC
79159	PTGS1	TGTGATTCTGTTTATTCTTCCA
79160	ACCN2	CCAACTTCATTTGCTTCTCTCAACA
79161	PEX14	GCTGCCTTTGGCTTTGATCTCA
79162	HK1	GGCATAGCATTAGCTGCTTCCTCCC
79163	AIM2	TCAGAGTCTTTGTAGCTTTGA
79164	SCD	AGCATGCTTCCTTTCTCTCCTGGCTC
79165	SLC21A9	GACTAGGATCCTAATTTCTCTA
79166	SRM	CACCACTGATGCCACCCAGGACCTCGG
79167	MECP2	CCTGCTGTCATTGCTTCTTCTG
79168	MAK	TGTGTCCAGGCTGGAGTGCAGT
79169	ROR1	CAGGTTAGAGGGACAAAGAGCTTTG
79170	SURF5	GGTTTCTGGTGGTGGAAAAGCTCAAGC
79171	RORC	GTCAGCAGGCCGGCCTGGCAGTG
79172	F3	CTCCGTCTCTCGGGTTCAAGCAATTG
79173	RAP1B	TACCCTTTAAGAGGCGGATG
79174	PACE4	ATCTGTGTTTTATTGACATCTCTTTT
79175	SFRP2	TCCGGCCGCCTCGCCCTTCCCCGG
79176	KCNN4	GTCTCTGCCACTCCTGACCCAG
79177	DLEC1	GGTGGAAAATGGTGCCTGGA
79178	TRIM34	AGCCAGGGAAGCAGTGCAATGGC
79179	PCDH11X	CTTCCCAAACTAATATTTATCA
79179	PCDH11Y	CTTCCCAAACTAATATTTATCA

79180	BGN	TGGGAGGTGGAGGCCCAGCATCCCGCG
79181	CALD1	AGAAGAGAGATTAGAACTGTT
79182	LARGE	GGGCTTTGAAGGAACTACTTCA
79183	SLA2	GAATAGCTGGGATTACAGGCGT
79184	VPREB3	TCTACTTGCCTGCCTCCCTGCCTC
79185	BSN	CACTGCCACCATCTCAAAGCCAT
79186	CAMLG	ATTCTTCTTTTGGGAGCTGAGC
79187	UBE2V1	CTTCCCAAGATCCTCAGCA
79188	CYP1A1	CAGGCTCCAAGAGTCCACCC
79189	DRP2	GGAGCCAGATCCCCATCCTATAGTTCA
79190	IDH1	TTCTCCTCCTGGCCTGGC
79191	SIAT1	GAGTCTTAGAGGAAGAGAAGA
79192	DGAT1	CTGGCTGCACAGCATCCTCC
79193	LDLR	TTCACTTCCCCAATCTTGTCG
79194	PCDH7	GCTGCAGGCTCATTCCCCACCTCTTC
79195	FANCE	TCCTCATCAATTCTCAGGCTGC
79196	TRRAP	CCTGATACTTTTCTCTTGAGA
79197	SNAP23	CTGTTCTTCTTTATCATTTATTCA
79198	SHOC2	CTGGTCCCACACACTGTTC
79199	SLC19A2	CAGGCAGCGACCCTAGAGGCGTCTGTA
79200	HOXB3	GCGTGTCACGTGACCCCCAGG
79201	CTNND2	TGCAGTTGGGCAAGGTCAG
79202	KIF2	TAAAACCATATAACATGTGATTATAA
79203	LDOC1	CTACCACCTTTCGAGATCAGGA
79204	NEURL	GGGGGTATCAGGCAGGGAGGGGGCAGA
79205	FRDA	ACCAGCCTGGCCAACATGATGA
79205	PRKY	ACCAGCCTGGCCAACATGATGA
79206	P2RY6	GGGTGAGGGAAGATGAGAGGGGG
79207	RABL2A	GTTTCACCATGTTGCCCAGGAT
79207	RABL2B	GTTTCACCATGTTGCCCAGGAT
79208	Rgr	AGGGGAGGCTGGGGTCACAGCT
79209	AIPL1	GCAGGACACTTAGAGCTCTCT
79210	BACH1	ATTCACATGATCATTGCTCACT
79211	IL17E	GGGGGAGGGTGCAGATGAGGGAGCGACCCAG
79212	CLN5	CAGCGCAGTGGAAGAGGTTGCACTTCTCCGA
79213	NR4A2	AACTGCACTTCGGCAGAGTTGA
79214	B4GALT5	TGCACACACATCTCTGGCTCTCCAGGC
79215	F2R	ACATGTGTGTATATGTAGATGTATGC
79216	DFFB	GAAACACGCGGATCTGAACAG
79217	SH3BGR	GATGTACATGGAGGTATCTCCCG
79218	GPRK7	TGAGTTGAACAGGCCAGGT
79219	ILVBL	CTCAGAGAGGCTCTCTTGTG
79220	GPR4	CTCTTTATTAATCTCACCATCCTCC
79221	GAB2	GAACCCTGGGACAGGCACAG
79222	EBAF	GGGCTTCAGGCTGGGGGCAGTG
79223	XYLB	AATTCACAACCTCCCACCCAAACAATG
79224	ETS2	CGGCCCCAGGCTCGTGGACTGAGTG
79225	TK1	CCTGGATTCACGCCCTCTTGTT
79226	MAGEA2	TGAAGGAGAAGATCTGCCTGTG
79227	TGFBR3	CATTCATTTTCTCAGTTGA

79228	MX2	TCATTCTTCGCTAATTTGTATTTGTA
79229	GSTM2	CCTGTCTGCAGAATCCACAG
79230	STE	CAGGCACACACCACCATGCTCA
79231	MAT2A	TAAACCATCTCCCTGGTGCTTAT
79232	APPL	TAATGTACTGCACTTGATGCCA
79233	WNT5B	TGGAGGAGGGAGGTTGTGGTTGG
79234	CHD2	CAGTAGTACGATGAGCCAAAGCTTT
79235	CASP10	CCTGAAGGGAGTGGCTCTGTAAGGACG
79236	ALDH1A2	CAACCAAAAAACAATCCGAGTAGGCCC
79237	ITCH	AGGCCGAGGCAGGAGGATCCCT
79238	IL12RB1	AGTCTGTTGGCAGACTGGAGTGCAATCATGGC
79239	F12	CTGGACTCCTGGATAGGCAG
79240	POLE2	AGAAAATTCATCAGTTTTCTGCTT
79241	LARGE	CCTGGAGGTGGGGTTGATGGGTTTCCT
79242	CNN2	TCACTGCACCTCCACCTTCCGGGCTCA
79243	MAPK8IP1	CGCAGCCGCCGCCTCCTCCGCGCC
79244	DCLRE1C	AGGCCAAGGCAGGAGAATCACT
79245	PMM2	CCCTGCACTCCTGCCTCCCAGCCCACA
79246	LFNG	GTCCTGGCCCCTGTGTCAT
79247	ICMT	GCAAGTAAGCCTAGATAACTCTA
79248	DSC1	TGCAGTGAGCCGAGATTGCC
79249	IL1RAP	TCATGTGATCATCACCTAAGAACTAG
79250	MLLT2	CAGGTTCTATGCAGATTGT
79251	CYP2B6	AGTAGCTGGGATTACAGGCAT
79252	GABRR2	TACTGGACCACCCTGAGCAG
79253	FGL1	GCTGGACTTCGTTTTTACTTA
79254	RGS3	CTCAGACCACACAGTAGCCAAGT
79255	TIMP3	AGGGCCATGGGAGATACAATTCCA
79256	RAB6A	CAGTCTGTGGAGAGTCCTGCTGCC
79257	CRACC	ATGGCACCACTGCACTCCGGCCT
79258	KRTHB1	GGAAGGGGCCTCAGGAGCAGG
79259	GPRK7	TCCAGGCTGGGCAGCAAGAGCA
79260	CST	CAGAGCTGGAGTGCAGCGGCACA
79261	RRM2	TTCATTCTAGTTTTGTTTGGTGTA
79262	COG8	GTCTATTGGATGAAGGTGAA
79263	SMARCC1	GAACATACCACTGAACTAGTATGTGC
79264	DYRK1A	CTACAGCTGTGTCCCTTCCTG
79265	POLA	GTTACGGTGAGGATCATGT
79266	PITPN	CTTACTCATTTCTAAGTGCAAT
79267	SCA7	TTTGGGAAAAGAAGCTGTCAGA
79268	NR2E3	CGTCTGACTTGGGAGGCAGAG
79269	A1BG	CAGGCTGGAGTGCAATGGCGTG
79269	NF2	CAGGCTGGAGTGCAATGGCGTG
79270	PTGIS	CAGGCTAGAGTGCAGTGGCGTG
79271	BAT1	AGGCTGGAGTAGAGGGAAGCCTGCA
79272	EFNB1	CTCCACACTGCCTCCTGGCCAGCTGCC
79273	BST2	GCTCCAAAAAATAAACACTTCCTT
79274	PTX3	CTAATGAAAGAGAGAGTTGAGA
79275	BAZ1B	CTCCTGACATCTTGCT
79276	TSSC4	GGGCAGCCTGGCCACTGCCTAGCTGGA

79277	COL1A2	TTGTCCTCTTCTTCAGATTCAGC
79278	HS2ST1	TGTTCCAATAAAACTTTATTTACAA
79279	EIF2S3	GGATTTGGAAGTTGGAATTCCT
79280	OSM	GTGGATATTAAAAATCTGTAAA
79281	PTPN7	GCCTGATCCTGCCCTGGGCTCAGA
79282	DGCR2	GGTGCCTGAGGTTGCAGCCGA
79283	PTPRH	GAAGAGCAGAGGGCTGGGCT
79284	SRGAP2	GCTTCCCTTCCCTCCCCCTTCACC
79285	JRK	GATACCTGAGGCAGGAGGTGCAGC
79286	PLGL	CACTTTTAATTCAAACCAGA
79287	SLC5A2	GGGGTGAGAAGGTCCTGGCTCC
79288	SNRPN	ATTTCCAGGCTGAACTGAGGC
79289	P2RX7	TCCCACATTAGGATGGTGAACCA
79290	DKC1	TGTTCTGGCCTAGAGGTCAGT
79291	VCL	CTCAGTTTAATCCTTCTAGTTTCC
79292	AGL	ATGAATATTGTAACATGTGAA
79293	TCF7	CATTCACAGAGCCTTTTTCACA
79294	RABIF	CTAATAGTTGAAATCTGCCTTTTTC
79295	ADCY1	ATTCTAGGGGCTTCCTGCCTT
79296	HNRPH1	GTTTGTTAATTCTAGTTTC
79297	COX7A2L	CCGTGGGAACAGAGAATACCTGTTT
79298	PIK3C2B	GCCCGAAGGGAGAGACTGAGACTG
79299	PRKACA	CCCCAACAGACCTGTCT
79300	SLC14A2	CTGAGGCAGGAAAATGGCGTGA
79301	MASP1	CCGGAGTGAGGAACTGATTTGGCTC
79302	PPP1R3C	TATCTGAATGGTCATCTGGTAAC
79303	POLR2C	TCCAGATAGGAACATGCACAA
79304	CTMP	TGCAGTGAGCCAAGATCATGCCACATCA
79305	FOS	CAATGTTCATTGTAATGTTACTG
79306	HADHA	GGCCACTGCTGTCCTCTTC
79307	MUCDHL	AGAATAAAGCAAGGCTCCCGAAAC
79308	TNFAIP1	CAGTTCTGGTGCTGTAGAGGCCCTGGT
79309	CBFA2T3	GCGCCAGAAGACAGCGCGCA
79310	WHSC1	AAGGTTGGAAACAGGGCCAGGT
79311	UBE2G2	GGAGGCTGGGTGCTGTGGCTCA
79312	ADRA2A	CGCTGACTGCAGGCAGCGGGG
79313	ARHGAP6	CGCTTCCAGCATCCTCTG
79314	FCGR1A	AGGCTCTCTCATAACCCCTCT
79315	ISLR	CTCTGCAAAGGCCAGCCAGCTT
79316	SPK	GGCGCGAGGGGAACGGAGGC
79317	NLGN3	TTTACAGTCTTTTGTGTCTGTCATTTC
79318	PA2G4	TGCCTCATCCCCTTCCCACCAA
79319	SH3BP2	GGAGAATTGGGTGCGAGATGTGGTTT
79320	PTK7	TACTGGCAGATTTGCAGGCTGGGAAGG
79321	MAP3K7IP2	GCCTGTAATTCCAGTGCTTTG
79322	DNMT3B	CATACATTTCTCATACCTTCCCCACAT
79323	STAR	CCCTACTGGAAGCCTGCAAGTCTA
79324	APPL	GACGGGGTTTCACCGTGTTAGCC
79324	RPP30	GACGGGGTTTCACCGTGTTAGCC
79324	SERPINB9	GACGGGGTTTCACCGTGTTAGCC

79324	TAPBP	GACGGGGTTTCACCGTGTTAGCC
79324	TERF2	GACGGGGTTTCACCGTGTTAGCC
79325	DLC1	AACACTGCACTCCAATTTCCTCGGG
79326	SYNGR3	GCATTGCTCAAAGCTGGCTTTTCA
79327	SACS	TAGAGTGCACTGAGTGCA
79328	TCTA	AGCAGGAGATTTGCTTGAACCTG
79329	AKAP4	GCCAAACATCTAAAAGAACTTCATCATC
79330	RAG1	CTGTAAATACTTTCCAGTATTA
79331	FUT1	TCTCGATCTCCTGACCTCGTGATCTGCC
79332	FMR2	CCCCCAAACTCTACTCTTAT
79333	IGFBP2	GGGAGCTGGGGTACAGGTTTGG
79334	CRSP6	TAACCTCTTCCTCCAGTTGTCTCC
79335	GAD2	CGCTGGCGACCTGCTCCAGTCTCCA
79336	SON	TTAAATAATGTGCTGCTA
79337	RFC1	ATTGCCTAAGCCCTTGCCTGCTG
79338	DSCR3	TGTCACCCAGGCTGGAGTGATCTCAGC
79339	EFNB1	CCAGGTGGGAGAGGGAGCAGAACAGCC
79340	PTPN6	AGACTAGCTGCACCTCCTCA
79341	NRG1	AAGGCATTTCAAAGTCTCACTTT
79342	MS4A2	AGATAAAAAGTCAGAAATCTGAAA
79343	ZNF274	TGATATTACATCCACAGTACCACA
79344	SCN8A	TCTTGAGCAGTGACCTGCCAAGG
79345	CXCL16	AGCTCCACCTCCTCGGCTTTC
79346	HGD	GGCTTTATATCCTCTGGGCCTGGGTT
79347	TFRC	GGAGACAGTGATCTCCATAT
79348	MECP2	CAGCTCTTCCTGGACAGGCCAG
79349	GLUL	GCCTACTCTGTGAACTCCGGG
79350	ADCY1	TGGGAGGCGGGGAGCTGCCACTCCCA
79351	MTNR1B	CACAGCCCCAAGGCTGGGGGAACTTCA
79352	CDH2	ACACATTTTGGTCTTAATCCATGTAC
79353	CYP8B1	TTATGTGTCGTTGCTTTCTGTGT
79354	CD68	GGCTCATGCCTGTAATCCCAG
79354	DAPP1	GGCTCATGCCTGTAATCCCAG
79354	UPK1B	GGCTCATGCCTGTAATCCCAG
79354	VHL	GGCTCATGCCTGTAATCCCAG
79355	Rgr	CTTTTCTCTTCCCCCTCACTTGAAGCAGC
79356	DSC1	CCTGAGTGGTTTAAAAAGGACTT
79357	ADORA2A	TCAGGAGACTCAGAGTCCTCTGTGAA
79358	APOL1	CCCTCCAGGTTACTAAAGGGTGCATG
79359	STCH	TGCTATCTTATTTTTGTTATC
79360	JAM3	TCAGGACTGAAGTGCTGTAAAGCAA
79361	SPON1	TTTTAAAATCCTGATTTTGGA
79362	IAPP	AAGCAAATTAGTAATTGTCAAT
79363	OA1	TGGCTGTAAAGTAAGTGTAAGGTCCAC
79364	POLR2J	GCCGGTCCCAGCCATGGCCC
79365	FGF12	CCTCACCTCAAACCTTGCC
79366	INPP5D	GAGGCAACGGGCGGCAGGTTGCAGTG
79367	ZIC3	AATAACTGCAGCAGTTCTGAAA
79368	TIF1	GCCATTGAAAACAAAGACA
79369	HK1	TCACCAGCAGACACTGCC

79370	FBXW1B	GGATTATACTTCCTTTCTGTACCA
79371	BCL2	CCCTACCTCCTCCTCTGGACAA
79372	CASP3	ACCTACTCTCATGCTGCAGAG
79373	TAP2	AGGGATACTGGGCCCTCTTCTCA
79374	SEL1L	ATTTTTATATCTAACTTTCC
79375	SLA2	CTCGTTGAGACCACCACCATACCTCAG
79376	FBXL5	AGTAATACTGTTGTGTTGTG
79377	PRNP	TTGCCTGGATACCTCTGGCTC
79378	SIRPB2	TTCCTGAGAGGCTCAGCTTGAG
79379	PTGIR	TGGTCCCCCACCAGGCTTGGGA
79380	MFRP	GTATTTCTCCCTGAAATGGGGTC
79381	COX15	TGTTGCCCAGGCTGGAGTACAAT
79382	ZNF278	CATCCTCCCTTCCCATATCCTTCAAA
79383	LNK	TTGGCCAGGCTGGTCTCGAATG
79384	ALDH3B2	ATCACTCCACTGCACAGTGTTAGTGG
79385	ANK1	AGTCCAGGCAGCCTGCAGGCTGG
79386	PPP1R12B	CTCTGCCATAGTTTGTTAGTACTCT
79387	MMP13	TCCAGAAGTGCGGGGTAGGGGAAGAAG
79388	KCNAB1	ACACACAACCAACAGCTCTGTC
79389	RAI14	TGGATAAGGACCAATGACAGCAAAGC
79390	DDEF2	TTCTTGAACTTCCTGAGTCA
79391	RARA	ACCAGCCCTGCCCCCACCTGCC
79392	MAPT	TTCATGATTTCAACCACATTTGCTAGA
79393	MTRF1	GGTCTCGGAAGGTTCCGACCTCAG
79394	TNS	CGAGGACAACGGCTCCACCAGGGTC
79395	ED1	CTTCCCTTTCTAAGCAA
79396	NEK6	GCAGGAGCATCTTCTTGGCAGC
79397	TRIM8	TGGACGCAGAGGTGACAGTGG
79398	CEBPB	CTATATTTTTGTCCAAACCA
79399	POLR2J	TGTGGCCACCCCTCACCCTGAC
79400	SMN1	TAACTGGCCTCATTTCTTCAAAATAT
79401	SERPINA3	CATGTGTGGCCCTGTCTGCTTA
79402	ADAM33	TGGAGGTAGCTCCTAAAATGAA
79403	ZNF265	ACACTAAACAACCCTGAGCCCAGGG
79404	ARHGEF7	GCGCCTGTTGACAAGTGTGGAGAA
79405	FSTL1	AACTCCTGATTCTTCCTTTTC
79406	TYRP1	TATTCCAATCACTGTGCTTAA
79407	CCND1	ACCCAGCCAGGACCCACAGCCCT
79408	PCDHA9	TTTCCCTTAAAACACA
79409	PPL	CATTGGTATTTAGGTATACAAA
79410	DMD	TTGTTTGCTATTTATTTTTCTCCT
79411	HNRPDL	CGCTCGCCGCCTCAGTCGCCAG
79412	AQP6	GGTCAGCTCAGGCTGGAGCAGGCAT
79413	BACH2	CAGTGTTGGAAGCTTTTTCCCAA
79414	AGC1	GAGCCCAGGAGCCTGCCAGGCTGA
79415	PTPN7	TTTCCTCCCTTGCCTTCTCCCACT
79416	TCIRG1	TCCCGGGCTGGCGGGAGTGCAGTTCT
79417	SCD	TCTCTCTCCCTCCCTCTCTCA
79418	CLCN1	GGCTTAAGGAGCTACACTGG
79419	IL12RB1	GGTCTCAAACTCCTGCCCTCAG

79420	DUSP4	CCCAGCCGCCTCGGTTCCCGG
79421	CRYPTIC	TAAGCTGAAGCACTGGGTGA
79422	ADCY1	GCCTTATCCTTCTGTTTGTTCATACA
79423	TFRC	TCGGGAGCAGTGTCTTCCAT
79424	GALNT3	CACTGCACTTCAGTCTGTGTGA
79425	ENO1	GTCATCTCCGGGGTGGCCACAG
79426	C8A	CCCAGCCTGTAGACATCTTTTACT
79427	RNF4	CAGACAGACAGCCAGGTTCTCCA
79428	SH3BP2	ACCCGGGAACCCCAACAGTTG
79429	DGKE	TTATAGGTTCTGAGCTGAAC
79430	SLC25A11	TCCTTGGCTATTCTTGCA
79431	GCA	CTTCCCTTTCTGTGTGT
79432	NFE2L1	GCTCCCATTGTCTCCATCAGAGCC
79433	AKAP1	CACTGCCTTCTCTGCCGATGACATCCT
79434	DNMT1	TCCATCCTTCTGCACAGGGTATCGCCT
79435	IL12RB1	GCTGGTCTCGAACTCCTGGGCT
79435	ZFX	GCTGGTCTCGAACTCCTGGGCT
79436	TNFSF14	CCACTGCACTCCAACCTGGGAAACGCA
79437	CCR2	GGTTTCAGAAAGAAGTGGGGACAGAG
79438	GALNS	GGAGGAAGGATGGCTCTGGCCT
79439	SYT5	TGTTGCTCTGGGCAACGCGGTCTG
79440	SETDB1	GAGGACAAAAGCATGTCTTCC
79441	PLD1	TGCCTAACTTGTAAAAAGGGG
79442	GNAT1	CTCACCCTGCCACCTCCATGTGACAAGT
79443	SLC25A17	GGACGCCTTCCCATGAAAAATTCCG
79444	FGFR3	TGCGACCCTGGGGGCACAG
79445	REV3L	CAAACGAGTAAAATAATGTGCAATGATT
79446	IL11	GCCTGTAATCCTGGCACTTTG
79447	ATM	TTGAGGTAGGTAGATTGCTTGA
79448	CENPB	ACTCACTGCGGGCTCCTGAGCCT
79449	EIF4A1	CTCTGGGGGCTGAGGAGCAGC
79450	CLN6	CTGTTTGATTTGGATCATCTCA
79451	ARHC	GCCCCCTCCCTTCACAGGGGTA
79452	NR1H2	CCCAGGGCAACAGGAGTAGTTCACTCCGC
79453	MX1	CTTGCCGCCCACCTGCTCACCCAGCT
79454	MN1	TAGTAGTTCTGGAATATTGCC
79455	CLK2	TTCAGACTATGAGCTCACCTACA
79456	MAPK7	GAGCTCCTGGGACCAAGCAAAT
79457	APOL1	GTCGCCAAGTTGGAGTGCAATGGTGC
79458	KCNJ6	TTCTGGTGCCTATTTATTCATTCAG
79459	C1orf1	TCCAGTGAGTTGAGATCATGC
79460	SIRPB2	GATTCCTGCCTATCCCAACTCCCCAG
79461	M11S1	GGCCATGAAGCAGATTCTC
79462	IRS1	TGCATCTTCGCTCCTTCCTGGTGGCG
79463	GM2A	CCTCACTGCAACCTCCGCCT
79464	AMACR	ATACATTTATTTACACTCT
79465	DSC3	CATTTGCAGGATGAGCCTGAACTGGT
79466	SEPN1	CAGGCTGGAGTGCTATGGCTCG
79467	DDB1	AGGGTTAGGAGGGTTTCATTGTCTG
79468	IRAK4	CATACCTGTAAATCCCAGCACTT

79469	SEPN1	CTCCCTGGACCTTTCCTAGCCA
79470	SURF5	GTTTCCTCTGCCCCTTCTTGCT
79471	AMD1	TTTCTTCCCTCTCCCTGGTGTC
79472	CTSK	CAGTGTAACGATGCACTTTGG
79473	MLC1	TCTCCATCTCCGCTGTTTTGG
79474	CALCR	GTTTATAAAGCAGATTACCTCTTGCCCTTGGG
79475	WNT5A	TCTCATTCTCCTCAAATATTCCATTT
79476	HEXA	CTGTTCTGCCTTGCCTGTGAGCTATG
79477	CTMP	GAGCTGCTGGTGAACTCCATCTCATT
79478	SLC19A1	AGCTGCACGTGGCCTGAGCAG
79479	ALK	TGCTTCAATGTAGTCAGAATTAGCT
79480	HD	TGTCCCCCACCCCCAAAGACCTGCCT
79481	TNFSF4	GCTTTGAAAAATCTAATCAGTGACTT
79482	DPYD	GCCACAAAACCTGTATTACTGAAT
79483	BCL11A	TGTCTTTTAAAAAGTGTGCTTA
79484	ED1	ATCAGAACTCTTCCTCCTCC
79485	ST7	GCGGCAGCAGAGAGGAGCGCTGA
79486	KIR2DL3	GTGAGTCTGCATCTTAGGGCA
79487	KL	AGCTGTACTGTAATTTCTTTGAGT
79488	CTNND2	GCCTCCCCCGACTCCTGGGTGTGGGA
79489	DGKE	GACTGAATAATGGATGAGGGAG
79490	FKRP	GGTCATCTCAGTCATGGAGGGAG
79491	GAS7	CACAGCCGCACCCAG
79492	LARS	TAATCTATCTGGTTCATTAACTCA
79493	COG2	AGAACTCCTGGGCTTTCTAAAGAGGCT
79494	GARP	AGCTCTATATTTTATCCCC
79495	SLC14A2	TGTCACCCAGGCTGGAGTACAC
79496	EGLN3	CTTGTTCATTTTAGTAACGGTT
79497	HSD17B1	GACCAGCCAGAGCAACACAGTG
79498	ARHGEF12	CCTGTACCATTCCCACTTGCTC
79499	RAB36	TTTGTTGTTTTCACCAGAGTGAGCT
79500	TNC	AGAGGGGTAGGATGTACAGGGG
79501	SLC6A4	ATTTTGGACGTGTGAGGATGTGG
79502	RBL1	CTGGGCAACAAGAGTAAAACTCCATCT
79503	KIF2	CAGCTGTGCTCACTTTTCCTGCTTTGT
79504	DUSP4	GAGAAGCAGGCGGGTTGGGTGG
79505	PUM1	TGCCCTGCTGTTTTACTGG
79506	THY1	CCTGATGGAGAGTGAGAGCATGT
79507	APM1	TAGTTGGGTATAATTTTTATCCA
79508	MYL4	AGATCACTCCTCTGCCAAAG
79509	VCP	TGCAGTGAGCTGGCCTGCC
79510	PLGL	TTGTTATTTTCTCTCATCTTT
79511	HSD17B3	CCAGCACTTCAACCTAGTCCGCTG
79512	WHSC1	AGTGGTCAATGTAGATTTCAAGTTGA
79513	ACO1	TGCCAATCCTGTAGGCACAAAACCAGA
79514	IGF1	CATAAAGTCCAGATCTGGTA
79515	ATP8B2	AATGGCACAATCTCAGCTCACT
79516	BACH2	GACAGTTTTCACACATATCTACCTGTA
79517	SIL	GGTAGCTGGGATTACAGGCAT
79518	ZNF76	CTCTGGGTGGTGGTGGCACATGGA

79519	ADCY2	GGAGGATCACTTGAGCCCAGGAAG
79520	IFITM2	GACCTGTATTCCACTTACTCCAC
79521	DTX1	GCCATGTCACGGCCAGGCCACGGTGG
79522	HPSE	AGTAAAGCAACTCAAGTTATAGG
79523	CRTAP	GGCCTCCCACAGTGCTGGGATT
79523	FUT1	GGCCTCCCACAGTGCTGGGATT
79524	HLA-DRA	TTCTTGTCTGTTCTGCCTCAC
79525	ADCY6	GGCCGGCCAGGGCTGGGGCAGTG
79526	HEM1	ATTGGGTTTCTTCTTTGTCA
79527	FOSB	TTTACAATCTGTATCTTTGACA
79528	ASB2	GACTTCAGAGCTTTCTCTCCA
79529	TRIM14	CCTCTCTGCTGCCAGCACA
79530	CASP10	GGTCTCCACCTGTCATTCTAGAAACAG
79531	IL5RA	TTTTTCTCCCCATGCCGTACAG
79532	GOCAP1	TCACAAACCCCACATTATTCCA
79533	BRF1	CAGAGCCAGAGGGCAGTGGCGC
79534	IL17BR	GCTTCCATGCTTCATTCCCTG
79535	CHD1	ACACTGCGACCACCTTGCCGCTTTTCA
79536	EPRS	CCTCTTCAACTCCTCTCA
79537	RPS6KA1	AGCTTTGGGATCCCACCCTG
79538	FOXM1	CTTGCCAGAGTCCTTTTTGCC
79539	EIF2S3	AATTGATTTCACAGTTCGTTA
79540	HOXC6	TCCCCTAATCACACACTCT
79541	RAB6A	CCCTTCCCAGCCGCGGGCCTCGCTCGG
79542	TEC	ATAATGGAAGAAAGTAAACTGCTTA
79543	CD37	GTCCACAGCTTCCTGTCCCCA
79544	TNFSF10	TGACTTACAGCAGTCAGACTCTGACAG
79545	RCV1	GCCCACAGCACAGCTCCCTGCC
79546	F2R	GAAGTCAGGAGAGAGGGTGAAGCGGAGCAGC
79547	FPGS	TTCCTCCAAGAGAAGGTGGACCT
79548	COL17A1	CTTCTCTGCTATCTAGATCT
79549	ATP1A1	CCGGGAGCTGCTCTGTGCT
79550	RAB23	TGCCAGACTGCATTAGGT
79551	ZNF265	AGTAAGCTTTTAAAGTATATT
79552	MKI67	CTCAGCTTTGCAGAATGAAGCCTTGA
79553	MAN2A2	GTCTCTAGCCTCAAAGATGGCCA
79554	EHD1	TGGGCCTGGCGGGGGAGGCAGG
79555	BTG2	CAGACACCTGCATCCCTGGCTCCTCT
79556	ZNF202	AACAATTACAGAATCATGATTGC
79557	PROX1	CTCTATTAGCAATGAAGGGAAT
79558	FCAR	CTGCAACCTTCGCCTCCCAGGAG
79559	LAMC2	ATGGAAAGACAAACTGCACAGGCAGA
79560	SLC17A4	TCACAGACATTTCTCTTTCA
79561	CSF3	ACTGTCACCCTCCACCTCTTCACCCCCC
79562	SHOX	CAGGATTCAGACGCAAAAGACTTGCATAA
79563	DNASE1L1	GCCAGCTCCCTGGGTCTCCTCCTCT
79564	ITPR2	TGGTTGCGAAGACCTAACCTCA
79565	ALDH1A2	ACGTCTGTCCCTCTCTGCTT
79566	TRPV1	TCTCACCCAGGCTGGAATGCAG
79567	SLC2A8	CTGTTCCAGCTCCTGCTGCTG

79568	NRIP1	CATTTGGCAAAATGTCTTAACA
79569	RDX	ATGGAAGAGAATATTCCTACTTGCA
79570	HLA-DMB	CCCCCTGACATTATCTTGGAT
79571	PCDHB11	CCGCCTCTCGGGTTCAAGCAAT
79572	KCNE1L	GCCAGTTTCTCCCTCTTCACCCCTGCGCC
79573	SARDH	AACCTGTAAGTGTCTTGGGCTCAGGGA
79574	DUOX1	GCTGACCTGACAAGTACTATGTGTGTGCATG
79575	LMNA	CCTCCCTTCCTTTTCCCTGCTTCCAGGA
79576	IGFBP3	ACCCCCACTCCCCGTACAGTGCGCA
79577	DNAI2	CTCACCCCACACCCTCCCTCTGCCCCC
79578	PAICS	TTGACCCTCTCTGTAGAAAACCGCACA
79579	KIF3B	CCACATCTTTGGAGCCTCGGGA
79580	ANGPT1	CACCAAGGTTCTTGACCGTGA
79581	LY64	GAGCTAAAGAACCTTCTAGGCA
79582	WARS	AGAGTCAGGGTGGCTTTTCCCCTG
79583	FOXD2	GTGGGTCCCGGCGTCTCAGCCT
79584	SCNN1B	GATGCCATCTACCCTGCCCCTGTCCACC
79585	BHLHB3	GAAACCAGCTGGTTTAG
79586	CYP8B1	TTGCCCAGGCTGCAGTGCAGTG
79587	FGF14	TTCCTGCTCCGTGGCTGAAG
79588	BAI2	GAGGGCTGGGCAGGGAGGCGCCGTGGA
79589	RTN4	CTGTTATATTAATTGCCAATATAAGTA
79590	TAP2	GTTGCAAGCACGATGGAGATT
79591	COX10	GAGCCTCATGATCTGCTGTC
79592	DLGAP2	GAGGACGGCGAGAAATGCCTCTGG
79593	ARG2	AGGTTCTTTAGCTGTCACTTAGGG
79594	LGR6	CTCAGCTTCACCTTGATACTGG
79595	FLOT2	GTCTCATCTCCCTGCGTGTCT
79596	CASP8	CCGCTGCACTCAAGCTTGGGTG
79597	KLHL3	TCTCTAACCTTTAAAAGAGGGG
79598	ZNF35	AATGGACTTTTTCCTTACTGTCT
79599	UBE2I	GCTCCTCTCTAGAACCTGGGCT
79600	ARHGEF12	ATCAGAGGAGTTTTTTCTAA
79601	CHST6	CCTGGACAGTGGCCCCCAGCAGTCA
79602	FUT8	ATAAATACGAGTCTCAAGGTCT
79603	DSC1	TGGCGAATGACTGTAATCCCAGCTACTC
79604	SLC16A2	CTCAGCAGGTAGAGGAGGACTGATGAC
79605	TFE3	CCCTGCACCTTCCCCAAAGGAA
79606	CTF1	AGCCTCCCTAAGTGCTGGGATT
79607	MPL	TGCCTCCCAAAGTGCTGGGATT
79607	PIGR	TGCCTCCCAAAGTGCTGGGATT
79608	ADAR	GTCTGCTGGGGGCACAGTAAA
79609	DGUOK	GTGTACAGTGACAGGCTCCA
79610	FAT	AACCAAAACCACCATGACACAG
79611	SERPIND1	CCACTTCTCAGAAACACACAGAG
79612	EYA3	TCTCAACAGATGGTTTCAGTGG
79613	TBL2	CGCCTGGCCCTCTCCCCCAACGCCCAG
79614	UBL3	TCCTCATAACATTTATCTTTAGTTTTA
79615	ZNF135	GAAATGAGAGTGGCATCTTTATGGA
79616	ADAMTS9	CTCAGGGCACTTTGGGCTTG

79617	IGJ	CTTCCAATTATCATGCTCAC
79618	ATP7A	TTCAGTTTGAGTTTTATTATTTATT
79619	MAGEL2	TGGTTTCGTATCTGCCAAAG
79620	HOXB6	GCTCTTGTCCCTGTCGCGTCT
79621	VIL1	CAGTTTTGTTTAATAATGTACC
79622	MEP1B	ATTACAGCCACCTCATTCTTCTA
79623	UNRIP	CCCTCCCTAACCTCGGTGCCACCG
79624	RHO	GTGCAGAATGAACGAAGTCACA
79625	GUCY2F	AGTTCAAGAAATTGTTCTGCCTGGG
79626	ZNF2	TGTATCTCACACAGTGCCTTGCTAAT
79627	ADRA2B	CTGGGATGTGGTGGGGAGCTGGGCCAG
79628	NTRK2	TCTGGCTTCTGCATTACTATTAACTC
79629	MIPEP	AATGCTACAGCTGTGAGAGCTTGTT
79630	ENTPD3	GGTGGCACCAGGCAATGCAGGTGAA
79631	TNFRSF10B	GCCCAGGCTGGAGTGCAACGGTAC
79632	DIO1	ATTTTTCTGATCTAAGCAAACAACTC
79633	SDC1	CAGGTTCTCCGTTAGCTCCTGT
79634	PSME3	AATTTCTGGAGAACTCCAGG
79635	GLS	CAGGAGCAGCATTATCCCCAAAGATATT
79636	DDX11	AAACCCAGGAGGAGAGTGTGG
79637	HD	AGCAGGACTGAGGACAGGCCCC
79638	AHCY	CGTTTCACCCTCCAGCTGCTGTC
79639	EPHB4	AACCTGTTTCACTATGGCCTC
79640	KIF1B	GCCTGTAATCCAAGCACTTGGG
79641	CLCA1	GCATTTTCCAAAGAGAGGAATC
79642	LILRB1	ATAAGAAATTTAGGGCAGGGCACGGT
79643	PLOD2	AAACATTTGAAAAACTTTTTATAAAA
79644	ALDOA	AGGCTGCCCCCAACAACTCCAGG
79645	EDARADD	ACCCTTGCCCACCGCCGTGGA
79646	TEX14	CAGTTCTGTAAGTCTCACTTTGTTC
79647	RPN1	CGGGAGGCAGAGGTTGCAGCCGGCTGA
79648	PPEF1	GGGGTGAGGAAAAACCTCTACATTGGC
79649	MID1	CCTGTTTGCCCCACCTTCAC
79650	MAP3K10	GGTGGGGGAGGCCCTGGGCAGG
79651	PPP2R5D	AAGTACACACAGGAATACATAC
79652	ABL1	GCACCTTGGCCCAGGAGCTCTGCGCCA
79653	EPB41L2	GTTGGCTGAGGAAGGGGAAGA
79654	BIG1	GAAATGTATTCATACTGTGAA
79655	CENTD2	CTCTTGGCCCAACCTGCTCACCCCACCG
79656	CD58	CAATTTTTGAACAACTGTTGGAAA
79657	ITPR3	GTGCTCAGCCCTGCCCATGGCTGT
79658	PIGC	CCCCTGCCTTTGAAAACAAGGAAAGGT
79659	TNFSF10	CCACTACACTCCAGCCTGGCGACAGAG
79660	MSH3	TGGGAGGCGGAGGTTGCAATGA
79661	ZIC3	TGTTTGCTTTGTGATAAAATGTTAACA
79662	ARCN1	GTTCAAGCAAGTCTCCTGCCTCA
79663	LRAT	CCTGTAATCCTTGTACTGTTCGG
79664	KIT	TGGAAGTAACCATTTGCACTGG
79665	SIL	GCCCAGGCTGGAGTGCAATGGCAGG
79666	NPAT	ATCCCTTAAACTGAGTGTAGG

79667	GPR81	GCTTGTGATCCCAGCACTTTGG
79668	ATP6V0E	GGCTCCTGCCTTCTCACGTGGGAATC
79669	ASB1	GCCCCCAAATGCCTTA
79670	BAZ2A	GGGAGAGGGCAGGGAGGCTTCCTGGG
79671	FMR2	TCCCATAGTACTTCAGTCAAG
79672	RHBG	GGAGAGGGGCAACAGGAGGC
79673	ACHE	GGTCGCCTGCATTTCTCCGTGC
79674	POLK	AATCAGTTTTTAAAATATTTAGTCTAA
79675	GGCX	ATCGCTTGGGCCCAGGAGGTGG
79676	TTN	TCACTTGTGTCAATCATGCT
79677	RNH	AGGAGCCTCTCAAGCGGTCCTGTTGGC
79678	IL12RB2	AGCACCTGCTACACAGCAGGCT
79679	SLC38A2	TCGAATGCAGAACCTCACCT
79680	DCX	GTCAGCAAACAACAAACAAACCA
79681	PRKRA	GCCCCTTCCCAAGTAAAACTTT
79682	HSPA2	AGTCAGCGTAAACCTCTTTGCCT
79683	CCR9	CATCACCTTTGAAAATATTTCA
79684	PWP2H	GTGACTTGCTTTTCCTGTGCACA
79685	CD59	GGAAGACCAGCTTTGCAGTGA
79686	TFDP2	GTCTTTGCCTTTGTTTGCACTGTGTGTT
79687	TRPV2	AGTGCTCAGAGCTGGGGAGGGAG
79688	GNAZ	CGCTGCCCGAGCTCTGGCCTAGGGAC
79689	BENE	AAGCTCCAATTATTGGTCCCCAAAAGCAGCTT
79690	SORCS1	CAGGGAGTCCTCAGAGTTGCAGTTC
79691	SLC1A2	TAGTGCTGAAGAGGAGGGGCGT
79692	SRGAP2	ATGAAGAAATCGGAGTGGGAAGAGA
79693	CBFA2T2	CTCTGCCTCCCAGGTTCAAGCGAGTC
79694	EIF4G1	TGCTGGTGGGGTAGGGATGAGGGAG
79695	GARP	AGTGAAAATGCCACTCTCTCCA
79696	GALNT3	GTAGGCAAAGGTGGGAGGA
79697	VDAC1	ATGGGTACATTTTAGAGTCTTCC
79698	ATP2C1	GGCAAAACCTGAACCACCTT
79699	CALM3	TTTCATCTGGCTCCCCCCACCA
79700	TEAD2	TCTCATCCCTCTCCTAAGTGAGCC
79701	COL13A1	CAAAGGGGGCCAGCCAGAACTGAG
79702	MLLT2	GAGAGGATGTAGAGATTTGGGGT
79703	IRF2	CAGGACTCCAGCCCATTGGTAGACG
79704	RNPEPL1	GGAGTCCCAGGACCCAGGGAGAG
79705	IHH	GGTCCAGAAGCCTCTCAGCCAGG
79706	B4GALT4	AAACATGGGCTTCAACCTGACTTT
79707	AP3B1	ATCTTCTTCCCTACAGCAGTA
79708	PHF1	CCTCTTCTCTACCCTCCTTCATG
79709	IL1RAP	CAGTTTATGGTTTCATAGGCA
79710	COX15	GGTCAGGCTGATGGAGACAG
79711	ALDH3A2	CAGCGGGCGTGGAGGTCGCGGCGG
79712	PRKY	TGGCCAACATGATGAAACCCTTGTCTC
79713	HLCS	CTACCTGCTATAGCACACTCTCCGATT
79714	FGFR1	TGTTTTTAAAAAGGTCATATATTTTTT
79715	ASK	GACCATCCTGGCCAACATGGTG
79715	HM13	GACCATCCTGGCCAACATGGTG

79716	RGS2	AGGACTGTGACCTGCCATAAAGACTGA
79717	HS2ST1	TCAACCCTGCCATTTTACCACA
79718	PARN	GGGGGATGTACGAGTAAAAAGGTTA
79719	DPH2L2	CAGGCTGCAGTTGAGGGTCTGTCCT
79720	IL1F5	AACTCCCTGGGCAGAGCCA
79721	LGALS1	GCCCCCAATAAAGGCAGCTGCC
79722	PLOD	ATTGGGTAGAATGAGGATCCTGTT
79723	VPS41	AGGATTTGCTAATTTCAGTGAA
79724	SSTR1	CTTTTCTATTTTTGATTGTGTTG
79725	PCDH11X	AACCAAAACACTCTGGTTCAGTGTTTT
79725	PCDH11Y	AACCAAAACACTCTGGTTCAGTGTTTT
79726	TFAP4	ATGCCTGGCCTCTCTCTGCCA
79727	SMURF1	GGCGGCGGAGGCGGCGGCGGAG
79728	TRPM6	AGTCTTCCGGGTAGCTGGGACT
79729	PAX2	GGGTCTTCCTCCAGCAGTTACTTGA
79730	MEF2A	GAAAGAGAATAGAAAACACGCATGA
79731	LIMK1	CCACTCCATGAACATCATCCACCG
79732	EYA3	TCTCTGTCTGTCTCTCTCTGTGTCT
79733	ELAVL2	TGAAGGAGGCAGAGAAGGGGTTGG
79734	ADCY1	GCAGTAGGGGAAATGGAGTTGC
79735	DRD2	GGCGGTGGGGAGAGATGGAC
79736	NUMA1	GGGCGCTCTCCCTACCTTGCCT
79737	GNPAT	GCAGAGGGAAGAGATGATCAT
79738	DNMT3A	CTTGCAGATGGCGCGTTCTCACG
79739	GSTA4	TCCTGTTCTCTTATCCTTATCCCCTC
79740	B4GALT3	TGGAGAGAAGAGTGATCTGGCTTCTCC
79741	SLC22A7	CACAGCTGTTGTTCGGGGCTG
79742	NXF2	TCCAGGCCTGAAGAGACTATGCTG
79743	C11orf13	AGGGCTGCAAGACCATCCTGCCC
79744	DGCR2	CCTGTTGCCTGCTCCTGGGCA
79745	IL1F9	ACGCTGGTGCTGAGACAGGGGCAAGGC
79746	CAPN10	GTGAGGGTGGAGCCAGGT
79747	FER	CAGAGTAACATTATTGTTCTCAT
79748	DDX11	AAACCCAGGAGGAGAGTGTGGAG
79749	KCNK3	CCTGCTGGTACCACACCCCACCTTCGG
79750	RSN	GGGGAAAGATAGTGGCAACAGGCAAAG
79751	HDAC7A	CAAGTGAGCCTGAGGGAGGCTGA
79752	GLRA3	AATATCTCTCCGTATCATGGCCC
79753	FZD6	TGTCCTAAAGGGTTAGTAGACA
79754	MYO1B	TTTACAAGGGTTCATTTTGGA
79755	BMP1	CACAGGTCCCTGAGCCTTGGGGAGTCC
79756	SAT	CTGTTCAAGTACAGGGGCCTG
79757	MNT	GCTGCTGCTTCTGCTCCAGCCCCTT
79758	CHRM5	TTTATTCCTTCTTGTGGGTT
79759	ENTPD6	GTCTGCATAAACCCTCCTGTCCTGG
79760	CHST6	CTCCTCCTCTGGGCACAGGGTGTGCG
79761	GPR63	TCTTTCTCATAGCCTCTCCACT
79762	KPNA4	GTGATCATAACTCTTTGTTGAA
79763	SLC9A6	GTGAACAAACTATATTCCT
79764	ITSN2	GTGTCCACCGTGGAGTGGTTTGGTG

79765	JRK	GAGGATTTGGCTCGCTGTGGTTT
79766	FBXL7	CAGACTTCCAGGTGTTTAAATTCT
79767	BRPF1	CTCTCCTCCCCTTTGCTCACT
79768	PTPRS	GGACCCTCCCCTGCTCCA
79769	GALNT7	TGCCTCTTTCATTTCTCAGTATATAT
79770	GNGT2	AGAGGTGGGAAGGGAAGGAGGAG
79771	C5R1	TGTGGTGAGCCATGATCGCACC
79772	LRRC2	CTGAGATCCCACCATTGCACTC
79773	LANGERIN	GCTGTGTTTGCAGTGCAAATAGCTCTG
79774	GAS7	GCCCTTGTCTCTGAGGCTGAAG
79775	ARNT2	TCCTCGCTCACACCTTGTTTGAACT
79776	GNAS	TCAGCACTGCCAGTGGAGAT
79777	PDC	CTTGACAAAAATGACTG
79778	ICMT	CCTTCACTGCACTTTCTTCCTGCCTT
79779	ADRB3	CCCAGCCTTGAACTTCACT
79780	EVX1	AGACCCAGGGAGCCGGGGTTA
79781	SIP	AAGATGGTTTTATTAGTACCCTGG
79782	BAP1	CTACCTGACTATGCTTTCTCTCCTAGGAG
79783	TNFRSF1B	GCCAGCCTGGCTTCTGGAGCCCTTGG
79784	MIPOL1	ATTGCCCAGACTGGTCTCGAA
79785	DMXL1	TGTAATAAAATATGGGCAACG
79786	CDH1	AGACTTTTGTTGAAATAGCTT
79787	TPD52L2	TTTTATCTCAAAATGCCGAACGAGA
79788	BMP7	TTCTGGATCCTCCATTGCTCG
79789	P53AIP1	CCCTCCTCCTCCTCGGAATCCTGGGT
79790	FACL4	TTCCATGAATGTTCCTGCCTCCT
79791	EDN3	TGGGATTTTGGCAGAGAAATTTTCAGCTG
79792	CYP8B1	CTCCTCCCCTCTCCTACTGTC
79793	CHST6	GGAGAGAAGGCTGGGGAGGGCTGG
79794	ATF5	GCAGTGCGGGAAGATGAGCAGGCCAG
79795	ADD1	CCGGTGGCTGAAGAGGCTGCCCCCTCAG
79796	HIVEP3	GCTGGCAGAGGGAAAGG
79797	JAM3	ATGCCAGTCAGCTCCTGGGGTT
79798	KIF3B	GCTTTTCCTGTCTGACTCTGA
79799	TNFRSF1B	CACCTCAGGCCAGGTGCAGTGG
79800	VHL	CCAACATGGTGAAACCCTATCT
79801	AICDA	CCAACATGGCAAAACCCCGTCT
79802	CTSS	CTAACATGGTGAAACCCCATCT
79802	PCDH11Y	CTAACATGGTGAAACCCCATCT
79803	SLC26A4	CTAACATGGTAAAACCCCGTCT
79804	TAF6	TCCACTGATCTGAGGAGATCCTGT
79805	MSI1	GGGGTGAGGGGCTCC
79806	FBXO7	TGCCCGCCTCCAGCTCTCGGG
79807	RIG	CTTTTTCTGGCTGAAAGGATTTT
79808	RAB23	GACGAAAGCTTTCTTCCTGGTT
79809	GPT	AGGCCAGCTGCGGTGAAGAGGGTG
79810	ZNF202	ATTGACTTTTTAATTTTCTTATTTG
79811	GCDH	CCCATCTGGGGGTAGTGCCTTA
79812	FCAR	AGCTCCTCGAGTAGCTGGGACC
79813	PIGN	TTAGTTACACTGGATATGCTGCTGTT

79814	BCL2	TGTACTCCTCTTTACACTGGCC
79815	NGB	AGGAGAGAGTCTTACCTCCCCTGGCCC
79816	GRM6	TCAGTGAGCTCTGATCTCC
79817	CYBB	GTCTCATATTGGTCATTCCCTG
79818	ALDH1A3	TCACCAGACTGGGGATGCCTATAGG
79819	SLC4A7	GCTGTGGCATCCCATTGTTC
79820	MGAT3	GGACCCAGGGCTCTGTAAGTAGATGC
79821	MUS81	CCTCTTCCCCCGCCCCGCCCTGGGCC
79822	ATP2A2	TTCAGTTATTTTCTGAGTGTGCA
79823	CD4	GGTGTCTGGAAGCATGGAGCATGGG
79824	VPS41	ACTTCAGAGCAGGGCTTCT
79825	CNTN2	GAGGAATTTTGACAGCTGTTGA
79826	ASGR2	CCAGGCCACCACCCCGAACCCCTCCG
79827	CNP	ACTCCAGGAAGGGGCTGG
79828	TBX5	CATCCCTGAAACCTAAATTCAC
79829	SPOCK	CTGCCTAAATCACTTTTCTCGCAG
79830	HDAC1	CCTCAAGTGAGCCAAGAAACACTGCCT
79831	PPP2R2B	TAACCAAAAGTAACAATCCATCAACCT
79832	NR1I2	AGCTGTGTAAGCACCTTA
79833	MAP3K9	CTGGCTTGGTTCGAGATAGGAGCTTTTCTGTG
79834	GOT2	TCCAACTTTTCTCAAAGAGTTTACA
79835	TLL2	TGCCTAAAATTTTATTTTT
79836	ADORA3	TTACATCCTTGATTACTTCC
79837	NOTCH2	CTCCTCTATCGGGACCCCCTCCCCAT
79838	LOXL2	TGTCTTCAGGCCACACCACATCTTCCA
79839	PTPRG	CTTATTCAACAAGTTTACCTCCCT
79840	STS	TTCAACCTCAGTATCTGAT
79841	C7	TCTGTGGATACAGTCCCAGA
79842	NEK2	CTATTGTACAAAATGTTCACA
79843	FGF2	GATAGAAGAATCTTACAGATGCTGCT
79844	PSMD7	TACAAACTAAATCAGTGTGCTGCTA
79845	CLTCL1	ACTGTGGGCCCTCCTGCTGGAG
79846	HIF1A	CGTCTGAGGGGACAGGAGGATC
79847	BTC	GCAACAACAGAAGGGAAATTTC
79848	EIF4E	TGCTGTATTTTAACACTTTGTATTAC
79849	POLS	ATCGTGTCGCAGGAGAGCACAGCCCAGCGTT
79850	PDCL	GGTCTTGGAAATTGTCTTCAGA
79851	CCND2	GCTCTCAGCCACCTGTTACTA
79852	H1F0	GAGAGGGAACCCAGGAATTGT
79853	KIF3C	CTGCTCCTGCCTGCTTC
79854	ENO1	CCACAGGCTAGATCCCCGGTGGTTT
79855	EIF2AK3	AGGCCAGCCTGGGAACATGGA
79856	TNFSF7	AGTTTCCTTCCTTCCTTCTCGGCAG
79857	MLH3	AGCAGCAGCAGCAGGTACCAGC
79858	HNF4G	TCATTCTATTTGTTATTGCTA
79859	FBLN1	TGCCAGGTTTGCACCAGCCTCGAGTC
79860	ADRBK2	TCAGCTCCCTGCCTTGTCACAT
79861	DAPP1	TCAGAAGCAGATGCTGA
79862	ROBO1	CACTACTGCGCTTCTGCCTCG
79863	CDH12	AAGCTGGAACCCAGGAGCAGT

79864	ATP1A2	AAATGCCACACTTGTGTGCCAC
79865	MAP3K13	ACCCCCTAGAAATGAGCTGCA
79866	ATF5	CCTTCATTCCAAACCCCTCTC
79867	PRDX3	CTGAAATTGAGTTTATGTAGTCA
79868	GPR85	AGAAGATTTTTATTTTTTGT
79869	SYNGR1	GTGGGCTCTTCACTGAGCCAT
79870	GPC5	TGCATCTTTGGTATTGTGCCTCT
79871	TRIM9	ATATTTGATTTACTCTCCAATG
79872	LRRC2	TTGGGAGGCCGAGATGGGTGAA
79873	MRC1	CTTGTTTTCTAGCCTGGCAA
79874	OSR1	CTTTATGCTGACCATCGGTAACG
79875	EFNA1	GTGTATGCCACACCTGGCCTT
79876	FLT1	TAAGAAAAACTTTGAAATG
79877	NFE2L1	AGGAAGAGGCAGGCACTGGCTGGCTC
79878	DDX6	GGCAAAGCGTGTCCCATAGAAAATTGG
79879	CASP10	TACAGGTGTGTGTCCATGCACAGCTAACTTT
79880	PRKY	ACTGGGGCCAGGCTCACACCT
79881	GM2A	CCCATTGATACAAGGCTGCTGAGGCC
79882	F8	GGATGCAATTGTTGAAAGCTTT
79883	FGR	GTACCTCCCTCACTTCTCTCCTATCA
79884	SMAC	GTGTTCTCTGATCTGCCCCCA
79885	IL17BR	AGCCTCCACCGTGCTGAGGTCAGGAG
79886	A1BG	TGGGCAGGTTGCTTGAGGCTCCA
79887	SLN	GGGAGGGAGAAGGAGTTGGAGC
79888	ABCC12	CTTGCAGAGAAGCCAGATTCTG
79889	NUP98	GCCTGTGAGCCCCAGGCACTTTG
79890	GTF2F1	ACCACGCCACTGCACTCCAGCCT
79891	AICDA	GAAAGAGAACAATATTTGGGA
79892	IL10RA	CCTGTTCTGTTGACTGGGGCCCTGCAG
79893	NFE2L1	GGGACTGCTGTGAGGCAGAGGAA
79894	CHRNA4	GGCAGGAGACACTGGTCTCAGAGGAGG
79895	FUT6	GCAGTGAGCCAAGATCGCGCC
79895	MCM4	GCAGTGAGCCAAGATCGCGCC
79895	SCAP2	GCAGTGAGCCAAGATCGCGCC
79896	AGL	ACATTACAGAGCAGACAGCTCTATGATGT
79897	NOX1	AAGGCTTGATAGCAGAGGTTTGGTG
79898	PPP2R1B	TGCTTTATCCATCACCACCTG
79899	RFNG	AGGTGCCACGGCCACACCAGTGAGATG
79900	SECTM1	TCAAACCCACAGACCCGGAC
79901	TSN	GGTTGCCAGGAAGGGGTGAGCACAGA
79902	DGAT1	TCTCACTGCCACCTCAAACCC
79903	SIGLEC6	AGGGCTGCCACAGCAATGTACCAC
79904	ADRA1A	CCAGGTAGCTGGAGACCTAGGC
79905	NOS2A	ATCGCACCACTGTGTATTTAACTGCCT
79906	KCNK4	TCCCACTCGCCTTCCTTTCCCT
79907	FUT1	AACTTCCGCCTCCTGTGTTCA
79908	TARBP2	AGCGTGCCCCGCGGCGGGCC
79909	GPRK7	GTGCACATCTATAATCCCAGTT
79910	PRKY	TGCCCCCAGCAGTACAGTCCTT
79911	IL12RB1	ACCACACCTGGTTAATTTTTTAT

79912	HOXD3	CAGACATTGGAGGTGGCAGTG
79913	PLSCR1	CTGCTTTGAATTATGATCTCTGATTC
79914	COX7A2L	GAGTTTGAGTTAGTCACCTCGGGGATT
79915	XKRY	CAGCTCCACTTCCAGAATTTACTTGA
79916	REN	TTCTGCCTTTTCTTTTCTTT
79917	MPP6	GGCTGAGGGAGAGCAGCGGCGGC
79918	APM1	GCCTCCCGAGTAGCTGAGACTT
79919	ATP7B	TGGATATGTCCAGTCATCCTGCCC
79920	CACNA2D2	CACATCTCACCTCCGAACTGT
79921	CPLX2	TGCCAGGAAGCAAAGGTTGTCACATC
79922	IL17B	TGAAAAGTAAACACTGACTTTTG
79923	C1orf1	AGTTTGATGGAGAGAGAGGCAGA
79924	UCHL1	CAGCTGTCCACTGGGCCATTGTG
79925	KCNA3	CCCCAACAACTATCAAAGTCT
79926	MLC1	TACCCACTTCCCTGCAAGGTGCACCTG
79927	SCNN1G	CCTCTGCCCCACTCTGGGCTTTTCA
79928	SLC1A4	TTCACCCAGCCGCCAGTCATGGA
79929	AIPL1	TGAGCCAAGATCACGTCATTGCACTC
79930	EPHB6	GCTGCGTTCGCTCCAGCCGCGGCTCTACAG
79931	LPP	TCATCTGGTTGAATGGCTTTTCT
79932	TNFRSF10C	TCTCATCAGTCCCTCTCCTGGAGCT
79933	CISH	CTGGGAGGATGACATGCAGAGGAA
79934	HDAC4	GCGTCCCAGGGCTCTGGTTCTGG
79935	FSTL3	CCTGCAGGACAGGCCTGGGCCTG
79936	PRODH	CCTGCCTGGGACAGCCACTGGAAACTT
79937	TMOD3	GCTAAAATCAATTTTAATTTAG
79938	CR1	TCTGTCTCCCAGGCTGGAGTGCAGT
79938	XRCC2	TCTGTCTCCCAGGCTGGAGTGCAGT
79939	KLK3	TGGGACTCTGAGAACTCCTC
79940	EGR4	ACAGGCTGGGGCAGGCCAAGGCGGTC
79941	ATP11B	GGGGCAGTAGTACTTTGTGGGAGCCAG
79942	CD28	GGACCAGCCTGGTCAAGATGGT
79943	CNTN2	TGGGGTGGGAGCCAAAAAGAGTTGA
79944	MEIS1	GCCCGGGGTGGTCCAATGGGTG
79945	MCCC1	AGTTAAGTAGTGTCTTCTCTCTCCA
79946	BACE	TCTTCCTGGTCATAGGCTCACTCTTTC
79947	PPAT	CAAAGAGACAACCACTTTGG
79948	NRCAM	TTCTCTCTCAGCATTCT
79949	HAP1	TATTGCTTGTCAGCCTGTGT
79950	WHSC1	ACTGGGTGGGGTGGAAGGCGACTCAC
79951	CSNK2A1	CCACAGCTCTATCAAGGCTTG
79952	ALDH3B1	CATGCCTGTAATCCCAGCTACTC
79952	CARKL	CATGCCTGTAATCCCAGCTACTC
79952	CRYZL1	CATGCCTGTAATCCCAGCTACTC
79952	RPN1	CATGCCTGTAATCCCAGCTACTC
79952	VPS41	CATGCCTGTAATCCCAGCTACTC
79953	ZNF264	TGTTGCTCAGGCTGGTCTCAA
79954	BTG4	AGACCTCCTTATCTATTTTTCT
79955	RERE	TCCTGGACTGGACTGAACATCCAGAAA
79956	KCNMB1	CTCTTCCAGTCCAATCCACGCTGT

79957	PA2G4	TCAGGGGAAACGAGGCTGCAGT
79958	HOXC9	TCATCCCTCCCCGGGCCTGG
79959	KMO	GCCATTCTTCATTCCTACAAAGGACG
79960	NRF1	CCAGTGGCCACACAGAACTCTCCC
79961	STX1A	ACTGCCACTCCACTCCAGGTGG
79962	FGF7	TCTTTCACCACATATTCTTGCCA
79963	SRP46	TGAAAAATTGTAAATCTGATC
79964	BAZ2A	CTGCCTCTTGGGTTTCAGTGAT
79965	GNAS	CCCTCATTTCACCTGCGCTGTGGACAC
79966	HIVEP1	AACACTTAAAGGTTTCTTTGAA
79967	OSM	GGCCTCCTATGCCTCATCATGTCC
79968	CD4	TCACCCTATGTGGGTGGGGCCA
79969	RNASE4	GCAAAGCAGGATTCAAAAGAAC
79970	GRB10	CCTGTTGACTTTGTATCTCTGCCTGTG
79971	CRI1	AACAGTTATTCTATCAACTTTTAAAG
79972	SYN2	CGTGCTTGTAATGCTCA
79973	PPP1R12B	ACAAACCCAGAGTCCACACAAC
79974	ZNF146	TCCTTATGGTATTAACCCCCT
79975	ARCN1	GTGGAATTGCTTGCCAAAG
79976	PRPF31	GCTAGAGCAGGTCTTCATCATGCCT
79977	NINJ1	CTGCCAGAGCCCAGGCTGG
79978	ADAT1	CCTGCTCTGTGCCTCAGACTTGGCT
79979	PTCH	GAAATCTTAACAGAAAGGTAAT
79980	KCNN4	CATGGTCACCCCCACTCTGCATACCC
79981	CIT	GCTTTTTCTTCATTACCTTTTTT
79982	BCL11B	CTCTAGCATGGGTGACCCAGCCGACCT
79983	IL6	AGCCCAGCTATGAACTCCTTCTCCAC
79984	TAL1	CTAGCCCTCTCCCTCTAGGCT
79985	SERPINB3	TGACCTGTTTTAAATGAACCAAACCAA
79985	SERPINB4	TGACCTGTTTTAAATGAACCAAACCAA
79986	SH3BP2	TTGCCCAGACTGGAGAGCAGTGGCCA
79987	OPN1LW	AATGTAATTTATCTTTGCCA
79988	S100A1	GCCTCTTCCCCCTGCTTCCACCTCA
79989	YES1	AGATACTGATGACAGTGTGGG
79990	EPB41	GATTATTCTAAATCACCAGAA
79991	SORBS1	ATTATTTTTATTGGAGGAGGAAGCATCAT
79992	PTPN7	AGAAGCCACTCCAGCCACTCC
79993	EXTL1	GGGCAGCTCGGGGGCTGAAAGCTGGGAA
79994	NKTR	TCATTTTCTTGAATCAAGAAATCGTG
79995	LSS	TGCATGGATGTAGGGCTTGGGGTGGGAA
79996	LSP1	GGAGGTTGAGGCACAGCCTGTG
79997	SHOX	CAGGCTGGAGTATAATGGCATGTCTCGAC
79998	ZNF36	GCTCCTGGAGGGAAAAAGAA
79999	MEIS1	GACTGGAAAAATGAACTG
80000	ATP2A3	GCCGCCGCGCTGTCTGCACAGCTGGGGGCC
80001	WHSC1	TTTCAAAGCTTCCTCTGGCCA
80002	REGL	TTTAGTATCTTTACCTACCTCA
80003	OAS3	GCTCACACACTCCCCTGCCTCC
80004	PTGIS	AGACTAGATTCTCACCTGCCT
80005	TPI1	TCTCCCATGGTGCCCGTGCCTCT

80006	FABP2	TGCAATCTTCCTGCCTCAGGCTTCTG
80007	PSCD4	TCTACTCCCTTCCCCTCTCTGGTCCTCAGCTT
80008	SLC2A3	CGGGACGCAGGGGTTGCAGTGA
80009	CNGB3	TTGCAATTTATGCTTTTCG
80010	CRYZL1	TGGGAGGCAGAGGTTTCAGTGA
80010	PLA2G2D	TGGGAGGCAGAGGTTTCAGTGA
80011	LU	CTGTCCCTGGACCTGGAGCTGC
80012	PIGA	TTGGGAGCTTTAGAACACAAGG
80013	CPB2	CTCAACAAAAGGAAGGGTGG
80014	GRLF1	AGCCCAAATGGGCACTTGCAT
80015	PRKY	CATGCCTGTAATCCCAGTTAGT
80016	GRIK1	CCCCGAGAGAGCTCAGCCTTGC
80017	DVL3	TCCCAAAATGGAGTCATTCATCCTG
80018	RFXAP	AAATGTTCTGCAGTGTCAGGGGTAGTC
80019	ODF2	CTCTCACTCCCAAGTTTCTTTGAG
80020	WSX1	CTGAGTTCTTGACAACAGAATGT
80021	LUZP1	GGGCACAGTGAGGGGGAGCCAG
80022	GPR4	GGCACTGTGCTGGGTGGGGCTGGGG
80023	HFE	GTATCTATGCATTTTCTGGACC
80024	ASTN	CCCAGCCAACAGGAAGCCCAGCCTTTCA
80025	GRM4	CAGCCCTGTCTTTCTGTTCTCT
80026	SFPQ	TACCTTGTGCCACTGAATTTCCAA
80027	PPP2R2C	CTGTGGACACCCCAAATAGGAAG
80028	CDH12	GGGTCTCACCTTCCGCGCAAGGCTGAG
80029	CREM	TTGTTCCAGGATGTGGAATGCAGC
80030	LCT	AAATGGAAATATCTCCATCT
80031	ANKH	CTGGGAGGCAGAGGTTGTAGTG
80032	HSPA5	CCGGGAGGCAGAGGTTGCAGTG
80032	SUDD	CCGGGAGGCAGAGGTTGCAGTG
80032	TNFSF10	CCGGGAGGCAGAGGTTGCAGTG
80033	MOG	CCAACCCAAACCTGGAGATGGGGAGAA
80034	CYP1A2	GGGATTACAAGCATGAGTCACT
80035	PTPN18	CCTGCCTGTTGCCTCTTGTG
80036	CHRNA3	TAAACAACAGAAACTTC
80037	FGF14	CCGTGGCTGAAGAGCAGCAGGAAGTAA
80038	PCSK2	TCTAAAAATAAACCAAAGGACA
80039	XPO1	AGCATTTTCCTTCTAGTCTATTTCA
80040	VENTX2	CCTGGACTGAAGCTGTCCCGCAG
80041	CYP8B1	TCCCTGCTCTCTCTGCTCAGAACACTACCA
80042	MAPRE1	TCTGCTCCCCTTGCCCACTGGGACTC
80043	POLR2A	GCCCGTGCTGCCGTGCAGTTCTTGCCT
80044	CASP10	GCCTGTAATCCCAGTACTCTGG
80045	CBFA2T3	GTCGGGATATTTGGGTGCAGAGGGT
80046	SCML2	TGTGCCCAGGCTGGAGTGCAAT
80047	MYCL2	GTCGCCCAGGCTGGAGGTTAAT
80048	AP1G1	ATGGTCACCTTCTAAAAGATATA
80049	BARHL1	TACGCTCCAGGTGGAGAACAGC
80050	ID4	TGATCCCGGGCTAGGGGAG
80051	FCGR2B	CCTGCTGTCTTCAGCTCTTCTTGACAT
80052	CXCL6	GCAAAGTTTTGAAAATATATTTGA

80053	ITGAL	CCTGTGCAGTGGCCCCCACAGAAAGAC
80054	FZD4	GCAGGTTGCAGCTTGGA
80055	BENE	CACCACACTTTGTTTGGACAT
80056	GATA2	GGGAGGGTGAGCTGGTGCCTGCTTTGAC
80057	PACE4	GCCCCCAGAGGCTCAGCACTTTGG
80058	BRCA1	TACCACGGCACTCCAGCCTGGG
80059	CNGB3	AACAAGTTTTACTAAAGGATGG
80060	CD209	CTTCCTCTGCTTGGTGAATTGTGCC
80061	TAC1	ACTCCTGACAGTCTTGTGCTTTTC
80062	LSS	TTGTGAGCTCGCCTGCATATGCAG
80063	ARF1	ACTCCTATGCAATATTACTCAGC
80064	ZNF3	GCCACACACCCATTTTCCTCAC
80065	SLC21A2	GTCAGCAAAGCAAGTGATG
80066	SLC24A1	GGCTTCATGGAGAAATCTTCTCTGA
80067	ACAA1	GTCACCCAGGCCACAAGGCC
80068	RAP1B	TCAGGCTTCTGCAGCTGTAGA
80069	LGTN	GCTGCTGCGCCCTCGCTTTCTT
80070	PCDH9	CTTTGTAAATAGCAGTTCACATT
80071	RPH3AL	CAGGCTGGGGTGCAGTGGCACG
80072	SCD	GAGGAGAAGGGGGTCTCTGTTA
80073	FBLN5	ATTTTTAAAAAATATGTCGTA
80074	BUB3	CAATCTTATTAGGGTGCAGAAGGAA
80075	CSNK1D	TGCTAAAAATTATTGGCTT
80076	CA3	CCACACTGAGCAATGAATGTGAG
80077	NCALD	AGCTGGAGTGAGGAGTAGAGGT
80078	EVC	CACTGCCCCGTGTCCATGGGGT
80079	DLST	GCTCATTCATATTCCTGCCTTT
80080	ALPL	GGGCTCCAGGGATAAAGCAGGTC
80081	SLC6A6	CTTCTTGCCAGCAATAGATCTCA
80082	AXL	CTGTGTCACCCAGGCTGGAGTGC
80083	EN2	GGGGGGCATGGAGGCCAGGTCTCAGT
80084	SPTAN1	TCGGTCCTTCAGCACCCCTCG
80085	DYSF	CCTCCGCCCAGCTCGGCGAGC
80086	LTB4R	AGGTAGTGCCAATCTCCTTGCCC
80087	VIP	AACTCATAAAAAGCCTGCAATTTCAT
80088	SCA7	TTATATTGGCATCTCTTTCCAAAAG
80089	KCNJ4	CCGGATCCACCACCCTTCCCCCAC
80090	PPP2R5A	GATGGGGGGAATTACCTGCCC
80091	COL18A1	ACAGGCTGGCTCCAGATGCAGGGCAG
80092	MEF2A	GCACAGACAAGTCTGGCACTTCCTT
80093	STK11	GCCCAAATTTGGCAATAAATA
80094	GNRHR	CTAGATGAGTCAGAACTTAG
80095	ARHGEF12	CATATAATTCATCCATTTAAAGTG
80096	GAS7	CCCCACCCTCTCTCCTGGGCCACTGAG
80097	ZNF261	CCCAAGGCAAAAACTACCTTCTGAC
80098	XRCC4	AGGTATTAAGAAATGGAGAGAA
80099	MTL5	AATCTCTAGAGAACTACTGAAC
80100	SLA2	AGAGCATGCGTCTCAGCAGAGC
80101	AQP1	CCCCAAGATCTGCCAGACCTGCA
80102	HYAL1	ACAAGTCATGGTCACAGTA

80103	NR1D1	GGCTGAGATTGGCAGAGTGAA
80104	CLCA3	TAAGCTCATAAAAATAATTGATGATA
80105	PTEN	GTTGGTCTCTCCCCTTCTACTGCC
80106	SYNGR1	GCCGTGGAGAGACACTGCCCCCAGGA
80107	MEFV	CCGAAGTAGCTGGGATTACAGG
80108	SHMT1	CCTCCTCCCTCCATCCTGGGAAGTC
80109	SCA1	CAGAAGCAGCCGGGGGCGCTGA
80110	P2RY12	GATGCCACTCTGCAGGTT
80111	FEZ1	GACTAATTTTTGTATTTTGAGT
80112	SLC7A6	GCAAAGGCTGACTTGCCTGAA
80113	LMNB1	GAGGGAGGGGAAAAGC
80114	GPR24	GCACACGAGACAATCCCAAGT
80115	PPP1R12B	GGTTACAGAGAGCCTCCTCAGAT
80116	PRKCB1	AGCTAAGTAGACCCAATGGGGA
80117	TRPM8	CCAACATGGCAAAACCACATCT
80118	PRKY	CCGCTCCGTGGACTGGAAAGCTGTTC
80119	MDM2	GCTCTGTTACCCAGGCTGGAGTGCAGT
80119	NQO1	GCTCTGTTACCCAGGCTGGAGTGCAGT
80120	LGTN	CTGCGCCCTCGCTTTCTTGACA
80121	POLR2A	GCTAAAGCTGCCTTTTGTCT
80122	VPS41	GTTAGCTCTTCTCATTGTGAAGG
80123	DYRK1A	TTACAACATCTGTTACATTCTA
80124	DNASE2	ACCAGCCTGGGCTACATAGTGA
80125	MYOZ1	GGACCCCAGGGAGAGCTGACCACTGC
80126	MASP1	TTACCTACCTCGTAAAAGTCTGA
80127	MCM5	CCTCCTGCCGCTGCCTGCCATT
80128	PRKCSH	CCCCACCTTGGTGACTCGCCCCA
80129	TACC1	CATCTGCTTCCACTGTGTTCC
80130	CRTAP	CAGAGCCTTCTCTTTACTCTCC
80131	GPC1	TCCCTGCACCGCCGCAGAAGCAGCC
80132	ARCN1	GTTGCCCAGGCTGGTCGCGAA
80133	WHSC1	GTGATCATTACTCTGCTCTT
80134	SOCS5	GAGTTAATGAACAGTCTAATATTGACTTA
80135	PDGFRA	AGGTACTGGTACTATAGCATTTTGCT
80136	BHMT2	CCAGGAGGCGGAGCTTGCAGTG
80136	SMG1	CCAGGAGGCGGAGCTTGCAGTG
80136	UBE2G2	CCAGGAGGCGGAGCTTGCAGTG
80137	ARHGEF7	TAGATGTTTTCTTGCTGTTCCTT
80138	ZNF155	TTTCTAAATGACACATACTGTTCA
80139	ISLR	CCAATGCCCCTTTAAGTGCTGC
80140	MAPK14	GTGCCTTAAAAGGAGAGAAGA
80141	KIF13A	AGGCTCACTTCCTGCACAGCTGTC
80142	JMJ	TCTCCACCAGCACATCACTATGCATCT
80143	PAH	CCTCCCCTCCGGCCCGTCCTGGGCAGGTGA
80144	ACADL	CCATCATTTTTAATTTCAAGATATTG
80145	CD209	GGCTCACTGCAACCTCTGCCTC
80145	EIF5A2	GGCTCACTGCAACCTCTGCCTC
80145	FZD4	GGCTCACTGCAACCTCTGCCTC
80145	GPR81	GGCTCACTGCAACCTCTGCCTC
80145	MPL	GGCTCACTGCAACCTCTGCCTC

80145	MYCL2	GGCTCACTGCAACCTCTGCCTC
80145	NQO1	GGCTCACTGCAACCTCTGCCTC
80145	PCDHB16	GGCTCACTGCAACCTCTGCCTC
80145	PER2	GGCTCACTGCAACCTCTGCCTC
80145	SIGLEC8	GGCTCACTGCAACCTCTGCCTC
80145	SMAC	GGCTCACTGCAACCTCTGCCTC
80145	TPMT	GGCTCACTGCAACCTCTGCCTC
80145	TRPV1	GGCTCACTGCAACCTCTGCCTC
80145	VHL	GGCTCACTGCAACCTCTGCCTC
80146	ENDOGL1	CAGGCACACACCATCACCCTCA
80147	TNFRSF11A	GCCTCTAACTCCTGGGCTCAAGCAATC
80148	SMG1	TTAATTGTTGGCTGGGCACAG
80149	RAB26	CTCCACCTTGCACTCAACTTG
80150	PACE4	GCTCAGCATGCATCCTTTGCACTGTCGATA
80151	HTR1D	ACCAGTGTGAAGCAGAAGGATGA
80152	SMCY	CTTTTCTCCCCTTGGGTC
80153	IL12RB1	GAACTCCTGGGCTCAAGTGATC
80153	SMAC	GAACTCCTGGGCTCAAGTGATC
80154	CALCB	TAATTGCCCCTGCACCTTTGTCAA
80155	TFF3	CTGCCAGGCACTGTTCATCTCA
80156	SLC6A3	TCAATAACAACAGTTTTTATGTT
80157	CORO2B	TGGAAATCAAGAAATGGGTGT
80158	DUOX2	TCCATACTCAGCTCTTTAACTTTTC
80159	EZH1	CCCTTCTTTCTGGGACTCAGAG
80160	GJA1	GGGAGGGGATAAGAGAGGTGCATGTTGG
80161	EHD1	TGTGTGCCAGCCCTGTGTGCA
80162	CENTD2	CCTCACTCTCTTGCCATACGG
80163	PLA2G2D	TGCCTCCAGGCATTGGCTCAGGGTG
80164	UGDH	CTGTCTGCTTTTTTCTTATGTC
80165	SCA1	AAATGGTTCAACTGTATTA
80166	FBXL7	CCTTGGCATAGAGCACCCAGGCATCGA
80167	AQP6	GGGAGAGATGGAAGAGGACCGG
80168	TNF	CCTGGCCTCTGTGCCTTCTTTTGAT
80169	RAD9	TTCTCATTGAGCCTCAGGCTATACTCC
80170	CALB1	TTTCATGTGTTGCAAATTATT
80171	PLSCR1	TATTTTCATATTCACAAGA
80172	NOG	CCAACTTGTGTGCCTTTCTTCCGCCCC
80173	TXNIP	CCAGAAAGTGTGGGCTGAA
80174	TOP3B	CACCCAGGCTGCAGTGCCAT
80175	SLC6A3	GCAGAAGGTGAAATGGAGGAAACCAC
80176	FKBP1A	TGGAGGGATCTGGTGCCTCCAG
80177	MXI1	AAACACCTCACACCTCACTCTT
80178	HHEX	TCTTATACTGCTGTCTCAAATCC
80179	NONO	ATTCCTGAAGTCTCTAATGTGA
80180	TMSB4Y	TGGCTGGCAGGGAAGGAAAATAGCT
80181	REN	TCTCCTGCACCTGACTGGAGCT
80182	RPL10	TCTACTTCCTGTCCACCTATGTCTT
80183	DLEC1	GGCTGGTGGAGCTGCTGGTGTT
80184	NCOA6IP	TCACTGCAGGTTCAGCCTTCTG
80185	CDH1	GGCCAGGCTGGAGTGCAGTG

80186	PTGIR	GGGAAGAGAGTGAGGGACAG
80187	SLC2A2	GAGTACTAGAATTTGTATTTTGCTTAA
80188	CLCN1	GCTTAAGGAGCTACACTGG
80189	ARHGEF6	CCAGGAGGTCAAGGCTGCA
80190	PCDHB11	GTCACCCAGACTAGAGGTCAGT
80191	CDC34	TCCCTGCTTTGGTTTGTTTGA
80192	PSME3	TTTCCTCTGTGGGGCATTGGA
80193	CTLA4	ATTGCGTGGAATTGTGCTGAG
80194	EZH1	TCCCCAGGCTGTGGCCTCAGG
80195	ART3	CCAGAAGAGAAAAATGAAGACGGG
80196	MAPK3	TCTCTCCTTTGCTGAGGCC
80197	ITPKB	CTTGGAGGTGGTGTTTGCACTG
80198	MOCS1	CTTAGCCCAGGTTCCTGGGC
80199	NEURL	CTTCAGCCCAGTCCCAGC
80200	RET	TACTCATAAAGGGACAGGCTAG
80201	SNAP23	AGGCTGGAGTGCAATAGCGCGAT
80202	FS	AGCCCCCAGCAATGCATCGCC
80203	AP3B2	CTCATCATCCTCCTCATGCCA
80204	CCNDBP1	ATATGCGTATATTTTTCTGTGC
80205	MTR	CCCCAGTGTGGTCAAGCAGCCATGCT
80206	CD209	AGCCTCACGAGTAGCTGGAATT
80207	KCNJ15	CTCTGGGATCTTCAGCTGAGATT
80208	PCMT1	TCTTTCTTCTTCCA
80209	ADH1B	TCCTTCTTAACCATTCTACTGT
80210	CARKL	TGGAAGCTCTAAGATGAGAGC
80211	MAP1B	AAAGAGTCTTAATTTTCTAAAAC
80212	CXCL16	AAAGTGCTGGGATTAAAGGTGT
80213	MEN1	GGAGCATCCCGGAGGAAATCTGC
80214	KCNK6	CCCTTAACCATGACACCATTGTAAGAG
80215	LFNG	CCTCCCCAGGACAGGGTGAGTCAGA
80216	B7H2	TCCATGAGACGCCACCGTGAGA
80217	ATRN	ATTTAGCATCTATTACACTCATG
80218	TEM7	GCAGGCGGATCACCTGAAGTCA
80219	HNRPDL	GCCAGCCAGCGTCACCCTC
80220	MAT2A	CAACACCATGATTCCTTTAA
80221	OPHN1	ATCCATGTCCCTACAAAGGATA
80222	PPARG	GTGTATTCACAAATTCTGTTACTTCAA
80223	FXYD6	CCTCCATCACCTTCTGCTCCT
80224	LANCL1	CTCATCAGCTTCTACTCTTTCT
80225	SCAMP1	CTTGCAGAAAAAATATTACA
80226	MAP3K9	CACCTTGGAAGAGATTATTGG
80227	GGCX	GGAGGCTGAGGTGGGCAGATCA
80227	GTF2H2	GGAGGCTGAGGTGGGCAGATCA
80227	MTNR1A	GGAGGCTGAGGTGGGCAGATCA
80228	TYROBP	GAGTGCCATCCCTGAGAGACCA
80229	UGT2B15	GCACGCAACATGGCACATGTGT
80230	NGFB	TTTATACAGTTTTAAAGAATCATT
80231	ATP6V0D1	AGGCTCTCAATTGCACTCTTTG
80232	UGT2B15	ACATGTGTATACATATGTAGC
80233	SURF5	TCAAGATTCAGTCCAGCAGA

80234	APOL1	ACCATCCTGGCTAACACAGTGAA
80234	IFIT4	ACCATCCTGGCTAACACAGTGAA
80235	MNT	TGGGGAAAGCAGAACTGAAGCCACTT
80236	FCAR	TGAGATTATAGGCATGAGCCAC
80237	GRAF	AGGCTGGATCTTGTGGAAGAC
80238	ABCB11	TGTGGGTTGCAATTACCATGTCTGACT
80239	JRKL	CCTTCTGTAACAGTGGCATTCC
80240	MTCP1	CTTGGGCCTGGGGGGAGGGA
80241	CRY1	AGCCTCCTTCCTTGAATTTCTCCGTGG
80242	NELL2	ATTTTCAGAAGTAAAGCA
80243	CCND1	CCTTTGGTGCCAACTGGTGTTTGA
80244	FANCC	GCCTGGCTGGGTGCAGTGGCTCA
80245	SERPINE1	CCCTCTTTTTCCCCTTGATGGAAATTGA
80246	PYGO2	AGCCTCTCTCGTGCTTTTCTCCTA
80247	SNRPA	AAGTACACCTTTTCCCCCCATGCCTGC
80248	PPEF2	GTTGCCCAGGCTGGAGTGCATTGGCGC
80249	IL1B	GCACAAGGCACAACAGGCTGCTCTG
80250	D12S2489E	TGCCTCATGGGCAGGGCCACA
80251	PABPN1	ACTGGCTAGTCATGTGACCTC
80252	RASGRP1	ATACATACAGTATTGCTTACC
80253	ADCY6	TCACCCAGTTGGTAGAGGAGTCAGGAG
80254	SLC16A2	GGCAGTCGCCCACTTCTCTCCAG
80255	ATP7A	CCTCAAGCAGTTGAACACAGCCAGTT
80256	DDOST	AGGCTGAGGCAGGAGAAAGGCA
80257	PDE4A	CCATTTTTCTCCAAGCCATGGGGGAC
80258	AP1B1	CACATGGTCAAGACCAGGCAGAA
80259	KRT15	TGCCTCTCCCCACCTTCTTTGGAGCAA
80260	SAS	TAGGCCCTGTAATTTAACCAGTCTT
80261	BHLHB3	GCTGCTGTTGCTACTGTTTGCCTC
80262	ZNF165	AAGATGGCTACAGAACCAAAG
80263	MPL	TCCCTGGACAGAGCTAAACTCTCG
80264	OTOR	CCTGTGCAAATTCCTCTAGTCAAGTGT
80265	NUFIP1	CTGTATGGTTTCTACTTTATG
80266	MYBL2	TGGTGCTAACAACAAAGTTCCA
80267	SLC17A5	AGACCAGCCTGGCCAGCATGGT
80268	CYP4F3	GGTTCATTGCAACCTCCGCCT
80269	SGT	AGCTCACTGCCAGCTGCGGCCT
80270	ITCH	TTCATTTGAGAGGGAGAGCTGTG
80271	TFAP2C	TTTGGAATTGAACTCTCTGCCTGTAA
80272	ATP11A	CATTCACTACAAACGTGCAGCCT
80273	DDT	GGGCCTGGAGATAACCAGCTTTGG
80274	RABIF	GCAGCCATTCAAGGAAAACCCAGCC
80275	ATP5J	ACGGAGGCTCACGAGGTACAAG
80276	NPHS1	CAACATGGTAAAACTCCATTTC
80277	C1QB	CCCTTGCCCAGCCAATGGA
80278	RAB7	GCAATCAGTACAAAGCCACAA
80279	PAG	GTTTTTAAAGACTCACCTTTTTA
80280	IL16	GGTGGGGACAGGGATGAGCAT
80281	PCDHA9	TGCCACCCAGGCTGGAGTACAGTG
80282	SRRM1	ATGAAATGTCATGGCTCTGTT

80283	BCL3	CAGAGCTGGTGGACCCAGGGAACAGCCAC
80284	PARG	AATGGTTTGTCTGTCTTTTTTCCT
80285	E4F1	TCCTGGCCGGGCAGGGACAGGGCAG
80286	FOXO1A	TGCCACAGAATTCACATGAG
80287	SLA2	GTGTCGAACTCCTGACCTCAGG
80288	NOL3	TTGCCCAGGAACTTAGGGTGGGTACCT
80289	UMPK	GGCTGCGGAAAGCGGAGGGAGTC
80290	TEAD2	GGATTGTGGGGACAGGAGTGAGAC
80291	CYB561	GAGATTGCACTCCAGCCTGGG
80292	PPID	GGCTCACTGCATCCTCTGCCT
80293	CXCL16	GGTGCAGCTGGCTCGCGCCTCC
80294	FMR2	GCACAGTGACCAAATCTGACA
80295	ZNF264	TATTTGGGGGAAGGGAAATGTT
80296	PRND	AAGAAAGAGAAAGTACTCAGA
80297	CTMP	ACCAGCCTGACCAACACGGAGAAACCC
80298	FGF2	GGAGGCTGAGGTGGGAGGGTTGATCAC
80299	PCDHA9	GGAGGCTGAGGCGAGAGAATCGCTTGA
80300	PEA15	GGGAGGGCTGGCTGCTGGAAGAA
80301	TRPM2	CTCACGCAGCTGGGAACATG
80302	MORC	AAGACTTCGGAAAATTAGTCAG
80303	NFE2L1	GAGGGCTGCCTGGGGGAGGCAGA
80304	B4GALT5	TCGCCTAAGCTGGAGTGTGGTG
80305	PIGA	CTGGGTTGCTCTAAGAACTGAT
80306	EDARADD	GAGCGGAGGTTTACCACAGCCTGA
80307	PER2	GGTGCTTGGAAGAGATGAAAGA
80308	CD209	CGCTCAGGCTGGAGTGCCATG
80309	BMP8	CATTGCACTTCAGCCTGGTGA
80310	MAP3K7IP2	AGAACAACAAGGTTAAGCTTC
80311	TPK1	CTCATTTCTCAACAGTTCATTGCTCA
80312	PLP2	ACCATGCCCCCACCTAAGTCAC
80313	DDX26	TCCATCATTTTACAGTGACCTT
80314	MADH7	TCACTTGTCAGGAGTGTGTGT
80315	COG3	CAGACAGTTCTAAAGCAAGGAGCTGC
80316	FAAH	TTGGCCAGGCAGGATGGGCTGTGT
80317	TNFAIP2	AAAGTGCTGGGATTATAGGCAT
80318	CD83	TAGCCATTGTTGGCTTTCCCTTA
80319	DDX20	GGAGTTCTTTACAAAGGGCTTAGGCT
80320	DNA2L	CCTAACCTAGAGAAAGAGTT
80321	RARA	ACCAGCAAACGCCAGGACTTGG
80322	GRLF1	AGCCCAGTCCCCCTCACTGCTTGAG
80323	SLC18A1	TTTCTGAACCTCTTAGACTCT
80324	DDT	GGGCCTGGAGATAACCAGCTTTGGATT
80325	HIP1	GAGCAAGCCTAGGTACGAAGAGG
80326	FGFR3	CTGGGCCCTGAGTCTGGGCAGCTGTCC
80327	C18orf1	GGTGACAGTGCCTGGAGAATGGG
80328	SH3BP2	TTGCCTAGGGCCTCTGTGATG
80329	CMRF35	GATTCAATGATGCTTTCAAACTTT
80330	NFE2L1	GGCCTGCAGCCTTCCTCTTCTG
80331	CREBL2	GCTTTCTCCCCTCCCGCTAGT
80332	ALK	GCGGGGGCTGGGATTCACG

80333	MEOX2	TGAACAGCCACAGTGCCTGA
80334	COL10A1	CCATTCTTTCAAGGCTTTTCA
80335	TEM7	CTGGGAAAGAACTCCCCCT
80336	MS4A2	GAAAACAGCAATAGTGAATG
80337	AMD1	GCACAGTGTAATATTTCTCCA
80338	CBFA2T2	TCACTGCAGCCTCGACCTCCTG
80339	CYP8B1	GGGATTACAGGCATGAGCCACT
80339	DFFB	GGGATTACAGGCATGAGCCACT
80339	HTR1D	GGGATTACAGGCATGAGCCACT
80339	MEFV	GGGATTACAGGCATGAGCCACT
80339	SH3BP2	GGGATTACAGGCATGAGCCACT
80340	KPNA1	TTTCTGCATTAAAATAAATG
80341	AQP6	TCTGTTACCCAGGCTGGAGTGC
80341	FCGR2A	TCTGTTACCCAGGCTGGAGTGC
80341	MDM2	TCTGTTACCCAGGCTGGAGTGC
80341	NQO1	TCTGTTACCCAGGCTGGAGTGC
80342	SERPINB9	TCTGTCACCCAGGCTGGAGTGT
80343	RELN	TATCAGTTACAGTGGCAGTATTG
80344	PAX5	GGTCATCTGTAGGGCCACCCCAC
80345	MGAT5	GTTGCTGATTCAGTGGGTGTGGG
80346	NUCB1	GGCTCTTCCCTTCTGTCCTCCGAGGG
80347	CA3	CTGCCTCTGTTGTGTT
80348	BMP1	ATCATCCTGAACTTCACGTCCCTGGA
80349	B3GAT1	CCTCTGTGGCTCTCCTCTGGTTCACCTTT
80350	EYA4	TGGGAGATCTTCTCAGCCCTG
80351	GALNT2	ACCTGCTCATTTACACTGAG
80352	MYD88	TTCTGCCCTGCCTCCTCCTTT
80353	USP6	CCTGCTCTCTTCCCTCCAGGCT
80354	HDAC4	GCCTTTCTGCCGCCCAGGCC
80355	VMD2	CTATCTGAATCCAAGACAGCCAC
80356	WHSC1	CTGACATATACTGGGTGGGG
80357	NXF5	GTGGGTATGAACTTCTGCCTTC
80358	BACH1	TGTGGACACTCAGTCACATT
80359	YWHAB	TAGCTGTAGAGTCCATCTGTTT
80360	PPP2R4	CTTGGCTCTGCTGGGTTTCC
80361	COL19A1	TATACTCATGTTAAGTGCAAT
80362	AOX1	TCTGCTATCACCTTCCTCTTGTC
80363	KCNA6	GCAAGTGCCTTCCTGAGCAG
80364	DNA2L	AATTTTTATTTCTACCTCA
80365	ENC1	GAAAATAGGGGTTAAGACTGA
80366	TLR9	AGGTGTGAGGCCCTCATGGG
80367	FBXW1B	CAGAAGCCCGTTTCCTTCCCTCATC
80368	SRGAP1	GTAGAGTGCTGTTGAAAAAATTGCA
80369	DHFR	CTCAGCAGCAGGACGACTT
80370	ABCG2	TTTCTTAAAAAATATTCTTA
80371	ZNF9	GGAAGTGTCTATGAACTTCCATA
80372	CHST5	AGGCTGAGGTGGGAGAATCACT
80373	PRSS15	GGCTTAATCAGAGTGTGGCA
80374	FSTL3	TGTGTACGGAGGGTCTAGCCTGGGTGTGTACG
80375	GRM7	AGAGACACCTGGGCGAACTCAGACGGT

80376	HS3ST4	AGCCCTGTATCTGTCATGGGCACC
80377	ADD1	GGCTCAGAGCTGCTGAGCAGGAA
80378	PIGA	CAGATGTTTACAAGTTTTCTTT
80379	LANCL1	AGCTGTAGACGAACTGTTT
80380	DLST	TTGCCTTGAGCTTTTCAGTTAA
80381	BACE	GGGAAAGGGTGAGGACTTCACA
80382	HAP1	AGCCCAGGGGGCAGGAGAAGC
80383	MADH5	AATTTATTTGAAAATGCATCA
80384	FCRH1	ACTGCAACGCCTGCCTCTCAGG
80385	IGJ	ATCAAAATCTTCCAATTATCATG
80386	CSNK2A1	TGAACACGTAAACAACACAGACTTCA
80387	JPH2	GGATTTTCAGTGTTCCAGGAC
80388	NACA	GTCTCAAAGGAGTAACTGCAGCTT
80389	GAN	AAGTGCTTGATTCCTTCCTAAATTG
80390	COL19A1	TAGTTCCTGGTAACATTTCCTT
80391	KCNJ8	GGAGAGGCAGGTGAGAGGGAGGTGG
80392	HIS1	TGCTTGCTTTCTAGTGCCTT
80393	CA12	GGAGACTGAGGCCCACGCTTGGG
80394	C5R1	CTGAGGTGGGAGAATTGCTCGA
80395	ACE	CTCTGCTCTCCTGCGGCCATGGGCC
80396	NPTX1	GCAGTGTCCAGAACCTTTTTGCCTTTT
80397	ADAMTS3	AGCTAAAAATTCCTTTTTATCAA
80398	IL17BR	AGGGAAGTTTTGGCTGAAGTAGGAG
80399	SRP46	AAGGTGGCCTGTTGCAGTG
80400	SOX15	CCAACCCATGGCGCTACCAGGCTCCTC
80401	MYH6	TAACCAGGGGAAGCACCAAGA
80402	GABRE	CTGCCCCATTCCCCAAACAG
80403	PCSK1	CCTGCGATTTTGCCTGTGT
80404	HOXB5	CTGTCTTTGCGGGGCCTGTCTC
80405	RRM2	TCCATCTCATAAGAAAAATCAG
80406	GNAI1	GTGATTATATGTGTGCTCAA
80407	TK2	TCCTTGTATAAGGAGCTTTGCTCTTGG
80408	HMGA2	GTGCCGCCGCTGCCTGCTCCCGC
80409	FAT	GGAGAGGGCGCGGGAGCGGC
80410	CALB1	AACATACATCTAAGTCAGTTTC
80411	ARHGEF7	TTTCCAAAGGCAGAGCTTA
80412	NHLH1	CCACAGACCTCAGCTGTGTATCC
80413	EZH1	CCAGCATGATCCTGAAATCTGCATCCGCC
80414	NEK6	GCCAGCACCACTTTGCCTTA
80415	MRE11A	GCTTCTATTTTTTACTTGTTTT
80416	DGKI	GAACCCAGGAGGCGGAGCTGG
80417	TJP1	TCTAAATGGAACCACTCTATC
80418	ADCY2	TCTGACTGCAACTTCTGTCCC
80419	EFEMP1	CTGGTCTTCTTCAAGAGAGCTA
80420	ASTN	TCTTCTTTCTGTGACCCTCCTTTTTTG
80421	CNGB3	CAATTGCTATATCTTCTAATTGTA
80422	TEX13A	TGTACTTCCTCTGGCCCTGGCTGA
80422	TEX13B	TGTACTTCCTCTGGCCCTGGCTGA
80423	CARD15	TCTTGCTTTGAGTCTCCGGGA
80424	ADH5	ATTCAGTCATGAACCTGTTTT

80425	NCKAP1	TTAGAAGCAGATCATTTCCCAAAATTCTAA
80426	SYNGR1	GCTCCAGGAGCCCACAGGCTGG
80427	LUZP1	CCAGCCTGGGCAACAAGAGTGA
80428	GORASP1	AGGAGGGAGAGAGAGGCAGT
80429	PLAGL1	GACTAGGCTGTGTATTTCTTTTCAG
80430	SRRM1	ACCACAAAAGTATAAATGAATA
80431	CLK2	GGTATCTGACCTCAGAGGCAGAG
80432	SF3A1	GAGGAAGAAGTAACAAGAGGAACCTGC
80433	JAK2	TAGATTTACAGAACAAAGTTTT
80434	SUFU	GGGATGGGACTGTTACAATACTTC
80435	HD	GAACCCCCTCCAGACACCCA
80436	STMN1	CCCTCCTGGTTGATACTTGTTCCAGAT
80437	MFAP1	ACTGTTCTGACTTTCTTTTTCC
80438	GNLY	GCTCCTTGCAGCCATGCTCCTGGGCA
80439	ADAMTS8	TGCTTCCCGGGGTGGGGAGGA
80440	CAST	TTATTCTTTTCCAGAAAGA
80441	PTPRF	CAGCCCAGAACCACAGATGTGTCTGGG
80442	VIM	CCACCACCCACACCCACCGCGCCCT
80443	EIF2B2	ACAAGGGCACACATCCAGCAC
80444	AVPR1A	CTATTTCTGAACAAAGAGAGCTC
80445	COIL	GCATAGGAAACAATCTACCTCA
80446	IL13RA1	AGCATTTTCCTCTGCTTTGA
80447	BRCA1	GCTTACAAAGTGGCCTTTCCAGG
80448	RARRES3	TGTGTTAGAAGCAGCTGTG
80449	ITPKB	CCTGGCCCCCGCCTGGGCC
80450	HERC2	TGAGCCAGGCAGCAGAGCACTCGCTGC
80451	SPG3A	ATCTTATTTTTAAGCACTTTTT
80452	APBB2	GTCTTCTTGGCTGGACCTGT
80453	MPL	CTGCAACCTCCACCTCCGGGT
80454	MFI2	AATCATTAACAGTGCTGTAAACT
80455	CHD2	GCATGTGTCAGCCACAGCGAATCCCATGTCTT
80456	DFFB	AGGCTGGAGTGCAGTGATGCAATC
80457	GPR45	AGAGGTCCACAGACATCCAGGA
80458	ZNF35	CGGTCATGTTCTCTGAAGTGGA
80459	COG3	GTCACTTCCTTTTCACTCAGTTT
80460	KRTHA5	CAGGTCCCTTTGAAGAACTGACA
80461	VLDLR	TCCACATTCTACTTCAGCTTTGGATG
80462	GNRHR	TTGTACCTGCTTTGGCTGCTG
80463	ZNF256	TCAGAAGCAATGGGGGCAGAGA
80464	HIVEP3	AGACGTTTCCAGCCACTTT
80465	NEO1	TGGCTCCAGGCATGGCCACCTGCCT
80466	AKR1A1	GCTCTGTTTTCCATCCCCT
80467	GATA2	CCACTTGCCAGGGCTCTGGGG
80468	ATP6V1C1	CTGTTACTGCTGCTACTTCCTC
80469	PEA15	CTCTGGCTGTTTGTCTATATGTC
80470	GATA2	GGTGGGGAGGGGCCTTTGCTGCCCTTGGT
80471	RGS2	GAACAGCTTCCCTCACTGTGTACAGAA
80472	IL16	CGAGGACATGAAACTCCACCT
80473	AIPL1	GACACCTCCCTTTCTCCTGCA
80474	UBE2L3	GGCTATTTAAAGCACCAGTCTGGGGTCGCC

80475	CTPS	TAGCGGATGATTCTTCAAGAG
80476	VTN	GGCTTTGTTAATCCTATTTTACTGAA
80477	LIMK1	TCGAGGACTCTCCAAACCCCCAAAGCAG
80478	SH3GL1	CGCAGTGCTCACCCGTGTCCCCGCCCC
80479	BTG2	CATTCCTGCCAGCTCTGCCTCC
80480	SCN4A	AGCACCACCAGGGCTCCAGGAGCCTC
80481	TACR1	CTTCCACCCTCCTGTCTGGCT
80482	PIM1	AAAGCTGTAAATGTGTGTACAGT
80483	DNAJB9	GCGCTGTGCCTTTCTACAGTAGA
80484	GALNT3	CCGTTTTCACACTGCTGTTA
80485	IRAK1	GGGAGGTCGAGGCTGCAGTGAG
80486	M6PR	CTCTGATGCTTCCATCTTCC
80487	PPT2	GCTGCTGCTGCTCCTCCGTATC
80488	ZNF134	TGAAGTGAAGGATGAAGAGTCATCTTC
80489	AQP6	GGCGGTGGCAGTGGAGCTGCTTC
80490	XT3	TAAGGAGTTTTGAAGTGCCTAA
80491	FOXO1A	ACAAAGTCTAAATGAGCACATGTAT
80492	CASR	CTTGGGGTCCCAGGGATGAGGA
80493	JPH2	GTGATGCCCTGTGAAATGGCTTGTCTC
80494	CTBP2	AAGACGGACAGCCCATCGTGTGAAC
80495	CAV1	TTTCAGCAAACTCTTTTCCCACTG
80496	LDB3	CTTCCCTTTTTAGGAAGCCC
80497	TNFSF10	AGATGTTTCAAAAAATCTGACC
80498	TG737	AAATGATGCAAAATGTGCACCTGGCT
80499	WHSC1	AGAACCTCAAAATAATGGTGATA
80500	VCP	CCTGCCTGGACCTTGTTCCCTGGGGGT
80501	PTPRN	CGCTGCGGCTCCGGCCCGGGAGC
80502	HDAC5	GGGCCTGAGCAGGATTGAGGGAGCCAG
80503	GALNT3	CTTAGCCAAAATGATTAGTGTTCC
80504	PRKAG2	TTTGCCTCATGAACACTGGCTGC
80505	SLC29A1	TGCCTCCTGCCCCTTCCTTCTGCCA
80506	TIF1	GTACTGAAGAACAGTACTCCAC
80507	IGF2R	ACGCATCTCAAAACAGAGGGCT
80508	CDH11	CCTACCACGTAACCAAAAAT
80509	DUSP5	TAGCAAGATGTTGGCTTTTCTGGA
80510	DAP	TTCTCAGTCTTCAGCCAGAGGG
80511	ACLY	TGTTCTCTGTATTTATGCAGCT
80512	ITGB3	GGAGTCAGGGAGAGCTGAACTATTAGAGC
80513	MMP2	CTTTCACAACCTTCTGTGGCTCA
80514	NOVA1	CCATCTGAACTAGACAATGGA
80515	IL17R	GCATGTGTATATGTTCGTGTGT
80516	XK	AATATTTATAGAGTTCATAGAA
80517	IL1F5	AATACAGCTGCTAAAATGA
80518	TMEM2	ACTGTAACTTAAGTGCTGGG
80519	CRHR1	ATGCCCTGCCTTGCTGCCTT
80520	TMPRSS4	CACACTTGGTGCTCCCAGCATCC
80521	TOX	GCATTTAAGAATTGAACTAGGGG
80522	XYLB	TTCTGATGGAGATGAAGCCATC
80523	ARHGEF12	ATCATGGCTATCATTAGCCACA
80524	IL1RL1LG	GGGGCAGCAGGGTGTGTGCATATGA

80525	AGPAT2	CTGTCACTGGTCTCAGACACA
80526	CRI1	AATAGTTTTGTGCCATTGAAAA
80527	LHX3	TGTCTGTTGCCAAACAGCCTGCC
80528	AMPD2	CGCCCCCCGCCAGGCCCAGCC
80529	SEL1L	TTCCCTAGAGGCCAAATTCTTTTTA
80530	BHMT2	GCGGGCGGATCACCTGAGGTCA
80530	INPP5B	GCGGGCGGATCACCTGAGGTCA
80531	CPT2	GCGGGTGGATCACTTGAGGTCA
80531	IL10	GCGGGTGGATCACTTGAGGTCA
80531	SUDD	GCGGGTGGATCACTTGAGGTCA
80531	TNFRSF10A	GCGGGTGGATCACTTGAGGTCA
80532	ASB1	TAGTTAAGAGCCTTCAAAAGCA
80533	ELMO2	GCTCTGCCCACTCCATCACC
80534	ANK2	ATGAGTAAGCCATCACACAGA
80535	DDX11	ATCGACACCATCACGGGCATG
80536	TRPC6	GGCTGGAGAGTCTCTGTTGACATAGT
80537	RPS6KA1	GAGACAGTCCAGTGTCACCTCTC
80538	TDGF1	ACTGCAACCTCCGCATCCGGGG
80539	ARNT2	GGAGCTGTGCTGGGCACTGAGGG
80540	POLH	GAGCGAGACTCCATCTCAAACA
80541	CALU	ACTGAATGGGAATTCTCTTAAGA
80542	PRKY	GCCTGCAATCCCAGCACTTTGG
80542	UBE2G2	GCCTGCAATCCCAGCACTTTGG
80543	NR2E3	GCACTCTGGAAAACAATCTACT
80544	PPP1R12B	TGAGAAATGAAGTCAGTGCAAGG
80545	PKD2L1	TCTGCTCCCTCTTCCTCTAGC
80546	CALR	TCCTGGAGCCCAGAGGAGGGCAGCAG
80547	FKBP1B	ATGACAGAACACAGATCTCTT
80548	GNAT1	CCTGTGTCCTTGGACAGCAGA
80549	MTR	CTCAAGGAAATACAACCTA
80550	HGF	TAAACTTTTTAAAAAAGAAATA
80551	PTHLH	TCTCCACCGTCACCCAACATCAATCC
80552	CYP39A1	AAAAACACACTGCTTCACTTTGTT
80553	ACT	TACTGCACTCTGCTGTTAGAAGCAG
80554	CHAT	GCTTTGAGAAAGGAGTAG
80555	LNK	CAACCGGGCTGGAGTGCAGTG
80556	HMG20A	ATCCTGTCTTCTCAGCATC
80557	TRADD	ACGGGACCCTGAAACTCCACT
80558	PKP2	CTGATATTTTAAATGGTTGACATCATC
80559	LZTS1	AAGGGTTGAGAGCCAGTGGCGGGTG
80560	PPP2R1B	TCTCTCAGTGCATCTTGCT
80561	TRPM6	AAAACAATGGAACAAGGGTGGGTTTG
80562	PMP22	TTCTGGTGGGTGACCCAGTGCATCCAA
80563	GAN	TTACAACTAGATATTAGTTTTAG
80564	INPP5B	ACAGTAAGTGACTGGGTGACACTGTT
80565	TAPBP	TCCTATCTCAAAACCCATGGAGGGAGG
80566	C14orf1	CTCACTGCTGCCTCAACTTCCTGGGC
80567	NGFRAP1	CAGTGTAAGTTTCTGTCAGCA
80568	TAL1	GGTGCCATCATTGCTGTCTGCAGCCT
80569	DHCR7	GCTCTAGATCCCCCTCCCCTGCC

80570	KRTHA8	CCGATTCTGATTCCTGTGGACC
80571	CLTB	GCATGGGCTGGGCCTGGGCACAG
80572	SNX9	GGTGTTTCTGAGCACCAGCAC
80573	C1orf1	GCTTACACCTGTAATCCCAACA
80573	NDUFS1	GCTTACACCTGTAATCCCAACA
80574	APBA2	GTTTGTAAAGCGTTCCAAGT
80575	PMP2	TTTGTTGCCAGGCTCCAACT
80576	KCNJ11	GCCAGCCTCAGCTCAGCCTCCCCCTGC
80577	HOXB2	CGCTCCTTGGCCGTCTACTGG
80578	FGF5	CTTCCCTTCCTAAAGG
80579	TBL1X	CTTGCGTTAGAGTGTACTCTGA
80580	PCDH12	CTTGTTTCATAATCATCTAACTAT
80581	CREBBP	AATGGCTGAGAACTTGCTGGA
80582	GNB3	GCTTTCTCCTTTGAGGGCAGTGGGG
80583	BLAME	CAGTGGTTTGTAGCGTGGTGCAC
80584	ASTN	ACCCTCTCCTTCTGTTTTT
80585	HKE4	ACTACCCTGCCCCAAACCTCTACCCCTAACT
80586	ADCY7	GGCCTTTCACCTCTTCCTTGATT
80587	SGCG	AGTGTTTGGACAAAAACTACA
80588	WDR1	GAGGTTGTACAGGTGAATGAGCCGGG
80589	UMPS	GCTGGTCTCAACTCCTGGGCT
80590	EBF	AAACAAAATCACCGACCTTGCA
80591	SRC	TGCTTCCAGGCTGGGCAGCACAAGGCCT
80592	CHST7	CCCAGGCTGAACCTGCCACT
80593	BACH2	CTCTGACATAAAGACATGGCA
80594	TIMM23	ACCACCCAGGCTTGAGGCAGCG
80595	MAP3K9	TGGATAGGGGATGAGGTTGCTGTGA
80596	ATRN	GCGCTGGAGGAGACTCAGGAAGCAGA
80597	WWP2	TGGCAGTCTGGAATAAAGCC
80598	JAG2	ACAAGTGCCTTCACACAGACCCC
80599	DSC1	GCAAAAACATTCACTCTTGAGTTTG
80600	NPTX1	ACAGGTCCACGTTGTGTCA
80601	PTPRF	CCGACGTCCCCAAACCTAGCTAGG
80602	OSR1	AGTAGCAGCTGTATCGGGCTTCCTCAT
80603	IL11	GTCACCCAGACAGCTCTGTGGAGGCAG
80604	MHC2TA	TTGCAACAGGCTGGGCTTCAGTGGCAGC
80605	PTMS	CCTCATTCTTCTCCGGTAGCCTCTCC
80606	IL1RAP	CACTGCACCCATCCCGGCTG
80607	MUC4	GTCCTGCCCTGTGAATTACTGCTACAAT
80608	ALDH8A1	CCCAGGCGGTTGAGGCTGCAGT
80609	CACNA2D2	CCCAGCTGGGTCTAATCCTTCTCA
80610	TP53	AAATGTTCTTGCAGTTAAGGGTTAGTT
80611	MMP25	GGTCAGGAATCTGCATTTTAACTAGTCGC
80612	EIF5A2	GCTTTTGCCCATCTAAAGCACAATTAA
80613	CCNF	TTGTCTCCCCGGCTGGAGTGCAGTG
80614	PRKCG	GCTGGAGAATAAATTTGGGATGCT
80615	GTF2F1	AGAACTTCAGGCTCTCAGTGAC
80616	CNTF	TCTCTCTTCCTTGCTTTCTCTTCT
80617	ACOX1	GTTGTAGCTTTGGAGTGCAGAGTGTA
80618	PLA2R1	CAGCACAGATGCCATTAGAATGTGAATTG

80619	MNT	GTCCCCCACTCTCTCACCCACC
80620	SPAG8	GTAGGGAGGAAGGGGACCAAGC
80621	CYP2B6	TGCAACCTCCACCCCCGGGGAT
80622	BIN2	GGGAGGCAGGCTGGGGAGA
80623	LATS2	GCTGCCAGCCTGTGT
80624	PREB	GAATCAGGAGCCTGGACACTGCCATCTCT
80625	TLR6	GGGAACTGAGCTAGGCGGTGAG
80626	RANBP17	GCCAGCACCCAGTCCTCTGCCTCC
80627	HPCA	GGTCTGCCCCTCAGTCAGGCCCCC
80628	NEBL	AACCAGTGGAAAAAATGTTGACTTTAA
80629	ADAM17	AGTGACTTAGCAGATGCTGGTCAT
80630	AMPD2	CAGGCGGCAGAGGTGCTGGACCACAT
80631	FGF5	TCATGGTTTGCATTTAAACATGTTT
80632	BACH2	GTATATGATGTAGGCTAAAAGTGAAA
80633	HK1	CCAGCAACCATGCAACAAGGACTTCA
80634	CRAT	CCGATGCCACCACAGCCATCGCCAC
80635	GFER	CTGCCCCCCATGGCTCTGTGCTGCT
80636	FOXO1A	TGAAGTCCAGGGAAAGGCATCTGGTC
80637	CTSD	CTGCCTGCCTGTCTGTCTCTCCA
80638	PRKY	ATGTGTTAGTGAAAATGTGTGC
80639	NDRG2	TTCTCCTCCTCCCCCATTTTGATGTTA
80640	EPM2A	TAGCCTGTACTGGTCAGCCTGC
80641	UBE2G2	TACCTCTCCCCGCTGAAACCAGCAG
80642	CELSR2	GGCCATCATCTCCCCACCTCT
80643	USP9Y	TTAATCCTTCTTTCCTGGATAT
80644	MEL	TAGGGACTGCGACTGGGACCAG
80645	C10orf2	GCCTCAAGACTGCTGGAGTCAGGACAT
80646	SVIL	AATATTTTGGCGTTCTTTTTG
80647	PPEF2	CAGCTCAGCAGACAACATGCT
80648	GSS	TCAGCCTTTTCAGCAGGTT
80649	EGFL4	ACCAGAAAACTGGTAAGTGTGACC
80650	DKC1	CTTGTTCCTGTGCCCTCTTGTT
80651	SLC12A7	TGCCCAACAGCATCACGGCACT
80652	CBR1	GTGGTGGCTGGGCTCACAGCT
80653	ESR1	CCCGTAGCTCTTCACAGCTGAACTCA
80654	GRM6	AAAGTGTTCGGATTACAAACGT
80655	BHLHB3	GCTGAAAAGTTGCACTTTTGTTA
80656	NOC4	CTCCAAATCAAAGCTCTTTCTG
80657	NVL	GCCTTGTGTGAAAATGCCTTC
80658	CNGA3	CTCCTTCTCACTTGCCAAAG
80659	SPAG8	TGTCCCGGAGGAAGGCTGGGTGGTGGA
80660	PITPN	GTGGGAGAATCAGAGAGAGCTGTA
80661	PPARGC1	GCACTAGCATGGCCTCTGACGTGACCA
80662	PDE4C	CACTGCACTCCAGCCTGGGGCT
80663	MYEOV	GTGCCTCACCACCTGCTGAGCTC
80664	RABIF	CTAGCCTGGGCAACATGGTGAG
80665	NCOA6IP	TACCGCCCAGGCTGGAGTGCAGT
80666	DGKI	GGCCAAGTGTGGTGGTGCA
80667	LHCGR	ACCTCAAGATCTTGGCAATGGTACACT
80668	GJB6	TGAAACACTGGCAGTCGTTGGA

80669	XK	GAAATCTGAGTTGTACTGGTTAGAT
80670	KCNK6	TCCTTTCTCTCATCCTCTTTACA
80671	MAT2A	TGGTTTCAGCACTAGCCAAACCTCA
80672	INMT	GGCAGGGTGGACAGTGTGAGA
80673	ZAP70	ACCCCAGGTCCTGCAGTCTGGCT
80674	SIT	TCCTGTCCCAAGTTTT
80675	PCDHB14	TTATTTGGCCAAAATGTTATAT
80676	CA12	AAATTTCATTTCAGCCACTTCTGCAG
80677	AQP2	GCGAGTGCCCGGAGCATCCTGGCC
80678	PMM2	TCATTCTAGGATGATACA
80679	SERPINB8	CTGTACATACCCTCCTTTCCTTCT
80680	DGAT2	CTTCCCTTCCTGAAGTGA
80681	MKL1	AGCCAAAGTGGATTTCTCCA
80682	LSP1	CTCCTTTTGCTCCTGGACCCTTTAGC
80683	PCOLCE2	GAGCAGCTATCTGATTGGAAACCTGC
80684	DHCR24	TGAATCTTCCCTGTCAGGCTC
80685	FABP2	GGGGATGGAGAGGGGGTACAAT
80686	BACE2	CGTCTGTGGAGCCATCCTCCT
80687	AF3P21	AGCTCTATTCTTTGCCT
80688	DAPK1	TGTTTTGGACTCCATCTCTCAT
80689	CRHR1	CACCCCATACCAGTCACCTC
80690	LARS2	CCCAGGCCTGCTGTGGTTCT
80691	ELAVL2	ATGGTCATAGTTACTGTGAGCC
80692	RPL10	GAGAGGAGGATGGAAGGGAGG
80693	CDH5	AACCACATTCAGGGAAATGGCTTA
80694	MLF2	TTCTCTGCCTTTATTTTTTGATTTGTG
80695	HOXC13	ATGTTTCCGTAAAAGCTGGA
80696	HOXC11	ACTCCATTCCGGAACCTCCTGG
80697	LUZP1	TGCCTGTAATCGCAGCTACTCAGGAGG
80698	COG6	CCTGCCTGGCTGAGGTGGCAGC
80699	ZNF3	ATTGCTGTCCTCTCTTGTC
80700	SERPINE1	CAGGAAGTCCAGCCACTTGAC
80701	MAPK7	GAAGGGGACTTCGGGAGCCAG
80702	ABR	AGGAGAGAATGGGGGAGGAGGCGG
80703	HTR4	TTTTCTTTCTGTTTCTAAGAC
80704	RNH	GGTGGCCTTTCTGGGGGTGGGTGCTGG
80705	TRIM	AATGTGCTCACCTCGGCAGCACA
80706	CYP3A43	CTTAAGAGATGGGATTACAAGTGGAC
80707	P53AIP1	GGCCTTGGTCTAGGTCTCTCCA
80708	HDAC4	CACACTTGCAGTGTTA
80709	CXADR	AGCTTTGAAAAAGTTTGTCTT
80710	STK6	AACCTGACAGGAACATGCTACT
80711	HAS3	GCAGTAGCCTCCTCCTGGGCT
80712	BRCA1	TGAGCCAAGATCATACCACGG
80713	RFC1	TGGACCTAGCCTGGAATTTAGATGTC
80714	GJB2	ATAGCTTTAATGATATGCTTGTA
80715	STARD5	GACACCCTGTGTGTAAGCAGAAC
80716	OAS3	ACTCCTCCCCTAGTTTACACATC
80717	STAU2	GACCAAAAACTGTAATATCCT
80718	PIP5K1B	AAAACGGTCTCGACAATGAGTA

80719	TMPRSS3	ATACTATTCAACCCATAGCACA
80720	CRIM1	TGCACTTGCTTAGTGGATTGTATTGG
80721	PRX	GTGGGCTTCAGCCAAAGTGAG
80722	TERT	TCCTGGACTGTGGCCACCCGCCCACA
80723	CYR61	TCGAAACTGCCAAGGGTGCT
80724	FABP2	AGGCTTCTGAGTAGCTAGGACT
80725	ZFP36L1	GACTTAAGTGGGACTTTGTGA
80726	E2F3	AGATGGAGAGACCTCTAGGGA
80727	SQSTM1	TTTCTAGGTGGCAGGACAAAT
80728	FOXF2	AAAAGGAGGATATATTTGCA
80729	LIMD1	CTTTCAGTCTTCCACACACAAAAAA
80730	VHL	AGGGTTTGTCAGAGGAA
80731	TNFSF11	TGTTAGACTCATGGTGTGTTACAC
80732	C18orf2	AGAAGCTTTCTTCCAAACTCCTGGGC
80733	ALOX15	GACACCCAGGCTGGAGTGCAGTG
80734	IFNAR2	GGCTCACTGCAACATCCGCCT
80735	TRPV1	GGCTCCCTGCAACCTCCGCCT
80736	ADCY1	TGTTGACGTCTGACGTCTGA
80737	TCF2	CACCCGAGCTGGAGTGCAGTG
80738	SORBS1	CCCCCAGCCTACATTTCTCAGC
80739	MID1	TTCTCACCTCGATGGTGCATAACAGGATG
80740	MCM2	CCTGCAGCAGTTCTGGGCCCTATGCC
80741	WRN	TGAAGAAGACCTGTTGGACTGGA
80742	MCP	TCCCTTAAATAACACTTAGA
80743	COL6A2	CAGCTCCCAGCCTCTTCCCAT
80744	ITSN2	GTCACTCAGAGTGAAGCGGG
80745	EXTL1	CTTGCCTGGCCCTCCTCCCCCTCCGCC
80746	IL5RA	TCCTCAAGGGTAACATCTTA
80747	ADCY6	CATGGCAGAAGGAGGGGAAA
80748	MSL3L1	GAAAGAAGAACCAGAGCTTCA
80749	PIGA	CAGTTTTCAACTTCCTCTTCCTCA
80750	GPR18	CCAAGCGTTACACTGGAAACTACTTTTTAAA
80751	LANCL1	TAAACTAAGCATTTAATAGAAATG
80752	IL15RA	CAGGGAAGACACCAGCGTTTGGG
80753	PMX1	CTGCTCTGTTATTTCTTCATCTG
80754	OGT	CAAGAAAATACTCTTGAGTGAAATGC
80755	TMPRSS4	TCGCAGCCCAGAGGCGCCCAGA
80756	KLK5	CCCTCATTCCTTCCCAGAGATGT
80757	HAS3	CGGCACTGCACCGAGGCGGGG
80758	BAT4	CTTCCCTTGCCTGGTAT
80759	SCA1	ACTAAAATCAGAGCCATCCAGACA
80760	TRADD	TCCCATCTCAGGGCAGAGGCCA
80761	ADORA2A	ACTGCCTTTCCTTCTAAAGGGA
80762	SERPINA5	TGCAACATACAGGTGCCTTGGGGAA
80763	REN	GGGTCCCGAAACTCCTGGCTGTTTC
80764	FCMD	ATGAGACAAATACCTACTT
80765	TIMP3	TAGCCAGTCTGCTGTCCTGAA
80766	FBXL11	CTGAACTTTCAGGGCAGTCAGGGG
80767	MHC2TA	CTTATGCCCACGCTGGAGTGCAGT
80768	MSR1	TTCATAATATGTTCACCAGGA

80769	SIAT6	GCACTACACGGCTGTGACGAGGT
80770	SHANK2	CTGGAGCCTTTCTCATCAT
80771	FOXD1	AAATGTAAGATTTTTACACTTT
80772	MAX	GCCCTCCCTTTACCTTCATA
80773	HEM1	AAGCTGACAGAAGAGTTTGGGCCTCA
80774	ABCA1	ACTAGTAATAATGTAATA
80775	NRIP1	TAACAAATCAGATCAGATGTTC
80776	CASP8AP2	TATGTATGTATGTGTGTTTCT
80777	STIM1	AGCATCAATACTCCTAGGGCTCAGGAC
80778	CD83	GCTGGAAAAGGGTCTTGGGAAA
80779	MHC2TA	CAGAGGGAGTGACAGAGGCAGC
80780	IL1R1	AGTTTAAGTCTCTGACTCTTGCCT
80781	TCTA	TTGTCATCTGCCAACTGTC
80782	ESRRG	TTGCAATTTATGGTTGTGTGCCCA
80783	ROCK2	GGAGACGGTGGTTGCAGTGA
80784	PCDHB9	CCCAAATTGCTGGGATTTACAGG
80785	SEL1L	AGAAAACAAAACGAACTCTGGTT
80786	NEBL	TAAAATCAAATTTTGCTTAA
80787	FGF2	CTGTCAGTTTTCATTTCTAGCT
80788	CCKBR	AATCAGCACTGAAAATACCATCA
80789	BPHL	CAGGCTGGGCACGGTGGCTCA
80790	BAT1	CACCAGGGTGGGGGTGAAGGA
80791	MATN4	GCGGGTGGTGAGGGAA
80792	SURF4	CCCTGCAAGCCAGCCTGGCCAGCTGC
80793	CTNS	GAATTAAAGCCTACTCGCTTCCTTTC
80794	ALPP	CCCAGGAGGCTGAAGCAGGA
80795	C18orf2	AAACAATGCCATTTCTTG
80796	SQSTM1	AGTATCTTTAAAAGTGCCTT
80797	CDKN2A	CCGGAGGAAGAAAGAGGAGGGGCTGGCTG
80798	FPRL1	TAGGTTTTTTATAGCTATTAAAAA
80799	HOXA11	CCTGAGAGTGAGGTGGAATTATTTTAA
80800	TMPRSS2	TGGTTCTGCCTCCTGGCC
80801	MS4A3	CTTCTATGATCATTACTCCAA
80802	TPM4	ACCAGCCCAGCCAACATGGCGA
80803	PACSIN3	AGGGAGGAAGTCCTGGGACCCAG
80804	CCNF	CTCCTGCCTCAGCCTCCTGGGT
80805	IL13RA1	AGTGGCAACCTGCTTCCA
80806	FBLN2	GCTTCTGGACCCCTCCTCTGCC
80807	TGM2	CTGGGTGGGGACAGTGATAGGC
80808	EGLN1	ACTTAATTGGAACAAGAAAGCT
80809	HERC2	CCCCAAAATGAATAAAGCCTT
80810	SORCS1	GTTACCTGGTATTTCCACTCTCAC
80811	GRM6	ACAGTTTCTGCCTGTGATCA
80812	EDAR	TTAGGGGGAAAATCAGTCATATCT
80813	POLG	CACTGCCTGGAGGCTCTGTATTTGCTC
80814	RNMT	TACAAGTGTGTGATGTTAGA
80815	PMM1	TAGTGGCACTGGCTTCGTCCTCCC
80816	KCNK10	CCTGCCGCAGGAACGCTAG
80817	PRX	GCCCTCTGTTGAAATTGTCACC
80818	ABCA2	GGGCCTGGAGTGGAGGTTCAGGA

80819	CDS2	CTTGCTGCTGCTGAATCCTTTC
80820	CALM1	ATTTTCTGCCAGAGGGGTGGGT
80821	TMPRSS2	AGAGGGGTGGAGGCTGCCCCAT
80822	ANKRA2	TTCTACCCTAGTCATCTTCACTCGTGT
80823	EXTL3	GTGTGGTGGAGCCAGGGCCTCT
80824	ENDOGL1	CAGGCTGGAGTGCGGTGGTGGAATCAT
80825	MYH11	TGGTACACACCTGTGGTCCCAG
80826	NAP1L4	GCAGTTGGACTGAATTCTTCC
80827	FXR2	CGCGGCTCCCCCTCCGGCTCCTCCTCC
80828	RNMT	GCATTTTCATAGTGTGCTCATTTCTA
80829	CARP	GATTCTGGAATGAAAATTCACCTGCCT
80830	CNGB1	TGGGAAGCTTTGCTGAAA
80831	RGS3	CCTGGGGGGGACACTGCAGTCT
80832	ELK4	TGTATAAAAATGCCTTA
80833	EXO1	ATAAAGTGAAGATGGTGCTGTTATTGT
80834	KLHL3	TCCCACTGGTCTGCTGGGAGAA
80835	STS	CCAGGTGATGTCTGGTCAACTGGC
80836	AQP6	CTCGGCTTCTCCAGCTGTAAAATGGACA
80837	SLC4A7	TTCTCTATTTGTGTTTCATTTCTGT
80838	MS4A12	GCTGTATCTCCCTTCACTGTC
80839	RNPEPL1	TGGGAGGTGGTGCTGGTGCTCTCTCCA
80840	CXADR	CGCTTTGAATATGAAATCATAGGTGA
80841	SHOX	CGCCCCCCGGGTTCAAGCGATG
80842	ESRRG	TGGTGGTTAGGAATGTGAT
80843	INMT	ACTCACTGCAAGCTCCGCCTCC
80844	IL15	TGGCTGCTGGAAACCCC
80845	SYT5	TGTTGCTCTGGGCAACGCGGTCTGCTG
80846	CYFIP1	TGCTGATTGTTGCCATCACGTTCCT
80847	CASP8	CCAAGAGGTCCAAGGCTGCAGTGA
80848	PRKY	TGGGGCCAGGCTCACACCTGTAATCCT
80849	HOXC10	GCTTTTCTCCCACCCCTCCTAGCACCCCCA
80850	TIMM17A	CCCAATGCCATACATATGGTAG
80851	SEPX1	GGAGGGTGGGTGATGCTGAA
80852	SLC25A5	ATTTGGAGAAATAAAAA
80853	ADORA2A	CACAGAGCAGCTTGGGCACAG
80854	TRAF5	CACTGCTGGTGAACTGTGGCAC
80855	MYD88	TTTCAGCCAGGCTGGAGCAAGGT
80856	CTSK	AATAAATCTAGCACCCCTGAT
80857	APPBP2	CGAGTAGCTGGGATTACAGGCTC
80858	ATP5G1	TCATCCTCTTCGCCATGTGGGCT
80859	CASP7	GGTAGCAGTGGGATTTGTGCTTCTTAT
80860	GRAP2	GCTGTTGCCAAGTTTGATT
80861	SECTM1	GCTTTTGTCTTCGTCACTGCGGCGGGG
80862	NFIA	CTTAGCAATTATTAATTTTTCTTTTA
80863	TIAM1	GAATCACTGTGGACTGAGACCCA
80864	ATM	CCGCCCAGGCTGGGTGCAGT
80865	STK10	TGTTAGGTGGAGCAGTTGGTGTGG
80866	CANX	CAGTCTTTAAGATCTTGGCTTA
80867	FANCD2	ATCTTAGAATCACTCCTGAGTATCTC
80868	CRABP1	TTTTCCCCTACCAATATTAGGTGATCC

80869	E2F3	GCATAGCAATCGTTTTATTTAAGTTGA
80870	CALM1	ACCCATGGTGACGATGACACA
80871	SCNN1G	GAGCTAGGATTTGACCCCAGA
80872	B4GALT4	GCAGGCCACGCAACACTTCCTC
80873	ASPH	CTTTTAGTCTTACCTGAATTTAT
80874	HIP1	CTCCAGCGATGGTGCTGCCCAG
80875	CD34	GGCTTCCTCCTCCCTCCTGCCG
80876	B3GNT3	CAGCATCTTCCCTGGATGGCTGGA
80877	CUTL1	AAAGAATGTCTCGGTCACATCAGGC
80878	FBXL11	GCAGTGCCTGGTTCTGAG
80879	FNTB	ATGAGTTCTCTGTAAGACTGTGGT
80880	SHC1	CCAAAGGGAAAACTCTTCAT
80881	AMD1	GAACCTGAACTTTAGTAACAC
80882	SNAI1	GGGACCCCACTCCCCTCACACACACC
80883	NMB	TCAAATCTCTGTTACTCCATT
80884	GRM4	GTTCAGTGCCTGGGTGTTTGGTGATG
80885	RAD51L1	AGAGGATGTATCTCACAAGTAGGAT
80886	GAS41	TGACCATGAATTTCTTAGCAATA
80887	MKL1	ACGGTCAGGGTCAGGGCCATT
80888	CD4	CTCTCTTCCTACCCTTCCTCA
80889	CUL4B	CTTCCCAATCCTCTGCTTTAGACA
80890	PAG	TTTAAGGCTTTTTCCCCCTTGAA
80891	EGLN1	TTCATTTCATCTCTCCCTTTTTT
80892	HOXA1	GATATTCCCCATTTCCTGTACA
80893	SULT2A1	TGGTTCATGCCTGTAATCCCAG
80894	TRPM1	TGGCTCATGCCTGTAATCCTAG
80895	ADCY1	GGCCAGGTGCTGTCACACAGCAAAGG
80896	VHL	CCTGGAAGGTGGAGCTTGCAGTG
80897	INPP5B	CGGAGGCTGGGGTTTTAGTA
80898	COL4A2	TGGGCCTGGCCCTGCTTTCTACGC
80899	RIG	TAGACTGCCTAATCTGGCACTTGCCAC
80900	EIF2AK3	TTGCAGACTTGAAAAGTTTGT
80901	PCDHA1	TCCTCAAAAGAGAATTCAGTCTA
80901	PCDHA10	TCCTCAAAAGAGAATTCAGTCTA
80901	PCDHA11	TCCTCAAAAGAGAATTCAGTCTA
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80901	PCDHA2	TCCTCAAAAGAGAATTCAGTCTA
80901	PCDHA3	TCCTCAAAAGAGAATTCAGTCTA
80901	PCDHA4	TCCTCAAAAGAGAATTCAGTCTA
80901	PCDHA5	TCCTCAAAAGAGAATTCAGTCTA
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80901	PCDHA7	TCCTCAAAAGAGAATTCAGTCTA
80901	PCDHA8	TCCTCAAAAGAGAATTCAGTCTA
80901	PCDHA9	TCCTCAAAAGAGAATTCAGTCTA
80901	PCDHAC1	TCCTCAAAAGAGAATTCAGTCTA
80901	PCDHAC2	TCCTCAAAAGAGAATTCAGTCTA
80902	DDX6	TCTTGCATTGTGACAAGAATTGTTACCTGTCA
80903	TCF7	TGGTGCGCGCATGTAATCCCAG
80904	DDX20	TGGGCAGTCTCTCAGCCTCC

80905	KCNC3	CCCCCAAGCCCTCCCTCCTA
80906	ZNF179	TTTCCCACTCCTGGCCCACAG
80907	ZNF8	TAAAGGATCATTAAAATGAA
80908	NUP98	TGGCATCTACCCTCCCGTCCCCT
80909	GPR44	TTGCTTGTTTATTATGTTTTCTCTCCA
80910	BAZ2A	GCTTACTCAACCTCTGCCTCT
80911	SLC16A2	CCAGGAGGATGAGGTTGTCCTG
80912	CLC	GGACAGACCAGACCAGACCCAG
80913	SLC2A8	CCTCCTTCCTGTCATGCTCCC
80914	ADH7	ATTAGTATAATAACAATGTTAA
80915	ATF5	AACCCCTCTCGGCCGGGTGCAGTG
80916	RIMS1	GGAAGCTGAAGCGGGCAGATCA
80917	PAFAH1B2	TCACTGTTTTCTTGGGACAAC
80918	RAB5B	TGACTCCTGTCCCTTCCCCTTCTGCTT
80919	SCA1	ATATGCTTTTTCCACGAGTGT
80920	MPP2	CACAGCTTCTCACTGCCGAA
80921	SLC17A7	CTCCACCCGTTCTGCCTCAG
80922	LNK	CTCAAGTAGCTGGGATTACAAGCACCA
80923	IL17R	TGTATATGTTCGTGTGTGAAAT
80924	GRINL1A	AATGCTTAACAAATGCTCTT
80925	NDRG3	CCACTGCATTCTCTTTTGTTTG
80926	SLC35A3	AGAGAATAAATATCAAATCTAA
80927	GRINL1A	TAGAATATTAAATTCTTATGTGTCTT
80928	SOX11	GTGATTTCTACTTGCCAACT
80929	MEFV	ACCATGGATTTCAGAGGAGGAAGTACGGA
80930	LHX1	CAACAGCAATCAACACCA
80931	NUMBL	TGGGGAGGGGTCCGGGAAGAAGGGGA
80932	NCALD	CACAAATGTACCAATCGACAAG
80933	TRPM2	CCCAAGTTTCTCCTCTGACCCA
80934	CBFB	CGAACTCCTGGCATCAAGCGAT
80935	C5	GGACTCCTGTTGTTGAAGTTCGT
80936	SH3BP2	ACATAAATGCACAACCTA
80937	CARKL	AGATGGGAAGAAAACAGTCATATG
80938	UTX	CAGTTCTGCACCACTGGTT
80939	IMPA1	TATAGCACCTGGCCCATTACATATC
80940	EVC	GGGGTTATCACCCACTGTGC
80941	SUSP1	TGACCCTTTATATTTGTTCTAAAATAA
80942	DFNA5	CAGACGTTTTTTCTGCACA
80943	SEL1L	AGCCACTGCTTAGCTATCATAGTCACC
80944	SEZ6L	AAACTGCCTTCGCTCAAGCAGGTG
80945	C21orf33	ACCTGCAGGCGTTCTCTCTCTA
80946	ARNT	GCATTTTTCTGTCAGAATCA
80947	PRKCA	GTGTCTGATTCCATATGGAGG
80948	GAB2	TGGTGTCAGAGGCAGGAGTGGGGGATCAGG
80949	WBSCR1	ACTGGCCCAACTCCAGGCGTTTCCT
80950	TM6SF2	GATACCACACATTTCTCATCT
80951	EIF2C1	CCTGCACTCTTTCTTGCAA
80952	TRIM34	GAGCTAGTTCAGCAGAAGCAGTT
80953	CNTN2	AGCCAACACCCTTCTCTCGCCCCA
80954	AIPL1	GGAGGCTGAGGCAGGAGAATTGATTGA

80955	ALDH3A2	GGAGGCTGAAGCAGGAGGATTGATTGA
80956	LIG3	CACTGTCTCTTCTGGACC
80957	COPA	ATCGCTTGAACCTAGGAGGTGG
80958	SNX4	TTAACATCCTTCTTTTCTATTGC
80959	DGKG	GGACTTAGGGCCCATGAGGTTGT
80960	LTA	GCTGCCTGGATCCCCGGCCTGCCTGG
80961	CIT	AGACTTGCTCGGAGCCCAG
80962	ZIC1	GGCTAGTGGAGAAGTAAGGAGGGGCG
80963	NEB	GCATTTCAAAGCATCACACTTGTCTGCA
80964	SIAT8E	CGGCAAGTGAATAAAGCACATTTCC
80965	ENAM	TCATCTTTTTCTCTCTGTAT
80966	HLA-F	AGAATTGCACTTGTGCCTCA
80967	GBA	CTTCATCTAATGACCCTGA
80968	ABCD1	ATCCTTCCAGCCACCTGCCTCA
80969	DGKB	CAGTTTCTACCATAATTAATTGTGTTT
80970	KCNS2	GTGTAAGGAGTATGCCCAGCC
80971	SLC7A6	CCAGCTAATCCCAGGAATTTGCTGCCCC
80972	FUT1	AAAGTGCTGGGATTACTGGCAT
80973	LLT1	TATCACTAATAACTGGGAAAATACAA
80974	FANCF	AAAACAATATGAGTA
80975	ZNF74	TTGGGGTCTTCCCGAAGCCAGG
80976	SERPINB13	GGTTTTAATTTGCATTTCCATAATA
80977	BCL2L2	CTGCCTGTGGTCCTGAGCACTGATCAGC
80978	CBFA2T2	TGTGCTCAGCCAGGCTGGAGGCGGC
80979	ZNF36	TGGCCTCTCCTTGGCTTTATGACTT
80980	POLH	GGAGGCTGAGGCAGAAGAATTGCTTTA
80981	PHEMX	TGCCTCCAGGACCATTCAGGCT
80982	ALDH3A2	GGCTGCACCTGCATGCTTCC
80983	GADD45B	CCCTTCCCAGCAGCAGAATCTG
80984	FCAR	TCGCCAAGGCTGGAGTGCAGTG
80985	PPP1R2	ATGTCTGCTCTGTTTTTTGTT
80986	CBR1	TTGATGAAAATAATGAATGAAA
80987	KCND2	TGCTTCTTATGATCAGAACTCTTTTT
80988	HCK	TCATCTGTCCAGTGGGTAGG
80989	HAP1	TCCAGGCTCCCATCCATGGCCC
80990	DAAM2	GCTCCTCTTATCTCCCCTTCACA
80991	ANKRA2	CACCGGGTCGGCCTCCAGCC
80992	TNFRSF10B	AATAGGGTCTATGTCATATCCCAAGT
80993	MAP3K7IP2	GTGTATTTATAAAACAAGGCTAGCCA
80994	HRH2	CCCTCCACTGACTCCAGAGA
80995	PCK1	TACATAATTGCAATATTTCCCCCTTA
80996	SUV39H1	GGGGCCCTGACCTGGGGTGTCAT
80997	ITPR2	CTTCAGAAAGGAACAGGAA
80998	GALT	GCCCTTGTGCTCCAGTCATTGC
80999	ACADSB	AGTGGCGCGATCTCAGCTCACT
80999	CYP1A2	AGTGGCGCGATCTCAGCTCACT
80999	FUT1	AGTGGCGCGATCTCAGCTCACT
80999	PCDHB9	AGTGGCGCGATCTCAGCTCACT
81000	MPL	AGTGGCACGATCTCGGCTCACT
81001	TXNRD2	CCGAACCTTGAGGTAAAGGGCC

81002	AGPAT2	GTGGAAGCCGATGGCTGGAGGATGG
81003	DRG2	TGGGGGTTTTGAGTTTGTAGTGC
81004	IL1RAP	CCACAGCAAGACTGACATCCACTT
81005	SLC28A2	CGGGAGGCGGAGCTTGCAGCG
81006	ATP1B2	TCCTTTCTCTGGCTTCTTTTAGCA
81007	AQP6	CCAAGTAGCTGGGATTACAGGC
81007	CAMLG	CCAAGTAGCTGGGATTACAGGC
81007	CYP2B6	CCAAGTAGCTGGGATTACAGGC
81007	DFFB	CCAAGTAGCTGGGATTACAGGC
81007	NUMA1	CCAAGTAGCTGGGATTACAGGC
81007	PPID	CCAAGTAGCTGGGATTACAGGC
81007	RAB36	CCAAGTAGCTGGGATTACAGGC
81007	TRPV1	CCAAGTAGCTGGGATTACAGGC
81008	C7	CCAAGCAGCTGGGATTACAGGT
81009	LYZ	CCGAGTAGCTGGGATTACGGGC
81010	COX7A2L	AATTAATGTAGCCTGCCTCT
81011	TRIM14	AGGCTGAGGCAAGAGAGTTGCT
81012	TMEPAI	ACTGCTCTCCTTTGCAGCC
81013	POU2AF1	AAACAGCCTCAGCTCAAGCGGTG
81014	TSC1	CAGGCTGGTGTGTAGGTGGTAAAACCT
81015	ITPR2	GGTACTCCCCAGCACCACCTCA
81016	ADAM8	GGCACCAGGCTGGGATGAGCTGTG
81017	TP53	TTTCTACAGTTGGGCAGCTGGT
81018	PKHD1	GTCACATTTACAACTGGAAAAGAACTA
81019	PRKCN	CTCGGCTTTACACAATTTATC
81020	RFNG	GTCATCTCCCCTCTGCCTCC
81021	ATRX	CATCAAGCTTTAACAAATA
81022	SLA2	GGGGTGGGAAAGGCTTTATCAGGTA
81023	LARS2	GCAATGCCACCATTGTTGATGTGAC
81024	CHRNE	CCTTCAGTGCTGGTGGCCCTCAGGCC
81025	TFAP4	GTTATTTCTTCCCTGCCCA
81026	FGF12	CCCCTTCTTCCCTCTCTCA
81027	TRAP1	CCACAGATGACAGCCCCACCTCCTT
81028	APAF1	CGCTGCCTCCTGGGTTCAAGCAATT
81029	CCND2	GTCTTTTCTGTTATTGTATTTA
81030	OTP	GCCTCTCTCCTCCACTCGCTCGGGCTC
81031	RBBP9	GTCTCCCAGGCTGGAGGTCAGTG
81032	CTSF	GGTGAGCAGAGGGCACTGGGCT
81033	ITGBL1	GCTGGTGGCACCTCTCCCTCCTG
81034	ETV6	TCTGTTCCTGTTACTGTTGG
81035	GALNT7	TTCATTTCTCAGTATATATTTC
81036	C1orf1	ACTTAGGAGGCTGAGGTGGGAGA
81036	CHST5	ACTTAGGAGGCTGAGGTGGGAGA
81037	SIGLEC8	ACCTAGGCTGGAGTGCAGTGGGGCA
81038	SLC26A4	ATATTATATACAACACAGGCTTTGATC
81039	DLST	GCTGTAAGCACCTGGGCTGAGG
81040	C4BPA	CTTGCTGGCTTGCCTCTTGC
81041	CISH	CTGCCCAGGAAGGTGCCTGCACATG
81042	GPR48	TTTTAAAATGTGATTTTCTA
81043	TPM1	CCAGGCACACACTGTGCT

81044	APM1	TCTACTTCCTCTTACCTATGTCCC
81045	DTR	AGGGGTCAGTGCAGCAGAGGAC
81046	ORC4L	TACCATCCACATCAGAA
81047	MN1	AAAGAAATTCATTTCTGAAATG
81048	ATP2B3	AGACCTCCATTCACAACTTCATGGCCA
81049	MAP3K9	CATGCCACTACTCTGAGGCCT
81050	LIMD1	TCTCACCACAGAAGGGCATTT
81051	TUFT1	CCTTTGACTTCCTGACTGTCCCCTGGCTGC
81052	PRKG1	AGGAAGCCTCAAGACGCGGAGCAGCGGCAGG
81053	CNTNAP2	AACACAAAATTTCACTCTCTAAAAGCA
81054	CYP3A4	CCTCTTGCATTCCATCCTCA
81055	REN	TATTTCTCACTGGTCAT
81056	AF1Q	TTCTCTCTCCCATCACCTTGCCCTCA
81057	COLQ	CCCAAAACGCCATTGCCTT
81058	RAB36	AGAGGCCACCTGCCATTCCCCCT
81059	NFIL3	TGGTGTCTTTTTGTGCACAGAT
81060	P2RY6	TGGCAGCAGGGGCTGCTCCACGAGTG
81061	DLST	GGGCTGAGGAGGCAGTTTTTGT
81062	ENTPD5	TGGAGTGAGAGCCCAGGGACAG
81063	ARNT	CTCTCACCTTATCTGGAAG
81064	DGCR2	TTAGCACATCCATATCTTTTCTA
81065	PMCHL1	ATGCTTAACATACTAACCTTA
81066	RAB5A	GTCTCAGGTTTCTTTACCTCC
81067	ELMO2	TTTAACAACAGCCAGGAGCTTCCT
81068	FLRT2	ATGTATCCCCTGCCTATTTTCCT
81069	KPNA4	GTGTTAATGTACACTGGAC
81070	ATM	TCAGGAGGCAGAGGTTACAGGTTACAG
81071	GSTM4	AATTTTCTGCATCAACTTGA
81072	SORCS2	TCGGGGGGTGTTCAAGGCCACA
81073	SCN3A	ACAAGACAGTGAAGTGACCTC
81074	FXR2	CCTCCCCTGCTATCCCTCCTCC
81075	PART1	GGGACTCGACATTTTTCTGGGGA
81076	HTR1D	AGCTCACTGCAACCTCCGCATC
81077	PCDHB11	AGCTCACTGCACCCTCCGCCTC
81078	SIGLEC11	CCTGTGGTCTCAGCACTTTGG
81079	CRSP8	ACCTTTCTAGAACCTGGTAGA
81080	AICDA	GTACTCAAAATGCAAAAATTAGCCAG
81081	MATN1	TGGCCTCTCCAAGCGTCCTGCACGT
81082	PML	GATTTCCAGCCCCACCATGTGTGCTG
81083	SLC2A3	GCCTGTAATCCCAGCTACTTGGGAAG
81084	ASMT	GGCTCTTCCCCACCTTGCCA
81085	GLRA2	ACCCTGGGACCTTCTTGCCTCAG
81086	SGT	CACTGCCAGCTGCGGCCTGGGCACCGCGG
81087	SNX15	CTGCAGCCAAATCTGGCCCACCTCCTT
81088	ARF1	AGGCGGTCCACCTAGACCCACAGCCCC
81089	GLRX	GCTCACTGACCCTCAATTGTCCTCTT
81090	CSNK2A1	GTATTTGAAGCCATCAACATC
81091	PPEF1	ATGTTGGAAAACTACACACATAT
81092	RUNX1	GCGTGGTGAGCATCACCAACCCACAG
81093	RTN4	TGCTCCAAAAATGTTGTTTGTTGCAA

81094	SEDL	TCTGGGAGCTTCTACTTTGTAA
81095	SLC2A8	TCATTTCTGGCTACTTCCTTGGGCTC
81096	SH3BP2	TCAGCACTTGGGCCCACTGACAGTGAC
81097	FCRH1	TGCCTCACTGCAACGCCTGCCT
81098	ALDOC	CCAGCTCCCACAATTTTCCCAT
81099	EMP1	CCTCATCCATTTCTTTTATA
81100	TRIM9	ATTTTCTCATGATGAAATAAAGTTCA
81101	P53AIP1	GCCAGCCCTCCTCCTCCTCG
81102	GABRR1	TTTGTATGCGACTCCACCTCCGC
81103	CTSW	GCCTCCTTGCCAGCCCCACCCCCA
81104	MME	AATGCTGCCTTCCCATGAATC
81105	DCTN1	CCTAGGACAGTGTATTCAAGAGTTGA
81106	RAB11A	CTGCCTGGTAGGCTGGGAACTGAA
81107	CHD1	TTCAGGAAGGAATGAAAGAGA
81108	PIM1	CTGCCCTTTTTTCTGCCTCCT
81109	SPF30	TTAGCTGTTTGTAATTTTTGTT
81110	CELSR2	CCCTGCTCCTGTCTTGTGCTTTATCC
81111	IL1RN	ACCTGCTCTCCTCTTGCCACTGCC
81112	PGM1	TGCAATTTCTAGTGCCTT
81113	EPS8	TTTTGCCTGTGAATATGGTGTC
81114	GNL1	TTGAGAGAGACAGCAGGGAGGAGGTAGA
81115	IL16	GGTGGCCTCTCCTTGTGGCC
81116	COLQ	TCTTGGCTCTCTCTGCACTTTG
81117	LEF1	TTCATTTCTTTCCTTATCACCCCCTTG
81118	AP1G1	TGTAAACACTGGACAGATGGA
81119	THRA	AGACCACCTTCCCTTCCTCAGCAG
81120	BHLHB3	TTGGAACCTAATTCGAGAGGA
81121	CACNA2D2	AAATGCTGGGGCAGGGGGTGAAGAAC
81122	PXF	TCTTTTTCTGATCTTCCTCA
81123	SLA2	AGCTCACTGCAACCTCCATCTCCTGG
81124	XPNPEP2	CGTCACTATTTTAGATTCCTGGCAT
81125	DHCR24	GTCCTGCCCCTTCCTCCTTCA
81126	PIGB	GCAGCGCGCTACTGCAGCTTTCTTCCGC
81127	BAALC	AGTTTGTCTCTTTGCAACTC
81128	RGS3	TCATGCCAGGCTGACGGGTCCAGT
81129	SNX6	ACCAGCACCACCAAGACCTGATT
81130	GNAO1	GAGTGTGCTCAGGCCGGGCTTTCCA
81131	TMPRSS3	TCTGCTCTTCCTTTTTCTGGTTATCAG
81132	DPYD	ACTGTAGGCACTGCCATGGCCC
81133	NR0B2	GGTGGGCAGAGGCTGGCAGTGCTGAT
81134	MRC1	TTTTAGTTCAATGTGAT
81135	TMPRSS3	CTAGATGACTCTGTAAAGACTCTCCA
81136	RARG	GCCTCCCAGGCTGGGGCAGTG
81137	ASMT	GTGGCTCTTCCCCACCTTGCCAGCAG
81138	RABIF	TCTGAAGTCCCTTCCATT
81139	PRKWNK3	ATGGGCTTGCCAGGTAATGA
81140	BRIP1	GCCACAGTGCCTGGCCCATTCTTGAG
81141	IL12RB2	ATGAGACAGGCTTTATTATCCGCAT
81142	KLRG1	GAATGAACCAATGTGTGATTGTA
81143	PPP2R4	CACACCCTTCAGGAAGGGGGA

81144	CLU	AACCAGGCCCCAGCCTCCAGGC
81145	GPR85	TCCTAAGCACCCACGTGTCAG
81146	AMN	GCCCAGCCTTGCGCCGCATT
81147	CARKL	GCATTGTTCTGAGCAGTGTGA
81148	TBX3	ATCTGTGTCTTTTTAATATTC
81149	MLLT2	ACCTTTTTTCCCCTCCTGTTCT
81150	MADH6	TTTCCAGACACATTTAGGGGTTCGCGC
81151	CRHR1	GGCCTCCAGAACCTTACTGGCA
81152	CD28	CCTGGCAGGCGGAGGTTGCAGTG
81153	TCF2	CCTCCACCCTCCTCTCTCGCACC
81154	SRGAP2	TTCTCTCTACATACGTATATGTGTGTG
81155	FGFR2	CCAGTAGGACTCAAGGTGG
81156	GATA6	TCCTCGTCCTCCTCCTGCTCCCGGGG
81157	KISS1	AGACTCCTGCCCAGGCCAGGACTGAG
81158	MDS1	AGCAATCGGTTCCCCAGATTACTTGA
81159	GCG	TCAGCTTTAAAATATGA
81160	PRIM2A	CCCAGAGTGCTGGGATTACAGTTGTGA
81161	SCNN1A	ACTAGACTGTAAGTGCCTT
81162	CNTNAP2	GCCCATCTCCCTTCAAGAACCC
81163	BRMS1	GCCAGGCTCCTGTGGTGCTGCTG
81164	LAPTM5	ACAGCCCTCCTGTGCCTGCTTCCCTGTG
81165	BECN1	ATGTGGGAAAATGACATCTAAGCTTT
81166	WHSC1L1	TCCTTGTTAATCCAGTGATCTTTTAGGCCA
81167	MHC2TA	ATTGCAACAGGCTGGGCTTC
81168	MCM6	CAACACAGGCTTCAGCACTTC
81169	SIAT8E	AGCTCTGTGCTGAGCCTCCTGGCC
81170	VIM	CCAACTTGGTTCTGCTTCA
81171	ADAT1	GCAGGCAGATCACTTGAGGTCA
81171	C21orf5	GCAGGCAGATCACTTGAGGTCA
81171	CASP10	GCAGGCAGATCACTTGAGGTCA
81172	B4GALT1	TGATTTAGCTGGCAGGCCAGGT
81173	TCF4	GCGGGCGCAGGAGCAGGCGGCG
81174	MPL	TGTCACCCAGGCTGCAGTGCAA
81175	ADCY2	GGAGGCTGAGGTGGGAGGATCA
81175	ARHGEF6	GGAGGCTGAGGTGGGAGGATCA
81175	ZNF74	GGAGGCTGAGGTGGGAGGATCA
81176	PDE4C	GCAGGTGGATCACCTGAGGTTA
81177	SF3B4	CTGAGTATTTTGCAAATGCACA
81178	KCNJ10	GGTTTAAGAGTCCTGGCC
81179	HIF1A	TGTTTGATTTTATGCACTTTG
81180	GPRK7	AAAATACAAAAATTAGCCCG
81181	GPC5	CATTTTTGCAAGCTGTAGAAGGAA
81182	MAPK8IP1	GCGCCTCCGCCTCCTTCGCA
81183	CRACC	GGCTTCATTTATGCACTTGTG
81184	PTGS1	GCTGGGCTGAGTGACACAAGCAC
81185	CYP11B1	CCTGTTCCTCTTCCCCTGGC
81186	MS4A1	CACATCTCTATCTGGCCTT
81187	STAU	TGCAACCTCCACCTCCCAGGTCA
81188	SIP	TGTTCAGCTAAGAATTGGAAAAGT
81189	RHEB2	TACTTGTAAATAAAATAGCTGC

81190	KDR	CTGCGTTTCCTCTGCCTGCGC
81191	RAB38	TCTGAGTTAGCTCTTTGGA
81192	NEURL	GCGCACACTCGCACACCGC
81193	PON1	GCTCACTGCAACTTCTACCTCC
81194	KCNJ5	GAGAAAGGAGAGCCAGGAGCATTTAAAA
81195	NRIP1	TAAACTAGATTGACTAATAAA
81196	MSL3L1	CAAACTCCATCAGATCTTCTCACCTT
81197	HMGA2	TTGGATCTTTTGAAGGGAGAA
81198	AVPR1A	GCGAGGAAGGCTAGTGAGGGAA
81199	STAT3	GCTGCAGAAAGATACGACTGA
81200	GRAF	CCTCCAATTCCCGTGATCCCAA
81201	STMN1	GAGCCCCTCCTGGTTGATACTTGTTC
81202	RANBP2L1	CATTTCTCGGCAGTACTGTG
81203	SMP1	GACAGGGGACAATTTCTTTGTAGTT
81204	ALDH1B1	AAAGTGCTGGGATTACAGGTGGGAGCC
81205	CXCR6	TGTGGTGAGGCAGGCTTTGTT
81206	B3GAT1	TTGGAAATTATTCTAAACACAAAAA
81207	MYH11	CCTGGGCAACAGAGACCCTGTCT
81208	EIF5A2	TCCAGTATTCTATTTAAG
81209	TRPS1	CTGTCAGTTCCCAAAGGCCA
81210	GRIK3	GGGGTGGGGACCTCAGGCCTGG
81211	MDH2	CTGTATTGACATCATCATGCC
81212	GRM4	CATCACTGCTGGCAGCCTGGG
81213	COG5	AACCCTGCCTTTTTCACTA
81214	UBTF	TGGGGTGGAAGCTTGGGGAA
81215	NONO	GGTCTCCCAAAATGCTGGGATT
81216	BDNF	GCTTTGTCTTCTGTAGTCGCCA
81217	GNAZ	GCGCCATGGAGAGGAGAGGCACT
81218	RANBP3	TTAAAAAAGTGCTTCCCTGCAAAGTCT
81219	WNT1	GTGTAGCATCTTCCTCTGCAGAAT
81220	CBFA2T3	CCTCCACTCCTCTCAACTGCC
81221	CBFA2T3	ACTCAGAAATGGACAAAGAA
81222	TRPM8	GAATGCTGATGAACAATTTTGCTATCG
81223	CDC6	AGGTGCCCACCACCGCGCCC
81224	VHL	CTGAGCTGGGATTACAGGCGCCTGCC
81225	E2F3	ACTCTCCTTAAAAACCGATA
81226	IL18	CCTGGGCAACAACAGCAAAACTCCATCT
81227	S100A1	AGAACCTGCTCCCACCTCAGGCC
81228	TRH	ATCCTGTGGAGCCCACTCCTG
81229	MYCN	TGAAAGTTTTGAGTAGATATTACTT
81230	DRIL1	GGAGCCCGCCGGCCTGGGCAG
81231	ZNF175	TATGCCCTCAGTGCAGT
81232	IGF2	CCTTGATACAACAGCTGACCTCATTTCCC
81233	KCNJ8	GCTGAGCAGGGGGAGGGGAAGA
81234	LIF	CCCTTTTTATCTGCTGGTGTGGACC
81235	LZTS1	AGGATGGCCTTTCCTTCCCTC
81236	CASP8	ATACCTGTTGAGACTGATTCAG
81237	DAAM2	CATGCCTTTTGGGCATCTCCCATGTCC
81238	CEBPA	TAAGATGAGGGGGCCAGGC
81239	SWAP70	TTCCTTTGGCAGCGTGTTTCC

81240	AKR1A1	TGAGATTACATGTATGAGCCAC
81241	ATP11A	GTGTGGGAATGCTCGTGTGATGGAT
81242	PRPS2	GTCGCTGTTGCCTCCGCCACCTCCTC
81243	SCN4A	CCTGATTGGCCACTGGATCCTGCTGC
81244	CDC25C	AAAGAGGCCTTCTGGATGGCCAA
81245	EPHB1	CCATTTTCTTCCTCACCAATGACAT
81246	MAB21L1	ACTACTGGAAGAGCTTTG
81247	KCNMB3	GGGAGGCGGAGGAGGTTGCAGTGA
81248	DAPK1	GGTGATTTTATGATCAGTGTTGT
81249	GGA1	GCCTCAGGGGGCCAGGCTGG
81250	WBSCR14	AGCTGAGTACATCCTTATGCTACAGCA
81251	REQ	TCCTCCTAGAAAGAGTGGGAGAGCA
81252	HAO2	TCTCTTGCCTAAATCTTCCTCT
81253	PDHA2	TCATGGTCAAATTTAAGAAACT
81254	ELK1	CCTTGGGGAGATGAGGGAG
81255	C18orf1	AGCTTGACAAGCATGTCCTCA
81256	PACSIN1	CCCTACCTGCCAGTGCTGGTGT
81257	MECP2	CCTGCCTTGCCCACTCCTGCTCTGCTCG
81258	VHL	GTTGGCCAGGCTGGTTTCAAA
81259	CRIM1	TGGTAACATAAAAGCAGTTCA
81260	SRP	GACACTGCCACATGGAGCCAC
81261	IARS	CCCTGCAGGATCCGGCCCTCAAAGACG
81262	XYLB	AAGCCTCTATAGAAAGTCCTCTGTGAT
81263	PDYN	GCCTATCTCTCTTCTGCGTGGGAGTAT
81264	ENTPD6	CACACTGAGGGGGCAGTGTGG
81265	OXCT	TTCAAACCAACTATCTATCTATGCTT
81266	CD164	AGCACTATTGTACCTTGAAAGGATTTC
81267	CROT	TTTTTGGGCTGGGTGCAGTG
81268	ACY1	TCCATCCCAACCAGTGCCAAGGACCT
81269	IL15RA	GGAAGCGGGCTCCAGGAGCAAGC
81270	EXT2	GGCATGCACCCACCTAACCCA
81271	GNB1	ATGTTTTGAAAATAATGATCTCA
81272	ALDH3A2	GACCAGCCTGGACAACACAGTG
81273	GCNT2	CCCAGGAGGTGGAGGTTACAGTG
81274	SCP2	TATTTCTTAAAATTCAGT
81275	VANGL2	TACCTGGGAAGGACTCCCACCTCA
81276	SULT2A1	CCAGGGATGCAAAGGTTGCAGTGA
81277	GRAF	AGACCCAGGGATCACTTAGCCA
81278	MAPK4	GGAGAGAAGGTTTCACATGGGACCCA
81279	CFL2	CAGCCTATCAGTGATTGCCATT
81280	RGS16	AGAGCCCAGGCTGGGGAAGTG
81281	BAK1	TGCTAGTGCCCTCTCTCTGGGCCC
81282	SOST	GCTATGCTGCTTCCCAGCCTGGCTTCCC
81283	CA6	CACGCTGCTCCCCTGGGCAG
81284	CPSF5	GAGCACAGCTATATACAGTGT
81285	DBCCR1	AGAGAGCCGGGAGGCAGAGGGAG
81286	VTN	CAGAGCAGCAGAAAAGGCAGTTCCTCTT
81287	CLN5	ATTCGTACTATATTGGCCAAAG
81288	ACOX1	TGTTGTAGCTTTGGAGTGCAGA
81289	HS3ST2	GCAGTCGGTCCCTGTCATTGTCC

81290	IRF2	ATCTCCCAGGGCTACTCACT
81291	PCBP1	CCTTTCTGCTGTTCTCCCA
81292	GLUL	TGTCCCCTTCTCCATCGCC
81293	SYBL1	CTCAAAGCTGTCGCCGCTAG
81294	GYG2	TCTCAATAACTTAGTGAATCACT
81295	JRK	CAGGCTGGAGTGAAGTGGTGTG
81296	SLC19A2	AGGGCTCCACAGAGGCCACAAAA
81297	KCNA6	CTCTGGCCCTCTACCTTGCTTCCT
81298	USP6	GCAATGGTCAGCTTGGAAACCACAG
81299	REQ	CCCTCCTGGTTCTGCCCTGTCC
81300	SLC10A2	TACAGACTTCCTTCTTAGA
81301	FGG	ATTGACCCACAAAGTTTCAGAA
81302	GCNT2	GCTCACACCTGTAATCCCAACA
81302	GTF2H2	GCTCACACCTGTAATCCCAACA
81302	TNFSF10	GCTCACACCTGTAATCCCAACA
81302	TNFSF15	GCTCACACCTGTAATCCCAACA
81303	APPL	AGTTCAGATGAAATCTGTTACTC
81304	TCF8	AAATGTGAGAACTTCTGCACTA
81305	NYX	GGAGATGGGAGAGAGATTTAAGACAAA
81306	TSTA3	AGGCCCGGAAGTGAGCTGGAAGA
81307	ISL1	GTTTCTATATTGGTCATTGCCTTGCCA
81308	FXR2	AGGCCCAACTGACCTGCGCTGGA
81309	ALK	GAGCTACAGACGGGGGCGCGG
81310	MEFV	CGGTCTCAAACTCCTGACCTCA
81311	NKTR	GGCTCTGGGGTTCTTAATTCAT
81312	WHSC1	CTGCTTCTAAAATTGCCCCACCTGCTC
81313	ECEL1	TGCCTTCCAGCCCCTCCAGGAC
81314	GLI2	AAGGAGCCCAGCCTTCACCTTCC
81315	FKBP2	CTCCAGCATACCCCACCACCTT
81316	SGT	AGCTTACCCCTCCTGTGCTGG
81317	LHX3	CCTCTCTGCCTCCAGCCCCACCTTCCC
81318	PPEF2	ACTATCTCCCTTATTCTCC
81319	EGFL5	AATAGCAAAGGAAATCACTGTGAA
81320	BPAG1	GGATACCTCATGACATTTTCCT
81321	AQP6	ATGATCTCGGCTCACTGCAACC
81321	CXCL16	ATGATCTCGGCTCACTGCAACC
81321	FGF5	ATGATCTCGGCTCACTGCAACC
81321	IGF1	ATGATCTCGGCTCACTGCAACC
81321	MYCL2	ATGATCTCGGCTCACTGCAACC
81322	SLC7A6	AAGAGTAAACATTACTCAGTG
81323	FRDA	AACTGGACTTGTCTTCCTTGGCC
81324	BHMT2	ATGCAAAGAGAAGCGAGAGA
81325	TRHR	ATCAACAAAAGGGAGAACATGG
81326	WRN	CTAATTACAAAGTTCACTGTTTA
81327	HYAL2	TGACCCTACTCCCTTGCCCTAG
81328	APAF1	ATCACCCAGGCTGGAGTGCAGTG
81329	GAS7	CACGTCTGCTGCAACCTGAAGCTTG
81330	EDAR	CTTCAAACATGTATGAGTAGTCA
81331	TEAD3	CCTTGCCCCTTTGTGTCCCAG
81332	CD1C	CTAGTACAATATAGTGAT

81333	ALK	GGTGAGGAGGGGGCGGCAAGA
81334	TNFRSF11A	CCCCTGCCACTCCTCAAACTCGCA
81335	A1BG	GAGAACTGGCTCTTAAGAGCA
81336	ITGA3	CCAAAACAAGCCAAAGAGCC
81337	A1BG	AAAAAGTTTATTTTAGCCATTCTA
81338	COCH	AAGGAGACCTGTATCAAACTGCTTTT
81339	STAU	CAGCAGATCCACACCCTGGGCACCT
81340	SERPINB13	ATAATCTCCCCTTTGGTTTCC
81341	B3GALT5	TCTGAGCCATCTGCTGCTCTCTC
81342	TSC1	TCCTGAAAGAAATGCTAGAAG
81343	ADCY1	GCACAGCCCCAGACAGACACGGTGGG
81344	CD3Z	AGCGCAGATGCTAGCACATGCC
81345	SCA1	CCCACATTTTGGCTGTCTAGTATTCA
81346	KLK3	GGAGGCACTGGGAAGCCTAGA
81347	PRDM2	TTGGGCTCTGTTTTCTCAGCT
81348	YES1	GAATCCCAGATATGGTTGCACAA
81349	ASCL1	TTAGTGCTTTCTTGTCAGTGGCGTT
81350	KRT1	TGACCCTGCTTTGTTCTTTCCCTGA
81351	ZNF256	CATACCTTCATCAGCACCAGAAGC
81352	MN1	CAATTGTCATCACAATGTTATAT
81353	CTNS	GCCCCATCTGAGCACATCCAGCT
81354	EDAR	GTCACCCAGAACTGGATGGTACCTGA
81355	PGAM1	TGTGGTCATCAGAAAATAAGCCAT
81356	SIL	TAGCCCAGGCTGGAGTGCAATG
81357	TERT	GCGAGTGTCCAGCCAAGGGCTGA
81358	FGF7	TTTATCAACAGAGTTATTT
81359	KCNMB4	TACAAACCATTATGATTTATGCTA
81360	SIGLEC6	TCACATGGTCTTTCCTCTGAG
81361	A1BG	GTTGCCCAGGCTGGAGTGCAATGGCGT
81361	RAB36	GTTGCCCAGGCTGGAGTGCAATGGCGT
81362	CHD2	ATATTTTTCTACTAGTAGATAGGAC
81363	THBD	TCTTGTGGAATTGGGAGCTTGGG
81364	PPP2R1B	ATGAGTCTTTATTTTTTGT
81365	ARHGAP6	GCGAGCGCCTGACCTTCCTCCTCC
81366	SHOX	CAGGCTGGAGCGCAGTCCCGCA
81367	RGS16	CCTCTACTGGAGAATCTCAGCA
81368	ADAM11	AGCTTCCACCTCATGGATTGCCACAGCT
81369	SORCS2	ACAGCTACCTGGTGAGCTGTGCCA
81370	VEGF	GGAGAGGGGGCCGCAGTGGCGAC
81371	CYLN2	AAACCCTGGCTCGGAGCCCAG
81372	IFRD1	TACTATTGAAACTGGTGAG
81373	MAPK1	GCGGGAGGGGCGACAAGAGCTGAGC
81374	ACPP	ATCAGCCTGGGCAACATGGTGAA
81375	HD	GTCAGAGGGACTGTCAGCTGAGCTTGA
81376	STK31	AGACCTCCGGCCTGAATGATCT
81377	ACADS	CCTCACCACTGTGCCTCAAGTT
81378	TRPM2	GGGCAGCAGGCCTGGTTGCAGCTGG
81379	MPP5	CAGTACACATGAACAAGGCCAGTCCTC
81380	IQGAP1	CAAACCTGCCTCCCACTTCTCAC
81381	PTGS2	AGTGAAAAGCAGAGAATTTTAT

81382	LZTS1	TCTCCATGGCCCTGTCCCAGGC
81383	APTX	TGTTCTGCAGAGCCTGAGCT
81384	CDC42	GCCCTTTCTGCACAGCTGGT
81385	BPGM	ACCACAATGACAGAAATGACAACA
81386	ABCD3	TGGACTTTTATGGCTCTATCT
81387	ADH1B	GCTAGGAAATATCATTAATTCA
81388	PTPRF	AAGGCATTCCTCATCACCATCGTGTTT
81389	SGT	GCCGCTCATGGCGGTGAGGTGTGTGC
81390	NKTR	CAGTTCTGTAGCTCATGAGTCTGGCAC
81391	GCN5L2	CAGGCCTGGTCCCCAAGAGCTT
81392	ZNF24	CTAGGTACTGTAATCTACCATA
81393	FXR2	CCCTGCTCGTTGGCTGTGGCAGGGCC
81394	CPN1	AGGAGGTGGGGCGCGTTTCAGTGG
81395	HOXA1	CTCCAGCCCCAGACAACAGCCCAGGC
81396	TDRD1	CCTCAACAGGAACATTGACTTG
81397	EGLN2	CCCTGCTCCCCTCCTACC
81398	NLGN3	TCTGCCCTTGGGGAAATGCTATC
81399	KCNJ11	GGTCTCGAACTCCTGACCTAGTGATCT
81400	BTEB1	CGCCTCGGGGGCGTTTTCA
81401	GALR1	CGTGTGTTAAAAAGTACTTT
81402	GSTA3	TTTCCAATTATATGCTAATTAA
81403	TM6SF2	TTTGCACGTTAACTCTA
81404	CCR3	TGGAGAAGTGAAATGACAACCTCAC
81405	REQ	TTCTCATCTTCTGCCTCCCTTCCTAC
81406	HIP1	ACACTACCCTGAGATCTGCACAGTCA
81407	CENPC1	GTCCGTGTGGGCTTCCACCTC
81408	UBE2V1	TTTCCTGTAACTGCTTTTGCT
81409	CR1	CCTGCCTCTTTGTGTGCGTCACTGTG
81410	SLC14A1	TGGTGCTCACGCCTGTAATCCCAG
81411	MLLT2	GAGCGATGCTTATCTCTCACA
81412	SSR4	TCGTTTTCTTTTCCTCTAGGC
81413	ZNF36	TGGTGGGCACCTGTAATCCCAG
81414	RET	AGCATTCCTTTCTCTTCA
81415	A1BG	TTTTTTAAAAAGTTTATTTTA
81416	GABRP	TTCTCATTCCTTTTCCCA
81417	RNF26	CAGGAGGGATAACCGGATTTC
81418	DIA1	GCGCGGGCCACCATGGGGGCCCAGCT
81419	RAD51L3	GTTCTCAGGCTGGCCAGAAGAGACAT
81420	DAZ	TGCTATACTCACAGTCTTGTTTTCC
81421	RNMT	TCTTTTTGCCTTAAGTCATTTTGGA
81422	CD1A	TTAGTGGTTAAGTGGCTTTTCA
81423	IL1A	TCTCTCCTGAAGCTCCATCCCCT
81424	SCNN1G	TTCCCACTTCAGCCTCCCA
81425	PCDHGA1	CTGAAGCCTCAGTCCTTCACCT
81425	PCDHGA10	CTGAAGCCTCAGTCCTTCACCT
81425	PCDHGA11	CTGAAGCCTCAGTCCTTCACCT
81425	PCDHGA12	CTGAAGCCTCAGTCCTTCACCT
81425	PCDHGA2	CTGAAGCCTCAGTCCTTCACCT
81425	PCDHGA3	CTGAAGCCTCAGTCCTTCACCT
81425	PCDHGA4	CTGAAGCCTCAGTCCTTCACCT

81425	PCDHGA5	CTGAAGCCTCAGTCCTTCACCT
81425	PCDHGA6	CTGAAGCCTCAGTCCTTCACCT
81425	PCDHGA7	CTGAAGCCTCAGTCCTTCACCT
81425	PCDHGA8	CTGAAGCCTCAGTCCTTCACCT
81425	PCDHGA9	CTGAAGCCTCAGTCCTTCACCT
81425	PCDHGB1	CTGAAGCCTCAGTCCTTCACCT
81425	PCDHGB2	CTGAAGCCTCAGTCCTTCACCT
81425	PCDHGB3	CTGAAGCCTCAGTCCTTCACCT
81425	PCDHGB4	CTGAAGCCTCAGTCCTTCACCT
81425	PCDHGB5	CTGAAGCCTCAGTCCTTCACCT
81425	PCDHGB6	CTGAAGCCTCAGTCCTTCACCT
81425	PCDHGB7	CTGAAGCCTCAGTCCTTCACCT
81425	PCDHGC3	CTGAAGCCTCAGTCCTTCACCT
81425	PCDHGC4	CTGAAGCCTCAGTCCTTCACCT
81425	PCDHGC5	CTGAAGCCTCAGTCCTTCACCT
81426	USP6	GCCTCTATGTGCTGTTTTTCCTCA
81427	RBM3	CCTGTAATCCCAGTGACTTGG
81428	C1orf1	CCTGCATTCCAGCCTAGGCGA
81429	CHRNA4	CCTGTTCTGTGTCTGCTGTAAGACGGC
81430	FZD3	GTGTTTTTATAACTTATCCATATGCA
81431	SLC9A3R2	TCTCCAGCTCCACACATGTT
81432	ATRN	GCAAGCACATCATGACCCTTTCTG
81433	POLR2E	CACCAGCCACTGCTTCCTCCT
81434	DNASE1L1	GCTGCCTTTTGGGACTTAAACCCCAGC
81435	MFAP2	GAGTGACCCGGACAGCTGTCCTCT
81436	KLK3	CAGACACCTCCTTCTTCCTAGCCAGG
81437	SMARCD1	TCCTGCTGTTTGGAGATGTGA
81438	C18orf2	TTTCTTCCAAACTCCTGGGCCTCC
81439	MKI67	CCGGGGGCATTTGGTCCCCAAAT
81440	ADCY1	GCTCTGACCCTCTCCTGGGCA
81441	ARCN1	AAATGAGAGACATTTTGTAACCCTGT
81442	PAICS	GGAGGCTGAGGCATGAGAATTGCTTGA
81442	PHKB	GGAGGCTGAGGCATGAGAATTGCTTGA
81443	DSC3	GAGAGAGCTTCCTAGGCCTGG
81444	PBX2	GGAGAGGGAGGAGGTTGCAAAA
81445	TNFSF14	AGGCTGAGGCAGGATAATTTTGCT
81446	SLC7A8	CCCACCCCGAATTCTGTCTGCTT
81447	CXorf6	AACACCACCAAGTTCCTCCA
81448	RAB36	CTGGTCCACTAAATGCAGCCT
81449	RGS1	GAACAGCTTGGCCTTTTGTGGG
81450	ATF6	TCTGTACCTTTCTAAACCTCTCTT
81451	HK3	TCCCTGAGAGAAGTAGCACTCAGGTT
81452	ACE	TTCAAACCCCTACTGACCTGGCTGGTG
81453	CYP26A1	TCAGCACACCTTGGATGGGGGAGGCGG
81454	CDC25C	CACTGCAGAAACCCTGAGCAG
81455	DCX	CTTTTATGGTTGTCCAGTTTGC
81456	CRKL	TGGAGAGAAGTTGACGTGGAAAGG
81457	IL12B	TCTGGAATCCCTTTCTCATTAGC
81458	DLEC1	TGCCTGAGCTGCAGCTCTCCACCAGCT
81459	HIP1	TCCCAGGATCTGCTCCAACAGA

81460	HOXC6	AACCTCTGGGTCCGTTCTCGAA
81461	UBE2L3	TGCCTTCAGGGTAGGCTCTGA
81462	PPP1CB	TCATCCAGGTCAAGACTAAGT
81463	NYX	AAGGGGCAGCAGGGGGTGTGTTTGT
81464	VHL	CAGGAGGCGAAGATTGCAGTGA
81465	SPAG6	GTAATTAAATCCTTCTAAATATTTGAACTA
81466	SDHD	CTTTATTACGATTAGTATATGATCAA
81467	RIG	CCAGCTCTCCCCAAGTGCTCC
81468	HDAC7A	GGGAGAGAAGATACAGACATGGAGGAG
81469	KLRC1	GTGGTTGCCAATGTCTGAGGGAGGTT
81470	XRCC2	ATGCCTGTGATCCTAGCACTTT
81471	MYLK	CTGTCCTCTATGGCAATGATCTCA
81472	F2RL2	AAAGTGCTGGATTACAGGCGT
81473	PIGA	TTCTGTTGAGGAAAGATAAAAA
81474	SCNN1A	AGCCTCATACCCGTGCCCTCA
81475	DNAJB9	GCCTAAAAATGATTTTG
81476	ADD1	GACTCCTGAAGCCCTGCGCTA
81477	WBSCR14	CACTGGCCTGGCTGGACCAGTACTGC
81478	REL	ACCTGTAATCCTAGCACTTTG
81478	ZNF264	ACCTGTAATCCTAGCACTTTG
81479	AKAP2	GGTGCAGCCTACATGGCACAGGATATTTCC
81480	PKP2	AAAAGTTTGATTTACATTTATATTCCT
81481	AXL	CTGTGTCACCCAGGCTGGAGTGCAGT
81482	APOB	TGAACTCAGAAGGATGGCATTT
81483	MLLT3	TGGTGAAAGACGGTTGGGGATGGGGGGA
81484	PIR51	TAGCTTTGTCTAGTTTATAGCACCTTA
81485	PIP5K1A	ACCTTCTCTCCTTCCTCTTCCTCA
81486	YWHAZ	GAGCACTTACAAGGCTGTGGT
81487	PLAG1	GTTTTTAAAAACCATATACTGACTG
81488	ZNF141	ACTGTACAAATGTGAAGAAT
81489	INSR	ACGACTCTACCATGTCCAG
81490	COLQ	CCAGGAGACTCATGAGGACTGTGTG
81491	SFRP1	TTCAGTGCTCATACGTATCTGCT
81492	KLHL3	GAGAACAACAAGGTACCCAGAA
81493	ADRB3	TTCTTTTCATAATCCACT
81494	HMGA2	ACTACTCTGTCCTCTGCCTGTG
81495	OTX2	CCAACACAGCCTCCACTGTGAT
81496	RPP20	GCTGGCTGGCTGCTTGCACCCACATC
81497	CLN6	ACTGCCCTCTCCCTGCCTGGG
81498	EVPL	GGATACGTACACCTCTTGCCT
81499	INHBA	TAAGTTGCCCAGCCCAGGG
81500	SIX1	CGAAGGGATTCCTGGAGCAGC
81501	BMP8	ACCTATAACCCCAGCACTTTG
81502	SUDD	CCACTGCACTCCGGCCTAGGTG
81503	PAX7	CTCCCCAGCTTCTGGACGCGTTTG
81504	CHD2	GGTTATTTGGAAGCAGTTTCCT
81505	KRT4	AGGTTCTCCCAGAGAGTAGTGTGATGGGA
81506	WNT1	TGGGGCTCTGGGCGCTGTTGCCTG
81507	BTRC	CTCTGCACCTAGTTTTTTCCCA
81508	PFKFB4	CAGAAACATGCATTTGCCATAAAT

81509	PDGFRB	ACCCTCTCTGGGCCTCAGTT
81510	ADARB1	TGGAAAACTTTTCTCAGTTTAC
81511	RANBP3	TGTGTGGCTTCCTGCCTCTGCA
81512	CAPN10	CCGGCCACCTGCAGAGCCTCT
81513	CLDN14	AGGCCGTTCTAAGGAACACTGT
81514	DYRK1A	TGAACAAAAGCAGGTTTTTATATGTA
81515	GBF1	TGTCATCTGCAGCCTCTGCCTCC
81516	KCNE1L	GCGCGCCTCCCACCTTCCACCCCCA
81517	SHOX	CTTGGTGGTTTTCTTTCCTAAC
81518	GNRHR	AAGAACATATTCATATTATAC
81519	LTB4R	AAAGTGCTGGGATTACCGGTAT
81520	PIN1L	GAGAAGATCTGGTCAGCAGAGC
81521	AGTR1	GCAAAGTTATATTTAC
81522	RAP1A	CTGATTTCTATGGCTTTCAAAGCT
81523	PTPN1	AATGGCCATGGAATAAACCAT
81524	EHD1	TTGCTGTGGCTGGAGCTGGACAGT
81525	MEF2A	GGTTCACTGCAACCTCCGCCT
81525	MHC2TA	GGTTCACTGCAACCTCCGCCT
81526	IRF2	TATGAGCTCATCTAGCAATCAG
81527	PRM1	GCATTCAGGCCAAGCCCATCCTGC
81528	HTLF	AATACTCTTTCACTTAATTCTTTA
81529	ZNF74	TGCAGTGAGCCATGATTCACAGCACTG
81530	PRPF31	TGCTGGGACTGCCCAGGGAGGAGGCCT
81531	SH3BP5	TGTATGCTGGGATACCCATTAAAACCA
81532	HK1	CAACCAACAAACAATGCCATCACTGGA
81533	SLA2	CCTACTTCCTTCCAGTGCCATGA
81534	CYP27A1	TCCAGCTCTGGCACAGTGGTTCCT
81535	RAI3	AGTGCTGCCTCACATTGGGCCTCAG
81536	A1BG	CTGTCACCCAGGCTGGAGTGC
81536	CMAR	CTGTCACCCAGGCTGGAGTGC
81537	MME	GAATTTGCCATTCTGCTGTACA
81538	ZNF174	CCGTTCCCCCTAACATCCTCAGAGAAC
81539	LIF	TTCTGGCTTCTTCTCAAACCCTGAGC
81540	CLN5	TTACATTCCATTCACCTAACTTTAGACA
81541	GBF1	GTGCCGGCCCTGCAGTGCCTGC
81542	CTSB	GCACAGAGCGTCCTTCCCCCTGTAGACT
81543	SPARC	ACCCAAGACATGACATTCTTA
81544	DNM1	CCCAACTACCAGAGAACGCTGTCCCCC
81545	GPT	CTGGGAGGCTCTGGAGCCCACTGTAC
81546	MAFF	CCAGAAGGCAGAGGTTGTAGTGA
81547	VCL	GCAGCCCTGTCTGAAGGACACTTCCTG
81548	SIM2	CACCTGTAATCCCAGCTACTCTG
81549	EMX2	GGTGGAGAAGGAAAAAACCCT
81550	RAD52	AAAAGCTTGTCCATCACTCTAGTAGG
81551	SFTPA2	TTTCTGCTGATGAACAAATCTGCACC
81552	TNFRSF6	CGCAAGAGTGACACACAGGTGTTCA
81553	SYNGR1	CACAAGAGAGGGCCCAGGAAAAAAGGTT
81554	VPREB3	CTTCTACTTGCCTGCCTCCC
81555	SLC4A4	CAAGTGTCTGCCTTATCAAAAGA
81556	HTR6	GTGGTGAGTCGCGGTCTGTT

81557	TAZ	CAGAGCTGTGGAGAGGGGACCCTAAG
81558	CEACAM1	ACATTCCACCATTTTAATTTTTGTAA
81559	DMP1	AGTTTGCAAAAGCACTTTGA
81560	SCD	TACCCCTTGGAAATGT
81561	TGM3	GGGGCATTCCTGCTTCTCTCTCA
81562	B3GALT5	TGAGACAAATTTCCTCTTG
81563	FLT1	GCCAGTATTATGCATATATAAG
81564	HPGD	AGCTACTTAACAATGACAAATATTTCA
81565	PIP5K1A	CATAGCCCTTCCTAGGCAG
81566	ENTPD5	GCCTCCACCCAGCCACATCTT
81567	AQP6	CCAGGAGGGACCCAGGAAACTAAG
81568	SIRT5	GGCCCCCACCTCC
81569	RCN1	GTGAGTGGGTTGAGGGAGGCAGT
81570	AFG3L1	ACGTTATTTTCCTGGTGGCTG
81571	MEF2C	ACTTTTTGTATAGAAAGCACT
81572	GCNT2	AACAACAAGAGAGGGCAAGTCC
81573	OTOF	ACAGCCTCCCTGGCTACATGGT
81574	SLC7A7	CTTTTACTGCTGGCTGGGAAGGAGGAG
81575	IL1R1	CGGTCCCCCCTCACTCCACAC
81576	P2RY6	TTGTGCTCAGGCCTGTGTT
81577	SYCP2	TACATGTCACCGAAGCAAGTGTA
81578	CXCL6	AAGAATAAGAAGGAAGGGTTGG
81579	ATP8B2	ATTGGGAGAGAGAGGCCTGA
81580	ZNF138	CCTACAAATGTAAAGAAT
81581	TAPBP	GGAGTAGCTGGGATTACAGGCACATGCC
81582	TCF2	GCTGGGTGGTGTACAAGCAT
81583	FHL1	GACATGCATGGTTTAACTTCC
81584	PPP2R5C	TCTTCATAAAGTTCTGCGTTTGG
81585	ALOX5AP	TCTGGGCTTCACAGCTTGAGTTA
81586	CDC6	GTTGCCCAGGCTGGAGTGCAATGGCGC
81586	MLANA	GTTGCCCAGGCTGGAGTGCAATGGCGC
81587	NF2	GTCGCCCAGGCTGGAGTGCAATGGCGT
81588	PCTK3	CCCCTGCCCTGCCCACCTCA
81589	SLC6A4	GGCACGCCTGCCTTCTCCCCTCCA
81590	PSMC2	TCATTAAGGAGCGGAGGCTTTTGGAGC
81591	TBL2	CTGGTGGCCCTGCTTCTTCCCATTG
81592	CORO2B	GTGAGCCAGGCAGGGTAGGGATTAGTG
81593	SSR2	AGAGGGCCCTCTGATGCCCCAC
81594	PCBD	GGGAGTCCAGGGAGGGAGCTGAG
81595	TM6SF2	CTGCCTCTTCTTGCTCACTGTGTGAC
81596	P2RX4	TAAAACAGATCCCTTCTGCCCCA
81597	GCNT3	CTGCCTGGGTGAATGCTGC
81598	IQGAP1	CAGTCTTAGAGGTTGCAGTACTATAT
81599	TNFSF12	CGGCTCCCCTCGACAGCTCTC
81600	FACL2	CACTTTATTGTGAGTCTTTGCCA
81601	S100A8	TCTTTCAGAAGACCTGGTGGGGCA
81602	SOX13	CGGAGCCATTTTTAGCTCTGATC
81603	IL1R1	CCTCTGTCTCTGCTCTTGCCTCGACCC
81604	PIGA	TAACACCATTAGACACTCAC
81605	TNFRSF11B	GATACTTCCTGTTGCCGG

81606	RABIF	CTTTGTATCACATTTCCTAAG
81607	ACTN4	GGCCTCCAGGAGGGGCCTGGGCA
81608	MECP2	TAAAAGCAAGTCCTGCAACCAA
81609	ADAR	TAAAGGATTTGGTGAAACATTTGTA
81610	PXF	CTGTTCTGTAGGTTAAGTCCA
81611	SNX9	GCTGCTCTTATGTGAGGACCAG
81612	ACE	CCATCATCTTCCGCGCAGGTGCC
81613	MSH3	ATCACGTCACTGCACTCCAGCTT
81614	RGN	AGGAGTGGAGGTCAGAGTGTCACTT
81615	RCE1	CCCACCCCCCACCCCCCA
81616	GNPI	GCAAGGAAGCAGTCTC
81617	UBE2V1	CCCAACACCTTCCATGACACTTCCTT
81618	PCOLN3	TGCAGCTCCTCCCCTTGGGCAGGCTGG
81619	LAMC1	AAGTCCCCAGGTGAACATGGCTGAAGA
81620	SFRP1	GCCACTGCACAGGAGGAGGTGACA
81621	RNF3	ATGTCCACACACCAGCCCACGG
81622	ATP1A1	AAGGAACACCCGGAAAGACTGA
81623	PHB	TTCAGAGACTGCCCTTCTCA
81624	STK10	TCCAGCCCCTCGCCCTGTGCCACCC
81625	HOXA10	TGGGCACATCCTCTCCTCTCTCC
81626	AK2	TAGTTATTCACTGTGCTCCTGT
81627	ZNF278	CCCTCCAGGCTCCGGGACCCGGCCCG
81628	DNAJB1	GGCAATCTTGGCACACGTGGG
81629	SHFM3	GCTTCTGACTCCTGGGACTTTGGA
81630	DISC1	TTTCAATTAGGCAGCACTTCCCAAA
81631	DLGAP2	ATAGCACTTTGTTTCTTCACCTT
81632	IKBKAP	AGACAAGTAAAACAATGTTTC
81633	RAD23B	CACTTTTGGGGCCAATGGAGAA
81634	SLC26A4	CAGACTCAAAACACTCATTCTTTTTTCTA
81635	VANGL2	CCTTTTCTCCCTGCCTGATTCTCTGA
81636	HYAL4	CTCAAGTGATCTGCCTGCCTCAG
81637	SPN	CTCAGGTGATCTACCTGCCTCAG
81638	CHST6	GAGGTGGGGAAACTGAGTCCAC
81639	CDC34	GGGCCCGGTCCTGCCTGTCAGCTCCA
81640	SYNGR1	TTCAGGTTCTCCACTGACTCA
81641	REQ	GAATTGGGAGCCTCTGCCACC
81642	RPIP8	CTGTGTATTTAATAAATGGACA
81643	CDYL	GAGGAAGATCGATGAGTTCTGGTGTCGG
81644	MAX	TCATCCCACTTCCTTTCCTAC
81645	OCRL	CTGCTAGTGGGATTCTATATTTC
81646	HLCS	ACCACAACCTCTGCCTACTGGGTTC
81647	PIP5K1A	GGTCATCAAAAAAGGAGTGTAATA
81648	SNX3	GCCGTTTCTCCCCTGGGCTCGGA
81649	BMP6	ACTATCTCATGCCAGTGCCT
81650	CD5	AGGCCAGCTCACACTCTGCTGCAC
81651	IL17BR	ATCTGAAATATGTTTCCATCA
81652	ZNF264	ACTGCCTCAGCTTCCCTAGTA
81653	RALBP1	TGCTTTGTTTGCTTTAAAAATTCCAC
81654	SCD	CACAGTGTCTGTTCAGCAAACTAACCA
81655	MS4A1	TCAGATGCATGACACAAGG

81656	FGF23	TGGCATCAAGGACTCAGGGGGAAAGA
81657	GUCA2B	AGGGACACCTCGCCCTTCA
81658	FOXG1B	ACCCTTTAATACATTACATCCCTG
81659	CASP2	GCCACTGGACCACAGGAGGTGTGATA
81660	NELL2	CTGGGGCAAAATTAGACCTCAAGTCTG
81661	CSNK1D	GAGAATTGCAGAGAATCA
81662	PRSS7	TTCTAGTTCCAGTTTAGTTTGCTGCTA
81663	SMARCD1	CTCTTCCCTCTCCCTGCCTCAC
81664	SIAT1	GCTCTGCATCCCTTCTCCCATACCTTGC
81665	EIF4EBP2	TTTGTCTCCCCTAGTCCCC
81666	APPBP2	CTCAAAGCTGACTTTGCCAA
81667	OXTR	ATGCTGGGGTCCTTGGGGA
81668	EMR1	CACCTGGCTACCATTTTGTT
81669	B3GALT5	CAGAGCCTGGACCAATGCCC
81670	NT5C2	TGCCCAGGCTGGAGTACAGTGA
81671	FGF23	TATCCCTCGTCATGTGGCAGTATTTA
81672	TG737	TCAGGAATGAAGATAAAAGTA
81673	YWHAE	GGACATAAGCCAACAAGAGAAACCATC
81674	FRDA	CCAACATGATGAAACCCCGTCT
81675	ZNF80	ACAAAACAAAACACAGCTTATC
81676	NT5C2	AAAGTTCTGGGATTACAAGTAATACAA
81677	AHR	CACTGCACTCCAGCCTGGCAA
81678	PTAFR	CATTGCACTCTAGCCTGGCAA
81679	ANKH	ACAGTCAGTCAGGATGACACTTCGGCATC
81680	CD28	ACTTAGTGACTTGACTGAGA
81681	NEBL	ATAGAGAAGTTGATTGTCCCTTA
81682	TNFSF10	GCTGGGTGTGTTGGCACATGCC
81683	ENAM	TAGTCTCTTCTTTATGTCTAC
81684	G6PC	TTCCTCCTGGTTCAAGCGATT
81685	SOX12	GCACAGCCACCAGCAGCCAGCCCC
81686	SOX9	TTCCTAAGTGCTCGCCGCGGT
81687	SLC9A1	ACCTTTGCCCACACACACTCC
81688	GASC1	ATATTCCTATTACTTTTGATTGTGTC
81689	ITK	TTTAATTCTCACAACCAACCAG
81690	BCAS1	TCGATGATCACCAAGCAG
81691	GPR56	CTCCCGGGCTGGGCTTTTGAATTGGC
81692	LEP	ACAGTGAGCCAAGATCGCGCC
81693	SLC14A2	GCAGTGAGCCAAGATCACGCC
81694	NFE2L1	GCCAGGATTCCAGGCAGCAGGTT
81695	HOXA1	GTTTGCTGGTTGTAAATACTTTGTCCTA
81696	DPYSL3	GCTGTTACTCAGCCCCTGAGTCTGACT
81697	NDUFA6	AGTCATTCAGTGGAAAGATGCACGTT
81698	CCNF	AGCCTCCTGGGTAGCTGGGATT
81699	UMPK	GGAGTCCAGCAGCAGGCCGCATTGCCCGTCT
81700	BACE2	CCCTCACCCAAAAGAATTATCATC
81701	HEM1	GGGGCCACATGTGTGAATTTTAC
81702	FGF7	CCTATGGTTACAGCATTAAACTCTA
81703	CRY1	GTCTCTGTTTCTTTGTTCATTTATTA
81704	TRPM4	TGGGCTGCAGGAGGTTGCGGCGG
81705	EP300	CCGGGAGGGGGCACCGGGAGGAGGTG

81706	TXNIP	GATGCGGACTCATCCTCAGCCAGCGCCCA
81707	SP4	GCCAGCTACAGCCTCCTCCGAGCC
81708	HLF	TTAGGAAAAGCATCTGCCACAAAAA
81709	SHOC2	AGGATAATTGGGCAAATAAAT
81710	SEDL	ACCGTAACCTCTGCCTCCTGACTTCAA
81711	RHCG	TTAGCTGCCAGTCACCACCT
81712	NIF3L1	CATTCTACAAATCAGCTGGATG
81713	FGF2	GTTGAGTTAGAAATGCCTTCA
81714	ITGB2	CCGCCGCGGACTCCAGCACA
81715	F2R	CCAGGCAGCAGACACATGCC
81716	SEPN1	CATGGTGGCGGGTAGACAAGGGATG
81717	ATM	GGTGGGGTTTCACCATATTGCC
81718	CPNE7	GGAGGGAGGGAGATCATGA
81719	CNTNAP2	GACACTGTCTTCCTTCAAGAG
81720	ARAF1	TCGTCTCTGCCCTGATGCTGCCTC
81721	GRLF1	TGCAGTGACTTGTCATCAAGAGTC
81722	CBFA2T3	TCTCAGCCCCATCGCCCCAAC
81723	IPP	CCAGCACTTTGGAAGGCTG
81723	KCNK6	CCAGCACTTTGGAAGGCTG
81723	NFATC3	CCAGCACTTTGGAAGGCTG
81724	MSF	GTAGAATGGAGAGGGACCGG
81725	MYCL1	GGGGGTACCTTAAGAGACACTCCA
81726	RFNG	GCTCAGGACTACTTTCTGGGTC
81727	PTK2B	TCCCCGGGAACCTCAGGCCCGCGG
81728	MKKS	TGGAGTACACTGATGCTGAA
81729	PPARGC1	GTAGCAGAATAATTCTTCC
81730	CD2AP	ATCACAAAATGATATTTAATA
81731	KPNA3	GTTGCCAAAAGTCACTATCACA
81732	TARDBP	TTCTAATGTCTGTTAGCTACCC
81733	KCNAB1	GAAAGAGAGGGCTACACTGCTA
81734	APBA1	AGGATGGAGAGCAGCCAGC
81735	TCF2	TCATGCTGAGCGCTCTCTTAGGCACAG
81736	CD244	GGCTGAAGGGAGAGTAGATGGTGCAAAGCA
81737	ADCY1	CCGGGAGGCGGAGGTTGCAGTG
81737	BRCA1	CCGGGAGGCGGAGGTTGCAGTG
81737	PAICS	CCGGGAGGCGGAGGTTGCAGTG
81737	RBM3	CCGGGAGGCGGAGGTTGCAGTG
81737	TNFSF14	CCGGGAGGCGGAGGTTGCAGTG
81737	VHL	CCGGGAGGCGGAGGTTGCAGTG
81738	AIRE	TCGGGAGGTGGAGGTTGCAGTG
81739	VANGL2	AGGGCACAGGGCCCTGCT
81740	DGKA	CAGCTTGGGGGAGTGTTCCTTCACCCTC
81741	EGFL4	GTTTGATGAAGGGGAGTGACAGG
81742	RAF1	TTCTATTGACTTTGCACCTG
81743	DLGAP2	GGCGGCCTCAGAGTCCACGGAGC
81744	RB1CC1	AAATGTTCTTTAACTATATACTA
81745	WHSC1	GCATGAGCCACCGTGCCTGTCC
81746	GSTM5	CCCTGCTCCCTTTGCTGGGTC
81747	DMXL1	AAATTAGCTAATGCTTTCTTGTT
81748	DTX1	CTGTGGCCCAGGCCTCCTGGGT

81749	USP6	GGGCTGAGGTCAGGGAGGTCTGA
81750	CTMP	CTTTTTAACACAGAAATACTTCCTG
81751	GRPR	GTTGTGTCTGTGCCCTCCAAAGA
81752	NOC4	CCATGGAGGAATTTGTAACGATCG
81753	UBE2V1	GCTGCTGCTGCTTCCCAAGATCCTC
81754	FCGR2A	TCTTCTTTCCTATGCCCTCTCTGTGGA
81755	SMARCB1	CTCCATCTTCTGGCAAGGACA
81756	KCNK3	TGGGGGCTGGGTGCAGTGGCTCA
81757	TGFB1	ACCAGCCTGGGTAACATAGTGA
81758	CMAR	CTGCAACCACCATCTCCCAGGAG
81759	NFYA	AGCTTTGAAAAGTTGTGGCCTGCTTGT
81760	UBE2L6	AAGTTTGCAGTTACAGGCCAGTTCTCCA
81761	AP1B1	GCAGCCACAGAAGCTGTGCCTGAA
81762	WIG1	CACGAGGTCAGGAGGTCGAGAT
81763	GADD45B	CTTGCACTTGTTATTCGAACCACTGA
81764	PRKG1	TGAAGGCTGTGGGATCTATTACA
81765	MORC	TAGTAAAAGAATAAATCTCCTAAGCA
81766	MAP3K11	AGGAGGGGAGGTGCAGGGA
81767	NKTR	TCAGGCTGGAGGCCAGCC
81768	TACC1	CACTGCACTCCATCCTGGGTGA
81769	COL4A3	ATGTGCACTTTATCCTCATTCCA
81770	C8orf1	TACTTCCTGCATTTTAACAAGA
81771	TIMM17B	TGAGTATTTAAAGCCCGTTTTGAAAT
81772	FBXO7	ACATTTATAGCCCTAGGGGTGG
81773	NCOA3	GCCATTCATGTCCTGTAATACT
81774	RAPSN	CCACTCCTGCTCTTTCTCCA
81775	PTPRO	TATACGGGGTTACAAAAAGA
81776	TIMM23	TAGTTCATCTAGGATCCTTTT
81777	ROCK2	AGTGCACACAAGGATTGAGAAGAG
81778	PC	TTACATGTTCATCTCTTGCCA
81779	CD80	GCTTTGCAGGAAGTGTCTA
81780	RAD17	GGGGATGTTTAATACTGAATCA
81781	DNASE2	GAGAATCGCTTGAACTCGGGAGGCAGA
81782	TPM1	CTTACACCCTGCCCTCATGC
81783	PTGES	TCCCTCTCCCTCCCTAACAG
81784	BACE	GATTAGCTAGACTAGGAGACCA
81785	ZNF236	AGAGTTTTAAAGGTTCTGCTT
81786	MDM2	GTAGCTCATCCTTTACACCAACTCC
81787	KRN1	AGATCTGGGCTCTAGTGGGA
81788	NESG1	CGGAGTCAGGGCGTGTGGCTG
81789	EEF2K	TAGCCTCTGCTGCAAATGCT
81790	TLL2	ATCATTTTAAACAAAGTATA
81791	TEM6	TTTGCCTTGGTCGTTGTGGACC
81792	SSX1	GAGGAAGATGACGAGTACTCCCCTGGG
81793	DUSP1	GGTACATCAAGTCCATCTGA
81794	CCKAR	CGGTCATTAGAGGAATGAGCCGGG
81795	LRRC2	TCTACTACTTGAATGATTTTGGA
81796	TEM8	GTTCCCCAGGCTCACAGTGTAGAGACA
81797	NUP98	TGAGACTCTGTCTGGATTTGCC
81798	GRB10	GCCCGCCAGCCGTGGAAATGT

81799	CCND3	TGAGGGGGAATAGTCTAGATGGCTCCT
81800	CCNG1	GCCGAGGCCTCCACCCAGGACAGTC
81801	TEM7	AGGCTGAGGTGGGAGGGTTGCT
81802	ADAM29	TGACTTCTGCTCTGGACCAGTGTTT
81803	SNX5	GATTGTCAGGGAGGTGCCA
81804	SUFU	GCCCTACTGGCCTTCCCCCACCA
81805	HF1	AAATGTCCTCTTAAAAGATCC
81806	INPP5D	CGGGCGGCAGGTTGCAGTG
81807	ED1	TCTTCTTTCTTCCACCCACAA
81808	PLEK	ACAGCCCAGGGGTGGGAAGTTTTCAT
81809	SLC7A6	CTGGAAGGCAGGCCAACCAGCAAAAT
81810	HPS3	ATTCACAACCATGTGTCTTCA
81811	SURF5	AGGACATCTGTGCCAGGCTTCC
81812	OXTR	CTGGGGGCTCTGGGCTTGTGGCCGGTA
81813	SLC24A1	GCTTCAGAGCAAAATGAGCTCG
81814	UBE2G2	TGGGCTGTGGAGGTGGGCATGTGG
81815	TIMM17A	ATTTAATTACTGATTGTGTTT
81816	TFRC	ACCCATTCGTGGTGATCAATTAAATGT
81817	HAS2	TAATGCCACCAAAGGAGACAT
81818	TR2	AAAAGTTTTTAATACTGTA
81819	PCDHB7	TGTACTCTTGAAGTCAAGCAAT
81820	ACPP	AGAGCGAGACCCTGTCTCAATAAA
81821	ESR1	AAGGCTCATTCCAGCCACAGGGCAGC
81822	SRD5A1	TCCAGCCCAGCCCACCGGGT
81823	EEF1B2	CGCCTCCGTCTCTATATAAGGA
81824	EYA1	TGGGCAGACCTACAAGGCTGCGCAAAC
81825	HUNK	GGAGCAGAGTTTCTCCCTCAAAGAA
81826	GP1BA	TCTCCTCCTCTTGCTGC
81827	CBLB	CAGGATGTCGACAGCTGTGGCTTCC
81828	GLUD1	GTCCTCAAGTGAGTTCTTAGTATT
81829	SLC20A2	TCTCCCACCCTCACTGATCACGC
81830	SLC9A6	AAGTCCCAGTGCATGTCTCTGA
81831	SLC22A3	CATTTCAGCTACATCATGCC
81832	TRPV2	GCTCCTCTGCTGTCAGCGCC
81833	SQSTM1	TGGTTTCACTGAGAGCTGCCTC
81834	TGFBR3	TTACCCAGACTCAAGGAGTTGGT
81835	NRCAM	AGAGTGTTACTGTAGTATTCTCTAGA
81836	PCDH11X	TATTTACTTAACATTTTA
81836	PCDH11Y	TATTTACTTAACATTTTA
81837	SIL	TGCCTCCTGGGTTCAAGCGATT
81838	DAAM2	GTGCCCTGGCCCCAGGTATTAT
81839	NIF3L1	ACACATTCTACAAATCAGCTG
81840	GALR1	ACGGTGCCACCAGGCACGGCCAC
81841	TNFRSF9	AGTCTCCTGAGTAGCTGGAACT
81842	MME	GATACCCTTACCCTTTCCTCCTTTATCA
81843	MORC	AAACAATAAAACATTTAATATT
81844	SLC4A7	TCTGCTTTCTTTTGACTACTTGAC
81845	OCRL	CCAGACAGAAGAAATCTGCTTCCCTA
81846	NONO	ATCTTGAACTCCTGACCTCGTGATCT
81847	LRP2	GAATAATTAGAAACACACTTT

81848	CXCL16	CTGTCATCCAGGCTGGAGTGCAGT
81848	FANCE	CTGTCATCCAGGCTGGAGTGCAGT
81849	FLRT2	TACCATTCCAGCTGCATGGGAA
81850	RIMS1	TCCTCTTGATGTGACTAAA
81851	HSPA9B	TCTATGTCCCTAGCCTGTCATTTTTC
81852	LZTR1	ATTTGGTGGAGACAATGGGAA
81853	BACH2	GACTTTCATTCTCATTCCA
81854	VHL	GTCTTTCTCCTCTTTGAGACCCC
81855	NESH	TCCCCCAGCCGACCAGTTTCCTC
81856	DFFB	AAGTTGGCCACCTTGCTTGA
81857	FGF5	AGGCATCTTTACATCTAAGA
81858	CTMP	CCAACACGGAGAAACCCCGTCT
81859	SCN3A	TGGGTTTTATGGATTTCTTTGT
81860	CARD4	GGCGATTACAGAGAACGTCT
81861	KCNS3	GAAACTAGGAGCCTAATAAA
81862	TK2	AAGTTGGGATTTGCAAATAAAGGC
81863	GPLD1	CTCTCTCATGCTGAATCACATCC
81864	ANK3	AACCTATACGGTAGTTGCTTTAG
81865	STXBP1	GCTTTGAAATCTCCCCTTGCACT
81866	PVR	TAAGCCTTTACTGCATAGCAGACCACA
81867	CLN2	ATACTTCTCAATCTTTGCTTTA
81868	NAPB	GGAGATGGAGACCTAAAATGAATGT
81869	SORBS1	GGGTGCTTCTTGATTAGTAGGGA
81870	ELOVL4	GAGAGCTTGGGGGTGGGGAGA
81871	PIK3R3	TCTCTGAGATGAGGAATAGCATTCTT
81872	SOX13	TAGATAGTGCTTTATTTTGTT
81873	JUP	CTGCACCCTGCGCCTCCAGAGG
81874	FUT1	GCGTGAGCCACCATGCCTGGCC
81874	STARD4	GCGTGAGCCACCATGCCTGGCC
81875	MLANA	GCGTGAGCCACCACGCCTGGCT
81876	ABCC5	GATTTTATCTTTCGCACAGCA
81877	SMAC	GCTCACTGCAACCTGTGCCTCC
81878	KIF3B	GAGTTGAGGGAAGGAGCTGTAT
81879	FACL4	GGCTGTACTGCTATTCTTACTGCTG
81880	NFE2L1	TGGAGTTGCTGGAGGTAGAGG
81881	ZNF36	ACTTGATTGTATACTGTCTTT
81882	BAZ1B	CCCACCCCACCCCCGGGCGCCT
81883	RUNX3	GGAGAGAACAGGAGGGCCAG
81884	INHBB	ATGTCTGCTTCTTCCCAGCCTGGG
81885	CACNB1	AACCACTGTCCTGTCCTTTGTGGC
81886	DNA2L	TATCAGATGTGTTTTCACT
81887	BAALC	GCCAGCACCTGGTTGATGTGTATTCA
81888	DGKG	ATAGCACACCTTAGATGTGGT
81889	TRPC1	GTTTTTGAAAAATACAGTCAGTAGAT
81890	IL12RB2	TGGCTCCTAGATTATTGAGAG
81891	ZNF143	TCGTAATTCCAAAAGCCATT
81892	SLC22A3	GTTCCTGAGATCTGGGTTTAACGATCT
81893	PDGFB	GGGTTAGAGATGGAGTTTGCTGTTGA
81894	PPP2R4	CTGGGTTTCCTGACTGTAGCCACAT
81895	DISC1	CACCCAAGTTGGAGTGCAGTG

81896	HPCAL1	GGGTCAGACCTGGGGTCCTC
81897	DSCR3	AGCCTCCTGAGTAGCTGAGACT
81898	XRCC5	TGGCATGGTTATTGATGAGTTTCTTAA
81899	DIA1	TGCATGAGACATTGACACCAGA
81900	MSN	CATTGGCCATTCTATTGTGGCA
81901	PCDHAC1	CCTCAAGGGACTTATAGTTTATTTTT
81902	ATP11A	CACACGTGTATGCACAGCAGA
81903	GYG	TTGCCCAGTGCTGCCAGAGTGAGTG
81904	DCTN1	GCCCTTCTCTTGCTGCCTCCTGGGCA
81905	MGAT2	CCTGTCAGAACAGTCATTTTC
81906	APOB	GTGCCCTTCTCGGTTGCTGCCGC
81907	GTF2I	TACAAGAAGCTAGGCTCTGTGACG
81908	CA11	AGGCTGAGAGGAGTAGGAAGATCAGG
81909	SLC10A2	CTGAGCTTTCTAAAATGATAGCT
81910	OLFM1	GTTTCCGATGGGACAGGAAA
81911	ALPI	GAAGAAGAGAAGCTTCCGGCA
81912	MYCBP	CCTGCCTGCCTTATTTGCTTACTGA
81913	PBX2	GGCGGGGGTTGGGGCGGAGGGAGCAGC
81914	TRPM6	GGCCTAAGGTGAAGCACTCCT
81915	RRAS2	TTAGCTACCAACGGCCAGGAAAAG
81916	IL10RA	GGAGGCCTGTGCTTGTGTTTGCTGCTA
81917	ABCD2	CCGGTTTTGTTCGCCAGCAGAT
81918	ZYX	CCCGAGCAGCCTTTGTACTC
81919	FUT9	GAGCCTATCATTTGATTTGA
81920	PKHD1	GTCAGGATATCTTTGGGAATGG
81921	IL21R	GCCCCTGGACGAAGGTCTGAA
81922	CD244	TGGGTGGAGGGGTTAGGTTGTTCAC
81923	FCAR	TGTCACCCAGGCTGAAGTGCAGT
81924	SDC1	CTTGCCTCTGTGCTGTGTGTG
81925	TPMT	GGGGGGCGGAGGTTGCAGTGAG
81926	PLAG1	GTTTCATCCTTCTTAACATGCT
81927	TNFSF14	CCAGAAGAGGAGCAGGGACCCTTCTT
81928	JAM3	GCAGTGTCCATTGTGGAGA
81929	ABCG1	AGCTGGGTTGGATCTTCTCTCCA
81930	HMGA2	AATCATCTGCAGTTCTTTTTGTACAC
81931	SEPN1	GGCTGATCTGGAACTTCTGACCTCA
81932	CLC	GGTTCAGGTTGGTGCAGAGGCGCTCA
81933	FBXL2	GTGGAGCAGGGTCTTCACCTT
81934	PTK2	ATTCAGTGCCTTCTGCAG
81935	DUSP4	CCTCTAGCCCCACCATTGCTCTCTCT
81936	GALNT3	ACAGTGAGCTATGATTACACC
81937	ADRA1D	CTGGGCAGAGCTTGAGGCTGGAGCCCTTG
81938	CLOCK	GCCAGTTCTGACAGTGTTTTAGGTG
81939	TAF4B	CTCCACTCTTCCATCCAGATCC
81940	ATRX	TTAAATGCCAATCTTCCATA
81941	CAPN9	CCTTGTAGAGATGCAGCCTG
81942	LOH11CR2A	ACTCTGCTGTTTACAGCTTTGA
81943	FGF23	CTGTGGACTGAAAAATCGTGTCC
81944	UCP2	CACTGGCAGCTTTGAAGAACGG
81945	TCF1	CGCGTCTACCCTGGGATTCAGGAAAAG

81946	SIL	GTCTCAAACTCCCGACCTCAGG
81947	MPP2	CATGGCCCACAGCAGGCACAG
81948	FDXR	ATCTCTCTACTGCTGGACTG
81949	CSNK2A2	ACCCAGGCTGGAGTGCAGTGGCGCA
81949	FSHPRH1	ACCCAGGCTGGAGTGCAGTGGCGCA
81950	GRAF	GCCCAGGCTGGAGTGCAGTGGCGCG
81950	INMT	GCCCAGGCTGGAGTGCAGTGGCGCG
81950	PCDHB9	GCCCAGGCTGGAGTGCAGTGGCGCG
81950	TAPBP	GCCCAGGCTGGAGTGCAGTGGCGCG
81950	YES1	GCCCAGGCTGGAGTGCAGTGGCGCG
81951	TNFRSF1A	TCAAGATCACTGGGACCAG
81952	TEC	TCAGAATCAGATGGAAAATTAAACCGG
81953	SIM2	GTGACATCAGGATTATGTGCCCC
81954	NRL	TCCTCAAGTCATGCCCGAATTTAG
81955	PSAP	TTGCACTAAAGTTTCTGTGAT
81956	SLC7A7	CTGTCCTTTCTTCTGGGCCCCTGGTC
81957	SFRP4	AAAGCAGAAACCATCTCA
81958	101F6	AGGCTACAACCACTAGCACGGCTGAC
81959	TCFL4	TCTCCCATGTCTCAGTGTTGCCT
81960	NEK2	CCATTGCTCTGTAGTTCAAATCTGTTA
81961	CACNA2D3	ATGTTCTCTTGGCATGCTAAATCAT
81962	SPON1	CCTCTGGAGCTTCCACCTGG
81963	VCY	GTATACACAGGGAGGCCAGGC
81964	DPP4	ATGTGGGCAGTGATGTCACTAGGGC
81965	NR4A1	TGGGCAGCACGTCTCTCCCCAC
81966	HPN	CCGGTCCACAGGTCCAAGG
81967	BCL10	GTGTGTGCCACCATGCCTCACT
81968	CRI1	TTTGTACATGTATCTTGATCATT
81969	MAP2K1	CCTGTGCCAGGCTGAATTACAGT
81970	FGF5	CCCACCCCACAGCAGGCCCCG
81971	FGF12	GCCAGTAGCTAATTTGTTGC
81972	TNFRSF1B	CCACTACACTCCAGCCTGAG
81973	BTEB1	GTGAAAACTGAGCCCCAGAAG
81974	NOTCH1	TCTTGAAATGTAGGCATCATGCA
81975	RNF4	GCCGGCATGCCTCCTCTTCC
81976	MGAT5	GGAGAGGGGTGTGATGGGGCAGAGGAA
81977	XPR1	CTGAGATATCTCGGCTTCCGCTCA
81978	GBA	CACTGGGCTCAGCCTGGGCATTAAAG
81979	SHOC2	TTGGGGGAAGAGAAACTTGCAGTGA
81980	IRTA1	AGCTCACTGCTGGTGCTG
81981	CDKN2D	GAGGGAGGGTGAGTTAGGGGGAGACCCGGCC
81982	MANBA	GTGCCGGGGTGTCCTGGAATCTGTGCC
81983	APM1	AAACCCATGGAGGAATTCTGAAGCCAT
81984	PAX3	TTACCCAGACTGGTTTGGGCAAGC
81985	PROK2	AGAGGAAGTATTTATTTTAA
81986	EFNB2	TCCTGGCAGGTGCCCCAGGATGCCACGC
81987	MTCP1	TCTCGTACAACTCTCCCTGGACCA
81988	PLIN	ACAATCAGATGCAAAAGCT
81989	FLNB	AAGTGATCTCAGAGGGGCCCATGG
81990	KIT	CTTCCATAATGCTACTGTCTCACT

81991	CNTN2	GCCAATCATGCGCCCACCTCTCCAG
81992	CRY2	GTAGCTGTCCATCACACTGACAGG
81993	IL1RAPL2	GGAGGGAGAGAGGTGGACAG
81994	VWF	TGGTGGGAAAGGGAGGGTGGT
81995	POLL	ACTCCAGCTTTCTTCTAGCC
81996	DUSP4	CCAGAAGTGCCTGGTTCTGGG
81997	DNASE2	GCCACTGAAGCCAGAGGATCG
81998	ATP2B3	GCGCACACGCACACTCGGACTCAC
81999	EGLN3	GAATGAACCTTACTTGCA
82000	HNF4A	CCTCTGCTGCCTCCCTCTGC
82001	COL15A1	CCTTCCCCTTGGCGGCT
82002	AP3B1	TTAGAATCTGGCACACAACA
82003	GFRA1	GAGTGGGCTTTGTGGAAACAGCTGGT
82004	IL20RA	CAGTTTGTCAGTGTCTGTGA
82005	GCNT3	TCTGCATGATTTCTCTGGGCTTGCTGT
82006	VENTX2	GGCTAATTTTTTCTATTTTTAGT
82007	GPC1	CTGTCACCTGCTCACAGGGATGCT
82008	CNP	CGAACTCCTGGGCTCAAGCAAT
82009	SLC14A1	ATTGCTTGAACCCAGGAGTTCA
82010	AOC3	ATCAATTCTGATACAGCCTTAC
82011	FHL2	GGAGAGGGGAGCAGAGCCGGA
82012	PPM1D	AAATTATTTTATATCATACAGTTTTCATT
82013	GDF2	GGGGAGTAGAGGGAAGGAGCAGG
82014	AICDA	GTTGCTTGAATGTTGGGGAGAGG
82015	CPSF4	CCTGCTTCCTCCCTCCCTGCCCT
82016	HBA2	GCCCTCCTCCCCTCCTTGCACC
82017	NR3C2	GAGAGTGAGACTGGGAACTTGATGGCT
82018	CDK10	CTGTAAACCCTGACGGTGGGCCTGGC
82019	PTPRO	TTGTTTTCTGCCTACACCGT
82020	XT3	CTCCTTGCTACACTGAGAT
82021	RGS14	ATGAGACACACCCCACAGCTGCCACCG
82022	XT3	GCCTGTAATTCCAGCTACTCTG
82023	APPBP2	CTGCCACCACGCCTGGCTAGGAAA
82024	MEOX1	CCACAGCCTCTCCAAGTTCAGA
82025	GARP	CTTCCTGGCACTCTCAT
82026	TAPBP	GCTCACTGCAAGCTCCGCCTCT
82027	USP21	AGACGTCTATTTTTGTGTCTT
82028	PTER	TGCCTCTAGGGAGTTACTCAGCCTA
82029	M6PR	GGGATTGGGCTAAGGACTGT
82030	SLC4A4	TCATTGCAGCCTGAAATTTTAA
82031	APAF1	CAGACTTCTTACTTGAATGAA
82032	GPM6B	TAGGTTTCTGCAATTTTGTTAC
82033	EGFL5	CCCAAGATCTTCAGAAGGGCTTGGTTT
82034	ARHGEF12	TCAAGGCAAATCAGCAAGCCCCCAA
82035	CMAR	GCCACCCAGAGGCAGCAGA
82035	SPG7	GCCACCCAGAGGCAGCAGA
82036	CISH	CCAGGAAGAGCCAGCAAGAGCA
82037	PRND	GCCCAGGCTGGAGTGCAACGGCAT
82038	MSN	GCCGTGTGTACTGCGTGCTCAGCACTG
82039	CHC1L	ACTTACATTTCATGGACAGCATTAA

82040	EGF	CTTCCCTTGGCAGGCTG
82041	GCH1	TCTTAAAATTTCCTCCATTGGGG
82042	CR2	GCACTTATTCTCAAGAAGAAC
82043	JAK2	TTCATAACGTGTATCTTTAA
82044	BCLG	GTCATCAGGAATACTCTTTGTCT
82045	SEPN1	ACTTTCTCATGGTTTGTAGGTATT
82046	CALM3	CTGCAGCTGCTGCCGCCGCC
82047	ZNFN1A3	GCCTCACCCTTCTGCCCTTCACA
82048	RUNX1	GGTCCAGTTCTTCCCCCTTCACA
82049	TNFRSF10B	ATCTAGAGTGTCAGCCTTATCAGTGT
82050	KAL1	GATGCCTGGCCATTCCTGGGAA
82051	SIAT7D	CTACCACCTTTTGGTGCCACAC
82052	ICAM1	GCCTTATTCCTCCCTTCCCCCCA
82053	TAF1	ATCTTCCTGGGGCAATG
82054	SERPINE1	CCAAGGCGGGAGGATTGCTTGA
82055	APOL1	CCTGTAATCCGAGCACTTTGG
82056	ATP11A	TTTCATCTGCTTTCTATGTT
82057	LHX1	GCCCTCGCCCCCTCCCCCAGGCC
82058	CXCL16	TCGCTCTGTCATCCAGGCTGGAGTGC
82059	BACE2	AGCCAGAATTCACTAGGA
82060	COX10	TTACAGCCTTCACATTTGTACAATTCAT
82061	EGFL4	GCGTCACTGCACTCCAACCTGGGTGAC
82062	GPR4	GCCTCCACCTCCTGGGCTCTCCAGCGA
82063	SLC25A15	CATGTATGTGTTTCTGTCAG
82064	C7	ATCTCCCTGCAACCTCCGCCTC
82065	DHFR	TGCCCAGGCTAGCATGCAATGG
82066	GPR85	AATGCCAGTAGTATTTAGAG
82067	POU5F1	GGTGAATGACATTTGTGGGTA
82068	SC5DL	CCTCCAGGGGCTAAGTGATGG
82069	KCNA4	TTGTCAATGTTAGTAATTGTGCAGTG
82070	CD79A	CCTCTAAACTGCCCCACCTCCTA
82071	EIF5A2	TTCTATAAACTGAATTATTTTAA
82072	CASP8	TTCAGGCCATTCTCCTGCCTCA
82073	DEDD	TTTTCCCCTTTGCTTTCTTC
82074	SHANK2	ATACTAATATGTTTCACACTATA
82075	THBS1	ACAGACTCATCAGCATTCAG
82076	TBX3	GCCCAGCGCCCCGCCTGGAGTGGATG
82077	SPOCK	TGGTATCCAACTTAAATCCCAG
82078	CELSR3	AGGGAAAGTGGGAGAGGGA
82079	HMGN1	ATGGCTCTCTCTGCCAGAATTGTGT
82080	CUL3	GTGTAACATGGAAAGCTAAGGG
82081	CNR1	GTAAAATTATACTGTGTGTG
82082	TNR	AAGAGCCTCAGCAAGAGAGTTTTGCCA
82083	MOCS1	GCCCTTCTCACCCATGGCCC
82084	LMNA	GCTCACTGCCAGGCCAGCCTCC
82085	ABCC3	GAAAACTGGCCCTGCCCTGCCCCTGC
82086	ACK1	CGGAAGGCGGCAGAGGCTGGGAGGC
82087	WHSC1	GCAGGGACGGAGCTGACTTTTA
82088	MLLT1	CTCGCCTGCTTCATTTGGATATC
82089	STK10	GCCTTCGGGGTCTCAGTTGGC

82090	HAGH	AACCTGACCGTGGACGAGGGCACCA
82091	IL2RA	GGAGGCTGAGGCAGGAGGATTGCTTGA
82092	MAP3K12	AGGGACACTGGCAGCTGTGGAAA
82093	PTGDS	CCACACCACTGGCACCAGGCC
82094	RPS6KA1	TTGCCTTTCTGGGAGCAGAAACAGCCA
82095	RAD51L3	GGACAGCGGGAGGCTCAAACCTG
82096	SOX12	GCCTGTATCTGGTGTCTGAGTGAGGCA
82097	ABCD3	AACTATACCTGCTTC
82098	TCTE1L	CAGTGTATGACTCAAACAGCTGC
82099	ADAMTS5	AACACTGATGAATGTAAA
82100	ZNF198	CTGGATGAAGACACAGACTAAAAGGAA
82101	STAU2	GGTTCTTTGTGGTTAAAAGTTT
82102	NR1D1	GCCTCAACGTCCAACCCTTCTGC
82103	ABCA2	GCCAGGGACTCAACAATGGGGA
82104	CD2AP	AAACCCAAAGCTTTTCAAACTTC
82105	EXTL3	AAGCTCAGGTTTGTCCTGGTCAT
82106	TAZ	ACCATAAAAAGCTGAC
82107	FZD10	ACAAGTATTTTGCTATATATAAA
82108	CASP4	TTCCTCACTGGTGTTTTGGAT
82109	HLCS	GCTATCACTGTTTGTAAGCATCTGGGGAG
82110	FTSJ2	GCCTGTAAACCCAGGGCTTTAG
82111	LAF4	GGACACTGTGCTACTGAAACTCCCAGC
82112	SLC9A3R1	ATTGGTCTGTGCTCCTCTCTCGG
82113	SMCX	ACCCCTTCCAAATAGAAACCCATACCA
82114	TAL1	TTTGGAATTTTTGCTTGACT
82115	RTN4	CATCATCTCCACCCTCCAGCCATGGAAGAC
82116	LIM2	AGGCTGGAAGGAGGAAGAA
82117	LOX	AAATCAGTGCCTGGTGTTCTGAA
82118	PMX1	GCATGCCCACATCTCTTTCGTGCCT
82119	ENTPD1	GAGCATTTTCCTCCATCGCAG
82120	ARHGDIA	CTCCTCAGCCCTCCCCCACCCACAG
82121	TAPBP	CTTCTGCTTGGGCTCTTCAAGGCACT
82122	ICMT	GCTTTCTGGGTATTTGCTGCCAAGG
82123	RYR2	CCATCCTGGAAGGAAACTGTCTG
82124	SIRT6	ACACCCCAGCCTCTGACTTGCTG
82125	TPK1	TGGTGCTATGACAGTGTGAGACTC
82126	MAP3K7IP1	GACCATAGGCTGGCAGGCAGCTGAGA
82127	C14orf2	GGACAGTCACTGTACACTTGTA
82128	NUP98	GCTCTGTGAGCGGCGGGTGGCAGCAG
82129	DSP	GATAGGACATTCTATGCTTACA
82130	BDKRB2	AATGGCTGAGTGCACAAGTGAGTTGTT
82131	PPARBP	GGGAAGGGAGGGAAACAGTTTTG
82132	RAG1	GGCTTGGAAATTTAACACAGT
82133	GNA14	CGTGGGGACAGAGATGGGTGAT
82134	POLH	TAGTGCGCTCCAGCCTGGGCAACAGAG
82135	CRYAA	CCAGGAGAGCTTAGGGTCTCAGGGTG
82136	GRINL1A	CAAGCTAACTGAGCTGGGTGA
82137	FUT3	TCACCTGCTGGAGTCCTTTGTG
82138	TNFRSF8	TACTGTAAATGTGGCCCCCAGTGGGCA
82139	GJA5	CAGGAATATCCAAGAAGCTGTTGTCCT

82140	TBR1	CTTCTGTGGAGTTATCCTCCT
82141	EIF2C1	CTCCAAGAATTGTGCAAGTAAAGACAT
82142	FMR2	ACCATTGGCTAAAAATGTGTTT
82143	ATM	CAACCTATCCTGTTCTTTTAATTGA
82144	RGS16	CCTCTACTGGAGAATCTCAGCAGGGGT
82145	EXTL1	AGCCCCATCTCTTTCGCCTGCA
82146	TCF2	GAGTACCTGCTCCATCATGCT
82147	REN	TTTGGAGCTCAGTGTT
82148	PMS1	TTCATGGTCGCCCATTTTTTCATC
82149	SOX11	TCCTTGGGAGGAAGTTGTAGTGG
82150	MX1	TCATTTTTATAATGTCCCTT
82151	SH3GL2	TCATGAATCCATTTGGCACAGAGA
82152	MYBL2	AGGGGTTGTGGGGGCAGAGGGGG
82153	MDM4	CAGGCTGAAGTGCAGTGAGTCA
82154	PDE4C	TCCCTGTCTTCCTCTACCA
82155	SCAP2	GCGCTCCCTAACATGCCCAACC
82156	CCS	GACTGGGTCCAGAATGGCTTCGGATTC
82157	CREBBP	AACTCATTTCTTATATCATATTGTTA
82158	EZH1	GCAAAGCACTTTAACCATTTC
82159	ZNF267	TAGATAATTTATTTGCTTATATGTTTT
82160	HS3ST4	GGCTAGAGAGGCAGAGGAA
82161	TCN2	GCTCACTGCTCACCCACCTGCTGCTG
82162	CBFA2T1	GCCATAATACAAAAGGCTCCA
82163	JPH2	GGCTGCCTGCACTCAGTTCTCA
82164	C11orf8	GCTAGAGGTTGTGCTTCTTA
82165	NEDD4L	GGACAAAAAAGTTGTGGTTTG
82166	LYPLA1	GGCCAAGTATTGCCTCTCTGCAATAGAC
82167	MSL3L1	GAGACTGGGGCAGGAGGATCA
82168	DIRC1	CCTTCATTCAATAACGATTTT
82169	PTCH	CCCTGCAGGGCTGAAGCCTAAGCTA
82170	C1QG	CCTGGGAGAGGGGAAGCAGATCTGA
82171	PTER	CAGCCCGATACTTGAGCCTCCTCTTTA
82172	FZD4	ATAAACACTGGAAACGCTGGG
82173	IL1RAP	AACTGTAAATGAATCTTGGTA
82174	GNAI3	AGCAGTTCAGTGCCTT
82175	CASP10	ACCTGTAATCCCAGCTACTCGGG
82175	PAICS	ACCTGTAATCCCAGCTACTCGGG
82175	RFC2	ACCTGTAATCCCAGCTACTCGGG
82176	IL12RB2	ATGAGACAGGCTTTATTATCCGCATTT
82177	APG5L	CTTGTAACTTTGATAATGAACAGTGA
82178	MMP20	AGGAGGAAGACTAGTGGTGG
82179	TIE	GAGCAGTCAGGCCCACAGCATCT
82180	GABRE	CTGAGACTGGGAGCAGAGTTG
82181	GABRA5	TGCTTCAAGTGTTACCTAACAATGTTT
82182	GFPT2	GACTCTGCTCTCTATTTAAAAG
82183	HOXC10	CTGCTTTCTGCTTTTCTCCC
82184	MTF1	TGCCCATCGCTTGCACTGG
82185	BRCA2	TACTCCGGCCAAAAAAGA
82186	SMARCA3	CTCAAAGGGAACAGTGA
82187	TGFBR3	TTCACCCCACACCCAGGGCTAGTA

82188	SMAC	TCTGTTGCCCAGGCTGAAGTGC
82189	ADORA2A	GCAGGGCTGCACTTGGCTCCTGT
82190	SAA4	CCCAGACAGGGACACAGGGTC
82191	WHSC1	TGGGCCTGTTTGCCGTCTGTGACAT
82192	XBP1	TCCAATACTGTTGCCCTTTTCCT
82193	AGTRL1	ACCCCCTTACCTCCCCCA
82194	LRP1	CCCCAACTCCAGGGGCACCTATGAGAT
82195	CBLB	TTCCCTTGAACTTTGAACCTG
82196	IL17	AATGCTGTAGACAGAAGCATTTT
82197	SLC20A2	GGGATGAGAGGGAGGGAGAATCC
82198	PIGR	GGAGGCACAGTTTTAGAATAAGGA
82199	PKDREJ	AGTGTAGTGTAGCATCTGGGGAGAC
82200	HUS1	CACCCAGACTGGAGTGCAGTGC
82201	KCNA7	GACATGATAGAGGGACAGAGCCA
82202	SRRM1	TAGAATTCCCAGAGGGGTTTT
82203	NEB	CTTCCCTCAGACCATAACTCAAGAAT
82204	TG737	GCTTCTTGGAAGTAGACCAAG
82205	PCDH9	AAGATGAAAGAAAAAATGAAA
82206	IL20RA	GTCGCTCGCCCTTGGTTTCTGGGGA
82207	RXRA	CCTGCAGCTGAGTCTGTGCCCGAGAC
82208	HSD17B1	CTCTGCAGCAAACTGCGGTCA
82209	POLR2C	CTGGTTAGTCCAGCTCTTTAC
82210	FAT2	GCATTCTCATACCTGCCCACA
82211	SCN2B	GTGACCCTGCCTGCTCGC
82212	SEPN1	AAGTTTACTGTGAAGGGGTTTC
82213	MAP1B	GAAAACAGTGAATCTTATGGTG
82214	PIGN	TGCTATCTTATCCTTTTTAGTGCT
82215	IL17E	ATGCTTGGCCCCTGTGAAGTGC
82216	BMP1	CGATGCCACCTTCCTTGTCCCCGC
82217	FGFR1	GCTGGTGAGAGGTGCAAAGAGGCAGA
82218	P2RY1	CTTTTCCCCTCTTTAACTTTCTAGTT
82219	CTSF	GGCCCCTCCCCGGGAGGTACAG
82220	ICAM1	GCTGAGGCCCACAGACTTACAGAAG
82221	AXUD1	CCATGGGTGGCTAAATCCACTG
82222	BLVRB	CCGCCCAGCAGCCAGTGGGTT
82223	CD1D	AAACCCAGGAGTTTGTGTGTCT
82224	SPTBN2	TCTCCAGCTGCTCTCAATGGCT
82225	TACC1	CAGTTACCCTTTCAACCTACCCA
82226	CBFA2T1	GCCACATGTGCTCCTGTCATCCTCC
82227	HIVEP2	TTTAGTCCCATATGCTCTTCCTGAATCT
82228	IDH1	GCATAAAGTAGAAATTCACTGCCT
82229	DMD	TTCTCTCTCACAATCAGTAA
82230	CCND2	TAGGAAGGGGAGGAAGTCTG
82231	GBF1	GGGACCTTTTTCCTCCTCTGC
82232	CLASP1	AAGCGCTTAACCTCATTGGGGTGGAGG
82233	IL6R	GATCAGCCTGGGCAATGTGATAAAACC
82234	BCL2	CTCATTTCATTAAGTTTTTCCCTCC
82235	STAT3	CACTGCACTCCATCCTGGGCGA
82236	MGAT2	CACTGCACTCCAGCCTGGGCTA
82237	CPT2	CCAGAACTCCCCACTTGCCG

82238	PKNOX1	AGCATGTTGCTGTTATTCCTGCCCTGCA
82239	GAN	CTGGGCTTTGGTATGGTAACTCTTT
82240	DKK1	AGAGACACTAACCAGCTATCCA
82241	ZNF278	CTGAAGGGAAATGGGCAGCTGCTG
82242	UMPK	ACCATGGAGATGAAATGCCTTT
82243	RORB	ACTCCTCCTCCTGCTGC
82244	SIP1	AAAACAATGCCAATTCAAGTA
82245	VCL	ATTACTTAGAGGAAATAAGAA
82246	PRCC	CTCAAGTAGGCCTCATCTGCCGGCA
82247	PTPRO	TTCTGCACATCATGATGACTTTA
82248	ITPKB	CCTACCAGATGAGCCCTGCCTCTGGGAGCCC
82249	EIF2B1	TTGGGTCCTAAACAGCTTTTTA
82250	DYRK3	AGCTAGGAGATGGGAGGCACAG
82251	SLC21A9	TTCTAGCCCTTGCCCTCAGGGAG
82252	ENG	GGGGAGACAGGAGCCTAGCG
82253	HIS1	GGAGGTTTGAGGCCCACCTCCGCCCATT
82254	TFCP2	ACAGGAAGATCTTAAATTTTGTGA
82255	EDARADD	GCGATTGGGAAAGCTGGCTACACTGAT
82256	LMAN1	TGTCTGAGAGCTTTAAG
82257	RBP3	AGGTTCCTTCTAAGTGGTAGAACTTGGG
82258	EIF1AY	CCACTGTTTTGGCTTTCATGAA
82259	THBS1	AACAGACTCATCAGCATTCAG
82260	KCNS2	GTCAGCAAGGATATGATGAGA
82261	MOV10L1	GCTCAGCCTGGCCACGTTGCCGTTACA
82262	AF3P21	GGGACCATGGTCTGGGAGCTGTTC
82263	SNAI1	GCTCCCTCTTCCTCTCCATACCTGCC
82264	HSD17B3	CAGCACAACCTTTTCCTCA
82265	KCNK4	GCGGGTGTATCCCTCACAGCACC
82266	ADAMTS13	GCTGCAGCCGCCTCCTCGTTCCTC
82267	SLC25A15	GGGAGGCAGAAGTTGCAGTGAACTGAA
82268	FBXL11	CGGCCCTGTCTCCATGGCCAGGT
82269	HSD17B1	CCTTTCTCCAGGGTATGGGGC
82270	PFKFB4	AGGAAGGGAGAAGGCAGAACCCATAG
82271	SEMG2	CCTTGGTCCATGGATGACACCACCTT
82272	RUNX3	GGTCTCGGTCCCAGGGTGGTCCCAGC
82273	HNF4G	TTCATTCTATTTGTTATTGCTA
82274	TRPS1	TCACTATTCTTGGAATATTTATGGTC
82275	SNK	CTAAGGCATACAGTTCTTGA
82276	BMP1	ACCTCCCATTGGCCAAAGGA
82277	WWP2	GCCTCTCTGATGATGGAGATGAAGTGAA
82278	CD28	GGAGGCTGAGGCATGAGAATCGCTTGA
82278	COPA	GGAGGCTGAGGCATGAGAATCGCTTGA
82279	MSH3	GGAGGCTGAGGCAGGAGAATCTCTTGA
82279	TBX6	GGAGGCTGAGGCAGGAGAATCTCTTGA
82280	SYP	CATTCTGGGGTGGGGCTTGGAA
82281	CARP	GTTGGCTCCTAATGGGGGTGGGAGTGTT
82282	ASH1	AGGGTCCATCTGGGCAAGG
82283	RAD52	ACATGGCCCTGGGACACCCACAGCTGC
82284	ABCB4	ATCAGGTGGAGATGATAGTGG
82285	NOS1	GCTATAATCTCCCCTGCCTTCC

82286	GFAP	CCTTGAACTCCTGGGCTCAAGCAGTC
82287	JJAZ1	GATCAATGCTGCTGTAAATACAGGTA
82288	DHFR	ACATTGTCGGGCTTTTCA
82289	BMP1	CTGGTGCTCTCTTCTCCCCACTGTGC
82290	RNH	TTGTGGCATCAGTGCTGCT
82291	SORCS3	TCACACATTTACACATACC
82292	FGF2	TGTTTCTTGAGATAAGATTCCAAA
82293	HD	CCACTGGCGAAGATGGTCTCCA
82294	NFATC1	GCACATTTAACTGTGTGATGTCC
82295	CNGB3	TGGCAAAATCACATTGCA
82296	B4GALT5	TCGCTGCACACACATCTCTGGCTCTCCA
82297	FCN1	GGGAGGCCACACCCACAAGCGCT
82298	CTSS	GGAGGTTGAGAATGCAGTGA
82299	STAT1	AGAGTGACATGTTTACA
82300	MYEOV	GCTTGGGAGAGGCCAAGTGAGTGG
82301	BACH2	TGGACAAAATTCAGTGTTGGA
82302	MAGEA2	CTTCATTGCCCAGCTCCTGCCCGC
82303	GLUD1	TTGTATCCTCTCCTTTTAGAGG
82304	FXYD6	GTCCTCTGTGTTCCCGCGGA
82305	AFM	ATGTGGTTTCTACAAAGATGAAACTAC
82306	ATP8B2	GATGAATGTCTGTGTTGGTG
82307	LRRC2	ACCCAGGAAGCAGAGGTTGCAGTA
82308	FXYD7	CCAGCTGCTGCAGCGCGCCTTCGC
82309	MPO	GAGCAAATTACCCTCCTTAAACAAGAG
82310	EHHADH	CCAGTTTTCCTGTCATGACAAGCCT
82311	HTR1E	AAAGTGCTGGAATTACAGGCGA
82312	DSC3	GGGATTACAGGCATGACCCACC
82313	PMX1	CAGGAATATGAAAGAAAGGCACA
82314	RNTRE	TCAGCTGTTGCCATTTTCTTTCAATCTGA
82315	FBXW1B	CCTGCAGGGCAGGTCAGGCTGG
82316	HPSE	ACACTGGGACACTGTCAGTG
82317	MEIS2	GGAGAGGGAGGCCGCGGAATTAAAAGG
82318	IL6R	CGAGAAGGAAGCCTCCCA
82319	UQCRB	AGTTGAAGTCTGTGGATGCAGCT
82320	VHL	TTCTACTCCTTCCCTAATAGCTTTT
82321	KLK10	TGCCACCCCTAGCCTTGCTGGGGACGT
82322	CDK10	CCTCCACTGACTTCCTCC
82323	IHPK3	CAGACTATATTAACAGCTGC
82324	ITGAL	CGCCCACCCCTCCTTCCTTGAC
82325	PPP2R5D	ACAGGGCCACAGCCCACACAGCCCT
82326	TCF2	AGACAGCAGGCTGGAGCCCAG
82327	RB1	CCTAGAGTGGGAGTCCTGATAACCCA
82328	ZNF137	CTGGGGCAGGGTGGGGGAGAGGG
82329	CAPN1	CCAGGATGTCGGAGGAGATCATCA
82330	NAPB	GACAGTTACTAGGAATGAGTTTATAAC
82331	CDC2L1	GGAGAAGAAGATGATTCTTT
82331	CDC2L2	GGAGAAGAAGATGATTCTTT
82332	HUNK	CGTGCTTCTTATTCCTGGCAGGCTT
82333	FCMD	ATGAATGTCTCCAGAGACAT
82334	EPHA8	GCCCAGGTCTCCTCACTCAAA

82335	CHD2	ATATTTTTTCTGATCCCCC
82336	ATRX	AAATTGTCATAAAATTAATAA
82337	EGFL4	ATGACACCTTCGTGGTCCGTGTGGCCC
82338	ITGB3	CCTGTTGGGAGTGAGGATGTCTGGGCCACT
82339	INPP5B	CAGGAGGCAGAGGTTGCAGTGC
82340	MYD88	TGCCTCCTCCTTTCGTTGTAG
82341	PCDHGA1	GAGCTAGGGCAGGGACCAAA
82341	PCDHGA10	GAGCTAGGGCAGGGACCAAA
82341	PCDHGA11	GAGCTAGGGCAGGGACCAAA
82341	PCDHGA12	GAGCTAGGGCAGGGACCAAA
82341	PCDHGA2	GAGCTAGGGCAGGGACCAAA
82341	PCDHGA3	GAGCTAGGGCAGGGACCAAA
82341	PCDHGA4	GAGCTAGGGCAGGGACCAAA
82341	PCDHGA5	GAGCTAGGGCAGGGACCAAA
82341	PCDHGA6	GAGCTAGGGCAGGGACCAAA
82341	PCDHGA7	GAGCTAGGGCAGGGACCAAA
82341	PCDHGA8	GAGCTAGGGCAGGGACCAAA
82341	PCDHGA9	GAGCTAGGGCAGGGACCAAA
82341	PCDHGB1	GAGCTAGGGCAGGGACCAAA
82341	PCDHGB2	GAGCTAGGGCAGGGACCAAA
82341	PCDHGB3	GAGCTAGGGCAGGGACCAAA
82341	PCDHGB4	GAGCTAGGGCAGGGACCAAA
82341	PCDHGB5	GAGCTAGGGCAGGGACCAAA
82341	PCDHGB6	GAGCTAGGGCAGGGACCAAA
82341	PCDHGB7	GAGCTAGGGCAGGGACCAAA
82341	PCDHGC3	GAGCTAGGGCAGGGACCAAA
82341	PCDHGC4	GAGCTAGGGCAGGGACCAAA
82341	PCDHGC5	GAGCTAGGGCAGGGACCAAA
82342	ATP8B2	CCATGAGCAGAGGGTAGTGG
82343	SCN2B	GTGACCTAGGACCCCAGGGCCACC
82344	CYBB	AATTCTTAAAACTGTGCTCAA
82345	GAGED2	GCGGAGCTGTGAGCCGGCGACTCGGGT
82346	BAZ2A	TCTCCTGGTCATTTTTGTT
82347	PCDHB11	CGCCCTGGCTGGAGTGCAATG
82348	ITPR1	GCCAGTATTTATGTTTTTTATAAA
82349	SMARCA3	AAGGTCAGTTTGATTGGATA
82350	CARD4	CTATCAGGAGTCCACTGCCT
82351	MS4A6A	GCTTCTGAGGACTCAGCTGGAAC
82352	PTBP1	CTCATTTCTGTGTTTTGCCTGCCTCTG
82353	DUSP4	CTCTCCTCCACCGGCGCC
82354	ARHGAP6	AGCACTATACTGGGAGTCACAA
82355	SLC6A6	CCATTTGAACAGTCACTTCC
82356	GM2A	GGCCACGTCACAACCTCTGATCT
82357	ABCA2	GCCTTTCTCCTGCCCGGCCTCGGAACC
82358	FKRP	TAGCCATCTACTCTCTTGAG
82359	CYB561	TGCCTGGGGCAAGGCCAGGGGA
82360	ADRB3	GACGAAGGGGAGTGAGCTTGA
82361	KLRC1	GCGTTTGCATTTGCAGTGCATCAGATA
82362	SHOX	TTCAAGCGATGCTCCTGCCTCA
82363	ACT	TAAATCACAGGAAGAAGCGGC

82364	SURF5	CTGCCTACCTGGGCCTGGCCAGCAGG
82365	ACE	GCACAAAAGGGACTTGGAAAA
82366	GAS7	CTCCTCCAAATGCCAGCTGTGC
82367	TSN	TAAACTATGAAACCTTTTTCCTAGTAGT
82368	PUM2	CCAAACACTTGTCACCGTTCC
82369	MMP10	AGTTTTATTTTGGGCCTGTTC
82370	DDX6	GGGAGGGGTGGGAGAGGGAATTTA
82371	SHANK2	TCCACAGTCTTTACCGTTTTA
82372	TAF4	CCTCCACTCCGCTGAGAATCC
82373	KIFAP3	ATCAAACCACATCTTGATGCTA
82374	GNRH1	TCCTTGCCATCACCAGCCACAGAGA
82375	CABC1	GTTTTCTGCCCTTTTCCTCTCCAGC
82376	ZNF91	CCACTGCACTCAAGCCTGGGCG
82377	ID2	AACAACAAATTCACGGAATCTTTT
82378	PLOD	GTTGCCCAGAAAGACTGTCTGGGTGAG
82379	KIF5C	AGCCGGAGGGGCCGGAGCGGAGAAGC
82380	MAGEL2	CTGTGGTTCTCTGTTTTGTGTTA
82381	PKIB	AAAGACACTTCATCAAGATAACTCTG
82382	SUFU	TAGAGACACTCCCTTGTGCAGCTTTGA
82383	CHRM5	ATCTATTATGCAGCTATTATGTGG
82384	HHIP	AGAGTTTTGAAACAGTACTGTG
82385	NCSTN	CCCCTGAGGACAGGGGCATCTCT
82386	CRYBB3	TGTCCACCCTTCCCTGGAATCTGCTC
82387	GPX3	GACAGTGACAACCCTTTCTCTCCAG
82388	TAPBP	GCGTGAGCCACCACACCAGGCC
82389	PTGS1	ACCCATTATCTGGAATATTGTG
82390	WBP2	GGCTTGGGGAGGGGAGGGGGC
82391	XPR1	AGCTCTGAATCAGAAGACAGAGCTA
82392	LFNG	GCGCTGCCCTGGCCTCGGCATTC
82393	IGFBP4	CGATCCTGGATTCACTCACTC
82394	MYD88	TCTGGGTCTCCTGGGGGAGACC
82395	PPP1R11	AGTTCTCTTGGCCCCTCTCTACCCCTT
82396	GGT1	CAGAGCAGCACAATAAATGAGGC
82397	CLASP2	GGCAGTGTAGCATCTCTTCCACAATCAGAC
82398	RPL10	TTGCAATCCCAGGCTGGGGTCAGC
82399	ADCY1	GTGAGCCTGAAGCAGATTCGCCCCAGA
82400	STAT1	GCAAGTGAATTTTTCTCTAACTCAGAAAC
82401	NEDD4L	AAGGAATCACACCATTATTCC
82402	BENE	TCCTCCAAGGCTGGAGTGCAGT
82403	EIF4EBP2	GCTGGGAAGTCTGGGGAAGGGATA
82404	PUM1	TACAGAAGATGAACTGTATTTTG
82405	CFTR	GAATGAGAGACACACTGAAGAAGCAC
82406	TRIM14	GCCCAGGCTGTGAGTTCCAGGT
82407	MAP1A	CACCTTGTGTTCTTCCTAGCTCC
82408	APAF1	TGCCAGGCTGGAGTGCAGT
82408	CYP1A2	TGCCAGGCTGGAGTGCAGT
82408	SEDL	TGCCAGGCTGGAGTGCAGT
82409	SLC22A5	TCTGCAGCTGCCACTGGTGCAAGGCCT
82410	BHLHB3	GGGGTGAGACACAACAGTCTGA
82411	MAP3K7IP1	GCAGTAGAGTGTGTGAGTGCAGACTGG

82412	UTY	GGTCAGAATCAGTCAGCCTCTGTCAT
82413	P2RY6	GACCAGCCTGGGCAACACAGTAAGACC
82414	SLA2	GGTGGGACCAGGGCCAGG
82415	IRS2	ATTGGGTAGTGGGAGGTGGG
82416	SLC22A2	ATTGGTGGCATCATCACGCCA
82417	LY9	CCTCCCCCTCCTTCTCACCCTTAAG
82418	BCAS1	CAGGAGGTGGAGGTTGCAGTGA
82418	CPT2	CAGGAGGTGGAGGTTGCAGTGA
82418	GGCX	CAGGAGGTGGAGGTTGCAGTGA
82418	IFNAR1	CAGGAGGTGGAGGTTGCAGTGA
82418	LDLR	CAGGAGGTGGAGGTTGCAGTGA
82418	PDE4C	CAGGAGGTGGAGGTTGCAGTGA
82418	PTGIS	CAGGAGGTGGAGGTTGCAGTGA
82418	RFC2	CAGGAGGTGGAGGTTGCAGTGA
82418	TBX6	CAGGAGGTGGAGGTTGCAGTGA
82418	VDR	CAGGAGGTGGAGGTTGCAGTGA
82418	XRCC2	CAGGAGGTGGAGGTTGCAGTGA
82419	RIG	CTACTCAGATGCTGGCTTCAGCTAA
82420	NDP	TCCTGCACTGACTCTGGAAA
82421	FZD7	CACCGCTGCACTCGCGGCCGGCGATGC
82422	KCNJ8	TCTCAATTTGAAACACAAGA
82423	HSPA9B	AAGGTAGGAATGAGGCTAGA
82424	SLC22A7	CTGGGCCTCAGTCTGTTCATCT
82425	SCA1	TCATTACCCTCTCAGCATGCT
82426	DLEU1	AACAGTTTTGTTTGGTGCTGTG
82427	CRSP6	TGGGACCACAGGCATGCACAA
82428	GM2A	CCGCCTCCTGGGTTCAAGCAAT
82428	TAPBP	CCGCCTCCTGGGTTCAAGCAAT
82428	VENTX2	CCGCCTCCTGGGTTCAAGCAAT
82429	GRAF	CCAAAGTGCTGGGATTCCAGGT
82430	PHTF1	TCACATGCACAGGTGCTCTCAGCTC
82431	NRIP1	CACTCCATTGGATCTTTTACTTT
82432	PLAT	TATATTTATAGTCACAAGA
82433	GALNT7	TCCTCAACAGAGTTTTATTT
82434	BCL11A	CTCCTGGTGAGAGCTTAAA
82435	INPP4A	CATCATCACCAATGACATCATGACAGCAA
82436	PKM2	CAGCCAGCAAGAGTTAGGGGCC
82437	VDR	TAAGGGGTTGGTTGAGGTGGAA
82438	PEX7	AGCTGATAAAGACTTTAGCTGACTC
82439	DDX11	GAGGCCCTGGCAGAGGTGAAGGA
82440	MGAT1	CCCAGCTGTCAGGAGAGAGGTG
82441	MASP1	AGAGCATCTGCTCTGGGCCCTGGCCT
82442	LTBP2	CACAGGCAGGGGCCTTGA
82443	NOX1	AGGCTTGATAGCAGAGGTTTGGTGG
82444	PEX6	TGGGACCCCGCTCAGCATGGCTGC
82445	CA3	GTCTATTTCATTTTTCCACAC
82446	ARHGAP6	TTCCCAGCTGATTCTTTTTC
82447	DNAH11	CTAGCCTCTGCTGGAGTGCAG
82448	CANX	TTCCTCAGATCCCCAGCTTTCTCCTC
82449	RBP5	CCCTCCAGACAGCACCAGCTCA

82450	RAD52	AAGAATTAATCAAGACTCTT
82451	SLC4A4	CTTCTGGAGAGTGGTGGAGAA
82452	GNRHR	TTGTCCAGTGTTCGAGTGCTCAACAGT
82453	MYLK2	CTCCTAGCTGGAGTGCCATGGC
82454	TACC2	ACAGGTTCTGTTTTCACTTTTT
82455	SH3BP2	GTCAGGCCAGGGCAGTGCTGCTG
82456	TBL1X	CTGCTGTCAAAGGCCAGCCTGT
82457	ICA1	AGACCAGCCTGGGCAACAAAGT
82457	TSN	AGACCAGCCTGGGCAACAAAGT
82458	PPP2R4	ATGCCTTTCTAAGGGTTGGA
82459	CYP26A1	GCCGCCTCTGCCTCGGCGCG
82460	RUNX3	TCTCTCTTCCAGAGAGAGGCAGCA
82461	GAS2	GCCACTTCCGAAAAGTTTACA
82462	SLC6A6	CATTTTCAAAAGCAATT
82463	FGF12	TACAAGTCCAGTTTGCAATTCATTTGT
82464	MMP1	ATATCCTTTCAAGACAGAAAGA
82465	SEDL	TCTTATATTTCCTTTCCCTCAGA
82466	STAT3	TTCCCCTGCCCTCCTTTCTCAG
82467	HPS4	GGGGTGAGGTTCTTGGCCTC
82468	FUT1	TCAGAGGCCTGGCATCTTCTG
82469	PTPN13	ATGTTCTCCTCTATCTTAGAGG
82470	EIF5A2	CTGCTCTAGTTTCTTAGTACTCTG
82471	RHO	TGTTTTTCCCTCCCTGGGCC
82472	SLC21A3	CCTTGTTCCTGATTTTAATGGGACTAC
82473	CENPB	TGCTACCACACCGTGCCCTCA
82474	CARD15	CCTCCCAGGCTTCCGTGTGGGTCAGTG
82475	FGF2	ATCTAGGCCGGGTGCAGTGGCTCA
82476	DAAM2	TCCTCCCATCCACTGCCACCT
82477	NDUFV3	GCAGTTCACTCACCAAGGTGA
82478	LAMC2	GCCCCAGCAAAGGGGAGTCTCAGC
82479	IPP	TGGGAGGCTGAGGTTGCAGGA
82480	EPB49	GAGGTGAGAGGAATGAGGGGCA
82481	APS	GCCTGTTTTAGGGACTGCAAAA
82482	NDRG1	GGCTGAGAAAATGTAAGGATTCTGGAA
82483	SLC7A9	GCAGTCTCCTGGAACCAGCAG
82484	KIF1B	ACTGCTTGAACCCAGGAGGCAG
82485	FCN2	CAGACAACTTACATACACTCCA
82486	GGT1	GCAGAGTGTGAGGGAGACCCCGGTTATTT
82486	GGT2	GCAGAGTGTGAGGGAGACCCCGGTTATTT
82487	GATA4	TCCAAAACTGTGGGGTGTGACA
82488	HMGA2	CTCCTAGTGAGTGTGCTGACTTT
82489	NUP62	CCAGGAGGTGTTGCAGTG
82490	AVPR2	AGGAAAGAGGGAGCAGG
82491	OASL	TGGTAGCTCACACCTGTAATCCCAG
82492	USF2	TTTTAACAAAAAACGGGGA
82493	UBE2L3	TCCTGGTGGCTTTTCTTAGCATGTGTG
82494	GABRE	TCTGATTGGAGCTTCATGATAG
82495	PACE4	AGCACATGCCTTCTGTGCCG
82496	CDC2L2	ATGAAAAGAGAAAAGAAAAATGTAGG
82497	PCDHB11	TCGCCCTGGCTGGAGTGCAATG

82498	FVT1	ACAGCCCTGTGTTGTGCTCAG
82499	AVP	CAGCCAGCAGAGGCAGCAGCAC
82500	LNK	ACTGCAACCTCCACCTTCCTGGTTCAA
82501	DLC1	CGAGCCGCCTCCGCCTGCCTCG
82502	PCDHA9	CTGAGGCGAGAGAATCGCTTGA
82503	NT5M	TGGTCCCAGGCCGTTCAGCCTGA
82504	FCGR2B	CTCTTCCGTTCCACATCCACA
82505	GAC1	GGGCTTTGTGGCCCTGGGGGTG
82506	SRD5A2	TTTCCAAATGGCGACAGTTGCTTCTTA
82507	APOB48R	TCCACCCTCTGGGCCTCAGTGT
82508	LARGE	CCAGAGAGTATTATGAGGGAG
82509	PAG	CCAGCATTAGGAAACTTGTTCACTTT
82510	MGEA5	AGACCTAAGATTATCGGGAG
82511	CHS1	AGTCACTGAGGTTTAAACACAAT
82512	FTSJ2	TCAAGCAGCAAAAGTTCCCGGA
82513	HOXC13	ACTGATTTCCAGAGGAAAGCTA
82514	FREB	CCAAAATGTCAGTTGTACTGAG
82515	AOX1	TCTGCTATCACCTTCCTCTTGTCA
82516	CCBL1	TCTTGTGTTGCTTCTGGTCTCTCCA
82517	DIRC1	CCTGCTGCTGCTCATCTCCC
82518	PUM2	GGGGGATGAATTATAAATTATATTCA
82519	NEU3	CCAGATCTGTATGATTTGTTCC
82520	COX10	TTCTGTGAGCTCAGGTCCCT
82521	SMARCB1	GAGCCCCAGGCAGGGCTAGT
82522	GCDH	GGAGGTGGCGGATGGAGTGGGAA
82523	SOX13	CTCTGGATTCTCTGGGTCTATGT
82524	GNAQ	TGGACTCTGTGTGAGCGTGTCCACAG
82525	NEBL	AAAACATTGAATGTTTTACAAATGAAG
82526	STARD4	CTAGATTGATCAAGATCTGAC
82527	MMP20	ATCAAATTAGAATTCACTGA
82528	NCOA4	TTCTGCTGATTATCACACAT
82529	CASP7	TTTAATACAGGAAATTGACTTA
82530	EVC	GTCTCTGTGAGTTTGCATTTCATTTG
82531	ALDH7A1	TTCCCTGAATAAATGCATTATT
82532	DYRK1A	CCCCAGTAGCTGGGATTACAGTGTTAT
82533	HSPA5	CCAGCCTGGCGACAAGAGTGA
82534	TSC1	ACCACAGGCTGGTGTGTAGGTGGT
82535	SHOX	CTGCACCGCGCGTCCTGCACTCAACCCCGCCT
82536	SERPINB9	TTCACACACCTACTTTTCTGCTTCGTT
82537	FGA	ATTTCCTTCTTAACTC
82538	APTX	GGATTTGACTTTTCTTCCTTGCC
82539	FANCA	TGGTCCCAGAGCAGAGGAA
82540	DTNA	AGAGATACCCTGAGGTTCATGTCA
82541	PRKCN	ACCTTGACAGAAAAACAACTTTTATTC
82542	CDC25A	GGGCGGGGCGGTCGCGGCGGAGGCAGA
82543	GPC4	TGGGGTGGGAGTAGGTAGAGCTGAG
82544	LPIN2	GGAAAGCATCTTGCCTTGGGAC
82545	KCNJ15	GCACGGACATACAAAATCAA
82546	FCMD	AGCAGGAATTTATACATTGGGTA
82547	C21orf2	TGCGCCTTCCTTTCTCTCTCCTGTG

82548	LPIN1	GGCATATTAACACCTGCCTTCT
82549	HMGCL	GCCCTGGGGATGATGTGGAAATAGGGGC
82550	EFNB2	GCAATTAGGTAGCACAGCACTTTG
82551	TRPM2	CTGCAGATGACCTCATGAACTGG
82552	KRT8	CCCTCCTGCGCTGCCCCAGAGCCTGGG
82553	PPP1R3C	AATGTTGTATCTTTGAGACCGTTGTC
82554	PLAUR	AAAAGCTGGAGGAAGGCCGTGGGC
82555	RNH	GCTGGGGCCTCCAGGCTCACAGACCACCC
82556	BAK1	GGGAGGCAAGAGACTGGGAGCCAC
82557	DSC3	CAGAAGCCAGTTTTATCTAAC
82558	HTR2C	GCTGCAGCTAATTTGTGAAAGTG
82559	EPHB1	CAAAACAATATGCATCAGGAGAA
82560	RAI3	CACCCAGGCTTGAGTGCAGT
82561	PITPN	GTTACAGACACCTTCCTCTGTGT
82562	BDP1	CCGGGTAGCTGGGACTACAGG
82563	ABCD4	ACAGCTTGGTGGGAAGGGAAGCAC
82564	CSPG2	TAGTTTAGGCTGGAAATG
82565	ZNF83	AACTACACAAAGATAATGTAATA
82566	TRIM9	TCTCCAATGAGACTCAATGGCT
82567	SLA2	CCAAAAGGGAAACCAAGGCTGCA
82568	RAD50	AGAAATGTAGGTCCTCAGAA
82569	PCDHB11	GCCCTGGCTGGAGTGCAATGGT
82570	P2RY2	AGTCAGATGGCAATGAAAGCCCTGGTC
82571	SLC14A1	ATCAACTTTCATACTGACGCG
82572	CYP2B6	CCTAGTAGCTGGGATTACAGGC
82572	MPL	CCTAGTAGCTGGGATTACAGGC
82573	USH3A	GGAGGCCAAGGTGGGAAGA
82574	PTPRZ1	AAATTTATATCATTAACAATGT
82575	GAS7	CTAGATGAGTGTCTCAGGCCA
82576	LEP	GGTAATGAGGGACTGGAACCAGGGAGAC
82577	DCX	GGAGGAAGATTGATTTTCT
82578	CPT2	GACCAACCTGGCCAACATGGTG
82579	CELSR3	GAGAGATGCAGTTTGACCCCA
82580	TUFT1	GTCTGTGTGTTTCTGTGT
82581	NR3C2	GAGCCAACTTCAGGCTGCTCAG
82582	HTR1D	CGCATCCCGGGTTCAAGAGATT
82583	NR3C1	TACAAGTGTATATCAGAAAAGG
82584	MPP2	CCTGAATCCATCCCCCTCCTGACC
82585	MYLK2	GTGGAGGGGGAGGGGAGAAGC
82586	LNK	CTCTTGTCAACCGGGCTGGAGTGCAGT
82587	CASP8AP2	GTTCAGCTTGTGCTAGTCATCA
82588	RAP2A	CGGCCCATGCCCAGGGCCGCT
82589	HPCAL1	GGTCCTCACTGCAGCTGGCCTCTGGCA
82590	TIMP3	ACCTGTATTCCTCTTCTTCGT
82591	SLC25A12	AAAGGATACTTTCACAATTTCC
82592	JAK3	TACCCAGGGTGGAGTGCAGTG
82593	SLC7A5	CTCCAGTGCTCAGCTGTGGCTGGAGG
82594	LIPE	AGAGAGGGCTGGGTGGGAGCCCAG
82595	VAPA	TCCCTTTAAATTTTATCTG
82596	STAR	GGTCTCCTGCAGCCCTCTGCTCCTCCCGG

82597	LZTFL1	GCTAGGTAGAATTTGTACTTGTTTTCT
82598	TGFBR3	CCCCTCACAGGCTTGGGGG
82599	ATP11A	TGCACATATCATGAACAGCGTA
82600	HLCS	TTCCAGTGATTCTCCTGCCTCA
82601	KCNK3	GTATTCCCAACACTTTTGGA
82602	ZNF10	GGCATATCCGTGTAATGGAAGA
82603	KCNE1L	GATTCAGTTGTTATTGCAGTG
82604	ADAM17	CTTCAACTAAAAACAAAGGAGA
82605	TFEB	AGGCAACTGGTCCTGGGGGTG
82606	NEK6	CAGGCATTCACTGACCAGGCCTTT
82607	PPEF2	GAGAAAGAGGAGCCCTCCCGCTCAGCC
82608	SNAI1	CTCCCTCTTCCTCTCCATACCTGCC
82609	ABCB9	CAGGATGCGGCTGTGGAAG
82610	ITPR3	ACTTATTTCAAGGGTGCTG
82611	USP14	CGCCCTCGTCAGGCCCAG
82612	TNFRSF6	ATGGAAAGAAAGAAGCGTATGACACA
82613	PTGFR	CAACCAAAAGAATTTCAATACCCATTC
82614	INPP5D	GAGGGGTGAAAGCATTAA
82615	DMD	TATCTAGTCACTTGCTTTCTA
82616	DMD	TGGAAGAGATTTTGTCTAAAGGGCA
82617	PTHLH	ACACACACCCCTGTCCTCCAGCAC
82618	POLK	GGAGGTCAAAGCTGCAGT
82619	DDX10	TTGTCATTGGAAACACTGCCT
82620	STS	GGAGAGTGCGTGGCCATAGGGAGCCGACATGC
82621	LTF	GTCCTGCCTCAGGGCTTTTCG
82622	SLC10A2	GGAGGCAGCAGGGGGTACAGACTT
82623	FCMD	CTAGTTCCATGTTTCTTTTCTA
82624	MATP	AGGAGGTGGTGGGCTCGCAGGA
82625	SLC8A1	GCTTCAAGAGCATACTCTGTACTAG
82626	HS2ST1	TGTTTCCAGGTGGGCATGGTT
82627	OGG1	CAAGCACCTTCCCCTCCATTCC
82628	ZNF45	CTCCCTAAAATGCCAGCTGAGC
82629	USH3A	GGAAAGTTCTTTCTGTAGATCT
82630	GCNT2	CCGAAGCAGAGGATACAGGA
82631	ARSD	ACCAGCCTGGGCAACATAGTGA
82631	DBT	ACCAGCCTGGGCAACATAGTGA
82631	GP6	ACCAGCCTGGGCAACATAGTGA
82631	LPP	ACCAGCCTGGGCAACATAGTGA
82631	TRPM1	ACCAGCCTGGGCAACATAGTGA
82632	LZTFL1	TCTAAACAACCTACCCTCCTTC
82633	SOX11	GGGGAGCAGGGGGTGGCAGAGGGCACCCG
82634	CLTB	GGGCCTGGGCACAGGAGGAGCAGC
82635	SLC4A7	TGCTCTTTTAAAGCCAATGATTCCC
82636	TNFSF8	CTCTTGGAAAGATACAGCTCC
82637	OXTR	GGGTGGTGCTAAGATCCTCCT
82638	PPP6C	TACAGCCGCCGCCGCCGCTGTTGCCGC
82639	SLC6A3	CTCCAGGGACTGGAGTGTAATGC
82640	B3GAT1	GGCCGGGCTCTCTAGTGGTGAT
82641	SOX10	ACTCCTGTTTTCTCTCTCACAG
82642	RLN1	AATGACACTTTCTATGCTGAA

82643	MAN2A1	TTTGGATTGAGAATCATTGGC
82644	POR	CTCCCTCCCGTAGTCTCCTGGGT
82645	F2RL2	GGCTCATTGCAACCTCTGCCTCC
82646	KCNJ8	ATTTGTCCCTCCGGCCTGGGCGG
82647	PCDH1	CTGTGCCCCCTCCTCCCTGCC
82648	F8A	CCCAGTGACTTCTTTTTGCCCAG
82649	EFNA1	AGGGGGGCTGTGCCAACCTGTTCTTAG
82650	RBBP9	CATGAGCCACCATGCCCGGCC
82651	RAD54B	TTGCCTCACTGGACTCTTTATCCT
82652	EYA1	GGAAATCAGCAAACTTTGCATTA
82653	PTPN11	TTTGGGAAAATTAAGTAACAAC
82654	UMOD	TTGTTCAGCCTGCCTTCTTTTCTCCC
82655	ARHGEF12	ACCAAATGGTTACATTGTGCTGCTA
82656	ABCC8	CCTGCCTGGGTTTTCTAACTGT
82657	IL17R	CCCAGGAGCTAATGGTAGAG
82658	POU2AF1	GAGCTTTTGGGCTCATCACTGGCCTGG
82659	FCER1A	CTAAGCCAAACCCCAAAAACAACTGTATAATT
82660	ANKH	ACCTGTAATCCCAGCTACTCAGG
82660	BRCA1	ACCTGTAATCCCAGCTACTCAGG
82661	SMCX	ACCCAGGAGGAGGAAACTTCACATA
82662	RAB36	TTCTCCATGTTGGTCAGGCTGCTCTCAGA
82663	TYR	TGGAAAGAGAAATCTGTGACTCCAAT
82664	RBBP9	GTCTCCCAGGCTGGAGGTCAGT
82665	ATP6V0A4	TGTATTTGAGAAAATAAACATCTG
82666	EPHB3	CCTCTTCATATTGAAGATGGATTAGG
82667	ADAM8	CTGATCTTGGGCCTGTTTC
82668	IL6R	AAGTGACCATGTTTTGTTTACG
82669	IRAK1	GTGTCCAAAAGTAGCCCAGGG
82670	HM13	CCATGTTGGGCTCCTCACACATGATC
82671	TRPC1	TAGGTATATAATTCTCTTCTTA
82672	SLC17A5	CCCAGCACAGAGGAATATTGGCTGGCA
82673	RAI2	GCACACAGGATCATGTGGTT
82674	NDUFS1	CTGAAGCAGGAAAATCGCTTGA
82675	TRIM14	CTGAGGCAAGAGAGTTGCTTGA
82676	IL1R1	CACCAGAGGTCAGGAGTTCGAGAC
82677	MPHOSPH9	ATCATGCTATTCTTACACTTGCT
82678	SF3B1	ACACTATACTGGAGGGATTTCATTTTT
82679	IL17BR	CCTTGAAAAGTGGCAGAAAAAGAA
82680	CEBPB	GCAACGCCTGGTGGCCTGGG
82681	SLC10A1	TCTTGGCCGGGAACACAGACAGGGTGT
82682	RIG	TTCAAGCACCACCTCCACCCAG
82683	GJB2	CCCTTTTCCATGCTGTGGT
82684	SLC22A12	GCTGCCTCTCTGGGGAGATGCTGGAG
82685	PACSIN1	GAGACTTGCTTACAGTGGATGCCACTT
82686	HOXA11	GGGGATTGGGCCCCTGCCA
82687	SUV39H2	ATCATACCACTGCACTGCAGCCT
82688	HPS4	GCGCCGGCTTGCCAGGAGCTGG
82689	ADRA1A	CAGCTAATGCTTTCTTGGTCACTC
82690	TNFSF8	CTGTCTCTTGGAAAGATACA
82691	ARVCF	GTGCCTGCTGTTCGTGACTCAG

82692	ODF2	GGATCTGTTCTGGAACGGAAGC
82693	IL12RB1	TGGTGCCTGTAAAGCTCTCAGCATTG
82694	PTPRJ	GTGGATGATGATTGCGCAGGGAGGG
82695	MFAP2	CCTGGCCCTCCTGGGATCTGGGG
82696	HELLS	GTGATTTCCCTGTATTGGGT
82697	EYA3	CTCCATGTCCTGTTGTGGGGCT
82698	VIL2	TCATTAAAGGAAACGTGGCAG
82699	DHPS	AGCCCCTCCCCTACTTTTTGGTC
82700	RAB2L	CTGGGGGTTTCTATCAC
82701	CD72	CTTCCAGCCAGTCTGCTGC
82702	CDH5	CTAGGGTCCCTGAACGCCCT
82703	DFFB	GCCCAGGCTGGAGTGTAGTGGC
82703	NONO	GCCCAGGCTGGAGTGTAGTGGC
82704	PTGIS	TTTAAGCAATGCTTCTGCCTCA
82705	AKAP13	TGGGAGGGGAGGTGTTAGTGCATGCAAGGGTT
82706	CBFA2T2	TCAGGCTGGAGCACAGTG
82707	SOX13	CTGCCCTCCCCTCCCCCACTCTATACTA
82708	ADCY1	GCTCAAGACCAGCCTGGTCAA
82709	TCL1B	TCTTTCTCCTCTGTGCCCCTCATGCT
82710	PTP4A2	ACCATCTGTTTGGGGAGCACACTCT
82711	SERPINE2	GTCACTACTGGTCTGTACTCC
82712	TBL1X	AACGCTGACAGAAATGAATGCA
82713	GYS1	TGGTCCTCCATTTCAACTCCAG
82714	SLC22A7	TGCCTAGGGCCGGAGTTGCTGCCAGT
82715	LARS2	ATTTTTCTGAAGTAGCCTC
82716	SORD	AACCTGGGAAAGCCATGACCTTGTGCCC
82717	EPHB2	GCCAGAGCCAAGAAACACTTTCAG
82718	TEAD3	GGGAGAAGAGAGGAGAGGAGGGCTC
82719	MYOC	CAGCCAGGGCCCAGGCAGCTTTG
82720	PCDH11X	TTAAGACCCCAAACAAACAAA
82720	PCDH11Y	TTAAGACCCCAAACAAACAAA
82721	IGF1	ACTGTCCCCCAGGCTGGAGTGCAGT
82722	MMP25	CGTCTGGCATTCCTGGGTCGT
82723	TCF20	GGGAATGGAAAGGACAGCAAGCA
82724	SIAT7D	AAAACATTTAATTTATGG
82725	FOXD2	GGGTGTCCAGTCCTCAGGGCAA
82726	NPTX1	GTTGGTGAGAGGATCTGTGTGTGC
82727	BENE	GCTCTTCCTCCAAGGCTGGAGTGCAGT
82728	MOCS2	AAGCGTTGCAGCTGTGGAAG
82729	PLAG1	CAAGTGTCCAACAAGAAGG
82730	MYH11	CACCACCCTCCAGCCTGGGCAACGTAG
82731	RORB	TGAGCCGGAGGCGGTGGCATTT
82732	MDH1	GACAGTTTATCGTCATGCTGTT
82733	MSI1	CACATCTGTAACTTCTTTTTCCAG
82734	COL6A1	CCCACCCCGGGCTCTCCTGCCCTGCCC
82735	DHCR24	GGGGTGGAGATGGGTGTGGCAGT
82736	PKNOX1	CTGTGTGACCTGAGAGTGA
82737	AMN	TCGCACTGGGGGACATGGGAG
82738	SORCS1	CTCTAAAGTCTTTGCCTCAG
82739	MCM2	CTGCAGGTTTCTGTGCCCCTGTG

82740	BUB3	GGGCAAATTGTTTGAGTCAGT
82741	B3GALT5	TGTGAATTCCTCTTTCTCTGCTGGA
82742	SORBS1	AAGTATGACAGAGCAGGGCCTTAA
82743	MHC2TA	CGCCTCTTGGGTTCAAGCGATT
82744	KIF3C	GAGGAATTTCTGTTGAGCTGAAATGC
82745	TNFRSF14	TCTCCTGCTGCTCGGGTTCTGAGGCACAGCT
82746	SLC22A7	GGCTGCACCTGAAGCATTTG
82747	CASP8	AGCCATGTTCACACCGCTGCACTCA
82748	LOX	TTACATATTTGACTCTTTCA
82749	GALNT1	TCAGAATCTTGAAAACAACATTT
82750	ADCY1	TTCCCTGCTCAGCTTCTGCTCAGGAGTT
82751	VENTX2	TGGTCTCAAACTCCTGACCCTG
82752	DSCR3	CCCGAGTAGTTGGGATTACAGG
82753	UBE2H	AGTGTTTGGCAGTTTGAGACCGCTACC
82754	CASP10	TGTCACCCAGACTGGAGTGCAGG
82755	CD33	TGTCACACAAGCTCCTTAACCTTC
82756	PAICS	TGCAGTGAGCCTGGATCATGCC
82757	TNFRSF1B	CCCTCCCAGGGCCAGGGCCCT
82758	CPM	GGGAGGCTGAGACAGGAGAATCGCTTGA
82758	ROCK2	GGGAGGCTGAGACAGGAGAATCGCTTGA
82759	PRKY	TGACTGCTGCCGGATGCTGTG
82760	BCL10	TCACTGCAACTTCTGCCTCCCATGCTT
82761	ROCK2	TGATCCTCAGACATGCAGCT
82762	FZD10	CTATATATAAAGACAACAAAAGA
82763	TFE3	GGGCTATCCTGGGACCTCCCCAGCC
82764	PTP4A2	TTCAGTTTAACCACTGATTGCCT
82765	PDCD2	ATGCTGGAGGCTTGGTAAGTTCC
82766	NCOA3	CTCTACCAGAACTAAGCACTTT
82767	CD164	GTGGCAAAAATTAGCTATACTGATGTA
82768	GUCY1B2	TCATCCCTGTGGGGAGTGCAGGGCCAG
82769	MKL1	ATATCGACATACATATATATTT
82770	PRND	TCTAGATCAGAGAGCAAGAAAAAAGTA
82771	HOXC10	AGGGTCTGTAATCTCGCAGAGCACAG
82772	PDGFRB	GCCTGTGTCCCTGTCCTTCAGGCCC
82773	OAS3	GGATGGCCAGCTGCCAGAGCTGCGG
82774	SURF4	AGAAGTCCTTGGGGAAGCTGCTGGT
82775	COX15	CTACAGGTCCAGGGTTGTTA
82776	PTP4A2	ACTCGAGAGCGGTGGGGGTGGCGGCG
82777	TXNIP	CTCAACAACAATGTGCAGTGG
82778	SPAM1	CAGATATTGGGTAAACCAAAGT
82779	RGS6	GGGGAAATGCAAAAACCTGCA
82780	B3GALT2	GTTCAAGTCTTCTGTTAGGGGGCCA
82781	GSTM5	CCTAACGTCTTCCTTTCCCTGCACT
82782	ERBB2IP	TCTCTCTCATAGCTTTTATGCCCTTA
82783	CTNS	TGAGCTCTGCCTCTTCCAG
82784	INPP5D	AAACGCACACCAGACGGG
82785	EGFL4	CATGAACACATGCACATGTGCACACAC
82786	MGAT2	CTCCAGCCTGGGCTACAGAGC
82787	YES1	CAAGTTGGCAGTGGTTCTGGTA
82788	NRCAM	TAGAGAGTATATTTTCTGCTGT

82789	PPEF2	GTTGCCCAGGCTGGAGTGCATTG
82790	RPP30	TTGCTCAGGCTGGAGTAC
82791	FOLR2	GTCACCCAGTCTGTTGCTGCTCC
82792	CEBPD	CCCTGCCCTGGCGCAGCCAGAG
82793	CDH12	TCTGCAATAAAACAAGAAGCT
82794	MAPK3	AGGGCGGTGGGAGGGGAGGAGT
82795	PTPN18	AAAGTTAAAGTTTCTCAGGGTGGGAA
82796	KCNJ4	GGGACCCCTTCCTCCTGACTCCAGC
82797	PTPRM	TATGAGTCGTCGTTTCTGTCAG
82798	SNX6	GTCTCCCCCATCTCATCCTTTTCCCC
82799	SLC1A4	AATACTCCAGGTGGGTGTTAGCAC
82800	MAP3K7IP1	CAGCCCAGCCCAGGGCCTGAG
82801	TNFAIP2	GCCCAGGCTGGAGTGCAGTGGCCTG
82801	VIPR2	GCCCAGGCTGGAGTGCAGTGGCCTG
82802	TMEFF2	TACAGCTATATTTGATTATGTATG
82803	SHOX	ATTAAAGAGAATTAGCTTAGCG
82804	RGS5	ATAAATGTATTTATGCTGCTA
82805	TEM8	CTGTTGACAGCCAGCTCACAGTT
82806	FMO5	TCCGTCACTCTTCCTTGTGGTAATCC
82807	SUFU	CTTCCATCTGCTGGGTGCCTCCA
82808	ABCA1	AACAACAAATACTTCCATATGGAG
82809	TCL1A	CTGTGCCTCGGCTTTTCTCAGCT
82810	SEPN1	GAAGTCAGGCTGCCCCCTC
82811	EPM2A	CCTGAACTGAAAGGACTGTGTG
82812	TRDN	CTTTTGCATCATATGGGTATCTA
82813	XT3	GTACATTGAGGAGTATTTACATTTTATAAAA
82814	MAT1A	GCAGCACCTGCCCTACCTGCCCCACT
82815	TBL3	GAACCCCTGGAAAACCCATAA
82816	NPTX1	ATATCTCCCTTGAAAATACTTTCA
82817	NFE2L1	TCACGCATGTCATTCACTGC
82818	POLK	AGCCTCCTGGGAGTTGTAGTCG
82819	VAPB	GGGAAGAGAGAAACTCTTCAGCG
82820	TNFRSF11B	ACTAATTTTGCCACAGGGTACTAAA
82821	LCN1	TACCACCCCCCGCCTTCCCCCTGC
82822	HGF	GAGTTTAGTCCACAGAACTAACTGGA
82823	LDLR	CCGGGAAGCGGAGCTTGCAGTG
82824	MEIS1	CCCCATGCAACAACCACCACCTT
82825	HR	CGGGGTGGGGACAGGTAGAC
82826	PTBP1	AGAAAACTTGCTCTCAAACTTC
82827	ZNF26	CTTCTCTGATCTGTGTGTTT
82828	SCNN1G	AAAGTGCAGGGATTACAGGCACAAGCC
82829	FCMD	CTAAGGCAGGTGGATCACTTGA
82830	PCDHB11	CCGAGTAGCTGGCATTACAGGC
82831	ICAM1	CCCCAAAACTGACACCTTTGTTAGCCA
82832	MAGEA9	AAATAGAGCTCATAAAGAAATA
82833	ARHG	CTCCCATTTTCCGCTACTGA
82834	GALNT3	TCAGCATTGGCCTCTGTGTACAAAC
82835	SPINK5	ATGAGGGAAAAAATAAACCCCAGTTCT
82836	ACPP	GTTTCTCCAGAAGCTCCAGTGAT
82837	ELMO2	CCTGGAGGGAGGTGTAGAAAGA

82838	SLC2A8	CTCATGGTCAGCCAAGCTTACCCTT
82839	ALDH6A1	TGAAACCAGATTTCTCACTTGCTCTTC
82840	NPR1	TCTCCACCTGGACTCAGGCC
82841	DCX	GTTTCCAGAGTAGAAAAAGAA
82842	ADAMTS4	GCCCAGGCTGGAGTGCAATGGCACA
82842	FEZ1	GCCCAGGCTGGAGTGCAATGGCACA
82843	RAB36	ACCCAGGCTGGAGTGCAATGGCACG
82844	RAP1GA1	CTGGACCCTCCAGTTCTGCCACA
82845	TMC2	GGCTTCACCTGTCCTTTAGG
82846	PLEK	GTCTCCCTTTGTTCCTTTCTGG
82847	RAD51C	GTTCTCCTTTTAAGGGTGGGT
82848	ADAM11	GGCCCCGGAGAAACTGAGGTATGGC
82849	DEDD	GTACACACATACACAGGGTG
82850	UGT2B7	CCAGGATGTCTGTGAAATGGACTTC
82851	PLAG1	GGTTTACGTGTCTCAAAGCACACTG
82852	ERBB2IP	TTTAAACATAGCAATCAAGGCTAC
82853	JPH2	CACTAGGTCTCTGGGCCCTTGTGC
82854	CNGA3	CCTCCTTCTCACTTGCCAAAG
82855	MN1	CTTGTGGTGGGGGGCACATAGATTCCCC
82856	KCNK6	TGCAGTGAGTTATGATGGCACTGCT
82857	TAL1	GAATGAACCACTGCCCCTTCA
82858	EXTL2	GTAAAAAACAAAAACAAAGAA
82859	MYCL1	GGTCAAGGCAGTAGAACTCCAG
82860	UTY	ACCTCTTTTAGAGAACAAATA
82861	CITED4	CCCTCCAGGCCTTGCCTCCTGCGGG
82862	ELL	CTGCTGCTGCTCATTCCACACTGTT
82863	SYNGR1	CCCCATGTAACTGAGACACCCTGCCTG
82864	SIM2	CCCTCCAGGCCTCAGTTTC
82865	PDCD2	AAGACTGCCTGGAAGGGGCC
82866	DRD2	CCTGGCCTGGCCCTGCCCTGAGGAAGGA
82867	Z39IG	GGCTTTGCCCTGGAATTTGCC
82868	COX15	ACTCTGCAACCTCCACTTCCCA
82869	PABPN1	GGGGAAGCTGGGGTTTGCAGTG
82870	PSG1	CATAATATTCCCAGCCTAGACCAAGCAG
82871	CHST6	CCCAAGTAGGCAAGGACTGCACG
82872	DHFR	CCACGAGTTCAAGGCTGCAGTGA
82873	RCV1	TCTTCAGCATTCCCTCCCATCATGCC
82874	EP300	AAAAGACAATTTTCCTTGGAACAC
82875	PSMD5	CACCTATAATTCCCAGCACTTTG
82876	HPS4	GAACCTGCAAGGAAGGG
82877	PER2	GGGAAGTTGCCTCAGTGCT
82878	UBQLN1	ATGTAGAATAAAAGCATTAA
82879	NIPSNAP1	CCATCCAGGAAAACTTGTGCTGG
82880	MMP8	GGGCCCTACCCAGAGGACAGAAAGA
82881	PDGFB	CCTTCCCCTGCACCTGGCCTGGGCCA
82882	TNFSF10	GACCAAAACAAACAAACAGAAAACAG
82883	CAPN10	CTCCTCGTAGCTGAGCCTTCT
82884	PPP2R4	ATTGCTTTTCCCTTCCTGGAGTCG
82885	TRPV4	GGCAGGCATGGCGGATTCCAGC
82886	CDH1	GCCCAGGCCTGGGATGCAGTGAT

82887	F2RL3	AAACCCCATCTCTACCAAAAAT
82888	TFAP2C	GCTATCTCCTAACTTTGGACC
82889	CFL2	TCTTAAGGAGCTTCCATTTCTCC
82890	ZNF76	CAGAAGCCAACTTCATGTCTG
82891	OAS2	TTGATGGTCCCTATTCCTCCTTCCCTT
82892	CCND2	CATTCGAAAAGCACTTTGA
82893	ENG	GCTGCTTGTCCTGGGCCTGCCCCTGTG
82894	DSCR3	TCACCCAGGCTGGAGTGA
82895	SH3BP2	ACTGCCACCTCCGCCTCTCTA
82896	PDE6B	TGTCACCCAGGCTGGAGTGCCGTGGCA
82897	ESPN	CACAGCCGCTCCGCCTCCCGG
82898	AGL	GTTGCCCAGGTTGATATTGAACT
82899	BMP1	ACCTCCACTCTGCCATTCCGGCC
82900	SLC22A5	CGGTCTTGGGTCGCCTGCTGC
82901	ATP1A1	GGCCGGGAGCTGCTCTGTGCTTTT
82902	HR	CGCTCTCCGCCGCGCTCTACCTC
82903	CACNB1	AAGACACCACTGCCCTCCCT
82904	UBE2A	CTTCCCTTTCAGCAT
82905	PAX5	TCTTTGCTGTGGGACCTCAGACAAAACC
82906	HUNK	AGGCTTTGGAAGAGAAGGTGAGGA
82907	TK2	TTCACTCAGCTGGACTGCATT
82908	PBP	AATGGTACACAATGTGATTTTATG
82909	SLC2A4	AGACCCCTTCCTTTCCTCTGCA
82910	IGF2R	TAGGGTATTTGACCCCGATA
82911	CRSP6	GATTACAGGCGTGAGCCACCAT
82911	CRTAP	GATTACAGGCGTGAGCCACCAT
82911	PIK3C2B	GATTACAGGCGTGAGCCACCAT
82912	GRB10	ATGCTCAGATGTCAGATCCTCTTGTT
82913	PTGFRN	ACAGAGATCTTCCACATCCC
82914	PRKCN	AGAAACAGTGGCTTATTTCTTCA
82915	CHST5	ATTCAAAACCAGCCTGGCCAA
82916	FGL1	ATTCATATTTTTGTGGGTAAAA
82917	NCOA6	GTTTTATTGGAACATAGCCACA
82918	WHSC1	ATGTAATATTCCAGGATGCTGCTGCAGGTC
82919	FEN1	TGTGGGTGGAGTGGGGACAAGCGGTGG
82920	WASF1	ATAGCTGTTGGAGTAAAGTTGCAGTGG
82921	HSPA4	CCTCATTCTTAACTGTGTGGCCA
82922	EDNRA	GTTACCATTACAAATGGGATATAAGAG
82923	BAP1	TCTTCATTCCTCTTAGGAGAGTGCCA
82924	IQGAP1	CTCCAAGGTTTCACGGCTTCCTCA
82925	ATP1A2	CATGAGGTCAGGAGTTCGAGGC
82926	UTY	CCAGCACTGCGAGCTTCTGCCT
82927	LZTS1	TCTACCTTCCTGTCCCTGAGGT
82928	FGF2	TTGAGGATTGCATTCTATTTTCT
82929	PRIM2A	TGTCACCAAGGCTTAGTGCAGTG
82930	PLAGL1	ATGACTCCAGCAGCACCAGCTGC
82931	PAX8	CCACGGCCTTTGACCATCTGTATTGAAGC
82932	GPR30	GCGGCCCCGAGAGTCCGGGGAGGGAG
82933	POU2AF1	GGGTTTCTTTAGTGTCTTAAAAGCGT
82934	TRH	GGGACTGAAGCGTTGTGTGCA

82935	STK6	ACATGACACTCTGAA
82936	GNAS	GGACAAGATCGACGTGATCAA
82937	PPIC	CTTAAATATATCCCCTTCCTCA
82938	AFG3L2	GGCCATCTCAGTCTCTCCA
82939	CHRNA4	CTGAGTCTCATTCCTCTG
82940	FUT6	CTGCTGAGACTCCTCCTGCAGTTCCTCAA
82941	TEGT	CTTCCTTCCTGTTAAACCCCTGTTAA
82942	YWHAE	CTCCTCCCCTCCTTCGCTC
82943	COLQ	GGCCAGAGCTCTACCTCTTT
82944	PMCHL1	AACCAAAATCATAGGCTTTTT
82945	LTB4R	GGGAGGAAAGGGGGTGCTGGAAGAT
82946	TCERG1	ATACATACTCAAATATAGGCTGTCT
82947	LALBA	CTCTTCCCTAATGCCACCTCAG
82948	CLCN6	CTTCCTGCCAGCACGTGCCTGAAGGT
82949	IL8	AATAGAAGATGAATCATTGAT
82950	CA3	GGTTCCTTGCCTCCTTCTGGTGC
82951	SLIT2	ATTGTAAAATACAGAACAGA
82952	B4GALT5	GTCTCGAACTCCTGGACTCAAGCAATC
82953	APM1	GAGTTTCCCAGAGAGACATAGCTGGAAA
82954	EGLN2	GCTCCATTGGATCCATGGATGAGGA
82955	HOXC5	TACAGGCTGGCGCAGAACGAAC
82956	TRIM8	CACAGCAACTTCCTGTAGTGAGCAC
82957	PIK4CB	GTCTGTGTCAGTATTACCAC
82958	SF3A1	TCTCCCACCCCCTGCCCCAG
82959	MYLK	ACCTTGTTTAGTCACATTAA
82960	GNG5	GAAACTCCCACAAGCTCTGCCT
82961	MTR	CCAGAGTAGCTGGGACTACAGG
82962	GLP1R	GGTGGGAGAGACACTCCCAGGGA
82963	EIF3S2	CATTGCACTCCATCCTGAGCCACAAGA
82964	BMX	AGCAGAAGCACATTTTCAGAC
82965	MEIS2	GGAGAGGGAGGCCGCGGA
82966	ANKH	CCTGAGCAACAGAGCAAAACCCCGTCT
82967	FBXL11	CCAGGAGGCCGGGCTCTCAGTTTGGGG
82968	PDCL	TTCATTGTAGAAAATGTAATA
82969	UBL3	TCTCATGAAAGTAAAAAGAA
82970	MAPK3	AGGCCTCCAGCTTCAGGCAGGCCAAGG
82971	GUSB	GAACAAGTGCCTCCTGGACTGT
82972	GAC1	CTCCCCATCTTCTCTCTGCCCA
82973	EHF	TTTGCCCTTGATTGAGAACC
82974	FBXL11	GAGGAAGAGGAAGGCAGCCCTGGAGTG
82975	CASP3	TGGTTGGCGTCGCCTTGAAATCCCAG
82976	CASP14	CAACCAAAGGAGAAATGAGCAATCCGC
82977	SH3GL3	GGGTCCTGCAGAACCTGAGGCCAGCTCT
82978	AMD1	CAACAGCAGAGTTGTTA
82979	XCL1	ACTGAGTTTATACTCACCTTTTA
82980	BDKRB2	CTTCCCAGGAGTGGAGGAG
82981	EDAR	CAGGTGAGCAAAAAGAAAGTGGA
82982	AIRE	GGGAGCCTGAGGCATGAGAATCACT
82983	ALPI	CTGCTCCCTGGTGCCCCACTC
82984	SEL1L	ACAGATAGAGTGTGGCTTCATT

82985	ARHGEF12	ATTGAGCAGGAAGTAAAAACAAATG
82986	MTF1	AGGTACAATGCCTGCCATCATGGG
82987	CLK2	TTTCCACCCTCACCTGCC
82988	PIK3R3	AGAAGCCAACAAAACAGTTTGTTGCCA
82989	G6PC	TAACTGCAAGGGCTCTGCTGACATCTT
82990	DVL3	CAGGAAGCAAGCGGAGGTTGCAGTGA
82991	LAMC2	ACTCTGTGCCTTTCTACAACTGAT
82992	AGPAT2	AGCCCGGGAAGCAGGAAGCCC
82993	FGF1	ACTTGCTTCTAAATGCCCAG
82994	BPHL	GACTCCGGCTCTACAAAAAAGA
82995	CD97	GTGACCCAGGGTGGGGACAGGGGCTGG
82996	DIAPH2	GACTATGGATTGGGCCTCTGCCTCT
82997	PDE1B	CTGCCTTCCTGTCCTCTGGAGA
82998	ANXA11	CTCACAGCCTCTTGCTGCTA
82999	PSME2	GGGACTAGAAGGAAAATAAAT
83000	DCN	AGCAGGAGGTTTTCAACCTA
83001	SCA1	CTTTTCCACGGACAGTGTTGTGTTT
83002	ROBO1	GCAATCAGAGTGTACAAATTGTCGTTT
83003	FNTA	AATGTGATTCTTCTAAAGCAA
83004	PPP1R11	CCCTGCACTCTCAACATGAGTAG
83005	MGST1	TGTTATGATTTGTAACATTCAC
83006	IQGAP1	TTTTTCATAGTGAAATTGTGTTT
83007	HLA-DMB	CTACCATGCCTCTCCAACATCT
83008	PCDHB4	GGTTGCTACTTACCTAGCACATTGTAAT
83009	HTR1E	ATCGAATGTTGAGAGAAGCAGT
83010	MYO3A	GCAGGCACTGAAGCTGCGGCCCTGA
83011	PHEMX	CCTGAGCGGGGTCTCTCAGACTGACGT
83012	FBXL7	GGCCTTTATTTTTCCTCATTTCT
83013	PTGFRN	CAAGGAAGGGGAGGATGGGGA
83014	NDUFB3	TACAGTATCTGTTACCTCA
83015	XRCC5	AGCTGGGTTAGGAAAACCATGGGTAAG
83016	CLASP1	ACAGCTGCAGCTGCCTTGCCTTGC
83017	PCSK5	CTGCTCTGCTCCCTGCCGG
83018	CTNS	TAGCATAGTAACTCCTTTC
83019	KRT18	TCCTTTCTCTCTCCCCGGACAG
83020	COL1A1	CTGTTCTGTTCTGTTCCTTGTGTAAC
83021	NEURL	CTGCTGTCTCCCTCTCTGACCTATGC
83022	PPP2R5A	GGGCTCTCTTCCACCCGCTCTGCG
83023	GPR44	ACAGCTGAGCACATTCTGGCT
83024	ADD1	CAGCGATGGGTCTCCAGGCAA
83025	NEDD4L	GTTGTTCTTCAAGCAAGTT
83026	KCNQ2	TGTCTCAGCCGAGCCCAGGGGA
83027	SMT3H1	TGTTTGCTGTATGGGCTCGGGTGGG
83028	SLC7A5	CTTCCCTTCTCCCCAGCCA
83029	GLP1R	CAGGAGCCCAGAGGGCCAAG
83030	XPR1	ATGATCTGTCCACAGTGCCCATTGTCA
83031	MYOZ1	GCAAGGAGGGAGGGATCTTGG
83032	MAFG	GGGAGAGAGAAGGAGCAGGCACGCTGG
83033	PPP2R2B	GGGAAATTTTCTTTCA
83034	ECT2	AAGAACTTTGTAAATAAATAC

83035	MAP3K5	GGCGCTGCACTTTAAATCCAGTA
83036	TRPV1	CCTGGCCTGGTCTGTGCCTGCCC
83037	FKBP10	AGCTGGCTAGGACCCCTCTGCCTTC
83038	KCNMB4	TGCTACTTAAAAATATTAAAATAGAG
83039	ALPL	ACACACACGCCAGCTCCTCTCTGAAG
83040	ACVR1B	CGCGGTGGCTCCCAAGCCACA
83041	CYP11B1	AGCAGCAATGCCAGGGCACAG
83042	RGL	GAAAAGAAAGCGCAAAAGAA
83043	IL9R	TCAGAGGGCAGCAGGAGCAGC
83044	LTBP1	CTGTCCTGTGGAGCAGGCAGTGATT
83045	PACSIN1	CACTCCACTCCAGGCTGCCGGCACCTG
83046	INHBA	GGAAAGGGAGCAAGAGTTGTCCAG
83047	PTGS1	GGAAAAGAAGAAACTTTGCCTCAA
83048	EIF2C1	AGAGAGTGATGCTAACACTCCA
83049	SURF5	CGTGGAGGCTGGGCAGG
83050	FCMD	TTTGGTACCTGCTCTCCCCTGGACT
83051	CYFIP1	GCTGCTGGGTTCATTCATTCATTCCA
83052	MAPK14	AAAAGGAGAGAAGAAAGTGTA
83053	MEIS2	CCATGAATTCTTCTTTTCTCAGCACGTGT
83054	ABCA2	CCTGCCTGGCACTGCTCACCGC
83055	NAPB	TTGTCTTTGTGGCATGCAGCT
83056	JUP	CACATGCTGGCCTAGCGGCCTGGCCC
83057	CDC23	GCTATCCATTTGTTCTTACTCTCTA
83058	ARHGEF7	GGGAGGTGGTGTGTTCACGTGA
83059	SLC9A3R1	CCTCTGGCGCCCTGCTGC
83060	TLL1	CTTTCCATGTGTATGTGTGTGTCT
83061	STK24	GAAGGATGGACTCCAGAGCCCAG
83062	APM1	AGAGAGTTAAGTGAATGTCTAA
83063	MN1	GGGTGCTGGAGTTGGAGGAGGCTGT
83064	FPGS	GCCTCCTGGGGGATACGGTGGAGAA
83065	CUL3	GCAGCTGTGTTTTGGAAAGTGATTAAGCAATA
83066	PCTK3	GCCTTTCTACCCAGGCCCCCTGCCCTG
83067	ENTPD3	GAACATCCTACTCT
83068	ATSV	CTTTCATCAGATCCTGCCTCCT
83069	EIF2C1	CCTGGGACAGTGGGCTCTGCATG
83070	BAZ1A	CCAGTGCTGGCTGCAGGTAT
83071	SLC7A6	ATTCTGGTGCTCAGGCTGG
83072	EDN1	GCCTTTTCTCCCCGTTAAAGGGCA
83073	RHO	CTTCCTTGGGGATGTTCATG
83074	RAD21	ACCTGGTCAACTTAGCTTTT
83075	CLASP1	CAGGAAGCTGGGAAAGACTGA
83076	TCF1	GAGCCCAGGGAGGCCGAAGCTA
83077	GPR48	ATGTGGGAAGGATTTATTTACAGTGTG
83078	CENPA	TGCGATGCTGTCTGGACT
83079	TNFAIP2	GTCTGGGCAGGGGCAGGGCAAG
83080	ITIH4	TCTGCCTGGCCACATCGATGTTGT
83080	ONECUT1	TCTGCCTGGCCACATCGATGTTGT
83081	RAI14	GCTGGGATCAGCCATGCCCAGAGGTCTG
83082	ZNF200	AGTTGAATGTCAGACTCTCAT
83083	GNAZ	AGCTTTTCTTCTACTAGTCTGA

83084	RBM10	ATGTCTGGGAGCCCTTCCTT
83085	TOB1	TATACTCTCAGATATGGCCTCTTA
83086	ITSN2	AGCTAGCAATCTATGCAAACACCTTT
83087	CCR9	GCATCACCTTTGAAAATATTTCA
83088	CRYAA	GCCCTGCCCACACCTCCTGGGGC
83089	DGKI	GCCCAGGCTGCTGGGCTGTAGCCAA
83090	KNG	TCCTAGAGGGAGATTGTTA
83091	HPS3	AGCTAGAGTGTATGT
83092	BDKRB2	GGGTTTCTTTAATCTATTCAGCTAGA
83093	TIAM1	GAGGAAGAGGAGGCTGGTT
83094	ACVR1B	AACCGAGGTGTTGCCAGTGCTAA
83095	RPL10	GCTTTTTAGCTTACATAACT
83096	PTEN	GCCCAGTCGCTGCAACCATCCAGC
83097	OXTR	TACAAGATCAATATACAAA
83098	WHSC1	GGCCTCCTCGGGAGGGAGCGCCTCC
83099	UBL3	ACCAAAAATTTAGATGCCTTA
83100	NT5E	ATCTCTGCTTTATTTCTTGTC
83101	PCDHB7	ACTATTTTAACACTTTTAATCTG
83102	CLASP1	GGGCGGGCTGACTCCCTGCTTCCTCCA
83103	TMEPAI	CTTATTTTCTTTTGTTTATGAT
83104	ABCC5	ACTGTAAAGAGACCTACCTCA
83105	PLA2G2D	GTCCATGTGGCTCTATCTTTTA
83106	SLC16A2	TTCTCCTCTCTGAGCCTTTGTC
83107	CYP2C9	CGGAGAGTTTCCTATGTTTCACTGTGCAAAT
83108	KRAS2	TCGGACTGGGAGCGAGCGCG
83109	ZIC3	TGTTAGTTTGTTAAACCAGA
83110	ZNF74	CTCCTGGCCTCCTGCTTCTT
83111	ATRN	GGATAGAAGGGGGGCTATTTTAA
83112	SLC19A1	CATCCTGACCTGCGGGTCCTC
83113	STAT1	CCCTCCTGCTACTCTGTTCCTTCACAT
83114	SFRP1	TTATGATTGTCCCTCTGGGCCA
83115	GTF2IRD1	CCGCTGGCAGGAGCGCTTGGGGA
83116	ABCG1	TGGATGGGGAACTGCAAGCAGCCTCT
83117	ITGA3	CATCACGGATGGTGCATGGG
83118	TCIRG1	GTCCCGGGCTGGCGGGAGTGCAGT
83119	ISL1	CTCTCTCTATGGAAATAAAAAGGAAAA
83120	ICMT	GGGTGAAAGACGAGTAAGGGGCAAATCA
83121	SIRT1	TTGGTAAAATAGATTGTTTTTCATGGA
83122	LRP6	CAGGAATAATAAAGGCATCACTGA
83123	KCNK5	TGACCTCATCCAAGGCCATGATGTC
83124	ENTPD6	CTCTCCTCACACATTGTGTGGT
83125	CNTN2	CCAAGAAAAGAGGCCAAAGCAAGAGCA
83126	CELSR3	GCCTTCCTCCCCCTATTCCACCCCC
83127	BSN	CTGCCACCATGGTGTCTTGCC
83128	RAD50	CAAAGGAAATACATTTGTA
83129	SLC9A6	TTCTGTCGGGTTACTGACCT
83130	EDNRB	ACAGAAAGAGCAAGGCTGTT
83131	VAT1	CAGGGAGGGTCAGAGGGAGGC
83132	ZNF257	GCTGGAGAGAAACTCTTGA
83133	SOX2	TTTTCAAGGAGAGGCTTCTTGCTGA

83134	MCP	ACCAGTCAGCACAGCATGCCTGG
83135	LZTFL1	TCCTGCACTTCTACAGTTTAGAAA
83136	NR3C2	TGCAGCTCCTGGAAGGTGTCATTTGAC
83137	PPP1R12B	GAAGCTGCTGGGCTCAAGCAAT
83138	STAT6	TGGAAGGGAAGTTCAGGCTCTG
83139	ALPPL2	AAGGAAGACTCATTACCTTCCCTC
83140	GAS7	ACTGCACTTTGGAGAGGCAA
83141	MAP3K7IP2	GACTCCGTCTCTACAGAAGG
83142	OPA1	GACCATATTTATTTACTTCT
83143	FACL4	TGGCTGTACTGCTAT
83144	PDAP1	TCTGGGAGCCTGTGCCCCTGGGTCCTC
83145	MEOX1	AACAGCTTCAGAGATACTGCTTCTCA
83146	PTPRS	CACTATGCAACCTAAGCCATGGTCCC
83147	LBX1	CGCCCCGGAAGCCCTCGCCGA
83148	RPS6KA6	GGCATCGTTGTCTGCTAAATTACTTGA
83149	HGF	TCTAATTGAAGAAGATTAAA
83150	SOX2	TGAAATTTAGGACAGTTGCAAAC
83151	PPP2R4	GTTCTCTAGCCCTTGGCTCTG
83152	HPGD	GCTATCTTAAGAATCATTAAATACAC
83153	MOCS1	GCCCAGCTGGCTGGAGTCCAGGC
83154	CTSL2	GCGGACGTCTGTAATCTCAGAG
83155	MPDU1	TCCTCCATTCCTCTGCACTTGC
83156	IRTA2	TTGCAGAGGACAAGGCTGG
83157	TAT	TGTTAGCCAGGCTGGTCTCAA
83157	TES	TGTTAGCCAGGCTGGTCTCAA
83157	VENTX2	TGTTAGCCAGGCTGGTCTCAA
83158	CAPN9	TGAACATCTGGGCTGCCTTGT
83159	TOX	AGCTTTTCTAGAGCAGCTGTGCG
83160	KRT7	ACAGTCTGGAAAGTGATGTCAGA
83161	PCBD	GGAGCCCTTACCCTCCCACCACTCCCC
83162	SQSTM1	CTGGTCTCTTCACCACTGTAG
83163	DSG3	ATGCCAGAATGAGCTGGAATA
83164	PRKACB	CTTCTGCTTTCATCCCATG
83165	SLC25A11	CACGAGGGAGAGCTGGAGGGGC
83166	CSF1R	CTTGCAGCCCTGCACCTGCCTGC
83167	CENTD1	AGTTGTCAGAAATAACTGGAAG
83168	ZNF141	AGAGAAACTGCAAACGTGGAGAA
83169	CTSF	TGTCCCTCTCCATGTCCAGGAAA
83170	NR1D1	TTGCAACCTCTCTTCCTCTGGG
83171	OPHN1	TGCAGTATGTTGCCAAGAGCCCGTCTGCT
83172	GHR	ACTCACTGCAATCTCCACCT
83173	DUT	TTGGTGTTTTGCACTTCTGTAAA
83174	ADAM28	GTTTTTTGTTAATTTTTTGT
83175	HSPA5	CCCGGCACTCCAGCCTGGCGACAAGA
83176	HAP1	ATCCTTTCTTCTCAGTCCC
83177	PRY	CAGGATGAAGGGATGCAGTGA
83178	GPR62	GCAGGGGAGAAAGACAGCAGA
83179	CASP10	GCTGTTCTCAGGATCACTGGG
83180	BCS1L	CGTGGAGAAAGTAGCAGATGGGCAGATTTTC
83181	CYP2B6	GCGTGAGTCACCGTGCCCAGCC

83182	XT3	CTAGGAGGTGGCGGTTGCTGTG
83183	MTR	CCTCTTAGAAGAAAAGCCTGA
83184	PIK4CB	TTTGCTTTTTCCCTGCCTG
83185	KIF1B	GAGTGTCTCAGTTCTGCTTTTGGC
83186	PRKG2	ACTGCTGACTCTTTGAAAATC
83187	CLASP1	AGTCTCTCTTCCTCCTCAGCGAACCA
83188	ELAC2	GTGCCTGGCACAGCCGCGGGC
83189	THBS1	TGCATCAGTGTGGACTCCTAGA
83190	RABL2A	CTGCAACCTCTGACTCCCTGGT
83190	RABL2B	CTGCAACCTCTGACTCCCTGGT
83191	ANGPT4	GCACAGCCCCTAGGGCTCT
83192	CORT	TCCTCTCCTCCTTCCCAAGTCA
83193	KCNQ2	TGGCGTGAGAGGGACGGCTCA
83194	POLL	AGCAGGCTGCCACCCCTTCTACCTCA
83195	EPRS	TGGCTAGAGTTGCAACTACAGCT
83196	RP2	AGCTAAATTAAAGGGACTCCA
83197	BTG1	TTAAAAAAGACCCTTAAAAA
83198	ANK2	CTGTATCCAATACTTTGTTGTGTCT
83199	MAP3K1	TCTTCCTTGCCGCCTCACCGC
83200	FCGR3A	TGCCAGACTTCAGACTGAGAAGTCAGA
83201	PRKCB1	CTCCGTCCTTCATTTCTGTCATTCAAGCTCA
83202	SCNN1G	TCCTCCATGCCCTCAGGCAGC
83203	CELSR3	GGGGTGGACTCAGATGGGTGGG
83204	GLRB	AGTAATAGATATGTGATTTTACA
83205	PDCD8	GGAAAGGGAAGGAGGAGGTCCCGA
83206	FRK	CCCTGCTCCTCTTCTCCCCACC
83207	HLA-G	TAAAGTGTCACCCCTCACTGTGA
83208	ATP7A	TCACTGCAACCTCTGCCTACCG
83209	ZNF26	ACAGGATTTACAAGCAGGA
83210	CANX	GCATTTATATTCCACTTGGGA
83211	HIP1	AGAGGCAGAGGTTGCAGTGAG
83212	SULT2A1	GGAGGCAGAGGTTGCAATGAG
83213	AQP6	CCTCTGAGCTCCTGGGGGT
83214	TFAP2C	CTGGGCCAACAGACCCACACACTTAG
83215	VDAC1	CCAGTTCATCATCATCTCTTTTA
83216	ADRBK2	CAGCTCAGCTCCCTGCCTTGT
83217	VHL	GCGGATGGATCACCTGAGGTCA
83218	TM6SF2	GTCACACACCCCTTCCCTCATCA
83219	ARCN1	GGCTGCAGGCACTGGCAGTGGGAA
83220	TRIM37	TGTTCAAAATAGTTTGCACTTT
83221	HOXD8	TTCTAGTATCACATAGAAGCTGTCCT
83222	KIF3B	GAGATGGAGACATGAGACTCAGT
83223	NUP98	TGCGCAGCCTTACCCAGTCCTA
83224	DMD	AATCATCTGCTGCTGTGGTT
83225	ANXA11	GCCTGTCTTCCACCCCTCCTGACCC
83226	CDH12	AAGAACAAACAAAATACATTT
83227	IDH3A	GAGAGCTAGTACTTCATTTTCACTGGA
83228	IMMP2L	CCCCAACAACGCGCCCTCT
83229	MLANA	ACTATGCCTGACTAATTTTGTAG
83230	PCSK1	CAGCTGCCTGATTAGATGACTCTCAG

83231	HLCS	CTCATGAAAGAACAAAAGAAATGAAG
83232	LGI1	TCTCTGTTTTGAAAAAGCAGAG
83233	DLST	AACTGATTTTAAATGCAA
83234	IL1RN	GACCACCTGCCCAACCTGCT
83235	ZNF179	ATCCGGACCCTCTCCCCATCCCAGCC
83236	BRMS1	TTCTCAGATTCCAAGGACTG
83237	YWHAB	AACTGCACTCCAGCCTGGGCAA
83238	BCL10	TATCGCCCAGGCTGGAGTGCAGT
83239	PAX5	ACACCTGCCATGGACACTTCA
83240	HCFC1	GCCAGGGCAGGAGAGGTGTGAAA
83241	PDE4D	CCTCTTGCCACCCTCAGTGCCACA
83242	YES1	CTTGCATTTATTATTCTCAA
83243	CYP1A2	TGTCTCCTAAGCTGGAGTGCAGTG
83244	HOXA3	CTTCATTCCTTGCTGCTCACATTCT
83245	LPIN2	CACACAGTGAAGTGTTCCAGT
83246	TBL2	CACCAACATGGAGCTCTCGCA
83247	TNFAIP1	CAGCTGGGGGAAAGGCAGTTC
83248	TP53BP2	GTGTGAGCCACCACGATCAGCC
83249	CALM1	TCCTACTCCCTGTCTTTCTGGCA
83250	MTMR2	GCAAAACTTTTAAATATTTGAA
83251	NET1	CATTGTTTTTGGTTGTTCTTT
83252	C20orf1	AAGAGGGAGCAGCTAGGGCGCGGGTC
83253	ESR1	GTTTATCAGACAATTGAATGTAGTA
83254	LARGE	CACAGATTGAGGAGACACTG
83255	RNF3	TGGAGCCTCTGGGCGGCCTT
83256	RBM8A	GATGGCCATGGCAGTCAGTGGCAGCA
83257	GAS7	TGCAGTGAACCAAGATCGGGCC
83258	HPS4	GGCATCTCTCAGCGCCTCCAGCAG
83259	MAPK7	TCGGTTAACTCCGCTGCAGCC
83260	MPP2	CCCAGGTGCTGCCCACTCCTGA
83261	ACADSB	GCTCACTGCAGCCTTGACCTC
83262	INPP1	AGGCTGCTGCCTCCTGCTCTG
83263	COPS3	AACCATCCAGTTATTCTTGAA
83264	EFEMP1	GGTGCTTAAGGAAACTTACT
83265	SYNGR1	AGACCATGGGCTGTAGGGGA
83266	LHCGR	CAGCCTATTTGCTTAGTGA
83267	TMPRSS3	GCTCACTGCAGCCTCCGCTTCC
83268	GALGT	GCTGTCCCTGAGCCTCTAGT
83269	IL6	TTCTGGTCAGAAACCTGTCCAC
83270	CD68	CCGCCTACCAGGCCCTCTGGCATTTG
83271	AEGL1	CCCATCCTGATACATCCTGAA
83272	WNT5A	CCTTAAAACTGTTCCCAGTG
83273	FZD1	GAACTATTTTACATTTTATGG
83274	SLC9A1	TCCCACTCCTAATCAAGAGTCTCTCCA
83275	HLCS	CCCACCCCAGCAGTGCTCTCT
83276	F5	ACCCCTGGAAGAGACTCTTTAAGA
83277	TDGF1	AAGCTATTCAATTCTTTTAACTGTTGT
83278	PLAU	ACCTGTGACCAGCACTGTCT
83279	CFL2	CCATATTTTTGAAAGATTTTTCA
83280	ELMO2	GTACTATATATTTTCATTACTATAGGC

83281	SLC14A1	TGAGAGTCACATCCAGGT
83282	PTGFRN	TGGGTGCTTACACACTGTAC
83283	SMURF1	TTGCCCAGATGTCTTCATATG
83284	RABGGTB	ATTTTAACATTTCTGTATTTG
83285	SLC2A4	TAGAATTGGGAAGCTGGGGGAAG
83286	BTG2	TTTATTACTGCCTTCTTTTCA
83287	POLR2E	CACCAGCCACTGCTTCCTCCTGGG
83288	PKHD1	GGGTACCCACTATATGAGA
83289	ANKH	ATCTTTGTTGTGTGGGAGGGCAGCAG
83290	POU2AF1	GTCGGCCATTTCTCTCTCACCTCT
83291	PIK3R1	TAGAGCTTTCTTTCACAAAAA
83292	ITPKB	CCCCTCTCCCCATGGGACC
83293	CELSR1	CGTTTGTCCTCTGCTGCCATC
83294	FOLR1	TGAGCCAGACGGAGAGCCACCTCCTC
83295	SNX4	ATTCCTATATTTACTTGGTAAGATCCA
83296	PAX5	GTAGGGCCACCCCACAGCTCT
83297	GNPI	GCTACTGCTGCCTCCATTTCT
83298	F2RL2	TCACCCAGACTGGCGTGCAGTG
83299	INSM1	TAGTAACTGCCTCAGTGTT
83300	MADH3	TGAAACACACGAGCAAACCCAGAG
83301	RNMT	CTTGGCCCTGCTGTGCCTTCA
83302	MSR1	TTCTGAATGTACACTTTCTG
83303	MSR1	CAGTCCTCAGTTCTCTGC
83304	BRIP1	TCTCCTGCCTCAGCCTTCTGAGTAGCT
83304	CBFA2T2	TCTCCTGCCTCAGCCTTCTGAGTAGCT
83305	YWHAG	TCCTTATGGTTTAGGCCTTGCCA
83306	HMGA1	CCTGCTCCTCCCTGCCCC
83307	CNTF	CTGAACTTTGGAAGCTGGGGA
83308	KRTHB6	GACTCTGCTGCCTTCTCCTTTGTCTTT
83309	HADHB	GCAACACTCACACTAGGCAA
83310	MYO1B	TGACCTACTTTCCCCTTCTTATCTG
83311	RGS5	ATATTAACTCAAAAGAAATA
83312	CD2AP	GTCAGATTTTTGAGTACCAATGA
83313	TNXB	TCTCCCCTGGGCTTCTCCCACGCAGCC
83314	APOL1	TTTATGGAACTGAGTGTTAGG
83315	PTGS1	TGGGCGTGCTAGAGGTTGCAGCATGA
83316	LASS2	CAGCTAGGCTAGCTGGTTTGGAGT
83317	GPC1	GGCCTCGCCTGCCTTTCTGCCTTTTAATT
83318	IL16	GCCCTACTTCTTTGCTTTGCCCA
83319	LDOC1	CCTTGCCCTCCGGTCCCCTTA
83320	TRIM14	GACCGGCGTGACAGCCTCCAGAA
83321	PUM2	GAGTTATTTTACTTTTCTAACCCA
83322	PRKY	ACAGTTGAAATTCATGGAACT
83323	SH3BP4	CCTCCTGCTGCTCTGGAGTG
83324	JAG2	GGACCCAGGGCCCTCGGTGGGAGCCA
83325	MS4A12	CTACTACATGCTGGCAAAGGTGAA
83326	PPP1CC	GCTCGTGGCGTGGGAAAGGAGG
83327	C10orf2	TGCCTGCATGCATTCTGGCGGAA
83328	ALEX3	CTGCTTGTCTTGAGGAGGTCA
83329	SLC25A11	GTGGGGAAACCAAGGCAGAGCTGAGGGGAC

83330	AQP6	TGGCTAGGACAGGAAGCCAGG
83331	ASB1	CTCTACTGAGTACTTTCTGCAGGGGC
83332	NDST2	TCTGGAGCTTGACAGGCCTGACGTCG
83333	IFNAR2	GGCTCACTGCAACATCCGCCTC
83334	TRPV1	GGCTCCCTGCAACCTCCGCCTC
83335	FKRP	AGACCAGCCTCGGCAACATGCC
83336	FAT2	CCCCTGCCTCAGTCGAGCACTCACTGT
83337	TRIM34	TGATCATCATGGAGAGAAACTCCTACT
83338	EGFL4	GCTGCCGGCCCTGCCAGTGC
83339	EPHA3	TGAGTACAAATGCCTTA
83340	AP1B1	TGAGCCCAGGCCTCCTGCCA
83341	EIF3S2	TCAGGAGGCTGAGGCAGGAGAATCACT
83341	FCAR	TCAGGAGGCTGAGGCAGGAGAATCACT
83341	LUZP1	TCAGGAGGCTGAGGCAGGAGAATCACT
83341	PLA2G2D	TCAGGAGGCTGAGGCAGGAGAATCACT
83341	SRGAP1	TCAGGAGGCTGAGGCAGGAGAATCACT
83341	SUV39H2	TCAGGAGGCTGAGGCAGGAGAATCACT
83341	VHL	TCAGGAGGCTGAGGCAGGAGAATCACT
83341	VPS41	TCAGGAGGCTGAGGCAGGAGAATCACT
83342	DLEC1	CACAGTGTGCTCCAGATGGTGCT
83343	ADRA2A	CACTCTTGACCTGGAGCCATCTTCCTA
83344	P2RX7	CACTGCACTCCAGGCTGGGTGA
83345	SLA2	AGCTCACTGCAACCTCCATCTCCT
83346	SERPINB5	GGCAAATTCTGTTCTCCTTAGTGGC
83347	TCF15	TGGAGAAGGAGGCCAGGAGCCAG
83348	ETF1	CTGACTTGATTCAGTCACTCGTAGCTT
83349	CDC23	AGGTAATATGCTATAATGTCTGCTGTA
83350	ITCH	ACCTGTAATCCTAGCACTCTG
83351	ACCN2	AAAGGGAGAACGGGGCAAGGGAC
83352	TTF1	GGGGAATTCCGTAAGCCTAGAATCAAA
83353	ZNF207	CCACCCTAGTAAAGGCAAGTTCTGTA
83354	SOX11	CAGGCGTATTTTTGTACAGTGA
83355	D12S2489E	TGCCCCAGTGGGCCATGATTA
83356	PIGR	ACTCACTGAGTCTTAACTTTTCACCA
83357	DMRT2	GAGATCCAGACCACGAGAAGTGACCTT
83358	ANGPT1	AACATGTGTATTCTTTTAATTGTT
83359	HEPH	ACATTGCAACTGGCCTAATTGGG
83360	ACCN2	CTATATGATACAGACTCTATA
83361	M17S2	TTCTCATAATTTCTGTAATCC
83362	BACH2	AGAGTGTTGCTGTTGATCATCTTTGC
83363	AK2	TTTTCATTTACTCTGGACTGGTGAA
83364	MALT1	TGAAGTTCTAGCCACAGCAGTT
83365	SNAP23	GATTACAGGCGTGTGTCACCAC
83366	BAT3	GGGGGAGACCGGAAGTGA
83367	EIF2AK3	TAGGTGATGCAGATAATAGCCTA
83368	ICMT	GGCAGTTTACAGAAGAGGTCGC
83369	PTGS1	GCGGGGGTGGAGCCGGGGGAA
83370	MTNR1B	CTGGGGCAGAAGAGCCCAA
83371	IGFBP6	CTGCGCTGCGACTGCTCTGG
83372	RAD9	CTTATTTCTCATTGAGCCTCA

83373	DLG4	GGATCCCCGCCCCCACCTGCCC
83374	ACCN2	TGCTTCTCTCAACAACCTCATCTGCA
83375	RARA	GGGCCTACAGGGGGGTCTCCCCT
83376	PRPS2	GCTAGTTTTAAAATAATGATCTCA
83377	GATA4	TTCAAATTGGGATTTTCCGGA
83378	LMNA	GGCTCACTGCCAGGCCAGCCTC
83379	FANCD2	CATGCTTGTAATCCTAGCACTT
83380	TPMT	ATCGTGCCACTGCACGCCAGCCT
83381	STAT4	CTGCCTGGGACCTGTGCTGAGAGAGC
83382	MOCS2	CCCCTATCCCGGTTCTGGGAGAGCATT
83383	ZNF192	GAACAACATCAGTTAGAGTTT
83384	G6PT1	GGGAAAGAGAGGAGGCCATCATTC
83385	DAPK1	AGGGTCTGGGGCCGGCGCCTGGG
83386	TEAD3	AGCTGGAGTTCTCATCCAGGGCTGCTT
83387	SLC16A2	TGAAGAAACTCCTTTCATCTCA
83388	CYP27B1	CTGGCCACTATTAAGTGGGTTTG
83389	BCL2L2	TGCATGCTGGGCTGCCTGGCAAA
83390	MUCDHL	TGCCATCTCCCCTCGTCCTGCGTCCCG
83391	MPDU1	GAGTGCTTTCGTAAGCCCTGT
83392	PIK4CB	CCCTCCAGTGTACTGAGGGTACTGG
83393	TGFBR3	TCACCTGGCACATTCATTTTCTCAGTT
83394	CR1	CTCCTGACCTCGTGATCCACCCGCCTC
83394	SERPINB9	CTCCTGACCTCGTGATCCACCCGCCTC
83394	WHSC1	CTCCTGACCTCGTGATCCACCCGCCTC
83395	KCND3	CTAACTCCAAGCTGGTGTGCCT
83396	HMG20A	CCCAGGCTGGAGTGCGGTGG
83397	CASQ1	GCTGGGTGCTGAGACACTG
83398	DXS1283E	TTTACTGACACTGTCTTAAATCCTAAA
83399	GRM6	GACCCCTGTGAGCATGGGAA
83400	EYA1	CAGCGCACAGCTGCTCTGTGACCAGGG
83401	PCTK1	ACGCCGCCTCCGCCTCAG
83402	GRM3	TTTCTAGGCTGAGTCTAGTG
83403	AKAP13	GGTCTTCCCAAGGATTTTA
83404	FKBP10	AGTGGCGGTGGGACTGACCTGC
83405	USH2A	CCTTCCAGCATTCCTGCTGC
83406	AHR	TTTGAGTTTTGAGCTACTGG
83407	KPNA3	TTGGTATGATGCATATACAA
83408	MINPP1	TCTCTCTTCTTTTCCTCAGGTAGGAC
83409	LOX	ATTACATATTTGACTCTTTCA
83410	TAGLN	GCCCCCAGCCTCAGCCCAACTT
83411	AVPR1A	GTGGGAATCAGGCTTTTCCCGCAG
83412	TNFRSF9	TGGGATTACAGACATGAACTG
83413	NEDD4	GCCCACCCTCATTGTCATGCC
83414	ADCY6	CTGTTCCCTCTCCAATCTTCCAGCC
83415	IL1F9	GAACCTTCTTAGCATTA
83416	SCAP2	CCCACCCCGTCGGTCACCT
83417	EXTL2	AAGATCTTTATTGGTAGA
83418	CYP4A11	CCTGTTTCTTTGTTTGATCACCAATAA
83419	ADAM19	TGCTACCCTCTGCCTCA
83420	F11	TCACTGTGCCAGCATGCTTCCTC

83421	SEDL	GATTACAGGCGTGTGAGCCAC
83422	C8orf1	TAGATGTTTTTCTTACTGTCACTTCT
83423	CUL3	GGAATGTGTCCATTGAAAA
83424	IL4R	CCACCTGCCTCTGTCTCACTGAACTAGA
83425	PCDHA1	TGTTAACTCTTTCTCTCCA
83425	PCDHA10	TGTTAACTCTTTCTCTCCA
83425	PCDHA11	TGTTAACTCTTTCTCTCCA
83425	PCDHA12	TGTTAACTCTTTCTCTCCA
83425	PCDHA13	TGTTAACTCTTTCTCTCCA
83425	PCDHA2	TGTTAACTCTTTCTCTCCA
83425	PCDHA3	TGTTAACTCTTTCTCTCCA
83425	PCDHA4	TGTTAACTCTTTCTCTCCA
83425	PCDHA5	TGTTAACTCTTTCTCTCCA
83425	PCDHA6	TGTTAACTCTTTCTCTCCA
83425	PCDHA7	TGTTAACTCTTTCTCTCCA
83425	PCDHA8	TGTTAACTCTTTCTCTCCA
83425	PCDHA9	TGTTAACTCTTTCTCTCCA
83425	PCDHAC1	TGTTAACTCTTTCTCTCCA
83425	PCDHAC2	TGTTAACTCTTTCTCTCCA
83426	RAB36	ACCATGCCAGGCTAATTTTTTAT
83427	NRCAM	TTTGTGAAAGAAGAAAAGGAAA
83428	PPYR1	GCGCTTGGAGTCAGAGCTCTAGA
83429	ADRBK1	CCTGCTGTCCCCTCTTGCCCCAACCCC
83430	MCF2	GCTAAGGTCAAGTAAAGCACAA
83431	CROT	TTTTTGGGCTGGGTGCAGTGG
83432	ITGB2	CGTCAGGACCCACCATGTCTGCC
83433	GA	CCTCACCTAGCCCCTGTCCTGA
83434	EGR3	GAGTTTTCCTTTGTTTTAATAA
83435	DUOX1	CAAGCAGGGCCCTGCCTAAGGAACAC
83436	ABCB9	CGTCCACCCACCCCTGGCTGGC
83437	JPH2	TGCCTTGAGTCCTGCCAGTGTA
83438	CPD	TTTTCACCTCTCCAGTTTTTCC
83439	SLC1A4	CCTTTCTCGCACCTGCTCCT
83440	HPS3	TATGATACAAATGCTTTCA
83441	PLS3	TGTAAACAATTGAAATATTTTGTCTTAA
83442	PFKFB3	TCTGCAGCTTAGCTTGTGTCCTGCC
83443	PIM1	CTGCTGCCCTAGTTTTCTTTCCT
83444	BIG1	CTTCCTGCACTGTTTTCTTT
83445	CD72	AGAGACGAGAGGGGCAAGGGAGG
83446	CAPON	GGGAGGACAGCTTGTCTGCTGCT
83447	SALL1	TACAACATTATGAAGACATTCTTTT
83448	DDX3	ATTAACTCCCCTCCCGCCTACC
83449	PITPN	TGGTGAGGAAGTCCAGGCTCC
83450	CNP	TTCCCAAGCTGGAGTGCAGTGG
83451	NOTCH4	AACCAAGAATTGCAGGCATATG
83452	SLC7A5	TTGTCTAGGAGACAGAGCCAAG
83453	KCNMA1	AGCTCACTGCAGGAACGAGTTCA
83454	ARHGEF6	GCCAGATGGGGAAGGTCACTGGAAA
83455	ITGA3	AGCCGACACTTGAATGTAGTA
83456	HDAC4	ATGGAAAGGGATCCTGATTGA

83457	NCF2	TCCAGGCCCAAGGAGTAAGTA
83458	DGKI	CTATGTGTAGCCATCTTTGC
83459	CPT2	ACTCCAGTTTCTGTCTTGCTC
83460	HAS3	AATCCAGGCTGTTCTCAGCGTT
83461	PHEMX	TGCCCTATCCACAGCTGCT
83462	GSTM5	TCTCTTCTTTGAGAAGCCAGAC
83463	APLP2	CCGCTGCTGCTTTCCTTCGG
83464	SLC7A7	GGAGGCACCTGTCCAGAAGCCTGGCC
83465	TM7SF3	TACAGTGAGCCTTGATTGTGTC
83466	MLC1	CCTCTTTTCCCTTGTGTGAGGGCAA
83467	KIF1B	CGGCTCCTGTTGACCCGGTCCG
83468	GCDH	TCCCTCCCTCCCATCTGGGGGTA
83469	PPM1B	CTCCCTTGCCTCAGATTTATTGC
83470	GRAF	ATGCCATGGCCGGGTGCAGTG
83471	DMC1	TTAGGAGCTGAAGAAATGGAAAAGCA
83472	MADH7	CTTCTGAGCAGCGAGCCTGCT
83473	ZNF217	GCAGTAACATTTTTCTCAGT
83474	DCX	GTCGAAGCGATTCTCCTGCCTCA
83475	SPTBN2	GTCAGGACAACTGCCTGCTGCTA
83476	CYB561	GCTCAGGCTGGGAGGCAGAGGGC
83477	SLC7A5	GGAGGCTGAGTTCTGGTTCATGCAGA
83478	SPAG9	TATTAAAAGAATAATTTTTTG
83479	MPL	TTGCCAGACTGGAGTGCAGTGG
83480	FZD6	GCTATTGTGATATTTTAGCACTTTGG
83481	TM6SF2	CCTGCAGTTTCTGGGTAACAGGG
83482	EEF2K	AAGCGCTGGGATTACAGGCAGGAGCC
83483	DPYSL2	CCAAGTCCCCTTCCCGGCAGT
83484	SDC4	TGTTGTGTGGAGTCCTGGCT
83485	ATP8B2	AGCCCCTCAAGGGCTGAGGCC
83486	ACVRL1	CCAGCCCACCCAGCCAAAAAT
83487	RGS14	GGATGTGAGGGCCCGCAGGAGCCGAGT
83488	ZIC2	CCCTTCTGTTTCTTCAGCACA
83489	VANGL2	AGCATTTTGGTCTTTTGCTTCA
83490	CD209	TTTGGGCCAGACTCCTGTGT
83491	NFYA	TACCTTGACTGGTGAAGTCAGCC
83492	SLC4A4	GGTATACTAGAAGCAGAATGAAACCA
83493	HS3ST3A1	GGGGGATGCTCTGGCACCTGTCG
83494	IGSF4	ATGGGTGGAAAGGTGTGAG
83495	POLH	GGAGGCGGAGGTTGCATTGAG
83496	LPP	GGGAGGCTGAGACAGGAGGATTG
83497	MAGP2	GTGGAAAGAGCAGAACACCATAGA
83498	RYR2	AGAGACACGTGGCAGCCACACTCACCC
83499	CD9	GCCTGCATCTGTATCCAGCG
83500	SLC7A6	TTTCAAACTGTAGGGTCA
83501	NDN	TCATTATAGTATTCAGGATTT
83502	DIA1	GCAGGCCCAAAGCTGCAGGTCCCA
83503	FCAR	AAAAGAAAACACAACCTGCCTGG
83504	ALDH1B1	CCTGAGTAGCTGGGATTATAGG
83504	PCDHA9	CCTGAGTAGCTGGGATTATAGG
83505	CDC6	CCCGAGTAGCTGGGATTACAGG

83505	DCX	CCCGAGTAGCTGGGATTACAGG
83505	DFFB	CCCGAGTAGCTGGGATTACAGG
83505	F3	CCCGAGTAGCTGGGATTACAGG
83505	GPR56	CCCGAGTAGCTGGGATTACAGG
83505	JAK3	CCCGAGTAGCTGGGATTACAGG
83505	MEF2A	CCCGAGTAGCTGGGATTACAGG
83505	NF2	CCCGAGTAGCTGGGATTACAGG
83505	PIK3C2B	CCCGAGTAGCTGGGATTACAGG
83505	POU2AF1	CCCGAGTAGCTGGGATTACAGG
83505	SEDL	CCCGAGTAGCTGGGATTACAGG
83505	SEPN1	CCCGAGTAGCTGGGATTACAGG
83505	SHOX	CCCGAGTAGCTGGGATTACAGG
83505	SMAC	CCCGAGTAGCTGGGATTACAGG
83505	ZNF137	CCCGAGTAGCTGGGATTACAGG
83506	USP6	TGGAAGATTTTAAATAATTTCTTTAC
83507	SCG3	CGGCCCCTCTCCCGCCCCAC
83508	TIMP3	AGCTCAGGTGAAAGACTGAGATG
83509	RNMT	GGACTGGATCCCAGGGCA
83510	PDE4A	GTACCTTGCCTAGCCTCTCCCT
83511	VAT1	CCTCATCGTGGTCTGTGCCA
83512	TPD52L2	AAGCTGAAATACAAGCCTTA
83513	HLCS	CTGTCGTCCAGGCTGGAGTGCAGT
83514	UTY	AAGTTTTTTACTGCTTTAT
83515	ADAMTS4	AAAGTGCTGGGATTACAGGCGT
83515	ADRA1A	AAAGTGCTGGGATTACAGGCGT
83515	APOL1	AAAGTGCTGGGATTACAGGCGT
83515	APPL	AAAGTGCTGGGATTACAGGCGT
83515	AQP6	AAAGTGCTGGGATTACAGGCGT
83515	BENE	AAAGTGCTGGGATTACAGGCGT
83515	CAMLG	AAAGTGCTGGGATTACAGGCGT
83515	CASP8	AAAGTGCTGGGATTACAGGCGT
83515	CIAS1	AAAGTGCTGGGATTACAGGCGT
83515	CYP2B6	AAAGTGCTGGGATTACAGGCGT
83515	EIF2S3	AAAGTGCTGGGATTACAGGCGT
83515	FANCF	AAAGTGCTGGGATTACAGGCGT
83515	FCAR	AAAGTGCTGGGATTACAGGCGT
83515	FEZ1	AAAGTGCTGGGATTACAGGCGT
83515	INMT	AAAGTGCTGGGATTACAGGCGT
83515	LYZ	AAAGTGCTGGGATTACAGGCGT
83515	NQO1	AAAGTGCTGGGATTACAGGCGT
83515	PER2	AAAGTGCTGGGATTACAGGCGT
83515	PIGR	AAAGTGCTGGGATTACAGGCGT
83515	PIK3C2B	AAAGTGCTGGGATTACAGGCGT
83515	PLA2G10	AAAGTGCTGGGATTACAGGCGT
83515	PMCHL1	AAAGTGCTGGGATTACAGGCGT
83515	RPP30	AAAGTGCTGGGATTACAGGCGT
83515	SEPN1	AAAGTGCTGGGATTACAGGCGT
83515	SIL	AAAGTGCTGGGATTACAGGCGT
83515	SLC14A2	AAAGTGCTGGGATTACAGGCGT
83515	SLC24A1	AAAGTGCTGGGATTACAGGCGT

83515	TAPBP	AAAGTGCTGGGATTACAGGCGT
83515	TIRAP	AAAGTGCTGGGATTACAGGCGT
83515	TNFRSF10B	AAAGTGCTGGGATTACAGGCGT
83515	TPMT	AAAGTGCTGGGATTACAGGCGT
83515	TRPM6	AAAGTGCTGGGATTACAGGCGT
83515	YES1	AAAGTGCTGGGATTACAGGCGT
83515	ZNF74	AAAGTGCTGGGATTACAGGCGT
83516	GLTSCR1	AAAGTGCTGAGATTACAAGCGT
83517	PPP2R1B	ATAGAGTTTAATTACTCATT
83518	FUT1	GTAGCCCAGGCCAGAGTGCAGTG
83519	AMFR	TTAGTAAATTTCTGTGAT
83520	APC	GGGAGGCACTCTTGATGGTTAGGA
83521	CD209	TCTTTCTGTGAGAGTCCTGAGTC
83522	AP1B1	TAGGCTGGGAGGAGCCCAGGGC
83523	ZNF200	TTTCATAAGTAGTTCTGAATTCCC
83524	CALM1	TCTGTTTTTAAAACCTTCTGAAC
83525	FUT1	GCTGTTCTTCAACTCCTGGGCT
83526	NOLA2	CATTTCCTGTAGAACTAAAGGCTGTTC
83527	CENPC1	CAGTTTGTATAGTTGGAATATTTGTC
83528	RAB36	CTCCCCAGCCGCGGGCCATCC
83529	LMO7	AACCAGTATTTTTGTTGTTTATT
83530	PHKB	TACAGTTTTTACATTGTAA
83531	EGFL4	ATTGCGTCACTGCACTCCAACCT
83532	PTTG1IP	AGCCATCAAAATTGGACTTTGTATTG
83533	SLC22A5	CAGACTCCGAGTCCTTCAGTGA
83534	TGFB3	TCATACTGTCTGGGATTAAGGGC
83535	EGFL5	GAGCTAAATATCTTGTTCA
83536	HSD17B1	TCCCTCTGACCAGCAACCAGGACA
83537	ARCN1	CCACAGTCTGTAATCCATTCACA
83538	PBX2	TTAAAAAACTACTATTTGAA
83539	AARS	CGTCAGTGCCATCGGTCTAGAACC
83540	FZD10	AAATAAAATATGTTCTTTA
83541	FOXD2	CTGCCTCTGCGCCTCTCGGGG
83542	G6PT1	CCTGCCTGGCTAGCCCTGAACC
83543	PIGR	TGGGATTATATAGGCATGAGCCAC
83544	AGTR1	CAGAGTGTGGCTGTACCACATTCG
83545	RABL2A	CTCTCCAGCTCTGAATGGAGA
83545	RABL2B	CTCTCCAGCTCTGAATGGAGA
83546	EIF4EBP2	AAAAGAGAGCTGCTTTCCCTTTTACCT
83547	RAD21	ACAGAAATTGCCCTGCCTACTACAAG
83548	PPP2R5C	TCTTGTGGTAAGAGCAAGTGCA
83549	RBBP5	CCCGAGGTCAGGAGTTCAAGAC
83550	SLC6A3	GGCTCTGAGGCTGCCCCAGGG
83551	KCNE1L	CTGCTGAGCCCTGCCCGCCGGC
83552	ZNF74	GTTTCCCAGGCTGGTCTTAAGCTCA
83553	ALPI	GCGAACACACACAGGTGTCCTG
83554	ADAT1	TGTTTGTGTTGGTTTTCTGACTT
83555	ADAMTS4	TGTCGCCCAGGCTGGAGTGCAATG
83555	SH3BP2	TGTCGCCCAGGCTGGAGTGCAATG
83556	AICDA	TAATGATTTTTTATTAACATGATTTC

83557	HGF	ACTTTTTAAAAAAGAAATACT
83558	KCNQ2	TCTGCCCTGGAGGTGCTGGG
83559	WHSC1	CTCACCCTCCCAAAATGCTGGG
83560	PTER	CTGAAAATATTAAGGTATTTT
83561	MGAT5	AGGAAAGGAACACTGCAGGC
83562	SYT4	TCTTCATTCCACTACAAAGTCAC
83563	CLASP2	TGTTAGTGCCATGCGAGTCC
83564	COX15	GTTGCAGGAAGTTAGTTTTAGTTCTG
83565	ATP7A	ATTCCTTCAAGTTTCCTAGCTCT
83566	AIM1	ACAACAGCATCCAACATATCTGTCT
83567	GAC1	TTGAGGCCTGGCAGCTGGGCCAAG
83568	NUMBL	GCTTAGGGGCTCTCCTGGGCC
83569	HDAC1	CACTGCCTGCCCTCTGTCTGTCT
83570	ADCY1	CAAGTCAAGCAGAGCTGGGTGG
83571	TIMP3	GGGGCCTTTCTTTAACTGCC
83572	NBS1	GTTGTTTAGAGAATGAGAAATGGAA
83573	KERA	AAAAGGGACACATTTGTG
83574	POLH	GCCTGTGATCCCAGCTACTCGGG
83575	PRX	GCAGGAGCTCGTTTCACAGCCCC
83576	HSD3B2	AGTGGCTGATTCTGAACAATTGTGGTC
83577	ADAM10	ATGGGAAAACTTCACTCCAAAG
83578	SF3A2	TGAGAGAAGGCTGCTCTTTTG
83579	MATN3	AATGCTTGAATATTACTGGAT
83580	CYLN2	AGGTGAGTGAAGATGGCAGAGAGGA
83581	DMGDH	CCACATTACCCAATCAGTAAAA
83582	SNRPA1	GGAGGCTGCAGGATGGTCA
83583	ZNF74	GGGTTCAAACTATTCTCCCGCCTCA
83584	SLC6A3	GGGCTCCAGGGACTGGAGTGTAATGCTCG
83585	ZNF85	ATATCTGCTCACATCTTACTCAG
83586	DPH2L1	CCCAGCGTCAGGCCTACCTCA
83587	ADCY1	GGGTGGGGGCATCAGGAGCAGGG
83588	SLC13A1	CCATGCCATATAAGCACAA
83589	ATSV	GCAGTGAGGAGCTGTCTGGACC
83590	TFCP2	TAGTTGAGCAAAGGGGTCCTCACGTT
83591	RUNX1	CCAGAGGGTTGAGGCGGGTGC
83592	TAGLN2	ACTGATGCTGCCTCTGCCTTC
83593	PLAGL1	GGTAAAGCAAGCAACCTCTGCTT
83594	PAX8	CGCCCACCACTGCCACGGCCT
83595	ABCC11	ATAGTTTTCTGATCTGTGTTA
83596	FMR1	GTTTTTGTTTTGTTGCACTGA
83597	MGAT4B	GGCCCTAGGAGCTGGTGCTGCCC
83598	TMC1	TCTTTCACAAGCCCTCCAGGAG
83599	PKHD1	GCAAACTATATGCAAAAATGAGTA
83600	TPMT	TGAACTTGACGTGAGGCCTCAAGCAGT
83601	TEM7	GGAGGTTGAGGCTGCAGTGGGGGGTC
83602	CCRL1	CATTTTCATCTGGGTTCCAATT
83603	FGD1	ATCGTCCAGACCCATGGCAGGG
83604	UMOD	TGCTCCATGGCTGCCATC
83605	CDX2	CCTTCATCCTCCTCCCCA
83606	HMGB1	TGCCTGGTACAGTATGGGGG

83606	SP100	TGCCTGGTACAGTATGGGGG
83607	TNFSF8	CCCCCAGGGAAAACCAGGCTGG
83608	CASP10	AAAACACAAAAATTAGCCAG
83608	PRKY	AAAACACAAAAATTAGCCAG
83609	PDE4B	TTTTAGGACACATTTATGCAGATGA
83610	CAPN3	GGAGCTGAGGAGCAGCTGTTC
83611	TAF4B	GTCAAAACAAGACAAATGGGGATAGATTG
83612	POU4F1	GTATTCAAAGAAAACAGGAAA
83613	NFIX	CCACAGCAGTCTCAGTCCT
83614	REGL	TTAGTATCTTTACCTACCTCA
83615	ADAMTS12	GCACCCCTGCATCTTCCTGCTGGG
83616	CNP	GTGGATGGGGAGATCGGGGCC
83617	CNGB1	TGGGTGAGGGATAAAATGAGGCTCC
83618	GGT2	ACATCAGCCTGGGAGACGCGGT
83619	TNFRSF11B	CTGGAAATGGCCATTGAGCTGTT
83620	ATP2C1	GCAACTTTGATATCATATTCCT
83621	SMP1	TCTGACAGTCTCTACGCTGTGAAT
83622	KCNJ11	CGCCTCTCGGGTTCAAGCGATT
83623	ACK1	GGGAGGCGGCAGAATGCAGCCAGAG
83624	NT5C3	CCTCTCTCAACACACTCCTCA
83625	EGLN3	GGTAATAGTTATCACCTTCT
83626	HMGCS2	ACCTCTTCCTGAATCACTG
83627	CUL3	CCTTATGACCAGGAACCTTTGTTTTGGGCTC
83628	PX19	TGTCTCAGTATCTAGCACATA
83629	NOVA1	TCAATATTCAGAAAACCAAAAAT
83630	B4GALT4	TTGGGAATGAAGAGGTAGCA
83631	NT5C2	AGACCAGCCTTACCAACATGGA
83632	ASB1	GCCCAGCCTGGCTGGCCTGCAG
83633	ISL1	GCTCCAGCAAAAGCGCAGGA
83634	BMP8	TTTCTATCTGCACTTTTTGATCTCCA
83635	LNK	TGCAACCTCCACCTTCCTGGTT
83636	IL10RA	GAGGCAGTCTGGGCACTTTT
83637	TRPM8	ATTCTAAAACATGCTGCAGCA
83638	KIF3B	GAGAAGGAGTTTGAGACTGTGTATG
83639	CALCB	TTAAGCCACAAAGTTTGTGG
83640	KCNJ10	TCTCCCACAAGCCCCCTACAG
83641	UCP3	TGGCAAGCACGGGACAGGAGGGGC
83642	COL6A2	AGCCCAAATGCCGCTCTTCA
83643	KIT	TGAACAAAAGATGCTCTTCT
83644	CPS1	TTATGGTGCTGATTAATGGTGATCA
83645	BAG1	CCATTTGCCAATTTTCCTACTCTCACA
83646	KCND2	CTTCAGAATAGGCATGATAA
83647	PPP1R11	CCTTCCCAGCCCCCTCCAGGGCC
83648	APLP2	GAGTCTGTGGACACTGTGGAAA
83649	KLHL3	GGAGCATCTTGTCTCTAACCT
83650	DSCR1	GGGAGCCGGTTTGGGAGAGACCA
83651	ADAM19	CTGCACACAATAGGTGCTTCTTGGATGT
83652	UQCRC1	TTTAGCCCTGGGCTCGAACCTGCG
83653	CLDN14	GATGCCCAGGTTCAGGTGTATCGTGCA
83654	EDNRB	GCATGTAACAGACTGGCACATGTGCCAGCT

83655	IQGAP1	CACAGGGAGGCATGGAGTGCCATG
83656	IL22RA2	AACATCAAATGAATAATAATA
83657	F2RL3	ATGGTGCCACTGCACTCCAGCCT
83658	ZNF265	ATGTCTATTTTGAAATTCCCTA
83659	ADCY7	TTCAGTAACAACAGAAACCCC
83660	MYO6	CCGCCGCCGCGCACCTGCCTTCG
83661	HSPA5	CCGAGATCACACCACTGTACTC
83662	VHL	GGTCTTGATCTCCTGACCTTGTGATCC
83663	KRT1	CCCCAGCATCACTAACAAATA
83664	PELO	CGGGGCGGAGGTGAGGACCT
83665	RBBP8	CCCGTGTGAGAATACCTGTGGTGTG
83666	GDI2	AGTGTAGCTATGTGCTGCT
83667	CDK10	GTGCGGATGGACAAGGAGAAGG
83668	PTGIS	TCAGGTAGGGAGCTAAGGAAGAC
83669	GCNT2	GGCTGGCCGACATGGTGAAACCCCATC
83670	TNFSF9	TCCTACTCCATCCTTCATGGA
83671	NOTCH2	CCCTTTCTGCCCTCCTGCTCCA
83672	ADAM17	TGCCTGTAATCCCAGCACTTGG
83672	RAB7L1	TGCCTGTAATCCCAGCACTTGG
83673	PKHD1	AGGGTGAAGAATGGGTTGGAGCATGG
83674	FAAH	TGCAGCCCAGCCTAGTCAGGGCACAG
83675	SLC21A3	CATTTTCAGCACTTACTTCAAA
83676	NDUFS1	GCAGATGCTCTTAAAAGCATTGATAACCT
83677	ADAT1	GGAGGCGGAGGTAGTGGTGAG
83678	NAT8	GGTATCTCCTGGATGCCAGTGAGCGG
83679	DIO3	GGACTTTGCCTCTACAGCATTTT
83680	TMEM2	GCATTTTAAAATGACACTGTT
83681	SLC7A6	GGCACCCATCCCAGGGCTCCTCTGGA
83682	GALT	TGCCTTAATCCCAGCACTTTG
83683	GPR1	GCACGGTGGCTGACACCTGTA
83684	TIMP3	TTCAGGATCAGTCAAAGGCAGCAAGC
83685	DMRT2	TTGTTCTGCTGATCTGTAGTGGTTGC
83686	SRC	ACCGGCTTCTCGGCTTGGATCCTGGGC
83687	APPBP2	CTCATTTCTGTATATTCCTTTTATGGG
83688	TFCP2	CCAGTGGCTGCTCCTTCCTTCACCTC
83689	SFRS2IP	AACAAATTATAACTATGTGA
83690	FAT2	AGAGTGGGAGGGAAGCCCTCAGC
83691	AP2B1	GGGAAGTGGGATGGAGGTTGCCCTGCATCCC
83692	MGST2	CCAGAGCAAAGGTCATTCAGCCGC
83693	CYP7A1	GATGCTATCACAGACTCTGCTAGTG
83694	MAP7	GAAAAGATTTATTAAAACTA
83695	ANXA8	GTCTTACAAAACACTTCTCTATCA
83696	CA5B	CATTCATATCTAGGCAGTATTTTGCTT
83697	DNAH9	CCTCACTGCTCTACTTC
83698	GP2	GGCAGGAGAATTGCTCGAACTC
83699	PPT2	CGAGGGGGCCAAGGGTGG
83700	MID2	TGGAAACACTGGAGTCTGAA
83701	DLGAP2	TTCTAAAAACTTCAAGCACTTA
83702	GLS	TTACATGCCTGATGGCACCTTA
83703	KCND3	TAGTGTTGACATTTGAA

83704	ABCG1	GCTGCAACACAGCTGGTGATGAGA
83705	ATP7B	CAGAGCAGCAGAACGGGTTCAGTTT
83706	RAD21	TTCAGTTTCTTCAGAGTGGTAA
83707	THBS1	GGCTTCATACGGAAAGTGTTTGAGAGCAA
83708	ATP2B4	AGTTGAGACAGGGAGGCAGGA
83709	FCGR1A	GTTCAACAACACCAGAACTGTGTG
83710	LAMC1	GGGCATCAGGAACAGTGCTACTT
83711	C8orf1	GGGGTGAGGGTAGGAGGCATT
83712	FXR2	CTCTCCTTCCCCATCAGACTGGA
83713	PAX2	CTGCCGCCCCTCCCCGCCTGCCTGGACTGCG
83714	COX7A2L	GGCTTAACATTTTTGCAAGAA
83715	EIF5A2	CTGCCTCCCGAGTTCAAGCAAT
83716	TCF2	CCAGCACCTGCGAGAGGTCCCTGCTT
83717	ZNF180	ATGTGGGAAAACTTCCAGCCC
83718	SLC1A5	CTGCAGACCTCCGCCATCTGGG
83719	EIF2C1	GCAGCCAAGGGTGCACTGA
83720	GFAP	AGGAAAACTGAGACTCAGACA
83721	CXCL16	CCCAAAGTGCTGGGATTAAAGGTGTGA
83722	SRC	GGGACATCAGGAGACTGGGCTC
83723	ODF2	CCAACTGCCAACCCCAAAGCTTCCAC
83724	MCL1	TACAGATATTTATATCAA
83725	HTR4	CCTCTTCTTCGCCCTGTTCTGTGCCA
83726	IPF1	AGGCCTTCCGGAAGAAAAAGA
83727	SHANK2	TCTGGGAGCTGGGCGGGCACAGCATCC
83728	PTHR2	CTGATACTCCTATGCTTGAGTTC
83729	TRPS1	TTTCTCTAGTGTGTCGGACACAAA
83730	B4GALT5	GTTGCCCAGGCTGGTCTCGAACTCCTG
83730	CBFB	GTTGCCCAGGCTGGTCTCGAACTCCTG
83730	IL12RB1	GTTGCCCAGGCTGGTCTCGAACTCCTG
83731	RNF3	AGCGAGTCCGCGTGCGGAGCCAG
83732	TFEB	GACTTAGTGCCTGTCTGGCAG
83733	CRP	ATTTCTTACCTCACATAGATGA
83734	PHKB	ACCAGCCTGGGTGACAGAGCG
83735	LTB4R	CCTCCACTTCCTGGGTTCACATGA
83736	HD	CACTGGCGAAGATGGTCTCCATAT
83737	GAD1	GAGTACGTTCTGGATTACTCA
83738	GPR44	CCCGCTGCCTCTTGTCTAGCTGCTGTCA
83739	OLIG2	AGAATTAAAAGGCAGTTGCTGTGGAAA
83740	HEXA	TGCCTGTGAGCTATGTCACTCCC
83741	B4GALT6	TCACCCTTCTCTCACCCGTCC
83742	SLC6A3	ACTCTTCAACCTCTACTGAAAACA
83743	LZTR1	GAGCAGCCCATGGCTTAGCAGAAC
83744	DIA1	TATGGTGCTCTTCCCAGTCTGGTTCC
83745	PAG	TTAAGGTTTAATTATATTTTT
83746	GNB1	TCTCAGACTTTCTAAGTTAAA
83747	GALT	CCAGGAGTTTGAGGCTGCA
83747	KCNK6	CCAGGAGTTTGAGGCTGCA
83748	DMD	ATCAGTTGGAAATTTATAACCAACCAA
83749	TGFBI	CACTGCATGCAGAAACTTGGATGTCAC
83750	DLX2	CCAGAGACTGAGAGCAGAGACCA

83751	STX7	ATGTCACTGCTGACATAACTCC
83752	TIRAP	TCACCATGGATGGTCTTCCTA
83753	CYP1A2	CCAAAGTGCTGGGATTAACAGGT
83754	KCNS2	ACACGTCTGTTGCACAAATGCAT
83755	EGR1	CACCAGCTCTCCAGCCTGCTCGTCCAGG
83756	PKIG	ACCAACACCTCCTCTCCAG
83757	FNTB	GACCCTCTAGTTCAACTGTGCCAG
83758	SLC4A7	CCAGTATTTGCTGCTATTTTTAAA
83759	SCA1	AGCGGTCAGGGCTCCAGGCATC
83760	ADAR	GCCCAGCCATCCTCCCATCCTGCACT
83761	LMO4	CGGAGAAGGACGAAGACTGA
83762	MYBPC1	AGCATTTTCTGTTTTCCCACCAGGCCC
83763	VASP	CTCTGCCATCCCCTTGGGGCC
83764	BTG2	TGCCCTGGGGGAGGAAGAGA
83765	CRLF1	CACTTCAGGGCACCTGAGCCA
83766	CALCR	CCACTCCCCTAAACTCCAGGATTT
83767	STS	GCTGCTTGTTTACAAAGCATCTCA
83768	PPEF2	TTAGTAGACACAGGGTTTCTCCA
83769	F2RL3	GGCCCTGCCAGCATCTCTGGCTCG
83770	PPP1R3C	GGTCATCTGGTAACTCATGGGTTTTTG
83771	DTR	AGGGGTCAGTGCAGCAGAGGACAGTCT
83772	PODXL	GCAGAAAGTTTATTTAAACCACT
83773	ADCY8	AACCAAGGAGCCTGAGCCCAG
83774	HTLF	TCTAACAAACTTCAGCCTGGG
83775	TBL1X	GTGTTCCTAGAAGAGCTTCAT
83776	PTPN12	ATTCTCTTAGCTTGTGTGTGT
83777	PRIM2A	TCTCAGACTCCTGGGCTCAAGCGATC
83778	LIPE	CGGGGACTGGCCCTCCCTTG
83779	ACCN2	TTGCTTCTCTCAACAACCTCATCTGCA
83780	KLHL3	CCAGGAGGTGGAGGAAGGAGCAGGT
83781	HMGCL	TGAAGTCTCCCTTTGTTACGG
83782	THRA	TGCTGTGCCCTAGGGCCTGGGTG
83783	GPR81	CACCTGAGGTCAGGAGTTCTAGAC
83784	OPA3	CACTTGAGGTCAGGAGTTCCAGAC
83785	A1BG	GTGCTCTTCCAGGATGCTGCCTC
83786	IFIT4	TGGTGGCTGGCACCTGTAGTCCCAG
83787	HSD17B4	GCTTGATTATTCTGCAAAAGTGAT
83788	SUDD	CAGGCTTAAACATCACAGCAGA
83789	PAH	GCTGTTTGCAAACCTGCCTGTA
83790	PTMS	CTCTGCCATTGTTCCACCTC
83791	MEIS2	TGCCAACACCTACTGACACTCAC
83792	AKAP13	ACTGGCTCCGAGTTCCCCTCCTGGG
83793	SIRT1	TAGAGCAAGGAAACCAGAAAGGTG
83794	CEACAM6	TCACTCCCTGTTTTAATTCAACCCAGC
83795	RAC2	GCCTCACCAGCCTCCACACCCC
83796	CNTN3	AGCCAGATTTTCAAGCTTCATT
83797	NPTX1	ACCTTTAGCTCCCTCCTGCC
83798	DAPP1	TAGATCTTTCTTGCCAAGGAA
83799	SELP	GCAGTAGTCTCTGTGCTTTGACTCACCT
83800	P2RX7	GATACAGCTGCTTAGAAAGGA

83801	GORASP1	GCTATGAAAGAAAATAACAAATGAAA
83802	UCP2	CCTTCTGGCCTCTCCTGCTGC
83803	HPS4	AGGAAGGGAAGTGGAACTTTCCATGC
83804	PRKDC	GTCAAGAATATAATATGTG
83805	CX3CR1	ACCCAACTCTCCTGGACTGCCT
83806	MGAT4A	TTTTTCAATTATGACAGCCTGTT
83807	ADAM33	GTTCCTGAGGGCTGGAGAACACT
83808	NTSR1	CTGGGCTGAGGCACAGACTCATTTGTC
83809	TBL1X	TTCCACTGAGGACATTCAGCC
83810	CXCR4	AATCTCTCCATTCCCGT
83811	SHOC2	TGCTAATAGAGGAATCATAGCCATTTA
83812	LDB1	GCTCTGGGCCCCTCCTCCCTGCTGCC
83813	CYP4F3	GACTTTGACAGGGGTGCCT
83814	TFAP2C	GAGTTTGTTACCTACCTTAC
83815	SYN2	CCCTCGCTCTCCCTCCGCGCC
83816	DCT	ACTTAACGGGGGAAGATGGT
83817	NFYC	GGTGCACTACACCCCATGCCT
83818	LRRC2	CAGGAGGTCGAGGCTGCAGTGTGCTGT
83819	DBN1	GCTGGAGTGAGGTGGAAGGATGT
83820	BCL11A	TTGAGCCCCCAGGGGTGGGG
83821	LMAN1	GGGCAACCCCTGGATATGAA
83822	FANCF	GGGATTACAGGTGCAGGCCACC
83823	ITGA7	GATCCTAATCCCTTCCTCTCCCATTCACC
83824	OLFM1	AGCGATGGTCAGAGTGTGTAGA
83825	RRAS	TTCCTCATCTGGGTCTCCCAGGACACATC
83826	ABCA3	GAGCTGGGGGTTGAATTTCTCCA
83827	IGF1R	GCCCCTGCTGTGCTGCT
83828	ARG2	TTCATCTTTCCTCCCTCCTCC
83829	ICAM3	AAGTTGGCGGGGGCTTGGCTG
83830	PPP1R3A	AGGGCAAAGTCAATGAGTA
83831	DSC3	GTTCATGCCATTCTCCTGCCTCA
83831	MTR	GTTCATGCCATTCTCCTGCCTCA
83831	RAB36	GTTCATGCCATTCTCCTGCCTCA
83831	RPP30	GTTCATGCCATTCTCCTGCCTCA
83832	PDZK1	TGATAGCTGTTTCTGGGTATTTAA
83833	SULT2A1	GGGATGCAAAGGTTGCAGTGA
83834	PPT2	GGGGTGAGAGGCTGTCATCTGG
83835	PPP3R1	ACTTTTGCTTTCTTCTCC
83836	ST3GALVI	TGTTTTTAAAATAAGCTAGTTTTCTG
83837	PTGFRN	GAGGCCACTGTGTCTCAGGGG
83838	RAB18	TGTTAATTCTTTTCAGAATCATTGAA
83839	MAL	CCTCTGCTGACCCCTGGAGCA
83840	GUCY1A2	GCCTCTGGACCTGCTACAGATCAAAGA
83841	ZNF207	TTAAACCTTTTCTCAACTTGTGC
83842	GYS1	CCTTCTGGAGGACACACAGTCTC
83843	B3GALT5	ATGATCCTGAACTTGCCGAGGA
83844	ATP2C1	TCAACCCGAGTGCAGT
83845	TOP3B	CTCACCCAGGCTGCAGTGCCATGC
83846	PPIF	CATGGGGGTAGGAGCAGTTGA
83847	HAX1	AGCTTAGCTTCTCTTGCCACCTCA

83848	XPR1	CTTTGTGCTTCTATTGCTTTTT
83849	CASP6	GGCGCATGCCTGCAATCCCAG
83850	HMGA2	TCATGTTGGCCAAACATGGTGCACCGA
83851	GNB1	GCAGCGTTTGGAAAGCAGGTT
83852	CYP1A2	GGAGGCCGGGGTTGGAGGATCA
83853	NDST2	AACTGCAGCATTCCAGTCTGGGCT
83854	CDK8	TGCAGCTCTCTGCGGGAACCTG
83855	CSF3	CCCAGCCCTGGCTCTGCAATGGGCAC
83856	RNASE1	CCTCATCCTCTCCACAGCTGCC
83857	RALB	CGGACGGCGGAGGCGGCGGGA
83858	AKAP2	GGGCCCAGGCTGGTGCAGCCTACATG
83859	IL18RAP	AGCCTTTGATTTCCTGGACTGG
83860	TBX5	ATGCAAGAGACCTCAGTCCCCCGGAA
83861	PSEN1	GTGACTCTTGTGTTTGCTGCTG
83862	PPT2	CACCGTGGGTTCCAGACTTGGGAT
83863	ACVR1B	GTGAAGATCTACTGCTCCCTCTCTCCA
83864	RAB18	TTTTGTAAATGAAACAGTTGTA
83865	HS3ST4	GGGGTGAGCAAGGGCTGTCT
83866	LAPTM5	AGGCTCTGCAAGAGCTCCCTGGCAATA
83867	GPR35	TGGGGACTGGAGGGGAACGTGGAGC
83868	F2RL3	ATTCTTTGGGTCCTTCCATCCCACT
83869	NBEA	TAGCACTGAATTCCTTCTTCACTGTTGTTTGT
83870	KCNMB3	AAACAGATCTCTACAGACTTGCA
83871	TCF3	CCTGGCCTGGGGCCACACCTGCTGC
83872	KIF5C	AGTCACCCTCCTCTGGCCCA
83873	RGR	CCCGTGGATCCTGGTCCTAGGCTGGACACAGG
83874	HMGA2	CGCTGCCTGCTCCCGCCACCCTAGGAG
83875	TRIM9	GAGGTAGGGAAGAATGAGCTGA
83876	TCF7	TCACCTGACGTCAGTAGTTT
83877	PEPD	GCCAGAAATCCCAGCGCACCTGG
83878	ALDH3A2	TCTTCATTCTTCCTCATTCATTCTT
83879	ENAM	CTGTATTTAGCTTTCTAATC
83880	PSEN2	TGGGACTTCTCAGACGTCAGGAG
83881	GAS	AACTGATCAAAAATAAACTA
83882	SHOX	ATGAAAATGCCATTTCTTCGTTGCCAA
83883	ZNF257	CCAGCCTCTGTGGCCCTGTGACCTGCAGG
83884	RAB5A	CAAGGTCAGGGGTGGGGAAGA
83885	SRP	TGCTGCCACATCTGGGCATACAGTGTCTG
83886	TCF2	GCTCACTGGGGTCTGTGTGGT
83887	RPH3AL	ACCCACCCTCTCCCTCTCCC
83888	GNL1	GTTTTGGACTGACCTGGGGG
83889	MAPRE3	TTGTCTCTCTGCTGTGTCGCC
83890	AMD1	TTCTTTACTAATGTTATTGAAACC
83891	FMO2	GGGCCTGGGCAATGGGAAGGAGCCAG
83892	SIAT6	GCCAGTCTCAGAGACCAGCACTCAG
83893	RAC2	CATTTCTTAAGACTTTCTGCTGCA
83894	ITGA5	TTTGGGCCTGCTCCAGACCTGATCC
83895	TARDBP	AGTATTTTTGACATTTTTCTTT
83896	APAF1	CTGCCTCCTGGGTTCAAGCAAT
83896	PCDHA9	CTGCCTCCTGGGTTCAAGCAAT

83897	PSCD4	GGCAGCCAGCTCTGTCTCCAGGGAG
83898	SH3BP2	GCCCAGGCTGGAGTGCAATGCCGT
83899	PRDM4	GTTTAGGGTAGATCTTGTTTTCC
83900	BRF2	GCTAGAAAACATTCTATTGTATA
83901	HAP1	CAGGCCTGTGGTCATCAATGCCCCAGT
83902	DHCR24	CCCTCCAGAGCCCTGAGTTTCTTGGCT
83903	RASD1	GTCAACATGGACACGAACAAAAC
83904	EIF4EBP1	CCTCCACTGATGCAGGAGCTGCC
83905	ABCG1	ACAGCACTTGTGAA
83906	MLPH	CCTTTCTCTCCCAGGTGCTGGACC
83907	CAPG	ACGAAGCAGAGATCTGAAGAC
83908	MAP3K9	TAGAAATTGATTTTGCGGAGCTCA
83909	ASB1	CTCAGCTTTTCATTTGCAGAGGACATG
83910	FBXL11	TTTTTGGGGTTTGGAAAAACATGCATT
83911	B3GAT1	CCCCAAATCAGACATACCTCTGT
83912	ATP1A2	TGTTGTCTATTTTTTCTGAGGA
83913	PODXL	CACCTTGCCTTGCTCTTGCCA
83914	ITPR2	ACATGAAGCACAA
83915	MAML1	GGTCCTGTATCCTGGAGTATTATGTC
83916	FGR	TCCTTGAGTGAGGCATGCCCCATTCTG
83917	RABGGTA	ACTTCTCTCCTCAGACTTCAAGGG
83918	PMP22	GGTGGGGGTTGCTGTTGATT
83919	EYA3	GGGAGGTGTGGACTGGATGAGGA
83920	PLXNB2	GGACTGGGAGCAGTTCCAAGAC
83921	HUNK	AGTTCACTGCAGCCTCAACCT
83922	INMT	CGGAGTCTGGCTCTGTCACCCA
83923	MTR	CAGAGTCTGGCTCTGTCGCCCA
83924	PAK1	CCAGTTACCACCTCCTGCCTCA
83925	MAP1B	CTCCTCTTTTGTTTGTGTTT
83926	CKN1	CACAAGTCGTTGTACCTCAGT
83927	HOXB9	GGGGAAGATGGAGCAAACCTAGCCCCCAA
83928	WBSCR5	TTGCCTAGGCTGGTCTGGAGCT
83929	HTR2C	AGGCGCGAGGTTGCGGCGCGCAGC
83930	SYNGR3	TGGCCCAGTCCCAGGTTGGA
83931	KMO	GAGATTTTGAACATTAAGTTAGTCCACAA
83932	BUB3	CTGTTATTTCTGTGCTA
83933	WHSC1	TGCTTCTTGAGTGGGTGGAGTGGTGCT
83934	HSPA9B	CCTAGTACTGCTGTACTGGCC
83935	CCNT2	CTGGTCTTGCATAACTTCAGTAAT
83936	PPT1	TGGTTTTTCCTTTCTCTCTCTTA
83937	RFNG	TTTCTGGGTCGTGCTCCTGCCCCAC
83938	CNTN2	TGCCCCAGCCAACACCCTTCTCTC
83939	SERPINA5	AAGAACAGCCACCATGCAGCTCTTC
83940	PLCB4	CCGCTTGCCCCTTGTTCTCC
83941	ADCY2	CTGGGGCCCAGCACAACTGCTGTTTAGT
83942	NRIP1	GGCACATTACCATTCATA
83943	HSD17B1	AGCATGGACAACTGTGATA
83944	FRZB	GGGAGGCGGAGACGCGGAGCGGGCCTT
83945	BVES	TCTCAATGCCTTTTCACTTA
83946	AVP	TGGCGGCCGTGGGCTCCTGGGGAGC

83947	CD28	CGGGGAGGAGGGGCTGGAA
83948	OLR1	TCTGGCTTCTTTCACTTTGCATAATT
83949	FGF5	GATTCCCCTTTCTGCACCTCGGAA
83950	NP	GGCGCTACAAAATAAAGCTGTTC
83951	CD83	GGACATCTCTTTGAATTTTCTGTGTTT
83952	MAX	GTGAAGCAGCAGCCACCAGGGA
83953	CD83	ATCTTGAGCAAGTTCCTTCT
83954	TDG	AGGGTTCCCTGAGCTATATGCACA
83955	CORO1C	TTAGAAAACAAACTAATTCTGATTGTG
83956	MMP19	TAAGTTCCCCTGTTCAAGGCA
83957	IL1R1	CCCTTCCTCCTCCTTTGCCTAGGA
83958	PRKDC	TTCATTTTATTCTCTTCTAGTTTTG
83959	SIRT3	TGGAATCCCAGACCGAGTCTGCTT
83960	PLS1	ATTCCCTTTCTACCATTGATT
83961	KLRC4	TGAACATTACTACTCAGCCT
83962	KRT9	TAGAGCCTCTGTAAACTTCTCCTGCC
83963	ZNF133	GGCTGGAGCGACCCCTTGTTCTTTGGT
83964	ABR	CGACCTTCACGTCTCAGCCTCAGGGA
83965	KCNJ1	TCTCTACTGTGCCTTCATCCC
83966	UBL3	TCTTTCTGCAACCTGTACTTACA
83967	SLC7A7	TGCTTATATCCAGGACCAAGGAGGCAA
83968	TAF7L	GGAGAGGGAGCAAGAGGAGTTTTTAGT
83969	VAPA	TTACAGTGTAAATTTTTCCT
83970	MAPT	TGGGACCCCAGCCTCTCACTCTCAGTT
83971	COL5A3	GGGAGGGACCGTGAGGGAGCCCCAGAAT
83972	MAML1	GGAGCTGGGCAGGTAGAGCCCAAGCTC
83973	APAF1	GATGTATTTTAGATAAGCTATT
83974	BRCA1	GCCTCAAGAGAATAGCTGGTTTCC
83975	RPP30	ACTGTTTTCATTTGGAGCTAGA
83976	FGFRL1	CCAGATCTCTGTAATTTTATGTAGA
83977	SCAP2	GGTAGGCAGAGGTTGCAGTGA
83978	SLC4A4	CTCTAGGGTAAGCCAGAAGGCAAGATC
83979	CYP11B1	CCCACCTGGCCCTTTCTCCAGC
83980	ICOS	GAAAGCTGCAGTTACTATAGGTTG
83981	IL5RA	TTGCCATCCCATCATGAAGGA
83982	TOP2B	ACTGCCGTGCATTAGCACAGA
83983	MAGEA9	GAGAGCAATCAGTGTTCTCAG
83984	RFNG	GCCTGGTGCCTTCCATGGAG
83985	APOL1	GGGGTGATGGAGAAGAAACAGGCTGTGCTGT
83986	FMR2	CTCTGCAGCAGGAAGCCAGCTGTCATATTC
83987	MMP11	TGCTATCCTCCAAAGCCATTGT
83988	MYLK	CCAGCTGCGAGGACCTCTGTGGT
83989	LU	CCCACAGTGGCTGCCTGCCTCCG
83990	ZNF264	TTACCTGTAATCCTAGCACTTT
83991	RBM8A	GTGGCTCAGGCTGGGAGGGACTTCAGT
83992	NRXN1	GCCGTTCGATTCCCACTTCCTT
83993	SLC6A8	GGCCTCGGGGCTGTCCCCACGCTGT
83994	WNT10B	TCCTTCTTCAGCAGGAAGGGTGGGAAGGGA
83995	ELF3	CCTCCTGCAGACACTTGGACT
83996	CAST	ATAAAAAGAAACTTCTGCTT

83997	FMR2	GATCTTGATGGAGGCTTGGTGAGACA
83998	CASP8	ACCGCGCCTGGCCGATGGTACTATTTAG
83999	SULT1C1	TCAATCCTTCAGTCCCAGCCAG
84000	PRKY	TAGGCTAGGTGCAGTGGCTTGTT
84001	NDP	TCTCAGAAAAGTCTGAGAAGAA
84002	MADH7	AGCACGGCTCTGTCCCCAGCCTGGG
84003	MSH4	TTTTTCTCCTTAGAGA
84004	GCLC	TACAGTGTACATGTACATAGTA
84005	SALL2	GCTGGGAAGGTGCCTCCAA
84006	RORB	TATTGTAGATATATACAAGAAAAGAGCGGTA
84007	TCF12	TATCTGTGGCCTTGTTCTTCAT
84008	PKD1	GGCTCCCAGGGTGGAGGAAGGTGACTGTGTG
84009	UBE2L3	GCACACTGTGTGTGATGAATCT
84010	ARHH	AGGAAATCAACCACAGTGAA
84011	DVL3	TCTCTTTATCTTTCTCTCTCA
84012	CLCN6	GCCCACCCTCTCCTGGTGCT
84013	KPNA3	CCTATTTTTCCCTGTTCCCTGGTGC
84014	ELF3	GCAAAGGCTGACGAAGAGGGGA
84015	RB1	AGCTTCAAATTAAAACAGCTGC
84016	SH3BP2	CTCACCAGTTCTGCTGCCTCAG
84017	GABRP	TTTCTAACGGGAATGGGTG
84018	TES	GGCATTTTCTTTATTGCATTTCTCTAT
84019	OGT	CTTTGTTGATTTAGATGATGACT
84020	FLRT2	ATCACTCTTCATGCTTCCCTG
84021	DIAPH2	TATCTCCTTTGGCTGCTGTAAC
84022	GPLD1	TATGTATGTAACAAACCAGCACTT
84023	FGF2	TTCCAATACTCGTTTTGCCTCTATTTT
84024	ALEX3	TGTTTGTTGCTTTTTATCTCGCTGCC
84025	MUCDHL	AAGACCAAGGAGATAAGGGTGG
84026	CTSS	CCCGAGTAGCTGGAATTATAGG
84027	GDF2	CCTGCTCTCCCTCCCCACACC
84028	ZNF2	ATTGAGGGAATGCCTTGG
84029	SULT2A1	CCAACATGATGAAACCCTATCT
84030	CYP1A2	AGTGGCATCATCTCAGCTCACT
84031	ITGB3	TCCCAGAATGCCTCCTGCAGGGA
84032	HSF2BP	TTTGGGCCTGGCGGCTCTCCGTTCCC
84033	MDM1	GTGAGCACATAAGCAGAGGCTGCAGGAA
84034	SIGLEC11	GCTGGTCTCGGACTCCTGGGC
84035	OPA3	GATTGTACCACTGTATTCCAG
84036	SIM2	ACTCCAGCCTGGGTAACAGAGT
84037	TRH	AGGCATGTGAGAAAATCAGCCTAGCA
84038	UCP2	CCTGCTGCTGACCTGATCACCTC
84039	ZNF3	AGTTCCTGCCTTTTCCG
84040	ATP8B2	CCGCCTCCTTTCCCTGTGTCAT
84041	NRG1	CCAATTTTGTTGCATCATGTT
84042	SOX10	CCTGTGTGCCCTGTTCCTTGCCCACCTCA
84043	SLC2A3	TTGTAACCTCAGCTCTGGG
84044	TRPS1	TCCTTGCTCTATTTCC
84045	IQGAP1	AGCATTTCTAGAAAAAAGGAGA
84046	HAP1	CTGCCAGTGGCCTGGGGGTG

84047	RERE	CAGCATGGCTTTTTACGTCTGTAAA
84048	PAICS	TCACTCATCACCAAGTCATGTTG
84049	ATP1A2	TCTGTCTGCCAGGGTCTCC
84050	RCN1	TGAGTGGGTTGAGGGAGGCAGTAATAT
84051	AMFR	TCAGACCTGCATTGAACAGTCCTG
84052	DAP	ATTCTGGGACACTTGAGCCAGA
84053	FTSJ2	ATTGCTTGAAGTCAGGAGTTCA
84054	SDC1	ACGCCCGTCCTGCCTGTG
84055	BSN	TCCCCCACTGTACCCACAG
84056	GAB2	GCCAAGCTGTGTGAGAGGGCCACCGCA
84057	NMB	TACTCCATTACTGTGATTTCT
84058	SECTM1	CAGTTCTTTGAAAAAGTTCCAT
84059	EIF5A2	CACTCCATCAGCCAGGCTGG
84060	PRKY	CACTCCAGGCTGGACGACAGAGC
84061	MAPK3	GAGTAGGGACTCAGGGCCATG
84062	TM4SF2	CTGGCCCCTTTGGGCCCTGCATGTAGT
84063	HS3ST4	TAGAGATGGCAGAGAGTGAGGT
84064	PCDHA2	TCAGAAATTTGGTGGGTTTTTTGTTGT
84065	TNFRSF8	CCCACCACCTGGTTCCGGCTCT
84066	NR5A2	TGTCTGTGTCTTAGACCTGCAAAC
84067	B4GALT2	GCAGCTGCTCTGTGGAGGACCT
84068	SIL	TGTAGCCCAGGCTGGAGTGCAAT
84069	DDX3	CCAAGCCCGGGAACTGAGAGAG
84070	DBCCR1	ATGAGAGGAAAAAGGCCGGCA
84071	NR4A1	TTGAGGTGGGAGCGGGGCTGGGAG
84072	SOX8	ACGCGAGGGCTGGCTGTGATGAA
84073	RAD1	TTGCCCAGGCTGGTCTCCAACA
84074	PPP4R1	TCATGCTGTTTAAACTGTTGTGG
84075	AOC3	TTCAGTCAAGTTCCGTCTCCTCTCCAG
84076	OPRM1	GGAATTCCGGCTATAGGCAGAGGAG
84077	ZNF289	TGAGGGGAATGGTCAGTACCAG
84078	CHAD	CCTTGCCCCACCCCTTGCTTCCAGAAA
84079	GAB2	GATCCAGGCTGTCATGTGATTTATG
84080	DSP	GGCCTCGGGAGGGCCCAGGTAG
84081	NCOA3	GTATGTTTAATTATGTTACCT
84082	GSPT1	TGCAAAGAGGAAATTCACAGC
84083	HPRT1	ACCAGTGAATCTTTGTCAG
84084	KCNK6	GGCCCAAAATGGTCAGGACTTTAA
84085	HTR2A	CCAGAAGCTCAAGGCTGCAGTGA
84086	SLC21A3	CCCCACAACAGGCCCTG
84087	SLC9A1	GGCCTCGGAGGCTCCTCCCTCT
84088	TNFRSF10B	TCACTCTGTCTCCCAGGCTGGAGTGC
84089	CEBPA	ATGAGAGAAGGAGGGGAGCAG
84090	OAS2	TGAAAGCGGCCACGGTGCCTCCAGATG
84091	CYP1A2	CTAAGCTGGAGTGCAGTGGCAT
84092	CD209	TGTCGCTCAGGCTGGAGTGCCA
84093	RUNX1	TGATGATTTTTATTTTTGTTG
84094	SLC9A1	ACCCCTTCCTTTAGCCCACAGCCCAG
84095	NAB1	ATTGGTTACCTCAGTATTA
84096	PXF	GTGAGCAGGTTGACCTCAGGTC

84097	KRTHB6	CTGCCTGCACTCTAAGCGCTCTCCCCA
84098	PRDM2	TTCAGCTGATTGCCGGCAGCTT
84099	ENDOGL1	CATCCAGGCTGGAGTGCGGT
84100	HLCS	CGTCCAGGCTGGAGTGCAGT
84101	JAG2	TTGATGTGGCCCTGGCTGCCGGC
84102	B4GALT1	TAGCTCTGCAAGGTGTTTATGCC
84103	CORO2A	AGAAAACTAGAGCTGGAAGGA
84104	XKRY	TTCTAAAACTTTTAATTTTTCTGCTTC
84105	FGFR2	ATCAGAGGAGTAAATAATTGGAA
84106	RREB1	CTCGCTCAGTGCCATAGCCTTAC
84107	CBFA2T3	CACTCCTCTCAACTGCCTCAG
84108	DRPLA	AGAATGGGGTCTCCACAGCCTG
84109	SIRT5	AGGATTTGGATCTCACAAGACACCTTA
84110	DAG1	GGGACCAAGTCACTTGCTTCCTTA
84111	TCF2	GTCACCCGAGCTGGAGTGCAGT
84112	CLCN7	TGGGAGCCAGCGGCAGGGCCGGC
84113	GFI1	GAGGTACCTTTTCAAAGTGCA
84114	USP6	CCCCAAAACCAAACACACTCCTG
84115	MLLT2	CCCCTCCCCTTTTGTCCT
84116	FLRT1	ATGGCATCTTTCACTGCATTC
84117	EDG4	CCCAACCAACAGGACTGACTG
84118	SH3BP4	CCAGCTGCCATTTGCCAAACTCTGCA
84119	SMN1	TATGTGGCAAAATGTTACA
84120	NUP98	TTGCCATTCTCTGGGTTGGCTGTGGCAT
84121	THRA	TCCCATCCCGTAAGACCACCTT
84122	CPT1B	CTGGACATTGCTGATCTTTTCCA
84123	MOG	ATCTTCCCTTGGGCTTTTCA
84124	GPR62	ATGCCCAGAAGACAACTGGAC
84125	TBL1X	TGGTCAGGAAAACTCTGGCTGGA
84126	CDC27	CCCATAAACAAATGTAATG
84127	MPL	TGCAACCTCCACCTCCGGGTT
84128	TSC1	ATCCAGTCTGAAGATGTTTGT
84129	SORD	CCAGGCAACCAGGAAACTGCTACTTGTG
84130	PPEF1	GGCACTTTTCACACTCTGTCTTAA
84131	DNAJB1	ACCAGTGGCCCAGGTAATTTTTTGT
84132	DUOX2	TTGCCCAGCCCTGCTGGCAATC
84133	DLEC1	CCTGCAGCCCCTCATGCCTGGA
84134	GRINL1A	CCAGCACTCCAAAATCTCTGTGTGTCC
84135	OAS2	ATATACTTGGTTCTCTCCA
84136	UBE4A	GAGCACAACCTTGTCCACA
84137	THY1	TGGGGTGGAGTCCCAGAGCTGCACAG
84138	HNRPH3	TCTTAGAGTAGGGTTAAGGTTC
84139	DLST	GTTAGCCTGGTGACAGGCAGA
84140	PKHD1	TTGCTACCTTTGCTGCCAGATCTTTTC
84141	TLR6	CAGTCTCTTCTGGTTTA
84142	FLRT2	AGACATTACATTTTACTTTA
84143	FLT1	CTCCTGGCAGCGGCTTTTGTGGAAGA
84144	HTN1	CTTCCCTTCCTAATTA
84144	HTN3	CTTCCCTTCCTAATTA
84145	VASP	ACCCCTGAACCTCCAGCCAGGG

84146	ALDH3B2	CAGGGCTGCAAAGCAAGGTCTTG
84147	ZNF239	TTCAACTACTTGTTCTACCCAG
84148	ENDOGL1	AGGCTGGAGTGCGGTGGTGGAA
84149	JUNB	TAGGGGCGCCGCAAACCACACTGGACT
84150	KCNJ12	CCTCTGCTGTCCAAGGCTGGCTAGCTG
84151	RREB1	GCAGCCTGCGCGGGAGGCCACAGCCCG
84152	OPRD1	GACAGCTTCGGTTTCTAACTTGGA
84153	ARVCF	ACGCTGCGCTCCAGGAGCCAGA
84154	LMO2	CCCCGGGCATCTTTGGGGAGGTG
84155	ART1	CAGCCTCGCCTGCTGCCTC
84156	SMAC	GCCCAGGCTGAAGTGCAGTGGGGCG
84157	TAT	GTCGCCCATGCTGGAGTGCAGT
84158	CASP2	GTCGCCCAGGCTGGAGGGCAGT
84159	DAP3	GTCGCCTAGTCTGGAGAACTAG
84160	SIAT6	CACAGGAGTCTTCAGACCCAGAGAAGG
84161	KLRA1	GCAAAACTTACCTTCTTACTCTA
84162	CNGA3	AACCAAAAAAGCTGACAACTGAGAGT
84163	MUC4	AGCCTCGGTGGCCCAGCTGGGGC
84164	TEX15	AGATCCTAGTCAGACAGAGCCC
84165	RBBP9	TAAAACAATGTATTTGACTA
84166	AK1	CTGAGGCAGGAGAATGGCGTGA
84166	APOL1	CTGAGGCAGGAGAATGGCGTGA
84166	DGKI	CTGAGGCAGGAGAATGGCGTGA
84166	IFIT4	CTGAGGCAGGAGAATGGCGTGA
84166	NFKBIL2	CTGAGGCAGGAGAATGGCGTGA
84166	PCDH11Y	CTGAGGCAGGAGAATGGCGTGA
84166	PPP1R12B	CTGAGGCAGGAGAATGGCGTGA
84166	SLC28A2	CTGAGGCAGGAGAATGGCGTGA
84166	SMG1	CTGAGGCAGGAGAATGGCGTGA
84166	UBE2G2	CTGAGGCAGGAGAATGGCGTGA
84166	WIG1	CTGAGGCAGGAGAATGGCGTGA
84166	ZNF91	CTGAGGCAGGAGAATGGCGTGA
84167	SGCB	AACTGAAGATCAGAGAAGTTAA
84168	RBBP5	GTGGCCTCTGGACACTGTGGT
84169	FN1	CAGGGGGAGGAGAGGGAACCCCAG
84170	MSL3L1	ATCAGCCTGGGCAATATAGTGA
84171	CLASP1	ATCTGGACACAAAAATAAGATAAATGTATGG
84172	GRLF1	ACTTCCCCAGGAGTGTGGAGGGGG
84173	ADAM19	ATCCTGAGCTGTGGTGGCTTCAG
84174	IL10RA	GAGGCAGCATTGCACAGTGA
84175	CYP4A11	TGCTGTCCCCCAGTCTGCCTGCC
84176	GGCX	TGCAGTGAGCCGAGATCGAGCC
84177	TXNRD1	GCTGTGTAAAGAAATGGGAAA
84178	ISLR	TGTCTGGGGCAGGGAGGGCACAGG
84179	MAFK	ACCCGTGGGAGTCGGGACATATA
84180	FIGF	CCTTCTGGAGAATGCCTTTTGAAAC
84181	UBE2B	ACAATTTCAAAAGAACATTCTTATATTTT
84182	SMARCA5	ACCAGTAGTTCTTTAATTTACGGG
84183	PSG9	TGAGACACTGAGAAAAAGAACAGG
84184	PGK1	CCCCTAAGTCAACTTAGCATTTTCTGCA

84185	RGS6	GTCACCTAGGGGAAATGCAAA
84186	EIF5A2	CTCGGCAAACCAATTTGGGGAA
84187	PGD	TCCATGTGCCTCATGGCACTGCCACCT
84188	RXRA	TGCTCTGGTTGAAGGTGGGGTGGG
84189	FCMD	ACTGGAAGATGAGCTCACCAGGCAAAG
84190	CASP6	GCCTGCAATCCCAGCTACTTGG
84191	SOX11	GGGGTTAGGCTGAAAAGTGTTCA
84192	SCA1	TGTTTTTAACCCAGAATTTCTG
84193	MYD88	GCTGTTGCTGGACTACATGCTGGCCA
84194	F2	TCATTGATCAGTTTGGAGAGTAGG
84195	STAT1	CCTCCTGCTACTCTGTTCCTTCACA
84196	TITF1	GATATTTGGCTTAAATATAGTTCCTA
84197	NPR1	AGGCTGAGCCAAGCCCACGGCCATGC
84198	UBE2V1	CTCTGCCTTCTCCCCTTACC
84199	PREP	GTGGAGTTTTCTGTGAGAATAAAGCA
84200	TBX6	GCTTCAAAGCCTAACCAAGGCT
84201	GP2	CAGAGCAAGACTCTGTCTCAGG
84202	SOX9	CAATAAGTGCCCGAGCACACTGCC
84203	MEIS2	ATACTTTAAAGAGAGAGGATC
84204	B4GALT2	CAGCCTGGCTGGCAGCTGCTCTG
84205	TGFA	GCCCAACATCTTCCATGGAC
84206	EPS15	ATGTTTTTCACCTATAAAAT
84207	MUC4	GGGGTTGCTCCGGGGCCAGGT
84208	KCNQ2	GCTCCTCCCATGCCTCCTGCACA
84209	ADAMTS4	TGAGGTACAACCTGTTCTGCTT
84210	INHBA	GACTAGAACAACCCAAATAGCATCTAG
84211	ARHGDIB	GGTCCCTCTTCAACACTGCCACAT
84212	GLO1	TTGGCTCTTGGGCTGGAGTACCGT
84213	OGT	GACACACAACCTCCTCCTCCTCTTCCA
84214	IL1RAPL2	CCCTTCAGCCACTCCGACTGCCTGG
84215	CORO2B	CAGAACTGAGGGTTGCAATGG
84216	PROC	GGGCTCTTCTGGAGGGAAGTAACATT
84217	PFKFB3	CCTAAAATTAAAGGAGGCAGCCTCCTA
84218	GATA4	CGCAGCCTCATCAAAATGCAGCT
84219	G2A	CGCCTGTCATCCCAGCACTTT
84220	CNP	GGCTCACTGCAGCCTCGAACTC
84221	G2A	AGCTCACTGCAGCCTCAAACTC
84221	SHOX	AGCTCACTGCAGCCTCAAACTC
84222	GRIN2B	TGTGTTCATGCACACTTGC
84223	COG6	AATAAATCCCAGTGTGCCTGAT
84224	AKAP13	CTGTCTGGCCCTTGCTGGGTGAGGGC
84225	GNE	CGTTTCTTAACAATCAAATCTG
84226	ACCN2	CTTCTATGTTTCTACTCCCTCC
84227	ELMO1	AGCCTCCAGTTCCCCTTCAATGGTGG
84228	CSE1L	TCTCATTGCCCAGGCTGGAGTGC
84229	MRPL49	AGGTAGCACAGGGCAGAGCCA
84230	JPH2	TTGTTAGGGCAACACTGACCT
84231	MFRP	CTGCCTCTCCTCTGGCCCTGGGAACA
84232	RPE	CAGGGTGTTTTGTCAAAGCAGGTT
84233	SLC22A7	GCTGTGGAACTGCCCTCCAAGCT

84234	ZFP37	CATTGGGCAGAGGAGTATAGGA
84235	CASP2	CTTCATTTCATCCTGTTGGCTGC
84236	AMMECR1	GGGCCTCTCTGCAGACCTCTTCCCA
84237	PCDH15	TTAACCTCATCACTACTAA
84238	RNF26	TTTACCCCTGGGATGGGGGATGCATCT
84239	LIG3	CTGGACTCAGGCTGGAGGCAG
84240	NT5C2	TACCTGGGCGTGGTGGTGCA
84241	FKRP	TGTCTGGATGTGGAGAAGCTCTGT
84242	STXBP1	ACAAAGATCCACACACATCCTCAC
84243	EGR1	CATTTCAGTATCATCTCCATCA
84244	EGLN2	CTCTGGGTTGTCATTCACTTT
84245	MYC	GGAAAAGTAAGGAAAACGATT
84246	PPM1D	TGTTCCCAATCTGAAATTCAAAATGCTC
84247	ZNF179	ACTCCACCCTCCCCACCTGGCT
84248	NDP	GACAACCAAGTATGAATCTATTTGTGG
84249	CNTNAP2	TACATTATCAAGCAAGCACAA
84250	BARHL1	GTGGGTGGGGAGCTTTTGGGGAG
84251	TNNI1	GTCGGCTCTCCTGGGCTCAGTCCTGG
84252	THBS1	GCAGTGGACTCAAAAGCATTTTC
84253	INPP5B	CAGGAGGCAGAGGTTGCAGTGCGCTGA
84254	ZNF215	AGTATCACCATACAAGTATTTGTTTAT
84255	PMP2	GGGGAAAGAATAGTAACCATGCA
84256	GPR43	CCCTCCAGGATGCTGCCGGACTGG
84257	ADORA3	TCTCACTTCCTGAAACACCCCTGAAGA
84258	PEX7	ATTATGCTTTTATATGCTAT
84259	REN	CTCAACCTTTTGGGGATTTCTGTG
84260	EPHB3	AGAGACTGACTCTCAGAGCCA
84261	ADAM12	CAGGCACTGCAAACCGCCACCTC
84262	IRAK4	TGGAAACACTCTGATCTGAA
84263	GDF5	TCTGCTGCTACTGCTGCTGCCGCTGC
84264	DMPK	ATGCTGCTGCTGCTGCTGCTGCTG
84265	RNPEPL1	CCTCCAGCCTGGGACTGCTGT
84266	EDG8	ACTCGGTGATGAAATAATGGAGAT
84267	SURF6	GGTGAGGGAGACTGGGGCCTGGT
84268	ADAMTS4	ACTGCAACCTTCGCCACCTGGG
84269	RAD18	CTTTTGCTGACTTTTCAAATGCA
84270	POLR2C	TGCACCTGTAGGAACAACTAG
84271	NR4A1	CCTCCTAGCTAGTCCTGTCCTGCA
84272	CALCB	CCACAAATAGGTATGTAGCA
84273	AQP5	GCCAGCCTCGGAGTGGGC
84274	SF3B3	TCTTTCCCCTCAGCTCTTCTCC
84275	ATF7	ATTCCTTCTCTCTACCTGCCACC
84276	BFSP1	CTGTTTGGATTAGACCATAGTTGA
84277	NME1	CTGTAGGAAATCTAGTTATTTACAGGA
84278	TRAF5	AGCATTTTCATTCTTCCTGCTGAAGTA
84279	ABCC1	TTTGAGATGCTTCTGGCTCCC
84280	TNF	ACTCACTGGGGCCTACAGCTTT
84281	SLC6A12	CTGCCTCTGTCTCCTGCCACAATCCT
84282	CYP4F3	TGAAACCCACAGGCGGAGGTTG
84283	HM13	GGAGAAGAAAGAGAAATGATGCA

84284	G6PC	GGCTAATTTTTATATTTTTAGA
84285	TNFRSF1B	GGCAGGATGACCCTGCGAAGGGGCC
84286	PTPRH	TGAGCCCAGATTCCTGGAAGAG
84287	CABC1	GAGGCTCTTTGCAAACCCCAGAGACTCATT
84288	GPR85	TGTACCTGCTTAGTTAATTGG
84289	VANGL2	AGTCCGTCTGTCTTCTCTTTCC
84290	KCNQ2	TCTCAGCCGAGCCCAGGGGAGGC
84291	RAD51L3	AGCTTCCCGCCTCCTCCAGCTGCTTC
84292	AHR	CTCCACTGCTTACCTACTTTCTTC
84293	LETM1	GGGTCTGAAGCGCCGCCGGGA
84294	CD8A	GAGCCCAAACTGCTGTCCCAA
84295	FCRH1	CTGAGTAGCTGGGACTACAGG
84296	MYO1B	TATGAACTGAAGGCTAAAGTGCTAG
84297	GARP	AAGTGAAAATGCCACTCTCTCCA
84298	LBP	CCTCCACCCTCCTCCTCTTCACC
84299	GNLY	CCTCAGCAACCTCTGCCG
84300	CRTL1	TTTGGGCTATAAAGATGAAGA
84301	TNFSF8	TGCCTCTAAGTTCTTGTCTCTGGCC
84302	GAS7	CCATGGGATGGAGAACCACTCTGTC
84303	AFG3L1	TGACTCAGCAGGGATGATTCAGCAGAG
84304	PCDHB9	TGCAGAGAAGTTAGATCCTGCT
84305	RAB5B	GGTTGGACCCCAGAGTCTTCC
84306	CISH	AGTCCCCAGCAGAGCCTGTGT
84307	CXorf6	CCTGCCTGGGTTCTGTCCCAGCTCCCT
84308	TCAP	TAGGGGAGGGGGGAGCCAGAGGC
84309	EDAR	GCTCCAGCCTCTCCAGTGCT
84310	SMAC	CAGCAACTGTTTAACCTGTTTTCA
84311	SAFB	TACTTGGAATCCTGTGTCCTGTCT
84312	IL1RAPL2	GGGAAAGACTGGAGCAGCGAACAGGA
84313	ALDH8A1	AGGCGGTTGAGGCTGCAGTGA
84314	A1BG	TGTCACCCAGGCTGGAGTGCAGTG
84314	AASS	TGTCACCCAGGCTGGAGTGCAGTG
84314	CMAR	TGTCACCCAGGCTGGAGTGCAGTG
84314	EEF2K	TGTCACCCAGGCTGGAGTGCAGTG
84314	EIF2S3	TGTCACCCAGGCTGGAGTGCAGTG
84314	FCAR	TGTCACCCAGGCTGGAGTGCAGTG
84314	FSHPRH1	TGTCACCCAGGCTGGAGTGCAGTG
84314	HUNK	TGTCACCCAGGCTGGAGTGCAGTG
84314	ICAM1	TGTCACCCAGGCTGGAGTGCAGTG
84314	NEU3	TGTCACCCAGGCTGGAGTGCAGTG
84314	TERF2	TGTCACCCAGGCTGGAGTGCAGTG
84314	TNFRSF9	TGTCACCCAGGCTGGAGTGCAGTG
84314	ZNF264	TGTCACCCAGGCTGGAGTGCAGTG
84315	EDARADD	CTCAAAGCCTGTTGAGCCCATCAA
84316	P2RX4	CAGAGCCGCCTCCCTCTGCTTGCCCAG
84317	PIK3CG	ATCAGCCTGGGCAACACAGTG
84318	CHST6	TTCCAAAGGTGGTAAACTATGGGAT
84319	ESR1	TTGTAGAGACCCAGGCCTGGAGAGT
84320	DPYSL3	CCTCTCACTCTTCTGTCTTTGCA
84321	APBA1	AGCCAACCTTAAACCTCTTCTATTGCT

84322	CACNG6	CTCGGCTCTCCCTCTTTCATACC
84323	MYO1D	GCTGGCATCCTGTCCTTGGGAAC
84324	SOX11	ACATTTTTGATACATAACAGACCTC
84325	UNC119	ATCCCATTTCTCCCCACCCTGGGG
84326	DBY	ACATTTCTCCCATAACTTTTTACA
84327	XRCC2	TCAGGAGGCCGAGGCAGGAGAATTGCT
84328	SIM2	CCCTCCAGGCCTCAGTTTCTTCACCTG
84329	RECQL5	ATGAGTGTCTTTTAGTGTCACAGGGAACAGTT
84330	PLAGL1	CATGGCCGCGGAGGTGGCACG
84331	FGFR1	AAAGGAGGATCGAGCTCACTGTGG
84332	AP1S1	GCCCTGGCCTTTCACTCCAGTTCTGGG
84333	DBT	AAGAGGTGGAGGTTACAGTGA
84334	PPP2R5C	GAGAAACTTGACAAGTATCTCTCCA
84335	CEBPA	TGAGAGAAGGAGGGGAGCAG
84336	PIK3R3	GGAAGTGGGAAGAGAGGTGGTCTTCTGGC
84337	SERPINF2	ACACCTAGGCTAGGGTGGGGAGAGAC
84338	TFE3	TACACCCAAGGTTGTCAGCTTTGG
84339	PHEMX	GCCTCCAGGACCATTCAGGCTGT
84340	PARK2	CGCAGCCGCCACCTACCCAG
84341	CPNE3	GTTGTCCTGAATTCTACATTAT
84342	CAMK2A	AGTGCCAGAGAAGTGGAGGCAG
84343	RAD52	CTGAGAAGAGTGAGGCAGCGC
84344	LTB4R	AGGGGTTTCAGCCCCACCCTCA
84345	EPHB2	TCCCTCCTGTGAACCAACACA
84346	NTRK2	ACTGGCCTCTGTGCCATGGATGATTCTT
84347	GCNT3	AGAGGGCTGCTATTAGATTGT
84348	SECTM1	TTGCTTGGCAGGCTGGGCCTCTGTG
84349	CHGB	TATACCCAAGGGCAGAAAGTAG
84350	DPYSL3	GTGGGTGGGTCAGGTGAGTGGA
84351	ADAM17	GGGCCCTGATTTGCTGGGCAGTT
84352	SLA	TAGGGACTTCTGGTATGCTTTCCTCT
84353	TRPS1	AGAGACACTACATGACTCCA
84354	MFGE8	CTGCCTCTTGGCTTCTC
84355	CYP1A1	GTCCACCCTTCCCAGCTCAGCT
84356	IL11	TTTCGAACTCCTGACCTCAGGTGATCCT
84357	IGF1	AAACAGTATGTAAAACTCTGTTTT
84358	B4GALT1	GGTGGGCAGGGCGGAGGGAGCCTC
84359	LSS	GCCTCAAGGTAGTGAGGCTAG
84360	NFIL3	TGTTATCACTCTGCCTGTGTATAGTC
84361	LTB4R	AGCTCACTGCAGCCTCCACTTC
84362	CA11	CGGGAAAAGAGCAGAGGAA
84363	MECP2	GGCCTCGAACTCCTGGCACTACCAAAG
84364	CUL3	GTACATGTTCTAGACCATT
84365	TAL1	CCCAGCACTTTCCGTCAACGTTGTACT
84366	EVX1	CGGCCTTTCTTTCTCCCTCTTG
84367	APCS	TCTGCTACCCTCATCCTGGT
84368	SEL1L	TGTGTTTAGAGAATTATGGGA
84369	GABRP	AACTATACATGTTTTT
84370	PTPRK	CCCTTTCTAAAATGAAAGCTGAT
84371	RHO	CTTTCTCTCAGCCTCTGGAAGCCA

84372	APTX	ACAGGAAGAGAAAGAGATCAGG
84373	NUMBL	ACCCCCACCTTCCAGTGTT
84374	PIP5K1A	AAACTCATGGGGAGACAGCAGAT
84375	FHIT	CGCTCTGCTCTGTCCGGTCACAGG
84376	ZNF257	TAACAATACCTCAAACTTT
84377	IRTA2	TATGCAGCCCAGTGCAGCCT
84378	ZNF83	TTGATGAAACCATACAAATGTAACGTG
84379	IRAK4	ATGCAAAATATATACAAGCA
84380	PLSCR1	GTCTGTATATTGATTGAGACTA
84381	GUCY2F	AAGACATTTGAGCGGTGAATTACTTGG
84382	SYNGR1	TGCCCAGGCTGCCCTGCCCAGCGCCT
84383	GRAF	CGGGCAGGTGGTTGCAGCAT
84384	APM1	CCGAGTAGCTGGGACCACAGGT
84385	MGAT2	GCTCAGCCTGGAGTGCAGTGAGC
84386	LZTFL1	TTCAGGCCTGCTGCTGAGTTATGCACA
84387	CARD15	TGTGCTTGTTAACTGAGTGCCTT
84388	BRPF1	GGAGAGGGAGGGCCCACAGGTCAGAAA
84389	IRAK4	GGGAGGTAGAGGTTGCAGTGAG
84390	B3GAT1	GGGGGCAGGGGCTGCTGGGACA
84391	ZNF264	GGGGGCTGAGGCAGGAGGATCA
84392	MLLT3	AGTTTCAGCTTTCTTCAGCTGCCAGT
84393	CD209	ACCAGGCCCGGCTAATTTTTTGT
84394	ACRC	TCTGAAGCCCTTGGGATCTACCTT
84395	PPP1R12B	GCAAGTCATTAAATCCTCATCAT
84396	SKI	GACCTGCGTCGGGTGGTGACCGTGG
84397	CSPG2	CTTTTTCTTCACTTACAAGAAAGGCCT
84398	MYO10	AGCTGCCCAGGCTTTCTGGAA
84399	ARHGAP6	AGTGACACAAGAGAAATCCAGTTC
84400	BENE	AAAATTGAAGAGGTGCTGCCAAGG
84401	IL1R1	TATATAGAGAAAGTGACCT
84402	SLC15A1	CCGAGTGGCTGGGATTAGCGGC
84403	CYP7A1	TATATCCAAAATTCAGGGCT
84404	FUT6	AGTGCTCAGGAAATATTTGGTGATGGGC
84405	USP14	GCTGAGGCAGGTGGTTCACTGGA
84406	FGF2	GACCAACCTGGTGAAACCCCGTCTCT
84407	SHANK2	GCCCCTCTTTCTCCTGCACTTGGCT
84408	RPH3AL	CTGGGAGGCAGGCGCAGTGCCCCCCT
84409	RNPEPL1	CTCCGAGCCCGCCTGCTGT
84410	AIPL1	CTGAGGCAGGAGAATTGATTGA
84411	NCOA4	CCACAGCTGAAAAGAGCTTTG
84412	PDGFRA	TTCACCCCTTACCCCAAAGAG
84413	SLC7A2	TTATTGGAACACCTGCCCCA
84414	SOX9	TGGAGCGGGCAGCTGTGAAC
84415	ITCH	CACAGCCTGGTCAGGAGGGAAGGAC
84416	MAP1A	TCATCAGCTTATAAACTACTA
84417	DIAPH2	TATGTTAGAAAATACTGTTTCTA
84418	ACPT	GCTGGAGAGTGCCCAGGCCA
84419	TES	TGGTCTGCATTTCTACTGTAAAATGCA
84420	RNF18	GCTCAGTTTTCTCTGAAGGAGAAGGA
84421	MEF2A	ACCCCCCAGGCTGAAGTGCAGTG

84422	PRKY	CAGGAAAGCCTGAAATGC
84423	LAD1	TCGGCTCCCAGCAAGTGCCTCTTTGT
84424	LTB4R	GGGGTTTCAGCCCCACCCTCAGGA
84425	NAT1	TCATGGACATTGAAGCATATCTTG
84426	PPP4C	TTCTGGCCCTCGCACCACT
84427	PIP5K1A	AGAACTCCAGAAGTGTTGACA
84428	HNRPD	CTACAAACCATACTAATTATTCCA
84429	A1BG	TGTTGCCCAGGCTGGAGTGCAA
84429	ATP1B2	TGTTGCCCAGGCTGGAGTGCAA
84429	CDC6	TGTTGCCCAGGCTGGAGTGCAA
84429	CLECSF12	TGTTGCCCAGGCTGGAGTGCAA
84429	MLANA	TGTTGCCCAGGCTGGAGTGCAA
84429	PMCHL1	TGTTGCCCAGGCTGGAGTGCAA
84429	PRKR	TGTTGCCCAGGCTGGAGTGCAA
84429	PRND	TGTTGCCCAGGCTGGAGTGCAA
84429	RAB36	TGTTGCCCAGGCTGGAGTGCAA
84429	SAS	TGTTGCCCAGGCTGGAGTGCAA
84430	HLCS	TAGAGCTAGCTGGTGTGGTTGCAGTGA
84431	B2M	AGGTGGGGAGCAGAGAATTCTCTTATCC
84432	YES1	TACTCTCATATAGTCA
84433	IDH3A	GGCATCTCCTTTCCCTTCCTGTCT
84434	GNE	TAGGTTTTTATTAAACTCA
84435	PRKY	CTCAGGAGGCTGAGATGAGAG
84436	MINPP1	AAGCTTTTATATTACTTGA
84437	SEDL	GCAGGCTGTAGTGCAGTGGCAC
84438	AIM1	TCAGGCTGGAGTGCAGTGGCAC
84439	ABCA2	TGCCCTGCTTTGCCTTAAAGCCTCGGG
84440	SLC22A5	CTTCTCTTTGCTGATTATGTTA
84441	KAL1	AATCAACTAAGATTACACAG
84442	PTPRO	TGTCTTTGCTCAGAACCAGC
84443	ANGPT1	AAAAAGGGAAGAAACTGCTGAG
84444	CIAS1	CCCTCCAGCTGGGGGCCCTCAGGTGG
84445	SLC35A2	CCCCCCAGCCCCTGCCAGCTC
84446	NRCAM	TAGCCCAGTGGACCTTCTGAA
84447	MASP1	TCTGTATATTTTCCTGCTCTGCCTTC
84448	ZNF219	AGTGGCAGAGGTGAGGGTCAAAGA
84449	PCDHB11	CTGGCCTTTAACTTCTGAGC
84450	ARNT	GGTGAGGATAAGGGGTGGGG
84451	PHF1	CCCTGACCTCTGACCTCA
84452	PTPRO	GGTTGGGCTGAGTTTTTTATT
84453	CLDN5	CCTGCCTGCGCCCGCAGCTGACCTTCT
84454	RBM8A	AGCTCACTGCAGCTTCAAACTC
84455	PAX9	TTGCCCTCTCGCCTCCTCCTCCTGGG
84456	RFX1	TGTGCCGAGCTGTTTTCTACCTT
84457	LPIN2	TGGTCCCTCTGTCCCTGTGTC
84458	PLXNB3	AGCCCACCCACCTTCCCCCCA
84459	SYNGR1	CTGAGGCATGGGAGGCCCAG
84460	CXCL6	TATTAAAATTGCACTTTTAT
84461	MAPK4	TTGTAACAAGTATTCAAAGGGG
84462	ENAM	CTTCTGAAGTACCTAGCACA

84463	RARG	GCCTCTATTTATTTATTAGCTT
84464	DGCR2	CTGTTGCCTGCTCCTGGGCAG
84465	OAS3	TTGGGTCCCTGTTTTCTCTCCT
84466	LILRB4	TTATAAAGATTTTAGTGCAG
84467	ZNF2	TGGCCAGAGAGTGTCTCTCTAGACTGG
84468	PPP1R3A	CAACTTGCATATGTCATCCCATA
84469	CD97	TTTTCCTCTCATGTCTTTGCTGCAGAACTG
84470	SMURF1	GGTGGGGGCAAGTACAGGGTA
84471	LPP	TGGTGACTCACACTTGTAATCCCAG
84472	XPNPEP2	CCTCCCAGCCCTCTCCTCATTCT
84473	DHCR7	CGTTTCCTTCCTGCTCCTGCT
84474	SH3BP2	GTCGCCCAGGCTAGAGTGGATT
84475	KCNMB1	CAGCTCCCATTTCTAGAACACA
84476	GRF2	GGGAAGAGAAGACCTAGAGCAGACGCCG
84477	CA12	CTTTCACAGTCCTGTCCTCT
84478	VDR	CTCCACCAAGCCCATCAGAAGG
84479	SDC2	ACTGAACTTTTCAAAATAAAGCTTTTGCA
84480	PITPNB	GCTGGCATCTGTAGTATCATTG
84481	LHX4	AGATGATGCAGAGTGCGACTGTCCCC
84482	PDE4B	ACACATTTATGCAGATGAGC
84483	GSTZ1	GTAGGGAGATGCGGGGAGCAGGGTGGG
84484	DAZL	AGATTTAGTCTGTTATA
84485	CHD2	TTTGAACTTCTTGGATCTGTGGG
84486	IL1RN	TAACTGCATAAGTAATGACTTTCAGTG
84487	AGL	TACAGATATTAAGTATGCAA
84488	TBX1	GGCCATGAGTTACTCGGGAGGCTGAG
84489	OBP2A	TACCACCAGACACAGAGCCCGG
84489	OBP2B	TACCACCAGACACAGAGCCCGG
84490	MFNG	TTGCCTCTGCTGGAGCCCCTGCC
84491	GFRA2	CCTGGTGTTTTTCTCTCTGGACCCTTCTG
84492	MGAT2	TTGTCGCTCAGCCTGGAGTGCAGT
84493	SCD	CAGATCTGATCAAGAGTCCGGAT
84494	EZH1	GGGCACACTGGCAGAGGGT
84495	PPP2R1B	TTCTTTACCTGGCTCTGCTTCC
84496	CYP2B6	ACTGCAACCTCTGCCTTCCAAGATCAA
84497	ATP8B2	GGAGCTGACCAGGGAGGGAGG
84498	HMGA1	CTGCTCCCCTAACCCTACTTTGCTT
84499	PCDH1	CCTGGACTGGCCCACCTGCCTGCCACATGC
84500	TEK	CATGGGAGACCCTTGACAACTGC
84501	CDC2L2	GAAGAAGTAAGTGAGGAA
84502	ZNF74	CCCAAGTAGTTGGGATTGCAGG
84503	FXYD6	GGACTCCTTTCACTCCTTTAACAAAAA
84504	CLECSF6	ATGTGCCAGAGCCTGTACTGGA
84505	ITGA7	GCACAGACCTCTCCCACCCACAAGAACT
84506	ADORA2B	TCCAGGAGAAGATACAAATCC
84507	LMNA	AGCCTCTCCCCAGCCTCCCCGTGCCAA
84508	EYA3	TCCTCATGGAAGAAGAGCAAGATTTACCAG
84509	CYP2B6	GCATGTACTACCATGCCTGGCT
84510	PC	GCCAGTGCCCGAGGCCAGGAAG
84511	RAB6A	TGTTCACAGCCTACTTTATCTCT

84512	RGS14	AGGCTCTCTCCACTGCCTG
84513	DAG1	AAGTCCCCAGGGGGTACTCTGGAGTGA
84514	KCNH5	GACGTCATGCAGAAAAGCAGC
84515	GAB2	GCCACAATCAGAAAAAGGACA
84516	COX11	GACTATTCAATACCATACTGA
84517	SACS	TGCGTTATTTTCTCATCAGCTG
84518	BCL2	GTCCGAGATCGGGGGTTGGAGTGCGGG
84519	CTMP	GGAGGAAGAGGTTGCAGTGA
84520	KCNQ1	CAGCTCTTCCTAGCTGGAGAGGAGCCC
84521	NRG1	CCGCTCGCTCTCCCCATCGAGGGACAAAC
84522	HDAC4	CTCACTCCAGCTTCACAAATGTGCTG
84523	DYRK1A	TCCAGAAGCTATGGAACCAGCA
84524	CYP2B6	TGCAACCTCTGCCTTCCAAGATC
84525	STEAP	TGTTCCCAGTTGTAAATTACTG
84526	CYP4A11	GTGGCCTTTGGAACACCAAGC
84527	DSC3	GACGCACAGGCTGGAGTGCAG
84528	MN1	TTTTCTGAAAGCTGTTCCTGGCC
84529	ZNF277	GTGAAATAAACTTTTCAAAAATG
84530	DSCR3	TTCAAGCGACTCTCCTGCCTCA
84531	GRPR	AGAGTATTTTTATTAAAGA
84532	KCNK9	GATGCTGGGTCTCACTGCCA
84533	LZTR1	TCTTTGAATACAAGTTTGCA
84534	HHLA1	TCACCCAGGCTCCAGCTAGATCATCAG
84535	SOX12	GGGAGGAGCACTCGGAAGGGTTGG
84536	ELL	CAGGCCTGCCCTGCTATTTCAGGC
84537	POLS	TCGCGTGCTACAGGTTTGACAAAAAGA
84538	DCX	TGTCACCTAGGCTGGAGTGCAGTG
84538	SIGLEC8	TGTCACCTAGGCTGGAGTGCAGTG
84539	WFDC1	AGCAGACTGTGCATGCTCCTGT
84540	TSNAX	TCTTGCTCCAGGTCCTTCAGT
84541	CDK5R2	TGTCTTCATTTTTCCTCCTGTCTGCA
84542	PDE6D	TTTCCCAAGCCGCCATCTTCCAGCTGA
84543	PDE7A	CCTTATAATCTTGCTTCAAATGCTGTG
84544	IGF1	GCAATATGTCATCTACCTACCTCA
84545	PLA2G2D	GGGTGCCTGTAATCCCAGCTATT
84546	HK1	ACAGAGCACTGGCTGGGCATCAG
84547	OGG1	CCAGCCCAGACCCAGTGGACTCTTCC
84548	LGR6	AGGCCTGGAAGGTGATTTCCC
84549	GLO1	TGGGCTAGGCTGCAACTTTATCT
84550	SLC20A2	TGCTAAAATTTTTATATTGACAA
84551	PMP2	GGAAATCAATTGCTTCCATT
84552	MTBP	TCATTCTCTTTAAGACAATTATA
84553	G6PC	CACCCAGGCTGGAGTGGAGTG
84554	DHFR	TTCTCTCTATCAGATACCATTTA
84555	SHMT1	GGCCTCCTCCCTCCATCCTGGGA
84556	WNT1	AAACTATTTATTGTGCTGGGTCCCA
84557	PCDH11X	AGGAATTTAACAATTTGCATCC
84557	PCDH11Y	AGGAATTTAACAATTTGCATCC
84558	KLK4	AGACCCAGGAGTCCAGACCCCC
84559	HOXC5	TGAAACTATATTTTGTCATATCAA

84560	UPK1B	CTGTATTTGGCTAGCAATCTGCCTGTA
84561	TRIM8	CACACCAAAATCCAACCTTCT
84562	BACE	TTCCTACCCTCTCTAATGGCC
84563	TGFB1	AGGCTAAGGTGGGAGGATC
84564	LNK	AAAGTGCTGGGATTACAGGCGC
84565	PSMD9	AAAGTGCTGGGATCACAGGCGT
84566	CD53	CTGATTTCAACCAGTCACTTAGCTG
84567	CHST5	GGAGGCTGAGGTGGGAGAATCA
84568	HS3ST4	TTCATTCTTATCTTCTGCTAGTTAA
84569	SERPINE1	GTGACTTGTTTACTCATTGAAG
84570	STAR	GCTTTCTCTGTGGAAAAAGACAAAAC
84571	CNTF	CTGCACCTCTTTGTCACAGGGTG
84572	MAP3K7IP2	GAGATGAAAGTATGCACAGAA
84573	JPH2	TTGTGCTTCCTGTGGGTGGGG
84574	SMP1	AGCCATGGTCATCTGACAG
84575	NEU3	AAAATTCAAGAAAATAAATGTAGCTGG
84576	KRTHB6	TCATCTTTTTCTTCCTCCTACC
84577	C21orf33	CTGAGTGAGGAATGGCAGTGAGGTTTCT
84578	PKM2	CTGGAGGCCCCTGGAGCCAG
84579	PTCRA	GCTGGGTCCTGCCTCCTTCCG
84580	MPL	TGTTGCCAGACTGGAGTGCAG
84581	JRK	TGATCCCAGCTCACTGCAGCCT
84582	MMP15	CAAGTGAGTCTCTCTGGGCCT
84583	OTOR	GGGGGATGCATATAACAGATCA
84584	ACTR1B	CCCTGCTCCGACTCTCAGGGCT
84585	PPP1R12B	TGGGGTTGGGGTTGTTTAGGGAGAAGC
84586	CXCL16	TGTCATCCAGGCTGGAGTGCAGTG
84586	FANCE	TGTCATCCAGGCTGGAGTGCAGTG
84587	CRTAP	CCTGTCTTCCTCATGTTCAC
84588	MASP1	CCATTTCTCCTTTCCTTCCTCCCATC
84589	GJB1	TCTTCCCTCTCCCTCTCTCT
84590	JUP	GGGACAGCTTCCTCACACCCCTGTCCCA
84591	WNT3A	TGCAGCTGCCCAGCCCCTCCTCC
84592	BMP7	TCTCAGCCATGCACGGACTCGTTTCCA
84593	IL16	ACTCCCAGGCAGCCCTACTTCTT
84594	TBL1X	AACAGGGAAGGGGGAAAAACCCTCCTC
84595	TCN1	AGCCCAAACTTTCCTCAGCTGCAT
84596	SIX6	CCCAGCACCACGTTCTTCTTGC
84597	CHN2	ACCCTGTGTACCTTGTCCCTCA
84598	BRF1	TTGAAGGTCCTCTGCCTCCAGCT
84599	ZNF255	TTCCACCCTCCCCATTTGGAGTC
84600	CSK	TCAGCAATACAGGCCGCCTGGC
84601	PTPRO	TGGGAGAATCATGAAAGTCT
84602	CLN5	AAGTGGGCAAAGGAGTGTGTG
84603	IL22RA2	CACCACACTCCAGCTACTGTGTAG
84604	IL12RB1	GGTCTCGAACTCCTGGGCTCAAGTGAT
84605	SMT3H1	TGACCCCACGTGCTCTCTGGCC
84606	MXI1	AAGCTCCATGTGCCTCTTTGTC
84607	WHSC1	TTGGCCAGGCTGGAGTGCAGT
84608	AGRP	AGGCTCAGGTTCAGGGAGTGAG

84609	TBR1	AGTAGTGATGGGTTTCCCA
84610	MTP	ACCTGTATTTAAGATTTTTGT
84611	EDN3	TCTTGTTAATAAATGCAAAATGCCCG
84612	LANCL1	TTGATGGGATTTTAAATTCAGC
84613	SUSP1	CTATTTTGGTAAGTGCAGCTTGA
84614	DUSP6	TGGAAAAGAGAAATCTGATACTCCATT
84615	RET	CACTCCTCCAGTCTTGTGGGGGCA
84616	FGFR1	GCCCGGGCTGGAGGCGCCGAGC
84617	ARIH1	ACGCCAACCGCCGCTCCTGGG
84618	BCAR1	CGTGTCCCCTGACAGGGCCAGTGCAGT
84619	SEL1L	CCAGCCACTGCTTAGCTATCATAGTCA
84620	POU4F1	CTCCACCCATTCTCTGATTTTCCTGC
84621	LAMA4	TGGAAGCTTTCATCGAGT
84622	MLLT3	GCCATCTACCCTCCGCTCCTGGGCG
84623	COL17A1	CCAGAGGGTGAAAGCTGGAGTCTGTCAATG
84624	TRPV1	GGTCTCGAACTCTTGACCTCAG
84625	CLCN3	GCAAAAAACAGCCACCGATTTTGCT
84626	IL11	AGGTGGGATTGTGGGTGACTT
84627	ADAMTS13	GTGCCAGGCCCTCTCCTGCCA
84628	NFE2L1	CCCAGCAACAACAAAAGAACTAGTCCTCTT
84629	FZD4	TACAGGTGCGTGCTACCACGCCCAG
84630	CYP4F3	GGTGTTGAACTCCTAACCTCAG
84631	REGL	CACCCAGGCTGAGGGTGCCTTTGTGG
84632	SH3BP2	CCCCAACAGTTGGTTGTCT
84633	ITSN1	ACCCCTCTGCTGGATCAGATC
84634	DCX	AGTCTCCCGAGTAGCTGGGATT
84635	GNLY	TCCCGGGAACCTCAGCAACCTCTGCC
84636	GAS7	GGAGGGCTTCCTGGGAGGTGT
84637	PPP2R1B	CCATAGTTTATTTCTCTCTCA
84638	GPR56	CCTCTGTCATTTTAACCTCAGGTG
84639	HKE4	TCCTTTTATATCACTGTGTTTG
84640	CLDN5	CACTCCAGCATCTCCCCA
84641	DPYSL3	CTGCCTCTTTGGTGCTCTTAAAAGCC
84642	TEC	GTGAACACACAGGCTGGCTG
84643	RGR	TTGAGTTTCTTATATATTCTG
84644	MCM4	GTGGGTGGATCATGAGGTCA
84645	GAN	GTAACTGTTGAAAAACTACCTG
84646	MPP2	ATCTCTGATGGAGATGGGTTGGGTACC
84647	SOX2	GGCGGCGGCAGGATCGGCCAGAGG
84648	MLLT3	CTCAAAATGATGCAACCAA
84649	MYO7A	AGAGGAAGAGGGGACGTGTGTTTGCA
84650	ANK1	AAGTCCAGGCAGCCTGCAGGCTGG
84651	SLC10A2	ATTGGATGCAGGCTCTTAACTCAGCA
84652	PNOC	CTGCCGCCTGGGAATCAGGA
84653	ANKTM1	AGAGTGAGGAAGAAGCAGA
84654	ADCY1	ACATTTAGCAACAACAGTGTGA
84655	ATF5	GTTGTCTGGGGTGGGTGGAGT
84656	LIM2	CCTGGTTCCTAGGGGAATGAGGGGG
84657	TNFRSF10B	GACGCTCAGCCTCAGGGCTCAGAAGGTGCC
84658	LDLR	GCCGTGTTACTGTTGCACTGA

84659	DYSF	GGGGTGAGCGCAGCCGGGGCGGG
84660	MPHOSPH1	CTCATTTATTTTGCTATACAGG
84661	GCK	CCTGGGCTGCCAGCCTCAGGCAGCTCT
84662	P4HA1	GGTGGGTGTTAAGCTAGAATGGGCTGTGTG
84663	EZH1	ACTGTGGTCAGTCTCCTGTCCCA
84664	RAB11A	GAGAGGTTAATTTCTGCTCA
84665	KCNA4	ACTAAACTTGTATTACATATC
84666	PRG1	ATTATGCTTTAATGCTGTTAT
84667	APM1	CTTCTCCTGGGTCCAAGCAATT
84668	FGF13	CTCAACAACATATATTATACTTG
84669	CDH1	CCTCAAACTCTGGGGCTCAAGCAGTT
84670	HYAL4	TATTTGCCTCCAGTCTGGCT
84671	AQP6	CACTGGTGGGGTGGGAGGAGCACC
84672	UGT2A1	ATTAATTCCAGACAAAAGGGAG
84673	CPNE3	GCATTCCTGGTTTTCTTCAGC
84674	STK31	AAATGTTCTGGGACTAGTTGAGTT
84675	LDB1	GGAGAGAGGAAAGAGCGGAGCAGC
84676	ETV3	AGCAGTGTCTTTGATCTGCAAC
84677	PUM2	GAAGTCAGGGTATTGTGCA
84678	INSL4	CCCAGAAGGGACACACCAGCACA
84679	CELSR3	GGGAGGCGGGAGATGATGGCGAG
84680	ABCA3	GGCGCCCAGGCTCGGTGCTGG
84681	GCNT2	TGGCATGTGCCTGTAATCCCAG
84682	BSN	TCACAGCAGCTGCCTGGGTG
84683	ATP5G2	ACAGTTGGCTGAGTGCCTT
84684	LRRC2	TAAGAGAAGACAAGAGGGCCGG
84685	PTGS1	GAGGGTGGAAGGATGGGATGGG
84686	CR2	TTTCTCTCACATTACTGTATATACTT
84687	SLC13A3	CACTTTCCTGGGCTGCAATG
84688	SSTR3	ATGGCTGTTCTGGGTGA
84689	TPK1	ATTATTCTTCTTACATTATTAATCAT
84690	AOAH	GAGCACAGGGAGGCAGAGGCTTGG
84691	MSL3L1	TGGTGTGGACTCTGTCTTAAAAG
84692	GHR	GGTCTCGAGTCTCCTGACCTCGTGATCC
84693	BACH2	TTGACCACATTCCATCCATTTC
84694	KLK10	GGAACAATGACGTGCCTACCTCTTA
84695	FOXD1	GAGGAAGAGGGTGCCGGGGA
84696	VTN	GCCTCTCCCTCCCTTCCTCAGGCA
84697	RAD54L	GGAAGGTTGAGAGAGAGGTGCTGGGGT
84698	PRX	TACTGCTGAGTGGCCCTGGACA
84699	SH3BP2	CCTCCTGGAACTCCTGGCTCA
84700	SORCS1	TTCAGTTTCATGTATCTTTGTCTTT
84701	UGT2B7	AGAAAGATTGTGATGCAAGAT
84702	EGFL5	ATTTTGACAGTCATCATCATTG
84703	HOXC13	CTTGCCTCTTCCCTTCCCACTGGTGCA
84704	BDKRB2	TGGGGGCAGGGAGAGGAGTGA
84705	SCA2	CCAACAGCAGTTGTAGGCTGCCCTGGA
84706	PACSIN1	ACCATAAAATCACTGG
84707	ALOX15	TCCCACCCTCCCTAGAGGGGCACCTTT
84708	PHKB	GGAGACGGAGGTTGCAGTGAG

84709	IRAK1	ACTGCACTCCAGCCTGGGTGA
84709	LRRC2	ACTGCACTCCAGCCTGGGTGA
84710	STK10	CCTGCAGCTGGCTGCTCAGGAGATGGCC
84711	B3GNT3	CCTGCAGTGGTTTAATGGCAGA
84712	IL5RA	AGGTAATCCCAGAAACGTACCCGTT
84713	RAP1GDS1	GAGCAACATGGCAGATAATCTCA
84714	NEDD4	TGAGAGTAATCATGCCCACCC
84715	AQP6	ACAGAGCAGAGGAAGGCAGGGGATT
84716	COL6A3	AGAGAATATTTTTGGCATTCCTC
84717	SNX9	ACTTTTTATTCCAGCTGCTGAAA
84718	COG6	GTATTTTTAGTTTTTTCCCTT
84719	CA2	TTTCTGTAACACAGAATATAGGATAA
84720	SMAP	AGCACAGACCTTTGTATTATAA
84721	EIF2C1	AAAGGGAGGGGAAGGAATGAGC
84722	ATP1A2	TTCAACCCCACTTCCTACTGT
84723	COL9A2	CTACTTCCTTCCCTGCCTCCCAGC
84724	FAAH	GCGGTCTCCGGCCATGGCCC
84725	SIRT6	CCCAGCCTCTGACTTGCTGTGTTGTC
84726	EIF2B2	CAGCACTGTGTCTTGCCT
84727	ARVCF	GGGAGGTGGCAGGGAAGGGTGCCTGG
84728	TLR9	GGCAGGGTGGAGTGGAGGGGG
84729	NOTCH2	AACAAATTTTGGGGGCAGGAGATCCCT
84730	B4GALT1	ACCACTGCAATCAATGTGTC
84731	CNTN2	GGCAGGAGATGGCCAATCATGCGCCC
84732	SLC4A4	TTTTGTTGTTTAAATTATGGGGCCTAA
84733	MAFF	ACCAGCCTGGACAACATGGTGA
84733	ZNF74	ACCAGCCTGGACAACATGGTGA
84734	NAP1L4	CCAGGGCTGAAGATGCGAGCCCGTCCTC
84735	STIM1	CCTGCCTGCCCTGCCTCCGTC
84736	ATM	TCCAGCCTGGGTGACAAGAGCG
84737	CBFA2T2	AACTTCTGTTTCCTTCTCTTGTGTTAT
84738	HSD17B2	CTCTCTGTTCACAGAACTCAGGCTGC
84739	CLCA1	CAAAGAGAGGAATCACAGGGA
84740	NTRK2	TATCTATGGGAGATTAAAACCAGA
84741	MTMR2	TTCCCCAGAAATATTTGGAAATTA
84742	CPSF6	GCTGTTCTTCACTTTCATCTTGT
84743	HAP1	GCACAGCAGCCATTGCA
84744	TPTE	GACACAAGACCTCAGACTTGTG
84745	SSA1	AGCCAAACCCCCTAAAGGTCTCCA
84746	ADAR	TGTTCAGAGCCTTTGGCCTCTCTGT
84747	IRTA2	TATCTTTGTTTCCCCACCTCAGGCC
84748	ADRA1A	TTTGGAGCTATTTCTTGATGGA
84749	NCSTN	TGGGTATCCCACCTCCAGCCCAC
84750	IAPP	CTTTCAGCAAACCTCAGTCATA
84751	CPD	CAAAGTGATTGAGTAGGTAATGTTC
84752	LNK	GGGCTGGAGTGCAGTGGTGCAA
84753	SERPINB9	AGTTTTGACAATGACCAGGTTGG
84754	RSC1A1	TGGGCCCCAGACCAGAGAAAAG
84755	BHLHB3	TCCTGTGAGGCCTTCCTATCTCC
84756	PDYN	AGCAGTTTGTGATCTGTCCTTCCAACC

84757	ESR1	GGAGGGCGTTCGTCCTGGGAGCTGC
84758	TAF11	TGACTGCAGCCTTGAACTCCTG
84759	ELMO2	ACAACAGCCACTCACCTTTTCCTCCT
84760	PCDH1	GCCAGCCTGAGCCAGCAGTGGGAGGTG
84761	WBSCR1	GGCCTCTCTGGCTGGGTGCAGTG
84762	KAI1	TCCCTGCCTGGCCCCCAACCTCA
84763	SOS2	CTGATTTTTAAACCTCTTTGACCATCTTCT
84764	PCDH7	CTGCTGGTTTAAAAATATTTACTGATA
84765	TNFRSF10B	CCGGAGTAGCTGGGATTGCAGG
84766	GAS7	ACTTCCTTTCTTTCTTCCC
84767	ARHI	AAAGAACAAAACATCAAAATG
84768	PTTG1IP	TGAGTGGGCTTCTCTGGGAGCTCT
84769	VIPR2	GTGTGGGCAGTCATCAGTCATCA
84770	TPM4	TCTCATTCCAGTAATGACCCA
84771	KCNJ1	GCATACAGATGAGTTGGCAGCCGGTC
84772	MOCS1	GACAGTCCAGCCCAGAACTTTTCCTTC
84773	OAS3	TCCCTTCTCTGCTCCACAGG
84774	CNP	ATTTCCCAAGCTGGAGTGCAG
84775	ASTN	TCTCTAATGCACCTGCCTCAG
84776	FUT1	AACACACCCTCTGTGCTTGT
84777	UGT2A1	AAGTTTGGCAAAATCCTGAGTAGTG
84778	EZH1	AGTGTGGGTTCTAAGTACAG
84779	MECP2	TCTAGCTGCATATCTTCATCATATTGGT
84780	SLC6A5	CACCTTGCTTTGCACTGA
84781	EMR1	GGGGGCCGTCTTCCTGTGGTTGT
84782	TMEM1	GGGAGGCGGGTGGGGGAGGGAG
84783	CDK10	TCGTATCCCCTCTCAGTCGCCC
84784	AQP6	GGTTTCATCATATTGGTCAGGGTGGTC
84785	PSG1	ATTGTATTCCCAGCCTGTGT
84786	CALM1	TGAATCTTTTACTTACCTCTT
84787	ZNF137	GAGCTCCCCTCTGTCTGGGGC
84788	ZNF217	TAGCCTATTTTTGAAGATT
84789	KRT4	CCCAGCACTGGTGTCTCTGTGCTTCCT
84790	CALM1	ACCTCTGAGCCCAAGACCTTGCCT
84791	NFATC1	GGGGAGGCGGGGGAGGTG
84792	ZNF36	GGCATATAATCCTTCCACACAGC
84793	CPNE3	AACAGCATGCACTCAACTTGG
84794	GART	GTCTGAAATCCTGGGCTCAAGTGATC
84795	FZD4	ATCTCAGTTTGAACAAACTAGCAACA
84796	CELSR2	GGAGAGGGACTCCTGGGGGGCCTG
84797	KLK10	GGGTCCCCTCCCTCCTTCCTATCG
84798	RAP2A	CCACAGAAAATGGAGGCTTTCACAAGG
84799	FACL5	CACACAACAGGCTTATTTTC
84800	LRP4	GGGGAAGAGACCTAGAAACAAGCTTTC
84801	ABCE1	ATTCAGTCATTCTCTAGGTAAT
84802	WASF3	TTGAGGTGACGGTAGGAATGTGAGCAG
84803	SCNN1G	AGCACGTCACTAGAGACTGGGA
84804	LMO7	CTGTTTATTGTAATGTATTCTAAATT
84805	MTMR3	ACTGCCGAGCTGCCTGCTGT
84806	ALK	AAAATATCATAAAAATGAGTG

84807	PEPD	TAATGCTGTCCTTTAGTAGCA
84808	SPHK2	CACCTGCTCCTACCCGGCCAG
84809	SDC1	TGTTGGCAGGCTGGCCAGTCCAGG
84810	MECP2	AATTTATTAAGGAAATTTGTACC
84811	LIG3	GACTCAGGCTGGAGGCAGATAGACAC
84812	SLC14A1	TTCTCTCTCAGAAATCAATGGCATTTG
84813	ESRRG	ACACATCAAAATCATAATAATA
84814	TSC	GCAGCCCAGGCCCGGCGGACAG
84815	KCNJ15	TTGTCTCAGTCATGCTTGCTGAT
84816	TAPBP	CCCTGACCATGACCTGA
84817	RNMT	CTGTGATACCAAAATCTCAG
84818	EGR3	TTACCCCAAACTCTTCCCCA
84819	TP53	GCTGGCATTTGCACCTACCTCA
84820	C8orf1	AGCCTCAAACTATAGTAACTTCA
84821	ATP11A	CAAGGAGGGGGGTCACAGGCC
84822	SPAG11	CACACACCCAGCCTCACTCC
84823	ITPR3	ACCTTAATGCCTTA
84824	ZNF80	GTTTAAAATATTTCAATAAAGA
84825	SHFM3	TTGCCTGGAGGGTGCAGTG
84826	SPAM1	TCAGATATTGGGTAAACCAAAG
84827	NUFIP1	TTTTGTTTTTAATGCAGAAAAGGAA
84828	EZH1	CTCATCTCCTGGGAGAGGCAG
84829	RORB	GCTGTCTTGGAAAGTACTGTGCATGTA
84830	ELAVL2	ATTCTATTGCCTTCTTTGAAGAAGGT
84831	S100A6	TCTCTGAGTCAAATCCAGTGG
84832	IL21R	AGAGTAGCTGGAATTACAGGCAC
84833	LETM1	ACGGCACAGGCGTCCAGGAAAGCAGCTG
84834	HTR4	CTAAGCTGCTGCTTGTGCGC
84835	PLAG1	GAATTTCTAAAAATGAGTGCA
84836	MLLT3	GTCCTTTAACTCGTTGCAGTCTG
84837	PCDHGA8	GGCACTCCAGGTTTCCGGAGGA
84838	ARF4L	CCTCTACTAGGCGCCTTAGCTC
84839	DSC3	CAAAATGTGTTGAAGTGCCCTATGA
84840	GLRB	CAAAACATTGTGCCTTAAAATGAGTCATACA
84841	CD5	TTTTTGTAAGTAGTGCTTTTCC
84842	SSTR3	GACCACCCTCCCCTCAGCC
84843	HMGA1	TTGTCCAGGCTGGTCTCGAACTCCTGA
84844	ARCN1	CGTCAGCCAGCTCAGCCTTGGC
84845	ITGAV	TTATCTTGCCATATCTCATA
84846	JPH2	CTGCTGTCTTGGCAGCTTCTGGGC
84847	MAPT	CTCTGGGATCTCCCCCTTGTGGGGC
84848	SLC14A2	CCAGGGGCAGAATGATATGG
84849	ING1	TTGGGGGCTCTGTTTTGAATGTGGA
84850	NRF1	TATTAAAATGTTGCTCTGGTTTTA
84851	SLC7A5	TCACACTGCGCAGGTCTCTTCTGGG
84852	LAMA3	GGACACAAACCAGACAGGTTT
84853	MS4A8B	GTCCTCCTCCCTTTCTGGGCTTCCA
84854	MYOD1	AGGGGTGGGGGACAGTGGGTGGGC
84855	IL1RL1	GTGCCACACTGAAACAGCCAGA
84856	ENC1	TCCTAGAGGTAGAGAAACCGTGG

84857	JRK	CCACCTGAGGCAGGAGGGCATGT
84858	FN1	GTGATATTTTAAATATCCACAG
84859	PCDHA1	ACTCCTGAAATATACTTACTCTG
84859	PCDHA10	ACTCCTGAAATATACTTACTCTG
84859	PCDHA11	ACTCCTGAAATATACTTACTCTG
84859	PCDHA12	ACTCCTGAAATATACTTACTCTG
84859	PCDHA13	ACTCCTGAAATATACTTACTCTG
84859	PCDHA2	ACTCCTGAAATATACTTACTCTG
84859	PCDHA3	ACTCCTGAAATATACTTACTCTG
84859	PCDHA4	ACTCCTGAAATATACTTACTCTG
84859	PCDHA5	ACTCCTGAAATATACTTACTCTG
84859	PCDHA6	ACTCCTGAAATATACTTACTCTG
84859	PCDHA7	ACTCCTGAAATATACTTACTCTG
84859	PCDHA8	ACTCCTGAAATATACTTACTCTG
84859	PCDHA9	ACTCCTGAAATATACTTACTCTG
84859	PCDHAC1	ACTCCTGAAATATACTTACTCTG
84859	PCDHAC2	ACTCCTGAAATATACTTACTCTG
84860	MMP14	AGCCCCATCTGAATGTGTTGGG
84861	SDF2	AGACTTGCGTGGGTCAGTTCTTTCTG
84862	GFRA1	AAGAGTGGGCTTTGTGGAAA
84863	TPM1	GCTCGCCCCGCCGCTCCTGCTGC
84864	KAL1	TCATTCACTGTTTTAATATGACA
84865	RAD52	TCCGGGAGCGGATGGAGAAGC
84866	HPCAL1	GCCCCTGGACAGTTGCAGAGAA
84867	DEFA5	CCTGCTCTCCCTCCTGCAGGTGACC
84868	SH3BP4	GAAGAGGGAGGAAGGGGCGGC
84869	TMOD2	GTATATGATCCATCCAGAC
84870	CNTN2	GACCTGCAGCCCCAGACTCT
84871	PRKCQ	CTCCAGAGACAGGAAAGAATTTG
84872	LETM1	TCATCATTCCATGGAGATT
84873	NPTX1	CCCCTCCCCAAACACACCAAGAAG
84874	SCNN1G	TGAACTCCTGGCCTCAAATGAT
84875	ATP8B2	TCCAGCAGGAGCAGTGGATGAATG
84876	ADCY2	TCTGAGACCAGCCTGGGCAA
84877	MLC1	GCCCAGCTTGGAGTGCCACGTGGC
84878	NEBL	ACTGTGTAAATGTCCAAGCACAG
84879	PGK1	GGGGCAGCAGCAGTGG
84880	CASP10	GGAAGGCAGCTGGTATATTCAGTCTC
84881	CYP3A4	CTGGGAGGCGGATGTTGAAGTG
84882	FZD4	AAGAGGGGAAAAGGAAGGGTGATTCAC
84883	NRXN2	TGCCACCCTCTCCCTGCC
84884	MSI1	AAAGCAAAGGGCGTCTCAGGGA
84885	CACNA1G	TTTGAGGCGAAGGCGTCTGTCT
84886	CBFA2T2	AGCCTTCTGAGTAGCTGGGATT
84887	HLCS	CACAACCTCTGCCTACTGGGTT
84888	LZTFL1	AGCTTCCTCAGTCTCTCCA
84889	LPIN2	CAGCAAGGGAAGGCAGCTGGCTCTTC
84890	ADAM19	CTGCCCTTACCTGACCC
84891	PCSK1	TTGTGGCACCTTTTCTTTTTCTCCC
84892	SOX4	GCTGCTGGGCCTCCGCCTTCTTTTCTACG

84893	CRACC	GGCAGTGAGACTGGTGGGGCACGG
84894	ATP4A	TAGGACTCCAGTCCAGGCTGGACG
84895	SMAC	TTGCCCAGGCTGGTCGTGAACTCCTGG
84895	TAF11	TTGCCCAGGCTGGTCGTGAACTCCTGG
84896	PRODH	CTGCCCAGAGTATGGGCACTCAGGTGT
84897	ZNF74	TGCTGTTTCTGTTGGTGCTAGCTACT
84898	MBTPS2	ATCTGACAGAATCCCTGAGTTACA
84899	S100A10	GATAAGAGTTGTCCAAAGGGTCGCT
84900	TDRD1	TTTCGTGATTTAATGACCTGA
84901	MSR1	TAATTAGCTTGTTACAATTCTAG
84902	CXorf6	ATGCTGCTGCTCAAAATGCC
84903	CLTC	GTTCTTGTAACCTTTATTTCA
84904	TRAF5	GCATTTATATAAACTTGTGA
84905	ADAR	TCAGAGCCTTTGGCCTCTCTG
84906	BCL11A	CACCCTACATTCCAGCATCTTACCTTCATA
84907	ROBO1	AAGCGTTTTTAACCTGTTTTGT
84908	EGFL5	TGATCTACCACTGAAATCATTCTAG
84909	COLQ	AAATGTCCCTCATGTCCATTTCC
84910	CYP1A2	CAAACTCCTGACCTCAAGTGAT
84910	NCOA6	CAAACTCCTGACCTCAAGTGAT
84910	RHD	CAAACTCCTGACCTCAAGTGAT
84910	TRAF5	CAAACTCCTGACCTCAAGTGAT
84911	JAK3	CGAACTCCTAACCTCAAGTGAT
84912	EGLN2	CTAGGTGGCAGTAGATGGTGGCAGCCC
84913	RASA2	GGGAAAGCATCTTAAGTTTAAC
84914	DXYS155E	GTCCTCTCCTGCATTCCTGACAACAA
84915	FGF1	GCCTACAAGCTCTTTAGTC
84916	EZH1	TGGCATTCATGCAGAGCAAAGC
84917	NPTX2	CACTTAAACTCTTGTCAGTCTGGGCT
84918	HMGA2	TGCATGATGAACTCACCTAATTATGAGGTGG
84919	AKAP2	AATGAATGGCGTTTCTCTCCA
84920	PSAP	CTGAATGTAACCTGCTAGCTCTCCG
84921	AAT1	AACTATACTTTGGTCTGCTTC
84922	DYRK1A	TCATTCTATTGGTCAATTCCA
84923	CYP4F3	AGCTAATTGTTGTATTTTTGAT
84924	GRLF1	CTAGAGGACATCTCGGTCGTTT
84925	TCTE1L	GGGGTTCAAATTGAGTGGA
84926	SDHA	CTTGTGAGATGATAAAACTGGGCACAG
84927	ANKTM1	CATATTCCCTTTTTTCTTTTGATGTCT
84928	NR0B2	AGCCCAGGCAGAGATCAGGTG
84929	DGKE	AGTATGTGCTGTCTCA
84930	RRP22	CACGCAGCCTGCTCCTGGAGCT
84931	EXO1	TTAGAGCTCTGATAAGGTGTCAA
84932	RELA	GTGGGGGAGAGCAGGCTGGCAGC
84933	TKTL1	CAATGTTAATAAAGCATTTCA
84934	TMPRSS4	GCCCAGATCACTGTGGGCTGGAGAGGA
84935	SOX11	CTCTTCTCCCCACCCATCCTGG
84936	SUV39H2	GCTTTCAGTATTCCTAATTTTT
84937	PNUTL2	CAAGCCCTACTTTTGTTCTTCTAT
84938	RAD52	TAATTCTCACCCCTGCCCTGG

84939	TCF4	TTAAAACAAGAGACCACTTCCTT
84940	PIK3CG	CAGGAGGTGGAAACTGCAGAGA
84941	ZNF202	CCTCGCTGTCTGATTCACTTCTTACC
84942	RAG2	AACCTATAAAGTGTTTATGACAA
84943	GNS	AGGTCTTTGTTCTCACTGTAT
84944	NOL3	TTGCCCAGGAACTTAGGGTGGGTA
84945	IL17BR	AAGTGAAAAACCTTCTATTA
84946	BBS4	CAGACCTCTGCTGAGTAGCTCTGTGAT
84947	TBL1X	CACGGACAGCTTTCCCCCTTCCGCCC
84948	PPP2R2C	GCTGCCCTTCTGAGGCCTGCCTGATTTGGG
84949	TAF1	TCCTCCTTTATTTAACTCCATTT
84950	EHD4	ACGAGGGAGAGTCGAACCCGGAGCAGGGT
84951	FZD7	GGGAAATCTCTCCCTTCATT
84952	EZH1	TCACATGCTCTCACTCACCACA
84953	CDH1	GGCCAGGCTGGAGTGCAGTGGT
84954	FUT1	TGTGAGCCAGCACACCGGGCCA
84955	SLC16A7	TCCACAAAATGCAAGAGCA
84956	ATP2A2	GCTTGTGCAGAAAACATTGTTCCAG
84957	SLC38A2	TCTGGGAGCTATCTTGTCT
84958	BACE	ATGTTGGGAAAAACTGGCTTT
84959	NTSR1	AAGAGAAGACAGTCCCAGGAGA
84960	NXF5	GATCAAATCCATATTACCATTTGG
84961	CDC27	TTTTAATTTATTCATCTTGCT
84962	KCNJ6	GACAAACCACTGTACATATA
84963	SRRM1	GACAGCTGACATAATTCATT
84964	FANCC	CACACCTGTGATCCCAGCACTT
84964	SUV39H2	CACACCTGTGATCCCAGCACTT
84965	CLDN5	TTGGCTGCTGCCTTACTTCCC
84966	REV3L	TTTTTTAAAAAATGCTGTCTTG
84967	CDC5L	TTCAGTTGTTTATTTTAAATGATATCGA
84968	EVA1	CGTATTTCTTTTAGCAGCACTT
84969	USP14	GTGTTGGAGCTTGGCTGAAGACA
84970	TBX5	TTTGTCCTGCCTTCTCCA
84971	ALEX3	TCTCCCACTCGCCGCCCGCTT
84972	PSCD4	ACCCCCACATTTGCACACCTTCC
84973	FBXW1B	GTGAAGCCTCAAGCCCATGAATGCCA
84974	SCD	GCACACAGAATGCTCAGGGTC
84975	RABGGTA	TGGGGGTCTCTGCCCAGGCA
84976	LBR	TACTCCTGCAATTCCAGCTGCCATT
84977	SPG3A	AAGTGCTTCCATCAGAACGGAGT
84978	SOX5	CTTATTTCTTCAACATTCCATCC
84979	CBFA2T1	AGGTCCTGCCATCTGTGCTA
84980	HPS1	CTGTTCCCTGCGTGGAGGAA
84981	ST7	GATTGTTTTCATCCTGATACTGTA
84982	NPHS2	CACTCTGTCCTCATTCCCTG
84983	IREB2	AGATAGTCCCAGTATACTCACTTA
84984	CACNB1	TGGCCTCCAACATCCCTTGCCTGCTGC
84985	DSC2	GGGTCTGTAGGTTGTTGCAGTGAA
84986	ADH5	CGCTAGGCGCTCGCCACGCCCATGCCTC
84987	KMO	GTTGACCAGGCTGGAGTGCAGT

84988	LAMP2	CCAAGAGCGCACCATTGCACTC
84989	TTC1	GATAACAAAAGCTTTACAAGCTGAC
84990	SEPN1	ATCTGGAACTTCTGACCTCAG
84991	DIAPH2	GTCACCCAGGCTGCAGTGTAGTG
84992	G1P3	AGATGCGAACATAGTACACTGCAGCCT
84993	FZD7	GCTTAGCAGAGAATCATGGGA
84994	ALCAM	CAATGCCCCAAACTTTCTCATAAG
84995	COL19A1	CTTGTATGCCTATGTAATTCAA
84996	THBS1	CTTCTGGAACTATGGGCTTGAG
84997	KCNH2	TCACCCAGGGATCAAGGCGCTG
84998	KCNC4	TCTCCACTGCACTGGAGCTTT
84999	PPM1D	GTCTTAAAGTAGTTACTCCCTTC
85000	MAP3K8	ACACTGCACTGAGCACTTTA
85001	P2RY4	CCGGGAAGTGAGAGAAAAGGGGAT
85002	CASP8	TGAAGTAAGCAACAAGGATGACA
85003	PODXL	ATCTATAAAGGTCATCATCTT
85004	NDRG2	GGCCACCGTAAGCAAGGGAAAAAGGG
85005	OAS3	CATATTGGCCCCACTGTAACTTTTGGG
85006	LAMC2	CACTGCTCTCCAGCCTGGGGAA
85007	IFNA16	CCTCATTGATTAATACATCATCTC
85008	HIP1	GAAAATGAGAAAGGACAGAGCCAG
85009	ATP8B2	GTCACCTAGGCAAGAGTGCAAT
85010	KCNH3	CTGCAGGCTGGGGGCAGAGGC
85011	KCNE3	GCCAGGCAACAGGACTAAACTACCTC
85012	EIF5A2	AAGTTGTTTCTCAGTTGTTTT
85013	KCNMB3	CTCTTCTGTTCACCAGACACCCTGCC
85014	ABCA1	CTCACTGGTTTACAAATATAGGTT
85015	ADRB3	GGACGAAGGGGAGTGAGCTTGA
85016	PPP2R1B	TGCCAGACAACTTGTCCTGACTCAACA
85017	MAML1	TTATTGTCATCAAAAGTTCATAA
85018	ADCY6	GGTTCAAGCAATTCTCCTGCCTCAG
85018	FCAR	GGTTCAAGCAATTCTCCTGCCTCAG
85018	GPR81	GGTTCAAGCAATTCTCCTGCCTCAG
85018	IL11	GGTTCAAGCAATTCTCCTGCCTCAG
85018	PPID	GGTTCAAGCAATTCTCCTGCCTCAG
85018	RHD	GGTTCAAGCAATTCTCCTGCCTCAG
85018	SIGLEC8	GGTTCAAGCAATTCTCCTGCCTCAG
85018	SLC24A1	GGTTCAAGCAATTCTCCTGCCTCAG
85019	DHFR	GATTCAAGCGATTCTCCTGCCTCAG
85020	PPT2	GCTCCCCAGGGCCTGGCCTACT
85021	ABCB9	CCTGCTGCGCGCCCCCTCCC
85022	CCNF	ACAGATGGCGTCAATGTGAACAC
85023	CRADD	GTTTTTCTCCCCCGCCCC
85024	SLC6A3	GCATCGTGTGGGTCCCTAAGCACAA
85025	DNCI1	GAATTTGTGCTTACATGCACTCC
85026	HPCA	GCCCCATGCACAGTGTCCTGCGTG
85027	GAS7	GCAGCTGTGTGGACCCAGGGACAG
85028	CSF2RB	GGGAAAGGAGATAGCCTTGCTCCGGC
85029	PAG	ATAAGCTAGATCACTACAAGGAGC
85030	THRA	CTTGGTTCATGCTTCTACTGTGACA

85031	CORO1C	AAGCAGTAGCCACATGGTGCTG
85032	BMP8	TCACCCTGGATGCCCAGCAGCCC
85033	ALDH3B1	CCTGTCTCTCTGGCTGATGT
85034	IKBKG	GGCTGGGTGGCCACAACTGGGATGCCA
85035	FUT3	TCCTCATCCACTGCTCGCTGCCTCTCC
85036	SLC9A1	CAGAGCTGCGGGCTGAGGGCATCTCT
85037	SLC2A4	CCTGGTAGAATTGGGAAGCTGGGGGA
85038	RAB36	TTCTCCATGTTGGTCAGGCTGCTCTCA
85039	ANGPT1	CAATAAATCTCAGCTACTATGCA
85040	CCND2	CCACTTCTTAGAGGCATTCAGTT
85041	NEBL	CCTCTGGGCTGAAAACAGCAGCAT
85042	ACP2	GGACCTAGGATTAGAAAATGG
85043	MGAT2	TTTGATCTGAGATCTGTGGTA
85044	PES1	ATGCTCTCTGGCTGGGCCAG
85045	MAPK4	TCTTAAGGAGCTCAGCTCAGTAAACA
85046	LSP1	GCCTGTGCAGAGAGGGTGGGT
85047	KRTHA2	TTCAAAACTGCCTCTTTTTTCCA
85048	NRIP1	TGGTATTCTCCCTTGGGTAGGG
85049	RNASE6	CCAGACCAGAGTTGAGACAAAAAGA
85050	SOX13	CATGGGCTGAGCAGGCTGAGCAC
85051	IGF1	CTCAGCCTCCCAAATTGCTGGG
85051	PCDHB9	CTCAGCCTCCCAAATTGCTGGG
85052	TTN	ACCATATTTGAATTCATTACCTTGGAG
85053	TSSC3	GTGAGACTCCTGCTGGGAGGGTGGAGG
85054	ZNF205	CCAGAAGCTGGAGGGGGCTTGG
85055	ADCY1	GGCAGACTTGGCAAGGTCTCCA
85056	FBLN1	GGCTGGAGAAGAGAAGGCAAGTTGG
85057	KCNJ6	GCAGCCAGGAAAAGCACAA
85058	PXN	ACAATGCCAGCATAAATCCAT
85059	SLC25A6	TTCTAAGTATTTATTTAAAACAA
85060	DPYSL3	GGTGGGTGGGTCAGGTGAGTGGA
85061	HS3ST3B1	TGTCTTGTCTTGGGTCTCCCAT
85062	ACPP	CCAGAAACAGCTCTCCTCAACATGAGA
85063	PTGFRN	CCGGGAGGGGAGTGACAGAGGGACGT
85064	AKAP2	ACATTTATTCACAAATGAGA
85065	HOXB13	GCCTGGGTGGGAGGAGCGAA
85066	MSH3	GGGAGGCGGAGGTTGCAATGAG
85067	HDAC7A	CCTGATCCAATGGTGCCAA
85068	MRE11A	GCATTTACAAGGTTAAAGATTC
85069	LZTFL1	TCTCTACTGAGTGCTCCAGAGTC
85070	RFC1	TACAGATACTTATGAAGACATTCTTTCG
85071	GPR81	CCAAAGTGCTTGGATTACAGGT
85072	TCF4	AGGGTCCAAGTTGCCACATTG
85073	YWHAB	TAATGTCCTGAGTCAGGCGT
85074	CLK2	CCCATGACAACAGAGAGCATCT
85075	PTPRG	TTCAATACTGTATGCCTTCTG
85076	CPD	TGTGAATTTCACTGGCAGTTTTGAA
85077	SFPQ	GGTAAAATTATGTAATGCAGTGTTTGG
85078	CD164	CCTTTTCAGATTTTTCATCTG
85079	ADAMTS3	AAATACTGTATATTGCAAA

85080	IRS1	CTTCCCAAACCTCCCCCATCCCCTCTC
85081	MAGP2	CAGAGACCCAATGGTCTGTG
85082	CD28	AATTATTTGAGTACTGTGAA
85083	IRAK4	GAGACTAGCTGGAACCAGGGAGGTAGA
85084	ZNF10	ATTCTATAAATCAGTCTGTT
85085	CHES1	CAAGTCACTGATTTGTTTTGAAC
85086	LNK	TGGTATAAATCTTCTGCCTTT
85087	SLC2A1	GCTGGACCTATGTCCTAAGGA
85088	IFNA21	TCAAAGACTCATTTCTCCTATA
85089	MYH9	CCAGGCAGAGAGCGACCAGCAGGCTCCTCA
85090	STS	CCAGCTGTAGTGAGGTTGCAGTGA
85091	SCA1	GGGCTGGAGGGAAGGAGCCAG
85092	HRB	GGTCACATTACATCTCTCCA
85093	LFNG	GTCTGGCACTCTGTGTATTTA
85094	SFRP2	GCTGCTCCAGTCTCAGCCTGGGCAG
85095	PPP2R4	ATAAGGCTTCAGGGCCCAAGTTGGG
85096	USP9Y	AGCAGTTTGGTCAACTTACCAACTTCC
85097	DCX	TCTATTGAATGCCTTG
85098	GNAT1	TCATCCAGCACCAAATCTTTGCTTATG
85099	ELF5	CACTGCACGCTGGTGCTGGGAGC
85100	POLK	ACCTGTAATGCCAGCCCTTTG
85101	CSK	GCCTCATTCCCCATTCTGTGTCCCA
85102	TXNIP	CTGCAGCTGCCAGCACTTGGTC
85103	METTL1	ACATTTCAAGCGGACAAAGCACAA
85104	LEF1	GGGGCAGCCTCGTCTAGCGCGC
85105	GPM6A	CAGAGTGCTTTGTAGCAGGCA
85106	BPAG1	GAGGGGAAGGATTTTCTTCATTCTGT
85107	IL6R	ACCATGGAGTGGTAGCCGAGGA
85108	ZNF180	ACTTTTCCTTGCAGAAAGCACT
85109	GALNT3	TCAGCATTGGCCTCTGTGTA
85110	DMD	TTCGGAGAAAAACGAATAGGAA
85111	TNFRSF14	GTGGAGGGAGAGGTGGGGCCCCTGC
85112	SRP19	GGGAAAGGAAAGAAAAAGAAGTACCTAGTA
85113	PPP2R5C	TTTTGTTTGTTTTTCAATCTCAGTGAA
85114	TNFSF10	CGGGAGGCAGAGGTTGCAGTGTGGTGA
85115	LASS1	GCCCAACAATAAATGCCGC
85116	CNGB1	GAGCAGACTGGGCAACATAGCG
85117	TGIF	GGGAATTGGCCCTGGGAGA
85118	LZTS1	TCAGGGATTTTATTTTTAATTTTA
85119	FMO5	TCTAAGATAAGACATATA
85120	HADHA	TTCTCCAACAGAGTGGTGTCT
85121	CDH3	CAGGATGGAGGAATGTGGGCAGTTTGA
85122	NR4A1	CCCAAGCCTGGGCTTGAGCTGC
85123	PRKY	ATTATAAAAATTAGTCGGG
85124	VPS41	GAAAAGAAATCATAGGGCCAAG
85125	TCF2	GGCTGGGATGGAGCACTTCTT
85126	SLA	AGCTCATTTTCCAGCTGCTCTTC
85127	ELAVL2	GTCTTAAGAGAACTATCCA
85128	IL5RA	CTGAAAGAGAGTGAAAATGCAGA
85129	TMPRSS4	GTGGGCTGGAGAGGAGAAGG

85130	CLASP2	AGGTGCAGGTGCCCTGAATGCAGGT
85131	TEGT	TCTGTTACCTGTTTTCCAGAAA
85132	GEM	AGATGTCCCTTTGATGGCCC
85133	FSTL1	AGGCTAGTAAGGAAACTGCATC
85134	ASCL1	ACCTCTAACACGCACAGCTGAA
85135	SET	GGGAAAAAAGAAAAACCTGCTCCCTTT
85136	MICB	TGTCACCCAGGCTGCAGTTCAC
85137	AMPD2	TCTCCGCCAAGTCACTGCCCAG
85138	RAB5C	CTCCACCCTCGGTCACCCC
85139	CD68	CCACTGCACTCCAGCCTGGGCG
85139	F2RL3	CCACTGCACTCCAGCCTGGGCG
85139	KCNJ5	CCACTGCACTCCAGCCTGGGCG
85139	NFKBIL2	CCACTGCACTCCAGCCTGGGCG
85139	NPHS1	CCACTGCACTCCAGCCTGGGCG
85139	P53AIP1	CCACTGCACTCCAGCCTGGGCG
85139	SCAP2	CCACTGCACTCCAGCCTGGGCG
85139	SLC17A5	CCACTGCACTCCAGCCTGGGCG
85139	SLC26A4	CCACTGCACTCCAGCCTGGGCG
85139	TNFRSF1B	CCACTGCACTCCAGCCTGGGCG
85140	HIS1	CAAACTTCTTAGCGCAAGCAAT
85141	SCN4A	CCAACTTCCTGTGGCCTGAAGA
85142	ERBB3	ACCAGCTTAGCCAACATAGTAA
85143	FLG	AGAGATGGCTCCAGACACCCCG
85144	ADAM33	AGGTCCACACCAGCCTGGGCAA
85145	CALCB	ATATTTCTGGGTTCTCAATT
85146	SLC2A6	GAGAGGACAGGGCTGGAGGCAGCCAAGT
85147	ABCA1	TACTATTCAATGCAATGCAATTCA
85148	PREB	TGCAGAAACAGTTTCTCCTCCTCC
85149	PDYN	TGACACCTTTTCAGGTTGGAGTGCAT
85150	ICA1	GAATCCTCTAGTTTTAAGACTGA
85151	RBBP5	TTCATTCTTTCTCACTTTGCCA
85152	VSNL1	GGGACCCTTGGCTCCTGTGTCT
85153	HDGF	CATTCTGCTCCTTCCCCATCG
85154	PRKCB1	GACCTTGAAAAGAACATGCTCA
85155	NRIP1	TTGGTTCCTGTATATTCCAT
85156	MGST1	TCCCCGTGCGGATTCCAGACCAAA
85157	WSX1	TGTAATCCCAGCACTTTGGCAGGCCA
85158	TRIM37	TTCTACAAATGTAATTTTAAA
85159	PRND	ACTCAGAGGCTGACACTGACA
85160	MDM1	ACATGTTTGCAGTGTTAAGATA
85161	CNTN2	GGGACAGGTGTCCAGTTGCTGGGCCG
85162	BHMT2	GCACCTTGTTCTCCAAGAACTT
85163	CDH5	ACATCCCTCAGCCCCACAGGCACGA
85164	SLC13A3	TAGGATTCTCCTGTTTCATCTGGG
85165	PAX7	GAAAGAGATCGCAGCAGGGGTGA
85166	STARD4	AAGTGCCTAGATATCATTTT
85167	FZD6	GGAAAAAATAGAGTTCAAGAA
85168	ASB1	GCCAGGAGGGTCTTCCCAAGA
85169	USP9X	GGAGAGTTTATTCACTGTCTTA
85170	BTEB1	CTATAAAGAGAACTGCTTTTAAC

85171	RAB36	AGCTTCTGAGCTAGAGCTGTACTGCCT
85172	HOXA3	TCTTCATTCCTTGCTGCTCAC
85173	PXN	GCTCTTCTGCTAGTGCCCTG
85174	PTGS2	CTACCTGCATGCTGTTCCTTT
85175	CX3CR1	TCATTAAGCCCTCTTCCATCATGTC
85176	AIM1	CCAAGTAGCTGGGACTATAGGC
85177	NET1	TGTTAAAATGGGATCATCATCTT
85178	SMURF1	GTTGCAACCCATGTGGTGATAAGGCTC
85179	NUMA1	TTCCACCAGGAGTCTGGAGTGCAATGGCAC
85180	RGS5	TGCCTAAGGCAAAGAAATA
85181	PGR	ACTTTCTCCTCCCTCTGCC
85182	PPEF2	TGTTGCCCAGGCTGGAGTGCAT
85183	DBN1	GGTGGGGACTCTGACCTGGGGG
85184	SFRS2IP	CTGTAGTCCCAGCTACCTGGGA
85185	PPP2R5E	AACAGCTTGGACTGTTTGGA
85186	ITGAL	TGGAGAAACTGTAGTCTCAGGACCTAG
85187	COL2A1	CCTCCTCCTGCTCCAAGGGCC
85188	HTR2A	TGGTAGAGTCCTAGGACATCT
85189	KAI1	CCCCATCTCCCTGCCTGGCCC
85190	MERTK	TTTTAATAAAACATTACTTATT
85191	ALDH1A1	GCTAAGCATCTCCTTACAGTC
85192	ZNF9	GAAATCAAGATGTTATTTTTGTATAC
85193	CBFA2T2	GTGTGATCACAGCTCACTGCAGCCT
85194	MHC2TA	GTATGATCACGGCTCACTGCAGCCT
85195	MSL3L1	TACAGGGTGCTCTGTGCTTAT
85196	C5R1	TGGCCAGCATGGTGAAACCCCGTCTGT
85197	DGCR6	GGGGTTCCCCCTGCTGAGGAGAG
85198	CNTN2	ACAAATGATACAAATGGTGCCAGGGA
85199	KRTHA5	TGCTTTGGGGTGTCTGGCCTCAG
85200	PLP2	CCCTCATTTCTCTCTGCAATCT
85201	ANXA7	TACTGAAAGCTCTGCCTTC
85202	SLA2	GCCTGTTGAGCCCCATTCTACA
85203	SLC3A2	TCTTCCCTCAGCTTCCCAGAATGCC
85204	DCLRE1C	TGACTGTGCCACTGCACCTCTAG
85205	PXF	CTGACATGTCACTTGCCCC
85206	ARF3	GTCCTACCCCTTCCTCTCCA
85207	RORB	GGTAGAAAGAGAAGACCCAG
85208	TXNIP	GTGATGTTCTTAGCACTTTAATTCC
85209	KDR	AGTTCCACCTCCGCGCCTC
85210	HOXA13	GGCAACTTGAAGAAACGCTTCAGA
85211	CYP4F3	GAAGAAGGGGAGAGGAGGTTGT
85212	FANCG	TTGGGAGCTTGGGCAGGCCAGCT
85213	PLAGL1	CGTGTTCTGTAATCAAACTGCA
85214	NOS1	ATCATGCCACCGACGGGCCAC
85215	DES	TGACCTCAGGCCTACGCTTTG
85216	INMT	TACCACTGCCTCTAGACTAAGG
85217	FCN2	TGTTGCCTCCCCTCTCTGAGCCCCC
85218	PDGFRL	CCTAGTTTTTATACATGTGTA
85219	PRKCM	AAACTCAAGACAATGCACCTAGCTGT
85220	PTPN1	GGCATCCATAGTGCACTAGCATTTT

85221	UBE2L6	ATCCTGTTAGATTGCCAGTTCC
85222	SERPINA5	CCCAAGAACTCCTGAAATCATATA
85223	ATP1B2	GCTCACTGCAACTTCCGCATC
85224	SLA	GGGATGCTGGGATTCTTGCCTGTAT
85225	PLP2	CAGTTCTGACTGAACCATGCC
85226	HPCAL1	CCAAAGCCCCGCACACAGGGC
85227	THY1	TGAGGGGTAGTGGGATGGTGGGG
85228	MAPK14	GGCGGGGGCCCCACAGGGCCACCTTCTT
85229	RHD	CACCAGGCTGGAGTGCAGTGCC
85230	CACNB1	TTCACCCTCACCCTGAGGCC
85231	GPRK6	AGCCCTGGCTGGAGAGCGGGACGTGG
85232	SIM2	GCAGAAGGTGGAAGGTGGGAACAGAGGTT
85233	AGL	ATCATTATGCATTCAGTTGG
85234	T	CGTCCCTGGGAGGGGAGGGAG
85235	DNMT3A	GTGGGCCTTAGTTTTCTGCAGCT
85236	ELOVL4	GGCCCTGCCTTCTGCCGCATCCCCG
85237	TOX	CTCCTGAGCCCAGACACCTCAC
85238	HUNK	CCCCAACAGAAGAGAAAGACTGAAG
85239	AQP3	CCTTTTGTCTCCCAAGGGAAGA
85240	GBF1	GCTGTCATCTGCAGCCTCTGCCTCCA
85241	DTNBP1	AGCTAACAATAAAGTGTGAGG
85242	ABCF1	TGGCCTAGAAGTCCTCTGTGGT
85243	CNGA1	ACAACTGATAATGTGCAAA
85244	HNRPH3	TTCAAACCACTGATGTTGATA
85245	HLCS	GGCCCTGTATTTTCAAATTCT
85246	GPC6	TTTTGGTCAGATGAAACTGCAT
85247	ATRN	CAGGCTGGGGTGGACTCAGATGCC
85248	GDI2	CTTGACAGAGCCTCTACTTCTGTCTCA
85249	ZNF91	TGCTCTGTGTCCTCTGCTCCA
85250	LILRB4	GGATAAATAGAAAAACTGAATC
85251	STAT3	TTTAACCTTGCTGACATCCA
85252	JRK	AGGCAGAGTGGAGAGGGAGAGACGG
85253	EPB49	ACTTTCTTCCCCCTCACGAGGCTGGGG
85254	ATP1A2	TGTGAGGAAGAGGTTGCAGTG
85255	SUDD	TAAAACAATTTGGGGGCCAGGC
85256	PSMD9	GTTGGTCTCGAACTCCTGGGC
85257	XPNPEP1	ACTTGGTGAAAGGAAGATGCCCCGAC
85258	SLC7A5	CTCTTACCTTCCCGCCTC
85259	EGFL4	GGCTCTGGACCAGCGGCAGGAGCAGC
85260	ABCB11	TCCTCAAATTCATATTCACAGGGTC
85261	GLB1	TGTCATGCCACATTTCACTGATTG
85262	LHCGR	GCAATGGTACACTACAAATGTGC
85263	NOTCH2	GTAGAGACATAACTGACTTTTG
85264	FGFR2	GTAGAGGAAGTGTGCAGA
85265	SLC10A2	TAGCTCTTCCAGTAGAGGGGTGAG
85266	EN2	GGTGAGGACAGCAGGAGGGGC
85267	ATRN	CCTGGACTCCTGTGTGCCTCCTGCC
85268	EXTL3	TCCAGCCTTGGAATCTAACGGGC
85269	CHRNA5	CTCACACTCAGTGCTCCATTCC
85270	THBS1	CATTCCCCGCGCCCCTCCAGCC

85271	NRXN2	TGCAGGGATGCGGCGGCGGGAGCAGC
85272	FDFT1	GGTAACAGTTAGATGTTTCCTA
85273	PIP5K1B	CCCCACTACATACAGAGAAACTATCA
85274	p100	TTGACACCTCCAGTCCGGCCA
85275	TP53	TGCTGGCATTTGCACCTACCT
85276	GHRHR	GGGCCTGGGGCTCTAGCCCAAG
85277	ABCD1	TGTCCAGGGCAGTGAGTCCTCTAC
85278	ATM	CTGTAGTCCCAGCTACTCGAGA
85278	VHL	CTGTAGTCCCAGCTACTCGAGA
85279	DRP2	CCCTGCTGGCCTCTTGTGGAGCC
85280	MECP2	GTTTCATCCTTCCCACTCT
85281	SLC7A6	CTTGGCCATATATTTGCTCAA
85282	ZNF165	GGGAATGCAGGAAGGTTTTGC
85283	PIK3CD	CGCCTCCCAGGTTCAAGTGATT
85283	TMC1	CGCCTCCCAGGTTCAAGTGATT
85284	MELK	TTTAAACAAAAGATATTATT
85285	ACE	TGGGAGCCGGAGGCTGCAGT
85286	KLRD1	CCAAGTAGCTAGGACTGCAGGC
85287	DBY	AGGCAAACGGCATGCTATCACAAGA
85288	THBS1	CTCTCTTTTGGAAGTATGATTTTTT
85289	GPR3	CTCTGCGCTGGGGTCCGACTGCCCT
85290	G2A	CCAGCAATGTGGTTCCTGTGCA
85291	RPN1	TGCTTGAACCCGGGAGGCAGAG
85292	FABP2	TAGACTTTTGACAAATTCTT
85293	NEDD4	TAGAACATGATGTTAAATGAGACCAGAC
85294	CNP	GGCTCACTGCAGCCTCGAACTCCT
85295	G2A	AGCTCACTGCAGCCTCAAACTCCT
85295	SHOX	AGCTCACTGCAGCCTCAAACTCCT
85296	PXR1	TGTTTGGCCTGCCCCAGTGCAGTG
85297	TEM7	TGCAAGGGTTCTCTTCTGTGT
85298	NEDD4	CACCAGTCCCCAGCTGCAGACCTTC
85299	CDC6	GAGCTACAGTCTTCATTTTA
85300	MAGEA5	CTGGGAGGAGCTGAGTGTGATG
85301	NTSR1	AGTCTGCTCTGGGCGGAAGAGCTTT
85302	TACSTD2	GACAGAAAACTCTAGTTCAAGAG
85303	DPYSL3	TTTGATTCTCTCGATCCTGGC
85304	NAPB	CTTAAAGTAAAAACTACATGATT
85305	BACH2	AGCGCATTCATTCACATAGC
85306	LYPLA1	ATGCAGACATAAAAATAGCAA
85307	LASS2	AAGTGGGGGCTGTACTGGG
85308	LMAN1	TTCTGGTCAGTATGATGCAG
85309	JUNB	TCCCACTGGGGTCCAGGGAGCA
85310	CGA	GCTTTACTGCCTTCCTCCTTA
85311	BGN	GGCCTTCTGCCTTGAGCTGGGACT
85312	HNRPH3	CAACAGCATCTGGTCTACTA
85313	PRKAG1	TCTAGCCCCTGTCCTCTTAGA
85314	PSMA1	CCCAGGCGTGCAGGTTCTCTTTGAG
85315	JAG2	TGAAGCTCGTGACAAGTGCCTT
85316	CASP8	TGCAGTGAGCCATGTTCACACC
85317	SLC6A12	GTTCCGCACTGTTCTTGCAGTG

85318	ACE	TGCAGGCTGCAGTCCCTGGAAAAACAGTCAC
85319	CTSZ	GCCATGTCACTAGAAGCGCAGTTTA
85320	FANCC	CCTGGGCAACAGAGCGAGACCA
85321	ATSV	CTCCACCCTGTTTGTTCCCACATGTG
85322	UBE2I	TTTGAGCCTCAGACCCCAGGGC
85323	PPT2	TGCAGCCAGAACAGGTGGCTG
85324	CSH2	GACAGCTCACCTAGCGGCA
85324	CSHL1	GACAGCTCACCTAGCGGCA
85324	GH2	GACAGCTCACCTAGCGGCA
85325	ADAM2	GCATGGTATAAGGAAATATC
85326	ATP2B2	TGTACTTAGAGCGTGGACTGTGAAC
85327	FABP2	TTCACTCAGGCTGGAATGTAGTG
85328	MAN1A2	CCTGGACCTCTATGTCAACATGACAG
85329	CD1D	GGGGGAGAAGAGTGCGCAGGTCAG
85330	SIX2	GAGAGAAAAGACAGGGACTTTGA
85331	RAB36	CCAGGATATGTTTGCGGGGGTGGGTG
85332	IER5	AGCACAGACTTGGATTCCTTCT
85333	TAF15	AATGTTCCTTTGTCTCTGACA
85334	GATA4	GCGAGGGAGAGAGAGGACACC
85335	CFTR	TATATTGTTTGCTAAGCATTCC
85336	ALDH3B1	GCTGGGTGAGGCGGCTCACACCT
85337	ACPT	GGTCATGTACTCAGCTCATGACAG
85338	ACE	GCCCCCACTAGGCACTGTGGCT
85339	LAMC2	GTCAACTTATTCTTTGAGTAATGTGAC
85340	GJB6	AGACGCTGGTCAGTTCACCTGCCCCA
85341	CIT	CCCTCCCGTCCCCAGGGCAGATTTG
85342	RECQL5	GGCTCATACCTGTTATACCAGCACTT
85343	B3GNT3	GCATATGCCTCACTACTGCCT
85344	SP3	GACACTGAAATGCCTTA
85345	GPR35	TGGGAAGAGAGAGGGACAGGGACAAGGGC
85346	DNMT2	GGAGGTGGATGGGGAGGAT
85347	MYCL2	CTTCCTGGCTCACTATCTCCA
85348	SERPINE1	GTCTCCAAACCAGACGGTGACG
85349	PLAG1	GGCCAGAATCATTATCCTTGAAATTT
85350	DLGAP2	TCAGCAAATTTATATCACCATCTTA
85351	KRTHA7	GTAATTATCTTCCATGAAAGC
85352	TEGT	CTCTTGAAGCCAAACTCCACCT
85353	ITGA3	TACACCTCGTCAAGAGCATGCA
85354	HNF4A	GGAAGACGCCTTTCTCCTCCA
85355	GPR80	TACTTAACCAAAAACAAATA
85356	C8orf1	GTTCTAATTATATAAGTGTGTTT
85357	PPP3CB	TTAAGTTTACAAATCAGATT
85358	ARNT2	AAGCACTTAACCATTTCTCTTTCTTCTTA
85359	RP2	CCAAAGAGCTGGGATTACAGGT
85360	CSE1L	GCCCAGGCTGGAGTGCAGTGAG
85361	ACLY	AATCCACAAAGATTCTGGGCAGCTGCC
85362	DGKI	GTCAGCCCAGGCTGCTGGGCTGTAGCCA
85363	VEGF	GGCAAAGTGAGTGACCTGCTTTTGGGG
85364	SLC1A4	CATTGAGATGAGAATGGGTA
85365	PCK1	CCTAATAATCATCACCACACCGG

85366	FACL2	AATAAGAACAACTGTCCTGGCTGGA
85367	SORCS1	TCCCTAAGCCAACAGGGTATA
85368	PIK3C2B	GGTTCAAGCGATTCTCCTACCTCA
85369	GPRK7	GAACCCAGGAGGCGGAGGTTGT
85370	SFRP1	CAGCAGCCACTGCACAGGAG
85371	TCF2	TCATGGAAAAGCCCAGTGACCT
85372	SHOC2	TATCTGTGTCTAAGCACAATATCTTCA
85373	LZTR1	CCTGCTCTCCTTTGGGTGTATGCAGG
85374	CD4	AGTTTATAGACCAGAACCAG
85375	TJP1	ACCACTCTATCAAGTATTATACCT
85376	ABCF1	AGGACTTGGGGCAGGAAAGGAATGCT
85377	GNB2	GGAATGGGGGAAGAGGAGGAGCAGG
85378	HKE4	GAGTCAAGTGGAGTCACTGCCT
85379	PIM1	GCACAGCCCCGGCTCCGGCTCCT
85380	PPP2R4	CTTTTCACCCTGCCCCCTGGGCC
85381	APAF1	CTATCACCCAGGCTGGAGTGC
85382	NR1I2	CAGGCCTGTACTCATCGGCAGGT
85383	CENPB	CCAGGGCAGAGGACTCTCTGGGC
85384	FGA	CAGGAAAGTGGCAGACAGAA
85385	TM7SF3	CCGACATGGGCAACATGACAAGACCCCATCTC
85386	ARHG	CACCAGGTCACTGCAGCCAGAG
85387	SIX2	AACTTAAGTGAGAGAGAAAGGG
85388	PIK3C2B	AGTGGCATGATCTCGACTCACT
85389	GRM7	TTTCGTTAATCTTGCTGCTTAT
85390	OGDH	CTCCCTCCCCACCCCAACCA
85391	FANCC	TGTGGAGGGACTCCTGGGACA
85392	ALDH3A2	TTGTAACCTAGGGCTTCCTGGAAGTT
85393	KCNA3	ACCGCGCCAGACCCAGACAGAG
85394	NR2F6	TCTGGCTTCTCTCCTCAGACTTCTAT
85395	CTNS	CTTACCCAGCATCTGGAGTACAGG
85396	MGAT5	CTCAGCTCTCCCTTGAGTGGCACT
85397	OGG1	CCAAGGATTCTTCCACCTCCCAAC
85398	HIP1	ACCAGCCTGTCCAACATGGTGA
85399	TRIM9	CTCATGGGCAAGATCTTTCAG
85400	B4GALT1	CCACTGCAATCAATGTGTCAT
85401	MAGEA5	GCTTGAAAGTACTGGAGCACGTGGTCAGGG
85402	BSN	CCTCATTCAGTTTCTGGGGTCA
85403	KCNK10	TGCACACACAGAAGGGGACCTG
85404	FLOT2	ACTGCCCCACTGCCTGTCCCTTCTGG
85405	AMPD1	TCAGCAACAATGCCTCTGTTCAAACTC
85406	GHR	TTTACTTCCTCTCTGAGTGG
85407	NEU3	CACACCCTTTTAATAATGCTCAG
85408	BMPR2	TCTTTTCTTTGCCCTCCTGATTCTTGGCT
85409	SEL1L	AGCTTAAACTGAATTTGTATTTCATTT
85410	SMG1	TCCTTCTCGGCTTCCTCCTCA
85411	RORC	CTGCTCCCTGCCCTCCTGGG
85412	MYCL2	CTCTGCCTCCCGGGTTCAAGCGATTC
85412	TRPV1	CTCTGCCTCCCGGGTTCAAGCGATTC
85413	SNX15	TCGCCCAGACTGGAGTGCAGT
85414	CDH17	TCGCCCAGGCTGGAGTACAGT

85415	ENG	TCATTTGAACCTGGATCCAGCACTGG
85416	SPAP1	AGACCTCATGACAGCTGGA
85417	MGAT1	GGCCTGGTGGAGTTGGTGGGTCAT
85418	PPL	TTTCCTCCCTTTTCCTGTACA
85419	RPA1	GGTTGTGGTGTAGACTGTGTC
85420	MAPK4	CCCAGGCAGGGTCTGTCACC
85421	MITF	CCGTCTCTCACTGGATTGGTGCCAC
85422	MYOZ1	GCTTCTTTGGATCTCAGGCTCTAGG
85423	USP9X	GCACTCTGCAACCAGTGTTGCCT
85424	KCNH5	CTCTCCAGACCCAGGATGCCGGGG
85425	PLIN	TTTTTGTATCACATTATAAATCCCACT
85426	TRPM8	TGGCCAACATGGCAAAACCACA
85427	MGEA5	GGATTTCAGAGTTAACCTCA
85428	CD244	CCTTTTCTCCCCTCTCTGGGTT
85429	LSP1	GATGCCATCCGCTGCCACCTCCTT
85430	RNMT	GGGAGGCATGGCTTTCCACCGTCGG
85431	ITGA6	CCGGAAAGAAGAGCGAGAGATCAAAGA
85432	TCFL4	TGGCCTCTCCCATGTCTCAGTGT
85433	TAF15	CCCCTTTAGTTTCCAACCTTCT
85434	DLGAP2	CAACTGTTTCTAGATGCTTC
85435	CBFA2T2	ACTGCAGCCTCGACCTCCTGGACTCA
85436	ASB1	TTTGATTTCAAGATCTCTTAGA
85437	HESX1	AGCTGCTGGCTGGGCAAGTGTTCA
85438	DNAJB1	GACCCTGTACACTCCTCCTTTTCT
85439	TNFSF5	TTTCCACCCTGTCCCTATCTCTACC
85440	NEURL	AGGCAAATCACCGGGCAGAGGGA
85441	CELSR1	CTGGGTCCCCAGTGTTCGCTGTG
85442	ABCB4	TTCACTGGAGGGCCCAGCCTGGG
85443	FLOT2	TGTAGCCTGGCCAGACCCCAGA
85444	SOX10	CCCACTCAGGGGCTGAGAGTAGCTT
85445	CNP	AAGCTGGAGTGCAGTGGTGCGAT
85446	DDX6	TTTATCTCTTCATTTTGGA
85447	KRT6A	AAAGCCTGTATCTCTGTGAT
85448	CCKBR	TGCCCCTTCCCAATCAGCACTG
85449	ATP11B	TGGACCTGAGACACTGTGGCTGTCT
85450	ATP1B1	TTGTATCTGTTTTCTACTTTATG
85451	IL2RA	TCTCTATGCCAGCTCAGTCCCATC
85452	MUC4	CGCCCTCTTTTGTCCTCTTCCCA
85453	TPM4	CGCTTTGCTGGAAATGTCAAGCAAAT
85454	MAPRE1	CAGCCTATTCAGTTCCTTTGTT
85455	GPR35	GGGACAAGGGCAAGAGGACTGA
85456	GABRA2	GCTGCTGCAGTCTCGGTCTCTCTC
85457	GPRC5B	GATGCAGAGATGACCTCTCGCTGCCTC
85458	DACH	AGAACTCTGTGTCAGCCACTTT
85459	ATRN	TTCATTCTCAGGCTGGGGTGGACTCAGA
85460	MADD	CACATCTGTCTGCAGGCTGTCTCTCCA
85461	GALGT	CCTCCTGCACTCCACATGATGAG
85462	PRSS16	GCCACTCCAGCTCCTGGGTT
85463	ZNF264	CCACGCTGGAGTGCTGTGATGCGA
85464	SIM1	TCTAAGATAAAAGCTTAGGCTG

85465	PPP1R3A	TTAGTTCTTAATGTCTCAGTTT
85466	GALNT7	CGCTTGAACCCAGGAGGCAGAG
85466	INPP5B	CGCTTGAACCCAGGAGGCAGAG
85466	MOG	CGCTTGAACCCAGGAGGCAGAG
85467	KAL1	CTGAATGGTTCACTGCAGCT
85468	SFN	GATCCCACTCTTCTTGCAGCTGTT
85469	FZD4	AGACAGGGTCTTGCTCTGTCA
85469	HUNK	AGACAGGGTCTTGCTCTGTCA
85470	GSTM4	AGTCGGCAGATCATGGGAC
85471	ASB1	GGCTGGGCTGTGGTGGGGTGGGG
85472	ANKH	CTTTGATTTGCTTCCCAGTCACA
85473	TNFRSF10D	GACCAGCCTCATCAACACAGTG
85474	MTM1	GACTAAAGACCTGCTGTAATAAATGTAT
85475	DSCR3	TGATTATTCTGTATCAGAAATGA
85476	VIPR2	CCCATAGCTGGGACTACAGG
85477	ERBB2IP	GCTATCTCTCTCATAGCTTTTATGCC
85478	ADCY1	CGGGAGGCGGAGGTTGCAGTGA
85478	BRCA1	CGGGAGGCGGAGGTTGCAGTGA
85478	PAICS	CGGGAGGCGGAGGTTGCAGTGA
85478	RBM3	CGGGAGGCGGAGGTTGCAGTGA
85478	TNFSF14	CGGGAGGCGGAGGTTGCAGTGA
85478	VHL	CGGGAGGCGGAGGTTGCAGTGA
85479	GOT1	AGCCATTCTATTGTGTTCTACT
85480	TM7SF3	ACAGTGAGCCTTGATTGTGTC
85481	CRIM1	GTTTTCTTTTAAAAATGCTTGTTG
85482	MCM4	CGCCACTGCACTCCAGCCTCAGCAATA
85483	AMPD3	TCCTTCTTGACAAATTGTGTTT
85484	ADCY8	ACCAAGGAGCCTGAGCCCAGGAAG
85485	FSTL1	CCAAATCACCAGTATTTGCTTAT
85486	ETF1	CACGCTACCCCGTCCCCCTCCAGACT
85487	NPTX2	CGTCCCGCTGGAGTGGCCATG
85488	FMR2	TTCTCCTGGTCCTGTGCATCTTCTGCA
85489	HOXC6	CTCCTGTATAAATCCAACCTCTGGGTC
85490	ZNF36	GCTGTGCCATCGTCATAGTGC
85491	CLASP1	AGACCTGAAACCTCACCTTGCAC
85492	PDE1B	GCTGGCCCAGGTCTTCATT
85493	PACSIN1	ACTCCGAGAAGTGCTGTGGTCTC
85494	CEACAM5	CACTGCACTGTCTGAGAAT
85495	MYH9	TTTTTCTTCAGACTGAGGCC
85496	APLP2	ATTGTATTGTCTGACACATGCT
85497	GAS7	TTGGCCCAGTTTGGGCCAGTCCATTTT
85498	TCTA	CCAACATGGTGAAAACCCCATCT
85499	STARD4	GCTCACTGCAGCTTTGATCTGACCGCT
85500	FABP2	TTGCCCAGGCTGGTCTTGAACCCCTG
85501	DSC3	CTAGGCTTGGCACTGCCTTT
85502	SS18	TTGTCGCCCAGGCTGGAGTGC
85502	STAU	TTGTCGCCCAGGCTGGAGTGC
85503	IGFBP4	CAGGCTCCCTTTCTCTTCTTC
85504	GTF2I	AATGGAGAATTATATGACA
85505	SERPINB4	CTGACCTGTTTTAAATGAACCAAACC

85506	CD244	TCAGGGGAAGAAGAAACAGCCCTCCTC
85507	SOCS5	CCTCTAAAGCCCTGCCTGCTAT
85508	ATRX	CTGCTTTGAGTTGTTTGGATGA
85509	TNFRSF13C	CCAGCTCCTGTTCCTGTGCCTT
85510	SCN4A	GGCTCAGGAGGAGGGGTGAGAGA
85511	HLA-C	AGGATTTCTTCACACCTCTCC
85512	GJB2	TAAGTATTTTCCTGTTGTCAAG
85513	SLC13A1	AGCACAAAATTTCTGACTATCTTGCG
85514	MEFV	GAAGTAGCTGGGATTACAGGCGCCCGCC
85515	SULT1C1	GAGGGCCAGGAAAGATGTGAA
85516	OAS1	CTCCACAGCCTCACTTCATTCCA
85517	CDK10	TCCAGCTCATCCCCTTGGCTGGGAACAT
85518	WT1	TCAGTGTCCCAGGCAGCACAGTGTG
85519	LARGE	AAAGTCACTCCTGTTTTGTTT
85520	PPP2R5D	GCTTAGTGCTCAGACAACCTGGGGA
85521	CTSS	GAGCAGCCTGGCTAACATGGTG
85522	TRPC6	GTGGTGTCTTAAACAACTAAAAGC
85523	EHD1	TTGCTGTGGCTGGAGCTGGAC
85524	DLST	TCTTCCAGGAAGCACAGGCCAGG
85525	EIF5A2	CTCTGCCTCCCGAGTTCAAGCAATTC
85526	ROCK2	GGGCCGGGCGGGCCCCTGGGAGCAGC
85527	CDH17	AATGTTTCTGTGTCATTAACCAT
85528	SMARCD1	GGGGTCCACATCAGTATTGGA
85529	INPP5D	GGGCAACAAACAGTCTGG
85530	RGL	GGAAATAGAAGAAACTGAGAACCTAG
85531	ZNF146	CCATAGATCTGGAGATCTTCGCCA
85532	NHLH1	GGGGTGAGGCCCTGGGGAGGCAGG
85533	GSTT1	ACTGCATTTCATTTTGATTTTGGA
85534	ADAMTS4	ACAGAGGGAGAGGCCAGAGAAGCTGC
85535	FCN2	GCTAGACCGAGGGCACTTCCTG
85536	PXN	CACCCGGCTCCCTCCAGAC
85537	DBH	CCTCACTTTTCTCATCTGTAAA
85538	DLEC1	TACCTACAGAGCAGCCAG
85539	PPT2	CTGCATTGAACCTTGGCTCTCCTGGG
85540	DFFA	TTGGGAGGCTGAGGCAGGAGAATGGC
85540	IFIT4	TTGGGAGGCTGAGGCAGGAGAATGGC
85541	OAS3	AGGGATGGCAGAGAGT
85542	EIF2C1	CCTCCAGGGATAAGCCTGGGGCTACT
85543	WIF1	GACAGATTTTATATTATGTCAA
85544	ADCY2	CCCCGGGGCTGGGGCCCAGCACA
85545	MAP3K7IP1	GGGTCGGGCCAGCCCAGCCCAGGG
85546	DHFR	GCCCAGGCTAGCATGCAATGGT
85547	EHHADH	ATGGTTCATGAAAATGGTCT
85548	ZNF3	CCTTCCATGGAAACTCAGGCTGATCTCG
85549	RET	TGCTGTTGCCCTACACTGCCT
85550	ZNF132	TGGTTTTGGTTTTCATACTCCTCA
85551	ASB1	TCCTCAGCTGAGGTGACACTGTT
85552	LARGE	TCCTCTGGTTCTTGCCTGCTTC
85553	LARGE	GGAGGAAGAGGAAGAAGGGACAGTGC
85554	BCAS2	TAGGCTTTCAAAATAAGGATGA

85555	SOX12	TTCTTCTCAGCTTCTCTGGTT
85556	PXN	TTCTGGGGTCCATTCTCTGAGTCA
85557	FABP2	ATGTAAAATAAGTATTTCCA
85558	KCNAB1	CAACCTCTCGTGACTGCCTGTG
85559	TEP1	CACGAGGTCAGGAGATCAAGAC
85560	POU1F1	TTGTATAATAGCCTTTTTCTCCC
85561	RNF26	CTGAATCCCCTCCTACCCC
85562	ICOS	CTTTCCTCTGCTGCTCAATAGTTTTAT
85563	PFKFB3	TGGAAGCCTGTTGCTTTGCTCTA
85564	KAL1	AGGTGATTTTTAAATGAAAATGTGTAA
85565	ADCY1	AAGGCAGCTAGAAATGGGAGGGAA
85566	RXRB	CATAGGCTGGGGACACAGGATCCTGGC
85567	FOXE1	GGCTGGGGTGTGAAAAAGAA
85568	LBP	TCTGGACTTTGCTTCCCCTCCAGGAG
85569	MSI1	ACCGCCCCCTCCCCAAAAGG
85570	HRH1	TCTCAGAAAACTTCTCTTCTG
85571	SLC7A5	CGCAAGCTCTCAGCAAGTGCCCA
85572	DRD2	CCTGCTTCCCACCTCCCTGCCCAGGCCG
85573	SLC6A6	CCACTCCCCACTCTCAGCCTGGGAGACTCC
85574	GPRK6	TAGGGTAGCATGGGATTACAGG
85575	LDLR	GGTGTGAACCCGGGAAGCGGAG
85576	PPGB	CCACAGCAACCAGCTCCACGGCCT
85577	RNASE4	CACATTTTAATACCACAGCACTT
85578	DFFB	TTGGGGGTACGATGTTTATA
85579	LCN1	TCCAGCACCTCCGTCATTCA
85580	SPP1	AGACTCGTCTCAGGCCAGTTGCAGC
85581	AMT	TGCCTGCTGGAGGGTAATGAGAA
85582	SCN4A	TCTGGGCATGGCAGGGCCAGG
85583	CASP2	CGCCCAGGCTGGAGGGCAGT
85584	TAT	CGCCCATGCTGGAGTGCAGT
85585	SLC22A3	TCCTATTCATTCTTAGCACTTTGA
85586	NHLH1	AACTCACTGCATTTCTGTGCTCCCTC
85587	PRSS11	GAGTTTGAGCTATTAAAGT
85588	DSC3	TGACGCACAGGCTGGAGTGC
85589	CA12	GAACCCAGGAGGCGGAGGTTGC
85589	EGFL4	GAACCCAGGAGGCGGAGGTTGC
85589	IAPP	GAACCCAGGAGGCGGAGGTTGC
85589	LUZP1	GAACCCAGGAGGCGGAGGTTGC
85589	NPHS1	GAACCCAGGAGGCGGAGGTTGC
85589	NT5C2	GAACCCAGGAGGCGGAGGTTGC
85590	IL1F9	GGCAAGGCTGCTGTTATCA
85591	NRP2	TTTCCTTTTTGTTGATTCCAAACCA
85592	MAPRE1	GTGGCCTTTTAGACTTTTGTTGC
85593	CFL2	GTGTTCATTCCTGTTACCTGCATATCT
85594	FUT9	TCTTCATTATCATTTGTAAAC
85595	FUT6	GTGGGGCGTGGTCTCAGGCTC
85596	ABCC3	AGCTAGAGGCATCTTCTACGGGAT
85597	SRGAP1	GTGTTCTCTTTTGACTAAATCACCTA
85598	TGFA	AATTGGCTTGAAATTTTCA
85599	PIP5K1A	GCTGGGTCTTAGGGAAAGGAATG

85600	CD1A	GGGGAAGAGAATACATGGGAAAATATT
85601	RS1	CGGGGGAGGGGCAGGAGAGGG
85602	AQP6	GCTCAGGCTGGAGCAGGCATATGAGC
85603	MTCP1	GAAACAGAAGTTTAGCAAGGGTCAT
85604	ADARB1	TGGTGGAGGTGGATGGCAGG
85605	PPP1R12B	TTACAGTATTTTCTTTTTG
85606	NRG1	TCTCCACCCGTGTCCAGCATGAC
85607	MGA	TCACCTTTTTATACATCTGTAAA
85608	CDK3	TGCATCTGGGGAGAGCAAA
85609	MKKS	TCAGGTAAAGAAGCAGCTTTGA
85610	RNF3	CGTGCGGAGCCAGGAGGCAG
85611	CLDN14	GTTGGCAGAAGAGGGAAGGCAG
85612	FOXO1A	GTCAGGCTGGGGTTAGTGAGCAGGTT
85613	GNL1	GGGTGAGGATGAGTGCTGG
85614	SSR2	CAACGTGAATTCTCTCAGG
85615	DDOST	CCAGCCTGGGCAACAGTGTTAA
85616	LDLR	CGTTGATGGGTATGTGTTTAA
85617	DLGAP2	TTCAAATTTATCTCTTTCA
85618	GTF2H2	TTGAATTGCCCTGCCTGGGC
85619	MTAP	GCCCTTGCCTATCAAAGAGTATGTTGT
85620	LZTR1	TTGGGCCCTCCACCCAGTGGG
85621	SLC4A4	ACACATCTATAAAATGTAATG
85622	KCNS2	TCTGGGTGGGTGAGGGGCGCGCGGAT
85623	DDX6	AAGCCTCATATTTTCTGTCCAGTCA
85624	JAK3	CTGGCCCCCTGAGTTTCCTTTTCTCGT
85625	KCNA7	GGGAGGCGGAGCTTGCAGTGA
85626	GABRB3	TCTTACGCTTGCTATCATGGCAGC
85627	XK	CTCCTGCCTCCCCATTCCTTGCCT
85628	ABCB9	CTAAGCCAGTCTCACTGTGAACC
85629	BGN	CCCTGCCCACAAAACCCCAGGGAC
85630	OGT	GGCTTCAGAAACAGCTTAAA
85631	TMPRSS2	GACTCAGCCTTCCTCCTCATCCT
85632	NVL	TTTCAGCTGGACACAGGCGCGG
85633	XT3	GTAGAAAAGGAAGACATAAGAAAC
85634	EYA1	TTTTCTCTTTCTTCCTGTC
85635	KLK10	TCACCCAGCCTCTGAGAGCAGTT
85636	EDN1	AGGGCACTTGGGCTGAAGGATCGCTT
85637	C1orf6	GCCTGAGTAAAAGGCTTGGAAGTTGGA
85638	NRL	CACAGCCCAGGCGAGGAAGCCTGGCTT
85639	KLK13	AGAAATGTACCGGCTTCCATCCTGTC
85640	KIT	GAACAGAAAACATTCTG
85641	CHD2	ATTCCTGTAAGTATTCTGGAGCT
85642	PCDHB9	ATGGTGGCCAGGATGGTCTATC
85643	MYO3A	AGGGGCCAAGCAGGCACTCTG
85644	PCOLN3	TGACATCCTCCTCCTCCATCA
85645	ADRBK2	GCAGCATCTGCCCTGTGAAGTTTGT
85646	RBM3	CCACTGTACTCCAGCCTGGACAACAGC
85647	MS4A8B	TCCCTAGGGCACATGCATCAGCACATA
85648	LTA4H	ACTGAAATAAAGATGAGCTA
85649	SHOX	GATATGCAGCATTAACTTTACT

85650	AMPD3	ACTAGTGCCTGGTATGTAGTAG
85651	GPRK5	GCTGCCAGGGGAGACCCCGGG
85652	DCK	CTTTTGTCTTCCTCAGCAGGTT
85653	AVPR1A	TCCCAGGGCCTCTTTCCTCTCTTT
85654	GTF2F1	TGGGAGGTGGAGGTTGCTGTGA
85655	FKRP	CGCCCAGGGCCTGTGTT
85656	IL6R	CTCACTGCCATGCCAGCTTATC
85657	CDH5	TCCTCTGGCTCCCCAAGGCTGCAAAGCAA
85658	LOXL2	GACTCATCTTCCTGTTGTTCCA
85659	ATF5	GGCTAAAGGCGGCCAGGTTTGCAGTGCGGGAA
85660	ZNF10	TCCCAGTCTTCAGATTCTCTGGTAAG
85661	KCNA3	CTTCCCAAGAACTTTCAAGCCA
85662	PPP1R3D	CTCCTGCTAGGAAAAGCTTTTGCATGTGT
85663	ATP5G1	GGGAGGTGAGTCTGTCACC
85664	ITGB2	TCTGACTGGCACAGTCTTTGCATGGAG
85665	TAF7	GTATCTCTGCTGGGCTTTCTGGGCC
85666	ZIC3	AGGCTGAGGATGTGATGTTACT
85667	MECP2	GGGCAGTGCAAGGAGGGAGCACAACCCC
85668	EDNRB	AGCTTAAATTACTCAAT
85669	NOL3	AGCCGTCCGGCGGCTGGGATC
85670	CEBPB	TAAAGAAGAAACGTCTATGTG
85671	APLP2	GCTCACTGCTTCTGCTT
85672	CENTD1	CAGGCAGCAGAGGCGACTGCGGACA
85673	AVPR1A	AAACCCGGACTGGAGGAGGT
85674	KCNAB2	TCCAAGAGAAAACACCACACTGTGATG
85675	G2A	CTGGGCTGGAGAACAGTGGCAC
85676	TEM8	TTTCAGCCCAATGTCAACCCAGT
85677	BLK	CCGCTTCATTTGTAGAGGGCTGTAAC
85678	LIFR	AATTGATTGCCTTCAGCACAGCA
85679	COL5A3	GCTCATCACGGTCAGTCATTCCT
85680	GTF2I	GGCTAAGGATGCAACCTCTGACGTTC
85681	EGFL4	TGAGCCCTTCCTGGCAC
85682	NFIA	GTGATTTTTCTACCAGACAGC
85683	SLC7A8	CCTGCAGCCACTCCCAGCACACCC
85684	RNMT	AACATAGTGTCTTCATTAGTGTGC
85685	PPP1R12B	CTAACACGGTGAAACCCAATCT
85686	TTF2	TGTTATCATTGTATTGTTTAG
85687	KCNJ11	GGTGCGCACCACCATGCCCGGCT
85688	RARB	AGTAGTAGGAAGTGAGCTGTTC
85689	SH3BP2	CTACGATGGGATGGGAACAGTGG
85690	ATM	CATTGCACTCCAGCCTGGGTGA
85690	CARKL	CATTGCACTCCAGCCTGGGTGA
85690	FCAR	CATTGCACTCCAGCCTGGGTGA
85690	SFRS2IP	CATTGCACTCCAGCCTGGGTGA
85690	SLC31A1	CATTGCACTCCAGCCTGGGTGA
85690	UBE2B	CATTGCACTCCAGCCTGGGTGA
85691	C5R1	CACTGCACTCTAGCCTGGGTGA
85691	CA12	CACTGCACTCTAGCCTGGGTGA
85691	IL13RA1	CACTGCACTCTAGCCTGGGTGA
85692	CACNG1	GGGAGGCAGAGCCAGCAGGTGGA

85693	TNFAIP2	GGCTCAGGGATCCCCGGACACCTCT
85694	LIMD1	GGGGTGGAAGTGGGGTAGGGGAA
85695	NFATC1	CATCCAGGCTGGGGCACCTTCTCCTC
85696	B3GALT3	TTTTGCAGAAGATTACAGTTATGTACT
85697	CA14	TCTACCCCCTCACTTTTAT
85698	PLAG1	TGTCTCAAAGCACACTGTCTTC
85699	ENAM	AGAGAAATCACTGACATTCTATACCA
85700	EVC	AGGAGAGACCTTTTCTGCCTGGA
85701	SLC4A4	TGCTGGAATGTCCCTTTTTTCCTA
85702	C18orf1	AGGTGTGCCCACAGATGCGGAGGCGAGG
85703	CPT2	TGCAGTGAGCTGAGATCACACC
85703	RAB7L1	TGCAGTGAGCTGAGATCACACC
85703	USP14	TGCAGTGAGCTGAGATCACACC
85704	CTMP	TGCAGTGAGCCAAGATCATGCC
85704	KCNJ5	TGCAGTGAGCCAAGATCATGCC
85705	PTPN12	GACTATCAAAATACATGTATGTTTCAG
85706	PPP1R12B	TGTTGCCCAGGCTGGTCTGAAGCTGCT
85707	TRAF5	ACAGAGTTTCATTGTCACCCAG
85708	MMP19	TGCTGCTCACCCACAGACACA
85709	MEOX2	TGTTGCATTTACTATCAACTGCTGCTA
85710	PCDHA9	TAAGTGGAGAGTTTTCTCAGGGA
85711	DAZ	CCTCTGTTCCTCCTTGAGCCTGTCGGG
85712	C14orf1	CCATCATCTGCCCTTTTATTC
85713	GPR1	AGCTACTCGGGAGGCTGAA
85713	TCTA	AGCTACTCGGGAGGCTGAA
85714	CD209	ACCCTGGGCATGTCCAGATGA
85715	BNC	GATAAGCTTTTTTCATAATTCAGGAA
85716	LEP	CACTGCACTCCGGCCTGATGACAGAGC
85717	IL10	TGCAGTGAGCTGATATCATGCC
85718	ASB1	TGGTCCTCAGTGAGGCTGCTGC
85719	DYRK2	CTCAGCCTGGGAAACTATCAA
85720	CHRNA1	GCCACCACTCTGCCCTGGTCC
85721	IL11	GCCTAGGCTGGAGTGCAGTGAGGCAAT
85722	MYO6	GCTAGCACAATGTGTGTTGCTG
85723	OPHN1	AAGCCAGACTCTGCCAAAAC
85724	PAFAH1B1	TGTTCTCTGTTTTCTCTGTCTGCT
85725	RIMS1	GCGGGCAGATCACTTGAGGTCA
85726	MXI1	AACTATACTTGAACAAAAGGGTC
85727	WNT2	GTGGCCTTTATCTCAACGGAAG
85728	BRCA2	GACTGGAATATAATTTCAAACCA
85729	DGCR2	CTGATGCGTTTTTGGTGGGCCTA
85730	OAS3	CTCCCATTGGCCTCTCCTTGCCA
85731	EIF5A2	AATGAAAAGTTGTTTCTCAGTTGTTT
85732	IFNW1	CACATATATACATATATTCACTATAGT
85733	DMN	CTGAGACAAAACAGTACTCACTG
85734	CORT	AGTCAGCCCACAAGATGCCA
85735	NCALD	AGAGGGCAGATGCAGAGCAGGTGGTAGT
85736	NDUFS1	GAGCCCAGGCAGTTGGAGAC
85737	VDAC1	CCTGGCTCGGCTCCCTGCCTCCGCGTCGC
85738	OFD1	GAAACCTCTTCTCCAGTCA

85739	GRM6	GTGATCATTTCTTTATGTTATT
85740	ITGA4	CCTGCAGCCGCGCGTAGGCAGAGACGG
85741	STMN1	TAGAAGCTAATGTAGGACTGTAT
85742	EXTL3	TAGCCCATGACGTGTTTCTTGAA
85743	TLX1	TGTTTATTTAAACCAAAGGGG
85744	SURF6	AAGAAGTCTTAAGATATTTCA
85745	HMGN2	CCTGACTTTGACACACATGGCC
85746	CYP3A4	CAGGAGGCTGAGGCAGGAGAATCACT
85746	FCMD	CAGGAGGCTGAGGCAGGAGAATCACT
85747	ABCD4	ATCACAAAATGCCTTG
85748	TTF2	GGTTGAGGCTGCAGTGAGCTGT
85748	UBE2B	GGTTGAGGCTGCAGTGAGCTGT
85749	ATF5	AAGGCGGCCAGGTTTGCAGTG
85750	NEB	AGAACAGACACTTTAAAAGCTTC
85751	DNAI1	CTTCCCTTCTTGTTCT
85752	IL16	CATGACCCAGGCTGGGCAAGG
85753	TM7SF1	TTCCACAAATCTTACCTCTTTAGG
85754	PPT1	TCATTTCTTAAGGCTGCCTTCCTCTC
85755	IL2RB	CACCCCCTCTGTTGCACAT
85756	AES	CCCGGCTTCCCTCCTCCTCC
85757	DNAH9	AATTACCCTGAAAACGTTGGAA
85758	AP2B1	TAGTAGCCTTATCCCTGGTCAT
85759	HUNK	GGGACTGAGGTTGGGGGA
85760	APAF1	GCTCACCACAATCGCTGCCTCC
85761	YWHAB	CCAGGAGTTTAAAGCTGCAGT
85762	IPP	GCCACTGCACACCGGCCTGGG
85763	PTPRO	TTCTTCCTTGGCCCTTTTGGA
85764	SOST	GGCTCTGCCACTAACTTGCTGT
85765	NLGN2	CCCAGCACCCAGTTCCTCCTCA
85766	ADAM33	AAAATTTTAAAATTAGCTGGG
85767	KCND2	AGGGTGTTTGTAGACGTGGGGGAGGAG
85768	SLC13A3	CAGTTGTTCCAGCTGTTCACAA
85769	CEACAM5	CCACTGCACTCCAGTCTGGCA
85770	APC	ATGAAACTGATGGTTCAATTTCAG
85771	LCP1	CTATCATGGTGAAAAGCTCCATCA
85772	MAPK4	AGCGCCTCTCCAGACCTACCTCG
85773	SIGLEC8	CAGAATCTTGCTCTGTCACCTAGGCTG
85774	CREBL1	TCCCCAGGCTTGGGGCAAT
85775	TSNAX	GAAATACAAAAATTAGCTGG
85776	ARHGEF6	TTCAGTAAGAAAGAGAAAGGGAATGCAG
85777	GAS7	GGCTGGGACTGCTGTCCCTTGTACA
85778	IL15	ATTGCAAAATAGCATTTGTTTAAG
85779	PITPN	CTGCTCCCAGTAACCCAT
85780	GPR81	TGTCCCAGGCTGGAGTGCAGT
85781	MYO1B	TGTTCTTCCTTTAGTCATCA
85782	ZNF80	TCCAGGAGGGAGACCTGTTGG
85783	ADCY6	CTGTGTCTTGGGTTCTCACCT
85784	LRP4	AGAGAACAACAGGGGCTGGGAATG
85785	CASP7	ATGGCTGTGTCCACTGCAATTGGTGG
85786	PTPRO	GCTATCTTTATGAAAGGACA

85787	SRGAP2	TGGATATGAAAGGCCATCTGCT
85788	DAB2	CCTTTTCTCCCATTTCTTGCTAGCT
85789	ANKTM1	CTCAAACATACTGATGTTCATA
85790	GPRK6	GCCCTGGCTGGAGAGCGGGACGTGGC
85791	CHRNB4	TGGGGTGAGAGGATGTGAGTGGCCGG
85792	NONO	CGCCCAGGCTGGAGTGTAGTG
85793	TCF3	GGGCGTTCCCTGATGAAGGCACCTTGGG
85794	APOBEC1	GCAAAAACACCACCAATCAC
85795	CDH1	CCAGGCCTGGGATGCAGTGA
85796	GRAF	TTCAGTTCTCAATGTGCTGCTG
85797	PIK3R1	CTCAGCCAAGGAAACTCTTG
85798	BDNF	GTAGCTTGGAAAACTTGGGAGGCGGA
85799	FCRH3	CTGTTCTCTCCAACCACACATCAT
85800	TNFRSF1B	CGCCACTACACTCCAGCCTGAGCAACA
85801	KCNN2	TCTGCAGCTTCACTCCTGAGCC
85801	ZNF80	TCTGCAGCTTCACTCCTGAGCC
85802	APOB48R	GGAGGCTGGGCACGGGGGCTCA
85803	CSDA	AACAAATTTTTCCAGCAAGC
85804	TAF7	GACCTTGCTCTTCCTAGTCCT
85805	TCFL4	ACCCCCAGCCACCAGCCCTCATCCTC
85806	MYO1B	TCTGTCCTGGAGCAGGATTGTA
85807	EFNB1	TAGGATGCCATTTCTTTTATA
85808	ELAVL4	CACTGTGTTTTGTGGATCTTTAA
85809	BCHE	AGATATTAAAATAAGCACAGAAAAT
85810	WSX1	GTTGCCGCCTCGGGCGCTGTACCCAG
85811	MAPT	GACCCCAGCCTCTCACTCTCA
85812	MEIS1	ACCCAACAGTGATGATGCATG
85813	ARHGEF7	AACAACAAAATACACTGTTTTGTCTTC
85814	RUNX3	GGCGGGGACCCTAACAACCTT
85815	ATM	CTGAGGCAGGAGAATCTCTTGA
85815	MSH3	CTGAGGCAGGAGAATCTCTTGA
85815	TBX6	CTGAGGCAGGAGAATCTCTTGA
85816	CD28	CTGAGGCATGAGAATCGCTTGA
85816	COPA	CTGAGGCATGAGAATCGCTTGA
85816	GCNT2	CTGAGGCATGAGAATCGCTTGA
85817	VHL	GCCCAGGCTGGAGTGCAGAGGTGC
85818	TRPC5	TTATCATTGCTATCAAATAATTTC
85819	PML	TAGCATGTGTCCAGAGCCCTGT
85820	AK1	AGGCTGAGGCAGGAGAATGGCG
85820	DGKI	AGGCTGAGGCAGGAGAATGGCG
85820	IFIT4	AGGCTGAGGCAGGAGAATGGCG
85820	NFKBIL2	AGGCTGAGGCAGGAGAATGGCG
85820	PCDH11Y	AGGCTGAGGCAGGAGAATGGCG
85820	PPP1R12B	AGGCTGAGGCAGGAGAATGGCG
85820	SMG1	AGGCTGAGGCAGGAGAATGGCG
85820	WIG1	AGGCTGAGGCAGGAGAATGGCG
85820	ZNF91	AGGCTGAGGCAGGAGAATGGCG
85821	BDNF	GGGCTGGGCGCTGGAGCCAGA
85822	VPS26	AGAGATTTAAAACATGGCA
85823	DIO1	TTCAGTTATGCAGAAGCTCATTTGTGA

85824	ARHGEF7	GCGTTTTGGGAGGACACAGA
85825	MDM2	CAGGCTGGAGTGCAGTGGGTG
85826	COL6A1	CGCTGCTGCCTGCTTTGT
85827	CRYAA	CTCCAGGTCCCCGTGGTACCAAAG
85828	DTNA	CCTGGTACTGGCAGCAGCCAG
85829	NCKAP1	TAGGGAAGAGTTCTGATCTGTA
85830	SSTR1	ATCCTCCTCTCCATGCACAG
85831	STK31	TCACGAAGTGGAGATT
85832	ZNF74	AGGCTACACAGCTGCCCACTCCTCCTG
85833	LLT1	AAAGCCCCAACTAATCTTTAGAAG
85834	CDC42	GAAGACAGACATCTGTGGAAT
85835	STXBP1	TGCTATCTTCATTCCAGTCCCTACC
85836	SIAT4C	GCCAGTATGACCCACTTGGACTCACCCC
85837	GRIK3	TGGGCTTCATCCTCCTCAGATCTTCTG
85838	PPP1R12B	TTCACACACCAGATGTAACTGTTTTT
85839	CMAR	CTCAGTAGTCCCTGCACAGTGACTT
85839	SPG7	CTCAGTAGTCCCTGCACAGTGACTT
85840	SOST	CTCCATCTCAAAGAAATAACA
85841	RAD1	GGAGGTTGTGGTGAGCTGAAATG
85842	ACADSB	CCAAGTAGCTGGAACTACAGGT
85843	FMO4	TAGAAGCTGTCTAAACCTCCT
85844	GSTM1	TGCCCAGGCTGTGCAGCGCAGCTGGA
85844	GSTM2	TGCCCAGGCTGTGCAGCGCAGCTGGA
85844	GSTM4	TGCCCAGGCTGTGCAGCGCAGCTGGA
85845	PA2G4	CACAGCCTGTGGCTGGGAAGG
85846	CXX1	CCCTGCATTCTGCTCTGCTCTAATACA
85847	PYGO2	CCACTTCTCTCAGTTCCTGGCA
85848	P53AIP1	AAGCACCGTTGAGGTTGCAGTGA
85849	SIM2	GCTGGATGGTAGGAAGGGATG
85850	CXorf6	GACTGGGTGTGCAACTTGAGGCTGATC
85851	OTX2	TGTGAGACCTGTAGAACCTCTTT
85852	RRM2	AGGGGTCGCCCGTGCACCCTG
85853	RNF14	GTGTCCAGAGTGAGCAAGGAT
85854	FZD5	GGAGAGAGGGAAGAGGGGCGTT
85855	MICB	TTGTTTATCATGAATGCAGGATGTGG
85856	JJAZ1	TCTTAGTCATTGATTTTTGTGTT
85857	CEBPD	CATAGGAGCGCAAAGAAGCTA
85858	DGCR2	GTGGGAGCTGCCACAGTGCCCCTTGCTG
85859	RCE1	TCCCCAAGCCCTCCCCACCA
85860	TNFRSF10B	TGCATCTAGAGTGTCAGCCTTAT
85861	TLL2	TATCACTGCAGCCTGCTTTGTGCTT
85862	LTB4R	ATTCTCTCACATCCCGTGCGGTCA
85863	GALNT7	CAGAAATGAATTTATGTGCT
85864	HD	TTGCGGGGTGGAGTGAGGTTAGTTC
85865	NXF3	AGGCCACACAGATTCTCCTCAAGA
85866	ANK1	AAGAGGAAGGAAAGGAGTAGGGCTAGT
85867	ETV5	GCGTGAGCGCGCCTGCGCCGCC
85868	RAB36	GTCACCCAGGCTGGAGTGCAATGGCAC
85869	GUCY1A3	TCACTTCAGTACTTCAGCTCTT
85870	STXBP1	ATTGCTTGGGTATGGAACGGTAG

85871	EDARADD	GAGACTGAAAATACCTTCAT
85872	RASAL1	GGGACCACGAGGCAGGGAGCCAG
85873	SCNN1G	CTGTCTCTCACCAACAAGCCA
85874	SULT2B1	AAAGTGCTGGGATTACAGGAGT
85875	FXR2	TCCCCCTCCGGCTCCTCCTCC
85876	BCHE	GAGATATTAAAATAAGCACAGAA
85877	EPB41	CTTTGGATCTTCATTCATTAAGCA
85878	GPR87	GGTAGGGGAGATGTTTCGTTT
85879	PXF	CCTCACCTCCCTGTTCCAGGCTGA
85880	RHD	AGGCTGATCTCAAACTCCTGACCTCA
85881	JAK3	AGGCTGATCTCGAACTCCTAACCTCA
85882	HMGA2	TTTTAATTACTGTTTTCTTTTTTCTTA
85883	GRM1	GATCGTAAAATTTGTGCAATGTAATG
85884	OPHN1	AGTCAAGAACCACAGCACTTG
85885	BGN	CCCCCACTGGCCCACTGGTG
85886	KERA	GAAGAAGAAGATCCAAGAAGGCTGA
85887	ADAM19	GCAGATGGGGATGTAGGTAAATCTTTT
85888	CCNA1	TTTCCCTTAGACTTTAGTAG
85889	GLO1	GTGCTCTTGGCTCTTGGGCTGGAGTAC
85890	NET1	TAAGATGGAAAAAGACTGG
85891	JMJ	CCGGAGGGGCTGTATTAATTTGTA
85892	PRCC	GGGAGTTTTGCTCTCTGTCAGGT
85893	AHR	GCCCAAACTGGAGTGCAGTGGC
85894	NEBL	TGCTAAGATGTACGGGTCTTGGGGA
85895	TRHDE	TCTGGCAATGATTACTGTGTT
85896	HPS4	CCAGCATGGAGCCCAAGAGCA
85897	SRRM2	CGGCCCAGGCGGGGTGCGAGT
85898	CA2	GTGCCGATTCCTGCCCTGC
85899	SLC7A6	AATGCTACCATTTCTTCCTCT
85900	ERBB2IP	ACTGTTTAGTTGAGGCTAGTCTGGAACC
85901	PTBP1	TCCTGCAGGATCATGCAGCTG
85902	GGA1	AGCCTGGAGGGAGGCATTG
85903	BACH1	GTGGGTTTGCATTTGAAAAGCAGGTT
85904	RFC3	ACATACAGCTTATATTAAAAGA
85905	DCX	CTTGCCTTGCCCAAATGGAATGG
85906	MLH3	CTGGTCCCCTCTTTTCCCTT
85907	DNA2L	GCAGTATCTCCTCTAGCTAGTGCC
85908	MAP3K7IP2	AATGGGATTATTACAGTTGATCTCT
85909	GRIA2	GGCATCGAAAGTGTTAAA
85910	YES1	TCTGCCGCCCAGGCTGGAGTGC
85911	PRKAB1	GCTCGGCAACCCTGCCGACTCAGCCG
85912	TNFRSF7	CCAAGGGAGAGTGAGACCTGGCAGC
85913	PML	TCTCCAATTACATTCCCAC
85914	CYP11B1	ACATGCACAGCTTCCTGAGTC
85915	ADRA2B	AGTCCTTGTGAACCACAACTGATCC
85916	SRC	CAGTTTGTGGCATCTTGCCAAGGGT
85917	KL	TTTATGTTTTTGCTGCTACTTCT
85918	ATP2B4	CAGGGAGGCAGGAGACACTGGTC
85919	CLCA2	TACATGGTAGATCAACAATTCTTTTTG
85920	FGF7	ACTGTACTTCATCTTACTTGCCA

85921	NPTX1	ACGCACACAGCCTGGTTTTGTCCTCA
85922	MAPT	CAGGCAGCTGGCTAGTTC
85923	EXTL3	GGACCCCTAATGTCAGCTTGGC
85924	SYP	AGGGTGTGGCTTGGAACATTTGGGAGA
85925	PLAUR	GCACCCAGGCAATCTGGGGAC
85926	CDC6	TAGACCCTTTTTAATTACATTCA
85927	INPP5A	CTGTGTAATATTAAGAACTGAA
85928	TGIF	CCGGGGTGAAGGCAAGAGATG
85929	PMCHL1	CACCACTGAGTCCAGCCTATATTCTT
85930	FUT8	CTGTGTGATCTTGGACAAGTCACTCTA
85931	EHD3	TGGGTGAGGCGGCGGCGCGGCTCGG
85932	ABCF1	CCGGGATCCCACTCTGATTGCAT
85933	GABRA1	GGCTCAGACCAAGTGAGTGAGAGGCAG
85934	PHKG2	CCTCTGCCTGCCCCCTCAGGCC
85935	ZNF142	TCTGAGATGTGCAGACTGGGA
85936	PIP5K1B	CCAGCAGAGCTGAGATGTG
85937	LAMP1	TTTGGTTTCTTCATTCTTTACTGCACTCA
85938	DISC1	CCTCAGGCGATCCACCCCCACCTCG
85939	FBP1	GTGGCACCTGCCCTGCCTGCATCCGG
85940	GPR61	CCTACTTCCCTCAATTGA
85941	PCDH12	CACAGGTTCTTGCAGCTTCTGG
85942	RASGRP1	ATCTAAAACATGACTATCATTTC
85943	MAP3K14	CAGATTTCTCTAAGAATAGCA
85944	SIAT1	CCTCCTCCTCGCTGCCTGCAGC
85945	CPT1B	AGACCAGCCTGGACAACATAGT
85945	CTSS	AGACCAGCCTGGACAACATAGT
85946	EGLN2	CAGTGCACTCCAGTCTGCAGGTACTG
85947	PRKCN	ATCAAATTAGTAAACCAAAGG
85948	RNGTT	TGTTTTTAAACAAAGTTTTCTCCTG
85949	PCDHB16	GGATGCACACCTCTGAATATATTAAAA
85950	DLEC1	GACCAGCCTTCCCAACATGCCTCCTGC
85951	GPC4	GCCAGAACTGGGGTACAGCCTGGG
85952	EPB49	TCACACACTATGCTCTCTCA
85953	TOP3B	AGTGCTGTGCTGCGGAAGAGTGGAG
85954	MSL3L1	GATGGAAGCCTGGTGGCCTTCCTTTCA
85955	EGFL4	CCCCTGCTGCTGACAGGGGCC
85956	BRCA1	GCCTCAAGAGAATAGCTG
85957	FGF8	AAGATGAGCTGTGCGCTGCTCTG
85958	APAF1	TTAATCAGGAAAAATAGCTT
85959	ZNF45	CAGACTCCAAGCAACAGAGAGAC
85960	TLR4	GCCCTGCGTGGAGGTGTGAAA
85961	DUOX2	CTCCATACTCAGCTCTTTAACTTTTC
85962	IL2RB	CCACTGCTGAGGACACTCAGTGTC
85963	RIMS1	ATGTAGAAACAGGCTTGGAGA
85964	ADCY1	TTTGCAGGGCGGCCAGTGCAGT
85965	FBP1	CCTGCAGCCCCGCGCTCTACCC
85966	ZNF76	GTGGCACATGGATGAATGAGTA
85967	MAGEA8	TGTGGGTCTCAATTGCCCAGCT
85968	DDEF2	GACTAAGAGTAACTGTGTGATCTGT
85969	SLC25A17	TCCGGTGCTCCTTTCCTAAC

85970	MSI1	GCCCGCTCTCTCAGGCCCTCAGGG
85971	MSR1	CCTTGTTCCTGTAAAATCCAT
85972	ABCC1	TCAAAGCAGCAGCCACCGCC
85973	RAB36	CTGCCTCTCCATCCCTCTCTC
85974	NR1H2	AAGCCCCAGTCCAGGTCCAGGA
85975	DGKB	CTTATTTCTCAGCTTTTCTAT
85976	MFAP3	AGCTTCTTAACCCATCACCTT
85977	CHRNB4	CTCACACACTTCTAGATTCTTCC
85978	MAP1A	GGAGGTGGAAGCCAGGCCAGAGGACTT
85979	PLOD2	TTTATTCTTCTGAGTGTCTA
85980	APTX	CATCTCAGGAAGCACTGGAC
85981	SECTM1	GCTTGCTTGGCAGGCTGGGCCTCTGT
85982	SLC4A4	AAGACTTTCCTTTTTTCTTTAT
85983	LY6E	TCACTTCTGGGGTGGATGATGTGACCTTC
85984	KIF3B	GTAACCCTTCTTTCTGAACCC
85985	ATP7A	TTTCCTAGCTCTGTGCTCAGTT
85986	MOCS1	AGGGAAAGACGTCAGGTTCC
85987	SIX2	CTCCTGAGGCCTTTTCCCTCGC
85988	APOB48R	GGGCTCACGCCTGTCACCCCAGAGCTTT
85989	PRX	TCTGCCCACACTTCCCTGCCTA
85990	PSEN1	TCCTCATTCTTCTCTCCCA
85991	EHD3	AAAACAAAATGAGTA
85992	NOTCH2	TTTTCTTCCTCTTCTCCTTGGGC
85993	RYR1	GGCCCTCCACCCCCACCTCA
85994	ESRRG	ACCAGTATTGTCACAGCATGA
85995	EHD2	GAACAGTGTCCCCACAGAG
85996	SPAP1	TATTAACTTATTTATGTGCTGCTG
85997	CDH1	GTTAGTATAGCTTTATACTCTCTCCA
85998	AXL	TGTTATCTTCTCAAGTTCTAAGA
85999	POLH	CCATCTCTTCACAGGCATGG
86000	OAS2	GCCACTAGCCCTCCTCTCCCAG
86001	PTCH	CCTGCTGCTGTCTTGGTGCCTGTCAC
86002	SULT1C1	GTAGTACAAACAATCTCTGTGAT
86003	GALT	TTGCCCAGCGTGAGGAGCGATC
86004	COL15A1	CAACAGCAACCAAAGAAAACA
86005	RNF3	TTATGCTGGTAAAACAAATGCTGT
86006	ABCD3	GGGCTTCAATCACTGTAACCTGAT
86007	MALT1	TAATTTTAAAAGTCTCACAAAGAA
86008	PPEF2	CCTTGAGTGACTGGGCAGCAGC
86009	ICMT	GTGCTTACTGAATGCCTGCCCTGTG
86010	ATP1A2	GGGAGAGATAATGAGGCAACTCAG
86011	RXRA	CAGTGGCTGCTTCCTGGGGAC
86012	MPP4	ACCTTTCGCAGATTTCACATGA
86013	F2RL3	CTTTGGGTCCTTCCATCCCACTGGGA
86014	USH2A	AGTGTGTTTGCATTGCTTTAT
86015	MAP3K14	GCTGTTGAGAGGTGGACTC
86016	PRND	GACTAATTTTGTATTTTTAGT
86016	SAS	GACTAATTTTGTATTTTTAGT
86017	HNMT	AACAACTCGAATCACTCAT
86018	APOL1	GGGAGGTGGAGCTTGCAGTGA

86019	PDE7A	ATACTTGTAACCCAGCACTTT
86020	AICDA	GCCGTTGCACTCCAGCCTGGG
86021	DTR	GGTGCTGATGTCAAAGTGTAACAGATATC
86022	PCTK1	GCTAGCAAACTTCTGCCAAGATCGGA
86023	RNH	GGTTTGGGGTGGCTGTCTCTG
86024	SOX8	AGGGAGGAGAAGGGACCTGCCTTG
86025	APOL1	CAAGTTGGAGTGCAATGGTGCG
86026	CNTN2	ACACCCTGGGGACTAGGAAAAG
86027	MYO1C	ACCCCAGGAGTGGGCCAGG
86028	AIM1	AGGGTCACGCCCACCCTGCTAAGGT
86029	DAPP1	TGCCTGTAATCCCAGGACTTTG
86030	DPP4	GACTTCTAAGTAAAACCACAGC
86031	PPP1R12B	CCCTTATTCCTCCCTCATACCTAGCCA
86032	AXIN2	TGCTGAGAGGAACTGGAAGAAGAA
86033	DGKB	TAAACAAAATATTAATAAAAG
86034	JPH2	GCTGCTTGTCAAGAAGCATTTCC
86035	PLAGL1	CAGGGCACTTGCTCCCTGGGCAA
86036	IL12RB1	AAAGTGTTGGGATTATAGGCGT
86037	APBA1	CTCTCCTCTTCGTGGTTGTGTT
86038	B3GALT3	ACGCCGGCCACCTTCCCGCTTCCGAGC
86039	AIRE	TGCCTGTAATCCCAGCTACATGGGAGC
86040	KIF5A	GAGCACACACCACCCCTGCA
86041	DSG3	AGAAGCAGCGGCTCACTTGG
86042	FGF12	AAACTCATGATAATGCTGCG
86043	ABCD4	ACTCTGTGGAGGAGGAAGATGGGAGCTG
86044	TPM1	CTTGGGAAAGTACATATCTGGGA
86045	HDC	GATATACTTCAGGGACTCTGTGA
86046	VHL	TGTTGCCCAGGCTGGAGTGCAGA
86047	TPI1	GTGCCCGTGCCTCTGTGCTGTG
86048	C5R1	AGGCTGAGGTGGGAGAATTGCT
86048	SPTLC1	AGGCTGAGGTGGGAGAATTGCT
86048	USP14	AGGCTGAGGTGGGAGAATTGCT
86049	CAPN3	CTTTGCCATGTGGAGGAAAGTGCCTG
86050	TXK	TTGTTTCGGAAATCCAGGATTT
86051	MTR	TGCAAAATATACACTCATCCTACTTCA
86052	SARDH	GCACAGCCCTAGCTCAGGCCACT
86053	NRGN	GCTGGGTTGGAATGTGAACA
86054	CCND2	CTTCCTGCTGACATTCCCATC
86055	P2RY4	GAGGGTTGCAGGGAGGCAGG
86056	ITSN1	CCTTTGTCCTCACTACAGGTCTC
86057	ADAMTS3	GTACACTTGTGGTCACAGGGAT
86058	CTSS	TGGCTAACATGGTGAAACCCCA
86058	PCDH11Y	TGGCTAACATGGTGAAACCCCA
86059	VHL	TGGCCAACATGGTGAAACCCTA
86060	XT3	TGGCCAACATGGCGAAACCCCA
86061	MSF	CTGCCACTCACCCCTCCTGGCCCAGG
86062	PLAGL1	TGGAAAGGTTTGGATTTCTCCA
86063	JRK	GGGGCCTGTGCTCAGGATCA
86064	DDX1	GAGGGAGGGAGCGAGCAGGCGAAGC
86065	NEU3	TGTAGGCATAAGCCACCAGGCC

86066	EDNRB	TCATTACACTTTCACTAGAAGCCCAA
86067	IGFBP3	GAGACAGGGAGAGTCAGC
86068	GRM1	GCCGAAACTCTTCACCTTGATGT
86069	HNRPDL	TTGAGATTGTCCTTTTCCCCTG
86070	ENO2	ATGTGTCACTTGTGCTTTGCTCTTGTC
86071	LTA4H	TACTGAAATAAAGATGAGCTA
86072	PDE4B	TTTACTTCCTTCCCCTGTTGTCCAGTC
86073	USH3A	CTCCACTGCACTGGCTCATTCCTGCC
86074	ACVR1B	ACCGAGGTGTTGCCAGTGCTAAGCTG
86075	IL21R	GGGCCCCCTACCCTGCCCCAATTCA
86076	GLUL	AGCAGTACTGCGGCCTCCTCTCCTCTCC
86077	GGT1	GCTCCAGGAGGACAAGGCTGACAAGC
86078	SKI	GAACATTCTAACATTTACACTTT
86079	ADCY7	CTGTGCGGACCCCTTGTTGGCC
86080	DSC3	GTTCATGCCATTCTCCTGCCTCAG
86080	MTR	GTTCATGCCATTCTCCTGCCTCAG
86080	RAB36	GTTCATGCCATTCTCCTGCCTCAG
86080	RPP30	GTTCATGCCATTCTCCTGCCTCAG
86081	FLG	CATCAGCAGAGCCACCAAGA
86082	FXYD6	GCTGCTTGAACCTTTGGATGCA
86083	RPE	AGTCTAATTTTACGCTGTAGCA
86084	EVA1	CAGTAACTACAAAAGGTTAC
86085	FZD4	GCTGGGTTCAGAAAAGTGTTA
86086	ED1	CTTGGGTAGGGTAGTGGCTGGG
86087	SORCS1	TGGCCATGTACTTTGGAAAAGAAAGCAT
86088	RET	TCAGGGGTAGCGAGGTTGCAGGAGCTGG
86089	UVRAG	ATTAAATTATGTTTCGAAGTCCAGTT
86090	DRD5	GCTCTCCCCTCCCTTTTTAAACA
86091	RXRA	CGGACCTGCAGCCATCTGTGAG
86092	ALX4	GCCTGACCCTCAGCACTTTCA
86093	FADD	TGAGGTGCTGATGAGTGATTGA
86094	DAPP1	AGAGGAAGGGTTTTTGTTTTCA
86095	CHRM5	TCATAGAATTTTGTGCA
86096	GRLF1	GGTGGTGAGGAGGAGCACCTGGGCTCT
86097	DCT	CACACATGTAACCTCTGTGATTCT
86098	BYSL	GCGGGGTCGCGGGACAGGAGAAGC
86099	GABRP	GAGTCCATTTTCTAGCTGCCTTT
86100	IL1RN	GGCCTGCCTGTTCCCATTCT
86101	TSC2	GCGTCCTGGTCCACCATGGCCAAACC
86102	SCD	TGCACACAGAATGCTCAGGGTC
86103	HOXA11	ATTCTGAGAGCTGTGCATCAG
86104	RFX5	ATGGAGATGGCAAAGATCTCTT
86105	ACVR1B	GGCCTGTAATCGTAGCGCTTTGAGAGGC
86106	HGF	TGAATCAGATATTTTATCAA
86107	ALPI	CCAGCGAACACACACAGGTGTCCT
86108	MAK	GACAGGGTTTCACCATGTTGGTC
86109	LRRC2	AACATTTTATTCTCAACAGGTGT
86110	BTG2	TGGTCTCATGCTTAATCTTGTCTCTCT
86111	ABCD4	TCTTGGTCATCACAAAATGCCTTGATGTTC
86112	ADD2	CAGGGGTGCTGTGAGGACCAGGGAG

86113	SUDD	TCTCTGTAATCTCAGCTTCTCAGGAGGCT
86114	PACSIN1	GAGCTCCAGGGCCCAGCCCT
86115	CXCL6	AACTATTGTATTTCTATCATACATTCC
86116	ELK4	TCTTATAAAACAAACAGTGA
86117	PMP22	CAAAGTGTGGGTAGAAACCCC
86118	DDX9	GGAGAAGAAGCAGAGATACGTTTT
86119	CDYL	GAGGAGCATACCCCAAACCAG
86120	MCP	TGAATTCTGGTTACATGTGTTTT
86121	MS4A2	TTTGTTTCTGCTGCTTCTGTCCA
86122	HMGA1	GGAGTCCTCGGAGGAGGAGCAGT
86123	ANXA11	GCTAAGACTTGGCTTCATTTCGTC
86124	RHD	AAATGAACTCCATTGCTTAAG
86125	CNTN2	GCTCACATGCCTTTTCCCTGC
86126	OTOF	AGAAGCAGCAGAGGGGACTCCC
86127	TRIM9	CAAGTCACTTGGTTCCCACT
86128	JUP	AGATGCCAGCTTCTCTCTCCA
86129	NELL1	TTTCCCTTATCAGATCA
86130	DAAM2	AGATGAAGGCTTCCAGGCAG
86131	DAXX	AAATCCCCACCACTTCCTCCCTCC
86132	FLI1	ATGCGTGTAACAGTACTGCAA
86133	NEDD4	CTTTGTGCTGACCGTCAGATTGTGT
86134	GPR35	GGGGTGGAGGGGCCACCCTGGG
86135	TBR1	CAGGTTCTAGAGCTATGCAGCTGGAGC
86136	EIF4G1	CCTGCTGTTGCCTGGGCAG
86137	RNASEL	AAGCTTTACCCACTAACTGG
86138	CR1	GGCTCACTGCAAGCTCCGCCTC
86138	SLC13A1	GGCTCACTGCAAGCTCCGCCTC
86138	TAPBP	GGCTCACTGCAAGCTCCGCCTC
86139	KLRD1	TTATGTAATTTTATTTACATTCT
86140	CRACC	TCTGAGGTCAGGAGTTCAAGAC
86141	TNFAIP2	GCTTGTCTGGAACTCCTGGGCT
86142	LGI1	AGCAGAGATACAGAGGCAGAG
86143	RNMT	CCTAAAGTCACCCCACTCCTTA
86144	FCAR	GTGATTCTTGTGCCTCAGCCT
86145	CDKN1A	TCCTGTAACATACTGGCCTGG
86146	HMGA2	ACCGGCAGCGCCTCCTCCTCT
86147	COX7A2L	CTGAACACAGGCTTGTTAATGT
86148	MMP10	CTGTGACTGAAGAAGATGAGCCTTGCA
86149	DKK1	CTGGGGACCCAGGCTTGCAAAGTGACG
86150	BRCA1	TCAGAGGCAACGAAACTGGACT
86151	CTSS	AGGCTGAGGCACGAGATTCCT
86152	SF3B2	TTCACACAAGAACCACCTCTCCCGCA
86153	ARSD	CACCACTGAACTCCAGCCTGGG
86154	CYBB	ATTTCTACTTTGTGTCATTT
86155	RBBP2	TCTGCTGTTTCCAACACTGGTGA
86156	GARP	CTCTCATTCCCTTTTCCTCTATGGAGC
86157	SSX1	GGCTCCCTCGTCATCAGGTGC
86158	ARNT2	CCTTTCTCTGCCTGCCCTGCCCTTG
86159	CA4	TAGCCTTCCCAGGTGGGACTTT
86160	RAP2A	TGAGGTGGGGGCGGCAGCGGGAGGC

86161	IGF1	TGTCCCCCAGGCTGGAGTGC
86161	LZTS1	TGTCCCCCAGGCTGGAGTGC
86161	RPP30	TGTCCCCCAGGCTGGAGTGC
86162	CXCL1	AACATGCCAGCCACTGTGATAGAGG
86163	FBXL11	CCCACCCCGCCCCGCCT
86164	ED1	TGGCCATCTTCTTTCTTCCACCCACAA
86165	VGF	TCTCCACCTCTCGCGTCGTGACACC
86166	SCN2B	AGAGAGAAGGGAGTGGGTGGGCAG
86167	KIF3C	TCGGGGGCAGGAAGGTCAGAGC
86168	GYPC	AGAACGATTGGAAATAAATTTGAAATG
86169	RECQL5	GGTGAGGAATGAAAGGGCCAAG
86170	GM2A	GGTCTCGATCTCTTGACCTCGTGATCC
86170	HTR1D	GGTCTCGATCTCTTGACCTCGTGATCC
86171	BCS1L	TCTCTGAGGAGGTGTCAGGCTGG
86172	GALR1	CCGAGCTGTTTTCGCCTCTCAGTTG
86173	TEM7	GCTGCAGAGAGCTATGATCATCCCACT
86174	CLK1	TGCTATTCAGTATTAAAACGAGC
86175	RASSF1	GCTGAATGCCTCCTGTGGGGA
86176	RAF1	TGTCTTCAGGCTGCCAGGGGA
86177	SSA1	CCCCATGAACTCTGAACCACCTT
86178	GNB2	GGAATGGGGGAAGAGGAGGAGCAGGAGGCC
86179	GNAZ	CTAGGCCAGCTGGGATTCCAGC
86180	F13A1	GATTCTCTCTTGTCCTTCACA
86181	CDH17	AAGTGATCTGCCTGCCTTGG
86182	ED1	AAGCCAGGCTCAGGAGAAGC
86183	ASNS	GAGAGGGAACCGCGGCCGGCAGGCCG
86184	BBS4	GAATACAGTGTGTGTTATTAC
86185	FBXL11	CCAGCCCTCTGCCTGCAGC
86186	HOXD1	TGCTGAGTTCTGTCAGCACTCTG
86187	CLASP2	GTCCCCAATAGTGCAAAAGT
86188	SIP	AACACTCCTGCAAAGATGGTTTT
86189	UBL3	TTTCCTCATCAGCAGAATTTA
86190	FRDA	CTTCTGAGCTCTTTAGCATTGA
86191	CYP2B6	TTTCATGTTGAATGCTATT
86192	MGEA5	CTTCTGGAAATTAACCTCA
86193	ISL1	CAGGAAGGTGGAGCTGCATTG
86194	TPD52L2	TGAGGACAGTCCTGCCCATCCAC
86195	PXN	TTTATACCTGCTCTTGTTCTA
86196	ARHGEF6	CACCACTGCACTCCAACCTAGG
86197	PKHD1	GGTTATCCTATAGTTACTATGAA
86198	GFI1	CCTTCAGGTTTCTTCCTTCCC
86199	WNT3	TCTCCCTCTCTCTCATCTTACAT
86200	GDI1	CCCCACTGTAGTGGCCTTTGGAGAT
86201	RBBP9	AGCAAATTATATAAATCAGTTGA
86202	ASB2	ATCTGCCTGGCCAGCAGTGA
86203	ZNF137	TTGCTGCAGCCTATGCACTG
86204	BHMT2	GACCAGCCTGACCAACATGGTG
86204	C21orf5	GACCAGCCTGACCAACATGGTG
86204	COG7	GACCAGCCTGACCAACATGGTG
86204	CORO2A	GACCAGCCTGACCAACATGGTG

86204	CPM	GACCAGCCTGACCAACATGGTG
86204	IL18	GACCAGCCTGACCAACATGGTG
86204	TCTA	GACCAGCCTGACCAACATGGTG
86205	FANCD2	GACCAGCCTGGCCAACATAGTG
86205	FCMD	GACCAGCCTGGCCAACATAGTG
86205	MS4A2	GACCAGCCTGGCCAACATAGTG
86206	PSEN1	TGGTTGGTAAAGCCTCAGCAACAGCCAG
86207	CD164	GTTGCACAGGCAGATACTGCTGT
86208	FZD4	TGCTGAACTGGCAACTTACTTGGG
86209	RAB7L1	CATTGCGCTTCAGCCTGGGCAACAAGA
86210	SORD	CTGGACATGGGTGGGCTCTGATG
86211	JPH2	GGGGAAGGACGTGGCATCCAAGCTGAG
86212	RDX	ATGACTGGTTGTTCAAACACA
86213	PSMD9	GACCTGACAGCCATACGTATTCCCCTC
86214	IDH3G	TCTTCTGGCCCTTAGCTGGTGC
86215	NDRG3	TCAGTAGATGTAATGGAAGCC
86216	OSR1	TTCATTCTGAGTCTTTAGTTTTAGTCA
86217	LRP6	GGAATACTGGAGATATTTGTA
86218	SHOX	CCAACATTTACTAACATCCACTG
86219	MECP2	ATCTGGAGGTAGCCGACCTGAGGAC
86220	COX15	GACTATACTGCTGAGTTCTGGTCT
86221	MGEA5	AGTGCTATGCTATTTCCTGGTTAT
86222	WTAP	TTAGAATCTGTGCTGTGTAAGG
86223	TAPBP	TAAAACACGAGAATACATAGGC
86224	NTRK2	TACTCCTCAGACGGGCTGAG
86225	GCLC	TTTCCTTTGTTGTCTACATTAA
86226	HDGF	GAGCCCCCACCCTGTTCCTGCTGC
86227	XK	CTCCAACTGAATTGCTATCATTTGGCTGGATG
86228	SLC25A15	AAGCTCCAGAGAGCTGCCTTCCAC
86229	BACH2	CAGTATTTTGCTTTTTAACTCTA
86230	VHL	TGAGGTGAGAAGATCATTGG
86231	SORT1	GGACCCAGCTCTGTTTCTGCTGCTTCCA
86232	ASB1	TCTAGGGTCTCAGCTTTTCATTTGCAG
86233	PTTG1IP	CAGCTCTCTCCAGCCCTGT
86234	ELL	GGCCTCCCTCCGTCCCTCTGTCC
86235	SNX15	GCCCAGACTGGAGTGCAGTGG
86236	SLC2A8	CCTCCTTCCTGTCATGCTCCCTCCAGC
86237	CAPN5	TCCATTGAGCACATTTTCCTAAG
86238	MNT	CTGCTGCACTAGGACTTG
86239	RASGRP1	TCTCATTTTCTTTGCTGACTTAC
86240	TES	ACACAGTGAATTCTTTTTG
86241	MYL1	CAAGCACATCATGTCTATCTG
86242	SORCS1	GCTCAGCCTCCTTCTTTGCTA
86243	OTOR	TAGATGTTTGGATGATGTCTCT
86244	B4GALT1	GAGAGGCAGAGGTGGCACAGGA
86245	IL2RA	GCCTGTAGTCCTAGCCACTCAGGA
86246	IFNAR2	TAAAGTGCTGGGATTACAGGG
86247	ALX4	GCCCCCAGCCTCCCACTCGACTT
86248	SLC22A7	GCATGCTGTCCACTGTGTGG
86249	HHEX	TTGACCAAGGTGTTAAGGGGATA

86250	ANK1	CCTGTAGGACTCAAAGGGAGCCAGG
86251	MAFF	AGAAGGCAGAGGTTGTAGTGAGCTGAG
86252	LGALS3BP	CCTCACTGCAGGCTCCCCTCCTC
86253	RFX5	CACCAGGTGGCAGCATCTTGTCA
86254	COMT	AGCTGTGTTGCTGGGCCTGGT
86255	CALM3	CTGAGGTTTAGCTGGGTGGGG
86256	RAP2A	AGGGCCGCTGCTCCCTCAGTTGC
86257	RRM1	TGGAAGAGACCAGCATGTCTT
86258	UGT1A1	TGAATGGCTTGGAGTGCACTG
86258	UGT1A4	TGAATGGCTTGGAGTGCACTG
86258	UGT1A8	TGAATGGCTTGGAGTGCACTG
86258	UGT1A9	TGAATGGCTTGGAGTGCACTG
86259	OSM	CCTGTTCCCCTCTGCTACT
86260	SPOCK	TGCCTAAATCACTTTTCTCGCA
86261	THPO	GGGTAATTTCCTTTGCTTCA
86262	AVPR2	AGGCCTGAGGAGTGGCAGGA
86263	AKR1A1	AGCTAGCCAGGCAAAGGGGGC
86264	TIMP3	GAGACTCCTCCAGCCTCCTCCCTAT
86265	ECM2	TATTATGGTTATGTACATTGTTAACA
86266	MEF2C	CTAACTTGCCCATATTCTAAATCATCT
86267	SLC12A7	ACCTCAAGGCACTGAAGCTG
86268	PDGFB	GGGAGCACTGTTCACAT
86269	ARL2	CTGTCTCTCTGGCTCCTGACCT
86270	ADAM19	TATGCTGTTTTTGAGGTGTCAAATAC
86271	PTBP1	GCAGGTTGGCCAGTCTGTACC
86272	PACE4	CCTTTGTCTCACCTCATAGCTAATTTT
86273	ETV5	TTTGAGACTTAGCTGTGATACTG
86274	GJA5	ACCTGATCACCCTCCCTCCTCC
86275	ACE	TTCACCTCCTTGGCGCTGCCACCT
86276	P2RX7	ATGGACTCAGAGAAAAGAGATTGA
86277	PKD2	CAATGTGGCGAAACTCCATCTC
86278	SLC22A3	TGGCCTAGCCTGGGCATCACTGT
86279	NXT1	CCCCTGGTTCCCCAAGGCAGAG
86280	TAF1	CCTGTTCTCCAGCCTAGGTGG
86281	PTGIS	ATTGCCCAGGCTGGAGTGCAATG
86282	RP2	GTTGCCCAAGCTGGAGTGCAATG
86283	PRKCN	GAAACAGTGGCTTATTTCTTCA
86284	NCOA6	TTCCTTTAAGATTTGCAGTT
86285	ZNF2	CCTCTCTTGGAGCATTTT
86286	EHF	GCTAGAGGAGCTTCTTTTCAG
86287	ANKH	CTTAAGGTCAGGAGTTTGAGAC
86288	DUSP5	TCTCATTCCACCTCTTCTCAGAGCA
86289	CRKL	GCTGCTTTGTTGTTCTGCCTGTCCT
86290	TSN	TGAGGAAAGCAGTTGAAATG
86291	BLAME	GCACACGATGCTCTGGGACATAACTGGTGCCT
86292	TRIM14	GACAGAGCTAGACTGTAAAG
86293	RBP4	CATCTTCCCTCAGTTCCCAT
86294	NDUFA5	TTGTAATCAAGAAAAGTGAT
86295	CPT1B	GGTATGCTCTGGCATCCCATT
86296	PCDHA9	GCAGAAATCTGGATATGAGA

86297	SYNGR1	GCTAGTGATAGAGGTGGGGCC
86298	NXF5	ATGCCGTATATGTAGTAGCACTTT
86299	PTPRG	CATGGACTGAAGGCGCCCTCGCCCCA
86300	SUFU	ACTAGGCCTGGCCTCCTCTACACATCC
86301	HLCS	TTTTCTTAGTAGTGCAGACC
86302	SLC25A15	CCAGAAGCCAGAGGGCCAGGGA
86303	GPR81	TGACCGACATGGAGAAACCTCGTCTCT
86304	ITGBL1	ATATGGGGACAATGAAGACAAGCACACAGGAG
86305	CLDN16	TTTTCCCGTCATTCTCTCTGC
86306	B4GALT2	CCAGCATGGTGAGGACACCTTCAACCG
86307	PPP1R3A	TTGTTCAAAGATCCAGTGCAGT
86308	P2RY2	CCTGTTTCCCGCAGAGTTCCCTGCAGC
86309	CYP2B6	TGCTCTGTCTCCCAGGCTGGA
86309	RBBP9	TGCTCTGTCTCCCAGGCTGGA
86309	XRCC2	TGCTCTGTCTCCCAGGCTGGA
86310	SMARCD2	CTTTCTTCCCAGCCCTGGAGCC
86311	USP6	CCCTCCAGGCTGACTTGGGGACAGTGG
86312	SORBS1	TCATTGAGCCTGAAGGCTTCAAGCC
86313	ALEX2	AGGGAGACTGCTTTCCAGACA
86314	RGS3	TGGCACTTCCCCTCCTGGCT
86315	NCOA6	GACTCAGAGATGGATTTTGACTCTGG
86316	TRIM39	TTCCTCCTACCACCTCA
86317	SYN2	CTCAGCCGCCTCAGTCGCCTCA
86318	MMP19	GGAGGCGGAGGTGGGGGTGGG
86319	CTMP	GAACCCAGGAGGAAGAGGTTGC
86320	TADA2L	GAACACAGGAGGCAGAGGTTGC
86321	COG4	GGGGGAGATCTGACAGCCCAGACCTTT
86322	PAP	CAGTGTGAGGACTCACCCTGG
86323	CD209	TGTCGCCAGGCTGGAGTGCAG
86323	RABL2A	TGTCGCCAGGCTGGAGTGCAG
86323	RABL2B	TGTCGCCAGGCTGGAGTGCAG
86324	TMPRSS4	CACAGCCTCAGCATTTCTTGGAGC
86325	REV3L	GTGCATGGTGCTTTTTAACTTTCA
86326	SOX15	GAGCCGCACAACATACAATTA
86327	PCDHB13	TTTATTTTGTGGCATTTCCATGCC
86328	G6PC	CCGGCGTGCACCACCATGCCAGGCTAAT
86329	IL17R	GAGCCAGCCTGGCCAACATGGT
86330	ACADSB	CGTCTATAGGAGTGGGACCCCTCCCT
86331	FCMD	GAGCTTATTACTTGT
86332	GPC5	GGGGTCCACTGGCGGGTAAAGG
86333	EXT2	CTTTGTTTTCAGTTCCATGTAACA
86334	GJB1	GGCTACTTCCCTTCCTCCCGG
86335	ECT2	TAAGTTGCTATCAGCTGA
86336	MGAT3	CTGAGACCTCCACCCACTGTGG
86337	DPYSL3	TACCAGCCACAGCCAGCAGATAG
86338	IL1F5	GGGAATCCTGCTCCTCCTCAGG
86339	LMO2	AGTGGGCTTTGCTATTCAC
86340	FMR2	TTAGAATGTTGAGGCAGTTTCCCAGA
86341	GJB3	TGTAATAACTACCTTATGGGGTCATTC
86342	BAZ2A	CTTCCAACCTCCTTCCCCACCTCCTTC

86343	BPI	CAGAAATGATCTAAACACGAG
86344	SH3BP4	TCATTCTTTCTGAGAAGGCCCCA
86345	CREBBP	GCACACACGTACACACCCACACACATCT
86346	BLMH	TTCCAGTCTCCACCAGGAA
86347	INPP5A	CACTTCGCTTCAGCCTCCGGAC
86348	FGF5	TGCTCTGTCACCAGGCTGGAGTGCAGT
86349	TAC3	CAGGCAGCGGTCCTAGCCAGTTCCTTG
86350	NEU3	AAATGAGAGTATTGGTTCTAAGATTT
86351	FSTL1	TGCTCTGGGGCTGGAGGCTAGTA
86352	ARVCF	CCCAGCCTCTTGTTCTTAGGGC
86353	UBL1	CAGAAGATCCCAGAAAAGTTCT
86354	DSC1	GACTGTACTGTACACCTTCTTGCAC
86355	MET	CGATATTCTTTGCTCCTTGCCATAG
86356	EZH1	CCCAACAAGCGCTAGCCTG
86357	PCDHA9	TCAGAGTACAAGCTCTCATCAT
86358	ZNF74	CTCAGAGAGATCAGGCCAGTTT
86359	HOXA11	CAGCCCTGAGTTCCTAGCCA
86360	CD44	TGTACACCTACACCATTATC
86361	HMGA2	TCTAGTACTTATTACATGCTGCTA
86362	HK2	GCATCCGTGAGGCTGGACAGCGATA
86363	GALNT7	AGCATGTTGTCTTCTTTGGGA
86364	SLC14A2	AGCCTCCCAGTAGCTAGGACT
86365	MTNR1B	GGGCAGGGAAGAGAGCGCCCGG
86366	PEX7	TACGTATATAGATAGTGAT
86367	GAB2	TTTGCAGTGAGCAGTGCAGT
86368	TNFRSF1A	AGCTAGCAGCCGCCTACTTGGTGCTAA
86369	SLC16A2	ACTCTCACCAAGTCACCAGAG
86370	B3GNT3	AAGGGAGTGCCAGGGAAGGTTTGA
86371	NAPB	TTAGTTCATAGTCAAAGTCA
86372	FACL4	GGAAATTTGCAGCTTCCAATGCCTC
86373	CTSB	AGCCTCCCGAGTAGTGGATC
86374	CHRNA3	AAACCCAGCGGCGGCGAAGCG
86375	KCNE3	TGTGGTGCAGTAAGCCAAGATCACGCC
86376	HK2	AGCCTCTTCAGGGTGAGTGA
86377	PDGFRA	AGCTGTATCACTGCCTTC
86378	CD1A	TCTGAACTCCCGCCACATTTTAGC
86379	ACCN2	AGCCCCACTCTCTCACACCATGT
86380	PFN2	CAGTGTCTTTTCAGCACTTTGAGCA
86381	TCFL4	CTCCAAATTCACTTCTGCCTTCCTCA
86382	CADPS	TGATGCTTCATTCATGTACTA
86383	EZH1	GCTGCCTCTTACGGTTTGGT
86384	IL8RA	TGGGTTAGGCCTTGCCTAGGCA
86385	GUCY1A3	TCAGAAGCAGGTTTCAGTTGCAGAGTT
86386	MADH7	AGCCTCTCCCCTGCCTGCCCTGG
86387	MCM3	GGGTGGTTCCAATTGGTGGAG
86388	ZFP36L1	TGCCTTGTAATCTAACTTTG
86389	HPS1	CTTCCTCTCTGCACCTCCTGGC
86390	FMO5	CTCTCAGTTTCATATTGCCCA
86391	HNRPDL	TTAGCTGTTAATGCTCTGTGAGTTTAG
86392	CDH6	GCCAGCCACACTTGAACCT

86393	ALDH1B1	TTAGTGGGCATGGGATTTGTT
86394	CSN2	ATTGTTTCTGGAATTGTGCTTAT
86395	DLEC1	TGCACAAGGTGGAGTGTACTG
86396	BMP1	GGACTCCGGCATAAGCCACTTCCCCAC
86397	VIPR2	ATGTCTTGTTCCTGTGCATTGG
86398	CNN2	AAGCGCTGAGATTACAGGTGT
86399	GCNT2	GGGACTAGCAGGAAGCGGCAC
86400	RAB7	GGAGGTGATGGTGGATGACAGGCTAG
86401	EEF1A1	AGAAGGAAAGGAGAATGTTTTGTG
86402	PCDH15	AGCCTTGGCAAGAAAACTTGCTGC
86403	DUSP4	TGCTCAGAAAAATGAGGGAGAGAGAA
86404	CDC2L2	GAGGAGGAAGGGAGCACCAGTGAA
86405	OPRM1	GGGAAGAGATTAGCATGAAAGGTA
86406	WNT1	CCCTATCCTCCCCTTTTACC
86407	TOP1	CTCCCTTCCCTCTCTCCCAT
86408	NCOA6	GCATGCGCCACCATGCCCTGCT
86409	FRZB	CTCCCAGATCCTTGTGTCCACTTGCAG
86410	BMP1	TGGGGAGGGGATGGAGAAAC
86411	IL18R1	TCTTTTTCTCCCTCTTTCATAACTGGAT
86412	HIVEP2	ACTGAACAGCTTTTATGTACAGCTCTG
86413	PSA	GGGGGGCCCTCTAGGTGCTGAATCT
86414	HLCS	TAAACCAATGCCTATAAA
86415	MTMR3	TTCTCCTCTTCTCTTCTTGGGACAGGA
86416	CASP10	GACCTCCCAGGCTCAAGCTGTC
86417	FXR2	TCTCCATCTCGCTTGCTGCCCA
86418	BRCA1	CCAGCCTGGGTGACAGTGA
86418	GTF2F1	CCAGCCTGGGTGACAGTGA
86419	PAICS	CTACAAGTAGTTCTTTCTCTA
86420	OSBP	AGGGGGTGACGTGGCAGTGACAGGCGC
86421	FLOT2	GCTCAGGGAAGGCCTCTTCATGGGCAT
86422	CD68	GCCAGCCCTAGCCAACATGGTGTAAACA
86423	HAO1	AATAGCAATCCCTTTTATTTCA
86424	ALDH3B1	TGCCTGTAATCCCAGCTACTCAG
86424	CARKL	TGCCTGTAATCCCAGCTACTCAG
86424	IAPP	TGCCTGTAATCCCAGCTACTCAG
86424	VPS41	TGCCTGTAATCCCAGCTACTCAG
86425	HS3ST3A1	ATCTATCCTTATATTTTTCTCCC
86426	SLC19A2	GCAACTGCCTGGATGTATTTGATTTT
86427	CRI1	AACAAACCATTGCTTATGCTGTTA
86428	PPP1R12A	ACTTGCTCTTCTGTGATTATTGTCATG
86429	MAP3K9	TTGGGAGGCAGAGGCAGGTG
86430	XRCC2	ACTCCCGCCTGGGCGACTCCATCT
86431	RERE	TCTGCCTGGCGTTTCACTTGTGTCTGC
86432	CBFB	AGTACTATGAATGAATTTGGT
86433	GPC3	TCGTTCTCTCTTTGCATGGATTT
86434	MAML1	AGTGTTCTGTGGAGAAACTGCA
86435	ANPEP	CAGCCCACGTTCTCTCTGCCT
86436	HSPA4	TGCTTTAAGAAACTGTTACAGGGC
86437	TOP3B	TCACCCAGGCTGCAGTGCCATG
86438	MAP4	GGTGCAGAATGGCTGACCTCAGTCTTGCAGAT

86439	PIK3C2B	CTGTCTCTTCCTCTGGAGACTG
86440	NFATC1	ATAGCCTGCATTTGCATGTGTGTACA
86441	PIGR	ATAAGAAAATTGAGGTTTGGA
86442	LZTS1	AGCCAGAGGAGGGCAGAGGGA
86443	EPHB2	CCTCCTCCCACCTGCCACCA
86444	GTF2F1	CACTTGAACCTGGGAGGTGGA
86444	P2RX7	CACTTGAACCTGGGAGGTGGA
86445	ZNF193	TTAAGGCCCAGGGACTTCCTTAAAGGAAAGT
86446	BSG	TGAGGGCCACGGGTCTGTGTTC
86447	TCFL4	TCCATCACCTTCCTCCTCTGCTCT
86448	CHRNA10	CTGTTACCTTTCCCTGCTGA
86449	C8orf1	CATCCAAGAACTCACCAAGA
86450	OGG1	CAGGGAAGGTTGTTAAACAGCACCG
86451	ASPA	GATACTTGGGTAGCTCAACA
86452	PNUTL1	CTTGGGAGCCCTCCTTTGCCTGCT
86453	HOXD4	CGGGGGCAGGCCGGGCCTGCTGTCACC
86454	LOXL3	AGCCCTCCCACCTCA
86455	G6PC	TCACCCAGGCTGGAGTGGAGTG
86456	RBBP5	CATGCCTGTAATCCCAGCTACAC
86457	NAPB	AGAGCAGGAAGCTCTGTGAT
86458	CRI1	TGGGTTCATTCCAAATAGTTT
86459	ADCY1	TACGGGTCTATTTTTATGTCAA
86460	CDK2	TTTGCCTCACCTAATAGGCTGGGAGAC
86461	GBF1	GCCTCTGCCTCCAGCCCGGCAGCTC
86462	SUFU	AAATCCACCTCTTAACATCTCTTTCA
86463	RUNX3	CTCTGTGAGAGCACTGTCC
86464	IL12RB2	TTCCTGAGATGATGGAAATGT
86465	MMP19	AGAAGCAGAGAAGGCACTTGCATCCT
86466	SLC9A6	TATATTCCTTTAAGTTTTCCTGGTTGC
86467	MKI67	TCTGGCTCCCCTCCTGGGGTTGTAA
86468	PLD2	TGGCTCCGTCTGCCAGGGATGA
86469	NRIP1	AGAATTCTGGTGTTTACACAACCAA
86470	GRM1	GGGAAGGGAAGGGCCAGGCCAGA
86471	FACL2	ATCCCTGCTACTGTCCCTTCT
86472	IL17	AAACTCAATCACATTCAATTCCA
86473	GRM6	GCAATCCTCCCGCTTCAGCCTCCTGAGTAGCT
86474	ETFA	ATCAGGATCATGCCTTA
86475	GGA1	TCACTGTCCAGCCTGGAG
86476	FANCD2	GCTTGTAATCCTAGCACTTTTT
86477	AGTR1	GCCTGACAGCCAGGACCCCA
86478	DIO1	CATCTTTGAATATATTTCA
86479	TCF3	CCCGAATCTCAGCCACCGTGTC
86480	XRCC2	GGAATAGAAATCATTGTTATAAAGAC
86481	VHL	CATTGTACTCCAGCCTGTGTGACAGA
86482	GJB1	TGTGGGTGGAGAAGGGAGGGTGGC
86483	SCA7	TCAGCACTCTGGACTCCACGAT
86484	WNT3A	CTGGAGCTAGTGTCTCCTCTCTG
86485	AK1	CCTGTGTGGCCCTGGACACAGC
86486	CDC42	GAAGAAAAGTATTGCACCTTTGAAATG
86487	LAMC1	ATCCGTGGGTCAGGATGCAAT

86488	PTGIS	CTGACCTCGTGATTTGCCTGCCTGGGCCTCC
86489	RNF4	CCACCTGTCTTGGCTTTCTCATCCTTCCC
86490	OVOL1	AGGACTTCCTACCCAGAGGAG
86491	ACPP	GCCTATAATCCCAGCATTTTGG
86492	SIGLEC11	ATCGTCCCACTGCACTCCAGCCT
86493	EXT2	CTTCTGCCCATGTCTGGGA
86494	FLOT2	GCAGGGCCCAGAGACACTGTCCTT
86495	MHC2TA	GCAGCCTCAACCTCCTGGGCT
86495	NCOA6	GCAGCCTCAACCTCCTGGGCT
86496	ADCY8	CAAGCTTCGGTTCTCAGCCT
86497	TPP2	GACTAAAAACTAACAGAACT
86498	GLRB	TTTGTAAAATCAGCTCGTTTTA
86499	ETV5	GCGGCCGCCTCAGGAGGATCCCTTTT
86500	TIMELESS	CTCTCTGGAGATTTAGTTCTCTT
86501	CNGB3	TGCATGCTGTGAGGAGGCTACAAA
86502	ITPKA	CATGTGGACCTGCAGCTTTG
86503	HIP1	GTGGTAGGATCACCTGAGGTCA
86504	KCNA10	CAAACTCAGGGGTACAAAAT
86505	STIM1	CGCTGACCTCGGCCTAGGAG
86506	DHFR	GTCTCGAACTCGTGACCGCAAGCGAT
86507	MEST	TTCATTGTCTTAGTCAAAGCAGG
86508	TLR4	TTGTCACTCGATGTCATTCCA
86509	GLRX	TCTTTCTAACTACATGCATCTCTCCA
86510	CAPON	GAGGACCTGCCCCTACCTGCT
86511	TRPV1	CCTTCCTCTCTGTGCCGTGCTTGCTC
86512	AK1	CCCAGCACTTTGGGAAGCTGA
86513	ADAR	GGCATGCCTTGGAATATTGCC
86514	STARD4	CTGCTTCCACGTCCTTGCTTCA
86515	LDLR	GATTTTGGTTTCTTCCTTTCC
86516	CAPN1	CCGTGTTCCATATAGAGGAACCCCAAA
86517	EZH1	CGAGTCTCCTGCACTGTGTCT
86518	DNASE1L1	TTAAGCCCCAATAGCTACAAGGAG
86519	RAD9	ACCCCCAGCCAATCAGGACTTTC
86520	GPR48	GCCTATTCAATAGCTCA
86521	LHX3	CCTGGCCCCTCCTCTGACACA
86522	SLC6A8	CTTGTATTTTGCACATTTTATAAA
86523	CDH5	AATCCAGGCTGGTGTTCTGT
86524	PCDHA9	TATTTTACAAGGTATGACCT
86525	SET	ATGGGAAAAGAGTCTCTACCC
86526	AKAP2	TTTGCCCAGAAGAGGCAGT
86527	Z39IG	TGGCTTTGCCCTGGAATTTGCC
86528	TMEPAI	CTGTCTCTACCAGGGAGGTGCCT
86529	IRTA2	GACTGAATGAATGAATGAATG
86530	TEM6	TGGCATGTGTGAGCAGAAGGGAGGATG
86531	DNM2	GCTGGGGTGTTGCACTTTGG
86532	SLC10A2	GCATGGTTCATTATCATGCCAATAAA
86533	PPEF1	ACACACAAGCCCTCTGCATT
86534	SLC1A4	CCCTTGCCAACTTTTACCCTCC
86535	PSG5	AATAATCAAAAGCATAATGTTTTC
86536	CAMK2A	GGGTGAGTAGGCTTCAATTC

86537	NEBL	TGGAGTGTGACTGGAAAAATAC
86538	TFE3	TCCTGGGGGAAGAGGAGATGTGATCAGGC
86539	CLECSF5	TCTGAACTAAGGCTTGGCCTTGGG
86540	USP1	CGGGATGTAGTTGGTGTTGGTGCA
86541	NESH	GTGTTCTGTCCTTCCTCCCATCG
86542	CHRND	CCACTCCTCAATGCTCAA
86543	P4HB	CCATGATGTACTTTTTCATACA
86544	MEST	TGGGCTTCATCAACTCCTTCTG
86545	FGFR2	TTTCTACAGATATTAATGTTAACA
86546	ASPH	GAAATTCCTTGTTAAGACACAAGGAA
86547	NFYA	CTGAGATACATTCTTCCAATCTGT
86548	PBX2	GGGCCTCTAAGGGGAGTGTGGGGT
86549	CBFA2T1	GATGAATGGCGTCCGTGGGTT
86550	SEPN1	GCCTGGACGGGATCTGATGCAC
86551	CAPN5	CCCCTCCCCTCCCTGGGGCAGCAGCCAC
86552	CSNK2A2	CTGCAACCTCCACCTCCCTGGT
86553	HM13	GGAGGCTGAGGTAGGAGAATCA
86553	SLC17A5	GGAGGCTGAGGTAGGAGAATCA
86554	IRAK1	GGAGGCTGAAGTAGGAGGATCA
86555	PSMD9	GCTTCCAGCCACAGGTTCTC
86556	IL7	TTCATACAGCATTACAAATT
86557	MAFF	CCTCAACCCCTGTCAGTGTCC
86558	LPIN1	TGCAGTGAGCCGAGCTTGCACTACTGC
86559	BTG2	CCTGCCTTTTTAGAAGCAGCCTCA
86560	ADRBK2	AAGGCATTCATCCGTCCATCATT
86561	ASK	CCCAGCTACTCCCTCCAGAGG
86562	EMP1	CCAGCAGAGGAAACTTATAACCTCG
86563	CRY1	CCGTTCCCGGTCCTTTCTCCCGGGCCG
86564	SOX11	ACTCACTGCAAAATCACCACGACTCT
86565	SNX9	AGCAAAGAGAAAAAGCACAGG
86566	NR1D1	CTTCTTGTAAATACCTGCCTCC
86567	CDC6	CTGTTGCCCAGGCTGGAGTGC
86567	CYP2B6	CTGTTGCCCAGGCTGGAGTGC
86567	F2RL3	CTGTTGCCCAGGCTGGAGTGC
86567	UGDH	CTGTTGCCCAGGCTGGAGTGC
86568	NFATC4	ACCCAGGCCGGGACCTGGGGG
86569	LTB4R	TCACTGCAGCCTCCACTTCCTG
86570	D12S2489E	CAGGTTCACAGTTAAGAAGGAA
86571	MDS1	GGCTGCAGGACTGGGCACAGCATGAGATC
86572	PCSK1	CCATGTGGTTCTTCAAATTTTGATGCC
86573	TGIF	AGGGAATTGGCCCTGGGAGA
86574	FGF4	GGCCTCGGGCGGGCCTGGCGCTCA
86575	SMARCA3	GGCAAGTTGTTTAAAAAATGTCT
86576	DNAH9	CCAACAGGAAGGTTATTCTTCC
86577	EGFL5	CACTTGAACCTGGGAGGCAGAG
86577	GPR1	CACTTGAACCTGGGAGGCAGAG
86577	TEM7	CACTTGAACCTGGGAGGCAGAG
86578	EIF5A2	GATGGGGTTTCACCATGTTGTC
86579	RHD	GAGTAGCTGGGATTACAAGTGCGCACT
86580	CDK3	CAGCAGCTGCTGCCCCAGCTGCC

86581	IL10	TGGCGCGCACCTGTAATCCCAG
86582	E2F2	GCAGTGCCACCACCGCAGCCGC
86583	DNAH9	AGGGTCACCACAGACACTTAG
86584	GAS1	GGGTGGGAGAGCGGGACCAGATCTCG
86585	CLOCK	CCATTGCTAATTTAAAGGAGCAG
86586	MTMR4	CTCCAGCCTCTTTCTCCTGGAGGTCAC
86587	SFRS1	CGCTCTGCCGTGCGCTAGGCTTGGTGGG
86588	PHTF1	GCTGACTAAAGACTGTGTG
86589	PIP5K1A	TTAAGGCTGAAGGAATGAA
86590	SH2D1A	TTATATTTACAAATGGGAAACAAAAG
86591	KIF3C	AAATGAACCCTTCTTACA
86592	TNFRSF10B	ACTCTGTCTCCCAGGCTGG
86593	OAS1	AGTCTCCTGACTCCTGGCC
86594	TERT	GCAGACACCAGCAGCCCTGTCACGCCG
86595	VBP1	AATTAGTTTCAAATATTTTTGACAT
86596	PCM1	AACAGCTTTGAAGTGTGGA
86597	CORO1C	CTAGGGAGGGCGGAAAGGGAGGC
86598	ASH2L	TGCTGTACTGCATACCCTGCCA
86599	XBP1	TTTGACATCCAGCAGTCCAA
86600	Rgr	GTTACTTTTCTCTTCCCCCTCA
86601	CACNB1	CCTCATGCCTGTCTCGCCACCTC
86602	PKIB	CCAACAAAATTCACTGTTCTCT
86603	DUSP6	AGAGATTTGCTCCATTCTCTT
86604	PAFAH1B2	AATCCTTCTCTTTCTTAAGGCACTTT
86605	GABRE	ATCTCCCTCTCCTTGCTGGCTCCATCT
86606	GNAZ	GGCTTTGCTGAGTGAAGGAA
86607	ARHG	GGGTCCAGAAGAGAGAGGAGGCACTGCC
86608	CYP1B1	AGGCTGAGACAGTGAATTTGGGCT
86609	SPHK2	CAGGACCTGGAATGTACTG
86610	ORC1L	TGTTGCCAAGCTAGTCTACAAAGCATC
86611	CDX1	TGGAATCTCTTGGATGCAGCT
86612	COL6A1	CTAGTGTCACCTGCACAGGG
86613	ATBF1	GAGTCCTGGGGCCAGCGGGAGGT
86614	GLTSCR1	AGCCTCAAACTCCTGGGCTCCAGTGAT
86615	RARG	GCCTCCCAGGCTGGGGCAGTGGGC
86616	TSN	ACCTGTAATCCCAGCACACTGG
86617	RRP22	TCTTTATGCCACACCTACCA
86618	SIRT4	ATGACAGATTCCAGT
86619	RAB36	GCCTCTCCCTGATGGCACACAAGGA
86620	DUSP4	TGAGGGAGAGAGAAAGGGTGG
86621	NPHP1	AATTGAGCACCTACTGTGTGTC
86622	F2RL2	CATCACAGAGAACGTCTGTTT
86623	ZNF35	ACCGGTCAGCCAGCCTCCTGCTGC
86624	NR3C1	TGCCATAGAGTTTAACACAAGTCCTG
86625	HELLS	TCTTTTTCCCTCCTTTCTTCT
86626	FBXW1B	GCCTCAAGCCCATGAATGCCACCCCAG
86627	GALNT7	ACTCCCTTACCTACTGGCATTC
86628	GRIK3	AGGTCTCTAAGAATATAAGTGGGGG
86629	XT3	CAACCCCAAACCACATTAGAAG
86630	VHL	CCGCTGCACTCCAGCCTGGGGG

86631	CYP21A2	GAGAAGGCTTCCTCCAGCG
86632	DIO3	ACAATCTCCCCTACCTCCTGGGACT
86633	BACH2	CCCCTTCCCGGCGCACTCGGGGG
86634	BPI	GGGCTGTGGGGCACCGGCTGCCTTT
86635	MFNG	TGTGGGTCCCTGGCAAGTGTCTT
86636	SLC26A4	TTAATGATCATACAAATGGG
86637	GNE	GAACCCCAGGCTGGAGTGCAGTG
86638	SWAP70	GAGCAGCCTGGCCAACCTGGTG
86639	AR	CTGTGAGCCTAGCAGGGCAGA
86640	ENTPD3	GGGGAAAGAAAAGGAAGCTGCAGGAA
86641	PTGER4	CCGCCAGCCACTATCATGTC
86642	HDAC5	GTCCTTTTCCTCCTTGGAGCCTGGGCC
86643	ABCB10	TGTAAAAGATTGTTTTGAAA
86644	SREBF1	AGCACCCCTGTCTCTAGCCACTTT
86645	COL9A1	TGAGGGGACAGTGACTCCCTTCCAA
86646	GNAI1	TTCAAATGTAATTATCACACTATGT
86647	BCL7A	CCTACTCACCGCTCTCCTCCCTGCCCC
86648	CDKN2B	AATCCCTGGATCACGACGCTGC
86649	SULT1C1	CCCTCCCAGGGCCAGGTCACA
86650	BMP1	ATGGGGAGGGGATGGAGAAAC
86651	IL10RA	CTGTGCTTGTGTTTGCTGCTA
86652	TRO	GGCTCAGACACAAGGAGAGGCTTGGAG
86653	HMG20B	GTGGGGGCCGGCTTTGCCCAT
86654	AP2B1	ATCTTTTGAATTACTCGAA
86655	CSNK1G2	CTCCCCGAAACCAAAGGGGAAG
86656	ECEL1	CACTTCAGGAGGGGCCTGGAGCA
86657	NESH	GCCTGCTGCAGATGGGGAAGA
86658	TNXB	ACTGTCGCTGCCGAGATCCAC
86659	RARG	TCCTCCAGGGGTCTTGGGTGGG
86660	APBB2	TGTAAAAATAGGATGGCGAGTT
86661	KIF5C	AATGTGGCTGCCCCTCTCCTC
86662	CHRND	GGTGGGCCTGTTGGGGAGCCAG
86663	GRM6	GGAGGGAGAGACCCTGGG
86664	FMOD	GACTACGTTCTTGGCTCCAGAC
86665	NPR2	TAAACCAGAATATTTTGGTCAA
86666	RUNX1	CACAGCCAAGGCGGCGCTGGCTTT
86667	TGFBR3	ATATCTGAACCAAGATGTAAAACAAG
86668	POU2AF1	AGGCTGGAGTACAATGGTGCGAT
86669	ITSN1	CTCAAAGCTCCTAGGAATCAT
86670	CHRNA2	CAGAGCTGGACAGCCCCAGGAAAACCCACC
86671	ATP5J	GGAGGCTGTGCCAGGGGACCCGGAAGC
86672	RNF3	GGCATTTTCCTGTGTGGCGGA
86673	RXRB	CTTCCTCCTCTCAAACCTGGC
86674	FCMD	CATTATTCTTTTAGGGAAGGTGAG
86675	APTX	TGCGGGTGTGCTGGTTGGTGAG
86676	FPRL1	CCTCTATCACGAAGATATTGA
86677	TLL2	CCGAGACTAATGTGTGGCCCA
86678	PITX1	TACAAACCAAGTTGCCCTCTCCG
86679	JUND	AGAGAGAAGAACAGAGTGTTCGA
86680	WDR4	CAGCTGTCTGTGTTTCTCCTGTT

86681	CAPS	GGCAGGTGGGGGAATGGAGGC
86682	HDAC6	TGGATGAGGGGTAGCCTCCCA
86683	EPM2A	CCAGGACACATTTCCACTATAATTTT
86684	RAD52	CCCACTGCAGTTAGAGCTGAGCACTTT
86685	PCDH7	GGAGAGGGGAGAGGACTCGGGGGAGGG
86686	FGF5	CAGAGTCTTGCTCTGTCACCA
86687	SOX4	GGAACTCCTGCCATTACCAGCTCCC
86688	NR1I2	AGCTAATACTCCTGTCCTGA
86689	ALPP	GTCATGCCACTGCACTGCAGCCT
86690	CEP1	TGTTTCTCAGTCATAGTTGG
86691	KCNK6	CTGACTCATTTTTCTCAGGT
86692	LARGE	ACTTGGAAAAACCCAATGGGGA
86693	PIK3C2B	CCACCCAGCATCCCAGGCTGG
86694	CNN2	CTCCAGCCTCAGCCTCCTGAGTAGCT
86695	APAF1	CTGGAGTTTGAGTCCAGCCTGGGTGA
86696	PIK3R3	CGCTGCACTGACATACTAAGCTGGAAG
86697	TBL2	CTTTCTCCAACGACTCACGGAGGAT
86698	A1BG	GGCTCACTGCAGTTTTGACCTCCCA
86699	THPO	GCGCCCCTGGGAGACAACTGGACA
86700	ACP1	CTCTCTCTTCCCTAGGGCCT
86701	SYN3	CCACAGCAGCAAAGGTCACCAGGCT
86702	CHD4	GGGAGGGAGTGAGGGGCAGTGGTGCCCTTCC
86703	PLXNB2	AGCCCCAGCCCCAGCTCCCT
86704	NPC1	TCAGCAGCCTTGCGCGGCCAC
86705	CPT1B	TCCCAAGTCGGCCATTGAAAA
86706	LTBP2	CCACTGCACTGCCAAGGAG
86707	ADCY7	TACTATACTGAAATCTGTGCTCTCAA
86708	ZNF217	CGCTGGGAGTCTAGAAAGA
86709	E2F3	GAGCCCCAGCCAGTTTACTCCA
86710	CFL1	ATCTTTTGATTCCTCTTGGGCTGAAG
86711	ACADS	GGGCCTTTCCGCCTCCTCACCACTG
86712	NDST1	GCACCCAGGCGGATCTGCAAGCACCT
86713	VASP	CCCCAGGAAGCCGGACTCTA
86714	HPS1	AAGGTGGCCGCAGTCTGCCTTT
86715	ALCAM	CACAGATGCATATAGACACACATACAT
86716	ADORA2B	TCCACAAGAAACAAAGAGGACA
86717	UBL3	ACGTGAAGACTTCTGCTCTT
86718	FLNB	AATGGTTGGGGGAGAGAAGGGCAG
86719	KCNS2	TGCCTCTTGTGCCTCTGGCA
86720	LZTS1	ACTGCAGCCTCATACTCCTGGGCT
86721	SLC22A12	TGGCCCAGTCCATCTACCTGGC
86722	DDX6	AAGACTTATATTTATCTCTTCA
86723	CDH1	CGGCCAGGCTGGAGTGCAGTG
86724	PPP3CA	AACAACAAAAGTCCATTCATA
86725	HLX1	CGGGCCTTGCGTGCAGCCT
86726	IL10RA	GCCATGCCTGCTCCTCTGCCTG
86727	ESR1	TGAACAAATAAGGGACTTACTGATAA
86728	CARKL	TGGCTCCCGCCTGTAATCCCAG
86728	VHL	TGGCTCCCGCCTGTAATCCCAG
86729	ZFY	ATCCTATTCAGTTTCTTTAATAGATGA

86730	PRKACB	AACTTCTGCTTTCATCCCATGCC
86731	TADA2L	TCTACTTTCTTCTCCATCCTGCTTTAA
86732	CASR	ACCGAGGTCTTGCGGCACAGGCAACG
86733	DCX	TCACCTAGGCTGGAGTGCAGT
86733	SIGLEC8	TCACCTAGGCTGGAGTGCAGT
86734	CENPC1	TTTCTTGCTCGGCTTCCTGGAGCT
86735	CA12	GGACCCTACACACTTCGGCT
86736	B2M	TGATATGCTTATACACTTACACTTTA
86737	WHSC1	TGAGGACGTGGTGACTTCCTGAACAT
86738	SRC	TCTTCTCCCGTCCATTCCAGTCA
86739	SFTPA2	CCAGTTCCTTCACTTACAGATGGC
86740	RPH3AL	GAACTCCTGGTCTCAAGTGATC
86741	AMD1	ATGAATGACTGTCCCAGAATGAGAAT
86742	TPTE	GACACAAGACCTCAGACTTGTGTTATT
86743	PDE6B	CCTGCTGTATCCTGTGGCACTGGTC
86744	SIGLEC11	GCTCACTGTAGCCTCAACCTGCCAGG
86745	H1F0	GGGGGATCTTTGTGGCTTCAGCAAATT
86746	PLAG1	AAGTGCTTCAAATGAATTAAGAGT
86747	PRX	CCCACCCCAGCCCAGGGCCCTCACCC
86748	MHC2TA	GTTCAGCTCCAGCTCACCAGCCCCAGT
86749	NOL3	TAGGGTGGGTACCTCTGAGT
86750	RAD54B	TTGGTTATAAATTCAAAGAGCTTGA
86751	RUNX1	TTTCTACTGCTTACTCATGTC
86752	CSNK2A1	AATCTACCCAAAATGCAGACA
86753	C5R1	TGTTTTTAAATTATGCTTTCTA
86754	CASQ2	TTTCCCACTCCCTTTGCGTCAG
86755	TNFSF10	GCCTGGTGCAGTGGCTCA
86756	ITPR1	GAGTTTCAGGCCCCTGGGCATTTT
86757	ADORA3	TCACTGCACATGGACCTCTGGGAAGAC
86758	FGF5	TCACCAGGCTGGAGTGCAGTG
86758	GM2A	TCACCAGGCTGGAGTGCAGTG
86758	RHD	TCACCAGGCTGGAGTGCAGTG
86759	LTA	CCTCCTGCACCTGCTGCCTGGATCC
86760	TACC2	ACCGTCGGCACACTGCTGTTCCTCCA
86761	CLASP2	TCACAGCGAACCAGGTCTCTCA
86762	UGDH	ATGAAGAGAAAATTAGTAGCA
86763	ATF5	CCTCGTGCCAGCTGCTGGTGCA
86764	GPR62	AGGGACAAGAGGAGCAGAGGAC
86765	ABCC1	AGCGCCCAGGGAGGAGTCAGT
86766	ADRB3	CTCTACCTTCCCACTCACCTTCCCCA
86767	OXTR	ACACAAAAACTTGTA
86768	PKIB	GCCAAAAATGCCCCA
86769	GJA1	AAAACTCATCACAGAAGATTGGTGAAA
86770	IQGAP2	GACATAAAATGAATTAATG
86771	FACL4	TGCTATTCTTACTGCTGCTTC
86772	SDC2	TATATGTGATTTTCAAATATGTAAA
86773	SMAC	GAGTAGCTGGGATTGCAGGCGCCCGCC
86774	RBBP9	CTCTGACACTTGCCCCTAAGTCCTTCAG
86775	CABC1	GGTGACCGCGGATCCCAGCTTCC
86776	101F6	CCATGGCTCTTCCCAGCCTAGGGG

86777	SERPINE1	CACAACTCCCTTAAGGTCTCCA
86778	SNTB1	AGCAAGTAATAAAGCAGCCTCA
86779	BCL9	GGTGTCTTGATACCAGGAGGCCAG
86780	EIF5A2	TCCATCAGCCAGGCTGGAGTGC
86781	ATRX	TATCTGTGTTTTCACCAT
86782	STIM1	GCTGCTGCTGTCACTCCCTCTCC
86783	UMPS	TGCCCAGGATGGAGTGCAGTGG
86784	NF2	ACCGCAACCTCCGCCTCCCGGATTCAA
86785	HPS1	GTGGAGCCCAGGCTTTGATGT
86786	PRND	CCTCAGGTGATCCACCCACCTGGGCC
86787	ALPI	GGCTTTGACACAGTCCTCTGCTGT
86787	ALPPL2	GGCTTTGACACAGTCCTCTGCTGT
86788	ARNT2	TCAACAGGGGTCCAGGGTGCAGTG
86789	PPT1	CCAAGTCTTGCCATATTTCAAGCA
86790	ITPA	CTCTGAGAAACTCTGGCAAGTGGAC
86791	ST5	GGACCCTCTGGGCTGCTGTGG
86792	WNT3A	GCCCCCTTCTTTGCAGCTGCC
86793	ACTN4	TTCCTCCACTCTGTATCTATGCA
86794	B3GALT5	CGCACACTCTTCATACTAAGT
86795	FACL4	GCAAGTTTTCCCTGAAGTTATGTGTATGT
86796	EGLN2	GAGGAGGCCCAGAGCAGTGCACT
86797	LEP	GATCTTCAGAGCAGGGGTCCTTGGTGTG
86798	CASQ1	TCCTCCAGGGAGACTAGGTTAT
86799	CCND2	GGAGCCTAAAGAGAAACCGAGGT
86800	ARHGAP6	GGACCTGCCTTCTGTCCTGGCCGGG
86801	SIGLEC11	CAGGCCGGAGTCCAGTGGTGCA
86802	ANPEP	CAGGGCCTCCATTCCTGGAGCCC
86803	CXCL16	GGCTCACTGCAACCCCCATCTCCCA
86804	SPAG1	TAAGCAAAAAACCAACCACT
86805	ARHI	TGCACGTATCTCCCCTCCGAATCCC
86806	AGER	TCTCCTGTATAACCCCACCTTGCCA
86807	ALDH1B1	TCTCACTGCAACCTCCGCCTC
86808	TRDN	GTATTTATCTTATTTCCAGTCA
86809	CAMK2A	GTGTGTCTTCATTGCCTCTCTC
86810	EIF2C1	CCCTGCAGACAAAAGCTGGTT
86811	HDAC4	AAAAGGACTACTTAAACATTTGTC
86812	CTSZ	AGGACAGCGTGGTACTGGCTG
86813	GATA6	CCAGGAGGCAGGGAGGGCTCCGCCGCG
86814	CNP	TCCCAAGCTGGAGTGCAGTGG
86815	SLC9A3R1	AGGGCACCCTCCCTTCCT
86816	ATM	ACCTATAATCCCAGCACTTTGG
86817	ETV3	CTTATAAGGAGAGTTATAGGCTA
86818	CNTN2	CAGACAGAGTCTCAGGGCCCA
86819	FANCC	CAGGGGCAGCCGCAGGGAGGCAGG
86820	ABCB4	GAGGGCACCAACAGCGTTCCTCCTCC
86821	ABCD2	GGATGTAATTCGCTTTGCTCTCTCCTCATT
86822	GCNT2	ATGGGAATGCCCTGAAACTACT
86823	EGLN2	TTGAAGGGTCCTTGTGCCAGT
86824	BHMT2	AGGAGGCGGAGCTTGCAGTGA
86824	SMG1	AGGAGGCGGAGCTTGCAGTGA

86824	UBE2G2	AGGAGGCGGAGCTTGCAGTGA
86825	TNFSF12	CGCCCACTCTCCACCTCA
86826	GNA14	GGCCCAGGAGATCCTACTCTCCCCCGAG
86827	AES	CCTCCTCCTCCCCTGCAGCCTGGT
86828	RAB36	GGGATTACAAGGGTGAGCCACC
86829	NRIP1	TCCATTCATAGTGGATTAATGCA
86830	TRIM39	AAATGATTTTCATGTTAGGCCA
86831	SLC22A2	ACTGTCTGAAGATGAGGAATC
86832	TLR5	CGCCCAGGCTGGACTGCAGT
86833	B4GALT2	TGGCGGTCATCATCCCCT
86834	CXCR6	GGAATGCTTGAAAAATGTGCAAA
86835	HTR2C	GAAGAAGAAAGAAGACGCGAT
86836	MEOX2	TCCAGATGTGTGAGATCATGT
86837	NRCAM	AATTGGTTTCTCATAACTTGCATC
86838	NR1D1	CACACTCTCTCTGCTCTTCCCA
86839	LAMP2	AGCTTGGTAGTTAACACATC
86840	APOB48R	GACCAGCCTGGGCAGCATAGCAAGATC
86841	CBFA2T2	TTGTGTCCCCTCCTCCCCCTCCA
86842	DMN	AACACAACCAGTCTTTTTG
86843	FKBP1B	TGGCTGCTGCTCACCCTCC
86844	TKTL1	CCTGCAGCTGCCCTGGAATTCC
86845	FANCF	TCACCCAGTCTGGAGTGCAGTG
86846	PRPSAP1	ACTGTGGATGACTACTTTC
86847	RAGE	ATCCTAGTGCGGGACCCCGCCTC
86848	AK3	ATGGTGTGTAACTTCAGCTCCAG
86849	MFNG	CTACCATGGGACCAGCTCTGGCCA
86850	DLEU2	GCCTGATCTCATCAATCTAGCGG
86851	TLL2	TTCCTGCCTCTCCTTTCACCA
86852	LPP	AACACAAGAAAAAGATAAGAA
86853	WBSCR1	GCGCTTTGGGGGTGGAGGGGG
86854	PDE1B	GGGAATGGGGTGGAGAGG
86855	DLGAP2	AGCAAACTGTTAAAGTAGTCA
86856	PSCD4	CCGGCGGGTCCCAGCATCTCGAGAC
86857	KLK3	TCCTCCAGACAACCCTCAGATTT
86858	ROCK2	AGACCAGCCTGCCCAACATAGT
86859	TNFRSF10A	AGACCAGCCTGACCAACATCGT
86860	TBX5	AGCTCTGTCTTTCCAGCTGTCTGTC
86861	TMP21	TGGGGTACCACCTACACCCAAC
86862	IFRD1	ACTCTAGACACAGTTTTTATCTTGGAT
86863	DNMT2	TAAACAAATGCATATGATATGTA
86864	RYR1	CCTCAGACCCTGGGCTTCCGACCTC
86865	MGST1	AGGAGGGGAGCAGAGGAA
86866	SPTBN4	CCCTGCACTCCGCCGCCTCAGAG
86867	PCDHA9	AGCATTAGCAGCACCTAAGTCCTCA
86868	NUP98	TGTTCCTGCCTTTAGAGTTCCA
86869	IL2RA	CCCATCAGAGAGCGAGCGCTACC
86870	IL15RA	AGACGTCTACAGGGAAGACACCA
86871	FCMD	ATGAGACAAATACCTACTTCTTTTATT
86872	PROS1	TGGCTTCATCTTTCTCTTGTGTG
86873	CKMT1	CCCATTCTACTTGCTCTGGACCTGCCCC

86874	SHOC2	TGTCTTTCTTTGAAAACTGCAAT
86875	RASAL1	TGCATGCTACCCGGGTCTCGGA
86876	SLC7A6	GTGGGGCTCAGGGCCAGTGCTCA
86877	MEIS2	CAAACAGATCTTTATAGTTCG
86878	INPP5B	GGAGGCAGAGGTTGCAGTGCGCTGAG
86879	SMTN	AGGCACTGGGGATCTCACCAGAAAGGA
86880	GPR44	CTGCCACCAAAGGCCAGGGTCACT
86881	PTPRK	TCAGCCTGTGGCCCAGCACTG
86882	PSG1	AGCCTAGACCAAGCAGGAAGAA
86883	CACNG7	CTCGGAGCTCCCCCTGCCTCCT
86884	GRIK1	CATGGAAGAGGAGGAGGAGGAGC
86885	PA2G4	AAATCAGGAGTCAAAATTCATCGTCT
86886	IL17R	AGCTTTGAGAGAGGAGTGTGTGT
86887	RTN3	GCTGTGCACTGCTGTAAACT
86888	COX15	TGCTGCTTAACAGGCTTTGTG
86889	NR3C1	ATGTTTGTAAAACTACACATCC
86890	RAB5A	ATCAAATGCAACCCCATCTTGTT
86891	COL4A3	CAATTGCTTTGTAAGTG
86892	PSCD4	ACAGGAAACACTTCTCACCCCCTCA
86893	CDC25B	GACCCTCCAGCCAGCCTTCT
86894	FOXI1	ACATTTAGTGCCAGCCTAGGCA
86895	CSNK1G3	TGCTCCGCTTTTGTTGCATCACT
86896	ADRBK1	TCCAAGGTGGTCTGCTCGGGCC
86897	POU4F1	GGGAGCCATAATCTGCAACTTCATTT
86898	TDG	TCCAGTAAGCCAATAATTTTAAA
86899	DGAT2	ACTGGCCTCCAGGATGAGGA
86900	FXYD7	GACCGGGTGGAGGCGGTGGGGAC
86901	SCA1	AGCAGGAGCGGTCAGGGCTCCAGGCAT
86902	ERBB3	CTCAGGGAGCATTTAATGGCAGCTA
86903	KLHL3	CTGTGTGTTAAGCATATGCTT
86904	TCF2	CACTGCCTCTTTCCAGGGGCCTCTGGG
86905	TNFRSF1B	GGGACTGGCCAGGTTTCTGCCCACAT
86906	CDC42	TGCTGCTATGACATCTCTCCA
86907	KIF3C	TTGACAATAAAGGAATGAGTA
86908	ID4	TGCTGTGAATTGTACATTTCTGTGT
86909	ADAM11	TGAGTGCTGATTCAAACCAAAG
86910	TRO	AGTGGCTTCAGCGGTGGA
86911	GCA	AAAGATCTTTGTCTGTGAA
86912	IL16	TTCATCTCAAGGAATAATGGGCTTAG
86913	CHRNB2	TGGGAGAAGAGGGGTATAG
86914	FRDA	TGGCCAACATGATGAAACCCCGTCTCT
86915	FY	CTGCTGTTTGCCCCTCAGTCT
86916	PCDHB16	AAAATTCTGGGATTACAGGCAT
86917	PACSIN1	CCTCCTTTGCTCCTGCTGC
86918	A1BG	CAGCAACCTCTACCTCCTGGG
86919	TRN2	AGGGGCGTGCAGACACTTCCCTAAC
86920	LAPTM5	CTCCTCGGGTCTCTCCATAATTCAGCC
86921	KERA	TGTTAAAATATCTTTTTGTTATACT
86922	LRRC2	TGGGAGGCCGAGATGGGTGAA
86923	PSG1	GCTGATTCTTTAAATGGT

86924	DGKE	TTCTCTATCAGCTATTCAGTCTTA
86925	SLC25A15	GAGAATCGCTTGAACCCGGGAGGCAGA
86925	SUDD	GAGAATCGCTTGAACCCGGGAGGCAGA
86925	UBE2G2	GAGAATCGCTTGAACCCGGGAGGCAGA
86926	PXN	CCAGGGGTAGAGGCTGGGGGC
86927	GPRK6	AGCCCCTGGCCTGGCTGAGTTTGGC
86928	NRGN	GTGAACAATAAAGAGGAATGTCCA
86929	C4orf1	TAGATTTGGAGATACTGTGGT
86930	FOXF1	GCAGGCAGGCGGGTCACAGGGAC
86931	CHST2	CCCTGTCCTCCACCTGCCTTCCA
86932	FSTL1	ACAGTGTCTCTTCACTAGTCATTTAG
86933	PDYN	TGGTGTTCACAGCTGCCTCTTTGGCACCTCC
86934	AGPAT2	GGCCTCCAGGGCCAGGAGTC
86935	EHD1	CCGTCACTCCATACAGTATTA
86936	ISLR	CTGTGCTCTCCTCTCAGGGGCA
86937	SIL	AGATCACTGCAACCTCTGCCTC
86938	FXYD6	TGCCTCCCCACTGCAGCCTGCGG
86939	KRTHA8	ATTCAGCCACACTGGCCTT
86940	ZNF278	GGGCTCCAGACCTTTCTGAGCCCTGCTT
86941	MAGEA8	GGTCTCAATTGCCCAGCTCCG
86942	ALOX15	GACTACAGGCTCATGCCAT
86943	IL22RA2	GGGAAAGAGCAAAAGGTTTATGAGGGG
86944	CYP8B1	TGCCTCCCGGGTTCAAGTAATT
86945	ATP8B2	TGTCACCTAGGCAAGAGTGCAA
86946	TRADD	ACGGGACCCTGAAACTCCACTT
86947	KIF1B	GGGCCTGGGACAGTGGCTGCTC
86948	ATF5	ATACCAGCCTGGGCAACATAGT
86949	SHOX	ACCCTGAGTTTCTCTGGTGAC
86950	EPOR	AATCCATCCTGCTCAGGAAACCACAA
86951	WHSC1	GAGTGTTGAGGTGAGTCAGAA
86952	ADAT1	AAAAGCCAAAAGGTGGCCAGGC
86953	ABCD1	TGGGACCCACAGTCACACAGAGC
86954	SET7	GAAGGGAGGGGGGACGACGGC
86955	SH3BP2	GCAAATTCTGGCAGCTGGC
86956	NLGN3	AGGGAGTCCCCTTTCTGAAGCTGTGGT
86957	CACNG6	GTGGGTTGCTTGGGGGTGGGATGGGA
86958	TLR9	CCTGCCTGGTCTGACCCTCCCCTGC
86959	ADD1	GAGGTGGAGGGTAGCCCTGGGGCCC
86960	TRAF5	AGCCTCCTCCCGACCCCTTCCTGCGCG
86961	TGFBR3	AGCAAGGACACAACATCAGAGGGA
86962	PX19	GCATCTGCAGTACACCAAGCACATGATTC
86963	CDH13	TCCTGGAGAAGCCTCGTTTTG
86964	ADD1	GCAAGTCCCCGTCCAAAAAG
86965	KLRF1	CTCTTCTCCCTTCTCCCTCCATCA
86966	PPYR1	AGATGCCAGAGCCGGAGATGTCT
86967	DTX1	GGGAGAGAGGAAGTTGCCGCCTGCTGC
86968	NHLH1	CTGGTCCCATCTGCCTCTTTTCTCTCCC
86969	SULT1A3	GCTCATGTCTGCAATCCCAGCG
86970	ARG2	TCCACATCCCTAACATCATGCA
86971	POLK	AAGTTCTATGAAGAGTATTAATGTA

86972	PPP1R12B	TTGCCCAGGCTGGTCTGAAGCTG
86973	IL2RA	CTTCTACTGAGCCTTCAGTCTTG
86974	TFE3	GGCCACCCCAACCTCTGTTCCCC
86975	C11orf13	GAGGTCCTTCACTGTGTGTACAC
86976	GPR30	TCAGTTACACAGGAACCCTAAAGCA
86977	HOXB6	TGAAGAAGAAACTGAATACTC
86978	FCRH1	AGCACAGAACTCCAGCCCCGCT
86979	SLC17A4	GTGTTGAGATTTCTGTGTTCT
86980	PARK2	TACAGAAGAAGCTCCTGAATCCCT
86981	GPR56	TCCCTCCATCTTCCCTGGGGTTCTCCT
86982	GDI1	AGCCCCTGCTGCCCCAGCCTGTGTC
86983	CYBB	GAGTAGCTATATATTTCTACTTTGTG
86984	TZFP	TCCTCCCTCCCCTTTCAACCATGGAC
86985	PCDHB13	GTCACAAAGCTCTAGTGCAAT
86986	SIGLEC5	ACTGCATCCCTCTGTGCCTCAGTTTCCCATT
86987	SLC15A1	CCCGAGTGGCTGGGATTAGCG
86988	PSMD5	AGGCCAAGATGGGCAAATCACT
86989	KLHL3	GGAGAAGCCTCAGGGAAAGGC
86990	AXL	CTCTCCTCTCTTGAGTTAACCC
86991	CDH1	TGTTACCCAGGCTGGTCTCAA
86991	UMPS	TGTTACCCAGGCTGGTCTCAA
86992	HMG20A	TTCTGGAGTTTTGTTTTTTCCTT
86993	CTSB	GGGCTGGTGTGCAGTGGTGCGAC
86994	FMR1	ATAGAAGTCTTCATGAAATGC
86995	GDF5	CCCGGCAGACTTCAAGAGTCTC
86996	SERPINB13	GGCCATCAAATCAATGATTTAATG
86997	RAD51C	CCAGAAACAAATCTCAAAGTGTACAAA
86998	PAX4	CCACTTCTCACACTGGCCTTA
86999	FOLR1	CCCAGGCTCCACTCCTGGGC
87000	OVOL1	CTTCTCCACCAAGCCTCTCACCTGTCTGTTC
87001	RAP2A	CTGACCATTTAAAATTGAACA
87002	STAM	TATAGGAATCTCTCCAGGTCAA
87003	C1orf1	CTGGGCTGACAGGCCCAAGTTGCAGTCAGCAG
87004	TEM8	ATGGAAAGAAACATCAGGAGGGACAGG
87005	PKHD1	CACCCTACTAAGAATTGGCAG
87006	BDP1	AGCTCACTGCAGCCTCTGCCAC
87007	FGF5	ATATTCCTCTTGGCCTTGTGA
87008	FOXO1A	ACTGTTAAAATCTTACTACTTC
87009	JMJ	AGTTTGGAGTACTTGCTGT
87010	NUMBL	GCCCCACCCACTCCATCATCTCC
87011	JAM3	ACCATGATGGAGTGGCGGCCAGT
87012	MKL1	TCCTTTCTCTCCCTGCTTTGCT
87013	TIRAP	ATGTCAATTCTTCCTGCTCTTCTTA
87014	RAD54L	CAGGGCCCTGTTGAATTTTGTTCTCTG
87015	HMGA1	GCAGGGCTCCCATGGGCTGA
87016	ZHX1	TTTAACTATAGCTTTATTA
87017	NDRG3	GCAAAACTGCTGTCGCTGCAGT
87018	OPCML	AACTGACTTAATTTTCAAGCACTTG
87019	MECP2	TGAACAACGAGCCTTTTCACCCTTC
87020	USP14	ATTTTTAAAAAGCTTATTATTTCTTG

87021	ACPP	TGGGCAACATGGTGAAACCTTGTCTCT
87022	TNFAIP1	GCTAAGCTGGGACCGGCAGTCCTCAC
87023	ASGR1	TGCCCGCTCCCCTCCCATTGTCC
87024	CALCRL	ATGTGGGAAAAAAGAAATCC
87025	PRM1	TGCCCACAGAGTTCCACCTGCT
87026	MMP15	TCTGACAGCCTCAGTGACCCT
87027	OVOL1	AGGAGAGGCACACATGTGCTGCAGCC
87028	CCNF	TACAAGCACCCAACCACGCCCAG
87029	NUP98	TCCTTAACAGATGAACTATCCACAGA
87030	DNAI2	TCACCCCACACCCTCCCTCT
87031	LARS2	CAGTGCTGGTTCCTCTGCCTGT
87032	POLK	CTGAGGCAGGAGAACTACTTGA
87033	F9	GTTAGATTTGAATATATACATTCTAT
87034	ADH1B	TGGCAGTGTTTTTATGACTTTTATAC
87035	ENTPD1	GGCAGATACTGTCTCTTTCA
87036	OPHN1	ACTGAGGATATGGACACTGGTG
87037	SEPP1	AACAACAAAGACATGCTTTCC
87038	SIT	TCCACAGACTGGAGTGGACCTGGA
87039	H1F0	GCGGGAGGGGGAGGGGGAGT
87040	DSCR3	GCAGGATCACAGCTCACG
87041	NCOA6IP	CCCCTCGGAGCCACTTCCGGCGGCA
87042	PODXL	CCCAGCGCTGGGTTCTCTCCAC
87043	SORBS1	GCCAGAAATGCCTCC
87044	SHOX	ACGATTTTCTTTACTACCA
87045	LARS	AATTATTCAACTAAGAACCAATAATG
87046	CDYL	GAACTATATATAAACTGTACA
87047	GRF2	TTCCTGCCTCCTTCCTCTGTGG
87048	APM1	TGTCACCCAGGCTGGAGTACAG
87048	TRAF5	TGTCACCCAGGCTGGAGTACAG
87049	CASP10	TGTCACCCAGACTGGAGTGCAG
87049	HUS1	TGTCACCCAGACTGGAGTGCAG
87050	TOP1	CACGCCGCCTCGCCTGCCGCC
87051	DLEC1	CCTGCACTGCCAGCATCTGGAGAC
87052	FGFR1	CAGAAGGCAGAGGTTGCAGTGA
87053	SYT4	TTCAGCACCTCGGACAGAACACGCA
87054	ROM1	GTCAGCGAGCTGGACTGGGGT
87055	GABRP	ACTGCTTGACCCAGGAACAAGTGG
87056	MFNG	CTCATTTCCCAGCCTTTCTTG
87057	CBFA2T1	AAGATGTTGAATTTCTTCTGTTCA
87058	SH3BGR	TCTTCCACTTCTCCAGAAA
87059	TNFRSF10C	AGTCCTGGTGTCTCCAGCC
87060	NEDD4	ATGGATACACATGTGTATATCTGTA
87061	KCND2	TATCGTTTAACTTTGCACCTA
87062	BENE	CCTCCAAGGCTGGAGTGCAGT
87063	KIR2DL1	GCTTTCAGTCTTCTGTCAGCAGT
87063	KIR2DL2	GCTTTCAGTCTTCTGTCAGCAGT
87064	ATP7A	TGCAGCCCAGGCTGGAGTGCAG
87065	BRCA1	GAAGTTAACCACAGTCGGGA
87066	PRKY	GAGTGAGACTCCCATCTCAAAAA
87067	TRAF5	TTTTGCCATGTTGGCCAAGCTGATC

87068	CYB561	CTGAGGCAGGAGAATGGTGTGA
87068	FUT6	CTGAGGCAGGAGAATGGTGTGA
87068	KAI1	CTGAGGCAGGAGAATGGTGTGA
87068	LDLR	CTGAGGCAGGAGAATGGTGTGA
87069	E2F3	TAAGCAGAGGGAGAGAACCTC
87070	IL17BR	CTGAGCCTCTTGTTTTTCCTCAGCT
87071	MPP5	AGGCAGCAGTATAAGCTGTAGATCTG
87072	BCL11A	TCCTGTAATGAAAGCTGTTTG
87073	RAD52	GCTGTGGGTGAGGAGGTAGGT
87074	VANGL2	CAGGGTCCCCACCCCTTTTCTCCC
87075	PPP2CB	CAGTCTAACAGTTTGCCTGCTGT
87076	BPHL	AGGCTGAGGTGGGAGAATTGCC
87077	PARK2	TCACTATGTCCATGAAAAACAGCAGAG
87078	PFKL	CCTGCCAGGCCCTCCAGCAGGAGGA
87079	MGA	AGGCATCTGTTTGTTTGTGTCTT
87080	HDAC5	CTCCACCCATTTTCCTGCATTCTGTC
87081	TNFAIP2	TCAGAGGCAGAGTCAGAGGCCT
87082	PLEK	TTGCAATTTTTGACCCTGACCA
87083	CHD2	GTTATTTGGAAGCAGTTTCCTTT
87084	SGCG	CATCTGCCTCTGGCTGCCTGCGT
87085	RFNG	GTGGGCTGCGGTGATGGGTGTT
87086	TEM7	AGGCTGAGCCAGGAGGATCACT
87087	PPP1R3C	CTCATAAGATGGTCCACTCTG
87088	MN1	CATCCCCAGTCCAGCCTGGGCAA
87089	TACR1	TTCAGCTTTCAAAAAGAGTGC
87090	KCNA6	TCCTAGCTTCAGGCTAC
87091	EPB49	AGAGGTGAGAGGAATGAGGGG
87092	PIP5K1B	TCACTACTAACTACAGATGAC
87093	ISLR	TGGGAGCAGCAGAGAAATAAAC
87094	SUSP1	AAATGATTAATTTGATATTCTTT
87095	SLC22A12	GCTCTGAAGCCCATGGCCCAG
87096	BMPR2	CTTTTCTTTGCCCTCCTGATTCTTGGCT
87097	CSF1R	CCCAAGCTGACTCATCCTAACT
87098	MPDU1	GCTGTTTAACACTATCCTGGGCAA
87099	LHX2	CCTCCTCCTCTTCAATTCTCCCGGT
87100	GATA2	ATGAAAGGAATAAAACCTACA
87101	PFKFB4	GTGGCTCCTGACCTGCTGCTA
87102	CST	TGTCATCCAGAGCTGGAGTGCAGCGGCACA
87103	TMPRSS3	GCTCACTGCAGCCTCCGCTT
87104	CBFA2T2	TGTCACTCAGGCTGGAGCACAGT
87105	POLR2C	GCTTCAGCAAAAACGGAGA
87106	RAB27A	GTAATATGAGCAACCAAAGTGGG
87107	P53AIP1	CCCTCCTCCTCCTCGGAATCCT
87108	FAAH	GGAGCAGTACTACGTGGGAGAGC
87109	NR3C2	GGGGCAGCAGCTGCCTCTGA
87110	TRIM14	CCACTGCACTCCAGCCTGGGGACAGAG
87111	G2A	GGCCCTCTGGGCTCCTGCCTC
87112	F5	CTGCCCAGGTCCTGGGGTGGTG
87113	GFI1	CCTCCACTCCCTTCTGACTTTCC
87114	ADK	GAGCTGAAAACACAAGCCCAGGAGTGCA

87115	MLC1	GGACAGATCAGGTCAGAGCCCAG
87116	STXBP1	GAAGTCAGGCCAGCGTCCTCCTC
87117	FACL6	GACCACCATGCTGATCGCTTCT
87118	SLN	CCCCACTGCTGTCATTGTCACAGGAT
87119	ITPKB	AACTGCACTACAAGACACTTTG
87120	RAB27A	CCAGATTTGAAGACTCATGCC
87121	NFIX	GGGGGGAGAAGAAATTTTGAG
87122	RPN1	CGGGAGGCAGAGGTTGCAGCCG
87123	TPM4	CACAGCGCTCCAGCCTGGTCGA
87124	INSRR	CATCATGGAGTTAATGACCCGTGG
87125	SLC2A2	CCTGGTTTTCACATACACTCA
87126	HBZ	GCCCAACTCCAGTGCAGCTGCC
87127	FCGR2A	ATCTCGAACTTCTGGCCTCTAGCGAT
87128	F2RL2	TTGCAACCTCTGCCTCCCAGGT
87129	KIT	GTTTTTAAATAGAGTTTGCTA
87130	GCNT3	GTGAAGGAGGGATATGTGGTAGA
87131	MSF	CTGCCACCGACTGCCCAGCCAC
87132	G6PT1	TGACTTCTGCTGGGTCCTAAG
87133	RGS2	TGAGGGGAAGGACTGTGACCTGCCATA
87134	ID3	TGGTGCTCAGGAGCGAAGGACTGT
87135	FHIT	TCAACCAGTGATCCCCCACCT
87136	DIAPH2	TTTATCTCCCTTTCCACTCTC
87137	BPHL	CAGCCTCTAGCTTCAGGCTGGGCACGG
87138	PPP1CB	GGCAATGTTGATTAATCTCAGTAT
87139	LPIN2	GTTGATTGTGTCTCAAACCATGA
87140	PRSS11	GAAGAAGCCCCACGGGAGCCAG
87141	EMP2	CTTCTGCTGCAGTACAGAATCCACA
87142	PPP2R4	CCAGGGCCAGACAGCCCT
87143	MLANA	GAGATGGAGTTTCGC
87144	CDY1	GCCCTAATCCATCTTCATAGCCCAAA
87145	MAD1L1	GGCTTCCAGGGCTCCAACTTGCAGAC
87146	HMG20B	GCCGGCTTTGCCCATCCTGCT
87147	FOXD2	TTAGGTCCGCACTCCTCAGCCT
87148	CACNB1	TGGGATGGTGCCCAGGGGTTGCCTTG
87149	KCNJ5	GTGCTGTTTGGGGGCTCAGGAGCCATC
87150	DPH2L2	TCTGTCCTTGTCAAAAGGCAGGTG
87151	LMAN1	TTTTTTAGAGGTCAGACTTCCTA
87152	IRS1	CCCTGTGCCGGACTCCAGCCGGGGCG
87153	RBL1	GCCTCTAATCCCAGGACTTTGG
87154	RRM2	AGTGCTGGTAGTATCACCTTTTGCCA
87155	SLC14A1	GTCATTTCTGCCTGACTGCTCC
87156	CLCA2	TATTAAAATGCATTGAGTTTTTGTA
87157	TRADD	CCACAGGAGGCTGAAGCGGGT
87158	FPRL1	CCACTGCATTTGCAGCCTTGAG
87159	MPO	GCCCAGCCCTGTTCTGGGTGCAG
87160	SCAMP1	GGATATTTCCTGTTCACTTGTGCA
87161	CXCL6	ATTGCCCAGTCTTCAGCGGAGCAGT
87162	NR4A1	TCTCTTCCTACCCTCCTTCCACA
87163	SRD5A1	GTTTCTCTCTGTCTTCTAGTC
87164	SLC4A7	TATATTTCTTCCACTGTTTTTGAAA

87165	EYA1	TTGTTAGCATTTTCAATGT
87166	TACR1	TTCCACCCTCCTGTCTGGCT
87167	ERBB3	AGGGAGGAAACCTAGCAGAGGAA
87168	CNTN3	CAAAATCAGTTTTTTACCTCTTTCCTA
87169	PIK3R2	ATCCAGGGGTCCTCATTTCTCC
87170	SMARCD2	AGTAGGACTGCTGGAGGCT
87171	MECP2	GCCTTTTGTTCATTTCATC
87172	DBT	ATCATCTGATAGTGTCTTATTTA
87173	NUCB1	GCTCTTCCCTTCTGTCCTCCG
87174	RFX5	AGTCTACTAGTACCTGGTTGCTGCCTC
87175	STIM1	GCATCAATACTCCTAGGGCTCAGG
87176	CALCR	GGTTGAAGAAAACAAAATAGCT
87177	CORO1C	CAGTGCCAGGCTGGAGGCGGC
87178	DLX4	CATTTGTGAGCAAAAGCAGAAGTGGA
87179	RPP30	TGCTCAGGCTGGAGTACAGTGG
87180	GPR61	ACGTGTGCAAAAGCCT
87181	CD5	CTCTGTCCCTGGTAAGGAGTGACAAG
87182	SLC20A2	TGAAACTATGGAAATGCTGCTA
87183	PPP2R5C	GTGCAGCTCTGGTACCTCCTGCCCAC
87184	ZNF179	CCCTTCCCAAATCTGCTCCAGCAGG
87185	ITGB3	GCCAGCACCATCTCTTTACCTCC
87186	AHR	CGCCCAAACTGGAGTGCAGTG
87187	CFL2	TGCTTTTGTATCTTGTCATAGTTATCCACA
87188	CLCA3	CTTTATTCCTCCACAGGAACCCAGCA
87189	FMN2	CCCTTCAGTCCCTCCAGTGTGT
87190	HDAC5	AGCCTACTTCCCCTTCCCCGGGGCTG
87191	SRGAP1	TGAACAATGCGTAAAAGGTG
87192	MSR1	GTTTTTAAATGGAATTTTCTA
87193	KCNE3	GTGACAGAGCAAGGCTCTG
87194	CBFA2T2	GGTGGGGAGTGGAAATTCAGC
87195	DHFR	GTGAGCTGCCATTCCACACCC
87196	PTK2	GGAAGAGGAGAGCATGAAGCAAA
87197	NRIP1	CACTCACCACAGAAAACCATTCTTTA
87198	RARG	CAGGCTGGGGCAGTGGGCA
87199	PVR	AAGACTCCCAGATCAGCTACCAGGCAG
87200	KCNMA1	AGAGAATAGTATTCCAATCATG
87201	LMO1	TGAGGCTGAAAGCTGTGTCGT
87202	PPT2	AGCGTGGCCGTTCGGGAGGCGGAA
87203	PTPN11	CAATGTAGACAACATTATATT
87204	ZNF41	ACCTCTTGAGCTCCTGGAAATAGTAGAAT
87205	ALDOA	TCCGTTATTTTAGGAGGTCCCTG
87206	ATP5G1	CCAAGCAGGGGTTGCAGGGCAGTAG
87207	ACP2	CTCCAGCCTGAAGTCTTCGGC
87208	DLST	CTTCTCCCTAGTGCTGGTAT
87209	ROR2	GTTACCCACGTTGGGATCCAGT
87210	EFNA1	CCCAGCCCTGGGAACCACTCCCAC
87211	PRKAR1A	CAAAATAATCTATATTAAATGAGGGTTTCT
87212	WNT8B	CCTAGAGGCAGAGGTTGAAGATG
87213	SDPR	TTGCTCTTAGGTTCTATCTCTGT
87214	CYP26A1	CTCTAACCTCTCCAGCT

87215	TOP3B	CACCCAGGCTGCAGTGCCATG
87216	POLA	GTTGTGCCTTCTTCTTAAGAATAA
87217	WHSC1	AAGCTTAGATTGTAGCTGTTC
87218	DLGAP2	ATGGAAAGGTAAATGGTCAGA
87219	TPM4	TTTGGTTCCTGGGAGAATAGGCA
87220	CBR3	GCAAAACTGGTAACGTCTGCTTCGGAG
87221	SP4	CCCCACCCACCTCTATCCCAGTG
87222	LEP	CGAGGGTTGGGTTCATCTGA
87223	RPL10	TCTCAGTTTACAGCCATTTCTTAGGT
87224	RRM2	GCACAGCCAGTTAAAAGATGCAGCCTC
87225	COL4A4	CCCCATCAGGAGGACATGGCTCT
87226	DSC2	TGCTTGGAAACTGTTGTTTTCCTGAAC
87227	ACOX1	TCCAAGCTTTCCTGCTCAGTGT
87228	KCNS2	GGGGTGACTGGGTAGAGGCCAG
87229	CD80	AGATCTGAAGGTCTCACCTCC
87230	SACM1L	AGGAGGTGGTTGTGCAGGA
87231	ABCD3	GTGTCTTGGAGTGCATTTG
87232	CDO1	ATTTTATTTTTTCAGTCTTAC
87233	KPNB2	AAAATGTTACCCTTTACAGGG
87234	SSX3	TTCCAAAATCAGAGTCAGACTACTCC
87235	PRKCABP	GGCTGGGTTCTGGGCCTGTATCG
87236	PML	TTCCTTGGTTTATTACAGCCAGTGGGG
87237	FZD4	CCCCAGCATCAAAAAACCAATG
87238	DNAH11	CCTCTAGCCTCTGCTGGAGTGCAGTG
87239	PPP1R14B	CTGCCCCCTCAGTTTTCCACTT
87240	ADCY1	ACCAGAAGGAGCTGAGTTTGG
87241	POLR2I	TGTAATAAACACCAGATTCCA
87242	HNRPF	TTCATTCTAGTTTATATTTTCA
87243	IL17F	ACATACTTTTTTCCAAAAGCCT
87244	WNT1	TCGCCCACCCGAGTACCTCCAGTCA
87245	AXIN1	TTGTCTCTTGCCTGCCACTGTG
87246	CORO1C	CCTTCCTGCCTTTTAGCTCTA
87247	PON2	TTTTAACAAAAAAGGAAAATGA
87248	KCNJ10	ATGCAAGGGCCTTCCTCTCTTA
87249	PRODH	TGCTGGAGGTGAGGTCAGGTGCC
87250	ZNF140	TGAGGGAAGGGGGATTCCTTTT
87251	TM6SF2	CACCAAACAGACCATCTTCCCA
87252	SCAMP1	GCTTTTTAGCTGTTTCAGTCACC
87253	ADAM19	GAAAACTATGGACTGTGCTGCTG
87254	TKT	TACATTCCTGAGATTCTGGGAA
87255	DFFB	GACCTCAGGTGATCCGCCCACCTCA
87255	VHL	GACCTCAGGTGATCCGCCCACCTCA
87256	TSC2	CTCCTGCACTGGCCTTG
87257	IL15	GTGAATCCTCTTCTTTATACTGTAATTT
87258	ITGB4	AGCCCCATCTCCTAGCGGCAGCC
87259	DLG4	TTAGTAAAGCCTCTGAGAC
87260	RAD23B	ATCTCATGGCATATTAAAAGAAAAATC
87261	UBE2L3	TTTCTTCCCTACCCTTGCCA
87262	POU4F1	TGGAGTGTCCGTTATCCTGCC
87263	GFRA1	CCTGGCCCAACTCGGCCCTTCGAGCT

87264	NPAT	GAGTTTCTCTCAAAAGGTCC
87265	FLRT2	TGAAGTAGCTAATATTACAGC
87266	EYA1	GTTTCCTGAATACCAGTGGAGG
87267	TCIRG1	GTCCCGGGCTGGCGGGAGTGCAGTTCTGAG
87268	RNF6	CAAATGTTAAATTATCCAGAA
87269	IDH3B	CTTCCTGGGTATATGACTCGGCAC
87270	OGDH	CCGTCCTCCTCGCTGTGCCA
87271	MYH11	TTCTTTCCCCCTCTCCTGGTTTCC
87272	PHKG2	ACTCTGAGATCAGAGCTGGG
87273	RPP30	TTCAGAAGAAGACAAAGAGAGATTGAA
87274	NCOA6	GTCACCGAGGCTGGAGTGCAGT
87275	MYD88	ATGTCCACTTGCTGGA
87276	SOCS5	AGCCGAATCCACTCTCAT
87277	CNTNAP2	CAGTGCCTAATCCTGCTTTGT
87278	ESRRA	GGGAGGGAAGGGGATGGAGGC
87279	APOC4	GACCAGCCTGGGCAACACAGCG
87280	PAEP	TCGCCATCCCCTTCCTGCTGC
87281	LBX1	AACCTATATAGCGGGTTCTCCCC
87282	RPN1	CCGGGAGGCAGAGGTTGCAGCCGGCTG
87283	SOCS5	TGCTTCTTAGTAACTGAACTG
87284	STS	TCGTCAACTTTCTTAGCTC
87285	AMPD2	TCGGTTCTTCCCCCTCCTCCC
87286	USP14	TATCTTCTTTGCCTGCCTGTA
87287	PDGFB	ACCTCCAGGCAGGCCAGGCTGC
87288	DGCR2	TCACCGCCACTACTGCAGCTCAGTGC
87289	MSF	TGAAGAGACAATGCTACTTCAGT
87290	RPS26	CTCTGGAGAAAAATAAAATGGAAA
87291	PODXL	CAGCCTCGTGTACCCATCTTCCCA
87292	STAU2	TTGATGTAAAATACTCTGTCATT
87293	ITGAL	CCCCAGCCTCTTCTAGAGCCG
87294	PIGR	CTGTTGAGAGAACCTCAGGTACGG
87295	RAD17	TGCAGCTCCGGGAAACAAGTGAATT
87296	GATA2	GATCCTTCCCAAGGTACAGCTGTATA
87297	ATP1B1	CAGAAAAACACAAAAAGGTGA
87298	TIMELESS	CTTTCTCTTGGAGGTGGGTCGCA
87299	CAST	CAATGTTTTAAACATTCTTC
87300	PPP2R2B	CCTGAATCCTGTCCCTGCCATCTCGC
87301	HDAC4	ATGAATGCAGATTGCGAAGGTCC
87302	HNF4A	GCCTTTCTCCTCCAACCCAACC
87303	COL4A3	ACTGAAAGAGTCATTGTTT
87304	SFRS1	TAAATCTGCATGTCCTCTGTGTGACT
87305	NDST2	TCCCACCAACTGAGCTGTGTG
87306	IGF1	ACACTTTTCAAAATATGTGG
87307	GCH1	CTGGAGTTTAAGTACAGTGA
87308	UBL3	CTGTACTTACTAAGTGTCA
87309	MSI1	AGGGCTGCGGGGAGGCCAGGCCGAGC
87310	GNB3	GGCTGGAGAAAGGGAAGTGGAAG
87311	PROK1	AATTAGACATTCCTGGGCACAGG
87312	PDE1B	GGCTGCTGCCTTCCTGTCCTCT
87313	CR1	TTGACACCATTTTCCTGCCTCAGCCT

87314	LIF	CGTGATCTTCCCTGCAGCCT
87315	OTOF	GCTTGCGGGGGCCGCCTGTCCTCA
87316	XRCC2	AACAACGAGATACCATCTCAC
87317	PTK7	TCCTCACCCTCATCCTTTGGGAGGCTG
87318	ACE	GGATGTGAATGGCATGCTGAA
87319	ARF4L	GGATGTCTTTGCATATCTCTCTC
87320	EGLN2	AGGAGTGCCTAGTGAGGCCTC
87321	ACADL	CTCATTTCGGCTACCATTTGCT
87322	ENAM	GAAAGAGAAATCACTGACA
87323	MMP11	TCATGCAGGAGACCCCAGG
87324	MYO1E	ACATGGGGCAGAGGAGCTCCAGGC
87325	PRX	GCCTTCAGTGGAGCTAGACCTGC
87326	ADAM28	TCTTTTTCTTTTCATCTGGC
87327	PIN1	GAGGCTCCCAGACCCAGGGCAGTGTG
87328	PODXL	GGAGGTGGGCAGGATGGAGAAC
87329	FGF2	GTAAAGTTTTCAATACAAATTCTT
87330	GPR56	CTGTCCATCTGGGCCTTTGTA
87331	EDG8	ATGGGCACAATTATAGCTCACT
87332	VDR	CAGGTCGAGCCCAGCCCAGCTGG
87333	ITGA6	GATGAATGTCGGAAAAGGGTG
87334	TEM6	CCCATGCCACCCCACCAT
87335	LHX2	CAACATTTGTGTCACTGTAC
87336	FZD4	TGGAGAGAGTTGCTATTCCAGTC
87337	RFNG	GGGCTCAGCCTGGCAGGCTTTGT
87338	TBL2	GAGCCTTCGAACTAAAGGG
87339	SEPP1	CCATTTATCTTTTGTATATCTAAGA
87340	BAT4	GGCCACGTTGAGGAAGGCGAAGGGCAT
87341	BCL6	AGGTGAAGGAATATATGGCAGAGTTG
87342	EDNRA	AACACAATATGGGCTCAGGTCACTTT
87343	MARK1	ATACATATATGAGGTACAGTTTT
87344	ITGA5	GGCCCAGGGCCAGAGCCCAG
87345	MOCS2	ACATCAGGATAGTTTACTGAAGCACAA
87346	SORCS1	GGCTGTAAATCCTAATTAAAAATAGA
87347	ALDH3B2	CCACAGCAGCTCCATCCACTG
87348	TNFRSF10C	CCTGCCCCTGCCCCAAGTCCTG
87349	ZNF202	CTAAGCACAGCTTGTCCTGGGTG
87350	USP18	CTGGGGGTTTTGGAGTGATCACGA
87351	SULT2A1	GCCTGTAATCCCAGCACTATGG
87352	TBX6	GCATGTAATCCCAGCACTCTGG
87353	NGFR	CCCCAGCCCTGTGGAAGGGACTAGGAG
87354	CXCR4	TAGAAATGCTGGTTTTTCAGTTTTCAG
87355	FTSJ2	TTGGGAAGAGAAAGTTATCAAGA
87356	GTF2F1	GGGTCCTCGCTCAGGCACAG
87357	RFP	TCCACGCCCTTGCAGTGGGAGA
87358	LZTS1	ATGCCTGCGCCTGCTGCCTGCTGAGATGA
87359	SOX9	ACTGCCCCCGGTTGCCTGCCTGGG
87360	CR1	GCACCTGCCAACACGCCCGG
87361	TPMT	GTTGCCCAACCTGGAGTGCAGTG
87362	CHRNB2	GACACAATGGTAGCTCTGAAGGGA
87363	PA2G4	TCCAACAACAACCAGCTCCAA

87364	SERPINA4	AGAGCTGAGACAGCCACCCAGGGGGTCCACT
87365	NR3C1	GACCACCCTTCTCATTCCA
87366	CYP3A43	GCTTAATTAACCTAGTATACTGGGTGA
87367	SLC25A15	CGGGAGGCAGAAGTTGCAGTG
87368	RABIF	CACTGCTACAGCCTAGAAGGTGA
87369	NSF	ATCCTAAGGTGCTTACCTCA
87370	ITPR1	TTTTTTAAAGGGAACTTTCTA
87371	PFKFB3	TAGAAGCTGTAGAGATAGGCTT
87372	NHP2L1	GTGTCCTTGCGGTGCTGGGCAGCAGAC
87373	ABR	ACCCAGCACTCCAGACTCGAGGG
87374	CHC1	TCAGTTCCTGCCTTTTCTCAT
87375	TRIM9	AGCATTCACATTCTCAGGATAAA
87376	GALC	GGTCTGTCCTCACATGTGCACTGGTA
87377	TYRO3	CTCCCGCAGCCCTCCTCCCTCCC
87378	PNOC	TTTTGTAATTCCTCTAGCTACC
87379	ADORA2B	ACCTGTAATTCCAGCACTTTGG
87380	MAFF	ATCTGTAATCCCAGCACTTTGG
87381	HM13	AGGCTGAGGTAGGAGAATCATT
87382	PRKACG	CCCCACCCTCCAGGGTTGGGGGAGCAG
87383	ASB1	GCACAGCCCAGGGCCTG
87384	F2R	GCTGGGAGGTTAAAAAGAA
87385	MAP3K7IP1	AGTAACCCTGGGAGGCATAGGAG
87386	PRKAR2B	TTGCAATTCTCTGTATTCTA
87387	CKTSF1B1	CCTCCTGGCAGGAGCCTGCTT
87388	UBE4A	TGAAACATTCCAGGAAGGTTACTTCTTGT
87389	PTK2	GGCTGCCAGGCTGGAGTGGAGT
87390	SLC4A7	TCTATATTGTGAATCATCCTGCC
87391	MCC	CCTCCAGCATTTAAAAGGACTG
87392	EFNB2	TGTGGTACTGGCAATAAGAT
87393	SNAP25	TATCATTATAGCATGTAATA
87394	KCNK10	AAGAATATATTTCACTGTGCC
87395	G2A	CCAGAACAACAGTTGGCAGGAC
87396	TK1	TGCTTCTTCCCCTCTGCGGCTTTC
87397	MAN1A1	TTTTGCAGAGCTCTGCTATCACT
87398	CITED4	ATTGCAGGCCTCTGCCTGCTGC
87399	UTY	CCAGCACTGCGAGCTTCTGCCTTCCCT
87400	INPP5B	CACTGCACTCCAGCCTGGGAGACAGAG
87401	BRIP1	CAGGCTGGAATGCAGTGGTGTG
87402	LZTR1	CCAGGCCTGGTTTTCACAGG
87403	KCNH5	CAATGCCATTATTTTGTTCCAT
87404	SNX3	ACTGGTATAACATGCCTTCA
87405	PTPRO	GAGCCAGCACTATCTGTACTCCA
87406	ADCY1	GCATACAACTGTCCACTAGGA
87407	DCX	ACTAGGTCAATAACCTGAGGGAA
87408	CA12	CTCCTCCATTTTCCTCCCGC
87409	PIGR	AGCTGATTGCAGAAAGGAGAGA
87410	STK6	CATGACACTCTGAA
87411	AQP6	AGGAAGGACATCTGGGAGG
87412	EXTL2	TACAGTTTCTTTGACTCCTGGC
87413	CACNA1A	AGGGCCTGCACGAACCCTACA

87414	HK2	CTTCATCTTGACATGTAATGAATGGTC
87415	PCDHA2	CTGGTAAATGAAAATATTAC
87416	RFX1	TCTTTCTTAAAACAATAAATTCCGCT
87417	CHRNA10	CTTTGCAGGGCTTTGGCTGTTACCT
87418	SERPIND1	CTCACCTCCCCACTCTTCACAGCAA
87419	FZD3	TTTCAGTTGAAGGAAGAAATAGC
87420	DXS1283E	AGACTTTTTTGAAGTATCTT
87421	GORASP1	TGTCATGTGTCCTTGTCCCTAGGC
87422	GRIK3	AGGCCTGGGGGCTGGGCAGAGGAA
87423	CAMK2A	CCTGCCAGAGGAAACTGAGCTG
87424	ZNF133	TCACAGTCTAAGGCTGGAAGTTTAATG
87425	SLC14A1	GAGGAAGAGATAGCCATGGAGGACAGC
87426	EDNRB	TCATTGCCTCGTCACATCAATGCAAAAG
87427	RAD50	AAAAACTGAGTATTAATATCTGAG
87428	SLC22A3	TGTCCTGTACCCTCTACCTC
87429	ARHGAP6	CGCAACCTCGGGCGCCGGGGCA
87430	LTB4R	CCTAGTCACAGCTCCAACCTACA
87431	SRP	CTCTGACAGCTGTGAGTGTGTGTGAGC
87432	PLA2R1	ACAGGTTCTGGGCTCTCAACTGA
87433	GAS7	GCTCACGCCTGTAATCCCAGCT
87434	PTGIS	CCTCCAAACACTGGGCTCTGAGGAGTGGA
87435	PER2	AAGCTTCGTTCCAGAGCCCAG
87436	SOX4	ACTATGTACTGCGTTTTTCATTCT
87437	CDR1	ATTTTTCTGGAAGACACTGACTGA
87438	KCNA4	CTGCTCCCCCCTCAGCATCTC
87439	HAP1	ACTCTGCAGCAGTGGCAGCAG
87440	DMXL1	AACCCTGTTTCTGTCTGTTTT
87441	WISP1	AGGGAAAGGTCAGCCCGTTTCAGAAGG
87442	NRXN1	ATGTATCTTATAATCTTTTCTCCC
87443	LUZP1	TCAGGTCAAGAGACAACTGCCTT
87444	SH3BP2	CCTGCACGCCCTGTTCCCTCCACCTAGAC
87445	EFNA4	TCCCAAGGAGCCAGAGTCCTC
87446	ELF5	CCTCCTCTTTGGACCTAGCCA
87447	CDKN1A	GGCTTCATGCCAGCTACTTCCTCCT
87448	TRPC1	GATGGTCTTACGCCACAGGGTG
87449	PHLDA3	GGAGGCGCTGGAGCTGAAGGAA
87450	CNP	CCACAGCCAGAACCCCGAGCCCT
87451	SORCS3	ATATATGGGAGGAAAGGCCAC
87452	RAB36	TCACCCTTGTTGCCCAGGCTGGAGTGC
87453	MEOX1	GATTACATCAAGCTAATTGTGCGAGCT
87454	AHR	TCTGCCGCCCAAACTGGAGTGCAGTG
87455	MLC1	GTCATGCCCAGCTTGGAGTGCCACGTGGC
87456	CCNF	AACTCACTGTAACCTCCGCCTC
87457	PLS1	AAAAGAGATTTCTTTCCCT
87458	KLHL3	AGCTATGTCTCTACTCCAGG
87459	TEM1	GCTCTCAGGAACTCTGCTTCCT
87460	EEF2K	GGTCTCGAACTCCTGGACTTAAGTGAG
87461	AQP6	AGCCTCCCAAGTAGCTGGGATT
87461	CAMLG	AGCCTCCCAAGTAGCTGGGATT
87461	CLECSF12	AGCCTCCCAAGTAGCTGGGATT

87461	DFFB	AGCCTCCCAAGTAGCTGGGATT
87461	EEF2K	AGCCTCCCAAGTAGCTGGGATT
87461	F2RL2	AGCCTCCCAAGTAGCTGGGATT
87461	FANCF	AGCCTCCCAAGTAGCTGGGATT
87461	FGF5	AGCCTCCCAAGTAGCTGGGATT
87461	NUMA1	AGCCTCCCAAGTAGCTGGGATT
87461	RAB36	AGCCTCCCAAGTAGCTGGGATT
87461	TLR5	AGCCTCCCAAGTAGCTGGGATT
87461	ZNF253	AGCCTCCCAAGTAGCTGGGATT
87462	C7	AGCTTCCCAAGCAGCTGGGATT
87463	LAMC1	TAGCCTTTAACACTATGCAACTTT
87464	TLX1	AACCCTGTAGGATTTTACTTCT
87465	TRO	CCATGTTTACAGATACCGCTAAT
87466	SLC16A2	TCCTCAAGGAGTTTGGAACAA
87467	AGXT	GACCCTGCAAGGTCCTCCAGGC
87468	PDGFRA	ACAAGCTGTATCACTGCCTTC
87469	KNS2	ACACAGCCGAGGCGGGCTCGG
87470	PTGIR	TTTATCCTGGAGTGCAGA
87471	RGS2	GAACAGCTTCCCTCACTGTGTA
87472	GAPD	CACTGCTGGGGAGTCCCTGCCA
87473	M17S2	TAATTGGCACCGTTGCTTTCTAA
87474	RAB11A	CCCACAGATACCACTGCTGCTC
87475	IL1A	TTGCACACACCTTCTTCTACA
87476	DAAM2	ACCCCTTCTCTAACACTAGCTTC
87477	CXCL13	ATGTATCCTTTCACACATTTGCC
87478	GRIN2B	GGCTCTGGCTAAATTCATGCTG
87479	PTGS1	TGAGATCACTGACTCTGACTCATCCC
87480	RP42	AAATACAACAGAAAATTGCACAG
87481	GPR92	CATCTGTCCCTGCAGCCATAGCC
87482	KRT3	CTCCCCTCCGCTCCCCACGCC
87483	IFNA14	TCATTGACTAATACATCATCTC
87484	CTSS	GAGGTTGAGAATGCAGTGAGCTTGT
87485	NCF2	CAAGCTGTACATTTGGTGCACT
87486	WHSC1	TGGAGGTGGAGCCTGCGGCTGG
87487	TAPBP	TTCCGCCCAGGCTGCAGTGCAGT
87488	ADAMTS13	TCTCCAATGTCCAAAAGGCT
87489	EGLN1	ACTTTAATTACAACTGAAAAATCAG
87490	PSMA1	CTGTCTCCTGGAAATGTTATGCA
87491	WNT5B	ATGGAAAGATGAAAATGGAAAGG
87492	MLC1	AGCAGCTCTCCTTCCCCTGCCTT
87493	ADCY1	GTAAAGCCTCTCTGACATCAAATGGG
87494	TAPBP	CTCAGCCTCCCAAGTAGCTCGG
87495	IRAK4	AGGCCGAGGCAGGCAGATCACC
87495	P2RX7	AGGCCGAGGCAGGCAGATCACC
87496	PZP	ATGGAAATGTTTGGGACCATACAGGCT
87497	PTK2	GTCCTCAGTCGCCAGCACTTA
87498	RFX2	CAGGAAGGATGTGGGACTCTG
87499	PRIM2A	GACTCAATCCTTTTCTGGACCA
87500	SLC16A2	TTTCATTCAAGGCCAAAGTCCTGA
87501	F2R	GCACTATTTATTTACAAATGTTT

87502	PDCL	GGGAGGTCAAGGCTGCAGTGAACCATG
87503	IRF1	GCTGGCCCTGCCTCCTGGG
87504	FOSL1	GCCCTACTCCCTGCAGATGCCACCCTA
87505	IL1RAPL2	AGGAAGAGTCTGGGAGGCAGG
87506	SHANK2	CAAGCAGATGTCACATGGAG
87507	GRAF	CGGGAGGCGGAGATTGCGGTG
87508	TRIM14	CAGGAGGCGGAGATTGCAGTG
87509	DRD2	TGCAGCCGCCTTCCTTGACCTTC
87510	CPD	TGTCATCTTCACTGCCAATCA
87511	PPP1R12B	TCCAACCAAAAGAAATGGATGTTT
87512	CFL2	TAGGAGTTTTATGTTTACCATGTGA
87513	MIPOL1	CTCATAGAATGCCTTTAATGCTAATCC
87514	GRM1	TTCCAATAATGTTTTATACATCA
87515	GNB3	ACCTTTCTCCCCCAACAGGATC
87516	ECT2	CATTTTAAAAGCAATT
87517	HMGCL	ATGGATGGGGACATGGAAATGAGAATA
87518	MYLK2	CTCCTAGCTGGAGTGCCATGG
87519	KCNA7	TCCAGCCTGGGCAACAGAGGG
87520	CLECSF12	AAGCAGGAACTCCTACTTTTTC
87521	ETF1	TACTTTTAACACTTTAGTGCCTG
87522	MHC2TA	TCTGACCCACTGCTTTTGGTCTGT
87523	HDAC5	GCAGGATTGAGGGAGCCAGGGGA
87524	RFNG	AGCCCCCTATGGGCTCAGTGGG
87525	MAP3K9	TAGGGGATGAGGTTGCTGTGA
87526	CPT1B	GTACCAGCGAGTCCACAGCCTT
87527	SLC13A3	CCCAGGTATCTCTCAGATCTG
87528	BAP1	CCACTTCCCCTTTTCCCAGTATTA
87529	KCNH5	GATTCAGAGAACAGTGTGACCA
87530	GLRX2	TCAACAGCAATCGCCCATTTCCA
87531	CCNT2	TTAGCATTCAGAATGACACCATATTCTTA
87532	DFFB	GCTCAGGCTGGAGTGCAGTGATGC
87533	KRTHB6	CTCAAAGCTTGGAGGAACGGG
87534	IRTA2	ATCAGCCTGGTGGGGCTACTGCAGT
87535	IL19	TGAGAGGAGACACAAGGAGCAGC
87536	PIGA	TGCCTGTAAAACATGTGATTTG
87537	NTRK3	ACATCTCCCTTCCACCTCA
87538	CREBL2	TCTCAGCCTTTATGGACCTAAT
87539	UBE2L3	CACAGCCCTCCCTCGGCACACTTTGA
87540	FZD4	GTCAATCATGTCGAGTCACTGGA
87541	HPS4	TGCACCCAGGAGGTGACTGGGA
87542	HSD11B2	GACTTCACTGCAGCCTTTCACAGGACTC
87543	HOXA10	TTTGGCTGATTTAAAAAGTGAG
87544	DPYSL3	GGATTTCCCCTAGCAAGCTACC
87545	AAT1	CCCAAGTGTCCATCTCCATCGGA
87546	ADRBK1	GCACAGCCCTCCCGCCCCT
87547	TCTA	TCATCCCTTAAGCAAGCAGGG
87548	LZTS1	GGGGACCTGGCACTGGGAGGCAGG
87549	ITGA11	TGTGGAGGGCATTTGCTGCCCCA
87550	KIP2	GTGAAGCTGTGGGTGCAGTGGCGC
87551	SIP	TCAGCCCAGGAGTTTAAGGCTGCA

87552	FGFRL1	CTGGACACACACTTCCAGACA
87553	MAFG	GGCTTGGAGTCCAGAGTTGGT
87554	UBE2G2	CCGCCAATCAGCTCAGCATTCTCCC
87555	HERC2	CAGGCAGCAGAGCACTCGCTGCTGTGT
87556	CYP2J2	TGAAACCACTGGTGTCTGCTCAG
87557	C4B	ACACAGCCTGGGACCAGGGCATATTAA
87558	GPR92	TTCATCTGCTGACTTCTGTCTAGGCT
87559	TOP2B	TGGTTACAAACTACAGACCTGC
87560	NUMBL	CATCATCTCCAGGTGCCCCA
87561	COL9A2	CCAGCTCAGTATTTAAACAT
87562	GPR23	GAAGAAAAAGAAAATTAACAG
87563	GALGT	ACTGTCAGGCTGGGCCTGCCTCCTTG
87564	TNFRSF11A	AAGGAAGAATAAAGTTGAAATT
87565	PSMD7	CAGGAGTTGAATTTTCCTCA
87566	SDC4	TGCTGGGTGGTTGAGTGAGTGAA
87567	GPR81	CACAGGACCCGCATCCTGGGTG
87568	SORCS2	CAGGGAGGAGAGTAACTGAAGGTC
87569	MLLT7	TCTATGCAGTGGCCCCTTAGG
87570	KCNC3	CCTCGCTCCTCCTCCCACCCA
87571	ENTPD3	GGCAATGCAGGTGAAGTGGCTGCCTTC
87572	MAPK1	GTTGACTCGGTGTTCTGTCCCA
87573	ATM	CCCAGTGTGCTGGGATTACAGG
87574	SLC7A5	TTTCCTGAGCTGTCGCTGCCTCCA
87575	BPHL	GGTGCTCAGGAAGCTGAGGTGGGA
87576	C1orf1	TGCATTCCAGCCTAGGCG
87577	EGR1	ACTGCTTGACCGTACTCTCACA
87578	TCL1A	CCTCACAGCACTAGTATTTC
87579	GJB2	CTATGTTCCTGTGTTGTGTGCAT
87580	VPS41	GACCCCAGGAGACGTAGGTTGT
87581	REGL	CTCACCCAGGCTGAGGGTGCCTT
87582	DIAPH2	GCTTAACACAACAGAAACTTATTT
87583	KIF1B	TCTGATGTCTGTGCTGCTGTC
87584	CCND2	AAAACCTGCAGAGTAGTTAG
87585	ARF1	GAAGGGAGACCCCGCCTAGC
87586	EDAR	ACATTAAAACAAAGTCTCTGACTT
87587	FMR2	CATCTCAAGACAATTTGTCAAA
87588	CPD	GAGTTGTGCCTTTCTTTACTCACA
87589	LOH11CR2A	AAGACAGAGACTGCAGGGGTCCA
87590	EEF2K	CAGGCTGGAGTGCAGTGACATG
87591	PDE7A	AGACCAGCCTGGCCAAAATAGTGA
87592	LIF	CTCTCCTCCCCATCGTCCC
87593	BDKRB2	CTGGAGGGCTAGAACCTGGAGA
87594	ATSV	GGTGGGTTGAGACCAGGAAGTCAGG
87595	IL10	ACCAGCCTGGTCAACATGGTG
87596	DIAPH1	GGGAGCTGCTCCTAAGGAAGC
87597	RAD1	CTGCAGTTTCAAGTTCCTGGGC
87598	SOX13	GAGGGAGTTGGGACAGGAGGATTGATGG
87599	MAP1A	CTGCTTAGGGGAAGGTGATTGGAG
87600	MFI2	TGAGTAGCTGGGATGACAGGCGT
87601	EVC	TCAGCACTGTGAA

87602	PIK3C2B	TTGGGGGTGGGTGGGTGGA
87603	PPP2R5C	ACAGAAATTGGAGTTTTAAA
87604	NUCB1	GCTGACCCCACTCCAGGACCTAGGCCCAGC
87605	LZTS1	TGCCAGATTCTGCCTCTCTGGAAAGAGG
87606	SLC2A2	AGGGTTTGAGGATTCCTGAGTGTGGG
87607	PRex1	GCCCTGGGCACGAGATTTGCT
87608	DPEP1	CGTGGGTGGCAGGACTGAACTTGAA
87609	ZNF264	CCTTCTGTTGCTGAATATTACTTGTC
87610	KCNK6	AGCCACGTCTGGCCTGTGTC
87611	SACM2L	GACTGCCTCTGAGTCATTGTGT
87612	DSCR3	CTGAGACGGAGTCTCAGTCTGTCACC
87613	NEO1	TTGTGCTGTGACTGCATCACC
87614	ARHD	GGCCCCTTCCCACCTGT
87615	P2RX7	CTGGGAGGTGGAGGTTGCATTG
87616	BECN1	TGTTTTCACTGGATTTTTATCTCT
87617	KCNK3	GGTGGGGGCTGGGTGCAGTG
87618	THOP1	TCTCCTCTCTGGGAAACGTCCC
87619	DRD1	GGTGTCAGGAGAGCCCTCTGCTGCTTT
87620	HK1	CTGCCTGAAGGCGAGTGTGGG
87621	CALB2	AGCCCCCTGCACCCACCCCTGCCC
87622	MAGEB4	TTACATACCTGGTTTGCTTA
87623	LAMP2	CACCATTGCACTCCAGCCTTGGG
87624	SLC13A1	ATGTTTATTAATGGGCCAA
87625	FBXL5	ATGGCAACTCTGCGTTGAGCCAGTCT
87626	PIGH	GAAGGATGAGACAAAAGGCCAG
87627	SLC22A1L	GCAAAGGCAGGCAAGGCCAGGC
87628	IL1R1	GCACTCCTCTGTCTCTGCTCTT
87629	PRIM2A	GCAGATCTCAGACTCCTGGGCT
87630	KRTHB6	TCTTCCCCAAAAAGCACCATGA
87631	FACL4	CCAACTGATCTGTTATAGGTCC
87632	ARHG	TGGGAACACTGGGTATTCTCATGAG
87633	LAMP2	GCCTGTAATCCCAGTTACTCGGG
87634	CACNG3	CTCCAGGCTCCGGAGCCATGCCCTGC
87635	F8	TCTCCAAAACTAGCATTCTTAA
87636	CHI3L1	AGGCCACACCCTGCCCTGCTCTG
87637	TM4SF5	CACCTGCTCCTTCCTGGACGCTCA
87638	CIT	CGGAGGCAGTGACTTGGGGCCAAG
87639	BACE2	TTGCCCAGGGTCCTGTGCCTGGATG
87640	ITGA2	AGTTTTAAAAGTCTATGATCTGATC
87641	ID4	TTTGTTTTGAAGCTTTACTAATCTA
87642	PDE7A	ATCGTGCCACTGCATTCCAGCCT
87643	HOXC11	GCTGTGGGACAGGGACCGGGCCTGGA
87644	C5	AATGATTTCAAATGCTG
87645	STS	GGCTGAGAAATGCAGAGAAGAATAAGA
87646	APM1	TGTTTTTAAGATGGAGTTTCCCTCTGT
87647	TNFAIP6	GGTCATTTTCATAAATATTGTTGCA
87648	NAPB	TGGTTCTGCAGCTTGAGTCCTCTGGTT
87649	PAK1	GAGCCCCCTCGAGGAACCTGG
87650	PIK3R1	GAGAGCGGAGGAGAGAGAGGCAGA
87651	PAX5	GCAAGCAGATGGGGGTGGGCACCTGAG

87652	NIPSNAP1	TTCCCTCACCCTGTATCCTGTCTCCCCT
87653	C18orf1	TATATGAATGTGTTGCACATGTCC
87654	EFNA3	TTCCCCTTCAGCTTCAGACCCC
87655	ATM	GTCCGCCCAGGCTGGGTGCAGT
87656	TADA2L	TTTCCCGCTCAGCCCTGGAGCG
87657	HDAC5	TCCTCTTGGTCTCAGCACTGATG
87658	TNFRSF8	TGGTGGTCGGCTCCAGCGC
87659	IL9R	GGGGAACCTGAGCTCAGAGGATGTGCTGC
87660	MSR1	GGTCTCTTTCCAAAGCATTTTT
87661	STK18	GAACACCTGACTTTGCTCTT
87662	RPL7A	TTTCCTTTCTCTCTCCTCC
87663	ORC4L	GGTGAAGCCTAGCAGAGGACGCGGCCA
87664	FZD3	TCTGCACTTGCCTTGCCCAATAGCCA
87665	ALDH1B1	AAGCCCAAACATCCCAAATGT
87666	SERPINB9	CCCAAGTAGCTGAGACTACAAGCACCC
87667	SRGAP2	CATACGTATATGTGTGTGTATA
87668	THBD	AAATGTTCAGAAGGTTGCTCTA
87669	NEDD4L	CACAGCCGCTGGGAGCGCCTCAG
87670	ZNF289	GCTGCTGCTGCCAGTGGCCTCTTC
87671	CASP8AP2	ACGGCTTTGCCTAGCCA
87672	MAOB	AGAATACTGTATTGTTACAGCTGA
87673	FCAR	TCGAGTAGCTGGGACCACACAGACAGG
87674	TLR5	CTGCAACCACTGCCTCCAGGGT
87675	FGF2	ATCGTGCCACTGCAGTCCAGCCT
87676	DSG2	TTACAGACACACAGAGACACATACAC
87677	GPLD1	AAACTAGTAAACTCCACCTT
87678	TCP10	TTGGAAAGATATAATTTCTTGA
87679	NPTX1	GGGCACCCCGACTCTGTCTCCAGGAG
87680	TM4SF2	AGGAAACTGAACTTGAGGTGGCCTC
87681	CBFB	CCCCTGAGGGAATCGCTTTTT
87682	CASP10	GTTCCCTTACTGTTTCA
87683	ADAM19	TGACTTCTCCCTATAAGAG
87684	POLS	TTTGGGGTTTTATTTTGATGTC
87685	PIP5K1B	TGACTTGCCATTTCATTTACA
87686	HHIP	TTCACATATGCACATACAC
87687	OPRD1	GCGAGGCAGAGGACAGATCAATG
87688	SUOX	CTGTGGTTTCAAACATCTACTG
87689	GPR61	GGAGAGAGGGCACGGGAGTTG
87690	CYP2F1	GGCAGATGTGGCATGTCTTTTTG
87691	MAPK3	GTCACCCAGGACCTGCCTCCTGCCTGC
87692	FMO4	TCTTCTTCTTTGTTTTCA
87693	KLK4	TGTTCCCAGCCCCTCCTCCCTCA
87694	HMG20A	CCTACCCCACACGGTGCTCAGTG
87695	GPR4	GGCTCTCCAGCGATCTTCCCA
87696	TGFBR1	TCTTGAGTCTAAAAATGACCTCA
87697	TADA2L	GAGGAAGACCAAAGCAGCA
87698	OAS1	GAACTTACCTCTTGCCAAAG
87699	CYBB	GCTTAAAAATGGACAAAAAGAA
87700	MAD2L1	CTGTATAGCTCCTTTTGACCT
87701	PCDH7	GCTGCGGTTTCAGGCGGCTGCT

87702	TRPV1	CACATGCTTCCACTCCATCCATA
87703	NR2E1	GAGCCTTGCAGGCTGGAGGGCGGCTG
87704	TAL1	CAGGCAATTCTCCTGCCTTTGCCTCC
87705	CCR2	GAAGAAGAGAATGTGACAGGCA
87706	TM4SF4	CCTAGCTGATAAAGCTTAG
87707	TLL1	ATGAAATTTAGAATACCAATGA
87708	TACC1	CTCTCCTCTGCCTCCATTTGTT
87709	FUS	TTCCAATTCCTGATCACCCA
87710	NRIP1	AGCAATTGGTTGTTTAACACTTCT
87711	TDG	AGAACCTCAGTTTGCTAACTGAA
87712	POU4F1	GCCTATACTCTGGTGGCCTGGTCC
87713	PLAT	GGAAAGGGAAGGAGCAAGCCGTG
87714	FOXF1	AACTTGCATTTCGGAAGCCACT
87715	PKM2	TCTCTAGGCCTCTCCAGTTTGCA
87716	CHI3L1	CCTGCTCTGCTGCAGCC
87717	IER3	TTAGGAGGTGACTGCATCC
87718	DBY	TTGTGGCCAGATGCAATGATCTT
87719	VHL	GTTTCAAAGTGTCTCATTCTCAG
87720	NAP1L3	AAATGATCACTTCATTTGATACTGTTTTT
87721	SUFU	TTGTGGACTGAAGGTAGACACCAG
87722	APAF1	CTGCTCCCTCTTGTTTCTTAC
87723	PPARGC1	TTCTGTAGGTTAAATGCAGGT
87724	DAZL	GCGCAGGAGCCACCTCCCTGAGCC
87725	ABCB10	TTGCCCATCTCCTGTGTC
87726	LTBP2	GGGCCCCCAGTCGGCCGCTTCA
87727	F12	ATAAAGTGCTTTGAAAATGCT
87728	ARHGEF6	ATGATTTGACTCAGTTTGCTCACTT
87729	MSL3L1	TGCAGCGCAGCTGTGTTGGAGG
87730	HLCS	TTATTTTTCTCAAAAAACAAAC
87731	DPP4	CATCAGCTGCTGAAACAACAAATAGGA
87732	TOP2A	GCCCAAGTGTTCTTTAGCTTTT
87733	COL11A2	GTGTGTAGGGGGGTTCAGGGCT
87734	DEK	TTGCTGTTTTAAATTGCATTTCT
87735	ECE1	AGGGCATTGCTCAGCCCGC
87736	MGAT2	CAGCCTGGAGTGCAGTGAGCT
87737	MTNR1A	AATGCGGTTCAGGGCTGGGGTGA
87738	SOX12	GATGGATGTTTCTGAGTCATCTT
87739	SLC9A1	AGGGAGCTGAGGCCTCCCTTGAGTAGGC
87740	MLLT2	GGGGCTCGAGAGCAGGTAGTCCC
87741	AK2	CTGGGCAGAGGGGAAGGGTGG
87742	DHCR24	CCAGCCACCACTGAGTCCAC
87743	CALML3	CCCAGAGCTGGGACAGCAGCCGGGC
87744	SCA7	CTGTTTTCCCAACCTCCTGTGG
87745	IL17F	CCTCCACTTCACAGGACTCT
87746	WHSC1	CGGCTGGAGTAAGGCTTGCTGTGGGA
87747	PMM2	TGGACAGATGGCTGGCCAAGT
87748	CCND3	AAAAGGATCTTTGTGGCCAAGG
87749	NCOA6IP	ACCGCCCAGGCTGGAGTGCAG
87750	LAD1	ATCGGCTCCCAGCAAGTGCCTC
87751	ADCY8	GGAGCCTGAGCCCAGGAAGGG

87752	MECP2	CAGGGAGGTGTGAGGCAGGAG
87753	GAS2	CACTATTTATTTTTAATGCTTCTGTAGA
87754	MERTK	GGCTCAGAAGTCCTGATGTGGGAGAGG
87755	ITCH	CGACTGTCAAGGTGGCTGTTATA
87756	GPR81	TTTAATCATTTGTAGCTTCATT
87757	WTAP	GGTGTGGTATCAAACTTCA
87758	VDR	CCTTCCCAGCTCTCCCTCTG
87759	PRSS16	CTGCCACTCCAGCTCCTGGG
87760	OSCAR	CCAGCACTGCCGTCTACTCACTGTAG
87761	DMRT1	GGAGTAACAGGCTTATTCCACTTT
87762	MAL	CTGTCTGCTAGGGTCACCTCC
87763	FBXW7	GCTAGCCTGTTCTTTTACCACTGACAGCTAGA
87764	GAN	GCGTCAAAAGTTGCTGAA
87765	COPEB	TGAAGGCTAAAAAGGTCCTGTA
87766	GARP	CCTTTCTCTGCCGCCTGCTGC
87767	TEM6	TGCAGCCTGCCAAGCTGTGATT
87768	TMPRSS3	GCTCTCAAACCCCTGACCTCA
87769	PSA	GGTGGGACCTAATGTCAC
87770	SIP	TTTGCTTGCCTTTTAAGTTA
87771	COL19A1	ATACTCATGTTAAGTGCAATG
87772	P2RX7	AGTCTGCAAGATGTCAAGGGCC
87773	TRPV1	GCAGACAGCACTGTCAACACTGGGCC
87774	SIAH2	CTTCAAAATTATTTGGGCATACTGCTC
87775	COL11A2	GCTCTGTGCCACCTCCCAAGA
87776	TAF1A	GCATTTTCCTTGGCTTCA
87777	RPL10	CCTTGCAATCCCAGGCTGG
87778	HMOX1	GCCTATGGCATCTTCCCCAAC
87779	RGS9	CTGCCTAACGGTTTTGTTTCT
87780	DHFR	CTCAGGCTCCCAAGTAGCTAGG
87781	TRPS1	CAATGAGAAAGAATGGAAGATGGT
87782	ECM2	ACTGGTATAAATATAACTGAA
87783	KLRC3	CTTGGCCTCCCAAGTTGCTGGG
87784	MSI1	AGGCCCGCTCTCTCAGGCCCTCAG
87785	EMD	CTGGGCTTCAGAGCTAGGTCTTTGG
87786	CALML3	ATTCCCGCAGGCTCCTGGACT
87787	TPD52L2	GGCATTTTCTGACTTCTTCCTCC
87788	CYLN2	GCATCCAGTCTTTAAGAGCCAAG
87789	TNFSF15	AGACCAGCCTGACCAACGTGG
87790	COL4A3	CCTCCATCTTCTCATGCCCTCT
87791	PPEF2	CCTGCAGCGGTTCCCTGGACGG
87792	ESRRG	AGAGGTCTCTAACTGAAGAGAG
87793	CTSS	TGGTATTCTGGTGATGGGGT
87794	RFX5	GTAGAGGCCCTTCTTTGCACTTGCTTCT
87795	WNT5A	CAGAAGTCCATTGGAATATTAAGCC
87796	BRF1	AAAGGCTGACAACCCAGTTTTT
87797	TCL1B	GGCATTAGAGGGAGCCCAGTCT
87798	RABL2A	CGCAGCGTCCCTGGTCTCTCCA
87798	RABL2B	CGCAGCGTCCCTGGTCTCTCCA
87799	NCF4	ACTCAGCCTGGGACTGGCTGGGCGAG
87800	APOL1	CTGTCGCCAAGTTGGAGTGCAAT

87801	PPP2R5C	CATAAAGTAACACAACAGCATTGCACGG
87802	PPP1R12B	TGGCTTTATGGTTTTCCTTCCT
87803	PTGFRN	CAACTTGCTACTTTCAGA
87804	SCAMP3	TGTGGGGAGTTCACTGTGA
87805	UBE2V1	TACTCACTCACTCTCCACCAGCCTGGG
87806	ARHGEF12	GTATTTATTTGACTTCATTCCGTA
87807	ACLY	TCTGTAACTGAAGTGTGGGTCC
87808	GAS7	GTGTCCCGCCACCTTTGCTTCC
87809	GRLF1	GCTGGGCTGCCAGGTACCCTGG
87810	PROCR	CAAGGGAAAGTTTCAGCTCACTGTGA
87811	HRB	ATACATGCCTAAATTCTTTTAAAATGT
87812	GNAT1	GGCTCAGAGCAACCTCCAGCCTT
87813	PRKY	TTTTTCTCATGCCCTGCCTTCATCTG
87814	ARCN1	AGGCTGGAATGCAATGGCATGAT
87815	ZNF253	AGGCTGGAGTGCAATGACATGAT
87816	TPST2	GAGGCTTTCTTTGATTCCTCCTCAGT
87817	TRPM6	TGGAGCCCAGAGTTTCTGCCT
87818	UBE2I	CAGCCCAGTGCGAGACAGCCTTGAA
87819	SURF5	TCTCTGCTTGTTAGTTGCTCTTTCTG
87820	SCA7	CAGAAACCTTCCAGAGAACACAGGGCT
87821	PNOC	CTCAGCACCTGCTTCCTGCTCC
87822	BDP1	GCCCAGGCAAGAGTGCAGT
87823	IL24	GATGTAAAACTGAACTTCAG
87824	PDLIM1	TGTCTGACACTGATTTTGTT
87825	CA11	AGAAGGAGGGGACAGAGGAGCTGA
87826	SMARCA3	TTGTACAGTTCTGTTAGATGTTGT
87827	MYC	GCAGAGGGAGCGAGCGGGCGGCCGGC
87828	CHRNE	CACTATATACAGATGCAAGCA
87829	LRP4	GGTGCGGGGGGCAGTGCAGTG
87830	PDE4A	CCTCACCTTCCCCCACTGCCCCC
87831	PRDX5	AGCCCTGTGCTGGGGCCCTGCAATTGG
87832	SH3GL1	CATTCCCCTCCCTCTGTGGTCCAGTG
87833	ESPN	GTTGCCCAGAAAAAGTGCCCA
87834	CACNA2D2	TTGGCACCTGCACACTCCA
87835	PPT2	AGGAGCCTTCTGCTGGGGGTGGGG
87836	CD209	ACTGCAACCTCTGCCTCCCGGG
87836	GPR81	ACTGCAACCTCTGCCTCCCGGG
87836	MPL	ACTGCAACCTCTGCCTCCCGGG
87836	MYCL2	ACTGCAACCTCTGCCTCCCGGG
87836	TPMT	ACTGCAACCTCTGCCTCCCGGG
87836	TRPM6	ACTGCAACCTCTGCCTCCCGGG
87836	TRPV1	ACTGCAACCTCTGCCTCCCGGG
87837	C18orf1	TTTAAGGCTATTTTAAAATATG
87838	RAD54B	GTGCAATCACCCCTGCCTTT
87839	CCND2	GGGGGTTGTTAGGCTTTTCTGCCTGCTCC
87840	CHST1	CCGGCCCCTGTCCCGGCATCTCTCG
87841	ARHGEF12	CATCTTTGTTTTCCTCTTTGAT
87842	TRPM6	ACCCAGGCTGGAGTGCAATGAT
87843	HPS4	GTGACCTAAGGCCTCTCTGCCG
87844	GLRX	CCAACTTGCTCTTAATCACA

87845	RAB18	TTCACAGTATTCAGTTTTCTC
87846	ADAMTS3	TACATGAGAGGAGATAGTGA
87847	DISC1	CAAGTTGGAGTGCAGTGGCCCCGCA
87848	PX19	TGACTTGCCCGGGGCTCCAGGT
87849	ADAM19	AAAGTTGTACTGTGAACTGGAA
87850	KMO	CTGTCGTCAACTGACAGTGATT
87851	ANGPT2	ACTGTTCTTCCCACTGCAATCTGAC
87852	AQP3	CCGCTGCCCTGGCCTTGAG
87853	STARD4	TGTTTAATGTTAGTTGTTTATGTGT
87854	ITK	CCCCTGTGTTTGTAGAGAACTCCCT
87855	RAP2A	ATTTCAGGAAATGGGATAG
87856	IHPK3	AAATAGAGACCTGTTGGTTGCTAGG
87857	TRIM8	CTGCCCTTCTACCTTCCTCGCC
87858	UPK1B	ACTCCTACTTTTCATCCTAGT
87859	HMG20B	TCCTGCTCTCCTCCAGCCGAGGGACC
87860	CFL2	CATACACCTCACCTGCCTTGGCAAGCCTATT
87861	TNFSF10	AGGCTGAGGCAAGAGAATTGTT
87862	NHLH1	CAGTCTCTCAGTGCTTGGCAG
87863	MGAT1	CCAGCCAGGGCACGAGCCCTCCTT
87864	PCDHA12	ACTGATTGTCCCAACTCAGAG
87865	HOXD3	ATGGGTAGAGTCAGGAAGCCC
87866	ZNF45	CTGCCAAATCTACTCTGCCT
87867	KIT	TTACCTGAATAAATGGTAGTA
87868	IL1R1	TGCAGGACACAAGCACAG
87869	CPT1B	AGTCAGCTCTCCTTTCCTTGCTG
87870	HCN4	GGTCTAGGGACGTTCTCTCTCCA
87871	PRKACA	TTCAACCTGTGTGCTGCGAAGGAC
87872	KCNC4	ACATATTATACTCTTGTGTGT
87873	CCKBR	GGAGCAGTACATGGGAAAGGAGGC
87874	HOXB7	TGAGAAAGGGAGAGGAAGAGAAGC
87875	SNAP25	TTTGAGTGTCAGGCTCTGAATCTCTC
87876	ARHC	TCACACACCAGCACTTTATACACTTC
87877	FOXD2	CTTTGCAGGAGCCTGGGTG
87878	TK1	TCGCCCAGGCTGGAGCTGGCCCCGCT
87879	HGF	CCTTTAAATTTTAAAAAATTT
87880	BCL10	GTGGGCGGAGCCACCCGAAAGGCTCCG
87881	FTHL17	ATCCGCCATTCTTGTCACCTCA
87882	HPCAL1	GTCTGTCCTCCCTGTTGATTGGTCT
87883	PPP2R5C	CCTAGTTAGTACTCGGACTCCTGTGC
87884	AMPD3	ACGCCCGGCCCCCGCGCCTGCTGC
87885	MAPRE2	CAAGCTCAACAGAAACCAGTTG
87886	LNK	CTGCAACCTCCACCTTCCTGGT
87887	PPEF2	CCTGGGATCCCTCAGCCAACTCTGAA
87888	ITSN2	GGACATGCATCTTTAAGCTTTATC
87889	SIAT8E	TGGATCCTGGGGTAGGGAGGCAGG
87890	IL19	GCCTAAGGCATTGGAGAACTGGA
87891	MAGP2	AATCTGAAGTCCTTTCCAGGGA
87892	WIG1	TGTCAACTTGCCCTGCTTTGT
87893	PLCB2	GGCAGATCCTGGCACTACCTCA
87894	DNMT3A	TTTGATTGTTTTCTAAAAGGA

87895	BRIP1	TGTTGCCCAGGCTGGAATGCAGT
87896	IVD	GGCCCTCCTGCCCAGCTGCTCTT
87897	DYRK1A	ATCGTCCCGGCTGAAGTGCAGTG
87898	CLECSF12	CACTGCACCCAGCCTAGAATC
87899	LEP	ATGTTTATTTATTCTGCATTTT
87900	EHD1	GCCTGGGGCCATTGAGCCCAGCC
87901	ACVR1B	CTTGCTGGTGCCTCTTTTC
87902	REGL	TGACACTTAGAGAAAAAGGAA
87903	MGAT5	GGGAACACTGGTCTAGAATTGAG
87904	SNX15	GGTCTGCAAACTCCCACCTGCA
87905	FCMD	GGCTCACACCTGTAATACCAGCAGTTT
87906	MHC2TA	CCACTGCACCGGGCCACAGAG
87907	REGL	CTCTCCTCTGCTAAATTTGCA
87908	CDC23	CAGGCCTGTGCATGTGTGTACA
87909	AICDA	CAGGAGGTGGAGGTTGCAGTAA
87910	GP2	CAGGGGGTGGAGGTTGCAGTGA
87911	CTSD	GGCCCCTCCCACACACACCCACAC
87912	SH2D1A	AGTTCTCCTCCTCGGCCTGCCCAAGAGTCC
87913	LRP2	TCCTGTTACTGAATTTGCTAA
87914	KIF3B	AGGCTGAGGCACGAGAATCACT
87915	MS4A2	AGGATGAGGCAGGAGAATCGCT
87916	ZNF136	GAAGGTTTTCCATTATACTTT
87917	C1R	ATCTCTAGTTGTCACTTTCCT
87918	WBSCR5	GTGGAAATGTCACTTGCTAC
87919	PTPN11	GCAAAATTTGAAACCATT
87920	SURF5	TCACCCAGCGGGGCTTCCAGGCC
87921	UGDH	TGGTCTGGTTAAAGTTCCTT
87922	PCDH1	TCTGGGGCTGGGTCCCACATGCC
87923	APG5L	TGCACTTTATTACCAAGCCTCTGGGAT
87924	ELMO1	TGGGAAAGATGGACTTACGGGAG
87925	TERF1	ACAAACCTGCCCATGTGTTTCCTGAAT
87926	PAX4	TCCTTACCGTCCTGCCCATAC
87927	CNTNAP2	ACCTAGAGTTGCCAGTGGCACA
87928	VEGF	GGAAGAGAGAGACGGGGTCAG
87929	ASB1	CCACCCTTTGGGCTCAGAGGA
87930	ATRN	ACCTGCATGATCACAAGCTTTCT
87931	MAP3K7IP1	ATGTGGTTCCCAGGAGGGAAGAGGTTC
87932	TUBA3	CTGTCCATTTCTGTGATGGGTT
87933	TBP	TTTTTTAAAAGTGTTGTTTTTCTA
87934	KL	GCTCTAGGTGGAGGAAAGGAGG
87935	DGKI	GGAGGCGGAGCTGGCAGTGA
87936	ZNF193	TCTTTCTTCCTTTCTCCATGA
87937	SKP2	CATTCTGCAAGTATACTAGGG
87938	SOX11	GACTCTTTCACCTACTGAGATGA
87939	SP3	ATCACTTCCATAGTGACGATACTCC
87940	CTLA4	CACAGCCCAAAGAAGGAAAAG
87941	TPST2	GGGCTGGAGCCCAGAGATGAGAGTGC
87942	CELSR3	GTGCCCAGAGGGCGGCGGGGGTGCG
87943	RABL2A	TGCAACCTCTGACTCCCTGGTT
87943	RABL2B	TGCAACCTCTGACTCCCTGGTT

87944	TACSTD1	TGCCTTTCTATTTACTTGA
87945	TTC1	AGCCTCTCCTGAACCAAACAA
87946	DIAPH2	GTGGCTTAAAACAATAGAAA
87947	HOXC10	GTCCTGTCCCTGTCTGGGAGTT
87948	B4GALT5	TGTCGCCTAAGCTGGAGTGTGGT
87949	SORCS2	TCCCTCCTCCCCCTCCTCTCTGGCAG
87950	NEURL	GGCCCCTTCTCTTCCTCATTTTG
87951	GNE	GGCAGGAGAATGGCATGAACCCC
87952	DUOX1	CCGTGGCCGCAGGGTCTCCA
87953	GNE	TGTTCTTTGGTGTAATCTCTCATGGT
87954	ATP1A2	CTCCCAAAGGCTGTCATTTCA
87955	STC1	GGGAATGGAATAACTATCTCACTTCCA
87956	THY1	GCTTCCAGAGCTCTGACCCACAG
87957	PKHD1	CAAGGCAACTTCCTGGCTTTTTAC
87958	TRPM2	AGTCTGCTGCAGATGACCTCA
87959	DMXL1	GGCTGGTAAAATGAATTTTGTAATA
87960	PEX10	AGAAAACAGAAATCTGCAT
87961	NPTX1	TATCTCCCTTGAAAATACTTTCA
87962	BMP1	TTCCGCAGCAGCAGCAATTG
87963	DYSF	GCCTCGCCCAGCCAGCCCTCTC
87964	PHKA2	GGGAACTGAGACGCCAGCTTAAA
87965	DNASE2	AGGCTGAGATGGGCAGATCACT
87966	ALX3	TGCCTCCAAGCCCCAGATGG
87967	LSP1	ACCCTTTAGCCTCTCTGCCCTTCCAC
87968	GNAI1	AGAAATTCAAAGTTATCAAAGTTCCTT
87969	TSN	GTAACATCATTTTGTTTTCC
87970	JPH3	GGGCTGTGCCGTGGAGCTGGGC
87971	UTY	TCCAGCTGTACTTCAGAAAAAT
87972	AK1	CCCTCCGTTCCTCCTCAGCCT
87973	ARNT2	ATGTTTGTTTTGCCTCTTCTGTT
87974	NAPB	AAGAAAGAGAAAGTAGCAGG
87975	MHC2TA	GCCTCAACCTCCTGGGCTAAGTGATCC
87976	HPCA	CACAGGCCCATAGACAGATGGGCAG
87977	ZNFN1A3	GGAGCACGTGGAGAGGCCGGGTAGC
87978	ZNF202	CCTGCAACTAAACACGAGCCTGGGCAG
87979	PYGO2	AGCAGCCTCTGGGCATCGTTCCCAGTGT
87980	HMGN2	GATGCCACTGAGATGGCACCT
87981	GFRA2	GGGAGGGGAGAGACCACAGCCGG
87982	USP4	TTCTTTTATGAGCAGAAGGAA
87983	SOCS5	AAACTCCAAGAAAGCACTTGA
87984	DNM2	ACACCGCACTGCGCAAAGGGGCC
87985	VDAC2	TCCCAGAACATGACAAATTATGAATAA
87986	APOC1	GGTGACATCCAGGAGGGGCCTC
87987	MMP19	TCTGCCTTTAATTTTCTCTTTGA
87988	HNRPF	TCCTGCTCTCCTCCGTGGACATTTCAT
87989	CSHL1	GGAAGACGGCAGCCACCTGACTGGGCA
87990	HNRPA2B1	CAGTCATGCATAAATATGCAGTGA
87991	MDM1	TCTTGCATTTCTGCTCTCTTATGTCAC
87992	ABR	TGGACAAGCAGACACACTCAC
87993	EHHADH	AGGCTGAGGCAGGAGGATTGTT

87994	SLC7A6	TCACTGCAACCTCCGACTCCCTG
87995	INHBB	GGAGCCCGGCCCTGCGCTCGGC
87996	SUFU	GGAGAGGGTGAGGTTCAGC
87997	FZD3	CCAAAACACTAAGAATTCTATCAT
87998	SNX9	TTCTCCCCACTGATATTTTACATAGA
87999	XRCC3	CAGGCAGCGCAGGGCTGGCACGTGA
88000	AP2A1	CCCGCTGCTCTGTGCCCTGTC
88001	ZNF278	AGCATTTTCACTGCTAGGACAAGCTCA
88002	RTN1	GGTGTTCTTCTTCTCTTCTCTGC
88003	IL10	GGAGATGGAAGTTGCAGTGAG
88004	HOXC13	ATCATTCCAACCAAAGCAGGG
88005	SERPINB3	CAGGAGTTCCAGATCACATCGA
88005	SERPINB4	CAGGAGTTCCAGATCACATCGA
88006	FMR2	GTGGTTCTGCAGTGTTTATGA
88007	CHRNA4	GCAGGAGACACTGGTCTCAGA
88008	ADM	GGAGACCCTGAGTCCGGGAGGCACCGTCCG
88009	PDGFRB	CCTAGCCTTGAGCAGTGTTGC
88010	NBEA	TTAATAACAAGTCAAACTTT
88011	GRB10	TGTGGTGAGCAGAATGATTTCC
88012	MADD	TCTGTGACCCGGCATGA
88013	PTPRN	CAGCCTCTGTCCCTCTTTGCCTGTG
88014	APTX	TCAGGATTAGGAATTTGGGTTTGT
88015	PPP3CA	GGTGCCTACTTCCACTGTAAGAAA
88016	CPNE7	GGCGTAGGGTGGGGGCAGTGAGGA
88017	GNA15	GGAGGTGGGAGTGGCTGCAGGGACCC
88018	DGKG	CTGTATACACTTGAGTGC
88019	B3GNT3	AGTCAAGCTTCACAGGCATTGT
88020	MSN	ATCCTCTCCAGCTATAACAG
88021	ZNF36	AGCAGTTTCATCAGCATTACTTGG
88022	ACP1	GCAGATGTAAGGTAATTTCTGTGT
88023	HOXB5	GGATAGTCTGGGTCAGACCCAT
88024	SH3GL2	CCTGCAGTAGTGGATCATGT
88025	MAK	CAGGCTGGAGTGCAGTGGCACTATCTT
88026	TBL1X	TGCTGGCATGTTGGTAGAGTCATCCCT
88027	PRDM4	AACCTCTGGGCTGGAGTAGAGG
88028	PIGF	CCCCTGAGAGATTGTACCTTCT
88029	BMPR1A	GGAGAAACTCTAGACTGCAAGAA
88030	CPNE7	GTGGGTGGAGGGAGGGAGATCATGAG
88031	CDKN1B	TTGCCACCCTCTCCGCTTGCC
88032	VHL	TTTCATCTCAGCTTTTGATGGTACTGA
88033	OBP2A	CTGCTCCCACCCACCTGACTC
88033	OBP2B	CTGCTCCCACCCACCTGACTC
88034	LPIN1	TGGATGCCTTTGCCAAATGGTTCATGT
88035	C2	TCTAGGATGCCAGAGGCAGCGC
88036	SLC22A3	CTCTGTTCCTTATCAAAAAC
88037	CRYZL1	GTAAAAGTTTTAATGTATTGG
88038	HS3ST4	GGGTGATAAATGGGCTAGAGAGGCAGA
88039	WARS	GCTGAACAAATCCTCTGACCTCAGGCC
88040	MX2	TCCCAGCCTCTCCACTCCCCCGCC
88041	PFKFB3	GAGCTGGGAAGACCACACTGGTG

88042	OAS2	CTGTAACAGGCTTGAATCAAAGAA
88043	D1S155E	ATCAGGCAAGGAACAAACCTC
88044	CDC2L2	TCACCCAGGCTGGAGTGCAATGGTGA
88045	CDK2	GCTGGGAGACTGAAGACTCA
88046	RECQL5	TTCATTTCTCCTGTCACCTTCCGGGGAGCT
88047	LY64	CCTTCTGAGTACCTCTCTGGCT
88048	EFNB1	CCATCCACCTCCACACTGCCTCCT
88049	PATE	AGGAAACTGCATCAGAAACATGAAC
88050	TARBP2	GTTCCATCTGTAGTCCTAACC
88051	COG6	GCTGCCTCCGTGGTCCCTGCCTGGCTGAGG
88052	PPIL1	TAGGTCCAAGATTTTTATATG
88053	CDH8	AAATCACTGGAACTGAGCATT
88054	PRH1	TGCTCTAACTTCAGTA
88055	WNT8B	TGCTAACTTGAACACCAAGGGTG
88056	CDA	ATTACACTCCAGCCTGAGTCAG
88057	DVL3	CTGCAACCCCCATTTTGGGA
88058	LAMA3	ACCATGGATACCCATCACTTTGG
88059	SCD	TCTCCCTCCCTCTCTCATGAGGCACAG
88060	NOVA1	TGTACTTTGCAGAAGTGAAGTTTTT
88061	ATP7A	GCAGCCCAGGCTGGAGTGCAG
88062	M6PR	GGGAAGTGTCTTCTTGCCCACAT
88063	MAP3K14	GACACAGTCTTGAGCTGTCCA
88064	HR	TGGGCTCACTGCAGGCATGCTGAA
88065	ALDH3B2	CCCTCTCGGTCAGGGTTGGCCAGG
88066	RBMX	GGCCATTTTGCCTTTCTGACATTTCCTT
88067	CBFA2T2	CTTCAAAATGAAAACAGAATGA
88068	TAPBP	GGGGCGCAGCGCTGAGGTCA
88069	EZH1	AGGCAAACCTCTGTGGT
88070	HSD17B1	CCCAAAGTGCTGGGATTAGAGGCATG
88071	HNRPDL	TGTGTGGTCAGTAGGTGCGG
88072	HNF4A	CCTAGCCCCTGTCATGGTGTCC
88073	MECP2	TCAGGAGGCAGAAGGAAGCAGGTGTGA
88074	SH3GL1	CTCCTTCTCCTCAAGGCCAG
88075	ZNF264	CTGTCTCAACAACAACAACAAA
88076	PPP2R1B	GAACAGTGTCTGGTGCACATAA
88077	FLG	TTAGTTTGGTGGTAGCTTA
88078	DYT1	CCTCTCCAAGGGTTTTCACCTT
88079	TNFSF4	TTTGATGTCATGGTCCCCTCTCTTAGG
88080	CST	TCCAGAGCTGGAGTGCAGCGG
88081	HPCAL1	CCGTGTTGTGAGCACAGGCAT
88082	GRM6	AGTTTCTGGCATAGAGTCCTGGCT
88083	SDPR	TTTTTCTTAATAAATAAAGGACA
88084	TNFRSF10D	AGGCTGAGGCAGGTGGATTGCT
88085	C1QBP	GCTGCCTCTGCTGCGCTGCGTGC
88086	ZNF35	GCTGAGCAGAGAAGATGACT
88087	APAF1	TGCAGCCTCAGACTCCTGGGT
88088	AIPL1	CGCCTATAATCCCAGCACTTTG
88088	GRAF	CGCCTATAATCCCAGCACTTTG
88088	IL1R1	CGCCTATAATCCCAGCACTTTG
88088	LRRC2	CGCCTATAATCCCAGCACTTTG

88088	NPHS1	CGCCTATAATCCCAGCACTTTG
88089	F2RL3	CGCCTATAATCTCAGCACTCTG
88090	F2RL3	CGCCTGTAATCCCAGCACTTTA
88090	FGFR1	CGCCTGTAATCCCAGCACTTTA
88091	HFE	TATCTATGCATTTTCTGGACCCG
88092	GSS	GGAGAACCGTTCGCGGAGGAAAGGC
88093	P2RY12	AAATTAACTAAGGAAATATTTCA
88094	FTSJ2	TTGGTGAGAAAACAGGCTCAG
88095	MYO1D	CAAAACAGATCATGCCAAATGAGTT
88096	SUFU	CTCCACTGATGAGAGATCC
88097	DCTN1	CTCTTGCTGCCTCCTGGGC
88098	TFAP2C	GAGTTTGTTACCTACCTTA
88099	MAP3K7IP1	ATGGCTCTCCGGGCAGTAGAGTGTGT
88100	HRH1	CCCTCCTGGAATGGAGCTGTATAACTG
88101	TRIM14	CACAGCTCCCTCCAGAAGCTGCAAGAGCTT
88102	CMAR	GTTGCCAAGGCTGGAGTGCAGG
88103	NCOA4	TCTGCTGATTATCACACATCATGAGCT
88104	CD244	TCCATTTGGCTTCTTCATAGA
88105	PUM1	AACTCTGCTTTTGGTCTTGCTTC
88106	IL15RA	AGCTAAGTCCGGAGTGAAGGA
88107	YWHAH	GAAGCAGTTTCAGATAAATCAT
88108	SORBS1	GCTCCTGGACCAATGCATCTTCCCA
88109	SP1	GAGAGAGCCATGAAGCATTAA
88110	ZNF14	GCAGGTACTGACAGATCCGTA
88111	LANGERIN	AGCAGCCTTCAGTGCCTT
88112	M11S1	AGCTTTCTATTACCTGGATA
88113	PAFAH1B2	ACAACATCAAGCCTAAATACTGA
88114	APC	TTCGAGGCTTTACAGTGTAAA
88115	ALDH3B1	TCCCTCCAGCCCATGCCAGGAGCTTGT
88116	ROM1	GAGGAAGAGGGAGGGATGGACA
88117	LYL1	CCAGGGGTGAGAGGGAGGAAACCGG
88118	TNFRSF11A	TGGGCTTTTCAGGAAGTGAAT
88119	CDH5	TCTTCCACTGGAACGTTTCACTGC
88120	EPS15	ATTCTCTGGGTCAACAAG
88121	NOTCH2	TTAGATGATAATGGACAACTATA
88122	GP2	CACAGGCTTGGTATTAACAGAATCAAG
88123	CLCA3	CAAGCAGCAGAATTGTACTTGA
88124	ANGPT4	CATCCCTCGCCATTGACACATCTTCA
88125	GLTSCR1	AAACTCCTGGGCTCCAGTGATC
88126	SPK	GGGGCTGGGGGACGGGGCGGGGC
88127	TIAL1	TTTGGAACCTTTAGCACAGA
88128	CALB2	TCTCAGAACTCCTGTGTGTGGA
88129	PRKAR1A	ACCTATTGAATTACCATAG
88130	CAMK2A	AGCAGAACTGGTGAGGATGTTTGATCCG
88131	PSMC5	ATAAAGCTCTGTGGGCCAAG
88132	GDF8	TTTTTATCAAAATGTCAAAATAACA
88133	TM4SF6	GCTAAGCCCTACATTTCTATTCAG
88134	NCSTN	CTGGAACCTCCCTGGGCCTGTCTC
88135	POMZP3	GTCCCTGACTCTGACTGCTGT
88136	C18orf1	CAGTCCGAAGCCCTCCCTCA

88137	DIRC1	ACATGGGCAGAGTTTCTCTTGC
88138	PDGFRA	GACAGCTTCCTGTACTGGCGGA
88139	DMRT2	CTGATCTGTAGTGGTTGCTGTTACC
88140	EZH1	TGCAGGGCACACTGGCAGAGGGT
88141	COMT	GCTGTGTCCTAAATGCAAAGCA
88142	DUT	GGACATAGCCAGCATTTT
88143	MECP2	CAGGCAGCACCCAGGTTTTGCACTCTT
88144	CHRNA3	ACACATTTGGACCACAGCATG
88145	SURF5	GCCCAGGCAGGGAATGGC
88146	BNC	CCTAAAATTCAGCATTTGCAG
88147	MMP13	TAACCCTATTTTACCTAGCTA
88148	DISC1	CACCCAAGTTGGAGTGCAGT
88149	WBSCR5	CCTCCATGGCCCTGAATCCTCCTCTGC
88150	CD28	CCCCCATCTGCTCAATATCACTGCTC
88151	VSX1	TTGTTTAATATCCAGAAGAAT
88152	ACE	AGGCTGGCCAGACTTCAGCTGTTC
88153	ZFHX1B	GCATTTATACTTTAAGCACAA
88154	FMR1	ATGGTACTTTTCCACAGTGTACCA
88155	RAB6A	GGGAGGTCTCTAGGCTGAGGCG
88156	A1BG	CACCCAGGCTGGAGTGCAGTGT
88156	PSMD9	CACCCAGGCTGGAGTGCAGTGT
88157	SURF4	GTGATCATTCAAGTGCTCAC
88158	WHSC1	ACAAAGGCCTGTGAAGGAATT
88159	UCHL1	CCTCAGCCACACCCAGGCACTT
88160	LRRC2	CCAGGAAGCAGAGGTTGCAGTAAGCTG
88161	PTK2	GGAGAGAATGAAGCAAAACAG
88162	GFER	TGCAGCTGAACTGCAGGGGAGGGA
88163	SLC7A8	TGCCCACACTCCCAGCTGCTGGA
88164	LHB	ATCCTCCCACAATAAAGGCTTCTCA
88165	FGFR1	ACCAAATGCCTGG
88166	FUT4	TTCCAAATCTCATACACA
88167	FGF2	GGCTGGTGGGTGTCGGGGGTGGA
88168	GPR35	CCTCACACTTGCCACCCCCAGAACCAG
88169	HCFC1	AGGAAGCAGAGGCAGATGG
88170	AHR	TACATACTTTATCAATGTGTCTTTCT
88171	TSNAX	GGAGGCTGAGGCAGGAGACTCGCTTGA
88172	PTGES	GGCCTCGGCCTCCCAAAGTG
88173	FAAH	TGGCTGGAGCAGTACTACGTGGGAG
88174	MPST	AGAGTGTTTCTTCACTCA
88175	ZNF38	TGGAGCAGAGTCCCTTCGCC
88176	TRIM14	TCAAAAATTTGGGATTCATGTAGCAGA
88177	PRX	AGGAGGAAGGGAGGGCAGAGGGG
88178	ITPR2	AAGTACACTTTAAAATATTTTA
88179	EHD2	TCTTTTTTGATAGAATCTTGCT
88180	TNNT1	AGGGTCTGCAGCCTCCTGGCTGTGCCA
88181	PLA2G5	CGCGAGACCCGGGTCTCCAGGGTC
88182	GSTM5	TCTCTGAGCTCCCTAGCACTGTCCTCA
88183	MSN	TGTGCTCTTCTTCTTTCTACAG
88184	RFX5	CTCACCCTATTGCCAGTTCCAC
88185	CENPB	CCTGAGCCTGCTTCTGCCTGCTTTCCACC

88186	JPH2	CACTAGGTCTCTGGGCCCTTGTGCTTC
88187	DHCR24	CTGTGTGACTCTGGGTGAGTCCCTTAA
88188	FZD1	CTAGGGCTGCGCTGCCAGGGTCACTTC
88189	GABRE	CCATTCACTGAGTTTTCTCAGC
88190	PELO	AAGTATGTGATTTGCTTGTTATGT
88191	EIF2C1	AGAGGAAGCAAGGAGGAGGGAGGTGG
88192	EIF2S3	CAGGCTGGAGTGCAGTGGCGTGATCTG
88193	MAK	GTCCAGGCTGGAGTGCAGTGGC
88194	NEBL	GCCTGACAGAAGCACAA
88195	TNFRSF5	CAGGAGACCTGGCACTGGA
88196	PSMD9	GCCCACTGCTAGTTTGACTTT
88197	CD36	TTCTGGGAGAAATGAGATAAAAG
88198	B3GAT1	CCCCAGCCTACTGAAGAGGTGTTTATT
88199	VTN	TTGGAGAAGGAATTTGTG
88200	LZTFL1	CAGTTTCTGTGCCCTTTTGGA
88201	PTTG1IP	CCTGAGCGTAGGGTGCTGAGCTGGCGC
88202	KAI1	GCTCCAGGACTGGCGGGATGG
88203	PCSK1	CTAAACTGTACATGTGAA
88204	LIMD1	TATATTCATTTCGTTGGTTTCTCTCCT
88205	PSG1	TTGTATTCCCAGCCTGTGTC
88206	ADAM19	TTCCTTTCAGCCTTGCTGACTTCTCC
88207	EGFL4	TCACACTGCAACCGCACGTGCTT
88208	SOX4	ACATTTATTCATGCCAGTCTGT
88209	GRAF	GCCATCACACCCGGCTGGTTTTTTGT
88210	MAGEB3	CTTCTGCTGACACTCCTGCCTGCT
88211	DNAJB9	CATTTAGGCTGGAAAAAAGTTG
88212	CREB1	CAGCCTGGGCGACTCCATCTC
88213	EIF2AK3	GCCAGCCTGGGAACATGGAGTGGCAGC
88214	JPH3	CGACTTCCAAGTCCTCTCACA
88215	HD	TGCCCCCGTTCCAGCTGACATC
88216	RORC	CTGGCTTTCTGTCAGCAGGCCG
88217	SLC2A2	TTGCTGAGGCAAAGCACT
88218	CSNK1A1	AACAGAAGAAGCAGAGCAGATGA
88219	LHX4	TGAGACCACACTAGGGCATTG
88220	RRP22	TGACTGGGACAATCAGGGACCTGG
88221	LUZP1	TTTCCCCTCTGCTCTGGCCTGTGT
88222	MASP1	GCCCCAGGCTGAATACTCAGGGACAGC
88223	PDHA1	TCCTGGGTTGTGAGGAGTCGCCG
88224	PMCHL1	AGCCTCATGAATAGCTGGGATT
88225	E2F3	ACTTCTCAGGATGGGGTCAGA
88226	CREB1	CCAGGAGGCAGAGGGTTGCAGTGA
88227	ZNF264	GTCAGGGACTGTCTGTATATATCT
88228	F2R	CATGGACTTCTGGATGCCCATCCACT
88229	AIPL1	TGGTGGCGGGCGCCTATAATCCCAG
88230	DAPP1	TGGTGGCAGGCGCCTGTAATCCCAG
88230	GP2	TGGTGGCAGGCGCCTGTAATCCCAG
88231	PITX2	GTCACTCCCCACACGGAGTAG
88232	FCGR3A	CTTTCAAATCCTTCATCATGTC
88233	ENTPD3	GGGAACAGAGAAGAGACAGGCCACTAAGGT
88234	ITGB3	GCATAGGAAACCACACAGACTTGG

88235	SIAT1	CCATTCACTGCTAGCACAGGCTCC
88236	WHSC1	CCTCTGAAGAGGAGTTGCTTGAT
88237	CLK2	TTTCCACCCTCACCTGCCCCCT
88238	DGAT2	GCTAAACCATTACAATGTTA
88239	IL1R1	TTTGGGCCACTGCACTCTAGCCT
88240	SCML2	ACCAGTTTTTGATAAATTTTTTAA
88241	RAMP1	TGCACCCAGGCTGCAGGGTGAGG
88242	CUBN	GCAGGTTGATCACCTGAGGTCA
88243	ANXA9	AGGCTGAGTGGAGTTCACTCACATGG
88244	SHOX	TAACATCCACTGGTCAACTCT
88245	NPTX1	GTTTCTGTCTTCTGTTCCTTCTA
88246	MAP3K4	CACGAGGTTAAAGAAGCTGCATGTTAAG
88247	TUFT1	CCCTGCAGGTCATCATGGTTTT
88248	NFYA	TGAGAATAAACTGCAGACTGAAAGA
88249	HMGA2	TGCAGTGACCACTTATTCTGTATTGCC
88250	CLN2	ACAATTCCATCTCGTTTCTTCTT
88251	SDC1	CCTGTGAATGCCACTGCCTTC
88252	PIK3R3	CTGAAGAGACCATGTCTTTT
88253	GNE	GTTCTTGTCTTTAGGATGACC
88254	TNFRSF1B	GAGCGAGAGTCTGTCTCAAAAG
88255	NR2F6	CTCTGGCTTCTCTCCTCAGACTTC
88256	C4orf1	TCTCTTTGCTGAATTAATGAGTTCT
88257	SH3BP2	CCTGCCTGGCTCCCTGCCAGGCTCCCT
88258	CML66	GTCTGGGCAAGTATTTGACTCA
88259	KLK13	TTCCATCCTGTCACCATGAC
88260	SCG3	CACATCTCAGTTATCTAAACTAG
88261	ZNF10	ATTGCTAATAACCTGTGGCTCAAT
88262	ATRN	GTCATCTGGCAGTGTTGCGCGTC
88263	COL1A1	CCACCCTCTCTCCACCTGCCT
88264	FBLN5	TTCAGTTTATTTCCACTATTTTCAA
88265	MPP2	GGGGAAGATCTGTTGTTGCAGTTGC
88266	EMP1	GCCTCCCTGCAGCCACCAGACTTGGCCTC
88267	ELMO2	TTAACAACAGCCAGGAGCTTC
88268	OXTR	CAGCCTCAGCCCCAGGCACAG
88269	PTGFRN	GTTTTGAGCAATAAACTAATA
88270	MYL2	ACGGAGAAGAGAAGGACTAG
88271	GCK	GCTGTTGGCCTCGCCTGGGCC
88272	BCL7A	GCCTGGCACCAGCACCTTCCTAC
88273	SIGLEC8	ATCCGGGTGTGGAAATCTCACT
88274	EPM2A	CCTGCAGGCAGACGAGGCCTTTGCTT
88275	SUV39H1	CCCCACTGCTGCCCTCC
88276	NTSR1	CCCAGACCCCAGCCTCCCCTCC
88277	CALCB	TTCGCCTTCTTGCCAGCCACAT
88278	ANG	TTCCATTTCCCCTCTGCACC
88279	BSN	TGCTCTCTGCAGGGCACCACCTT
88280	KCNA6	TGACTGCCAGCTCTAAATCTCGAT
88281	EPM2A	TTTATTTTTCTGCACCTTCCTTTCTTCC
88282	CDC25B	GGCTTCCCTGGCTGGTGCCTGAG
88283	WIF1	GGCCTGAATTTTATTAGCTTCATT
88284	E2F3	CCTGTTCTCTAGCTGTGATCTTACCA

88285	KPNA4	GAAGAAGAAGAAAAAAGTTTC
88286	ADCY1	CATCAGTGCACAAATCATTCCA
88287	SLC7A7	AGCTCACTTCTTTGGAGGCACCTGTCC
88288	MYF6	ATACTATATTAACTTTTATTACGGTGA
88289	CPNE6	GAGCCCCCGACCGAGAGCCCAG
88290	B3GALT2	AAGCACTACATTTTAGCTCTG
88291	TGFBR3	GCCTTACTTCTCTTGCCT
88292	PAFAH1B3	CCTAGCATCCTGCTGCCTTC
88293	FER	TCTCATTAACAATGAATTTAT
88294	SYNGR1	TGTCCTTCAGGGAGCAGAGCAGA
88295	PSMD5	ATCTTGCCACTGCACACCAGCCT
88296	PMM2	GGAGAAACTCTTGTCAAGAATG
88297	EGLN1	GTATGCCCTGCGCTCCTCCACAGCCTG
88298	KLHL1	GGAGCGCTCAGACCTCCCTCCCT
88299	GSTM1	GCATCCCAGCACCTGCCTCCTCGTT
88299	GSTM2	GCATCCCAGCACCTGCCTCCTCGTT
88299	GSTM4	GCATCCCAGCACCTGCCTCCTCGTT
88300	WHSC1	AGCAAGGTTGGAAACAGGGC
88301	FUT1	TAGCCCAGGCCAGAGTGCAGT
88302	S100A11	ACACTAACCACCTCATGCAG
88303	C14orf1	CACCCAGGCTGGGAATTGCAGTGG
88304	RAI14	TTCTTCCCTTTCCAAAGGTTTCTG
88305	GAS	CTTCAGAGCCTAGCCA
88306	IL15	TGTCTTCATTTTGGGATGCAGCT
88307	SRGAP1	TGATGTTCTTGTCTTTGGAGCT
88308	SMP1	TGCTAGCCATGGTCATCTGACAG
88309	TDRD1	GTTTTCGCCTCTTCTGTGATCACCA
88310	PAFAH1B1	GAAGCAGCGAACATTGAATCTCAGGGA
88311	POLS	CTCGTTGTGCTCATCTGTGAAGC
88312	MEN1	TATGTATATGCACATACAC
88313	MASP1	TCTCCATCTGCCCTTAAATGCTGTAT
88314	RAB7L1	GGGAGTTAGAGGTTGCAGTGAG
88315	KCNJ11	CCCAACGTACTGGGATTACAGG
88316	DDX6	TCAAAAGTTTTGAAGTTTGA
88317	ICMT	CCTGTGCGGGCAGTGGCCCCGGTGACCTT
88318	PCK1	TGCTTTGTTATTAATATTGTG
88319	TMP21	TCTCCCACTTGCTCAGCAG
88320	PYGM	CACTCCTTGGCTGGAGGCAGTGC
88321	KAL1	TCACTGCAGCTCCTGTCACAAGCTG
88322	TP53	TCTGACAACCTCTTGGTCGACCTTA
88323	ADAM11	AGCTGGACTGCAGGGGAGGCC
88324	ENAM	TTAGGGTCTCTACCAAGTAGACA
88325	DIAPH2	CAGAATTACCCAGTCATCAG
88326	MAPT	TGCCCCCAGCTGCTCCTCGCAGTTCGG
88327	SYCP1	GGGCTTTCTTTTCAGGCCAGCGT
88328	TPST1	GGAGCCCAGAAGGAACATGTGTTTCC
88329	ILF1	AGGTGCTTCTGGAGACAAGAGC
88330	XPNPEP1	CGCCGAATGGCAGCCTCCAGAA
88331	APM1	ACAGACTGCATGTAGTTGGGTATA
88332	CST3	CCCACCCCCTGTATTCCCACCC

88333	GNB1	TGGCAAAGAGAATACAAATGAAACCCC
88334	G2A	TGTTGCCTGGGCTGGAGAACAG
88335	KIF5C	TAGGGAACAAAAAGTGCTGCT
88336	TSC1	TGTGACCACAGGCTGGTGTGTAG
88337	MMP19	AGAAGAAGAGACAGAGCTGCC
88338	PRKY	GTCTACATTCAGTATCTTTAG
88339	IGBP1	CAAAGATGCTAAATCTTGCT
88340	DISC1	AAAGGAGTACCCTCTCTGGTCAAGTAC
88341	PRKAR1A	CTTTGTGTTTAGCTACCT
88342	KIF5C	CCAACATCATTCCAGCAGTTGAAAAA
88343	APBA1	GTGGCCAGGCAGGCGGGGGCTGC
88344	IL16	TCACTGCAGCCTTGACTCCGT
88345	HYAL4	TGCAGGAGCATGCCATCATGCCC
88346	IL2RB	TGGATGCCTGCTGCATCTTCCC
88347	KAL1	GTTGCAAATAACTCTAAAACTTATT
88348	NUP98	ACTGAGGCAGGCATGGAGTT
88349	DCX	CGAGTAGCTGGGATTACAGGCGT
88350	EYA4	TGTCCTGTTTTCACCAGAGGCACAG
88351	CHC1L	GCCCAAATGTTCCATTATTCA
88352	ARHGEF7	GATGAATCCAGACAGGAGGGAT
88353	MLLT2	CTTTCTGGCTGAAAACTTGCCT
88354	OTX2	CCAAACCCACCCACCAAGG
88355	DLEU1	GCAGGGCTCTCCCTTTGCTT
88356	ADCY8	GCCTAGGAGGGAGCCTCAGCATA
88357	B3GALT5	TTACCCAGCAAAAAGTGAGTT
88358	IGF1	TTTGTGCACTCTGCTCTAAAACA
88359	FKBP1A	ATGGACTTTCAGGAATTTTGTA
88360	GPR4	CAGCCTGGCCTTGCCTTCACAGGGC
88361	TP53	AAGACTTGTTTTATGCTCAGGGTCAAT
88362	PCTK3	GGCAGAGCATCTTCTGGCCACGCCCAC
88363	EIF4G1	CTGTTGCCTGGGCAGGGGGAA
88364	NRXN1	GGAGGCTGGCGCTAGCGGGCG
88365	RP42	TGTTCACTTACTGACATGTGAAGAAGGG
88366	EVPL	AGGATACGTACACCTCTTGCCT
88367	KMO	CAGTATGTTCTAGCTACTTCA
88368	WNT3A	CCTGCCAGGGAACTGGCCTGCTGC
88369	MLC1	TGCCCAGCTTGGAGTGCCACATGGCC
88370	MKI67	CCCCCATGCCTGTCCTCCAGGCTGG
88371	C18orf1	GTGAACAAACAAGCAACAGTTTAT
88372	PIK3CG	TCAGGAGGCTGAGGCAGGAGGATTGCC
88373	STAT5B	TTCATCTTCACCAGAG
88374	WHSC1	TCTGTCCCACTGCTGCTTCTTG
88375	PIK3R3	GTGGTCCAGGGTGAGAGTCACACCACA
88376	APC	GCAGTGAAGTATAATCAGCACTTTG
88377	TNXB	CTTCTCCTCCCCTGCTCGCTGCAG
88378	FGFR1	CGCACGGTACCCGTGCTGCAGT
88379	SCNN1G	GAACTCCTGGCCTCAAATGATC
88380	ICAM1	GGTTCACTGCAGTCTTGACCTT
88381	MBL2	CCATTTTTCCTCCACTGAAC
88382	MAT1A	CAGCAGCACCTGCCCTACCTGC

88383	TBX2	AGGGAGTCCCAGAGCCCTGG
88384	CHST1	GGGAATCACTGGGGCAGAGGGCGCCTG
88385	C7	TTGCCCAGGCTGGAGCGCAGTG
88386	FOXP2	GCTTCTGAGTTTTCCCTTCTTTTTATACTGTT
88387	HHIP	CAGCGCTGGCCCTGCCTCC
88388	GCNT3	ATTGTGTCCTCCTCCACCTTCCCTGTGCTC
88389	FOSB	CTCCTAAGGCTCCCCACCCCGAAA
88390	RREB1	TTCCAGTGCCTTAACTACTTACCGGATCCCT
88391	OTOF	GCTGCCCCTGCCTGTG
88392	SLC20A2	GCCACCACACCCCAGATCCCA
88393	GPRK5	CTCAAAGAAATTTCCACTCAGG
88394	LHX3	ATGTCTGTTGCCAAACAGCCTGC
88395	101F6	AGGCTACAACCACTAGCACG
88396	TCEA1	ACTCACCTCTATTTTGTCAGTTC
88397	GALNT1	TTTCACTGCAGGCAGTGCTATTTC
88398	COG5	TCCACTTTGTGCTAACCCATTCATA
88399	HSPA9B	GCATACTTTTCTAGCTACC
88400	TNFRSF10B	GTAGGAAAGTGCCACAATTGTCA
88401	BCL2A1	ATAAAGTGATGCAAACAGAAATTCC
88402	HYAL1	TCTCCATCCAGCTCACGCCTGGT
88403	JAG1	AGGCTTTTCAACCACAAAACTCA
88404	MLLT2	ACAGATCTTTTGTTCTCTGTAAT
88405	MMP19	ACTCCCGATATTCCCAGGCCCTC
88406	TRPC5	TTTTTAAAAACATCTACTACACTC
88407	VSNL1	AGAAATGTGCTGCAAAGAG
88408	LHX5	CTCTCCAGGAGCCTCAGCCCA
88409	TMEM1	CCACTGGTCTACTGAGTTGCAGTCACA
88410	FLOT2	GGGGACAGAAAAGTGTGTAGA
88411	WHSC1	TGGCCTTTTTGCATATAACTCTCGGGT
88412	SLC20A1	TCTGCCCTCACATGCACAGGGA
88413	PPARA	CTGTGGACTCAACAGTTTGTGG
88414	MAN1A1	GCTTTTGAAAGTGTTTT
88415	LAMP1	GACATGCTCACACATTACA
88416	PLEK	GCTCACTGCAGCCCCTCTGCCCCTAT
88417	CSF3	CTCCTGTTTTTCTGGGTGGCC
88418	IARS	CCAACAACAGCAGACTTCTA
88419	DUSP5	CAATGTCTGTCTCTGTTGCTTCGGGGCA
88420	ADAMTS5	ATCTCAGTGTATCTAGTCACT
88421	RUNX3	TCTGCATTTACACAGATTTGAGTCAG
88422	MN1	TCCTCCACCTCTCCCATTCCATC
88423	A1BG	TGGTCCCAGCAGGTATGGGCAGG
88424	ATP11B	TTTCCAAAATCTTTGTAGTAGTTCATA
88425	EYA1	ACCTGTACAGCGCTCGGCACTTTG
88426	DGKE	CTAGGAACCCCCAAAAGG
88427	TCF1	CCTGGGTGGCTACTCTGTGCCA
88428	COL17A1	AACAGCTTCATGGGGTGGA
88429	RAD54L	CCTCCTAACCTGGGTTTTTTACACGC
88430	DEFA6	CACATCTGCTCCTGCTCTCTCTCCTCCAG
88431	HNRPDL	GGCAGAGTAGTTGATCTCACACAAC
88432	C5R1	CAAACTCAACACAATTGTAAGT

88433	ARHGAP6	CCCAGAGGAGCCACTCCTAT
88434	GDF8	ATTTTTCTAGAGGTTGGCTTT
88435	DMPK	CCTTTCTCCCACCCAGCC
88436	GNB2	GCCCTGCCCATGCCCACACTACA
88437	GSTM4	CCCCACCTTTGTTCTGAGGCC
88438	D12S2489E	GGAACAGAGAAGAGATTACACCAG
88439	DHFR	GCTTACTGCAACCTCCGCCTTC
88440	TGFBI	CCTGGAAAAGGAGCTTCAGTATTGTGGGG
88441	ZNF26	TGGGAAAGCCTACAGTTGGAA
88442	GALNT2	GCAAGGCACGGACGACTGTGCAGACAC
88443	RASAL1	GGAGGTTGGAGAGAGGAGGCAGG
88444	GBE1	TCTTAGCAGCTAGGATTCTCAA
88445	CXorf6	CATGCTGCTGCTCAAAATGCC
88446	DAAM2	AAGGGTGGCCCCTCCTCTCAG
88447	FAT2	AGTGGAGCCTTGCCCACAGGGCTGCT
88448	MSN	CCTACTTCTCCAGCCTA
88449	OLFM1	CCATTTCACTAAGGAACCTTGA
88450	MID1	AGAATGAGATTGCAATTGAAAA
88451	PPP1CB	GGATGTATTTAAATGAATGCTGGTCA
88452	PIK3CG	TAGTATGATTAGTATAGCTTTCTCCA
88453	LAMC1	ATGTAATTGACAGGATGGCTGCTG
88454	CACNG2	GGGAGACCTTCCAAAAGCAAAAACA
88455	BFSP2	GCTTCCTGGAAGTGGAGAGGATCCTT
88456	DDX9	ATCTTCTTTTAAAAATACCACAGTT
88457	HYAL4	TTATTTTATTTGCCTCCAGTCTGGCTA
88458	RAD18	AAGGATTCTTTCAACTTCTTTAT
88459	PDGFRB	ACCCTGCATTGCAGGTTGGCACCTTA
88460	PIAS1	TACCTTACTCTGTTTAGAAAAGTATAC
88461	CORO2A	CCCAGCACTCTGGGAGGCTGA
88462	C7	TCTCCAACTCCTGACCTCAGGTA
88463	ENC1	AGATAAATCCTTAACATTTCTCTCCA
88464	CLOCK	GCTGCCTCTTTGCTGCTTTGTTTTCCT
88465	DAPP1	TGAACCAAGATCGCGGCGCTGCACTC
88466	SFRS2	GTTAAGGTGGCGTGTTGCAGTG
88467	RAB36	GCCTGAGCCACCGCGTCCGGCC
88468	HD	ACCTGCCTACGGAGGGTGGGCTCTGA
88469	ARHGEF7	GAAGAATTACTAGGTTGCCATGTGGCT
88470	WNT1	CCTTTCTCCCTGCAGCCT
88471	TMEFF2	GACTCCCGTCTCCTCCTGTCCTCC
88472	IKBKAP	AGGGCTGGCTATTGAGAACTGGAA
88473	CLDN14	TGCCCAGGTTCAGGTGTATCGTG
88474	MOCS2	TGTTTTTAGAGCATGCAATCTTA
88475	IL21R	GCCTGCTTTCTCAGACCCTCATCT
88476	CHRNB4	CTGCCTCTCCATCACCATCTCTCTCCA
88477	DPEP1	CAAGCCTTGTGACCTGGGAGGCAG
88478	DRD1	CTGCCCAGGTGACCAGTCCTGGG
88479	CHST5	CCAGCCGCCCGCATGTGGCTGCCACG
88480	PMCHL1	AAAGAGACCACCTTCACTTGTTGA
88481	PLEK	TTTAAGGCTCCAGGAAAGA
88482	EPHA3	ATGATGATAACAGAACTTTTCCTCTG

88483	GRIA1	ATGAGGAAACTGCACTGTTTTAT
88484	NRG1	CAGAAGCCCGCACGCACCTCGC
88485	BRMS1	CAGCCTCAGGGCCAGGGAGCCAAG
88486	AF3P21	GCTTTGCAGTGAGTGCTGCTC
88487	CSF1R	CAGATGCTCACAGACCACA
88488	PCDHB13	ACTCACTGGCATATTTCTGAGGTATCT
88488	PCDHB8	ACTCACTGGCATATTTCTGAGGTATCT
88489	TCFL4	ACACTGGTCAGCTGGTTTCT
88490	HOXB8	TCTCTCTCGCTGCGTCCTCA
88491	IGF1	CTCTCCTCAGAAGAAAGAATCTTTCC
88492	POLR2C	CAGCTCTTTACTCTAAACCCTT
88493	CTNNB1	TTTCCTATGGGAACAATTGAAGTAAA
88494	MYH9	ACTTGTATTCCTAACTGTTTTGT
88495	GUCY1A3	GACCCCAGCCGGGCGTGATCTC
88496	AOX1	AGGTGCCCGCTACTTCCCAGAACCTCC
88497	FLT1	GGGGATCACTGGCTGGCCTGAG
88498	GLUL	TCTGGAGAAGGTGGGCACTG
88499	MAP3K8	TTGATCTCCTGGAGGCTGGTTC
88500	HCFC1	TCCTCCAGGGCCTCTGGTTTGTTGTAT
88501	NGFRAP1	TCCATGTGTCAAGTGGGTCTTGTGTTGC
88502	DNASE1L1	TCATGCCACCTGCCAGGTAGTGTAGTA
88503	GPR61	GCTGGGGTCTCTGCACACAGCT
88504	SLC8A2	CAGTCCCAGGGCTTAGCCGGA
88505	DGAT2	ATGGATGCAGCACAGACTCAG
88506	PTK2B	CTGGGGAGGAGCTTTGTTTTGGGG
88507	SSTR2	GGGCTGGCTGGAACTAGCCTAAG
88508	PTMA	AACTCTCGCTTTCTTTTTA
88509	ABCD1	CCAGGGCACTGACAGGACAGGAGAGC
88510	ADORA1	GGGGAGGCTGAGACTGCAGAGGAG
88511	PDCD2	CTTACTCTGTGCCTGACCTTGTG
88512	RDX	GGAGTGTGTAAGGTATATGTTTTATA
88513	HR	GGAGTGTGAGGAGAGGGTGGCATCAG
88514	GRM6	GCTGCCTCTCCTTTCTTCCTCTTGCCT
88515	IRS1	TGCTGCTGAAACTGTGTACGA
88516	GPR24	TCAGAAGTGGAAGCCAGCCAC
88517	WASF3	ATTGCTGTTAACTACTACTGATAACTGAGC
88518	DLD	CCATTGTTGTCTGCAACTCTGAA
88519	ADD1	GACGGACTCAGACTCCTGGC
88520	SLC9A1	CTGGACCCCTGCCCCTCTCTG
88521	PPP2R5B	ACTCCTCCCTTCCCTCGCT
88522	PIK3CG	GCAGGAAGTAACTACAGGGCC
88523	GNPI	CCTGCCCCTTGGTTGAGAACC
88524	SOS2	AATAAATCACCCCAGTCTTAAT
88525	N33	AGCTTTTTAATTAAATGAGCCAAGTGG
88526	SFRS7	TACTATGTAAATTCACAGCAGTA
88527	NTE	CCAGTGATGCTCTGTGCCA
88528	PXR1	CTCTCTGCTCATCATGCCC
88529	BACE2	CAGGAGAATCAGCCTGGGGCCTGGGGA
88530	RP42	GAGGCAATAAAAGCTGCAGTGA
88531	KRT5	AGCTAGAACCTGCTGCAAGTCACT

88532	TGM2	CCAGGATAAGGAGACTGAGGCTTA
88533	KCNMA1	GATTGTTTCCAGTCTCTGGGCC
88534	EIF2B1	TTTAGCAACAGTATTCTGCA
88535	RAF1	CTTCAGGCTGCCAGGGGAG
88536	FGF5	CCTCCATCTTACTCTGCCCTA
88537	PPP1CB	TGTATTTAAATGAATGCTGGT
88538	GTF2F1	ATTGTCCTCCTCCTCCTGGCTCGGCC
88539	YWHAB	CCAGCCTGGGCAACATAGCGAGACCT
88540	SLC7A6	GGGAGTGGATTCTAAATGTGAT
88541	SLC7A6	CCTGAGTGGGGATTACAGG
88542	APAF1	TTGTTGCCAGGCTGGAGTGCAGT
88543	SECTM1	TCACAAACCTCCAAGTAGCTCCA
88544	HPSE	CAGGCCAGGCTCCAGCACTT
88545	DLEU2	CTCTAGTAAGTATTTAGTTATAT
88546	CD22	CTTCCACTCTCCTTGCTAC
88547	PTGIS	GCAATGCTTCTGCCTCAGCTT
88548	CD28	ATTTTTCTCGAGTGACTAGACCAA
88549	ADH7	TGAAGGCACAAGCTGCTGTTATA
88550	TLL1	TTTCTGCTTTAAAGGCATGTGTGTTT
88551	SLC17A5	CCAGCATGGTGAAACCCCATCT
88552	SLC25A11	GAGGGGACAGGGAGGAGCAGAAGCCA
88553	CHST5	CCACTGCACCCTAGCTTGGGTG
88554	LZTS1	TCCTAGCTCTCCCAGTGAACTCC
88555	XPNPEP2	CTTTGAACTTTCCAAAGTGCAGCCAC
88556	GPR81	ACCCGGACACTTGCTCTG
88557	PDGFB	CTTCCAAAACCTGCTTCCTTCA
88558	SFRP1	AGCTGCACTATCACGAGCCTTTGTTT
88559	RPH3AL	TGTTGCCCAGGCTGGGGTGCAGT
88560	GP9	GGCTGAGACCCGAGAAGGGAGCCAG
88561	SHFM3	GGACTTCTCTTGCCTGGAG
88562	PABPN1	AGGACACCAAACTGTTCTGCTT
88563	RNGTT	CTGTGTAAGTATATGCAAGTGTA
88564	NLGN2	CCATCCAGCAGCGCTAAGG
88565	LU	CCCTCCCTTCCTTCCTCTGCCG
88566	IRS2	AGGCATATGCAATATTTACATTTTT
88567	CREB1	TTGAGGCAGCAGAATTGCTTGA
88568	SP110	CTCACCTTAGAGCTTCTGAGTTTCC
88569	AMPH	AGACTTTAATTTCTCTGCA
88570	DMBT1	CTACATTGTGCTGCACCTGGT
88571	ZNF192	CTCAGCACCTCACTCGTTATTCTCCAT
88572	ASB2	TCAAGGAGAAGAATCATTTGTT
88573	KCNJ13	TTTCCCTTATGTCCA
88574	BDKRB1	CGGCCCAGACTGAAGTGCAGT
88575	INPP5B	GCGGGCGGATCATGAGGTCA
88575	UBE2G2	GCGGGCGGATCATGAGGTCA
88576	PDE4C	ATCGCTTGAGCCCAGGAGTTGG
88577	BAK1	TCTCCTCCCTCAGCTCTCTGGGACC
88578	PIP5K1A	CCTTCTCTCCTTCCTCTTCCTCATG
88579	EMR1	CGTGCCCCTCCAGCGCCTATC
88580	IL10RA	CAGTTCAGTCCACAGGCATGG

88581	FRDA	TAGTTCAGCCACAAAGTAGTT
88582	RXRA	GGGAGCTGCCTACAGGTTGGACCGGGA
88583	HDLBP	ACAACAAAAGCTGGCAGGCTGAC
88584	EXTL2	CCAACTACAAAAGAAAAAT
88585	CD80	TAGGTGCTTCTTCACTTC
88586	RASD1	AAGAGTGAGCGCGGGGTGGGGGA
88587	HRH1	TGCACACCCATCATCTTTAACCCCAA
88588	NFIA	CTCTCACCCACACTCAC
88589	SUDD	ATTCTAAAGGAAAATGTGTGCTCTTTA
88590	SVIL	CAAAGTATTTTTCAATCAG
88591	AIM1	GCGCAGGCAGACTGCACAGCCCG
88592	SNAPAP	TGCTTCCTTTCACAAATGAGCTG
88593	NEBL	CTCTGGGAATGAGGAACAAGAC
88594	SH3GL1	TCACATTCCCCTCCCTCTGTGGT
88595	KRT1	CAGCTCTTTCTTTTCTGCTGTTTCCCA
88596	FAT2	GGCAGGCAGGTTGGTGCCTGACAGACA
88597	TIMP3	GGGAAGAGAGTACCGGCA
88598	PLAUR	TCTGGGAGGAGTCCCTGGGGCCACAAA
88599	RPS9	AACAGGATCAGCGCTTTAA
88600	FANCG	CTGCCACCACCAAGTCATTGAC
88601	TES	GTGGGAGCCACCATGCCTGACC
88602	MAPK10	GATTAAACTGTATGTCTTATA
88603	TRIM8	ACAGGACCCCTATGTCCAGGAAAGG
88604	CDK2AP1	CGCCGCACCCGGGGCCTGGGTG
88605	NOTCH2	GGCTACACTGCAACTTCCGTCCA
88606	GPR85	TAACTTGCCCATTTCTCCACA
88607	MADH2	CTCTTCTGTCATAGCATTGTGTGT
88608	CNGA3	TCCGTGATTGCAAATTATGACCTCA
88609	MBD4	CCCAGGAGGTCAAGGCTTCAGTG
88610	GASC1	TCTAAGTGAAAGGAAATACT
88611	HEPH	ACTCAGGCTGGGGTCTGCAGTGCAGC
88612	RBBP2	GGTATCACAGTCTATTGACCTCAG
88613	TSG101	TTCTCTGATACCAGCTGGAGG
88614	EHD1	TGCTGTGGCTGGAGCTGGAC
88615	GSTZ1	CTTCTGCTCCGCCCTCCCTGCT
88616	MME	TTGCCATTCTGCTGTACAGACACTGATTT
88617	SLC23A1	CAGCTAGAAATTTTCCTCTGTGAT
88618	SERPINA5	CTTTCCCTCTCTGGACCTCAG
88619	PIGN	TCAGCACTGGTTTTGTTAG
88620	ELAVL3	CTGCCCCCACCCCAGGCTGGGCTGT
88621	AQP6	TTCTGTGAGTGCGGGTATAG
88622	ZNF135	AAAGACAAAGCCCCCACACATGGGGAA
88623	WNT3A	TGCTGCTCGCGAAGGTCCCACAGCCCT
88624	ESR1	CTCATTTCCTTCAATTTCCTTT
88625	GLUD1	TCCTCTTCACATGTAACTTCTGCA
88626	LANGERIN	CACCTCCTCCTCCTTCTGCAT
88627	HIS1	CAAACTAAAATTAGAAATG
88628	GHR	AATGATTGTAGTAATCTGCATT
88629	RNF4	AAGGCACCAAAGAGCACAATGAGTA
88630	HMX1	CCCCTCTCGCGGGTGCTGGTGGAGAA

88631	FZD4	GCCTTTCTTGGGTCCTCATGCC
88632	STAC	TGCTGTTCTAGGTACTGGCCTGGGTGA
88633	LIMK1	CCTGCTGTAACCTCTGTC
88634	HYAL1	CGGCCCAGGGGGCAGCTGGAGTG
88635	SPTBN2	AGCCTCTGGCCACAAGGAGAGC
88636	SURF5	TTCAGCCAAGGCTGGGCCAG
88637	SFTPA2	TGGGCCCTGACTCTTCCCCAT
88638	NARS	TGGTGCTAGCAGAGCTGTAC
88639	CDKN1C	GCACGAGAAGGTACACTGGTC
88640	IL11	GGTCACTGCAACCTCCACCTCC
88641	ADORA2A	GGTTCTGAGGAAGCAGATGTTTC
88642	GPR84	TTTTCACAACAATCTCTCCCCAGCCTCCCA
88643	CDH16	GCAGCTCTAGCTGGGAGCTTGGCCTC
88644	FLNB	CATGCTCTGTGGCCTTCTTACACTTCT
88645	MICA	CTGCCTGGATCTCACGAGCACTTT
88646	SSTR1	TGGTCTCTAGAGGGTTGCTGCCTT
88647	SCA1	GTGGCTCTCCCTTATCATTTGTAT
88648	SLC9A1	TTCCCACATCCGTCCTCCCCCTTCCCA
88649	GRM6	GGTGGAGGTTGCAGTGAGCTGT
88650	TEM7	TGCATTCCAGGTTCCCTAGACTCACAA
88651	ADAM33	TGTGGAGGGCATGACTGCTGGCCAG
88652	FMO5	ATCGCAGCTGAAGGATCTG
88653	DAPK1	CTGTATGCTGATCATCGCCA
88654	SPAG11	TCACCCAGGGTCTGTGGCTCTG
88655	TRIM8	CAGAGACCTGCCCTTCTACCTTCC
88656	SLC21A9	TGGAGGCAGAGCACTGAGC
88657	VAT1	AACTCTGTTTACATGGGTGG
88658	DUSP4	TGCTGTTGACCTTTGGTTGAACT
88659	CTSK	CTTCCCTTCTTTGCAC
88660	ATP7A	TGCAACCTCTGCCTACCGGATTC
88661	LOH11CR2A	CTCCACTTCGCTTCTCTGCTCCA
88662	PLAG1	TTGAGTGTGGAAGGATCTTGGCA
88663	MAPK4	AAATGTTCTCTACATGAACTGCT
88664	PKNOX1	GCACTTAGAGACAGAAAGAA
88665	BNC	GAAGTTCAGTCAGTCCTGTGGAAT
88666	GAD1	GGCCAAGGGAAATGCTGTTGGTG
88667	MAPK1	TGCAGCCTGCAGCAAGTGCTTC
88668	ACCN1	CTTCATTTTATGCTTTTTTAT
88669	ALDH3B2	GCTGTGGCCCTCTGTGTATGCCTGGG
88670	CLECSF5	GTGACTTCGTCTCTGTTCTCAAGG
88671	PITPN	AGGTACCCAAGGCTCAGCCAGTCTCTA
88672	DIO3	CCTAAACCTTGAGGGGGAGGGTGCTCT
88673	CEP2	GCACTTCACCACCTCCTTCATC
88674	ASK	GGTGACAGAGTGAGACTCCATCT
88674	BHMT2	GGTGACAGAGTGAGACTCCATCT
88674	GALNT7	GGTGACAGAGTGAGACTCCATCT
88675	MAPK4	GACACAGCCCTCTTTCCCCA
88676	HMG20B	TGTACCCCAGATGGGTGGGG
88677	ASTN	CCCTGCAGAACTTCTTCAGTATGATGT
88678	MDM4	ATTGAGCCACTGCACTCCAGCCT

88679	PRKAR1A	CGCCGCCGCCTCGCACCCGCAG
88680	FUT4	GGCGGTGGGCGCGCGCAGAGGGA
88681	SYN3	CCCCATCACACTCGGCCACTAGTGGGG
88682	HAS3	TCTCCCAGCCCATCTGAACACAACCAG
88683	HM13	AGGGTTCCCAGAAGGAAGGAA
88684	HPS4	GCATCTCCAGCAGGACTCCAGGAT
88685	RLF	GCTTTGTGTAATATATTGTACACTACA
88686	EIF2C1	TAGCCCAGGCTTGGAGGCCAGCTG
88687	FAAH	GCCCTTCTCCCCAAGGGAGGCT
88688	CNGB3	ATTGTGTTTAATTTCTTCTTTGGCA
88689	WHSC1	TCAGCACTGTGCCAGTGGA
88690	LPIN2	TGCTCCAGTGGGCCAAGTTGGGCA
88691	ATP6IP1	CCCAACAAGGTGTACATATTCTGCGTA
88692	ATP8B2	CTCAACCTCCCAAAGTGCTGAG
88693	PITPN	CTGCCCTGGAAAACCCAA
88694	A1BG	CTCAGCCTCCCAAAGTGCTGGG
88694	ADRA1A	CTCAGCCTCCCAAAGTGCTGGG
88694	ALDH1B1	CTCAGCCTCCCAAAGTGCTGGG
88694	CYP1A2	CTCAGCCTCCCAAAGTGCTGGG
88694	DFFB	CTCAGCCTCCCAAAGTGCTGGG
88694	DHFR	CTCAGCCTCCCAAAGTGCTGGG
88694	DNASE1L1	CTCAGCCTCCCAAAGTGCTGGG
88694	EIF5A2	CTCAGCCTCCCAAAGTGCTGGG
88694	FZD4	CTCAGCCTCCCAAAGTGCTGGG
88694	LTB4R	CTCAGCCTCCCAAAGTGCTGGG
88694	MATN3	CTCAGCCTCCCAAAGTGCTGGG
88694	MEFV	CTCAGCCTCCCAAAGTGCTGGG
88694	MHC2TA	CTCAGCCTCCCAAAGTGCTGGG
88694	NDRG3	CTCAGCCTCCCAAAGTGCTGGG
88694	NQO1	CTCAGCCTCCCAAAGTGCTGGG
88694	PCDHB11	CTCAGCCTCCCAAAGTGCTGGG
88694	PKNOX1	CTCAGCCTCCCAAAGTGCTGGG
88694	PPEF2	CTCAGCCTCCCAAAGTGCTGGG
88694	SEDL	CTCAGCCTCCCAAAGTGCTGGG
88694	SEPN1	CTCAGCCTCCCAAAGTGCTGGG
88694	TAPBP	CTCAGCCTCCCAAAGTGCTGGG
88694	WHSC1	CTCAGCCTCCCAAAGTGCTGGG
88695	XRCC2	CTCGGCCTCCCAAAGTGCTAGG
88696	MYCL1	GGAAAAGTGGCGTGGGAGCCAG
88697	DUOX2	CACTGCCCTGACCCCTGGGCAG
88698	RAD50	CAGTTTTTCCTGGAATTGCC
88699	PTCH	CCCTCTGGCTCCTGGCGTGCCC
88700	PCDHGA1	CCCATCCATCCCATGCCTCCCTC
88700	PCDHGA10	CCCATCCATCCCATGCCTCCCTC
88700	PCDHGA11	CCCATCCATCCCATGCCTCCCTC
88700	PCDHGA12	CCCATCCATCCCATGCCTCCCTC
88700	PCDHGA2	CCCATCCATCCCATGCCTCCCTC
88700	PCDHGA3	CCCATCCATCCCATGCCTCCCTC
88700	PCDHGA4	CCCATCCATCCCATGCCTCCCTC
88700	PCDHGA5	CCCATCCATCCCATGCCTCCCTC

88700	PCDHGA6	CCCATCCATCCCATGCCTCCCTC
88700	PCDHGA7	CCCATCCATCCCATGCCTCCCTC
88700	PCDHGA8	CCCATCCATCCCATGCCTCCCTC
88700	PCDHGA9	CCCATCCATCCCATGCCTCCCTC
88700	PCDHGB1	CCCATCCATCCCATGCCTCCCTC
88700	PCDHGB2	CCCATCCATCCCATGCCTCCCTC
88700	PCDHGB3	CCCATCCATCCCATGCCTCCCTC
88700	PCDHGB4	CCCATCCATCCCATGCCTCCCTC
88700	PCDHGB5	CCCATCCATCCCATGCCTCCCTC
88700	PCDHGB6	CCCATCCATCCCATGCCTCCCTC
88700	PCDHGB7	CCCATCCATCCCATGCCTCCCTC
88700	PCDHGC3	CCCATCCATCCCATGCCTCCCTC
88700	PCDHGC4	CCCATCCATCCCATGCCTCCCTC
88700	PCDHGC5	CCCATCCATCCCATGCCTCCCTC
88701	TEM7	AGGGATCCTGTAGACAATCA
88702	DYRK1A	CCTCTACTGGTAACCAAGGCA
88703	MAFF	GGGAGAGAGAAGGTGACACGG
88704	EOMES	TTCCACCTTGATGCATCCTGT
88705	TNFRSF7	AATATGGATGAGGTGGAGAG
88706	ARHGDIA	CGAGGCCTGGCTTCAGGAGGGA
88707	ITGA6	CACTCAGGTGACATCCTCCAGAT
88708	IL12RB1	CTACAGACATGCACCACCACAC
88709	F2RL3	CAACTCCTGCCCTCAAGTGATC
88710	TEM8	AGCAAATGTTTCAGCCCAATGTCA
88711	TCF1	CCTGGAGGACCTGAGCCTGCCGA
88712	EGFL5	CAAAGCCTAAGGAGCTAGAACTGTT
88713	CACNA1G	GCCAAGTCCTAGCTCCTCCTCC
88714	CD3G	ACCAGTTGAGGAGGAATT
88715	WNT3A	CCCAGCCCCCAACCCCAAGACC
88716	SLC4A7	GCCTCTACTGGGTCTATATTGTG
88717	CPD	AATGTTCAAAGTGTCTGCCTGTG
88718	APAF1	CTCAGCCTCCCAAGTAGCTGAG
88718	CASP10	CTCAGCCTCCCAAGTAGCTGAG
88718	LTB4R	CTCAGCCTCCCAAGTAGCTGAG
88719	EGFR	GTGAAGCATTTACAGAAACGCATCC
88720	JMJ	CCAACAACAATAAAAACCACCAGGAT
88721	NET1	GAAACAATGAAATGTGTTAAAAATTT
88722	MAPK4	TTAAGAAAAAGAAATGTACA
88723	KCNS2	GCTGGGTTGGGAAGTGACACGTCTGT
88724	GPR37	CCCTCTAGGAACCTTGGAGGGCATA
88725	EPB49	CTGCCCACCGACGCCAGCCTGC
88726	DLG5	CGTCTTCAGCAAAACGACCTTGGA
88727	AKAP1	AGAACAAAGGGAACTCAAGATTCTTCC
88728	IL1A	CTTCCCTTTTTCTAAGACTA
88729	UBE2G2	TCTTTTCATTTGTTATATATTACAAA
88730	DDX3	GGTGACACCCGTGCCCAGCC
88731	GAS1	AATATGCGGAGAATGTATA
88732	FANCD2	ATGTAGACATGGCTGGC
88733	GBP1	AAGCTAAGACCAGAGCCTTC
88734	NEUROD1	ATTGTCATTACTGCCTTT

88735	EIF2C1	TCTTATGTTTCAATATTTCT
88736	PNUTL2	CCCAGCACCAGCTCTGCTCAGGCC
88737	SOX11	GCAATATGACAAAAAGTTTAA
88738	STK19	TGGGAAGGCTTGGGAGCCAG
88739	EDNRA	ACTGGCGCATCATATGCAGTG
88740	ADAMTS13	GGAGCCGGCGGGAGGTCTGCCAGGCT
88741	TNFSF15	TGCTTGAACTGGGGAGGCAGA
88742	HOXB7	TGAAAAGGATATTATCTACCTGTT
88743	PPP2R5E	GTAACATCCTCCTCTGGATAACTTG
88744	ZNF42	CTGGAGTGCTCACAGTGTGGCTGG
88745	WNT11	TCTTTTGTTTTTTGCT
88746	PRX	GAAGGGAGGGCAGAGGGGGC
88747	SLC22A12	TCTCGGCCGCCGTGCCCAGCC
88748	ATP2A3	TTTCTCTTAACTCAGCTTTT
88749	LAMC2	CGCCTGTAATTCTAGCACTTT
88750	MAML1	AACTTCTGCCACTCCCATGTC
88751	RLF	ACAGCATCTTATATTTTTTGA
88752	GNRH1	CCTGTCCTTCACTGTCCTTGCC
88753	F2RL3	TGAAATCCTATCTCTACCAAAA
88754	SIGLEC6	GTGTCCTAATCTTCTCTTCTTA
88755	DIAPH2	GCATTTTGAGAAGAACAAAGTGTGCACT
88756	GM2A	AAGGCATTTAAAGGACCTCTGCCGCCT
88757	CAV2	AAGATGTTTCATTTTACTGTATAT
88758	SDC1	ATCCTCCTCCCACCCGGCTGCAG
88759	F2R	GGAGGCTGAGGCGGGTGGATCA
88759	IL10	GGAGGCTGAGGCGGGTGGATCA
88759	NPHS1	GGAGGCTGAGGCGGGTGGATCA
88759	TNFRSF10A	GGAGGCTGAGGCGGGTGGATCA
88759	TNFRSF1B	GGAGGCTGAGGCGGGTGGATCA
88760	HPSE	CCTTTCTTCCTTGTTTCAGTTGG
88761	RANBP3	TTCCTCAGCATGGCTGTTTTGAAAAA
88762	HS3ST3A1	AGAAAGCCGGGGCTGGAAGTC
88763	CARKL	TAAATACAAAGCCCATTCTTCC
88764	C1orf1	TCCAGTGAGTTGAGATCATGCCCCTG
88765	ZHX1	CTGTTGGTAATGATGGCCTGA
88766	C9orf19	CTTAAACTTCTGGCATTTCAG
88767	ATP8B2	GGTTAATTTTTGTATTTTTAGT
88768	PCDHB9	GGCTAATTTTTGTATTTTCAGT
88769	DPH2L2	ACTGGCACAAGCTCAGCACATGCC
88770	HDAC4	ATTTTTCTGTAAAACAAAACCTT
88771	PRKAR2B	TTGCTTTTAAATGAGTGATTTCATT
88772	HTR2A	GCATGTAATCCTAGCACTTTGG
88773	MYL3	CCAGAAGCCAGGAAGGCTGTGCAGGA
88774	HOXB9	CTGCTTCATGGGCCTGGATGCAGAT
88775	FGL1	TAACCAAAACTCAGGTAACAACCATTA
88776	CUL3	AGCCTTGTGCTCTTTATCTCT
88777	PC	TAAGGGTCCCCTCCTCACTGGA
88778	IL13	GGACCCAGGGATGACATGTCCC
88779	CDKN1B	ACAGTATTTCATTGCCTGTGT
88780	TRPC1	TTTGAAAAATACAGTCAGTAGA

88781	ARNT2	CTTCCCTTCCAGCTC
88782	NGB	TGTCTGTCTGTTGGCCTGTATCT
88783	GRLF1	TGGGAGCCACAGAGGAGCGTCCCTGGG
88784	RNF4	GATACTGAGAGGTGGTGGCAGTAA
88785	KLRG1	GAGCCCAGGAGTTTGAGGCTGC
88785	TNFRSF1B	GAGCCCAGGAGTTTGAGGCTGC
88786	RDS	CGAAAGTCTGAATCTCCCAAGGAGGG
88787	TCF12	GCCTTTATTTCTCTGTCATTTGG
88788	SERPINA4	GTGCAGCCTCTGGCAGAGCATCCGACC
88789	PRKY	TCACTGTGATTTGTACATATGC
88790	PPP2R4	TGGGTCAGGAGTCCCAAAGGTC
88791	UBE2V1	ACAACTGCCTGGTGACACTGCT
88792	SPOCK	TCAGTCAAGACTCCCTTTGG
88793	FCGR1A	AAAGAGACGCTTCAAGTGG
88794	DDX16	CTCCAGCCGAGGGCTCCAGGC
88795	RAB26	GTGTCCTGGGAGCTGCCTGCTCCCGGC
88796	CASP2	AGCTCACTGCAAGCTCCAACTC
88797	PUM2	TCTTCCTTCATCCTTGCC
88798	EDNRA	TACAGACTGTGAGTACAGCAGA
88799	MICB	TTGTTTATCATGAATGCAGGA
88800	MMP25	CTATTCTTCTAGACTATCCCA
88801	DBH	CCTACTCCTCCCCCTCCTCCATGCT
88802	KCNMB4	CGGGGGCGGAGGCTGGCAGGGGGCGC
88803	BUB3	TGGTAGAGGAAAAGGCTCGTGA
88804	GPRK2L	GTTCCGCCTCCTCAGTCTCCTCG
88805	IFRD1	GACTCTGGGCGGCACCGGGCGTCC
88806	GFRA2	GGAGATGGTTTTGCCCTCCCTCTCT
88807	BCL7A	TTGCTCTTAATTAATATATGAA
88808	PABPC3	TCTAAACATCGAGAAACTATGGGA
88809	RGL	AGCCCAAACTTTATTTTTAT
88810	PWP2H	GAGGATGAAGTCTACACTTCAG
88811	CSE1L	CTCATTGCCCAGGCTGGAGTGCAGT
88812	ZFP36L1	CCCAGCACCTCAGAATGTGCCCTCCCT
88813	PDCL	TGGATTTCATGTCTTCCTCCAGCA
88814	DBN1	CCGGGCGGGGACGGGGCGGGGAC
88815	NPR2	ATATGCAATGGAAAACAGCCA
88816	TGFBR3	GACTCAAGGAGTTGGTAAAG
88817	HHIP	TTCATTCTCTTTTATTAATTTA
88818	NEU3	TGTAGGCCCATGGAAATCACTA
88819	DLGAP2	TTAGGCAACCTGGCTTTTATTCA
88820	IL1F5	GTACCAAAGTTGTCTTTGTGA
88821	CYP27B1	TCTACCCCCTTCCTTCTTTGTCTTGC
88822	AK1	TGAGCCAAGATTGCGCCACTG
88823	MAPK7	CCTGAGCCACCACCGAGCCAT
88824	CPS1	GTCACACTCTCCAGGCTGGAGTGCAGTG
88825	DDIT3	ACGCAGGGGGAAGGCTTGGAG
88826	HS2ST1	TGTATATGACAATTTGTATTGA
88827	OAS3	CCACCACTGCTGCTTCCCACCC
88828	DLX4	GCTGGGAGGAAACCAGCTCCAG
88829	TEM6	GGCTCAGAAACCGTGAGAGAGCCCCCA

88830	VENTX2	CCAAGTAGCTAGGATTACAGAC
88831	UBE2B	GACCAGCCAGGGCAACATAATAA
88832	NCALD	TCTGAGTGAGCTGAATTCTTGCC
88833	FOXM1	CTGAGGTACCTGGATCTTGGGTTCTTC
88834	PHKA2	AGTCTGTCTGTGCACCAAACTCT
88835	SOD3	GCTTCTATTTTTGGAAAGGGCTG
88836	RPL5	CCGCTGGGCCTGCAGGTCTCTGTCGAG
88837	MYO1D	AATCAGATACCTGCTGTCACCACACTTG
88838	GPT	CCTTCACCCACTGCCTCTGCCTCCC
88839	NRCAM	TAAACAATGTGTATTGCAGTG
88840	GALR1	TCCAGTCTCTGCTCGCGCA
88841	WHSC1	AGCTTAGATTGTAGCTGTTC
88842	SOX11	ACTGAGCTCTCTTCCATTTTACTTA
88843	COL4A3	AAACCACTGACATTCCTCCA
88844	FCGR3A	CTGTAAAACCACCTTTTCTGCT
88845	FPGS	TGCTGAGGGACCGAGCCCAG
88846	CDH1	TCGGCCAGGCTGGAGTGCAGTG
88847	CYP7A1	TAGTGAAACTGCATTATTTGTT
88848	CLDN16	AATATTAAAATGAAATGATA
88849	GRIN2C	GCCAGGAGGGTGTGCTGTG
88850	SH3BP5	TTACAAGGTTATTTTGTACTT
88851	DYT1	CCTGGTGCCTGCAGGCCACCCAG
88852	RPP30	GCTCACTGCAACCTCAATCCTGGGCT
88853	PITPN	CCCAGCCCACACTAGCCTGGG
88854	FNTB	CTCTCCAGGGTCCAAGGCCACGCTT
88855	MHC2TA	GGTGGTGACCTCTGCCTGAA
88856	STK18	TTCATTGTTAAAACTCCTTT
88857	MSH2	AAATGAGAGCTGTAACTGAGGACTGT
88858	HPGD	AGAATTGAAAAATGTGAGT
88859	PIK3R3	CCCTTCATTTCCCCCTCCTTTGCT
88860	ASTN	GTATCATCTGGCACACAAC
88861	CHS1	CCGTGTGCTCAGGCCAGGT
88862	SORCS1	TTTCTGCACTCTCTGTGGCCACAG
88863	ST7	CTCTGTGCCAACTCCTTGTGGACC
88864	MEIS1	CACTTCCTGTTTTAAGCAGCT
88865	PIN1	TCACCCCCAATTAAACCCAGAA
88866	IRAK4	AGGCTGAGGCAGGAGACTAGCT
88867	ZNF32	GAGGCTCACCCTTTGCCACTTT
88868	BACE	TTACCTCCCTATCAGTTCTAGCA
88869	YES1	TGGTAATGAAGGACAGTGAGGCTC
88870	TUFT1	GGTCTCGAATTCCTGACCTCAG
88871	MDM4	CTCCCAGGCTGAAGTGCAGTGA
88872	ALS2	ATTATCTACTACAGAGTGTTAT
88873	TLR5	GCCCAGGCTGGACTGCAGTGAC
88874	GPC1	GCACACAGGGCTCACAGGGCA
88875	NESH	TCTGGGCAGGGGACAGAGAGACACAGGC
88876	IL1F9	ATCTGCATGAGTGACTTTAA
88877	ZNF278	TCCCATAGGCCTGGGGTTTCTAGACT
88878	OLFM1	TGACTGTTGGCCAGTTCTCACCGGGGAA
88879	CD1A	GGGGCTGAAGAGACAGGGGAAGAGAA

88880	GNAI1	GTCCTGCAGTGTGAAACTGAAG
88881	MGAT2	CTCAGCCTGGAGTGCAGT
88882	RABGGTB	ACTGTTAATATTTTGTATATTGTG
88883	IL6ST	AGGGGTTCGTGCGCTGTGGAGA
88884	EFNB1	CGGCCGAGGCTTCGGGGGCGCA
88885	PCM1	CACATGACTCCAGTCTAGCT
88886	TDG	TGAGCTATATGCACACTCAGACCTC
88887	IGF1	TCTTTTATCTGTGTCTGTGTATCA
88888	CSE1L	CCCAGAGCTGTGGCAGCTC
88889	TNFRSF10D	AGACCAGCCTCATCAACACAGT
88890	GAD1	CTCCCCACTCTGCCCCCGCC
88891	TIMM17A	GAGTCTTGATTCCTGATCATC
88892	NOTCH2	GCCTCTTTCATAGTGTGCAAA
88893	SIM1	GCCAATGTGACAACATGTGGA
88894	SERPINB13	TAAATGATGTAGTTGATCA
88895	PIP5K1A	CATGGGCTGGGAGATCATAGCCCTTCC
88896	PTER	ACAGTTACTCAGACCCAGGCATTTCAACA
88897	PLAT	TTTCTTTATAAACTTTAGAGTAGC
88898	GHR	TTGCTGCTATGGTTTTCTCC
88899	ABCC5	GGGCTCCTGCCTTCTGTCCTGGTGTCA
88900	USH3A	GGCTCCACTGCACTGGCTCATTC
88901	RNGTT	CTGAGAATTAGCTAAATGGAGGC
88902	ADAMTS4	GTGGGGAGGGGCTGTGGGCGTGAGACC
88903	UBE2B	TGGCTCCCACCTGTAGTCCCAG
88904	STK4	CCACAGCACCTTTGTGAACTCA
88905	ZNF24	TATGCAAATACTTTGATCTA
88906	MAP3K8	TGACACTGCACTGAGCACTTT
88907	FGF23	CTGCTTCTCTGGGGTCCCTTCCACAG
88908	MAP3K12	CCCCTCTGAGGTTTCTCAGGTGGCAA
88909	IL1RN	TAACTGCATAAGTAATGACTTTC
88910	FCMD	CTGGCTGCTGAAATACTTTT
88911	GPR92	CTCTCTCTCCTTTGTCCAGAGTAAGG
88912	EPB49	TTGCCCAGGTCTGGGTATTGCTCCTG
88913	BHMT2	CATTGCACTTCAGCCTGGGTGA
88914	CTNNB1	TGAAGTAAACTTTTTGTTCTG
88915	SURF5	CCTGCCCTGCCCTGCCCTGT
88916	CTPS	AACTTGTCACTTGCATGTCCCATCACG
88917	ENDOGL1	TGTCATCCAGGCTGGAGTGCGGT
88918	HLCS	TGTCGTCCAGGCTGGAGTGCAGT
88919	RDBP	CCACTCCCTTGCCCCAAAAGG
88920	ABL1	TCCCGCACCTTCCTCCTCCCC
88921	AKT1	AGAACAATCCGATTCACGTA
88922	SUDD	TGTGGAATTTTTAGCTCAGCATT
88923	NUMA1	AGGAGTCTGGAGTGCAATGG
88924	GUK1	GCCCTTGGCCAGCATGTGGAGTGGAGG
88925	FGF20	CCACAACCATTCTTTCTTGTCA
88926	PRPSAP1	AAAATAGCATCCCACCTCTGG
88927	MAP3K7	CACGGCTGTGGCCGCTGCCTCT
88928	CHST6	CTCTGCTTTCCTCCACCTGAA
88929	LTB	GGTGGGGTGAGGGAATATGAGT

88930	ADORA3	TCCCTGTGGAGGTTCCCCT
88931	PIP5K1B	AGCTCTGTTGCTACTAAGCAGCTTTT
88932	PITX2	GAAAGGGAGAGAAAGAGAAGC
88933	SLC16A2	CCAAAAAGGTACAGGCAGCAGT
88934	ZNF74	GCTCACTGCAACCTCTGCTT
88935	BIG1	CCCTACTGACAGTAACTACCTG
88936	INPP5B	GGGAGCACAGAAGGCCAGTTGC
88937	HEBP1	CAACTTTCCTTCAAAGTCA
88938	TNFSF11	GGGAGGGAGCGGGAGAGGGAGGAGAGCTCC
88939	ARF4L	TCTCAGTCAGACTGGGGTGCAG
88940	HDGF	TTGAGGCCACTGTGTTCCTTCCGCT
88941	SIAT4C	TGGGTGGGTGCCCTCCAGAGA
88942	PPP2R5A	ACAGATGGGTAGAGGCAGCTC
88943	MEF2A	TGTATGTGTGGGTGTGTGTTACA
88944	SCA1	CCCTCAGGAGCCCTCCAGAGCCTGTG
88945	MYO1D	TGGAGAGGACAGTGTGGCAT
88946	CYP4F3	GGGAGAGGAGGTTGTGTGGG
88947	APOL1	GAAGAATAGAGAGGAGGCTTGAAGGAA
88948	CYP2B6	CTGAGCTGTGGGATTCTGCA
88949	SFRS2IP	GCCTGTATTCCCAGCAGTTTGG
88950	HSPA5	TATTGTAATCCTAGCACTTTG
88951	CDK5	GAGGGTGAGACAGTGGGGGTGCC
88952	SRC	GGCTAACTCTCCCAAAAAGGA
88953	ANKTM1	TATGTATGTGTCCTTGTGTTATG
88954	RTN3	GGAAAGTGGGACTGAGAGGGAGTCAG
88955	FANCC	TGGCTGGGTGCAGTGGCTCA
88956	CRTL1	GACGCTTTGCTTTTCTTCTGCTCTTGGTGA
88957	EP300	CCCACCCCCTCGGGTGCCGTCG
88958	EPS8	TCTAGGCCCATTATTTTTATTAAAACT
88959	GALNS	GGACTGCACAATTCCACCTGCCC
88960	KCNE3	AATACATGCAATGTGGCTGGTG
88961	RAP2A	GTGATGGTAACTGATGCCTTTCATTTT
88962	MYO1D	GCCAGCCAAAGCCACTGGGTGAG
88963	HPS4	CTCAGCTGTGTGTTCCTGGGC
88964	CELSR3	ATGGGTGGGACACATGCCTTC
88965	CREB1	TATGTATGTTGTCTTCTTCAAT
88966	C14orf1	CCCTCTGCTCTGATCAGTTCTTGTA
88967	EPB49	CAGGAGGTGGGGTGGAAATAGGGTGGG
88968	HLF	GCTGGGGTCGGCGCGGTGTC
88969	ALDH3B1	TGGCGCATGCCTGTAATCCCAG
88969	CARKL	TGGCGCATGCCTGTAATCCCAG
88969	HIP1	TGGCGCATGCCTGTAATCCCAG
88970	ARSD	TGGCTCATGCCTTTAATCCCAG
88971	RNF4	CTTCCCTTGAGAGTCA
88972	NQO1	CACTTAGGGAAAGATGTAGAAAGA
88973	GAL	TGTTTGTCTGTGTGCTGTAAC
88974	TGFBR3	ACCAGTGAGGAGATGCGGCC
88975	WIF1	ATTTTTAAAAATTGCTCTTA
88976	DCX	CTGAGGTTCCACCAAAATATGGA
88977	SYN3	ACAGTGTTTTGCAAACAAACAAAAAGA

88978	HCFC1	GGAGGGGAGGAAAGGCGTCCCTCT
88979	TOP2A	GATACTCTACTACACTCAGCCT
88980	MDM4	GTTCTGTCTCCCAGGCTGAAG
88981	FACL3	TGCACCAATTAAGATGTGCT
88982	DRD2	ACTGCCTCTGCCACACTCTGACGCAAA
88983	HIP1	CAGAAGCAGAGGCTAATTCAGTGT
88984	NEB	ACTAATAAAACCTCTAATTC
88985	KAL1	TTGTAACAACCTAAAACGCAGAG
88986	TBL2	GGCGCTGCTGCCATCTTTCCTC
88987	E4F1	CCCCAAGACGGACAGTGTA
88988	BTG1	GTAGCAAGTGACCAGAATCTGCCA
88989	HOXD11	AGATCCCTTCCTTCCTCTTCG
88990	MAGEA2	GCAGGGCTGGTTAGAAGTGCTCA
88991	MMP3	GGCTGCTGCTTAGCTTGCACCTTG
88992	CNN2	GCGCCATCTTGGCTCACTGCACC
88993	POLI	GGGGGTGGAGCCGGAGGAGGAAGGC
88994	SDPR	GGGCAGCCAGGGCTGAAGAACAAACT
88995	XRCC2	GGCAGGAGAATTGCTGGAACCC
88996	EIF5A2	TGCCTCCCGAGTTCAAGCAATT
88997	TNNT1	ACCAGGATGTCGGACACCGAGGAGCAG
88998	CALCR	AGACAATACTCCCTTTAAAGAG
88999	ARNT	TCCTTATGTCTCCAGTCTGGTGCC
89000	ZNF239	CTGCGAGTGTTAAGGTTGTCA
89001	CRYPTIC	AGGAAGGGAAGGGAACATCCACATCTTCTGT
89002	FGFRL1	GCCTTGACACACACATGCAC
89003	HUNK	CAGAAATTGACTGGACTGTCA
89004	CD209	TTGTCGCTCAGGCTGGAGTGCCATG
89005	RP42	GAAAAAGAAGAATCTTGCTGCTTT
89006	APOL1	GCGTGAGCCATCGCTTTTGACCCAAAT
89007	KERA	ATTAGGAATGAAAATTGCCTAGA
89008	PLAG1	GCTAATTAAATAATAGTACTGCAGCTT
89009	TSC1	TCTAAAATGTCAAGGCAGTTGC
89010	BACH2	TTTTGTTTTTGTTTTCCTTGCAGATACT
89011	CASP4	CTCTTTCCAACGCTGTAAAAAGGACA
89012	CRHR2	AGGGGGACTGCAAGGGACAGGGA
89013	VANGL2	CCTGAAGGTGCCTCTTGGCCTAAA
89014	CD80	TGGTGACCTTGATCAAGGGGTT
89015	PAX3	TTGAGATGTTGAGAGGAACAAGAAG
89016	BRCA1	GAGGATGAAGAGCTTCCCTGC
89017	ZNF174	GCTGTGAGGAGGCCCAGAAAA
89018	KCNK10	GGGAGGGGGTAAGGGAGCCAG
89019	FMR2	CTCTGGATCACCACTTGATTAT
89020	SLC4A10	GACACTGAAGACACTGCAGA
89021	EDAR	CTTACAGGCCTTCCAGTCA
89022	FEZ1	GAGACCCTTCAGGACGAGGA
89023	CCND2	AGTCTCTTGGGAAGTGTGTTT
89024	PTGFR	AGGCTTCTAAATAAATGGCAGAATTCT
89025	PLAG1	TTACAAGATATAGCACTTT
89026	LPL	TTCTGGATCTTTCGGACTGAGGCC
89027	RAD54B	GAAGCAATGGAAACATTTTTCTGG

89028	CRYZ	GCCATCTGTCTCAAATCAAA
89029	CHAC	CTACTTTCCATTCACTGTTAACA
89030	SERPINF2	TGTGACTCTTTCCAACCTGCTT
89031	PLP2	GAACTTCCCTCATTTCTCTCTGCA
89032	RPP30	TCATCAGCCACAACAAAAATAAAACC
89033	GNPI	GTCAAGTACCCATAGGGAAAGGCAGG
89034	ASK	ATCAGGATAACATGACCTTGCCTTG
89035	ADAMTS13	AGATGTGCAACACTCAGGCCT
89036	PRND	GGCCCAGAAATCATACTGTAAGG
89037	GALT	GTTGCCCTTGTGCTCCAGTCA
89038	TRIM39	GGGAGCTGGTTCCCAGAGGATTGT
89039	BYSL	ACGAGGACGAGGAGTGGCCCAC
89040	TNFSF12	CTGCCTGGGCCTGTTCACGTGTTTTC
89041	GPX3	GGACAGTGACAACCCTTTCTCTCCA
89042	PPP1R12B	TCAGAGTCATCAGCAAACTGTCCAA
89043	COX7A1	TTCCTGGACAGAGGAGGACTACGCGT
89044	ACOX1	GGGAAAAAATGAACAGATTTCAGAGA
89045	IL16	CCTGGTTCTGATGATGTGCCTGGG
89046	RAB5C	GGAAGGGAGAGGCAGC
89047	CD22	AGGGAAAGCCCAGAAAAGGAC
89048	PYCS	AAAAGGGGCAACTCTTCTTTTTAG
89049	SLC4A7	CACTTTTGTTAGTGCTTTAT
89050	TRIM	TTAAGCATGAATGCGTTCTGGAACAC
89051	ADH6	GAAGAGGCTTTCAGGAATTTGTA
89052	TIMP3	CCTCGTTCCAGACCTGCCTCA
89053	HNF4A	CATGTTGAAGCCACTGCCTTC
89054	DMRT2	TCCAGCGGAGACTTATGTAGGAG
89055	SLC7A7	CCTGTCCAGAAGCCTGGCCTAGGCAG
89056	GAD1	GGCGGTCAGGCACCTGCAGAGGAG
89057	CYR61	CCTTGCTCATTCTTGAGGAGCATTAA
89058	SIP	GCCCGTAATCCCAGCTACTAAGG
89059	KRT1	AGCTCCTTCCCTTACTCTACCTTGCTC
89060	TXK	TGTAATTTTCAGGAAGATGATTTGTT
89061	FANCF	CAAGTAGCTGGGATTACAGGTGC
89061	ZNF253	CAAGTAGCTGGGATTACAGGTGC
89062	RAB6A	CCCTTCAGTAATAACGTATTGC
89063	SLA2	TTTCCAGTACCATCTGGATGCCCT
89064	FMOD	GCAGCACTTGACAGCTCTCCCTCTGTG
89065	NFATC3	TGCTTTGAGTGTGAATGCAGCAGGCTC
89066	FGFR1	AAGCGTTTCCCAGTCTTAGCCCTGT
89067	SNX3	CTCCATCTAAAATAAGACA
89068	GRM6	CTCAATTTCTTAGGCTGGAGTGCAGTG
89069	LMO2	AGCAATGCTGATGAATCACTGTT
89070	MAML1	GTAGTTATTTTGCACCAGCAGTGCCTT
89071	FUT9	ATTTATAAATGGTGTCATTTATGAAC
89072	OGT	GACATTTTTCTCCTCAGTAGCATA
89073	EZH1	TGCCACCCTCTCTGGCATTCATGCAG
89074	ADCY6	TGCTCACTGCAACCTCTGCCA
89075	DYRK1A	CCATCGTCCCGGCTGAAGTGCAGTG
89076	ATP1B3	GGTACCCGGCCAACATCAAGTGACTT

89077	CELSR1	ATCACCCTCAGACCTTGGAGC
89078	HPS4	TCCATGCTGAGTGAAAACTAACCA
89079	HOXA3	TTCTGCTCCATGCTCTTCCTCGGGTC
89080	PRND	CATGATTTTGGCTCACTGCAGCCT
89081	RAD54B	AATGGCAGATGTGGAGCTATTC
89082	EFNB1	CTGGGGAACAGGAGAGCTGCTGCA
89083	CKTSF1B1	TCTTTTAGGAGCTTGTACCACAGTCTT
89084	TTID	GCCTTCATCTTCCATATACCA
89085	TACC1	TCTGGAGAAGACTATTTGCC
89086	PSEN2	GAGCTAAAGTGACTTTTCCCA
89087	STAT4	CACTGCCTGGGACCTGTGCTGAGAGAG
89088	RPN1	TCCTCCAGGGGGCCCAGGGTGC
89089	SUDD	GCTTTGGAGAAAATGAATGAAG
89090	RAMP3	GGGCTGGGGGTTCCCAGGAGCCATG
89091	CR1L	TGAACTTCCTGTTGGTGCTGG
89092	CD209	GTCGCTCAGGCTGGAGTGCCATGGCGC
89093	CCKAR	AGGTCTCTTTTCATCCTTCATCTG
89094	MYCBP	AGACCTACAGTCAGATGTTT
89095	PRCC	TGCCAGCCCAGCTGGCCTGGC
89096	FOXO1A	GCGTTCTCCCCCTCTTGGCTC
89097	GPR23	ATCCAGTCAGATACATTTGTTTGA
89098	GPR87	GAGATGTTTCGTTTTCATGCTT
89099	GALGT	CACCCCTCTTCCTTAATGAAA
89100	ITPKB	GAAGGCAGGCTTCTGGCTTC
89101	ARHGEF6	TACCTGCAAGCCTCTTAGTACTTAAT
89102	ZNF289	CTTCCTCTGCATCATTCT
89103	ADRA1A	GGAGCACGGTTTAAGCACCACTGGACT
89104	KCNC4	CTGAAGTCCTCACCCTCTCTT
89105	ASPH	AGAGGCTGCCTTTCTGGTTCCA
89106	SHC1	TCACCCTTCTGGGCAAGGGGG
89107	SHFM3	CTGTGCTCCTGGGCCTGTGACCCCAG
89108	CBFA2T1	GCACACACATCCCTGTCATTGTTC
89109	PROCR	GGCTGGCAAGGGAAAGTTTCAGC
89110	GFAP	CCTGTGTAGCTGGGATTATAGATTGGA
89111	TNFRSF10B	AGGCTGGAGTGCAACGGTACGAT
89112	MICB	ACCTCAGACTCCCGAATAGCTG
89113	VAMP1	TCGGCGCGAGGCGGAGCTTGGCAGTT
89114	INMT	CAAGGCAGAGATCCATGC
89115	ABCC5	TTGCCATTCCCTGCCTGGGGC
89116	PFN2	GTAGCTAATTTTTCTTTACCTATTTTCTA
89117	F2RL3	CCCACCTCTATGCTGCGTTC
89118	MCC	TTCTCTCTCAGTTCTACACTGA
89119	KCNMA1	TTTCCCTTATGGATGGACTA
89120	EYA1	TGTGGTGAATGGAGGACCACGTC
89121	SNAP23	CAGGCTGGAGTGCAATAGCGCG
89122	NNMT	AGACAACTTCTGCAGGGTCACTCCCTG
89123	FACL2	CACCGCCTTACAGTCACCTCA
89124	BCL2	GTCATGTGCATTTCCACGTCAACAGA
89125	C7orf2	TTTGGTTACATTTGCATATGCCATT
89126	C1QG	GGAGAGGGGAAGCAGATCTGAGGACA

89127	CA7	CCCTGGGAACCTCCTCTGG
89128	IRTA2	CTGTCTCAAACTCTAAGGTCG
89129	HAP1	TCTCCATCCACTTTTCTCCTGGGGGCT
89130	SLC3A2	TCCTGGACTGACGGTCACGACTGCCTA
89131	SYT4	GAAATCCAGTTAGAAGTGCAAT
89132	SSPN	GTCCTTCCCACCTCCAGTCATCA
89133	FKBP10	GGGCTGTAGTTAGCTTTTC
89134	SERPINB5	AGGATAACTGTGACTCCAGG
89135	MADH6	GGGGCCACCGGGAGGCACTTTT
89136	TCTA	TGACCAGCTCTGGGGTTTGTAA
89137	OTX2	TGATTGTCCTAGATGCACTACT
89138	TNFRSF1B	GGCTGCCCTGCCACTTTGG
89139	TNFRSF10B	CGCCCAGGCTGGAGTGCAAC
89140	RASGRP1	TCCTTTGATTGATATAGACCAAA
89141	GOLGA5	ACAAGCTTTTAACTTTTTAAGTTA
89142	CKN1	TTATTTAGTCAAAATGTGTTCC
89143	CYP21A2	TGGGCAGCAGCTCAGCCTCC
89144	NRG1	GGGAGCGTGAGCAGGACGGT
89145	SLC22A3	ACAGAGCAGTGGCACTGGACC
89146	ADCY6	ATCTTAGTCCCATGATCTGTCCCC
89147	ITK	CCCAAGGTGCACCACCTT
89148	SFRS2	TTCCTGTTTTCTCCCGATTGCT
89149	DDX3	CACTGCATGTGCTGTGCATATT
89150	LANCL1	TGTGCATGCTCTGCCTTTCT
89151	GGA3	CGCCAACCAGCTCCTGCTGCCATC
89152	KCNA7	ACTTCATTGTGCTGTTCACTC
89153	GPC1	TACAACACAGACGATATTTAATTC
89154	MN1	TAAGAAAATATATTTTCATTCCTG
89155	FBXL4	GGACACCTGACCTTTTGAAGCTTCA
89156	HS3ST3A1	GCGAGCAGAGTGGCGGGGGCCGCTGAC
89157	CNTN2	TGAAAGCCTCCTCACCTCTT
89158	ARVCF	ACTGCTTTCAGTGCCTGCTGTTC
89159	INHBC	CACTGTGCCATCTTCCTGACCAC
89160	CTMP	AGAACAAATGTCACAGGCC
89161	SWAP70	GAGTGAGACTCCATCTCAAAAC
89162	C9orf19	AGCTATGCCTCTAATTTCACCAGGG
89163	TAPBP	TTTAAAAAACACACATCTTATGG
89164	TRPC5	AGGGCCGATCTGTTACAGGCAAG
89165	NDUFS1	GAGCCCAGGCAGTTGGAGACCAGT
89166	SARDH	CCCAGCTCCCTGTTTTGCTGAGGCCT
89167	ADAM33	CACTGCTGGGCACACTCTCCA
89168	TMPRSS2	GTGGCTCCCCTGCCCAGCCTGC
89169	TIAL1	CCTTGTCTCCCACTCTTTCTTCATATA
89170	WHSC1	CTTGACAGAGTCTGTGTCCGCTCAGTC
89171	MLC1	AGTAAATCCACAGTGAGTTGGG
89172	FSTL3	TGAGTATGGAGGGTCTAGCCTGGGTGA
89173	OCRL	CTATCTCTTTCTACATCAGATC
89174	ASB2	CCTTTCATCCTGGGACCTGCCGA
89175	DAAM2	TTTGGGCATCTCCCATGTCCCC
89176	FDFT1	TAGAAGATTGGTCTCCAGTAA

89177	COPA	CTAGGAGGTGGAGGTTGCATTCAACTG
89178	CBFA2T2	ATGAGACATGGCTGTCTCACAGGTCAC
89179	MLLT7	TAGAAGGCTGCAGATAACAGAA
89180	BARHL1	TCTGCCGGCTCCCCTAGGCAA
89181	ALDH3A1	GCTGACCTGCTGACCTGTGCACA
89182	ATP7A	ACTGACACAGCATTCATGATGTTACCT
89183	TIMP3	CCTTTGGGCATCTCTTCTGCCT
89184	PLAGL1	ATCAGCCTGGCAGCAGCATTGTG
89185	SLC21A3	GAGCAACATGGGAGAAACTGAGAAAA
89186	AMPD3	GTGACTTCTCCTTGGGGATCTGGG
89187	TRPV3	ACACCCCAAGGTTCAAACTGTCTCAA
89188	STC1	GAGAGGGCACATCTCCAGAAAA
89189	STAC	GACAAGAATCAAGTATCTGAGACTGTG
89190	CELSR1	GCCCAGGCGGGCATCTCATGGC
89191	EGR3	TACCCTTTAATATTTTTTCCTC
89192	HDAC5	TTTGTAACCCGTTACACTGTGT
89193	KIF3C	GACCTCCAGGCTGCGTTGAGCAGCC
89194	CHAC	TCTCTGTAATGGTGGAGAG
89195	EPHB3	CCTGGCAGGGTCAGGCTGG
89196	PAICS	GAGCATCTAACCCCTCCTTTCTT
89197	MT3	CCTGGTGTTCCCTTTCCCTGCTGA
89198	C18orf2	TATTAGATTTTTCTAGTTGTCT
89199	TNFSF4	CACTCCACCTTCCTTCCATC
89200	TFR2	TCAGGAGGGGACACAAGCATGGAGC
89201	GPR48	ACAGTGTGTTGTAATTTTGTAA
89202	B3GALT3	TCAGGCCCTTCAAAGATGATATGTGGAGG
89203	NR1H2	CAGAGGGAGGGGAGGACCCATGGC
89204	LAMC1	CTGCTGTCCATCACTGTCCTTTTGAA
89205	HOXC11	CCCTGCTCCCTTCCCAGAGGGATT
89206	CYBB	GATCTAGCCCATCTTACTCCAG
89207	GPR56	CTCTCCAAGCCCCCAAATAGCTCC
89208	SLC14A1	TGCTTACGGGTGTTATTTTTATAA
89209	PTGS2	TTTTGTTTTACTAGTTTT
89210	EPB49	CCGATCCTGGCCCTCCACCTGC
89211	ARNT2	GGCAGCAAGGACACAGATGCAGCC
89212	PTPRO	AAACTTCAGGAACCAGTTGCTGTTTC
89213	PSEN1	GCATTGCCAGCTCTTCCAA
89214	WNT3A	TTGGCTTCTCCCTGGGGACGGGG
89215	DCTN1	GCCCTGACCCTCCTGCCTAGG
89216	TTF2	AGGAGGTTGAGGCTGCAGTGA
89216	UBE2B	AGGAGGTTGAGGCTGCAGTGA
89217	RNMT	CTGGGGACTGAGCCCACTGTTG
89218	TACC1	GTTTCCCCCTATGAAGGTT
89219	XBP1	TCATCCAGCCACTGCCCAAAG
89220	GPR56	CACACAGGCTGGAGTGCAGTGG
89221	PRex1	TCCCTGCCTCCTTCCGGGACA
89222	RRM2B	CCCAACAAACTGTACTTTATACA
89223	ACPT	CCCGCCATATGCTGCCTGCCTCGGC
89224	FSTL3	GAGGCATGACTGCTTTTCTCAGCCCC
89225	SNX9	GGGATGGGGGAAATGGAGATGGCAC

89226	BACH2	CTCAGACCTCACCTTCCTCCCACCC
89227	FCMD	TGCTACTTTTAAGATTGTGGAG
89228	NR3C1	TGGGCAGCTAGTTCGTAGCTTTC
89229	PIGR	CGAACTCCTGGCCTCAAGTGAT
89229	PTGES	CGAACTCCTGGCCTCAAGTGAT
89229	RBBP9	CGAACTCCTGGCCTCAAGTGAT
89230	EFNA4	AGGCTGAAGACCTGGGACAGGTCGATT
89231	CSNK2A1	TCTACCCAAAATGCAGACAGAT
89232	PTK2	CTGCCAGGCTGGAGTGGAGTGG
89233	BFSP1	AAATGTTTTCTTTGCTTGCA
89234	WDR1	GTGACTCACACCTTGTGGCTGCCTTCAG
89235	STAT6	GGGAGGGTGAGACACTGCACAGAA
89236	IL17	TTTTTAAAGAAGATAAGATTCTG
89237	HIP2	ATATTTTGAGTGTGTCAGGGCCATTCA
89238	NOLA1	GCATGATCTGTTTCTACTATGGA
89239	IL13RA1	CATTCTCCCTCCTTCCCTTCCTTGT
89240	BYSL	GAGAAGGCTGCCACAATGACAGCAG
89241	GGT1	GTCATCCAGGCTGGACAGTTCA
89241	GGT2	GTCATCCAGGCTGGACAGTTCA
89242	DIAPH2	AAAATTGAGGGGTTGGCAGG
89243	CAPZA1	CGCATCTCATAACTAACTTT
89244	DUOX1	ACCTCCTCCTCTTCTGGGCTC
89245	ADCY8	CTGAGCCTAGAATCAACCAAGGAG
89246	DISC1	GGCTCACTGCAACCTCTACCT
89247	ABCC11	TTGCCCAGGATCAAGGGTGCG
89248	CLN2	GACTCAGTTCAGAAGTCACC
89249	GRM6	CGTGAGCCATCGCACCTAGCC
89250	G2A	AAAGCAGGGACGTGAACAGCCCTCCTC
89251	KIT	TGTTAGTTATAGATGTCTAG
89252	TAF7L	CCCTTCAGTTGCCTTATGT
89253	SREBF2	TGTCTTCTTAGCTGTCAC
89254	PSCD4	GGTCCTCAGCTTCCTCCATCA
89255	MMP25	CTCCCACAAGGCCCCCCTA
89256	CNTN2	GCAGTAACTTCCATGATGACACTGACGCC
89257	GSTM4	CTCCTAGTGCTTCCGGACCTT
89258	ITCH	AGCCCTCTATAAAGACTTCCTGT
89259	PRKAG1	CCTCACTTGCCTCTGCCTCCA
89260	AMPH	AGGATGAGATGACAGA
89261	GOT2	AGGCTCTCTTTTCTCCCTT
89262	TUFT1	ACCCAGGCTGGAGTGCAGTAGC
89263	YES1	GCTCTGCCGCCCAGGCTGGAGTGCAGT
89264	INSM1	TTTAACTTTTATACCTATCTGAG
89265	DPP6	CCTGTCTCACGTCGCAGTGCCATGG
89266	PTK2B	CCTGCCTGCGTCTTCCGCCCCTGCCTG
89267	BCLG	CTGCCCTTGTAATAGACGTCACGGCCA
89268	CDH1	TGTGTTACCCAGGCTGGTC
89268	SLC3A2	TGTGTTACCCAGGCTGGTC
89269	CALB2	CAGCCTGCACACACCTGCCT
89270	LOXL1	GGGGCATCCCTCCCTGCCGGCCTC
89271	KIFAP3	CCGCTGCTGCCCCGCCTTGCA

89272	ZNF202	TCCCCATGTGAGGAGATCTGCTTTCAG
89273	HIVEP2	GCTTAGCAATCTCCTTAGTTCTTGCTA
89274	CNGB3	GGGTTTTCAGAACCACCTCA
89275	WISP1	TATTGCAGAGACTCATTTCACAGCCTT
89276	GCNT3	AGCAGGAAGTCAAAAGGAGAGTGATG
89277	MEFV	GGCTAATTTTTTGCATTTTTAGT
89278	RHCG	TCATCCCAGGGGGTCTGCCTGA
89279	AQP6	AGCTCAGGCTGGAGCAGGTATATG
89280	RXRB	AATGCCAGTGGTGGAGGTGGGT
89281	ABCC11	CCCAAACCTCTGCATGGCCC
89282	SOX1	GGGGGCAAGGAAATTAGCTGAG
89283	ARHGEF12	TATTTGACTTCATTCCGTAT
89284	KCNJ16	TATCTGTGTAATTTTATAACATAC
89285	TGFB1	CTCCTCCTGCCTGTCTGC
89286	DIO1	GAGAGAGCAGTTGCACTCTACAGGC
89287	FGR	GCATGTGCATGCGCGTGTGTGC
89288	SLC21A2	ATGCCCAGGCTCACTTCAGTG
89289	IL16	GGCTCTTTGGAGATCAAGGA
89290	D1S155E	CTCCAGTTTTCTGTTAATGG
89291	OGG1	CCTCTTATCTTCTGCCAGGATCA
89292	RARA	TTCTCCTCCTCAGCCTTTTCCTCCTCA
89293	FNTB	CCAAGCCCACTCTCCTCCAAGACTGTG
89294	AP3B2	GTCAGTCTCTCTCATCTTTC
89295	SNTB1	CTCTCCTCGCTCCCCCGGGCC
89296	ROR2	GTCTTGGTTTGCTTCTCTCTGTA
89297	CDKN2D	GACCCAAGGGCAGAGCATTTAA
89298	EVC	ACCTCTGCCTTCTTCCTCTGTTGCC
89299	F7	AGATGCACACACAGATATACACATGGA
89300	NOS1	AGTCCCTCAGCCACTGAAGTC
89301	ARAF1	CATCTCCAATGGCTGGGATT
89302	ATRN	CACACCAACATGGCATATGTAT
89303	CORO2A	TGGCTCACGCCTGTAATTCCAG
89303	FUT3	TGGCTCACGCCTGTAATTCCAG
89303	LILRB1	TGGCTCACGCCTGTAATTCCAG
89303	MAP3K7IP2	TGGCTCACGCCTGTAATTCCAG
89303	PCDH11Y	TGGCTCACGCCTGTAATTCCAG
89304	DVL3	TGGCTCACGTCTGTAATCCCAG
89304	P2RX7	TGGCTCACGTCTGTAATCCCAG
89305	CH25H	ATCACTGGCATATTTAGAAT
89306	GFRA1	CGGAGTTTCCTCTTTCACTGGA
89307	MPL	TCTGTCACCCAGGCTGCAGTGC
89308	PYGB	CTTGCTGACTTTGCACCTCCTT
89309	RAD1	GGAGGCTGAGGCAGGAAAATTGCTTGA
89310	CCR2	GGTCAGGGAGAGTTTGGGAACTGC
89311	IDH3B	CCCCATACCCTTCAGTGCAGT
89312	RBBP9	GGGCAACACAGCAAGACCCCA
89313	CD59	CCTCCTGCTAACTCCTAGCT
89314	BCL7A	CCCTGCACTCCACGCTGGCCAAGAAG
89315	RNMT	GCACTTGAGTGCACTGGCA
89316	LMAN1	ACCTGCCACTACATTCTGGTTT

89317	PITPNB	GTTTTTCTAACAACTGTGGAG
89318	NEURL	TTAGAAAACATGTACCTTCCT
89319	MSH4	CAATTGTCATCTATATATTCTATAT
89320	AIRE	GCTCGGCTGTAAACAGCTCTGT
89321	PAH	CGTGCTGTTTGCAAACCTGCCTGTAC
89322	CACNB1	TCACACCTGACATGTATGTCCTCCA
89323	STE	GCTCAAGCTTCCCAAGTAGCTG
89324	PPP1R11	ACCCTTCTCACACCCTCA
89325	GPC4	GAGCTGAGAATACTACATCTTA
89326	NRXN1	TTACAGTGTAGTGTTTATTCTA
89327	TBX5	TCAGCCCTACCATCTTGCCAGCTCT
89328	CAPN2	GGGGACATCACTTAGAAGTTCT
89329	CCBL1	GTCTTGTGTTGCTTCTGGTCTC
89330	MTCP1	TAAACACATTAAAAGACAAATA
89331	ZNF215	CACTGCATATAGTACACAGG
89332	CLECSF5	AGGGTGCCTTA
89333	TNFRSF7	TCAGGGCCCTTTCCTGTGTAC
89334	PTGFRN	CCCTGCACAGCACTGGCCTTTCGGAAG
89335	LIG4	GGTGTTTTTATAATATCCATATAGAAA
89336	TNNC2	TTGGGTGGTGGAGTGCAAAGG
89337	LILRB5	CCCTAACAAAGACCACCAGGAC
89338	PRX	TGCACCCAGGCAGCGGCTCAGAGGCAG
89339	OPCML	ACCCTGTGTTGTGGACTCTTT
89340	MCM4	CCAAGATGGTGAAACCCCGTCT
89341	APOB	TTTATTCTTCTTTTCCA
89342	RIG	TAGCCTCTTCTCTAAATGCTTCCTC
89343	ADAMTS3	GTGTACACTACTGATGCTGTTTG
89344	TIMM17A	TTGCGGACTTCTCTGCCT
89345	BCL2L2	CCAGAAGCATAGCTTAGATGG
89346	SOX11	TTTTCAGCATGACACTGTT
89347	ALP	TCTTTCCTTGACAAGTTGATTTTGCA
89348	CDC23	CCTAACATATGACACTTCATCTTA
89349	PCTK1	CCTGCCTGCCCCACCTGCCTC
89350	CTF1	AAGTGCTGGGATTGCAGGCGT
89351	ALX3	GGCCAAGGTCAGCATAGACTGAGGCA
89352	VSX1	AGCTTGAGCAGGGAGGATCCGA
89353	GPC1	ACTGACACTTCCTGTCCTTGTTCAT
89354	FTH1	TGGGGTGACTTCCTGGTCAC
89355	TEM8	TGCTCCCTCCGGACAGC
89356	GNAZ	TGGCCTGCACACAGCTGCTCAG
89357	MYO10	TGGACTTTTTATTTTTATAT
89358	F3	GGTCTTGAATTCCTGACCTCAG
89358	TAPBP	GGTCTTGAATTCCTGACCTCAG
89359	SFRP5	GAGCTCCCCCCAGACTGGAGAGC
89360	ZNF253	TTTAAGCCATTCTTCTGCCTCA
89361	IDH1	ATTGCCAGGCTGTGGTTGTGAGT
89362	LAMC1	GTCCCCAGGTGAACATGGCTGAAG
89363	MMP15	CACATTGGAAGAGCAGCACCTCCTCA
89364	WNT5A	GCTTTGGGGATGGCTGGAAGTGCAATG
89365	SPRR1B	TGTGTATGAGTCCCATTTGCC

89366	PPYR1	CACAGTAAGCCTTGCAGCTTGA
89367	AMFR	CCTTCCTCAGCTGCCTCCT
89368	EPB41	TCTAAATCACCAGAAAATTAA
89369	AIM1	GGCTCACTGCAGCCTCTACCTC
89370	EIF3S10	AACACAAAAAGCATGAACTTGTA
89371	CLN3	ACCCTCCATGAACTGTGCTCCC
89372	ENG	TGGGAGCCTAGCTCCTGCCA
89373	CASP3	AAACTGTTGATTATTAGCCAG
89374	BCR	CCGTGGCCAGAGTCTGGCGGCGG
89375	DIAPH2	AGCCTTCCAAGTAGCTGGGTCT
89376	ZNF157	TGGGCTGTTCATCTCTTGCTT
89377	TBX6	CCTGTAATCCCAACTACTTGGG
89378	HLCS	AGCATCTGGGGAGGTACTGAAC
89379	ZNF189	GGGAGCTGGAGCAGCTGATAGT
89380	PKIA	CTGCAGGCAGACTTTTCCCTACCT
89381	RBM10	CCTCCCCCCGATCTGCCTCCA
89382	CSE1L	AAAGGAAGAAATACATATTTTTA
89383	FCMD	TCTTCTGGGCATTTAAGCTGGTATGTT
89384	PPP3R1	GCTGCACATCATGGGCTCTG
89385	HLX1	CGACTGGCTGCAGCGGACACTGCC
89386	ADAMTS13	AGGAAGAGCTGTGTGGCCTGGCA
89387	ICAM1	ACTCAGAGTTGCAACCTCAGCCTC
89388	SPTA1	CCACATACTTAACGTTTCTATATTTCT
89389	PCDHA9	ACTATGAAAATGCCAGT
89390	REGL	TGTTTCCTCTTTATTTTT
89391	SLC12A7	CACTCTGGGACAGGCACGG
89392	CDS1	AGGAATTATTCAGAAAAACAC
89393	TNFRSF10B	GAAGAAGAAGAAGTCCCCTGTAAG
89394	SH3BP2	CACAGCCGAGGCTGGAGCACAG
89395	PCDHA9	TCTGCCACCCAGGCTGGAGTACAGT
89396	DDOST	GGAGGCAGAGCTTGCAGTGAG
89397	PSME3	CTTCATTTGTGTTCAGTCTGAATTAT
89398	HOXB7	TTTACCTCCCCTTTTCTATGTTG
89399	SYNGR3	TCTTGGGCCACACCTGCTCACTCTGGGGTT
89400	USP5	CCGACTTGCCCTCCTGCCTCA
89401	KCNJ13	AACAACAAAGTACAGATTTA
89402	PTGIS	AGCCGGCAGAAATAGCTATGG
89403	RPA1	TACACATTCCTGCATTCATG
89404	MPDZ	AGAGAAGAACACTGAACTTTGA
89405	PBX2	CCTGCCCAATCAGAGATGCCAAAAAT
89406	ARNTL	TTATAAAACATGAAAATCGCTTT
89407	TRO	TGGACCAAACACTGGTGCTGGCTTTGGTGG
89408	NCOA6IP	CCCAGGCTGGAGTGCAGTGCCATGA
89409	ICA1	CGTTGTGCTCCAGCCTGGGCGA
89410	SPON1	TTCTCATCTTTGGCCTGTTCA
89411	TBX3	GTCGTTCTTTGACAGTTCTTT
89412	VAT1	AGAATTGAAACGTCAGCTCAGG
89413	LARS2	TCTCTTTGCCTTCAGGCTGG
89414	LZTS1	TGTGAGCCACCGTGCCTGGCCA
89415	CASP3	CTTCCAGTCAGGTAGTTGCA

89416	SLC20A2	CCGTGGCTCCCACCAGCAGTGCCACCG
89417	ADAM17	TTCCTGCGCCCCAGACTCCAGGC
89418	TERF1	TTCTCCAACTCCTGACTTCATGATCC
89419	GLRB	AGTAACAAATGAAGGACAAGCATA
89420	ELMO3	GCGTGGAGCCTGACGCACTCTGAG
89421	ATP1A2	GCAGGTGGATCATGAGGTCA
89422	HTR1E	CTAGTAGCTGGGATTGCAGGCAC
89423	CREBBP	CACACGTACACACCCACAC
89424	CST1	CCAGCCACCACCCACTCCCAC
89425	KERA	GTCTGGATATCAGTACATGACAA
89426	ZNF74	CTCAACCTCCCAAGTAGTTGGG
89427	FRAP1	CGGGTTTTGACTTAACTCACAAGA
89428	NCSTN	CCAGATTTTGGGATTACAAA
89429	PTPN22	TGCATTGAGTTGAAAACTGCAAA
89430	HTR2B	CCAGCACTCTGGTTAAATTTTAAGG
89431	CIT	ACAAGCTGCAGTCTGTAGCAC
89432	YWHAG	GCCTACCAGAAGAACTAGTAGA
89433	ZHX1	TCAGCAGTATTATATCTGCCA
89434	GARP	GAGCTAAAACCTTAGATATCTGGTTCT
89435	RAD54B	AAGAATTTCAAAAATGGCTA
89436	MMP15	GCTCTACTTCCCCATGGCCC
89437	STK38	TGCCTTCTGTTTCACAGCTGCCACCAC
89438	PCTP	AACCACATTTTTCCTCATCATCCA
89439	TMC1	GGCTCTCTGCAACCTCCGCCT
89440	ATP7A	CTGCAACCTCTGCCTACCGGAT
89441	SCA1	TGAGACTCCGTACTACTGGATG
89442	C14orf1	TTCCACCTTGGCCATCTTCTTCC
89443	LILRA3	CCATCCACAGAGCAGTGCAGT
89444	GPR6	TTTTTAGCTGCTGAACTGCC
89445	HMGB3	TGTAAGGTGGTGGTAACTAT
89446	OCLN	TCCACATAAGGAAACTGGGTTCCTG
89447	ITGA4	CTTCTTTCAAATTGAGAGAA
89448	SORCS2	CTGACTTCTCTGGGCTGAGGCTGGTC
89449	SLC25A15	CAACACCAGCAGGGTATCTCCC
89450	SLC22A11	CTTTAGTCAAAGACTCCTGGAAAGGAG
89451	IL17BR	GCTGCAGCCTCCACCGTGCTGAGG
89452	SLC7A6	AATGCCAGGAAAAATTCCTGGG
89453	SPTBN2	CCCCACCCTGTAACTCCAGCTGCCACTC
89454	FADD	AGACCCAGCAGGAAGCCAGGCT
89455	CAPON	CTGCTTTGGAGGGTAAAGTGGGGAAGA
89456	HHLA1	CGCCCATTCTCTCTCCATACCACC
89457	PDE4C	GTCCACCCTCTCCAGTGGTC
89458	SLC21A3	AACACCCTGAAGAGCAACATGGGA
89459	HUS1	CCCTCCAGGCAGAGGCTCTAGCTCA
89460	POU3F1	AGCGGCCTCCCCTTTGCGA
89461	TDG	CCCAGGAGGTTATATGATTGCTCTT
89462	COL5A1	ACCTGGAGCTGAATCACATGACCTAGCTGCA
89463	DAB1	TCTGGGAGCCAGAGCCTCT
89464	KRT2A	TTTTGAAAGATCTTCTCTCCA
89465	TGM4	TGAAATCCAGGAAGTCCCTCTCCTGGT

89466	ATP1A2	GGACTCTATCCCTGGCTTCCCC
89467	CDC34	TCCTGGAGCCACGTCCAGCACAG
89468	TYRO3	CAGGCAGCTGGCAGGAGTGGGGTGG
89469	MADH6	GCAGAGCTAGGTGGAAAAGCCT
89470	SCA1	TCACCCAGTTTAGTTTGGGATGATTTG
89471	JAK3	TACCCAGGGTGGAGTGCAGT
89472	BACE	GGAGACACAGATGGCACCTGTGGC
89473	PRIM2A	CTGTCACCAAGGCTTAGTGCAGT
89474	ICA1	CCAGACCACTCTGCTTCATT
89475	MTP	TCCCTCACTGGCTGCCATTGAAAGAG
89476	ITGA11	CTGAATTCTGCCCTTTTCTCTC
89477	CDH12	GTGCTGCTGCTCCTGCAGCTG
89478	KCNJ4	AAACTTGGCCCTGCGTCTTCCCA
89479	PIK3C2B	GTCGCCAGGCTGGAGTGTAGT
89480	SUV39H2	ATAAATGCAGCAAATCTAGCTT
89481	RANBP3	TGGGACACGAGACCTCATCAT
89482	DYRK2	ACAGAAGTCACTTTGGCTGTT
89483	PPP1R12B	GGTAATTCGAGCCATCTGGAG
89484	JPH2	GTGGGGCGAGGGGGACAGGGTTGC
89485	ADAMTS4	GGCCTCGGACTTAGCTGG
89486	VCL	TATTACTGCTAAGTATTTCCCAGCACA
89487	ASB1	TCACAGGAAGCTGATGTGGCC
89488	PCDHB16	GGACTGCAAAACAGTTCTACTA
89489	DCLRE1C	TCATTGCACTCCAGCCTGGGCAACAAG
89490	GGT2	CCAGAAAGGTCTGGGCTGTG
89491	TRIM	AACCTATAAACTAGCTGGACCAT
89492	SIAT1	CTCCTCACTCTTCTCCATCAGGCATTAAA
89493	RUNX3	GGAGGCTGGGCGGAGGTGGGCAGG
89494	RET	TCAGGGGTAGCGAGGTTGCAGGA
89495	ADAM33	ACACCTGAGGTTCTGGAGCT
89496	HS2ST1	TAAAAGAGTTTATATAC
89497	MEF2A	CCCCCCAGGCTGAAGTGCAGTG
89498	RAB27A	ATGTAGAATGAATGAGGGTACTGTCA
89499	GLS	TGCTGTTGTCTGTCTGGCA
89500	ITGA4	AGGAAGGAAGTGGGTATAGAAGGGTGCTGAGA
89501	RAI14	GGACTTCTCCCAGGAGAAG
89502	WNT3A	AGCCCACCAGCCACCTCA
89503	A1BG	CCCAAAGTGTTGGGATTACAGG
89503	ARCN1	CCCAAAGTGTTGGGATTACAGG
89503	ATP1B2	CCCAAAGTGTTGGGATTACAGG
89503	CASP2	CCCAAAGTGTTGGGATTACAGG
89503	RBBP9	CCCAAAGTGTTGGGATTACAGG
89504	CIAS1	CTCAAAGTGCTGGGATTACAGG
89504	IL12RB1	CTCAAAGTGCTGGGATTACAGG
89504	SLC14A2	CTCAAAGTGCTGGGATTACAGG
89504	UMPS	CTCAAAGTGCTGGGATTACAGG
89505	TNFRSF11B	GAGAAATTGAATGTACCTTA
89506	CD80	ACAAACCTTGCTCCTGTGTAAAACTAT
89507	IMPA2	CTCGTGGCCCACGCTCCATGCCAG
89508	GAS41	GTCTCTGAGGGGAGCGGCGACCCCGCC

89509	OPRD1	CAGGCAGCCGGTGGAGAGGGACGCGGC
89510	DMD	GAGCCTCTCCTACTCAGACTGTTA
89511	PLXNA2	GGGGCACGGCCCGCATGCAT
89512	IREB2	TGGACCTTTTAAGTATATTAATTCC
89513	CTF1	AACCTCCTGGGCTCAAGCCATC
89514	SHOX	AAACTCCTGGGCTCAAGCAATC
89515	C1orf6	TCTGCAGCTTGTCCTCCCTTCCGTC
89516	COG3	GGGACCAGGGGACCTTTTGGTGCAGTG
89517	BIN3	CAGGCTGGGGACAGAGGTGGCCCTGGT
89518	ODF2	GTACCACATTTTAACTTACC
89519	CAPZA1	CTGGTAATGGTGGATTCATTT
89520	PROS1	GAAATGAGGGTCCTGGGTGGG
89521	AIM1	GGAGGTCCTTCCAGCCACCTTATTT
89522	NPR2	ACCATGTCTGCACACACCAGAA
89523	FLI1	AGCAGTTTTACTATCGAATCA
89524	FCRH3	TGAGCCCCAACTTCTAAAAATGTATC
89525	GFPT2	CCTGAATCCTGTTCTCTGACATCCGTG
89526	GLP1R	AGCCTCCTCTGCTTGCATCACTTGGGG
89527	MTMR3	TTCCACATTCTGTGTCATCTAGTCGTG
89528	PTHR2	TTCACACATCCCTTCTTTTGAA
89529	PPP1R3D	CACCCTCCAAGTCCTCTGACCTAATTT
89530	KRT4	CCCTGCTGCTCCAGGACATATA
89531	STXBP1	GCTGCATTGTGGTGTTCTCTTCTCA
89532	TBX6	CACGCATGTAATCCCAGCACTC
89533	P2RX7	GCTCACGTCTGTAATCCCAGCG
89534	CPO	AATGTTTCTCATTTGGAAAATGAAAT
89535	APXL	CCTATCAACAGATCATCCTGC
89536	KCNE3	CGTGAAGAAAGCAGGGCAAGTGC
89537	CRHR1	ACCTGCCCATGTCCAGAGGG
89538	EDARADD	AGAAGGAATGTGAATCTGTTGTT
89539	TP53	AGGCTGGAGTGGAGTGGCGTGAT
89540	LPIN2	TGGCAAAAACAGACTTCCGGGGAATT
89541	UMPS	CAGGATGGAGTGCAGTGGTGAG
89542	HYAL4	CAGGCTGGAGTGTAGTGGTGTG
89543	LTB4R	CAGGCTGGAGTGCAGTGGTGCG
89543	PDZK1	CAGGCTGGAGTGCAGTGGTGCG
89543	PON1	CAGGCTGGAGTGCAGTGGTGCG
89543	TMC1	CAGGCTGGAGTGCAGTGGTGCG
89544	PRKWNK3	CAGGTTGGAGTGCAGTGGTGTG
89545	WHSC1	TCTGAAGGAAATAATGCAAACATTTTA
89546	IL17E	AGAGGGCTGCCTGAGGGCTGTGCTGA
89547	CEACAM5	CTGATACCACTGCACTGTCT
89548	DDX10	TACAGAAGTTTCTGTTGCTGTT
89549	TAL1	ACAGAAGTCCTGTATGTCTGTCATT
89550	RP2	ATTTCATTTCTGAATAGCTTTTGAA
89551	F9	TAGAAAATGGAACCAC
89552	SS18	CGCCTCCCAGGTTCAAGCAGTT
89553	IGJ	AGTTTCTAGCATTAAACAAAT
89554	KLK13	AAAAATGCTCAATCTCAGCTAA
89555	YWHAB	GAGCAAGCCTGGCTTTAAAGATT

89556	COL2A1	CCCGCTTCCTCCTCCTGCTCCA
89557	EPB41L2	CTCCTGGGCATAAGCTGTGGCCATGA
89558	MAFF	CAACATAGCAAAATCCTGTCTC
89559	IL11	TTCTGCCATGACTGTGTATTTT
89560	CUBN	CCCCCCTGTATTCTCAGCACTT
89561	ADCY7	CCTGGCAATGACAGCATTTCTCAC
89562	TAPBP	GGCTTTGACATGGGTATTTCTGT
89563	VHL	CTAACATGGTGAAACCTCATCT
89564	PLA2G2D	CCAACATGGCAAAACCTCGTCT
89565	CTNS	GTCGCCTTGACACCGCCATCTCTTTTC
89566	UNRIP	ATCGTGGCTGGCCCGGTTCTCCGCT
89567	ZFP161	TGCCTGGAAAGTGGAGACTGAGATG
89568	TCF7	AGGCTGAGGCGGAAGAATCACT
89569	ORM1	ACTGCCTGGCTCCACGTGCCTCCTGG
89570	PDGFRA	GAGGTTAGATGGGAGGATGAATTGTCA
89571	SLC1A4	AGCTGCCAGGCTCAAGAAATC
89572	LUM	GTTTTTCTGTGTGTCAGTTTTC
89573	MLLT3	CCGCCATCTACCCTCCGCTCCT
89574	STS	TTGCCCAGAGTTTGCTCAA
89575	CPT1B	TGGTGGAGGTGGGGTTGGAGCAGG
89576	GAN	CGGGAGCCGGACCCGTCGGCAGAGGAG
89577	ETF1	TTCTGGTTCTCACACTGTACTCTGAGGTC
89578	CD83	TTTTCTGCTTTTGAAATC
89579	HPCA	GCCAAGCCACCAAGTGAAACC
89580	PCOLCE2	GCCGCGTATCCCCCGGCTACCTGGGCC
89581	ESRRG	GTGTATCTATCATTAGCTATATGGGA
89582	GALNT3	CTACAGTGAGCTATGATTACACCA
89583	WNT11	CTCAAGGACCCTCAGCAACTGGGGCC
89584	CNP	CCTCCATGGTGCCTCTGGAGGCCTCTG
89585	ATP8B2	GAGGGGCCCTAGTGCCTCTGTTCCTG
89586	LIFR	TCAGCACTGGGCATTCTTGGAGGGATC
89587	CELSR2	TCCTGTCTTGTGCTTTATCCTGCC
89588	MBD1	CTACCATGAATCCGCTCCCAAGGGTCT
89589	NDP	TGCCATTGCTGCTAAAGGTTAC
89590	NFATC1	AACCAAAAAGCATGGTTTATTC
89591	OPHN1	CCTGAACTTCCTGCTTCCTCAGA
89592	HNRPH2	AAACTTGCCACCAAGAGCCCAACAATC
89593	MBD1	TAAAAACAATGTGCTGCTG
89594	CTSS	TTTTAAGGAACAAGAATTGCT
89595	ITGB4BP	GCTGCTGGGATGGTGGTGAA
89596	PIK3C2B	TCCTCATTCTGTGGGGCCA
89597	MGEA5	TTAGTAATCATGTTGGCTGGT
89598	CACNG1	CGCAGCCGCCGGACCCTGCCCAG
89599	LAMP2	AAATGAGAAAATTGTCTGGG
89600	HS2ST1	CTGTGTGATCTTGGGCAAGTCACTTAA
89601	SOX9	ACTGGACTTTTTAAACCCTCTTCA
89602	RECQL5	CCTCTGCCTTCATTTCTC
89603	RARA	TCCTGGGGGCCTCGTGTTCATCAA
89604	TAT	TTTTCTTTGTTTCTTTCT
89605	MAGEB4	CTGCCTACACTCCTGCCTGCTGTGCC

89606	OSM	CTCATCATGTCCCAAACCAGA
89607	SYK	GAGGAAGAGCCGCGGGCCCGGCG
89608	BAALC	CCTGAATCTAACAGTGACTTC
89609	MEP1B	TGAATGTCATAGTTAGCTACTTT
89610	WEE1	CCCTGCTTGGGAGAGCTCTT
89611	FGF1	GGCTTTGGGGTCCTAGCCCAG
89612	PEX10	GCTGGGTGGGGTGGGGCACGGAG
89613	ABCA2	ACGGACACGCTCTGCTG
89614	RNASEL	GACTTTGTATCTTCACTGCCAAGCAAA
89615	COIL	CATCTTGCCAGCCCCTGGCTGAGTGT
89616	IGF1	TTGTTTCTTTAAGAAAGTACT
89617	PDGFB	GCGCACACACATACATACGCGC
89618	PPARGC1	TGGGTACATGTGAGGACTGGGG
89619	RAB11A	CAGTAAGTGAAATACAACCTA
89620	ABCD3	CAATCACTGTAACCTGATTCA
89621	CMAR	TGCCAAGGCTGGAGTGCAGGC
89622	GLRX2	TGGAGTAAACCTTCAACACCG
89623	TGFA	ATCAATAAAGAAAGGCTTCTTCA
89624	FZD4	TAGAATTTTTGTACTGCAGCA
89625	MUC12	TCAGGCCCTGAAGCCGGT
89626	DAG1	TGGAGGTGGAGGGACCGAGGA
89627	COG7	AGAAGTTACTTTAAAAAGACTT
89628	AVPR1A	AAGCACCGCATAAATACTTGAG
89629	DAZL	CGGGTTCCAGCGGACCTCACAGCAGCCCCAG
89630	CPT1B	ACCAGCCTGGACAACATAGTGA
89630	CTSS	ACCAGCCTGGACAACATAGTGA
89631	OXCT	AAGAATTGTTGATAGTTA
89632	CLASP2	ACTGTCGTCTTCTGTTAGTGCCA
89633	PTAFR	TCTTCTCCTCCATGAACATCATGGACTGA
89634	FBXL11	CTGCCCTTTTCCATGTGTCTTC
89635	TPD52L2	TTTTTATATGTATATAGATGA
89636	MOCS1	CACCCAGGCCTGGAGCTGGGATG
89637	RAB36	CCTAGGTCCTGCCCTCCTGGTCC
89638	LAMC2	AGTGGACAGTTTTAAGCAGAGGAA
89639	PTGFR	ACACACATATACACACAGACAT
89640	CD2	CTGGGTCTCACTACAAGCAGCCTAT
89641	SERPINE1	CCCCAATTACAGGGTGACTCAC
89642	RET	CCAGCCACATGTCCTCCATCA
89643	PTPRM	CACTGCCCAATCCCAGTAATGCTG
89644	CORO1C	TTCTGTCAAAACACTTGCTTCCATTT
89645	IL16	CCTAAAACAAAAGCTCATCC
89646	CR1	GGCTCACTGCAACGTCCGCCTC
89647	DIO3	GTTGCCTGGCACCCACCTGTCGC
89648	PREP	GTTGGGATAAATAGCTAAATGG
89649	TRPM7	GGAACATTTGAACATGAATGCTGTTTG
89650	C7	GATTGCACTAGAGAAACTTGAATGCT
89651	TUBA3	CTCTAAAACATGAATGCTTT
89652	FLNB	GCTGGCTTTGGAATGAGGTT
89653	MYH9	CCACCTGCACAGGTATTTT
89654	IRTA2	TTCCTTAGTGGGCTTCAGCTGT

89655	KL	CTCCCCATGTACATAATATCCA
89656	PHB	CTTCTGCTCCCACCCCAGA
89657	ICMT	TGGGGTCAATACCACCTACCTCA
89658	FAT	CACAGTTTTTATAGTGTCTGTA
89659	VHL	CAGGCTGGAGTGCAGTGGCGCCATCTC
89660	PCDHA9	CAGGCTGGAGTGCAGTGGTGCCATCTT
89661	C2orf3	TCTCTTCTTTATTCCCTGTAAT
89662	ZNF135	TGAAGTCAGAATTTGCCATT
89663	SLC13A1	CAGGCTGGAGTGCAGTGGCGGGATCTC
89664	TEGT	CATAAATTTGGTGATTCTCTGCT
89665	PCSK2	AATCCTTTGGGGAGCGATGT
89666	CYP21A2	GAAGGTGGGGTCAAGGGAGGC
89667	GTF2F1	CCCTCCAGAACTTCAGGCTCTCAGTGA
89668	B3GAT1	GGTTCACCTTTACAGAGCATAAG
89669	LRP4	TGTCTGGTCCATTGCTGGCAG
89670	MYCL1	CCCTGGCATTCAACAAATA
89671	TES	CTCCTGCCTCAGCCTCCCAAATA
89672	TIRAP	GGACCCCGGAAATTGGAGTGAAG
89673	HMGA1	TTGCTCTCTGGGCTTTTGGTT
89674	FMO5	GTAGGGAGAGTAAGTCAGC
89675	GPR81	CCGAGTAGCTGGGATTAGAGGC
89675	MAK	CCGAGTAGCTGGGATTAGAGGC
89676	STAU	ATTTCATTGACTAACCCAGGACAG
89677	PER2	CCTCAGCCCGGCAGCCAGC
89678	SFRS7	AGATAATTCAACCATCTAATCAA
89679	IL2RB	TCTTGAGGTTGTCTGAGTCTTGGG
89680	CDC25B	AGGCCTGAATCATGAGCCTGCT
89681	CALM1	TTACAGTTTACGTCCATTCCA
89682	NR4A1	TCTAGTGGGAAGGGGTGCCCCCAGG
89683	SNAP23	TGCAACCTCTGCTCCAAAGAG
89684	PRKCABP	CCCGGCCAGAGGGAGAGCTTGG
89685	RHCG	AGGTGAGGAGCAGGCTCC
89686	ID4	TTTCATGTCTGTACAGATTATT
89687	ADORA2A	CTCTGCCCGGGGAGCCTCAGGCAG
89688	TNS	AGAAAGATGGAGGAGAAGAA
89689	PPEF2	GAACCACTGACAATGTAACT
89690	NAB1	TAGATTTTCATAAGCCACA
89691	F2R	CCCAGGAGGCGGACCTTGTAGTG
89692	MBL2	CCCAATACAGAGACCACCAGAGC
89693	IMPA1	GGCTTATTGTGGGCATTTCTGCAGTGA
89694	THBD	CCTACCTGTGCCTGACCCTACTTCT
89695	PPEF1	GGGAGGCACTTTTCACACTCTGTCTTA
89696	RNMT	TCTCCTGGGTTGTGCTTTTTTGGGGGC
89697	TIF1	AAAACAAAGACATTCTTCC
89698	C8B	ACTCACGCCAGCTCAGCCCTAC
89699	GRM1	CTGCTGCCGCTACTGCTGCTG
89700	MUCDHL	CTACATCTAAGTGGCCCCTCCA
89701	ATP2B4	GCCATGGTAACATGCACAT
89702	PCK1	TTCAGTGTTTTTTCACTTAGCTA
89703	RP2	GACCTCAGGTGATCCGTCCACCTCA

89704	EDG8	GTCACCCAGGCTGGAGTGCAATGGG
89705	SRP46	GGAACTCGGAAGTTGCTGCTCCA
89706	FECH	GGGACAGTGCTGCTGGAAAGGC
89707	TRIP15	AAATTCTCTCACAAATAACCTGCA
89708	ZNF36	AAGATGTGATTTTTGTTGC
89709	KCNE1L	AGGATTACCATTACTGGGTGTATCACC
89710	FTSJ2	GGAAGGAAGGGCACTGTGA
89711	SYK	AGCTGGATTTGTTTGTTTTCTTGTCT
89712	TNC	TGACCATGGATCCCTGGGGCCA
89713	INPP5B	AGGTACTTGGGAAGCTGAGGTAGGAGA
89714	NOTCH2	CACATTTGTCCCAGATCTG
89715	SHFM3	TTGCACTAGAGGCTTCTGACTCCTGGG
89716	MAN2A2	CTCCTCAGCCACCTGACCTC
89717	INPP5B	CCCAGCACTGTGGGAAGCTGA
89718	PC	CACTGGAGACTACAAGTGGTGGG
89719	ABR	AGGCTGAGAAATGCAAAGGCTCATAT
89720	CALCRL	CTTAAGAGCTGGACTGGGTCTT
89721	PRX	GGGGGCCAGAGCTAGGGTGG
89722	HOXA3	GCAGGGGCTGCCGAGTGCTGT
89723	SLC28A2	GACTGAGGCAGGAGAATGGCGTGAA
89723	UBE2G2	GACTGAGGCAGGAGAATGGCGTGAA
89724	NEDD4L	CTGAGGCAGTGTGGGAGTTGAACG
89725	SOD2	CTGAGTATGTTAAGCTCTTTATGACTG
89726	SCN1B	ACTGCCGCTGCCCCCACCCTGCTTC
89727	FUT8	CATGCACAGACAGATCTGGCATCTCC
89728	P2RY12	CAGGTAACCAACAAGAAATG
89729	MAP1A	CCAAGCCCCAATGCCAGAATT
89730	CYP2B6	CTGTCTCCCAGGCTGGAGTGCTATGGTG
89731	ATM	GACCAGCCTGGGCAACATGATGTG
89732	PAH	TCAATTGAGTTAAATCAGTAA
89733	SLC25A17	ACTGGCTGCGGCATCTGTGGGA
89734	RNMT	TGGGAGCCGTGTTCTAACCTGTGGAAA
89735	CASP10	CCCCCTTCCTAAGACTTCTCT
89736	AGL	TCTGGGCAGCAAAAATATATAA
89737	CACNA2D2	GCTCTTCACACCATTCATTCTGGTCAT
89738	A1BG	CTCAGCCTCCCAAAGTGTTGGG
89738	APAF1	CTCAGCCTCCCAAAGTGTTGGG
89738	ARCN1	CTCAGCCTCCCAAAGTGTTGGG
89738	CASP2	CTCAGCCTCCCAAAGTGTTGGG
89739	FZD7	AGTTTCTCCCGGCTCCGAGGCT
89740	TCIRG1	AGTCCCGGGCTGGCGGGAGTGCAGTTCTGAG
89741	NPTX1	GCAGGGGCCTGAAACCCACT
89742	SUOX	TACTACTGTACTTGTTGGCTCT
89743	ERBB2IP	CAGAGTAAGTAGGCAGCACTTTT
89744	CDR2	TAGGAGCCTCACAGCGCAGATCAGG
89745	RNF17	CATTCCTCTGCTGAATTTTTAAATGTT
89746	PPT1	ATTAGACAAATCCCACTG
89747	TNFSF9	TGTGCCCAGGCTAGGGGGCTA
89748	BCL2	TGAAGAAAAATAAAGTACAGTGTGAGA
89749	FGFR1	GACTCTGTGGTGCCCTCTGACAA

89750	WHSC1	GGGCACTGGTCTAGGCCAGGT
89751	LIG3	ATTCCGAAAACATCACTGGCG
89752	CSF3	TGTCACATTGTAACTGAACTTCAG
89753	INSR	CCCGCAGCCATGGGCACCGGGGGCCG
89754	ACADSB	TGACCTCCTGGGTTCCGGTGAT
89755	G6PC	AAGGTGCTAGGATTACAGGCAT
89756	RLBP1	GGATAGTTATATTTCCACCTGCCC
89757	RUNX1	TTGCCTCTGTGTGCCTCAGTG
89758	DSP	TTCTGGCTTTTTATCTTCTTAGCTCAT
89759	HSD17B1	TACTTTCACAGCCTCTGCAGCAA
89760	IFNA14	CCCCTCATCAACCAGCCCA
89761	SGPL1	CTTGAGCCTCAGGATTCTTGTTC
89762	PABPN1	GGGGAAGCTGGGGTTTGCAGTGG
89763	PLA2G4A	GAGCTGAAAAAGGATCCTGAC
89764	ADAT1	GGAGGTAGTGGTGAGCAAAGA
89765	CMRF35	CTCCCTGGGTCCAGGAGTGTAGA
89766	MX2	TGTCATTGTGTTTCCCAGCCTCTCCAC
89767	ATP5G3	TTGACATGTTGGCATTCATA
89768	AGTR1	CTCAGAGTGTGGCTGTACC
89769	RXRA	CCCTCGGGCCTGGGCCACACGCAGGC
89770	FLRT1	TTGCCCAGCCTGCTGCAATCCAAGAGA
89771	POLR2C	AAGGTCCCTGCTGGAGTGTTTCCAGT
89772	AVPR1A	AAATGGTAACTTTACAACTGGCAGTGGCCTC
89773	KLK3	GAAATAAAGAGCTGTTATA
89774	PITPN	ACCGTCTGGTGTCACAGAGCCCGCGTG
89775	SARDH	CCATCCATTCTCACAGGTCCCA
89776	STEAP	GGCTTGGAGGCTCCGCGCTCTG
89777	GFAP	CTGCCACCTGCTGCTGCTGCTG
89778	CEBPA	CGGAGTTATGACAAGCTTTCCA
89779	SEL1L	ACTCCTGAAATTCAGATTTTTA
89780	MYCBP	CAACTCTGGGTTCACACACAAG
89781	EBAG9	TCTCAGCTCCACAACCCAAGCAA
89782	PRex1	GGACTTGGAAAAGACTTGGCTCTGT
89783	TAF1C	TGCCCTCAAGCCCCAGAGAG
89784	AIM1	CTTATTTCTTAAAAAGGACA
89785	TIMM17A	GATCATCAGAAATTTCACCAGAA
89786	RAB18	CAGGAATAATAAAGAGCATGA
89787	MCM4	CCAGGCGGCAGAGGTTGCAGTG
89788	DFNA5	TCTGCACACAAGAGGCTACGTTT
89789	FLOT2	GGCCCCTGCTTGTGCTCAGGGA
89790	LAT	GAGTCTGTCCTGGAACCAGGCTTGCC
89791	CMAR	AACCTTCAGGGCTCAAGCTGAG
89792	NOX5	GCGCCCAGGCTGGTATGCAGT
89793	CORO2A	ATTGCTTGAGGTCGGGAGTTTG
89794	AQP6	TTCAAGGGATTCTCCTGCCTCA
89794	CAMLG	TTCAAGGGATTCTCCTGCCTCA
89795	RNPEP	TGCCCACAGCTCTCCCCGCTA
89796	AP2B1	ATCAAGGGATTAGTGCAACCAGTAGA
89797	BAZ1B	TCCTCAAGAACCTGAAGATTG
89798	MCP	CTGTTAAAAGTTGTGTTTTGAAA

89799	PDYN	ACACCTTTTCAGGTTGGAGTGCATTC
89800	IRTA2	GTCTGTGTAGAGCCTGAGACTG
89801	HDAC4	GGCAGGGGGAGGCACGTTTCAT
89802	PPP1R12B	GCTTATCAGTGAAGTAACACTGCAGGAGCC
89803	IREB2	TAGTCCCAGTATACTCACTTATC
89804	AP2S1	CTGGGCCCTGGCTGTGGGCAGAGGCCA
89805	PLA2G5	TACTTCTCAGCTTCTGCGATC
89806	PSMD5	ACCAGCCTGGGCAACACAGCAAGACT
89807	PTGES	TGACGCTTCCCTTGCCGTTG
89808	CCR9	CCCCACTGATGGGACCAGAGAGAG
89809	EGFL4	TCACTGCACTCCAACCTGGGTG
89810	COPA	CCACTTCATTCCAGCCTGGGTG
89811	EPHB4	GGGCCCCCCAAACTCAGTTCG
89812	MLLT2	AAATGATTTGCACTTTTTC
89813	CUL3	CTCAAGTACACATCCTGATTTGGTTTC
89814	APOL1	TGCCTGTAATCCGAGCACTTT
89815	LAMP2	AACCTTTATGGCTCAAGATC
89816	SLC17A4	AGACACACACTGCCCTAACCTCA
89817	ALDH1B1	TGTCCGTCAACTGATGAGTGGATTAA
89818	MAPK4	GGCAGAGACACTCGCTTAAGA
89819	F7	CTTACCTCCCTTCAGCCAAGCC
89820	KCNN3	AGATGGAGAGACCTATAAAGGA
89821	RET	GAGGTTGCAGGAGCTGGCTGGCCCTGG
89822	SMARCC1	TTACCACCCCTCTCTCTGAC
89823	ATRX	CTAAATTCTCCACATTTTGTAA
89824	DDX19	ATTATTTACACAACCTTGGAAG
89825	PPEF2	GCTAACAAGGTGACCCACACACTCACCATGA
89826	BIN2	CCTGCCCCAAACCTCGCCAGAG
89827	EFNA3	GTAAAACAACAGCGCCCCC
89828	TES	TCTAATGTTTATTCTTCCC
89829	PPP3CB	ACAAAATGTTGACCTCAGGTC
89830	TCN2	TGACCCCAGCTCTCCACTCTGCTG
89831	NUP98	CCTGGGTCTTTATGCATGAAGATA
89832	SRR	AGACCCATGCAAGAGCCTGGTT
89833	SLC39A1	AGGCTGGAGTGCGGTGGTGCGAT
89834	CASP3	CTCTCATTTTGACCTACTCTCAT
89835	CACNA1A	GCAGCCGCCTTCTGAGCCCCCGACCC
89836	ATP2B4	CCCACCCCACATTCTCCCCG
89837	PTPRS	CCACTCGCCTCTCACAGCCCT
89838	PPP1R12B	CACCACGCCAGCATCTCCTTCTACGT
89839	MEN1	TCGGGTACCGGGCGTCCCG
89840	SFPQ	GGTCATTTTGTTGCATTTCCCCATTT
89841	SRGAP2	GCACTATGCATGTCTCACTCA
89842	MKI67	TAGAAAGGGGCAGGGAGGGGA
89843	HDAC5	GGGCAGGAGTCCCAGCACCA
89844	ZNF253	ACTGCAATCTCTGCCTCCTGGG
89845	NDRG3	ACTGCAACCTCTGCCCCCTGGG
89846	PIN1L	GGGGCTGCGACCTCCAGACTCTCCA
89847	FLT1	CCATGTGCAAGTCTGTGTCTTGTCA
89848	MYH11	CAGGAAGAACGCTCCAGCCCAGGACTTCG

89849	EMX2	ATTCACTGCAATGCCTATTCC
89850	FECH	TGTGGAGAGGGTGTTATTTAGAG
89851	PRX	AGGTGTCCACAGCCAGGCAGGT
89852	JUP	TGTCCTGGGCATGGGTCCAGGGCC
89853	ITGA7	AGACTTTGGAGACCAGAGACGCGCCTGG
89854	VANGL2	GGGCCTCACCAGCACTGTCTT
89855	CDC27	ATACAGTGTACTCTTATTCTT
89856	JAG1	GGAGGTGGAAGAGGAGGGGGAG
89857	IL1R1	TTCCACCTGCTTTCTCCTGGGC
89858	RAD52	GTAGGGAGAGGCTCTGGACAGATGAAT
89859	AQP7	CACGGAGGAACAAGATCAAGAT
89860	MEIS2	TTCTATGTGTTTACCTCA
89861	CCND2	ACATTGAACCAAGGGATCCTCCC
89862	AGA	CTCTCATCATCTAGTGTTCCTCATGT
89863	LAMC1	GTCTTTAGGGCTGGAAGGCAGCATCCCTC
89864	SH3BP2	GGTTTCCAGCCTGGTGCCTGGG
89865	SNAP23	GATTCATATATGTACATAAATCTGTG
89866	PRX	GAGGCTGAGGCCAAAGGGGCTGGGGA
89867	ZNF268	ACACAGGAAAACTGAATTTAGTA
89868	ZNF289	GTTCCCAGGCTGGGGATGCTTTG
89869	ADK	CAAGCCCAGGAGTGCAGA
89870	SLC1A5	CCCCACTGGGGGGATGTTACAA
89871	APBB2	GATCTCCAGGGTTCTAGGAAAG
89872	ADCY6	GGAAATGACTAGAGAGGCAGA
89873	ITPR2	GTTGAGTGGGTTAGCTCCGAGAACAAT
89874	CXCR6	CAGGGTTTCGAGAAGCTGCTCTGG
89875	COX15	ATTTTTCTGTGAAAGCTCTC
89876	WHSC1	TTTCCTCCCTTTCATCACA
89877	HSPB3	AAATGATTTGCTATGATTTTT
89878	GRM8	GGGGAGTGAAGAAACCCGT
89879	CDYL	CTCCTTTCAAAACAAAAAAGA
89880	GAS7	GGCTTTCCTGGAGGTGAAGAAGCAATT
89881	PROK1	CCTGCTCTCTTTCCTGGGCC
89882	NKTR	GCTCACGGGGACCCGCTCAGGCTGG
89883	ACOX1	GTTGTAGCTTTGGAGTGCAGA
89884	HMOX1	GTGGGTGGGGAGGGAGGTGTT
89885	TCAP	GGGGGCTAGGGGAGGGGGGAGCCAG
89886	SLC12A4	CTGGACCCAGCTTTGCTAGG
89887	PVRL2	CTCCAGCCTTCCCCTGGCCCCGTGACA
89888	DBY	CCGACCATGGCAGTGACCAGGCC
89889	UBE2L3	TGTTTTATATTGTTTTGACTGCCT
89890	PPYR1	TCCAGATAGGCTGGCAAGAGCTGTTTT
89891	SYNGR1	GAAACAAAGGCCAGCCCAGGG
89892	IL8RA	TGCAGCTTCCAGGCTGGCGTGCAGCATCAGC
89893	SLC31A1	GCAGGCTGGATCACCTGAGGACA
89894	ATP1B2	CAGGCTGGAGTGCAATGGTGCA
89894	TNFRSF10B	CAGGCTGGAGTGCAATGGTGCA
89895	SH3BP2	CTTCCAGGAACCAGGTGTCCAAGGCC
89896	COL4A3	GCTTTAAAAATGTCTTA
89897	LGMN	TGGAAGCTTTTCCAAGT

89898	HSPA5	CTTCCCTTACCTCAAAGGCTC
89899	BCR	CCCAGGTCTGGGAGCCCCAGGCTGG
89900	CHC1	GCAAACAAATGGTACAGTCATA
89901	GRM7	GTCTCCAAAAGTGCTGGGATTACA
89902	KCNS3	ACATTAGGTTAACACAGCTTTATAAACC
89903	COL19A1	TATGCAAAGTACATTTTGGA
89904	EDARADD	TGAGGTCCTAGAGCTCCAGGAC
89905	ADAMTS4	CGCCTTCATCTCCCAAAGTGCTGGGA
89906	TBR1	CCTTTTGGTTTTCCTACTTACTC
89907	SUFU	CACATCACACACCATCCCCACTGTCATT
89908	OAS3	CTGTTTCTCTCTGCCCTCTAGAG
89909	GRIN2C	GGCAGGATTGGGCTTTTCTGGCTTCTACC
89910	SLC38A2	AGAACCTCACCTCTAGTTGAG
89911	CNGB3	TCTGAGAGTGTGATTTCATGCAGTGGT
89912	EYA2	TGAAACGAATGGTACAAGGAA
89913	GAS7	TCTGCTCCCTTCTGGGACCCAGGCTT
89914	PROS1	ATTGCCACGTGCCTGCTGGTA
89915	HOXB9	AGCATCAGATGGAAGCTTACTCTC
89916	EHF	TTGCTCCTCTATTCTACCTCTCTT
89917	UBTF	GCCAGCACCGGACCAGCCTGGCCCACCCC
89918	ATM	AGGCTGAGGCAGGAGAATCTCT
89918	MSH3	AGGCTGAGGCAGGAGAATCTCT
89918	TBX6	AGGCTGAGGCAGGAGAATCTCT
89919	CD28	AGGCTGAGGCATGAGAATCGCT
89919	COPA	AGGCTGAGGCATGAGAATCGCT
89919	GCNT2	AGGCTGAGGCATGAGAATCGCT
89919	GGCX	AGGCTGAGGCATGAGAATCGCT
89920	SRD5A2	GCTATTGCTCTGAGAAAGTA
89921	ASB1	GCCCAGCCTGGCTGGCCTGCAGGTGTC
89922	AP2M1	CTGCTTTGGGATAGTGTGA
89923	FCGR2B	GCAACTTGGGAAATGCTTATGTTACA
89924	DLEC1	GGGCAGCTCCTGGAATGGAAG
89925	STX1A	CACTCCACTCCAGGTGGGCCA
89926	MLLT2	CTTATCTCCCTTGTCCTGTATCC
89927	ADAM28	TGGATGGCAGAGAAATATAC
89928	ESR1	CTGGGGCATGGAGCTGAA
89929	BCL10	CTCCGGTCGGGGGCGGGAACAGGATCGGC
89930	RTDR1	TTTCTGCAGAGCTTCATTTGG
89931	NFRKB	GGAATTTCTGCCTTTCTGTCTCA
89932	CYP1A2	AGCTCACTGCAACCTCTGCCTCC
89932	MICB	AGCTCACTGCAACCTCTGCCTCC
89932	PCDHB11	AGCTCACTGCAACCTCTGCCTCC
89932	TUFT1	AGCTCACTGCAACCTCTGCCTCC
89933	MGEA5	GCGGAAGACCTAAGATTATCGG
89934	CXorf6	TATATTTAAGTGTCTGTTATA
89935	GFER	GAGGCTGCCCAGAGGGGCCAGGT
89936	WNT5A	TCATTCTCCTCAAATATTCCATTTGC
89937	GCDH	GTTCCTTAAAAAGAAGATGGA
89938	SLC22A12	AGGCAGATGACCAGAGAGCCTGA
89939	WIG1	AATTCAAATACTCCCAATGAG

89940	CAV1	AGAAAACATAATCTTCTGCCT
89941	KIF5C	ATGAGTGAGCTGGCACTGTGCC
89942	PPIF	AGCCCAGATTCATCTGTGCCTTG
89943	MTR	ACTGCTTTAAAAAACAATTATCCCTT
89944	BCL3	CGGGCACGGATCACGATGTAA
89945	HMGA2	TCATCTGCAGTTCTTTTTG
89946	MSI1	GGGCTTCATGGTTTCTGCTCAGTCTGT
89947	F11	CACTGTGCCAGCATGCTTCCTCCACA
89948	PRDM4	ACTTGGCAGCTAGTAAGTTTAA
89949	KCNE3	CTTAAGGGATCTCCATGCGG
89950	LDHA	CAATGCAACCAACTATCCA
89951	MAP3K7IP2	TTGGATTTGTAGGTCCTGTGCCA
89952	DFFB	TCGCTCAGGCTGGAGTGCAGT
89953	MECP2	GTTTTTAATTGATCAGTTTTC
89954	SIM1	GCTAAATTGAATACACAAATTTCCCC
89955	MUC5B	ACTCAGGAGTCCTACCCTGGGAGA
89956	AGXT	CAGGCCTGGGGACAGGAAAGC
89957	RGL	CTGGGATTGGAACTACCCTTC
89958	NR4A2	AACACCGTCCAACATTCCTTGTTTG
89959	TTYH1	AGACCCCACTAACCCAGCCTGC
89960	GAD1	TCCTGTAATTTTGTAGTAGTTG
89961	BID	TGGTCGCCACTGGGACACTGTG
89962	TNNT2	GCTCCTCGCTCGCACCTGCCTCCG
89963	PTPRK	GGGTGAGACTCTTTAAAGT
89964	GTF2F1	CCATCTCCTCCTCTGGCCCTTCCTT
89965	ETF1	TATTGCTGGGATTGGGAGAAA
89966	DNMT3B	AAATCTCAAACTTCTATTTTTA
89967	MERTK	GCCGGCGACAGGACAGGTTCG
89968	UGT2B15	ACCAGGATGTCTCTGAAATG
89969	GNL1	GGGAGCGGAAGAGAGGGCTTCAAGATGG
89970	EPHB2	GGAGACAAAAGCAGTTTCTCTCC
89971	TCF2	TCGACTCAGGCAGACAGCAGGCTG
89972	VCP	CACAGCCTGCTCCATTCTCCA
89973	NFATC3	TCTAGAGTGACGAGATAATTGGGAGA
89974	MAPK14	ATAGGATGTCAGACAATACCA
89975	RUNX1	CTTTTCTTTTGGACTTTTGGG
89976	UBE2V1	TCTTCTCTCCCCCACCTTTATCGAGGG
89977	APLP1	CCTCCCCTCTTCCTGGAGCC
89978	MAGEA10	GGCTGAAGAGAGCGGGCCCAG
89979	LZTFL1	CTGCCGCCGCTGCCTGCCGC
89980	S100A4	TCTCTACAACCCTCTCTCCTCA
89981	CD8A	GCCATCTCAACCTCTTCCCCGCCCG
89982	ITGA2	CTAAACAAGTAAGAAAAAT
89983	PMX1	GTTGGTGCTTGAACTCTTGCCT
89984	IL10RA	TCTCAGCCCTGCCTTTCTCTGGA
89985	CHD2	CCTTCATTTTTGAAAGTAGTTTT
89986	LOX	ACTGAGAAAGGGGAAAGGGAAGGGT
89987	ARNTL	TAAAACATGAAAATCGCTTTGA
89988	REQ	CTTCCTGGACCTGGGCATTCAG
89989	NUP62	CTTCCCAAGGCTGCAGACACCG

89990	CA12	CAGGAGGCGGAGGTTGCAGTAAGCCA
89991	SEDL	CAGGCTGTAGTGCAGTGGCACGATCTT
89992	MSH3	GACTCCATCTCAAAAAAGA
89993	LMO7	CCCCAAATGTGCTTTCTG
89994	DAG1	ATGCCTTTGCAGGCAGCCTGC
89995	PTPRO	CAGAACACCAGGAAGGTCAAGACGC
89996	TFF1	TCTGCAGCTGTGCCTCGGCTC
89997	RAB36	GCAGGCAGCCTTCTGATCAGTACTGT
89998	IBSP	ACTCCAGGACTGCCAGAGGCTCA
89999	SURF6	TGCTCAGAATTTGGAGGGAGGG
90000	MLC1	TGCCATGACCCAGGAGCCATTCAGAGA
90001	SEL1L	TCTCCACCACTGTCCCTTCTCCCC
90002	NR1I2	GAAGGTTGAGGCTGAAGAGTGAGGACT
90003	EZH1	CTGTCCCAGGCTGTGGTGCCAC
90004	EPB49	GAAAGGGAGAGAGGGCCAGGCAGT
90005	BAZ2B	ATTTCATAGTTTCCACTTTCTTGT
90006	LYPLA1	GATCAAATAATATCTCCTCATGA
90007	SLA2	GCCTCAGCCTCCAGAATAGCTG
90008	PIM1	AACAGGTTGGGATGGGATAG
90009	PRKCI	ATTACATCTGTTTTACTATGA
90010	HTN1	ATACTTCCCTTCCTAATTATCA
90010	HTN3	ATACTTCCCTTCCTAATTATCA
90011	LDLR	CAGCTAGGACACAGCAGGTCGTGA
90012	HM13	TGGAGAAGAAAGAGAAATGTGCAGCTGGTGC
90013	IL8	GCCAGCTGTGTTGGTAGTGCT
90014	TLL2	TTTAAACAAAGTATATGTAA
90015	LZTR1	GTCTCTATCCATGCTGTCAACT
90016	TFAP2B	TTCCATGTTACCCTCCCTTCCT
90017	IL9R	CCCCTCAACCCCTCTGCTCAGTGCCT
90018	FBLN1	GGCATTTGAGCCACTTCCTCAT
90019	HTR1D	CTCGCCAGGCTGGAGTGTAGTG
90020	DGCR6	AGGCTGGGCCAGCCTGCTGC
90021	MEF2C	TTGAGTTGTACAACAGAACAC
90022	ALDH6A1	CTTATCTGAAAGTAGTGCTTA
90023	SCAP2	GCAAAGCATTTTACCGTACAAATATC
90024	GLUD1	ACACATTTAAGAAGTAGGTGTGT
90025	COMT	TCACCCAGCCTGGTACTGAAGGTGCC
90026	HPCA	GCACTTGGATACACACAGACCCAC
90027	RAD54B	CTTTCTATGTCCCAGCTGAAGCAA
90028	TAF5	TCTATAGCAACCACATTTGACTA
90029	PFKL	GTGTCTTGAGACCAGCCTGC
90030	PTGER3	CTACATACATCAATTAAACTTATGTCC
90031	SLC25A1	CACCCTGCCCTGGCCTACCACAG
90032	COL4A4	ACAGTTCCTTTCAAAGGAGAATGA
90033	ITGB1	GGAGAGGCCCAGCGGGAGTCGC
90034	IL1RL1	CCATACCACACACATTATCA
90035	NPY2R	GAAGCATCTGCTGTTTAATTCCTGG
90036	AOC3	GTAGGTTGAGGACAGGAGAGGGAAGGG
90037	SFRP4	TTCTTAAGGCTATGCTTCAGTTTTTCTTTG
90038	PLOD	GGCTGCCCTGAGTCTGGGA

90039	PCTK1	TCTCGACTCAGACAAGATGGT
90040	CRMP1	ACATCACCAGCCTCGGTTGACGTGGA
90041	ADAM11	GTCAGCCAGACTGGACAGGCAAAGACT
90042	LOXL3	TCAGCATTTTGTACCATCTGCTC
90043	LRP2	GTACTATATGTATATCTTTGCA
90044	MYO1D	CCTTTCTCATTCTCCAAGCC
90045	FMR2	ATGCATGAGAGGGAAGATGGAGGCCA
90046	NOTCH1	CGGCCCCCTGCCCGTTCTTGAA
90047	GTF2F1	CCCTCCAGAACTTCAGGCTCT
90048	PBX2	TCCGGACGGCTTACTTACCTCA
90049	PPEF2	CCTGTTACAGTGAGGAGATCACAGTGT
90050	DDX38	TTCATCTGAGGACTTTCATCTG
90051	ITPR2	ACAGTAAGCCCCAGGAAAGG
90052	B4GALT2	CCCTGCACTGCCTCGCAGAGTGGCCTG
90053	FNTB	ACCATTCAGTCACCAGACTGGGT
90054	F2RL3	AGGCTGAGTCAGGAGAATCGCT
90055	REN	AGAGCCCTCGGACACTCCCAGCCC
90056	IL17E	TGTCTGGAGCAGCAGGATCCCGG
90057	MPL	CCCAGCACCTAGAGTAGTGCTTG
90058	MRPL49	ATCAAGGGATTCTCCTGCCTCAG
90059	KRT6A	AAGCCTGTATCTCTGTGAT
90060	MAN2C1	TCTGCTTCCCCAGCCTAAGCAG
90061	FBLN1	CTGTCTCCTGGCCCTCTCTCTGATCATGC
90062	TEP1	CAGGAGGAGGAATGAGAGTGA
90063	EIF3S2	CACTTGAACCCAGGAGGCAGAG
90063	POLH	CACTTGAACCCAGGAGGCAGAG
90063	ZNF36	CACTTGAACCCAGGAGGCAGAG
90064	CDC5L	GCAGCTGAGCTTCCACAAGAC
90065	XT3	AGCTTTCTGTTTTTACTGGAAA
90066	BMP6	CCTCTTCTTTACCAGAACGGTT
90067	EVC	GATTAAAATGAGATATGGCTA
90068	OSR1	ACCATGTCCCAGGACAGTGTTACTTC
90069	EFG2	TACATGATTTCAAAATAAAGTTG
90070	MPP6	ACTGAGAAAATACATCACAGA
90071	SIAT1	CACATGCACACATATCTAGCA
90072	TTC3	GCCACCACCATTCTCCTTCCCCACCCCACCA
90073	SNTB1	AGATACTGATCTGAGCTGTAAG
90074	PKP2	ACATTTATATTCCTTTTCTGG
90075	GCLC	CTGTTTTCTGGGCCAGTGAG
90076	MYCBP	TTAAAGCAGGAGAATCCAAAGT
90077	SKI	GTCTTCCTGCTGCTGCCAGGGAGAGC
90078	CDC2L2	AAGCACTGGGATTACAGGCGT
90079	CRYPTIC	CACATCTTCTGTACTCGTCCA
90080	MAT1A	GGCCTGGAGCACAAAGACCCTGGCTT
90081	PCDHB3	TTAGGTTTCATTAACAGTACTGG
90082	PTPRG	TATCCTACTGAGCATTTGCACCTC
90083	SLC7A8	ATGCCCGGCAGGCTGGGGTTG
90084	IL11RA	CCTCAGCCTCTGATCCTCACACATGCT
90085	HLF	CCGCCTTGAGAGCGAGTACTTTT
90086	RNASE1	CTTCCCTTTCCTGAGTCC

90087	ARHGDIA	TCTATCTCCCCGTCACACC
90088	ADAMTS7	TGGCGTTCTCCCTCCAGGG
90089	MGAT3	CCAGGAGGACCCAGGGCTCTGTA
90090	NAPB	AGCTTTCATCATTATACTCCAA
90091	C14orf1	AGGCCGTTAGAAAGGAGGGAG
90092	SOX5	GCAAAGAGCAACAACTGAATGTGA
90093	GPR92	GGACCTTTGGGTGGCAATTCCA
90094	SLIT3	CACCTCTCGGACTCCAGCTTGATGG
90095	HLCS	TCTCCCCTCTGTGGCTTGGACT
90096	PTPRO	CTCCAGTTTTGACTACGAG
90097	HM13	GGTGCCCGAGCCTCTCAGGGCCAGACCAGA
90098	ATP2B1	GGGAGAGAGAGGGAGGAGTAAA
90099	LPIN2	CCCATGGGGACACGGGTGCCTAT
90100	TUFT1	TCACCCAGGCTGGAGTGCAGTAGCGCG
90101	RNF4	ATGTAGCACTATTAGTGTCCCCC
90102	NGFR	TGTGGCTCCCCTCTATTTAGC
90103	ACE2	TCTAACTGTGGAGTGAATGGA
90104	TBX5	CGGAGCCACCATGCCTGCT
90105	ADRA1A	TCAGAAGCTCAATATGCAAAAG
90106	M11S1	ACCGCCACCCTTGCCCCCTCA
90107	KCNJ10	CTTCCCTCAGCCATTCCTGAGACTTG
90108	F2RL3	CAAATGATTCTCCTGCCTCAG
90109	TMC1	CAAGTGATTCTCCTGCCTCGG
90110	PRDM4	TATAGCACGTGACCCTGGAACGC
90111	WHSC1	TTTTGTTTGTCATACATGGAACCATTTT
90112	SLC13A1	TGTTCAAATAAGATTATTTACAA
90113	ABCB8	TGTGGTCGCTGCCAAGCATCAGTGTTAG
90114	UBL3	ATAATTCCTTGGACTGCCTGGT
90115	ABCB4	CAAGTCAAGTTCCACCTTAGCTCCAGG
90116	FCN2	TGGCTTCTCCACAGGTTTTCCA
90117	CD209	AGGCTGGAGTGCCATGGCGCGAT
90118	SHANK2	CTTAATGTCACAATTATTCCTATTGA
90119	HAP1	GCTGACCCAGGCTGGAGGACAG
90120	STX1A	GGCTCCCTCCCCTGCCTAGGGGCAA
90121	GCNT2	TTGAAAAACAGTGGGGTGGGG
90122	GDF2	GAGCACAACAGGAAAGCCTG
90123	SLC14A2	CACCCAGGCTGGAGTACACTG
90124	MXI1	GTTCCCTTTGTCTTTCAAACTCCAAGG
90125	TBP	TCCGCTGGCCCATAGTGATCTTTGCAGTGA
90126	TCIRG1	GGGAGCTGGAGCAGCCGCTGG
90127	BAZ2A	GCCAGCCTGACATGGAAATGGAGGCAA
90128	CYP2B6	GGCTCACTGCAACCTCCACCCCCGGGG
90129	ADRBK1	CCTCTGTGTCACTGGCTGCCTCCA
90130	KCNK5	TGGCTGGCGGGACAGGTGGGCAGG
90131	GJB3	CTCCTCTCTGAGCCTCAGTT
90132	OLFM1	CCTGCCCAGCCCTGCCCGGAGGC
90133	BPHL	GCTATAATCTCAGCACTTTGG
90134	STE	GACTACAGACATGTGCAACCAT
90135	GSTM3	CCAGGCCCTGAACCCCAACGCCGGCAT
90136	MRPL49	ATGATCTTGGCTCACTGCAACTTCC

90137	PLXNA2	TGGAGAGAAAATGACTGTCTCCT
90138	MECP2	GCCTCGAACTCCTGGCACTACCAAAGG
90139	NRL	GGTTGCAGCTCCCACCTCA
90140	KCNMA1	CTTGCTGTGTGAATTGACAAGCACTTT
90141	TEK	CCTTTCACTGGCATGGGAG
90142	COL17A1	CTTGGCTTCTTTACTTA
90143	GNAI1	TTAATAAAAATGTTATTTGTACAA
90144	PIK3C2B	GAGCTAAGCTCAGGAGCCCGA
90145	NRL	TCTCCCCAGTATGGAAGTCCCGGT
90146	GSTM4	GAGAGAAGAAAAAGACAGGAAGGGTGAATTTG
90147	XPC	TGCTAGGAGATACTCTTCTGCCT
90148	COL4A3	TACAGTTTCTGGCTGGCTTCATT
90149	TDGF1	GGTTCACTGCAACCTCCGCATC
90150	GGT1	CAGAGCAGCACAATAAATGAGGCCACTG
90151	SHOX	ATGCGGTTAACTACACAC
90152	SFRS2	CTGACAACTGCACTTCCAGACA
90153	MAP3K14	TAAGTGAAGTGGTTCTCAGTCC
90154	BAZ1B	TGGAGCCATTCCTGAATCTCCCC
90155	CASK	ACTAATTTAAAGAGACAGTATC
90156	RNASEL	AATTTTCCCAATGATCTTG
90157	SUDD	TCAGGAGGCTGAGACAGGAGAATCGC
90158	EDN2	TCCCTCGGGACCCTCCCA
90159	ALDH1A2	TGCTTCTTAACCGTACCAGTTT
90160	PLCB2	CTGGGCTCAGTTTCCTCACCT
90161	NT5C2	CAACAAGAACAAAACTCCATCTC
90162	CYP4F3	GCCACTGCACTCCAGCCTGGG
90162	DSC1	GCCACTGCACTCCAGCCTGGG
90162	F2RL3	GCCACTGCACTCCAGCCTGGG
90162	INPP5B	GCCACTGCACTCCAGCCTGGG
90162	IRAK4	GCCACTGCACTCCAGCCTGGG
90162	LDLR	GCCACTGCACTCCAGCCTGGG
90162	MDM4	GCCACTGCACTCCAGCCTGGG
90162	ROCK2	GCCACTGCACTCCAGCCTGGG
90162	SLC26A4	GCCACTGCACTCCAGCCTGGG
90162	SMG1	GCCACTGCACTCCAGCCTGGG
90162	TEM7	GCCACTGCACTCCAGCCTGGG
90162	ZNF264	GCCACTGCACTCCAGCCTGGG
90163	PPP2R4	GGGAGGGGATGGCAGAAACTCAGGGA
90164	PMCHL1	CCGGGTTCAAGCAATTTCCTGCCTCAG
90165	WBP2	GGCCTCGGGAGAGGTGCCGCCCA
90166	RCE1	ACTGCTGCTTCTCTTAGCTCCTC
90167	MLC1	GCCGCAGGGGCCCCTCCTCC
90168	SPAG11	AAGCTCCCGGAAGGCAGGGA
90169	MAP1A	GGGTTAAAAATAAGCCACTGCCT
90170	TCF12	TGGACTTTTTGGTTACTTTAA
90171	FGF12	TAACTCTAGCTGTATTTCTTCTTGTCA
90172	DGKI	AGGTAACCCAGGGGTCAGCCCAGGCTGCTG
90173	EPS8	TCATGGCTCTGTTGATTGCA
90174	CRHR1	GCTTTGGGGGGCACTAGAAGATGAGGG
90175	ZNF124	CATACTTGAGAGAAACTGTGAAT

90176	GPR4	GCCCAGGCTGGAGTGCAGTAGT
90177	SLC7A2	TAGAATCAAGATAGAACCTTTAGATGT
90178	SLC6A12	CCTTATCTCCTTGTGCTCAGGCC
90179	CRYBA1	TAGAAAGTTTTATGTTCTGCTCA
90180	ABCD4	ATTTCTCCAGCGGTTCCTGCAGAT
90181	CTNS	ACCGGCACCTGGCGAGGCTCA
90182	SEPN1	GTCACCCAGGCTGGAGTGCTATGGCTC
90183	CRSP6	GACAGGGTTTTTCCATGTTGCC
90184	RCN1	AGGATACAATGCATTTCCTCAGTGAT
90185	LCP1	CCTGCAGAAGTAAGCCTCATCATCAGAGC
90186	TRIM14	TAGAAAACAGTAGGCCCTCACAGGAG
90187	GAS7	CCATGGGATGGAGAACCACTCTGTCCAGAT
90188	LZTS1	ATCCTGCGACCTTGCAACCTC
90189	FTSJ2	AGAGGAGACTGACAGAGGAA
90190	FOXD2	GAAAGAGGTCTAATAGGATGGGCAGG
90191	TAF11	TTGCTCTATCACCTAGGCTGGAGTGC
90192	MPDU1	GGGAACAGATGGGACAATAAAGACTGG
90193	CLASP2	CTGTCGTCTTCTGTTAGTGCCA
90194	TGM7	CTGTGGCTGGGGCTCCCTGGACCCGCC
90195	PITX1	CCGGACCCCACTCTGCCCTCCAAAAAG
90196	MAP3K12	TCTGTTTACACATTTTGCA
90197	ANXA11	GTGCATCTGGTGAGTGTGTCAC
90198	STAU2	ACTGAACAGATACTGTTGCTTATTGAA
90199	IL16	GGTTATCTGTCCCAGGTTATCTGGGCA
90200	CIT	GTTCACTGCATGTGCTGCCCCC
90201	HAS2	CGCTTCCTGGGTTCTGCTGAG
90202	MYC	AGAGCCGGGCGAGCAGAGCTGCGCTGCG
90203	ZNF216	TTGTACTGGCCTGCACCAGAAGAT
90204	DDX11	GCCATCAGGCACCAGAAGGATTTT
90205	BPAG1	GGTAAGTCTACATCCTCTCTG
90206	ADAM19	TTGATAGACTTTCGGCAACCAGT
90207	AKAP13	AAATTTTAAAGGGAGGGGGTC
90208	PRX	GGAGGAAGGGAGGGCAGAGGGG
90209	SULT1A3	GGCAAGGAGAGAACAGGTCAG
90210	BCL3	GGACCCAGGGAACAGCCACTCCC
90211	TCTA	GGCTCAGCTCCTCCCCACTA
90212	MPP3	CTCCACCCCCTTCTTCCAGAATCTGC
90213	MX2	CAGTGTCCTAAGATACTGCTATCA
90214	CBFA2T2	TCTAGGGTGAGACCAGTGCTCAGCAC
90215	CDC2L2	CCTAGTAGCTGGGAGTATCAGGT
90216	MSL3L1	CTTTGCAGGCCATCTGTGATGG
90217	COL9A2	GTGAGGCCAACACACAGGGCAAG
90218	IQGAP1	GGAGAAGTATTTTTATGAGACTCTTTAC
90219	EMP1	AACACCAGCCCCACTTCT
90220	PCOLN3	GCCCTGTGGACTTTCACCCAGC
90221	QPCT	TAGATCATCCTATTCTTATGTGTCTT
90222	IRTA2	CTGAGCCCTCTCCATTCAGAGTT
90223	TRIM14	GGGCAGCTTTGTCCTATACTCTCTCCA
90224	HHLA1	CCTCTTCCTGGCTCATCCTGGC
90225	STK19	TCCTCCAAATGCAGTGAGGT

90226	PKNOX1	CACTGCACTCCATCTTGGGCAACACAG
90227	VAT1	TGCTTTTGTGCCAAGGTTAGCCAGTC
90228	HS3ST4	GTTCTAGCCCTGTATCTGTCA
90229	TMPRSS3	TGCTCTCAAACCCCTGACCTCA
90230	NOVA1	TTCCGACAAAACAAAAGGGAGA
90231	SPOCK	ATGAGATGCCATTTTCCGA
90232	TEM7	CTGAGGTGGGAGGGTTGCTTGA
90233	BUB1B	ACACATTTAGATGCAC
90234	HOXA11	AGGCTGCTTTCCAAAGCCAAT
90235	WHSC1L1	GCTACCCAGGCCGGGCTGCCAGC
90236	PDE4D	GAATTTTACTTGCACCTTA
90237	UBL1	CTCTTTTTGATTTTATTTGTACTT
90238	MYH8	GTGCTATTTTTGGTCACTTGCTTT
90239	HPS4	GGCCCCTCTATTTTATTTTTCTTGAA
90240	ECHS1	TCACCCAGCCTGTGAGGGTCCTG
90241	ITSN2	GCCCAGGCTGCCGGTGCTGAGGGA
90242	MKI67	CTCTGTACCTACCATCTCCTGCCTCC
90243	PART1	ATCAGGACTTGTATTAGCAGGTT
90244	SRGAP1	TCCAGCATGATGTTCTTGTC
90245	PMX1	ATGGCAGAGAAAAGCAGG
90246	REN	CCTGGCCTGGCCTGACCAATGA
90247	KRT8	GCCCGCCTGCCTCCACTCCTGCCTCC
90248	ATRX	TTTGCCTGCTAAATTCTCCA
90249	LTC4S	ACGCTCTGGGTCGCCG
90250	WASF1	GAAATTGAAATCTTGAGGGCAGC
90251	TCERG1	ACCTTTGTCTCTAAAGATCAGA
90252	MS4A2	CAGTGCACTCCAGCCTTGGTGA
90253	C18orf2	CCTCTACTGTACTTTAGAACC
90254	SCN3A	TCTATATTTAATTTAGGTCAAAT
90255	MAPRE2	ACGCAGCCACCTTCCTCACCA
90256	SNX13	AGGACCTCACTTCCCCGGGGTG
90257	SNCA	GCCCCCACTCAGCATTTCGGTGCT
90258	HMGN1	GAAATGTCTGTACTGATCCTCA
90259	EVC	CGGGTTCAAGCGATTTTCCTGCCTCAG
90260	GRAF	GGCACTCTCTCTACCCCACCTCT
90261	C9orf19	CAGCAGGCTACCCCTGGTTTCTGGAG
90262	FBXL3A	ATTAAACAATAATTGAAATG
90263	SCD	AGAAACTGAATGAATCCATTGGA
90264	PPIL1	TGCCTAGGTTGCCAGAGCATTTGCAC
90265	INMT	ACTCACTGCAAGCTCCGCCT
90266	PRX	GCCTTCAGTGGAGCTAGACCTGCCA
90267	DPYSL2	GACCTACCCCTGTCCTTGCTGAC
90268	DSCAM	GGAAGGTTGGCAGAGGGA
90269	IDH3A	ACATAATAGCACAAAATGACACTCT
90270	ALOX15	GGATATAATACATATTACTCCA
90271	NR2E1	TCTCCATCTCTGTCTTTC
90272	DTNB	AGGCTGCCAGACGTCACTCCACCCGCCA
90273	ACTR1B	ATAATTTAACACGGTTGCCTG
90274	OTOF	GGGGAGCCTTGGATGGGGTGGGG
90275	MAP3K14	CTGAGCCCTGCCCCACCCTGCT

90276	ITCH	CATACCTGTAATCCTAGCACTC
90277	CRY2	AGCTCCAAGGACTCAGGCAGAGGGA
90278	KCNA7	CCAGCCTGGGCAACATGGTGAG
90279	NUP62	AGGGCGGGAAAGGCAGTTGGAGAAGA
90280	DSCR5	GGCAAAGTGGATAAAGCCTGGTCCCTG
90281	MDM2	CTCAGCCTCCCAATTAGCTTGGC
90282	EPB41	CCTACCCCAACTCTGCCCTTCTCC
90283	SIGLEC8	TGCAGGCGCGCGCCACCAGGCC
90284	STAT4	AAGCTCTCTTCACACTCCCG
90285	EPB49	AGGAGGTGGGGTGGAAATAGGGTGG
90286	BACE	GCCAGGGACGGACGTGGGCCAGT
90287	DSC1	CAGGAGGCGGAGGTTGCAGTGA
90287	EGFL4	CAGGAGGCGGAGGTTGCAGTGA
90287	IAPP	CAGGAGGCGGAGGTTGCAGTGA
90287	LUZP1	CAGGAGGCGGAGGTTGCAGTGA
90287	NPHS1	CAGGAGGCGGAGGTTGCAGTGA
90287	NT5C2	CAGGAGGCGGAGGTTGCAGTGA
90287	SUV39H2	CAGGAGGCGGAGGTTGCAGTGA
90288	COL4A4	CTGCGCAGGGTGGAGGGAGT
90289	NPTX1	ACCCCTGCAGCCTCCTGGCC
90290	MUC4	CCAGCCTTCACTGACAGCCGC
90291	SLC14A2	GGCGTGAACCCGGGAGGTGGAG
90292	SIAT1	CAGCCTCACGACAGATACCAGGCAATCCAG
90293	IL5RA	TTTGCATCAGCCTGGAGTGA
90294	NFATC1	CCGTGCGCTCCGGCACAATCGCGTCTCT
90295	SCML2	CTGAGCCATTTATTCTGCTACA
90296	ATP1B2	CCACCGCGCCTGGCCTTCAGTT
90297	RANBP3	ACACTGGCTCCAGCTGCCAGCTCGT
90298	EFNB2	GCTCACTGCTGCTGCCTCT
90299	IL12RB1	TGTTGGCAGACTGGAGTGCAATCATGGC
90300	P2RX4	CTGGCCCGACGCAGTGGCAC
90301	PKNOX1	CAGGAGTTTGAGGCTGCAGTGC
90302	RUNX1	CCATTAGCCCATTTCCCCCAAAT
90303	KCNJ16	TTTTGTATTAAGAATGCTATTA
90304	GLRA2	ATAATGTGCCCTACAGACCCT
90305	MOCS1	AATCATGTTCTTTGTGGACTATT
90306	PDE5A	AGCAGGACGAAGGGGGAGGGT
90307	ARHA	CTCAGTCTCTCTTCTCTCCAG
90308	CCND3	CCAGGAACCACACCACATCTA
90309	SLC10A2	ACAAACCTTCATGGCATGAAACATTAA
90310	VPS26	AAATGTTCGTTCATGTATAT
90311	KLHL1	AAGGCCAGGGACAGGGGCGCA
90312	HMOX1	GCATCCTCAGTTCCTGC
90313	CYP2B6	GTTCACTGCAACCTCTGCCT
90314	LSS	GGGGTGAGGGGCAGGCAGCAG
90315	FZD4	TCACCCAGGCTGGGGCGCAATG
90316	HD	GCTGACATCTTGCACGGTGACCCC
90317	SERPINB9	CCTGGTCTTCAGTTCTGTGCCC
90318	APBA2	TGACTAATGACCACACCTGCCT
90319	PSEN2	CCTGGCACCTGGGTGCTCTGGCTGGAG

90320	ADD1	TCTGCTTGGCTTCCCCTCCA
90321	PARG	TCAAAGGTTATATAGTGAATG
90322	CNTFR	TCTCCTCCTGCCCCAGCCTCCTG
90323	SGCE	TTCTTTTCTCTTCCAATAATGCATG
90324	FGFR1	TGAGGACGAGGAGTAATGGCATTT
90325	ALK	CGGGCGCTGATGATGGGTGAG
90326	DAZ	CCCAGTAAAACAGATTCTAAG
90327	CDKN2A	CCTGCGGGGCGGAGATGGGCAGG
90328	TIMM17B	TGCCCTGACAGATGGGTCCC
90329	SLC7A6	GTGATGCCCCCAGACACTGTCA
90330	A1BG	TAATAGGTATGTAGACATATCTAA
90331	CLASP1	GTGAGACAAGGCTTGCTG
90332	IL16	ATGACCCAGGCTGGGCAAGG
90333	JAG1	TCAACAGCAAGTGTGAATACTGCTTGA
90334	SPAM1	CCATTCCCTTTCATCTGTGCTCAT
90335	BENE	CACTCACTGCAGGCTCCGCCTC
90336	GUCY2D	TTTGGGTCCTGGGAGGGTGGGTGAA
90337	CDC25B	GCTCAGAACTTGCTGCTGTCTTGT
90338	CCND2	GCATAATTAAACTCCATGCGG
90339	IL1B	AAGCTCAGATTATTTAAATGG
90340	FOXE3	TGTTTTTCCGACACTCCTGGGTC
90341	STAU	ACTGAACAAAGACAACATTGTT
90342	LZTR1	TGCTGGCTTCAGCCCCTTGAG
90343	RNH	CCTGCCCCACCCCTGATGTCTGCTCCA
90344	PTGFRN	AAGGCATTGACCTCCACCCACCTGCCC
90345	PTPRO	GTGCTCTTACCTACCTATATTTG
90346	EFNB1	TGGGGGGTGGAGGGAGGTGA
90347	SUV39H2	TCAACTTGCCATACACCTCAAA
90348	IL21R	TCGCCCAGGCTGGAATGCAGTG
90349	RAP1GA1	CCCTGAGCATCCCTCTGGACTCAGAG
90350	CYP3A4	CCTGTAATCCTAGCAGTTTGG
90351	BCL2	GGGTTGGAGTGCGGGTGGGCTCCTGG
90352	SNAI2	AGGGAAAGATTAGCTTTGAA
90353	DYRK1A	ATTGAAACTTGAGTTTGTTTCT
90354	PRSS16	TCAGATTCTGGTTCAAATTCTGC
90355	SLC6A12	CCTCTGCCTCTGTCTCCTGCCACA
90356	NDUFS5	ACAAACCTCCTTGTCAAAGTGTGTAAA
90357	EMP1	GCCTACTGGGGGGCTTTGGCCTGTGAG
90358	APOA4	CCTGCCCTGCCCTGCCACCTGT
90359	NRD1	GCGGGATGTCCATCGCTCCAGC
90360	SCA1	CATTTTCAGCACTTCCTGTTCCTAT
90361	SET	CCACCATCCAACAGACCTGGTGCTCTA
90362	ATP1A2	TGAGGAAGAGGTTGCAGTGAG
90363	MAPK10	CCAACAGCAGGCCCATCTCAGATCTTC
90364	NEUROG1	CGAGGCGAGGAGGCCAGGC
90365	CFTR	TTGTTTGCTAAGCATTCCA
90366	SMARCD1	CCTGTCTTCCTGTCCCTTGTCTGCCCAG
90367	MLC1	GGGTCGCCTGCCCTGTCTCCCTACTT
90368	TAZ	CACAACCACCTCCAGCCTGGGAGA
90369	DNMT3A	TACGGAGTCTTCAGGCCCAGT

90370	SCML1	ATAAACTTTTATTATGTGCTCTTA
90371	WARS	GGGGGTGAAACTTTCCAGTTTACTGA
90372	FGFR2	AGGCAGGCGGATCATGAGGTCA
90373	MGEA5	GGCTTTTAGTAATCATGTTGG
90374	ICAM1	TGCAGTGATCAGGGTCCTGCAAGCAGT
90375	GPM6A	TGAAGGTGGTTTATTACAAATAAGCAC
90376	NSMAF	GCGGCGGCGGGGCCTGCCTGTG
90377	RAP1A	TGTGCCAGCTGAGAGGTGGTAG
90378	FMR2	ACCATCAGGAACAGCCTGCCT
90379	PDE7A	GCTTCTGCCACTGCCTTTCC
90380	SLC13A4	GGCTCACAGAAAAAGAAAAAGA
90381	SLC7A6	AACACATGTATCACATTCATA
90382	TNFRSF14	TCACAGACCACACACCCAGCCCT
90383	C14orf1	ACAGAAGAAGAGAAACTGGGCCAG
90384	IL17C	CCTCATCTCCAGCCTCAGTAG
90385	GLRB	AGCCATCTTATTCTTGTAATTTTAGA
90386	IL16	GTTGCTAGAGAATGTTAGAG
90387	TAPBP	GACCTCAGGTGATCTGCCCACCTCA
90388	NFIA	AGCTAAATATCTTTGTA
90389	HS3ST2	GCCATGGCCTATAGGGTCCTGGGC
90390	CDC42	TTTAATAACATACTCCTTTTTGAAAG
90391	BAP1	CTGCAGCTTCCTCCACAGCC
90392	SMARCD1	GCATGGGCTCTAAACCCACAGAACT
90393	GCNT2	TGGCTCACACCTGTAATCCCAACACTT
90393	GTF2H2	TGGCTCACACCTGTAATCCCAACACTT
90393	TNFSF15	TGGCTCACACCTGTAATCCCAACACTT
90394	AKAP13	AAAAACACCGTGGATGCTGAA
90395	HDC	CGCAGGACTGGCAAGAGGGA
90396	PCDHB2	CTAGGATTGTCCACTCATCCCAG
90397	HPGD	TGTTATTTAAATCAAACCAGA
90398	SPAG8	AGAGGAGGAAAGCAGGCATTTGA
90399	SLC22A2	TCTGCCTGGTCAATGCTGAGCTGT
90400	M17S2	ACAGTGGGGGAAATAGAAAAC
90401	MAL	CCGGGTTGGGAGCTTGCTGTG
90402	HMGB2	GAGGATTGCGTTAGAGATAAACC
90403	ANXA8	TCACTCCTCAGCTGCAGGAGCC
90404	CCKBR	CTGGGCCCTGGCTGGGAGTAGAGGGGC
90405	PRKCQ	TCCTGATCTTGCCCCTCCAGAGA
90406	TBX5	GAGCAAGCGCACAGCAGAGGAG
90407	EDN3	CCTGCAGCTCCAATTTCATGCA
90408	B3GAT1	CCCTGCTCCCTCGCTGGCAAGCC
90409	PUM2	AATACAAAATCATGGTGACACTTCCA
90410	TAL1	TTCTGGCTCCCTCTTCTTTCAGACTTG
90411	PLA2G4A	ACAAATGATGTTGATTATGTAAG
90412	HCK	CAGACACCCACCCTCGCTTCAGCCAC
90413	TSC1	ACATCCAGAGTTCTGTGACA
90414	TBX6	TAAGTGAAAACATTCATTCACTG
90415	NIPSNAP1	GGGAAGAGAGGAGGCCAGGCCAGGCC
90416	TPT1	CATCTTGAGCTCTTCATTT
90417	ADORA2A	TCTGCCGTCGGTCCTGCTGCTAACC

90418	DNAH9	CACCCCACTCCAGCCTCGAGGAAGCTT
90419	TRPC1	GGTTCTTGAGCTTATCTCCCA
90420	BCL2	GCTCCGTTTGGCAGTGCAATGGTA
90421	FTHL17	TTCAGTTTTACCATTGTTAGCAA
90422	TRIM14	GGGGATAATAGCACTACCTA
90423	UNRIP	CAGCCCGAGGCACTGCAGCAGAAGAG
90424	GALC	TACAGACCTCGAAGCCTTGCTGCTA
90425	SLC3A2	ACGCGGCCTGCTTCAGCCTGA
90426	SLC25A6	ATGTTGGGCCTCCTGCTGC
90427	MKI67	TTGAAGCCCAGACATCTTTCTCCA
90428	ABCB9	GGCCTTCAGCACCCGCCCACCTCC
90429	XRCC3	TGCCTCCACATGCTGCCTGGCA
90430	UBE2L3	CGACCTGTGGACTAAATCTGCCA
90431	AK2	GAGGGGCTCAGAGGAATACTTGG
90432	MSR1	GTTTCAACTGTTTGGAGTCTTTTATGAAGT
90433	LRP2	AGGTAATACTATAAATATATTG
90434	SHANK2	GAACTAAGCCAGGAAGACATG
90435	NPHP1	GACCAGCCTGGCCAACACTATCTGTAC
90436	GRIA2	TGGTGCTAAATTGCTGTCTCAAAAT
90437	CHRNA2	GGTGAGAGGAAGCCTCGCAGAATCCAGC
90438	MFAP4	AGGGAGCAGAGGAC
90439	COL1A1	CCTCCATCCCAACCTGGCTCCC
90440	F2RL3	AGCCTCCCAAGTAGCTGGGATA
90441	ATP1A2	CATTGCCTTGGGCCTGGGA
90442	ZNF215	CCTCACCTCTCCCTAGTTC
90443	HOXC6	ACCACGCGCCTCCTCCTCCTCG
90444	SIGLEC11	GCTGGTCTCGGACTCCTGGGCT
90445	DMD	TTGGGTTGTTTAAAAATTTATAACA
90446	FRAT2	ACCCAACAGCGTCCAGTTCCTA
90447	SYNGR1	TGTATAATATAAGGCTCCA
90448	YES1	GCCGCCCAGGCTGGAGTGCAG
90449	CLC	GACTTCATGTTGCCAAGGAATCCCTGTCT
90450	MN1	GTTTTAAAAACTTTCTCGCTCC
90451	CNTN2	CCCCTCTGGCCACGACTTGGC
90452	SLC21A2	CCACATCTCCCTGGCAGCAGAT
90453	ARHGEF6	CCACTGCACTCCAACCTAGGTAACAGA
90454	WNT5A	GCTGGCCACCCCGCCTCCTTGG
90455	TAF11	ATCACCTAGGCTGGAGTGCAGCG
90456	BACE2	AACCAAAACAGAGTGGATTGGGCTGCA
90457	PRKR	TTTCCTGGCTCATCTCTTTA
90458	CLECSF11	CGTGTGCCACCATGCTTGGCT
90459	AP2M1	AAGTGGGACCGGTGGAGCAGC
90460	GABRB3	GGGTGAGCCACTGGCAGTGTGCTTACCT
90461	BHMT2	TCGGGAGGCTGAGGCAGGAGAATCGC
90461	CEACAM5	TCGGGAGGCTGAGGCAGGAGAATCGC
90461	DNASE2	TCGGGAGGCTGAGGCAGGAGAATCGC
90461	PCDHB9	TCGGGAGGCTGAGGCAGGAGAATCGC
90461	STAT3	TCGGGAGGCTGAGGCAGGAGAATCGC
90462	IL24	TGCAGGGACAGAGCATTGGG
90463	CAT	AGTGTTCTGCACAGCAAACCGCA

90464	SS18	TCAAGCAGTTCTCCTGCCTCAG
90465	CIT	CGGCCTTATTTCTGCCTTT
90466	CALB3	GAGCACTGGAGGAAGAGC
90467	RP2	CCACAACATCCGCCTCCTGGG
90468	CTF1	AGGGGAGGGGACGGGCAGGGT
90469	ATP11A	CTACACACACCTCTTCTTTTCTTGGT
90470	G2A	CGCATCAGTGGCGATGACTTTAT
90471	SELL	TCTTTAAATTTCATCTCAGGCC
90472	KHK	AGAGTGAGACAGACCTGGATTCAAAT
90473	KLK10	ATGTTATGCTCCTGCTGATC
90474	MAP3K8	CGCTGCCGCCGCCGGATCCCAG
90475	DISC1	TGCAACCTCTACCTCCCAGGTT
90476	PKM2	GCGCCGTGGCTCCGGATCTCTT
90477	PCK1	CTAGAATGCACACCAAAAAGA
90478	PKD2L1	GCTCCCTCCCCAGCAGGCACAG
90479	ATF7	TTCAAAGCTTGTTCCATCAA
90480	PPP2R5A	GCCTCTCCCCCGCCTCCTCCTGCC
90481	CSPG2	TGAAGATGGCTTTTCCTGGACAGC
90482	CCNA1	AATGTTGTTTACAATATAGATGA
90483	CITED4	TTGCAGGCCTCTGCCTGCTGC
90484	TEM6	TAGAAGAAGCTGGGCATGGGTG
90485	PITPN	AAGTACCCCCTTTCCTCCTCACC
90486	RNF3	CTTCAGTTTAGTTTATGAATTTTA
90487	PDGFB	GAGAGAGACTGACTGAGCAGGAATGGT
90488	AQP2	CTGAGCTGGGGAGGGAGGCAGG
90489	FUT1	GTGAGCCAGCACACCGGGCCAAG
90490	NPAT	AGTTAGGTTTGAATAAATATTTTCATTAA
90491	APBA1	CCCTCCAGCACCACTTTGGCTTA
90492	FBXL5	TTTGCAAATAATGCATTTTTTACAAA
90493	GLI2	TGATCCAGCCCTCACCCACCTTCCT
90494	GMPR	AGCTTCTGGCTGCTCCTGAATGGT
90495	MLC1	AGTGCCACATGGCCGCTGCCCAC
90496	KRN1	TTTGCCCCTCTTTCCCACATGCC
90497	ADAM19	GCCTTTCTCCCTCACATCAGGAGGTAG
90498	MYCL2	AAGTTTTCTGGAGAGCTGTTG
90499	TNFRSF10B	CTTCCATCTGGCATCCCACG
90500	CDK2	GCTGGGAGACTGAAGACTCAG
90501	RNPEPL1	CTGGACCCAGAGCTGACCTATG
90502	SORCS1	AGCACAGTGCCTTGCCTAGAGTAG
90503	GYPE	CCTGCTGTTCTCTTGTT
90504	MSF	GTGTGGGGTTCTCAGTGCCGGAGCTTGG
90505	TAPBP	AGCTCACTCTCACCCCTTCTGCCT
90506	ATP2A3	GGGCCCTGTACCCACCTGCTG
90507	ROCK2	CTCTAATACTGCAAGAAGGT
90508	SLC22A3	ATGTTCTCTGCTCACCTTGGTTTCCGC
90509	CBFA2T2	TTGTCTCCCAGGCTGGAGTGC
90510	PPP2R4	TTCCTGTGCCTGCCTTCCCCACCCCAGCA
90511	PLCB4	GGCCAAACAAAAATAGCTACAAATCCAC
90512	BRF1	ACACACACGCAACCTCCTGG
90513	ABCC12	ACCTTTGCCATTTCTCTGCCATA

90514	ADCY6	AGGGAGGCCTCTTGCCTGAGGGAT
90515	SCA7	TGGGGGCGGGGGTGCTCAATGAGAA
90516	FGFR1	GCCTGTAATCCCAGCACTTTAGATCA
90517	HMGCR	AGACAGCCACTTGGTTTTTGGCTCT
90518	CDH11	TGTCTTTGAGGAAGAAGATGTCCGTG
90519	RBMY1A1	GTTATTTCTGCATTGTTACCTGCATAT
90520	CAMLG	TTCTCCATGTTGGTCAGGCTGG
90520	MLANA	TTCTCCATGTTGGTCAGGCTGG
90520	PPEF2	TTCTCCATGTTGGTCAGGCTGG
90520	SCML2	TTCTCCATGTTGGTCAGGCTGG
90520	SIL	TTCTCCATGTTGGTCAGGCTGG
90521	MPP2	GAATGTGTGGCCCGCTGGCAGCCAGGCA
90522	DDX15	CAGCCAGCTTTCTTCCTTAATA
90523	CDH2	TGGCGGGGAGCGGAGAGCAGC
90524	FOLR1	CTCCATGGTCGGGCCTCTGACAG
90525	HDAC6	GCCTCCTCAACTATGACCTCAA
90526	PPP1CB	TATTACCCAACTAGTTGGTAATGTGAT
90527	PES1	CCCCTCCCACACAGTTGGACCC
90528	RBM10	CCCTGCAGGAAGCATCACCCAGGCTGG
90529	WBSCR1	CGGGCAGCCGTCCTGCAGCCGCCAC
90530	TACC1	GCTGCAGTGAGCCATGATCATGCCACTGCA
90531	LPO	CGCTGAGATGCCCTTCTGCTCCA
90532	GJB3	GGGCAGTGTGGCAGGTGGAGAGG
90533	XRCC2	CCGAGGCAGGAGAATTGCTGGA
90534	ADH7	AACTGGAGTTTCTCTTGTGAG
90535	CYP1A2	GCGTGATCTCAGCTCACTGCAACC
90536	TPST1	TTTACAACCTAATGACTTTTGTATTT
90537	ADORA1	TGGCCTCAAACAGCCACGAGGTGGTAG
90538	FANCC	GAGGCTGAGGCATGAGGATCTCTTGA
90539	ARHA	TGGCTCTAATTCACAGTGCTCTTTCTCC
90540	PRDM16	GTGGGCAGGTGGACGCTCTGCTG
90541	PSMD5	ACCATCTCATTAATTTACAAAGGATA
90542	RNASEL	TTACAATTCTCTCACTTA
90543	MDFI	CCTCTGTCGGGGGCTAAGCCAGCCTGGCG
90544	APAF1	GGGAGGCTGAGACAGGAGGATTCCTTGAG
90545	GCGR	AGTGTGGCTGTCTGCGAGATT
90546	JUP	GCAAAGAAAATAAAAATAACAC
90547	SH2D1A	ATACAGTTCGGTGAGCTACAAATGCAT
90548	P4HB	CCTGCAGTGTCGCCATGACTGA
90549	KL	GACATACAGTGCTGGCCACAACCTTCT
90550	RPS28	AGAAGCCCGGAGGTTGCGCTGG
90551	PROS1	GGATAGGTGGGGAAATCTGAAG
90552	FMOD	CAGGCAGCCAAATCTTGCCTGTGC
90553	TOMM22	CAACTGTGCCCTCCACA
90554	ROR2	GTCCTGGGGAGCAGGACACATG
90555	ATP7A	CGATGTTGTGCAATATCCATCTACTG
90556	MEF2B	GGGAGGAGCAGAGCCAGGGAGCCATCTACA
90557	GCLM	TTGAGGCAGATATTCTTTCGTCATA
90558	LZTS1	GTGCCTGGCCCCAGTCTGGGC
90559	TAF1C	CATCCCGCAAGGCAGGCTGGAGGTGC

90560	ZNF179	GAGACTCCACCCTCCCCACCTGGCTCA
90561	PATE	TTCTAGAATCAGATCTGTTT
90562	APPBP2	AGTATAGAAAAGTTAACACAAGT
90563	TRHDE	GAGTTTGAAGGGCTTTTATAGT
90564	PYCS	TAACAAATCTTTTCGCGTTTT
90565	ABCA3	GGTTGAATTTCTCCAGGCACTCCCT
90566	CTF1	TTGCCCAGGCTGGTCTTGAACTCCGGG
90567	ATF2	TTTATTTCACTTTTAATTTGCTGGTGTT
90568	SLC7A5	TCTTCCCTCTGGGCCTGTTC
90569	SRP46	TCATTCTATGTGCCGTTTTGTTGTTA
90570	PAX3	AGGAAGGGCACGGTGGAGAGAA
90571	FHL2	GCTCACTGCAAGCTCTACCTCTTGGTTCACGC
90572	UGDH	CATTAAACATCCCAGGTCTCATCCTTC
90573	PMCHL1	GTTGCCCAGGCTGGAGTGCAATGGCAC
90574	PLXNA1	CCAGGGGCCCCGGGTCGCAGAG
90575	ADD1	CACCCAGGTCGGGCGGTGGGGGCGAGCGGAG
90576	TAF4B	GGCCACTGTGGTGACTTTGG
90577	APTX	ACATCTCAGGAAGCACTGGACA
90578	MYOZ1	GCTGCTTGCGCTCATCATCTCT
90579	MECP2	GGGAGCTGGACAGTGGAGTGCAAA
90580	CALML3	GGAGGGAGACCCCACAGTGGC
90581	RUNX3	TCATCCCAGATTACTAACCCTTCCTGA
90582	GUCY2F	TTCAAGAAATTGTTCTGCCTGG
90583	DGCR2	GTGTGCGCCAGCCCGCGGCCCAGCC
90584	TGM4	GTTGAGATTTCAGCATTTCC
90585	TNFRSF8	CCCCTCGGTGGGCCCAGGGCCTAGGGG
90586	TKTL1	TTGTTAGGATGTCCTGTGCTGCT
90587	SNCAIP	TTTTCTCTCACTGATGCCCTTT
90588	RXRA	GCTGGTGTCCCTGTCGTGGAGCT
90589	GGA3	TGTACTCCAAGCCTCCGTCAC
90590	BCL9	GGGGAGATTTTTCTTTTGAAA
90591	MYCN	GCAAAGTTCTGTGTTTAATTTCT
90592	SOS2	ATCTGCTACTTTACTAATTCA
90593	GAS41	AGTATTCAATAAATGTAGTTTACA
90594	B4GALT1	CTGATCTTGGTGTTCAAAACA
90595	TAL1	GGATCACAGGTGTCAGCCATTGCACCCAGCC
90596	SNX9	AAGGGATGGGGGAAATGGAGATGGC
90597	CSRP2	ATTTTGGGGGAACATTTCTTTTACATT
90598	IL1R1	GGGAGACGGAGGTTGCAGTGA
90599	SNX5	GGTGAGGGCGGTGTGTTGTAT
90600	MEFV	TGTATCTTGCATTCACACTCAATAGTC
90601	AHR	CCACTGCACTCCAGCCTGGCAATAGAC
90602	SF1	TGAAGTGATTCTGTTGACAATAA
90603	SHOC2	TTTGGGGGAAGAGAAACTTGCAGTG
90604	A1BG	ACCCAGGCTGGAGTGCAGTGTT
90605	DHFR	AAACTAAGAGAATGAAAAGTA
90606	ADD2	TTGCCCAAGGTCACACAGCTAGT
90607	PCDH7	AGCCTGGGTTTGGAGTGAGTGCCTGGAA
90608	STX1A	CACATGGTGCTGCTTTTCAG
90609	PPP1R12B	GTTGCCCAGGCTGGTCTGAAGCTG

90610	RECQL5	TGGGGCGGGCACCTGGCAGTGAG
90611	CLCN3	TCTTTTTTGTTTTCCTCTCAGAC
90612	MPL	TCTACTGCTGCTGACATAAAACCAGGAC
90613	IGSF4	CTGCTTTCTGTTCCAAATTCAGTTTCA
90614	COL1A1	TCTGCTCTCCGACCTCTCTC
90615	SHOX2	CCCTCCAGTGTCCCCGGAGCTGA
90616	IL22RA2	TCTCCACCTCTCTATCTATGTC
90617	POLL	CTCCAGCCTCAGCTGGC
90618	HLCS	CAGGCTGGAGTGCAGTGGTGTGGTCTC
90619	A1BG	CAGGCTGGAGTGCAATGGCGTGATCTT
90620	FANCC	GCCCACCTCCCCCTCTTGTTGCC
90621	SLC7A7	TCCTGGAAGGCACTTCTCTCCCT
90622	TNFRSF5	CCCGACGATCTTCCTGGCTCCAACAC
90623	STIM1	CTGCAGACTGCCTTGTACTC
90624	SYP	TGGCCTTGGTTCCTCCAGCA
90625	CSE1L	CTTAAAAAACATATATGTGTGTGG
90626	JUN	ACAGATGAACTCTTTCTGGCCT
90627	EIF4EL3	GAACAGGCTGACACGCAGCAG
90628	WWP2	GGAGTCAGGGGACTTCTCTTC
90629	PFKFB3	GCTTGGAACCTCTGAAGGTGGGGAGCGGA
90630	ABR	CCGCCTCTTCCTTCCCAGCCTGC
90631	CD209	TCATTTTGCAGGCTGGAAGCACCAGGG
90632	MS4A6A	AACCAGAGTTAAAACCTCTTT
90633	CAPON	GGGCGGTGCGTTCCACTGCTCTG
90634	ZNF42	CTCTCCTCTGTAGATACCCACCCC
90635	NAB1	GAAGCACAAGAAAAATTTCAG
90636	RGL	TCCAGTCTAGGGGGTCTCAGATTGG
90637	STEAP	AAGGAGGCGGGGCCTGCAGCTG
90638	B4GALT6	TACTTAGTAGATAAAAACAAATTTTAAG
90639	ADAM8	CAGCTATCTTGTCTGGTTTTCTTGAG
90640	NR1D1	TTGCCTCAACGTCCAACCCTTCTGC
90641	AIM1	CTCGGCCTCCCAAAATGCTGGG
90641	SIL	CTCGGCCTCCCAAAATGCTGGG
90642	GABRA1	GTCTTAAAGAATTTGAAAGTTTC
90643	SERPINB3	ATTTCTTTTCTTTCTCATCTTG
90644	IGF1	CTGTCCCCCAGGCTGGAGTGC
90645	CLC	CATGCCTTTCTGGGGTGAAGCCCTTTG
90646	PRODH	GCCAGCCCACACAGCCCGAGCCCCT
90647	PUM2	GGAATTTGTTTTATCTCTTTG
90648	BRF1	GAGTTGTGGGCCCAGGAGCCCTG
90649	DHFR	GGCTAATTTTTGTATTTTGTAT
90650	FZD4	TACAATTAAAAGCACATTGTTGGACC
90651	AK1	GCCACCCCTCCTCTAGCTCT
90652	BAPX1	GCCCTCTGCTCCACCCCTCCTGTGTGTC
90653	CLECSF12	AGCAGGAACTCCTACTTTTTC
90654	TCFL4	GTGGTAAGGGAAGCCCTCCC
90655	ZNF43	CTAAGATGCCCGGACATCCTGGAAGC
90656	LIMD1	GCCGGGGACACAGGAGCCGGTGTGTGC
90657	INPP5D	ACTGAGTCGGGAGCCCAGAGGA
90658	TRPV1	CCAGCATGTTCCCAAATCTGTGCTGGAC

90659	WSX1	AGGCTGAGGTGGGAGGATCGGT
90660	CYP2B6	CAGGTTCGAGTTCAGTGGTGCCATCTC
90661	TNFSF5	GGCTGTGGTGGAGCTGACGCTGGG
90662	MHC2TA	TGTCTCTTTAATGTCACAGGCAGGTCCCAG
90663	TNFRSF11B	ATACTTCCTGTTGCCGG
90664	YWHAH	CATGTCAATCAAGATGGGTG
90665	SUV39H1	CGTGGGGAAAGATGGCGGAA
90666	ASTN	TCATTGAATTCTCACAGCAACTCCTGA
90667	GATA3	CCCTATTTAACAGGGTCTCT
90668	LDB1	TCTGCCTACCTGCCCCACCCCTC
90669	SURF4	CCTTTCCCAGCTGCACTCGCCCTGTG
90670	SLC4A1	GTGGGTGGGGAAGGAAGGC
90671	CXCL16	GGAACTCCTGAGTCAAGTGAT
90672	ADORA2A	TGCCTTTCCTTCTAAAGGGAAT
90673	MATN3	GTCCTTTAAATTTTGCACTGCTCAAT
90674	DGKI	TGGAATACAGTACGAGTTCCACA
90675	BCL2	TGATATTCTGCAACACTGTACACATA
90676	CYP7A1	AGTGCAGCTTGACATTATGTTTTA
90677	RBP1	CTGTCTCTTGGCTTTGTC
90678	AARS	GCCCTCCACGTCAGTGCCATCG
90679	PCDH12	TCTGTTTCCCCAGCCTAGCAA
90680	FLRT2	ACAGGCTTTATTTTCACCTTG
90681	PLA2G4C	AATGCCTTCCACTGCTCCTTTAT
90682	PAM	AAGTTTGAGCCTGAAATTTTAA
90683	KCNK5	CCACCTCCCCAACATGTGA
90684	LZTS1	GCTCAAGCAATCCTCCTGCCTCA
90685	SOX2	AACACCAATCCCATCCACACTCAC
90686	KCNA6	TTCTCAGAGCCAAATACTCTTTG
90687	MIF	TCTCCTGGTCCTTCTGCCATCATGCC
90688	DIAPH1	CCAGGAGGGAGGGTTTTGGTTGCTGGC
90689	TTN	GCAAAACTACACAGTCTTGACTGTGT
90690	SLBP	TAAATTGAGCTATTAAACTAATGA
90691	CPT1B	CCAGGTGGTGGAGGTGGGGTTGGAGCA
90692	PCDHA1	ATATTTTTCATATTTAACTTGTCT
90693	CDK5R2	TCTTCATTTTTCCTCCTGTC
90694	DLEC1	GCCATGAGGTTCGGCACCCAGGT
90695	CASP6	CATTGCACTCCAGCCTGGGCAA
90695	DCLRE1C	CATTGCACTCCAGCCTGGGCAA
90695	DDOST	CATTGCACTCCAGCCTGGGCAA
90695	GP2	CATTGCACTCCAGCCTGGGCAA
90695	GPR1	CATTGCACTCCAGCCTGGGCAA
90695	ITGAL	CATTGCACTCCAGCCTGGGCAA
90695	LRRC2	CATTGCACTCCAGCCTGGGCAA
90695	MAP3K9	CATTGCACTCCAGCCTGGGCAA
90695	MYH11	CATTGCACTCCAGCCTGGGCAA
90695	NT5C2	CATTGCACTCCAGCCTGGGCAA
90695	SLC2A6	CATTGCACTCCAGCCTGGGCAA
90695	VPS41	CATTGCACTCCAGCCTGGGCAA
90696	VHL	CACTGCACTCTAACCTGGGCGA
90697	ATP1A2	CATTACACTCCAGCCTGGGCGA

90698	FABP2	AGCTAATTTTTGTTTTGT
90699	ZNF2	CTGTGTCCTAAATTTGAAGTTCA
90700	CLN5	GCACTATTGTCCCTTCTTCCTCACTGCA
90701	HOXC5	TGCTGTTGTCCAACTATTTATTGACT
90702	C10orf2	GAGGTAGGAATGAGCAGGTCAGAT
90703	LAD1	ACAGTCAGGGCACGGCGCCCCTC
90704	IL19	GTCCCACTGGCTGGCCTCAGGCT
90705	MPL	GCCTGTTGCCAGACTGGAGTGCAGT
90706	CEACAM5	CGGGAGGTGGAGATTGCAGTGA
90707	IRAK4	ACCGGCCTGGCCAACATGGTGA
90708	ADAM19	AAAACCTCACTGCAAGGCTGAA
90709	MAP3K8	GGTCTCAAGGTTCTCATTTCTCA
90710	ACE	CACCATTGCACTCCAGCTGGG
90711	ELMO2	GCCATTTCTCAAACCCACCTCG
90712	C18orf1	CAGTCATTTGCTGCTGCTGCTG
90713	APOL1	AAGCTCAGATCTCTAGAGCTGT
90714	CD97	TTGTGACCCAGGGTGGGGACA
90715	SLC21A9	CAGGGCCTTCAAGAGGCCTGTGT
90716	SORCS3	TGCCATTGGTAGCTTAAA
90717	HOXC4	AGCTTGGGAGCTGCAGATGCCTCC
90717	HOXC6	AGCTTGGGAGCTGCAGATGCCTCC
90718	CHAC	TTTGTACTTCTGTCATGCTT
90719	CYP1A2	CCTGCCTCCCCTGCCTCACCAGC
90720	HOXB3	GGCTAGGCCATCACCAACCAA
90721	KCNJ8	GCAAGATAACCCCAAGACAGTCT
90722	AGTRL1	TGGGACAGAAGCAGAGGAG
90723	GJB3	TCTGTAAGTGAGGAGCACTGT
90724	PPP2CB	ACATCATGGACCAAATGTGCCA
90725	SLA2	GCCCATGCTGGAGTGCAATGGCACG
90726	VHL	GCAGTGAGTCATGAGTATGCC
90727	RAB26	GGTCAAGCCTTGTCCCTTCCTC
90728	FUT5	GATTACAGACATGAGCCAC
90729	PLXNA2	CTGCCTCTGTGACTGCTGCTTTGCAT
90730	EPHA8	ACCAGCACTGAGCCCCCTCTCCCTCC
90731	BACH1	TTGCTTACTTTTTACCAGGAGTGCAGT
90732	CLASP1	GAGTCTCTCTTCCTCCTCA
90733	TAT	TAAAGTACTGGGATTACAGGC
90734	CLN6	CGGGCCCCTGCCCTCCTCTGCACCTG
90735	SCA1	TCTTTCTAACCTGCCTAAACTCTAGG
90736	CAPS	TCCCTTGCGGGTCCCCCAGGAAGCCAGGT
90737	AVP	TGGGGAGCCACTGGGGAGGGG
90738	SMP1	ACCCTACAACTGAGCACAACCTC
90739	SC5DL	CCTACTTCCTCTGCAAA
90740	ITSN2	TGACCTCTGCTGGGTCACAGCC
90741	PML	GCAGCAGTGAGTCCAGTGACCTC
90742	ATRN	CTGCAATTTTTTGGTATTTTT
90743	LDB3	GGCACTTGCGTGGATGTTTCTCA
90744	SLC24A1	CCAGTATTTTCTAGTTTAAA
90745	PSME3	CAGGTTTGTGTGTGCAGGATGTTGGC
90746	APTX	TGAACCCCTAGGCTCAAGCAAT

90747	FANCF	GCTCTGTCACCCAGTCTGGAGT
90748	AIRE	CACTGCACTCCAGTCTGGTCGGCAA
90749	SOX3	GGACAGCTTCTGTCCAATCATGTTGAG
90750	TAPBP	GCGTGAGCCACCGCGCCCGGCGGCGAA
90751	TMEFF2	GAGCTCCCTCCTTATGGCAGC
90752	CFL1	GTGACTCTGTGCTTGTCTGTTTAGTT
90753	FACL3	GAAGTCTGTTAATTCTACTTTTTG
90754	LMNA	CCTCCCTTCCTTTTCCCTGCTTC
90755	ZNF255	TGAACAAAGGCTTCACTTGTC
90756	AGTR1	AATGTCAGAAACTCGATGAA
90757	CD8A	CACCCATGCCATCTCAACCTC
90758	CELSR3	TCCAGAAGACCTTGAGAGTAGGCGTCC
90759	HTR1E	AGCTTCCTAGTAGCTGGGATT
90760	TCOF1	ACCGACCTCTGCCCACCATGGGTT
90761	GRB14	GCCCAGACCCTGGGCTCAGCCTCGC
90762	COL6A1	CAGACATAAATCTCGGCGACTCGGCCC
90763	HOXC11	TCAACCTGGTGTTAGGTGTGCAAA
90764	RAD21	AAGCAGACGATGCTGTAAAAACT
90765	SIGLEC11	GTGAGCCGAGATCGTCCCACTG
90766	SLC4A4	CTAAGAATGAACCGGATTTGGTGGTG
90767	ARHGAP6	GGGGTGATTTCACCTGGA
90768	AVPR2	GGAGTGGCAGGAAAGAGGGAGCAG
90769	LPIN2	TACATCTTTAATCCTTTTTA
90770	PDYN	GTTCTGAAATGGATAGATTGTTTTA
90771	FMOD	CCCAGATGCCATCACATCCCTGATA
90772	PCDHB6	CCTCCAATGTCTCATTTTGCA
90773	CAPN5	TCTGCCCCTCTCTCAGCCTCAG
90774	TNFRSF1B	GACCAGCCTGGCCAACATGGTAAAACC
90774	VHL	GACCAGCCTGGCCAACATGGTAAAACC
90775	TNFSF14	GACCAGCCTGGCTAACATGGCAAAACC
90776	SNRPA1	GTGGAATCTATCAGCATTGTTGAAATG
90777	ALK	ACACTCACTTCTCTTCCTTGGGA
90778	RTN4R	GGGGCAGGCCAGGCCAGGT
90779	ADAM19	GCTTCAGTCCTGCCCCTGCA
90780	HS2ST1	GACTCCATTAGTGAGCTGTGGTATG
90781	CLASP1	TGCAGCCAGGGTCTGGGCAGGGTGCAGC
90782	TRHDE	ACCACTGAATTCATGTAATAGATA
90783	RPH3AL	TAGGCTACCAAGACACAGCTGC
90784	DCTN1	ACTGCCCTTCTCTTGCTGCCTCCTGGG
90785	CNP	TCCCAAGCTGGAGTGCAGT
90786	PPP2R5B	TGCCCCTGCCTTGGCCAATGCGAG
90787	PHKG2	CCCCACTGGCCAGGACTCTGAGAT
90788	CHC1L	AGAGTTTATGTAGAAAGCATTGA
90789	PRKDC	TGATCAGCTTTCAAAGCATTTACA
90790	PDE4B	TGTTGTCCAGTCCAACTCCACAGTCAC
90791	DNMT3B	CCTCCCCACTCTGTCCTGGGTG
90792	PDGFRB	CCTGCCTGTCCTTCTACTCAGCTGT
90793	ICMT	CTAGACCTCCCCATCTGTGGA
90794	LMCD1	CCCAGGCCCGCGAACTTGGCCA
90795	HIF1A	ACCCCCACCTCTGGACTTGCC

90796	KRT9	CCTGCTTGGCTTTGGATGCCTTCA
90797	GNA11	CCTCAAGGAGTACAACCTGGTCTGG
90798	TOP2A	GCTCTTGACCTGTCCCCTCTGGCTGCC
90799	SLA	TTCGCATCTTCTCTATCCA
90800	TGIF	TCTGGCAGTGAGACTGAGGATGAGGA
90801	RABL2A	CACCTCGTGATCCGCCCGCCTC
90801	RABL2B	CACCTCGTGATCCGCCCGCCTC
90802	CDH12	TGGAGGGAGCCACAGAGAGGGGTCCAG
90803	EFG2	TTAAGCTTTGATAGTGGCAC
90804	ZNF267	TTCATAGATACTTCATTTGTATTT
90805	PAICS	CATGAGCCACTGTGCCTGTC
90806	BPAG1	ACTCCCCTTCATTGAATAGTGAT
90807	ICAM1	GCAATCATGGTTCACTGCAGTC
90808	GRIN2B	TCTCCTCCTTTTCACAGTTCTCTCCT
90809	JAM2	CCTCTAGCCCCTACCCCCA
90810	GPR61	GGGACCACCTGTCCATCC
90811	PLAG1	TCAGAAACACTCCTTCAAT
90812	NESH	GCAGCTGATGTCTGCACTGA
90813	RAD21	CTATTTTGTAAATCATTCCA
90814	VAPB	CCACTCCCGGCCCAGGCTGCTT
90815	NET1	TTTGTTTATAAATGTGTACAGTT
90816	VDR	AGGCAGGAATGTGTGGCAGAT
90817	ATP11A	TTCATAGCTGTTTATATCTCTTTTA
90818	A1BG	GCATGAGCCACCATGCCTGGCC
90818	MEFV	GCATGAGCCACCATGCCTGGCC
90819	GHR	GTGTAAGCCACCGTGCCCAGCC
90820	SET	TCCTTTCTCTGTATATTGGGCT
90821	SORCS1	ATGGAAAGACATAGGGAAGAATGGGCT
90822	CENTD2	TCCATCCTGACTGCAGCAT
90823	ACVR1B	GCCTGTAATCGTAGCGCTTTG
90824	ATBF1	GAGCCTCCGTACTGGGTGCAATG
90825	THBD	GTGTTGAAAATGTTCAGAAGGTTGCTC
90826	EXO1	CACATCTCCGCGAGACAGAGGGA
90827	CD209	CCGAGTAGCTGGGACTCTACTAAA
90828	TNFSF10	GAAGACTGTCAGCTTCCAAACATT
90829	SLC4A1	TGTGGGTGGGGAAGGAAGGCGTGTCCA
90830	CRACC	GTCATCTGAGGTCAGGAGTTCAAG
90831	GDI2	GGAGAGAATGAAGAGCGCTGTGCCAG
90832	KPNA4	AGAGGAGAAGGCCGCGGCGGAGGCAGG
90833	SLC22A3	GCTGGGGACAGTGTCTTCGTTTGATTA
90834	ACE	TGGGAGCCGGAGGCTGCAGTGA
90835	RNPEP	GGATAATCTATTCTCTAGCTTAGG
90836	CYP27A1	CTGGCTGCTGCCATGTCTC
90837	MSH2	GAGAGCTGTAACTGAGGACTGT
90838	SH3BP2	CTTCCAGGCTGGATTTTTAATG
90839	FLRT2	CAGTGAAGGGAAAAGAGTCTG
90840	PIGR	GCATGAGCCACTGAGCCTGGCC
90841	TYRP1	AAATTATGTGTAGTTATAAACCAATGA
90842	HS2ST1	TTTCCAGGTGGGCATGG
90843	SFPQ	TCTTGCATTTTAGTAAGAAAGC

90844	GP6	TGTCTGTAATCCTAGCACTGTG
90845	BPAG1	CCAAAAGATGGAAGACAAAAAGA
90846	MTR	GGCTAATTTTTTGTGTTTTTACA
90847	RAD23B	TGTGGTGAGCTAGCGGATTCCCTGCT
90848	IL1F8	CTTACCTCATTCTTACTATCCA
90849	EZH2	AACTTTTTATTGCCTTCTCACCA
90850	WBSCR1	TTTTCCTTTGCTTTCTCTTTA
90851	SCAMP3	GTAGTGCTCCCAATCCTATGG
90852	NDRG3	TGAGACTACAGGCACCTGCCAC
90853	MAPT	CACTGGGACTCGTGTGGCCTGTGT
90854	LHCGR	CCATACTGGACAGCACAGACACA
90855	TNFAIP1	ATCTCCCATCCTGTGGAACCCG
90856	FMR2	CCATGATCAGTCATCATTCTTCT
90857	GRM1	CGCAACCCATCCAGTGCCAGCTTTGA
90858	APOBEC1	AACAAAATCGGCAAGGTCTCAGGGA
90859	ADRA1A	ATCTCGATCTCTTGACCTCATGTCTGCCT
90860	GJB3	AGGCGCCATGGACTGGAAGACACTCCA
90861	TNFRSF10C	CTCTCTGCCCTGCCTCCCTCTGC
90862	UGT1A1	CCTGCTTCATAGGTGCCACCT
90862	UGT1A4	CCTGCTTCATAGGTGCCACCT
90862	UGT1A8	CCTGCTTCATAGGTGCCACCT
90862	UGT1A9	CCTGCTTCATAGGTGCCACCT
90863	CLOCK	AGGTAGTAAGCACCAGCT
90864	PYGM	AGGGCTGTGGCCCTGCCTCACAC
90865	WEE1	GGTTTTGCCAACGCATGCCCA
90866	TEK	CTGTGCTGTTCCTTCTTGCCT
90867	SOX9	TCCCTCCCAGCCCCAAACCTTTT
90868	MAD2L1	CCTTCATTTCATGTATAGTTTT
90869	DMD	GATCACTCACTTTCCCCCTACA
90870	KCNJ5	TCCATGCCCTGGGTCACTTCCTT
90871	PTGIS	CAAGTAGCTGAGATTACAGGCGC
90872	RXRA	ACTGCCAGGAAGCCCCAGCTG
90873	BARHL1	TGGCGCCCCAGCCCAGTGCCCCCCGAAG
90874	IL21R	CTGCAACCTCTGTCTCCCGGGT
90875	C1orf1	GGCTGACAGGCCCAAGTTGCAGTCAGCAGA
90876	TLL1	GCTCTATGAAGAAAATCCATTTCCAT
90877	TAZ	GGCTCTCTTTCCTTCTTGCCT
90878	SEDL	CTCCTGTTGTGCAGGCTGTAGTGCAGT
90879	ITGAV	CTTCGGCGATGGCTTTTCCGCCGCG
90880	GNAS	GCTTCGGAGCCGCTCTCTGC
90881	NAP1L3	GCTGCCACCTCCGCAGCCCGGG
90882	GLUL	GCGACCAGCGGGGATCCTCCC
90883	EDNRB	AGGCCCTGTGCTCATAGCTTTA
90884	VDR	ATTGCCCTGGTTATATTCTCAC
90885	TTF2	CATGCCTGTAATCCCGACACTT
90886	WWOX	CAGAACCTTGTCCCAGCCAGTGA
90887	PPP1R3A	GCAAGGGTAATCTTTACAAGCATAG
90888	SLC14A2	CACCCAGGCTGGAGTACACTGG
90889	TRPM2	GCTGGCGTGGGGGTCTCAGAATGGA
90890	VDAC1	TCATCATCTCTTTTACACCAAAAGGTC

90891	COL19A1	TTCCTGCCTCAGCTCTGTACACA
90892	STCH	AGGTATTTACAGTGGTTGGAAGATAGC
90893	MYOG	GATGCCACTACTTCTGTAGCAGGGGC
90894	PDE6A	GCAGACAAGACCCAGAGAAG
90895	AKAP2	AAGAAAAATATAGAATAGAAA
90896	CLN6	GGAGAGGGCTGGGTGGGGCAGA
90897	ENDOGL1	TGTCATCCAGGCTGGAGTGCGGTG
90898	UTF1	CCGCCCTGACCCTCCTGCTGC
90899	MLLT2	TTTTGTTTTGTTTTCTTGTACT
90900	NF1	TTGCCTAAATTTAATGCTGCCT
90901	SORCS1	ATCCTGCACAGCAGGGTTCAGTT
90902	TGFA	AGGCTGGACAGATGGCGGAA
90903	RAI2	GCTTAAAAAATGCCTGG
90904	GAS2	CTGAAAACTGTTTTGGAGA
90905	EHHADH	TCTTATGAATCATACATACACTCA
90906	CASP2	CTCCCACATGTGTCACCTCCCCATCAT
90907	MADH6	GAGGTCCCTCATGTTGTTGCCC
90908	SPAG8	GAGAATTACCCCTACCAATTGGG
90909	SCNN1G	GTTGGGGCCCAAGGATGTGA
90910	SLC7A5	AACCCTGTGGGCTTATGTCTCT
90911	HYAL2	GCTGGGCTGGGGAGGACCT
90912	A1BG	CTCAAGCGATCCTCCTGCCTCA
90912	UMPS	CTCAAGCGATCCTCCTGCCTCA
90913	ADH1B	TGCTTTGTTAATGCTTTTC
90914	CYP3A4	GGAGGCTGAGCCGGGTGGATCGCCTGA
90915	SNAP25	AACAACAACAGAACAACAACAAAGC
90916	DAAM2	AGAGGTCCACAGCCTTGTCCAGA
90917	KRT15	CACATGCAAACTCCAGTCCCTGCCTTC
90918	TBL2	GGGAAGTTTATCATGACTGCCT
90919	GUCY1A3	GCAGCCTGGAACAGACCCAGGCGGAG
90920	MMP19	TCACCGAGGCTCTGAGTCTCAGGT
90921	GHR	GCGATTCCCGTGCCTCAGCCT
90922	NEURL	TCTCCCACTACCTGATGGGCACATGG
90923	OPCML	GTGGACTCTTTAAAATCTGGT
90924	NFATC4	CTTGGGGCCAACCCTGGCTCCT
90925	CTSK	TTGAAGCAGATGTGGTGA
90926	PTPRH	TGGTTCCCTGAAGGAGGAG
90927	ACADSB	CCCAAGTAGCTGGAACTACAGG
90927	APM1	CCCAAGTAGCTGGAACTACAGG
90928	GART	CCCAAATAGCTGGGACTACAGG
90929	TNFRSF10B	TCCAAATAGCTGGGACCACAGG
90930	FXR2	CTGCACCCCTCCCTTCTCCATCTCGCT
90931	NCOA3	GGTTTCTGAATGTCTGTGAATTTC
90932	ADD2	GTGAGCTCTCACAGGCTCAGACTAAA
90933	SIRT6	GCCCCTGCCACACCCCAGCCTC
90934	GNE	GGTCCAGCTACTCGGGAGGCTGAG
90935	IL10	GAGCAAGACTCTGTCTCAAAAA
90935	PCDH11X	GAGCAAGACTCTGTCTCAAAAA
90935	PCDH11Y	GAGCAAGACTCTGTCTCAAAAA
90936	OGG1	GAGTGAGACTCCGTCTCAAAGA

90937	PKD2	TCATGGCTTCATCTCTATCTTTACTTT
90938	CBFA2T3	GTAGAGGCCTGTCCTGGGCTCCAG
90939	TNC	GGAGAGGGGTAGGATGTACAGGGGTAG
90940	SURF5	GCTCTTCACCTGCATCCTGGC
90941	ZNF236	TGGCTGGACCAATTCTCTCCA
90942	MATN1	AGGGCACACACACCTCCATTCAGCCCA
90943	MRPL49	AGTGGCATGATCTTGGCTCACT
90943	PCDHA9	AGTGGCATGATCTTGGCTCACT
90944	PPP1R12B	AGTGGTGTGATCTCAGCTCACT
90945	SLC2A5	GGCTGCCTTGCTGTTCTTGAA
90946	HTLF	AACAAACTTCAGCCTGGGAAGTGAG
90947	PSG1	TCTGCTTTCTTTGTAACATGAC
90948	HUNK	CATGTTGTCTGTTCGACCGTGACT
90949	FBLN5	CCCGGCGCTCTCCCCGTGTCCTCTCC
90950	MSL3L1	CACTGAAGAAAAAGATGAAAA
90951	ACPP	CTACTGTACTCCAGCCAGGGCAAGAGA
90952	PTPRZ1	CCTTCATTTTGAAAGAAGTTTT
90953	GNAT1	GCCAGGGCCTGTGCTGCAGT
90954	KIF3C	CCTCTTTCTCGTTTGTGGACAAAGCA
90955	PTGS1	TTCTTATTAATTTCAGTCTTG
90956	ITGB3	GTCTGGCCCTATGCTTCCGGCCTC
90957	SOST	TCACGGACACATTTCTGCCTAGAAAAC
90958	PRKACB	TTCCTTAAGGATTTTAGCCAGTA
90959	TM7SF1	TTTCAGTGGGTATAATTTAA
90960	EGFL5	TGTTACTTGTTACTGCAG
90961	SHANK2	TCTCCTGGTACCCAAAGAAATACT
90962	WRN	GTGGCGCTCCACAGTCATCCG
90963	TAF11	ACTGCAGCCTTGAACTCCTGGG
90964	MMP25	CTGGGAAATTTAAGTTTGCAGA
90965	RAB27A	GCTGCATTGCCAAAGTGTCTT
90966	BTG2	GGGGGAGGAAGAGAGGCCAAGTTCAG
90967	PAX7	CTGCTTCCGTACTATGGCTCCAACAGA
90968	USP6	GAGGGCTGAGGTCAGGGAGGTCTGA
90969	PPP2R2B	CCCCTCGGGGCACGGCGTATCTTGGCA
90970	L1CAM	TGGGAGGCTGGAGTTGGGGCAGAGGAG
90971	PPP2R1B	TCATGAAGCAGATTTGCACTGG
90972	PRKY	AAACCATCTGCCTTGCCCCCA
90973	CPSF4	TTGCCTCAGGCTGGCCCTGGTCCCAGGTGGC
90974	ADCY2	TCATTAAAAGTTTTATGTACTT
90975	RAB5C	CCACCTCCCTGCTGGGAAACCACAG
90976	GATM	GACCAGCCGGGCCAGGGCG
90977	B4GALT1	GGGAAAGATCAGAGAGGCAGAGGTGGCACA
90978	STARD4	GAGACTCTTAAAAGCATCA
90979	FGF5	TGTCACCAGGCTGGAGTGCAGTG
90979	RHD	TGTCACCAGGCTGGAGTGCAGTG
90980	GCDH	CTGCAGCTGACCCCCTCACACTGAGT
90981	APLP1	GGCCGGGCGGGAGTGCAGGGGA
90982	RPS6KA5	AAGTGCACTGTTTAAAGCATTTGCA
90983	DNMT3B	AGGGAAAACTGCAAAGCTCGGTG
90984	CRYZL1	TGACGTCCTACAGAATTTCTC

90985	HM13	GCCAGGATTCAAACCCAGGTGTGGCTC
90986	SPN	CCTCAGGTGATCTACCTGCCTCA
90987	HYAL4	CCTCAAGTGATCTGCCTGCCTCA
90988	OGT	TGACTTCTTTATTTCAGAG
90989	XT3	CCACTCCACTCCAGTCTGGGCG
90990	SPAG11	GGAGCCCCGCTGCCTGCCCACCC
90991	IFNAR1	CCACTGCACTCCAGCCTGGTGACAGCG
90992	LOH11CR2A	CCTGTACAACCTACATGTCTTT
90993	SOST	TGAGACACCGCCTTCTGCCCA
90994	MST1R	CTGCTGTGGACCCTGTCTTCTG
90995	FTL	TGCCTAAGCCTCTCCCTCCAGCCA
90996	SH3BP2	TGCCAGACAGCTGCCCTGGCGT
90997	ABCC3	GGGGCCTGTGGGCTGTGGGAA
90998	SLC22A7	CCCCACTGGCGGCCTTGCTGGAT
90999	OPTN	AGGTTGAGGCAGGAGAATTGCT
91000	ZNF264	AAATGATTTTTGTGTTCTTT
91001	IL1RL1	CACTCAGCTGCTTCTTTGGTCA
91002	MSF	GACCAAAGTCCCTTCCTGCTTCCT
91003	CALB1	CTGTCTGATTCTATGCCTGTA
91004	ZNF264	TTTAAAATCGACAGCATTTCTA
91005	ARHG	GCTCCTCTGTGCCTAGGCCTTACGCA
91006	LYN	CGGGCCAGACGCGCTGCAGCCT
91007	PCDH11X	TCATGACAGAGCGCACTATTTCTG
91008	SH3BP4	GAGGAAGAAATATGAAGCCTTAGCG
91009	C14orf2	TCTCACTGAGCCACCCATCATTGTGA
91010	EPS8	CATTCTCAAGACAGTTTGTCATGGCTC
91011	FPRL1	ACACTCCTAAATTTAGAGTCAA
91012	BSN	CCTCCAGCAGGCCTAGTCTCAGGCTCTAAAGT
91013	TCF2	GAGCTAGGGCTGGAGGGACAGGGAGCA
91014	IL16	CAGATGGGGGAAAGCAC
91015	MPP2	GCCAAGCTATGCCCAGGAATGTGTC
91016	KMO	AGTCTCAAACTCCTGGCCTCA
91017	ATP2B2	GCAGCAACGAGCAACAATCGGAA
91018	FBXW1B	TTCATAGAAAAGGAACATAGA
91019	SNAP23	CTCTGCCTTCCTTCTAGTATTTTCTTT
91020	FGFR1	GTAACCCTCACCCACAGCCTG
91021	ZNF184	ACCAGCTGAAGGAACGCTGCCTGGCGA
91022	GABRB1	CCCCAACAGCGATACTGCTGTTT
91023	CRAT	GGTGAAGCCTCTGGGCTTCCTGA
91024	EHD2	CCCTCCAGGATGCTCGCTGG
91025	NCOA4	CAGCTCTGTAGTTTCTTGAG
91026	CLN2	ATTCACTGCAAGGAGACCTCTACTGTC
91027	RAD50	CTTATTTCTCATATCAACTTA
91028	DYRK2	ATTGTTTTTGTGGGAATGACACTTT
91029	VHL	CGGCACACATCTGTAATCCTAGCTACTT
91030	LRP8	GAGACCCCAGGAAGTCAGGA
91031	ICAM1	CTCTTGTCCTGTTTGCATTTCA
91032	CACNG1	CAGGCTGCTTCCTCTCTCT
91033	TARDBP	ACCAGTGAGCTCAGGTGTC
91034	FGFRL1	TGGAAGGAAGACTGGGTTGCAGGGA

91035	TPD52L2	GCATCACAGCCGCAGCTCTGTTCAGCG
91036	CDKN2B	TTCCTTTATAGAGTGTCTCAGGG
91037	ACADSB	TGGCGCGATCTCAGCTCACTGCAGCCT
91038	LZTR1	CACCTGCTGGGAGGAGGTGG
91039	HOXC13	AGAGGATCTAGTTCAAGAGGCAAGAAGA
91040	SH3GL1	CCTGTGGGAAGTGGCCCCAGCCATCTC
91041	DCK	CATTCCCCTCTTTTGTCTTCCTCA
91042	TLX1	AGAGAAAGGCAAGGGAGG
91043	ACCN2	ACATCCCTCTGAGAAGCACAA
91044	SFRP4	TGCCCTTTGGTACAGAAGGTGAGT
91045	KIR2DL1	GGGCATCGATCTTCCTCACACCACAAATCTG
91046	PTN	ACCAGTGAGTCATCCGTCCAG
91047	SCN2B	CTGGGACGTGTGGGCCCTGGGGAGAG
91048	WBP2	GGCTGTGCTGGGGCTTGGGGA
91049	IL18	GCCTGTAATCCCAGCCCTTTGG
91049	MS4A2	GCCTGTAATCCCAGCCCTTTGG
91050	TEM7	GCCTGTACTCCCAGCACTTTGG
91051	CRIM1	AAATCTTCCTCATTTGGATTT
91052	CYB561	GGGAGATGGCGCTTGCAGTGAG
91053	RIMS1	ATAAATTTCCCAAGTATTTGAA
91054	FCMD	GCTATTTTTCTCTTTGTCTAGGAAAGG
91055	ADAM19	TGGAAGTCTCTCCCTGCCTACTTCCT
91056	CYP2B6	GGCTAATTTTCTTGTAGTTTTAGT
91057	OTOA	GCAGCTGGCCAACATGTGTA
91058	FADD	GTGAATCAGGCACCGGAGTGCAGG
91059	GART	AAAATGCTGGGATTATAGGCAT
91060	RGS6	CGAGGAGACTTGGTCACTGTGA
91061	LBR	ATCTGAAAACAGAAGACAGTCT
91062	CROT	CCCAGGAGGTTGTGGCTGCAGTG
91063	PNOC	CAGCTCTCAGCACCTGCTTCCTGCTC
91064	SLC14A2	TCACCCAGGCTGGAGTACACTG
91065	CD28	TATTTGAGTACTGTGAAGGA
91066	ALS2	AAAGAACAGTGTTGAAATT
91067	MATN2	CTTCAGAATTCTAAGATGAATTTAC
91068	CBFA2T2	CCCTGTCACTCAGGCTGG
91069	GPR85	CAATTGTGGCCCATAGCCATAT
91070	CDR2	AGGAAAGGAGGTGGCTAGTGGTA
91071	FOXO1A	GGCACAGCCTGGCAGTGTGGCCAGGGGT
91072	RDS	CTTCCCAAGCCCTGGTGACCAGACCA
91073	RNPEPL1	ACAGCCTGTCTCTTGTAGCTTC
91074	FSTL3	GCCAAGACTCACGCATGTGTGACA
91075	ARF3	CCACCCTTCTGATCTTAGGGG
91076	EGFL5	TCAACATGGCGAAATCCCGTCT
91077	ESR1	GCACTGTACTTGGATCTTCCCG
91078	CTBP2	CAGTGTTGAAACTACAAGAG
91079	ACK1	CCTGCCTCTGGCCCTGGTCCTGGGC
91080	GJA5	GGCTCAGAGAGGAAAGACGTGTCCCT
91081	PTPRK	GCCTGTGGCCCAGCACTGG
91082	PSCD4	GTGATTCTTCTCCCTGGCAAGG
91083	MRE11A	TTATTTGAGCAAGTAACATTAA

91084	CAPS	GAGGGGCAGGTGGGGGAATGGA
91085	GCLC	TTTCTAGCACCTTATCTATGATG
91086	SLC26A2	GAAAGTGCCATTCCTGTCC
91087	RNMT	CCTCTGTTACAACCTCAGCACTTTG
91088	ARF5	AGGCCTCTGCTCCTGCTCCTGCC
91089	PLAG1	ATGAAGCTGCAGTGA
91090	CNTN2	CCCGGCAGGAACACCAGACATGAA
91091	STARD4	TGCACACATCTCGAAATCCATTT
91092	CRHR1	TGTGAGGCGGGTGGCTGGTATAAAT
91093	IFI16	CTTCATTTTCTTAGCGTTTCTGGAGA
91094	MEN1	CTGGGACACAAAACTCCGCCC
91095	LCP1	CACACCCAGGCTTGACAAAGCTGT
91096	IRAK4	CCCAGCTGCTTGGGAGGCTGAG
91097	TRPM8	TAATTAGTTGGCATATTGTT
91098	CDKN1B	CACTCTTAAATGATCTGCCTCT
91099	GNB2	ACCCCCACTGGGCCCAGGCC
91100	SRGAP1	GTTCGAGTCCAGCCTGGGCAG
91101	GP9	GCCAGGCCTGGGCTGGGCACACTCCAC
91102	LAMB2	AGACCCACAGGCAGAGTTGA
91103	HMG20A	GCCTCCAACTCTTGGGCTCAAGCATCA
91104	CARKL	TGGTTCACCTGTAGACAG
91105	BCR	GCATCCTGTTCTCCACCGA
91106	AKAP13	CCCTGCCTTAGTAGAGGGTGGGACTATA
91107	F13A1	ATATATACATCATACTTAACTTTACT
91108	SLC1A4	GAGAATGGGTAGATGGAACGG
91109	MAT1A	CAGACGCCTGGCTGCTGATCGCCTTCC
91110	RGS16	GCAGAAAAGGATCCTAGGAAA
91111	LANCL1	GATCAGCTTCCTCCTTCTGTCACTTGT
91112	DOCK1	ATTCTTTCTTTTTGTGCCAAATGAC
91113	BRCA1	TACAGCTGTGTGGTGCTTCTG
91114	PEA15	GGAGAGGGGGCAAGGGCAAC
91115	RAG1	TATACTCCAGGGAAATTCACCACAC
91116	AMPD2	GGGGTGAGGGCTCTTGGTGGGTTAG
91117	RAP1GA1	GACTGTGATTACATGCACCTGCCTTAG
91118	PSEN1	TCTAGGGTCTTACTCTTTGTATGATGA
91119	AICDA	GGGAGGTTGAGGAGGGAGGAT
91120	PMX1	TCTTCCATTTCTTTTTCTTTGTTCCCAGC
91121	EXT2	GCACTCTGATGTCAGAGTAGTAGGTTA
91122	SLC4A7	CCCAGTATTTGCTGCTATTTTTAAA
91123	MYO10	CTGGCCTAGGCTGGCTCCAGT
91124	PACE4	CGCCCCCAGAGGCTCAGCACTTTG
91125	BAZ1A	TTTCCTGACAGTTCTTTCAGCT
91126	STK38	CTCAGCCTCAGGCGAGTGGC
91127	HS3ST4	TCTCACTCTAGCTTGGGGAG
91128	PRKACG	AGCTCTATTCAGGCCAGGTCTTGCTGT
91129	CD34	GCTTCCTCCTCCCTCCTGCC
91130	MMP3	TTCTTCACCTAAGTCTCTGTGA
91131	PTPN7	GGCTCAGAGCCAGCCCAGAGGGAA
91132	PROC	CTGAGCACCTGTTGTATGTCA
91133	FDXR	GAGGGGAAGGGCTGGGTCCGTCTGA

91134	STAR	AGTGGCTGATATGGGTGTGGG
91135	CNTN3	TAAAGTCATCATACACAAAAA
91136	HCN4	ACCAGGTATTCTTAGAGCTATA
91137	ICAM2	CATGGCCACCACCACGGTGGTCAC
91138	DDX11	GAAGGCCCTGCTCCCTATCCTGCC
91139	FACL3	GTCACACCACCTTAGCCT
91140	SLC7A6	AGTAAATCTCTGGGTTTCTGTTACGAA
91141	BHMT2	TTCAGCCTGGGTGACAGAGTG
91142	ADCY1	AGCCCCACACCCACCTCA
91143	ATRN	CCTGCACACAGCCTGGGGA
91144	PTPN11	TGCTTCCCAATTACTCATTTCCTCAG
91145	MAGEC1	AGGAATTTTCTTGAAACTGTGA
91146	RAB5A	TAGGAATATAGACAAATGACTGT
91147	PTH	TGAAAACAGATATTGTCAGAGTTCTGCTC
91148	PRKY	ATCAGTGACCTTTTCTTCAC
91149	GLTSCR1	GTTGCCCAGGCTGGTCTCAA
91150	CD59	TGCTTCCTCCTTTGCTCTTGGGA
91151	KCNAB2	CAGGCCTGTGTCCCAAGCAGTA
91152	TNFSF9	TAGACGATCCTCCTGCCTCAG
91153	DBN1	CTGGGCTGGAGTGAGGTGG
91154	BACH2	GCATCAGAGATGATGCTGCAGT
91155	DIAPH2	GAAGAAGAAAAAGAAATTTTA
91156	EGFL4	CACATGAACACATGCACATGTGCACACA
91157	MATK	CAGAAAACAGGAAGAACCAGGC
91158	KCNQ2	CACTCCTCGCACTTCCAGCCTTGGAGCCCTT
91159	SYP	GGGTTTGGGCAGTGGAGAGG
91160	GTF2F1	TCTGCCCTCCAGAACTTCAGGC
91161	GGA3	GGAAGGAAAATGAAGAGAGCCAG
91162	SPOCK	TTCTACAAGTGGGTGGTTTTGGTCTTT
91163	CDKN2A	CTCACGCCCTAAGCGCACATTCATG
91164	E2F1	CCCCAGGATGGATATGAGAT
91165	SIAT1	TCCTCCAGGCTCTGCCTGGCCTGA
91166	TUFT1	ATGAAGTTCCTTCCACAAACACAGC
91167	FMO3	CTTCAAAATCAGAACTATGTTCTTT
91168	C9orf19	CCCAGGCCTGTTCCTGGCAGCTG
91169	YWHAB	GGGGTTTTGTAATTTAGCAGAAC
91170	IL6ST	AAGATCTGAAATCATTGGACCT
91171	AIRE	TGGGAATGCCATGCTCATCTTTCGTC
91172	C21orf5	AAAATACAAAAATTAGCTGG
91172	DAPP1	AAAATACAAAAATTAGCTGG
91172	EGFL4	AAAATACAAAAATTAGCTGG
91172	F2RL3	AAAATACAAAAATTAGCTGG
91172	FANCD2	AAAATACAAAAATTAGCTGG
91172	GALNT7	AAAATACAAAAATTAGCTGG
91172	HSPA5	AAAATACAAAAATTAGCTGG
91172	LILRB1	AAAATACAAAAATTAGCTGG
91172	P2RX7	AAAATACAAAAATTAGCTGG
91172	PDE7A	AAAATACAAAAATTAGCTGG
91172	SFRS2IP	AAAATACAAAAATTAGCTGG
91172	SPTLC1	AAAATACAAAAATTAGCTGG

91173	SREBF2	TGGGCGTGAGAGGATAGGTGG
91174	LGR6	CCTCTCTCCCCCTCGGTGAATGATGG
91175	HSPB3	GCAGAAGGAGGCTGTTCAAGGCTGTT
91176	DLGAP2	CCTGCCTGGTCCGCCATGTTCC
91177	INMT	AGCCTCCCGTGTAGCTGGGACT
91178	BIN3	GTGGTCCAGCAGAGGCGCTGGGTGG
91179	PACE4	ACCTGACAGCTTTATCTCCCCA
91180	TACC1	ATAATCAAGAAGGGGCTCTGG
91181	OGN	TCATTAAAGCATCTGAGATCT
91182	CYP4A11	CCTTCACAGCCTCCATCCTTAGCTT
91183	PRKCM	CCTGCCTGGTGTGCCTCAGTATATTTA
91184	PLAG1	TTTTTTCTGAAAGTAGGCTTT
91185	HSPG2	TGGGCAAAGCCACAAGGCTGGCCA
91186	ADAM11	CAGGCAGCCACCAGTGG
91187	MLPH	CACTGCTCACCTGGGTTTACTGATG
91188	TLL1	AGGAATGTGCATAATGGAGAGAA
91189	GABRR1	TCTGCAGCTTTCCAAAGCT
91190	HMGB3	GCTCAGGGCGTGCACTGTGAGGCTG
91191	SCD	GTCAGTGCTCTCAGCTGGCAGTGCAAT
91192	CENTD2	GTTCAGACCTCTTGGCCCAACC
91193	PIK3CG	AAGGGAGGGCACGGCAGCCAGGC
91194	PDGFRB	CCTCAGCCCTGCTGCCCAGC
91195	ADORA2A	TGGGAGCCAGGCGGGCGGCTGGGCT
91196	BMP1	TTTTGATGGTGTCTGTGACAT
91197	PPP2R5C	TGAGATGAATACTTCCTGAGAAAC
91198	NR4A2	CTGGCTATGGTCACAGAGAGACAC
91199	TFRC	ATGAGGTCTGAAATGGAGGT
91200	GJB3	TGCTCAGGCTGGTGCCAGCCTTTCAG
91201	TCFL1	CTGTTTCTTTTTCCTTTTCCCC
91202	ANKH	TTCCTCAGAGTGGCTTTTCCT
91203	RCN2	CAGTAGAGTACTGGCTCCT
91204	TGFB1	GCCTGTAATCCTAGCACTTTTGGGAG
91205	RBL1	CATGCCTATAATCCCAGCTACTT
91206	CXCL16	TGTTGACCAGGCTGGTCTCGA
91207	AGRP	CTCTAGGCAAGAATCCCGGAGGCAGAG
91208	PRPS2	GCGCCCCACCATGCCCAACATCGTG
91209	CDC6	CAGGCTGGAGTGCAATGGCGCGTTCTC
91210	MYF5	ATACACAGGACGAAGAAGGCTTC
91211	C11orf13	GGGTTTGGCCTCAGGAGCTGGG
91212	NEBL	ATACTTTTAAGACAACTTGGC
91213	ZNF264	TTGCTCAGGCTGGTCTCAAAC
91214	LGTN	CCTGGCAGCTGCTGCGCCCTCGCT
91215	CPT2	CACCACTGCACTCCGGCCTGGG
91216	ADAMTS5	CTGCTTCTCTTACTATACTCATA
91217	SPTBN4	AGGGGAGGGGCGAGGGGAAGC
91218	FCGR3A	CTCGTGTTATAAATTACCCAGTT
91219	NEF3	ACAGAACTCAGCCTTAAGAAAGCTATA
91220	ADAM22	TAGGCTAACTTTAAACATGTAT
91221	CASR	CTTGCAGAATGAAAGGCATCACA
91222	DNASE2	CTGTAACCCCAGCACTTTGGG

91222	KCNA7	CTGTAACCCCAGCACTTTGGG
91223	SLC7A6	ACTCTCCTGAATTAAAGGAG
91224	RPL7A	TTCTCTCTCCTCCCGCCGCCCA
91225	MPHOSPH9	TGGATGTCTGATTCAGGAACAGGAT
91226	CD3E	GCCCTCTGGAGAACACTGCCT
91227	EN2	CTGCTTCTGCTATAGAGAACA
91228	NPEPPS	TCTTCTTTCAAACCAGTGGGG
91229	ABCD3	CTTTTATGGCTCTATCTTTTCCT
91230	BAIAP3	CACCCAGCCTCAAAAATATATG
91231	DBN1	CTCACCCTGCTTGGGGCCTGGC
91232	ASNA1	GGGGAGCCACTTGGGCAGGAGGC
91233	CASP8	TTAAGGCTTTGGGAATGTTTTTAGCT
91234	C10orf2	CACGCGTCCGCCAGCCTAGCAG
91235	FLRT1	TTTGCCCAGCCTGCTGCAAT
91236	SCN4A	CTGGGCATGGCAGGGCCAGGC
91237	RAD17	TTCATTCTTGTAGTATTTCA
91238	KCNA6	ATGGCAGCCTTTTCTCCTTCAT
91239	SH3BP2	CGCCCAGGCTAGAGTGGATTGG
91240	C1orf6	AAGAGGGAGATGAGACAGC
91241	LDOC1	CCTGCCCTGCTGCCAGGCTTACATCTTC
91242	UBE4A	CAGAAGGCAGCTATTCCCAGCAG
91243	GUCY1A3	GTCAGTTTTCAGAAGCAGGTT
91244	LPL	GAGATGGAGAGCAAAGCCCTGC
91245	IL11RA	TCTGATCCTCACACATGCTCTG
91246	ZNF264	GGTCTTGAACTCTTGACCTCATGATCC
91247	RPP30	TAAGAGAGAAAGACTGGTTA
91248	SPAG11	CCTGCTGTTTACATTAAACTGA
91249	HIP1	AGTGCTCTGCTGGAAGTTCTGCC
91250	BAZ2B	TTGTGATCCACCTCCTCGG
91251	SEL1L	CTGTATCCAGCTATCTTTCTTTG
91252	CHS1	GCATGTTGTAGCAAACATTTCTGTAA
91253	LZTFL1	CCAACTATGCCAAGCATTAA
91254	APPBP2	TGAATTATTGACCTAATAAA
91255	ADAT1	AACTATACTGCCTTGTGATGCCTCCCT
91256	ARHGEF12	TTCAGTGAGGTAGGCCAGCTT
91257	KPNA1	ACTCCCTCACCTTCAGCCTTCAGTGAA
91258	MS4A2	AGGTGGGCAGATCACGAAGTCA
91259	FZD3	TGACGGTGCGAAGAGTATTTAA
91260	MAN2A2	GCGGAGACCGCACTCATCTTACA
91261	ATP7A	CTGGTTATTTTAAAAAGAATAAAGACA
91262	LRP4	GCTGGGACATGGGGGTGTGGG
91263	AKAP13	TTCCTGAGCCCCCGTCGTGCCTCTC
91264	P2RX4	GAAGCCTCCTGTCTCCAGCTCTCTCCA
91265	KCNA7	TCATGCCACTGTTTGAGTCT
91266	F2RL3	CCTCTGCCAAGCCCCCAGG
91267	WNT10B	TGGGGCTGGGGAAGAGGACTGT
91268	STARD5	TTCCTGCCTCCTGCCCCACTCA
91269	MGST2	TCCCTTTAATGCTTGCAGAAGCTG
91270	OASL	TTCTGCCATGTACTCCAGAACTCA
91271	SEPN1	GCCTACCTTAGCACAGGGTC

91272	LRRC2	ACAAAGTCTAGAAACCACT
91273	PPP2R1B	GCCACTGCACTCTAGCCTGGGCC
91274	PRDX5	CCGGTGGAAGTGGCCGTGGG
91275	AIM1	CAGGCTGGAGTGCAGTGGCACA
91275	CLECSF12	CAGGCTGGAGTGCAGTGGCACA
91275	CPS1	CAGGCTGGAGTGCAGTGGCACA
91275	GPR81	CAGGCTGGAGTGCAGTGGCACA
91275	HUNK	CAGGCTGGAGTGCAGTGGCACA
91275	PCDHB16	CAGGCTGGAGTGCAGTGGCACA
91275	SEDL	CAGGCTGGAGTGCAGTGGCACA
91275	XRCC2	CAGGCTGGAGTGCAGTGGCACA
91276	SEL1L	TCACTTTAGCCTGATTATAATATTA
91277	TNXB	TTGTCTGACTGGGCCTGGACC
91278	MJD	TTCATGACTGGTGCGTTCCTAAA
91279	SLC10A2	CTCTCTGTCTTGACCAATAA
91280	NEURL	TGAGGGCTGCCAGGGGGTGGTGT
91281	TNFRSF18	GACACAGTCATGGCCCCCTTCCTCCC
91282	CSNK1A1	GGTTTCTAGCATGAATTGAG
91283	RAB6A	GAATAACAAAAACTTTGCTCAG
91284	PIWIL1	GGGGTTTCAGCTCATATCTTA
91285	MAN1A2	ACATAAGATGAGAACTTTCTA
91286	POLQ	TGCTTGAAATATGCACTTAGCACTTTG
91287	RNF6	TTTTAAGGACAGTATCTTTTCA
91288	CYP4F3	ACCTGTAATCCCAGCACTTTAGGAGG
91289	ABCA1	GCTGGGGGTGCTGGCTGAGGGAA
91290	AF5Q31	TCTTGACTGAACACATTCTC
91291	DBY	CAGCAAAGTCACCCTTACAAAGAAG
91292	SFRS1	CTTCCCCCCATTTTTGTTTTA
91293	OTX1	CAGGTAGATGGTGAACGGCC
91294	PER2	TCCTCTCTTGGGGACTGCTTTT
91295	LDLR	GCCTGTGATCCCAGCTACTTGGG
91295	NPHP1	GCCTGTGATCCCAGCTACTTGGG
91296	POU3F2	AGTGAGGAGAGTGTGTGA
91297	EGLN2	AAGGACAGCTTCCTGGGGGCAGCAC
91298	LYZ	GCGTGAGCCACTGCGCCCGGCC
91298	VIPR2	GCGTGAGCCACTGCGCCCGGCC
91299	NCOA6	GTGTGAGCCACTGCGCCTGGCC
91300	KRT4	GAGATGTTTCAGATTTTTCCCT
91301	ENTPD5	GAGACCTGCATTTGCCAACA
91302	RELA	TTGCTCAACCATGGCTGAAGGAA
91303	ARSD	TATTGCACCACTGAACTCCAG
91304	RFXAP	TTTTTTAAAAAATATATTCCTCTTCA
91305	PSEN1	CAGAATGGGGAATGGAGAGG
91306	GALT	GCAGCAAACTTGGTGAAACTACATCT
91307	PNUTL2	AGGGGGAGATCCCAAGCCTAGCCTTGGG
91308	ATP8B2	TCTCACTCTTGTCACCTAGGCAA
91309	CCR2	CAAGGACGCATTTCCCCAGTACATCC
91310	TNFSF5	CAGGTTGAATTCTGAGTAAACAGCAGATAACT
91311	RB1	GGGTCCTGAAGAATTAAGATACAA
91312	FANCC	ACCTGTGATCCCAGCACTTTG

91312	SUV39H2	ACCTGTGATCCCAGCACTTTG
91313	HOXD8	AGGTGGCGGCGGGCAGAGGGTG
91314	ZNF10	TTCGCGCTCCGCTGGTGAATGGAGT
91315	WAS	GGCCCCCAACCCCCCATTTCTT
91316	NEDD4L	GAGTTCCTGCCTTTCCCACCA
91317	CCR2	AGCTGGACTATGGCTCTACTTTC
91318	NRXN2	CCCAGCTCGGTTTTTCCGCAGGATTT
91319	HMG20A	CAACTCTTGGGCTCAAGCATCA
91320	BRF1	CTTGCAGAGAGCGCGGTCCACTCTGCT
91321	APAF1	AGACTCCTGGGTTCAAGCAATC
91322	PCDHB9	CTGGGCAATAAGAGCAAAACTCCATCA
91323	LNK	GACCTCTCAAGTAGCTGGGATT
91324	FH	ATCTCTAGCAGAGCAATTTGATCA
91325	NRXN1	CTGCATCTTCTTCTCAGCT
91326	GPRC5C	GCAAGGGACTCTCCAGGCTCCTCCTCC
91327	ASC	CTGATCTTTTTATACACAATAT
91328	CCR2	GGAGAAGGAGGGAGACATGAGCATGGC
91329	EPS15	TGGCAGCCATTCTGCCTTT
91330	IL8RA	AGACACATGTGCTGGCCACCTGCTG
91331	SF3B3	CTCCTGAGTTCCACTGCTCTAG
91332	ZNF202	ACCCTGAGGAATTCACCAGGA
91333	WFS1	GCCATGAGGCCTTTCCCCAGT
91334	LY9	GCCCCTCCCCCTCCTTCTCACC
91335	PBX2	TCCCCTCAGACATTCTCAGGATTT
91336	ODF1	TCTCCTCTCCTTCCCATGGCCC
91337	CLECSF12	CAAGTAGCTGGGATTACAGTCAGGCAC
91338	LTK	CTCCCTATACTCCTCAGGCTCCTGGGT
91339	AICDA	TTAAAATGGGCAGGAGGACTGT
91340	ACE2	GGAGAGAGCATCTTCATTGACATTGC
91341	AKAP2	GGGTTGCCCAAAAAATGTGAT
91342	ANK1	TCGCTGCTGCAGCCAACCCAGT
91343	KCNK7	CTGGGAGGTGGGCGGGGAGCATCACCA
91344	TRPV3	CATCCCTCTGCCTGCAATGAGAG
91345	IL16	TGGCCTCTCCTTGTGGCCTGGGCCT
91346	ADCY1	GCACTATACTTTCTGGAAT
91347	LY6E	CCTGGAGAGCCTCAGTCCCTGTAG
91348	BDKRB2	AGCTTTGGTGCAATGGCTGA
91349	PHKG2	TGAGATCAGAGCTGGGGTGGAAG
91350	ST3GALVI	CTGAGTCTTTGGCAGCCTG
91351	DAAM2	GTTCCAGCCTCTCCCTACTCCCATC
91352	BCL6	GAGCAAAATTTTGGACTGTGAA
91353	GGPS1	CGTCAATAAAAAAGACTTGCT
91354	TRPM1	GCTGTGCCCTCTCCATTCCACTGCT
91355	KLF7	GAGCTGGAGTGATTAGAGCCCT
91356	RNF3	TGCTCCTTGGCCGCTTACTGG
91357	DCN	AGGGTTCCCTGGTTGTGAAAATACATG
91358	FRK	ATTATCTATGGAAATGTGAG
91359	CORO2A	AACTGATTAAGGGTGAGCAGAGGCATT
91360	KLRG1	CATGCTGGTGTGTACCTGTAG
91361	DBT	GACCACCCTGGCCAACATGGTG

91362	DDX11	ACTGTGGCATCTCCGTCCTG
91363	ZNF265	TTCTTGTGCTTTCTGTATTTA
91364	RXRB	GCTTCCTTCTCATCTTGCCT
91365	IGF2R	TGCCTAGGTTTTGGAGAGTTTGCCTG
91366	PPEF1	CAAACAGATGCATAGTATGGGTT
91367	ZNF35	ATTGCTTGAGCAACAGGCAGGTTA
91368	PTGIR	CTGCTCCCTCTGCTGCATTTC
91369	SLC25A1	GGCCTCGGCCTGGCTTCA
91370	DLEC1	TTGCCCAGGGATTAGGAGCAGCTCTTC
91371	VEGF	ATCCCTCTTCTTTTTTCTTA
91372	SEPN1	CCCACCCCACTCCTAGGCTGCCT
91373	CTNNA2	TGGGCACAGAGTTCGCATTGGCG
91374	TBXAS1	CTACCTGCAGAGCACGGT
91375	POU4F1	CTACTGATTTTTCCTGTTGA
91376	KCNJ6	TCCGTTTCAAGAGAGGAGATCATGATTGAG
91377	PODXL	AGGAGAGAAGGGGACACTCGAGTCCAG
91378	CNN2	CTCCAGCCTCAGCCTCCTGAGT
91379	LGMN	GATTGCTTTTGTATTTAATTCTGCA
91380	ITGA6	AGTCGAGTGTTCTATTTTTTGT
91381	CYP4F3	CCACAGGCGGAGGTTGCGGTG
91382	SULT1C1	AGGGAGGGGCCAGGCAGCTGAGGGCCA
91383	TBX1	GCTGAGGCCGGGCCATGGGCACATGGA
91384	DR1	GGTACCCGCCCGGTACCGCGCGAGCC
91385	ABCC3	GGGGCTGGTGGGCCTTTCTGTGTCCTAC
91386	ADAMTS4	TGTCGCCCAGGCTGGAGTGCAA
91386	NF2	TGTCGCCCAGGCTGGAGTGCAA
91386	SH3BP2	TGTCGCCCAGGCTGGAGTGCAA
91386	SPN	TGTCGCCCAGGCTGGAGTGCAA
91387	RBBP5	CCAACGTGGTGAAAGCCTGTAT
91388	GAS7	CTTAGCTGGGTTTATTCAAAGTGGG
91389	BTEB1	TGTTTTTAAAAAGCACATTGTAGCCTA
91390	EFNA3	CCCCACACCTGGGGGACCCCCTG
91391	P2RX7	TTCACTGTGCTCATCAAGAACAAT
91392	PNUTL2	AGCAGTTTGAGCAGTATTTCCGAGACG
91393	SCN3A	ATTTAGGTCAAATGCTTTCCA
91394	ATP6V1C1	CTCGTTTGACACCTTCCTGG
91395	AP1S1	TGGGGAGGGGGAGGGGGAAGT
91396	CCND3	GGCAAGCCCTGTTGACACAGGTCTTTCCTAAG
91397	CLECSF5	GGTGTCAGAACTTGCTTGAA
91398	FECH	CCTTGGTGGGAGTCCGTGGTGCCAC
91399	BSG	TGGCCACAGAGGACTCACTTGCC
91400	PCOLN3	ACCCTCTACCATCTGTAAA
91401	ARSB	TCTCTGGCTCCTCCTCCGCCA
91402	CXorf6	CAGTGTCCAGACTTTCTGTAATCA
91403	FRDA	TACCTGAATATAACAACCTT
91404	RS1	TAGCAGGGGTAATTTTCT
91405	ELOVL4	GGAGAGCTTGGGGGTGGGG
91406	EFG2	AAGCCACTGTACCTGAATCATGCT
91407	TRIM34	GAAGAAGAAGAAAAGAAGACGCTGG
91408	ARHG	GGCTTTGGGCTCTGCCCCTC

91409	GFRA2	TGGACTAGCTGGGATCTCCGC
91410	MADD	ACCAAACTGCCTTCCCCTCA
91411	RHD	AGCCTCCAAAGTAGCTGGGATT
91412	KCNJ12	TCACAGGCTCAGGGCAAAGAAG
91413	FCGR3A	CTTCCTGGTCCTGTTCTATG
91414	SOS2	TCTGCTACTTTACTAATTCA
91415	IL7	CTTTGATAAAATAAATGAGCTA
91416	KCNK3	CCCCACTCCCCTTCCTCATCCCCA
91417	SLC39A4	TACAGCCCAGAAACCCAGAAGCCCCTA
91418	TCF21	CGGGAGGCCTCTTGGTTTCAGGGTCTC
91419	CHI3L1	CAGGAGCCGTGGGCAAGGGAAG
91420	NRXN1	TGCTGCAATTGAAAACTTTCTTTCTAA
91421	SGCB	GGTTCCTTAGTTTTGCACTGG
91422	GALGT	CCCACCCCCACAGAGAGAACTT
91423	KCND2	GCAAAGTTTTTATTCATTCCA
91424	FGFR2	GGCAGGCGGATCATGAGGTCAGGA
91425	GPR55	CTGTGTGATGCTGGGGAGGTGTTTGTG
91426	HIVEP1	GCCTTTTAGGAGCTTTATGTTTAG
91427	GPC1	CAGCCAGCTGCACTGCAGGGCACGGG
91428	CDH1	CTCTCACTCCTGAATTCAG
91429	KLRF1	ATACCTGTATACACACACAT
91430	AVPR1A	CCCTGCAGAGGGGCTCCAGCTG
91431	PDGFB	AGGGGAGGCACCTCCAGGCAG
91432	TRPS1	CAGTTTCATTGTTAACGGGCCTTAT
91433	S100A4	GCGCTTCTTCTTTCTTGGTTTG
91434	CASP2	TCCAAGTAGCTGGGACTACAGG
91434	PCDHB11	TCCAAGTAGCTGGGACTACAGG
91434	SEDL	TCCAAGTAGCTGGGACTACAGG
91435	DDX6	CTGGTGAAGAGAAAAAGGCTGA
91436	RAF1	TCTGCTCCCTTTCTCCAGA
91437	INPP5B	AGGCTGAGGTGGAAGGCTTGAGCCCAG
91438	ADSL	GCTTTCCTGTTTCTCAGTCTCA
91439	CNR1	TCTGCACACCTTGAATCTGCCTGCTGG
91440	GALNT2	GTCATCAGGACACTATCTCACCC
91441	FOXO1A	GGACCTGTTCACGTTGCCACAG
91442	DNASE2	CACGTATGTAATCCCAGCACTT
91443	CD209	CTGCAACCTCTGCCTCCCGGGT
91443	GPR81	CTGCAACCTCTGCCTCCCGGGT
91443	MPL	CTGCAACCTCTGCCTCCCGGGT
91443	MYCL2	CTGCAACCTCTGCCTCCCGGGT
91443	TPMT	CTGCAACCTCTGCCTCCCGGGT
91443	TRPV1	CTGCAACCTCTGCCTCCCGGGT
91443	ZNF264	CTGCAACCTCTGCCTCCCGGGT
91444	GCNT2	AGGAGGTGGAGGTTACAGTGA
91445	SFTPA2	AAGCTTAGAGGAGTGAAATGTTTTGA
91446	COG3	GGAGAGAAGGAAACCTGAGGAGTAGT
91447	APPBP2	AAGGATGATTTTAACAACTTTTTAAT
91448	APG5L	TGCTGCAAGCCAGACAGGAAA
91449	SORCS3	AAGCCTTTTAGCTTTTCCAGCA
91450	RFX5	CAGCCTCTTTCCTCGTTTCTAG

91451	DISC1	ATGCTCTTAACTAGTGCTCT
91452	STS	AAAACAATTCTTAGAGAGGGTA
91453	BAP1	ACTGCAGCTTCCTCCACAGCC
91454	ADORA2A	GGGCCCAGGTCCCAGGGGAGAGGTTGG
91455	PINX1	CCTTCCCAGCCGGGGCCTTCC
91456	ADAR	TCTCTGTGGAGTCTGGCTCTCT
91457	TCTA	GCGCCGTTGTACTCCAGCCTGGGCA
91458	ZNF202	TTCTTCTCCTCTATCTCATAATGC
91459	HNRPH2	TCCTCAAGTTAGTTATGTTGTAGGAG
91460	HOXA5	GTGCCAATGTTGTGTGTTGCA
91461	SEC22L1	CTGGCTGGGGCATTCTCAT
91462	HOXB6	AGAGACACACCTGACCAGCCCCTCCC
91463	DYRK1A	AGATTCCTGGGCTTAAGCAGTC
91464	MECP2	TGGACAGTGGAGTGCAAAAGGCTT
91465	TRPS1	CTTTGCAGAGCACTTCCTT
91466	PBP	TGGTACTGTGATGGGGTCATCA
91467	FDXR	TCTCTACTGCTGGACTGTGGAGGGTC
91468	MADD	AAGTGGTGGCCACAAGTACAA
91469	PRPS2	GCCTCCGCCACCTCCTCCGCC
91470	ADAMTS3	AAAGATGTACATATTCATTATACTTC
91471	TEM8	TTTGATGGAATAGGGAACTGC
91472	BMP8	CAGCACAGGGATCTCAGCTCTG
91473	UGDH	ATCCCAGGTCTCATCCTTCA
91474	FZD4	ATGAAATGTAAAATGTGAACTCCCT
91475	NCOA4	TGGCCTGTGAGGAGCAGTGAGG
91476	FGL1	CTGGATTGAAGCCAGAATCA
91477	ZNF136	TCCGGAGGAGGAAGCTGGGACA
91478	WARS	GCAGTGCCCTGGCTGTGTCCTGGACGG
91479	ACTN1	AGCTCACTTGTCCATGAAAATATTTTA
91480	CDK10	CACCTGGAGAGCATCTTCCTGGTGAT
91481	D1S155E	ATTGGCCATATACAGGGTC
91482	KCNAB2	CCTGTGTCTCCTGCCCCCAGG
91483	EEF2	CCAGAGTCCGGAGGCAGCAGACACGC
91484	ADCY6	GTACTACGGGGTGGGGAAGA
91485	ADRA2A	CCCTCCTGCCCCGAAAGTGCTGACTAT
91486	SDC1	AGCTCCACTCTGCTTCTCTGACT
91487	CHGA	CCGTGCAGGGGAGCTTGCGGGA
91488	DDX10	TGAGTATTTTTGAATTGAGATGATCA
91489	SLC13A2	CCTTCTGTTACCCAGCTCCTGGAGGCA
91490	PPEF2	CCACCGCACCCAGCCTATTTTA
91491	KCNK5	AGGGTCCCAAGGATTGGGAGA
91492	TEM7	CACACAGGTGGTAAATGCTCTG
91493	AGTRL1	GCTGGGAGCAGAGAGAAGCCTGG
91494	KCNQ2	CCTGCCGAGGTGTGACCCCACCTGCTC
91495	LIMD1	GTAAAACAAGGAGGATTGTGGCCGGAT
91496	PXF	CCAAACTGGCCAGACTGTTCTGTAGGTT
91497	NPHS1	GTAGAGCCCTCTCAACCCCATTGTCCT
91498	ATM	CTGTAATCCCAGCTACTCGAGA
91498	CRACC	CTGTAATCCCAGCTACTCGAGA
91499	ADORA2B	CACCTGTAATTCCAGCACTTTG

91500	MAFF	CATCTGTAATCCCAGCACTTTG
91501	ABCC11	GCCCCCTCTTCTGGCTGCTCAAG
91502	NCOA3	TCATTTGGTTCAAATAGTTGA
91503	OGN	TGAAAACAGAATATTCTGTGGTG
91504	BCL10	GGTCTTGAACTCCTGGACTCAAGCAAC
91505	LYZ	GACAGGGTTTCACCGTGTTAGCC
91505	MDM2	GACAGGGTTTCACCGTGTTAGCC
91505	PIGR	GACAGGGTTTCACCGTGTTAGCC
91506	CXorf6	CATATGCAGAGCCCCAAGGCCACCCCA
91507	SEL1L	GCCACCTAAGGCTGGATGGGAAAGTGCA
91508	GPM6B	AGATAGACTTCAGGATGGCCAGTC
91509	EZH1	CCTGTCTGTAGTGCCTGCTGT
91510	NTRK2	GACCAGCTCAGCCTCTGATAA
91511	DIO3	ACTCCCTGCACTGCTGAAG
91512	MYO10	CTGTCTTTGCTGTATTTTGAAAAACAC
91513	ADAM30	ATAGTCTTGTTTCTCAGAATC
91514	SMAC	CCGAGTAGCTGGGATTACAGGA
91515	MAP1B	GAGAGTGAGAGAGAGTGAGAGCACAAA
91516	GJB6	TCTTGCCCTCATTCTTTGGGTCTGAA
91517	RPE	AGGGTGTTTTGTCAAAGCAGGTT
91518	ARNT2	ATAGGCCCAGCCTCCTTCCC
91519	RALBP1	CTTCTCAGACTCTTCCTCTGTCA
91520	CREBL1	TGCCTCTGCCATTCACACTGAC
91521	TNFRSF14	CCCCCTGCTGCCCACTCTCCTG
91522	MEIS1	AAGTAGGAAGGGAGCCAGA
91523	NFKBIL2	GAGCGCCTGGCCGAGATGGAG
91524	TCN2	CTGCCACCTCCTGTGCACTTT
91525	PLEK	GTTCTGCTGGTGTCCTTCCTTGGCT
91526	SORBS1	CTACATTTGCTGTACATATTATTTAA
91527	SOX11	CCAGTTCTTACACTCTGATACGCA
91528	RERE	GGGCTGCTTCTCAGGAGGCCAGG
91529	RAD1	GTGGGCGGATCACCTGAGGTCA
91529	SIM2	GTGGGCGGATCACCTGAGGTCA
91530	XT3	GTGGGTGGATCACTTGAGGTCA
91531	PCDHA1	CCAATCACAGCTTTACTCTTTC
91531	PCDHA10	CCAATCACAGCTTTACTCTTTC
91531	PCDHA11	CCAATCACAGCTTTACTCTTTC
91531	PCDHA12	CCAATCACAGCTTTACTCTTTC
91531	PCDHA13	CCAATCACAGCTTTACTCTTTC
91531	PCDHA2	CCAATCACAGCTTTACTCTTTC
91531	PCDHA3	CCAATCACAGCTTTACTCTTTC
91531	PCDHA4	CCAATCACAGCTTTACTCTTTC
91531	PCDHA5	CCAATCACAGCTTTACTCTTTC
91531	PCDHA6	CCAATCACAGCTTTACTCTTTC
91531	PCDHA7	CCAATCACAGCTTTACTCTTTC
91531	PCDHA8	CCAATCACAGCTTTACTCTTTC
91531	PCDHA9	CCAATCACAGCTTTACTCTTTC
91531	PCDHAC1	CCAATCACAGCTTTACTCTTTC
91531	PCDHAC2	CCAATCACAGCTTTACTCTTTC
91532	GCG	AGCTTTCAATGTATCAAAGA

91533	YWHAB	AGCTGTAGAGTCCATCTGTTT
91534	PLAUR	CTGGGCCTCAGTTTTCCCAGCT
91535	PPP2R4	GAGGCTGTTTACTGGGGTGG
91536	PAK4	ACACTAAGAGGTGAACATGTAT
91537	TAP2	TTTTGACCTTCCACTAGACCATGAGCA
91538	APOE	CCCCAGCCGTCCTCCTGGGGTGG
91539	GGT1	CTCCTGAGGCTCTTTGGACCTCCAG
91540	SLIT3	CCTGCACACCATGGCCCCCGGG
91541	PXR1	TAAGCCTTTGCTGTACTTCTTGAAATG
91542	GALNT7	GGAGGCAGAGTTGGGAGGATCA
91543	EMX2	TCCCTGCCTCTAACTCCGATCCCCCCA
91544	LCP1	CCAAGGATAGAAGCTGCAGT
91545	CNGA3	AACATAGTGACTAAAATTCAG
91546	ZNF265	TTATGCTGTTAACAGATGTCAGAGTGA
91547	PCDH12	CCTCATCCTCCTCAGCGGCAGGCCA
91548	CD209	ATCTGCAAGCTCCTGTTTTACTG
91549	ZNF278	GGGTTTCTAGACTGGGGCCTGGCC
91550	DSCR5	TCTCTCTTATTAATAGAGAAGTAAAA
91551	RTN3	AGGTACCCTTGCCTTACTCCATCT
91552	ABCG2	TTGTTTTCTGTTCCCTTGCCATCACA
91553	TAF12	GGGGAGATAGACGCTGCTGCCTTT
91554	ADCY7	AGCACATGATGAAAACAGACTTCCA
91555	COX10	TCCTCCTCACATGGGGGTACACATAC
91556	GATA4	CCAGCCCGAATGACGGCATCTGTTTGCCATG
91557	AXIN1	AGGTACTTGGATAATAATGAAATAAAA
91558	CAMK2A	GAGAGGAGGAGGGAGGCTGTCAGGA
91559	EXT2	TGTCTGTGTCATTATGTGTGC
91560	SOX10	CCTATTTTCCTGTTCTGCAGCCCC
91561	PMP22	AAGACTCCAGACCTTTTGTTTT
91562	HTR1D	TTGCCCTCTCGCCAGGCTGGAGTGT
91563	GDI1	CTTGCCCAGCCTGGGGGA
91564	UNC13	AGTTAGACACATACATACC
91565	USH3A	ACTGGAAATGAGTGGGCTAGG
91566	SLC22A2	TCTCTGTACCTTCCTCTCCATTTTGCT
91567	SLC18A3	CTGCTCTGCAAGCCCACTGGCC
91568	FAAH	AGGGCACAGCTGCCCTGCTGCC
91569	CD80	ACTCATGACTCCTTTCTCTAAA
91570	NRIP1	ATATTAAAAATAGGTGTGATTT
91571	SLC25A15	CATCCCTGTTGGCAGTAAATCTTCCCA
91572	FCGR1A	GGGAATAGTATAGACAATAAGGAAGGA
91573	NRGN	GTCCCTATCCCACACCTGCCT
91574	HNF4G	GAGTTTGAAGGATGTTTATATAGGGTA
91575	SPOCK	ACACACACCCATACCTCTCA
91576	TRAF1	CAGGGAGACCTGGACACAGGCCTGCTC
91577	PCBD	TCCCTGCACCACTCTCTTCATCCTGGGGGCTC
91578	SCNN1G	CAGTGTGTTAGCTCTGTCTTAGCA
91579	CCR9	CTGTTCTCCTTGTTCTGTTCTG
91580	TNR	CAGTTCTGGCAGTGGGCGGCT
91581	HFE	TTCATTTGGGATGCTACTCTAG
91582	HRH2	GAGTTTGATCCATGAACCTGGC

91583	PRPS2	TTCTACTGAATGGGGGTGGACCT
91584	EN1	TGCGAGAGTGTGTTTCCT
91585	PCMT1	GCAGTGCTGCTTTGCCA
91586	ABCD4	CAGTGGGTTCTGGAGGGAGGGT
91587	PCDH11X	CAAGTTGACAACAGCAGA
91587	PCDH11Y	CAAGTTGACAACAGCAGA
91588	SMP1	GGTCATCTGACAGTCTCTACGCTGTGA
91589	WFS1	CTCATGACCCTCCTGTCCAG
91590	CLCA2	TTGCCTTGGTTATTATGGATG
91591	RECQL	AGCCTGTTTATTAGCAGCTGCCATT
91592	CLECSF12	TCAAGATAAATGCAGAAAATGTTTAG
91593	GNPI	GCCATGGTTCACACATATGACACACT
91594	RGS6	TGGGTGAATGGGGAGACCAGAAA
91595	BCL11A	TCTGTCATCCTGCTAGTTTGT
91596	SFRS1	CCATTTTTGTTTTAATAGGGAC
91597	ASS	GGAACTCACGCCTCCAATCCCAG
91598	CXorf6	ATATTTAAGTGTCTGTTATA
91599	RAG1	ACACAGTGCTTTTTACCACTGTGGA
91600	PSMA1	TGGTCAGCTCTCAGCAAGGC
91601	PAG	CCTGCTGCACCCTCACCACCC
91602	RPS4Y	TCTTTGCACAAATAAACAGTGA
91603	MASP1	GCTGGAGCACTCAGAGCTTCCCTGACT
91604	SIX2	CTGAGTCTTGAACCACAGAAGGGA
91605	VPS41	AGTCTAGGAGTTAGAAATGAATTTTTTAG
91606	CALB2	GGTTCCATCCACCACCTTGCCA
91607	TCF2	TGGCTGCTGACTCAGCGGTCATTCTAC
91608	DIAPH2	GGAGAGGTGAAAGCAAAGACTGCTTT
91609	DVL3	CCCTTCTCCCCTTCCTGGTAGACC
91610	MYD88	CTTCTGCCCTGCCTCCTCC
91611	PTGFR	CCTATTTGCCAGAGAACATCT
91612	RASSF1	AGAGTCTTGGTTTCTCTCTA
91613	ADCY7	GGGGGCTCTCCTGGCAAGTCAGGAAG
91614	SOX9	GCCGAAAGCGGAGCTCGAA
91615	LPL	AAGAAACGTACTTAACTGTGTG
91616	BARX1	CCCACCCCGTCTGGGGCCTGCCC
91617	KLF7	CAGACCCACACACATACAC
91618	TIMP3	AAGTTCTCGCTTCCTCCTTTG
91619	PXR1	AGGGCTGTACATCCAGCTACAGA
91620	SIGLEC5	GGGGCTTTCTCAGCCCCAC
91621	CHML	CAGATGTTGTCTTTAACTCT
91622	GBA	CACTGGGCTCAGCCTGGGCATTAAA
91623	HKE4	GGGGAGTTATCATGATGGTGCTG
91624	PIAS3	AAATGTTCTTTAGATGGTGGCACATTC
91625	ATF7	TTCTAATTCTTTTTCATCTATTTGCAC
91626	SLC4A10	GAATTTTTGAAAGGTAGTCAAACTTC
91627	BMPR2	GGGCAGTTCATTCCAAATCCAGCACTG
91628	NPHS1	CTGATGCATGAGAATTGCTTGA
91629	GNAL	GGGAGGGAGAAGAAACGCCTGC
91630	MEFV	GCGCCCGCCACCATGCCCGGCT
91631	IL15	ACTGGCCGAGCTGCCCCGCCTTCTC

91632	STAT1	TCCCAAAACTGATACCCTTT
91633	MBD3	TGGGGACTGCCTGGTGAACACAGATGT
91634	MEIS2	TGGGGAGCTTTGTGTTGGATGGTCA
91635	TIAL1	TTTGCTTTGGTGAAGGACACGTGT
91636	NGFB	CTATCCTGGCCACACTGAGGT
91637	MBD3	CCTTGGCGAGGGCAGGTTCCA
91638	PLAGL1	TCTCTGCCTCTGCAACAGGGCA
91639	NCOA6	GGGGCAAAAGCAATCTTCT
91640	LU	GGGAGGGAAGGAGAGGGAGGGTG
91641	CAPON	CTCTCCAGGACTGCCAGGCTGC
91642	CLDN14	CTGCAACCCTGCCAGGCTGGGA
91643	TBX6	CCAGAGTATTTTTGTTAATAAA
91644	AQP7	GGCTGAGAATCAGAGAC
91645	ATP11A	CACCTCTTCTTTTCTTGGTATTTCTG
91646	GADD45G	GGTACAGTTTCAGGAGCGTGAAGGACT
91647	WIG1	TGCCTGTAGTCCCAGCTACTCTG
91648	PPT1	CTCTTCCAAACCACATGGGAGA
91649	TM6SF2	CCCCCTGAGGACCTCAGGAGG
91650	CA9	CCGAGACTGGAGCCTA
91651	TPO	ATTACTCAGCAGTGCAGT
91652	EGLN2	GGGGCTCCACTCCACAGCCAAGGGTAA
91653	AQP6	GAGGTGGGATAGAGGAAGGGAGGTTTGA
91654	KCNQ2	ACACACAGTATACACATACAC
91655	MUC4	TCTGCACTCCAGCCCAGGACTGTGG
91656	ZNF136	GCGGTTTCCTGTACCTGCCTTGGGATCC
91657	RPH3AL	TTTGTTGCCCAGGCTGGGGTGC
91658	SLC22A2	GGGGTGGAATGCATGTGTGGGGGCAGA
91659	TGM2	GCTGGGTGGGGACAGTGATAGGCCCA
91660	COL11A1	TTTCCCCCTCTCCCTCCCCAATGGC
91661	ADAM12	AGTGCTGTGCTGTGCTATGGTG
91662	NDUFA6	GGCGCAAAAGTAGAGCTGTCAAGATGGG
91663	EHD2	CAGGCTGGAGTGCAGTGGTGAGATCTC
91664	MPL	GCCACTGCGCCCGGCTGAGTGT
91665	CHRNB2	TTGGGTGGAGGATGGACGAGTGAG
91666	WHSC1	TGGCCAGGCTGGAGTGCAGT
91667	CYP8B1	GGCTCACTACAACCTCTGCCTCCCGGGTTC
91668	NVL	AAAGCTATTCTGATGATGATT
91669	MMP19	GGACTGGGTCAGAGAGCAGGGAGTGGC
91670	IFNW1	TAGTTCTGCAAATACTTTGTC
91671	LIF	GGTGAAGCTCAGAGAAGGGTCGGATCT
91672	PCDHB16	TTACTCTTGTCACCCAGGCTGGAGTGC
91673	SHOX	GTCACCCAGGCTGGAGCACACT
91674	BMPR1A	CAGCCTATAGATGATGATGTGTTTGG
91675	PIM1	TCCTCCTTTCCTCCTCTGACTT
91676	WHSC1	AATTATGCTGTTAAAACTACTTTAGGTGA
91677	CHRNB2	CAGCCCAGGCAATAGTGTTGAG
91678	RARA	CAGCCCGGCCACCCACTCCCCGTGCCGCCCA
91679	RPS6KA5	AAACTTATGCAGAGCACTTT
91680	TCP11	GCCTTTCTCACCGTGCGACGCC
91681	PML	CCAGCAGAGCTGGAGGAGGGGGTG

91682	HNRPH2	TAAGTTTAACAGTTTTGCATTACAGGC
91683	DSC1	TGCCTTTTAATAGTGTAATATC
91684	NPTX1	TACACAGTGGACTGAAGTGCAAT
91685	SH2D1A	ACTGTGTGCTAAAACAAGCAC
91686	RAP2A	ATGAAACCAGGCCATAGCTGTC
91687	RGS16	TGCTTCCTGGCGCACGCGGAG
91688	P2RY2	CTGAGCTACCTGGGGTGGGG
91689	WWOX	GTGTTCACTGCTCCTTGCTGCAT
91690	TLR5	CCGCCCAGGCTGGACTGCAGTG
91691	RPL10	CACCCAGGAGGTGCGAGTGTGGC
91692	NUCB1	CCTGCTGTGTGTCCTGTTCCATGTTCCGG
91693	FOSB	AGGCCGGAGAGCTGGTGACTTTGG
91694	TEM7	GGCAAAGCCCGCATAAT
91695	SOD3	ACAGACACCTTCCACTCTG
91696	HSD11B2	TACACACCCCCAAGCCACA
91697	TSC1	CTGTCTCTTCCATGCCG
91698	GLP1R	GGATACACTCTCTAGCTTTAGG
91699	TUFT1	AGCTCAGTTCTTAGCAACA
91700	SHANK2	TTTCAGTTTTTCCATCATGAGATGAA
91701	DACH	AAGAGACTCTTGTAGCAGTGGTTAC
91702	NOTCH4	TGAGTTTAGTTTCTCTCCTAAAATGAA
91703	CYP1A2	CCCAAGCACCTGGGATTACAAG
91704	TRIM14	CACCACTGCACTCCAGCCTGGGGAC
91705	CARD15	GGGGGAAGAGGGTGGTTCAGC
91706	SCA1	GTGTCTGTCAGTGAGCGGGC
91707	CNTN2	AAATGAGAGAAACAAAATGGG
91708	PLA2G2D	TGTCTGTGCCATCTCTGTTTCCC
91709	GM2A	CCTCACTGCAACCTCCGCCTC
91710	SHOX	GAGTCTATTGAAACTGCAAA
91711	DTNA	CAAAACCCACAGCACTCAGAA
91712	B3GALT5	CTGAGCTTTTTATCTTACACCAT
91713	PRG4	GAATAATAAATTTTGACACTGA
91714	NID	CCTGAGTGAGGATTACATGCCCATC
91715	MLLT2	TAAACCTGCTTGCTTCCTACCACA
91716	CD1B	CACCCTGATTTTACACACATTAA
91717	LY6E	GGGGTTGGGGTTTCTGCCACTT
91718	RELA	AACTCAAACTTTTCCCCTGTCCTGATGGTC
91719	TNS	ATGGCATCGCCCTGTCCTGCCTTGGCCAGA
91720	MLF1	GTTCATGAAGGTCCTAGCTTTAT
91721	TGM4	AGACCCACAAGGCCAGGT
91722	MYCL2	ACTCTTGTCGCCCAGGCTGG
91723	SURF4	CCTGTTTCTCCTGGCCCTGGGTGGGC
91724	ANXA6	TCCAGAGACTAAGGAAGGGG
91725	OLR1	TGCTTTTGTTAAAAGCTTTAT
91726	SLC31A1	GGGCCAAGGCAGGCTGGATCAC
91727	EIF3S2	GACCAGCCTGACCAACATGGAGAAACC
91727	GPR1	GACCAGCCTGACCAACATGGAGAAACC
91727	RBL1	GACCAGCCTGACCAACATGGAGAAACC
91727	VPS41	GACCAGCCTGACCAACATGGAGAAACC
91728	DDX3	GACAGGGAATTGCGGTGTGAGA

91729	ZNF236	CCTGGAGTGTGACCGCGCC
91730	SCNN1A	TGATGAAGCTGCCCAGAAGTGCCTTG
91731	PKM2	GGGCTGTAACGTGGCACTGGTAGGTTG
91732	KMO	AGCCTCCCAAATAGCTGGGGCT
91733	ZNF236	CTTCCTTGAATGTCAGTGTGTAA
91734	SIM2	TGAGCTAAGATCACATCACTGCACTC
91735	HDLBP	CCAGGCCTGGCCGTGCCCGCTC
91736	BRCA1	CTTCAGTCCTTCTACTGTCCT
91737	ST7	ATACTAGATGTTAAGGTTGTTA
91738	GAL	CCTGTTCTCTTTGCCTTG
91739	LAMP2	GTGGGCGCCTGTAATCCCAGTT
91740	NRIP1	GATCTACAGAACAAGAATCTCTGCTA
91741	DBT	TATTGCACTCCAGCCTGGGCGA
91742	WHSC1	CAGTCTCTGCTGATCACATGTGCC
91743	IGF1	GACTCTGAAACCTCAAGCTGTCTACT
91744	ADCY1	TGAGACTGAGAAGAGAGCCAGCCACG
91745	PAX3	ACAGGATATGGGCTACCAGGAAG
91746	INMT	TTGGTCTGAGCCACTGTTGTCTGTAAA
91747	KRTHA1	TCCTATGCTCACCCAGAGAACTCTCT
91748	HR	AGGCATGCTGAACAAGGGGCC
91749	ETF1	ATATATATTGATATGTATTACACTTAC
91750	CLNS1A	TCCACTCTGGAGTGAAGT
91751	MEF2A	TACCCCCCAGGCTGAAGTGCAG
91752	CAPN9	TGGAACCATTACGCCCAGGGTT
91753	HUNK	CCAAGTAGCTGGGACTACAGTTGTGC
91754	ARCN1	AAGCAGAGCACTCACACATAAATGGCT
91755	SYP	TCGTGTGTTGCCATTTTGTCTGGCT
91756	CTSW	TCAGCTCTGTCCTGTTAGGCCAA
91757	PTMA	ACCATGTCAGACGCAGCCGTA
91758	CNGB3	TTCCAGTTTTATTAGCTTGCTCT
91759	TRPM6	CCCAGTGCTTGCCCTGCCTGCCAGGAA
91760	SRGAP2	TTTACCTCCTCTTCTGATCACTTCCAG
91761	ABCC11	TGGGATAAAGCAAGAAGACTGA
91762	IL1R1	GCCTGTAATCCCAGCTACACCTGAGG
91763	WASF3	AATATAACTCTGCAGACTTGCT
91764	FUT3	CCCTCCCACTCTGGGCTCAGGCTGTCCCTG
91765	GRM6	GCTGAGCGCCAGGCCTGGGGA
91766	MTF1	GGCCCTAGGCAGCTTGTTGACT
91767	RGR	TTTTTAATAATAGCCATTCTCAT
91768	CNTNAP2	ATGGAAATTCTAGTTTGTTAGA
91769	PTMS	TGGGAGGCCTCTCTGGGCTGG
91770	SFRS7	GCACATTTAAATAAAATGTTT
91771	CHRM5	TGGAGGTGGAAGACAGTGA
91772	FXYD2	CCTGCCTCGTGCCACCT
91773	CYP4F3	TTCAGCAGCTGTGGGGAGG
91774	PCDH1	TGGGAGGTGGGGCCTTAGTG
91775	CLASP2	GTGTTCAAAGAGTCCTGGTC
91776	AP2B1	TCATTAACCACACAGTCCT
91777	MSL3L1	TTCTAAAGTTTAATTTGGA
91778	SYNGR3	GAAGGATGCCTGGGTGCCAGGC

91779	CIAS1	CCTGGTATCTTAGTGTGGACC
91780	GNAI3	TACTAAATTTTATTTCTTTATTTGCAA
91781	DUT	CCCTTCAGCAACTTATTTTGC
91782	PIP5K1B	GCCACTGTAAACAGCAAGCAGTT
91783	TTN	GCCAATGCCTTT
91784	TCL1B	GAAGGTGACCTCACAGTACTGG
91785	SOX2	CTGATTCCAGTTTGCCTCTCTC
91786	FANCF	TGCTCAGTGCAACCTCTGCCT
91787	SRP68	CTGCTGTCTGGTGCCCTGTGAGCTGT
91788	GFPT2	CCTGAATCCTGTTCTCTGACATCCGT
91789	SFRS2IP	GGCCGGGCACAGTAGCTCACGCCTGTA
91790	MEIS2	CACTTCCTCCCTCCCGATT
91791	ELF3	AATGCAGACAACACCTTCCTCCT
91792	GNAL	GAGCCCAATTATTCATTCTCCC
91793	PMP22	GCTGGGTCTAGGCTGTTCTGTGC
91794	SLC7A8	TTCAAAGCTCTCTCCCAA
91795	TRPV1	TATGGGGTTTCGCCATGTTGGCC
91796	NHLH1	GGAATCTCAGTAGCTGGGAAT
91797	KMO	TGCAACCTCTGCCTCCTGGGCT
91797	PCDHB11	TGCAACCTCTGCCTCCTGGGCT
91797	PCDHB16	TGCAACCTCTGCCTCCTGGGCT
91798	GRAF	TAGGGGGCACTCATTTTGTTTC
91799	ENG	GCCGGTCATACCACAGCCTT
91800	PDE1A	CACCTTAAAGACTTCTGTCATTTTA
91801	MYBL1	TGAATCCTTCAGTTAACTGCTTT
91802	ELL	AGGCCCTCAGCTGTCGGGGGCC
91803	NRF1	CGGGCCTCAGCCTCCCATCTCC
91804	DNAI2	CCATGATCGACCCTCCTCG
91805	FZD4	GACGGGGTTTCACTGTGTTGGCC
91806	JPH3	CTTCTGCTGCCCACTCACT
91807	WBSCR14	AGGGTCCAGGTTTCACACTT
91808	GAS7	CCCTCTGTTATTCATTCATCAA
91809	HLCS	AAAGAACAAAAGAAATG
91810	CTNND2	GTTAACTTGGAAATCAGTAGA
91811	HRMT1L1	GCTTTATTTGGAAAGCAGTGTGCATATCTTG
91812	KLHL1	TCTGAAACTGGCAAACACAAAGG
91813	IGF1R	ACTTTCTCCCTCATCGGCC
91814	PCDH7	CCCTCTCGCTCCTTCCTTTCCGG
91815	SUV39H2	GAATTTTATACTGTTTTCTACTTTTCC
91816	PTGS1	CCCAGAAACAACAGGGGAAACTA
91817	GPR92	CCAAGTCCAAACCCTTTTTAG
91818	TEM7	CCGGGAGGTTGAGGCTGCA
91819	ZNF74	CTAGGAGGTCAAGGCTGCA
91820	IMPG2	GTGGTTGTTCATTCTCAAACATAGA
91821	GCDH	GGCGGATGGAGTGGGAAGTGAG
91822	MAK	TTGTGTCCAGGCTGGAGTGCAGT
91823	TMEM2	AGAAGCAGCAAAATGCCTTTA
91824	TNFSF9	AGTTGGACCTTGATATTTAT
91825	NDRG1	AAGGATTCTGGAATACATAT
91826	OAS2	CTCCACCCTCTTTAGCTGTT

91827	ATP2B3	ATCCATTCAACAAGGGTGCA
91828	REGL	CAGAAGGCACCAGTGCCTAAG
91829	FOSB	GCCACTCCCTCCCAGAAAAAC
91830	CYP4F3	GGTGGGCTGGGGTGGTGCCACT
91831	SCD	GCTCTCAGCTGGCAGTGCAATGC
91832	KCNMB3	TAAACAGATCTCTACAGACTTGCA
91833	PPARGC1	CGTGCACCCCATCATCACTGGA
91834	SFTPA2	AGCTTAGAGGAGTGAAATGTTTTGA
91835	CORO1C	TTGGGAGCTGGTTATTGGTGTGGTCC
91836	MPST	CAGTAGGGGCGGGAGGAAAGGC
91837	SLC22A11	CTCCAATCAGAGCGTGGAGGCGAGT
91838	WNT5A	ATTATCCACTCATGCTTCTCCTA
91839	WHSC1L1	GTGATCTTTTAGGCCAAGGAA
91840	PCTP	AGGGACACAACAAAATTTAAGAATG
91841	MHC2TA	GCTCACATATCTGTCATTTGA
91842	RASAL1	TGATTCAGACTGGAGTGGATAGGATA
91843	CASP10	GGAGGCTGAGACAGGAGAATCTCTTGA
91844	GGCX	GGAGGCTGAGGCATGAGAATCGCTTGG
91845	KIF3C	ACCTCATTCATCACTTGGACACA
91846	F2RL3	CTGGGAGGTTGTGGTTGCAGTG
91847	HNF4G	CTGAGTTTGAAGGATGTTTATA
91848	MAPK3	GCTGCTGCTGCGCCCTTACCTTCCC
91849	DSCR3	CTGCAACCTCCACCTCCCAGGT
91849	FEZ1	CTGCAACCTCCACCTCCCAGGT
91849	MEFV	CTGCAACCTCCACCTCCCAGGT
91849	NUMA1	CTGCAACCTCCACCTCCCAGGT
91849	PDE6B	CTGCAACCTCCACCTCCCAGGT
91849	SEPN1	CTGCAACCTCCACCTCCCAGGT
91849	SLC14A2	CTGCAACCTCCACCTCCCAGGT
91849	SNX15	CTGCAACCTCCACCTCCCAGGT
91849	STAU	CTGCAACCTCCACCTCCCAGGT
91850	PTGIS	CCACAACCTCCACCTCCTGGGT
91851	POP4	AGCTGAAAACTGGACACTCCCT
91852	NPTX1	TAAGCCTTCTTGCTTTTGATAACACAG
91853	CALML3	TCTCTTCTCTGCACTCCTGCCGA
91854	EPS15	CAGACAAATTCACCTTCAC
91855	SLC21A9	AGACTCACTCTCCATCTCAG
91856	TNFSF14	TGAGGCAGGATAATTTTGCTTAA
91857	SMARCD2	GACTCTTCCTAGCCTTTCTAAACCA
91858	CREBL2	CCTGGATATGCCTCCACTGTGGAG
91859	CDC25B	CAGTATTTTGTGTCCTCCAG
91860	TRADD	CTGGGTGCTGCAGATACTGCAGTGA
91861	MDM4	CTCCCAGGCTGAAGTGCAGTG
91862	CDX1	CTTCTGGGACATGGTGGACAGTCACC
91863	DBT	CTGAGATCGTGCTATTGCACTC
91864	KIR2DS2	CTATCTTTCAGCCTTCTGCCAGCA
91865	MPHOSPH9	AGGAAATATAAACAGAGGAA
91866	LIF	ATCACCATCTGTGCCTTT
91867	OXTR	ACCGAGACAATGATATGCAAGTGCAAA
91868	AMPD3	AGAAGATACAATGGTCCCAGGGG

91869	WWOX	CTTAAGAATACACAGGATATTTTGGG
91870	IL1RN	AGGGGGATTATAAAACTAATCA
91871	LIF	GCCTTTCTGTCTTGCTTCCAGGGGGCT
91872	RPP30	GCGCAGACTGGCGCGCGCGGA
91873	LDB1	TGCCAGGACTCCTCTGGGCTTGCAGTC
91874	KLHL1	GAAAGGAGAGACCAATATTTGTG
91875	RAD23A	ACAGCTGTCCCCCCGTCCTCCTCC
91876	TFG	GAGCCCAAGTTCTCGCTAGGCTTGT
91877	LAMA4	CTTATTTCTCATTTGGATTCTTA
91878	SLC21A9	TGTGGGGGCCCCAGGAATCCTTAGCTGA
91879	SRC	TTCCAGCCTCAGCCTACTCCGCTCACT
91880	CASP2	TCCCACATGATGTCACCTCCCCATCAT
91881	TRPV1	CCTGGAGAAGATGGGGGAGGCT
91882	MNDA	TGGAAGAAGCATCCATTAAGG
91883	TAPBP	CTCGGCCTCCCAAAGTATTGGG
91884	GNAQ	AGTAAATATTATGATTTTATT
91885	FGFR2	AAGGTGGACGTGCGTTCTGCCT
91886	AXUD1	GGCAGGGGGAGAGCCTGGGCTGAACAGC
91887	SGCB	TTCTCATCTTCTTAGGTAAGTTTA
91888	RORA	TACTCCTCCCCATCATTCTCCA
91889	CTF1	CCTAAGTGCTGGGATTGCAGG
91890	SLC2A3	AGCTTTTCCTCCCTTGGGTTCTGA
91891	RBBP9	TTGTTGACCTCTTTCTCT
91892	CELSR1	GGGTCCCCAGTGTTCGCTGTGT
91893	SLC16A7	AATACAGAGGCATATTCTTTTTAAACTA
91894	ESR1	TGTAGTAATTCTGTTCTGGATTT
91895	PIK3R1	GGCTCCTCTCCAGTCTGATC
91896	SRGAP1	CCGGGACGCAGAGGTTACAGTG
91897	XRCC2	GGGTTCAAGTGATTCTTCCACCTCA
91898	AIRE	CCTGGGCCTGGCCCCACTGCCCTGT
91899	NDST2	TTGGTACCCCACATAATAGTGCTAGGTA
91900	AKR1C3	ATCTCTGAGGAGAAGCAGCAG
91901	LRRC2	TGCCTGTAATCCTAGCTACTCAG
91901	VHL	TGCCTGTAATCCTAGCTACTCAG
91902	CDC7L1	TTAAAAAACACTTCATGAAAG
91903	CRACC	CCATCCACTGCTGAGAAATCTCC
91904	KCNJ3	GGCTACTGGCATTAA
91905	LILRB4	GGGTTCAATTTCATTCTTCTTCATATG
91906	ACAA1	AGACCCTCTTTAGCTGTGCAA
91907	HKE4	CGGGATAAAGAGAACTAGTCT
91908	KIF2	GCACAGCCAAGAAAAATTACATTCCTT
91909	HIP1	GTGCATGCCTGTAGTCTCAG
91910	LEF1	GTTCAGCAGACTGGTTTGCAGTGA
91911	SNX15	TGGGGTCTGCAAACTCCCACC
91912	WBSCR5	CCCTGAATCCTCCTCTGCTCCA
91913	DUSP6	TCTGGCCCTTCAGCAGTTTCTCTTGGC
91914	FBXL5	AGGCTTTCTTTCATGCACTTTA
91915	GRINL1A	CTGTCCTTTTAAGAATTATTTTACC
91916	CTSH	GGAGGAAGTTGTGGGGAGATCCAC
91917	EBF	GGAGGAGATTTTCCACAAGAA

91918	ABAT	CTCAAGCGATTCTCCTGCCTCAG
91919	SELP	ACCAGCCTGTTGGACCCGCTCT
91920	CAPN3	GCCCGCTTGGGATGGAGGAATC
91921	RDS	CTTTGGACTGAGTTTGGGTTCTTTGCT
91922	PPP2R4	TGGTGGAGCCGGGGAGAGGAAGG
91923	CD3Z	AGGTGCTTTCTCAAAGGCCC
91924	FABP2	CTCATGCAATCTTCCTGCCTCA
91925	LTBR	ACACTTCACGTGGACTGAGGTA
91926	PKIA	TATCTCTGGCTCAAGTGTTC
91927	SLC22A7	GAGCAGCATGGGCTTTGAGGAGCTGCTG
91928	DKC1	CACTTGAAGCTGGAGGAGAAAC
91929	MLH3	TCTGAGCAGAGAGCAGCAGCAGC
91930	PDE4A	CCGTTGGGAGAGTCTCTGTTCC
91931	FANCC	CTGTAACCCAGCTATTCAAGAGG
91932	ATF5	CCCAGCACCTGTGCTACAGCCATGTCA
91933	CDK9	GGCTGAGAGACCAGGAGGGC
91934	KLK5	GAGAATGTTCATCTCTCCA
91935	CASP8	CCAAGAGGTCCAAGGCTGCA
91936	CRAT	CAGAGGCTGAGCAGGACGTTAGGC
91937	SOX11	TGAGCAATTGGTGAATTTAAGCAACC
91938	PMM2	TTTCAGGATGTGGAAACACT
91939	RAB18	AGTTTTCTCACCTCTTGCTATTGTA
91940	MATN1	TGAGGCTGGGGAAGGGGAA
91941	KCNQ2	CCTGCTCTTTCCTCCCCCGCC
91942	MHC2TA	TCTCCGACCAGACACCTTGACA
91943	NRGN	TGTGTGCATGTGACTGTGCTGG
91944	NPHS1	ACTTCTCCAAAAGGACAGGGC
91945	GUCY2C	TTAAATACCCATCTTCATTAAAG
91946	CYP27B1	TGGCCTGACTCAGGAAGCCAGG
91947	CD34	AGGAAAACGGGACCGGCCAGGC
91948	MX2	TCCAGTCTCCTGCACAGCACCT
91949	BMP1	CCGCAGCCGCCTGTGCTGGTACGACTA
91950	GNAT1	GGCTCAGAGCAACCTCCAGCCT
91951	DYRK1A	CCCAGTAGCTGGGATTACAGTGT
91952	LTBR	CCTGGGGCTGCTCAGCC
91953	GCNT1	CTTATCTGTTTCCCCTTCCTTGTCA
91954	FPGS	GTGCTGGGTGGTAGATTTCCT
91955	VCL	TGAACATCCTTCCTTCCCACCC
91956	SLC16A1	CAAAACCTCAGTTAAACTGTGA
91957	CTSS	TCTCAGCCCTAAACCTAGG
91958	UMPS	TGCCCAGGATGGAGTGCAGT
91959	DIO3	GACTTCCGGGCTCAAGTTGC
91960	C21orf2	GCCATGCCGTGCCACCGTCACCAGAG
91961	E2F1	CCCCACCCTCCAATCTGCACT
91962	F13A1	TGTCTAGGGTGTGATTTAGGTCAGTA
91963	LHX3	GGGACACACCTGTGTCCTCCTCACC
91964	GPC1	CACCACTGCTGAGGAGTCTGAGG
91965	TLL1	GCAGAGTTCCTTACCTGCCCTCCGCCCA
91966	CYP3A4	CACTACACAGGAGGCTGAGGC
91967	PSCD4	GGTGGCACTGGGGGCTGGTC

91968	SLC22A5	ATCTGGAGGAATGTGAGAA
91969	NUMB	AGTGCAGCCACTGTTACAATTCA
91970	GPR62	TCCTCCAGGACCTCAGCTGC
91971	NRCAM	GTTCATTATGACAGTCACATTGCTGATGCT
91972	CHC1	GTGAAGCCTCTGAGGGCCTGG
91973	AKAP13	CCTGTTCTCCGGGTTTGGAACA
91974	LAG3	GATCTGCCCAGCTTTCCAGC
91975	KIF1B	GGAAACTTGGCTGTAACTTCA
91976	MEOX2	TGTGTTTGCTTTTGCTTGCACTGA
91977	CCND2	GCAGGATAAGAAAAATAGGTCAG
91978	CREBL2	TATGTATGTATGTTTCTTATT
91979	DDB1	TCTCTGCAAACTGCCTTC
91980	CPT2	TTAGTCCACAGTCTCGCAAGG
91981	LRRC2	CACTGCCCTCCAGCCTGGGTGA
91982	MYH11	CACCACCCTCCAGCCTGGGCAA
91983	AP1B1	GCCAGTTGGGCCACAGCCTC
91984	DDX6	GCTGTAGAGAGCAGATTTCTATGGTA
91985	PIP5K1B	CCCCACTACATACAGAGAAACTATCAACCT
91986	TNFRSF8	CACAGCCCAGCGAGGGAGAGG
91987	NOX5	CCTTCGTCTGTGCCGGCTTATC
91988	SRD5A1	TAGTTTTTGCTTTCTGTTTT
91989	CSK	CTTGGACCCACCTGTGGGGCCTGGGGA
91990	PPAT	GGAGGGGGAGGAGCAGGGCTGAGC
91991	SWAP70	TTTCTTTCCCTAACCATCATACACTTGGCATG
91992	NPY1R	TCATCCCATGACTTCCCTCCGAT
91993	MAPK4	TTAAGACGACAGCCTGCGC
91994	HMGN2	AGTGGCTTTCTGATTTTTG
91995	TM4SF2	TGCTATTGTGTTATTTTACTACTTCT
91996	CALCR	AAGACCTGCATTTGGCAGG
91997	SCA1	CTGCTGCGGATGCTGAGTGCTGGGGCGGG
91998	LOXL3	CCAGGACCAGCACTCTTCTCCC
91999	KCNS3	TACAACCAGAGAACAGGATTCTTCC
92000	SIAH1	TAATCAGTTCATTAGAAATATTTTA
92001	VCL	AATGAGAGGGCAGTGTTTCCT
92002	ADAM22	TTTATTGTTTTCCATATTTAAGGAAA
92003	PRND	GGTCTCGAACTCCTGACATCAG
92004	FLT1	GGGGATCACTGGCTGGCCTGAGCAAC
92005	ZNF267	CAGCTTTCAAATCTGTTGCTGCTTT
92006	CD72	TTCATTCTGGGCAGTGCCAGCCA
92007	IL2RB	TCAGCCCCACTTCTCAGCCT
92008	MPDZ	TCATTTTTCTTTTCTTCTTGC
92009	RARG	GCCCTCTCCCCACCCCTTCCAATGA
92010	MCOLN1	ATCAGCTGATGCCGGAGGGTTTGA
92011	UBE2G2	ATGTGATCCTTTTCTCCCTCCC
92012	CALM3	GTCGGCCAGCTGCCCAGGGACGG
92013	LAPTM5	AAAGCAACAACAAGCTTCAAGGAATT
92014	MAN1A2	TCAACATGACAGGGTGAAACTATTCCCCCT
92015	LZTFL1	ATTTTTCTAATATTTAGACTTT
92016	ATP2B3	TGAGCCAAGATTGCACTTGTGA
92017	DYRK1A	TTGCCTCACAATTATGCTGTG

92018	AOC2	GGGCGGCGTGGTTAGGCACATGTA
92019	MMP16	AGATTCAAGACAAGAGCTGTTATG
92020	ATP1A2	CCTGTGAGGAAGAGGTTGCAGTG
92021	PCMT1	TTTTATCTTCTGCTCTTTCTTCTTCC
92022	SIAT1	ATGTGGGCACAAAAACTACCATTCG
92023	BDKRB2	TGTGGGTGATATGGACAGCAGAAGGGGG
92024	PSME3	AGGGCTTGGGGAAAGCCTGTTCCTC
92025	ZNF264	GCTCTCTGCAACCTCTGCCTCC
92026	ITGAV	CATAATGCTTAAAGCCATATGG
92027	WEE1	GCCTCCGCTCTCCTGTCCTCG
92028	IL17BR	GGGCAGGCACCAGCCAGGG
92029	MAFF	AGAAGGCAGAGGTTGTAGTGA
92030	CBFA2T3	TTTTCTCTTCTGTTCTGATTTTGTT
92031	KMO	ACCAGGCTGGAGTGCAGTG
92032	AQP6	CAAGTAGCTGGGATTACAGGCGC
92032	IFNAR2	CAAGTAGCTGGGATTACAGGCGC
92032	NUMA1	CAAGTAGCTGGGATTACAGGCGC
92033	LYZ	CGAGTAGCTGGGATTACGGGCGC
92034	APM1	GCCAGGCTAGAGTGCAGTG
92035	B3GAT1	GGGAGGGAGATAAGAAGACCCCGC
92036	ESR1	TGCCTCTGATAAGCACTTTT
92037	AMACR	GTGATTGGTTGCATCCAGGC
92038	LATS2	ATGAGGCCAAAGACTTTTCCTGCCA
92039	TACSTD2	GGGAGTGAGAGAAATCAAGGGAGGGCT
92040	CASP8	AGAGACAGGGTTTCACTGTGTT
92041	ZNF264	CTGGAGTGCTGTGATGCGATCTCGGCT
92042	SECTM1	CCCCTGCCGGAGCCTCAGACACA
92043	MAPRE2	TTCCTTTGACAGATGGTATC
92044	FBXW1B	TTACCTAGAACCCTTCCTGCAGTATTCATA
92045	SIM2	GACTCCTGTTTGCTCGCTGGACCA
92046	CFL2	GGTTATATGCCTCCCTTGCAGC
92047	STE	AAAATACTGGGATTACAGGCTTGAGCC
92048	CDH13	AGAGAGGGAGAGCAGAGAAAGA
92049	PCDH7	GGAGTGAGTGCCTGGAACGTGAA
92050	PDE6B	TGAAGTGCTGGGATTACAGGC
92051	CNTNAP2	TAAAAGTAATACACTTCCTGT
92052	YES1	GCCGCCCAGGCTGGAGTGCAGT
92053	FACL3	AGCTGCAAGGCAAACTCCATTCCTCAT
92054	SIAT4C	GTGGCTGTGGGGGTGGCTGGTGCCAGT
92055	FAT2	GGCAGGCAGGTTGGTGCCTGAC
92056	CHD2	TCCCTGCCTTTGCCTCACTTTACGCA
92057	CRYM	TTCTTCTGTTCTACCAAGTTATA
92058	HLCS	AAACTCCTTTGTTTAGGGACA
92059	ATRN	TGTCAGCAGAAGGAAAGTACTGGACT
92060	LDOC1	GGCAGCCAAATTGTTGACACTTCTTT
92061	TEM7	CTGCACTGTCCTTTTTCTTCCTCA
92062	PTGS2	CTCAGGACTGCTATTTAGCTCC
92063	LARS2	TTGCCTTCAGGCTGGATGAGGAAGTCAT
92064	ANK1	ATGCAAGGGGTCCCTGGGGGAC
92065	SLC21A9	GTGAGCCATAGTGGGCCAGGC

92066	TSC1	CAGGCTGGTGTGTAGGTGGTAAA
92067	RAB7L1	TTCAGCCTGGGCAACAAGAGTG
92068	GMPR	GGCACCGATTGGGCCAACATCAGAG
92069	ZNF74	CACCCAGGCGGGAGTGGTGCAATGG
92070	ANKRD3	TAAATGTTAACCAAGCAGAG
92071	S100A8	TGACCGAGCTGGAGAAAGCCT
92072	PPEF2	CTCAGCCAACTCTGAAGACAGGATGG
92073	GYPA	TCATGATCTCAGGATGTATGGA
92073	GYPB	TCATGATCTCAGGATGTATGGA
92074	CYLN2	ACAGGTTGCTTACAGCTTTGCACCCC
92075	GABRG2	CTGCAACCAAGAGGCAAGAGG
92076	SEDL	TTGTGCAGGCTGGAGTGCAGTG
92077	ATP6V0D1	CTCAGCCCTGTGGTTACAG
92078	RANBP17	TAAGTGTGTACTAGTTTATGG
92079	GNAQ	AGCAAAACAAAGCTGATTTCCC
92080	PRex1	TGGGGACCTCTGACACCCAAATGCCC
92081	PKNOX1	AATATGTTATGCACAGAA
92082	MAGP2	AGAGACACATTCAGCAGCCA
92083	PCDHB11	AATGGTGTGATCTCAGCTCACT
92084	SAS	AATGGCATGATCTCGGCTCACC
92085	BCL7B	GGAAGGCACCTTCTAGAAGAGA
92086	SNX15	CCACCTGCAGCCAAATCTGGCCC
92087	MCL1	TTTGTATAGGAGTATGCTCACTT
92088	PARK2	CGACTCTCTCCATCAGAAGGG
92089	MUCDHL	TGGAGGGAGAGGTTGTGCTGA
92090	CYP27A1	GCTGAGTCTCCGCCTTGCTGGG
92091	WEE1	TCGATTGGTGTCAGTAGTTT
92092	CD28	ACAGAGTTCTTCAATCCAA
92093	IL2RB	CAGGGTGGGAGGCAGGCAGCTGCCTG
92094	NCALD	TTGCCGTGCTCTTTGAATGCAGACT
92095	PLAG1	GCTCCTTTGGGATCATAGAA
92096	RELN	TCTGTGGCTGATTTACTAACA
92097	SPARC	TTACCTTTCAGTGCAGTTTCTTT
92098	CALCR	GAGTTTGCCACTCCCCTAAACTCCAG
92099	ALX3	GGCTGGAGGCAGGGAGACACTG
92100	FGF2	TCACATGCTCTGCTCTCACGTGGCA
92101	SLC15A1	CACGTACACACACTGTCTTA
92102	VDR	CTGAGGCAGAAGAATTGAACCC
92103	NEURL	TGGCTGAGGCAGTCATA
92104	NCOA6	TTTGTTTGGTTTACACAATAT
92105	SPON2	TGCTTCTTAGGGGCCCCCGT
92106	BRCA1	AGCCACAGGTACAGAGCCCAG
92107	RCV1	CTCCCCAGCCGCTGCCCACTC
92108	SLC9A6	TGGTGGCCTGTTGTGGTGCA
92109	TNFRSF10D	GAAACCAGAGCTTCCCTCATTTACCT
92110	MGAT5	TCCTCCTTCACATCAGAATGGA
92111	ZNF179	ATGAGGTGCTGGGGATGACAGGAA
92112	PWP2H	GTATGAGACTTATTTATATTTTT
92113	RTN1	CATGTATGGTTACTAAAAAGTACCAG
92114	NEBL	TCTTGGAAAGAAAACCAAGCAA

92115	ACCN1	GTTCACCCATGGTGCCCATGTCGTTC
92116	GPRK6	ACTCAAGTCGTGGCCTGGGGA
92117	CXCL13	GAGCCTGGACTCAGAGCTCAAG
92118	D12S2489E	TGTTTTAATTTCTAAAGGTAGGACCAA
92119	KCNMA1	AGATTAGAAGGGAGCACTTGTGATCAA
92120	SERPINB9	CCAGCCCCCAGCAACCACCAATCTGCTTTCT
92121	PRKWNK3	GCGCCAGCCACCATGCCTGGCT
92122	OSM	GCTGGCCTCCTATGCCTCATCATGTCC
92123	TCTA	GCACCAAACACCCACATACCTGGCCC
92124	KLHL3	TCAGCACTTGCCCGTCTGTATTGATTG
92125	UBE2L6	GCTCAGGCACTGAGGGCCTGGGGA
92126	TULP1	CTGCCTCTCGGTGACCTCCGTC
92127	SECTM1	GTGTCACCCACTCCTGGGTGCGTGCAGA
92128	EDNRB	TGGAAACATTTAAATGATCAGGAG
92129	DAD1	AGAGTTCTGGAGATGGCAGCT
92130	ACVR1	TCGCCCAGTCTGTAATGCAGTG
92131	LHCGR	GCTGAGTTAGAATTACTCTGAA
92132	NEURL	GGGGTGAGAGGCTGGTGGTTGCCTCC
92133	CACNG6	CCTTCGCCGGCTCTGCCTCCT
92134	CAPN10	CCCAGCCCTGCCAGGGGGCTGCGG
92135	PTPRF	TCCCGCATTTCTCATGCTTCT
92136	TEM7	CCTCAACCTCCTGCACCACCTCCAAGA
92137	GNE	CGCCCGCCTCTGCCTCCCAAGGTG
92138	RAMP3	GCTCCCTGGCTGAGGCTCAGGC
92139	CHRNA3	CAGATCTCCCAGTAATTTTTCTTAT
92140	SGT	CCTGCAGCCGCTCATGGCGGTGAGGTG
92141	WISP2	GTTCCTGAATACAAGCCTATGCGTGA
92142	ALDH3A2	ATTGCACCACTGCACTTCAGCTT
92143	FLOT2	GAGACACTGTCCTTCCCCTCA
92144	FECH	TGGTTACCTGCAATGGCTGCTT
92145	DCX	CTCCACCCCTGTCATTCACTTCC
92146	SOX1	AACACCCTTCCTTGTCCTGGA
92147	RECQL5	AAAGCTCTTGGATTCATCTCA
92148	CLK2	CCTGAAAATATTCTGTTTGTGA
92149	STK38	AGGATTCTGGCTGAAGGAA
92150	CRABP2	AGCCCAGATCACCCATTCCGGGTTCAC
92151	PSCD4	CTCTGCCCCACTGCCAGCCTGAGTGG
92152	GALNT7	CATGTAAATTTTAAATGGGTA
92153	HPS4	CCAAAGAGGAAGCCATTAGTCTCCACG
92154	UBE2H	CTGCAGCCACAGTGTTCTGTTGGA
92155	ITPKA	GCCAGCCTGGCTGAGAGATGGGCTGGA
92156	COL8A1	AGCAGCATCTGCTGAAGAGACAGAAAC
92157	RGS16	CTCAGGGCATCACTGAACAAACATTT
92158	IRAK4	AAGTTTATAGAGCCAG
92159	EIF4EBP2	GTCTGCAGAACTTTGTTCTGTTTTCT
92160	CAPZA1	AGGTATCTTGTGCTTTAATACTTTATG
92161	RPP20	CCACATCCTTCTTTCTCT
92162	APAF1	AGTAGCTGAGACTGCAGGCACGAGCCA
92163	F2RL3	AGCCTGGTTGGCCATTCTCATGCCC
92164	SURF5	GTGCAGAGCCCCATCCACTG

92165	PIK3C2B	GAGAGGTTCACTGTAGTCCTGAA
92166	CHRNA4	AGGGATAGAGACGCAGATTTCAGATGTAAGA
92167	USP21	TCGGGGAGGGGGGAGGGGGTGGT
92168	ADD3	GGCTTTGAATTTTAAGCAATT
92169	GYS1	TGCCTTTAAACCGCACTTTG
92170	SDHD	GGAAGCTCTGCCTTTTTGACTTCA
92171	MME	CCTTACCCTTTCCTCCTTTATCACA
92172	EHD3	TGCTTACTACTGCAGTGCATTT
92173	EEF2K	AACAACAACAACAACTTATTTA
92174	NDUFS1	GGGGGCCAAGGTGGGTGGATCGCTTGA
92175	CDH5	TGAAATATCCAGGAATATATGTCA
92176	CRHR2	CCCCTGAGAAGAGCCAGTCAGAT
92177	TLR2	TCATTGTGCCCATTGCTCTTTCACTGC
92178	CHST7	GGCTCTGCTCCTCCCGGCGCAG
92179	PPP1R8	GACTGAGTGCCTGGTGCTCTCGTGGA
92180	CLCN5	ATCTAACTGTTGTTACTGGA
92181	MASP1	AGATACAATGAAGCCATTTTCCCCCT
92182	PPGB	TGCCCTTTATGATGCACTGA
92183	BCAS1	GCAGGAAAGGGAGGGAATAGAGGA
92184	TPST2	ACTGCCTTGGTGGCTTTGTT
92185	PLAGL1	TGTCTAGCTTAAACCTACTACCTCA
92186	BSN	GCCAGAGGCATCTGACAGCCCT
92187	PKD1	GGGGCACAGCTGTCTGCC
92188	HSF2BP	AATTCAGGCTGTAGACGGCGAG
92189	DNMT3A	CATTATCACATTTGATCCTCCCAG
92190	MSR1	GTGGCAAATGAAAGCATAAGCTTAAGC
92191	HUNK	TGTTCAGATACAGGCCAGTTT
92192	LMAN1	GTTTTTATGTCTTTGTGCATAC
92193	EMS1	TGCCATGTCACAGCATGGCCTCTCGGC
92194	PDGFRA	CCCAGACATCAGCCTCCTTCTTT
92195	PRKY	TAGCATGCATTTTACACACATTGG
92196	LAD1	ATGCCAGGCCCCTGCCTCTCACAGC
92197	DRP2	CAGAGGGAGAGTGTGCATACAGCAGC
92198	MECP2	CGCTTCACAGGACAGGAAA
92199	ALDH3B2	CCCAACTGCACCAGCACTGCCTCCCCC
92200	NRIP1	ATTATTCCAAGAGTATCCCAGTAT
92201	ESRRBL1	GCATATGCATGTCTCAATTTCTACCT
92202	CEP1	TGCAGTGAACTGAGATTCTGAAACTCC
92203	PNUTL2	TGACTGCCCAGAGACTCAGAG
92204	PTGS1	CTGGGCGTGCTAGAGGTTGCAGCATGA
92205	TTF2	CCACTGTTTTCCAGCCTGGGCAATACA
92206	RS1	GAAATAAAAATGAACTTA
92207	GLP1R	TGGGCAGTGCCTCCTGGGACCAT
92208	CLECSF5	CAAGCCCCAGAACTCAGACAACAGAA
92209	EIF2C1	CCTGCCTGCCTGCCTGTCTGC
92210	LPIN1	AAACAGAGCATGCTTTCCA
92211	MS4A3	CCACCTACTCCATTGCTTTA
92212	CAPN1	CCGGCCTGGCCTTGCCTGCAGA
92213	IL18	CGGAGGTAGAGGTTGTGGTGA
92214	TACSTD1	CACAAGTGTCTTATATATGCAGA

92215	SLC22A7	CACTGGAGCTGGAGTGGCTGGATG
92216	KIR2DS1	GAACTTCCAAATGCTGAGCCCAG
92216	KIR2DS2	GAACTTCCAAATGCTGAGCCCAG
92216	KIR2DS4	GAACTTCCAAATGCTGAGCCCAG
92217	ISL1	GCATTGGCAACCCCAGGGGCCA
92218	CLCA3	GATCACTGCAAACCTGCCTC
92219	BLAME	AATTGCCTCCAGCCTGAGTCC
92220	ZNF75	TGACTTTAGAAGTGGTGAAAG
92221	MPP3	ACTGTAAACCATTTCTGTCAA
92222	RBBP2	TCCAGCTGATAGTAGTTAGAGGCTTAC
92223	DNAH11	TAGCCTCTGCTGGAGTGCAGTG
92224	CD4	GCTGGGAGAGGGGGTAGCTAGCCTGA
92225	KCNE3	ACGGAGAAGAAGTTGTAGCAGAG
92226	COL4A3	ACTGACATTCCTCCATGTCCTCA
92227	LPP	ACACCAGCCTGGGCAACATAGT
92228	SLC38A2	TTCAGTTACAACTGTAATGTT
92229	KAL1	TTCTCATGACTGTCTTACCTCT
92230	CREB1	GGGGGAGAGAATAAAACTCCAGCG
92231	TRPM2	CCCTGCCACTCTCCCCAAGAGGGCC
92232	FXYD2	GCCCCAGGCAAGCAGCACCTCCCTGCT
92233	TLR5	ACAGGATTTAGCATCCAGGGAA
92234	NDN	CACCAGGGCTGTGGAAGGGTGGG
92235	PKM2	GTTGTTCCTGTGCCGTGTGGACC
92236	TFB1M	CTATACAGCTTGGCAGAGAAAATAAAT
92237	B4GALT1	GTTCAGCCGCACCCACACCCCA
92238	IGF1R	CAAGCCTCCTGTACCTCAGTGGA
92239	TRIM9	GTTCCCATTTGGAGTACAGT
92240	CALM1	ACTGGTCCTTGGGCTGGGTGGTT
92241	MADH7	CACTGCCTGCTCCCATCCTGTGT
92242	CHST6	AGGAGGCTGTGAATGCTGAG
92243	PROS1	GGGGGCGCAGCACGGCTCAGAC
92244	FSTL3	CGGCTCACCCTCCCCTCCATCT
92245	IL21R	CGCCCAGGCTGGAATGCAGTG
92246	TCAP	TTGCCCAGAGTTGGGGGCTAGGG
92247	OCLN	TGGAAGCTAAAGGGCATTGCTC
92248	CYLN2	CGCCCATTCTCCCTCGGGTCTCC
92249	BARX2	AGCATTTGACAAAGACTTGCTTGT
92250	CLCN7	CTTCTGCATTTCCTCCCGGAGTCAC
92251	COL9A3	ATGAAGGAGCGGGGGTGTGGCAGGCGG
92252	DRPLA	GGAGGTGGCGAGGATGGGGACAGAA
92253	TADA2L	GTAACTAAAAGAACCATA
92254	ZNF3	CACAGTCGGGACAGAATTCGATG
92255	SCN4A	TCCACTCCTTCCATCTCTTCCTTCA
92256	KCNJ13	CTGACCCAGCAAAAGAACTGAG
92257	HTR1E	GCCCAGGCTGGAGTGCAGCAGC
92258	ATP7B	TGTTGCTGACCAGCTGGAGTGAGGG
92259	HM13	TGAAGGGTAGGAAACCTGGAA
92260	FUS2	GTTTCCTGGGTACCAGTGGGG
92261	ZNF7	TTCCTTAGCCCTCCCGCCTTCGG
92262	DCX	TGGTAAAGAGCAGGACCAGAGGAA

92263	ZNF289	TGAGCCAAGCACTGTCATTC
92264	HRASLS	AAGAAACCTGGGGTGAATACTTA
92265	HFL1	GAAGTATTTTTAGTTATATAAG
92266	C20orf1	CTCCAGTTTTGTTGAGAATTGT
92267	TMPRSS2	CTTAACCTTGAAATGGAAAGTC
92268	PHB	CTTCTCACGGGCTCTATGCCTGCAC
92269	USH3A	TCACTATCTGAAACTATCTTGTTGTTGAT
92270	RNMT	CTTACTTAGATGTTCCCTGAGA
92271	KIR2DL3	CTCCAATGTACCAGCAGCT
92272	DBY	GAGAACATCTTAAAGCATTAA
92273	ATRN	TTCATTTATTCATCCATCCATTCA
92274	TNFSF5	CTCCTTATGGAGAACTATTT
92275	HTR2A	CAAGGTGAATGGTGAGCAG
92276	SOCS5	GTTTCTGCTTGCTGTGCCTTGTT
92277	CDH23	GCTCATTCAGCATCTGACCTCTACCTT
92278	SERPINB5	CACATGCTCAGGCTACTATAGGTCCA
92279	EGR3	TCTCCTTCCCACCATCATGGG
92280	GRINL1A	AGTGGCAGGATCTCGGCTCACT
92281	DNASE1	TCCCACCCTCCCGCACATACC
92282	LILRB1	TATTATGGTCTTTGTGCACAT
92283	BAIAP3	TCAAGAACCGCATAGGTCTCCA
92284	FZD1	GGGGTGAGCTCATTTCATTCTCTAG
92285	CAMP	AGGCTTCTGGGCTCTGAGAAATA
92286	MDK	AGCCCCTGGTGTCACATGGGGCC
92287	PCSK1	CTTTCTCAGCCACAAAATAAATGTTGG
92288	LRRC2	CATCCAGTGGAGCTTTCTGCAGTGA
92289	RAP2A	AACTACAGTTTTCACCATTTGTCCTCA
92290	PMCHL1	TAAAGAGACCACCTTCACTTGTTGAGA
92291	EN2	GCAGCCGCCCAGGCCCGCAGCCTCAC
92292	SFRS2IP	GCAAAGTTCCTAATGTGTATTTTT
92293	SLC2A1	CTTAACGGCTCCAGGATTT
92294	POP4	ACACTGGTTGACTTGAATAGGATTA
92295	GPR55	GGGAGGGACGGGGAGGGGAGCCAG
92296	NCOA6	ACTAGTTTTCACATTTCCTAAG
92297	B4GALT1	GCCCACACCCTTCTTAAAGCG
92298	IL11	TGCCTAGGCTGGAGTGCAGT
92299	ASH1	GGCCTCGGCCTCGGCCTCC
92300	NOTCH4	GGAGAAGGGGCTGTGGAATGCAGC
92301	DISC1	TAAGGCAGTGCAATACTCAGTA
92302	ABR	CTGCTTTTCAGTTCCCTTCCCTGCTGTTCTAT
92303	SPON2	TCTCCTCCTTTCTCCCACG
92304	NOTCH1	AAGCAAGTTCTGAGAGCCAG
92305	ATF7	TCTGCTCCTGCTTCTCTCTC
92306	TNFRSF11A	AGGCTAGAGTGCAGTGGTGCGAT
92307	CAMK2A	GGGGAGAAGGGCCTCTCTGCCATTTCGG
92308	PPP1R2	CTCTGGAGAGACAGATCTGAA
92309	C8orf1	TTCTTTTCCATTCCAAAGGTGTACT
92310	IFNGR2	GCTGCTAGAGTTCTGTCTGGACT
92311	RASSF1	CCGCCCAGTCTGGATCCTGGG
92312	FBXL11	CCCAGCACTCGTGCTTGTTCA

92313	WHSC1	GGGAAGGGAAGAGGCAGTCAGAGGAC
92314	PDYN	TCACAGCTGCCTCTTTGGCACCTCCTC
92315	ABCF1	TAAACAAACAAGAGGTGACCA
92316	BMP6	GCCTCTGTTCAGTTCATTCCCAG
92317	CCNDBP1	TTCCAAGTCCGTGCAGCACTAACGTAT
92318	PLS3	CTATAGTTTCCAAGGTATTATGTTA
92319	XRCC3	ATGCCTCAGTCAAGTCAGCCAAA
92320	ADORA1	GCCTGCTCTCCTTGCCCTGGGCC
92321	B4GALT3	CTGGAGTGCTGGATGGAGCCTTTCTCT
92322	POU2AF1	TAAGGGGTGGGAAGTGGGTGGCA
92323	CHRM5	TGAGTCCTTGAAGATTTTTGTAA
92324	TOP3B	ACAAGATGAAGACTGTGCTCATGGTTG
92325	FBXW7	GAATTGTTTTTGTACAGTTAT
92326	GCNT2	ATGATGGGCTCTTGGAAGCAC
92327	VDR	CTGCTCCTCCAGGGCCACG
92328	THRA	GGAGCGTGGGCTCAGCAGGGC
92329	HDAC6	TCCCTCTTCACCTTCTGAGGCC
92330	NCL	CCCTCTGCTTTCCCTTTTCC
92331	PDYN	AGCAGCAGCAGCAGCAGCAGTTTG
92332	SOX4	CTCTAGTTCTTGCACGCTCTTTAAG
92333	LSS	CAGTGAGGCCAAGGGGTCCTGGCC
92334	MFAP4	GTGCTAAGCTGAGCAGTGCAGTG
92335	HD	GTGTTTCTTTCCCAAAATGTGCCT
92336	GORASP1	CTTCCCTTAACTCTGTAGCCT
92337	MNT	CTGCCTCTGGGCAGCCTGC
92338	DMRT2	CAGAAAGCTGGATTTTCTGCAGT
92339	PRKG1	CAGCAGTGCTGATGACAAGACTGA
92340	SIT	GGACCTGGAACTTAGAGACGGGA
92341	ADH7	TCCCTATTCACTGTGCTTAGTAGTGAC
92342	CLCA3	AGGATTACATAAGGGACACT
92343	TEX13B	AAGAGCCCCCAAGAGACAGGAGAG
92344	IHPK3	GAAACCAGGGGCAATGTTTACAAGAC
92345	MTMR7	TGTCATATTCGTGGAAAATTCACC
92346	CABC1	GCGAAGGTTCTTCCACCAGGAC
92347	ZNF264	CCCGGGGCTCCTCTGTCCCA
92348	PMP22	TGGAGGTGGGGGTTGCTGTT
92349	SLC24A1	ACTGGCTTCAGAGCAAAATGAGCTCGGGTG
92350	PTPRO	CCGGAGCAGAGAGGACATGATG
92351	EIF2B5	AGGCCAGAGGAACAGCTTT
92352	NT5C2	GCTGCCCAGGCTGGAGTACAGTG
92353	MTNR1B	CTGAGGCACACCAGCAGCATGA
92354	RBM10	GGCAGGGAAGGACAGAGTGTTGGA
92355	SET	AGACATCCTTGCAGTTT
92356	MS4A3	ATTTTATTTCAGTGAACTGCTG
92357	CALCB	CTACATCTAAAATATTTTCTACA
92358	SNCB	CGCAGCCGCCGCTCCATCCCCAG
92359	LEP	AGTTCTTGTCTGATTGGCTC
92360	CDH1	TGGGATTACAGACATGAGCCAC
92361	PPEF2	TGTATTTTTAGTAGACACAGGGTTTCT
92362	KERA	CCACCATTTTCATTTGTGCAGTGTAT

92363	CASP8	GCCCAGGCTGGAGTGCAGTGGCGTG
92363	CYP2B6	GCCCAGGCTGGAGTGCAGTGGCGTG
92363	EVC	GCCCAGGCTGGAGTGCAGTGGCGTG
92363	F2RL3	GCCCAGGCTGGAGTGCAGTGGCGTG
92363	FUT1	GCCCAGGCTGGAGTGCAGTGGCGTG
92363	KCNJ11	GCCCAGGCTGGAGTGCAGTGGCGTG
92363	PAICS	GCCCAGGCTGGAGTGCAGTGGCGTG
92363	PRND	GCCCAGGCTGGAGTGCAGTGGCGTG
92363	STAU	GCCCAGGCTGGAGTGCAGTGGCGTG
92364	FTSJ2	CCCCAACAGCACAGCTAAAT
92365	KRTHA7	GAGGAGAGGAGGCTTCAGTCTCAG
92365	KRTHA8	GAGGAGAGGAGGCTTCAGTCTCAG
92366	RGS5	ACTCCTGACGTGTCTCATTCACA
92367	TOX	GCTCTGTCTTATTGTTTCTTCATACTGTGTC
92368	GARP	GTCCTCTCTCAGCTATCACATCACAA
92369	AHR	TGAGGTACCGTCTACATTTCA
92370	CSH2	GGCTCTAGGATCCCAAGGCCCA
92371	MCL1	TTTGATAGCTGTGCCAGGAAGGG
92372	CLECSF12	GCTGGTCTCTAACTCCTGGG
92373	SYN2	GCGTTCTTTCAATGCTGACTGGACTG
92374	FXR2	CCCTGCTATCCCTCCTCCCATCCTGT
92375	COL4A3	TTCTGTCTTTAAGACTCAGGG
92376	LZTS1	TGCAACCTCACCTTCCTGTGGGTG
92377	COX10	AGTGTGAGCCTCATGATCTGCTG
92378	HK2	GCTGTCGCATCTCAGCGGGGCGCA
92379	NDUFA5	TTGAATTATACCATTTACTCT
92380	DCK	GCTTCCTTCTGTCATTCCC
92381	TP53BP2	TCTCAGGATCCAAGTTTAAAAAGAA
92382	PELO	TCTCCACGTACTACCATCTTGATTAAAT
92383	PML	GGTTCAGAATCAGTTCCCTTT
92384	CD2AP	AAAGACAAAAGTTGAACAG
92385	KCNK7	CACCCCAGCCACCCCAGCCATCCC
92386	PIGC	AGAGACAAATTCATCTATTG
92387	LASS2	CCTTATTGTCCCATCTGTGGG
92388	HDAC5	TTCAGTTAAGTATTTTGTA
92389	ARNT2	ACAATAAAAATGACTTTG
92390	MPP2	CCTTCACTGCTAGGGATGCTCAAGGGG
92391	BAIAP3	CTGCCCAGGACACAGTGCAGGCCAGA
92392	RDS	CTCTCAAGAGTGCTGAGAACC
92393	PLA2G2A	TCTCCTCCACCTCAACTCCGTGC
92394	DAB1	TCTGAAGGGAGGAGTCTTTCTCTTGGA
92395	RERE	TCCTGGAAGTGGGAACTGGA
92396	PTK2B	TAGGACTAGCAACTTCAT
92397	HTR1D	TTGGAGCCAGGATGGGTCTCCA
92398	SET	TCAATTTGCCATTGGTTTCTGAAAAGT
92399	CAV3	CGCACTCAGGAAAGTGACCAGT
92400	ALDH3A2	TGAGTATGTTTAAATTATTGG
92401	P2RY6	TACGGGCTCCCAACTGCTGG
92402	SIAT1	CAAGTCATGCTGTAGAGCCAG
92403	SLC39A1	ATGGTCTCTCCCTGCCAATTTTGG

92404	RFP	GTCCGGCCCTACTTCAGTCTGAG
92405	A1BG	TTGCCCAGGCTGGTCTTGAACTC
92405	CTF1	TTGCCCAGGCTGGTCTTGAACTC
92405	DSCR3	TTGCCCAGGCTGGTCTTGAACTC
92405	JRK	TTGCCCAGGCTGGTCTTGAACTC
92405	KLRD1	TTGCCCAGGCTGGTCTTGAACTC
92405	MPL	TTGCCCAGGCTGGTCTTGAACTC
92405	PVR	TTGCCCAGGCTGGTCTTGAACTC
92405	STARD4	TTGCCCAGGCTGGTCTTGAACTC
92406	BENE	CTCCAAGGCTGGAGTGCAGT
92407	MEF2D	AGCCCCTCCCCTCCGTAGCAC
92408	CYP1A2	CTAAGCTGGAGTGCAGTGG
92409	FGF7	GCTGTCACAAGAGTCTAGATCAGTTA
92410	PIAS3	GCTCATTCTGCACCTTTCCA
92411	NXF3	ACTGAACCAGGAGATCTGGCTGGGGC
92412	ITGA6	GACTGATTTCAGAGTGACTA
92413	HPCAL1	CCTCACTGCAGCTGGCCTCT
92414	ARHGDIA	GCCTCACCCACCCCACCTGGGCC
92415	PCLO	ATACATACTCTGGGTTTCC
92416	VEGFB	AGGCCATCATCAAACAGGACAGAG
92417	ADAM19	CTGTGGCCCAACCTTTTATT
92418	DFFA	GATGTTCTCTGTTCAAAAGTAATTGG
92419	PTGS1	CTGAATCTGTGCCTGCACTGAGAGGG
92420	NOTCH3	CGAGATAGGTCATCAGCCCAGGG
92421	RUNX1	GCCGCCTCCCCTCTCCTGGGAG
92422	FGFRL1	TGCTGCCTGGGCACACACTTC
92423	RAD51L3	TTACTGCCACCTGGCACTGGTGAC
92424	IRS2	TCCTGTACATTTCACAAAAAG
92425	GABRE	CCAGTCCTCCTAGGCATCTTATTG
92426	INSL4	AGGCTGAGAACACCCAGAACAGGA
92427	PRKACA	CGCCCCTCCTCCAGCTTAGCTGTC
92428	PHEMX	CCGTGCCCCACACTCTGAG
92429	DLST	TTCCTCTGCAGGACACAGA
92430	AVP	CCTGTCCTCACCACTCTGGGCTTGTGCTGTTC
92431	BCL2L2	TGTGGTCCTGAGCACTGATC
92432	GSTT2	GTCGACGCCTTCACTGCCAT
92433	HNF4A	TGTGGTGAGGGAAGACGCC
92434	NFATC3	TCGGGAGGCTGAGACAGGAGAATC
92435	APAF1	TGTTGCCAGGCTGGAGTGCAG
92435	CYP1A2	TGTTGCCAGGCTGGAGTGCAG
92435	SEDL	TGTTGCCAGGCTGGAGTGCAG
92436	ATM	ATTGCTTGAGCCCAGGAGTTAG
92437	TXNIP	TGGTCAGTCACTCTCAGCCATAGCAC
92438	KCNS2	CAGCCCAGGCACCTTATGGTTA
92439	KLK8	AACTCACAACTCTCTGGTTC
92440	NTSR1	TGTCCATGCACCACAGACACA
92441	EFNB1	TGGGGGGTGGAGGGAGGTG
92442	CASP7	TTCTATAAGTGAGGAAGAGTTTATGG
92443	FCMD	AGTCCCAGCTACACAGGAGGCT
92444	GYG2	GGGCAGGGGCTGCAGGGAGGAGGA

92445	LZTS1	TGGGGACCTGGCACTGGGAGGCAGG
92446	IL17E	ATTTTCTCTCAGGAAAGGTTT
92447	PRKWNK3	AGAAGGCAGGGTAACTTGCTGCA
92448	SLC17A4	GCCCAACATGCAGAACATGAATCCTCTGAG
92449	BMP5	TAATATTGATAATAACAAAAAGA
92450	CTSL	GGAAGCCGGGGAGGGCAGTTGA
92451	HMGA1	CCATCTTCCACCTGTGCCCTCA
92452	P53AIP1	CTCACAGTCTGCTTCCATTTCC
92453	MCL1	CAACTTCCGTAATTAGGAACCTGTTTCTT
92454	NESH	CTAATTACAGCCCCCAACCTC
92455	ACTC	CTCTCTCCATCTACCTTCCAGTCA
92456	WHSC1	CATCGGTCAGAAGCACCAAGA
92457	CENTD2	TTCCCGGGAGGCTTCCCCTTC
92458	VANGL2	GGAACGCTTGCCTTTCCTCCCTCCA
92459	CNTN2	CTCCTGGATGTGATGGGGATTGCCAG
92460	RAI14	GCTCCTTCCATTCCTGTACTCG
92461	HDGF	GACCTCTGGGTTGGGATCAGG
92462	EYA3	AGCTGGAGACTGGAACCAACTGAGAA
92463	CASP10	CTGTTTCACGTGTACCTGTGTC
92464	DYRK1A	GAGTATGAGTGCAAGCAAAGCAGAAC
92465	EIF2B5	GCCCTCCTGGCTCCTGGGCT
92466	ADCY6	TCACCCAGGCTGGAGTGCAATGGCGC
92467	PEX14	CCGTCGTCCTCCCAGACAAAT
92468	ABCA4	TCTGCATGTTTGTCTGTGTGTCTGCGTT
92469	REN	GAGCACCTCCAGTCTCTCCTTGATT
92470	CRY2	AGGAGGAGACCAGGTTGCAGTGG
92471	RAD21	TTCCAGTGCTGCACACTCCTGGTTTGGAA
92472	DCX	ACACAGCTGGCTGGGGCAG
92473	GRAF	TTAGGGTGGTCTACTTGAGGC
92474	TNFRSF10B	CCGGAGTAGCTGGGATTGCAGGC
92475	GAD1	GGCTCAGAGCAGAACCAAAGCATGATT
92476	THRA	TCCATAAAAGGTGTGTTG
92477	ADCY6	AGGGGAGGGGTCAGTAGCAGAAGC
92478	YES1	GACTTCATGCAAGTTGGCAGT
92479	PLTP	CCCTCTTTTCCCACATTCATA
92480	FAT	CGGACGCGCGAGCCCG
92481	CDS2	GTAGGGCCACCCAGGGCCAGG
92482	CTPS	GTGTACTGGCTCCTCTGTGGT
92483	LCN1	GGCTGGCTGCACCCCTTCCTACCACCC
92484	BLAME	CTCACGCTCCAGCACAGTGGCCA
92485	PKHD1	GTTTGCTTACTCCTGACTTTGG
92486	MAP3K7IP2	GCTCTTTTGGTACACCAGAA
92487	CASR	TGTCTCATCCCTTGCCCTGG
92488	MAPK8IP1	CGCAGCCGCCGCCTCCTCCGCGCCGCG
92489	KCNJ5	TCCTCTGCTGTGTTCTGTGTGTC
92490	AXL	TCCTCCTCCCCAACTGTGGGGGTGTG
92491	CHST6	GTTTCTTTCTCTCTTGATTCT
92492	PKNOX1	CTTGTACGTTGTTGCTTTCGACTTT
92493	EIF2B1	TGGGTCCTAAACAGCTTTTTA
92494	CALCB	GCCAGCCACATATGAGAGCTCT

92495	CCRL1	AGGACCACTCTGTACCATCT
92496	HTR2A	AGTGTTACAGAGTGTGGGTAC
92497	SFRS7	ACTGATGTGTCTAAATGAGCATGACAG
92498	TREM2	GGACTCCTTGTTCTGCTCTGGCAAG
92499	SOST	AAAAGGAGAGGGTCCGAGGGTG
92500	FUT1	TGCAAGCTCTGCCTCCCGGGTT
92501	PCTP	GCAGCTAGCAAAAGCAAAGA
92502	TEP1	TCATGCATCAGGGCATTTAGAAAGA
92503	TK2	CATTCCCCCGGTGCCTCTCCCA
92504	SHOC2	TCAATTACTGGAAAATAAAAGG
92505	ADAR	TGCTCCCTGGCTCTGGGTCTGCTGG
92506	GRM7	GGGATTACAGGCATGAGTCACC
92507	PCDHGA1	GCAGGAAGGGTGGGCCAGC
92507	PCDHGA10	GCAGGAAGGGTGGGCCAGC
92507	PCDHGA11	GCAGGAAGGGTGGGCCAGC
92507	PCDHGA12	GCAGGAAGGGTGGGCCAGC
92507	PCDHGA2	GCAGGAAGGGTGGGCCAGC
92507	PCDHGA3	GCAGGAAGGGTGGGCCAGC
92507	PCDHGA4	GCAGGAAGGGTGGGCCAGC
92507	PCDHGA5	GCAGGAAGGGTGGGCCAGC
92507	PCDHGA6	GCAGGAAGGGTGGGCCAGC
92507	PCDHGA7	GCAGGAAGGGTGGGCCAGC
92507	PCDHGA8	GCAGGAAGGGTGGGCCAGC
92507	PCDHGA9	GCAGGAAGGGTGGGCCAGC
92507	PCDHGB1	GCAGGAAGGGTGGGCCAGC
92507	PCDHGB2	GCAGGAAGGGTGGGCCAGC
92507	PCDHGB3	GCAGGAAGGGTGGGCCAGC
92507	PCDHGB4	GCAGGAAGGGTGGGCCAGC
92507	PCDHGB5	GCAGGAAGGGTGGGCCAGC
92507	PCDHGB6	GCAGGAAGGGTGGGCCAGC
92507	PCDHGB7	GCAGGAAGGGTGGGCCAGC
92507	PCDHGC3	GCAGGAAGGGTGGGCCAGC
92507	PCDHGC4	GCAGGAAGGGTGGGCCAGC
92507	PCDHGC5	GCAGGAAGGGTGGGCCAGC
92508	GSTZ1	AGGGTGGGCAGGAATACT
92509	SH3BP2	TGGGAGGGTGAGCAGGAGCAAGGC
92510	CALM1	TTTACCTCAGGATGACGTGCAGA
92511	CYP8B1	GCAACCTCTGCCTCCTGGGTT
92511	FZD4	GCAACCTCTGCCTCCTGGGTT
92511	SIL	GCAACCTCTGCCTCCTGGGTT
92512	HSF2BP	CAGATCCCTCATTTGATACTCC
92513	AQP6	GGAGATCAGAGACCAGAGGAACA
92514	CYP8B1	CCCAGGCTGCAGTGCAGTG
92514	TAPBP	CCCAGGCTGCAGTGCAGTG
92515	FCRH3	CCTGTGCCTGATCTGTGTGTTCCCC
92516	PART1	CCTGCAAGTCATTTCATTTGTATTT
92517	MGST2	GACCTGCCTGCCTTCCTGACTTCTGTTC
92518	TNFSF10	AAAGTGACTCACTTATCCCAAGA
92519	SOX9	CCTTCAAGACATTCCACTTGCTA
92520	ATP11B	GGGGAAAGAATGGTAGAGACA

92521	SIGLEC11	GGCTCATTGTTGTATTTTTGGT
92522	MAPK1	TACTACCTAGGGCACTTT
92523	NXF3	TCTCCAAACTCCCGTCCCCAGG
92524	EFNA3	CTTTCCCTGACTCCTGGTGCCCTCT
92525	F2R	CTGAGGCAGGAGACTGGCGTGA
92526	PPP1R12B	AAAGGGCAGAGACCCTGGAAGTGGA
92527	F2R	CTGGGATTGGCTGTGAACTGATCATGT
92528	SYNGR1	GCTGCTCTGTGCTCTGCGTGTC
92529	CASP8	CCGAGTAGCTGGGACTACAGGG
92529	TAPBP	CCGAGTAGCTGGGACTACAGGG
92530	NUP98	CCCATTCACACCACACAGAGGTTCCCT
92531	TACC1	AGTTAGATTTGGACAAACAAGATTCCT
92532	NOX5	TGCGCCCAGGCTGGTATGCAGT
92533	SON	CCTGCATTCCTGTTAAAGCCAC
92534	ELK4	TTAGAAAACAGTAGGTCCTGAGAACCA
92535	MAGEB4	GTAGAATCTGAAGATAGAAAGG
92536	EGR1	CCCTGCAGCTCCAGCCCCGGGCTGCAC
92537	ARNT2	TTTTTATAGCCTTTAGCTTGT
92538	MC1R	CAGGGAGGGAGCTGAGGACCAGGC
92539	LEF1	AGAGCATCTTGCATCCAAACCT
92540	BARX2	TCTCTCCCTCCTGACCTCTGGGCA
92541	UBE2G2	TAGTCCCAGCTACTCTGA
92542	PITPN	AGTACCCCCTTTCCTCCTCA
92543	MBD4	CATGCCTGTAATCTCGGAAGGCTG
92544	ZHX1	AAAGTGCAGCCGGTTTGAAATG
92545	DISC1	GTGGTTCATGTTCATTCTCAT
92546	HERC2	ATATTTAAACCAAAATGAAA
92547	CRY1	GACATTTCTGTGGTTTTTAACTTTTT
92548	FRK	AGTGAGCAGCTGCCCAGCT
92549	CHST5	TGTGTGCCAGGCCGGGTGCGGT
92550	TRAF5	CACAAGTCCAGACCCAGGTGCTCTGTAT
92551	AK3	CTCCAGCTGGTTTTTGACAGCTGTTGCTGT
92552	SHOX	TTTTCTTTCTCCCCTACTCCATCT
92553	DBY	GCCAGATGCAATGATCTTTAA
92554	FOXD2	TTAGATGAAACTGCAAAGTGTTCTCAG
92555	CXCL16	CTGTCATCCAGGCTGGAGTGCAGTG
92555	FANCE	CTGTCATCCAGGCTGGAGTGCAGTG
92556	PPP1CB	TTATTGCAGCCTTTCTTTTCCTA
92557	GAS7	GTCAGCAACCTTGGCATTGATA
92558	CST	GGGAGTTGGACGTGGCTCAGGCAGTGGG
92559	KIF5C	AAGAATTGCTTGGCACTTTCA
92560	ZNF74	CACCTGTAATCTTAACACTGTG
92561	ATRN	TAGTCAAGACAACACTGACCT
92562	KCNMB1	TCTCCACCTGCCCTCCCACTCTTCC
92563	SIGLEC8	CTGTGAGCTTCCCCAGGTCAGG
92564	SSA1	GGCCCAAACTCATCTTGATCAACCAA
92565	ADAMTS13	CGGGCCATTGGCGAGAGCTTCAT
92566	EXTL3	GTCATGCACATGCCTTA
92567	CEACAM6	TCTCTCTTTGGCTGGAATTACA
92568	GATA4	CCCTTCAGCACGAGCACACTGC

92569	SORBS1	CTCCCCTCCACTTCTTGGGTAATCTG
92570	GPRK6	GCCTCTGTATGCCCTAGGCCTGTGCC
92571	FGD1	AGAAGAGACCCCGCACTTGG
92572	TRIM9	TGCCAAAGCATTCTGACACTTTGG
92573	MAPK4	CACCAGCATGGAGACCTCA
92574	HIS1	GCCTAGGGAACTGGGAGCTTGGG
92575	WHSC1	TGCTCAGGGACTGGGGAACAAGAC
92576	EEF2K	TGTCTTTGCTCCTTGGCAGCTA
92577	AOC2	CTTACTTCCTGTTCATCTCTAAAGTGT
92578	ATP7A	CAGGCTGGAGTGCAGTGGCACC
92578	CTSS	CAGGCTGGAGTGCAGTGGCACC
92578	TNFRSF9	CAGGCTGGAGTGCAGTGGCACC
92579	OA1	AACCTTGCTCTCATCACCAGCTAG
92580	PITPN	TCCTTCATTCATCAACTAGG
92581	CLECSF5	ACAGGGTTTGTTTTATTTTAGCCTC
92582	AXUD1	GGATTTGAGCTCTGTGATCTATGTCT
92583	HLCS	TCCTGTCCCCACCCCCACCCCAGCAG
92584	IDH3B	CTGGGGCATGGAGAGGTCTGAG
92585	FZD4	GCAGAGCCTGCCCTTACTCACGCTC
92586	SLC9A6	TTTTAATCTTTATGTATTTTTTGT
92587	VENTX2	CACCCAGGCTGGAGTGCAATGA
92588	CKMT2	CACAGCATAGCCAGCAGGCCACTTTT
92589	EBI3	GACGTGGGAGGGTAGCTTGAGGCCAG
92590	AQP6	CCCACCCAGGAAACCCTT
92591	SLC22A12	GCCCACACAGAGACTTGCACAGCTGCC
92592	GLB1	TGGAATGTGTGAGGGGCTGACAGCACA
92593	HLCS	TGTCTACCTTTAGCCAGGCACAG
92594	PART1	TGAAACATGTTACTGGGA
92595	PATE	TCTGAGGAAGCCATTTGAGTCTG
92596	ADAM33	TCTCCCCTAGGTGGTTCCTGAGCC
92597	B4GALT5	AAATGCTGATTTGAGAACAAAAGG
92598	NR1I2	CTCATCTCACACCCTTTCCCTCTCC
92599	PKP4	GTCCATCTTGCTGATTTCA
92600	FANCF	CTCAAACACCTGACCTTGTG
92601	JRK	AGGAGAGGGAAGTAGTGGCAGCA
92602	MASP1	TGAGAGAAGCAGGGACAGGAGG
92603	PTPRA	GTTCTGTAAGCATCAGGAGCTAGA
92604	ANKTM1	CTCCATCATCCTGATTAGCATGTTTATTC
92605	CDS1	TTCTCCTGCACTTCCTCCTCA
92606	MHC2TA	ACCATCATGTCTGGCTAATTTTTCAT
92607	LPIN2	CTGGTCCCTCTGTCCCTGTGT
92608	HPS3	TTGGAGACATGACAATCATTTT
92609	DMXL1	GACTATTTTGCCATGGAGAAATCTGACAGCA
92610	GNAT1	CAGAGCAACCTCCAGCCTTCTCCA
92611	IL12RB1	GTCTCGAACTCCTGGGCTCAAGTGATC
92612	LAMC2	GGTGCTTGCTGGTGCCTGCCA
92613	CA7	AAGACCCTGGGAACCTCCTCTG
92614	F9	TGACATTGACCCAGACATAT
92615	ESPN	CCCCAGCCCTTGGCAACACTGGAGTGC
92616	KCNK6	TGCTGCACTCCAGCCTGCGGGACAG

92617	PCDH11X	TCAGCGACTCCGGCTGCTCTGCGG
92617	PCDH11Y	TCAGCGACTCCGGCTGCTCTGCGG
92618	BRIP1	GACTACAGGTGTGCACCACCAT
92619	FCAR	GCATGAGCCACCACGCCTGGCC
92620	EEF2K	CCTCTGCCAACTCCTCTGGACCCTCGCG
92621	CHAC	TCCTCAAGCCTATTTCATGAGATCTAC
92622	SCML2	TGCCCAGGCTGGAGTGCAATAG
92623	SORBS1	TCAGTAGGAAAATTAATACAGTGGAT
92624	COLQ	TCTCCACTGTCATCAAACTGGCC
92625	IL16	CCCTTCTAGGTGGCAAGGCTGTGCTCCCT
92626	ZNF289	CCTCCGTGTGTTAGACTCTTGTC
92627	SCML2	AAAATGCTGGGATTACAGGCAT
92628	MGAT3	GCGCTATCTCCCTGCCTCCTGCCGGCTC
92629	FABP2	AGTGGAGAGATCATAGCTCACT
92630	RPN1	ATTGCTTGAACCCGGGAGGCAG
92631	KIF3C	GGGGTGAGAATCTGGCAGATGGTGCCT
92632	IGF1	AGCCTCCCAAATTGCTGGGATT
92632	PCDHB9	AGCCTCCCAAATTGCTGGGATT
92633	GPC4	ACTGGGGTACAGCCTGGGCTCAGGGA
92634	SOX10	CCTCATTCTTTGTCTGAGAAACAGCC
92635	TCF2	ATGTGCTATTGAACTGAGCCA
92636	DISC1	GTCACCCAAGTTGGAGTGCAGTG
92637	SPTBN1	TCTTAGCAACTGGCAGACCA
92638	GALNT7	AGCATTTTTGATCCTGTAATCA
92639	REGL	GCTCACCCAGGCTGAGGGTGCCTT
92640	CREBL1	GAGGGGGTACCAGGTGGCCAGGT
92641	DMRT2	ACTTATAGACAGTATCCCTTGTCCTCA
92642	HHEX	ACTTTTATATGACATTCTTATACTGC
92643	BHLHB3	TGTGATTTAAAAATTCTTACTA
92644	SFRP4	TTCATAGACACATCTTGCAG
92645	LIMD1	TTATATTGTTGAGAAAGAACAAAAAGG
92646	RARB	CTCAAAATAACCATGACACCAAGGTTATGA
92647	SCD	TTGCGTAGAGGCTACAGGGGTTAGCC
92648	ARHGEF7	TTCTCCTGTGGCAGTGGCGATG
92649	MECP2	GGCACCTCCCCTCCCGCCCAA
92650	ICMT	GACCCTGTGCAGCCTGGGACAAAACTGT
92651	VWF	CCAGGGACCTTGGAGATAGCCGCAG
92652	ADARB1	ATCTGAACTGGGGGCAGGTGCAT
92653	PIM2	AATTTGGGAAGGAATGGAAGA
92654	AMT	CCATGATCCCACTGACCTACTCTTGCC
92655	GLS	CTGTAAAATCTTTGTTGTTT
92656	KAL1	CTGCCTGGTCCTCAGCAGTGCAGC
92657	GABRB2	TCTCCTCTCTTCAGTGAAACCCTCAA
92658	ALX4	GCACAGCCACAGCCTCCTCGCCTCC
92659	SERPINE1	ACCAGCCTGGGCAACATACCAAGACCC
92660	EMP1	CTGAGAAGATCTACCCCAGGGA
92661	SERPINF2	CCTACCCCCTGTGCCTTGTC
92662	MYCBP	TCTTTTACCAATTTGAGTGC
92663	HDAC7A	CAGTTTACCCTGCTCCCTCTCTC
92664	CRYZL1	TGTACAACAGGGAAAATATC

92665	TM7SF3	CCCAAGGAGACTGAGATG
92666	TRADD	GGGTGCTGCAGATACTGCAGTGA
92667	NEB	TTCCTTTATTCTTTTCATAGTC
92668	FPRL1	TGCACCCACTGCATTTGCAGCCT
92669	BCL11B	TTAATTTCTTTTCTTCCTGTC
92670	MRC1	CAGGAATACAAGGATGTGA
92671	BGN	CCGAACCTGGCTTCGCCTGTC
92672	DPYSL3	GAAGAGAAGAGCAGGCCTCAG
92673	FGFR4	GGGAGTGAGGCGGCGGAGGAGCCAG
92674	PCSK1	TCTGTAGCTTGTTCCCTGTCTT
92675	CCND2	TCTTCTTCCAAATGCAGTTCA
92676	PRKCQ	TCCAGAGACAGGAAAGAATTTGCCTTC
92677	KCNQ2	GGGCTCCTGGTCCGCAGTGGCAGAG
92678	ALB	CATCTCAGCCTACCATGAGA
92679	OTX2	AACACAGCCTCCACTG
92680	KTN1	CCTTTCCCGGCCGCACAGGGTT
92681	GPC1	AGATGATGCATGATGCCCTCCCCTCA
92682	PPL	TCTGGGTCTCTGTATCTCATGTAGAAC
92683	MIR16	GCTCATGCCGATAATCCCAGCA
92684	VTN	CTCCCTCCCTTCCTCAGGCA
92685	KRT4	TGGAGGAGGGAGGTGCTGTGA
92686	SCD	TTGAGTATTCCATGAGCTGCTCA
92687	OGDH	GAGCAGTTTTCCAGGAGGCCGGGGGG
92688	G22P1	TCCTGGAGCGGGAATCCCTCACCGTCT
92689	ADAMTS4	GTCGCCCAGGCTGGAGTGCAAT
92689	NF2	GTCGCCCAGGCTGGAGTGCAAT
92689	SH3BP2	GTCGCCCAGGCTGGAGTGCAAT
92689	SPN	GTCGCCCAGGCTGGAGTGCAAT
92690	PTPRK	ATGTACACATTAAAAGGCCTT
92691	CRYZ	GCTTTATCTTTGATATAATACATAGTC
92692	FANCE	TCCTGAGCTCAAGTGATCTTCCTGCCTT
92693	SUPT6H	CTGCCCAGCCCCTGCCTGGCTGC
92694	GJB3	GTATAGGTAACCCACAGGCCCA
92695	SLC21A2	GGAGTTGGTGAGAGCAGGAGGAGA
92696	M11S1	CCTGCTGCTACCACCCTTTTC
92697	CDK2	TCTCACCCTCTCCTCCAGTGTGGGCT
92698	TXK	TTGTGGTGCTCTTCATGATCAT
92699	GLP1R	TTTATTGCTGTGAATAGTCTGTGT
92700	DLEC1	CTGGCCAGAAGCAGGAGTGTG
92701	NOVA1	ATAGGGGCATCCTAGCCCTGT
92702	CASP10	AAGCAGATGCTCTGAACCCTGAG
92703	TCL1B	AGAAGGCAGTAGGGCCCCTGCA
92704	STAM	CTGTGTTTATTGGTGGCAGTGAC
92705	WNT3A	TTTGCAGCTGCCCAGCC
92706	ATP1B2	GCATGTGCCACCATGCCCGGCT
92707	MPO	CCTCTGGTTCTTCATTTATTGAG
92708	CX3CR1	CTTCATTAAGCCCTCTTCCATCATGTC
92709	SERPINI1	TAGGATTTGTGTTTTACAGTAT
92710	WDR1	CCTCTGAGCCCCGGCCTCGG
92711	MGAT2	AGATTCCTGTACTATTGTGTTT

92712	NAPB	AGGGTCTGTAGGCATCACATTGTGA
92713	MTMR3	TTTCCACATTCTGTGTCATCT
92714	SLC21A9	CTGAGCAGCTCCCAGTGCCAG
92715	DIAPH2	AACTGCTGCCTTTGCCTCCA
92716	KCNS2	TGTAGACTGAATGGTGACCCA
92717	GPR62	CCTGCAGCATCTCTAAGGGCC
92718	ATP11A	CCACAAACACATGCGCAGGCTCCTGCA
92719	TMEM2	GTTCAGGCTGACACTGGCAATGAGTA
92720	TBL3	GGCGGCAACATGGCAGAGACCGCG
92721	MLN	AGAGACTCCTCCAGACCCACTCAGACC
92722	NDST2	CCCTCTTCATCCGCAGCAGTG
92723	TMC1	AACTGTCCACGTGGAGTGGTCTGGTGAA
92724	CCNG1	ATGAAGCCTCAAAACATCACGAG
92725	CYB5	TGTGCCTTTTTATTCATCTA
92726	IL2RB	GGTCCTCAGTCCACTGCTGAGG
92727	EFG1	TTTCCCAAGCAGTTCTATTACCCGGTT
92728	MARK3	GGACGAGAGCACGCCTGGGAGCGAA
92729	UNC119	TGCGGCCTGCTACATGGGGTGGGG
92730	CHML	GCTAGGACCTGCAACTTCAGTGC
92731	CAPN3	CAGCTCTGATCAGGAAAGTGA
92732	ITGA6	TGTCCCTAATGTGTTAGATTG
92733	ST7	ATTCACCTCTTCTTTCCCTC
92734	RNMT	GACTTTCTGTTGTCTACCTC
92735	CRH	ATAGAGGGAGAGAGGGAGAGAGC
92736	CMAR	AGGCTGGAGTGCAGGCCGCG
92737	TNXB	GCCCTGTGGGCTTCAACATCCA
92738	CAPN10	CCTGAGTCTTGGCCTGCCTCCC
92739	TMPRSS2	CCTCCTGGCCAAGCAGGCTGGTT
92740	REGL	TACTGCCAGAACATGAATTCA
92741	ZNF133	TCATCCTTCTTCAGGGA
92742	HIP2	AGAACCCAACTTAGTTTTTCAGTGAA
92743	ZNF8	GTCCCTTTGGCTGGAGTGCCTC
92744	RB1	TCAGATCACTGAATTTATAAA
92745	CRB1	TACATACATTTGAACATTCC
92746	IER5	AAGACCTTATGGTTTTGTAGATA
92747	FXYD2	CACTGCACTGGGGCCAGCTGGGAAGCC
92748	NR1D1	CCTCCCCTGGCCCTCTGATTTGTTCTGT
92749	TLL2	GGACAACAGGCTAATGAAGGATTTGG
92750	SRM	CAAGCCTATACCAGCTGTGTACA
92751	RUNX1	GCCTTTCTCCTGTTTATGGGTT
92752	SRP46	CTGCACTTCCAGTCACCCAGGCCT
92753	MAK	CACCTCCTGGGTTCAAGTGATT
92754	GYG2	CCTCACTGCAAATTTCCTCC
92755	STAT1	AATCTGAGGCCTCCTCTCTCA
92756	IGF1	CCCCCAGGCTGGAGTGCAGT
92756	LZTS1	CCCCCAGGCTGGAGTGCAGT
92756	RPP30	CCCCCAGGCTGGAGTGCAGT
92757	PDE6B	CACCCAGGCTGGAGTGCCGT
92758	SH2D2A	CCTGGTTTCTCCTCCTGGAGTC
92759	EMP1	TCCAGAGAGCCTCCCTGCAGCC

92760	IPP	ATTGTGCCACTGCACACCGGCCT
92761	B3GAT1	TGAGCTTATGTGTGGGCATTTTACTGCCTC
92762	BDNF	CAGTTGCTTTGTCTTCTGTAGTCGCCAAG
92763	MAPRE2	CCACTGCCACCACCCCTC
92764	COX10	GGCCTCGGAGCACCCCCTTC
92765	CXCL16	TCTCTCTCCCAGTACACCA
92766	GALT	ATTTCTGGGCTCCTGGGGCT
92767	ANPEP	TCTGCCTGTGAGCCAGTCT
92768	DXS1283E	GTCCCTGTAGCTCTGGAACTGAAGGAA
92769	CADPS	TTTTGGTTCCACACTGTTTT
92770	FACL4	TTTGGGAAGTTAAAGGGAAGA
92771	PKNOX1	TTGCCCAGGCTGGAGGGCAATG
92772	SLA2	TTGCCCATGCTGGAGTGCAATG
92773	PDK4	CCAGGCTCTGCTCCGAGCA
92774	NR1I2	AACCATTTACATGCACCTTA
92775	KIF5B	CGCAGCTGACTGCTGCCTCT
92776	LTB4R	CTGTCATTCAGGCTGGAGTGCAGTG
92777	STMN1	GGGCATGTCCTCATCCTTTCCTGCCA
92778	LAMP1	TTCATTCTTTACTGCACTCA
92779	CAPN10	CTGTCCAGCAGCCCCCAGG
92780	MAD	GTATTGGACCTGCCCACA
92781	XPC	GTAGGGGAGAGAGCAGAGAAGT
92782	AF3P21	CCTGCCCTGCCCGGCCTCATGT
92783	SCP2	CTCTGGGTGAATAGAGCCTGA
92784	CSF1R	TGCTCACAGACCACACTCAGCTCAG
92785	IL2RB	CTCAGAAGCATCGCTCCTCTCCAG
92786	DCLRE1C	GCCACTGCACCTCTAGTCTGGG
92787	JRK	GACCAGGCTGGAGTGAAGTGGT
92788	PCDHA1	TTCTCCCATATTTTGAAGGGTGTGTA
92788	PCDHA10	TTCTCCCATATTTTGAAGGGTGTGTA
92788	PCDHA11	TTCTCCCATATTTTGAAGGGTGTGTA
92788	PCDHA12	TTCTCCCATATTTTGAAGGGTGTGTA
92788	PCDHA13	TTCTCCCATATTTTGAAGGGTGTGTA
92788	PCDHA2	TTCTCCCATATTTTGAAGGGTGTGTA
92788	PCDHA3	TTCTCCCATATTTTGAAGGGTGTGTA
92788	PCDHA4	TTCTCCCATATTTTGAAGGGTGTGTA
92788	PCDHA5	TTCTCCCATATTTTGAAGGGTGTGTA
92788	PCDHA6	TTCTCCCATATTTTGAAGGGTGTGTA
92788	PCDHA7	TTCTCCCATATTTTGAAGGGTGTGTA
92788	PCDHA8	TTCTCCCATATTTTGAAGGGTGTGTA
92788	PCDHA9	TTCTCCCATATTTTGAAGGGTGTGTA
92788	PCDHAC1	TTCTCCCATATTTTGAAGGGTGTGTA
92788	PCDHAC2	TTCTCCCATATTTTGAAGGGTGTGTA
92789	CRYZL1	CCCTCCAGGAGCAATGACAGTCTTTAT
92790	CTSK	TTGTCCCAGGGCTGATGCTGT
92791	JMJ	TTTCTATGGCCTTGCTGTGTAC
92792	NDST1	CCTGTCCAGTGTCCTCTGGCCTGCTGC
92793	FBXW1B	TGGTGGTTGTGAAAGTGAT
92794	PDGFRL	ATTAGTGCTTTGCCAGAGGCT
92795	ADCY1	CCCTGCCTATGCTCAAAGCCAGCAGG

92796	CYP1A2	GTCTATGGATTTGCCTTCTCTAAA
92797	DCLRE1C	GAGCCCAGGAGATTGAGGCTGC
92798	FMNL	AGGCTGAGGCTCAAGGAAGGTGGTC
92799	CSH2	TTTGCACAAACTCACACAACC
92800	CD8A	TGAGATACAAACATGTTCCTG
92801	FUT5	GTTGCCCAAGGTGTGCAGG
92802	SOX13	CCTGTCTCCCTGGGGTCACATGCTTT
92803	FCN2	ACTGGGCCACGTACAAGCAGGG
92804	SRGAP1	CTGCCTAGAAAATGTTTCCA
92805	DR1	GGATCTTGCCTCTGCTCCG
92806	EVC	CTCTCCAAAGTTAACCAACAGCTCC
92807	TIMP4	AGCCTTGTAGCTGTTACTGCAA
92808	FAT2	GTGGAGCCTTGCCCACAGGGCTGCTGCTTC
92809	PYGO2	CCCTGCTGAGCAGAGCCA
92810	SLC9A1	AGTTTTGTTTGTTCACACTCCTA
92811	GPR3	AGAATGCTGGGAGTTTTACAGTGCCAT
92812	TSC1	TGTCAGATGTGGAGTATTAGTGACACC
92813	OPHN1	GTGTGCATGTGTCTTTATAGCAGCA
92814	RNTRE	CAGGGAAATGTCTTCAGCCCCACGTA
92815	SCP2	CCAATCCTGTTTTTCCTATGC
92816	HIS1	GGAAGGGGGAAGAAAACCCTCCCAT
92817	MX2	GTGCGTACTCATTCATTCTAA
92818	HEM1	CCAGAGTTGATGAGCAGATCTG
92819	ITGB2	TTAAAGGTGGTGCCAA
92820	WT1	AAGTACTAGATGCATCACTGGG
92821	MOCS2	TGACAGGAATGTTGGCAGAA
92822	AXL	CTCAGCACCAGGGTCCCCTTCC
92823	RP42	TCTGGCTTCTAGTCTATTTACTGTTT
92824	SYNGR1	GGCCCAGGAAAAAAGGTTTCACATA
92825	PTPN12	AGTCAGAGATTCAGTAAGTGCCTT
92826	HMMR	ATTTTATAATGTTGTATTTA
92827	COL9A2	TCTCCACTGGCCATCTTGTCC
92828	GATM	CTGATGGAGCTTGTGGCTGGCCT
92829	RFX2	AAAACCAGAAGTTTTATCAG
92830	CKM	ACCAGAGTTCCAACCAATGG
92831	PMM2	CTGCCCTGCACTCCTGCCTCC
92832	VHL	CTGGAAGGTGGAGCTTGCAGTGA
92833	PTPN6	TTCTCCTCTTGTAAATAAAGCC
92834	PMS2	AAGTGATCTTGAGAACCTTTT
92835	CLCA1	AAGAGGTGTTGAGGTTATGTCAA
92836	SLC2A2	TTCCTTTATTTAATGGCCAAAT
92837	STMN1	ACTTTCTCCCCATCCCCTTCC
92838	RAB5A	CCCTTTGACAGGAAGGGGCTT
92839	SCA1	CCAGAAGCAGCACTTTGACTGCTCTGG
92840	ITGA1	ATTTGTCATGAAAAGCCATAT
92841	SLC14A1	CCCATTTGCAGCCATGGTCACGAGTCATTTCT
92842	ACE	ACACTGGTGGGCAGCTGAGGACAC
92843	AKAP1	TCTCAGCCTGGAATCCCCACCTTGCCCACCCC
92844	BAP1	CAGGGTGGGGGACAGCAGGATC
92845	MCL1	TACCCTTTTGAACTTTGCAACTTCCGT

92846	IL4R	CTCCCTCCACAGCTTCTGCAGCAGACTG
92847	TPMT	AACCTGGAGTGCAGTGGTGCG
92848	ALDH1A3	TCCTCATTTGACAAATCAGAGCTGTAATTCA
92849	RABIF	CTCAAGTACATGCCTCCTGCTTAG
92850	KCNA5	TGTCTCCAAGCCTCTGTCTTTTC
92851	CLCN6	TTGCTGGTCAGAGGCCCTGGGGGTG
92852	GRIK3	CCTGCCCCTCAACTCTCCTCCAGAGTCAGAA
92853	CYP4F3	GTTTAACTGTTTTCTTGTATATGGA
92854	PEX10	AGAAGTTAGAACACTCTCAGTTT
92855	IAPP	GCCTGTAGTCCCGGCACTTTGG
92856	ZNF14	GCCTATAGTCCCAGCACTTTGG
92857	GRHPR	GGGAAGGTGTGATTCTCTG
92858	MUC4	AGGAACTGGAGCCACAGAGCTG
92859	RAD18	TTCATTCTTTTCTGCTTTTCCA
92860	CDH12	TGAGACAAGCTCAGGCCTATTCAATA
92861	LRP4	CCTCCTCCTAGAATGTCTGGAGCT
92862	PIK4CB	TTGCTTTTTCCCTGCCTGTCTTGGT
92863	PIGC	AGTGCTTGGCCACAGTCGCAGC
92864	CPE	TGTCAGAAACTTTAAATT
92865	ALDH3A2	TTTAAAAAATACTGTGGCCGGG
92866	GRAF	CCACGGCAACCCAACCTACTCTA
92867	RAB23	GTTTGTATAGCCTTTCTCAAGAGCTGT
92868	CAPN1	AGCTTTCGCTTGTTCCTGCCTCGG
92869	BAZ2B	GCACACCCAAAGAATTTTCA
92870	RASSF1	GACACCTGCCTTTCTCAAGCTGAGAT
92871	ST7	TATTTATTCTTTAACTGTCT
92872	KCNS2	TGGAAACACTGCAGTTCTTAC
92873	PLAG1	GAATTTCTAAAAATGAGTGCAGAT
92874	MEOX1	GACTGGGTGGACAAGAATGAACCCATG
92875	LGR6	CTCCACTGATCACCTCTCTCC
92876	RAB6A	TGGCTCTTTCACATGTGCTTTAT
92877	CDSN	TTCCTCTTCTCAAAATGGTAGA
92878	PXMP3	CCTTCATTTTACTACTTCTT
92879	GNAZ	GCCCCGCGCCTGAGACTGGCTG
92880	MEF2A	AGAGGGCCCCCTACTTGTTTTATTTAA
92881	CBFA2T2	AGATGGCCAGCTGTCGAGAGCAG
92882	CRMP1	CTCCACTGGCTCCATGATTCT
92883	COL1A1	ACCCTCCTCCACAGCTGCA
92884	TAL1	CCATCATTGCTGTCTGCAGCCTTG
92885	FUT6	GGGGATGTCTCCTGGGGACTTTGCCTA
92886	KCNK3	GCTGGGAGGCCAGGAGACTGC
92887	KCNH2	TCCCTCGGCCCTGTGTGCCTCAG
92888	IMPA1	CTTTGCAGAGAACCTTTTTTGTTTT
92889	DVL3	CCAGGAAGCAAGCGGAGGTTGCAGTGA
92890	EPHA8	TTATCCGTTAAGGCTGGAGGCAC
92891	SLC17A5	TGTTTAATGTGATGTGA
92892	GPR56	TGACTCCGTCGGAGGAAAATGACTCC
92893	RORA	TGAAAACAAATAAAGTTGAACTTGTTT
92894	PSEN1	GGGGTCTGATCTTTCTCCTTGGTCGGG
92895	RAB6A	AGGCTCCTGGTGCATCTTCAAAATGAG

92896	SIAT6	CCATGCAGCGGCCTGAGCAG
92897	GLI2	TCCATGCTCACCAGCCTCGCCGAGGA
92898	TH1L	TCAGTTACATCCGAAAGTGTCTGGAG
92899	NOTCH3	CCCACTCCCCTCACCACCTAAT
92900	IL13RA1	AGGCGGGCGGATCACTCGAGGTCA
92901	PVR	CCCTGTGTTGCCCAGGCTGG
92902	IL1RL1	GCAAGGCTTTTCTCTGTTTCCAGTAA
92903	TNS	GAGTCCCCTAGAGAGAGGCATTGTACTG
92904	RET	TGAACAAAACCAAAGTCTGCTCTGAA
92905	MMP11	GCTGTATCCCTGTTGTGAGGTT
92906	TK2	TCACACAGCCTGTGTGCAGTG
92907	GRLF1	GGTGGTGAGGAGGAGCACCTGGGCTCTC
92908	CAPNS1	GTTCTCTCAGTACTTGTTACCC
92909	GNPI	TCCTTTGACCGAGGTCCT
92910	TEM7	CTCCATCTGTTAAACACAGTATA
92911	PVRL2	TCTGGACGACACTGGAGTGGAACAC
92912	GRLF1	ACGTAGCTGCTCACACCAGCC
92913	SRP46	AAATGCCTGTCAACTGCACTT
92914	AKAP13	AATGAAAAGTGTTTTAATGCTGCCA
92915	MAP3K9	GAAGTATGTCCTTGTTCTTTTTG
92916	YWHAE	GCTCGCTCAACCTCTTTTGTTCAGT
92917	CBFA2T3	TATATAGTCTTTGCAGAGGTCCA
92918	CHRNB2	ATAGGACAAGGGGTGGAAGGGCAGG
92919	KDR	GGCATATCCTGGAAGAGGCT
92920	ATP1A2	CAGGCATGGAAAGATGGGGAG
92921	PPP2R4	CCTTTTCACCCTGCCCCCTGGGCC
92922	ADCY1	CCCAGCTGGACTGAGCCTGGG
92923	SERPINB9	TTCACACACCTACTTTTCTGCTTCG
92924	LHX3	GCTGGAGAAGGGTGGGGCTCCT
92925	G6PT1	TGCTGTTGCCAATACCTCAGACT
92926	MCC	GTGATGGTTAGCATATGGTGCT
92927	MID2	GCAGTTCTTCCCCTCCTACACC
92928	CYP8B1	TGCCCAGGCTGCAGTGCAGT
92929	MNT	GCAGGCTGAGGTGGGGAAGG
92930	PTCH	CTTTCTCCAATAGTCACATTGGC
92931	EPS15	CACTACCCTGTTCTGTAGTTATTCTGA
92932	GABPA	ACTGGTCAGTATTAATGTGTAG
92933	PEX10	GGCGGGTTGCTTCAGCCAGTGCAGTGA
92934	THY1	CCTTTTCTTTGAGAGTTCGTGAA
92935	ENTPD3	CTGCCTTTGCTAGGCTTTTGCT
92936	FYN	TCAGATTGCATGTGACTCTGAA
92937	PPP3CB	TAAATTTCAAAATTATGAAGAAT
92938	GGCX	CCTGTAATCCCAGCATTTTGG
92938	GP2	CCTGTAATCCCAGCATTTTGG
92938	VHL	CCTGTAATCCCAGCATTTTGG
92939	KCNA7	CCTGTAACCCCAGCACTTTGG
92940	GNAI2	GCTCGGAGGCCCCAAAGGAAAAAGCACAAGA
92941	JPH2	TCCCCCCTCCTGGGGTGCAGTG
92942	ELMO1	CCAGCAGCCCCAGACTGCCCAAAAACTTGCC
92943	EPB49	CCCCTCACCCCAGAGGTGAGAG

92944	NDUFA10	GCCGCCTTCTGCTCCAGCTGCA
92945	PRKAB1	AGTCATCTGTGTGTTTTTAAG
92946	TRAF5	CTCTTCTGTGGGATTTTCAAAATGCT
92947	GJB3	TCCACACCCTCTGAGTCACTCC
92948	Rgr	GGATTTAGGGTTCTGAAGGGCCTTTT
92949	PML	CTTTGCTCTTTGGTCCTCAGGCC
92950	AQP1	GGCAAGCTTTGCTCCTTCAGTTC
92951	DAG1	AGGGGCTGGAAGCTGGAGGGG
92952	OAS3	AGTTGAGAAAATCAGCGGTCCT
92953	TCL1B	CCTGCTCTTCTGTTTGCACACC
92954	MSL3L1	GATTGGGAAGGCTCAGAA
92955	TERF2	GCTCACTGCGACCTCCGTCTCC
92956	CNTNAP2	ACTTTTTCCTTCTTTGCCTGGGAG
92957	STAU2	TATTCTTCACTGTCTTCTAT
92958	CD244	TTCCTACCCTGTATCTAACAT
92959	FBXW1B	GCCTGCAGGGCAGGTCAGGCTGG
92960	SPARC	TTACCTTTCAGTGCAGT
92961	ZNF175	GATTATAAATTTTCTCCCCGGGA
92962	GLTSCR1	GGCAAAGTGCTGTGTCAGTTCCTGTTT
92963	HIP1	ATTGCTTGAGCTCAGGAGTTTG
92963	IL6R	ATTGCTTGAGCTCAGGAGTTTG
92964	TPMT	CTGAGTGGCTGGGATTGCAGGT
92965	SFRS7	GTCGAGGTCAAGATCAAGAT
92966	IL12RB1	AGCCTAATTTTTGTATTTTTAGT
92967	FCGR2A	ACGGGGTCATACTACATACAAGCATAA
92968	LAT	CTGGGCTGGCACTGCTGGGG
92969	TNXB	CCTCAAGCTCAGTGAATGTATCCCGG
92970	CD79B	CACATGGGATGGGGGAGGCAGA
92971	HDAC5	TCTTTAAGATGCAGAGTGGAGGG
92972	SRC	GGCTTGGAACCCGGTGCTCCC
92973	OPHN1	AAACATTGGAAGATTATTGAGAG
92974	ALDH3B1	GCCCTCTCTGAGTCTCAGTTTTT
92975	TFEB	GCCCTCTTGACTGGCGCAGTGGGAA
92976	FOXO1A	ACAGCCTGGCAGTGTGGCCAG
92977	ASPH	ATCATGCAAAAATGCTTTG
92978	SLC22A12	CACAGTTACAGCCACAAGCCTG
92979	EGLN1	CCAGCAGGTGTAGGCGCTGCCGCGCT
92980	ACVR1	CAAGAGCCTGCATTAAGTTGT
92981	HLCS	GTTTGCATGGTCCATGGCTCAT
92982	LETM1	GTAAATTTTAATTTTCATCATTCCA
92983	TLR5	GCTGACTGCAACCACTGCCTCC
92984	SHANK2	CCAGGGTTGAGAACAGAAGGT
92985	ADCY1	AGCATCCTGCCTGTGGGCATCCA
92986	FANCC	GGGATCAGGCTCGCCAGGGCCACAG
92987	IDH3A	GCAAACCTGTGGCTTTGCAAAATGTAC
92988	FSTL1	AGAGAAACTGTAAATGGTGCTCTGGGG
92989	PTGFR	GCTCTTTCTCAGCACATTG
92990	MRPL49	TCTCCTGCCTCAGCCTCTTGAGTA
92991	MAP2K1	CAAAGGATGAAGAACACAGCA
92992	PKP2	CTGCCTGGCCAGCCTGGGGC

92993	ALOX15	TTGCCTAGGCTGGAAATAGGATTTTGA
92994	ALOX5AP	GTCAGCTCCGCCCCTTGAACA
92995	EVC	GGCTGTCGCATGGAGCATTTT
92996	LIF	GTTCCTGCCTTAGAGTCATCTC
92997	BAK1	TGTGCACTCCAGCTTCGGAGGCCCTG
92998	ATP6V1G2	TAGCCTCTCTTTGTTTTTCTTTTGC
92999	PLEK	CTCCTGCTTGAGTTCTGAGGGC
93000	HOXB7	TTTACCTCCCCTTTTCTATGTTGCTAT
93001	CBFA2T2	GCCAGCCTGAGCTGCCTCCTCC
93002	CD2AP	TATGAACAGTTGAATGCCTTTA
93003	SFRP2	TGAGATAAAGCTGGCTGTTATC
93004	CD2AP	ACTGTTGTGCCTGTTTGTCTGCAA
93005	SLC1A4	GGACACTCTGACATTCGGCTTGA
93006	LRRC2	GGTAGAAATGCCTGAGGAAAGCAG
93007	DVL3	TGCAGTGAGTTGAGATCGCACTCC
93008	PPP2R1B	GGACCCAGACGTGGAGTGGAGTG
93009	NR3C1	CTAAGCCACAAGAAATTTGATT
93010	APG5L	GTATGTACTGCTTTAACTCC
93011	SIAT6	CCAACTTGCCACATGTTCTAGGT
93012	SYK	GCCCAAGGATGCCTTA
93013	APM1	GGCCCTGGCTGGAGTTCAGTG
93014	MCL1	ATGCAGACTGGTTGTAGTGGA
93015	PPP1R8	AGCCCACACCTTCCTTGCTGAT
93016	SYP	TAGAGCATTCTGGGGTGGGG
93017	PDE6A	GTCCAGACTGGACTTGTTGCAGACTG
93018	GRIK2	CATGCACACATTTAACGACAG
93019	DNMT3A	AGAGGCACCGTTCACCAGAGG
93020	SLC7A6	TGCTCCACATCCGCTGTCTGC
93021	EHF	CAGGAATAAGTAGACACTTTGA
93022	GPR85	GCTTGGATACGTCTGTACTAT
93023	DLX4	ACTGAATCGCCACTACAGCCTGGGTGCAAAAT
93024	NTSR1	TCTGGCTGTTGAGTTGACGGG
93025	ITGA2	AATTAGCAGGTGCACCTTCTGTGG
93026	GNB1	AGGAACCTCTGTTTTCAAGAGAGATGCCTG
93027	LZTR1	CACCTGGAAGTGGAGTGCAGG
93028	TFPI2	GAGACTGAATTCTTGCAATG
93029	APCS	CCCTCATCCTGGTCACTGCTT
93030	GRIA2	GCTGTCTCAAAATGCAGAGGATCTAA
93031	MICA	AGAGGGTGGCGACGTCGGGGC
93032	MTMR3	TCCCAAACCAAACCAATCATGGA
93033	JUP	ACAGCTTCCTCACACCCCTGTCCCAC
93034	ZNF253	CACCGAGGCTGGAGTGCAATG
93035	CRYZL1	TGCCTGTAATCCCAGCTACTCATGAGG
93036	NPHS2	GTTTTCCTCAACCACACTCA
93037	MAML1	GCCCTGCACTCCGCCTTAGTCCTGG
93038	ALDH1A3	ATGTGGGAAAACCCCCTGTGTGTTCT
93039	EPS8	GCAAACCTGAGTGAGCACA
93040	MEF2C	GCATTGACATACACAGCAA
93041	TNFAIP2	CTGTGGCCTGACCTGCCTGTG
93042	SH3BP2	CTGAACCAGGCGCCAGGCTCCA

93043	NYX	TGGAAACACTAGGATTCAGGAA
93044	UBE2L3	GAAATAAAAATTGACCTTA
93045	GABRR2	TTTTCCTAGGGCTCCAAGGCTGTTCCTAGA
93046	IGF2	CGGCCAGAGCGGCGCTGGCAGAGGAG
93047	RANBP3	AGGGTCCTTGTCCCATCTGCC
93048	TPO	GGCTGAGAAGAGGAAAAAAGGTC
93049	MN1	GAAAGAGAATAGAATGAAATGA
93050	SRGAP1	GGGAAAGATGAAATGAAGAA
93051	GPRK7	TGTAGTGAGCCAAGATCGCAACATTGC
93052	BICD1	GAAGACGAGAAAGTTGAGAAG
93053	MYO5A	GAGTTTGAATGGTATAAAAAGT
93054	FECH	TAAGCATTTGTATTTTCTCTC
93055	BENE	CTTCCTCCAAGGCTGGAGTGCAG
93056	ITGA5	GCTCCAACCTGCAAAGATCTGTCCTCA
93057	PCK1	AAAAAGTTGCTTTGTTATTAATAT
93058	MTMR4	GTGAACAAACTGCATGGCCTT
93059	IL6R	TGAGATCAGCCTGGGCAATGTGAT
93060	MYL3	CTTGGACCTCTCCACGTGGTTGCC
93061	PTGS1	CCCATCATTCCTTCTGGCCTCTGCTGAA
93062	GHRHR	GCCTGGGGCTCTAGCCCAAGGCTCAGA
93063	LMNA	GGCTTCCTGCGTCCTCCTCACCTC
93064	GFI1	AGTGCCGGACCACCATGCCGCGCT
93065	PRND	GCTGAGTTTAGTTTTTCACTTTAG
93066	PKD1	GAGGAAAAGACTCCTCCTGGGGGCTGG
93067	NEBL	TGTTATATTCAAGGAAATTA
93068	CASQ2	TCATCAGCAGGAGTGGAGGGTGGG
93069	WNT8B	ACCTCTCTTCTGCACAGCTCC
93070	AXL	GGTCTAAAACTCCTGACCTCAAGTGAT
93071	SNX6	AGAGGGAAAGAGGTCTGCTGTA
93072	SYBL1	GCTTGATATCTTCTGTTTTCCCATTGCA
93073	CLCN6	ATTTCAGAGAGTCCTTCCCT
93074	CLN6	GAGCTCCTCTCATCAAAGCCTT
93075	GFI1	TTCAGTTTTTTATTGTTAAGCTG
93076	GP1BA	TTTTATTTTCTTTTTCCCTGTTTAGC
93077	POV1	TACCCCTGAGGTCCCATGTGCCATGAG
93078	PCDH11X	CTGATTGCAGAGCACTATGAGG
93079	SLA2	CCTACTTCCTTCCAGTGCCATGATCCC
93080	INPP5D	CTCCTGCTGGCTCCTCCTGCCCAG
93081	FLNA	TCCCTGCCTCGCCTCCCGCGCGCCTAG
93082	CTF1	CTGCCTTCTCGTGGCCCTGTGTGAGC
93083	RECQL5	GGAGGCTGAAGTGGGAGGATCGCTTGA
93084	PIK4CB	ATTTCCAGGTTTTCTGGGGGAGTGCAG
93085	SLC4A4	AAAGAGTGATGGTAGGCAGAGGGCA
93086	SERPINA5	CTTGCTCAAGTTCACCAGCAT
93087	F8	TCTGACCTCTTTGGAAACTATAACAT
93088	SLC7A6	GCCTGAACGCTAAGAACATGACTTCTGTCTG
93089	FANCC	TGGGGACGTGGCACTGAA
93090	ITK	GTGTTGCTCTGGCACAGACCACTGTG
93091	AXL	GCCTCACTGCAACCTTCACCT
93092	CLCA2	CCTCTTGCTATTTTGTTATA

93093	GRM7	AAAAGTGCTGGGATTACAGGC
93094	APTX	AATCCCTGGGCCACTGGAGTCAAGGC
93095	PTBP1	CCATGCCTTGGTGGGGCCTGTGT
93096	MAGEA4	GGATGACTTGGAGATTTATCTCTGTTTCCTT
93097	ITGA2	GTTCCCACTCCTTCAGGACAGCTGCT
93098	EVI2B	CTTGCTTTTTAGCTGATCTTCCA
93099	RPP30	AAGTGTGAGGGCTGAAAGAA
93100	BAZ2A	GTTCCTCCCTCCTTTTCTCTTCTCC
93101	PYCR1	TCAGGACCACCTTCCTCTAG
93102	AKAP1	GCCCCTCTGGCCAGGGCCCCT
93103	SH2D1A	TAGTCCTGTAATGGAAGCATCTAGCAT
93104	SLA2	ACTGCAACCTCCATCTCCTGGATTCAA
93105	RTKN	GGTAGGCTGCAGGGGTGGGCAGAAG
93106	F8	GCCTCCTGAATTAACTATCATCAGT
93107	GRAF	TGAACTTCGGCAACAGAATGATGAAC
93108	IL15	GTTCCATCATGTTCCATGCTGCTG
93109	GPR56	CTCCAAGGACTGAGACTGACCTC
93110	EGFL5	AGGCTGAGGCACAGAGGAGCT
93111	RRP22	CCCTTTTGAACCTCATTGG
93112	MAPT	GGCCCTTGGGGTTTCTCTTTTCCAC
93113	IL1R1	CCCTTCCTCCTCCTTTGCCT
93114	ICMT	CCATGATCTTGAGATTATTTTTAGCTT
93115	WNT1	AGGTTGGGGGAACCAGCAGA
93116	IGF1	TAGGAGTGATTTGCACCTTGC
93117	CTLA4	TGTGGGTTCAAACACATTTCA
93118	XRCC2	TCCCAGGCTGCTGGAGTGCAGT
93119	DISC1	TTCTCATCAGTGTGAAACTGAGGAGTC
93120	SIGLECL1	CCTGGCACCTCCAACCCGACACATGCT
93121	CRIM1	ATCCCAGGTCTAAAGCCACAAG
93122	ZFHX1B	CTTCCAGGAAGCTGTAGAGAGGG
93123	PTGIS	GGGAGAGATGAGTGGGTTAGCTAC
93124	NEBL	AAAATCAAATTTTGCTTAA
93125	DISC1	TGCAGTACTCAGGAATGCAGCACAGTA
93126	CAMLG	CGCCCAGCTAATTTTTATATTCTTTA
93127	COL14A1	CCTCCTGCCGCCTTATGAACAGGGT
93128	ALOX15	TCAGCGTCCTGGGCTCAAATGAT
93129	WHSC1	GGATTTGAACCCAGCTGCTCTG
93130	LTK	GCTGCACTTGCCATGCTGGAAA
93131	GNAQ	TAGACACCCGCCCTGCCCTTCCCTGG
93132	GLS	GGATTCATTTGGAAAGTGGGTAAA
93133	RXRB	CCAGCCCGCAGAGGTGGGGTG
93134	ATSV	GGCCCTCCCCACCCACACCCACAG
93135	CFTR	AGCAAATGACATCACAGCAGG
93136	ATP6V0D1	GGGCCTGGGGGCAGTTTGAG
93137	GASC1	AAGGGACATCCTTGGGGCTGT
93138	GALT	CATCATTGCATTCCAGCCTGGG
93139	SLC7A6	AATCCAGGTCGTGGGGGCTGT
93140	ADCY1	CACCATTGCACTCCAGCCTGGG
93140	CREB1	CACCATTGCACTCCAGCCTGGG
93140	GPR1	CACCATTGCACTCCAGCCTGGG

93140	LRRC2	CACCATTGCACTCCAGCCTGGG
93140	RFC2	CACCATTGCACTCCAGCCTGGG
93140	VHL	CACCATTGCACTCCAGCCTGGG
93141	C5R1	CACCACTGCACTCTAGCCTGGG
93141	IL13RA1	CACCACTGCACTCTAGCCTGGG
93142	PFKFB2	CCATTTATCTTAACACAGAACATGAG
93143	KCNA10	AGGCTGAGGATCTTCATGC
93144	GAS7	TGAACCAAGATCGGGCCACTGCACTC
93145	ATP2B2	AAGAACTTCATAGACACTCACA
93146	CSTA	GCAATCAGCCAAAATGATACCTGGAGG
93147	SLC22A3	CCAATCCTAGACTCACGTGTGC
93148	ZNF274	CCTAAATTGGATCCTCTTCCTGC
93149	GALE	CTGGAGCTGCTGGGGCCAAG
93150	RAI3	TCGACCACCTGTGCTCAAGCAAT
93151	PKIB	GCTTTTGTGTATGTCTGACT
93152	ATP1A2	CACGCCTGTAATCTCAGCTACTC
93153	WISP1	GTCACCCAGTTGGTGACTGGGAAAGT
93154	GPX3	CCATCTGTGTGCCTGCAGCTGTG
93155	PTPRF	GCATTTCTCATGCTTCTTCTCA
93156	MATN3	CCCCGACGGACACCACCAGGCC
93157	HADHB	GAGAGGGAGTCCTCGCGGACGTCAGCC
93158	ZNF253	GCAATCTCTGCCTCCTGGGTT
93159	ATP6V1G2	TACTGCCTGAGCAAGAAGTGCTG
93160	SRGAP1	CCTGGGCAACAGAGCGAGACCTCTATC
93161	ITPKB	TGGCTGGGAGCAGGGCTTTCT
93162	ADCY6	GCCACCCGGGTTCAAGCAAT
93163	CD28	GGCAGGCGGAGGTTGCAGTGAG
93164	CTNNA2	ACATTCTCATAAAATTGGGCACA
93165	CACNB1	CCTTTCTCCCATCTTAAGGGGCT
93166	SIL	GGTCTCAAACTCCCGACCTCAG
93167	NUMA1	CCAACAGTAGCCAAACCCCTAGAG
93168	ST14	TATCTGCCTCCCCTGTCTGTAA
93169	GABRB1	CCTTGCTGTCCGCCTGCACT
93170	SCN1B	ACCTCGCCCTCTCTCACCAG
93171	NUFIP1	CATAACTGAAGCATGTGAA
93172	EVC	AAGCTTCCAGACCAGCCCTTCACACAC
93173	MAGEC1	GCTCCAGAAAGCAGGAGTTGAAGACCT
93174	CORO2B	CAGCACCGCTATCTCAGCCACTTT
93175	COL4A3	ACTGTTCTTAAATTGGGCTCAC
93176	SFRP1	CTGGTTGCTGTGTCATAACTTCAT
93177	LSS	GGCCAGGCTGGAGGCAGGG
93178	ZNF205	GCCCCCACTGCCGCAGGTGCC
93179	FSHPRH1	TGGTCTCACTGTGTTGCCCA
93180	LTB4R	GGGAGAGATGGAGCAAAGTGAGGGCCG
93181	ALDH3B1	AGCCGAGGTGGGAGGCATGGG
93182	PPP1R12B	CCTCCCTCATACCTAGCCA
93183	ADCY1	GGTGCAGAGCCCCTGGCACAGCCAACCCTG
93184	AUP1	CTGAGCTCAAAGGAACAGGA
93185	ARHH	CAAGATCTTCTAACCCCAAGAGACTTCA
93186	ITSN1	GAGCTGGTCTATGGAAGTTTCCAG

93187	HLCS	GTGAGTTAGAGGTATGCTATCA
93188	CRSP6	GCCTCTGCCTCCCAAAGTGCTAGGA
93189	KCNJ16	AGATTCTCTGTGGGGAGAGTGAA
93190	HLA-DRA	GCAGTCATCTTCAGCGTTTTCCA
93191	RFX2	GTGGCCTTTAAAAACCTACTTCCC
93192	HIP1	AGATCAACAACACTACTT
93193	TCF3	TACCCTGGGATCCCATCCA
93194	MASP1	CTAGATGAAGAGAGTATCATT
93195	ADRA2A	GGCACTCAGAAACCCGGGCGCTG
93196	TCERG1	TATTCTGGATTAGACAACAAA
93197	NPY2R	ATTCCTTCCATGATAGATATAAAGG
93198	BDNF	GCCACAATTTTTGCACTTGCT
93199	NFKBIL1	GCGGGCCGCCACCACTGCTCC
93200	LEP	TCTGCCACCATCCTGCTGCTGT
93201	IL17BR	GATCAAGAAGACTTCCTT
93202	KCNAB2	CCTCAGGGAACCTCTCCCTGG
93203	KLK5	CAGGAAGGGAAGGAGAGGTGTCTG
93204	EDAR	TTCATAGACCCATCTTCTGCTGGGACT
93205	IL5RA	TTCCAGTTCAGCTCCTGCACAGTTGCT
93206	CBFA2T2	AGTGGTGTGATCACAGCTCACT
93207	MKI67	AAGTATGTCAGCACCTTTTCTCA
93208	MPL	CTAGTAGCTGGGATTACAGGCGC
93209	C21orf33	CTCTGCCACAGGGACTTG
93210	CLCN7	CCCCTCACGGGGCGGCAGAGGC
93211	INHBB	GTACAGTCATTCTGTTGGGCTG
93212	SYCP1	GAAACTTATAGTTAATATTTTGTTCTTATTTG
93213	FUT6	CCTGTGAGGTGGAGCTTGCAGTG
93214	ACAD8	GCAGGACCTGCACCCTGTGTGTTGGCAC
93215	CACNB1	TACCATCCCAGCTCCCGGGA
93216	SNX6	TCATAGAAGGTGGAATCGGACA
93217	CYP11B1	CCTGCAGCCTGCCCCCTAGGCAG
93218	TP53	GGCCTGCACTGGTGTTTT
93219	SIGLECL1	TGCTACTGCTGCTGCTACTGCT
93220	PPP2R1B	TGTTTTATCTTCTACTGTATCGCCAGT
93221	RPH3AL	TGCTTCAGAATTAAAACAATGA
93222	KCNQ2	GAGAGGGATGGCTCACGAGGC
93223	HIVEP3	GGGGAGAAGAGCCACCCCCAG
93224	HOXC4	GGGGCAGGAGGAATGCAGGAGCAGGA
93224	HOXC6	GGGGCAGGAGGAATGCAGGAGCAGGA
93225	MEF2A	GCGCCTGCCACCATGCCTGGCT
93225	VHL	GCGCCTGCCACCATGCCTGGCT
93226	CBFA2T3	TCCGCGCCCTCCGACCTCTCTC
93227	PCTK1	TCCTTCACTTGGTCTGTCTGT
93228	ALDH1A2	AAGTTGAGCCACGGTCCTTAC
93229	RAB36	GGCTCAGTGCAACCTCTGCCTC
93230	SPN	GCCCAGGCTGGAGTGCAATGCA
93231	ADRB3	GTGGCCCAGGCTGAGAGCAGC
93232	PCDH7	GGATGTCTGAGTCACCAGAA
93233	NEDD4L	TGCCTCGGGGGTGGTTGTTCTTCA
93234	BRF2	AGACCCAGGAGTCTCTGAAGGCTTCCGC

93235	ASTN	GTGACAGGCCAATCAGACAGGGCCCAG
93236	GRIK1	GGAGCACGGCACACTCCTCGCCC
93237	GSTM1	CCCAGCACCTGCCTCCTCGTTCCTTTC
93237	GSTM2	CCCAGCACCTGCCTCCTCGTTCCTTTC
93237	GSTM4	CCCAGCACCTGCCTCCTCGTTCCTTTC
93238	CDKN2D	GAGAGGGGAAGAAACACTTTCT
93239	SCML2	AGGCTGGAGTGCAATAGCTCGA
93240	COL15A1	TTTCTGATGCTATCAGACTCT
93241	MYLK2	TCTGCTCTCAGCTTGTGCC
93242	FKBP1A	TTTCCTGGCTTTTCCTCCCTCAG
93243	SLC10A2	AGTATTTTTAAAAAGTTGCCTTCTCC
93244	TNFSF4	TTTTCTATTTAGAGAATGCTT
93245	ATM	GGCTCACTGCATCCTCAACCTC
93246	ZNF124	AATAAATTGAATATATTGGTTGCTCA
93247	UBQLN1	CTGAGTATTTCCTAATTGTATA
93248	HEPH	ATCCACCCTCATGGTGTC
93249	GFAP	GCTGACCTTGAACTCCTGGGCTC
93250	WHSC1	CCGAGTAGCTGGGACTACAAGCGGC
93251	TCF7L2	TCATTTTTCTTCCAAAATTGC
93252	ABR	TGAGAACAGGCTATGGGAAGGCTGC
93253	CLECSF6	TGCTAAAGAATTATTTACCA
93254	SLC4A4	TTCCTATAACATAGTATTTTA
93255	RLBP1	CCACCTGCCCTTGAAGCTTTA
93256	TMOD2	GAGAGTGACGACATGGAAAATGA
93257	EYA1	TGTGGCGGGTTTCTTCCTGGGGAACAC
93258	ITGA5	AGATCTGGAACCTCAGCCTGG
93259	SIAT8E	AGAAGCACCACATCCTTTCA
93260	GRB10	ATTGCATTTTCTTCCTTTCGC
93261	ELMO2	AGGAAAGGCTGCCTGCAGAGGACAGGTG
93262	ST14	AGCCTCCAAAGTGGAGCTGGGAGG
93263	ATRN	AGGAGATGTTTTGAAATGGAGAG
93264	MYCN	GCTGCATCTTATAGCACTTTGAAATAC
93265	PIK3R2	GCCAGCCTGGCCAAAATGGCAAAACCC
93266	MLLT2	GACAGCTGTAGTCATATCTG
93267	P2RX7	TTGTGTGACCCTAGGCCTCTCACCTCT
93268	ICAM1	ATTGGCCAACCTGCCTTTCCCCAGAAG
93269	GPR4	ACTGCAGCCTCCACCTCCTGGG
93270	PITPNB	GCTGACAGTCCTGCCCTGCCTGCTCC
93271	SOX4	TGTTTACACTTCAATCTGCAG
93272	AGR2	AACATCTGCACTCCTGAACACAC
93273	SIGLEC5	GGATTTGCCCAGAGTTCAGTCCTGGCTG
93274	RAB5A	TTCATTTCTCCTGGTACCTGTATTTA
93275	MN1	CCCTCCAGGTCCTCAGAGTTTGCAGAT
93276	TCF3	GCCCGGTGCTGGGGACCTCCTGGA
93277	HAS3	GCTGGAGATCCTTTCTCTCAAGG
93278	ZNF214	TACATCACGGCTTCTCTCCCACGTT
93279	HM13	CAGCCAGGCCTCTGTGGC
93280	PROK1	AGCTTGAGGCTGTGGTGTGAAAG
93281	DHCR24	TTCCAGGGTTGAATCTTGTCCC
93282	WHSC1	GTTGGCCAGGCTGGAGTGCAGTA

93283	SLC7A6	TGAATCCAGGTCGTGGGGGCTGTCATA
93284	ADAMTS5	GCACACACCTAAAGATATCTTTTTAG
93285	NINJ1	GCAGCTGTTCCCAGGAGGCAG
93286	DAPK1	CCTACACACTGTCATGCTTC
93287	JPH2	CCCCCCTCCTGGGGTGCAGTG
93288	SORD	TCTGATGCAGAACTTTCTCTTTTGA
93289	PPP2R5E	CATGGACTCAGCCGCCCGG
93290	KCNJ5	GAAAGGAGAGCCAGGAGCATTTAAA
93291	SYN1	AGCGGAGGAGTCGTGTCGTGCCTGAG
93292	SCN2B	CCAGTGCTTGGCCTGGCAGTGGCTTC
93293	LEP	CAGGAAGGGGGTCCACCCAG
93294	PSMB10	TGCTCACTGGCCCCGCTTGTCT
93295	AR	CAGAGAGGTAACTCCCT
93296	IL15RA	GGAAAGCCGAAGGCGGAGCAGC
93297	FUT1	GACCTCGTGATCTGCCCACCTCG
93298	PCDH15	TCTGTTTTTTCTTGAAGCCTAT
93299	DVL3	ACACACAACCTCCCCTGTTTTCA
93300	PTGIR	TCCCAAAGGGGCAACGGGAG
93301	FBLN1	CTTGCCCTTCCCTGAATGTGC
93302	PLOD2	AGGAAATGTAGACAAAATGGATATAAATG
93303	ADRA1D	GAGGAACTGGGCAGAGCTTGA
93304	PEX10	TGAGACGCACAGAGAGGTCTCT
93305	GTF2H1	AAGCAGATGACCTCACAGGAGTGA
93306	PDCD2	AGCAGTTTCAGGACTTCATTCA
93307	NPHS2	GTCCTCTGACCCCTTTGGCAAGG
93308	NXF3	CCCAGGCCACACAGATTCTCCTCAAG
93309	TR2	GCTCGGGCCATGTCCGAGGGG
93310	MPDU1	CCTTCTGGCCCTGGAAGACTGAGTCT
93311	SOCS5	TAAGCATTAACTAACAACCTT
93312	METTL1	TGGGATAACATGTATATGTGTAC
93313	NDRG3	CTCAGGGTTACACAGTTCCAA
93314	FGF2	CCAACCTGGTGAAACCCCGTCT
93315	RRAD	GTGCCGGGAGAGGACTCTGCCT
93316	PITPNB	GCTGACAGTCCTGCCCTGCCTGCTCCTCG
93317	DDX10	TCTTACTGGCAAGTTCTGGAGCT
93318	THPO	ACATGCTCTTTTTCTGTGAT
93319	CCRL1	CCTGTATTCTCTTTGCCA
93320	PRKDC	TTGACATTTTATGATAGATTTGC
93321	IL1R1	TTTTACAAATTTAATTTTGCA
93322	PPT2	CTCAGCGACCAGGTGCTGCTGCTG
93323	HM13	CAGCCAGGCCTCTGTGGCCTCTG
93324	ARF3	ATCTCTAGATGACTGTTCCCA
93325	TRHDE	CTACATAGCCAAATGTTTGTA
93326	CBFA2T3	TACTCAGAAATGGACAAAGAA
93327	BRCA1	TCCAGGAAATGCAGAAGAGGAATGT
93328	TAL1	TCAGGCTGGAGTACAGTGGTGC
93329	DTNA	AGCAAGTCCCTGAGCTGTGCT
93330	IL17R	ATTGTGCACCTACTATGTGGCG
93331	CBFA2T2	TTCCAACCTTGCTGGCTACTTTA
93332	CLECSF5	ATTTCTGACTGATCAAAAAGGCCT

93333	HAP1	GCCCTTTCCCACACCTTTGTTCCTCA
93334	VDR	GAAGGGAGAGCGGGGCAGTCTC
93335	NEF3	GAAACACAGAACTCAGCCT
93336	UBE2G2	GTGTAAGCAATAACAGATCTGCCA
93337	FXYD7	CCCAGACCCAGGGCCTCAGGCC
93338	RNMT	AGGATTTTCACACCCCCTCCTCAAGCT
93339	KCNK5	GGGTCTCAAACAGTCCTGACTCA
93340	SEPN1	TATGGCTCGATCTTGGCTCACT
93341	MHC2TA	GGTCTTGAACTCCTGGCCTCAAGTGAT
93342	DLGAP2	CTTTGAGCTCCTGGGAACAGG
93343	PAG	GGCTGCTGCTTTCTGCCCAGCTCGCC
93344	PTPN13	AGTAGCAAATGTTTACTGTA
93345	FCRH1	CCCATCATTCAGTCCAAGTGCTT
93346	PTGS1	CCCTCCACTCCAGCTCTGAG
93347	PAM	ATTGGCCTGTGAAGCATTGGA
93348	MAP3K14	CCTCACCCTCCAGGCTGCTGTG
93349	DDX6	CTCGTTTGGATCTGTGACAC
93350	DUSP4	ATGAGGGAGAGAGAAAGGGTGG
93351	LIG3	TGGACTCAGGCTGGAGGCAG
93352	SP110	TAATTGGCTGCCCTCAGGAC
93353	EGLN3	CAGATGTTCTTAATCCAG
93354	CPD	GGTTACCATTTTGAGGCAGTTGGA
93355	BIN3	CCACAAGAATTCACAGGTCTCAAAGCAG
93356	TMOD3	TGTTGGTGACATCATGTAAAATTT
93357	EPB49	CATTTTGGAGTGTCCTGGCT
93358	EN2	GGGCCGAAGGCTGATTTGGAAGGGCGT
93359	RHO	TGTGCAGAATGAACGAAGTCACA
93360	AXL	GCAGGAGGATGGTGCCTGGA
93361	CBFA2T2	GCTGGCATGGTGGTACAGAAGGTATCAGT
93362	RXRB	GTCTCTTTTTACACTTCACCTCCTTC
93363	ADAMTS4	GAACTCCTGACCTTAGGTGATC
93364	BCL2	ATTGAACTTATCCTAAAACAA
93365	NEBL	AAAGTGCTGTTTTTAAAAGCAT
93366	ZNF253	TCACCGAGGCTGGAGTGCAATG
93367	SFRS7	TTTTGCCAGGCTGGTGCAA
93368	HYAL1	TTCCTCCAGGAGTCTCTGGTG
93369	CLDN14	GAAGTGAGTGTGAACAGCCAATGGAC
93370	NEDD4L	GCCGTTTTTACCCTGCCCTGGCTGGC
93371	EVA1	TGGAGCCAGCACAGTGCTC
93372	PRKCH	TAAACAACAGGTTTGCATTC
93373	PODXL	TTCCCCAAGCTGCACAGGAGGCC
93374	DDX11	CCGCAGGAGGCTGTGGCAGCTGTG
93375	MUC4	CCTTGTTCCTGGCAGCAGG
93376	TRPC5	ACATATGACCTGAAACAACT
93377	HDAC4	CACGAGGCACAGAAAACAAATA
93378	BTNL3	TGACCCTGTGGGAGTCAGAA
93379	MYO1D	TTGCCTGTCAAAGGCTGGAGGGCAGGAGGAGG
93380	ADAM17	ACCATCCGGTCACCAGAA
93381	ABCC12	TCCTTGCCCATTATCAGAAGGA
93382	SLC13A3	TGACCTCTCTGATTTTCTACTGCTCTT

93383	SLC25A15	TGCTATTTCATATCTGTACTCCAGG
93384	MAK	TTAGTAGTTCTTCACTTTGCTGTG
93385	PRDM2	ATATGTATGTAGACACTTTTAAAAGC
93386	RAMP1	CACCCAGGCTGCAGGGTGAGGCCAGG
93387	TCP1	TTCATTCTCTCTGAACACACATTGCTA
93388	HPSE	GCTTGCTTTTTCTCTACCTT
93389	SEPN1	CCTGCAGCTTCCCTGACCACGCC
93390	RGS3	CTCCATCTCGGATGAAAGTGCT
93391	DDX10	GAGTCTGACCTTAGGTGTCTC
93392	CDH5	AAGGCAAGGCCCTGCCCTGC
93393	RENT1	GGAGGCACCATGAGCGTGGA
93394	DMRT2	TCCTCAAGATTTTTAGTTTGG
93395	UBE4A	TTACTTTATTTGATGGTGGTTG
93396	INHBB	CCCAGCCTGGGATCCTTCGTGCT
93397	ATP2B1	TCCTTCAAATACTGCTGTATTTTCAG
93398	KCNJ15	GATCAGATCTGTAATTCACAACTGTG
93399	LASS1	CCTCCTCCTCCTCCTGGCCCTG
93400	CDC2L2	CACCTCCTGGGTTCAGGCGATT
93401	SSRP1	GGGGAGAGATAGGGTGGGAGGCAGG
93402	CLN2	ACTTGTCTGCCTTCCTTTCCA
93403	COL2A1	AGGCAGAGGCAGGAAACTAACT
93404	MID1	TGGGATTCTAAACATGAGGCAG
93405	XPR1	ATTTCTCCCAGCAGTTTTAAAGGAT
93406	SRGAP1	TATGTATGTATATATTATCAGT
93407	PRY	GCCCAACCTTCTTTCACTGACACCCACC
93408	SORL1	CCGGCCCAGCCGGCTCTCCTG
93409	NPY1R	AACACAAATATCGTTTTCCATACAGCA
93410	CNTN2	GGCCAATCATGCGCCCACCTCT
93411	HDAC4	TCTGTCTTGAAGCTCAGCCAAG
93412	LIG3	GACTCAGGCTGGAGGCAGATA
93413	ALOX12B	GCCCTACTATTTTCAACAAAACA
93414	LRP5	GCTTCTCTGTGCCCCTGTA
93415	STK10	CTGCAGAATGTATATAACACA
93416	AK3	TAGAAGCTAGCTGAGGTAGCTT
93417	PPEF2	TATTACCTGCAGATAGTAAG
93418	CASP7	TGTGGGTATTGAGTGTGATTTGAAT
93419	WBSCR5	GGCCCTGAATCCTCCTCTGCTCCA
93420	CRY2	GGAAGAGATGGTTGCAGGCAAAATG
93421	UNG	GTGCACCTTTCAGGCACAGCCCTAGTTT
93422	SNAP25	TGATTCTTTCAATCCACAG
93423	MICB	CCAAAGTGCTGGGATTACAAGA
93424	RNF3	GACTGTTTAATTTGAAAGTTTACA
93425	DCX	AACAGCCAACACTGAAAACACTGTGAG
93426	BECN1	AAAATCCACAAAAGCCACTTT
93427	C8G	CACCCAGGGCAGGGGATCTTCT
93428	ITCH	TCCTCTATTTTTATATCCTTTCCTG
93429	HTR1D	TGGGACTACAAACGTGTGTCAC
93430	DMD	ACCAAATATATGCCTTA
93431	CDX2	GCTGCTGCCTGCTCATGGCCC
93432	CPD	CAACACCCATTCATCTCAAGTGCTTC

93433	DPH2L1	AGACGGCCCTGGCAGAGGTCG
93434	KITLG	CATGTTTGCTTCATAAATGAAGCAG
93435	COL6A1	TTTGGGAAACCAAGGTCAGGA
93436	CPT1B	CCTCATCCTGACTCCACCCTCCCACT
93437	LAMC2	GACAGAGCTCTGGGTTGTGCACAT
93438	TRPC1	GCACTTCCCAATTGGGATTTTA
93439	UGT1A1	TGGGTGGTGTATTTGAGAAGATA
93439	UGT1A4	TGGGTGGTGTATTTGAGAAGATA
93439	UGT1A8	TGGGTGGTGTATTTGAGAAGATA
93439	UGT1A9	TGGGTGGTGTATTTGAGAAGATA
93440	RTN3	CAGGGAAGGAAAGGCTCCGCCATTTG
93441	CMKLR1	TGCTTCTTGGGAGGCCAGCCTT
93442	EBAF	TTGGGATACCTGGATTCTGGTTCT
93443	ABCA3	CGGAGCCGCCTCCTCCTGGCCAG
93444	CADPS	CAGAGTCCTGTAATCAGTGCATGT
93445	BLAME	CAACTTCAAGAAAAGCAGCTCAG
93446	KRTHA4	TACTACTGCATTTCCTGTTTTCCTTTT
93447	PUM1	GAGGCCACATATTTTGTTCACTGTTG
93448	DRD1	CCTCTGCTGCTTTCCAACACA
93449	DNMT3A	CCTCCCAGGGCCCTGCCAGGTTGT
93450	COX15	TATCTAGATTTTTCTGTGA
93451	CTMP	CAGGAGGAAGAGGTTGCAGTGA
93452	STIM1	TGGCTGTAAAGGTATTTTTCCTCTGCC
93453	RNTRE	GCAGTATTTATACTATTGTAAA
93454	BTNL3	GCTGAAGTTCTTCTGCGCTGAG
93455	KRTHA8	TCTACCTTCCTTACCATGATTCAGCC
93456	NME4	TCTTCACATTATCATAACCTCTCC
93457	CENPF	GTCTTAAATATATTGTACTC
93458	COL17A1	CTGTTCTAAGGCTGTGCCA
93459	CSPG3	GCTAGATGAGCCCAGATTTCTTCCCCC
93460	CYP27A1	GGCTCCAGCTCTGGCACAGTGGTTCCTG
93461	MLPH	GGGGTCAGGGTTTTCTGTTCA
93462	HR	CCGTTTCTACCACCGCATCCTCACTGGGC
93463	SURF5	GGGCACCAGGGATGCAATTCCA
93464	ADCY2	TCTGCGAGCAACAGTGCCCCCTC
93465	ALDH1A2	GATTGAAAAGATAACATGTAGGCCAGG
93466	PTGS1	GGTGGGGAGGGGATGGGCTGG
93467	CLCA3	CTCAAAGCAGGATTTCAGGCAATTCCC
93468	IL1R1	CCAGCACTCCTCTGTCTCTGCTCTTGC
93469	RASGRP1	GTTCTCTTTTTGAAATGAATTTGT
93470	TFAP2C	AGAGTTTGTTACCTACCTTA
93471	ADCY1	CCATTTCTTCCCTGCTCAGCTTC
93472	SPARC	AACTGAGAGAAAGATTCTG
93473	HOXB3	GGCAGAAAAGCACATTTTAAA
93474	APPBP2	AAACAAAACACTAACAATCTT
93475	TFRC	GCCTCTTTCCTGTTGTTGTT
93476	PITPN	CTCCGTCTCTCTCCATTGTGTT
93477	OTX1	TGCTGCCCCTTCAGCTGCCCTC
93478	PLP2	ACCATGCCCCCACCTAAGTCACA
93479	DAZ	CCAGATCTCTGTAAA

93480	STK10	CTGCCAGGCTGCGATGCGTG
93481	ATSV	CCTCTGCAGACACCAATGTCC
93482	CASP8	ATACCAGACACGTACAAAATCCAGCT
93483	SORBS1	AGGGATCCTAGAAAGCATTGTCA
93484	SUV39H1	TGGAGATTGAGGGGTCTGCTGCA
93485	KIF5C	GTCCATGTAACAAAAGATCTGGAA
93486	ITSN2	AAAGAGAATAAAGACATATG
93487	XPNPEP2	TGACCCTACCAGAGGTTGGAGAACAAA
93488	AKAP2	TAATCTTTCTGTCATTTAAAGCA
93489	TPS1	TGCCCAGGCAGCTGGTGGTG
93490	YWHAG	TTCACACACGGACCATCTTTAGCA
93491	D12S2489E	TAAGTTGCCATTTGAACTAAACG
93492	USP9Y	CATTACCTTTTTATTCTGGTATATAG
93493	PCDHB16	TCTTCAGTCTTTTTCAGTTAA
93494	MKI67	CTCACCCTGGTAAGTACAGT
93495	CXCL16	AACCAGCCACTGCCCTCTC
93496	DMD	TGAACAATGTCAACAAGGCACTGCGGGT
93497	FUT1	GCTGTTCTTCAACTCCTGGGCTC
93498	SLC19A1	CTCTGTCTCTGTGGAAAAGCCATC
93499	PXF	TGCCCTAGTCCACTTTATCTTT
93500	FZD4	GCCTGCCCTTACTCACGCTCTGCTCTG
93501	ADAM15	GCGTAGTTGCAGCGGGGGCTTGGGGA
93502	NT5C2	CTGCCCAGGCTGGAGTACAGT
93503	GPR56	TCACACAGGCTGGAGTGCAGTG
93504	IGF1	AACATCTTCAGTTTTTCTCCCACTGG
93505	CYP7A1	CTATGTCAATTGATATTTCTGTGT
93506	DLGAP2	GACTTCTGTTTCACAGTTCA
93507	MAK	GTGTCCAGGCTGGAGTGCAGTG
93508	SLC12A7	GCTCAGCAGTTCCCACAGCCTC
93509	TFAP2C	TTTTGGATTTACCGCTTGGGGG
93510	CLECSF12	CCACTGCACCCAGCCTAGAATCTTGTA
93511	IKBKAP	TCCGACAGAGAAGACCATTT
93512	CFTR	TAGATGTATGTACTTCATGCTG
93513	CCND2	CTCCTCCCCTCTTCTCTTTT
93514	PTGIS	CAGAAGGCTGGGTCCAGGG
93515	TFRC	AACCATCATATAAACGTGTAGTA
93516	CHC1	TGGAAACAGCAACTTGTACAGTG
93517	XT3	TGGTGGCATAGGCCTGTAATTCCAG
93518	PLN	TCCGCAAAATCTTAACTACCTA
93519	NFKB1	GCAATCACAACACTGGCT
93520	IL20RA	CTTTAAAATGGGACAAAATCTA
93521	NPHP1	CTCAGCTTCCCACGGAATCAGATGG
93522	NFE2L1	GGGCGGTGTTAACTCTTTCTGCTCCTTGCAT
93523	B4GALT1	TATCTGTGCCTTTACTGCTTTGCGCAT
93524	ASNA1	GGGCTGGTGGGGAGCTGTAGTTGCC
93525	RXRB	ATGGCTGCCACATTGGCGC
93526	SPG4	TAGTTCCTTCTGCTTGCTTTAT
93527	HOXC13	CCTCTACTCCTCCTTGCGCT
93528	CPS1	CTCCAGGCTGGAGTGCAGTGGCACA
93529	CYP2B6	TTGAGACAGAGTCTCACACTGTTGCC

93530	SCO1	GGAAGCTGTGGGGAGACCAGAGGATCA
93531	PYGB	CTCCAGTGCCCACCAGGAG
93532	MAP1B	AAAGAACAACACTTGTTATG
93533	CSPG3	TTTGGGAATAGAAGGCTACACAGA
93534	CACNA1G	GGCAACTCTGGCTCCAGGCAGAAGGA
93535	PLS1	AAAACCAGAGATTATTTGTATGCTCA
93536	ZFP36L1	GGACCTCCTGCCTACTCCA
93537	MLPH	CCACAGCCATCCTGTCCCT
93538	BCL10	TTCATTCTCTTTTAATGAGGACCA
93539	LAT	GTGCGTCTGTGTGTGCCTGTG
93540	YY1	GCTAAGATGCTCTATCTTGCT
93541	TRIM	TTATATTTAACTATATATAAATACGC
93542	OGN	GGCCTTTACTGGATCCCAAAAGCA
93543	SERPINB9	CCTCACTCTGTCACCCAGGCTGG
93544	KRTHA1	CCTAATAAATATCATTTCCTTGGC
93545	C21orf5	CGGCGCCTGTAATCCCAGCTACTT
93546	ADAMTS3	TATGTACTAAATATTTACACTAATATCAA
93547	ALDH3B2	GGGCAGTGTCACCCTGGAAAA
93548	PMCHL1	GTTCAAGCAATTTCCTGCCTCA
93549	CA1	AACACAGCCCTGCTTCTGACA
93550	TCF20	CTTAAGTTCTCACATCACACTCAAA
93551	ASK	CCTCTACTGCGTAGAGGCC
93552	CD97	CACTCACTCTTTCCCCTGCCGC
93553	DACH	TTTAGCTTGCTTACAAAGGGA
93554	DMRT2	TCTGCCATCACTCGTGTCTCT
93555	SLC6A12	CTCATTGTCTTGCTGCCCAGA
93556	GNAL	TAGGAGGCAGAGTCTCTAGTTCCATC
93557	DPH2L2	CAGTAGTTAGGATGGCTGAAGGGG
93558	ADAM19	ACCCACCCCTTTTAGCTTTT
93559	IFNGR2	CTGGAGGCGGAGGTTGCAGTG
93560	MCL1	TGTCAATAAAGCAAATACTTACT
93561	DHFR	GTTAAAAGTCATTGCTCTG
93562	LAPTM5	TGGTCAAACAACAGTCTA
93563	BACE2	GTGGGTTTCTCTGTGCTCTGA
93564	GLO1	GTTAAGGCGGCACAGGGCCGAG
93565	PTBP1	TCATTCCAGAGAAAAGCCACT
93566	C18orf1	GACCTCTCATCCATTCCCAT
93567	SLC22A2	CTCCTGCCTGCAGGATCATGCC
93568	VCL	CCTATATCCTGGTTTTTGTAGC
93569	BHLHB3	GGGGTGAGACACAACAGTCTGACTATG
93570	CYP1A2	TCTCCTAAGCTGGAGTGCAGT
93571	CDKN1A	CTGTGTTAGGGGTATATGATGGGG
93572	ADCY1	ATAACTGCCACGCAGGGCAT
93573	SLC22A1	GCTGAGCCATCATGCCCACC
93574	GRLF1	CCATGCTGCCCCCACTCCCGC
93575	NFKBIL2	CAGCTGGGGGAGCTCCTGGCC
93576	CDH6	GGCGGCGGAGGCAGGAGCAGC
93577	ANKH	CGCCATCGCACTCCAGCCTGGG
93578	PLD2	CTCATCCCCCCTGCTGCCCAG
93579	OAS3	CCCAGAAAACAGAAAGCACTC

93580	OSR1	CCTCCATCTGAGAAGTGGCCCATGTG
93581	CYB561	TGGCAGCAGGCGGGCGCGTGG
93582	SYN3	CTGGGAGGGGAAGAGTGCTCTG
93583	CDC42	GAGTAATTGTATTGTCAGAAAAGTGAT
93584	MAX	TGTGGCTGGGGAGGCCCTGGCAGCAG
93585	NPY2R	TAAGTGCACTGCACTTCT
93586	DLGAP2	TTTGCAGAAGAAATGTTCGTTACC
93587	SPARC	GGAGGTGGGCAAAGGGAAGTA
93588	ELAC2	GAGGCTTGGGCTCCCACATAAGCACTA
93589	CLDN5	CTAGCCCGGCCCTGCCCTTAAC
93590	HDAC4	CTTGTCTGTCTGTCTCTGTC
93591	MTX1	TTCTACTCTCATGCATTCCAGAG
93592	CBFA2T2	AGCAAGAAATGAATTGGAGGCAGGA
93593	GPC4	AATGGAATATTGGGGGCTGTT
93594	NKTR	GCTCAGGCTGGAGGCCAGC
93595	PPGB	TGCCCTTTATGATGCACTGATTCC
93596	H1F0	AACAGCCGGACCAGACAGGCCA
93597	SCGB1A1	AACTGCTCCAGCCTCTGCCGCT
93598	GPR1	GGTGGCTGACACCTGTAATCCCAG
93599	ARNT2	TTTCACAGGCTGTGCGGGAGCAGG
93600	ALK	CTCTGGAGATCAGGTGGAAG
93601	B4GALT5	ACAAACGCCTTCACTGGATCAGCC
93602	GNAI1	TCTGACCTTGTTTCAGCAA
93603	SS18	GCTCTTGTCGCCCAGGCTGG
93603	STAU	GCTCTTGTCGCCCAGGCTGG
93604	TRIM37	TGCCTCTTACTATACGACTGTAGTG
93605	GLO1	AGGCTAGGCATGTGAAATCACT
93606	PAX5	CTTCCTCTCTTCCTCCAGGGA
93607	CIAS1	CCTCAACTTCCTGAGTAGCTGG
93608	PIWIL1	TACTACCTCTACCTGCAGA
93609	SCRT1	TCCCCCAGCCAGGTCGGCTCTC
93610	SLC22A11	CTCATGTCTTTACACCTTCACTCA
93611	DMP1	CATAGCAGAAGAATTGGAGTTGGAAG
93612	EIF4G1	TGCTCTGTGAGATCAAGGG
93613	CREB1	CCGAGATAGCACCATTGCACTC
93614	MAPK10	TCTTGCATCTACCTGCTCCTTGGCCTAGT
93615	AP2B1	TGGAGTCAGTGGATACAAGTAG
93616	WNT6	GCCTCTGGATACTGGGCTCCCCAGA
93617	ROR2	GAGGATGAAGGGGCTCCATTTCTGC
93618	HEM1	GGGGGCTGAGCAGTGGCGC
93619	KNG	TCCTAGAGGGAGATTGTTAGATCATGA
93620	EHD4	CCCAGAGCAGCTGGGTCTCCA
93621	SLC7A6	AAGGCTGACTTGCCTGAACGCTAA
93622	BRCA1	CACTGGAGGTCAGGAGTTCGAAAC
93623	GRIN2A	GCCACTGCTGAGAACTATGTGG
93624	LYL1	GGCAAAGCAACATGGC
93625	CHST1	GCTGCAGCTGCTCCCGGCGCGTCCC
93626	IDH3B	GGCCCCAGAAACTGGGGGAGGGC
93627	NR1D1	AACTCTGCACTTCTCTCTCCTT
93628	RHD	CCAAAGTAGCTGGGATTACAGGC

93629	TCF1	GACCTCCAGCTTTCCTGTATTTC
93630	CRACC	AGTCAGGCAGTGAGACTGGTGGGGCAC
93631	ADAM19	CCTACTTCCTAATTTATTCTTATTTGA
93632	CTSS	CAGGAGGTTGAGAATGCAGTGA
93633	IDH3A	CCCTTCTCCTCTGCTGCAGCATGATTTT
93634	NFE2L3	ATGGAAATAAATTTTGTATTTGTATTA
93635	SFRP1	GGAGCAGCAGCCACTGCACAGGAGGA
93636	GASC1	TTTGAACTAATGTAACATGATT
93637	IRTA2	AGCAATGGGATGTTCTGTTCCGCT
93638	IL10	CATAAATTAGAGGTCTCCA
93639	OPA3	CCATGAGGTGGAGGTTGCGGTGA
93640	PITX2	AGAGAAGAAGGGGGTCTTTGCCCAC
93641	HEM1	GAAGAACAATCCAGGGCTGAGAAA
93642	GP2	GGGGGTGGAGGTTGCAGTGA
93643	NR1D1	CCTGGTTGCAACCTCTCTTCCTC
93644	OGDH	TGACTGCCCCTTGCTTCTCAAC
93645	NFRKB	AGTGTTAGCATCAACTAGA
93646	FCMD	ATCAGCACCAACCTGCTAAATGCC
93647	ZNF137	TCAATCAAGTTGCTGCAGCC
93648	SLC38A2	ATAAGAATTGTCCCAAAAGTACCT
93649	IQGAP2	AAGGAACAACATAGATAGTG
93650	UCP2	GGCTTTGTCTCTAGCCGGG
93651	F2RL3	GCCACTCAAGAGGCACAGGCGG
93652	NRAS	AATTCTATTGAAAACAGTGTCTT
93653	RAB31	ACCCTGGGAAACCCACCACAC
93654	MGAT2	TCGGTTGCAGAAGATCATGGGCAT
93655	HIS1	CGCGGAAGAGGAGCTGTGGGA
93656	GLUD1	TCCTCAAGTGAGTTCTTAGTATTTTAT
93657	HOXB3	AACCCCAGGGCTCCAGCACTA
93658	GGA3	GGGGAAAGGAAGGTGGCA
93659	PBX2	ACTATTCTGTTTCTCTCCTGGGCT
93660	MX1	CCATCCAGCCACCATTCCAAGG
93661	FGF5	CCCTCATTCTTGAACAGCTGGAGGAAT
93662	SHANK2	ATGCCTCTGGGCTGCTGTG
93663	CHST2	ATGTTTTGAGTCAGTGCATTTC
93664	SLA	AGCATTCCGTCCATCTAAGCTCAT
93665	CAV3	TTCTCTTTAGGGACTGCTCCA
93666	NLGN3	CCAACCCATGAGTGCTAAGAGCCTCTG
93667	NPDC1	CCTCCTGGTCCCCTGCACCTCTCCTG
93668	ATP7B	CATAGTCTGTTCCTTTTCTCTC
93669	RANBP3	ATGCTCTCGAGCGTTGAGCAGGCACAG
93670	SRR	AGCCTGGTTTGTCATCCCTGCCCTAGCCCAA
93671	BMPR2	TCTACTTCCCATATTTCTTTTCTTTGC
93672	ATF7	ACTCAGGACTCAGGTCTCCCATAGCT
93673	SLC17A5	GACCAGCCTGGCCAGCATGGTG
93674	PKNOX1	TTTTACCTTGCTGGAATTATTGGA
93675	TNFSF5	GCAGAAGGGAAATGGGGAGCCTCAGC
93676	MAML1	CGGGCTGGCCCCAGCCCATCTGCT
93677	CHEK1	CAGTCGTTCGCCGGAAAGCATTTGTCTCCC
93678	PCDH12	TCCAGAGGTAGCCATAGGGTGTGACA

93679	CYP4F3	ACAAGTGTTCAAACAGAAAGA
93680	MASP1	GTGACTTCATCTCTTCGAACTTCAGT
93681	SCG2	ATGTCCATTATTCAAGAAAGAT
93682	TRHR	CTGTGCAGTCATCAACAAAAGGG
93683	TLE1	TCTCCAATGAACTTGTT
93684	MT1G	TTCCACGTGCACCCACTGCCTCT
93685	IRTA1	CAGAAGCACAAATTTTGGTGA
93686	PRKCD	GAATGTAGTTATCTATTGAAAA
93687	IFNW1	CTGAAGTTTACTGGAGTTT
93688	YWHAZ	GGTTCACATTCCATTATTTGTAAAGTT
93689	TK2	GGTCACACAGCCTGTGTGCAGTG
93690	MTMR1	TCTGCTTTTCATCCTCTGTGGT
93691	MTNR1A	GCTGGGGTGAGAGTAAGCTGCT
93692	OLR1	TGGGATGTGTGGCCCAGAGGTAAGAA
93693	XT3	GCAGTTGAGATAAGAGGAAGGCTTC
93694	FANCF	GGTCTCAAACACCTGACCTTGTGATCC
93695	MAZ	GGAGAGGGGAGAATGGAGTAGAGTCCC
93696	GRAF	CAGGCATTCGAGTTTTTGTCTTT
93697	CKN1	TTCTTTCTTCTTCATGTATTCA
93698	CHD2	TGCTTGGAAATTTTTGAAC
93699	FKBP1B	GTCACTTTCTCTCTTATAAATTCT
93700	SCN2B	GGACAAAAGTGACAATTGTAGGCCAG
93701	HHEX	GAGATGTGTGTTCTTTTTG
93702	SNX5	TATCTTTATATACTCTTTGCACCTCCTTTT
93703	CRADD	TTTTTGATGATCTTCAGATGGAAGGA
93704	DPYSL3	AGCTGAGAACATAGCACAGGC
93705	APBB2	AGTTCTGTAACGCCATCTCC
93706	KRT6B	GCCAGCTCTCAGTCCCACAGCTCT
93707	ADORA1	CTCAATACCCCTAGTATCTGGC
93708	SHMT2	GGAGGGAAGACCTCTCACTTA
93709	TCTA	AGACTTCTCCCGTGAGCCAGGCAAA
93710	EHF	TCCTTTCTCCCCTTTGGATGGTT
93711	ORC2L	GCACAGGAACAATACGTCATATATT
93712	SNX3	ACATGCCTGAATTTGGCAAGAA
93713	YWHAE	ACTGAGAACCACCAAATCTGACT
93714	COLQ	CAGGCACATGGGCAGCTCTG
93715	KCNA6	GCAGCCAATTTCACACGCGCCTGTGT
93716	MFI2	GTCTCACCATGTTGCCCAGGC
93717	GRM6	ATTTCTTAGGCTGGAGTGCAGT
93718	TRPM2	CCCAGGCCTGTCAAGAGACG
93719	SWAP70	GGAAAGAGAAAAAGACCACGGA
93720	CHML	TGCTTCTGGGATAACTGGAAC
93721	TNFSF4	TCAGCTTGTGAAAAATCAGGACTT
93722	ADH1C	AGCAGTTTTCAGCCTCCTCTACC
93723	TACR1	GCCTTCCACCCTCCTGTCTGGCT
93724	RPH3AL	TTCTCCATGTTGGCCAGGCTGG
93725	USP6	ATCAGAATCAGGTGAGTGTGACC
93726	SFN	CTTGCAGCTGTTGAGCGCACC
93727	SRGAP2	CCAATGCCACTCACCAAATCTTTGCAC
93728	CHST6	AGGCCTTGGAGGAAAGCAGAGGAT

93729	ADRB3	CCTTTCCACAACCTCTACCTT
93730	CEBPE	CCCCCATCCTGCTGGGGGCCT
93731	TNFRSF10B	TGACCTCTCAGGCTCAAGCGAT
93732	TBX3	CTGCCTCCTTTTCTTTTTTCTT
93733	COX11	CATCCTGTCCTTCTCTTTCC
93734	INPP5B	CCTCGGTGCTTGTTTCTCCTTCATTGC
93735	VAT1	TGTACTCCCCAGTGCCTT
93736	G6PC	CAGTGACCCAGATATTGCACT
93737	NPY1R	TATTAAAATCAATATTGTTTTTG
93738	COL4A1	GGTCCCTTGGTCTGTACAAATAATA
93739	GPRK7	TGAGCCAAGATCGCAACATTGCACTC
93740	CACNG3	AGCAAAAGGCAAACTTGCCTGG
93741	NEURL	GCCTCCCGTCCTGGGCAGGCTG
93742	SDHC	AAAGGAGGCTCCCAGCATCATCT
93743	AKAP2	CTGCTGTCTATCTTCTTGCTC
93744	MMP14	GAGAGTGAGACCCAGTGGAGGGAGCAA
93745	PTPN18	AAAAGGAGGACACGTCTCTGTG
93746	GALNT7	TTCTCTCTGGCCTGGACATTCT
93747	GNAZ	AGCCAAGGACGTGAAGAGATGTACGGGGG
93748	SLC4A4	ATGAGGGTAAATATAGTTTATT
93749	CD5	TCACTGCGGCCTCTAAGAAGGT
93750	ANXA11	CCTGCCTGGTTTAAACTATTGT
93751	SIGLEC8	TCGAGGCAGAATCTTGCTCTGTCACC
93752	CPNE3	ATAGATATGTTGCTGTGGTTTT
93753	KCNS2	GGAGAAAGGAAAGAGTTGTA
93754	EGFL5	GACCAGCCTGGTCAACATGGCG
93755	EGF	TGATGATTTTGCCAAAATGAGTTG
93756	SLC4A7	GGGAGTCTATACCAGTGCTGTG
93757	CHST5	TCTCCCATGGATTTGTGATCAGC
93757	CHST6	TCTCCCATGGATTTGTGATCAGC
93758	ITGA2	AGAAGTTACAGATGAGGCACTGGA
93759	GSTM3	CTCCTGCCCGGGTCCCGCCTC
93760	DPYSL3	GGGGTGAGTGGGTGGTGGGAGCCTGG
93761	DBT	GCCTGTAATCCAGCACTTTGG
93762	ESPN	AACAACAACAAATGCTGCTTA
93763	IL1F8	TTCTCACCTCTCCTTCACTT
93764	PPP1CC	TTAATTAAAGCACACTTTTCC
93765	ZNF147	AGCATGGGAGGGGAGCTGGCGGGA
93766	TGM2	TGGGAAACTGTTGTGGGCGCT
93767	YWHAZ	TGCAGGAAAAATGAATTGCTTGG
93768	NCOA6IP	GCTCACTGCAGGTTCAGCCTT
93769	TCF7L2	ACCCCCACCTTGAAAGGTTTTGTT
93770	RRM2B	GGAAAGAATGAGGCTCAGGGA
93771	RPH3AL	CCACCTCCCGGGCTCAAGCGAT
93772	TADA2L	CAGGAGGCAGAGGTTGCAGCG
93773	AVPR2	GGAGAATTGGCCAGAGCCTGTGGCCCC
93774	SRM	CCCTCCAGCCCCGGGCCGG
93775	GGCX	GGCCCAGGAGGTGGAGGTTGCAGTGA
93776	EHD2	AGCTGGGACTGCAGGCACGCGCC
93777	ZNF192	CAGCATTTTTCTTCATGTAT

93778	TPX1	ACTGCAGGAAGGTCTGTGCTCTG
93779	MAPK4	TTCTGGCTTTTTGTTAGAAACTTG
93780	SLC22A12	TGGAGCAGCTGCCTCTCTGGGGAGATG
93781	ROBO1	TTGGCTGCTATCGCCGCC
93782	AGER	TGGAAGGAAGCAGGATGGCAGCCGG
93783	CTSK	GTACAGGTACAGGCTGGAGATT
93784	PTPN1	AGAGAGGCACCTGCTGGAAACCAC
93785	GDI1	TTGCCCAGCCTGGGGGAGTGGGGAA
93786	PPARGC1	AAATGTTGATCTTCCACTGCAAA
93787	RUNX3	GCTCTGAAAGCAAATAGTCCTG
93788	GABRA3	TCCTTTCCGCTCAGACTGTAGAG
93789	LDB2	GTGCCAATAATAAACTGTGTTAAT
93790	LIF	GGAGGTGGGTAGGGCAGGGGCAGGT
93791	HSPA5	GATCTTGGATGGTGACATTGA
93792	STC1	CTTGATCTCTAATGAGCTA
93793	CXCR6	CTTGATGTGGTGAGGCAGGC
93794	IGF1	TTGCAAAAATGGTCCTGGAGTTGGTA
93795	RGS16	CGGTCCCTGAGAGTCCTGCT
93796	ZNF141	TCGGCCACAGCCTCAGCCTCC
93797	NCALD	GGCTGTAGTTTCTAAGCTGTGAACAT
93798	TAT	AGAAAGAACACGCTCTCTCCA
93799	G6PC	CAAGCGATTCTCATGTCTCAGCC
93800	F7	ACACAGATATGCACACACAT
93801	SLC38A2	TGGATATTTTATGATTTTACTTG
93802	ADAMTS5	AAAAAGTGGTTAATATTAATAAGAC
93803	ZNF253	GTTCACTGCAATCTCTGCCTCC
93804	FANCF	CTTTAGCTTTAGAAAATAACA
93805	XRCC2	GCCCGCTGCAGCCTCTGCCTCT
93806	GNE	CTCTGCCTCCCAAGGTGCTGGA
93807	MPL	CTCTGCCTCCCAAAGTGCTGGG
93807	PIGR	CTCTGCCTCCCAAAGTGCTGGG
93808	SMURF1	CCACAGCAGGAAGCTTGAGTCAA
93809	RNMT	GTGGCTTGTGTTCAGGGAGAG
93810	CNTN3	CTCACACACTCTCACATGTAC
93811	FLRT1	TGCCCCGCCTCAGCCCCAGCTGCCCTG
93812	RORC	CCTATGGCCTGCTGGCCCACCTCCCT
93813	ILF1	CAGCCTATGGAATGATTTCC
93814	NUFIP1	TTGAAGATTAACTTTTCCTAACATTG
93815	AQP8	AGAGTATCTTGCACAGCAGG
93816	RASGRP1	TTTCCTGACAATGGGGCATCT
93817	SLC13A3	TGCTCTTCCCTCCCCTCTCCAGCTACATAC
93818	IL6R	CCACCACCATCACCAGACAGGTG
93819	PIGR	CTGCTCACAGCCTTTCTGAGGACACC
93820	ATRX	CCAGCAGCAGCTACAGTGACGACTAAGA
93821	ZFHX1B	CTGGGTATTGTTAAAAACTGCA
93822	FUT3	GGAGGCTGAGGTAGGAGGATTGATTGA
93823	PHKA1	CTCGGTTGATTGTGCATGGAACT
93824	HSPA9B	AATTTTGAAGCCAGAAGGACA
93825	FANCF	CGTCCGCCTTGGCCTCCCAA
93826	MMP2	ACGCAGCCCTGCTTTGGGCTGCCCTGG

93827	ACE	ATTCCTGAGTCTGAAGCTGGA
93828	LEP	GCTCAGCCCTGACTGGTGCTATAG
93829	GALE	CCTGGAGCTGCTGGGGCCAAG
93830	NDUFS2	AGTGGCTGGTTTCCAGGGCTGAGGGGA
93831	BMP1	CCCAGGCCACCCTGCCTCCTCCCGTCC
93832	SMAC	CCAGGCTGAAGTGCAGTGGGGC
93833	MYH11	GGGACCAACAAGGCACCA
93834	KLHL3	TCAGCACTTGCCCGTCTGTATT
93835	CYB561	GGGAAGCTCTGAGATGAGGC
93836	CENTD2	CACTCACACACACTCTCTCTC
93837	G2A	GCCCCTTACTGAGGGGGGAGTGCAGC
93838	B3GALT2	ACAAGCAGACAGATGGACACTT
93839	TNFSF4	GCTATGCACCAGCCTCACTCCACC
93840	ELF3	TGGGCTCCACGGGCAGGGGTC
93841	CYLN2	CCCTGGCTCGGAGCCCAGGGCAG
93842	CASP8	ACCACACCTGGCTAATTTTTTAA
93843	FCRH1	CACTCAATCTGGAATGCAGTGG
93844	CRY2	GGCCTGTGCCTCCCACCTCT
93845	SP110	GTTTCTGGACTCTTCCTTGCC
93846	ERBB4	GGTTTTTTAGGTGGAGAGACACACC
93847	SRRM1	AGGACAAGAAACACAAAAAGGATAGA
93848	MYCL2	GGAGACTTGGGGTCTTCCTGGCTCAC
93849	APXL	TGTTTGTGTGGGATGATTTATTTAAT
93850	SLC12A7	CAGGCAGCAGTGGCGCCTGGTGT
93851	GABRE	CTTTGCTGCCCCTCTCCCCTACCTGGCC
93852	MNT	TGAACGCATGTGATGCTGTG
93853	NVL	GCTCTGAAGGACCCACTTTCAG
93854	SEPN1	CCTCTCTCCCTGCCTGTTTTCCCCA
93855	VWF	GCTGCATGGGTGCCTGCTGCTGC
93856	PLAG1	TTATCTAGCCTAGAAATGACACA
93857	DAPP1	AGCAAGGTGGAATGTTTCCC
93858	MAP3K5	TTATGTACTACTGAACTGTACCAG
93859	APBB2	CCTCCCAAATGCAGGAAAAAATATG
93860	CMAR	GCATTCAGACTCCAAACAGACCC
93860	SPG7	GCATTCAGACTCCAAACAGACCC
93861	SPN	CCCAGCTGCTTTTTTGT
93862	ADAM12	TGCTGAGATACATACAGAATTACTGTA
93863	ENIGMA	CCCACCCCACTCCCTCCACCA
93864	DCX	CAGCACTTAAAATGTTTGTGTGGGAA
93865	CCNK	TAACCAGCCATATTGGCTCAA
93866	LGMN	AGAGCTGCCTCCTGGAAGCTTT
93867	SLC29A2	GAGCTGAGATCCAGCCCAGGG
93868	TNFRSF6	ATTTAAATAAGGCTCTACCTC
93869	SAS	GCCCAGGCTGGAGTGCAATGGCATG
93870	TRPC5	ATAAAGCCTCATATCCAGG
93871	GDI1	CCCTTGCCCAGCCTGGGGGAGTGG
93872	BCAR1	CACCAGACGGGGCTGGAGTGTGAGGG
93873	MAPK10	GAGAAATGGCGTGGCAGGGGACCCAGCGAGCC
93874	STMN1	GAGCCCCTCCTGGTTGATACTTGTT
93875	LRP1	GCGGAAACAAGGGGAGCCCCCAGAGCT

93876	IMPDH1	GGGAGGCGGACGGCGCTGTTCCGGAG
93877	SMAP	AGTACTTTTCACACTTGTTAAGA
93878	HAT1	GGTGATCGTAGCTCGGAAATGGCGG
93879	PLA2G5	ACTTTTGTTCTGTTTTTCT
93880	SHOX	TTAAAGAGAATTAGCTTAGCG
93881	WT1	CGCTCCGCTCCGGGCCTGGGTGCCTACA
93882	APXL	CAGCAGCAGTGACCACAGCCTT
93883	SMARCA3	TGGAAGTCATTTGATAGAAAGATGA
93884	SQSTM1	AAAAGTGCCTTAGGGGAACCCT
93885	LRP4	GGGTGTGGGTAAAGACAGGGATGAAGGATAGA
93886	LAPTM5	TCAAATGAACCCATCAACTGGA
93887	COL18A1	CTCCGGCCTGTCCTCCAACACCAAGCA
93888	COL10A1	CAGACCAACAAACCTTCCCCCTGA
93889	SEL1L	TTTGTACGTTCCTTCTCATGTC
93890	CREB1	CAGGAGGTTGAGGCAGCAGAA
93891	EBAF	GGGCAGTGGACAGGGAATTGGG
93892	DBY	ACCACTAAAAATGCCTCT
93893	PTGES	TGTGGGTCTCTGGGCACAGTGGGCCTG
93894	NEUROD2	GCTCTGAAGACGCCGGCGCCCGC
93895	ADRA2B	CCCCGATCACTGGCATTCACCCC
93896	EMP1	AGATGGTAGACGAGCTGTCTGCTGCC
93897	ATP2A3	CCCTGCTCTGCAGCTCTGGCCC
93898	CPT1B	CTGGAGATGTACAGCCTGA
93899	USH3A	GCTCAAAGCAATCCCAGTG
93900	ACPP	GGAAGGAAAGATGTGAATAGGCTGA
93901	KCNS2	CTACCTGCTAATTCTTGCCGCATTTC
93902	CPA1	CCTTCTTGTCCTCCTCTCTGGCCCCATC
93903	VDR	CACCAAGCCCATCAGAAGGAG
93904	CASP3	CCTGCCTCTTCCCCCATTCTCAT
93905	TAF7L	CCCAGGCTGAATTCAGACTCCTGGGC
93906	SCN4A	GAGGAAGAGTAGATGAGCCGGGTCCGG
93907	GNB3	TCCCATGGCCTTCCCTCCCC
93908	CLASP1	GGACGCCCTCCCGACACACCAGCAGCAGG
93909	NR2E1	TTTATTTTAAAAATAATGGTAGGTT
93910	KCNE3	AGTGTGTCCACAAAGGGACTCC
93911	OPA3	GGACACTCATCTGTTACACTGGAACAC
93912	CYBB	GGAGAGAGAGGGGAAGGGGGTCTCAT
93913	SIM2	CAAGCTGAAACCCCATCTCCAC
93914	NAB1	CAGTTTTTAATATTAGCCATAG
93915	ATP5J	AGGTACAAGGAAGCACAACGCCC
93916	CASP10	CTCAGCTTCTCAAAGTTCTGGGA
93917	ROCK2	GCTTACGCCTGTAATCCTAGCA
93918	PRIM2A	AAAGGGTTTCACTGTCACCAAG
93919	DFFB	GGGACCCAGAGGGCTTGAGGACATCT
93920	MTP	CGTCATTTTGAATCATCATGTGACGCT
93921	CDS2	CGGGCAGGGAGCAGAGGGCT
93922	SLC7A7	CCTGACTGCCGCTCACACTGCC
93923	ATM	GAGCCCAGGAGTTAGAGACCAG
93924	CPSF6	TAAAGCATTTTGTTGAAATGC
93925	EGLN1	CTCCTAGTAAAGTTCCTGCTCTT

93926	PROX1	TCTCTCATTTTCTTTTGTTTTCCATTGC
93927	KCNK3	CTCCAGCCACATTCTCATAGC
93928	IL10RA	GAGTCATCTCAGCCCTGCCTTT
93929	FSTL1	TGCAGCTCCCTGTCCAAGTGCCTT
93930	ATRN	GCAATTGGAAAGTTAGTAAG
93931	RAD54L	ACTCCACCTGCCTCCTCCCC
93932	EFEMP1	AGTATTCTACTAGAACTGGAAG
93933	ETF1	CACTTGAATGAAGGGAGTATGTCT
93934	LRRC2	GAGGTGGAGTTGCAGTGAGCC
93935	OPCML	AGGAAGCTCTTCTAAGC
93936	ATP1A2	CCACCTCCCAAAGGCTGTCATTTCA
93937	CDH1	ATTTAGCTCTGAAGCAAGAG
93938	GP2	CATTGCACTCCAGCCTGGGCAACAGAG
93938	LRRC2	CATTGCACTCCAGCCTGGGCAACAGAG
93938	MYH11	CATTGCACTCCAGCCTGGGCAACAGAG
93939	RTKN	GTGGGAGGAGGAACTGTGGGA
93940	ITGA2	TGGTATTTTAAGAGAAAACTGCAGG
93941	GORASP1	CCCAGGAGGCAGCAGGGTCTGGTC
93942	PRDM2	CCACTTGGGCTCTGTTTTCTCAGC
93943	MLLT3	ATCTACCCTCCGCTCCTGGG
93944	BRS3	TCTGTTCTGTTCTGTTCTCCTAATACC
93945	WASF3	TGTCCATTGGGTGCAGTCATGTAGATC
93946	BAK1	GGACCTCCATCTCCACCCTGCT
93947	P2RX7	CACTTGAACCCGGGAGGCAGA
93948	ITGB3	TGCAGGAGTCCCTGCCATCATGTTTAC
93949	TERF2	GGCTAATGTTTTGTATTTTTAGT
93950	SORBS1	CTGTAGGAGTTCAAGGATCACACAAA
93951	ACPP	TGGTTTACGCCTATAATCCCAG
93952	GNAT1	AGAAGGGTGCCTGGGAGGCCAG
93953	PHEMX	CTGCCCAGCTGGAAACCACAG
93954	COL1A1	CCTCTCTCCTCTGAAACCCTCCT
93955	GALT	TGCATTCCAGCCTGGGCA
93956	KCND2	TGGCGGCGGGGGTGGCAGCG
93957	ADAMTS4	CTGCAACCTTCGCCACCTGGGT
93958	HM13	TTCCTGGTGAATGTGGAGAA
93959	COL4A6	CTCACAGAACAGAGAGTTTCT
93960	EPB41	CAGAATTAAAAGCTTCCCAA
93961	NRG1	TTAACAAAAGCAATTGTATTACTTCC
93962	C14orf1	ACCCAGGCTGGGAATTGCAGTGGCACA
93963	F2RL2	TCCTGACCTCAAGTGATCTTCCGGCCTC
93964	EPB42	CCGATCCCACCCCCTCCCCCAGGGCT
93965	LZTFL1	ATCATTTATCAGAGGAGGTTC
93966	CSPG3	TTCCCATGCCTCCTCTGGAG
93967	CTSF	TCTTAAGCCCAGCTCTGTTCTGC
93968	GPR55	TCTATGTGCAGCATGACTCTCTCCA
93969	DAP	ATCCTTAATGCTTCTCAGTCTTCAGCC
93970	IRTA2	CCCACTCCAGGGCCCAGCACA
93971	ADH7	ATTCCATGATGCATATTACTGGAT
93972	UBE2L3	TGGAAACTGTCCCATTGCT
93973	ITPKB	TTCTGCACCCCTCTCCCCATGG

93974	DMN	GGTCTTTCTGAGCTCAAGGGT
93975	PCDHB4	TTTGTCAAACTTCCCACTG
93976	BVES	CTCACAGTCTTTTTTGTTCCA
93977	FGFR1	ACTCTGGTGGCAGGTGCTTGTCCTCA
93978	CNTN2	GGGCTCCTGCCTGCCCA
93979	WT1	TTTAAAGCTCATGCATTTCAAGCAGCT
93980	SMCY	TCCCTGACGATTGCTTAGCATTAA
93981	IGFBP3	GAGGGACAGAGAGACAGGGAGAGTCAGC
93982	FBN2	TTATTCTTCTCAACCCA
93983	BARHL1	TGGGCCAGCGGCTGAGCTGTA
93984	DBY	GAGATTGTTGAATGCAGCCAGTGAA
93985	FXYD6	TCTGCCCCTGGGGAATGTGT
93986	MAN2A2	TCCTGGTGTGATGAGCAGGATC
93987	AQP4	ACTCAGTCTAAACAATAAATATTTCA
93988	PTPRH	TGCCCAAGGTCTCTCTGCACCCCACCA
93989	NDST1	AGTCCTAGGCTGGATGGGAGGGTG
93990	RNASE1	CACATGCTTCCCTTTCCTGAGTCCCA
93991	PIK4CB	TCCCTGAGAAGGGCGGGCCTTCC
93992	TCL1B	GGATGGGCTTCACTGGGGCCCTGTCTGT
93993	DIAPH2	CAAATTACCACCAATAATAT
93994	STAT1	ACATTCTGCTTTCATCTTGGTC
93995	SGT	AACAGCCACCAGGAAAGCAG
93996	CCND2	ATGGCTTTTGATGATT
93997	CSPG3	AGAAACACTTAAAACTTGAA
93998	SLC13A3	GGATACTTTCTCTCTC
93999	SORCS2	TCCCACCGGGTCTGGGCTCTGGAAGGA
94000	WIG1	TCAAGTTCTGGTCAACTAGTAGC
94001	NEU3	CAGGAAGGAAGACCAGATCTG
94002	ARF3	CAGTGGTTGCTGTCCTCTT
94003	LIMK1	GCTGTCCCCTCTTGCTTCTCC
94004	HSPA5	CAACATGGTGAAACTCCATCTC
94005	PLXNB2	ACCAGCACCAGCCCCAGCCCC
94006	PCDH9	CGTTATTTACAATTATTCAGCTCTT
94007	DAAM2	GGCCTACTCTCAGCTGCCTATC
94008	SFRP1	GTCTTTGAATCTGAATCAGCCAGTC
94009	SLC21A2	CCTGGCCCCTTGGAAGAGGCCCCCAGATGCCC
94010	TEM7	AGACCCATGTCTCCATCTGGTCA
94011	TJP1	ACAGAGTTGTTACATTTTTA
94012	ALPI	CCTGCCGTTGGACCTTCACCTCCTA
94013	ZNF43	ACCCAGCATGTAGATCATGTG
94014	WDR1	GGCCTCGGACCGCCCACTCCA
94015	SIRT5	CCACAGACCTGTTTCAGCTG
94016	TRIP15	CTTTTTTGATCAACTGGTTTGTGTTT
94017	PCDH9	CCATAGCCACAAAATATTTAATG
94018	GPR24	CAAGGAGACCTGGGGTGGG
94019	ABCC3	GATCTGACAGACAATGATCCA
94020	PLAGL1	ATCAGCCTGGCAGCAGCATTGTGA
94021	ADCY1	AGGGCTGTGAAGGCAGAGGGG
94022	MYO1D	CCATCCCTGCTTCCCAAAAAT
94023	NGFR	CCAGTCTGCTGCCCTCCATCCC

94024	TSC1	AGGTGTGTCCACAGAGTTTTTCAGGAGA
94025	CASP8	TTCTGCTGGGGATGGCCACTGTGAA
94026	PRODH	GGCCCAAGGCCCCCACCTCT
94027	HPSE	AATACTGCTTAGCATTTT
94028	IL1F8	CTTTGAGTGGGTTTGCTAT
94029	IGF1	TGTCCCCCAGGCTGGAGTGCAG
94029	LZTS1	TGTCCCCCAGGCTGGAGTGCAG
94029	RPP30	TGTCCCCCAGGCTGGAGTGCAG
94030	PDE6B	TGTCACCCAGGCTGGAGTGCCG
94031	IRAK4	AGACCTACCTTCCAGTTGTCAG
94032	CLCA3	CTATTTGAGTTATTAAATGTTAATCAAAAT
94033	TAF4B	CACGTATGTTATTCTTCATCCTG
94034	CLDN14	GAGGAGGACACAGTCGCTGTGGGCA
94035	GAS1	TGAACAATGCAACTTTTTATTTA
94036	PMP22	TGGAGGTGGGGGTTGCTGTTGA
94037	EZH1	CTCCCACACTGAGAAACCCCCCAACCC
94038	HSD11B2	TCTCCACTGTTTCATGAGCCC
94039	ASH1	CCTACCCCATCTATTCTCTGT
94040	PUM2	CCCCATAGCACAACAGGTTTA
94041	PPT2	GGGTATTAAAGAACTCCGC
94042	TACR1	CCATCCAGGAATGGGAGCCCGG
94043	CRP	CTTCTAGCCCCTGAACTTTCAGCCG
94044	CHI3L1	AGAGGTCCACAACACACAGA
94045	SLC15A1	GCGGCATGCACCACCACGCCCAG
94046	TADA2L	TGTTTTTCAGCTGAATTCTCATGGT
94047	PLAGL1	TTACCTTTCTGCTCCTGAATCG
94048	TNFSF12	GAACCCAGCTAGAATGTGCC
94049	FUT3	ATTATAAAAATTTACCTCG
94050	DNTT	ATCTCTAATAAAAACAGGAGG
94051	ABR	GGAACTCCAGAAGTTGTGGGGAGA
94052	RP42	TTTCTGCTGGCTGGACTGAACT
94053	MAGEB3	TTCCTGACTACAGCCATCATGCC
94054	TYRP1	GCCTGTGTTTGCCACTGTGTTTCCCTGC
94055	WHSC1	TGAGTGTGTGGCACCTGTGATGGCA
94056	PTK7	CTCAAGTTCTGGGCACACAGGGTT
94057	TM4SF4	GGTTCAAAGCATACTTTTCATGAT
94058	MASP1	ACACATTTGGGCCCATATGCCAC
94059	ARF3	GGCTGAAGTCGGCTTGGGGA
94060	DCX	GGGATTACAGGCGTGCGCCACC
94061	ADCY1	GGTGGCACCTCCAGACACCCTGAAACT
94062	RAI14	TTCCAAAACATGATTTAATTTCTAACT
94063	RET	CCTGCAGCACACCCCACAGCC
94064	ADAMTS4	GTCCTACAGAGGGAGAGGCCAG
94065	D10S170	GTAGCACATTAGCATTGATGGCTGTTC
94066	ACE2	TGTCAAAACTATGACTCTGTT
94067	BMPR2	TCTTTTCTTTGCCCTCCTGATTCTTGGC
94068	STMN1	TGTTGTTTTAGGGGCTAAAGGGGAG
94069	OLR1	GTCTGGCTTCTTTCACTTTGCATA
94070	PCDHB16	CAGAGCTCCATCTGTATACACGA
94071	CBFA2T2	TGTGATCACAGCTCACTGCAGCC

94072	SLC25A1	CGGGCCTCGGCCTGGCTTCACCGCAT
94073	GGT2	CAGAGCAGCATAATAAATGAGGCCACTG
94074	COLQ	GGTACTGGAAAACCTTCCACATGCCCAAC
94075	MARK3	ATTGTGCAGAATTAAAGTGCAGT
94076	KIR3DL2	ATGCCTAAGGTCGCCACTGCCT
94077	PATE	GACATCTCATCAGCCACTTGTGTGAA
94078	FUT6	ACCATCCTGGCCAATATGGTGA
94079	LILRB1	ACCATCTTGGCCAACATGGTGA
94080	SLC7A6	TCTGCTGCTGCCTCTTTCCTCCTC
94081	SLC24A1	TGTAACCAGATATAACTGGCCAG
94082	PAFAH1B1	TGCCCAGAGCACTACTCTCAAAATCA
94083	GALNT7	GGCAAGTAAGTTAAGCATTTT
94084	ADAMTS3	ACCAATAAAAATGTTAAC
94085	FCGR2A	AGGCTGGAGTGCAGTGGTGCTA
94086	RPP30	TTTTCCTGATAGCTGTAT
94087	EDAR	GCAGACGGCCGAAGAGCCAGG
94088	LRP6	ACGCGAGAAGGGAAGATGGGGGCCG
94089	RNH	GAGCCTGGACATCCAGAGCCTGG
94090	ZNF85	CCAGCCTCTGTGGCCCTGTGGCCTGCAGGTA
94091	DMN	AGACTTGCGCTTCTCTGCACCTTA
94092	RARA	CCCACCCCCAACCTGTCCCACCC
94093	GNAI3	TGTAAATGTGGTGCCAAAT
94094	PCP4	GGTCGCTGTGCTGAGCGGCGGGAC
94095	EPAC	AGAGCCTGCACGGCTGTGCG
94096	FER	CCATCACTGAAGAGCAGACCCGTTTGG
94097	KRTHB6	CATTGGTCTTGCCTGAGCTCTTCCTCA
94098	TAPBP	AGGGACCTAAGGCCCACTGGA
94099	PUM2	CAGTCACTGCAGCAACGCCTT
94100	IL21	ACACTATGTTACATACTCTAATATAGTA
94101	ATP6V1C1	TCGGTACCTGTTACTGCTGCTA
94102	MGAT3	ACTGAGACCTCCACCCACTGTGG
94103	CSE1L	CAGCCAGTGTGACACTGCTTTAAACTGC
94104	ROBO1	GGGCTAAGCCAGTTGGATCTCTGGTT
94105	APPBP2	ATCAAATTTAAGAATTTGTGA
94106	HLA-DOB	TGTTTTTAAAAACCTTTTATTGTCAAA
94107	SLC25A15	TTTTGTGCTGCTCCAACACCAGCAG
94108	DNASE2	CACATCTGTAACCCCAGCACTT
94109	CSF2	TCTCATGAAACAAGAGCTAGA
94110	C8G	ACCAGCCTCAGATCAGGGC
94111	HIRA	AAAAGAGACTGTTTTGGGGGA
94112	CLECSF12	TTTGTTACCCAGGCTGGAGTGC
94113	JAK3	CGAGTAGCTGGGATTACAGGTGT
94113	PRND	CGAGTAGCTGGGATTACAGGTGT
94114	CTMP	GCAGTGAGCCAAGATCATGCC
94114	KCNJ5	GCAGTGAGCCAAGATCATGCC
94115	DGKI	GCAGTGAGCTGAGATCACACC
94116	TNFSF9	CCTGCTGCTTTCTCTACCTCAAG
94117	GPR1	ACCAGCCTGACCAACATGGAGAAACCC
94117	RBL1	ACCAGCCTGACCAACATGGAGAAACCC
94117	VPS41	ACCAGCCTGACCAACATGGAGAAACCC

94118	PTGIS	TTGCCTGCCTGGGCCTCCCAAAGTGC
94119	CASP10	ACTCTTCTGTTCCCTTACTGTTTCACG
94120	TPM4	CTTCTCCACTCTCCACCATGCAG
94121	PCDH7	CATTCCCCACCTCTTCCCAGC
94122	BIN2	GGGAGAAGAGAACATTAGACTCAGGGA
94123	ZNF192	TTCCTGAGCTTTTCAGGCTCTA
94124	EYA3	AGTTTTAACAGATTCCTGGTTAGGAACT
94125	TNXB	TTTGCCAGTCACCTCAACCAGCCAGTTCCAC
94126	TYRO3	AAGTTGAGGGGAGCATGCTTCCC
94127	DNMT3B	GCCTAGAGTTTACCTTATGT
94128	WHSC1	TCAGCTGAATAACCAGGGGC
94129	IGFBP4	CCCTCCCCACACCTCCCTACTC
94130	CYB561	TCTGCTCAGGCTGGGAGGCAG
94131	GP2	CTCAGGGGGTGGAGGTTGCAGTG
94132	CA12	CCCAGGAGGCGGAGGTTGCAGTA
94133	TRIM14	CCCAGGAGGCGGAGATTGCAGTG
94134	RGS6	CCAGCATTTGCATCACCTC
94135	ELF3	GCCGGCCTGCCTGCCACAGCCGG
94136	ACP2	CTCTCCCTCAGCTGGGCTGGGGTC
94137	GPR27	GTGGCCGCCTCCTCCTGCGCGCACCA
94138	SLC8A2	TTCCTTTTGCCCTCAGTGCC
94139	LRAT	GTGTTCTCTGGACCTATTCTAACCAC
94140	CYP1A1	CCCTATGGGTCTAGGACACAGTTC
94141	EPHA3	TTTTCCCCTATCATTTATTGGATGGGT
94142	EPHB1	CCACAGGAAGAAAGGGAAGGAGGTAGAGG
94143	MGAT2	AGGATGAGAGCGCAGAGGAC
94144	SLC3A2	GTTGCCCAGACTGGTCTCGAA
94145	CYP27B1	GCTGCTGGCTAAGCATTTATCAAA
94146	KCNJ10	GGTGACTTGAGGCTGGAGCTCCCTC
94147	PRY	CCAGAAACAGACATCTTGCAGTGTTTCAC
94148	HS3ST3A1	GGAGAGGGGTGGACGGC
94149	MAFF	GCCATTCAAGGAGGCCTGTGG
94150	EPHB2	GTGATTTCTCTCCCACCTCCTTC
94151	VAPB	TGTAGTGAAGTCAAACTGTTATT
94152	ARNT	ACTAGGGCACATCTGGATGCCTTC
94153	CAMP	GCTCAGGCTTCTGGGCTCTGA
94154	STMN1	GTTGGTGGCAGTGACTTCTTTTG
94155	PPP1R11	TCATTCTCACCTCTTATGGAAAATGG
94156	HAS2	TGCTGGGACTTGAACAAAGACAT
94157	CALB1	TCCCTAAAAATTCCACCAGGATTAATCTC
94158	SLC15A1	CGCCTCCCAGGTTCAAGTAATT
94159	ALX3	CATCGTTCAGGGAACCCAGGAAAATGGGAG
94160	MS4A2	TCCAATACAGAGTTCTGGTAAAGAT
94161	TBL1X	CTTTGTAATCCCAACACTTTCT
94162	DDOST	CAGGAGGCAGAGCTTGCAGTGA
94163	RB1	TTAGAAAACAAAATTTTATTTTGTGCT
94164	CDX1	AGGGGGCAGAGTCTTCCCTAC
94165	MUC3B	ATCTTCTCCCCTTCTGAGCC
94166	ATM	CCTATAATCCCAGCACTTTGG
94167	PPP3CA	TAAGTTTGTAGTTACATGTGAA

94168	PKM2	TGCAGCACCTCCAGGCCTGTTGCTATA
94169	CD4	TCTCCTGGGTTAGGCCCCGGCT
94170	ELF3	AATAAAGTGCCTTCTGGGCTTTTTCTA
94171	RAD21	GTTCTGATGGAGAAAACAGCACCCC
94172	SLC21A2	CCCCATGTCCTCTGGAACA
94173	SLC4A7	GGCCACAGAGCCACCTCA
94174	MAP3K4	AGAAGCAGTATAAGCCTTTT
94175	MYC	TGGAAAACCAGCAGCCTCCCGCGACG
94176	CYP8B1	GCTCACTGCAACCTCTGCCT
94177	PIP5K1B	GCTCTGTTGCTACTAAGCAGCTTTT
94178	DSCR3	TGCAACCTCCACCTCCCAGGTT
94178	FEZ1	TGCAACCTCCACCTCCCAGGTT
94178	MEFV	TGCAACCTCCACCTCCCAGGTT
94178	NUMA1	TGCAACCTCCACCTCCCAGGTT
94178	PDE6B	TGCAACCTCCACCTCCCAGGTT
94178	SEPN1	TGCAACCTCCACCTCCCAGGTT
94178	SLC14A2	TGCAACCTCCACCTCCCAGGTT
94178	SNX15	TGCAACCTCCACCTCCCAGGTT
94179	ED1	GCAGGCCTCTGGGACCCACAGAACT
94180	SEDL	CTCCTGTTGTGCAGGCTGGAGTGCAGT
94181	NPY5R	AGGGAAAGGGTGTTACAAGGAA
94182	COL19A1	CTCAGTGTACTTAAAATTTTACAG
94183	JMJ	TTTTGTTTCTCTGGGCGGTTGTGG
94184	APP	TGCCTGAACTTGAATTAATCCAC
94185	SLC9A5	CTTCCCTTTGCTGCCA
94186	ITGAL	AGGGTGGATCACCTGAGGTCA
94187	DCX	GCTTAAAGTTTTACCATTACACA
94188	MAB21L1	ACCCCGGACACACACTCA
94189	TMPRSS3	CAGGCTGGAGTGCAGTGGCGAAATCCC
94190	SYBL1	TAGCACAAACGTTTTTCCAGTCTTCT
94191	COX11	CACCATGGCTTTGACATGTTGG
94192	HTR1E	AGTCGCCCAGGCTGGAGTGCAG
94193	RGS14	TCTGCAGCTACCCAACAGTCC
94194	IGSF4	TCTGCAAGTGAGGTGTGTCACA
94195	TGM2	CACATCCCAGCAGCCCA
94196	GRLF1	CTCTCATCTGCTGCTCCG
94197	ALDH1A2	ACCAGAATGAAAATGCCAGG
94198	EDN2	GAGGAGGAGAGAAGTGGCCAG
94199	RUNX3	TCTCTTGGCCTGTCCTCA
94200	DUSP4	GGGCTTATCCTGGGTGCTTAT
94201	ELMO2	CCTGCTCTCTGATCAGCTGGATC
94202	APG5L	TTTTCCTTTTGCGATTTTCACTGA
94203	CSE1L	ACCAGTAAGGACTTTTTAATTAAC
94204	PTGES	ACAGGCATGAATCACTGTGCT
94205	BLAME	CAAATGCAAATGCAGAAGACTTACCT
94206	DMXL1	TGAGACTACAGGCAGATGGGACTAA
94207	APBB2	CCTCAGCCAGAGAACTAGAGCAGAA
94208	PSCD4	TGGTCCTCAGCTTCCTCCATCA
94209	GALK2	TTGGCAGGACTTTCTGTGCCACAGTAAA
94210	DAZL	AAAACATTGAAATATTAGTTACTTGCT

94211	HD	GCCAGCCCTCCCTGGCTGTGAGCAG
94212	PLAT	CTCTCCAGGAATGCCTCCTCCCTGG
94213	EPB49	GGAGGTGGGGTGGAAATAGGGTGGGC
94214	HMGA1	CATTGCTCTCTGGGCTTTTGGTTTGG
94215	PDX1	CTTCATCTTCAATTTGGGTTTAA
94216	IL12RB1	CTGTTGGCAGACTGGAGTGCAATC
94217	SLC7A8	CCCATCATACCTGCACCCACCCCA
94218	SHFM3	GCGGAGAGGCGAGGAAGCTGCAGG
94219	SLC4A1	GTGGGTGGGGAAGGAAGGCGTGTCCA
94220	PMM1	GGGGCCCACATCTGTGTGTCGTGACTT
94221	SLC31A1	GCCTGTAATCCCAGCTACTCAGAAGG
94222	PPEF2	TGTTGCCCAGGCTGGAGTGCATT
94223	SCG3	CCGCCCCACACCCACCCTCCT
94224	WT1	TGCCCTGCCTACTTTTAGTTGACTCAC
94225	BRCA1	GGAGGCTGAGGCAGGAGAATCGCTAGA
94226	ATP1A2	GAGGAAGAGGTTGCAGTGA
94227	DSC1	TCCAGCCTGGGCAACAAGAGCG
94228	TMEPAI	TGATTCCATGGCTGTTGTG
94229	HK2	GCTTGGCAGAGAGGACCCCACTGGACT
94230	GALGT	TACTGGCTGTCCCTGAGCCTCT
94231	BFSP2	GAGCGGCTGTGGAGAAACTTCCTCTTT
94232	SACM1L	AGGGTCTTGTTCTAGATTTCATATTG
94233	E2F3	AGAAGACTAGTAGAGTTCTGCCA
94234	CRHR2	CTAGTCCACAGATTAGGCAATCAAGGA
94235	NLGN2	GCTTTCTCACAACGGGGTGTGTTT
94236	BMP8	GAGCAGCCACTGGGAGTTGGAGTGTT
94237	TNFRSF10C	CCCAGCCAGGCAGGGGGCAGT
94238	PLSCR1	CAGCGGCAGCCAGAGAACTGTTT
94239	TLR5	CCGCCCAGGCTGGACTGCAGT
94240	RBL1	TGTTTCTATGATAAAAGCACT
94241	SRP19	GGTTTCTCCCTGCGGCTCCTGGGTT
94242	P2RX3	ACTCTCTCAGCATGAACTGCA
94243	TR2	CTGCTGGGCTAGGCCTGCTGC
94244	CELSR2	TGCCCCAGGCCATCATCTCCCC
94245	BARX2	AAGACTTGCTTGTCTTGGGCCTGTCAC
94246	ACADVL	CCCAGCACTGTGCCTGCTCTCAAGAGC
94247	FSTL1	TGGAAACATTCCCACATGCCGTGAC
94248	SNAI2	AAACTATTTCAAATGCATACCACA
94249	TAF1C	CCCTGGGCCTCTCCCCATGCTGCC
94250	LAD1	TCTGCTCCTTCCTGCTCACATC
94251	APOL1	AGCTAATTTTTGTATTTTTAAT
94251	CDH17	AGCTAATTTTTGTATTTTTAAT
94251	HTR1D	AGCTAATTTTTGTATTTTTAAT
94252	HYAL4	AGCTGATTTTTGTATTTTTAGT
94253	SOX15	AGCTCTGGGCTTGGGGA
94254	TMOD3	TGCCCTGCACATCATGGCACTGCCATT
94255	MMP19	AGACCAGCTTGGGCAACATAGG
94256	NEO1	CTTCCCTTTGCCTGCTG
94257	PRG4	TTCAATGGAAATTATTACAAGCAGA
94258	CTSD	CTCTGTTGTCCTCCCCTTGGGCGGCT

94259	INMT	TCCATCTTCTGAAATTCTGAGA
94260	KIF3B	CAAGTCACATGTCTCTCAGACC
94261	IL21R	AGCCCCAGAGTAGCTGGAATT
94262	ADAM12	ACTGGCAGGCAGGCTCCCAGGGACACC
94263	TNFRSF9	CCCAAAGTGCTGGGATTACAGACATGA
94264	CDA	AACATCACAGAACATCCTGG
94265	TCF2	AGCTGGAGTGCAGTGGTGCA
94266	TLR4	TCTTTTCCTGAGTCTTTTGAATGGA
94267	ADD2	CCTTGGGCTCCCTCCTGCC
94268	RAD51L3	ACTACAGACGTTCTCAGGCTGG
94269	RAB36	CGTGGGCCAGGATGTGCAGAACA
94270	BACE2	CTTGTCTTAATCGTCCTGCTGCTGC
94271	ZNF236	AGTATCTGGGGCGTCAACATGGGGAC
94272	CASP3	GTCAATGACAGTTTCTTTTT
94273	HELLS	AGTGATTTCCCTGTATTGGGTTTGA
94274	SSPN	TTCTATTCTATCATCTAAAACAA
94275	RAB7L1	CGCCTGAGGTCAGGAGTTCAAGAT
94276	RANBP9	GGAATTGGTCTTTCTGCTCAAG
94277	BCAS1	GACTAGCCTGGCCAACATCATG
94278	ADH1C	TTTTGAACAATACAGATGCCTTCCCTTGT
94279	CKTSF1B1	GATATGACCTCCCTTTCTTTATGTGCT
94280	CASP8	CCTGCCTGTACCCCGCCAACAGCTTC
94281	PLXNA1	TGTGTGGAGGTGATGGTACCTGCCA
94282	MGAT2	GCCAATCTTCTCCTTCGGGGA
94283	LARS2	ACTGCAGTCAACAGTGTGCCTC
94284	DNCI1	CTCTCTGCTGCTGTTGAGGTT
94285	USP6	GGTCACATGCCATCTCTTCCTGA
94286	SMPX	GAGCTATTTCAGCCACATGAA
94287	C20orf1	ACAATCAGTAAATCAGATTCTGTC
94288	RGS6	GAAGGAGAAAGAGTGAGGGCA
94289	CRYBB1	CACCTCACTCTGCTACCTTGCC
94290	UNRIP	CAGACTCCCTGACCCCTCCCTC
94291	TNS	GGAGAGGGAAGTGAATTGCAGAGGGGA
94292	FRAT2	TGCTGTGGGGTTCCTGGGAGAGCTTAC
94293	DES	CATCCCTGCCTGGTCACAGGCATGCCCCGG
94294	ATSV	GCTCTGGCTCTGAGATGAGGCAGACG
94295	DAPP1	GCTCATGCCTGTAATCCCAGGA
94296	TBX1	GCCCCGGTCCTGCACAGCCCC
94297	AXL	GTGAGTCTTTGGTTCTAAGGAC
94298	G6PC	AGAAAGACCTGTTGCTAGA
94299	IL6R	CGCCTGTAATCCTAGCACTTTG
94299	ROCK2	CGCCTGTAATCCTAGCACTTTG
94300	PART1	GGTCACCCAAATAGCTGAGTGCAG
94301	WARS	TGCCCCCTCCCAAAAAGA
94302	ALDH1A2	CATTTTCCTCCTTCCAGGCCCTCCTCG
94303	FOXM1	TCTGAGTGAGGACAGCAGGC
94304	ABCB4	GGTGGCAGGCAGAGCAGGATGCAGAGGCA
94305	CHRNB2	CCAGGATAGGCAAGAAGCTGGTTTC
94306	RBM8A	GTTATTTTGTGGAAAAAGAA
94307	PSMD7	ACCGGTGACCGCTACTGCTGCCGG

94308	IL1F5	GGCATGCCACTTCCAAGATTAG
94309	IFNAR2	TTCAGGTGATTCTCCTGCCTCA
94310	PPM1B	TTTGCTTTGACATCTCA
94311	TIMP3	GAAGGCTGAGTGTGAGGCACCT
94312	PIK3CD	TGGGGCTAGGACTGTGGGCTTTTAGC
94313	RRM1	GGATTGTTGCGCCTCTGCTCTG
94314	G6PT1	CAGGTTCCGGAGCACCATCCCAC
94315	CTSB	CACAACCTCTCTGATCTTGTGCTCAGC
94316	TNFRSF1B	CTCTGCCCCAGCTCTGGCTTCCAGAAA
94317	DMN	AGGCACTGCAATTTTATTTT
94318	CYP4F3	TGTTACACTGGCTGGTGTTGAA
94319	BTAF1	TTCAGTTACATTTCTGCTGATATTCAG
94320	LAMC1	TCTGCTGCTGTCCATCACTGTCCTT
94321	DLEC1	CGGTGGGAGACCTGCTGCCGGA
94322	QARS	AGGGTGTGGCTACCCTCGCCACCCCAAAT
94323	G6PC	CCTCTTCCTCCTGGTTCA
94324	EPHA8	CTGCAGCCTCCACCCGGCTCTCACCG
94325	ZNF200	GGCTCTCTGGCAGATTTCCT
94326	TRPC6	CTACTTCCAATTCAATAATGG
94327	IL1R1	GTCATCTTAGCTTTCCACAGGAGGGAG
94328	DXYS155E	CCCTGCGTGCACGGCCTAGGAG
94329	FANCC	CTGAGGCATGAGGATCTCTTGA
94330	TPM4	CTGAGGCAGGAGGATCGCTTGA
94330	YWHAB	CTGAGGCAGGAGGATCGCTTGA
94331	ZNF36	TCACCCCCTAACCCCCAAAAAA
94332	DSC2	CCCAAGACTATGTCCTGACATATA
94333	BGN	GCCTGTCCCTTTCACTCCACA
94334	ATP2B4	AGCACAGACTTACAAGGATTTCA
94335	IL12RB1	GGCTCACTGCAGCCTTGAACTC
94335	XRCC2	GGCTCACTGCAGCCTTGAACTC
94336	UVRAG	AGGACATTGCCTCAGGGTTGCAAAC
94337	CD1A	CCAATTTTTCTGAGAGAAGGAAATAAC
94338	GNB1	ACATTCTATACAAAACTGTGCTGTG
94339	GALNT3	CCCGTTTTCACACTGCTGTTA
94340	SLC21A2	AGCAAGAAGCCACAGATTGGCATGA
94341	DLX2	CCTCGCCCGCTCCCCTGGGCTCAGCTCGGA
94342	LARS2	TGCTGGTTCCTCTGCCTGTGT
94343	YES1	TGCAAGCTCTGCCTCCCAGGTT
94344	MEN1	AGGCTGAGGCACGAGAATCGCT
94344	PSMD5	AGGCTGAGGCACGAGAATCGCT
94345	MEOX2	CAGGTATTTGCTTTTGCTTGC
94346	CDH23	GGGGCCCAAGAGTCTGGGGA
94347	SMPX	ACCTCCTGAATGCCTGAG
94348	PUM2	AAGTTGGCATGAAATTTTGGTAAA
94349	CDC5L	GCTATTCTGCGCCCCCTCCTACC
94350	PABPC4	AGAGAAACGCGTGTCCCCG
94351	CPT1B	CCCCAAAACGGCGGCGCGCCTCGTCGC
94352	COX10	CTCTGGCCCCCACCCCATTACT
94353	CLASP1	CTGATGTTGATTTGGAAACAT
94354	HMG20A	TGACACCATACACCATCTTGGTT

94355	REN	TTCTGTGTCCTGACACCAC
94356	NCF4	GTGAGAGGTGAACTCAGCCTGG
94357	TCTE1L	AAACAAAATCAGTTTTGCA
94358	BCAS1	ACAAATCAGCACGGTTCCCACCAGGTT
94359	PRKCH	CAGCACAGTCAGCGGGTGAATTACAG
94360	ASB1	GGCTTCAGCCCGGGAGAGGGG
94361	ATF5	AGGCCAAGGCAGGAGGATCGTT
94362	IPP	AGGCTGAGGCAGGGGGATCGCT
94363	RECQL	GGGATAACTACTGTTACAGCTTT
94364	EPHA8	CCCACCCCAGGTCATGCCAGCG
94365	PDGFRA	AACTGTACTGAATAGGTTCCCCA
94366	SYNGR1	GCACAGCCCTTGTCGGTGCCCCGGCCC
94367	TDG	TGGCTCATGCCTGTAATCCAACATTGG
94368	B4GALT4	CTGCCCAGGTATGCCTTCCAGTG
94369	CYP2A6	GATGGCGGAAAGGAAGGGGCGT
94370	ADD1	ATGTGGGCTCAGATCCTGGGCAT
94371	AICDA	GGCCAGCCTGGGCAACATAACAAGATC
94372	FGF5	CCTTTGGTGGCTGGGATATGATG
94373	LAD1	CAGGAATATTTGCAAGACTCAGCCAGC
94374	PCSK5	CGGAGGGAGCGCTGGGAGCGAG
94375	TNFRSF14	ACCACACACCCAGCCCTCCTGG
94376	CACNA1D	CCAGGCCCACCCAACTGAAG
94377	OPCML	AGTTTCCTCTGATGCAGCTGCTTCTCC
94378	IGLL1	GAGAGGGACCAGGGCACC
94379	PPP1R3A	TCTGAGCTAGAATTATTCTCTTAAA
94380	NTSR1	ACACGTGTCCATGCACCACAGA
94381	KCNAB2	TCCTCTCCCATCCTTTTCTGCTCCA
94382	HDLBP	CGTCCTTGACTTTATAAAAGCCCCGA
94383	GP6	CACTGGGCCAAGTGCAGTG
94384	MUCDHL	AGGACACGAAAGTGAACTCCAC
94385	CALML3	CTTGTATGTCCATCAGCATTTATCAA
94386	KAL1	GTGAGTTATATGATTTACGGAG
94387	HDAC4	CGCCCGAACAGCCTCCCAGCCTGGG
94388	NOTCH2	AACAGGTTTCAGTGATGAGGAGGA
94389	SHANK2	CAGCCTCTCTGGCAAGGCTTTCTTGAG
94390	YWHAG	TAACATCCTTATTCAGCCTTATCC
94391	LMNB1	CAGTGCAGAGCCTTCTCAGAAGCACA
94392	RAGE	AATTTGGGGCAGGAAATACT
94393	ARHGEF6	TGGCCCACACCTGTGGTCCCAG
94394	GPR30	CAGCAGGAAGGCCCCTCTGTGGAGCGCC
94395	HNRPH3	GCCTGACAGGCATTTAAATCA
94396	TCF1	GCTACTCTGTGCCAGAGCCTGGG
94397	CSNK1D	AGCTCCCTCCAGTGGTGGCCGC
94398	MRPS22	CTGCAGCTTCCTAAAATATTTTA
94399	IL6	CAGTTTGAATATCCTTTGTTTCA
94400	CCK	ATAAGACAACAATCACACTCATA
94401	EGF	CATTCAGAAGGTCTCTCAGTTGA
94402	HOXA4	AGTCTGTGCTGGTTGCCACCCA
94403	MAP1B	TCAGAACTGGGAAAACAGTG
94404	GNPI	CAGGCAGCTTAAGTGTGAGTTT

94405	FABP3	TCTCAGCCTAGCCCAGC
94406	NQO1	CCAGGTTCCAGCAATTCTCCTGCCTCA
94407	TCN2	TCATCCCAGCAGCCTCGCACACTCCCT
94408	CD80	GCCCTGCCTGTTTTGCACCTG
94409	IMMT	TTTCCATTTGCTATCATGTCAGTGAACG
94410	CNTNAP2	TTTTTTCCTGTTTTATCTGA
94411	CASP8	ATCTCAGTTCACTGGTTTGA
94412	ZNF138	AACCAGTTCTCACAACTTGCTAT
94413	CNP	TATTTCCCAAGCTGGAGTGCAG
94414	RECQL	CTTTATATACTTAGCTATAT
94415	MN1	AACTTCTGTCTTTGACTTTCCCAGCGT
94416	ADAMTS4	TGGAGACAGAGTCTCGCTATTGTCACC
94417	ROBO1	TTCAACTTTCAGAAGTGCCACTT
94418	MAP1A	GACAGCATCAGCTCTGA
94419	BCL6	GGGAATGTTTGTCTCATCCCA
94420	ATF6	TCCAGGGAAAAGGAACTTGTGA
94421	MAB21L1	TCAAGAGCCGAAATTATTAC
94422	AQP2	GGCTTCTCCTGCCTTTTTCAGGGA
94423	SULT1A2	TACTGGGTGGAGGCTGGGGGTC
94424	DAAM2	TTTAAACCATTTGGTGCTTGGT
94425	ITGA5	TTCACAGTTCTTTGGGCCAGACA
94426	DNMT3A	GCTTTCTCATACATTATCACA
94427	PIGR	TACTCACTGAGTCTTAACTTTTCACCA
94428	DAAM2	GTTCAACTGTTGACAGAGGA
94429	GAD1	GGGAAATTCACACTGTGCGTTTTGA
94430	KRAS2	TTTCCACTGCTATTAGTCATGGTCACT
94431	AKAP4	CCTACATGATGGCGTACTCTGA
94432	IRTA2	CCAGTGCACTCCCTAGGAAATCCGGGA
94433	SCN4A	CCTGCCTCACTCCTCCGTGAG
94434	ATRN	GGCACTGCTTGGAAATTGTGTTTT
94435	MPL	GTTGCCAGACTGGAGTGCAGTG
94436	EPHA8	ACCAGCACCAGGCCCACCCTCGTCT
94437	CDC25C	CGGAAGGCAGAGCTGCAATCTAGTTAA
94438	NHLH1	TCCAAATTTTCAGCCACCA
94439	HPS3	GCTAACTTTCTTCTTGTCTAGCTATT
94440	MAP3K8	TCTCCTGGAGGCTGGTTCTGCT
94441	MAT2A	TAACTTGATCCATTTCTAATTATGTAGC
94442	LYL1	GCACTGGGCCAGCATCCTCCGG
94443	SURF6	AGGGTGAGGGAGACTGGGGCCTGG
94444	SUFU	CCCGTCAGTGCTCTCCCCGTCGTTTGCC
94445	CHRNB4	CCCAAGTAGCTGGGATTACAGAAAGCC
94446	SEDL	CTGACCTCAGTTGATCCACCC
94447	RAI3	AGTGCCGTGGAACTGGAA
94448	GLUL	AAAGAAGAAAAGGTTCTTACTGCTTG
94449	MXI1	ACCCAGCATGACATAACAGTGCAGG
94450	VDR	TTGGTTGAGGTGGAAGCCCTCCTT
94451	SBF1	GAGGCCCCGAGCCCCCAGCACTT
94452	TNFAIP1	AGTCCGCTGGCCACCCAGCTGAGAG
94453	CD36	CAAGGGAAGAGAGATGAGGAACCAG
94454	AIM2	GAAGCCGTCCAGAAGTGTCAGAGTCT

94455	NYX	CACTCGAGGGGGAGGATGGTA
94456	FNTB	AAGACTTGCTTCAGCCCCAGGT
94457	CALCRL	CCTAGCTAAGGTCTATAAACAT
94458	RAF1	CTCCTTTCACAGCTTCTAAGGTGTCCAG
94459	PIP5K1A	TTCTCATCTTTTCCA
94460	PPP1R12B	ACTGGATAATCTTTATGTGCCCTTTCC
94461	FOS	AGGGTTCCTGTAGACCTAGGGAG
94462	PLAGL1	GGAACTCAAGTGGAATTTGTTTG
94463	IL2RA	AGGCTGAGGCAGGAGGATTGCT
94464	MLLT2	GGGAGCGATGCTTATCTCTCACA
94465	CISH	ACTGGCAGCCAGCCTCTGTTTCT
94466	HS3ST2	CCCTGCTCCCTGTGGACAAAAGCACAT
94467	NOS1	ACAAAACTCTGTTCCCACTCCCT
94468	FCGR3A	GACTGTAAAACCACCTTTTCTGCTTCA
94469	VAMP8	AATTCACTTACTGACCGGCCTGGGC
94470	EIF5A2	CTCAGGTGATCCACCTGCCTCAG
94470	NDRG3	CTCAGGTGATCCACCTGCCTCAG
94470	SEPN1	CTCAGGTGATCCACCTGCCTCAG
94471	TAF15	TTTCCAACCTTCTCCCCAACCCTTGG
94472	STK24	GTTTTAAATTGGAACATATCTTGCCT
94473	PEX3	AACTATGTTCTTTGCTATTTCTTCACT
94474	RXRA	TGGGACCCCTGCTCAGGCCTTCTCTCT
94475	SLC25A14	CTCCTGATGGAAGAACAGTGG
94476	ARF3	CCACCCTTCTTAGGGCTGGAGGA
94477	MGA	TTCATTCAATGCCTTA
94478	ALOX5	GGCGTCCTGTCCACACCCAGC
94479	EPHA8	CCCACCCTCGTCTCTGCCTGGGTG
94480	AMD1	TTTCCCTTACCGATCGGCAT
94481	GFER	GAGCCTGTTGTGTCTCAG
94482	MFNG	TTGCTCCCCACCCCTTGCGAAC
94483	ZNF264	TCTTCTGTATTCCACAATAGTACTT
94484	ALDH1A3	AGGTTACCTTTGCTGCTA
94485	PYGB	CTGCCCAGCCCTGCCTCCTGGCCATGC
94486	DHFR	TTCATTCTTTTTATGTAGTAAA
94487	CAMK2A	GGCCACATCTCCCCACCTCT
94488	CLC	GCTCATGGCCTCCTGCTTCTTGCCT
94489	RAG1	ATACTAGAGTTTTATTTTTAGCAATG
94490	ALPPL2	ATTACCTTCCCTCCCTGGGCC
94491	FOS	CACACCAGGCTGTGGGCCTCAAG
94492	AOX1	TCTGGAGAAAACAGAGTGCC
94493	D1S155E	AGCTTTGAAAGAGCACTTCCCAACGCT
94494	ALDH3B1	CACACCTGTAATCCCAGCACTT
94494	CASP6	CACACCTGTAATCCCAGCACTT
94494	CRACC	CACACCTGTAATCCCAGCACTT
94494	CYP4F3	CACACCTGTAATCCCAGCACTT
94494	DMC1	CACACCTGTAATCCCAGCACTT
94494	EHHADH	CACACCTGTAATCCCAGCACTT
94494	FANCD2	CACACCTGTAATCCCAGCACTT
94494	FRDA	CACACCTGTAATCCCAGCACTT
94494	FUT6	CACACCTGTAATCCCAGCACTT

94494	GRM6	CACACCTGTAATCCCAGCACTT
94494	HUNK	CACACCTGTAATCCCAGCACTT
94494	IFNAR1	CACACCTGTAATCCCAGCACTT
94494	LRRC2	CACACCTGTAATCCCAGCACTT
94494	LUZP1	CACACCTGTAATCCCAGCACTT
94494	MCM4	CACACCTGTAATCCCAGCACTT
94494	P2RX7	CACACCTGTAATCCCAGCACTT
94494	PCDH11X	CACACCTGTAATCCCAGCACTT
94494	PTAFR	CACACCTGTAATCCCAGCACTT
94494	RAB7L1	CACACCTGTAATCCCAGCACTT
94494	SIM2	CACACCTGTAATCCCAGCACTT
94494	ZNF136	CACACCTGTAATCCCAGCACTT
94494	ZNF137	CACACCTGTAATCCCAGCACTT
94495	PRKCI	CTGGTTTTTCAGTTTTTAAAAGGCCT
94496	FGF2	TTTTCAGTCTTCGCCAGGTCA
94497	ITIH1	TGTGTCAAAGCACCTCATGCCT
94498	PPP1R12B	GAGCAGCTAGGACTGCAGGTGTGCAC
94499	SPI1	GGCAGGACTGTGGCGGGCCGGGC
94500	PTGFRN	GCACACGGCTCTTCTTCCCA
94501	HPS4	CCAGCTGCTGCCCACATTTCTGG
94502	EN2	AAGTCGGCTCCATGCTCACCAG
94503	GABPB1	CCCACAGAAATGATGAAA
94504	FCRH3	CCCAGGAAGAGAGCAGGCAGC
94505	MKI67	CAAATACCCACCCATTTCCACCATGG
94506	RAB6A	CCTGCTGCCCTCCAGCCGGG
94507	DGCR2	GCTGAACCTTGTGCTCCAGGGGTCCTC
94508	PCYT1A	TGCCGAAGCGCCACCTCA
94509	SLC18A1	TCTTCTTTCCTCCCCTCCCATGGAC
94510	APOL1	CACGAGGTCAGGAGATCGAGAC
94510	DDOST	CACGAGGTCAGGAGATCGAGAC
94510	F2R	CACGAGGTCAGGAGATCGAGAC
94510	GAS7	CACGAGGTCAGGAGATCGAGAC
94510	GNE	CACGAGGTCAGGAGATCGAGAC
94510	KAI1	CACGAGGTCAGGAGATCGAGAC
94510	NFKBIL2	CACGAGGTCAGGAGATCGAGAC
94510	SLC14A2	CACGAGGTCAGGAGATCGAGAC
94510	SLC26A4	CACGAGGTCAGGAGATCGAGAC
94511	G2A	TGCCTGGATGCGGTGGTGCA
94512	C18orf1	GAATTGCATGCAAACTAGACTGAAATG
94513	PPM1B	CGGCGGAGGAGGTGGCGGCGG
94514	PPP2R1B	GGACCCAGACGTGGAGTGGAGT
94515	G2A	ACTCACCCGGAGAAACCCAGC
94516	PRKY	CAAATTATAAAAATTAGTCGGG
94517	ISLR	CAGTGGATGGTTCCAGGCACCCTGT
94518	GPC4	ATTTCCATTTCTCCCTGTT
94519	FRAP1	TAAATCAAGCCATTCATTTTGGG
94520	E2F3	CGTTCCCCTTCCTCTATGA
94521	SP3	TCAAACCTTACTTGCCTCTGGAACAC
94522	ZNFN1A3	ATATATCAACCACACGTGGAA
94523	TFRC	GCTCAGTTTATCCAAGGTGTAACTCTA

94524	TPO	TACCATGTCGTAGTTACTCTCAGGCAT
94525	SHFM3	AAGGGAGGGTGGCGAGGGGGAAGC
94526	TAT	GAAAGAACACGCTCTCTCCA
94527	NARS	CAGTAACTTATCTTTCTGTCCTTT
94528	RBBP9	ATACAATTTCCTACACTTCATACCT
94529	ITK	TTTCTGGAACATTCAGTCTAG
94530	TCERG1	TTCTGAACAGAACACTTTGG
94531	KLHL3	GTTATTTCTCATAAGTACCCA
94532	TMPRSS3	GCCACTCAGAAAAGACGCACCAGCCC
94533	DLEU2	CAGAGATACAGCTTCTTATA
94534	SLC1A5	ATGCCTGGCTGCTGGAGTACATGTG
94535	MAGEA5	TTCTCTCTTTGAAGAGAGCAGTCA
94536	RAD50	TTCCATTCCACACAGAATGCA
94537	E2F3	CAGGGTGACCTGTTCTCTAGCTGTGA
94538	TRPV1	GGGGTGAGAGGTTCAGTCCTGG
94539	BCL2	CTCTATCAGAGAAAAACAGGAAA
94540	Rgr	CAGGGGACCCAGATCTGGAGCTTTGA
94541	ELMO1	AGCCTCCTCGTGATCCTCCCTAGCAT
94542	GADD45G	AGCTCTGGCTGTCAGTGTGTTCGCCC
94543	RP2	CTGAGTAGCTGGGAATACAGCATGC
94544	PSMD5	GCAATCTTATCTAAAAGCCT
94545	INHBB	GCGAGAACCCTCAACTGACAT
94546	KCNA6	CGTTTCCTAGCTTCAGGCTACTTG
94547	BCAS1	GAGGGAATAGAGGAATGTGTTCGG
94548	NMB	ATGCAGACACAGATTATGTTCCTG
94549	CSNK1G2	ACTTATGGATTTTGACAAGAAAGGAGG
94550	ZAP70	GAGCTCAGCAGACACCAGGCC
94551	DCX	CTTAGCCTGTGATTTTGCCT
94552	BAPX1	GAGCTAGGGTGGGGGTGCCCGA
94553	PTGS1	AATTCCTCTTTTGCTTAAATC
94554	MAP3K8	ATTTTTGTACATCCCAAAGGA
94555	PPP2R1B	AGACAAAGCCTGGAAGGGTGTGGACC
94556	NR2C2	CGCAAACCACACACCTGCCA
94557	ZNFN1A3	GAAGTGATATCTGGTCTCAGGGA
94558	CEACAM1	CTCTCTCAGTGTCAATAGATGA
94559	WDR1	GCACTAGAGTTTAACTGCAGCG
94560	SGCA	GGCCCTCCTGGAACCCAGGCTCTAAA
94561	P2RX7	GACAGTGCACATGAACTGTCTTT
94562	CD5	AGACTCGGGGGTGTCTGAAGGGG
94563	SRC	GCCTGGCCTGATGATGGTGGGTGGG
94564	KCNK6	TTCTCATTCTCTTTCATGTTCC
94565	PXF	GGGCTACAGGTCTGTCACTATGCTCTCTT
94566	PLAGL1	ACGGACGGGGCAGCCGTGCTCACAGCT
94567	TRHDE	CTCTAATCCTCCATTAAG
94568	ZNF148	TGTGTAAATGGAGTGCTGTACAGAT
94569	F7	GTAGAGGCATGAACACACATGGATGCAC
94570	FGF2	ACTAATGGAATAAACTGTAATATT
94571	SCD	TGCTCTATTAAGATTGGAAATGT
94572	TAPBP	AGTGAATTTTTGTATTTTTAGT
94573	NPR1	CAGGCTGAGCCAAGCCCACGGCC

94574	BTD	GCCACATCTTCCTCTAACAAATCTCTC
94575	PES1	TGCTCTCTGGCTGGGCCAGTGGGC
94576	E2F3	GCAATCTTCCTTAATAGCATTTCA
94577	PCDHA9	ACGATGGCGAACACAGCAGA
94578	WNT1	GGAAACGCTCTCCTCGAGCCCTCCC
94579	SCG3	CTTGCAGAGCGTGTCTAT
94580	SMARCD1	GGATTGGGCCTCAGGCCAGGT
94581	PLCG2	GTGTGTTTGCATGTAGGAGA
94582	RPA2	ATTTCCCACTTTGGTTGTGTGG
94583	CASP6	TCCAGCCTGGGCAACGAGTG
94584	FABP2	TTCACTCAGGCTGGAATGTAGT
94585	RAP2A	TGGGAAGAGATTACCTAGCC
94586	ARF1	CCTCTTGCCCTCTGCTTTA
94587	ALOX5	GCTCAGCATTTCCACACCAAGC
94588	NEURL	TCTCAGCCCTGCCTGCCCTGGC
94589	CLTB	CGCTAGTGCCTGCTAGGTGCATGGCC
94590	TEP1	TGTGTATGTATATGTACATT
94591	KRT6B	TGCAGTCTGCATTCCTGCACT
94592	B3GALT3	TTGCAGTATTTCACAGTTATTAT
94593	SLC7A5	GCCGGACACGGCTTCACTGACCAGCGGC
94594	ADRB3	GGCCCAGGCTGAGAGCAGCAGG
94595	CRSP8	ATGGGACTAATTATTCCCACTAGCCAG
94596	MLLT3	AAATTCTTGGTTATTCTGCCATA
94597	SVIL	TCCAACAACACCACTGCACC
94598	HSPA5	ACCATCTTTGCCAACATGGTGA
94599	WHSC1L1	ATTTTGGGGGAAAAAATCCAAAACACA
94600	SLC9A1	CGTGGCTCCAGAATGTGCTGCC
94601	PDGFRB	GGCCTAGCCTTGAGCAGTGTTGC
94602	ELMO2	CCTTCCAGACCCCAGGAAGTTGGCC
94603	ABR	ATTGCTTGTGCTCAGGGCTG
94604	SFRS7	TTTGCCAGGCTGGTGCAAAGT
94605	ATP6V0A4	CCTGCTGCAGTCTCATTTCCAG
94606	CPNE3	AGATCCTAATATTTTATTGAGGG
94607	POU5F1	CGGAAGGCAGATGCACTTCTACAGACT
94608	MYH11	AGGCTGAGCCAGGAAGAACGCT
94609	IL22RA2	ATCAACAACAAGGAAGTCTGCTCTG
94610	CAST	TGCCTGTAAATCTCATTTGTATTTTC
94611	TEM6	TTGAGGCAGAGGTGCCGAGTGA
94612	DPYS	TGGAAAGGCTGTGTGGAAA
94613	SOST	TTGAAAATCATTTCCAGACA
94614	CYP11B1	CTCCCACATGCACAGCTTCCTG
94615	TNFRSF10B	CTCAGGGCTCAGAAGGTG
94616	EXTL3	ATCTCCCATCCTCCCCAGCGCCATCTG
94617	CCR2	GCAAGCAAGAAACACTGGGCT
94618	LPIN1	GGCTCAAGGCTGGAATATTTATGCC
94619	RPA3	GAATGTTCACTTACTGATTACTA
94620	GCNT2	AACTCTGGCTTTCACTGCGCTC
94621	RBBP2	TGAGCTCTAGGGTGGCTGGTT
94622	LMCD1	TCCTCCAGGAGCAGGCTGG
94623	TLL2	GGCTCTCCATTTCCTGCCTCTC

94624	DGKI	ATGGCGTGAACCCAGGAGGCGG
94624	SMG1	ATGGCGTGAACCCAGGAGGCGG
94624	UBE2G2	ATGGCGTGAACCCAGGAGGCGG
94625	SIAT7D	TGGAGCCATCTCAGGCTCCACTC
94626	RSU1	AAATGATTTTAATAAAATCTTG
94627	AQP6	AGGGCCTGCCAGTTCTCACCAGCT
94628	PTPN1	CTCCACCTTGTTACACATTATGTTA
94629	CRIM1	AAGAGGAGGGAGAGGGTGA
94630	HAS3	AGTGGCTGATTCTCCAATGGTGAGCAG
94631	DAG1	TCCCCTGATTGAGGGTGGGT
94632	ZNF192	CTTCACTGACTCCATTGAGTCATT
94633	EMS1	CCCGCAGGATCAGGTGACTTC
94634	AMD1	AACATACATTCTGTGTTCC
94635	TEM7	TCTCCATCTGGTCATACTCCA
94636	SORCS3	GATCAGTATTAGGAATATTTCTAAAGA
94637	CALML3	GAAAGGGTGGATGAGTGAATG
94638	FOXO1A	CCATATAATTGCAGAAAAGATTTTC
94639	MLC1	CCTGCAAGGTGCACCTGCCCCA
94640	NRCAM	TGTTAGGAACAGTTTGTACAGT
94641	KCNJ5	AGGGGAGGGGAATAGTTGAGTGTGC
94642	CTNS	TCTCCTGCTACCAGTCTGTGCCTTA
94643	NT5M	GGCTCTGTGCTGGGGGACGATACTGGC
94644	SLC39A4	AAACCTACAGCCCAGAAACCAG
94645	CTSS	AAGAAAATATAGTTTGATTCTTCA
94646	CYB561	GATTGCACTCCAGCCTGGGCG
94647	DVL3	GATCGCACTCCAGCCTGGGTG
94648	BLAME	TCTCCCATCTTCTCATATCCTGGC
94649	ALDH1A3	TTCTGTGTTTCCCTTTAAACCAGA
94650	GUCY1A3	ACTCACTTCAGTACTTCAGCTCTTC
94651	MTNR1A	TCAGCACTTTGGGAGGCTGAGGTGGGC
94652	NAT2	TCCATAAAAATGTCAGC
94653	FGF2	TTCCAATACTCGTTTTGCCTCT
94654	CAD	GGCTCTGGACTGGAGCTCTC
94655	BAZ2B	GCATGAGCCACGGCACCCAGCC
94656	RS1	AAGGTGCAGTCTCAGGGG
94657	PLA2G2D	TGCCCAACATGGCAAAACCTCGTCTCT
94658	SNX15	CACCTCCCAGGTTCAAGCAGTT
94659	ZNF264	CTGCAACCTCTGCCTCCCGGG
94660	LIF	TGGCAGAAGTTTCCAGAAGGAGGTCACTTG
94661	PAG	CCTGAGTGTGCCCCTGCCTGCCAG
94662	SPG3A	CGGAGAAGGCAGCGAGCGCAGTGA
94663	BRCA1	CGCACCAGGCTGTGGGGTTTCTC
94664	ADH5	ATAACACTGTAGTGGAACATTCTTCT
94665	FSTL1	GATGACCAGATTTGATCTCAGCCTGA
94666	PDCL	CTTAAGATTCTGTGGTGTGACA
94667	APXL	GTGCTCATCTTCTCTTGTCATTCATCC
94668	DMD	TCTGCTGCTGTGGTTATCTCCTA
94669	ITGAV	CTTAGCAATCATGTCTTTTGTATAGG
94670	SNRPN	CAGGCATTCTTAGCTGAGACACC
94671	SLC15A1	AGCCTCCCGAGTGGCTGGGATT

94672	ATM	GGTCTCAAACTCCTGGGCTCAAGCGAA
94673	RAMP1	GGGTGAGGCCAGGCAGGCCTGG
94674	SHOX2	AGGAGAGAGAAAAATAATGGCAAAAC
94675	ACVR1B	AGGCTGAGGCAGGAAGATAGCT
94676	NTS	CCCAAAACAAAGTAATAGCGCCTCTT
94677	JPH2	CTGCACTCCCTCCCTTGCCTGTA
94678	RTN3	TCCAGTTTTCAGCACTAGTCTTA
94679	HDLBP	GCATGTCAGTCAGCACTCTG
94680	BRF2	CTGCTAGAAAACATTCTATTG
94681	ADCY4	TACCCTAGGCTGGATTGCACTCGCCTT
94682	PPEF2	AAGGAAGTGATGAATAAATAC
94683	TRIM9	TGGGAGATCTTGAGTTGCAGTCCACAG
94684	SLC8A2	GCATTCTATCGTCCTGTTGTGCTCAG
94685	NR1I2	ACTGTTGCCAGAGGCTTGTACT
94686	RPH3AL	TTGCCCAGGCTGGGGTGCA
94687	LAMC1	TTCTTTACAAGATGATACCT
94688	EGFL5	TGAAAACAGCACTTCAGCTTTAGCTGA
94689	GCN1L1	AACTGAAAATTGCCTCCTCCATCT
94690	TNFAIP1	GGCTTCCAGCCATGCTGTCCTCA
94691	MAP3K8	CGCTGCGCCGCCCCTGGGCAG
94692	HTLF	CTAACAAACTTCAGCCTGGGAAGTGAG
94693	BSN	TGCTTGGAGTTCTTTTTGCCT
94694	RNTRE	CTGGGTCCTAAACTGACTGAAGA
94695	CRACC	CCACTGCACTCCGGCCTAGGCAACGAG
94696	SMAC	TGCCCAGGCTGAAGTGCAGT
94697	TIMELESS	CCACTGATGTATGGACTTGCA
94698	DSC3	CAAAGAGATAATGTCACAGTG
94699	CCS	TTTGCCTGCCCAGTCTTTGGA
94700	PPP1R2	ATTATTCCTGAATGTACAGACAGAA
94701	CYR61	GGGTGGTGTGGGTGATGGGA
94702	KCNJ12	AGGCCACGAGGGCCAGGGCTTCT
94703	CEBPE	TCCTGCTGGGGGCCTAGAACCCTGAGA
94704	SURF5	AAACCCAGGACATCTGTGCCA
94705	NDRG3	GCACCTGCCACCATACCCAGCT
94706	ESRRG	TTTAGGGTAAATGCTCATC
94707	LAPTM5	TAAAGCAACAACAAGCTTCA
94708	ITGA11	TTGAGACCCAGGCCTGTGGC
94709	RPH3AL	GATGGGGTTTCTCCATGTTGGCC
94710	ADAMTS7	CTGGGAGGGTACATGGATGGGCAGG
94711	SET7	AGGGCTGTAGGGGGAGGCAGTGCGAG
94712	TADA2L	CCTTAAGTTGTATTGTCTACT
94713	RPH3AL	CTGCCTGGGCTGGGTGTCTGGTGC
94714	RABL2A	CTTCCCTTCAACAACTCTCCA
94714	RABL2B	CTTCCCTTCAACAACTCTCCA
94715	STAU2	TTTAGAAATGTCTGAGAGTAA
94716	MNT	GGACAGGTGGGGCCTCAGCCTGG
94717	PARK2	TTCAAGTGCAATCCATGTATCTGTA
94718	HM13	ATTGCACCACTGCATTCCAGCCT
94719	LAG3	CCAGCTTTCCAGCTTTCCTCTGGATTCCG
94720	COL19A1	ATCATCAAATGCCTAA

94721	ARNT	GCCAGGTAGTGGAGTAAAAAAGGA
94722	KLHL3	CACTGCCTCTACTGGGCGTGCTGC
94723	ZNF289	GCCTGGCTCCCTGTTGGTCT
94724	HPSE	TTGCTTTTTCTCTACCTTTCTT
94725	CTNNA2	TTGCTTCTGTTTCAGTGCA
94726	ABL2	GGGAGGGAGAGACCGGAGCAGC
94727	TAP2	CTCTTCCGGCCATTCTTCAC
94728	NVL	AACAGAATTAGAAGATGAACAT
94729	HOXC5	TCTCCCCTCAGCTCGGCT
94730	FANCF	CTGTCACCCAGTCTGGAGTGCAGT
94731	PRPS1	ATTTGGCTTTACCTTCATCTA
94732	TNNT2	CGGGAAACCTGCACTGACTTTTT
94733	CD58	TTGGTAACAGAAGATGAAGAC
94734	ILK	GTTGCCTCCCCCGCCTCCAGTCA
94735	CNTN2	CTGGTTACAGCCCAGTGCTCAT
94736	FANCE	GTGTGAGCCACCACACCAGGCC
94737	CEBPD	TACTCCTGTTGATGCAGCT
94738	PPP1R12B	TTAACCCTTATTCCTCCCTCA
94739	OPCML	GGTTGGGGGCGGGGTGGGCAGG
94740	GYG2	TGGATGTGTTTACGTGGAGAGG
94741	CNTN2	GCCCTCTGGGACCCTATACGGA
94742	TNFAIP1	TAGTACCCACTTTCTGCTCTTTG
94743	ALX4	GCCTGACCCTCAGCACTTTCAGCCG
94744	FBXW7	TTGCAAAATGAGACTTTCTA
94745	SPINK2	ATGAGATTTGTTAACACACATTTTC
94746	TMPRSS2	CATTGAGATCTTCCTGCTGAGTCC
94747	HADHB	CAATGCCATTTCAATGCATTACTAAA
94748	SUFU	TCACACACCATCCCCACTGTCA
94749	ZNF146	AAACATCCACTTCTCTTTCA
94750	YES1	GCCTCCCAGGTTCACACCATTC
94751	DSG1	TGTGTGCCAGATGCCCTGTTGG
94752	PAFAH1B1	GGCGGCCGGGAGAGCGAGTGAGCGAGC
94753	CSE1L	GCCCAGGCTGGAGTGCAGTGAGCTAT
94754	NRCAM	ACTCTTGGCTCCTGTTACTC
94755	PKD2	TTCTTTACGAGAGGGTCTCACCC
94756	ATM	TGGCATGCACCTGTAGTCTCACCTACT
94757	HM13	CCAGCCTGGCGACAGAGTGA
94758	IL18	CATTGCGCTCTAGCCTGGGCAACAACA
94759	UBE3A	CTCTTTCTTAGTATATGAAAGGACA
94760	RRAS2	ATCTTCTCTTTCTCTCCTCA
94761	ZNF189	AGGCCTCACCAGAGGCTCCTT
94762	TCERG1	AGTTTTATTTGTTCACTTA
94763	ZNF74	CACCCAGGAGGAGTGGGGTCA
94764	CALU	TCATGAATCAACAGGGTTTCAG
94765	MAP3K8	GACACTGCACTGAGCACTTT
94766	MEF2C	GATCTCACCATTTCACCATGCA
94767	KMO	TTCCAACAAGAGGATTTCTTTTTC
94768	SFRP5	CTCCCCCCAGACTGGAGAGCAA
94769	GPR4	GCTGATCTTGAACTCCTGGG
94770	BENE	ACTCACTGCAGGCTCCGCCTCC

94771	ZNF74	TGGCTCACACCTGTAATCTTAACACTG
94772	C7	TTTGTTGCCCAGGCTGGAGCGC
94773	XPNPEP2	CAGTGTGGAATATGACCCTACCAGAG
94774	CELSR1	TCTTTCTCCTCTCCTTCTGTGACTCC
94775	DPYSL3	GTAGTGCTGCATCTTATGA
94776	ELF3	TCCAATAAAGTGCCTTCTGGGCTTTT
94777	FPGS	CTTCAGCTGCATTTCACATGC
94778	SLC4A7	GAATACCCTGGCCACAGAGCCA
94779	ADAT1	TCATCCTGAACTGCCTTCCTCC
94780	RAB6A	TGAGTTACAGCTCAGGAAAAG
94781	KRT4	CCCTGCTGCTCCAGGACA
94782	MYLK	CCGGCTGCCTCTGCTGCAGTTCA
94783	LZTS1	CCTTTCTCAGGAGCTTGGGCAGTGCC
94784	SPTAN1	TCACTAACCCGCTTCCGGTCCAGTCA
94785	PCDHB16	GCTGCAGGTTAAGATGACGGA
94786	PIK3CG	CTGAGGCAGGAGGATTGCCTGA
94787	ADAM19	CCTGTCTCCCTGTCTCTAGAAGCCT
94788	OCRL	TAGATTCTGAGATCTTCCCAT
94789	PSME3	TGCACACACGTGCATATACACATT
94790	GABRP	AGAAATAAACCAAGGCTCTA
94791	BMPR2	CTGCTTTCCCCACAGACATGCCTTC
94792	PML	GACCTCTGGGCTCTCTAGGTGG
94793	PRPF18	TGAGGAAAGAAGAAAACTGGAG
94794	REV3L	GCCTCCTCTGCTGGCATGTG
94795	MAP3K14	TAGCATTAAATCAGCTGTGAATCGTCAGGGGG
94796	RNMT	CAGTTTTGTTAACTCTCTTTGG
94797	MAOB	CTTCTCAAATGCTACTCAGTA
94798	LDHB	CCTGTGCAAAATGGCAACTCTTAAGG
94799	MEST	CATGAATCTGTTTACTAGCTTGGTGG
94800	PTPRZ1	GTTCTGTGTAATTGTTTAGTTTAA
94801	DLEC1	CCTTCTCACTCTCCCTGGAGCT
94802	C18orf1	TCCCCGCAGCTGGTTTGCACAGCCTCC
94803	MPP2	CCCAGTCACCAGTTCTCCTCTGGACTGGCCAC
94804	IGF1	TGTCCCCCAGGCTGGAGTGCAGT
94804	LZTS1	TGTCCCCCAGGCTGGAGTGCAGT
94804	RPP30	TGTCCCCCAGGCTGGAGTGCAGT
94805	PDE6B	TGTCACCCAGGCTGGAGTGCCGT
94806	WBSCR14	ATGGGGAAGGTTCAATCAG
94807	CD37	ACAGCTTCCTGTCCCCATCTGTCGG
94808	CDKN2C	TGCTGCCAGGCTCTGCTCCAGGGCA
94809	FCGR3A	TGTAAGCTTTAAGCGCAACA
94810	TBX3	TCTTTTTTAATGTCCAAAAGTGGGG
94811	GPR34	CTGCTTGTATTTGTGATATTTCA
94812	S100B	TCTTTCTGCTATATTAGGCCTGTGTGTAAGC
94813	CELSR1	TTCACCTGGTCATTCTGTGACCAC
94814	GNAO1	TACTGCCTCTTGTCCTGTATAGCAACC
94815	UBE3A	CCTATGTCTGTGCCTCCCTTC
94816	MTM1	GTATTCTTGAAGTATTGTGTTT
94817	AQP6	GGGGTGGCGGGAGGGGGAGGC
94818	MAP1B	CAGCATTTGTCCACCCACTTAGT

94819	ATRN	TGGAGGAGGCCAGTGTAGAGCCAG
94820	WASF3	CTAAAAGCAGAGATGTTTGAGGTGA
94821	G1P3	ATTGTCCAGGCTAGAGTGCAGT
94822	SLC25A5	CGGCCCAGTCCCGTCCTGCA
94823	ANK1	CAGGCTGGGGACCCTGGGTGCA
94824	SLC1A4	CCCAGTGTTCAGCCTCCTTCACTCC
94825	TFEB	CCCTCCCACCCTTCAGGCTGCACTGT
94826	CCR9	TCTTTTGGAAGAAATGAGAAA
94827	ZNF215	ACTCATTTAACATCATGAATTTAT
94828	LIMK1	CTGCCCCGCACCATGGACTTT
94829	MSL3L1	CACCTTGATTTTGAGCTGGAAT
94830	FOXI1	GGAGAGGTGGATGTTTGTCTGA
94831	ASH2L	CTGTATCCCACCTGTTTTCCA
94832	EGFL5	CAGGAAGGGAAAATTTGCTTTCCCTAG
94833	BDNF	ACAATCAGATGGGCCACATGGC
94834	TNFSF15	CTGGGGAGGCAGAGGTTGCGGTG
94835	CYB5	TTCGAGTGTGCCTTTTTATTCA
94836	WBSCR14	GGGTACCCATCACACACCAGCGTTTTG
94837	EVA1	ATGTCTTGGCTAAATAGTCA
94838	SET7	GAAAGAAGAGAAGAAAACTAGTA
94839	CALU	CTTCCCTTTCTCTTTTGGACA
94840	PPP1R3C	CAGGCAGCGGGTGCTGGCT
94841	RAB5A	TTTTAATAACATGCATGGGTCCCTCTC
94842	GGA3	GCCCCTTGCCAGGCTTCCTT
94843	DFNA5	AGTCCATCTGTCACTTGCATTCCA
94844	IFRD1	TTTCTGCTGCCGCCACCGCCCACT
94845	SAS	GGCCTCCCAACGTGCTGGGATT
94845	WBSCR5	GGCCTCCCAACGTGCTGGGATT
94846	MMP19	AAAGGGAGGGAGATGAGAAGT
94847	TCN2	GCTGCTCAGTGCCTGCCTCTGACAAA
94848	CALML3	ATGACACGGAACGCTCCCACTG
94849	ADORA2A	TCCTCTCCTGCTGTCACAGCTGCC
94850	SCN4A	TCCCCACGCCCCGTCTCTTTCTCACCT
94851	KCNK6	TACTTCAGAGGCTGAGGTGGAAGGAT
94852	MAP3K14	CTGCTAGCCTCAACCTCCTGGG
94853	MEF2C	CTAACTTGCCCATATTCTAAATCATC
94854	MSL3L1	CTGTCATGCTGCCTGCTTTCTGGA
94855	UBE4A	TGCTGGCACTTCAGGCTCTGCCT
94856	HYAL1	GTGCTCTGGGTGAGCTGGGAAAATACA
94857	CRADD	GCAGACGGAGAAATGGAGGCC
94858	NGB	GCTGCAGGAACCCAGCTAGCTGGCCAGGTG
94859	KMO	AGAAAAAGGCTATTAATATCAT
94860	TLL2	CTACTTTACAATTTCTCTCTA
94861	SLC10A2	AGGCAGCAGGGGGTACAGACTTCCTT
94862	BACH1	ACAAGTAACTACACTACCTCAT
94863	CRMP1	AGACACGATGCCGAGACCTCAA
94864	CLOCK	TGTTCTTCTCCCCTTTCAAATTGCC
94865	NCOR2	CCCTCCCTCCCTTCCTTGGGCA
94866	SFRP1	GGCAGCCTGTGCCTGCCT
94867	RXRB	TTTGGGAAAGGCAGGGCCCTGA

94868	ITGB3	ATAAATTTATGGTTCTCAGGCCT
94869	IL20	CCCCAAACCACCATCTCTTTA
94870	ADAR	GTCTCCTTTTCCCCCTCAGAGGGCA
94871	C7	TACAAAATGACTAGGATAA
94872	SYBL1	TCAGTATTTCCTATTGGAAA
94873	FUS1	AGCCCTGCTAGAGGCTACAGCACTTT
94874	ZAN	GGCTGGTGGACACAGATACTGTTC
94875	TNFRSF8	TTTGCCCAGTGTTTGTGCAAG
94876	DBT	ACCAAAAAGCCAAGTGTGGTG
94877	IL12B	TGCCCTGCAGTTAGTTCTGA
94878	IFIT4	GGAAGGAAGAGGTTGCAGTGAG
94879	HEXA	CTTTGGGTTTCTTGCTGCTGC
94880	CHRNB4	GCCTTGGAGGGATCCCAGGAAG
94881	CPM	TGCTCACTCCAGGTTACTGCAA
94882	PFKFB3	TGCCCTGGGGGGCTTGGAA
94883	TIRAP	CTGTTCCTCTTCCCAGAGACATCG
94884	VPS26	TAGTAAGCCAGAAAATATTCA
94885	GFRA1	CAAGAGTGGGCTTTGTGGAAA
94886	TP53	GGGATTGGGGTTTTCCCCTCCC
94887	AHR	TAAATGTTGCTATGTGCCTTATGTT
94888	MAPK1	AGCTCTATCCATATTTTACT
94889	ITGA7	ATCCTAATCCCTTCCTCTCCCA
94890	CTPS	TCTAGGGCTGGGAAACACTCCTTG
94891	ABAT	GGCTCACTGCATCTCCGGCTCCTGGACTCAAG
94892	KLRA1	TTGAGACAGGCTGGAGTCCAGAGCCTT
94893	BENE	AATTGAAGAGGTGCTGCCAAGG
94894	WARS2	TAGCTGATTATTGGCTTTATTTGATGAAT
94895	YES1	AGAATTGCTCAAAGAAAATTA
94896	USP5	GGGCAGAGCAGAGGGGCAGCGA
94897	XDH	ACAGAGCAGTGATAACTACCTG
94898	CDH10	CTTCATCTACACTGGGATTTGT
94899	HRH2	AGTTTGATCCATGAACCTGGCT
94900	POLR2C	CCCTAACCCCTCAGCACTGTC
94901	PDGFB	GTCACTCCTCTCTAGGGCAGA
94902	ITGA3	AGTGCGGATCCGGGAGGAGGAG
94903	UBE4A	TTGTGGTTTCTCTCTTTCTGGTTCTGT
94904	PPEF2	AGCTCACTGTCCTCTGGATCTGCTG
94905	MFI2	ATGGGGGTCTCACCATGTTGCC
94906	MCP	GTTCAAAGATTAATGCCAACT
94907	DPH2L2	TTTAGTGCTCCCTGCACCAACCTC
94908	SNTB1	GTCATCTGATATACACAT
94909	SERPIND1	TGCTGTTGCCTCCCTGTGACCTGGAGG
94910	PPP1R12B	CACAACAGTATTTATAAATGAGTA
94911	Rgr	AGCATTCTGCCTCAATGGCCTG
94912	SLC7A6	GGTGGGGGCTTCAGAGGGTGGGG
94913	SGPL1	CAACTCAAGATAGACCATGAGA
94914	KLHL3	GGGGTGAGCGTGTGTGACAGTCTAC
94915	ZNF45	AAAACATTTGTTTTATAGAGTCAGTAG
94916	FLRT2	CAGAAAACAGTGCCCCAAAT
94917	RASSF1	TCTGCCTGGACTGTTGCGGGC

94918	MDM2	GGCTCACTGCAAGCTCTGCCCTCCCCG
94919	PRPS2	TCAGATCTTTGTATATGCTAAG
94920	TPK1	TAGGTGGAAAGAGAAATGATGTGAA
94921	G22P1	TGTTGCCATGGTGATGGTGTAGC
94922	ICA1	TGGAGACGGCCAAGTGAAGGAGCCAG
94923	BRCA1	GCTGGTTTGTGTGTGAACGGACACT
94924	EPHB3	TCCTGCTCTCCAGCAGGGGATC
94925	EMS1	CTAGAAGTGTGAAGTGCAGATGA
94926	C7	GTCTCCAACTCCTGACCTCAG
94927	SFRP4	TTCTTAAGGCTATGCTTCAGTTTTT
94928	EFNB1	TCCCCTTGCCAGCTGTGCCCA
94929	SCD	GTGCTCTCAGCTGGCAGTGCAATG
94930	ALPP	CTAACACGGTGAAACCCCTTATCT
94931	PTGS1	TGGTGGAGTGTAGCCTCCACCTGAT
94932	MOV10L1	AGTCTGCTCCGTGGCTCCTGT
94933	WBSCR5	GTAGGTCCCCTCCATGGCCC
94934	BTG3	TTGAGTATTTATATATTGTGCA
94935	GRM6	TTTCTTAGGCTGGAGTGCAGTG
94936	PHKB	AGGAGACGGAGGTTGCAGTGA
94937	CDKN2C	CGCTTTCCGCATCACTCTCCTTCCTCG
94938	DRPLA	AAAACAGATCCTGCAAAAGTTCC
94939	MS4A4A	ATGCATGGCCATCTCCCCCTCCCTTTT
94940	PRND	AACAGCCTTACACTGGGCACATGGAGG
94941	IPP	CGCCTGTAGTCCCAGCACTTT
94942	MLLT2	CCACTGTGCCCCACTTTCTG
94943	ERBB2IP	TCTGTGGGAGGCCAGTCCACATC
94944	TSLP	GAGCAGCCACATTGCCTT
94945	BAI2	GCCTGTCCGTCCCTGTCCCGGGCTG
94946	VBP1	AATGGCTGAAAAGAGTTGTGAGCTTTT
94947	TGFB1	CACCACTGCGCCCTTCTCCCTGAGG
94948	STXBP1	CTGCTCCCCGCCCTCTCTGCTCGCTG
94949	BRCA1	GAATCCAGAAGGCCTTTCTGCTGACA
94950	ARRB2	GAGACAAAACTCCTACTCTCAA
94951	APPL	ACCCTTTATTTTTAGCAAGTTTG
94952	GLRB	TGATTGTAATAAAACTGTGGCACCTTA
94953	C1orf1	GTGGGAGAATTACCTGAGCCCAGGAAG
94954	PPP3R1	CCGGCGCGAGCGCGAGGCTGCA
94955	KCNE3	ATGTCACCCAGGCTGTGGTGC
94956	EHF	TCATGGTCTCTAACCACTTGACACCAGA
94957	CLECSF5	TCTTTTACTTACCTATCTGTCTAC
94958	DRPLA	GGCCTGCCACCCAGAGCCAAGAGGGTG
94959	CPS1	GGTAGGAAAAGTTGCTGTTCTATT
94960	FEN1	GTCCCAAAGGCCAGTCATCCC
94961	PRY	GAGCCCAACCTTCTTTCACTGACACCC
94962	NGB	GCTGCAGGAACCCAGCTAGCTGG
94963	SIL	TCTAAGTCTCAACTGCTCTTTTAT
94964	KLF7	GACAAACAAACAGCCCCAACTGTGTTCGGG
94965	GUCY1B2	TACATACATTAGTCTTCAAGGTTCT
94966	GRM6	TCATGTCTCTCCCAGTGTGAAT
94967	NRCAM	TGTCAAGAGTGTTACTGTAG

94968	ATF5	CCTGTTGCCATCAGTGCCC
94969	SCO1	GTCTCCCAGGAAGCTGTGGGG
94970	ELK1	GAACCCAGGCCTGGGGGGCGGT
94971	HD	GTTGTTGCCAGGTTGCAGCTGCT
94972	SIRPB2	GTCTCCAAAATGCCTGTCCCA
94973	SI	ACATAGCAAAGAGAACAGGCT
94974	KCNJ5	GACTCAGAGAGGAGACTTACCTGATG
94975	ANKTM1	TAAGCTGCTTCCTGGAAAGC
94976	BPHL	GGAAGCTGAGGTGGGAGGATCA
94977	GDF5	AATGGGACTGAGTCCCAGGAAACAGT
94978	TIMP4	CCCTGCCTCCCAAACCCCATTAG
94979	HS3ST3A1	GGTAGAGAAGAGACAGTTTA
94980	CUGBP1	GTCTCTTCAGCTTCTCTGATGCT
94981	MEST	CCTGAATCAGGATGAGGGAG
94982	ARNT	GCGCTTGCATCCATGCCCAGCC
94983	XT3	TTTGCTCACATGTTTCCCTGCTGA
94984	OCLN	GTGTGGGAAGCAGGACCGCGTCCTCC
94985	GNAZ	TCTCTTGAAGACTTGAGAAGCT
94986	IREB2	TATACTCACTTATCTCATCCA
94987	CMRF35	CTCCAGCCTCAGACCTGAGACAGGGC
94988	ERCC5	AGCCATTTGTAATGAATTTGT
94989	CDH1	GACTAGGTATTGTCTACT
94990	BCL2	CTTAAGTTTTCAACCAAGG
94991	SERPINA5	AAGGCTGGTCCCACACTTATCAGC
94992	IL12RB1	CTCTCTACGTTGCCCAGGCTGG
94993	PKHD1	CTGTCATTTAAAATTCATGCATTCCA
94994	CCND1	ACAAGTCCTGGATGTTGTGTGTA
94995	LILRB1	CAGTGCCTGTAATCCCAGCTATTT
94996	BICD1	TTTTGTGGTTTCTCTGAGTCA
94997	SF1	TTCCTTTCTTCAGACTCCGTCC
94998	COL17A1	GTGGGGCGCCTTCCTGGAGGTGACAC
94999	LEP	GGGGAATGTTTGGGCAGAAGGGAGAA
95000	GUCY1A3	GGCTCTTGGAGAAAGCGTGAGCAGGGG
95001	ELK4	GCACCAGAATCTCAGAATTTACCA
95002	OGG1	GGGGCGGTGCCTGCTGTGGAAA
95003	AP3B1	GTGCCTGGCATCCACTACTGCTGC
95004	TFE3	TTGCCCAGGTGAGGGAAGGAGACAGG
95005	RAMP2	TTTCTCACTCTCATCCCCACCA
95006	COL5A1	AATTCAGCAACCTCGTACCTC
95007	SLC6A8	GGCTGCAATATTCCGTCCTGGGTG
95008	CKM	CTCGGAGCTTGTGCTTTGTCT
95009	PKNOX1	AGCCAGCCAGCCCTTCCTCCT
95010	CARD4	GCTGGTCTAAGAATGACGATGCCTTCA
95011	HMGN1	GTAACATCTTTGGTTGTGGTAGTCC
95012	GSTT1	CACAGCCGCCTGAAAGCCACAATGAGA
95013	ATSV	GTTCCTCTGGTGGGAGGGAG
95014	MMP2	TCCCACAGGCCCTTCCTCTCCA
95015	GALNT7	CTCCTTTTCACACCTTATTTCA
95016	PCDHA2	TTCAGAAATTTGGTGGGTTTTTTGT
95017	TAL1	TCCAGCCTCACTTCTAGGGT

95018	MYO1D	GACACATGCAAATGTATGTTTTAAACA
95019	PPARGC1	GGTTTTATTCATTGTATGAAAATT
95020	AVPR1A	TTCTTGTGATTGACTTTTTGGCTCAT
95021	CLECSF12	GGCTCACCGCAACCTCCGCCCCCTGGG
95022	TRPM1	CACCCAGCAAAAATGAAGA
95023	GPC1	GGTCCTCAGGTCAGCTGGGAG
95024	HYAL1	GGTGATTGGCCACACACTGAGTTGC
95025	CAMK2A	CTGTGTGACCTTGGGCAAGTTCCTTTC
95026	ACOX1	CTGCTTGGCACAGTCTCTGCCTGCTTGC
95027	CXCR6	ACTCTTTGGTGGCTTTGCATTTTA
95028	MGEA5	AGTGAAATGCCTCTCAGTCTTAGG
95029	CTNNA1	AGGCATGTTCCAGAAAGGTCTCTGAGG
95030	FUS1	CTTCCATTGAGGAGCCCAGGCTGG
95031	HDAC7A	TGGGACCTGGTTCTCTTCTAA
95032	WNT8B	GTTGGTTCCTAGAGGCA
95033	EDG8	AGTTGGGATCTTGTGCTCTGTCA
95034	NR2E3	CTCATCTGTCCCTGACCTCTAA
95035	DRD5	TGAGAGAAGAGAGTATGGTGCTGG
95036	ZNF192	GTTGGTTTCCAACAGTCCTT
95037	B3GALT3	TCAGTTTGAGCTGCTGCTGTTATG
95038	MSH3	CTCCATCTCAAAAAAGAAAA
95039	CUL3	TTTTTATCTTTGCCTGTCTAC
95040	ATP1A2	TTAGAAGCAGCGAGTGCATGG
95041	DRD1	GCCAGTGCTTTATTTGGGGAATTCAGG
95042	PER2	TGTCTTTTTATGACCTGTTTGC
95043	SUV39H1	GGTCTCAAAAGTCACCTGCCT
95044	NFE2L2	TACAAAAACTTATTTATACTGTTCTTAT
95045	UBE3A	TAACTGCAGCCCTCAGAACTTTA
95046	SLC2A6	CATTGCACTCCAGCCTGGGCAACGAGA
95047	BGN	ATGGGGACAGTGGGCTCTGCCAGGGCT
95048	RGL	GCTGGTGGCCTTCAACCTCTGCCTG
95049	MEF2D	ATTCCCACTCCCCTCCTCTCAG
95050	DUSP4	GGCTTATCCTGGGTGCT
95051	BTG2	AAGCTACAGGGAACTCCAGGTCCT
95052	DLX4	GGCCACAATGACCTCTTT
95053	MASP1	CCTGGGTCTTAGCATTGATCAGTGACA
95054	DRP2	GGGACTTCTTCGCTGATTCA
95055	SIGLEC5	TTCAGTCCTGGCTGGAGGAGCCACAG
95056	ADAMTS8	ACACTTCAGGGGGGCGGGTGGCG
95057	PSMD5	CGCTTGAGCCTGGGAGGCAGAG
95058	NAB2	CATGCACAGAGCGCCTTCCCCCACA
95059	ADAM17	AGCACAGACTCACATATGGA
95060	PRKAR1A	TCCAGCACCTATTGAATTACCA
95061	CTGF	CTCCAGCCATCAAGAGACTGAGTCAAG
95062	IGF1	GCACTTGGGAGAAGGCTTAGAA
95063	KRT7	TTCCAATAAAGCAGCCTCA
95064	IL1RAP	TCTCTTGCCAATGCTGCATTCC
95065	MSL3L1	GCCTGGTGGCCTTCCTTTCACA
95066	EBI2	AAAAGGAGGCGCTCTTAATAACTC
95067	PLA2G2D	ATCACTTGGACCTGGGAGGCAG

95068	DNAJB9	CATTCTTACCATCCTTCTCTCACA
95069	NDP	AAACAACAGTCCTAACTTT
95070	SUV39H2	CCACTGCACTGCAGCCTGAG
95071	CTSL2	AGCTTTATGATATCAAAGA
95072	GPX3	CCTACTTCCTGAAGGGCCCTCCCAAGG
95073	GTF2H1	ACTCGACCGGATCCAACCCAGT
95074	BACE	GATGGGAAGGGCTTATCTAGCCA
95075	CNTN2	CTCAGGGGGAAGGCAGCTCTCTCCAG
95076	CRADD	CACTCAGAGCAGGTGGTTTTTT
95077	LIMD1	TTTGGCCAGATGTCACTTCAGCCAGGGT
95078	COL4A5	CACTCTTAAAAAGCTTCTTTCTCTTCA
95079	VANGL2	CGTTTCCTTGGCCTTCCAGGGTC
95080	GNLY	TCAAGGCAGACTTCCTGCCCCCTGCAC
95081	HAGH	GGAGCCGCCTGCGCCCGCCGAG
95082	ZNF133	GGCGCTGTGCCGAGGATTCGGGG
95083	ARSB	TTCGTCTCTGGCTCCTCCTCC
95084	CCND2	TGTTAGGCTTTTCTGCCTGCT
95085	SEPN1	CTGCCCTCCTGTGCCTGATGTC
95086	COL16A1	CCGCCTGCTGCCTGGACTGCTC
95087	SFRS7	CCCCGTCGAGGTCAAGATCAAGATCC
95088	OSR1	GACTGTACTCCTTTCTAGGAATGCTGA
95089	HIP1	CCATTGTACTCCAGCCTGGGCAACAAG
95089	LUZP1	CCATTGTACTCCAGCCTGGGCAACAAG
95090	ARHG	GGTATTCTCATGAGCTCATCCA
95091	PXN	CCGACTTTGATAGATTTCTACACTGAG
95092	HEPH	CTTCCTCCTCTTCAGTGTGGT
95093	A1BG	CTACAGGCATGAGCCACCATGCC
95094	FAT2	GGGGTGAGTTGAGTGTGGCTGG
95095	KIF3B	ACCAGTGACCTTGCTTCCTTCCCCC
95096	CD28	GGGAGGAGGGGCTGGAACCC
95097	HAS3	AGCACAGCAGGCTTCTGGGAG
95098	JRK	GCCTGGAGATACCATTGTGGACC
95099	DTX1	CCTGAGCCAGCCGAGGGGGCCA
95100	AVPR1A	CTTGCATTTCAAAATGGTAACTTTACA
95101	AVPR1A	CTGCTCTTTGTCCACCCAAAAAGATGTCC
95102	NFATC3	TGATTTGTACTGCTTTAT
95103	CDK7	AGAATTGAAAATGCATTAGGGAAAA
95104	SFRS2IP	AACTTCTGTATCCTTCCTTCCC
95105	ATP2B3	TACCTCTTCAGTGTTTTCCTCCAGTCCCGGGA
95106	MYCBP	TGAGATGAGAAGAGGAATGAGCCAT
95107	C10orf2	GGGCCTCACTGGTGGGAGCTGCCTC
95108	COL6A2	GAGCAAGCCCTGACCCAATAAAG
95109	ATP8B2	GTCCTCACCATCACAGCTGTT
95110	GP1BB	ACCGGTCCCCGCCTCCTCCGCT
95111	AKAP1	AAGGTGTAATTACTTCAAGCCT
95112	TMC1	CCTGAGTAGCTGGGATTTCAGG
95113	VSNL1	CATGCCTTTTGGGTTTGCCTTAATTCT
95114	OAS3	GTGCCATGATTGATTAGCAATG
95115	TIMP3	CTCTGTGCCTGCTCTCTCCAG
95116	MAPK3	CCTGCCTCCTGCCTGCCCCTCTCC

95117	CORO1C	GAGGGCAAGGGAAAGTTACCCTGATC
95118	HLCS	GGAAAATTCAGATATTTTCTTAG
95119	SEPN1	CAGGCATGCCTGTACTCTCTTT
95120	STXBP1	GCTGGGGTGTCTGCACGAAGTC
95121	DAP	TCCAGGAGTCAACATGCCAA
95122	F2RL3	GGGAACCAGCCCTGCCACCAC
95123	CRYBA2	GCCACCCTTCCTGTCCGCA
95124	ADAMTS4	GCTCTTGAACTCCTGACCTCAGGTA
95125	FGFR1	TGGTTGGCACCTGTAGTCCCAG
95126	POMC	CCTTGCTCTCCCCTGCCCTGCTGCC
95127	RASGRP1	CCATGTACCCTCCTTCCTCA
95128	MAPRE2	CCCACCCCAACACCACTGCCACCA
95129	CRP	TCTTGGAGATAATTTCTTACCTCA
95130	ALX4	TCAGCACTTTCAGCCGCCCCAAGTCTG
95131	ASMT	GGAGGAAAGCAGCTGTGAGCGG
95132	UGDH	TTCTGTCTGCTTTTTTCTTA
95133	STAT5B	TGTAAACCATGGCTGTGTGGATACAA
95134	GRM1	CCAATAATGTTTTATACATCATTGTC
95135	ATSV	TTCCCACATGTGTCTCCCAAGCCTGCT
95136	SLC19A2	GGCATACAACCTGAGCCTTT
95137	ACOX2	CAGTATTCAAGAAGCAACCAGCAC
95138	FZD8	AGGGGTGGGGAGGGGGGCGAGGAGAC
95139	STARD5	CATCATCGCCACTGAAAACCAG
95140	ITGA3	CCTCTCCTGACCCCTGCCTGTTGGCAGCC
95141	SERPINB13	CATGTAAATAAAGATCTT
95142	DAAM2	GCCTCTCCCTGCATGTCTT
95143	GJA5	ACACAGACAGGCAGAGGATTACAACAC
95144	CLN5	CCTCACTGCACCCCCAGCCCTGCACCC
95145	CHES1	AGTCAGGTTGTCCATCCCATT
95146	TMEPAI	CCACCTTTCCTCCAGAGG
95147	IL17BR	ACACAGGAAGTTGGAGCAGTAGGTG
95148	ETV3	TGTTTGTAATCTCCTAGATACTATTAC
95149	STK4	CTTCTGCTCTGTCGTCTCTCCACA
95150	APBA1	AGGCAGCAGCGGCTGGAGCGG
95151	LTB4R	TTCACTACTTTGTTCAATTATCCAGTC
95152	MFNG	CTCCTTGCTCCCCACCCCTTGCGAACAG
95153	FOXD2	CTCCATCTGTGGAATGGGAGA
95154	TNFRSF14	AGTTCCTCTGCTGGAGTTCATCC
95155	CRTAP	TTCATAGCTGCCTTTCTTACCA
95156	PIGR	TCACCCAGACTGGAATGCAGTG
95157	PLAG1	CATTATGAAGCTGCAGTGATA
95158	CAMK2A	CCTCCTGTGCTGACCTCAGGGTGGTCT
95159	KLHL1	ATTTTTATATTGAATGGCAAGAATGAGAACT
95160	DBT	GAGCAAGACGCCATCTCAAAAA
95161	VPS41	GGAGCAGTGGGACCACCTGATGCTGAA
95162	NOS1	CCAAGACCCCAAAGGCCCAGG
95163	LZTR1	ACTCCTGCCTCCACCTGGGGTC
95164	TDGF1	ACATTTCCTTACAGAACTACTTCTT
95165	ULBP2	TTCCTTTAGTAATTTATTGTT
95166	AHSG	CATGATTGTGTTCTCTGCCTCT

95167	HEPH	TGGTGGAGAAGCAGAAGGAGCAATCAA
95168	GPD1	CAGAAGCCTGGGGTACCTAGTC
95169	EGR3	GAGACAGTATTTTGCTGAA
95170	SEMA3F	CTGTGCTGTGGCATAGACATG
95171	ATP11B	TACTAGGTGGGAGGATATGG
95172	SLC2A6	CGGGAGGTGGAGGCTGCAATGA
95173	STK38	GCTTCCAAGAAGTTGATGGAACCCACC
95174	ADARB1	TCACATTGTGCACAGATCTG
95175	SNAP23	CCGCCTCCCTGGTTCAAGCAAT
95176	SMAC	CCCAGGCTGGTCGTGAACTCCTGGGC
95177	EIF5A2	GGTCATACTATTTACCAAAT
95178	NCALD	GGGGTGAGGCTATTCCAGCGAGCTGG
95179	EDNRA	AAAAGTAATGCTTCAATCAG
95180	TRPS1	ATGCGTTCTCATTCTTCCTTT
95181	GALNT7	CAAACCTGGAACCTCCTGATCAGTTTG
95182	LPXN	TCTTATAGAAAAAGGAAAGGTGA
95183	CD59	TTCCTCTGGCTCCTTGGATGTA
95184	ZNF14	AGAATGAGACACTGTCTCAAGA
95185	SOX8	GGCTGAGCTCCAAGTGCCTG
95186	ARSD	TCATTTGAGCCCAGGAGGCTGA
95187	MAP2	TCCATTTGCAACAGGAAGACACTGGCTTTA
95188	SMCX	CCTCCTCCTGGGTTCATGTTGTA
95189	DBT	CTATTGCACTCCAGCCTGGGCG
95190	TEM8	GCACAAAATTATTGTTTTCA
95191	FPGS	CCCACCCCACACCTGCAGTGCCAGCT
95192	MECP2	AAGCAAGTCCTGCAACCAAACTCCCA
95193	CHC1L	GAGTTTATGTAGAAAGCATTGA
95194	FGF4	CCCCCAGCTTCCCGGGCGCACTGACCG
95195	ACOX1	CCAAGCTTTCCTGCTCAGTGT
95196	PPP2R4	GCCCCCTGGGCCTGAGGCC
95197	DDX11	AAAGGTGAAACCCAGGAGG
95198	MHC2TA	TGGGCTGGTGTCACCTGAAGACTCATTC
95199	INPP5D	CCTCCTGCTGGCTCCTCCTGCCCA
95200	GGA3	AGCAGGTTTCACTGCTTCATT
95201	ABCD1	CCCTCGGGCCGGGCACCACCCCCAGT
95202	TITF1	CTCCTCCAGCCGCCGCCGAATCATGTC
95203	WASF3	AACATCCAAAAGCACATTTCATTTC
95204	TOP1	CTATTTTTATCATGAATTCCCT
95205	VBP1	GGAGATCTTGGCCAACGTGAA
95206	GPX3	GTACAGCCACGTGTCTACCTATGTGTC
95207	CASR	GGAGAGTGGAAGGAGGGAGCTGTTT
95208	CDH18	ACTGAAGAGGAGCAAGAACA
95209	GCLM	AGTAACTGGAGTAGCTGGGATT
95210	BCL10	ATCGCCCAGGCTGGAGTGCAG
95211	FGF1	TTAAGCAATGGTAATTGTGAA
95212	SOX8	GGGAGGAGAAGGGACCTGCCTT
95213	JAK3	AGGGTGGAGTGCAGTGGTAGCG
95214	RNTRE	AACTCGCACATCTCTCCTGTCTGTTAGTAA
95215	SFRS1	TTCCTTTATTCAGTACAATCTTTTCA
95216	BAZ2A	AGAGACCACAGGCAAGGGAA

95217	XK	TCTAGTGCCATTATTTCTACC
95218	GAS7	GAATGTCCCTTCCATTTCTGAGAACAA
95219	LARGE	TCCTGGAGGTGGGGTTGATGGG
95220	LRRC2	CCCCTCGGGGCAGGTAATTTCATGCTC
95221	HOXB9	TCTAGAGGCAGACTCCTGAGT
95222	PCDHGA1	AGAGCCACAGGGCGGCCTCTCC
95222	PCDHGA10	AGAGCCACAGGGCGGCCTCTCC
95222	PCDHGA11	AGAGCCACAGGGCGGCCTCTCC
95222	PCDHGA12	AGAGCCACAGGGCGGCCTCTCC
95222	PCDHGA2	AGAGCCACAGGGCGGCCTCTCC
95222	PCDHGA3	AGAGCCACAGGGCGGCCTCTCC
95222	PCDHGA4	AGAGCCACAGGGCGGCCTCTCC
95222	PCDHGA5	AGAGCCACAGGGCGGCCTCTCC
95222	PCDHGA6	AGAGCCACAGGGCGGCCTCTCC
95222	PCDHGA7	AGAGCCACAGGGCGGCCTCTCC
95222	PCDHGA8	AGAGCCACAGGGCGGCCTCTCC
95222	PCDHGA9	AGAGCCACAGGGCGGCCTCTCC
95222	PCDHGB1	AGAGCCACAGGGCGGCCTCTCC
95222	PCDHGB2	AGAGCCACAGGGCGGCCTCTCC
95222	PCDHGB3	AGAGCCACAGGGCGGCCTCTCC
95222	PCDHGB4	AGAGCCACAGGGCGGCCTCTCC
95222	PCDHGB5	AGAGCCACAGGGCGGCCTCTCC
95222	PCDHGB6	AGAGCCACAGGGCGGCCTCTCC
95222	PCDHGB7	AGAGCCACAGGGCGGCCTCTCC
95222	PCDHGC3	AGAGCCACAGGGCGGCCTCTCC
95222	PCDHGC4	AGAGCCACAGGGCGGCCTCTCC
95222	PCDHGC5	AGAGCCACAGGGCGGCCTCTCC
95223	KCNK4	GCGGGTGGGGTGCAGGGAGGGAGA
95224	GNAZ	GAAAGAGAAGCTGGGGATTGGA
95225	HPS4	AGGAAACCAGAGGAATGGATTTGA
95226	TR2	TTTCTTCTTTGGGAGTCGAATGTAAT
95227	ADD1	CTTTTTGCTTTCTTCTTTCC
95228	ADARB1	ATCTTTCCCACCTCTAAATTCTGTAAA
95229	F2RL3	TCTGCTTCCTGGGCCCTGCCAGCATCTCTGG
95230	FCAR	AGGCTGGAGTGCAGTGGAGCA
95231	ABCB4	AGAGAACAACAGGAATTGAAGAA
95232	VASP	TTTCTGCTGCAGGAACCTCTCATC
95233	PLA2G2A	CTTCTACTGCTCTCCTCCACC
95234	KAL1	GGTTCACTGCAGCTCCTGTCA
95235	CALCB	TACATGTTTTCACTTATTTAGGTTTTCT
95236	FMR2	ACTGAGTGTAAAATATGTGCCA
95237	HSPA1L	GATTGTGAGGTCACTGTGAA
95238	KARS	AGGTCTGCAAGGGAATTCTTGTGTGC
95239	COL18A1	CCCAAGCTCAGAGGCGCACTGTGAC
95240	XPA	GAGCTAGGTCCTCGGAGTGGGCCGGA
95241	SLC4A10	TTTTTATAGCTTAGCATTAG
95242	RAD9	GTTATCTCCCCACAACCCCCAGCC
95243	TRPM7	AAGCAGAAACCTAACTCAC
95244	CBFA2T3	CTTTGCAGAGGTCCAAATGATA
95245	PTGER2	CATGTAAAGTGTCAGAAGGAGCTA

95246	PRKWNK3	ACTTTAAGGTCATTTCTAATACACATT
95247	HTR7	TCTGACATGGATTATGGACTTC
95248	SHFM3	CCTCACTGCCCCACTGTGCTCC
95249	PDYN	CTGCCCAGGGACAAAGCAGAGTGCAGG
95250	GPRK6	TAGGGTAGCATGGGATTACAGGG
95251	HYAL1	GGTCTGGCCAGGGCTTCCTCAAAT
95252	NR4A2	TGCTGCCCTGGCTATGGTCACAG
95253	HUNK	TCGCGTGGAGCATCCTTAGTCCCACCTGT
95254	EIF2B5	TGAAAGGAGCAGAGGCTGGAACTAC
95255	TST	GCCATGGTTCATCAGGTGCTCTA
95256	OSCAR	GAGGGGAGAGGGTGCGACCAAGCCCT
95257	POU2F2	GGGCTGCCCCTGCTCAGCACCCCGCCT
95258	STAT4	GCACTCCTCAATTGGGAGTGTTGTGAC
95259	COL4A3	ACTAAGATGTGCAGCATTTCAC
95260	PRCC	GGTCTCAAGTAGGCCTCA
95261	OAS2	CCAAGCCCTCCTACCTACCAAGATATA
95262	CUL4B	CCCAATCCTCTGCTTTAGACA
95263	GABRA2	CATTAAATTTGGTTTGTTTTGCT
95264	NUFIP1	AAATAAATAAGGCCATGTCTGACTTC
95265	MHC2TA	TATGCCCACGCTGGAGTGCAGTG
95266	ZNF80	GTGGTTTTCTGCAGGAAATGGGATGGACC
95267	CNR1	TAGAGGATTAGTAAGATCTCTT
95268	HIRA	TTCCTTTGGCCGATAATCAGGATTT
95269	JJAZ1	CTCCAAATGATGAGTTCTA
95270	CYP4F3	CCAGGCTGGAGTGCGGTGG
95270	ENDOGL1	CCAGGCTGGAGTGCGGTGG
95270	HMG20A	CCAGGCTGGAGTGCGGTGG
95270	SLC39A1	CCAGGCTGGAGTGCGGTGG
95271	ACE	GCAGTGAGCCAAGATCGCACC
95271	LUZP1	GCAGTGAGCCAAGATCGCACC
95272	EIF2S3	TGAGTCTGGCTCTGTCACCCA
95273	GCNT2	AGCAGGAGAACAGGCAAGCCAA
95274	FLI1	TGTGGAATATTGGGGGGCTCGGCT
95275	GAS1	ACTCGAAAGGGAAGGTGCTGACCA
95276	HOXA11	GAGAGGGATGCATGGAGATAGC
95277	RPN2	GAATGTCAAGAAAAGGAGTCAAGAACA
95278	ESR1	TGCAGATTCAGAGTGTCCTGAA
95279	SYN3	TCTGCCTACCCACGTGCCTGCTTA
95280	HMGCL	CCGTCTGCCAACTCCAGCATCTCT
95281	GSTM4	GGTGAATTTGACCTCTCTG
95282	PDE4C	GAAGGTTGAGACAAAGGGGATC
95283	P2RY6	GCTCTGGGGCTACCTCAGGGCC
95284	C1orf1	CCAGTATTGTTATTATTCCATTTATT
95285	DFFB	AAGTAGCTGGGATTACAGGCACCTACC
95286	PSMC3	TCCTCCAGGAAATGAATCTGCTGCCGA
95287	CCRL1	CATCTTTGTAACTTCCTGTGAATTTAT
95288	ITSN1	TCCTGCAGGGAAATGCTGCCTAGAGCT
95289	OTOF	GGATGTTTCTGCCACTGCTG
95290	UBQLN2	ACAAGTGTTGTCCTACAGA
95291	IL1B	TGGTTCTAAGAAACCCTCTGT

95292	SCAP2	TTCTGGTGTGATTTGTAATGTTTCTTA
95293	LIM2	GGGGGCTCAGTTCTGGACTGT
95294	MRE11A	AGCTAATTCAGGTCATTTTGT
95295	HDAC5	TTCCTCTTGGTCTCAGCACTG
95296	EBI2	CACCAATGGATATACAAA
95297	IL1RAP	ACACATTTAGAAACTAAGCTATGTTA
95298	HOXC13	CTGGTGGCAGCGCAGAGCCCA
95299	BIN2	ACCACACACACTCAGAG
95300	TADA2L	AGGAGGCAGAGGTTGCAGCGA
95301	FBXW7	TGCAACAAAAAGTCATTTTTCT
95302	CACNG7	TGGAAGCCACGGGTACGGTT
95303	ICA1	TCCCCTGGGGGCTAGCAGAA
95304	NR1I2	TTGTTCAAAGTGGACCCCAGG
95305	PPP1R12B	AGAGAGGCAAGCTCAGGAGCAGC
95306	BRCA1	TCCAGCCTGGGTGACAGTG
95306	GTF2F1	TCCAGCCTGGGTGACAGTG
95307	IL10RA	CAGTTCAGTCCACAGGCATGGA
95308	LIFR	GGTTCTTGGAAAAGCAGAAGGAA
95309	MEF2C	TTCTTTCTGTTTTCTTTTAC
95310	ATP11A	TACAGCCCTTTTTAGGAACCCA
95311	NBS1	GAGGAGCCGGACCGATGTGGAAA
95312	ST3GALVI	GGTGTTTTCACACGTCTTTTTATAGTT
95313	CR1	AAGAACATCTCGAATACAGTT
95314	ABCA3	GCTGGGGTCTTAGCGTCCAGCG
95315	CYP3A43	CAATGCCAAATAAGTACAGTCA
95316	FANCE	CAGGCTGGAGTGCAGTGATGCG
95317	IL21R	CAGGCTGGAATGCAGTGGTGCG
95318	KIR2DL3	CTCCTGCCCATGAGCACCAC
95319	PODXL	ACCACCCCAAGTGCCGTTT
95320	COL9A2	AGCTCAGTATTTAAACATCATCT
95321	RXRB	ACACAGGATCCTGGCCTGAGA
95322	PCTP	GGCTGGGCTGCCTTCTTCTACA
95323	SORD	AGAATGCCCTGTTCATGCTGAGCA
95324	GYPA	TATTAATAAAACTTTGGAAATTGCT
95325	GALT	GCTCATGCCTTAATCCCAGCA
95326	CARKL	TGTGCAGCAGTGTTTTTGCCCCTGC
95327	NR1I2	TGCTACCTCTAATAGTCCTGTCTCCCA
95328	ICAM2	CCCTCCAGGCAGCCCTTGGCTGG
95329	FGF2	AGCAGGAGGATCGCTTGAGCCC
95330	SCN2B	GGCAGGAGAATCGCTTGAGCCC
95331	RTN4	TGCTTCCAAAAATGTTGTTTGTTTGCAA
95332	MMP20	AGCAGAATGTAGGAGAGGGATTCTTCC
95333	RABL2A	TTGCCCAGGATGGTCTCGATC
95333	RABL2B	TTGCCCAGGATGGTCTCGATC
95334	FACL3	TAGCTTATTTAAAAAGCACCTTA
95335	CADPS	CCCATCCTTCATTTTACTCATATTA
95336	XRCC2	CGCCATTGCACTCCCGCCTGGG
95337	TNFRSF14	TCATACCGGCCCTTCCCCTCG
95338	POU2F2	GCAGGAGGCCAGTGGTGGGGACGCAGA
95339	WTAP	GCGCCAGGCTCCTGGGAAAGGA

95340	MYH11	GGAACCAAGGCCAGTGAATAAG
95341	BAALC	TGCATCTGGCTACTTTTTCATGT
95342	PTGIS	ATTGCCCAGGCTGGAGTGCAAT
95343	RP2	GTTGCCCAAGCTGGAGTGCAAT
95344	FMN2	GGTTCTAGGTTTGGTTCTTGCCT
95345	MTMR2	CTTCCTCTGTGCCCCCATAGCACTGT
95346	ADAMTS4	CGAACTCCTGACCTTAGGTGAT
95347	LDLR	TTTCGAGGTGGGTTTGTACCTTCCTT
95348	MRC1	TTCCGCCCTCCTGTCCATCA
95349	HPS4	CTCTCCAGGATCTCTGCTGTCTCTTGG
95350	RABIF	GGTCCCTCTTCCCTTGAAA
95351	FZD7	TGGGTGGAAAGCGGTTTGGATGAA
95352	MAPK14	ATCATGAAAAGAGGAACAGGTGG
95353	DBCCR1	CGGGAGGCAGAGGGAGTAGTGA
95354	TCTA	CTCATCATTTCCCATCTGGACCTGGTAC
95355	PHEMX	GTCAGGGAGAGGAGGCGGC
95356	HAP1	CCAAGCCCCACACCCGCAGACCCTCCT
95357	FSTL1	GTGGGAAAGAGAACCACCC
95358	SYT5	ACTGCTCCTGAGGCCAAATAAAT
95359	SC5DL	CACTGCTGAGGAATGATCCT
95360	CREB1	CGCGGCGGAGGTGTAGTTTGA
95361	GPR62	GCAGGAGAAAGGAGGGTGGT
95362	NRG1	CCGCTCGCTCTCCCCCTCGAGGGACAAAC
95363	G6PT1	CCGCCTGGCCCTCCCCTACCAGGCTG
95364	CDA	AGATGATGTTTCCAGATTACACTCCA
95365	SCNN1B	CCCCGGGTGGGTGAAACTCACT
95366	TRIP11	TATGTATGTACTTTATCACA
95367	SLBP	CCTCAGCCTCGGCCCTGCGCTGCGC
95368	PMP2	AGGTTATCAAAATTAACCTCA
95369	GNAI3	ACAGAACCAGTGACTTTGCTGCTA
95370	FACL4	TAAAGGGAAATTGAGCTGCT
95371	EHHADH	AAACCAGCACAGGGAACTTAGGTTAG
95372	LMO1	CGCCCGGCGCCTGGCCTCCAGGC
95373	CTF1	GTTGCCCAGGCTGGTCTTGAACTCC
95373	DSCR3	GTTGCCCAGGCTGGTCTTGAACTCC
95373	KLRD1	GTTGCCCAGGCTGGTCTTGAACTCC
95373	MPL	GTTGCCCAGGCTGGTCTTGAACTCC
95373	STARD4	GTTGCCCAGGCTGGTCTTGAACTCC
95374	HR	TCTCTCCTGGGTCCCAGGATCG
95375	BRCA1	CTCCAAATAAACATGGACTTTTAC
95376	TNFAIP2	AGGAGGGAGAGTGCAGC
95377	DAXX	CTGCCTCCCCTTCTCCCTGC
95378	PROS1	GAATCTTCTTCTTGGCAGCT
95379	NBS1	AAATGGAGTCATTTGAGTCTC
95380	PRG1	GGGGGTATTTGACATATTTTACA
95381	HPS3	TAGAATTGTCTCTCAACTCTGC
95382	FOXO1A	TGCTTTGTGAAATGTGCAAA
95383	FCN2	TCCTCCCAGGCCTCCCTCC
95384	SLC7A5	GTCCTGTCCTGGTCCTGATGCCC
95385	LRRC2	CCTCCAGCCTGGGTGACAGAGT

95385	PRKY	CCTCCAGCCTGGGTGACAGAGT
95386	DLST	AGACTTCTAGGAGGATGCTGTG
95387	GNS	CCAGTCAGCTGACTTCCTCGTGCAATG
95388	CAMK2A	CCTCTCTCCCCTTGGCGTCT
95389	NEFH	GTGGTCAAGCCCTTGCCCAGAG
95390	P2RY6	TAAGATCCCTCACAGGACCCAGAA
95391	WHSC1	TGCCCCCTTTCTGGCTCTCA
95392	S100A6	AAGATGGAGACACCTCTGG
95393	CDH6	CAGTATTTCCACTTGTTCTCAG
95394	A1BG	CAGTGTTGCAGTCCGGCTCACTGCAGT
95395	ZNF174	CCCTAACATCCTCAGAGAACCTTCGTTTCT
95396	OSR1	CCTTACTCCAATGATGGCCC
95397	PTGS1	TGGAGCCGGGGGAAGGGTGGGGAGGG
95398	MYCL2	TCTCTTTCGCACCTGCCTCTCA
95399	ADH5	GTTGTTGCCAGTTTCTGTATT
95400	CREBL2	CTGACTATAAGTTCTCAGCCT
95401	PTMS	CTTCTCCGGTAGCCTCTCCCACCTAACCTC
95402	ICMT	TAGAAGGCCTCGGCCTCTCTG
95403	NPTX1	CCTCTGACCCACCCATGGTGCCAG
95404	SCML1	TAGAGGACAAGAAACAATCTGTA
95405	CFL2	CAGAAATTATTTTTTGCACT
95406	PTP4A2	AGATTCTCTCCTCTCCCATCCCAG
95407	IL13RA1	GCCTGTAATCCCAGCAATTTG
95408	OCA2	TGTTTAAAAACCCTTCCTG
95409	TLX1	GGAGCCGCTGTTGCCTCCCA
95410	ATP5J	GCTCACGAGGTACAAGGAAGCACAA
95411	EDARADD	GCTCCTCAGAATTGAAGAGGAG
95412	ACCN2	AGCTGGAGAGTAAGGCTGTAGGATCT
95413	IDS	GGCTTATTTACTGAATAAATACAA
95414	TXNRD2	AGATGGTCAGCGTGGAGCGCAA
95415	ANK1	CTGGCCCACAGAGAGAGT
95416	FANCC	TTTGTAGACTCTCCCTGATA
95417	TRIM14	GGAGGCGGAGATTGCAGTGA
95418	RFX5	TCCTCTAGGGACTCTTCAGTCTCA
95419	PAX5	GCCCAGCCTGCCTGTCCT
95420	EFNA1	GTCCCTTAAGGCACAGTGGGAGCTGAG
95421	BTEB1	ATTTTCCTCTCCCTGCATTGTTTTT
95422	AFM	CCAGCTGCTGGAGATATG
95423	ZNF278	TTTTCACTGCTAGGACAAGCTCAGCTG
95424	LIMK1	GCAGCTCAGCCCCTGCAGTCATCTC
95425	EMP1	CACCAGACTTGGCCTCCAGC
95426	TAP2	GTGCGGTTACCTCTTTCACAGCCCT
95427	COMT	AACATCTGCTTTGCTGCCGAGCC
95428	ARHGEF6	AGAGACACCTCTGTCTCTG
95429	SIT	TCTCACTTCCTTCTTCTGGA
95430	SYT5	CTCTCCTCTCTCTTCCAACACA
95431	CRY2	CCAGGAGGAGACCAGGTTGCAGTGG
95432	HTR1E	GGCGTGCTGTTTTCTACCTC
95433	FLRT1	AGAGAGGGAAGAAAAGATCTTTTGCCC
95434	MAP3K9	CCAGCCTGACCAACATGGAGATATCCTGTC

95435	PLCB2	TCCGGAACGGGAGGCTGAAATG
95436	ZIC2	CCATAGCACACACATACAC
95437	CUL3	TATTCTACCACTTGCACTTA
95438	PACSIN1	CCTCGCCATAGAGTTCCAGACATATT
95439	OXR1	AGCAGGAGAATGGCCCAAACCTG
95440	COX15	ACTCTTGTTGCCCAGGCTGG
95440	PRND	ACTCTTGTTGCCCAGGCTGG
95440	TRPV1	ACTCTTGTTGCCCAGGCTGG
95441	TOP2A	TCTGCTTTGTCTGTGTTTTGAGTC
95442	MAK	GTGTGAGCCACAGTGCCCAGCT
95443	PPP3CB	TCCTGGATGGAGGCTTGAGGGC
95444	COG3	GATCATAAATTATGCATATCTATGA
95445	SEDL	TGTTGTGCAGGCTGGAGTGCAGT
95446	GCNT2	AAGCCTCCTCTGGAGAATCTTACA
95447	VNN1	CTCTAGTATAAGTGAATTACTA
95448	CRAT	CAGGGTGTGAGGTTTCACCTCC
95449	FCER1G	GATCTCCAGCCCAAGATGATTCCAGC
95450	IL10RA	TCCTCTTGGAGCCTCAGTTTCCTCAT
95451	WBSCR5	CCTGGTATGGACGGATGCGCAGGATTT
95452	TRPM1	GTAAGCAACTAGCTGGGCACAG
95453	CRYZL1	AAGAAAACTGCTGCTTTCAGCA
95454	CASP7	GCAAAGATTTTTGGCACTTTG
95455	FAAH	TGGCTTGGCCAGGCAGGATGGGCTGTGTCCG
95456	PPT1	TTTCTGATGTGTTCCATGAGA
95457	TSGA10	AAGCAGTCAAGTAGATGATTTAA
95458	LEP	GATCATTTTCTTATCTTCTGC
95459	DRP2	TGGGCAGCAGCAGGGATCTGGTGG
95460	CABC1	TGCGAGGCCCAGGCCTGTGG
95461	LYPLA1	GTATTTTTATATATGTGTTCATATAT
95462	EPB49	GTGGGGTGGAAATAGGGTGGG
95463	ZNF74	CCAGGCTGGTCTTAAGCTCAAGCGATC
95464	BRF1	GAGTTCCCCGTGGACAGAGCCA
95465	FRK	AGTGACTGTTGTAGCATTTT
95466	IHPK3	CGGGAGCAGAGGTTCTATGA
95467	GATA4	CACTTCCTGGGGAGCTACA
95468	GAB2	TCAAGGAGTATTTATTAATGGCTGC
95469	DUOX2	CACTCCTCACCCCAGCTCAA
95470	CDH1	AAAGTGCTGGGATTGTGGGCAT
95471	SUOX	CTCCCAGGGTCTCCCTATCTTGATC
95472	SMAP	AGTCTTTTTATAATTTGGATTGTATC
95473	COX15	AAATGTTCTTAGAGGACCAGCCTCCTG
95474	SPARC	TTCTCCTCCTCTGTCTTTTGGAGAACC
95475	RIG	AGGAGACACTCAGATGCT
95476	BMP4	AGGTCCCCAGGAGCTGCTGCTGGCGAG
95477	SMARCA1	TATTTGATACTGTGCTTGCTGT
95478	TEP1	GAGGGAGGGAGAATAAGTCAGTCATGCAT
95479	TAL1	TGGACAGTCTGCTCTAGAT
95480	MASP2	TCATCATTACTGTGGACATGGCAGTTG
95481	TIMP3	GGCAGGGGGAGAATGGGAGGCT
95482	AF5Q31	GGCGGGGATCCTGGTGCCAGGT

95483	MGST1	TAGGTAGGAGGGGAGCAGAGGA
95484	SCD	CCAGAAACATCTCTGGCCCAGAAAGCC
95485	CRYBB3	CACCCTTCCCTGGAATCTGCT
95486	RNTRE	GGCTTCGCCGGGATCCTCTTGG
95487	WHSC1	GGTCTTGAACTCCTGACCTTGTGATCCGCTC
95488	MUC5B	GTTCTGCCTCCATCCCCAT
95489	DDX6	TCTTTCTCCCCCACCTCTTGCGAGAT
95490	PSPHL	ATTGGTTTGTTTGTTTTTAACTGTAG
95491	RHO	TGATAGTGAACATTTTGAGATTGG
95492	MYL1	TTCCCTGCTGTGTTGCTGCCCAG
95493	SLC22A7	GCTTTCCCTCTCTGGGCCTCAGTCTGTT
95494	MAFF	CCAAGGAGGGGGATCGCTTGA
95495	SLC26A4	TAAAAGCTACAGAACCAGGCC
95496	TEM8	GGCAAAGCATTTTGATGGAAT
95497	CDC6	TTACCTCTTCGTTTGCTCAAACATGAG
95498	PHF1	CAGGCTGGAATCCAAGAGTGGG
95499	SNTB1	AAGTATGAAGCAGCTGTTAC
95500	BVES	GGGTTGTTGGCCAGACAAGTCC
95501	CACNA1C	GCGGGAGGGGAGGAAGAAGAGTGTTT
95502	PGM1	CAGGAGGTGGGCTGGCGCGGAGG
95503	GRLF1	CAGACACCGTGTGAGGGGACA
95504	GRB10	CCTCCTCTGCTGGCTTAGGGTC
95505	ZNF198	CGCTGGGTATTACCATGTAAA
95506	GJB3	GAGGAAGATGTGTGAGTTAAGGCCTGA
95507	CRTAP	GCCCAGGCTGGAGTGCAATGGCACG
95507	PMCHL1	GCCCAGGCTGGAGTGCAATGGCACG
95507	PTGIS	GCCCAGGCTGGAGTGCAATGGCACG
95508	CPM	TTCAGTCTTGACGGTGAATGGAAG
95509	ADCY2	TCATCAGGCCGGGTGCAGTG
95510	DIAPH2	TACTATCACAGGTTCCAGGGAG
95511	ESRRA	GTGGGTGATGCTTTTGCTGCTG
95512	VCAM1	TTTTTATTTTCTTTTGTAAATGTTTAG
95513	APTX	AAATGTTCTCGACAGCAAGTT
95514	SIAT1	CTGACTAGCTGTGCCACTCTG
95515	IL13	GGCAGGGTCAGGAGAGGGGC
95516	JUN	CATACTCCACGCTCCCCCAGCGT
95517	AKAP2	CCAGAAATTATGGAAACAGGGTC
95518	PTPRG	TAAAAGTTTTGATATTTATTTTT
95519	HSPA1B	TGCTGTTTTCCTATGTCATTTCTGCTTCA
95520	EZH1	CCTGTCTGTAGTGCCTGCTGTT
95521	TAP2	CCAGTGTCTGCTATTTTGA
95522	TM4SF5	GGGTTACACCTGCTCCTTCCTGG
95523	NONO	GGGAGTATGCTGGAGGCAGA
95524	TCL1B	AGTGGCTGGCCCTGCTGGCCCTGC
95525	LTBP2	GCAAGGGCTGCCATGGGATACAGC
95526	SIGLEC8	GCTCTGTCACCTAGGCTGGAGTGCAGT
95527	FOXI1	GATTTCTCCTTGTTTTTGTGAGT
95528	XK	GAGCCTCAATTTTGGTTTTTCTCATTT
95529	PAX9	CTCTCGCCTCCTCCTCCTGGGAAGAAG
95530	C9orf19	GGGAGGCGGCCGGGGCAGGGG

95531	EDNRA	GCAGTTCTGGTGAATGTTCA
95532	GRM1	GCGAGTGAATGTGTTCCTG
95533	IRS2	CTGAGCAATGACTGTGTT
95534	DACH	TAAAGACTGATATGAATCAG
95535	NMB	GCTCAAATCTCTGTTACTCCATTACTG
95536	GALNT3	GCACGCATCTGTAGTTCCAGCT
95537	PSEN1	GGTGAAGACCCAGAGGAA
95538	PEX10	TTTGGACGGGATTTTAGGTTTC
95539	RPP30	CACACACAAACGCCTTCTTCCCG
95540	KL	CTCTGTCTCAGTTTACCGACCT
95541	TAGLN	GTCTCCTCCCTGGGCTAAGCAGGGG
95542	PLAG1	CCGCGGTTGCCTCTTGGTGCTG
95543	RAMP3	CCTCTATCTGCTACCATCTGTGTT
95544	PLA2G2D	ACAGGGTAGGGAAATCTCCATAC
95545	GPR65	AAAATTGAAAAAGAATTCTCAGT
95546	HD	TCCTCTTGGAGCTGAGATGAGC
95547	INPP5B	CACTGCACTCCAGCCTGGGAGA
95548	TNFSF14	CACTGCACTCCAACCTGGGAAA
95549	KCNMA1	GGCCGAAGTATTGCGAAGCATTTG
95550	AVPR1A	GAGGTGAGGTCGAGAGCCAG
95551	TRHDE	CATGCTTATTTCAAACGTCCAGTGTTG
95552	UCP3	CAGGGGCTTCTTTCTTTTCGAA
95553	CDH13	GTCTGTGGAACTCCTGACGTCTGAAGCT
95554	PKNOX1	TGCAAACTTTCTTCAACTTTCC
95555	HLCS	GTCCAGTTTTCTCTCTTCC
95556	ACT	GAAGGCTGAGTCCACACTGCAAG
95557	FGR	AAAGTCAGGAAAAGTCTTGGCT
95558	CLASP2	AGATGTCCCTTCTATTCAGATTT
95559	GOLGA4	CTCCGATCTTCATCTTGAAG
95560	SYNGR3	GTGATCATGGTCCAGTCTTCGG
95561	CD209	CTACAGTTCCTTCTCTCCA
95562	ARNT2	AATCATTTGTATTTCTTGAA
95563	EVC	TGCTCCCTGATTAAAATGAGA
95564	ATP2B2	CTCCACTGGGGGCTTACGGGAG
95565	DSC3	GCACAGGCTGGAGTGCAGTGGC
95566	PSCD4	CCCCACTGCCAGCCTGAGTGGGCA
95567	DLGAP2	AGCGGGAAATGTGTGAGA
95568	PYGO2	CTGGTGAAGTGGCCCAGGGA
95569	IRAK1	AGACCAGCCAGGGCAACATGAT
95570	MTM1	GCAGCCTGGCAACGGCGGTGG
95571	KIF1B	TTTGGCTTCCTTTTGTATGATAGG
95572	FNTB	GCCTCAGTGGAGCTGTGGTTCTCT
95573	CBFA2T3	TGTTTGTCACTGCCAAAG
95574	ADAM12	TGCAAAAACTACAACCAATGG
95575	MYCL2	TCTGCAGCTCCACGTGGAATCCAGGTG
95576	PEA15	TGGCTTCTCCCTTAAGAAG
95577	EPRS	TTGCAACTACAGCTGGGTTAT
95578	FCGR2A	CCCTACTGCTGGTTTCTGCC
95579	GLI2	GTTTATGGGCATCCTCTCTGG
95580	AVP	CTGGGCTTGTGCTGTTCTTGG

95581	SEC13L1	ACAGATTGATCATCTGCC
95582	EGFL4	CGGGGCTGCAAGAGCCGGGCCTGGCC
95583	PTGS1	ATGGTGGAGTGTAGCCTCCACCT
95584	FMOD	GGCATACAACCCTCTGCTTTC
95585	NT5C2	AACAACCTCCTTCTTATCTGTG
95586	MCC	ACCAAAGTAACTGAATTATTTCAG
95587	SMURF1	GCCATCTGCAGCCAGGTGTGTGC
95588	CYBB	GATCTAGCCCATCTTACTCCA
95589	SLIT2	GCAGGGTGGAGAGGGCGGTGGGAG
95590	OAT	CAGTTGAAGTGTTTTGATGTGC
95591	LDB3	CCAACTTGTGACTGCTCACT
95592	OPHN1	CTGTTCCCAGCTCCAGCTCTAACCTCG
95593	SKI	GCGACCCTTTTCAGTTCGGCA
95594	ACVRL1	CCTGATTCCTTTCTGCCTGCAGGGGGCT
95595	SH3BP2	CAGGCTGGAGTGCAATGCCGTGATCTC
95596	SMT3H1	ATAGCCTGAATGTTCGCTTT
95597	TBL1X	CTGCCGGCTGGAGGGAGGT
95598	LOH11CR2A	GGACCTGCCCTACACACTCAG
95599	PRX2	CCCTGCAGCCGGGCCCAGCTCTTCTGT
95600	FABP2	CAGGCTGGAATGTAGTGGAGAGATCAT
95601	SCA1	GAGGCTCCCAGAGCAGCCTCTGTCACC
95602	GPR17	GCAGGGAGAGAGGAGGCCGGAAGA
95603	CALM1	TTCTCTTTATAAATGCATGTC
95604	KCNQ2	CTGCCACCACGGCTGGGACAC
95605	NT5M	TCTGCAGCCATCAGCAAGGAGGACCA
95606	ED1	CCAGGGGCTCTGTGGCAAAAAGA
95607	HYOU1	AGCTCTGTCATAATCTGCATCTTCCCA
95608	XRCC3	TTCTCAGGGCTGGAGCCTGGGGTG
95609	ACCN2	CCCCAACTTCATTTGCTTCTC
95610	ANK1	GGAGAGGGGCCCTGCTTCCCACAC
95611	RPA3	TACTCAGATAAGAGGCTCCA
95612	PRKY	TTTCCTTCAATCTACCTAGCAT
95613	GPR92	TGACTTCTGTCTAGGCTCATGG
95614	SNK	ACTCCTCTTTTCCACTGTGAGA
95615	HMGA1	AGAGTGAGCAAGGGGGCCCGAATCGA
95616	CARP	AAATGTTCACTGGCATTTTGAAGGCAT
95617	FLRT2	ATTTTTCCTTAGGATACACATC
95618	TNNI1	CCATCAGAGTCTAGAGGATA
95619	NARS	ACCTTATTAACTCACAGCAGGC
95620	GNAT2	ACCCTACAGCCTGCTCTCTCA
95621	TUFT1	TCTCGAATTCCTGACCTCAGGTGATCCA
95622	ETF1	GCATTCTCTATAGCCTCTGCA
95623	BLAME	ACCATAAAACGCTATGCAGAA
95624	KCNQ3	AGCGGGGACACCAATGGCTGC
95625	ATP11A	CTACAGACATGCAGAACATGCAC
95626	TAX1BP1	ACTGCACTTTCTGACCAGGAG
95627	CSNK2B	TTTGACTTTTCCTTTCTTTTTTG
95628	WHSC1	AGTGATCGCCTCCAACAGCATCATCT
95629	PCBD	ACCCTGCCCTTCCTCTTTGAATTCTTCCG
95630	PPP3R1	CCTGCCTGCCATCGCTGT

95631	TP53BP2	CAGCAGCTGCTCCTAAACCAGTC
95632	SLC16A2	CTGGGTGGAGGGGCAGGGAGGC
95633	OPRD1	ACAACTGAGTCCTTAAACAGGGC
95634	RAD23B	CAGCATTCACTCTCCCTGTCTTT
95635	BSG	GGGGCAGCTCTGGAGGGGGTTTGC
95636	TCF2	AAACCCCAGGGCAGGGAAACT
95637	FBXL7	GAGGGAGCAGAGATACCCATAC
95638	NRXN2	CTCCCCTCACCAGGAGAGGCACCTGC
95639	GSTM1	CTGCCCAGGCTGTGCAGCGCAGCTG
95639	GSTM2	CTGCCCAGGCTGTGCAGCGCAGCTG
95639	GSTM4	CTGCCCAGGCTGTGCAGCGCAGCTG
95640	KCNA4	ATCATTCTTCCCCTCCTCCAGCT
95641	TCFL4	TCTGACATCCTGCAGTCCCCAC
95642	CLDN16	TACTTAAACAGAAAGCAATT
95643	SHH	CGCACACGCACACACCCGCCGCG
95644	CAMLG	TTGTTGCCCAGGCTAGAGTGC
95645	HS2ST1	ATTACAGTGGAATGAGTA
95646	HMGCS2	AGCAAGATGGAGCAATGGAGAGAAGAC
95647	IL10	ACATAAATTAGAGGTCTCCA
95648	IQGAP1	TTACAACTAGCATTGCCTCAA
95649	HYOU1	CTCACCCCACCCCCACCT
95650	ADAMTS13	GGGGGTTGGAGGTGGGGACTCTGGA
95651	TCF20	GTGCAGCCACACCCTGCCCT
95652	ABCB9	TCCGGCGCAGTCTTCAATGAGCAGCGC
95653	KIF5C	GAGGCAGATGATCATGGTCTGCCTCA
95654	ZAP70	CCGGAGCTCAGCAGACACCAGGCC
95655	MTL5	GCTTGTGGAAACCAGCAGGTAAAATG
95656	TBL1X	AGGACCACCTGCAAAAGCCAGGG
95657	MME	GGTAGACCAGGATTTCTAATC
95658	PRKY	TAGAGGTTAATTTAATCAAAATGAG
95659	PPP2R1B	AGAGAGGGAGAGTGGGCCCTGGC
95660	MIPOL1	ACTGGTCTCGAACTCCTGGGCT
95661	IL16	GTGGCCTCTCCTTGTGGCC
95662	ATP8B2	CACCTCCTGGGTTCAAGCGAT
95662	TAT	CACCTCCTGGGTTCAAGCGAT
95663	LARS2	GCTGGTTCCTCTGCCTGTG
95664	CELSR3	CGTGAAGCCGCGCTCTGTTTT
95665	TRIM8	CTGGACGCAGAGGTGACAGTGG
95666	D12S2489E	TTGCCTCATGGGCAGGGCCACA
95667	CRY2	TCTCCACCATCCCTAGCATGCC
95668	NF1	AGTGTTCAGAACAACTGCAAA
95669	SLC6A8	TTTTAATAAAACGCCAAAAATATC
95670	ALDH1B1	GGGATTACAGGTGGGAGCCACA
95671	MHC2TA	GTTCACTGCAACCTCCGCCTCT
95672	COL6A3	GCCGTTCAGTTCTCCTGGGCT
95673	ABCC3	TGCACCTGTAAAGTGCCTT
95674	APOL1	TCGCCAAGTTGGAGCTTGCAGTGA
95675	F3	CCCTCCGTCTCTCGGGTTCAAGCAATT
95676	CD209	CGCCAGGCTGGAGTGCAGTGGC
95676	RABL2A	CGCCAGGCTGGAGTGCAGTGGC

95676	RABL2B	CGCCAGGCTGGAGTGCAGTGGC
95677	CD79B	GCCACAGGAACATCATTCCT
95678	CENTD1	CAGGCAGCAGAGGCGACTGCGGACAGC
95679	LTK	GCAGATGCTTCTAATAAAAGGCTC
95680	GALC	TTTAAATATACAATTCAGTGA
95681	DVL3	CCTGCCTGCTGCCTCAGTCTGCAACCTA
95682	GRM3	CCATTGATATCTCCCAGAGGTAC
95683	C5R1	CCAGCATGGTGAAACCCCGTCT
95684	OPTN	CCAACATGGCGGAACCCTGTCT
95685	MGAT3	AGACCAGCCTGGGCAACACAGT
95685	P2RY6	AGACCAGCCTGGGCAACACAGT
95686	DUSP4	GGGGGATGTCAATATTGCATACCT
95687	WHSC1	AAGGCGGCACTTCTGGCCAGGT
95688	HNF4A	GTCACGGCAAAGGAAGACGTG
95689	SULT2A1	AGGAGGCAGAGGTTGCAATGA
95690	CBFA2T2	CCCAAAGTGCCAGGATTACAGG
95691	HTR1D	AGCTCACTGCAACCTCCGCAT
95692	PCDHB11	AGCTCACTGCACCCTCCGCCT
95693	CDH10	AGAAGCTGATAAAAAAGCTTTG
95694	SULT2A1	TGGCCAACATGATGAAACCCTA
95695	DVL3	CTGAGGCACAAGAATCGCTTGA
95696	RANBP3	GCAGCCGCCTACACCAAGGCAACAG
95697	CHST1	CACATTTACACATCCACACAC
95698	F2RL3	TGGGAGGCGGAGGTTGCGGTCAGCTGA
95699	FUT5	TGTGTGACCATCAGCAGTGG
95700	VANGL2	GTCAGAGAGTCCCTTCTGA
95701	TSN	GCCTGTAATTCAGTGTATTTCAG
95702	ACE	GGCAGGAGAATCACTGGAACCTG
95703	CNTNAP2	AAGGAAGAGAGTGCATGGCA
95704	CYP2A6	GGAGAGGGGCGCAGCTAAGACTGGGG
95705	GRAF	CCAAGATCGCGCCCCTGCACTC
95706	DCLRE1C	TGCAGTGAGCCATGACTGTGCC
95707	KCNQ2	GGAGCCTGTCCCAAAAAG
95708	TIMELESS	CTGTTCCTTTGGCTTTCTCTTG
95709	PPP1CC	AAAGACTCTTCACTCCAAAAAG
95710	AQP6	CAGGCAGCGGTCCCAGAGC
95711	ABCA1	AGGTAAAATATTTTCCA
95712	OGG1	GCTACCTCTAGGTGAAATGAGCGG
95713	ZNF264	CTTCCGTGGGTTTGTTCCTGG
95714	PYGM	AGCTTCGGTGGGGGTGGAGTGAGGGCTGTG
95715	TRIM14	TGCCTGTAATCCCAGCTACTAGG
95716	PRKCN	TTACCTTTCTTTTTTAGGTCAATCAAG
95717	NCOA6IP	GGGCAGGGGCAGGGGCAGCTCTCCTTTA
95718	HIVEP3	ATGCAGTTACCTGTGCCTTTTTC
95719	RPH3AL	ACGATCGCGGCTCACTGCAACC
95720	TTC3	TAACTGCATTAGAAACCATG
95721	EIF5A2	AGATAGCTTCAGCAGATGTGAT
95722	HYAL1	TCTGGCCAGGCCCTGCTTAGGC
95723	MFGE8	GTTGCCTCTCTTGCCCCTTGT
95724	ANK2	GCAGACCTCTTCAAGTGACAC

95725	MYH9	CCCAGACCCCGCAGCACGCCTC
95726	TPMT	CCTGAGTGGCTGGGATTGCAGG
95727	GRLF1	CAGGAAGGGGGCAGTTTCTG
95728	MOG	CCCTGGTCATCCCCTCAGTCTG
95729	PLOD	CCAGGGAACCCAGTCCAGCCTCCTGGC
95730	E2F3	ACTGGTGTACATTAATTAGAT
95731	G6PC	CAGGCTGGAGTGGAGTGGCACG
95732	GRINL1A	CAGGCTGGAGTGCAGTGGCAGG
95733	FANCD2	TGCCTGTTATCTCAGCTACTTGGGAAG
95734	TAPBP	CTCTGGCCCAAGCTTCTGTAGTAGCTC
95735	CKTSF1B1	CCAGAGAAAACACAGTCTCTG
95736	APPBP2	AGCCTTCCGAGTAGCTGGGATT
95736	PRND	AGCCTTCCGAGTAGCTGGGATT
95737	BF	CTCTCCTGCCTTCCAACGCCA
95738	EN2	CCCACACCTCAAGCCTGGACCA
95739	CHML	TTCTGGGATAACTGGAACATCAGAA
95740	SLC21A9	GGCCCCACCTGGCCAAGAGTAGCAGCCA
95741	PDAP1	CCTCACCTCTCTGCCCTTCCCTGCCCG
95742	DIAPH2	TAACAGTTACAGACATTTCTG
95743	EN1	AGGCCAGACGCCTGAGCTTTTTT
95744	KIR2DL5	TCTGAACATGCCTCTCTCTTGCTTA
95744	KIR2DS2	TCTGAACATGCCTCTCTCTTGCTTA
95744	KIR2DS4	TCTGAACATGCCTCTCTCTTGCTTA
95744	KIR3DL2	TCTGAACATGCCTCTCTCTTGCTTA
95745	ANKH	CCGAGATCGCGCCATCGCACTC
95746	CASP6	CCGAGATTGCGCCATTGCACTC
95747	STC1	TATCTGAAGGACCCCAGGTAAGA
95748	DPP6	GGACGCAGCAGTTACAGCACC
95749	PRKACG	ACTTAACTCCAGCCCTGAACAGGCAC
95750	PIK3CG	GGGTTTAGTCTCAATTTTGGTTAT
95751	CD37	CGTCCACAGCTTCCTGTCCCCA
95752	PGK2	TCAACAGCAAGTTGGTTCTTCA
95753	ACVR1	TGTGACCATAGCCCACTGCAGCCT
95754	ADCY8	CTCAGCCTCAGATATCCGCACCGGC
95755	HSPB2	CTTCTGCTGCATCTGCAG
95756	HLA-C	GCTGAGCTGCAACTTCTTAC
95757	FMR2	AACTTCCTGACGTCCTGTCCCCA
95758	ISL1	CATCTAGAGAAAAACAAAAATAGAA
95759	SARDH	GCGTTTTTCTCCCATGCACTTGCA
95760	NHP2L1	AGGAAGCATGTGTTCTGTGAGGTTG
95761	HSPB3	GGCTATAAACCACTAGCTGCTTCAA
95762	OSR1	GGCCTAAGGAGATTCCACACATGC
95763	FBXL11	CTGCACGGGCTCTGAGGCCAGCGTCACAC
95764	CYBB	GGAGAGAGAGGGGAAGGGGGTCTC
95765	CITED4	GCTGCCTGGGCCCTGTGGTTGC
95766	KCNS2	TGTGTTTTAACAGCATGACTTC
95767	HDAC2	CAAATGGGACTTTTTCGTTT
95768	ZFP36	CCCTCTCCCCCACCTCTTCC
95769	HCFC1	TCTGCCACGAGGGGCCTGCTGTTTGC
95770	ABCG5	GACTCCATTTGTGCCTCT

95771	SMT3H1	CGCGCCGCCTCCCCGCGCCGCTCGG
95772	G6PC	CACCCAGGCTGGAGTGGAGTGG
95773	B4GALT5	TCTTCCATGTTGCCCAGGCTGG
95774	SOLH	AGGGAGCCAGGATGGGAACCA
95775	PCDHA2	TCTTCCTCCTTTTTTCCAATGTGCTTG
95776	ABCA2	AGAGCTGGGCCAGGGAGGACACGCTCC
95777	PTGIS	GGCTCACTGCAAGCTCTGCCT
95777	YES1	GGCTCACTGCAAGCTCTGCCT
95778	SYN2	CCATAGCTTCATCCACTG
95779	LPL	CCAGAACTTCGACCCTTTCTCTGAGA
95780	SLC7A1	TGTCCTCTGGTGAGAAGGTGGT
95781	AK2	GGCAGAGGGGAAGGGTGGTCAGGGT
95782	ALDH3B1	ATCGCTTGAACCCGGGAGGTGG
95782	CEACAM5	ATCGCTTGAACCCGGGAGGTGG
95782	HRH1	ATCGCTTGAACCCGGGAGGTGG
95783	SUV39H2	TCATTCCTGTTTAATACTCA
95784	STX1A	CACTGTTGGGGGCATCTTCGCCTAAAGCCAC
95785	ARHGEF6	TTTTAAAATGGACATTTTCAA
95786	AIM1	AGGATCTCAGGCTGGAGTGCAGTGG
95787	SLC25A15	GCCACTGCACTCCAGACTGGG
95788	EGFL4	GCGTCACTGCACTCCAACCT
95789	ZNF264	TTATCAGCAATTTAGCACTTT
95790	A1BG	ACCACTGCCGAGTTTCTGCCTGGAGC
95791	CDKN2C	GCAGTTCTGCCTCACACGGCTCAAGTCA
95792	RFNG	GGCTCAGCCTGGCAGGCTTTGTG
95793	METTL1	CCACGTGGATTTGGTAGAGAAACCCCG
95794	PTPN2	GCTTCTGCACTAGTAACTGACAGTGCTA
95795	GFER	CCTTGGCATGGCCGCCTCAGGCC
95796	ALX3	TCCTGCCATGTGCCTGCACTCC
95797	HMOX2	CAGCCCCAGCTTATCTCCTCCTCC
95798	GLI	ATGCCCCAGGGATGGGAGGTATGGGCT
95799	C5R1	CCTTGGAGGTGGAGGTTGTGGTG
95800	DLEC1	TTCTCCAGGACAACCTGCTGGAAC
95801	AP1G1	CAGATGGAGTTAAAAAGAGC
95802	COLQ	AGGACCACTGCATCCTGTCT
95803	LTA4H	GGGCTGTAGGTCGCTGTGCTGTGTGAT
95804	ZHX1	TGTAGGCTTAGCCAGTTTATTT
95805	KLK10	TCACCCAGCCTCTGAGAGCAGT
95806	VCAM1	ATTTTCTCATCACGACAGCAAC
95807	CIAS1	CGCCTAGGCTGGAGTGCAGTGG
95808	P2RY12	CAGAACACTTTCTCATGTCCA
95809	GLRA2	GGATTCATCAGTTCTGAGGCTTT
95810	GPC4	GGCCAAAGACTAACAACTGCCTTGG
95811	IGJ	GGTACGTATTCTCTAGCACAGTCTGAG
95812	XPR1	GCGCCGGGGCCCATGTGGGGAGGA
95813	PELO	GGAGGTGAGGACCTCCTTGGTTCC
95814	GPR27	GCAGCAGCGGAGGAGTAGGA
95815	UBE2V1	AGAAGTTTTAAACAGGGC
95816	GCNT2	CCTGTAATCCCAGCTATTTGG
95816	SCN2B	CCTGTAATCCCAGCTATTTGG

95817	COL4A3	GAAAGCCTATTCCATCAACTGTGA
95818	MS4A3	TTCTATGATCATTACTCCAA
95819	SPI1	TACTGCCTTGGGAGTCTCAAGTCC
95820	CRYBB3	AGGGCAAGAAGAGGAGGCTCCA
95821	CREB1	GACCAGCCTGGCCATCATGGTG
95821	SUV39H2	GACCAGCCTGGCCATCATGGTG
95822	CASP7	TGTGCAAAATCTGTTATAGCTTT
95823	KIF5C	AAGCAAACCTGCTTTGAC
95824	EEF2K	TGCACACCACCACACTCAGCTA
95825	CNTF	AAACCCAGCTGACTTGTTTCCT
95826	LBR	TTGCTACCTCAATTGCAGGTGTTTGTT
95827	BMP6	AAGTGGTTCTCTGCCTTT
95828	GABRB2	GGCCTATCCTGTGGTCC
95829	LIMD1	GCTCCCCAGGGTGGCAGGAGCTGA
95830	TACC2	GACACATTGCTGACCTTGGCC
95831	ADCY1	ACTCCTCTTCCTCCGCCATCCTCAT
95832	HUNK	GAGCAGCCTGGGCAACATGGTG
95833	APPBP2	CTGGACCAGTGTTGATCTGTAATG
95834	DSCR3	TGTTGCCCAGGCTGGTCTTGAACTCCT
95834	KLRD1	TGTTGCCCAGGCTGGTCTTGAACTCCT
95834	MPL	TGTTGCCCAGGCTGGTCTTGAACTCCT
95834	STARD4	TGTTGCCCAGGCTGGTCTTGAACTCCT
95835	DLEU2	TCAGAGATACAGCTTCTTATA
95836	CTLA4	GTGGGTTCAAACACATTTCA
95837	IGF1	GTGCAACCTAATTAGTAACTTTCC
95838	MYO1D	CTCTGGACCACCTCCCGCTGCGTTTC
95839	RAB2L	AAGCAAAGGCTTCAAGGCTC
95840	SLC7A8	CCTTCCCAGCCACTCCTGCTG
95841	IL15RA	CCTGTCTCCAGCTGCTCTGCACACATGGA
95842	JJAZ1	GAGCAAAAAACAAAAACTCT
95843	INPP5B	CCAGGAGGCAGAGGTTGCAGTGCGCTGA
95844	ORM1	CCTGCAGCCACCAGCACTGCC
95845	MC1R	GCAGAGAAAAGCTCCATTCTTCC
95846	PCSK1	TTCTGGCTTCCTTCTCTCAATATGCTTA
95847	MKL1	CCTCACTGCAGCCAGCGTGGTCC
95848	FGF18	GCCGCCGCCTCCCTCCCGCCCAG
95849	LIF	AAGAGGAGGAGAGGGAGGCTGCAG
95850	CH25H	ATGTTTCTGCTGGACAGTGACCA
95851	CUBN	CAGGAGGCAGAGGTTGCAGTG
95851	EIF3S2	CAGGAGGCAGAGGTTGCAGTG
95851	GALNT7	CAGGAGGCAGAGGTTGCAGTG
95851	INPP5B	CAGGAGGCAGAGGTTGCAGTG
95851	KIF1B	CAGGAGGCAGAGGTTGCAGTG
95851	MOG	CAGGAGGCAGAGGTTGCAGTG
95851	RIMS1	CAGGAGGCAGAGGTTGCAGTG
95851	ZNF36	CAGGAGGCAGAGGTTGCAGTG
95852	USH2A	TCTGCAGTTTCCAGAAAATGGA
95853	MSL3L1	CTCTGTCTCTGTAGTCTCTCCA
95854	MEF2C	GCAGTAATATCAACACTGCTATATCA
95855	PDE7A	TTTAGGCAGAGTCAGTCACT

95856	STIM1	CCATGGGCTGCTGCTGTCA
95857	GLTSCR1	CAAACTCCTGGGCTCCAGTGAT
95858	GCLM	AGTTTTAAATACTTATCTTGCCT
95859	LUZP1	TATAGCTCATTACAGCTTTGA
95860	GBA	TTATGTGAACATGCGCTGTGTGCTGCT
95861	CACNG7	CCTGCCTTTTAGGGGGCTCTTGTC
95862	GALT	GCCTTAATCCCAGCACTTTGG
95863	MUC3B	TTACTTTGAACCTGGAGGCAG
95864	USH3A	ATGGGACTCCCAACAGGGGTA
95865	SH3BP4	ACTCCCTTACTGGCCT
95866	TLL2	TGGCACACCTGGACTCCTTG
95867	E2F3	CAGCACTTTAAACTCTTTGTGTGGGT
95868	ABCC1	AACCAAAACATATTCAAAGCAGCAG
95869	ELK1	TTCCTATATTTGGTGGGGTGGGT
95870	KCNJ15	GCCTCTCTTCATTTCATTATTATTGG
95871	CLOCK	GCTGCCTCTTTGCTGCTTTGT
95872	ZNF14	ATGTGGGAAATTCTTCATCCTAGTTCT
95873	RAB36	GGCCTCTCCCTGATGGCACACAA
95874	RANBP2L1	TACCACTGCACTCCAGCTCGGG
95875	FRDA	TCCCACATATTCACATACGTG
95876	JRKL	TCATTTGTAGGAAACTGGGA
95877	SHOX	GATGTAGGTGGTTCCAGCTTT
95878	PMM2	GCACTCCTGCCTCCCAGCCCA
95879	SALL2	GGGACATGATGTAAGGGAAAAGGCCTC
95880	INPP5B	CATTGCATTCCAGCCTGGGAGACGGAG
95881	PTGES	GATTACAGGCGCGTATCACCAT
95882	THRA	TTGGCGTGCTGGAGGGCATCCTGG
95883	CBFA2T2	GATCAATTTTTCTTCCTAGCTTC
95884	SMG1	AGCTAAATTGCTGATCCA
95885	APM1	GGCTCACTGCAGCCTCCTTCTCCT
95886	LDLR	TGCAGTGAGCCATGATCGAGCC
95887	EFNB1	CTGCTTGTCCGCTATCATCA
95888	CLC	AGGGTTGGGGTCTGCATTGGAGGTGCC
95889	HS2ST1	CCCTGCCATTTTACCACAAAAGCAGCA
95890	FUT6	TGGTCTCAGGCTCCTGCAGTCCCA
95891	CCND2	GCTGGGAGAAGAAATAGACTTG
95892	WFDC1	CTGGGAGGTATGTACCCATCTCA
95893	STC1	GACCTATACTGAAAGATCTCTGTCACA
95894	C9orf19	GATGTCATCCTGCATGCCT
95895	SH3BP4	TTTGTAAAAATGAAAATGTGAC
95896	UQCRFS1	GCACTGTTATGCTCAGTCATA
95897	KCNK3	GGTCCCCAGAAAGCAGGACAGAAAGAA
95898	A1BG	TCTGCACAGTCTGTGATGAT
95899	B3GAT1	AGCAGGAGGGAGGCCTGAGCACA
95900	ZNF207	TTTGTAAAGTTTGCCTTCA
95901	PLS1	GACATGTGTAACACTTTTCAG
95902	SIRT1	CTGGATCCCCTTAGTTTTGAAA
95903	EGFL5	CAGCACTTCAGCTTTAGCTGAT
95904	INHBB	TGCTTTTAATGTTTGCACTGA
95905	ACE	TGTCATGTCTCTGGTGGTGCT

95906	MCSP	CCATTTCCACCCAATGAGAG
95907	BTD	TCTCAAGCTAAAACAAAAATAAA
95908	ATP1B1	GCTGGAAGGCTGCGTCTCTGCT
95909	F2RL2	CCCAAGTAGCTGGGATTACACCACCAT
95910	TAL1	TGCATTTGGAATTTTTGCTT
95911	MYH9	GGCTCCTCAGCCCTCTCTTGCCAAAAAG
95912	GYPA	ATCCCGGAGAAGGAAAAAGAA
95913	CD74	AACATCCTGCCAGCCCCAC
95914	LDOC1	TGTTGACACTTCTTTTTTCCTA
95915	CRP	GCTGTGAATTCTTTCTTCATCCCCGCA
95916	ATRN	AGCAATTGGAAAGTTAGTAAG
95917	DAB2	CTTATTTCTCATTGCCTCTTCTACTTG
95918	IL1A	CTGGGACCTCAGTTTTATCATTT
95919	MASP1	CCTGGGTTCTAGTCCCTGCTCTG
95920	C18orf1	GGGCCCTGCTGGCAGGGACTTGCAGTG
95921	GPR30	CCGCTGCAGGAAACATTTG
95922	DTR	CAGAAGAGGTTGGGCTTCCATG
95923	EGLN2	GCTCTTGCTGTCTGCCCTGCCTCAC
95924	MFAP2	CCTGAGTCCTGGCCCTCCTGGGATCTGGGG
95925	GJA1	GGCTTGAAAGCATCAAGATTCCACTCAAT
95926	LTF	TCTGCTTACAATTCCCTGCTGTCGTCT
95927	TNXB	GGGGTTGGGGACAGAGCAGGTGCAGA
95928	CASP10	TCCAGGAGGCAGAGGCTGTGGTG
95929	TNXB	GGACCTATAAACTTCCCACCTCA
95930	EMR1	ATTTGTCGCCTGTCTGACT
95931	SH3BP4	TGTTGGACCTCTTTCACTCCCT
95932	LUM	GCAGTGTCAAGACAGTAAGG
95933	CHAC	CAGGGCTGCGCGCCCAGGTCTGC
95934	CNTN2	GGCTGGGAGCCTGAGCCCCTTCAGCTTTGAG
95935	NRG1	AGGGTGTTGCTAAGCTGTAACCG
95936	SRGAP2	TTATGCATCTATATACATAT
95937	KCNB1	AAGTTGGCCAAGCCATAGGGCACAG
95938	MDM4	CTGAGTAACCACCCAAAAAAG
95939	TRPM8	CCATACAGAGATGTAGAAAGA
95940	ASTN	TTTCCAAACACTGAAGGATTTA
95941	KCNA6	GGATGGAATTAGAGAATAC
95942	MAG	CTGGGGCAGGAGGGGAGTGAG
95943	RTN4R	TCTCCACCCCATCATGTT
95944	HS3ST4	CTTCTCTTTAAAGGTCTCATCCCACA
95945	HSD17B4	GCTAGCACATGATTATCCTTCTG
95946	GOLGA5	ATGTTACAGGCTTGATTGGTGT
95947	SQLE	TCCGCCTTGACCGGTGCCACCA
95948	SACS	GGCTTACAGAACATGTTGAAACTTTT
95949	SLC22A12	TTAAAGTCTTCAGTCTCCACATTCCC
95950	PIAS3	TTCACAGTGTTTCTTATTCCC
95951	DCLRE1C	CCCAGGAGATTGAGGCTGCAGTGAGCC
95952	NT5C2	CCATGATCAAATGTAGTCTCTGTT
95953	AQP6	GCTGGCTGTTGAGATGGGTGGA
95954	FZD4	TCTCTGTCTTCCTCTCTTA
95955	COL4A4	GGCCCAGGCGGGGAAGTGGGGTG

95956	APPBP2	CTTTAAGTAGGGATGTTTAGG
95957	GPRK6	CCCTGCTGCCCTGGGCTCAGGCTGCTACCTCT
95958	SLC13A3	GGAGAGGCCCTCTGAGTTGG
95959	IRAK4	GCATAGGCTGTTGCAGGACAG
95960	KCNA4	CCCCTCGGGCCAGGCAACAGAACT
95961	MGAT1	CCTGCCTGTCCTTCCTGGGC
95962	XPA	CACCTGGCCTGGTTGTGTGCAC
95963	CYP1B1	TGGAAGCTGTTTGGAAAAGAC
95964	UBE2A	AGCTAAAAATCCTGTGATACT
95965	ANXA7	CCTTCATTCTTACTAGTTTC
95966	SIX6	TCCTAAGGATTTTGCTGCAAA
95967	MPL	ATATCCGAACTACTGTTATA
95968	ACCN2	CAAAAAGTGTGCATTGG
95969	PTPN18	GTGTGAGCCACCAGGCTCAGCC
95970	LILRA3	TCCATCCACAGAGCAGTGCAGT
95971	LARS	TTGATTTCATTTCTAACCAT
95972	DISC1	GAAAGCAGTGCAGTACTCAGTA
95973	PSA	CGTTCGGTCCTCCTTGGCTGAC
95974	APM1	GTCTAAGGTCACACAGTATTAAG
95975	KIFC3	TGGCTGGCAGAGGCAGCCAGCGGGTGG
95976	INSRR	AGGGCCACCTGCAGATCCTGCT
95977	WBSCR14	GGGTACCCATCACACACCAGCG
95978	PAX3	TCATAGTGATAGAGTGCAGTG
95979	EDNRA	CTCTTCTCTGATCCTTCTTCCTTA
95980	CDH16	CTCCAAATGTCAGGGTGTTTGCCCA
95981	IGFBP4	TGGGAAGAAAGAATGCAAGAGTGGAC
95982	CASQ2	CCATACAGACAGCACAAGGT
95983	SAA4	CTGCTCTCAGGGAAACTGGGC
95984	DMN	TCCAGTTAATTCATGCCTTA
95985	FGF2	TGCCTATATTCCCTGCACTTTG
95986	PNN	AGCCATTCTTTGCAGCAGAAGAT
95987	CHRNB4	TGGGCACTTTGCTGCTTCTTT
95988	ADCY8	CATGCCTTTCTCCACGTCCGCCTCCTC
95989	VSX1	CATGGACCCACAGGTCCCA
95990	NLGN2	TGGTGGAGGGAGGCAGTGGGGAGAAAG
95991	SIAT6	AGGAGCAGCAGCCAGCACCACCTACAC
95992	PRDX5	CCTATCTCACCTGCCCAGCCC
95993	FTSJ2	GACCAACCTGGGCAACATAGCAACACC
95994	TNFRSF10B	TCGCCCAGGCTGGAGTGCAACG
95995	LAMP2	CATTGCACTCCAGCCTTGGGCGA
95996	DDEF2	TTAAAAAAGCAACTAAGAGAA
95997	HNRPH1	GTCTTGGTGTTTGTATGAAATTCTGAG
95998	HNRPDL	GCCAGCCCCCGCCCCTCCTCC
95999	EDG8	CAGGCTGGAGTGCAATGGGCA
96000	C21orf5	AGATTTCAGGCTAGGTGCGGT
96001	NOS1	GGAAAGGGAATGTTCTGCTGGT
96002	EPOR	GGGGACGGAGGGGCAGGAGCCCTGGGC
96003	KIF13A	CTCACTTCCTGCACAGCTGTCT
96004	PLOD	CCTCGGCCATGCGGCCCCTGCTGC
96005	FMNL	CCTCCCGCTGCCCCGACGCGGCCCTC

96006	PPP1R3D	CGCAGGTTGCAGATACGGTGG
96007	DOCK1	TCTGAGTGTGTCTGGCTCTGAGAGAGTC
96008	KCNE3	CTGGGCTTTCCCAGCTCCGA
96009	HBQ1	GGCCGCGGGATCCCCAGGCGACCTT
96010	ZNF3	ATCTCAGGAACCTCAGGCCCT
96011	SYT1	AGACCCGTAGTTTCCTCAGTGGA
96012	DNASE1	GGCAGCCCCCTCCCCACACCAGTT
96013	AHR	GAGAGAGAGTCTTACTCTGCCGCCCAA
96014	CDC42	ATTCTTTGTATATGCATTCTTTTCA
96015	DSC3	GGGGTTCCCTGCTTTTTGGTAGCAAGG
96016	PTTG1IP	TATTCCCTGTTCATCTCTGTTT
96017	FKBP1B	GGAACTCAAGGTGGTGGCTGG
96018	TGFBR3	AATGGCTGAGCCTCGTGTCCA
96019	KCNJ10	TTACACCTCCCAGTGCCCTTCTGAA
96020	HDAC5	GCAGGAGTCCCAGCACCATCGG
96021	KIF3C	CCTCATTCATCACTTGGACACA
96022	ZNF74	CACCCAGGCGGGAGTGGTGCAATG
96023	NUMB	TGTGCTCAGGCTGGGGAACAG
96024	USP14	CAGATGTTTACTGCACACCT
96025	CD34	CCCCAACAGATGCTTTTCTGTCT
96026	GRIN2A	TGGATCTTCTGTCTGTGACACAGTGGCCATTG
96027	PCDHB16	CTCAGCCTCCCAAAATTCTGGG
96028	COL6A3	AACAGTTAGCCACTGCTGGTGTTT
96029	IGFBP5	ACTCTCGCTCTCCTGCCCCA
96030	INSL5	TATTTTCTCCCTTTGCCAAGG
96031	TNFRSF10B	GACGCTCAGCCTCAGGGCTCAGAAG
96032	HLA-DRA	CCCCATGGGGCTCTCTTGTG
96033	PTTG1IP	AGTTCTTCAGGCTGATTTCCC
96034	CASP8	CAGGCTGGAGTGCAGTGGCGTG
96034	CYP2B6	CAGGCTGGAGTGCAGTGGCGTG
96034	EIF2S3	CAGGCTGGAGTGCAGTGGCGTG
96034	EVC	CAGGCTGGAGTGCAGTGGCGTG
96034	F2RL3	CAGGCTGGAGTGCAGTGGCGTG
96034	FUT1	CAGGCTGGAGTGCAGTGGCGTG
96034	KCNJ11	CAGGCTGGAGTGCAGTGGCGTG
96034	PAICS	CAGGCTGGAGTGCAGTGGCGTG
96034	PRND	CAGGCTGGAGTGCAGTGGCGTG
96034	STAU	CAGGCTGGAGTGCAGTGGCGTG
96034	TERF2	CAGGCTGGAGTGCAGTGGCGTG
96035	DFFB	CAGGCTGGAGTGTAGTGGCGCG
96036	MYLK2	CCCACACCATCTGGCCCAGGCTGG
96037	KCNA3	TGGCCTCACCGCTGCCGCCTC
96038	MTL5	TCCTGCTGTTCTCTTAAGAAAGA
96039	APM1	GGCTCACTGCAGCCTCCTTCTC
96040	ETV5	TTATGCTGTCTTAGCAATA
96041	UTX	TTCAAACACTACTCCTATTACATTTTC
96042	SIX6	TCAGAAGCAGATTCCAGTGTAAAAACG
96043	APPL	ACAATTCAAAATCATGCA
96044	SULT2A1	TGTACCTGACTGGGGTCAT
96045	PTGFRN	GGAGGCACGTGTTCAGAGAGCTGCTG

96046	SLC25A11	AGGGCACACAGGACAGCAGAAGATCCC
96047	FOXE3	GGTCAGACTCCTGGGTTCATGA
96048	FLII	TCTGGGAAATCCAACTCTCTCCA
96049	TAF7L	GCTGAATTCAGACTCCTGGGCT
96050	ANXA5	TAAACCTGTAAAATTATGATGATT
96051	FBXL7	GGAAATTTATCTGTTTTAAAA
96052	KLHL3	GTCTTCCCAGCCAGTGAGCCACTT
96053	KIF3C	TTCTCTCCTTTTAATTTTGGT
96054	GNAI1	CCACCGGCGGGAGTGCAGCGGCCA
96055	LZTR1	ACAAGCCTCCATTAAAGCCACAGCAGTGCTAC
96056	EGF	AGCCTTTGCCTTGCTCTGTCA
96057	GSTM3	TGTGGAGCCGCGGAGGCAAGGGACG
96058	BACH2	CATTTTGCTGTCAAGCAATG
96059	GART	GGGTTAAAGAGGAATGAGCCTTTTAATT
96060	BRCA1	GCATGTGGAGCCATGTGGCACA
96061	BCL7A	GGAGGGCGTCCGGGGCGTCCCCTC
96062	IHPK1	GACCACACGCCCTCTCAGCCA
96063	TNFRSF11A	GGCCCAGGCTAGAGTGCAGTGG
96064	POLK	ACCTGTAATGCCAGCCCTTTGG
96065	PPAT	TGATGCCAACAAGACAGGTGAGTTA
96066	RAB36	AAACTCCTGCGTCGGTC
96067	BRCA1	CCACTACTGCTGCAGCCAGCCACAGGT
96068	PRKAB1	CCCCAAGAGGGAATGGACTGTA
96069	PYGM	CTCCTTGGCTGGAGGCAGTG
96070	HIP1	AGGCTGAGGTGGTAGGATCACC
96071	WHSC1	GGTTGATGTTTTTGGGGGCCAAG
96072	GPC4	CAAAAAGTTAAAAGGCACCAG
96073	CAPN5	TTTCCTAAGGCCCTGCTGTCTGC
96074	HMOX2	GGTAGTCCCTGTTTTTGCAGT
96075	CD5L	TCAGGAGTCTGAACACTGG
96076	PX19	GTTCTCTGATGTGTCTCAGTATCT
96077	TP53	AAACTCCTGGGCTCAGGCGATC
96078	EDN3	CTTGTTCCTGTTCAGTGACTGA
96079	NIPSNAP1	CCAGGCCAGGCCCTCAGGAATTCCCTGGTTT
96080	ARHGEF6	CCCGCTGTGTGCATATGTGTGTGC
96081	CHD2	TTGGAAGCAGTTTCCTTT
96082	GNAQ	GGAAAAACAGAGGATGCTGAA
96083	ADORA1	GAGAGCATCTGCTCTGAGACGGA
96084	TRPV4	GCATTTCAGCAGTGCCTTCTGGGGT
96085	MALT1	CAGCTGGCCCCGGAGCCAGA
96086	GALT	GGGCTGTTGTTGATGCATGGGC
96087	IGFBP4	GCTCCCTGTAGCTCTGCCTCC
96088	MAB21L1	AGTTTACATTTTGTTTCAAATATTGCT
96089	ERBB2IP	AAGGTTTAGGAAAGCCTCTTT
96090	LPIN1	CTACTGCACTCCAGCCTGGGTG
96091	G6PD	CACAAGCTCTGGCCCTGGGCACCCACCTC
96092	EGLN2	TTTGCCTCTGTCCTGCCTGGT
96093	WASF3	GCAGAGCTGCGGCACAGGGCCT
96094	GPRK6	GCCAGCCCTGGCTGGAGAGCGGG
96095	BTEB1	CGCTGCCGGTTACGTAAAGATGAGGG

96096	PRKAB1	CTCCACACGTGCATGCTTTCCC
96097	CRACC	CACTGCACTCCGGCCTAGGCAACGAGA
96098	ARNT2	ATGGATGCATGGGGCTCTGGGGGAATG
96099	ARF3	TTATCAGCTTAGAGTGTTCA
96100	SMAC	TGTTGCCCAGGCTGAAGTGCAG
96101	SEPP1	TTTAGTCTAGACACAATTTCATT
96102	ADH7	GGAGTTTCTCTTGTGAGAGTTCC
96103	COX7A2L	GGAGGTTCTGGATGAAGGC
96104	G2A	GTTGCCTGGGCTGGAGAACAGTG
96105	LZTR1	TCACTGAAGACACAGGTCCACA
96106	SRD5A2	CAGGACCTGTTCAAGAAGGTGTCT
96107	CPNE7	AGGTGGGTGGAGGGAGGGAG
96108	XPR1	GCCATTTCTCCCAGCAGTTTTAAAGG
96109	NCOA6IP	CCTCAGTAGCTGGGGCTTTAGGTGGGC
96110	PPP2R1B	TCAGGTGCTTGTTCTGTCCTCTT
96111	PPP1R3D	GCTAGGAAAAGCTTTTGCATGTG
96112	YY1	GTAATTTCTTTGCCTGTTCA
96113	GMPR	TGGAAGCGTCCAAACCTGCTT
96114	GPD2	CACCCTGGCTGGAGGAACTGGGTG
96115	PARK2	GATGCCATTGACAAGGTGTTTCTCT
96116	PCOLN3	GGTTTTGTTTTTGTTTTTGCC
96117	NRXN3	GCGCTAGTCCAGCACGCCCAG
96118	ICMT	TCTGACCTGGATATGAACCAG
96119	FBLN1	CAGCCAGCATCCTTATCTGCCACTGA
96120	SIRT1	GGGTTTGAAATATAGCTGTTC
96121	TAGLN2	TAGGGAGGAGCCTGTGGCAGC
96122	PRKY	CACCATTGCCCTCCAGCCTGGG
96123	ACCN2	CCTGCAGCCTTAACATTCT
96124	FANCA	GGGACCTGCCACTGCACACCAGCC
96125	ADAM33	ACCCACCCACTCCAGGAACCCAGAG
96126	UBB	TTACTCTGCACTATAGCCATTTG
96127	HDGF	CAGAGGAGGGAGCAATTGA
96128	OPHN1	TTCAGCTTGCACATTTGGTAAT
96129	TBX6	GGGCCTGCCCACCCACCCCCT
96130	BCL7A	CTGTGCTCTCCCCTCCTTGGGGCG
96131	IRAK1	GCTGTGTGTTCACCTGGGCAG
96132	NCOA6IP	ACCGCCCAGGCTGGAGTGCAGTG
96133	GNAI1	CCTGCAGTGTGAAACTGAAGGA
96134	ZNF217	TACAAGTGGCCTTATTCCAACTCCAGA
96135	C14orf1	CACAAGGTATTTTGGTCAAGAA
96136	ACRV1	ACTGGAAGCTTTTGCTCGCAGTT
96137	BCAR1	CACAGGCTTAGGGACAGGACCCCA
96138	CNTNAP2	GGGATCAGTGGTTCTCCCATATCAC
96139	NR2E1	GATGAATGAATGCTAAAAGGGTT
96140	MYC	CATAGCAGCGGGCGGGCACTTTG
96141	CUL3	ATGGTCAAGTTACAACAACTGAAT
96142	HMOX1	CGCAGCCGCCGCCCGCGGAGCCAG
96143	GALT	CATGGAGAGGTGTGTAAAGG
96144	EGFL5	AGACCACCCCTCTTTGGGCGAC
96145	KCNAB1	GATGCTGGCGGCGCATCTTGCGG

96146	SMARCA1	CGGCATGGAGCAGGACACTGCCGCAGTG
96147	NCAM2	GGTCTTTGACAGATTTGACTGT
96148	ADAMTS1	TTCCTACCATGTAACCCTG
96149	CD28	GCAGGCACCTGTAATCCCAGCTG
96150	TTN	CCTATGCCAGAGCAGTGCCAACT
96151	JUP	CTCAAGTACCCATTCTGTTTTC
96152	RAD50	TCACAGTTTTTCCTGGAATTG
96153	KCNK6	GGATTTCAGGCTGAGTGTGGTG
96154	TRDN	GTGCTTGTATTTATCTTA
96155	RENT1	TAAAACTGAAGCACCACTGTGTGAG
96156	LDOC1	CCACCCATAGCCCTGCTGCTGC
96157	MYCL2	TGTCGCCCAGGCTGGAGGTTA
96158	PTGIS	GAGTAGCTGGGACTACAGGCACCCGCC
96159	MAPK8IP1	TGGCCCAGGGTAGGGGAGGGTG
96160	EDN2	CTCAGCCAGCCCTGGAGGCTGGATGG
96161	AQP6	AGCTAATTTTTTGTATTTTTAGT
96161	PER2	AGCTAATTTTTTGTATTTTTAGT
96162	CITED4	GCCCGGCACCGGACTGGGAC
96163	MYB	CTGGGGAGACAGAAACTGTGGTT
96164	PRKACA	CTGCTCCCCCTCATCCCCTTCA
96165	PNOC	GCCACTGCCATAACTTGTTTGT
96166	CLDN14	TGCTCATCTACAGCTTTCTTGGA
96167	ARAF1	TTTTGGGAGCTCCTCCATCTCCAATGGC
96168	ZNF253	TTGTCACCGAGGCTGGAGTGCAATG
96169	PTPN14	CATGCCTTTTGGTCTGAAGCTCCGCC
96170	TG737	CACAACAATGCAGAAAGCGGTA
96171	CDC2	TATTTCTTTGTTATCAAACTTCAGC
96172	IL4R	AGGTTGATGCTGGAGGCAGA
96173	STAT6	CATATGCTAACCCCCAAATACTCTGAA
96174	PTCH	ACTTTCTCCAATAGTCACATTGGCAAA
96175	ALEX2	CTTGATCCCAGGCCCTGCCTAAGC
96176	AMPD3	TCTGGGAGCTGAGCACTTGTCT
96177	TPI1	TCCCCTCAGAAGGCAGGAGTGCTGCCCTCT
96178	LARGE	AAACGCATTCAGATGCATCAGCC
96179	STCH	GTTTTATGTGTTTAATAGATGA
96180	MPP2	CCCCATCTCGTTGGTGTGGCTC
96181	ARVCF	TAGAGAGCCTTTCTCCAGCCCAT
96182	IL22RA2	GACAGAAGAAGTCAGAGAAGTGA
96183	PCDHA9	ACCTGCTAACGCATTAGCATTAG
96184	LTB4R	TCATTCAGGCTGGAGTGCAGTG
96185	HIS1	ACATGTGTATATAAGACAGTGG
96186	ADAMTS5	GAAATGAGGCCTGTACAAGGCTGATAA
96187	GPM6B	TATCACTGACACTCCAGACTAAAGCAGA
96188	RGS3	CCTGCAGCTGCCCCAAGCCATGGC
96189	EFG1	TCCGTATGTTCTTCATAGAGAG
96190	EPM2A	GCCTGCTTCTGCCCCCTCCTGATTT
96191	GAB2	GCCAAGCTGTGTGAGAGGGCCACCG
96192	ABCD2	TCTCCCTTTCTGCTTGCTCTTCTGT
96193	PSMD9	GCAGTGTCGTGATCAAGGTTCA
96194	EIF2C1	TTTCTCTCATTGCTTTTTCTAA

96195	DIO3	GCAGAGCTGCTGATTGTGGGGCTGGGA
96196	INSRR	CTGGTCCTTTGGCGTGGTACTCTG
96197	GGT1	ATTGCCTGGAACACCAGCT
96198	ADCY1	GGTTACCACAGTCTCCATGGG
96199	DNMT3A	CGGAAAGAGAGAGACACTCAGG
96200	SSX4	CTGTATTTTCTTGCAGTGTGC
96201	TCN2	TGCTCAGTGCCTGCCTCTGACAA
96202	FGF23	GGGAAGAGCTGTCAAAAGACTGG
96203	ALDH2	CAAAGTGCCTCAGAAGAACTCATAGAATCAT
96204	GRLF1	CTTCCATCTGCACACACCCCCA
96205	CD2AP	TATGGTGATATATTTACAA
96206	NR5A2	TTTCAAAACAAAAAGAGATTGGGGGAGTG
96207	ATP1B1	TTGAGCCTTGGGACGTGCCC
96208	SLC13A3	CTGCACCAGTTGTTTTACCCCTGCCGA
96209	GCNT2	TGATAAATTTAAATGACCTCAG
96210	ISL1	GGAAGGTGGAGCTGCATTGG
96211	SLC14A1	TTCTCAGAGATTGCAAAGGATTTTT
96212	PSCD4	GGAGATGGGATCATGGATTTTCTGGGC
96213	CXorf6	AATGCCACAGCCCAGAATTCTGGGCAA
96214	DVL3	AAATTCTCCTGGCTCTCCTGGGCT
96215	PARN	ACAACATGTCCCAGCCCATTCTCCGTT
96216	UBE2I	GCTGCCTCCAGCCCGGGCCTGTGTC
96217	PFKFB4	TTTCCTGGCCTGTGCCTGGA
96218	NME2	CTTCTGCTCTCCCAGCGCA
96219	DUOX1	GTGAGTGTAAGGATGCAGTGG
96220	PPARGC1	CCCCCAGCCTGACAAATATTGT
96221	PLCG2	AGAGAGAAGAGAGTCAGCAACAG
96222	MMP15	CTGCCAGGGCCCCTCTCCCCA
96223	ABCB4	AGTATCTTGAAATAATGATCTGACC
96224	ANXA11	TAACAAAATATCACAGACTGAGTA
96225	SH3BP4	GGACTTCTCTGATGGCGAGAG
96226	BMP1	GCACCATCCCTCTCCCCCAGGCC
96227	CREBL2	TTTGTTCTGAACTGGCAGTT
96228	FCN2	TGGGAGGTGGGAGGGCCAGGCCAACTG
96229	RIMS1	TCTGGGACTGTTTGCGTTCCTAAAAC
96230	BENE	GCTGTGTTCTTCTGTTGACCCA
96231	MMP14	AGCGTGGAGGGGAAGGGTAGG
96232	ASH1	GGAGAGGGAGAGGAAAGGGTTCT
96233	DSC1	CAGGAGGCGGAGGTTGCAGTG
96233	EGFL4	CAGGAGGCGGAGGTTGCAGTG
96233	IAPP	CAGGAGGCGGAGGTTGCAGTG
96233	LUZP1	CAGGAGGCGGAGGTTGCAGTG
96233	NPHS1	CAGGAGGCGGAGGTTGCAGTG
96233	NT5C2	CAGGAGGCGGAGGTTGCAGTG
96233	SUV39H2	CAGGAGGCGGAGGTTGCAGTG
96234	LRRC2	GGGGTTCAGACCTGCAGAGGAA
96235	ALDH3A2	AATACATCTGCTTCAAAATGA
96236	GJB1	CTACTTCCCTTCCTCCCGG
96237	USP6	AACACATCCCAGACATTAGGA
96238	FUT4	TCCCTCTTCCCAGAAAACCAGTCTG

96239	PDGFRA	TCAGGAAGTTGCCATGGGAAACAAATA
96240	C9orf19	CTCCATCTGTCAAGATGGCAGGGGCCG
96241	CPD	CTGCATTTGGCTTTCTACC
96242	CAV1	GAGGGGCTGTAAAATGGAGGC
96243	COL4A3	TCAGCACCAAGCATGTCCAGGCA
96244	TRADD	CCCATCTCAGGGCAGAGGCCA
96245	ATP8A2	GCATTCAACTGTGCTCTGTGAGG
96246	PKHD1	CTTTAAAATGGAAAACAGTCA
96247	SULT1A3	CATTCACTACAGCCTGGATGA
96248	SLC10A1	CTTTCTCCAGCATTTCCAGTAC
96249	COL4A2	GCATCCAGCAGCAGCACTTAGA
96250	SIT	GGGAGTAAGAAGTGCTGTGGAAA
96251	PLA2G2D	TGTCCATGTGGCTCTATCTTTTAA
96252	USP14	AGGCTGAGGCAGGTGGTTCACT
96253	EPAC	GGTGGAGAGTGGAGTGTGCTGGGACG
96254	EPHB2	GTCCTCCTGGGTCAGGGAGAACGCGGG
96255	KRT4	CCTGCAGCTCACTGTGTC
96256	EIF5A2	TGCAACCTCTGCCTCCCGAGTT
96257	GJB2	ATATTTTAAACAGAGGATATC
96258	ZNF35	CTCTGGGTCTGTTCTGACCATTCCCTA
96259	PCDHB9	TGACCAACGTTAAGTAACCCCGTCTTT
96260	ADAMTS4	GCCCAGGCTGGAGTGCAATGGCAC
96260	CRTAP	GCCCAGGCTGGAGTGCAATGGCAC
96260	FEZ1	GCCCAGGCTGGAGTGCAATGGCAC
96260	PMCHL1	GCCCAGGCTGGAGTGCAATGGCAC
96260	PTGIS	GCCCAGGCTGGAGTGCAATGGCAC
96261	TARDBP	TTGCATGTTCAAAACGGAAACCATT
96262	TTK	TTTCTCTGTTTTATGCTCTTGT
96263	APOL1	GCAGGTGTCCCTGAGAACCCAAACTT
96264	PTCRA	TCCCCCAGCCGCAACTCAGGTC
96265	CAPN10	ACTTCTGTCTTCCTTCATTATTT
96266	PDYN	TCTCCTGTGCACCTGACTTTGG
96267	FAT2	CTCTGCCCCTGCCTCAGTCGAGCACT
96268	BIN1	CCGGGCAAGGGTCCTCTTTTCCTGGC
96269	EYA3	TTGAAGTTTTAACAGATTCCT
96270	CYP7A1	GATCCCGTCTCCGAAGAAAAGA
96271	RAD1	CCCAAAGCGCTGGGATTATAGG
96272	OPA1	CTTCAGCTGTATTTCCACAGAT
96273	IRTA2	AACCTGAGCCCTCTCCATTCAG
96274	EGFL5	GGCGCCATTTCACTCCAGCCTGGG
96275	PPP1R12B	TCCTCATATCAGCTGAAGTCTGC
96276	PAK4	CACCCCGTCCTCCAGCCCGCAA
96277	SLC14A1	ATTCTCTCATGGGACAATGTTG
96278	AIPL1	GGTCATCTCGGTGATTTTTGTAAC
96279	MYD88	CACAGGCACCAGCATACAC
96280	P2RY4	AAGGGAGCTTGGGTAGGGGCCAGGCT
96281	PLTP	GCTGAGCCCGCTCGCCATGGCCC
96282	IL19	GCTGGAGTGCAATG
96283	PF4V1	TCCTGCTGGAACCTCAGCTGC
96284	SSTR3	AAGGATGAACTAGATCATGCAC

96285	PRDM4	GGTTCTGATTTATTTTCAGCC
96286	ASB1	TCTCATAGTGAGTGTCTTCACTC
96287	PART1	CAGCAAACGCCTGAGTGCTGC
96288	AQP6	CAGCTCAGGCTGGAGCAGGC
96289	PFKL	CCTGCCTCAGCTGCTGCCTGCC
96290	C20orf1	CAGGGAACCGTGCAGTGTGCA
96291	HSD17B2	GGGGCTGCTTTCTCCCCTCCCTTCTT
96292	TLL2	GGTCTAGCAAAAGCTAAGCCTGGA
96293	GTF2E2	GGGCTCATGGGCAATGTGAT
96294	SDHC	TAGAGGGAGATAAAGAGGGCTAGT
96295	CDK10	TCCATTATCTGCACAGGAACT
96296	PPP1R12B	CCAGCCTTTAAAATATCATGTC
96297	MEF2C	CAAACCTGCAGGCATATCATTGGC
96298	POLK	ACACATTATGTATCTTAGTTA
96299	THBD	TTGGAAGCTGCCCTGCCCAT
96300	CACNG7	TGACCTGCTGGGTCCTCCGGTGCAGTG
96301	RAB36	GAGATGGATGAATGGAAGGAC
96302	TAPBP	TAGGCCTTTTCCTGTCTGCCTTT
96303	DPYD	CCGGAATTCTTTAATAGTCACCTTC
96304	ZNF18	GGGGAGAAGCATAGAGGGCCTGTGAG
96305	VAT1	GTTAGGGGAGGCCCTACTGCCTTCTCA
96306	TAF1C	GTTTTTTAGGCTGGACAGC
96307	AOAH	CATATCTGGACGACTGTGCAATG
96308	DYRK2	GAGATTTTCCTCTAGTGCTCAA
96309	PLAGL1	GGGGTGTCCTGGATCTCATGA
96310	RTN4	CTGTGGAATGCATTGTGAACTGTAAAA
96311	IKBKAP	GGAGAAGAGAGCGGGAGCCGCGGA
96312	GPR41	CAGGCAGCTCCTGTGTTTTCTTGAG
96313	SNTB2	CTGCTTGTATGAGCAACAA
96314	MAPK8IP1	GGAGCACACGGCCCTGCCCCAT
96315	CLCN4	GTCCTCTGGCTTATTGCCTCAG
96316	BSG	GGGGGCAGCTCTGGAGGGGGTT
96317	ENDOGL1	CTGGAGTGCGGTGGTGGAATCAT
96318	KCNMA1	ATGATAGTTTTGGATATTTGCTTGCTG
96319	GRIK3	CACAGCTGGGGTGGGGACCTCAGGCC
96320	ZNF189	TGAATAGTGGACAACTGCCCAT
96321	GALNT7	AGACCAGCCTGGTCAACATTGC
96322	GALNT1	TTCTAAAAAATGGAAATTTAACAA
96323	WHSC1	TTAGAGCACAGGAAGTGACAA
96324	SIAT1	GATTACATCTGAGCCGTTTGA
96325	DAAM2	TCTCCTGGACACCTGGCCATTGTT
96326	MYO7A	GAGGAAGAGGGGACGTGTGTTTGCA
96327	IRTA2	GGGCTGACTCTGCTGCCCCAACCTTTCAAGGA
96328	ZNF43	TGCTCATATCTTACTCAACATC
96329	KCNK1	TTTCTTTTGATTTCTCTTTAT
96330	FCRH1	TTGCCTCACTGCAACGCCTGC
96331	CALB1	TTTCAGCTTGTTTCTA
96332	PHKB	CCAACATGGTGAAAACCCTGTCT
96333	SERPIND1	AATTCCTTACCTCTCCCAAGGAGGG
96334	MUC4	GAGCCAGTGTTTGTACAATCA

96335	LOXL3	CCAAAATCACATCACCAGGCC
96336	INHBC	CTTCTCTGCCTTTCTCTATGCCCTTAA
96337	L1CAM	TTTTCTTTGCCATCTCTGCTCCA
96338	PAICS	GAGGCTGAAGCAAGCAGATCAC
96339	RAI3	CAGGATCTTGCTCTGTCACCCA
96340	PTBP1	TGTGTTCGCTGTGGACGCTGTAGAG
96341	C6	TTCTGTTAGTTTGAGATCATTA
96342	SDPR	GCCATCCTGTGCTGTGCTCAA
96343	HR	CTCCTGTTTCCCGCAGGGTGCT
96344	MLLT3	AATGATCTTGGACCATGGTAGAA
96345	IGF1R	GTGTCCGGAGGCATGGGTGAG
96346	DAF	AAGGCATTTTCATCTTTCCTTC
96347	NHLH1	GCCAGCCACACTTGGAGTCTG
96348	FBLN1	ACGAGGAATGTGTTGCCTCCAA
96349	PRX	AGGAAGCAGAAGTTCAAGGTGA
96350	IRAK4	TCTGAAGCCCAGCTGACTCCACT
96351	LPO	ATGTTACCTGTCCTCTTCCC
96352	RORB	AGGCTCTCTTCTATGATTTACCTTCTG
96353	MMP9	TGGTATTCTGTTCTGGAGGAAAGGGAGGAG
96354	F3	GAAACGCAAATGAGTA
96355	MPO	GGCTCCCCTTTTTCTTCCTCACCCT
96356	NPTX1	AGGGTCTGAGCCAAGCCCCTCGACTCC
96357	TRPV1	GGGATTACAGGTGTGAGCCTCCACA
96358	CNR1	GGATTAGTAAGATCTCTTTCTAA
96359	TNFRSF5	TCCCGACGATCTTCCTGGCTCCAACAC
96360	VIL2	GGAGCTGGACCTGCCTGCTGC
96361	TRIM39	TGGACATCAACAAGGCTAGAAGGGT
96362	SFRS2IP	TTGATTAGGGCAATGGAGTGCATAA
96363	ODF2	GGAGTGAGCTATCATCAGTGCT
96364	ERBB2IP	ACAAACCTGTGTTGTTTTTGTATA
96365	SLC14A2	CACAGTTTGCTCTGTCACCCA
96366	NRXN3	TTTGCCTGGCAGTTCTGCATTGCATCT
96367	PIK3CG	AGTATAGCTCTTTTCCTACCTGA
96368	JDP1	ATCTCTGTACAGTGTATTTA
96369	RPL17	AGGGAAAGCAAGCCCTTGGTGGGGGAA
96370	SIAT7D	CCTCTGCCTGGCCACCTGCCTGGACCA
96371	HKE4	TTTTCTCTACCATCCTTTCCAG
96372	AGRP	CCTGCAGCCGCACCTACTGGCC
96373	LOH11CR2A	TTGTGTATTATAACTCTTTATTTTT
96374	LEP	GTGAGGGATGTGAATTGCCTGC
96375	INPP5D	AAATTGTGCCTTTCTCACTCA
96376	HIVEP3	CCAGTGTCCAGCAACAGA
96377	APOC4	AAATGTCCCTCCTCAGAAACAGGCTC
96378	PAX4	TACCTCTGTCTCACGCCCAG
96379	HTR1D	CTGCAACCTCCGCATCCCGGGT
96380	DNASE2	TGGGCAGATCACTTGAGGTCA
96380	POLK	TGGGCAGATCACTTGAGGTCA
96381	CLN5	CAGTGGAAGAGGTTGCACTTCTCCG
96382	COL6A2	TGACACCTTTAAGCTGGTGCACA
96383	SLC16A2	TGGAGAGAATGTTGATTGGCAAAAGCA

96384	A1BG	GGGATTACAGGGGTGAGCCACC
96384	NONO	GGGATTACAGGGGTGAGCCACC
96385	NCSTN	CACGAACTTCCGGTCTCTTAGG
96386	DPYSL2	TCTGTTAGCATCTTCCTTTTCATGGG
96387	PPP1R3A	CATAGCTGCCTGCACTCTGTCTCTCCA
96388	RCP	CCATCTCCCTCACATGTTATCC
96389	IL8	GATACTCCCAGTCTTGTCA
96390	ACVRL1	CCAGCCCACCCAGCCAAAAATACA
96391	GAN	CTTCATTTTTAATTGTTTTCTAAAAA
96392	LAMC2	GGAGGCGGAGGTTACAGTGAG
96393	NDRG1	CACCGTCCTTTCCTTTCTCCC
96394	EIF2C1	CTGCTCCCTATTGCTTCTGTT
96395	AP3B1	TGGCATCCACTACTGCTGCCTTT
96396	DNMT3B	CAGGAAGGGGTGTGCTGAGTTCTATAA
96397	TRIM39	GTCCTCTCCCTTCTTCCCTAACCC
96398	SLC14A2	TTGAGACACAGTTTGCTCTGTCACC
96399	TSN	TATGCCTGTAATTCAGTGTATTT
96400	IGF1	ACTCACTGACTCTTCTATGCAGTTAC
96401	RIMS2	GTTCATTTAAGCACAGTTTTT
96402	EGLN3	CGTCTGTCCCTAGCAGTCTTTC
96403	PSEN1	ACGATTTCACTGACACTGCGAACTC
96404	GRAF	ACTGCTGATTCCAGTGTCGAGG
96405	ADAT1	GCTCAGGCCTGTAATCCCAGCA
96406	KCNA7	ACATGATAGAGGGACAGAGCCA
96407	RAB7L1	GCTTGAGACTGGGAGGCAGA
96408	TMEPAI	CGCGTCTCTAGTGCCTT
96409	CYP2B6	ATCACAGGCGTCCCCCACCA
96410	SH3BP5	TTGCTTCTCTTTCTCTTCTCA
96411	KCNQ2	CGTGTGCCCGCCATGCCCGCGCC
96412	TEGT	ACTTCCTCTCCTTCCACCCCTCA
96413	BACE	TTCTACAAGTAATTTTGCACAGACATC
96414	MAP3K9	TCTGTGTCCTAAGCCCTTTCA
96415	RPS6KA1	GCTCCTTTTCCGTTCTGTTCTG
96416	AXIN1	TGTACGCGCCACCGAGTGCCTT
96417	JAK3	GAGGGGCTTTTTCTCTCTGTGCCCCAG
96418	TACC1	CTTGTTTTATATTGATCTGTTTTA
96419	PPP2R1B	GTTGTTTTTCATCCTTGGCAGCT
96420	GNAT1	TCCCGCAGCTCTCCTGCCCCTG
96421	CSE1L	TGCAGTGAGCTATTACAGTGCC
96422	SLC12A7	CAGGCAGCAGTGGCGCCTGGTGTCAGG
96423	GNLY	GGTGAGAGAACAAGATCTCTT
96424	NEBL	AAAATGTGTGTGATCTTTAA
96425	TBL1X	GAAGGGTCAGGGCTTCTGTGGAACTTGGA
96426	SLC39A4	AGCAGGACAGGGGCCTGGGGA
96427	IL8RA	TCCTCCAGGGAGTCTCAGCTTC
96428	HMGN1	ACTTCTATTACCATGTTGTTTT
96429	BRIP1	CTGCAACCTTCACCTCCAGGTT
96430	SCD	TTCTTCCTATTGTAATCGTGTGC
96431	MECP2	ATCCTGGGCTTTTGTTTTGCT
96432	CAV1	AGCCTGCACAATAAAAATGTT

96433	Rgr	TGTGAGTCAGGCGGGAGACCA
96434	HSPA5	CACTGTACTCCAGCCCGGCAC
96435	F2RL3	GGCAACATAGGGGGATCCCATCTCT
96436	MECP2	GCAGTGGAGCCCAGGAGT
96437	BACE	GGAGAGGGAAATACAAGGAGGGC
96438	VTN	CCTCCTTCCCTGTCTCTGCCT
96439	TNFAIP1	CCTAATCCCCACTTCCCTGCAGA
96440	UBE2G2	TCCCTCCCTCCCTGGAGTGTTGAGGGG
96441	BHMT2	GCCATTGCACTTCAGCCTGGG
96442	NDUFA6	AATATTCCTACTGTCTTTGGAA
96443	TRPS1	TTGGTTAAATATAATTTCCA
96444	TR2	CTCATGCTTCACCCTCACACTCACT
96445	NDN	CAGGATTTACAGTGC
96446	ZNF265	CCCATTCTGGTTCCCGTTCAAGTTCA
96447	PARG	AACTGATTTTGCTA
96448	C1orf1	ATGCTGACAGAAGAACCAAAGCTTTCAG
96449	TNFRSF1B	TCCAGCCTGAGCAACAGAGTG
96450	HUNK	AGAGCAGCCTGGGCAACATGGT
96451	RAB6A	GAGGGGCGGCGGCAGCTGTGGAAG
96452	PTPRN	CCAGCCTCTGTCCCTCTTTGCCTGTG
96453	HPS4	CGCTGCCCTCTCTGGCTCAGGGG
96454	CHAC	TTTCTTCAGAATCATGAAGTTCT
96455	SCA1	ATTTTTCTCTCCAACATATTTT
96456	BTEB1	TGTGGCTTTTGTCAAGCACTTAGATGG
96457	RAD18	CAGACATTTGATTTCTTTAT
96458	HM13	CAGTTGGCAACCTTGCCCTG
96459	GBE1	GTGTTTTATTTTGTGATCTCTTGTC
96460	RERE	TTGTTAGCTTTGCTTTTCTCCC
96461	HNRPF	TCCTGCTCTCCTCCGTGGACA
96462	OTOF	GGCGCCACCCTTCTTCAGGCCC
96463	INHA	TGGGAGGAAAGGCAGAGTTG
96464	DISC1	ATTCATATCCCATAGATCTAGTA
96465	ASB1	GGGCTGAGGTTGGAGGCCTACT
96466	NOTCH4	GAAGAGGGGCAGTGGGAGCAGAGGAG
96467	LHX5	CTGGCAGCTGCTCCTCGGCT
96468	ATP8B2	CCTTTTGGCCACACAGTTTACA
96469	RP2	ACATTGAATTGCATGTTAAGGTGCAGA
96470	SCD	AGAGGAACCTCTCGCCATGATCAG
96471	SHANK2	GGCCTTTCCTCAGTCCTG
96472	COX7A2L	AGCCCAAAAACAAATGGTTAGGCTGCAG
96473	ARSB	CAGGAGACGCGGGCTGTG
96474	GRP	TTGACTATTCTGTATCTTTCA
96475	SUDD	TGGTGGCACTTCTCTGTAATCTCAG
96476	PRKCABP	GCTGGGTTCTGGGCCTGTATCGAAT
96477	RGS3	TAGCCAAGTTCTGGAGCAAATAAAAGGC
96478	APXL	GCCAGCGAAGCTTCCTCCTCC
96479	CST	GTGTCATCCAGAGCTGGAGTGCAGC
96480	CTNNA1	TTCAAAGCTATGGACAGCATCTAG
96481	B4GALT1	TCTTAGAACCAAGGGAAATACT
96482	PTBP1	GACCTTAGCAGACCAGAGATTTTATTTT

96483	GRB10	GGCTTTGGCGCTGACCACAATGCTGAG
96484	C9orf19	CAGCTTCCATCAGGAACATGG
96485	NDUFS1	TCACACCATTGCACTGCAGCCT
96486	CDS2	CTTGACTATTTTGAAGATT
96487	SNX15	CAGACTGGAGTGCAGTGGTGGGATCGC
96488	STS	GAAGAGCCTTTATAGATTAT
96489	EZH1	TGGGACATGCACACACACTC
96490	NR3C2	TGGGAAAGTATTTTTGAAA
96491	VPS41	CCTCCATTGCCCTCATGGAACAGAG
96492	WHSC1	GGGGTAGCGGCCCTGAGCTTGC
96493	SRGAP1	ACACAGGAGGATGGCTTTGGGC
96494	ADORA2A	GAGGCCTTGTCTAACTGCCTTT
96495	IL6R	ATGTGAAAAGAAAAATGAGCCT
96496	ENAM	AGAATTACTTACAGACACTCTT
96497	PAK1	ACTCCTGATGCCCTCTTCTC
96498	SQSTM1	CATAGGTCCCTGACATTTAGTTGATTA
96499	MASP1	AGAAGTCACCCAAATCCTGCCA
96500	CYP8B1	GGTCCCCCTTGCCTTCACA
96501	SNCG	CTGCGAGCTCCGTCCTGCCTGCAGCAGCACA
96502	LMAN1	TCTTTTAAATCAAGGAGGCTGTA
96503	ADCY1	AATCTGAGGCCCAGAGAGGTTGGGGA
96504	NOVA1	CCATTCTTCATCATTTGTAAGTTCA
96505	MAX	CTCATTTCTTTGTCTTTTTCC
96506	RAB27A	CAAGATCATTTATTCCGCTGC
96507	HDAC5	GCCTGTAGGAAACCAAAGATGGGA
96508	DRG2	ATGCCCGCCAGCCAGGGCCTAA
96509	NAP1L4	CAGTGGCAACTGAAATGCATTTCA
96510	DYRK3	TTATGATCTTACAAACCTGCAAATGGA
96511	TCF15	GGACAGGGAAGAAGACCCCAG
96512	GAS7	AGGTGGGCAGATCACGAGGTCA
96512	TEP1	AGGTGGGCAGATCACGAGGTCA
96513	VENTX2	AGCCTCGGGACAAAACAATGACTCA
96514	SACS	AGAGTCTATGTATGTCTCTG
96515	UBE3A	ATAAACAAAAAGCATGTGAA
96516	FUS1	TGGGGTCAGGACAGGCTGCGGATGCTT
96517	LIF	AGAGGAGGAGAGGGAGGCTGCAG
96518	GPR85	TTGGACTGAGCACACATCTGAG
96519	DAP	TTGGAAAGACCAGATAAGAA
96520	PHB	GGGAGCACAGGTGTCTGCCTAGAT
96521	MSL3L1	AGATCAGCCTGGGCAATATAGT
96522	TCIRG1	CCAGTGCTCTCCCCAGGCTGGCC
96523	GPRC5B	CATGGTTTCCATCTGTCCTGAGCAA
96524	SDC1	TTCCAAATGTAATAAACTTTAAT
96525	CDH8	ATGATGAATTGGATGGCTGCAGACCGG
96526	STMN1	GACTGTACTGGCCAGTGTCA
96527	FANCC	GGCACTCTTAAGCCCACCTCC
96528	B3GNT3	GGTGGAGGTGTGGGCAGAGGAG
96529	PARN	TAGGCTGTCATGAATGTGTAC
96530	MINPP1	TGCTGGAGTAACAAAATATCT
96531	CNP	CACAAGGTGGGCAGGGAGGC

96532	RBBP9	TGTATTGCTTGAGGCCAGGT
96533	PRKCQ	TTATGGGAATTCTTTACAATA
96534	AMFR	CTTCTGCTCAGACCGAGCGTGTGCCAC
96535	SLC14A1	CTTAAAATCAAAAACTACCTA
96536	ED1	GGAGCCAGGACTCCCAGAACCTCTAAGTGCT
96537	PIR51	GCTGTTCTTTTCTAGTTACAT
96538	ADRA2B	CCTGTTTCGGATCTGTGGTTCCTTT
96539	PKIA	GGACAATTGGAAAGGTAGA
96540	PLAGL1	TCAGCACTAAAAGTTCTAGTCTCTGCG
96541	DUSP1	TGTCATTGTCTACTCCTAGA
96542	APM1	TTCTCATGCCTTTCCCTCCA
96543	SCNN1G	GGAGAAAGTGCCAGCCCTGAA
96544	COG6	GAATCTCCTTTCTGTTCTA
96545	PIGA	GAGCTTTGGGTGCTGAAGGGCCAAAC
96546	IL18	GGAGAATCACTTGCACTCCG
96547	PRCP	CACCCGCACTGCAGTCTCCAGCCTGAGCCATG
96548	TCL1B	GCTGGCCCTGCTGGCCCTGCC
96549	TRPM2	TGCAGCCTGTGGATGTCCTGCAGCCC
96550	GCNT2	ACAGTGAGCTGAGAGTGCC
96551	ADORA3	CTTCTGCTCTTTCCATCTTTTTGCT
96552	JMJ	TTGTTTCTCTGGGCGGTTGTGGC
96553	ATP7B	GCCCTCACACTCTGCGCCTCC
96554	YES1	GGAAGTTGGCAAAAACAGCCTT
96555	SNX9	TGCTAGTGCCATCGTGGTGTGTGGCAG
96556	CELSR3	GCTGGGAGGGGGAGGGAGATAGA
96557	CASP10	ACTCATGCCTGTAATCCCAGTA
96558	GHR	TGCTTCTGTTATCAAACACCAACATA
96559	DXS1283E	GAAAGGCATGTCTCACATG
96560	SLC26A2	CATTCCTGTCCTTAAGGCACAG
96561	PBX2	CAAGGGGTAGGGAGAGGGAGGAG
96562	P2RX7	CATCCTGGCTGGAGAATGTGG
96563	MAN2A1	TGCAATAAAGAAGCACATTATTTT
96564	TNFRSF1B	CGGGAAGCGGAGGTTGCAGGGA
96565	ATM	AAAATTGAAGAATTGAATTAAGG
96566	DLST	TCTGTCTTCACTATTCAG
96567	VPS26	AAGCAAAAAACTCCTGTAACCCT
96568	HTR1D	CTCGCCAGGCTGGAGTGTAGT
96569	CDH1	TCGCCCAGGCCTGGGATGCAGTG
96570	D1S155E	TCACTGCAGCTTCTAGGACCC
96571	SEL1L	TTAGGTTGGTTATACCAGCT
96572	MNT	TGGTCTGGAGTCCCACCCGGACAGGT
96573	PACSIN1	CCAGCTGGACTCCAGCCTGTCCCTCTTA
96574	KLRC1	TGTGTCGGGCTCATTTTGCTCAA
96574	KLRC2	TGTGTCGGGCTCATTTTGCTCAA
96575	IRAK1	TCCAGTGAGGAGGCTGGCGCATGT
96576	F2RL3	ATTTCAGGGATACCCAGGACGCGTGAA
96577	AQP4	CAATGAGAGCTGCACTCTGGCTGGG
96578	CCNT2	TTTGAGTTGTTGAGTATATTTGAGA
96579	TGFB3	AGGCCTGGAGCCCACAACCTTCGGCTCC
96580	PTPRC	ACACAACAGGTTTCTACTCTC

96581	BSN	CTTGGGGGCCTCCTTTCATCT
96582	HIP2	TTCCCAGGTTTAATGAAAGA
96583	ZNF132	AACCATTCCCACCAAGTGGAA
96584	MGAT1	CCATAGTCCAGAGGAGGCATC
96585	LNPEP	CAGCCATCTGCTGCTTCTTATTGATAG
96586	ADRBK2	GTGAAGTTTGTTTTCTCCCACTG
96587	RAB1A	CCGCAGCTGCAGTGACATGTC
96588	DDX20	CCTCTTGGGGCTTTCCTCAGGCC
96589	DEFB103	GGTGAAGCCTAGCAGCTATGAG
96590	ZNF192	AGTGGTAATGTAATACCTTACCTCA
96591	PCTK1	TTACTCTCTGCCTACCTGCCT
96592	B3GALT2	GGACACTTTGGATACTGTGAA
96593	CORO1C	GCATGTGGTTCAAAGAGAAGCAGG
96594	BID	GCTGTATAGCTGCTTCCAGTG
96595	ADAMTS5	TTTCCATTGTTGCATCTTGAAT
96596	VAMP1	TCTCCACTCTCCTCTGGGCTCCTCCT
96597	CXCL1	AGCTCACTGGTGGCTGTTCCT
96598	D10S170	TGCAGTATTTAAGAGTTAACA
96599	NHLH1	CTGTCTCCCACCTCCCGGG
96600	SOST	CTCCACCCCTCCATCTCAAAGAAATA
96601	IL1R1	TGAAACACCTCCCAGGGGCTCCA
96602	PLS1	TTAGTCCATTTCTGCTGCTA
96603	DNASE1L1	CCCAACAACAGGGACAGAAGACTCACG
96604	PABPN1	AGCTTGAGCTAATGAGTCCTCCGTGG
96605	GAS7	GTGGGTGCTCTCTCGGGGTGGGG
96606	ICOS	AGAAGGCAAAGAATAAACATTTGAT
96607	SEDL	TGTCCAGGCTGGAGTGCAAT
96607	SLC15A1	TGTCCAGGCTGGAGTGCAAT
96607	SNAP23	TGTCCAGGCTGGAGTGCAAT
96608	G1P3	TGTCCAGGCTAGAGTGCAGT
96609	GTF2I	GAGCGAGGCCCTGCCTGCGGGGC
96610	KEL	CAGTCCTGTGTGTCTGGGGACAAGGC
96611	EMX2	TTCCAAGATCATAGACTTACTAAAGAG
96612	LENG4	AGAGGCCACCTCCACTCCTACAAAATCA
96613	MRPL49	AAGTGATCCGCCCACCTTGG
96614	XRCC2	TCTCCCAGGCTGCTGGAGTGC
96615	DDX11	AGATCACATTTCTCACTGCCTTCT
96616	SH3BP4	GAGCGGAGCCTCAGGAGCCGGC
96617	FLNA	TGTCTTCTTTGGTTCTGGGAGGGGTGA
96618	SUV39H2	TTACAGCCTCTCAATTTCAGG
96619	EIF4EBP2	TTAGAAGAAAAGCAGCA
96620	FKBP1A	GAAAGTAGATCATGTTCACTGCAA
96621	ADAMTS12	GCATCTTCCTGCTGGGCACAG
96622	GPRC5B	TTCGTGTAAATGTGAACACTGA
96623	KRT15	TCTCCCCACCTTCTTTGGAGCAA
96624	PMM2	TGGGCTGGAGAGTTGGTGCT
96625	UTY	ATATGTGTAGATAAAACTGCTT
96626	CDC2L2	CCACCTCCTGGGTTCAGGCGAT
96627	FOXM1	AGAACTCAGGTGGAGGCTTGAGAAGGC
96628	WASF3	CTGCAGCTGTAGTACAGTGCTG

96629	ZNF217	GCCTAAATTAGTATATAAAAACAAAAATGCTA
96630	SORBS1	AGAGTAAGACCTGTTGTTTTGGA
96631	COL4A4	GGACACTTTGCTCCACACAC
96632	SHANK2	CCTTTCTCATCATAAGACT
96633	CUBN	GAGGCTGAGGCAGGAGAATTGCTTGA
96633	IL1R1	GAGGCTGAGGCAGGAGAATTGCTTGA
96634	GNB1	GTTTTTAATCTCACTTTG
96635	HOXC6	CAGCCCAGGCAAATTGTATTTA
96636	PTPRH	GGGATCTGGATTCCTGGTTCC
96637	SH3GL2	CCCCACCAAGTGACTTTGG
96638	HD	GCAGGTGGCCACAGCAGG
96639	UNC119	GCCCGGCCTGGCTGGGCCTCTC
96640	MPP2	GCTGTCCTTGGGTAACAGCTC
96641	SQSTM1	AGGCCAGTTTCTCTGCCTTCT
96642	EP300	GGGCCAGAACAGTGGCAGGG
96643	PAX3	CGTTCGACAAAAGCAGTGGAGA
96644	EML1	CACTTCAGAAGAGTGAATAACTGATT
96645	IL1RN	ACTGCCTCTTCCTCCCTCATTCCAC
96646	ZNF80	CACACTGCTTTTACCAGCTGTAAC
96647	NUFIP1	AACTGATTTTTTAAGACTGTGTCTG
96648	KCNK1	TTATGTCACTTTAAGAAATA
96649	AQP6	AGAGGTGGGGACAGGGGCAGGGGC
96650	SYNGR3	CAGGGTCTCCGGGACCTCCCTTG
96651	GDI1	GAGATGGGGGGTTGGATAGCAT
96652	FUT7	ATCAAACCACCAGGCATCCG
96653	CSNK1A1	TGGTAGCAACCAAAGATTCCA
96654	WNT5B	ATGTCAGGAAAGCCCTAAACTGAA
96655	CDK10	GTCCTCCTCGCTATGTTGGAAATGT
96656	PRX2	AACCAAAAAGCTTTTGTCTTT
96657	MKI67	CTGGGGGAGGGAGAGATCTGA
96658	MKL1	CAGGATCCCAGGGCTCCCTGCCA
96659	IGF1	AGTTTATGCCCCTCCCTTGCAA
96660	JMJ	GAGGAAGACGGAAAAGACTGCCTGCC
96661	DGKB	CAAATAGTCTTTTTGTTGTT
96662	ZNF26	ATGATTCTTCAAGACAGAGACTC
96663	HDAC2	TTCTGGCTTCATTTTATACTAC
96664	EPHA3	TGTTTTTATTGTTTTCTATTTATGCC
96665	CRHR1	GCAGTCCACAGCAGTCTGGCT
96666	HAS3	AACCCATGAAGGCTGGAAGGCAGCAGG
96667	EYA2	GGGGGGTGCCTGGTGATGAG
96668	EGLN3	GTGAACAATTTATAAGTGTCCCA
96669	FHOD1	AGAGTGAGGAGGGCCCAGAGCAGA
96670	ESPN	TTTCTTATCCCCGCCAAGG
96671	IL11	GCCTGTAATCCTGGCACTTTGG
96672	WNT5A	GTGATCATACCCTGAGCACGA
96673	ABCB9	CTTGCCCCTGGTCCCTGCCCC
96674	ELK1	TTGGGACCTGGGGGTTGGTG
96675	SLC2A3	CCCTCACTGGATGAAATAACTCC
96676	MAP3K9	CAGTGTTGGATATTCTGTGAT
96677	MRE11A	TTGGTTCCTGTGATACATTTCTGAA

96678	FCAR	ACTCACTGCAACCTTCGCCT
96679	PKHD1	AGCCCAAAAACCTACTTCTCCTTGTG
96680	MT1H	CAGCTGCTGTGCCTGTGTC
96681	NP	TGTGCCTCTGTCCTTAGGTTGTA
96682	DNMT2	TCTAAACAAATGCATATGATA
96683	SYNGR2	TCCTCCAGGGCATTTTTAGGAAAGG
96684	XPNPEP2	CTCCATCTAGATGGGGGGCT
96685	IMPA2	GGCAAAGCTGCTCCCAAGGC
96686	HOXA11	CCCCTGCCAGACCCCCTGGAGACT
96687	SYNGR1	GCCAGGGGTATTTGCATTCATA
96688	PHB	GTGTGTGTGAACTGGGCACAGAT
96689	PPP2R5E	TTTCATTATTACAGCAGCACTGTATATA
96690	KCNB1	GGTCCAAAGAGGAGAGCTGTTC
96691	NCF2	CATTACTGTAATTGGCTCT
96692	KCND2	ATTATTAATTTTATTAGGCTTTTGG
96693	HDAC5	GCAGGGGGTGGTGGTGTCTTCCCA
96694	CD3E	TGGCCCAGGTCTCCTCTCCAGTC
96695	MGAT1	TGCCCTGACCCCTCCTTTCTGAAAATCA
96696	DLGAP2	ATGCAGAAATAACTACAAGGGCC
96697	STIP1	CTGCCCCTAGTTGCTGTCTC
96698	PLXNB2	TCCCTCCGGCCGCAGAACCAGCATCGGGTG
96699	CYP1B1	ATGGTAAGAGAAAAGAGAGA
96700	ZNF278	CTGGGCCCTGCCCTTGGCTCACCTTTC
96701	HTR2A	CACCACTGCCATTTCCTCCTGGG
96702	PDGFRA	GGTTCCTTCCACTTCTGGGG
96703	CLCA3	TACAGCGTTCGAAACAATCATA
96704	NRCAM	TGAAAACTGCAATGCTGGG
96705	PLA2G4C	CCACAGCCAAGTGGAGCTCT
96706	AQP6	CCAGAAGAAGACAGGAAGAATCAAGA
96707	NOS1	CCCCTCGGAAGCTAGTTACCATGGAGG
96708	CALM1	GATTATACTTAGCCTCCTCCTCC
96709	SHB	CCGCTCTCCCCCGGGCGTGGGCC
96710	WHSC1	GTGCTGGACTGTATGGCTGAGG
96711	HUNK	AACTCTGTCTTTCTCAGTTGA
96712	PRSS16	CTCCTGGGTTAGGGGCTTTGCT
96713	PTN	AGCAACCTCGCCCCTTGCAA
96714	FTSJ2	AGGCTGAGGCTGGGGGATTGCT
96715	GALNT3	CCACTGCACTTCAGTCTGTGTG
96716	DYT1	CTGTCCCAGGATGGTCCCAGCGGA
96717	FSTL1	ACAAGTGTCTGCTACAGTCGCCAAAT
96718	POU2AF1	GGCTCCAGATTACTTGG
96719	BTRC	ATCAAACTACTGCCCAG
96720	PLA2G2D	CACCTGGGGTCAGGAGTTCAAGAC
96721	TARBP2	GAGTCCTTACCGCCTCCCTACCCAGCGG
96722	ZNF146	ATCCAGAGATTAAAAACAGAAATATGG
96723	NHLH1	CTGCCTCTTTTCTCTCCCCAGCCTGC
96724	POU2AF1	AAGACCCCATTAAGCCTAAAGG
96725	GCNT3	ACTTGCTGGGACAGTGTGGGTG
96726	APC	CTTCGAGGCTTTACAGTGTAAA
96727	MICB	TATTAGCCACCATGCCTGTCC

96728	CLN5	GGTGTTGGGAGGAGCCCCGGTGA
96729	CDC25A	GGGACAGCTGTGTGACATTTGGAG
96730	PLA2G1B	CTCATCTCACACTGTACTCT
96731	HMX1	ATCCCCACTCGAACAGGGGGCC
96732	ZFHX1B	GCACCCATGTCAGTATTAG
96733	WNT7A	CTCCGCGGCTGGAGCGAAGCCTTCT
96734	NOTCH1	AGGGCAGCCTCCCCCGGCTCTAC
96735	NDUFS4	AGAGTATCCACAAAATAGTT
96736	ADAM20	GGCAGTGGGTGAGCCCCTGGTGC
96737	APM1	TGGGATTACAGGCATGAGCCAC
96737	ARCN1	TGGGATTACAGGCATGAGCCAC
96737	BAZ2B	TGGGATTACAGGCATGAGCCAC
96737	CCNF	TGGGATTACAGGCATGAGCCAC
96737	CYP8B1	TGGGATTACAGGCATGAGCCAC
96737	DCX	TGGGATTACAGGCATGAGCCAC
96737	DFFB	TGGGATTACAGGCATGAGCCAC
96737	DNASE1L1	TGGGATTACAGGCATGAGCCAC
96737	EHD2	TGGGATTACAGGCATGAGCCAC
96737	EIF5A2	TGGGATTACAGGCATGAGCCAC
96737	HTR1D	TGGGATTACAGGCATGAGCCAC
96737	HYAL1	TGGGATTACAGGCATGAGCCAC
96737	IGF1	TGGGATTACAGGCATGAGCCAC
96737	MDM2	TGGGATTACAGGCATGAGCCAC
96737	MEFV	TGGGATTACAGGCATGAGCCAC
96737	NF2	TGGGATTACAGGCATGAGCCAC
96737	PDE6B	TGGGATTACAGGCATGAGCCAC
96737	PIK3CD	TGGGATTACAGGCATGAGCCAC
96737	PPEF2	TGGGATTACAGGCATGAGCCAC
96737	RABL2A	TGGGATTACAGGCATGAGCCAC
96737	RABL2B	TGGGATTACAGGCATGAGCCAC
96737	RBBP9	TGGGATTACAGGCATGAGCCAC
96737	SCML2	TGGGATTACAGGCATGAGCCAC
96737	SH3BP2	TGGGATTACAGGCATGAGCCAC
96737	TERF2	TGGGATTACAGGCATGAGCCAC
96737	WHSC1	TGGGATTACAGGCATGAGCCAC
96738	ADRA2A	TTCCTAGTGGGCCACCCCTA
96739	ITGA6	TTACATACTGTAACATTCAG
96740	MAGEA3	GGGTTTTGAGAGAGGGGGAAG
96741	ESRRBL1	GCTCCTCCTCTCTTCCTATAGAACA
96742	TBX6	AATGAAGCCTCCCGGGGTGGGG
96743	ADAMTS1	CGAGCGGTGTCTCCTGGGGCTCC
96744	KIFC3	GAGGGTTCCCGCAGCTGGGGGGT
96745	ATP1A1	GATCTTCCTGAAGATCTCT
96746	XK	GGCCTAGATTTGGAGACTTTG
96747	TM4SF6	CATCCCTCATCAGGGTTGCCAG
96748	NFIL3	CATTTCACTGTGATGTGCACAT
96749	GLDC	TAGTATTCTAATAAAAGCATTTTGATCGG
96750	TNFRSF14	GCCTCACAGCCAAGGCTGGACTGGGT
96751	PRKACA	CCGCCTCCCCCATCCTGGGCGCCCCT
96752	ANKH	TGACAAGAGCAAAACTCCATCTC

96753	DSCR1	GCAGTTTCACTGCCAACTTTT
96754	STK19	GTGTAAAATGGTGCTG
96755	ANXA6	CCTCCACTCCCCTCTGACCC
96756	COX15	AAGAACATCTGGATTTCATCC
96757	ATP6V1C1	TTAAGATTACAGTTCTGTTT
96758	HNRPD	TGCTTTCATTGTTTTATTTCT
96759	RNF3	CCTCTGGGCGGCCTTCTTTCCTTTCT
96760	PGC	GTGGGCTCCCCTCTTCCTCTTGACC
96761	TYRO3	ATTCCTGGAACCTGGACCCCAGCCT
96762	SUFU	CCCATCTGCCTCTGCTGCACACACA
96763	TNFRSF10C	TGGACACTCTCTGCCCTGCCTCCCTCTGC
96764	GFRA2	CAAACAGACAAGCAGGCAGGCA
96765	BCL2	AATTTAGTTCAAACAAGACGCCAACA
96766	TTYH1	TGCTCTTGGCCACTGTGCTCCCATTTC
96767	C1orf1	CCAAGGTGGGAGGATTGCTTGA
96767	IL6R	CCAAGGTGGGAGGATTGCTTGA
96768	AP2B1	TCCAGAAGGAAAAGTGTGTCAGGGCA
96769	MTMR3	GCTGAGCAGTCCCCCTTTGCCA
96770	PTGIS	CGTATTAGCCAGGATGGTCTTGATC
96771	IL18RAP	TCTGGATAGGAAGAAATATA
96772	PDE1A	TCAGCACTGTTTTGATAGAT
96773	ERBB2IP	TGCTTTGTTTATCAACCTTGATTTTA
96774	IL17R	TCTGGGAGGCAGAGGTTGCAGTGAGCC
96775	GLTSCR1	CCTGTCTTGTCTGTGTGGCTTCTC
96776	AQP6	GTCAGCTCAGGCTGGAGCAGGCATATGA
96777	PAX3	ATCTTCAGAAGTTGAAGTA
96778	B4GALT1	GCCTATCTCCAGATTGTCTGATTTCTG
96779	RFNG	CCCTCTGCCTCCTGCTTTGCT
96780	SIRT6	TCCCTCTGTCCCCAGGGCCTCCCTT
96781	BST2	GTCTCCCACCCTGAGATTGGGCATG
96782	ITGA6	ACACAGGTGCAACAGACTTGAATGCTA
96783	NOTCH4	TGCAGCTCTGGAAAGAGGGTTTA
96784	GUK1	CCCGGGCCCATACAGGACCA
96785	ABCD3	TTTCTCAAACTGAGCTTCA
96786	ALDH3B2	CAGCTCCAGGGCCTGGGCCACT
96787	ANXA6	CCTTGCTACAGCCTCTGCCCT
96788	CLN6	GACCCCTGCCCAGGCTCAGGCCCATGA
96789	C11orf13	GTCGCCCAGCACCCTGGAGAAGCATG
96790	CDH11	ATACATTTAATAAAACTGCGAGGACAT
96791	CCR2	TGGGCACATTAGCCTATGTGCA
96792	RIG	AAGATTAAATGAATGAATA
96793	WHSC1	AGGGAGGGAGAGAACATTCAGCAGC
96794	HIP1	AGACCAGCCTGTCCAACATGGT
96795	STAU	TTATTAAAAAACATTGTGTATCT
96796	ABCB4	GGTGGCAGGCAGAGCAGGATGCAGA
96797	VARS2	TTCTCATAACTATGTCCACC
96798	YWHAB	AACTGCACTCCAGCCTGGGCAACATA
96799	BACH2	CGGCAGGCGTGTGTTACAGTGG
96800	PRX	TGGAGCCCAGGTTGCAGGTGG
96801	CASP2	TCCCACATGTGTCACCTCCCCATCATC

96802	NDRG1	CGGAGTAGGAGCACTGGGGTGGGG
96803	ARHGEF6	TGCAGTGAGCTGTGATGACACC
96804	PNUTL2	AGCTCTGCTCAGGCCCCTTCAG
96805	PTK7	TCCCCACTCTGGGCTTGTGCACAC
96806	IGF2R	CTTCAGGTTCTCATGATACCACCTT
96807	SIAT6	AGCCCTAGCTGTCCCATGGGGAA
96808	TLR5	CGCCCAGGCTGGACTGCAGTG
96809	BPHL	CTGAGGTGGGAGAATTGCCTGA
96810	RB1	CCTCTGGATTCATTGTCTCTCACA
96811	BAZ1B	GCCCAGCCCACCCACATACCA
96812	ADRB1	CAATCCTCGTCTGAATCATCC
96813	TNFRSF5	ACAGGAGACCTGGCACTGGA
96814	AQP6	TCAGCTCAGGCTGGAGCAGG
96815	ZNF255	TTCCACCCTCCCCATTTGGAGTCTGCA
96816	SF3A1	CATTCCCCTGACCCTTTCCCCACA
96817	FGF2	TGCTGTTGCCGAATACTCAGGACGGAC
96818	CYP2A6	ACTGGGGGCAGGATGGCGGAAAGGAA
96819	RHAG	CCACAAACATGAGGTTCACA
96820	FABP2	CAAACTCCTGGACTCATGCAAT
96821	CASP6	CAGGAGGTGGAGGCTGCGGTGA
96822	DSCR3	GAGTAGTTGGGATTACAGGTGACTGCC
96823	IFNAR2	AGCAAATTTTTGTATTTTTAGT
96824	MICB	AGCTAATTTTTGTATTTTTTGT
96825	GSTA2	CATGGCAGAGAAGCCCAAGC
96826	AGPS	GGAGGCGGCGGCTGCAGCGG
96827	GJB3	TGAACAAAGCACATCTTTCC
96828	RNF4	GAACCTGGCCCACCTGTCT
96829	AKAP1	CACTGGCACTGCCTTCTCTGCCG
96830	PLAGL1	GTGCTTAAATGGCACAGCATT
96831	BARX2	GCCTGTCACCTCCTGAAAGGCTG
96832	CD83	TTCCTGGTGTGAAGGTCCTG
96833	CTBP2	TTCTCCTCTGCCTCATCC
96834	EIF4G2	GAAAACTGAATAGCAACACTGAA
96835	RABIF	GCCTTTTTCTCATTCAAGAAGGC
96836	HDAC5	GCCAGCTCAAGGTGGGCACGGGGG
96837	NFKB1	CGCAGCCGCCCGGCCAG
96838	ACE	CCCACAAGCACCTGCTCA
96839	IGFBP2	GCAGATGCCACACCTGCTCCTT
96840	ADCY3	GCAGGAGGGTGGCAGAGCTGGGACA
96841	SERPINB9	GCACCCACCACCACACCCG
96842	ANK3	GGTAAATGCTTGCCGCTTTAGA
96843	PTGFRN	GATCAGATACCTGCTCCAGTAGTTGTGA
96844	PPM1D	TCATCTAATAAATCAGTGAACT
96845	F3	TTGCCCAGGCTGGAGTGCAGTA
96845	GPR4	TTGCCCAGGCTGGAGTGCAGTA
96846	RPH3AL	TTGCCCAGGCTGGGGTGCAGTG
96847	GTF2I	TGTTTATTTTCCAATCAAGTGAAGATATCTCC
96848	CAV1	TCCAACTAATGCCTTA
96849	SDC2	TGCAGTGTTCTGTGAATAGCA
96850	ACTR1B	AGGATGCACGGTGGCTAGAGCCAG

96851	KRT13	TCAACTTCTCTACCCCAAAGAAAAGAT
96852	AF1Q	TCACCTTGCCCTCATTGTCTTCCCT
96853	SCG3	CCTGCAGCCGCCCAGTCCCGGCC
96854	AQP6	TGAAATCCCATGAGCCCCGCTGCCC
96855	WHSC1L1	AAACTGAAGGCCCGATGAGA
96856	ADARB1	AGGAACACTTCTTTTGGCCA
96857	ADAT1	ATCGTACCGCTGCACTCCAGCCT
96858	SURF4	CCTACTTCCTTACCCCCGA
96859	JAK3	CAGTGGGGCTCTCTGAGTCCTGGCC
96860	ZNF136	TTTGGCTCTGGCTGGGTGTGG
96861	SLC22A12	GGAGGAAAGCAAAGACCTCCATTT
96862	TCERG1	TGCAAGAAGTAAGAGCATTTGT
96863	PAG	AACCTATACTTCATATGCTGCTTTAG
96864	AQP6	CAGGCCTCCCGAAGTCCTGAA
96865	HAS1	CCAAGATTCTTCAGTCTGGACT
96866	GPRK5	TCTCCTTAGAAGTGGAAGTAGTGGAG
96867	NCOA6	CACCGAGGCTGGAGTGCAGTGGC
96868	MYOZ1	CCACGCATCCTTCCTCACCA
96869	INPP5B	ATGGCAGCAGAAAGAGGTGG
96870	USH2A	TTTCATATCCCTTTACAATGAATTTTT
96871	HOXB9	ATCTTAGGTGGAGCTACTCCCCAC
96872	TFE3	GGAGGCGGCAGTGGCGAGCTGGG
96873	NMI	GTTTCAGGCGCTCGTGTTTTCC
96874	GRM6	TTTCTTGCCAAAGGCGGTTCCACCCTC
96875	H1F0	GAGGGAACCCAGGAATTGTG
96876	RTN3	TGGAAAGTGGGACTGAGAGGGAGTCAG
96877	RIG	GGGAGAGAGCAGCAGCAAG
96878	C1orf1	GAGTCTCAGTTCTGAAATTTTGA
96879	UBE2L3	AGCTCACTCAGGAATTCACACCCGCCT
96880	ASB1	AGGGGCTTTCAGGGAGGCTGG
96881	KLHL3	GGTAACACTGAAAAACAAAAC
96882	ARF5	CCTCTGCTCCTGCTCCTGCCTGCA
96883	GALNS	AGGAGGTCCTGACAACAGGTG
96884	EDNRB	ATACTTACCTACATACACTGCAT
96885	MGAT5	TCTGGCTGAAGGGGTGGGCAT
96886	PEX14	CTGCCTCCCTCTCTGGCCCTGGGAG
96887	GDF2	TCTCCTCTCTGGGTGATTGCGCGGGC
96888	HOXC8	CGTGAGCCAGAGGGGAGGGGGCCG
96889	PUM2	TTGTATAATGTAAATTTATTTCTCCA
96890	FACL2	TGTTAATTTTGAATACAGCAAGTGTAGG
96891	KCNMA1	ACCATAAAACCCTTG
96892	CCND2	TCTTTTGACAGGTGCCT
96893	MASP1	TAACCAAAAGGCAAAAATTACAATCGG
96894	KCND2	ATTCATATATCTTATTTCAAAG
96895	ACPT	CCGCCCACCTGCCCCTGCCTCT
96896	PPP2R5B	TGACCGCCATGGAGACGAAGCTGCCCC
96897	MTMR3	GCCAGGCCCACTGTAACTGCCG
96898	RABIF	GCTACCCTTGTGATCTACA
96899	TNS	GGATTGAGTCTTGCTGCTCTG
96900	TLL1	TTTCCACTTGCAGGCCAGCTT

96901	EGFL4	TTCTGCATTCAGCAGCTATTTA
96902	CD28	GAGATTTCCTGTGACAGGCCAAGT
96903	EXTL2	AAACCTGAAATGCCTCTTTAGC
96904	PTGFR	ATGCTGGGTACAATGCTTC
96905	DLST	CCTCTTCTACCTCTTCCAG
96906	LZTS1	TTGCAACCTCACCTTCCTGTGGGT
96907	DMP1	GTTACAACCCAGTATGCTGAGTGCCAA
96908	TADA2L	GGAGGCAGAGGTTGCAGCGA
96909	KLK5	CTCCAGCCCCTGACCCCATGTCTCCTG
96910	STS	AACTACCCATGTCTTTCTGGAA
96911	FBXL2	TCATTCTCTGCAGCAGCTGCCTGGGC
96912	ZNFN1A3	TCGTTTCTAAAAACAGTTGAC
96913	TNFRSF6B	CTCTCCCTGCTCCAGCAAGGACCA
96914	LRP5	TGGGATTTTAAAAACATGAGAAAT
96915	F3	AGGCTGGAGTGCAGTAGCACGAT
96916	RPH3AL	AGGCTGGGGTGCAGTGGCACGAT
96917	ARNT	TCTGTATTGCTGGCATCTGTGCTA
96918	ATP7A	CAGTTTCAGTTCACTCCTGCCAAGT
96919	KCNE1L	TGTCTTCAGACAGCCCTGACAGC
96920	SEL1L	CACTGGGTCCAGCCTTGATCAG
96921	ABCD4	GGGCCTGGGAACTGCTGGCTCTAAG
96922	IL16	TGTTAGCTAAAGGATCTTAG
96923	XRCC2	CTGCAGCCTTGAACTCCTGGCC
96924	UGT2B4	TCTGAGGCTGGAAGCTGGGAA
96925	KLK5	TCCTTGTGGTTCCTCTCTAC
96926	HS2ST1	CCAACTTGAAACCATTTTGTCACA
96927	PPP1R12B	GCTCTGAGAGAGGCGGCAGCGG
96928	LDB2	TGTTCCTCCACACATGTAAAGGCACAG
96929	ATP8B2	GCTCACTGCAACCTCCACCTC
96929	CSNK2A2	GCTCACTGCAACCTCCACCTC
96929	CYP1A2	GCTCACTGCAACCTCCACCTC
96929	DSCR3	GCTCACTGCAACCTCCACCTC
96929	EHD2	GCTCACTGCAACCTCCACCTC
96929	MEFV	GCTCACTGCAACCTCCACCTC
96929	MPL	GCTCACTGCAACCTCCACCTC
96929	PDE6B	GCTCACTGCAACCTCCACCTC
96929	PKNOX1	GCTCACTGCAACCTCCACCTC
96929	PPP1R12B	GCTCACTGCAACCTCCACCTC
96930	SYNGR1	GGAGATGAGAGAGGGTGAGAG
96931	ITK	TCTAGAAAGAAAACATTGGAA
96932	ARNT2	ATTAGGGGATCAGTTGTATTTA
96933	BCL2	CCCGGCGTGTCCCTACCTCCTCCTCT
96934	FBXO7	CTGCCCGCCTCCAGCTCTCGGGG
96935	YWHAG	CGCAGCTCCAGCCGCCTCCTCC
96936	CRMP1	TGTGTTCTTCAAGCCAGCT
96937	CFTR	GTTCTGAAGAAGATGGTACCAC
96938	C7orf2	AACTCCTCTTTCTTCATAGTC
96939	ADRB3	CTTCTTTCCCTACCGCCCCAC
96940	C18orf1	TCTGTCAGGCAAAGATGAGGA
96941	HPS4	AGCTGTGTGTTCCTGGGCTTG

96942	HSD11B2	CTCGGCACCAGTGCCTCAGTGCTG
96943	INSRR	TGTCTTTGTGTCTCTGTGACTCTCAT
96944	PTPRO	TTTACCTCCATTCCCTCTACCCA
96945	MHC2TA	AGCCCCATTCTGCCTGCCCAGGCC
96946	BPGM	CTTTAACTTGTCTTCTAGTTTAG
96947	DNAH9	CAGCACCCCACTCCAGCCTCGAGG
96948	LPIN2	CCTTTCCCTCTTTGCAGTTCAGT
96949	OPHN1	CCTGTTCTCTGTCCGGACCAGCCA
96950	ALDH1A2	GCACAGCCCGCACTGCCCCACGCCGC
96951	TOP3B	CCAGTCTCACAGGAGTCAGCATTGGT
96952	GRM4	CTCCCCTCTCCCTGCCA
96953	POLK	TATGTATCTTAGTTACATTTCTATCAG
96954	CD34	ATGGCTTCCTCCTCCCTCCTGCCGA
96955	G6PD	GCCCAGCTACATTCCTCAGCTGCC
96956	GPR62	GAGCCCAAATGGCCAACTCCACAGGGC
96957	JAG1	GGAGTATTCTAATAAGCTAGTTGAAT
96958	CD164	ACATATGTAGCAAATTTTGTGA
96959	ADCY7	CACTCACTCATGCATTTTTATTTC
96960	PABPN1	CCCTCCAGATTGCCTGGTGATCTATT
96961	AOC3	CCCACCCCGTCCAGGAGCCAACA
96962	C4orf1	AACTAAAACTACTACTTAC
96963	PMP22	AAATAAGATAACTCCATCTC
96964	SH2D1A	CTGGTCCCTGCTCTCAGTTCACTGTCT
96965	HTR4	GTATTCTCTTCACCTGAGGCTTTCCGT
96966	KCNA7	ACCTCCCTAGAGGGAGGGAGGGAG
96967	CPNE3	TTGCCCAGTCAATTCAGTGATT
96968	GALNT3	TAAGTTGAAAAAGGAAATATTCTTTC
96969	ATP1A2	GCCATTACACTCCAGCCTGGG
96970	VHL	GCCACTGCACTCTAACCTGGG
96971	HTR2A	ATGGGAGGATCACTTGAGGCCAAGAGTTT
96972	KCNB1	TGAATAATTCCTGCTGCAGCA
96973	ANK1	AAAAACAATAAATACTATGC
96974	MAPRE3	CCCCTCGGGCACCAGCCTGCATA
96975	UNC119	CCATTTCTCCCCACCCTGGGGC
96976	NCOA6IP	CCCACCATGTTGCCCAGGCTGG
96977	REGL	CACAAACCAGGTGTTTCTGTCTCTTT
96978	BCL2L10	CTACCTGCCCAACTGTGACCAACTAAA
96979	WNT1	GCGCCAGCGACCTCTCTGCCT
96980	FGA	TTCCCATGGCCCCTTGCATTTC
96981	SOX11	CATTCTCTTATTAATTCTTTA
96982	KIF3B	TCTGTAGGCTAAAAATATTCAT
96983	SH3BP2	GCATTAGTGCCTGGTTACTGGG
96984	PKNOX1	AGCTTAAAGCGCGTCTTTGCCG
96985	DRP2	AGGTGCTTGATGATCAATAGTTGGT
96986	IDH2	CGCCACCCATGGCTGCAGTGGA
96987	ANGPT1	GTCTGGGTTTGAGAAATGAAATATTGT
96988	ACE	TCTGACATTTATCCAAGACCTG
96989	BCL10	GAGGAAACGCCCGCTGTGGGCGGAGCC
96990	SUFU	CCCAGCCTCATCTTCTAGGC
96991	GJB3	AAGTCAGAACTCAGAACACTGCC

96992	HMOX2	AGGCCGTCACCCTGGGAGCAGTCGGCAC
96993	EDG8	AGCCTCCCTAGTAGCTGGGACT
96994	POU4F1	ATGATCTGAAAGGTGTGGAAAGA
96995	DOK1	AGTCCTAAGAAGTGGGGCAG
96996	CHST5	GGCTCATGCCTGTAATCCCAGCATTTT
96996	CPT2	GGCTCATGCCTGTAATCCCAGCATTTT
96996	GP2	GGCTCATGCCTGTAATCCCAGCATTTT
96996	VHL	GGCTCATGCCTGTAATCCCAGCATTTT
96997	STAU	GTTACTGTACACAGAAGTGTGTGC
96998	CRYGA	CCTTTGTCCCTATCATACTAGATGCTA
96999	NFIA	CCGACTTGGAAATGTGAACGCAAG
97000	SOX4	AGTTTTCTAGAGACTTGAAG
97001	PRND	AAAGTGACATGAAAATTAC
97002	BCAR1	TCACCAGACGGGGCTGGAGTGTGAGGGTCCT
97003	TRPM7	AACTGAAGACCATTTTCAAGAG
97004	SLC22A7	TGAAGCTGCCTTCACCACTGCCTACC
97005	HTR2A	GGTATTTGGTAACTTGCTGT
97006	AKR1A1	CCACTGCACCTGGAAAGGAG
97007	NRXN3	TTTGAGGCCATTGTGGAGCCAG
97008	IL10	CAGGAGATGGAAGTTGCAGTGA
97009	PPP1R8	TTCTTTCTCCCACTTTCTAGGATC
97010	C14orf2	TGCCTGTAAATTTCAGCAAGCCGTGTT
97011	KCND2	TACACTGGAGTGCTTTATTTAGCAATA
97012	LILRB1	CACGAGTTCAGGAGATCGAGAC
97013	GPX3	GCCAGGCATGTGGGTGTGGGTGCAATG
97014	PMP22	TGCCTCCAAGGACTGTCTGGCA
97015	IGF2R	GATACCACCTTTACTGTGCTTAT
97016	AEGL1	GGGTGGAATGAGGAACATCTTC
97017	TGFA	GGAAATGTTTTCTTCTACATGGAA
97018	DDX6	GCGAAGTGCCTTATGCTATGAG
97019	RSU1	TCATTATTTTGCTTTATTAAA
97020	PDE4C	TTTATTGCTCATCTACTTCGGGCCAG
97021	IL12RB1	GCCCTCAGGTGATCCACCCACCTCA
97022	STIM1	GCACTGTACATACCTGCCCCCTCA
97023	REGL	GCTCACCCAGGCTGAGGGTGCCT
97024	TCF2	TTTCCCCTCTGTGTCCTCT
97025	LAPTM5	CCTCCTGCAGGGCCTGTGAGCT
97026	CD8A	ACAATACTGTTGTGCGCA
97027	TOX	CTGCAAGCTACTACTCATTCCA
97028	TEM6	AAACTCCTGGATTTAAGCTCAG
97029	DAZL	TGTTTTTAAAAACCTATTTTGAAAGGT
97030	ACPP	ACCTGTAATCCTTGCATTTTGG
97031	JPH2	ACTGGGTACAGCCTGGGTGCAGTTA
97032	PKD1	TCTGTGGGCTTCAGCACTT
97033	WHSC1	CACTGCGTCTGGGCCTGAGA
97034	ARAF1	GCCAATCTCAGCCCTCCACG
97035	COL15A1	TTTAAACCATTGTTGTTGAGT
97036	IL6R	CAGGACCTCAGGTGAGAAGCAGAG
97037	PPP3CB	ACACATTTAAGTTTACAAATCAG
97038	MAN1A1	ATCCTTTATTAATTCAGCCAGTG

97039	VHL	CCCAAAATGGTGGGATTACAGG
97040	MS4A1	CCTACTAACCTGTTCCTTGGATA
97041	AK1	AAGCTGAGGCAGGAGGATCACC
97042	UPK1B	CCTGTAATCCTAGCTACTTGG
97043	GFER	CCCACCCCACGGCGGGGACAGATGCGG
97044	KCNS2	GCAAGGGCAGTAGCTTAAATAC
97045	SCA7	TTTTCCCAACCTCCTGTGGGCCTCA
97046	ITK	TTCTGAAAAACATCCTTTTTTCCAG
97047	SLC22A11	CTTGGTGGCCCTGGATCTTGTGGC
97048	IRAK4	GCTCATACCTGTAAATCCCAGCA
97049	SOST	AGGAGGCAGAAATGGAAGC
97050	EIF5A2	ACTCCATCAGCCAGGCTGGAGTGCAGT
97051	RAD51L3	ACTCGAGACAGGGACAGCGGGAGGCT
97052	PRCP	GTGGCCCTCATAACTGGAGTAGAGT
97053	IL24	GTGGGGCAGTGGATGGGTGCTTAGTA
97054	MAOB	GAGTCTAAGAGAGAGGGTGTCTGTAA
97055	KCNMA1	CCCAATGCAGAAAGCTGGTGG
97056	FTH1	CTTCCTGGTCACCAAGGCAGTGCATG
97057	BACH2	ACACATTTGGTGCACACTACA
97058	MTF1	AGGTACAATGCCTGCCATCATGGGTCA
97059	ZNF3	ACTGTTTTTCTCACAGCAGA
97060	WBP2	AGCTTCCAGGGCTTGGGTGG
97061	CCT3	GTCCCTTTCTGTCCCAGCTCA
97062	EPHB1	ACAGGAAGAAAGGGAAGGAGG
97063	SBF1	TCAGATACAGCTTCACCTATGTGCC
97064	UPK1B	TGGCAGGTGCCTGTAATCCTAG
97065	LDB3	TAGGCTTGGTGGCCTGTGGAAA
97066	CD164	AAGCATGCATACTTTAACTTCT
97067	CPNE6	CCAATGCCTCCACCTCTTGGACCAGGT
97068	IDH1	TCTTTTCTATAAGTTTACA
97069	SULT1C1	CAGGCAGCTGAGGGCCAGGA
97070	CSPG2	AACACAAAATCTTGTAGGTCATTGCA
97071	COPA	GACCTGCCTGGCCAACATGGCAACACC
97072	FMR2	TGTGTACAAACATTTTAATGT
97073	NFE2L1	CCATCTCCCTCCGTGCTCC
97074	MSL3L1	CAGCAGGGGAGGCAGCTTGCATGCC
97075	PFKFB4	TGCACACACCGAAGTGCTCGAGG
97076	TIAL1	AGAAAACAATATGGTGTTT
97077	FUT1	GGAGAGAAGGGGGACGTTTC
97078	XT3	GGCCTGTAATTCCAGCTACTCTG
97079	CD5L	CACTGGTTCTGGCCTTTCCTGCCT
97080	ZXDA	AACTCTATTCATTCCTTGCCA
97081	TAF7L	GTTTTTAGTATTTCCTAAAAC
97082	EIF4A2	ATTTTGTTTGGTATTGTATTTA
97083	F3	TGCCCAGGCTGGAGTGCAGTAGCACG
97084	GFI1	CCTCCTTCGCCTTACCTCCTGGAGCT
97085	TP53	CCGGAGTAGCTGGGACCACAGG
97086	CASQ2	GACCTTTTAATCAGAGCCCAG
97087	LAMC2	GCCCATTCAGAGCTATGGTGCT
97088	ABCA3	GTGGAGCTGAGCAACTGAACCTGAA

97089	STE	GCTGGTCTTGAATTCCTGGGC
97090	GNA15	AGCCCCATCTCCGGGCGTGTCA
97091	CNN1	CCCCTCTCCCTGCATGGCATCC
97092	GALNT7	AAAGGGGGAAAGAAACACCTGAG
97093	KCNK6	CTGCTGCACTCCAGCCTGCGGGACAGA
97094	HRB	TGGTCACATTACATCTCTCCA
97095	GGA3	ATCCTACTGACTACCTCTTGCTT
97096	TNFAIP1	CCTGTGCAGAAGGGCTACTGCCCCTTA
97097	LETM1	TTGAGGAGAGCGCCTCCCGTCCGAGGC
97098	GPR56	GGGATTACAGGTGGTGACT
97099	FCN2	CAATGATCTTAACACCGGAA
97100	GPR85	TAGCCTGTTAATTTTCTTGAA
97101	FLNB	AGAAATTCTGCAGTGGC
97102	KLK3	TCACAGTCTACTGACTTTTCCCATTC
97103	P2RX7	ACATTATCCAGCTGGTTGTGTACA
97104	ZNF261	GTGTTTTTATAACTGTCACC
97105	KRTHB1	TTTGCCTGCCCTGCCTTGCTTGGC
97106	CPT1B	GCCCAGTCTCGGTTCCAGTTCT
97107	PDE7A	TTGTTTCTGTTCTTATGTAAATA
97108	TK2	AGCTGGACTGCATTGAAGGCGAGGCT
97109	RSC1A1	TTCCTAATTCACACAGAGCGTCAGAA
97110	ICAM1	TGCAAGCAGTGGGGAAGG
97111	PPP1CB	AAGCACACATTTTATTCACA
97112	SOST	AATGCCTGCAACCCAGGGCAG
97113	HSPD1	AGAAGTTAAGCAGCCTTTCTGTGGA
97114	PATE	AGACATCTCATCAGCCACTTGTGTGA
97115	MXI1	ACCCAGCATGACATAACAGTGCAGGG
97116	ASK	TGGGAAGTGCAGGTTGCAGTGA
97117	SIAT1	GATGCAAGGTCTATCTCTCCCATCAG
97118	LAIR1	CAGACTGTTTCTCAGTTATT
97119	ADCY1	GAATGGAGAGTGATGTGGG
97120	CTPS	GGTATTGCTTGCCACTAAGCCATGA
97121	EIF4EBP1	GCTCCCTCCCCCTCCTTCCCC
97122	DHFR	GGCTTACTGCAACCTCCGCCT
97122	TAPBP	GGCTTACTGCAACCTCCGCCT
97123	GHR	GACTCACTGCAATCTCCACCT
97124	KCNE1L	CTTCTGCTGAGGATTACCATT
97125	DLG3	TTATTTTTTGGGATGATGCCA
97126	RANBP2L1	CACTGCACTCCAGCTCGGGGAA
97127	MYLK2	TGGCCCCCACCCACCTTCCT
97128	PSG6	GATTAAAACATGACCCACCAT
97129	LIPE	CAATGAGAGATCTGTGAAGA
97130	SNTB2	ACTGACCATGGACCTGCACT
97131	ADRBK1	GGCCATCTTCCAGGTGGGGTGAGGCA
97132	PPP2R5B	TCTGAAAGCTTGCCCTGCCGC
97133	NEDD4	TGAAAAGTTTGATGCATTTTGA
97134	RNMT	TTCTTTGAAGGCAACCAGTGCA
97135	PKNOX1	TGTTGCCCAGGCTGGAGGGCAA
97136	SLA2	TGTTGCCCATGCTGGAGTGCAA
97137	MYCL2	GAGTAGCTGGGATCGCAGGCGCCTGCC

97138	IRAK1	GACTGCACTCCAGCCTGGGTG
97138	LRRC2	GACTGCACTCCAGCCTGGGTG
97139	ATP7B	CCCTGGATATGTCCAGTCATCCTGC
97140	DCTN1	AGGAGGACGTGTCAAGACTGCTT
97141	BMP8	TTAGGCTGAGTTGGGTGGAGA
97142	FZD4	ATTTCTAATTTATCACTGTAC
97143	BCL9	TTGCTCTGTCTCCTCAGTTAA
97144	MTCP1	TTAAGACGACATCTCCGCGAACGC
97145	BAK1	TAGTGCCCTCTCTCTGGGCCCAGGGCTGTG
97146	IKBKAP	TGGAAAGAGTAAAATGATAACTTACC
97147	TPM4	TAACCCACAGATAGATCAACCTAAGA
97148	AKT1	ACCCTCTCCTGGGGGTGGCAG
97149	ICMT	CACCACTGTCCCTTCACTGC
97150	FGF2	GTGAGTTGTTGTGACAACCACAAGCAC
97151	ADAM29	AAATCACTGTGATTTGAAGCCTT
97152	LARS	GCACAGTCGGCTGGGCGGTGCAATG
97153	DCTN1	CTCCTGGGCAGGGCCTGCCTCCT
97154	TXK	GCTGACTCTTGAAAACAGTGCAAA
97155	EIF4G1	GGGAGCTGGGGCAGGGACTAC
97156	VENTX2	ACCACGCCCGGCTAATTTTTTCT
97157	PFKFB4	GGATGTCATCTGAGGTGAGACCA
97158	GYS1	TCCTGTCATCCCCTACACTTTGG
97159	SLC22A7	CTGGATGTGTCGGGGCTGGGGCTGAA
97160	LIG3	GGACTCAGGCTGGAGGCAGAT
97161	LIG3	ACTATTGGACTGGACTCAGGCTGG
97162	VHL	GAGTAGCTGGGATTACAGGTGCCTGCC
97163	MAP3K7IP2	TGGGAGGCCAAGATGGGAGGA
97164	GGT2	GCCCGCGAGGTGGCCCCCAGG
97165	CBLB	TGAGAGATGGGAAAAACCTGAA
97166	MS4A2	ACAGCCTGCTGGTTTTACATTA
97167	IL10RA	GGCAGTCTGGGCACTTTTCTGCAAGTCCA
97168	ATF5	CCCCTGCCTCTACCTTCATTCCA
97169	CPNE3	GCCCAGGATAGATGTAATA
97170	ZNF36	AGATTGCACACTGCACTCCAGCCTGGG
97171	FMOD	TGCATGTGAACACCATCATGCCT
97172	CNR1	ACCACTGCAATATCTTC
97173	MAT1A	CCCTTGCCTGTGCCAGGTGAGGTCAG
97174	EVC	AGGCCTTTCCCATCTGGAGAGAA
97175	RAB5B	TTCTCCTCTCCCCAGGATGCT
97176	HDGF	GCCTGGGACAACTGCTCCCACCTCC
97177	EXTL1	TCAGTCTTCCCATCTGTACA
97178	NRBP	GCTCCCGCCCAGCCTGTGTGG
97179	RHCE	TTAAGAGTCAATTTAATAAGTTTAA
97180	RIMS1	GGTTTCATATAAACTATGGACA
97181	PPP1R8	AATTCCAGAGTACTGTCCTCTACTCT
97182	KCNN3	GACACTCCTTGCAGGGACTGAGCTG
97183	PHKB	AGACCAGCCCAGCCAACATGGT
97184	MRPL23	GCCCCAGGTGGGCAGCTGTGGCA
97185	RAD1	AGTGGCGGGACTGGCTTCACT
97186	AQP6	AGCAAGCCCTGGTCAATGGC

97187	AOC3	CTTCTGCTCACATTCCCTCTCATC
97188	ABCG1	TCCTCAGTCCAGTCGCTCCTTAGC
97189	HS2ST1	TATGCTGTGCTGGAATATTGTT
97190	NCOA6IP	GGCTGGTGTCAAACTCCTGGGCTCAGTCAGT
97191	PPP1R12B	AGTCTTTACGGAAAGCACGCTC
97192	P2RY1	GGGTGGGCGGAGGAAGCGGTTAG
97193	CEP2	GGGATAAGAGAATAGTTTCCTGGAAGAT
97194	CCNDBP1	CCCTGAGAAAGCTGGTACGGGGC
97195	LUZP1	GCCTGTAATCGCAGCTACTCAGG
97196	SRR	ACAGGCTGACATAGAAAATA
97197	IL11	AGAGAGGCTTGCTTGGGATATAG
97198	GJA5	TTGCAACCTTTCCTTCTGCTAGG
97199	CPM	CATTGTACTCCAGCTTGGGCAA
97200	APAF1	GTTTGAGTCCAGCCTGGGTG
97201	RAB38	CACCTTGCCCTGGTGTCTTTTTCCA
97202	FRK	GTTATTTTTCTTTTTAAGAGATACTTA
97203	SLC22A7	TGACTGCACTGGTGGGCCGGC
97204	SLC15A1	ATCACACAAATGATGTTATTTTGG
97205	IL12RB1	CCCAAAGTGTTGGGATTATAGG
97206	TNFRSF10D	CAACACAGTGAAACTCCATCTC
97207	MADD	GAGAGGAAGGGAAGAATTGGGGG
97208	PCTK3	GTGGGATGCACACGGATGACAGA
97209	GRAF	CAGTACTGCAAGAAAAGAAGTC
97210	PRKACB	GGCTGTAGATCAGAGGTTC
97211	TSSC4	TGCCATCCTGCTGCCTTCCCAGTGGGG
97212	T	CTGTCCCAGGTGGCTTACAGA
97213	MAGEB3	TTGTTTCTGTTCTAAATGGATAATTTG
97214	CDR2	CTAGGAGCCTCACAGCGCAGATCAGG
97215	PIGR	GCTGGGACTACAGATGTGGG
97216	AMPD2	CAGTTGCTGCAAAGTCCTGGATC
97217	EEF1A1	TTTTTAAAATCAGTACTTTTTA
97218	GATA4	CGAGGGAGAGAGAGGACACCGAAGCCGG
97219	VPS41	TCCCATAAATGGGAACAAATA
97220	MAP1B	GAGAGTGAGAGAGAGTGAGAGCACA
97221	CACNB1	TCCTCCAGGGGGCGCTGTCTCCCTCCT
97222	ELK3	CGGCTCGGCCTGACTGCTCCA
97223	COL5A3	AGTCATTCCTTCTCCTTTCCA
97224	PXF	AGCCTAGCCAGGGCTTACTCCAG
97225	DPYSL3	TCTCCAATGTTACGCTCGCTTGCC
97226	KCNJ16	CAGTGTCCCGTGAAATACATTTTGTT
97227	NUMB	TGCTCAGGCTGGGGAACAGAGAGGCA
97228	ALDH8A1	TTCAGCCTGGGGGATACAGT
97229	LANCL1	ACTCTACTGTGCCTATGCTTTTA
97230	GNG5	AAAGGTTTCCCAAACCACT
97231	ITGAL	CTCACATCTTTCACACTTCC
97232	MYO10	AGCCAAAACAAACACAG
97233	APOL1	GCTCACTGCAAGCTCTGCCTC
97233	FUT1	GCTCACTGCAAGCTCTGCCTC
97234	HMG20A	CCTCCTCTCTCCTCTGTGCTCA
97235	BAP1	CTATGCTTTCTCTCCTAGGAG

97236	PPP1R8	TGAGGAGGGAAATCTGGACA
97237	SLC21A2	CCTCATTTGCCTTCCCTACCT
97238	FMR2	TGACTATTCAGAAACAATAATCCA
97239	IL24	GAAGAATTGAGGCTGCTTGGGAG
97240	IL21R	TCTTAGCAACATTTTCTTTTTCTT
97241	ERBB2IP	GAGAATTGCTGTGGAGAGTTA
97242	OTP	ACAATCAGCTCTTTCTGCATGTGCT
97243	RXRA	GGTGGGGCATCACCACCTCACTG
97244	CALM3	TCTCCTCCATTTTGGT
97245	F2RL3	GGACCAGCCTGGGCAACATAGG
97246	FLNA	TGTCACTGCAGCTGCCCCTGCCCT
97247	NEDD4L	TGCCGTTTTTACCCTGCCCTGG
97248	RAX	CTCCAAAGCGCCCTCCCGCCTC
97249	SLC12A7	GGTTAGGTTGCATTTCTACCCCAT
97250	HDAC4	CTCTTCTGGCCTCCTTGGCCTCAT
97251	ITGB4	GGGAGGAAGAGGATGGCAGGGCCACGC
97252	AP1S1	GAGGCTGCAGGATGATGCGGT
97253	SLC6A8	AGAAGCAGCAGTGGCAGCTTGGGAAAT
97254	MC1R	CCAGGAGAAGGGGCTTTGTG
97255	ZNF146	GCTGGAGAGAAACTAGTGA
97256	CBFA2T3	CCAGGGAAGACCCTGACCGTGTAC
97257	GABRA5	TGCCCAGTATCATACGTTGATAGTTTAC
97258	BMPR1B	CATGCCTTGTTGATAAAGGTTCAGACT
97259	CIAS1	GTCGCCTAGGCTGGAGTGCAGT
97260	PIM1	CAGATCCTCTCTGGGGCTGTGT
97261	PTPRO	AGGGAAAGACATTCAGACCCA
97262	ADAM28	CTTAGAAGCTTCGAA
97263	HYAL1	CCACCTCCTCCAGCCTAGGTTGTCCT
97264	PTP4A2	GGCTGGGTTTAGTGTACTGATCTAGAA
97265	NESH	TGGGTCTCACGCAGAGGAA
97266	RFX1	CACTGCTCCAGCCTCAGCCAGGGCA
97267	ABCG1	TCATACATAGACAGCACTTGT
97268	CAPN2	CCAAACAACAGTCCAAGATTACCATTT
97269	UCHL1	TGCAGACACGCCTTCCCCTCA
97270	GCS1	CTCTTGTGACGCGGACCTCAGTGCC
97271	FSTL1	GTCTGGATCCCAGCATCTTCTC
97272	OGDH	CCCTCATTTATCACTCTGACCT
97273	MGAT1	AGCCCTTCTCTCCTTGCAG
97274	HDAC4	TTTTCAGAAAGTGAGAGGAGGGA
97275	LNK	AGAAGTTAAACATCTGGGA
97276	BDNF	AAGTGGTGGGCGATCCACTGAG
97277	SIAT1	AGAGCCACAAAACGTGATTCCT
97278	BAZ2A	CCCTACAGCAGTTCAGGCTGT
97279	CHRNE	CTCCCTCCCTCCACCGGGGA
97280	FANCE	GACAAACTTTCCGATAGGGCTCAGTAGGA
97281	MKKS	GGCTTCTTGTAGCTGGGATA
97282	INHBC	ATCCCTGTTCCCTCTCTGTCT
97283	RAD54B	TGTGGAGCTATTCTTGCTGAT
97284	NEU3	CTCTCTGGACCTCAGGTT
97285	PRND	GCAGGATGTGCCTGTGGCAT

97286	TTC3	ATTCCTGATATGCCTATATTTTTC
97287	ALDH3A2	GAAGTAAGAGGCCTGTGGAAT
97288	TFPI2	GTCTACCATTTTTAATTTATGGTTCA
97289	PTGS2	TGCTGTTGCTGTTAAGTTTGGAA
97290	SH3BP2	CAGGCTGGAGTGCAATGCCGTGAT
97291	SEDL	GGTTTCAAACTCCTGACCTCAG
97291	VHL	GGTTTCAAACTCCTGACCTCAG
97292	ZNF207	CAAGGTCATGTGACTTTTCTGTA
97293	GALNT3	TGGCTCAGCTTCTAATCCCAG
97294	KCNA5	ATTTTTAAAAAGTACCACATTCCATG
97295	TM6SF2	GTCCTGGGTGCCTCCTACTAGGGCT
97296	SLC4A1AP	GTCCCCGTTCTGCACAGCATCCC
97297	MAML1	TGCAGTTGTGCACAGATGTCTTT
97298	CUTL1	CAGGTTCTGGAATAACTCTTACAGCTT
97299	ELA1	AGAAGGCAGTGGTCTACTCCA
97300	UBE2L3	CTGCCAACGTAGCTCTGCCTGCCTGTC
97301	CTH	AATTTTGCTCTATGTTTGCC
97302	TCTA	CACCAGTAATCCCAGCTACTCGG
97303	CACNA2D2	TGGAAACATGGCGGTGCCGGCTCGGAC
97304	DAZL	CACACTCAAACTTTGTGTATAA
97305	OGG1	GGGAAAGGCGAGCAGCTGGCAGAGAGC
97306	MAP3K7IP2	AGCTGAGAAGTTGTAATAGAC
97307	GRIK3	TCTGGCAGAGTTGAAGACAGA
97308	SOX11	AATTTTAATAAATCAGCTGGAAC
97309	CTNNB1	GTAAACTTTTTGTTCTGGTC
97310	CD68	TGCCAGGATTAAAAGTCCATG
97311	B3GAT1	CACCTTGCAGGACGTTTTCCCCAACC
97312	GALNT3	CAACATAGCAAAATCTCATCTC
97313	HEXA	CAGACACCTGCCCTAATCCTCAGCCT
97314	SSPN	CAGGAGGTGGGGGAAGAGCTGAATCT
97315	CLNS1A	ACTCCCTCAGGGCCTGTGT
97316	NT5C3	TGTTCATCCGTTCATCTTGCTGAGAGACT
97317	GNE	ATGCAACCTCTGCCCCCCGGG
97318	RIMS1	ATAGCAACCTATTACTAAAGATATT
97319	ETV3	CAAACCACAGATAGTACCAAACTCCA
97320	DLGAP2	TGAGCACGGGCCGCTCCGC
97321	RNASE2	CAGCTGGATCAGTTCTCACAGGAG
97321	RNASE3	CAGCTGGATCAGTTCTCACAGGAG
97322	SCRT1	CTTCCCAAGCCTTCTAGCGCAGGGCCT
97323	DUOX1	CCTTCTCTGATTTCCCACCTCCC
97324	GUSB	GTCAGGGCGACTTCCACAGCAGC
97325	RAB36	GCCTTTCTGGCCCACCTGGACA
97326	PYCS	AGCAGGAGATGCAAGTTTC
97327	PSEN1	CACCTTGCACTATTGGACTTT
97328	GRIK2	CTTCTGAGTGAATGTTAACA
97329	PAK4	GACCCTACTACTGAACTCCAG
97330	GSTM1	CCCAAGACTTCATTGTCCCTC
97330	GSTM2	CCCAAGACTTCATTGTCCCTC
97331	PRKY	TGGGGTGCCCGGGTTCCTCTCGTTTTT
97332	NELL2	TTGTGGGCAGCTAAATGCAGCT

97333	KCNK2	TCTGGTAACAATGTAGCTTTGA
97334	MAPK4	TCAGGAAACACAGGAATTAGTA
97335	HMGCS2	CCTGTAGAGTGAGGAGCCATCTCTAGCG
97336	RBM8A	GTTATAGAAATGCCTTT
97337	ASH1	TCCTGCTCTCTGGGTATAGACA
97338	SLA2	TCCCTAGCACACTGGCCTTGCCA
97339	PCDH8	GCGTCCTCAGAGCCCGCTGGAGGCTCG
97340	TNFRSF1A	GCTGGAGCTGTGGACTTTTG
97341	SEPN1	CACCTCCCAGGTTCAAGCAAT
97342	PAG	TGGCTGCTGCTTTCTGCCCA
97343	FRK	CGGTAAGTCTCTCCAGGTAG
97344	SYP	CCTCCACTCCTCCCAACTCT
97345	LPIN2	GACCAAAACACTGCACACAG
97346	TACSTD2	ACAGTCGCGAGCCACACTTT
97347	CBS	ATGACAGATTCTGTTGTCACGT
97348	ATP11B	ATGTAAGGATATTAAGTTATTAAGCTA
97349	OLR1	TCCACCCACTCTTCACAGGCT
97350	ADRA2B	GGTCTCCAAGCCCCAAATGAG
97351	XPO1	GGAAGGAAGGAGCAGTTGG
97352	KCNAB2	CCGTTCCCTCCTAGTCTCTG
97353	PCDH1	CCGTGCTGCTCCTGGACTGGCC
97354	ARF3	AGCCTGTCATCTGCCCCTTCCGTGTTG
97355	MKL1	GGTGAAGCCTGGCCAGG
97356	MAPRE1	TGGAACCTTTGGAACCTGCTG
97357	GTF2IRD1	GGACCTCTTAATTACTAACCTCA
97358	HTR1D	CCAGGGCATTGCCCACCTGGGTG
97359	DAAM2	AGCCTCTCCCTACTCCCATCCCAT
97360	SMARCD1	TGCTTGGAATGGATTGGGCCT
97361	ADCY1	TGGAAAGATTCGAAGTGTCACAGA
97362	ITPR3	TAAAAAGACTTGAAAGTTCACTGGG
97363	FLG	GCTAGCACATCTTTCTCTA
97364	CTF1	ACCCTCCTCGTCTGCATGGTAA
97365	GYG2	GCCCTCGGGGCCTCCAGCGCC
97366	PBX3	GTTGCACTTGCAACTTTTAAAAA
97367	CTF1	CTAAGTGCTGGGATTGCAGGC
97368	NCOA6IP	TACCGCCCAGGCTGGAGTGCAG
97369	F2RL2	CCAAGTAGCTGGGATTACACCA
97370	SLC17A5	ATCTACTCTCACATGGATCACAG
97371	ATP11A	GGATCTGTCCAGCGCTGCTCTG
97372	CDH1	AGCTCACTGTAACCTCAAACTC
97373	GPC4	CTCTTATCAGTAAAACAAAGGACT
97374	EXTL1	GCTCCAGCCACAGGGGCCACAGCCCA
97375	PHF1	CTCGATGCTGCCTCATCTTCCTCA
97376	AGL	CAAATCTCCCTTTCTCTTCA
97377	ANGPT1	CAGGTATTATACCATTTTTCTATTCT
97378	GRB7	TCCTCTGCTTCTTTGCC
97379	LTBP2	AGGCTACATCTGCCCTAGG
97380	TSHR	ACTACTCACAATGGTAGGGGAA
97381	RUNX1	ACCATAAAATGTCAGC
97382	TNFSF15	GGTTTAGCTATGAAATTTGGG

97383	TCF20	GCGTTTTAGCCAGTCTGGACAGAGCT
97384	GJB3	TTTTTTGACACTGGGAACTGGG
97385	HOXA6	ACTTTTCTCCCCGCCTGCTCC
97386	RRM2B	CACTGGTTTGTTATTTGGTATTCTATC
97387	GHR	TATTTCACAACAGCCTGACAA
97388	AQP1	CCCAGGAGGTGCAGTGGAGGG
97389	OXCT	GGGCTAGAAACCTAACTGATTCTTCT
97390	COL17A1	TGATGCTGGGGACACAGCAT
97391	POU5F1	AGGAATGGGGGACAGGGGGAGG
97392	SIRPB2	CTCTACTGCTGGGACTTACAGAAGTG
97393	PARK2	AAATGATTTCAAAATGATATTCA
97394	GFER	GGAGGGGTGGGGAGGAAGCC
97395	DFFB	CCCAGGCTGGAGTGTAGTGG
97396	RPH3AL	GGGGGTTTCCCACATGCAGTGTCA
97397	APPBP2	CTGCAACCTCCGCCTCCCGGGT
97397	GRAF	CTGCAACCTCCGCCTCCCGGGT
97398	CORO1C	GGAAAGGGAGGCACTGCCATT
97399	H1F0	AGCAAATTCTCTTGTTAAACCGGAGT
97400	CR1	GCTCTGTCTCCCAGGCTGGAGTGCAGT
97400	XRCC2	GCTCTGTCTCCCAGGCTGGAGTGCAGT
97401	PPP2R5C	CACTGGCAATGCTTCTGTCCTCGTGTCTT
97402	SRGAP1	AAACTCAAAAGGGATAGCTGAG
97403	DMD	GTCTAGAATGGATTTTTCCCG
97404	SCNN1A	ACTGCCTCTGAACACTCTGGTTTCCCC
97405	ABCF1	AACAAGAGGTGACCACCTT
97406	CRSP6	GAACTCGGCTCAAGTGATC
97407	DGKB	CTTATTTCTCAGCTTTTCTATGCCTCC
97408	CD79B	GGACAACAGGGCAGCAACTTGGAGGG
97409	PRPS2	AATGACCTCTTCTAAAACATAACTG
97410	MASP1	CCCTCCAGAGCTCCAAGATATAAGCC
97411	AGTR1	GCGGGTTTGATATTTGACAAATTGATC
97412	DHFR	ACCTGCTACAGTGAGCTGCCATT
97413	DOCK1	TGGGGTGGAAACAGCATTAA
97414	CLOCK	TCCTCTGCTTTGCT
97415	DBY	AACTTTAGACAACTTACTACTTTG
97416	GPRC5B	ATTTCAGGGGGGTCAGGAGAG
97417	UPF3A	TAGAAAAATATGTGTAAAATAGGGA
97418	BTEB1	CTTAACTGTTTGGGAGCTGGA
97419	SALL2	CATAGATTCTCTGCAGCTTTCTCAAGG
97420	ZNF16	TCTCACTGCCACTGCTCTTGCCTCT
97421	IL2RB	GAGCAGGTGCTTGTGGACAAGGCTCCA
97422	WNT5A	TGGGATTATTCCAAAAGTTT
97423	IL19	TCAACTCCTGACCTCAAGCAAT
97424	ARHGAP6	GGCGCTGGCAGGCTGGAGCTGGGA
97425	OAS3	AGCCTGTTTCTCTCTGCCCTC
97426	RNF3	GCCTTTTAAAACAAAAGCA
97427	MTR	GATTACAGGCGTGAGCCACCGA
97428	PDYN	GATCACATGCCCCTCTTAGAAG
97429	CASP10	TTCATTTGATATGTGAATGCTCATAAA
97430	SLC29A2	TCCTTCCGGAGCTGAGATCCAGCC

97431	FZD6	TAAAATCAAGATATTTCTTTGCTGAAG
97432	FGL1	GTGATTTGAAAAATACTCATTCTG
97433	EIF2C1	TCCAGCCCCTAGTAATACT
97434	SFRP1	GCAGGAGGCTCAGGTGATCTGTTTGA
97435	EDNRB	GTCATCTGTAAATACTTACCTACAT
97436	SFRP1	TAACTCTTGAAGACTCCAGT
97437	GCNT2	AATGGAGATATGCATTCAAGAG
97438	AK3	GCTTCCAAACTCCTGCGCGCGG
97439	PYGO2	CATTATACTCCGTGTGTTCT
97440	USP6	CTCAGCGCTAACATCAGCAGCAGC
97441	MYO7A	AGGGCATAAAGCATGTTTCATTCTCTG
97442	LDLR	TGGCTAACAAGGTGAAACCCCGTCTCT
97442	RAB3B	TGGCTAACAAGGTGAAACCCCGTCTCT
97443	HSPA5	GCCCGGCACTCCAGCCTGGCGACAA
97444	SHANK2	CCCACCCCAGCAAGGCCCTGCCA
97445	SGT	GCTCACTGCCAGCTGCGGCCTGGGCA
97446	RPL22	CTTCCCTTGGTTCGCCA
97447	BCL11A	CATTCCAGCATCTTACCTTCAT
97448	ARNT2	AAGTCAAACATTGCTCAGTAAAATGC
97449	FGF2	TAATTAGCTCACATGCTCTGCTCTC
97450	COL15A1	AGATCAAAGACAAAATCTGATC
97451	MEIS2	CAGTTAGGCAGGAGCCGGG
97452	XRCC3	TGGCGGCTGCACAACAGCCCT
97453	QDPR	ATGTTCTCAGAAGGGGGTGGATTTAAA
97454	EYA4	ATCTAATCTCAGCAGCACA
97455	SCA1	CATCAAGTAATAAATATACAGA
97456	ZNF267	GGCATAACCTTTAACTATTTTC
97457	ABCB4	GCAAAGCAGAGATTATCAGTGA
97458	DPYSL2	CATTCTGAGACTTCTTTCTTCCTTCC
97459	CORO1C	TCCTTTGTATTTTGCTACTTTGCAGT
97460	KCNK10	GTGGGGAGGGGGTAAGGGAGCCAGC
97461	UNC119	TCTGCCACCATTCCCATATCA
97462	SMAC	GGCCTCTTGTTCCTTCCTTTCTT
97463	BCL2	CCTGTGCTGCTATCCTGCC
97464	SLC35A3	AAGGAATATTAGAGGAAACTTGA
97465	GRINL1A	TGTTTTCTTTAGGAGTCTACC
97466	ID4	GGAGGAAAGGAAAAAACATCGGCCAACC
97467	PEX14	GGCCGCCAGCCCCAGCCCCAGCCCCA
97468	BCL2	AACAAAAGAAGTGACATCTTCA
97469	ZNF83	CATCAGAGAATCCATACTAAAGAG
97470	ST5	CCTGCCTGCCTGCCTGCCTGAG
97471	PCTK1	ATGGGAAAGCATGCCACAG
97472	GRIN2B	GCCCAAAAATGCTTGC
97473	PSCD4	CTTCTCTCTGGACTTCGGTGTC
97474	SH3BP2	AACCCGAAGCCCAGCTGGGGC
97475	ADAM8	AGCTTTTATTCTTTAATAATGA
97476	DRPLA	TTGGACCTTGGAGCACCCCCAC
97477	NEURL	CAGCCCAGTCCCAGCTGAG
97478	STXBP1	GAAGCTCATGTGCAATTGGTGCA
97479	SLC22A7	TTCCCTCTCTGGGCCTCAGTC

97480	LPP	ATTTACACCACACTTTCA
97481	MKI67	AAGGAGTCTGGGCCAAG
97482	MID2	GGAGAGTATATAATTCACTGGCTCTCT
97483	RAMP3	AGGCTGGAGTGGGGGTGTGTTATAGC
97484	PTGFR	CTCCAGGATCCTTCTCCTTG
97485	TM4SF2	GGAATAAGAGACCTGTTTTAAAAAGGA
97486	C7	GCTCGTCTCCAACTCCTGACCTCA
97487	ADAR	CTGTGATGATGGCTGCAGTCC
97488	EEF1A2	GGAAGTTCTTCAAGAGGAAAGGC
97489	SMARCC1	TCCAATGCATTTGGCTCCAGAAA
97490	COL6A2	GGCAGGACTGGATGGAGCTGTTC
97491	BECN1	CACTGGATTTTTATCTCTCTCA
97492	VENTX2	GCCACTGCACCCGGCCCTGAGAATAT
97493	TNFRSF10B	GGTACTGGAAGAAACTCTCCCAT
97494	CABC1	TTCTAGAGTGAGATTTGTGT
97495	BCL11B	ACTCTTTCCTCCTTGCCA
97496	GLRA2	TCACTTTGACAGAGGAGAAGATTGAGG
97497	ARSD	AAAATTTAAAAAATTAGCCATGGTGG
97498	PTGIS	AGCTGGAGGGAGATAAAAG
97499	SORCS3	TTACCTTTTGTTTACCAAGGGCCC
97500	PLAUR	GCACTCTCCTCTGGACC
97501	SOX11	CGGGGAGGGGCGGATGGAGGGGC
97502	PMM2	AGCCTGCTGCTTCTCTGTC
97503	BCL9	AGGAGTACTTACTATTGGTCA
97504	CASP3	AGCCTGTTCCATGAAGGCAGAG
97505	PRX	CCTGTCTCTCTGGCAGGAGTGCCTGT
97506	CAMK2A	CTTGGCAGAGACCTTGCTGCCCAG
97507	STX1A	GCAGTCTCATCCTGCCCTTGCCATC
97508	KLK4	CCCAGGAGTCCAGCCCCTCCTCC
97509	KRTHA8	CTTTTCTGTGGCAACACAGCCTCTTA
97510	TNFRSF10B	TGTCTCCCAGGCTGGAGTGCAATG
97511	SEPN1	TGTCACCCAGGCTGGAGTGCTATG
97512	THY1	ACATGGTCTGTCCTGACAGCACTCCT
97513	TAGLN2	GTCTGGGGCTTGAGGAAGATGAGTTTGTTG
97514	FUT6	GTGAGGTGGAGCTTGCAGTGA
97515	FBXL11	CCTTTCTGGCCCTCTTCCTGTAGC
97516	ATP11A	GCATGATTCACACCCAGTCCCT
97517	HOXD10	CTGGGAAAGCGGAAACAAAACCT
97518	COX15	TCTCTCGCTTGCTCTCTCTCA
97519	LECT2	AGTCATCTTAAAAACCTGGATG
97520	MAP3K10	CTGGGGGGAGGGTGGGCAGGGATAC
97521	CASP7	GGTACTTCCTTCAAAGCTGA
97522	PYGM	TCCTTGGCTGGAGGCAGTGCTGAGGC
97523	CCNF	CTTGTCTCCCCGGCTGGAGTGCAGT
97524	RANBP17	TCTGAAGTGGTTCAGTCTAG
97525	TDGF1	TTCATGACCAGTAAAGGCTGCTG
97526	ARCN1	GCATGAGCCACCATGCCCAGCT
97526	DCX	GCATGAGCCACCATGCCCAGCT
97527	DNASE1L1	GCATGAGCCACCACGCCCAGCC
97527	PDE6B	GCATGAGCCACCACGCCCAGCC

97528	TAT	GCGTGAGCCACCATGCCCGGCT
97529	GCNT2	CTTGCAGAATGGTCACCTCACC
97530	ACE	CACTAGGCACTGTGGCTCTGCATGACA
97531	ATP2B4	TCAGTTCCCCCATCCTCTTCCTCC
97532	KL	GCTTCTCCCTGGACTGGGCCC
97533	ACK1	GTGCCTGGAAATAGCCTGAG
97534	G2A	TGGGGCCAATGACACCTACCTCA
97535	PYGO2	GGAGTGTTTTTGCTGGATCTGCTCCCTCTCG
97536	C14orf2	TACACTTGTATAAGTACCGTTTACTT
97537	RASA1	TTTGAACTTCTGACTACTTGTT
97538	SLC13A3	TGGCCCCCATAGGCCTCTGTGGCTGCAA
97539	C18orf1	GGATTAAAAAAGTCAGCCCT
97540	DIO3	GGGAAAGAGAGGTGGGGGGAGAGC
97541	DAXX	ACTGCCTCCCCTTCTCCCTGCCTCCAG
97542	LILRB2	GCCACACGCAGCTCAGCCTGGG
97543	HPS4	CCCGCAGGATCGCCGCTTCCTCCA
97544	MECP2	TTATTTGCACTATTGAGTCTTCATGTT
97545	ZNF189	GGAGGAAGATATTGTTCTTTTG
97546	IGSF4	GTGGCCTGCATGTACTGTATA
97547	COL19A1	ATTTATTCAACTACTAAAAGTCTCA
97548	RAB26	CCTTGTCCCTTCCTCCTCCCAGCA
97549	LOX	AAGGGGAAAGGGAAGGGTGCCACGT
97550	PCDHB9	AAATTGCTGGGATTTACAGGCAT
97551	ESRRG	CTGCCTGCCTTCTTTCTTTTCTTT
97552	LOXL2	GGCCACACCACATCTTCCATGGGAC
97553	WHSC1	ACAGTAGAGAGAACATGGAGC
97554	CUL3	ATGTGGGAAAATTAAAATTCTCA
97555	C2	ACTGCCTCGCTGCCCCACCTCCC
97556	NR1D1	TTGCAACCTCTCTTCCTCTGGGA
97557	ZNF289	AGGGAAGCAGAGGAT
97558	MPP2	CTGCTTTGGGACCACATGGTCAGTAGGCAC
97559	ST7	ACTGACACAAGAATGGTCT
97560	OSR1	CCTGCTCTCCTGCACTGACC
97561	FUT8	ACCACTGAATTCACTCCAGTCAACAGATTC
97562	IL6R	CAGCCGCCATGCTCCTGGCC
97563	SIGLEC8	TTCAAACCCAGACATGCTGCTGCTG
97564	PTGIS	CTGCATTCACAGCGCCTCCTGGACCTGA
97565	SLC2A1	AGTTGGGAGCACTGGAGTGCAG
97566	USH2A	AGTATGTGCCAGGACATGTTTCTTG
97567	MBD3	GGGCAGGTTCCAAGCCACAGAC
97568	ACAT2	TTATAAATAAAAGGAACATCAGATC
97569	CAPN10	ATCCCAGAGCTTCCCAGGATCC
97570	RAD51L3	TCGAGGGAGCAGGAGCATCAGGC
97571	DBN1	AGGCCTCCTCTCCCTGCTGGC
97572	RAF1	AGAAGCCAGCAGGCACCACTTTTCT
97573	MYCBP	CAGCTGGAGAGATCTGTGTGACACAAG
97574	PRSS16	CTCTCCTCTGCTGTGTCCTCAA
97575	CPS1	CTCCAGGCTGGAGTGCAGTG
97576	DFFB	CACTGCGCCCAGCCTGAATCA
97577	TEM7	GGACTGAGGGCACCCAGCCTTCT

97578	P2RX4	GTCTTGGCAAAATAGTGGAGAA
97579	PCDH11X	AGCGTGAACCCGGGAGGCGGAG
97580	MFAP3	GGCTTGGGGTCGGGAGTGCAGGAGGCGA
97581	ADRA2A	GGAGAGATGCCTTCCAGGCAG
97582	GPR92	AAGTGATGCAGAGAGCCCA
97583	DVL3	TTCTGTCTCAAAAGCAAACTAACA
97584	TM7SF3	TGTCACTGCACTCCAGCTTGGG
97585	CDH13	GGAGGTGAGGAGCAGAGCAGGCAATTTC
97586	LRRC2	CTGAGGCAAGCAGGTTGTTTGA
97587	JAM3	TCTGCTGATCGGTGTTGCAGTG
97588	MMP25	GAGCCCGGGGAGGGGCGGGGAG
97589	ABR	ACTCACAGGTGACCTGCTA
97590	USP14	GACCAGCCTGGCCACATGGTG
97591	OPHN1	TCTTCCCTGAACTTCCTGCTTCCTCA
97592	CCNC	TGATTAGTATAATATTTCTTAATT
97593	CALCRL	TTGATGAATTCAAACAAATGGCT
97594	WHN	CCTGGGGTGCTGCCTCTCACACATTTCTGCC
97595	GPX3	CCCACCCCACAGTTCTCCCT
97596	PSME3	ATACAGACATGCACACACAGAC
97597	EFNB2	GCAATTAGGTAGCACAGCACTTTGG
97598	RHD	GGGATTACAGGCACCCACCACA
97599	C8orf1	ATACTTTGGTGACAACTTGGG
97600	SRGAP2	AACACAAACAAAAACAGACTCCCA
97601	SPG4	TTCTGGTCTTCTTTACCAATATAATCAT
97602	SH3BP2	CTCTGGCCTGGCTGAGTTCACAGCCCA
97603	PDCL	CAGTCTCTTTATTTTTATTTAT
97604	PPM1B	GAGAGCCACACATTTAAATACAGAC
97605	UNC13	GGGGTTACCACATGGAGAGATTTTCCAT
97606	PROK1	CCCATCATGACATGGTCCCCAGGCTGG
97607	DBY	AGCCATTCCAGTCATGATGAGGTGGA
97608	KCNMB3	TGGGATGTCAGAACATCCAAGTCA
97609	HLF	TCTCTCTTGGAATTAGATGTTATATC
97610	F13A1	TCAGCACTAACCTATGAGGGTGAG
97611	MAP3K14	GCCTCAACCTCCTGGGGCAGG
97612	BCL7B	TGCCAGCTCTGCCCATGCCTG
97613	EZH1	GCAGGCAAGCATTATGCTGCTA
97614	GARP	GGCTGCTGAGCCAGGAGCTA
97615	PGF	CAGGACCCTCAGGAATTCAGTG
97616	RAP1A	AAAGTTGAACCATTATACTTT
97617	GGA3	ACAGTGCTTGTAGCTTTGA
97618	NOLA1	TGTTTCTTGAACAAGTCTTGAAGA
97619	CBFA2T1	CTCCTCTCTGCTGCCACTCATTCC
97620	CKTSF1B1	CCTGCCTCTGCTGAGTGTACC
97621	IGF1	CAGTTTTTCTCCCACTGGGTC
97622	SCAMP1	TTTTGGCTTCTGTACTGCTTA
97623	CENPA	CTCATGTGAGGCTCGCGGCACAGCGTTCTCTG
97624	TNFRSF1B	CTCCCCACCTTCAATTCCTGGGC
97625	STAT6	AAAGGGAGAAGACAGCAGAGGGGT
97626	GGT2	GGACTTTGGGGGACGGGCTTCCC
97627	GUCA2A	GCCTGCCTCCCCTCCGCAGCA

97628	CALCRL	GCACACCATTGATGAATTCAA
97629	IGFBP4	ACACTCCTATAAGGAGAGTTCAA
97630	C9orf19	CAGGCCTGTTCCTGGCAGCTG
97631	P2RY6	TGCCAGCTCTGTGCTGTGGCAAGTTACT
97632	AXL	AATCCCTCACCTTCTGAGTAC
97633	CALML3	GGGAGGCATCTTGGCCTGCAGTAAGCG
97634	IMMP2L	GGTGCTTGCTGCTGAAATAAAT
97635	B3GALT2	TGTCTGCCAAAATGCAACA
97636	IL6ST	ACTCCTTCACTTACTAATTTT
97637	EHD2	ATTGAGCACCTACTATGTGCCCAGCCC
97638	SMG1	GGAGATTGTCTTTCTGCCACA
97639	APBB2	TCCCAAAACAGCATTTTCCTGCTCCTT
97640	GNAZ	CTGTCCCAGGGCCTATGGGCAACT
97641	KCNMA1	GCCAGGTAGGAGGAAGGGCTGGG
97642	FANCC	GGACTCCTGGGACAGTCCTCCA
97643	IARS	TACAGAAGATAGAAGTGATTTAA
97644	TAL1	TATCGGGAAGATTTCTAAATAAAAGT
97645	PTER	TTTCTGCTGATCAAAGATGATCAAGCT
97646	GALNT7	TCTTAAATTTGGGAGACTCAAA
97647	CRABP1	GGCTTGCTCCTACTTTCAGGAAGG
97648	DNASE1	CTTTGCAGGCCCCACCTGTCCT
97649	PXR1	CGGCCTTTCAGGAGCTGCCTC
97650	GPR61	TCTCTCTCCTATCTGCAGCACTGG
97651	ADRBK1	TGGCTGAGAGAGTGGCATTGGCAG
97652	PCSK2	CATCCCAGCCCCAATTTTCT
97653	CSPG3	GGGTCTGTGGTATCTGACACTGT
97654	LAPTM5	GAGGTGGAGGCCACGGAGGCAGG
97655	MEIS2	CCCCAATGCATTCATA
97656	NCOA6	GTCAGAGAGTTCTTAAGCAGA
97657	CLCA3	CAGATTACCATGGAAATGGTAG
97658	ARF4L	GGCCTCCCTGCCTCTACTAGGCGCCT
97659	PRKACB	ATCAGAGGTTCTAGTTCCCTTTCCC
97660	MECP2	GCAGGGTGTCTGCCCCCTCCTGAGTT
97661	WISP1	CCTGATGGTGCTGCTCAGGCC
97662	RARG	CTCTCTGAGAGCAAACAGGAAC
97663	NRG1	TCATGGAAGAAGAGAGACCTCTACTTC
97664	DMD	GAGATTCTGTGCCTGCTTTATCTGTG
97665	RAB30	CTCATTCGCACATCCATTTC
97666	PDE5A	CGCCCTGGCCCTGGCTGGGCGGGG
97667	CPM	AAGACTTCACCATAAGGCCAGGAGCAGT
97668	SYK	CGGCGGCTGGAGAGCGAGGAGGAGCGG
97669	MST1R	TGTGGACCCTGTCTTCTGGGCACAG
97670	PCTK1	AGCTGGGGCCTCCTTCCTTCTCA
97671	KCNJ15	CATGGTAGCCAGGTGGGTGAA
97672	WHN	TGCTCTGCAGTCCTGGCC
97673	DDX26	GGAGGCGGAGGCGGGGG
97674	CRY1	AGTTATTTAAAAATATTCTTCA
97675	CALU	ACCTTTATTATTGCTATATCTTTGTG
97676	NEURL	GTGCCAGGACCTCAGGCTGG
97677	DDX11	CCTCTTCCTGTGGGCAACCACACCACTGCC

97678	PTGER2	CCTGCTGTCTTGTGATCACTTAGC
97679	JAM3	CTCACACAAGTTTTAGCCTTTTTC
97680	TERT	AGACCATCCTGGACTGTGGCC
97681	ECT2	ACTTGTAATTAGCACTTGG
97682	YWHAG	GCTCTGTGGGTCGGTCCTCTCCGG
97683	RAB4A	TTAGAGAGCACACAGGTGTTCA
97684	IFNAR1	CGGCTGAGAGGAGCTGCGCGTGC
97685	RAB18	GGATTCATGACTGTGCAGCATTTT
97686	MAP3K9	GACCTTCCTGGAAGTTGTT
97687	CLN5	CAGCGCAGTGGAAGAGGTTGCACTTC
97688	MGAT1	CCTCAGCCCATGCCCAGC
97689	SLC20A1	TTCCTTTGGCTCCTGCTGAG
97690	COL4A6	TGGGCCAGAAGTAGAGGGGGTG
97691	ZNF91	ATCACGCCACTGCACTCAAGCCT
97692	EGLN1	CCTGCGCTCCTCCACAGCCTGGGCCGGGCCG
97693	IFITM2	TCCACTTACTCCACCTTCCATTCC
97694	MTAP	AAGACTAAATGCACATTTTATGG
97695	TGFBR3	CTGTGCAGGAAGAAGCTATCTG
97696	SKIV2L	GAAGAGTGAGAAGCAGAGGGCC
97697	DLEC1	GCTACCTTCCTGTGTATGCTGA
97698	ZNF236	CACCTGGAGGAGGTGGTGCA
97699	KCNQ2	GAGAGGGACAGCTCACGAGGC
97700	POLH	CCACCGCACTCCAGCCTGGGCAACAGA
97701	TSNAX	CCACTGCACTCCAGCCTGGGTAACAGA
97702	DGCR2	TAACATTTCTGAGGTTTGGAGATT
97703	SACM1L	TCCACACATCTTTGGACTTTTC
97704	TK1	GCTCCCTTCCTGCCACTGCCGCC
97705	SERPINB8	GTGACCTAGTTGGTGCAGTG
97706	RGS3	CTTCGAGCATGGCTTTTGGCT
97707	KCNJ10	GAAAGAAGCCAGGGTTTGCCACTGTGA
97708	NXF5	TGGGTATGAACTTCTGCCTTC
97709	ARF4L	ACTATCTCCCCTTCCTCTGTCC
97710	DMN	TGTTCCCTACAATGGGAAATGT
97711	USH3A	CACCTGTAATTCCAGCACTTCA
97712	XRCC3	TGCTGAGCTGGCCCTTGGGGA
97713	MGP	TAAACTTCTGGTGTGATA
97714	C7	AAATGCTGGGATTACAGACAT
97715	HLCS	GCGGGGGTTTCACCATGCC
97716	LIMK1	GCTCCCTGCCCCTCCTCATGCC
97717	TCF7	CGCTATTGCACTCCAGTCTGGG
97718	HYAL1	CACAGCCTGGGGGAGAGTGCGGC
97719	ALDH1B1	TGTGTGCCAGTTGCTGGCTGT
97720	ADAMTS13	CCACTCCTCGGGCTGGCTCTC
97721	DCX	GTCTCCAAAAGTCTAGTATG
97722	CRYZL1	ATTGTCCTAGATGCTGGAGTGAGA
97723	DGKI	AGCCCAGGCTGCTGGGCTGT
97724	PLAUR	TCAAAGTTTTTATCCT
97725	NESG1	CAAGTCCCCAGCCCAGGG
97726	IL1A	ACAGATGGGCAAATTAAGGCAT
97727	MAT1A	ATCTCTACCTTCTCCCCAGCTCCCA

97728	F8	GCATGTTTCAGGATCAGATCAATA
97729	GLUL	GAAAGCTCCGGTGCTTGGACC
97730	ATSV	CAGACCTAGGGCCCAGCACTT
97731	COL1A1	GTCTCCCCAGAAGACACAGGAAA
97732	HOXB7	CCCCAAAACCTACCACTCG
97733	SHANK2	CTTGTTCTACATTCCACAGTCTT
97734	LAMP2	GAGCTACAGCGAGCTGCATTA
97735	IDH3A	TCACATCAAAAAGAGTGAATGTGGTA
97736	PDL2	GCTACTGCATGTTGATTGTTTT
97737	TCF12	AGGAAGGGAAAAGTCTTTTG
97738	SRGAP2	TTTCTGACTCCTGCCTGTTTTAG
97739	SLC6A4	GGAGAGAACAGGGATGCTATCTCGCT
97740	SNX9	CAGCATCAATAAAATGACACCAAAAAT
97741	CLCN4	TCCCTGCCTCGCCCCGAGGGCGTCACG
97742	ADCY6	TAGAGAGGCAGAGGAGAAGGGTTTC
97743	TSG101	CCGACTTCCTGTTGTTTGAGGCCGG
97744	LZTS1	AGCTCACTGCAGCCTCATACTCC
97745	TRIP15	GGCAGAAGTGCTTTTTTGATCAACTGG
97746	NEDD4	ACCTGCCTTATGCACCTTA
97747	SDC1	TGTAATAAACTTTAATATAA
97748	SYNGR1	CACAGCCGTAGCCTCCCCGG
97749	WHSC1	TTGGCCGGATCCAGGGGCGGT
97750	IGF1	CACCTCCTGGGTTTAAGCGAT
97751	PHLDA3	GCGGGTCGGGCTGGGCCAGCT
97752	IL1RAP	TGTATAATACATAACCACAGC
97753	KCNQ2	CCTGCATACAGGCATACACATGCACGCTT
97754	DXYS155E	GGCTGCTGAGCATCCTGCTGAGCAA
97755	LPIN2	GCTGGCTGAAGCTGCCTGTGCA
97756	SLC4A8	GCACCATGCAAAGATAACTTGCA
97757	DIA1	CCTGCCTGGCACTTACTGGTCC
97758	CISH	TGACATGCAGAGGAACTGAGA
97759	TFDP2	GCCTTTGCCAGCATCCTA
97760	F2RL3	GGGAGGCCAAGATGGAGGATTGCTTGA
97761	MEOX2	ACCTAGCTCCTGAATTCTTCCTATC
97762	ICMT	GCATATACAACTACAAATCCAAGCAG
97763	SOX11	GGGAAGCCTCGGGGCTGCGGG
97764	MFAP2	GGCCCTCGGGCTACCTGACCTGGTGCTTT
97765	ATM	CTGGGAGGTGAAGGTTGCTGTG
97766	JAM3	GAACTCATACTGTCTACACATCA
97767	SEDL	TCACTCTGTTGCCAGGCTGGAGTGC
97768	BMP1	TTCATTTCCCACCCCTGCTCC
97769	BRCA1	TCTGGGTCCTTAAAGAAACA
97770	CNN2	ACCAGCTTATACTGCTCCATCTTCCC
97771	TCFL1	TAGTTCTTACAGGTTTCGTTGTGTTT
97772	FLG	GGTAGTGCAGATTATGA
97773	PER2	TTGAGCCTTGCTGGACAAGTGGTTT
97774	SCGB2A2	TTCCTTGATCCTTGCCACCCGCGACTG
97775	LZTS1	CCTCTTTTTCCTCCTGGACACA
97776	NUP50	CAGTTTTTCTTCTCTTCTTT
97777	PFKM	GGAGCTGGAGGAGCAGGCAGT

97778	TGFB1	TGGAGGCTAAGGTGGGAGGA
97779	MYL3	ACAGCCCCAATGGCCCCCAAAAAG
97780	JMJ	AGGAAGACGGAAAAGACTGCCT
97781	GNA15	CAAGGGGTAACAGACCGCTGGAA
97782	NCOA6	TAGAAGATGATGACACAAAAA
97783	APG5L	TAGTATCCTAAGCATCTGTAAA
97784	HFE	CCTGTTGCTTTTCACCAGGAA
97785	SIGLEC7	GAGGGTTCACGACCCCTCCAGCAAAGG
97786	IFI35	CACAGCCCTTTGGGGGGTACAAACAA
97787	TIRAP	CCTCCTCCCCCTTCACCAATGCC
97788	PCDHGA1	CAATGGATTAAACTGGCATTTCA
97788	PCDHGA10	CAATGGATTAAACTGGCATTTCA
97788	PCDHGA11	CAATGGATTAAACTGGCATTTCA
97788	PCDHGA12	CAATGGATTAAACTGGCATTTCA
97788	PCDHGA2	CAATGGATTAAACTGGCATTTCA
97788	PCDHGA3	CAATGGATTAAACTGGCATTTCA
97788	PCDHGA4	CAATGGATTAAACTGGCATTTCA
97788	PCDHGA5	CAATGGATTAAACTGGCATTTCA
97788	PCDHGA6	CAATGGATTAAACTGGCATTTCA
97788	PCDHGA7	CAATGGATTAAACTGGCATTTCA
97788	PCDHGA8	CAATGGATTAAACTGGCATTTCA
97788	PCDHGA9	CAATGGATTAAACTGGCATTTCA
97788	PCDHGB1	CAATGGATTAAACTGGCATTTCA
97788	PCDHGB2	CAATGGATTAAACTGGCATTTCA
97788	PCDHGB3	CAATGGATTAAACTGGCATTTCA
97788	PCDHGB4	CAATGGATTAAACTGGCATTTCA
97788	PCDHGB5	CAATGGATTAAACTGGCATTTCA
97788	PCDHGB6	CAATGGATTAAACTGGCATTTCA
97788	PCDHGB7	CAATGGATTAAACTGGCATTTCA
97788	PCDHGC3	CAATGGATTAAACTGGCATTTCA
97788	PCDHGC4	CAATGGATTAAACTGGCATTTCA
97788	PCDHGC5	CAATGGATTAAACTGGCATTTCA
97789	STMN1	CACTGCCTATCGCTTGTCTTCTATTCA
97790	C18orf1	TGTTTTTCAACTTGCTTTAT
97791	BAT5	TCCAACATACATCCTGCATTACATGAA
97792	ZNF198	TTAGATAGTCATGCTGCTA
97793	ITGB3	CTCATGATGAGGTTTTCTTAAC
97794	HSD17B4	AGCTAGCACATGATTATCCTTCTGT
97795	GPD2	GATGACTGAAACCACTCTGAA
97796	B3GALT3	TTCAATACAAGATAAAAAGGATAGT
97797	CNTNAP2	TATTTCTTGCAATTCCCGT
97798	EDAR	TGGAAGTCAACACAGTGTGGTTT
97799	CYP4F3	CCACTGCGCTCCAGCCTGGGGGAGGGG
97800	THBS1	GCAGTGGACTCAAAAGCATTTTCAGGCA
97801	P4HB	ACATGGTCACTCAGTACCGCCTGCAG
97802	TRIM9	AGAGCCGCTGTTCCTCTCCTGCCTTT
97803	C7	TACCTTCTCTGGGCCTTGGTT
97804	ABCC3	CAAGTGGTGAATGACACGCC
97805	FUT7	AAACCAGCTTGTTCTGGGCTCAG
97806	FUT5	CTGCCTGGGGTCTCACCTGCCT

97807	MKI67	ACCAGTACTCTGTAAAGCATCATCAT
97808	B3GALT3	TGCATATCAGTAATCTCTTGGACTTTG
97809	XT3	TTTCTGCTTTGAGATGTTGTTAGC
97810	TNS	GCTCCTGGGCCTGCTGCCTGC
97811	ISL1	ATCCTCTCTGTGGGCTGTTC
97812	PTGFRN	AGGGATATAAATTTCCAGGAATGTGTA
97813	KLHL3	CAGTCACTGGTGTTTCTTGAA
97814	P2RX7	GCTGCGGCACTGTGCCTACAGGTG
97815	DNTT	AGCAGCCTCTTCCCATGGATCCA
97816	VHL	GGAATTGGAGGCGGCAGTGAG
97817	CHIC2	GTTATTGTGCTCTTTTCTGTTA
97818	GPR65	TTCGATGTTCAAAACAAACTACA
97819	CDH5	AGGCACGATCTGTTCCTCCTGGG
97820	SOX12	GGCCCTTCCTGTCACCCAGG
97821	CRTAP	TCTTGCCCAGGCTGGAGTGCAAT
97822	MT1L	GTGCAGCTGCTGTGCC
97823	PCDH11X	TTTTCACATTTTCTCTCTGC
97823	PCDH11Y	TTTTCACATTTTCTCTCTGC
97824	PHGDH	CTCACTGGTCCCTGCCTCTGGGGCTTT
97825	PRDM2	GGGGGAAGAAGAAGAGATTTCGGAGGCCATC
97826	MAPK4	GCTCATTTGGAGGACAGCAGTG
97827	POLR2G	GTCCAGTCTGGCTGCTGTTGTGGAGGCA
97828	SLC13A1	ACTGTGTATACAGACAGAAAAATCAC
97829	CHGA	CTCTGCTGTCCCCTTGGCAGGTCC
97830	LZTFL1	GATGGCCATCACAATGCAGCTTTGG
97831	BRCA1	ACTCATGCCAGCTCATTACAGC
97832	TMEM1	GGCGGTGGGGCATGGGAGGAAGGA
97833	BIN3	GCTGGGGACAGAGGTGGCCC
97834	HMGA2	AGTAATACGTTTTGACATAAGATG
97835	AXL	TTTATTCTTCTAGAGTTCAGAGTCCTT
97836	BCL9	AGAGACTTTAGTCTTTGGG
97837	CENPB	TCTGTCCACTCCCCTTTTGTGGGGGTGA
97838	KCNJ10	GCCCAAGAAACATAAACATATA
97839	NAPB	AATAGCCAGGGTCTGTAGGCATCAC
97840	B4GALT6	TTAGTACTACTAGTATCTGCCTTATT
97841	PPEF2	AGGCTGGAGTGCATTGGCGCGAT
97842	RANBP3	GAAGCTGCCGATGAGGTGTGTGC
97843	IL5RA	TCCAGTTCAGCTCCTGCACAGTTGCTC
97844	EIF2B1	ATCATACATCTTGGAGAACCTTTCT
97845	ENTPD1	TTTTCCTTGGCCCCTCCAGTTTTGGTG
97846	ANKH	CTGAGGCAGGAGAATTTGCTTGA
97847	SERPINE2	AATTTAAAAAACTCCTGTCTTGC
97848	LILRB4	TACAGGACCTGCAGCTTTGTTACAT
97849	UBE2H	ACCCTTTAGATCTTGATTTCTTG
97850	HSPA6	AGCGGCAGCAGCCTCCGTGGCCTCC
97851	TEGT	AACCAAGCAGTTCCTCATTCACA
97852	CNTNAP2	CTCTCCTCACCACATTATACC
97853	SP100	CTGTTTTGGTTTTGCTCACAAAAGTC
97854	NRIP1	CCATCTGCATCTTAACATGCTCTCTA
97855	DDX11	GATACGGGAAGCGTTTGAAGGC

97856	OPHN1	ATGGAAATGCAAACTGGGCTG
97857	NOTCH2	GATTAAGTTTGTTCATTCTCTG
97858	PRKAR2A	GTTCAACCCACACCTCCA
97859	TMPRSS4	CGCAGCCCAGAGGCGCCCAGAGGAAG
97860	DAB2	GTTTTGCTCCTGGGTTCAAGTAGTA
97861	ZFP36L1	CCACAGTTTTAATATATTATTCTT
97862	TNFRSF1B	CCGGGAAGCGGAGGTTGCAGGGAGCCG
97863	GAB2	GAGGCTGAGGCCATGGCAGGACA
97864	CD59	GGATATCTTGGCTTTGCCACA
97865	GAS1	TCCCCTGAAGCTCCTCTCCGG
97866	GARP	CTGTGCACACCTGCTCTCTCCTCTCTC
97867	FCMD	CAGTTGGGTTCTGTGGAGTGTCCAGAG
97868	ATP5J	CTTACCCTCCACTTCCTCCTCCTGTTTGG
97869	RNASE6	TCTTGTTCCCGTAGAAGAAAGA
97870	ZFP36L1	ATTATTCCTCTTGCTGGTCA
97871	HIRA	GGAGACACTGGCAGGAGATGTGCTGT
97872	SURF5	CTGCCTCTGTGCGAAGCTTACGGGAG
97873	PPP2R5E	CATCACAGCGCCAGCCCTGTTTTTAG
97874	SLA2	CACGGCACCCAGCCTAGCTCTCAGAT
97875	KLHL3	CCCACTGACGGGCACTGAGCC
97876	CNN2	GAACTCCTGGCCTCAGGTGTGA
97877	SNAP25	GTCTTTGGTTCCTCATGGCTGTTA
97878	MASP1	TCTCCCATCCTCTCTCAGGAAGCTT
97879	FMOD	CTTGACAGCTCTCCCTCTGTGCTGGGC
97880	NFIA	TGTGGAATTGTTGCACATG
97881	SLC14A1	CCCAGGAGGAGGAGGCTGCAGTG
97882	MAP3K11	GGGTCAGGAACACTACACTGCACAGG
97883	DDX10	CTCTCACAGGACATGCTTTGTGCCA
97884	HDGF	AGGAAGAGGCCTCGCGCAGAGGAG
97885	RAB5A	TAAATTAACCACAAGAAAATAATCC
97886	SCGB3A2	ATTTTTCTGATTTTTAAACTC
97887	NRGN	GCTCCCAATCTTCCTTCTTTTGCTTCT
97888	JRK	ATTTTCTCCATGTCTGT
97889	ITK	GTGTACATTCTTCACCTCCTGGTGCCCT
97890	F2RL3	CTGAGGCAGAAGGATCGCTTGA
97891	PTGIS	GTGCCGATTTCATGCATTCTAGTGCAG
97892	TMPRSS3	GCCCAGGCTGGAGTGCAGTGGCGAA
97893	DNMT3B	AGTTTTTGCTAATTTTTAGGCTGA
97894	HMGCR	TAGTGATTGTGTCTGCATTGTTA
97895	EVPL	AGCACTTGCCTTTACGACCATGT
97896	MAPK14	TCCTGCTCTCTTCAGGAGGCC
97897	CYB561	GGCTGCTGGAGCTGCTGCCTCT
97898	CLECSF6	GTTGAGTGAAAGGAAGGAGG
97899	LPP	TTCAATACTGTCCCACTTCTC
97900	GFER	CATGGCCGCCTCAGGCCTCCAT
97901	SMAC	CTGTTGCCCAGGCTGAAGTGCAGT
97902	ATP2A2	GTTATTTTCTGAGTGTGCAGA
97903	ETS2	AGATTCTCAAAGGAGCGAGCATGTC
97904	DMN	AATGCCCTTTTCTGGAGTGGCCAGT
97905	ARF3	TTGCCCTTTTCCATGTATTTTTTCC

97906	SLC22A3	TCCCTGGCCACCAGCACA
97907	D12S2489E	AGAGACACAGCATGGGCAGTGCC
97908	RBMX	GAAACAAAAAGTGGAAACTATTCTA
97909	WHSC1	GGCTGGAGTAAGGCTTGCTGTGGGA
97910	CUBN	CACCACTACACTCCAGCCTGGG
97911	SLC14A1	CACCACTGCACTCCAACCTGGG
97911	TNFSF14	CACCACTGCACTCCAACCTGGG
97912	RASSF1	CCCTGTCTCTGTGCCCTCCAGCAAGAAGC
97913	CEACAM6	GGTAACTTAACAGAGTGTCAGA
97914	IL1R1	TTTTACAAATTTAATTTTGCAGATTA
97915	SLC12A7	TGACTCCGTTTCCTTTTGTAGG
97916	C18orf1	CCAGCCAGTTCGCTTTTTCTCCT
97917	SRGAP1	ATTAATGTCACTCCTTT
97918	CDH5	TGAAGCAACTGTGAATTCATTCTGG
97919	ZNF261	ATCCTGTTGGCTTTGGGTTTCC
97920	HR	TGGGCGATGTCACTCAGCCCCT
97921	STK24	TGTTTGGAATCGTGCCACTGCTG
97922	NEURL	TGGAACTCCATAAGGAGGGGCCA
97923	IFI27	CCTGCCCCTCGCCCTGCAGA
97924	PSMB10	GGCTTAGAGCTTGGAACAAGGG
97925	HLCS	CACTCACTGCAGAGCTGCTGCCTG
97926	FGF7	TCTTACTTGCCACAAAATAACA
97927	TFAP2C	ACTGGGAACCCCTCCTGGCC
97928	SQSTM1	ACTGAGAGCTGCCTCCTGGTCTCTT
97929	PRSS7	GGGGCCAGGGAAACAAAATTTTA
97930	TCF2	CCCCTCTCCCCTCATGGAGAAACAT
97931	NRG1	GGCCCAGAAACAGCAGCTTAAA
97932	A1BG	GAGTAGCTGGGACTACAGGCAT
97932	ATP1B2	GAGTAGCTGGGACTACAGGCAT
97933	F2RL3	ATGATTCTCCTGCCTCAGCCT
97934	CTMP	AAAATGCTAGAAAACCAAGCAT
97935	TEAD3	ATAAATGCAGCTTGGGGTT
97936	EGFL5	ACAATTCTAAGAAATTGTGCAAA
97937	CDC7L1	TTGGCTTGTGATGGAGGCGTCTTTGGG
97938	RAD52	TGACTGGAGTTCAGTGGTGCA
97939	BENE	ACTCACTGCAGGCTCCGCCTC
97940	IL2RB	CCTCCACTGCTGCTCCCGGGTCC
97941	ADAMTS13	TCCCTGGTGGAGCTGACCCCCA
97942	TBL1X	CCTCCATCTGCTTGCTGTCATAA
97943	S100A10	GCTCGCCCAGCTCGCCCAGC
97944	PKHD1	CCTTGCCCTGCCTCAGTTTA
97945	APBB1	AGGCTATTCCTAGGCCTCAGGCC
97946	GDF5	TCAGCCCACCATTTCTCCTCACCTGGG
97947	TGM4	GCAGACAACCCTGTCCTCA
97948	NR4A2	ACTTGCATGCAGCAGCTTTTGA
97949	KCNA4	TAACTGGAAAAGATGTTAACA
97950	IMMP2L	CCCCAAAATATGCAGACCTT
97951	KRT2A	TCTCTGTACCTCTAACTGGCAG
97952	E2F3	TTAGCTTTGTGTTGTATGCTAGTTTAA
97953	BDKRB2	TTTCTGCTCAATCTGTTAACA

97954	GBF1	CCAGTTCTTCCTCTTTTAC
97955	APPBP2	TTACCTCAATTCTTACTGTAGTA
97956	ANXA11	TGTCTGTAGCCAAAACTTGTTTCCA
97957	MYOZ1	CTTCTTTGGATCTCAGGCTCTAGG
97958	CANX	TGGAAGGGAAGTGGTTGCTGTG
97959	HOXD1	TCTGAACTATATCTTGAC
97960	ABCC5	TTACTGTTTCTGTCAGGAGAGCA
97961	MAP1B	CCAAATGCTATACTGTGTCAT
97962	SALL2	TCCTTATCTTCCTCTTTCA
97963	CDKN1A	AGCAGACCACCCCGCCTGCCCTCA
97964	FLT1	CCAGTATTATGCATATATAAG
97965	ESRRG	GTTGCATTCAAAGACTGTTGT
97966	HSD17B4	AGCTAGCACATGATTATCCTTCTGTTC
97967	GYPA	TGATTACTATATTTTGTTCACACTAA
97968	LEP	TGGGAGGCGGAGAGTACAGTGA
97969	DLEC1	ACCAGCCTTCCCAACATGCCTCCTGCC
97970	SPTLC1	GAGCAAGACTGTCTCAAAAA
97971	TFEB	GGGGTGCTCAGGCCTGCCTTT
97972	SCA1	ACACCCACGCTGGTTTCTGTGCAGTG
97973	COL6A2	GCCCTGGGCCTGCACCTCTCCAG
97974	YWHAG	CACGATGACCACAGACTCAATGTGC
97975	ESR1	GTCCAGTTAAGTGATCACCAA
97976	IFNAR2	GGGTTCCCCACAGTTTCAGAGGTGGTCC
97977	BDP1	AGGCAAGAGTGCAGTGGTATGAT
97978	FBP1	TCTTGCCGCCCGCACCTGCAGCCCCGCAC
97979	AKT1	CCTGACTCCCTGTGGGGGTGGCCATC
97980	BCL2	AGCTGGATATGTCTAATGGGTATTTAA
97981	FCMD	CCTTTGAAGAGTTCAAGTTCTGTA
97982	DNCI1	ATGTGTCCCATCATGCTTTCCA
97983	SIRT6	CCCTACCCCTCCTCCATGGGCC
97984	AP1B1	TCCTCCTCGCAGGAGGGACCAGGCGG
97985	C9orf19	CATGCCTCCTGGAATTCTCCA
97986	ST5	ACCCCCAGCTCTGCCAGTGCTCTC
97987	FBLN1	TCATGCCAGGTTTGCACCAGCCT
97988	STAT1	GCTGCAACCTGTTGATAGCAAGTGAAT
97989	MOG	CCTTGGGCTTTTCAGCAGTAAGGGGA
97990	FMOD	CCAAACACACCTCAAATTGGCT
97991	KIF3C	CCCCCAGTCAGATCTCAGGCTTGTCCCC
97992	NDST2	GCCTGGCCCCTCCCCCTCTACC
97993	NDST1	GTCCTAGGCTGGATGGGAGGGTGGC
97994	SFRP4	TGACAGTTGGGATACTTTAAT
97995	SURF5	GCTGAGCTCTTCACCTGCAT
97996	SDC2	GCCTTTTGTAGCTGTCATGGTGC
97997	WHSC1	CCAGCATCTGCACCTAAACCCA
97998	BVES	CCTGAAAAATACCAGCACTTTTTCA
97999	SLC4A7	TTAGAAAATATGTAGCTGTCATCATTT
98000	PHEMX	GGCTGCACTCTCACCTGGAG
98001	MTR	AGGAAACAAAAAGGAAATGA
98002	JRK	TGTTCGCTGGCTGATCATTGCAGTA
98003	DLG4	CCCAGGAGGAGAGAGAGCTGGGCTCAG

98004	AEGL1	CTTCTGCTAAATTTCACT
98005	C21orf5	TGACCAACATGGTGAGACCCTGTCTCT
98006	LNK	CCCCCAGGCTCACAGCAGTGG
98007	UBQLN2	TAAGATTTATACCATTGATCTTT
98008	FYN	AGTGGCCTCTTTGTCTAAAACAA
98009	SOX11	CTCTTCCGCTAGTTGTGAAAG
98010	MLLT3	AATCCAGCATTGTTGAGCTGT
98011	WNT8B	CCTCTTCAGATCCTGGTCTGCACC
98012	YES1	TAAATGTTAGACCACAGAA
98013	PCDH7	CTGATTCCCAACACTCACTTTC
98014	E2F3	GCTGCCTCTGCTTCCAGCTTTGTG
98015	DMD	TGAAAAGAGAAAAATAAGCTGA
98016	SMARCD3	GGCACTGGATGACTCTCCAGGTGCAGG
98017	CORT	GATCTTTCCTCTCCTCCTTCCCA
98018	ITGA6	AGCTGAGGAGGCACCTACACTCA
98019	RUNX3	GATTACTAACCCTTCCTGATCCT
98020	SCD	CCTTTCTCTCCTGGCTCGGGGTA
98021	PCDHB16	ATTCTATGTCTGGTTAAATGTTC
98022	BPAG1	GAATGTATGCCATAGCTTTCTTTGCTA
98023	HD	GGGGGAGCTGAAAGGGAGCCCC
98024	ADCY1	GGCAGGAGATGCTGCAGGCAGGTGTC
98025	RDS	GGTGATCTCCTGTGGCTCATCGGTGGA
98026	EXTL3	AGGATTTATCTTTAGGCCAGGCTTGCC
98027	SH3BP5	GCAGAGTTCTTGTTGTGGGTA
98028	PTK7	GCCTCGGGGTCGGGCTCCGGCTGCG
98029	TMEM2	CCTTGCAGGAATGAGTCACTCTTACTT
98030	EVC	GATGCGGCGGGGCGGCAGCCTGA
98031	KRN1	CTCTAGTGGGAAACCTCAGGTAGCTCC
98032	MGAT1	ACTGCCTCCTGCCCTTCTCTCCTGTCT
98033	ATM	CCACTACACTCCAGCCTGGGAG
98034	PAX5	TGAGGGAGGGGCAGGAGAGC
98035	IGLL1	CAGAAGCTACAGCTGCCAGGTCATG
98036	SCA1	AGCCATTGCAACTTCTTTTTCTTCAG
98037	MLC1	GTCATGCCCAGCTTGGAGTGCCACATGGC
98038	HMG20A	GTTGCCTATTCAGTGTTACAGA
98039	NESH	TCACAGCTGGACTGGGTCTG
98040	TNFSF14	TCGCCTGTAATCCCAGCACTTT
98041	GPR27	GGAGTAGGAGGAGACGGAGGA
98042	CYB561	TGCGAGGCCAGGAGATCAAGAC
98043	SULT2A1	CACGAGGTCAGGAGACTGAGAC
98044	CAPZA1	CTTCATACTATCCATCCATACC
98045	ADCY1	GCCCTCCAGCTCCCCTCCAGTTACC
98046	USP6	ACACTCCTGCTCAAATGGTGTTATT
98047	NACA	CACAAAATGCCCGGCGAAGCCACA
98048	PITPN	GCAAGACAGTGGTCAACAGGAAGACCC
98049	P53AIP1	GCCACAGTGCTTAGAGACAGGCCACTG
98050	FKBP2	AGAGCGACGAACTGAGCTGTA
98051	SLC20A2	TTGTTTATTTAAAATATTCCTGCA
98052	BIN1	CACCAGTGTTCCTGAAGCTGCTGT
98053	CNGA3	TCCTTGCCGTTCAGCCACTGTGAA

98054	OTOF	CACTGCTGGGCTCCACTTGGCTC
98055	RNMT	TCAGTTCCTTCTGCAGCCT
98056	PIK3CD	TCACCAGGGGTCCGTCAGTAGTCA
98057	OSM	GGCTGTTGCGCTCCCACCTCA
98058	APOC4	AAATGTTCATAAAAGCCAGGTGTGGTT
98059	YWHAZ	GTTTTTAAGAATTTCTTG
98060	GPR86	TTTATTGGTAACAGGTGA
98061	DNMT3B	CTCTCCAGGAGACCTACCCTCCACAGG
98062	GPR24	TGAAAACAAGGAGACCTGGGGTG
98063	AP1M1	GGGGAGGTGGGGTTTGGTG
98064	WHSC1	AACCAAAATTATTTTACAG
98065	ADAT1	CTGAGGCAGGAGAATTGCTTGA
98065	ATP1A2	CTGAGGCAGGAGAATTGCTTGA
98065	CTMP	CTGAGGCAGGAGAATTGCTTGA
98065	CUBN	CTGAGGCAGGAGAATTGCTTGA
98065	DAPP1	CTGAGGCAGGAGAATTGCTTGA
98065	DBT	CTGAGGCAGGAGAATTGCTTGA
98065	DMC1	CTGAGGCAGGAGAATTGCTTGA
98065	GPRK7	CTGAGGCAGGAGAATTGCTTGA
98065	IL17R	CTGAGGCAGGAGAATTGCTTGA
98065	IL1R1	CTGAGGCAGGAGAATTGCTTGA
98065	LRRC2	CTGAGGCAGGAGAATTGCTTGA
98065	NT5C2	CTGAGGCAGGAGAATTGCTTGA
98065	OPA3	CTGAGGCAGGAGAATTGCTTGA
98065	PPP2R1B	CTGAGGCAGGAGAATTGCTTGA
98065	RPN1	CTGAGGCAGGAGAATTGCTTGA
98066	BGN	GGCCTGCACCCAGCCCCTGCCCACAAAACCC
98067	CHAD	CTGTTCTCTTTCCCTGCCACGT
98068	CRHR1	CAGAACCTTACTGGCACTGTGG
98069	SLC19A1	CTTGGAGCAGCTGTGGGTGCGG
98070	PTPRO	TTAGCACTGCACCTCTACATC
98071	CYB561	GGAGGCTGAAGGGACGCTCGGGTAGGC
98072	PTGES	GTTGCCCAAGCTGGAGTGAAGT
98073	LCP1	AACTTAGCCATTTTTCAAAGCAATT
98074	LTA	TCCCCATGACACCACCTGAACGT
98075	TACC1	GCTTATTCCTGTAATCCCAACA
98076	BCL2	TTTCTCTGGGGGCCGTGGGGT
98077	PLXNB3	GCTCCTGGCACCGCCAGCTGCTACT
98078	PCDHA2	AGTGTAGTTCTTCAATAGAG
98079	GNB3	CTGGCAGCAGAGCCTGGGCAGGTGA
98080	PITPN	TGGCTCTTGAGACCCACACATAT
98081	FGR	CTCTCATCCGCTCTGGCCCCA
98082	NDUFS5	TAGCCATGCCTTTCTTGGA
98083	PCTP	CACCCACCACTGTTCAGCCT
98084	WFS1	GGTGAATGTGTGAAGGTCTTGCCTGAA
98085	MADD	CTGCCCAGGGCCCGCAGTG
98086	NHLH1	CTTCTGCTTCCTCATCTCAGCCCACT
98087	RET	GGGAGCACAGCCAGGTTCCCCCAGAC
98088	DCX	GCAAGGCTCTTCCTGGGAAC
98089	MMP19	GAGCCCTTCTTCCCATCAAAAAGG

98090	FOS	TCTGACATTAACAGTTTTCCAT
98091	STE	AGTAGCTGCAACAACAGGCAC
98092	F5	TGCCCAGGTCCTGGGGTGGTGGCAGC
98093	HFL1	TTCAAAGCAACACCACCACCACTG
98094	MCM5	CCTCCTGCCGCTGCCTGCCATTGACA
98095	HUS1	TCTGTCACCCAGACTGGAGTGCAGT
98096	ZNF216	CTTCACCCTCTTTAATTTCACAACAT
98097	KIF3B	GGAATCCTGCCTGCCTTCA
98098	GNB5	CTGTTTTTAAGGTTATTCTAAATT
98099	SMURF1	TGTAGGAAAGAGCAGACCAAA
98100	MAP4K5	ATTGCAAATGATCTGTACTTTAGG
98101	HPS1	GCTGCCTCTGCCTTTATCCTGGGAGAT
98102	TNFRSF11A	CACTCCTCAAACTCGCAGCAGTAATT
98103	EBI2	CTTCCCTTATAAAGCAA
98104	GAB2	TGACACATGGTACAGGCTTGGAGCTTGCAGGT
98105	TRPM2	TCTCTAGCCACCCCCTTGTCCCCAGT
98106	RIMS1	ACCACAACTTTATATGGATATA
98107	STAC	GCCCCCAGCATTCCAGTGCTCTC
98108	SIM2	TCCTGGCCACATTCACCAACCAA
98109	BZRP	CCTGGGCCTCTACACTGGGCA
98110	OCRL	ACCAGTGATTTCTCCTGTTTCTT
98111	RET	CCAAAACTCCTTCTTTTGTCT
98112	WDR1	GTCAGGGGAGGTTGTACAGGTGA
98113	ALDH3A2	ACTCCAGTTAATGGCACTGCTC
98114	UQCRB	CTGCTACTTGGAGCTCAGAAGCCACTT
98115	SH3BP2	CTTCCTGCACCTCAGGATGG
98116	SCA1	CACACACCACCTTTTGGCTTA
98117	SFRP5	GGGATGTTGGGCTTCCTCTCTCA
98118	TRPM7	CTAGGGAAATGAAGAAATCACGCA
98119	SPG3A	GCAGGCTGGATTTAATCTGTA
98120	CD83	CTGCTTTCTCCATTGTAAACCACAA
98121	UMPS	GTTACCCAGGCTGGTCTCAAC
98122	DIAPH2	GAAATAAGTGCATTTCTGCAA
98123	AKAP1	TGCCTTACACCCAGAGCGTCC
98124	LIG3	TGGACTCAGGCTGGAGGCAGA
98125	CPT1B	TGCTTGGAATAAATACTTGCCT
98126	PAPOLA	CTCCCTCCCGCCTCAGTGGATCATGCC
98127	ZNF2	GGCAAAGTCCTCTGTGTCCTAAA
98128	PTK7	TCCCCACTCTGGGCTTGTGC
98129	CDH2	TTTAAGGCTTTAATGGTACTGAT
98130	SIAT6	TTTAGCCTGGACCAAAGGGA
98131	FCN2	AGGCTGGGAGAGGTTGGGTGCTCTCCT
98132	UBE4A	AACACAGCCTTAGGTCTTCAA
98133	TEC	CTGGGATCTTCAGTGGCAGGAG
98134	FKBP1A	ATGTTCACTGCAATGCTGGA
98135	RPP30	CTTCCCTTTTATAGTTC
98136	UBE2L3	CAAACAGCCACACCCCTCCTCCA
98137	DIAPH2	CTGCCTCTGCCTCTGTT
98138	CNTNAP2	TATTTCAAGCCTCTTATACTTA
98139	CDC25B	AAGGTTGGATGGATGGGTGGA

98140	OAS1	CTCCATGAAGCTTGGACATATA
98141	WARS	TCTCAGCAGCTCAACTGCCCAGC
98142	MCF2	ACTGTGCTAATGGAAGCAC
98143	INPP5B	AGACGGAGCAAGACTCCATCTC
98144	LRP4	ATCTTGTACTCCATCCTGGGCC
98145	TACR1	CAGGTGCAGCCCCCACTGCCTTT
98146	CASP8	AACATGGGGAAACAGATGCCTC
98147	ATM	CCTATCCTGTTCTTTTAATTGA
98148	DUSP4	CGCCTGCCCCTTTCTGCAGCCTAGGCG
98149	CAV1	AACCAACAACCTCAACTGCCTA
98150	PKNOX1	TTCTGGAATTGATTTTTCCCA
98151	MAT1A	CCTGGTGGCCATGCTCCTCTTCCCCAG
98152	PDE4D	TTGCTCTTCACCAGTGTTTTTCTTC
98153	RNF3	ATGATCAATGTATTTCTCTGCCT
98154	IFNGR1	GGTGAGCAGGTGATGCCCCAGGGA
98155	ADCY2	GTCTGAGACCAGCCTGGGCAA
98156	MKL1	AGTCCCCAGAGTGAAGCTGTTG
98157	RNF3	TATGCTTGTAATAAAAGCAAAA
98158	PTPRO	ACTACGAGATCAGATTTTGGA
98159	IL11	CCCGATTAGCTGGGATCACAGG
98160	MMP16	GAAAAAGAAGAAAAGATTCTTT
98161	RTN2	GGGGCCCAGGGGAGGCCTGAGCTTGG
98162	AQP6	GGAGTCCCTCATGCTTGAGTCCC
98163	DAXX	GAAGGTGGGAAGCAGATGACT
98164	NPY2R	TTAGTAAATTATTAGAATCCA
98165	PCDHB11	ACTGCACCCTCCGCCTCTCGGG
98166	RAD18	AGCACCACTTACCAAAT
98167	DCLRE1C	TTGAGCCCAGGAGATTGAGGCTGCAGT
98168	CDH2	AGATTGGAATTAGTTTTCTGTTT
98169	SLC14A1	GGGAGGCTGAGGTGGGAAAATGACTTGA
98170	PSMD9	AGCCCACTGCTAGTTTGACTTT
98171	STX1A	CCCACATTCCTCCGGCCCCAGGAGCA
98172	TRIM14	CCCTCCAGAAGCTGCAAGAGCTTC
98173	ADAMTS4	GTCGCCCAGGCTGGAGTGCAATG
98173	NF2	GTCGCCCAGGCTGGAGTGCAATG
98173	SH3BP2	GTCGCCCAGGCTGGAGTGCAATG
98173	SPN	GTCGCCCAGGCTGGAGTGCAATG
98174	ATP7B	TGGAGTGTTGGCTTCTCA
98175	FAT2	TTCTGGAGACAGAAGTCAAAAG
98176	EFNB1	GGTGGCCTGCTCCTTTTCTGGGCC
98177	EDAR	AAATGAGAGCCTGGGCTTGGTGTCGA
98178	TMOD3	CCTCCCTCCCCACCCCCCAAAAAA
98179	EN2	CAGTTCTGAAACATGTGGCT
98180	ALPP	TGTTTGTAATCCCAGCACTTTG
98181	CAPN3	TTTCACCCTCTATTTCCAAAGCC
98182	MRPL49	GCCCAGCCGAGCAGCCTGCTTGTCAGC
98183	WBP2	CCATGAAGTGAGGAGATGGTTA
98184	CDK7	AAAGTTCAATACTCTTGAAATG
98185	BMPR1B	ATTTGGCTCTGAGCTATGACA
98186	DLEC1	CTACCTTCCTGTGTATGCTGA

98187	CAPN2	GCTGCCTCTGTAAATTCATGTA
98188	GABRE	TTAAGATGCTGGGCAGCAGT
98189	RNTRE	GGACCGTACTGAGGACATGTA
98190	CD81	CGTCCTGTGGGCTGCACAG
98191	AES	CGGAGAGAAAGGAATGTTTAGCA
98192	EPHX1	CCAGGTGCAGAGCTCCACAGCTCTCT
98193	GPC1	GGAGAGGCCTGGGGTGGGACAG
98194	NHP2L1	CAAAGAGATGTGCTGCAGGA
98195	SET	CCTTTCTCTGTATATTGGGCT
98196	LBR	GTGCTGTCTTAAAAACAACTGAAG
98197	GALT	TTGCTAGGAGGCCTTAGCAATA
98198	PKHD1	AGTGAGGACTGTCCTGCTGGGACA
98199	CLN5	GCCCAGCCTGAACCTCCGCAAAACCCC
98200	TFAP4	GGGTCTCTTTTATGACCTCTTT
98201	ZNF217	GTGGAAAGAACCAGTGACACCATCACT
98202	PRKR	AGCCTCCTGAGTAGCTGGATTA
98203	HMGA2	GGGGGTGGGGTGGGGAGAAATC
98204	ASS	GAGTGGTTCACTGCACTGTGAA
98205	HMG20A	AGGCTGGAGTGCGGTGGCTATT
98206	ADCY1	GCTGCACCTGTGCATTCTCCA
98207	PCDH7	CAGCCTCTTATGTCTTTGTCTTTAAT
98208	8D6A	GGGTACCCGGGCACACCAGCC
98209	MKI67	AAGCTGTTTTTACTTTTTCGCCT
98210	LMNA	AGGGGGTGGAGGGGTGTGGCAGTGG
98211	PTGS1	GTGGGGAGGGGATGGGCTGGAGC
98212	AQP6	CCCACCCCATCAGGTCAGCT
98213	NDRG1	AACGGGTGCCTGGTCAGAAGGC
98214	ID3	AGCTCTGGCCACCAGCTGGGC
98215	XRCC2	CAGGCTGCTGGAGTGCAGTG
98216	HTR7	AGGTCTCAGGATGGAGAGAA
98217	BMPR1A	TGCTTACAAAGAAAGCACTTCTT
98218	HOXC4	GAGAGGGAGAGTGACAGCAGC
98218	HOXC6	GAGAGGGAGAGTGACAGCAGC
98219	TEGT	GCAAACACACCTTTCTGCTTTGCC
98220	SHMT2	AGAAGGAGGGCCCAGGCACTTTC
98221	VHL	TGCCCAGGCTGGAGTGCAGA
98222	WHSC1	AGGTGAATGTGCCACCTCCA
98223	TRPM2	GAGGTGCCTCAACATGGAGCC
98224	AIM1	AGCCTCCCAAGTAGCTGGGACT
98224	EIF5A2	AGCCTCCCAAGTAGCTGGGACT
98224	FANCE	AGCCTCCCAAGTAGCTGGGACT
98224	FHL2	AGCCTCCCAAGTAGCTGGGACT
98224	GRAF	AGCCTCCCAAGTAGCTGGGACT
98224	HUNK	AGCCTCCCAAGTAGCTGGGACT
98224	RGS9	AGCCTCCCAAGTAGCTGGGACT
98224	UGDH	AGCCTCCCAAGTAGCTGGGACT
98225	ADH1C	AGCAGTTTTCAGCCTCCTCTACCCTAC
98226	PRex1	ATATATTTGACATTTTACATTTCA
98227	IRTA2	GTGCTCCTTGGAGCTGGTGTGCAGTG
98228	FOXF1	ATGCAAAGACACAGCGCTGC

98229	HCFC1	TTCTTTTCTTCCCCTTGTGTTTCC
98230	FCGR2A	GGCCTCCCAAAGTGCTGGGATG
98230	PTGES	GGCCTCCCAAAGTGCTGGGATG
98231	CYP8B1	GGCCTCCCAAAGTTCTGGGATT
98231	NT5C2	GGCCTCCCAAAGTTCTGGGATT
98232	TBR1	CCCCACACTCCTCCTTGCGCAC
98233	COL1A1	CCTCAGCCCGCTCCTGCCCGCCCAGC
98234	SIX3	ACCCAACCATACACACATACAA
98235	EDNRB	AATTAAAATGCCACATTTCTG
98236	CKTSF1B1	GGCCAAAGTGCAGGGTGGGTGAA
98237	EPHB6	CCGCCTCTCCACCAGCC
98238	SEDL	TTGTCCAGGCTGGAGTGCAATG
98238	SLC15A1	TTGTCCAGGCTGGAGTGCAATG
98239	G1P3	TTGTCCAGGCTAGAGTGCAGTG
98240	AAT1	AACAGGCATGACAAAAATATTTAT
98241	TDO2	TGTTTGTGACAAGACTAAGCATTAA
98242	TNFRSF1A	GCTGTTGCAACACTGCCTCA
98243	GJB3	GCCATCCCAGCCTCACCCTGC
98244	CTSS	GGAGGCTGAAGTAGGAGGATCGTCTTG
98245	F3	AGCTAATTTTTGTATTTTTTAGT
98246	PLSCR1	GCTCGGGAGCGGAAACAGCGGCAGC
98247	GNPI	CTCTTTGGTCAGTAACAAGTGCA
98248	IRTA2	TCTCCACCTGAACCATGGCT
98249	HUNK	GGTGAGAAGAATCAGAAAAAGAA
98250	WARS2	GGCTTTATTTGATGAATATTGCT
98251	ZNF36	GTGAGCGGATCACCTGAGGTCA
98252	TEM6	AGTCACTGTGCATTTATTCTCA
98253	POLR2K	ACTCCTGAAACCTCAA
98254	SKI	CTGAAGACCCGCAACGGAGTGGG
98255	USF1	AGGTGTGTCCTTGAACTGAGGCCCTGTGA
98256	ICMT	AAGGCGGAACATGGGTGAA
98257	PAM	TCATAAGGCACCCGCGCGTCTAGCCC
98258	KLF8	CTCCTTCAGGATTAAAGATTTTGCGGA
98259	EIF4E	CAGGAATATGACACAAAGGTGGA
98260	WARS	TGGCCTCTGTAAGCCTGTG
98261	TMPRSS2	GCCCTGGATGGTGGCCAGAA
98262	OLFM1	ATAGCTCCTGGACCTGTGTC
98263	AIM1	GGATCTCAGGCTGGAGTGCAGTG
98264	SOX4	AGATTGTTGATATATACCTTCTGTAAA
98265	KCNH2	CCCTGCCTGTGCACAGTGGGTGGGT
98266	KIP2	CCTGTCTCTGCCTCTGGGTCATGAGT
98267	SCAMP3	GTGGGGAGTTCACTGTGA
98268	ZNF236	GTATTTTTAGAACTATCTCATCATAG
98269	TRPV2	GGAGGCCAGAGGACAGAGCAG
98270	ADAM19	TCCTCCAGGAACCTCCACATCT
98271	LPL	TGTTGTGATTAACATCATCAGGCTT
98272	CALM1	TTTAAAATTGGTTTACCTCA
98273	BPHL	TCAGCACTTTGGGAGGCTGAGGTGGG
98273	MTNR1A	TCAGCACTTTGGGAGGCTGAGGTGGG
98274	MADH9	TTGGTCCCTATGCCACCCCTGGAG

98275	MN1	GGGCAACCCCACCCCTGGGAGG
98276	ENTPD3	TGTTGAAGAATTGACCTCA
98277	GPRC5B	CCAGGCCGCCTCACAGCCAGG
98278	PCP4	TTTTCATTCCTCCTGCAACTA
98279	PRX	GAGCCCCGGCTCCGCCTGCTGT
98280	UBE2L3	CACTCACACTCCAGTTTGTAA
98281	ZNF192	CAGCACTCCAGCATTTTTCTTCATGT
98282	RAD23A	CCTCCTCCCCAGCCCAGCCTGC
98283	SERPINB9	AGCAATCCGCCTACCTCA
98284	GASC1	GCCACTGTCTTCTCTTCCTCCTCC
98285	ORC1L	GCCACCATGCCCAGCTGATTTTTTGT
98286	TSGA10	TAGGCAGCAAATACTTGATTGA
98287	TNFAIP1	CCAGTATTGGGTTTTATTGA
98288	PXF	TTCTAATTCACCATGTCACAG
98289	MAPK14	GGTTTCTTGAATATCTGCCCCAGT
98290	SFRS7	GATCAAGATCCAGGTCTATTTC
98291	UBQLN1	GATGCATTTTAAGGTGGAGTACAGT
98292	GUCY1A2	GCCATGAGCAGCCGGCTCGGGG
98293	CD80	AGCTACCTCACTATGCTGCT
98294	EHD4	GGCAAGGCACTGCCCTCTCTG
98295	FUT8	CCTGGGGTTGCTGCTTTTGCT
98296	HOXB6	AGAGACACACCTGACCAGCCCCTCCCC
98297	KIF5C	TTGGACTCTAGCTATATGACATACTG
98298	IL1R1	CCCCTCACTCCACACTGGCAC
98299	SLC24A1	AGTTGAGTGGAGTGGGAAGGGAA
98300	IL21R	ACCCCCACGCTGAACCCAGCTGCC
98301	CRIM1	ATAGTGGTAACTTTTCAAACAGCCC
98302	TOP2A	CTGCCTCTGAGTCTGAATC
98303	DYRK1A	TCTCCACCATTTCTTCTGCACAAAGAT
98304	TAF7	GCTGTGTGTTCTGTTAAGTT
98305	EIF4EBP2	CATGTCCTCGTCAGCCGGCAGCGG
98306	MYO1B	GCATGGGTCAGAGTGGGAGGTT
98307	FBXL7	TCCATCATCAGAATCACAGTGCTC
98308	SFRS1	ATGTGGGAAGAACTGGCTAA
98309	SEDL	GCGTGAGCCACCGTGCCCAACC
98310	COL1A1	CCATTTTTATACCAAAGGTGC
98311	EDNRB	ACCATGTACTGAATTTTTACATCCTGA
98312	ALOX12	CAGACAACATGGAAATGAGTG
98313	EHD3	TGTGGTCTCTCCCCTGGCTTGCT
98314	SALL1	TAGAGTGCTGTAAACTTGCT
98315	ADCY7	TACTATACTGAAATCTGTGCT
98316	PML	GGGGTGTTCTGCCCTGCCTCCAC
98317	EPHB6	GTTGTGTCCTCGAATGGCAG
98318	DLEC1	TCACTCTCTGGGGGAGTGCAGGGTGGAC
98319	TCTA	TGAGCCAAGATTGCGCCGTTGTACTC
98320	ITGB1	TAGCTTTAGGGCAATATTGCC
98321	NR4A1	TCCTTCAACCCCGCCTCTTCCTCC
98322	SLC17A5	ATGCCTGTAGTCCCAGCACTTT
98323	PCDH11Y	TCATAGAAAACATTAGTTTTCTCCTG
98324	WBSCR14	TGCTCTGCCACTGTGCTCCAGCACC

98325	GATA4	TTTTCTCTCCCCGCGTGGCTCC
98326	TUBA3	AAGTTGTGGTCTGATCAGTTAATTTGT
98327	NR2E1	GTGACAGGAATGGGGAAAAAGAG
98328	SRC	GTGGATTCTCCCTGGGCCTCAG
98329	SYBL1	TTTCCATTCTGGGAAAAGCCCAA
98330	GALE	AGAGTGAGTGAGGGGGCAAGGCTCTG
98331	SLC20A2	GAGCTAACTTAACTACTGTA
98332	STK24	CTGGAGCTTGGAGAATCGCTCTGG
98333	ACTN2	GCTAGCACATCTTGATCTG
98334	TGM1	TTCCATCTCAGCCCCAGGACTCAGTAC
98335	NUDT2	GGAGCAGAGTCATTTGCTTC
98336	CTF1	GCGATCCCAGCACTGCAGCC
98337	DRG2	CCTGTATTCCCCCTCCCAGGGCAGCCC
98338	KCNE1L	AGCTCCAGCTTCCAGTTGCCT
98339	TMOD2	AGAAATTTTCTAAATTTTAGTAAGA
98340	MAPK7	CCAGCAGGTGAGGCTCGGCTT
98341	CENPA	TCATAGAAGATGTATCATAACA
98342	MTR	GTAGAGACAGGATTTCACTGTGTT
98343	PMCHL1	CACCACTGAGTCCAGCCTATATTCTTG
98344	UBE2V1	GTCGCAGCCTGTGGGACTACTGCTAGGT
98345	GCKR	TGGCTGAAGAGGCAGGAGGAACAGT
98346	HS3ST3B1	CCGCCACCTGGGGAAGAGCAG
98347	HCFC1	GGGATCTGCTTGGAGTTTTCTG
98348	PFKFB3	GCGCCTGCCTTTAGCCTGGG
98349	PRKCM	GCAAAACTTTCCTGCTGCCG
98350	TRPV1	CGTGCCACCATGTCTGGCT
98351	ATP1A2	CATTGCCTTGGGCCTGGGAATCTA
98352	HPS1	TGAGCCAAAATTTGCTCAA
98353	AQP6	CAGATGGGGGTGGAGTGGAGGACAC
98354	MYD88	CCATTCCACTTCCTCCTTCC
98355	SCD	CTCCGGAGCCTCAGCCCCCTGGAAAGTGA
98356	PPIG	CAGATGAAGACAAAAGCGGATGGTGA
98357	RAD50	CAGCTGGTGTGGGAGGAAAGGC
98358	HOXB9	ATTCAGTCAAGTGAGGTGACACT
98359	COL2A1	TCCTGCTCCAAGGGCCTCCTGCATGA
98360	CLOCK	TCTCTTCCTTACAGGTGTG
98361	PRKG1	TAGAATTACTACAATTCTGCAA
98362	IL21R	GTCGCCCAGGCTGGAATGCAGT
98363	TSTA3	CAGGAGCTGAGGGCACCACCCAG
98364	CYFIP2	CACTCCCTAGGGCGGGGCCTGTGCATGCT
98365	FGF5	AACACTGTGATTTATCTTTCAAGAG
98366	KCNK3	ATTCGAGACCAGCCTAGGTGA
98367	SLC10A2	AAAAAGTTGCCTTCTCCAGTGGCAG
98368	DDT	AATCCTCTTCTTCATCCTCATAT
98369	MHC2TA	TTATGCCCACGCTGGAGTGCAGT
98370	ABCC3	TGGGTCAAAGTGCGGCTGCCATT
98371	REN	TGAGGTCTGGGGAAAAGGGAGG
98372	STIM1	CCTGGGATCCTATTTTGGGCCTGGGGT
98373	C14orf1	TCTATTCCATCATCTGCCC
98374	SIGLEC11	GAGTGAGACTCTGTTTCTAAAT

98375	VIPR2	TGGAGCGAGAGGGAGGCAG
98376	SCN3A	TGGCTACAGTTTCAGTTACT
98377	SHC1	CCCCTCCCTTGCTCAGTGCCT
98378	ABCB9	CCTCTTGCCAGCTCTGTGAGTC
98379	ABCD2	GGTCCCACCGCCCTCACAGCCAAT
98380	MASP2	CCACTTGCCAGTTTAATTCCA
98381	COL10A1	ATGTGAAGCCTCTCTTGAATTTCTAGT
98382	SEDL	TCCTGTTGTGCAGGCTGTAGTGCAGT
98383	BCL2	AACAAAAGAAGTGACATCTTCAGC
98384	PER2	GTCCTGTTTGGTTTTCTTCC
98385	IL22RA2	TCTGTTTCCTCTTTGGTCCTGA
98386	PDE4C	AAGCTCAGGAGTTTGAGACCAG
98387	PTX3	ATATTTATACTACAAGGTGA
98388	E2F3	GCTAAAAGTTACAAGTGTGCA
98389	MTMR3	CCATGTCCTGCTGCCCGACTTCCTT
98390	DYRK2	TTTCTTTTGGATTGCACTGA
98391	AMY2B	CCTGGCACATCACTCAACTACTA
98392	KMO	AAAGCACATTTAGTGAAATGT
98393	DBN1	CCCTAGGCTACCCTTGCCAAGG
98394	XRCC2	AGGCCGAGGCAGGAGAATTGCT
98395	SIRT3	CCCTCTTGAACTGAATCAGACCAAC
98396	MS4A7	TAATTTCTCTTGAAAATAATTTCC
98397	ALPI	GCAGCACCTGGTAGACCCA
98398	RUNX3	CAGCATGCGGTATTTTAACTTTCT
98399	DYRK2	CAATGAGCCTTACTGTATTTAGTGTGG
98400	RAD51L1	CCTATTTCCCCCTCCTCCC
98401	SLC4A4	AACCCTTTAATGAACTTATCTG
98402	GCLC	GCCCGTGTGTATAATATGAAG
98403	NT5C2	ATTGTATATTTTCTTCCATTCTTGT
98404	ALDOA	CCCAACAACTCCAGGCCCTGCCCCCTC
98405	EGLN2	CTGGTCTAGGGCTGTGAGGCCACCTCCTTGC
98406	CBFA2T3	GTGCCTGGCCTCCGATGCCTGGCCTG
98407	TRPC5	CCTGATAACCACTGAGAA
98408	MGAT2	GTCGCTCAGCCTGGAGTGCAGT
98409	CCND2	TCCTGAAGTAGATGGTTGAGATATG
98410	MEIS1	TCCTCTCTCTCCCTCTTTCTAGCC
98411	PITPNB	GCAAAGTTACAGGCCAGTTT
98412	TRPM8	CATAATTAGTTTCTCAGCTTTGA
98413	PCDHB12	GCCTGTAAAGTAGTATTTTTG
98414	CAPON	CCTGCCTTCCTCCTGCCTGTA
98415	SMP1	ATGCCATTTTCTAAACTTATT
98416	LIMD1	CCTATACCCAAATGTTCCCTCCCCCGA
98417	NEK6	CCTGACACCTGCTGCCTGCAGGC
98418	GABRP	ACTACCTGGTGATTCCTACTTCAG
98419	GAB2	TTGCAGTGAGCAGTGCAGTG
98420	DCX	GTCACCTAGGCTGGAGTGCAGTG
98420	SIGLEC8	GTCACCTAGGCTGGAGTGCAGTG
98421	HIP1	CCCAGAGGCAGAGGTTGCAGTG
98422	ADARB1	CCCATGTCTCAAAACAAACACA
98423	ALOX5AP	TTTGTTTGTTTCTTCACTTA

98424	HNRPH2	AAAGCTGTACATTTGTGGGAGTTG
98425	TFDP2	TCAGTCTTTGCCTTTGTTTGCACTGT
98426	BAP1	CTACCTGACTATGCTTTCTCTCCT
98427	NONO	ACCTCGGTCTCCCAAAATGCTGGGA
98428	FGF1	TCAGCAGCAGAGAGCCCTGGGTGA
98429	HUNK	GGCTCAGCCCCAGCCTTTCTGAAG
98430	NBS1	ATGACTTCCCTTGTAAACAGAAGCA
98431	MGAT5	CCACATCTCCTCAGTTGCTGA
98432	SEDL	GCCTGTGCTAATTGGGAGCACTTGAACAATT
98433	CYP4A11	GGTGGTCAGAGAGAGGAAGGGGCAC
98434	TSC1	CCTCCCTTTCCCCACCTCTTA
98435	BCAR1	CGGGGCTGGAGTGTGAGGGTCCT
98436	MDK	TGGGAAGCTTGAGCCTCCCCCAAAG
98437	PAX2	GGGCCCGGCACCTCCTGCTGC
98438	EIF2C1	GTACCTGATTTGTTCTCTGACC
98439	ABCB11	CCTCAAGGGCAGAGAACTGTCT
98440	GNRHR	ACAGTTACATGTGGCCCTCA
98441	TXNIP	TTCTTAGCACTTTAATTCCTGT
98442	BMP6	CATTTCTACACCTCAATCCTCCATTT
98443	HAP1	GCAGGTACCTGCCCCCCTTCA
98444	LDOC1	CCTGCTGCTGCCACCTGCCCTGCTG
98445	PRND	AGTGTTTGCTGTTTCCCC
98446	TGM2	TGATTGAACCTGCTCATCTCCA
98447	DNAH9	AGGTGAGGCTGAGCTGAAGGAA
98448	CXCR6	TTTGTATAGGTAGATGTTCAGAT
98449	TDGF1	TCACCCAGGCTGGACTGCAATG
98450	MLLT2	GCCTTTATTTTGTGTCATTCTA
98451	DYRK1B	AGACAGTGGTGGTCCGGTGGAGG
98452	NDP	CTCCAGCACATAAAGGACA
98453	PIM1	TGGGGCCCCTCACCTACTTACCCAG
98454	LAMC2	CACTGGGTGTGAGAATGATCAAGGAT
98455	HS3ST4	TCCTCGGGCTTCATTTTCTC
98456	AP2A1	TCTGCTGCTGTTTACATTCTGG
98457	RPP30	AGTGGCATAATCACAGCTCACT
98458	ROCK2	GACCAGCCTGCCCAACATAGTG
98459	TNFRSF10A	GACCAGCCTGACCAACATCGTG
98460	HSD11B2	GGGCTAAATCCCAAGTGTCTCTTGACT
98461	GNRH1	TTAGAAAATTAGAGGCCCCCT
98462	ALDH8A1	TGAGCCCAGGCGGTTGAGGCTGCAGT
98463	DYRK3	GCACAGCTCGTGGGCCTGGGCGG
98464	TRIM14	CCTCCAGGTACGCCGCAGCTGCCCAG
98465	CXCR4	GCTGCGGCAGCAGGTAGCAAAGTGA
98466	KCNAB2	TCCCAGCCACAGCCAAGATTCCCAAAG
98467	FREB	CTCTTAACACAACAGAATTCTGCTGTCT
98468	E2F3	GTCAAGACAGATGACACCAGCACTT
98469	CDH17	TCTCCTGCCTCAGCTTCCTAAGTAGCT
98470	ABCD4	AAGACTCTGACATTCCTGGCTGTCAT
98471	MAFF	CCTACTACAGTCTGGAGTGGGGT
98472	COX15	TTGTTGCCCAGGCTGGAGTAC
98473	SGCA	GGAGAGGGGGTGGGGTGGGGT

98474	DNAH9	TCCAACAGGAAGGTTATTCTTCC
98475	PPT1	ATACTCCAAACTGTTTCTGATGTGT
98476	APAF1	CCTTTCTCTTCTTTTATCTCCAAGGT
98477	RBL2	TTTGTAACCCAGATTTTGC
98478	SCA1	GGAGAGGGAGAGAGCGAACACCCACGC
98479	SLC6A8	CACATCACCAGCTCACCTCTGG
98480	TAT	GCTTTCTCCTTTACTTGGAAGGCT
98481	KHK	AGACAGACCTGGATTCAAATCTGCCA
98482	CNGA3	GGCTTTTTAATCTGATTTTCT
98483	AQP6	TCCTCCTCCAGGGACTGCTGTG
98484	HMG20A	GATTGAGAGGGGCTGAGGGAA
98485	WBSCR14	TATCCTGGCCAGACCCTGCTGC
98486	NTSR1	CGCCCCGGAACGTGTCCAGGA
98487	CD209	GACGGGGTTTCAACATGTTGACC
98488	LTA	CCTCGGTCCCTCCTGCACCTGCTGCCT
98489	STAM	GGGGACACCTCGGCACGCAG
98490	CDH8	GTGCTATAGACACGTGGCAGAGCTGTA
98491	CYR61	GGCCTGTCCGCTGCACACCAGCT
98492	EGLN2	AGGAGGAGAAGAGACCTTTGCT
98493	CTSS	TGGCTAACATGGTGAAACCCCATC
98493	PCDH11Y	TGGCTAACATGGTGAAACCCCATC
98494	AHR	GTGAGGTACCGTCTACATTTCA
98495	G2A	AGCGACACCTCCAGGCTTCCG
98496	TOP2A	ATACTCTACTACACTCAGCCT
98497	NCALD	CTGTAATTGGCAGCAGAAATCCAAA
98498	MECP2	CTGTCTAGCACTTCCTTGCCAGTCT
98499	CIT	AGAACGAGGAAGAGAACACAAGGA
98500	DDEF2	TCTTGAACTTCCTGAGTCAC
98501	ABAT	TCACTGCATCTCCGGCTCCTG
98502	PTP4A2	AGGAGCAGCAGCAAATTCACATATTTT
98503	HDAC7A	TTGGGACCTGGTTCTCTTCTAACCC
98504	NPPB	CCTCCGCAGTCCCTCCAGAGA
98505	RAB6A	TTCAGTAATAACGTATTGCAA
98506	FUT1	CTTCAACTCCTGGGCTCAAGCAGTC
98507	PODXL	TTGCCCAAGGTCAGAGCCACT
98508	ADAM17	AGCCTGGCGGTAGAATCTTCCCA
98509	ASPH	TGAATTATAGAAGCTACTTT
98510	TTF2	TAGGCGTGGTAGTGCACACCTGT
98511	AP2S1	CTGGGCCCTGGCTGTGGGCAGAG
98512	COG3	CCTTTGGTTTTAGCAGTTCTT
98513	CDKN2A	GCTTTTAAAAATGTCCTG
98514	PNOC	GGAGGTGGGCAGGGAAGGGGAGGGC
98515	TSN	AGGTTAGAGAAAATAGAGATGA
98516	KCNJ10	GCAGTTTAAGGTGGTCTCAGC
98517	TSTA3	GCAGCCCCAAGCATCTTTCCAGTGGGGC
98518	MSX2	TGTCCATCTGTCCCCTCCCTCCG
98519	SGCD	ACAAGTGTCTGCCTCTGAAGA
98520	OPRD1	GGGCGGGAAAGCCAGTGACTCCAGG
98521	SEL1L	CCAGCCACTGCTTAGCTATCATAGTCAC
98522	ABCC3	ATCACCATACACAGTGGCACCT

98523	GBE1	TCCACTAAGTATCTTGTTA
98524	DDX11	GGGCATGCCCTTCCCCAACA
98525	ZNF217	GCTTGTAGGATTTTTAAGAG
98526	NHLH1	GGTGAGGCCCTGGGGAGGCAGGG
98527	ITPKB	CCCTGGCCCCCGCCTGGGCC
98528	PLA2G4C	TTCAGAAGAAGGTGTCCAAGGAGCTGA
98529	TEM8	AACCTGTACAATGACAACCCT
98530	SMG1	GGAACTCCATTCCACCTGA
98531	CDK2	GCCCTGTTTCCCCCTCCTCGGCC
98532	APOL1	ATGCCTGTAATCCGAGCACTTT
98533	SIGLECL1	TCTCCCTTTCTCCATCCAATCGGTC
98534	CNN2	TTTCTATGCCCGCAAGTTTCAG
98535	MS4A7	CTTGAAAATAATTTCCTCAAA
98536	CLU	CCTTACGGGGGCATCTTGAGTCCAGCT
98537	MEN1	TGTGATCACAGCTACTCGGGAG
98538	PRDM2	TGCCTTTCTTTTAAATTAATTATAGACAG
98539	RBBP2	CTTAGTGGGCTTCAGCCAGCTT
98540	SMARCA3	CAAACTCACTATGAAGGTAAAGG
98541	FCAR	CCAGGAGGCAGCTGTTGCAGTGA
98542	SLC38A2	TCAAGTGCCTAGGGAAAATTCC
98543	HIP2	TGCCACACACAGCTAATATTCTA
98544	PTPN7	AGGCTAAGCAGTCTCTGTTT
98545	LAMC2	AGAGTGAGAACCACCAACCGA
98546	TAL1	GTTGTTGCTGTTGGACTAAATA
98547	SOCS5	ATTAAAGTCCCTGAAGATCATATACC
98548	MPL	CCTCACCTCCATCCCCCTC
98549	MSI1	ACATCTGTAACTTCTTTTTCCAGGT
98550	TRPM6	AGGTCCTATGAAGAAAGAT
98551	CYP2B6	GTGTAGGCCAGGCTGGTC
98552	CST	GGGAGGCAGCCAGCCAAGA
98553	DEDD	CTATGTGGAAAGTGGGACTCTGAA
98554	ATP2C1	GGAATTGCAGTCTGAGGATCA
98555	ANXA9	GAGATGCTGGGCAGGAAGGTGT
98556	MRC1	AAATGAGTACTGAATTGTACTGGTCTGTC
98557	PACE4	CTTTCAACAATGTCTTTTTTCCCA
98558	BLNK	GGAAGATGGAGTCAGCTATTGAAGT
98559	VAPB	AAAAGACCAACCCAGTTCTGTTT
98560	AF3P21	CCCATCCCCACCCCTCCTGGTCT
98561	ALPI	ACCAGCCTCAGCTGGCGCAGCG
98562	KPNA4	CATTGGTTTACTCTGCAGCCT
98563	CD244	TCTTGCTGACTGGGGACTGCTGAG
98564	TEM8	GAAGGAGAAACTTCTATAAGAC
98565	DR1	GCTCCTCCTCCGTTCATTTTCTGC
98566	SLC19A2	CTTCATTTTACATTCTGTCTGTTTTT
98567	ICA1	GCCCTCTGCTTTTCTTCCCA
98568	GRIN2B	GTAAGTGAGAGAGGGGGATGTTTCCTA
98569	IAPP	CCAACGTGGTGAAACCCTGTCT
98570	DNASE1	TGAGGCTATAATGAGCCAT
98571	SH3BP4	TGCCCTGCTGTCACCGCGGAGCTGA
98572	CCR9	GTTGCATCGCCCTCCACAGA

98573	XRCC5	TACATACATGCTTTGAAGTTTC
98574	AGL	CGGTCTTATTCGTTGTGCTCAA
98575	MAP3K9	GAGATCCAGCCCTACTTCT
98576	NUMA1	GGAGAATCGCGAGGCAGAGCGGGA
98577	CRSP6	GAGTAGCTGGGACCACAGGCAT
98578	CYP27B1	ACTGCCTCTCTTTTTGGGCTTTCATA
98579	CDC6	GTCATGCCTCAAACCCGA
98580	BAZ2B	CGGATACAATAAAAGACTTT
98581	ATRX	GGAAATCAGAGTTTGAAATA
98582	STIM1	CTTCAGTGCATGTCTTAGTTGCT
98583	COL4A6	GGAAAGCTCTTCCGAATCGCTA
98584	FGFR1	AACCAACGGCCGACTGCCTG
98585	SHOX	TCTTGTCACTGAGCTGAACTGTAGAT
98586	RAD54B	TGACCCATATACGCCAAATTCCCT
98587	NAP1L3	AAATGATCACTTCATTTGATACT
98588	CAPN10	TCAGCACTGCCGGCCCAGTGAC
98589	ATP1A2	AGGAAGAGGTTGCAGTGA
98590	B7H2	GGCCTCTGTGCTGCTGGGGTCA
98591	KCNQ1	TGTCTGGAGTGTAGGATGGCA
98592	BCL2	TACATGGTTAAGGTAAAGTAAGTCTCC
98593	EHD3	CAGTGTTAGAGGAGGAGATGGGA
98594	T	CCTGGGAGGGGAGGGAGGCGC
98595	NIPSNAP1	AGAGTCTCTCCTGCCCTCCCTCCT
98596	TARDBP	TACTGTCTACATGCTTTCTCATTCA
98597	GTF2H2	AATACCTGAAATTCAGTAGTA
98598	DTNB	AGGCACATTCCTCTCCATCT
98599	CUBN	TCACACCACTACACTCCAGCCT
98600	MHC2TA	GAGGACAGGGAGGTGACCCC
98601	VAV1	TGGGTGGTGGAGGCTGCGAGGGTGCAC
98602	ZIC1	GTGGGTGGGATTGTGGCGTTGTGGTC
98603	NFATC3	CTTTATTCTCCCAAGTGTCATGAA
98604	HSPA6	CTTAAAGCTCACTATCTCTGGCCATTC
98605	GRIA3	TGGGGTGGAAAGGAAGAGTGAG
98606	CBFA2T1	ATTCCTAGTTGGTGAGAAACCTGT
98607	KIF1B	ACCAGCCTGGCCAATGTGATGA
98608	EPHA3	ACGGCACTAGGACCCAGGGAAGTCCCCG
98609	PCDH11X	ACACATTTATGAAAATCTAC
98609	PCDH11Y	ACACATTTATGAAAATCTAC
98610	SLC14A1	AGGAGGAGGAGGCTGCAGTGA
98611	MAPRE2	TTCCCAGGTTATGCTCTTTTCT
98612	DFFB	TGTCGCTCAGGCTGGAGTGCAGTG
98613	RNF4	GACATCATTGCCATTAACTTTCT
98614	EXTL2	TTTGCAGCTGCCAGTGCT
98615	LZTS1	TTGCAACCTCACCTTCCTGTGG
98616	SLC6A12	TTTGGCCCTCGTCATCCTGCC
98617	PAFAH1B1	GGGCCTTTTTATCTTCCCACTG
98618	PACSIN1	TTCCAGGGGTCCCCCAGACATGAA
98619	ZFX	TTGCCCCAGGCTGGTCTCGAAC
98620	CARD10	ACCGTGCCTCACAGGGCC
98621	KCNE3	TCCTTGCCTAGTGCTTTTCA

98622	PTK2	TCACCCAGGCTGCCAGGCTGGAGTG
98623	PHF1	GCCGTAGTTTGTCTCCTGGG
98624	ITGA5	GATCTGTCCTCAGCCTTGCCA
98625	GATA6	GCGCTGACAGAACGTGATTCTCGTGCC
98626	IL1R1	CTAGAAGAAAGGGCAAGAAGGAAATA
98627	XK	ATCTAGTGCCATTATTTCTACC
98628	MGAM	ACGTGGATAAGCACTCTGTGAT
98629	WNT1	CCTACCCCTTCCTGTCCTGCCTC
98630	IQGAP1	TATTAAAGTATAGATGTATGTC
98631	TOX	TAGCATCTATGTTACACTCT
98632	PPP2R2B	ACTTAGGAAAGTAGATGGGTGGA
98633	SHANK2	CTGTTCTCCCCCTTTGGGACATGTTA
98634	PACSIN1	CTCCTGCACACCTGGCCTCCTGGGC
98635	CAV2	ACCACTGTTCTGTTCATTTCCTA
98636	SMCX	ACTGTTCCACCCAGGAGGAG
98637	SLC7A5	TCATCCCTCAACTGAGGGCCAG
98638	RAD54B	TTGGTCCACATCACCAGA
98639	AKR1B1	TTCCAGTTTGCTTTGCC
98640	STIM1	CTGGGATCCTATTTTGGGCCTGGGGTGGGTA
98641	KCNQ1	CCCACCTGGCCCTCTCTGAAGGAGGC
98642	ATM	TGTCCGCCCAGGCTGGGTGCAG
98643	KCNG1	GTGGGGGAAGTGTTTTCACACCCAC
98644	RUNX1	CAGGCAGCAAAAACAGCTGGA
98645	SCNN1G	CACTTCATACCACATTCACATC
98646	AIM2	CTCCTGAGTCCTCTGCTAGTT
98647	MAGEA12	GGGCTTTTAGAGAGGGGGAAG
98648	CACNA1C	TCTCCCTAGAGCCAGGGCCCT
98649	CYP2F1	CCTGCAGCTCAGCAGCTGCC
98650	PAX3	CCGAGCGAAGCTGCCCCCAGG
98651	ESRRG	AAGTCACAGACCATTGCCTCAG
98652	SLC9A5	CTAAGCTGGTCCTCACAGGGGC
98653	ART1	GCAGCTTCCCCACCCAGGACAAG
98654	IL6R	CGGGAGGTCGAGGCAGGA
98655	BMP2	TTGACCAGAGTTTTTCCATGTG
98656	TCF7	CCCAAAACCTCATGACAGCCAGAGCC
98657	SLC7A7	CTTCCCTTTTACTGCTGGCTG
98658	EFG2	ATGATTTCAAAATAAAGTTGATT
98659	RRAS2	CTCATCTTCTCTTTCTCTCCT
98660	WHSC1	CTGCTGTCTGCTTTTCTGTGGAGACT
98661	PRND	GGCTTCTGAATTATTCTGG
98662	WEE1	CCGGGGGTGGAGCCAGCGGGT
98663	BRIP1	TCCCTCCAGACAGTTAGGAATCTGAAA
98664	C18orf2	CAATGCCATTTCTTGACCAC
98665	ACE	ACATAGGCCTGCTCAGCCTCTAGCACCAGGA
98666	HOXA3	GCAAACGGAGGACTGAACTGGGG
98667	CD80	GCCTCTCTGAAGATTACCCAAA
98668	SLC1A5	ATGCCTGGCTGCTGGAGTAC
98669	GCK	AGGAGAACCACATTCTCCCAGGGA
98670	CAV2	AGTATACATTTTATAATGATGAACTT
98671	RAB7	TGCAGATATGGGACACAGCAGG

98672	TK1	CTGCTTCTTCCCCTCTGCGGCTTTC
98673	ITGA4	CAAGTCACAGTGCTTCCTTAA
98674	ODF2	TCCACCCTTCTCCCCTCAGAGAGGA
98675	SNX9	CCCTCCAGGGGGACCCCACAGCCTGG
98676	KCNN3	CCTGCTCTCCCTCCCTGCCCA
98677	KCNAB1	TACTACCTTCAGGCATTTGG
98678	CNTN2	CCTGACCCTGTCATCCC
98679	RAD18	GACATTTCACACAGGTACCA
98680	ZNF83	TCAAACATTCATCAACATC
98681	ZNF10	GCTTTGTCTCCTCAGCACTCTG
98682	RAB36	CTCTCAGACTCCTGATCTCAG
98683	RAB23	GTTCTCTTTGCCATTTTAGA
98684	THBD	TCTGGGCTGGGACGGACAGGAGAGGC
98685	ADAM17	ATAGATTTGACCTACAAATCAATCAC
98686	DUSP11	AGTCTTTTCCTGTTTAGGGTCTTATCCT
98687	EVC	CCAGAAGCAGACGCTGGCACCGTGCTG
98688	OLFM1	TCCCCGCCCTGTCCCTCTCTG
98689	PHEMX	ATGCAGCCTACCTCCTGGG
98690	BAI3	TGGTTTAGTTTTCAAAAAACTT
98691	KCNJ6	CTACCTGCCCTCTCTCAGTTATTCAGA
98692	MYO7A	AGGCAGCAGTGGGTTCAGGCCCATCA
98693	HYAL1	TAGACAATTCCTCCAGAGACACTGAGCCA
98694	COL4A4	CACACACATAATGGCAGCTCA
98695	PRDM2	TTGATCTTGCAACTCTGTAAA
98696	RNMT	TAGTGGCTTGTGTTCAGGGAG
98697	KLKB1	CACCTCCAAGAAGCAATT
98698	MME	TTCTTTCTCTCAGCCTTACA
98699	RABIF	AGCATTTTCAAAACTCA
98700	SEL1L	CTGTTTGTACTGTTCTATACTATTCAG
98701	TAF7L	ACTGTACACACATCATTCTA
98702	FOS	GAGTGTGTATTGTTCCCAGTGAC
98703	DCN	GGTAAAGCCTCATTTGAATGTGTGA
98704	PIK3CA	ACTGAGAAAATGAAAGCTCACT
98705	CLCN3	TACAAGTGCTGTTGAGCATAATTAAAT
98706	FUT1	GCTCATTGCTAACCACTGTCTGTCC
98707	MEOX1	CAGCCTCTTCCCTAGGGCCTT
98708	FOXP2	CAGCAGGCTCTCCAGGCAG
98709	ABCD1	ATCCTCTCCCCCACAAGAGCCCCAAAG
98710	AICDA	CGCCTGTAATCCCAGCACTTT
98710	ATM	CGCCTGTAATCCCAGCACTTT
98710	BRCA1	CGCCTGTAATCCCAGCACTTT
98710	CARKL	CGCCTGTAATCCCAGCACTTT
98710	COG7	CGCCTGTAATCCCAGCACTTT
98710	CREB1	CGCCTGTAATCCCAGCACTTT
98710	DBT	CGCCTGTAATCCCAGCACTTT
98710	EGFL5	CGCCTGTAATCCCAGCACTTT
98710	F2R	CGCCTGTAATCCCAGCACTTT
98710	F2RL3	CGCCTGTAATCCCAGCACTTT
98710	FGFR1	CGCCTGTAATCCCAGCACTTT
98710	FKRP	CGCCTGTAATCCCAGCACTTT

98710	GNE	CGCCTGTAATCCCAGCACTTT
98710	HIP1	CGCCTGTAATCCCAGCACTTT
98710	IL10	CGCCTGTAATCCCAGCACTTT
98710	IRAK1	CGCCTGTAATCCCAGCACTTT
98710	ITGAL	CGCCTGTAATCCCAGCACTTT
98710	KAI1	CGCCTGTAATCCCAGCACTTT
98710	LAMP2	CGCCTGTAATCCCAGCACTTT
98710	LDLR	CGCCTGTAATCCCAGCACTTT
98710	LEP	CGCCTGTAATCCCAGCACTTT
98710	MOG	CGCCTGTAATCCCAGCACTTT
98710	NT5C2	CGCCTGTAATCCCAGCACTTT
98710	PCDH11X	CGCCTGTAATCCCAGCACTTT
98710	RAB3B	CGCCTGTAATCCCAGCACTTT
98710	RBBP5	CGCCTGTAATCCCAGCACTTT
98710	SCN2B	CGCCTGTAATCCCAGCACTTT
98710	SLC14A1	CGCCTGTAATCCCAGCACTTT
98710	SLC14A2	CGCCTGTAATCCCAGCACTTT
98710	SLC2A3	CGCCTGTAATCCCAGCACTTT
98710	SLC2A6	CGCCTGTAATCCCAGCACTTT
98710	SMG1	CGCCTGTAATCCCAGCACTTT
98710	STAT3	CGCCTGTAATCCCAGCACTTT
98710	SWAP70	CGCCTGTAATCCCAGCACTTT
98710	TCF7	CGCCTGTAATCCCAGCACTTT
98710	TEM7	CGCCTGTAATCCCAGCACTTT
98710	TNFSF14	CGCCTGTAATCCCAGCACTTT
98710	TSNAX	CGCCTGTAATCCCAGCACTTT
98710	USP14	CGCCTGTAATCCCAGCACTTT
98710	VHL	CGCCTGTAATCCCAGCACTTT
98710	WIG1	CGCCTGTAATCCCAGCACTTT
98710	WSX1	CGCCTGTAATCCCAGCACTTT
98710	ZNF36	CGCCTGTAATCCCAGCACTTT
98711	ATP11B	TAAAAAGTTTGGACAGTATTTA
98712	LUZP1	TGCCTGTAATCGCAGCTACTCAG
98713	G2A	CCTCTGGGCTCCTGCCTCA
98714	MDM2	GTCATCTGCCACCACACCTGGCTAAT
98715	CDK2AP1	ACCATCAAGGGGAAGAAAGTG
98716	PREB	GAGGCTCCAGAGTTGAGCTTGT
98717	SLC38A3	CTGGGGCCAGCAGGTTCTGCTGAG
98718	BSN	CGCATTTCTCATGCTTTTCTAT
98719	ZNF264	CACCCACGCTGGAGTGCTGTG
98720	DCTN1	GCACAGCCACCTCAGCCAGCCCC
98721	JPH2	CTCAGTTCTCAGCCTCCTTCCTCA
98722	SH3BP2	GCCCAGACTGGAGAGCAGTGGCCA
98723	PLA2G2D	GGGCTGAGGCACCTGCAGTCACC
98724	GLI	TGGGAGGTATGGGCTGGGGGC
98725	CALM3	ATCCACCCTCTGGCACCCAGCC
98726	TNFSF7	GCCCCCATCGCCCCTCCTGCGCT
98727	ATP1A1	CCATCATCTGTTGCCCATATTTTCACA
98728	SFN	CCCTGCTCTCCGCACCCGCTTCCTCC
98729	ZNF265	AGAACTTTTACTCACTTG

98730	GATA3	TTTCCTTCTCTCTCAATTTTCGG
98731	PIK3R3	ACTGTAACTAACCCCTTCTGTCCTTCC
98732	CYP27B1	CTGAACCATGTGGCAGAAGGGA
98733	APM1	TGGCCCTGGCTGGAGTTCAGT
98734	MTAP	AAAATATTACATTTTAAGG
98735	ASB1	TGCGTCTGCTCTACTGAGTACTTTCTG
98736	SQLE	TCATTTTGGGGAGAACCTTAAA
98737	TBXA2R	CGCAGATGAGGTCTCTGAAGGTG
98738	WHSC1	TTTTTGGGGGGAGGGATATACT
98739	ANKTM1	TCCCTCACTACCCCCAGGAGATATTCA
98740	PTPN7	TCCATCTCAGCATCAACACA
98741	ZNF83	GAGTGTTCAGTTAGCATTAA
98742	SCD	CTTCCAAAGAGGGATGTTTGGA
98743	KRTHA5	AATCTGGGGTAAGGAGCTGC
98744	NLGN3	ATTGGCCTGGCCAGACCAGGTGA
98745	NUP62	ACTTTGCTGAATTCTCTGAAATA
98746	PKHD1	GACTTAGGCAGAACATGCCTTC
98747	PDE4C	AAGGTTGAGACAAAGGGGATCGCTTGA
98748	SC5DL	CCATGATTTAATCCAGATCTG
98749	GUCA2B	AGCAATCGGACATAGAGTTGGAGGGG
98750	PPL	CTTTTCCTCCCTTTTCCTGTACA
98751	NPTX1	TCTCTCCCTTTTCCCCAGGAATGAACCG
98752	MME	ATTGTGGATCTTTTCATTCTCAT
98753	CLN5	TTCTACTGCTCTTTTTTCTCCA
98754	CD5	TGCCCAGGCTGAGGCAAGAGAAGGCC
98755	CLOCK	CATGGGAATTTTAACTTTTGGG
98756	CPNE3	ACAGTTTCAGCACTCAACCTCA
98757	SOX5	CTTCCCTTGCTGTCA
98758	TEM6	CTAGGGTCTCAGTATTGAGAA
98759	STXBP1	CAGTTTCAGATACTTCATAATACCT
98760	PDE7A	CAGACTCCTAAGAAGTTTTCCTT
98761	KCNMA1	CCCAAAGGCATGCTCCAGACATAAATAGCT
98762	IL13RA1	TGCAGTCTGGGAGTGGGGAAGTGATCT
98763	HEXA	GCACAGCCAGGCTGGAGTCAG
98764	IL2RB	AGGACCCAACTCACTTG
98765	Rgr	CCTCGGTTGGCTCCTCTGGAACA
98766	GAS7	CAGAAATTTCTCTGTTTGCTTT
98767	FGFR3	TGCCTCCAGGTGCAGAGGTACCCTGGG
98768	CLECSF12	AAGTGCTGGGATTACAGATGT
98768	FTSJ2	AAGTGCTGGGATTACAGATGT
98769	D10S170	TCTCTTAAAATAGAGTTTGA
98770	LAMC1	CAAGTGTTTTGACGATATACTCC
98771	B4GALT3	TCCCTCACTGCTGGACTGGAG
98772	FADD	AAAAGCAGTCCTCTTATTCCT
98773	CASP8	ATTATTTTAAATCATTAGGAATT
98774	ITIH3	GGATGGCCCGGATTTTATGGCAT
98775	RAB36	TCTGGGTCTCAGAGCTTCAGGCC
98776	SHFM3	GGGTGCAGTGATAGCTCCTCCTCA
98777	PDGFRB	TTGCCCAGGGCACTTGGAGCACA
98778	HYOU1	CAATAAAATATTCTTTTCTAC

98779	ACK1	CCAGTGCTGTCCCTGCACACTTTGGT
98780	STK4	GGAAAGTTTTACATTGTCTGTTTTT
98781	PABPN1	CCAGTCGCCTAGCTAGGGCCAATCA
98782	SH3BP2	GCACAGTGTCCAGGGCAGCTGG
98783	SYT4	GTTGTTGTTGCTAGAAATGGATTGAATTA
98784	CHC1	TTTGGAATTTTCCTGGGACCTACAG
98785	FGFR1	AGACAACCAACGGCCGACTGCCTGTG
98786	LIFR	AACTGCACTTGCAAGACCATTATCAA
98787	IL17E	AGTGAGAAACTGGGATCCCAGGGG
98788	LRRC2	TTGTTTGAGCCCAGGAATTTGAG
98789	VDAC1	GGAAGCGGATAATATGTAGGCACTTTGTAAAT
98790	EGR3	CCAGCTTTGTGTCTTCTCTCAAT
98791	DDX5	TTCATTTCTACCGGTCTCT
98792	PRKRA	TTATTAAAAAGCTACTGACTT
98793	NCALD	CCTGCCTGGGCTCTGCCCTTAGT
98794	DSC3	CGCACAGGCTGGAGTGCAGT
98795	TNFRSF1B	CAGGCCAAGAGCAGAGGCAGCGAGTTGTGG
98796	PTGIS	TTTCTTTCTTTCTTTCTTTTTA
98797	EGFL4	TCTGACATGCCCAGGGTTCTC
98798	CORO2B	CTACCACCTCGAGAACTGGAA
98799	G6PC	TCCCGCCAGGAGGTCCTCCTCTCTCT
98800	KRTHA5	ATTTGCTCAGGCCCCTGATGCCT
98801	ADCY6	CTACCTGCCAGGGCCTTC
98802	CARD15	ATGTACAAGGACAGCCCCTCCTCC
98803	NRXN2	GGGACCCTCTCCCTGGCTGCCT
98804	CEACAM6	CACTCATCTGACTCATTCTTTA
98805	MEF2C	TTGTGGCTTTTTGTAGTTTACTTA
98806	ADAMTS4	CTGTCGCCCAGGCTGGAGTGCAAT
98806	SH3BP2	CTGTCGCCCAGGCTGGAGTGCAAT
98807	EFNA4	CACAGGCTAAAGAAGAGCAGTA
98808	HOXA4	AGAAAACAAAAGTCCTCTGGAT
98809	FCMD	CCTGCCTGTTTCTTCTCCTCTTC
98810	EHF	TCCTTTCTCCCCTTTGGATG
98811	CD58	GAAATACCCACTAACAAAG
98812	IL13RA1	TGTATCAGTGGATTTCCCAT
98813	HOXC13	CAGAGCCCAATCATTCCAACCAAAG
98814	TGFB3	CAGGTCATGCAGTTCCTGGCC
98815	ORM1	CAGCCACCAGCACTGCCTGGCTCC
98816	MPP2	TGCCTGAGCCCTCACTCCACAG
98817	M6PR	TGTCCCTTCTGCTGGCTCAGGGA
98818	TAF7L	CAAGAGGAGTTTTTAGTGA
98819	FANCC	TTGGCCTGGCTGGGTGCAGTG
98820	PRX	ATGAAAGTCCCTGACATGAAGCT
98821	GPR55	CTGAGAGGACCTGATCATGT
98822	GABRA1	GGGAATTTATTTATGTTCTCAA
98823	RNF3	CCTGCCTGGGTCCTGGTGC
98824	ACE2	CAACTGTATGTTCACCCTCT
98825	C5R1	GGAGGCTGAGGTGGGAGAATTGCTCGA
98826	CASP4	CTTCAAGGAGCACCTTCATTAG
98827	FKBP10	CTGGCTAGGACCCCTCTGCCT

98828	INSL5	GGGTAGGCAAAACTTCTTTTCTA
98829	CLCA3	AAAAACACAGCTAGGCTAAGT
98830	PCK1	CAGCACTCTGCAGAAATGCCTCCTCA
98831	FGF2	TAATCATCTGGACTTTAAGAAGGA
98832	MS4A2	TATGCAAATATTTTACCACCAGTCAA
98833	UPF3B	TCCTTGTAGTACAGGTACAGTGAAGGA
98834	SUOX	TACTACTGTACTTGTTGGCTCTTCA
98835	FBLN1	CTAGAGACCGCCACTGTGA
98836	DLG3	CCATCTCATTCATCATGTG
98837	CA7	AGACCCTGGGAACCTCCTCTGGTCT
98838	MASP1	TTAAGCCCCAGGCTGAATACTCAGGGA
98839	ABCF1	TTTGGTGCCTGCAGCCTCTTGTC
98840	CNTNAP2	CTCAATCTATGCCAGCTCTCTGGC
98841	ANXA5	AGCATGCTCATGACCAACACA
98842	MTR	AGTTTGAAGAGACCACATGGGGC
98843	RENT1	TTTCCACTGCTAAAACTGAAGCACC
98844	EML1	TCTCTCTCGAGCGCACCA
98845	BTG2	TGAGAGGGAGCAAGCAAGGTTAGC
98846	HTR7	TAAGATAGCAGATCATCTCA
98847	LANGERIN	CTTTCTTCCCCAGACTCCAGGAT
98848	SLC16A7	AAATGCCACCAATGCCAAGTGCCCC
98849	SMURF1	TTTTGTTTCTCAACCACTTTATA
98850	CLDN3	AGGCCAGCCCACCCCCAGAAG
98851	DNASE2	GACCAGCCTGGGCTACATAGTG
98852	HS3ST3B1	CCTGTCTCTTCCTGCCTGTGT
98853	PCDHB16	TCTTTTGTCTATTTTCC
98854	ARF1	CCCCTCGGGAGCACCCCACC
98855	CORO1C	CTGTACAACAGGAAGACTTG
98856	RAB36	GTCTATACTACTCGGCCATGGCCC
98857	HSD11B1	GGTTCTCTCTGTGTGTCCTACAGGAGT
98858	ROCK2	CGGGCGGATCACCTGAGGTGA
98859	FREB	AGTTCATCCATGATCTCACT
98860	CHES1	AGGAAAGGAAATAATGGTA
98861	ALDH1A3	CATTTGACAAATCAGAGCTGT
98862	WDR8	GTGTGGGAAAAAACACAGCTTC
98863	PRIM2A	CACCAAGGCTTAGTGCAGTGA
98864	DMC1	GAACCCAGGAGGCAGAGATTGC
98865	REN	AGCTCCCTTCCCCTCTCTGGCTGCC
98866	PKLR	TTCTCCAGCCCACACCCCTCCA
98867	SLC39A1	TTGTTGCAGCCATCTACTGCTGCTG
98868	GRN	GCCCTCGGGACCCCACTCG
98869	STX1A	GGGAGGGCTACCTCCTCCTCC
98870	CTF1	CAGGCTGGGGTGCAGTGGCGCG
98871	TUFT1	CAGGCTGGAGTGCAGTAGCGCG
98872	GALGT	CCCCCACACCCTCAGGCTCA
98873	MASP1	CCTGCTGTGCTTTTGGGC
98874	SGT	CCTTGGCCCTAAAACAGCCACCAGGAA
98875	TNFSF14	GGAGGCTGAGGCAGGATAATTTTGCTT
98876	ADRBK1	CCACTGCACCCCCTCCTGCTGCAGAG
98877	ELMO2	AGCCATTTCTCAAACCCACCTCG

98878	LTB4R	GGTACTTCCTCTCTGGCTGA
98879	CACNG7	CCTGGGCTTCCTTTTTCCCTGCCTAATCTC
98880	CALM1	TCAGGGCTGATTTATAGAGACCCTT
98881	RNH	TGCTCCAGAGACAAAGGTGGGGAGGG
98882	STK38	CTGCCTCTCCCTGGGCTCTGCAGCCA
98883	RAB7L1	CTGAGGTGGGAGAATCGCTTGA
98884	GLS	AGCTGTGTTTAGTGAAATGAGCTCAAGTA
98885	KLK10	CGTCCATCCTCTTCCTCCCCAGTCG
98886	MMP14	CATCTGAATGTGTTGGGGGCTCTGCACTTGA
98887	CXorf6	TGCATTGTTTTGTGTTT
98888	AGER	CACCTTGCCAAGCTTTCTTCTACAAC
98889	ZNF146	AGAGAAACCTGCAGCAGAGATA
98890	CALU	TCTCTGAGGGACTGGAGGGAAGCCGT
98891	BACE	GTCAGTAGGAGAGGATGCACAG
98892	CACNA1C	AGGTAACTGGCAATGCACTTGAT
98893	ZNF75	TTTGGGAAGGGTACATGTTACACT
98894	BRIP1	TTAAAAAACTATTTTATGTTCAGAAA
98895	VDR	CCCTCCCTGTCCTCCTCGGATCA
98896	TNFRSF1B	AGACTGCTGGGACTGGCCAGGT
98897	KCNS2	CAGCATTTGAAGGTTATTGTTT
98898	NOVA1	TCCAGGCCATTTGACACACCA
98899	NXF5	GGTCTCAGGGTTCTGATCTTGCCT
98900	CALML3	GCTGCGGCACTGGGAGGGAGA
98901	GALNT2	GCTAGTACTTTGTCCATTTTATG
98902	MAN1A1	TGCTGCTCTACTCGCTGCCATT
98903	FCMD	TCTTTTGGGTGCAGTGGCTCA
98904	EXTL3	CCTCCTCCCTTTCATCTCAGCA
98905	RET	GGGTAGCGAGGTTGCAGGA
98906	PPT2	CAAGCAGACACTGGTGGTCCC
98907	BRCA1	GCCCTTTCACCCATACACATTTGG
98908	PRDX3	CTGCACCTTCTCAACTGAGA
98909	HOXC13	CCTGTTCTGCTCTCTCAGTCA
98910	SMARCD1	AGCACACCCCCACCCCCAAAT
98911	TCL1B	CCTGCTCTTCTGTTTGCACACCCAG
98912	MGAT3	GACCAGCCTGGGCAACACAGTG
98913	IQGAP1	CTCCATTCTTGGCTTTTTCATTCATA
98914	ZNF205	GGAGACACCCCCGGAGGTTCCA
98915	GRM6	TTAGGCTGGAGTGCAGTGG
98916	TAF11	CTAGGCTGGAGTGCAGCGG
98917	ADARB1	GTGCTCTGCCTGCCAGTGCAGT
98918	HCFC1	CTCTGCCCTTTTGCCTGTCCTCAGGCC
98919	C11orf8	AAGTTGTGAATTGCTCATGCCTAT
98920	SFRP4	AGCATTTTATCAACAAATTTCA
98921	CCK	CCAGCCGCCATCAGCCCAACGGAAGC
98922	ADD1	TGAAGGCTTCTGCAGCTTTGG
98923	MIA	CCCAGCACCCCCTTGCTCACTCT
98924	BENE	CGCCACCTGCACTCACCCCCCTCA
98925	OCRL	AGTGATTTCTCCTGTTTCTTGGTG
98926	OVOL1	GCTTGGCTGGCATCACCTGCAATTACCT
98927	GGA3	TCCTACTGACTACCTCTTGCTT

98928	GPX2	CTTCACTGCAGAGCCTTGCCTT
98929	ZNF264	TCACCCACGCTGGAGTGCTGTG
98930	RFX5	GTGTTTATATCCCTACGTTAACTTTGCC
98931	TSC1	GGAGCAGTCACTGGGAGAGGT
98932	GRM6	GAGAGCTGACCTGCACCGAA
98933	FGFR2	GCCACAAGCCACCATGTAACCCCTC
98934	PRND	ATTTGCGTATGTAAACATTCATATT
98935	PLOD2	GCAAGTGTCCTTAAGTCAAATAGG
98936	RARB	ATGGGATAATTAGCAGGCTGGTC
98937	FKBP10	CTCCCTCTGCTGGGATGAGGTC
98938	ABCB1	TCACTTCAGGAAGCAACCAGA
98939	PDE4C	TTCGGGCCAGCTTTCTGCCTCT
98940	HIP1	GCCTATAATCCCAGCTACTGGGG
98941	SLC4A4	ATTTTCTCATTTTGAAATATT
98942	SOX11	GTAGGGTGGAGGGGAGAGAAGAAGATGCTG
98943	ENTPD3	CCTTCAAAGCAGCTCCTGGAGTC
98944	LPIN1	ACCTAAAGAGGCTATATTCATTCTTTA
98945	CALB3	TCTTCTAGCTGTTTCACTATTGG
98946	PAX2	TGTCCCTTGACGCCCTGCATCCTCCTC
98947	HGF	AAGTGTGAGACACTGGAAGGCAAGA
98948	PCTK1	CTACATCTTCCCTGCTTACTCTCTG
98949	SORCS1	AAACCTCTTAGTATGCTCAGCCT
98950	ALAD	GACAACCAAAGTAAATGCTGCT
98951	RPA1	GCTCACAACTTGGGTTCTTCTCAGCG
98952	AP1S1	TTTGCAGAACTGATGTCACCCCAGATG
98953	MUC5B	TCCTCCACTCTGGGAACAGCTCAC
98954	DDX11	TGGAGAAATTCGTGGCTGTGCTA
98955	RABIF	TAAAGCATTTTCAAAACTCAGTAT
98956	NAP1L4	TTTATCCCTTCTTGCCTGTGAGGA
98957	JUN	TCAGTGCTTCTTACTATTAAGCAGTA
98958	IFNG	GCCAGTGCTTTAATGGCATGTCAGACA
98959	OAS3	AGGTGCTTGCAGGTTTACAGTGT
98960	PXR1	AGTAGCTAATGATCAGAGAGATTT
98961	USP14	TTATCTTCTTTGCCTGCCTGTA
98962	SORCS2	AGCCACCGGGGTGGCTCTGTCA
98963	RHO	GGAGAATCTGCTCCAAAAAGCT
98964	ZNF2	TCTTTGTATCTCACACAGTGCCTTGCTAAT
98965	SLC14A1	ACTCACAATATTCTCTCTCA
98966	BCL2	TCAAGCTGGATATGTCTAATG
98967	PPM1B	GCATTGCCTGTACTACAGTATTTT
98968	HELZ	CACTTAATTGCTTTGCTGCTA
98969	IL21R	GTTTCCTTATCCAGACAGTGGGG
98970	SLC6A3	CAAAACAAATTCAAGAATGCAGTA
98971	UROS	GCTGCTGCCGTCAGACTCCTGCCTCA
98972	LDLR	CCGTGGTCTCCTTGCACTTTCTCAGTT
98973	GJB5	TTGCCGGCTGCTGGGAGCCAG
98974	IL18	AGGCTGAGGCGGGCAGATCACC
98974	TBX6	AGGCTGAGGCGGGCAGATCACC
98975	A1BG	CCCAGGCTGGAGTGCAGTG
98975	ALDH1B1	CCCAGGCTGGAGTGCAGTG

98975	ALOX15	CCCAGGCTGGAGTGCAGTG
98975	APAF1	CCCAGGCTGGAGTGCAGTG
98975	APPL	CCCAGGCTGGAGTGCAGTG
98975	AQP6	CCCAGGCTGGAGTGCAGTG
98975	ATP7A	CCCAGGCTGGAGTGCAGTG
98975	AXL	CCCAGGCTGGAGTGCAGTG
98975	BCL10	CCCAGGCTGGAGTGCAGTG
98975	CASP8	CCCAGGCTGGAGTGCAGTG
98975	CLECSF12	CCCAGGCTGGAGTGCAGTG
98975	CMAR	CCCAGGCTGGAGTGCAGTG
98975	CNN2	CCCAGGCTGGAGTGCAGTG
98975	CR1	CCCAGGCTGGAGTGCAGTG
98975	CSE1L	CCCAGGCTGGAGTGCAGTG
98975	CSNK2A2	CCCAGGCTGGAGTGCAGTG
98975	CTSS	CCCAGGCTGGAGTGCAGTG
98975	CYP2B6	CCCAGGCTGGAGTGCAGTG
98975	EEF2K	CCCAGGCTGGAGTGCAGTG
98975	EHD2	CCCAGGCTGGAGTGCAGTG
98975	EIF2S3	CCCAGGCTGGAGTGCAGTG
98975	EVC	CCCAGGCTGGAGTGCAGTG
98975	F2RL3	CCCAGGCTGGAGTGCAGTG
98975	FCAR	CCCAGGCTGGAGTGCAGTG
98975	FCGR2A	CCCAGGCTGGAGTGCAGTG
98975	FHL2	CCCAGGCTGGAGTGCAGTG
98975	FSHPRH1	CCCAGGCTGGAGTGCAGTG
98975	FUT1	CCCAGGCTGGAGTGCAGTG
98975	GPR81	CCCAGGCTGGAGTGCAGTG
98975	GRAF	CCCAGGCTGGAGTGCAGTG
98975	GRINL1A	CCCAGGCTGGAGTGCAGTG
98975	HUNK	CCCAGGCTGGAGTGCAGTG
98975	ICAM1	CCCAGGCTGGAGTGCAGTG
98975	INMT	CCCAGGCTGGAGTGCAGTG
98975	KCNJ11	CCCAGGCTGGAGTGCAGTG
98975	LYZ	CCCAGGCTGGAGTGCAGTG
98975	MDM2	CCCAGGCTGGAGTGCAGTG
98975	MEFV	CCCAGGCTGGAGTGCAGTG
98975	NCOA6IP	CCCAGGCTGGAGTGCAGTG
98975	NEU3	CCCAGGCTGGAGTGCAGTG
98975	NQO1	CCCAGGCTGGAGTGCAGTG
98975	ORC1L	CCCAGGCTGGAGTGCAGTG
98975	PAICS	CCCAGGCTGGAGTGCAGTG
98975	PCDHA9	CCCAGGCTGGAGTGCAGTG
98975	PCDHB16	CCCAGGCTGGAGTGCAGTG
98975	PCDHB9	CCCAGGCTGGAGTGCAGTG
98975	PDZK1	CCCAGGCTGGAGTGCAGTG
98975	PER2	CCCAGGCTGGAGTGCAGTG
98975	PIGR	CCCAGGCTGGAGTGCAGTG
98975	PIK3CD	CCCAGGCTGGAGTGCAGTG
98975	PON1	CCCAGGCTGGAGTGCAGTG
98975	PPP1R12B	CCCAGGCTGGAGTGCAGTG

98975	PRND	CCCAGGCTGGAGTGCAGTG
98975	PSMD9	CCCAGGCTGGAGTGCAGTG
98975	SERPINB9	CCCAGGCTGGAGTGCAGTG
98975	SLC13A1	CCCAGGCTGGAGTGCAGTG
98975	SMAC	CCCAGGCTGGAGTGCAGTG
98975	SS18	CCCAGGCTGGAGTGCAGTG
98975	STAU	CCCAGGCTGGAGTGCAGTG
98975	TAPBP	CCCAGGCTGGAGTGCAGTG
98975	TERF1	CCCAGGCTGGAGTGCAGTG
98975	TERF2	CCCAGGCTGGAGTGCAGTG
98975	TMC1	CCCAGGCTGGAGTGCAGTG
98975	TMPRSS3	CCCAGGCTGGAGTGCAGTG
98975	TNFAIP2	CCCAGGCTGGAGTGCAGTG
98975	TNFRSF9	CCCAGGCTGGAGTGCAGTG
98975	TRPV1	CCCAGGCTGGAGTGCAGTG
98975	UGDH	CCCAGGCTGGAGTGCAGTG
98975	VHL	CCCAGGCTGGAGTGCAGTG
98975	VIPR2	CCCAGGCTGGAGTGCAGTG
98975	XRCC2	CCCAGGCTGGAGTGCAGTG
98975	YES1	CCCAGGCTGGAGTGCAGTG
98975	ZNF264	CCCAGGCTGGAGTGCAGTG
98976	NOLA1	GTGCCTGGCACTCTGGGTGCTC
98977	NDRG2	TCCTGGTGCCTCCATCAGACTCTCCC
98978	SCAMP3	TCCCTCTGCTGTGCCA
98979	PTP4A2	CAAGATCAAAACAGCATACCT
98980	ATP6V1G2	GCCTCTCTTTGTTTTTCTT
98981	TDGF1	ATTAGGTGGTGGTAGAGAAGCA
98982	SCN4A	AGCACCACCAGGGCTCCAGGAG
98983	SLC17A5	TGCCTGTAGTCCCAGCACTTTG
98984	EIF2C1	GGGGAGTTCTCCTGGGACAGTGGG
98985	TES	GGTCTCAAACTCCTGACCTCAGATGAT
98985	TRPM6	GGTCTCAAACTCCTGACCTCAGATGAT
98986	ABCB9	CCTCTTGCCAGCTCTGTGAGTCTGG
98987	LYPLA1	ACTGTAGAAGATGAGGAATC
98988	SLC1A3	GTTTTAGTTTCAAAATGTTAACA
98989	HMG20A	AAGGCTCTTCTGTTCCCATCTGTTGA
98990	JAM3	TACTCTTCTTACTCTAACAAGCCACA
98991	FXYD6	GGACCTGGGAAGGTTTGCAGCACTTT
98992	CRTAP	CCGAGTACCTGGGATTACAGGC
98993	GUCY1B2	GGAATGATTTGTAATGAGTA
98994	YWHAB	ATGGAAATTCTTTGTGGCAG
98995	SLC6A4	TCAGTGTCATTTACTAACCAGCAGGATGGAGA
98996	FOXO1A	TGGAGGTTGGTTTTGTAGTTCTGCCT
98997	PCDHA9	GCCACCCAGGCTGGAGTACAGT
98998	CDH12	GGAGCCACAGAGAGGGGTCCAG
98999	STCH	AAATGCCAAAGATGAATCCTTCACTGC
99000	BTC	GTTTCGTTTCCTTCTGCCTCCG
99001	PRKCQ	ATAAATGCTGGGGGCCAGCCCT
99002	FDFT1	TTTTGTTTTCTTTAATTGGG
99003	SMPX	TAGTTGGCTGTATTTCTTACTTTATC

99004	NFE2L1	CACAGCCCCAGCTTCGCACAG
99005	EHD3	AGGAGCTGTGTTAGGCACTTTATATAC
99006	MAGEA5	CCTGCCTGGGACTCCTATGATGGCCTG
99007	CRY2	AGGACCACCTCCGCCTACTTCTCC
99008	COL6A2	GACAGGCTGGCTCTCAGTGGAGGCC
99009	SLA	GGATGCTGGGATTCTTGCCT
99010	KRT4	CCCTTCCCAGTCCAATGCCATCTCCC
99011	SSPN	AGCACATGGAGTAGCTGAGGTT
99012	SACM2L	ACTGCCTCTGAGTCATTGTGT
99013	SIGLEC7	CCCACCATTCTCCTCTGTACTT
99014	APOL1	CTGAGTGTTAGGGACTTTGGCA
99015	IL12RB2	GCCAGCTCTGGGGGAGTCTTAGGAACT
99016	ZAP70	CCTGAGCTGAGGGCATTGCTT
99017	NPM3	GCTACACATTTTTAATAGTTTA
99018	IL19	GTTTTTCTGAATAAATTCCAT
99019	ITGAL	ACTTGGAGCCCCAGTGCCAAGCACAG
99020	TEGT	AGCAAGGATAGGGAAGGGGAAT
99021	TRPS1	TCCTCTGCTTCAGTTTCATTGTT
99022	CALM3	GACTGCAAAGTGAGGCCCCCCGG
99023	LRRC2	CCCAAAACAAATAATTACTTGAATAT
99024	RP2	CCGCCTCCTGGGTTCAAGCGAT
99024	TNFRSF10B	CCGCCTCCTGGGTTCAAGCGAT
99024	ZNF264	CCGCCTCCTGGGTTCAAGCGAT
99025	DMXL1	AACAGCTTTAAACACTTCCAATGAG
99026	HADHB	GGAAATCATCTTTGTAATA
99027	VHL	GCTCCTCCTTTCAACATTCAACA
99028	HPRT1	TTCAAATTATTACCAGTGA
99029	CALML3	TGAAAACAGCACTGCCTTCCGCG
99030	DTNB	TGATAGCCACTGACCCACT
99031	NT5M	AGGGCCCAGCAGAGAGTCCGTAGGCTT
99032	FOXD2	CCAAGTTCGCTCCTGGTGATCACTCG
99033	PRND	GGCCTCCCATAGTGCTGGGATT
99034	EIF4EBP2	TTTTGTCTCCCCTAGTCCCCC
99035	LTB4R	TGAAAGGGAAGCAGGAAGGCCCAT
99036	PMM2	AAGAAAACTGTGCCTGGACC
99037	RHBDL	TGAGCCTTTTTGGATAATTAAT
99038	MAGEA9	GGGACAAGATAACATAGCAGAGGAA
99039	PKNOX1	GTTGCCCAGGCTGGAGGGCAAT
99040	SLA2	GTTGCCCATGCTGGAGTGCAAT
99041	IL16	CAGTGTCCAAAGCAGGGTCTGGGCAG
99042	PPP1CB	TCATCCAGGTCAAGACTAAGTATGTTG
99043	OCLN	ACAATCAGCCATGTCATCCAGGCC
99044	FOXD2	GCGGTCCCAGCGGAACTCAGGGA
99045	CHES1	CAGGGATGTCAACGTCAATATCA
99046	NOTCH4	AGAGGGACAGGGACTGGGGCTTGG
99047	DIRC1	GCCTGCATTAAAATAAAAATA
99048	GLUD1	CTCCCCTCCGCTTGTGGCC
99049	NOS2A	CTTCAAGTGACCACCAGGAG
99050	SSPN	ACTGTGGTTTAAAGCACAA
99051	FXYD6	GCTAACTGTGGTCTTTGTGG

99052	CDH5	AATCCAGGCTGGTGTTCTG
99053	SYT4	GCCTGTCACAAGCCTCAGTGTG
99054	NF1	CCTCCTTGCCAACGCCCCCTTT
99055	PIP5K1A	TGTCTTCATGCAGGGAAGTTGGAAATG
99056	MAN1A1	TTCTCAGATTTGAAAAAGGCTCTA
99057	NCOA6	GTCTTAAAAATGTACACAGACCTC
99058	SLC9A1	GCTGCCACTCTGCTGCCTGTA
99059	MECP2	CAGGCCTCCCTGCCAGTAGGGT
99060	USP6	CCTTTACAGGTTACATCATTGCAGTC
99061	CDC2L2	TCTCGAACTCCTGACCTCAGGTGATCCA
99061	FCAR	TCTCGAACTCCTGACCTCAGGTGATCCA
99061	MEFV	TCTCGAACTCCTGACCTCAGGTGATCCA
99061	PIK3CD	TCTCGAACTCCTGACCTCAGGTGATCCA
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99061	SHOX	TCTCGAACTCCTGACCTCAGGTGATCCA
99061	TNFRSF10B	TCTCGAACTCCTGACCTCAGGTGATCCA
99062	TMEM2	CCTTACTAAGGGCACATGTCTT
99063	KIF5A	CTGTATCTCTTTGTACTCTG
99064	KLK8	GCATCACATCCTGGGGCTCAGA
99065	TCTA	TGCTTGAACCTGGGAGGCAGAG
99066	TNFSF10	TGTTTGAACCCGGGAGGCAGAG
99067	BAPX1	CTGCCTGGCCCTCAGTGTCTACCTTC
99068	TFAP2B	TGTCAATGCTTTGAGAGCTGGTTGAC
99069	GASC1	CCAGAAGAGACAGTATCTGCA
99070	CEBPB	CTCTGCCCCTCTCCAGGCGCC
99071	PTH	CAGATATTGTCAGAGTTCTGCTCT
99072	HD	AGTGGGGCCTCCTTGCCCAG
99073	SNK	CTCTGTTGAGAGCATTTCA
99074	EN2	GCCCCACGGTAAACAATATGGAA
99075	VHL	CCAAAATGGTGGGATTACAGGT
99076	CYP8B1	TGCCTCCTGGGTTTAAGCAATT
99077	POU1F1	TGCAGGTAGTGAGAATTGAA
99078	NR2E1	CAGGCTGGAGGGCGGCTGGAGAGCG
99079	RAB13	CTTCAGACCTTACCTGGGTT
99080	SUFU	CCCATTTCCTCAGTCCCTGGGCC
99081	PCDHB4	TTTCCTACAGCTTCTCCCCATCTTTCAA
99082	PCDHB6	TACTGAAGTGTCAACACATTAG
99083	GSTZ1	GGAGGCGGTCCTGGTAGGGAG
99084	FLRT2	AAAGTGTTACTGTTCAAATCA
99085	GRIN2A	CACAGCCCAGGCTCACCCCAAGAACT
99086	GALGT	TACTCTGTGTACCTGCTCCA
99087	BACH2	ATTCAAGGCAAGCACCACCTT
99088	ACTN4	TCCCATTCCTCCACTCTGTATCTATG
99089	SP3	AGTCAAATTCAGATCATTCCTGGCTC
99090	GABRA5	GCATGATCTTACACGAAGAA
99091	FZD10	CGGGGCCCGCCTCACACCCCAG
99092	STC1	CTTCCTCTGCCATGTCTTTTCC
99093	IL18R1	TCAGCACTCCGTCAGTGTTGCCA
99094	B3GALT3	ACAATCAGTTTGAGCTGCT
99095	RAB38	TGTTCCACAAATTGTGCCTCT

99096	DNASE1	GGAGGCTGAGGAGGGAGGATTA
99097	ENTPD6	CTGGGCCCTGCTCAATGCCACCTGTC
99098	USH2A	GTGGGGAAAACTAATCCCAGGGA
99099	FGF5	CTCATGCCACCACGCCAGCTAATTTTT
99100	ASC	CCTGGGTGGGAGGGGA
99101	GLRX	TGCAAATGATGACAGCACTTCTG
99102	FCMD	CCCAATTGACACAGGTTCTA
99103	MC1R	GTCTCTGGGTGGAAGTGTGTGC
99104	HYOU1	CTGGTGATTGTTCCTTCCCTC
99105	DDX20	GTCTTTTGAGGCTGTGAAAGCTGTC
99106	PCSK2	GTCTCTATTTCATTTTTTG
99107	SIAT1	CCAGAAGCAGATGATCATGACGCAGTC
99108	NPHS2	CTCTGTCCTCATTCCCTGCCCTTCCTT
99109	XT3	AGGTCTCTGACAGTGGGTCCAGGAC
99110	VAMP1	CGGCGCGAGGCGGAGCTTGGCAGTTCCGTC
99111	IL13RA1	CCTCAATTCCAACACTGATTTC
99112	MAZ	GGGGGAGAGGGGAGAATGG
99113	CLOCK	CAGGGGTTTGCTTACAGTGA
99114	NEK2	CTTTGTGAAAATTCATCACTGTGA
99115	TNFRSF10B	CCTCCGCCTCCTGGGTTCAAGCGATT
99115	ZNF264	CCTCCGCCTCCTGGGTTCAAGCGATT
99116	PCDH11X	TCTCCAGGAGTTTGGAAGTGAGCTGA
99116	PCDH11Y	TCTCCAGGAGTTTGGAAGTGAGCTGA
99117	Rgr	CCTGCCTGGGCCCCTCCTGGGAC
99118	IL16	GTACTGTAACTGTGTCAT
99119	UVRAG	TGATGACACAAAATGAATATTAA
99120	SFN	CGCCTTGTGGCTGAGAACTGGAC
99121	GRM6	CTCTGGCAGGAACTCTGATGCAC
99122	WTAP	TCTTAACCTTGAGCATAGTGACTTAGA
99123	VCL	AGACACTGGTTTACACTTT
99124	SIAT1	AGCCTGCTCCTTTTACTCTAG
99125	VANGL2	CATTCCCCTCCCATTTCAGCCCTTA
99126	ABCC3	GCACCTGGGTCCATCAGAGAAGG
99127	MMP16	TGAAAACAACAAAACACTACTA
99128	MYEOV	AGTATTTTTCTCCCCATTTTCCAGGGA
99129	EPS15	GAGATAAGGAAAAATATTTTGCACAG
99130	TDGF1	AGTAACTGGGATTACAGGCAT
99131	PRKAR2B	CAAGCATTTTCTGTGAT
99132	PFKFB3	TGAGAAACACTTTCCTGGAGCTGC
99133	DVL3	GGTGTTTTGGCACCTGCCTGTA
99134	LRRC2	TTCTTCCGGCTCGGCCGTGCTGC
99135	PRAME	TCATGCCTAACTACTGGGTGCACATA
99136	USP5	TCTGTGTCGCCCCGCCCAGCC
99137	KCNQ1	CTCCTGAGCCCCCAGCTTCCAG
99138	SFRP5	GGCACCCTGAGGCGGAGGTTTCAGAGTAGAAG
99139	PLA2G2D	TACTGCCCTGGTCTAGTGGGA
99140	LANCL1	ATTGCAAATAGTTAACTTTTCATCATG
99141	ZNF264	GTCATCTGCAAATACAGAC
99142	CD69	GCCCTTCATGCATTTGCACTACTGGAA
99143	IFI35	TCTCACACTGGCCTGGGCTTGGG

99144	IL5RA	GCATCCTCTGATGAACTCACACATGCC
99145	SLC22A3	CATACATGTTGCAGCTTTGA
99146	ASTN	GGTTATACAACTTGCCTCAAAT
99147	CROT	GAGCGTGAGACCCTGTCTCAAAGAAG
99148	TAT	AAGTGAGAGCACGCCTGTACTAGA
99149	EIF2S3	TGCTTTATCTTTGAAATTTTGCA
99150	GARP	CTTCCTTTCTGTGCCTCATCATGCAAGGAT
99151	CEACAM1	AACACAATCTGCTAGGAACTTGG
99152	NPTX1	CCTGCTGTTTGCATCTTGAGAGCAGCA
99153	PCDHB9	AGGAGGTGGAAGTTGCTTTGA
99154	INPP5B	CATGAGGTCAGGAGTTCGAGAC
99154	LRRC2	CATGAGGTCAGGAGTTCGAGAC
99155	SLC20A1	GGAGCCAGAGGAGGGAAGTG
99156	LASS1	TGGGACCCCGCCCCCTCATCCTGCC
99157	PAFAH1B1	ATTGGTTCCTGCAAAAGACA
99158	PVR	TGCAAGTTCATAGGTCTCCA
99159	RARG	GACCCCTCCTTTCTTCCTCC
99160	HIP1	ATCTCTGTTCTTTTCCCGCCTC
99161	EDNRA	AATATAGGGTTTTGTTT
99162	BBS4	TCTTGAGAGGGGTCAGTCTA
99163	SULT1A3	AAGCAAGACCCTCCCTCCAAAGAAA
99164	CST3	AGAGAAGGCAGCAGGCGGCCTTTGTTG
99165	KRTHA8	TCTGGCTTCTAACTTTCTGTATGTAT
99166	RERE	TTACATAAAATAGGAGCTGC
99167	IL22RA2	GAAATATATCAGCCCATGTT
99168	AES	GGCTTCCCTCCTCCTCCCCTGCAG
99169	RAB36	TTAGTAGAGATGGGGTTTCTCCA
99170	PXF	GACCAGGTTTTTTGTTTTCC
99171	ANGPT1	CTCCACTGACTGTCGGGCTTT
99172	NCYM	CATTCACACAAGGCACTGCCT
99173	MPL	CCGCCTGCCTCTGCCTCCCAAAGTGCTG
99173	PIGR	CCGCCTGCCTCTGCCTCCCAAAGTGCTG
99174	GAB2	TAGGGAGGTTGGTGTCAGAGGC
99175	DMD	TGAACAAAAATTGAGAGCTTTA
99176	HIP1	ATGAGCCATGATTTCCCACTG
99177	TNFSF10	CACTACACTCCAGCCTGGCGA
99178	DAAM2	TCTCTAGCTAATTTTGTGGCCA
99179	DGKB	TTAAGCCTATGATGTAAAATGAA
99180	NDRG3	CAGGCTGGAGTGCAATGGCGCA
99181	GHR	CAGGCTAGAGTGCGGTGGCGCG
99182	BID	CCTTTATTTCCACTGTGCAGGTTC
99183	PKIA	CCCCCTGGCTCTTCTCTCTCAA
99184	MAPK8IP1	AGGCCTAGGACCTCAGGCGGG
99185	INHBB	TCAGCTGATTTGCAGAAGTTGCCCAT
99186	COL6A1	GCATCCCACCAGCCTGAGCAA
99187	CALCR	TAAATTGATTTGTTATGGTTACATATT
99188	CABC1	CTGGGCTTCGGGGCACTGGCAGAG
99189	SOX13	CTGTGTCTGCCCCCGTCTTCTCTCCA
99190	LHX2	AAGTTGGCTAGAGCTTCTGTATTT
99191	DAZ	ACTGTTCTTCATTAGATGTTTAT

99191	DAZL	ACTGTTCTTCATTAGATGTTTAT
99192	VANGL2	CTAAACATTACGGCAATTT
99193	HOXC11	AGCTAAATGTGATCCTGCCTTGCTGT
99194	KCNK3	GGTCGAGGCTGTAGTGAGCCCT
99195	ADAMTS5	ACTTAAAACCTTTGACTGCCTG
99196	TACR1	ACCTGCCTCCCTTCATGCA
99197	ADAM12	AGGGAGCCATGTTTCACAAGG
99198	CYFIP2	TGTGCATGCTCTCCCATGACATC
99199	UBE2V1	CTGCTAGGTGTGTGGGGTGTTTCGCC
99200	STC1	ATACATATATCTACACATACAG
99201	GPR55	CAGGCCACTACGGCTGCTCGGCAGGA
99202	TRHDE	TTCAAAAGAATAAAATAACCAATGA
99203	SLC21A3	GGAGCTGTGCACCGGAGCTGTTC
99204	PAX4	AAGCCAGGCTGGAGGGGCCTGAGTG
99205	KCNA7	GGAGAGAAACAGAGACTCAGGG
99206	TADA2L	CAGGAGGCAGAGGTTGCAGCGA
99207	MUS81	GGAATTCCCTGGTCAGGGAGATGGAG
99208	EGLN3	ACAACAATCTCCCTGCTACTTCT
99209	FBXL5	ACTAGTGCCTTTTAGTACAATTTTA
99210	DRPLA	AACATCCTCACAACTCCC
99211	POLS	AACGTGGACGTTGTTTTCTGCCT
99212	PFKL	CCTGCTCCCTGCTGCTGAGC
99213	TRIM	ACCTTAAAAAATGCTTTA
99214	GCLM	GTCAAGTTTTAAATACTTATCTTGCCT
99215	MHC2TA	GGCTGGGCTTCAGTGGCAGCT
99216	ZNF274	GGGTGAGGCAAGCTGGCGCGCCGCGG
99217	ABCA3	CTCCAGAGGCTCTCAGGCC
99218	MBD3	GCCAGTCCCTGGTGCCCTCCTGGCCC
99219	C1R	ATCTCTAGTTGTCACTTTCCTCTTCCA
99220	SIRT2	CTGCCCCCACGGGGCCAGGGCTACC
99221	VANGL2	CTCTGCTTCTCCCCTGTGGGAA
99222	L1CAM	TCTTTGCCATCTCTGCTCCAACCG
99223	FAT2	CCGAGGAGCACCACCAGGCC
99224	ELL	GAGGAAGATGCTCATCTGAGCCAGCA
99225	CYP8B1	TGGCACCCCCTACCTCTGTTC
99226	DUSP3	TACAAGTGTGTCCCAACACAGTCCT
99227	KCNJ12	TGGCTAGCTGCGGTGCTCCTTG
99228	XCL1	TTATTAGGATTTCTGTATTTG
99229	FGF9	AAAAGCCGAGTCCTCTGATGGCTCCCTT
99230	GLRB	GCTGCACCCTTAGCAGCCACTGCCACC
99231	GTF2F1	CTGGGAGGTGGAGGTTGCTG
99232	EOMES	ATTTCTATTTGTAAATTCTT
99233	MADH9	CCGTTTGTTTTGTGCTTTCTAGTT
99234	CACNG3	TCCTAGAGCGGAGGAACCGGGTCGTGC
99235	DLGAP2	CACTCTTATTATGTTAAAACAAATG
99236	DR1	GCTCCGACGCCGTTCCCCACCA
99237	MSL3L1	CTTGTGAGCAAATTGAGTTATCAGAAT
99238	IL16	ATGGCATCACCTCCACCATACTCCA
99239	MS4A2	GGTGCTGAGAAATTCCACACATGA
99240	RET	CTGAGTATTAAGTAGTAATCTGTCA

99241	CAPN10	CCGGAACAACAGCGGCTTTCCC
99242	CRTAP	AGCTCACTGCAACCTCCGCCTCTTGGGTTC
99243	KCNC3	CGACTCGTCCAGCTGGGTCGCGTTA
99244	MYCL2	TCTCTTTCGCACCTGCCTCTC
99245	HDLBP	GAGGTCCGCAGGGAGCCTAGCG
99246	RAD52	GGCCCAAGTGATACTCCCACCTCT
99247	CPT1B	TGGGCCTGTATTCCCAGAGCTT
99248	FPGS	GGTGTCCCTGCCTTCACTGTGCTCCA
99249	MAT1A	TGGCCCATCAGGGTAGGCTGGAGTTA
99250	ZNF253	CGTTCACTGCAATCTCTGCCT
99251	TAZ	GCCATGACCTTACATTTCCTGGGCC
99252	CD83	AAGGCATTTATTGCTGAGTTA
99253	GRPR	GCCTTCAGAATGCTCCTGAGTGGTGTAGGTG
99254	BARX1	TTCCGCGTCCAAGAAGTTTACTTCCTA
99255	PTGS1	CCTCCACTCCAGCTCTGAGACCC
99256	NR2E3	TCATGGACTGAGGCAAAGGCTGGGCCA
99257	PPP2R1B	AATGTGTTCTTAACTGGGTGG
99258	KCNQ1	GTAGCACAGGCTGAGTGCAGGCCCAC
99259	ACK1	TGGGAGCCACTGCCTGAGGGCAGGCCG
99260	MHC2TA	CTCAAGTGATTCTCCTGCCTCA
99261	BMP6	GCCCTTGTCTCAGTCATT
99262	MS4A2	TTTAGAGAAAGAGAATGGGAGCA
99263	LNK	CTCATTTCTTAGCAGCCTCTCT
99264	CLTC	CTGTATCCTGTGCTTTTTCTGTG
99265	EPHB4	CCAACTTGCTGCTGTCACCACCAAACT
99266	MPP2	CCTTCACTGCTAGGGATGCTCA
99267	NEK2	AAGAACATATTATAAAAAGAATAC
99268	CD3Z	CTGCCTCTCACAGCTGAGTTGTT
99269	FRDA	AGAAGTACATGAAGAGCAGCT
99270	ATP7A	AAATGTGTATTTCTGTGT
99271	ABCA3	ACTCCAGAGGCTCTCAGGCC
99272	RAD50	CATCCCATTCCAGGCAGCCTCTGTCAG
99273	APM1	TTAGTAAAGACAGGGTTTCACCA
99274	SPARC	TTCAAACTTTTGGGAGCACGGACTGT
99275	AKAP13	GGGACCACCTGTGCTGCAGTCC
99276	HRG	ATCTCCTTCTTTCCTGGACTTAACTCT
99277	KCNK6	CACTGTGTCTCTCTGGCTCTCTGG
99278	EGFL5	CTCCAGATAGACTCCTGGGGAAGCA
99279	IL13RA1	GACCAGCCTGACCAAAATGGTG
99280	PDE7A	GACCAGCCTGGCCAAAATAGTG
99281	SYBL1	TTGCAGTTTTTTAAATGTGTTCC
99282	PXF	GGTTCCATCAACACCCACCTTCCA
99283	USF2	GCCCGCCACCACCACGCAGCCGC
99284	FGF12	TATACTCAATAGCTTAAACTCA
99285	TCL1B	CTGCTGGCTGCAAGCTGTGGGTTCTTT
99286	SH3BGR	AAGGCATGGAAGTTCTCTGTGAT
99287	MAGEA10	GAGCGGGCCCAGGCTCTGTGA
99288	CD5L	TCCTCAAGCTTCAGGTGAC
99289	PRKAB1	GCTTGAAGGTTTGTCCAGGC
99290	KCNA7	CCCACATCCACTTCATTGTGCTGTTCACT

99291	COL3A1	AACTCCATATGTGTTCCTCT
99292	ADORA1	CCCTGCAGGAGGCCTGGGAGGGCAAGG
99293	UGDH	TATTAAAATATATCCA
99294	ID4	ATAGTGTAATATATACAGAGTA
99295	FLT4	TCAGCATTTTCTTCTCTGCACTTA
99296	SIAT6	TCCCTGTGGGGCAGGAGTGCCAGGACCA
99297	PFKFB2	TTTAGGACAGATTCTCAGATG
99298	ESR1	TTCCAGCCACAGGGCAGCCTT
99299	MCSP	TCATGGACTCACTAGGCTGCTGAG
99300	SULT1A3	CCAGGAGGTTGTGGATACAGT
99301	TBX5	AACAAGGCCAGCCCCAACCTTCCAAACC
99302	NEDD4	TATGGATACACATGTGTATATCTGTA
99303	ADORA2A	GAGCCCCAGGCTGGAGCAGCATG
99304	DPYD	TCTGGCTGGAGCTTGAGGACGCAAGGAG
99305	MCOLN1	TCGGCTCCCTGTCGCGCCC
99306	INPP5B	ACTTCATTCCCTTAGTCTT
99307	PTGS2	TTCACACATTAATTTTATCTCAGTCT
99308	IVD	GCCTCTGGATGAGGTTGAGTTCTCCAC
99309	NME4	GTGCCTTTCTGTACCCCAAGCCA
99310	DCX	TGGCTGGGGCAGGATTGGGTTTACAAC
99311	HMGA1	GCATCCCAGCCATCACTCTTCC
99312	CISH	TCTCACCCCCTCACAGGACAG
99313	IL1RAPL2	AGAGGCAGCATCTGCCATTCTAAC
99314	PTPRS	GAGGTGGCAGCGGCAGCAGCTG
99315	PCTK1	CTGCTTTCCTGCCTGCCCCACC
99316	NOVA1	CTGTAAAATATTTAAAAGGTTAAAA
99317	SCML2	CAGGCTGGAGTGCAATAGCT
99318	RNASE1	GGTCCACACCCCGGGAGCTGAG
99319	CHRNB4	TATCTTCTACCTGAACCTTCT
99320	ARHGDIA	TCACTAGCCTCTAACTCCCTG
99321	TMC1	TTAGGAATCATTGCCCCAAAAAG
99322	HEM1	CCCCCAGCCATGATTAACCCTG
99323	PRKAR1A	TTTTCTTTCTTTTCTTTTTTAAAGTAA
99324	NONO	GCCTATCTTAGGTAGTCATGCTGTGC
99325	RFNG	CTGCCTGGCTCTGTCCCAGGC
99326	OSR1	TGGGAAAGAGATGGATGTTGGGGAG
99327	NYX	GAGAGATTTAAGACAAAGGGT
99328	FADD	GAATCAGGCACCGGAGTGCAGG
99329	APOBEC1	AGCTCACTGGCCACAATACCCACCTCT
99330	LZTS1	ATCCTCTCCCCCTCCTCCAGGGA
99331	MST1R	CTCCACCTTGTTCCTGCCCTTT
99332	PRKAR1A	TTTAACTACATCTGCCTCGG
99333	ARNT2	GAATGTTCTCTATGACTAACAGTT
99334	CYP2B6	GGCCTCAGGTGATCCACCCACCTCA
99335	TOMM22	CCTGTAGTGTAAAGTGGCCACTATGAATCC
99336	PDE4C	CCACTGCACTCCAGCCTGGGGCTGACA
99337	SOX11	TGCATACCTAGTCTGGAGTTGTGA
99338	APM1	ACCCAGGCTGGAGTACAGTGAC
99339	SMCX	GTCCCTTGACTTTTGTATTCTGACTC
99340	CALB1	GTGAAATTTACAGTTACTGCCT

99341	SPTBN2	CCCATCACCAGGAACTGTCACTGG
99342	TNFSF14	CCACTGCACTTGCCACCTGAG
99343	POU4F1	CTCTCCAATCCCGGGAAG
99344	WNT5A	TTCACAATTCAGCTTCTATGACC
99345	CAD	GATGCTGGGGCCCAGTCTGCCC
99346	SEMA3F	CACAGCCGCCTTTGGGTTCCATCTTGC
99347	AGL	CCAGGGGAAGGAGAAAGAGACA
99348	LZTS1	CACATTGGAATGCCTTG
99349	GPX2	ATATCAGTCCCCTTCACTGCAG
99350	DTNA	ACCTGCGGTTTTCTCATTGCTTTTGCT
99351	MGAT3	GTAGGCAGGATTGGGGAAGA
99352	PTPN14	ACACATACCATGTATTATTTTA
99353	AHSG	TGTGTTCTCTGCCTCTGGTT
99354	HCCS	TGGGGACCACGGGCTGGAGCAGGTG
99355	HAL	GGGGGCCAGCAGCAGGTAGGTGC
99356	WEE1	TATCCCACTGGGAGCACTTT
99357	TAT	GCTCAGGATGAGGGAAAAGAA
99358	TAPBP	CTGGGAGCTCTGCGGAATCTGAGCCA
99359	BSN	GTGGCAGGCAGGCCTCAGTT
99360	OTOA	CATCTGAGGATGTTCAGGCTGG
99361	GARP	GCATCCTGTGCTGTGCACA
99362	HSPA4	ACCACAACAAGGCCAGGTTCTT
99363	KCNJ13	AGCATTTTCAAACTCAAATTCCTGTTT
99364	NR2E1	AGGCTGGAGGGCGGCTGGAGAG
99365	FANCC	CTGTGATCCCAGCACTTTGG
99365	MGAT3	CTGTGATCCCAGCACTTTGG
99365	SUV39H2	CTGTGATCCCAGCACTTTGG
99366	PRDM1	ATTGGCAGAGGGGACCAAGGG
99367	UBE4A	AGATGTATGCAGTATGTGGCCA
99368	NCYM	AAACTGCCATTTCATTCACA
99369	CHST1	CCTTTCCCCATCCCTGCCTCCTGC
99370	CTMP	CCCAGGAGGAAGAGGTTGCAGTG
99371	LRRC2	ATCACTTGAGCCCAGGAGGTCG
99372	SIAT1	TGCCACTCTGGGCAAATGCTCTT
99373	MLC1	CCAGGAGGCCTGGGAGATGCAGCTG
99374	PFKFB4	TCCCTGAGAGAAGTTAGCGTCCCTGGC
99375	HLA-DRA	ATTGTTTAAGGTTTCCTCAAA
99376	ASTN	CCCCACCCTCATGACTGGGAAGGAAGC
99377	YWHAE	GGCTGAGAGAGTCGGAGAC
99378	MSR1	GTTCTTTCTTTAATAGTGG
99379	CHST6	CTGCACGTTTCTTTCTCTCTTG
99380	DES	GAGGCAGAGAGCGGTCTCAGGCTGG
99381	CDC7L1	CCCATTTAGTAGTCATAGAA
99382	SLC1A3	TATTTGTTTTGGAATCCCACT
99383	HNRPF	GGCCCCAGCCACCTGCAACTT
99384	DES	GGAGCCCAGGCGGGAGCGGT
99385	TAZ	TGGCGTCCAGCAGTCCAGGAC
99386	CD3Z	GCCCTCTGGTTTGCCGGTGGTGCA
99387	ACE	GCTCTCCATCTTCCACGAAAT
99388	WBSCR14	TCACACACCAGCGTTTTGACCA

99389	SLC7A8	TGAGAAATTGTAAACAAAAACTGACA
99390	KCNN2	TAAGTTTTAGGCCAAAATGAGTGA
99391	COX11	CTTCATACTTACAGCAATGAATCTGA
99392	SMARCA2	GTACTCTGGGTGACTCAGA
99393	SLC7A6	GTGGTTTCAGCACAGAACCTGA
99394	GLUL	ATCCAGGTCACGGGGCACCAAA
99395	MTMR4	CCTGTCCAATTTTAGCAGGTT
99396	RFX2	GTCACTCTGGGAACCTGGATTT
99397	G22P1	ATGTTTTTGAGGCTTTCTGTTGCC
99398	KCNK6	GCTGCACTCCAGCCTGCGGGACAGAG
99399	DNMT2	GGTTCTGTTCACTGCTGAAA
99400	B4GALT5	TAAGCTGGAGTGTGGTGGCA
99401	KCNJ5	CTGAGGCAGAAGAATGGCATGA
99402	DR1	AGCCAGTGCCCCTGGATCTTGCCT
99403	MTF1	GTGAGGCAGCTGTGAGTTGGACAGG
99404	BCL11A	ATAAACCTGCTCAGATAGGACA
99405	EML1	TGACTGATGAAGTGCACCTTTCAAAA
99406	MAS1	TAGTTTGTGCTTGGAATATGACT
99407	CLECSF12	AAGTAGCTGGGATTACAGTCAGGCACC
99408	NR4A1	AGGAAGAAGACAAATGACAGA
99409	ABCC4	AAGGCATTTTCCACTAGTTTTT
99410	ESR1	GGGAGCTGCACTTGCTCCGTCG
99411	LIG4	TAGAAGCCTGGCCTCCTGAT
99412	PRKAB1	CCCAGGAGACAGCACACCACCAG
99413	EHD3	GGCAGGCGGGCAGCTGCAGGGA
99414	MPP2	CCAGCCTGGTGCCATCTTGAA
99415	REGL	AGCTGTGCCAATACTGCCTAC
99416	UROS	CCTGGGCTGGGCTGGCTCTGGATGGAGC
99417	TNF	CCCTCAGCAAGGACAGCAGAG
99418	SLC21A9	TGAGGCTTTTAGGATGTTTATA
99419	B3GNT3	GTGGAGGTGTGGGCAGAGGAGGG
99420	TNFSF4	TATTTTCTGATTGATAGGCTTT
99421	OSM	GTTCCCCAGGCCCAGTGGGGTGGCCG
99422	F2RL3	CCTTCCCTCCTCTCACCTGCAG
99423	COL4A3	GGGAAGAGAAGGGGCATGTGGTA
99424	PPM1B	TTACATCTCTGTAGTTTTATT
99425	F8	TTTTGGCATTCTTTTCCCATTG
99426	OSR1	ATCTGGAGGAGAGAATAATGATGTAC
99427	SYT4	CTCAGATTCATTTCAAAAGGACAGTGA
99428	DDX11	CCTGGCAGAGGTGAAGGACATGGA
99429	NIPSNAP1	GGATCTGAGGCCCAGAGTGGG
99430	CACNB1	CATCTGTCTGTCTATATTTGTCT
99431	AQP6	ATTCACATCTGCATTCTGTG
99432	LAMP2	TCGGGAGGCTGAGGCAGGAGAATC
99432	NUP62	TCGGGAGGCTGAGGCAGGAGAATC
99433	YWHAE	CGCTCGCTCAACCTCTTTTGTTC
99434	PML	CCCGGCCCCTGAGCTGCCTCCTCC
99435	PRKCN	GCTGGGGCTGTATTATCAGCACAG
99436	NFYA	GTTGCAAGCCTTTGTCTTACTCTT
99437	FBLN1	GCTTTCTCCTGTTCTGGACC

99438	NGFR	CCCCATCCTCCCCTTCCCTGCAA
99439	ABR	AGAAATGCAAAGGCTCATA
99440	MADD	CACGGGGTGTCAGGAGGGAGAGAC
99441	TNNT3	GGCCAGAAAGGCCCTCGAGGCAGAG
99442	ED1	CAGAAGTCCCTTCAATTTCTAGT
99443	NBEA	CATTTATTTAAAAAGATAAAACAAGAT
99444	ITGAV	TTCAGTTTTAAGAAAACATGAATGAAC
99445	BAZ1B	GCATATAACCTTTACTTTGATGGA
99446	MEIS2	GTTCTGACAGTACGATGAGCTG
99447	TACC1	AAAGCAGCTGGAGTGAAGCACTCATTT
99448	SIP	TGTATATGCCATGCATTACCATGC
99449	ADCY1	GCACCAGGCAGGAGATGCTGCAGGC
99450	GARP	AACCTACCTGAATGTATTA
99451	RAD50	TCCATTCCACACAGAATGCAACCA
99452	Z39IG	ACTAGGACTTGGTCATCATGCCT
99453	CLOCK	TCAGCATTTTTCTTTAGTCATTTA
99454	CHAT	GGCTCACACCCCCGCCCACAC
99455	VIL2	GGACGAGGCAGGGCGGGCGGG
99456	ACE	CCCAGCCCACCCTGCTCCTCC
99457	ADRA2B	GCCTGGCTTCAACATTGGGCCA
99458	HYOU1	GGGCACAGTGAAGAAGGGAGCCCACCACC
99459	CDH5	TGACAGGCTCCACAGAGCTCCA
99460	STK4	CCAGCACTTCTGCTCTGTCG
99461	CA3	TCCTAGTATTTTTCTTTACCT
99462	ADCY1	TCCATGTGTGTGCCTGCATTACATGTG
99463	SLC21A9	GGGAGGCAGCAGACAGGGAGCCACCAGCAG
99464	LIMK1	GCTGGGCAAGGGCTGCTTCGGC
99465	DPYSL3	TTAAAGCTCTTGTAGTGCTT
99466	RARA	GAGGCCTGGGCCCTCAGTGGA
99467	TNFRSF8	CAGACGTGTATGCAAATGAGTG
99468	B3GALT2	ACACATTTTTAAGATGCAT
99469	COG6	CTGCCTCCGTGGTCCCTGCCTGGCTGAGGTG
99470	P2RX7	CACGTCTGTAATCCCAGCGCTT
99471	SHOX	CAAAGTGTTAGAATTACAAGCAT
99472	USP14	TGGATTTCTTTGGATGCTGAA
99473	CTGF	TCCGCTCCGCCCGCAGTGCCAACC
99474	PARN	AAGAGCCGGCTGGCACATT
99475	PTPRO	CAGAAAGTTGAATTGTTTTCTGCCTA
99476	CPSF6	AAGGAAGAGGATCACCTTCCA
99477	MECP2	CCAGAAACTTGTTCTTCCAAAGCAGAG
99478	TRIM39	GTGTCTGGAACTATTGGTTCTAAG
99479	RAD54B	TTCTTGAAAGAATAACAGAAA
99480	APXL	GGAAAGAGACTTCTCCCATAGCAAAGA
99481	MYO10	AGTTTCCAAAGCTTTACTACTCTTA
99482	TTC3	ATAGGAGGATGGAAGGTCTGG
99483	EDN1	GGCTGGGATCAGAGCAGGAGCATC
99484	ADAM19	GTGACCTCAGCAGGGTGGGG
99485	KLF8	ACACTTCAGGAGTCCTCAGCTAGTGAC
99486	CRP	TGCAGTGCTTTCTTAATTTTATG
99487	GFPT2	TCTGTGTCCAGGCTTGCTCCTGGC

99488	VIM	TCGCCACCCTCCGCAGCCATGTC
99489	CEP2	AACACCCTCTGGCTACCTAGGGA
99490	FGF7	TCCTGTTAGATGGCAAGAGCA
99491	LMNA	GGGAGGAGGGAGAGGGAGGTCAC
99492	GBF1	CAATCAGCTGTGGGACCTTTTTCC
99493	KCNK3	GAGGGGCGAGCTGGGAGGCAGG
99494	NCOA3	GCCTCTCTTTGACACCTGTTTT
99495	TACC1	CACTTTCTCCCCCTCTGCC
99496	SHOX2	ACCAAGGAGCAAAAACAAATTTTAAA
99497	SLC26A4	CAACAAATCATCTCGCTAAAG
99498	CCND1	TAGATGTGTAACCTCTTCACCTT
99499	PPP2R5C	CTGGCATAAGATTATATAACTTAATGTTA
99500	PRKWNK3	GGGAAAGGGAAAAAACAGAATTGTAA
99501	PLS1	CAAGATATGCTGACACTGTC
99502	GRB7	CACTCCAGTCCACTCCTGAC
99503	APAF1	GCCTCAGACTCCTGGGTTCAAGCAATC
99504	RB1	TTAGAAAATGTGTCCTATCTATCTTCC
99505	DDOST	ACTCCAGCCTGGGCAACAGTGT
99506	ALDH1B1	TGAACTCCTGACCTCAGGTGAT
99506	EIF5A2	TGAACTCCTGACCTCAGGTGAT
99506	GNE	TGAACTCCTGACCTCAGGTGAT
99506	PRND	TGAACTCCTGACCTCAGGTGAT
99507	ADCY1	CCGGGAGGCGGAGGTTGCAGTGA
99507	BRCA1	CCGGGAGGCGGAGGTTGCAGTGA
99507	PAICS	CCGGGAGGCGGAGGTTGCAGTGA
99507	RBM3	CCGGGAGGCGGAGGTTGCAGTGA
99507	TNFSF14	CCGGGAGGCGGAGGTTGCAGTGA
99507	VHL	CCGGGAGGCGGAGGTTGCAGTGA
99508	CDA	CAGCCACCTGGAGAACTTCATAA
99509	BUB3	GATTTTTTGTTTCCACTGTGGAAA
99510	DIRC1	CCCCTCTTGCACTTTCTCTCCA
99511	KCNA7	GGAGAAACCTGAGTCTCAGAGCAGGG
99512	RAD52	ACTGTGTCTGGCCAGAAAAGGCAT
99513	GLI2	ATGCTATACTGGATACTCTGCTCCGG
99514	PAICS	ACTGCTGCTTTCCCTCCTGGG
99515	MFAP1	GGAACACAAGGGGAGTCTCAGC
99516	EIF4E	TCTTCCATGTGAACAGCATAAGT
99517	CACNA1C	ACAGTTTCACTCGAGGAGGCAG
99518	SH3BP2	CCTGCCTGGCTCCCTGCCAGGCTCC
99519	MPZ	TATTTCTTCTCAAACCTCCAAAT
99520	IL1A	TTGGTAAAATACTTCTTGA
99521	YWHAG	CTCGGCAGGTGGCTGTGGGA
99522	USP1	AGTGCTCGTATTTGTATTCTCCA
99523	ADCY7	CGGGGCTGACTTTGAGATCTTT
99524	SPOCK	CTGCCTAAATCACTTTTCTCGCAGAAG
99525	PTGIS	GGCTAATTTTTGGATTTTTAGT
99526	MADH2	CTCCCAGCCCCCTCCATCCCATCGGAA
99527	KDR	GCTGGGAGAAAGAACCGGCTCC
99528	EGLN3	AGATGTTCTTAATCCAGGGCTGTT
99529	SLA2	CCACGGCACCCAGCCTAGCTCTCAGA

99530	POLH	ACCTGTGATCCCAGCTACTTGG
99531	HD	TGAGGCCTTCCAGAAAGCAGGAGCAGC
99532	EGFL3	CCCGGGGCTGGGATTGCGCG
99533	YWHAE	ATCACCATTAGCAAATGGAAATT
99534	CDS2	GCTGAATCCTTTCTGGGGA
99535	ITGAL	TGGCCCCCACAGAAAGACTGA
99536	KRT8	CCCTTGCCCATGCCTCCAGCTACAAA
99537	KCNAB1	GCTCAACCTCTCGTGACTGCCTG
99538	RASGRP1	TTTTCATTCTTCCTCCTCTCCA
99539	XRCC2	CCCAGGCTGCTGGAGTGCAGT
99540	HAP1	GGGACCCCTCCCTGCCCCTGGC
99541	UGT1A1	TGAATGGCTTGGAGTGCACTGA
99541	UGT1A4	TGAATGGCTTGGAGTGCACTGA
99541	UGT1A8	TGAATGGCTTGGAGTGCACTGA
99541	UGT1A9	TGAATGGCTTGGAGTGCACTGA
99542	IGFBP3	GGAGGCCAAACCCAAGAAGGTCT
99543	BST1	AACTGTACTGGAAACTGTGTTGCTCTA
99544	A1BG	TGAACTCCTGGCCTTAAGTGAT
99545	PCSK1	AAACTCATTACTTTTCCATTCCCAATC
99546	STAU2	TTTTGCTGCCTGTCTCTTCTCCATTTT
99547	ATRX	CAAGTTGAATACATTGGTGCA
99548	TTF2	GGAGGTTGAGGCTGCAGTGAG
99548	UBE2B	GGAGGTTGAGGCTGCAGTGAG
99549	ASK	AAGATCAAGACCATCCTGG
99550	JPH2	CTTCCCTTCTGGACCA
99551	PCOLN3	AGCTCTTGGGAAGGACTTGCTGGGAGGC
99552	EDAR	GTTCTTGGCATATTATTGTAC
99553	DPP6	TAGCCTCTGTGTTCCCGT
99554	COL4A4	TTACCTTTCTCCTTCCCAAAAAG
99555	NFKBIA	TGGTACTTTTATGATGTATATTTAT
99556	GFRA2	TCTATAATGGGGAAAAAGGACA
99557	GNAI3	CAGAACCAGTGACTTTGCTGCTA
99558	SIAT7D	TGCTGGGCTCAGGCCTGGGTGCTG
99559	MAPK1	TTCTTCAGTCCAGAGAATTCCTCCTGG
99560	APM1	GCAGCCTCCTTCTCCTGGGTC
99561	TNFAIP2	AGTTCCATCTGCAACTTTAGTT
99562	FLG	TCTGAGTCTGCTTCCAGAAA
99563	FGA	GTCTCATCTCTGTATTCCCAAATGCC
99564	ATP6V1C1	AGCCAAATTTGGGTCAGAACACAAA
99565	F8	CTTCCATCTGCCTGACCCCTTCA
99566	LILRB1	TCAGTGAGCCAAGATCGCACC
99567	NUDT2	GTTGTGCTGGTATTTGGCTCAT
99568	NPTX1	AAGAGGGGCCACCTGTTCTCAA
99569	CARP	TATCACAGCCCTCTTTTC
99570	SH3BP4	CACTTCCTGTGTGCCTGCAGTT
99571	XRCC2	TCTGTCTCCCAGGCTGCTGGAGTGC
99572	HMG20A	GAAACATTTGCATATTCAGG
99573	CEACAM6	AACCATGGTGAGAAATTGACGA
99574	HRH2	TCTCTCTTCTTCATTCATA
99575	RASGRP1	AGTCCATGTACCCTCCTTCCT

99576	AVP	TTATCTTGTTGTCACAGGGCTA
99577	SPRR3	GCACAGCAGATGATCCCTGAGCAGCTGA
99578	SLC4A7	AAAATGTTTTTACAATGCTTC
99579	SELENBP1	GCTCACTGTGCTGCTTTTCCATGAGC
99580	FOXI1	TGTCATGGACCAGTGAGCTGGAGATG
99581	VIPR1	ATGAGAAGGCAGCCACCAGCGAATGCT
99582	CSK	GCCTTTCTTCCCTCCGCGACCCGGGCC
99583	ZNF74	GAGACCTCGTCTCTACAAAAAA
99584	BCAT2	CAGCCCCTCGTCGCGGGTTCAG
99585	NR1I2	GCAGTCCAAGAGGCCCAGAAGC
99586	STK38	GATTTATCTCCTCCTGTCCCCC
99587	FLT1	GACATTTTCTGGATTCTGGGAG
99588	ICMT	CATGTGCTCCCTGTCATTGTTCC
99589	KCNA4	CCAGGGTCTTTGCCTCTATCTGTGGT
99590	MATP	CAGGAGGTGGTGGGCTCGCAGGAAGG
99591	SMARCD1	ATTTGGGCCCTGTGCTGCCTGCCTCAT
99592	TCF7	CCCTGAAGATTTCAGAGGCTGCA
99593	PDCD2	CTGAGAATGAAAAGAATGTAACA
99594	PYGL	TAGAAAACATAGCTTCTT
99595	CNN2	GTCTCGAACTCCTGGCCTCAGG
99596	ETF1	TAGACTGCGTAAGAAGAAATA
99597	MYO1A	TTGTCCCAAACCCTTCTTGTTCTCTCC
99598	SFRS2IP	AGGGAAAGTAAAGGGTTTAAAGGAA
99599	MPO	TCCTTGCCCTAGATGAGCCCAGC
99600	CRYZL1	ACTTAACATGTTGAGTCTCTGAGA
99601	FOXD2	GCCTAAACCAGTGTCTACGCAGGCGGA
99602	IPP	GCCTGTAGTCCCAGCACTTTG
99603	MAP3K9	GCCTGTAATCCCAGCGCTTTG
99603	RAD51L1	GCCTGTAATCCCAGCGCTTTG
99603	SLC28A2	GCCTGTAATCCCAGCGCTTTG
99603	TRIM14	GCCTGTAATCCCAGCGCTTTG
99604	KCNMB4	ACAAACCATTATGATTTATGCTA
99605	GCLC	AACTGTACTGTTTTCTGGGCCA
99606	SNAP23	GCTAAGCTACTGCTGTTCTTCT
99607	RXRG	CACAGCCTCCCCACCCAGGATGACCCCTG
99608	WBSCR14	GTGGAAAGAGGAGGATGCTGTTTATCT
99609	B3GAT1	TGATGGCCAGGGTGGGGTGTCCAGCAC
99610	TCF2	CAGGGACTGGCTTCTCTTTC
99611	NCOA6	TGTCACCGAGGCTGGAGTGCAGT
99612	STAM	CATTAAACTGAACCTTTTACT
99613	USP6	GCCGGGCCTGGCCAGAGAAGCAACACA
99614	PRKY	GGAGGCGGAGGCTGCAGTCAACCAA
99615	OLFM1	AGTTTGAACCCTTGTCAATGC
99616	RUNX3	CTGCTTTGCACTATCGTTTGCTTG
99617	PYCR1	CAGAGCCGGTGCCATCTGTGGG
99618	MTR	TCGCCCAGGCTGGAGTGCAGGG
99619	PSA	TTATGCTGTTATTACAGGAGAAGTGA
99620	GFI1	GGCACCCTGGCTGGCTGCAAGCAG
99621	DFFA	GGGAGGCAGAGCTTGCAGTGA
99622	ZNF215	TACCCTTTGTTGTCTTGCTGTTG

99623	RNF4	CTGCCCACCAGTTGTTCTC
99624	ZFX	GGGAAAGACATAGAAGAA
99625	NRG1	GCCGCTCGCTCTCCCCCTCG
99626	FUT6	TCACCTGCTGGAGTCTTCGGTG
99627	UBE2V1	GCATACCGAAATAAAAGCAATTCA
99628	VBP1	TAAGAAAACTCTTAGCTGAAATG
99629	FZD7	CTGGGGAAGGCAGGAGGCAGA
99630	FHL1	TTCTAAACTGACCTTTCCCCG
99631	IGFBP4	CCTGGTGTGTTTCCAGATC
99632	CAPNS1	GCCTCTCTCAGTTCTGGGAGG
99633	EPHB6	GTCCCCGGACTGGAGAAGACGCGGGT
99634	IL6R	TCTCCTCCCTTTCTTCCCTACA
99635	CARKL	GAACTCGGGAGGCAGAGGTTGC
99636	ITCH	GGGGATGTGAGCAAAATTCG
99637	TNC	AACTAAGGATTTTTCAAGAG
99638	LARGE	CGGTTTGTTTTTATTTATCTCT
99639	PVR	GCTGCAGCCACTTTCTGCCA
99640	TNFRSF1B	GCCAGCCACATCCAACCCCCCA
99641	PTGIS	GGTCTCGAACTCCTGACCTCGTGATTT
99642	PKD1	TCTGTCTGTCTGTGGGCTTC
99643	DGCR2	GTGAGGGTGGCACATGGAACTTCACGG
99644	ROCK2	TAAGAAGTGACCATTATACTGT
99645	KIF5C	GCTTGCTTTTGAACCTGCAGCAACTA
99646	NCAM2	TTTCTGGCTACAGCAGGACAG
99647	TNFAIP2	GCCTCTGTATTTGTTTCCTA
99648	PTGS2	TTTTCAGGTAAACCTCAGCTCAGG
99649	TGM3	CCCTCTCCATCTCCCAAGGCTGCCAGACAT
99650	APAF1	CCCAAGTAGCTGAGACTGCAGGCACG
99651	ILVBL	CGCCGCTGAGCCAAGTGGGCCA
99652	NFRKB	GGCTGAGAAGGGACCAGGGA
99653	IL13RA1	TCCATTCTCACCTATCCACA
99654	HTR2A	AAAATGTTCTGACAGCATTTCA
99655	ADCY1	TGCGCAGGGCCAAGTGCCCA
99656	SLC7A5	CCCCGCTCTCCCTGTCACGCT
99657	PTP4A2	CTGCTGGAATTTGCTGTGCAGAG
99658	KCNAB1	CTACACTGCTATGGAAACTTAGCTTC
99659	MTMR1	GATGCCTTCGACAAACCAGAGAAGCCA
99660	DLX4	CTAAATCAAGGACCTCAGCCT
99661	LZTS1	AGCCCCATCAGAACCTGAGCTATT
99662	TIMP3	CCCAGACCTCTGTCTTGCAT
99663	SFN	CTGAGAACTGGACAGTGGCAG
99664	SHANK2	CCACAGTCTTTACCGTTTTA
99665	SPRR2C	GCTCCACCTGCATCTTCTCA
99666	EHD2	TTGCTCTGTCGCCCAGGCTGGAGTGC
99666	GRINL1A	TTGCTCTGTCGCCCAGGCTGGAGTGC
99666	NCOA6	TTGCTCTGTCGCCCAGGCTGGAGTGC
99666	ORC1L	TTGCTCTGTCGCCCAGGCTGGAGTGC
99666	VIPR2	TTGCTCTGTCGCCCAGGCTGGAGTGC
99667	GCA	ATTGTCATAAAATATTGTATGA
99668	TNFSF4	TGTGTTATCAAGGAATTGTACTGTGCTAC

99669	SP1	GCATTTCTCTTCTCAGCTCTTC
99670	OAS3	CTGTGGCTCAGTTTGCCTTCCT
99671	PDPK1	GGCGGAAACCTTGCAGCATTTT
99672	TFAP2B	TACCCTCCCTTCCTCACATTGTTACG
99673	PHKA1	TTGGTTCCTGGCTTCTGGGA
99674	MBL2	CACATACATACCTATATACTCACTTTCT
99675	GPR35	CGGCACCCATGCTTTCTTTGAG
99676	MYD88	GGCAGGTGGGGAAGCAGTTTGGC
99677	BMP1	GACGGGCACAGTGAGAGCAGC
99678	FOXE3	CTCCTGGGTCAGACTCCTGGGT
99679	ENG	GGTCGGGCAGCCAGCAGAGGGG
99680	ALDH1B1	AGCCAAGAACACCCTTTCTTTGTTCCA
99681	GCLM	TCCCTCGGGCCCGAGCGCA
99682	BDKRB2	AAGAAGGGCTAGAACCTGGAGGG
99683	ING1L	GCAGGATGTTAGGGCAGCAGC
99684	CBFA2T2	GAGAAGCAGCAATAAGCATTAG
99685	DAG1	CAACAGCAACAATGCCTTTGCAGGCA
99686	BST2	TAGCGGGGAGAGCACGGGGTAGC
99687	ATP8B2	AGGAACTGGATGGGCTGCAGTGA
99688	ABCD4	AAGGTGAGGTGGTGAAGTGGCC
99689	KCNAB1	TGAAGGAAAGGAATTGAGAGA
99690	PRKG2	TTCCTGCACAATGGGAAGAGGAGAA
99691	CDC7L1	GATCTGTCTTATGCCATAATCT
99692	TIMP4	TCTGCCCTGCCCTCAGCCTGTT
99693	MUS81	CAGTGGTTTTTAAACAAAGCTG
99694	ADRB1	AATCCTCGTCTGAATCATCC
99695	MAPK4	GCGGCCGCCTCCGCCCTCTCTGCTGC
99696	P2RY6	GAAGAACTGGTTCTGTGGAAT
99697	CYP4F3	GGAGGTGGGACTGAGGAGCGAC
99698	KCNF1	CCAGGCGGTGGACAGATGGGTA
99699	TNFRSF13C	ACTACAGACCACAGCATTCAG
99700	CRMP1	CAGTTTTAGTTGGTGCTG
99701	TNFRSF11A	GCCTGTCCCGCGCCATGGCCC
99702	EIF5A2	ATCAGCCAGGCTGGAGTGCAGTG
99703	GRM6	CCAATGTGGTGAAACCCTGTCT
99704	NRXN1	AAAATTTCAAAACAAAAACA
99705	SPINT2	TGGGAGGTGTAGCGCGGCTCTGA
99706	LTK	CCTGCAGTCTGTGCTGTGTGTC
99707	SEDL	CCTCCACCTCCTGGGTTCAAGCAATT
99708	CPT1B	ACACAAAAGCAGACCTGCG
99709	RHD	TGGGAAATCTTGTTTTGCCAATTTT
99710	MAP3K14	GCAGCTTCCAGCCTGGGTCAG
99711	ADCY1	GAGGGAGGTATTATTATACTCC
99712	TCL1A	CCTGCCTGTAGCCCACTCTGCTCGC
99713	HMG20A	GTGGCTTTGTGATTGCTGCCCTAA
99714	TSNAX	ATCATTTCTTATATCTTATTC
99715	NOTCH2	GCTACACTGCAACTTCCGTCC
99716	PRKAR1A	AGTGACTGCAAGCATTTT
99717	CASP2	AGCCTTCCAAGTAGCTGGGACT
99718	CDH1	AGCCTCCCAAGTAGCTGGGACC

99719	PLAUR	GGAGAGAAGACGTGCAGGGACCCCGC
99720	VANGL2	CCTGCCTGATTCTCTGAGCTCTGGGC
99721	RFX1	TTTTGTAGTCTTTCTTAAAACAA
99722	GRAP2	CAGGGCTGACTAGGGTTAGTTTGG
99723	PTCH	CGTGTGTGAGTTCACCATGTACT
99724	MKI67	TGGGGGAGGGAGAGATCTGA
99725	CSPG3	CCCCTGCCCTGGGTCCCACTCCTGCCC
99726	SLC2A4	CTGCTAGAGAAGGGGGA
99727	PAX2	TTCCCCCAGTGCCAGCCGGAC
99728	PPP1R12B	ACTGCAGGATGTGTTTACTTCTC
99729	ME2	TCTGTGCTCCAGGGAACCCCTTT
99730	AXL	AAACTCCTGACCTCAAGTGATC
99730	CYP1A2	AAACTCCTGACCTCAAGTGATC
99730	NCOA6	AAACTCCTGACCTCAAGTGATC
99730	RHD	AAACTCCTGACCTCAAGTGATC
99730	TRAF5	AAACTCCTGACCTCAAGTGATC
99731	ADA	GGCAACTTGTACTGAAAATCTGGTGCT
99732	TRN2	TCGAGCACCACCACCACCACCAC
99733	CALML3	AGGCCTGCAGCCCCACTGATCATCTTC
99734	LCP1	ACCAGATCTAACATCTTGAATACTCT
99735	P53AIP1	GGTTTTCTGAGAAACAAGGCTTT
99736	MEF2A	ACCCCCCAGGCTGAAGTGCAG
99737	TTF2	GCAGCCACCCTGCAGCCA
99738	XK	TGTGGGGGTGTCCAGGCAG
99739	DSC1	CCAGGAGGCGGAGGTTGCAGTGA
99739	EGFL4	CCAGGAGGCGGAGGTTGCAGTGA
99739	IAPP	CCAGGAGGCGGAGGTTGCAGTGA
99739	LUZP1	CCAGGAGGCGGAGGTTGCAGTGA
99739	NPHS1	CCAGGAGGCGGAGGTTGCAGTGA
99739	NT5C2	CCAGGAGGCGGAGGTTGCAGTGA
99740	MS4A8B	GGTCCCCACAGCAAAGAAAAGGAATA
99741	DYRK1A	TACAGCAATCTGTGTACTGA
99742	TPP2	TTGGGTTGCAGCTTATGA
99743	GCLC	TCACCTTGCCCCAAGCTTTCCCC
99744	AGRP	CCCAAATTTTAATCGGCTCCTGG
99745	LPP	ATCAAAATTGCCTTTTTCTCTA
99746	HLF	CTGCCCTTCTGCAGCC
99747	HNRPDL	GGTGATCTCACAAAACTGGTAAGTTTC
99748	PRKCN	AAAGAACAAAACTTTTGCTG
99749	CEACAM5	ACAAAACGTTCCTGGAACTC
99750	PEX10	ACACAGATGACCTCTACGGGAGTCTG
99751	PLA2G1B	CATCACCTCTATCTGCCTC
99752	CTSB	CAACCTCTCTGATCTTGTGCTC
99753	IL20RA	CCTAGTGACCTGGTTGGTCTGGGC
99754	HSPA8	ACCCCAGCAACCATGTCCAAGGGA
99755	CASP6	CATGCCTGCAATCCCAGCTACTT
99756	CNTNAP2	CACAGGCGAAGCCATTGGAAG
99757	MMP11	CATGGCCTTCAGCCCTGGCTGAGCAA
99758	CNR1	TTTCCAAGCCTCTCTGGCACTTTGAG
99759	DMPK	GGCCTCCCGTCCCCTTCCCAGGCCT

99760	PCDHGA7	AATAGGGATTTAAAAAACTT
99761	MAPT	ATCCTGTTTGCTATTGCTTGTTGTGCT
99762	SPARC	AGTGTTCTGTTTGAAACTAAT
99763	TBX3	TTCCTTTAGTTGGGTTTATTTCCAG
99764	DCT	AGTCAAGAGCTAAGGAGGGAGGGAG
99765	APLP1	AGGGCAGCAGGGAGTCTTGAAGTGA
99766	ADCY2	CACTTTCTGACTGCAACTTCTGTCCCTT
99767	LMNA	GGAGGTTGAAGCCAAGTGGGGTGCTGG
99768	MKI67	CAGCCTCTCTTGGGCTTTCTTA
99769	POLK	ACCAGCCTCGCCAACATGGTGA
99770	SOX1	GGATGAAGGACAAAGACCAGGGCAG
99771	NDUFS2	AGTGAAGCCGAGTCACAGGACCCGG
99772	MLLT3	GCCATCTACCCTCCGCTCCTGGGCGCGCTC
99773	PKHD1	CCTGCAGGAAGCTGAACTTTG
99774	LOH11CR2A	ACTAAAGATTGCAGCATTTATG
99775	DLG4	TTGGGGTGAGAGGAGGCCCAGGAGG
99776	AIM1	CTCAGGCTGGAGTGCAGT
99777	GPR2	TCTGTGCCTTGCCACATTAA
99778	GHR	ATAGCAAAGAATTGACTGGGG
99779	PRKCL1	AGCTCTTAGTTTTTAAAAAGGCCT
99780	HLA-DQA1	CTCCATCTAAAATCTCCAAGGAAG
99781	SLC16A1	CCAGAAAAATTTGGCACCAGGCA
99782	ROBO1	CCTGCTGCTGTCTCCAGTACCCTCCGC
99783	TCF2	CTCCCCTCACCTGTCGGTTGCC
99784	DIAPH2	AGGGTCCTCACAGATTTTTCCTGA
99785	RSU1	TTCCATAGTGGGCTCTGGCTTT
99786	CPNE3	AAAATGCATTTAAAGAAAAAT
99787	MATN1	TCCAAGCGTCCTGCACGTGTCC
99788	NUP155	CCTTGGTTTTTGACTTTTTCTGGACCCTGGTG
99789	NDUFS6	GCAGCATCCTGTGAGCATTTCC
99790	CDY1	TCATTCTCCTAAACTGAACACA
99791	NF2	CCTCCCCACAGATGGAGAAGGT
99792	PCDHA1	ACAAGCCACTTAGCCAGTTTTTGTAA
99792	PCDHA10	ACAAGCCACTTAGCCAGTTTTTGTAA
99792	PCDHA11	ACAAGCCACTTAGCCAGTTTTTGTAA
99792	PCDHA12	ACAAGCCACTTAGCCAGTTTTTGTAA
99792	PCDHA13	ACAAGCCACTTAGCCAGTTTTTGTAA
99792	PCDHA2	ACAAGCCACTTAGCCAGTTTTTGTAA
99792	PCDHA3	ACAAGCCACTTAGCCAGTTTTTGTAA
99792	PCDHA4	ACAAGCCACTTAGCCAGTTTTTGTAA
99792	PCDHA5	ACAAGCCACTTAGCCAGTTTTTGTAA
99792	PCDHA6	ACAAGCCACTTAGCCAGTTTTTGTAA
99792	PCDHA7	ACAAGCCACTTAGCCAGTTTTTGTAA
99792	PCDHA8	ACAAGCCACTTAGCCAGTTTTTGTAA
99792	PCDHA9	ACAAGCCACTTAGCCAGTTTTTGTAA
99792	PCDHAC1	ACAAGCCACTTAGCCAGTTTTTGTAA
99792	PCDHAC2	ACAAGCCACTTAGCCAGTTTTTGTAA
99793	POU2AF1	CACTGCACCTCTGTCTCCCAA
99794	FLNB	GCAGTTTCCCACTTGCCAAAGATCCC
99795	CD209	TCGCCAGGCTGGAGTGCAGTGG

99795	RABL2A	TCGCCAGGCTGGAGTGCAGTGG
99795	RABL2B	TCGCCAGGCTGGAGTGCAGTGG
99796	CUL3	GGTTGCTAGCAGGAAATGGCAG
99797	APM1	TGGCCCTGGCTGGAGTTCAGTG
99798	GTF2F1	CCCTTCGACATCCTGCTTGCTCCCT
99799	CASP2	GCTTATCTCCCTGCTTCATATC
99800	PRKACA	TTCAACCTGTGTGCTGCGA
99801	TNFRSF11A	TGGCCCAGGCTAGAGTGCAGT
99802	LAMC2	CACGCCTGTAATTCTAGCACTT
99803	OPA3	CACGCCTGTAATCCTAGCACCT
99803	XT3	CACGCCTGTAATCCTAGCACCT
99804	TK2	GTCACACAGCCTGTGTGCAGTG
99805	ADCY7	TACTATACTGAAATCTGTGCC
99806	NAB1	AAGGACTGGTACGGTAGTCTGTGGAAA
99807	PRKAB1	ACATTGCTCATTTCACACTCTT
99808	PLEK	TTCTGGAGCATTTCTCTAACGTTTATT
99809	GLP1R	ACGGGAGCCTCCTCTGCTTGCA
99810	KLHL3	CCTTTCTCCTTCTCTGAGGAAATTTT
99811	CALML3	CCGTGATTCATCTTCTGAAGCTGGGA
99812	HAP1	GCCCAGGCTATGGGGACAAAGGC
99813	RPA3	CACTGCCTCTCGCCCTGTATCTGTCAA
99814	ADCY7	GCCAGGATTTCTAATGCACTC
99815	CASQ2	CATCAGCAGGAGTGGAGGGTG
99816	G6PC	GGGTCGCCTGGCTTATTCCCA
99817	HEPH	GCTGGGGTCTGCAGTGCAGCA
99818	TIMM23	ACCCAGGCTTGAGGCAGCGGC
99819	KCNK3	GGAGGCTGAGGTTGGAGGATTGCTTGA
99820	ADCY1	CCCAGGGCTGTGAAGGCAGAGGGG
99821	SUFU	GCTTTTCTTCCCAGCTGGGCCT
99822	NFIC	GCACAGCCGGCCCCCGGCCCA
99823	OTC	GCACTTCTATTTGTTTTTGTG
99824	WHSC1	GAGGACCATTGGCTTGCCAAGA
99825	GAA	TTGTTTCCACCTCCTGGG
99826	ATP11A	GTGTGCATGCTCCTACACAATA
99827	PPP1R3D	CTGCGCCTCCTGTCATTTCCCTGCTGG
99828	CYP2B6	TCACCCAGGTTCGAGTTCAGTG
99829	IMPDH1	GCTCACTGCCCAGCCGGGGCCCCGGG
99830	SGT	CTGGGGGTGGCAGACGAGCCCA
99831	LILRB1	CACCACTGCTCTCCAGCCTGGCGACAG
99832	AP2M1	GCTACTGCCACTAGGCAGCTAGCCCA
99833	MID1	AAGAACATTAAGAATGAGATGC
99834	WHSC1	AGACGAAACACAAACTGAAGTA
99835	SMAC	CCTACCTGCGTGAGGATTGG
99836	ITPKA	GCGGGCCGCTCACCTGACATGTGGACC
99837	RFP	GTAATGGCCCCACCTCTGTTAT
99838	RAB36	GCCTTTCTGGCCCACCTGGACAGTGCA
99839	PHB	CCTTCCTTCTGCTCCCACCCCAGAAA
99840	VANGL2	TCTTTGTGCTCTCTTTGTTTTTTCTT
99841	WFDC1	AAGTCCAGCAGACTGTGCATGCT
99842	CXCL16	GGCTCACTGCAACCCCCATCTCCCAGG

99843	MAP3K8	CACTGCACTGAGCACTTTA
99844	INMT	CACACTGGCGCCCAGTAA
99845	PPARGC1	GGGAAATTCAGCTTTTGCA
99846	KPNA3	CCTATTTTTCCCTGTTCCCTGGTGCCACAG
99847	MLPH	TGTCTTCAAGCATTGACCAAGT
99848	GFI1	TCCTCCTCAAAAACTGATTCAG
99849	RAB4A	GCCCCAGGCCCTTCCCCACCG
99850	NUP50	GTGGCCTTTCGTACAGTGGGT
99851	PCOLN3	CTGCTTCATGACGATGCTGCCTG
99852	ZNF202	CTTAAAGCACACAGTTCTGG
99853	NR3C2	CTTGGAGTGCTGCAGCTTTGG
99854	IRF2	CCAACTCCAGTACCTGGAGCT
99855	INHBC	GGCAGCCCAAGGTTGCATGG
99856	BCAS1	TCGATGATCACCAAGCAGG
99857	ABCC8	GAGCCAGCTGAGCCCGAGCCCAG
99858	PDE4C	GCTGAGGTGGGAGGACTGCTTA
99859	NCOA6IP	GCCCAGGCTGGAGTGCAGTGCC
99860	PACSIN1	GCCTGGGCTCCCCCTCTCTGTGCC
99861	TCF20	TGTTGCCAGAGCTGGCAGTGTGAG
99862	QARS	AAGGAAGACCCAGGAAAGGTGTG
99863	CREBL2	TAGTTTCTTCCCAGACATGAATTTCCTG
99864	UBE2L3	CAAGGGCAGGTTTCTGGAGACTCCCT
99865	DISC1	TTGAGATGGAGTCTCTCTCTGTCACC
99865	PRKWNK3	TTGAGATGGAGTCTCTCTCTGTCACC
99866	DLGAP2	TTTGTAGACTCATTGTTATTTTTCAATC
99867	MAPRE3	ATTGGTATATTTTTACTTA
99868	CFTR	ACCCTTGCCATGTGCTAGTAATTGGA
99869	ODF2	CCACCAGTCCCCTTACAGCCCT
99870	HSPA1L	GAGTTCATGGAGAGAGCATGTGT
99871	CLECSF12	CTGTAATCTTAACCAAGAAATTGAA
99872	HS2ST1	TCGTTGGTGCCATCAGTGATTT
99873	NGFR	TCATTTCTTGGGCCCTCCTGA
99874	SURF1	CAGTATTTCAAGACTGCCTTT
99875	CTGF	AGACATTAACTCATTAGACTGGA
99876	JRK	GGAGTCTGACAGGGTCACCTCCTCCA
99877	FYN	GACCAGTCCTGCCTCTGTTGTA
99878	IGFBP2	TATATTTGGAAAGAGACCAGCAC
99879	GADD45B	CAAGCCCCACCCTCCTTGAG
99880	SLC9A5	AGTCTAAACCTTTCTGATCCT
99881	COL19A1	TGACTTGATGGTTGCCAAATCCCTT
99882	THBD	AGCTGGTTAGAAATGCAGAATCCTA
99883	KCNJ10	AGGACCAGGAAGAGAGGAACTCGGAGG
99884	SOST	GGGAGGGAATTGAGAGTCACA
99885	M17S2	TGAGTGTGTGTGAGGTATA
99886	TRAF5	GTCCTGAGCCCTTCTGCGTTGT
99887	TRPM5	CCCCCCAGCAGACAATGGCC
99888	PFKFB3	GGCCCCTCTCTCCTCCCACCTGG
99889	IL4R	CCCAAGGCATGTTTTGCCCAC
99890	SLC5A1	GAAAACCATTAGTTTGCTGTTA
99891	PMP2	TTGGTATAAATTCATAATTTCTAAACCA

99892	ITGA11	GCCAGTGCACAGGGAAGGGCTTG
99893	ACCN2	TGAGTGTCCATCTACATTCTGCTGC
99894	CARKL	CTGCTGTGGGAAGACTGTGCAATG
99895	CXCL13	AAGTTTCTTTGAAAATAGTTATT
99896	FANCF	CACTGCTCAGTGCAACCTCTGCCTCC
99897	HM13	TAGAAAGTTTGTGCACATT
99898	COL16A1	CAGTCTAAGCAACATAATGAG
99899	CHRNB2	TTGGCTGCTCTCCATCTCTT
99900	ADRB1	CCGAGGCAAAGAGAAAAGCCAC
99901	SAS	AGTCTCCCAAGTAGCTGGGATT
99902	OPHN1	GTGGCTGAGTAGCTCTGCCT
99903	GNAT1	GCAGCCCCAAACCCCAGGACCCTATC
99904	ZNF42	GTGCTCACAGTGTGGCTGGGA
99905	CLASP1	TGTTTCCTCCCCTCAAAGTTCTGCC
99906	PLA2G10	CTGCTTGGGCCGCGAGGGAAGGTGAG
99907	CTBP1	CCGTCCTGCTGATGTGGTAGGCTA
99908	HNRPA2B1	GTAAGTTTCAGGTGACATGTGAA
99909	SLC2A3	CTCACTGTTCCCTCTGCTCCTGGAGCC
99910	DNAH9	CACCCCACTCCAGCCTCGAGGAAGCT
99911	AQP6	ACCCTGTGGTCCTGATAGCTCCTG
99912	ELK4	GGAATGAGAGAACCGAGGA
99913	FAAH	CATGGGGCAGAGGCTTCCGTG
99914	CDYL	CTCATTTCTTCCTTCTAGAACACAGAA
99915	DDX6	GGCAAAGCGTGTCCCATAGA
99916	TRPV1	ACCCAGGCTGGAATGCAGTGGCACA
99917	ITGA6	CTTGGAATTCTTAGTCACAAA
99918	ZNF289	CAGCCCAGCCCCCACCTTTG
99919	SLC29A1	TGTATGTGTCTGTGTGTCT
99920	ATP2B1	GTACCCAAGCATGGTCCTGAA
99921	DNASE1	GTGTGAGACCCTGTCTCAAAAA
99922	PSCD4	TCTGCCTCTGACTCGCTGTGT
99923	SLC22A5	TTTCCACTGCTGTGGAAACCTCC
99924	NEUROG1	ACAGGGCTGGAGAGTACTTT
99925	FLRT2	CTACCTGCACACCCACCAGAAGAGCAC
99926	CD3G	TCAGAGCAAATTTGGGGGTTTCTCAAA
99927	BSN	GTGGCACAGGGCCCTGCCCGTCAC
99928	POLK	AGTTATTTTATAATCAATGAATTTGT
99929	FGF2	TGCTGTTGCCGAATACTCAGGACG
99930	HDAC1	ACTCCTGAAATGCCAAGTGCCTGCTTA
99931	SLC17A7	GGACCTCCATTCCACTCATCT
99932	AP1B1	GTCTGCTGCCCTCCTCCTGGCC
99933	PPP2R5E	GGAGAGAGAAAGGGGCATTGACTGGGACCCAC
99934	OGN	AAACTGACATGGCTAACTGCAAGAAT
99935	EHD3	TCTTCCCCTCTCCTCGGCC
99936	CYP1A1	CAGTACCTAGCTGGCTCTGTGAGGGTGC
99937	ADCY1	TCTGGAGGCAGACAGGGTGGGCTGG
99938	MEOX2	CATTGAACATTCCAGATGTGTGAGAT
99939	SCA1	GCCATTGCAACTTCTTTTTCTTCAG
99940	PTPN18	CCTGCCTGTTGCCTCTTGTGAGCTC
99941	SFRP1	CCAACAGCAACACAGCCA

99942	GBE1	CCACTAAGTATCTTGTTA
99943	BMX	TAAAGACTGAGCAGAACTGAA
99944	POU2AF1	GCCCAGGCTGGAGTACAATGGT
99945	SPN	AAAGTGCTGAGATTACAGACAT
99946	MYC	ATAGCAGCGGGCGGGCACTTTGCACTG
99947	ARSB	GTCTAACTGTCAGAGTTGTTGCA
99948	RAB23	TGCAGTATTTAAGAAAATGACA
99949	RB1	GAAAATCTTGTGTAAATCCTGCCA
99950	CPT1B	TGACCGGGGCAGGGATCGACAGGCAC
99951	SIAT7D	CCTTGTGCCAGTCCTGGTC
99952	GAS41	GACCCCGCCAGCCCCGGTCTCT
99953	WBP2	CTTCCTTCCCTTCCCTGTCCTGGGTCA
99954	ETF1	CTTAATCCATGAGCATTGGA
99955	BTG4	TTCCCAGACCTCCTTATCTATTTT
99956	EGLN1	GAGCTTAGGACTCGGAAGCGGCCGGG
99957	DLG4	TGGCTTCTCAGGAGAGTGTGGCTA
99958	MRPL49	TCACTGCAACTTCCACCTCTG
99959	ENG	TCCAGCACTGGTGAACTGAGCTGG
99960	AKAP2	GCTTTAATCTTTCTGTCATTTAA
99961	PPP2R5E	AATTTAGCTTGTCTTTCTG
99962	CHGA	CCTGTGGCCCTGGCTCTGCTGT
99963	CDK5R2	CTGCCTTCTTCCTCCACTTGTGTCA
99964	DLEC1	CAGGACCTGCTGTGTGAAATCG
99965	WHSC1	GAGGACGTGGTGACTTCCTGAACAT
99966	TPM4	CAGGAAGTGGAGACTGCAGTGA
99967	PACE4	GACCATAAGTTTACTGAATCTTCAA
99968	EPB49	CCTGGGCTTAGGGTGGAGATG
99969	GFRA2	CCAGGCTGCCCACTCTGGG
99970	NR4A2	TCCTGGATTTAGAACATGGACTACA
99971	NCALD	CTAGTTCCTTCCTTTGATTCTCCT
99972	INPP5B	ATGGCTATAATCCCAGGTACTT
99973	MRPS12	GGCCCTCGGGAACCCACTCA
99974	RAB7L1	CTGGGCAACAAGAGTGAAACTCCATCT
99975	SHANK2	CCTAGACTTTGCTTCCAATGGTTTCTTCCAG
99976	DDB2	CTGGACTTGCCTCCAGAGACTGCTCCA
99977	RAB5A	ACCTCTAGTTTGAACTAGCTGGAAT
99978	AKT1	CTGGGCCTCAGTTCAACCT
99979	LGTN	ATACAAAATATAATTCTTTA
99980	PYCR1	ACTGATTAAAATGTCAATGTAATCTAAAA
99981	EIF4EBP2	ACCATTTCTTCTCCCTGTCTCC
99982	GRAF	AAGAGGGAGAGAGGGGAGGC
99983	PPP2R5E	GCCCCAGGCTCCCCGCAGCTGCC
99984	RFX1	GAGACAGGGAAGACCGGGGCCCTCCTC
99985	GCNT2	TTTTGTGTAGACACAGGTTGCAG
99986	ALDH8A1	AAAGTTTAAAAATTAGCTTGG
99987	EHD4	TGACTTCTTTCACCTCCAAAATTCC
99988	MBTPS1	GCCCCGAATGGAGTGCCCAGG
99989	ALOX15	CATCACCACGGCTCACTGCAGCCT
99990	CDH18	CTCTGGCTTCTCTCTTGAATGCTCA
99991	ABCD2	GGGCCTGGGAGGGAGGAGCTTGGTGCA

99992	HSD17B2	AGGCTGCCTCCAGCCAGCCTTT
99993	PTAFR	GACCATCCTGGCCAACATTGTAAAACC
99994	TSC1	CTGAGGCAGGGGGATTTGGTAGGA
99995	VHL	CATTGCACTCCAGCCTGGGAAA
99996	OGDH	CTGTTAACCCTCCACCTCCTCTCTTGGA
99997	CSE1L	TCTCATTGCCCAGGCTGGAGTGCAGT
99998	HCFC1	TGGCAGGGATCTTTCTGGAGGAAAAGC
99999	TUFT1	TCTTTCTCCTTCAAACTTGCTC
100000	TACC1	GGTATGGAATCTGAGGGAAGATTTAT
100001	NPM3	CATGGCCGCCGGTACTGCAGCTGCCT
100002	ING1	CAGGAAATTACTGCCCACTTGTCA
100003	CDKN1A	CCCTCACCTCCTCTAAGGTTGGGCA
100004	LZTS1	TGTGAGCCACCGTGCCTGGCC
100005	SLC24A1	CTCCACCCTCCAGCATGTT
100006	ADAM33	CCACTCCAGGAACCCAGAGCCACATTAG
100007	ETV3	GGGAGGTTCACATGTTTGCAGTGA
100008	MEFV	AGGTGCGTGCCACCACACCAGGCT
100009	EPHA8	CGTTAAGGCTGGAGGCACATG
100010	MYH11	CAACGTAGTAAAACCTCATCTA
100011	A1BG	ACTGTCACCCAGGCTGGAGTGCAGT
100012	LPL	CCAACGTTAAAAGACAGTGGAT
100013	CNTN1	ACAATTCCTTCCAATTTCTGCGGCTCC
100014	HNRPDL	CAATGATTCTACTTCCTGGGCTATCAC
100015	PAX2	CAAAACAACACAAAAGCCCACCAGGCT
100016	PRPSAP2	CAGCTCCGCCTTTCTTGCTCTG
100017	CAMLG	GGGATTACAGGCGTGAGCCACT
100017	CASP2	GGGATTACAGGCGTGAGCCACT
100017	CIAS1	GGGATTACAGGCGTGAGCCACT
100017	CLECSF12	GGGATTACAGGCGTGAGCCACT
100017	LYZ	GGGATTACAGGCGTGAGCCACT
100017	SIL	GGGATTACAGGCGTGAGCCACT
100017	SNAP23	GGGATTACAGGCGTGAGCCACT
100017	TPMT	GGGATTACAGGCGTGAGCCACT
100017	TRPM6	GGGATTACAGGCGTGAGCCACT
100017	XRCC2	GGGATTACAGGCGTGAGCCACT
100018	LNK	GGGATTACAGGCGCGAGCCACC
100019	ARNT2	AACATCAGTGTCCTTCTAGCTTTAG
100020	ZNF140	AACTGTATAAATGAATGTAGAG
100021	GPC1	CCCCGCCTCCTCCCACTGGGAC
100022	SLC13A4	GCCAGTATCCAGCAGTATCTGGACC
100023	BACH2	GAGTCTCAGATCCAGAAGGAG
100024	PKIA	CTTTTCCCTACCTCTGTCA
100025	KCNAB3	TCTCCTCCCCTTATTCCCGAGGC
100026	RASGRP1	TTTTGGGGGTACTTAGCTTCC
100027	RNASE4	AAGTTAAGGGATTTGCTGAA
100028	EGR3	GTCTTCTCTCAATTACATAGCA
100029	EPB49	GCAGTGAGCTATGGACTTTCTTCC
100030	MAK	TTGCAATTATTTGTTTTTCTA
100031	PCDH12	TCCCCTGGCAATTCTTGATC
100032	ERBB2IP	GACTATACATTTGCTACTGGTGATTC

100033	NOX5	TGCGCCCAGGCTGGTATGCAGTC
100034	TACC1	TCCTGTAATCCCAACACTGTGG
100035	PPP2R5A	CACTGCTGCAAACCTTAGTTA
100036	SRGAP2	CTTCCTACCCCACTCTCCCCGTCCCCTTT
100037	CNN2	GGTCTCGAACTCCTGGCCTCAG
100038	ITGA5	AGTTTCCTGAAACAACTGGAAA
100039	CSE1L	GTAATTCCTTATGGATCTTTT
100040	COL19A1	TGTTTTGTTAATTTATGTTTTTC
100041	NGFR	GCTGCTTCCCTCTGCCTGTCCCTCT
100042	IL1RAP	TTTTCATTCCTTCTCCCTATCT
100043	FY	CCTCCCCTCCCACCTGCCCCT
100044	BAT3	GGTGCTCGGCTCCCTCCCACCTAG
100045	HSPA4	AAAGTTTGAGTGTTACAGGCTC
100046	MT1G	CTTCCCTTCTCGCTTGGGAA
100047	MNT	AACACCCTGCTTCTCCCGGGGA
100048	GPI	TCGTGCTCATCTGCAGCCT
100049	RBL1	GAACCCAGGAAGCGGAGGTTGT
100050	PTGIS	AGACGTGTTTTGTTTGGACTTCA
100051	CKB	CCTGCTGCTTCCTAACTTATTGCCTG
100052	MYH3	TCCTGCAGGTGGGACTCTCAGCTG
100053	SPTBN4	TGCATGCTTCTGGCTGGAGCACCTCCCT
100054	KLK5	TTTCCAAAACTGTCCAGGGCGG
100055	NGB	TGCTTCTTCAGGTGAGTGCAGGCCAAGG
100056	PKIB	GTGTTTGTTTTTTGCCAAAA
100057	XT3	TGTCTCAAAAAATGTTCTTTGCCA
100058	PPP1R3A	ATTGGATTATGCAATAGGA
100059	SEPN1	GGGGTGAAGAATGGAGGGAGG
100060	NPTX1	AAGAACCTTGGGTTACATGTGG
100061	MT1L	TGTAAACGCCATAAACAGTTTTGCTT
100062	ZNF274	CCGGGACTCTGCCCACTTCCA
100063	HPS3	AACTATTCACTTCTTAATTTA
100064	BMP6	TGAGGTGAGGCTACAAGGGG
100065	ADARB1	GTGCCCAGCTCCAAGGCTCTA
100066	IL6R	TCAGGTGCGGCGCTGTGGCAG
100067	C1orf1	TGCGAGGCCAAGGTGGGAGGA
100068	NHP2L1	CTGCCACCATGTGGGTCAGATGTAC
100069	DCX	CCATTAGGCTCCTGAGAGTTATTTCTC
100070	VPS41	TGAAGTCATTTTGCTTCAG
100071	CBFA2T2	TTGCCACCACAAGTCCAC
100072	VIP	TCTAGCTAATGTAATAACTG
100073	VAPB	TGTCTCTGGAGAGTCTGGTCAT
100074	TNFRSF11A	TTCTCATTTTTCTAAAAGAA
100075	CD5	AGAATCTGCTCAGCTTTCTG
100076	CD3Z	AACTGTACTGGGCCATGTTGTGCCTCC
100077	ASK	AAAATACAAAAAATTAGCTGG
100077	GNE	AAAATACAAAAAATTAGCTGG
100077	LRRC2	AAAATACAAAAAATTAGCTGG
100077	PCDH11Y	AAAATACAAAAAATTAGCTGG
100077	SLC17A5	AAAATACAAAAAATTAGCTGG
100077	TEM7	AAAATACAAAAAATTAGCTGG

100077	XRCC2	AAAATACAAAAAATTAGCTGG
100078	CD86	TCATCCCTCTGTCAGGGTCAG
100079	IL6R	CCTTCCTCTTTTTATTTAGTTC
100080	TRIP12	TTTTCCAGGCTGGAACAATA
100081	NT5C3	CTGGTGGCGGGGGTGGTGCTG
100082	REG1A	AAACTAAGGCAACTGGAAAATACATG
100083	WBSCR1	GTCCTTTTTCTCCTGCT
100084	TRPM2	CTTGCCTGGCCTGGGCTAGGGGC
100085	UBE2L3	CACTGCACTCTGCTCATCACGGGAGGA
100086	L1CAM	GGGCACACCTCCTCCCACTGCCCACTG
100087	HMGA1	CATTGCTCTCTGGGCTTTTGG
100088	SORCS1	CCATTTTTCCCAGGGTAAT
100089	MEF2B	CAGCCTGATCCTGGAAGAGACTCGG
100090	GP2	GCAAAGTGACCTGCATGCCTCACCTT
100091	TCF2	CTGCCTCTTTCCAGGGGCCTCTGGGA
100092	CTSC	CAGAATTAAAACTGCCCTTAA
100093	CACNB1	TGCCTGCCCCTTCCTCCCAG
100094	LAPTM5	GGTGGAGCTGCCTCATAATCTGCT
100095	TDG	TAATGAGTTTTCCATGGTGCTA
100096	IL17C	CCCTATCACTGGCCTCAGGCC
100097	FGF2	AGAAGCTTTTGAAATGCTGAA
100098	CD164	TTTGTTCTTGCAGATGTTCTTCTAT
100099	CLECSF5	TTGAGAAGAGAGAACTGTA
100100	SLC9A6	GTAAAATTTGCACATGTGATTGTGA
100101	ITGA2	CCGGTCAGACCCAGGATGGG
100102	MTMR4	TATCCTGAACACTTGACACCTTGAGG
100103	CST2	CTTTGTTGCTCAGCAGGGGACT
100104	CNTN2	AAGAGTTGAGAGGCCAGGGCCCTT
100105	ILF1	AGACGGTGTCTCCACTGAG
100106	TMEFF2	CCTCCACCCTGCCTCCTCGGGC
100107	DAPK1	TCCAGTACCTTGCTTCTTACT
100108	OSBP	TTATCTGAACCAATCAAAGGT
100109	NEURL	GGCCCCTGGCTGAGAAGGGGAG
100110	HDAC2	TCAGAACAGCTCAGCAACCCCTGATTTGAC
100111	STIM1	CGCTGACCTCGGCCTAGGAGG
100112	AEGL1	AGCACAAATACACTACATAGAG
100113	ILF1	GGCCTCTGACCTGCTGTCTACT
100114	LEP	CCACCAAGGTCTTCAGCCATCAACA
100115	XPO1	TCTTTATTTAGTTTGCATGA
100116	ACP1	CTTGGAGAAGGCCCACTGGGCAGG
100117	TGM3	AGAGGAGCCTGAGAAGAGGCAGAGGAA
100118	GRIN2B	CTACAAACCAAGGGAGTCGACG
100119	SECTM1	CCCTGCCGGAGCCTCAGACACACTGG
100120	TP53	GGCTCGAGCAGTCCTGCCTCAG
100121	APPL	GCACCCTGGGTCATAGTGT
100122	EGLN1	CCCACTTCATAGCATTGTATGATGATT
100123	APG5L	ATGTCAGATAAGGCAACTGGGCTGGTC
100124	CPSF6	CCTGTGTGATTTAAAAAGTTATAGCTT
100125	BAZ2A	TGACCTTGCCCTTGGCAGTGCCCCA
100126	FUT1	TTGTGGTGTTCCTGAAGCAAATGGG

100127	FBXL4	TCAGCATTTGTACCTGAAGTC
100128	OLIG2	CATGGACTCGGACGCCAGCCTGG
100129	CDKN2B	ATAGAGTGTCTCAGGGTGCA
100130	HOXB13	CTGGGTGGGGAGAGCGAGCTGG
100131	RUNX1	TCCAGCAGAACAGAGACATTGCCAACC
100132	COG3	TTTCATGTCCTGTCTATTCATT
100133	ADAMTS4	GCTGGAATGATTTCAGCTCACT
100134	MAP3K5	ATAATCCTGAACATTAGAA
100135	CDKN1A	TCTGCAATTCCCCTCTGCTGCTGTC
100136	GUCY2F	TGTCAACAGACTGGAGTCCTT
100137	DEFA5	TTCTCTCTCCAAAATAAAGTTCA
100138	PTPRA	AGACGCTGAAGGACCTTTACA
100139	AQP6	GGCACTGGGCCACCTCA
100140	STAT1	CAAACCTCAAGCCAGCCTTGC
100141	SPOCK	TTCACAAGCCATCTCTTTCA
100142	SORCS1	CTACCTGCATTTCAATTAACTAT
100143	SLC9A1	CCCCCACGTCTCTCTGCCTGCT
100144	KLRA1	GAACAGGAAGAAAAAGAA
100145	USF2	CGCAGCCGCCGCCGCCCAC
100146	JUP	ACCTGCTCCAGAAGATGCCAGC
100147	LANCL1	CAGCTTCCTCCTTCTGTCA
100148	NET1	GCCATTTTTAAAGTGTAGCATTTC
100149	HLA-DMA	CTCACATCCTGCCCAGGATCT
100150	HMG20A	CCTCACTGGTACTGCCTGCTGT
100151	CTSS	CCACTGTACTCCAGCCTGGATGACAGA
100152	MBD4	CCACTGCACTCCAGTCTGGATGACAGA
100153	PTPRH	CTTTCCAGGATGCAGAAAGAA
100154	IL17BR	GTGGCCACATGGGTGCTGGTG
100155	FPGS	CCCTCGTCTTCAGCTGCATTTCA
100156	ACADSB	CTTGTTGGGAGTAAGTGCCTTG
100157	PXMP3	TCTAATCACTGGAAACCATGTGAT
100158	SERPINB2	GTTATGTGCATTTCTAGAAATACAT
100159	PLA2G2D	GGCCTCTCCTGGAACC
100160	GABRP	AGACCATTGGGTAACCCTCA
100161	KRT6A	TGGCTCTCAAACTCTCTAACTTAT
100162	ACTR1B	AGTTTGGGGAGTGGGCTGCAAG
100163	PCDH1	TCTCCACCCCTTCAGCGTGGA
100164	TLL2	TGACCTCATGGCTCCAATCCCACCTGC
100165	HOXD10	AGCATCCATCCATCCATCCAT
100166	LEF1	CTGTCATCCTAACGTTTGTCATTCCA
100167	PPP1R12B	GAGAAAAAACACAGAATCTTGG
100168	PART1	TTTGTATTTTTGTCCAGAAA
100169	PPP1R7	AACAGTCACAAACCCAATG
100170	E2F3	TCTCTAGCTGTGATCTTACCA
100171	ENTPD6	CACCTCGGGCTGACCCCACCTCC
100172	IFNAR1	CCACTGCACTCCAGCCTGGTG
100172	IFNGR2	CCACTGCACTCCAGCCTGGTG
100173	DFFB	CACTGCGCCCAGCCTGAATCATTTCT
100174	TARBP2	TCTGCCTCTGGGCTCATGT
100175	GPLD1	ACATTGGGTTAAAATTCATTAGC

100176	PTGER4	GCTGGGACTCGTCTTTGAAGGA
100177	FANCC	TGCTTCGTGCCATCATGATCCTTGCCT
100178	APOA2	AGACGCTGGCTAGGCCGCCCTCCCCAC
100179	KIF3B	GCTCTCTGCTTTTCCTGTCTGACT
100180	RAB7L1	TCTGTAATCCCAGCTACTCTGG
100181	RNASEL	GCTTCTTTGATTAAGTGCTAGGA
100182	TIMP3	GTGCCCAGGCAAGGTGCTTG
100183	XRCC2	ACAGTATTTCTTTACAGA
100184	CDO1	GCTCTCATAGTTCTATCCTCTAATTCC
100185	RIMS1	CATTGCACTCCAGCCTAGATAA
100186	ELMO2	AGACCTCCTGGCCAAGTCCTGCCCTCT
100187	RPA3	CTGCCTCTCGCCCTGTATCTGTC
100188	ITPR1	GCTGCCAAAATTATATTAATAGTGAGTTTCA
100189	DISC1	AGGGGAGCCTCACTGTGA
100190	LOX	CGAGCAGCCGCCTTGACTGGGG
100191	EPB42	CCAAGTGGATAAGAGGAGCGGCCTG
100192	HDGF	TTACCCTGGCCCCTCTCCCTT
100193	LY64	AAATGTAGCCATTTGAGAAAC
100194	SRP68	TATTCCCCTTCACCTCCCAGT
100195	C18orf1	TACCTCAGGAAAAACAAATA
100196	SCML2	GCTCACTGCAACCTCGCCTCC
100197	CYP4F3	ATTGCAACCTCCGCCTCCTGCGTTCGG
100198	UROS	AGGTTCTTTTACTGAAGGATG
100199	HS3ST3B1	CTGAGTTCTCCAGTTGCTGCCTC
100200	DNASE1L1	TCCCTGGGTCTCCTCCTCTCTGG
100201	PLS3	TCTGAATAAAACAGCCATGCT
100202	ITPR2	CTTGCCCAAAAGGCTGGAGAGGGCAGG
100203	HSD17B1	CTCCCTCTGACCAGCAACCAG
100204	FMO1	CAGCACTCTGAGCCATCATACCTCTT
100205	GLP1R	GCCCCTCAGAGAGGCATGTGA
100206	TCF3	CCCTGCATTGAGGCCTTGTGGACC
100207	MS4A2	CCTCCTTATGTATTCTCAA
100208	ADD2	GGAGACTCCCAGGTGCCCCA
100209	HMGA2	GAAGGGAGAAGACACTGCAGTG
100210	EGR2	TTGACCCTGGATGTCAGAGTTGA
100211	BSND	CCTCAGTTTCCCTATCTGCAAAATGGG
100212	BHLHB3	TTCAGCTTTCTAAAAGGCATATAT
100213	CYP3A4	GATGGCTCTCATCCCAGACTTG
100214	NDUFS1	GGAGGCTGAAGCAGGAAAATCGCTTGA
100215	BHLHB3	CTTCAAAACAAAACAAAAAACA
100216	ABCA4	CATGTTTGTCTGTGTGTCT
100217	GABRG2	TCCATCTCCCCAGTGAAGGACCTACT
100218	CNTN2	TGGCTAATGAAAGCCTCCTCACCTCTTCC
100219	TAF7L	TTGCCCAGGCTGAATTCAGAC
100220	SHANK2	TTCAAATGCTGTATCTTTCA
100221	EYA1	CTCTGCCTTTGTGGTGAATGGAGG
100222	MHC2TA	CGCCACTGCACTATAGCCTAGG
100223	PRKY	GCACATGAACAGGTGTCTTAATGCA
100224	SLA2	GGGTTTCCAGTACCATCTGGATGCCCT
100225	NUMBL	TGGTTCACACTCCATTTCCCAG

100226	MLC1	CTCTGACCGGGCTTCCTCCCTC
100227	BDKRB2	CCAGTAGAAATTTAAGAAAGA
100228	CCNF	ATGCTCTTGAACCGGAAACCCAGGGATGG
100229	EGLN2	GTCAGCCAAGAAATAAAAGTTTACCTC
100230	F13A1	CCTGCAGCCAAGCAAATGCCTGCC
100231	CFL2	ATGCCTCCCTTGCAGCA
100232	CSNK2A2	TGCAACCTCCACCTCCCTGGTT
100233	GLS	GAATGTTAGTTGTTATCACATAC
100234	BRCA1	ACAGCCACTACTGCTGCAGCCAGCCAC
100235	MYBL1	CTACTATGCCTTATAAAACA
100236	PRKY	ACTGTATCTACTGAATTCTTCTAA
100237	IL11	TGTCTGAGAGCTGGGGC
100238	TCL1B	ATGTACCTGCTCTTCTGTTT
100239	COL6A3	ACACGCCTTCAGGTTTGCTCAGGGG
100240	SAS	ACCAGTCTTTAAGGTTTTGC
100241	ASTN	AGAGCATCTCTTTGCTGCTACTGTTTT
100242	EPAC	GGGCTGGGACTGGAGCTGGAGCAGGC
100243	PDLIM1	TTCTTCTCTGCTGCATTTGGAC
100244	EDAR	CCTGTCTTCCAATTTAACCAAAG
100245	ELMO2	CAGGAAAGGCTGCCTGCAGAGGAC
100246	DMN	GACTTGCGCTTCTCTGCACCTTA
100247	PACSIN1	CCCACTCCACTCCAGGCTGCCGG
100248	G6PC	CCCAGGCTGCTCTTGAATTCCTGGGC
100249	SLC2A2	CAGACTTTAGCTTACAGTCA
100250	PSG1	TAACAAACAGGCTGATATCTTC
100251	CRY2	AGACCTCCTTCCCTCCCTCCT
100252	SH3BP2	TCGCCCAGGCTAGAGTGGATTG
100253	RAD17	AGAAAAAGAGGAAATCTATC
100254	PRKAA2	GTTATTGCACTATGAAAATC
100255	XCL1	CTCATTTCACTTTACACGCTCA
100256	KL	GCAAAGTGCTGAACTGGCTGAA
100257	LARS2	GAGCAAGCTCACCACAGAGGAG
100258	SIRPB2	GCCTGTCCCAGCCTCCTGGCC
100259	AP3B1	CCTTCCATCTGGCAGTGGGG
100260	CDX2	CTCAGAGGAAAAATGGGAGCCAG
100261	COLQ	ATGAGGGTGTGGAGGACTGT
100262	EGLN1	CAACAATGACATTTTACTGTA
100263	BRCA1	TCAGGAGGCTGAGGCAGGAGAATCGCT
100263	CTMP	TCAGGAGGCTGAGGCAGGAGAATCGCT
100263	DSC1	TCAGGAGGCTGAGGCAGGAGAATCGCT
100263	IFNAR1	TCAGGAGGCTGAGGCAGGAGAATCGCT
100263	LRRC2	TCAGGAGGCTGAGGCAGGAGAATCGCT
100263	PTAFR	TCAGGAGGCTGAGGCAGGAGAATCGCT
100263	SLC25A15	TCAGGAGGCTGAGGCAGGAGAATCGCT
100263	UBE2G2	TCAGGAGGCTGAGGCAGGAGAATCGCT
100264	CD81	TAAAGAAGGAACATCAGGCATGCTAAA
100265	ESR1	TGGTATGTCTTGTTTGGAAAAGTGG
100266	KCNE1L	CTGCCAGGGACTGCTCACTCTGCAGAGCC
100267	RABL2A	AACTCTCCAGCTCTGAATGGA
100267	RABL2B	AACTCTCCAGCTCTGAATGGA

100268	GAS	CCGTGGCACCACACACCTCCCA
100269	PPFIA3	GGGGGCAGGGGGACGGTGGGGGAG
100270	TAF11	TATCACCTAGGCTGGAGTGCAGC
100271	ZNF137	CAACATAGTAAGACCTCATCTC
100272	SLA2	CCATCTGGATGCCCTGCCTGTTGA
100273	IKBKAP	CTGGAAAGAGTAAAATGATAAC
100274	SFRS7	TTTGCCAGGCTGGTGCAAA
100275	TRRAP	CTGGCTCTTCGGATGTCTTCTAG
100276	TMEPAI	CAGTAATCATTAGTGGCAATGATGAC
100277	SF1	AGGGGTTTGAGCCCCTTGTTCA
100278	ICA1	ACACTGTCCCCACAGCAGG
100279	PDE7A	TTGTAACCCAGCACTTTGGGAAGC
100280	BMP8	CTGAGGCAGAATTGCTTGA
100280	RBL1	CTGAGGCAGAATTGCTTGA
100281	PRPH	AGGACAAATCTACTCCAGCCACGATGAGAA
100282	EMX2	CATGGAGCAAAAGAGACAGGG
100283	TBL2	CTGGGCCTCAGTTCTATTTG
100284	NPEPPS	GCCTGTGTGTGCCACTGTTTGCT
100285	GPR87	TTCAAAGCTTATTCTTAATTAG
100286	CXCL16	GTTGCCCAGGCTGTTATGGAACTCC
100287	CENTD2	CACCTCACTCTCTTGCCATACGG
100288	SSRP1	TGGGAGGCAGGGCAATGCAGGATCCA
100289	APOL1	GCGATCTCAGCTCACTGCAAGCT
100289	FUT1	GCGATCTCAGCTCACTGCAAGCT
100290	INMT	ACGATCTCGGCTCACTGCAAGCT
100291	PTN	ACTATGTAAACTACTTCT
100292	PIP5K1B	TTTCTGTACCATTGCCAATCA
100293	KNG	ATGCCATTTTATCACTCTGCCT
100294	NEU3	CACAGCCTCCAACTCCTGGGC
100295	ESR1	CTAAGGAAGTGCAGTCTTTGA
100296	ADRA2A	CTGCCTCACATCAGCCCTGT
100297	ATP1A1	GCAAGACGTCCTGGAATGA
100298	IL2RA	AAGACACATCCCTACAAAAAA
100299	NUMBL	CATTACCAATCGCGAAACCGCTC
100300	AKAP2	TGGCTTCAGGAGTGGAGTGAGA
100301	BTC	GGCTCCCTCCTCCCGGCGACATTCACG
100302	IMMT	TTTTTCAGGTTTTACTGATGA
100303	C5R1	TTCTATTTTGAGATCATTG
100304	PELO	AGTAGACTTGAAGACAAGTTTTAA
100305	SOX1	AACAAATTTAAGAGACAGAGC
100306	SLC17A5	TCACGTAGGCGTCATGAGGTCTCCG
100307	ADCY6	GAGAGCAAGCCTGTGTGTGGGGATGTCAGGT
100308	NRCAM	GGATAGCTTCAGAAATCAGAA
100309	CDC2L2	GTCACCCAGGCTGGAGTGCAATGGTGA
100310	CALU	AGTTATGAGTTTGGTTGCAGTG
100311	PTEN	TTGCTACCATTCTAATGCATGTATTCG
100312	HR	AAGAGCAGCTTGGCCAGGT
100313	CYP1B1	GCTGTGACACAACTGTGTG
100314	KCNN3	CTGGGAGGGAGGGTTGTGTCAGGCTTG
100315	ODF1	TGCGCATAGGAACCCATTACTTAAT

100316	TNFAIP1	AGTGGGACGTCTTTTTTCCTA
100317	HIS1	GTTGCTCAAATCACTAGCACAGA
100318	PLAGL1	GTCCTGAGTGTTCATGCTTTGTACCA
100319	SKI	CCCCAACACATGACGCCATCT
100320	TFDP2	AAATGATTGCTTCAGTCTTT
100321	HS3ST4	GATCTCCTCCTCCTTCATGCAG
100322	PNUTL2	AAGACAACAGGGTGCACTGCTGCC
100323	DDX11	TCTCACTGCCTTCTGTCTGCCCAGTT
100324	C1orf6	CTATTCTGGTTCATTCAGCACTTT
100325	PRKAG1	ACAACAAAATTCTTCATAAAGATATT
100326	EN1	CTCCTGAGTCCCGGCCTGAAG
100327	CELSR1	CTGAGTCCTAAGACTGCAGTCAAAGCCAG
100328	ERBB2IP	AGAGTAAGTAGGCAGCACTTTT
100329	IGLL1	CACCCAGGGCGTGGAGATGACCA
100330	PER2	CAGTGTCCCCAGCACTTTTA
100331	ADORA1	TCCTGGAGCCCCTGTGTCGG
100332	SLC2A2	CTTTTTAAAAAGTACTCTTTA
100333	SOCS5	TTCTAGTGTTTGCTTCTTAGTAAC
100334	KRN1	CCAAGACCCAGGCAATTTTGCCCCT
100335	GPR44	GCTAACGACCACAGGGTC
100336	CDC6	GGTCTTGAACTCCTGACCCTCAAGTGA
100337	STAU2	TAGCCTCAGATTCTTCATCTG
100338	CCND2	GATGGCTGAACATCAGGGTGTGGCATT
100339	BTG1	ACTTCTTATTTTTAGAAAGTGGAGG
100340	CPSF4	TCTGTGATTTGAATGAGGGAG
100341	DPH2L1	TGGGGAAGGCAGAGGCT
100342	RAB13	GGCAGAGGGAGTGAGCAGGGGAGA
100343	IRTA2	TCTCCTGCTCATGTGTCAGTGTCTAC
100344	NPTX2	CTACCAATATTCTGTTGCTGTT
100345	ALDH8A1	TTCAGCCTGGGGGATACAGTG
100346	DLEC1	TCCAGAAGACAAGGAAGACCGGCTGGT
100347	PCDHB9	CAAGTTAACTTTTTCTTATTTT
100348	C18orf1	ACAGTCAGAGAACAGTGGAGG
100349	CTSS	GCGTGAGCCACTGAGCCCAGCC
100350	DSC3	GCTCACTGAAAGCTCCGCCTCC
100351	SYT1	AAAACCAACAACAATTAGCCATAGTTC
100352	OTX1	GAGCCCAACACTTTAATTTATTCTTTC
100353	ED1	CAAACCTGGGAAGGCCAGCCTTGTAC
100354	NDUFA6	GCACCCTGCTTAGGTGCACAGCTGTT
100355	S100A3	TGGGAGGAGGCGGGATCTGCTCTG
100356	STC1	CAATCAGGAATGAGTCAATCAGCCT
100357	ARHGDIA	CCTCCTCAGCCCTCCCCCACCCACAG
100358	ABL1	TGGGTGGAAAACAGGGTGCTAAAGC
100359	KCNA6	TACTCAACTTGCTGTTATTCCAGT
100360	NFE2L1	CAGTGTACAGGAAGAGGCAGGC
100361	EYA1	GTGTCTGCCACATTAACTACAC
100362	MYO6	TGCAGTGTCTTAGTTTGAATGA
100363	FUT1	CCCAAAGTGCTGGGATTACTGGCATGA
100364	B4GALT2	TGGGAGGCAGGTGGGGCTTG
100365	NPY1R	AGTCATTCAGAAGTGGTTTGAG

100366	MLLT2	CAGATCTTTTGTTCTCTGTAATGAGG
100367	F2RL3	CAACATAGGGGGATCCCATCTC
100368	ID1	CTGGGGAAGGGGGCGTTCGCTGC
100369	FCAR	TGCACACATTCTTATTAGGA
100370	MCL1	GGGTCATTTGAAAGCTTCAGTCTCGG
100371	PPARGC1	TTCTCATCTAAAATTTTTCTA
100372	B4GALT1	CAGAGAGGCAGAGGTGGCACAGGA
100373	XPR1	ACATTTATGAGGGTCAGTCCCACA
100374	LAMC1	CTTTCACTCTGCTGGCTTCTCCCAGGCC
100375	PTGFR	TTGAGACTTTTTCTTTGCTTG
100376	DDX11	TGGTCTCAATTTAAAATGATCCA
100377	C18orf1	TTGTTTTTCAACTTGCTTTAT
100378	VDR	TCAGGAGGCTGAGGCAGAAGAATTGAA
100379	PTHR2	ACTTTAATGTACTTCTATCACTGCAT
100380	GAC1	GGCTGCACCCCTTCCTCTTCTC
100381	TP53	CCATTTTTATATCGATCTCTT
100382	GPR62	TGAGGTGAGGGGCCGGAGGAGCAAGG
100383	PACSIN1	TTCCAGGGGTCCCCCAGACATGAAAGAGG
100384	PCOLCE	GCTGCTGCTGCTCTGCAAAATTC
100385	PVR	TTTATTACAGTAAAAGGACA
100386	SPG4	AGTTCTAGTCTGTTGATCTGCCT
100387	MATN3	TGCCATTTTTAATTCATTCTGGT
100388	TAF1C	CCCTCATCCTTCCTCTGGGACCA
100389	CSPG3	GGCTCAGATATAAAGGAAAGGT
100390	TAL1	CGTGAGCCCCATCTTCACCCAGGCC
100391	DLEU2	ATTTTTCTTATAATTGGACCCT
100392	PTBP1	TGCCTTGGTGGGGCCTGTGTC
100393	DLX4	CTCCTCTCCCTGCTTTCTTGAA
100394	REN	CTCTCTGAGATGCCCCTCTGCCT
100395	ST7	TGTTGTATTTAAAAAATACA
100396	AP2M1	CCACCTGTCTGTCCTGGCCTAATGCC
100397	REV3L	CTGTGTGAGGGGAGGGGGCCG
100398	JAM2	CCTGAACTTGCTATTTTAAACAAA
100399	KLRD1	TATGTAATTTTATTTACATTCT
100400	IL11	GCCTAGGCTGGAGTGCAGTGAGGC
100401	ARHGDIA	CTGTTCCCCCAGGCTCTCAGTGC
100402	ZNF2	AGAAACTGGAGGCTGCAACAGGAGGG
100403	CD3E	TTAGTAAAGTAACAGTCCCA
100404	PYCR1	AGCCAGGGACATAGCCAGGGAGG
100405	CDK10	AACACCCTTCTCGGAGGCTCAGGTC
100406	PITPNB	TGAGGGGAACAAGCGCAGCCAG
100407	GPR1	GGGAGGCAGAGGTTGTGGTGA
100408	CISH	GGCAATCCTGGATGTCCTGG
100409	NTRK2	TTCGGCACCTTCCCCTGAGGA
100410	IL6R	AATACAGACTACTTCTTCCCCA
100411	RAD23B	GTTTCATGGCAACACTGGATAA
100412	PRKCH	GAATGATTTACTCTGAA
100413	HLCS	GGAAACTCCTTTGTTTAGGGA
100414	IL1R1	AGCTGCTGTTCCAACAGACAGG
100415	SERPINB9	CCAGCAACCACCAATCTGC

100416	PYGM	GGCCTCCAGACCAGACCCCAAACCAG
100417	PCDHA1	GATAATTATAATGTATCTGTA
100417	PCDHA10	GATAATTATAATGTATCTGTA
100417	PCDHA11	GATAATTATAATGTATCTGTA
100417	PCDHA12	GATAATTATAATGTATCTGTA
100417	PCDHA13	GATAATTATAATGTATCTGTA
100417	PCDHA2	GATAATTATAATGTATCTGTA
100417	PCDHA3	GATAATTATAATGTATCTGTA
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100417	PCDHA8	GATAATTATAATGTATCTGTA
100417	PCDHA9	GATAATTATAATGTATCTGTA
100417	PCDHAC1	GATAATTATAATGTATCTGTA
100417	PCDHAC2	GATAATTATAATGTATCTGTA
100418	ERBB2IP	GACTATACATTTGCTACTGGT
100419	MS4A2	TGAATAGAAGGTAGTGAAGA
100420	OPCML	AGGGACTGATCCACAGAGAGGATGAGA
100421	CRABP1	CCACCGCCACCATGCCCAACTTCGCC
100422	EGLN1	GCCGCTACCCCTCCTGCTCGGCC
100423	PDK4	ATAAGCCTCAGTTTTCCATCT
100424	SLC1A3	ACATGCACACTGTCAGGGCT
100425	ACADSB	ACTGCAGCCTTGACCTCCTGGG
100426	ATP12A	CCAGCCCAGCATGCACCAGCT
100427	DSPG3	AGGAAAGCTTGAAAAATGAAGA
100428	PRKCL1	CTTAGTTTTTAAAAAGGCCT
100429	PAICS	TCCATGGTTTATAGATTAA
100430	PITPNB	ATAGGCATCATGAGAGTGCTGG
100431	ADAR	TGGGAACACAGGCTCTCACAAGA
100432	SRP46	CTTCCTCTGGGTCCTGGAGTA
100433	RBBP5	GGAGGCTGAGTCAGGAGAATCA
100434	PRKCG	CGGGTCCAGAGACCACACCACTAACCA
100435	TMEM1	ACAAGATTAGCTCAAGCAGA
100436	OGG1	CCGAGATCGCGCCATCACACTC
100437	ADRBK1	CCTCCTACCCCTCCCAGCTGAC
100438	TGFB1	AATGTACACCTGTGGTCCCAG
100439	SERPINB9	GGCAGATTCCTTACCTGTCTGCCCTCA
100440	GALC	CTAGAAGTAGCTTTTTGAAAACCACT
100441	YES1	TTCAAGTAGCCTATTTTATATG
100442	CPLX2	ACTCCACCTGTTACTACTTCTT
100443	FUT9	GCTACTTATTCTCATGGCCT
100444	DHFR	CTACAGTGAGCTGCCATTCCA
100445	RAB3B	AGGCTGAGTCAGAAACACACT
100446	GM2A	GAGAAGCCAAAAATCCAGA
100447	SP4	TAACCTTTATACAGAATCTTCCCA
100448	SLC8A2	AGCCGGAGGAAGCACATTTTGAACC
100449	KCNJ8	CACTTCCTTCAGCATCT
100450	RBBP9	GGAGGCTGAGGTGGTTGTATTGCTTGA
100451	SLC1A1	ATTTGCCAGACAGAGATCAGAA

100452	ACP5	CTCCCATGACTGCCCAGCTCTGAGGCC
100453	PTPN1	TTGACATGAAGAAGCAGCAGC
100454	NRGN	GCTGCTGTTTCGGCGCGGGTCGGCT
100455	PLA2G10	AAATTCAGGACTACCCCTCCTC
100456	DGUOK	CAGGGAGGAGGAGAAAGGAA
100457	PTEN	CTTTTGTGTTCTGTCACCA
100458	GHR	TGTCGCCAGGCTAGAGTGCGGT
100459	BAX	AGGGGTGGGGATTGGGGGACATGGGC
100460	INPP5B	CTAACACGGTGAAACCCCATCT
100460	PCDH11X	CTAACACGGTGAAACCCCATCT
100460	SULT2A1	CTAACACGGTGAAACCCCATCT
100461	CNTFR	TCTGTTGCCACCATCAGATT
100462	RXRA	GCACAGCCTGTCACTGCTCT
100463	SQSTM1	TCTGTACAGGCCAGTTTCTCTGCCTTC
100464	IL16	AGGAAAGGAAGAAAGGCA
100465	ENC1	TCTGCAGCTGTTTCAAAGTTGGGGTC
100466	PDE1B	CGCAGGAGCTGCAGCTCTGC
100467	SLC7A6	TTGTCATGGAAGCCAGGGAGCCTGGGA
100468	CYP8B1	GCTCACTACAACCTCTGCCTCC
100469	VENTX2	GCCACCTCTTCACTGAAAGTTACC
100470	ADAMTS3	GGGTTTTGTTGAATCAACAATGTGAT
100471	GCDH	AGTGGGAAGTGAGAGACACTG
100472	IGFBP3	AAAGAGGTTTTTGAAATGC
100473	SLC21A9	GTGCCTGGGTCTGTGTCACCT
100474	ARIH1	CTCTGAAAACTTTACCATCT
100475	TACC1	CCTACTTCTCTTGTAAAACTGTTGC
100476	CYP1A1	CCTTCCCAGCTCAGCTCAGT
100477	TCF7L2	GACCCATTCTTATTTCAATTTCTCC
100478	VHL	CACCATTGTACTCCAGCCTGTGTGACA
100479	MYH7	CCTGCTGCTCTCAGGTCCCCTG
100480	ADAM11	GCTCAGCCTTGCACACCCACTGCCCC
100481	CCR2	TTTAACCTTGAAGGGTTCACCAGGTC
100482	BRF1	GGGCTTCTCGAGGGCTTGGGGG
100483	TBL1X	TTCTGGCTTGTGCAGTTTTTATTGTCT
100484	FRZB	TCTTCTCTCAACCCCTTTGTAATGG
100485	CNTN2	GCTTAGAGAGGCTCACAGCT
100486	CRY2	CACAGGGGATGGTGTGCATTC
100487	PRDM2	GGCAGGGAATGGGGACGGTGTATGGAGGGG
100488	ATRX	ATCAAAACACAGATAA
100489	CASP10	ACCCACCCTCTCTCTGATCTCCCC
100490	KCNN2	CCTGCTGCTCCGCACCTCCTC
100491	ALAS1	TTTGGACTTCTCGACTTGAGTGC
100492	MID1	CAAGAGAGCTTTGCCTGAA
100493	WHSC1	TGTCGGGGAGCAGCCTGGTGTC
100494	RNASEL	TGGACTGATTTGCTGGAGTTCAGGG
100495	FOXM1	TGACTTCTGTTCCTTGCTTTTAG
100496	MECP2	TCACAGCCAGGCGCTAGCACAGCTCC
100497	LETM1	CATGTGTGTGGCCTCAGTCTCA
100498	RGS5	TAATGTGATTACAGGTAGAGGCC
100499	EXTL3	GTGCCTCAGGCCAGGGCTCACC

100500	FOXF1	AGCGCTGCGGTTGGCACCTCCTTCCTCAC
100501	COPS3	AAGAAAGGAAACAGATTTGCA
100502	CBFB	TAGCACAGCAGATGTGT
100503	TNFRSF8	CCAGCGAGGGAGAGGTCGTGAGGC
100504	IL1RN	AGGCTGAGGACTTAAAATATTC
100505	EIF4E	AGCTGAACCAAAGCCTCTTCAAAAAGCAG
100506	P2RY12	ACAATCAGAAGACAGGAGCTGCAGAACAG
100507	LAIR1	AGCTGGAGACTGGAGGTTTC
100508	DNASE1	AAAACTCCCAGACACGCACTGCCT
100509	C7	TGTTGCCCAGGCTGGAGCGCAGT
100510	ROM1	GAGGGAGGGATGGACAAGT
100511	KHK	GGACTCTGCCTGTGTCCTGTGTTCC
100512	ACAT2	GATGGAAACCATTTCCTACATCA
100513	PLN	TCTTATTATAAAGAACTATTT
100514	LOXL3	AGCATTTTGTACCATCTGCTCCCCA
100515	SRC	CTGGGCCTCAGTGTGCCCATCT
100516	MT1H	GTGCAGCTGCTGTGCCTGTGTC
100517	ADCY9	CGCACACACACTTGCATTCA
100518	RAD52	TCTTCAACTTGCTCTCTTTCCCA
100519	NPTX1	GGGTGTCCGGGGTGGGAGAGCTGTTG
100520	CDC25B	CAGCTGCCCTATGGGCCTGCCGG
100521	POLH	GGCTTGCCTGTAGGATTTA
100522	TEM7	TTGGGAGGCTGAGGTGGGAGGGTTGCT
100523	ALPI	GTCTTAGCTTCAATCCTGG
100524	EPM2A	CTTTCACCTGGGATGACTTTCGA
100525	DNMT3B	AATCTCAAACTTCTATTTTTA
100526	RECK	TTTAAACCAATTGCTGCTA
100527	RASSF1	AGCACCTGCATGTGCTGTCACGCACA
100528	ARHGEF7	AAGTGCTATGAACACTGATCAAGTAG
100529	CLOCK	TCATAGTTATTAATGTGAT
100530	GNE	CCCTGCAGTAATCTCCAGGCCTGGTTA
100531	PAX9	GCCCTGCTCAGCCCAGC
100532	MEOX1	CCTGGCCTGGTGGGAGAGGAGCTTTG
100533	B4GALT6	GTGAGAGTGACAGAGCTGTG
100534	RPP30	GGCCTCCTAAAGTGCTGGGATT
100534	SIL	GGCCTCCTAAAGTGCTGGGATT
100535	SLC24A1	TGCCCAGGCTGGTGTGCAATGG
100536	LY6E	CCTCACGTGCCTGATCTGTGCCC
100537	TRPV1	CAGGCTGGAATGCAGTGGCACA
100538	CNTN2	GGACACAGCCAGCCCCTTCCTGCT
100539	TCF2	GCCCCTTTAGGAAATTCAAAG
100540	PCDHB11	GTCGCCCTGGCTGGAGTGCAATGGTGT
100541	HAL	AAAGCAATACTAGGCTGAAGGAG
100542	CHES1	GGAGATTGAAGCCATAGAACTCA
100543	TPK1	GCTCAACAAGAACGATTCACCTG
100544	HSD11B2	CCCTCCTGGCACAACGCTCTACCCTGC
100545	CSF1R	CCTCTCTGAGAGGAGCAGCAGAT
100546	DCTN1	GGTGAGTGGGTACAGACTAGGAGG
100547	SEL1L	CTGCTTTGATTTTTGAAGTTGG
100548	JRK	ATACCTGAGGCAGGAGGTGCAGCGTGT

100549	DNMT3B	GCCTTGTTTCAACAGTTTTTGCT
100550	BSN	CCCACCCCACCCCTGCTCCCA
100551	ANKRA2	CGAGAGTTTCTTCCTGGGACTTTTCGG
100552	PGM1	ACGCCGGCCTAGAGTGCGGCG
100553	ASTN	CTCTAATGCACCTGCCTCAG
100554	HPS4	GGCTGCCAGGCTGCAGCCT
100555	CX3CR1	CATAGCCCAGACACAGAAGAG
100556	MPDU1	AGTCTCCCAAGCCAAAATTTT
100557	DCLRE1C	GGAGATTGAGGCTGCAGTGA
100558	TFRC	AGCCGTCAGCCAAATGTAATTGAATA
100559	ALOX15	CAGGCTGGAGTGCAGTGGTGCCATCAC
100560	MDFI	GGGAAGGGAGGGAGGTCTGTTC
100561	PPP1R12B	CATAGTTTGTTAGTACTCTG
100562	SLC3A2	TTACCCAGGCTGGTCTTCAACTCTTGG
100563	HOXB6	AGGGAAAGACAAGATGCAACTAGGAA
100564	UBE2A	GGTGTGGGAGCAGAGGAATGGAAAC
100565	FBXL11	AGATCAGCTAGACACACCCAGCC
100566	ESR1	CCTGCTGCATTTTACCCTCATC
100567	MATN4	TCCGGCATTGAGCTGAGTTGGCCTCGCC
100568	SLC13A4	AGTGTCTTCTTCCTGCCCTCA
100569	APBB2	CAACAAATTACATTAGGTTGA
100570	HTR4	ACTGTTGGAAGTTCACACTGGG
100571	BBS2	GTGCAGCTTGGATGTGGTGCT
100572	DRD2	GGTTGGACCCCAGAGATTCCC
100573	ADAMTS4	CCTGGTTTCCTGCCCTGGGAGGCAGTG
100574	SIGLEC11	CACGCCTGTGGTCTCAGCACTT
100575	BACH2	TTCAAGGCAAGCACCACCTT
100576	VAV2	CTCTAGCTCCTCTGTGACTCAGAG
100577	TAPBP	ACGGCACGCTCCGCCTCCCGGG
100578	KCNS2	CTCCTGTTTCTGAGGTT
100579	SLC1A4	GTGAAGCCAAAAGGGACCAGG
100580	PDE6D	AGAGTGAGAAAGCCGCGGGCGGCGAC
100581	CBFA2T2	TCATTTGATTTTGCTTGTGCAGA
100582	PDYN	TGTCTCAAAATAAAACCAGA
100583	MECP2	CTGCTTTGATGTGACATGTGA
100584	NR1I2	CTTTCCCTCTCCCTGTGTGCC
100585	FBN1	CTCATGTGTGTAGCTAAGCTACCT
100586	AICDA	AGGAGGTGGAGGTTGCAGTAAGCTGA
100587	IHPK3	CTACTTCAAACCTTCCTCTAGCA
100588	CKN1	GACCAAATCCTGCCTCATTAATTCA
100589	GNAZ	GGCTTTGCTGAGTGAAGGA
100590	MYBL1	GAGTTTCTTTCAGTATGTTATACAAA
100591	JJAZ1	AGAAATTTATAAAATGTAAAT
100592	SIRT5	TTTCCTGCCAGTTCAGGAGAG
100593	JAM3	CTGCTTGTCCAACAGGGTGTCA
100594	WHSC1	GCTTGCTGCTCCTGTGCTGCCCTGGCC
100595	SORCS1	GCTCAGCCTCCTTCTTTGC
100596	AGTR1	GTCAACTGACAGTCCAAAGGCTCCA
100597	FCRH1	GTCACTCAATCTGGAATGCAGTG
100598	CDH1	CCCAAGTAGCTGGGACCACAGGCATG

100599	TM7SF2	GCGCGGCCGAGTCCATCTCCTGGG
100600	SURF4	GCTCACTGCATGAAGACTGGCTTGTC
100601	GRM6	TGGCATAGAGTCCTGGCTTCCCGCAG
100602	HPSE	GGCCTCCCGGGCGCTTGGATC
100603	IGSF1	GAGCTTTCCTCTCCTCTCTC
100604	BAALC	TACTGAGTCCCTGGCAAGACCGTCT
100605	MASP1	CCCCTGCCTGGGTCTTAGCATTGA
100606	NIPSNAP1	ACTCCTGGTCCTGCTGTCTT
100607	CMKLR1	TCACAGCAACTCACCATGCCA
100608	TBL2	CATCCGCATCTGGAGCACCAAGG
100609	PPARA	AGTACTTCTAAGAGCATAGA
100610	SDC1	GGAAAGGGGTCGGCTGACCAT
100611	COL2A1	GCCGGGTCTCCCGCTTCCTCCTCC
100612	IL11	ATTATCTCCCCCTAGTTAGAGACAGT
100613	MADH7	CTCCTGAGTGCTTGCTTTTC
100614	MOCS1	TGCCAACTCAAAGTGCCTT
100615	ATF5	TCTGTCTCTGCTTATCACCTCTCTT
100616	ABCC12	CCTCTACTTTAACTGTGCTCTCAGGTG
100617	GPR44	CGACCACAGGGTCTGCACTCTA
100618	SIGLEC8	CATGCTGTTCTGATAGTGAGTGA
100619	ID3	TAGCTCTGGCCACCAGCTGGGC
100620	CA3	GGGGAAGAGAAAGCAGGAGCCGT
100621	NDN	TGGTTGGTGCTTTCGCTTTTGTG
100622	EVC	GGAGAGACCTTTTCTGCCTGGA
100623	AQP8	TTTGTGCTCATCAGAGACCCCAGCCT
100624	ADCY6	TGCCTGAGGGATTAAAATGGCAGC
100625	WFDC1	GATGCTTAGAGACAGGACACCTG
100626	DAAM2	GGGCCTACTCTCAGCTGCCTA
100627	TPM4	CATAACCTTTTGGGTCAACTGTTGG
100628	HKE4	TTACAGAGGCTGGAGCGGTG
100629	ELF3	AGAGTGCTGGACTGTTCCAGGCCC
100630	GNLY	CCCTGCTCTCTCCCGGGCC
100631	IL1R1	GCCTTCTCGCATTTTCTCTAGCTGATC
100632	GPR62	GCGGTCTGGGCCCAACACTGCAT
100633	HM13	ATGGAAACTGAAGCCCAGAGAG
100634	EDNRA	CCCATAAGTGTAAAATAAAAGTTTACA
100635	MMP2	TCTCCACTGCCTTCGATACACC
100636	EIF5A2	CAAACAATGTAGCATAAAGTGGTA
100637	B4GALT2	GGGGGCCTCCTGCCTGGGCA
100638	CRHR1	GGAGACAGAAGTCAGGTGTCATC
100639	APG5L	CTGTAAAATATAATGAAGCTG
100640	XRCC2	ATTATAAAAATGTCAGA
100641	HNRPH2	AGAAGGAGCACTAAATAGCT
100642	ESRRG	GGGCCTTCCATCCTTCATTGTTGAA
100643	DLEC1	AGCTTTTCTCCTCATGAGCTGA
100644	HCFC1	CCTGTGCAGACCTCCCTGCAGG
100645	PLA2G4C	GCTGCTTGGCATAATGAGCCTCA
100646	MTR	GCCCAGGCTGGAGTGCAGGGGCGCA
100647	SEDL	TGTGCAGGCTGTAGTGCAGTG
100648	B4GALT5	TTCCTCACTGAAGGCTGTGAG

100649	GPD2	AACAACCAGAGATGACTGAA
100650	CAPN10	TCGGCTTCCATATCTTCCAG
100651	SYNGR1	GCTGCTCTGTGCTCTGCGTGTCCCAC
100652	TOX	ATAGCATCTATGTTACACTCT
100653	RANBP2L1	GACTCTGGACACTGAACTGACTTT
100654	COX15	GCTCACTCTGCAACCTCCACTTC
100655	SPARC	AGAGAAACTTCAAAGTTAATGGGATG
100656	HMOX2	CCATCATGCCACACCGGTACCCT
100657	MAP1A	CCTGCTTGGCTTCTCTGCA
100658	BCL9	CCCCGGGGCATGGCTGCT
100659	COX15	CTATACTGCTGAGTTCTGGTC
100660	EVI2A	GATGATCTTTGTCTGAATGTAATA
100661	LIF	CACTCTGGGCTGGGCTGTGATG
100662	LEF1	CGTTCAGCAGACTGGTTTGCAGTGA
100663	TDG	GCCTGTAATCCAACATTGG
100664	PRSS16	TTCCACTCCCTGCATGGTCACCTCA
100665	CST	TCATCCAGAGCTGGAGTGCAGCG
100666	CASP6	AGACCAGCCTGACCAACATGGA
100666	EIF3S2	AGACCAGCCTGACCAACATGGA
100666	GPR1	AGACCAGCCTGACCAACATGGA
100666	MAP3K9	AGACCAGCCTGACCAACATGGA
100666	RBL1	AGACCAGCCTGACCAACATGGA
100666	VPS41	AGACCAGCCTGACCAACATGGA
100667	PLAT	CAGATGGGAAGACATGAATGCAC
100668	AHSG	CAGAAGCAGAGTGGGTGGTGG
100669	FCMD	CCTACTTCTTTTATTCCTCCTTTTGGT
100670	KLF7	AGGGCCACTGGATGTCTGCCTTCTTGGG
100671	STS	TACAAGTCCCCATTGCTGTGGT
100672	DGKG	TTTTCCAGGAACCTTCTCCTGG
100673	ADAMTS1	GTCTCATGAAAATCAGTACAATCA
100674	SLC12A7	ACCTGGAGGAGAGCAGGCTAG
100675	GPR35	ACTCTCTGCTGACCTCCGGCT
100676	CD28	TCAAGATGGTGAAACTCCGTCT
100677	TNFRSF11A	CACAGCTGCAGGCCACGCCCAG
100678	XT3	TGCTACACTCCCCTCGCTAAGACAGTAA
100679	PSG1	GGATCCTAGGCTTATCTCCACA
100680	SOST	GGAGGGAATTGAGAGTCACAGA
100681	LUZP1	CCCACATTGGCTGGCAGTAGACATG
100682	GPR4	TCCCTGTGGCCCCACAGCCCCCG
100683	SHANK2	CACATGGAGTTAGTCAAAGCACAA
100684	RHO	TAGGCAGGGACAGTCACAGGAA
100685	LTF	GCTCCCCTGCTGAAGGTGGGGATTGCCCAT
100686	PIK3CD	CTGCCTGGGTCCTGGCGCCTGGC
100687	CD209	GGCCTCCCAAAATTGCTGGGATT
100688	MAD2L2	GAGTTGTTTCAATAAAGGGGCC
100689	MEL	GCAAGCTGACCGCACAGCAGTCTGGC
100690	PLAG1	ACTCTAAAAATGTTCTA
100691	WBSCR5	TAGAGAAGTAGTGACCAGAACAGGG
100692	EFNB2	GTTACCCAGGGCTCTGCAGC
100693	MLF2	GGAGGTGGCAGCTGTGGGAGGAGGC

100694	GGT1	GCCCCCACTGTCCCCAGGCC
100695	BMPR2	TAGGAATGAACTGTCTGTGAAATGT
100696	SCA1	GTTTTCTGGCCCAGGAGTGGGGT
100697	RAP1B	TCGCTTCTTTGATACTTGTAGC
100698	VHL	CGCTGCACTCCAGCCTGGGGGA
100699	ADAMTS5	AATTCAGAGAAATGGAGTGTTCA
100700	GRM4	GAGGAGGAGCCGTGACCCTGTGGAAG
100701	NRXN2	CGCCCGCGGCTCTGAAGCCTGAGCGG
100702	GRM6	GGGTGCCTGTAATCCCAGTTACTT
100703	SUFU	GCTTGTGCGAGGTCTCAGGCCT
100704	TNFSF9	GCCTCCACCTCCTGTGTGATACTTGGG
100705	KCNA7	GTGGGGAAGCATCATGTATCT
100706	MASP1	CTTACTTCCTCGGGGCCTGCCTCCCCT
100707	UBE2A	TTCTACCCTCTCCTTAAACATCAGAA
100708	ELF3	AAATCAGAGTTAGGATCTTGTA
100709	MAK	AGTACAGTTCCCATGAATTC
100710	SLC22A5	CGCGCTCTGTGGGCCTCTGAGGG
100711	ALPP	AGGTGGGCGGATCACGAGGTCA
100712	CD1D	GGTTCCCAAGACTTCAGTCCTGGTC
100713	PRKAA2	TGCCTATGATAAATTCACATA
100714	DNMT3B	AAACCCAAGGGCAGGGGCCACT
100715	PF4V1	GTATTATCCTTCTTATATTAT
100716	NAPB	ACCTGGAATGGAGTCCAGT
100717	CHRNB2	GTTGGGTGGAGGATGGACGAG
100718	CLASP2	AACCAGGTCTCTCAAAAGAAAGGACA
100719	PCTK1	TCACCTAGGCGCTAGCAAACTTCTGC
100720	TNXB	CGCCTAGGAGTGCTGACCGTGA
100721	TCF7	AAGCCTCTGCCTCCCTAGCT
100722	MTNR1B	GGATCTGAGGCACACCAGCAGCATG
100723	ANXA8	CCAGTGCTTTCCAGCCGGGTT
100724	GLRX	GTTCTCCATGTGTCGGCATGTCTCT
100725	FGFR2	AGCATCATTTCCCCAACAGGGC
100726	ZNF289	GCTGCTGCTGCTGCTGCCAGTGGCCTC
100727	PACE4	GCCGCGGCCGCCTCCTCCTCC
100728	DAZL	AACTTTTTTATGTCTCTTAGAGG
100729	MOCS1	GCCAATCCAAGCATTTTCTCCTGGGACC
100730	CLECSF12	TTGCCCAGGCTGGAGTGCAACGGCACG
100731	MGAT5	GCATGTATGTACACTCTGAA
100732	ABCA7	CCCTGGAGAAAATAAAGAGAA
100733	SPAG11	TGTCTTCTGGAGTTGTGAC
100734	CAV1	TTCAGCAAACTCTTTTCCCACTG
100735	LYPLA1	GTCATTTTTCTTTACCTTGAAGAAC
100736	SLC22A7	GTGAGCAGCATGGGCTTTGAGG
100737	LGALS1	TGGCCTTTGACTGAATCAGCC
100738	AP2A1	ACAGAGGGGAGAGGGGCCAGGGAA
100739	ABCA1	ATCTTTCAATATCATTACTAACTT
100740	PPP2R2B	CAGTGCTTCCCAGAGTGAGCTTG
100741	NPY2R	ATTGTTCAAAAATAACCTTTTTGTCT
100742	C9orf19	TGAGTGTCCCTGAAACCATGGC
100743	UFD1L	CGAGGGCGGCTGGGAGAGCGGTCGG

100744	CDH2	TTTAAGGCTTTAATGGTACTGATTTCT
100745	GGCX	CACGCCTGTAATCCCAGCATTT
100746	SH3GL2	TCACAGAAAAACCATCCCACCG
100747	DPYSL3	TCCCCTTCCATTAGCAGAAACTCT
100748	CCKBR	CCCTGCCCTCTCCTTCCTTA
100749	HNF4A	TGGGGCACCTTGCTCCTCCTTC
100750	MECP2	TTGAAGCCTGCTCCTTCCCTT
100751	KCNJ13	TTCAATGCTAATTATAGCTCT
100752	AXL	CTGCCTCTCTAGGACCATGGTT
100753	CACNA2D3	TGCTCTTCTCAAGGTGCACTGA
100754	ARHGDIA	ACCCACAGGCCCAGCCTCCTCGGTCTCC
100755	AGA	TCGTTTCTTTTAAAAATGATTTGG
100756	SDHA	CTTCTGCACTCTGGGGAAGAAGGAG
100757	SSPN	TAAATGATGTAGAAGGTTTA
100758	HMOX2	GCCTCTCTTGGACCCTGGGAGTG
100759	SIRT3	TTACAAGATCCAGACTTGGGCCGAG
100760	ZNF132	AAGGATGCTGAACTTCTTTTC
100761	TEM6	TGTGGTGAGCTGGGCGAGCT
100762	RERE	GGTTGTTGGAGTGGTTGGATTT
100763	NAT2	CTTCCCTTGCACAGTTT
100764	PRKAG1	CCTCCATCTTGGCCCTGATTCA
100765	HAO2	CTTGGTGTGTTTGACAGACT
100766	DVL3	GCACACAGTAGAGTAGGTGCTCAATAAAT
100767	ICA1	AGGCCAAGGCAGGAGGATCACT
100768	PIGR	CTCTCACTGTCGCCCAGGCTGG
100769	TAZ	ACCACCTCCAGCCTGGG
100770	RCN1	CAGTAAGATTTCTCTCAAAAC
100771	TACC1	ACCACACCAGAGCCTCAGCCT
100772	OAT	TTTCCAAACTAGCACATTTG
100773	SUV39H1	TCTGGTTCTCCTCTTGTACACCCCTC
100774	LZTS1	TCTGTCCCCCAGGCTGGAGTGC
100774	RPP30	TCTGTCCCCCAGGCTGGAGTGC
100775	CALML3	AGGTGCAAGCAGGCACAGAGGTG
100776	ESR1	AGCTCTGCCTCTGGCTTTCCGGTC
100777	ATP8B2	GTCTTGAATTCCTGACCTCCTGACCT
100778	SLC25A15	CCTCCAGGTTCCTTAAGCTTTTTGCT
100779	HAS2	TCTTATTACCTCAATTTTGGA
100780	RNH	TTGCCCAGGGAGAGGCTGCGGCTCCT
100781	ACE	TGAGCCAAGATCGCACCATTGCACTC
100782	CNN2	ACCTTCCGGGCTCAAGCGATT
100783	CYB561	CCGGGAGATGGCGCTTGCAGTGA
100784	BAZ2A	AGCTTACTCAACCTCTGCCTC
100785	RAB5B	GCGGTATCCATGATTTGGCC
100786	ITSN1	GTGGGGGCCGTGTTTTGTTTGC
100787	FANCC	AAAGGAGCTGCATGCTTCACTGGA
100788	LIMD1	CACATCCCTGAGGCCAGAGGTCA
100789	MAGEA4	CCCGCCTTATGCCTCAGTCTA
100790	MLF1	GTCCGTACTGGAGGCTAGCTCTTGTC
100791	XYLB	CCTTTGGAGGCATGGTGGATGAA
100792	KCNJ1	GGAGCCCCACAGTCAGAATGTTACTAT

100793	CASP6	CCATTGCACTCCAGCCTGGGCAACGAG
100793	SLC2A6	CCATTGCACTCCAGCCTGGGCAACGAG
100794	GFPT2	AAGTGCTTTTGCTTACAGCAGATA
100795	TEM7	AACAACCACATGGATTTTTTATAGGA
100796	LMNA	TGGGCTCTGTGCAGTCACTGGA
100797	HMG20A	CTTCTCTTAGACTCCTTGTCTGC
100798	BPHL	GCAGAAGACTTCCTACAATGGAATGC
100799	SCG3	GTTAATGTTCCCAAACCAGA
100800	PDE7A	AGCCTGGGTGACAGAATGAAACTCCA
100801	AQP6	GCTGCAGAGCCTGGGCTCAGCCCCAG
100802	USP1	ATTATCTACATGATGTTTA
100803	ELMO1	CCCAAACAGTCCACAGGTCCCA
100804	TCAP	AGGGAGGGTGGCAGAGACAGTGGG
100805	SNX9	TGCTAGTGCCATCGTGGTGTGT
100806	DOCK1	AAAAAGAGTATGTGTACCAC
100807	ADAM19	AGCAGGAGGAGCACCGGGCTTGGGCTT
100808	RAB30	GGCCAGCATTAGCAGAACATATA
100809	ASB1	GGAGGGGGGCCTGGTGCCTGGG
100810	TGIF	GCTGGCTAACCTCCACTTCCACATTCCAG
100811	TAT	TCTCAAACTCCTGACCTCAGGCAATCTG
100812	RPP30	TTGCTCAGGCTGGAGTACAGTG
100813	VANGL2	GACTCACAAATCCAAGTTCTTA
100814	MANBA	AGGGAATGGCGATTGAAATG
100815	PXR1	GCTACAGATCTCTCTGCTCATCATGCC
100816	RAB36	CTCCACCCACCCACCGGGCT
100817	TOX	TTCCTCAAGCTGCATGCTTTTCA
100818	PMS1	TCACATGGTTATTTTTTAAA
100819	TNFSF14	TCACATTTTCAGAAGCCTCTGGAA
100820	SACS	GAAGATGGTGGTGAGCTGCAAA
100821	PRIM1	ATTGTGGATATCTTCTGCCTTC
100822	PPP1CB	GACAAGCTTTGTAGTGAAGTAT
100823	PAG	CTTCAAAACAGAGAGCCTTAATCT
100824	PTCH	CTGCTGTCTTGGTGCCTGTC
100825	ERBB3	TCCCATTCCTCAGCTTCTTCA
100826	RENT1	ACAGGCCACCTTCCTTCTGGCAGGGA
100827	FGFRL1	TGCTGCCTGGACACACACTTC
100828	KCNQ2	GAAGGGAGACCTGGCAGTGGA
100829	BCL2	ATGGGTATTTAAACAATAAATGTGCA
100830	CDH4	TTGAATTTCCTAGAACAGAAGCA
100831	GPR86	AGAAAAAATACATAAAGG
100832	EGFL5	TCTCTAGCGCCAATATTCCCA
100833	CALB2	CCTGCTTCTGCTGCCCTGATGCGT
100834	MADD	CGGCATCAGAGGATGGAGTGGTC
100835	TRHDE	CATTATGCAAAAGCACAAAGA
100836	TEM7	GACTCACAAGCTGGTCCTTGGCCAGGT
100837	SLC7A6	TTGGCCATATATTTGCTCAA
100838	SHANK2	CAGATCTCATCACTTTGATTTCTAATC
100839	CANX	TCACTTTCTTCTAGCTGAGCTTTA
100840	KLK4	TCCAGGCCCCCAGCCCCTCCTCC
100841	ASB1	AGGGGGGCCTGGTGCCTGGG

100842	OPHN1	TTGACTCTTGCCTGCCTAACAAAAT
100843	SORD	AACCTGGGAAAGCCATGACCTTG
100844	TIF1	CTACAAAAAGAAGGAGTTTGTGA
100845	SCNN1A	CTTCCCTGACTCCCGAGGGCT
100846	PIK3CD	CAGACTGCCTGGGTCCTGGCGCCTGG
100847	FMO3	AGGCTCTGAAATAGCCACTTT
100848	BTNL3	TGTTTTTATATTATACATTTTCCCACC
100849	F3	CCATTAGCATTCTGGTTTTGACATCAGC
100850	FACL2	TCAGAACGCGTGGATTCTCTTTCA
100851	XRCC3	AGTGGGGCTGCAGGCAGGCGGC
100852	ZNF264	GCGGGTGGATCACCTGAGGCCA
100853	ATM	TATGCCTTTTGAGCTGTCTTGA
100854	NCOA6	ACCTGGATAAATGATAAAAA
100855	PPP2R1B	TTCTGTCCTCTTGCCTTTTACTTA
100856	IGHMBP2	GGGAGTGGCGTTTGGCTTGCA
100857	ZNF80	CTGTTAATAGTGGTTTTCTGCAGG
100858	SFRP4	TTTCATAACCTGCCTCCTTTGCTTGGC
100859	REGL	CTCCCACTGCTACTACTTT
100860	CALU	CTCTTTCCCTCTCCCCGCTGCC
100861	ARCN1	GACTACAGGTGCACGCCACCAC
100862	CLECSF12	GACTACAGGTGCATGCCACCAT
100863	CTSS	AGGTTGAGAATGCAGTGAGCTTGT
100864	MMP7	TTTATTGGTTAAACTCCTTT
100865	MEA	GAGCCCATGGGGCCTGAAAGGCATCTG
100866	DGKI	ATGGGAGATGTCTGTGCTTGGAGGT
100867	NCOA3	CCAGGCATCCATCTTGGAAGAAAGG
100868	SLC9A5	GACATAGTGGCCTCTGGGCTG
100869	PRDM4	CTCAAACAAATCAGATTTATT
100870	SFRS2IP	GTCTGCACTGCAACTTCTGTATCCTT
100871	ADCY8	TGACTGCCTCTATGATTGCGGC
100872	RNF3	TTCCAAGAAGCCAACCACCTT
100873	PRKAB1	TTGTCCAGCTTTTTATTCCAGTCA
100874	ZNF289	GTTCCCAGGCTGGGGATGCTTTGCCT
100875	GPR4	CCCAGGCTGGAGTGCAGTAGTGCAGTCGTGGC
100876	FNTB	GCACAGGCAAGACTTGCTTCAGC
100877	IMPDH1	AGTCAGGACTGCTCCCGGGGG
100878	KIF1B	GCTCACGCCTGTAATCCAAGCA
100879	PC	CGAGGCCAGGAAGGCCGGGC
100880	TLX1	AGACAGTCTTCTACTTTCTA
100881	ZNF138	GGCAAAGCTTTTAACCTATCTTACAAC
100882	KCNK3	GGCAGAAGCTGGGAGCCTCCCTTCCCT
100883	MAPK8IP1	TGGGAGGGACAGGGCTTGGGGA
100884	BCL7A	CTTTCCTATTCTCAGGCTGTTCTGA
100885	TAPBP	CACCACTGAGCAGCATGGG
100886	SOX13	CCTGCCCCTCACCTGCCTGCCCTCCCCT
100887	RENT1	GGCTTGGGGTGTCATTCTGCCT
100888	DIAPH2	CTCAAACTCCCAGGCTCAAGGGAT
100889	UBL3	TCACTAAAATGTTATCTTCAAGAG
100890	PPM1B	CTATTTTTCCTTTCTCTGTA
100891	ARL2	ACTAACACTCCCCCTCCTCC

100892	DHPS	CTTACCCCCTCTTCTAT
100893	NDUFS1	CACCATTGCACTGCAGCCTGGG
100894	SLC25A11	CTGAGGGGACAGGGAGGAGCAGA
100895	SLC25A6	GATGGCCGGGGAAGGCTCTAGAA
100896	FBN2	AGAGGTGCTTTTTAAAAATCCAATAG
100897	IL10RA	GGGGGCATTATGGGCCCTGCCTCCCCAT
100898	TNFAIP1	GCCACCCCATGCTGCTGCTGCCT
100899	CAPON	CTGCCTTCCTCCTGCCTGTA
100900	CIAS1	CCTAGGCTGGAGTGCAGTG
100900	DCX	CCTAGGCTGGAGTGCAGTG
100900	IL11	CCTAGGCTGGAGTGCAGTG
100900	SIGLEC8	CCTAGGCTGGAGTGCAGTG
100901	ESR1	GTGCCTGGAGTGATGTTTAAGCCAATG
100902	COL9A3	CCTTCAGATTAATGACTGGC
100903	OLFM1	CGCAGCCGCCGGCCGGCCAG
100904	ABCC5	TCTTCTTTTTGCTGTTGTTTCTAAAC
100905	PPP2R5E	GTAACATCCTCCTCTGGATAACTTGAC
100906	CDKN2C	TTTCCCAGGACTCTCCCCATCTCCAGA
100907	MAP3K14	AGCACTTTCATGGCTGCCCTCTGGCAG
100908	CLASP1	GCTCTTTGACTCCCAGAAGGTAC
100909	ADAMTS4	TGAGTAGCTGGGATTACAGGCTC
100910	PKHD1	AAGATGATGCATAAAGCTGTG
100911	TSN	CAACAAAGTGAGACTCCATCTC
100912	ZNF36	CTTATTTCTCAAAAAAGAGGGACA
100913	C10orf2	CTGATGCCATTGTGTGCTGCCT
100914	FOXF1	CCCGGTGACCGCGCGGATTCAG
100915	P2RX4	CTGTCTCCAGCTCTCTCCAGGAC
100916	DXS1283E	CCAATTTACTGACACTGTC
100917	FMNL	TCCAAATAGCCATACTTAGCCTCA
100918	EXTL3	GACATGTTCTTTGGTCAACAGCCA
100919	MCL1	GAACCTGTTTCTTACAGCTTTT
100920	NESG1	AGCTGGCATCCTGAGCTCCTC
100921	EXT1	CCGCTGCTCGCCCGCCCTGGGTG
100922	SON	TTCTGCTGGACAGATAATGGGCC
100923	PSME3	ACACACAGACTCCTACTCCAT
100924	KCNMB3	GGCGGAGGAGGTTGCAGTGA
100925	DUSP4	CTTCAGTTCCCCAGGAGGGCAATGGC
100926	TLE1	AACCTTGACAGAAAACTACTTTG
100927	LAMP2	ATATACTGCTATTTACACTATTATTTC
100928	RCE1	TGCTCCTGCCTATGCTCCTGGGATAC
100929	CLECSF5	CATGCCCCTCCTAACTCCACA
100930	SOX15	TTAAGGCTTCTCCCAACCCATGGCGC
100931	GRM1	TGTCTTGGCTGTCATAACTTT
100932	FBXL3A	GCTTCTTTCTGGGCAGCCAG
100933	C1orf1	GGCCAGCCTGGGAAACATGGCAAAATC
100934	EED	GGAGGTGGCGGCGGCAGCGGC
100935	MKL1	TCTCCACCCACTCACATTCCGTC
100936	CDK10	CCCGAGCTACCAGGAGAGCCCTG
100937	LPIN1	CTGGTACATTGGAGAAAAAT
100938	KIT	GAAACATTTAAATTTTACCCTTTAGAC

100939	KLRC4	TGCAGTTATCATAGAGCACAGTCCCT
100940	GNAT1	GTGGGGAGGGGGCAGACCTGGGGGC
100941	FGD1	ATCCCTGTCCCCAGGGAGGGTGGGAGCCGT
100942	SLC9A2	CTGTGGTTTGTCACTCTGAA
100943	FZD3	GCATTTCTCAAGACCTGACTTA
100944	SRGAP1	CCAGCCTGGGCAGCATAGTGTGAGAC
100945	DLEC1	GGCCAGAAGCAGGAGTGTGAGG
100946	AMD1	AGTCAGCTTGGATCATTCACCTT
100947	SURF5	CTCTGTTTGCTGCCTTCCTGGCCA
100948	TADA2L	CCACTGTGCTCCAGCCTGGGCAACAAA
100949	MAT2A	CCATGGAGAAAGCTGACTTGGCTGGTG
100950	MTCP1	CCTTAATGGACATCATCGGCTG
100951	TGFB1	CTCTCTGCCTCCTCCTGCCTGTC
100952	MYL3	AGAAGCCAGGAAGGCTGTGC
100953	TBL2	AGGTCTCTCTCTTCTTG
100954	KDR	CTGAGTCTATCCAAGAGGCTTTG
100955	WNT5B	TCACAAACCACAGGACGCTGCA
100956	ARNT2	CAGGGGTCCAGGGTGCAGTGA
100957	PRKY	ATTCAGAAAACCTGTGTCACA
100958	WHSC1	GTTGGGGGAAAATAGCATTTAA
100959	FLRT2	TTCTACTGTCCTCTTCCCCTTGGC
100960	CDK10	CTCGGAGGCTCAGGTCAAGTGCA
100961	EIF2C1	AGGGTCCAGTCATTCACCAGC
100962	PPEF2	GCCCAGGCTGGAGTGCATTGGC
100963	EHD2	CACCTCCTGGGTTGAAGTGATT
100964	MPP2	CAGGTACCTAGCAGAGGCTGTCAGTCC
100965	BRCA1	TTTGCTAGATTTCTAAAGAATGT
100966	BRCA1	CAGTCCTTCTACTGTCCTGGCT
100967	TAF1	CTCCAGCCTAGGTGGTTCACCTT
100968	LRP4	TTGAGACTTATTTTTGCCCTAAAACG
100969	NOS2A	CGGAGCCTCCTCTCTCAAACTGGGG
100970	PEPD	GATACTTTCTGTCAAAAATCA
100971	LPP	GGGCTCTGCAGAACATATCA
100972	DNAH11	AGCCTCTGCTGGAGTGCAGTG
100973	USP6	GACCCTGGGTTTTGCTCTCAG
100974	IL9R	GCCTTTCTTGTGACCATCAGGGCC
100975	EPAC	GCTCTCCGTGGAGTGGACTCGAGT
100976	TUBA3	ACTGACCTATGCTCTAAAACATGAATG
100977	ROCK2	CCACTGCACTCCAGCCTGGGCAGCTGA
100978	TYR	GGCCAAAAAGCCTGACCTCA
100979	CCR9	GAGAGTGAAAGAGAAAAGA
100980	BARX2	AGCATGCCCAGGTTCCTTGCTGAC
100981	PEX3	AGGATGTGTGAAGTTTGGAAAAATAT
100982	AGA	CAGAGGTGGGTATGGCAATTAG
100983	PTPRH	TTATTAAATCACTGTTCTCCCCA
100984	PPFIA3	GGGGGTAGAAGGCAGTGA
100985	MCL1	CATTGAGAGGTGGGAGGAAGTCC
100986	HDAC1	CAGGTGGAGGTTGCTAGTCTAGT
100987	MAML1	CAGGAGGCATGGGATAGCAGGTCTGG
100988	KPNA4	GAGCCCAGGCCTTGCTATGAAGCAGTG

100989	LRRC2	CCAGCATGGCGAAACCCCATCT
100990	ASPH	TCTTTTTTCTTTTTGTGAGAC
100991	ADARB1	TCTCAATAAAAAGAAAATGT
100992	BIG1	TCTTTATTTTCTTATTCATTTGC
100993	GRB10	TCCTTTGACAGGCGACAAACTACTGT
100994	RARB	AGTGAAAGCTGTGGTAGAG
100995	DLEC1	TCACTCTCTGGGGGAGTGCAGGGTGGA
100996	TXNRD1	CATTTCTGGGCCACCTCA
100997	MAK	AAATGTTTAGAGTGTTTTAGTTT
100998	IL18R1	GCTACAGAGCAGGGAAGGGAAG
100999	GAB2	CCCACCTTGAAAGCAGCATACAGGG
101000	ZNF200	AGTTCTGAATTCCCAAGCTGCCT
101001	C5R1	CTCTTCTCATCCTTCCTCA
101002	ADCY6	TCTCCTGCCTCAGCTCCTGAGTAGCT
101003	VANGL2	CTCTGCTTCTCCCCTGTGGGAAGTTGTC
101004	GPR55	AGGTTCTGGAAAGAAAGAGAGAG
101005	ACP2	ACTGCTCTCCCTCAGCTGGGCT
101006	IRAK4	GAACCAGGGAGGTAGAGGTTGC
101007	NFATC1	GCAAACACATTTCATTGTGAG
101008	SLC22A7	GTGGCAGAAAGGTCTGAACAG
101009	LAMC1	AGTCTCAGGCCACAATGGGGT
101010	MYD88	AGATGCCAACTTCACAGACACGTCT
101011	DDEF2	GAGCATGTTTAATAAGTTTACT
101012	RABL2A	GGCTCGCTGCAACCTCTGACTC
101012	RABL2B	GGCTCGCTGCAACCTCTGACTC
101013	TAL1	TCACAGGTGTCAGCCATTGCA
101014	ICA1	GAGATCCAAGTTGAAATTCAGAAGCCT
101015	MS4A12	GATGGCTGTATCTCCCTTCACTGT
101016	WHSC1	GAACTTCTGAGCTCAAGCGATC
101017	TCL1B	CAGTTCTGCTGACACTTTGGCC
101018	ABCA1	TACCTATACCTATGTGAAACTCTAT
101019	LDB2	ATAAATGCTCAGTGCTCAGGATCT
101020	PLOD3	CCGCAGTCTCACTCTGAA
101021	IL18R1	GAAACATTTGTTGATTTTGTGTGAATG
101022	GRLF1	CACGTAGCTGCTCACACCAGCC
101023	NUDT2	GGCTCTTCTGATTGGCCGGTGTAC
101024	FGF2	TTCCTGACTATTAAAAATAAATA
101025	VIPR2	AGAGGATCCATCACAGACGGA
101026	MIA	CCTACCGCTGGCCCTGCCGT
101027	TRIM9	TCCTGCAGGAGGATGTAGCGCCTCAGT
101028	HKE4	AGTCTTACAGAGGCTGGAGCGGTG
101029	CORO1C	TGAGTATTGAGACTGAGG
101030	C7	TCTCCCTGCAACCTCCGCCT
101031	GPR44	GTCAATGAATTTTGCTTGGT
101032	HLCS	GGCTCACCACAACCTCTGCCT
101033	DHCR24	TGGCGGCAGTGACAGGAGGCGC
101034	IL13RA1	CGCCTGTAATCCCAGCAATTTG
101035	CDK10	TCCGAACATCGTGGAGCTGAAGGAG
101036	LARGE	AACATGGGCAGCTTCCTTCAG
101037	KPNB2	AATTAGGGGTCCTTCAGTCTTGG

101038	ARL2	CCTCCACCCCAGCCTGCTGC
101039	RHO	TGGGGGAGGGGGACGGTGAAGGC
101040	WNT10B	GGGGTGGTGGGGGTCAGGTGGACTC
101041	AMPD2	GGGCTCAGGTATTGAGCCTG
101042	G6PC	CCAACCAAGAGCACATTCTTAAAGGAA
101043	CHC1	CATCCATTCGGCTTCACCTGCAGCCAACGGC
101044	PLAUR	ACTTGCTGTGTGACCTCAGGCC
101045	CTF1	GTCGCCCAGGCTGGGGTGCAGTG
101046	PTTG1IP	ATACTCTTCTCAGTTTGTGA
101047	NUP98	GCCTGTGGCCCCAGGCACTTTG
101048	TCF2	AGCCTCCCTTTGTGCTTGGGATT
101049	CCND2	AGTAAGCTAGCCAGAGTTTTCTCA
101050	CALM1	ATTACAGTTTACGTCCATTCCA
101051	BDKRB2	CTCTGCCTCAGTAAGTATCTGGAG
101052	DLEC1	ATCCTGAGCTTTTCTCCTCAT
101053	SERPINF2	GGGGCCTGGGCAGGAGGGAGGT
101054	RASGRP1	GGCCTATTAAACATGACGTTA
101055	NUP98	GCATCCTCTACCTCTCAGCTGCTGAAA
101056	GLS	TTTTCTAGGAGTTACACATACATTTTATCCT
101057	ZNF26	TGTCCATCAGGAAATTCACACA
101058	PPP1R8	GGAACCTCACAAGCCTCAGCAAA
101059	PTER	CTTTCCGGTATCTATTTTTGCC
101060	B4GALT5	GCTCACTGCAGCCTCCATCTCC
101061	PCDH9	ACCTAAAAATGTTGTA
101062	APTX	CTACTTTCTTTTTCCCTGAGAATAAA
101063	ACK1	AGGCAGCGGAAGGCGGCAGAGGCT
101064	NDUFAB1	CAGACCCTTTGGCTTTGCTGAG
101065	CNP	TCATGGCTCACTGCAGCCT
101065	IL12RB1	TCATGGCTCACTGCAGCCT
101065	ORC1L	TCATGGCTCACTGCAGCCT
101065	XRCC2	TCATGGCTCACTGCAGCCT
101066	ZNF45	TGCTGAATTCTGTTCCACT
101067	CFL2	CCTTGAAAGTATTATCCACTG
101068	KLHL3	GTGTCTGGAGAATAGTCTCAT
101069	DLGAP2	TTTTTTATTGGAGTGAATTCTCGT
101070	NEUROG1	GCCTTTCTATCTGTCCGTCGGTC
101071	CAST	CAAATTTCGAGCATAAGAAATA
101072	HOXD10	AAGCGGAAACAAAACCTTCAC
101073	BCL7B	CCGGTGTCTTGGGAGCAGTGCCCCG
101074	TAF6	AGGGAGGAGAAGAGGGACTCCAG
101075	RAI3	CAGCTCCCAGCCTAGGCCCTTAATCT
101076	OGT	TCTTCCAGCAAGGAACGCACCGAAAAG
101077	SEPN1	TGGGCTGACTGGGCAGAGGAA
101078	SLC5A5	GGCCCATGGCCTTGGGCTCTGATTGGCTGGAT
101079	KCNS3	GGCAGGATGAAGGCAGAGCGT
101080	PTEN	CAGCCTCTTCCTCGGCTTCTCC
101081	CTSF	TTGTAACCACCCTTTTCTAAC
101082	PTEN	CCCTATACATCCACAGGGTT
101083	ZNF264	CCTGGTGCTTGCCCAGCTTTTTGA
101084	MN1	TGATGCCTGCAAAAGCCATTT

101085	PCTP	GGAATTCTGCCTAAGTTGTCTGCCTTT
101086	MYCBP	TAGGACCTGTGGCAGACCA
101087	HMG20A	TCACAGATGCTATCATAGCACACTACA
101088	PEX14	AGCTAGCGTCCCTACTGCCTCCCGACT
101089	AXUD1	TGGGCACAGGCCCTCAAGAGCC
101090	PDGFB	GGGCTCGGGATCCGCCCA
101091	PKHD1	TGCCCTGCCTCAGTTTACCTGCACATG
101092	PLIN	TTTGCATCATTACTGCCTTCA
101093	MAP3K14	GCAGCTTCCAGCCTGGGTCAGAAGG
101094	SLC17A4	CGCCCAACATGCAGAACATGAA
101095	TNFRSF1B	GGAGGCTGAGGGGAGGATCA
101096	CBFB	AGATGATCTTCTACTGAA
101097	DPYSL3	GGCATGTAGGAGGGAGGTGGGTGG
101098	PITPNB	TTCAGGTCACAAACTGTCTTT
101099	SLC21A3	TCTTGGCTCCTCTCCCCTTGTTCC
101100	ADCY1	ATGCCCCAGTTCTAAGCCCTGTGGCCA
101101	LZTFL1	GTCTTAGCTCACATGCACTGAG
101102	DPP6	TAATGGTTAACCTGATAGAA
101103	ADAT1	CTGTCTCTACTAAAAATGCAA
101103	SLC2A3	CTGTCTCTACTAAAAATGCAA
101104	CPO	CCGTGCCTTAGTCTTCTCCACTCTGCACCCTA
101105	ABCF1	CCCCAGTCTTTGGGTGGTGCTG
101106	HLA-DQA1	CTCTGGCCCGATTTATCATATCCCTTT
101107	JRK	TGGTCAGTTTGAGGGGAGCCGCT
101108	RAB4A	TTTTAAAGCCTCTTCATCCA
101109	KIF1B	GCCTGTAATCCAAGCACTTGGGGAGG
101110	ICA1	CCGTTGTGCTCCAGCCTGGGCG
101111	ZNF132	CCCATACCAGAAAAATTAC
101112	MMP23B	GCCCGGCTGATAAAGCACTTTC
101113	YWHAB	CACAGAATAATCAGGAAAAG
101114	MYO1A	AGCCACCTCTCCATCCTGGGGCC
101115	KIF3B	CATGCACGCATACTCTGAACATCCTTG
101116	COX15	CCTGTAGTGTACCATTCTCAG
101117	SLC1A4	AGCCTCCTTCACTCCCTTGTTT
101118	RRAD	AGCAGGCTCAGACTCTGGGT
101119	CD244	CCCTCCTCTGAAAGCCTGGACTG
101120	PRKY	TCCAGGCGTGAGAGTGTTCTCTTGGG
101121	B4GALT7	GTGGGGTGCCTGGGACGCTGCTTGCC
101122	CYP2B6	TGGCCAGGCTGGTGGTGAGCTCC
101123	GLP1R	AATCATGGTTGTAGTGATGTTGT
101124	EHD3	CTCTTCTGTGGTCTCTCCCCTG
101125	MFI2	TTGGTTTTGTTTTAAAATAGCT
101126	NRXN3	TCCGCACCGGGTTCCTCCTCC
101127	SPN	CTCAGCTTCCCGAGTAACTGA
101128	CYP39A1	CATGGAACTAATTTCCCCAACAGTGA
101129	LRAT	CCTAAAATGATAGCCACAAGCAGATTA
101130	PLXNA2	CTCAGATGGAAGGACAAGTGATGGGGA
101131	HMGB1	TGTTGACATTCTGAATGCTTCTA
101131	SP100	TGTTGACATTCTGAATGCTTCTA
101132	HSD17B1	GAGATACAGACAGGGCGGTCTGGA

101133	CASP2	TTATCTGAAACTTCCCAACTTCCCTGA
101134	TLR6	TTTCAGCTCCTCTCCACTCTGCT
101135	OPHN1	GCTCTGGTGCTGCAGTATGTTGCC
101136	ADPRT	GCTGTGGTATGAATTCACCCGAA
101137	AXUD1	GACTAGGGGGAGGGGGCTTCCC
101138	CDH12	TCCTCATTCCTTTTGAGAACA
101139	FNTB	CTGAGCCTTGCATCTCTCCA
101140	PTGFR	AGCAGTTTCAAACTCTACCATGGATAA
101141	ADAMTS7	TCCAGGGGACACAGCTCCCCCTC
101142	RGS1	ACTGGGAAGGCCAGGTAACTCTA
101143	CEACAM1	TCCTGGCTAAGATCATGT
101144	POLS	TTGGGCTCAGGAACTGCAGGGACGT
101145	MPP6	AGCTGGGTTTACTGTGATTCA
101146	MUCDHL	CAGTGACTCCGGCAGCGGCGA
101147	FCAR	TGAGCCAAGATCACGCCATTGCACTC
101148	PTX3	GAATGTCACGTTTTTGAGAAGATAGTC
101149	SDPR	TGAAGAAGAAACTGAGCAGTTGA
101150	FMO3	TTCACACCACCTGCTTTTCTATTCA
101151	TEM7	CATGTAAACAGCTAACTGTTTTTG
101152	IL1F8	TCCAAAAGCCACCTCCTCCTCC
101153	SORCS1	CTTGCAGCTTTCCCTACTCCTGCCCCA
101154	AGA	GTACATACTAGAAAATACAGCT
101155	SOX11	AGCATTGACAGAATATCTTA
101156	ADCY6	AGGAAGAGACTACTTGGTGCCATGGG
101157	NP	ATCCTCTTCTCAAAGCTGGGATT
101158	RPA2	ATGGGCAGAGGAGACAGGAA
101159	FXYD6	TGCTAACTGTGGTCTTTGTGG
101160	CUTL1	CCTGGTGGCAGAGGTCCCTCAGCTGCG
101161	PCDHB4	TAACTTCTCAATTATGCCAAAG
101162	ACHE	CCCCGCCTCTGCCCTCATCCTCCCTC
101163	ADRA2B	GGGTGTAGAGAGAATGGAGGGG
101164	HLCS	CATCCAGGCTGGTTTCGAACTCCTGA
101165	CDC7L1	CCCCTGTGGATGTAACCCCTT
101166	TFEB	GGCAGTGCCTGGTACATGGGAGCCA
101167	CAV1	GAGGCTCCCTCCCAGCCACCGCCCCCC
101168	CLASP1	TCGCCCAGTCTTCAGTCTCCTGACTTAG
101169	SURF4	GGGGTGAGGCAGGTTTC
101170	PPP1R12B	AAGCCCACAGACACTGAAGGGCTTGAG
101171	FBXL5	TACAGATACAGGCATATGTCAT
101172	MAGEA2	GCTGCCTCTGCTGCCGGGCCTGGA
101173	AES	GCCCCTTTCCCGTCCTGGGCACCCCG
101174	PRKACA	CCCCACCCCACCCTCCAGGGTT
101175	ORC2L	GCCTTTTAACACTCCCCGAGCTG
101176	NCOR2	TCCGCCTGCGCCTCCATCCATCTGTCC
101177	AFG3L1	CTCAGCAGGGATGGCTCAGCAGGGATG
101178	NUP62	CTTGAGGTCAGGAGTTCGAGAC
101179	KLK4	CCAAATACATCCTGCGGAAG
101180	PMCHL1	CTCTGCCTCCCGGGTTCAAGCAATTT
101181	UBE2L3	AAGCTGGGTCCTCTGGAGGAGGGGC
101182	KCNK6	TCTTTCATGTTCCGTCTGTGTCTCT

101183	MBTPS1	TGACCATGAAGCTTGTCAACATC
101184	PYGB	GCCCAGCCCTGCCTCCTGGCCATGCC
101185	RAD51C	AACCCAGAAACAAATCTCAAAG
101186	TAZ	CCTACTTCCCCCGCTTT
101187	LIPE	CTGGCCCTCCCTTGCAGGTCGGTTTGG
101188	USP14	AGACCAGCCTGGCCACATGGT
101189	TGFA	GCCACGAGCCATAGGCATTTCA
101190	CLCN6	TCTCCATCTGCAGATTATTCCC
101191	ANGPT1	TTCCAGTATCATACTTACTAGTTGATT
101192	SYNGR3	TCCAGTCTTCGGGTTTCA
101193	SEL1L	TTCTTAATGTCAACCATCTTTA
101194	EGFR	TTGACTCCCAGATCAGTCAGAGCCC
101195	IHPK3	TCTCAGCTTGGTTGCCAACCCAGT
101196	STAC	AGCATCAGAAAGACCTGCTTCCCAGC
101197	SNCA	CTTCCCTTTCACTGAAGTGA
101198	PYGM	ACTCCTTGGCTGGAGGCAGTG
101199	CUTL1	CAGTCTCTTCAGACTCATGGATTGGTC
101200	RAD52	CCTAGATTTTGTTGACCTCAACAATGGCA
101201	SACM2L	CTGCCTCTGAGTCATTGTGTT
101202	CACNA1E	CTGTTTAAACCTCAGGATGGCTCGCTT
101203	Rgr	TCCCTCCTAACCCCAGGACCAGGGGA
101204	EGFL3	GGGAAGCCTCGCATGGCCGCT
101205	SON	AATCTGAATATTGCTGCAGCA
101206	GYPC	ACAAGAGGCCACTCCCAGGGA
101207	KIF3B	TGAAGGCCCATTGAATGACTAATCCA
101208	IRS1	TCTTAATTTTGTATTTTTTCC
101209	PABPN1	TGGATGGGGAAAGTAAGCTCCCTCCT
101210	MIR16	GGTCACTGCATTTTTACCTGAACCAA
101211	ENTPD5	GAGAGCCCTGTGAGCCAAAAAG
101212	ADAMTS4	AGAGACAAAGATCCAGGAAAGG
101213	CALCR	AAGACTCCACATAAGTCCATTAACTGC
101214	TCEA1	TATTTTGTCAGTTCATAGTTGA
101215	CRYZL1	TGAGCCAAGATTGCACTACTACACTC
101216	INHA	CAGCTGGGAGGAAAGGCAGAG
101217	MBD3	CCCCAGCCAGGATCTGGTCG
101218	ARSD	CACTGAACTCCAGCCTGGGCCA
101219	DES	GGCAGAGAGCGGTCTCAGGCTGGT
101220	WHSC1	TACATTCTAGCCTTAAGACATTTGA
101221	SHOC2	ACTGTTGTTCTGCTTTTCCT
101222	SLC22A7	TTCACCACTGCCTACCTGTTCA
101223	SOX12	ATCTGTCAGATCCAGTGTAT
101224	HAO1	GTTCTTTTCCAACAAAATAGCA
101225	RNH	CCCCTGATGTCTGCTCCAGAGACA
101226	NUMA1	CACCAGGAGTCTGGAGTGCAATGGC
101227	SLC16A2	TGGCAAAAGCAGCACAGTATTAATAT
101228	CACNB4	TAATGGGCTGCTGTCA
101229	KCNJ5	CAAGATCATGCCACTGCACTCC
101230	MTR	CGCCCAGGCTGGAGTGCAGGG
101231	DGKG	TCTTGTCTCATCTTCTGAGAGGTGCC
101232	MSF	CCTCCTGGCCCAGGCCTTGCTGACTC

101233	HEPH	TCAGGCTGGGGTCTGCAGTGCAGCAT
101234	HD	GGGTAGAATTGTTTGGCAATGCACTGAAGC
101235	MYO15A	CCCTCCAGTACCTTCTGCCAGA
101236	PPP1R3C	ATTTCACTCTCCTCTAGCTATC
101237	CANX	TGATACTGTTTCTTGCACTGA
101238	ITGAM	AACACAGCAGCATCTCTCCA
101239	AOC3	GCAGCTCAAGTTAGCATTTCA
101240	GAS7	AATTAAGAGTTTTATGAGCTGT
101241	RAG1	GCAGACATCTCAACACTTTGG
101242	SLC25A13	TGAGATGTAGCCCCTCTCCTGGAAGTGC
101243	PTCH	GTCACATTGGCAAAGGGAGAACTGGGG
101244	A1BG	ACCCAGGCTGGAGTGCAGT
101244	AASS	ACCCAGGCTGGAGTGCAGT
101244	ALOX15	ACCCAGGCTGGAGTGCAGT
101244	APAF1	ACCCAGGCTGGAGTGCAGT
101244	AQP6	ACCCAGGCTGGAGTGCAGT
101244	AXL	ACCCAGGCTGGAGTGCAGT
101244	CLECSF12	ACCCAGGCTGGAGTGCAGT
101244	CMAR	ACCCAGGCTGGAGTGCAGT
101244	CSNK2A2	ACCCAGGCTGGAGTGCAGT
101244	EEF2K	ACCCAGGCTGGAGTGCAGT
101244	EIF2S3	ACCCAGGCTGGAGTGCAGT
101244	FCAR	ACCCAGGCTGGAGTGCAGT
101244	FCGR2A	ACCCAGGCTGGAGTGCAGT
101244	FSHPRH1	ACCCAGGCTGGAGTGCAGT
101244	HUNK	ACCCAGGCTGGAGTGCAGT
101244	ICAM1	ACCCAGGCTGGAGTGCAGT
101244	MDM2	ACCCAGGCTGGAGTGCAGT
101244	MEFV	ACCCAGGCTGGAGTGCAGT
101244	NEU3	ACCCAGGCTGGAGTGCAGT
101244	NQO1	ACCCAGGCTGGAGTGCAGT
101244	PCDHB16	ACCCAGGCTGGAGTGCAGT
101244	PSMD9	ACCCAGGCTGGAGTGCAGT
101244	TERF2	ACCCAGGCTGGAGTGCAGT
101244	TNFRSF9	ACCCAGGCTGGAGTGCAGT
101244	TUFT1	ACCCAGGCTGGAGTGCAGT
101244	VHL	ACCCAGGCTGGAGTGCAGT
101244	ZNF264	ACCCAGGCTGGAGTGCAGT
101245	CYP4F3	GCCCAGGCTGGAGTGCGGT
101245	HMG20A	GCCCAGGCTGGAGTGCGGT
101245	SLC39A1	GCCCAGGCTGGAGTGCGGT
101246	SH3BP2	GGCCACAACCTCTGTTT
101247	PPP1R12B	TTCCTCATATGGCATGCTTTTCT
101248	EDARADD	CCACTGCACACCAGTCTGGAGACAGAG
101249	HPCA	CTTGAGCCACCCTTCCCACCCCAGCC
101250	EIF2B1	CTCATTTCAGTCCCATCTA
101251	CD209L	AAGTGACCTGAGTGGGATGCATT
101252	SSPN	TGATGAGGACCTGTAAAATAC
101253	FCAR	CCAAGGCTGGAGTGCAGTGG
101254	DXYS155E	CCCCTCGGGGGCCAGCCCCCGGCCG

101255	HYAL1	CACACACATGCATACTTACA
101256	MSL3L1	AGTGATATTGAAGAAAAGACTGA
101257	TEM8	GAGCTCTCCTATATTATCATACTCA
101258	DDX1	AGTCGGGAGGGAGGGAGCGAG
101259	RNF3	CCCTGCAGGAACGCGCCGAGGTCTCCC
101260	RAD52	CCTTGAAATGCTTAGACTCTTGAAG
101261	VPS41	AACAACAAAAGCATTTGTTGAC
101262	FSTL1	CCAGCAGTCCACTATCTGCCA
101263	BLAME	TCCTCACCATCTCCATCCGCT
101264	KRTHA5	TTGTAGCCCAATCCCCTCTCTT
101265	AIM1	TCAATACTGGTGCTCTTGTCA
101266	SLA	ATGCTGGGATTCTTGCCTGTA
101267	SLC4A1AP	CTATGCAACAGGAAGTCATTACGATCC
101268	GALNT7	CATGCCTGTAATTCCAGCACTT
101269	SULT2A1	CATGTCTGTAATCCCAGCACTT
101270	VIPR2	AGCAGCTCTGGCTCTGCCTC
101271	PTMS	CTGGGCTGGAGGTGGGGGTGG
101272	ATRN	CGTCATCAGTTGTTCTTGAA
101273	GTF2I	AAAGAGCAGAGTGACTGTGGGTCT
101274	ITGA9	CCACTTCGCTTTAAAGACTCTGAA
101275	RBM8A	GAAATATTGTGTAAAATGGGTGCTGCC
101276	NOS1	TGCTGCTTCACCCTTGGGGA
101277	HSD17B1	GTCGCCTGTAATGCCAGCGCTTTG
101278	TSC1	AGAAAAATTCACCCACCATGCCG
101279	APG5L	AGTGAACTTCTGATCTAGA
101280	RARA	GGGTCTCCCCTCACCCCTGC
101281	RXRA	TCTGCCTGGCCTGTTTGGACT
101282	MAFF	GGCTCAGAGCGGAGGGGAGACTGACCG
101283	NDP	GGCATTTTCCCCCTTGGCTCTCA
101284	EGFL5	CAAAGGAAATCACTGTGA
101285	LIF	AGACTGGGGGGATCAGCTGCCCAT
101286	RASAL1	GGGGGCGCGGAGGTTGGAGAGA
101287	TNFRSF11A	GAGGGTCTCTTTCTTTTCTCTT
101288	SH2D1A	ACTTGTGCCTGGCTGCAGT
101289	GHR	TTCAGAAGAAAAAGAAGCA
101290	CHRNB2	GGCGCGCTCCAGCCGGTG
101291	RGS19IP1	CCCCTGCCCCGCTCCAATCGGTACCAT
101292	PAX5	GGGAACTTGGAGAGGGAGCTTG
101293	TR2	CGCCGCCCCTCAGGCCCCGT
101294	INPP5B	TTGCTGCACTCCAGCCTAGGCAACATA
101295	C14orf1	TGTCACCCAGGCTGGGAATTGCAG
101296	DSCR3	ACTGGAAAAGTGTTCCTTGCTC
101297	IGSF8	TTCCTGTCCTGGAATTAGTT
101298	CLN6	ATAGGTTACGTCAGCCTACTGTG
101299	PCOLN3	CAGGGAGGGGCTAGTGTTGGTA
101300	OPHN1	CCCACTCAGAGATGCATTTG
101301	INHBC	CCTCATTCTCTGTCCAGAATGTGGAC
101302	MAFF	CCCTGCAGTCCTACTACAGTCTG
101303	HS2ST1	TTTTATGTCAAGTAAAACCATC
101304	ATP2A3	TCACCCCTCCTCCCTCT

101305	ROBO1	GCGGGGCTGGGGGCGCCCAGAAGA
101306	NOS1	TCCTCCAGCAATAGCATCCAAGG
101307	HLA-DOB	CTACGTGTACATCATTAATCCC
101308	PSPHL	CAGCCTTCAGTGAATATTGGT
101309	A1BG	GTCTCCAACTCCTGAGCTCAGG
101310	SRGAP2	TGACTCCTGCCTGTTTTAGTCCA
101311	TRPC6	CGCACCGGGTCCCCGCTGGAAC
101312	CDC27	TAAACTTCGATGATC
101313	PIK4CB	CCTTCCCCAAACCCAGGGAAAAG
101314	GPR45	CTGCTCTGTTCCCTGGCATGTTGGTC
101315	DUSP2	TGCCTGCCTGCCCCACTGTGCTGG
101316	IL8RA	CACCAAGCTGGTGGCTCTGTGTGCTC
101317	101F6	TCTCCAGTGAGGAGTGAACAGTGG
101318	CR1	GCTCACTGCAACGTCCGCCTCC
101319	TRH	TAGGCATGTGAGAAAATCAGCCTAGCA
101320	CDH5	GGAGCCCTAGCCCTGCTCCA
101321	WASF3	CCTTTTCAGGCTGGGTTCCCTGTGGG
101322	RFX5	AGATCAGCTAGACCTGCT
101323	NUMA1	TGTCCCTCTCAGTGCCTT
101324	NKTR	ACCATCCTGGAGACATTTTGCAGGG
101325	CDH12	GGGTAAATGTGGAGGGAGCCACAGAGA
101326	FOXD2	GCCCATCTCCCCTTCCGTGCC
101327	C9orf19	GCTCCTGCTCCCTCCTGGAATGTGCG
101328	SLC7A6	GGGTCACCGGGACAGTGTACTC
101329	MYOZ1	ACCTTTCCATCCTTTACTCCAA
101330	DGCR2	TGCCAGGCCTCAGAACTGTGTG
101331	ALPP	TGGCTAACACGGTGAAACCCCTTA
101332	RAF1	AGCCAGGAATACAGGTTTTCTTGATGATTT
101333	UBE2L3	CTGCCAACGTAGCTCTGCCTGCCTGTCAACCC
101334	VIPR1	TCCTGAATTCCCCTTGCCACC
101335	ATP6V1G2	CTGTGTTCCCTCATATGCAT
101336	CHAC	GAGGGAGGGGCGTGGGGAAGGCGGCG
101337	RFP	TGTTCCACGCCCTTGCAGTG
101338	NSF	CCAAATCTTGCCATTTGTATACTTTTGGT
101339	RXRA	CCTGCCTGGACGCCAGCTGT
101340	NDST2	GAGGAATGAGAGGGTCCAGGCAG
101341	ALS2	CCCCAAAATGTGGAATGCATCCA
101342	ARHGAP6	ATAAAGTGTTTAAGAATCTAC
101343	HIVEP3	GGCTGATGGTGAAGCCTCCTGACCCTCCCC
101344	RPL10	TGCTGGCATTTTGCTGTGTCCT
101345	CTGF	TTATTAAAAACTGAGTGACTC
101346	GABRA6	TCTGTAACGCAGCTTCTGTAAGC
101347	VTN	TTTGGAGAAGGAATTTGTGGCTGCT
101348	KRAS2	TCCTGCTCCATGCAGACTGTTAGC
101349	MPL	CCAAAGTGTTAGGATTACAGGC
101350	CLASP1	GCACCTAAGCCTGTCTCTGCCT
101351	DDX11	CTTTCTGAGAGCCTCCCCACCCCGAGA
101352	RCE1	TTTGGACTGCTGCTTCTCTTAGC
101353	SLC2A6	AGGCTGAGGCAGCATTGCT
101354	MAP3K9	CAAGGCTGAGGCAGGAGAATCGC

101355	KPNA4	ATCAATTGAGGGGAAAGTGCAGT
101356	EIF2C1	GCTATTTGGGTATCCTGGGTTTGA
101357	SHANK2	TGAACCAGCAGAGCTGTG
101358	APAF1	GCAGTATTGCATTCATTACAAA
101359	ST14	GCCCAGGCTCGGAGGACCCTGGA
101360	TLL1	TGGGAAAGAGAGGAG
101361	GCLM	CTGGAGTAGCTGGGATTTACTAGTAGT
101362	BCL11A	GGAAAGGAAGAAAAAAGGCCTTG
101363	CLOCK	CACCATGTGCAAACTGATCCA
101364	SCD	TGCTGTGTGACCCTGGGCAAGTCACTT
101365	RANBP2L1	CTGGAGAATCGCTTGAGGCTAGTGAGCTGT
101366	LSS	GCAGGTAGCAGTCCCTGGCCTCT
101367	SLC7A8	GGTTCACAGTTTGTTTTTCTAG
101368	IL1R1	GCACACGCCTGTAATCCCAGCT
101368	MTNR1A	GCACACGCCTGTAATCCCAGCT
101368	POLK	GCACACGCCTGTAATCCCAGCT
101369	TAP2	ACCAGTATTTTGAGCTGGCAAA
101370	USP6	TTCCACCCTTCCTGATTATTCACC
101371	MX2	TCTCTACTGTACTCCCTCAGCATCAGA
101372	RIG	CCTCATTAGACTGGGATGCCTTCA
101373	KIF3B	TGTGCAGTTGTTGCCTTTTGTCTG
101374	ZNF146	TAATCCTTCTGAAGCAAAGCACCACGA
101375	PITPN	TTCCTAGTGCTACTTGTTTT
101376	KLKB1	ATCTTCTTTGCATCCTAAGGA
101377	PPP2R2C	CACACAAAGCACCGCTTCCTCCA
101378	FCGR1A	TCCAGATCTTGCCTCCAGAGA
101379	DPYSL3	ATTGTCTCTGACTGCAGGTTTG
101380	PCDH12	AACTCACAGCCCTCCCTTTTCCTGTAG
101381	DLEC1	GTCCACGATGGTGGTGGAAGGTG
101382	HDLBP	TGTCATGACCTCAGGAAATAA
101383	PDE7A	TGCCTTCAGAGTGACAGGTAGA
101384	GYS1	TCCTGCACTCCAGAATCCACA
101385	SURF4	GCCAGCCTGGCAGCTGGAAGCCTCCCC
101386	IL1B	AATTTGGACTGGTGTGCTCTCTTT
101387	TRIM34	ATCAGCATCTGGCCAACATAGTGG
101388	BSN	GCACAGCCACAAGTCTCATCTCT
101389	CHM	AGAAATGTTAGAAAGCAGCAGCAATTA
101390	NSMAF	CCTCCCCGGCTCCTCCGGACCTCCTC
101391	SLC35A3	TACAGATATATCAAATCA
101392	ABCD4	AGACTCTGACATTCCTGGCTGTCAT
101393	LEP	GCTTCCAGGTATCTCCAGGATTGAAGAG
101394	TNS	CCTCAGCAGAGCTCCTGGGCC
101395	SIX1	TCTTCCTTGGCCGCCCACCGC
101396	EXTL3	TCTGGGAGCTGCGCCGGACAGAGTGGG
101397	HDAC5	GAGCAGGATTGAGGGAGCCAGG
101398	MRPL49	TGGGATTATAGGCATGAGCCAT
101399	CHST7	GGTACCATTTCACACCAGCAGGTGT
101400	EZH1	GGCTCGGGATGGAGGCTGGACACCT
101401	RYR2	TACTATATGTGGGTTGAGCTATGCA
101402	KCNN4	GAGTAGAGGTGTGTGTCACA

101403	RRP22	CCTCCCGCCGCCAGCTCCTGCCTCG
101404	PIGL	AAGGGTTTTCAGATCCAAGGAA
101405	GAB2	CCCATGGGCTGTGGCGTATGTCA
101406	FLOT2	TCAGAATCCTGGTGCCTTGAA
101407	GRLF1	TCCACAGATGTATGTGCGGCCAGT
101408	ANGPT1	CGTACATGTTTATGGCAATTT
101409	BCL11B	AACAAGAAAAGTACATTCTTTA
101410	DGKI	GTCAGCCCAGGCTGCTGGGCTGT
101411	FY	CCCTCATTTCCCCTGCTGTTTGCCC
101412	COG3	AAGCAAACACTTTCATGTCCTGT
101413	PTGFRN	CCCTTTTCCATTTCTTTTGTA
101414	GATA4	TTGCCGTCGTTTTCTCTCCCCGCGT
101415	EEF2K	GACTTAAGTGAGCCTCCCGCCTC
101416	FABP3	CACTGTTGCTGACTACTACTCT
101417	XPR1	GGGTTCAACCACTTTAGCCAG
101418	GRB10	TATGCTCAGATGTCAGATCCTCTTGTT
101419	MTMR4	TCTGTGGTTCTTTTGTACTT
101420	SMARCC2	GTGAAAGGTGTTTATACAAG
101421	ACTN3	CCCAACCACTGAGGTTCTCTATGC
101422	PKNOX1	CACCTCTTATGTTCAAGCAATT
101423	MAP3K8	TTGTAACATTGTAAAGTATGTGAG
101424	MMP25	AGAGTGAGGGGTGGGTGGA
101425	UBE2E3	CTCAAACACAATAAACATGCTCCTG
101426	SH3BP2	GCCATGAGGAGTTCCCATGA
101427	CTSF	GCTTGGGTAATGAGCAGGAA
101428	TBR1	TCTTCTCTCTCTTTTAATTTTCTT
101429	IQGAP2	TGTTTAATATTTTTGTTTTTAAACAT
101430	COL4A5	ACCAAATTATAATATCTAATGG
101431	IL10	CCCTGTACTCCAGCCTGGGTG
101432	TRIM14	GTAGGCCCTCACAGGAGGCCACCTTC
101433	LASS1	ACCTCCTCCTCCTCCTGGCCC
101434	GBP1	AACAGCCTGGACATGGCATCAGAGAT
101435	CAPNS1	CACAAGCTTTTGTTCTCTCAGTAC
101436	PIGR	GGGCCCTCAGCTCCTGGGGACC
101437	LZTS1	CATGATCATAGCTCACTGCAGCCT
101438	PPP1R11	TCCTCTCCTCCCTGTCCTGAGCCT
101439	CD1D	TATCTGAAGACCTACCAGGGA
101440	SMCX	TCCTCACAACCACCTCAGTCCTCC
101441	CHST5	AAAGGTGGAGGTTGCAGTAAG
101442	TBL2	TTCTCTCTTCGGGAGATGATA
101443	B4GALT3	CTAGGAGTCCCTGCCCCT
101444	BAZ1B	ACATCTTGCTTTAGCACATGTA
101445	CENPE	AGGGTCCTGGCCATTTTGGTGG
101446	CPNE7	GGCGTAGGGTGGGGGCAGTG
101447	HAP1	GGGTGGGATGGTGGAGCAGC
101448	DYRK1A	GTCCCGGCTGAAGTGCAGTGG
101449	ITGAM	TGTGTGCGAGTGTGTGC
101450	NEBL	CTCTGTCCACTGGGTTTATTTCTTG
101451	PEX10	AGCCCCATCAGGCTTGTGTTAAGGCA
101452	LRP4	TGTTCTTTCTCAAGTGCTCAGGGA

101453	INPP5B	GCACCTCATCTCCTTGCCCCTTCACA
101454	EPB49	CCCTGCCCACCGACGCCAGCCTGCTTG
101455	AXIN1	GGCCAGGCAGATGACCTCGTACTC
101456	MME	CTGTCTCTTGAAAAATGCCCATTTGCC
101457	GCK	CCTGGGCTGCCAGCCTCAGGCA
101458	FOXF2	GCAGTAAGCCACACACCTGCCACTTAGCC
101459	MYO1D	CTCAGCCAGGAGCCAGTGGCAG
101460	ENAM	GTGATCCTTAAGTTTTCTCCCCT
101461	SFRP2	GGCTCCGACAGGCCTGCTCCA
101462	HOXD9	GTGAGGCTTAGAGGAGCCCAGGGC
101463	SLC4A7	ATTCCCACTCTGTTCTCTGCC
101464	CCND2	TTGTTAGGCTTTTCTGCCTGCTCCTGC
101465	PRKAR1A	CTACATCTGCCTCGGCTCACA
101466	WASF3	AGGGAGAATCCAGTGTTTCTGCTT
101467	MMP13	GTGGCCTTTGAATTCTGTTT
101468	PTK2B	CTGCCATGTACCTCCCCTGCCTTGCTGT
101469	FLI1	TAAATGATGACAGTGGTCCCA
101470	CNK	CCTGAGGCCTGTGCCTGTC
101471	HM13	CCACTGCATTCCAGCCTGGCGACAGAG
101472	CXCL6	AAGGTTTTGACCATTTTGTTAT
101473	SLC15A1	GTTGTCCAGGCTGGAGTGCAATGGCAC
101474	KLHL3	ATACACAGTTCAGCAGCTAC
101475	GFER	TAAAGTGCATCACAGCCAGA
101476	GLS	AGCTGTGTTTAGTGAAATGAGCTC
101477	DLC1	CACTGCACTCCAATTTCCTCGGGCAGC
101478	EFNB1	TTTTTAGCTGTCAACTCATTT
101479	RNTRE	AACAAAATTCTGGTGAAATAACTGGGC
101480	BRF2	CTGCCTCACGGTTGCTGTTGC
101481	PAICS	ACTGCTGCTTTCCCTCCTGGGCTC
101482	ETV5	CGGCCGCCTCAGGAGGATCCCTT
101483	SIT	CCTGCTGTCTCTGTCCTGTC
101484	EVC	CTGCACAGGCCAGAAAGTCTGC
101485	FBXL11	TGCTCCTCTCCCTCCTAAGGA
101486	RAD54B	CCAATCTCTCAAAGGCAGCAGAT
101487	SOX1	ACAGTATTTATCACCTACGGA
101488	GTF2I	CCTACTTCTCCTACTGG
101489	MLC1	GCCCAGCTTGGAGTGCCACATGGC
101490	ADAR	TGAAAGGGCAGGTTGTCTTCAAACTCT
101491	JAK3	GAGTCCTGGCCCAAAGAAGCAAGGAA
101492	PIGR	TCCCAGGTTGACACCATTCTCCTG
101493	EIF4G2	CTGGGCAAGTGCACAAGTCTTT
101494	AXL	TTAGCTATCATTGCTTCCTCCTCC
101495	RFC1	ATAAATGATTATACAAA
101496	POU2AF1	CCCAGGAAACAGCCTCAGCTCAAGCGG
101497	SRP	GGCCTGAGAGAGGGGGTCACAGTGA
101498	RS1	AAACATCCTTCTTGATGCTTT
101499	ELK4	TCTCTCGCTCTCTCTCGGT
101500	FOXI1	CCAGGAGAGGTGGATGTTTGTCTGAGA
101501	B3GNT3	GAGGTGTGGGCAGAGGAGGGAGG
101502	AP2M1	GTGACTTCGTCCAGTTACAAACCCAA

101503	PPP2R1B	TGTACAGTAGCTTTTCAAACTGC
101504	ADD1	CACCCAGGTCGGGCGGTG
101505	OAT	AAAAGGCTTCATCTTATAAAGTGAA
101506	CHST6	GAAATGGCTCCAGAGGTCT
101507	FBXL7	TTGCCAGGCTGGATGCTGTC
101508	WNT5B	GGGAGGCCTCACAAACCACAGG
101509	FOXD2	CCCACCCCGCCCAGGGAGCTCCGCCC
101510	ATM	ACCATGCCTGACTAATTTTTTGT
101511	HAS3	TTTTCAAGGTGGCAATTGGGGCGG
101512	LYL1	CCTCAGGCACAGGCAGAGGTG
101513	FACL2	AAATGTGCTAAGTTATTTGAGACTT
101514	PKHD1	TAGAAAAGTCACATTTCTACAAGGTAATT
101515	ABCC12	TCATCCAGCTGAGCGGACTGCTCCAAG
101516	CNTN2	CCTGCTCTATTTTCCTGGGCAGGTTT
101517	EGFL4	CCAGGTGGCGGGGCTGCAAGAGCCGGG
101518	MAT1A	GCTGGGAGAGGCAGCCCAGGAAG
101519	PKIA	CTCAAATCTCCAGGAGTATCTGGA
101520	LPP	ATCAGAGGGAAGATCTTTTTCCTCA
101521	OPHN1	CATGCTGTTTTCCCTTTGCCACACTG
101522	HTR4	TGCAGCTCCCCCAAGGTGCAGG
101523	IL15	TGTCTTCATTTTGGGATGCAGC
101524	OCRL	AGGGACTATTAGAGATGGCATCT
101525	SOX12	GGCTTGGCCATGCCTTTCTGTGCCTTTAAT
101526	SHANK2	GGAATCAGAGAATTTCCAAACTTGTTT
101527	WDR1	CCTGGTCACCGTTTCACCATCATGCTT
101528	TNFRSF7	ACTGCAGTCCCATCCTCTTGTC
101529	CTBP1	TGAGGCAGTTGGCAAACTTCTCAGGAC
101530	ABR	GGAAACACCACAGGCTGAA
101531	ERCC5	TAATTAGTTATGACAGCCATT
101532	RGN	CTTTTTTGTTTTCTTTTTGAAAGATCATTCG
101533	MFAP4	AGCACTCCTCTGGGCTGCTCTC
101534	TFAP4	TGCCTCCAGGTCTCATCTT
101535	RARB	TTTCCATGGACTCTCCTGGCA
101536	RHAG	ACACTATGTCTTCAATCCCA
101537	COL19A1	TTCAGATACTTTTTCCTGCCTCA
101538	WDR4	TATGCTGTTAGATGTGGCTGTGA
101539	POU2AF1	GGCTCACTGCACCTCTGTCTC
101540	GRM6	TCTTAGGCTGGAGTGCAGTGGC
101541	M17S2	GCTGCTCAGAGATGATCTTTATTCT
101542	HTR1D	GCTCACTGCAACCTCCGCATCC
101543	SLC25A15	AAAAGTGACCGCTCTTGCTCTTG
101544	KCNJ1	ACCAGCACCACTTCCTTGCTTTTTCC
101545	MSN	TAAATATTGATTTCTGCCTTC
101546	EIF2S3	TTTGCCACAACCAGCCTTTGC
101547	WISP2	GATTCTGGATCTCCTGCTGC
101548	BCL11B	AGGAGACTCCATCACAGCCAGG
101549	ZIC3	CTGCGAGTTTAAATGTGTTTGTCC
101550	GGA1	TCACTGTCCAGCCTGGAGG
101551	GALC	TTTCCAGGTGGCTGGAAGAAGG
101552	ADAM21	CCCTGAAACTGAGCACATTTCTGAC

101553	FCMD	AGAAAACAAAATTATCTTCCTT
101554	HPN	CCACCGCCTCTGCCTCCAGGCCGCCCG
101555	NT5E	CCCAACAATAAAATTGAAGA
101556	OPA1	ACAAAAAGATATTAAATATACAGA
101557	DISC1	GGCCCTGATGATTTTTGTATTTTTAGT
101558	EPB42	AGAGAGGGAGTAGGAGAGA
101559	NFATC3	TGGGGAAAGTAGCATTCCTCCACCT
101560	POU3F2	TTATTTTTAATTATTATTTCCCC
101561	RAD51L3	CATTGCGAGGACCCAGAAATTCATACT
101562	UBTF	GGCAGCCAGGGAGAGCCCAGGAGCTCCCCT
101563	GCH1	AGCCTCTACTTTCTTCTTGCC
101564	FGF2	CCAACCTGGTGAAACCCCGTCTCT
101565	RAD54B	TCATGATCTGCTTGACTGTGAG
101566	ZNF16	GGCTGCATATTCATGAATAGAGTT
101567	KCNQ2	GCACAGTACACATACGTGCAT
101568	AHR	AAGTAAAATGTCTTTCCA
101569	BCL11A	AAAGGAAGAGGCTGACAATAAG
101570	TNXB	TGTGCATTTGGGCTGAAGACA
101571	ZNF14	CAGGACTCGTGCTGCAGTGA
101572	EFNA3	GATGGGGCGGGGCTTGGAAGGAGCAGGGAGCC
101573	CHST6	TTGGAAGGGAAATGGCTCTGGGCTGGAA
101574	GRB10	TGTAGGGACGGACATTGCAGTT
101575	GUCY1A3	GTGGGGGAGGGAGCGCCTGGAGGA
101576	ADCY8	TGTCGCGGGGCGCGCCGCCACCTCA
101577	GPR37	GCTGGGAGCGGGGTTGTGACTGC
101578	ALDH3A2	TCCTCATTCATTCTTTATCA
101579	TRPM2	CTGCCTGGCCACTGAGCACTGGCCGAG
101580	CENTD1	ACTGTATTGTATAAAATGCTG
101581	CA3	ACAAGTGTCCAGAGATCGTAGCCAGA
101582	PPP1R12B	GGGAAAGAGAATGTTCCTGGTA
101583	MPHOSPH6	TATAGTTATTAATACTGTA
101584	SCN4A	TCAGCCCCAGCCCAGACAAAG
101585	SLC9A1	GCCCCCACCCCAGCACAGCTCC
101586	CUTL1	TTCTTTAGCAAGATATTCTGGT
101587	C1QA	GGACCCCCTCCCCCACCCACCTCTCT
101588	GPR30	CTGCACCTGCCTGCCGCTGC
101589	MOCS1	GTGGCCCAGCTGGCTGGAGTCCAGG
101590	AIPL1	ACGCAGGACACTTAGAGCTCTCTAGA
101591	PSAP	GGAAGAGGGCCATCTGCCTGAA
101592	SRGAP1	CTGTACTCCCAGCTACTCGGGTG
101593	PABPC1	AGTAGTTTTCAATTCCGGTTGATTTTTG
101594	RXRA	TGGGAGCCTCGTGGGTGGGGC
101595	RNH	CCTCCTGAAACATCAGCCCTG
101596	MARK3	GCTCGGCTCCGCCACTGCCGCC
101597	RPLP0	TTTTATTTGCAAAACAAGGAAA
101598	MTRR	TCCCACATTATTTGTCTCCATG
101599	DPP4	AGCTCCCCTCGGAGAAGAGCTGTTC
101600	CHD2	TCCTGTAAGTATTCTGGAGCTTT
101601	SIAT1	CCACACACATGCACACATATCTAGC
101602	MYH9	CCCACCTTCTTGGGACTGCTGT

101603	CLASP1	TCTTCCTCCTTAGCCTATTTTC
101604	CSNK1G3	TCTTACATTCTTTTTCTT
101605	OSR1	TGTGCTTCAAGGCCCAGGAGGGAG
101606	PKLR	GTACCCCATCCCTTCCTCCCCAGTCTACG
101607	TRIM39	GCCAGCCACGACGTTTCCTC
101608	CDKN2A	CCGGGAGGGCTTCCTGGACAC
101608	CDKN2B	CCGGGAGGGCTTCCTGGACAC
101609	ST7	GCTTTTGCCAACACATCTTGTAACTTA
101610	CSE1L	CAGGCTGGAGTGCAGTGA
101610	DFFB	CAGGCTGGAGTGCAGTGA
101610	EEF2K	CAGGCTGGAGTGCAGTGA
101610	FANCE	CAGGCTGGAGTGCAGTGA
101611	ZNF26	CAGGAGGGAAACCCTATGGCTGCAGT
101612	CDH1	TGCAGTGATGTGATCATAGCT
101613	SCG3	CACTGTCTCATCCACATAAGCAC
101614	SWAP70	CTCCAGTATCCCTCATTCCA
101615	PXN	TCCTTATTCCTCCCCCGACCT
101616	FGF5	TTATTGAGATCTAAGTCTGTCTTGCCT
101617	EPB49	CTCCCAGCTGCTCTTCTACAGATGCC
101618	ITPKB	CCTGCCATCTGGCCCTTCCCTTTGT
101619	GSTZ1	CCAGGAGTCCCTGTAGCCTGGCT
101620	SURF6	AGCTGGAGAGAGAGTGAAGTGAATGC
101621	SUFU	AGGGAGACCCCTCCTTTTGTA
101622	TEM7	ATTGCTTGAGCTCAGGAGTTCAAGGCT
101623	TFEB	CACCTCACAGGCTGTTGTGAGGAC
101624	EGFL4	TGCAGTGAGCTCAGATTGCGTC
101625	FANCC	TCACCTTTTCGCTTTTTCCAAGATGGC
101626	SNRPN	TCTCCTCTACAGATTTTTGCT
101627	SUV39H2	GCCGGGCGTGGTGGCACA
101628	GYPA	TCCAATAAATTATATACCTGCCTAAG
101629	FXR2	TCTCTCTCTGAACACCCCCATTCTCC
101630	SYNGR2	CTCTGTCTGTGCCGAGTGTATTATA
101631	SF3B4	TGCAAATGCACAGAGAAAATAAAAC
101632	DHCR24	TCATTAGCTGTGTGACTCTGGGTGA
101633	NRG1	GGGACAAACTTTTCCCAAACCCGATCCGAGCC
101634	HLCS	GGCATTTTCCTGATGATCTTTA
101635	G2A	ACTGCAGCCTCAAACTCCTGGG
101635	SHOX	ACTGCAGCCTCAAACTCCTGGG
101636	PIGR	CTCAAAGTACTGGGATTATATAGGCAT
101637	STARD4	ATCTGTGTTTTACTTTATTGTGTTT
101638	CAV1	CTGCCAGAACCTTGGGGATGTG
101639	ATP1A2	AGTCCACAAGGTCCGGATGTC
101640	TRIM9	CCACAAACCTCAACATGTGCCA
101641	C1orf6	GCTCTGAAGGAGGAGCAGGTG
101642	KIF3C	TGTCCCCCTGTCAGCTGCCTCCA
101643	CST	CCCAGCCCCCTCCTGGTGCCACCT
101644	TJP1	TACCACAGACATACTAACCAGCA
101645	RHO	GCCTTTCTCTCAGCCTCTGGAAGCC
101646	PDE4A	GAGACAGACCCACCCCCAAGCAGG
101647	TIMM17B	GCTACTTCCTCGGTTCCCTCCCCGA

101648	SIX2	TCCCTCCGTATGTACCCCTGTCT
101649	GPRK6	GCCGTTTACAGTTTTGCACAGTGATCT
101650	RPS6KA5	GAATGGGGCCTTGTTGTGTCAT
101651	RNF14	AAGCATCCTTCTAAGACATTCT
101652	ANGPT2	AGGACTGTTCTTCCCACTGCAATCTG
101653	NUMBL	CCCCACCCACTCCATCATCTCC
101654	ASB1	TTTCAACAGGTGGAAGTGTTGGT
101655	PRX	ACTCTGCCCACACTTCCCTGCCTAG
101656	FSTL1	TCTGAGAAGTTGAGGCAAATCAGT
101657	HM13	GAAAGCTTTTAGCACAGTAT
101658	HOXD13	CCTTCTGCTGCCCAACCTGACTT
101659	GALNT7	TGCCATTGCACTCCAACCTGGG
101660	P2RY6	CTGGGAGCAGAGGTGGCTTTGTCT
101661	GPR48	ACAGGGAGACCGGTGCGATGGC
101662	SHOX	ACCGCCACCTCCGCCCCCCGGG
101663	MFI2	CTCACCATGTTGCCCAGGCTGG
101664	SACM2L	CTCCTGGCTCAAGAATTACTCCGA
101665	PDCL	TCTGCTGCTGGATTTCATGTCTTC
101666	RREB1	GTCGTAGGGGATGGAGTGACAGC
101667	F3	TGCCCAGGCTGGAGTGCAGTAG
101667	GPR4	TGCCCAGGCTGGAGTGCAGTAG
101668	RPH3AL	TGCCCAGGCTGGGGTGCAGTGG
101669	CAPN3	CCATGCAGGATCACTCAGGATTT
101670	GCNT1	TATCTGTTTCCCCTTCCTTGTCAG
101671	GM2A	TTTGTCACCAGGCTGGAGTGCAGT
101672	USP9Y	AACTTCCCCCCAAAAAAGG
101673	TMEPAI	TGGTGCCCCTCACAAGCCGCAGC
101674	EGR1	AGGAAGAGGGCTGAGCTGAGCTTCGG
101675	PLOD	GGTCCCAGGGAACCCAGTCCA
101676	TAPBP	TCCGCCCAGGCTGCAGTGCAG
101677	SH3BP4	GAGAGGCCTGAAGGGACTGCCT
101678	UBE2G2	TGGTTCGTGCCTGTAATCCCAG
101679	NLGN2	CAGGCCTCAGGCCCAGCACCC
101680	TFE3	TTTTCAACATGTAGGGCAAGAG
101681	SIGLEC5	TTGCCCAGAGTTCAGTCCTGGCTGG
101682	TPD52L2	GCAAGTGTCCTCTGACAGCCGTGTCC
101683	COL5A1	GGTCCCTGCTGAGTGCGCTGCC
101684	CPNE3	GGGAGTGAGCTCTCAACCACAGATAGC
101685	TBP	TTCCACCTCTCCAGTATTGCAGGAC
101686	CCNT2	GCATATGGACTACAAAGACAC
101687	ASPH	GATTAAAATCAAAGATACTTCTA
101688	TACC1	GGGAATCCCAGAATGTCAAGCCA
101689	FGF2	AAAATCTAGGCCGGGTGCAGTG
101690	MAP2K1	GTGCCAGGCTGAATTACAGTG
101691	LOH11CR2A	TACTCCACTTCGCTTCTCTGCTCCA
101692	BMPR2	CTCCACCTGGGTCATCTCC
101693	SOX13	TGCCCTGGGCTCATCAGCCTTC
101694	SFRS2IP	TTCAAAACATTGAAACACTCTT
101695	BCL9	GCAGCTGCAATACACAGTGT
101696	SULT1A3	GGGAAGCAGAGGCTGGAGGAT

101697	POU2AF1	GGGATGGGAACAGGCTGTGCATC
101698	AGL	GCCCTTCCCCTTCTGTTTCTCCC
101699	CACNA1C	TTTTCACATTTCTTCCTCTTCGTGGCT
101700	ZNF36	TCTAGGGTCTGATGCTGTTTTTGTTCC
101701	SIGLEC5	CCCACCCCACGTTTGGACATTT
101702	LPP	AGGTATAATAAGGAAAGGATC
101703	KL	ACAAATTCTTAATAGGTTCAAAAGCA
101704	TAL1	GCCTTGAACTCTGGGCTCAAGCAATC
101705	PRX	CCCTCTGCCCCTTCCTCTCTGC
101706	MAP3K13	AATGAGCTGCAATAACAGGAAC
101707	ITK	ATTTCTGGAACATTCAGTCTAG
101708	TCF7	CCACACCCTCCCCATTCAGACACTTCA
101709	SIGLEC11	TGGGCAAGATGGTGAAACCCCA
101710	PSEN1	TCATTCTTCTCTCCCA
101711	MYOG	CGACCCCATGGAGCTGTAT
101712	CSNK2A2	TGACTTCTTCCCGACCCAGAAAGCA
101713	ATF5	TGGCTTATGCTTGTAATCCCAG
101714	SIM2	AGACATTTTAAGCATTTT
101715	CR1	AAAGTGCTGCGATTACAGGCAT
101716	CALM1	ACAAGCAGATACCGATTGCTTC
101717	STX1A	CGGGAAGAGGCAGAGGGA
101718	PIAS3	GGGAGGTGGAAGGACCCTGTGCCCTC
101719	GLUD1	CTGTTTGGAGTCTGGCTGGCTCTGAGCATTGC
101720	GLO1	GTGATTCAAGATATTTACA
101721	DGCR2	CAGTTCTGTGGTGCTGCTC
101722	SOX2	CTGCCCCTCTCACACATGTGGGGCCGG
101723	PLOD	GGGGAGTGACAGGTCCACACAC
101724	DAP3	CCTCCAGGAGTGCAAGGATGATGCTG
101725	WNT5A	CAGATTTCCTGGTGAGGTTG
101726	MMP15	CTTCCCAAGTGAGTCTCTCTGGGCCTT
101727	LMAN1	AGTCTCCAATATTGCAGGTTT
101728	MGAM	TTACAGCAAGATTCTAACTAACTA
101729	TAC1	TTTCATGTTTTGTGACTATA
101730	OPCML	TTTGCTGTCTTGTCTCCTGGG
101731	NXF2	CTTCCAATTAGGATCTTAT
101732	GAB2	TTGCAGTGAGCAGTGCAGTGG
101733	ANXA4	TGGCTAGTAGTTTCTTCATTTG
101734	ITGAL	TTGAGGTAGGAGAATTGCTTGA
101735	CRTAP	TTTCCCAGAAAATCAGTATTATTTTTTAAA
101736	STX1A	GCCTGCAGTCTCATCCTGC
101737	GFAP	TCAGCACTTGGGGGATCTGTTGT
101738	CENTD2	GGCAGGGGGAGGGGAGTGTGAGG
101739	PCSK2	TATGTGTGCATGTGTGTATA
101740	EGLN2	GGAGGCGGAGGAGGAGGCGGAGGAG
101741	IRTA2	AGAAGGACAGCAGCAAGCATAGGC
101742	CR1	AATTATGCTACCTACTGATAACCACT
101743	BGN	ACTGTCCCGGAGGAGGTTGGGAGG
101744	HYAL4	GTCAATGTACACTTCCTCCTTATTGG
101745	DHFR	GAACTCGTGACCGCAAGCGATT
101746	RGR	TTCATTCTGTTGATGGTTTA

101747	MGAT5	GCTCTGAAAGCTAATTGCTTCAA
101748	ADAM8	GTCTGCAGGCACCAGGCTGG
101749	SPTBN2	CAGCTGCCACTCCATCTCCAGCT
101750	SLC13A3	GGTAAAATGTCTCAGGCAA
101751	GPR18	GCACTAGAAAACAGCTCATCTATTG
101752	CD8A	TTTGAGATACAAACATGTTCCTG
101753	ABCC11	GAGCCTCCCGGTGTATTTGAA
101754	SNX4	TCTACGATTTTCTTCTACATTCATTGATGC
101755	MPL	CCTCCACTTCCCCACACTTC
101756	SEMA3F	ACAGAGCCTGCCTAACCAGGCCCAGCC
101757	SPTBN2	CCAGCCAGGAACCTCTCAGAGCTGAAG
101758	MYO1B	TTGACTTGTATTTTTAAAAATTGCTCA
101759	SEPN1	TTCAAACCCACATGTGGCTC
101760	GFER	TGAGTGCCTCAGGAAGCAGCTGGGCC
101761	LRP8	AGTCCACAAGGGGTATATCTT
101762	GARP	ATCCTGTGCTGTGCACACCTGC
101763	CROT	TGCAGTGAGCTGTGATGTGCC
101764	C21orf33	TGCTTTCCATCCAGCTGGGAGTC
101765	C7	AGCTAATTTTTGCATTTTTAGT
101765	EEF2K	AGCTAATTTTTGCATTTTTAGT
101766	CASP2	CCCACTTTCATTCAATCAACCTGCACT
101767	SPAG8	CATTCCGGAAGAACTGCAGCTT
101768	DAP	GAGACACCACATTCCA
101769	CPE	CTAGCTTTCAAAAATTAGTGA
101770	ARF3	GCAGCAGGTGTGTGCAGGTATCTT
101771	HAL	GTAGAGGTGATTAAAACCAA
101772	EMR1	TTCCTGTGGTTGTATGCACTGA
101773	CXorf6	CTGGGGCACTTTAAATCTGAG
101774	USF2	GGAGGTACTGAGACAGGGTGCTGA
101775	ALDH8A1	AGGCTGAGGTGGGAGGATCGCT
101775	SFRS2IP	AGGCTGAGGTGGGAGGATCGCT
101776	CASP8	CCTTCATTAGACGTTTGCTCTTGTCTT
101777	SLC2A8	CCTGCTGCTGCTCTGAGGACTC
101778	NR1I2	AGAAATGTCAACCCCTAGGAA
101779	PCDHA9	GCCACCCAGGCTGGAGTACAGTG
101780	CHRNA7	GTTTCATATTCTCAGATGGGCTGATA
101781	GCA	TATCTGAAGGTTACAAATTAGA
101782	UBE1	CCTCTTGCCACTGCCTTC
101783	MHC2TA	GGGATTACAAGCGTGAGCCACT
101784	BNC	TACATACATTTTCC
101785	CDH17	TGAACTCCTGACGTCAAGTGAT
101786	RECK	GGTTTGTAGTTGAATATTGGCC
101787	FMR2	AGCTGGTTTCATGTGCTTTAT
101788	UBE2G2	CGCCTGCAATCCCAGCACTTT
101789	PDYN	CTGAGCCTTGGACCAGCCAC
101790	ROCK2	GGAGACGGTGGTTGCAGTGAG
101791	PLAGL1	GATTACCTTTCTGCTCCTGAATC
101792	COL19A1	CTTGCACCATTTTATTCCATTCC
101793	MKI67	AGCTTAAGGGAGGCTTCTTGCCT
101794	NDST2	TAGGGGAATGTATTAGTCCAA

101795	HD	GTGGCGGGGCAGCAGGAGCGGT
101796	UNC13	TACCACATGGAGAGATTTTCCA
101797	ATP7A	AGGATTACAGGTGCCTGCCACC
101798	GPRK7	TTAGTAAATAATCATTTTAGTTTTTCT
101799	SOX13	CCATTGTCACCTAACTCTGAA
101800	BAP1	TAGCCCCAGCCACCAGCCTGT
101801	RUNX3	ATAAGCCTCAGGCCCTGGGAAACCTC
101802	NRCAM	GGAATGCTCAGTTTCATTTGCCAA
101803	MSX2	CTAGGAAGACCAGATCAATA
101804	PGAM1	GGAGCACCCTCCCTGCCCGTCTTGTCC
101805	NDST2	TGAGCCCTAGCTGTGGGCTAGAA
101806	FOXD2	TCTTTCTCCCTATCCTGGGCC
101807	FANCA	CACTGCACACCAGCCCAGCTC
101808	ITK	CCAGGATATGGAGGCAAGGGGAACAA
101809	G6PC	TGGAATAACTGCAAGGGCTCTGCTG
101810	BDNF	GGGACCGGGGCTGGGCGCTGGAGCCAG
101811	JAK2	TGTGAACTGTTTCTCTTCTGCAGA
101812	RAD21	ATCTTAGTTCTTCATTACTGCATTGA
101813	ARHGEF6	CAGAGAGACACCTCTGTCTCTGAAAAAAC
101814	NT5C2	AACCAAAACCCCAAGCACCCATTAAA
101815	NFYA	GGTCATCTGGACCATCGTAC
101816	ATP11B	TTCTGAGTTCACAGAGCAAATTAGGA
101817	ATP11A	TCCTGCACACGTGCACATTCATG
101818	RANBP3	ACCCTGCGTGTCGCCAGCCTCTGGGCAA
101819	TM6SF2	GGACCCCCGGGATTGACTAGAGACCGG
101820	GDF5	GGTGCCACTGCCTCCTCAAAT
101821	NAT1	CCAGCTCACCAGTTATCAACTGA
101822	SNX6	TAAACCAAGTATTGTAAAATAAA
101823	NR3C2	GCTAGCAAACAAATGGCTTACTTACAAA
101824	ANXA11	AGGGAGGCGTGCCTGAG
101825	OTOF	CCCCTCTGACCCCTGCCTGTGGGC
101826	PPT1	TGAGAAAAGGATTGTTTGCTCAA
101827	DIAPH2	TGTCACCCAGGCTGCAGTGTAG
101828	PFKL	CTGCCCAGGGGACGTGGCGCTG
101829	REN	GGGGTGAGCCCCAAACCTTACTGG
101830	ROBO1	CTGGGCTCGCCGGGAGACGGAGAAGC
101831	FES	CACAGTCCTGGACTCCTGCCA
101832	DAAM2	TGGGGGCAAACTTTCCTCTTG
101833	PDE4B	TTTACTTCCTTCCCCTGTTGT
101834	ATRN	CAGTGTTGCGCGTCACAAGAG
101835	MBD3	CCTGTCCTTTCCAGAGGCCCTGCCGA
101836	TIRAP	AAAATCACTTTAACTTTTC
101837	PTPRO	CTGAGCATAGTGAGAGCAGTGGTGG
101838	NEFH	ATGTAAGAAGAAACTGCTTA
101839	SOX8	GCTCCCTCTCCCTTCTATCTTTCTTT
101840	RFX5	TTCTCCTCTGTACAGACAGCTGAGTCA
101841	TGIF	GGCGAGGGAGAGCCCCCGGCCGGC
101842	TRIM9	TCTCCTCCGCTGTCATGCCTGC
101843	ACLY	ATACATTTAAAATGGAAATGCAG
101844	DPH2L2	AGACAGCCACATGAGGGGACA

101845	CLDN5	GAGGCGTTGGATAAGCCTGGGG
101846	ADRB3	ACTCTGTTGATCAGAACCTGTGGA
101847	PCTP	GGATGTAAAGCCACAGAATGGGATTTAT
101848	SLC25A15	CAGAGCCAGAAGCCAGAGGGCCA
101849	RHO	GGCTAGAGGTGGAGGAGGCAGTCCTGGGA
101850	PITPN	TTGCCTTACTCATTTCTAAGTGCAATA
101851	WARS	TCCCAGCCCAGTCAAAGCACCGC
101852	AIRE	GGGAGGTGGAGGTTGCAGTGAG
101852	BMP8	GGGAGGTGGAGGTTGCAGTGAG
101852	BRCA1	GGGAGGTGGAGGTTGCAGTGAG
101852	CRACC	GGGAGGTGGAGGTTGCAGTGAG
101852	DBT	GGGAGGTGGAGGTTGCAGTGAG
101852	GRM6	GGGAGGTGGAGGTTGCAGTGAG
101852	IL13RA1	GGGAGGTGGAGGTTGCAGTGAG
101852	ITGAL	GGGAGGTGGAGGTTGCAGTGAG
101852	KCNJ5	GGGAGGTGGAGGTTGCAGTGAG
101852	NPHP1	GGGAGGTGGAGGTTGCAGTGAG
101852	SIGLEC11	GGGAGGTGGAGGTTGCAGTGAG
101852	SIM2	GGGAGGTGGAGGTTGCAGTGAG
101853	WTAP	CTGTGGACTTCATGATTGTTGTTG
101854	HYAL4	GCTCGCTGCAGCCACTGCCTCC
101855	CHRNB2	TCATCTCCATGCTCTTTCA
101856	MAGEA9	TGCTTTTGAGTCACATGGGGAA
101857	TSG101	CCTCTACTGCTTCTCTGATACC
101858	PLCB2	GCAACCAGCTCTGGGCTCAGTTTCCT
101859	CD22	ACTCACTGCGGAGAACCTTGTGCCT
101860	GHR	ATTCCTGATAATGTGCTTCTG
101861	UNG	ACAGGGGAGATGTGCACCTTTCA
101862	GSTP1	CCTTTCTCCAGGACCAATAA
101863	ICOS	AACTGTACATTAGTACATACTCAGTA
101864	WISP1	TGCCAGACCCACTGAAATGACCAAGAC
101865	MSF	CAAGATTTTGAAGGAAATGAGTG
101866	PMCHL1	ATGAATAGCTGGGATTACAGGT
101867	MPDU1	AGTCTCCCAAGCCAAAATTTTGACA
101868	CD81	AGCCAGGCCTCTCCTGGGAGCCAC
101869	GAB2	GGGCTGGGGCTCTGAGCCAGA
101870	C8orf1	GAGCATCTCCTCCTTATCCCTCGATG
101871	TYR	GCAGACCTTGTGAGGACTAGAGGA
101872	USP9X	GCACTCTGCAACCAGTGTTGCCTGCC
101873	RELA	CCAGAGCACTGGTTGCAGGGGA
101874	SCN4A	CCTCCACTCCTTCCATCTCTTC
101875	LHX3	TGCCTCCAGCCCCACCTTCCCCGGGA
101876	VHL	CCATTGTACTCCAGCCTGTGTG
101877	WHSC1L1	AAACTGTATACATTACAATCA
101878	BAT5	ACCTTCTCCAACATACATCCTGC
101879	CLASP1	TCTTTACTGCTGAGATCCTTGGGAA
101880	PCSK2	TTCTCCCATATTGGCATGGATTTCTG
101881	PRKACB	CCAGAAATTTGGAAGGCTGTAGA
101882	SEDL	TTTCACCGTAACCTCTGCCTCC
101883	OGDH	TGGCTGGCAGAGGTTTCTAGGGTGG

101884	FUT9	AGAGGAAGAACATGTTGCGATTG
101885	LPIN1	TGAATGAGTTTGACACTGCC
101886	COLQ	ATGCACCCAGTACTGCTACA
101887	HDAC7A	CCCTGCTCCCTCTCTCTGTCCC
101888	SYK	GCATGTAGCCAGTTAAGGAAAGA
101889	LMO1	TGTGACCCCTCCTGGGGCCAG
101890	EXTL3	TTGGTCAGCAAAACCAAGA
101891	PYGO2	CCTCTCGCTCTCTCACTCCACTA
101892	TLR9	ACTGCAACTGGCTGTTCCTGAAGTCTG
101893	STCH	CAGTCTCTTAATCCGTTAATGCTTTTG
101894	F2R	AAGAAGTTTGAACATTTGG
101895	RECK	TGTACTATCAGGTTCACAAACTTC
101896	TAT	GCTCTGTCGCCCATGCTGGAGTGCAGT
101897	ODF2	CGTCCGCCGGCGCCTCAGGTTTCCCCC
101898	TNFRSF10D	CCCTCCTCCCTTCTCATGGG
101899	INSR	ACTCTACCATGTCCAGTGGA
101900	GCLC	TTTTAATAACATATCTAAAGTCA
101901	MMP9	TGCAGTGCCATGTAAATCCCC
101902	CHGB	TGAAAATGTGAATTGCATGA
101903	TEC	TTTGCTTCTAGACCAGCCTCTGTCTA
101904	SYT5	ATCCCTGCACTGCTCCTGAGGCC
101905	WNT10B	GCCTCTTTTTCCTTCTTCAGCA
101906	ZNF192	GCACTATATTTCATCTTTGAGGCT
101907	ZFP37	ACTAAATTTAAGGTTTTGTT
101908	SOCS5	CCTGCTGCTACAGAATGTT
101909	THBS1	TGCCTTTGTCACAGAGCAGGGTG
101910	CDH17	GTCGCCCAGGCTGGAGTACAGTG
101911	SNX15	GTCGCCCAGACTGGAGTGCAGTG
101912	PTPN6	AGGGTTCCCTCAAGAGGAAGTGAGCGG
101913	PDE5A	CTGGGCGGGGAAGCTGGGGTGAGGGA
101914	AQP6	AGGTTTTTGAGCATGAATGAGCTTAAAGCTT
101915	SOX11	TTATTTCTCACTGTTCATTCTATTTG
101916	DPYSL2	GCCTGGGCTAAGCTCCTGGGCTGTGCGTCCA
101917	MGAT5	CTCCACCCTCCCCGTTTTTGCT
101918	KMO	CCTCTGCCTCCTGGGCTCAAGCAATC
101919	CNGB3	TTTACACCCTGTAATTTATTCA
101920	AR	TTCCCTCCCTATCTAACCCTCCCATG
101921	XBP1	CCAAGCCCCTAGTCTTAGAGATACCCT
101922	ED1	GGCTACTGTAATGCTGCCTCA
101923	CNP	GTCCCTGCCCCCTCCCCTTCACA
101924	IL18R1	CAGCCCATCCTGAGCTCCAGTCCTGAG
101925	PSPHL	AGTCAATTAAACACCTTTACTCTTA
101926	RBM8A	TAGTAGTTGGGATTACAGGCACATGCC
101927	DLC1	CACTGCACTCCAATTTCCTCGGGCAG
101928	ADAR	CATCCTCCCATCCTGCACTTTA
101929	NR4A1	GCCCTCTCCTGTCTGCCCTAG
101930	CAMLG	CAAGTAGCTGGGATTACAGGCAT
101930	CYP2B6	CAAGTAGCTGGGATTACAGGCAT
101930	RAB36	CAAGTAGCTGGGATTACAGGCAT
101931	MME	GTCACTTTATTACTCCCAGAACAAC

101932	PCDH11X	TAAACCAAGAGACAATTGATGTT
101932	PCDH11Y	TAAACCAAGAGACAATTGATGTT
101933	BAZ2B	CACATACATAATGACTTTCT
101934	EPHB6	TCCTGGCGAAGCCTCTCTTCTA
101935	SPTLC1	CCAGCCTGGCCAACATGCTGAAACCTC
101936	RAB27A	GCTGCATTGCCAAAGTGTCTTCATACCA
101937	MADH6	AGGCAGGGCTTTCCAGACACAT
101938	CCNG1	GCCTTTCTCCACAACCTTGTTCT
101939	TP53BP2	CAGTACCAGTAATTAGATGTAGAATCT
101940	DAB2	TATGTTTATTTGAGACTT
101941	SMAP	AGCTCTACTCTTTTGGACCAAAGCAA
101942	HD	CGGTTCTTCCTGGAAGTTGACT
101943	CNP	GGAGACACCTCAGAGCCCCGCAAAACC
101944	RAD54L	CTGTAACCAGCTGGTCTGGGTGT
101945	CRTL1	AAGGTGAGGAGAAAGAGCGCTAG
101946	ZNF14	CCTGGAGACAGAGGTTGCAGTG
101947	KCNS2	TCTTGCCCAACTGGACCTTTACT
101948	GYG2	ACCTCACTGCAAATTTCCTC
101949	ATP7B	CCCTGCAGCACGCGGCCTTGTCTG
101950	TIMM23	GGACCACCCAGGCTTGAGGC
101951	ASB1	CACATCCCTATTAACAGAGGCA
101952	ZNF76	CCTTCTGGCCCTCAGTCTGTTCC
101953	P2RX7	AAAACATTTCATTATGAGG
101954	AMH	GGGGAGGGAGATAGGCTGCCAGGGACA
101955	ADCY1	AGGGCGGCCAGTGCAGTGA
101956	MAP1B	CCTTTGTCTTACATTGGCTTTT
101957	DUOX2	CAGTCAGGATCTCCCAAAGAAG
101958	ZNF264	GCTGAACATCATAGCCGATCTTGCCT
101959	C7	TTTGGGGTTTTAGTATGTGTC
101960	P2RY2	GCAGGTTTATATTGGGAAGCTGTAGA
101961	NCOA4	AATTCCCTCCCCAGATATCATTT
101962	EGLN3	GCTACTTCTTGCATCCTTCACA
101963	PKD2L2	TACCAGCCAAGTACACACGATGATAG
101964	AMFR	CTACATCTGGGACTGACTTTCCG
101965	CHAD	CCCCACAGCCTCTGCTGATGCACA
101966	SLC1A4	GGGGAGAAGCGGGGCAGAGGGTTCTCT
101967	INPP5B	GGAGGCTGAGGTAGGAGAATTGCTTGA
101968	TFEB	TTCCCTGTCTTCTGAGCCC
101969	REQ	AGAACTCCTCTTGTGTGGCCA
101970	DHCR24	AGACCCATGTGCTTCCTTGCTC
101971	MAP3K1	CCGCCTCACCGCCGGCCTCC
101972	CASP2	AACAAACCAAAAATGTTCTTCA
101973	KRTHA4	AGCAAAGACACACATCATCA
101974	DLEC1	TGAAATGAGTGATCCTGCCT
101975	H1F0	GGCTAGATGAGAGGGAACCCAG
101976	FMO1	GTATTCAAATAGTAAAGGCCAC
101977	P2RY2	ACTATAAACATGATGTCAACTTCCTT
101978	TEM8	CGTATTGAATGTTGCCTGTCTGCCT
101979	ADAM11	AATCTTAATCGATGAATGTAAACTCGGG
101980	TXN	TTAGTCTATCATGTTTTCTG

101981	SPARC	TGCCTGCCACTGAGGGTTCCCAGC
101982	ADRA2B	CCTGGGCTTTCTGCTCCCTGCCCA
101983	VIPR1	TTCACCCCAGTGGCCACTCAGCTT
101984	CEACAM5	CACTGCACTCCAGTCTGGCAA
101985	PTGS2	CTGTTCCTTTTCTTTTCTTCT
101986	SYBL1	ACCATTTAACTGCAGTGTAA
101987	GNAI1	GTGACAGATGGTCCTGCAGT
101988	PELO	AATCAGTTATTTTTAGCTTTT
101989	NTRK2	GCTTCTGCATTACTATTAA
101990	SNAP23	GTCAGAGTCTCGCTCTCTTGTC
101991	IDH3G	CTTCCCACTCCAGCACCCCAG
101992	HRH1	AGTGTCTGAACCACCCTGGA
101993	GEM	TGTAGAACTAGGCTCATCAGAATC
101994	GLI2	GTCTGCCTCAGCCACTGCCTCC
101995	CPT1B	AGGAAGGGACCTGTGGCAGCTCACAGGCA
101996	XRCC5	CCAGTCACCTCTGTCTTCAGCACCCTCA
101997	CCND2	TCCAAAAAACAAAAACAGAAAAACCCTTT
101998	SLC31A1	TTGATTAGCCATGAACTTGCCAATCA
101999	SURF4	TGAGACCACACAGGGGTAGCC
102000	SNX5	GCACAGCCAGGCGGCCCC
102001	ADRA2A	GTCTGTGTGCCCCTCCTGCCCC
102002	KCND2	AGATAAACTCAACTATCTCTTGG
102003	NQO1	TAAAAGACTGAATCTACCTGCC
102004	TIRAP	CAAGAATCCAGTCCTTCACACTCAC
102005	HIP1	AGGACGGCAGGAGTGTCCTGGCT
102006	ALB	CTGTGGAAGTTCCAGTGTTCT
102007	BCL11B	CACCAACCCGGGCAGAGGAGG
102008	RDS	CTCGTTCCTACCTGGCTGGAG
102009	CHC1L	TTCAGCACTCAGCACAGTGCCT
102010	ATP1B1	TCTGGAGGCATCACATGCTG
102011	FGF1	ATTTCAGAAGGAGAAGGAAAAAGAA
102012	PCDHB16	ATTAATCTCAACAGCATTAAACAG
102013	MAP3K7IP1	TCCTCCCACCATCACCTCCCTCA
102014	RBBP2	CTTTTCGGGGAAAACTTCATT
102015	FGFR1	CCTCCACCTCCTCTCCACCTGCT
102016	ENTPD5	CCTGCATTTGCCAACACCTTTTTA
102017	SCN3A	TGAACTTTTATGTGTGCAAA
102018	CAPZA1	TTCTATGACCAGGCCTTAAGGGAA
102019	PMX1	TCTTTCATTCATGCTTTGCTTAATGTACTC
102020	FCMD	ACCTGTAATACCAGCAGTTTGA
102021	IFNAR1	ACAGGAGGTGGAGGTTGCAGTG
102022	IER5	CTGGGAGCTTGAGGCTCATTGGAAGA
102023	BTD	CCACTTCTGTGGCACCAGAT
102024	ALDH8A1	CACTAGTGAAGAGATACTGTCTATT
102025	RFP	TGCTACCTTTTGTGGGCCTGTCC
102026	PCLO	ATTTTTCTATGCACTGGGCATC
102027	BACE2	TTGCCCAGGGTCCTGTGCCTGG
102028	PES1	ACTGCCCCCATTCATCCTGGC
102029	SMP1	TTGAAGCCCACCTTCTCTT
102030	MPP6	GGGATTTGGTAACAAAGGACA

102031	FOXE3	GGACTCAAACTCCTGCTACAT
102032	EDNRB	CACACAAAAAGCATACTTGCA
102033	HLCS	CAGTTTCAGATTTACTCTGA
102034	PRKCD	CCTCCACCCACACCTGCCCGCTCCC
102035	P2RY2	CAATCCGTTCCCTTCTGCCACC
102036	ERBB3	TTATGACTCTTAACCCCCTAGAA
102037	CX3CR1	TCTTCCATATGACCTCATGC
102038	STK11	CTGGGTGGCAGGGGGGCTGTG
102039	TNFSF15	GGGGAGGCAGAGGTTGCGGTG
102040	MLLT2	TTCCTACCACAGATTCTTTA
102041	POLB	TAGGAGTCTTAATTTATTTCTTAACC
102042	RBBP9	AGTTCAGTCAAACTAGCCATA
102043	PKNOX1	GGGAGTCTGAGGCAGAGGATGGCA
102044	CYP1B1	GGAGATGAGGAGTAAAATTCAGT
102045	NOS1	TCCCACTCCCTCTCTTGCCG
102046	ABCB8	GGATGAGGGTGAAACTGCTATT
102047	ITGA3	GACCCTGCAAGACCACGGAGGG
102048	YY1	ACACATTTTGTATAATTGTAT
102049	ZNF165	CCACATGTCTCAGATCTG
102050	CEP2	TGCAACCCTGGGGAGGACCCCAACTCAC
102051	ANKH	GATCCTGGGAGGCAGAGGTTGT
102052	ZNF26	TTCATTCTGGCTAATTGATTACA
102053	ENC1	TGTAGTTGGGCCTAAATAAAT
102054	PCDHB9	AGACCAGCCTGACCAACGTTAA
102055	RET	TGGTAAACTTTTGGTTTTCAGATA
102056	SFRS2	GTATATGTTATTTACCTTCAGATCTA
102057	TLR5	AATACTGACTACCATCACTGTGA
102058	ZNF216	TTGAATAACATGCATCTGA
102059	GJA1	GGTTTTGTTAATTATGATTCTTTAT
102060	GNPI	GTATATTGGATACCACCTCTTGAGAGTCCT
102061	MRC1	GATTAGGTGGAGAGGCAGTTGGGGGGC
102062	KCNA4	GAGACTCCAGCATTTTCGGACTTC
102063	NFIA	GATGCTTAGAATATCAGTATTTTGGATG
102064	PLCG1	GGATGAAGGCAAAAACTGTACTGTGTTTCG
102065	EGLN1	GAAATCAAGGATCTTTGG
102066	LYPLA1	TTTCTAATGTTTTGCAGTG
102067	COL6A1	ACGCCTCTCGGGGCCTGTGCC
102068	RAP2A	CCTAAGGCTGTCTGGTATTTCTTTTC
102069	GPR44	CTGCCACCAAAGGCCAGGGTCAC
102070	TMPRSS3	GGACTCCCGTGTAGGAACCTGCACACG
102071	PLA2G2D	CCACATACTAGGTGCTCAATTCAT
102072	INSM1	AGCTCTTACTTTTAAATGCAATCTCT
102073	BAPX1	CACATCTTCCTTCTCTGAAGTCCA
102074	CD28	TATCAAGATCATTTTGAGACTC
102075	CNGB3	ATAGCTAGTTCCCAAAGTGAT
102076	TAZ	CACAACCACCTCCAGCCTGGGAGATAGGC
102077	TPX1	CCTGATCTTAAAACACCTGCA
102078	PTGIS	CCACAACCTCCACCTCCTGGG
102079	TMC1	AGAAACTGTTTCTGCAGAGCCA
102080	SLC13A3	AGGGAAAGGGACAGATAGC

102081	KLRG1	CCCAGGAGTTTGAGGCTGCAGTGA
102082	CAPON	AATGCCAGCCAGGGCCCGGGAG
102083	LTC4S	CGCTCCGCGCAGCTCAGGCTGG
102084	SYBL1	CAGTATGACATATAGAATTAA
102085	PDGFRB	CCTGTGCTCGCCCTGCCCAACGC
102086	PSCD4	CCTGTGAACTAGGCCCTGCCTCTGT
102087	SLA2	CTGTCTCTTTGGATGATGCCTAGGCCC
102088	PPP2R5A	CCTAGGAAAAAATACTTCCTA
102089	PKIB	AGAACAATAGTCAAAACTCACATGGA
102090	PCSK1	TTTCTTTTGATTCTTCCTAAC
102091	BRF1	GTGCACCTGTCACCGCAGTCCTGGG
102092	IRTA1	TAGGAAGCCACAAATTTGTA
102093	CYP2A6	CCACCATGCTGGCCTCAGGGA
102094	COL6A1	CTGGGAGCAGAAGGCAGCCTCGGTCT
102095	HUS1	TCATCTGTGTTAAGTGATGAG
102096	CENTD1	CCAGGCAGCAGAGGCGACTGCGGACAGC
102097	AKT1	GCCAGCCTGGGTCAAAGAAGTCAAAG
102098	NXF5	AACAACAAAAGTATACTCTACC
102099	SCAP2	CCCAGCCAGGCCAACATGGTG
102100	FCMD	TTTGTATAGGTCCTGTGCTTAAAG
102101	RAMP3	ACCAGAGGCTGGAGTGGGGGT
102102	KERA	TTCTCTCTTAATTAATAACACAGACAC
102103	TNFRSF10B	GTGCAACCTCCGCCTCCTGGGT
102104	TIMP3	GCCTTTCTTTAACTGCCTTCCTGGCT
102105	VHL	AGTATGCCGCTGCACTCCAGCCT
102106	EHHADH	AATTCAATGCATGAACTTGTGTG
102107	APBB2	TCCAGCTGGACAACGTTGTCCCAAGA
102108	NEDD4	AGCAGTCAAGGATGAGCAC
102109	CEP1	AAACTCCACTGTAGTTTACTTT
102110	AP2B1	CCCTGGAGCCCCACTTATTGA
102111	STX1A	GGCAGAGGGAGGCAGCCAGCGGGGCGTG
102112	IL16	AAGGCAGCTTCACTTCCTCTT
102113	EEF1A2	GAATCACTGCAGCCCCCCTC
102114	MFAP3	ACCAATGTCATAATGCACAG
102115	GPR44	CAGAAGCAGCAGGGGATGGCGTGG
102116	RELA	GTTGCCAAGCTGGACGGCACG
102117	JPH2	CCCTGCTGGGACCTTGTGGCT
102118	EN1	ACCTCTTCTCCCCCACCTCCCGGGTC
102119	D1S155E	AGCTTTGATCCAAACCTTCTCC
102120	PRKCL1	CCCCTCCCTCCGACGATCGGGGA
102121	RASSF1	CAGGCCTCTCTGCCTGTGGCCTTCCG
102122	ALDH6A1	TAGGGAACTGCCTAGTGTAACAATGA
102123	COL10A1	TTAAAAAATATCACCAAAGA
102124	SCAP2	GGAAAAGGAAAATTCTTCTGCTT
102125	HSPA5	TTAGCAGTTGCTCACATGTC
102126	COIL	TCAGTATGTGATGTTTATA
102127	HPS4	TTTGACTACAAGTGGGCCGT
102128	SLC9A1	TGTCTCTGCCTGGAGCAGGGGTGGTTTCT
102129	ZNF161	TCCAATTTGGCTGGGATTATTCAAAGTA
102130	RORB	AACAGGCACAGATGTCATG

102131	STARD4	GAACTCCTGGCCTCAAGTCATT
102132	PLA2G10	CCTGCAGCACCGTCCCACCTCTGC
102133	CASP10	CATGCCTGTAATCCCAGTACTC
102134	DDX3	TACCCGCGGAAGAGCGAGGG
102135	PGC	CTTTTTCTGGACTCTGGACTTT
102136	FAT	CATCTGTCTGTGTTAAAATAATCA
102137	MHC2TA	GGCCAGGCCAGAGGGAGTGACAG
102138	FLRT2	GTGTTTGGGCCTCTCTTGCTGTCA
102139	BSN	TTGTCTCAACCAGCCGGCTCCTC
102140	OTOF	ATTTTTCTCTAAATAAAAGAAGTC
102141	SLC7A4	CCTTGGCTGGTGCTGGTGCCAT
102142	AP3S1	GCATTCCTGTGCCCACCTACG
102143	GPR62	TTCCCATCTGCACCCTGCAGCATCTCT
102144	GALNT2	TGCCCTGCTTCCTCCTCCACTCCTGGC
102145	SSPN	CCTGTTAGTCCAGTTTGAT
102146	DFFA	GCAGCGGGAAGTGTGCCAAGGAAG
102147	GALNT2	CTGTAGGACAGCGGCCCGAA
102148	ADAMTS4	TACAGGCTCCTGCCACCACGCCCAG
102149	CDH3	TGACTTCAGCACTGAAAACCTCTCC
102150	B4GALT5	CTACCACAGACATTAATAGCTGAGCAGG
102151	PIGL	CTTCCCCTGGGAAAAAACCCAA
102152	ARHGAP6	CTTCGGTTTTGACTATTGT
102153	ABCC3	GGCCTCCATGACCTGCGCTCTCAGCT
102154	ADORA1	AGCAGGCTGCAGCAGGCAGAGGAG
102155	IL12RB1	GGCTCACTGCAGCCTTGAACTCCCAGA
102156	PLAC1	GGTTCATTATCTGATTGGCTGC
102157	TAF1C	CCTCAGCTGTGGGGGCCTCAGGCAGGTCC
102158	WASF3	GTGGTCTCTACACCCAAATAGTGGTAT
102159	KCNK6	TTTGAGACTAGCCTAGGCAA
102160	JPH3	GCCCACTCCGATCCGCCTGGGCTCAGCTA
102161	NR3C2	CCACACTGAAACCTCTTCGGTTGTCT
102162	MLPH	CAAGTTAAGTGTTTCCTTCC
102163	MAPT	TTCGGTTCCCTGTCTCCTCCTCC
102164	VNN2	ACTCTGAAATGTTGCAGTG
102165	GNRHR	GGAAAACAAAGAATGTTTTGAGA
102166	SCML1	AACTATGTTATAGTCCAGTCTACT
102167	CEP2	AAATCCTGGGATAAGAGAATAG
102168	LSS	TGCCACCTCTGGGCACGGCCTC
102169	PIN4	CACGTTATGCCTTTCAGTGTTA
102170	PRX	GGCAGAGTCCCCATCACGTGGC
102171	ESRRA	GCCCCACGCCCTCTCCTCCCCCTCCTAGGG
102172	ADAM19	GGTTGGGTTTAGAAAGATCTCA
102173	OGG1	GGATGTAAGCCTGGAGCTAA
102174	WHSC1	GCAGGGCTGTGAGCTGGGCTTCTGT
102175	HSPA4	ATTTGTTAAAGCTCCAGGTC
102176	ZNF192	TCTCCATCTGTTTCTTGCCATTA
102177	CLASP1	TTTCTCAGCCTAACTCCATCCCCACC
102178	AP3B1	TATGCAATACTTTCCCCCTTTTTGCT
102179	DIAPH2	GGGACTACCCAGATTACTCCAGG
102180	HTR4	ACTTTTCTCCCTGTGTCTGGGTC

102181	SULT1C1	CAAAGTGCTGGCTACCTGCT
102182	CDC25B	CCTGCCGGGCTGAGGGCCTGCTGG
102183	DLGAP2	GACTTCTGCTTTTGTTGTTGTT
102184	DCLRE1C	CATTGCACTCCAGCCTGGGCAACAAGA
102184	GPR1	CATTGCACTCCAGCCTGGGCAACAAGA
102184	MAP3K9	CATTGCACTCCAGCCTGGGCAACAAGA
102184	NT5C2	CATTGCACTCCAGCCTGGGCAACAAGA
102184	VPS41	CATTGCACTCCAGCCTGGGCAACAAGA
102185	SOX11	TTTACATTTGTTTTTTACTTC
102186	PYGO2	CTCCCCCAGCCCATCTGTTGCAC
102187	RAG1	CTATCAGAAGCCAAGTATGATTCTTTA
102188	CACNA1G	CCTAGCTCCTCCTCCTGGGCT
102189	EVC	GGCCTTTCCCACCTGG
102190	HRG	TGAGACAAATCTATGCCACTCAGAAT
102191	SERPINB9	GGCCTAGAAAGCCAAGTGCAAA
102192	TRIM39	AGGCTTTTGCTTGTTTGTTGCCATCC
102193	BCL2	GCCGCCACAAGTGCCTGCTTTTA
102194	SLC39A1	TCTACTGCTGCTGTACCCTAGGAA
102195	SRGAP2	TAGCTTCCCTTCCCTCCCCCTTCA
102196	BGN	GGGACTGCTTTCTGTCTG
102197	KCNJ6	TGCCCTAGCTGGGCAAACCCTT
102198	TGM3	TTCCCTGGCCGTTTCTCCCCAGAGCTGCC
102199	THY1	CATCGGGACCAGAAACCTGGGAGA
102200	CTH	CGCTCGCCGTCGGCTCTACCTG
102201	SUSP1	AGTGGGTGTGACATATTTCA
102202	DPP4	AACAACAAATAGGAATTGTTTT
102203	PFKFB1	AAGTCAAACTGCCTGTGTCCTCA
102204	USH3A	AAATCTGGGATTATGACGGTAT
102205	MNT	TCTGCTCCAGCCCCTTTGCCTCTGTC
102206	GPC1	GACACAGGTCAGGGCTCAGAGT
102207	ARNT2	CACCACACAGTGGTGCAGGC
102208	ATP6V0A4	GAGGCTGGGCCAAGATGGCGTC
102209	B4GALT5	TGTCGCCTAAGCTGGAGTGTGG
102210	COG2	GAACTCCTGGGCTTTCTAAAGAGGCTG
102211	CBFA2T1	CTTCCAGTGCAGTTGTGCTGCT
102212	HSPG2	CTGGGCAAAGCCACAAGGCTGGCCA
102213	THPO	CTCACCCTTGGCCCGCCTTTGC
102214	EDAR	GCCTTCCACTTCAGTCTTAG
102215	PITPNB	TCCCCCACTGGAGTGATTTCAGTG
102216	GPR27	AGTGAAGCCCGCGGCGCCTAG
102217	SLC39A1	TCCCGCCTCAGCACCGCGAGCA
102218	KCNMB3	GGAGAGAAGAAATGAAGGGACACTTA
102219	DRP2	CCTGCTGGCCTCTTGTGGAGCC
102220	PXN	TGCTAGTGCCCTGCCC
102221	HAP1	GAGGAAGAGAGGCCTTCTG
102222	DIO1	GGTACGGTATCTCTCTCCA
102223	DSC1	TCTTAGAACATAGTTGGTGCCAG
102224	MOG	CCACTGCACTCTAGCCGGAG
102225	NCAM2	GATCAAATACTCCTGGCCCATGG
102226	ZNF266	TCACATGCGGATCCACA

102227	SDC1	GCCACTGCCTTCGCTTCTTGCCT
102228	LGALS3BP	TCTCCCACCACCTCACCAGTTTCCAG
102229	PEPD	TGGGCAGCCTGCTGGTCAGCACTCC
102230	SIP	AGGAGTTTAAGGCTGCAGTGA
102231	COX10	AGAGCCAGAAGCAGGGTTCTGGGAAT
102232	HSPA6	TGAGCCGCTGGGCTCTCAGCGGC
102233	FANCC	GGACCTGCCTGACAGGCCACAGGAGCA
102234	JPH2	GCATTCTATGGAGACCCCAGG
102235	SPO11	TTTCTTTGCAAGGCCTTATTCTTGCCT
102236	AMFR	AAGAGGGAGAAACTTCTGCTCA
102237	PODXL	TCCCACCCTCTATGTTCTTACC
102238	SLC2A3	GGTAAATGATGTGGTGCCTGAG
102239	RASD1	AGAGTGAGCGCGGGGTGGGGGA
102240	SOX9	CTGTGGCTAGAGAGTTTGAGGA
102241	BPAG1	TGGTACCTTTTTGTCAGGACAATTAG
102242	MTMR2	GACTGCTTCAGCCTTTCCCTGTGCTG
102243	CBFB	ATGAATGAATTTGGTTGGTTTTGGTG
102244	ITGAV	AAAACATTTGAAATACTACCATATTTG
102245	COL13A1	GGAGTGTGTCAAGTTACA
102246	IRF1	ATGGTGCAGAGAAGCTGGACT
102247	DMN	CTGAGACAAAACAGTACTCACTGAGT
102248	CBFA2T2	GTGCTCAGCCAGGCTGGAGGCGGCAGGCGG
102249	CAPON	GCCCCCAGCCTTACCTCTCAACCT
102250	FMR2	TTTTCTCTCTGGGCCTGTATC
102251	MPL	GGTCTTGAACTCCTAACCTCGG
102252	FBLN2	AGGGTTATAAAGTAACAGAGGAA
102253	ZNF74	TCACCCAGGCGGGAGTGGTG
102254	ADAMTS3	GAAAGAGATAAGTGCATCATGA
102255	PCDH9	CGGTTATCCACCAAAAGTGAT
102256	TRIM39	GTCCTCTCCCTTCTTCCCTAACCCTT
102257	IL13RA1	TTCTTTACAAGATGGGTCC
102258	ITPKA	CAGCTCTTCTGAGGAGGCTCTGCCCT
102259	SOX12	GCCTGCCCCCTCCTGGACGTGCC
102260	FLI1	ACTGGAATTTGATGGAAAGAAGG
102261	TBL2	GCTGTATCTCCCTGTGGCAGATTTGTAG
102262	POMC	GCTGCCGCCTCCCAGCCTGGGGGG
102263	CDH10	TTGTCCATCTTAGTAAATAAAAGATA
102264	EGLN2	CTTTTTGTGTGCTACCTCATCTTGCCACTGC
102265	NOS1	AGGGTCCACGCCCATGTACCTGA
102266	RNF3	AACAGATGGAGTTACTGTGAA
102267	SLC13A3	GCCCCAAATTCCTGGGCTGGGG
102268	GYS1	TCTGAGATCTCCCTCCAGGGA
102269	RNASEL	ATACCTAGCACTTT
102270	CELSR2	TCTTTCTCCCCGACTCCACCCC
102271	RARG	CCTCCCAGGCTGGGGCAGT
102272	ILF1	CTCTTTCTGGCTATTTTTTGT
102273	PHLDA3	CATAGGAGCCCCCTCCCTGCTG
102274	HPS4	CAGCAGCCTGGCTTCACTGAAT
102275	SFRP1	ATTTTTAAAATATCCTG
102276	ED1	CTCAGCCTGGTTTCTGGGTGCTAGA

102277	CNTF	AACAACAAGAAAATGTACAGTTAGTCC
102278	TCL1A	CGCTGGGGTCTGGGAGGAATGGACAGA
102279	FLT4	CTTCTACTGCTATCTACTACAAACTTC
102280	RGS6	GAGGCCCTGATCCCAGCTCAT
102281	CDKN2A	CCCTCCAGAGGATTTGAGGGACAGG
102282	BAIAP3	TGGTCCAGAGCCTCCACCCACA
102283	UPF3B	GGTGGGGTACACTGCAGAGGAG
102284	TCL1A	TGCAGCTCAAGGAAAGGCCTGAAAGGA
102285	SH3GL3	CAGCCTCTTCTCTCACTATC
102286	BCL11A	AGGAGATGTAGGAGGGGAACTAGGT
102287	DSC1	AGATAATTGCATTCTCTCCA
102288	TFDP2	AAAGTCTGGCCAACAGAGCAGTAG
102289	NR4A2	ATTCTAAAAGATAAGTGTGTTT
102290	ARHGEF12	ATCACCTAACTTGGACTGCTTG
102291	IPP	AGACTAGCCTGGGCAACGTGA
102292	FBXL5	ACCCTGACAAATAGTTTTAGACAG
102293	NLGN2	AGGGGAGAGTCCTCATCTGCTGGCATT
102294	SLC22A5	ACCAGCAAAGTGCACTGATG
102295	GPC4	CTGCTTTGAATGAGTTGA
102296	ZNF38	GGAGAGGGAGAAGCACCGTACTTTCAA
102297	PPP2R5C	CTCTCTTTTTGCCCTCGGGAAA
102298	PEX1	AGCATAAATATACTTCTTTTTG
102299	RRM2B	ACAGATGGAAAGAATGAGGCTC
102300	PSG4	CCATAACAACAGCTACTCA
102301	FOXE1	AGTCCCAGGATTGGCTCCAGGCAG
102302	CDH1	TACATGGTGGTGATGTCCAA
102303	MCF2	TGCTTTTGTTGAAACCACAGC
102304	EN1	CTGCCTCCTTCCTCCGCGCA
102305	WASF3	GGAGAGGCCGCGTGTGGGAGCGTG
102306	PTPRK	GAAATGAGAACGTATTGGTGTTTGTAC
102307	ARCN1	GCAACCTCCGCCTCCTGGGTT
102307	CDH17	GCAACCTCCGCCTCCTGGGTT
102307	EEF2K	GCAACCTCCGCCTCCTGGGTT
102307	GM2A	GCAACCTCCGCCTCCTGGGTT
102307	TAPBP	GCAACCTCCGCCTCCTGGGTT
102307	TNFRSF10B	GCAACCTCCGCCTCCTGGGTT
102307	VENTX2	GCAACCTCCGCCTCCTGGGTT
102307	ZNF264	GCAACCTCCGCCTCCTGGGTT
102308	CD28	TGGCTCATGCTTGTAATCCCAG
102309	ERBB3	TGGCTCATGCCTGTAATCTCAG
102309	P2RY6	TGGCTCATGCCTGTAATCTCAG
102310	TEX13B	TCAGATGTGGAGGCCCAGGGAA
102311	PHGDH	ACGCGGGCCTCTGACACTGCTT
102312	STK10	TGACTTCTTGCTGGCCTGTGG
102313	HOXC9	TCCCTCTCATCCCCAGGGTTCGTCCC
102314	SGCA	AGAATAAATATCTGCTGCTCTG
102315	PTPRO	TGTGGGTGGAAGAGGGAG
102316	MPL	GTCACCCAGGCTGCAGTGCAAT
102317	SYNGR1	CTGCCTGCCACCCTAGGCAGGGA
102318	ADAMTS13	CCCTGAACTGCAACCATCTTAGAGC

102319	RIMS1	CATGTTCTAAAGAAATCTGT
102320	WARS	CTGGGCCTGGCCTCTGTAAGCCTGTGT
102321	RFPL2	AAATGTCCTGTATTCTGGGATC
102322	CREBBP	ACATTTATGTTTAAAAGTAAGA
102323	BASP1	TCTTCCATTCTGTGTCACA
102324	RAD50	ATGACCAGAAATGGTGAGATGTA
102325	DTNB	GGGAAAGACAGAGGTTACAGAGGAG
102326	GAC1	GCCTCATCTCAGCAGCCTGGGCTCGGCATTCC
102327	WEE1	AAGGTCGGCAGAGGTGGACCC
102328	ACP5	GGGGGAGGGAGGGAGGGAAAGC
102329	CYP3A4	GCTGTGCAGGGCAGGAAAGCTCCAT
102330	INMT	CACGCGCCACCATGCCCGGCT
102331	EDG8	AGCTCACTGCAGCCTGGAACTCCT
102332	LIFR	ATTTCGTTCCTCCTGAGGAGACCA
102333	P2RY1	ACAAGTGTTCACTCACATCTGTAAA
102334	MGAT2	GGTTGCAGAAGATCATGGGCAT
102335	G6PC	CTCTTCCTCCTGGTTCAAGCGATT
102336	TNFRSF14	CTGCCAGACACCCCCTGCTGC
102337	FBXL11	CTTCCCCTGACTCCCCACCG
102338	NPTX1	AGGAGGTCAAGAGAGAGCTCAGTTTC
102339	HIP1	TGAGGCTGCAATGAGCCAT
102340	DIO3	CCCCACTGCTGATGACGAACTATCT
102341	NRXN3	GTGCTACGACCTGTCTCAGAAC
102342	GFRA1	TGGAAACAGCTGGTACTGATGTTCACC
102343	HPS4	CTAGTCTTTCTCCAAGAAGAAC
102344	SMARCD2	TTTTGCATTGGCTTTAATTGGG
102345	HCK	GGTGCCCAGGTGGTGGCTGCAAG
102346	KCNJ15	CCTTTCTCTCTTCAGTTCCTCCAGGT
102347	MCM6	TTGCTTAACCTGGAGTGAAGAGGTAG
102348	NQO1	CCCGGCAACCACGAGCCCAGCCA
102349	AGL	TGCTTCTCACCCAGCTGCCTC
102350	EHD2	CACCATTCCATATTTAAGTGGAG
102351	SCA1	AGGCCGGGCTTCTTGAGCTGT
102352	COLQ	TGCAGGCATTCTCACTCACA
102353	PPP1R12B	CTCTGAATACTCCATTCTGCCTCA
102354	PLXNA1	GCCAGGCTGCTCAGACTCCTGGGT
102355	GLUL	AGACCTGACGTACTCTGGTT
102356	EPB41L2	TGTTATTGAGCAGGCCTATCTCTTTCA
102357	G6PT1	GTGCGCCTACGCCTTCTGCTCCA
102358	GLP1R	AGGTTTGCCCTGCCTGCAGC
102359	SHMT1	TTCACGTAGCTGAAGTGCAAA
102360	IL1R1	GACATATTCTTGGAGAACTTTCC
102361	PPT2	CTGTGAGGACAACAGCCTGG
102362	DUSP4	TCTCACTATGTTGCCAAGGC
102363	GAPD	CTGTTCGACAGTCAGCCGCATCTTCTTTTGCG
102364	MECP2	CTGTCTAGCACTTCCTTGCCA
102365	GNRHR	ATCTAAAACACTTATCTAACC
102366	PPARGC1	TGGGCCATTGCCTTCATGCCG
102367	KIF3C	AACTCTGCTTTCTGCCCACCTT
102368	ETF1	CACAGGAACGACAGACATGTAT

102369	ABCE1	TTCATTTGTGAGTTTGGATATAGAGCA
102370	FEZ1	TGTCTATAGGTTTATGGGCTATTAC
102371	ACK1	CGGTACCTCCGGGGCTGAAGGGG
102372	DIAPH2	CCTCAAACTCCCAGGCTCAAGGGATC
102373	PPP1R11	TCTGTCTGGCCCTAAATGTATC
102374	MS4A2	GAGGAAGAGTACAAATAGACCTAAAT
102375	HS2ST1	ATGCTGTGCTGGAATATTGTT
102376	HMG20A	CACCTCCTCTCTCCTCTGTGCTCAG
102377	CLECSF5	AGACACACTTTTCATGACCTCAA
102378	UQCRC2	GATGCACACATTACAGGAGAG
102379	KAI1	GGCTGGACTTCTACCTGCCCTCA
102380	PIK3C2B	TCAGTAGGAGGCTGGATTGG
102381	IQGAP1	CCAACAACAGCACCTCAATCTG
102382	EPM2A	TTCCTCAATGAATGGGATGTCTAA
102383	TCN2	CCACCTTGGAGCAGAGAGCCAAG
102384	MAPT	AAAACTTCTGATTTCTCTTCA
102385	ARHGAP6	GGGAGTCACAAACCTGCTC
102386	BCL9	AAACAGATCAGACCAAGCAGA
102387	ZNF202	GTGGAAACATTATTTGCACTCTGAGAT
102388	GPR85	CTCCCTCTTGGACTGAGCA
102389	FMO4	AGCACAGCAAAGATCTGCCA
102390	FUT3	ATTTGAAAACAGTTTCATCG
102391	TNFRSF10B	GGAGTAGCTGGGATTGCAGGCAC
102392	ABCD3	AACTCCAAATGAGCCATAGGA
102393	THBS1	TGAAATTGGTGGCTTCATT
102394	PUM2	TGCCCTAAAATGTCTCTGGCA
102395	YES1	TGCCGCCCAGGCTGGAGTGCAG
102396	TITF1	TGGACTCTAAAGACCAAACTTC
102397	SERPINB9	CAGCAGTTGAACCATTCCA
102398	FCAR	CGCCAAGGCTGGAGTGCAGTGG
102399	TSC1	ACTAGGCTGCCCCACGTGCTCCC
102400	VANGL2	ACCAACAACTTTTGTATTACTCTA
102401	BACE	AACCAACTGCCTTAACCTTCT
102402	FANCE	CAGGAGGTCTGGGGTACCAGTGG
102403	CD3Z	TCATTACAGGGCACAGGCCATG
102404	ASB1	CTTCAGGCTGCACAGAGGCAAGGACC
102405	RB1	AACTGTACATTTAAAATTGCTA
102406	BLAME	CCCAGACCCTGCAGTTTGAGATC
102407	EIF4EBP2	TGTTTTTAATTAAACTCCAAG
102408	EBAF	CAGGCTGGGGGCAGTGGACAGGGAATT
102409	AMN	TCCTTTCCCCCTCCTCCGGGGGCC
102410	FANCD2	TGGCTCATGCTTGTAATCCTAG
102411	SLC17A7	TCAGGGGTAGTGAAGCTGCAGA
102412	SPTLC1	TGAAAGAGAGCAAGAACATGTGGA
102413	EGFR	GCTTGCTGGTAGCACTTGCT
102414	IL2RB	TACTGCTGAGAGGGCTGCTGACCA
102415	HAS3	GCTGCTTTTGGGGAATGAGGGGA
102416	LRP1	GACAGGCCCTCCCTGTCTCCA
102417	ATP8B2	GATCTCCTCCTCCTTTCCAGCAG
102418	RAP1GA1	GGCAAGTCACTCTCCCTCTCTG

102419	DSC2	CCTCTCCGCGCGCCCCACCTCCTC
102420	AVP	TGGGGAGGGGGTGGCGGCCGC
102421	APPBP2	CATCATTATTGGCAGTTTCTCCTTAT
102422	IL1F8	TCATTCTTACTATCCA
102423	BGLAP	CTTCTTTCCTCTTCCCCTTGCCCTTG
102424	NR2E3	CATCTATGGTGTCCCAGGCACAG
102425	ABCA1	GTAAGAGGCAAAGAATCAACAGCCAAA
102426	AK1	CACCTCAAGGTCAGGATGCGAA
102427	CMAR	GGCTCACTGCAACCACCATCTCCCAGG
102428	RFX2	GGTCACTCTGGGAACCTGGATT
102429	APOE	CAGGCAGGAAGATGAAGGTTC
102430	NEURL	GGGGGTGAGAGGCTGGTGG
102431	KMO	AGTGTTCTGCTTATAATTAAACTGAA
102432	PCLO	TTCCTGTTTGCTTTCAGTTTT
102433	TRIM37	TTCATTCATGTTGCACAGTGGCT
102434	XRCC2	CTCCCAGGCTGCTGGAGTGCAGTG
102435	GJB3	GCTCCCATCTTCCTCCCCACA
102436	ADAM17	CCAGCCTGGGTGACAGAGTGA
102436	DVL3	CCAGCCTGGGTGACAGAGTGA
102436	FGFR1	CCAGCCTGGGTGACAGAGTGA
102436	IRAK4	CCAGCCTGGGTGACAGAGTGA
102436	KIF3B	CCAGCCTGGGTGACAGAGTGA
102436	LRRC2	CCAGCCTGGGTGACAGAGTGA
102436	PRKY	CCAGCCTGGGTGACAGAGTGA
102436	SFRS2IP	CCAGCCTGGGTGACAGAGTGA
102436	TBX1	CCAGCCTGGGTGACAGAGTGA
102436	TEM7	CCAGCCTGGGTGACAGAGTGA
102437	CDR2	GTAAATCTTTTATCACTTTCT
102438	BDKRB2	GCTCCCTTCCACCTGTCATTCCC
102439	CTSS	AAAATACTTAATAAATCTGCCA
102440	ADAT1	ACCAGCCTGGCCAACCTGGTGA
102440	SWAP70	ACCAGCCTGGCCAACCTGGTGA
102441	TLE1	CTTCTGCTTGGCTTTCCGGCT
102442	SHANK2	GGAGGGGAGACCTGGCCAAGGGA
102443	HYAL1	TCTTGAATTCCTGACCTCAGGTG
102443	TAPBP	TCTTGAATTCCTGACCTCAGGTG
102444	PAX5	AGCCTCCTGCTCATCCCTCCTTCTTTA
102445	INPP5B	GGTCATCTGTTTCCAGAGTT
102446	PAX5	TTGAGCCTTGGCTGCCTTGGTGC
102447	RIMS1	TTTATGTTAATCTCATTACATCTTTAA
102448	IL1F9	ACTAGCACAGAGCTGATCTCTG
102449	SEDL	TCCTGTTGTGCAGGCTGGAGTGCAGT
102450	RAB36	ACTGCAGCTGCCCTGTAAATGTT
102451	PCTK1	AGTATTTTGTGCAATGAAGCCCT
102452	ENDOGL1	CTCCTGCCTCTGCCCCCTGAGCA
102453	WHSC1	AAGACATTTGAATTGCCGG
102454	COL19A1	ATTTACTTGAATTTGTCATA
102455	CPD	GACCAAAAAACTTGCTCT
102456	GYG	TTACCTGCAGTGGCACCCT
102457	ZNF42	CGACTTATGGACTTTCTCTCACCACTAA

102458	TCF2	TGTGTGCTGACAGGAGACCC
102459	ALOX15	TTTCAAGACTAGAATAGGGGGA
102460	SELE	GGAATGCCTGTGTGAGCAAGCATTTA
102461	SP4	CCACCTCTATCCCAGTGTCTCCGTC
102462	LMO4	TGCCAGACCAGAAGGTCTGCTAAAGGTCA
102463	ABCB4	GAGGAAGAGTGATCAGGAAAGCA
102464	IL12RB2	CCCTGCTCCAGCAGCTGTCATC
102465	IPP	TAGTCCCAGCACTTTGA
102466	PPP1R12B	TAGATTTAGCAGAGAGATTTAC
102467	DFNA5	CAGAGAACATTCATGTGTCA
102468	PNUTL2	CCAAGCCCTAAAGGAAAGCATCCCATT
102469	PDGFB	CCCAAAGTCCTCTGCTCCAGCAACTGCCC
102470	RDS	TGGATCTCCCCCTCATCCAAC
102471	HPSE	GTCTCTGAGTAACCCTTTG
102472	TGFB1	TCTGCCTCCTCCTGCCTGTCTGCA
102473	IL10	CCCTGTACTCCAGCCTGGGTGA
102474	KRTHA5	CCCAGGAGGGGCCAGTGGGGGC
102475	RECQL5	TTCATTTCTCCTGTCACCTTCCGGGGA
102476	CYP2B6	CTGCAACCTCCACATCCTGGGT
102477	FZD1	TCTCCCTGGCCGCAGGGGGAGC
102478	KCNJ11	CTGAGTAGCTGGGATTACAGGT
102478	PIK3CD	CTGAGTAGCTGGGATTACAGGT
102478	VHL	CTGAGTAGCTGGGATTACAGGT
102478	ZNF264	CTGAGTAGCTGGGATTACAGGT
102479	PDE7A	AGAACCAGATATGCTTTGTCTTGA
102480	RFXANK	GGACAAGAAAGGGGCTGTGTGAGA
102481	ECEL1	AGCCCCGCTCTGGGCACCACCTGCCTT
102482	SPTB	CGCCCTCCATCCTCCCCACATCCCTGCAG
102483	SLC7A6	GCCTGGTGGTATGGCACAGCAGA
102484	SLC25A12	AGCAGTGGCAGCCACTCAGTGTGAG
102485	CACNG6	TTCTCTGTGGCTGTATGTG
102486	CAPNS1	CACTCCGTAACCTCTCCCCT
102487	HSPA4	CAGAGTTGGTACCTGCTTTAAGAAAC
102488	ACVR1B	GCAATGTGGGGAGACCCCATCTCTAC
102489	SELE	CCTGAGACAGAGGCAGCAG
102490	PPID	AGACTAATTTTTGTATTTTTAGT
102491	ACLY	ATACTATACATTTAAAGCA
102492	ARHH	GCTGCAGCTGCCCACTGAGGGCT
102493	TXNRD1	CAGTACATATCTTTCTGTCTTTA
102494	ACAT2	CACGGTACAAGACAATTGCATTTAA
102495	RORB	TTTCTCGGCAGAGCAGCTCTTC
102496	GPR86	CCTATCCCCCTGCCCCACCCTCCTC
102497	MAP3K14	CCAGCACTGCCCCAGACTCGCTGG
102498	ZNF217	AAATACCAATTATTTTCCTACAGCCCT
102499	FMN2	CTCCACATCACAGCATTTAGACATATG
102500	CCS	CAGGGCAGGAGCTGCTGTGGTGT
102501	CDC25C	CTCTGCAAACCAACAGGCTA
102502	ALS2	GGTGCTGCCGGTGGAGCTTCAG
102503	UGT1A1	GGCTGGCATTCTAGATTACTTTTC
102503	UGT1A4	GGCTGGCATTCTAGATTACTTTTC

102503	UGT1A8	GGCTGGCATTCTAGATTACTTTTC
102503	UGT1A9	GGCTGGCATTCTAGATTACTTTTC
102504	TPR	ATAACAACTGTGAATAAGATTATC
102505	CDK10	ACCCCAGGTGGGCCTGGCAGGA
102506	SLC13A2	CCCGGAGGGGACACCCCAAGC
102507	HUS1	ATGAAGTTTCGGGCCAAG
102508	MASP1	CTCCCATCCTCTCTCAGGAAGCTTC
102509	ADRB3	CTCATGCCTTGCTGTCCCCTCC
102510	PDCL	ACATCTCTGTTATTGTTTCCAGTCA
102511	DISC1	CTGTCACCCAAGTTGGAGTGCAGTG
102512	DEFA1	CCTCTCTGGTCACCCTGCCTAGCTAGAGGA
102513	TPD52L2	TCTTCCTCCTCCTCCTTCCCTGACTC
102514	CNR1	AAGTAGTGTCTGGATCAGTAAA
102515	PSG2	TTCAAGACAAAGAAGAAAAAT
102516	EGR1	CAGTATCATCTCCATCATATGCC
102517	GAS7	GAGCTGGTGATTCCAGAAGGGTGACCCGGA
102518	XCL1	TCTGACCTTGTACCTCTCTT
102519	UCP3	TTGGGATTCTAGGAAACCCAAGGAA
102520	MDM4	TCTCCCAGGCTGAAGTGCAGTG
102521	COL1A1	GTGCCGCAGGCTGGGCGGGA
102522	LAIR1	CCTTGCATTGGTGCGCCTCAGGCC
102523	HGF	GTAGGCTCATTTCCATTTGCAC
102524	VCL	TCAAACACAGTTACACTTGTGCA
102525	PRKDC	ATGCATTCTAGCACAACAAGA
102526	PXN	TCTGTTCTGTTTCTGTGGGA
102527	PRKAR2B	AGGAATAGAAACAAATTTTTATGA
102528	BAZ1B	TTCCTCCGTCCTCCTGCCCAAG
102529	RNMT	ACTGTACAACTTCAAGCCTC
102530	CYP8B1	TGTGTCTTGGTTTCTGCCTGCTGC
102531	SERPINB9	TGAGACGCAGTCTGGCTCTCTGTCGCC
102532	RAB4A	CTGTTCATTTTAAGGAAACCTACT
102533	ITGAL	CTCTCTTGGTTCCTTCCTTGGAAG
102534	TACSTD2	GGGTCCCCAGAAGCCTACAGGTGAGTA
102535	PTPN7	TCCTGGTGTTCTCTGAGACACTCTTTG
102536	GAS7	GATCAGTAAATAAAATTGATGTAATA
102537	HHIP	GGCAGAGGAGACCTCAGCATCATCT
102538	GSTM3	CCAACTGAGTTCAAGGGCTGTA
102539	SLC20A2	GAGAGGGAGGGAGAATCCTGGATGCT
102540	DPH2L2	TAGACCTGCACTGTCCAGTACA
102541	TIE	CCCATCCCACTGCTCCCCCAACACA
102542	EDNRA	GGGAGCTGGGGGAGAATGAAGACTGT
102543	EVC	CCTGCAGTGCTGAGAGGCAGC
102544	CEACAM1	TCGAAGCGTTCCTGGAGCCC
102545	TK2	GTGCCTCTCCCATGGCTTTGTGCTGCT
102546	HMG20A	GTTCAGTTTTGTGCAGCATTGC
102547	CTSS	ACTGCAACTTCTGCCTCCCGAGTTCAA
102548	BMP8	TGGGAGGTGGAGGTTGCAGTGA
102548	CRACC	TGGGAGGTGGAGGTTGCAGTGA
102548	DBT	TGGGAGGTGGAGGTTGCAGTGA
102548	GRM6	TGGGAGGTGGAGGTTGCAGTGA

102548	IL13RA1	TGGGAGGTGGAGGTTGCAGTGA
102548	ITGAL	TGGGAGGTGGAGGTTGCAGTGA
102548	KCNJ5	TGGGAGGTGGAGGTTGCAGTGA
102548	NPHP1	TGGGAGGTGGAGGTTGCAGTGA
102549	DEFA5	TTCTAAATTTCTCTCTCCA
102550	TMPRSS3	CAGGCTGGAGTGCAGTGGCGAA
102551	GSTA2	TTAAGTGCTTTACCTAAGTGTT
102552	ATP2A3	TGGGCAGCCCCCTCCACTCCAC
102553	GARP	CAGGCAGGCAGCTGCAGGCG
102554	GPR56	GAACTCCTGGAGCTACAGGGACA
102555	DTX1	AGGGTCTGGGACGCAGTTGGGAGT
102556	ADAT1	CCCTTCATCCTGAACTGCCT
102557	IFNG	GCCAGTGCTTTAATGGCATGTC
102558	DDX15	AAAGCTTTTTAATTTTTCTTTAC
102559	SPO11	GCCGTCTGCCCTCATGGCCT
102560	CASQ1	TCTCTAATCCTGTATCTTTCTGACTGT
102561	CYP2B6	TGTTGGCCAGGCTGGTGGTGAGCTCCT
102562	KLRC3	GGTCTTGAACTCCTGGCTCAAG
102563	TMPRSS3	TACTATTCAACCCATAGCACA
102564	GRB10	TTGGAGAATGTAAACCGCCT
102565	TRPM2	GGTCAAGGTGACCCGGGAGGAGAG
102566	PKNOX1	CTATTTTTATAAATTCGTT
102567	TSSC4	AGGGAGATGGCCCAGCCTGA
102568	PCTK1	TTCCTGCCTGCCCCACCTGCCTCAT
102569	CTBP1	CGCAGCGCTGGGCCTCGTGTC
102570	TM4SF2	CTCCACCTTTCAGCCCACGTCA
102571	GAN	GGGCTCCAGCTTCTGCTCAG
102572	CTSK	TCCTGCTCTTCCATTTCTTCC
102573	CEP1	GATACCACTTTAACCACAGTTA
102574	NOS1	ACGGGTGCATGAAACCACTGGAACAT
102575	TCL1A	CAGTGGTCTCACATGGTGCTA
102576	CD1A	CACTTCCTCTTCTTCATTGCAGTT
102577	SOX13	AAGGCCCTCTATTTCTCTCTTTCTTG
102578	SLC21A9	CCTCCTCTCCCCTGCTAAGCTCC
102579	MECP2	GCACAGCCTGGTCGCCTTCCACCTCT
102580	CREB1	GCCTGTAATCCCAGCTACTCAGGAGG
102580	CTMP	GCCTGTAATCCCAGCTACTCAGGAGG
102580	DAPP1	GCCTGTAATCCCAGCTACTCAGGAGG
102580	VDR	GCCTGTAATCCCAGCTACTCAGGAGG
102581	RAD9	GCAGAAGAGCTGCCAGGCAGTGTCTTA
102582	ENAM	TTTTCTCTCTGTATATCACTTC
102583	LSP1	GTTGCTTCCTGTTGCCAGCATGA
102584	DHCR24	AGAGAAACCCCTCCAGAACTCCCACCCTG
102585	UCP3	AGACTTGGGGACCAGAGGTGACAG
102586	IL12RB1	AAACTCCTGCCCTCAGGTGATC
102587	CHST1	ACTGCCAGCTGGGCCTGGAG
102588	TIRAP	CCGCCATCAGGGACATCCTCTG
102589	MYF5	GGACGAAGAAGGCTTCAAAAAGTC
102590	G6PC	TAGGACTACCGGCGTGCACCAC
102591	ATP6V0A4	CGAGTGGAGGGAGGCAAAGGCCAG

102592	TRIM9	GCTCTGCATTCTGCACAGAGCC
102593	SIGLEC8	CTCAGCCTCCCAAAGTGTTAGGA
102594	JUND	TCCACATTCCTGTTTGTA
102595	ESPN	ACAACAACAAATGCTGCTTA
102596	CHST6	TGTGAGCCACACCTCCTAGCTCT
102597	PLP2	CGAACTTCCCTCATTTCTCTCTGCA
102598	HLCS	TAGGGACTGACTTTCTTAA
102599	TEM8	CAAAGTTGAGAACAGAGCTGGTG
102600	PPP2R4	CATGGCCGTCGCCCGGTTCCGCG
102601	SHANK2	TGAGGAGAGGAAAGCAGGGAG
102602	PRND	CCCAAGTAGGTGGGATTACAGG
102603	MSMB	CCTCATTCTCCTCTGGCCTCTAATAG
102604	DAG1	TGGACTCTGTGAGATGGAGAGCCAAT
102605	SLC2A8	GGCTCACTGCCTCCTGTTCCA
102606	EFG2	CATTGCCTTTTGCCTAGGCTG
102607	HRH2	CTGGCTTCGAGGCCTTGCTTTTCTCTC
102608	CHRM5	CTGTAGGAAACAGCAGAGACCAGG
102609	CYBB	ATTGTGTTATTACTATGAGTCA
102610	FEZ1	CGCTGTTGTTCTCCTGCTGAGCAA
102611	OPHN1	ACAGTCCCTTTAAAGAAACATGGT
102612	TRA1	TTATACTCTCACCATTTGGA
102613	PLG	TCTGGGCACTGCTGGCCAGTCCCAAAA
102613	PLGL	TCTGGGCACTGCTGGCCAGTCCCAAAA
102614	APM1	GCTGGAACTACAGGCTCATGCCACTGCG
102615	DAPP1	GCTAGATGTCCTATGGGCAATTAG
102616	WISP1	GCTTTGCATGTATTAGCTCACTGA
102617	ABL1	CTGCCTGCACTCCCTGGCCTTG
102618	CPD	GTTTTTAAAAGTCAATTTGTA
102619	EN2	ATTATACCAGCATTAATAGTGAAAATAT
102620	EVC	CCTGAAATAGACTCTCTTAGA
102621	HAS3	CAGTCACTGCATTTGCCT
102622	CDKN1B	CTCTCCTCTCCGCCCTCCCGCTCGCC
102623	RANBP3	ACACCACCCTCACACACTGGCTCCAG
102624	SCA1	GCATATGCTTTTTCCACGAGTGT
102625	TRIM14	TACTGCTCAGGGTGAATGCAGCT
102626	DLX4	GGACTGGACACCTTCACTCCAGCTGGAC
102627	THY1	GGGTGGAGTCCCAGAGCTGCACA
102628	SRP46	GCTGCTTCCTGTTTTCTTCTGA
102629	KCNA4	TTTTCTTTCTTCTTCTTCTAC
102630	SCAP2	TGATGAAGTTGCAAATGGCAGTGTGC
102631	NRXN3	CCCCTGAGGTTGTGCTTTCT
102632	CLC	GGCCCTTTCCTGGACCGG
102633	APAF1	GCTTTGTTGCCAGGCTGGAGTGCAGT
102634	CYLN2	GAGGGGATACTGTGGAGCAGC
102635	ACVR1	TGGTCTTATGATTTTATTAC
102636	HS2ST1	CAGGTCCTAGCTCTAGCACTTA
102637	PPL	GGGTCTCTGTATCTCATGTAGAAC
102638	SLC22A12	CCAATGCCACGGCCACCAGCT
102639	ERBB3	GAGGTTAGGAGTAGATATTGA
102640	C18orf1	TCTGAACCAACAGTTCCCTT

102641	GPR56	GCTCTGTCACACAGGCTGGAGTGCAGT
102642	BCL6	GAGTTAGTCTATCTCTCTTTGCCT
102643	BDP1	GTATGATCTCAGCTCACTGCAGCCT
102644	CIAS1	GCGTGATCTTGGCTCACTGCAGCCT
102645	SPN	CCGAGTAACTGAGATTACAGGC
102646	EVC	CCTGCACCAACAGCCTCAGTGTTACTTC
102647	ITCH	GGAGGCTGAGGTGGGAGGATCCCAGGA
102648	C9orf19	ATGAAGTGCCTAGAACCACC
102649	MASP1	GGACCCTGAGAGGCAGAGTGTGG
102650	BACE	TCATGACAGCTACTAACCTGGAGA
102651	PARK2	TAGCTGGAGAGAGAGTTCTCACATT
102652	TAF11	GAACTCCTGGGCTTAAGTGACC
102653	ADCY1	TGGGCAGCGGCTTCAAGAGCC
102654	PACSIN1	TGGGCACAGAGGGTCCTGACACTCTGG
102655	CCND3	GCTCTCATGTTTTCAACTGCCA
102656	VSX1	TGTACTCTCAGTTTGATTTTCTTC
102657	NLGN1	TTTGCCTCACTGTAACCAGACAACTAG
102658	RPN2	TAGTCTCTTTCTCTGACACTGT
102659	CYP2B6	GTCTCCCAGGCTGGAGTGCTATGGTGC
102660	CREBL1	ATCCCCAGGCTTGGGGCAAT
102661	MEF2A	TGCAACCTCCGCCTCCAGGTTC
102662	ZNF74	TTCACCCAGGAGGAGTGGGGT
102663	PRND	GCTCAAGTTGATGAATCATGGGG
102664	TERF2	TGCTGTGTTCGTGTCTTGCACTGG
102665	LYPLA1	ATGGGAAAGTGTAAATGTTTTTCATGG
102666	ELMO1	GCCAGAACTGCCTTCTTCATTTC
102667	LETM1	GTGGCACCTCCATCCTCCTGCCCAGCC
102668	BAZ2A	AGCAGTATCAGTGTCAT
102669	MGAT2	CACAGTTACAAAAGCGACAGTCTTCT
102670	ACTN1	TCTCCAATCTCATGTCCATTTTGGTGT
102671	GNB1	CTTCTTTCTCTTTCCGTCCAAC
102672	SHOX	GCGTGAGCCCCTGCGCCCGGCC
102673	MEST	GCTTGGTGGATGAGGGAG
102674	FCAR	AGCCTCCCAAGTAGCTGGAATT
102675	TES	AGCCTCCCAAATAGCTGGGATT
102676	SGPL1	TTGACATCTGGTCTTGCTCC
102677	NBEA	TCTTCTTTGTATATTTGGTGAC
102678	SRRM1	CAAGTTGATTTGGAACAC
102679	NR1I2	ACTCTTCAGCTCCCCTCTGGCA
102680	PTPRD	TTTAGTTTTTTAGTATTGTAA
102681	HRH1	ACCAGTCTGGCCAATATGGAGAAACCT
102682	MTMR2	GATTAAGTCTACCAAAGAAC
102683	DGKB	CACTGGGAGTAGACACATGAACAAGAC
102684	UGCG	CGGGCGCCCACCCTGTCCTCCTCC
102685	FGFR4	CCACACCTCCCCCTGCTGCTGC
102686	STS	CAGCTGTAGTGAGGTTGCAGTGA
102687	LDB1	AAGCTCTGGGCCCCTCCTCCCTGCTGC
102688	SIGLEC8	GGCCTAGAGTCTCAGGAACAAGAC
102689	FLRT2	TCTTGTTCTTGGTCTTGTCA
102690	DUSP7	GCTCCTTTCTGCTGACAGCC

102691	LPL	GCTCCAGCCCTCTCCAGCC
102692	PROCR	CCCGAGCCAGGAACCCAGGTCCGG
102693	TAL1	CTGTCACTCAGGCTGGAGTACAGTG
102694	EGFL4	TGGCCAATATGGTGAAACCCCA
102695	PCTK1	CCTGCCTGCCCCACCTGCCTCATATTG
102696	PDGFRB	TCAAGGAATCATAGCTCTCT
102697	EYA3	TATGCTGTTTCTTGTCACTGGCCTTG
102698	NCOA6	GTCTGGAACTCCTGAGCTCAAGCAGT
102699	CBFA2T2	GCTCAGCCAGGCTGGAGGCGGC
102700	HOXB6	CAACAAATCATAAACCCGGCGGAGC
102701	MAML1	TCAGATCTTCTTTTCTAATAGCCA
102702	ANK3	GGTTTTGGTGAAATTCTTTAATTTGT
102703	IGF1	ATTGGTAAGAATGAGCTTTCAAC
102704	CPT2	GGGAGGTTGAAGCAGAATTGCTTGA
102705	MICB	GCCTGGATCTCACCAGCACTTTCC
102706	GGT2	TCCAGCCCAGCATCCAGC
102707	EVC	GACTACAGACGTGTGCCACCAC
102708	PER2	ACACTTGGGGAAAAGTGAGGCC
102709	DRD1	CTCCTGAGAGGTCGCGGGCAGTGC
102710	PPP2R5C	CGCTGGCAGAGCCGCGGGTTGA
102711	LIMD1	AGTGTGGGGCGTGGCAGGGGGG
102712	STE	AGCTTCCCAAGTAGCTGCAACA
102713	PCBP1	TTTCTGCTGTTCTCCCATGATCCAACT
102714	PPP3R1	GCTTATAATCCCAGCCAGTGG
102715	FGF2	TCACATTTTATAAGGTTGATT
102716	ARNT	AGCAACAGCTACAACAATGAAGA
102717	TACC1	CTATAGATCTTAAAAAATGAA
102718	HYAL1	GCTGGGAAAATACAAGAACCAAGGA
102719	EPHX1	GGGGCCAGTGCCTGCAGCCT
102720	AKR1B1	CTGTGTCACTCAGCAGTGGGAC
102721	SLBP	TAAACTTCTTGTTAAGACTGTT
102722	BSG	TCTGGAGGGGGTTTGCTGGGGAA
102723	CREB1	ATGTTACATGTAGAAAAAT
102724	ALOX15	ACACCCAGGCTGGAGTGCAGTG
102725	DAZ	TTCAAGGGTAAAAGAGTGCA
102726	AGR2	AGTGAACACACTGATTAGGT
102727	EGLN1	CAGCACAGATTCTATTAAAAATAAATG
102728	TAF7L	ATTCAGACTCCTGGGCTTAAGGGATC
102729	NHLH1	GGCATGGAGTCCCAAAGGCCCT
102730	UQCRC1	GTCCCAGGTAAGTTTCCACGCT
102731	SIM2	GTGCCCCAGGCCGGGCTCAGT
102732	DAPK1	ATCCTGGTTTCATAACTTC
102733	MYOM2	TGTGTGGGCTGATAGTTGATCA
102734	SURF4	TCCCCTGGTAGCCTACTTCCTTA
102735	RPH3AL	AGTTAATTTTTGTATTTTTAGA
102736	WNT3A	CCTCAGCCTCTGCCACTGTGAA
102737	CASP3	AGGCAATGATTGTTAATTTACAGC
102738	DPYSL3	GAAGATAGCCGCTGTGGCAGCTGTC
102739	ADRA2A	TTCTGGTTGAGATCATGT
102740	RANBP2L1	CTTGAGCTGCTCCTGCATAGATC

102741	SH3BP4	GGCCACACTTTGCATTTCAACACTC
102742	GRAF	GCGGTCTTGGCTCACTGCAACC
102743	TAZ	GTCCAGTCCCCTGTTGCGCCGCG
102744	PES1	TCAGAGAAGAGGCCTCTGTGCC
102745	TBL1X	CCGCCGCAGCGCCCTCAGGCC
102746	CA4	GATTAAAATATGGACATATTTTTG
102747	EML1	GCTTTTCCTGTCTTTTGTGCATGGGC
102748	CELSR1	CCACTGGTCCCTGAGGCTCT
102749	KCND2	TTATCCAGACTGTGCCGGGGAGAAAT
102750	ADRB3	CCCTCCAGAACCTGACGACTGG
102751	F2R	ATGTAGATGTATGCACACACAT
102752	RTKN	AGGGAAAGGGCACCGGGGGG
102753	COL15A1	CAGATTCTGCCACTGCATCCTT
102754	SYK	ACAATAAAAATGTTTTG
102755	INHBC	GCCTTTCTCTATGCCCTTAAGGGGTGA
102756	IL1B	AGTCCTGTGCTGAATGTGGAC
102757	RANBP3	TAACTGGATTAATTCACAGGC
102758	AMFR	TGGACAGCTGATAAATTTAA
102759	IL1RAP	TCCACACACATACATTACATATA
102760	VENTX2	AGGCTGGAGTGCAATGACGCAATC
102761	PRLR	ACACTCCTTTCACTGTAGCTTGA
102762	DLEC1	CCCTCCAGGAAAGGCCTGAGGATGT
102763	KCNK5	TGTTTTCAGAGGCTGGAGGGCGG
102764	ERCC3	TGCCGCGGCGGGCCTGTGGGAGCGG
102765	KCNK5	GTCCTGTGTTCTTCCCGCTCC
102766	WARS	TCCTGAGAGATAGCAAACATGCCCA
102767	ZNF266	TTCATTAATCATTCACACCTTCAGG
102768	CASQ1	TCTCTGTTCTGTTCCCTCCAT
102769	DLX2	GACCACTTATCCTCATTGCT
102770	PAX2	GCTGCAGCTGCAGCGCGAGCC
102771	MUCDHL	AGAATAAAGCAAGGCTCCCGAAAA
102772	GGT1	GAGAAGGCTGCCTGATCAGAG
102772	GGT2	GAGAAGGCTGCCTGATCAGAG
102773	GNE	GGCTCAATGCAACCTCTGCCC
102774	GH1	CCTCTCCTGGCCCTGGAAGTTGC
102775	TRPS1	AGGCAGAGGAGGAGAAATTGAAGGTCC
102776	CNTN2	CCTGCAGCCCCAGACTCTGCT
102777	CNTN2	CAGCCCAGGAAGTCTTGGA
102778	CDC25A	GGAGACGGAGGGGAGTAGAGA
102779	MPHOSPH9	GTTTTTAAAAAATAAAGCTTA
102780	HTR7	GATGAGAATAGAAGAGTACCTG
102781	WBSCR14	GCAGATGACCCCCAGGCCTTGG
102782	ZNF134	GTCCTCATTCCCTTCTGTATGACA
102783	PPP1R12B	GCCTATCTGTCATCGCCT
102784	IL21R	TCAGAGAACCTGTTGAAATGTG
102785	CHC1	AGAGGAGTCCATGATGGAGGCAGA
102786	IRS1	TCAAGATACATTTCATCTGCTGCT
102787	PDE4A	TTTCTCCTCCATCCGTACC
102788	SNAI1	GTCTGCGTGGGTTTTTGTATCCAG
102789	CYP3A4	CACGCCTGTAATCCTAGCAGTT

102790	COL4A6	GGAAAGCTCTTCCTAATCGCTA
102791	PCDH9	AACAGAACATTCTCCAGGTAG
102792	CDC25A	CGGAGGCAGAGGAAGAGGGAGCGGGA
102793	WFDC1	ACAGTTGGGAAAAGTAGTTTG
102794	ABCC3	GTAGCTGAATTTGATTCTCCAGCC
102795	IFITM2	TTTGTTCTGCCCTCATCTGGCCCTGGC
102796	HK2	TCAGAGATCTGGGAGGTCTCCA
102797	SMCX	GCTGGGGCTGGGCCATCACCA
102798	MAG	TGGAAGGCAGGGGACTGCGAGCTGG
102799	ESPN	TGGCAACACTGGAGTGCACA
102800	ALPP	CTGAAGCAGGATAATCGCTTGA
102801	GCN1L1	AAACCCACACACAACTGAAAAT
102802	ADAT1	AGGCTGAGGCAGGAGAATTGCT
102802	ATP1A2	AGGCTGAGGCAGGAGAATTGCT
102802	CTMP	AGGCTGAGGCAGGAGAATTGCT
102802	CUBN	AGGCTGAGGCAGGAGAATTGCT
102802	DAPP1	AGGCTGAGGCAGGAGAATTGCT
102802	DBT	AGGCTGAGGCAGGAGAATTGCT
102802	DMC1	AGGCTGAGGCAGGAGAATTGCT
102802	IL17R	AGGCTGAGGCAGGAGAATTGCT
102802	IL1R1	AGGCTGAGGCAGGAGAATTGCT
102802	LRRC2	AGGCTGAGGCAGGAGAATTGCT
102802	NT5C2	AGGCTGAGGCAGGAGAATTGCT
102802	OPA3	AGGCTGAGGCAGGAGAATTGCT
102802	PPP2R1B	AGGCTGAGGCAGGAGAATTGCT
102802	RPN1	AGGCTGAGGCAGGAGAATTGCT
102803	FSTL1	TTTGGAATACCAAAGATTAAAT
102804	CELSR2	TTCTTGGAATTGGCTCTCTT
102805	MXI1	AGGGGGCAGAGGCAGGGGCGGGA
102806	RGS6	CATTGTCATTGTTATTGTGACA
102807	PTPRF	GGCCGTGGGCCGGGAGGCAGTG
102808	MBL2	GTTGAGCCTTCCTTTCTGTTTGGG
102809	APM1	TCACCCAGGCTGGAGTAC
102809	PDCL	TCACCCAGGCTGGAGTAC
102809	SLC14A2	TCACCCAGGCTGGAGTAC
102809	TRAF5	TCACCCAGGCTGGAGTAC
102810	KRT2A	TTGTCCACTCTGCTTTCGGAAGTGCTG
102811	POLR2A	CGTAACCTCTGCCGTTCAGGAAC
102812	ABCC3	CATCCAGGCTGCCCGTGTGTTGC
102813	NOTCH3	CCCCGTCCTGCCTCCTTTCTTTCTC
102814	DUOX1	AGACAAGCTGACCTGACAAGTACTAT
102815	FKBP1A	AGGACTGAATTACTCTCCAAGTT
102816	SPN	CAGGCTGGAGTGCAATGCA
102817	PPP2R1B	TTTTTCTCCACTGCTTGGATAT
102818	PIK3CD	CTGAGCCTCCCAAAGTGCTGGG
102819	SDHC	CATTCTTATCTCCAGCCTGGGAAAAGTTC
102820	GJA4	GGACGGAGGCCGGGAGCCATGGGTG
102821	CYP1B1	ATACTGCATCTTGGTTATTTCT
102822	SFRS2IP	AGAAACACAGTTTTATCTGTTAGTC
102823	DDB1	GTGTATGTGTATCTCACACTCAT

102824	CMKLR1	AGCCCCGGCGGCCAGCAGGGA
102825	LIFR	GTGGATTTGCAGGCCAGGGAGAA
102826	BIN3	CACGCGGGCAAGCCTAGGAG
102827	SLA2	GCTCACTGCAACCTCCATCTC
102828	APPL	AGACCTTTTGGAGACTGGA
102829	NSF	TTTTCTAGCCCTCTCCCTCAGTCCTTT
102830	RGS16	GGGGATACCTGCCTGTCACCTCA
102831	HOXA10	CCACACTCGCCATCTCCTGGGCC
102832	FMR2	CTGTGGGGAAAAATTATTGAGCC
102833	PTN	GACTATGTAAACTACTTCTCT
102834	FBXL11	CACTCCCTCTCTGCTCTCCTGTCC
102835	BSN	GGGTCAAATCAGCTCCTTCTCTCCA
102836	GAMT	CTCTGTGAGGGTCACTGCTG
102837	ED1	AGGAACGGGTCCCTGCAGCC
102838	PHEMX	CCTCCAGGACCATTCAGGCTGTTGACA
102839	TLR9	CTCACCCCACACCTGACACAG
102840	MLC1	CCAGCCTGGCCCCAAGCATGGAAACG
102841	NTSR1	GCACAGCCCTCACAGCTCA
102842	PLA2G4C	GGGCTTAAATCATGGGCTATCTCTCCA
102843	BTEB1	TTTAAGGACATCTGTTCTTCCA
102844	KCNC4	GGTGGTTTGTCTTCTTTGTTA
102845	ABCC3	CCTGCTGCAGCGCAACGGCTCCTT
102846	VHL	ACCATGCCTGGCTAATTTTGTGT
102847	SIM2	ACCTGTAATCCCAGCTACTCTGG
102848	NUMB	TGTGCTCAGGCTGGGGAACAGA
102849	TAT	GGTCTCCTAAAGTACTGGGATT
102850	TGFA	AGCTTCTCAAGGGATTGTGTTT
102851	FRDA	GTTGCACTCCGTGCTTTGCACAAAGC
102852	KCNK3	GGGCTGGGTGCAGTGGCTCAC
102853	PER2	GAGTTTCTGTGATGATTTGTTGAGCC
102854	LIG3	GGACTCAGGCTGGAGGCAGA
102855	IL13RA1	CTGAGGAAGCTGGGGTTCATGACA
102856	ABCD4	CTCCCAGGACTCTGCTGCCTCAG
102857	MDM2	GGCTGCTTCTGGGGCCTGTGT
102858	CDR2	ACTGTGACTGACAGGTA
102859	CSNK1G3	CTCTGGACACAGACAGATCCTGGGGA
102860	TRPM8	GAGAACATCTATCCTATGAATAA
102861	KIF3C	TCTCCCACTGACCTCTTTCTCGTTT
102862	TAF4B	AGGTATTTCAAAAATGGGAA
102863	ABCA1	GTTCATCATTGGCCCTCATTCCA
102864	CBS	CAGGAAGGGGCGGGGAGAAGC
102865	FCGR2A	AGTGGATGACAAAAAGAGGGG
102866	SH3BP2	AGCCGAGGCTGGAGCACAGGG
102867	UGDH	GGCTCACTGCAAGCTCTGCTT
102868	OPHN1	GGGGGTGTTCAGCCACTGAGGG
102869	BCL2	TCTGCCGTGGGCCCTCCAGATAGCTCA
102870	PRKR	AAGCCTTCTTTTTTCTCTTTTAC
102871	CBFA2T2	CTGTCACTCAGGCTGGAGCACAGTG
102872	PCSK2	CACTCACTGTCAATGATTATTTT
102873	NRCAM	TGTTCAAAACTCTGCAGCA

102874	PPP2R5C	CGCCCAGGGTTACTTGA
102875	APOL1	AGCAAGGAGAAGGCAGGAACATT
102876	GAB2	AACCATTCTGAAGTTACTGGAG
102877	LARGE	GGAGGAAGAGGAAGAAGGGACAGTGCTCAGCT
102878	PTPN2	TTTGCAGAACCTTTAATTGGA
102879	SLC17A7	AGGAACCCTGCTCCTCTCTGTCCTGCC
102880	IL24	TCATTCTTCCCTAATCTTCCACTTGA
102881	SELENBP1	AACTCGTAACCCTGTCCTTCAAAAA
102882	SLC3A1	GTGAACAATCATTAATTCTTCG
102883	IL1R1	GCCTAGGAGGCCTTCTCGCATTTTCTC
102884	NPAT	CTCTGTATTAGACTCACACAC
102885	DSC3	AAAAAATAAACAAGAAATATT
102886	SPAM1	TTCCCTTTCATCTGTGCTCATACTTT
102887	MYLK2	TTGCCTCAGGGCCAAGCCGGCCCAAC
102888	RAMP3	GAGGCTGGAGTGGGGGTGTG
102889	EDARADD	GTCTGGAGACAGAGTGAGAG
102890	PAX5	GAGGGAGCTTGGAGAACTCACTGTGG
102891	DIAPH2	CTGCTGCCTTTGCCTCCAGTGCA
102892	GPC1	CTCCTGTCACTCACTGAGGCC
102893	BAZ2A	ACTGTTAGAGTTGGGGGCTCTGCT
102894	SNAPAP	TCTCATTTTCCTGTTTAC
102895	DAAM2	GGGAAGATGGGAGGTTGTGGGTGA
102896	LZTS1	TGGCCTCAAGCAATCCACCTGCCT
102897	MAT2A	CTCCACACTGCACAATAACTCC
102898	ACPP	ACCAGCCTGGTCAACATAGTGA
102899	EXTL1	CCAGGACTGGCTTGCGAGCCCCGGGGG
102900	BAZ2B	GGTCTCGATCTCCTGACCTTGTGATCCACCTC
102901	PIGK	TTCACAGTCTTCTATTGTTGGACCA
102902	VIP	CTTCCCTTTCTGCTTGTGTTA
102903	HAS3	GCTTGTTTTTCTTCAGCATTTACTTGA
102904	TTID	TACCAACATTGGAAAACAGCCA
102905	IL15	AACCTATAGTTATATAATCTGACT
102906	B3GNT3	CCCTGCTCTCACCTACTCACAGACGGG
102907	ASTN	TGCTATCACTATTTCCA
102908	CCR9	TATGGTGACAGTGTCTCTCCATG
102909	SLC26A2	ACTGCAGCAGAGCTTGTAGCTGG
102910	DFFB	AGCGTTTCTGTGTAGAAACTGGAA
102911	SEMA3F	GGCCACCCCACTCTACCTC
102912	BRCA1	TTAAAACTAAATGTAAGAAAAAT
102913	PTPRO	TAGCACTGCACCTCTACATC
102914	SEZ6L	GGGCTTGTGAACTCAACCCCA
102915	INSM1	GGGGAGGGAAGGGAGTGTTCCGAAGATGCTG
102916	HDAC4	TGAAGGAGAGGAGGGCGGGGAAGTTT
102917	NPTX1	CAACTTTGTTAGCTGCGTGCGTGCTTT
102918	SLC7A8	CTGAGGATTGCTCTTTTTTCCTA
102919	ID3	GTCTTCTGGTCTCCTTGGAGAAA
102920	RHD	GAACCACAGGCCTGAGCCACTGTGCCCAGCC
102921	BCL2	AAAAGGAGAAGAACATCTGAG
102922	NUMB	GTCCAAAATCACACAACTTG
102923	IRTA2	ACCTTTCAAGGAGGAAACCAGA

102924	ACT	ATTTTTCTAAACGCTTACAGATTCC
102925	CLK1	TTCAGAATAAATTTTTTGTGCTTAT
102926	STARD4	CACAGCTCACTGCAGCTTTGA
102927	NAB1	ATCTTATGTTTCTAGTCTTTC
102928	POLH	CTGTGATCCCAGCTACTCGGG
102929	TCTEL1	ATTTCATTTCAAAGGTGCTA
102930	PRX	CCATCCGGGGGCAACCATGCCG
102931	CNN1	GACGGAACTTCAGCCGCTGCCTCTGTTC
102932	MYO1D	CCTAATGAGAACGGGGAGCTGC
102933	SDC4	CCCAGTGCCCTTCCCCTTGGGCT
102934	GNB3	CCTTTCTCCCCCAACAGGATC
102935	CPLX2	GCCCAGGCAGGAGGGAGCGCCTCGGC
102936	CUL3	TCATAGAATAATTTTTTATAGAGTATA
102937	SCN4A	AGGATTTGGCCACACTGGGGC
102938	WBSCR14	TGCAAAATGGGGATGGGGAAGG
102939	CNR1	ACCTTGAATCTGCCTGCTGGC
102940	SRM	CTTGGAGCCTGCGGGGTGC
102941	LDLR	CCAGCACTTTGGGAGGCTGAGCTGGAT
102942	VGF	CAGCTGAGCCCAGCCCACGGG
102943	FZD10	TTGTTTTGTTTTGGTTTTCCAGCG
102944	REN	CATTGGATGTGGAGCTCCT
102945	PTX3	CTCTCCTCCGCTCAAACTCAGCT
102946	PPP1R12B	CTCCAAAGGTGCAAAAAGGAA
102947	CLN6	CTCCTTTCTGGGCCTCATTT
102948	MAP3K8	TGTCTGCTGACTGTTTCATTCACT
102949	RP1	TTCTTTGTCAATTCATTTTTTCCCA
102950	HOXD8	TTCCTAATGATTAGCACTTA
102951	CELSR3	CTCCTCCAGCCCAGCGGCCCTCT
102952	HSPA6	CCTCACTGCTGAGCGCCCCTCGACGG
102953	MAML1	ACTAAGCTGAGGGTCCAC
102954	EHD1	CATTTCCTACCTTCCTTCCTCCTCT
102955	JPH1	GCCATTCTTTTTGTTCACTTTCTA
102956	LPP	CAGACAAACTTGATTTCTTCT
102957	BMPR1B	CTTCTGCTGATTCATAACCATT
102958	NCOA6IP	AGGCTGGAGTGCAGTGCCATGAT
102959	ZNF278	GGCTATGTGGGGGGTGGTGCA
102960	FUT1	CAACTCCTGGGCTCAAGCAGTC
102961	AVPR1A	CTTTCTCTTGGACATTGTAAACGTATT
102962	SLC1A4	CCCCTGCCACCTCTAGCTCGGAGCG
102963	HIVEP1	CCTTTTAGGAGCTTTATGTTTAG
102964	BDP1	TTGCCCAGGCAAGAGTGCAGTG
102965	SECTM1	TGTCACCCACTCCTGGGTGCGT
102966	C21orf2	GGGAGCTGGAGGGTGGCTGC
102967	TNFSF14	TGGCTCTCGCCTGTAATCCCAG
102968	KCNA7	CCACTGCACTCCAGCCTGGGCAGCAGA
102968	ZNF264	CCACTGCACTCCAGCCTGGGCAGCAGA
102969	EBF	CTCTAATTTTATTATTTTGG
102970	FCN2	GCCCCCATTTCCTCCTTCATC
102971	RASD1	CCCAGCACTGGGGAGGCGCCA
102972	CAPN2	TAAGCTTCCATAGAAATACACTTT

102973	FGF5	TGATGGTCAACAATAAGCCACGTCAA
102974	B4GALT5	TCTCTAGCGGCCGCCTGGCTGCAGCA
102975	CALM1	AGAGGGGTGGGTCAGAGCAGTGGA
102976	KCNA7	AGAACAACAGAGTCTCAGGGA
102977	DVL3	CTTACATTCCTTCTTCC
102978	IL8	GCTTCTAGGACAAGAGCCAGG
102979	ECM2	CCACAAAACATCAAGTATTCCA
102980	SLC4A10	ATTTTTTAATAATTGTATTTA
102981	CEP2	TGTCCAGTAGCCGCAATCCCAGGCTGG
102982	CTSD	CCACACACACCCACACACTCGCCCG
102983	SIRT6	GGATCAGTAGAGGCTTGCACTGCCT
102984	TBX1	CCGCGGCTCTCCCCTTCCCCAGCC
102985	CASP10	TCTCATTCTGTCACCCAGACTGGA
102985	HUS1	TCTCATTCTGTCACCCAGACTGGA
102986	HMG20A	GAGGCAGTAAATGAAGTTACAGGCTAG
102987	ALDH3B1	ACACGGCACCTCTGAGTCA
102988	CFL1	CCTTCTGGCCCCCTGCCTGGAGC
102989	AGTR2	CAACCTAGAAGTAACTGGTGATATATC
102990	APOBEC3B	GAATCCACAGATCAGAAAT
102991	CDC25A	GACGGAGGGGAGTAGAGAAGT
102992	ARCN1	TGCAACCTCCGCCTCCTGGGTT
102992	C7	TGCAACCTCCGCCTCCTGGGTT
102992	CDH17	TGCAACCTCCGCCTCCTGGGTT
102992	EEF2K	TGCAACCTCCGCCTCCTGGGTT
102992	GM2A	TGCAACCTCCGCCTCCTGGGTT
102992	TAPBP	TGCAACCTCCGCCTCCTGGGTT
102992	TNFRSF10B	TGCAACCTCCGCCTCCTGGGTT
102992	VENTX2	TGCAACCTCCGCCTCCTGGGTT
102992	ZNF264	TGCAACCTCCGCCTCCTGGGTT
102993	SFRS7	ACCAAAAAATGCATGT
102994	CYP4F3	GAAGGTAGCACGACACTGTGA
102995	ATF5	AACCCCTCTCGGCCGGGTGCAGTGG
102996	RARB	CTTTCTGATGCTCTCAAACTGCATCT
102997	BTG2	GAATCACTGCAGGCTGTGTTCT
102998	AKAP2	GGAGGCAGCAGCATTGCACAGCC
102999	EGFL5	CTGAGGCACAGAGGAGCTAAA
103000	LRP6	AATGGGGTAGGGAATACTGGAG
103001	PLS3	AACTATGGTCAGAGCGTATTTGGATAT
103002	DDOST	CAGTGTTAAGACTCTGTCTCAAATA
103003	FXYD7	CTGCCGACCCTGCCTGAGCGC
103004	CRSP6	GTTCACTGCAGTCTTGACCTCC
103005	ARNT	GTTCCTCTCCCTTCCCTTCCCTCACC
103006	PSD	GCTGGTTTCCCCTCCTTCC
103007	XYLB	CCCACACCCTGCCCTCCTTGT
103008	BMP8	AGTGAGCAGAGATCACAACATTGCACT
103009	TNFSF5	CTTGCAGGCTGTGGTGGAGCTGA
103010	TRPM6	ACCCAGGCTGGAGTGCAATGATGC
103011	KIFC3	CCTTCAAGGAGGGTTCCCGCAGCTGG
103012	PXF	GATTGAATGTGAGCAGGTTGACCTCA
103013	PBX3	AGAGACTGGTAGCATCGTTTCTCTCTC

103014	ZNF10	CCAGGTTGAAACCCCACTA
103015	PCDHA9	ACTGCAACGTCTGCCTCCTGGG
103016	PVR	CTTGGCCTCCCAAAGTGCTGAA
103017	GGT2	ATCAGCCTGGGAGACGCGGTG
103018	SYNGR2	GGCCATCACACCTGCCCTGT
103019	ERN2	TGCCCAGGCGCTATGGCGAGTGCGGT
103020	BLAME	AAAGTGAGAGGTGGGGGACAG
103021	SLC13A2	GCACAGCCTGGCCATGCCCA
103022	LYN	CCCCCCACTCTGAACTCAAGTCACC
103023	HOXC11	GGGTGGTGGAGGCAGTAGGGA
103024	NBS1	TGAATGTCTTTTTTCAAACTTT
103025	F2RL3	CCAAGTAGCTGGGATAACAGGC
103026	CAV2	GCACTGTTCTGATTATGTAAGCATTTGTACAT
103027	MKL1	CTGGGGCCACTGGCTTCACATTCTGGGCT
103028	MSR1	TTATATTTTTGGTTTCTCTCTA
103029	ZNF137	CCCAGCACTTTGAGAGGCCA
103030	APAF1	TGGGTTCAAGCAATTCTCCTGCCTCAG
103030	CLECSF12	TGGGTTCAAGCAATTCTCCTGCCTCAG
103030	GM2A	TGGGTTCAAGCAATTCTCCTGCCTCAG
103030	PCDHA9	TGGGTTCAAGCAATTCTCCTGCCTCAG
103031	HS3ST4	CTAGGGAGCAAGGTCCTCCC
103032	ACRV1	TCTCTGTCCTGTCTTCCCTGCTCC
103033	POLH	GGCTTGCCTGTAGGATTTAATATTT
103034	APM1	TCTGTATGTCCTTCTGTTCTGCCTTC
103035	ITGA3	TGCAGCAGGAAGGAACAAAGA
103036	ITGA9	AGCCTTTTATACTGATTATTCTTT
103037	ITGA2	ACTTCCTATAATACAAATACACAAT
103038	PIK3R1	AGCTTCAAAGCTGCTTTAT
103039	IGSF4	CTTTCATTCCTTCAGATTTGGCTTGAC
103040	WTAP	GGCCTCGGCCTATGCGA
103041	NR2E1	GTACTTTTCACATTTTGATTTA
103042	OGN	AAGCATTTGCTTCTGTTTTCCCTACCT
103043	HYAL1	CTGCCAGTTTCTCCATCCAGCT
103044	GNPAT	AGAGACACATCCTCTCATACTCCCTGA
103045	FCRH1	GCTACTTACATGGATCATCGAG
103046	SERPINB9	ATGATCTGGGCTCACTGCAACC
103047	IL10RA	CTGTGAAATAAGGACTCCACCT
103048	ADAMTS5	GTGAACAAAGGGAAAATTCTA
103049	TIRAP	CTACATCTGTTTTCTTCTGTA
103050	ITGBL1	TCTCTTAAAGAAATTATGAAA
103051	UGT2B15	TGGAGGGTTTTAAATGGAGGA
103052	GABRE	TCTTTGCTGCCCCTCTCCCC
103053	HMGA1	AAAGTGCTGGGATTACAGCAT
103054	DLGAP2	GGCTGAAAATTATTGTGCTGTTCTAGG
103055	GPR86	AAGACTCTTATCCATCTGTGAA
103056	PXR1	GTGCTCATGGTTCTGTCATTCTT
103057	GRAF	TGCCATGGCCGGGTGCAGTGGCTCA
103058	ATRN	GAGCTCCCCCATCCCTGCTACA
103059	HDC	CTTATGTGTACATGCATTTTTCT
103060	MIPOL1	CGAACTCCTGGGCTCAAACAGT

103061	OAS2	GTCACTCACATCCATTCTTCC
103062	EPHA3	GGTTTCCATCTGAAAGTAGAGGTTGTAT
103063	USP6	TCAGTGACCCAGGAAAATGAAGC
103064	ICMT	GTTCAACTTTTATCCTGCAGCA
103065	ST7	TCATCCCGGCAGACACCAAGA
103066	HFE	CTTCATTTCCTCCGTCACCTCA
103067	GNB3	GGAGGCTGGAGAAAGGGAAGTGGAAGG
103068	PRX	GATGGCTGTGCCAGAGGTTCG
103069	C21orf2	GCCTTCCTTTCTCTCTCCTGTGAAGAACTGC
103070	ACTC	TTCTCTCTCCATCTACCTTC
103071	CPSF4	CCCCCATTGCCTCAGGCTGG
103072	NBEA	CACCAAAATATAGTTTGCACTTTTTAA
103073	MPDU1	GGGCTGGTTGCTGCTGCAGTGA
103074	EHD4	AAGAGGTGGTTCTCTGCAGTGA
103075	MGAT5	TGCACCATGCTGCTGGGGAAGA
103076	NR4A1	GCTGCCCTTCTGCCCCTGCCTGGGAACAC
103077	MLLT7	TGGCCTTACCCCTGCCTTT
103078	DAAM2	CCTTGGATGGCCTCAGGCCAGG
103079	SMARCA3	GTTGACTCCTGAGCATATTTAAAACAA
103080	KRTHB1	CCTCCTCTGCTCTTGATCTGTGTTTCAATA
103081	SCGB1A1	GCCAGAGCATCCCCCTCCTCC
103082	ATF7	CCTTTTTGTTCCTTACCAGCATG
103083	HYOU1	CTGCATCTTCCCAGCAGCCT
103084	RRM2B	ACTGGGAGTTCTCAAGTGAATG
103085	RERE	TTGCACAGGGAGTGCAGGAGGTG
103086	APAF1	GCACGAGCCACCACACCCAGCTAA
103087	RBL1	GCTCACGCCTCTAATCCCAGGA
103088	SPAM1	CTTCCCTTGGCTTACA
103089	MSN	CTAGCTCCCCTCCTCTCCCCTCCACTG
103090	LZTR1	GCTCCTGCCACACCCACAGGGCAGCCTC
103091	B3GALT2	GAACAATGTATACAATGCACTTTTA
103092	SIAT1	AGATACCAGGCAATCCAGAGCCA
103093	NF2	CCCTCCAGGGCTTTCAGGGAAGCGCCA
103094	PIGR	GCGTGAGCCACCGCGTCCGGCC
103095	CA2	ATGTAGGGTGATGAGCACTCAC
103096	TNFRSF8	ATCTCAGAATGTCCCCACCA
103097	FCAR	GAGATGGGGTTTCACTGTGTTGGCCA
103098	ZNF264	TCCTAAGTCAGGGACTGTCTGT
103099	VIPR1	CAAGGGCAAAAAGTCTACATAC
103100	SMAC	TTGCCCAGGCTGGTCGTGAACTC
103100	TAF11	TTGCCCAGGCTGGTCGTGAACTC
103101	DAP	CCCAGCGCCCCTCCTCCCT
103102	CLECSF5	CCAAGGCAGAGACTGTGA
103103	SBF1	TTCCACCCTTGCCAGAGCC
103104	CCNT2	GCCCAAGGAATGAACATGTAATA
103105	HDAC1	CCTGCCCTCTGTCTGTCTTCT
103106	HYAL1	GTCTTGAATTCCTGACCTCAG
103107	KCNK3	ACCAGCCTAGGTGACATAGTGA
103108	CYP3A4	AAAATACACAAATTAGCTAG
103109	CYP8B1	GCATGAGCCACTGTGCCCAGTC

103110	OTOF	GCGAGAGCTCCCAGATCATGAGGAA
103111	ST5	CCTGCCTGCCTGCCTGCCTGAGGTCCCCGCT
103112	PAICS	GCTTTCCCTCCTGGGCTCAAGCAGTT
103113	MPP2	TTGGTTTTCTGTCTAGCCAGGTCCA
103114	MRPS12	GCCATCTCCCCAGTTTCC
103115	DGKB	TGGTGCATGCATTCCCATAGAT
103116	KCNA6	AATTTTATATCTATGCTTTCAG
103117	RGL	AATTCCACAAGAAGCACCAGGG
103118	S100A5	TTCTAGAGGACAACAAGTGCCAGGGC
103119	LAMA4	CTTGCACACATTTTTGAAGTGCGG
103120	UBASH3A	CTTCCAGGAATTAAAGACTCA
103121	HOXB6	CGCTCCTCCTGGGTGCTATTTGACAATT
103122	SH2D1A	TGCACATCTGGCTGAACTGGGA
103123	DR1	CCAGTGCCCCTGGATCTTGCCT
103124	IL1F5	CATGAAAAGATTTCTGTGGA
103125	PSCD4	GGGCCGCCTGGAGGCAGTGGCTGAG
103126	HUNK	CTGTAGCTGAATCCACAGACCCA
103127	GCLC	TACTGTTTTCTGGGCCAGTGA
103128	TCIRG1	AACCCCTGGCCAGTCGCTGGGC
103129	HADHB	AAGTGACCTGAAGTTTCTGTGCAACA
103130	RAD17	AACAATGTGTTTTCTAGTGTGT
103131	RNMT	AGCTGGAGAAAACATTGGGTGGAGA
103132	CALU	AATAAGAAATGTTCAGGAGA
103133	ARNT2	TTCTCCAGATTAGCCACA
103134	SP100	AAATAGTTGCTTCTAGTGCAG
103135	CAPN10	ACGCAGCCCTGGGGGCCAG
103136	APM1	TGCTATTTTGTGCCCACTGTCTCT
103137	AQP2	TGCATGGCTGGGGACTTCTCAC
103138	RPS6KA2	ACTGCGCCAGCCTCCCCGCCC
103139	EVC	GCCCAGCTGTTGTGCTGGGCACAG
103140	HIVEP2	GTTAGTGTTGAAGGTGGGAAGA
103141	OGT	ACTTAGTAAACAAGAAAATACT
103142	AGPAT2	TGTGGGGTCAGCACTGTACTCC
103143	DBT	TTGGGAGGCTGAGGCAGGAGAATTGC
103143	IL17R	TTGGGAGGCTGAGGCAGGAGAATTGC
103143	OPA3	TTGGGAGGCTGAGGCAGGAGAATTGC
103144	RPP30	CTGCAACCTCAATCCTGGGC
103145	RECK	TATTAAAATGTATGCATGTTGTCTA
103146	RIG	TGAAAACATCATTTGTGGAGTG
103147	PIGR	GGCATCTCCTGTCCTGGGCC
103148	SPAG8	GTCTGCAGCAGGACATGGACAA
103149	PYGB	TGCAGCTTCAGCACCTGCCCCA
103150	FGF13	ATTTTCTCATGATCTCACC
103151	ACK1	CTGGGAGGAAACCAGGCTGG
103152	LZTS1	CCAGTGCTCACCAGCCCTGCA
103153	RIG	AGCCTCTTCTCTAAATGCTTC
103154	RRAS	TTCGCACCTTGCTGTGTGACCTGA
103155	NUP62	TGAACCAAGATCACACCACTG
103156	D1S155E	TACTCAACAGCTTTGAAAGAG
103157	MEL	TTAAAGCTCATCTTAAAGTCCAA

103158	BTG2	CTGTGCAATATGCCCCCTGGG
103159	KMO	AAATGATTCAGTGTTTCTTTTCTA
103160	CSE1L	GTTGCTATTTGTATTTCTCTTGTC
103161	SSPN	TGACTTGGAGGGTAGTTTTAG
103162	ZNF264	CTTACCTGTAATCCTAGCACTT
103163	CEBPA	ATCAGCCGATATCAACACTTGTATCTGG
103164	MEF2C	TAGTTTCTTTCATGCTATT
103165	FBXL7	CCCCTCCCACTGGAGTGCGGGGA
103166	SCML2	CAGGCTGGAGTGCAATAGCTCGATCTC
103167	ANXA6	CTCCCCTCTGACCCTCAGGCT
103168	LHCGR	GTTTTCCTGCTTCCTACCTCA
103169	PDLIM1	AGATCTGACCACTGTTCTCCAGCA
103170	APM1	AGCCTCCCAAGTAGCTGGAACT
103171	GART	AGCCTCCCAAATAGCTGGGACT
103172	B4GALT3	GAAGTTGTTTGGTGAAGGAA
103173	CYP1A2	TCATTTGAGCCCAGGAATTGG
103174	SLC6A6	TGGAGCAGAGGTTGTCTCTGA
103175	HIP1	TTCCACTGCTTCTTATGGTGGT
103176	MAFF	GCGCCGCCTCTGTGCCCAG
103177	GCA	GATCAAATAATCAGAGA
103178	PDE4B	TAGGGGGTAGAAAGGAGCAGT
103179	PKIB	AATACATGATCACAGAAATGCA
103180	GNAS	CCCAAATTTAATTAAAGCCTTA
103181	NOV	TGGTGTCATAAACTTTCTCCA
103182	COL11A2	TCTGCTCCCTGTCTTCTGTC
103183	EIF5A2	GAAACAAACAAGATAGCTTCA
103184	CCNA1	AGAAAGATAACGACGGGAAGAG
103185	STAT1	GGGAAAGGAGTAGAAAAAGCA
103186	HMGA2	TCCATGAAAGACCTGAATACCA
103187	PIK3C2B	CCCTGTCGCCAGGCTGGAGTGTAGT
103188	CSRP1	CTGCGTGTCCATCATCAGCTGA
103189	PIGA	TCCCAAAACCAGCTGCTACCCT
103190	MFNG	CCATGAAGGAAAGGCCAA
103191	GGA3	ACTGCTATCCTCCCCTTGGAATCTACC
103192	TIMM17A	AGCTGGTGGAACTTACTCTTTC
103193	AMD1	AGGTATTCTCTGCCACTCTTGCTGTGA
103194	RPS6KA1	GTTCTGCTGGGAGTTCTAGAACCACT
103195	KMO	AAGGCCCTAGATGCCTCAGGGA
103196	PPP1R3A	CTTTCCTTTCAAATTTTTACTGA
103197	REQ	ACCTGGGCATTCAGCCTCCTGCTCT
103198	DMD	TCATGCAGAGATCCCTGATCCT
103199	NUMA1	CCTTCAGCAGCAGCTCACACCCTACC
103200	FBXL11	GTTTGTGCAACCTTCATCTGCACT
103201	CKMT2	GCCAAGTGAGACACTCATCCAAGA
103202	EIF4EBP2	TACTCTGAATTTCTCTCCCTACCT
103203	LZTS1	ATGATCATAGCTCACTGCAGCC
103204	COL4A3	GCATATAAAATTTTCCCCCTTA
103205	LIF	GGGGGGCCTGGCTGGGCCAG
103206	SFRS2IP	AGCTAGATTTGGTCATTCCACAATGTA
103207	H1F0	GACTTTTCTTTTCCTCTGGAT

103208	CDC42	CCGGTGGAGAAGCTGAGGTCA
103209	GPR61	AGCTTCAGTGACAAAGACTTAAATCTCTCT
103210	NXF5	CTCTCCTAGGAGCACAGGAAA
103211	KLRG1	CCACTGTACTCCAGCCTGGGAGATAGA
103212	ASGR2	GTCAGCCTCTTCAATGGCGT
103213	ATP11B	AGCAAACTACCACAATACAGT
103214	BIRC7	CTGCCCCTCTCTGCCTGTTC
103215	CD34	CTCTTTTTTCTCCCTCTGGATCA
103216	ZNF38	TTAGAATCTGAAAACCAGAA
103217	TBX6	GAACTTTGGAGGCTTGGCTCGT
103218	BDKRB2	CCACCCACTCTCCTCTGCCTCAG
103219	IGF2R	CGCATCTCAAAACAGAGGGCTGCATT
103220	SIAT1	AGAGGAAGAGAAGAAACATGG
103221	APC	AAGATCAGAGGGTGACTGATGA
103222	GAS7	TCCATTTAGATTCAAATGGAGCTAAAATT
103223	ADORA3	AGGGTAGGAATGAGCAAGTT
103224	ARHGDIA	GGGTATTGTCCTGCCTCTGCCTTT
103225	HIS1	TGGCGATGGTGGAGGTGATAGGGA
103226	ZNF3	TCCTCATTCTCTTTTAAAACCCGCTTC
103227	ADCY1	CAGGCGTGAGTGGAGCCCAGTCC
103228	C8orf1	TTTGACATCCAAGAACTC
103229	SPAG6	AGCTATCAACCACTTAATAACTGGCAAAGT
103230	WHSC1	CCTGCCTGGGCCTTGGCAAGCGGC
103231	C4orf1	GCATTTATAAGCATTTTA
103232	FMR1	TTTGGTTTTAAAATACTGTA
103233	PROS1	ATGGAAAGGAGAATGAACAAATGTGGG
103234	SPTBN4	CCCTGCACTCCGCCGCCTCAGAGCCAT
103235	HUNK	TCACAGTCATTCATCCAGGCCA
103236	PEX14	TTGCCCAGGGTGTGTTTGCTGAGTGTC
103237	HOXB6	GTCCCCTATTAGGCAGGAGTTACAAAGT
103238	EGLN1	TCATTGCCTCACTCTCTATT
103239	POLK	CTGGGAGGTCAAAGCTGCAGTCAGCCA
103240	FRDA	CCTGTAATCCCAGCACTTTTGG
103241	ACADSB	TTGCCCAGGCTGGTCTTCTGGCTTCT
103242	TR2	GAACAGTGTCTGTGGGCTGCTGTG
103243	SH3BP2	TGACTCCTGGGTTCTAGGGTA
103244	IAPP	AGTGGCTTTCAGCAAACCTCA
103245	CDK6	TGCTATCTGGAGGCCTTCCAGCTGCT
103246	HERC2	ATTGAGGCCTTTCTGTGA
103247	CCND1	GCACCAACATGTAACCGGCATGTTTC
103248	ASTN	AGAGTGTTGTTTCCATCCCACT
103249	ASH2L	CTGCCTGCCTTTCACCATTTTCTCCC
103250	THBD	CTCTAGACACTGCCACACAGGGTC
103251	EPRS	GCTAGAGTTGCAACTACAGCTG
103252	RNASE2	TTCAGCTTTCCTGAGCTGAAGTGCCTT
103253	IDH3A	TGAGCTTGGGCTTAGGCTTGGGCTCAGC
103254	ASC	GGGGTGAGCGGCGGCAGCGGCCGG
103255	PTGES	CTTCTCCTCCCAAGGTTTGAG
103256	CKTSF1B1	GCATCCTCCTTTCCTCCTCC
103257	VHL	TTCTAAATGTACAAATTCTT

103258	TITF1	AAAAGTTGGACTAAATGCCT
103259	ADAMTS4	TTCCAGCAATTCTCCTGCCTCA
103260	PNUTL2	CTGGGGCAAAGGCCTGAA
103261	MJD	GATCTTTTTGCAGACTAGCTAAT
103262	ALDH1A2	CCTTCTGAACCTCTACACC
103263	EDNRA	TCGTACTTCTTTAATTGATCTA
103264	CNR1	GCACATGGATTCAGTTTCTAAA
103265	ALDH3B2	ACCCCTTCGAGGACACACTGC
103266	ADORA3	TTTACATCCTTGATTACTTCC
103267	GALNT2	GCAGCTGTCACACGCTAGTATTGG
103268	EDAR	TGCAGGTGAGTTTGCAATGAGGGAA
103269	ADSL	TTACCTTAAATTAGTACAGCACTTT
103270	PMM2	AGGTGCTTTCATCACAGCTAAAC
103271	TACC3	CCCGTCTGTCTGTCCTGTC
103272	ARHC	CTACAACCCCAGCCTCCTGAGG
103273	SNAI1	TTCCTGAGCTGGCCTGTCTGCG
103274	TLL1	GGAAGTGCTGCCTTTTCACACCA
103275	PCDHB4	TCCCACTGCAATGCCT
103276	TSN	TTGTTTCAGTGAATATGCCTGTA
103277	TSPY	AGGAAAAAGAGATCGAGTCACA
103278	GPX3	TGGGGCCAGCATCTCCCACTG
103279	CRIM1	TCTTCCTCATTTGGATTTGCTTTC
103280	DNMT3B	CCACAGGCACAGGTCCCCA
103281	LIMK1	CCTCTTGCTTCTCCTTGCATGA
103282	RFX5	GACTTCAGAAAGGTGGGGCA
103283	RAX	AGCAGGGGAGGCGGAAAAATAGAG
103284	PGK1	TGCTAGTGCTTTTATTCTAACT
103285	CTPS	GGATGATTCTTCAAGAGACCCTTCAA
103286	TIMM17A	ATCATCAGAAATTTCACCAGAA
103287	ITPKB	CCTCCCTGGCCCCCGCCTGGGC
103288	RDX	TGGAAGAGAATATTCCTACTTGCA
103289	GSTM5	GCTAGGCTGATGGGGAAGGGGGC
103290	PRKCB1	GATGGCTGACCCGGCTGCGGG
103291	MPZ	TATTTCTTCTCAAACCTCCAAA
103292	SSX1	CCTCGCAACCACTGCTTTG
103293	ANKTM1	CTCCATCATCCTGATTAGCATGTT
103294	DLG4	AGTAAAGCCTCTGAGACCTTCCTGA
103295	AK3	GCAGCATCTTTTCTAGTTGA
103296	SLC28A2	CGGGAGGCGGAGCTTGCAGCGA
103297	GNAL	TGATTCTCCCTTTATGAAG
103298	CNN2	GGCCAGGTGGAGAAAGTGAGGGCC
103299	TAC1	TTTTGGTATTACACTGTATT
103300	STAT6	CATAGAACATGTGTCTATCTGCTTTT
103301	SFRP2	CCTGGGCAGCTTCCCCCTGCCTTTTGC
103302	ARSA	AGGCTCAGGTGTCTGGAGGGGG
103303	WBSCR5	GCCACGCCTCCATTCACCAGGCCACGC
103304	RBL2	TCCCCATTCGGTGTGGTGCAGTG
103305	MGST1	ACAGGCTTGCTGCTTCCTCCTCC
103306	PPP2R5C	GGAGGCACCAGCGAGGA
103307	MTCP1	GGGGGGAGGGAGTGGGTTGA

103308	PPARGC1	GCAAGGGCAAACCATTTCAAATGGC
103309	NT5C2	TGGTGCATGCCTGTAATCCCATCATCT
103310	CD83	GCAGGTTCTTCTTCCTGAAGCTGAGGCTCAGG
103311	MLF2	GGCTGAGAAATCATCCCCTGA
103312	LILRA3	TGTCCTGCCAGCACCGAGGGCT
103313	TPM4	AGAAAGGGCCTCTCTGGCAGCAGAG
103314	JRKL	TGTTTGTGACAAACTCTTTGCAATA
103315	VEGFB	CTTTGGTACAAGAACTGTGACCCCCA
103316	CBFB	TTTAAACAAAATTACATCATT
103317	APBB2	GTACCAAAGACCTGGGAAAACTAACC
103318	FGF5	TCTGTCACCAGGCTGGAGTGCAGT
103318	RHD	TCTGTCACCAGGCTGGAGTGCAGT
103319	FMR2	GATGATAACATTAAAGACTCTGAA
103320	POU5F1	GTGAACAGGGAATGGGTGAA
103321	HSD11B1	GGGACTGTTCTGTCTCATGTT
103322	KCNQ1	CTGCCTCTCCGCCCCTGAGCC
103323	EPB49	ACAGAGTTCATGTTTGCCGCCCTC
103324	PTMS	TCTGCCATTGTTCCACCTCCTG
103325	RNGTT	TTCAGTTATCACATGTGAAAGCTTTTG
103326	MYL1	GCAGCCTTCTTTATTATCTA
103327	HKE4	GGGAGGCATCACCATTGCAATCACTTC
103328	FCGR2A	ACTTTGCTTAAACTACAAACAC
103329	CREBL2	TGAGCCAGAAACACACTGTG
103330	TRIM9	TCTCTGGGTGTCCGTGCCAGT
103331	SCML1	AGCAGTTTTACCGCGACCTCCGGAGGC
103332	PAX4	GTGTGTGGATACCTCTGTCTCACGCCC
103333	DNM1	AGTCACTGTGCTATCCTTGTG
103334	ZAN	GCTGGGCAGCAGCTTTCTGCTGAGGA
103335	LPP	TGACTCAACATGGAGTCTCACTGGCCA
103336	INHBB	CTGAGATATTTTTCTACAGCTTCA
103337	RPN1	CCATCACACTCCAGCCTGCTCTTCCCG
103338	LAMC2	CCACTGCTCTCCAGCCTGGGGAACAGA
103339	TACSTD1	TATATTTGTAATAGTGAAACCTGTACT
103340	DNMT3B	GCAGGTCCTAAATGGCATTGTT
103341	TIMELESS	CCAGCAGCTCTCTGGAGATTTAGTTCT
103342	EIF2C1	CTGCAACCTTTTGTACCTTTCTTTGGG
103343	ST5	CTCTCATTCCTCCCACCCTCCG
103344	DEF6	GTTCTTCCCAATGTCATATCCA
103345	DMPK	GCGTCTGGCGCGATCTCTGCCTGCTTA
103346	POU4F1	TTAACTTGCCCTTTCAGTTTTATCTTT
103347	EHD3	TAATAAGAAATCCATTCAAGAG
103348	CBFA2T2	TCAGCCAGGCTGGAGGCGGCA
103349	CDH1	CTGTGAGCTTGCGGAAGTCAGTTCAG
103350	PDGFRL	AAAGCCCATTTGTGTACA
103351	ASGR2	TCTGGCTTCTCTGTTGAGGATTTTGAGGA
103352	APPL	GTCATAGTGTAGGCTAGAGTTAAGGCACTG
103353	CASP2	GACCTCATGATCCACCCACCTCA
103354	CASP8	GACCTCGTGATCCACCCACCTCG
103355	COL18A1	TGCAGTATCATGCCCTGTGCAACCTC
103356	RDX	TTCTCTCTCACTCACATTTTCTCA

103357	COL4A5	TCTCCGGCTCTAGCTCTCTCCA
103358	KCNA7	TGTCTGTCTGCTTCACATGTCC
103359	GLP1R	CCATGCCCAGAGAATCAGGGCAG
103360	CPSF6	TTTCCACTGCTGTTCTTC
103361	GATM	CATCTACCTCTGTTTTTAATTTTCTT
103362	SPOCK	AAGCCACATAAACTCAAGCAAGAAATA
103363	DGCR2	CTGTGGCTCCAGGAGGCCCTTGGGA
103364	CXCR6	TCTTTGGTGGCTTTGCATTTTAAAAAT
103365	AKAP2	GAGGTAGATGATAAGAAATA
103366	EDN2	GGGAGAGAGGAGGAGAGAAGTGGCCAG
103367	PSCD4	AGCTGACTCTAGAGGGGAAGGCAGAG
103368	SRC	TGGGTGGGTGGGATGAGTACCCCCTC
103369	PSEN1	AGGTACTGTGAGGAAGAGCAGGCA
103370	SOX12	GCTATGGGAAGTGCCATCAGGGTGGCC
103371	PLCG2	GAGAGAAGAGAGTCAGCAACAG
103372	INPP4A	GGAGACTGAAGGATTGGTTTA
103373	RNMT	TTGGGTACTGTACAACTTCAAGCCTC
103374	CENPA	TAGAAAACCTGTAAGCTTTGATGTTC
103375	EHD3	CTCTCCTCGGCCACTCCCC
103376	CCND1	CCATTTTTAAAGTAGAAGAGGGTTTT
103377	FGL1	TGCTACTTGGAGAAGAGATTTAGAA
103378	ALS2	CTTTATAATCAAGACAAGTGTTTATTA
103379	ALAS1	GGATGTGGGGACCAGGAGAAAGTC
103380	CDH1	GTGATCATAGCTCACTGTAACC
103381	ENC1	ATCCTCTATTAATTACTGTGTGTG
103382	TGFBR3	AGCTCTGGCAACATTGAGTCAAAGCAA
103383	SLC25A17	CTCCCTTGACTCTGGCTCCTG
103384	TPMT	AGATTTCTCAGTTCTTCTTTA
103385	PIP5K1B	TTGCTTGTAAAAGAGAAATTA
103386	PKIA	CTAGATGATGATTCTTCCTGTA
103387	RBM10	AGGTGGCGGCGGGCAGAGGTG
103388	KCNJ11	AGCCTCCCAACGTACTGGGATT
103389	PLAGL1	GAATCAGCCTGGCAGCAGCATTGT
103390	NFATC1	ACGGTTATTTTGCTTCTTGCGAA
103391	ELMO1	CCAGCAGCCCCAGACTGCCCAAAAAC
103392	FGFR1	CCCGCCCGGGCTGGAGGCGCC
103393	SLC25A11	GATTTCTGGCCTCCCCCTGGGTT
103394	FANCA	GACACAGCCACTGCGGAGTCCA
103395	MRPS12	CGGAGGGACTTTCTGTTAGCA
103396	SNX4	GTCACGCTTCTGAACCAATGA
103397	KCNE1L	CCCAACTCCCTTCCAGGGTT
103398	ASNA1	TCTCCCACCTCTTGCTCTTCAA
103399	LZTS1	CTCCCCTCCGCTTCTCATCCC
103400	KCNK10	GCGTGGGGAGGGGGTAAGGGAG
103401	HNMT	CTTATCCTGTCCCTCCTCCAGGTAGAGAG
103402	IL6R	GGAGGTCGAGGCAGGAGGATCA
103403	XK	TCCATGGATGCAGAAATGAGTGATA
103404	NRL	CTCCATGGAGCCTTCAGTCTCCTGGGAAGCTG
103405	SPARC	TCACATTAGGCTGTTGGTTCAAACTTT
103406	BRCA1	GGCAACTTATTGCAGTGTGGGAG

103407	ADAMTS13	GGCTCCCTCCCCATGGGGCAGC
103408	FCRH1	ACTCAATCTGGAATGCAGTGGCACA
103409	MMP15	CCTCCTCCCTCCCTCCCGACTCACA
103410	SPTLC1	GGAGGCTGAGGTGGGAGAATTGCTTCA
103411	BAT4	GGCTGAGAGTCAGAAATAAATC
103412	LAMC1	ATGATACCTTAATTACACTCC
103413	MADD	AAGCTGGGTTTGCACATCTGT
103414	MAPK4	CCTCATGTGCCATTTTGTCCTCA
103415	DSG1	TTTGTTTTTAGTAGGTGATATTCATTC
103416	ARHGEF7	TAACTGCACCTGAATCCTTTGTGTACT
103417	MCM4	GGCAGGAGAATCGCTTAAACCC
103418	JUP	CCTGCTGCACCCTGCGCCTCCAG
103419	CDKN1A	CCCTTCAGTACCCTCTCATGCTCC
103420	CAMLG	GTTGCCCAGGCTAGAGTGCAAT
103421	APPL	GTTGCCCAGGCTGGAGTGCAGT
103421	CNN2	GTTGCCCAGGCTGGAGTGCAGT
103421	CTSS	GTTGCCCAGGCTGGAGTGCAGT
103421	CYP2B6	GTTGCCCAGGCTGGAGTGCAGT
103421	F2RL3	GTTGCCCAGGCTGGAGTGCAGT
103421	F3	GTTGCCCAGGCTGGAGTGCAGT
103421	FUT1	GTTGCCCAGGCTGGAGTGCAGT
103421	GPR4	GTTGCCCAGGCTGGAGTGCAGT
103421	PCDHA9	GTTGCCCAGGCTGGAGTGCAGT
103421	PDZK1	GTTGCCCAGGCTGGAGTGCAGT
103421	PIK3CD	GTTGCCCAGGCTGGAGTGCAGT
103421	PON1	GTTGCCCAGGCTGGAGTGCAGT
103421	PRND	GTTGCCCAGGCTGGAGTGCAGT
103421	TAPBP	GTTGCCCAGGCTGGAGTGCAGT
103421	TERF1	GTTGCCCAGGCTGGAGTGCAGT
103421	TMC1	GTTGCCCAGGCTGGAGTGCAGT
103421	TMPRSS3	GTTGCCCAGGCTGGAGTGCAGT
103421	TNFAIP2	GTTGCCCAGGCTGGAGTGCAGT
103421	TRPV1	GTTGCCCAGGCTGGAGTGCAGT
103421	UGDH	GTTGCCCAGGCTGGAGTGCAGT
103422	NONO	GTCGCCCAGGCTGGAGTGTAGT
103423	STARD4	GTTGCCCATGCTGGAGGGCAGT
103424	ABL1	TGAATCCTGGCAAGAAAGCTTG
103425	SMARCA2	ACTCAGAGAGGGAAGAGATTCAGCC
103426	SPTBN2	CAGCTGCCACTCCATCTCCAGC
103427	ADCY1	CATGCCTGTAAGCCCAGCACTT
103428	PCDHB9	CATTCCTGTAATCCCAGCACTT
103429	RPP30	CAGGCTGGAGTGCAGTGGCTCG
103429	SERPINB9	CAGGCTGGAGTGCAGTGGCTCG
103430	APTX	GCTCAGGAAGCTGAGGCTGGGA
103431	ITGAV	CTTGCTTTTAATAACAAAGGTACA
103432	HPS4	TCTCCTGCTGTTCCATCCCAG
103433	ASCL1	AACCTGCATCTTTAGTGCTTTCT
103434	SURF6	CACTGCCTGTTCCCCACTGCCTGTGT
103435	SFRP1	GATCTATGCCTTTCAACTAGA
103436	SLC6A12	GGGACGCCACTCCCTGTGGA

103437	CALM3	ATGGCTCTCCTCCATTTTGGTT
103438	CACNA1G	CTGTCTCTTGGCTATTTTAACC
103439	SORCS1	TACTACCTGAATTCTACCTGCATTTC
103440	CEBPD	GCGCGCCCTGCCCTGGCGCAG
103441	DVL3	GACCAGCCTGGCCAACATAGCAAAACC
103442	E2F3	GTTTAAGCTATGAACTGTGTG
103443	CBFB	GCCCTTTTTCTCCAGTAGTAC
103444	C18orf1	AGACAGTCATTTGCTGCTGCTG
103445	IL18R1	GGGCTGTGCAGCCCATCCTGAGCTCCA
103446	TYRO3	TTTAGTGCCAACTTCCCC
103447	RUNX3	AGCATGCGGTATTTTAACTTTCT
103448	GOLGA4	ATGGCTCCGATCTTCATCTT
103449	CYP7B1	ACTTTTGTCATTCAGCCTGGG
103450	EPHB2	GCCATTCAGAGACTGGAGTGAGATTTGGG
103451	MAP3K11	TGGGGTGATGCAGGGAGGAGGG
103452	LTB4R	TCTGTCATTCAGGCTGGAGTGCAGTG
103453	HDAC4	CAAAACTGGACAGAAACAGGAA
103454	CHAC	TCTTTTAAAATGTTTTCCTA
103455	MFGE8	CCCTCTCTCACACATCACATTCC
103456	YWHAG	AACATCCTTATTCAGCCTTAT
103457	HMGN1	CCCTGTCTCCCTTCTTGTACA
103458	STC1	CCCAACATTCTGCAATGGCAGCAT
103459	TSSC3	GGTGGAGGCCCAGGAATGGGCGGG
103460	P2RX7	CCTCTCACCTCTGTGCCTCTGTC
103461	ITGA7	TGGGATGAAGAGGGTAGAGTGGG
103462	NFYA	CCCTCTGTTGACTGGTCATCTGGACCA
103463	PDYN	GACACCTTTTCAGGTTGGAGTGCATT
103464	GGA3	ACTGCTGCTGTGATAACCTCTCC
103465	ITGB3	GAGCTGCCTGTGCCTTTTGCC
103466	AQP6	GGAAAATACTTTCAGAAGTTAA
103467	RNF14	AAGGTTCAGAAAATTAAACTACAG
103468	HR	TGCCAGCTCTGGCACTGCCCC
103469	JAG1	AACATCATTCCTTTTTATTTATA
103470	MTNR1A	AGGCTGAGGTGGGCAGATCAACT
103471	NEUROG1	TTCAAGATGCTTCATTCATA
103472	RS1	TGCTCACAGTTCTTACCTTCAA
103473	BRS3	TCTGTTCTGTTCTGTTCTCCTAATACCATCTC
103474	MGA	CCCTGGTATAAGAAGTACTCTGAA
103475	MAP1A	TCATCATCTTCTTAGCAGCTCATCAGC
103476	EGFL5	AGGGGGAAAAGACTGCTGGAAGAC
103477	FLRT2	AACTGTGATGTGTCTTCTTTGTAA
103478	KIF5C	GTAGAGTTTCTGTGTGTACAGA
103479	NUMB	CAGGCCATTCACCTGCCTCC
103480	JAM2	CTCCTGCGCTCCTGCCGCCGG
103481	FGF12	TCATCAGATTGGCTTCCCAGATTTG
103482	DBT	CCAGGAGTTCAAAGCTGTA
103483	CLCA3	AGATCACTGCAAACCTGCCTCA
103484	PTCH	GCTCACATCAGTTCATCATGGTG
103485	GFER	GCCCCAGCAAAGCCATGGCTTC
103486	KMO	ATTCGGATTTCCTGCTGGACCA

103487	SLC26A4	GTCCCCAATTGAGAATGT
103488	SERPINA5	CATCTGGATATCAAGGTGGAAA
103489	G1P3	TTGTCCAGGCTAGAGTGCAGT
103490	SLC15A1	TTGTCCAGGCTGGAGTGCAAT
103490	SNAP23	TTGTCCAGGCTGGAGTGCAAT
103491	A1BG	GTTGCCCAGGCTGGTCTTGA
103491	CTF1	GTTGCCCAGGCTGGTCTTGA
103491	DSCR3	GTTGCCCAGGCTGGTCTTGA
103491	JRK	GTTGCCCAGGCTGGTCTTGA
103491	MPL	GTTGCCCAGGCTGGTCTTGA
103491	PVR	GTTGCCCAGGCTGGTCTTGA
103492	SCN4A	AGGAGTCTCTTGTCTACAGGCAGCATCGGGG
103493	CDR2	TGGAGAGAGGCGATTGGACGAAGTCCC
103494	PTPN23	TGGGCACAGTCTCTTACTCCC
103495	SLC1A3	TTATTTGTTTTGGAATCCCACT
103496	PIK3CD	AGCTAATTTTTGTATTTTAGTA
103497	PABPN1	TTTTGGGCCTCACCCGGCCAACAGCTC
103498	SLC22A2	AAAAAGAGAGAATTAGCAT
103499	HDGF	ACACCTATTATCCCAGCTGCC
103500	SFN	CTTCTCCCCTCCTCTTGCCTCCCTC
103501	WHSC1	CCATAGTGTGCATCATGTT
103502	CYP8B1	TCTCCTGCCTCAGGCTTCTGAGTAGCT
103503	TMOD2	CACTGTGGTATGGCCATTGAAAA
103504	MAT1A	GTCCTATGTGGGCTTCCTGGAGC
103505	USF2	AAGAGGGAGGGTACAGAGCCTCTGC
103506	CTSS	TCCAGCCTGGATGACAGAGTG
103507	FOXI1	CCAGCCCAGCCCCAGCATGAG
103508	DLGAP2	GCTTCTTATGAAAGTGGCCA
103509	MAX	GGGGAATTCACTTCTCTTCCTCCCTCA
103510	RPS6KA2	GCAGCAGGATCGACGCCCAG
103511	CCNF	GGAACTGTAGACCCGTCCTGTC
103512	ITGA3	CTTGGCTTTCTGTGCCAGCCTGGC
103513	PACE4	TTCAAGACCAAAGCAGAAAAGAAAGGC
103514	PLAG1	GACTAGAAATATATACAGTA
103515	GRAF	TTCTCAATGTGCTGCTGCTTTCCC
103516	BTG4	GGGAGACGCCTAGAAGATGGAGGC
103517	CACNA1A	TCCAGCCGCCGCGCTCCCAG
103518	TNC	CCAAAGCATCAATACAAC
103519	COX15	GTTCTGGTCTGTTGCTGCCAC
103520	FBXW1B	TTATTCTTTTTCTCATAAGTAC
103521	LRAT	TGTGTTCAAAGATGAAGACCCCTCA
103522	HTR7	TCTTATGAGGGAGATGGTGACT
103523	HOXA13	CTTTGGTTTGAACACAATTCGTT
103524	SLC10A1	GTCTTTCTCCAGCATTTCCAGTACAT
103525	CYP1A2	ACTGCAACCTCTGCCTCCCAGG
103525	MICB	ACTGCAACCTCTGCCTCCCAGG
103525	NQO1	ACTGCAACCTCTGCCTCCCAGG
103525	PER2	ACTGCAACCTCTGCCTCCCAGG
103525	SIGLEC8	ACTGCAACCTCTGCCTCCCAGG
103525	SMAC	ACTGCAACCTCTGCCTCCCAGG

103526	FZD7	AGAAGGTTGAGACCAGCAGAGACT
103527	ABCC11	TAGTTTTCTGATCTGTGTTA
103528	NEDD4	ATTTTGTCCTTAACATTTAC
103529	DIAPH2	AACAACAAAAGTTTAGGTTCTAAT
103530	TNFSF11	GAGCGGGAGAGGGAGGAGAGC
103531	TEGT	TTCAGTGGTCCCATTGTTAACTC
103532	GPC4	CAATCCAAGAAGGAGGTTATG
103533	DSCR1	TGTGGAGGTGGCTGGTC
103534	CLTB	GCTAGTGCCTGCTAGGTGCATGGCC
103535	SLC30A4	TGGCGCTCCGGTGAAGTAGGCGCC
103536	HMGA1	GCTGGGGCATGGCAGGCTGGGTGA
103537	TFDP2	CTGCAGTAATTGTATGATCTCA
103538	SLC2A3	ATCAGGATGAACCCAGGACGCTTCT
103539	KCND2	CTTTGTTGTTTATGGAAAAGCCCAGAT
103540	OGDH	GCTGGCAGAGGTTTCTAGGGTGG
103541	PRKWNK3	GTTTTTAAGAAGGTTAACTA
103542	RBBP9	TCTGTCTCCCAGGCTGGAGGTCAGT
103543	ALDH3A2	AGAACCTCACTGAATCCTTCACTCCA
103544	C18orf2	TTCTCTCTGCCACCCACATTCCCACAT
103545	ADORA2A	CTCTCCTGCTGTCACAGCTGCCATC
103546	MCL1	TCTTTGGGGGCAATGTGTCA
103547	NT5C2	CTGCCCAGGCTGGAGTAC
103548	TFDP2	TTGCTTGCCTACAGTTCCCTGCAGTAATTG
103549	ADAM33	AAAATTTTAAAATTAGCTGG
103550	SP3	CCAGTCAGCAGATGGTCAGCAGGTT
103551	EPHB2	GACAAAAGCAGTTTCTCTCCA
103552	SH3BP2	TGATTTTTCTTAGCACCTTA
103553	CLECSF11	GCACACACAATGGTGCCTGAA
103554	EN2	GTGCATACATCGTCTGCGTCT
103555	GAB2	CTCTCCTCCCCAGGTTTGAAAGG
103556	VSNL1	GCTAGCAACAACTTACTAAATC
103557	PPEF2	CCTGTCACTGTGAATACTTG
103558	TACC1	CAGAAGCACATGATGGTGA
103559	MMP14	GGTCATCTGCTCCTTTTCCATCCCC
103560	PAX5	CCAGGGCAGAGAGAGACTGGACTTGG
103561	NBEA	CTTTGTATTGGCACTTTG
103562	CCNT2	TTTTGATACAGTTATACTTTTA
103563	IL12A	AAGCAAGAGACCAGAGTCCCGG
103564	PABPN1	AGGGGAAGCTGGGGTTTGCAGTG
103565	SOX12	CCTTCCCCACCCCCTCCTGGGAAGTGCC
103566	NXF2	GCAACAACAAAATGTGCTCTA
103567	LIF	TCTCCCACCCAGCCTGGACTTG
103568	OGG1	CCTCCTCCCCACACAGACTCCA
103569	CYP2B6	GAACTCCTGATGTCAGGTGATT
103570	FCAR	AGCCTGGGTGACAGAACGAGACTCCA
103571	S100A3	CTTGCCCAGGTCTTCTGCGAT
103572	TIMELESS	ACAGAGCAGTAGAATCCCAGGCT
103573	FGF23	TTTGAGGCCCAAGTCATGGGG
103574	ITK	GTATCCTTACCTTGGTCA
103575	KIF3C	AGCAGGACCGCCCAGGCTGCGGAGGGG

103576	TTID	CCATAGCTGTATTAACAGATTATGGTT
103577	BBS2	CTCCCCTAAGCCGCCGCCATCATGCT
103578	RAD54B	CATATTCCTTTATGAATGTGTAATGGG
103579	ACTC	TTCTAGATGCCTTCTCTCTCCA
103580	GSTM1	GCATCCCAGCACCTGCCTCCTCGTTC
103580	GSTM2	GCATCCCAGCACCTGCCTCCTCGTTC
103580	GSTM4	GCATCCCAGCACCTGCCTCCTCGTTC
103581	OSR1	AACTTGTCACACCTTTTGTTTCA
103582	IRF1	TTTATTTATACAGTGCCTTG
103583	ABR	ACCGCATCCCACCTCCTGCCCTCCATACC
103584	ANXA11	ACATGGCAGAAGACATCATGCG
103585	ACVR1	GTCAGACTTTGCTGCATTTTACACAT
103586	CEACAM6	AGCAGCATCTTTAACACAGC
103587	MCCC2	CAGTTCTGTAATCTGTATTA
103588	SLC13A2	ACCCAGCTCCTGGAGGCAGTGGCTGT
103589	ATP8B2	GTCACCTAGGCAAGAGTGCAATGGCAC
103590	CTF1	TCGCCCAGGCTGGGGTGC
103591	SCD	GCACAGCCAAGCCAAGCGCTCA
103592	HFE	AAACTATTAACAACTTGTCTATTACCT
103593	PXF	GGTTTCTGCCACTATCAAAGTT
103594	FCN2	GGAGCTGGACAGAGCTGTG
103595	TFR2	GTCCACCTCTCATTGCTGATCAATTTCTCA
103596	BAIAP3	GCTGCCCAGGACACAGTGCAGG
103597	F7	CGTGATCTGCTGGCCCTCAGGCT
103598	LFNG	GGAGGCTGGGTCTGGGGGTGCGTGACC
103599	PBX2	CTTGTATATGTATCTTCCTCA
103600	MME	GGCTTCCTGCAATTTTCTAAGCAATT
103601	PTPN7	GACTCTGCTCCCTGACCACACATCGG
103602	HEPH	CCAAGTTCTTAACCTGTGGCACTGAA
103603	SEPN1	CAGGCTGGAGTGCTATGGCTCGATCTT
103604	ARCN1	GTCGCGAACTCCTGAGCTCAGG
103605	SOCS5	CTACCTGCTGTTACTTA
103606	LTC4S	TACTTCCAGGGCTACGCGCGCTC
103607	TCFL4	GCCTGCATTTCTCCCAGGACTTGGGGGTGGG
103608	ADCY2	AGAATTAGTCCTCACAGCCTA
103609	HMGB1	TCAATAGCCACTAACCTTGCCTGGTAC
103610	SLC22A7	CTCCCTCTGCTCATCCATCC
103611	ADORA3	TTTCCAAGAGATCACCCCACCA
103612	C1orf1	TGAGCCCAGGAAGCAGAGATTCCAGTGA
103613	IL1RN	CTCAGCTCCCAAGGCTCTGAG
103614	RAP2A	TTCTGCATGTAACATACAATACA
103615	MARK3	GGACGCTGGTCGCCGGCCTCCTAGGGC
103616	SPINK5	CAGTTCTGAATCACCTACCTTCAC
103617	GNAL	CTTCCTGACGTCCATCCCAGC
103618	RPS28	GAGAAGCCCGGAGGTTGCGCTGG
103619	GALT	CTTCTCTCCTGCTTCCTCCAGGGAACCCA
103620	LRAT	CTGTGGCTACTTTAAATCACTCTGAG
103621	DSCR5	ATCTCTCTTATTAATAGAGA
103622	STATH	CAATTGTCACTTGATGATATAA
103623	MPDU1	CTTCCCTTCTGGCCC

103624	HIVEP1	TGTGTCAGCTCCAGCCATTTT
103625	RUNX1	ACATGGTCCCACCTGTGCGAGACCCC
103626	KCNA6	CCGAGCCGGAGGGAGGCGCATCTGGCG
103627	PIGC	AAGTGCTTGGCCACAGTCGCAG
103628	DRD5	ATGCTCTCCCCTCCCTTTTTAAACAA
103629	SLC7A6	CAAGGTGGGGGCTTCAGAGGGTG
103630	PLCG1	GAAACCAAGCCATTAATGAG
103631	AKR1A1	TTTCAAGTGATCCTCCCGCCTC
103632	ASCL1	GCAGAGCGCGTTCAGCACTGACTTTTG
103633	MINPP1	AGTCTCAAAAGACCATCTTA
103634	FABP2	CATGACGTAAAATTTTATGTGCTTC
103635	UGT1A1	TAATCAGCCCCAGAGTGCTTTA
103635	UGT1A4	TAATCAGCCCCAGAGTGCTTTA
103635	UGT1A8	TAATCAGCCCCAGAGTGCTTTA
103635	UGT1A9	TAATCAGCCCCAGAGTGCTTTA
103636	TEAD3	TGGGGGAGCATGATGGGCAGG
103637	SHANK2	CCCTGATGTTGGAACCAAGTTTTTG
103638	HOXC13	GGGACTCACGTGGCTTCAACAGCTTT
103639	CANX	GTGATTTCTTCTCCCTCCTCC
103640	RDX	TACCATGGTTGTGCACAT
103641	CEACAM1	CCTCATCCATGCTGTGCTGTGTTA
103642	HKE4	CTCTACCCCTAACTCCAGG
103643	MHC2TA	GCCCACGCTGGAGTGCAGT
103644	FANCA	GCAAAGTCCAGCTCAGTCTCAGC
103645	AQP6	TAAGGGTGGTAGGAACCCAGGAGG
103646	MLLT7	TGCCCTTCTTCCCCTTCCCTGACTGCAG
103647	GRAF	CAAAACTGGATAAACTTCAGAA
103648	PTER	ACACCTTGAGTATAAAACTTGCA
103649	PPP1R8	TTCTCCCACTTTCTAGGATCATTTTT
103650	DPP4	TGAAACTGAGATGTGAA
103651	PELO	CTGGGGCAGAGGACTGGG
103652	S100A4	CACGTGCTTGATGCTGAGCAA
103653	SOD3	CTCATGCAGCTGTGGGTGCCCGG
103654	CSNK1G2	TGTTGCCAGGGGTGAGGCCGT
103655	CCBP2	CAACATGGCCGCCACTGCCT
103656	BACH1	CAGTGGTTTGTATGTTCTCTCTGTCAC
103657	ASB1	TGGTTTTTCCTGCTCCTGGGGTAA
103658	RRM2B	TCTTTTAAAAATATTATCTTG
103659	SNX6	GCTGTAAAGAACAACACTTGTTT
103660	PROK2	ATGCTCTTGCTTCCTCAACTTTCC
103661	SPON1	TATTGTCCTCCACCTCCATCA
103662	ARNT2	TAGGGGTGATGGAGGGGGAGAAGC
103663	CPT1B	GACCAGCCTGGACAACATAGTG
103663	CTSS	GACCAGCCTGGACAACATAGTG
103664	CD22	GACACCGCCACATGGCTTCCTCCT
103665	ZNF24	CTGTGAGGTTCCCAGAACTGTA
103666	RAPSN	AGCCTGGCTTTGTATGCTCCTGGCAGCA
103667	NR4A2	GACCCACAAGTATTGCCCTTTAA
103668	RAD54L	TATTCCCCTCCTAACCTGGGTTT
103669	RAD52	GTTGTTTTGCATAACGTCTGCCT

103670	DRD3	CCCTGCAACCTCGGGGAGTGCCACTT
103671	MTMR4	GTAGATGTTGCCTGGTGCAAAGTGC
103672	CMAR	CAGGCTGGAGTGCAGTGCTGCG
103673	IRS2	CTGGAGACGAGAATAAACTGGACT
103674	ADH4	CTGGGAGCAATGGGGTTGCAGCTGA
103675	ATP5J	AAGCACTTACCCTCCACTTCCT
103676	RBM8A	GTTACCCAGGGTGGATTGCAGCTGATC
103677	ALDH6A1	CAGATTTCTCACTTGCTCTTCA
103678	TLR4	TTCAGTTAATAAGTATTAAATGCTGCC
103679	HSPA2	GTTTGCTGACTTGAGCATTTT
103680	BIG1	ACGAGCCGCAGCCTCCTTCTCT
103681	BBS2	TCCAGCTTCCAGCCCTCCTCCCC
103682	MPST	GAGCTCAGGTGATGCCGGCCAC
103683	NGFR	CCTGTCCCTCTCAGGCATGCCTGTGT
103684	PPP2R4	GTCGGGCTAGAGGGGCCAAG
103685	MAF	GCGTGAGCAGGGGGGAGGGAG
103686	STS	TGGGATGTGTGATGCAAATGCT
103687	DBN1	AACCTGGGCTGGAGTGAGGTGG
103688	ADAM17	CTACAAATCAATCACAGCTTGTA
103689	SNAPAP	CTTCAGGACTAGTTAACCAGAGGGGC
103690	BTG2	AGCTAATTTTCTGGTTTGT
103691	CALU	GCTAATTTTGTCAAGCACAGCTGTG
103692	SHFM3	GCGAGGAAGCTGCAGGAAGGG
103693	GGCX	GCCTGTAATCCAACTACCCAGG
103694	HLCS	TCTCAAGGAGCTTTAAAGTCTTA
103695	KCND2	ATGCTAGAATTCTTTGAAGCAGTG
103696	GALC	TCTCACTGTGCTGTGGTCTGTCCTCA
103697	OLR1	TGCACACAATCTAGCAGGAATC
103698	RAD52	AGCTCTCTCCACAACCTCTTGGGCCC
103699	DAF	AAGGCATTTTCATCTTTCCTTCGGGTT
103700	SCD	TCTCCACCTACACCCCTGTGCT
103701	F2RL3	CCTGTTCTGGGCATTTCATGTCA
103702	FYN	CTTTTTTAAAAATGCAAATCCTA
103703	LARS	TATTTTGTATAAAGAACAAATA
103704	EIF3S2	ATCACTTGAACCCAGGAGGCAG
103704	FCAR	ATCACTTGAACCCAGGAGGCAG
103704	POLH	ATCACTTGAACCCAGGAGGCAG
103704	ZNF36	ATCACTTGAACCCAGGAGGCAG
103705	IL10	ATTATTTTCACCTGTTTTTA
103706	WHSC1	GCCACTGCACCTGGCGGGGTCTTGCTTA
103707	ZIC3	GGAAGGCAAAGGCTGATTTGTTTGCTG
103708	HOXD3	TCCCGGGTCTCAGGCCTCCAGC
103709	TGFB1	AGGAACCTGCTTTAGTGGGGGA
103710	FACL3	TCCTGTGTCACACCACCTT
103711	SCGB1A1	TGCTCCAGCCTCTGCCGCTGCCATG
103712	IL21R	GGGCTGTGATGTGAAGACACCTGC
103713	DLG5	GCTGTCCTTTGTTTTACAGGTA
103714	APTX	CTCAGTCTCCCAAGTAGCAGGG
103715	CASP8	CCTGGCTAATTTTTTAAAAATAT
103716	PPY	TGAGCAGCGCCAGCCCAGCTCTCCC

103717	PKHD1	TCTATGCCAATTTTGAAAAAACTA
103718	PCDHAC1	TAAACACTCCTTCTTAGCACTTC
103719	CDC42	ATGGAAAGACTCTTAATGCAGA
103720	CLDN14	GGGAGCTGGAGTCCAGCCAGGCTCC
103721	TBX3	TTGCATTGAGCTACTGGGGGTA
103722	MAFF	AGTGGGTGGGAAGACTAGTGAA
103723	IL12RB1	GTTGGCAGACTGGAGTGCAAT
103724	HNF4G	GGCCTCGCCCAGCCTGCGCTGGA
103725	NOTCH2	TTAAGCCCTGCAGGCTTCTGCC
103726	ZNF265	GGCATGGAAGAAAGACTGGAAA
103727	IGFBP7	TTTTACACAGAGAAATACAAAAT
103728	CIT	GCCCAGCACTCCTGGGTCTCGGG
103729	HDAC4	GCTCAGCCAAGAAACTTTCCCG
103730	SHOC2	TTTCAATTCTGGAATATCTGTGTC
103731	SCO1	GAAGAGCCCACCTGTGGAAG
103732	ALDH3B1	CCCCTGCCCCCGCACCAACCA
103733	CLN6	TCACTGCCCTCTCCCTGCC
103734	PPP1CC	GAAAGACTCTTCACTCCAAAAAG
103735	TCF20	CTCAAACCAGTGACACCACAGGAAAGA
103736	MOG	GATTTCCCTTCTTCTGTCATCTA
103737	SLC39A4	CCTCTTCTCCCCAGGACCCCAGGGCC
103738	FABP2	TGAACCCCTGGCCTCAAGCAAT
103739	STK38	AGAAAAATGTGGAGGCTCCA
103740	TNFRSF10B	CGAATTCCTGGACTCAAGCAGT
103741	KCNA7	GTGGGGGAGGGAGGGACAGAGACCCAG
103742	NFRKB	CCTGGATTCTGCTGCCACGTGCCA
103743	BCAR1	AGGCTTAGGGACAGGACCCCAGCTCTG
103744	PRKCA	GAGAACAAACACCTCCCCAGCCCCCA
103745	CNTN2	GGTGGCCTGACACTGTGCCAG
103746	ZNF134	CATGGACTGAAACTTCACACATGTGG
103747	HBD	TCTGACATAACAGTGTTCAC
103748	IFNAR1	CCAACGTGGTGAAACCCCATCT
103749	HS2ST1	ACTGTTCTTGTATTTCTCAT
103750	POLR2E	CAGGGTGCGAGATGCCAGCTCTG
103751	PPP2R1B	CTTTTTAAAAAGCACCTA
103752	EPB42	GAGAGGGAGTAGGAGAGAAGAAACAT
103753	VAT1	CCATTCTTAACCAAGGCTGCCTCTTCC
103754	MAFF	TGGCTCACATCTGTAATCCCAGCACTT
103755	ERBB4	TACCTAACTTGAACATTAGAGGGA
103756	COLQ	CCTCTACTGCGAGGCCTGGGGAG
103757	DSCR3	GCCCCTCGGAGCTAGGGAGTGTGTGC
103758	CYP1B1	AGTGTGCTAAAAATGAGCTTGA
103759	CD209	ACGAGTAGCTGGAATTACAGGC
103760	RPP30	TGGTCTCAATCTCCTGACCTCA
103761	ELMO1	CCTCCTCACCAGCTAGTCTGGGGTTT
103762	UBTF	CTGACCACCTTTGTTTCTCCC
103763	RCN1	AGGCATTCTGTTATTGTCTTGGATTG
103764	SF1	GGTGGACAGGATGGTTCGGC
103765	XK	CCCTTTTCCAACCTACCTCA
103766	GAS7	CTGCCCTTGTCTCTGAGGCT

103767	TCF3	CTGCTGTTCCTAGACTGAGCATTG
103768	TAP2	AGCACACACTGTTCCAGCCCATCT
103769	TDGF1	TCTGTCACCCAGGCTGGACTGC
103770	BAI3	GTTTGTTGAGCTACATTCTT
103771	FRG1	CCTGTGCTGCCCCGACTCACA
103772	ROCK2	CAACATAGTGAAACTCCGTCTC
103773	DOCK1	GAGCAAGGTGGGTCTGGGAGGTA
103774	SLC20A2	GTCTCCCACCCTCACTGATCACG
103775	NEBL	ACATCCAGAGTCTGCAGTCCA
103776	PCBP2	CTACACACTTTATCATCCACTC
103777	ZNF179	CCTCTCTTGGGTCTGTGTCCT
103778	SLC31A1	ATCACTTGAACCTAGGAGGCGG
103779	SOX11	GTAGGGTGGAGGGGAGAGAAGAAGA
103780	DYRK1A	CCCCAGTGCCCTTGACCAGGAA
103781	CITED4	GCGTCCCTCCAGGCCTTGCCTCCTGCGG
103782	ICA1	GGAGCTGGGCTTCTCTCCA
103783	ICAM1	GAGGACAGGGCATTGTCCT
103784	IL12RB1	GTTGCCCAGGCTGGTCTCGA
103785	CCNDBP1	GGTGAAATAGAATTCTAACCTCG
103786	IMMP2L	TGGCTAACTAGGTTGAGAAACCGGCGCCA
103787	TMOD3	GTAAAATCAGTAATGTGAT
103788	ETF1	CACGCTACCCCGTCCCCCTCC
103789	SEL1L	GAGCTACAGCCTCTTTCCTAACTTCC
103790	PFKFB2	ATCTGGAGGAGGAGGAAAAAG
103791	CDH1	AAACTCTGGGGCTCAAGCAGTT
103792	SON	CTGTGGAGAAAAATGGTGAAGA
103793	ARF3	CCAGGATATGCTAAAGGACGA
103794	CDK2	AGTTAGGGTTTAGGCATCA
103795	GRIA3	TCCCACTGGAGGCATGTGATGAGAG
103796	TMEPAI	CCAGGATAGGTGAAAGGGTTAA
103797	PSMB7	GAGGCCCAGTAAGACACTCATGTGGC
103798	CHD2	GGTCAGTTTCAGTTGATACCTCCTCA
103799	LAMB2	ACACGGAACCCCAAAGCAA
103800	SREBF2	TTCTTAGCTGTCACCTGCCGAG
103801	KLHL1	CCGTCTGCGCTCCAGCCTTCGCCTGGCA
103802	KCNK3	CTCCGACTGTGCCTGCTTGCACCAGC
103803	IGFBP2	AGGAGGAAGAAGCGGAGGAGGCGG
103804	GJB2	AGAATAGAAGCTAAGGTTTAGA
103805	JUP	TTCTCTCTCCAGGGTGCTTA
103806	SRGAP2	TTAGTAGTCTTCAATATAACCA
103807	ASB2	CTATCCTCTGCTTTGCC
103808	IKBKG	GGTGCTCTCCTTTTGGGCT
103809	SCA7	GTGTGTAGTTGTTTGGAGCACAC
103810	AMBP	CCCCAGCCAGGCTACAGGGATCG
103811	MDFI	TACCTCTCCCTGCTCCTGGTGCCT
103812	RAD1	AACAGTGGAAAATGCAAAGTGTGTGCAAG
103813	EFNB1	GGCTTATCCTGGCAATGGGGT
103814	MAP1A	GGGAGATTATATCCCCAACTCCAGG
103815	UBL3	CCATTTTGCTGCCACAAA
103816	AQP6	CAGGCTGGGCAGAGGTCAGGA

103817	GRIN2A	CCCCTTCCCTCCCAGAGTAAC
103818	EPAC	GTGGGTGGAGAGTGGAGTGTG
103819	GORASP1	CCCTGCACTCCACCTGGGGACGGCCC
103820	DUSP5	CGGGACTGAAGGAAGGCCAAGC
103821	RNF26	CTTCCGTCTTACCCACTTCTTCCTCA
103822	SH3BP2	TTCAATCGATTCTCCTGCCTCA
103823	RAD50	CCTCAGAAAGTGTATAATAAGAA
103824	SFRS2IP	TGGGCAACATGGCAAAACCCTGTCTCT
103825	RPA2	CTGGAGCATGGGCAGAGGAG
103826	ALPP	ACACAGCCTTCGGCTGCCCCCCACTAA
103827	HS2ST1	CGTTGGTGCCATCAGTGATT
103828	MN1	CTTTGCAGGGATCTGCAGACTCCT
103829	NFATC1	AAGCCTTACCACTCTCTGCTT
103830	PWP2H	TGCACACATGTAGCCCATCAGGACAGC
103831	PNUTL2	AGGAGAGTCTGGCCTGGGCAA
103832	PRX	GGCCTCGGGTCGCCGGGGCCGGG
103833	PRND	GAACTCCTGACATCAGGTGATC
103834	KMO	AAACTCCTGGCCTCATGTGATC
103835	KCNQ2	GTTGGGGCTCTGCAGGATGAGGA
103836	DAG1	GGGACTTTTTTATTTTTATTTTTTGC
103837	XRCC3	GGCCCAGGAGGAGCCTCAGGAGCCGGA
103838	RNMT	AGCATTTTCATAGTGTGCTCATT
103839	CXorf6	GCCACCCCACCAGAAGTGCCCCT
103840	QARS	GCTGGAAGCACTGAACCTACCTCA
103841	DYRK1A	TTAACTTGCCACATCCCAGTCACA
103842	TMEM2	GCTTTCTAGGGTCAGAATCGTGGAGAG
103843	KRTHB1	CCTCCTCTGCTCTTGATCTGTGTTT
103844	GNAZ	AGCTCTGGCCTAGGGACCTTGCCG
103845	SLC25A13	TCAGCCTGGCTTCAAATTGTAA
103846	AKAP1	CTGGTGTAATTACTTCAAGCCTC
103847	F9	GGATGAAGTAAGGTGCCTGAA
103848	MSN	TATTGATTTCTGCCTTCCTTGCTA
103849	PYGB	GCTTTTCTGAGTACCATG
103850	LCT	ACCTCAAGTTCTATGAAGCAGGCCTAG
103851	SHFM3	AGCTACTCAGGGACTTCTCTTGCCT
103852	101F6	AGGCTACAACCACTAGCACGGCTGA
103853	CRHR1	CAACGTGCTGCTTACACTCC
103854	CASP10	TTCTCTGTTAATTCCTGGAACTG
103855	ATP2B2	CCAAAACAAGCCCTTCCTGGCT
103856	BAZ2A	GCAAGGGAACAACAGGGGCTC
103857	TNFSF8	CTCACACAGGAAACTTCCCTA
103858	BMP8	ACCGTGTCATTAAAAGCAGATCCTGCG
103859	ALDH1B1	AAAACATCCTTCTCAGTGAA
103860	SCG3	AAAGCTACAGCTCCAGGAGCCCAG
103861	CAPN3	TTCTCTCTCCCTCTGGCATGCATGCT
103862	ZFHX1B	GGAGTTGGAGCTGGGTATTGT
103863	MDM4	CCCAGGCTGAAGTGCAGTGA
103864	NHP2L1	CCTGCTGTTTGCTTTTGGT
103865	TMPRSS2	TGCCAAGTGCCATAACCATGAGC
103866	ST7	GGTTTATTTATTCTTTAACTGTCTGTTT

103867	CENPF	GACTTCTCTTTAGTCAGGGC
103868	ALDH8A1	GGCTGTGGACGTCTTTGGAATT
103869	CRTAP	GGTGAGCCTGCCTTTCCTATCTTCA
103870	PACE4	TCCTGTGTCTGTGTATATTACAAG
103871	PAX5	CCAGGGCAGAGAGAGACTGGACT
103872	F2RL3	GAGCAAGACCTTGTCTCAAAAA
103873	DMP1	GAAGAATTGGAGTTGGAAG
103874	DTX1	TGGGACGCAGTTGGGAGTGCAA
103875	G6PC	ACCCAGGCTGGAGTGGAGTGGC
103876	TM6SF2	TGCCTCCCTCCTCCAGCTGTAACCATG
103877	RP2	GCCCAAGCTGGAGTGCAATGGCGCG
103878	TLR9	GGAATCCTGCACGGTGCCACCT
103879	PRKG1	TATATCTTTCATCTGTAAA
103880	USH3A	CCACAGCTGGCCTGGAACTG
103881	ZNF3	TTTTCTCACAGCAGAGGAA
103882	TCF12	ATAATTCCTTATAGCCAATA
103883	MIPOL1	AAAACCAGAGACATTGCCAG
103884	CAPN3	CTCATTTCTCAGGAGAACTTA
103885	MAOB	GTGCTAAGTTGTCTTACACTTCT
103886	ZNF274	GACATTCCCAAAACCAAAGGACA
103887	EGLN1	CCAGCAATACCCCACTTCA
103888	UBQLN2	TGGAAATGTAACTTTCACTGA
103889	NRL	GGGAAGCTGTGCCTGTCTGGCTCTG
103890	MICB	ACCCAGGCTGCAGTTCACTGGT
103891	SIX1	AGCTTAATCTCCTCTTCTCTCCA
103892	EZH2	TCCTCCCCCCTCCTCTGAAACA
103893	TEM8	GCCTTCCTGCCTCTACTCCA
103894	DPYSL3	CTGGAGCAAGGTGGAGGGTGCAGAG
103895	DSCR4	GCTGGGTTTTTGGGAAGGGTGTG
103896	ITGA5	AATTTGGGTTCTGCCTGCCAGC
103897	EHHADH	TCTTCTCTTTTTACTTTTTGCC
103898	PRKACA	CAACAGACCTGTCTTCACCCTTGGG
103899	KCNK10	GGCGGCACAGAGGGAGACAG
103900	ROBO1	GGCCGTCTCTCCCACCCGCAGCAG
103901	CYP3A4	CAGAAAACATGTTTCCCT
103902	MAPT	GAGGATGGTTCTCTCTGGTCATAGCC
103903	HOXC13	GCATTTCCTGGGGCCAGGT
103904	KCNS2	TTGTAAAATAAAAAACTGCTA
103905	HUNK	ACATGTGTGCCTCTCACAGCAGT
103906	PCDH9	AACGTTAGTGGACACTTGTA
103907	COL19A1	TGTGTAGTGTCAGCAAATGCATGTTA
103908	AMFR	TTGACTGGACTGCTTGGGGTGGGG
103909	PPP4R1	CATACCTGTGACCACTCTTGGG
103910	RGS6	GTCACCTAGGGGAAATGCAAAAACCTG
103911	BCL11A	TTAGGTTCCCAAACCTTCAGGAAA
103912	PDE1B	AATGCCAGAGATTTGGGGTTGGGG
103913	ABCC12	AGAAAACAAAATGCTGGAGTTTCTCTA
103914	CSRP2	AGGAAGAGAGCACTGTATGGTA
103915	ADAM12	GTGTAGCCACACCAGGATAGAGACT
103916	BCL2L2	GTGGAGTTGGTGGATGGGTGGG

103917	ID4	AAATGAACACTTTCTGCTTTCC
103918	ATP11A	AGTGAATGACGTTGCAGGGTC
103919	MAGEL2	CACTGCCGCTCCAGCCTTCCTGGCAGG
103920	HD	GGCTCTGCTTCCTCAGCCCTAG
103921	DLGAP2	AAATTCTATTTAGTAGCATGCA
103922	GABPB1	CGCACCACCTCCTGCTGCCTTC
103923	ADAMTS13	CACTCCTCGGGCTGGCTCTCCTGAGG
103924	SUV39H1	AAGAATTGGGGGTGGGGGAGA
103925	PEA15	CTTACTGTGCGCGTGTGTGTGC
103926	WARS2	TATTGCTTTGTAGCTTTGA
103927	RFX2	CCTTTAAAAACCTACTTCCCC
103928	DRD2	GAGGAAGGAGGGGAAGC
103929	RANBP17	TCTGAAGTGGTTCAGTCTA
103930	KAI1	ATCGTGCTACTGCACTCCAGCCT
103931	PRKCABP	ACCAGCCTGGCCGGGACCCGGCTGTG
103932	GALT	TGGCTCATGCCTTAATCCCAG
103933	FCGR2B	TCCTGGCCTAAATTCCCCTTGGAGGACAGGGA
103934	DFFB	AACGGGGTTTCACCATGTTGGCC
103935	LYPLA1	ATGCACTACTTATTTCGAATTACT
103936	ADAMTS4	GGCTCACTGCATCCTCCGCCTC
103937	RGS5	ATTTTATAAATGTATTTA
103938	TMPRSS2	CTATCATTACTCGATGCTGTTG
103939	MAN1A1	AGCGCGCTCAGCCCAGC
103940	TEM8	CCCACAGGCCATCAGCAGCTAG
103941	HMG20A	CATCATCTGCTATTTCTGCCAC
103942	PDE4A	GCCTCTCCCTCTCCCCCAGCT
103943	BRCA1	CCTTGCAGGAAACCAGTCTCAGTGTCC
103944	DGAT2	GGATGAGAGGCGAAAGCCACTT
103945	PCDHGA1	AGAAGTACATGGAGGCCAGGC
103945	PCDHGA10	AGAAGTACATGGAGGCCAGGC
103945	PCDHGA11	AGAAGTACATGGAGGCCAGGC
103945	PCDHGA12	AGAAGTACATGGAGGCCAGGC
103945	PCDHGA2	AGAAGTACATGGAGGCCAGGC
103945	PCDHGA3	AGAAGTACATGGAGGCCAGGC
103945	PCDHGA4	AGAAGTACATGGAGGCCAGGC
103945	PCDHGA5	AGAAGTACATGGAGGCCAGGC
103945	PCDHGA6	AGAAGTACATGGAGGCCAGGC
103945	PCDHGA7	AGAAGTACATGGAGGCCAGGC
103945	PCDHGA8	AGAAGTACATGGAGGCCAGGC
103945	PCDHGA9	AGAAGTACATGGAGGCCAGGC
103945	PCDHGB1	AGAAGTACATGGAGGCCAGGC
103945	PCDHGB2	AGAAGTACATGGAGGCCAGGC
103945	PCDHGB3	AGAAGTACATGGAGGCCAGGC
103945	PCDHGB4	AGAAGTACATGGAGGCCAGGC
103945	PCDHGB5	AGAAGTACATGGAGGCCAGGC
103945	PCDHGB6	AGAAGTACATGGAGGCCAGGC
103945	PCDHGB7	AGAAGTACATGGAGGCCAGGC
103945	PCDHGC3	AGAAGTACATGGAGGCCAGGC
103945	PCDHGC4	AGAAGTACATGGAGGCCAGGC
103945	PCDHGC5	AGAAGTACATGGAGGCCAGGC

103946	MEL	AAGAAGCCTGGAGCAGCCTCTC
103947	FANCF	ACCCAGTCTGGAGTGCAGTGGTGTG
103948	NHLH1	GCTCACTGCTTAGAAAGGCCGCATCC
103949	MAGEA4	AGCTTTTGCCTGCACTCTTGCCT
103950	SLA	TCATGCATAATTTTAAGAGACA
103951	DFFA	CCTGGGCAACAGAGCGAGACTCCGTCT
103952	F2R	CCTGGGCAACAGAGCAAGACTCCATCT
103953	UBE2G2	CCTGGGCAACAGAGTGAGACTCTGTCT
103954	PUM1	CCAACCAGCAACCAGAAATGTTC
103955	COL5A3	CTTCCCTTGACTGGGTT
103956	CASP2	TGCCTGTAGAGCCAGCCTTGGTTGGAC
103957	KRT18	CCTTTCTCTCTCCCCGGACAGCATGA
103958	FGFR1	TGGGACCCCAAACCCCACACTGCGC
103959	CLC	CCTGTCTCCTCCCCACCTCCC
103960	SIGLEC8	AGTAGGAGTTATCTCCTCTCTG
103961	SPTBN1	TGTGGAGGAGCAGCTGAGACA
103962	VCL	CACTCCCGGCACTCCATGCTTAGTCACTGCC
103963	SYT5	CGGGAAGGGAAGGCAGCCTG
103964	LIMD1	CAATTCTTGGCACAGGCATTA
103965	PCDHB7	GGATCCTGATTTAGTATCAAGAACC
103966	SOD3	CTATGATTGAGAAAAGTTCAT
103967	GABRB1	GGTCCAGGTTATCAGCTCTT
103968	WWOX	CCGTATCTCCCTGGAGAAGCACC
103969	FRK	TGAATCCCATCAGGCTGTTATTATGAA
103970	CDK10	GGCAGGACTCCAGATGAGGAC
103971	CTSB	CGCGCAGGCTGGGCTGCAGGCTCTCG
103972	ALDH1A3	CCAGATCCTGGAGACAGTG
103973	COL1A1	CTCTCCTCTGAAACCCTCCTCC
103974	SACS	CTTTTTAGAGTGCACTGAGTGCA
103975	BMP1	AGGGGCATCTTCCTGGATAC
103976	PSEN2	AGCATCCGGCATGAGGGCTGAGATG
103977	APOL1	CCAAGTTGGAGCTTGCAGTGA
103978	PCDHB9	CACGAGTTTGAGACCAGCCTGACCAA
103979	NIPSNAP1	TCTCCTGCCCTCCCTCCTTCCTGCA
103980	NPEPPS	CCTGGTGTCCTTCTTAGAGATGAAGA
103981	FBLN2	CTCTTGGACTCCTCTGGATGACCCGT
103982	PRKWNK3	CCCCTCCTGGGTTCAAGCGATT
103983	CENPA	GAGACTCCAAGGTTGACTTTAGTTT
103984	KCNQ2	CTTTGCAGAAACGCCCTTGTCCC
103985	INMT	TTCCAACATTCCTCATTCTA
103986	SIAT6	CCTCCAGCTCATGACACTGTT
103987	SRP	CCCCAAACCTGCATGAAGCA
103988	ATRX	GCCATTTTTATCTTGGAAGAAC
103989	POU2F2	CGCTCTTCTTGAATCATGCT
103990	POMZP3	CGCTTCGCCTCCGGCCAAGTCGA
103991	DDOST	AGGAGGCAGAGCTTGCAGTGA
103992	A1BG	TTGCCCAGGCTGGAGTGCAAT
103992	ATP1B2	TTGCCCAGGCTGGAGTGCAAT
103992	CRTAP	TTGCCCAGGCTGGAGTGCAAT
103992	MLANA	TTGCCCAGGCTGGAGTGCAAT

103992	PTGIS	TTGCCCAGGCTGGAGTGCAAT
103992	RAB36	TTGCCCAGGCTGGAGTGCAAT
103993	NTSR1	GCTGGGCTCTGAACGAGGACCT
103994	GOCAP1	TTATACTAGATAAAATGTTGTTACA
103995	PAICS	CACTGCACTCCAACCTGGGCAG
103996	WSX1	CCCCTCGGAGGCCCCCACCCCCAGACG
103997	NDP	CAGGCTGTCAGTGTTTGGTGCA
103998	CRSP6	TTCACTTTATAAATGACAAGTG
103999	CRYZL1	TTGTCCTAGATGCTGGAGTGAGATTATAT
104000	MLLT2	GCAGTATTTAAATCTTGCAAG
104001	IGF1	CGGGCTGTTTGTTTTACAGTGT
104002	PKDREJ	TAGGGCCTCGTGGGGAGTTCCAG
104003	SH3BP2	GGTCCCCCCATCACACTCAC
104004	KCNJ1	GGGAAAGAGAGAGGAATGGGATGGA
104005	RANBP17	AGTAAATCCACAGGCTCCTGTT
104006	DEFA1	TCATCCCAAATAAATGCCTTGG
104007	ZIC1	CGGCTGAGGAGGTGAAAGTTTCT
104008	ESR1	GCACCCTAGAAACAACATACTTGTC
104009	SLC30A3	TCCATACCCCTTCCTCTCTCC
104010	NLGN2	CCTCATCTGCTGGCATTTTGTG
104011	MAGEC1	ATGGGGTTTACCTGTTTTACTTTTGGG
104012	MGAT2	TTTGCTCTTGTCGCTCAGCCT
104013	FCAR	ACGATCTCGACTCACTGCAACC
104014	SSTR3	GAATGATTGGGGTGCCTGGCCT
104015	CD1D	CACATGTCCTATCCAAAGGA
104016	PSMD7	CCCAACAAGAGCTCTCT
104017	STAU2	TTCCTTCTTCTTTTTTAAGCA
104018	NGFRAP1	TTTCACCCATTTGCATGGA
104019	COG6	CTTTTCTGAACCTAGCCT
104020	ROR2	GCTCCATTTCTGCTGCCTCCC
104021	CA11	GGGAGGAGAGGAAAGCTGGAAGTC
104022	GLO1	GGCTGCATTTGCCTTCTTCTGCCA
104023	PPYR1	CAGCATTCCTGGCTTTCTGGGG
104024	IRTA1	AATTTGTATGGATATTTCA
104025	TM4SF4	CTTTTGATTGCTGACCTGTGTC
104026	SNX15	GAGGAAGAAGAGCGCAGGCCTGGGCGA
104027	CTSW	TTCCTGCCTCCATGCCACTCCAGACTG
104028	ARNT	TCCCTCCAATCTTGAGATTGGGTTT
104029	GSTM3	GAGGCGGAGTCAGGGCGCCC
104030	EGFL6	GTCATTTCTGAATCTTTCCACATTA
104031	ZNF264	GTCTCAAACTCCTGACCTTGTGA
104032	TNFSF10	CTGGGTGTGTTGGCACATGCC
104033	UGT2B4	TCAGTACTGTTTTGCAAATACTCA
104034	NR1I2	CGTTCCCCTCCTCTTCCGAGC
104035	EPHB2	GAGACAAAAGCAGTTTCTCTCCA
104036	VCL	ATAAATGCAATATTAATGCCT
104037	FANCC	ACAGGGTGCTTTTTCCTTTCAGGGACATT
104038	NR2E3	CCTTGGGGCAGCTCCTGAGTT
104039	DCX	ACCTAGGCTGGAGTGCAGTGGCACA
104040	C18orf1	GCTGATCGTGGTAATAAGCCAT

104041	IGF1	AGATAGATGGCTTAATAAAATAG
104042	SERPINF2	GGAACTCGTGTCTGGCACAGCCTG
104043	AF3P21	TCCTGGGCCTCAGCAAGCCATGCC
104044	TRPC1	ATTGCCCAGAATGTTTTGTAAA
104045	SRP46	TCTTCTGATTGCTCCTGGGGAA
104046	NPEPPS	ACGGTATTTCAGAAGGTCATCAGATT
104047	FANCA	CACAGGCAAAGTCCAGCTCAGT
104048	RPS6KA6	TCCACCAGGTCCTCACAACTTCTCTG
104049	ALDH1B1	GTCTCACTGCAACCTCCGCCT
104050	SERPINB9	GGCTCACTGCAACCTCCTCCT
104051	FLRT2	AAGAATTGAAACTGTGCAGTCA
104052	VCAM1	GTCAAAGTAAAACTTGCTGCCTGAA
104053	RRM2B	GTAGGGATTATTGAATCATTTCA
104054	CELSR2	TGTTGTTGTTGTTTTTTCATGCCC
104055	PNUTL2	TGGTGCTGAAGAGAGGATCA
104056	MYO10	AAAGGTGAGAAGGACAAGAAG
104057	TCFL4	TATAGCAACCTCTCTCTACCCTAGTT
104058	MME	CATTGCCTAACTACTAGTTTT
104059	NONO	ATGATCTCGGCTCACTGCAATC
104060	NEU1	AATCACTTCCTTTAGGACTGAAAGCTA
104061	SOX8	ACTTTGTAAACTTAAACACAGC
104062	TRPS1	GTCATTTTTCTTAAAGACGAGC
104063	TAP2	TAAAACAATACTTCGGGTGAGTC
104064	ERBB4	GCTAGAGAAGGACCAGAAAA
104065	PKD2L1	CTGCTGGCTAGGCTGGGCTGTGCCTCTG
104066	SIL	CAGGTAGCTGGGATTACAGGCAT
104067	CHST5	TGGCATAGAGTGATTCAACCACCT
104068	MPHOSPH9	ATTTTATACTTCAAATAGCCACA
104069	CLECSF12	CCCAAGTGCTGGGATTACAGG
104069	SH3BP2	CCCAAGTGCTGGGATTACAGG
104070	AF1Q	GGGTGCTGGAAGAGATCGGGA
104071	JRK	CTGAGTAGCTGGGACTAGAGGC
104072	FUS	CTGTACCCAGTGTTACCCTCGTTATT
104073	PKD1	CGGAGCTGGCTGTGCCTGCTTCTG
104074	G2A	TACTGAGGGGGGAGTGCAGCAGTTGG
104075	TIMP4	CATCCCTTCAAGAGTCCTGAA
104076	MKKS	TGATTTTATAGCCACAATGCTGCA
104077	DLG4	GGATGGAGGTGGACTGATGGGA
104078	ATF5	GGGCTGTAGTTGGTGACTGGGTGTTC
104079	FNTA	GGGAGGAGGAAGAAAAAGTCCCAT
104080	ACPP	GGCTCACACCTGTAATCCTTGCATTT
104081	DBY	ATGAAAGGAAAAAACAGCA
104082	D12S2489E	CCTGCCTGTGGGGGTCATGCTGC
104083	SOX1	TAGTTTTCTAAAAAGCCTT
104084	XPNPEP1	CCTCCCCTTTTTACTTTA
104085	CYP4F3	CGGTGGGCTGGGGTGGTGCCAC
104086	PROK1	TTGGCTCTTCCCAGAGGGCAG
104087	CD5L	TTCAGCTCATCACCTTCACCTGCCT
104088	ZNF264	CTCTGCCAAGCCTATGGCGCTTT
104089	IRAK1	CAGAGCAAGACCCTGTTTCAAAAAGA

104090	SNAI2	CCCATAGGAAGAGATCTGCCA
104091	P2RY2	TGGCCAAATTCAAACTATAAACATGATGTCA
104092	COX15	TCAGAAATGGGGAAATTGCAGA
104093	SNX6	AGACCTGATTTTGATGCTTCAAGG
104094	GRF2	GCAGCCCCGCAGCTGGTGCTCTG
104095	MPV17	TGGGTTGCCGGTCAGAGCTTA
104096	ETV5	TAGGCTAAGTTGGGGAGGCTC
104097	DCLRE1C	CCACTGCACCTCTAGTCTGGGTG
104098	EPHA2	GCAGGAGCCCCGCCACAGCCTT
104099	ATM	TGGTGGCGGGCACCTGTAATCCCAG
104099	RAB7L1	TGGTGGCGGGCACCTGTAATCCCAG
104099	RFC2	TGGTGGCGGGCACCTGTAATCCCAG
104100	NPTX2	GATTCTTGTAAGCACTGGACTG
104101	PODXL	GTAGGGGGAGGGGCTGGGGAAGATCTGTC
104102	MAP3K7IP2	GGATAAATTAAAATCTGAGG
104103	LIF	GGCGCGTGGGCAGTGTGCAGG
104104	ZNF10	TGGTCCTGGAAGGGAAAGAA
104105	TEX15	ATATTGGCAATGAAGCACTTT
104106	CHAD	TACCAACCCAGCTCCACCCAGC
104107	PMM1	GAGGAGGCGTGCTCAAGTATCG
104108	SIGLEC11	CCCAAGGTGCTGGGATTGCAGACGTGA
104109	CNTN2	GCCCACCTCTCCAGTGCTGCC
104110	SERPINB9	TGGCCATCTTAGTGGGTGTGAA
104111	TGFBR3	GCCCAGCCCAGCTCAGCTCAGC
104112	GNAI3	GATCATCTTGAAAATATTCCTCTTTA
104113	PCDHB12	ACTATTTTCACACTTTTAATCTCA
104114	UBQLN2	TAGTAGAAATGTTTATCCTGGTATCTC
104115	PPP1R12B	TGTTGCCCAGGCTGGTCTGAAGC
104116	SYN2	GGATCTTCAATGAACTGTGCTTT
104117	GPR4	TGCCCAGGCTGGAGTGCAGTAGTGCA
104118	PUM1	TAAGAAAAGAGAATTAGCCAG
104119	ACAT2	CAGGGCAGACGGCGGCAGGAGAAGC
104120	YWHAB	CACAGTGTCTTCCTCTGAGGA
104121	EIF4EBP1	GGTTCGCGGGTGCAGCGCACA
104122	GRAF	AGGCATTCGAGTTTTTGTCTTT
104123	OAS2	CCACTACAAGTGATCCTCAGGCA
104124	NPHS1	TGGCCAACATGGTAAAACTCCA
104125	GGT1	GAAACCAGCTAGAGGCAGAGGGAGGT
104125	GGT2	GAAACCAGCTAGAGGCAGAGGGAGGT
104126	CDH17	GGTTCACATGATTCTCCTGCCTCAGCT
104127	PFKFB3	CCTAAAATTAAAGGAGGCAGCCTCCTAGT
104128	MFAP3	CTGAGTGTTTTTCAGATGTTTTGCCAT
104129	RAB38	TGCCTCTGTTTTTTCAATGAGAG
104130	RGS3	ATGCCAGGCTGACGGGTCCAGT
104131	RABIF	GGAGGCTCAGGTGGGAGGATCA
104132	HNRPM	TTTAAAAAATTCAGTTGCTTTTTGG
104133	TCERG1	TTACCTTTGTCTCTAAAGATCA
104134	SLC22A3	GAGAAGGCCAGCCCCAAAGGTA
104135	MPL	GCTCCTCCTTTACTTCCTCTCTCCTC
104136	RNPEP	CACCTAAGTCTCTGGGAA

104137	PIK3CG	CCAGGAGGTGGAAACTGCAGAGAGTCA
104138	TNFRSF10B	GTCTCCCAGGCTGGAGTGCAATGGT
104139	GTF2E2	AGAGTGTTCTTGCTGATGCTCG
104140	SF1	GGAGAGGGGAGCAAATGGTTTTGGGC
104141	LATS2	ACTTTGACAAATCATGCTGCTGT
104142	ABCC12	TCAGAAGGAAAAAGAGCA
104143	LTB4R	GTCATTCAGGCTGGAGTGCAGT
104144	NFATC1	CATTGGAGCACTCAGTTCAGCAG
104145	RB1CC1	CGGACCCCTCCCTGCCTCCTAGAGT
104146	SORCS1	CACTCACTGCATCGGGACTTT
104147	PTK2B	CTACCTGCCCGGCCGACTTA
104148	GPC4	GGACTTGCCATGGTTCACA
104149	NID	ACATGACAGAACCAATTTACACTCA
104150	OPHN1	GCTAATAGGGCCACAGTCCCT
104151	FEN1	GGGTGTAGAGGGAGCAGGGGCCT
104152	BST2	TCCCTCCAGAGCCTCCCTCCGGACAAT
104153	KCNE1L	CTTCCAAATGCCTCTCCTCTATTGATTC
104154	PCDHGA1	TTTCCACTGCATGCCTTGACTTC
104154	PCDHGA10	TTTCCACTGCATGCCTTGACTTC
104154	PCDHGA11	TTTCCACTGCATGCCTTGACTTC
104154	PCDHGA12	TTTCCACTGCATGCCTTGACTTC
104154	PCDHGA2	TTTCCACTGCATGCCTTGACTTC
104154	PCDHGA3	TTTCCACTGCATGCCTTGACTTC
104154	PCDHGA4	TTTCCACTGCATGCCTTGACTTC
104154	PCDHGA5	TTTCCACTGCATGCCTTGACTTC
104154	PCDHGA6	TTTCCACTGCATGCCTTGACTTC
104154	PCDHGA7	TTTCCACTGCATGCCTTGACTTC
104154	PCDHGA8	TTTCCACTGCATGCCTTGACTTC
104154	PCDHGA9	TTTCCACTGCATGCCTTGACTTC
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104154	PCDHGB2	TTTCCACTGCATGCCTTGACTTC
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104154	PCDHGB4	TTTCCACTGCATGCCTTGACTTC
104154	PCDHGB5	TTTCCACTGCATGCCTTGACTTC
104154	PCDHGB6	TTTCCACTGCATGCCTTGACTTC
104154	PCDHGB7	TTTCCACTGCATGCCTTGACTTC
104154	PCDHGC3	TTTCCACTGCATGCCTTGACTTC
104154	PCDHGC4	TTTCCACTGCATGCCTTGACTTC
104154	PCDHGC5	TTTCCACTGCATGCCTTGACTTC
104155	SACM1L	TTAAAAAAGTGTAAATAAAATCAAAGA
104156	ESR1	AGAGAAGAAAGAACAACATCAGCA
104157	BCL10	CGTCTCTTCATCAGTCTCCCCC
104158	MME	ACTGAACAATGGCCCTGTAGCCA
104159	EGFL5	TCAGTTTCAGCAGCTACCATG
104160	MOCS1	CCTGCCAGACCACACAGCCCACACCT
104161	NUMB	CGGGGGCAGCGGCAGATTTGA
104162	MYO9A	TTTTGGGATAGTTAGGAGCTAGG
104163	AIPL1	GCGGGTGGATCACCTGAGGTCA
104163	CHST5	GCGGGTGGATCACCTGAGGTCA
104163	HIP1	GCGGGTGGATCACCTGAGGTCA

104163	NPHS1	GCGGGTGGATCACCTGAGGTCA
104163	PCDH11Y	GCGGGTGGATCACCTGAGGTCA
104163	SWAP70	GCGGGTGGATCACCTGAGGTCA
104164	OPA3	GCGGGCGGATCACTTGAGGTCA
104165	APTX	AGGACCAAGAGGTGAAGCTGCAGCC
104166	TNFRSF6	GTGACACACAGGTGTTCAAAGACG
104167	CRIM1	ATATATACAGTTACACTTTT
104168	ADCY1	CCTTCTGTTTGTTCATACACTTA
104169	TRAF1	CTGCCACCCTGGGCCTGGCAG
104170	MSI1	AGGCCCTCAGGGTCAAGGCCTTG
104171	BHMT2	TGGCGGGTGCCTGTAATCCCAG
104172	OPA3	TGGTGGGTGCCTGTAATCCTAG
104173	MYO1D	GCGGGGCAGCAGCACAGCGTG
104174	EGLN2	TGGCAACTGTCAGGCAGAGGAAA
104175	LIF	GAGAGCAGGGGAGGGAAGGAGGCAGC
104176	IRTA2	CCCTTGGGGGAGAAGCAGCATT
104177	SLC2A1	CTGGTTTTTAGAAACATGGTTTTGAAA
104178	XBP1	TCCAAGGTATTGAGACATATTACTGG
104179	EXT1	TCTCTTCCCAGTGCAGATCCACTCA
104180	MGAT5	TGTGCCAGCTGGGTGGGAG
104181	USP18	GGGAGGCATCTGGGGGCCAAAGG
104182	SPK	GGCATCGATGGCATGACCACCTCA
104183	ITPR2	CCTCACTCTGACATGACAGTATTTT
104184	PTP4A2	GCGCAGTGTCCATCAGTATCAGTGCCT
104185	Z39IG	CCAGAGGGAAGATGCCCAT
104186	NDUFA10	AAGAAGGGGTCTCACAAAAAG
104187	NRCAM	CCCTCCCCCCACCTTTTTTGCT
104188	MMP15	AAGAGCAGCACCTCCTCA
104189	POU2F2	GGGCAGGAGGCCAGTGGTGGGGACGC
104190	ABCC3	GTGCCTGGCCCGAGCCCTGCTCCGC
104191	RRM2B	TGTGTGACCCTTGGCAAGTCAGTTAA
104192	KCNE3	TGGAACCCAGGAACTCTGGTC
104193	CASP10	GGATTTGACTTCAGCCAGGTGAA
104194	COPA	CTTTGTGTGCATGGGTCAGTCACCATATG
104195	GAS7	TGGGAGGTGTCTCTGGGGGTGGGGTGA
104196	CEBPE	AAGGGCGTGGGGGGTTGCAGCTG
104197	ARIH1	CCCGCCCTCTCCCCGCCTCGGCC
104198	FANCF	CCACAGCTGATAGTGATTGCCTTG
104199	KCNC4	AGGAGCCTTCTTCACCAGCT
104200	FGFRL1	TGGACACACACTTCCAGACACAC
104201	KCNJ10	TGAAAACAAAGACCCTTCGGTG
104202	TBX3	GTGAGACTATTAGACAAAGTAT
104203	PIK3CA	CTCACTCTGGATTCCACACTGC
104204	TXK	GCGGAAACCTGGTGCCGGAA
104205	LAMP1	TGGGGATTGTACACGGGACCAG
104206	CSTB	CTCTTCCTAAATTTCATTGTGTTG
104207	FANCF	TGCCTCCCAGGATCAAGCAATT
104208	MTMR3	CAGCCTTTCTCCTCTTCTCTTCTTG
104209	SLBP	GCTGTAAATGATAATGTGTAC
104210	SERPINI1	GCCGAGCACAAGCTCCAGCATC

104211	AICDA	AAACTTCACATATCATAATTAGCA
104212	KPNA1	TAGGCTTTTCCCCTCTGTGACTGGCA
104213	RAB7L1	TGAGCTGAGATCACACCATTG
104214	NPC2	TCTAGTGCCTCATTGAGTTC
104215	NCOA6	CACTACTGTTCATTTCTGATTCCTCA
104216	APPBP2	TTAAAAAATTCATTTTGCAGAAA
104217	ZNF137	GCCTTGCACAACATCAGAGAGTT
104218	PCLO	ATACATACTCTGGGTTTCCATTTCACC
104219	COL1A1	CATGTTCAGCTTTGTGGACC
104220	DDX6	CTGCTTGCCATTCTCTTGCA
104221	MTMR2	GTTTTCAAACCAACACTGAAA
104222	PTGIR	GGGTGCTGGCTCCAATCTGCGTCC
104223	ARHGEF5	TGGCAATGTGAGGGTGATACT
104224	AZU1	GGCGCTCCGCACCCACCTCC
104225	ASCL1	TAGTGCTTTCTTGTCAGTGGCGT
104226	NFATC3	GAAGGGCCCTTTAGTTTTTAT
104227	ZNF74	GCAGTGAGCCATGATTCACAGCACTGCA
104228	DCTN1	TTGAGTGCTGAGGGTCTGTGG
104229	ADH7	TTAAGGGACGGGCACATTTTT
104230	GALT	TTTCTGGGCTCCTGGGGCTCAGCCTAGT
104231	HNMT	GGGGGTGGGGAAAGAAAGAGGGAAC
104232	CYP2A6	GGCGGAAAGGAAGGGGCGTGGTGGCTAG
104233	DRD5	AAGAAGTATCCCTGATTTATTCTGGTG
104234	FGFR1	GCTGCCAGCCACTTCATCCC
104235	SPAM1	AAAAATGTGTTTCAGGCCT
104236	MAP3K7	CAGCAGCAGAAACGACAAGGCACTTCA
104237	FXYD6	AGATACAAAGCAAGGAGCTGGTGAGC
104238	KCNE3	GAACCCAGGAACTCTGGTCTCCT
104239	BLMH	TTAGCATTTTAATTAGATGTAATTGTT
104240	AP2M1	CCACCACACATCAGTGTCTCCTC
104241	CD34	TTTTGGGCTCTTTTTTCTCCCT
104242	PSME3	GCCGCAGACCCTGGTGCAATGCT
104243	BDNF	TACTATTAATTACACTTGCAGTTG
104244	CDC7L1	GCATCTGGGGAGCCACAGA
104245	AKAP13	TGGGGGAAAGATGGAGTTCCTATC
104246	BDKRB1	GGCTTAAACGATTCTCCCACCTCA
104247	BDKRB2	GTTATGTTGTAAACAGGAAGCATTTCA
104248	EEF2	CTCGGCGCGACTCGCTTCTTTCGGTT
104249	G1P3	TGTCCAGGCTAGAGTGCAGTGG
104250	SEDL	TGTCCAGGCTGGAGTGCAATGG
104250	SLC15A1	TGTCCAGGCTGGAGTGCAATGG
104251	PCSK5	GCCTGTACCGCTCCCGCTGGTCATCTC
104252	HSF4	TACTAAATGGCCTCTCTCCA
104253	ZNF14	CGCCACTGCATTCCAGCCTGTGCGACA
104254	F2R	GGTGAAGCGGAGCAGCCCGAG
104255	CD5	GCTCACTGCGGCCTCTAAGAAGGTGA
104256	PDPK1	CACCCGGACGCCGCTGTGCAGTG
104257	ZFX	ATTGCCCCAGGCTGGTCTCGAA
104258	FRAT2	TTAAGCGTGGAGAAATGTATGCG
104259	SIAT7D	CCTCCTGCCACGTGCTGGGTG

104260	CD244	CTGCTTTGGGAATTGGCACAGTGGA
104261	LIF	CCAGTCCACTCCACTCTGGG
104262	COX15	TTTTAAAAAATGTTATGCAG
104263	RAB36	CCTGGTCCACTAAATGCAGCCTG
104264	MAGEA9	GCAGAGCAGAGGAGACCCAGGCA
104265	ACT	CAGCCCAGTAGGAGTCATGTA
104266	DCX	TTAGGCTCCTGAGAGTTATTT
104267	PTPRF	TATCCAGCAAGAGTGACCGGGG
104268	MTMR2	GTACCAATGCTACTCTGCT
104269	VGF	CTCCAGCCTCTCCAAGTCGCT
104270	RPN1	TCAAGGAAGAGAAACCAGGCC
104271	PHB	GGTCTGTCTGTTACCATAAGTCT
104272	PSME3	TTTTGGGAACTATTTCTCTTTATTTA
104273	ARNT2	ATGCCCAGCAGATACCTCTCTGACTG
104274	FS	AGTGCCCAGGCTCAGGTGCAGC
104275	LILRB1	TGGTGGCAGTGCCTGTAATCCCAG
104276	IL2RA	GATGAATGAGGTCCCAGGCAG
104277	FANCF	GCTCTGTCACCCAGTCTGGAGTGCAGT
104278	UBE2G2	GTCCCGCCACTGCACTCCAGCCT
104279	CASP10	CCTGCAGGACAGTATTCCTGCCGA
104280	SIM1	GTGGTATAGTAGAAAGGCCAGC
104281	UBQLN1	TGCATTTTAAGGTGGAGTACAGT
104282	MHC2TA	ATTGCAACAGGCTGGGCTTCAGT
104283	SLC3A2	GTTACCCAGGCTGGTCTTCAAC
104284	MPL	GATTGTGAGCTCCTTGAGGGAA
104285	NAPB	AACTTGTTTCTCAGGGGACTTG
104286	RNGTT	TGCAGTATTATAAAAGTCAT
104287	PDYN	AGCAGCAGCAGCAGCAGCAGTTTGTGATCT
104288	TMPO	CGAGATGCCGGAGTTCCTGGAAGAC
104289	PTPRC	TGTTTTTAAAAATCATAAACTG
104290	TNXB	CTGCCACTGCTCCTCATTACTCGCTGG
104291	GPR6	GCCAAAACAGTGTTGCCATTTT
104292	B4GALT5	TCTTCCATGTTGCCCAGGC
104293	ZNF16	CTGCCACTGCTCTTGCCTCTTGTGATGTC
104294	HTR2C	CTTCAAAAACAACTAAAGGATGA
104295	HNF4A	AAGAGGCAGACCATCCACCAGGCC
104296	CYLN2	CTGCAGCCTCCACCTCGCCGCTGGG
104297	SNX6	TGTTTTTAAAAGCATATACCACCTTAG
104298	OSR1	CACTAGTGGCCAGCATCCCCA
104299	HDAC5	CTTCTGGGCTCCCTTTGCTGAC
104300	CD83	GCCCTTCCCTTCTTGGTTTCCAAAGGCATTTA
104301	PIK3R2	GCGCGGCCCCAGCCTGGGCACCCTGATT
104302	PNUTL2	TGACACCTCCCGAAGTGGACCA
104303	LBR	ATGCAGTTTATACTGTATT
104304	PKNOX1	TGCATTCTCTCCAGCTGCA
104305	RNTRE	CTTCTTTCTTCTGCCTCGAC
104306	LARS2	GCCATCAGAGACACTGCTG
104307	TRIM9	TATCAGATCTGCGGGAAAACTATTT
104308	CSF3	GGAGGCTGGTGTGACAGAGGGGCTGGG
104309	GNB1	TGAGACAAATTTACATGTATTG

104310	CREBL2	AGGAGTAGAGAAAATCGATGAAGA
104311	LY6E	GTTGGGGTTTCTGCC
104312	BRCA1	CACGGCACTCCAGCCTGGGTGA
104313	RARB	AAAACTCAAGAAGGACCAAGAAGTTTT
104314	ABL1	CTCTGGATCGTTTTATGCGGTTC
104315	NOX1	AAGGCTTGATAGCAGAGGTTTGGTGG
104316	KLHL3	GGGGTGAGGCCGGGCTGTCTCGTGGTG
104317	LHX4	GTAGAGGCCTCACAGCCCT
104318	ELMO1	TCAGGTCACTTCCCATGGCTGCAGT
104319	FGF5	ACCACGCCAGCTAATTTTTGT
104320	GPR35	TTGCTCCCCCTGCTCACTCTC
104321	ADORA1	GTTGCCGGGCCTGGACTGTCCTAGGTG
104322	DLEC1	CCAGGGATTAGGAGCAGCTCTTC
104323	RUNX3	AGCTGCCTCCTGAGGGTGT
104324	PIP5K1B	TGCTGTTGCTTGCTGAACT
104325	GNGT2	AGGACTTGCCTCAGGAGGAAGGACAGC
104326	ABR	GGAGGAAAGACATGCCCAAGAGGAA
104327	CD209	TTGTTCTTGCCGTTTTCTAGCC
104328	HS2ST1	TATGGGAGGGCATGAGGGAA
104329	PRELP	CCAGAAACACAGATGTGTCTAAAGAAA
104330	RBBP5	CGACCTTCCCTTCCTTTTCA
104331	UBL3	AAGTGTTCCAAATACAATTTGCACTAA
104332	CLCN6	TACATGGTATCAGTCCCAGCAGGCATC
104333	SDC4	TGAGAGTTTATGCTGAAATG
104334	EPHB3	AGCAGGGGATCCCCACAACCTCA
104335	KCNJ5	AACCATCACCTTGTCCCTCATTCCT
104336	DVL3	CCCACCCCCACACACAACCTCCC
104337	PRex1	CCAGAAGCTGGAGGGGTGCTGGA
104338	SNRP70	CGCAGCCGCCGCGAGCCTCCGG
104339	F2RL3	AGATGGTGCCACTGCACTCCAGC
104340	MATK	GTCTTCATGGGGTGCTAGAGC
104341	NTRK2	CGGACCCCCATTCGCATCTAAC
104342	ADCY1	CTGCACCCACCAAGTCAAGCAG
104343	HM13	CACTGCATTCCAGCCTGGCGA
104344	BUB3	TACTTAAGTGCCATGTTGATGA
104345	ZNF236	ACCACAGCAAGGAGGTGCATGGC
104346	DNAJB1	TCTGTCTTCTCTTTGGCCATCTC
104347	MTCP1	GTTCTTCTGAAGTGCTGCTCCA
104348	CXCL6	AGTGTGGGGGAAAGCCTACGCTTCTC
104349	ZNF278	GGTGGTTCCTGCCCAGCATGCCCAGCT
104350	HNRPA2B1	ATGGAGAGAGAAAAGGAACAGTTCC
104351	LAMA3	TCACAGCAAGGAAATTCACCTT
104352	STAR	CCTGCCTCTGAAGCCAGGTGT
104353	KCNA7	ACATTTTCAGAAATCTTTCA
104354	PDE7A	CTTCAAATGCTGTGCAGCCATCTTGCCTCAAC
104355	PPP2R4	AGCACAGCACAGGGGCTCAGCCTGGG
104356	WTAP	GTCATGAGAGAATCAAATAATAGA
104357	DMRT2	TCTCTCAGTGAAAGGCTGCTT
104358	ATP12A	GCTCACTGATGTTTTGCACTTTAAAA
104359	LIMD1	GAGAGCTTCAGTTCTTCTGCAGAA

104360	IRAK1	TGCAGTGAGTCATGATTGTATGACTGC
104361	PTBP1	CCTTGTGCCTTAAAAAACCTGCCTTC
104362	SH3BP2	AGGCTGGAGTGCAATGCCGTGAT
104363	PIM2	TTGCAACCTCCTCCTGAGCCGGGA
104364	NPHP1	GCAGTGAGCCAAGATCGTGCC
104365	DSP	TTCTGGCTTTTTATCTTCTTAGCTCA
104366	GJB2	CGAGTGAGACAGACTAGA
104367	SMARCC1	GATCCAGGTGGAAATATTTTTACTAT
104368	AP2B1	CTTCTCTCAGCCTCCCCACCA
104369	GJB3	TTCCTCCCCACAACTGTGCTCAG
104370	UBE2L3	CATGCCTTCAGGGTAGGCTCTGA
104371	GARP	CCCAGTCTGGTAGGAGAGAGTG
104372	POMC	TCTCCCCTGCCCTGCTGCC
104373	GYPC	AGTGCAGGACAACATCAGCT
104374	FOXE1	AAGGAAAGAGAAAAATTAAGTTAGG
104375	TNFRSF9	TATGGTCTTCTCCATCCTCAC
104376	FREB	TTTCATGTTGAAGAAAATCAGT
104377	SMARCC1	CTTTCTTGGGTTTCTTTCAGGATTT
104378	USH2A	TTTTCTTTTTCTTTCTCTTGC
104379	ATF5	CGCCGCCGCCTCTCCTTGCTGCAG
104380	KRT7	GCCCAGCCACCATGTCCATCC
104381	CD209	ACCCCTTCCACCCCCACATCTTC
104382	HOXB6	CTGGGCCCGGTGACCGCAGGCCTCAGC
104383	RPN1	CCGGGAGGCAGAGGTTGCAGCCGGCTGA
104384	STAU	GAACGCCCTCTTTTTAAAAAAGA
104385	TGFB1	TTGGGAGGCAGAGATGGGAGG
104386	SH3BP2	CCTCCACCTAGACTGCCTGCTGAGGGGG
104387	DMD	GGATCACTCACTTTCCCCCTACA
104388	MCSP	GGAGGCCTCCATCTGGAAATGGGAG
104389	RAI3	AACAGCATGAAGTGCCGTGGAACTGGA
104390	ZNF268	CTGGAGGTGGAGGCAGTACCCTGGAC
104391	PMX1	ATTAATAATACTTACCTACCTCA
104392	LAT	TATCACTTTGGGGTTCGGCCTGTGTC
104393	CCKBR	AAGAGGAATAAGAATGGAGCAGTACATGGG
104394	SERPINB8	GACCTAGTTGGTGCAGTG
104395	TCAP	GCTGCTGGCCATGGCTGCTT
104396	PRSS15	CCCAGATCCCAGGGACCTCAGTCGGCTTAA
104397	JDP1	AATCCATTAAAAAGCAATCTC
104398	SLC17A5	CACTTGAACCTGGGAGATGGA
104399	MAP3K7IP1	GAAGTGGTCTAAGAGACCTGGAACTGCCAGAG
104400	CROT	CCAGGAGGTTGTGGCTGCAGTG
104401	RBM8A	GCTCAAGCCATCCTTCTGCCTCA
104402	FXYD7	CTCAGGCCTCCAGCTCCTGGGATCCGG
104403	RXRA	GCCCCCACTTCCCAGTGGCTGCT
104404	P2RY6	CCAGAGCAGAGGACACATGGCCT
104405	RGS6	ATGGTGGGGAGACTCGGTGGGTGAA
104406	MAPK10	CCTCCAACTCTTCTTCATCCTCCTAGC
104407	KL	CCTTGCACATAGGAAACTTTTG
104408	MGAT2	CCTCCCACTCTTTCATGGCCGTGG
104409	DPP4	TCACAGCCAGACTGGCACAGTTTT

104410	SDC1	TCCTGTGAATGCCACTGCCTTC
104411	HSD11B2	CACTCCGCGCCCCGGCCTAGAAGCTC
104412	p100	TCACATCTTCGCTCTGGCCA
104413	GRB10	TAGATGTTTTGTCTTCTCTTT
104414	HAX1	TTCTCTTGCCACCTCAGGGGCTTGG
104415	P2RY2	GGCTGTAGAGCAGAACACTTC
104416	GUCY1B2	TGTGGGGAGTGCAGGGCCAGA
104417	ADAM2	TTTCTGTTGGTTAGTAGACA
104418	CPB2	GATGAAGCTTTGCAGCCT
104419	NT5C2	GCCTGTAATCCCATCATCTACTCAGG
104420	D12S2489E	ATGCTGCCACTTTTAATGGGTCCT
104421	DSCR1	GTGGTGGTTTCTATACATGAATCA
104422	FOXE1	GTCTCCCCCATCTGTTACAC
104423	NOTCH1	AACTGATTTGCAATAAAAATGATACT
104424	PIP5K1A	AGGGGAGCTGCTCCTCCATCT
104425	GNE	AACCCCAGGCTGGAGTGCAGT
104426	ZNF146	AAGGGACACCAGAAAATTTGTA
104427	ADARB1	AATGATTTCAGTAGATACTCA
104428	TEM8	CTCTACTCCACCTCCATCCCTGGACTT
104429	IMPDH1	GAGCCCAGGCGGAGCCCAGT
104430	UBE2G2	CATGAGGTCAGGAGATCGCGAC
104431	CTSS	CAGAAGCAGGAAGGTGACTCTGA
104432	BDNF	CTGTTCCTGTCACACATTCC
104433	RET	CCCCCACTGCTGTTTTCACATCC
104434	MAFF	GCAGTCCTACTACAGTCTGGAGT
104435	MJD	AGACTTTTAGCGGTTTGCAAAC
104436	ACADS	CATGGGAATGAGGCCCTCCGA
104437	PTGFRN	GTTTACCAGCACACGGCTCTTC
104438	NOTCH2	TTTGTTGTTTTTCTGTGTATGGGCCT
104439	STARD5	CCGGCGGGACACAGCAGGCTGG
104440	RPP30	GTCTCACTATGTTGCTGAGGC
104441	GJB3	TCAGAAATTCAGGAGCCAGTGAG
104442	ITGA7	GGAGGAGGTTGTGTCACTGACTCAG
104443	COL11A1	TAGCAAACATCCCTGGCGATACCTTGG
104444	FAAH	CCTCTGGCCCTGCCAGCTGC
104445	ICMT	AGAAAACAAGGCAGCAGCGCACCTGCC
104446	COG7	GGATCATGAAGCCAGGAGTTCG
104447	METTL1	AGAAAACAAAGCAGCTGACTG
104448	RAB7L1	GATTCTGGAATGCAGAAGGAG
104449	DMD	TTGGAGCCTCTCCTACTCAGA
104450	ABCD1	AGGGGGAGCTGTCTGCGGAGCCAG
104451	ANPEP	CTCTCTGCCTGTGAGCCAGTCTAG
104452	ASB1	TTTCTGCTGCTCATGGCCAAG
104453	PRKACA	GAGGAGTCATCCCCCAAAAAG
104454	KCND2	TTCAATTGACAATTCTGCCTCC
104455	RAI14	TTTAGTATTTTGTCTTTGTAATTTACA
104456	WNT5B	AGGACTGCCTGTGATCCTGGCC
104457	CRYM	TGCTGGTTCTCATAATTTCTAGAGTA
104458	F3	GCAGTAGCACGATCTCGGCTCACT
104459	FCRH1	TTGCCCAGGCTGGTCTCAAACTCCTGG

104459	TP53	TTGCCCAGGCTGGTCTCAAACTCCTGG
104460	NUFIP1	TGACTTCTATTTTCCTTAATCAAAC
104461	CADPS	AAGTAGTGGATCCATCTTGCT
104462	COL1A1	CATTCATCTCTCAAACTTAGTTT
104463	FGFR3	GCCAAGAATGTACGTCCAGCCTGCCCCGG
104464	MTMR4	TTCCAAAATAACTAGGATCTGCATTT
104465	NCALD	TTCCCCAGCAGGCTGTAGTT
104466	YWHAG	CCGAAGACACTCCTTCCCCAAGT
104467	B4GALT5	TGGCACGATCACAGCTCACTGCAGCCT
104468	MLLT2	ACACTTCAGAGTAAGACAAATGCA
104469	SUOX	CCTCAAGGATCTGCATTCAGGCCTGC
104470	BLAME	GATCTGGGAGTGAGGGTGGAGAG
104471	MIA	CCCAGCACCCCCTTGCTCA
104472	DVL3	CCTGCCTGTAATCTCAGCTACTC
104473	P2RX4	AGCGCTGTGCTAAGGTGATCGAGGACC
104474	ZNF14	TGGAGACAGAGGTTGCAGTGA
104475	SLC17A5	GGCGCCTGTAATCCCAGATACTCAGG
104476	SH3BP2	CTTCCCCAGGGTGCACAGCGAGT
104477	VGF	AGCCTCTCCAAGTCGCTGT
104478	ARHGEF12	AGGCAGAACTGCTCACACCAGCT
104479	COL4A3	ACTGACATTCCTCCATGTCCTCAC
104480	NBS1	GCCAATCTGCAATTTCTACTACAGGCA
104481	C9	AAGTCTCTTCTCTCTTAGGTCT
104482	DUSP4	CGCTGGTGGGAGAGATGAGGG
104483	DIA1	CCCAGCACAGGGGGATTCTGA
104484	IL1F8	CGAATGTCACTATCCCAAGA
104485	FZD4	TTGCTGTCTCTTGCCATGCACTTGTG
104486	SELE	TTTCTTTCTTTTGCCCTTCACAGTGT
104487	TAF7	GGATTGTATAGGCAGAAAAATGATTGTAGGA
104488	PTGES	GGCTCACTGCAGCCTCCGCCT
104489	SIAT1	CCTACTGACTAGCTGTGCCA
104490	SUDD	CCTGCTGCCCGTCCTGCCACCTC
104491	CUTL1	AGTTTCTATTACCCCCTCCCTGCC
104492	ZNF2	CTTCCACTGCTAGTAGCTAG
104493	ADORA3	GCTAAGCTGGCAGAAAGATTGCAT
104494	MUC4	GAGGACGACTTCAGGATGC
104495	CXorf6	TCACCCAGGATGCTGGGGCACTTTAAA
104496	BAP1	CTGTCCAGCCCCTCAGTATTA
104497	HKE4	ACTGCCTCTGTCCCTCTGGTCAGCGTG
104498	NPR1	TGAGCCAAGCCCACGGCCATGC
104499	SALL2	TTCTCGTTAATATTCTTTTGG
104500	GNAT1	CCAGCTCCCTTGGATCAGCCCAGAGGA
104501	SLC6A8	CCCACCCCCACCCACAGTGCTGCAC
104502	GLRB	CTTATTGACGAAATATTTAGGATAA
104503	GFAP	CCTGCCACCTGCTGCTGC
104504	D10S170	TTGTTTTTCAGCAGTTGCTGTTTT
104505	BARD1	TCACATTTTTACAAATAGGTAGAGTC
104506	MYO1D	ACGTATGCTTCAGGGGCCT
104507	FCGR3A	TGAGGTGGGGATGGAGAAGAC
104508	IPP	AGGCTGAGGTTGCAGGATCGCT

104509	TUFT1	CATTGCTGCTGCCTCTGCCTCG
104510	BARX1	CCCCGGGGCAACCCGTCGGCTATG
104511	JRK	TGACTGCACTGCCAGGAGCCAAGGCCT
104512	GPR62	TCTGCTGCCTGGTGAGGCCCA
104513	NLGN1	TTTTCTAGATTAGACCAGT
104514	STS	TTTGACAGCATTTCCCCAGTTG
104515	RBBP5	ACAGATTGGATAGATGTGTACA
104516	GRIN2C	AGTTACTGGTCATGCCTGCTGT
104517	GP1BA	TCCCACATGCATTTATG
104518	SLC12A2	AATGGTGACTTTTCTTTCACGA
104519	F2RL3	TGTTGGCCAGGCTGGTCTCCAAC
104520	CNP	CTAATGCTCACGCTCCCAACACAA
104521	SIGLEC11	GCCTAAAATCCCAGCTACTCGGG
104522	SFRS2IP	TTTTCTCTCTCCTTTTGCTTAGATA
104523	TACC1	GCAAGGAGAAGGTCTGTACTAA
104524	REGL	AAGCTCAGGTGAGAGGCACAG
104525	CSE1L	CCTGAACCTTGAGCAAATTAGTTGGTT
104526	ZNF35	GTCATGTTCTCTGAAGTGGAAT
104527	TLL2	ATATCACTGCAGCCTGCTTTGTGCTT
104528	UBE2V1	CCTCCACTCCCCTCTGAGATTGGCC
104529	POLH	CCTGTAATCCTAACACTTTGG
104530	SRGAP2	AAATTCTTGCCTTTCCTTGTTTCA
104531	CASP8	TGGGAGCCTTTCCCACCCCCT
104532	MTMR3	TGTCCTGCTGCCCGACTTCCTT
104533	GRAF	AAAGTGCTGGGATTCCAGGTGT
104534	DISC1	TGTCACCCAAGTTGGAGTGCAGT
104535	KCNK6	CTGCTGCACTCCAGCCTGCGGG
104536	DHCR7	CCCAGCACTTGGCAGGTGTCCA
104537	MKL1	TGCTGGGACAAAGATGGGGA
104538	CDY1	CTGGTGAAGAGCTGGAGGCAGA
104538	CDY2	CTGGTGAAGAGCTGGAGGCAGA
104539	GGT2	AGGTGCTTCGGGAGGGGGAGA
104540	BDKRB2	CTGCCACACCTGAGCCAGCCTGC
104541	KLF15	TCCAGAGAGAGTCATGCTGGAGGAG
104542	PRDM2	GCTGTCCTTTGGGATGATACTTGGAT
104543	OPCML	AGTTTCCTCTGATGCAGCT
104544	AK1	TGGCCAACATGGCAAAACCCCTTATTT
104545	ATP8B2	TCCTCTGGCTGACAAGAAGTTC
104546	PCDHA1	GTCTATAGCTATAAATCTTTAA
104546	PCDHA10	GTCTATAGCTATAAATCTTTAA
104546	PCDHA11	GTCTATAGCTATAAATCTTTAA
104546	PCDHA12	GTCTATAGCTATAAATCTTTAA
104546	PCDHA13	GTCTATAGCTATAAATCTTTAA
104546	PCDHA2	GTCTATAGCTATAAATCTTTAA
104546	PCDHA3	GTCTATAGCTATAAATCTTTAA
104546	PCDHA4	GTCTATAGCTATAAATCTTTAA
104546	PCDHA5	GTCTATAGCTATAAATCTTTAA
104546	PCDHA6	GTCTATAGCTATAAATCTTTAA
104546	PCDHA7	GTCTATAGCTATAAATCTTTAA
104546	PCDHA8	GTCTATAGCTATAAATCTTTAA

104546	PCDHA9	GTCTATAGCTATAAATCTTTAA
104546	PCDHAC1	GTCTATAGCTATAAATCTTTAA
104546	PCDHAC2	GTCTATAGCTATAAATCTTTAA
104547	NVL	TGGCAAAAAGGGCAAGACAAGGTGAA
104548	VHL	GGAGGCGAAGATTGCAGTGA
104549	OPCML	TGCTTCTCTCAACCCTTCA
104550	SLC22A11	CCTCTTCTCCCTGCCC
104551	BCLG	GGATTTCTGCTTCCTAATA
104552	YES1	TCTGCCGCCCAGGCTGGAGTGCAGTG
104553	MHC2TA	AGCTGCTGCCTGGCTGGGATT
104554	BCL7B	GTTCTCACCTCTACCTGTCATTCCA
104555	ALEX1	CGCGCTTCTCTGGGCCAGAGC
104556	DMN	TCTATTTGCACAGGTTCCCTGGCACTGG
104557	ZNF180	ACGCCCAGGTTGGTAGGGGCGTG
104558	PRKY	GGAGGCGGAGGCTGCAGTCAACCAAG
104559	CENTD2	TGATCTGGGTCTCTGTGTGGTCT
104560	NCOA6	GAGGCTGGAGTGCAGTGGCGCG
104561	SH3BGR	TTCATTTCTTCCACTTCTCC
104562	LDB1	CCCTGCCAGGACTCCTCTGGGCTT
104563	FUT4	CCTCTACTGTGCATCTCCTTGACTGCC
104564	GRB2	GAATTCGGGGGCTCAGCCCTCCTC
104565	HSD17B2	CTCTCTGTTCACAGAACTCAGGCTGCCTCCA
104566	DLD	CAACTCATATTTTCATGCTGTTCA
104567	FUT1	TCCCGGGTTCATGCCATTCTGCCTCAG
104568	HUNK	GTTCACTGCAGCCTCAACCTCT
104569	DNAJB9	GTCATTTAGGCTGGAAAAAAGT
104570	MGAT5	TTGCCTTTCTGTGCCTGGATTA
104571	RASGRP2	CAGGTCCCTCTCCCCAAAATATTCCC
104572	AQP4	TCATAATTTACAAAGGAGGAACGGAAG
104573	SQSTM1	CCCTTGCTTAGCCTGTGCTGGACCA
104574	PRKCI	CGCACCCCCGGCCTCCAGCGTT
104575	KCNQ2	GCGGGCCTGTTTGGTGAGGACCT
104576	ISL1	TCAGGAAGGTGGAGCTGCATTG
104577	SH3BP2	GCACCTGCTAGCACAGCTGTC
104578	GPR1	ATCACACCATTGCACTCCAGCCT
104578	RFC2	ATCACACCATTGCACTCCAGCCT
104578	RIMS1	ATCACACCATTGCACTCCAGCCT
104578	VHL	ATCACACCATTGCACTCCAGCCT
104579	IL13RA1	ATCACACCACTGCACTCTAGCCT
104580	SLC22A3	CTCTCAGCTGGTCTTGTGTTACACATC
104581	ADRB3	GCCCAGGCTGGGGAAGTCGC
104582	COL4A4	TCCTCTGTAATCTATTTTTCC
104583	RALBP1	GGGGAGCTGCCTCACGTTCT
104584	ZNF205	CCACCTAGAGGCCAGGAAAGG
104585	PBX1	TCGAAGCAATCAGCAAACACAATAA
104586	CDS1	GCTTGCAGCTCAGGTTTCGGGGTGCT
104587	PDE4A	GGGAGCTGGGGGAGCTGT
104588	TRIM9	CCTCTCCTCCGCTGTCATGCCT
104589	DLEU1	TGCAGTATTTATATTGGATCAT
104590	FEN1	GTGGGTGGAGTGGGGACAAGCGGTGG

104591	KCNE1L	TTTCTCCCTCTTCACCCCTGCGC
104592	NOC4	AACCTTTTATAATCTGGAGAGAA
104593	IHH	CAGCCATCCCGGCCATTCTGAG
104594	ZHX1	CTCCCTTTTATAAACATTGCTAATGT
104595	AMFR	TTTAATCCTTCTTTGTAATACTTT
104596	RECQL5	CACCTGGCAGTGAGGGACAGAGCTAGTG
104597	TGFB3	AATCAACCCTCTCCTGTCTGCC
104598	FANCC	TGTGGCTGGGCCATGGAAGCTGTGACTCCTCT
104599	TEM7R	GCTGTAGCCTGAAGAAGACAAGATT
104600	LTB4R	CCACAACCTGCCAGGAATTTTTA
104601	ITIH4	AGGAGCTGTGCCCACCCTGTACACTT
104602	DIAPH2	TCCAAGTAGCTGGGTCTACAGG
104603	RAF1	GCACATAAGGCACCAAACAGCCC
104604	MHC2TA	AGAGGGTCTGAGGAATCCAGA
104605	SIRT2	CAACAGAGAGGGAGAAACCCCA
104606	BACE	GTTACTTCCTTCCTGCCCC
104607	NRG1	ACGACTTCCCGGGGCGACAGGAGCA
104608	SLC14A2	CTGTATTCCCAGCTACTTGGGA
104609	VEGF	CCAGCCCCAGCTACCACCTCCTC
104610	GRIA1	CCTTGGGAGCCACGGGATTGTACTGGA
104611	LGMN	CCGGCGCCACCACCGCGGTCAC
104612	IL10RA	CACAGGCATGGAAGCTGTGA
104613	IL1RN	TCTGCCTCCTCTTCAACTGACCAGCCT
104614	SLC22A7	TCCCTCTCTGGGCCTCAGTC
104615	DLX2	TGGAAGCCTCCCAGGCGCGCGAG
104616	BACH2	TGCCAAATAATGAATTCATCCTAGGA
104617	KLK10	ACAATGACGTGCCTACCTCTT
104618	FGF7	TGGGTAGATATACAGCTGTCACAAGA
104619	KCNN3	CCTGCTCTCCCTCCCTGCCCAATACA
104620	VCP	TGGTAGGCGGAGAGTGA
104621	NTS	TGAACTTGATAGCTAATAAA
104622	PDE6C	TCCAAAACATGTTTAATGTTGTATATTATC
104623	USH3A	GTTCTTTCTGTAGATCTTTAA
104624	SCN2A2	GACTGTTTTTACAAATGTA
104625	PMP22	TCCCTCCCAGTCCACCTCA
104626	AGER	GCAGGCGAGAGTAGTACTGG
104627	OXCT	GTACCTCCTCTCAAGCCAAGA
104628	RXRA	GGCTGGCCCTGGCTCGGGCAGGG
104629	HBE1	AGAGGCAGCAGCACATATCT
104630	FUT8	GAACAGCTCCTTACTCTGAG
104631	CMAR	TGCCAAGGCTGGAGTGCAGG
104632	GCH1	TTAGTAAATGCAAAGTAAT
104633	DDX38	AGGAGGTGGAGTTCTTCCATGCAGGA
104634	ATF2	AAGTTATTCAACTTATGAAATTCA
104635	HNRPDL	AGTCGCCAGCGCCGGGCGCAGT
104636	CP	ATGTATGTGAAAGTGTAAAATAG
104637	PPEF2	ACCTGTTACAGTGAGGAGATCACAGTGT
104638	DNAJB9	AAACAAGTGTCTCATACAACA
104639	EPM2A	GGCCTTTGCTTTACAGCACTG
104640	GRPR	TACTCAGAGTATTTTTATTAA

104641	PRKCB1	CGGTCTCAATCTAAAAGCACTTCA
104642	RPA3	ACTGCCTCTCGCCCTGTATCTGTC
104643	SERPINE2	GCAGGATGGCTGGAACAC
104644	ZNF135	GGATCCAGGGAACGCTTTTGTCCA
104645	PKP2	CAGAATGGAAATGACAAGAAATA
104646	MHC2TA	TGAACTCCTGGCCTCAAGTGAT
104647	B4GALT4	TGGTGATGTTTGGAAGACTGA
104648	KCNG1	GCGGAGGACACGCCTGCCCTGCCTGCCATCTG
104649	MAGEA3	AAGATAGTTGATTCTTGCCTTGT
104650	CSPG2	TCTTTAGTTTTCTATTTGCCTCCA
104651	PDGFB	GGGAGAGAAGGGAAAAGATCCCC
104652	AKAP13	GGCTTGGCTGTCTGTTCTGGGCACTG
104653	SIP	TGCAGCTCGGGACTTCGGCCTG
104654	MGEA5	AGTAATCATGTTGGCTGGTC
104655	ITPA	CTTAGGATTCACTGCTCTCTCCTACAGC
104656	SIGLEC8	ACCTAGGCTGGAGTGCAGTGGG
104657	RAB11A	TATTGATTTGGATTATATTCACATT
104658	SIAT7D	TCTACATCCTCCTGTGCTGCTG
104659	MGAT5	CATGTATGTACACTCTGAA
104660	POU3F2	TGTTCCCTCTCTAACTTCTGAT
104661	NYX	CTCCTCCTCTCCAGGGGCC
104662	ESRRA	GTGCCCCCAGAGTGTAGGGGGCC
104663	IL10	CGCACCTGTAATCCCAGCTACTT
104664	USP14	CACACCTGTGATCCCAGCTACTT
104665	EPB42	GGAGATACCAGCAGAGAGGGAGTAGG
104666	OASL	TCACACCTGTAATCCCAGAACTTTG
104667	DRD1	CGCCGCCTCTCTTGGGACCTGGCCTGG
104668	HK2	TGGAATCAAGGAATCCTGAGT
104669	CNR1	TTCTACAGAAAAACAAATGGTAACA
104670	XPNPEP2	CTGCTACAGCTGCTCCCCTCCCGCC
104671	SUFU	CCTGGAGGGTCTTTGTGGACT
104672	DTNB	GGAGAGGGGAGCCAGAGCCGGT
104673	COL1A1	GGGGATGGGGGCAGGGTGGA
104674	ARAF1	AGGCGGACTCTGTGAGGAAAC
104675	CCND1	GCCCCTTCCTTTAAAAAACTTA
104676	EHF	CAATAGAAGACATTTTCACTGGA
104677	CTSF	GGGTGAGCAGAGGGCACTGG
104678	ZNF192	TCCACAGTGGTAATGTAATA
104679	PSMD9	AGCTAATTTATTTTTTGT
104680	CACNG3	GGAGAGTGGGCTTGACTGGGCAGAGC
104681	ABCC1	CCAAAACACGCACACCCTGCC
104682	APOBEC3B	ATGCTCAATATTCCCAGAATAGTTTT
104683	GOLGA5	GCTTGGGCCCCCTCCGGGCC
104684	LTBP2	TTCAGACGGCTGCAGGCACAGGGA
104685	MYCN	TGCTGCATCTTATAGCACTTTG
104686	CST3	CTCCCCATGTGCCTGCACCAGGAG
104687	FUT3	AGGCTGAGGTAGGAGGATTGAT
104688	D8S2298E	ATGAGAATGAGGTTGAAATGTATGCA
104689	DAAM2	TTGCTTTCTTCATGCCCTCCCC
104690	HOXB7	CCTGGCTGCTGCTTCTTGCTTCCC

104691	NHLH1	CTCAGCCCACTCTGAAAATGTG
104692	PDE4C	GCAGAAAAGAAGGGCTGGGCAAG
104693	PTPRH	GCTGGGCTCCCAGACTCCTGGGT
104694	STK38	TCAGAAGAGAAAAATGGAATATCAGA
104695	DCTN1	CTGCCCTTCTCTTGCTGCCTC
104696	USP6	CCCCAAAACCAAACACACTCCTGCTCA
104697	IL15RA	CAGCCCAGCTAAGTCCGGAG
104698	ZNF253	CACCGAGGCTGGAGTGCAATGAC
104699	SNX9	GGCTGCAGCCTCAGCAGTGTA
104700	USH2A	ACTGTGACAACTTAATATCTC
104701	MGAT4B	TCTGTGCTGCCCCATCCACCTA
104702	ARCN1	ATTCAGTCAGGCACTGGGAT
104703	STX1A	CTGCCAGGGAGGCTCAGGCTGCCATGG
104704	POLA	CTGTGTTTTTAAAAAACATTGACC
104705	VHL	TTGCCCAGGCTGGAGTGCAGAGGTGCG
104706	VIPR2	TCTCGATCTCCTGACCTCGTGATGGGCC
104707	DISC1	AAGTAGCTGGGGTTACAGGCAT
104708	PFKL	CTCACACCTGCTCCCTGCTGCTG
104709	SVIL	TGTTCTGGTGGGGAGACGCCAGA
104710	SLC16A1	AACTACATATTTGTGCCTCC
104711	CPS1	GGCTCACTGCAATTTGCGTCTCCCAAG
104712	FKRP	GCTACTCTTAACTGTTCTATTCAA
104713	BENE	GACTACAGGCGCCCACCACCAT
104714	BST1	GTTAGTTCTATTTAGCAGGTT
104715	TAL1	GTTGTTGCTGTTGGACT
104716	PODXL	CAGCAGGAACACTGGCCCATTGCCC
104717	CRAT	CCCTCCAGAGCAGGAGACTGG
104718	ADARB1	GTGTGGACCACCTCCACCAAG
104719	BCL11B	TTATAGGACAGTTTTTCTACTGCCATTC
104720	ACADSB	TCACTGCAGCCTTGACCTCCTG
104721	PCDH11X	TTTTAAGGAAAAATGCAGA
104721	PCDH11Y	TTTTAAGGAAAAATGCAGA
104722	DMD	TCACGTAAGTAGTAATGATT
104723	RP2	CTTGATACATTTGATTTTTCA
104724	TPO	GCAGAACAGCTTCATGTTCC
104725	PCDHB7	CCACAAACATTGCTATTATTCA
104726	B3GALT2	CATTGTCCAGCCAGGAAAAATAGCA
104727	SNAI2	TGAGCACGGCCCCTGCCCGAGC
104728	RDBP	CTCAGCCTCTGGTTTTTCAGCACTTG
104729	MMP14	CATCTGCTCCTTTTCCATCCCCT
104730	PLAGL1	TGCTGCCTCTCCCGTGGTCTGGAGTTC
104731	CYB5	AAGCCATTGCTAACTACTTCA
104732	TCF2	TCTGTCACCCGAGCTGGAGTGCAGT
104733	MLF2	TTCATTCTGCCACTCCATCTTCA
104734	SLC7A5	GAGAGGGAACTAGGGCACCCCTTGTT
104735	AP3B1	GGGTACCTGCTTACATCTGGACTTTAG
104736	KLRG1	CTGAGGTGGGAGGGTCGCTTGA
104737	MAP3K14	GGAGATGGGGTGAAGGGACACAGT
104738	MXI1	AAGTTCAGCACTTGTCTCA
104739	CSRP1	TGTGGAATGGATAGCCTCCCA

104740	BLAME	CATCTCCAGGGCCCCACCTCA
104741	GRAF	TCTCGAACTCCTGACCTCAAGTGATC
104742	KIR3DL2	CTTACTTCCTAGTCCTACTTGA
104743	ADRA2B	CCCCAAAACCTGGCACCCAGAA
104744	FGFR4	GGAGCCAGGTGAGGAGGAGCCAG
104745	BCL2L2	AAGGGTAGTGTGTGAGGGAGCT
104746	PTPRN	TCTGCCCTCCCTGGCCTCACGCCCAG
104747	DBY	CAGGAGTCATCAATTCATCCATAA
104748	PRKCQ	AGACAAGTAATCACTAACCCG
104749	SLC6A6	CTATAGCAGAAGTCTGATTCTAAGAGCAGTA
104750	NPTX1	GCCTCAGGGCTTAGATCCCACTTGA
104751	ITGB3	CTGAGGCCTCTCATTCCAGA
104752	MPL	GGTCTCGATATCTGATCTCGTGATCCG
104753	RAD9	AGGCAGTGTCTTAGATGTGAG
104754	BCR	GCCCTCCCTTCCTGCGGCGCA
104755	ELAVL3	CCCAGCACCTAGGTGGGGCCTGG
104756	MAP3K9	GGCCAAGCTCTTCGCCATGCTGAA
104757	ARHGEF12	AGATGTACCTTTGTAAAATAG
104758	LOXL1	ATTGCCCAGGTCTGGGCTGAATA
104759	EPS8	CTCAGTTCTGAATGTTGATATGA
104760	SORCS2	TGTCTCACTCTCTGTCTTTATAG
104761	TFE3	GCCCTGCACCTTCCCCAAAGGA
104762	ZNF74	AAAATGCAAAAATTAGCCAG
104763	ESR1	GAGCCCAGGAGCTGGCGGAGGGCGT
104764	LNK	ACAAGCTAAAGGAACTTGCA
104765	LANCL1	AAGTTGGCACTACCTTGTGCCT
104766	NEK6	CAGGAGACCGTGTGATTTGTG
104767	SLC9A1	CCGTCCTCCCCCTTCCCAGGCC
104768	ITGA2	AGTCATCTGTTTAATTTACACAC
104769	SOX11	CTGTTAGAACTCAGGACAGG
104770	CASP8	GCATTTCTGGAGCATCTGCT
104771	ID4	TTAACTTAAGCAGACCAAAAAT
104772	HIS1	GTACATCCCCTTGCACAGCCCT
104773	NR2E1	GATGAATGAATGCTAAAAGGGTTCTTG
104774	NBS1	TTTATGAATATAATGAATGAGG
104775	GATA2	GGGAGGGTGAGCTGGTGCCTGCT
104776	BCL10	AAGTGTGTGCCACCATGCCT
104777	JAK3	GTGCAACCTCTGCTTCCCAGG
104778	PIM1	ATCCTCTCTGGGGCTGTGTT
104779	LGR6	CTTCCCTTTCCTCTCTCCCCCTCGGTGAA
104780	ABR	CCTGGCCCTTCCTAAGGTCCCTGCCTG
104781	TNFRSF8	CATTGGTCCCAGAGCCCTGG
104782	F2RL3	GGCTCACTGCAAGCTCGGCCTC
104783	HMGA2	CCTCTTGCTACCTCCACCTCC
104784	DDX26	CTCTTTCTCCACCACCTCGGGCC
104785	FPRL1	AATAAACCACACTTAGTCCTGAT
104786	ELAC2	GTGATTCCCTGCACACCAGAGACAA
104787	MAP1A	GATTATATCCCCAACTCCAGGG
104788	HPCAL1	AGCCTCCGCCTGGTCTCTGGTG
104789	WNT1	CGCCGCCCGCCCCCAGGGTT

104790	BAT1	CCCACCCCATGGCTTCCATCT
104791	INPP5D	GCCGAGGCCACCAAGAGGCA
104792	TEAD3	TTCCCTTAGGTTTTTCCCCACCTCAATT
104793	NRGN	TTTGCTTCTCGCCCACCTCTTC
104794	SLA	AGCTGGATTTTTTAGAAAAGAAATGGATAC
104795	LOH11CR2A	TGTCTTTTCTTCCACTGCCTGAAA
104796	IMPDH1	TGGGACAGCGGTGGAGGCCGAGGTGGTGG
104797	TKTL1	CTGTTCAAGTCAATGTTAATA
104798	COMT	GCTGTGTTGCTGGGCCTGGT
104799	PLA2R1	TAAACTTTCAATTACTAAATGATGATT
104800	FGFR3	TGGCTCGGCCTCTGCCTTT
104801	MSF	GGCTGAGAGAGGGAGGGCGAC
104802	NCKAP1	GGTTGTATTTTCTGATCATTG
104803	WASF3	ATGTGAGCAGGATGGTGATGGGGGTT
104804	CACNA1S	ATGTCATTCAAAAAGGCCT
104805	ITGB2	AAAGCCCCCACGCCCAG
104806	PSG6	TGGGACCCCTCTCAGCCCCTCCCT
104807	HLCS	GTGGTGTGGTCTCGGCTCACC
104808	IFNAR2	ATGGTGTGATCTTGGCTCACT
104809	CBFB	TTTCATGGTCACATTTATTAAA
104810	SCN4A	CTGCAGCTCCCCAGGCCACCCACC
104811	SERPINB9	GTGTTAGCCAGGATGGTGTC
104812	ITPA	GACCCCTGGCCGGAAACTGAGCC
104813	MSX2	GAGAAGAATCCTGAGACTGCCT
104814	MSR1	CAGGGTTGTTGTGAGGATCAAGTAA
104815	YWHAG	TTTGGAGAAGGTCTGTGGTGCA
104816	FGFR1	CCCAGATGCTCTCCCCTCCTCGGAGGATGA
104817	ARHGAP6	GAGAGTGCAGGGAGGCGCAGCTCAGGC
104818	KCNAB2	GTGATTTCTAGCTCAGCCT
104819	PRKCN	TTCCCCAAAGTTTAAGATGT
104820	CDK9	GGAGCGGCGGCAGCAGCGACTGGGG
104821	RCN2	TAAGTAGATTTAATTTGGGAACTGACA
104822	GCN1L1	GGTCTGGAACTATAATAGCAGGGTCA
104823	NAGLU	ATGGAGGCGGTGGCGGTG
104824	EP300	CCGAGGAGGAAGAGGTTGATGGCGGCG
104825	SPAP1	GTGTATTAACTTATTTATGTGCTGCT
104826	SEPX1	ACAATCTGTGCGGAAGTAGCTTG
104827	NHLH1	TTGGCATGGAGTCCCAAAGGCC
104828	GRAF	TGTGCTGCTGCTTTCCCTTCTC
104829	DPYSL3	CCCCTGCCATCCCCCCAACCTCCTCAT
104830	INSR	TTCCTCTGGTTTGAAAGCCTC
104831	SLC26A4	TTCAGACTCAAAACACTCATT
104832	EDNRB	GAGGCCTGTTATCATAGAAGTCATTT
104833	DNMT3B	ACACCTTTTACTCTTCTTA
104834	KCNJ6	CCCTGCTCTCCGCGCTCGGCC
104835	FBXL7	GTTTCAGGATTTGGGTGTCACA
104836	GDF5	TTTGCTGCTGCCGCTGTTCTCTTT
104837	NSF	TCTCTCTCCCAACTGCTGCTTA
104838	NOLA2	CAGCAGGACGACTGGCTGTCCTCC
104839	FRDA	AAATGAGACACATTAAAGGG

104840	SLC21A2	TTGGAAGGCACTGCCTTCAGCT
104841	XYLB	AACTCAGAATAAAAATGAAAAAGCTA
104842	CDKN2B	AGGAAAACCTGAAGACTGA
104843	RORB	GCTGCCCTTCCTCCTCCTCC
104844	MMP19	AAGGATCTAATAACTTCAAGCCAG
104845	NR4A2	ATTGACAAACTTTTCCTGGACACTTT
104846	SSA1	CCAAAAACATGTTTCTGCCTT
104847	MALT1	GTCATTGTATTTTTAACACCAGA
104848	EGLN2	CTTGCTGTCTGCCCTGCCTCACCCTGC
104849	ZNF133	CAGTCTAAGGCTGGAAGTTTAATG
104850	P53AIP1	CTTTTGTTCCTCCTGTCCCA
104851	SLC16A7	TCATAGGTAAATAAATTAGGGAA
104852	FOS	TGAGCCAGGCCTGGGTCTGTG
104853	GJA5	GCCATTTTCAAACAGTCCCT
104854	IL18RAP	GGAAATTCAAAGAGTCTCCTGCCA
104855	PTPRF	TGTTGGATGATGAAACATTCAT
104856	HNRPM	TACGAGACCTCTGAATTTGTA
104857	RPS6KA5	ATGATACCTTTTGCTTTGCCTTGT
104858	PAX5	GGGAGGGGCAGGAGAGCAGTGAG
104859	XT3	TTCTTATGGGACCAAATTTAAGCAATT
104860	CLN5	ATCGAATTCTCCTGGGAGCCAG
104861	POLR2H	CTCGCCTGAAGCCAGCCTCTC
104862	CXCL1	AGGAAAGAGAGACACAGCTGCAGA
104863	HPS4	GTGTCTCCCTCTTCTATCACCTCTCTC
104864	RPL10	TCCCAGGGCCTTCACCACCTGACCAA
104865	RGL	CCTCAGAAGATGTTCCCTGCTGA
104866	GPR23	TACTACTGATATATGCTAGTTTT
104867	EPOR	CTCAGGAAACCACAACCTTGCAGT
104868	FGF13	ACAGGCAGTTTTCTGTCCTGTGCACA
104869	SORCS2	ATGACTCTCTGGGACCTTGCCAC
104870	SDC1	CCCAGCCCAGGGCTCCTGCACT
104871	LDLR	GTGGCTTCTGGGAGATGGGTGTCACTTT
104872	TAF1C	CAGGCTGGAGGTGCCGGTGGGCCTGTG
104873	MEOX1	TCTTAGCAGCCTCTTCCCT
104874	SLC7A6	TTTACTTGGTAAAGTGCAGTG
104875	GPR62	TGTCTGCTGCCTGGTGAG
104876	GOCAP1	AGGAGAATTGGAAATACATAT
104877	SPAM1	TTGGGTGGCTGGATTTTGAAA
104878	NFIC	TCGCCCCTTCTCCATCGTCCC
104879	RORC	CCCTCCTGGGCAGCCAGGGCAGCCAGG
104880	MGAT4B	GGACCCTTCAGGGTGCCCCA
104881	SMAC	GGGAGCTGGCGCAGGGCTCT
104882	CKN1	TTTTATTCTTTCTTCTTCATGTATTCAC
104883	FCMD	TGGCCAACATAGTGAAACCCCGTCTCT
104883	MS4A2	TGGCCAACATAGTGAAACCCCGTCTCT
104884	TNFRSF10A	TGACCAACATCGTGAAATGCCGTCTTT
104885	BCL7B	GCCTCTATTTATTGCATTCTGGT
104886	GNE	ATGCAACCTCTGCCCCCCGGGT
104887	HIS1	TTTTCTGGGGAGAAGGTTCAAGAGATT
104888	EPHA8	TCCCGCGGGGACACCAGCACTGAGCC

104889	SLC13A1	CTGGTGATGAAGAGAAAAGGTTAA
104890	PBP	TTTGAACTTCATTTTGGGGGG
104891	FKRP	TTCAGTCTTGCAGAGGAGGAA
104892	RPA2	ACTTTTTGACACACTTGCCATGACGTG
104893	ACHE	TAGTGCTCCCTTCCTCCTCA
104894	D1S155E	TGGATGGGTCTGATTTCTTGGC
104895	TRPC6	AGTTTATTTCAGGTTCCTTCTTGCCT
104896	ADAM19	TTTATTGGAAGTCTCTCCCTGCCT
104897	CPD	AATTTTTAAAAGGGACTTTAA
104898	SPARC	CCTCCCCTTTGTTCTTCTAT
104899	ZNF134	TGAACAGAGCATTTCTATAGCA
104900	HAP1	ACCCAGGCTGGAGGACAGGACCAGC
104901	VIPR2	TGTGGAATGTCGCAGA
104902	MKL1	GAAGGGGCTGGGAGCCAG
104903	HMGB2	AGAGAAAATACTTTTAAAAAATGCAG
104904	ENTPD6	AGAGGCCTGCTCTCCTCACACATT
104905	GRM6	ATTTATTCCATAGGGTTTCTCT
104906	ALDH1A3	ACTCAGGGCGTTGTTAACAGGGAGTG
104907	TNS	CCTGCACTCTAGTGACCCTGGGTGCCGCCA
104908	KCNE3	GAGTGATGTGAGAAACTTCTTTTC
104909	BHMT2	TGACCAACATGGTGAAACCCTGTCTCT
104909	CPM	TGACCAACATGGTGAAACCCTGTCTCT
104910	CDH17	TAAGTAGCTGGGTTTACAGGCAC
104911	TNFSF4	AATCAGCTTGTGAAAAATCA
104912	LANGERIN	CAGACTCCAGGATGACTTTGCACG
104913	HAS2	TCTGATCTCTTATTACCTCA
104914	CASP8	CCCACCCCCTTCCCTGCTGA
104915	PTPRO	CCCACAGATCAACTGTGTAATC
104916	SIL	GTAGCCCAGGCTGGAGTGCAATG
104917	ZNF274	CCCTGCAATATAACATGCACAG
104918	SIRT3	TCTGCTTTCTGTGCCTAGTTGAACGGC
104919	CEP2	TCTTCCCTGTCTGATCCTTAGCAAAAGTA
104920	IL22RA2	TGAGTAGAAATCTGGTGACCTAAGGCT
104921	VBP1	TGATATTCTGGACATTTTAGG
104922	SEDL	GTTTCAAACTCCTGACCTCAGTTGATC
104923	CSH2	TGAGAGAGGGAGGGAACAG
104924	PLCG1	CAGCCTGAAGCCTGGATTCCAGCAGTGA
104925	ZNF217	TTCCTCGCCTCTCCAGATTGTC
104926	SIAT6	AGATGTCAAGTTGGGTTCACTTGCCAT
104927	TRPM7	GTAGGTGTCCATGCAGA
104928	PLAG1	TCTGGCTCATTAAAAAATTT
104929	CYP2B6	TCTCCCAGGCTGGAGTGCTATGGTG
104930	FBXW1B	TCACAGCTGAGTTATGAAGCTG
104931	MAP2K1	TCCTGCTCCATGACTGGCTGTCTGC
104932	RET	GAAAGAACATGGTCTGTGGTGCTGT
104933	TEAD2	AGCACTGGCTTTTCTTTTCAG
104934	SPR	CCCCCAGGCTGGGAGAAGGG
104935	KIT	CATTTGAGGGGAAAACACCATA
104936	PPEF2	TGCCCAGGCTGGAGTGCATT
104937	PPP4R1	ACTCTTGGGAGTGCTGCAGTCTT

104938	SMARCA1	CAGGAGCCCTCGTCCCCTGCCTTGT
104939	ABR	GTTCTTTCATTTCCTCC
104940	PTGIS	CCCAGAGGCTAGTCTCTTCTCA
104941	BCL10	CCAAAGTGCTGGGATTACAGAC
104941	TNFRSF9	CCAAAGTGCTGGGATTACAGAC
104942	HTR1E	CCAAAGTGCTGGAATTACAGGC
104942	MLANA	CCAAAGTGCTGGAATTACAGGC
104943	IMPG1	AACGCATGAATGTATGTAGTG
104944	AQP6	CCTGCCTGGAGGTTCTCCCTGGGGT
104945	TMOD3	CATCTGTGTAGGAGCTAAAGCA
104946	TFF1	AGGGATCTGCCTGCATCCTG
104947	CCND1	ACAGGGGAGTTTTGTTGAAGTTGCA
104948	STK38	TCTCTCTGCTGTGGCGTTCT
104949	ELK3	GGATCTCATTACAAGAGCCACAG
104950	BCL2	TCTTACCCAGTGAATCATTCT
104951	SMT3H1	TCACTTGCTGTTACAGGCACAG
104952	FMR2	TCTAATTCATTTTCTCTTTAGT
104953	UBE2E3	TGCTGTTGTGAAAAATGTTTTACC
104954	L1CAM	GCTGCACCCCTTCCTGGGCA
104955	TBL1X	GGCCTCGGACCCCAGGCTCC
104956	ZNF3	GGGAATAGAAAGCAGCTCTG
104957	MGA	GAAGTAGGTAAAGAGTGCTCCTCAGCTTC
104958	ATP7B	CACATCCCCAGCCAGGGAGCTT
104959	ZNF266	TCCATGAATGGAAGGAATGTGGGAGA
104960	DNASE2	CATCTGTAACCCCAGCACTTT
104961	KCNN3	AGCGGGAAGAGGAGATGACAGGAA
104962	CDR1	GGAAGACATGGATTTCCTGGAAGAC
104963	SOD3	ACATTTGTTGCAGGAATGCAGGA
104964	RANBP17	TAGTTTATGGTTCTGCAGTCA
104965	FNTB	CTCCAGTGCCCACCTGCCTCA
104966	SMAC	ACGTCGTCAAAAATGATTTA
104967	GPR23	CGCATTATCCAGGTGGCTAGTGGCA
104968	COLQ	CCTCCTGCTGACCCCTGACAGCG
104969	LRAT	TGGCAAATAGTACTTTAAT
104970	ATP7B	AAGCAGTGTCTGTCAGCTGTG
104971	SLC12A4	AGCACCCACCTGCCAGCCCTGC
104972	PLEK	GGCTCTCTTCTTTCTTCCTCATCC
104973	ASPH	TGCTTTTAGGATTAAAATCAAA
104974	ITGA3	CACTGGGTGACCAGCTGGCAGAC
104975	ELMO1	TAGAGGCAGAGCCACCCACGCC
104976	TARBP2	GGGCGAGCCACGCACGCAGAGGGTT
104977	CLN2	CAGTTCAGTCCCTTATTCTGC
104978	TMOD2	TTATCTAGATTTTTGTCCACAGTATAT
104979	CAPZA2	TGGCGGATCTGGAGGAGC
104980	HMG20A	ACAACAGCAACAAAATCTGTTT
104981	SEL1L	CCTAAGGCTGGATGGGAAAGTGCAGTC
104982	TCFL4	TATGGGAGAAAAAGAGTAAGAG
104983	GLRA1	TCGTGGACTACAAAGCACAA
104984	HDAC1	TTGAGATACTATTTTCATTTTTGTGAG
104985	TEM7R	TTATCTGAAGTATGACAAGATT

104986	HDLBP	GGCTGACAGAGGCGGCCTCA
104987	B3GAT1	CTTCTGAGAGAGCCCAGCCTGAT
104988	CASP10	TGAGACTACAGGTGTGTGTCCAT
104989	FZD4	GGAAGGCAAAGTCTTGGCT
104990	TGM2	GCTTAATAGCCCTCCCCCTCA
104991	TCF2	TCACCCGAGCTGGAGTGCAGT
104992	HGF	TTCTCATGTCTACCAGGAA
104993	MTCP1	CTTACCTCCCAGCTACCTCTCA
104994	BCAS1	CCTGTAATCTCAGCACTTTGG
104994	C21orf5	CCTGTAATCTCAGCACTTTGG
104994	ERBB3	CCTGTAATCTCAGCACTTTGG
104994	MTNR1A	CCTGTAATCTCAGCACTTTGG
104994	NUP62	CCTGTAATCTCAGCACTTTGG
104994	VHL	CCTGTAATCTCAGCACTTTGG
104995	CORO2A	CCTGTAATCCCAGCACTCTGG
104996	CPM	CTTGTAATCCCAGCACTTTGG
104997	ZNF264	TGTCACCCACGCTGGAGTGCTGTG
104998	RASAL1	CCAGCCTGGCCCTGAGCTGCTGG
104999	RAC2	CCCACCCCACGCCTGACTCCCC
105000	FMR2	GTTTTCTGTTTTCTACTTTCTT
105001	SLA	CCCCAACAGAAGTGTTCACAGT
105002	MAGEA5	ATAGTTACAGCAGTGGAATAAGTAT
105003	HFE	TTCTGTCTTGAAGGGCAGGTGCTT
105004	PDLIM1	CACAGCCGCGCCATGACCACCCAG
105005	RBL1	AGGTTGCGCCACTGCACTCCAGCCTGGG
105006	PTGIS	CCTCCAAACACTGGGCTCTGA
105007	LBP	CCTCCTCCTCTTCACCAGGT
105008	RGS5	CCAATCAGAATCACAGAAAAAT
105009	DEDD	TGGAGAAGAGGTTGCTGA
105010	SLC2A2	TGATCACTTTGTTAAAAATATTTTC
105011	EVC	AGCAGGCGGCGGGATGCGGCGG
105012	CYP2B6	CCCCAACAAAACCCATACCTATCAAGC
105013	ADCY1	TCTCCACCCCTCCGCCAATGGC
105014	KCNN3	AAACATTCAGACCAGGGAACGG
105015	YWHAZ	TTCCAACTTTTGTCTGCCTCATTCTA
105016	GRM6	ACCAGCCTGGCCAATGTGGTGA
105017	IGF1	TTTTCCATATAGAGCACTATGT
105018	FBLN1	GTCACCTCCTCAGTGCAGT
105019	MAGEA5	GAGGAAGAGGGAGTCTGAGCA
105020	BCL11B	CCAGTATTTGTAATAATCGAG
105021	CTSS	TTAGTAAAGACAGGGTTTTGCCA
105022	RHD	TTAGTAAAGATGGGGTTTCACCA
105023	AOAH	CGACTGTGCAATGCTGTG
105024	TOX	ATGGCTCTGTCTTATTGTTT
105025	AMN	CTGCACCTGCTGTCAGCCTGG
105026	FOS	TGCTTCACAGCGCCCACCTGTCT
105027	KRT4	CTCTCTCTGCCCCAGGATGATCTTC
105028	STS	ATTTGGACTGATTCTCCATTT
105029	TP73	GGAGGCCGGCGTGGGGAAGA
105030	ADRA1A	CTGGTCCTGCGACCCACTGTCT

105031	NRCAM	CCTCATAAGCATAAAAAGAA
105032	SCA7	ATGTCTCTAGCAGTGAGTACTCATAAAGGA
105033	TRPS1	TTAGTAAATAAAATTAATGCATTTCTA
105034	TCF2	GCTGAGCGCTCTCTTAGG
105035	EFNB2	GCTCACTGCTGCTGCCTC
105036	ACLY	GGCAGAGGTAGAGCAGGTCTCTCTGCAG
105037	SRR	GGTAAGACAGAATCTCTCTG
105038	SH2D2A	TGCTGTTGTCTGAGGAATGGTTTGGTG
105039	NR0B2	AGGCAGAGATCAGGTGGGCAGAGGCT
105040	ADAM28	AATAGGAATTGATTCATTCT
105041	IGFBP5	ATTTTCTCCCACCCTCTCGGCT
105042	STS	CTTGGATTTCTCGTTCCAGAAA
105043	HOXB9	TTCCCAAGCTCCCTTCCG
105044	APOL1	TGCCTGTAATCCGAGCACTTTG
105045	AHR	AGTCCTAGCTACTCGGGAGGCTGAG
105045	KIF3B	AGTCCTAGCTACTCGGGAGGCTGAG
105046	GRM1	ACCGCAACCCATCCAGTGCCAGCT
105047	PEX10	GTTGCTTCAGCCAGTGCAGT
105048	FKRP	GGGAGGCGGACAGCAGTGACCACCTCC
105049	SQSTM1	TTTCACTGAGAGCTGCCTCC
105050	MASP1	CACTGTTTTCAATAAATGCACCTTA
105051	CSNK1G2	TGGGAGGGGGACAGGCATTGTTGC
105052	RXRB	GGCTGGTGGAGATGTAGGAA
105053	SURF5	CTGAGACTGAACACTGAGGGCAGGAGC
105054	WHN	AGGTCAAGGAAGGAAAATACT
105055	RLF	AGGCTGAGAAGCAGCCACACCGTT
105056	CAV2	TACTGTAATACTTCTTTGTTA
105057	EGLN2	GGCAACTGTCAGGCAGAGGAA
105058	ATP1B1	TTGACATCTCTTGCCTTGT
105059	EGFL5	GTGCTTCATTAAGGTGAACTCATC
105060	EVC	TCTTTCTCCCCAAGGAGGGACGTCTT
105061	SULT1A3	CCAGGAGGTTGTGGATACAGTG
105062	SLC17A5	CTGGGAGATGGAAGTTGCAGTGA
105063	F2RL3	TGATTGTACCACTGCACTCCAG
105063	RANBP2L1	TGATTGTACCACTGCACTCCAG
105064	ZNF174	TTTCTCCTCCCCCTTGCTTGCAT
105065	TAF4B	CAAAACAACTGGTACATGTT
105066	AP2A1	TTGTAGCCCCTCCTACCCCCTCCC
105067	PTAFR	CCATGAACATCATGGACTG
105068	PPP2R5C	TGTGAGATGAATACTTCCTG
105069	GM2A	ACCTCACTGCAACCTCCGCCT
105070	PNUTL2	TACCCCTGGGGCATCGTGGAA
105071	RFX2	CTGCCACCGCTGGGGAGGCAC
105072	GFAP	AGCCTCCTGTGTAGCTGGGATT
105073	TGFBR3	CATACACCACTGCAAAATGTCT
105074	NRG1	CATCGACGACTTCCCGGGGCGAC
105075	MOCS1	CCCCAAGAATACTTAAGGGGTGGGTCC
105076	DPH2L2	GACAGTCTAGACCAGGGTTT
105077	GALGT	TCACTTTCCAAGTGCCAAAG
105078	TLL2	CATTATGAGCTAAAAGCTGTGG

105079	TRPV1	CTGCAACCTCCGCCTCCTGGATTCCA
105080	MDM4	TTCTGCCCCTCTTCAGACAGTCCTTCA
105081	RAI3	TCACCCAGGCTTGAGTGCAGT
105082	ITGB3	TGTTCTTCATTACCTCAGTGAG
105083	BMP8	TCCTATGCTCCCCTTGCCCTGCC
105084	CXCL1	AAATATCCCTTGGACATTTTATGTCTTTC
105085	BENE	GCACAGCCCTGTAACTGCACGTGCCTT
105086	DDX9	CGGCCAGAGTCACACACGGTCCT
105087	MEFV	GGTTTCATCATGTTGGCCA
105087	NCOA6	GGTTTCATCATGTTGGCCA
105087	PCDHA9	GGTTTCATCATGTTGGCCA
105088	TSNAX	CAGATGTTTGCATATATGCCT
105089	ZHX1	TTAAAAAACAACTTGTAAAAA
105090	PAK1	ATCCAGTTACCACCTCCTGCCTCAG
105091	ZNF3	AAAGGGAGACTATTTCAAAGC
105092	HOXB7	AAAATCTTGCAGTTTTGTAA
105093	ZNF202	TTGATGCTGAGGAGAAATGGAAGTGGGC
105094	MMP1	TCCTTTCAAGACAGAAAGAGACA
105095	COL6A1	CCTGTGCAGGGCCCTCTGGG
105096	CDX2	CAGATTTTTACTTTTTCCCA
105097	OCRL	TGTGGTGACATTGCATTAGTCT
105098	MPP2	TCTGTTCTCCCTCCCTGCCAT
105099	CCBL1	CACATCCCAGCTCTGCATGGCCC
105100	GCNT2	GAAAGAAAAAGGACCAGAACCGTG
105101	HIP1	AGCATCCAGGCTGGCCAGTGCTGC
105102	ZNF261	ACTGTCACCAGTTAGCCACTGTTTAAA
105103	CD164	GCATATAGGATGTTTGGGAG
105104	FMO5	CCATGTCTTTATTTTCTCAATAAAGA
105105	MDM1	ATGTAACAAAGTTTGCTGAA
105106	FZD4	TGACAGTCTCTGGAGAAATCCCTTAGGA
105107	GGT2	GCCTTTGCCAGCATGTTCAACAGCTC
105108	CPT1B	AGAAGGGCTGAAGCTGGAAGAC
105109	BHMT2	CCGAGATCAGGCCATTGCACTT
105110	USP14	AATCAGTCTTAAGAAAATGTTGACA
105111	ADAM19	GGCAGTGTAGACAGCAGGAGGAGC
105112	MYBL1	TATTACAGCTAACACAGTAAAGA
105113	VDR	GGCTGCTGGGCTCTCCACCTCA
105114	SDC4	CTTCCTCCCTTCCTTTCACAGCCGGT
105115	SNX3	CACCGCTTCTCCTCACACCCCAG
105116	PPP1R12A	AGAAAACTTGTTTACAGCTCC
105117	EHHADH	AGCTGAATACAACCCAAATGTCTAT
105118	ANGPT1	CAGGTATTATACCATTTTTCTAT
105119	TCTA	CTCACCCAGGCACTGGGCAAGTG
105120	PREP	TTTCCACCCTGTCTAGGCACATGTGGT
105121	SMAC	CAGCCCCGCCTCCGCCCCCTGGG
105122	HDAC5	CCCTCCTGCTCCTCTACGCTGCCTCAG
105123	UQCRB	TATACTAGAAAACAAAAAGA
105124	HLF	TATAGCAAAGATATATATTCACCA
105125	TM7SF3	CCTACTCCCAGCTCCCAAGGAGACT
105126	IRAK4	ATACCTGTAAATCCCAGCACTTT

105127	TRPV4	CTGGGATTTGCCGGTGCTCAA
105128	CSE1L	CCCAGGCTGGAGTGCAGTGAGCTAT
105129	SCAP2	GTATGCTACTATTGCTACTTCT
105130	PTHR2	TGGTATTTGCTCTGTGAT
105131	WHSC1	TCCATCTTGCAGAGAAGTTTACA
105132	SNAP23	AGGAACACTTTATATAAATGAGTG
105133	SIRT7	ATTAAACGTTTCTGCACT
105134	CTNNA2	CCATGATTTTGCTAGAAATAGA
105135	HPCAL1	GGGAGGGTATACAGGGAGCCCC
105136	RGS6	TCCTTTGATCTATTTTTGGTC
105137	LUZP1	AGTATAGCTCATTACAGCTTT
105138	SLC17A4	CTTCTTTCTGGCCATCTTGAC
105139	RANBP9	CCCCAAAAGATGCCGCGTC
105140	NDUFA2	GAGCAACAGCCCCAGAGCCTGG
105141	TPMT	GTTGCCCAACCTGGAGTGCAGT
105142	CRSP6	CAGTCTGGAGTGCAGTGGTGTGATCAT
105143	GABRE	TCTGGGAGAGGCCGCTCT
105144	MPHOSPH1	TACCCTTACCAGCCACTGGTAA
105145	PLAG1	TTTAAAATATTAATTTGCTGCTA
105146	REN	TGCACGCATGTATATGCATCACC
105147	KLRD1	ATTCACACTATAATACATGTC
105148	ATP6V1E1	TTTGGTGTTTGGCCCTGCAGTCC
105149	LPL	CCCTACCCTTGTTAGTTATTTTA
105150	GABRP	GCTGTCATTCTGTCATTGCTG
105151	AMPD2	AGTGTCCACAGGGGCTTGGGA
105152	PRKAB1	TAAAATTCTGGGAAACAGGGACTGAG
105153	SSPN	GCGCTCCAGGGCCCAGGGCGCCGCA
105154	MHC2TA	CCCAGGCTGGCGTGCAGTG
105155	FGF9	TTACTTAAAAGACTTTCAGTTAA
105156	ZNF10	GAAACCATATTTTGGTTAA
105157	SFRP4	GGATACTTAGGTGGTTTCTTCA
105158	ETV5	TTTGGTTTTCCTTTCTTTACTTA
105159	ADCY1	GCGGGTGGATCCATTGAGGTCA
105160	BCL10	GCCTAAACCTCAGTTATTACATGTA
105161	ABCC12	CCCAGTGCCTGAGATTGAAAA
105162	SQSTM1	CTGGTCTCTTCACCACTGT
105163	PSG1	TCCACCTATTTTGCAAACAAA
105164	IL16	TGACCCAGGCTGGGCAAGG
105165	KLK3	AGATGCCAACCAGACACCTCC
105166	EFNB2	TCCCGATGCCTCCCTTGAGGGTTTGA
105167	CDH5	TGAGGGCCACCTCCACACCCACCCCCTC
105168	AP2B1	CCTGGAGGCAGAGATGCAGTTACCTAC
105169	MAPK4	GGGTCGTTCTGGCTTTTTGTT
105170	BCL2L2	GTTTAGAAGAAAAGAAAGCTCTAT
105171	USP14	TTCTTGCTGCCTTTTTCACCCA
105172	NEK6	GAAATCATTTGAATTTTGTTTTTGTACG
105173	NFIA	TGTTCCTTTAGTTTGTTTTGG
105174	OSR1	GGGAAAGAGATGGATGTTGGGGAG
105175	GOT2	TTTCTTTCAGCCACAGTGTGTAA
105176	CYP27B1	GAATCTGAACCATGTGGCAGA

105177	IL1F5	GCAGTTTCAGGGCCCCTCC
105178	SH3BP2	TCGCCCAGGCTGGAGTGCAATGCCGT
105179	MSR1	AAGAGATGTAGACAAATGAACAAGC
105180	RNMT	GTTAGAACATTTTAAGTGGCA
105181	VENTX2	CACGTGCTCACCTGTCCCCCTCCTCG
105182	MME	TTGTACCTGCTTTGACTGATGCTG
105183	FACL4	ATTTTATTCTTGATCAGTAGTTT
105184	VDR	GATTTTAGCTGCAGAACTGTATTGGTCCAG
105185	MRPL49	TGGTCTCAAACTCCTGACTCG
105186	SLC10A2	AGTTGTTTCAATGCTGTAAGTA
105187	G6PC	CTGGTATTTGGAGCAAGTGACAT
105188	HERC2	CTGCCTGGTGTGTCTGATGAGAAGCG
105189	ZNF74	CTTCACCCAGGAGGAGTGGG
105190	DCX	AGAGGTAAAGTAATTTCCCCAAGG
105191	RNMT	ACCAAAATCTCAGCTTCACA
105192	DMD	AGCATATTGAGAACCTCTTCAGTGACCT
105193	YWHAB	AACCCTGTCTTCCTCCAGTTCT
105194	PTPN7	TCAGGACTGAACGCCACACCTCAGGA
105195	APM1	GGTCTCGAACTCCTGGCCTAGG
105196	MTAP	TTCTGTGTCTTCACATTTTTCT
105197	ALCAM	TCTGGGAGTTGCTGTTAATCT
105198	KCNH2	ATGCCTGGCCCCTTGACACATC
105199	EPB41L2	TGCTTTGTATTAAACCTCTTTGTCTACACATG
105200	CLDN16	TGCACGTTTCAGGGTGTGTTTGCATA
105201	KIR3DL2	CTTACACACTTGCTGTTCCACCTTCC
105202	B4GALT5	CTTTTTAAAATTTAATTTTCTA
105203	RFPL2	AAATGTCCTGTATTCTGGGATCAATTT
105204	TMPRSS2	CAGGAGGCGGAGGCGGAGGCGGAGGG
105205	MN1	TTGGGTGCTGGAGTTGGAGGAGG
105206	EFNB1	CATGCTCTTGTGCCTTCCCCCTCT
105207	E2F3	CTGTGATCTTACCACTTCAAA
105208	ALDH1B1	CAATTCCACAACCACCTTGACG
105209	LY6E	CCTCACGTGCCTGATCTGTGCCCTTGGT
105210	COG3	AATTCCTACTTCCTGATTGGATTG
105211	HAP1	CCAAGCCCCACACCCGCAGACCC
105212	GLS	TAGCTGCAGAGCTGGATTAGCTGTTGA
105213	CBFA2T2	CTCTCTTGTCTCCCAGGCTGG
105214	MME	GGAATTTGCCATTCTGCTGTACA
105215	EPM2A	GGACTTGTTTTTTATCCTGCCTCA
105216	GPR55	ACCCTCCTCCCACTTCTTTCTCTGCAC
105217	TNFAIP1	TGCTGCTGCTGCCTGGGTCTCTGC
105218	DNAI2	CCTCCCAATGTGCTGGGATT
105219	ADARB1	GTGAGACCACGTGCTGCTG
105220	GFER	CACTCTGCTCAGTCCTACAG
105221	ED1	GATACCATTCTATTCTCCA
105222	SCA1	GAGCAGGGCTGGAGGGAAGGAGCCAGG
105223	DDC	TGCCTTTTTCACCTCTGACAG
105224	FZD3	ATAAATATCTAAAATACATAT
105225	GALNT3	AGCTACATTCACACACTCAC
105226	BACH1	TGTAGTAAACCTTTAAAACTC

105227	RERE	GCAGAGGGAGCAGGAAGAGTTGC
105228	OPCML	TTCATTTGGGCAAAAATTGAGCCTCAC
105229	ACADSB	CACCCAGGCTAGAGTGCAGTGG
105230	ADCY6	CACCCAGGCTGGAGTGCAATGG
105230	CDC2L2	CACCCAGGCTGGAGTGCAATGG
105230	EDG8	CACCCAGGCTGGAGTGCAATGG
105230	RAB36	CACCCAGGCTGGAGTGCAATGG
105231	CYP2B6	CTCCCAGGCTGGAGTGCTATGG
105232	NFYA	CTACTTCTAAGACAATGTAGAG
105233	NESH	CCCTGGCTTCCCCCTTCCTCTGGGCAG
105234	IL17BR	AGCTAATATTCTATGTTTAATT
105235	TM6SF2	GTGGGACACTGGGCGCCTCCTCCTCC
105236	NCOA6	TGTGTAGTGTAAGGTCGGGTCCAGTT
105237	EMR1	CTCAGCTTAACATGGAAATGA
105238	NPTX2	CATGTTTGAAGTGCAAATCTGTGG
105239	SHOX	GTCGCCCAGGCTGGAGCGCAGT
105240	MGAT2	GTCGCTCAGCCTGGAGTGCAGTG
105241	RAB23	CAAAAGTAAATGTTCTCTTTGC
105242	HOXA11	TCCCTGAAGGAACCAAAGCGA
105243	CAV2	CAGATTGCTTAAAAGCATTTTTATTAT
105244	SSRP1	GCTGCTTGTCCTGTTCAAGTTGCTGG
105245	PIP5K1A	TCTCCTTCCTCTTCCTCATGAATGGGC
105246	IL12RB1	TGCCTGTAAAGCTCTCAGCATTGGCTT
105247	MAP1A	GATTATATCCCCAACTCCAG
105248	KCNN4	GACAACAAAGAGGACACCATTTTTCC
105249	SERPINB9	GGTGCCCCTCATAGTGCAGT
105250	ALS2	CTACTATTTGAAAAAAGAAGAGGATAT
105251	MUC4	CCCTCCCGCCACTCAGCTCAGGCTGATGAGA
105252	CORO2A	AGAAAACAAAACTCTCCATCGCTG
105253	VHL	CTGTTGCCCAGGCTGGAGTGCAGA
105254	BCL2	ATGGCTCTTTTTAAGATTGATA
105255	CRSP6	AGCCTCCTCTTCGTACCTCGTTT
105256	TM7SF1	TCCTCAAGGAATCTCTTAAGTTTTGCC
105257	SH3BP2	ACTGCCACCTCCGCCTCTCTAGTTCAA
105258	BACH1	GTAATACAAGTAACTACACTACC
105259	AQP6	GCTAGGACAGGAAGCCAGGC
105260	EXTL1	AATCTGAAGAACAGCCCCAT
105261	PX19	GGACCGAGGCACAGAGGTGCGGTG
105262	PTK7	CCCCTGCCCTAGTGCAACAGGCATTGC
105263	TNFSF7	GTGGTGGGGGGTAGTGGTGGCA
105264	PSMD5	GCGCACACCTATAATCTCAGCTACTCA
105265	DIAPH1	CTCTTCCCTCTCCTGGCT
105266	MAB21L1	TGCCTAACTATCAAAGGATTATAG
105267	JUP	CCCTGTCTCCAGCTGCCTGGGCC
105268	CROT	GACCAGCCTGGGCAACAGGGTAAGGTC
105269	GGT2	TGCTGCTGGACGCAGAGCCA
105270	RBM3	AACTGATTATATAGAAGAGTTG
105271	GFER	GCCAGACGGCACGAGGTCTCCA
105272	BCAS1	AAATTCACATCTCAAGGAGGG
105273	CARD10	CGCTGCCCTGGGCACGAGGTC

105274	SLC6A5	TTGATCCTGTTTTTCCTCTCTG
105275	PPT1	TAGCCATTATGGTTTTTCCTTTC
105276	CDC23	GGCTATAGATCTTGGCCTTCTTCCCTGAA
105277	NXF5	TTCTGATCTTGCCTTCATGTGGACC
105278	CBFA2T2	TTGCTGTCTGCGGAGCCAGTGTGC
105279	NAP1L3	CTTGCACTAGCTGTGCCTTCA
105280	AF3P21	TCCTGGAGCCTCATGGAACAG
105281	ADH4	CTGGGAGCAATGGGGTTGCAGCTG
105282	RFPL1	TGGTTCACATCTTGTTTCCTATAGAAA
105282	RFPL2	TGGTTCACATCTTGTTTCCTATAGAAA
105282	RFPL3	TGGTTCACATCTTGTTTCCTATAGAAA
105283	RPS27	GGAAGCAGCACTAAAGCACTCTGAGTC
105284	EPHB4	GGTGCCCCCCTCACCTTGAT
105285	SIAT1	ATGCTCTGCACCTCTTCCTTGCAA
105286	KCNC4	GTCTCCTCCCCCTCCCCCGTC
105287	BTG1	CTGGAGGCGGAGGCAGCTG
105288	MPL	AGACTGGAGTGCAGTGGCACGAT
105289	WNT8B	CTCTTCAGATCCTGGTCTGCAC
105290	APAF1	AGGCTGGAGTGCAGTGGCGCGAT
105290	CD209	AGGCTGGAGTGCAGTGGCGCGAT
105290	CYP1A2	AGGCTGGAGTGCAGTGGCGCGAT
105290	INMT	AGGCTGGAGTGCAGTGGCGCGAT
105290	NCOA6	AGGCTGGAGTGCAGTGGCGCGAT
105290	PCDHB9	AGGCTGGAGTGCAGTGGCGCGAT
105290	TAPBP	AGGCTGGAGTGCAGTGGCGCGAT
105290	YES1	AGGCTGGAGTGCAGTGGCGCGAT
105291	CYP1A2	AGGTTGGAGTGCAGTGGCGTGAT
105292	SLC21A2	GCCCAGGCTCACTTCAGTGTTG
105293	HPSE	CCCGGGCGCTCCTCCCCAG
105294	CD1A	AGCCTCCTCGTCACCCTTCTCCTTTT
105295	PTP4A2	AGAGAGGCGCCTCCTCGCTCCCGCCAC
105296	MNAT1	CAGCCCAGTTACCATTTATAAGATTTG
105297	LILRB4	TGGAAGCTGCCTCCAGTAGACA
105298	ASTN	ACTTTGGGGTTTGCTTTGCCA
105299	G6PT1	CCCTGCACGCTCTGCGGGGA
105300	TREM1	CAGGAAGGATGAGGAAGACCAGGCTCT
105301	PYGO2	CTGGTCCTTTCTCAGCCTCTCTC
105302	INPP5D	CGGGCGGCAGGTTGCAGTGG
105303	SCNN1G	AAAGTGCAGGGATTACAGGCAC
105304	COL17A1	ACACACCTTGGCTGGGTCTGG
105305	RNPEPL1	CCCTTCCAGGTCATCCTGC
105306	EPHA8	CCACGGCCCAGGTCTCCTCACTC
105307	TMEM2	TCGGGTGGCAGTTGACTTGGTG
105308	KIF2	GGCTACTGACCCTAAATTTCTGAAGCA
105309	HS2ST1	GCTGAACAAAGAGCATGGCTTG
105310	MS4A6A	CTTGCCTCCCTTATAAGCAGAAACAAT
105311	PON1	GACTAGGAAGAAAACATGACTTTA
105312	CXCL1	CCGCCAGACCCGCCTGCTGAGCCCC
105313	IRS1	GTTTGTAAATTCTGGAAATGT
105314	G6PC	GAATTCCTGGGCTCAAGCAGTC

105315	PPP3CB	TAAGCAATGCAGCCTAGAAGCAA
105316	HLF	TCCCCTTCCCTCACACCCTGC
105317	WNT7A	GCACAGCCCGGCCCGCGGCCCC
105318	DRG2	GGCACCTCACTCCCTCAGCTCT
105319	MTR	GCTCACTGCTTGCTTGTCAGAAACAC
105320	RAB18	GCTTGGTATTTTTAATTTACTTCA
105321	FUT7	CAGCTTGTTCTGGGCTCAGGGA
105322	MAK	ACCATGCCTGGCTAATTTTTGT
105322	POU2AF1	ACCATGCCTGGCTAATTTTTGT
105322	PRKWNK3	ACCATGCCTGGCTAATTTTTGT
105323	USP9X	AAACTATTCCTAATCAACATGGAGTGG
105324	IDH3B	TCCCCATACCCTTCAGTGCAGTG
105325	ATR	CAACTGTTATTTCTCTCTGATCATT
105326	SOX11	TCTTCTCCCCACCCATCCTGGC
105327	FOXF2	TGCCTTCAGTAATCAGGGTG
105328	ZNF217	AATCTAGATTTTGTTTTCA
105329	PRKY	GGAAATCACTGTGATTTGTACATA
105330	VBP1	AACCTCAGATAAGTGCAGTG
105331	ARHGAP6	TTCTCCTGGACCAAGGCTTGGGAAAGA
105332	ALDH1A2	TTTTCTTTTACCCATAAATAACA
105333	RGR	TTAATTTCCATTTCTCTGATG
105334	MSI1	TTGCCCAGCGACACTGCTGGACAGGA
105335	MAP3K14	GGGAGAGCAGCTTCCAGCCTGGG
105336	HOXD8	CCCTCCAGAGCCGGGGTTTGTAAACCG
105337	CXADR	ACTTAGCAAGCTCTTTTAT
105338	IGF1R	TCTGCCCTTGCTGCCCGCGGGA
105339	PIGA	GGTGGAATTCCTGAGGTGCTTC
105340	HIVEP3	CTCGAATCATCCCACTTCCTCA
105341	PSMB10	AGCCTAGCAGAGGACTTTTTAGCTG
105342	GJB3	TCTCCCACACTCCCACCCACTG
105343	ANKRD3	GATCTAGGCACCTGCTGTCTGAAGGGA
105344	PKD2	ATGGGCAATGTGGCGAAACTCCATCT
105345	SCML2	CTTTTATTATTTCTCTGTATGTT
105346	PKHD1	GGCTGCAGGCTGAGCTCTAAC
105347	NSF	TGGAACGTTCTCTACCTTCA
105348	PPEF1	GAAGAATTTCGTGCCATGTGGAAA
105349	ITGB7	CTGCAACCTTGCATCCATCTGGGC
105350	PRKACG	CTCCCACAGGGTCCCCCTTGCCCCAGC
105351	MS4A12	GGCTGTATCTCCCTTCACTGTCTCT
105352	MYBL1	CACTGTGTGAAAAGATAAAAA
105353	GP6	GTCTCCACCCCTCTCATATTTA
105354	RECQL5	GTGATGATTCTGAAATCCAGG
105355	TPM4	GGAAGTGGAGACTGCAGTGA
105356	RBBP2	TGTCCAGCTGATAGTAGTTAG
105357	RNH	CTGGGGTTGCATCATTTCCCCAAGT
105358	TRPV1	TGCTTCTGTTCAGGTTGCACA
105359	SBF1	CACATTCCACCCTTGCCAGAGCCA
105360	CBFB	GTCTCGAACTCCTGGCATCAAGCGATC
105361	RPP30	GTCTCAAACTCCTAGGATCAAGCCATC
105362	RIMS1	TTTGCTTGAACCCAGGAGGCAG

105363	AQP6	CAAACTCCTGACCTGAGGCGAT
105364	PRDM2	CTTGCAAAGCAAGTTGCCTGT
105365	FGF2	TATACTCTTAGGGTATTATTTTA
105366	CDX1	GGTGCAGCTGGAGGCCTGTGT
105367	DAZ	CCCCGCAGTCCATGCCTCAGTCGG
105368	HOXC13	AAATAGGGCTCCTCTCTCCT
105369	DPYSL3	GAAGATAGCCGCTGTGGCAG
105370	PPP5C	GGAAGGAGGTGGAGCAGCTGG
105371	P2RY6	GGAAGGCGGAGTTCAGGCTGAG
105372	INPP5D	AGGAGCTGAAGAGTCTGGGTAGCTTGT
105373	LTBR	GGGCCTCCTGCCTTCCTCCCAGGCCCCC
105374	IDH1	CTTGGGCACAGGGAAGTTCTG
105375	IL1F5	GGAGAGGGAGGTGGTCATAGAGTCAGG
105376	PDE6B	TGGAGTCTTGCTCTGTCACCCA
105376	PPID	TGGAGTCTTGCTCTGTCACCCA
105377	APPL	CAGAGTCTTGCTCTGTTGCCCA
105377	PTGES	CAGAGTCTTGCTCTGTTGCCCA
105377	SAS	CAGAGTCTTGCTCTGTTGCCCA
105378	CASP2	CAGAGTCTCGCTCTGTCGCCCA
105379	MICB	CAGAGTCTCACTCTGTCACCCA
105379	TUFT1	CAGAGTCTCACTCTGTCACCCA
105379	ZNF264	CAGAGTCTCACTCTGTCACCCA
105380	EGR3	ATAGCATAAAGCTTTAGTTTGG
105381	ITPR3	AACTTATTTCAAGGGTGCTG
105382	PPP1R3D	CTAAGCTGCGCCTCCTGTCAT
105383	DAG1	TTGTCCTAACAGTCCACAGTCCTGCC
105384	BTG2	AACAAAGCTGTGAATCACTGCA
105385	APAF1	TCATTGCAGCCTCAGACTCCTG
105386	CFTR	CACATGAAGTCCAAGCATTTAG
105387	RAD51L1	AAGAAGCCTTTGTTCAGGTCTC
105388	ZNF278	AAAAGAACCACACTAGGGTCTCCA
105389	DAAM2	TGAGGCTGCCTTGGATGGCCTCAGGCC
105390	RAI14	TTTAGTATTTTGTCTTTGTAAT
105391	GRPR	AAAAGTTCTTAGTAAACTGCAGCCAG
105392	SLA2	CCCTTGCTCTTTCCTCTCTTA
105393	APOBEC3B	ACAGACACCAGCAAAGCAATGT
105394	BHLHB3	AGAGCCCCAAAAATCGAAA
105395	SOX11	TTGGTATGCAGTGTTAATGCTCAG
105396	MMP25	ACCCCTTCCCTGCTTGCACCCT
105397	MPST	ACAGGCGAGCTCAGGTGATGCCGGCCA
105398	DPYSL3	CACAGCCAGCAGATAGAGGAAAAG
105399	ZNF10	ATTTATGACAGTGCATAATT
105400	MMP11	TTGGGACCCGCTATGCAGGTCCTGGCAA
105401	XPR1	CTTCCCTTTGTTCCTTAGTCA
105402	NFIA	TCCTCTCTCACCCACACTCA
105403	CPM	TAGAGGCGGAGTTTGCAGTGA
105404	WDR1	GAGCAAAGGTTAATTTAAGGA
105405	LOH11CR2A	TGTGTTCCCCATGGATGAAGACTCTGCT
105406	CBFA2T2	GATTAGGAGGAGAAAAAGAG
105407	AP2S1	TACAGTCCCTGGAGTGGGGCAGGCGA

105408 RPS6KA2 TGAGGGGCAGAGGCACAGGTGG
105409 NOX4 AACTGTTAGATGCACACTGTTGAT
105410 ITPR1 ACCCAGGTCAGGATTTTCAAG
105411 ARHGDIB GTCCCTCTTCAACACTGCCACAT
105412 PTPN23 CACCCAGCAGAGCTTCTCAGTGG
105413 PML GCCACAGGGCAGCTATATAGGGG
105414 VEGF TCCAGAGAGAAGTCGAGGAAGAGAGAG
105415 BCL11B TGAATTCTGTTGACCCGCACTTT
105416 LAIR1 TCAATGGACTTCCTGAGAAGGACAG
105417 HAS2 TGGGTTTATTTTCATTCTGCCA
105418 DBT CCAAGAGGTGGAGGTTACAGTG
105419 CD83 TGGGATAGGAAAAATGAGTA
105420 EIF2C1 TGTTTAAGAAGAAAAATGAAACCAGA
105421 DCX CCTGCAGCTGTTTTAAGATAGAGACC
105422 TRIM14 CATGCCTGTAATCCCAGCTACTA
105423 HOXD3 CCCAGCTCTCTCAGGATTCAGCAG
105424 LOXL1 GGCATCCCTCCCTGCCGGCCTCAGGGA
105425 PPP1R12B ACTGATTTTCAAGGCAGGGTCTA
105426 MUC3B CCTGCAGCCCCATCCCATCTCCTGCC
105427 DDX11 CTGTGTGGCAGCAGAGCTCC
105428 BPGM CCACAAGAATAAGCAGCAAATA
105429 ATP11A GTGATGAGCAGACATCCTCTG
105430 INMT CACAGCTCAGCTTGCTCACGCCCAG
105431 PITPNB AGATAGTGACTTTGAGATAG
105432 VIPR2 ACCTACTCTCAGGTTTTTGAG
105433 GJB3 GTGCTCAGGCTGGTGCCAGCC
105434 CTLA4 GACTTGACAGAACACTGTCTTGA
105435 DNAH9 GGGAACTTGGAGAGGTGTGCCTAAGGT
105436 MTM1 TGAGATGAGGTTTTGGAAAACCCTGACAC
105437 SELP CACAAGAAGACCAGACTGTGGAG
105438 TCAP TTGCCCAGAGTTGGGGGCTAGG
105439 RPP30 GCTCAGGCTGGAGTACAGTGGC
105440 GRINL1A ATGTTTGCATGGGGTTATTGAGA
105441 RTN3 TATTTCCCCTCCCTCTCTC
105442 DRD5 TGGCTTTGTGCTTATGTCATTTCTT
105443 HOXA1 TTCTCATCTTTTATCTAACTA
105444 EHD3 AGGAGCTGTGTTAGGCACTTTA
105445 TRAP100 GAGCAGCCTGGACCACAAGCCCAGTGG
105446 BFSP2 GCAATCTCCCTTGTCCTCCTTCAAA
105447 SFRS2 CTGTTAAGGTGGCGTGTTGCAGTG
105448 EPB49 GCTGTCCTCTCCCCTCGCGCACAGGGCT
105449 GALNT2 CGCACACACAGATGCTCAGTCTCA
105450 BSND TGGGATGATATGGAGGTTCAATGA
105451 ADCY1 CAGGGCTTCTGGAACAC
105452 NEB TGTTCACCTTTTCCTTGCTGAT
105453 XRCC2 TGGGCAACACGGTGAAACCCCA
105454 CBFA2T1 AGCATCTGCCTAAGCCAGA
105455 SWAP70 CGTTGTACTCCAGCTTGGGCAACAGAG
105456 HIP1 GGAAGTCGAGGCTGCAGT
105457 SAS GTTGGCCTCCCAACGTGCTGGG

105458	ICAM1	CTTTGTTAGCCACCTCCCCACCCACATA
105459	ADAM19	GCCTTTCTCCCTCACATCAGGAGGTA
105460	IGSF4	AATGGGTGGAAAGGTGTGAG
105461	CLASP1	TCTTTACTGCTGAGATCCTTGGGAACA
105462	GGCX	CCAAGATTAAGAGGCCAGGAAG
105463	MAFG	ATTTGGCTGCCCTGTCCCTCTGTT
105464	INMT	GTTCGGCTCAGCTCAACATGGC
105465	HOXA10	TTGTTTGTTTTTGCTTTCTG
105466	CDH5	CAAGTTTCTAGCTCTCACA
105467	GFPT2	CCTGCTCCTTGCCCAT
105468	EIF4E	GAAGCATATTTTGCTGGTTTGAA
105469	FCAR	AGGAGGCAGCTGTTGCAGTGA
105470	TGFBI	AAGGAGCTTCAGTATTGTGGG
105471	SMG1	TCTCGTGTAACACTTGTTGCTTG
105472	NET1	TGTACATTCCTCATTTTACATTCATT
105473	NFE2L3	GGGAAAGAGAAAGTGGAAGA
105474	SLC6A1	GCAACTCCAAGGTCCTACTCTC
105475	TR2	GAAGCTGTACACACTGTGTAGGGT
105476	FGR	ACTGTATGTACCTCCCTCACT
105477	NBS1	CCCCAGCCCTGAGGAGCCG
105478	PCDHB9	TGGCTCATTCCTGTAATCCCAG
105479	HTR1E	ACCTCATTGCAACCTCCGCCT
105480	TRPM2	AGCCTCATCTTCCTGTCTCT
105481	SGCB	TAGTGCATTAAGCCTGAGCCA
105482	C1QG	ACCAATGCCTTC
105482	SCML1	ACCAATGCCTTC
105483	ITK	CCTGCCTGGTTTTTCTCTTC
105484	ATP1A1	TGGCCCTGAAGAACAGCCAAA
105485	YES1	GGATCTCAAACTTGATTAAATGTTA
105486	TPP2	TCTGACATCATGGTGTTTTC
105487	SLC22A3	TGAAGGGATATTTTTCTTAT
105488	DSCR3	AATTTTTTAAGCAACTGGAAA
105489	NPY1R	AATATCGTTTTCCATACAGCAGTG
105490	NOS1	CCAGCCGGCTGCAAGTTTTGTAA
105491	GNAL	TAGATGGGGAGAAAAACAC
105492	ANK3	GATCTTTTTAAATGCATTATGGCTCA
105493	VPS26	TACATTCATTTTCTTTTCAG
105494	CSRP1	CCAAACACCTTTCCCTTTGCC
105495	EGLN1	TATTAAGCCTGAATAGGTG
105496	SLC1A4	ACACACATGTGTGTTGTGTATA
105497	GP9	CCCAGAACCTGGCTCCAGCCAGGG
105498	FBXL11	AAATGATTGATGCAAATTTGCAC
105499	VCL	CACTCCCGGCACTCCATGCTTAGTCA
105500	TNNI1	TTCTAGGTGATTCTGATGCACATG
105501	HEPH	TCCCTATACCATCCACCCTCATGGTGT
105502	RGS6	GCTAATACTATCATCATTGTCATTGT
105503	POLH	TGGCTCACGCCTGTAATCCTAACACTT
105504	HS2ST1	TCTTAGCACCCTTTCCTCACA
105505	NFATC1	GTCTGTCATCTCAGCTCTTTTGTAAC
105506	NRAS	AAACAGTGTCTTGAGCTCTAAA

105507	KCNAB1	AAGAAAACAAGCTAAACCTTT
105508	WHSC1	AGGCTGGAGTGCAGTAAGTGGCACAA
105509	TEM8	CACCCAGGGATAAAAACAGAGATCATT
105510	SERPIND1	CCTGGAGGACAGTGTGTGCCATG
105511	LHX2	GCCCGCGGCCGGCGGCTCCTCCTCC
105512	PTPN7	GCCACACCTCAGGATTCCTCCTCC
105513	HIPK2	ACCAGTACCCTTACATATAACACTG
105514	CDS2	GTTGCCCAGGTCAGGAGTGTTTTCTTG
105515	CKTSF1B1	TGTTTTTTGTTACTGTAG
105516	SUDD	GAGGCTGAGACAGGAGAATCGCTTGA
105517	ITSN1	TATGTGCCAAGCTGTTTGG
105518	RPS6KA5	ACGGGCGTCCGCTGTCTCCTGGG
105519	CARD10	GTGCGCAGGTTTGCACACTCAAGTTCT
105520	CIAS1	CACCTCCCGGGTTCAATCAATT
105521	PPAT	ATAGTATTTAGTGCCCTGATA
105522	TNFRSF10B	GGCTCAGTGCAACCTCCGCCTC
105523	BTAF1	TTTCTGCTGATATTCAGCA
105524	TRPC6	TGCCCTATTTAGTTTGTGGCTAATGTG
105525	VANGL2	CCATGTGAACCTGGAGAGACCATCCT
105526	GRLF1	TTGTCTCTTCTGGTGGAGCTGTGCCT
105527	FMR2	TGTATATTTAAGTGTCATAGAA
105528	ETF1	CAATAATCCTGTTTCACTTGA
105529	TBX22	TGAAACCTACAGGAATCTCTGATT
105530	STC1	CCCAACAACTTAGCGGAAACTTCTC
105531	LRRC2	TGGTGGCAGTTGCCTGTAATCCTAG
105532	SCAP2	GGTAGGCAGAGGTTGCAGTGAG
105533	CDH17	CTCTGCAAATGGCTTAGCTACTT
105534	PRKY	TTGGGAGGCTGGGGCGAGAGGATTGCT
105535	DPYSL3	ACTCATCTCTGCACAACCTCTCTGTGCCATG
105536	LTB4R	CTCAGCTCACTGCAGCCTCCACTTCC
105537	PHEMX	ATCGGCCTGGCCCTCACGGTGTCCGCC
105538	PIAS3	CTTCCCAATCTTCTTTTTCAGGCTCGC
105539	RAB36	CCAGGCTGGAGTGCAATG
105539	SH3BP2	CCAGGCTGGAGTGCAATG
105540	FOXD2	AAGTGTTCTCAGTACCCTTT
105541	TTPA	CCTGAACTTTAAAAATGTAGA
105542	MDM1	AGAAACTGCTCCAGCTTTTGCAGCC
105543	SOCS5	GTTAGGCTTTTTCATACAGTAT
105544	PGF	GTGATCTCCCCTCACACTTTGC
105545	GPR17	TCAGCAGACCCAGCAAGAG
105546	MBL2	TTTTTGCCCATCCCAAA
105547	SMAC	TGTTGCCCAGGCTGAAGTGCAGT
105548	ALDOA	CCTCCTCGGGGCTCCAGGCTGG
105549	CYP4B1	CATGGTTATGGCTGGGTACCACCAAA
105550	UBE2H	TATGTCTTCTGTGGAGTTACAG
105551	WNT5B	CGGCCTGGAGGAGGGAGGTTGTGGTTGG
105552	RASGRP1	AGACCTGAGGAACTTTACACTGACC
105553	SDC1	AAGGTGGATGGCCCCAGCACAG
105554	DNMT2	CCTTGGATTTCCTCCAGAGTTCGGA
105555	GAN	GGATGCAATAACCAACAAAGCTGCTAAGT

105556	POU4F1	GGGGTGCTGGGTGTGGGGAT
105557	ADCY6	GCCACTGTGCCTGGTTTTGGG
105558	PPP2R5C	GAAACTTGACAAGTATCTCTCCA
105559	PAK4	TACTGAACTCCAGTTTTGATC
105560	SMARCC1	CTCTCTCTTTTTCAGTGAATA
105561	PLA2G2D	GCAGGCAGATCACCTGGGGTCA
105562	MDM4	TGCAGTGAGTCAAGATTGAGCC
105563	ACPT	GTTTCCCGAGGCTGCTCCAGGGA
105564	USP6	TGCTTTTTGTTTTTGCCATTGTGTTT
105565	SPAP1	CTTCCTGGTTCAATCTTGG
105566	PPP2R4	TCTTCTCCCTTCACTCCCGTCCA
105567	SCML2	GTGCCCAGGCTGGAGTGCAATA
105568	PAX5	GGGCCACGGGAACTTGGAGAGG
105569	OSR1	CTGGTGCAAAACATCTGACTGTAGCCG
105570	NUP153	GCTCCTGCTCGCAACCTCGCGGTTCCT
105571	MLLT7	AGAGACCTCCCTGTTCAAGGCCCCTGAC
105572	SCAP2	GAATGCTAAAGAATGTTCAAACTTT
105573	E2F3	GCAATTAATTTGTAAACACTGCC
105574	NEDD4	CCACCACACCTGGCTTTAGAG
105575	P2RY2	CTCAAGGTCAATGACACCCCTGGCCTGA
105576	SARDH	CCTGTAAGTGTCTTGGGCTCAGG
105577	ENIGMA	GCAGCGCCCTGGCCGGGCCAAGCAG
105578	MINPP1	GGTTTGGACATGAAATGTAAGAA
105579	PBP	TCTGGGAAGTAGGGGTTAGCTTGGGGA
105580	GATA4	TGGTAATGACTCCAGAAC
105581	EMP1	ATTACCTAGGCTGAGGTTAGAGAGATT
105582	SLC21A2	GATGCCCAGGCTCACTTCAGTG
105583	HLCS	GGCTCACCACAACCTCTGCCTA
105584	ATP1B3	CATTTTGTAACAGCTGGACC
105585	BHLHB3	AGAAGTTAAAATACCCTTAAGGA
105586	FMO3	TTAAACAATGTATGAAAGATGTA
105587	CCND2	GGTGTCAGGAAACAGACTAAAAAGAA
105588	SLC22A3	TCAGAAAATAACACAAAAA
105589	ADRA1D	TCAGGGCAGCTGCTCTGTGAC
105590	CARD15	GGCAGAGGAGGGAGCATCAG
105591	SSX2	AAGCTCCCCTCACTCTGTTTC
105592	MNAT1	GTGCAGCTGCACAACACAGTC
105593	RIMS1	TGGTGGCAGGTGCTTGTAATCCCAG
105594	ARSE	CAGGAAGGAGCCCAGGAGCAGAGGAA
105595	KIF3B	TAGGTTTTCATGTCTCTAGTCA
105596	TRIM8	CCTGGACGCAGAGGTGACAGTG
105597	RAD54B	AATTCAGAATGATCTGCAAGAA
105598	PAX2	CACCGTCCCTCCCTTTTCTCCT
105599	DLG2	TGCGCTGTGCTGAGAAGCTGAAT
105600	BRCA1	GTTTTTAGCAAAAGCGTCCAGA
105601	NUP153	CAGCTGGTGCCCTGCTTTCA
105602	COL1A1	ACCTGCCTCTGGCTTCTCAGGCC
105603	NEU3	TCATCCCTAGGACAAGCATAG
105604	PTGES	CCATGTTGCCCAGGAGGGTCTCG
105605	SPTBN2	TCAGGACAACTGCCTGCTGCTA

105606	MLC1	TCTCATGGCTTGGGCTGGAGTGGGCTCTCTG
105607	COL4A2	GGTGGGCCTGGCCCTGCTTTCTACGC
105608	GORASP1	TGAGGAAGGAAGGGGTTGCTGTCCAGTG
105609	PRM2	TTGTGCAAAGTCACCTGCCCAATAAA
105610	SLC26A4	TCATAAAGAAAAATCAGTTTTTGACTG
105611	SH3BP2	CGCCCAGGCTAGAGTGGATTG
105612	SMARCD1	CCTGTCTTCCTGTCCCTTGTCTG
105613	RHD	AGGCTGGAGTGCAGTGCCGCAATC
105614	GRM4	CACCCAGGCCGTGGGGCCAGGG
105615	XPNPEP2	CCATCGTCCATTAACCACCTGGT
105616	SCML2	GGCTCACTGCAACCTCGCCTC
105617	DDB1	AACCTGGAGATGGTGGATGATCCCC
105618	ING1	AACTTCATTAGCATATTATGGAAC
105619	GPR48	GAAGAAGGAGAGGTGGCAGTTTA
105620	BLAME	TAACTGGATTTTTTCTGGGGC
105621	PLXNA1	AGCGGTGTCCACCCTTGCCCTCA
105622	INPP5D	AGCCTTTTCTTCCTATCTCT
105623	F2RL3	TCTGCTTCCTGGGCCCTGCCAGCATC
105624	PTMA	GAACTCTCGCTTTCTTTTTA
105625	SCA1	GGAGAGGGAGAGAGCGAACACC
105626	ARHGDIA	AGCCTCTAACTCCCTGTGTC
105627	PLTP	CAGCTGTCATTCAGGACCCCAAC
105628	MMP19	CCGGGTCCTGGGGCTTGCAGAG
105629	C18orf1	TCATCCTCCAGCAGTGCAATTTCTTC
105630	KCNQ2	GGAGCAGAAGGAGCTGTGAGAGC
105631	PIAS3	TGGCTCATTCTGCACCTTT
105632	SCA1	AATCTGAAGGCCTTCGTTGGA
105633	LAMP2	CGACAAAAACGAAACTCCATCTT
105634	PTPN1	AGAAGCAGCAGCGGCTAGGGC
105635	NDRG2	TTGGCTGCACTAACTTT
105636	PER2	GACTCTGGCTTCCAGAGCTTTCCC
105637	MOCS1	GCTTCAGCCGTGGTCCTCCTGGG
105638	ZFX	TGTTCTGAATTCTATTCAGTTTGTTTA
105639	CPSF4	GTCCCAGGTGGCAGCGGTTGAG
105640	HDAC4	ATTCATGGCACAGAGCAGTGGCAGG
105641	NEURL	GCAGGGAGGGGGCAGAGGC
105642	SNRPN	TTCCAGGCTGAACTGAGGCAG
105643	LRP8	AGTTATGATGAACTGCAAA
105644	IL6R	CTTAGCAAATTCTGTTTTTCTA
105645	PCLO	CCTGCTGTCCTTTCCTGTTTGCT
105646	CBFB	TTATACAGCTTCATTTTAGA
105647	PITPN	CATTCCCCAAACCTTGTGAAG
105648	SLC22A5	ACTGAAGAGGAAAGACTGTCTTG
105649	DAPP1	AACCTGTTTATTTATATTCTTTGGCTT
105650	ENG	CGCAGCCCTGCCACTGGACACAG
105651	TPX1	CTTTGGATCAAAATGGTGCATT
105652	LYN	TGTACTCTTAGATGGATTCTCCA
105653	CHC1L	TTAGCAAATCATATATTCTTCTGTGG
105654	JUN	CATCATCTGTAGATCCTAGTC
105655	CSK	GAGATGGAATCGTAATAAACCACGC

105656	KCNMB4	CTTCTGCTAGGTTAAACTTTTACT
105657	DPEP1	GTGGGTGGCAGGACTGAACTTGAA
105658	MCC	GCCCGCTCTTCCCTCCTGGGCC
105659	PGK1	AGCATTTTCTGCATCTCCACTTG
105660	RAG1	TCATTTCTAATTTAGTTGTCA
105661	DSCR4	GTGGGAAAGAAAGAGCTTTATTT
105662	GLTSCR1	TGGGGCCACCGGGTTGATGCCA
105663	AQP6	TCTGTTACCCAGGCTGGAGTGCAGT
105663	FCGR2A	TCTGTTACCCAGGCTGGAGTGCAGT
105663	MDM2	TCTGTTACCCAGGCTGGAGTGCAGT
105663	NQO1	TCTGTTACCCAGGCTGGAGTGCAGT
105664	CYP1A2	TCTGTCACCCAGGTTGGAGTGCAGT
105664	PRKWNK3	TCTGTCACCCAGGTTGGAGTGCAGT
105665	CBFA2T2	AACTAATTTTGTATTTTTAGT
105666	CALCRL	TGTAAGCCAGTTCCAGCACAC
105667	GPR44	CCTCCCATCCCTTCCCCCTTTACT
105668	PAX5	TCCTCCAGGGACTCTGGGGCCCTTTGG
105669	CRSP6	ATCATGGTTCACTGCAGTCTTGACCTC
105670	DDC	GGGTTGTGATTTTGTCTGC
105671	HSPA4	AGTAAACATGAGACAAGTTTAGG
105672	PRKAR1A	TGTGTTGCTTCAAATTGGTCTGAA
105673	TEM7R	CAAACACAAAATAAGAGATT
105674	RAG1	ATTGTATGTATTTGGTGCT
105675	ZIC3	TCACAGTCTTAAACCGTGCCA
105676	SH3BP5	GCCAGCCAAGGGGATTTATTCTAA
105677	BHMT2	TGCCCTGCTATCTCCAGCTGCTGAG
105678	GOSR1	CAGGATGAATGCAAGACTGA
105679	CORO1C	TTGCACATGCTCGTGCTGGTGT
105680	SPK	TGACCACCTCAGAGAGGGTG
105681	PLEK	GCTCACTGCAGCCCCTCTGCCCC
105682	TCF2	TGAGTTGGGAAAAACTGACCGAGTA
105683	AICDA	TGGCTCACGCCTGTAATCCCAG
105683	BRCA1	TGGCTCACGCCTGTAATCCCAG
105683	C5R1	TGGCTCACGCCTGTAATCCCAG
105683	COG7	TGGCTCACGCCTGTAATCCCAG
105683	CREB1	TGGCTCACGCCTGTAATCCCAG
105683	CTSS	TGGCTCACGCCTGTAATCCCAG
105683	DBT	TGGCTCACGCCTGTAATCCCAG
105683	DFFA	TGGCTCACGCCTGTAATCCCAG
105683	EGFL5	TGGCTCACGCCTGTAATCCCAG
105683	F2R	TGGCTCACGCCTGTAATCCCAG
105683	F2RL3	TGGCTCACGCCTGTAATCCCAG
105683	GAS7	TGGCTCACGCCTGTAATCCCAG
105683	GGCX	TGGCTCACGCCTGTAATCCCAG
105683	GNE	TGGCTCACGCCTGTAATCCCAG
105683	HFE	TGGCTCACGCCTGTAATCCCAG
105683	HIP1	TGGCTCACGCCTGTAATCCCAG
105683	IL10	TGGCTCACGCCTGTAATCCCAG
105683	IL13RA1	TGGCTCACGCCTGTAATCCCAG
105683	IL17R	TGGCTCACGCCTGTAATCCCAG

105683	IL18	TGGCTCACGCCTGTAATCCCAG
105683	IRAK1	TGGCTCACGCCTGTAATCCCAG
105683	LEP	TGGCTCACGCCTGTAATCCCAG
105683	MAP3K9	TGGCTCACGCCTGTAATCCCAG
105683	MOG	TGGCTCACGCCTGTAATCCCAG
105683	PCDH11X	TGGCTCACGCCTGTAATCCCAG
105683	RAB3B	TGGCTCACGCCTGTAATCCCAG
105683	SLC14A2	TGGCTCACGCCTGTAATCCCAG
105683	SLC28A2	TGGCTCACGCCTGTAATCCCAG
105683	SLC2A3	TGGCTCACGCCTGTAATCCCAG
105683	SLC2A6	TGGCTCACGCCTGTAATCCCAG
105683	SMG1	TGGCTCACGCCTGTAATCCCAG
105683	STAT3	TGGCTCACGCCTGTAATCCCAG
105683	SWAP70	TGGCTCACGCCTGTAATCCCAG
105683	TEM7	TGGCTCACGCCTGTAATCCCAG
105683	TRIM14	TGGCTCACGCCTGTAATCCCAG
105683	TSNAX	TGGCTCACGCCTGTAATCCCAG
105683	USP14	TGGCTCACGCCTGTAATCCCAG
105683	VDR	TGGCTCACGCCTGTAATCCCAG
105683	WIG1	TGGCTCACGCCTGTAATCCCAG
105683	WSX1	TGGCTCACGCCTGTAATCCCAG
105683	ZNF36	TGGCTCACGCCTGTAATCCCAG
105684	RRM2	CTTTAAAACTGTGTAGCTACCT
105685	WNT2	CACCATCCACCTTCCCTTCTA
105686	AKAP2	GCACAGGATATTTCCCTGCACCAG
105687	B3GNT4	ACCCCAGCGCTGAGGGTGGGT
105688	METTL1	GCCATGAAGCACCTTCCTAAC
105689	RAD18	GAGAATCCAGCCTCACAAAAGG
105690	CNR1	CTGCCTAAATCCACTCTGCAG
105691	ITGA1	TATTCAAATGAGAATATTTTCCC
105692	CCNF	TGCTACTATAAGGGAATTCTGGC
105693	PVRL2	CCCCCACAGAGTGGCCCGCGGG
105694	NTSR1	GTGGCCAGGATGGGGTGCGCA
105695	BDKRB2	CCATCCAGCTTTGGTGCAATG
105696	M17S2	GGGAAGCTGCCTCACAGCATGGAAC
105697	SCA1	CAGAGAACTTGCTTAATCTTCCATA
105698	KCNK6	GGCCAGGAGTTTGAGGCTGCAGTGA
105699	ZNF174	CTACCTGCGACAGCTTGAACTTT
105700	SLC12A2	CCCTCCAGAATGGTACTTCAGTGCCTA
105701	HOXA13	TATCTTTTTGAAAATGTTTACA
105702	NUP98	ACTCCTGACACTTCCCCTTCCC
105703	PTGIS	AGCTTCCCAAGTAGCTGAGATT
105704	HOXC8	GGGCGGGGTACTCGTGAGCCAGA
105705	EIF2C1	CTTTCCAAGCCCCAGGAGCTGTGCC
105706	SLC2A6	TCCAGCCTGGGCAACGAGAGTG
105707	HMGA1	CGCCACTCAGCCATTTCCCCCTCC
105708	COL9A3	TTGTGTAAAGACTATGATCTCA
105709	DRPLA	GAGGATGGGGACAGAAAGC
105710	GLS	AAGAGTCTGCATCAAGAGATTTGTCCT
105711	PML	GGGTGTCAGGCCACAGGGCAG

105712	KCNK9	GGCTTCGGGATTTCTGCCTTC
105713	MYD88	TCAGCCAGGCTGGAGCAAGGTA
105714	C7orf2	TTTTTTAAATTTAACTTTCTG
105715	DAG1	GTGCCCCAGAGACAGGAGCACA
105716	VPS41	AAATACTTCAGAAGGATGCAGCT
105717	COX7A1	TGGGGTTCCTGGACAGAGGAGGACTA
105718	DISC1	GGGTCTCAAACTCCTGACCTCA
105719	AHR	TCAAGATAGAAAGGGTGCTGCC
105720	CSNK2A1	ATTGTTCCTCCACCGTCCCAC
105721	SERPIND1	GCAAACCTGAGCAGCGCGTCCTAAGCA
105722	PCTP	CCCAATGTCTCTGGAAGTGCCACCT
105723	CAST	TATTGGTTTGTTATTCTTTTCCAGAAA
105724	HSD17B1	GTCACCCTCTGGGCACATT
105725	PAFAH1B1	TCTGTGTGTGGTGTGACCAATGG
105726	LAT	ACACGGCAGCTGCTGGCTG
105727	SYNGR3	ACTCTCCACTTTCTCTCACAG
105728	NBS1	ATTGTTTGTTCTGTTTTCAGGCTTT
105729	IL6ST	CTCCACCTTCCAAAGGACCTAC
105730	SLC20A1	AGGTATTCCTGCTCCCCTGAAGAATGA
105731	PCDH1	AGGTTTACTGTGCCTGCCCGTG
105732	NEURL	TTGCAGCTACCCTCTCTGACCT
105733	CEACAM1	GGTGAAGACAGGGCCAGCAGGAG
105734	EPHA8	AGCCTCCTCTAGCCTCTGATG
105735	HRH2	CTCCCTTTTAAAAGGAGCACATT
105736	THBD	AATCCAGGCTTTCCTTGGAAGTGGCTG
105737	MMP25	CCCCCTAGTGCTTCCTGGAGCT
105738	SLC7A8	GCCAAGTTTGGTCTGAGTTGT
105739	TFE3	AGGTATTTCAGGTGTGAAAGAA
105740	BHLHB3	CTTACTAAGGAATAAAAACTT
105741	ADCY7	TTACCTGCAGGTATTTT
105742	CDC45L	ACTTATTTCCCTCCTGTCCTAGAATTTG
105743	AVPR2	TCCAGGCCCTCAGAACACCTGCCC
105744	FANCC	TCTCCCAGTTCCTTCACAGCTGCC
105745	BHLHB3	TCTGTTCTGTGGCTGAGCTA
105746	SSPN	ACAGGCAGGAGGTGGGGGAAGA
105747	ZNF147	ATGGGAGGGGAGCTGGCGGGAGGGT
105748	EPHA3	ATGCTCACAACTTAGTGTAA
105749	LAMC1	AGTGGGACTAGCCAGGAATGAGGGAG
105750	DLX2	CTGTGCAGATTTTCCCACTG
105751	TERF1	GCGGGGTTTCACCATGCTGGTC
105752	KCNA7	TTCTAGGTCACATTGGGTTAAG
105753	RAB27A	ACATTTATACTTGGCCTATGTGC
105754	CDH5	TCTGGAGAAGGCCTGGAAGAGCTGAG
105755	CAMLG	CGCAACCTCCACCTTCCTGGTT
105756	MCM6	TCCTATGTGTCACATTCATCACAGG
105757	TEM6	CCTCCTCTGCTTTCAAAAGTC
105758	PRPH	TGGCCTCTCCCTGCCCTGACACTTG
105759	WHSC1	TTAGGTGACCATGAGAATTGCTGTTTGA
105760	AGL	CCTCCCTCTTTGGCCTCTGAAA
105761	POLG	GCCAGCCTGGACCATACACTGCCTGG

105762	TSSC4	TGCAGTTCTGGGCAGCATCCTCCCAAG
105763	KCNAB2	CTGCCGTCCTGCGGGAGCCTGC
105764	LAMP2	GGCGCCTGTAATCCCAGTTACTCGGG
105765	FTSJ2	AAACAGGCTTTCCACCCCTGCTCTG
105766	PCDHB9	CCAGGAGGTGGAAGTTGCTTTG
105767	PRG2	TCCCTGCAATAAAATGGGTT
105768	SOX9	CCTGCCTGGGCCCCATGTGGAAGGC
105769	EDN2	GTGCTGGCTGCTGGCCCACAGCTCT
105770	NDUFB9	AATATGTTACAGAACATGCAC
105771	NDRG2	AACCCCTTAGGACTCTGAAGGGTATGGA
105772	PRX	GGGGAGGGAGAGGCCGGACACAAGC
105773	DSC2	CCTCGCGCTCCTCCTGAGCAG
105774	PSA	TGAACAACATACAAAGTTT
105775	DDX11	GCAGTGCTGTGTGGCAGCAGAGCTCCT
105776	PPARBP	GGAGAGGGAAGGGAGGGAAACAGT
105777	SOCS4	CTTGCAGCCTCTCCAGATGTT
105778	WHSC1	GGTCTCGAACTTCTGAGCTCAAGCGAT
105779	AGA	TGTACGATATTCAAACTTT
105780	RXRA	ATTCTTTGCCTTCCTGGAGCTCCCAGC
105781	DCX	TCTTCTTTGTAGTCCTTCTTCCCACCC
105782	SACM1L	GCCAGTGCACCAGCAGTTT
105783	DAAM2	CCCTGCCTAACCTCTACCATCAATGA
105784	MET	ATCTGACAGAGCATCAGAACCAGAGG
105785	MAPT	GTCCTAAGCCCACAATCATGCCT
105786	DIO1	TCATCTATTTTAACTCTGTGTCTTT
105787	TNFAIP1	CTGAGCATTTCTTTTGCCCTCCAGGGTGCCAA
105788	ATP11B	TAGAATTGGACTGGCAGGGGAAA
105789	RAD17	TGTGTGCCTTATTTACACTTTATTGTC
105790	TUBB	CCTTAGTGAACTTCTGTTGTCCTCA
105791	ECM2	TAAACAGTATATTAAGATTACCTTCAC
105792	LAPTM5	TCAGCCCTGAAATCAGGCACATCTGTT
105793	BCAR1	GTCACCAGACGGGGCTGGAGTGTGAGGGTCC
105794	NEUROD1	ATTTAGAAAACATTCATCCAGTTG
105795	SEDL	TCTTTTAGGTGATACACCAGAG
105796	GCNT1	GTGGAAAGAGGGGACCAGGGTGGC
105797	FKRP	TGGGAGGCGGACAGCAGTG
105798	SH3BP2	TTCAGCCTGCCTGGGGTGAGA
105799	PKD2	AGTTAGCAACACTGTTTTCTTTA
105800	OSR1	ATGTCCCCTGTCTTCCTCCATCT
105801	SCNN1B	GACTCACTGTATGGTGCCCTCTCCAAA
105802	TARBP2	GCGCGTGGAGGCTGCAGT
105803	HOXD13	CTTCTGCTGCCCAACCTGACT
105804	FUT8	AATTCTTTGAGCTCCAGGAC
105805	ADAMTS13	GGGGACCCCGGAGAGGGAGTCAG
105806	CRSP6	AGCCCAGTCTGGAGTGCAGTGG
105807	USP21	CCCTCTGCAATATCACTTTTTGTG
105808	SORD	CTATGGGTGGAGGGTGAGTTTGAA
105809	PLD1	ATAATTCCTTCTGCCTAAC
105810	ZNF74	GTGGCTGTGGACTTCACCCAGGAGGAG
105811	EGF	GATGATTTTGCCAAAATGAGTTG

105812	BRIP1	AGGTGTGCACCACCATGCCC
105812	IL11	AGGTGTGCACCACCATGCCC
105812	PPP1R12B	AGGTGTGCACCACCATGCCC
105813	UNC5C	CAGGTGAATCACAGCTGA
105814	RHAG	GCCAGTGTAAAAATGTCCTTA
105815	GALE	CCTGCTCTCCAGCCTCTGGAGGAACT
105816	SWAP70	CCTGCTTTCTGGTCACATGTGGACC
105817	TIMP3	AGGCCAGAATAACAGAGCTTTCTTAGT
105818	WNT8B	CCTGCTACTGCTGACCAAATTCCCAGGA
105819	NEBL	GGCTGAAAACAGCAGCATTTT
105820	PXF	TGTCACTATGCTCTCTTGCCT
105821	PTK2	TGCCAGGCTGGAGTGGAGTGGC
105822	DMRT2	ACTTCTGTAATTTTTTGCC
105823	PIK3C2B	TTTCTGCTGTGCTGCTTCCCTCCCAAA
105824	AK3	TCTCAGATTCTAATAACTGAGA
105825	SNX13	AGTGTACATATATGAAAATAAAT
105826	PPP2R2B	CCCCTCGGGGCACGGCGTA
105827	CHRM5	GTGGAGGTGGAAGACAGTG
105828	KRTHA8	AGCTTTGACAAAGGACCAGGCTTGCCT
105829	KPNB2	AGGCCCCGGACAGGAGGCAGTGCCGCT
105830	TAT	CATGCTGGAGTGCAGTGGCGCG
105831	ANXA11	CCGGCAACACCAGTGCCAGGAAAAG
105832	IGFBP3	TCTCATCTTTTGTCCTCCTTAGCACA
105833	HS2ST1	CCTACTTCTTCTGTACTTTTACCTGTA
105834	RANBP3	CGAGTCAGGGTCTGAGTCCTCGTC
105835	EYA4	TGTGGAGGTTGCTGGTACA
105836	AKAP13	CGCTTACCAAGAACTGTGCTTACATACC
105837	MTA1L1	AAAAAGCTGTTTTCTTCAGCTT
105838	EGFL5	GACTCTGGTGAGCATCCGTCA
105839	COX15	TCTCTCTCACCATGTGACACACTGGC
105840	HCK	AGGTTGGACTGGAAAATCTCT
105841	SLC13A1	ATTTTTAAAGAGTAAGTGCTA
105842	SULT1A3	TGCCCCTAGAGGGCCAATGCCCT
105843	GRM8	TATGATCTTAAATGATGAA
105844	GLTSCR1	CTGGGAGCTGGCAGGGTCCTTCCAGA
105845	FUT4	AGGGGCCGCTGACTTCTTTCACAAGT
105846	UNC13	CCTGCCTGGGAGTCTCCCTGCCTCACT
105847	PML	CATTCCCACCACCCTGTGCCCC
105848	FMOD	GGCAGCCAAATCTTGCCTGTGCTGGG
105849	UBE2G2	GAACCCGGGAGGCAGAGGTAGT
105850	RNF7	TCCAAATTGAATCACCTTTA
105851	MME	TTCATTCTGTGATCATTTATTTTAAGC
105852	CTGF	ATGGATACTTATATGGAAATTCT
105853	PRKACG	TTCATCCTCACCCCACCCTCCAGGGTT
105854	F8A	TTGCCCAGGCCTGGACTTTTTGCATCA
105855	SUOX	CAGAATCTGGGCTTCTTCACCC
105856	PAICS	AGGCTGAGGCATGAGAATTGCT
105856	PHKB	AGGCTGAGGCATGAGAATTGCT
105857	ARR3	GGCTGAGGGAGATGAGGGGAGCTGGC
105858	SLC25A13	TGTTTAGTAATCATATTGTTACTGG

105859	PITPN	AGTCCCTGCTCCTCCTCTTCCC
105860	SLC1A4	TTGTATGTCTGTGGTATCTTGATTTTC
105861	HCN4	CCCTCTCTCCCCATCTCTGGTCT
105862	ZNF14	TTTGGGAAAGCCTTCACACAGC
105863	IFNAR1	CTGGGAGCCTGAGGTCCTCACCTTCC
105864	BACE2	TCTGCTCCCAGATGCCTTCTAGATTCA
105865	TRPS1	CCTGCCTGTACATACACATGCACACCC
105866	BAPX1	TCCTGTGTGTCAGAGCTAGG
105867	SETDB1	AAATGGGGGTTCTGGACCAGATG
105868	SOX8	GGTGGGATTATTCCACAAAGA
105869	GPRK7	TGGTACAAATTGCTTCAACTTGCACTA
105870	PTGS1	ACAGTGTGAAGTGCGTGGTAT
105871	PAG	TTTTTGGATTTAATAATCTTGCTGT
105872	GJB2	GGATGTACCACCAACTAC
105873	VDR	AACTGACAGAGGAGGGCGTGACTCA
105874	UQCRFS1	AAGCCTTCTGTACTTGAA
105875	MORC	AAGTATGTTTTTACACTTTTCTT
105876	AKAP13	TGAGTGTCGGGTGGGGAAGG
105877	GALT	TTGCCCTTGTGCTCCAGTCA
105878	PTPRA	GCAGAGCAGCTGGCACGTGACT
105879	LUZP1	CCCTTGAATATCTGCCTGGGGGC
105880	DSG1	CTCGAATTGAAGCAAGTGAGG
105881	SLC6A6	CTCAGCATCTCTTAAAGTTGCCTG
105882	ARF3	TCTCCACCCTTCTTAGGGCT
105883	PPP1R12B	CCTGGAAGTGGAGGTGGCTGTG
105884	RAP1GDS1	TTCATTCTCTACCATACCACTTGTG
105885	UBE3A	TTAAAAAATATATACCAACAGAACTA
105886	PTPN18	GGCCAGACTCTCATCTTGAT
105887	TAT	CAGCGGCATCAGGCTTTCTTAAAGTGAG
105888	RFXAP	ATAGTGACCTTGAAAACCACT
105889	CAPON	CCCGCTCCCGCCGCCACCTCCTC
105890	CALCRL	ATACAGCATATTTCATTTGGGCTT
105891	CD81	GCAGCTCTGGCCACAGGGACCTCTGC
105892	NLGN1	GTTATATCCCTCTTTACATCAC
105893	PMP2	TCATTGTATGAATATATCA
105894	PTPN2	GTTTATTTTTCATGAAAATT
105895	S100A4	TTGGTTTGATCCTGACTGCTGTCAT
105896	MPP2	GTTGGAGGGGCTAAGGAGGAGTGCAGAGGGGA
105897	ZNF147	ATCTCCAGGCTGCTGGGCAGC
105898	CA3	CATGTAGTAGAGGTGTATGAAGA
105899	FCMD	TGGAAAACACATTTGGAATGA
105900	IL17BR	TGCCCCAAGTACCACCTCA
105901	PIK3CD	TTGCCCAGGCTGGAGTGCAGTGGTGCA
105901	UGDH	TTGCCCAGGCTGGAGTGCAGTGGTGCA
105902	SLC39A1	TTGCCCAGGCTGGAGTGCGGTGGTGCG
105903	WHSC1	GTGCTTTAGCAGCGTGGCTGCCTC
105904	IL24	CTGTCTTCTGATATCTGCAG
105905	GPR4	CAGCGATCTTCCCACATCAGCCTC
105906	BPAG1	AAGCACCATGGAATCAAAGA
105907	GSTM1	ATGCAGGCCCTTTGAAGCCTCAGCTA

105907	GSTM2	ATGCAGGCCCTTTGAAGCCTCAGCTA
105907	GSTM4	ATGCAGGCCCTTTGAAGCCTCAGCTA
105908	GRM6	TGAAGTTTCGACCTGGGCTCAAGCAAT
105909	CITED4	GCCCTGTGGTTGCTGGGCCTCCCA
105910	ADORA3	AATTCACCTGTGGATGTTTTTGAGTAA
105911	DYRK1A	TAACCTGTTTAAGATGACTCAG
105912	ATP11B	TAGTAGTTCATACCCACTCAGAG
105913	C9orf19	CAGTTCTGTGTGCGCT
105914	ADRB3	CCAGGTGCCGTGGAGCAGCAGGCTGG
105915	CHST6	TCCCTGCCTGTGAGCCACACCTCCTAG
105916	OGN	GCTACAACGGGAAAAAGAG
105917	CEP2	GCTGGGAGGGTGAGGCGCCGCGCT
105918	AP1M1	GAAGTCAGTTTCAGGGGAAGGATGTGA
105919	EEF2K	AAATGTCTTTGCTCCTTGGCAGCT
105920	GOSR1	GCTTTCACACCCTGGTCTGG
105921	GLTSCR1	GTTGCCCAGGCTGGTCTCAAA
105921	IL12RB1	GTTGCCCAGGCTGGTCTCAAA
105921	MFI2	GTTGCCCAGGCTGGTCTCAAA
105921	TP53	GTTGCCCAGGCTGGTCTCAAA
105922	C7	CCTTGGTTTTTTAAAATCTGTAAA
105923	SULT1A3	AGAGCAGCCCTACACTCCCTACACCACAC
105924	TCL1A	TGCCTCGGCTTTTCTCAGCT
105925	PRKG1	CTCTTACCTGCTTCTGCCTTGCTG
105926	IL1R1	CTTTCATTTGACACACAGACTA
105927	YWHAG	CTCTAATTTAACTTATTGCTAG
105928	MKI67	CAGGGAGGGGACATCTGAGGGC
105929	AXL	GATCTTAGATTCTCTGTGTCTA
105930	KAI1	ACTTCACTGCGAAGACCCTCTTGCCC
105931	PIAS1	CTGTTCCCAGGCCCTGCTGCTCCCA
105932	IL16	CACATGCCAAGCACTGTGCTCAG
105933	LDHA	TTGAGCCAGGTGGATGTTTACC
105934	SMG1	TTCCCTACTCCTCCCCACCA
105935	CDC7L1	GAGGATTAAATGAATCAAAAGA
105936	G6PT1	CCTGCCTGGCTAGCCCTGAACCTTTCA
105937	INS	TCTGCCATGGCCCTGTGGATGC
105938	VAT1	GTGCTGTCTGTTTCTTGTACTGGGAC
105939	SPTBN1	ACCAGCCATGGTCTGGACTGTGAGTTTAC
105940	MPL	GCGATCTCAGCTCACTGCAACC
105940	PCDHB9	GCGATCTCAGCTCACTGCAACC
105940	TUFT1	GCGATCTCAGCTCACTGCAACC
105941	MPL	ACGATCTCGGCTCACTGCAACC
105941	NUMA1	ACGATCTCGGCTCACTGCAACC
105942	CAPZA1	CTGTTTAAAAAAGTTTCCTA
105943	WNT8B	CCTACTTCCTCCTAGCAAC
105944	ADD2	ACAAACCCACATTGAGTTAGAA
105945	SLC13A3	ATTTGCTGCTTGAATCTGCTCCA
105946	DPH2L1	GGAATCACTGGGGATGGTGGCACAG
105947	PDZK1	CAGCTGCTTATAAAAGCATCTTA
105948	FADD	CCCAGCAGGAAGCCAGGCTG
105949	TRPS1	GAAGAAGATAGAAGGACGCCCG

105950	EGLN2	GGCAGGCACCTTTTGGACTGGG
105951	HFE	GATATCTCATCTCTTCTTTTAAACCAT
105952	NR2E1	GAGGGAGAGATCGAAGACTGA
105953	C7orf2	GCATATGCCATTTGAAGCCT
105954	COG6	CTGTGTACATTCTTATGCAA
105955	MGAT4B	TCATTTGCTCACCTGAGCAATGAAGTG
105956	CRY2	CATGCCTCCCTTCTCCCAGCTCA
105957	BCL11B	TGGGCAATTCCTTACCAAAT
105958	WT1	TTACTAACAGCAACAGCAAGAAATA
105959	UBE2G2	TGGCTCACGCCTGCAATCCCAG
105960	GTF2IRD1	GGTGTTGCGCGGGGCTGGGATT
105961	MAPRE1	CTGCCAGGCTGGGGTGTTTTCGGTA
105962	FST	TATGGCTGTATCAGAGGGCTTTG
105963	CASP10	TCACCCAGACTGGAGTGCAGGG
105964	ADORA1	GCCCAGCCTGTGCCCGCCATGCCGCCC
105965	SGT	CCTCCACTCCCTTTTTGTAACTCC
105966	PDE7A	CGCTTGAGGTCAGGAGTTCGAGAC
105967	TULP3	GGCCTCCCCTTCCCCTCCCTGCCC
105968	ZNF3	TCAACAAAAGTCAGAATTCC
105969	SREBF2	CATTGCCGCCTCCTGCCACCAG
105970	ARF4L	GTAAACTGTGACTCTACCTC
105971	GALNT2	CCTCCACTCCTGGCCGCCTTCTCC
105972	EPHB3	CCAAGCCCCTCAGGGCCCAGACCT
105973	XRCC5	GCAGTGAGTTATGGTGGTGGTC
105974	DUOX1	CCTCCCTACTCCCATACCTCCTC
105975	AHSG	CACCATTTTGTCCAAGCCTGGGCATGGGTG
105976	PLOD3	GCCAAACCTGCCCTGCCATTGT
105977	PAICS	GGTTGCAGTGAGCCTGGAT
105978	PRKY	CGCCACTGCACTCCAGCCAGGG
105979	SSTR1	CCTCCACTGCGCTTACTCC
105980	SLC25A5	CATGTTGTATTCTATAACACA
105981	NPTX1	GGGGGTGTCTTGTGGGCAGTGAGGG
105982	DGKI	TGCAAACCACCATTGGAATCTA
105983	LTBR	AGTCTGAGAAAAGGCAGAAG
105984	AQP8	CTCATTTCCCGCACCCCATTTCTTG
105985	REN	CTTAGCTGGGCCTCTGAGGCC
105986	SLC16A7	AGTAATAATCAGGGATTTTATT
105987	BAX	GGCCTCCTCTCCTACTTTGGGA
105988	AF1Q	TATCTGTCTACTCCATTTCT
105989	SOX10	TAAGGGCTAGGCCACCCAG
105990	FOXE1	CTTGGACTGGCACAGGGACCCT
105991	KLRD1	CAGGCTGGAGCATAGTGGCAAGATCAT
105992	HOXC11	CCTCTACCCCGCCCCACCTTGCCCCACTA
105993	PLDN	GGGTCCCCACAACGCCATGGGGCAGAG
105994	ACVR1	CCACCTCCCAGGCTCAAGCAGT
105995	RGS5	CTTTTATACCTTCCTCACTGG
105996	ODC1	ACTTAATTACTGCTAGTTTT
105997	FKBP1A	CTGATCTCAGTTTCCTGGCTT
105998	ADM	AGAAACTGAGAAATGAATGCTGAG
105999	NOX5	ATGAAGCCCTTAGTCCTTCTAGT

106000	MMP14	CAGGCAGCGTGGAGGGGAAGGGTAGGG
106001	ARNT	CCTTATGTCTCCAGTCTGGTGCC
106002	BDNF	TTCTACAATCTATTTATTGGA
106003	TNFRSF11A	GCTAAAGCAGTCCTCCAGCCTCGG
106004	ATM	GGGATTACAGGCATGAGCTACT
106005	MKKS	TCCATCTTGGAACATACTTTTTGCA
106006	EXTL1	TCCTCCAGGGACTTGCCTGGCCCT
106007	NEURL	TGTGCCAGGACCTCAGGCTGG
106008	BAP1	GGCTGCTGGGATCCCATGGCCTGA
106009	KCNA7	CTGAGTGTGGTGGCACATGCC
106010	DYRK2	GGTCAGAATCAAAGTGACATTCTAAG
106011	SRD5A2	AACTGTTTTGACAAATGAGCAC
106012	CSNK1A1	CATTTCAGAAGAACGGCA
106013	DLX2	GACCTGAGCCCCGGGTCTCGG
106014	SURF5	TGGCCGCCTCTCCTTGCCAGGC
106015	CDYL	CTGAGATATCAATTGGTTTCCCCTTCT
106016	NGFR	GACTTTCCACCCCCTCCCTGGCC
106017	CSE1L	TTGTCTGTTTATTTACGCTTTT
106018	PLGL	GTCTGTGAGGGATTGGTTCCA
106019	JAK3	TACCCAGGGTGGAGTGCAGTGG
106020	D1S155E	TTTCATTATATACTCTACCTT
106021	USP6	TTATCCACATACACATGTGCAC
106022	PCSK2	GGGGAAAGAGATCCAGGAA
106023	COL14A1	CCAGGATATTAATAAAGTATAT
106024	SACM1L	AAGTTCAGTAATAAGCTAACT
106025	FBLN1	CGAGTCTCCCATGTTGTAGTACA
106026	WHSC1	AGTGGCACAATCTCGGCTCACT
106027	PAX3	GTTGTAAAAATGTCTTT
106028	SLA	TGGACCTGTCCAGACAGTTACACTCCA
106029	SH2D1A	TTTTTGTGAAAAGCTCCAT
106030	ORC4L	AAACTATTGTCCATTAACATG
106031	IL17BR	TGGAACACAGGAAGTTGGAGC
106032	CABC1	CCCGGCCAGGCCTCCTCCCC
106033	A1BG	CTCAGCCTCCCAAGTAGCTGGG
106033	AIM1	CTCAGCCTCCCAAGTAGCTGGG
106033	AQP6	CTCAGCCTCCCAAGTAGCTGGG
106033	CAMLG	CTCAGCCTCCCAAGTAGCTGGG
106033	CDH1	CTCAGCCTCCCAAGTAGCTGGG
106033	CLECSF12	CTCAGCCTCCCAAGTAGCTGGG
106033	DFFB	CTCAGCCTCCCAAGTAGCTGGG
106033	DISC1	CTCAGCCTCCCAAGTAGCTGGG
106033	EEF2K	CTCAGCCTCCCAAGTAGCTGGG
106033	EIF5A2	CTCAGCCTCCCAAGTAGCTGGG
106033	F2RL3	CTCAGCCTCCCAAGTAGCTGGG
106033	FANCF	CTCAGCCTCCCAAGTAGCTGGG
106033	FGF5	CTCAGCCTCCCAAGTAGCTGGG
106033	GRAF	CTCAGCCTCCCAAGTAGCTGGG
106033	HUNK	CTCAGCCTCCCAAGTAGCTGGG
106033	MPL	CTCAGCCTCCCAAGTAGCTGGG
106033	NUMA1	CTCAGCCTCCCAAGTAGCTGGG

106033	RAB36	CTCAGCCTCCCAAGTAGCTGGG
106033	RGS9	CTCAGCCTCCCAAGTAGCTGGG
106033	TLR5	CTCAGCCTCCCAAGTAGCTGGG
106033	UGDH	CTCAGCCTCCCAAGTAGCTGGG
106033	ZNF253	CTCAGCCTCCCAAGTAGCTGGG
106034	PCSK5	GCTGCTCTGCTCCCTGCCGG
106035	CSPG3	TACATACAATCTCCTTGAATCTTCT
106036	IL1R1	AGCACTCCTCTGTCTCTGCTCTT
106037	ZNF265	TAAAGTGAATGTTTTTCTCTTCAG
106038	TNC	TGGGCACAAAGGCAGCGCTGCT
106039	ADRBK1	GGCTCTGTGGGCTGCACTTGTG
106040	KCNS2	CACTCACTGGTCTTTGCATC
106041	PPP1R12B	CCTTTCTCCCACTCTACTGAAACCC
106042	GRM6	ACGATCATAGCTCACTGAAGTT
106043	ITGAV	ACTCACTGATTTACTTCTAGCAATA
106044	KLF15	AATCCAGACACCAGCCTTTAGGG
106045	CACNA1A	CTCGCCCAGGATGGAGAGGCGGG
106046	CORO1C	CAGGCTGGAGGCGGCAGCGGTTGGAGG
106047	VIP	ACCAAATAAAAATATTGTGTTG
106048	GALGT	GGCTGGTGGTTGGTGAA
106049	SWAP70	GTCTTTTAGCTCTCTCAGATTCT
106050	KCNQ1	AGAGAGAAGAGCCCCACTCTCAGAGGC
106051	CREB1	CTCAGGAGGTTGAGGCAGCAGAATTGC
106052	LPIN1	TTGGCATTCTTTAAGCCTACAGAATGTGAT
106053	MYO9A	TTGTGGTCCTGCCTCTTTTC
106054	ZNF135	AGCCTTTTCACACAGCACTCCCCTCA
106055	GPR56	TCCTGCAGGAGTCAGCGTTCAATCTTG
106056	SOX9	AAAACAATGCAAGCATGTGTCATCCA
106057	MSL3L1	CCAGAGTCTAAGACTGCAGTGA
106058	ARVCF	GCCTGGGCCCAGGCCCAGCC
106059	TAZ	AAACTATTTAACTTGAGCTTT
106060	IL15RA	CCTGTGGAGCTGCCGCCATGGCCC
106061	OASL	GGCCAGACGTGGTAGCTCACACCTGTA
106062	FGF5	TCATGCCACCACGCCAGCTAATTTTTG
106063	FEZ1	TAGTAATCATTGGATGCATGAT
106064	RIMS1	GTCGACTGTCTAGAAAGGAGG
106065	GYPA	GACTATACAGTGTCACT
106066	EBAF	CCTAGGCCCCTGTTCCCCTGA
106067	ADAM19	TGGTTCCTGGAAAGTAAAGGT
106068	TAGLN2	GGAGGGCTGCCTACCATGGTCTG
106069	MAP1A	AGGGTCTGAGTTCTAGCAGGGTCCTGG
106070	WHSC1L1	TTCATGCAGGCAGAAGCAGTT
106071	FABP2	GCTCACTGTAACCTCAAACTCC
106072	PPP2R1B	CAGCCACATAATGTTCCAGACA
106073	PDE4B	ACACATGGCTTGAAAATGGAAGACAC
106074	MINPP1	CATTGGGTTTCTCTCTGGGTTTGGACATGAA
106075	IGSF4	TCTGCAGCTCTATTCCGAGCC
106076	GALNT1	GGCTAAATCAGTTTTATTGTCCTCTG
106077	FZD1	TCATACGCTAAAATGATATTGG
106078	BACH2	CTCCGGCGAGCGCATTCATTCACATA

106079	MAGEA3	CACTGCCTCCTGTGACGTGAGGCCCAT
106080	ILF1	GGCGGCCTCTGACCTGCTGTCTACT
106081	HKE4	ACTGCCTCTGTCCCTCTGGT
106082	ITIH2	GCAAAACTGTCCAGCAAAATGAA
106083	PABPN1	CTCATCTGCAGGCGCTCACAACCTA
106084	CYP2B6	TGTAGGCCAGGCTGGTCTCGA
106085	CRYGA	CATAGAAACATAATAAATATACAAG
106086	FBXL7	CGAAATTCACTTGTCTTTTGCTAATA
106087	RPP30	TCTCAATCTCCTGACCTCATATTCC
106088	SURF5	TGTCTGTGCCATGGGCTGAGTGCCAC
106089	SYNGR1	TTACCTGAACTGAGGGGTGATA
106090	IGSF4	ATTTGAAAACATGTTTATTTTTCT
106091	SSPN	TAGCTAATTGTTAATTATAAT
106092	MUC3B	GGCACATCTCCAGGTCTCCA
106093	EIF3S2	TGGCTCATGCCTGTAATCCCACCACTT
106094	IL1RAPL2	GGGCTGTACTGTCCGCTGTTT
106095	LAMC2	CCCGAGGTCAGGAGTTGAAGAC
106096	SPAG8	TTTGCGGAATGAATGAACACCCTGTCTGCA
106097	RLBP1	TTTTCCAAGGACTCTGTGTCTTC
106098	BCL6	ACTCCCATGTGTCTTCAGCTTT
106099	RFX2	GCCTCTCCCCTCCTACCTGCC
106100	TYRO3	ACACAAAGGCATGCTGGAGTAC
106101	MAT1A	GCTCCCTCAGACTGGGGCAA
106102	TUFT1	TGTTGTAGACTGGACTCTGGCTGCGC
106103	LIF	CTCCTGCTCCACCCCCATCCCACT
106104	RPA2	TGAAACTTACTGCTCTTCTGT
106105	MPDU1	CTGCTCTGGCAGGTCTAGGCGGAA
106106	TMEPAI	TGTCACTGTCTCCCTGCCTGTCA
106107	ZNF36	TGATGATTTGGGGATTTTCTG
106108	GPC4	AAATCACTTTCAAAGGAGTTCCCA
106109	WNT5A	TCATGAAATTTGGGCAGCAGG
106110	INHA	CCTCCCCACCCCACTTCTAT
106111	EYA3	GTTAGGAACTGCATTAAAGTCC
106112	FXYD6	TCTACAGCCCAGCTCATCCAGA
106113	MYO1E	GAGAGGACAAGTGAGGTCTGCTCA
106114	TRHDE	TCCTTTTGCATGAAACAATTATG
106115	UBE2I	CACTTTCTCCCTGTCTGGCC
106116	HDAC5	GCTCCACCCCCTCCCGTCCCAGCC
106117	ATP2B4	GCTAAGGTTGCTGCCATGGTAA
106118	SLC9A1	CTGGCTGAACAGTGCTCTGCCT
106119	SPO11	AACAAATGCTGTACTCCAA
106120	FACL2	AACTTCATATATGTATTCTTA
106121	CBFA2T2	CTTCTGCCACCACTTGGCTAT
106122	NUP62	CCCTGTAATCTCAGCACTTTG
106123	LARS2	TGCTGGGGTGAAGGTGAG
106124	NOL3	CCTTAGGAGTCCAGGCTGCA
106125	PRX	CCCAGGTTTGCTCTCCCCAAGTTTGGGGTC
106126	SLC16A7	ATCACTCCTGAATACAGAG
106127	ABCE1	ATTTTTCTGTTGGGCAGGCCAA
106128	AR	AGAGAGCTAAGATTATCTGGGGA

106129	SMG1	GCATCCAAAGCCACACCACAGTCGG
106130	NKTR	CATGGAAAAGGACAGCCCTCTGCTGCA
106131	PITX1	CCCCACTCTGCCCTCCAAAAA
106132	GNAI1	CCGGGAAGCAGAGCCTGGTCGTGA
106133	SSTR2	GCGCCCAGAGCCCCAGTCTGAGGCT
106134	COL4A4	TAGTGAATATTAAGGTAGTTA
106135	RFP	CCCGCCTGGCCCTGGGACTCTGACCCT
106136	HSD11B1	TATCTATGAAGACATCTTCCCA
106137	ASB1	GCTGGTTGGTTTTTCCTGCTCCTGGG
106138	SCN8A	TGATTCTCAGAAGCAGAAAGCA
106139	KCNA6	GCCTGCTCTGCCCCTTGGAGC
106140	GPR85	TTTTGGGTAGGAGAACTGGGA
106141	POLS	GAAGTGAGTGAAGGAGCCAG
106142	OXCT	TCCTCCTGCCTCACCGCCCG
106143	KIF2	ACAAAATGCTTCTAGTCCAG
106144	HDAC7A	GGGTCTAGAATGGGAACTGGAGAGG
106145	LRP1	CTTTGCCAAGGCTCTCCCCTCTCGCCCC
106146	USH3A	GTCAATGTCATTCTCTTCTCTGCCAT
106147	DGKE	TGTGGGTGGAAAGATCAAATTA
106148	B3GALT5	TATCGGCTCGGTACTCAACACAAC
106149	RLN1	ACACCCAGACCTCCAGGAGAGACCA
106150	RSU1	GGGCTCTGGCTTTTCTTGAA
106151	SNCAIP	AGGAAAGAATAAGGCAGCA
106152	M11S1	CTGTATAAGACAAAGCCAAG
106153	ADCY1	TGCTTGAACCCGGGAGGCGGAG
106153	PAICS	TGCTTGAACCCGGGAGGCGGAG
106153	RAD1	TGCTTGAACCCGGGAGGCGGAG
106154	MAGEA2	CCTCTGCTGCCGGGCCTGGACCA
106155	EPRS	TTCTCAGATACAGACCGTTTTA
106156	PSAP	CTAGATGGATGTTGATGCACTGGAG
106157	HDAC6	CAGGCATGGCAAGGTTGCATATG
106158	KCNK5	GGGGTGAGTACCGGGCACT
106159	HLCS	GCTCTGTGCTTTCCAGCAGGCGCTCCT
106160	MAOB	CGCTTTTCCCACCTCT
106161	SLC13A1	AAAAATGATCAAAAACAAA
106162	TEM8	CATAGTGGGCTATTACAGG
106163	PRX	GTGAAGCTCCCCAAGGCTCCTGAGGT
106164	SURF5	TTGGGGCAGGGAGAGAGGGAA
106165	FSHPRH1	GAAGTGCTGTATTACAGAACA
106166	BRCA1	CCTGCTTCCAACACTTGTT
106167	POLI	AAGGTCTGAAAAGCAAGGGAAT
106168	FGR	AATCTAGGCCCAAGAGGGAAAGGCCAC
106169	DDX1	AGCCCTAGGTCCCAGAGGTCCGCTCAG
106170	ZNF35	CAGCCCCTTCCTGGATGAAGGA
106171	FLNB	CCAGCCCTTCATCAGCCTGGGCAG
106172	PRKAR1A	AATGATGTAACAGTGCAAG
106173	TIMM17A	CCAATGCCATACATATGGTAGGC
106174	HERC2	GCGGGAGGAGGGAGTGGAG
106175	PACSIN1	GGCCCTCAGGAAGAAGATAGTCACATG
106176	ENTPD6	CCGCGGGTGGAGGCCGGGGTG

106177	ROCK2	AAAGTTAATTATATCAGTTT
106178	TP53	TTTGTTGCCCAGGCTGGAGTGGAGTGG
106179	GPR34	CATTTTTAAGCTAATACTCTTA
106180	EIF5A2	TTGCACTTTCAGCCTGTGTAGGGCA
106181	UBE3A	ATACAGTAAGCTGACCTGGAA
106182	PLOD	GTCCTGTTTCATTTCTCGTGAC
106183	LRRC2	CAAAGGAGAATATATATCTTGTG
106184	CNTN3	AACCAAAATGAGGAGTACAG
106185	CREB1	ATGAAGAGACTTCTGCTTTTCAA
106186	CTF1	AGGCTGGGGTGCAGTGGCGCGAT
106187	TUFT1	AGGCTGGAGTGCAGTAGCGCGAT
106188	HLF	CGTCACCCAAAAGCACAAAATGGA
106189	IL8RA	TACCCCTGGCCAAGGAAGAT
106190	RAD17	TGCAGCTCCGGGAAACAAGTGAATTCA
106191	FUT8	CAAACTCAGTTCGACCAAACT
106192	RNASEL	AAGGTTAGAAACATTTTGA
106193	MANBA	TTAGCCCTTCACCTC
106194	TAC3	CCTCTTTCCCTGTCCCAATCCCC
106195	ABR	GCAGAAAAGGTAGTGACCGGCCCGGCG
106196	ABCA2	ACAGAAGTCCCCCAGTGCCTGCCAGG
106197	TGM2	GTCCACTGCTCCATTTATAACCCC
106198	SPF30	GCTACTGCTACTGCTGCTGCT
106199	IFNA1	GAACCTAGAGCCCAAGGTTCAG
106199	IFNA13	GAACCTAGAGCCCAAGGTTCAG
106200	EGLN2	AGCAGTGCACTCCAGTCTGCAGG
106201	CDY1	TTCCTTTATAAATGTCTAGTT
106202	SUDD	CCTCCACTCCGGCATCAGCAGCCA
106203	SCNN1A	AGCTTTGACAAGGAACTTTCCTAA
106204	ROCK2	CAGGAGACGGTGGTTGCAGTG
106205	DLST	TATTCCTGCCTTTCTTCCA
106206	DR1	GCGCTTTCCCCTCCTCAGCCTGGGC
106207	CELSR1	CCAGGTGGCCCGGGAGCTGCAGGTG
106208	MSX1	TTCAACAACAAAACATTTGCTCTG
106209	LRRC2	GAATTTGGGAGAGGTGGGATTC
106210	HSPD1	AGGCTGGCTGAAAATCACT
106211	ARHGEF6	TCAGTACTACCACCACCAC
106212	MBD3	TCCTGGCAGTGGGGACTGCCTG
106213	FGL1	TACAGATATACAGATATACAAA
106214	FGL1	TACAGATATACAAATATACAGA
106215	PTPRH	GGCTGGTATCCCAAACTCTGGTT
106216	IL24	GTTAAAAAACAGAGAGGGATGCTTGG
106217	SLC25A11	TTTATTTCCCTTCCACAGTGTGGTTTC
106218	CYLN2	GCTCAGGCCACACAGAGACACATACTT
106219	VANGL2	TTGTCCCCAAAGGGGTGGGT
106220	CREM	GACATTTGTTCTCCCAAAACTGA
106221	C5R1	CAGGCTGGCCAGCATGGTGAAACCCCG
106222	DCX	AGAAACACTGGGACAGTGGTTTGAA
106223	ZNF42	TGGAGTGCTCACAGTGTGGCTG
106224	CDKN2B	TTGCTTTCTTCTTAACCTATTTATTTC
106225	APM1	TCACCCAGGCTGGAGTACAGT

106225	TRAF5	TCACCCAGGCTGGAGTACAGT
106226	HUS1	TCACCCAGACTGGAGTGCAGT
106227	CLOCK	CTGCTTTGTTTTCCTCCTGAT
106228	CHST5	TCCTGTAATCCCAGCTACTTAGG
106229	CISH	CACACCAGCCACTGTCCCCA
106230	SLC1A4	CTCATTGGCCGACCATCCTGT
106231	HEXA	AAAAGATGTAGGGGCTTGGAGGT
106232	PXMP3	AACAATGCTCCTTCATTTTACTAC
106233	PPP1R3A	AGGCCATCAATATCACAATAGATTTCT
106234	TNFSF14	AGCCGGACGTGGTGGTGCCTGCCTGTA
106235	SEDL	CGCCTCAGCCTCCCAAAGTGCTAGGA
106236	CDH12	GGTGCTGCTGCTCCTGCAGCTGCCTT
106237	IGF1	CCTCCACCTCCTGGGTTTAAGCGATT
106238	RAD51L1	ACCATTTTAAAGTAAACAATTC
106239	SLC22A12	TACAGCCACAAGCCTGCCTCCTCC
106240	SPAG11	AGTCATCCTGGAGCACAGCTCTTCC
106241	KCNQ2	CTCGCACTTCCAGCCTTGG
106242	XKRY	TCATCCAGAAGCACTGTGA
106243	APOL1	TGGCTAACACAGTGAAACCCCGTC
106244	RBM3	ATAAAGGTTTTTGGAGCTGCACTGA
106245	MHC2TA	TCATTCTTCTGTACGTCTGACAGGCA
106246	MEPE	GTGAATGTCACAAATGCCTTCTATGT
106247	MEL	CACAGCCGTCACATGGTCCTCCTGAAG
106248	EMS1	GGAGGGCTGCTGGGAGCCTCTCCTGT
106249	FGF2	CCTAGGCAACAGAGTGAGACTTTGTCT
106250	KCNK6	GCCTATACACCCAGCACTTTG
106251	STXBP1	CTCGCTGCATTGTGGTGTTCTCTTCTC
106252	LARS2	ACGCCCCAGAGGGCTCATGTGGGCCC
106253	CHN1	TCACATGCCTACATTTTACA
106254	JRK	TGTTGACCAGGCTGGAGTGAAGT
106255	DDX6	GTCCAGTCAATGTTGGTTACTAA
106256	STAC	CTATAAACCACAGCTGTCCCCCA
106257	EIF3S2	TGACCAACATGGAGAAACCTCGTCTCT
106258	DMD	AATAAATCTATATTTTTGTGAA
106259	T	CTGGGAGGGGAGGGAGGCGC
106260	FXR2	AGTGGGTGGGAGGCACGGGGAA
106261	RANBP17	AGAAGCAGCGTTAGGGACTTTG
106262	FMO4	AGTGATTATTCTAAAATAA
106263	CACNG6	TGGGGTAGCTGGGGTGTGGGGT
106264	CTSL2	TTAATTATTGTTATACACAGCTTT
106265	HOXB6	AGGAGTTACAAAGTTTGCAAAG
106266	NUP98	TCCCACCCTCCATCTACCC
106267	DLST	ACATTGCCTTGAGCTTTTCA
106268	EDNRB	ATCATAGAAGTCATTTTAGA
106269	SLC13A1	AGAGCATTTGTTTCATCTT
106270	MCM4	ACCAGCCTAGCCAAGATGGTGA
106271	RPH3AL	CTCCAAGCTGGGAGCTCCTGGGC
106272	SMCX	ATTGTTCAGACCTCAGCTCCTGGG
106273	EIF2S3	CTGCAACCTCTGCCCCCCGGG
106274	CSNK1D	ACTGTAACTACCAATCTTCTACTTGGT

106275	UBE3A	GTGTGATGCAATTACTGCTGT
106276	KRT6A	GTCCTCTCCTGGCCTCCAGTCTCCCCT
106277	CD28	GGAGTGGATTCTGGGAGCCTC
106278	CTSD	CCTCTGCCCAGCTTGGGCCCAGC
106279	DBY	TGTCAACTTGAAACTAAAACAT
106280	GPI	TCCAATAACTCGTGCTCATCTGCA
106281	SLC6A6	GGGGAAGAAAGGAGGGCTGTGAG
106282	ZNF264	CCCAGCTGCTGGGGGGCTGAG
106283	BMP5	TGCTACATCAATGCAGCAAAAAC
106284	PVRL2	CACAGACAGAGACAGAGCCA
106285	ATRN	GGACTCCTGTGTGCCTCCTGCCATCCC
106286	EPHX1	CCAGAAAGGGGAAAGTTGCA
106287	FGFRL1	TACTGCTGTGGGCTGGGGTTGGGGG
106288	CRYPTIC	GTCCCCGGGGCCTGGAGTAAAGA
106289	SLC6A3	AAGGAGGGCAACTTCTACTC
106290	DHFR	GCTAATCCTCATCTGTCATATCCA
106291	THPO	CAGAAGTGCAAGAGCCTAAGCC
106292	GSTM1	TGTTAGTGGTTGTGTCTGCTTTAA
106292	GSTM2	TGTTAGTGGTTGTGTCTGCTTTAA
106293	NTSR1	ACTCCCACCATCTGCAGG
106294	GPC1	CCCTCCTGTGCCCCAGCTGCCAGGTGG
106295	RYR2	TGCATGAAAAAACATCTTTATTTTCT
106296	DGCR2	GCAGCCCAGCTCTGTGGCAGGAG
106297	SH3BP2	GCCCAGACTGGAGAGCAGTGGC
106298	EHD4	AAGGGTTGAGAAGAAAGAGAAAT
106299	DGKG	TAATCCTTGGCAGGGCTCAGCA
106300	PODXL	GGAGAGAAGGGGACACTCGAGTCCAG
106301	COL10A1	TCTCCAGGAACTCCCAGCACGCAGAA
106302	MHC2TA	ACAGGCAGATACAGGAAAAG
106303	RNASE2	CAGAACAACCAGCTGGATCAGTTCTCA
106303	RNASE3	CAGAACAACCAGCTGGATCAGTTCTCA
106304	WTAP	AATCTGTCTGTTTAGAATCT
106305	AMD1	TCCCTTACCGATCGGCATTCATA
106306	RIMS1	TTTCAGTAAAATTTGTCCTCA
106307	CCND1	GGGGAAGGGGCGGTGCCCACAC
106308	MAPK4	CCTCTACTGGGGTCGTTCTGGCT
106309	DES	CCAACAGCGACATAGCCCATCCCTGCC
106310	VIL2	GGCCAGGACCAAGGGCAGAGGGG
106311	APXL	TCATCCAGGCATGGGCTGCCAGGTTTT
106312	CALM1	TAGATTTCCACTAATGTGTCTT
106313	MCOLN1	TGACTGCCGTTGGACCGTAGGCCCTGG
106314	DLGAP2	TTTATCTCTTTCAAGTAGACCA
106315	CUBN	ACGGCAAGACTCCATCTCA
106316	GATA6	TAACCCACAGGCAGGTTGGTTTAC
106317	FZD4	TGGGCACAGGTGGCCCCTGCTGCT
106318	NRGN	CCACTTCTCCCCGCCCACCCTGCCGG
106319	GPRK5	TCTACTGTCTCAGTTTACA
106320	KCNJ15	TCTGCACTCTTCAGTCTTTGCAGGCA
106321	PARK2	CCTGTTCCTGGCCCGCAGCCGC
106322	DIAPH2	CCTCTGCCTCTCTCTTATAAGGACACT

106323	LIMD1	AGGACTTGGTAGGCCAGGAAGAAA
106324	KPNA3	TAAGAACAACAGCAACAAAAGGCT
106325	APM1	GGGATTACAGGCATGAGCCACC
106325	ARCN1	GGGATTACAGGCATGAGCCACC
106325	DCX	GGGATTACAGGCATGAGCCACC
106325	DNASE1L1	GGGATTACAGGCATGAGCCACC
106325	EHD2	GGGATTACAGGCATGAGCCACC
106325	EIF5A2	GGGATTACAGGCATGAGCCACC
106325	HYAL1	GGGATTACAGGCATGAGCCACC
106325	IGF1	GGGATTACAGGCATGAGCCACC
106325	MDM2	GGGATTACAGGCATGAGCCACC
106325	MEFV	GGGATTACAGGCATGAGCCACC
106325	NF2	GGGATTACAGGCATGAGCCACC
106325	PDE6B	GGGATTACAGGCATGAGCCACC
106325	PIK3CD	GGGATTACAGGCATGAGCCACC
106325	PPEF2	GGGATTACAGGCATGAGCCACC
106325	RABL2A	GGGATTACAGGCATGAGCCACC
106325	RABL2B	GGGATTACAGGCATGAGCCACC
106325	RBBP9	GGGATTACAGGCATGAGCCACC
106325	SCML2	GGGATTACAGGCATGAGCCACC
106325	TERF2	GGGATTACAGGCATGAGCCACC
106325	WHSC1	GGGATTACAGGCATGAGCCACC
106326	SEDL	AGGATTACAGGCATGAACCACC
106327	ABCA1	AGCCATGTGTCATGTAATACT
106328	LIFR	TGTATTTTCCCTGCCCTCA
106329	SLC16A2	TGCCCTTTCCCAGCTCTT
106330	SYBL1	GAAACTTTGTATGTGCACA
106331	CPNE3	CCTTTTCCCTGTTGTGCCACCA
106332	COL6A1	GCCCTCTGGGGCTCAGCTCTGA
106333	BENE	TAACTGCACGTGCCTTC
106334	RERE	ACCGAGGAGGAGGGAGCCTAG
106335	ADARB1	AAGGATTTGAGATGTTCTCAA
106336	MMP19	CCCTCCAGGCTGATCCTGAGGCCTGG
106337	APXL	GCTGTGGGCTGGGCCTGTGGTGCCT
106338	PGAM1	TCCCTCTGCCCCTCCCACCTGCA
106339	APPL	GGAATTACATTTGCTCAA
106340	DIAPH2	AGGATTACAAAATGTGTTCCA
106341	CCNT2	CTGCTTCAATATTTGTAAGTGCTGCT
106342	HNRPM	CAGCCGGGAGCGGGGGCGCA
106343	LPIN2	GGTCCCTCTGTCCCTGTGTC
106344	XPO1	CTAGAAGAAAAGATAATGAGTA
106345	ARHGAP6	GGCATCTTCGCTTCTCCTAGGAGGTG
106346	HADHSC	ATTACTGTCTGTCTGTGTCTTT
106347	RASGRP1	CGGCAGGCGGCGGCGGTGGTGG
106348	MLLT2	TTTTGCACATTGGAAGCCTCAAAAACAGTCC
106349	FGF5	AACTGTACTGGCCAATTTTTGAAATAA
106350	EPAC	GGGCTGGGACTGGAGCTGGAG
106351	CYR61	GGAGAATACTTTGCTTCATAGTATTG
106352	IQGAP1	AGAGTGCACAGCAAAGGGGATC
106353	ADD2	TCAAAACAACAGAGGAAATGCT

106354	PIK4CB	AGCTGTGGGGTCCAGACTTGTTG
106355	GPRK7	CCTGCAATTCCAGCACTTTGG
106356	GRIN2B	TTCCCAAACTGATCTTTTCAT
106357	NXF3	TCCTCATGTTCTTGCATGGCCC
106358	CRSP6	AGCCCAGTCTGGAGTGCAGTG
106359	CDK4	TCACATGGTGAGGGTGGGGGTG
106360	AKAP1	GGCAAATCAGGTCTGACTTTGTCACC
106361	ZAP70	TACGTCCCCAGGTTTCGGGAG
106362	FGF13	TCATGATCTCACCTATGACTTTGGG
106363	ELK3	CCTGCTCTCACACACACCA
106364	PTGS1	CCCCAACAATTGTGTGAATTAATTTCT
106365	OTX2	GAGCTGCACTGAAACTTTACGAC
106366	ROBO1	CTATTAACCTTTTTTGTCTTATT
106367	MAP3K5	CTAAAGCTATCCATTGTGTCAT
106368	SLC24A1	AGAAGGACCCCTGGAGCCAG
106369	MTMR2	CACTATACAGAGAGTCTGAACC
106370	FANCC	CCTGTGATCCCAGCACTTTGG
106370	MGAT3	CCTGTGATCCCAGCACTTTGG
106370	SUV39H2	CCTGTGATCCCAGCACTTTGG
106371	PDGFB	CCCAAACACCAGTCACCTCGTC
106372	PCDH9	TCCTAAGGAGCACCAACTCTA
106373	NCALD	CTGCCAAGCCACTTGCCAAAGAAG
106374	ADCY3	CCTCGTTCCAATCCCTGCCGT
106375	TK2	GGGAAGTCGCTTTTGGTGCCTGGCTGGTT
106376	GRF2	CCGTGGGCCTCAGGGCAGCCAG
106377	DEK	CAAAATAAGCAACTAAATGAGACCTAAT
106378	FLG	GCTGACAGCTCTAGACACTCACA
106379	MX1	CTCTGTATTCCTAGAAACTGACA
106380	KLHL3	ATCACCCTAGTGCCATGTTTGGT
106381	TAPBP	AGGCCTTTTCCTGTCTGCCTTT
106382	NAB2	GGAGAGAGAAGACGTGGAGGGAGGGA
106383	ARHGEF6	TCACATGCCTCCCCTCAATCACA
106384	BCL2	CCTGCCTGTGTCCCAGCTTGGAGGC
106385	TAL1	TTCCAAAATAAAACAAAGGGCA
106386	RAMP3	CCTGCTGCATCCTGTGCTCCGCAGGCT
106387	STK19	GGGTTTGAGCAATGCTTCTC
106388	TAC1	TGTCAGCTACTGCGGAAAAGGAA
106389	DPYSL3	AGACCCAACCATTTCTTCCACCTGCTT
106390	TRPC1	GATGTAGCTAAAATGTTTTCA
106391	FEZ1	TTTCATTTTCGTGTTGCCAGC
106392	CYP7A1	GACCAGCCTGGACAGCTTAGTG
106393	LMO2	GTCTTCACTCTTAGGCACTTTGG
106394	GTF2I	CTGCCTCTGTCCCCCAGTG
106395	CCR9	CCAGCCTTGGCCCTGTTGTAGGC
106396	SUPT6H	CCTGCTGCTGCCACCGCTTCCTG
106397	MAPK1	ACTGTTCTGTCCTCAAGTACTCAA
106398	ASB1	CCAACAGCATTCACTGCCA
106399	CRAT	CCAATGCCACAGCCAAGCCCAC
106400	PCDHA9	AGTGGTGCCATCTTGGCTCACT
106401	FOXE1	AGCACTCCAGTCCCATCACCTGAA

106402	AF1Q	CCCCAACAGCTTTGTATTTCT
106403	ABR	CGGCAGCAGTGGTCTGTTTGA
106404	BRF1	CTGCCTCTGGCCGCGGCCTGTG
106405	CSE1L	GCAGCCAGTGTGACACTGCT
106406	DFFB	AAGAACATACAAGGACATTC
106407	TRIM14	TCTGCTGCTGCCCTCTCATCAGACCTC
106408	KCNMB1	ACACATTTACAGTATTA
106409	ADARB1	GTCCTGCTGAGATACTCTCTCA
106410	EYA2	GATTTGGGGGGTGCCTGGTGAT
106411	BENE	TCCTCCAAGGCTGGAGTGCAGTG
106412	GPR1	CCAGCCTGGGCAACAAGAGTAA
106412	RBL1	CCAGCCTGGGCAACAAGAGTAA
106413	ATP8B2	GGTCATCTTTGCAGGTCCCGACAC
106414	HDAC7A	GGTGCTCTGGGAGTCCTGTGCT
106415	CKTSF1B1	TCACAATCCATCTCTTCTTAAGTT
106416	CASP10	CAGAAACTGAAGCTGTTCTCAG
106417	CDK5	GAGGGTGAGACAGTGGGGGTGCCTGG
106418	WNT3	GTTTTTAAAGAAGGGGGCTTTCTTTT
106419	AHSG	CCCGTCATTCCTCACAGGACAG
106420	NBS1	CCTTTTTAACCATTCCAATCG
106421	RXRA	TCAGGAGGGGACAGCTGGGGGC
106422	PRIM2A	AGCGTCCCAGAGTGCTGGGATT
106423	RGS16	GCAGAGCCCAGGCTGGGGAAGTGAACT
106424	ASTN	TCTCAACCTGCTGACTTTTCCTAA
106425	CPSF6	ACTGTAGAAACCCTCCAGAAA
106426	GATA6	CCTTTATTTTACTGTGGAATATGTGCT
106427	CYP2B6	CCATTCTCTTTTTCATCTCG
106428	WNT3A	CCTGCTGCGCCCCAGGCCCCGC
106429	ADCY1	GGTGGGGGCATCAGGAGCAGGGGCAG
106430	CAPNS1	TATTCTGCTCCCAGCCTGCCAG
106431	ACPP	CACACCTGTAATCCTTGCATTT
106432	HSPA4	CTAGCGCAAGTGAATACTGA
106433	PDE6B	GCAGCCACACATGTACATATGTGTACA
106434	STAT6	AGAGCTACAGACCTATGGGGCCTGG
106435	SPAG8	GGGGTGAGGAGGGAAGTGGGGTATGG
106436	GNAT1	CTGCTCCCTCCTTCCTCATCC
106437	FEN1	AGAGCAGCCGTCTGAGGGGACGCAGCC
106438	GGCX	CCACTGCACTCCTGGGCAACAGAG
106439	HEM1	GGACTTGATTGTAACTTACACCTCAG
106440	CDYL	CTGTTTGCAGATATGATTGATG
106441	CACNG7	GACCTGCTGGGTCCTCCGGTGCAGTGG
106442	GALR1	GATCCCTCTTCCCAGGCTCCGT
106443	AIPL1	CATTGCACTCCAGCCTGGTCAACAAGA
106444	PKP1	GGCAGGCAATGGGGGTTAGGGAGGTTG
106445	FBXL11	GGAAATGCCAGTGACTTATTCCAGA
106446	ATP11A	CATAGCTGTTTATATCTCTTTTA
106447	HSPB1	AGCCCAGCGCCCCGCACTTTTCTGAG
106448	NPHS2	TTCCTCACACCTAACCCTG
106449	PPP3CA	TAAAATCAAGTCTTGGTTGTGG
106450	FOXO1A	AAGAACATTTTTGGAATAGATAT

106451	GAS	CACCACACACCTCCCAGCTCT
106452	CXCL6	ACAGCTCAGCTAATGAAGTACTAAT
106453	UBE2L3	CCAGAGCAGCCAGCCCAGCC
106454	HMGN1	TTTAGTAGAATTGTTTCCTAAA
106455	TPMT	ATCTCGAGCTCCTGACCTCAG
106456	KCNQ1	GTAGCACAGGCTGAGTGCAGGC
106457	TLE2	TCTCCTCCCTCTTTCTTCGGGC
106458	ZIC2	TTCAATGAATGGTACGTGTGCGGG
106459	KRT4	ATGGGCAGAGAAGAAAATGACCAGG
106460	TEM8	CCCACCCCATGGCACTGCCGCGT
106461	CHRNE	TCAATTTCCCACCCATCTCCAGTAG
106462	NT5E	GAGAGATGTTTTTCCCACCTG
106463	CACNG1	TCCTCTCTCTGAGTTCCTCTGGGCTG
106464	SORCS2	TTCTCTCTGCTGTTTGGGTT
106465	PDCD8	CTGGGAGGAGGAGTCTGCGTAATGTG
106466	WNT3A	CCCTCCTGATTAAGGCGTGGCTT
106467	TM6SF2	TCTAAGCGGCGATCTGTGCTA
106468	F2RL3	GCTCACTGCAAGCTCGGCCTCC
106469	APOA4	CCTGCCCTGCCCTGCCACCT
106470	GFER	CCTGCCTGGCACATGCC
106471	LAMC2	ACAGAGCTCTGGGTTGTGCACA
106472	RPH3AL	CAGGCTGGGGTGCAGTGGCACGATCGC
106473	FHL2	CTGAAAACTGTGTCTTCCTGGAGACT
106474	RGL	GAATGGTGACTCATTTGGACTC
106475	CCNT2	AGGAGCCTCTTTGTAGGGACTGTGCCT
106476	CCR9	CTGAGAGCTGGTGGTGCCTGCTGT
106477	GFAP	GGAGAGGGATGAGGTGCTGGGAGGGAT
106478	TRN2	CACCACTGAGATCCGGCTTGCTACAAA
106479	MUC3B	CCTCTCCTGATCTAACTCCCTGCTGC
106480	MECP2	GGTTAGAAGTGAGGGAGTTTGCCCCGT
106481	TP53	CAGGCTGGAGTGGAGTGGCGTGATCTT
106482	G2A	CGAGTGCTTCCTGGGGCAGAGTCT
106483	NPHP1	GCAATCAGAGCACCGCAGCCA
106484	COG3	GCTCTTATTTAATGTAATG
106485	RAG2	TCCCACATTAGTGTTCTTTA
106486	PAFAH1B2	TGTTAATAGCATCTCAGCTTCCTCAGA
106487	RPL10	GTGTTTTTCCTGACCTCTCTT
106488	IL24	TGTGGGGCAGTGGATGGGTGCTTAGTA
106489	PTPN7	ACTCTACCCCGAGACTGCCTT
106490	VPS41	TGGGAACAAATACAGCTTTCTGCTT
106491	SSTR1	CTCCAGTGTATCTCAAAAGACCGGGCG
106492	ITGAM	GAGAGGGAAACACAGCAGC
106493	HOXC4	CTGCCTCTACCTGCCTGGTC
106494	MASP1	CTTGACCATCTCCATCTGCC
106495	ACP1	GCCTGGAGGGCAGGTGCCC
106496	FOXI1	TTACCTGCAGACACTCC
106497	GSTM5	TCTTCTCTTCCCCAAGGCCT
106498	CX3CR1	CCCATCATTCATGCTACTGCCA
106499	TNFRSF1B	AGGGTTTTCCACCCTGGA
106500	LRAT	CTGTCCTCCTTTACCTTCCTCTC

106501	FZD1	CCAGGGTCACTTCCCGCCTCCTCC
106502	RBBP9	TGAAATCAAACTTTTCTATTTCACTG
106503	MSN	ATCCATGTTCTATTTCAGTGCC
106504	MSF	GTGTGGGGTTCTCAGTGCCGGAGCTTG
106505	GGT1	CGGAGTCCCCCAGAAAGGTCTG
106505	GGT2	CGGAGTCCCCCAGAAAGGTCTG
106506	DRIL1	GCCAGGATGGCGGAAGATACGG
106507	DGKI	ATCACACCACTGCAATCCAGCCT
106508	MICB	CCGAATAGCTGGGATTACAGACAGGC
106509	MDM2	CAGGCTGGAGTGCAGTGGGTGAT
106510	IREB2	TGGATTAGATTATTTTGCTCACCTTAT
106511	EHD3	CTCACACACTTGTCTGTGCT
106512	RNMT	TCCATTTGCCTCTATGATCTTAGCTC
106513	HIS1	CCCTGTACATCCCCTTGCACAGCC
106514	UBE2L3	CTCCTAGCTCATCTGTCACCGA
106515	CDC2L2	GGCTCACTGCAACCTCCACCT
106515	FEZ1	GGCTCACTGCAACCTCCACCT
106515	IGF1	GGCTCACTGCAACCTCCACCT
106515	LNK	GGCTCACTGCAACCTCCACCT
106515	LYZ	GGCTCACTGCAACCTCCACCT
106515	NUMA1	GGCTCACTGCAACCTCCACCT
106515	PDCL	GGCTCACTGCAACCTCCACCT
106515	RPH3AL	GGCTCACTGCAACCTCCACCT
106515	SEDL	GGCTCACTGCAACCTCCACCT
106515	SEPN1	GGCTCACTGCAACCTCCACCT
106515	SLC14A2	GGCTCACTGCAACCTCCACCT
106515	SNX15	GGCTCACTGCAACCTCCACCT
106515	STAU	GGCTCACTGCAACCTCCACCT
106515	TAT	GGCTCACTGCAACCTCCACCT
106516	SHOX	GACTCACTGCAACCTCCGCCT
106517	PRKAG1	GAGGAAAGAGAATGGATTTATAGCTACC
106518	KCNN3	GCCAAAACAGATATACTCGAATCAG
106519	CD209	GGCTCACTGCAACTTCCGCCT
106519	FUT1	GGCTCACTGCAACTTCCGCCT
106520	XRCC5	CCTTTGCCTGATCCTCCAACAGCTGTCA
106521	FGF8	TGCAGGCTGGGGAGGTGCTGGG
106522	PRKACB	CTTTTATATCCTCCTCTCCTTGAGTAAT
106523	FHIT	AGCTCTGCGGGTCTACTTTC
106524	STE	GTTGCCTAGGCTGGAGGACAGT
106525	CLCN5	ACTCTCATCTGTTGCTTTCCA
106526	DEFA6	CCTGCTCTCTCTCCTCCAGCG
106527	IGSF4	TAAAGAGACAGTGATATTGGA
106528	DGCR2	TGACACTAACTTTTCTTAAGATGCTG
106529	LIMD1	TTCTGCTGTTGAGTCCTGGG
106530	HEPH	GAAATTGAAGGTAGGCTGAG
106531	NYX	GGAGGGGGACCTCAGAGGAGCAGGACCAG
106532	NGB	CCCTCATTCAGCACTTCTGCTGGGAAC
106533	CTSS	CACCACTGTACTCCAGCCTGGATGACA
106534	MYO5A	CCGGGCAGGTGGAGCGCTCGCGGCTG
106535	SMARCC1	CCTACTTCCTGCCAGTCTTTCCCAAAG

106536	LMO4	CTCCTCTCCTTTCCTGCTTCTGCGA
106537	F13B	GTTCCCACCACTGAAGATG
106538	RBBP5	AAATACTGTGCTTACTGTGAA
106539	SORBS1	ATATGTATATTTAACTTTGT
106540	NOLA2	TCTGTCCATCAGTGCCATTT
106541	STC1	CTGACTTCTCTGAATCAGAAAAG
106542	KAI1	GGTGCTCACGCCTGTAATCCCAG
106543	SELL	TCTCAGGCCTCCCTCAACCCCAC
106544	MCM2	TGTCTGTTTCCCCACTCTCTT
106545	SRC	GGCCTCTGCAACTGCTCAGCTCTG
106546	EIF4A1	CCTCAATGTTGCTGACCTCATCTGGGGGCT
106547	CDH1	GTTGCCCAAGCTGGTCTTAAAC
106548	MTERF	GGAAGTTAAAAGGTGGCTTTGAAGGA
106549	TBX1	CTGGCTGCCAGGATCCCCGGCAGG
106550	BAX	GATTCATCTACCCTGCTGACCT
106551	ADCY1	GTAAAGTCACACAGCCCT
106552	TAF11	TCACCTAGGCTGGAGTGCAGCGGCATG
106553	LRP1	TTGGATTTCGGGGCAGGGGGCG
106554	BMPR2	GCCCCTCCACCTGGGTCATCTC
106555	LMNA	TCCGCCAGCCTCCTCTGGACGG
106556	C18orf1	GTCCTTGTTTTTGTGTAATGCGGGAG
106557	CD83	TCTGGGTGCTCGCCCACTTGTCC
106558	HNRPA2B1	AATAACAATGTTAAGGAAACTCTTA
106559	VWF	GTCCTCTGCATGTTCTGCTCTT
106560	GAS7	TCTAAAGGGGCCGGGAGAAGC
106561	ARSA	CCCGGTACCGGCTCCTCCTGG
106562	SLBP	CCAAGAGTTAGGGCAGCAGAGTGGA
106563	LTBP2	CTGGAAATGGCCTCCAGTCA
106564	XRCC2	AGGAACAAGACTGACTGG
106565	PKNOX1	TTGTTGCCCAGGCTGGAGGGC
106566	CD80	ACAGAAGTAGCTCTGGTGACCTTGAT
106567	GCNT2	GGGAAAGAGAGTTACCGGA
106568	MS4A8B	TCTTCAATTCAGTCTAG
106569	CLECSF12	CCCACTGGTGCTATTTTTATTTCC
106570	LHX3	GCTGGGGTTTCCGAGGAAGTGGGGCC
106571	CCND3	CTGCCCCATCCTCCAGCA
106572	CCRL1	TCATCTGTTTATACAAG
106573	MYCL1	TTAAAAACCTAGGTCTCCA
106574	SFRS2	AACTGCACTTCCAGACACCCG
106575	BAZ2A	TGTCTCTCTCCTGGTCAT
106576	ST7	ACGTGCTGTTTGCTGTGCGTGG
106577	MGAT5	GTCTCCTCCCCACCTTGCAAAACAA
106578	DSCR3	ACCCAGGCTGGAGTGATCTCAGC
106579	GNB1	GCCCCCCGCACTCCTTCATA
106580	A1BG	CAGAGCTGGACGCTGTGGAAA
106581	EDAR	GGTTCAGGTGAGCAAAAAGAA
106582	DLG5	CTCCAGGTGCTCAGACTGCCTG
106583	NOX5	TTGCGCCCAGGCTGGTATGCAGT
106584	MYO6	ATTCAAATGTCAGCAGCTTTA
106585	RIMS1	ATGCTGCAGTACAAACTTTCC

106586	EEF2K	CCCAAAGCGCTGGGATTACAGG
106587	IER3	AGAGGGTTGGGGGTTGGTGGG
106588	ABCC3	GACCGCGCTCGCCTTCCTTGCAG
106589	PRKY	AGCTCAAGAGGTTGAGGCTG
106590	HDAC4	GAAAAATGCCTTTCTGTTCCCCTCTC
106591	KCNJ13	CTCTCTACATCACGGTAATCATGCC
106592	EFNB1	ATAGGATGCCATTTCTTTTATA
106593	MSR1	TGTATTACCTGGTCATTTCA
106594	PBP	AGACAACCAGAGGCTGGCATTGAGGCT
106595	EPHB3	CTGGGACTTCTCCAGGCCTGTGTT
106596	SLC9A5	CTGGGGGCTGGGATTCCTGGC
106597	MYO1D	GTCAAAGGCTGGAGGGCAGGA
106598	SCAMP3	ATGACTGCTGAACCTGACAG
106599	TSC1	TGTTTCCAGGGTCTGAGTGCAAGTTCATG
106600	ALDH3B2	CTGAGCCTCAGTTTCCTTATGT
106601	CHI3L1	TGCCCTGCTGAGTCCCAGGCTGA
106602	GALGT	CCTGCCTCCTTGTCCCTGCCAGGAATT
106603	RNMT	AGGAGCCATTGTTAAAGTTGTC
106604	SPARC	TTTGTTGTTCTGCCTGGAGACAAGGT
106605	F2RL3	ATGGCTGAGCATGTGTGGG
106606	NR3C1	GGGAAGGGAAGGGCTACTGCAGCT
106607	SRP	CTGAGTCTCTGACAGCTGTG
106608	SURF5	CCTGTGCAGAGCCCCATCCACTGGTTC
106609	IL17R	CACAGCCCGCTCCCAGGAGCTAATGGT
106610	FCMD	TGAGCCAAGATCGCGGCATTGCACTT
106611	SPR	ACAGGAAAAGAAGCTGGAACAC
106612	MOX2	AGCAGGAGGAAAAGGGGCCATTCTC
106613	INMT	GCAACCCTACTTCAGACCCAGGTGTAAG
106614	EGFL4	GAACACATGCACATGTGCACAC
106615	ZNF137	GCGGGCACTGGCAATTAGAA
106616	CPS1	TCATCTTCAAAATGACGAGGA
106617	AGRP	ACTGTGCCCCCACCCTCCAGGAA
106618	BCL11B	GAGACTCCATCACAGCCAGGACCTTTC
106619	DISC1	GTGCTCAGTAAGGCAGTGCAATA
106620	SCA1	TCATTTCTGCTTTTTACTAGTGCAG
106621	SEDL	CTCCTGCCTCAGCCTCCAAGTAGCTGG
106622	ADH5	TCAGGACCCAAGTCTGCTTCTGTGAT
106623	C5R1	TGCCTGTAATCCCAGCTACTTGGGAGG
106623	CTSS	TGCCTGTAATCCCAGCTACTTGGGAGG
106623	TSNAX	TGCCTGTAATCCCAGCTACTTGGGAGG
106624	AOX1	GTTCCTTGGAATGTACCCATCTGATCAAAT
106625	LTB4R	GGCCACACCCAGCCTTCTCACTCCC
106626	EPHA2	GGGGTCTCGGATGACACCCTGGCCTGAA
106627	GFI1	GCTGTGAAAACCTCATCACTG
106628	CSF3R	CTGCCTCTTAAAGGCCTGAGCTAGCT
106629	WIG1	GAAGCAGGCGGATCACGAGGTCA
106630	PTPN2	GAAACAAAAGTTTTTCC
106631	GLRX	GGGCCATCTTGGTTTTCTTCTGGA
106632	KCNAB2	GTGAAAGTCAGAAAGGCCAGC
106633	CYP7A1	AGTGGTGGTAGAAATGATTCA

106634	ADCY6	CTGCAACCTCCTTGACTCTGGCCTGA
106635	GABRB2	TGGATCTCCTCTCTTCAGTGAA
106636	CCNDBP1	TTGCAGTGTACTATTTGCTTCCA
106637	MAP3K14	TCTGGGATTCTAAGTGACCTG
106638	PRX	GGTGGCAGAGGGGGAGGGA
106639	A1BG	CCTGAGTAGCTGGGCTGACAGG
106640	ETV5	ACAAGCTTAGATTCTCTATGTAT
106641	TEM8	AAGATCCTTCAAAAATACATC
106642	CREB1	GCTGGGAGAAGCGGAGTGTTGG
106643	GTF2I	TGGTAACCTCTTCCCTCCTAGG
106644	CASK	CAGTATCTTTTTTAATCAGTTCTCCT
106645	APOB48R	GGCTGGTGGACCACCTACCCCA
106646	NPY2R	ATGTTGTAACATTTCACAGTAT
106647	TCERG1	AACAGAAGGAGAAGCATTTGTG
106648	FGF2	CCTCTGACTCTAGTGCACTGA
106649	TIRAP	AGTCTCCTCCCTTTACTTTATCT
106650	TCFL4	CTATCCCAACTTCCTCCTGTG
106651	B4GALT1	CCCCAACCCTCCCCAGGTGGGCAGGGCG
106652	STARD4	ACATAGTGTTTCAAGTGCATGGTAGT
106653	GLS	GCAATCAGGTAGTGTTGCTT
106654	ALDH1A3	TGATAGTGATACGTTAGAGGGT
106655	RFX1	CTCCAGCCTCAGCCAGGGC
106656	CPT2	ACCAACCTGGCCAACATGGTGA
106657	NPHS1	ACCAGCCTGGCCAACATGGTAA
106657	TNFRSF1B	ACCAGCCTGGCCAACATGGTAA
106657	VHL	ACCAGCCTGGCCAACATGGTAA
106657	ZNF36	ACCAGCCTGGCCAACATGGTAA
106658	SUFU	ACTGGGGTTTCGGATTGAGTTGCA
106659	CNTNAP2	CAGCTTCTGCTACTAAAATGTT
106660	CD3Z	TCCTATTTTGCATAATAAA
106661	HPSE	TCCTGACACTGAATTTTTCAA
106662	ADAMTS12	GCACCCCTGCATCTTCCTG
106663	RNF4	GGCCCAGATGACAACCTCTCCT
106664	OTX2	TTCCAGTTTTAGCCAGGCATTGG
106665	AMACR	CCCTCTAAGCACATTCCAAAC
106666	MLLT2	TGTTTTTAAAAGCCAATTCTTTTTTAT
106667	CCND3	CCCGCACTCCCGCCCTGCCTGTTCGC
106668	EGFL3	GGTGCAGGCACAGGGCCACTGTCCT
106669	PCDHA9	TTTTCTGCCACCCAGGCTGG
106670	DMN	GCCCTTTTCTGGAGTGGCCAGT
106671	GRAF	TCAAGGATTATACAGCTCTTT
106672	IL2RB	CATCGCTCCTCTCCAGCCCTGCAGCTA
106673	BCL7B	GACTGGGTAGAGACATTGGAGGGAA
106674	ABCB9	CCGCTTCCTGCATCTTGCCCCTGGT
106675	FGFR1	AGATCTTTGCTGCCAGCCACTTCATCCC
106676	EDNRA	AATGGTGTTTTATTACAAG
106677	HTR1D	GAGATTCTGCCTCAGCCTC
106678	CHST1	CTCAGCTGCTCGAGCCGCC
106679	RNTRE	GCTCTGTCCGCTGCCCACAGCCTA
106680	SPTBN2	AGGGCACTCGCCTTCTGCCTTC

106681	POLS	TCTGCCCTTTTGAAGCAGGACTGGC
106682	PKP1	CAGGGTGGAAGCGCCAGGAGCAGC
106683	LARS2	GGCAGACTGCAGTCAACAGTGT
106684	UPK1B	CAGATCCTTTTATTCTCCA
106685	AQP6	CCTCCTTCCACACCTGCTGC
106686	CTH	CTTTTTGTTAATTTTGCTCTAT
106687	SWAP70	AGAGCAGCCTGGCCAACCTGG
106688	ACLY	AGTAAACTGAAGACAAGAACTCT
106689	CHI3L1	TCCCAGGCTGAGCCTCAGTCTC
106690	TNFRSF6B	TTCCTTAGACAGAGGCCAGCAGGGACT
106691	SLC12A2	TAACCTGAAATCTTCAATGACAC
106692	DMXL1	ATTGAGACGTCAGTGATAAATGAGCTA
106693	HMGCR	CTGTAATTAATATCTTGCT
106694	CSK	CAAGATAAGGAGAAAGAAAGT
106695	B4GALT5	ACGATCACAGCTCACTGCAGCC
106696	SDF2	TCTTCAGGAGCTTGGCATCATGG
106697	GUCY2D	AGGGTCTGGGCCCTGCTCCCTGTCCCA
106698	CPT2	ATGAAAACTGGGAGGCCGGGCA
106699	ADCY7	TGGTGCCAGAGCTGTGCGGA
106700	GNAI3	AGCTTCTTGGATACAGACACA
106701	ADAM22	TCACTGCAAATCTATCTGCTC
106702	MLC1	ACCCCCACCTCCCTGCAGCTTTG
106703	BMP8	CTGTGTCTTGGGCCTGTGAGTCAAA
106704	NUMB	GTCCAAAATCACACAACTTGTA
106705	AANAT	GGGAACATCTGCTACTACAGCCTTGC
106706	WHSC1	AACCCCGGCGTGTGCAGTG
106707	NRIP1	TCCTAACATGACAGTATTCCATTTC
106708	SMARCD3	CAACACCTAGAGCCCAAAAAT
106709	COL4A3	GTCTTAGAGTCCAGACACAAA
106710	SLC20A2	CGTGGTGATATAATGTGGTGCAG
106711	TM7SF1	TTCAGTAGGGCGCTAATGTATACACAT
106712	CORO2A	CAACAACAGTTTCTGAATTGACTTT
106713	MUC4	AAGTCTCTCTGACTTTTTGTGTC
106714	NXF3	CCTCATGTTCTTGCATGGCCC
106715	GPR4	CTGCAGCCTCCACCTCCTGGGC
106716	SIGLEC8	TCTCGAACTCCTGACCTCGTGATCC
106717	TNFRSF1B	GCCCCGCGCCTCCTTCCTTGCTGTC
106718	WISP3	ACTGCGAAGGCAGGTTATTAGAAGAGTC
106719	BTG2	GAGGAAGAGAGGCCAAGTT
106720	PRKY	ACCATAAATGAAACACTTG
106721	TTYH1	CACATCCCAGTGGGCTCTGACCCC
106722	COL9A2	CTACTTCCTTCCCTGCCTCCCAGCTC
106723	KCNN2	CTTGCTACTGCTCACTCTTTGGGTC
106724	CBFA2T1	GGGGTGAGGAGGAGGCATCTACCCCTG
106725	SCRT1	AGCAATAGGGTCCCGAGGGGAG
106726	AGPAT2	GGGTGCAGCTGGGCTCCAGGGT
106727	APOC2	GGAGTAACAGCCAGACACAGCCA
106728	PA2G4	TCTCTGCTTGGTCAAGGTTTG
106729	GSTM3	TGGCAGGAGGCAGACTTGCA
106730	TERF2	CCTGCCCCCTGTCCCCTGCCTCTTTTC

106731	EFNB1	GTTCCTTGCCAGCACGGCTGCTA
106732	TRAF5	AACTTCTGAAGTGCTGTCTTT
106733	KCNQ1	TTGGGACCCAGTGGCAGGGCACAG
106734	ST7	CCCAACTCTTGCACAGTCACTGCTC
106735	EHD3	CCAGTGCTTCCACACCCGGGCTCTGA
106736	CHN1	CCATACAGAAGAAACAACAAACCTG
106737	TAPBP	AAAGAGGTTCCTGGGAGTTAG
106738	INPP5B	AGGTGCCTGTAATCCCATGTACTC
106739	NR3C2	TGAAAGAATTCTATTTTGCTGGA
106740	TGM2	AGAGCAGAGTCTGGGCCTC
106741	ATP7A	ACATACACATACATACATATT
106742	GCNT3	AAGAGAACTTCCTTCTGTACTGT
106743	USP9Y	TAAAGAGCATATTCACTGGTTTATT
106744	EZH1	CACACACTCACATGCTCTCACTCA
106745	GALNT7	TTAACAAACGTGAAACTACTTTCTGTT
106746	CST1	TCCCTGCCTCGGGCTCTCACCCTCCTCT
106747	C18orf1	CCCACCCCCCAGGTTCAACCT
106748	IRAK4	AAATATTCTTCTTTACCTTT
106749	VDAC2	ATGTATTTAACTGTTAAATGCGC
106750	CNP	GCGATCATGGCTCACTGCAGCC
106751	HOXD3	GGGCCTGGCCCGCGTCTAGCTTAGTTT
106752	SLC7A6	GCTAATCCCAGGAATTTGCTGCCC
106753	CHI3L1	GCTGCTCAATAAAGTACAA
106754	NOS1	ACATTAAGAAATAAATTCCCCCTCA
106755	CENPB	CCTCACTGCCTGCTTATTGCCTCT
106756	TEGT	GCTTCATCTTCCTGGGGTTCCCCTCA
106757	PAX3	AAGACAAATGCAACATTTTAAGG
106758	AF3P21	GCCCTTGCCACCTTCCCTGCACCTGC
106759	BECN1	AAAAGAAAAAATCCACAAAAG
106760	CLECSF5	ATGGAAATAATAGTCACCAA
106761	AKAP13	AACTCTCTTTTCTCTTGGCTCTTCTTA
106762	MAPK3	CCTGCCTGCCCCTCTCCCGCCAGACTG
106763	CPE	TTCATTCTCTTATATAGTATTCA
106764	IL2RA	GTTTACATTCATCTCATTCCA
106765	LAD1	AGAAGCGAATTCCTCTCTGGAGGCCT
106766	F13A1	GTGAGAATATTTTTCCCAGGA
106767	MAPT	AACCCTGTTTTATTGAGTTCT
106768	HAGH	CACTGTGCGGTGCCAAAAAAGAG
106769	PPP2R4	TGAGACTCCTCCAGTGGACC
106770	HCN2	GCGCGCGTCCCCCGGTGACCTC
106771	KLF15	TCAGCCGCCACCGGCACGGCCAG
106772	NPY	TTGCTCTCTGGCCTTTTCC
106773	PFKFB1	TCTGCCTTGGCCTCACTGA
106774	VENTX2	CCACTGCACCCGGCCCTGAGAATATAT
106775	ATF5	TCGTGCCAGCTGCTGGTGCAGCCT
106776	SLC24A1	CAGGCTGGTGTGCAATGGCGTG
106777	VIP	TCAGAAAATATTATGTGTTTCC
106778	SLC22A1LS	TTCAGCCCTGGCTGGGGCTGCAG
106779	OCRL	CTCGGGCTCCAAGTATTTCAG
106780	CROT	CTGAGTGCTGGGAGTGAGTTGG

106781	TBL1X	GCCTGTCGTTAGGGCATGGCTTA
106782	CYP8B1	AGTACACCCCCCTGTGATGCCTCTGA
106783	EVC	CTCTCGAACTCCTGACCTCATCGTCC
106784	NDUFS1	GCAGTTGGAGACCAGTCTGGGCAACATG
106785	PCP4	TTGATGTTGTAATAAAATGAA
106786	SOX8	GCCTCAGTTCTAGACGAGTCATA
106787	ADAM19	GCTGTGGGTCATCCTTGCTGT
106788	AHR	AGGGCCAAGATCGCCCCACTGCACTC
106789	POLR2C	AGGTGTCCCTAATTTGAGAAGTAACC
106790	IL18R1	CCCAGCACTGGGAGCCTTCT
106791	NPY2R	CTTCTGGAATACTGAAAAAGAA
106792	CYP8B1	CCCAAAGTTCTGGGATTACAGG
106793	DFFB	CCCAAAGTGCTGGGATGACAGG
106793	PTGES	CCCAAAGTGCTGGGATGACAGG
106793	RAI3	CCCAAAGTGCTGGGATGACAGG
106793	SHOX	CCCAAAGTGCTGGGATGACAGG
106794	PINX1	GTCACCCAGGTCCAGAGGCGGCGGT
106795	CARKL	CCACTCCAGAACCTGA
106796	TGM2	CCTGCTCCCAGCCTGCTGA
106797	BRIP1	AGCTAGTTTTTGTATTTTTAGT
106798	EMD	GGTCTTTGGGGAAGTCCTGGCT
106799	CRP	CTGGGCCCAGCTGTGGGTCCTGAAGGT
106800	JAM3	TGCAGTGTCCATTGTGGAGA
106801	GPR81	GTGCCCGGCCTCCCCTGTGTCATTTT
106802	CDR2	GCCAGCCACAAGCTGCTCT
106803	MOG	CTTCCCTTGGGCTTTTCAGCAG
106804	TRIM14	AATAGTTCATTCCTGGCTGGGCGCGG
106805	MAPK8IP1	GGGAGGGACAGGGCTTGGGGA
106806	COL4A3	TCTTCTTTCTGTCTTTAAGAC
106807	FGD1	GCTGCTGCTGCTGCTACTGCC
106808	FGFR1	CAGATAGGTGGTGCCAGT
106809	PDLIM1	TGCAGCTTTTTCTCTCAGTGT
106810	PPFIA3	CCTGCAGCCCAGCTCCGCCCGC
106811	ARHGEF6	ATCATTTGAGCCCAGGAGGTCA
106812	IRTA1	CATGGAGAAAAGGAATTTGTTTAAAT
106813	SRGAP2	AGACTGGGGCCAGGGAGGGGCAGTCCT
106814	DPP4	CCCGCGGTGACTTCTGCCTGCGCTCCT
106815	ZNF3	GAACCTCAGGCCCTGCTTGACAGTGC
106816	UBB	TTACTCTGCACTATAGCCATTTGCCCCA
106817	ABCC12	TGGACTCCAAGACTGACACCCT
106818	NSF	GACTAAGTGGAACGTTCTCTACCTT
106819	ARHGEF7	GCTGATAATAGAATCTTCTGTTCATACA
106820	ELF3	GCCTCCTCAAACCCAGTCTCAG
106821	DNAJB9	GCATTCTTACCATCCTTCTCTCACA
106822	KCNA7	CCACTGCACTCCAGCCTGGGCAG
106822	ROCK2	CCACTGCACTCCAGCCTGGGCAG
106822	ZNF264	CCACTGCACTCCAGCCTGGGCAG
106823	TLL2	AGGTAGTTTTGAATGGCATTTCA
106824	LAMC2	CAATCCTACTTTTCGAACACCAAAAAT
106825	EIF4EBP2	GGCAAGTCTGCTGTTCTAT

106826	DLX4	CTCTGGAGGACAAGCAGTTAG
106827	MEN1	GTCCTGCTTCCAGAATTTGGAAATCC
106828	TNFRSF10B	TCTCGCCCAGGCTGGAGTGCAAC
106829	EPO	AGCAGCTTTAAACTCAGGGA
106830	FZD4	AGTGTATTTGATCAGAAGTGGCCA
106831	PGF	TTCAGCTCTGGAGAACAGTGGTTGCC
106832	C9orf19	GGGGTGAGGGTGAGCTTACTCAGGGCC
106833	DIAPH1	TGCATCTCATCTGGACTAT
106834	F5	ACGCTGTGTTAAATGTTAACA
106835	DPYS	ATGGAAAGGCTGTGTGGAAA
106836	HLCS	TGCTCTCCCCTCTGTGGCTTGGACT
106837	GART	TGGGATTATAGGCATGAGCCGC
106838	TMEFF1	CTAGGAGGCACCGAGGCAGCGGCG
106839	SNX4	TATAGGGAGTTGTTTTCTCTTGCCT
106840	RBL1	AGCCCGCGGGGCCTGAAGGGA
106841	ASB1	GGAGTTAAGGAATGATGATACGGA
106842	SERPIND1	AATTCCTTACCTCTCCCA
106843	FOLR2	TGTCACCCAGTCTGTTGCTG
106844	DNMT3L	CGTCCCTCGTTCCATGGCCCAG
106845	TERF1	TTAGAAACAATTTGACTTTTG
106846	IER5	CCTGGGAGCTTGAGGCTCATTGG
106847	SPN	TCTCCTGCCTCAGCTTCCCGAGTAACTGA
106848	PCDH11X	GGATTTCCACTGAATATTGAGAA
106849	MLPH	CATGGCGGCAGTCCAGCTGGAAC
106850	POLR2E	CAGAGGGAGGTCACCTGGGGGCAGC
106851	NID	GCCCAGCCTGAGCCCCAACAACAACTT
106852	AQP6	TTGTGTTCTCCCTCCTTTTCTCTC
106853	FGF5	ACTTAGGACCCCCGCGGCTGGA
106854	PLAUR	CGACCTCTCTGGGCCTCAGTT
106855	RBM8A	GATTCCATTTGACCATGCAGCCT
106856	PRND	CCAAGTAGGTGGGATTACAGGT
106857	PPIL1	CAGCTCTTCTGAGATGGCCCC
106858	DCX	CACCTAGGCTGGAGTGCAGTGG
106858	SIGLEC8	CACCTAGGCTGGAGTGCAGTGG
106859	CMKLR1	ACCAGGAGGCTCAGGGCTCTG
106860	ATP7A	CCTCCCATCTTTCCACTGTTGTAAA
106861	SLC39A4	GGAGGCGGAGGAGGCTAGTGG
106862	CUL3	GCAGAAAAGGCCTAGAACC
106863	PCSK2	GATTCTGGCTGAAAAAGGCCA
106864	ISL1	TGAAATCCTGGGTCTCTTGGCCT
106865	RRAS	CTGAGCCTCAATTTCCTCATCT
106866	PCM1	CAGGAAACGTGTGGGCCTCTCTGCTG
106867	ZNF217	CCTCCAGGATCCTTGACTGAGGGCGT
106868	SEL1L	AGATTTGAGTGCAGTTGGTACA
106869	ICOS	AACCAGCTTTGGAGAAAGCCCA
106870	CH25H	CTGCTGTGCCTTTCACACTTGA
106871	KRT4	GCTCCAGCACTCACCGGCCTGGGCCCTGTCA
106872	DEK	ATGGCATTAATTGTTCCTTGCTTT
106873	PKD2L1	CCTCCTGGTCCACTGAACCTGGAAAC
106874	RAB4A	TATCTGGAGTACCTGCTCTGTTTTTGGC

106875	BSN	GTCTGCTCTCCTCTTACCCACC
106876	PTPRC	TCATGCTGTCTTTACATGGGGTTTTCA
106877	CD53	TTCTCTTTCTCCAAAGGGCAAG
106878	DDX9	AGTGATTTTGTTTATTTTATG
106879	GPR30	CCTGCCTGCCGCTGCACCTGCCTGCCG
106880	AUP1	AACAGGCTGGATGGGTGGGTG
106881	PLOD3	CGGAGATCCCAGGATCCTGG
106882	FABP2	TTGCCCAGGCTGGTCTTGAACCCCTGG
106883	MFI2	TTGCCCAGGCTGGTCTCAAACCCCCAG
106884	SFRP1	GCACCCTAGGCAGCCTGCA
106885	ASB1	ACTGCTGTCCTGGTGACTTGTC
106886	HELLS	GGATACAGGCTGATGTGTAC
106887	PCDHA9	TGGGACATTGAGGCTGCAGTGA
106888	SMARCA2	AAGCCATTAAAAGCCACT
106889	ADAM33	CCTGCAGGCAGCTTGGAAGTTTCTTC
106890	MYO9A	ACCAAGAAAATGGTTTGCACGACTTTGA
106891	ADAM29	GGGACTTCAAAATCACTGTGATT
106892	ABCA2	ACCCCCAGCTGCCATCGCTCTC
106893	ZNF74	ACCTGTAATCTTAACACTGTG
106894	SIGLEC8	GGTTTCCCCTGCTCTTCTCTCTTGCCT
106895	RAB6A	CTATTCTTACCTAGCCT
106896	DSC2	ATTTAGGACACTAGCAGA
106897	AOC3	TCTCCTTTGGTTGAATCAGCTGT
106898	PMCHL1	TGAAACCTCTGCCTCCCGGGTT
106899	WHSC1	AAATGATGCGGTGTGTCCGCTGCCCC
106900	RNASE1	TCTCTCTCAGACACCAAGCTGCA
106901	MUC12	CAGAAGCCTCGGCACCCCTGTC
106902	NFE2L3	GCACTATAGTGAGCTTTTCA
106903	RS1	GTGTCTGTGGTCACCATTTAGGT
106904	ALDH3A2	GAGCAAGTCAGAAGTTACTCTCAT
106905	BAK1	TTGCCCAGACTACAGGGCTTA
106906	MADH7	CTCTCCCCTCAGCCTCTCCCCTGCC
106907	TRPS1	GGAGACTGAGGTCCTGACAAGCGATAAC
106908	MAB21L1	CTGGATACTTCCAGACATTTTCCA
106909	BDKRB2	CACACTCAGAAGCCTTTGGGAA
106910	ETV5	CACTCCATAGTCTCAAACTGTCCCCCTTATGA
106911	CEBPB	CCGAGGGTCCAGCCACCAGCC
106912	TRIM39	GGGGAGCTGGTTCCCAGAGGATTGTCTAC
106913	SLC4A10	CTAGAAGCTGATTCCCCAAAGCATTG
106914	FOXM1	AATTTGGGGTGGGAGGATGGA
106915	TCL1A	TGGTCTCACATGGTGCTACGCCTGCA
106916	BMP1	CCCCCCACCTCCACTCTGCCATT
106917	CDH3	CCTGTGTCCTGGGCCTGGGCCTGCTGT
106918	FZD8	GTGGGGAGGGGGGCGAGGAGACCC
106919	LRRC2	ACCTATAATCCCAGCACTATGG
106920	SFRP2	CCGGCTGCCAGCTTTTCGGGGCC
106921	PSME3	AGAGATGAGAAGCAGAGGGCT
106922	IL16	GGTATTCCTGCCTCCATATTTTCTTTA
106923	PPP1R11	ATTTCTCCGGCAGCCCAGATG
106924	CFL2	CATACACCTCACCTGCCTTGGCAAGC

106925	GRAP2	TGAATTTGTCTCCCTTCTTGCCAGAAAG
106926	SLC38A3	AGAGTGGCCTGCCCCCGGGAGCCAA
106927	RAB13	GGCAGAGGGAGTGAGCAGGGGAGAAATA
106928	B4GALT6	TGGCTGTGTCACAGTGCCCTTTTCTC
106929	EFNA4	ACCTCGGGGGCGATGCGGCTGCTGCC
106930	F8	ATAAAACTCTCAGTTGTTT
106931	PCDHB9	ACCACGTTCGGCTAATTTTTGT
106932	CHRNA3	ACCATAAACTGGGTGGATTA
106933	PTPRF	GGTGGAGGCGGCGGCGGCAGAGGAGT
106934	ALDH1A2	TCTTCATTTTCCTCCTTCCAGGC
106935	SMARCD1	CTGCCCTTTGTGATTCCC
106936	HOXC13	CTGATTTCCAGAGGAAAGCTAGAGG
106937	RAB33A	CACAGGCAGAAGGCTCGGGGCTC
106938	CLCN4	GCTTGTCAGTTTCTGCCTCC
106939	NR1I2	AATAAGAAGGTTGAGGCTGAAGAGTGA
106940	CDC23	CGTCTGTTCCAAGGACCTCAGCTCTT
106941	GYS1	CTCCACCCCCTCCAGCTCC
106942	ZNF36	CTTAAGGATCCTTCTAGTCACA
106943	MECP2	AGGTGTGAGGCAGGAGAGACAGT
106944	PDGFRB	TCCCCCAGGGAACTCAGTTTTCCCA
106945	FACL4	AAAAAGAGGACATTTAAAAACGC
106946	SLC7A6	GCTTCATGGTGGAATTAATTTCTGCCA
106947	FGF8	AGATGAGCTGTGCGCTGCTCTG
106948	RAG1	GCCATAATTGCTACTCTTCATACA
106949	CHST1	CTGCAGCTGCTCCCGGCGCGTCCC
106950	MYLK2	CCCGAGCTTGCCTCAGGGCCAAG
106951	PCDH11X	GCGGAAGCCTTTTTTCTCCCTT
106951	PCDH11Y	GCGGAAGCCTTTTTTCTCCCTT
106952	PRG2	GCATGGCCTCCCCTCCTCTGCTTGCC
106953	CALML3	CTCTGCGGCCCTCCAGGACGGACA
106954	VCAM1	ATTTGCTGACAGCTGACCTTTGTC
106955	CBFB	AAGGGTGAAAAACTGACA
106956	PDE4C	CTGCCTCTGTAGTAGCCCTGCACAAA
106957	PSMD5	CCCCAAGAATTATCATGGAATGTC
106958	TUFT1	ACTTGCTCTGCAGCTAAGGA
106959	SLC6A3	TTCTACTCTTCAACCTCTACTG
106960	ZNF76	GCAGGCCCTGTCCTGCCCTCCCAGCAATAAC
106961	CD209L	ATTTGGCTGTTTCTGAGTTGTA
106962	GJA5	GCCCTGCTAGGGAGTCACTGTACACA
106963	TAPBP	GCCTTTCTTCTGCTTGGGCT
106964	HEPH	GCGGACTCAGGCTGGGGTCTGCAG
106965	ZNF264	TTGATCTGTAGGATTATGCCTTT
106966	TBL2	TGTAAGATGGAGAATAATCCTCTCTG
106967	DUSP4	GCCTCTAGCCCCACCATTGCTC
106968	TCTE1L	AAAACAAAATCAGTTTTGCA
106969	LSS	GCTGCCGCCAGTCTCATGCCC
106970	ATM	GGCAGGAGAATCTCTTGAACCTG
106970	MSH3	GGCAGGAGAATCTCTTGAACCTG
106971	ZNF36	TGAGCAAGGACTTTTGCCCTCTAGAAA
106972	ARHGAP6	AGGGTGATTTCACCTGGA

106973	LRP8	CACCACACAGACTCTGTGTGTGTATGT
106974	B3GALT2	CCTTCATTTTAGATTAAGCTT
106975	HAS3	GATCAAATTGGCTACAATCTTGGA
106976	BDKRB1	AGTGGCACAATCATAGCTCGCT
106977	CYP8B1	CCCCTGCCTCTTCCCTGAACCACTCCT
106978	DFFA	CCACTGCACTCCAGCCTGGGCAACAGA
106978	F2RL3	CCACTGCACTCCAGCCTGGGCAACAGA
106978	HRH1	CCACTGCACTCCAGCCTGGGCAACAGA
106978	IL2RA	CCACTGCACTCCAGCCTGGGCAACAGA
106978	KCNA7	CCACTGCACTCCAGCCTGGGCAACAGA
106978	LDLR	CCACTGCACTCCAGCCTGGGCAACAGA
106978	SIGLEC11	CCACTGCACTCCAGCCTGGGCAACAGA
106978	SMG1	CCACTGCACTCCAGCCTGGGCAACAGA
106978	SPTLC1	CCACTGCACTCCAGCCTGGGCAACAGA
106978	SRGAP1	CCACTGCACTCCAGCCTGGGCAACAGA
106978	UBE2G2	CCACTGCACTCCAGCCTGGGCAACAGA
106978	ZNF264	CCACTGCACTCCAGCCTGGGCAACAGA
106979	PUM1	ATTGTCTCTAAACAATGTGTG
106980	OSR1	ACCTGTGAACTGCAGTGGGGCA
106981	DISC1	GCATTTAGGAAAGCAGTGCAGT
106982	SLC7A6	CTGTCATGGGTTTGGGATTTGT
106983	NRXN2	CCTGTTCTGTGTGTGCCGCCGGGCGAC
106984	CLECSF12	ATAGGGTCTCACTTTGTTACCCAGGC
106985	TSGA10	TGATAGTGAGTGTAAAATCT
106986	RCE1	GGGACCAAGAGAAAGAAGCAGA
106987	GCNT2	GGACCCCCTGGAATCAGAACCTCTCTGAGGA
106988	JPH2	AGGACGGGGAGGTTGTCAGGGGCTAT
106989	DIAPH2	CCATCATTCCTTGGTTTGTGACTGCAT
106990	PTPN2	TTCAGGGTAAATATATTTTATA
106991	SLC25A15	TCTACTTTGCTTTTCTCTCCA
106992	B2M	CTTTGAGTGCTGTCTCCATGTT
106993	CD5L	TACTAATCTAGGTCCTATTACTAATC
106994	JAM3	GCATCCCGGCGGGAACCCAGAA
106995	RXRA	CTCCTGTGACGGCGGCGAGGCTTGGGA
106996	VIPR2	GCCTTGCCCAGCTTTCAAAGGA
106997	ADD1	AGACCCCACAGTAGAGCACTTTT
106998	PKM2	CTCTCTAGGCCTCTCCAGTTTGCACCT
106999	ADD1	AGAGTACCTGTTACCCTACCT
107000	FOXI1	CAGAACAATGCATCTGACAT
107001	KIF3C	CCCCTCTGTCCCCTTGGCTTCG
107002	WBP2	TCCTTCTAGAAGGAGCTTCCTGACTGG
107003	PCDH9	TCATCTTATTTTCAAAGTAGGCAAA
107004	PCDHB9	CCTGAGGTTCCTGTTAAATT
107005	PACE4	CCAAAGCCACCACATTTAGAAC
107006	CACNB1	AGGGGAGGGGAGGGAGCGAGGGGC
107007	DUSP4	GGCTTATCCTGGGTGCTTATAGGAGA
107008	PYGM	GCTCCACTCCTTGGCTGGAGGCAGTG
107009	NXF1	GATTGAGCCTCACTGGTGCCAGG
107010	TXNRD1	TGAACAACTGTGCCTTGTGGAATTTT
107011	P2RX7	CCACTGCTCTCCAGCCTGGGAGGCACA

107012	NIPSNAP1	CCATTTTACCGAGGTGGATC
107013	LGMN	AAAACTGTTTTTAGAAAATATGATGATT
107014	PAIP2	TAAACTTCATATTTGGGTAGGTT
107015	FPGS	ATGCTGGAGGCCCTCGAGG
107016	PRSS8	AGGGGAGGGGCGGGCAGGTAGGTGC
107017	SCD	GAATAATGCTACCAGGATGCT
107018	VENTX2	CCCTGCAGTGCGCTCTAGGCTG
107019	PPP1R12B	GCAGGGTGGAAGCTGCAAG
107020	ZNF10	TGCTTTCAGTCTTGTTACTATCCT
107021	ALDH3B1	CTGTCTCTCTGGCTGATGTC
107022	IL17	AGATTAAACCTACTTTCAT
107023	KCNMB4	GGGGGCGGAGGCTGGCAGGGG
107024	AP2B1	CTCAGCTGACCTGACTGAGCCA
107025	APTX	AGGGTTCCTGGCTGTGAGGAA
107026	DPYSL3	TTCCTTGCCACAAGCTTCCCA
107027	CKMT2	GGCTCCGGCTTCAAGATCAAAGG
107028	NF2	GTGTTCCTCACTGACAGGGTGGGGCCTCA
107029	ACTB	GAGCGAGCATCCCCCAAAGTTC
107030	TPO	TTACTCAGCAGTGCAGT
107031	DEK	CTTACTGCTGACCTTTTTATCTTGAG
107032	SLC4A4	CTGTTTGTCTTTCTTAAAACTGACA
107033	TCTA	AGGCTGAGGCAGGCAGATCACG
107034	DHCR24	CTGCCATCGCCTCCATCAGCC
107035	MPDU1	TTGCAGACTTTCTGAGCCAGG
107036	RNASE1	TCTGGGAAAGTGAGGCCACCATGGCTC
107037	P2RY4	AGTGCACCCAGATGCGCTTCTGTCAG
107038	RPP30	CCTAAAGTGCTGGGATTACATG
107039	SPON1	CCTCAGTCATCAATAGTTCCTGGGGA
107040	RALB	TTTCTTTCTTCTCCCCTTCTTCCCTC
107041	CXCR6	GGACTTTCCTTCCTCCATCTCCAAGA
107042	CRSP6	CCTAGTGTATGGCTCATGCCC
107043	CD8A	ACACAGCCCTGGCCTCTGCTCAACTAG
107044	JJAZ1	TAGAATTATTGCTTATGTCATTTCTT
107045	MAL	CCAGAGGTCCATGGTGGAAGAC
107046	GPRC5C	ACTCTCCAGGCTCCTCCTCC
107047	AP2B1	GTGGGAGGTGGATAGGTCGGTG
107048	TKTL1	CATGTGCCGAGGTCGTGTGCTAG
107049	BACH2	GGATCTGCCTTTGTCCTGCTTGTGT
107050	SMAC	TCTGCCTGCAGGAGCGGTTATTGTGG
107051	MAPK4	ACACAGCCCTCTTTCCCCACTGGGCGT
107052	PCDH11X	AGGTATCCAGGGCAAGAGACATTTTT
107052	PCDH11Y	AGGTATCCAGGGCAAGAGACATTTTT
107053	NSF	CCCAACTGCTGCTTAAAATGCAAGGA
107054	RGS2	ACCTTGAATTCAGCCTGGG
107055	PBX3	TTCAATCTTATTACTAATCCA
107056	VDR	GAGGGAACAGACAGGAGAAATGC
107057	LPP	CACACTTGTAATCCCAGCAATT
107058	NUP62	CACCCCTGTAATCTCAGCACTT
107059	PROS1	TGAAGGCAGAAGAGATGGTGG
107060	MECP2	GACGGGATTTGTTGATTCTCTCCA

107061	LCP2	CTTGTGAGCTTCTTCCCGGG
107062	DISC1	TACTCAGTAAGGCAGTGCAGTACTCAG
107063	GNB1	ACTGTTATTTAAGATGTAATA
107064	ADH5	TATAACACTGTAGTGGAACATTCTTCT
107065	CDH6	CCATCCTGCCATCCTTGACT
107066	PHEMX	GGAAACCACAGGGAGGGGAAG
107067	TLE2	AGCAGCCGCCTCCCAGCCCTGCCTAG
107068	FZD4	ACCCAGGCTGGGGCGCAATGGC
107069	SLC31A1	TCTTTTCCTTCTCCATCATCT
107070	ABCA1	TATTAAAATGCATATTTCTA
107071	BCL11A	AGAGAAACAAAAAAGTGTGACA
107072	MTNR1B	GGGCAGGGAAGAGAGCGCCCGGCTCAG
107073	EPHB2	CTGCCACCACTGGGCAAACAG
107074	SMAC	GCCCAGGCTGGAGTGCAGTGGCGAG
107075	TCF7	GCGCGCATGTAATCCCAGCT
107076	PIM1	TTTTCTTTCCTCCTTTCCTCCTCTGAC
107077	SELE	TTCAATACAAGTGTGGTAGGGACTTAA
107078	GFPT2	TCATTGTTTACACATGGGGA
107079	BCL7A	ACATTTTTCTTTGCAGCGAAAC
107080	IL17R	TGCCTGTAGTCCTAGCTACTTGG
107081	KCNJ5	TGCCTGTAGTCCCAGCTACTCGG
107081	TPM4	TGCCTGTAGTCCCAGCTACTCGG
107082	SLC8A2	CTTTTGAGAGGGCAGCAG
107083	SLC7A5	GGTGTTTTCAAGCACAACCCACC
107084	ARAF1	TTGACAAAATCTAAGGCTCCA
107085	CXCL16	CTAAGTAGCTGGGACTACAGGT
107086	SHFM3	TGCCTGGAGGGTGCAGTGA
107087	ASB1	TCTCTTTATTTTTCTACTTCTC
107088	LRPAP1	TACATAAAAAATCTTA
107089	EMP1	GGAGTTTCTCTAAAGTCACT
107090	KCNS2	TCTGTGATGTGCATTTTGGA
107091	ADAM19	AAGAAGCTGGCTTGACATGCTGTAT
107092	MAPK4	GCCATTTTGTCCTCAGAGGGC
107093	GNL1	CAGGCTAACAGCTGTGGGAGGCTTC
107094	MUCDHL	GCCCCTTCTCAGCCTCTGAGGA
107095	ECEL1	GGGCACCACCTGCCTTCCAGCCCCTCCA
107096	NPEPPS	CGCCGCCGCCTCCACAGCCTGGG
107097	MICB	CAGGTGATCTGCCTGCCTTGGCATCC
107098	REN	ACTCGCCTCCAGCCTCCCACCTCC
107099	AIM2	AACAAATTCAGAATATCAACAGATGAT
107100	COX7A2L	GAGCATGGGGTGCAGGAGCCTTT
107101	RPA3	AAGGAAAATGAGGCTGAAATG
107102	WHSC1	TTGTTCTTTGCACCTCTCTC
107103	Rgr	TCTCCTCCTATGCCACCTGCCTGGGC
107104	CALM1	AAGCATTTGAATTATTTATTGTAT
107105	GPR30	CTGCCGCTGCACCTGCCTGCCGCTGC
107106	JUP	GCCTGACACCCCCTCCCCGCC
107107	RGS14	GAGCCGAGTCAGGCTCTCTCCA
107108	PEPD	AATTACCCTTTTGCAGGCACCA
107109	CDC42	TCTGGAGAGTAATCTGGGACA

107110	TLR4	GCTCACAACCATCCTGGTCATTCTCG
107111	GFAP	GCTGACCTTGAACTCCTGGGC
107112	COL6A1	GACGCCTCTCGGGGCCTGTGC
107113	RAD1	GCTTTAATCCCAGCACTTTG
107114	GFI1	CACCACTCTGCTCCCTGCTTGCCTCCA
107115	BACH2	ATCCTCTCCTCTTCTCGAGCAG
107116	PABPC3	TTAATAAAAATTTCTTA
107117	KPNA4	GAGTCCTGTAAAGAAGAAGAA
107118	FANCE	TTCTTTCTTCACCACCTTGTCT
107119	TFDP1	GTATTTGTTTCATAAGCATCTTCCTGTAATC
107120	COX11	AAGTGAGTATTTGTTCCAAAC
107121	TEX14	TCAGCTGCCACAATAGACATCAT
107122	SLC22A7	CCCTCTCTGGGCCTCAGTCTG
107123	GPR41	CAGTGGCCACCACCATGGATAC
107124	ITGA6	GCTGTCCCACATCACAAGA
107125	HLCS	TTCAGTGAGCTCTCCTTTCCTAAG
107126	WRN	CCCGCCTCCCCCGGCACAGCCTGCTGAGGGGA
107127	A1BG	CTGAGTGGGCTGGGATCTCGTG
107128	IFNA2	TTGTTTATTCTTTAAAATGAA
107129	WNT1	CGCGGACTCGCCCCCAGGAAACGCTCTC
107130	HEBP1	CTTGCCGCCCTGCCACCCTGC
107131	POR	CCCACAGACTCCGGCCTGTAATC
107132	CASQ2	TCCAGCCAAGATGATCCTTCTTA
107133	MAPK1	CTCGCATGACTGTTACAGCTTT
107134	KIF3C	GCATTGTCTTGTCACACCTCCCTCA
107135	ETFA	TTGTTAAAGTATTCCACTGAAA
107136	SCGB3A2	GGAGGTGGATGGGGATGGAAGATGAT
107137	TRIM34	AGCTGAGAAGCTGGAAGCTGAC
107138	TNFRSF11B	TTTGTAGCATTTTTCTAATAGGTACT
107139	IGF1	GTCCCCCAGGCTGGAGTGCAGTG
107139	LZTS1	GTCCCCCAGGCTGGAGTGCAGTG
107139	RPP30	GTCCCCCAGGCTGGAGTGCAGTG
107140	PDE6B	GTCACCCAGGCTGGAGTGCCGTG
107141	KMO	GACCAGGCTGGAGTGCAGT
107142	SOX11	GGAGAGAAGTGGTCGGTGTCTGTTT
107143	CD14	ACTCAAACTGCCTTGGCTTCAGG
107144	TTF2	TTGAGTCCAGGAGGTTGAGGCTGCAGT
107145	GPR81	GTCCCAGGCTGGAGTGCAGT
107146	TMPRSS2	GCTTTGACAAAATGACTGGCTCC
107147	GPR55	CATCTCTCAGCCCTCTCAGCT
107148	ALDH3B2	GAAAATACAGTGCCCTGCCTTC
107149	KCNA4	CCAATTTCCATGGCAGAAAAAT
107150	ADAMTS4	GCGTGAGCCACCGTGCCTGGCC
107150	APAF1	GCGTGAGCCACCGTGCCTGGCC
107151	PPID	GTGTGAGCCACCGTGCCCGGCC
107151	SEDL	GTGTGAGCCACCGTGCCCGGCC
107152	CCR9	TGTTCTGTTGAGTGGCACTTGC
107153	TREM1	TCTGGCAGTTGTGCCAAGGGAGG
107154	GRLF1	CCTGCAGTGGTTGGAGACGGG
107155	BCAS1	CCAACATCATGAAACCCCGTCT

107156	CDC5L	AATCGCTGTTACTACTTCTC
107157	ADAR	CACAGGCTCTCACAAGATCAGAA
107158	CARS	TTTAAACCATTGTGGACTAGTGGCTGC
107159	HNF4A	ACCCAGGTCTCCCTGGATCAGA
107160	TEM7R	TTGCTAAGAAAAACAGCCCAT
107161	IL18	TTGGGAGGCTGAGGCGGGCAGATCACC
107162	BACE	AGCCTCTCCCCTGCTCCCGT
107163	MSX2	AGGGAGACAAATTATTTGCAAAA
107164	ARNT	GCCTTTCTTTTCCCCTCCCTCCCGGTT
107165	HDAC5	ACTCCTCACAGCCTACTTCCC
107166	RBM15	CTTAAGAGTAGCTGTCTCTC
107167	SH2D2A	TCCTGGTTTCTCCTCCTGGAGTC
107168	APPBP2	GCACATGTTTTTCAAGAG
107169	FUT6	CGGAAGGTAGAAATTCTGCTCA
107170	EDG8	ACAATTATAGCTCACTGCAGCC
107171	DTR	CCTGGTCCCTCACCCCCATGGCCC
107172	FCGR3A	TAGAAATTGAAGTTTCAGAGCTACA
107173	CD4	GAGGCTGGGTGTCTGGAAGCAT
107174	HTR2A	TGAGCCAAGTTCACACCACTG
107175	AP2B1	TCATGATACTTAGTCTGCAGGGCATAT
107176	TCF20	TCCCTCCATCATCTAGACTTGATTT
107177	MAGEL2	CAGCTTTGTGCTGGCTTTGT
107178	CTLA4	TTTGCAAGGAAGCCACAGCTG
107179	VMD2	CCATACAGCTGTCCACACTGAAGA
107180	SLC25A15	CGGGAGGCAGAAGTTGCAGTGA
107181	VCP	TTGCCCAGGAGAGGGACCAGGGGTGC
107182	SCAMP2	ATGTGGTGGTGGTTGTGCCCA
107183	DGKB	CTTTTAGAATCAGTGTATCAGTGACCT
107184	MTCP1	CCGCGACGAATACCAGCGCACGTG
107185	C5R1	GACCAGGCTGGCCAGCATGGT
107186	ZNF256	TCACAGACATAAATAAATAAATAC
107187	EGLN1	GAGGAGGCCGCTGCGGGCT
107188	COX15	TGCAACCTCCACTTCCCAGGTT
107189	CDH2	GCTGCAAACCAATTTGGGCTCAGA
107190	PC	ACAAGTGGTGGGTCAGGTGGTCCTAGGAC
107191	IRAK1	TGACTGCACTCCAGCCTGG
107192	EPM2A	TAAAGAATGTTTTGGAATAAACTGTCT
107193	LATS2	ATCGCTTTCAATAGGCTTTTCA
107194	PIP5K1A	TACTTGGTCATCAAAAAAGG
107195	AKAP2	TGACATGACTTGGCTTTCTCATCCA
107196	ABCA2	TCTGGCCCTGCTCTCCTGCA
107197	TOP1	TTAGGCTGTTACACAACTGCTGG
107198	BCL2	ACCTGGATGTCACTGGCCACTGAGGA
107199	DSC2	CCAGGCATTGACTATTACAATTTCAT
107200	GPR35	GCTGCCTCTGAGCCCTCCCTGCTAAGA
107201	HSPD1	TTAGTGCTTGCCACCACCAGATGA
107202	BMP1	ATGGTGTCTGTGACATTTCCTGTTGT
107203	HTR1E	GGCTAATTTTTTGAATTTTTAGT
107204	IGF1	GGCTAATTTTTTGGATTTTTAAT
107205	FZD4	AACAAACAAAAGTACTGTACTCAC

107206	CSNK1A1	CAGAAATTTAGTTAACATCTTA
107207	PRKCB1	TTTCAGAACCCAAATGTCCTCA
107208	ARMET	GGGGGAAAAAACAGTTCAACTGCTT
107209	MAP3K12	GGGACACTGGCAGCTGTGGAAA
107210	HMMR	TGTCATCTGCATGTCTACTCAGC
107211	IGSF4	TTAATCAAAACTCAAATGTGA
107212	TEX14	AAGCTCCTTTCTTCTCTTTCTGCTTCA
107213	MCC	CTTTCCTCCTGCTTCATGGG
107214	SLC4A8	TCTGTTCTTAATTTTTGGG
107215	NPM1	AGAGTGAGAACTTTCCCTACCGTGTTT
107216	PSEN1	CCTGCTGTCAGACCTTCTTCCA
107217	INSM1	TCCCACACGATTAGCTTTAT
107218	GLO1	GAAAGCAGGCTAGGCATGTGAA
107219	ANGPTL3	TAATTTAAACATTAACCTCA
107220	DLST	GACTTCAAGATGCCTCTTCTACCTC
107221	WNT3	CACCAGCCGCACGCGTGGTAA
107222	CDH1	CCCAGAGTATTGGGATTACAGACATGA
107223	IGFBP3	TTTTTGGGGGGAAAAGTATTTT
107224	SLC2A3	GGGACGCAGGGGTTGCAGTGAG
107225	TLX1	GAGTAGACAGTCTTCTACTTTC
107226	HOXA5	AGCAAGCTGTGTTACTTGA
107227	PPP3CA	TGGATGCCCTATCTATCTGCTA
107228	PIAS3	CCCCAACACTGAGCAAGTATGCT
107229	KCNQ2	CAGGCCTGTTCCCTGAGGACCTGCGCA
107230	TRIM39	GCAGTTTACTGAGGGCATTTCA
107231	AES	TCCCACCTCCACCTGCCCCA
107232	CACNA1G	TCCTAGCTCCTCCTCCTGGGCT
107233	TGFA	TAATGGGCCACCTCCCCACAACAG
107234	RNF4	AGAAATTTTCCCTGTTTGGAAAGTTTGCC
107235	F12	GACTCCTGGATAGGCAGCTGGACC
107236	A1BG	TGCCCAGGCTGGAGTGCAAT
107236	ATP1B2	TGCCCAGGCTGGAGTGCAAT
107236	CDC6	TGCCCAGGCTGGAGTGCAAT
107236	CRTAP	TGCCCAGGCTGGAGTGCAAT
107236	MLANA	TGCCCAGGCTGGAGTGCAAT
107236	PMCHL1	TGCCCAGGCTGGAGTGCAAT
107236	PRKR	TGCCCAGGCTGGAGTGCAAT
107236	PTGIS	TGCCCAGGCTGGAGTGCAAT
107236	RAB36	TGCCCAGGCTGGAGTGCAAT
107236	SAS	TGCCCAGGCTGGAGTGCAAT
107236	SCML2	TGCCCAGGCTGGAGTGCAAT
107237	PTGIS	TGCCCAGGCTAGAGTGCAGT
107238	SCTR	CCTGCAGGACCAGCATCATCTG
107239	MDM4	CTGTCTCCCAGGCTGAAGTGCAGT
107240	ADCY2	GTGTCTCATGCCAGCAGCACGTCGCCA
107241	MMP14	TTCCAGCCTCTGCCCCTCAGGGGAACC
107242	SLA2	CCCTCCAGTGCTCCTACTGGTTCC
107243	TIMM8A	AAACTCTATTTAGATGCATATT
107244	IMPA2	GGGACGGCGGGATCCGGTGGGAGCCGG
107245	BCL2L2	GCCTATGCTGTGTTGTGGGCT

107246	ZNF278	CTTCCCTTCCCCTGGCAT
107247	TGFB1	GGAGGAAGGAGTCGCCGAGGAGCAGC
107248	FKRP	GCCCACTGGGAGCCGTGGAT
107249	CD209L	TCTTCTCTCCATCCTTGGACCTTCACA
107250	EXTL3	GGCGGAGATGGGTCCTGGCCTTGTGT
107251	A1BG	TATCCCTCAGCTCTGAGTCC
107252	MAP4K2	CACATTTCCTTTCTACTCTTTCTG
107253	PTGES	CACCTGTGCCAGCAGCTGATGCCTCCT
107254	IHPK1	GTGTGCAACTGGCCCCCAACGCAAT
107255	DPH2L2	GCCCCGAAGCTGTCCCAGGGA
107256	KRT2A	CAAGTTAAATTTTTGTCATTTATCT
107257	HHIP	TCTTCATTTTTGTCAGTGTAT
107258	FSTL3	GCGTCTCCCCTGCTGCTGTCC
107259	EXT2	GGAGTGCTGGGCTTGTGCACAGGAAG
107260	PLOD	GAGATTCCTGCAGGCCAGAGGCCGG
107261	DLGAP2	GTCCCTGTCTTCCTCCAGGACACA
107262	PTK2	CAGCGAGGAATTAACCCTGTGTCCTCA
107263	RBBP9	CCTTTTAACTTCCATGGCCC
107264	CCND3	TTCGGTGGCTAGTCAAGCTCCTCCTCC
107265	PDYN	GTCATGTTGGTACCCTGGACAGTGCCT
107266	SURF5	CCTGCCTGCCTTGCCTTGGGGC
107267	LEP	AAGACCCTAAGCCTCCTTTTG
107268	SFRP1	TAACTGGTTGCTGTGTCAT
107269	EIF5A2	ATCAGCCAGGCTGGAGTGCAG
107270	ASK	CAGTGACATTCAATTGGTTCTA
107271	CASP10	GGAATGAAGAACAACAACTCTCA
107272	TNFSF6	CATGTAATAAAAAGTATATG
107273	DUSP5	GCCACATCCTGCTAAACTGGGA
107274	CYBB	TAAAACCAGCTTCATTTGTTGCT
107275	WASF3	ACACTCAAGATACTTGCCAG
107276	TMEPAI	TCCATCCTGGTTCAGAGAA
107277	B2M	GATATGCTTATACACTTACACTTTATGCAC
107278	CISH	GGGTGTCAGGGAACAAAGTTTT
107279	HLCS	AGCCCTCTCTCAGAGCTGCCATC
107280	EBAF	ACTGAGTCTGGAACAATAATACCCTAT
107281	CAPN10	TTGTGCCCTCCACCTACCTGCCGG
107282	CA12	CATGCCACTGCACTCTAGCCTGGGTGA
107283	PPP4C	CCTAGCTCCATGTTCCTCCTCCTCT
107284	ELF3	CCCTCCAGTGGGCTGATGCTGG
107285	MKL1	GCTACCCAGGCCCACCCATCACGTGTG
107286	IL17C	CTTCCCTTACCCTATCACTGGC
107287	KRT15	AGTCCCTGCCTTCAGAGAGCTGAAAAGGGT
107288	GPR86	TTCAACACATCTATTGAAAGTG
107289	RP1	TCAGCACACTCATTCTTTGTCA
107290	MYBPC1	ACCAGGCCCCCAAGTGTGGTC
107291	NAPB	CTTTTTCTGGAGATAGTTTTC
107292	DBT	GGCAGGAGAATTGCTTGAGCCC
107293	ACADSB	GTGTGCACCACCATGCCTGGTT
107294	EDG8	GCATGCACCACCATGCCCAGTT
107295	SURF5	AGGCCTCCTGTCCACACCAGCGCCCCC

107296	RAP2A	CCTTGATAGAGCAAAACTCA
107297	NR2E3	CTCATCTGTCCCTGACCTCTAACC
107298	PKP2	CAGTGTTGAAACAGAA
107299	B4GALT2	GGCCTCCTGCCTGGGC
107300	WASF3	ATCAGCCCTGCAGCTGTAGTACAGT
107301	ZNF189	GAACCTTTGGGAGTGCCTT
107302	ZNF175	ATGCCCTCAGTGCAGTG
107303	HOXD1	AGCTCCGCTGCTATCTTTGCCT
107304	GNA15	GGTACTCCTGCCCTTGCTTGA
107305	DMP1	CTGAGATAGTTCCTAATTCATCAACGT
107306	CHRNB4	AACCTCCCAAGTAGCTGGGATT
107307	XRCC2	AGCCTCCCAGGTAGCTGGGATT
107308	NR2E1	CCTCTTACCTGGAAGATCAGGCTGAACGAT
107309	ZNF261	CCTGACTGCTCCTTTCCGCT
107310	CLASP1	CTGAAAACTGCTGCCGCCGCGCC
107311	RANBP2L1	AGACTGCAGAATGGAGGGGTGG
107312	REGL	GTGCTCACCCAGGCTGAGGGTGC
107313	CACNA1D	CTGGTTCCTGTTTAGCTGTTCTGAA
107314	SVIL	TCCCCAGGCTGAAGTGTCCTCAGGTT
107315	SEDL	TGTTGTGCAGGCTGGAGTGCAG
107316	BAZ1B	GCAGCCGCCAGTCCCACCGCCGCCGC
107317	SNX3	TTGACCCCATTTATGTGTAGGA
107318	YWHAZ	AGGCACCCTGCTTCCTTTGCTTGCA
107319	RBBP9	AAAACAAACACAAGTTTCA
107320	EDG8	GGAGGAGACAAGGAGCTGAAGGAG
107321	HMGA1	CCACGCATACACACATGCCC
107322	PLN	CATCAGCTTAAAATCTGTCA
107323	RAD54L	TTTCACCCCAGCTTCTCTCTCCTGGCC
107324	GA	GGCAGAAATTCGGAACAAGAC
107325	MC1R	GCACCAGGGGCCAACCTCAGGCTCC
107326	EGR2	GTAGACAAATGTTACAAGGCTGCA
107327	PRKAB1	GACATTTCATACCTGCCCTGG
107328	ATP7A	AGGCTGGAGTGCAGTGGCACCA
107328	CTSS	AGGCTGGAGTGCAGTGGCACCA
107328	TNFRSF9	AGGCTGGAGTGCAGTGGCACCA
107329	SLC2A2	AATGCATAACTAGGCCTAGGCAG
107330	APM1	GGCTCACTGCTACCTCTACCA
107331	UPF3B	TGCCTTCAGGGCAAAGAATAGA
107332	KCNE1L	ATTCAGTTGTTATTGCAGTG
107333	COPEB	TGCCTCCAGGGCCTCTCCTTGGAA
107334	YWHAZ	CCGTCCGCCGCCACCACCCAC
107335	ZNF38	GGCAGGCAGGAGGTCCTCAGAAGGTGT
107336	WHSC1	ATTCCTATACTGGATGAGCAAGGAGCA
107337	STARD4	CTGAATAGCTGGGAATACAGGT
107338	METTL1	TCTCTCCTCAGCTGGAATGAGGAATGT
107339	RPA1	TTGAAGCCTTTTGTTTCCCTTGCTTTG
107340	PTK7	TGGGTGCCACAGGTAACCCCAAT
107341	HLF	GTCCTTTATAAGTTGCTTTC
107342	CYB561	GGGCCTCCTCCCAGGCTGCTCCA
107343	ATP11A	TCATCCCTGCGGATGCACCGCCGTACC

107344	BLK	GCGGCCTCTCTGTGCCGCTTCATT
107345	MUC4	CCTGAGCCGCAACGGCTCTGAGGCCTCC
107346	IL13RA1	GGGAAATTAGTAGGCTCATTTA
107347	DTNA	GTTTGGAAAGAGAAAAAAG
107348	UBE4A	CTGCTCAACAGGAAATGAACCTA
107349	FUT1	CGGGTTCATGCCATTCTGCCT
107350	PYGB	CCTGCCCAGCCCTGCCTCCTGG
107351	JAM3	AAATATGCTTTTCTATGGGTCT
107352	CA12	CCAGGAGGCGGAGGTTGCAGTAAGCCA
107353	FY	CCTTTGAGTCAGTTCCATCCTGG
107354	SLC4A4	TTGGCCAGAGATTTAGATATGTC
107355	OTX2	TTAAAAAATAATGTTCATAAGGA
107356	CSK	TCCCTCCTCCCCTCTCCTTGCAC
107357	ASB1	CTGGGCCTTGGCTGCTGTCA
107358	RUNX1	TGGGGGGAATGACATGTTTGGGTCTTT
107359	IFNGR2	CTGCAGACATGAGAGACAGCAGGT
107360	CYP11B1	CAGTCAAGTTCCCTCCTGCAGCCT
107361	LOXL3	GAGCCCAGGAGTCAGTGCTGGTGGTTG
107362	H1F0	AGAGGGAACCCAGGAATTGTGAGG
107363	ITK	ATGCTGCTACCTCTCTCCT
107364	HUNK	GTTTCCTCTGCGGAGTGTAGCAGCC
107365	CYP2C9	TCTGTAACAGTTGCATTGACTGT
107366	LNK	AACCCCCAGGCTCACAGCAGTG
107367	PRND	GGGACTGTGCAGCTCGAGGCTCCA
107368	TBL1X	GGAACTTGGAACGTGCCAG
107369	ABCF1	GTGGCCTAGAAGTCCTCTGTGGT
107370	GRIN2B	ACAGTTAAGAGAAATGAGCTTGA
107371	PTGIS	AAGTAGCTGAGATTACAGGCGCACACC
107372	CAPN1	GCAAGTGCCTTCCTTGGAGCAG
107373	BCL7A	AGGCAGGATCGCAGTGGTCA
107374	IL12RB1	GCAATCATGGCTCACTGCAGCC
107375	PCSK1	GCTTGTTCCCTGTCTTGTCC
107376	OGN	CCATGATCGCTCATTCTTCT
107377	B3GAT1	GCCCCACTGTCCACACACTGCCTCC
107378	SSX3	GCCATGCGTCCTGGTCAGGCTTCCCTC
107379	ATP1A2	CACTTCACCTTCTGTAATACT
107380	COLQ	CCATTTTTCCTGAGTAGGGC
107381	HNF4A	CGCTGGGGCTTGGGGG
107382	KCNK10	CTCTGCCAAAAGGAATCAGAGA
107383	CACNA2D2	GGCTCAGATGGACTGGGAGGAGGG
107384	MAPT	CCAACAGCAGCGCCGCTGCCA
107385	BACH2	CAGGCGTGTGTTACAGTGG
107386	TRPM6	CCCACAGATTGTATTT
107387	EGLN3	GTGGCTTCCCATCCCCAAAAGG
107388	NDUFA5	GCGTGTTCTTATTACTGACAT
107389	PCDHB9	CTCGTGATCCACCCCACTCAGCCT
107390	CDC7L1	CATGATCTTCTTTGAG
107391	HYAL1	GGCAGGCACCGTGGTGTGAGC
107392	ACADS	GGCCTGGGGTCCTGGTGTTGGGC
107393	DIBD1	CCCCAAAGGACAACCATCTTGT

107394	FZD1	ATTTTCTTATTTTTAATCAAATAACT
107395	WHSC1	TCATCAGAGGAAAAGGGCAAAAAGA
107396	MYOM2	CTGATAGTTGATCACACATTGTGCT
107397	IL6R	TGTGCCTGAAGTCCCAGATACTTGGGG
107398	EGLN2	CGGGCTGGGGAGAAGTTGAAGGGTC
107399	GNGT2	CATTCCCCACTCCCACCTTCAACT
107400	GPR92	TGTTCATCTGCTGACTTCTGTC
107401	MSX1	GCTTTTCCCTGTCCTGACACC
107402	SLC22A12	GGCAGCCCTGGCATCCCACAG
107403	TNKS	CTGGTGAAGGCCAGATCAGATTTCA
107404	MAG	GCTGGCGGAGCAGAGGTGCAGAAGCAACTGA
107405	PDCL	GTTTTCATATTGGAAAAGT
107406	CD5	GGCCTCGGCTTCCTTAACTGCA
107407	PER2	AGGCCTCTGCCAGTGTCCCCAGCACTT
107408	NGFR	CTCCTCTGGGCAGGACCTCAGA
107409	FZD7	CTTCAACCTTCAAAACTATCT
107410	PIK3CG	TAGTCCCAGGTACTCAGGAGGCTGA
107411	CDH6	GCAGTTTCAGCCGCGACAGCA
107412	CDX1	GGGAGGGGCCTAGACAAGGCTCCA
107413	TAPBP	GGGAGTTAGAGGGGTAATGGGAG
107414	UBQLN3	CATAAAGAGAAGGACGGG
107415	ITCH	CTGAGTCTCTATCATAGCTGAACCCTG
107416	RXRB	GGGAAAGGCAGGGCCCTGAAATGGCC
107417	CLCN6	TTAACATTGCAGCTTTCTCTCCA
107418	PPP1R12B	CCTGCTGCTCAGCTACTTTGTC
107419	LY64	CAAGCATTAGGTAAACCCACC
107420	TTC1	CAGATACAAAGATAACAAAAGCTTT
107421	NFYC	TTTTCTTGAAGAGTGTGGTTGAA
107422	FBXL11	TTGAAACTTTGAGGAAATGCCAGTGA
107423	RBM8A	CTGATCATAGCTCACTGCAGCT
107424	CTMP	ACAGAAACACTTCCTGCGAGCAT
107425	ZNF74	CTTCACCCAGGAGGAGTGGGG
107426	OPA3	GTGGAGGCCAAGATTGTACC
107427	TJP1	ATTAGGTGTGACTGAATTTC
107428	DNMT2	TCCAGAAATCATATTACAAG
107429	EPO	CCACCGCGCCCGCTCTGCTCCGACACCGCGCC
107430	DNAJB1	ATATTACAATCTTTCAAAGTCGCA
107431	MAP3K5	TTCATAAGGACTCTTAAAATAATCCTG
107432	ADAMTS1	TTATTATTATTTCTTTTGTTAC
107433	HTR1E	TCTCCGCCTCAGCTTCCTAGTAGCT
107434	MAD	CAGCTTTGTAACTGTTTTCA
107435	VPS41	ACAGGGTGCTAGTGAGTACTGA
107436	TNFAIP6	TTTTCTATTTGTGGTATATGTATATA
107437	UBE2B	ACAGAATATACACATTTTGTAA
107438	C4BPB	GCTGGGTGAATTCCAGCCTGGGGA
107439	PTPN22	TAAACTTCAAAAGGTTTGTAAGATT
107440	ABCD4	CAGCCTGGCCAGGGCCAGAGGCCCCT
107441	KCNMB3	GAGGCGGAGGAGGTTGCAGTGA
107442	G6PC	GAATACTCTCACAAGTAGGGA
107443	IL13RA1	TAGGGGCAGTGGAGGTAGAATGA

107444	DLEC1	GGCTGTCTTTAAGGGGCCTGCCCTCA
107445	CHRNA3	TCAGCAATCCCCCATCGTT
107446	FANCC	GACGGCGTTGGCGGGGCTGGGCACAG
107447	F7	AGCCTCCTTACCTCCCTTCAG
107448	APAF1	AGCCTCCCAAGTAGCTGAGACT
107448	CASP10	AGCCTCCCAAGTAGCTGAGACT
107448	LTB4R	AGCCTCCCAAGTAGCTGAGACT
107448	SERPINB9	AGCCTCCCAAGTAGCTGAGACT
107449	PPP1R12B	GATATAGGTGAGTCTTGTGGT
107450	RIMS1	TGAGTATTCAGCGAGGCAGATA
107451	WBP2	GCCAGACCCTGCTCACATTC
107452	MTF1	AAGCGGGTGAGCAGGAGGC
107453	DAAM2	TGTGAAGCCAGACAGTGACCTC
107454	PIK3R1	ATATGTAGCAGAAAGGCAC
107455	FST	CAGGACTACAGCTTTCCTATATCT
107456	SULT2A1	AGGGATGCAAAGGTTGCAGTG
107457	SURF4	CACCCTGCAAGCCAGCCTGGCCAGCT
107458	NPAT	AGCTTTGACAATTCCATATTGTAAA
107459	PCDH11X	GCCCGGGCTGCCTGAATAGCCTCAGAA
107459	PCDH11Y	GCCCGGGCTGCCTGAATAGCCTCAGAA
107460	CLECSF12	ACCTCCGCCCCCTGGGTTCAAGCAATT
107461	SLC22A5	CTTGCCAGAAATGGCCAGCTT
107462	PIK3R3	GAGCTTTTCTCCCCGGAGAGC
107463	GAN	AGAGTGTTGAGTGTGGTACATT
107464	WTAP	CACCATACATCTGTGCATTTTCT
107465	GNAT1	CCCTCCCACACACAGGCCAGCT
107466	SALL2	TTCCCTTTGGTAGGTGCACCTG
107467	AGL	GGTCCGCTCCCACCTGG
107468	PRSS8	CCAACATCTGGGTCCTGCCTTCG
107469	CRYZL1	GTGTGTGTCTGAAGAAAGA
107470	GSPT1	CGGCAGCAGCAGCAGCGA
107471	GRINL1A	TGTTTTTGCTTATTTTTCTATGCAT
107472	D1S155E	TTTCTTGGCCCTCTTCTTGAAT
107473	CCNT2	AGCTGAGTGCAAGATGAGGGAG
107474	CSRP1	CCTGCGCTTTTCATCGCCATTCCA
107475	PCSK2	GACAAGCCTGGCAACACACCTGGTG
107476	ZNF147	TGCAGAAGTCCCAAGACCCT
107477	HAMP	CCTCCCTTCCTTATTTATTCCTGCTGC
107478	KCNQ2	CTGGGCTTGGACACTTGCCGTGG
107479	HDAC5	CTCCACCCCCTCCCGTCCCAGCC
107480	RNASE4	TCATTAAGACTTATGTGCTCT
107481	PAX5	GCTCATCCCTCCTTCTTTAGT
107482	SYT1	ATATCACACCACGTCTTTTCA
107483	ADAMTS13	CTGCCTGCCCCTGAGCCCTGTGTC
107484	SUDD	CGCTTGAACCCGGGAGGCAGAG
107484	UBE2G2	CGCTTGAACCCGGGAGGCAGAG
107485	CEP1	CCTCCACTACCTCACTGACTTC
107486	MMP8	TACACATTCCATCTTACATTAGTG
107487	CLCN4	TTGCATCCCCATGGCATTTGCTTCA
107488	SBF1	GTGCACATTCCACCCTTGCCAGAG

107489	ATP6IP1	TCCCAACAAGGTGTACATATTCTGCGT
107490	KPNB1	ACACAAAACAGCAAACTTCA
107491	FOXD1	AATGTAAGATTTTTACACTTTT
107492	GPR81	GCCCAGCCTGGCAGATTTTATT
107493	MSF	GTGAGTCTGGTGGAGGAGCT
107494	IRF6	TTTTCCTTGGTTTTGTTAAAGTTTCCT
107495	NFKBIL1	TTGTAACAAGTGGGGGTGGGGG
107496	FLI1	AATAATCACAGCTCTGGGAA
107497	RP2	AGCCTCCCAAAGAGCTGGGATT
107498	LPXN	TGGCTCACTGTCTTACAATCA
107499	SNK	TAATTGGAGCAGCTTTTGGCTGC
107500	MBD4	CTGAGGCAGGAGGATCATTTGA
107501	TNP1	GTGGATCAAATGCCAGTTGTGACGA
107502	KIF5B	TTAAATTTAGTCTTTACTGTGCC
107503	CDK2	GGGAGGCCCTGAGACAGGGATTGTGCTTCAT
107504	SSTR1	GTCCTGAACTCCTGGCTTTCCAG
107505	FSTL1	ATGACAGACCTCCAGCATCCA
107506	C4orf1	ATCTGTGTCTTAAAACTTAC
107507	CYP2B6	AAAGTGCTGATATTACAGGCAT
107508	DCX	CTTCCCTCCCTTTCTCCTAAAG
107509	OCA2	GACTGTACTGTTTAACTGTCA
107510	CPS1	GCTCACTGCAATTTGCGTCTCC
107511	GLO1	GTGCTTGTACTGCTAGAAGCACTTT
107512	APOB48R	GGAGGCCAAGGTGGGAGGA
107512	IL6R	GGAGGCCAAGGTGGGAGGA
107512	MGAT3	GGAGGCCAAGGTGGGAGGA
107513	SLC16A1	TGAGGAGGGAATGATTGGTAGCAA
107514	GRB10	GGGACAGTGGTGCCAGACACTCCCAAATC
107515	COIL	AACCTGCCTGGTATGACCTCTCCACC
107516	CNTNAP2	CAGGTATTACTTCTGCACTTAC
107517	PTGIS	GCCTCCAGGCACCCCCAGGATTCCCAGA
107518	MGEA5	TGCAGTTACTTCTGGAAATTA
107519	ITGBL1	TTTGGTGGGTAGAGGCCAGGGA
107520	JPH3	GCGACTTCCAAGTCCTCTCACA
107521	PIM1	CTGGGGCTGTGTTTTGAGCAGCAG
107522	GAS41	ACCAAGCAAAAGACATATA
107523	GCGR	GAGGTGAGCAGAGGAGTCCAGGGCGGGA
107524	TAF7L	CTTGCTGCTGCTTATGTTCTG
107525	ACCN1	TTTTAGTTTTGATGTTCTGA
107526	ARVCF	GTGGGGGGTGCCCCACAAGGCCCAGCC
107527	WHSC1	TTGAGCTGACATATACTGGGTGG
107528	ETS2	GTATGTATTATTTACATTTAATAGAC
107529	DGKA	CCCACCTCCCTGTCCCTGGACTC
107530	CNTN2	CCAGGGAGTGGCAAGGCCAT
107531	COL19A1	GCAATCAGGACTCACAGCTCTTCAAGG
107532	TCF3	CCCAGCTGGCTGGGACTGTCTTG
107533	BRCA1	CGCCATTGCACTCCAGCCTGGG
107533	CARKL	CGCCATTGCACTCCAGCCTGGG
107533	CASP6	CGCCATTGCACTCCAGCCTGGG
107533	DDOST	CGCCATTGCACTCCAGCCTGGG

107533	FCAR	CGCCATTGCACTCCAGCCTGGG
107533	ITGAL	CGCCATTGCACTCCAGCCTGGG
107533	MAP3K9	CGCCATTGCACTCCAGCCTGGG
107533	NFATC3	CGCCATTGCACTCCAGCCTGGG
107533	SFRS2IP	CGCCATTGCACTCCAGCCTGGG
107533	SLC31A1	CGCCATTGCACTCCAGCCTGGG
107533	TNFSF15	CGCCATTGCACTCCAGCCTGGG
107533	VPS41	CGCCATTGCACTCCAGCCTGGG
107534	PPP2R1B	CGCCACTGCACTCTAGCCTGGG
107535	MAX	AACCTTCCAGCCTCCTTTGCTGGCA
107536	EIF5A2	GTGTTATGATTCAGTATTAAC
107537	SP4	AACCTTTATACAGAATCTTCCCA
107538	SRP	AACTCCTGGCCAGGCCCTGTCCTCCCCACG
107539	TRPM8	TTCATTTCTCAGGATGCTTCTTACCTG
107540	MMP16	AAAGAACAATCAGGAATTGAAAAT
107541	PCSK2	TGTCCCGGAAGAGTCATGGG
107542	SLC31A1	GCAGTGAGCCAAGATGGCGCC
107543	ITGA2	CATGGATTTCTTTTTAAATCCCA
107544	PLCB2	GCAGATCCTGGCACTACCTCA
107545	SYNGR1	GCCAGCTGTGTGACAGCTGGTTGTT
107546	TBX3	TGTCCCCGGCTGGAGCCCAGCGC
107547	IL18R1	CAGCCAACGGTTCTTGAA
107548	TEAD3	GGGGAGCACCTGTTTCAGACTGGG
107549	TFCP2	GCCAGGATGGCCTGGGCTCTGA
107550	GRM4	CACCCAGGCCGTGGGGCCAGGGGCCT
107551	PCSK1	GCGCTCGCCGCCGCCCAGCC
107552	GLTSCR1	TTCTCAGATGGTGGAGGGTGCTG
107553	OPCML	GAGTCTCCTTTCTGCTCCA
107554	RENT1	CGCCTAGACTCGGCGCAGGG
107555	KCNMB1	ATGGAGGTGCAGGGCTTGGGTAACAGC
107556	MAP1A	AGGGGGAGGGGAGGGAGATGT
107557	BCL2L2	AGAACAGATTTGGTTAGTTTA
107558	MMP19	GGAATACCACTCCCTCAGGTAC
107559	ATP11A	TGGGCATGGGAAGATGGGCTCCCTGGC
107560	PCDHB16	TTCATTTCTTGAATTTCTTA
107561	RAMP1	GCACCCAGGCTGCAGGGTGAGGCCAG
107562	FKBP2	GCGGGCGTGTGGCCGCGGGTTTCGCAC
107563	SCN4A	GCCTCCTGCCTATGTCTCCTCTA
107564	CDC23	GCAATGCTACAGGAACAAAGTTTCAATGCTG
107565	TAL1	GAACTCTGGGCTCAAGCAATC
107566	IFNA1	AGAGTCACCCATCTCAGCAAGC
107566	IFNA13	AGAGTCACCCATCTCAGCAAGC
107567	BUB3	AGTATTTTTGTTGTCAAACTTT
107568	MLLT2	CAGAAGCAGAGATGAGGA
107569	GAS7	TCTTGTCTCCCCCTCAGGAGTATTTTT
107570	MYO1D	GGGAAGTAGAGGCTGGGAGC
107571	RAB26	CTCTGGAGGAAGCCGCCCAGTCCC
107572	ITSN1	CCGGGGCAAAGACCTAAGACACTTTT
107573	INMT	CACCCAGGCTAGAGTGCAATGG
107573	RHD	CACCCAGGCTAGAGTGCAATGG

107574	SNAP25	AAGTGATGTGATTTATGCATTTATGC
107575	EIF2S3	CCGAGTAGCTGAGATTACAGGT
107576	ALOX15	CACCCAGGCTGGAGTGCAGTGG
107576	APAF1	CACCCAGGCTGGAGTGCAGTGG
107576	AXL	CACCCAGGCTGGAGTGCAGTGG
107576	CSNK2A2	CACCCAGGCTGGAGTGCAGTGG
107576	EIF2S3	CACCCAGGCTGGAGTGCAGTGG
107576	FCAR	CACCCAGGCTGGAGTGCAGTGG
107576	FSHPRH1	CACCCAGGCTGGAGTGCAGTGG
107576	HUNK	CACCCAGGCTGGAGTGCAGTGG
107576	ICAM1	CACCCAGGCTGGAGTGCAGTGG
107576	MEFV	CACCCAGGCTGGAGTGCAGTGG
107576	NEU3	CACCCAGGCTGGAGTGCAGTGG
107576	PCDHB16	CACCCAGGCTGGAGTGCAGTGG
107576	TERF2	CACCCAGGCTGGAGTGCAGTGG
107576	TNFRSF9	CACCCAGGCTGGAGTGCAGTGG
107576	VHL	CACCCAGGCTGGAGTGCAGTGG
107576	ZNF264	CACCCAGGCTGGAGTGCAGTGG
107577	MRE11A	GTGCATTTACAAGGTTAAAGATT
107578	FOXD2	CTGCTCTTAACTACTATGCAGA
107579	RUNX3	GGTCTCAATACTTTCTCA
107580	GNPI	GGTCAGTAACAAGTGCAATG
107581	SET	AGTAACTGTCCCTGCTTTCT
107582	SEMG1	TCAGTTGACCTCAGTGAATTCTGTGAT
107583	NCSTN	CACTGGAACCTCCCTGGGCCTGTCT
107584	MAPT	CTGGGACTCGTGTGGCCTGTGTGGTGCC
107585	WWOX	AGAAGCACCAGCAATTCTCTTTC
107586	KIF5B	CTCTGCTGCTTCCCAACACA
107587	PBP	TGGCCTTTATAATTTTACTCACTCACTCTGA
107588	GRIN2B	TCTTTTGCCCACACTTGGGACG
107589	BDKRB2	CATGTAGATCAGTGGTCTCCA
107590	ARF5	TCTGCTCCTGCTCCTGCCTGCATGT
107591	KIFC3	GCACCGGGACCTGCTGATGGTGGAGAA
107592	ICMT	CAGGGGTGTTGTGAGGACTGAGAAG
107593	ALAS1	GCCCAGTTCTTCCCGCTGTG
107594	PFKFB3	ACGCAGCCACTTCTTCAAGAG
107595	EYA2	AGCCAAGCCACGTGGACTGAGAGT
107596	LRP4	GTGCCACCACTGGCCAGTAC
107597	PACSIN1	GGCAGCGCCAGCCCCCTCCTCC
107598	TBX22	GTTAACTGCATTTTACACAT
107599	RAD52	AGAAGCAGCTGCAGCAGCAGTTCC
107600	ISL1	AATGAATGCTCCATGAAATGC
107601	CYP7B1	TCTATTTCTTTTTAATTTCTGCA
107602	CASP10	TCATTTACACTCAGCTGCTCTG
107603	PRKDC	TCTGTGGGAGTCTGCAGATAG
107604	DHFR	ACCTGTAATCCCAGCGCTTTGG
107605	UBE2B	ACCTGTAGTCCCAGCACTTTGG
107606	HIP1	TGGTGTCTCACACGTTTAATCCCAG
107607	AMACR	CTACAGTGATGATTGAATTCTA
107608	PRELP	GCAGGTGCATCACCTGGATCA

107609	C2	TCAGGGCTCCTACCAGCAGGACTGCCT
107610	GCNT2	TACAGTGAGCTGAGAGTGCC
107611	BASP1	CTCCTATACTAACTTGTTTCAA
107612	SFRP2	CACGGCTGACCATTTCTGCTCCG
107613	FCER1G	TGAGAAACCACCACAGTACTTTAGAATA
107614	NRXN2	CTGAAGCCTGAGCGGGGGCCGGG
107615	MKL1	GCTGTGTGCCACAGTCTGGTGCC
107616	CCNDBP1	CATATGCGTATATTTTTCTGTGCTATA
107617	WBSCR5	CCCTGAATCCTCCTCTGCTCCAGGGCTGGCCT
107618	SLC7A6	GCAGACACAGAACATATCATCA
107619	EXTL3	CCTGGACAAGGTCTCTTCCTT
107620	PHKA1	CCTTTTGACAGCTGGTCCCTGCCTCG
107621	NQO1	TCTACCTGCCTAAGGGACTT
107622	DIAPH1	CCTCCTCATGCCTTCCCTGA
107623	PCDHA9	GCCCGGGAGACAGCAAGATTCTG
107624	MEF2A	CCCCCAGGCTGAAGTGCAGTGG
107625	CBFA2T2	CGGCAGGCGGCAGGCAGCAGGCTGTGG
107626	TBX1	TTCAGTAAATTCCAATATGA
107627	TGFA	TTGCCCTTTAGAAAATGAATTGTTCAC
107628	CNGA3	TCTCCTCTTTTCCTCCTCAAA
107629	ADH6	TTTATGTCTGTGTGTTTGAGA
107630	IL16	CTCATTTCAGGAGCAGCCTCA
107631	EYA4	GAATGTTCATACTGATGTGTTG
107632	CBFA2T2	TTGACATCTTCAGCTTCCA
107633	SLC22A3	ACACCCCAGGAGGGTGAGT
107634	GRM6	GGAGCTGTCTCAGCAAGAGGAGAC
107635	CTSW	GAGTCTCCTGCCCTCCCTGCCACCTGG
107636	CD28	TCACCATTTGTTCATGCTTC
107637	WWOX	GCCTTCTCCTACTTAGGGA
107638	S100A11	CAGCCTTTCTGTCATCA
107639	GOT2	CTAGGCTTGCGTGCTGCTA
107640	TPS1	CTAAGCCCCCTGCTCTCTTCTGAGCC
107640	TPSB1	CTAAGCCCCCTGCTCTCTTCTGAGCC
107641	CIT	TCCCTGCAGTCATCTCTTTG
107642	IGF1	GCTTTATTTTTCCACATCATGCT
107643	PPM1D	GTAAATTTGTATCCACACAAATTCAG
107644	GSTZ1	TCTGCTCCGCCCTCCCTGCTCCCCATA
107645	MASP1	GCCATTTCTCCTTTCCTTCCTCC
107646	DIO3	GGGAGAGAGAAAAAGCTGAG
107647	FUT3	CTGCCGGGAACCTCATCTGCCTGG
107648	SHANK2	GCCTCTCTGGCAAGGCTTTCTT
107649	GNA14	GTGGGGACAGAGATGGGTGAT
107650	KCNC3	TGGATCTTGAGTCCCATTAGCT
107651	FOSB	CCAGATTGTGGGGTGCAGCTGGG
107652	HPCA	GCCCTTCTCCCCGGGTC
107653	PDCL	CACCCAGGCTGGAGTACAAT
107654	PRKAB1	AGCCAAAAATGAATGCTAACTCCTT
107655	MME	ATGGGCCCTAGGGGTCACTGTAC
107656	SNAP23	AGAGCAGTTACAGCCCTCCTT
107657	SPARC	TGGATGGTTTGTTGTTCTGCCT

107658	RPE65	GGATCCTGAACTGGAAGAA
107659	EGLN2	TTCCTGGTCTAGGGCTGTGAG
107660	FLG	CCATCAGCAGAGCCACCAAGA
107661	PRG1	AGCATATTTTATGTACCATGGTTA
107662	VCL	CCTACTTCTCTGTCGCCCGCGGT
107663	XRCC3	GGTTCAGACACAGCTCTTC
107664	ETV5	GCCGCTGCAAGGGGAGGAGAGC
107665	MGAT2	CCCTGCAGGAAGCTAAAGGGCCTTTCA
107666	KCNAB1	GCCCTTTAACTCTATTTGGCTATCTG
107667	FANCC	CGGGAGGTGGGAGTTGTAGTGA
107668	GNA14	CCGACTGCTGTCCGGCTCCTGTGCCA
107669	IL1RAPL2	AGACTGGAGCAGCGAACAGGAG
107670	MMP25	CATGCGCCACGTCCTGGGTGG
107671	EFNB1	CCACTTCTTCCAAGGGACAGCGATC
107672	HAL	ATAGGGTCTTCAGCTATTAA
107673	PACSIN1	AACAGCCCACTGTTAGGAGGTAGTAG
107674	FZD4	TTGGCTGCTGCTGTTTTCTTC
107675	ZNF239	CCAGTGCTGCTGACTTCACCCC
107676	TAL1	CAGGCTGGAGTACAGTGGTGCCATCAT
107677	TNFRSF5	AGTTTGAGACAGGAGACCTGGCACTG
107678	KCNAB2	GGCCCCGGAAGGCCCTGTGGTCATGT
107679	MORC	GTGAAGGACTACAGAATCACCTC
107680	ALDH3B1	TCCTGTCTCTCTGGCTGATGT
107681	EXTL3	TGGGTTTCATCATCAGGTACCTCCTCC
107682	PSCD4	CTCTGCCCCACTGCCAGCCTGAG
107683	CDC42	CCAGTCAGGGGAATCCCCTT
107684	MS4A3	TATTTCAGTGAACTGCTGGAAC
107685	CYP27A1	GGGAGAGAAGGAGGCCGCCAG
107686	PRKY	TTCAGGAGCTGTTGTAGGAG
107687	CHRNB4	CTTGTCCAGTTCCTCACACACTTC
107688	NOX5	CTTCCCTTTCGGCCT
107689	TFE3	CCCTGCTCTGCCCAGGCAAGGAAC
107690	CETP	CAGAAGGCAAGCACCAGGCTCACAGCT
107691	CTGF	TATAGCTGATCAGTTTTTTCACCT
107692	CDC2L2	TCTTGCAGAAGAAGTAAGTGAGGAA
107693	KCNK10	TGTGTTTTTAATATTCACACTGAGACA
107694	SOCS5	GTTTTTAAATAAGCATTAACTA
107695	SURF5	TCTGTTTGCTGCCTTCCTGGCCA
107696	DAP	AGCAGTCACCTGACGTCC
107697	SNRPN	GGCTGGCCGCAGCCACTGTAGCT
107698	HGD	AGGAGAGAGAAAATGGCTGA
107699	FADD	CCCAGCACTGTGAAGACCCA
107700	JJAZ1	ATTAGGATTGCAAACCAAGGAA
107701	RPH3AL	CTGGGAGGCAGGCGCAGTG
107702	CYP21A2	AAGAGAGAGTCAAAGCCGGATGTCCCA
107703	LZTR1	AGCACCTGGAAGTGGAGTGCAGG
107704	CYP4F3	CCCGGGTGGCTGGGATTGCAGG
107705	PMP22	GGAGGTGGGGGTTGCTGTTGAT
107706	GCNT2	GGCAGAGGGAGGAGGGAAGGC
107707	HOXA1	CAGGGTGGGCAAACTCTCTAAA

107708	AIM1	TTCATTTCTTGCCTTTCATT
107709	PIK3CD	GCTCACTGTAACCTCCGCCTCC
107710	PPP1CC	TGAACCCGTCCATTCAGAAAGCTTCAA
107711	APM1	GGTTTCAAACTCCTGACTTTGTGATCC
107712	EGFL4	TGCCAGGACTGGACATGGGGGGA
107713	UTX	AGGAAATAACCCAGTTCTGCAC
107714	PSME3	AGCAAGGTTGGGTGCTTCATT
107715	COL19A1	CAGTGTACTTAAAATTTTACAGTTAT
107716	MAX	CTTCCCGTGTGTATTTCTAAG
107717	SERPINE1	CATTGGTGACTCACTTCAATGTGTCAT
107718	MAGEA9	AGAGAGCAATCAGTGTTCTCA
107719	SLC24A1	CTGTAGCTTCAGTTATTGGTGAG
107720	GMPR	TTGCACCTTTCTCTTTTTCTCT
107721	CYBB	CTATGGTTTTGAGAGCACTTT
107722	AGL	TTGAGTATTATAAGATAGCTTACA
107723	IGBP1	CATCATCCTCATCATGTT
107724	PMP2	CATCACAGTAAATATGGCTCAGGCAA
107725	TNFRSF1A	GGGTTCAAGATCACTGGGACCAGGCCGTGAT
107726	APBA1	ACTCCCTTGAGGATGGAGAGCAGC
107727	AHCY	AAAAGAGAATAATTTGGCCT
107728	SLC4A7	TGTATAGTAATTATCCAGTGCCAGAAAAACC
107729	CLASP1	GCTTCCTCCAAGCTGCTGCCTCC
107730	STIM1	CTTCCCTCCCTTCCTTCAAGATAACTG
107731	MCP	AGAAGCAGATAATGGTGTTTTT
107732	EMP3	AAGACTCCGACTCCAGCTCTGACTTT
107733	MAP3K1	CCTGCAGCGGCCCCCGCCGGTC
107734	PFKFB3	GGCAAAGCTCTTCCATTTTGA
107735	APOL1	CGCCAAGTTGGAGTGCAATGG
107736	PLXNA2	CAGACACCTGGCAGCCCTGCCTCATA
107737	APPBP2	TGTTTGAAGCTGTTATTTGCAG
107738	BCL11A	TGTTTTCTGACAGTAGCCTC
107739	ACPP	TACGCCTATAATCCCAGCATTT
107740	CARKL	TTAACAGCAAACTCTTTCGCCA
107741	SLC2A6	GGAGGCTGAGGCAGCATTGCTTGA
107742	TEM6	AACCTGACATTCCAGGCCCA
107743	TRN2	CCCTAACCTTGGAGGCCCGGGAGTGGA
107744	TCF2	CACAGGCTGGGATGGAGCACTT
107745	MUC4	GGGGCAGCTGTGGCCTAGGCTACCTCAA
107746	RARA	GCCCACGCCACATGGACACAGCCCT
107747	CALD1	TTAGCTGACAGTGGTACTGATT
107748	NGFR	CTGTCCCTCTCAGGCATGCCTGTGTGACATC
107749	ALCAM	ACCAAGAAGGAGGAGGAATATGGAA
107750	ATP8B2	CCTCCACCTCCTGGGTTCAAGCGATT
107750	TAT	CCTCCACCTCCTGGGTTCAAGCGATT
107751	ACTN4	TCCCATTCCTCCACTCTGTATCT
107752	KRAS2	AGGCAGCAGCGGCGGCGGCAGTGG
107753	PLA2G1B	GGTCATCTCAGTTTCTTTTCTCACCT
107754	MTMR3	GCTAACATGCAACCATTCCTCA
107755	KCNA4	CCACCATGGAGGTTGCAATGG
107756	AOC3	TCAATTCTGATACAGCCTT

107757	TBX3	CTTTCCAGCTCCACTTCAAA
107758	ZNF41	ACCGGCGCGGTCATCCAGCACAGTGA
107759	SELL	GATATTTCCATGGAAATGTCAG
107760	KCNQ2	AGGGAGACCTGGCAGTGGA
107761	NLGN3	CCAACAGCATTGGCCTGGCCA
107762	ZFHX1B	CTAATTCCTGTGTTTAATAGCAT
107763	CYP3A43	ACTATCTCCCCGCCACC
107764	C11orf8	GCTAGCACAAAATATTGTCGCTA
107765	FCAR	CCAGGAGGCAGCTGTTGCAGTG
107766	RAB30	GTCTACCAGATAAACCAAAACTGGGAAG
107767	TNFSF14	TGCCTGTAATCCAGCTACTCAGGAGGC
107768	NOTCH4	CACGTGGAGAAGCTGCAGCTCTGG
107769	OLR1	GGTCCATCTCCAGACTCTACCA
107770	UBE2V1	CCTGCAACAACAGCCCTCTAGCC
107771	CYP1B1	ATTCTATTTATAATACAGAATC
107772	NIPSNAP1	GTGGGAAGAGAGGAGGCCAGGC
107773	GRPR	CCCCTGAGGGACGGTTTTGCTTTAT
107774	DBCCR1	AGGACTCCACAGAATGGAGCAAGA
107775	PTGS1	ATCTACAATCAGTTGACTTTAA
107776	EYA2	CACAGCCGAGACGACGTGTCCAG
107777	CORO2B	ACAAAGAGTTTATAAACAC
107778	HCFC1	CTCACCTGGTCCTGTTGTTT
107779	HDAC4	ACGGGCACCAGCCGTCATCTCC
107780	GNAT2	TCCATCTCACATACAGGAAACCTTACGAG
107781	MPP2	GGAGGGCTGAGCCCTGTGACA
107782	VAV1	GATGGACTGGAGGAGCGCAG
107783	MAGEB4	TGAGGGAGAGAGAGCCAG
107784	CDC25C	TCTTGTAGCAAGCCTCAGACTC
107785	DSC2	GCCCAAGACTATGTCCTGACATATA
107786	ISLR	CCCTCAGCCTGCAACCTCTATCCT
107787	USP14	TGTCTTCTGAGTGTTGGAGC
107788	TEM8	AGGCCATCAGCAGCTAGAGGTGGCTGG
107789	P2RY6	AGGAAGGAGGAATGCTTGA
107790	CLASP1	AGCCCACTGCAACTGCTAGGACTGAAA
107791	SPO11	TGATTGCCAGAGGCTTTTCA
107792	CD3E	CCTTCTCTGCTGGTACCCAGTC
107793	UNC119	CCCAGTCCTGAAGCCCCTGCAGT
107794	PYGB	TGTAGCCCCAGTCATCCTGCC
107795	RAG1	GTATTTTTCTCCTGTGAAACCTGAAT
107796	CNTF	GGCGGTGAGGAGGGCAGCTGG
107797	DUOX1	TCAGAAACAAATCTCAGAAGACAAGCT
107798	ACAD8	TACTACCTTGTTTTCCTAATGCCAGAA
107799	MPP5	CTTTTTAAATTATGATTTCCTG
107800	LAD1	CCTTCCCAGCCCAGCCTCTTGGGGCT
107801	NRG1	TTCCAATTTTGTTGCATCATGTT
107802	GRB10	CTGAGCAGGAAGCAGCAGCTG
107803	SRGAP1	TCCTAACAGTTATTTCCCCGGGT
107804	OTP	CTAAGAATGAACAAATATGTGAAA
107805	GALGT	CTGGAGAAGAGAGGAGACATGTCAG
107806	HMGN2	TTTTTGGGGGAAGGGGCATATG

107807	NUMA1	CCAGTCTTCCTCTTAGCCTCTGGAT
107808	NR4A2	TCCTAAGGAGGAGATTGGAC
107809	KCNJ1	TGTCTTTCTTTCCCTGAC
107810	THBS1	TAAAGAATTTTTGGATCAAGC
107811	NFYC	TGACCCCAGAGCTCTGTGT
107812	FANCE	TGTAACCTCTGCCTCCCAGGCTC
107813	TP53	TCAGAAGCACCCAGGACTTCCATTTGCT
107814	MCM6	TTCCCTGGAATCAACTTGTA
107815	GAB2	ACTGTTCTTGACTAAATTTTCAA
107816	STS	CCTGGGAAGTTGGAGCAAGAGGGGCATA
107817	TDGF1	GGTCTCGAACTCTGACCTTGTGATCCA
107818	LAMC2	AACTGATTGCAACAGACTGTTGAGTTA
107819	DNMT3A	TGCAGAGGAAAGGTGGGAGAGA
107820	SLC7A6	TGCAACCTCCGACTCCCTGGTT
107821	ATP8B2	GACCAACATGAAAGTACGTCA
107822	RBBP2	GATCAGAAATCTGACTAGATT
107823	B4GALT4	AACTTGAAGCTTTCTTGCCTGCAGTGAA
107824	ENG	GCGGTGGCTGCCCCGGCCTCCTC
107825	ERBB2	AGGGTCCAGTGGATGCCACAGCC
107826	CAPS	CCTGTCACTCCCCACCCCTGCCGG
107827	ETV6	GATGTTGTTTTCCTATGGAAATATAT
107828	CAMK2A	TGCAGGGGAAAGAGCAGTGA
107829	EPHA2	CCACATGAGGCCATCTCA
107830	TFCP2	GGCTGCTGCTGGTCTGACT
107831	RANBP2L1	GGAGGCTGAGGCTGGAGAATCGCTTGA
107832	FABP2	CCTCAAACTCCTGGACTCATGCAATC
107833	SLC1A4	GCCCTTGCCAACTTTTACCCTCCCA
107834	ANKTM1	TTACCTCCACCTTCCTGCACTCA
107835	CNR1	TACTTAAAAATTTATTAGCCCT
107836	MUCDHL	TCTCCCCTCGTCCTGCGTCCCGGACC
107837	RPA3	CAAGTGGCAAAAGCCTGAAGA
107838	RANBP3	TGGGCACAGGGCCTCTTTGGG
107839	MAP3K14	GTGTAGCTGTTGAGAGGTGGA
107840	ZNF161	ATGGGAAAGGTGATACCAGCT
107841	SIAT1	CCTGCAGCTCCAATCTGATTCTGCT
107842	FOSB	TGCCCAGGTTGGTTTCCCCTGCACTC
107843	MS4A6A	TGAGACTCTGGGAAGTTAAATG
107844	OPCML	CTAATGATCAGTCACTCACTA
107845	NCALD	ACTTCTATTTCCAGAAGTGACAG
107846	PXF	AATGTAGAAAGCCCTTCAAGTGG
107847	DYRK1A	GGCTTAAGCAGTCTTCCCACCTCA
107848	CD97	GCTGCCTCTCTGCTCCACCTTGTG
107849	LRRC2	GGTGACTCACGCCTATAATCCCAG
107849	NPHS1	GGTGACTCACGCCTATAATCCCAG
107850	EIF2C1	ACTTGCCTTCTCCCTGGGCAG
107851	ACCN1	TTATGTTTGTCCGATGGAGATT
107852	MERTK	TGAACTCCATGGCCCCAAAGCACC
107853	GPRC5B	CCGGGAGGCAGGTTGGAAGGCAGGCAC
107854	TAL1	CAGTGGTGCCATCATTGCTGTCT
107855	ITGAL	GGAAGACCTGCTGAGGGACCAG

107856	MFAP1	CCAAGAAGCGGAAAACTACCTA
107857	PTGES	GTTGCCCAAGCTGGAGTGAAGTG
107858	ACPT	CTGGACACCCTCATGTGCCA
107859	P2RY6	GGCAGGGGGCGAAGTGCAGTG
107860	RIG	CTCTTCTCTAAATGCTTCCTCA
107861	ALDH1B1	GTCACAGTCCAGCAATTCCA
107862	SIAT7D	AGGGGCCTTGGAGTTGTGACTGCC
107863	SLC17A5	GTCGCCCAGGCTGGTTTTGAACTCCTG
107864	RASSF1	TGGAAGGCAGACAGCAGGCAGCGCCAA
107865	NCOA6	GGTTGCAAACTGGCAACCTGTGGT
107866	PMX1	AGTCACTCCTGAGAATCCACAG
107867	SLC14A1	CACTCACAATATTCTCTCTCA
107868	FGFR1	AATGCCATATATAAATTCTAAGCCATA
107869	ELF3	TCAGAAGCATCTGCTGTCATGA
107870	F7	GCACTGCAGAGATTTCATCATGGTCTCCC
107871	PSAP	CTTCTGAGGTGGCCTCCTGCCCTGATCAG
107872	BMP8	TGAGCAGAGATCACAACATTGCACTT
107873	HMGA1	CCTCATTGCCTCCTGTTCTGC
107874	ERBB4	AGAGACACACCTGCTCCA
107875	COL4A3	CAGATTTATTCCTTTGTTAC
107876	CXorf6	CCCCTGCCTGGGTTCTGTCCCAGCTCC
107877	PPP1R12B	CCAGCACTTCAGGAGGCCG
107878	TM6SF2	CCGCAGGCTCCTGAAGACTG
107879	MAP3K14	TCACCCTCCAGGCTGCTGTGAGAGTG
107880	NTRK3	TCTGTTGCCTCCTCTCTC
107881	UTY	AGCCTAGGAGTACAGTGGAGCA
107882	PRND	CTTCTGCTTCCACGGTCCTGTT
107883	CLOCK	CTGATTCTATCACATTGTAAGATG
107884	TCF20	CCTCCATCATCTAGACTTGATTTTA
107885	AIM1	TTTCAAAAGACTATCATAGCTTT
107886	CYP1B1	AGAACTCCCATTACAACTGA
107887	KERA	GGTGTATTCCTGGAAGGCAAGGTGCTA
107888	DTNB	ACAGGCAACCTACAGAATGG
107889	RAB7L1	TGGCCAACATACTGAAACCCCGTCTCT
107890	AMPD2	GGCCCCACTCCCCGAGGTTGCC
107891	SHC1	TCCAGCTGAGTGAGAGGGTTTGA
107892	PSAP	ATGATGTAATTCCCACTG
107893	DIO3	AAGCCTCCGCTATAAATTGAA
107894	DNMT3B	TCATTTCTCATCTTTTTACTAAACTCA
107895	PYGO2	GCTGGGAGGAGAGCAGCCTCTGG
107896	ARF3	AGCGGAACCTGCGGGGCAGAGGCGG
107897	NEK6	TCTCTCCATATGCAGCCTTTC
107898	OPHN1	AAAAGAAGAAATAGTTCTGTG
107899	DSC1	CAGCATCTGCTAATGTTTTTGTT
107900	TTID	ATTTGCCTTCATCTTCCATATAC
107901	HOXA13	TTTTTCCATGTTTATTGTGTTA
107902	ARHGAP6	GGCAGCTTTCACTTTGACTATGA
107903	CYP4A11	CTGCCCATACACCTGTCTCCT
107904	PPP1R12B	AAGTACTGGGAAGGAAGAGAGTTTCACAGA
107905	RLN2	TACAACAACATGTACCTG

107906	CLOCK	AGTGTTCTAGTTCCTGGAATTAGT
107907	UBE2G2	GGGCTTCTGTGGACAGCAGAT
107908	HIP2	CCAATACAAAATAACAAAAAT
107909	FABP3	TGCACTCATAGGGTGCTCTG
107910	MCM4	CACTGCACTCCAGCCTCAGCAATAGAG
107911	CNTN2	TGTGCCAGAGAGTGGCTGGTT
107912	HLX1	CTCTTAGGGCTTAGCTATTT
107913	ADAM8	CAGCCACACCTGCCCCTGCTCTGGGGCC
107914	RGS9	CGGGGTTTTGTCATGTTGCTCGG
107915	FBXO7	CTTGGGGTGCTGATCTCGAGTGTTA
107916	PBX1	TGGTTTTCGTCATCTTCCCTG
107917	CPS1	ACTCTCCAGGCTGGAGTGCAGT
107918	KCNJ6	GGTGTGGCAGTTACAGGGCCCAG
107919	CACNA2D3	GAAGCTCTGGGCCTCGGCTTT
107920	EIF2B5	CCCTCCTGGCTCCTGGGCTGGGACAAG
107921	ARNT2	GTCATCTCTCACCTGGACTGCTGT
107922	GHR	ATTCAATTCAAAGCTGTGTGTTT
107923	CPT1B	GGAACCCTGGCGTCTCTCCA
107924	BCAR1	GAACCTGAAGAACTATTTTTCG
107925	DPYSL3	ATTGCTTAGGAGAAACCATTGT
107926	CYP4F3	GTTGCCCAGGCTGGAGTGCGGTG
107926	HMG20A	GTTGCCCAGGCTGGAGTGCGGTG
107926	SLC39A1	GTTGCCCAGGCTGGAGTGCGGTG
107927	AQP6	GTTACCCAGGCTGGAGTGCAGTG
107927	CLECSF12	GTTACCCAGGCTGGAGTGCAGTG
107927	FCGR2A	GTTACCCAGGCTGGAGTGCAGTG
107927	MDM2	GTTACCCAGGCTGGAGTGCAGTG
107927	NQO1	GTTACCCAGGCTGGAGTGCAGTG
107928	SERPINB9	GTCACCCAGGCTGGAGTGTAGTG
107929	CYP1A2	GTCACCCAGGTTGGAGTGCAGTG
107929	PRKWNK3	GTCACCCAGGTTGGAGTGCAGTG
107930	ELAVL3	ACCAGCAAACAGCACAAGGCGTG
107931	STAU2	GCATTCTTATAGAAACAAAGCACA
107932	WWOX	CCACAGTCAGCCATGGCA
107933	KL	ACTCGAAGAAAGGCAGAAG
107934	BMP8	CTCAGAAGCAGGAAACCCTC
107935	L1CAM	GGGAGGCTGGAGTTGGGGCAGA
107936	PTMA	TCCAACAATAAACAGGAATTTTATTTT
107937	POU2AF1	ATTGCCCAGGCTGGAGTACAAT
107938	TRPM6	TTGCCCTGCCTGCCAGGAA
107939	MS4A6A	GGGACTGAGAAACCAGAGT
107940	C8A	TCTGTCCTACTTACAGCACTTTG
107941	SULT1C1	AGGGCCAGGAAAGATGTGAA
107942	TACC1	ACTTTCTCCCCCTCTGCC
107943	BMPR1A	GGCATGGGTGGAATTAGAGTGGAA
107944	PPARGC1	CTTCCACTGCAAATTTCAAAAGCC
107945	LIG3	GGACTCAGGCTGGAGGCAGATAGACA
107946	MT3	CCAGCTGCTGCTCTCCTCGAC
107947	HOXC4	GGTGGGGATGGGAGGGGAGA
107947	HOXC6	GGTGGGGATGGGAGGGGAGA

107948	PLA2G2D	AGAAAGTACTCCCTCAGTAAA
107949	APPL	GGGTCACTGCAAACTCCGCCT
107950	ICOS	CTAGTATGGTGTTCTGTTTTCAGCT
107951	PDE7A	GCAGTGAGCCAATATCGTGCC
107952	EGLN2	CAGGCTGTCGAAGCATTGGTGCC
107953	EXTL1	ACCCAGGCTGTGACCTCA
107954	SERPINA5	ATGTTCCAGTGGATGAGGGCCACC
107955	FUT8	GATTCACTGCAGGACTACCAGAGAGAA
107956	RNASE6	GAAGAAAGAAGAAAGGTGTTTG
107957	CTBP2	GCCAGTTCCCAGCAGGCATATAA
107958	MAPRE3	CAGCACTGAATCCCAGCGCTG
107959	DDX26	TCAACTATCGGGGGAGAAA
107960	EPB49	CCCCGGCAGTGAGCTATGGAC
107961	NFATC4	CCAGCTTCTGTCTGTCTCACTGTC
107962	TFCP2	AGGTCTGCAAGAACCTGACTCGTC
107963	CD3G	GGTGTTCTCCTCCTATTCAG
107964	S100B	ATTCTTTCTGCTATATTAGGCCTGTGT
107965	NPC2	TTTCATTAAATGCAGCACTTG
107966	MUC3B	ATTTCATCTTCTCCCTCCATCCA
107967	ACOX1	TGTTTTTAAGCAAAGGTATTTTTGAAG
107968	TNFRSF8	TGCCCTGCTTGCAAATCCACTAGCACC
107969	ADAT1	TCTCTAAAATATGAAATCAGAGTTTGGA
107970	KLRC3	ACTGACACAAGCCACCGCC
107971	TCP11	GTGACCAGCAGACAGTGAGCT
107972	SIGLEC8	GGCCCTGTAATTCTCTCTCATTTACTCT
107973	SLC17A2	AGGACGCTATAAAAGACTGTCGTAG
107974	PLAG1	TCAATATTGCTTTAATCAC
107975	MAGEA4	TTTAAAAAATATATATGCATACCTGG
107976	PDE6B	TCTCGAACTCCTGACCTCAGGTGATCAC
107977	FCMD	TGAGATACTTTCAAAAGACAACCAA
107978	H3F3B	CATCATCTTAACTAACATTCTGAA
107979	ALDH1A3	ATGTATAAAATGGGCCTA
107980	AICDA	AGGTGTTCAAGGCCAGCCTGGGCAA
107981	RGL	GGGAAAGAGATGGGGCTGTATAGA
107982	CSH2	CACCCTGAAGGGGAGGGAG
107983	ZNF22	GAAGAAGCCTGTAAACTCTCT
107984	PAEP	CTGCCCTTTCAAAGAATAACC
107985	MAGEA9	ACCGGTGGAGGAGCTCCAGGAAG
107986	TGFB1	GACCAGCCTGGGTAACATAGTG
107987	SLC21A3	AAATTTACCTTTCTCTCCA
107988	SACM2L	CTGGCAAGGGGTGACTGCCTCTGAGT
107989	BRIP1	GAACTCCTGGCCTCGTGATC
107990	ZNF175	TTATTATATACAGGTTGAGTA
107991	SUFU	ATCACACACCATCCCCACTGTCA
107992	LTB4R	TTTTTAGTTTTTAGCTTTTGC
107993	MLLT7	CTGGGACTAGGGGGAAGTTCGC
107994	RAD1	GGCTTTAATCCCAGCACTTTGG
107995	COL7A1	GGCGCTGGGCTCGGACCTGCCA
107996	SMAC	TGCCCAGGCTGAAGTGCAGTGG
107997	BCL2L11	GGGAAGCGTTTGAGACGGAGCTGTGGAGGCT

107998	TRIM8	CCTGTAGTGAGCACTTTGTA
107999	ATRN	CGTGTCACCCTAGGCCTGATAAGCGA
108000	TIRAP	GGCCTCGGACTCCCCAAGAAGGCCA
108001	ATRN	AGAGCATCTGTGTGTCCTGCAGCCTCC
108002	VDR	GGGAAGGGAGAGCGGGGCAGT
108003	RUNX1	GCATCACCAACCCACAGCCAA
108004	NR3C2	TTGGAGTGCTGCAGCTTTGG
108005	SULT2A1	AATAAGAAATAGCTACAGTGA
108006	SLC20A1	AGAGTCCTTGGTACTCTG
108007	MOG	GATCTTCCCTTGGGCTTTTCA
108008	LPP	AACATTTTCAATACTGTCCCA
108009	COX7A2L	TGTCTGTTTTGTTAATGCAGCT
108010	PLXNA1	TATTCCCCTCCGCGTCCTACACA
108011	CGA	TCCTACAGTACAATCAGCAGTCTAG
108012	HNRPD	TCAAGTCCCTGAATGGAAGT
108013	F3	CTTCAGCCCAACCTCCCCAGC
108014	FBP2	AAGAGCAACAACAAACTGCTTA
108015	JUP	TGATTTTCTCACTGAACTCCACCGACC
108016	HSD3B1	TCTGCTCCCCAGCATCTTCTGTTTC
108017	DISC1	GTGCTCAATAAGGCAGTGCAGTG
108018	BST1	CTGGGAAAACGATGTCCTGAAA
108019	PRKACA	CCATTCCTCAAATCCATTTTAA
108020	PSCD3	GCTGGGGTCCTGGGAGGTGGTCGCC
108021	LECT2	AAAACCAGATGTTTTCCACCAA
108022	CDH5	CTGTAACCTTCTATTTTCTATAATTG
108023	GRB10	TTCTCACGTTCACACCTGGT
108024	EPHA3	CTCTCACTGCCCTCTGCACC
108025	GNB2	CCTCACCCCTCTGGAGGGCCG
108026	GOSR2	AGGTCTGCAGGGAGCAGCTGGCCATTT
108027	BTG2	CCCCAGGTTCTCCTCCCCAC
108028	SRGAP1	TCCAGCCTGGGCAGCATAGTG
108029	NEU3	GGTGGTTCCTGATGGGAAAAGGACA
108030	SFPQ	GATCTATCCTTTACTTGA
108031	RREB1	TAGCCTTACCGCAGCCTGC
108032	DLGAP2	CAGTTTCAGAGTTCTCA
108033	RAB5B	TGGAGGAGGGACAGTTTCTGG
108034	HYAL4	GCCCAGGCTGGAGTGTAGTGGT
108035	CALCR	AAAACAGAGTATTTCTGGCA
108036	RXRB	CCTATCTCTTCCTGTCTAACTTGGGGA
108037	SRD5A1	TCCGGTAGCCGCCCCTCCTCC
108038	SCP2	AGAACTATGTAAACAAAAAAGCTTT
108039	GALNT2	CCCTCATGTACTTGCTATATTGAGGATGA
108040	SWAP70	CCCTAACCATCATACACTTGGC
108041	SLC16A2	CGGGCCAGGAGGATGAGGTTGT
108042	LANCL1	CATACTCTGCTACTATGTC
108043	SIP	TTGCCCAATAAAAACGCTACA
108044	SALL2	AACTGTACATTCCTTCTTCCTCCCCCT
108045	SLC16A2	CTGTGGCTTCCCAAGAACTGGGTAC
108046	SLC21A2	CTCCCAGAGTCCTCCCCACAGTTCCT
108047	DSC3	GACGCACAGGCTGGAGTGCAGT

108048	GATA4	CCCAGGGGCCGGCCTCCTCTGCC
108049	E2F3	GGAAACAGCAATCTTCCTTAATAGCA
108050	EIF2C1	TGGTTCTAGCTTGGTCTCTGTTGGCC
108051	MCP	TTTCCCTTAAATAACACTTAGA
108052	APBB2	TGGGTGGGACATATTTCAAACTTC
108053	FY	CATGGGGAACTGTCTGCACAGGGTG
108054	ALDH1B1	CTGCAACCTCCGCCTCCCAGAT
108055	DISC1	GCTGGGGTTACAGGCATTTGCC
108056	LRP8	GTGACAGGAAAATCTGTAGAG
108057	VANGL2	GCAGGGCCTCTGGCTGGGGCCAG
108058	USP5	CAGAGCAGAGGGGCAGCGA
108059	GPR44	CCCACAATCTTAAGGGGCAGCTT
108060	HTR1D	GGTTTCATCATGTTGGCCAGGGTGGTC
108061	PRKY	GGATGTGTTGTTCGCCATTTCTGTGT
108062	BAALC	TCCTTGTTATCCTTGTTTCCTTAGCTT
108063	KCNJ16	AAAGAATGAGCTATTACGGCAGCAGC
108064	GM2A	GCAGGGACTGGAGTCAGTTGGA
108065	C9	TCTGAAGTCTCTTCTCTCTTAGG
108066	WHSC1	CCACACACACCTTAGAGTCG
108067	ELMO2	ACAACAGCCAGGAGCTTCCTG
108068	SGPL1	CAGGAGGTGGAGCCGGCCGGGTG
108069	DEDD	TTCAATGCCAGTGCTGCTC
108070	YWHAB	GAGGAAACTCGAATCCTGAAATG
108071	MMP19	GGCAAAGTCTACTGGCGCCTCAA
108072	DNMT3L	GCCGTCCCTCGTTCCATGGCCC
108073	CACNG6	TCTCCCTCTTTCATACCCAGGGGA
108074	HMX1	CAGGCAGGCTGGGGCTCTCTGCAGAC
108075	PODXL	TGAACAAATCACATTCTGTCCA
108076	PCDHB16	CGGTATCTAGCCCTTTCTCTGTAAA
108077	CD22	CTCTGGATCTGCTCGTCA
108078	KCNE1L	CTGCCTCTGCTCTCTTGTC
108079	ZAP70	GAGGGCATTGCTTACACGGATGCCTTC
108080	GLTSCR1	CTTCCCTCTGTTCTTCCTGCCTCCA
108081	SLC21A9	GAGCTCCCACCGTTATTGC
108082	OGG1	CTGCCTCAGGGCCACACACT
108083	GAPD	GAGCACAAGAGGAAGAGAGAGA
108084	PTGFRN	ACTACACAACTTGCTACTTTC
108085	NEURL	TCACTGTCCCACTATGGGTCTCCA
108086	COL9A2	ACTACTTCCTTCCCTGCCTC
108087	DIAPH2	ATAGAAAAGGGCCAAGAAAA
108088	GRIN2B	TTTTGGCTGTGTCTCCCTTC
108089	PROK1	GAGTCCCAGGTCCTGGCCTGA
108090	GRB10	AGTCTACAGACCACACTCTAG
108091	LDB3	GCCCTGTCAGCCACCCTCTCTCA
108092	TSC1	TGGTCCCAACTACTCAGCCTA
108093	OGT	ACATTTTTCTCCTCAGTAGCAT
108094	NEURL	TGACCTATGCCTACCTTCTC
108095	CRY2	CAGGAGGAGACCAGGTTGCAGTGG
108096	ALPP	GGACTCGGGATCTTCAGGACGCCTG
108097	101F6	CTTTCTCTGTCATCCCA

108098	PROK1	GGGAGGCCAATCAGCCCCCTGA
108099	CALM1	GGCTTTTTCTGATTTTTTGA
108100	SNX9	CAGTCTCCCAGTGTCTGACTCTCGGAT
108101	FUT6	TGAGGTGGAGCTTGCAGTGAG
108102	CTSB	CCCAGCCTGTGGTTACAGTGCAGACA
108103	TP53	CAGTTAAGGGTTAGTTTACAAT
108104	ROCK2	GGCCTGTAATCCCAGCTACTTGGG
108105	RAB18	TCAAATTATGTGGCTTTCATT
108106	ITGB1	CTTCTTGCCAGTGTGGCCCA
108107	SSRP1	CCAGCTCCCAGTTTACTTGGTTTCCCT
108108	DNASE1L1	TTGCCCCAGGCTTGAGTGACTCACAGC
108109	TGFBR2	CGCCTCGCCGGCCTCCAGGC
108110	ZNF91	CCTGTGTGGCCCTGTGACCTGCAGGTA
108111	SLC19A2	TGACTTCACAGCAGCCACTTGACTAA
108112	BACH2	GCTGGGGACCAGAATCCAAA
108113	MYBL2	ATCTGAGAGTCATTCAGGTGACCTC
108114	PSME3	GGTTTCTGCAAGTGTGAGGTC
108115	A1BG	GAAATGTCTGTTTATATATTT
108116	GFER	GTGTGGGTCAGAGATGGAGAA
108117	HAP1	CTGACCCAGGCTGGAGGACAGG
108118	NRP2	TGCCTCCGCCCGTGTGTCCGTCAAGG
108119	KIF1B	CCAAGATCGCGCTATTGCACTC
108120	SLC24A1	GTTGCCCAGGCTGGTGTGCAATG
108121	IL22RA2	GTAGGTGCCTACAGAGACTATAGAGC
108122	PRX	CCAGCCCGGGGGAAAAGGCTGA
108123	MTMR7	TATGAACTTCCCTGTACTTGGA
108124	PPP2R5C	CAGTTACACTCAAAGCTTT
108125	GALNT2	AGAATTCTTTCCTAAGAGCCCT
108126	CDX2	CTGACCACACCAACCAGGCCTTC
108127	CACNB1	CCCCCTCTCCCCTGGGGCA
108128	FOXO1A	TCATTCTCCCTTCTGCCCTGCA
108129	PRELP	TGCCTCCCTTATCCCACCCTCG
108130	CREB1	ACCAGCCTGGCCATCATGGTGA
108130	SUV39H2	ACCAGCCTGGCCATCATGGTGA
108131	HOXA1	GGGTCTCTTGCCCATCTCTCCG
108132	MKL1	ACCAAAACCAGTGCTGGGACA
108133	ARNT2	CTCCTGCTGTACAGTGCCACCC
108134	ATF5	CTCTGTCTCTGCTTATCACCTCT
108135	MAP4	CTCTCACTCCCCAGCCTGGGCC
108136	NELL2	CCTCTACTGTGTCTCACATC
108137	TNNI1	ACTCTGGGGTGAGGCCAGCCTTCT
108138	PODXL	GCTGCTGGATGATGAGGGAG
108139	TSC1	TGACCACAGGCTGGTGTGTAGGTGGTAA
108140	MIPOL1	GGTCTCGAACTCCTGGGCTCAAACAGT
108141	UMPS	CCTATCTCTCCATGGGAC
108142	CX3CR1	GATGTGGTAACTGTTAAATT
108143	SPP1	TCGTCTCAGGCCAGTTGCAGCCTT
108144	CD68	GGAGGCTGAGGCAGGTGGATCACTGGA
108145	HOXA10	AATTCACAGAAGCCTAGGAG
108146	FMOD	TCAGGCTTAGATCAATG

108147	D1S155E	TCTCCCTCTTCATCCCTCCCGAAA
108148	CASQ2	TGAGCCTTCCCATTTAGATTAAAGA
108149	ZNF202	AGGAATAGGGGAGGGTTAATAAGACT
108150	PLAGL1	CACATCTGAAAAGGAAGGTGTGAGA
108151	EGFL4	CCACTGCGACAACCTCAGTGG
108152	APLP2	GACTATATAAAGTACTACTGTA
108153	PRSS16	CCCTGCATGGTCACCTCAGTCCTGGACA
108154	PDLIM1	GCAGCTTTTTCTCTCAGTGT
108155	WHSC1	TATGACGCCACTCTGAA
108156	PPP2R4	CCCTGCTTCTCTGCTCCCCTGGGTG
108157	MEF2A	CCCCAGGCTGAAGTGCAGTGGT
108158	LALBA	TCTTGAAGACTATTTTCCAGGG
108159	FLRT2	CCAGGAGGAAGCCGGTTCCCGTG
108160	PPP1R12B	CACCACTGCCTGCTCCCTGGAAGGTAG
108161	ANK1	GACTCCGCTTTGGCACCTCTGCTCCG
108162	ACVR1B	GTCTCTTGTCCTGGACCCTGTAGG
108163	TFRC	CTAGATGTCTTTAGGCAGCAGC
108164	XT3	TGTCCTAGATCATTACCTTATTC
108165	KIR2DL2	ACCATGTCGCTCATGGTCGTCAGCAT
108165	KIR2DL3	ACCATGTCGCTCATGGTCGTCAGCAT
108165	KIR2DS2	ACCATGTCGCTCATGGTCGTCAGCAT
108166	TRPM5	CCGCTCCTTGTCCCTCCTGGCC
108167	RP2	CAAGCTGGAGTGCAATGGCGCG
108168	TGFBR1	TCCTGGTTAGTACATTCTCAGAGGATTCTG
108169	CAPN3	CCCTGAGCCAGTGCCAGGTCTCCA
108170	NRP2	AAGCCACCAGGACTCAGGAGGGA
108171	DEDD	ATGGAGAAGAGGTTGCTGA
108172	LAMC1	ACTCAGTATTTCACACAGCTGCC
108173	NFIA	ACTACTACTACTACTGTTCAGTTTTT
108174	DAP	TCGCCCAAATCCTACTCTGCT
108175	FABP2	ACTCATGCAATCTTCCTGCCTCA
108176	MSN	GCTAGCTCCCCTCCTCTCCC
108177	KIF3C	CTTTCTCGTTTGTGGACAAAGCAGCA
108178	TBL3	CTCTCCAGTCCATCCTGAA
108179	CYP3A4	GCCTGTAATCTCACTACACAGGAGGC
108180	IL12RB1	GGCTGGTCTCAAACTCCTGCCCTCA
108181	MPP2	GCTAAGGAGGAGTGCAGAGGG
108182	PCDHA9	TGCCCAGGCTGGAGTGCAGTGGTGCC
108183	ADCY2	TGTCATCAATCCAGGATGTTA
108184	CTSC	TGAACAACCAGAGACTAC
108185	PPP2R2B	CTGGCTCCCCTGCCCCCCTCTC
108186	BCL9	TGAGGGAGTTCCAGGAGTACTTA
108187	PCDHB6	TTTTACCTCTATTCTTTAGGTT
108188	PPP3CA	TGGTGTTTATTTTCTTTCTTA
108189	GRLF1	CAGAGGGTGACATCATAGGAGCAGC
108190	NCALD	TGCTGCTGCTGCTACTGCTGTT
108191	FRK	CTTTTTATTGGGACAAAAGGCA
108192	MSF	CCTCCATCCCCATCGGCCCTGTCCCCT
108193	ACT	TATTCTACTCAAACTTATGTCT
108194	UMPS	CTCGACCTCCCAGGTGATCCTCC

108195	HPS3	ACAAGTGTCAGTCATGTATC
108196	TGFBR2	CCGCTCGGGACAGGAGCCGGA
108197	KCNQ1	CTTGCCAGCTGCTGAGCCGCAGAG
108198	CPM	GCCTTGTAATCCCAGCACTTTGG
108199	ASNS	ACCGCTCACCCTCCTCCTCC
108200	MKI67	TTCAGTAGGAATGTTGCTATGA
108201	CBFA2T2	GTCTCAAACTCCTGGGCTAAAGCGATC
108202	CEBPA	TGCCTTCAGCATTGCCTAGG
108203	ESR1	CATTTGAAGTGGGCAGAGAACATC
108204	KIF1B	CGCTATTGCACTCCAGCCTGGG
108205	SLC17A5	TGAACTCCTGGCTTCAAGCGAT
108206	CALM3	TAACATCCCATGCCGCTCC
108207	MAML1	AGTGGCTCAGATGCAGAGTGTT
108208	GRIN2C	GGTCATCAGTGACCTCAG
108209	ALS2	TGTCCCCAAAATGTGGAATGCATCCAA
108210	LRPAP1	ACCTCGATGTCCAGCTGCTGTC
108211	HLA-G	GGGGACATAGCTGTGCTATG
108212	ATRN	GCCAGGCCCACCAAGAGATATTGCCCC
108213	RBBP9	ATTGCTTGAGCCCAGGAGTTTG
108214	MUC4	AGCCCATGTGCACCTGCCCCCCA
108215	MFRP	TCTCTCCCCCTCCTTTCTCCC
108216	SHOX2	ACGAGAAATTTGATGAGAGAGG
108217	CYLN2	TTCTGAACCTTCTTCAAACAG
108218	CACNA2D2	CCAAAGGCATCCCAGCCTGGGGGCCAGT
108219	PGAM1	TCCTGGTGTGTGTATTAGAATC
108220	IGF1	TCCAGAGAGGAAACTGTGGAATGGAAA
108221	FMO4	TTCTTCTTTGTTTTCAGTA
108222	EPS8	GCTCTTTAGCTGGGTGCAGAAGGCG
108223	TRPM2	CTGACACGTCCAGGGCCAGG
108224	MRPS22	GCAGCTTCCTAAAATATTTTA
108225	NTSR1	GTCTGCTCTGGGCGGAAGAGCTTT
108226	AQP7	AGGCTGAGAATCAGAGACATTTCAGC
108227	SLC14A2	TCTGTTCTGTGACTCTCTCCCCA
108228	JMJ	GCTTCTTGTTTGACACCTTCACA
108229	DNASE1L1	GAAACCAGCAAACACCGGGA
108230	HHIP	TTGTTCACATATGCACATACAC
108231	RASGRP2	ATGCAGCTGAGGGCAGGGCCAGG
108232	RP1	CTTTTTAAAAAATGTTGTTA
108233	MHC2TA	ACTGCAACCTCCGCCTCTTGGGTTC
108234	HK2	AAGTTGAGCCTCAGTGATCCTGTGGC
108235	PKHD1	TAGATTTCAAAATTGAGAAA
108236	KCNN3	TGCCTGGCTTTCTTTGAG
108237	FBXL7	CACCCCCTCCCACTGGAGTGCGGGGACCTC
108238	PRSS7	TTCCAGTTTAGTTTGCTGCTAT
108239	ELK1	CCACCGCCACCACCACCTCCAC
108240	PRKACA	TAACTTCTCCCCATCCCAGGAG
108241	CXCL16	CCTCAGCCCTCTCCTGCATCC
108242	HDAC1	GCTCAGGGCAGCTGTGCTGGGTG
108243	ARNT2	TAGAAGTGTCCTTTATATTACCAGA
108244	ALDH1B1	TCTTGAACTCCTGACCTCAGGTG

108244	EIF5A2	TCTTGAACTCCTGACCTCAGGTG
108244	GNE	TCTTGAACTCCTGACCTCAGGTG
108244	PRND	TCTTGAACTCCTGACCTCAGGTG
108245	ATP1B2	TCTCGAACTCCCGACCTCAGGTG
108245	FCAR	TCTCGAACTCCCGACCTCAGGTG
108245	NF2	TCTCGAACTCCCGACCTCAGGTG
108245	PKNOX1	TCTCGAACTCCCGACCTCAGGTG
108246	FGF2	ATAGATTGGGTAAGGCTGCAAA
108247	KIF3C	ACTGCTTGGTGTTCCCTGAGGA
108248	ATOX1	CTGTTTCCTACCTTGGGCTTGAGTAC
108249	HOXA7	TCCAGCTCCCAACTTTTGTGGACT
108250	CLCN6	CTGACTTCCCCAGCAAGGAT
108251	LCP1	TAGGTTGAGCAATTTCCCCC
108252	NEK2	CAATTGTCATGTCTAGATTTAA
108253	FXYD1	TCCAATAAAACGTGCG
108254	UBQLN1	TGACTCTTGGAATTCTGTGCTGTTATA
108255	SIX3	GCCAAGGCCGCCCTCCTCCCTCTCC
108256	VIPR2	GGAGCGAGAGGGAGGCAGG
108257	WNT8B	GGAAGAGGGAGCTCTGGAGTGC
108258	CARD15	TCCTCCCAGGCTTCCGTGTGGGTCAGTG
108259	PITPNB	GATGTTTACTCTCTGGGCACTGTTGT
108260	TCTA	TTTCCATCTGCTGGGCCACCA
108261	PPT2	GCAGCCCGCCCTTCCCCCTCCCATCC
108262	HSPA5	TCTGTAACTCTTTCTGAGGAGC
108263	ZNF219	GGCGTAGGAGGGTGGGCTGGCGGT
108264	TSPY	GAGATCGAGTCACAAAAATTCAGGAAGAG
108265	KIFC3	CCTGCCTGGCTCGCTGGTCTC
108266	DSCR3	GGAAAAGTGTTCCTTGCTCTCTTGGGGGG
108267	RAD21	TTGTTCTTGAAAATAGTTGA
108268	PKP2	CAGCCCAGCCTTGCCCACCATTTA
108269	COL18A1	GCGGTAGATGGGAGGGAGGCT
108270	BAI2	GCCCAGCCTGTCCGTCCCTGTCCCGGG
108271	RTKN	AACTCTGCCCTACCTCCCTG
108272	S100B	AAGGAGACCAGGAAGGGGTG
108273	CR1L	GAACTTCCTGTTGGTGCTGG
108274	TCF3	CTGGCTGTGTTCATCCCCGCTGCA
108275	EPHX2	ACTCAATAAAGCTAAGATGACT
108276	ZNF184	AATATTAAAACTTACTATTATTC
108277	TSGA10	TCAAGACTTTGGAAGCAGACAAA
108278	PCDH9	TTGTGCTGGGACTGCTAT
108279	CA3	ATTCATTGGCTTCCTCTACCC
108280	SFRS2IP	ACCAGCTTGGGCAACATGGCAAAACCC
108281	AIPL1	TCCAGCCTGGTCAACAAGAGTAAAAC
108282	MADH7	CATCATTATTTATGTATTG
108283	RET	TTTACTATGTGGATGGTGGTA
108284	SPOCK	TCAGGGTGTCCTAATCAGAATC
108285	AES	CAGACACCTCCACGCCCA
108286	AGXT	AAAGGGCCTGGCCACCTCTC
108287	VIPR1	TTCTCTCTTTACGCTTA
108288	CELSR1	TATGGGAGAGATTAGACACTGG

108289	MAN2B1	CGTGAGCCTCCAGACCGCCCCTGGCC
108290	FUT3	CCTGCTAGGGACCTCGCCTGCTGGGGACC
108291	RAB7L1	ATCACACCATTGCGCTTCAGCCT
108292	PPP2R4	CCGGGGAGAGGAAGGGTGG
108293	MLLT2	AGCAGTATTTAAATCTTGCAAG
108294	PEA15	ATCAGACCACTCCCTTCCCC
108295	MTR	TTGCCCCAGTGTGGTCAAGCAG
108296	SLC4A4	ACACAGACACCCACAGACCCT
108297	BCAT2	ATGACTCACCTGAAGTGCAATA
108298	CLN5	GTCCTACAGATAGATATGGTGTG
108299	DGKG	GCCGTCGGTGGGCACTTGTTATTTT
108300	MEOX1	ATGGGGACTCCACAGCCTCTCCA
108301	AF5Q31	CGGGACTGGAGCAACATGAACCGTGAA
108302	THBD	CCAGGAGACAGTTCAAGAAAGCTTCA
108303	CPSF4	CAAGAACAATTTTTATGAAATG
108304	ADCY6	CTCACCCAGTTGGTAGAGGAGTCAGG
108305	RET	GGATAAATATACAAATCTGGGG
108306	SLC16A7	TTATCTAGGAGTTTGTTTTTCA
108307	EHD1	CCACCCTCCAGCCAAGGAG
108308	SUOX	ACTCCCACTCTCAAGACTCC
108309	LGALS3BP	CCCCTCCTCGGCTTCCTTCCTCTCTGCA
108310	KRT4	GTCCCATTCTACTCCTCTCATTCC
108311	GNAZ	GCACCATTTCATTCTGGACC
108312	PFKFB4	GGACTGCAGCCTTTGCTTCTG
108313	CLOCK	CACTGCCATGTCAGGGGTTTG
108314	IL17BR	CTTCACTGAATTTCTTCAAAACCATT
108315	CYLN2	TCCCCTCAGCCAGCCTGCCTGC
108316	DACH	CCATTGCTCTGCTCCTGGCATA
108317	CYB561	CTGGCAGCAGGCGGGCGCGTGG
108318	MYO1E	AGTTGAAGAGCACATTTCTTTC
108319	CCBL1	CCTCACCTTCCCTGGCTC
108320	MPL	GTAGTGCTTGGTGCATGA
108321	101F6	GCTCCTCATGCTGGAGTGCCTC
108322	CMAR	CCAGGAGAGGCGGGAAGATTTTTGAGC
108323	DISC1	TTGAGAATAGTTTCATCTCA
108324	TRPV2	ATCTCCATCTGCACAGAGGTC
108325	OLFM1	CCCACATTGTTTGAACTCGCGTA
108326	NCOA1	CCATCTCTGGAAAACATCATTATCCCATTC
108327	RNF4	CAGGGCGGGAAAGGGGCCACTTCTG
108328	RUNX1	ATGCAAACCACAGGGTTTCGCA
108329	DLD	TTTAGTATTTTGTTTCAGTGCACT
108330	GJA1	ACCTAGTCCATCAGATCATGT
108331	CASP7	GCAAAGATTTTTGGCACTTTGT
108332	KHK	CACAAATGTGACCCAGGATACAGA
108333	GAS2	TTACTCCAAACTCTTAGCAGTG
108334	ITGAL	CTCCTTCCTGTCTTCCTGCATTCACC
108335	SP3	GTATTGCGTCTTAGCAGTG
108336	B4GALT1	GCCAGGATGACGCCTTTCATGTCCCAG
108337	ADAMTS5	GAGCAATTAAACCACTATTCCA
108338	LAPTM5	TCGACTTGATCAGTTCAGCCAAGCAACT

108339	KLHL3	AGTACCCAATGGCATCTCTCCA
108340	TBX3	CCTTGCCCTCTTTAAAAGCGGCCTCC
108341	HDAC5	CTGGGCTTCACCATTGTGATTTTGT
108342	CLCN7	AGCCATGAGCAGACGGCCTGTGG
108343	BIN3	CACAGGCTGGGGACAGAGGTGGC
108344	PLXNA2	AATTTCCCTAAAGTTACTATGAG
108345	FREB	TGTTGAAGAAAATCAGTGTTGG
108346	SRGAP2	TCTCCTCTCCTCTGAGCAGCC
108347	IFI16	CTAGTCAGCTAACTAAGTGACT
108348	EYA2	GCAGCATCTCCACCTGCCATC
108349	GABRB1	TAGTTTCCCTGGATTTCACTGA
108350	PRKR	AGGCTGGAGTGCAATGACACAGTC
108351	CAPN1	CTGCCAAGCCTCGCCTCCTACCA
108352	RECQL5	AGTTCAAGACCAGCCTGGGCAA
108353	PTGIS	CTGCTTCTGCATTCACAGCGCCTCCTG
108354	NDRG3	GGCTCACTGCAACCTCTGCCCCCTGGG
108355	TEM6	ACCCAAAGAGTGCAGGCCA
108356	MFAP2	GCCTCTCTGTGGGACCTGGGCC
108357	DSC1	TTCTCTTTTACACTTTTGTACTCCTCA
108358	CORO1C	TCCTGCTCTACCCTCTTCC
108359	CDC7L1	TTGGGAATTTAAAATAATACA
108360	TGM4	CCTTTCCTGAGTCATGGCCT
108361	SOX13	TTCTCCTCTGGGGAAGACCTTGTC
108362	CLASP1	AGCACAGACTTTAACACTAAGC
108363	ZNF175	GAACATCTTCTCAGAATCAGGTCTAA
108364	FIGF	TAAGGAGTCCCTGGTTCATT
108365	PIK4CB	TTCCAGGTTTTCTGGGGGAGTGCAGGGGGAGA
108366	EMD	TTGCTCCCCCTGCCTTGTC
108367	CD209	TCTTCCTTTGTCTTATACATGG
108368	ACRV1	CTGTCCTGTCTTCCCTGCTCCA
108369	BCS1L	GGTGTTTCCCTTTCAAGATGCCA
108370	RNF3	TTTGGAGCTGGTTATGCCAAGGA
108371	SOX4	TCCAGCCTGGGAACTATAACT
108372	HIP1	TTCAAGGCTCAGAAGGAATG
108373	PHKG1	GGCAGGTGGGGAGGGGAAGC
108374	MMP25	CCCGCCTGGCCACTGCGTCTGGC
108375	SCAP1	TCCACACAACCACATCTGCCTTTTC
108376	EDNRB	TCCAGCAAAACACAGTGCAATG
108377	NRG1	ACTGCCTCTGCCTGTCGCATG
108378	SEDL	TGTTGTCCAGGCTGGAGTGCAAT
108378	SLC15A1	TGTTGTCCAGGCTGGAGTGCAAT
108379	MKL1	CCCGCCGCCTCACTGCAGCCAG
108380	HM13	AGCTTTCTTTGAAGGGTAGGAAA
108381	RERE	TTTGGCTTTAGTTTTCTTTTCCT
108382	AHSG	CTGCCTGCCAGGGCCTCT
108383	HK3	TCCCATGTGTGACCCCTCTG
108384	GRM6	GACCTGGGCTCAAGCAATC
108385	BNC	GTCCTGTGGAATGAAACCATCTCCT
108386	GGA1	CCCTGCTGAGCCAAACCCAGTAGGAG
108387	OGG1	CCTACTTCCGGTGGTGCTGT

108388	ASB1	GGTCCTGCTGAAGCCAGGAGGGTCTTCCC
108389	YES1	GAATATAAACAGGATCTCAAACTTGATTAA
108390	SURF4	GATCTTAATCCTGTATTTA
108391	EGFL4	TCTCACTCTGTGTGCTCCTCTGGAAGGCCA
108392	DGKI	AGCGTATCACATCTGCCCTCCCTGCA
108393	RAD52	TAACGTCTGCCTTCTTTCCTTTACGGTCC
108394	PTGIS	GCTTGCCTGTAATCCCAGCA
108395	GTF2IRD1	ACTCAGAAAGACTAAAGGAA
108396	UBE2E3	CTGAGTATGTGGTTCATGCTGT
108397	TM4SF6	CTTTAAGGACATTTAGGGTCCCCCCT
108398	TLR2	TTGTGCCCATTGCTCTTTCA
108399	LPIN2	GTGGGGCCTGCACACAGCCCT
108400	CREBL2	TCTGAACTGGCAGTTTAAGAGG
108401	H3F3B	TTCTCCTCTGCTGAGGAAACAGTACC
108402	EGLN2	GGATGAATTGTGGGAAGAGGGTG
108403	MAPT	GTGGTGAGACTGTATCCTGTT
108404	RYR2	CTCTTTATTTCACCATCCTGG
108405	ANGPT1	AGAACTCCAATACTCACCCTGTTATGT
108406	CDH17	CGCCTCCTGGGTTCACATGATT
108407	TRIM9	CTGCAGTCTTTACACCCACAGCTC
108408	SCD	ACATCTTTTCTAATCACAGTGTTGCA
108409	IL20RA	TCATAATCCATTGATGCTCTTTCA
108410	DRG2	GCCTCGTCTCCCTGGGGAGGTGGTCC
108411	TNFSF4	AACGTTTATGACTATAGGTAATATTT
108412	LOXL1	CCCAGGGGGCCACTCCTGA
108413	PLXNA1	GAGCACTCCTCTCTCTCCA
108414	CTSF	CGGGAGGTACAGCTGGCAGAGGGA
108415	MAT1A	TGCTGGAGGTTGGATCTTGATGTA
108416	CD209	CATGGCGCGATCTTGGCTCACT
108417	CALB1	GATTGTGAAACAGGGAGCTATGA
108418	COL4A2	GAGGCTCGAGGGGCTCAGGGG
108419	MPO	GGAGGTGGGGTCCTTGGAAGC
108420	RAB7L1	CAGTGGTTCCCAAATCTGGCTG
108421	ANKH	AGCATTCTAATGCCAGGTTGC
108422	CPNE6	AGCCTCTCAGTGCCTGTCCTGACC
108423	BMP1	CAGCACTCCGAGGCTATGGCTCCAGC
108424	ANK1	ATCCTGCACCTTCCTCTCCCA
108425	GNLY	GGAAGGGAGAGTGGATTTGGC
108426	ZNF255	AGGAAGAGTAGCAGGTA
108427	IL18	CACTTGCACTCCGGAGGTAG
108428	DAPP1	CCTAGAGTCCCACTGTGA
108429	FMR2	TGAATTTTCATTTGGACATTACATCA
108430	ACADL	TTATGTAGCCAAAGGTAAACG
108431	GRM1	GTGCATGGACCCCCTGCTGC
108432	UBL3	GAACTATTTGCTTTCTCTTCA
108433	ASTN	GAACACACACCTTCAGCCACCA
108434	SACS	GCTAATGAAACACTGGACATATA
108435	PCDHA11	TCATGTGGAACATAAACACTAA
108436	TRPV1	AGGATGAAGAAATGGAGCAGCAC
108437	DDX11	ACCATCACGGGCATGCACAGCGTG

108438	IMMP2L	CTGGAAGTGTTGGGCAGGTGGTGGGAG
108439	SMARCD1	CCTGCTGTCAGTGCTTCTCTC
108440	FOSB	CCCTGCACTCCCGACCTTAGCTTATT
108441	CD209	CTTCTCTCCATCCTTCGACCTTCA
108442	HK1	TGCTTCCTCCCCTCCTGGCACC
108443	S100A4	TCTTCTTTCTTGGTTTGATCCTGAC
108444	TSLP	CTGAAACAACAGTAACCATCT
108445	RAB26	TGGCACCACGCACAGTGCCTAACCCTA
108446	SLC20A1	CTGCCCTCCTGTCAGTAGTGG
108447	BACE	TCTAGTTCCTGATAGCTACC
108448	HDGF	CCACATACCCTGACCTGGCCCCCTCA
108449	IL17	TTGCAATTTGTTGAGGTTTTA
108450	CYP2B6	AGGTTCCCTGAGCTGTGGGATTCTGC
108451	NRF1	TCACCCAGTTTAGTGGGTGGTAGGG
108452	TJP1	CATGCTACACACTGCATGTTT
108453	PHKA2	GGGGAGATGCGGAGCAGGAGCAATTCCGG
108454	DDX11	TCTGTAACCTGTGCGGTGT
108455	MRPL49	TATTAAAATTTGTACAATATTTA
108456	MECP2	GCTGGTGGGCTTGTCATAGCCAGTG
108457	SLC9A5	TTTCATTAAGGCCTCTACTCTGG
108458	SMURF1	CCGTAACCTTGAGGCGGCGGC
108459	KRT4	GCTACTTCTTGATTTGGGCCTGGTGACCCA
108460	RAD51L3	CTTCCCTTATTTCTA
108461	PPID	GGATTCAGTTTTGCTTATTGTGTGTT
108462	CLN6	GCTGGGTGGGAGGGTGGGCCATGGAG
108463	TBX6	AACGCCTGTAATCCCAACTACTT
108464	RAB30	CAAAACTGGGAAGGCCAAGT
108465	GCDH	TGGAGAGATGCCTGGCTGGACCGTAGG
108466	SHANK2	GCAGAGCTGTGTTATATTTTCT
108467	ZHX1	AAGCCTTTGAATATAGTTGTTTCCCT
108468	LPIN2	GGGGAAAGATCCCCACAGAGCAT
108469	SPF30	TGCTAAAAGAGATCTTTTCAT
108470	CRTAP	CAGTGCTGGGATTACAGGCGT
108471	TRN2	GCCCTTGCCAGAATTTCCTGCGCTGT
108472	RUNX1	GGCCGCCTCCCCTCTCCTGGGAGCAT
108473	C18orf1	GTGCTGCCCTCATCCTCCAGCA
108474	SCD	TTCACTACCCTGATTCTTGATT
108475	IL18	CACCAGAGGTCAGGTGTTCAAGAC
108476	CRSP6	CCACCTGGGATTCTCCAGCC
108477	ACPP	GCTCAAGATCAGCCTGGGCAA
108478	LZTS1	GTGCCTGGCCCCAGTCTGGGCC
108479	CYP1A2	ACTCTGTTGCCAGGCTGGAGTGCAGT
108479	SEDL	ACTCTGTTGCCAGGCTGGAGTGCAGT
108480	DUSP4	TGTTGCCACTGAGAAGCAGGC
108481	ESR1	TCTTAACAAAAAAGAATGTTTGA
108482	PRM2	CCACTGCAGCCTCAGCCCAGGAG
108483	CADPS	TTTGTGTTTTTATTTTTATTTTT
108484	NPTX1	GCTGGCATGAGGTTCAGTCATTCCA
108485	CLOCK	CTGCCTCTTTGCTGCTTTGTT
108486	PYGB	AACACTTTGCCAGCCACTGGTGGTCCCT

108487	MTMR3	GCCTTTCTCCTCTTCTCTTCTTG
108488	SH3GL3	GGCCTCCCAGAGTGCTGGGATT
108489	APM1	GACCTCCCAAAGTGCTGGGATT
108490	CTSS	AGCCTCCCAAAGTGCTAAGATT
108491	APLP2	TCAACTCTTCAGCCTCATTCACTGT
108492	SEL1L	TTTCTATGCCTACTGATGTCAGTATGT
108493	ACADS	GGACTGCGGGAAGGCGCGGGAGCCAG
108494	JRK	GGAGAGGGAGAGACGGAGCCCC
108495	CRHR1	AGGGCCCTCACTCAGGAACCCTGG
108496	CYP7A1	CTTTAAACATGATTATCTT
108497	CHEK2	ATAATTGCTTTTTCACAGTCACTGATG
108498	SHOX	TTTGTCGCCCAGGCTGGAGCGCAGTC
108499	KIF3C	AGCTTTGACAAGAACTCACGGCTTC
108500	E4F1	GAGGTCTGCGGGGTCCTGGCC
108501	POLH	CTCATACCTGTAATGCCAGCACTTTG
108502	DLG5	GCCCCTGTCCCCTCTGTCAACC
108503	CDK2AP1	CTCTGAACCTACAGTCTCAA
108504	IMPDH1	GGGATGGGAGAGACGAACCGAGTCTAG
108505	RASGRP1	ATTTATCTGCCAAAACAAGGACA
108506	TCP10	ACAGGGGCCATTTCTGCCTTGT
108507	DAPP1	TCAGAAATTTGGCAGGTCCTTTGCTTC
108508	CBFA2T1	TTGCACACACATCCCTGTCA
108509	NOTCH1	AGTTTACAGAAAAAGACTTTAA
108510	CORO2B	TTTGTGGGCTTCACCAGTGCCC
108511	PLXNB2	AGCAGCCGCCTCCATGCCCTAG
108512	FCAR	GTGTTGGCCAGGCTGGTC
108512	FZD4	GTGTTGGCCAGGCTGGTC
108513	CDKN2C	GCAGTTCTGCCTCACACGGCTCA
108514	RFNG	ATTCGGAGGCCTCTTGACTGGGA
108515	BRMS1	GGTGTTCTCAGGGCAAGTTCTT
108516	PTPN1	CAGGTAGTACTGGGAATGGAAGG
108517	CACNA1G	AAGTCCTAGCTCCTCCTCCTG
108518	BAK1	GTGTGCACTCCAGCTTCGGAG
108519	ZNF41	TGTGGACACTGTCTTTCCAGGGTT
108520	MUS81	TGGGGCATTGCAGCTTGGA
108521	BUB1B	ATGATCACCATGTATTTTGTAA
108522	TAPBP	CCAAGTAGCTCGGACTACAGGC
108523	HELLS	GCTCTGAGAGGAGGGGACCCGGTTC
108524	KAI1	CTACTGCACTCCAGCCTGGGGGACAGA
108525	SGCB	CCAACATGTTTATATCTTGACTT
108526	CAPN1	TTGTGTACTGGTTATGGGGGTG
108527	SHOC2	TAACAGTGTACTATGGTTTTA
108528	P2RX7	AGACAGGAGAAACACTTGAACCTG
108529	SFRS2	ACTGCACTTCCAGACACCCG
108530	ASK	TGTTAAAGAAAAATTACAGA
108531	CXCL6	CATTTGGAGAAACAATAAAAG
108532	CNTN3	ATTCCATTAAGGGACCCTCT
108533	CA11	GTCCTAAGCCTCCCCACAAGGCGA
108534	CACNA2D2	CTCCTGCTCACCACCTGCCTCTA
108535	Rgr	CTGGCAGCTCAGCTGCATCTTGCCC

108536	FSTL1	GGGATCGGCGGAGCTCCCACCTCC
108537	SLC13A1	AGAGCATCTATGTGCCTTCATCAAGAA
108538	SLC17A2	GACCCTAGGGCAAGGCTTGAGAA
108539	UBE3A	GCCCAGGCGCGGGGGCGACGACAGGT
108540	PRKAG1	TGAGTAGAAGGTGGTGACCTC
108541	BCL2L2	GATAGGGAGAGGTGGC
108542	BACH2	ATACCCTACCCTCACCTGATGATAA
108543	CAPZA1	AAAACTAAAAATGAACCAAAGT
108544	SCAP2	AAGGTAGGCAGAGGTTGCAGTG
108545	ST3GALVI	TGTCTGTTGCTGCCTGGTGAT
108546	BRCA1	ACTAAAGACAGAATGAATGTAGAAAAGGC
108547	ADCY1	TGAGGGAGGCAGGAGAGCCTGG
108548	SLC22A3	AACTTATGGGCATATTACTGGAGC
108549	SHFM3	ACAGGGACGAGGGGGTCAGGCTTG
108550	PPP2R5A	GCTCTGAAAAGGTTGACTAT
108551	LARS	CAGTATGCTTCCTTTTATGAGGTGTACT
108552	CR1	CTGCCTCTTTGTGTGCGTCACTGTGA
108553	LIPA	AAGCCCCGTGGTTGCCCAT
108554	CRABP2	CCTCTTGCAGGGTCTTGCTTTC
108555	RAD1	GGCCTCCCAAAGCGCTGGG
108556	CXCR4	GTAGAAAAGGGAACTGAACATTCCAGA
108557	MECP2	TAATCAGGTCCTGCTCAG
108558	IL1R1	GACCAGCCCAGCCAACATGGCAAAACC
108559	GGA3	AAGCGTGCCTCCAGCCGTGGGGACAGG
108560	BIN1	AGAGGAGACCCCCAGGCAGAGGGG
108561	CAST	GAAGAATTCAGCAGCTAAGTGGAAG
108562	EBAF	CATTTCCCACACTGTCTTAGAGA
108563	EGLN1	CCTGCGCTCCTCCACAGCCTGGGCC
108564	GDI1	TGGGAAGACGTGGAGGAA
108565	MFNG	CCTGCTGTTGTTGCCAACCAGTC
108566	IL17R	AAAATAGAAAAATTAGCCGGG
108567	PTPRF	CGGGACCAGGTGGAGGCGGCGGCGG
108568	RELA	GGCTGAAGGAAACAGTGCAACAGCAC
108569	NEDD4	AGTGTTCTAGGTTCCAGCACA
108570	FKRP	AGTATTTCAGTCTTGCAGAGGA
108571	CNN2	ACTGCACCTCCACCTTCCGGG
108572	STUB1	GAGCTTGGGAGCGGAGCCCAG
108573	ESR1	TTAAGTGATCACCAAAGGACTGAG
108574	HMGA1	CTCTGCTCTCTCCCGGTATCC
108575	PIK3R3	GGCTTAGTGTTTAGACTGTTAGTAGAA
108576	GPR24	TTCTCCCAAGCTGGTGGATAATGAAA
108577	ABCA1	GAAAGAGACGCAAACACAAAAGTGG
108578	XK	AGATCTCCAGTTGTATCCTCTG
108579	TTF2	GTCAAGCCTTTCACCTTCCTCA
108580	GTF2F1	GGCCTGTGCTGCCCACTGGGT
108581	SNRPN	GATCAAGAACACTTAACAGCTTC
108582	RAP2A	CTGGAGTGAAAATTTTGTTTTGAAA
108583	DLEC1	TGGACTTTGGGACCTGCTTTGT
108584	SHOX	GAGTAGCTGGGACTACAGGCACCTGCC
108585	ATP1B2	TCGCCTTCCCAGAATATCCTT

108586	PTPRE	GGCTGGGTGGCTGGGCCTGGGAG
108587	ITPKB	GTAGAAAGAGCCCAGAAGC
108588	SUV39H2	GGCCAAAGTGTGTGCCTGAA
108589	PIK3C2B	CCGGGTTCAAGCGATTCTCCTACCTCA
108590	WHSC1	CTGGGAGGGGGTGTGGTG
108591	PBX1	TGCCCCTGTGCCTCTGTCC
108592	MSL3L1	GTCAGCAGCAGGGGAGGCAGCT
108593	TMPRSS2	TGAGCATGGAGCTGTCACCTCT
108594	PCDHA9	AACGATGGCGAACACAGCAGA
108595	PHB	GGAGCACAGGTGTCTGCCTAGATCCAC
108596	HR	GCCGGTGCCTCTCTCCTGGGTC
108597	CRY2	TCTGGGACTGAGCATGAGGCCATAGA
108598	GCNT2	TTTCTGGAATTGATGTTTACA
108599	COL11A2	AAACGCCAACAAAAAATCAGCAG
108600	PLEK	TGCTCACTGCAGCCCCTCTGCCCC
108601	DNAH11	TAGCCTCTGCTGGAGTGCAGT
108602	IFNAR2	GCCATGGATATGGTGGAGGTCATTT
108603	POLR2G	CCTACCCTTGGTCCTACTCTA
108604	NAP1L3	AGTCATTTTCTGCCCATCTCTGGTCG
108605	SDC1	GCCATGCGCCCCCTCCGCCCTGCC
108606	XYLB	CGGTCTCACCCCCTAACCTCA
108607	PBX3	TTCTCTCTCTGAAAGCACCA
108608	UMPS	CCAATTATTCCTGCTTGGATTCTTCCA
108609	CTSS	CCGAGTAGCTGGAATTATAGGC
108610	BDKRB2	AGCTAGAACATGGAGAGCTAGA
108611	CLCA1	GGGGTTAAAGACCTGTGATAAACCACT
108612	PSMC4	CCCAGGCCACACAGAGGCCG
108613	BMP5	TCAGCATAGATCTGTGAT
108614	B3GNT3	TCTTCTTTTTGTGGCTGCTAATGGC
108615	RGS6	GTGGACTTGTGTGGGATGGGTGCAGGTCT
108616	LNK	CTCTATCTATCCAAGTGATACAATTCA
108617	MAP1A	TGTCCTGCTTAGGGGAAGGTGATTGG
108618	CSTB	TTCCTTCCCAATAGGTGATCTTA
108619	NOTCH3	CCCCACCTCCCTCACTTCACTGC
108620	PRKAG1	GAGGAAAGAGAATGGATTTATAGCT
108621	E2F1	GGGCAGGGGTCCCTGAGCTGTTC
108622	CPNE3	GTTGTCCTGAATTCTACATTATTAGA
108623	GRIA2	AGAGGATCTAATTTGCAGAGGAA
108624	TRPS1	ACTGAACATTAAATAATTGGTTA
108625	LARGE	ACAGATTGAGGAGACACTGGACT
108626	RNTRE	TCATAATTGCCAAAGCAGTATTT
108627	GALNT3	TACAAACCAAGAGCTTTTACAGATCC
108628	SLC6A8	AGAAGCAGCAGTGGCAGCTTGG
108629	ADRBK1	AGCACCCGGGCTCAGGGA
108630	GALK1	TGCCCGGTGCCATCTTCCATATCC
108631	PXF	CTTGTTCTTCAGCAAGAATGTGTCA
108632	TRHDE	GTTCCTTTTCTTGTGTTAATGTAC
108633	ZNF74	CACTGCACTGCAGCCTGGGTG
108634	ADAM20	CACCTTGTTCTCTTCTGCTCTA
108635	ABCD2	CTGACTCTCTGGTTTAGTGCTC

108636	ICAM1	TTGCAACCTCAGCCTCGCTATGG
108637	ASB2	GGGAGAGAGGAGTAGCCCCTCAGACTC
108638	ABCC11	TGGAGATGAGAACTTCTCCTGGAAGC
108639	TEM8	ACATAATCACTCCATGCGG
108640	RNF3	GTCCTCTCCCCCGCCCCACCCC
108641	CYP2B6	GGCTAAATTTTGTATTTTTAGG
108642	SLC13A4	ACAAACACATCGTTCGCTGTTAGTGTC
108643	NEURL	GCCAAGACCAGCCTTTTTACTCA
108644	AP2B1	GTAGAATCTGAACACACTGAGG
108645	PIP5K1B	CAATATACTAGGTCTGCCTTC
108646	SCO1	ACAGGCCCTCCCAGCAGCTTTGCCGCCT
108647	FAH	CCTGCTCTCCTGCCATCATGGATT
108648	HPSE	AATTCAGAGGCGAGGAGATTCTG
108649	SHANK2	GGCCTGGAGTATGAGCTCAGCAGATG
108650	FABP2	ATTGCCCAGGCTGGTCTTGAACC
108651	MADH7	CCTCAGCCTCTCCCCTGCCTGCCCTGGTGA
108652	REG1A	CTCAGCCAACAGAGATTGTTGATTTGC
108653	NOL3	TTGCCCAGGAACTTAGGGTGGGT
108654	E2F1	GCAAGGGCAGGGGTCCCTGAGC
108655	XPNPEP2	CAGCTAGTCTCTTCTCTTCTGT
108656	GJB3	CCTCAGAAAGGGAAAGAGTTCCATGG
108657	KAL1	CTCTTATGGGCTTCTAATTTT
108658	RENT1	AGCCTTGACAAACCCAGGCGCACTGT
108659	GP6	TCTGTAATCCTAGCACTGTGG
108660	BASP1	AATGCCAGCTTTCAGACAGAG
108661	PTGS1	GCCCTCCACTCCAGCTCTGAGACCC
108662	PCDH12	TGGACAGCAGCTTCCCATCTGGCC
108663	GTF2E2	TCCCTGGGAGAAAGGCGCTGAGCGTG
108664	OTP	CTTCCCTTCCCACCCAGCTG
108665	BACE2	CCAGGAAGAGTTCTATCCCCAAGCTGG
108666	ABCC12	CCTCTATGGACTCCAAGACTGACAC
108667	NFYA	GCAATCAGGAAAGCAGCAGCCC
108668	MAP3K8	AGCCTTTATTGGTAAATTCTGGT
108669	BRMS1	CCAGGCTCCTGTGGTGCTGCTG
108670	GNS	GTCACCCAAGCTCTGTTCA
108671	AAT1	CTACAGTGGCACATCAACCCA
108672	ADAM33	CATGCCTATAATCCCAGCACTT
108672	ALDH8A1	CATGCCTATAATCCCAGCACTT
108672	IL4R	CATGCCTATAATCCCAGCACTT
108672	IPP	CATGCCTATAATCCCAGCACTT
108672	PDE4C	CATGCCTATAATCCCAGCACTT
108673	MECP2	CCTCCGGGTCTTCCTACTCTTCTC
108674	CDC6	AGGGTTTTACCATGTTGGCCAG
108675	PLAU	ACTGGGTGGGGTGAGGACCACTCCTTA
108676	CSPG3	TTCCTTTGAACAAAGGTCTTCT
108677	CASP10	CCAAGTAGCTGAGACTACAGGT
108678	NFATC3	GCCTGTATCCCAGCACTTTGG
108679	CNP	GCTCACTGCAGCCTCGAACTCC
108680	PKHD1	AAGAACATAAATGTAAGTTTATTAC
108681	TRPV3	CCCAGCCCACACATTGTACCATCT

108682	ARHGAP6	AGGCAGTGCCTCACAAAGAAATTAAGAA
108683	HPS1	TCTGTGTTCCTCCTTAACATCA
108684	MADH6	ATATATTTTCTTTCTCTTCC
108685	GNS	ACTCTGCCCATGTGTCAGGA
108686	SCN4A	CCTGCCTGAACAGCCCTCTCTCTC
108687	RTN4	CAGTCCTGCTGCAGTTGTGCAGCA
108688	DHFR	CCCAAGTAGCTAGGACCAGGTGCGCG
108689	MMP19	GCCTGGCACAGTGTCTGGTACATTTGT
108690	VAPB	TCCCTGCACACACATACACAGAT
108691	SNRPA1	CAGTCACAAACGGGTCCTGGCAGTGAG
108692	GPR2	ACTACCTCTGTGCCTTGCCACAT
108693	IL2RB	CCTGCACACTTGGTCCATCCATTTC
108694	GPRK5	ATTTTCGGTATATTTGTATTTA
108695	RAP2A	TAAGGGAGAAACCAGAAGAATT
108696	AP1M1	GGCCTCGGGGCTCCTGGTGGCAGCA
108697	D12S2489E	TCTCCCACCACAAGCCCAGAG
108698	GPR56	AGACCTTCAGGGCCAGAGCCCTGGCGGA
108699	HOXA5	TAGTGTCAGTACTAAGGTGACTT
108700	BCAT2	GGTCCGCCCATTACTCCTTG
108701	DMD	ACTGACACATAGAGTAACTTCTAGTTC
108702	BRCA1	TCCAGAAAGGAGAGCTTAG
108703	FZD4	ACGATCTTGGCTCACTGCAACC
108703	G6PC	ACGATCTTGGCTCACTGCAACC
108703	SEDL	ACGATCTTGGCTCACTGCAACC
108703	ZNF264	ACGATCTTGGCTCACTGCAACC
108704	UGT1A8	TCTCATGGCTCGCACAGGGTG
108705	BACE	AGGGTGAGGACTTCACAATGTTGG
108706	SNRPC	TACCTGTTCTGCTTCACCAGGA
108707	SRC	CTCTGTGGGGCTGAATTGCCAG
108708	GPD2	CCACCCTGGCTGGAGGAACTGGGTG
108709	CLCN7	GCAGGCCCAGCCTCCACTCTCC
108710	PIK3CD	CTTTCTCTCTGACTATACTTA
108711	CRACC	TTCCCTGACACATATCTTGAAT
108712	RANBP2L1	CTTCTCTGGAACCTCAGGACC
108713	HAS1	TGGTTCTCTGGGCCTCAGTT
108714	CDA	GATTACACTCCAGCCTGAGTCAG
108715	CRYBB2	AGGAACCCTCCAGACCTCCA
108716	SP3	GTCAGCAGGTTCAAATTGGTTTCACAG
108717	CD5L	CAGCTCATCACCTTCACCTGCCT
108718	USP9X	AGCTCCTTTACAAAAAAGA
108719	ATRX	CAGTTCTGCAAAAATGACC
108720	GRLF1	CTCCGTGCTCTCCTGCCTCCA
108721	UPK1B	CTACTTCCATCCCTGCTTATTTTTAA
108722	DRD5	TCTTCTCTCTGTGCTGGTGGGGGCC
108723	TLL2	GCATTTGCAAAATGTGCAAA
108724	SORCS1	ATGAGATACCTGGCATTTTG
108725	ENSA	CTCTGCCAGATCCTGAGACGCTT
108726	IHPK3	CCATGAGACACGGCTTGCAGTGG
108727	SLC14A1	TGCCTGTAGTTCCAGCTACTTGG
108728	RBL1	CAGGAAGCGGAGGTTGTGGTGA

108729	RGS6	GAGCCCACAGACAGAGCTGTAT
108730	BSN	TGGGCAGCATTCCTCCCCAG
108731	LRRC2	CTGGGAGGTGGAGTTGCAGTG
108732	PFKFB1	TGAGGCACCCCACTTCCAGTGAAGA
108733	IL16	TGCGTTCCATGATGCTGGGATT
108734	PRKCN	CTTTGCAGATATCTGGAGTGTTTT
108735	F2RL3	GCAAGCTCGGCCTCCTGGGTT
108736	INHBB	CTCTTTCGCCACCTTCCCCA
108737	CNTN2	AAGGTCAGGTTATCTGCTTTCA
108738	MECP2	CAGGCAGCACCCAGGTTTTGCACTCT
108739	FPR1	GGCAAAGTGGGAGGGAGCTGGGG
108740	JUN	AGGAAGGGGGGTTGCAGTGG
108741	HMG20A	GCCTGTTTTCTTTATTAGTCCAAAGGA
108742	THRA	GCGTGGGCTCAGCAGGGCTGGTC
108743	SCN3A	TGCTCAAAACCAGAAAAAGAA
108744	F9	CTCCTTAGCAGCATTCCATCTTCCCG
108745	PLN	TCTGCAGCTTGCCACATCAGCT
108746	ZIC3	TTGGGGGGCTGGAGTGGGTAGAGTATT
108747	HDAC6	CACCACTACTCCAGCCCAGAAGGAA
108748	CAMK2A	GCAGGCAGGGGAGACTCACAGA
108749	DLG3	ACTGTTCTTGTCCCCTTTTTTAG
108750	ENDOGL1	TCATCCAGGCTGGAGTGCGGT
108751	HLCS	TCGTCCAGGCTGGAGTGCAGT
108752	CHST5	GGACTCCAAAGGTGGAGGTTGCAGTAAGCTGA
108753	PRDM2	AACAACAAATTGGCCTCTTCC
108754	KCNN2	TCTGCAGCTTCACTCCTGAAGCC
108754	ZNF80	TCTGCAGCTTCACTCCTGAAGCC
108755	CFTR	AGAGACACACTGAAGAAGCACCA
108756	MFAP2	CTGAGTCCTGGCCCTCCTGGG
108757	AR	GGAAAGTGCCTGGTAGGACTGACGGC
108758	IL10	ACCACAAGACAGACTTGCA
108759	CCR2	AGGAGCCTAAGACAGAAATGACAGA
108760	CREB1	TGGCCATCATGGTGAAACCCCA
108761	COG6	TATTTGACTGTGTACATTCTTATG
108762	P2RY4	GGGGATGAGTGCAGGGCAGAGGTG
108763	XPNPEP2	TGCTTAGCTCCCCTCACCCTGCACTGA
108764	LRAT	CAAAATTACCAAATTCTTAA
108765	ZFP36L1	CCCTCATTTCAGTCTCC
108766	FHIT	TCCACTGAGAACAGTCTGTAA
108767	MAGEB3	ACACTCCTGCCTGCTGTTCCTGACTAC
108768	MAP3K9	CTGCCTGGATGTGCAGCTGGCAACAG
108769	SERPINE2	TAGCCTCTTTGTGTTTTTGTTG
108770	LEP	CTTTGGGGTCAGCCAGGGCCAGG
108771	GP6	GCTCAGGACAGGGCTGAGGA
108772	SNAP23	GCTCTCTTGTCCAGGCTGGAGTGCAAT
108773	GGA3	GTTCCTCCCTGCCCCTTGCCA
108774	EPHA8	CCTCCTGCCAAGGCTCTT
108775	FBN2	AGCACATGCAGGCTCCTGGTTG
108776	ATP7B	TTGCTGACCAGCTGGAGTGAGGGC
108777	TK1	CGCCCAGGCTGGAGCTGGCCCCG

108778	NYX	TCAGAGGAGCAGGACCAGGGAG
108779	IGF2R	GGCGGTACCTTGTGCCCAGGGTT
108780	PNN	TGTTGTAAAAAATCTTTTTG
108781	ZNF35	GCTGTTTTCTTCCTCCTCTATA
108782	UBE2I	GCTGCCTCCAGCCCGGGCCTGTGT
108783	AQP6	AAGCCTCCTCCCAGGTGCTTGCC
108784	STAU2	TAGAATGATCATGTATTTATAAA
108785	A1BG	AATGGCTGGATTCCTCTGTGTTCTTTC
108786	KIR2DL1	TGCTGTTCCACCTCCCCTCAGACTAGCTTTC
108786	KIR2DL2	TGCTGTTCCACCTCCCCTCAGACTAGCTTTC
108786	KIR2DL3	TGCTGTTCCACCTCCCCTCAGACTAGCTTTC
108787	FBXL5	AAGAAATGTATAAATAAAATCTAC
108788	JUP	TCTGGGGGTGGTGGGCAGG
108789	ABCC1	GCGCCCAGGGAGGAGTCAGTA
108790	TBX6	GTGCAGGCCACACCAGTCTG
108791	MHC2TA	ACCTCAGCCTCCCGAATAGCTG
108792	CXCL16	GCGGGAGCTCCACCTCCTCGG
108793	KHK	CCTCCATCCAGCCTGGCGTCCA
108794	ALDH3B1	ACCTGTAATCCCAGCACTTTG
108794	CASP6	ACCTGTAATCCCAGCACTTTG
108794	COPA	ACCTGTAATCCCAGCACTTTG
108794	CRACC	ACCTGTAATCCCAGCACTTTG
108794	DMC1	ACCTGTAATCCCAGCACTTTG
108794	EHHADH	ACCTGTAATCCCAGCACTTTG
108794	FANCD2	ACCTGTAATCCCAGCACTTTG
108794	FUT6	ACCTGTAATCCCAGCACTTTG
108794	GPR1	ACCTGTAATCCCAGCACTTTG
108794	GRM6	ACCTGTAATCCCAGCACTTTG
108794	HUNK	ACCTGTAATCCCAGCACTTTG
108794	IFNAR1	ACCTGTAATCCCAGCACTTTG
108794	LRRC2	ACCTGTAATCCCAGCACTTTG
108794	LUZP1	ACCTGTAATCCCAGCACTTTG
108794	MCM4	ACCTGTAATCCCAGCACTTTG
108794	P2RX7	ACCTGTAATCCCAGCACTTTG
108794	PCDH11X	ACCTGTAATCCCAGCACTTTG
108794	PCDH11Y	ACCTGTAATCCCAGCACTTTG
108794	PTAFR	ACCTGTAATCCCAGCACTTTG
108794	RAB7L1	ACCTGTAATCCCAGCACTTTG
108794	SIM2	ACCTGTAATCCCAGCACTTTG
108794	SUDD	ACCTGTAATCCCAGCACTTTG
108794	ZNF136	ACCTGTAATCCCAGCACTTTG
108794	ZNF137	ACCTGTAATCCCAGCACTTTG
108795	CALCB	TAATTGCCCCTGCACCTTT
108796	SMT3H1	ACTCCTGAGTTGGTTGCCTCTC
108797	C1orf1	ATCAAACTAGACCAATGA
108798	TUFT1	TCTCGAATTCCTGACCTCAGGTG
108799	FUT4	CTGGATTGTCCTTGGAGGAAACTTAAGA
108800	MADD	TCTGTCTGCAGGCTGTCTCTCCA
108801	IL1R1	TTGAGTTTAAGTCTCTGACTCTTGCC
108802	RANBP2L1	GAGCCCGGCCGAGTGCAGCTG

108803	PUM1	AACTCTGCTTTTGGTCTTGCT
108804	PCDHA1	CCTTTTCTATAACACTCTGAA
108804	PCDHA10	CCTTTTCTATAACACTCTGAA
108804	PCDHA11	CCTTTTCTATAACACTCTGAA
108804	PCDHA12	CCTTTTCTATAACACTCTGAA
108804	PCDHA13	CCTTTTCTATAACACTCTGAA
108804	PCDHA2	CCTTTTCTATAACACTCTGAA
108804	PCDHA3	CCTTTTCTATAACACTCTGAA
108804	PCDHA4	CCTTTTCTATAACACTCTGAA
108804	PCDHA5	CCTTTTCTATAACACTCTGAA
108804	PCDHA6	CCTTTTCTATAACACTCTGAA
108804	PCDHA7	CCTTTTCTATAACACTCTGAA
108804	PCDHA8	CCTTTTCTATAACACTCTGAA
108804	PCDHA9	CCTTTTCTATAACACTCTGAA
108804	PCDHAC1	CCTTTTCTATAACACTCTGAA
108804	PCDHAC2	CCTTTTCTATAACACTCTGAA
108805	IL2RB	AATTGTATTTGCCTTCTCCA
108806	KCNQ2	ACACAGTATACACATACACAAGTGCAC
108807	BAALC	TCTCTTTGCAACTCCTGTAATA
108808	GRINL1A	TTTTTCTTACCTATCA
108809	MAF	GGGCTGCACCTCTGCCTTGCACTT
108810	ZNF179	CTGCATCCGGACCCTCTCCCCA
108811	ERBB4	AGGGAAAGACTGAAAGAGAAAGATAGG
108812	HOXC5	GGGCCCCACAGACAAAAGCGCTTTTC
108813	ALMS1	CTAAGCTGGGCCACAACCGC
108814	STE	AAGTAGCTGCAACAACAGGCAC
108815	EIF2C1	TAGCCCTGCAGACAAAAGCT
108816	SUSP1	GTTACTTGTCATTTCTACTTTCA
108817	EYA2	TGGGGGGTGCCTGGTGATGAGGAGGGG
108818	HS3ST4	TCTCCTCCTCCTTCATGCAGCCAGGA
108819	PPP2R5E	TCAGTTTATGGTGAATCCAAATCA
108820	PKHD1	CTCATTTCTTCAACAGATACTTA
108821	CDH18	TCTGGCTTCTCTCTTGAATGCTCACT
108822	SCN3A	AAACCAAACTCTTATTCTCAGTGGAA
108823	HOXB13	AACACCCTTCCCAGGCCACTGGC
108824	NOTCH2	TATTCATGCTCTTGGCAATTT
108825	HR	CCAGCCCCTGGCCTGGAAGCACCAGGA
108826	WHN	GACTTCGTTTCTGGGGCAACTGAGAG
108827	ZNF253	GTTCACTGCAATCTCTGCCT
108828	DLEU1	AGGAAGAGATTTGTGATAGTA
108829	GDI2	AGCCCCTGCGCCTTTTCCTTGCTC
108830	PPP2R5C	CCATATTTCCAAGTCTGTGGTACTCC
108831	COG5	TGCTAACCCATTCATAGTTGG
108832	LTBP2	TCTTGTTCAGAAGCAGCCAG
108833	EDN2	GCGGGGAGAGAGGAGGAGAGA
108834	STX1A	CTCGGCTTTACTCCTGCCCAG
108835	SORCS2	CCCCTGAGCCCGGGCGCCTGGG
108836	ICA1	GGGTCAACGGCCCTGTTTATAT
108837	OTX2	CTTTGCCCTTAGTTCCACTGCTCCA
108838	ARNT2	CAGATGCAGCCACAGTAAGGCTCCA

108839	CAD	ATCCAGATTGCTCACATGTGCT
108840	BSN	AGGAAGAGCTGGGCCTTTGGCA
108841	DAAM2	GGGGGCTGTGTGTGGCTGGACCAGGT
108842	IL1A	TCCATGCCTTCCTTTCTCC
108843	IDH2	GCCACCCATGGCTGCAGTGGAGG
108844	SLC1A5	TCTCCAGGTGCTGTTACTC
108845	CSPG4	GTGGAGGCAGGCTTAAGTTCAGTCC
108846	MYL4	ACTCCTCTGCCAAAGATCCC
108847	RGL	AGCTGGTGGCCTTCAACCTCTGCCT
108848	INHBC	ACACACACTTCTTCCAGGGCCTCTGG
108849	MTA1L1	GGGGTAGGACCCACAGATGTCTTGGA
108850	SLC39A4	GGGACCCCTCTGCGTGCACCCCTGTA
108851	DUOX2	CCTGCAGCCCTCCAGACTTCCTGCC
108852	NPTX1	CCCCTCCCTTCTCACCTCTGGAGCT
108853	LANCL1	ATTTACACTGAATTCCAA
108854	ACTC	GATGCCTTCTCTCTCCA
108855	RFC1	GATTCCCAGCCTCACTCCCTCTG
108856	SF3B3	GGAAGGAGGCAGGCTGTGGTGGG
108857	OXCT	GTTTTTTCTTCAGCCTCCTCT
108858	CXCL6	TTGCCCAGTCTTCAGCGGAGCAGT
108859	VHL	CACTACAAGCTCTGCCTCC
108860	NR2F6	CATGAAACCAAAAAGAGACTGA
108861	WT1	AACCAGTACCTCTGTATAGAA
108862	DBN1	TGGGACCCCCTCCCCGCCCTTCTTTTG
108863	ELL	GCACCGCCGGCTTTCAGGGCAG
108864	CHRNA2	TGAGGTGGGAGGTTGGAGAGCCAG
108865	HLCS	ATCTCAAGGAGCTTTAAAGTCTTA
108866	COL6A2	TTTAAGGCCCACCCCAAGTCCAGAATG
108867	HIVEP3	AAGTGGTGCCTTCAGCACAG
108868	ARF4L	GACCAGCCTGTGACCTCTCAGTCA
108869	ZNF18	GAATAGTCTTCATGTTTCCA
108870	FPGS	CAGGTCCTGCTCCGCTGCCTGGAACAC
108871	GCNT2	CCAGGCCCAGGAGATCAGT
108872	SLC31A1	CTTCTGCTGACTCTCAACTTTTCCTGG
108873	TM6SF2	TCACTGGAGACTGAACACTAG
108874	CYB561	TGAGCTGAGATTGCACTCCAGCC
108875	BFSP1	TCCTGTTTGGATTAGACCATA
108876	C18orf1	CAGTTCGTGGAATTTTGCCCAT
108877	NLGN2	GTGTGCTTTCTCACAACGGGGT
108878	MPP3	TCTCCACAAATTCCATCATCGAGAAGA
108879	MMP14	AGCCTCCTTGCTTCTCTCTGTCC
108880	LPIN2	TGGCAAAAACAGACTTCCG
108881	TNFAIP2	GTCTGGAACTCCTGGGCTCAAGGGATC
108882	PTPRO	AGCACTATCTGTACTCCAA
108883	NUFIP1	ACAGTTTTATTTTCCATTTTTC
108884	SLC4A7	TAAAACTGAAAACTACCTGGG
108885	GRM6	CCTTCATTCCTCATAGGTACTGGGAAG
108886	RRM2B	CAAGTGTTTTTACATCATCTCA
108887	ABCC1	AGAGACTGAGAGTGAGCAACCA
108888	LDOC1	GTCATTTTTCTTTCAAAATTGC

108889	RBM10	GGAGGTGGCGGCGGGCAGAGGTGAT
108890	IDH3G	CCTGCAGCCTCCTGTACCCGCC
108891	PCDHGB7	GGACTCCTCCTGTCCTGGGCCG
108892	G2A	TTACTGAGGGGGGAGTGCAGCAGTTG
108893	DMRT2	ATTGTTCTGCTGATCTGTAGTGG
108894	GP9	CTGGGCTGGGCACACTCCACCT
108895	NR5A2	CTCTGCTTTCAAAACAAAAAGAGATTGG
108896	AK1	CAGCCTCCCTTTGCCAGCCA
108897	GNAZ	CCTGCTGGGACCCTGATCTGGGCCTTCCTG
108898	ARF1	GCAGCAGCCTCTGAGGT
108899	PPP1R11	TCTGTCTGGCCCTAAATGTATCCATGT
108900	ZYX	ACCCACACTGAGACCACCTGCCCC
108901	CHRNA7	TAGGTAGTAGAATCTCAGCACTT
108902	PYGO2	CATGGCCGCCTCGGCGCCGCCCCCAC
108903	ATRN	CCCTGCTCCTCTCCCAGAGGGCACTGC
108904	CRK	TCCTTTCTCTCAGGCAGTGCA
108905	SCNN1A	TCACTCCGCCTTCTCCTGGGCT
108906	HHIP	CCTCCCACTTCCCAGCCGCAG
108907	KAL1	TGTCTAAAGGTAGATGCAAATT
108908	GPRC5B	GGACAAATGGGGACTTTGCCACC
108909	BRPF1	ACACAGCCCAACCTATAGTGCCC
108910	TGFBI	GGAGGGAGAGAGATGTACTTTTT
108911	DLGAP2	CCCTGCAGGAGCCCCATCTTGTCGC
108912	MPP3	CAGACTCCCTCATTTTACCATC
108913	VANGL2	GCACTAAGGGCTGTGCCTGAG
108914	BACE	ACTCACTGCATTTGGGGCCTTTCCCA
108915	ILVBL	TCTGGGAAGTGCCCTTTCTCTCTTAGG
108916	TNFSF14	GGAAACGCAGTGAGACTGTGCC
108917	TCTA	CACCCAGGCACTGGGCAAG
108918	CALU	TTTGCCTTTTGAAATCACTGTA
108919	ZNF141	ATAAGAAAATTCATACTTGGAGA
108920	ESRRBL1	TTTTCCTGTGTGGTCTTTGGG
108921	IGSF3	GAAATGAGAGATTAGGAGCTGGG
108922	ATF5	TTGTCTGGGGTGGGTGGAGTG
108923	PLAGL1	CGTGACTGATTTCAAAGCCCGG
108924	ZNF192	TCATTAACCTTGCACCCATCTCTTTAGATGGC
108925	TAPBP	TTCCGCCCAGGCTGCAGTGCAG
108926	WHSC1	TTCAAAGCTTCCTCTGGCCAG
108927	CYB561	CGGGAGATGGCGCTTGCAGTG
108928	DNMT2	ACTATTGTTATGCTTTAT
108929	MEIS2	GGTTCTGACAGTACGATGAGCTG
108930	PPP1R12A	AGAACACTTGCTCTTCTGTGAT
108931	PON1	GGCTCACTGCAACTTCTACCTC
108932	PCDHA1	CCACCTGCCAATCACAGCTTTA
108932	PCDHA10	CCACCTGCCAATCACAGCTTTA
108932	PCDHA11	CCACCTGCCAATCACAGCTTTA
108932	PCDHA12	CCACCTGCCAATCACAGCTTTA
108932	PCDHA13	CCACCTGCCAATCACAGCTTTA
108932	PCDHA2	CCACCTGCCAATCACAGCTTTA
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108932	PCDHA4	CCACCTGCCAATCACAGCTTTA
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108932	PCDHA6	CCACCTGCCAATCACAGCTTTA
108932	PCDHA7	CCACCTGCCAATCACAGCTTTA
108932	PCDHA8	CCACCTGCCAATCACAGCTTTA
108932	PCDHA9	CCACCTGCCAATCACAGCTTTA
108932	PCDHAC1	CCACCTGCCAATCACAGCTTTA
108932	PCDHAC2	CCACCTGCCAATCACAGCTTTA
108933	CYP2B6	CAGGCTGGAGTGCTATGGTGCA
108934	ATP7B	TCCTGTGGGGTGTAGGTTCTC
108935	SORCS1	ACTTTTTTGATGTATTTTTTGT
108936	FGF23	AGACAACCACATGGTCAGGCTCTT
108937	HGF	TTGCACAGAAAGTTTCTGTCTTTA
108938	PKNOX1	GCAGGAGCAGACGCACCTGACTTTTT
108939	ACO1	ATGGAGCAAGTGAGCACTGAGGGTCTG
108940	MSI1	CCTGCAGCGACTCGGACCCGCT
108941	TAPBP	GGTCCCTGCCTGGCCAGTGGGG
108942	GPRK6	TGAGGGTGGTCACACCTGAGC
108943	SYNGR3	CAGTCTTCGGGTTTCACCTC
108944	LRP4	GCCCTAAGAGACACTGCCTT
108945	CBS	GCACGTTTCAAGCTCATCAGTAAAGGTTC
108946	KCNK4	AGGCTGCCACTGCCCCTGAT
108947	SH3BP2	TACGGCTACACTGGGCCTAGGTGT
108948	CACNA2D2	TCCCAGCCTGGGGGCCAGTGGGGA
108949	DFFA	CGCCTGTAATCCCAGCACTGGG
108950	DSCR3	GGCCTAAAGCCAGCATTTCCTCA
108951	GALT	AGGAGTTTGAGGCTGCAGTGA
108951	KCNK6	AGGAGTTTGAGGCTGCAGTGA
108951	KLRG1	AGGAGTTTGAGGCTGCAGTGA
108952	ITPR2	ATAGGGTTTGCTCTGACAATTTTTAAAGC
108953	CALML3	AGGTGCCTCAGAGAGAGACAAGTCTGGA
108954	WHSC1	TCTTACAGCAGGGTGTCTCTCCA
108955	RANBP2	CTAGCTTCCTGTGCCCTTTCAT
108956	PPP1R3D	CGTCTCTCATCCCTGCCTCAT
108957	G6PC	ACCCAGGCTGGAGTGGAGTGGCACG
108958	GPR4	GAACTCCTGGGCTCAAGAGATC
108959	EGFL3	GCGCAGGTGCAGGCACAGGGCCACT
108960	GCN1L1	AAATGATTCACAGCTCTGGCA
108961	EBAG9	AAGAGTATTTTAAGAAGACA
108962	NOX1	CTGTAGCAAGGCTTGATAGC
108963	TNFRSF10B	TGAGCCCTGTTTGGGCTCAGGAGA
108964	TRPM8	TGCCTGTTTCTCTCTGTGTCTC
108965	KIF3B	ACATCCTTGTGTGGGCCCATCCTCTG
108966	ASK	ACAGAGTGAGACTCCATCTCA
108966	BHMT2	ACAGAGTGAGACTCCATCTCA
108966	CD28	ACAGAGTGAGACTCCATCTCA
108966	GALNT7	ACAGAGTGAGACTCCATCTCA
108966	LRRC2	ACAGAGTGAGACTCCATCTCA
108966	SCAP2	ACAGAGTGAGACTCCATCTCA
108966	SWAP70	ACAGAGTGAGACTCCATCTCA

108966	TPM4	ACAGAGTGAGACTCCATCTCA
108967	MKI67	TGAGGGAGGGAATAGAAAGGGGC
108968	SLC4A7	CAGTTCTATAAATGTGCTCAG
108969	BPHL	GCTGGGCACGGTGGCTCACAGCT
108970	MME	CTGGCTTCTTTCTCTCAGCCT
108971	NLGN2	CCTCTCTTCCCAGCACTTCCCTGCCTC
108972	ITPKB	TGCCGGGGCCTCCCCACCG
108973	MANBA	GCACCGACTGGAGAGGAAGGCAACAGA
108974	ATRX	CCACAGATTTCCTCTCTAAA
108975	CNTNAP2	CTCCACGTGTTTTTCCATCCAATCA
108976	MAPK4	AAGAGCCTCTTGTAACAAGTATTCA
108977	GPC4	TAGCTAGCCCACCCTGTGCTA
108978	C8A	GCTCTGTCCTACTTACAGCACTTTGG
108979	CYP4A11	CACCTTCCCTTCTTCCCA
108980	JTB	CACCCTTGTATCCTGGGTCTTAGA
108981	SACM1L	GGAGAGAGAAGGAAGGAGGTGG
108982	HBB	TCACTAGCTCGCTTTCTTGCT
108983	GNAO1	CCAATCCTATGTCATTTCTACTTTG
108984	SECTM1	GTCACCCACTCCTGGGTGCGTG
108985	HSPA6	GTCGGGTGAGGCGCAAAAGGATAAAAA
108986	STXBP1	GTCAGGCCAGCGTCCTCCTCC
108987	DDX15	ACATTTATGCCTCCCTTTTGTGT
108988	TNFRSF8	GGCAGAAGCTCCACCTGTGCTACC
108989	ZNF42	TGTCCCCAGGGATGAAGTGGGTCCCGG
108990	FMOD	TGCCCAGATGCCATCACATCCC
108991	PMM2	CTGGACTTCCACCTCCAGTGCCAGA
108992	SACM1L	GACTGGTCAGCTACTTCCTCCT
108993	WHSC1	GTATACAGACCAGGTGAGAGCCCT
108994	SNX9	TCCGAAACTTCACACAGGGTG
108995	SUDD	AAGGACAGATGTGTTTACAAGGGAGG
108996	STK38	ACAAGTCCTTGTAAAGCTCACTCCTC
108997	COL3A1	AAATGCACAAAATCTGTACATGTCTCC
108998	HOXA10	CCCACACTCGCCATCTCCTGGGCC
108999	SORCS2	CCCCTGCTTGCAGTCTGCAAGGA
109000	ABCC11	ATTGCCCAGGATCAAGGGTGCGGT
109001	ASK	GGGAAGTGCAGGTTGCAGTGA
109002	CHRNE	AGTTTGGGGGAAGGGGAATCATT
109003	USP6	TGTAAAATTGATTGTGGGGAAGA
109004	KCNA7	ACCAGCCTGGGCAACATGGTGA
109005	SPTLC1	ACCAGCCTGGCCAACATGCTGA
109006	ABCC12	GTCACAGAAAATGGAGAAAACTTC
109007	HS3ST2	TCTTCCCTCTGAGCTTCATTT
109008	GAD1	ATAATATCTTGAAGAATATTGTT
109009	BRCA1	TCCAAACAAATGAGGCATCAGT
109010	GNE	CCCAAGGTGCTGGATTACAGG
109011	CPSF6	GTTTTATTTTAAAATATTTTGTG
109012	IRS2	GCCTATCTTCTCTGATAGTCATGGAGA
109013	MAN2A2	ATCATAGGTCACTTCAGGTAGCA
109014	SMT3H1	TGTTGAATGGTGAGCACGTGAC
109015	VIPR1	GGGATCTGTCACACCAGCCATACT

109016	MTMR7	GCAATACAAATATTTCACATTTTT
109017	GRM6	TTCCACCCTCGTGATTGTATAGGGCT
109018	MEIS1	TGCTCAGTAGCTTAAGGGAAT
109019	VIL1	TGTACCTATTCCTTCAGAAAGA
109020	MPP4	TCCTAGTCCTGAATTCCTTTCAGAA
109021	EPHB2	GGGATAAAAAAGGGCTTGGGAGA
109022	GM2A	CTGGATTACAGGCATGAGCCAC
109023	CR1	GGTCCTTCCTTGCAAAGTA
109024	BSN	GCTGCCAACCTTTGTGTTGGA
109025	SMARCD2	GGGGTGAGGAGTGTCTGCTGT
109026	SRI	AGATCTAGTCTGTTACACC
109027	BMP4	TGGAGCCATTCCGTAGTGCC
109028	PACSIN1	GCCCCAGCTGGACTCCAGCCTGTCCCTCT
109029	RANBP3	AGGGGCTTCTGTGAGAGGCAGAGGGG
109030	GRINL1A	ATTCTTATGTGTCTTTTGTGTCTTA
109031	HYAL1	CACAGATGGCTGTGGAGTTCAAA
109032	ABCE1	GATCGTTTCTCCAGAAGAGC
109033	FUT6	ACCGTTTCCAGATGTAATACT
109034	HD	TCTCTCTTTTCTTCTCAGGATTT
109035	GRIK3	CCTGCCAGGAAGCCAGCAGGCTCTCAG
109036	CRTAP	GTCTTCACTTGGTCTGACTTG
109037	CD3Z	ACTGACCTTGATGAGCTGTGCACA
109038	UMPS	CGATCCTCCTGCCTCAGTCTCTCAA
109039	TFAP4	CCCACCCCCCAGCCCCCACCT
109040	CAMK4	GTGACTGCTTTATGAAAATAATAGT
109041	MAML1	TGAGCCAAGGAAAATACTCATGC
109042	EEF1B2	TCTGCTGCTCCCCAGCTCTC
109043	MTR	ATGGTGCCACCACTCAAGCAAC
109044	RAD52	TGCAGCTCCCGCCGCGGCTGTTGCTCA
109045	SIM2	AAGATCACATCACTGCACTCCAGCC
109046	ADARB1	TGGGATTAGCGAAGCTGTGGAGA
109047	DHCR7	CCTGCCTGCTCTGCAGTCGT
109048	GLUD1	AACCTGGTGATAAAAGCAGTT
109049	ENC1	GTGAGCCAGAGGGAGCTGTG
109050	PHEMX	GCAAATTGTGGTCAAATATACATCACATC
109051	PIGR	GCCTCAGCTTCTCAAAGTACTGGGA
109052	KRT2A	CTCTCCAAACCAGTTAGTTAG
109053	ACTR1B	AGCCCCTTTCACACTCTGTCCTCC
109054	CCNA1	CCTTAGACTTTAGTAGTTTGT
109055	FHIT	ATCCTGCCACTGAGGACTCCGAA
109056	APBA1	TGCTTGAGGGAGAATCCTCCC
109057	OPHN1	AGTCCCCAGAGTGTGATATTCCCCTT
109058	HSPA5	CCTGTGGCTGGACTGCCTGCTGC
109059	MECP2	CTCCCTCCGGGTCTTCCTACTCT
109060	PPP1R3A	CCATATAACTAAGACATATGCAT
109061	GPM6A	ATATTCAGCAAAAGTATTAATG
109062	CYP1A2	CCGAGTAGCTGGGACTATAGATGC
109063	ATSV	GGGCCCTCCCCACCCACACCCACAGGTCG
109064	MGAT2	CCCTGCAGGAAGCTAAAGGGCC
109065	CTGF	TTAAGACTTGACAGTGGAACTAC

109066	BRF1	GGCTCTGCCTGTGGATCGCAGTCG
109067	NTSR1	CCACAGACACACCCACGACAC
109068	SLC9A3R1	GAGACTCTGCCTCCCTCCTCCTCACTG
109069	MPDU1	TCCAGCCTCCCTGCTTCCCTT
109070	MME	CAGCTCTAATAAAACAGCTGT
109071	PRKCH	TTCATTCTGGAGTCTACTAATTTA
109072	GPR92	GCAGAAGAGTACAAAGTGTGGAAG
109073	CDK5R2	GGTCTCCCCCTTCCCTTCAG
109074	OSR1	CCAGAAAGGGTTGCTAGCC
109075	JRK	TCCCCACACCCTGGAGTGGCATG
109076	TEM7	TGGGAGCCTGAGGCAGGAGGAT
109077	HSPA5	GTATTTCTAGACCTGCCCTTCGCCTG
109078	SMURF1	TTTGAAAAGTTCTGCCTTGCCC
109079	ORC1L	TCACTGCAGCCTTGACTTCTC
109080	DRD2	TCGGCCTCCTCTTCACCCCGGC
109081	ARHGDIA	CCTCCCTGGCCTGGCTCAACCGAGT
109082	TGFB1	GGAGGCTAAGGTGGGAGGATCA
109083	HSD17B8	CCAAGTCCTCTTCCCTGCC
109084	CD1A	TCAATGCCACATCAGACTTGTTCC
109085	CGA	TTCCACTGCAAATAAAGCC
109086	PTGIS	TGCCCAGGCTAGAGTGCAGTG
109087	NR3C2	ACTCGTGGCGTGGGGCAGCAG
109088	MICB	AGACTCCCGAATAGCTGGGATT
109089	PCDHB11	AGCCTCCCGAGTAGCTGGCATT
109090	GAS7	GCTTCTTTATTTTTACACTGAG
109091	VDR	GTCCGGTGTCCTTTTCACTACAC
109092	FKBP10	GTTGGATAGGGCCATGGCTGGTC
109093	TACSTD1	GCCTTTCTATTTACTTGAGTC
109094	RET	AACACAAAACCATTAATATAATTGGCA
109095	CASP10	AAACTCCTGGGCTCAAGCGATC
109095	G2A	AAACTCCTGGGCTCAAGCGATC
109095	RGS9	AAACTCCTGGGCTCAAGCGATC
109096	MEF2B	CATTCCACTCAGCCTGGGACGA
109097	BCAS1	CACCTGAGGTCAGGAGTTCAAGAC
109097	CARKL	CACCTGAGGTCAGGAGTTCAAGAC
109097	FRDA	CACCTGAGGTCAGGAGTTCAAGAC
109097	HIP1	CACCTGAGGTCAGGAGTTCAAGAC
109097	MSH3	CACCTGAGGTCAGGAGTTCAAGAC
109097	PCDH11X	CACCTGAGGTCAGGAGTTCAAGAC
109097	PCDH11Y	CACCTGAGGTCAGGAGTTCAAGAC
109097	SWAP70	CACCTGAGGTCAGGAGTTCAAGAC
109097	UPK1B	CACCTGAGGTCAGGAGTTCAAGAC
109098	ABCC5	TTGTCCTGGAGCAGGGGCGCA
109099	IL1F5	GGTCTAACTTGTTATGCAGCAA
109100	CD59	CCGTTCCCTGAACATAGGAA
109101	SYN3	CCATCCAGGCTGGGAGGGGAAGAGTGC
109102	GSTM1	CTGCTTTAAAGGGCCTGCCTGGCCCCTC
109102	GSTM2	CTGCTTTAAAGGGCCTGCCTGGCCCCTC
109103	FXYD2	CTCCTGGACACAACCAGCAGCTCCTG
109104	RAP2A	AGAGTGTGTGTTTGTGTGTGCA

109105	MS4A12	AAATGATTCTGCAACTCTCTT
109106	C18orf2	AGCTTTCTTCCAAACTCCTGGGCC
109107	VPS41	TTTTTGCAACAACAAAAGCATTT
109108	STS	AACAAAAATCACTCACAAGCA
109109	KCNN4	CTGGCCGAGCTGAAGAACTGGG
109110	DPYSL2	GCTTTGTGTGTCTGTTAAATGAATGT
109111	ANK1	CCTAGAGAATGCTGCAGTCT
109112	ADAMTS8	TCTCCACTGTGGTGACTGGGTCC
109113	APAF1	TTGTGTCTGTGTGCATAGTC
109114	MTF1	CTCAGGGTGGATAACACGGGTCGTT
109115	C4orf1	GCAGGACAGCATTTGACTTTTA
109116	NIF3L1	TCAGGATAACACATTCTACAAAT
109117	NTSR1	TCACTAGCTTGCGGCCAGGT
109118	BTC	GCCTCTTTGGCGGGGTGTGTGC
109119	FBP2	TTTGAAGCATTCCAGCCAAAATGACGGACA
109120	DIAPH2	TGATTCACACATTCAGAAAAGA
109121	SLC19A2	GCCTCTATTCAATTTAATTCTTA
109122	PPP1R12B	GAGAGGCAAGCTCAGGAGCAGC
109123	NFYA	AGCATTTTCATTCTTCCCATG
109124	HDAC1	AGCCACCTTGCCACCCATTCTTCCCGTTC
109125	LPIN1	CTTGTTTATTACACTGGCTCGTGG
109126	MMP11	GGCAGGACTGGGGGAACTGGA
109127	DAB1	TTGCCCAATGGAACTCGCTCAGA
109128	MATP	GGAGGTGGTGGGCTCGCAGGAAGGT
109129	SCML2	GCATGAGCCACCTGCCCAGCC
109130	NGB	GAGGGGTGACTTCATCCCA
109131	CCR2	TAGTCTTCATAATTTCTTCA
109132	HTR2C	CTTACACACCTGAGAATGTGC
109133	SVIL	AAGCCCATGAAGAGATGGTGGA
109134	POLB	TCTTCTTCATGCTTTTGCT
109135	MPP1	GTTTTTAACTGCAACTTTCTA
109136	SEDL	GACTACAGGCGCGTGCCACCAC
109137	RHBDL	GAGGCTGCACAGGCCAGGGCTCGG
109138	DEK	AAGATCTGATTTATACCATTATACCAG
109139	CDY1	GGCTTGGAAACAGAACTGGAAA
109140	LZTFL1	TAGTGATTCTGTCTGGTCAT
109141	EVC	GGCTGCCCTGAAGCTGATGAA
109142	PPAT	AGCCCTGGGACCACCTCA
109143	MBD3	ACCCAGCTTTGGGGTGGTGCT
109144	PIM1	AAGAGGCTACAGGGCCAAACGCTG
109145	ADORA2A	AGCCCCAGGCTGGAGCAGCATG
109146	CALB1	CGCATATTCACACACCCAGACA
109147	DEC1	ATCATTTACTAGAAAGGCTTTTTCTATAA
109148	MRE11A	CAGAATTACTGAGTTTTTTAT
109149	DNASE1	CTGCCCTATCCTGGAAGATGGGGGCC
109150	CYP2B6	CTCCCAGGCTGGAGTGCTATGGTG
109151	RAB7	GTTAATATATGCAACCAATTAAAATG
109152	UQCRB	AATAGCCTCTTCACTGGTAT
109153	ALDH1B1	CAGGGGATAGAGGAGTAATTGTTAGTGGGC
109154	KLHL3	TTTTAGGTTTTCCCAGGACAG

109155	PTK2	TTCAATCATGATATTCAGAAAAAT
109156	SLC7A6	GACAGAAAGCAAGATGTCTAATA
109157	CASP8	CCTTTCTCTTACGCTTAAGGCT
109158	MPO	AGGCAGCAGAGCGGACTGGTGA
109159	PCDHA9	TTGCCCAGGCTGGAGTGCAGTGGTGCC
109160	HAS3	TGAGGGGAAGCCATTTTCCAG
109161	PACSIN1	TGCAGAGACAGAGCATTTGC
109162	NCOA4	TGAGTATGTAAAACATTCTTTTGCATT
109163	EHD1	TGTCCGGGCTGTGATGGCACCAAGG
109164	NDUFA6	CCTGGTGTACCTCTCAGTGGC
109165	FANCC	GGGTTCCTGGGTGGGAGGACTGT
109166	B4GALT7	GTTGGGCCTGGTGAGGGTTAGG
109167	D12S2489E	ACACCAGCGGTAACACTGC
109168	MECP2	CAGGTGAAGGAGGCTCCAGGCAG
109169	LGI1	CTTGCAAATGAATGCCTTTCAAACA
109170	C18orf1	AGGCCAGATACTGATTGCTAGTAGAG
109171	NOVA1	CCTGTTCTCCATCTGAACTA
109172	KRTHB6	GACTCTGCTGCCTTCTCCTTTGTCT
109173	HYAL1	TTCAAACCCAGGCTGTCTA
109174	MASP1	CGGCCTATCCATTACTGGGCAATAGAG
109175	SALL2	GTTCTTAAGAGTCCCAGCTCCAG
109176	ZNF264	GTGATTCTTCTTTGCTCTTATTTA
109177	SLC13A3	GTCAGTTGCTGCTTGTCCCAGCAGGTG
109178	RIMS1	AGGAAATATTAGTTCTGCTT
109179	PROC	CTCCCTGCAGGGCTGGGCTTTTGCATGGCA
109180	PCDH11X	CTGAGGCAGGAGAATAGCGTGA
109181	LZTS1	AGTGGCATGATCATAGCTCACT
109182	STARD4	AGTGGTATGATCACAGCTCACT
109183	SERPINB9	GATATTGCTACTATTTTATAGATTTC
109184	FMR2	TCTTGCCCCTTTTTGCGTCTGAC
109185	F8	AGGGCAGTGTCCCTCCCTGGCT
109186	TNFRSF11B	AGTATTTTTATAATTTTATCTGTATAA
109187	ADH4	TGGGAGCAATGGGGTTGCAGCTGA
109188	COL6A1	CTGCCCGCCCTCCCTCCTGCCTGCGC
109189	SLC25A5	CTTGACAGACTCCTGGCTGTCAGT
109190	PTK2B	CTGCCTGGCCACTGCTCCCTAAGC
109191	NEBL	TCTTCCTCTAGTCGCCAGCTC
109192	TMSB4Y	GCCCGATTTTAACCACTTGAA
109193	MLPH	CTTCGTCGCCTCCTTTCTCTCCC
109194	NEK6	GTTACTTAGAATTCATGAA
109195	PPP2R1B	GTGGACCCAGACGTGGAGTGGAG
109196	MYO1C	TCCCAACGCCCAAAGCTTTGCTTTT
109197	CHN2	AGCAGGAAGTGCAGGCAGAGTCCGGA
109198	KLHL3	ACTGAGAAGCTAGACTTTCATG
109199	AKAP2	CTGCTTTGGTTTTAGAGTGA
109200	ADCY3	CAGTCGCCTTTGCTACTGCTTTAAGAGAA
109201	MAD2L1	TTTCCTGAAATCAGGTCATCT
109202	PROL4	TCTAGAATTCAGTGGCAGAA
109203	HOXC5	CCGGCTCCCAGCCTCAGCGCGGCCCTC
109204	AOX1	GCCCACACACGTGCTGGTGT

109205	PIK3CG	TGCCTGTAGTCCCAGGTACTCAG
109206	REQ	CTTGGGGTGGTTGTGCCAGCCTGCC
109207	ACCN2	CTCTGAATGCCTTCGCCTGTATAAAGA
109208	CHN1	GCTTGTAATCCAGCATGTTTC
109209	ZNF16	TTTACAGGCTCCCTTCTCA
109210	COLQ	ATTGCATAGCCTTGTCCTCCTGT
109211	FBLN1	GCAGCCAGCATCCTTATCTGCCA
109212	ZNF9	ATGGAAAGAGCAACTGAAGTCCTAGA
109213	AICDA	GGCCTGAGACTTGCAGGGAGGCAAGA
109214	FGF2	TTGGGAGGCTGAGGTGGGAGGGTTGAT
109215	LTB4R	TGCTGGTTTCCCCTCTTGGCAGGGTGGG
109216	KLHL3	ACCCTCTCCCCAACCCCCAAGAA
109217	TEK	TTCTCTCTCATTTTATCCCTCA
109218	KRT1	TCTTTTCTGCTGTTTCCCA
109219	DFFA	CTCAGCCTCATCATTTGACTACCTA
109220	TMEM1	TGTGACTGGACTCTTCCGTTCTGGCT
109221	PPBP	AATAAGCCTGGTTTCAACCCTC
109222	HSPA5	GCTTGTTACCACCATGCTCGGCT
109223	NFIA	GGGACTGTTGTAATTTCTCAT
109224	HHIP	ATAGGCACTGGGTTTGTGTTACATATT
109225	AGTPBP1	TTTATCTCCCTATGGTTATATCCTGC
109226	HMGA2	TAATCACCTTCTTTGTAATCC
109227	DIA1	CACATCCCTGATGGCAGAACTCCCA
109228	ADCY3	TTATTTTTTGAAACTGAAGGAA
109229	CSHL1	CCTCTCCTGGCCCTGAAGGTGC
109230	ABCD3	AACTGATGTACTGAATTCCAT
109231	RNMT	CCAAATCCAGGGACCAGGCC
109232	SPN	GCCCAGGCTGGAGTGCAATGC
109233	RNF4	CCGTTTATTTCAGAAGCTTCCTG
109234	HPS4	GAGGAAGTGAAATGCCTCCACGGCTG
109235	RAD23A	TCATGTTTATTTAAGAAATG
109236	KIF3B	CCTAAGTCTGTAAGCTGGTGCCAT
109237	GRM7	TGGAATATTTGGAAAAATTT
109238	SLA2	TGCTAAGCCCTCTCTCCA
109239	PPP2R5A	CCTCACAACCTGTCCTTCACCTA
109240	EFNA3	TGTACAGACTCTATATCTCT
109241	DFFB	ATCATTTCTTATACCTTCTGACA
109242	CHS1	TTCATTCTGTTTCTACTAACCTATA
109243	FLT4	AGCATTTTCTTCTCTGCACTTA
109244	ACK1	GGGAGCCCTGCCCTGCCCATCC
109245	COCH	TCAGGAAAGAGGAGATAATGT
109246	PRKACB	AAGAGTTAAACTGGGTTCATTTTA
109247	TIA1	GCAGGGATTGCTGCCACTTTTT
109248	CDS1	GCCCCTTCTCCTCCTCCTACCTGGGCC
109249	MAGEA12	GGTGGAGGGAAGCAGGCGCAGG
109250	CAMK2A	GGGGAGAAGAGCATACGCCAG
109251	JAK3	GGCTCTCTGAGTCCTGGCCCAAAGAAG
109252	NOTCH2	TGCTTTTGGTTTTGCACCTCTCCGT
109253	KCNK10	TGTGATCACACTGACACCTGAGAG
109254	EGFL5	TGGGAGGCAGAGGTTACAGTGA

109255	GSTM3	ACTGGAGTCCCTGTGAAGACT
109256	SNAP23	GCTGTTCTTCTTTATCATTTATTCAC
109257	TRPM1	AGACTTGATTTACAATTTAATGCA
109258	TSNAX	ATGGAAATGCTTTTAGTAGTGA
109259	WNT5A	CTGCCTCACCCCTTTGTCTC
109260	VANGL2	CCTTTCTCCTAAACTGGTC
109261	AK1	CCCTCCGTTCCTCCTCAGCCTCCCTTTG
109262	FANCC	GCCCAGGAGTTCCAGACTGCCTG
109263	ACADVL	TCTCAAGAGCACTTACTGCCTCGCAAAT
109264	LZTFL1	TGAACATTCACTTAGCTTCCTCA
109265	PPYR1	TAGTTCAAGAGTCCTGGAA
109266	HOXB6	GCTGCGCTCCTCCTGGGTGCTATTT
109267	BCL7A	CCTGCACTCCACGCTGGCCAA
109268	FACL2	TCTTATAATGCTACCTGATTTCT
109269	SCD	CCCTGCTGAACACAGTGTC
109270	ZNF74	CGTGCAGCTGTGAGCGCGTGGCC
109271	LMO7	GTGTCTGACCTCAGGCCTT
109272	TLX1	TGTTCCCTCTTCTCTCTCTTCA
109273	BMP8	GGGGCCATCAAAAACAGGCTGATCACC
109274	SMARCC1	GCCACAAAAATGCCTTA
109275	GNLY	TCCTCAGATCCCGGGAACCTCAGCA
109276	PRKY	AGACCAGCTTGGGCAACATAGT
109277	SLC4A1AP	GGTACCACACTATTCACTGCTGCGTCG
109278	FMO4	CCAAGAGATAGAGCACAGCAAAG
109279	ICAM1	CCAAGAGGAAGGAGCAAGACTCAAGAC
109280	VHL	AGCCTCCCAAAATGGTGGGATT
109281	SRP46	ATGGAGCATGCAGTGA
109282	ZNF184	GGACCCGGGATCAGAGTGTGTGG
109283	PSG2	TACAGCTGTGATGTCATTTCTG
109284	RAB5C	GCTGCCCCCGCCTCCTCCGCCTGA
109285	PFKFB2	GTGTTTTCCTCACACTCCTTA
109286	SHOX	GGGCTCAAGCAATCCTCCCACCTCA
109287	GCLM	GCCTGTAAATGGTGTCATTGA
109288	ABCA3	AAGGGAGACCTGCTGTGTGGA
109289	SLC28A1	CTTCCCTTTCCCAGAGCCC
109290	XCL1	GAGTTTATACTCACCTTTTATGA
109291	TCTEL1	CACTTTCACAATGTAGAGGAA
109292	BTK	GCACACAGGTGAACTCCAGAAAG
109293	TARBP2	CCCTGCTCTTTCTGCCTCTGGGCT
109294	GPR92	CCTGCAGCCATAGCCCACATTCCC
109295	HHLA1	TCTCCCACTCTAGGTTCCCACGC
109296	SNX9	GCTTTCTCCTGACTTGGGGC
109297	HD	TTCTCCCTTCTCTCTTTTCTTCTCAGG
109298	CIAS1	GCTCACTGCAGCCTCCACCTCC
109298	GPR4	GCTCACTGCAGCCTCCACCTCC
109299	PCTK1	CTTGTCCCCTGCTGCCTGC
109300	DGCR2	GCAGGGCTGCCTGGAACACCGCTGC
109301	SLC22A2	ACCAGATCCTGCCAAATTCTTCCA
109302	UBE2B	TGCCTGTAGTCTCAGCTACTTAG
109303	FGF2	GAGGCTGAGAGGTCAAGGTTGCAGTGA

109304	MIR16	TTGACATTTTAAAACTTGCCAC
109305	COLQ	CCTGCAGGCTGTTTTAGTATGTTTTG
109306	EDARADD	TGGGAAAGATGCCACCGGTGTGGGGGA
109307	RORB	TTACCTTTATGTTAGACAATCA
109308	ZNF45	CTCACAAGAGTGGAGACATATG
109309	ACPP	GCAACATGGTGAAACCTTGTCT
109309	TACC1	GCAACATGGTGAAACCTTGTCT
109310	8D6A	ACCCGAGCTCCTGCAGAAGTGGCCCT
109311	ZNF261	TTGGTTGTTGGCACCATCTCA
109312	KCNS2	TGATTGCCCTGGAGTTCCTGCCA
109313	GALNT2	CTTCCTCCTCCACTCCTGGC
109314	E2F1	CAGGAAGGGAAGGAGTCTG
109315	AAT1	AAATGCATGAGTATGTGCACCA
109316	KRT17	TCTCCTGTGTGCCTGCCTCCT
109317	ADARB1	TCCTCCAGAACCTCACATCTGAACTG
109318	ALDH3A2	TGGAATGCAGCATTACCTGCT
109319	NDUFA5	TTTGTAATCAAGAAAAGTGAT
109320	CCR3	CAAAAAGGTAAAACTTTTTATATTTT
109321	DIAPH2	TTCTTGGTGCTCAAACCAGA
109322	PITPNB	TGGAGTCTTGTTTTGAAG
109323	CNTN2	TTTCCTGGGCAGGTTTATGTT
109324	RSU1	TTTAAACCATTTCCATTTGTTT
109325	TNFRSF10B	GGTGTCCTTTCATGCTTCTGCCCTG
109326	PTPN7	CTACCTGAGAGAATGAGCACCCC
109327	CRSP6	GTGCGTTCTGGGAAAGTTGCTGGGCCA
109328	CLN6	ACTGCCCTCTCCCTGCCTGGGGGCTA
109329	RERE	GGTGACCCCACATTGCACTGGTA
109330	TNNI1	GCGGCCCTTTTTGTTCCCA
109331	DNM2	GGGGATGGAGTCTCAGGGTGGC
109332	OSBP	CCCCAAAAGTCTGATTGGCCTT
109333	FEN1	AGCTGAGAAGGGAGAGCGAGC
109334	UPK1B	ACTACTTCCATCCCTGCTTA
109335	LRAT	AGCATTCAAGCACTTTTACA
109336	RAP2A	ACTACTGATATTTGCTTTTC
109337	NCOA6IP	TTACCGCCCAGGCTGGAGTGC
109338	PPARGC1	GCTGTTTTGTTTTAATTTTTGT
109339	NLGN3	CTTGGACGACCTGCTCTCTACA
109340	IL17R	TCAGCATTTATTGTGCACCTA
109341	VSX1	TTTGGCCTTTCAAAATTTGTGA
109342	ZNF8	GGCTGGAGTGCCTCTCTGGTCT
109343	GCK	TGCCAGACTCTCCTCTGAACTCGGGCC
109344	TLR5	CAAGTAGCTGGGATTACAGATTG
109345	G2A	ATGACACCTACCTCACTGGGTCACCA
109346	STAU2	ACAGCTATATTGTATTACAAA
109347	LNK	TGTCAACCGGGCTGGAGTGCAGT
109348	TTYH1	AGGGGAGGGGGCAGACAGC
109349	FCMD	TGCAGTGAGCCAAGATCGCGGCATTGC
109350	HPS4	ACATTCCAGAGGCTCAGGAAGTGGA
109351	SF3B3	CCACCACCATCACTGCCAC
109352	LASS2	GCATCCTCCCTCCTTGCTTGTCACC

109353	CCND2	TGGAAGGCAGGGCGGTCTCACTCCCAG
109354	FMR2	TAGAAATGTGTTTAACATCATCCAGTG
109355	PBX2	ACTTACCTCATACGCAGCT
109356	CLNS1A	GCCATGTTTTACCAGTCTGCT
109357	DFFB	CTGCAACCTCCGCCTCTCAGGT
109358	ATSV	CACCCAGGCTGTGATCTGTCCT
109359	NAB1	CAGTTTAAGCCAAGGAAAATA
109360	APPBP2	TGAAACACTGGTCCAGTCCATTGAA
109361	FBXO7	TTCTCCTCTAGATTGAAGTTTGTT
109362	IL12RB1	TGGCAGACTGGAGTGCAATCATGGC
109363	AGC1	GGCTGACGTGCATCCCACCCA
109364	CCK	GGCAGAATAAGACAACAATCACA
109365	SCN3A	AAGGTATTAATGATATAGTTAT
109366	INSRR	GGTGCGTCTCCTGGGTGTGGTATCTCAG
109367	KRT14	CATGACTACCTGCAGCCGCCAGT
109368	E2F1	TAACTGCACTTTCGGCCCTTTTGCTCG
109369	SCNN1A	CCCATCATCCTGCTTGGAGCAA
109370	ARHGAP6	TGGGAAAGATCTGTCAGAGGAG
109371	ATF5	CCTTCATCCCCCTGCCTCTA
109372	UPK1B	TATTGCACTCCATCCTGGATGAAAGAG
109373	NDRG1	TACTACTGCCTTGTACTTTTCATTTTG
109374	SH2D2A	TCTGAGCCTTTTGAGTCTGGG
109375	ADAMTS4	AACTAATTTTTGTATTTTTAGT
109375	TMPRSS3	AACTAATTTTTGTATTTTTAGT
109376	FECH	CCAGCATCTTCTCTATCTTAGTTGAAT
109377	PCSK1	CCTTGATACTAAAAGTTCTTCTCCAAT
109378	PAX5	TTGTCTATTTCTAAAAGCCAAT
109379	NTSR1	CTTCAGCTGTGGCCTCTCGGGC
109380	MAPRE3	TGGGACCCCTGTCCACACCCACCCTATT
109381	ATSV	CCTCCCCACCCACACCCACAG
109382	CCRL1	ATTTTGTATCTTGGTTGCAGTG
109383	PRKWNK3	GGCTCACTGCTGCAACCTCCCCCTC
109384	DUSP2	GGTGCTGTGTCACTGGGTGG
109385	NFATC3	CCGGGAGGTGGCAGTTGCAGGG
109386	HADH2	GGGGCCATTCGTATGCAGCCT
109387	P2RY1	CCCCAATTAAGTTGATCTTTGA
109388	KMO	CTTCGACTACATACTGCAGCA
109389	GNAT1	AGGGTTCCCTGGCAGGGGAA
109390	NEU3	TCATCCAGAAAGCATCATTT
109391	PGR	GTCCAGCCACATTCAACACCCA
109392	CIT	AGACTTGCTCGGAGCCCAGCACTCCT
109393	IL1RAP	GTCACCTATTCACTAGTGCAGGAAATA
109394	P53AIP1	AGCACCGTTGAGGTTGCAGTGA
109395	ASPH	GTCACAGAATATGATGTAATA
109396	MAP3K10	CACCACCGCCCGCCTGGGCAG
109397	ATRN	TCCTCTTTGTTTGTTCAAAGGACCAGTTT
109398	ADAM19	GGGGAAAGGGAATATTGCA
109399	BSN	CAGAAGCTGAGGGACCAGCAC
109400	NONO	CTCCATCTTTTTCTTGGGGTGAGGGAC
109401	EFNB1	CCCCCTTTTTCCCTGCCCC

109402	TPM4	TAAGTTGAGCAAAAGAGTTTTTATCT
109403	IL21R	TACTCCATGCATTCACCTGCCC
109404	HOXA1	GCCAGGATAATATATTTGCAG
109405	BMP1	ACTGCATCTCAGCCCACATCTCA
109406	SARDH	CCCATCCTGTGGTCACTGACTGGAA
109407	MPP2	GGCTGGAGGAGTCAGAGTGAGAGC
109408	TPST2	CTCCTATTGACCCTTACTTTGAAT
109409	TM4SF4	ATGTACTGCCATACTACTTCT
109410	KLRD1	AGATTCTTTAATCTCCAGCT
109411	TAPBP	TTGCCCAGGCTGGAGTGCAGTGGCACG
109412	PSA	AGAACAACAGCAAAACATC
109413	BMP6	AATGGTGTTAGGGGGATGAGCAT
109414	ZFP36L1	GGCCTTTCACAACTAGGACTG
109415	CBFA2T2	CTCCCAGGCTGGAGTGCAATCG
109416	FGF12	GAGGTTAGCAGAAAATGAAATGA
109417	EIF3S10	CAATTTTCACACCCTTA
109418	MEOX2	ATTAAATCCAGGCATTTCGAA
109419	SLC17A5	TGCCTGTAGTCCCAGCACTTT
109420	HOXB13	GCCAAGCCCAGGCTGGGGCCAAGG
109421	GJB3	ACCAGGAAGGGATCAACCCAGGAAG
109422	TRPM6	ACCAAGTATACTGGTGAAATCTCG
109423	POLH	TTAATATTTTATCTTTACAGATTTCC
109424	CMAR	ACCCTGTGAGCCGATTGTCCT
109424	SPG7	ACCCTGTGAGCCGATTGTCCT
109425	H3F3B	GTGCAGCTTTTCATTGTGTT
109426	PHEMX	CCATGCCCCACACTCTGAG
109427	ARAF1	TCAGAACCTCTCTGGAATTTGTG
109428	ARHGAP6	CCTTCCTCCTCCTCTTCCTGACCCTC
109429	SRP68	GCTGCTGTCTGGTGCCCTGTG
109430	FGF7	ACTTCATCTTACTTGCCAC
109431	SNAI2	ATTTTTGTTTTGTTTTGTTTTTGCC
109432	LDHC	GGTCATCTGTACTGATTGCGCC
109433	M17S2	TGGGAGGTGGAGGGAAAGAACTACTAT
109434	SPTBN1	ACTCCTTTCCTTCACCTCCTGCCCTTCT
109435	BACH1	ACACTCAAGAATTTGTCAG
109436	TEM7	GCATCTGGAACTTTCTCTGCCT
109437	LIFR	TGAAAAAATATATCCAATCAGAGCCA
109438	OAS1	TTCCAAAGAACTTACCTCTTGCCA
109439	PPOX	TCATTTTCTCTCATCCCTACCTATTGTG
109440	ENC1	GATAAATCCTTAACATTTCTCTCCA
109441	IL9R	TGAGGCACCTTTCTAGAGA
109442	ACCN1	TGTTCTGAGGTTTGCTTTG
109443	APPBP2	TTCAGTTATATTCAGCATGTACCGCA
109444	RXRA	GCAGCTTTCCAGCCTTGGTGGGGAAGA
109445	FANCC	GCCTGGAAGCCCTGACCTCGG
109446	NCALD	CACCTGGGTCTGTTGTCACAC
109447	FUT6	CTGCCTGAGGACTCACCTGCCT
109448	IL5	GTTGCAGCCAAAGATTTTGGA
109449	SLC25A15	GAACCCGGGAGGCAGAAGTTGC
109450	PRM1	GCCACATCTTGAAAATGCCACC

109451	BACE	CCACCCAGACTTGGGGGCAGGCGCCA
109452	CYP2A6	GGGAAGAGAAGAAACAGAAGCG
109453	PPP1R3A	ACTAGGTTTGAATGATCATGT
109454	LPP	CTCATAATCCTTCTGCAACT
109455	MLC1	TGCCCAGCTTGGAGTGCCACGTGGCC
109456	P53AIP1	TTTGCTGTCTCTGTCTTTGTC
109457	PMCHL1	GGTCTGGAACTCCTGACCTCGTGATCC
109458	RTN3	TCACTGGACACCGGTTCTGAGCATTA
109459	PRPS1	GGGGAAAGACGGATTGAGATT
109460	EMR1	CCTCCAGCGCCTATCATACGCC
109461	GJB3	GCAGGGGTGGGGCAACATGCGGG
109462	APBB2	CAGACCCCAGTCCAGCCCTGAA
109463	ATP1A2	AATTGCTTGAACCTGTGAGGAAGAGG
109464	TNFSF8	TGTGACTGAACCATGCCCAGTT
109465	CORO2B	TCACCCAGCAGGTCAACAATG
109466	HAS1	CTGGGCCTCAGTTTCCCTCCTCTGCCA
109467	TCL1A	TGCACACCCACTCAGCTCC
109468	RANBP3	AGCTGCCTGTGAATGCACTGCT
109469	GPLD1	TGCCTGTAGTAGTAAATTG
109470	HS3ST4	AGATCTCCTCCTCCTTCATGCA
109471	JMJ	TAACATTCCATCTCCATCTC
109472	SEDL	TCTTGAACTCCTGACCTCGTGATCTGCC
109473	TACSTD2	CCTTTCAAATTCCTGCCTTC
109474	UBE2B	CCCACCTGTAGTCCCAGCACTT
109475	AKAP2	GACTATTTATTAAAGTGCAAA
109476	MMP15	AAGGGGACCTGGAAGGGAGG
109477	IGJ	ACGTATTCTCTAGCACAGTCTGAGCAA
109478	SIGLEC8	CCAAGTAGCCGGGATTGCAGGC
109479	TLR9	CCTACAAGGGCAGAAAAGGACAAG
109480	ETV5	CACAAGCTTAGATTCTCTATGTAT
109481	PSAP	GGGACCCTCCCCGCTTTCCTGGGCC
109482	MECP2	CGGGCCCCACCTGCAGCTCCCTCA
109483	SIP	CAGGAGTTTAAGGCTGCAGT
109484	MTMR3	AAGCTCTGGCCCTGCCCTGT
109485	RAI2	CATTTTCTTTTTTAATTTTTGA
109486	FAT2	CCTGCAGCGACTCAACCCTATGCA
109487	NBS1	TAGAGAATGAGAAATGGAACA
109488	GOT2	CCACCATCTGCTCTAACCATGTA
109489	NRCAM	CTCAGTCAAATGATATGTTAATA
109490	ARMET	GCTGTAGTGCCTTCTGCGCCA
109491	ICOS	CCTGGAGCAGCCCTCCAGACCTGGGT
109492	CDR2	CTGATCCACTTCCATTTAAGCTCC
109493	CALML3	CCAGCCCTTGGCCCTGCCATGGC
109494	SMG1	TCGCCTCGCCTTCATCCGCCTCTCTC
109495	SLC15A1	GAAAGGCTTATTTAAGCCACA
109496	GAS7	CACGCCTGTAATCCCAGCTCTT
109497	SURF5	CCCCTGTGGCAGAAGCAGTT
109498	FCRH3	TGCAAATCTCCCCTGTGCCTGATC
109499	JPH2	GGGCTGAGGCCTCCCAGGGA
109500	PTTG1IP	TGCCTCAGCAGCACCAGTTG

109501	SSX4	CCATCTGCTTTTCTCCATTGCC
109502	LAIR1	TCAATGGACTTCCTGAGAAGGACAGA
109503	SERPINB9	ATGAGGGCAGATTCCTTAC
109504	MTR	GTCGCCCAGGCTGGAGTGCAGG
109505	MAB21L1	TGCCTAACTATCAAAGGATTATAGCAA
109506	CRACC	TCTTAATAAAACAGATATT
109507	SPANXA1	TGGACAAACAATCCAGTGCCG
109507	SPANXC	TGGACAAACAATCCAGTGCCG
109508	KCNAB2	CTCTCCTCTGCTGAGAATCCCC
109509	ANXA2	CCTGGCCTTCCTGTCTAGTCTCTCCTGTA
109510	ISLR	GATCCAGGATGGCTTCCTTCCTC
109511	BDP1	AGTGGTATGATCTCAGCTCACT
109512	CIAS1	AGTGGCGTGATCTTGGCTCACT
109512	FUT1	AGTGGCGTGATCTTGGCTCACT
109512	KCNJ11	AGTGGCGTGATCTTGGCTCACT
109512	PRND	AGTGGCGTGATCTTGGCTCACT
109512	SLC7A6	AGTGGCGTGATCTTGGCTCACT
109513	AIM1	GCTCACTGCAGCCTCTACCTCC
109514	SLA2	CCATCTGGATGCCCTGCCTGTTGAGCCCC
109515	CSE1L	ATTGCCCAGGCTGGAGTGCAGTG
109516	SLC6A8	TAGAAGCTTAGAGAGCCA
109517	XRCC2	TCCTAGAGTGCAGGGATTACAG
109518	E2F2	CAGTGCCACCACCGCAGCCGC
109519	ICMT	CTTCACTGCACTTTCTTCCTGCCT
109520	EIF4EBP2	ACCTCCCCGTCTTCCTCTGGGTGCCA
109521	PTGIS	GGAGGCTGAGGCACCAGAATTGCTTGA
109522	SET	CTTTCTGGTATAAAGCTCTCAA
109523	MGAT5	CACCACACCTGTTAACACAC
109524	PHEMX	CAGCAGGTCGCCTCCAGCCTGA
109525	COL16A1	AGGACTCTGTGACAGGTTGTGAATGT
109526	GNLY	AAGCACAGGCTCCTGTCCTCA
109527	HOXC10	TTAACCAGAGAGGGTCTGTA
109528	BTG2	TGTTCTGCAAGACTACTTGGTATTCT
109529	CLASP2	GGCAACTTCTGGATGTGCAGC
109530	GPR92	TCTCTGCTGCTGATGAAGCT
109531	VHL	TACGAGAAAATCTGCATGTTTGA
109532	KCNS2	GGAGAGGGGGCTCCGGGAGCGGC
109533	AHR	GGCTCACTGCAACCTCTACCTC
109533	AQP6	GGCTCACTGCAACCTCTACCTC
109533	DISC1	GGCTCACTGCAACCTCTACCTC
109533	RHD	GGCTCACTGCAACCTCTACCTC
109534	LDLR	GGAGTCCCGCCCCTGCCCAGAAC
109535	OCA2	CTGAGGCTAAACACAGTTTGTT
109536	ALS2	CGCTGTATTCCAAGGCCTGTGA
109537	EML1	TTTATTGTTTACATTGGGGA
109538	SCA1	GGCAGAGAAACTGAGAGAAAAGGGAT
109539	DDEF2	TAACTGCATTTGTTGTGATGGTGCATT
109540	RANBP17	AGCTCTGCCTTCTTAGGGCTA
109541	RAGE	CTTTTCCGTCCAGTGTCGGCA
109542	DDC	GAGAGCAAGTCACTCCCGGCTGCCTTT

109543	KPNB1	GCACTGACTTCGTAGAAAACCATAA
109544	TLL2	GAATCATTTTCTTTCTCTCTGC
109545	UBE3A	ACATGTGGGCTGGAACAGCAGA
109546	FUT1	AGCTGGGGTAGTTGGTGAG
109547	GSTM4	GGCCCAGAGAGAAGAAAAAGAC
109548	EIF2C1	CTGGGGCCTGGCTTTTCTGAGATTGTC
109549	GJB6	TCCATTCATACACAACGTAATCA
109550	AMD1	TTTACAACACTTGTGAAAGCAACTC
109551	SF3B1	GAAATAAACATTTGTGTACA
109552	ZFHX1B	TTTTTCTCCCCCACACTTCGCGGCT
109553	SLC3A2	AGAATGCTGAGGTTACAGGCACCATGA
109554	ADRA2B	GGGTACTGGCATCAGAGCCTGGTGC
109555	NXF5	GCCAACTAAGACACACTCCTTA
109556	FNTB	AAGCAGCTGTGGGCTGCGGGCAGACA
109557	IL6R	GCTGCTTGAGGCAACTCATCTTA
109558	SLBP	GCCAGGCACCAAGCATGTGTGTGC
109559	KIF1B	TGCTTGTAGCTCCTCACAGCAGG
109560	ESR1	CACAGGCAGATCTGCTTGGGGAAGCTA
109561	KCNN3	TCCTGCTCTCCCTCCCTGCCC
109562	GJB2	TTTAAAGAGGTGAGCTTGG
109563	RAGE	GGGCCAGGCCTGGGTGATCTGCTGC
109564	MADH7	CTGCTGTCGCCTGCGCCTGCTGC
109565	DNASE1L1	CACAGCCCTATTCAGGCAGGAG
109566	STK38	TGCCTTCTGTTTCACAGCTGCCACC
109567	THBS3	TTTGGCCTTGGGGTCCATCCTGGA
109568	RNF14	GCATGAACTCCACTCTGAG
109569	SHMT1	CACCTTCCCAAAGAAATTTTA
109570	FANCE	GTGATCTTCCTGCCTTGGCA
109571	HHLA1	GTCCTCTTCCTGGCTCAT
109572	TCF7	TCCAGTGAGCCGAGATGGCGCT
109573	GABPA	TCTTCTTTTATTTCTAGGCTGTAC
109574	CAMK2A	AGGCCTCCTGTCTCCCTTCAAAGGGA
109575	NFE2L1	AACAACTGGGCTTATCACTGGG
109576	IL8RA	AGCTTCCAGGCTGGCGTGCAG
109577	NEUROG1	CCGGCCCTCAGCCCAGC
109578	GABRP	ACTGGGCATACTACATGTA
109579	MYBL1	CTACGAGAGAAGGAAAGAGCG
109580	SOX5	GGTTCATCCTTACCAGTGGCCA
109581	CIAS1	TCTCAAAGTGGAGACTTTAA
109582	ABCB4	CCAGGTGGCAGGCAGAGCAGGATGCAG
109583	CTPS	CCATTTTTCTTCCAGGATGGTGTTAC
109584	SLC22A12	TAACCACCATCCATGGTCAAGAC
109585	COL5A3	TCTCCTGATCCCAGGCTGG
109586	HNF4A	CACCTTGCTCAGCCATCCCGTCTTCT
109587	RNF3	CTGCCCCTGGGCAGGGCCATG
109588	AQP6	CCTCTACCTCCTGGGTTCAAGGGATT
109589	OPA1	CAAAGTAATGGTTTTTCTCTCAGTTC
109590	IDE	AGAGCCTAAGAAAATCATCTTGGCCAC
109591	GPR44	TGCCTCCAGGGCTGGAATC
109592	ITGAL	CACCTGAGGTCAGGAGTTAGAGGC

109593	PTGER4	ATCCCGCTGCACCTCTTGTTT
109594	PLN	AGCTAGAGAAAATGTTATTTAGAA
109595	CDK5R2	AGTGGGGACGGAAGATGAGCGC
109596	ADAM23	GGGGGAGGGGGCAAAAGACCATGC
109597	FCAR	TCCAGCCTGGGTGACAGAACG
109598	DMD	ACTAGCAATGGCAAAGCTTT
109599	ZNF43	AAAGAGGATTGTGATGTATCACTGGA
109600	RAP1GA1	GGGAGAGAGAGTTTGAGACAG
109601	MCP	GTGGCATTTGTTTTCACTTT
109602	GABRE	CTAGCCCTGACCCAGGCACTAG
109603	G1P3	GCATGCGCCGACGATGCCCAGAATCC
109604	BHLHB3	TGAGGCTCTTTTTAGAATTGAATT
109605	RASSF1	GGACTGGGGGACGGGCGGGTACGGC
109606	RP42	AGTCCCTGTCATATTACCAAC
109607	TCF2	TTTGTGCTTGGGATTACAGTTGT
109608	BACH1	TCAGTCTCTACCATATCTGGTCCCA
109609	TCTE1L	TTGGCACATCAAAAATTCTCAGTCAT
109610	TAF7L	TGAAGAAGTGGGAGAGCCATTGG
109611	CNTF	AGACAACAGGCATTTTCTTTCTTT
109612	CASP2	GAGGCTCTTGCTCAAGTGTTTTCTGA
109613	TRPM2	TCCTCTCAGAACATCAGCCTCA
109614	RUNX3	AACTGATTTTAGAAAAAGAAGCTT
109615	SURF4	CACTGCCTTATACTGTGT
109616	SLC1A3	GTCGCCAGGCAGGAGGCCAT
109617	TEC	CGATCCGACCTCGCAGTCTCCCCA
109618	FGFR3	TGGCTCAGGGTGGTCTCTTCTTGGGGC
109619	CHST6	AGGGAGAGAGGCGTCCCCCA
109620	MLLT7	GGAGTGTGTGGTGTTAGGGTGCA
109621	PSMB5	GACTATTTGTTTTACTTTCTTGGA
109622	RS1	GTATATGTAGGGACCCCAAA
109623	NDRG1	GCATTTGGAACAACAAATCT
109624	POU2AF1	GGAGAGAGGGGTGTGGGAGGAAGC
109625	SFRS1	AGAACCCATGTTGTATACA
109626	ADAM8	TCTGCAGGCACCAGGCTGG
109627	C18orf1	ATCCAGGAGACAAATGACAGA
109628	WHSC1L1	GGAACAAACTGAAGGCCCG
109629	AVPR1A	ATTTCAATCTTCTGCCTCCTGGATATCT
109630	ZNF179	CCTTTCTCCCCTGGGCT
109631	GGA3	TTCTGGGAAAAGCGTGCCTCC
109632	PRPF31	AGGCCTTGGAAGAGTCCGGCC
109633	BHMT2	CCTGCAATCCCAGCACTTTGG
109633	F2RL3	CCTGCAATCCCAGCACTTTGG
109633	PRKY	CCTGCAATCCCAGCACTTTGG
109633	UBE2G2	CCTGCAATCCCAGCACTTTGG
109634	GAC1	CACAAAGAGCAGGACTCCAGAC
109635	LETM1	CCCATGTGTGTGGCCTCAGTCTCAGCAT
109636	FCGR2B	CCTGCTGTCTTCAGCTCTTCTTGAC
109637	GFER	CCTACCCTCTCCCTGCCTGGCACA
109638	ARNT	GTGGCAAAAATAATGACATGTAGCAAA
109639	IAPP	AGATTGCACCACTGCACTCCAGCCTGGG

109639	IL6R	AGATTGCACCACTGCACTCCAGCCTGGG
109639	TRIM14	AGATTGCACCACTGCACTCCAGCCTGGG
109640	OPCML	GCAGCTGCTTCTCCAATGGCTT
109641	NF2	GAGAGGAGGATGGGCCTCAGGAGCATCTCAAG
109642	ITGA5	CCCTGAAGCCTTTGCATTTTGGA
109643	CBS	CCCTCCCGTCTTCCTCCTCCCCTGGCAACTG
109644	IRTA2	ATCTTTGTTTCCCCACCTCA
109645	POLH	TGGGGTGAGCTGAGATTGCGCC
109646	PTPRK	CTTACATTCCTTTTTTGATG
109647	FRAT2	ATTCCACCCTTTCTGGTGTC
109648	IHH	AGCTGGGGGACACTGGCTCCTGCCATC
109649	ZNF265	GTGACAATGCAAGGTAAGTA
109650	MGAT5	ATGATAGTACAAGACAGAGGTTG
109651	BCL2L11	TCAGTCCACTTAAGGGCAGTGGG
109652	ARSD	CTCTGTCCCCATCATTCAGTCACCTCC
109653	MCM6	TCTGTGTCCTAAGGGTAATTTCTC
109654	MFAP3	TCAAGAGGAAGAAAAATGATGGA
109655	TRIP11	ATGATTCTCAAGCCAGAGACAA
109656	KCNA6	CTAGCCCGGCTGGAGGGCGG
109657	CHAC	CACCGCGCTCCGCCTCCAGCC
109658	DDX6	TGTTCCACTTGTTTGCACTGT
109659	PCDHB16	TGACAGTCTTCTCTTTGTACTC
109660	NLGN2	GCCCAGTCTCTTCTCTGGATCT
109661	IAPP	TTTGTTGTGCTTGCTGGTACT
109662	NR4A1	GTCTCTCCCTCCCTTGCCA
109663	CLASP1	CTGCCTAAGCCGTTCAGTTCT
109664	AKAP13	GTCTTCTCTCAATTCCAGTCATCTC
109665	TOP1	CATCCTTTGTTCTGAGCATTCGCTGT
109666	SF1	TGGTGGACAGGATGGTTCGGCAAAG
109667	IL15RA	CACCCTGTCTCCAGCTGCTCTG
109668	GPR84	GGCATTTTCACAACAATCTCTCC
109669	NOTCH1	AGAAAACAAGCAAGTTCTGAGA
109670	PTPRZ1	TGAAAGAAGTTTTTATGAGAATAACAC
109671	MBD1	GATGGATGTAAAGTGTGGG
109672	RARA	GCCCCCACTGTGAAGGGGCTGGCC
109673	NQO1	CTACCTGCCTAAGGGACTTAACTTGTT
109674	RAD51L3	AACCTGCCCTCGGACGCTCCTGGAGCT
109675	C14orf1	ATCATCTGCCCTTTTATTCAC
109676	CDY1	CAGAGATGGTGCCCTTGCTTTAT
109677	CDH17	GGAGTCTTGCTCTGTCGCCCA
109678	TNFRSF10B	GTCTTTGCACTTCCATCCTCTCC
109679	MAPK3	CCACCTCTCTCCTTTGCTGAGGCCTCC
109680	UBL3	GGAGGGTAGTTTCAGTCACTCA
109681	SCAMP2	CTTGCCGTGGCTCTTCCTCCTCCCTCA
109682	IL12RB2	ACAGGCAAGCCAGCTCTGG
109683	PRKAR2B	GAACTCCAGATTCCTGGTTCAT
109684	CRHR2	CCAGCTCTCCAGCCTGGCAG
109685	IL11RA	ACTCTGCTGCTGGGATCACC
109686	PSG4	GGAAATGTGGCTCTCTCCA
109687	MECP2	TGGAAGGTGGAGCGTTCACCAGTGA

109688	CCND2	TCTAAACAACCCAGAATGGTC
109689	IL21R	CGCCCAGGCTGGAATGCAGTGG
109690	LZTS1	TTGCGAGTCCAAGGCCAGTCC
109691	EHD4	CAGTCTCCAGCAGAGCAGGCAGTCA
109692	PBX1	CTGCCCCTGTGCCTCTGTCCTAGACT
109693	DDX6	AGCCAGTACCAGCTTTGGTAATGTTAG
109694	SH3GL3	CTCTCAGTGCGGTGTTCTGTGACAT
109695	ERBB2	TTTGCAAATATATTTTGGA
109696	C1orf1	TGAGTCCTGGCTCAAGTCAAT
109697	TMEPAI	CCTCTTCTTTTTTCCAACTGTGA
109698	TGFA	TTCACCTAGGTGAGGTGTGTGCAGC
109699	PKHD1	GTCTTAGTCCTTGCCCTGCCTCAG
109700	PAFAH1B1	CCCTGCTCTCCCGTTCGCC
109701	CRYZL1	CCTATGATGGTGCCATTGCACAG
109702	GALNT3	TAATGTGTATTATGTGCCTA
109703	ATRN	ATACATACATTTAGGACTGCAATTTTT
109704	CACNB1	CCCTTTCTCCCATCTTAAGGGGCT
109705	LZTFL1	GTTCATTTTTTCTCTTTAT
109706	MPST	CGTTGACTTGTTGGCTGCCAG
109707	PEA15	TTTCTCTGTAAGGCAAAATAATCTAAAA
109708	CROT	GTTATGTTTGATGGGAAAGACCACTAC
109709	MEF2A	CAGGCTGAAGTGCAGTGGTGTGATCTC
109710	SOST	CTCCTCTGGCTGGTACCATG
109711	TERT	GGTCCCTGTGGGTCAAATTGGGGG
109712	MMP13	TTCAGAAGTCACACATTACAAA
109713	SOX1	CGCTTTCTCAACACCCTTCCTTGTCC
109714	TUFT1	GGAGACACAGATGTCCAGAGTGAT
109715	BAT4	GAGTGGATTCCTGGCTCCAGAAAATGGGCT
109716	FMR2	CATTTTCTCTCTGGGCCTGTAT
109717	IDH3B	TATAAGGGGGAGCTAGCCTCCT
109718	FMOD	CAGAAAGCATCTGCATGTGAA
109719	CMAR	GAGGGCTCACTCAGCCACCCTGAG
109719	SPG7	GAGGGCTCACTCAGCCACCCTGAG
109720	NPTX2	TCACTGTATTGGACGGGAGTAGTAA
109721	C1orf1	AGGCTGAGGTGGGAGAATTACC
109722	ARSB	CCTGCCACAGGCTGGGCTCTTGT
109723	UCP3	ATGGCAAGCACGGGACAGGAGGGGC
109724	DUOX2	TCCTGCAGCCCTCCAGACTTCCTG
109725	RBP3	TCCTGCAGGTGGCCCGGCCTG
109726	DLG5	AGCGTCCTGTCCACCATGCCCTCA
109727	POMC	CAGCCTCTTAAAGCTGCCTGTA
109728	MYEOV	TCCCTGCCTCTTCCCTAACTAGACAAT
109729	GRAF	CTATGTTCACTGCCACTCTGAA
109730	HS3ST4	GCTGTTATTAAACTGTCATTTCT
109731	PTPRJ	GAGGGCATGAAGCTGCATATGATA
109732	CENTD2	GCCTTCCTTCCAGTCTGGGCT
109733	PTGFRN	TACTACACAACTTGCTACTTTC
109734	CRHR2	GGCTCAGCGCAAGAGGAAGCAGAGGGA
109735	INPP5D	AACGGGCGGCAGGTTGCAGTGG
109736	GPC4	TGCCATGGTTCACAGCAATGTGCTACGAT

109737	SIRT5	ATAGCCTCTGATTCCCTCGCTG
109738	NRCAM	ACTCTGCAGCATTAAACAACGTGTA
109739	TRA1	GCGCGGCTGGAGGTGTGAGGATCCGAACC
109740	PTK7	CCTAAGTGCCTGGCAGATGAA
109741	AHCY	AGCTCACTAAGTCAGTCCTTCCT
109742	SLC13A3	GGATTCTCCTGTTTCATCTG
109743	TEM7	CCCTTTCCTTGCTCCAACTCCTTGTC
109744	MOCS2	TGAAGTATTGTATTTTGCAAAA
109745	HPN	CCAACCTCACCCTCCTGACCC
109746	RIG	TTCATCTGTGAAATGAAGAAA
109747	RPL27A	AGCCACATGGAGGGAGTTTCAT
109748	ATP6V1E1	TTTCTCTCACCTCACCTTTCA
109749	ORC1L	TCTACAAAGCATCTGATTTTGGA
109750	CDC42	CTGCTCCCTGGTTCCACTCTGGAGAG
109751	C8A	CACAGGCTGGACCAGATGCTGT
109752	PMX1	AAGGAAAAAGGAGCCCAGCAAGA
109753	FBXL4	GACCCTGCAGGGTAAAAGAA
109754	PRX	TTTCCCAAGTTCTCCCGCCTGCGTCGG
109755	MAPRE1	TCTGCCAGGCTGGGGTGTTTTCGGTA
109756	CTNS	AGTGTGCGGACAGAGGAGACCA
109757	SF3B3	CAGCTCTTTCCCCTCAGCTCTT
109758	BRCA1	ACATCAGAAAAAGCAGTATTA
109759	WWP2	CGGGCCCTGGGGCTAGGCCAT
109760	SEDL	GTTGTGCAGGCTGTAGTGCAGT
109761	NEU3	TGTCCAAGGCTTGTCCAGGCTTCTGGG
109762	HTR1D	GGCTAAATCCAGAATCGTTTCA
109763	LPIN2	TGAATGGCTAATATTTTGGTGCAGTG
109764	TP73	TGTGGACAGCCTGAGTCACCTG
109765	PCDHB9	TTCTCTTGTAAGTGATATGA
109766	WNT8B	CTAGAGGCAGAGGTTGAAGATGG
109767	BIN2	CGGGAGGGATGGAGGGAGGCAGG
109768	UBE3A	AGTATGTGCTACTTTTTTGTCCCT
109769	HEM1	TTCTGGTGACTTGAGCTTGA
109770	APTX	GGTGAAGCTGCAGCCTGGCCAGG
109771	BCL7B	ATCTGTGACCTCCAGGCAGCAG
109772	SOX10	CACCCAGGTTGCTGTCGGCAGG
109773	AMFR	GAAAGTCCAGGGCTATAGGGTG
109774	ESRRBL1	GGTTTTTTATATCAAACTATA
109775	NAP1L4	CTGGACTTCCCTGGGCCTTTCCCTGTGG
109776	CASP2	TCAGTACTGCAGCGCCACCCAG
109777	GCNT1	TGCTCTAATACTGTACTGTGTA
109778	TBX5	CTCCTCTCCCCCTTCCTAAGAA
109779	RCN2	TTGTGGAATATTTGAGTTCTATTTCCA
109780	SMAC	TGTTGCCCAGGCTGGTCGTGAACT
109780	TAF11	TGTTGCCCAGGCTGGTCGTGAACT
109781	RET	GGGTAGCGAGGTTGCAGGAG
109782	CR1L	CAGTGTGTGAACAAATCTTT
109783	PPFIA3	CTGCTCCCTCCCCTTTTTC
109784	HGF	TTGAATCAGATATTTTATCAA
109785	DVL3	CAGACAGAGTACCAGGTTTT

109786	RABL2A	GGCTGAGGACTGCAAGAGGAGA
109786	RABL2B	GGCTGAGGACTGCAAGAGGAGA
109787	OPTN	CAGGAAGTGGCAGTTGCAGTG
109788	EDARADD	GGAGGGCAGGGGCGCGCAGAGCCA
109789	RP2	ACAGATGGGAATATGAGTGC
109790	IL17BR	GCTGCCAGTCCTCTCTGGGCCGCAGCGGACC
109791	CD59	GTTACTGGTAGAAAGGCAGTTCAG
109792	MGAT5	ACAGCCTGGGTTAGTCTCTTA
109793	EBAG9	CTCCTGTTTTTCTCATCTGTGCA
109794	SLC1A4	GCTGGGCTTTGGGCTTGCCTGCC
109795	FOXO1A	GTTTCAGGCCCTGGTTGGGCAG
109796	EFEMP1	TCTCTATACTGTACACTCACCCATAA
109797	ZIC3	CCTCCTGGCCCCGCGGTTCTGTGC
109798	MTL5	AACGTGCACTTCCTGTCCTCGCTGCT
109799	RAB36	GATGGGGTTTCTCCATGTTGGTC
109799	SCML2	GATGGGGTTTCTCCATGTTGGTC
109800	MIA	GGGTTTATGCAAATACAATCA
109801	TPMT	AGTGGTGCGGTCTCGGCTCACT
109802	GGA1	TGGCCTCTGCTGGGGCC
109803	NOTCH2	CTGTGTGCAGGTCTTCATATAAACTTTA
109804	TEM8	ATGTCATCCCTAATGACACATGCC
109805	KRAS2	GGCGGCGGGGCCAGAGGCTCA
109806	MN1	TCCATCCCCAGTCCAGCCTGGG
109807	FHL2	TCTGTAACCTCCCGTTGCGTC
109808	SLA	TCCAGATGTTTGCACAGTATCT
109809	IL18	CCGGAGGTAGAGGTTGTGGTG
109810	BRCA1	AGTCTCCCAAGTAGCTGGGACT
109811	GRB7	CTCCAGTTTTCTCCTCTGCTTC
109812	BTRC	TCTCCTCCTTTCACCTCTGC
109813	POLR2C	AGTCATTTTCAGTTGTACCTTA
109814	DMC1	AGCCAAGTGCAGTGGCATG
109815	GARP	GGTTTGGTGCGGTGAGTCCTGCC
109816	RGS3	TCCCTCGGGGGCTTTGGGAAAGCATGG
109817	BCL11B	TAGAGTGCCTCCAGGGTGGTCTTCCT
109818	B3GALT5	TACCATCCTAATTTTACAGGCAAGGAC
109819	WBSCR1	AGGGAGTCCACGGAGAAGATGCAGTGA
109820	JRKL	GTTTTGTATATTTTAATAGACTGA
109821	GPR35	TTGGGAAGAGAGAGGGACAG
109822	PPAT	CTGGTGCCTCAGTTTCCCCACAT
109823	NDST1	TCAGTCCTAGGCTGGATGGGAGGGTG
109824	DGCR2	GCTTCCTTTGGGGACCAGAGGAA
109825	DUSP4	GCTCCAAGAGAAAGTGCCAGGA
109826	GGA1	ACCAGCTTAGGCCTCCTCCATA
109827	PIK3C2B	GGTCTCGATCTCTTGACCTCGTGATCT
109828	FBLN5	TCTCCTCCTCGCGCGTCTTGGACATG
109829	MTNR1B	CCCAGCATGGCAGGATCTCTTCCTGTT
109830	KRT6A	CCAGTCTCCCCTGCTGTCC
109831	C18orf1	CTCTCATCCATTCCCATTCATGTCCC
109832	PTPRO	TGCATGATGGGAGAATCATGAA
109833	PTHR2	TGGCTGTAGCTTTCTCTCATATATATC

109834	PCMT1	TTCTTGAACAGTTTATGCAGT
109835	ACE2	AGAGAAGAATCCAGGGAA
109836	WHSC1	GGGCCTTTCCTCAGTGTTCATGCAAAA
109837	ACK1	GGGAGGCGGTGGTCCTGGGAG
109838	TMC2	AGGAAGACAGTGGCTTCACCTGTC
109839	TLL2	TCACTGCAGCCTGCTTTGTGCTT
109840	KCNJ12	GGAGAGGGGGCAGCCAGAGCGGC
109841	FACL5	TGCCTGTCTTCAAGATCCCAG
109842	ADCY7	TATACTGAAATCTGTGCTCTCAA
109843	TMP21	TGTTTGGACTATGTTTTCTTTTC
109844	SUV39H1	TCTGTGGGTTGCACTTACAA
109845	CD33	CTATCTCATAGGGATGCTGTG
109846	NOTCH2	CTCCTTTCCCCTCCTGTCTTCC
109847	AMMECR1	GCTATCTCTTTTACTGTACC
109848	XT3	TGAAGTGCCTAAGATGACCTATTTGT
109849	IL16	GCCTCTCCTTGTGGCCTGGGCC
109850	VANGL2	TCTACAGTTTGCAGTGG
109851	SERPINB5	CTCTTCCTTGACATGCATTGTAAAT
109852	KLK3	CACACTGAGAGAGTGGAGAGTGA
109853	EXO1	GCCTGGCCCAGAAGAAACTTAT
109854	SALL2	CTGCCTCTCCGTCTTGTAATGAGTTG
109855	IAPP	ACCTATATCTCAGTGGCACA
109856	PIGA	CTTATTTAAAATTTAGGAGAGAA
109857	ZNF74	GCTCACTGCAACCTCTGCTTCC
109858	SCN3A	ATTACCAGCTGACACTGCT
109859	SLC7A7	TACATACTGTTCCAGACTTTT
109860	TRIM14	CCTGTAATCCCAGCTACTAGGG
109861	TNFSF13B	GGGGTGAGCCAAGCCCTGCC
109862	TADA2L	TGTAATCCCAGGAGAATTGCTT
109863	TAL1	GGCTGGAGTACAGTGGTGCCAT
109864	PPEF1	TGCAAACACACAAGCCCTCTG
109865	KCNMB3	TAGGGAGGCTGAGGCAGGAGAATCGC
109866	PDLIM1	ACCAGCTGTGCGATGCCCGCT
109867	PCDH11X	CACAATAACAGAGTACTCTCA
109868	GALNT3	GCTTCTAATCCCAGCACTTTG
109869	DGKG	GCTGGGCCTCCACTTCAGCCTAGTGAACAAAA
109870	CALM1	TATTTGACTTGTTTTTTCGAA
109871	PRX	CACCCAGGCAGCGGCTCAGAGGCAGC
109872	PACE4	TATTGTCCTGCTCCCCTGTT
109873	HRH2	AGAGAGGGAGATCCCCAGT
109874	TRH	GGCCTGCTCCTTCCTTAGCCTT
109875	CFTR	GAGTTGTTGCCCACAGCTGTAT
109876	SOX5	CTCACTCAGGTACACAGTGCCAACA
109877	PLXNB2	CCCACGCACCAGCAGCCGCCTCC
109878	DFFA	GGGAGGCAGAGCTTGCAGTGAG
109879	GLTSCR1	TCGTAGCTCCACTCTGCAGCCT
109880	SLC4A10	ACAGGGAGACTTGTCTATGAC
109881	IL20RA	GCCATAAAACAATAGCTTTC
109882	LEP	CTGATGTTACATCACAGTGTTTG
109883	TRIP12	TGCTTTGCTGTGTGAAATTTAAAAAAGGG

109884	ITGA3	TAGCTATCCTTGGCTTTCTGTGCCAGCC
109885	DAG1	TTTTGATTCTTTTCCCCCTAC
109886	PIK4CB	ATGTTCTCTCACCCGCTTCA
109887	SEMA3F	GCTGCCTGTGCCTGCCATGGG
109888	WNT1	CTACCTCCCTCCCTCTCCGCGG
109889	ADORA1	ACTGCCTCTGGGACCCCTGCCGGCCAG
109890	FMR2	CATTTTCTCTCTGGGCCTGTATCCATG
109891	SLC14A2	GGAGGCTGAGGCAGGAAAATGGCGTGA
109892	HRMT1L1	AATAAATCAGCAGTTATGAG
109893	EGFR	TTGGATTCATCAGCATTTGGACCAA
109894	ZNF146	TGGTGGAGAAAGAAGTGGGAAGG
109895	RANBP2L1	GCTAGTGAGCTGTGATTGTACCACTGC
109896	PDE5A	CCCAAAGGCAACATGACGGAACCTT
109897	TNFSF15	CCATTGCACTCCAGCCTGGGTAACAAG
109898	PPP1R11	CGGAAGCCAGAGAAAAAGGTAGA
109899	STAU	GCACTGAATTAACCTGCACTGA
109900	CSHL1	TGCCTCTCCTGGCCCTGAAGGTGCC
109901	DR1	TTCCCAGGCGGCCGTCGCGT
109902	MYO1E	GATTTATTTATTGTATTTA
109903	FSTL3	ACTCCAGCCAGACCTGCCTCA
109904	GRAF	AAGCCACTGGGGAAAACTCGA
109905	VIPR2	TCAGGCGAAGGGTGGTTTGCAGATGTG
109906	CPT1B	CGGACCACCTGCCCAGCGTTGGCGAGG
109907	STK24	CTTCGCTGACTCCACCGAAG
109908	ADCY6	CAGGAGGTGGGAGGCCGTGGGCTTTGG
109909	CUL3	AAGATTATGCCTACATCTCTAGAAGACT
109910	TNFRSF8	GGGCCCCTGTAACCCTACTCTCCTCTCTC
109911	IRF2	CCCAGGCCCGCGTCAAGAGCTG
109912	SDC1	GCTGTGGTCACAGCGGAGGTGTG
109913	FABP2	TTTGAGTACCTGATGAA
109914	SLC4A4	TATGATACATTACATATTGTGAATGT
109915	CAMK2A	TGGGGAGAAGAGCATACGCCAG
109916	AHR	GCCGCCCAAACTGGAGTGCAGTG
109917	HDAC4	AAATCTGTTTGCAAGGGGAAG
109918	FCGR2A	ACTGCACCTTCTGTGCCTCAGCCGTTCTTG
109919	TDRD1	ACCTCAACAGGAACATTGACTTG
109920	MYO1D	CCCTGCTGCTGACCCTGCAGAGGGAA
109921	GDF8	GGCAAGTTGTCTCTCAGACT
109922	EGR3	GTACATATACATAACATACACA
109923	MPDU1	TGGAAACAAATGGTTGATGGA
109924	ABCA7	CTGGACTCAGGCTGGCAGAGGGG
109925	SEPN1	GGTTCAAGCAATTCTCTTGCCT
109926	PRDM2	TGCCCTGCAGGGAGTACCGA
109927	HOXC5	TTTGCTGTCCCATAGTCCCTGCCAC
109928	NDN	GTCTGTAATCACATCATATGG
109929	DMN	CACACAGTCTGAATGCCCTTT
109930	B3GAT1	TCAGACATACCTCTGTGGC
109931	ITPR2	CCCACAGGAACAAAACACTGCCT
109932	GPR55	GACATCTCTCAGCCCTCTCAG
109933	TEM6	GCAAGTCAGGCCCTTCTGGAACAC

109934	MOG	GAGTAAGACTCTGTCTCAAAAA
109935	CHEK1	AACAACAATTAATTTCCTCT
109936	MYF5	ATTTGTAAAGATTACCTTGCCA
109937	SH3BP5	TGGCTGTGGGGGAGAAGGTTC
109938	GNAI3	TTCTCTCTTTTCTTTAAGCTTA
109939	LARGE	ATCCAGCCAGTCCCTCTCTG
109940	STAT3	CACTGCACACTGCACTCCATCCT
109941	VCP	GGGAGGAAGCGAGAGGGAAGCCGC
109942	DLGAP2	GCTGAGTGTTCCCACCAGGAA
109943	FTSJ2	CCTGGATCTGCACATCTGCCTCGC
109944	DPYD	AACCTGTATTACTGAATAATATCAA
109945	SAS	GGGGGCTGGAGTCATTCTTAGC
109946	TRPV4	CTCATTTCTAGTCCAGCCGCA
109947	SEMA3F	CATGGATGCGAGGACCACTTTGGA
109948	SLC12A4	GCCCTGCTTGCCTGGCCCTGTCCTGG
109949	SORD	CTTGTAGCCAGAATGCCCTGTTCA
109950	GAC1	CGCCTCATCTCAGCAGCCTGGG
109951	SBF1	TCCTGAGTGTGTGCACATT
109952	ATP11B	TCCTGAACTGTTACTCCAA
109953	CYP1B1	ATACCTTCTTATTTAATCTTTTCT
109954	LZTFL1	AAGCTACCACATGCAAACATACAAGCA
109955	ANKRD3	TCATTAAAAAATTCTCCCT
109956	TCF2	TCTTCTCCCTGTGTGGCTGCTGACT
109957	CRIM1	TCTTAGAATATCAAAAAGAAAAAGAA
109958	COPA	CCTGCAGCTACTCTTCAGATCTGGCT
109959	ACP5	GGAATAAAGGCTCAGGGA
109960	BMP1	TCAAATTCCGAGTGCAGAAAAGAAACCG
109961	EIF4E	ACTGTAAATAAAATGTGTAC
109962	GM2A	GGCTAATTTGTGTATTTTTAGT
109963	SLC25A15	ATTGTGCCACTGCACTCCAGACTG
109964	UMPS	AGGATGGAGTGCAGTGG
109965	CASP10	TGTGGTGAGCCAAGATGACACAACTGC
109966	DPYSL2	GAGAGGAAGAAAGAGAGACAGA
109967	H1F0	TGCGGGAGGGGGAGGGGGAGT
109968	PACSIN1	GCTCTGACCTTCTTCATGTGGGCAC
109969	CDH6	AGGAAGGAGGAATGAGGCTGGA
109970	ZIC3	CCTCCTGGCCCCGCGGTTCTGTGCACT
109971	ASB2	TATCCTCTGCTTTGCC
109972	ADRA2B	CCACTGGAGTGCCCGGCCAGGTCTCCA
109973	CFTR	TTTCTCTCCTCTCCCCATGATGTTT
109974	KCNA6	TTGCTTGAGAGGCAGTGTGGCTT
109975	RNGTT	CCAATGATCTTTAATGGA
109976	CLU	ACCGCAAAAAGCACCGGGA
109977	PTPN1	TAGAACAATGCTATAATATATAATGAA
109978	GJB3	TGGAAGCCCTCTTTCCCCAAAT
109979	SLC31A1	TCCAGCCTGGGTGACAAGAGTG
109980	RBM8A	TTACCCAGGGTGGATTGCAGCTG
109981	SRP14	TGGAAAGAATAGTTGCAGTGTTTATA
109982	BMP8	GCGGGACAGCAGCCCCTCCACCT
109983	BACE	TAGTACCTGTAAGCATTTTA

109984	EPHA3	CAGCCTATAGGCCAATGCATGA
109985	SNK	TCTCTGTTGAGAGCATTTCA
109986	FCRH1	TGCAGGACTTCACAGAGAGA
109987	NID	GCAACTTGGTCCAGATTGAAAAGTGT
109988	KCNH2	TAGATCCTCTAGCCTGGGCAG
109989	ZFP36	AGCTCAGTATTCATGATGGTGGG
109990	TSGA10	CAAGTAGATGATTTAACCAGCC
109991	MAGEA4	TGAGCAGAGTCATCATGTCTTC
109992	ACCN2	CGCGGGCGGGCGGACAGATCGGAG
109993	TZFP	TTACAAACCACACTCATATTCG
109994	TUFT1	CAAAACAAATGTGGATTAAGTGTTTA
109995	PTPN1	TCTCTTGCCAGCATTTTCACATTTTGC
109996	SUDD	GTTATCTGGCTGAAGTAGACC
109997	CHST7	AGGCATCCTCACAACAAAGAAG
109998	CDH23	ACAGAAGTGACTGATGTTCCCT
109999	PBP	ATCAAATTATTAATCTGA
110000	LFNG	AGCTGAAGTGGGACTGTCTGGC
110001	IL17F	TTACTAGCTAGGCTACTGAGT
110002	SLC17A4	TGGAGAAATGTGTGTAGTGCTTTTGTT
110003	FCMD	ACCTGTAATACCAGCAGTTTG
110004	MKI67	GTCCTCCAGGCTGGGGCAGG
110005	GNRHR	TGAAATGATCAGATAACCTATAAA
110006	OPA1	CCGTTTAACCCACTGTGCTAT
110007	AGTR2	AGCACAGAATTCAAAGCATTC
110008	OAS2	TCTTTAAAGCAGGATTCTCAA
110009	TDG	ATGGATTTTATTTTTTCCTA
110010	POU3F2	CGGAGCTGCCCGCTGTGGGAG
110011	OGG1	TTGCCACCACCTGGGGAGAGCCT
110012	SFRS2IP	GAAGTCTCCTTTCTGTTTCA
110013	SLC19A2	GAGAGCTAATTTAAGGATGACTT
110014	MHC2TA	GCAACAGGCTGGGCTTCAGTGG
110015	SVIL	AGAAATTTGAAATTTCAACAAGA
110016	MAP1B	CATGCTCCCAGCATTTGTCCACCCACT
110017	CALM3	CTCGCCTCTTCCATCCACGTCTTCC
110018	MGAT2	GCTCACATTCTAGACTGGGA
110019	HAP1	ACCTTGTGACACTCATGCACAGCAGCC
110020	ENC1	CCTCCACTTCTGGTATAATTGT
110021	SH3BP4	TTGCCAAACTCTGCATTTCAT
110022	CTF1	GATTGCAGGCGTGAGCCACTT
110023	RET	CCCCCAGACCCCTCCTGGGCAGGCAG
110024	MAN1A2	CACCTTGCAGCTTTTCTGCAGTGTGG
110025	TIAM1	TGTGGACTGAGACCCACCTTTCTAGA
110026	SLC20A1	GGAATTCTGCTCCGTGCTTTTAGCCCT
110027	PFKL	TATCCCTGGCCACCTGCCAGGC
110028	MASP1	GTATTATCTGAAAGGCTA
110029	MRPL49	CTGCAACTTCCACCTCTGGGA
110030	CDC23	CCTTCTCAGGCAAGCTGTAT
110031	SLC6A12	GTTCACATGGGGACCCCCTTCTTGG
110032	NRXN3	CTATACCTGGGAGGACCCTGGCAT
110033	LIF	GCATGCTCCGACACAGCAGG

110034	KMO	CTCAGCCTCCCAAAGTACAGGG
110035	PRKWNK3	CTCTTGGGTTCTGTCATATTTTCCCT
110036	ACO1	GGAGAGGCCTCCCTGGCTGCCTC
110037	PCOLN3	TTCCATTTCCTAAAGTTTACTTCATT
110038	IL1R2	CCCAGTGTGAGCGGGTGACACCACCCGGTTAG
110039	PABPN1	GGGAAGCTGGGGTTTGCAGTGG
110040	GGA3	CAGGACATGGAATTTGGCCTCAT
110041	TTID	TGGAACTACGGGAACAATATTC
110042	MKI67	GCTTCCTTGTGAGCCGCTGCCTCC
110043	CDH5	AAAAATCTTTAGCCTGGGCAA
110044	SLC9A6	GGGAGGCGGGGGGAGACATGGCTCGGC
110045	BDKRB2	TGTGGGTGATATGGACAGCAGA
110046	SLC16A2	GCATTTCAGCCACCTGACAATCTC
110047	CAMK2A	CAGCCACCTGGTGCCACCACAG
110048	EIF3S2	CCAACATGGAGAAACCTCGTCT
110049	KIF1B	AGGAGTGTCTCAGTTCTGCTT
110050	ABCC11	GATTGCCCAGGATCAAGGGT
110051	ROR2	TTCTCTCTGTACCACGTGCACATG
110052	PYGB	TTGTACACACAAGGGCCAGGC
110053	SPON1	ACCTCCAGCCAGCCTCTTCCTGC
110054	GSTM4	AGATCTCTGCCTACATGAAGTCCAGCC
110055	HELLS	AGTTTAGATTTTCAGTTAA
110056	RAD52	AAAGCTTGTCCATCACTCTAGTAGG
110057	TGFA	CAGTCATTTATTTTCCATTTTGTTGC
110058	C1orf1	CCCTGCATTCCAGCCTAGGCG
110059	DMD	GCATTTTCACAACATATCAGACTTCA
110060	SMAC	AGCATTTTGCCTACCTGGGTCA
110061	MTNR1B	CTCAGGTGGGGCAGGTGCAG
110062	ERBB2IP	GAAATTAATATTTTGACTATTTTTA
110063	PTPN11	AGGATGCTTTGGACACTGTGCGT
110064	ZNF10	AGAAACCATATTTTGGTTAA
110065	SIAT1	TACAGAACTTTTAGTTCTGTGCTGT
110066	SMG1	AGAAGAACTTACTTCTGAAATG
110067	ASB1	ACTGTTTCTGCCCTTGTGCC
110068	SCG3	GAGCCATCTGCTTTTTTGGC
110069	HLF	GGACGTAGGATATTTTCCCTACCT
110070	IRTA2	GAGCACAGCTTCTCAGATGTGCTCCT
110071	HOXA10	TGCTTTCTGAAATTCACAG
110072	POU4F1	TTCTCCTCCCTTACTTCTATCA
110073	KCNJ1	CTCAAAGCTGCTTAGGAATCAA
110074	RXRB	TCCCGGAGGCCTTCCCTTTACA
110075	CHAC	GATTAAAATATTTTAATTCTTCA
110076	LDLR	GAGCCCAGGAGGTGGAGGTTGC
110077	NXF5	CCAGGTTTGTTCTGGAAAACACTAGG
110078	B4GALT2	GGGCAGTGTCTCTTCCAGGGGG
110079	HPD	CCACAGCCACACAGCCACGCCCC
110080	AMFR	CCTGGGGAGTGGTTAGGCAGCAAGC
110081	PTGES	GCGCGTGTGGGTCTCTGGGCACAG
110082	PTK2	GCGGTCCGAAGTCTTGCTGT
110083	FANCC	ACACCTGTGATCCCAGCACTTT

110083	SUV39H2	ACACCTGTGATCCCAGCACTTT
110084	LASS2	CATCCTCCCTCCTTGCTTGTC
110085	APM1	CCAAGTAGCTGGAACTACAGGC
110086	GART	CCAAATAGCTGGGACTACAGGC
110087	SCAMP1	CCGCAGCTGCAAATGCAGCT
110088	SFRS7	AACTGATTTCTGGATGATCTT
110089	RORC	GGACTCCTTGCCTCTCCCTATGGCCTG
110090	UGDH	TTTCTGTCTGCTTTTTTCTTATGTCT
110091	MYCN	AGCCTGCATCCCAGGATGCTGGGT
110092	ADH1B	CAGCTCTTCAGAGATGTTAT
110093	PMX1	GGAAAGGGGGGAACCCAC
110094	OCLN	TGGTTTATCTTGGAAGCTAAAGGGCAT
110095	MSH3	GCAATGAGCCGAGATCACGTC
110096	PKD2L1	TCTTCTGCAAGAGGCTGCCTCCTGGT
110097	MAML1	GTTGCCCATGGTGGGAGCGTGGT
110098	NF2	CCCTCCAGGGCTTTCAGGGAAG
110099	AMPH	GTTCACTTTTGTTATTATGCTCTTAA
110100	DUSP6	TCCAAAGGGAGAAAGAGCAGTATGCCACTT
110101	GPLD1	CATTTTGATGGACAAAGTGGCA
110102	CREB1	TGGTTCTTAAAAGCATTCTGTACTA
110103	MEFV	CCCAAAGTGCAGGGATTACAGG
110103	SCNN1G	CCCAAAGTGCAGGGATTACAGG
110104	SLC5A1	TTGCTGTTAATTTATGCATTTGA
110105	GPRC5B	TTCAGGGGTTCCCACTAGGA
110106	SF3B3	TTCCACTGCTCTAGAATCTAACCAGA
110107	EPHB2	TTCTCATAAGGAAAGCAATGACT
110108	MGAT2	TCCAGCCTGGGCTACAGAGCG
110109	CITED4	GTCCTCTCCCCCTCGCC
110110	MAD2L2	ACCACGCTCACACGACAAG
110111	HR	CCCCTGCCAGCTCTGGCA
110112	TRPV2	CCTCCTAGGATGACCTCACCCTCC
110113	RAB4A	GTTTCATATTTTTCCTTTCACT
110114	HTR2C	CAGCATCCTGGAAATTTGTG
110115	PTPN7	CCTGCCTGGCTGCCCAACCAGCTCC
110116	CA5B	GATGGTGGTGATGAACAGCCTGA
110117	ASGR1	GGGGTCCGGGATTGGGAATCC
110118	DEC1	GATCCTTGTGCATACAACTGACTT
110119	CTRL	ATAAATAACTGCACATTCTCC
110120	MIA	CCTACCGCTGGCCCTGCCGTTTCCC
110121	EHD2	ACCTACTGCTTCCTCAGATGGGCC
110122	MSN	CTCTAACCCAGGTCTTGACACCAGC
110123	TRIM39	GTTTTTCTGAGGGCAGAGATT
110124	NDUFA8	CCGCTTTTATTTCTGGACCA
110125	CYP26A1	AGCTTGGAATTCCGGCTCCT
110126	B4GALT1	TCACACACAGGTCTGTCTGTCA
110127	NEU1	ATCAATCAAAATGTTTGTAACTTAAAA
110128	ADH1B	ATGATGACTGAAAATGTGTAT
110129	COX11	CTGGTCAACATGAAGAAGTTAC
110130	CDC25C	AGAGCTGAAAGCTGGTGGCAGAG
110131	ED1	TCAGGCAGCTGAAATTCACCAAGA

110132	ADD2	TCCCAAGGGCTGATGGCTTA
110133	PIK3C2B	TGTCGCCAGGCTGGAGTGTAGT
110134	GALNT7	TTGCTTTCTCTCTGGCCTGGACATTCTCT
110135	FN1	CCTCTGGCCCCCACCTTCTT
110136	BRCA1	ATCTCAGTTCAGAGGCAACG
110137	VIP	GCTAGGTTAATCCAATTATATGAGA
110138	AVPR1A	CAGCAGCCACTGGGGCCTGAA
110139	MTNR1B	GAGATGCTCACAGGCCACA
110140	GPRK6	AACTCAAGGCTCCTCTGGCCCA
110141	FGFR4	GCTCAGCCACAGCCTGACACAGTGCT
110142	ACAA1	TCACCCAGGCCACAAGGCCATG
110143	MEIS2	CAAAACAATCTTAAGTTGGGCA
110144	DISC1	GACTGATTTGCTG
110145	OPHN1	AACAAACAAAAGCTGAACACATTTCC
110146	MTERF	TTAGTAAAGTCTCTATTTCTTCCTTTT
110147	KCNQ2	GCCTCTGGCTGTCTGCACTTTTGTTC
110148	RNF3	GTTGGAGGCTGGAGCGCAA
110149	KCNK10	ACTATTGGTGCGCTCCAGCCGGG
110150	GPR4	CCCAGGCTGATCTTGAACTCCTGGGC
110150	PCDHB16	CCCAGGCTGATCTTGAACTCCTGGGC
110151	TRAF5	TATTTCTTGAAAGATGGTAAGT
110152	VCL	GATTCTGCTTTTACCATGCC
110153	EDG8	AGCTCACTGCAGCCTGGAACTC
110154	IL1RN	GTTCTTTCTTCCTCTGCTGAAG
110155	CKTSF1B1	TTTTTGCCTTGTATCTTCTCA
110156	HOXB13	GCCCAGGCTGGGGCCAAGGA
110157	SOX2	TCCAAAAAATAATAATAACAATCATC
110158	GGA1	TGTCCGTGGTCAGAAGTGGGGTCAG
110159	SIRT1	TTAGGAACTTTAGCATGTCAAAATGAA
110160	PCBD	AAACTCTCCCCTTTCTTTGCAA
110161	SLC10A2	CCTATATATTTATATAACTTTG
110162	MGAT5	TTGAGCCTCATTTTAATAGGCATTG
110163	GAS7	CTCTCATCTGCACAATCGTGC
110164	RHO	GCCTTTCTCTCAGCCTCTGGAA
110165	HLCS	GACTACAGGTGCACGCTACCAT
110165	RGS9	GACTACAGGTGCACGCTACCAT
110166	PCDHA9	TGCCACCCAGGCTGGAGTACAG
110167	FMO1	AAACTATTTTCACAGATCTCA
110168	XRCC2	TCTCCCAGGCTGCTGGAGTGCAGTG
110169	SUPT5H	GCAGGGCTAGGCGGATTGTTCTGG
110170	ADARB1	GGAGACACACTGGCCAAGCGCGGA
110171	CLTB	GCCTCGCTCCCTCCTGGCCC
110172	PAX9	TCGGGGCACAGACTTCCTTTTAC
110173	ANGPT1	TCGACTATAGAAAACTCCAC
110174	TEM7	AATTCAGACCCTCCTTCCACCGGCA
110175	CALM3	TTCATTTCATCTGGCTCCCCC
110176	ATP6V0E	AATTTCTTCTTTCTGCCATCTTTTGGA
110177	RRAS2	ACATTTTAATAGAGATGAATC
110178	MRPL49	CCCAAAGCGTTGGGATTATAGG
110179	KCNJ10	GGGGAAAGAGTGGGATTAGGCT

110180	APM1	TCTCGTATCCCCAAGCCACA
110181	PLCB2	GCCCCCATCCCACTGGGACATTTAGC
110182	HOXB3	GCCTGTTCTCCCCTCGTCGGTGGCT
110183	ZNF189	AGTACCCAAGTGCAGT
110184	RRAS	ACTGTGTGCCTTCTGCCA
110185	XYLB	ATTTTTCTGCCCAAGGCCTT
110186	GNE	CTCTCATGGTGAAATCTGCTCT
110187	PON2	AGAGCACTTTTAACAAAAAA
110188	CACNA2D2	CCATCTCCTGCTCACCACCTGCC
110189	PLAU	TGCATGGGCTCGAAGGGAGAGCCAG
110190	KCNMB1	TGGCGGCCCAGAAGTAAGCCAT
110191	KRT9	TGGGAGCTCTCACACCCTGC
110192	JAM3	TCATCCAGCACAGCTCTCAGGT
110193	B3GALT3	GAACAATGTAGTCACTTG
110194	NUP214	TCAAAACACATACACCCAGAA
110195	KLHL3	ATATCTGTCATCTGATTGCGGTGGTG
110196	UROS	CTCCAGCCCCATGGCTGCTGCTGGT
110197	SH3BP4	CACACTTTGCATTTCAACACTCAGCCC
110198	ELMO1	CCTTCTCCTGGGAGGTCCTGCTGC
110199	RYR3	TAGTGACTGTATCCAGAAAAGCTTT
110200	RNF3	GACTCACTCAGAACTGTCGCTCACCTG
110201	ST14	AATCTCCAGGGCTCCAAATC
110202	COX15	TTCAGTGTTAGAGGTGGGCCT
110203	GPR91	AACTCATAGACATCAATCA
110204	ITSN1	GAAACCACCATTTGGTATTCAGTCA
110205	POU5F1	GCTCGGAAGGCAGATGCACTTCT
110206	AKAP13	CCATGAATTACTTCTCCATCT
110207	EPHB3	GGCAGGCAGGGGCAGGCTGAGGAGTTG
110208	ABCA3	GCATCTCCTAGAAGCAGCCGGCA
110209	C1orf1	ACTAATAAATGCCTTT
110210	PSMD9	TTGTAACCTGAACTTCTGTGTGG
110211	APLP1	GGAAATTCTTATTTCCCCTTTCCA
110212	RHD	GTTCAAGCAAATCTCCTGCCTCA
110213	GAD1	ATATTTGCTTATTTATATTCAGAGATG
110214	SULT2B1	TCCCCACCCTCACCCACCTGCC
110215	TNFAIP1	GTAGAGGCCCTGGTGCAGAA
110216	CUTL1	CAGCCAGGCTGGGCCGCAAG
110217	PTPRG	CTGCCCCAGGCCCGGGGCATCGCC
110218	GALNT3	CCACTGCACTTCAGTCTGTGTGACTGA
110219	SLC22A7	GCACGGCCCTGGCGTTCGGCACTAG
110220	RET	CAGTAAGCCATTGAGTGC
110221	CDK2AP1	TTAAGCATTTGCATGACTATTAGTGCT
110222	GABRE	GCATCTTATTGATCCTCCAGTCG
110223	HUNK	ACATGTGTGCCTCTCACAGCAGTTGGCC
110224	RAB7L1	GAGACTGGGAGGCAGAGGTTGC
110225	JAK3	TTACCCAGGGTGGAGTGC
110226	RFX1	CACTGCTCCAGCCTCAGCCA
110227	ATM	CCTCAACCTCCTGGGTTCAGA
110228	SLC31A1	CCAGCCTGGGTGACAAGAGTGA
110229	RBM8A	GTTACCCAGGGTGGATTGCAGC

110230	ACE	GCCCTGTCCCTGTCCCCCTCCCCTCCC
110231	TRIM34	AGGAAGAGGAGGAAGCTGAGAAGCTG
110232	SLC12A7	GCTGTGTTTGCAGCTGTCCGAGTCTCC
110233	BDNF	GGAGCCAGAATCGGAACCACGATGTGAC
110234	SMARCC2	GGGAGAGAGGATAGGATGGGAATGCTG
110235	BMP1	ATCTCAGCCCACATCTCAGCCCTTCC
110236	CYP21A2	GCTCCTCCCATTCCCCTTAAGG
110237	NSEP1	AGATAAATAGAACTATCTGCATT
110238	MHC2TA	TTGCAACAGGCTGGGCTTCAGTGGCAG
110239	UBE3A	TTCACCATAATTTAATTTAGTGGA
110240	LIMD1	ATCCCAAAGCCAGCCTCCATCT
110241	NDRG1	TACTACTGCCTTGTACTTTTCATTTT
110242	GAB2	AAGGAGTCAACTCAGTTGAAAAA
110243	PTEN	TCCCAGACATGACAGCCATCATCAAA
110244	MAP3K12	CCCCATTCCTTATATTCAGCAAGCA
110245	TAZ	TGTTTTTGAAACAGAACCATAAAGC
110246	ITPKB	GGCTTGCCACCCACTCCTTTG
110247	NDST1	CCTGGCTGGGAGGAAGGACTGG
110248	CREBBP	TGTGAAACTTGAAATGAGGAAAAGCAA
110249	SCN2B	TGGCGTGTGCCTGTAATCCCAG
110250	MME	ACTTATTTTATTTCCATCATGTC
110251	LIFR	CACCGTGTCACTTCAGTCAGCCA
110252	HTR4	TCTCCCTGTGTCTGGGTCCA
110253	TFDP1	CCGCGCCCTCTCCGCGTCCCCGCC
110254	ADCY1	GTCAGAGGCAGCCCCCTGCACA
110255	PSMB8	TGTGGGTGACTACAGGTTAGGAGACCG
110256	RUNX1	ACTTTCTCCCTCCTCCTTTTCC
110257	CASP10	ATTGGGGTTGGAACATTTCAG
110258	IGFBP5	CCGCTGGCAGCTGAGGGTTA
110259	HLF	CTTTGTTGTTTTTAAAAAGAAAATCAG
110260	SOCS5	ACGCTGCGCTCGCTGGGCAGTCGG
110261	EPHB2	GCACAGCCTGGCAGCCTGGCCCT
110262	CNTN2	AGACCCATTCTGCACAGTCCC
110263	DFFB	GCTCAGGCTGGAGTGCAGTGATGCA
110264	SLC12A4	CAGGACATAACAAGCTGTGGTCT
110265	VCY	CAGGCAGCCTGGAGTTAGTCGA
110266	SMARCAL1	TAAGCATTTCTCTGTGAA
110267	TCL1B	CCTCAGTGAGGATCTTCATGT
110268	GNAS	ATAAATATTGTGTTGTGCAGCA
110269	TFAP2B	TGCTCCTCACATGAATGCACT
110270	BRCA2	CAACATAGGGAGACCCCCATCTT
110271	MNT	AGACTGTAGAGATTTTTATGTGTTTGGAACA
110272	PAP	AGATTCACAACTCATTCAGAA
110273	SLC4A8	ATTCAATGGCTCACATTCTTTCA
110274	MNDA	AGTCTGCAGTTTAATCTCTCCA
110275	ICOS	GCTTGACAGCCCAACAGCCA
110276	BCL9	CCTTCCCTGCCCCACCTTGTT
110277	ICOS	GCAGCCCTCCAGACCTGGGTGG
110278	LAPTM5	CCTCCTGTGCCTGCTTCCCTGT
110279	RBBP9	CTGAGGCAGGATTGCTTGA

110280	SLC4A4	TTGCTTGTAAATCCTAATCTTA
110281	POLS	ATCTGATGCATGTGCAGCAGTG
110282	SRPX	CCTCTCTTGGCAATTCCTCTTCAT
110283	GAS7	TCTGGGACCCAGGCTTCAGTGT
110284	CRTAP	CCAGCTACCCACAGCAACCAAAG
110285	DYRK1A	GCCATCGTCCCGGCTGAAGTGCAGT
110286	DSCAM	AGGGAAGGTTGGCAGAGGGA
110287	FLRT2	GGAAAAAATATCTTTCGAAAA
110288	HNRPK	TCGCGCGGCTACTGCAGCACT
110289	ST5	AGTAGCAGAGTCCAGTGCCTT
110290	FRDA	TCCCTGGACCTCTGCTTCCCCATCTGTTA
110291	WSX1	CACTGCACTCCAGGCTGGGTAA
110292	PTPRO	GGGGGAAGAGGAGCCAATGACAGG
110293	LRP4	TGGGATGCCATCACTTGGTTCATGCTCA
110294	MAP3K7IP2	CAACAGCAGCAGTACCTACAGCCCTT
110295	NPHS2	TCTCCAATGATACTACCAAGTCTTAGT
110296	TNFRSF1B	GTTTGTTTCTCCCCCTGGGCT
110297	FANCE	CCAAGTAGCTGGGACTACATGC
110298	IL15RA	CCTGCCTGCCTGTCGTGCCTTGGACCC
110299	DCT	GGAGGGAGGGAGAGGGTTTAGA
110300	APOL1	TGTCGCCAAGTTGGAGTGCAA
110301	PCLO	CCCAAATTTAAAGCTCTCATCTTTA
110302	NOS2A	TCCCCCAGCCTCAAGTCTTATTTC
110303	KLRD1	CCCAAGTAGCTAGGACTGCAGG
110304	CARD4	TCATTGAAGAGTTGAGGATGTGG
110305	TRIM14	CCACTGCACTCCAGCCTGGGCAATAGA
110306	MVK	AAAGATGGCAAATGGGGAA
110307	INPP5B	ATGCTGTTTTTGGCTGGGCGCGG
110308	TLR4	ACCCCTGATATATTTTTATTTTTA
110309	GRB7	GTGTCCTGCTACTCCTGCTGGGG
110310	AQP6	TCACATTTTCTGACTTGGAGGCCCTC
110311	SYN3	CCTCCAGGTTCCTCAAAACAGGCCTG
110312	LETM1	CCTCCAGGGGCCTCCAAGCATAGGAT
110313	EVC	CCACAGCCAGGAGAGGCCTT
110314	CAMK2A	CTCTTCATGCCTCATCCTGC
110315	GNE	AACCCCAGGCTGGAGTGCAGTG
110316	C18orf1	TCCCTGCCTTCCTCTCTGA
110317	KPNA1	CAGTGAACCCTTGGATTACCTGG
110318	DNAH11	TCTAGCCTCTGCTGGAGTGCAGT
110319	TFE3	GAGTCCTGCCTTCTTCCTTGAGGGGC
110320	STAM	AGCTTATAGGAATCTCTCCA
110321	KPNA3	GCGCTGTGGATCAAGACACTTTGG
110322	ADD2	GGGAGGGAGGAGGAGCAGACGGCA
110323	CENPB	CTTTGGTGGGGGGACCCCAAA
110324	ADAMTS5	CAAATTAATGCATAATTTCAGATGTA
110325	ANXA4	TAAAACGCCTACAGCTGCCTC
110326	ADRA1A	ACAGAATTTCATGCACAATCCAA
110327	A2M	CTCCTCCAGCTCCTTCTTTCT
110328	DHCR7	GTCCCTGGGCAGGAGGATGACCCAGT
110329	PPL	AGCATTTTATACATACCCTCG

110330	ABCF1	ACTGCCTCTGGCCTGCAGCTGACCTGG
110331	NR3C1	TTGTACATGCATTCATA
110332	BMP6	AAGGCAGTGCTCACCTCTTC
110333	CLASP1	TTCAGACGTGAGAAAGGCAGC
110334	CCND1	TTGGGAGGCTGCGTGCCAGTCAAGAAG
110335	JPH3	ATGGACTCTGCCTTGCTTTGC
110336	NOL3	GCTCTGACAGGCGGTG
110337	POU3F2	GGCAAAAGGAAAGCAACTAAGACA
110338	HTR7	ACATGTTCATTCTTGTTGAGCTGCATT
110339	DMD	CAGCCTGACCTAGCTCCTGGACT
110340	GPRK5	TTTCTCTACTGTCTCAGTTTACA
110341	LHX4	AGGGACACTGGCTTGTTGGG
110342	RDS	GTCCCTGAGCTCTTGCTATCT
110343	ATP8B2	CTCCCCTCTGAGCGGCTGCGGCT
110344	CNTF	GGGGTGTGATTTGTGTGCGTGC
110345	NOTCH4	AGGATGAGGCAGGCCCAGTCCT
110346	CTSD	GCTGGGCTGAGCCCCTACCCCACACCA
110347	GAN	GGCACTTTTACCAGGTGTGTGT
110348	GRM1	TCAGGAGACTCAGGAATGGAGCGGTA
110349	EGR4	TCCTTTCCCAGAGGTGAGTGCCC
110350	MHC2TA	TGCCCACGCTGGAGTGCAGTG
110351	TLX1	GGGACCCCAGGCCCACTCAGGG
110352	DPYSL2	AATAAATCGACAGTGTCTCAGAA
110353	KL	TCCAATAAAATACAATGATTACCTAG
110354	COL2A1	GCGGTGAGCCATGATTCGCC
110355	CISH	CAGTTCTGCTAGGTCTGCTTCCTGCC
110356	SURF5	CAGCCTGCCTGCCTTGCCTTGG
110357	ACCN2	TTTGGAATCTCTTGGTTCCTAAGA
110358	MAGEA12	TGACATGAGGCCCATTCTTCAC
110359	HMGA1	GGACAGTTGTGTTGTTTTTTGT
110360	MAP2K1	TGTGCCAGGCTGAATTACAGTGAAA
110361	RB1	TGGACACTGTGTACACCTCTGGATTCA
110362	CALM1	GAGAAGCTCTTGGCAGCCAAA
110363	IL2RA	TCTCCACCCTATATGTAGTATAAAGAA
110364	KRT8	GCCTACCCCTCCTGCGCT
110365	PTGFR	TTCAGTTAGTTAAATACCTGTA
110366	RFC1	TTGCCTAAGCCCTTGCCTGCTG
110367	CDC7L1	TTTTCCTCTGCGTAGAGCCATCC
110368	B4GALT1	CTGGACAGGGTCTCTGCTG
110369	DUOX2	CCTACTTCTACCCCTTCCCGT
110370	CDKN2B	CCCAGCTGAAAACGGAATTCTTTG
110371	FMR2	AGGGAATTTCAGATGCT
110372	ATP1A2	GCATGGGCTAATTATCATCA
110373	CEBPE	CTCTGCGGACCCCCATCCTGC
110374	ATP7B	TTTTAGACTCTGAAGTTGGTTGTGAT
110375	LRP4	GAGGAAGAGCAAGTAGAAAAGTGGCA
110376	UBL3	ACGCTGGTGTCTCACTCATCTCTTTTA
110377	MEF2C	TTTTACTCTGCTTACATTTTATA
110378	NTE	AGCTCACTCCCCCTCCTGCTG
110379	RRAS2	TGCTTCAAAGATTATCTGATT

110380	KLHL2	GAAGGAGGATGAAGTAATGTGTG
110381	BACH2	ATGAGGAAGAGCTGCCTGCAAAGCTTT
110382	HIVEP2	GTTCTTGCTACACAGGATGG
110383	CYP3A4	CGGGTGGATCGCCTGAGGTCA
110384	PRV1	GGACTTGCCCTATGGGAGAGGGGACG
110385	MYO1D	GTGTGCAGCCTCCTGTGCCTCA
110386	TRPV2	GCAGCAGGAGGCCAGAGGACA
110387	CDH2	AAAGTATTTACAAAACAGTGACA
110388	NT5C3	TCTGGGGAAAAAATATTTAC
110389	GRM6	TGCAGTGAGCTGTGATTGTGCC
110389	TTF2	TGCAGTGAGCTGTGATTGTGCC
110390	P2RX4	GCTCAGAAGCCTCCTGTCTCCA
110391	MVK	TGCCCCTTTCTGGATTATTCTGG
110392	CLASP2	GCCGCCTAGGCAAGACAGT
110393	SURF4	CCTGCAAGCCAGCCTGGCCAG
110394	USF1	TGGATAGGAAAGGACTTAGCA
110395	SPAP1	CTGCTTTCTTTCCTCAGGAC
110396	RAI3	CCACAGCTCCCAGCCTAGGCCCTTAA
110397	DLG5	CTCGTCTCTCGGCCTTTCTCTCCTGCCTT
110398	PTPN13	TCCAGCAGACTCCTGCTCTCTATCCA
110399	HOXD3	TCAAAAACCACAGTCCTCA
110400	SUV39H1	CCAGATCTATGTGTCTGTCTGTGTGTC
110401	ODF2	AAGCAGCAGAAGGTGAAGCAGGA
110402	ADAR	TCTACTTCCCCTCTTTCCCTTCTGA
110403	ADAM28	AGAGAAATATACTATCTCACCA
110404	COX10	TCTGTTTCTTCCTCCTCAC
110405	PCMT1	CTTCTGCTCTTTCTTCTTCCACA
110406	CD86	AACTCTGGGGAGCCTGAGCCA
110407	CDK10	CCCAACAGGAGGCCGTGGCTCTG
110408	RENT1	AACAAGTTACAGAAATTACCGC
110409	MCM4	CCAGGCGGCAGAGGTTGCAGTGA
110410	SELE	TTTCTTTCTTTTGCCCTTCACA
110411	IFIT4	GCAGAGACACAGAGGGCAGT
110412	CDH13	AGACTATCCTGGAGAAGCC
110413	ZNF202	CCTCACCTTCTCTGATTGTGG
110414	ALDH8A1	CTGCAGTGAGCCATGATCATTCCA
110415	NDUFS1	ATGGACAACTGTAGTGCAGTGA
110416	AQP2	TGCATGGCTGGGGACTTCTCACTTCCCC
110417	SYNGR3	AGCAGGAGAGAGGCCCAGAGGCTC
110418	KIP2	TGTGAAGCTGTGGGTGCAGTG
110419	TEM6	CCAATGCCCTGGTTTTCCTGC
110420	FGF2	GGCTGAGGTGGGAGGGTTGA
110421	ESR1	TCTAGCACAATTATGGGTTACTTCCTT
110422	POLL	GAGAACAGCCATTCCACATGTGT
110423	FRAP1	CAAACTCAGCACAGCCAAGAA
110424	VCP	CCGGCCAGTCGGTCGCTTGCCAC
110425	PCDHB11	AAAGTGCTGTGATTACCGGTGT
110426	PMM2	GCTGCCCTGCACTCCTGCCTCC
110427	PHEMX	CCTCCAGGACCATTCAGGCTGTTGAC
110428	ANGPT1	AGAAACAAACTCCATTACTCTGAT

110429	EZH1	CCTGTTCTGCTGTTGTGTCCTGCCATT
110430	CEP2	TCTCATCTAGAATTTAT
110431	WNT5A	CCTCCACCCCCCGCGCTGGC
110432	NHLH1	CTCAGTAGCTGGGAATTATG
110433	PPL	GTCCTCTCCCTAGCCCTGGTGCAGGCC
110434	PPID	CACCCAGGCTGGAGTGCGGT
110435	MASP1	TCCAAGATATAAGCCCTCCAAGGGA
110436	ALDH1B1	CGCCCAGGCTGGAGTGCAGT
110436	BCL10	CGCCCAGGCTGGAGTGCAGT
110436	CASP8	CGCCCAGGCTGGAGTGCAGT
110436	EHD2	CGCCCAGGCTGGAGTGCAGT
110436	FHL2	CGCCCAGGCTGGAGTGCAGT
110436	GRINL1A	CGCCCAGGCTGGAGTGCAGT
110436	INMT	CGCCCAGGCTGGAGTGCAGT
110436	KCNJ11	CGCCCAGGCTGGAGTGCAGT
110436	LYZ	CGCCCAGGCTGGAGTGCAGT
110436	NCOA6	CGCCCAGGCTGGAGTGCAGT
110436	NCOA6IP	CGCCCAGGCTGGAGTGCAGT
110436	ORC1L	CGCCCAGGCTGGAGTGCAGT
110436	PAICS	CGCCCAGGCTGGAGTGCAGT
110436	PCDHB9	CGCCCAGGCTGGAGTGCAGT
110436	PIGR	CGCCCAGGCTGGAGTGCAGT
110436	PPP1R12B	CGCCCAGGCTGGAGTGCAGT
110436	SERPINB9	CGCCCAGGCTGGAGTGCAGT
110436	SLC13A1	CGCCCAGGCTGGAGTGCAGT
110436	SMAC	CGCCCAGGCTGGAGTGCAGT
110436	SS18	CGCCCAGGCTGGAGTGCAGT
110436	STAU	CGCCCAGGCTGGAGTGCAGT
110436	TAPBP	CGCCCAGGCTGGAGTGCAGT
110436	VIPR2	CGCCCAGGCTGGAGTGCAGT
110436	YES1	CGCCCAGGCTGGAGTGCAGT
110437	DFFB	TGCCCAGGCTGGAGTGTAGT
110437	HYAL4	TGCCCAGGCTGGAGTGTAGT
110438	DLC1	TGTCTAGGTGGTGAAATGACAGA
110439	QDPR	CCTTTTCCTGTGTGGTTGCCCCTGTG
110440	PCDHA11	CCCACAGAGATGAGAATAGATCATGT
110441	SIRT6	GAGGCTTGCACTGCCTTT
110442	HIVEP3	GACTGGGCCATGGACACAGATGTCTCC
110443	SCAMP3	CACTTTCGTCTTAGCTTTTGGA
110444	DNASE2	GGCAGGAGAATCGCTTGAACTC
110445	FUS	CAGGTTCTGGAACAGCTTTTTGTCCTG
110446	RAI3	ATCTCCCAAAGTGCTGGGATG
110447	FUT5	TTTCACTTGCCGGGCTTCACTGC
110448	CYP8B1	TGTCTCCCCCACCTCA
110449	HNRPH2	GTGTCGTTTGTATGAAAATC
110450	FMNL	CTCCAAATAGCCATACTTAGCCTCA
110451	YWHAB	GCATTTGAGTTGAATGGTAA
110452	XBP1	GCGCGGTGCGTAGTCTGGAGC
110453	GP6	CAAGGCAGGAGGATCGCTTGA
110454	KCNS3	GATCTTCCTCTTCTCCCTTGC

110455	ADCY1	TCCTGCAGGAGGACGCCCCTACAGACC
110456	KCNH5	CCTGCCAAAGAAGATGATGATT
110457	BCL2	AGCTCCGTTTGGCAGTGCAATG
110458	DLEC1	GGACTTTGGGACCTGCTTTGT
110459	CNTNAP2	GGCTGAGAGCTGGGCACAGGC
110460	HCK	GTAGGGAGGACCAGGGCAGGGCCAGGG
110461	SH3BP2	GAGCCAGGCAGGGCCAGGGCAGCT
110462	FZD7	CCTCGTCGCACTCCTCAGGCTGAGAGCA
110463	BHMT2	ACTTCAGCCTGGGTGACAGAGT
110464	DLGAP2	ATTTAAAATATAACTTCA
110465	VHL	GCCTGTAATCCCAGTACTTTGG
110466	WHSC1	ACTGCAACCTCCGCCTCCTTGG
110467	ADAM19	CCAAGCCCACATTTCCAAAGTC
110468	GAA	GTTTCCACCTCCTGGGCCGGG
110469	RP2	TTGGACCCAATCCTCAGATGCACG
110470	IRAK1	AGGCACTGATTGTGGCAGAGGGG
110471	CDH1	TGGTGCAATCACAGCTCACTGCAGCCT
110472	PPP1R3A	TTCCAAATGGACTATTTGTTCCA
110473	RDX	AATTTTCCTCATTTTGAATT
110474	FCGRT	TGGAACACTGGCATCTCTGAG
110475	CAV2	CTTTGGAAATAAAAGATAAAAG
110476	SCN4A	CGCTGCACATGGCCTGAGCAT
110477	GGCX	GGCTCACGCCTGTAATCCCAGCATTTT
110478	CDH13	ACGCTTTCTTATGCAATCTA
110479	TADA2L	TTGTACTTTGCAGTCTGCCTGTCTAATC
110480	CD80	AGGGAAGAAACAAAGTTGAACCG
110481	TOP3B	ACCCAGGCTGCAGTGCCATGC
110482	VCAM1	CGACAGCAACTTAAAATGCCTGGGAA
110483	CTSS	CGCCTGTAATCCCAGTACTTGG
110484	CHRNB4	CTTCCCAAGCTCTTTCCACAGCCA
110485	ANPEP	ACATGTGTCCATCCCAGCGGCTGGTG
110486	YY1	TACACACCTAAGGGACA
110487	CKAP1	GCCACTGACTGCCCCTCCTGTGTGTGCC
110488	CACNA1C	ACTTTTCTTGACAGCATGTTGC
110489	TCF2	GAGAGGCTCAGCCACACAGGAA
110490	DYRK1A	GTCTCAGATTCCTGGGCTTAAGCAGTC
110491	SEPN1	ACTGCCCTCCTGTGCCTGATGTCCCCAGC
110492	CARD4	TGCCACTCTGGGCAGTCTTTTGTGT
110493	PSMD9	ATGGTTCTCAGGGATTCCTGCCA
110494	NPY2R	AAGATTTACCCTCCCTCTT
110495	FOSB	GGTGCAGCTGGGTGGGGCAGCACACCT
110496	MYCBP	ACACAGCCATCTAACTCATTACCTT
110497	SPF30	TGCTACTGCTACTGCTGCTGCT
110498	FBXW1B	ACCTCTTCCCGTGGAAGCACACTCT
110499	BACH2	TCAAAGGGAGGACTTGCTGGG
110500	IQGAP1	ATGAGCCCCAGTTTTCTGGGCTT
110501	SRR	AACTGTAAGCCCACACTTAACCTTGTCA
110502	FXR2	TTTCTGGGGCCTCATCACTGTGG
110503	ALDH3B1	CTGCCCTCTCTGAGTCTCAGTT
110504	HMG20A	CTGTCTTCCTTCCTCCTCA

110505	AQP6	GGCTTCCCCACCTCT
110506	CCNF	CCCGGCTGGAGTGCAGTGG
110507	AKR1A1	ATGAGGTCCTGCCACAACGGAAAGAG
110508	SRGAP2	AATTCTTGCCTTTCCTTGTTTCA
110509	EPB41	TAAACTCAGGCCAACAAGAACCTCAGCA
110510	SULT1C1	TCTTCAATCCTTCAGTCCCA
110511	PRIM2A	CTGTCACCAAGGCTTAGTGCAGTG
110512	BARD1	TATACCAGATGAACATTTCAAA
110513	ARNT2	GGAGCCAAGAAGCACAGAGACA
110514	SCA1	GCATACTCTCTGTAATTCCAGTG
110515	G6PC	TGCTCTTGAATTCCTGGGCTCAAGCAG
110516	DSC1	TCCAGGAGGCGGAGGTTGCAGTG
110517	SCML1	CAGGACCTTTCCGAAGCGTCG
110518	FOXE1	CGCGGTTCGTCCTCTAGTGCCTT
110519	CD79B	GCTTCGGAGCTGCCTGGCTCATGGCCC
110520	HUNK	AACACAAATCTAGAATTGCA
110521	ST5	CCATGAGTCCCTGCACT
110522	TK1	GCCTGTGCCAGCACCTTTGA
110523	LZTS1	CGGCAAACCTTTCCCCCTTA
110524	RAI3	TGTCACCCAGGCTTGAGTGCAG
110525	MFNG	ATTGGCACTGAAGGCACCCCAG
110526	HMGA1	CCCAAAGTGCTGGGATTACAGCATCCC
110527	FRDA	CCACTTCCCAGCAAGACAGCAGCT
110528	KIF5C	GAAATTGAACAAAGGTCAGT
110529	DIAPH2	CTGCCTCTGCCTCTGTTTAATAAGGA
110530	GBF1	CCTCTGCCTCCAGCCCGGCAG
110531	NOVA1	ACCCAACAACTGTCACCCTC
110532	SLC18A1	TCTGTGGCTAAATCTAGAGCTGCT
110533	ITGA3	GGGAGCACCCTGCCCACC
110534	SPAG1	GGTCTGCACTATAAAACATTTT
110535	LAMP1	ATGTTTTGCCGTGGCTTGGGGA
110536	CREBL2	GCTTTCTCCCCTCCCGCT
110537	RAB7L1	CACCGCACTTCAGCCTGGGTGA
110538	MUC4	TCATCCAGCTCTTGCTCAGTGA
110539	BACH2	GGAGGTGAGTGACCCTGAGACTAATGAA
110540	GUCY1B2	ACACATCACCTTGCAAATGACACTTTGCC
110541	MPL	TTATTACAGTCCTTCAAGATTCCATT
110542	DRP2	GCATCCCTGTCTCAGGGACTTCTTCGC
110543	RAD51L3	GCTGGCCAGAAGAGACATCTTGGGTTCCT
110544	DDX11	CCAGCATAGTGCTCCTGGACCA
110545	PDCL	CCTGAGTAGCTGGGCACG
110546	CLCN6	GACTTCCCCAGCAAGGATCTTCCCA
110547	CYP3A43	AATTCTTCAACCAGAAAAACCTA
110548	CAMK2A	AAAACCTGCTTGTTCACA
110549	PPP1R12A	ACTCTTCATGTGGCAGAGTCTTCTATG
110550	KPNA1	CCCAGTCGAGTCCTCTTGTGGAGCC
110551	101F6	CATGGCTCTTCCCAGCCTAGGGGA
110552	AKAP13	GCAGCGGCTGCTGGAGATCTG
110553	POV1	TCAAGGCCTGAGCAACCAA
110554	GYG	TGGCTGTATCAGTTCTTAAAATCTGCA

110555	ADCY2	ACAGGGGCAGAGTAATTCAGGC
110556	KCNK2	CAGCACTTTCTTTCTGATGAT
110557	GHR	GGTCTCGAGTCTCCTGACCTCGTGATC
110558	CDS2	TTGCCCAGGTCAGGAGTGTTTTC
110559	SEMA3F	AGTCCCCAGACTCAGCTGGAAGTCTA
110560	MYCN	GGCGAGCCGATGCCGAGCTGCTCCA
110561	CTBP1	CTCCAGCCTCGGCGCCTGGGGCAGCGG
110562	SLC7A1	CTCCTGAGACATCTTTGCTGCAAG
110563	CAPZA1	CATTTACATTGTTTACACTTCT
110564	MS4A2	TTCCCTAGATTGTGAAAGTGATC
110565	IL1F5	AAGCAGAGTAGACATCATCTCTG
110566	PMCHL1	AACCAAAATCATAGGCTTTTTCTGTG
110567	SMARCC1	GGAAACACCGCGAGGGCCGGG
110568	ZNF137	TGAAAGGTGACGTGCAAAACTGCCTAT
110569	NBEA	GCTGCTCTTCCCTTCTCCTCAG
110570	SH3BP2	CCATGTAGCTGGGATTACAGCTGC
110571	ZRF1	CTAGACCCGGCGCCATCATGCT
110572	ABCA1	ACTTCCATATGGAGCATTTTT
110573	SLC7A1	GGCAACTTGGACCAGTGCAAG
110574	COL6A3	TCATGCTTTGATTTACACTCGAACTCGGGA
110575	MTM1	GACTAAAGACCTGCTGTAATAAA
110576	RXRA	CCTGGTGCCTTTTGCAGCCAG
110577	XKRY	CATCTGGAGAAAATTCAGTTAAAAG
110578	MMP20	TAGTCTTCTCAAGCAATGAGG
110579	IL11	TGTGGATAGAACGCCACCCAG
110580	ACE	ACACACCCCACACCCCAGCCCA
110581	ZNF264	GGCTCTCTGCAACCTCTGCCT
110582	TAF9	AAAACTAATAATAATGAGTA
110583	EIF4E	AGTATTCTCATAGGAGACTGCG
110584	MAP3K14	GGCAGTGACACTGTAGGAGCATA
110585	PPID	AACATGTCACAATACAGTAAGTA
110586	HCK	GTTTCCTCATCTGTCCAGTGGGT
110587	HM13	TCTCAGGGCCAGACCAGACAGATG
110588	XPA	ACAAAGGCTGAACTGGATT
110589	MASP1	TACTGTTGGTATAACTGAGCTT
110590	CYP11B1	CTTCCCCTGGCCAGGGCCCCT
110591	ADAR	CCAGCTGCCTCTTCTCCTAAAGCA
110592	CALM2	GATGGAGTTGGTCAAATGAGGGAA
110593	SHOX	GCCCAGGCTGGAGTATAAT
110594	CPD	GCTCCTCCATTTCCATTTATTCTCA
110595	SLC2A8	CCTCCTGTTCCAGCTCCTGCTGCT
110596	IL6R	GAGAACCATATCAAGACTCTT
110597	COG8	GTCCCCAAATACCTGAAAGCTGTCTT
110598	GYPA	CAGTAGAACTATGTCGGAGCACTCACT
110599	BECN1	TTAACACTTTTCACTTGGTTCTTATAC
110600	WRN	GACAGGTGGGAAGATGGGAATGAG
110601	ICOS	TACTACCTCTTCTTTCTGTAGGG
110602	PMX1	ACCCACCAGCACCCTCCGTC
110603	PCDHGA1	GCTCAGCCCAGGCAGCCAGC
110603	PCDHGA10	GCTCAGCCCAGGCAGCCAGC

110603	PCDHGA11	GCTCAGCCCAGGCAGCCAGC
110603	PCDHGA12	GCTCAGCCCAGGCAGCCAGC
110603	PCDHGA2	GCTCAGCCCAGGCAGCCAGC
110603	PCDHGA3	GCTCAGCCCAGGCAGCCAGC
110603	PCDHGA4	GCTCAGCCCAGGCAGCCAGC
110603	PCDHGA5	GCTCAGCCCAGGCAGCCAGC
110603	PCDHGA6	GCTCAGCCCAGGCAGCCAGC
110603	PCDHGA7	GCTCAGCCCAGGCAGCCAGC
110603	PCDHGA8	GCTCAGCCCAGGCAGCCAGC
110603	PCDHGA9	GCTCAGCCCAGGCAGCCAGC
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110603	PCDHGB3	GCTCAGCCCAGGCAGCCAGC
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110603	PCDHGB7	GCTCAGCCCAGGCAGCCAGC
110603	PCDHGC3	GCTCAGCCCAGGCAGCCAGC
110603	PCDHGC4	GCTCAGCCCAGGCAGCCAGC
110603	PCDHGC5	GCTCAGCCCAGGCAGCCAGC
110604	HOXB6	TCTCCCACCCCCTCCCCAAAG
110605	BACH2	CCTTCCCCTCCCCCTTCCCGGCGCACTC
110606	FSHPRH1	TCTAGCTAATTTTTTAAATCTT
110607	SMARCB1	GAGGCGAGGGGACAGCCCAGC
110608	EPHB2	GAAGAATTTTTCTGTCTTTGGAGA
110609	HDGF	GAATGAGTTGAGGCCACTGTGTT
110610	CDK2	CCGCTCCAGGGCCGGGCTGACC
110611	CEBPE	GGGCAGCCGGAGCACCCCAAGGGGT
110612	ST7	CCTGTATTCCTGACCTCCGCC
110613	STAT1	TGTTATGCATAAAGTCAGTGCCCAAC
110614	PIWIL1	ACCAGGACTAGGGCGAGGGCA
110615	SDC1	GTAGGGAGGGCGGCAGGGGCCTGGAGA
110616	ADD2	TACTCTTGGCACCTTGACTTGCACCCTCTGAG
110617	PDGFB	GTGACCTGGGTATCCCCTGCCTCCTGC
110618	SMT3H1	GTCTGGTGATTTCAGTTCTGT
110619	ARNT2	TGCAGTTTTTGCTTATGATTTGTA
110620	JMJ	GAGGAAGACGGAAAAGACTGCCTG
110621	CETN1	ATTATCTTGCTTCATATATCA
110622	FGF23	ATCATAATAGAAAACTCAGCCT
110623	MAGEA5	CACAGTGTCTGTGGGGAGCCCAGGAA
110624	OGG1	CTTAAAGAACCATCAGCATCACCCGGGA
110625	SLC22A11	AGCTCACTCCTCTTCTCCCTGCCCTGA
110626	CROT	GCCTATAATCTTAGCACTTTGG
110627	ATRX	TCTCACTTGACATTTTAGCTA
110628	BCL7A	CCCCCTGCTCTGTGCAGCTGCC
110629	ACVR1	CACTATACTCTAAAATGGACATTTTC
110630	MTMR7	TAGAAATTATGTTAACTATGA
110631	MAP3K14	CCTCCAGGCTGCTGTGAGAGTG
110632	ATP5A1	TGTCATTGTTCTAGTAAATTAGTTCCA
110633	PCOLN3	GTGGTATTTACAATGACATCCTCCTCCTCC

110634	B4GALT5	CACTGGATCAGCCGCTGGAAC
110635	ADORA2A	GCTGGGAGCCAGGCGGGCGGCTGG
110636	HOXB6	GGAAGGCTCTCGGGTGGGGGAGCCAG
110637	KCNJ13	TTACCTCCTTAATTTTTAACA
110638	ABCB11	ATTATTTCCTCTGGCTTCCTCA
110639	BCL2L2	GTGAAGTCCAGGGCCAGG
110640	ITGAL	CCCACCCCTCCTTCCTTGACCAGCA
110641	DLST	TTCATATTCCTGCCTTTCTTCCA
110642	TNS	TTGGCCCAGACACCCACCTGAC
110643	DYRK1A	GAAATCCATATTTATTTTGTAA
110644	DNMT3A	GGCCTGGAGGCTACTGGCTGGATGCA
110645	NOX4	GCTGAACTTGCTCAATCTAAGG
110646	RING1	AACAACAAACGTGCTTTTTTCC
110647	ADCY6	AGGTGTCCCTCCTATGCACA
110648	TRAF1	TCCTGTGCCTCCATCAGCTAAACAC
110649	GUCY1A2	TATATTTGTACCACTTTTGAGA
110650	CD83	TGGTGTCTGCTTTCTCCA
110651	ADAM12	CTCCTGAGAGAGTAGCAGGTT
110652	ACTC	GTCTCCCAAACCACCTTCCCTCA
110653	LMNB1	TTCTCAGAAGCACAGAATATTTTT
110654	AQP2	AGGTTTGCCTACGTTGGTGCAAGT
110655	FLG	TGCAGTCAGAGACAGTAGAC
110656	MOCS1	GCAAAGCACAAGCTTGCCTGAA
110657	GFI1	AATCTACAGACAGGAATGCCCTTCAG
110658	HYAL3	CTGCCTCTTCTTTTCCCTGCTGC
110659	EIF4EBP2	TTAGAAAGAGAGGAAGGATGTCTGCA
110660	HMOX2	AAAATGCTGGGTTTAAGAAAGGCAACC
110661	PDL2	GTGATTTCCAAAAGCAGAGGTGTG
110662	CFL2	CCACGTCCAAACCCCTTTAAGAAG
110663	GNPI	TTTAGAAGAAAGAATTGTA
110664	BARX2	CTTGTCTTGGGCCTGTCACCTCC
110665	TNFSF4	AAGGTAAGAGGAATCAAGTTCTGA
110666	CREBBP	ATATTGTTAAATAAACTGTGTGCAA
110667	EZH1	GGTTCCTCCTGACCCAGCTGCCTC
110668	RAD17	CGCCCGATGCCCAGAGCACTCTG
110669	GPR86	TGTCCAGCAAATACTCTAATGA
110670	RPL19	GAGGAAGAGACCAAGAAATAAACCTCC
110671	BCL11B	AACACAAATATCATAAAAGGAG
110672	NRG1	CCATCTTCTTTATACAATGACCA
110673	B4GALT5	CGCCTAAGCTGGAGTGTGGTGG
110674	RPL17	ATTCAGCATTAAAATAAATG
110675	CDH12	AACAGCTTGGCTCTTTTGGGAA
110676	IL6R	GAGGAAGAGAAAAAATATTTTCCTGCC
110677	RBL1	CTTGGGAGGCTGAGGCAGAATTGC
110678	TCF2	ACATGGTCCTTGTCCCAAGCCCAG
110679	DDX11	CAGGGGCCCTGCTCCTCTCTG
110680	RAI14	CGGCGGGCGGGGTGGAGCAGC
110681	TMEPAI	CTGGGGGAGAGCCGGGTTCATTCCCTGTCC
110682	C9orf19	TGCCCTGCTGAGTGTCCCTGA
110683	GHRHR	CTGTGGTCCCTCTGTGTCTGCTCTCATCCAT

110684	PHLDA3	GAGGCGCTGGAGCTGAAGGAA
110685	COL10A1	CCCCAAAATATTGAAGTTCATCTG
110686	TG737	ATCAGGAATGAAGATAAAAG
110687	CXX1	GTGGACCAGTTAGTTTTGCCCAT
110688	DTNA	TTCATTTCTTCTGTATGCTCTTTTCT
110689	TMPRSS3	TGAGAGGAAGGGGACAAGTAG
110690	GNB3	GACCTGTCAGCCATGGGGGA
110691	PGM1	ATTTCTAGTGCCTTCTGTCCA
110692	PRDX3	TTTCATCTTGAATGTCTTTGT
110693	LZTR1	GTGCAGGCTGCAGCGCCCAGCC
110694	HGF	ATCCTTTTGTATACTTC
110695	FCAR	GCACATACCACTGCACCCAG
110696	SUV39H2	GTTAACATTTTTAAAAATACATAT
110697	RAD52	CATGCTGTGATACCGGCGGA
110698	SLC35A2	AGCTCTCTCATGACCCACCTCA
110699	RS1	GAAAGTTTATCACCCCAAAGAG
110700	PPP1R3D	CCCATCCTGTCTTCTACTTGAA
110701	ARCN1	ACCCAGGCTGGAATGCAATGGC
110702	VENTX2	ACCCAGGCTGGAGTGCAATGAC
110703	CYB561	CTTTCCAGGAAGTCAGGATGG
110704	ZNF236	AAAAGAGATTTCTAGGCCT
110705	PSMC6	TAGTGGTATAAGAAAGCATTTCTTATGA
110706	SYNGR1	ATTCCTTCACCGCCTCCTTCATT
110707	SQSTM1	CAGGCTGGGGAGGCCAGTGTTGTGGGC
110708	CSH2	CATTTCGCCTGGTAATCCTCCAG
110709	SRGAP2	AACAGGCAAGGAGGCTTTGA
110710	TRIM9	GCCCAGATGATTCTAAATT
110711	CTSB	CCCAGCCTGTGGTTACAGTGCAGAC
110712	JAK2	TGTGAACTGTTTCTCTTCTGCA
110713	PPGB	CTAAGCAAAGTGCCCCTGCAGG
110714	PYGO2	TCCTTTCTCAGCCTCTCTCGTGCT
110715	IL1F8	AGCTAGAGAAGGTCGGA
110716	ACTR1B	CCACCTCCTGTTCGTGACCTGACAGG
110717	ALDOB	CTGTCTTATTTGGCAGCTGCTGCCTC
110718	NPAT	TTGACAGAATCTGAAAGCATGACCTGCA
110719	CLCN4	GGCTACCCAATGTTACTACTTATTTTT
110720	CD44	TGGGACACTTAACAGATGCAATGTGCT
110721	MOX2	ATCAGGAGCACTGAGCTCACAG
110722	BAALC	TTTGGGAGGTGTCTGTGAAGCAGT
110723	ZNF239	TCACCGAGGAGGAGTGAGGTC
110724	LEP	ATTTCCCTGACTCCTCTAAGCCACT
110725	BAP1	ACAGCCGGCTGTGGAGCAGCAG
110726	PCNA	TCTTGACTCTAAATGCAGTTTT
110727	NEF3	AAATGCATGTGATTGGCAGCT
110728	CTMP	CCTATAATCCCAGCACTTTAGG
110729	SFRS7	TCAATGGTCTTGTTTCTTTGCTTTCTA
110730	FBLN1	GTTGTGGCTGTTCCTTAACGTCCCCA
110731	WARS	TCCACTCCAGAAATCATGCT
110732	DAPK1	CCCCCCACTCACTCCCTAGCTGTG
110733	TEM6	GGCATTTTCAGCAGATCCTCA

110734	FGFR2	TGCCATTGCATTCCAGCCTTGG
110735	RECQL5	CCCAACAACAGAAGCCTGTGGCCCCAA
110736	NOTCH4	CTGCAGCTCTGGAAAGAGGGTT
110737	PSG4	AAATGCACATTGTGTGGATGG
110737	PSG7	AAATGCACATTGTGTGGATGG
110738	ADAMTS4	TCGCCCAGGCTGGAGTGCAATGGCAC
110738	FEZ1	TCGCCCAGGCTGGAGTGCAATGGCAC
110739	PRX	TGGAATTTGGCTTCAAGATGCCCAAG
110740	SLC7A7	TGAAACTATCACAGGTGCTG
110741	M17S2	CAGGGTGTAATTGGGTTGATGGGTGGG
110742	PKIG	CCTCTCCAGCCCAATCTTCT
110743	P2RY2	GCTGGATGACCCCATGCTCCGTCATTT
110744	PAX3	GTTTCAAATCCTTTTGAACACG
110745	PKD2L1	GCCTCTGCTCCCTCTTCCTCTAG
110746	DLGAP2	ATCTTCACGTGTTGTTGTGTTT
110747	RAB2L	ATAATAAACCAAAACACTACCTG
110748	ARF1	TCTGGGGCCTCACCAGCAGGA
110749	SOX9	TAGTGCATTTCCTCCTGCCTTT
110750	SRRM2	GCGGCCCAGGCGGGGTGCGAGT
110751	ICAM1	TGGTGCAATCATGGTTCACTGCAGTCT
110752	GFPT2	TTAGTTTTAAAAGACAAGATATT
110753	APOL1	AAACAGTCAGAAAATTAGCATGAAAGC
110754	ACVR1	GTCGCCCAGTCTGTAATGCAGT
110755	JUN	CTGGAGGAAGGGGGGTTGCAGTG
110756	AK3	CAGTCCAAAGAAGCATATTGCC
110757	KCNMA1	TACACACAATAAGTTAGCACATGTTTATTTG
110758	P2RY2	TGGGCTAGGAGCCAGTGTGAGGCTG
110759	AGL	TGAGGAAACATGCAAAGCATTAG
110760	IDH1	TCTTTCTCCTCCTGGCCTGGCC
110761	MGAT1	CCTGCTCCCCTTCCCCCAGTGGGG
110762	PAEP	ACTCACCTCCGCCTCCAGGAAGACC
110763	YWHAG	CTGAGTATGTGTAACAGGATA
110764	ATP6IP1	AAGCTCCCCTCAGCCCATCTT
110765	KCNJ13	ACACCAGAACACATACATATAT
110766	CARKL	GTCAGCCAGATCCCAAATGAGTGCCTT
110767	CEACAM5	CTCCATCTCAAAAAGAAAAGAAA
110768	ATSV	GCGCGGCATGGAGGGTGGTGTGAGT
110769	HTR7	GGTGAAGCCCCGGGGCCGGC
110770	RAB6A	TTGCAATTCATCATTGCTGCCTG
110771	MYOM2	GTGTGGGCTGATAGTTGATCA
110772	HS3ST4	CAGCTTCACTTGCTGGAGTGCCAAGT
110773	B3GAT1	TGGTGGACTGCAGCCTTCATCT
110774	SLC38A3	AGCCTGCAGCCATCCCCC
110775	PPT2	TCAGCGACCAGGTGCTGCTGCTG
110776	DFFB	TCACTCTGTCGCTCAGGCTGGAGTGC
110777	SH3BP2	TCACCCTGTCGCCCAGGCTGGAGTGC
110778	CPS1	GGCTAATCCAGGAATATTGTT
110779	KCNA7	AGGGCTTCCTTTGGTATCAAAGTA
110780	GPX3	TGAAATCCCAGCCGCCTAGCGA
110781	ARSA	TGGGTCCGGGGTCTCAGGGA

110782	BAZ2A	CCAAGAAACACTCTGTACTGTGTG
110783	FKRP	GGAGCCAGACTGGCGAGATTCAA
110784	EPB49	GGTGGGGTGGAAATAGGGTGGG
110785	PPT2	GGCGCCTGGAGCGGCTGGAGCAGT
110786	SRGAP2	CCTGGTCTAGTTTCCTGGGCC
110787	FN1	CCCAGTATTTTTATACGGA
110788	SLC31A1	ATGTCTTTTCCTTCTCCATCA
110789	CYP1A2	TAGTCTCAAACTCCTGACCTCA
110790	MFAP3	CACTGCCCTGGGCTCCAGGGA
110791	STARD4	AGGCTCTCACTCTGTTGCCCAT
110792	NOV	CATCATATTTTGTTGTGCACTA
110793	E2F1	CAATCTGCACTTTGA
110794	SCN2B	AGCCATCAGGCTGGAGGTGACGATG
110795	SSR4	CAGGACCTGGGACTGCACAG
110796	SEPX1	TTTCCTGGCCCTGTCTCTGGA
110797	TEM7	TACCTTGCCCTTTCTACTCA
110798	SORBS1	GATGGCCAAGCAGATAGGTTAT
110799	PKD2	TTAGTTTAGCCTAAAGATTTATCTGCA
110800	MGA	GGAGGTAGGCATAGAGGGAGCCCTACCCC
110801	UMPS	TTAGGAAATATTGAGTAATTTGTA
110802	NLGN1	ACTATTTAAATAAGGAGGAATATTATG
110803	CHST2	CCAGAAACAAAAAGCCCCATTGGGCAT
110804	DCK	TCATTTTCACCTTTAAACTACTA
110805	WTAP	GCTCTGTGACTCCAGTATATCTTACC
110806	TNFRSF1B	TCTGAGGCTCTTTCTGGGCCAAG
110807	STAC	CTCCTAGCATTCAAACTTC
110808	ENTPD6	GTTCCCGCCTAGCCA
110809	XRCC3	GGGAGCCGCCTGCTTCTTCTCTCCA
110810	STAT3	CCTGAGAGGCGGAGGTTGCAGTG
110811	ANKH	GCCTGTAATCCCAACACTTTGG
110811	CTSS	GCCTGTAATCCCAACACTTTGG
110811	NFKBIL2	GCCTGTAATCCCAACACTTTGG
110811	NPHP1	GCCTGTAATCCCAACACTTTGG
110811	RFC2	GCCTGTAATCCCAACACTTTGG
110811	TCTA	GCCTGTAATCCCAACACTTTGG
110811	TPM4	GCCTGTAATCCCAACACTTTGG
110812	HIP1	GCCTGTAATCCCAGCACTTTGA
110812	TNFRSF10D	GCCTGTAATCCCAGCACTTTGA
110813	MYH11	CTCCAGCCCAGGACTTCGAGGC
110814	SIGLEC8	AGCCTCCCAAAGTGTTAGGATT
110815	CIAS1	GGCCTCTCAAAGTGCTGGGATT
110815	SLC14A2	GGCCTCTCAAAGTGCTGGGATT
110816	POV1	TGCAAAGCCTGGTGCCCCGAG
110817	SLC22A12	CTTGGCTCAGCCACTCTGGG
110818	TIRAP	GTGGAGCAGAGAACAGTTCCTCAGCT
110819	ACHE	ACCGTGGGGAAGGGCCCCACTCAGG
110820	GRM7	GGTCTCCAAAAGTGCTGGGATT
110821	CACNA1D	CCCCCGCCTCAACGCCCAGCACA
110822	CSNK2A1	GTCCACCCTCTCCTTGATGCAGCTTG
110823	LTB4R	TCGCTCTGTCATTCAGGCTGGAGTGC

110824	MAP3K9	GCAGGTGGATCACCTGAGGTCG
110825	MAP3K12	AGCTGTGGAAATGAATGA
110826	BAZ2A	TACGGGAGAGTGGTAGAACTGGA
110827	SOX12	GGGTCAGGCAGGAAAGCAACT
110828	CCBL1	ACCAAGTGCCTCCTGTCTGAA
110829	SLC14A1	GACCAGCCTGGGCAGCATGGTG
110830	APPL	CTACAAATTGTCACCTCACTTA
110831	AF3P21	GTCCTCCCTTCCCTGCAGCTCCAGTCA
110832	LUZP1	CCAAAACAGCAAGCATAGGGAGAGCC
110833	C7orf2	CTGCTTGTAGATATCATTTTTGCAGT
110834	GNS	GCTTGAAGAGTAACCATCAGAGCTG
110835	DLG5	CGTGAGAGCTGCGTGGGCAGG
110836	SLC2A4	GAGAACGACTGGGGGCCAGGC
110837	TCF2	ACCCGAGCTGGAGTGCAGTGG
110838	MIA	CCCTGCCGTTTCCCCTCCTTGGGTT
110839	TBL2	CAGCGGATTCGGAAGGAGAAGC
110840	HAL	GCTCTCCCCTCCTGTGACC
110841	MAP3K7IP2	CACGCCTGTAATTCCAGTGCTT
110842	SLC21A3	TGTCTGACCTTAATTACACTATTCTT
110843	NCOA6	CTTCCAAGGAGCTACTTAGTTTTAG
110844	DNMT3A	GGGCTGCACCTGGCCTTATGGG
110845	IQGAP1	AGCCACAGGGAGGCATGGAGTGCCATG
110846	SLC6A6	GCAGGTGGCACGTGGGGAAGA
110847	MAN2A2	CTGCAACCGTTTCCGCCTCCTGCTA
110848	GRIA1	GTCTCTGAGAGTAGAGTCACTGG
110849	KCNF1	CCGGGAGGGAGGGGTGTGCAGGA
110850	TIMM17B	TGGCACCCTGATGAGTATTTAA
110851	NXF5	TTCTGTCTTGCCTTCATGTGGACC
110852	FACL4	TAGCCTGGTGGTTTTCAACCTCTAGAA
110853	ZNF179	TCCTTTCTCCCCTGGGCT
110854	KCNK10	GAAGAATATATTTCACTGTGCCATAA
110855	GH1	TGCCTCTCCTGGCCCTGGAAGTTGC
110856	NPR1	CCTGCTCTCCACCTGGACT
110857	CFTR	GCAGCTCTAAATGTCAATCAG
110858	F8A	CAGGCCTGGACTTTTTGCATCA
110859	TNFRSF10B	GCTTCTGCCCTGTCAAAGGTCC
110860	VHL	GGAAGGTGGAGCTTGCAGTGAG
110861	FLT1	GCAGGCCTAAGACATGTGAG
110862	TH1L	CTGACCTCAGTTTTCTCACAA
110863	ARCN1	GACGGGGTTTCACCGTGTTGCC
110864	MLLT2	AGAATATTTTGTGCTTTCTTTAGAA
110865	DAG1	CTTTGCAGGCAGCCTGCTCCCCT
110866	VENTX2	ACGCAATCTCGGCTCACTGCAACC
110867	KCNK5	CTGTATGTACATACTGGCA
110868	IGF1	TTCACTTTCAAAAACATGA
110869	IL21	ACACTATGTTACATACTCTA
110870	KCNS2	CACCAAAAAAGAGGTACCCT
110871	RASD1	CTCACCCCGCGTGCCACCC
110872	CYP4F3	GGTTTTCTCCTGGGATGGTGAAAATGT
110873	CHS1	AAAGCTTACTTTAAACAGGAGGCAG

110874	IRTA1	GTCGACCAAAAGGAATGTGTGG
110875	MEFV	AGCCTCCGAAGTAGCTGGGATT
110876	BCAR1	GTCACCAGACGGGGCTGGAGTGTGAGG
110877	FTSJ2	TGGGTCTGCTTTGGTTTTTGCTG
110878	MLF2	CCTGGATCTTTGCCCACCTCTTC
110879	ZNF36	TCAAGTCAGTTCCTGGAGCCT
110880	DDX19	AAATGTATGCAAATGATGGGG
110881	DCTN1	AGATGAGAGACCCTTATTTTGGCTGT
110882	CPT1B	AAAACTCAAGAGCTTCGAGAGCCAG
110883	MYEOV	ATGCATCCAGACACTGTGCTGGG
110884	ARHGAP6	AGGGAACCTGTCCCCAAAT
110885	RAC2	GCAGGCGCCTCACCAGCCTCC
110886	NAPB	TCTATTTTTGTTATCCTGTGATTA
110887	PPP1R12B	TGAGAATAGTGGTGAATTTGATT
110888	ZAP70	CTGTCCTCTCTGGCTGGGGAGCA
110889	MTMR2	ACTGTTCTCCCTTGTGACT
110890	PRSS7	TTAGTATTTTCCCAACCAA
110891	ITGA11	CGTAATCATCCCCATCCTCCAG
110892	CTF1	GGCCTCCCCCTTTACCCAGCTCTT
110893	CPN1	TTTCAGTGGCTCTCTTTGA
110894	M6PR	GGATGGAATCAACAGGCAGGGGGCC
110895	ITPKB	TTTGAACTTCCTTTCCCACTTGGT
110896	GALT	AAGAAGCTCTTGACCAAGT
110897	ITGA5	AGGGACAGAGGCCCAGCCTCCCTGAAG
110898	MADD	TTGGCTGCTGCCTGCCACAGCCTC
110899	ICAM5	CCTCTAGCCCAGCTCCTCGGC
110900	CAPN2	ACACTTTTTACTTTTACACACTTTC
110901	FCAR	GATGGGGTTTCACTGTGTTGGCC
110902	GPLD1	GAGGGCGGAAGGTGGGAGGAGG
110903	IMPDH1	CCCCTGCCCCGCCCCCGGCACG
110904	MSH3	AAGAATTGGCCAGGCATGGTGGCTCA
110905	HIVEP3	GGACTCGTGGGGGCCACCTGCCA
110906	TCF7	GCAAACCCAAAACCTCATGAC
110907	RAB6A	AGTCCTGCTGCCCTCCAGCC
110908	FBP1	CCTGCAGCCCCGCACCTGCC
110909	RXRA	TCTTCCCAGCCGCAGTCTAG
110910	TSFM	TTTTAGCTCTGGACATCATT
110911	NEBL	ATCTAGAAACTTCTACTAAACAGAG
110912	SRP68	TCAGCCTTATTCCCCTTCACCTC
110913	ACTR1B	TAATAAGGAGTCAGACCTA
110914	DBY	CACTCTATCCTGGATAGGCACTTGG
110915	SFRS2IP	TCTGCACTGCAACTTCTGTATCCTT
110916	AKAP2	GGAGGCAGCAGCATTGCACAGCCCCAG
110917	MAN2A2	CTCTGCCTGTAGCCAGGATGCAGCT
110918	KCNMB1	CTTGCTGTCTGTTGTTGTTTGAAATCT
110919	ACCN2	ACCCCCACCCCACAGCTGCT
110920	ARNTL	TATAAAACATGAAAATCGCTTT
110921	ARHGAP6	TCGTCCTTCTCCACACCCAGC
110922	GRAF	GTGGCCCAGGCTGGAGTGCAGTG
110922	MEFV	GTGGCCCAGGCTGGAGTGCAGTG

110923	EFG2	CAATCAATAAAAATATTTTA
110924	GSTM4	AGGCCTTTAGCCTCTGAATGAT
110925	GALR1	GAGTTAACAAAACAGAGT
110926	SLC22A3	AATGCTGTTGAAGTTTCTGGGAA
110927	PRPSAP1	AGGAGTTAAAGGCACATAAAGTCTTAA
110928	MFAP2	CCCACCCCAGCTGGTCTGCTT
110929	ZNF253	AGAAATGTGACAAAGCTTT
110930	PPP2CB	TTCTAGATAGGTCAGTCTAA
110931	PKD1	CCTGCTGGCATCAGGTCTGGGCAA
110932	ZNF165	GACTGCAGGCGTGAGCCAC
110933	CACNB2	CACAGTGCAGCTTGGTGAAGCCACA
110934	XPNPEP2	CTACCACCCAAGGGTGCCATGG
110935	IL13RA1	ACCCCTTCCAGGGGTTTACAGTCT
110936	DIO3	GAACAATCTCCCCTACCTCCTGGG
110937	USH3A	TCTGGTGTCAATTCGCTATTCGC
110938	GNAS	GTTAATGGGTTTAATGGAGAGG
110939	BACE2	CCAAAACAGAGTGGATTGGGCT
110940	PDE5A	TTTTATGCTACTGAACTGAAAG
110941	DEK	CCAAACAGTATGATGGAACAGTGA
110942	TRIM	AAAATTAATGTGCTCACCTCGG
110943	PPP1R8	CAGCCGCGAACTCCGGCTCTAGCCTCCCGCT
110944	RET	CTCCTGGGCAGGCAGGTGCCT
110945	NDRG3	ACTGGACTCTCTTAGC
110946	KCNAB2	ACCTCAGGGAACCTCTCCCTGG
110947	XT3	TGCCACTCCACTCCAGTCTGGG
110948	IPP	TGCCACTGCACTCCACTCTGGG
110949	ALOX5AP	CCTGTTCTCTGAAGATGTTTTGTGACC
110950	SLC22A11	ACCTGCTGAGAGAGCTGCCA
110951	ANK3	ATAAAATGTTGATAAGGCACTGC
110952	ABCB1	TTCTCCAGATTCCTAAAGATTAGAGA
110953	AXL	AGCCCTGTCTTCCTACCTAT
110954	LTB4R	GGTGGGCATGAGGCATCACTGTTCCTG
110955	EGFL6	ATCATATCACTGTATCTTCTCA
110956	GAD1	GCCTGCCTATTTCCAAAGGA
110957	GPX2	CCTTAGGATGCAGCATGCCTTCA
110958	TOX	TTGTGTAATCCACTCAGAA
110959	MAPRE1	CACTGTAATCCGAATACTTTG
110960	NINJ1	GCACAGCCAGAACTGCCTTTGGCCCT
110961	SETDB1	AAAAAGAGCCCTTGAAGCTGGAAGAC
110962	RP2	TGTTTGAAACGATTTTAAAAAATAAG
110963	SLC25A17	CCCTGGTCAGTCAAGTCCCAA
110964	BCL7A	GCAATCTCCCCTCCCTCCC
110965	RAD52	TCTACTTCCCCATTTCAGGTGTGA
110966	DVL3	AGGCACGTGTGCAAACCTCTTGACTT
110967	PODXL	TCACAGTCTGTAGCCATCTGATATCC
110968	SGCG	TCGCCTCCCCCTATCTTGTCCGTGTG
110969	YY1	CCTCAGCCATGGCCTCGGGCG
110970	ATM	TTGACCTTCCGAGTGCAGTG
110971	RBM3	GCCTGTAATCCCAGTGACTTGGGAGG
110972	STX1A	CCACTCCACTCCAGGTGGGCCACTCCA

110973	SYP	CACACACACCCTTCCCCACTCCCGTG
110974	LMNA	CCTGGCTGCTGCCCCCACCCCGG
110975	POLR2H	TTCTGACCTCGCCTGAAGCCAGCCTCT
110976	ABCC3	GGCACCTTAAGATTTTGCACCTG
110977	JRK	GTGTGAGCCACAGCACTCGGCC
110978	DSPG3	AAACTAAGTGATAGAAAATA
110979	AGR2	AATAAATTCAGCCAACATGTGACTAA
110980	BCL2L11	GGAGGTGAGAGAGGCACAGGTATTTT
110981	CRTAP	TTTTCCCAACAGCCCAGGC
110982	CD74	TCTCCCCTCCAGCCTTTGGCC
110983	COL1A1	GTTCTTGTCTTGATGTGTCACCGGGG
110984	CAV3	GCTACTGCAAGTCTTTGCGTTC
110985	RXRA	AATATCTCAAGGCAGGAGATG
110986	TNFAIP6	CACATTTCAGCCACTGCTCTGAG
110987	CYP1A2	TCCTAAGCTGGAGTGCAGTGGCATC
110988	LTF	TCCTCAAGGAACAAGTAGACCTGG
110989	NRXN2	GCCACCCTCTCCCTGCCAGGGGCCT
110990	HSD3B2	TTGTGGTCTCTCTTAACTTG
110991	LRRC2	AAATGTTCTGTATTTGCGTT
110992	MAP3K13	ATGAGCTGCAATAACAGGAAC
110993	CDR2	TTTGCCTATTGCCTATCGCCTCTCTC
110994	ARHG	TGCCTTTTTCTCTGAGTGCCTT
110995	ELK4	ATTGGAGTCTAAACTCCACCT
110996	CDC7L1	TAGGCAAAGAGAAAAGGACCCAAGA
110997	RHO	CCCTGAGTGGCTGAGCTCAGGCC
110998	DAZL	GTATCAGTACCATTTGATCTGCCA
110999	MYBPH	CACGGGAGGAGGCTGTGATG
111000	DUSP3	ACAAGTGTGTCCCAACACAGTCCTGG
111001	SORCS1	TTTCTGAGCCCTTTGTCAGTT
111002	HAL	GTGATTAAAACCAACAAGGAGTTTCA
111003	AK1	CCTGACCCCCATCGCTCTGAGCATATG
111004	PFKFB3	GGAGCATCTGCCTTGTGCCT
111005	APM1	GTCACCCAGGCTGGAGTACAGT
111005	TRAF5	GTCACCCAGGCTGGAGTACAGT
111006	HUS1	GTCACCCAGACTGGAGTGCAGT
111007	SCNN1G	CACCCACACTGCCAGCCTGGGTTGG
111008	NGFR	GCGAGGGGAGGGTGGCAGGTGACCTT
111009	HPS4	CAGCTCGAAGACCATCCTGGCC
111010	WIG1	ATTCCTCTGCTTAATGTT
111011	RAG1	CTCTCCTCTGCAATGTGTTATTCT
111012	ADCY2	CAGTTGAGGCCAGGCTAG
111013	STS	TACAAAGCATCTCATTCATATTAC
111014	CDH18	GTGACAGCAGTGGAGATT
111015	CBLB	CAAGAGTGTGGAAA
111016	FUT6	TGTGAGGTGGAGCTTGCAGTGA
111017	SVIL	CAGTTTATATACAGAAAAGTTTG
111018	SLC6A6	GCAGAATTTTCACAGCAGGGGCTCTTGGA
111019	CRYZL1	GGGAGGCAGAGGTTTCAGTGA
111019	PLA2G2D	GGGAGGCAGAGGTTTCAGTGA
111020	KCNK5	AGCTCTGGCTGGTTCTGCCC

111021	OSBP	TGGGCGCTGTAGAATGACAGG
111022	RNASE1	CCTCTTCCTTCCCTGCTGTGAAAG
111023	BCL2L11	TGAACCTGCAGATATGCGCCCAGAGA
111024	PPP2R2B	GTATCTTGGCACCCGGAGGCAG
111025	OAS3	CCTCCCATTGGCCTCTCCTTGCCA
111026	TNF	CACTGGGGCCTACAGCTTTGA
111027	CCBL1	TCCGTGACACAGAATGTTCTGGGT
111028	ATP1B2	TTCCTCTGCATGCCAGCCTGAA
111029	PIR51	TTATATTTACATTGAGAATTTCA
111030	MMP19	GACTGGGTCAGAGAGCAGGGAG
111031	PLAG1	ACAACTCTTCATGGTGCTACAAACTTC
111032	AMFR	TGACCAGGAAGAGGGAGAAACTTCTGCTCA
111033	CCND2	AGTTAGAGAATATGTATGCCTGCA
111034	NPAT	CTAATGTTCTTACACTGTGTTTT
111035	NPHS1	AAACAAGGTGCATCCTGGGGTTG
111036	MHC2TA	ATCACGCCACTGCACTATAGCCT
111037	ITGAV	AACCTATACTAAAAATTAGTTCCAT
111038	UBTF	CAGGCCAGGACTCTGCAGCCT
111039	BMP6	CAGCCCAGGCCACAGCCAGGG
111040	C21orf5	ACCTGTAATCTCAGCACTTTGG
111040	MTNR1A	ACCTGTAATCTCAGCACTTTGG
111041	STXBP1	CTGAGGAGGCGGCGGGGTCCGCAGGCGT
111042	EXTL3	TACCTCCTCCCTTTCATCTCAGCAA
111043	TNS	TTGCCCAGGGCCAGTGCCATG
111044	DIO1	TGACCAACGGGAGGGCTTCTCA
111045	EGFL5	TAGGAAACTAGCATGGGATGCACTGC
111046	LEP	GGGAGGCGGAGAGTACAGTGAG
111047	HIP2	GATGAAATTTTTCTTTGAGAACT
111048	VRK2	GGAGAGAAGTTAGGCAGGTCCTAG
111049	STXBP1	ACAGATGGGTTCTGGAGGCCCCTGAAC
111050	DNA2L	AAATTTAAAAAGTTGATTCCTA
111051	ZNF36	AGAATAAGCCACAGCAATGGTT
111052	POLB	AGAGGGCTCTAGTCCCTGGTTCTG
111053	GAS7	CCTCCTCCCTTTCTCATTTCCA
111054	RERE	GACTGAAGCCCAGGCTCACTGTCTACC
111055	CIT	CTCGGAGCCCAGCACTCCTGGGT
111056	TRIM14	TGCCTGTAATCCCAGCTACTAGGGAGG
111057	DEC1	CTGACTTGTGTGGGTGAGGCTTGCA
111058	SCD	AGCATTTTGGGATCCTTCA
111059	SLC39A4	ACAAACCTACAGCCCAGAAACCCAGAA
111060	MAPRE3	GGAGAGGGAGAGGGGGCTGAGGAGG
111061	ADAMTS5	AAACCTTTGACTGCCTGTA
111062	TBX5	TTTAGGGAGAGCAAGCGC
111063	TNFRSF9	TGTTGTACAGGCTGGTCTCAA
111064	VBP1	TTTGCCTTGCTACACATTAAGAGGGCT
111065	SURF4	CAGTTCTGCACCAGCAGCGCC
111066	APOA4	GTGGACACCTGCCCTGCCCTGCCACCTGTCTG
111067	TOB1	TTATAGTAAGGATACATTCAA
111068	STAC	GGCAGCAGCAGTAGGACTATA
111069	ZNF189	CCAGATCTATGAAATGGGTGGA

111070	LDHA	TCCTGGCTCCTTCACTGAACAT
111071	SNCA	CGAACCTGAAGCCTAGAAATATCTTTG
111072	ARHGEF7	AGCTTGAGTTTTACAAGTTATTT
111073	TNXB	GGGGAGGGGTTCGTACAGGAGCAATAAAGG
111074	NPTX1	CCTGCTTGTGCGGCGATGATCTGT
111075	MYO1D	AGCCTCCTGTGCCTCACCCA
111076	PMP22	ATCCTAACAGTATAATCCAGCT
111077	PTGER3	CCCCAGCCGCGGTAAACGCCG
111078	TGFA	CTGAGAAAGGAGAAAAAGATGGG
111079	ADCY2	CAGAAAACTGGCAGTGCACCTCTC
111080	CD3Z	CACTTCCTGGGGAGGTAGCTGCA
111081	ACVR2B	AGCCCAGGACATGAGTGTCTCTCCA
111082	LBR	GATCGGTGTTTGAAAATTTGCCATTTCA
111083	CHST6	CCCTGCCTGTGAGCCACACCTCCTAG
111084	PDGFRA	ATCCATCGTATTAAAAAACAATTA
111085	RHD	CAGCTAATTTTTGCATTTTTACTTGA
111086	HIRA	GAAGCGTTAGGTATTACAGCAGA
111087	DTNA	GCAAGGACCTTCTGGAACAT
111088	TNFSF9	GAATACGCCCAGCCTGGGTG
111089	PCSK1	TTGTTTTGTCATGAATTCTTATGCT
111090	BVES	CTTTTAGGTTATTCTGCTTT
111091	KLHL1	GCAGCCGCCTCCGGAGCTTCGG
111092	OAS2	GTGGCCTGTACCCAGTACAT
111093	EIF2C1	GGTTTCTGGCATTTTCCACAC
111094	GRAF	AGGCTGGAGTGCAGTGGCGCGG
111095	KRTHB1	GGAAGGGGCCTCAGGAGCAGGAAGGG
111096	RAB36	TCACCCAGGCTGGAGTGCAATGGCAC
111097	ATM	AAGGTCAGGAGTTCGAGACCA
111097	EGFL5	AAGGTCAGGAGTTCGAGACCA
111097	IAPP	AAGGTCAGGAGTTCGAGACCA
111098	ABCC4	GGCATTTTCCACTAGTTTTTG
111099	DDB1	GATTGGTGTTGCCAGTTGTCCTCC
111100	GUCY2F	ATGGGAAAGCTCACTTCAGTT
111101	TBX5	CCAGCCCCAACCTTCCAAACCTCCAT
111102	SRM	CTGTCTCTCTGGCGTTCCACC
111103	PDE7A	GCTGTGCAGCCATCTTGCCT
111104	CRY1	CAGAGGACAATTGGTAATTTGTA
111105	SPOCK	AAGAACATCGTAATAACACATGG
111106	FLRT2	TGAACCTAGTAACAGGCTTTATTTTC
111107	GRIK1	GAGCCCCGAGAGAGCTCAGCCTTGC
111108	FGR	TGGGTGGATGCAGTGGTCCA
111109	FHL1	ACTCACTGCTCACCCTCTTC
111110	PDCL	CCTCCACCTCCTGGGTTCAAGCAGTT
111111	ADM	AAGCCTCACTATTACTTGAA
111112	TGFB1	CCATAGCAACACTCTGAG
111113	SLC22A3	GCCGCGCTGTTGTAATACT
111114	GRINL1A	CCAAGAATGGATAAATGTCCTT
111115	MYLK2	TGGTGGAGGGGGAGGGGAGAAGC
111116	BBS4	ACGATTTTAAAGAAAAAAGGAAGAGTT
111117	RAB23	AACCCATCCAGCT

111118	P2RX7	CCCTTGGAACTCTTGCTATCGGGGAAGCCAG
111119	ATP11A	GCACAGGCTCCTACACACATGCAC
111120	ST3GALVI	TGTAAACATGGCTGGTGGAAAA
111121	DMRT2	GCAATAAAATTGACACTGTC
111122	RAX	GGAGAGGCCCTCTGGCCGCCTC
111123	BDKRB2	ACAGGAGCATTTGGAGAGAAGGCCAT
111124	IL13RA1	ACCAAAATGGTGAAACCTCCTCTCTAC
111125	ZNF148	CTGCCGGCCCTGCAGTCGGT
111126	EPO	TTTGTGTATTCTTCAACCTC
111127	ARHH	GTGCTTGGATGGGCAGGGAGAA
111128	FUT3	CCCTCCAGAAGACTTGCCTGCTAGG
111129	RRM2	CCCAGGCGCAGCCAATGGGAA
111130	HMGA1	TTCCTATTTGCAGTTACTTGA
111131	MMP11	CAAAAAGTTCACAGTCAAATGG
111132	TEC	CACACAGGCTGGCTGCTCTGG
111133	NDUFS1	GCTAATGATAATTTAGCTTTAT
111134	PLA2G2A	CCCCTCTTCCCTGGAAACCTT
111135	RGS9	AAAGTGCTGGGATTACAGGCTTGAGCC
111135	SERPINB9	AAAGTGCTGGGATTACAGGCTTGAGCC
111136	NFYA	TGTTTCTCACTGTTCCAGGAAATTG
111137	FETUB	TTATGTCTTCAGCCACTCACTTATA
111138	GNAL	GGCAGGCATGGGGTGTTTGGGC
111139	CRSP6	GGCTAATTTTTGTATTTTTTAT
111140	PRM2	TCAAGCCCCCAGCTGGAAG
111141	PLAG1	ATTGGATCATGCTGCTA
111142	CMRF35	TTCTCCAGGAGCCTGGCACTGCTTCCT
111143	PROK1	GCAGGTGTAGGGAGCCCAGGGAG
111144	IL13RA1	GAAACAATGTTAACATTTTTGG
111145	CCNT2	ATGATAGTGTTATAAATACTG
111146	TYR	AGGTTCCCAGAGAATATCTGCTGGTAT
111147	DGKB	GATCACTGTTGAAGGTGTTCATGGCATA
111148	MKI67	GGCTCCTAATCTCCAGCTTTCCTGTCATT
111149	APBA1	CAGACTTCTTAAAAGGAGCTCG
111150	HOXA1	CAGGAAGAAGAGATGCACTATATGTTTA
111151	GAS7	CACTGCACTCCAGCTTGGGTGA
111151	TM7SF3	CACTGCACTCCAGCTTGGGTGA
111152	UCHL1	AACACAGCTGTTCTTCTGTTCTG
111153	PABPN1	TTGAAGCCCGGCAGTCCTTTCGG
111154	HOXB3	GCTAGGCCATCACCAACCAA
111155	AICDA	AGGCCAGCCTGGGCAACATAAC
111156	EYA4	CCACATGGAAGACTCCCAGGATTT
111157	PRX	GGGGTCAGGGAAGTGGGCTTCCGA
111158	SHMT2	CCCACAGACTCAAAGTTACTCT
111159	PLXNB2	CACCACGAGATGGGAGGAGGAGA
111160	ADCY7	CAGGGGCTGGGGCTGAACTGGGG
111161	FANCF	ACCCAGTCTGGAGTGCAGTGGT
111162	SIGLECL1	CCTTTCTCCATCCAATCGGTCC
111163	CARD10	CCTCTACTTGCTGCTCTGGGCC
111164	SURF4	GCTTGTTGCTCCCTGTCGTCTGCACC
111165	PML	TGCCATCCTGCATTTTTAGGAA

111166	BACE	GGAAAGGGTGAGGACTTCACAA
111167	ADARB1	TCCTCTCGCACAAGACCAGCTGGAAC
111168	GOLGA5	ATCACTACAAGCTTTTAACTTTTTAAG
111169	CRYZL1	AGAGGCAGCAGCACTTGGTAAAAGTTT
111170	PEA15	CTGGCTTCTCCCTTAAGAAG
111171	INPP5D	GCTTGGGCTAGAGATGCCAAGG
111172	CDH23	ACTGGGGCCCAAGAGTCTGGGGA
111173	HRMT1L1	TGCCCAGTGTCTGCCCTCTAGAAGTAGGCT
111174	NDRG3	TTCAAATGACCACTCCATA
111175	FUT1	CTGCCTCCCGGGTTCATGCCA
111176	CALCR	CCAGAGAAAATTAATTATATTTCT
111177	GSTM1	CCTGCAGCATGGTCCCTGCCTTAGGC
111177	GSTM2	CCTGCAGCATGGTCCCTGCCTTAGGC
111178	ATP7A	AAGCAAAGCTGCTGCTAACCCA
111179	SS18	GAACAGCTTTGTATGTTTATGAA
111180	RRM2B	TGTTTACAACTGTTTTCTCTT
111181	ANGPT4	GCAGGCAAGCCTGGCCACTGTTGGC
111182	ENDOGL1	ATCCAGGCTGGAGTGCGGTGGT
111183	HLCS	GTCCAGGCTGGAGTGCAGTGGT
111184	CDH16	CAGCTGGACCAAGGGAGCCAGT
111185	TEM7	GCACCTGCCAACTACTTGCTTTC
111186	UBE2L3	GGTCTGTGCAGAAGTGGGGAG
111187	FUT6	TCAAGACGCAGCAGTGTCCAGGAGCGG
111188	LILRB1	CCAGGGAGTCAGAGGTTTCAGTG
111189	GRIA3	GGGGTGGAAAGGAAGAGTGAG
111190	P2RY1	GCTGGGCCTGGGGAAGGGGTT
111191	SHANK2	TCCATCATGAGATGAATGAGC
111192	PTPN14	AGAGTCACCTCCAGACAACATCTG
111193	L1CAM	GGAGGCTGGAGTTGGGGCAGAGGAGAA
111194	SMG1	CTTAAATTTAGCATTGCATTTCAG
111195	IL22RA2	CCCCATACAGAGAACTCAGCT
111196	PPP3CA	TTCATTCTGAAAACAACAACA
111197	SOST	CTAGAAAACAGCTTCTTACTGCT
111198	ZNF10	CAAAATAAATGTAAAAAATGAGTG
111199	ZNF264	GTTGCTCAGGCTGGTCTCAAA
111200	VSX1	GTTTCTGCATTTCCTTTAAAAATAGC
111201	HIRA	GAGCTAGGGCTGGAGCTCTG
111202	OSR1	TTTTCTTTTTTCCTACCGTTTCA
111203	CSE1L	CCCAGGCTGGAGTGCAGTGA
111203	EEF2K	CCCAGGCTGGAGTGCAGTGA
111204	RAP1B	GTTGCCCAATTCAACAGTGCCAGC
111205	BENE	ACTCACTGCAGGCTCCGCCT
111206	DNMT2	ATATTTGTACACCAGTGTTT
111207	LPIN2	TGAGCCTTCTCCCATGCAAAG
111208	CXCL1	GTGATAGAGGCTGGCGGATCCA
111209	TLR4	ACTAAAATACAGAGTCTTCCAG
111210	FGF1	TTTCAGAAGGAGAAGGAAAAAGAA
111211	BIRC7	GGTGTCTGGTGGCAGGCCTGTGC
111212	ARCN1	GAACTCCTGAGCTCAGGCAATC
111213	BTG1	CGGTGAGGAAGCCCGGGGTGG

111214	HAO2	CACATTTCTAATACCACCACCC
111215	CSPG2	GTCAGCAAGACTGAAGATG
111216	REST	TCTGCAGCCCCACTCCTGGGCC
111217	Z39IG	TGTTCTGACTCTCTCCTGGTG
111218	PTCH	TCTGTACTGGTTCTCTTCTTTTGCTC
111219	STAT3	AGAGGCGGAGGTTGCAGTGA
111220	GCNT2	ACGGGGATTTAAACAAAGGAGG
111221	HOXD3	ATCCTTGTCTGAATGTATTTA
111222	ZNF9	TTGTCGCCCCTCCTTTTTCTGAT
111223	EHD1	AGCCTCCAGGGCCCGGGCGCGT
111224	XRCC4	TTTCAAGTCAGCAGCCGCTATTACC
111225	GALNT3	GATCGAGGCTACAGTGAGCTAT
111226	POU2AF1	ATTATAGGGATTTTAGCAATA
111227	CD28	CCTGGCACGTGTGCCACTTGCCC
111228	WBSCR1	CCTGCAGCCGCCACTCCTGCGCCTGCC
111229	PLAGL1	AGCTTAAACCTACTACCTC
111230	CTSS	CCCAGGAGGTTGAGAATGCAGTG
111231	FRK	TTCAAAGTTGCCTGGTGAAGGAA
111232	NAV2	TGAAGATGACTTCCTGAGCC
111233	DRPLA	GCCCAGGCAGAGGAGAATGGG
111234	EHD2	GAGAACAAAATAGACAAATAC
111235	EN2	GCGCCCGAGTCCACAGTTCTGAA
111236	SERPINF1	TCCAATACCCTAGAAGAAAACCCGAGG
111237	DNASE2	CGCTTGAACTCGGGAGGCAGAG
111238	ZNF74	AAACTATTCTCCCGCCTCAACCTCCCA
111239	ERBB4	AGGGAAAGACTGAAAGAGAAA
111240	EFNB1	GAGGAAAGTGCCACTGGGCAAGGTGTC
111241	FGF5	TGTCACCAGGCTGGAGTGCAGT
111241	GM2A	TGTCACCAGGCTGGAGTGCAGT
111241	RHD	TGTCACCAGGCTGGAGTGCAGT
111242	DAAM1	TGGAGTTGTTGGAAAAACAT
111243	RIMS1	TGTGGATGTAGAAACAGGC
111244	SORBS1	ATGCCCAGGGTTTGCCGTG
111245	GAS2	GACAGAAAAATGTCATCATATTGAAAA
111246	ZNF289	CTGTGAGCTTGATGCTGGCCAGGGAA
111247	S100A4	TCTCTACAACCCTCTCTCCTCAGCG
111248	CFTR	CTGTATGATTCCCAGCCAGAC
111249	LAMP2	ATCACTTGAACCCGGGAGGCAG
111249	P2RX7	ATCACTTGAACCCGGGAGGCAG
111250	MHC2TA	CACTGCACTATAGCCTAGGTGA
111251	MEOX1	CTCCACAGCCTCTCCAAGTTCAGAGTGA
111252	MCF2	CTGCCGTTTTTAAATACTACC
111253	SOX10	AACCTCATTCTTTGTCTGAGA
111254	ARSB	TTCCTAAGCCTTGGGACAGCTGGGAAC
111255	TBL1X	CCAGAAGACCAAAAAGTGCTCTG
111256	NLGN2	TGGTGGAGGGAGGCAGTGGGGAGAAAGGTCT
111257	SMAC	AAGTGCTAGGATTACAGGCGT
111258	SSTR1	GCAGATCACGAACTCATTAA
111259	MAP3K1	GCAAAGTGCGGAGTGTGGA
111260	CCND2	CTCTCCAAGAGGGCAGGGGA

111261	AIM1	CAAGACACCAGCCCATACGCTGCTC
111262	SORCS1	ACTCACTGCATCGGGACTTT
111263	LNK	GATTACAGGCGCGAGCCACCGC
111264	IGF2R	GTTGAGGTGTCAGAGAAAATGAA
111265	DXS1283E	CAATTTACTGACACTGTC
111266	POLA	CTCCAGCCATCCAGGAGTGG
111267	GLO1	CCAGACACTGGGCTAGGCTGCA
111268	MCL1	AGTATGCTCACTTAAATTTACA
111269	GPRK6	TGTGGGTGAAGGGGA
111270	OGG1	CCTACTTCCGGTGGTGCTGTGGTCTGC
111271	VHL	GCATGTTTGATTATAGTATTA
111272	GRB10	ACTGCCTTACCCCTGCTGCTGC
111273	SLC13A3	GGGGCCTTGTAAAAGGCCAGGGTAAAA
111274	B3GALT5	TTGAGACAAATTTCCTCTTG
111275	GAC1	AACCTCCATGTCTCAAGCTGAC
111276	PDGFRB	ACAGCCAGACCCAGGGCGGCCCCTC
111277	PCLO	CTTTTGTGGGCATGGCATTTCAG
111278	HS2ST1	TTAACCTCTCTTTGCCTC
111279	DFFB	ATCATTTCTTATACCTTCTGA
111280	SMT3H1	CTTCTCGTGGGTTTGTGCCGT
111281	DAD1	TATTAATCCAGCCTCTGCCTTT
111282	NR4A1	TAGGAAGAAGACAAATGACAGA
111283	TGFBI	GCAGAAACTTGGATGTCACTGCCT
111284	MX2	ACTCTTCTGTCACTATCAGTGTCCATC
111285	TSNAX	AAGCTGTACATAAAATTAGCCAAATGAA
111286	PPP3R1	AACTGTTCCAGTGTCAACTGCCATG
111287	MLC1	ATGCCCAGCTTGGAGTGCCACGTG
111288	FUT1	GAGTGATTCTAGAGGGAGACTTGTTCTAG
111289	HOXA11	GCAGGTCCCCAGCTTTGG
111290	NPAT	TCTGTATTAGACTCACACACATC
111291	TRPV3	GGGTGTCTGAACTGAGGGGCAGTTG
111292	RBBP9	GAGAGACTGAGACAGGAGTCTTCCGGA
111293	RAD17	TCATTTGATGATTTTCTAGAGTGTAGT
111294	STAT3	TGAGAACGGAAGCTGCAGA
111295	GAS7	GCCAGACCAGGCTGAGTGTGACC
111296	ZNF36	TGAAATGGCAACAACAACTCCA
111297	TBL1X	AAATGCACTCATCTCTGTAGAACATCT
111298	SLC7A5	ACAGCAGCTGGTGCCCCACCT
111299	RGS16	GGCCTCGGGGAGTGGCTTTTCCAGC
111300	ARHH	ACACAGACCTACCTGGCTTGCAT
111301	RFX2	CATCTCCTCTCCTTGGA
111302	TRH	CTGTGTCTGGCTGTGGGA
111303	SOX4	CTCCAGCCTGGGAACTATAA
111304	DACH	AAAATGTGCTGTGCTTCCCA
111305	ACPP	ATCAGCCTGGGCAACATGGTGA
111306	IL1B	TTTGGACTGGTGTGCTCTCTTTA
111307	TAGLN	GCCTGCCTCACCCACACCCG
111308	FGF2	AGGCTGAGAGGTCAAGGTTGC
111309	TITF1	GGGAGCTGGGGAGAGGAAAGA
111310	IGF2R	CTGCAGCATCCCTCAGCCTGTACCGG

111311	UBTF	GGCTCAGCCCCACCCCAGGGCAG
111312	COL6A3	AAAAGAGACGCAGTGA
111313	UTY	TGAGTTTAAAAAAGACTTTCTG
111314	EFNB1	GCCCTCGGGGGCCGAAGCCCA
111315	GIPR	CAGGCCTGATCGCCCCTGCACGA
111316	MCM7	TTTGTCTGTTCCAGCCTGCTTGC
111317	FCAR	CGCCAAGGCTGGAGTGCAGTG
111318	IL1RN	CCTGCCTGTTCCCATTCTTGCATGGC
111319	KCNN4	CAGCCTCTGCTCTTATCTTTGTA
111320	RFX2	AGGGCTGTGCTGAGAGCACTGGCC
111321	GABRE	TAACACCATCGGTGAGTTTCAT
111322	FXYD6	GCGAGGTGGGTTGGAGACTCAG
111323	PRKCI	AATTAACCATTTTATATTTGCCACCTA
111324	PDAP1	GTCCTGTCTGACTGACCTCAGGGCC
111325	AHR	CAGGATTCTAAATAGACGGCCCAGGC
111326	RPS3A	CGCCCTTTTGGCTCTCTGACC
111327	SDC4	ATGTTGTGTGGAGTCCTGGCT
111328	FGF2	TTTCTAGCTTCCATCCTTTCTC
111329	RNMT	ATTTGATATTTCTCTGTCTGTT
111330	FLNB	CTGAGCTGCTGGTTCACTCT
111331	TRIM	ATTAAAAAATACTGCTTCA
111332	SIM1	ATAGAGCAGAACTGAACT
111333	GUCY2C	ACCTCAAGTGTCCTGAAAGCTTACATT
111334	KCNK5	CCTTTTTCGGTGACCTCATCCAAGGCC
111335	LPIN1	GTGCTGGAATGCTGTATTTG
111336	ABCB11	TCTCAGGCTGAGGGAGGCAG
111337	MAGEA4	GCCCAGCTTTTGCCTGCACT
111338	F2RL3	GAACCTGGGAGGCAGAGGTTGC
111338	PDE7A	GAACCTGGGAGGCAGAGGTTGC
111338	PTAFR	GAACCTGGGAGGCAGAGGTTGC
111338	TCTA	GAACCTGGGAGGCAGAGGTTGC
111338	TEM7	GAACCTGGGAGGCAGAGGTTGC
111338	TSNAX	GAACCTGGGAGGCAGAGGTTGC
111339	P2RX7	GAACCCGGGAGGCAGAGGTTGT
111340	GTF2H2	CCAACATGGTGAAACCCCGTCA
111341	PMM2	TTACCGCGGAGGCGGCTGAGTGCAGCTACAGC
111342	CSPG4	GCCAAGGGCTAAACATGCATGT
111343	MAML1	CTGTGCAGTTGTGCACAGAT
111344	TCF3	ACCTCAAGGCCAGCTCAATGCCTGG
111345	ATP5G1	GTTGCAGGGCAGTAGGAGTGCAGAC
111346	PXN	TAGCTCCCAGGACTGTTTTA
111347	PIK3CD	TTTGGGAACCTGCTGTGAGA
111348	GP9	GGCACACTCCACCTTCCCTAGTCA
111349	PI3	CGTTCCCCAGTGGAGGGAG
111350	DPEP1	GAACCTGGGAGACCAGAGTCCCCTTTAG
111351	CRY1	TGGCAAGAGAATTTGCTTAATGTA
111352	TPD52L2	ACAGAGATGCAGGGGCCAGGGAA
111353	EPM2A	CTTCTGCCCCCTCCTGATTTCCC
111354	ASK	CTCGTTTGTGCTTTGCGCCTTCCTCCTCCGC
111355	ZFHX1B	GATCTTGTGAAAACACTGTATTTTCGACT

111356	D1S155E	CTGCAGCTTCTAGGACCC
111357	SSX2	TCTGATTTTCTCTTTGGA
111357	SSX3	TCTGATTTTCTCTTTGGA
111358	SLC9A1	GCCCCTCTCTGGGTGGAGAA
111359	LMO2	TGAGGGGAGGAGTTCCACAG
111360	PTGS1	TTCTATTTCCCCTCTTCTGCT
111361	SNTB2	AAAGAGCCTTGACTGTCAC
111362	OSR1	ATGAGGTATAGAAAAGAGATA
111363	JPH2	TTAGCTTCCCTTCTGGACCA
111364	TRPC6	TGTTTTATAAACTGCTTTCTTGGA
111365	PIK3C2B	GTCGCCAGGCTGGAGTGTAGTG
111366	HRH1	GGCAGCTCAAAATGATATGT
111367	CLECSF5	TCTCCATCTGGCCTTCATCCTTCT
111368	TRIM39	CCCAGCCCCAGATCTG
111369	C5R1	TTTTAAATTATGCTTTCTA
111370	BRAF	AAATGAACATATGTTTGCTTATA
111371	ZNF91	AGGCCCAGCCTGTGTGGCCCTGT
111372	CDK4	TCTCTAGCTTGCGGCCTGTGTCTA
111373	TSN	GAGCTCAGGAGTTCGAGACCAG
111374	KCNA6	CAGTCTCTTAGGCTTCCTTCTCAT
111375	FCMD	GGAGAATTTCTCTTTTGGA
111376	SRP	CTGAGGCCCACAGGTCTGTCA
111377	MPL	ACTGCAACCTCCACCTCCGGG
111378	ST5	TCTGCCAGTGCTCTCTGGGCCTGGCTCCCAG
111379	VEGFB	TCAGGGGAGAATGGAGTACTGT
111380	POLR2E	TCCCTCGGGGCCCTGATGCGTGGCGGC
111381	MGAT5	CTGAGAATTCACATTTCCCACTG
111382	ABCE1	AATGCCACTTTTCTGTTCCT
111383	GALNT7	AACTACTGCCAGAGGAAGTTTGTTTT
111384	TNFRSF1B	CTGCCCCCTGGTGGACAGTCCTGGG
111385	NR1I2	TCCCTGCCTAAGGCCCAAGTCA
111386	CBFA2T2	CTTCCACCCTGCTCGTGCTGCC
111387	KLK13	TTCTCTGCTCCTTATTCCCAG
111388	GRAF	AACTAAGAGGAAGACTTGCA
111389	NAPB	TCAAAGTGAATTTGATTTGTACTT
111390	C18orf1	AGAGACACCCGGCACCCA
111391	TAF1C	CAGTCTCTCGAGGTGGCCAGTGTGGTG
111392	MEOX2	TATTTGCTTTTGCTTGCACTGA
111393	SRP	GCAGGGCTCACAGGAGACAGG
111394	PPP2CA	AATAGTTAACATTCAAAAAACTT
111395	UPK1B	TCCATCCTGGATGAAAGAGCCAGACT
111396	FUT3	GGCTGTCCCTGAGGGCCTGTGT
111397	CCNF	ATGCCATCCTGACACACTTTA
111398	ZNF124	ATGTGAAAACTCCCACTG
111399	GNAT1	CCCTGCTCCCTCCTTCCTCATCC
111400	EIF2C1	TACTTAAGGCACTATGGCACTTAGCTTTG
111401	SCD	CTCAGATCTGATCAAGAGTCCGGATT
111402	EPHA8	CTGCCTGGCCAGGGCCGGGGGC
111403	IL1RAP	TTTGATTTGTAAATTTACTTA
111404	LIG3	AGCTCCCTGCTAGTTTGC

111405	OPHN1	TGCTATCTCTATTATTGGAAAGGACC
111406	PIK3R1	TGTGCACGGTGGACCCAGACACAT
111407	SLC5A1	TGTAGATTTACCATGGCTGGACTCTTA
111408	RENT1	TTTCCCGGGGGCCTTTGGAA
111409	OPTN	CGGTCGGGAGTTCTCTCCAGGCGG
111410	COCH	TATATTTGGCTTATATTCTA
111411	MID1	TCAGGCTGATTGTCTTTTATCA
111412	SLC21A2	ATTCTAATTTTGCTATTGAGGTA
111413	KIF1B	TGCCTGTAATTCCAGCTGCTTGG
111414	SETDB1	CCCTTCTCCACCTCCAAAGGCCCTAA
111415	MKI67	GGCTGTCAGTCTGCTTAAGGGAA
111416	F2RL2	GCTGGGATTACACCACCATGCCCAGCT
111417	STK13	TCTCTGAGCGGTTGGTGCCGG
111418	HS2ST1	ATACCTTTCTGTTCAACTTGTATCA
111419	B3GAT1	CCACACTGGCCCTGCAGTGATGC
111420	PRKCABP	TGGGCAGTTAGCCAGCCCAC
111421	ATP2A3	GTCTTGGCCACTCCTAG
111422	COL9A2	GGGGAGGTAGAGCACTGATGGGTGAA
111423	C1orf6	TCCTGTTCCTCCTTTGCGGCGGCATG
111424	PML	CCTCACAGCATGGCCCTTGGCTCTTC
111425	TLR5	TGCCTCCAGGGTTCAAGCGATT
111426	POU4F1	CAGAGGGAGCGCCTGGCAGCAGC
111427	RSC1A1	GTGGTAAAGAATCTACCTCA
111428	CRTAP	CTCATGTTCACACCTATCTTTCTCA
111429	TRPV3	CCTGAAGTCCCGGGTGAAGCCTCT
111430	PRDX5	CTCCACCCCTCCCTATCTCACCTGCC
111431	PRKAR2B	CTTGATAAGTTATGTGCTGCC
111432	CDKN2B	GCCTGCAAGCCTGTCTGAGACTC
111433	HUS1	GGCTCAAGGCATCCTCCCACCTCA
111434	NEF3	TCCCATGGGGGCTCCAGACATTGTA
111435	LAIR1	GGACCCACTCTCTGCCTTCACAG
111436	KCNA10	CAAGATCATGCTTTTTATTAT
111437	TLL1	GCAAAACCCTCATCAGCATTACAA
111438	CYP1A2	TCTGTCTCCTAAGCTGGAGTGCAGTG
111439	EYA1	CTTTCTTCCTGTCACCCTGAGGA
111440	B3GALT3	CTGGGTTTATGCAGTTTTCTTTTTA
111441	E2F3	AGCCCCAGCCAGTTTACTCCAG
111442	CASP10	CTCTTGAATCCAGGAGGCAGAG
111443	TACC1	GGAAGGCCGAGGCAGGAGGATCA
111444	FUS	TTGTAACCTTCCAATTCCTGATCACC
111445	LRRC2	CTCCTCTGTGGTCTTGCCCAGTA
111446	PODXL	CTGGTCTTCTCACACTTTCTCTGA
111447	MEF2A	AATTATATTCACTACTTTT
111448	PPT2	TGTGAAGCCATCTGCGCCAAG
111449	PKHD1	GTCACATTTACAACTGGAAAAG
111450	ASB1	ATTCCTCTTGGGTTCTTGAA
111451	STAT6	AGGGCCCTGCCTGCTGC
111452	TACC1	CCACCCATTCCCCTGCCCCTAGGAG
111453	CAPG	CCTGCCTGCTTGCTTCTCTGGCTGC
111454	DDB2	GCCTTGTTTCTCCCCAGAGGCC

111455	AMPH	TTTCAGTGCTGTGTCATTCCA
111456	TNFAIP2	GAACTCCTGGGCTCAAGGGATC
111457	DLGAP2	TTGATCTGCATGTCTGTTTACA
111458	FBXW1B	GAGAGGTTGAGTCTCAAAGTGT
111459	IAPP	TGGTGACATGTGCCTGTAATCCCAG
111460	GNB1	TAGAAATGCTCAAAAGTGCATATG
111461	CHD2	TTCTGTATTCCTGTAAGTATTCTGG
111462	GPR3	CCTGGGGGCCAAGCCTCACCCTG
111463	OSR1	GGAGGGGGGACGGAGAGGAA
111464	EN2	AGCGGGGAGCCCGGGAGGCGGCC
111465	CTSB	GCCTGTGGTTACAGTGCAGA
111466	BCL2	GCACAAATACTCCGCAAGAG
111467	CKN1	CAGTATTGACTTTCTCTTACTTG
111468	CALCRL	CTGCTGCAAACTTCAATTGGTCAC
111469	ZNF147	GGCTGTAGGCACTTGGGCTGACTGCC
111470	IL1RL1	ATCCTGTTTGTATCATAGCACTGGTC
111471	LU	CCAAGCCCAAGGCCCAGCCTGG
111472	GA	GGCTATATACATGGCTTTAGTA
111473	BCL7B	CCTCCTGGCCCTGCCTCTATTTATTG
111474	TNFRSF14	TGGCTTCCGTCTCCTCCAGTGGAGG
111475	CFL2	TGCAAAATGTTATGTGAAACAA
111476	PDE1B	CATCTCCAGCCTGATCCTCT
111477	PTGER1	CACATCCCAGGCAGTGCCG
111478	MN1	AGTCATCAACACTTTGCCAATTA
111479	CD36	TGCAAGAAACAGGTGCTTAACACTA
111480	CIT	GGCCCAGACCCACCTCG
111481	RPE	GGGTTCTGTTGAGAATTAAGAGCTAA
111482	TEM8	AGCCCAAAGTTCCTGCTCTGGGCTCT
111483	ATRN	CCCTGCTCCTCTCCCAGAGGGCA
111484	SYNGR1	AGCCCTTCCAGGCATGATCT
111485	SUDD	CTGTGCTTTTCCCCCTTGTAACC
111486	KRTHA7	TTGAGCAGAAACAGTGA
111487	PRX	CCTTTCTCTACCCCCTCGCTGTTGTG
111488	CAPN3	GGGGGTCCTTCCAGCCTGAGG
111489	NT5E	AGTGTGCAAATGGCAGCT
111490	ATP1A2	GGAGAGGGATGGAAATAACGGGTGGC
111491	MAPK10	GGCACGGAATGGCTAGTGTGAGA
111492	COCH	TTGACCCAAGTGGATATTTTCTTAA
111493	RAD50	GGCATCTATCTGTGCTAGGTTAAA
111494	RECQL5	TGGGCAACATGGCAAGACCCTGTCTCT
111495	CCNF	GGTAGCTGGGATTACAAGCAC
111496	GPR85	GAGCTCCATTTCTGGAAAGCCTT
111497	RAD52	GTTGCCCTGACTGGAGTTCAGT
111498	HIS1	AAATGTCCCCTCACTGCAGATC
111499	RAC2	CCAGTCAGGACTTTTGCTATTGCAAA
111500	SRY	TTTTCTCTGGCTAATAAAGGCCT
111501	DSCR3	TGAACTCCTAGACTCAAGTGAT
111502	TNFRSF9	ACCCAGGCTGGAGTGCAGTGGCACC
111503	ADRBK2	CTGCCTCTGACCAGTCTGTTCCGGGG
111504	DSCR3	GTCTTGAACTCCTGACCTCGTGA

111504	SEDL	GTCTTGAACTCCTGACCTCGTGA
111504	WHSC1	GTCTTGAACTCCTGACCTCGTGA
111505	ADORA2B	CTGCCTCTCTTGAGCACTTCCCTGG
111506	DCTN1	TCAGCGTCCTGCCCCTTCACCTT
111507	ITCH	TTCCTTTAATTTAAGTGGCCACAT
111508	KCNE3	GGGAGGTCGTCACTGGGGTGGGAGAAGA
111509	CHGB	TTTGACACAATTGGAATTGTCT
111510	KIR2DS2	CTTACTTCCTAGTCTACCTGAGGCTGC
111511	NUP214	CACAGGAGGGTTCAGCTTTGG
111512	CKN1	GCATAAAATCCTAAAACAGACTTCTGTA
111513	CYP4A11	CCTGCCTGCCCTCCAGACTGTCTGC
111514	MMP15	CCCCCATCATCCTCTGGCTTGGCCA
111515	MMP11	CCTTGCTGTATCCCTGTTG
111516	GALNT2	AGCTGTGGAGTGCAGGCCA
111517	SLC29A1	CCTCCTGCCCCTTCCTTCTGCCAGG
111518	RNF6	TTTACTGAAGCGTCTCTGACA
111519	ACK1	TGCCTGGAAATAGCCTGAG
111520	PDYN	TGGGCATTGGGTAAGGGACTCCAGAAG
111521	RFP	AATCATGGTCATTCCATGGAGA
111522	HNRPDL	ATTTCTACCACACCTTTGAACAATG
111523	MYBL2	CAGGGGTTGTGGGGGCAGAGGGG
111524	LAMC1	ATTTTTCCTCTTCACTGGC
111525	HDAC5	CCAGGGCCCCACCAATCTGT
111526	NCOA6	GCCCTAAAAATGCCAGC
111527	DTX1	AGAGACACTTGCTTTCCAGGGCAGCAC
111528	POLR2F	ACGAGCTCATCATCACCGA
111529	IL2RA	CATTCATCTCATTCCA
111530	PIP5K1A	TGAATGGGCCTTAGTGCCTCAG
111531	PFKFB4	GCAGCCTTTGCTTCTGTGTATTTTGGA
111532	SMARCC1	GCAGTCAGAGCATCATGCTT
111533	ICMT	GCCTCGGCCTCTCTGTCATGCTGGGAAGT
111534	VCL	TTCCTGCCCTTCCTCAGTTTA
111535	FABP2	TCTAAGATATATATTTACTAAAAGA
111536	EXTL1	CACCCAGGCTGTGACCTCAGCTG
111537	DAAM1	ACAAAGCTTGCAAAATATTTTA
111538	SQSTM1	TTTCCAAACCATCAGCTGCTTTTA
111539	AICDA	CAAATGTTTTTATATCAACATCCTT
111540	SYT1	GCATAGCCACAAAACAGAA
111541	SELL	TTCTTCAGCCACCTCTCTTTTTC
111542	ATP6V1G2	GGGGAAGTAGGAATGTGGAAA
111543	AMPD2	GCCTTTGCTGTGAACTGCAGT
111544	DLG4	AAGAGAGAGATGTCCCAGAGA
111545	NOV	GCTCCCTTTTTGGGTAAACCA
111546	TAL1	ACTGGCAGACTGTGTAAAATGTAATG
111547	RS1	TTCTGGCCCCAGACACAGGGTA
111548	USP14	TAGCCACCCATCCTTTGCCTTA
111549	PIN4	GGCATCAAATAGATTAGTGTGTGAGA
111550	ATP6V1C1	CTTTTCAGTATATGATGGGTATT
111551	CD68	CATGCTAACCTGTAATCCCAG
111552	DIRC1	TTCTTTCAGAGAAAAACTGGAAA

111553	BCL6	CCATGATGTAGTGCCTCTTTC
111554	SCN2B	GGGAGGGCTTTCCTGTGCTGAC
111555	IL1RL1	CATTATCATTGTTAAACTTTGT
111556	HHIP	CCAGCGCTGGCCCTGCCTCCGCCTGC
111557	JTV1	GGCACGCGCTACACCCTTTTGCT
111558	POLR2H	TGCCCCTCCCCTTTTTGTAA
111559	APM1	CTCCTGACCTTGTGATCTGCCCGCCTC
111559	TAPBP	CTCCTGACCTTGTGATCTGCCCGCCTC
111559	YES1	CTCCTGACCTTGTGATCTGCCCGCCTC
111560	CPSF6	TAAAGCAAATCTGCATAAATGGTA
111561	SFTPA2	AGGCCTGGTCAGGCTCTCCAGGT
111562	PAX3	GGCACAAATACATTCCTTTTAGAG
111563	RAI3	TGTCACCCAGGCTTGAGTGCAGT
111564	ALDH1A3	TTCTGTAATATACTGTATTTA
111565	HLCS	TGGTTGAGTTTCACTGCAGCA
111566	COL4A4	CTGGTAAAAAGAAAAATGTGTAT
111567	VPS41	ATCACTTGACCCCAGGAGACGTAG
111568	TSLP	TACTCCTCAAATGTTGAGGGAAGCTT
111569	TFE3	GTCCTGGCACAGAAGAGGAGTCAAGT
111570	TEM7	ATCATCCCACTGCATTTGTTT
111571	XYLB	AGTTCCTTTTTCCTTCCTCTTTATCC
111572	EHHADH	ATGCAGCTAAGTCATACATTCAT
111573	SUSP1	AACCCAAGAAATGTAATA
111574	LZTR1	CCCCCTCCCTGTCATCACCC
111575	WNT11	CCAGGGGCCTGGAGACACTCCA
111576	STARD5	ATCTGACAGAGACTCGGCCTGG
111577	NEURL	GAGGCTGGTGGTTGCCTCCCG
111578	TTC3	TCAGGATTTAGGTTAGGCCAGGA
111579	TNFSF9	TGCTATGTTGCCAAGGTTGTTTACA
111580	HAS3	AAATGTCCTTTCTCAGAGGGGCCAGCT
111581	SLC25A11	CCTTCCTCCCCCTCATTGAGGACT
111582	HPSE	ATATGGTCAGGAAGCAAGGAAGCGA
111583	DDX3	GGAAGAAGAGTGAAGGCCAGTGTTAGG
111584	RCN2	AGCAACAAAATATTAATATTGTGCC
111585	PMCHL1	GAATAGCTGGGATTACAGGTGCCCACC
111586	HMG20A	TAGGAATGGTCTTAGAACTCCAAGATGT
111587	MSF	CTGTTACCTGTCTTGCTCCTG
111588	ACP1	GGATGGCCTGGAGGGCAGGTGCCC
111589	ZNF16	CCTCTCCAACTCCTCTTTGGCCATT
111590	PRKAR1A	AGCATTTTTCCATCTGTGTGCA
111591	FUT9	AGAGATGCAACATACTACTTTT
111592	HOXA4	AGTTGTCCAGGATGCTGGCTGGT
111593	TRIM14	GGTCACAAACTAGCTGTGTCAA
111594	WRB	GCATTGTTTTGTGCTCAA
111595	CSH2	TGCCTCTCCTGGCCCTGGAAGGTGC
111596	PPP1R8	ACAAGGGCATACACTCTGCGC
111597	S100B	CAGCCGTGTTGTAGCTAAT
111598	ICMT	CTTCACTGCACTTTCTTCCTGCCTT
111599	TRIM14	ACTAAATTGGAGGCTTTGGAAGGGCA
111600	C8orf1	TGTATAAATCTAATTTATTACCAAAT

111601	SHOC2	GAGTAAATCACTGGATTTCTTTTGTT
111602	SHOC2	CTTCATCTTTGAATTCAA
111603	IFNAR2	GGGATTACAGGGGTGAGCCGCT
111604	CMAR	TTGCCAAGGCTGGAGTGCAGGCCGCGA
111605	FGFRL1	GGGACTGTGGTCTCTCCTGGGGCCCGG
111606	TCFL4	TTCAAGCCTCAGATTTCTGCTCATGAT
111607	CHRNB2	TGGGTGTGACCTGACACCTGC
111608	DCX	AGCAGTTTCCTTATAGCTCA
111609	SHMT2	GTTCCCCTGGGCCAAACAGTGATT
111610	NUP62	AGCGGTTGTATCCCAAGCATCTTTTG
111611	B3GNT3	CCAAGAATTCAGAGAACAGCA
111612	MBTPS2	CCTCCTCTGCCGCCGCTGCC
111613	EIF2C1	TTGTTTAAGAAGAAAAATGAAACCAGA
111614	SPK	GGGGGTGGGACAGGGACTCGGG
111615	ATP7A	AGCCTCCTGAGTAGCTAGGATT
111616	SIGLEC8	AGCCTCCCAAGTAGCCGGGATT
111617	TMC1	GGCCTCCTGAGTAGCTGGGATT
111618	GPRC5B	CAGGCCGCCTCACAGCCAGG
111619	ATP4A	GGAGCAGCAGCGCCTGGGCAGTCCTC
111620	PRND	CTCTTTGGAACAACAGCTATCT
111621	CDC42	GTAGGGTGGGGGTGGGGAGA
111622	TAL1	GTCACTCAGGCTGGAGTACAGT
111623	CAPN10	AGACCTGAAACTCTACCAACAGCCAC
111624	IL1B	AAGAGCCTAGTTTTTAATAGCTA
111625	MASP1	GCCACCCTGGAACACCAGCT
111626	CYP21A2	ACAGTCTACACAGCAGG
111627	CCND2	TTCTTTACCTCAGGTTTACTGGACAA
111628	FEZ1	GTGGCCTTTGAGTATGCAGATTCCTGG
111629	MAT1A	TGGGCATGGTGTTCTCCTGCTGCTCC
111630	DDX3	GCAAGTTTTATCAGCAAGCAA
111631	CCND3	AATTCCTCTTTGCTTTGCTTTCTGCTC
111632	BACH2	ACTGTATATTCTTTGCTTTTAGT
111633	PVR	ACCACGTCTGGCTAATCTTTTTAT
111634	KCNMB1	GGCTTGGGTAACAGCTGCCTTC
111635	CDC45L	TAGATTGTAAGTTATGGACATGAT
111636	SF3B4	ACATTTTCCTTCCTCCTGTTA
111637	GPR23	TTCTTTCTTATCGAATTTTGGA
111638	PTGER3	TCCATACATGTTTTTGTACTT
111639	CYP7A1	CAGATGCTATCACAGACTCTG
111640	KCNC4	GGTCCCTTTCTCCACTGCACTG
111641	IL1B	CCTCTCTCACCTCTCCTACTCA
111642	GLS	TGGTCTCAAATCCCA
111643	NXF2	TTCATTTCTCCTTAGTCTCCTCC
111644	RIG	TGGAGTGGCGTAGAGTTCAGTGTTCGCAGTCG
111645	CREB1	AGACCAGCCTGGCCATCATGGT
111645	SUV39H2	AGACCAGCCTGGCCATCATGGT
111646	F2RL3	CTGGGAGGCAGAGGTTGCAGTG
111646	IL17R	CTGGGAGGCAGAGGTTGCAGTG
111646	PDE7A	CTGGGAGGCAGAGGTTGCAGTG
111646	PSMD5	CTGGGAGGCAGAGGTTGCAGTG

111646	PTAFR	CTGGGAGGCAGAGGTTGCAGTG
111646	RAB7L1	CTGGGAGGCAGAGGTTGCAGTG
111646	SPTLC1	CTGGGAGGCAGAGGTTGCAGTG
111646	TCTA	CTGGGAGGCAGAGGTTGCAGTG
111646	TEM7	CTGGGAGGCAGAGGTTGCAGTG
111646	TSNAX	CTGGGAGGCAGAGGTTGCAGTG
111647	P2RX7	CCGGGAGGCAGAGGTTGTAGTG
111648	USP14	CTGGAAGGCAGAAGTTGCAGTG
111649	GSTM1	CTTCCCTGCACTAAAGCCAGCCTGAC
111649	GSTM2	CTTCCCTGCACTAAAGCCAGCCTGAC
111649	GSTM4	CTTCCCTGCACTAAAGCCAGCCTGAC
111650	FOXO1A	TAAGAGTTCTTAATTTATAAC
111651	KCNJ10	TATCTATCCTGGATTCTGA
111652	ELMO3	GTGGGCTGCAGAGTAACAGTCCT
111653	AP1G1	ACACAGACACACACATGTATGT
111654	PRX	GAGGCAGCAGAACTAGTGCCAGGGGTG
111655	WASF3	TTTCCTGACACCTGTGTCCTGA
111656	DDEF2	GCATATAGGCTTGGAAAGTGAGGCAGCAATG
111657	TNFAIP2	GCCCTGAGCCCTCCCTCTTCAT
111658	KLK2	CCCCAAACTCACCACCTGGCCGTGGACACC
111659	FGFR1	CCTCTCCCTCCACCTCCTC
111660	BAZ2B	ACAGATACTTTCAAAGTGAGCTGA
111661	UGT1A1	GAGTGTAGGTGAAATGAATGAATGGCTTGGA
111661	UGT1A4	GAGTGTAGGTGAAATGAATGAATGGCTTGGA
111661	UGT1A8	GAGTGTAGGTGAAATGAATGAATGGCTTGGA
111661	UGT1A9	GAGTGTAGGTGAAATGAATGAATGGCTTGGA
111662	NDRG3	TAGCTGATCAGATCTCTCCA
111663	GFER	CCTTTTTCCCTGTCTTCCT
111664	NINJ1	TACCCAGACTGCCAGAGCCCAG
111665	LARS2	CCAGTTATTAGGAAGAGCAAGCTCA
111666	SLC17A5	TCGCCCAGGCTGGTTTTGAACTC
111667	SLC22A2	AGAGAGACCGTTGCTGCTGTCATGAC
111668	LRRC2	TCCAACGTGGTAAACCAGACACATG
111669	CSNK2A1	GGCCGAGGTAAATACAGTGAAGTATTT
111670	ANK1	CTCCAGGCTTCAATCCTGCCTCTT
111671	HMGA2	GTTCGATTTCTACCTCAGCAGCA
111672	GRAF	ACTGGTTTCCCCATGTCCTCCCATTC
111673	CLDN14	CTCTGGCCAAGCCACCTCCTCTCATGC
111674	POU4F1	TGGAGTGTCCGTTATCCTGCCT
111675	EIF4EBP2	TTGTACTCTGAATTTCTCTCCCTACCT
111676	NTSR1	GGGATTTCCCTGTCTCAGAGCA
111677	SNX15	TGTCGCCCAGACTGGAGTGCAGT
111678	CDH17	TGTCGCCCAGGCTGGAGTACAGT
111679	POLR2H	CATGGGCATTGTTCAAGCCTGAGTGG
111680	EGLN1	AGTAATACTTATTTTGTT
111681	EFNB2	TTGCAGCTCACTGCTGCTGCCTC
111682	ZNF41	GGGGAAATGGGTATGAGAGACTGAGGCT
111683	INSL5	TATAGCTGAGCGGTTGAAACCACAGTGAT
111684	TFE3	TGAGGCCCTGCACCTTCCCCAAAGG
111685	LSS	CTGCCCAGAGTCCTTCAGGGGCACC

111686	AHR	TCAGTGCTTTCCTCCTTCACTGT
111687	HNRPK	TGGAAGTGACTAATGCTGAA
111688	WHSC1	GGGCTGGGAAGAAGCTGCACTTCCAG
111689	TNFSF9	CCCCTGGTGCTGGGTCCCTGCTGC
111690	CHS1	TTCATTCTGTTTCTACTAACCT
111691	PTGIS	GTTACTCTCACCTCGTGATATCCACAAATGCT
111692	WNT8B	GCTCCTCCCCTGCTACTGCTGACCA
111693	TCIRG1	TCCTCATTGCCAGCTTCAGGGAGCTGG
111694	HMG20A	TTGCTCCTGCACAGACATGGAGTC
111695	ANK1	GCAGAGCCTGGCTGCTGGGCAGAAG
111696	SELPLG	GAGCAGCCTGGGGCCAAG
111697	ROBO1	CCCGGGGAGAGCCGGGAGCTGC
111698	DLEC1	TTGCCTCACCAGCCCTGGGCTCCGC
111699	FZD1	CACGGTCACCTTCAACGCCCAG
111700	PUM2	AGTCACTGCAGCAACGCCT
111701	MGAT5	ATTAGGATAGTTAGCATGCACAT
111702	CNGA3	CCCAGTAAATATAATTTCATTAAC
111703	PPP1R12B	TTCAAAGCTCCTCGGCTATGCTAA
111704	CTSS	AGCTAATTTTTGTATTTTTAGT
111704	CYP1A2	AGCTAATTTTTGTATTTTTAGT
111704	FCAR	AGCTAATTTTTGTATTTTTAGT
111704	FGF5	AGCTAATTTTTGTATTTTTAGT
111704	PCDHA9	AGCTAATTTTTGTATTTTTAGT
111704	PIK3C2B	AGCTAATTTTTGTATTTTTAGT
111704	PTGES	AGCTAATTTTTGTATTTTTAGT
111704	RABL2A	AGCTAATTTTTGTATTTTTAGT
111704	RABL2B	AGCTAATTTTTGTATTTTTAGT
111704	TERF1	AGCTAATTTTTGTATTTTTAGT
111704	TES	AGCTAATTTTTGTATTTTTAGT
111705	TRPC5	GGGCTCAGGTTGGGTTAGAGAGCTGG
111706	TDG	CAGAGCCCTGGCTTTGACCTGCTC
111707	SLC20A1	GATCTATTGGCATATTCGGGAGC
111708	CACNG7	GCTCCTCCCTCGTTCTCCACCTGC
111709	GPRK6	CCTCAGCCCCTGGCCTGGCTGAG
111710	SON	GGTGGAGGGATTGATCGGAGAGGGCA
111711	HAX1	CGACAGTGTCAGGATCGCGGG
111712	ARF1	AGGGAGACCCCGCCTAGCA
111713	ADAM12	GGATAGAGACTGGAACACTAGAC
111714	GAC1	CAGATCTGAAGGACATTTGGGAGA
111715	NCOA4	TTCTCCTGCCTAATTTTGAACTA
111716	RIG	CTGACATTGAATAGAAAACAGCTCCCT
111717	KAL1	TGTCCCTTACAGTGGTCA
111718	MLLT7	TGCTAGATTGGAGTGGGGAAGTGTGTC
111719	PDE4C	TGCAGTGAGCCGACATCATGCC
111720	JJAZ1	TTTTCTCCAACAGAAAGTGGAT
111721	MGAT3	TGCCTGTGATCCCAGCACTTTG
111722	SLC4A4	TCACACAGAATTGGAGTGCTGT
111723	XT3	GTCAGGAGTTTGAGGCCAGCCT
111724	RPA1	GGATTTTAGTAAGTGTGTCTT
111725	MSL3L1	AAGCATTCAAAATGAGCAATGCTAATG

111726	OSR1	GCACCCCCTTCTTCATTGCTCTCTCCA
111727	GNB3	ACAGGATCAGACCCAGAGGCAG
111728	ATP7B	GGCCTCAGAGCCTGACCTGAG
111729	CEACAM1	CATGCTGGTGGCATTGTTTACAGCTA
111730	RBM8A	AAACTCTTGGGCTCAAGCCATC
111731	FMR2	AGCACGTGGAGGTTAGAATAGA
111732	SPTLC1	TTCAGTAAGCACTCCTTAAC
111733	PDGFRB	TATTCCAGGTGGTTGCACATT
111734	DSG1	TCTAAAATGTGTGCCAGATGC
111735	PTER	CAACAGAGCTAACACCACCTT
111736	IFNAR1	CGCCACTGCACTCCAGCCTGGTGACAG
111737	ATRN	CTGTTTTTATTATCAAAAAGGACA
111738	LAG3	TTCCTCTGGATTCCGGCCTCTGGTCAT
111739	M11S1	AGGTACTGATGAAAATCTCTAGTGGA
111740	PYGO2	GCCTCTCTCGTGCTTTTCTCCT
111741	MID1	TGTAGAAGTCCCTCTATAGTCTAGTAT
111742	FBLN1	TCCTAACCCTGCCCTCCGGGGG
111743	MAPK14	GCTGAATTTCAGGCATTTTGTTCTACA
111744	MMP15	CCACAGTGTCAGGCACTGGG
111745	SLC16A7	GCTCAACCACTGGAAATGCCTCCTGGG
111746	CAPN10	GCTGCGTGCCACATCGCTACGCCCAG
111747	VHL	GCATTGTGATGTTTAGGGG
111748	DTR	AAATACCAGAGCCTTCAAGTGCCAAA
111749	P2RX7	ACTGCACTCCAGGCTGGGTGACAGA
111750	AKAP1	CAGGTTCTGACAGGAACAGCATGGATT
111751	PCOLN3	CATCTGTAAACAACTGGGTGCCTTCC
111752	MAP3K9	GCCTATCTGCACTTCCAGGTGCCC
111753	LECT2	TTATTTTTTAGATTTCTCAGTCCCAAA
111754	GAS7	TAGGGAAGGCTCTGTCTCTAAGC
111755	ABCC3	CGAAGGCAGATGGGGCACTGA
111756	EDAR	ATTATCCTTTTAATTCCTCTTTGAA
111757	LHCGR	CAGAGTGTTACTGTTACATCA
111758	ADH1B	AGCTGTCTCCAAAAATGCTA
111759	MAP1B	TACATACTTCTTTCAAGATCTTCAAC
111760	SOX8	TTCTGTGTTATTTTATCTTTAA
111761	SVIL	CTCTGCATTTTTGATGATGGTTTGGAA
111762	SOX4	TTAAAATTCAAGGCCACAAAAA
111763	DDX26	GGGGGTGGGGTGGGGAGCCAG
111764	DLX2	TTCCTTTAAAAACATTTCAGTT
111765	NOTCH2	TTTCTTTCTTTGACTCCTCTTCTGCC
111766	AMFR	TGATGCACACCACCAACATTCTTGGCA
111767	TNFSF5	CTCTGCCAGAAGATACCATTT
111768	FY	CACTGCTCCTCCAGCCCCAGCTG
111769	THBS1	AAAACCTACCATCTCAGTGAG
111770	ADAMTS6	ACATCACAGATGCAACTTC
111771	SMTN	CAACCACCTGCGACGCCACGA
111772	PAFAH1B1	AGCGAGTGAGCGAGCGGAGGAGCAGC
111773	WTAP	TGTAGTAGTTTCAGTGTTAGA
111774	ABCC3	TGTCCTCAGATGGGGAGGGACAGGGT
111775	CRY2	CTACAGAAGTACACACAGATAC

111776	SIRT5	GTGTCCTGGGGAAGAAAGAA
111777	ABL1	CCAGGTGGGAACGGCTGATGTG
111778	HOXD10	GTTTTCTTAGTCTGAGGCC
111779	SDC1	GTAGTCCTGTGAATGCCACTGCCT
111780	BCL2L2	GGGGGTGGGGAGCTGAGCAGGC
111781	HMX1	AGCGGTCCGGGTAGCAGCTCCAGGGC
111782	CDC6	AGCTAATTTTTTAATTTTTAGT
111783	MRPS12	AGGTGGCAGGATGTCCTGGT
111784	ELMO1	GCAGGTGGTGAAGGAGCAGGTT
111785	PVRL2	TTTCTTGGGACTTGGAGGGAG
111786	APLP2	CGTCTTCTAGAGAGCTTAGTGT
111787	MPO	GCTGGGCTGTGTGGTTGACTT
111788	EHD3	CCTCCCAGGACAGGCTGG
111789	ATRX	CTTTTAGCAACCATAAAATTGTCA
111790	CNTN3	TCTCCAATACTTGTATTTTATGCT
111791	IFNAR1	ACTCCAGCCTGGTGACAGCGT
111792	CSPG2	GCTTTTATGTAGTTTAGGCTGG
111793	QDPR	TTTTCTCTCACATAATATGCATTTGCT
111794	KCNJ16	CTCATAGATTCTCTGTGGGG
111795	SLC6A12	ACACAGCCATGGACGGGAAGG
111796	CYP4F3	GCCAGGCGTGGTGGTGTGTGC
111797	NLGN3	CACTACCCGGGTATACTCCA
111798	CUBN	GGGTGCCTGTAATTCCAGCCACTC
111799	LAMC2	GGGCGCCTGTAATTCCAGCTACTC
111800	EIF4EBP2	CTGTCTTTGGTATTATAGTTCA
111801	UBE2L6	CTCACTCCCAGGTTCACCTGGCCA
111802	PIK4CB	CTGCGTGGGCCCTGCACTTGCTGAGGT
111803	PRKY	TGCACTCCAGGCTGGACGACAGAGCAAGA
111804	RIG	TGCTTCCTCAAGCTTTCCTTGCCT
111805	CSPG3	CTGGCTCTGCTTACACTTTCTCTCCA
111806	SMPX	TGATGTGAAGAAATAAAGAGGCAGA
111807	SMARCA3	CCTGGTCCCTTTTTGAGGCAGTAGC
111808	SIAT4C	CACGTCCTTCTGCCTGGGCAA
111809	PDE4B	TCTGCCCTTTCCCTGCCTGAGTTGC
111810	MSR1	AGTGGATAAATCAGTGCTGCT
111811	ABCA7	GCACTGCCGAGACTGTGCTCTGGCCTCCC
111812	NAB1	CAGTATGTTTTTAGTTCCCCCA
111813	DMXL1	GACTACAGGCAGATGGGACTAA
111814	BRMS1	TCCAGCCTCAGGGCCAGGGAGCCAAG
111815	PSG4	CCATAACAACAGCTACTCAAACT
111816	B3GAT1	GCACGACCACACAGGACACCCA
111817	ZNF179	GGCAGCATCTGGGGGCAGTGGA
111818	B4GALT1	GAGATGACACAAGACACTCCTACCAC
111819	PAP	CCTCATTCTTATCTTTCTTCTGTTTC
111820	SYNGR3	TCCCTGCCTCTCCACCTGCACCCTGCT
111821	GABRA6	TTCAGTATTTTTAATTATCAC
111822	FGF5	AAGCCTTTTGCTTTATGCTTGAGGGA
111823	JAM3	AGAGCAGGTGTTCTCAGCCTCAC
111824	IGFBP5	TCCCTCCACCCCAGGACGCCACTC
111825	ADRBK1	TGTGCCCTTATTCAGGAAAAG

111826	GPR85	TGTAAGTTCTGGGGAGCATTCCAAA
111827	RAB36	ACTGCTGCCTCTCCATCCCTC
111828	PXF	AAATGTTCTCAAGGTCTCAGGCT
111829	TRIM14	AGCTTCTTAGCAGTTCCTGGTCTG
111830	ZNF3	GAGCTATTACTAAAGGCTTTGCCA
111831	DPH2L2	GCTCAGTTTCTCAGTCACA
111832	TNNI1	GGGGTGAGGCCAGCCTTCTAG
111833	GAB2	TAATGGCTGCTGTCTCCAGTT
111834	RNF18	GACAAGCTCAGTTTTCTCTGAAGGAGAAGG
111835	COL5A1	GTCCCTGCTGAGTGCGCTG
111836	USH3A	TGGTGACTCACACCTGTAATTCCAG
111837	PIK3C2B	TTGTATGATTAAGGTTCTT
111838	RAB13	TTCTGTCACTTGTCATGGTCT
111839	KCNK6	ACAGGCAGAGTGGTCAGGGCT
111840	SLC6A12	CCCCTTCTTGGGGGCCAGAGAT
111841	RBM3	GCCAGCCTGACCAACATGGTG
111842	ITGA2	GATGCAGATGGACCACACTTTGA
111843	PCSK2	GAGACCATTTAACATGCAACCCG
111844	MYOD1	CCAGCACTTTGCTATCTACAGCCGGG
111845	ENO2	CTCATCGGGGGCTCCGGGTCACA
111846	CTSK	CCTACTTTGCTTCTCTCCA
111847	CACNG6	ATCTCTAAACCTCAGGGTGG
111848	SMURF1	ACTGCCTCATGTGGCCCCTTTCCCAGT
111849	LIFR	CCCACATTTTTTAAAAATCATTTTAT
111850	SH3GL1	TCACACACGCACTCCTTCTCCTCAAG
111851	SUFU	CCCTCCAGGTCCCTGGTGCTAG
111852	ADCY1	TGCAGTGAGCTGAGATTGCA
111852	CYB561	TGCAGTGAGCTGAGATTGCA
111852	TRIM14	TGCAGTGAGCTGAGATTGCA
111853	CASP10	AGGACTCAATCTACAGGCCAGCACCTTT
111854	EPHB1	GGAATGCATTTCCATCAGTGAA
111855	GPR3	TGCAATTCCAGAATGCTGGGAG
111856	DCX	TCTGTCACCTAGGCTGGAGTGCAGTG
111856	SIGLEC8	TCTGTCACCTAGGCTGGAGTGCAGTG
111857	PSMD9	TTTGTCACCCAGGCTGGAGTGCAGTG
111858	LAMP2	GTTTCCAGCTTGCATTGATT
111859	ANKH	TCATCCAGCATTCTAATGCCAGGTTGC
111860	PPP1R12B	CAAAGCGATAGGATTACAGGCGT
111861	FGF2	TGCAGTCCAGCCTAGGCA
111862	NT5C2	AGGATTGTGCCATTGCACTCCAGCCT
111863	ADRA2B	TCACCGGCAACACCAAGA
111864	SUV39H2	CCACTGCACTGCAGCCTGAGTG
111865	PDZK1	GAGTTGTGACCTGTTTACTGT
111866	SLC4A4	TCCCTGCCTCTTCTCCCAATCA
111867	SIAT7D	CTTGGAGTTGTGACTGCCGGGGCC
111868	MYH11	TCTTTCCCCCTCTCCTGGTTTCC
111869	DGAT2	CCTCCAGGATGAGGATGGGGGTGG
111870	NYX	TCTCTGCAGGGGTTTCCTCTCCA
111871	ZIC3	AGCTGGATTTAATCATCCCTGCCCTACA
111872	KCNA6	GCAGCCAATTTCACACGCGCCTGTGTG

111873	STIM1	CTTCTGACATGTGTGCCTCAG
111874	SLC10A2	AGAGGGGTGAGGGATTCTGCTT
111875	ARHGEF7	ACACAGACGGTTCTGTATAGGC
111876	STK31	GGCATCAGTGCCTTCATAATCAG
111877	SCN2B	AGGGTCCAGAGAGAAGGGA
111878	TRIM14	CACTGCACTCCAGCCTGGGGACAGAGC
111879	PCTP	CATCCAGCTCACTCGTCTGCTTCC
111880	SNX9	TGGCGGGTTCATGGCCAGTTG
111881	SLC17A5	CCTCCAGTGGCTGTGGTTGTTGAGC
111882	IRF1	TGCATTTATTTATACAGTGCCTT
111883	MX2	ATCATTCTTCGCTAATTTG
111884	FCGR2A	GGCTCACTGCAAACCCGCCT
111885	SELPLG	CTCCCATGGCTCTCCCCGCTTCTCCT
111886	CHST6	TCCTCCTCTGGGCACAGGGTGTGCGT
111887	ATP6V0A4	ACCATGCCAATGAAGGAAGTTCAG
111888	MAT1A	GGGTAGGCTGGAGTTAGGGACTGA
111889	B4GALT1	AGCCTCCTGTTCCACCTCA
111890	WISP2	GCCATTTTTCTGGGGGTAGGAT
111891	CPSF4	CTCCCTGCCCTGCTGAATCCTAAAGCT
111892	FLNB	TGTAGTGTGGTCTGGGCAGGCAGACCTT
111893	SNAP23	ACCACGCTCGGCTAATTTTTGT
111894	HOXA11	GGACTGTTCCCTGAGGTGGGAG
111895	GAS7	TAGTGCTTTCAGTCAGTGGCAA
111896	ED1	CAAGCAGATGACAGAGGTTTGAAGGA
111897	STIM1	TTAGGAGGGTGCTAGGCTGCA
111898	SAFB	GGAAAGTGGGCGGCGGAGCCAG
111899	B7H2	CCGCGCCCCGAGGTCTCCGCGCCC
111900	ADCY6	CCCACCCCAGCCAGGTGTCCCT
111901	TNFRSF14	CTGGGGCCTCTGTTCTGCTGTG
111902	RANBP2	TGGATTGAAGCTTAGCTATTAC
111903	AKAP2	CTCATTAAAATCCAATGT
111904	ZFHX1B	ACTACTGCATTTTAAGCTTCCTATTT
111905	LIMD1	AAACCCATGAACGCTGGGGCTGGGGA
111906	ANGPT1	TTTCAAATGATCTTGAAGATGA
111907	XBP1	TGAATTCATTGTCTCAGTGAA
111908	RHD	CTCCTGCCTCAGCCTCCAAAGTAGCTG
111909	FUT9	TGATTGTTTCAAGGAAGTGACAGTTCT
111910	HDC	CAGGGCCTTCAGCAGAGTCTGAGGA
111911	NUMB	CCATAGAAGGGAACACAGGTTACCA
111912	PRIM1	TCAAACCATTGTGGATATCTTCTGCC
111913	BCL11A	ATGTCACATGGATGGCTGTC
111914	FOXE3	CCGACACTCCTGGGTCAGACTCCTGGG
111915	EGFL4	TCATAGCTGCCTTCTGCGG
111916	PPIH	CTTCCCTTCTTCTTGGTGG
111917	FTL	CCGGGGACTCTCTTCCAGCCTCCGAC
111918	CDH1	GTGCTGGGAAATGCAGAAATCACG
111919	PTPRO	GTGAACAAAACCCAGACTTCA
111920	MMP3	CCAAGAGAAGGGGAAGCACTCGTG
111921	SLC16A1	TACCAGGTTTCATTTTGGGC
111922	PTPN18	GGACCTATCTAGGCAGACCCCA

111923	SYN3	CCTGTTCTCTGACTACGCCA
111924	MTNR1A	CATAGGCCGGGCACAG
111925	HIP1	GGGCCGTCTCCCTTGGCCCAGAG
111926	EFNB1	CCTGCTGCTGTCCCAGTCTTGGG
111927	SLC6A5	ATCCTGTTTTTCCTCTCTGCC
111928	TFE3	AGGTATTTCAGAAGGAGAAGGCTGGAG
111929	LY64	ACCCCCACTACAGCATTGTGCT
111930	B4GALT2	GAGAGAGGAGGCAGGAGCCCCAGGGC
111931	CAPN3	ACCTCATCAGTCATGCTCCTCCTCC
111932	DISC1	TCACCCAAGTTGGAGTGCAGT
111933	CCND3	GCAGGGAAAATGCAGCAGGGA
111934	PMX1	GTGTCTAGGGCTGGGAGCCAGG
111935	TJP1	CCTCATGTTCTTAATTCTTAGCTC
111936	PCDHA9	ATAAAATGATCAGCCATGTGAA
111937	GOCAP1	CCCATGCTTAAATTTTATAG
111938	DGKE	CAGATAAGTGAATTGGTAAGAAATA
111939	NOX5	CGCCCAGGCTGGTATGCAGTCA
111940	HOXC5	GGCCCTCCCGAGTTAAGGTGGGCCC
111941	CTF1	TCAGGCTCACTCCACCTACA
111942	CDK10	AGGCCGGGCTGCGCCTGCTGC
111943	ARNT	TCTTTCTCCCTATTAGGGAGTT
111944	PIR51	TAGTACAGCTTTTCAGGAAGCTT
111945	WISP1	TTCAAATGACGCCTGATGGTGCTGCTC
111946	COX15	CACTTCCCAGGTTCAAGCGATT
111947	NAPB	GGTTCTGCAGCTTGAGTCCTCTGGTT
111948	MTERF	GAGTCAGTGATAATTTGCTGAA
111949	RASD1	CCCCAGCCGAGCCCAGCCTAGC
111950	PRY	TTTCTTAGAGAACTAAAGTA
111951	MICB	GAAGGGCTGTGGAAG
111952	ARHGDIB	CTTCCTTCCTGTTCTAACTGCCAG
111953	PTGIS	CCAAGTAGCTGAGATTACAGGC
111954	SIL	CCAGGTAGCTGGGATTACAGGC
111954	XRCC2	CCAGGTAGCTGGGATTACAGGC
111955	DLG5	GAGAATGCTGTGCTGTGGATGACTGC
111956	PCDHB9	GACCAGCCTGACCAACGTTAAGTAACC
111957	COPEB	TGGTATGTGGGTGACCCTGGA
111958	CLECSF12	CCCAAAGTGCTGGGATTACAGATGTGA
111958	FTSJ2	CCCAAAGTGCTGGGATTACAGATGTGA
111959	IREB2	ATATGTATCACATATGATGCAGCCT
111960	MEF2A	CGAGTAGCTGGGATTACAGGCGC
111961	GSTA4	CTCCAGTCTCTGCCTAATTTTT
111962	OPHN1	AGTCTGCCTGGAGGCCAGGGAGCAG
111963	NEFH	AACTGACAGATGACCGCA
111964	VPREB1	TCCTGGTCCTGCAGTGTTGC
111965	AIM1	TAGGGATGTTGCTGGTCAAGTCTTG
111966	ADAM28	TGTTAATTTTTTGTTTTTTGT
111967	PIK3CD	TTTCTCTCTGACTATACTTA
111968	ZNF192	AACTCACAAAGTACCCTTA
111969	HAS3	TTAAGCCCCAACATGTTCAGAAAAG
111970	ITK	CCTCTAGCCTCTTGTCA

111971	NUP153	AATAAATAGCTAGACTGGTGACTG
111972	UBE4A	TCATTTTAAAAACGAGGGGAAAAGAC
111973	ADAM19	CAGTCAGAGCAGGGAGCCTCTTCCTC
111974	IL11	CCGATTAGCTGGGATCACAGGT
111975	TNFAIP1	GTCTCTGAGCGCGGGATGACAGGAGCA
111976	DCX	GCTTCAACATCTTCTGGAATCAGAGG
111977	STK11	GGGCGTGGGAGGAGGGAGGCGGC
111978	DCX	AGGAAGTGGAGGCTGGTAAAGAG
111979	PCDHA9	GATTCTCATACAACCG
111980	SCNN1G	CTGGGCTTTTCAGATACTCTGA
111981	CALB1	TTCTATGCCTGTATTTCCAACAAACT
111982	CASP7	TGGTCTCACCTATCCTGCCCTCA
111983	TNFSF14	CACATTTTCAGAAGCCTCTG
111984	ANKRA2	AGTAGGTTTTAATAAATATTTCT
111985	YWHAG	CCTCAGCTGCTCGCTCTGTGGGTC
111986	COL4A5	TTATTTTTCTACTAAAGAAATAAGGA
111987	MYH13	ATGGAAGAATGGGCTCACCTG
111988	EIF4G1	ATGAGGGAGGGAGGGGCATTGTGA
111989	BFSP2	AAGTGGAGAGGATCCTTCT
111990	ELMO3	TGGCCGCTGTGCTGAAGGAG
111991	MAP3K14	CCCTTCAGGCCCAGCACTGC
111992	CRMP1	GTGTGTTCTTCAAGCCAGCT
111993	KMO	TTGTGAGCCACCGCTGCCAGCCCAGA
111994	IFNAR2	CCCAGTTAAAGTGGGGAAGA
111995	CBFA2T1	GATACAGCAGTAGACATTTTA
111996	TEP1	ACCACAAGAAAGTGAATGAAA
111997	CDKN1A	GCCTGCCCTCATGGCCC
111998	SCN4A	GGGAGTGAGACAGGCTGGGTCCTGCCA
111999	ICA1	GGCAGCAGGAGGCTAGCAAAGCTT
112000	CLCN3	CCTTTCTACATTCCAGAAGAGC
112001	MAPRE1	GAGATTTTGCGTTTGACATTGTGTCTGG
112002	HIF1A	CAAAATACAATGTTTGATTTTATG
112003	LASS1	CCCAGCCGCCGCCCTGCTCCAG
112004	ELF3	CCCTGCTCAGTGCTTGGGCTCC
112005	TADA2L	TGCTTGAACACAGGAGGCAGAG
112006	TAL1	CTTCTTGCCCTGGGGATCAA
112007	H3F3B	ATATGCAGAAGGGATGGGTGATACTT
112008	EMP1	GCACTCTCCAGCCTCTCACCGCAAAATTACA
112009	PRND	TTGCCCAGGCTGGAGTGCAACGGCATG
112010	AIRE	GCCCCCTTCCCCTCCTGCCCC
112011	ITSN2	TGTTCACCTCATGGTTGTATCAGTT
112012	EBI3	CCCTTTGAGCCTCAGTTTCTCTAG
112013	IL13	CATTGACTATCAAACTGAAGCCA
112014	COL19A1	CAGAAGCTGCAGCAAGAGGTAC
112015	ADAMTS1	TGGAAGTGCATATAAAATAG
112016	SRGAP1	TTGTTCTTTTAAAGGGTCAGC
112017	ADORA3	AGCTCTGCTCCCACCTGATCCT
112018	P2RX4	AACATCACCACTACTTACCTCAA
112019	IL1RAPL2	CTTTCCAGCTCTCCCCAAAGTCCA
112020	GRB2	GGCTGCTGAGCACTGAGCAG

112021	SLC7A6	TCACTGTGGTGGGATGGTGCC
112022	DNAH11	CTCTAGCCTCTGCTGGAGTGCAGTGAGGA
112023	UPK1B	TTCATACCTTGAAGTATGTGT
112024	MYLK2	GGAGAATTAGGAAGGCCATGGGGC
112025	LANCL1	TGCAAATAGTTAACTTTTC
112026	DSCR3	GTCACCCAGGCTGGAGTGATCTCAGCT
112027	USP14	TCTGTAGCCACCCATCCTTTG
112028	SLC16A1	GGTTTCATTTTGGGCCTTGCTAAATTG
112029	ZNF36	ATTCTTTGGCCTCTCCTTGGCTTTA
112030	KCNE3	TCACCCAGGCTGTGGTGCAGTAAGCCA
112031	IL19	TGGTCTCAAACTCTTGGCCTCA
112032	ALEX2	GTTATCTGTGACAGTCACCAGCT
112033	LAMC1	GCGGAGGCGGGGCGCGGGGGCAGTG
112034	BAALC	AGACAGCAACCAGAAGTTA
112035	HNF4A	ATGAACACAGCAGTTCTGCAGAGGAC
112036	APPL	GGGTCACTGCAAACTCCGCCTC
112037	LANGERIN	GCTGGCACCCAGCCTCCCTTCTCC
112038	UPK1B	GAGCCAGACTCTGTCTCAAAAC
112039	MX1	GAGGTGCAGGAGAACAGCTCTGT
112040	KCNA6	TGGAGCTGCATTTGACCTGCTC
112041	ACE	CTGGGAGCCGGAGGCTGCAGTGAGCC
112042	SPAG8	TCATCCCAAGACTGCTAATTTA
112043	CLN6	TTGCACTAGATGGGCCTGTGGTCCCAA
112044	CLCN1	CAAGAGCAGAGGCTTAAGGA
112045	LANGERIN	TCAAAGTTACTCCAGAGCAACCAA
112046	STAM	CCCTGCAGAGGAATGAAACTACTTA
112047	RAD54L	GAAGGTTGAGAGAGAGGTG
112048	GORASP1	TGAGGTGAGGAAGGAAGGGGTTGCTG
112049	LILRA1	CGGGAGGTGAACAGCAGAGA
112050	LANGERIN	CCTATCTTCCTGTGTCTTGTGCA
112051	DGKE	GATTCAGAGCACTTGGGATTGTAAGT
112052	MHC2TA	TCTTCTGCTTCAGCCTCCCGAGTAGCT
112053	TDGF1	AAGCTATTCAATTCTTTTAACTGT
112054	B3GALT5	TGAGCCAAGCTCATCTTCATTG
112055	CTSS	GACAAGTTCCAATTTCTTTTCAA
112056	TNP2	TCAGCCCCAACTATATAACCAGGTGGG
112057	TOP2B	CAACAAATATCTTGTGTTGT
112058	FCRH1	AATCTGGAATGCAGTGGCACAA
112059	KCNK4	CAGAGGGATGTCTGTGGACAGT
112060	IL16	GCGGTGCAATCCCGGCTCACTGCAGCC
112061	P2RX7	GTCTGTAATCCCAGCGCTTTG
112062	WHSC1	CTAGAAGTGGCAGAACACTGGATT
112063	EGLN2	ACTTCAGAACCTCAGAGCTCC
112064	F2RL2	GCGTGAGCCACTGAGCCAGCC
112065	OGDH	CCCACACCACCGTCCTCCTCG
112066	EPHB3	GCTGGGACTTCTCCAGGCCTGTGT
112067	PVR	GCTAGAAGGACTCACTAGACTCAG
112068	ITIH3	CAACCTGTTTTGGTAGACACACCAGCT
112069	FGFRL1	CCCCACCCCACTGTCGTGGTG
112070	LEP	CACTGCACTCCGGCCTGATGA

112071	SCA7	TCATTTTGAACCCAGATCTG
112072	GGA1	GGGAGGCATTGGTGGCCAAGGA
112073	CYP2B6	TTGCTCTGTCTCCCAGGCTGGAGTGC
112073	XRCC2	TTGCTCTGTCTCCCAGGCTGGAGTGC
112074	DES	GTTGGGATACTGCAGGGCCAGG
112075	GATA4	TTTTCCCCTTTGATTTTTGATCTTCGC
112076	WNT5A	CCAACCTCCATTTCTGTTCACTTTGT
112077	MYO1D	GTGCCTCACCCAGGGCCTGACCCCAG
112078	SLC22A5	GCCTTACCAGCCCTAGCCTC
112079	SPON2	GGCTCTGGCTGGGACCCGACCGCTG
112080	FCN2	GGGGAAAGGATACAATTATAGCTACAA
112081	SLC31A1	GATTGATGGCAGCTGAGGGAA
112082	DLG5	ACTCCAGGTGCTCAGACTGCCTGTG
112083	PCDHA11	AAGCCCACAGAGATGAGAAT
112084	HTR1E	GCCCAGGCTGGAGTGCAGCAGCACA
112085	MLLT2	TCCATCTGTTATATGTAAAGGACA
112086	ACE	CATTGCACTCCAGCTGGGAGACAC
112087	CYR61	AGCACATGTTACTGCTTCATT
112088	GPM6A	TATCTGTGGCATGATTATGCAT
112089	TPK1	GAATTCGTTTCTGACATACCTTAGACT
112090	EIF5A2	TTTCCCTTAATGATACAAGTCT
112091	PIK3CG	CCTTACACTCCAGCCTGGATAACAGA
112092	WNT11	CCCCCTGGCCCACCCTGGGGT
112093	CDX2	CCTTCCCAGACCAGGAAAGG
112094	DSC3	GCTTGGCACTGCCTTTTCCTTTCT
112095	STEAP	ATGGAAAGCAGAAAAGACATCACAA
112096	FSTL1	AGACCTCCAGCATCCACGCATCTCT
112097	BHMT2	ACCTGCAATCCCAGCACTTTG
112097	F2RL3	ACCTGCAATCCCAGCACTTTG
112098	SLC25A15	AAGCTCCAGAGAGCTGCCTTCCACAA
112099	GPT	CCCACTGCCTCTGCCTCCCTGGGGCA
112100	SLC7A5	GTTCTCTTGGCTGCAAATAAGGACA
112101	HGD	TGAAGGAGAAAGAAGCATTGTG
112102	ANK2	GGAGCACCTGGAGGATGTACCA
112103	YWHAZ	GGATACCACATATTAAACCATGTATATC
112104	MAPK8IP1	CTTCTGGGTGGCTCCTGCCACTG
112105	PCDHA9	GCATTAGCAGCACCTAAGTCCTCA
112106	MSL3L1	AAGATTGAAAAGGGTCAGCTGGG
112107	RAC2	TACCCAGCAAAAATGAGTG
112108	TPK1	TTGCTACCAAAGAATGCATGTT
112109	PTCH	CTGTCACCCACATGGTCTGCC
112110	ACK1	GCACCAGTGCTGTCCCTGCACACTTTG
112111	SLC8A2	GGAGGCTGTCAGAGGCCGTCTCAGC
112112	PRKY	GCTTTTTCTCTGGACCATCCTGGC
112113	TNP2	ACCCAAAGGAGAAAATGCTAGGAT
112114	HOXA3	CCCGCACTCCGTTTCCCG
112115	CDC27	GTGACTTGATTGCCAAGG
112116	VPREB3	AGGGTGGGGTGTGAGATGGGTGCCTCCCC
112117	NRGN	GGAGGCTGCTCCTGATTGGCT
112118	SCML1	ATATATGATGCTCTGCAAAAC

112119	RXRA	CGCGGGGATGGGAGGGGAGGAGGG
112120	LMNA	TCCGCCAGCCTCCTCTGGACGGCAGGC
112121	TNFRSF14	GCCAAGGCTGGACTGGGTTGGC
112122	ZNF2	AGGGAATGCCTTGGAAGGC
112123	SYP	GGCTGGGTTTGGGCAGTGGAGAGGGGA
112124	HIP1	GCGCATGCCTGTAATCCCAGAA
112125	UBE2L3	TCTGCCAACGTAGCTCTGCCTGCCTGT
112126	C18orf1	TGGGTAGAACAAAAAGTTGTTAA
112127	PTGIR	GGGAGGAAGGGGAGGCTGCTGCA
112128	SLC21A2	TCAGGAAGGGAGGCTCAATGTAACCTCA
112129	SRC	TCTCCCAAAAAGGACCATGG
112130	CD72	ATAGGGGCGGCCCGGAGCCAG
112131	COL5A3	CACCCAAGCCTCACCTCCCCACCCCT
112132	NUMA1	GACTGGGTCTGACCTGGTGGGAG
112133	F7	CTCCCAGGCCCTCAGGCTCC
112134	C1orf1	AGCCAGGACAGCTTCCAGCCAGCCAGGC
112135	CDS2	CAAATCAGGGGACTTCCCCAC
112136	MCM4	GGCGGCAGAGGTTGCAGTGAG
112137	DXYS155E	TCCTGCTGAGCAAGAAGCCG
112138	PPP1R7	CTCTCCTCGGAAGAACTGCCCAG
112139	MELK	CCGCGTCTCTCAGGACAGCAGGC
112140	PIM1	TTTCCTCCTTTCCTCCTCTGA
112141	DHH	CTGCAGCAGAGACGGGCTGGGCT
112142	AMPD2	GGACTGAGGAGGCAGGGGAGGG
112143	CYP8B1	TGCTCACTGCAACCTCTGCCT
112144	LY6E	GCCCCCTGCCCTGGCACAGCTGCA
112145	TCTA	CCTACTTCCTTCCTGTTGG
112146	ZYX	TGCCCCCACCTCAGTTATT
112147	ALEX1	AAGTTGTGTTTTAAGCAGC
112148	G2A	CCAGCGCCACCACCGTGGAGAAC
112149	MPP1	ACAGCAAAAGCAATGGACCCC
112150	TNS	TTCATGCCCCTGGACCAGCCTTAT
112151	WNT8B	TACTGCTGACCAAATTCCCA
112152	ADAMTS4	ACCACGCCCGGCTAATTTTTGT
112152	ADCY6	ACCACGCCCGGCTAATTTTTGT
112152	CNN2	ACCACGCCCGGCTAATTTTTGT
112152	DHFR	ACCACGCCCGGCTAATTTTTGT
112152	SEDL	ACCACGCCCGGCTAATTTTTGT
112152	TRPV1	ACCACGCCCGGCTAATTTTTGT
112153	SOX2	AACTTAAGTTTTTACTCCAT
112154	OXTR	CTGGGGGCTCTGGGCTTGTGGC
112155	NCOA6	ACCGAGGCTGGAGTGCAGTG
112156	CAPN1	CTCCTGTCCCCTCTCCTCCCAGCC
112157	CAPN1	GCACTAGGCTTGGGGTGGGGAGGTCCCGT
112158	ETV5	GATTCTGATGAGGTTTCTGGGAA
112159	RPA2	ACTGCTCTTCTGTTTTATTTTG
112160	ARL2	CTGCTACTGCTGCTACCGAGGCT
112161	SYBL1	ACACAAAAGTATTCAAGAG
112162	EHD3	AACCAGTCAAGGTGGTTTTAG
112163	ACTR1B	GAGGGGGAGGGAGGGGAGACAGAGC

112164	PTMS	TGTCGGAGAAAAGCGTGGAGG
112165	MVK	GGGAGGCGGCGGCGGCGGCAGG
112166	ROCK2	AGACAGGAGAATCGCTTGAACCC
112167	FBP1	CTTACATTCCTAGAGAGCAGAAATA
112168	PLTP	TGTAGTGCCCCCTCTAACC
112169	PRIM2A	AAGGCTTAGTGCAGTGA
112170	TG737	TTCTTTTAAGGAATAAAAACAGGTAAA
112171	KMO	TTCAGCCTCCCAAATAGCTGGG
112172	PTK2	GTCACCCAGGCTGCCAGGCTGGAGTG
112173	PRX	CTCTTCCTGTCCACTCCCAGCCTCC
112174	GRLF1	GGGAGGAACAGGGAGAGA
112175	SOX5	ATAGTAAATACTGCAACTAGTAGCTTG
112176	PDE9A	CAGTTCTGGACGGGCTGGCC
112177	ASK	ACCAGGCTACCAAGTGGAATA
112178	HRH1	CTGATGTTTTGTATTTTGTGTTCCT
112179	CD22	GTCCTCTGGATCTGCTCGT
112180	JAM3	GTACACAGATGCTACAGACTT
112181	AOAH	CCTGAAATAACCTTTCATAAA
112182	SERPINE1	GGATGTAATGCACTTTGG
112183	FANCF	TGTCACCCAGTCTGGAGTGCAGT
112184	MAPRE1	CTCTTTGGAGATAAAATTCATT
112185	HPN	TCTGCTGTCTGGGACTCCTGTC
112186	SFRS7	TTTGGAATTTTGACTGGCTGAAT
112187	DPH2L1	ACCTCAAGTTCTTGGACCAGTTTGCAG
112188	CHRND	CACTCCTCAATGCTCAA
112189	SIL	GCGTGAGCCACTGCCCAGCT
112190	KHK	GCTGAACTGACAGGCCAGTGGGG
112191	CAPN2	CAGTCCAAGATTACCATTTC
112192	INMT	GAGTCAGCTGGAACATACCACTGCCT
112193	GRM1	TGATCAGCTTCTCATGTTCCA
112194	MYO10	CTGGAGTGCTGCGGGCAGC
112195	TIRAP	GATTACAGGCGTGAAGCACCAC
112196	HPSE	CACCTTAAAAGACAGCTAGA
112197	HLF	AGGAAGCAGAGGGAAATGGGA
112198	TNC	CCCAGAGCGAGGAAAGGATTTT
112199	MTR	AGAACAATGGCTATTCATGTGGGAAA
112200	RAB23	CCATCCTTTTGTTTACACATC
112201	KCNJ13	GAACTCTAAGAAAATCAACCATTAATC
112202	EPHB6	GCCTCTCCACCAGCCCCCTCCTCA
112203	VPS41	TTCGTTTATCATTTCAGAAATTGCTG
112204	BRCA1	GCCAGCCACAGGTACAGACCA
112205	LTB4R	CGGTCAGGAAGCCCTTCCTGAA
112206	TMPRSS3	GAGGCACCCTTCCATCTGATTCC
112207	MFNG	TCTGGCCGTTGGCCCTGGCTAATGT
112208	DHFR	TTGTTGCCCAGGCTAGCATGC
112209	PCSK1	CTGCGATTTTGCCTGTGTC
112210	ITCH	TGGCTCATACCTGTAATCCTAG
112211	ZNF189	CTTCCCTTAGTTAATGGTTA
112212	FMO4	AGCTGTCTAAACCTCCTACTCCTCA
112213	SEL1L	AACACCATGGTAGACTCTTTTTG

112214	TNFSF9	GTGCCCAGGCTAGGGGGCTATA
112215	ALX4	GGGGCCTGACCCTCAGCACTT
112216	TIMM8A	GAAAGGGCAGAAGTAGGGGAA
112217	KCNA6	GGTGGGAGGGGGCAGCAGGCGGGGC
112218	LIF	ATCTCTAGTTCCCCACCTCAATCCCG
112219	DNMT3B	CTCCCCACTCTGTCCTGGGTGCT
112220	PYCS	CCTACCCTTTTCCTCCA
112221	FGFR2	TCCTTCTGTACTAAAGTATTGTGTTT
112222	COL10A1	GCCTGTATGGCCCCTTTCATCAA
112223	TNFAIP2	GGCTCACTGCAGCCTGGACCTC
112224	PART1	AGCAAACGCCTGAGTGCTGCTG
112225	HAP1	CCCCTCTCCCCTCTGTCTTGATC
112226	CHST2	AGCCCCATTGGGCATGATAA
112227	MUC4	CTTAAGAGTCATCCAGCTCTT
112228	SLC7A5	TTCCTGAGCTGTCGCTGCCTCCA
112229	MATN1	GTGCTGCCAGAACTATGAGGGTCCTC
112230	DCX	GTCACCTAGGCTGGAGTGCAGT
112230	SIGLEC8	GTCACCTAGGCTGGAGTGCAGT
112231	AEGL1	AACATCTTCTGAGTAAACAGGGT
112232	NCOA6	CAGGCTGGAGTGCAGTCGTGCCATCTC
112233	JAM3	ATTGCGAAATCAAGTCTGTCAA
112234	TAT	GCCCATGCTGGAGTGCAGTGG
112235	SMT3H1	GTAACCTCGGGGTCTGAGGCC
112236	KPNA4	ACAATCTATTTTGAGCCACTTT
112237	USP6	TGGAATGCCATTGATTGTTCCATGCAC
112238	ZNF264	TATGCCTTTTGCAAAATTTGG
112239	OPHN1	ACTGGCAGGGATAACAAAGA
112240	AVPR1A	GAAGGAAGAAACCCGGACTGGA
112241	ADCY7	CTCACACATCTTTGCGTTCTCC
112242	GJA5	AACCATCCCTTCCCTTTCTCCC
112243	JRKL	AGTGGTTTGAGGATTATGTGTTTT
112244	CIT	GTGAAGTGGACCATCTCCGCCG
112245	CHC1L	TCAGCACTCAGCACAGTGCCTT
112246	CRTAP	TGCAACCTCCGCCTCTTGGGTT
112246	MHC2TA	TGCAACCTCCGCCTCTTGGGTT
112247	KCNJ1	CTGCTTAGGAATCAAAATGTTTTCA
112248	CKM	CAGCCCAGCCCAGCCAGGT
112249	CORO2B	TGAGGCTGAGAAGGGTGG
112250	PEX10	CCGAACCCGCGGCCATGGCCC
112251	CD58	TTGAGTATTACAATTTTTGAACAACTG
112252	LPO	GGCCCTTAACCTTTATCTTT
112253	PDE6C	CTTCTCATCACTCTGCCTCAG
112254	G6PC	CCCGCGTAGCTGGCATACAGG
112255	ARHD	CCTGTGCAGCCTGATGCCCCCTCGTGG
112256	FDFT1	ATAGTAGAAAATGATGTGA
112257	BCL9	GCACATTTTCTCTGTTTCTCTCTCCG
112258	BARHL1	CCCCGGTCCGGGGGCAGCCAGGCCTCTCGG
112259	STC1	CCCAGAGGCTACTCTTGACTTA
112260	FGF5	GTGCCATGCTGGTGTGCTGCA
112261	APM1	GTAATGTCCTTCTTTATCTGT

112262	DHFR	AAAACACAAAAATTAGCTGG
112263	IL18R1	TTGAATAGCAAAAAACTGATA
112264	HOXD1	TTTGCCTCACTTAGTCATGTGC
112265	ALPL	CCTCGCTCCCCTCTGGAATCTTCCC
112266	UCN	GCGGGGCAGAGCCACCAGGGC
112267	ORC4L	GTTGGTTCCCCTCTTTGACC
112268	NR1H2	CTTCCTCTTCCTCTGCTTTTATTT
112269	CNGB1	TAGCGAGACCTCATCTCAAACC
112270	SSX1	CCAACTCGCCACCACTGCTGCCGA
112271	SIP	AGTATGTCAGAAAAATCAG
112272	RBP4	CCCATAAAACCTTC
112273	JAG1	AGTAGTTCTGTATTTGAAAGTGCCTT
112274	PELO	CACTGGGGCAGAGGACTGGGAACCGCGGC
112275	TAF1A	GACTCTGTACTGAATTTTAGTTATTTCA
112276	ATM	GAGGATGGCTTGCGCTCAGGAGGCAGA
112277	GSTT2	GCTGCTGCCCACACCGCGTCG
112278	MLLT2	AGCGAAAGGGACTCTCTAACAGGGC
112279	CLNS1A	GTGCCTCTTCCACTCTGGAGTGAAGTTAATG
112280	ATP2B1	CTGTTGTAAGCTGAATGTTAACA
112281	MAP3K14	GAATACACCACACTTTTCA
112282	NEURL	GGCCCCCCAGCCAGGGATCCCAG
112283	PRX	GACCTGCCAGGAGCACTTGGCCTG
112284	CRY2	GGAGGCTGAGCAGGCCGGAGTGGATGG
112285	HEBP1	TTCCTCGGGGGTAAGGAGGGGACA
112286	LEF1	GGGTGCTCCCACAGCGGAGCGG
112287	EIF3S2	TCATTGCACTCCATCCTGAG
112288	INHBC	TTTGCATACCTTCATCCATTTT
112289	TITF1	TGGTGGAGGACGCCGGGCCGG
112290	STK24	TATTACTTTTGTTTTTAATTTTAACCA
112291	ITGB4BP	GTTCTGCTGTCCTGTGCCACCCCATT
112292	KCNMB1	GGGAAGATGGAGGTGCAGGGC
112293	TEM7	AGCATGCCCTGGGCTGAGATG
112294	FANCF	CAAAACAACATTTTAAGTA
112295	SLC13A1	TATTGCAGTGCAACTAAAGAGCA
112296	CA14	GGAGTGGAGACTGCAGAGGGAGATAAAG
112297	RNASE2	TTCCTGAGCTGAAGTGCCTTGT
112298	TMEFF2	CTCCACCCTGCCTCCTCGGGCT
112299	REN	GCTCCCTTCCCCTCTCTGGCTGCC
112300	SMAP	ACCATTTTTGTAAAGAGTAAGAGTT
112301	MLPH	CTTCTGCTAGGCACGCGTTCACC
112302	ADAMTS4	CCAAAGTGCTGGGATTACAGGC
112302	ADRA1A	CCAAAGTGCTGGGATTACAGGC
112302	APM1	CCAAAGTGCTGGGATTACAGGC
112302	APOL1	CCAAAGTGCTGGGATTACAGGC
112302	APPL	CCAAAGTGCTGGGATTACAGGC
112302	AQP6	CCAAAGTGCTGGGATTACAGGC
112302	BAZ2B	CCAAAGTGCTGGGATTACAGGC
112302	BENE	CCAAAGTGCTGGGATTACAGGC
112302	CAMLG	CCAAAGTGCTGGGATTACAGGC
112302	CASP8	CCAAAGTGCTGGGATTACAGGC

112302	CBFA2T2	CCAAAGTGCTGGGATTACAGGC
112302	CCNF	CCAAAGTGCTGGGATTACAGGC
112302	CD209	CCAAAGTGCTGGGATTACAGGC
112302	CYP2B6	CCAAAGTGCTGGGATTACAGGC
112302	CYP4F3	CCAAAGTGCTGGGATTACAGGC
112302	DCX	CCAAAGTGCTGGGATTACAGGC
112302	DFFB	CCAAAGTGCTGGGATTACAGGC
112302	DNASE1L1	CCAAAGTGCTGGGATTACAGGC
112302	DSC3	CCAAAGTGCTGGGATTACAGGC
112302	EIF5A2	CCAAAGTGCTGGGATTACAGGC
112302	FANCF	CCAAAGTGCTGGGATTACAGGC
112302	FCAR	CCAAAGTGCTGGGATTACAGGC
112302	FEZ1	CCAAAGTGCTGGGATTACAGGC
112302	HTR1D	CCAAAGTGCTGGGATTACAGGC
112302	HYAL1	CCAAAGTGCTGGGATTACAGGC
112302	INMT	CCAAAGTGCTGGGATTACAGGC
112302	LNK	CCAAAGTGCTGGGATTACAGGC
112302	LYZ	CCAAAGTGCTGGGATTACAGGC
112302	MATN3	CCAAAGTGCTGGGATTACAGGC
112302	MDM2	CCAAAGTGCTGGGATTACAGGC
112302	MEFV	CCAAAGTGCTGGGATTACAGGC
112302	NDRG3	CCAAAGTGCTGGGATTACAGGC
112302	NF2	CCAAAGTGCTGGGATTACAGGC
112302	NQO1	CCAAAGTGCTGGGATTACAGGC
112302	PCDHB11	CCAAAGTGCTGGGATTACAGGC
112302	PER2	CCAAAGTGCTGGGATTACAGGC
112302	PIGR	CCAAAGTGCTGGGATTACAGGC
112302	PIK3C2B	CCAAAGTGCTGGGATTACAGGC
112302	PIK3CD	CCAAAGTGCTGGGATTACAGGC
112302	PLA2G10	CCAAAGTGCTGGGATTACAGGC
112302	PMCHL1	CCAAAGTGCTGGGATTACAGGC
112302	PPEF2	CCAAAGTGCTGGGATTACAGGC
112302	RAB36	CCAAAGTGCTGGGATTACAGGC
112302	RABL2A	CCAAAGTGCTGGGATTACAGGC
112302	RABL2B	CCAAAGTGCTGGGATTACAGGC
112302	RGS9	CCAAAGTGCTGGGATTACAGGC
112302	RPP30	CCAAAGTGCTGGGATTACAGGC
112302	SEPN1	CCAAAGTGCTGGGATTACAGGC
112302	SERPINB9	CCAAAGTGCTGGGATTACAGGC
112302	SH3BP2	CCAAAGTGCTGGGATTACAGGC
112302	SLC15A1	CCAAAGTGCTGGGATTACAGGC
112302	SLC24A1	CCAAAGTGCTGGGATTACAGGC
112302	TAPBP	CCAAAGTGCTGGGATTACAGGC
112302	TERF2	CCAAAGTGCTGGGATTACAGGC
112302	TIRAP	CCAAAGTGCTGGGATTACAGGC
112302	TPMT	CCAAAGTGCTGGGATTACAGGC
112302	TRPM6	CCAAAGTGCTGGGATTACAGGC
112302	WHSC1	CCAAAGTGCTGGGATTACAGGC
112302	YES1	CCAAAGTGCTGGGATTACAGGC
112302	ZNF74	CCAAAGTGCTGGGATTACAGGC

112303	CD209	ACTCTTGTCGCTCAGGCTGG
112304	IMMP2L	TTGGGAGGCCAGTTACTGGAA
112305	KISS1	CACTTCTAGGACCTGCCTCT
112306	EDARADD	ATGCCATTCTGGGAGTGTCCCTCGCT
112307	FCN2	TATGGCCCTGCTTCTTCCTCCC
112308	HR	GCGCTAGGGGACTTGGGGA
112309	PTPN1	TCTAGTGACTTCCTGGTGAGGC
112310	ITPR1	TCGATACTGCTGGCCAATCAGTGTC
112311	ATSV	CACCCAGGACAGGACGGGGGTCAGCC
112312	PRKACG	GGCCAGGTCTTGCTGTTGTAT
112313	SLC17A4	TCATGATAAGAGGAATGAACGT
112314	MAP3K5	CCCTCGGGGGAGAGGGCGCCGGAGAG
112315	COL4A4	GGGCCCAGGCGGGGAAGTGGGGT
112316	PCTK1	GTTCCTGAATGCACCATAATCGCTGTA
112317	LIF	TTCTCCTTCCTGCTTCATCCGGC
112318	MPZ	TCTGGGACTCCAGGTCTTGAGGA
112319	RARG	CCTCCCAGGCTGGGGCAGTG
112320	RNH	AATGTATCCACCAACCAAGG
112321	ATP6V1E1	AGCCATGAATATGCTTTAT
112322	LZTR1	GGTGTAGTGTGGATGCGAGGC
112323	PCOLN3	GGCTCACTGCATTTGGTTTTCTTTTC
112324	DYRK1A	TTCTTGTGTGTTTTTATAGAAGTGGTG
112325	ACP2	TTGCCTCTCAGTGCTTATTTTAGTGG
112326	REN	CTTCCCAAAATTTCTCCTCCTCCTGTG
112327	CXCL13	TCCTTTCACACATTTGCCTTGACAA
112328	HCN2	TCATCCAGACCAAAGCCATGCCATTGC
112329	MAP1B	AAGGCATGCTCCCAGCATTT
112330	ICOS	CTTCTGCTGGTGTTTTGTTCAATCT
112331	SCML2	CTCAGCTTACTCTTCAGGGGATATGA
112332	LMNA	TGCCAGGCCAGCCTCCGAGAG
112333	C8orf1	TCCAATAATGTGGTATACACTTTGAC
112334	COCH	AACATTCGTTCTCTAACCAT
112335	LAIR1	AGTGACCCCAGAGACTTTGCTGTAATTA
112336	LEP	CTGAGCACCTGCTTCATGCTCA
112337	OVOL1	GCTGCCTGGCCAGCCCACCCTCCTGC
112338	FCAR	CCTGCCTGGCCGGGCGTGGTGG
112339	LPL	GGCCTTCTCAAACTTTACTCTAAGTCTCC
112340	GPR55	GGGACCCCTGACCCATCCCAAAACAC
112341	HNRPK	GGGGGTGGGCCAGGGAGGAAAA
112342	TLR4	TCAAAGTATTTATTGCACAGACTTGCG
112343	FHL1	CCGAATACATCCTATCTGCCA
112344	ALPP	GGAAGTGTTTGTAATCCCAG
112345	MX2	TTTCCCAGCCTCTCCACTCCCCCGCC
112346	MSN	CCTTTCTCTTCTCTGTTCC
112347	CTSF	ACCCTGAAGTTCTGCACCTGCACCT
112348	IL13RA1	ACTGTGTCTTTGGTTTGTGCTAG
112349	MAFG	GCCCCAGGGGAGCAGCTCAGCT
112350	GJA1	GGAGAGGGAGGGGATAAGAGAGGTGC
112351	GLRX	CTCCACCCCATCCCATCCCACC
112352	RECQL5	GCTTTGTGGTCATCATGTTC

112353	AICDA	GGGAGAGAAGGATGGGGAAGCATT
112354	NPY1R	GCTTTGAAGAAACATACTGTCCAT
112355	COG3	ACCAGGGGACCTTTTGGTGCAGTG
112356	ZNF36	ATTGCACACTGCACTCCAGCCT
112357	IMPA1	CATACCCAGGAAGTACAGT
112358	CHST1	CTCACCCCACTCCCTTCTGCCCCT
112359	SMCY	GTACATCCTTTTCTTTTCTCC
112360	IREB2	TAAAGAGAATGTTATTCAATCATTAAAC
112361	CHRNA7	CCTGAAAATTCAACATTTGCTT
112362	CRY2	AGACAGCACACCTACCTTTTC
112363	FAT	TGTGCATTTGTTTCAACTGA
112364	NGB	GGTGATGGGGCAGGGCTGGGTCTCAGT
112365	ARHGDIB	TTGCCACCTGGAAGAATTCTCTCAG
112366	BDNF	GTATATATACATAACAGGGTA
112367	ROCK2	CACTTTATTTTTTATACACATTAA
112368	MPL	TTGTGAGCTCCTTGAGGGAAAGG
112369	LGALS3BP	AGAGGGATCCTGTGGCTGGAAGC
112370	SH2D2A	ACAGCAAAGAAGTGTGCAAG
112371	ADCY1	CTAACAGCAACATCTGCAAGATTTGTG
112372	ANKH	ACTCTAATTTTACTTTAAGTA
112373	CELSR1	GCCCTTGAAGTGGAGTGGGCCCAGA
112374	CX3CR1	AGTAGACATTTCTCTTACTGCA
112375	LIPA	CCTGCAGCAGGTGCATAGTC
112376	FACL3	GCACCAATTAAGATGTGCTCAA
112377	MAP4	CTGCTGTCACATTTTTCTTGTT
112378	KCNB1	AAAGAGACTGTGTGTTACTGAAGAAC
112379	TGM4	CAACTGGAGTGCTCTCTCAGCAC
112380	TRIM14	TCTTCCGCTTCCTCCCCAC
112381	MEL	TTCCACATCTGTAGTGCCATG
112382	PRDM2	GTATGGAGGGGAGGGATCTCCTGC
112383	EPHA3	TCCTGTTCATACACTAACCA
112384	TOMM22	TCTCACTTTCCCCTTGTGGGGT
112385	KCNH2	GCCAGCCTCGGGGGTGCAGCCTGGG
112386	EGFL4	GGAGGCTGAGGCAGAAGAATCGCTTGA
112387	CRABP2	TTCCGGGTTCACTCCCCGCCTC
112388	PPP2R5C	GCCTTCTCCTTTTGAGGGA
112389	ATP11A	TTCAGTTAACAAATTATTTGTA
112390	DHCR7	CCTTCCTGCTCCTGCTGC
112391	CPSF6	AAATGAACAGGAATAGATCTGAATAAAGCAA
112392	PPARGC1	CTATAATGTGATGATTCTAAATT
112393	WNT5B	GACCAGTACATCTGTAAATACCCGGAG
112394	MTMR3	GTTTATGCAGTCAAGGCCAAAG
112395	MGAT1	CCTTCTCCCTGACCTGGCTC
112396	ADORA2B	CTGCCTCTCTTGAGCACTTC
112397	STS	TCCAGGAGAAACCTCACAAACCTT
112398	MX2	TTGGGGCCAAACTCTTCTGTCACT
112399	SELL	CTCGCCGTCTGTGAATTGGACC
112400	ESRRG	TGCTTCTTATCATTGCTTTTCCATCTA
112401	OLR1	AGAACTCCTTTGCAGAAACTGGG
112402	KCNE2	ATGTGGTTGGCCAATAAAGATA

112403	CAMK2A	GGACTCCTGTTTACTTCTAGACCT
112404	EDNRB	TCATTGCCTCGTCACATCAATGCAAAA
112405	RAB5C	ACTGCTCTCCCATTTTCCCTTGCTGG
112406	CACNB1	AGACCCACTGGTGCAATG
112407	ZNF215	CCAGTTTCAAACCCCAAAGAT
112408	SNX15	GCTGAGATTGCAGGCACATGCC
112409	RCN2	TATTTAATGTATAACTATAGCAT
112410	CASP10	CACAGGAATCGGTGGTCTCCA
112411	ADAM19	AGGTGCTTGTGACCTACAAGTCAGAGT
112412	DNASE1L1	GGTCAAGGCAACATCTCCACACAGAAAATC
112413	AFG3L1	TGACTCAGCAGGGATGATTCAGCAG
112414	RGS3	ATGCCAGGCTGACGGGTCCAGTG
112415	OLR1	GTCCCAAGCTTCCCTGCCA
112416	HOXD10	TCCAGTACTTTAAAAATGACA
112417	BCAS1	CGCCTGTAATCTCAGCACTTT
112417	VHL	CGCCTGTAATCTCAGCACTTT
112418	TEP1	CGCTTGTAATCCCAGCACTTT
112419	PRND	GGCTCCACCTTAACTGTGCTCAG
112420	USP6	TATGGGCTATCAATATCCAT
112421	CAV1	TCCCTGCCTCTCATCAACTGAATGAGG
112422	BNC	AGCATTTTCAGTTCCTTCTTCA
112423	EFG1	ATGGATCCTAGTCCTTTTCAT
112424	ATM	TGGGAGGTTGAGGTAGGTAGA
112425	COG3	CACTTCCTTTTCACTCAGTT
112426	TBL2	TCACAGCCACCCCAGAGGACTTCCCT
112427	RABL2A	AGCCTCCCGAGTGGCTGGCATC
112427	RABL2B	AGCCTCCCGAGTGGCTGGCATC
112428	PLAC1	CTTCCCTTTGGAAATTTGGCAG
112429	CDX1	GCTTGCAGAGCATGACCTGA
112430	TM4SF6	GTTATTTTTCTTAGTAGGGGGCC
112431	MHC2TA	GGCTAAGTGATCCTCCCACCTCA
112432	NLGN2	ATGCCCTCAGAATTGGGGCATGGGAG
112433	HEXA	TGCCCCTGTGCTTGGAGAG
112434	ABCC3	GGAGAGATGGAGAAGCTAGAAGGC
112435	ALDH3B1	TGGTGGAGACGGGGCCTGGGCTCCCGG
112436	OLIG2	CGCTGCCTGCGTTGCAAACTGGGCTT
112437	MAGEA10	GGGGACAGGGAGAGCAAGAGGTCA
112438	SFRS2IP	AGGCCGAGGCAGGCAGATCACT
112439	PLXNA1	AGGGTAGGCTGAGCTCCCCACCCTGGA
112440	HOXA10	GCGCTGAGGTGTCTGGCCTGAGGTCA
112441	MLC1	ATCAGGTCAGAGCCCAGGAATTCTCA
112442	MAP1B	GCTGGGAGAGGGCGGAGGGGGA
112443	CDC5L	CCTGCAGCTGAGCTTCCACAAGAC
112444	PPP2R5E	TAGCCTCTGGGAAAAAACAA
112445	PTGS2	TGCTGTTGCTGTTAAGTTTGGAAAACA
112446	CHST2	AAGACTTGAACGTTCTGACCAGGT
112447	PIGA	GGGGTTTTGTTGGAGAAAAATGGACTGA
112448	HMGCS2	GGGTTTCTGCTTGCTCCT
112449	BACH1	GTCTTAGTGTTTGTTCAGTCCTGT
112450	MAD	GGGGTCCACAGCGGGCTCCACAGCGG

112451	ITGB1	GCAATTTCCATAGTCACAGTTAGGTAGC
112452	FOXE3	CCCACAAGTTTGCCCCCCACCT
112453	MADD	CAGCCCAGGGCACGCCCCTGGC
112454	PLS1	TAAAACCAGAGATTATTTGTATGCTCA
112455	IBSP	CAGAGGAAGCAATCACCAAAATGAA
112456	IGF2R	GGAGAGGGTGAAGGAGGTCAGGC
112457	MAT2A	ACTCCACACTGCACAATAACTCC
112458	KCNQ2	CCTGTTCTTTCCTCCCCTGCCGA
112459	VPS26	CAGGTTAAAGATGGTTGCAGCTGG
112460	RAB7	GTGATGGTGGATGACAGGCT
112461	PRKAA2	AAATTTTTATCTTACTTTTGGA
112462	ELF3	ATAAAGTGCCTTCTGGGCTTT
112463	GNAQ	GGCTGCAGCGGAGGCACTTTGGAAGA
112464	DCX	GGTAAAGAGCAGGACCAGAGGAA
112465	HUNK	AGGGAGCTTTCCAGACATCTG
112466	FGFR1	GGACCCCTGCCTTTTCATTGCCCG
112467	RFX5	TCACAGAAAACCTAATTCAAACTG
112468	PITX3	GGGACTAAAGCCAGGAACAGGGACCAG
112469	VCP	TGGTGGTGGCCAGCGTGCAGTGA
112470	KCNS2	CAGGGAGAGTCAGGTTAATTTTC
112471	MAG	TGGCTGACCCCCCTCAGGACCCTCGC
112472	ZNF253	AAGTAGCTGGGATTACAGGTGCCCAAC
112473	ZAN	CTGTTCTGGACTGTGCCTGTTAAGTT
112474	C21orf33	CCACAGCCACATTTCAGACCTG
112475	RBP4	TTGCCTTTCCTGAAAGTTTCTGG
112476	SLC9A1	CCTGGCCACCACCCAACCTAT
112477	STAC	ACCTGGGGAAGAGACTATCACA
112478	NOTCH4	AGGCCCAGTCCTCCTCCAGAA
112479	SIX6	ATATATGCTGTTTATTTACTTAT
112480	GRB10	TGTAGCAACCAGGACGAAGTTGAGA
112481	NCOA4	TGAGGAGAATGAATACCTTCCAA
112482	SNAI1	TTCTGGTTCTGTGTCCTCTGCCTGGG
112483	CTPS	GTCAGTTTGGTGTCAACATGAAACAC
112484	MS4A12	AGTTAGAAATGTTTCTGTTCATATTAC
112485	GAS41	ACTATTTAAGCAATCTTTAA
112486	GUCY1B3	GACTAGGTTCCAGTTTTCTCCTAAC
112487	BHLHB3	TTTGTTGCCAAGGTAGCACT
112488	WNT8B	GTTCCTAGAGGCAGAGGTTGA
112489	SMURF1	GCCAGTGCTTTCAGTAGGAAGAGCTGA
112490	MUC3B	GTGGGTGGGGGCAGGGCATGAG
112491	ILVBL	CCATTGCTGTATAGGCCTTGTGGGTC
112492	APXL	AGACTTCTCCCATAGCAAAG
112493	KCNJ8	TCACTTCTTCTTCTAGAATCCCCACAG
112494	LDLR	GGACTTCAGGTTCTTTCTGA
112495	LTC4S	CCCGTGCCACCACACCGACGGTACCAT
112496	EGFL5	TACAGTGAGCCGAGATGGCGCC
112497	CNGA3	TGAAACCAGAATCTGCTTCA
112498	ZNF36	TCAAGTCAGTTCCTGGAGCCTGAATG
112499	KDR	TGCAGCTCTGGCTCCTTGTCTCCCAGG
112500	PCTK1	GCATGCCACAGCCACTCGCC

112501	ASPH	GAGAGGCTGCCTTTCTGGTTCCA
112502	GLRX	TTCTGGCCCAGGATTCGCTCACT
112503	CBFA2T2	GGGGGCACTCCACACTGGGGG
112504	NPC1	CATCGGTTGTTTGGCAGCAGCTTTGA
112505	LHX4	CACCAGAACTGAGACTCCTA
112506	IL1R1	TGAACAAAGGGATTCTCCA
112507	STAU	CAAAGACAACATTGTTCCTGGAACGC
112508	AQP1	TTCCTGGCCTCAGAGCTTCCTGGGGACC
112509	PDYN	CCTGTCTGTCTGTCTCTCTTTTG
112510	COPEB	AGAGGCACCTCTGGGGAGCAAAGA
112511	XDH	ACCTGTGACAATGACAGCAGA
112512	FGFR2	CATTGCATTCCAGCCTTGGCGA
112513	CFTR	TTCTGTTTTATAATTTTGTGA
112514	USP14	GGAGGCTGAGGCAGGTGGTTCA
112515	GRIK2	GTTCCTCCCTTCTTCTGAGTGA
112516	ADCY9	GGTCCTGGAAGCTGACTCAT
112517	ARF4L	TTGGTGCCACACTGGGGTGGGG
112518	UROS	ATGGAGCCAGGCATCGGCAAGGGCTC
112519	BMP8	GAGGAAGAGACCCTCCCATGTA
112520	ATP1A2	GGAGATGGAGGTAGGGCTGGC
112521	DYRK2	TTTGACTTATTCTTCGTATC
112522	ZNF264	TATCTCTCACACGTATTTTACA
112523	RBBP5	TTCATTCTTTCTCACTTTGCCATCA
112524	PTPRS	TCGGCTCGAGGCCTCTCTGTGAGGGACC
112525	ARF1	CTTTTTTCTTTTGTATTTTGAT
112526	DHCR24	TGTCATCTGAGTTGAGCACTGGTC
112527	MSL3L1	AAAGACTGTTTTTAAAAAGGTGCTACA
112528	SORCS1	AAAGCATGAAGAAACCCCATTT
112529	CASP8	TGGCAATAAATACCAGACACGT
112530	PDZK1	GCTCACAGCAACCTCTCTGCCTCC
112531	MME	AAATTATAGTTTCAAGCCAACT
112532	HSD17B1	GGGTGGGGAGAGCGGGCCAGG
112533	PSCD4	CAGGGAGGCCTGGCCTGGAG
112534	MECP2	ATCATTGTCCAGAGCTGCTTCCCC
112535	GAS2	TGAACTCCTTCTCAAGGAAT
112536	IDH3G	CCACTCCAGCACCCCAGCCAGCCTGGTACGCA
112537	CXorf6	GCAGAGACAGTGTGTGAGCCGAGCCCTG
112538	TCF21	AGACCCAACCAGACCCCAAC
112539	P2RY2	ATCAGGGATCCTCTCTCCAG
112540	HEM1	GAGAGAGGGTCAGGAGCCAGA
112541	FSTL3	TGTGTATGGAGGATCTAGCCTGGGTGA
112542	TMEPAI	AGGCTGAGACAGTCCTCATATCC
112543	BRIP1	GCCCAGGCTGGAATGCAGT
112543	IL21R	GCCCAGGCTGGAATGCAGT
112544	TBXAS1	CCGCTGCAGCTAAATCCAAATCTGCCCTAGGT
112545	AQP6	TTCAAGGGATTCTCCTGCCTCAG
112545	CAMLG	TTCAAGGGATTCTCCTGCCTCAG
112546	RHCG	GGCTGCAGAAGTTCTGCCTCT
112547	ENDOGL1	CGTGTCATCCAGGCTGGAGTGCGGT
112548	SDPR	GGTAATATATTGTATTTCCACCGTACTCTG

112549	TEAD2	TCCGCTGCACAAGCAGTG
112550	FOXF1	AGAAGAAAAGCAACATGTGAG
112551	FOXE1	ACGGGAGGAGGTGGGGCGAGG
112552	PAG	GTGACATCCTTTATAGGCACCT
112553	DLG2	ATGCCCAGGATCGTGTGTGTG
112554	FZD10	GGAAGAGGGAGAAGGATCATT
112555	SULT2A1	CCAGGGATGCAAAGGTTGCAGTG
112556	MCM4	GACCAGCCTAGCCAAGATGGTG
112557	ELMO1	TGGTATTTACAATTTGCAAGA
112558	GPR48	TGTGGGAAGGATTTATTTACAG
112559	SPOCK	TTCTTCTTCTTGGAAATAGTCCTCCA
112560	CHST1	GCCCTTGCCTGTCGGTGAGGCAGGTTT
112561	EFNA3	TACAGCAATAAGCACGTCCTCCTCC
112562	BCL10	CCCAAAGTGCTGGGATTACAGACACGA
112563	PRPSAP2	AGAGAGGCCGCCAGGAGACCCGG
112564	CST	CATCCAGAGCTGGAGTGCAGC
112565	EIF4G2	TTGGTCCCTCCTATTATAGTAT
112566	DAG1	GCGCCCACTCTGCTTCGATTCTCC
112567	GPR81	TCCCAGGCTGGAGTGCAGTG
112568	HOXB7	CTCCTGAGCCTCCGCCTTCC
112569	ALDH3B2	CCACCAGAAAACCATCGCCAACTCCTG
112570	MYO1F	GCCTATCTGCCTGCCGGCCT
112571	NFATC1	TACTCAGATAGTCACGGTTATTTTGC
112572	RAB4A	AATACTAGATCAGTAGACATTCA
112573	ATF7	ACCAGCCGCTCCTCTCTGC
112574	WNT8B	GAAAGGGAAAAACTGCAATTTCTCC
112575	PTPRF	AGCTGCTGGCTGACCTGGGCC
112576	MLLT1	CCTGGAGGCCGTGGCCACATGCC
112577	COL13A1	GGAGAGAAGGAGAGCCGGTCAG
112578	SPTA1	TCTTTTTAAAAATATTTTTTG
112579	HM13	CGTACAAAGGAGGGAGAGGTCAG
112580	SNX6	CACGCCCAGGCGATGCCAGT
112581	TTID	TCTCAACAAGGAAGAGCAGACCAAGGT
112582	ENAM	TCAGGGATTATTATTCTTA
112583	GRB2	AGCAGCCTGTGAGGGAGTGCAGA
112584	TNFSF4	AGGTAAGAGGAATCAAGTTCTGA
112585	SHANK2	TCTAAAACTGACCAGAAAAAT
112586	FACL2	AGGCATTCACAGAACCCTTCTGATTC
112587	KCNA7	TGGGCAACATGGTGAGACCCCA
112587	RABIF	TGGGCAACATGGTGAGACCCCA
112588	NR3C1	TGTAAAACTACACATCCCTAATGTGTG
112589	MGA	CTCCTGATTTCCCAAGACTCTCTT
112590	TNC	AAGATCAGGGACAACTGATTTG
112591	LRP8	TGCTCAGAAAGTCAAGATAGGA
112592	MGAT5	CCTTTTACCTTTATTTTCTCATGT
112593	FKBP1A	CAATGCTGGACACTACAGGTAT
112594	IGFBP3	TCTCTCATCTTTTGTCCTCCT
112595	GDI2	ACCAAGCTGCAATGCAGTAT
112596	KIF1B	AACACAAAAACTCTGAGGG
112597	CLN6	GCCTTTACAAGGTACTGGGCCC

112598	MYOZ1	GGAGAGGGAATGCTGAGCAGATAGCCC
112599	ADCY6	CCTGTCTGTCTGGGCAGCAGGTT
112600	DAP	GCACGGCAAGCCCAGCATCGCCT
112601	TDGF1	GGGATTACAGGCATGTGTCACC
112602	BMP6	CGTGAAGCTCTTCCTACCCTCCTCCC
112603	MAP7	TCTTAGCAATCAATATTTTTCTGCATT
112604	CD5L	CAGGAGTCTGAACACTGGGCT
112605	MALT1	TGGCTGCATTGTTGAATTCTGCCA
112606	GNB3	CTCCCAGGAACCGGAGCTGG
112607	FGFR2	TCCCCAACAGGGCAACTGTAGAAGGCCA
112608	LPIN2	CTTCTGCTGACCTCAGATACCAGC
112609	RASGRP1	TTCACTACCTCAGATCTAATCA
112610	PHB	CCGGGGAGGGGCAGAGAGGAAGT
112611	MGST2	AGTCTTTATTCTGTTTTTCTTGAA
112612	G2A	GGTCTGTGCTGAGCTGGAG
112613	DLST	CTAGCACATCATGGCAGTGGGACCAA
112614	BDKRB1	GGCCCAGACTGAAGTGCAGTG
112615	CMRF35	GCAGAAGAAAAGCAGAAGCG
112616	LRRC2	GCCACATTTAACTCCAGCCTTGGG
112617	APBA1	CTCTTCGTGGTTGTGTTT
112618	GZMM	CCCTCCAGGGGTGCAGTGGGGTGG
112619	RDS	GTCACTGAGTCTGGAGTGAACCACGGG
112620	EGLN2	TGGAGTGAAGACCTGGAGAGG
112621	SLC38A2	TGTAATGAAATAAAATGTGAT
112622	CALR	CTGCCCCCAGGACTGGGCCACT
112623	OLFM1	GCCCAGCCCTGCCCGGAGGCAG
112624	CRY2	TCCACCCTGTGGCCTGCACT
112625	IL10RA	CAGGAAGCTTGTCACTGGA
112626	BDKRB1	CGTCGGCCCAGACTGAAGTGCAGT
112627	RPP30	TATTTCTCCTTTGTGTAAGTGA
112628	COIL	GCATAGGAAACAATCTACCT
112629	MCL1	TTGGGGCAGTGAGGGCTTAG
112630	RAGE	TGCCTAGGATGTTCTGGGCT
112631	RAP2A	ATTGTTTTGTAACAATGTCAG
112632	HTR2C	TACAAGTGTTTCTAGTAACAGTATTTC
112633	CHC1	CCTGGTTGGCCCTGGCTTTGC
112634	NR1I2	CCAGAAGCAAACCTGGAGGTGA
112635	CHRND	ACAGTCCCTAATGACACCCACTCCTAGCCCT
112636	NCSTN	CCCACCCCTGTACCCAGCCACCT
112637	AF3P21	CTGGGGCAGGGGGAATATGCA
112638	SERPINE1	AGGGGTGCTGCAGGTGGCAGAGTGAA
112639	SLC17A5	CACTGTTTGTTCAGTCTGTCTTCATC
112640	DAG1	TTCTTTTGCCTTTTTTAGCA
112641	SH3BP4	AGAAGCTTCAGCATCTGCTGGG
112642	PSCD4	AGACCCACCTCCCACCCCA
112643	SOX4	CAGGCACTAGGACGTCTGCCTTT
112644	AIM1	CTTGTTTCTTTTCCATCTATTC
112645	LILRB5	CCAGGCACCGTGGTCTCATCCGC
112646	DEK	TGTACATTTTGGATTTCTTTAT
112647	SERPINB9	AGTGGCATGATCTGGGCTCACT

112648	MGA	TCTCACCTCCTTTCTCTGCAGG
112649	SCA1	CACCCACGCTGGTTTCTGTGCAGTGT
112650	NTSR1	GCGCAGCCCGAGCCGGGCTGGGCGCTGTCCTC
112651	TNFSF14	GCTCTCGCCTGTAATCCCAGCA
112652	VHL	GCTCCCGCCTGTAATCCCAGTA
112653	TEC	GGGGCAGAAGGATCAGGTGACCTT
112654	CD59	TCTGGGAGACTTTGAAGACCAGTCCTG
112655	PPP2R1B	GTGCACATAATAGGTGCTCAATAAAA
112656	MSF	AGAGAGGGAGGGCGACGGGGGTGAGA
112657	SYNGR1	AGGGCAGGAGTGTTTATGGCAGAGTGAA
112658	CLCA3	AGATCACTGCAAACCTGCCTC
112659	SRPX	CTTTCTTTACTCCATCATGGC
112660	CCND1	TTTGGGAGGCTGCGTGCCAGT
112661	MEN1	CCCTCTGGGAACCTCCCAGAGGTCCA
112662	ENC1	TTTTCTATTTATAAGTGACTT
112663	CYP1B1	AAGACAGTGGAGATGAGGTCAG
112664	CLU	CGCCCAGCCTCTCCCCGCTCTGGAT
112665	LPP	ATACTATAAAATGCAGTA
112666	SULT2A1	CTCAGGAGGCAGAGGTTGCAATG
112667	RAD51L3	GCTGCATTGCGAGGACCCAGAA
112668	EIF2C1	TGCACTCTTTCTTGCAAGTGCATC
112669	PAX2	GAGTTTGAGAGGCGACACGGC
112670	HMGA2	GCTTGACAAATATTTTCATGT
112671	SHOX	AAGGGAGGGGAGGGAGACCCGAACCT
112672	PTTG1IP	GCCCTGTTGGCATCCTCAGTGCC
112673	BCAR1	GTGTCCCCTGACAGGGCCAGTGCAGT
112674	FGF20	CCGGATCTCCCCCTCCATGGCT
112675	TRPS1	ATTTAACTTACAGCAATATTCAC
112676	TSSC4	CACCGGTGGCCCTGGCTGCAGT
112677	AGXT	TCCTCCAGGCCTGGGGACAGGAAA
112678	RERE	TCCTCGAGGTTGAGCTTCACTCCAC
112679	XPR1	CTCATTTCTTCCCTTTGTTCC
112680	ZNF202	GAGGAAGAGGAAAAGCCCTCTT
112681	TCF7	GGAGGCTGAGGCGGAAGAATCA
112682	CSF3	GAGTTTCATTCTCCTGCCTGTA
112683	CDH5	CATCCCTCAGCCCCACAGGCACGATC
112684	BBS4	TCCCTCCCTGTATTTTGTTCTTGAG
112685	ZNF264	TGATTCTTCTTTGCTCTTATTTA
112686	TP53	TGGGGAGGAGGATGGGGAGTAGGAC
112687	ISG20	GGCAGGCAGCATCTCTGAGGGTCCCCAA
112688	INPP5B	AGGAGGCAGAGGTTGCAGTGCGCTGA
112689	ACADM	TTTGGTTTTTATTAAAATGATGTGT
112690	SLC22A12	CTGGGAGGCGCAGGGGCTGGGCAGCTG
112691	IL1F8	TGGTAAAATAAACTAGTTTTTCCCAT
112692	MXI1	AAAAAGCTCATTTCATGCTCTG
112693	FNTA	CTTCCCTTTGCCTGTGG
112694	OGT	GCCCGTAGTTGTTTGGATAAGAG
112695	IGF2R	TAAGAAGCCTTAATTTGCAC
112696	DSG1	TTCAACCACAGATTTATACAAGG
112697	MAX	CTTCCCAGCCCTCATCCCACT

112698	HESX1	AAGTGTTCATTGACATGCTAAA
112699	TPT	CGGCGCGGCTGCTCCTGGAAGCC
112700	HPCA	CAGAGGCAACAATAGAGACAC
112701	KCNJ5	GGGCAAAGAGAAAGGAGAGCCAGG
112702	DGAT2	CCTAATCTGGGTGGCTCAGCT
112703	FSTL1	CATGATCTGAGGACCATTCATGGA
112704	CNTNAP2	GGTGGCTGATTTAAAGTTGTGCAGG
112705	EEF2K	CCTCCGCCTCCTGGGTTCAAGTGATT
112706	SGCD	GCAGGGACTTGGCTGCAGT
112707	LPXN	TTTTCACCTCTAGTGATGGCCCTACTC
112708	SLC2A3	TGCTGGAGAGGTTAAGGTGCAATA
112709	BACH2	GCTCTGACTTTCATTCTCATTCCA
112710	LIF	GTCCAGGCTGCAGGGGCTGGGC
112711	TK2	TCGCTGCAGCCCCATCTACCA
112712	SIGLEC5	AAGTCAGGGACCACTTGCTGAA
112713	SLC1A1	GCTTTCTCATGCATAGACA
112714	CDH1	GCTCTGAAGCAAGAGTGATATACTCCA
112715	PABPN1	ATACAAGTTTCCTGAAACTGCT
112716	ATP7B	TTACTAGCGCCTGGCCTTGTGTG
112717	CSPG3	TAGCCCAGTGCACATACCCAGTCCTTA
112718	EGFL5	ACAGCACTTCAGCTTTAGCTGAT
112719	TITF1	CCTGCCCGCCACACAGACCACCA
112720	EML1	TCTGTTTTGTTTAAAAAATTCTT
112721	PPT2	GGTTTGGGGATCCCCCAGT
112722	PDE6C	TGAACAAACGCAGCAAAGCAAGCCA
112723	SMCX	AGGATCCTCTTTCTGACCA
112724	PODXL	CCTCCTTTGCTGATCCTGGGTCA
112725	BRCA1	TGGCCAACATGGTGAAACCCCA
112725	CRACC	TGGCCAACATGGTGAAACCCCA
112725	DBT	TGGCCAACATGGTGAAACCCCA
112725	DNASE2	TGGCCAACATGGTGAAACCCCA
112725	IL17R	TGGCCAACATGGTGAAACCCCA
112725	KIF3B	TGGCCAACATGGTGAAACCCCA
112725	LAMP2	TGGCCAACATGGTGAAACCCCA
112725	MOG	TGGCCAACATGGTGAAACCCCA
112725	PDE4C	TGGCCAACATGGTGAAACCCCA
112726	TNFSF10	TGACCAACATAGTGAAACCCCA
112727	GRLF1	TCTCCGTGCTCTCCTGCCTCCA
112728	TFEB	AGAGGTGAGAAGAGGGCCTGGTGG
112729	CLTB	CCCTCACGCCTCCTCTCAGTCTA
112730	CRTAP	CGCCTCTTGGGTTCAAGCAATT
112731	RRM2B	CCAGCAGAATCTGGATGAATG
112732	DMC1	ATTCTCTCACTCTGTGTATGT
112733	ING1	GGCTTTGGGGGCTCTGTTTTGA
112734	ENDOGL1	CTCGCCGTGTCATCCAGGCTGG
112735	P2RY6	GGAGAATTAGAGTTCAGCTCAG
112736	CASR	GAGCCTCCAAACTCCTAGCTGTCTCAT
112737	SLC2A6	GCCTGGAGGGGGCCAAACCCCCA
112738	FOXO1A	TGTTGATGTACTTACAGACACA
112739	ARIH1	CGCCAACCGCCGCTCCTGGG

112740	CHST6	CCAAGTCACATTGGAACAC
112741	CLK2	TCCACCCTCACCTGCCCCCTCA
112742	EVC	AAACTTCCAGACCAGCCCTCTCACCAC
112743	ADORA1	GCGGTAGGTGCTGGCCTCAAACAGCCA
112744	PDGFRA	GGTACTGGTACTATAGCATTTT
112745	PACE4	TTGAGGCAGGAGGATTGCTTGA
112746	TOX	ACTGGGAGGAGAATGAGCAGCTTTGA
112747	CKAP1	AGCTCAGCCACTGACTGCCCCTCCT
112748	GFAP	ACCCACCTCAGCCTCCTGTGTA
112749	VENTX2	TCGTTTCTCCCTTGTTGTAAG
112750	TOP1	AAACTTAGAGGAAAATGAGTATTTGG
112751	MSI1	AGATTTCCCCTCCTTTACCCTTTCCC
112752	CACNA1C	AGTAACCTATTTTTGTTCTGGTT
112753	DFFB	TTTTTGTATGTTTAGTAG
112754	WISP2	GGCGAGCTTTCTCTCCGACT
112755	FTL	AGCCTCTCCCTCCAGCCAATAG
112756	PRKY	CCCGCGGAGTGACCCCACCT
112757	TNFAIP2	CCTAGGCTTGTCTGGAACTCCTGGGC
112758	GTF2F1	CTGAGGCACGAGATTCACTTGA
112759	PRSS8	CTCCCTGCCTTAGAGGCCAGCCTTGG
112760	ATRN	GCCATCCCTGCACACAGCCT
112761	ADORA1	CTGGGGTGGGTTTAGCAGGCTGCA
112762	TRAF5	TTCTTTAGCCCACAAGTCCA
112763	CSRP1	GGGAGTCACTATTGGAGGCAGAGAGGC
112764	CHRNA10	TGCTGCAGCCACAGCTCCTC
112765	CXorf6	CTCTCTCTACCTGTGACAAAATGGAAA
112766	KCNJ5	TGGCAGTGCTGCCTCTTGTAGGT
112767	HSD11B2	GGGCTAAATCCCAAGTGTCTCTTGA
112768	MRE11A	CATTTAGCCAAAGTTGAGG
112769	RFP	TTCACTTTCTCTCATGCTACCTTTT
112770	FADD	TTATTAATGCCTCTCCCGCACCA
112771	ARSB	CAGCCCAGTTCCTCATTCTATCAGCGG
112772	CHST1	TACGTCTTGGACGGGAATCACTGGG
112773	GPR2	GAGTAGGTGGGGGAACACT
112774	TXNRD2	CCCCTTGCCTGCCTTCCTCGCCAG
112775	JPH2	TGGTGGAGTCGGGGCTCCCGGGCATGG
112776	EFEMP1	CTCATAAGGAGGCAGCCAT
112777	ADAMTS13	GCTCCTGCGGAGGAGGTGTGGTC
112778	TDG	TCCCCCACCCCCAGGAGGTTATAT
112779	MSR1	GTTTCAACTGTTTGGAGTCTTTTAT
112780	SEPN1	TGTTTTTACACAAACTTTCTCATGGTT
112781	KCNE3	CACCCAGGCTGTGGTGCAGTAAGCCA
112782	PCDHB9	TTTGGGCCTATTATAGACAAAATAGA
112783	DAPK1	TGATTGTCCTTTAAAAAAGA
112784	FABP2	AACTATACTTGTACTCCTTA
112785	PPP2R5C	CTTTTAACATAGGTGGTTCTGTG
112786	CKTSF1B1	CATGTCTTCCTGAGTCAGTGCCT
112787	DLG3	GCCATCTCATTCATCATGTGACTGT
112788	MYO1D	GTTGCCTGTCAAAGGCTGGAGGGCAG
112789	RAD54L	CCCCTCTTTAATTAGCCGGTC

112790	TM6SF2	CCCTAGGCTTTTCCTTGTGGACAACGGG
112791	LPP	TAGGACAAAGCAGAGAGTCCAATTTATT
112792	RDS	GGACTATCCCCTGCTCAAGCTGTGATT
112793	NCOA6	GCGATCTCGGCTCACTGCAGCC
112794	TPMT	GCGGTCTCGGCTCACTGCAACC
112795	CSNK1D	CGGTCTAGGATCGAAATGTTAACA
112796	SLC7A5	GTGGGCTTCAGGTGTTTTCAAGCACAA
112797	VHL	GGCACACATCTGTAATCCTAG
112798	JRK	GAGCTGGGACTCAGTTCTTGGCCTGC
112799	SLC22A3	CTCCCACAGGTCATTCTCCTG
112800	NCALD	TGACTAGGGCCCAACTTTAAT
112801	P53AIP1	CAACTGGCCTGCCTGAGTCTCAGTGT
112802	MMP13	CCCAGCACTTCCCACAGTGCCT
112803	PLCB4	GGGACCCCTGTCTTAGATTCAAGTTG
112804	FBXL7	TAGGCAGTTTCTCTTCTCA
112805	SOX13	TAACCAGCACATTTCTCCTGTTTAC
112806	ADCY6	GGGGGCACTGAGCCTCCAGACCCTGCTA
112807	CCND1	GCTCACGTCCAGGTTCAACCCACAGC
112808	ARCN1	CAGTTTCACCACCTCCCTCTTCCAG
112809	ITGAV	ATTTGGACCTTAGCAATCAT
112810	WASF3	CCTGCAGCTGTAGTACAGTGCT
112811	DPYSL2	GTGGAACCGCAGACAGGGCCCAG
112812	CDH19	ATGGCGGGGAAAGCCCTAGTC
112813	ALDH1A1	TTTTATAGAAAAGGAACAGTTGCATTT
112814	DIAPH1	TTAGCCAGCCCTGGCTGTTGTA
112815	MRPS12	TTTCTGCTGGGACAAGACACT
112816	STUB1	GGCTGGGTGGAGGACTACTGGGTTCCC
112817	TM6SF2	AGACTGGCTAGTCCTGGCAGAA
112818	MAP2K1	TGCCTGTATTTTCGGACTTTG
112819	BCL11B	AACATCTTCCTTCTCTACCA
112820	MCM3	TTTCCCACCCTCTCCCTGACCCAAGT
112821	RGL	ATGACACCTCTGGAGGTGTCAAGCTCC
112822	PIGN	ACAGTATTATGTCTCAGTCC
112823	LZTR1	GCGTGTTGTGGACTCAGCACTGGG
112824	SRRM1	CCTTTTGTTCCCCCTCCTTCTTTTGTAA
112825	COG6	TATGGCAGAGGGCAGCGGGGAAGTGGT
112826	CASP10	GCAAGTCTTGAAGTCTCTTCCCA
112827	KCNA7	GGGCATTTAGAGGAAGAAGGCTGA
112828	TRIP12	AAGGAAACATGTTACGCCTT
112829	IL1RAPL2	CAGAGGCAGCATCTGCCA
112830	FBXL11	GACCCCTTCAGAGCAGGGA
112831	IL16	CTTCTCCCTCATTTCAGGAGCAGCC
112832	OTP	CAAATCCAAACCCAGAG
112833	PPT2	GGTGCCTGCTCCTGTGAGGACAACAGC
112834	AIPL1	CACGCCTATAATCCCAGCACTT
112834	GRAF	CACGCCTATAATCCCAGCACTT
112834	IL1R1	CACGCCTATAATCCCAGCACTT
112834	LRRC2	CACGCCTATAATCCCAGCACTT
112834	NPHS1	CACGCCTATAATCCCAGCACTT
112835	BIN2	ACTCTGAGAGAAACTACCAAG

112836	NET1	AGGTTTTTATCAACTGGAAT
112837	BAP1	GCCACATTCCTTCCATCGTG
112838	DTR	AGTTGGACTTCAGTCTTGCCT
112839	GABRE	TTCTTCCAGTCCTCCTAGGCA
112840	CXCL6	TTTAAGTTCTGTAAGGGCTAAT
112841	DAPP1	CCAACATGATGAAACCTTGTCT
112842	ITGAV	CTTTACTGCTGATAGTGCT
112843	GPRK7	TCTCTTTACCAGACAGGCAGCAG
112844	RABIF	TTCTGCCTTTTCAGTTTGAT
112845	CYP8B1	TGAGTAGCTGGGATTATAGGTGC
112846	CDC6	CGAGTAGCTGGGATTACAGGTGC
112846	F3	CGAGTAGCTGGGATTACAGGTGC
112846	POU2AF1	CGAGTAGCTGGGATTACAGGTGC
112846	SEPN1	CGAGTAGCTGGGATTACAGGTGC
112846	SHOX	CGAGTAGCTGGGATTACAGGTGC
112847	ARHGEF6	TCATTGAATCACATCATCCACTT
112848	MHC2TA	AACACTTGTGTTATGAAGCATTT
112849	CALB2	GCGCGAGTGCCAGAGCCCAGCC
112850	TLL1	TTTCCACCCTACATCAGTATATTGGTT
112851	CCND2	TGGGAAAGTCGGGGGTTGTTAGGCTTTT
112852	PNUTL1	GAGCCCTCCTTTGCCTGCTCCCGC
112853	TLE2	CTCTGGCCAACGGCTTCACACCTTCCC
112854	PCDHA1	GGAGACAAAACTACCCCCACTG
112854	PCDHA10	GGAGACAAAACTACCCCCACTG
112854	PCDHA11	GGAGACAAAACTACCCCCACTG
112854	PCDHA12	GGAGACAAAACTACCCCCACTG
112854	PCDHA13	GGAGACAAAACTACCCCCACTG
112854	PCDHA2	GGAGACAAAACTACCCCCACTG
112854	PCDHA3	GGAGACAAAACTACCCCCACTG
112854	PCDHA4	GGAGACAAAACTACCCCCACTG
112854	PCDHA5	GGAGACAAAACTACCCCCACTG
112854	PCDHA6	GGAGACAAAACTACCCCCACTG
112854	PCDHA7	GGAGACAAAACTACCCCCACTG
112854	PCDHA8	GGAGACAAAACTACCCCCACTG
112854	PCDHA9	GGAGACAAAACTACCCCCACTG
112854	PCDHAC1	GGAGACAAAACTACCCCCACTG
112854	PCDHAC2	GGAGACAAAACTACCCCCACTG
112855	RAC2	GCCTGACTCCCCTCTGGAAACTGCAGG
112856	SCD	CATCTCTGGCCCAGAAAGCCTC
112857	ACP5	CTGACTCCCATGACTGCCCAG
112858	SCA1	CTCCATTGTGATGAAAGCACATGG
112859	FOXG1B	AAATGTAGTGAAATGTTAATA
112860	PPP2R4	GGGGCCTGGTCACTCGGCCAC
112861	CYP4A11	TCCTGCCTGCCCTCCAGACTGTCTG
112862	PIM1	AAAAGCTGTAAATGTGTGTACA
112863	SH3BP5	AATGCCAGTGGGGATGCGGGGG
112864	AGL	TAAAGAAGAAAACCAGCAAACTAAA
112865	MDK	TCCCCCCAATAAAAGCTCTT
112866	SELENBP1	CTTGGGGACCTGGCTTCATTCT
112867	WHSC1L1	AGCCTATACTGCATTAGCCCAA

112868	MFAP1	GAACAATGCATTACTTCTACCTTA
112869	G6PT1	GGGAAAGAGAGGAGGCCAT
112870	CCRL1	ATTGGGGAAAACTGGGTGAA
112871	SHANK2	TTCCTACACAGATTCTTTTCC
112872	FCAR	GGGATAGAGTCTTGCTCTTTCGCCAAG
112873	HTR2C	GGTTTTGATCTCAGCATCCTG
112874	CLN2	TCCAATAATGATTGATACCTCA
112875	IL21R	GCCCAGGCTGGAATGCAGTGGTGCG
112876	FCER1A	TCTCCAGCACAGTAAGCACCAGGA
112877	TMP21	CCTTAACTTTCTCTTTACCCTTAGCTGAAATG
112878	PHKG2	GATCATTCCAGCTCCTCTGGGCTCTGGCC
112879	HKE4	CAGTCTTACAGAGGCTGGAGCGGTG
112880	COX7A2L	AGTCTGTGCTGAGGACCTCAGGGA
112881	TXNRD2	CTCAACCCTCTCCTGGAGCGCC
112882	KMO	GGTCTTTAGCAGGCCTCTGGCA
112883	BSN	GCATGGCTCTTGAAGAAATGAAGAGA
112884	HPSE	CTCTGCCATCTTTAGCGCTGG
112885	JRK	GTTGACCAGGCTGGAGTGAAGTG
112886	TDGF1	CACCATATTGGCCAGTCTGGTCT
112887	NUP98	GGAGTGAGACAGGTGATAATGGA
112888	EBI3	CGCACCTGTAATCCCAGTCACTG
112889	PTPRG	TACTTTTCTTCAGTCCTCCTCT
112890	COX15	TCTTCTGTTTTTTAAAAATAAG
112891	PCDH11X	GTTATTCTCCCCTATGCCTTCC
112892	DOCK1	TGCTTTTTCTTCAAAGGAGTTCAG
112893	P2RX4	CGAGATTCCAGATGCGACCACTGTGTG
112894	SFRP4	AGTATTTTGGCATATTATTCTCC
112895	NF2	AAAAACGCTGTCGGGCTTTGTT
112896	SERPINA5	TCTTGCCGTCACTATTCATCAA
112897	CRIM1	TTTATACTAATTAACCCATTTG
112898	TRO	CAATCAGCTGAGGGTGTC
112899	SRGAP2	CCATGCCACCAAACATCTCCCAC
112900	ESRRG	CCAAAACTATTGCTACTTTGTGTG
112901	ADCY6	GGCAGAAGGAGGGGAAAAGA
112902	AXL	CTTAGCTATCATTGCTTCCTCCTCC
112903	PNUTL2	GGACATAGAAGAGAAGGGTGTGAG
112904	CHRNA2	GGGCTATTCCATCCATCTGGAA
112905	PPEF1	ACAAAGCTCGACTGAAGGCCAG
112906	ADCY9	CAGGAATAGAAGAAGCCAA
112907	SLC9A6	CTCTTTAGCAGCCAAACAGGAGC
112908	EVPL	GCCCAGCCTGAGCCAGCACT
112909	PLAU	CCTCTGGCCAGGATGGAGGGGTGGT
112910	PCDHB13	GTATATACACCAGAAACTAT
112911	KRT6A	ACCTCTGCTCCTTTTCATTGCAG
112912	T	GCAACTTTGGCACACCAGAA
112913	PDGFRL	GCTACCACTGTTGAGTTTTCCTGCTTGGA
112914	IL12B	ACACAGGAGGATGACACAGAAA
112915	ATP7B	AAGTTGAGGAGAGTTCTTTT
112916	MLLT2	AATGGCCATCTGTAAACCAT
112917	SYT4	AAAGTAACTTCAAATGTGTAT

112918	TAZ	ACCATAAAGCATATGTGTTG
112919	MKKS	TCTAGATCTTGACTCCCTGCCGT
112920	TEGT	TTGTTTCTAAGTTGTGTTT
112921	PTGIS	TTATTGCCCAGGCTGGAGTGC
112922	KCNK4	CTCCAGCCTCTGCACACACA
112923	GNAI1	CACCGGCGGGAGTGCAGCGGCCAC
112924	DDIT3	TGACTACCCTCTCACTAGTGCC
112925	GGA3	CCAGGGAGGTGGCCCAGGAAGGTGCCTGGCC
112926	ENPP2	TTGCCACATTTAGTCCTGTACT
112927	CLN2	GCTTATCTCCCTGAGGCTG
112928	DNMT3A	TTGCCTCCCTGAGTGCAGAGGTCCT
112929	SLC21A3	GCCTACATCTTCTTATTCTA
112930	TOP1	GACTATGAGTTTTACCAGTCTCAA
112931	OGG1	AACACCCTTTAGAACCTTAAAGA
112932	Z39IG	CTTCTTCCCTGCTACCTCTCTT
112933	HNRPH2	GCAGTTTCACTTATGTTA
112934	TCF2	GTCACCCGAGCTGGAGTGCAGTG
112935	HMGCR	TCAGCTTTCAGAGCCAGTGA
112936	KRT2A	TGTCATTTATCTCTGATGGCACTTTG
112937	PRKY	GTAGGTGAGAATAATTAGTAG
112938	GGT1	TCATCCAGGCTGGACAGTTCAGTG
112938	GGT2	TCATCCAGGCTGGACAGTTCAGTG
112939	TCTA	CCGTTGTACTCCAGCCTGGGCAACAGA
112940	VSNL1	TCTCAATGTTCCATTCAGTCTGCAGCTA
112941	CAPN2	TTTACACACTTTCCTGTTCA
112942	SH3BP2	TGCCAAATTTTTGTATTTTTAGT
112943	KCNMB1	GAGCCTCCCTTCTTTGTTTGAA
112944	NXF5	TGGTCTCAGGGTTCTGATCTTG
112945	HOXB9	TCCAACAAAAGAAGGTCAAA
112946	SLC4A1AP	ATCAAGCTATGCAACAGGA
112947	TNFRSF8	GCAGACCGCCCCTCACCAACCCAGAG
112948	PIN1	GGGGGCCCTTCCAGATTGGGG
112949	DSC1	TCTGTGCATCCCAGGCTGCCCTGT
112950	IL1R1	CCTCACTGAGGAAGGGAGACATATTCTTGG
112951	CUTL1	AGCAAGATATTCTGGTTTCTAGA
112952	HTR2C	CGCTAGTGGGTTATCAGCTAACACCCG
112953	SOX12	CCTCCTGCCAGTTGTGACCCTGTGGGA
112954	PPP1R12B	TGGGGTGCCAAGAGAAACAGCAGG
112955	TPMT	TTCAGTAGGGTTCAAGGTGG
112956	NT5C2	CTGCCCAGGCTGGAGTACAGTG
112957	SCG3	CCAGCAGCAGCAACCTGTTCAGGTCGCCTG
112958	MAT2A	AGACCTACAGGGGGTCTGGCTGGT
112959	MHC2TA	CTCTGCTGACAGACACAGGCC
112960	NFE2L1	TTATCACTGGGAAAACACAA
112961	WISP2	CTGGGAGTGACCTCACAGCT
112962	HEXA	AGCCAGGCTGGAGTCAGTGTCTGC
112963	GNPI	TTGGTCAGTAACAAGTGCAATG
112964	GALNT7	TGGTGAAGCCAAGAGTGAACTGATGT
112965	SNRPA	TCCCCAGACATTGCACCTG
112966	KCNA7	CATATTACTCTGAGTTGTGCAAAGC

112967	LAMP2	TTGGGCGACAAAAACGAAACTCCATCT
112968	LTK	CCCTCCCTATACTCCTCAGGCTCCTGG
112969	NR2E1	TCAGCACTTGGACTATCATAGGAT
112970	ZNF264	ACTGTAGCCTTTCTTCTAGAGTAACAA
112971	GATA3	AACAAGTCCCTGTAATTGTTGTTTGT
112972	CYP3A43	ATATGCACAGCCCAGCAAAGA
112973	CBFA2T2	TCTCCACTGAAGCTGACTTAGCCGGCC
112974	GDI1	CCCAGCCTGTGTCTGTTCT
112975	POLK	CTCACACCTGTAATGCCAGCCCTTT
112976	ATP1B1	AAAAACACAAAAAGGTGATGGGT
112977	IL4R	AATATGCTCAGCCACCCTGTGGG
112978	ITPR2	GAAGAGGGACGTCCACTGTGGA
112979	SRP46	TCACCCAGGCCTTGCAGATAAATAATG
112980	PFKFB4	TCACGGTGCCTGCTCACCAGTGCCATGTTCAT
112981	TCN2	GGTCCTGCAAGAAGGCC
112982	PIK3CG	AGCAGGAGAAATCTAAACCGT
112983	DAPP1	TGTAATCCCAGGACTTTGGTAGGCCA
112984	RGL	CATGCTTGTCTTTCTGCATCTCCA
112985	ADCY4	TAAAGAGACTCTGGGGTGTCTGGA
112986	ADRA1A	GGGCACAGGGAAGAGGGAGGGTGTCTC
112987	MAF	CCCCCCTCCCTCTCCTCCAGTCG
112988	CHRNE	AGCAGGAGGAAAGGGTTCACATAGGCT
112989	PRX	GTCAGATGGGGATCCCTTCTTG
112990	DNMT2	TATGTGGAATATTCTTTTTAA
112991	EPHA8	CTGCCTCTGTGTGCGTGCATGTG
112992	PBX1	GCAATCAGCAAACACAATAAGAGTCT
112993	SEDL	TTGTGCAGGCTGTAGTGCAGTG
112994	FEZ1	AGCAGTGCCCTGGTACTTGCTGT
112995	SH3BP2	GCCTCCTGGAACTCCTGGCTCAATCGATCC
112996	TNFAIP2	AGGCTGGAGTGCAGTGGCCTGG
112997	SLC23A1	CTAACTTCTGTGTAAACTCA
112998	FCRH1	TTTGCCCAGGCTGGTCTCAAA
112999	FMR2	CACCTGGTTTGCACCATTTGCCAATT
113000	YY1	AAAATGGGACTTCTTTTCAC
113001	PRKCN	CTTCATAACCATTGAAAAAGAATCG
113002	GCNT2	CTGTAATCCCAGCTATTTGGCAGGCTG
113003	SLC16A2	CCCATCTCTCAGTTTTCATGACAG
113004	HNRPA2B1	GGATTGGATTATTTAATAACATTAC
113005	IL4	GCATTTTTTCTCCTGGAAGAGAGGTGC
113006	ENPP1	ACCTTGTTTCAATCTTTGCT
113007	BACH1	GTCATATTCAAAACAAATGTGGATA
113008	ITGAM	TTGATATACTATTTTCATCTCT
113009	FUT8	GCAACCTTGACAGGCCACTGCCT
113010	GPRK6	TGGTCACACCTGAGCCTTCAG
113011	GSTT1	TTGTGTCCTTTAATCACTGCATTTCA
113012	SFRS7	CCAACCACAACATTCTTCT
113013	ZNF136	GTGGGAAAGCATGAAATTCTGCTC
113014	MGA	TATTTCTTCTATATCTCCTGT
113015	TAC1	TTCCAATATGATGACTCCCTTA
113016	MAOB	GCAGGACTGGGATCGAGGCCCAGAAAA

113017	HTR4	CTTTTCTCCCTGTGTCTGGGTCC
113018	SH3BP2	GGCCTCTCTGCCCTGGCTTATGTGA
113019	FOXD2	TTCTTTCTCCCTATCCTGGGCC
113020	NOLA2	CCACACTGACGGCATCTTCCCA
113021	ATRX	CTGGCTTCTATGCGCTTCTTTTCTCTC
113022	CENPB	CCTTTCTCTGGCCCTGTCCATGT
113023	NEBL	AGGAAGAAGGAATGACCTCTGG
113024	CTLA4	CTTGACAGAACACTGTCTTGAAGACAA
113025	SLC21A9	CCATTTCTGGAGCAAGAGGGTCTTC
113026	SRGAP2	CTCTTTCTGACTCCTGCCTGTTTTAGT
113027	DSCR3	GTTTGGTGACATAATGCCAAGG
113028	TAC3	CTTTGACTCCTTCTCCATCT
113029	PYGO2	TGGGGCTTCAAGACAGTAGG
113030	SULT2A1	GGATGCAAAGGTTGCAGTGA
113031	ANXA1	GTTGTTCTAGTAACAATACA
113032	NUP98	GTTAGGGGCAGGCAGAGGGC
113033	IL1R1	CACGCCTGTAATCCCAGCTACAC
113034	OVOL1	CTGCCTGGCCAGCCCACCCTCCTGC
113035	CD244	TGTTTATTCCTATTGCTGCAGCA
113036	SLC30A4	TATTTTGGGAACTCCTGCCTTAT
113037	CNN2	CACCTTCCGGGCTCAAGCGAT
113038	ATRN	CATCTGTGTGTCCTGCAGCCT
113039	CDH1	GTCTTAAACTCCTGGCCTC
113040	RDS	CCAAGCCCTGGTGACCAGACCAAG
113041	PLS3	GAATGTCCCTCTCTTGGGACTT
113042	OPHN1	TGTTTTTAAAATGATCATCTA
113043	SNRPA1	CGGGTCCTGGCAGTGAGGCAGA
113044	EGLN2	CGGTACTACGGCATCTGCGTCAAGGA
113045	GATA6	CGGCCCGCTCGCTGCTGCTCAG
113046	ICMT	GCTGCTGCTGCTCTATCGGCC
113047	NOX4	AGCAGGACTCTAAAGAAGGA
113048	TBX5	AGGGAGAGCAAGCGCACAGCAGAGGAG
113049	SLC25A12	CCATCATTACTGGCTTAGTTTTG
113050	ITK	GCCCAAGGTGCACCACCTT
113051	SLC24A1	GTGAGTCTAAGGATCCAAGGCT
113052	SORCS3	ACACTGGAATACAAATGCAT
113053	CYP26A1	TTACAATGCCTACCTGGACTTA
113054	C21orf5	ACCTGTAATCTCAGCACTTTG
113054	MTNR1A	ACCTGTAATCTCAGCACTTTG
113055	DCLRE1C	ACTTGTAATCCCAGCACTTTG
113056	CSE1L	TTGCTATTTGTATTTCTCTTGTC
113057	CDH1	GTTACCCAGGCTGGTCTCAAA
113058	AMPH	CCCGCAGCCATGGCCGACATCAAGACG
113059	THBD	TACACAGCTCTAGACACTGCC
113060	APPL	GGCTAATTTTTTGTATTTTTAGT
113060	B4GALT5	GGCTAATTTTTTGTATTTTTAGT
113060	CD209	GGCTAATTTTTTGTATTTTTAGT
113060	CXCL16	GGCTAATTTTTTGTATTTTTAGT
113060	FANCF	GGCTAATTTTTTGTATTTTTAGT
113060	GPR81	GGCTAATTTTTTGTATTTTTAGT

113060	LYZ	GGCTAATTTTTTGTATTTTTAGT
113060	PIGR	GGCTAATTTTTTGTATTTTTAGT
113060	RHD	GGCTAATTTTTTGTATTTTTAGT
113060	SERPINB9	GGCTAATTTTTTGTATTTTTAGT
113060	SH3BP2	GGCTAATTTTTTGTATTTTTAGT
113060	UGDH	GGCTAATTTTTTGTATTTTTAGT
113060	VIPR2	GGCTAATTTTTTGTATTTTTAGT
113061	BRCA1	AGCAGCATCTGGGTGTGAGA
113062	CDH6	AGGAGGAATGAGGCTGGATAC
113063	DUOX1	GCCCTGCCTAAGGAACACACTCT
113064	MUCDHL	CTCCACCCTCTCCCCCAGCC
113065	DMD	ACAAAACTTTGAGGCAGCGC
113066	MEIS1	TGGACACCCTCACCACCCAAC
113067	TRIM	ACGTTAGAAGAAAAATAAAAGCCAAT
113068	PRG2	GCCTCCCCTCCTCTGCTTGCC
113069	PCBD	ACCCTGCCCTTCCTCTTTGA
113070	DCX	ATATCCCCAAAATGAGCTCCA
113071	GLO1	CTTCCCTTCAAATCTGCCT
113072	HRB	CTTGAATTTTTCCTTTCTAAAGA
113073	HMG20A	CTAAAGGTTACAGCTGAGATCTTTGGA
113074	CSRP1	GCTTCTCCAGGCCTCTTGCCT
113075	ADAM28	GACTAAAGAAAATTTTCAAGAG
113076	NTRK2	ACTGGCCTCTGTGCCATGGATGAT
113077	GNAS	TCCTGCATGTTAATGGGTTTA
113078	RRM2B	GTAATGACAGATGCCTTA
113079	CDC23	CCCATCTTAATTAAGCCTTAC
113080	SPAG8	CCACACCTGGTGAATACTCA
113081	TEM7	AGATAGTGCCACTGCACTCCAGC
113082	MRPL49	CTGTTGCCCAGGGTGGAGTGCAGT
113083	B4GALT1	TTTCATGTCCCAGAGACCTGTT
113084	ST7	CGTCTTTCTTTTATACTGAC
113085	NRL	GTCCCCAAGACAATCTCGCCAAA
113086	EZH2	ACCTCGAGTACTGTGGGCAATTTAGAA
113087	LRP4	CATTGGGCAGAGGAAGCTGTG
113088	APPL	TGCTCACATTTCTCTAATGTACTGCA
113089	BMP1	GGAGGTGGAGTCCCTGGGGGAGAC
113090	SOCS5	AAATCTGAAACCTAAATTGC
113091	PXN	TATTGTTTCTTAGCACAAGCA
113092	LIF	AGTCATCTCTAGTTCCCCACCTCAATC
113093	SCAP2	GGCCAACATGGTGAAACCCTGTCTCT
113094	FKRP	AATCCTGGCTCTATCGCTTCGG
113095	CSNK2B	CCTTTCAGGAACCCTGTATGG
113096	CACNA2D2	CCTCTGCTGCCGCCCTTCCTGGAGGCT
113097	LZTR1	GCCCAGCCATGTGGGCCAGGTGCATT
113098	CYLN2	CCCACCCTCCGGCAGCTCAGGGA
113099	OGN	TCATTCTTCTTTTATGATTCA
113100	CISH	TGGTTCCCTCCAGCCGCCGCCGTC
113101	PCSK2	GAGGAACCTGAGGCCTGAAGGAG
113102	HGF	AATAACAAAAAGTAATAGGA
113103	RAD54B	GAAAGATTACTTCTGACATTCCATTGC

113104	FVT1	CTGTGTTGTGCTCAGGACTCA
113105	ST3GALVI	GTCTTTTTATAGTTACTTC
113106	GRM6	GTTTCTGCCTGTGATCATTTCTTTAT
113107	IL4R	GACCAGCCTGGTGCCTTGGCATCTCCC
113108	ZFH4	TTCCTTTATAGGCGGACAGTT
113109	ABCB10	AGACTGGAAGAAGAAACCACTATTTCA
113110	TRIM9	TTACAGATGCATACAACTACTA
113111	C8orf1	AGGCATTTACAACTCAGATT
113112	CKTSF1B1	TTTAAGGAGAAAATCTAAAATGAA
113113	GPR86	CTCTTATCCATCTGTGAAAC
113114	PPIH	CAGAATCCAAGATTGTCTTT
113115	TRIM14	CCTGAAAAGTTCCCAGAAAGCCC
113116	HOXB5	TGTTTGTGTCTGTGGTTGCAGTCTTTC
113117	A1BG	TTGAGACAGGGTCTCACACTGTCACC
113118	MLANA	AAAGTGCTGGAATTACAGGCGT
113119	ABAT	ACTCAAGCGATTCTCCTGCCTCA
113120	CAV2	TCAGATTGCTTAAAAGCATTTTT
113121	EPHA8	GGAGGCTGGAGCCAGGGGCCACTTCTG
113122	KCNC3	CAGGCAGCCCCAGGCTTTGCAGAAA
113123	NEBL	AGATTCACTGAGCATAAAAGTCAATA
113124	BACE	AACCAATAAAACAAGAATACT
113125	KCNS2	GTGCCTCTGGCACAGCCCAGGCAC
113126	INHBB	GGAGGCCAAGGGAGGGGAGCAGC
113127	CARKL	GCACAGCCGCAGAGCTTG
113128	DUSP4	TCCACCCGGGAGGAAGGGAGC
113129	PSEN2	CAAGTGTCCGGGATTCAGA
113130	LRAT	CTCCTGTAATCCTTGTACTGTTCG
113131	NDRG3	TTTCAGCCTCATGTCTACTGTTAGGT
113132	ARHGEF6	TGAGGGGCCCTCGGTACTCTG
113133	RABGGTB	TTTTCTGCTTTTTATTCTGAAGTC
113134	KCNG1	ACAGTGTCCAGCACAAACAGG
113135	ABCB4	GCTTGAGATGTCTGTTAAACATCCAG
113136	MEFV	GGCTGGTTTTCTTGTATTTTTAGT
113137	ATM	CAACCAAAGGTAATAACATATTTAGAC
113138	TDGF1	CCCAACAAGATTGCTTA
113139	ARNT	TGTTTTTAAAAAGCAAATCTTTCTG
113140	T	AGATGATGCAGTTGGCCCA
113141	MGAT2	TCTGGGGCCTCCCACATGCC
113142	OTOF	GCCCCTCTGACCCCTGCCTGTG
113143	LBP	TCTGCTTGTTGCATTTCCAGCTG
113144	HMG20A	TTCAGTTTTGTGCAGCATTGCTA
113145	FXYD2	CCCTGCTCTTCTGCACTCCTGGACACA
113146	STXBP1	CAGAGGGCTATGGCTGTGGAGA
113147	PDGFB	GTCCTGGCCCTTCAGTCTGCT
113148	EN2	CAACTGTCCATCTGTGGCTGGG
113149	C4orf1	CTACTTACATCTAACAGACACA
113150	EHHADH	ACCAGTTTTCCTGTCATGACAAGCCT
113151	GFPT2	GGCTGAGACCGTGACAAGAC
113152	LAMP2	TTAGAGCTACAGCGAGCTGCAT
113153	SHOX2	TATTTCTTAACTGCTATTTG

113154	SH3BP2	CTTGCCTGGCTCCCAGGGCTAGGGTTA
113155	AHR	GAGGTTGCAGGGCCAAGATCGCCCC
113156	SLC14A2	CCGTCCAGATCCCCAGGATAAGAGAC
113157	CIT	GCCCTGAAAATGTATATTGTG
113158	ATP8B2	AGCTCACTGCAACCTCCACCTC
113158	CSNK2A2	AGCTCACTGCAACCTCCACCTC
113158	CYP1A2	AGCTCACTGCAACCTCCACCTC
113158	DSCR3	AGCTCACTGCAACCTCCACCTC
113158	EHD2	AGCTCACTGCAACCTCCACCTC
113158	MEFV	AGCTCACTGCAACCTCCACCTC
113158	MPL	AGCTCACTGCAACCTCCACCTC
113158	PDE6B	AGCTCACTGCAACCTCCACCTC
113158	PKNOX1	AGCTCACTGCAACCTCCACCTC
113158	PPP1R12B	AGCTCACTGCAACCTCCACCTC
113159	LIF	GTGAGGCGCACTGTTCCTG
113160	HTR2A	ACTGCCATTTCCTCCTGGG
113161	GM2A	CCTCCGCCTCCTGGGTTCAAGCAATT
113161	TAPBP	CCTCCGCCTCCTGGGTTCAAGCAATT
113161	VENTX2	CCTCCGCCTCCTGGGTTCAAGCAATT
113162	LASS2	CCTCAAGCTCTCTGTGGGTAGGGGTT
113163	GALR1	ATGAGATACAGTCGGTTTACCTCA
113164	CLOCK	TCCCACATTCCCATGAATA
113165	ADCY8	CCCTGTATTCCGTCGCGCTGG
113166	MRPL49	TCCTGGAGATTCCATTCCATTTTCAA
113167	ASH2L	GCTGTACTGCATACCCTGCCA
113168	CPN1	TGGGACATATTTAAATACAAAC
113169	PUNC	ACTGCCTCTTGGGTTGTCA
113170	PLAGL1	CCACGGAACTCAAGTGGAATTTGTTTGGAT
113171	FOSB	TCCCAGACCCATTCCTTAGCTATTTATCCCT
113172	NLGN1	CCACAGAAAACACAAACATGT
113173	SEPP1	TTGTATCTTTCTTTCTCTAATGTTGT
113174	TCP10	CGCTGGGACAAGAGGGAGACAATTCTA
113175	DSCR3	TTCTGAGACGGAGTCTCAGTCTG
113176	DRP2	GGGATCTGGTGGTATGTGAGGTGC
113177	BAZ2B	TCATTCCTACAACAACCAAGG
113178	TAL1	GGATGGTGGGCTTCAGGGCAG
113179	FRK	AAAGTTGCCTGGTGAAGGAAGATAA
113180	PXR1	TGGGTAGTCTGTGTTCTAGTTCC
113181	ELF5	GGTGTCTTTATTTCCACTGCAC
113182	RALBP1	CTGCCCACCGGCCCCCGGCAGTGCAGT
113183	BRMS1	TGCGGGAACTCTGAGTCAGAACGTT
113184	B3GALT2	ATGTCTGCCAAAATGCAACA
113185	TAF7	CTAAGGCAAAATAGACGCTTAGCTGCT
113186	TRIM39	ACGGGGGTGGGACAGAGTTGTG
113187	UBQLN2	GCAGCCTGAAGGATCAGTGTAGTAAT
113188	WNT1	GGGCAAAAGGGCAGCTGTGATGAT
113189	PITPNB	AGACTGATGTTTACTCTCTGGGC
113190	IDH3B	GAAGGGGAGTACAGCTCTCTGGAACATGAG
113191	KCNJ1	CATAAAATCAACAGGGCCTCGG
113192	SCAP2	CTGAAGAATGTGGTTGCTA

113193	DSCR3	GGGCTTGGCCAAAACAGGCTCAG
113194	APM1	GTGGTGTGATCTTGGCTCACT
113194	CYP8B1	GTGGTGTGATCTTGGCTCACT
113194	PRKWNK3	GTGGTGTGATCTTGGCTCACT
113194	TRPV1	GTGGTGTGATCTTGGCTCACT
113195	ST3GALVI	CACAACCCTGGGTTTTAGATAATT
113196	EMR1	ATGGAAATGAGGATCCCACCAG
113197	FRAP1	ACTGTCATGGAGGTGCTGAAC
113198	PFKFB3	GGCGTATACTGATTCCTCCAA
113199	MALT1	TAGAAAATGCTAAAGAATCCATA
113200	ACVR2B	GGACATGAGTGTCTCTCCAGACT
113201	TG	CCAGCCCTTGAGCTCCCCAAAAACCTCAC
113202	TFCP2	TCTGCAGCTGTTTTAGTTAAATT
113203	SNRPN	TTCACAGTGGCCAGCTCACCA
113204	EDNRA	GCTTTCTCCGGCTTCCTCTGGCC
113205	SH3BP2	GCCATGGAGTTCCAGCAGGTCACTCT
113206	PTGS2	TCTCAGTCTTGAAGCCAAT
113207	GLRB	TATTAAAATGCTTGCATATTTTA
113208	GAS1	GCATGGATTTATGAAGACACTCATGCA
113209	MPL	TTGCCAGACTGGAGTGCAGTG
113210	OPA3	AGGTGGAGGTTGCGGTGA
113211	PKLR	TCTCCAGCCCACACCCCTCCA
113212	NPEPPS	CAACAGTATCAACACTGGCT
113213	LMO2	TCAGATAGACAACCAGGCCACCAAGA
113214	ZNF2	ACACAGTGCCTTGCTAATAGGTGCTC
113215	NRXN1	GCCGGCCGGGGCTGAATGGAGG
113216	ANGPT1	GTCTGGGTTTGAGAAATGAAATATTGTT
113217	B3GALT2	CACCTATTTCTTTCTTGGA
113218	BTEB1	GGCACTCCGAAAGTGTGCGGCTGCCC
113219	NUCB1	TCCGCATCCTGCTGTGTGTCCT
113220	SSTR1	TGGCTTTCTCCCTCACCCAAG
113221	RANBP3	CAGCAAGCCTGAGCCCGGGAAG
113222	BCL11B	ATTTAGTTGTATATATTTTTTGT
113223	CBFB	CATCATCTTTTCTAAATTCATCTC
113224	DYRK1A	TTTTAACTTGCCACATCCCAG
113225	GMPR	ACCAACACTTGCACCTTTCTCT
113226	ADCY1	CTGTGCAACAGTAGCCCAGAGCATCC
113227	HLA-DRA	CGAGCTCTACTGACTCCCAAAAGAGCGCCCA
113228	DMRT1	GCCATCCTGAAATGAAACTAGTCTAA
113229	GUCY1A2	TTCTTGTTTATCACACAT
113230	CLECSF12	CCCAAGTAGCTGGGATTACAGTCAGGC
113231	SRGAP2	TTCTCTCTACATACGTATATGTG
113232	FACL4	TTGCCTTTCTGTGTTTATTCAAACTG
113233	GPR56	CTGGGGTTCTCCTCCTCTCCCAG
113234	GATA6	TGCGCTGACAGAACGTGATTCTCG
113235	VRK1	TTTTCCTGTGAGTCTTGCGA
113236	MYO10	ATCATGGTTTCATGAGCATTAA
113237	PTGS1	AGAACGGAGGAGGCTGCAGCC
113238	SCML2	TCTTGAATTTAATCTGGGCACTTTG
113239	CDK9	GCTGAGTGGACTGGAGTGGAGCATTGGC

113240	GTF2H1	TTAAGACTTTAGATGTCTTGTA
113241	CRACC	TCTGGAGTTTCATTCCATCCCAG
113242	CSE1L	CATTGCCCAGGCTGGAGTGCAGT
113243	NPC2	ACTGAGCTCCGGGTGGCTGGTT
113244	ARHGEF7	AAACTTCCCTGAATTGCAGT
113245	RIMS1	ATTCAAAATCAGATCTATTTG
113246	HRH1	TAGTTTGCAGAGGAGCAAATTGAGG
113247	DCK	AGTATAAACCTTATGAACTA
113248	CASQ2	CAGATCTTGTTCTTTGCTGGA
113249	TNFRSF4	CTCCACCCTGGCCAAGATCTGCC
113250	GRB10	GGTCCTCACCTGGGTCCTCTCAGTGAA
113251	SIX3	CTCTCCTCTCAGGTCAGTCC
113252	ACE2	CACAGGCTGTTCAGGGATAATCTAAAT
113253	NDRG3	GCTCACTGCAACCTCTGCCCCC
113254	NONO	GCTCACTGCAATCTCTGCCTCC
113255	PSCD4	GGGAGCACTGCCCTAGGAGCCTGGAC
113256	PKLR	TTATGCACTGGCCACCCAACAGCA
113257	CNGB3	TGTGTTTAATTTCTTCTTTGGCA
113258	ADORA3	CTTAAACTGCTGAATTCACC
113259	TCL1A	GCAGGACCTCTGAAACCCT
113260	ATM	AGTCATCTATTTTCTTTTACAG
113261	LIMK1	AGCTTCTTCCCCATCACCGTGCG
113262	HIP1	TCACTTCTAGATCTCAGCCATTCTA
113263	NOS1	CATCTCCTCCCCTTTCTGCCT
113264	PCDHGA1	CCCTGCCCTCCTGAAGCCTCAGTCCT
113264	PCDHGA10	CCCTGCCCTCCTGAAGCCTCAGTCCT
113264	PCDHGA11	CCCTGCCCTCCTGAAGCCTCAGTCCT
113264	PCDHGA12	CCCTGCCCTCCTGAAGCCTCAGTCCT
113264	PCDHGA2	CCCTGCCCTCCTGAAGCCTCAGTCCT
113264	PCDHGA3	CCCTGCCCTCCTGAAGCCTCAGTCCT
113264	PCDHGA4	CCCTGCCCTCCTGAAGCCTCAGTCCT
113264	PCDHGA5	CCCTGCCCTCCTGAAGCCTCAGTCCT
113264	PCDHGA6	CCCTGCCCTCCTGAAGCCTCAGTCCT
113264	PCDHGA7	CCCTGCCCTCCTGAAGCCTCAGTCCT
113264	PCDHGA8	CCCTGCCCTCCTGAAGCCTCAGTCCT
113264	PCDHGA9	CCCTGCCCTCCTGAAGCCTCAGTCCT
113264	PCDHGB1	CCCTGCCCTCCTGAAGCCTCAGTCCT
113264	PCDHGB2	CCCTGCCCTCCTGAAGCCTCAGTCCT
113264	PCDHGB3	CCCTGCCCTCCTGAAGCCTCAGTCCT
113264	PCDHGB4	CCCTGCCCTCCTGAAGCCTCAGTCCT
113264	PCDHGB5	CCCTGCCCTCCTGAAGCCTCAGTCCT
113264	PCDHGB6	CCCTGCCCTCCTGAAGCCTCAGTCCT
113264	PCDHGB7	CCCTGCCCTCCTGAAGCCTCAGTCCT
113264	PCDHGC3	CCCTGCCCTCCTGAAGCCTCAGTCCT
113264	PCDHGC4	CCCTGCCCTCCTGAAGCCTCAGTCCT
113264	PCDHGC5	CCCTGCCCTCCTGAAGCCTCAGTCCT
113265	OPCML	AGCATCAATCGCAGACCTGCCCTGCCTCAG
113266	SPTBN1	GCATGCAAGCTCAGAACCAACACATT
113267	FANCC	AGACAGCACACCCAAGCCCG
113268	KIFC3	CGCGGCCACTGCCTGTGT

113269	PPP1R8	ACTGAGTGCCTGGTGCTCTCGTGGA
113270	IRTA2	AGCTGTGATTGCTGTTCTGAGTA
113271	PSME1	CAAGGCTAGAAATGGGGCACAGAGCCA
113272	YWHAZ	ATGGGAGGCAGTGAGTCTTGAT
113273	TRPV3	CTGTGGCTGGTGGGCGTGGCCTGCCTG
113274	CHRNA7	AGTAGAATCTCAGCACTTTG
113275	FUT6	GCCTCTGCAACAGCTCTGCCTCC
113276	PTPRO	GTCCTGTACTCCAGTTTTGACT
113277	CLTCL1	CTGGAGCTGCCCCCTCCAGGCCAGTTT
113278	CYP7A1	TTTCCAGATGCTATCACAGACTCT
113279	GNB1	TGTTGGATTCTGAGGGTGGGGAGGG
113280	NRIP1	GTCTGTTTTTATGTTCAGTTTGTA
113281	MPP2	CTCTGCGTATACTACACACTCATT
113282	PRKY	CAGACCTCCAAGACTTTCTTCTCCAC
113283	EDARADD	CACTGCACACCAGTCTGGAGACAGAGT
113284	TRN2	GCCCTTGCCAGAATTTCCTGCGCTGTT
113285	EZH1	GGCTTGGTCTCCCAGGACAGA
113286	SCGB3A2	AGCGGAGGTGGATGGGGATGGAAGA
113287	TPK1	TAGAGAATGAAAGGAGCAGT
113288	FLNB	GGGAGAGAAGGGCAGCAGCTTA
113289	CLECSF12	GGTCTCTAACTCCTGGGCTTAAGTGAT
113290	ITGAL	ATGCCCAGGGCCACTCTGCCT
113291	MAPK4	CAACCTCCCTGCCAGCA
113292	DEDD	AGACACAGACTTTATGATTATTA
113293	PBX3	CAGTTGCCAATTACTTGG
113294	EPM2A	GGCAAGCTGGAGTTAATA
113295	CEBPB	CTTTTCCGTTTCAAGCATTAA
113296	RAB23	TTTCAAATGATAAACTCTAGACATATA
113297	IL5RA	TTGCATCAGCCTGGAGTGAACCATG
113298	MGAT3	GTTGGGAGAGGGCGCAGGCCGTGA
113299	ITPR1	TGTCTGACAAAATGTCTAGCTTCC
113300	GORASP1	TCCTGCTCTGGTCACTGGGGCT
113301	UGDH	AGCATTTCTTTCTCTCCCCATTA
113302	HDAC5	TGGGGCCAGGCTCAGTGTACT
113303	KRTHA4	CTCCTTCCTGTTGAGGGTCGA
113304	KIF3B	TGGAAGCAAAGGAATCCTGCCT
113305	ZNF264	TTCAGTTATACACTGAACTTTACTGTA
113306	IRS1	CCGGTCGGGCTCTCTCCTGGGCT
113307	DISC1	GTGCTCAATAAGGCAGTGCAGT
113308	M11S1	GGCTGGCTAAGTCCCTCCCGCTC
113309	HGF	GAAGAAGATTAAAACTGCTTT
113310	KCNJ16	TCTTGCTTTGCTTTGTTGACTC
113311	POLL	CTGCCACCCCTTCTACCTCACCACTGCC
113312	IFNAR1	CACCTGTCTGTTCGCCATTCCT
113313	SERPINE2	TTGGAGGGAAAAAACAGCA
113314	SHMT1	CTCCGCCTTGCTGCAACAGAG
113315	CHST6	CTGTGAGCCACACCTCCTAGCTCTGG
113316	MRPL49	GTCTCAAACTCCTGACTCGAAGTGATC
113317	UCP3	TGAGGCTGGGGCTCGTAAATA
113318	SSRP1	AGGAGATTCCCAACCTGCTG

113319	PRKR	GGCTCACTGCAACTTCTGCCTCT
113320	POV1	GCAAAGCCTGGTGCCCCGAG
113321	CHC1L	ACAATCAGCTTAGCAAATC
113322	PAX5	CCCTCCAGGACCCCAGCAAGTGG
113323	B3GAT1	CTGCTCTTCCCAAAGCTGCCC
113324	NPM1	CCTTTTTATAATGCAGAGTGAG
113325	INHBC	TCTGTCTAGGTGTCATGGTTC
113326	EPB41L2	TGCTTTTAATGACTCACTTTGA
113327	CAMK2A	AGGGTGGTCTGACCCTTCCCTC
113328	M17S2	TTGTTACTCTTCCTCTCTCA
113329	CDH2	TTGGTTTGGGGAGGGAGAA
113330	MAK	CTGACCTTCACATTTGCTCTGA
113331	CYP1A2	TCTGCCCGCCTCGACCTCTCTC
113332	BVES	TGAAAAAGCAGGGAATCTCAAACTTT
113333	CR1	AGAGCTTGGAAAATGCAGA
113334	SLC9A5	GTTTCATTAAGGCCTCTACTCTGG
113335	GJA5	CCTTTCTCCCTTGGCTGTTCACCC
113336	MTR	AAGGCTGGACTAAATGGCTGCA
113337	EHD3	TTCAGCTGGCTGGGTACGG
113338	FACL3	CACATGAGAATTTAACTTTATAACC
113339	CDKN2A	GGAGCCGGCGGCGGGGAGCAGC
113340	DIO1	AGAATTCCAGTTGTTAGGAAGAGATG
113341	IL1RN	TGTGCCTCTGCCTGTCTCC
113342	CNN2	GGCCAGGTGGAGAAAGTGAGGGCCGTA
113343	FMR2	GACCCATCACTCTACCTCTACCAGCGCAC
113344	CHST6	TGCTTCTTAATTGCCTTCAGCTG
113345	KCNMB3	TGGATGTCTAAGCTTCACCTTTC
113346	EDN2	CAGTTCTGTGTCCTCGCACTGCCCAGG
113347	ASTN	CGCTTCCTCCCCCACCATCGCAG
113348	SERPINB13	AAGTTTTTCTTTCTACATCTTA
113349	MSF	GCGTGAGCTGCCCGGCGCCTGCC
113350	PPP2R2B	CAGAAGGCTTCTCTTCTACAGAA
113351	MCSP	AGCAGTTTTCACAGTGACTACCATTTC
113352	DNMT2	TTCTCTGTCTCTCTTCCTCAGCAG
113353	IL12RB1	TGGTCTCAAACTCCTGCCCTCA
113354	CD8A	GGTCACAATACTGTTGTGCGCAC
113355	MSH3	GCCTATCTTTGTGTGACATGTGAGCAT
113356	WISP1	AGAGACAGGGAAAGGTCAGCCCGTTTC
113357	HHLA1	TCATCCTGGCTCAAAAAGCACCCCCACTGAG
113358	NCOA6	GTTTCGCCATGTTGCCCAGGC
113359	KL	GGCTGGCTGAGCCCATTTTCGGC
113360	PYGB	CCTCTGTCCTGGCTCTGCACC
113361	PPP1R3C	TGCCTTGATTAAACCAGA
113362	TADA2L	CCTCACATCACAGTGCTGGTAGAAATG
113363	MTBP	GAGCTATTATTCACTACTTCT
113364	CBFA2T3	CTCCATATGTGTAGGAAAGGACA
113365	CYLN2	CTGAGACCCAGGCCTGGC
113366	COL11A1	TTTCCCCCTCTCCCTCCCCAATGG
113367	FOS	ACACTTCAGAGAGCTGGTAGTTAGTAG
113368	VANGL2	CCCTGCAGGAATCAGTGCCTCTCTCCC

113369	PPIL1	GAACAATGTAGCAGCCACTGTCAT
113370	KCNK6	AGGCTGAGGAAGGAGGATCGCT
113371	SMARCD2	TGGTGAGGAGGGTGGGCCTAG
113372	VHL	CCTCCTGAGCTGGGATTACAGGC
113373	SUFU	AGCTGTGCCTCTACTGCCCTG
113374	ATP8B2	CTCCTCCTCCTTTCCAGCAGTG
113375	DDAH2	GGGCCTGGCCTTGGGGTACTGCTGGC
113376	ANKRD3	GACAAGAAGTTCCATTTGATG
113377	KIR2DL4	AGAGCATCACTCTTCCTCACACCACAA
113378	FCMD	CTGCTTCTTTTGGGTGCAGTG
113379	KCNJ5	CACGCCTGTGATCCCAGCATTT
113380	GRIN2B	GGGAGACGGGGGCAGAGAGGGACCCTC
113381	DRD2	CCGGCAGGCCCTGCAGTGTTCGC
113382	PTGS2	TCTGTAACCAAGATGGATGC
113383	TRPM2	GCAGCTGGGAACATGTGCAGGCTG
113384	LILRB1	TTCAGTGAGCCAAGATCGCACC
113385	PSMD5	TGCAGTGAGCTGAGATCTTGCC
113386	CRKL	AGCTTTCTGCAGACTGGCAG
113387	LZTS1	CTGGTTCTTGCAAATGGGAG
113388	OSM	CGGGCTGACTGCCCCCCTGCCTTGCTCCCC
113389	HF1	TTCATACGTAAAATTTTGGA
113389	HFL1	TTCATACGTAAAATTTTGGA
113390	CST	CATCCAGAGCTGGAGTGCAGCGG
113391	COL19A1	ACAAGTGTTTACTGTCGCAGTTTC
113392	BMX	TTAGAGCTTGAGAGTCAAAG
113393	WHSC1	CCATCATTCTATTTTTATCCAAAAGTA
113394	RAB26	GCCAGCACCCCCGCTGCCTCC
113395	ILF1	GTGTGAGGACGGCACGGCCAG
113396	CLCN3	TAGGTTCTAGGTTTGAAACAGATGC
113397	METTL1	AAACCAGCCTGCCTGGTCACTGA
113398	ALDH3A2	TTCCTGCCTCTGCTGCCACCATCACTG
113399	SLC9A3R1	CCTTTTTCCTTCTCCCC
113400	HTR2A	CTGTGGTCCCAGCTACAGGGGA
113401	ACADL	TTTCATTGAAGCTGGAAGCCATC
113402	FUT8	CAGTACCTTATTTGTGTATCTGTGAT
113403	VHL	CCATTGCACTCCAGCCTGGGAAACAAG
113404	FGF2	AAGGCATTCATCTGCCATT
113405	MAB21L1	GGCTGGGCTCAAAGATAAAAG
113406	ADCY6	TGGGTGGAGCTGTGGCAGGGG
113407	TOP2A	ACTAAGCTAAAACTAGAGCAG
113408	ATF5	AGGCGGCCAGGTTTGCAGTGCGGGAA
113409	SCA1	GTACAAACCCAGAAAGGGTAT
113410	TLL2	CTCAGCAGGACGGTGAAACAATGATA
113411	CYP2C9	CCCTGCAGCTCTCTTTCCTCTGGGGCA
113412	CPSF6	TTATGTGCAACTGTAGAAACCCT
113413	HIP2	TGTCAACAGACTGGGACAGTGTCTG
113414	IKBKG	TGCCTCGGGCTAATCCCTCCCTCT
113415	Z39IG	ATTTCTCTTTCTTCAGGGCC
113416	SUV39H1	GCTAGGGGCCCTGACCTGGGGT
113417	B3GALT3	TGAACAATGTAGTCACTTG

113418	PIGR	GCCAGAGAGGGGCTGCTCTCCAG
113419	GPR35	GGTGTGGAGTCAAATGTGGGT
113420	PRX	CCTTGCCCTCACTGCCCACT
113421	ZNF217	CATGGCTGAGTTTATTAGTACA
113422	ZNF133	TGTTCTTTGGTGGCGCTGA
113423	C5R1	TTGGGAGGCTGAGGTGGGAGAATTGCT
113423	USP14	TTGGGAGGCTGAGGTGGGAGAATTGCT
113424	101F6	AGGAGCTGGGCCTAGGGACCTGT
113425	IFNA1	TAACGTCATGTGCACCTTT
113426	GNRH2	CAGCTCTTCCTTGAGCAGCC
113427	STS	CTGGGGAAACATAACTCCATCT
113428	FADD	GGAACCGTGTCCAGCACAGAA
113429	AQP8	TCCCAGACTGAGGACAGGGGA
113430	EPHB6	AGACTGCGGCCAACGGGAAGAAATAAAGGG
113431	PAX6	CTTGACAGAAGCTGTGACAACCAGAAA
113432	COL19A1	AAATGATTTTGTTAATTCTGT
113433	NEUROG1	CCACTGCAGACTCGCTCTAGGAAGAAC
113434	ADD1	CCAGCCTGACTAGGTACAGGCAAGCTT
113435	HRH1	ATTCTCACTCTGCTTTGCATCC
113436	CRACC	CCTGTTGTATTAATGATGGC
113437	MMP15	CCCAGCTCCCACCTCCCCTTGGGCCC
113438	CYP2B6	CTGTCTCCCAGGCTGGAGTGCTATG
113439	EGFL5	GAGAATCACTTGAACCTGGGAGGCAGA
113439	GPR1	GAGAATCACTTGAACCTGGGAGGCAGA
113439	TEM7	GAGAATCACTTGAACCTGGGAGGCAGA
113440	TSC1	CTCCAGGGTACATGCTTTAAAACCG
113441	SORBS1	GTGGATGGGGAAACAGAGGCAAAACTG
113442	DPP6	CCTGCTGCTGCTGCTGCTGCCTCCCC
113443	SULT2A1	GCAATGAGCCAAGATCGCGCC
113444	FBN2	TCATCCAGCTGATACACACCTGA
113445	LAMC1	ACCCCCACTCCTCTGCTGCTGTC
113446	ROR1	CTTTGCAGACGTCCCCGGCGTCCT
113447	APBB2	ACAGCATTTTCCTGCTCCTT
113448	FBXL5	TTTCAAAAGGGTGAGAACAGTCTTACAT
113449	PIK3R2	TCTTGGCCCCTGTCTCTCTCCA
113450	ETF1	GACCCATTTACATGGCATTCTCAG
113451	EGR3	GTCTAGCCCGCTTTGTTCAGTTCGGA
113452	SP110	TCTACTACCCTCTCAGTCACCATGTTGCA
113453	MAGEA2	CAGGGCCCAGACTCAGCCAGGAATCAA
113454	MCCC2	AAATGATTGTTTTGCTGGTTATGCTT
113455	SKI	GCATTGGAACAAAAGAGCATTA
113456	TERT	ATTGGGGGGAGGTGCTGTGGGA
113457	GPRK6	CCATCCTGGTCCCAGTGTTAGGGTAGC
113458	SCNN1G	GAGCATCCCACCCACATGCCCT
113459	BCAS1	GTGATGAAAATGGCAG
113460	TNFRSF11A	GCTCTGGCCCAGGCTAGAGTGCAGT
113461	RNF4	GGCCCAGATGACAACCTCTCCTTC
113462	SYNGR1	CCTGTTCTGCCCCAGCTGTTCCTCCTC
113463	CSNK2B	CCCACCCCACTTCGCCTGCCGCGG
113464	SLC7A6	TTACTTGGTAAAGTGCAGTG

113465	BNIP3L	CCTGCTGCTGCCGCAGTCCTGCCAG
113466	PTGER2	CTGAAAAATCTGGTTCATTCTTCA
113467	MECP2	CAGTGTTGAGAACTACCTGGAT
113468	DUSP7	GGCCCAGGCTGATCGGTGTCGG
113469	SAS	CACCGCAACCTCTGCCTCC
113470	KCNA4	ATTTTTCTTTCTTCTTCTTC
113471	CALML3	GATCCCTTCAATTCTAAAGGG
113472	LTB	GAGCGGGACGCAGTTCTCGGAC
113473	ENC1	GGGAGCTGTGGTAAGGGTTGG
113474	ABCG2	CCCTTCAGTCTTAATACTTTATGATGC
113475	TUFT1	CTCCCAGAGTCTCTTTAGGGAT
113476	ZNF192	TCCGTTGCAGCCTCCCTTCC
113477	NOLA1	TCTAAAATGTCAGCATCATGCA
113478	SMARCA2	TGGCAGAGACAGGAGAGGTAGA
113479	TLL1	CAGTATATTGGTTGTGCTTTAT
113480	CYP7A1	CTGAAAACTCTATGTCCGGCT
113481	HYOU1	GCGGGCTTCTCTTGCTCTGA
113482	NRG1	GGTGCTGCGAGGGGAAGGAAAA
113483	TCTE1L	CACGTTATCTCAGGGCTT
113484	TACC1	GAGTTTGAAACCTACCTAGGC
113485	RAB36	GCCTCCCAGGTTGAAGCGATTC
113486	MMP14	CTCCCTCCCTCCTGCCCCGG
113487	CCNDBP1	CTTTTCAGGCTCATTTGTACTC
113488	FUT3	TCCACTGCTCGCTGCCTCTCCAG
113489	PELO	AAAGCTGCAAGAATGGCACTTTT
113490	HLF	CTCTCATCGTCTTTTAGTTCCA
113491	TCEA1	TTCCAATTTCTTATTGCATATCA
113492	CLASP1	ACGCAGCTTCCTTCAAGTACACTG
113493	BHMT2	GGGTGCCTGTAATCCCAGCTACTC
113494	OPA3	GGGTGCCTGTAATCCTAGCTACTT
113495	TFAP2A	ATCAGCAACCCTTCCTGCTGCTGCTA
113496	HNRPD	TGGGAGGCGAAGGGGGCAGGCCAGGG
113497	DNAJB1	ATGAGAGGGTGGGAGGGCCCAGGGA
113498	CTSD	GCTGCCTGCCTGTCTGTCTC
113499	SMURF1	GCTGAGGCTGCCTGGGAGGCCCGG
113500	BMP8	GTGGCTGTCACGAAGCAGAGTTGGCACATA
113501	ASB2	GCTCACATCCTCCTGGGTGAAGA
113502	PCDH12	GTCCTCTGGCAGAACAGATG
113503	GDI2	ATGAAGAGCGCTGTGCCAGT
113504	GDF5	TTCATGGTTTTTCCTGCCAAACCAGA
113505	DSCR1	ACTCTTTGCAACAGCACTTGCT
113506	SURF5	CTGCCTACCTGGGCCTGGCCA
113507	STAC	CCTCTGCCTCATCTCACACTG
113508	TAX1BP1	TTACTGCACTTTCTGACCAGGAG
113509	LRRC2	GAGTGAGACCCTGTCTCAAAAG
113510	B3GNT3	AGAGAGGTGGTGGAATAGGACCGC
113511	OTX2	TTGGTTATCCTGATTTGCAAAGTGAT
113512	AK2	ATTACTGACTCCGGTTCCACACAC
113513	PARG	TTCTATTTTCTTCTATTTCAG
113514	CHAD	GCCTTCATGCCTTCCCCACCCTCCAG

113515	HRH1	GCACAGATACACATACAC
113516	ACTR1B	GAGGGCGGGGCATGTTGGGAGA
113517	PTGS1	CCTTTCTCCCTGCGGGCCAGGCACTG
113518	ORC4L	TTTGGCATTTCATTCATA
113519	POLH	AGCATTTTCGGCAACCGCTGCTGGCA
113520	ABCC3	CCACAGTCCTTCTTTGACACCAC
113521	LIF	GGTTGCTAAGTCAGGTGCAGA
113522	PRIM2A	GTAACAACAGAGACTTT
113523	DNAJB9	CTACCTGCCCTTGGGCTCACTAA
113524	MTA1L1	GTGGGCTGAGAGGTAGAGGGTG
113525	TAF7L	GCTGTTTGGTTTGCATATGTTTTAGCTT
113526	AXUD1	AAATGTGGCTCCTCTGGAGCTTG
113527	MAML1	CTGCTGCCCCGTCTCCCAC
113528	KCNAB1	CTCAACCTCTCGTGACTGCC
113529	KPNA3	TCTGAGCCTCCATCATTGTC
113530	KEL	TCAGCTCCTAGAGTGGAACCAGGAA
113531	KRT2A	TAGAAGCCTGTCTCTGTACCTCTA
113532	ZNF3	AGAGAAACCTGGTGATATTGCC
113533	STK10	CCTGTTCTCCCAGTTTGCTTTCCA
113534	GATM	AAATAGAATCAGATTATCTCTTT
113535	CCND2	TTCATTTCATGGTGACTGACCC
113536	ZNF76	AACACCCTTCTGGCCCTCAGTCT
113537	PPEF2	GTGATCATTCAGGGTTCATCTCA
113538	POLE2	CTTCGTCTTCGCTTTTCTTTCTA
113539	CAMK4	TGTCTTCTATGGCATGTAAT
113540	LRRC2	CTCTACTACTTGAATGATTTTGGA
113541	LOH11CR2A	TACAGACTAAAGATTGCAGCATTTAT
113542	SSTR3	CACTCACCCTCTCTGTGCTGTC
113543	EHF	TGATAACGCCCGTGGTGCCCCA
113544	KCNK5	AGGCCCAGCCCAGAGCTGTGT
113545	STC1	CAGCACAAACATTGCTGCCTTT
113546	PDE4D	CTTCTGTCTGTTTTTCCTTCCTCTTG
113547	ANPEP	AGGACAAAGTCTCCAGCCCACGTT
113548	RAD54B	CTCTTTATCCTTAGAAGAAC
113549	ACE	ACTGACTCAAGACACTGAGATA
113550	SWAP70	GGGAGGCGGAGGTTGCAGCGA
113551	RNMT	GTTTTAAAAACATAGTGTCTTC
113552	SLC22A7	GCGTCCACTTTCTTCTTCGCC
113553	NEF3	TTTGCCGATTTCCTAAGCTGTTGG
113554	PMP2	AAAACTGAATACACTGCAAA
113555	MTMR3	GTGGGAGGATGGTGGTCAGAGCCAGGAGTATG
113556	SMTN	GCAGTCGCTCTACAACCACCTGCG
113557	USP9X	GCCTTACAGTCCAACCTTTTTCTGT
113558	PIGA	TGTCATTGTTGTTGCCCAGA
113559	MECP2	GGGGCAGCCTCTGGGCCCAC
113560	FZD7	CCAACACAGGTTTTGGCATCTTTTGTGCTG
113561	HUNK	CCAGTGCTACTTGGGCCAGCGGGGTT
113562	FCMD	TATTCCTTTACTCAAAAGAT
113563	HYAL1	CCCCTGCCCTCCTGGAGCC
113564	PPP3R1	CTGAGGCAATCATGATTGATTGT

113565	CDC34	GGCTCCTTAGACGACAGACTACCTCA
113566	SALL2	CCAGGAGATATTTGGGAAATGTG
113567	APM1	TTCTGACCAATCACTGAGTCAG
113568	DHH	TATGGGGCTGTGGGCAGCAGAC
113569	ADAM33	TTCCTGAGCCCCCACCCCCAA
113570	JAM3	AATCTGTTTCTGGCCTGATTC
113571	DXYS155E	ACAGATTTCAGGCTGCAAA
113572	PAFAH1B1	GCTTCTATTTTCCACACTGGACAT
113573	NFIL3	ATTGTGTTATCACTCTGCCTGTGT
113574	SYT4	CAATCATTGTCTTCATTCCA
113575	ADAM33	GGAAGCCGGGGTAGGAGGATCA
113576	CHRNA2	GAGTTTGCAGGGTGCTGAGCTGTAT
113577	KCNK3	CTGCAGAATGGTCGCA
113578	KEL	GATTTCCTTTCTGCTTCTGTTCC
113579	GNA14	AAGATGTGATTTGCAAACTCCTTGT
113580	LAPTM5	CAGAGGAGGGGACGGCAGC
113581	GRLF1	ACAGAAGTACCTGAAACTAGGTCTGG
113582	P29	TTTTGTAATCTACTTTG
113583	APOL1	TTGCAGAATGGTGCCTGTGGCA
113584	SLC16A2	CTGAGCCTTTGTCTATTGTGTTCCTG
113585	IMPDH1	GGACCTCGCTACACACCCGACGACAC
113586	OGN	CTAAAATGAAGACTCTGCAGT
113587	CAV2	ACTGTAATACTTCTTTGTTA
113588	PTPRZ1	CCTCTTCCTAAAATTAGGCAG
113589	NTRK3	CCTCCTCTCTCCCTGCCTCACA
113590	LCP2	CTCCTGCCTCTGTTGCCAACACG
113591	KCNN4	ACCCCCACTCTGCATACCC
113592	CALR	CCTTCTCTCATCTCTTAGCTC
113593	NCALD	TTCTCCTTCCCAGGAAGGTCTT
113594	SARDH	GCACAGCCCTAGCTCAGGCCACTGGGC
113595	RAD18	TATTCATTCTTTTCTGCTTTTCCA
113596	PAK1	AGAGAACTGCAACTGAATG
113597	FGF2	CAAACCTGCAGACTGCTTTTTG
113598	TPS1	CCCTGCTCTCTTCTGAGCC
113598	TPSB1	CCCTGCTCTCTTCTGAGCC
113599	FUT1	ATCCAGAGTGATTCTAGTTGGGAGAG
113600	SPAP1	CCAGTTATTCTTTCTGCATCTTGTAG
113601	TK2	TGTGTGCCTGACACCACGCTGG
113602	P2RX7	TCAGTTTCAGATCCTGATCTTA
113603	DPYSL2	AGCATAGTGCTGTGTCATCCTGGTCCA
113604	OLR1	TTTAGTTTTGGGATATTACAAA
113605	NR1D1	ATGGTACCTGCTCCAGTGCCGCGT
113606	MGAT1	GCTCACTGCCTCCTGCCCTTC
113607	RAD54B	AGGAAAATAGACAGAATGATTTCCAAAA
113608	ELMO1	CCAGTTACACTTGAATTAAGATCTGC
113609	NPHS1	GAGCGAGATTCTGTCTCAAAAA
113610	ABCB1	CCTACTCTATTCAGATATTCTCCA
113611	KLK5	CCGGCATCCCCACCTGCTGC
113612	FLNB	GTTGGGGGAGAGAAGGGCAGC
113613	SH3BP4	TGCTGCTCTGGAGTGCAAGCCCTCT

113614	LENG4	CCTCATTCCTCACGCCG
113615	CLCN6	TCTCTCTCCCCTGCACTAGCTGTCC
113616	CRYZ	TGGACTTTGAACATTTTCTGAAC
113617	RDX	CTTACACCAGTTTGACTGTGC
113618	PLAGL1	TGACTCCAGCAGCACCAGCTGCTCTC
113619	ACOX3	GCTGCTGCTTTCTGAGCC
113620	TCFL1	TGCTTCTCCCCTTTGTCATC
113621	CRHR2	TCGCCCACCTGCACAGCTCCC
113622	TOP2B	AGACTTTTGTACATCTGGCTT
113623	IDH3A	TTCTCCTCTGCTGCAGCATGAT
113624	NCAM1	CCGCTGGCAGGAAACAATTCTG
113625	ACADSB	CAGAAATTGGGTTTTGGTTCA
113626	GPR81	TGTGTCCCAGGCTGGAGTGCAG
113627	FGA	TTCTCTTGAATATGTATTAAA
113628	COX15	TGCCCAGGCTGGAGTACAATGG
113628	POU2AF1	TGCCCAGGCTGGAGTACAATGG
113629	KCNJ10	GCGATCTGGCATCTTCTCCCACAAGCCCC
113630	SLC1A1	TTGCACTTTCTGTTATCAGGGCCC
113631	HIP1	TGAATGCTGCTTTCTGCTTAGTA
113632	NGFB	CCCTGCCCCTTCTACACTCTCCTGGGC
113633	GRM6	CTGGCTTCCCGCAGACGACTTT
113634	KCNB1	AACATTGACAGTCCTCCTGGCT
113635	VTN	CTTCTTTCTGCCCTCCAGAT
113636	FGF2	TGGAAATGTGTTTTTCTTCAA
113637	AP2B1	CTGCCTTTTCTGTGCCTAGTTTTTGGCTC
113638	NUMBL	CCCAGGTTGCAACAGGATGG
113639	GABRE	TCTTCTTTTTCTTGGCTGTGGTGC
113640	GCA	TGGAAAAGTTATTTTATAAATATGTGC
113641	HTR1D	GACCTCGTGATCCGCCCGCCTC
113642	ADAM23	GCTATAAAAAGAACTGTTCCA
113643	CSE1L	AACTTGTCACGAATTCCATCTTGTAAA
113644	CRYGD	CTTTGTTGTTTCTTAATTTGGAAACT
113645	TNFSF10	TTGCCTGGTGCAGTG
113646	SERPINE1	CAGATCTGTCTCCAAGACCTTGGCCTC
113647	CORO2B	AGACCCTGGGTGTTCAGACCCCA
113648	KCNJ12	ACGAGGGCCAGGGCTTCTGCCTGAA
113649	RANBP17	ATCTGAAGTGGTTCAGTCTAG
113650	CHRNA4	TGCCCACACCTGCCTCTGAACTGCTG
113651	VHL	CCGCTGCACTCCAGCCTGGGGGACAGA
113652	HMGA1	TTGTCCAGGCTGGTCTCGAAC
113653	SLC21A9	ACTCACTGATTCCTACACATTGCCAA
113654	RPA3	TGGGCAAGGCCCAGGAATCTGGAGCATC
113655	DIA1	CCCTCCCAGAACCTCAGCATT
113656	BMP8	TGCCCCACCAGGAGCTCAGCTCTG
113657	PROCR	GGAAAGTTTCAGCTCACTGTGAA
113658	SORCS1	TGCCAGGAAGTATTTCCATA
113659	CLOCK	GACCTCCAGGGAATCAGAAAGGCACTA
113660	SSTR1	TTCTGTTTGTTTAAGCTGAGCCA
113661	M11S1	CCGCCACCCTTGCCCCCTCA
113662	FZD4	TATAAACACTGGAAACGCTGGG

113663	BCL6	TTTTGTCTAAAATGCCTCAGTGTA
113664	CLECSF5	TGTATTGTTCATCCAGCAACCAG
113665	MAP7	CTCTTACATAATGTATTTA
113666	IL20RA	AGTAACTGTTCCCATCTCCTTTA
113667	BHLHB3	CTAACATCCCTTTCTTCC
113668	DYRK1A	GCACCAACAGGTCCAGAGTAT
113669	SORCS2	CTGAGGATGGCAGGGCTGGAAGGG
113670	CDC25A	GGAGGCAGAGGAAGAGGGAGCGGG
113671	PDE6B	GCTCCCTCAATCTTCACCCACTAG
113672	CTSD	CTTGGAAACCTGCCCTGCCTGAGG
113673	NRAS	TGACTGAGTACAAACTGGTGGTGG
113674	DPYSL3	ACTCTCTGCTCTGCTGTTACTC
113675	SHB	GGAAGGAAGAAGGGAGCCGAGGACG
113676	SOX9	GTGTGCTAAATCTCTCTGCCT
113677	CHRNA7	GTAGAATCTCAGCACTTTG
113678	ITPKA	CTCTGCCCTCTCCAGAGGTGCC
113679	MAT2A	CAGCACCAAATCAAAATCTCTCCA
113680	TNFAIP2	CCCCACGGCCCCTACAGGCTGG
113681	IL12RB2	AGGACAGGCAAGCCAGCTCTG
113682	DDB2	CTGCAAGCAGAGGTGGTGA
113683	PHKB	AGCTCACACCTGAAATCTTAG
113684	NUP62	TTTCTTTCTTTCTTTCACATGAC
113685	ZNF205	ACTCAGCTGTTCTTTCTAGCTCTG
113686	RRM2	ACCTGGCACTTTACAAACAAATA
113687	ALOX15	GGGCTCAAATGATCCTCCCACCTCA
113688	RARB	TGTCTTTGCTCTTTCTGATGCTCTCAA
113689	CSRP1	TGCTGCGTGTCCATCATCAGCTGA
113690	WFDC1	AACAGCTCTGGGTCCCTGTTTT
113691	DNM1	TCATATATATACACACCTACAC
113692	HPCAL1	CGTGTGGGACTCACAGGTGTAGTCGCCG
113693	SCN2B	CAGAGAGAAGGGAGTGGGTGGGCAG
113694	FANCD2	CTGAGTATCTCGAGTTGTGGCA
113695	DBT	AGTTCAAAGCTGTAGTGAGCTGT
113696	ATP11A	TACATCCCACAGAGATACCCA
113697	IRAK4	GCCCAGCTGACTCCACTACT
113698	USH3A	ATGAACATCTATAAAATGTAT
113699	SLC26A2	TTGTATATACACACTGCAGCA
113700	SCAMP3	CACTGCTGCCACCTCTCACACGCCCCA
113701	KCNMB3	GGGAGGCGGAGGAGGTTGCAGTGAACT
113702	RXRA	GGTGGGGAAGAAAGTGTCCAT
113703	FBXL11	TTTGCCTCCCACTGACTGC
113704	CD209	AAGCTACAGTTCCTTCTCTCCA
113705	TAF6	GACGGTTGGTTGTGTGTCTGTGCTCGT
113706	MYO9A	CGGAGGGTGGAAGGCAGCTTCC
113707	SEPX1	TCGGCAGCCTTTGGTCAGTTGGC
113708	KCNS2	GCACAGCCCAGGCACCTTATGGTTAT
113709	F9	CAACCAAAACATCAATGTT
113710	CREBL2	CTGGAGTTGTGCACAGCACCG
113711	SSTR1	CTTCAACAACTTTGTGCTTTCCT
113712	CACNG3	TTTCCCCTCACCCTCCAAGTCC

113713	RP42	TTTCTTTTTAAATGCAAAACC
113714	DHFR	GTTGCTTGAACCAAAGGGTTGCAT
113715	ZNF217	GCACATGCAATTTGGGTTTTAGAGAA
113716	GALNT1	ATTTTTCTAATTAAAGAATCCTA
113717	RDX	CACCTTGCCAAAGCACTTACACCA
113718	GLS	CCATGGAGACAGGTAGCATTTGTA
113719	ALK	GGGGAAAGCAAGAGACTTGCGCGCACG
113720	SIM2	GGTGCAGATGCCTGCAGTGCCATTAAA
113721	MECP2	AGGAAAGTGGCACCTGTCTGCTCCAGCTCTG
113722	EHF	TCCAGGGTCTCAGATGGTTAG
113723	NUP98	GCATAAGGGCTTCTGGAACCCAGAA
113724	CASP4	TTTCAATAAAAGTGAAGACA
113725	PCOLCE	GCTGCTGCTCTGCAAAATTCAG
113726	CARP	GGAGGGGCCCAGCAGGGCCAAC
113727	CDC42	TCCCAAACCTAATTCTTGTAGATGCA
113728	SOX13	CCCTCTATTTCTCTCTTTCTTG
113729	CDH20	ATAAGCAAAAGGAAACCCAGAA
113730	LMNB1	ACCTGTATACAGTGCAGA
113731	SLC22A2	CAGCCTCGGGCCCTCCTGCCTGC
113732	PDE7A	TGAGCCAATATCGTGCCACTG
113733	PITPNB	AACTGTGGAGATTTGAGGGAA
113734	RHO	CAGCGGGATGTGTGCCCCTCCTCCTCC
113735	HOXA10	CCGGGCATGTCTGCCTGGAGTGCTGTG
113736	UPK1B	CGGGAGACAGAGGTTGCAGTG
113737	PROS1	TTTGGCTTCATCTTTCTCTTGTG
113738	IL9R	GCCGGCTCCCCCAGACTCAGAG
113739	YWHAB	GTGCTTTGTGATCTGTTCAGTGTCA
113740	CCND1	CTATTTTTATACTCTTCC
113741	B3GAT1	GAGGGAGCCGCACGCGGCCCAGGG
113742	PRND	AGCAGGAGTTGATACACCACCTT
113743	FGF5	GCTCACTGCAACCTCCAACTCC
113744	ABCD3	GAGTATGCAATGCTATCACTGTCTTTGACT
113745	CTBP1	ACGTTCTTGTCTGTGTACA
113746	PRPF18	AATAAGAAACTTAGGGA
113747	ABCB11	GTTTCTTGAGCTAGACCAAG
113748	CPNE6	CCAATGCCTCCACCTCTTGGACCAG
113749	DMP1	CTGAGATAGTTCCTAATTCATCAAC
113750	GYG	TTTCTGTGTACAGTAAGGCAGCATGCTAA
113751	CFL2	CCATGTGAGTCCTGCAACACTAA
113752	LAMP1	CTGAGGGGGTGGGGGTGCTGCT
113753	F12	ACACCGTTTCCTGTTGCTCAGGGA
113754	CETP	GTTAGGAGTACGGAGATGGAGATT
113755	SYN1	CCCAAGTCGCAGCCATGAACTACCTG
113756	TFE3	GAAGGGGCTATCCTGGGACCTCCCCAG
113757	CDS2	TTGCCCAGGTCAGGAGTGTTTTCTTGG
113758	PDE7A	TACTTGTAACCCAGCACTTTG
113759	ACK1	GGCGCCGGCGGAGGAGGAGGTGGTGA
113760	RHD	CCTCTACCTCCTGGGTTCAAGCAAAT
113761	NFIB	AGATGCTGGGTGACAGAGCCA
113762	BDNF	TCCCTGCCTCTGCCGAGATCAAATGGA

113763	FLT1	CCAGAAGAGAGGAGTGGGACA
113764	RAD54B	AAACCTTGAACATTTTACAAGAAGT
113765	ARMET	TGCTGTAGTGCCTTCTGCGCCA
113766	BVES	ACCCGCAACCTCCTTCCCCG
113767	PCTK3	GGATGCACACGGATGACAG
113768	EPHB3	AGGCTGAGGAGTTGCCCTTTGC
113769	EIF2C1	GGATGGACATAAAGGAAAAAGAG
113770	TARBP2	GGACCGGGAGAGAGGGGGCGCGG
113771	SHANK2	TGCTCTCGGAGGCCAGGGAAGATGGT
113772	DLST	CACATTGCCTTGAGCTTTTCA
113773	FZD1	CTCGCGCGCCTCTCCCTACCA
113774	JAG1	TCAAGAGCCTTAAAACATCAT
113775	PLXNB2	CTAGAGCCCCACCCAGTCCGGGG
113776	METTL1	GGGTCACATCAACCGCCAGAAGTGGAG
113777	EGLN1	TGAGAGACACAAGGCTTTGTTTGC
113778	TEM8	TCCCCAGGCTCACAGTGTAGAGACAT
113779	RFXAP	CGACTTAATCATGGCTGTTC
113780	PEA15	GTCTCCCTTTCCCTGTCTGGCTT
113781	PUM2	AACAGATTAACAATCAACTGCATAAA
113782	EGLN1	CCATTTACGCATGCAGCAGGA
113783	SCAMP2	GCCTTTCTCTCGCCTGCCTTCTGAGCT
113784	CAPZA1	CTATCTCCAGATACATGTCAAAAAGA
113785	CRACC	TCCAGCCAGGCTTCATTTATGCACTTGTG
113786	HEPH	GCCCTTCCCCCTCCCTCATCC
113787	DMRT2	AAGAGGCCTTTGAAGAGACCCCTAAG
113788	DIBD1	TGTAATAAAGGTCTTCTGACATGA
113789	ADAR	CCAAAGCATCCCAAGGAAC
113790	FCGR2B	TGCACCTGCTGTCTTCAGCTCTT
113791	BACE2	AATGATGAGTCCTCTCTGGTCAGACAT
113792	G6PC	TCTACTTGAATACTCTCACA
113793	CD97	GCTGCCTCTCTGCTCCACCTTGTGAC
113794	PTPRK	AAAGGAAGAAGAAAAGAAAAGCTGTG
113795	CENPF	TGTTTTTAGACCAATTTTTTA
113796	TBX3	GTCCCCGGCTGGAGCCCAGCGCCCC
113797	GLTSCR1	GGCTGCCCTGTCACCTCAGCATTCT
113798	HTR1D	GCATGAGCCACTGTGCCTGGCC
113798	SH3BP2	GCATGAGCCACTGTGCCTGGCC
113799	SH3GL3	GTGTGAGCCACTGTGCCCAGCC
113799	UMPS	GTGTGAGCCACTGTGCCCAGCC
113800	RABIF	CTCATTCAAGAAGGCATACA
113801	PRDM2	ACGACAGCTCTGTATCTGCCA
113802	KCNMB1	TTTCTCAGTCTTGCTGTCTGTTGTTG
113803	FABP2	AACCCCTGGCCTCAAGCAATC
113804	TERF2	CTCACGCCATTCTCCTGCCTCAGCCT
113805	DRD1	GTAGGGCTGAAGGCCGCCCGAGGTTC
113806	MGEA5	GGCTGCGGCTGACAAAGGGCTCGCGCC
113807	IL16	AGCCATGTTAATGTAATCTGATG
113808	ADARB1	TTCCGTGTGTGTCCAGTTTACA
113809	CYP3A4	CCTACATGGTTGAAACCCCATCT
113810	CAV2	ATGATCCTGGAAATTGCAG

113811	INPP5D	GCTCCTCCTGCCCAGCTTCCTATGCA
113812	IL10RA	TGAAAACAGATATTCTGGCCCAG
113813	SMARCA3	CCTACAGCTACATTGAGA
113814	MGAT3	CGCTATCTCCCTGCCTCCTGCC
113815	DISC1	AGCTATTCTACTGCCTC
113816	WBSCR14	GACACCCTTCATGGGCTCGTGAGCACA
113817	HOXB7	GAGGAAGAGAAGCCCAGCTCTGGGAAC
113818	SYN3	GGGTCCTGAGGCCAAGAAAGAA
113819	GIP	TCTGTCCTTCTTCTGGAAGAG
113820	SMURF1	CTGTATCCAGCCTTTCCTTGC
113821	FRAT2	TAGGAATGCATGAGAGACCCTGGA
113822	NDUFS1	CAGTCTGGGCAACATGGTGAA
113823	MVP	TGAGCCCTGGGCTTAGGAGTC
113824	N33	CACTTAAAAACTCTATAACCTC
113825	RUNX3	GGCGGAGGTGGGCAGGATGTGA
113826	ADCY6	ACTGCAACCTCTGCCACCCGGG
113827	ITCH	AGCGTGGTGGGGGATAAATAAAT
113828	PLEK	AGACAGCACCCATTGAAACAGATA
113829	AES	GCTCCCACCTCCACCTGCCCCA
113830	KCNQ2	CCTGCCGAGGTGTGACCCCACCT
113831	PDE7A	AAACGTAATTCTTACATTGTGATT
113832	ACLY	TTTAGCAGGGGCCTGGAATGTAAAC
113833	SERPINB9	TAAAGTGAGAAGTTCAGTGCCACTTA
113834	RECQL5	GGCCATCTTGGTTTTTGCAAGAA
113835	TSC1	GCAGTGGCAGAGAATCCAAAC
113836	SIGLEC11	TTCAGCCTCCCAAGTGGCTGGG
113837	HS3ST3B1	CAGCAGCCTCCTTGCAGATGTG
113838	HHLA1	TCTATACAACAAATGTTTCTTC
113839	YWHAZ	ATGGTCTGTCATTGTCTGCCTTT
113840	GAGEC1	CTTCCCTTCATTCTTCGCCA
113841	SIAH2	AGGGTCCAGATTTTAAAGG
113842	TRPM2	CCAAGACATTAAATCTGCCA
113843	PFN2	TAGTATTGTTGTTGCACTTGAG
113844	SPK	TCCTCACCATGACCCAGCTC
113845	FANCC	ATTGGCCTGGCTGGGTGCAG
113846	GNAT1	TGGGTGCCAGAGTGAGACACAGCAGG
113847	TCF3	AGCCTCCCCAATGCTGGGGAG
113848	PPP2R4	ACACCCTTCAGGAAGGGGGA
113849	PIK3C2B	CAGGTGATTCTGGCCTCTGTGGT
113850	PTPN6	CTCATTCCCTGCGCCCCCTTCCTCT
113851	EGFL5	ATCACTTGAACCTGGGAGGCAG
113851	GPR1	ATCACTTGAACCTGGGAGGCAG
113851	TEM7	ATCACTTGAACCTGGGAGGCAG
113852	P2RY2	CCTGTTTTTCCTGTTTCCCGCAGA
113853	JAG2	TGCTGGCCAGTCCACCCTGCCTGCCGT
113854	IGSF4	AGGAAATCTAGAAGTAGTCCTGAA
113855	CALR	CCTTTCTCCCCTGCCCCCAGGACT
113856	NHLH1	CTCCTTCTTCAACTCCTGGTGT
113857	GGCX	TTACCTGCATTATTACATTAGGCTGAG
113858	S100A1	AGGCCCAGGCCAACCGTGCACTG

113859	ELMO2	CATTAATACCTTTTCCTTCCTC
113860	DISC1	GCCAATAACAAATTCCTACTTCG
113861	EPHB1	CTGAGAGTCCCCTCCCTTCTCCC
113862	IMPDH1	CCTGCCTGTCATTCCTGACTC
113863	PCDH11X	TTCTGATGTACAGTATTTTTTGT
113863	PCDH11Y	TTCTGATGTACAGTATTTTTTGT
113864	HOXA7	CCCAGTCCCCAACCTGCACT
113865	DCX	CTAAGAGACCTCCTTCTGGG
113866	SLC4A4	TGATTTTGGTGCAGGAACCTGA
113867	GRAF	GGCATGAGCCCGGGAGGCGGAG
113868	KCNAB1	ACTATTGGCTACTTACCCTCA
113869	FNTA	TAACTGCAGGTCACTTGT
113870	FOXD2	CCGAGCTTTAGCCACTGTGCGGCGCT
113871	SPRR1B	AGGAGCCGGCCACCAGATGCT
113872	HESX1	TTAAGCTGCTGGCTGGGCAAGTGT
113873	COPA	TTCTTTACAACTATTGTTCTC
113874	LBR	CAAAATACTCCTGCAATTCCAGCTGCC
113875	PKNOX1	TTAGTAGAGATGGGTTTCTCCA
113876	LBP	GCCTCTGCCTCCACCCTCCTCCTCT
113877	MIP	AGCAGGGACCCAGGCACTGTGA
113878	ETF1	CCATTTACATGGCATTCTCAGCT
113879	SHANK2	CCCAAGCTCCAGGTCTCCA
113880	SACM2L	CCTTTCCTGCTCCCATACAC
113881	CYP3A43	ACTCAGAAGACAGAGCTGAAAAAGAA
113882	NUMB	GCTCAGGCTGGGGAACAGAGAGGC
113883	ADCY2	AGTCCAGAACGTAGTGAGCCTT
113884	NBEA	ATATCTTGAGTTTGTAGCTTA
113885	NBEA	GACTGAACACCAGCTGCTATC
113886	ACTA1	GCGACTTCTCAGGACGACGAATCTTC
113887	LY6G6D	CATCTGAACATCTAATGTGAGA
113888	LSS	GGGCTTTATTTTCGCTGAAGGAA
113889	RBBP5	TGCCTGTAATCCCAGCTACACTGGAGG
113890	ZNF10	AATAACCCACAAAAGATTCAGGA
113891	MOCS1	CCACCCAGGCCTGGAGCTGGGAT
113892	COLQ	GACAAATTCCTGCTACTAAGACATGC
113893	CKTSF1B1	TTAGGAGCTTGTACCACAGTCT
113894	A1BG	TGTCACCCAGGCTGGAGTGCAG
113894	AASS	TGTCACCCAGGCTGGAGTGCAG
113894	AXL	TGTCACCCAGGCTGGAGTGCAG
113894	CMAR	TGTCACCCAGGCTGGAGTGCAG
113894	CSNK2A2	TGTCACCCAGGCTGGAGTGCAG
113894	EEF2K	TGTCACCCAGGCTGGAGTGCAG
113894	EIF2S3	TGTCACCCAGGCTGGAGTGCAG
113894	FCAR	TGTCACCCAGGCTGGAGTGCAG
113894	FSHPRH1	TGTCACCCAGGCTGGAGTGCAG
113894	HUNK	TGTCACCCAGGCTGGAGTGCAG
113894	ICAM1	TGTCACCCAGGCTGGAGTGCAG
113894	MEFV	TGTCACCCAGGCTGGAGTGCAG
113894	NEU3	TGTCACCCAGGCTGGAGTGCAG
113894	PCDHB16	TGTCACCCAGGCTGGAGTGCAG

113894	PSMD9	TGTCACCCAGGCTGGAGTGCAG
113894	TERF2	TGTCACCCAGGCTGGAGTGCAG
113894	TNFRSF9	TGTCACCCAGGCTGGAGTGCAG
113894	TUFT1	TGTCACCCAGGCTGGAGTGCAG
113894	VHL	TGTCACCCAGGCTGGAGTGCAG
113894	ZNF264	TGTCACCCAGGCTGGAGTGCAG
113895	INMT	TGTCACCCAGGCTAGAGTGCAA
113895	RHD	TGTCACCCAGGCTAGAGTGCAA
113896	AES	GCCCCTTTCCCGTCCTGGGCA
113897	AKAP2	GGCTGAGAACCCAGCGATAAGGGGGC
113898	SEL1L	CTTACATGTAGAGATTTGAGTGCAGT
113899	NR2E1	TGTCCATCTCTCCATCTGTC
113900	CRY2	AGCTATCCCAGTAGCTGAGCTC
113901	CUL3	TTCTGATTTTGACATAATTGG
113902	MIR16	ATTCAGAAAGCTGAGGCAGGA
113903	HTR2A	TGCTTCTCTAAAACAGCACTATCGA
113904	DRD1	GCCTCTCTTGGGACCTGGCCTG
113905	DCLRE1C	CACTGCACCTCTAGTCTGGGTGA
113906	BMP6	GCCAGTGCCTTATTACCCAGGAAGATT
113907	AQP8	AGACCCCAGCCTGGGGAACACGCTGC
113908	F2RL3	TGATCCTTCTTTTCACTTTCTG
113909	FGF2	TCTAAACATATAAATGTGAAT
113910	RFPL2	ATTCGTGACTTTCCCAATA
113910	RFPL3	ATTCGTGACTTTCCCAATA
113911	SLC4A1	GGTGGGGTGCTTGCTGTGTGA
113912	REGL	TACTATATTATGATAAAAGCA
113913	ZNF253	GTCACCGAGGCTGGAGTGCAATG
113914	CAST	GTTAGGAGAGAGAAAATAATTGC
113915	LZTR1	CCCTGCTCTATGCTGACCCTTGTCACT
113916	RP2	TACAAATGATCTTTGCAAA
113917	FZD1	ATGCCTGGCAACCTTGCCTTTG
113918	TFPI2	TGAGACTGAATTCTTGCAATG
113919	MBD4	CACTGCACTCCAGTCTGGATGACAGAG
113920	CTSS	CACTGTACTCCAGCCTGGATGACAGAG
113921	DMD	TCTTTTTGTTTTTCTTTTAGAC
113922	CDYL	CAAAATCAAAAGACTTAGCTTCTAGG
113923	TEC	CTCATTTCTATTCATTCCTCA
113924	GPR41	AGGGGAGACAGGGCTCCAGG
113925	CD86	GCCCAGCATAGGGCTAGCAAATTTGA
113926	G2A	TGCCTGGGCTGGAGAACAGT
113927	TNFSF15	GAAGAATTGCTTGAACTGGGGAG
113928	OSR1	CATCCCCTGTTCACTTTCTCT
113929	DSC2	CTGGGTCTGTAGGTTGTTGCAGTGA
113930	ZNF274	GATCCTCTTCCTGCTGAGA
113931	DLX2	TCTCTCGGGGGAACCGGACA
113932	SPINK2	TGGAGAGACCACCTTCACTGGC
113933	CHST7	TGGAGCCATTTCAACAAGGCAT
113934	KCNA4	TCATTCTTCCCCTCCTCCAGCT
113935	GOT2	AGACAATGAGAGAGGGTG
113936	DSCR3	GTCACGCAGGCTGAGTGCACTG

113937	TNFSF4	CAATTGTCATAATAAACTTATGTCATT
113938	EVC	TTTGCCCAGGCTGGAGTGCAGT
113938	PER2	TTTGCCCAGGCTGGAGTGCAGT
113939	DUSP11	GGGTCTTATCCTGGCATTGA
113940	NGFR	GACCACACTTCCTGTCCAGAGAGAG
113941	ITM2A	GGCTTGCAGTAGTGTTAGA
113942	DIAPH1	TGGGGAACTGGGCACCAGGAGTGCCTT
113943	NOTCH2	GCGTGGAGAGTCCACCTCCAGTGTAG
113944	GRLF1	CACTTCCTGTTGGTCTGTCTCTTCCCA
113945	OAT	GGGTAGCCAGCTGTTTTCAG
113946	RPS12	GCGGAGGCGGAGGCTTGGGTG
113947	NFIA	AGGTGACGTGGCTAGCGGAGGAC
113948	CSE1L	TTGCCCAGGCTGGAGTGCA
113949	PDCD2	CTTCAAAACATAGGACAGTACATCTCT
113950	ALK	CGCGGGGGCTGGGATTCACGCCCAG
113951	APPL	AAATAACATTTCTCTACTGCCT
113952	MUCDHL	GACTCGGGCAACCTCACCGTGGCCAG
113953	PRPSAP2	AGCTCCGCCTTTCTTGCTCTGAAAA
113954	DTNA	AAACCTGTGAAACCTCTTTTTAT
113955	KCNA6	TGTTCTGAGATCTTTTGGGTGCAGTTC
113956	DNASE1	CCTGAGGCCTGGCCTTTAGCTGCTGC
113957	MLLT2	ACTCCATGTATTTTACCTACTTCAG
113958	FAAH	CTGCCTAGGAGCTGCCTGCACGGC
113959	CRP	GCTCCACCCTCCTCAGCGCC
113960	ZNF264	CCTACTAATGTAACTATCT
113961	SON	GACGGTTCGTTTGAATGGAGG
113962	PSMD7	ACAAACTAAATCAGTGTGCTGCTA
113963	YWHAB	TTGACCTTGGTTTTCTCTTCT
113964	PRKCM	AGTGTTCTATGAACAACTCCA
113965	SQSTM1	GCTGCTGCCTTGTTTCACCTTCC
113966	GPRK7	TGGTGCACATCTATAATCCCAG
113967	MAPT	TGGACATCTGGTTGCTTTGGCCTGC
113968	HOXC13	CCTCCTTGCGCTCACCTTGCCA
113969	GPR4	CACCTCCTGGGCTCTCCAGCGATC
113970	GRB2	CCTTCCCCCTGCTTCAGGCTGC
113971	KCNJ6	CCTTGGCCCCAGCGCCCAGCC
113972	HNRPA1	TGGCAGGGCCTAGCTGCTACAAAGAAG
113973	PDE4A	GGGAGCGCGGAGGGGAAGGGAGCCCCCAGCC
113974	ACPP	GAGCCCCGGAGGTCGAGGCTACAGTGA
113975	MRE11A	AGCAGTTACAGAGGGTGATAAATCTCT
113976	ATP7A	ACAGCCAGTTATTCTTCC
113977	SOX12	GCACTGGCACCCACAGCAGG
113978	CD68	GGGTTTTCCTTGCTCCTGCCAGGA
113979	GPR35	CCTCCCTGCTAAGAGCTGTGT
113980	SDHA	CGGCGGCAACAGCAGACATGTCG
113981	ATP1B2	TCCCAACCTCAGATCAGTCA
113982	PTGS1	ACAGGTGTGGGGACACAGCAGTGAGTA
113983	GRAP2	TTCAGGGGACAGAAGCTTTT
113984	CTSD	CTGCCTGCCTGTCTGTCTCTCCATCTGTTT
113985	TRPV4	CTGGAACCTGGCAGAGGCCTTAGGACC

113986	TAP2	AGCTGTTCCTGCTTTGAGTTTC
113987	DAG1	TTCGCAATAATGTATCCATTCC
113988	CASQ2	CCATACAGACAGCACAAGGTGGCAGCA
113989	ELF3	AGCCAAGTGTGCTGTAAACT
113990	NPTX1	ACTGCCTGGCTCAGCTGCACGCTGC
113991	PRDM4	GGACCTGCCTTAACTGCTCCTGGCC
113992	AP2B1	TATCATTCCAGAAGGAAA
113993	RNF3	CTTGCTCATGGGATGAGCAATGCTGTG
113994	SRP	AGAAGCAGCTGGTGGCGCCTGA
113995	COG3	CCTACTTCCTGATTGGATTGGTTTTGC
113996	KCNA4	AATGGACTGAGCATTGGCCAATTTCC
113997	AFG3L2	AGGTTGAGCCCAGAGTGGCCGAGG
113998	GRB7	GTACAGACCGAGAGGCCAGTTG
113999	GLUD1	TGGGGAGGAACAGTCAAGAGCA
114000	IVD	CCCCTTTTCCTGCACCTAGTGGCCT
114001	KCNK3	CACTGTACTCCAGCCTGGGTGACAGG
114002	HR	GCACAGCCCGGTTGGCGTGGGCCAG
114003	PAM	CCTTTCCTGTTCAGCATTCTTAGCC
114004	THBD	GTATCCACTTTGCACAGCTCTCC
114005	MSF	GTGCACAGTCCACAGCTGAA
114006	GJA1	TGTGGAGAAGAAAAAAGGTGCT
114007	MMP15	TGCCTAGGCCTGGGCAGTG
114008	SYNGR2	GGCCATCACACCTGCCCTGTGCAGC
114009	LCT	TTCATTCTGTGAGTTACCACCTCA
114010	NR4A2	AGAACTCCTAAGGAGGAGATTGG
114011	CDH2	GGAAGGGGGTGGAAACTGCCTGG
114012	RXRA	AGTCTTTCCCCACCTGGAGCAG
114013	GPX2	CCTTGATATCAGTCCCCTTCA
114014	ART3	TCACTTAAACTTCCTCCAAAG
114015	ANGPT2	CACTTAACGGACCAAAGCAA
114016	MRC1	TGATTACTACCTTTTAAAATATTTTA
114017	PCDHGA4	AAGAGTTGTGTAAATGTCT
114018	BAT4	CTGCTTTGGTAAAGTCTGA
114019	PODXL	CTGTCATGAGAGTGGGGAGACAGGC
114020	FZD4	CACCACACCCAGCCTGGGTCTCTCTA
114021	NCOA6	CACCGAGGCTGGAGTGCAGTG
114022	GLO1	GATTTCAGAAGAAAGGAAACA
114023	CHST1	CCTGCGGCTGCTGCTCTCCTCCGA
114024	NF2	GCCACCCCAGGACCTGCCACTT
114025	TAL1	GACCTTATCCTTCCTCTCCTTCCT
114026	CALM3	GAGGCATTCCAGAAGGACTGAGGGGG
114027	P4HA1	TGTTCTGTTTACCTAGTGTCTT
114028	TNFRSF11A	TGTTACCCAGCCTGGTCTCAA
114029	CORO1C	GGGTGAGGGCAGAGTGTGGTGACAGC
114030	SOX3	CCCCCACTCCTCCTCCTGAGTTCCA
114031	RUNX3	TCTGCCCTACAAAATGCTCTTCATTGGTTG
114032	YWHAZ	TGGCATAGTACTTTTGGTACAT
114033	UBQLN2	GCAGTCTTCATCACAGAGG
114034	COPA	ACCTGCCTGGCCAACATGGCAACACCC
114035	METTL1	GGTCTTCCCAGTTGAGACTGCTGG

114036	ZNF202	TCAGATCTGACATTACCTCTT
114037	ADH1B	ATCTGGAGCAACAGCTAGGAA
114037	ADH1C	ATCTGGAGCAACAGCTAGGAA
114038	CD59	ACCATCTGCATCCAGCCTCCTGCTAACTCC
114039	KMO	AGCCTCCCAAAGTACAGGGATT
114040	BTG2	GGGGCATTCATGCCTGGACTTAAACAA
114041	GJB3	CATGGACTGGAAGACACTCCAG
114042	PYGO2	TGCCATGGTACTCAAAGGTAGAAGA
114043	TGFA	AGCAAGTCACACCTGCCAGTGCCCTCA
114044	SORD	GTTTGGCAGGCAGGTGCCA
114045	PXF	TTGAGATACATGATTCTCTTA
114046	CARP	AGAGGGCTGATTATCACAGCCCTCT
114047	KLHL3	TCTATCTCCTTGTTGATCT
114048	MAT1A	GAAAGCCCCACCCAGGCCAGGC
114049	ELMO2	TTCCCTGGTGCTGCAGCACTTG
114050	KCNQ2	CCTGCACACAGCCGTCTGAGCAG
114051	ZNF219	CGGACCAGAGGTGGAAGGCGCGGCGG
114052	C4orf1	TCCAGTCTATGGAGTCAGTTGGTACCGGTG
114053	DLGAP2	CCAAAACACTACCATGCCCCAGCC
114054	APOL1	AGCTCACTGCAAGCTCTGCCTC
114054	FUT1	AGCTCACTGCAAGCTCTGCCTC
114055	SLIT2	ATGTGGGACTAATGAATGCTTC
114056	EGFL5	GCTGGGACTCTGGTGAGCATCCGTCA
114057	THY1	CCTGCTGCCCCTCCCTGCCTCCAC
114058	ED1	GCCAGCAGCTGATGCTGTACTAA
114059	KCNK6	ATGGCACTGCTGCACTCCAGCCT
114060	NLGN3	CCTGCTCTCTACATTGCTGGGCACCT
114061	NT5M	TGAGGCAGAAGGGGGTTCCCTGT
114062	EYA1	TTAGCACAGCGTTATGTGT
114063	TCF12	ACAATCAGAGACTGTC
114064	PYGB	AGAGAGAGGGCAGGGAACAG
114065	ALOX15	GGCTGGAGTGCAGTGGTGCCAT
114066	SFRS1	ACAAGTGTTGGCATTATCAGTTGA
114067	ADAM11	CCTGCTGTCCCTGTCAGGACAC
114068	PRB3	AGAGCCTCCAGCAAGATGCTA
114069	GMFG	TGTCTGAGTCCTCAGGTGACTGGGG
114070	TRIM34	CTCATTTCTTCACCTACAACCCTTT
114071	TRPS1	CATGAAACCCTAGGCAGAGGAG
114072	RNMT	TCCTGTGTGTGTTTACAGTATTC
114073	TRIM34	GAGAGAGGAGAGCCTCAGGAGTTAGG
114074	MMP19	GTGAAGTGCCTGGCACAGTGTCTGGT
114075	GPD2	AGATGACTGAAACCACTCTGAA
114076	PIGA	TGCTTTGTTGGCAGTTTTCA
114077	DPH2L2	AGGAGGGAGAGCAGGCAGC
114078	EIF4EBP2	CCTCATTCTTTTCTGTGACCCTTTCG
114079	M17S2	TGTTTACAGAAGTGTGTTGAG
114080	LTB4R	ATCTCTGCTCTGGCTTTTCTCCAAG
114081	AQP6	GCTTAGACATGGGAGCTATA
114082	MAPT	CCACAGAAACCCTGTTTTATTG
114083	PCDH11X	AACAACAAAATTCCATTCCCCTTCC

114083	PCDH11Y	AACAACAAAATTCCATTCCCCTTCC
114084	NUP62	CAGGAGGTGTTGCAGTG
114085	MBL2	TCACAAATTCTCACACACATACAT
114086	RNASEL	TGTGGTGGTTGAGATGGAGCT
114087	PTER	AAATGATTTTGATATCTTT
114088	FLRT2	TGGGGCTTAAATGGTACAATGGAGA
114089	HLCS	GGTGCACGCTACCATGCCCGGCT
114090	IL17C	CTCCAGCCTCAGTAGTTGGGGGTAGAA
114091	HNF4A	TACAGAAGCTGAAATTGCGTTCTAAGA
114092	CCNF	CTCCCGGATACTCCTGCCTCAG
114093	TXNRD1	CAGGCAGCATCACACTGGGGTCACTGA
114094	BACH2	TTGCCCAGGCAAGGAAAGACAGCAGTG
114095	GRB10	AGCTTAGTGATCAGGTGTGAGA
114096	HTR2A	TGTTCTGACAGCATTTCAGCTGTG
114097	SPTBN2	GCCGACTTCTCCCCTTTCCCCAGCC
114098	CD34	CTTGCAGCACTCACACAGGACC
114099	SLC13A2	CACAGCCTGGCCATGCCCAGGAAGACCCACC
114100	BAIAP3	GGGTGCCACTGGCACCACTGGG
114101	YWHAG	CCAGAAGAACTAGTAGAAGAAGCTTT
114102	PMX1	TATTCCCTACAAAGCCTCCTCT
114103	ARHGEF12	TGCCTAAAAGACTTTATTGTTCT
114104	SRD5A1	GCTTCCCTCCCCCTATAGGGCT
114105	SOX10	CTCCTCGGGGAGGGGAAGCACC
114106	PDGFRB	CCTACCCTGCCCTGCCTGAAGC
114107	PRX	CAGGCAGCGGCTCAGAGGCAGCTGC
114108	TM6SF2	GGCCGTACACCTTCTGCATCTCA
114109	TMPRSS2	GGGGTGAGAATATAGACAGTGCCCTTG
114110	FACL2	AGGAGCCTCTGGCAAATGGGTGCTCAT
114111	CAMK2A	CAGCAGCGCCTCAGTCCTGGTC
114112	RNF4	CGGCAGTGTCACGATGCCCAGACT
114113	IRTA2	TGCTCCTTGGAGCTGGTGTGCAGTG
114114	ITGB4BP	CAGGGCCGGAGGTTCTGGTGGG
114115	DIAPH2	GCCAAAACAAGTCTAGCAG
114116	ILF1	CCTGTGGTTGGACTTCACCTC
114117	KCNAB1	ACCTCATGCTTATGCAATGGGAA
114118	CNP	TTCCCAAGCTGGAGTGCAGT
114119	UBE4A	AATCTGTTTCTACAAGGACTAG
114120	TEK	TGTAGGCACACTTTGCACTGA
114121	MMP1	CACAAATGGTGGGTACAAA
114122	NXT1	GGAGAGGGCGGCGCCGGGGCGC
114123	GCNT2	TCATTCCCTGAATGGCAG
114124	NPHS2	CACACTCTATTGCTCTTCTGT
114125	CYP8B1	CTCGGCCTCCCAAAGTTCTGGG
114125	NT5C2	CTCGGCCTCCCAAAGTTCTGGG
114126	RAP1A	GAGAGGTGGTAGAGCAGGAAGCTGC
114127	CRB1	CAGACAGGGATCAGGAGCCGGA
114128	GARP	CCCCACTTCTCCATCGCAGCC
114129	NP	CTTGCTGGAGTCATGTGCCTCTGTC
114130	CASP8	TTTGCTTGAACCCAAGAGGTCC
114131	F2R	CACACACATATATTATTTGCA

114132	ADRBK2	GCCAAAGCTCGCCAACATGGCGG
114133	ZNF10	CATTCTATGGAGAGGATCCCA
114134	RCV1	TCTCGGTCTTCAGCTCACACCAGCC
114135	FLOT2	CCCAGCCTGTGTAGCTCTTCCTGCAT
114136	REV3L	TTTGTGTGTTTTCCTTGAACT
114137	ARNT2	GTTCTAGGAACCTGAGAGTGG
114138	COMT	TGGAACGAGTTCATCCTGCAGCC
114139	YWHAG	CCAGCTCCGTGTTTCTCTAAGGAATTA
114140	HEXA	ACAGCCAGGCTGGAGTCAGT
114141	PMP2	AGGATGTTCACTATGGAAAAACAA
114142	F2RL3	GGACAGACCACACCCACCGCAACCT
114143	WNT2	GTCTCAAAGGAGCTTTCTCAATGTCTTC
114144	GCK	GCGCAGGGAGGATGCCACAGCCCCACAGC
114145	DISC1	CCCTGCAGTAAGGCTGGTTTC
114146	SHOX2	ACTGACCTTTTTCTGCGA
114147	SIAT8E	ACCGGGGCAGAGTCAGCTCTGTGC
114148	DYT1	GAGCCCAAGCACACATGCATGGCATTT
114149	PCSK2	GTGTGCATGTGTGTATAAGTGCACACA
114150	NTSR1	TGAGGCACAGACTCATTTGTC
114151	KLK13	TCCATCCTGTCACCATGACTTCCTCA
114152	NR2F6	CATGAAACCAAAAAGAGACTG
114153	EMR1	GTCTTCCTGTGGTTGTATGC
114154	DBH	AAAGGGAAGCCCTGACAACAAC
114155	IGF1	AACACCATCCATTTGGGAAAGA
114156	ZFP36L1	ATTGAGTTTCTTTCTCTTTAGG
114157	BMPR2	CAAGAAACGTGTGAAAACTCCCT
114158	GARP	GGCCTCGGGACCAACTCT
114159	GA	CAGCTCTTCGAAGGTTTGCCTT
114160	VWF	ATGTTCTGCTCTTGTGCCCTTCTGAG
114161	FMR1	CCGCAGCCCACCTCTCGGGG
114162	RGS19IP1	CCCCACCCTACCTCAGCTGGGGTCAGG
114163	SPP1	TCACTACCATGAGAATTGCA
114164	PDE4C	TAAGCTCAGGAGTTTGAGACCAGCCT
114165	ESPN	CTAAGGCCGCAGACTCCTGTCCGC
114166	SLBP	CAGATTTTCTGTTCAAATATTCA
114167	RUNX1	GGGAGAAGAAAGAGAGATGTA
114168	IL1RL1	CTCCATGAGGGCAGGGACA
114169	EVC	GGCTATTTGGAAGACACTG
114170	TNFSF10	CACACCTGTAATCCCAACATTT
114171	GATA3	ACTTATATTGTAAGAAATACT
114172	CAPN3	TTCCAGCCTGAGGGGCTTCGGAGC
114173	SLC28A2	CTCAGGGTGCCCACAACTCACT
114174	HPSE	TCCCACATAACTAGACGTTCAAACAGG
114175	TPI1	CGTGCCTCTGTGCTGTGTATGTG
114176	PCDHA9	GCCACCCAGGCTGGAGTACAG
114177	PCDHGA8	TTCAAGTATTCAAATAGAAAAAT
114178	APOBEC1	AAAACTCTGTAGCTTAAACCA
114179	CD80	ATGTCAGGCAAAGTGCTGCTGGA
114180	PITX2	CCCGCGCGCCACTGTGCAGTG
114181	AF1Q	TCCCTTCTTCACACCTACTCA

114182	PHKG1	GGTGGGGAGGGGAAGCCATGGAAAT
114183	SNAP23	GCATCACAGTTTTGCAACCTCTGCTCC
114184	FSTL1	CTGTCTCTTCTTTTTTCTGGACC
114185	MECP2	CCTCTGCTCCCCCTTTTCCCTCGGAGT
114186	BRMS1	GGGGTCTTGTCCACCCTGGCTGGAT
114187	SOX18	CCAGGCCACCCTTCCTGGGCT
114188	MCSP	AGGGAGGCCTCCATCTGGAA
114189	OGG1	CCTCCTACCTCCTCCTCGGATTGGCTACC
114190	RNPEPL1	GCCTCCTGTCTCAACACTGACAGCT
114191	LNPEP	CTGCTTCTTATTGATAGATGGCA
114192	MSR1	TGCCTCTGTGTATCTCAGCATTTTT
114193	PRKACG	CTTTGGAGTAATCCTGCCTGGG
114194	ILF1	CTTTGTCCCTGGCAAAATTTTC
114195	SLC3A2	CACTACCCTTCTCCTTTCCTTCCCAGG
114196	BACH2	GACACAGGCTGACACATTCTT
114197	ASPH	TCCCTTTTGATAGCATTAG
114198	GRAF	GATGGGGTTTTGCCATGTTTGCC
114199	OGG1	GGGCTCTGGGGCCGGAGCTGTGT
114200	SNTB1	TGAAGCAGCTGTTACTTTT
114201	STX1A	GCCCTTGCCATCCTCCCA
114202	CACNB2	TTGAGATACTTTTTCTTTTG
114203	CRYZ	CCATATGTTCTGTGAGAATAGTA
114204	LARGE	CTCTGGTTCTTGCCTGCTTCACT
114205	BIG1	CTGAGATACTGGTAATCATCCTG
114206	RFXAP	TGTCATTGTTTTTCGCAATTGAGCTAT
114207	HKR3	GGCCACCAGAGCCCACTTGGC
114208	HDAC4	TTCAGTTTTTCTTTACTTCTT
114209	HTR6	GTCCACCCTCGGTCCTCATGGTCCC
114210	GSTM1	CCTGCCTGGCCCCTCGCCTGTGGAGC
114210	GSTM2	CCTGCCTGGCCCCTCGCCTGTGGAGC
114211	KIT	TTTACCTGAATAAATGGTAGTA
114212	MYO1D	TGCCTGTCAAAGGCTGGAGGGCAGGAGG
114213	LAMP2	TTTGGTTTTTCCAACCAAGGAA
114214	JRK	CCTGAGTAGCTGGGACTAGAGGCACG
114215	CHST5	AGACCTCTGGCTTTCCTGGA
114216	ETF1	CATGATACATTTAGGGTATGCAGCTC
114217	FGF1	ACTGACAATAGTTATGCCTGTA
114218	SLC6A5	AGTCTGTTGCCTGTGTC
114219	KIF5C	CCTGCTCTACCATTATTTGCGGTCT
114220	LNPEP	TCTTTTCTGAAGTGTCTTTGGG
114221	BACE	TGCTAGTACCTGTAAGCATTTT
114222	FLNB	TTCACTCTTCAGCATTTATGAAACA
114223	RREB1	GGCTTGGAAGGTTCAGACCTATCTTCC
114224	FRAT2	GCCAGCCTGGGAGCGACCACT
114225	PCBP1	ATAAGCTTTTCCCTGTTTTTAGTTTT
114226	MOG	CACTCACTGGCATCTTTGCTAT
114227	MICB	CACCCAGGCTGCAGTTCACTGG
114228	SLC6A6	GAGGTTGTCTCTGAACCAGG
114229	PKDREJ	AAGTTGGGAGTGTAGTGTAGCA
114230	ADD1	TCTGCAGCTTTGGCTGCACGTCACC

114231	GRB7	TTTTCTCCTCTGCTTCTTTGC
114232	CALCB	TGTTTTTAATTGTTCATTGCTA
114233	ADH7	AGTTCATTCCATGATGCATATTACTGG
114234	COL17A1	AGCTAGCAACATTTGTTTTA
114235	FGF12	TCAGTGTAAGAGAAGGCACAT
114236	ADCY7	ATACTATACTGAAATCTGTGCTCTCAA
114237	EMP1	TGGAACAGATATTTAGCTCTG
114238	NUMB	AGGCCCAGAGTACTGTGAGGGGTGAT
114239	KCNJ10	ACTACCCCCTACCTTAACTCTA
114240	IL1RN	CTCCACTCCAGATTTTTTACAGCTGCC
114241	IL20RA	CATCCAGCTGGGTAGCCGGGG
114242	PNN	AATTCTGTATCATACATTGCT
114243	PSCD4	GGCAGCCAGCTCTGTCTCCAGGGAGG
114244	TNFAIP1	CTGAGCGCGGGATGACAGGAG
114245	SH3BP5	TTTCAAACTGTTAATTCTGTCA
114246	DNM2	GGGGGATGGAGTCTCAGGGTGGCAG
114247	RRAS	CTCTTCTGGGCTACTGCCACTGTGTG
114248	MMP14	GGTCATCTGCTCCTTTTCCATCCCCTG
114249	KCNN3	GGTTGTGTCAGGCTTGGGGG
114250	OLR1	CACTTCCTGAATCAGTTATT
114251	PRKY	GCATAAACTGAGGGTGTGGG
114252	INPP5D	CCTGGCTTCTCAGTTCTTTGGTTG
114253	KMO	CAGGCTGCTGAGTCACTCAGAA
114254	CRTAP	AGTGTAGAGTGCAGAAATGTGG
114255	RPN2	AGTCCCTGGCGTCCCCTGTGGC
114256	BCR	TTCCCTCACTGTTGTATCTTGAAT
114257	HNF4A	CTTCTGCTGCTGCCCCCACC
114258	RAF1	TGGAACTTTTCTTAGGGGACA
114259	CDX2	AGAGCTTCTCTGGGCTGAATGT
114260	UMPS	TCAACTCCTGGGCTCAAGCGAT
114261	RAD18	CAAAAAGTATGCAATGA
114262	VDR	GGAGGCTGAGGCAGAAGAATTGAACCC
114263	FANCC	CCCTCAGGCTTCCCTTGTGTCTCC
114264	STAT6	ATGTGTGTGCTTTATCTTATTTT
114265	SAS	CGATCCTCCTGCCTCAGTCTCCCAA
114266	TM6SF2	GCTGGCTCACTTACTGGGGGCCA
114267	PIGR	TTTCAGTTTTGGCAGCAGCGTC
114268	MSX1	AGAGGTTAACAGATTTATCTAGGG
114269	CRP	ACTCCTCCCCTTTTCCACACG
114270	ACTN2	TCCCCCCTGTTTTTCCATCTTGTT
114271	DAAM2	GACACAAATACGTTGTTCCAGAG
114272	PTEN	GAGGAATTGGCCGCTGTCACTGCTTGT
114273	RFX1	ACTCCGAGACAGGGAAGACCGGGGCCC
114274	ZIC3	GGGGGCTGGAGTGGGTAGAGTATTGA
114275	KCNJ6	CACCCCGTCCGCAGCCAGGAAAAG
114276	SCEL	ATCACTACAGGCTGGTTA
114277	SEDL	CTGTTGTGCAGGCTGTAGTGCAGT
114278	MSH6	ACGGTTGGGCCTTGCCGGCTGTCG
114279	MAPT	TTTCCCAGGCAGCTGGCTAGTTC
114280	CYP1A2	AGGGCCTGTAATCCCAGCATTT

114281	LRRC2	TTTAGCAACACGGCTGATCTTTCAGT
114282	AR	GAGCGGCTTCAGCACTGCAGC
114283	SIGLECL1	GCTACTGCTGCTGCTACTGCT
114284	CSHL1	CTCTGTGGAGGGCAGCTGTGG
114284	GH1	CTCTGTGGAGGGCAGCTGTGG
114284	GH2	CTCTGTGGAGGGCAGCTGTGG
114285	SOST	CGCCCGCGCCCCTCCCCACCG
114286	ALEX3	AAGTCCTTCTTGTCCTGGTCGT
114287	RAD52	GTGTGAGCCACTGTGTCTGGCC
114288	PYGM	GCCCAAGTGGAGCTCACCTCTCCCT
114289	AQP6	GGCAGGTGCTGAGGTGCCTGTCTTGGA
114290	EZH1	GCAGGCTTCTCCCTTCTTTCT
114291	DSCR3	CCCAGAAAACACATTTCTGG
114292	COX10	GCTGGGTTTAGAACAAGATTA
114293	SNX5	GTGGAGCGGAGCAAGGCCAGGC
114294	KCNH5	TAATCAGGAATCAAGTTTCTTACTGG
114295	GYS1	CATACAGAGCAGGCCACGCTCAGGCC
114296	TAF1	GCTCATTTTTCCGTGTCCTCCTTTATT
114297	LYZ	GAGTAGCTGGGATTACGGGCGCCCGCC
114298	MRPL49	GAGTAGCTGGGATTACAGGCGCCCACC
114299	NHLH1	CTGGGCCCTACACCCCCACAATGTGT
114300	TIAL1	ACAAGGATTTGGAGTAGATCAATCACCTT
114301	CSK	GCCAGAGCTCCTGAGAAGATG
114302	TEM7	ACAAGGTTGTAGCTGTGCTCAG
114303	LY64	GAAGAGTGGGAGGAAGCAGAGGGAG
114304	TBL1X	AGAGCTTCATTTCAGTGAA
114305	RPA3	CAAGCAGCAGAGCACCTGGGA
114306	CNTN2	TCCAAGACCCATTCTGCACAGTCCCT
114307	TNFRSF10B	GGCCAAATAGCATGTGACACAGGACAG
114308	ZNF141	GGCAGAATGTGGCAAAGCATTTAA
114309	TNFRSF14	GCCTCACAGCCAAGGCTGGACTG
114310	P53AIP1	AGAGGAAGGCCAGCCCTCCTC
114311	TAL1	ATGATGGGGCCCTAATTCAGC
114312	MTNR1A	CACGCCTGTAATCCCAGCTACTC
114312	POLK	CACGCCTGTAATCCCAGCTACTC
114313	RLN1	CAGGTGTGTAGGCCACAGCAGCCGCAG
114314	CYP4A11	GCTCTCCCAGGATCAATTGTATC
114315	PACSIN3	GGGGTGAGTGTAGTTCTGGCCTAG
114316	UCP2	CTCCTGCTGCTGACCTGATCACCTCT
114317	IL1RL1	CAAAGCAAAGGCAGGCACTTCA
114318	BAIAP3	TCTCTGCACAACGGGCAATGTGCAGAC
114319	BAK1	GCAGGGAGGGGAGGCAGATGGAGC
114320	DR1	TTTGCCTGGCTCTGTCCATATT
114321	MKI67	GTCCTCCAGGCTGGGGCAGGT
114322	CAPG	TTGCTTCTCTGGCTGCCTGGTC
114323	EYA2	AGGGACTGGAGTTCCAGGCAGAGGGA
114324	MCC	GCACTCACTCTCCCCCTCCTCTTCTGGTC
114325	APM1	TCTGAACAATTTCTCTTATA
114326	ETV3	CCCCTCTTGACTTTCCTGGTTAT
114327	NRXN1	AGGAAGAGGGTTGTGCCAAGGTA

114328	TBL1X	GCCTGTCGTTAGGGCATGGCTTATGCT
114329	ATP11A	TGGATGCCACATGCTGCTGTTT
114330	NEO1	CCGGGAGCCGAGCTTGCAGCG
114331	CD97	ACAGAGGCCTGCCCTGCCTGGCCGGGC
114332	NOS2A	CTCTGTATTTAAAAAACTAACA
114333	DDOST	TGGAGACGGGGCAGGGAGGGGGG
114334	FTSJ2	ATCTCGAACTCTTGACCTCAG
114335	CIT	CATGACCGTGTTTTCAACTGTGT
114336	AF5Q31	ACATTCTCGTTGCCTCTGATTTTCTCC
114337	PPM1D	TCAGTCTCTGAATACACAGTAT
114338	CMAR	CTTGGGCGAGGAGGAGACCG
114339	RPH3AL	CCTGCCTGGTTTTTGTTCAGCCTGTCT
114340	TNFRSF7	GATGAGGTGGAGAGTGGGAAGCAGGAG
114341	DBT	CCAACATGGTGAAACCTGGCCT
114342	RGS6	TTTCCACCCTCTTTGAGATCAGCG
114343	TCF7	CGGGAGGCGGAGGTTCCAGTGA
114344	TBX6	GGCCACAGACCAGCATCCCCAC
114345	ASNS	AGGAAGAGACTGCGGCCTTATCA
114346	HOXB9	AAGTCACCCAGGGACACTCCA
114347	PHEMX	CGGTCTGAGGCCCCTGCCCAGCTGGA
114348	PLA2G4C	CCTGTTCTTCACTCCCTTCAGCCAC
114349	CTNS	CCGGCACCTGGCGAGGCTCA
114350	PPL	CAGAAACCACAAGTGTCCA
114351	ASB1	TCTGGGGAGAGAATGAGCTGGAG
114352	C18orf1	CCATGTTGCTGATCGTGGTA
114353	KIR2DL4	TTGACCCCTGGCCCACCTCTC
114354	SFRP1	CCTTCTCTGCCCACAGTCTT
114355	ENTPD3	ATGTTGAAGAATTGACCTCAG
114356	ATP6V1E1	TACTGTTCACCGGCCTAGCAT
114357	XRCC2	GCCTTGAACTCCTGGCCTCAAGGGAT
114358	NCOA6	GGCCTCCTAGAGTGCTGGGATT
114359	TGFBR1	GCCTGAACTCTCCTTTTTTCTT
114360	ALDH1B1	CCAGGGGATAGAGGAGTAATT
114361	DKK1	TCCTTCTTTCTCCCTCTTGAGTC
114362	LZTS1	AGGCCAGAGTCACCTTTTCTGTGGCTG
114363	GRAF	CTCTCTCTGTGTGAACAGGAAA
114364	CR1	CAGGCTGGAGTGCAGTGGCGTA
114365	SCD	TCTTTTGAAAGTAGAGCTAGCTGCCA
114366	SRI	TTACATCACGACTTTCTCTTAA
114367	NR3C1	CTGCAGCTTTACATGCAATTTATTAA
114368	ATP11B	AAGAGCCTCTTTCTGCAGCCG
114369	SOS2	TTCAGATGTGCCTTTTGTTTTTGCA
114370	SNX13	TAACTGCAGAAATAGCAAATTA
114371	BAI2	AGCCCAGCCTGTCCGTCCCTGT
114372	RAG1	AAGATCTGTGTGTGTTGGGGA
114373	ADD1	GGGCTGACCCAGTGTGTGCTCA
114374	CUBN	GGAGGCAGAGGTTGCAGTGAG
114374	EIF3S2	GGAGGCAGAGGTTGCAGTGAG
114374	GALNT7	GGAGGCAGAGGTTGCAGTGAG
114374	INPP5B	GGAGGCAGAGGTTGCAGTGAG

114374	KIF1B	GGAGGCAGAGGTTGCAGTGAG
114374	MOG	GGAGGCAGAGGTTGCAGTGAG
114374	RIMS1	GGAGGCAGAGGTTGCAGTGAG
114374	ZNF36	GGAGGCAGAGGTTGCAGTGAG
114375	GARS	CGCGGCGATTTCATCATGCTCC
114376	HAP1	AGCCTGTGTGCGTGTGGTGCA
114377	ADAM11	CCCCGGCAGTGGGGAGCGCCGGAT
114378	NRXN2	GGTGGGTGGGGTGGGGTGGGG
114379	EGFR	AGCCCACAGCTGAGAATGTGGAA
114380	MECP2	GGCACCTGTCTGCTCCA
114381	PCDH11X	ACTGCTTGTTTGTGTCTCT
114381	PCDH11Y	ACTGCTTGTTTGTGTCTCT
114382	AP1G1	TCTTATCTATTACTCCAA
114383	CASP8	TTTCTGCTGGGGATGGCCACT
114384	ADCY6	GCTCACTGCAACCTCTGCCACC
114385	TES	GGGATTACAGGTGTGGGAGCCACC
114386	ORC2L	AGGGTATCTACCCAGCCTAGAAAGCAC
114387	EIF2C1	TGAAGGAATTGACTTCCTCA
114388	C14orf1	CAGGCTGGGAATTGCAGTGGCACA
114389	MAP3K7IP1	CAGGTCTCAGCCCAGGG
114390	DIAPH2	TCCCTCCAGAGGCTCTAGAGGAGAATC
114391	IRF6	CTGGGCTTCAGATTTATTGCTTATA
114392	C2orf3	GCCTCTCTCTTCTTTATTCCCT
114393	CHAT	TGCTCCTGCCACTAGGTTTCA
114394	TBX5	CTTCCCTTCCGGAAAGCTT
114395	RPH3AL	TGCCCAGGCTGGGGTGCAGT
114396	ATP11A	CTACAAACGTGCAGCCTCCTG
114397	AGT	CCTGCAGCGGCACAAATGCA
114398	CLK2	GCTGCGGCGGTATCTGACCTCA
114399	ITGA3	CACGCCCAGCTCCGCCCCCTCA
114400	HAP1	TGCCCCAGTTCACATCCACCTGCTT
114401	CLECSF5	AACTATACTTGCAACTCTTTT
114402	SYT4	TTCCAAACAACTTATACATGCTTTTTA
114403	PPP1R12B	GCCCAGGCTGGTCTGAAGCTGCTGGGC
114404	PPP1R3A	AGGTAATGTGGAAATCTGAAG
114405	COLQ	TCTTGACCTCTTGGCTCTCTCTGCACTT
114406	WASF3	TAATGTCTCCTAAGCTTTTCTCTC
114407	PCLO	AGAAAGGCCCTGTTCAAAGCA
114408	WDR4	AATAAAGGGGAGGACGCGCCCT
114409	SOX11	AGAGAATTTCACAAACAA
114410	G6PD	TCTCTGCTATAAGAAAAGCAGAC
114411	JAK3	CGTTACCCAGGGTGGAGTGCAGT
114412	BDKRB2	AGGAGGTCTGTGCCAAAGAAGAATCC
114413	PTHR2	AATGGCTGGTTGTGTGAGAGG
114414	TGM2	TGGGCAGCCTATGGGGGCTCTC
114415	CACNB1	ACCTGACATGTATGTCCTCCAGGGGG
114416	FZD4	CTTCAATCAACTCCATCACTTC
114417	BACH1	CAGTCTCTACCATATCTGGTCCC
114418	ABR	GCAGCCTCCCCTCAGTCTTCC
114419	SH3BP2	CACAGCTGTCCACGTCTG

114420	NFATC3	TAGATTTGGCAAAAGAACAGGAGCAGC
114421	NEU3	CCTTCTCTTCCTCATCCAGAAA
114422	SLC7A5	CCAGGAGGCAGTGGACATCGTAGGCAG
114423	UTY	AGCACAGACACTCCATTTTCTATCT
114424	KRT5	GCTGAGCTCTGTTCTCTCCAG
114425	PLS1	TGGTCAGCCTTTTTGGGTAACAC
114426	COL18A1	AGGCTGAGGCTGGCACA
114427	CASP8AP2	TGTTATTACTCAGTGACTCTCTA
114428	CALM3	CAGTCTTGTCGGCCAGCTGCCCAGGG
114429	BTG2	TCTCCTGATTCCTACTGTC
114430	GPR4	CTGGAGTGCAGTAGTGCAGTCGTGG
114431	BCL2	ACCATCCCTATTTTGTAT
114432	KCNMA1	AGGAACGAGTTCACAGATTAGAAGGGA
114433	EED	AACCTGTTGTCATGTTTTTTC
114434	CD28	AACAATGTCATTTGCTGCTA
114435	VWF	CTGCATGGGTGCCTGCTGCTGC
114436	CYP4F3	TTTGTTTCAGCCTTCCTTA
114437	ARNT2	TTCTGACCTACCACATAAACAG
114438	KLK5	ACTCCTATCTTCTGAATTCTA
114439	AQP8	CTCATTTCCCGCACCCCATTTCTTGCT
114440	AIM1	TCCACCTGCATCCACACAT
114441	SPAG1	GAAGGAGTCCTCTTAAGTTT
114442	TIAM1	ATGTGTGTAGATACTTCCTGC
114443	SMAC	TTGTTTGCATCTGAAAGAGA
114444	MRPL49	GCCCAGGGTGGAGTGCAGTGGCATG
114445	NPR2	GGCTCTTAGGAGAGCGGAAAGGACCTCCTG
114446	ILK	CAGTCATGGTACTACCCCAGCCTGGG
114447	SFRS2IP	AGAAGTCTCCTTTCTGTTTCA
114448	CNN2	CCAAGCGCTGAGATTACAGGT
114449	CD97	GGGACAGGGGCTGGCCCAGGG
114450	ACADM	TTCTGAGCCCATATTTCACTTACCTTA
114451	GYG2	TTGTAGGTGGCTTGGGGA
114452	BBOX1	TGCTCTAATTTCTTTTGCCCATATATG
114453	DIAPH2	CACCCAGGCTGCAGTGTAGTGG
114454	APTX	GAGGAAGAGGCAAAGAACCCTGGCCTG
114455	PPP1CB	ATTGCAGCCTTTCTTTTCCTAT
114456	BMP8	GGAACCTGGCCAGGCATGGTGG
114457	GRIN2A	GTAAATGTTGGATGTCCAATAG
114458	RAB26	GCTCTGCTGCCCCCTCCTGGGCACGTCC
114459	ADAMTS4	GGGAGAGACAAAGATCCAG
114460	GCDH	TCAAGCCCCTTTCTGGAGAG
114461	CDYL	AGAGCTGTACAGTGTGTAAATC
114462	KCNAB2	GGGGCCGGCCCTGTGCACAAGGATG
114463	AIM1	ATCTCAGGCTGGAGTGCAGTG
114464	CDS1	CAAACACTATAAAATGAGTA
114465	ASPH	TAATTAGAAAAATTAATATTTCA
114466	GAB2	CCAAGAGATCCAGGCTGTCATGTG
114467	BDP1	TGCCCAGGCAAGAGTGCAGTGG
114468	CASP2	CCATCATCTCTGCCTTTGAGTGTGGGA
114469	SLC4A7	GAGAAAACAATGATGTAAATTCCTT

114470	LFNG	TTGCAGGGGAGGCTGGGTCTGGGGGTG
114471	GAS7	CTCTGCTCTCCTCTATTCTCC
114472	DSCR3	GCTGGAGTGATCTCAGCTCACT
114473	DSC1	GGTTTTGTTTGTTAATTCTCTTTTAT
114474	CENTD1	CAAAACAAGGAAGTGAGCTAAGATTCA
114475	MID1	GGATTGATTTTGCTCTCCAGGA
114476	EGFL4	AAGAAGCTAGACTGAGAACGCCT
114477	KCNA4	TTGGAGAAGAGGGAGGAATAG
114478	CMKLR1	TGGACTCTCTCAACCCAGG
114479	SSR2	GGAAAGGCGTTTGGGATGCCA
114480	LEP	GAGTGAGATCATTTTCTTATCTTC
114481	CDH12	TGCTGCTCCTGCAGCTGCCTTT
114482	G6PC	GCAACCTCTTCCTCCTGGTTC
114483	RGR	CAGGAGGCTGTTCCAGGAGTCCTGCCC
114484	HERC2	GTTTACTAAAGTGTGTAAA
114485	TNXB	CCGCTGGAGGAAGCCTTCTCTG
114486	NPTX1	CTCATTTCCTTCTTTCTTCTGGCTTTG
114487	FZD4	CTTCAATCAACTCCATCACTTCT
114488	PRKAG1	TGGAGAGAAGAAGCCCTGGCTGGGG
114489	MPP2	CACATGGTCAGTAGGCACAC
114490	P2RX3	ACTCACAAAGGCTCCAGGCCTCCCCA
114491	BACH2	TCTTCTCGAGCAGGAGTGATAGT
114492	BCL2L2	AGTATGCTGACACCAGAA
114493	GPR17	GACCCAGACCCACTTCCTCCA
114494	EGLN2	AGGCCAGGTACTTCAGAACCTCAGAGCTCC
114495	CYP1A1	ACAGGGCTGCCTTCTGGCCT
114496	ELMO1	CACAGGATAGAGGCAGAGCCA
114497	FIGF	GTTTAATGAACTACCATCTGATGTT
114498	SLC22A2	GAATGCATGTGTGGGGGCAGAGGTTAT
114499	PXF	CTTCTGCTAGCCTAGCCA
114500	CXorf6	CAAGCTATGTGGCTGCTGCTGCCA
114501	ADAMTS8	GAAGAGGAGAGGGTATGGGGCGGC
114502	WHSC1	CCAGGTATGACACCCACTCTCC
114503	TAZ	TTTCATGTTTTTGAAACAGAACCATA
114504	MPDZ	GCTAAGCTGGTTAGTAT
114505	RAPSN	CTGCCTCTTTGTACTTTGCTC
114506	LGR6	GGCTTTCCCTTGGCCTTCCTCA
114507	SOST	ACGGGGCAGGGGAGGGAATTGAG
114508	USP6	CTGTGCATACCCAGAAGAAAGA
114509	VCL	AAGGCAGCCCTGTCTGAAGGACACTTC
114510	SP3	AAGTGGGCAGTATGTTCTTCCCCTT
114511	NUP155	CTGTAAAATAAAAACTCAGCTG
114512	COIL	TCTCCACCTTATAGTTTATGAA
114513	CTF1	CACTGCAGCCTCAACCTCCTGGGCTCA
114513	NCOA6	CACTGCAGCCTCAACCTCCTGGGCTCA
114514	HIP1	CTGGGGAGGCTGAGGCAGGAGAATC
114514	PDE4C	CTGGGGAGGCTGAGGCAGGAGAATC
114515	ZNF267	AGCACAGACACTTTCAGCCTTTATACT
114516	SHMT2	CTCTCCTTCCCCCTACCTGGGCC
114517	ADH5	CAAGTTCTCAGCACCTACTTTTGTCAA

114518	UNC5C	TCCAGGTGAATCACAGCTGA
114519	OGDH	CGTTTTCTTTGCTGTGCCAAAG
114520	THPO	GGAGAGGCCCCAAACAGGGAGCCAC
114521	TNF	TCCACCCTCTCTCCCCTGGAAAGGACA
114522	SLC14A1	CTTCTGCTGCCAGGAAGCCAGCT
114523	PRKG1	CTGTACCTTGCTGGAATATTCA
114524	PGM1	GTCCCATTCACACAGATATTTT
114525	CAPN10	CCTGCCTCCCAGCCCTGCCAGGGGGCTGC
114526	IL10RA	CGAGGCAGTCTGGGCACTTTT
114527	CHD2	CAGTTTCAGTTGATACCTCCTCA
114528	EPS8	GCTCACTGTAGGCTAGCCTCT
114529	CREBL2	TTTTGTTCTGAACTGGCAGTT
114530	VDR	CAGGGGAGAGGGTCTGGAGAAGC
114531	ACLY	ATTTTTAAAGACTTTTTG
114532	LTB4R	AACACAAAAAGATATCAGCATTGTA
114533	PTGFRN	TCTGCTGCTGCTTTAAAAGCTC
114534	ABCA1	TTTCCAAAGAGCCATGTGTCATGT
114535	PAICS	TTCCCTCCTGGGCTCAAGCAGT
114536	KCNA3	ATTTTTTAACTATGAAAATC
114537	JRK	TGCTTTGCCCTTGAATTCTTTT
114538	GFRA1	TTTCCACGCTGATGTTTATG
114539	ZNF26	TGGGAAAGCTTTTCGTTGTAAGTCAC
114540	ARNT2	GGAATGCTGGGAAAATGGGCAAGCAGA
114541	PRKAB1	ATCAACAACAGATTGTCT
114542	CRY1	CACCCGGACTCCGCCGACTAGGCAA
114543	DRD3	ACCCTGTGATCTATACCACCTT
114544	TMOD3	GTAGGAGCTAAAGCAGGTCTCCA
114545	HYAL4	GATGGGGTTTCACCGTGTTGGCC
114546	PTGIS	GCTGCAACCCTGGTGTGCTGGGCGAAA
114547	POU3F1	GGGAGAGAGGACGAAGCGAGGAGAGTT
114548	IL6R	CCAGCCTGGGTGACAGAGCAAGTGA
114549	SLC7A5	TTTTTAAGGAGCTGGGGGAAG
114550	MLPH	TGGCTCATACCTATAATCCCAG
114551	HOXA10	TGTCTGCCTGGAGTGCTGTG
114552	BCS1L	CTAGCTCAATAAACATCTGCCA
114553	HIF1A	GATCACCCTCTTCGTCGCTTCGGCC
114554	SLC22A12	CCTCGCGTCTGTGCCTGCCTCAA
114555	ZIC3	CCATATATAGGGCTACATCTTGTT
114556	RAB2L	GAGACAGAAATTCAGAAAGGGAGCCAG
114557	ADORA1	CCTGCCTGACCATCCCATGAGC
114558	PCDH9	TAAACCCTGAAATCCAGGAAAAG
114559	ALDH1A3	CCATATAGCTTCAAAAACAAAAACA
114560	HNRPH3	ATTTAATTTCTTTTGTATTTTA
114561	CDH19	GTACACAGAATCAGAAAAGATTAT
114562	CBFA2T2	AAACTCCTGGGCTAAAGCGATC
114563	MMP14	GCCTCCCTCCCTCCTGCCCCGGCA
114564	GALNT3	TCAGCTTCTAATCCCAGCACTT
114565	RNASEH1	GCTGTCTTGCTGCCTGTA
114566	PNUTL2	AGCAGTTTGAGCAGTATTTCC
114567	GPR87	ATACTGATGTGTAGCCTTTTA

114568	SNX6	TTCATTCTTCTTTAAAGTAGCCT
114569	DAG1	CCAGCTCTGGGACCAAGTCACTT
114570	PPIG	GGCTTTAGCGCCTTTTCTGGCG
114571	RNF17	ATTCCTCTGCTGAATTTTTAAATGTT
114572	NOVA1	CGGCATGCAGTCTAATCATGACAA
114573	IL16	TGCTTTGCCCAGCATTTT
114574	STS	TTCTCTCTTCTCTTTGTTTCA
114575	HIP1	CATTGTACTCCAGCCTGGGCAA
114575	LUZP1	CATTGTACTCCAGCCTGGGCAA
114575	PCDHB9	CATTGTACTCCAGCCTGGGCAA
114576	SLC24A1	TCTCAGCCTTCCTGACCTCTGCC
114577	KCNQ2	GAGAGGGACGGTTCACAAAGC
114578	FOS	GCCCGAGCTGGTGCATTACAGA
114579	TRPM6	ATCTCACTGCAACCTCTGCCTC
114580	ITPR2	AGACCCTGACATTCATGATCCA
114581	SET	GATACCAGATAGCTCAA
114582	SERPINB3	AATGTACTTTTTCTTCCAGAAA
114583	CRY2	AAATGTCCCATCATCGTGGGAGGGGAG
114584	VHL	TAACTTGCCATCCGCACA
114585	RAP1A	TCATTGACTTCATTTTATATTT
114586	GA	GACATGCTGCTGCTACTGCTAAC
114587	MDM4	TGACAGCGCGAGACTCCATCTC
114588	TOP1	CCAGGCAAATTCACTGTTTC
114589	LEP	TGAGCCAAGATCGCGCCACTG
114589	MCM4	TGAGCCAAGATCGCGCCACTG
114589	SCAP2	TGAGCCAAGATCGCGCCACTG
114589	SULT2A1	TGAGCCAAGATCGCGCCACTG
114590	TEM8	CCTCTACTCCACCTCCATCC
114591	NBEA	AAGCTTATATCATGTAAATT
114592	TRPM2	GCGAGCTGGAGAGAGGACTGT
114593	ZNF9	AATTCCAAACAGCCTCTACCTT
114594	DDX26	TGGCCACTTATTTCACTATCTTCTTCA
114595	SQLE	ACCATAAATTAGTGCTAAT
114596	ENPP1	TTTTCTTTTTAATTTTTTGAT
114597	MME	TTTTATTTCCATCATGTC
114598	RRM2B	CAATCAGGTATTATGTTT
114599	CARD10	GGACCGTGCCTCACAGGGCCCAC
114600	JUND	AACCCTGCCTTTCCTTTA
114601	BLAME	ATTGCCTCCAGCCTGAGTCCTAGGC
114602	COL19A1	TGGTACAAGCCTTTCTCACCCTAC
114603	PRX	ATTGTCACCCCACAGCTGCC
114604	POU2AF1	TTTGGTCGGCCATTTCTCTCTCA
114605	ASB1	CTGCTTTGGTAATCAACACGTG
114606	GCNT2	GTGAAAACCTGTCACTTGCAC
114607	HOXA3	CAGGCGGCTGCGGCAGCTCTG
114608	PMM2	CAAACACCTCCTGGAACGAAGCTC
114609	CYP4F3	CAGGCTGGAGTGCGGTGGCATGATCTC
114610	STK10	TTTGCCTCTGCCCCATCCCCCC
114611	IDH2	ACCCATGGCTGCAGTGGAGGG
114612	SLC10A2	TTAAGAGATAGTGGAGGCAGCAGGG

114613	MMP14	AGAAGAGCAAACAGGCACTTTGAGGAA
114614	TEM7	GTGCCTGTACTCCCAGCACTTT
114615	JUP	TCGAGACCCAAACCCCCAAAATCCAAAA
114616	RET	AAGAGCTCTGAGTCTTAGTGGT
114617	C18orf2	CTGTACTGTGAGACTGTGGGA
114618	TEM8	CAATTGCCTTTTCTTGTTAT
114619	FOXD2	TGTGGAATGGGAGAGTTGGATT
114620	ORC3L	CTCACACATTTTACTGTACTTTCC
114621	CBFA2T2	GAATCCCTTTCTGAAATTCTCCA
114622	ITGA1	TTCAAACCCCCAAGCTGTGA
114623	ST5	TCCCTGCACTGGTTAAAGCCATC
114624	EXTL1	GGGACACCGGTAAAACCTATCA
114625	LZTR1	AAAGACTGCTCCTGGTGCAGGGCC
114626	GCA	CCTGTGCTTTTTCTCCCAGCACTGCGG
114627	PRSS8	TCTCTGCCCTCTCCCTGTGTT
114628	CYP8B1	TGCTCACTGCAACCTCTGCCTCC
114629	COL1A2	AAACATTTGCACCACTTGTGG
114630	SLC14A1	CCAGGAGGAGGAGGCTGCAGTGA
114631	RGR	CCATATCTTTGCTACTGTAAA
114632	ANKH	CTCAGTAAATGACAGAACTATTT
114633	AF1Q	ATAATCAGCTTCAGAGATTCC
114634	ALDH3B1	CCTGTAATCCCAGCTACTCAGG
114634	ANKH	CCTGTAATCCCAGCTACTCAGG
114634	BRCA1	CCTGTAATCCCAGCTACTCAGG
114634	CARKL	CCTGTAATCCCAGCTACTCAGG
114634	IAPP	CCTGTAATCCCAGCTACTCAGG
114634	MTNR1A	CCTGTAATCCCAGCTACTCAGG
114634	VDR	CCTGTAATCCCAGCTACTCAGG
114634	VPS41	CCTGTAATCCCAGCTACTCAGG
114635	FGFR1	CAACCCCTGCTCCAGTCCTGGA
114636	NUFIP1	GCATCTGGTGTTTCAGCATA
114637	CDC42	GCACTATATGTGACTGTGACT
114638	ATP8B2	AGACCTCCAAGTACAATATTCT
114639	EYA1	AAGTGGTCAGTTTGGCTGGGCAA
114640	AQP4	GGTGGCTTTCAAAGGGGTC
114641	EMD	CCCTGACTTTGTTTTTGTGGACACACAA
114642	DNAI2	AGGAGCCTCCAAGTATGTGGG
114643	SRD5A1	TAGTTTTTGCTTTCTGTTTTGCTG
114644	TMEM1	TAAAGAAGATAAATAATTGTG
114645	GCNT2	GCTCACCTCTATATTAGTTT
114646	RPS6KA5	GCTATGTGTATGTTTTTAATTTTGCA
114647	CNN1	TCAGCCGCTGCCTCTGTTCT
114648	RUNX3	GGAGGTGGGCAGGATGTGAGAGGTGGG
114649	CMAR	GCCAAGGCTGGAGTGCAGGC
114650	LARGE	ATTGATGAGAACAAGAGTTAATGCCC
114651	USH3A	CTTTTGAGCTTCATTTCAGG
114652	SULT2A1	CGTTTGAACTCAGGAGGCAGAG
114653	GBP1	GGTGGAAGAAACCATGGGCAGG
114654	HR	CAGTGCCACCAAGCTCAC
114655	IL16	GGGATGAGCATGGAGCTGGCC

114656	MGAT1	ACCTGCCTGTCCTTCCTGGGCC
114657	TMEPAI	GCTTATTTTCTTTTGTTTAT
114658	CST	CCGAGGGTCTCACTGTGTCAT
114659	GYG	AGAAAAGTCTGTTACAGTTGC
114660	LRP6	TACAGAAGAAAAGGATATTTAT
114661	PTP4A2	ATGAGTAGTGAAGGGACTGTGTT
114662	CYP1B1	TGAGAAATGTGTAGCTGCAAA
114663	FCN2	AGAGGCGGTCAGCCTGGGAGTCCCGG
114664	BIN3	GCCCTCTGGCCCCTCGT
114665	ZNF261	TGCCATCTTAGGTTGCCATGAG
114666	CSNK1G2	TGCCCAGGGCGGTGGCTGTG
114667	WHSC1	ACCACGCCCACGTCAACGTGAGC
114668	CD36	ACTAAGTTGCTGAGACAAGGGA
114669	WHSC1	GGTCCCCAGGAAGGATGGGGTGTGCC
114670	KIF3C	CCTCATTCAGCCTCTTGGGCTCCTTT
114671	SLC35A3	GCCATTAAATTTTCAAAATGTAATTTAAAA
114672	RAB38	GTCTGGTAGGAATGACCTCA
114673	DBT	CCCAAGAGGTGGAGGTTACAGTGAGCAGA
114674	M17S2	TCTTATTTTACAGTACAGTGGGG
114675	RAD1	GGCTCACTGCAGTTTCAAGTTCCT
114676	IFNAR2	GGAAGGAGGAGGAAACTGTGG
114677	CHST6	GCAAGCAGAGTCATGACCAGGGACACA
114678	RAI3	TGTCACCCAGGCTTGAGTGCAGTG
114679	HADH2	TCTGCCCTTCCTTTCCCTGGGG
114680	TXNRD1	TCTGCCTGGCATTTAGGCAGC
114681	CXorf6	AAACCCACACCCACTGTCCT
114682	CDO1	AAACTCATGTCTGTGTCCCATGGTCA
114683	PART1	GTCACCCAAATAGCTGAGTGCAGTC
114684	LZTS1	GGAGGGCAGAGGGAGAATCCAAGG
114685	SON	TAAACTCAGTGAACCCAAACC
114686	NRG1	TGTCGCTTATGTCTATAACTCC
114687	CBFA2T2	TCTCCCAGGCTGGAGTGCAATC
114688	MTMR3	CTCAGTGAGCTTTGATATGGTCC
114689	ETF1	TTGAACCCAGCTGATATGCAAGGTC
114690	ITGA5	GCCAGGGAGAAGCTCCTCTCCCC
114691	SLC1A4	GTCTGAAAACATTTCCCCTGCT
114692	EMX2	GGAGAGGGAATCGGAGGGAGCAGC
114693	AES	CCAGACACCTCCACGCCCA
114694	BHLHB3	ATTCCCACTCTCATTAATCCATCA
114695	SORCS1	TTCAGTTTCATGTATCTTTG
114696	MMP14	GCCTCTGAAGGCCAGTGGCAGCA
114697	KIF3B	GGTCTGCCACACTGGTGCACCTTG
114698	PDGFB	CCTGCACCTGGCCTGGGCCACACCT
114699	LRAT	TAATTAGTCTTGACTTACTTCATT
114700	MFAP4	GCCTGGACCTGGCTGGGCTCCATGAGA
114701	EDN3	GAAACCCATCAATTGCTCAA
114702	AFG3L2	GCCGAGGCTGGACCCTGTGGC
114703	LILRB4	CCATACAGGAACAAAATAGGAGG
114704	SCA1	CCCTGCCTCTGAGCCTGGACGGG
114705	PDGFB	CACCTACTGCACTTTCCCCCTTCCCGCC

114706	RNF14	TACAGTAGTTCCAGTCCTAACTTTCT
114707	CLECSF5	CCTGCAGCTCCTTCATCATGAACTGGC
114708	PTEN	GGCCCAGTCGCTGCAACCATCCAGCAGCCGC
114709	DNAJB1	TGGACTATGGACTCTTTCAAAGGGA
114710	ARNT2	GGTGAACACGCTGACTGTGAAC
114711	COL18A1	GGCTGGCTCCAGATGCAGGGCAG
114712	SLC22A2	TTCCTCTCCATTTTGCTGT
114713	NARS	CTGTCCTTTTAAGTGTACC
114714	TMEM2	TATCCCTTTAATCTGTGACCATGGGGC
114715	SWAP70	AAGAACATTTATGAAATCAAGC
114716	DDEF2	CAGTTCATTCACCTGATTACTTTGG
114717	CTSS	AAATACTTAATAAATCTGCCA
114718	BCL2L2	CCAGAAAGTGATTGGCAAGGCTTTG
114719	IL13RA1	CCATTTCTCTCCTCA
114720	CFL2	TTAGAATACTGCAAAGGAT
114721	CLDN14	GGAAGGCAGGAGGGTGGCAGCGTCCC
114722	SURF5	GTGACAGCTGCTGCCCACGCATGTGGA
114723	NGFR	CCTGGCCTGTTCTGTTTTGCCT
114724	KIP2	CCTTCTCCCGGCCTCCTTCACA
114725	TEX15	AACTGGTATTCAAAAATGAATAA
114726	KMO	GGTAGCAAATGCATGATTTCTCTGTG
114727	DVL3	TGAAACCAAAATATATTTGCTTCATCT
114728	UGDH	TGGTCTCAATCTCCTGACCTTGTGAAC
114729	ZNF264	TGGTCTCAAACTCCTGACCTTGTGATC
114730	CSH2	GAGAGGGAGGGAACAGTGCCCAAGC
114731	KPNA1	AACATGGGGGAAAAAACTGACATT
114732	MS4A2	TCCATGAAGACCACTGAATGAAC
114733	ATP8B2	TGCCTCTGTTCCTGAATTACATAAGAA
114734	AXL	GCCACTGGGGAAAACTCCAC
114735	LILRA3	ACACCTTTAACAATGTATATG
114736	VDAC1	GCTGCTTGATGGTGTGTACAAACTCA
114737	KCNJ11	CCAACGTACTGGGATTACAGGC
114738	CBFA2T2	TCCCAGGCTGGAGTGCAATCGCGCA
114739	IL20RA	TAAACTAGAAAGTGTTAGGTAAA
114740	PRKAB1	TGCTGTTGCTTATTCTGAAAGGAATGT
114741	TGFB3	CGCTTCCTGGAAGTCCTGAAGCTCTC
114742	SUFU	CAGAAGCCAGCCTATCTCTA
114743	ZNF179	TGGGCAGAACCAGAGAGATG
114744	NDUFV3	CTAGATGCCTGAGAAGGGAGAA
114745	SLC39A1	TGGGTCTGAGAGTCACTGGA
114746	ABCC3	ATGGGGAGGGACAGGGTCGGC
114747	DRD2	CCTCACTGCCCGCACACCCTC
114748	COMT	ACCTCTCTGAACTGCAACACTGGATTG
114749	SELE	GCTTTCTTTCTTTTGCCCTTCACA
114750	LENG4	GGAGCTCGGATCCCAGTGTGGACC
114751	PRKY	ATTGCTTGAGCCTGGGAGTTTG
114752	PRKY	ATTGCTTGAGCCCAGGAGTTCA
114752	SERPINE1	ATTGCTTGAGCCCAGGAGTTCA
114753	TRAF5	CCTATAGAAGCATGCTTTA
114754	IQGAP1	ATCTTCCATTGTGTTT

114755	BRCA1	TCATGCCAGCTCATTACAGCATGAGAA
114756	GUK1	GCCGGTTTTTCTTTCTCCCTGATGGAC
114757	MMP16	TCTTCTTTCTTTCTTTTGC
114758	P2RX7	GGCCTCTCACCTCTGTGCCTCTGTCT
114759	RAF1	ATACAGTTATCTGATGGTCCCT
114760	IL1R1	AGCCAACATGGCAAAACCCCA
114761	ANKRD3	CCCTCCAGGTGAAGCTGGCTCAGGTGC
114762	MAPRE1	GAGCTTTTACCTTGTAGCAGAGCAGTA
114763	LEF1	CCCGCTTCCGCCCGCTGTCCTGCTGC
114764	SEMG1	TCCATGGATGACACCACCTGCCCAT
114765	CAMK2A	CCTCCTGGTTTCCAAGCTGGTCCATC
114766	MAX	AATTCACTTCTCTTCCTCCCTCA
114767	ADAM10	GGGCGGCGGCAGGCCTAGCA
114768	SLC22A3	TCAAGCCCCAAGACATCCCCTTAGATG
114769	BACE	CTTTTCTGTGGTTGCAGCCTG
114770	RAB36	GGCTCAGTGCAACCTCTGCCT
114771	DMP1	GGTCAGGAAGAGTGGGAGAAA
114772	RFC1	ATGAGCCTGGAGCAGTAGTAC
114773	GPR4	CCTTCCCAGCCCAGCCCAGC
114774	C21orf2	AGCCCCCGGGAGCTGGAGGGTGG
114775	XBP1	AGCCACTGCCCAAAGCCATCTT
114776	HEM1	GGCTGAGAAATCGTAGAGCAGTGAGGC
114777	PSMD5	CAGCAAGACTCTGTCTCAAAAA
114778	PXF	AAACACCTGTTTATCCCA
114779	ATP11A	ACACGTGTATGCACAGCAGA
114780	FMO4	AGATCTGCCAGCCCCAGGCCTCT
114781	LAMC2	GATACAGATCTCAGGGCTCGGGAG
114782	ADORA1	CTGCTGCTTCTGGGCCTGATGGAGAGG
114783	CARKL	GACAGAGAGCAGATCAATG
114784	FOXE1	TAACTTCATTTTGTATCTTGCTTA
114785	NF2	TTCTCCATGTCGGTCAGGCTGG
114786	FANCC	GCATGCTGGTAAAACCACTACCCTCA
114787	SLC9A3R1	TTTGTTAAGAGTGCAGTATTGCA
114788	RET	CCAATTTATCCTTGACCAATAA
114789	IL24	ACAGTCAGGGAAGGTGCCTCTGG
114790	CASP10	CCCTTTACAGCACCACCTT
114791	MATN3	GGATTACAGGCTTGAAAGTC
114792	IL1R1	CACTGCACTCTAGCCTGGCAACAGAGC
114793	DBH	CACTGTGCACTCTACTCTGCGA
114794	PER2	CCCTCATTCTTTTCATGAGCCC
114795	TIMELESS	ACCAGATGCCTCTGTCCTCA
114796	NR3C1	CTGTGTGCAGTGAAGGTTGCTG
114797	IL4R	TCAGGGAGGGTGGTCATTGC
114798	HNRPDL	AATGTTCTTTCCCTTCTGGTTATCT
114799	CBFA2T2	CTCATCTGAAAAGCCCTCCTG
114800	SHC1	CCTTGCTCAGTGCCTCCTGGCC
114801	GNAL	AGGAGGCAGAGTCTCTAGTTCC
114802	FLG	AGGAGACGGCTCCAGGCACTCAG
114803	PPIC	TGTATTCTATCCCAGATCACAGGA
114804	MSL3L1	GCAATATAGTGAAACCCCATCT

114805	IL20RA	AGCTTTCTAGTTCATTTCCAGTAACTG
114806	SON	TGTGGAATGTTAAATAACGCT
114807	E2F3	CAGGCTCCAAGATCTCCTG
114808	AAT1	TAGGAGTCAAAAAGAAAGG
114809	NPM3	GCTTGGGTGGGGGTTGGGTGGGAGGGA
114810	MAGEL2	GGCTACTGTTCTGTTCTGTATTTT
114811	FZD5	TATTTTGCGTTTCTTACTGCCTTC
114812	ACK1	ATGCAGCCAGAGGAGGGCACAG
114813	HOXA7	ACTGGTTTTACTTACAAAAATGGGAAAAATAA
114814	OPCML	ACACCCTGAAGACACAACTTGAC
114815	DUSP4	GCTTGAAGTGATGAAACCCACAGATCCT
114816	ZNF264	AAAGTGCTGGGGTTACAGGTGT
114817	GNB1	TGAGGGGCGGACGGAGGCGGC
114818	BAP1	GCCCAGGTCCTTGTATCATGCC
114819	STS	GTATTATTCTCTCTTCTCT
114820	WBSCR1	CTGGCCTCTCTGGCTGGGTGCAGTG
114821	CLK1	TCAGTAATTGTAAAGTGAT
114822	CALB3	GGAGGAAGAGCGCCTGTGCTGTGG
114823	NDUFS1	TGGACAACTGTAGTGCAGTG
114824	JTV1	GCCTATTATCAGTAAGGGGACTT
114825	CALB3	TTATCCTATGTGGAATCCCCCA
114826	APM1	GCATGAGCCACCATGCCCAGTC
114827	P2RY6	CCCCTGCCTCCCTGAACATA
114828	HEM1	TAAATTAGCAGAGAAGCTCAC
114829	ZNF10	GGTAAAGGAAAAATGCTGTCA
114830	BGN	CCGCGCAGATGACACCATCAAC
114831	TGFB1	CTGCCTCCTCCTGCCTGTCTGCAC
114832	WHSC1	GCCAAAAACAACAAATAGCCACAG
114833	THPO	CCCGCCTTTGCCCCACCCTACTC
114834	REL	GGGCCCCGCCGGCAGAGGTCCC
114835	SLC14A2	GTCACCCAGGCTGGAGTACACTG
114836	CLTB	GGGGGGCCCTCACCCCATCAC
114837	GAB2	GGCTTGGAGCTTGCAGGTCCCT
114838	PAX4	GAAGCCAGGCTGGAGGGGCCTGAGTG
114839	ZIC3	TGCTCTCTGCACACCCCATTCTTAAAC
114840	PSEN2	TCCAGCAGTGAGGAGACAGCC
114841	KLHL3	TCATAGCCCCTGTGCAGCCT
114842	TERF1	AAAGTGCTGAGATTACAGACGT
114843	GNB5	ACAGGTCACTAAGCGTCTC
114844	SEDL	TTGCTCCTGTTGTGCAGGCTGGAGTGC
114845	KHK	CATCCAGCCTGGCGTCCAGGTTGCCC
114846	CPS1	CAAACTCAGGACACTTTAACAGGGC
114847	NOS1	ACGGGTGCATGAAACCACT
114848	CYP2B6	ACCATGCCTGGCTAATTTTCTTGT
114849	FGF5	AACTGTACTGGCCAATTTTTGAAA
114850	SLC25A19	TCCTGAAGGAAGGAAGATTCAGTCTCC
114851	BENE	CACTCACTGCAGGCTCCGCCT
114852	ALDH3B1	CGCTTGAACCCGGGAGGTGGAG
114852	CEACAM5	CGCTTGAACCCGGGAGGTGGAG
114852	HRH1	CGCTTGAACCCGGGAGGTGGAG

114853	C6	GCATGTCTTATTCAGTTCCAGCTCAT
114854	CALML3	TCAGGCCTCCTGAAAACAGCACTGCCT
114855	PCDHA1	ATGTGGATTCATTTTGAATTGGTGCTA
114855	PCDHA10	ATGTGGATTCATTTTGAATTGGTGCTA
114855	PCDHA11	ATGTGGATTCATTTTGAATTGGTGCTA
114855	PCDHA12	ATGTGGATTCATTTTGAATTGGTGCTA
114855	PCDHA13	ATGTGGATTCATTTTGAATTGGTGCTA
114855	PCDHA2	ATGTGGATTCATTTTGAATTGGTGCTA
114855	PCDHA3	ATGTGGATTCATTTTGAATTGGTGCTA
114855	PCDHA4	ATGTGGATTCATTTTGAATTGGTGCTA
114855	PCDHA5	ATGTGGATTCATTTTGAATTGGTGCTA
114855	PCDHA6	ATGTGGATTCATTTTGAATTGGTGCTA
114855	PCDHA7	ATGTGGATTCATTTTGAATTGGTGCTA
114855	PCDHA8	ATGTGGATTCATTTTGAATTGGTGCTA
114855	PCDHA9	ATGTGGATTCATTTTGAATTGGTGCTA
114855	PCDHAC1	ATGTGGATTCATTTTGAATTGGTGCTA
114855	PCDHAC2	ATGTGGATTCATTTTGAATTGGTGCTA
114856	MTMR4	GGGACTGTCCCATCAGTGAA
114857	MYBL1	CAGGTTAAGATTTTCTGCTCT
114858	CNR1	CCCCGCCCGGGCCAAGGGAGC
114859	MGAT4B	TGGCGCGAACACTGGAATGCATATACTACT
114860	TK1	GAGCCTTGGCCCACACTGAGGC
114861	RARB	GAACGCATTCGGAAGGCTTTT
114862	USF2	CGCAGCCGCCGCCGCCCACGCCGGCCT
114863	APPBP2	GATGAAGCAAACCCACACCCTA
114864	CLK2	AGTATAGGCTGCATCATCT
114865	ELK1	CCTGTCTCTATTCTAGGCAA
114866	CASP6	GTGGGCGGATCACCTGAGGTCG
114867	SDHB	GTTTTCCATGAATACAGCATGTAT
114868	USF2	CGTCTGTCTGTCGCCCTTCT
114869	HIP1	TGGGCAGCCCAACAGCACTTTT
114870	KCNK3	GCTGCCTTCTGCCCAGTGGGA
114871	BCL2	CTCCGTTTGGCAGTGCAATGGT
114872	STK10	CCTGCAGCTGGCTGCTCAGGAGATGGC
114873	GFRA1	TCTGTTTCCTGTTCTCTTGTATAGCTG
114874	RAP1GA1	GAGGCAGCACAAGGAGGATGTGA
114875	MADH7	CTTCGACACTGTTCTTAGCTC
114876	CCNF	GCATGGAAAGGGAGCCTGGGAGC
114877	EWSR1	AGAGGGAAAGCGAGAGGGAGACGG
114878	QDPR	GGCCTAGGTTAAGTGTGCAAG
114879	CASP6	AGGTGGGCGGATCACCTGAGGTCG
114880	FPGS	TGTCCTCTATACCTGTGTC
114881	CISH	AGCCGAGTCCCCACTCCGGAG
114882	BTG1	TCTCCTGCCGCCTCCTGTGTC
114883	HOXA11	CGTGGTTAAACTCGCTCACT
114884	BAP1	CAGCCGGCTGTGGAGCAGCAGG
114885	RFX2	CCTACTTCCCCGCCCGCAGGA
114886	PPT2	TGAGGACAACAGCCTGGGCC
114887	TGFB1	GAGACACCCCCGGTCCAAGCCTCCCC
114888	CPT1B	ATCGCCAGTCGTCTTCTGCCACA

114889	FGFR4	GTTCTGGGCCTCTGAACCCCCT
114890	PFKL	AGACCAGCCTGCCAGGCCCTCC
114891	MME	GTCGGCTCAGCAGCCTCCAACTTCTCC
114892	GPR4	GCAGCCTGGCCTTGCCTTCACAGGGC
114893	MSL3L1	ATTGAAAAGGGTCAGCTGGGAAAA
114894	GLTSCR1	TGTCCGCCCTCAGCCTCCTGG
114895	PTBP1	ATCATTCCAGAGAAAAGCCACTT
114896	DPH2L2	CCCTCAATTGAGAACCACTGGTCTAG
114897	IL17BR	TGCTGGTGGCAGGGATCTATCT
114898	LNK	AGTAGCTGGGATTACAAGCAC
114899	B3GAT1	AGAGAATTTAAGCACAGAA
114900	RABL2A	GCCATCCCCTCTTCTACC
114900	RABL2B	GCCATCCCCTCTTCTACC
114901	CLN2	CTTTATGGCCTTTCCATCATAGTTGCC
114902	HTR4	AGACACAGGGTCAGAGATCT
114903	SIM2	CCCTCCAGGCCTCAGTTTCTTCAC
114904	PTGS1	CTTTGGGCTTAGTATTTCTCAGG
114905	CTH	TCTTCTTCTTTCGCGGTTCA
114906	MPHOSPH9	ATCAAGAATAAGGAAATATA
114907	BMP8	TCAGCTCTGTGGAGTTTTCCCT
114908	MALT1	TTGTATTTTTAACACCAGAAAGA
114909	SLC17A4	AGGTGTGTTGAGATTTCTGTGT
114910	ADAMTS5	CCAGTGCCATTTGTCTGTGCA
114911	SH3BP2	CCCGAGTAGCTGGGATTCCAGGCGCCC
114912	ATP2A3	ATGTCACTAAGGATGGCTGATT
114913	ROCK2	CCCAGGAGACGGTGGTTGCAGTG
114914	ARCN1	GGCTAATTTTTTGTATTTTAGTA
114915	HSD17B2	TGCCTCCAGCCAGCCTTTGCCCGCT
114916	D1S155E	TTCATATCATTTATAATCTTGTCA
114917	NR3C1	CTTTCCTGATGGTACAGGAAA
114918	BACE	GTATTTTTAAATTCTGCTCCT
114919	DMC1	GGTGAGCCAAGATGGCACCA
114919	OPA3	GGTGAGCCAAGATGGCACCA
114920	LARS	GGCTGGACCTAAATAGATTGATTTCAT
114921	AGL	GAACTCCTGGACTCAAGCAACC
114921	BCL10	GAACTCCTGGACTCAAGCAACC
114922	KLF15	TCTCCCACTGGGCTCCCCCATCC
114923	NGB	GGTGGCAGAGGTGGGATGA
114924	RRP22	CCTGCTCCTGGAGCTTCACTGGA
114925	F8	TTTCTATGCTGGAGTATTTTC
114926	GRB10	CGTTCACACCTGGTGGCAG
114927	ABCD4	GGGCAAGGACTCACGCCAAA
114928	CACNA2D2	AAACAGTGCCAAATGCTGGG
114929	HOXB8	TCCCAACAACATGAAACTGCCT
114930	FUT9	CATATGACCATGATGTTCAGGGCT
114931	AVPR2	GGTGTAGGAGGGGCTGCAGCAGAGGC
114932	ASB1	GCACTGCAGCATTTCTGCTGCTC
114933	EPHB2	GGATTCTCATAAGGAAAGCAATGAC
114934	CD209	TCTCTCTCCCCTTGGAGCTCTTGCC
114935	SERPINB6	AGTGTGCCTGCAACCCAAGTGGCCT

114936	SLC26A4	TTTTGTTTAAAAATGCAGTTTT
114937	RFX2	AGCAGTGTCTTTCAAAAAATCA
114938	SWAP70	TGGGATGGAAACAGTGTGGCCT
114939	PCSK2	GTGCTCTCACCAGCTGCTGCTCTG
114940	PAM	CCTCACAGCCCCTGTCATTCCG
114941	TRPM7	AGATGGCTACAGGCCGCGGAGGAG
114942	CNR1	AAGTAGTACTTCTTCTGTAATATT
114943	NRAS	CCAAAGCAGAGGCAGTGG
114944	CRACC	CAAGGCATGAGAATCGCTTGA
114945	KCNQ2	CAGTGGCAGAGCGCCAGGCAGA
114946	LAMB2	TGCATGTCTGCCTATGCACTGA
114947	NPTX1	CCTGCCCTCGACCTTCCCACCTCCTC
114948	ARHGDIA	CTGGGGTGTGGGATGCACGGCCTCGT
114949	CHRM3	TTCTCTCTTTCCCCCAGACTATGTCA
114950	FCGR2B	AGCTTTGAGAGAAGGCTGTGACTGCTG
114951	ACE	CAATCAGGAGTGGTGGAACCT
114952	TRIM14	GCTGCAAGAGCTTCTTAGCAGTT
114953	MST1R	CTGTGGACCCTGTCTTCTGGGCACAGT
114954	RING1	CCCCCATCTGCTGCCTTTTCTA
114955	PUM2	TAAAACAATTGGGCAAAACTACCTA
114956	ADAMTS4	TGAGGTACAACCTGTTCTGCTTTC
114957	HTR1D	GCCCTCTCGCCAGGCTGGAGTGTAGT
114958	GPI	GCAGCCTCCTCTGTGAC
114959	PCTP	AGCTTGTGATTTCTTCCAGCT
114960	CDC7L1	TAGGGACATGTATTCATTTTGTTAT
114961	MAP3K7IP1	CTGGTGTGGAACCAGGGAGCTGT
114962	KCNA7	GTAGCTCTGTGATTCTTCCAG
114963	MAP2K1	ATTATTATTATTTGCTTTTCA
114964	SEMA3F	GACCAGCCCCTTCCTGGGTATTTAT
114965	SLC6A3	GTTTCGAGAGAAAGGAGGGCAACTTC
114966	NKTR	CAAAATCACTGGCACCAAAAAT
114967	MYO10	CTTTAATCATGGTTTCATGAGCATTAA
114968	HSPCB	CCATGGGCTCCCACTGCAGCCT
114969	RFXANK	TTTAGCCCTCTGCCCCCGCCCTTGCT
114970	SSRP1	CTTGGTTTCCCTTGTGCAGCC
114971	HEXA	CACAGCCAGGCTGGAGTCAGT
114972	OSR1	GCGAGCGAGGCTCACCGTCC
114973	C1orf6	TGCTATTCCATGGATCCTAGGTCA
114974	FN1	CTCTGCATCCCTTCTGTCCCTCCA
114975	CTGF	TCCTGTAACAAGCCAGATTTTTT
114976	MEL	CAGCCCAGCTGACTGTGCCTGTTCTGA
114977	SLC20A2	TCTCTGAGGCCCACACAAAGCTGGACAC
114978	TAGLN2	CCTGTGGCAGCTGCTGCCCCAGCC
114979	PLAU	AAGTGATCAATAAAATGTGAT
114980	LMNA	AGTGGTTTTATACTGAAGGAA
114981	CRP	TTTTTGTTTGCTTGCAGTGCT
114982	ZHX1	TTCCTCACTCAGACAGCTGGCTTTGT
114983	D10S170	ATAGAGTTTGAACAAATATTTTA
114984	MN1	CTCCTTTTCTGGGCCTCCTC
114985	SLC22A2	TGGATAAGAGAATCCTTTTAGCA

114986	ADH4	AACACAAATAAATGCTTGAGGAG
114987	OAS2	TCATATTTATATGAGGCTGTTGTCTTT
114988	BCL7A	CTATTGCCCCCACCACCACCAC
114989	KCNJ8	CGGAGAGGCAGGTGAGAGGGAGGTGG
114990	IRAK1	GACCAGCCAGGGCAACATGATG
114991	MAPK7	AGTGAGCCACCCTCGGAGACCC
114992	SGCD	GTCACCTTAAAATAAGATTTTGTTAGCC
114993	EHHADH	ATTTGAGACCAGCCTGGGCAA
114994	EGLN2	ATTACCCCTGCTGTACACATC
114995	NRP2	AAACCTACGAACCCAGCTCTGG
114996	WHSC1	AGCTCTTGGGTTTAGCAAAAGTTCA
114997	DSPP	AATTAAAATATTCTTTAATACT
114998	MAML1	GCCCTCGGGGGCATGGCGCG
114999	DLEU2	CCTCACTTCTTTGATTGAATACTTA
115000	DHFR	CTTCATAATTCTAGAAAGTTATT
115001	HMGCR	AAAAAGTTTTGATGAAATTCTT
115002	INHBC	AGTCACTGTGCCATCTTCCTGA
115003	KPNB1	ACTGGGTTCAGCTGTGGTGCT
115004	TNNT3	GGGACTCCACATCCTCCAGCCCCCACA
115005	P2RY1	TAAGGTAGGGAGGAGGAAGAT
115006	EGLN2	GCAGTAGATGGTGGCAGCC
115007	DHCR24	TAGATGAATGGTTAACACGAGC
115008	TRPC6	AAAAAAGTTTTTCCTCCACTGA
115009	GPRK5	CTCCGTTGCTGACCGCC
115010	SOST	CCTAGAAAACAGCTTCTTACTG
115011	ALX4	CTGGGAGGGAGGGGGCAGCAGGCCCCT
115012	ABCA1	AATTTCTGCTTTTGCATCTTTGGGACA
115013	SLC6A3	GTGGGCTCCAGGGACTGGAGTGTAA
115014	S100A3	AATGAGGGGTAGAGCCACTCTGGG
115015	RAX	CCTCCAGGCCCAAACAGGCTGAAGCT
115016	TBL2	GCCCTGCTTCTTCCCATTGA
115017	FIGF	GTCCACCTTCTGATTATTTTT
115018	CSPG3	CACACAGTGTGGAGATCCCACGT
115019	HGFAC	CCTGGTTCCCACCATTCCCTGCCTT
115020	MLN	AGAGACTCCTCCAGACCCACTCAG
115021	FZD4	TCTGCTGTTTAGAACTTTGTGGACT
115022	PPP3CA	AGTGTGCTTGAATGCCCTTCTTTCCA
115023	CDKN2A	CAGGCAGCGGGCGGCGGGGAGCAGCAT
115024	SEDL	TGTGCAGGCTGGAGTGCAGTG
115025	NTSR1	CTCACGTGCAGACCCTGCCATGCAG
115026	GNB1	ACCAGTGACCCTGTTTTGTGG
115027	ACE	CCAAGATCGCACCATTGCACTC
115028	BRCA1	CCGAGATCGCGCCATTGCACTC
115029	ZNF277	TCAACAAAAGATTGGTCC
115030	EXTL3	TGAACAAAAGCTCAGGTTTGTCCTGG
115031	ESR1	TTTGGTCCCAAATATCCAT
115032	CRTAP	CCAGCTACCCACAGCAACCAAAGAGACTTC
115033	MAG	ATTCTCACTCGGACCTGGGGA
115034	KRT6B	ACTGCTTTCTCTGCTCTCTTTGCCTTCTTT
115035	LPIN2	AGTCTAAGTCTCGTATTTGCTTTGC

115036	RAD18	TCAGCTTTCAAATGAGATGA
115037	FMR2	CATGTGCTTTATGTGTATA
115038	HMGCR	GGTTGGTGACTGAAACATTCAC
115039	GALNT7	TTGTTTTTCTCCACTGAGC
115040	BYSL	AGTCCCCAGCTGGGGCTTGGTGT
115041	GRM4	TCCTCTGCTTCATTCTCGTCCAGCC
115042	HMGA2	TCTTTATGTAGAATTGCTGTCTAT
115043	APOL1	GAGTTAGAACAGTTGGATACAGGAGAA
115044	IL16	TGGAGACTCCTAGGCAGGAC
115045	DHFR	GCCTTTGAGAAATGAATGAAGTA
115046	VAT1	AGTGCTGTCTGTTTCTTGTA
115047	NCOA6IP	TGTTGCCCAGGCTGGTGTCAAA
115048	GDF5	GTTCTCTTTGGTGTCATTCAGCGGCT
115049	SNX1	AAGGACCCCAGAGCCCACCTGTGT
115050	MPP2	CCCCACAGGGCCAGGCTGG
115051	RET	TGATAGTGTATATGCTAACTGG
115052	ABCD4	CCCAGGGTTTTTCACTTCTCCCCACATCTCCC
115053	ENPP2	TTCCAAGAATCCTCGACATGGCAAGGA
115054	PRKCI	AATGCATGGATAAACTTGCTGCAAGCCT
115055	PPP4C	TCTGGAGAGGCCTGGAGACCTAGCT
115056	RET	CCAGTTTACATTTAGGCATTATTGCAA
115057	PLA2G5	AGGATTTGAGGCCAGGCCAAAG
115058	Z39IG	TCATTTCTCTTTCTTCA
115059	ADORA3	AGCCAAAAAGCTGCAGGCAGAG
115060	SLC7A5	TGGGGGCTGCCAGCGTCTGT
115061	F13A1	AATATCAGTGGGCTCTCTTAC
115062	USP14	AAAGTTCAGAGTTGAAATG
115063	BIRC7	CCCTCTCTGCCTGTTCTGGACTG
115064	F3	GAGTAGCTGGGATTACAGGTGCGCACT
115065	RPL27A	GGAGTTTCATTAAATGCTAACT
115066	MAP3K9	TAGGGGATGAGGTTGCTGTG
115067	HPS3	CTGTATGAATCAGTTTTATTACCT
115068	WFDC1	AAGCAGCTAGGTTGCAAGAACATTCC
115069	F2RL3	GGCTGGTCTCCAACTCCTGCCCTCA
115070	PCDHA9	ACTGTGATGGCACAACTGCATTTCAG
115071	EVA1	TTTCTTTCTTCAGCTTTCTGAC
115072	COMT	CTCACCCAGCCTGGTACTGAAGGT
115073	HNF4A	CTCCCTCTGCTGTCACCTTGCT
115074	CRY1	CAGTGGGAAAAAAGGAGGTTTT
115075	APM1	ACTGCAGCCTCCTTCTCCTGGG
115076	TNFSF15	TCAAATGTAATTATAACCAGGGGT
115077	PHEMX	CCCTGCAGCTGAGCCTGTCTCTCACGG
115078	SURF4	CCTGCCTGGCTAAGACCCGTGGC
115079	NOS1	TCCTGCTCTCCGTGTAGCC
115080	PCDHGA8	AGTCATCTCCAGTAGGTCTATTTTAGT
115081	ADAMTS4	GACAGGGTTTCACCATGTTGGCC
115081	AXL	GACAGGGTTTCACCATGTTGGCC
115081	FCAR	GACAGGGTTTCACCATGTTGGCC
115081	FUT1	GACAGGGTTTCACCATGTTGGCC
115081	GNE	GACAGGGTTTCACCATGTTGGCC

115081	IL11	GACAGGGTTTCACCATGTTGGCC
115081	LNK	GACAGGGTTTCACCATGTTGGCC
115081	PER2	GACAGGGTTTCACCATGTTGGCC
115081	PRKR	GACAGGGTTTCACCATGTTGGCC
115081	PRND	GACAGGGTTTCACCATGTTGGCC
115081	RBBP9	GACAGGGTTTCACCATGTTGGCC
115081	TMPRSS3	GACAGGGTTTCACCATGTTGGCC
115082	CR1	GACGGGGTTTCACCATGTTAGCC
115083	IL6R	AGGTCGAGGCAGGAGGATCACT
115084	DIAPH2	CCCAGTGGCTTAAAACAATAG
115085	CNN1	GCTGCCTCTGTTCTCAGCGTCAGTGCC
115086	CACNB1	CCAGGGGAGGGGAGGGAGCGAG
115087	EEF2K	CCAAAGCGCTGGGATTACAGGC
115088	FZD3	CATCTGAATCTCCTTCAGACC
115089	SCN2B	GGCCGCGATTCTTCCAGCAAGGG
115090	EDNRB	AGCCCAAACCTCAGCATTCTGCAATA
115091	SLC6A8	GAGTATATATAGATCTCTATCTCTTAG
115092	CARS	GCAGATGGCCCAGAATGGAAGCTTCCAGT
115093	NUMA1	CAGTCTTCCTCTTAGCCTCTGGAT
115094	CANX	TCTTCTTTCTTTTAAGCAGACCCATAC
115095	LTC4S	TAGTCTCTATCATTAAAGTTCT
115096	HGF	TCCTGTACAAAACATCTTTAA
115097	APXL	ATGTGTGTAGATTTCATGC
115098	TGFBR2	ACCAAATACTCTTATGGGG
115099	CSH2	GATGAATGAGAGAGGGAGGGAA
115100	MPP4	TCCTACTAAAGCTTTTGTCTGG
115101	CRSP6	GCCCAGTCTGGAGTGCAGT
115102	AEGL1	TCCCTGCACAACTAACATCCAGTA
115103	GARP	GGGTGAGGGAGGGCCAAGCCAGGAGG
115104	HHLA1	CCCCACTGAGCACCTTGAGAC
115105	EN2	TCTTATGAGAAATGAATGAAT
115106	SOX10	CCTGTGTGCCCTGTTCCTTGCCCA
115107	LOXL2	CCCATTTCTCCTCCTCTTAG
115108	CNTN3	ACGCATGAGAATTTCTTTTTACATTG
115109	RPS3	GCAGCTGTATTCTGGAGTCTGGATG
115110	ITPKB	GAAGAAGGCAGGCTTCTGGCT
115111	ZNF14	TGGTAGTGCATGCCTCTAATCCCAG
115112	LSS	TCACATGCTCAGGGCCACCTGAGACTG
115113	PKP1	GAGAGGGACGAACCAGGGTGGAAGC
115114	GTF2H2	GTGAAGGAGCTTGTGAAGGCAGAGGAA
115115	MUC3B	TCTCCCTCCCCTCTGCCTTTTAAACCCA
115116	KLK4	TCCAGGTCCCAGCCCCTCCTCC
115117	USH2A	AGACTGGCTGCTGATGCACCTTG
115118	ABCA3	CTGGGGCAGGCCGGGCAGTCTGCG
115119	CALM1	CCCAGCACCAACCTCTGAGCCC
115120	DTNA	TACTTCAGAGGAAGAATTAAGGGGCA
115121	SLC24A1	TCCAGCTTCAGACCCACTCTTTGAG
115122	G2A	CTGAGGGGGGAGTGCAGCAGTTGG
115123	SLC6A2	CCGCTGCGCTCCCACCTCGGA
115124	POMZP3	TGCCATGAAGTAGAGCAGT

115125	HSD17B8	CCACTCTGCCTGGCCTCCTGCTGATGA
115126	KDR	GGCTCCCGAGTTCTGGGCAT
115127	MAPK8IP1	CTTGATGAAGCCTGTGCCACCTGCAA
115128	TAF11	CACCTAGGCTGGAGTGCAGCGG
115129	WARS	CCATGCCCCCTCCCAAAAAGA
115130	GLP1R	AGTTGTTTTGGTGCCTGCCTCTGCCATG
115131	ABCC3	GGGCTGGTGGGCCTTTCTGTGTCCTACTC
115132	ATP1B2	GCCCAGGCTGGAGTGCAATGGTGC
115133	EVC	GGCTGATGACCACTAGTGGGG
115134	ATM	CCCAGTGTGCTGGGATTACAGGC
115135	WNT5B	ACGCTGGAGATCTCTGAGGAGTG
115136	EGFL5	ATCAGGATATTTAACCCTTTAAG
115137	STIM1	CGGGCTCCTGGCTTTGCCTCTG
115138	C14orf1	CTGTGTCTCCTTCCCCTACCT
115139	SLC2A6	CAGGGCTGGAGGCAGCCAAGTAACG
115140	LEF1	TATCTTCTGATCCTTGCACCTT
115141	DLEC1	TGGAGAAAAAACATTGCCCAGGGA
115142	MFAP1	TCCAACTGCTTATTCTTCCA
115143	AGR2	CAGAAATTAGAATTGTGTGTTAA
115144	EDNRB	ACACAAAAAGCATACTTGCA
115145	AR	CCCGCAGCTGCCTCAGTCGGCTACT
115146	SSPN	TCTGAACTGTATCCATATTTTAAGGA
115147	MFRP	CAGGGAGGGGGAAGAGAAGT
115148	EIF2S3	TCAGCATGTTGGCTAGGCCGGTC
115149	NOS1	AGCTCCTACTGGACCCTCTTGCCCAGCCG
115150	ILF1	TCAGCGTAGGAGAAAGGCCAC
115151	SRGAP1	GTAAAAGGTGAAGGCCAGC
115152	APPBP2	GTGCTATTATTTCTGGTTCT
115153	COG3	GTAACAGGTCACTTCCTTTTCA
115154	ZNF41	ACAGGGGGAAATGGGTAT
115155	UBE2G2	CCACACAGAGTGTCATGGGTG
115156	GJB3	CCCTCAGCCTCAGGCAGTGG
115157	EIF5A2	CATGCCACCACGCACAGCTACTTTTT
115158	DIAPH2	GTGTAAGCCACCATGCCCAGCC
115159	RHD	GTGTGAGCCACCGTGCCCAGCC
115160	SMURF1	TCTTTTAAGGGTCCCTTTTGCT
115161	COL4A4	TTCAGTGGTTCCTTCTGTTTTG
115162	PSCD4	GCACACCTTCCACAGGGTC
115163	UGP2	GAGGAAGAGAGACCTGCCCTGTAGCGTG
115164	GALNT3	CACCACTGCACTTCAGTCTGTGTGACT
115165	RASAL1	GCTTGATTCAGACTGGAGTGGATAGG
115166	MPL	ACTGCCCAGGCAAAGTGCACC
115167	VIPR2	TCTGGGAGAATGAACCCGAGGTTGGTT
115168	NFE2L1	TGCCTAACTGAGCAGTAGGGA
115169	RAB36	CTCAAGGTTCCTGGGCAGACCAGCACCTCTGG
115170	PCDHB16	TGAACTCCTGGGCTCAAGCCAT
115171	SCN1B	TGGGCTGGAGCAGTTTGGGGCA
115172	CAMK2A	GGGCTGTAGGCTAGAATGCCCGGGCTG
115173	KRT6A	CTCTCCTCAGCTCTCTCATCTCC
115174	SPN	AGCTTCCCGAGTAACTGAGATT

115175	GPR86	CTTACCTCCTAGCTACTTATCCATCTC
115176	GGT1	ACCAAATCCTCCTGTCTTTCGTGGC
115176	GGT2	ACCAAATCCTCCTGTCTTTCGTGGC
115177	TNFRSF18	CTGGGTCGGGATTCTCAGGTCAT
115178	PRPS1	CTACCTGCATTATCTCATTCT
115179	RERE	GTAAACAGTAGACACCCAGAA
115180	MGEA5	TGTCAGGGTGGAGTGATTCCAAGTG
115181	TFAP2C	GTCCTCTGGTAGGAGGCAAA
115182	CEACAM1	TTTTTCTCCTTTTCTCTGAGA
115183	BRDT	GATTAAACAGTTTTCACTTACA
115184	PPT1	TCCAAACCACATGGGAGACAGTTTCC
115185	GARP	CTCCTGTTCTCTCTGTGCTCT
115186	FLT1	TTCTAGAAGCACATGTGTATTTA
115187	PTEN	AGTTGGTCTCTCCCCTTCTACTGCC
115188	THRA	CCCAGGCCTCTGCCCCAAGAGCA
115189	CFTR	CTAGTGAAACTCGTTAATTTGTA
115190	ITCH	GTTCTTCCTTTTACATCCTGGAACAAC
115191	COL6A2	CGGCAGGACTGGATGGAGCTGTTC
115192	MUC4	GGCCAGTGCCAGCACCTGCCCA
115193	DUOX1	TCTAACACCACAACTAATTTCA
115194	IL13RA1	CTGGGAAGCAAAACCCATGCCT
115195	CD2AP	GTGCTGGGATTGCAAACACTTT
115196	HOXD10	CCAGCAATGTGACTTTTTCATGTCT
115197	BAPX1	CTGAATCCTCAGAATTTCAGGCCT
115198	SOX8	CCCCTGCTGCCTTCACTCCTT
115199	ZNF265	AGTGAGCTTTCCCATGTTTTTATGTC
115200	ATP11A	AGATCCTCAGTGAATGACGTTGC
115201	PCDHB2	GTGAGCCAGAGCTGGAGCACG
115202	CA12	CTTTCACAGTCCTGTCCTCTGGATCA
115203	AGTRL1	AGCCCTTCTTACTCTCTGAGGCT
115204	NCF4	GAAGTGAGAGGTGAACTCAGCCTGGG
115205	ICMT	TTAAACATTGAGAAGTGCTGCTCTCCGT
115206	MSL3L1	GGAATGATTCCCTGGGTGCCTGAA
115207	FGF2	AATCTAGGCCGGGTGCAGTG
115208	TGM7	CTGTCCTCTCTCTAGCCTGCCTGGGAATGA
115209	EGLN2	CCGGGGCCCTGGCCACAGCATT
115210	TEGT	AGCAAGGATAGGGAAGGGGAATG
115211	IL1R1	TAAGCGTGGGTGGAGGAAGAT
115212	KEL	TTCTCCAGGATCAAGGAACTGGGGCGG
115213	TRPM7	ACTGGCAGATTGCAGTGCAACCTTAT
115214	LPP	TTTAGGCTTGAAATCTCCATCCTATC
115215	NR3C2	GGCTTCTGCTTCATCCTGCT
115216	SNX4	AATCTGTTATAGGGAGTTGT
115217	NUP98	CAAGATCATTCAGTGTTTTTCC
115218	CLCA2	ATAGCCCCAAGCAGAGAAAAG
115219	BMPR1A	GAACAATGACTCAGCTATACATTTA
115220	HIP1	TTCAGTTTCATCATTTGCAC
115221	PCDHB9	CATGCTTGTAATCCCAGCTACTC
115222	STXBP1	CTCCAAAACACGCCCCCAT
115223	ACADS	TGGCAGCTCCGCCTCTGGG

115224	PTGIS	CTGCCCAGGCTAGAGTGCAGT
115225	CORO2A	TCCAGTGGGACATGGTGCC
115226	EIF5A2	GCATGCCACCACGCACAGCTAC
115227	HMGA2	GCCACCCTAGGAGGCGCGGTGCCACCC
115228	SP3	GGACTCTCGGGCAGTTCTCAGAC
115229	JUNB	CAGGGAGGGGAAGAGGGGGC
115230	OSR1	TTCCACCTCTCCAACATTGTC
115231	KCNA4	TGCAAATGATCCAATGCATACAGTAGT
115232	CTSS	CGAGTTCAAGCGATTCTCCTGCCTCAG
115232	SHOX	CGAGTTCAAGCGATTCTCCTGCCTCAG
115233	SORBS1	GCAGTGCCATTGACTGCCC
115234	RAD1	GCAGTTTCAAGTTCCTGGGCTCA
115235	EIF2C1	AGGACTTGCCTTCTCCCTGGGCAGGGA
115236	DCTN1	GTCCAGAGTTTAGAGAGGGGAG
115237	DCX	CCTTAAGATCACATCATCTACTC
115238	DVL3	CAGGGTTGTTGTGAGGATTT
115239	EGLN2	CCACAACAACCTGTGAAATAGCTG
115240	HIF1A	CTCCGCGTGTGGAGGGAGCCAG
115241	APXL	ATGGTTGGCCCTGGTGTTGT
115242	CD3Z	GGGCTTACGGCCCTGCCTTGGGC
115243	POLG	ATTTATTTTTTCCTTTTCTTCT
115244	LRP8	ATATTTACAGAAGATGTTTGGTTG
115245	PIWIL1	GGCCTCGGGCTGAGGTGCAAG
115246	ADAM19	GGCCTCCTCCCATCCTGCCA
115247	ESR1	CGTGATCTAGATTACACTGCACCATTCCCA
115248	MOG	CTGAGATCGCGCCACTGCACTC
115248	UBE2G2	CTGAGATCGCGCCACTGCACTC
115249	MAPT	GACTCACTTTATCAATAGTTC
115250	FAH	CTCTTCTGGAAACAAAGGGCT
115251	FLNA	CTGCAGCTGCCCCTGCCCTGTGCC
115252	HPS1	CCGGAAGTGAGGACCAGGGAT
115253	MTERF	AAAGACAACTACTTTTGAAGGAA
115254	WBSCR14	GTGGAAAGAGGAGGATGCTGT
115255	CELSR2	TGTCTTGTGCTTTATCCTGCC
115256	SWAP70	AACTCTTCTTCCTTCTGTGCCTCT
115257	MAPK10	ACCATAAAAACTTACTTA
115258	TNFAIP6	ACAGCTGTAAAATATTCTATGATATGA
115259	BMP1	GGCAAGTTCTGTGGTTCTGAGA
115260	ITCH	CTTACATGAGTGAAAGGGTTGCCTC
115261	MAP1A	GGTCTCAGAGAGCAACCTCCTCCCT
115262	FCGR3A	ATGGGTGGAGGGGCTGGGGAA
115263	TGFA	TGGAAACAGAGTAATGAAGAA
115264	TNFRSF10B	CTTTGCCTTTGCTGGGCCTTCTGTGC
115265	PDGFRB	GCCCTTGCCCAGGGCACTTGGA
115266	HEPH	CAGGCTGGGGTCTGCAGTGCA
115267	POLQ	GTGCAGATGCAGTCACCTGG
115268	MC1R	AGTCGTGGGGAACGGAGGAGGAC
115269	ADCY1	TCTTCCTTGGGTGGTCCTCATGTCGCT
115270	MAFF	GTGGGTGGGAAGACTAGTGAA
115271	FCAR	CGCCTCCCAGGTTCAAGCAATT

115271	MLANA	CGCCTCCCAGGTTCAAGCAATT
115271	RHD	CGCCTCCCAGGTTCAAGCAATT
115272	PAX5	AGGGAAGATCTGGGGGACAGAGGAA
115273	SGT	GGGGAAGAGAGAGACCTCGGACCTGCA
115274	ERBB3	TGAGGCAGAAGGATTACCTGAGGCA
115275	PHKA2	CTATGAACTAGGGTTTTCTCCTGC
115276	CFL2	GCTAATTGAATGCCTTG
115277	TRAF5	GGTGAATGGGGTAAGCATTTT
115278	LMNA	AGGAGGAAGGCAAGAGGGGGTGGA
115279	CSRP1	GGCTGGAGGGAGAGGGAAGCAAG
115280	RGL	CCTCAGGTGTGGAAATTTCTACT
115281	PTPRK	GGCGACCGCGAAGAAGGAAAAAGGG
115282	GFER	CGCGGCCGCCTCGGCCTCGACGCCAGC
115283	DDX3	ACCACTAAAATGCCTCT
115284	ADAR	CTGGCTCTCTGGCTCCTGTGC
115285	HGF	AGTTAATAAAGTTGTTATTTTTATAA
115286	GP9	GCACACTCCACCTTCCCTAGTCA
115287	TLR4	CGCTTCCTGGTCTTATCATGGACAATT
115288	GFER	CCTACCCTCTCCCTGCCTG
115289	VTN	GGCTGCTCCAGCTACTGGGCATT
115290	APLP1	TCCCCACGTGGCACCTCCTCA
115291	OPCML	CTATTTTAAAAAGAGAAGTTC
115292	SF3B2	GCTTCACACAAGAACCACCTCTCC
115293	KLK10	CATCACCCAGCCTCTGAGAG
115294	RAI3	CTCCAGTTCTTAGAGGCGCTGT
115295	NDRG1	TCCCTCAGAGACACCAAACTG
115296	ADCY1	ATGCCTGTAAGCCCAGCACTTT
115297	PCDHB9	ATTCCTGTAATCCCAGCACTTT
115298	MAK	CCCCAAGCCAGCTCATGCTGCT
115299	CUL5	CCAATACAAGAATGCCAAAGGAGGAA
115300	RUNX1	ACCCCACTTTCTCCCTCCTCC
115301	PIN4	TATCTGACTCTCAGTCTGTCCCAT
115302	TIRAP	TCTCCTCCCTCCTCCCCCTTCACC
115303	STIM1	CCTCCAGGGATCCATGGGGG
115304	TNFRSF9	GGCAGCCCTGAGATCTCAAGAGT
115305	CNTF	TCTGAACTTTGGAAGCTGGGGA
115306	XPC	CTGCCCTCACTGCCTCTTTGC
115307	PLAUR	GACCTCTCTGGGCCTCAGTT
115308	SMAC	CTGGCACCCAGGCCAGGGGTCC
115309	PDGFRA	AGCTAGCAATTGCGACCTTA
115310	COX11	GCTGAAGTTTTAAGTGAGTATTTGTTCC
115311	GPRC5C	GATTCCTGCAACCTCAAGAGACTTC
115312	TEAD3	CCAGCCAGGGCCCAGGAAGATGGGGC
115313	AHR	TCCAGCATGAGGTATCTAAGG
115314	FUT8	GTGTTGAAACAACAGAAGTCTA
115315	ZNF132	ACCATTCCCACCAAGTGGAAT
115316	NRXN2	GGGAGGGGAAAGGCAAATGCAGATAT
115317	DACH	AGTAAAATGTGCCCATTTTATG
115318	GLTSCR1	TTGCCCAGGCTGGTCTCAAACTCTTTG
115319	GPR85	TACAGATATGTGAACTTCAA

115320	FOXG1B	CCAGATTTCCATGTGTGCAGTATTA
115321	FGF8	GCTGCCTGGCCCTCCCCACAATGC
115322	MEN1	CGTGAAGTCGAGGCTGCAGTGA
115323	COX10	CCCCACCCTCTATTCTGTT
115324	RABGGTB	ACTGAGCTAACATAAAATAACTCTA
115325	WSX1	GGACACCCAGCCAGGCAGAGCTGGGAT
115326	FCMD	CTCATTTCTACTTTCTGCCCTCA
115327	AIPL1	CACCCAGGCAGGGAGCAAGTG
115328	RUNX1	GAGAAGTATTGAATAAGCCAT
115329	DAZL	TGCTGCCTGCCGCCATCATGTCT
115330	CYBB	AATCTGATTCTCCCTAGGGTCA
115331	TMPRSS2	CCCTAACCCCTTGTCCGCAAGGGGTGA
115332	CDS1	TCCTCCTCATGTAGTCTGGAGT
115333	PHTF1	AAGCATGAAGCAAAGCTATTTTAT
115334	CD59	AGGGAAGCCCCACTTGAAGGAA
115335	HUNK	ATAGGTGTGCCTACAAAAGTCTT
115336	TRAF5	TGCTTTATATGAGTGTCTTCTGGG
115337	SLC17A5	GTCGCCCAGGCTGGTTTTGAACT
115338	EHD3	CTCCCACCCAGTTGCCTGAATCATCCC
115339	SQSTM1	TTGCATAGAGAGAAATGATTGA
115340	LYPLA1	ATTAGGATCTTCAACCCAGGTAACAGGA
115341	CASP8	GAGGTCCAAGGCTGCAGTGA
115342	ADAMTS13	GTGGCGTGGAGAAGTGGTGCTCCAA
115343	CACNA1E	CCGATGCATGCTCTTCTCTCACA
115344	MANBA	CTGCCTTTCGATCTCTCCA
115345	DSCR3	CGAGTAGTTGGGATTACAGGTGA
115346	NFATC4	CACCCAGGCCGGGACCTGGGGGCTCC
115347	CASP8	GTTCAGGCCATTCTCCTGCCTCA
115348	FKBP6	GGGGAGAGAGCTGTGGTTCT
115349	HSD3B2	CCACCCACCTGGCTTCATACA
115350	CCNT2	CGTGTTTGTGTGTGATGCCA
115351	CD14	GTGAAGCCTGAAGCCGCCGGGTGCCG
115352	ITCH	TGAGAGGGAGAGCTGTGGTACTGGC
115353	RAB7L1	TCAGCCTGGGCAACAAGAGTGA
115354	ERBB4	TAAGATAAAGACTGTGGAAA
115355	NTE	AGCTCACTCCCCCTCCTGCTGCTATGC
115356	ZNF35	GAAACTCAAGAAGAAGCTTTTGAAACA
115357	WTAP	GGATATTAGCTGTGATGAG
115358	CANX	GTGCTTTTTCCTTTTCATCTG
115359	PAX9	CAGCCCAGCCCACGTTGCTGCT
115360	CORO1C	CTTCTTTCCTTCCTGCCTTT
115361	SYN2	CCTTTGCCAGCCTCTTTTCA
115362	DGKG	TGAGCCAGGCCCTGGGCTGGGCCTCC
115363	NEB	TCCTTTCTCCTTTGGGTT
115364	FY	ATGGGGAACTGTCTGCACAGGGTG
115365	KLHL3	TTCTCATAAGTACCCAATGGCATCTCT
115366	EGR2	CCTAAAATGGTGAATCAGAGC
115367	HTR2C	GATTGCTAGCCTTGGCTGCTCCA
115368	TNFAIP1	AGGCCTCAGCTGGGGGAAAGGC
115369	PSMD5	GAGCCTGGGAGGCAGAGGTTGC

115370	HDAC5	TGCAGACCCCTCTCCTCCTCC
115371	GP6	ACCACTGGGCCAAGTGCAGTG
115372	COX10	CTTGACAGGATGTTTTCATTACTCAGT
115373	GLI2	ATATGCAGAAAGATGGTAGGGAGCAT
115374	SLC9A6	GAGAGTGAGGAGGGAGTGTTAT
115375	XK	CCTTTTCACCTGAAATGCCTTCA
115376	PITPN	GAGAATCAGAGAGAGCTGTAGTGTCA
115377	C1D	TATAGATACTTTATCATGTTTT
115378	BRF1	CTGCCTCTGTGGCTCTGCCTGTGGAT
115379	RECQL5	ACCTGTTATACCAGCACTTTGG
115380	LRRC2	GGGACCCCACACACATGTGGC
115381	MAPK1	AGAAGTACAAAGGTTGCAGTGCTGAGC
115382	ZNF148	AATAACTGCATTTCGTTTGGTT
115383	MAPT	GAGCCCAATCACTGCCTATACCCCTCA
115384	USH3A	CCACAGCTGAGCCTGGAACTG
115385	MKL1	GCCTCACTGCAGCCAGCGTGGTCCT
115386	ALOX12B	TGGGACTGAGTGCCCCTCTTGCCT
115387	HOXC11	CCCTCTACCCCGCCCCACCTTGCCC
115388	MS4A1	TTCATTTCTTGAGGTACTCTGCAC
115389	FTSJ2	AGAAGGCTGAGGCTGGGGGAT
115390	NOS1	TCTAACAGGCTGGCAATG
115391	ALCAM	TTCTGATTGCTATCAGCAATGCCCC
115392	TNFSF15	CCGAGGCAGAAGAATTGCTTGA
115393	MIF	AGGCCCGCCCACCCCAACCTTCT
115394	C14orf1	TCTGTCACCCAGGCTGGGAATTGC
115395	BLAME	ACATTCATTTTCAAATGCAAATGCAG
115396	COX15	CAGGCTGGAGTACAATGGCGTG
115397	SAS	CAGGCTGGAGTGCAATGGCATG
115398	APM1	CAGGCTAGAGTGCAGTGGCATG
115399	PSAP	ACAGATCTGTTTGACTTTGTTATA
115400	ESR1	ATCAACTTTTGTATCCACAG
115401	VTN	AGACTTCAGGGAGACCAGAGCCCAG
115402	ALOX15	GTTGCCTAGGCTGGAAATAGGATTTTG
115403	MEIS1	CATGGAAACCAAAAGGCCGT
115404	SON	TACCAGCCCAGCTTTGCCAGC
115405	PDYN	TGCTGAGACAGGATGGCCTGGCAGG
115406	ESR1	TGTCACTACTCAGGCTGACTGGGG
115407	PRLR	CTTTCTCCAGCAGCTGATTCCAGAAC
115408	SNX1	CTAGTGATGCATCCTGCCTAG
115409	ETF1	CACCCTCCAGCATCCAACCCA
115410	KCNA4	CCACCATGGAGGTTGCAATGGTGA
115411	APBB1	CAGGGAGGGGTCTAGAGGC
115412	CLDN14	ATTCGCAGAGGCATCAGGGCT
115413	C1orf6	GCCTGTTCTCCCTGTCTGAAGAGGGAGA
115414	INHBC	AGCTCTATCACCTGAGCTCCCCTGCCC
115415	PIK3C2B	TTCACAGTATTTCAGAGAAGCCA
115416	PACE4	AGCTTTGGTAATCTCTGTGA
115417	POLS	TGGTCGGAAGTGAGTGAAGGAGCCAG
115418	ATP11A	TGCACACAGGATCACTCACATATGTAC
115419	SHANK2	TGGGTGGAAGCAGCGGTGCCGCGGA

115420	NLGN2	GAGCCTTGAATGGTGGAGGGAG
115421	AIM1	GCCTGAGCCACTGCGCCCAGCC
115422	RECQL5	TTTTCCTCTCTTCTCTATCTGTAGCTA
115423	SCN3A	GCTCAAAACCAGAAAAAGAA
115424	C14orf1	ACAAGCCAACACAAAAATAAAGAA
115425	CCND2	AAGTTTCTATTTTTATTTTTA
115426	CARD4	AATGCCACTCTGGGCAGTCT
115427	MADH2	CCAAAGGTTTATTAATAACAG
115428	IGF1	GGACTCAAACTCCTGACCTTGT
115429	TCF2	GCCTCCTGCCTGCTCCA
115430	CD28	GTGGATGACGGAGACTCTCAGGCCT
115431	LDB3	CCCGGAGCTGCTCCTGCTGCTG
115432	SYNGR3	TGGAGATGCAGTTGAGTGACA
115433	KCNJ10	TCTTCCCATTCCCCTGCTGTCTAT
115434	IL18R1	GTAGAGAAGCATACTGGAGAAGC
115435	SPARC	GGCTTCTCCTCCTCTGTCTTTTGGAGA
115436	TAPBP	AGGCTGCAGTGCAGTGGCATGAT
115437	IGSF4	TAGCTACTAAAATCAGTGACCT
115438	HTR2A	GCAGTGAGCCAAGTTCACACC
115439	HMGA1	GCTCCTTCACTGTTCCCTCTGG
115440	EP300	AGAGAGGCGGCAGGGGCCAG
115441	PTPRF	GTGTGTGCCACACCCCATGCACCT
115442	SLC16A2	GGAGGATGGGACCTCCTGGACCCAG
115443	POLQ	CAGCAAAACAAACTTTCAAGTCTTGA
115444	CBFA2T1	GGCCACATGTGCTCCTGTCATCCTCCAC
115445	SIAH1	ATGGGCCACTGCTTTTCCCTTTG
115446	CKTSF1B1	AGAAAACACAGTCTCTGCTA
115447	ACAT2	ACAATTGCATTTAACATTGTTAT
115448	FOXM1	CCTCTGCTGTCCCTGCCAG
115449	TSNAX	CTCGCTTGAACCTGGGAGGCAG
115450	BYSL	AGGAGTGGCCCACCCTGGA
115451	CD22	TGAGGGTAACCCCAAACCTCCA
115452	CXorf6	TGTCCTGTAAACTTTTCTCAGTG
115453	BENE	AGGCTGGAGTGCAGTGACGCG
115454	PDGFRB	TCTGAGCCAGGGTTCCCCCAGG
115455	FGF2	TTCTAGCTTCCATCCTTTCT
115456	STAU2	CCGTCTGCAAAGTGTCCCCGGCAAGAAG
115457	UMPS	CAACTCCTGGGCTCAAGCGATC
115458	PTHR1	TGGACCAAAAGATGGGTGGTTGAAT
115459	MAOB	TCCTCCATTGTATCTTCA
115460	TP53BP2	AAAGTTCCTGGTGAATATCG
115461	SLC26A2	TTTTCTATCCCCAGTCTTT
115462	NR3C1	ACAGGCAGCGATGGTCTCAGAAACCA
115463	CACNG7	CCTCCTCCTCCTCGTCTTAGGGG
115464	TBX5	CCCACCCCCCACTACCACCA
115465	TPST1	GCAGTAAGGAGCCCAGAAGG
115466	CYP3A43	GACTATCTCCCCGCCACC
115467	CNTF	CAGACTCTTTAGTTGATTTAAACTCT
115468	BRF2	AAGTGTCCCCTCCTACTTCTTGC
115469	KRT1	ACTGCATTTGAAATTCTCCA

115470	NTRK2	ACTTCTTCATCCATAGACACAGTAT
115471	CENPA	GCTGGGCATTTCCATCATATAGACCTCTG
115472	SYNGR1	TGCCCAGGATGGAGATGAGAGAGGGT
115473	NCOA3	AATTGTATCTGACCCTTCTTTAAGTTA
115474	RASGRP2	GCCTGCAGGAAGACGCCCGGTCCC
115475	KRT5	AACAAGCCACCATGTCTCGCC
115476	IL24	TCTTGTATTTATTACAACTCTAT
115477	EDN1	CCCAACCATCTTCACTGGCT
115478	CCBL1	GTGAGGGTGGCCTGACCTGGGC
115479	AKAP2	AAATGAGATCCGTGTTAGA
115480	PITPN	CTTCAGTATTGTGAACAAATA
115481	GRF2	CTGGGCACCGCCTTCTGCTAGG
115482	WDR1	CTAAAACCCACAGCCCAACCAAACCTTGA
115483	GSTZ1	GGAGGGTTGGGCCAGAGGAGGCGGTCCTG
115484	ALOX15	CCAGTGAACACATTTTACTCTAGAGGCA
115485	PGC	TCTGGACTCTGGACTTTCTCTAATA
115486	DIAPH1	ATGGGAGGTGGAGGGTTGTACTGTG
115487	ADARB1	GGCTTTGGATTACATGCTTTTA
115488	EBAF	AGCTGGGAGTTTCTGTTCTCT
115489	PFKP	TGCGGCTCCCCTCGGCCTCC
115490	FLNB	GCTGTTGTAAAATGCCTTC
115491	IRTA2	GTGGCAGAACAAACTCCACCC
115492	ZNF236	AGTTTCCTCCTCAGTCTCCTCC
115493	RELA	TGTTGCCAAGCTGGACGGCACG
115494	GOSR2	GAGGAAGGTCTGCAGGGAGCAGC
115495	IGF1	TCAGATTTCATAGAAAGGAGCAACCAA
115496	EZH1	CTCACACCACTGCTGCTCGAGTCT
115497	CLOCK	GAATTTACCAGAAATATTTGCTCAA
115498	MMP19	GGGGAGGGAGAGTTCGGAGCCAA
115499	CXCL16	TTCCTCCCCCACCTCA
115500	THRA	AGCAGGAGGTGCCTGAAAGCTGGGAGC
115501	MME	ATACTATAACATATGTACATAAATTGC
115502	ZHX1	CCCTGCAGGAGAAGACAGACTG
115503	WBSCR5	GCAGCCACAGAAGCCTAGGCAG
115504	CD4	GTGGGTACTCAATGTGTACTTTT
115505	TEGT	AAGAAAGAGAAGAAATGAGTG
115506	CAPN3	TGCTCCTGCTTACCTTGCTCTAGGCTGT
115507	PTGDS	GCCAGCCAGGTGACCCCTG
115508	TGFB1	TCCTCCTGCCTGTCTGCACTA
115509	SLC6A12	TTCCCCTTTGCTGATAACACCACC
115510	ATRN	GAGTCAAACACCCTGCCTACAAGGAG
115511	LEP	GGGTTCATCTGAGCAAGAGCTGGCAAA
115512	SERPINF2	CCTGCCTGGACCAGCCTCTCC
115513	QARS	GTGGCTGGAAGCACTGAACCTACCTCA
115514	AK3	CTGAGGTAGCTTGCAGCATCTTTTCTA
115515	CTMP	CAGGCCCAGCTCTTCACCAG
115516	NPTX1	GGGCCTGAAACCCACTCCTCCAT
115517	ZNF268	GCAGAGGCCTCTGGGAGTTGT
115518	SLC22A7	TGGAGCTGGAGTGGCTGGATGTGG
115519	IL17BR	CCCTTTCCCTCTGGATAACAACA

115520	DNASE1L1	GGTTCAGAAAGAGGAATGAAGATGTTG
115521	RTKN	CTCTTTAAAGACTGAGGGAACAGTGG
115522	TPMT	GCCACTGCACCTGGCCTGACATTCTT
115523	TNFSF6	TTCTTTCCATTATGATTCTTTGTTA
115524	TSNAX	CCTATTCTAGCATTTAAATTTAAATT
115525	GRM1	TTTTAAAAAATTAGGATAG
115526	CIT	ACCGGGATGCTAACTACAACAT
115527	PNUTL2	TCTCCTCCTCTTCTTCCTGTCCATGC
115528	CD63	GAGCCCCGGAGCCGCGGCGGGAGAGGA
115529	TLR5	CAGGCTGGACTGCAGTGACA
115530	HSD17B1	TCTAAGCCCAGCAAGGCCAGT
115531	SLC25A11	CTACCCCCTGCTCCAGCTTGCC
115532	CREB1	CCATCATGGTGAAACCCCATCT
115533	SPI1	CCCTCCAGGACTCCACCCCGGCTCC
115534	FSTL3	TGAGTACGGAGGGTCTAGCCTGGGTGA
115535	ABCC3	ATGGCCAGAGATGCTGGACTTGCC
115536	CREBL1	TCCCTGCCTCTGCCATTCACACTGACT
115537	NPTX1	TCGACTCCTCACTGTGTTGACACTT
115538	MMP25	TACCTGGGAATTCTGGGCTGCCAG
115539	PACSIN1	GCACTTTCAGCATCGGCTCTTCA
115540	PAG	AGAGTGAGCTATGTTGAGGTAAACTG
115541	EGLN3	AGATGCCACAGAGAGGCATCA
115542	IL16	GGCAGCTTCACTTCCTCTTTGAG
115543	D12S2489E	CATTATTCTCCAGCCTTAAGAT
115544	RAD1	GCCCAGGCTGGTCTCCAACACCTGGG
115545	CLDN16	ACTTTTCTCCCTGGCTTTTGGTTC
115546	BMP1	CACATCTCAGCCCTTCCCCAT
115547	PSMD9	CTTCCCTTGCCCTGGACTT
115548	LARS2	GGCAGGCAGTGCTGGTTCCTCTGC
115549	KDR	GGACCCCGGGAGAGCGGTCAG
115550	GPT	CTTGCCTGGCGTTCCCTCTGC
115551	FADD	CAGGAAGGTAGCCCAGCACTG
115552	SYT4	TTTCTAGGCTAATTTGTCTTGAGCTGT
115553	EPO	GCCAGCCTGTCCCATGGACACTCCAGT
115554	EPHB4	CAGGGGCCCATCATCATGTCT
115555	YWHAB	TTTGACTGTTGACCTTGGTTTTCTCT
115556	GPR44	CCTGTGCTCCCTCTGTGCCCAGAGC
115557	UBE3A	GGGCCAGCCTTTAGAACACTGT
115558	TIAL1	TCTCCCACTCTTTCTTCATAT
115559	CUL3	CCTAGGTCCTCCCTGCCCC
115560	ZNF146	AGAGTGTTCATACTGGAGAGAA
115561	PCTK1	TTTCCTGCCTGCCCCACCTGCCTCA
115562	IFI27	TGCAGAGAAGAGAACCATGCCAG
115563	RCN2	TTCTAAGTAGATTTAATTTGGGA
115564	CTSD	CGCCGCCATGCAGCCCTCCAGCCTTCTGCCGC
115565	GNA15	CCAGCACTCAAGCCTTGCCACCGCCGA
115566	TRIM14	CCAGGAGGCGGAGATTGCAGTGA
115567	PRKWNK3	TGTTGGCCAGACTGGTCTCAA
115568	PNUTL1	GTCACCCAGCGAGTGCTGAGACCCCAT
115569	PTCH	TCTGTAACCTGTAGTAGGCTCTGACCT

115570	PIGN	GTGCTTGGTATTTCTGTCTTAT
115571	POU3F1	GTGAGCCTCTCGGCTCCTGGG
115572	SARDH	GCTGTCCATCCATTCTCAC
115573	BMP1	CCCCTCGGGGACGCCCCCACCAGCTCA
115574	SELPLG	GGACCAAGGAGCTTCCATCTAG
115575	CHRNB2	CCAGGCAATAGTGTTGA
115576	CRTAP	GCTCTCTTGCCCAGGCTGGAGTGCAAT
115577	TNFAIP1	TCAGCTACTAGTTCTTCCAG
115578	CHST6	TCCTTCTGGTGACACATCCTGC
115579	NPY1R	TGTATCTTGTAATCATGATTGA
115580	SERPINB2	CTGCCTATTTAATGTAGCTAAT
115581	PTHLH	CACACACACCCCTGTCCTCCAGCAC
115582	FGF18	CCTCCTGCACAGCGGCTGCCGCC
115583	SFTPA2	CCAGGTGGTCAGAGGGCCCAGTG
115584	ADAM17	CCTGTAATCCCAGCACTTGG
115585	HIP1	GAGCGAGACTCCATCTCTTTAAAAAC
115586	GABRA1	TACTCACATTCTGTTGTTCAGTT
115587	TUFT1	CTGAGACAGAGTCTCACTCTGTC
115588	TAPBP	GGCTAATATTTTGTATTTTTTAGT
115589	GEM	GGGAGAGAGTGGGAGTTTCCCAG
115590	LILRA3	TCATCCATCCACAGAGCAGTGCAGT
115591	GPX3	CCTGCAGCTGTGTAGTGCT
115592	ARF3	GGAGCCAGAGGGAGCGGAGCGGAACCTGCGG
115593	MCM2	CAGCAGTTCTGGGCCCTATGC
115594	ADRA2A	CATAAGTAAATGAGCCTTTCTGCCTCA
115595	PCDHA4	AGATTTCCCTTGACTTTGAGAAAC
115596	MCL1	TTTTCCTCTCTCTAATTAGCTT
115597	TRPS1	AAGATAGTGATGTTCTGTTCT
115598	ANXA5	TTAGCCTTTTTTAAAAACTCCATTT
115599	HSPA4	TGTGAAGCCAGTAGCTATTTT
115600	TRIM14	CAGCTTTCAACCTGCTTACT
115601	GPR81	TGAGGCGGATCACCTGAGGTCA
115602	DKK1	ACTGAAGTAAATCATTTCAG
115603	SPF30	TGGGAGAACAAAAAGCTGA
115604	NEDD4L	GAGCCTACAGACCTGTCCTCACCAACT
115605	RB1CC1	TCATCTGGGTTCTAAAGGG
115606	ZFP161	TTTTTAGTTCCTTTACACTCA
115607	SLC22A2	GAGCACTGTCTGAAGATGAG
115608	SNAP25	TTATGTCAAATGGATGTAATA
115609	SMARCA2	AGGGAAGAGATTCAGCCAGCA
115610	COL4A4	TGGAAGAGAAGACTGGCA
115611	PIK3CD	AAGGATGAGGCCAGAACTCTTCC
115612	NHLH1	CTTACTTGGTAGTGAGTGCCTTG
115613	PRPS2	AGCAATGATAGGTTAATCACTGGC
115614	PPP2R1B	TCAGCGGGGCCTCTGTCTT
115615	EIF2S3	TTTAATGCCTGAAATCCAAGTC
115616	CHST6	GAAAGCAACTCTTGCCCCTCCTCC
115617	CYP1A1	AGTCCACCCTTCCCAGCTCAGC
115618	RCP	GTGACTTCACTTTCACCTGCTCCAG
115619	TIMM17A	TGCTAAAAGATAATACGTTTATTTATT

115620	PLCB2	GCAGATCCTGGCACTACCTCAC
115621	ADARB1	CTGTCATGCACATGGGGTCCCGCAGC
115622	TNFRSF1A	GTGTCCTCACCAGCAAGGCTGC
115623	HOXD9	CACTCCCTCTCTTTCCTGCTCCA
115624	BIG1	AGAAGTACAACTCAGGGA
115625	LTBP1	TTCAGTTTTTTAAAAATCTCAA
115626	PCSK2	GCATCCTTAACAAGAACTACGCTGCA
115627	SCML2	CACAGCCGCCACTCCCCCAG
115628	UBE2V1	CACTCACTCTCCACCAGCCTGGGAAATGAAT
115629	F13A1	GGAAGTTAGTTTTTAATCTCTCCA
115630	ROS1	TCATATAGCAAAATGGAGAAAATTAG
115631	SOX9	AAATGAGAGATTGCAAATGTAGTGTA
115632	CELSR1	GCCGGAACTTTTTGTCCATTCCCTA
115633	KCNMB3	TCATCCTTTGCTGGAGCAGGTT
115634	KCNQ2	GCTTGGACCGGAGAGAGATGGCTCA
115635	F7	AAGATGAGAGGCAGAGGCAGA
115636	HUNK	CCCTGTGTGTGTTTTGTGGACA
115637	S100A3	GCATGTCTCCCACACCCCCTCCTACCCT
115638	ADAR	TTTAGCCAGCTGCAGGGCGG
115639	ATP8B2	CCATGTCGGCTCTGCCTGCAGTGACCA
115640	AIM1	ATCTCAGGCTGGAGTGCAGTGG
115641	PSG2	TAATGATTTCATAATTTTC
115642	PRX	GGTGGCTGTGCCAGAGGTGCG
115643	BRCA1	ATGGCTTCCATGCAATTGGGC
115644	CX3CR1	ACTCCACCCATCCTATCAGCC
115645	PTPN18	AGCCTGCCGAGTAGCTGGGACT
115646	TOP2A	CTTCATCTTCTCAAATCATCAGAGG
115647	NFE2L2	GTAAATACTACAAAAACTTATTT
115648	PML	ACCATCCTGCCAATGCCCAGGA
115649	RBBP9	GCTGGGTGTGGTGGCTCATGCCTGTA
115650	MX2	ACAGTGTCCTAAGATACTGCTATCA
115651	VDR	GTCTGGGGTTCAGCCCCTCCTCTGCC
115652	JPH2	TGCTGTGGATGGGGTAGAGCTGG
115653	RNH	CCTGCCTGGCCCGCACAGTCTGCCTGT
115654	RFC3	CTCTTCCGTCTAATCTCTCAC
115655	ED1	AGAGTGAGGGGGTAAAGCAGTTCCTG
115656	BCLG	GGCCCTCCATTGAGAACCTGA
115657	SGPL1	GGAGGCTGGAAGAGGAAGATGCCTAGC
115658	EIF5A2	GTACCATATTTAAGTTGAACTGCTCTG
115659	GRAF	AGAGTGCAAAAAATTAGCCGG
115660	LAMP1	TTCTTCATTCTTTACTGCACTCA
115661	LPP	CATATTATTATTAATTTTGCAAAAAGA
115662	D1S155E	ACAGACACTTGACCCTTGGTGT
115663	USP6	TGCCATGACCTCAGAATGTCACTGGTG
115664	BCL2	TTGTGCCGAGAAAAGCATTTTA
115665	CNGA3	GCCTCAAGATCCCTTGGAATTG
115666	ATM	CGCCCAGGCTGGGTGCAGTCACGGCT
115667	DMRT2	GCTGGGACTTGAAGGGAGCACGAGTC
115668	COL18A1	ATGGGAGCTGAGGCCACACTCAGCAC
115669	RHO	GGAAGCCACCTGCTCTTTTGCTCTA

115670	MAPRE3	TCTGCCTGGACCCCATTGTCTGTCTGC
115671	TCF2	TGGAGGGACAGGGAGCAGGGCAGA
115672	MSF	GAGAGGGAGGGCGACGGGGGTGAGAA
115673	TFCP2	TGGGAATTGTGTGATGTTTAACA
115674	AEGL1	TCATGCTGGAGACCTTAACTCCCATC
115675	PARK2	CAATCAAAAGATTAACAACACTGCATGCGGC
115676	RP2	TCCTCAGATGCACGGATTCAGTCTTC
115677	ZNF124	CTCATTACCACAACAGTGCCACTT
115678	MYO10	ACTGTGCTACTGAAGGGAACTGCCTTT
115679	SERPINB8	ACCTAGTTGGTGCAGTGGCTTG
115680	NUP98	GGCTGTTTTTGTTCCTGCCTTTA
115681	MXI1	GCTACGCCTCTTCATTCCCGT
115682	DRD2	CCTGGCCTGGCCCTGCCCTGA
115683	ME1	ACATCACATGAGACAATTTTGCTTC
115684	SCAP2	AGGTAGGCAGAGGTTGCAGTGA
115685	TLR3	ACTTTCTCAATTTAAAAAGTTCT
115686	CDYL	ATCTGCCTTTATCTTGGAT
115687	BPHL	ATTGCCTGAGCCCAGGAGTTCA
115688	PABPN1	TAGGAGGTGGGACGCGTGTTGATTGA
115689	PNUTL2	ACATCCAAGACAACAGGGTGCA
115690	PDE6D	TCAACAGCAGAACCTACCTGCAGCCAC
115691	HGFAC	TCCCTGCCTTGCTGACAATAAAGATAT
115692	PLA2R1	TTCCTTTTAATAGCAGGATTT
115693	WISP1	GTAGCAGCCTGGGGTGACCTC
115694	FSHPRH1	GGTCTTGAACTCCTAGGTTGAAG
115695	ALOX15	TTGCCTAGGCTGGAAATAGGA
115696	WEE1	TCGGAGGCCTCCTCCCAGCCAG
115697	GRAF	ATATTTCTGTTCCTCCATGCA
115698	ADCY6	GGAGGGAGAGGAGTCCTTTTTGT
115699	RAB23	TGGGTTTAAAAAGTGCTTTGTG
115700	BCL10	CTTCAAATACCATCTAGTT
115701	FGF5	ACACAGCTTCAGCTATACTTACACTGT
115702	LILRB1	GGGAGTCAGAGGTTTCAGTGA
115703	TGIF	TTCGGCTGCGTTTCTGTGGGA
115704	RGS16	GCCCAGGCTGGGGAAGTGAACT
115705	APP	TACTACATTATTAATGGGTTTT
115706	HTR1D	CGCCAGGCTGGAGTGTAGTGGCACA
115707	CXorf6	GACTGGGTGTGCAACTTGAGGCTG
115708	OGDH	GGGCAGCTTCAGTCTCTGCAGT
115709	SRGAP2	GAACCAGAACAACCAGAGTGCACTTTT
115710	MAPK8IP1	TTGGGAGGGACAGGGCTTGGGGAGC
115711	NRL	ACTAGCACGCTGAGCTCTG
115712	SCNN1A	CTGCTGGAGTGTTGCTGTTGCA
115713	KHK	AGAGCAAATAAATCTTCCTCAGA
115714	WBSCR14	GGATGCTGTTTATCTGTCACCTCC
115715	CHST2	ACCAGCCGCCGCGCCCGCCTCGG
115716	MYCL1	CCAGGTGGCGGGCGGCTGGAGCG
115717	ARHGEF5	GGTCCAGCCGTGGAGAAACATCCG
115718	DGAT2	GCTGGGGTCTAGGCTGTTTCT
115719	GPR4	CTTGGCCTCCCAAAGTGCTCAG

115720	POLA	AAGTGACCCCAGGCTTTGCTCA
115721	SYNGR1	AGAAGGCCCACTGTGGAGCCAG
115722	BCL11A	TTCCAGCCTAGGCCTGCAGC
115723	SEL1L	TTTCCTTTTCTTGGCTTGTTTCTAC
115724	MUC4	CTTCCCCAGGGAGCCAGGGGGACT
115725	SLC2A6	CTTGGGAGGCTGAGGCAGCATTGC
115726	GCA	CTGCGCCTGTGCTTTTTCTCCC
115727	PAP	CAGTCTCTTCATTTTGTCAT
115728	RBL1	ATTGCTTGAACCCAGGAAGCGG
115729	ADCY8	CCCCTCCTCCTCCTTCTTTGCCA
115730	OAS3	AGCCTGTTTCTCTCTGCCCTCT
115731	MSR1	CCTTCACCTCTGGACAAGTCAT
115732	MTM1	TTATATTTTTAAAAAACTGACA
115733	ANGPT1	GTATCATACTTACTAGTTGATTTCT
115734	SURF5	GCTCTTTGCAGTGTAGTGACA
115735	CCND1	AACATTGTATTACAGATGCCTTT
115736	ZNF180	TAGGGGAGGGGACCGAACTAGC
115737	CD97	CCAGGGTGGGGACAGGGGCTGGC
115738	SMG1	TTCATGTTTTTCATTTGATACTT
115739	ITGB3	AGGAAGGGACACCAAGCCTTGGCTCT
115740	DPYSL3	CTGAGCCTGGATTTTCACTCATCC
115741	P4HA1	TTAGCTCCTCTGTGGT
115742	KLRB1	TTAATGCCACCTTCCTCTGTCTGCCAT
115743	RERE	TCTTGTTAGCTTTGCTTTTCTC
115744	CYP1A2	CTGTCTCCTAAGCTGGAGTGCAGTG
115745	PPP2R5D	CTGCCCTGGCCCTCCATACTCTGC
115746	MFAP3	TACTATATTAAAATACACACA
115747	RANBP17	GTCCACTGTCAAGTGTTTTACT
115748	LDB1	AGAGAGGAAAGAGCGGAGCA
115749	PDE4C	GCATCACTGCACTCCAGCCT
115750	STAU2	AATATCCTTTAGAAATGCTCTA
115751	FANCE	CCCAACGCCGAGGAGAGCTTGT
115752	CD209	CTTTCTGTGAGAGTCCTGAGTC
115753	ITK	CTACTCTGGCTTGAGCACTTCTATAT
115754	HMGA2	TACTTGATGATTTTTAACTTTTT
115755	GORASP1	ATATTTCTTCTTCCTCA
115756	PYGB	GCACAGCCCACCAGAGCACTACAGCCT
115757	BTG1	TCCTCTTGGGGATGGATTATG
115758	IL16	AGACCTCCTGCCTCCGCCTCAGTAAGA
115759	CD36	TAGCTTATATATTACTTGT
115760	CRABP2	AGCCCAGAGCAGGGTCTCTCT
115761	ZFHX1B	CTGTAGTGTACAGTATTATAGTT
115762	FRDA	AGACCAGCCTGGCCAACATGAT
115762	PRKY	AGACCAGCCTGGCCAACATGAT
115763	MLANA	TTAAATGTACCTATGGCAATTT
115764	ZNF217	GAACCCAGGGCTGTTAGAGGGGT
115765	NPTX1	CTGGCATGAGGTTCAGTCATTCCAGTG
115766	CSF1R	TCTCTGAGAGGAGCAGCAG
115767	FLG	TCACAGCCACACCACATCCCA
115768	CRYZL1	GTCCTAGATGCTGGAGTGAGATTATAT

115769	CHRNA2	GAGTTTGCAGGGTGCTGAGCTGTATGG
115770	TPMT	GCCCAACCTGGAGTGCAGTGGTGCG
115771	CR1	TCCCAGGCTGGAGTGCAGTGGCGTA
115772	PTGS2	CAATTGCTTGTTAAAATATTTTA
115773	LIFR	TCTGTGGAAATTTGGAATGAAA
115774	SLC4A7	CAGTGACAGATATAATTTACTACA
115775	PTGER3	TCACTGGAAGCTCCATGACTCTCTT
115776	TRPM6	GTCTGTGATGACAGTGGCCATCCCATT
115777	MTAP	GAGGAAGAAATGGGACTCTTTGGTTAT
115778	LPXN	GCTGTTCCTCACGGCCTGTGAGACAA
115779	NYX	GAGGAAGAAAGAAAGGCAGGGCAT
115780	B4GALT6	TCACCCTTCTCTCACCCGTCCTCCCTGCT
115781	SUV39H2	GAGGAGGTGAGGCTGGAGCGC
115782	HIP1	CACCTTGGATTAAAACGGGA
115783	ABL1	CCTGGGCAGGTGGGAGCTGAA
115784	PTGFR	AGATTCTCTAGGAAATCTGGTG
115785	SLC14A1	CCAGAATCTGTATCACAGAGG
115786	GOLGA4	TTTGAGAATGAAGTTGTCATTCAGGG
115787	APM1	TGGCCCTGGCTGGAGTTCAGTGG
115788	ALK	GAAAGGTTTTGAGCATGGGT
115789	SLC13A1	ATAGAAAATAAGATATACAAG
115790	SLBP	TTAGCTCATGCTGAATTATTTTTGCC
115791	PSCD4	GGAAGGGGTGAGGAGAGCAGC
115792	ICMT	TAGGTACTGTCAGAACAAAGCTACCTGGA
115793	FUT9	AGCATGAGCAATCATTCCATTCG
115794	TNFRSF1B	TTGCACCCTCCGCCTTCACTCCGGTG
115795	TBR1	TTCTTCTGTGGAGTTATCCTCCTACA
115796	TEM7	CGGGAGGTTGAGGCTGCAGTG
115797	MASP1	GCCTGCCTCTGGTTCTATAAACA
115798	MYH3	TTCTGCTCTCATCCTGCAGGTGGGACT
115799	LAMA3	CACAAACCAGACAGGTTTAATAGCGA
115800	HTR1D	CGCCAGGCTGGAGTGTAGTGGC
115800	PIK3C2B	CGCCAGGCTGGAGTGTAGTGGC
115801	BSG	AGAGGACTCACTTGCCCACAC
115802	CPS1	CGTCTCCCAAGTTCAAGCGATT
115803	CXCL16	CATCTCCCAGGTTCAAGCGATT
115804	ATP6V0E	GTCAGCTATTGACACTTCCTG
115805	RS1	AAAGACTGTTCTGGCCCCAGACACAGG
115806	CA11	GAGTAGGAAGATCAGGAGCTAGA
115807	KCNJ1	TAAAGAAGTTATGAACTTTA
115808	SIAT1	GCCCCTGGGGGATTAGCCAGAA
115809	MKI67	CTGGGGCAGGTTCTTAGTTTGCCTGGA
115810	HYAL1	CTTGCACTCCTACTGAGTTTGTGGTA
115811	ADORA1	GAAGGGTTTAACCTCACTGGA
115812	POLK	TGGCTCACACCTGTAATGCCAG
115813	MLF2	CCACCTCTCCCTGGGGGTCTCAGGGA
115814	EDNRB	TTTGGTTTTGTCATCTGTAAA
115815	EPHX1	TGCCTGCAGCCTGCCCTGCCTCTCTCA
115816	IL1R1	CACTGCACTCTAGCCTGGCAA
115817	LCP1	TAGTCACTTCCTGCCTTGT

115818	FGF1	TGGGGGCAGAGTTTCTGCAGTTCC
115819	MS4A3	CTGCTGGAACTCACACATGCC
115820	GLI2	CATCGCTGCCCAGAGCCTGGG
115821	TYK2	TTGAGTTGACACAGGGAGCTCCAG
115822	ILF1	GCTGTGAGTGGGTCTCCCAAGA
115823	MMP11	GCAGGGCCACTTCCTGAGGTCA
115824	MEF2D	CCAGCCGGGCTGGAGGCTGTG
115825	CBFA2T1	GGGGTGAGGAGGAGGCATC
115826	GPR81	TGTGTCCCAGGCTGGAGTGCAGT
115827	TMEPAI	CCTGCCTGATTCCATGGCTGTTG
115828	KIF3B	GCCCCAGGTGGGCACCATCAGCA
115829	LMAN1	ACAACCACATTTTAATTTGTTCA
115830	SPON1	ATGCAGAGAGAAAAAGTTACCGA
115831	REQ	AGCCTCCTGCTCTTAACTGAATTGGGA
115832	SNRPN	AGGCTTTTCTCTCCAGTCA
115833	ANK1	CCACACACTCTGCCATGCACAC
115834	JUN	TTGGGGAGGGGCGGCAGGAGGGAGG
115835	B3GAT1	GGGAAAGAGGGGGCAGGGGCTGCTGG
115836	PMCHL1	TTGTCAAGGAGAGTGCAGTCAACCA
115837	HHLA1	ACTTGCACCTATACGCCCAG
115838	PPP2R4	CCCTCATTGCTGTTCAGATTA
115839	CDC7L1	AGCTGGCATTTTGCATCTCA
115840	NSD1	TCGTGAAATAAAAAGTCCACTCTGGA
115841	CHRNA4	GAGAAGCCTCATGGGAGTCAGG
115842	CSH2	TCTAGTGCCCGCGTGGCATCCT
115843	FZD4	TGTCACCCAGGCTGGGGCGCAAT
115844	CNGB3	TATGCTTTTCGCCTGGCAGTTA
115845	SC5DL	TAATCCAGATCTGGGATTATGTAGCT
115846	INPP5B	CCATTGCATTCCAGCCTGGGAGACGGA
115847	LRP8	CATGCTGTGGATGAAGATAAAGA
115848	CENPB	ACTCACTGCGGGCTCCTGAGCCTGCT
115849	SARDH	CCAGCTCCCTGTTTTGCTGAGGCCTGG
115850	RRP22	TTCTTTATGCCACACCTACCA
115851	CHST6	TGCCTTCAGCTGAAAATCATT
115852	PDGFRB	CTGCCCCAGGGACATGGGAAGACCACG
115853	PCDHGA8	TTGGCATAAATTATGTTTTGAAA
115854	ZNF289	TGCCTGTGGACTGAGCCCTTT
115855	FGF2	TATGCTGTTTCTATGTCGTGG
115856	TFDP2	TGCTTTACGCATCAGCTGCCTTA
115857	DHCR24	CTCATTCTTCTTGGCTCACCA
115858	PRLR	GCTCCCAGCTCCTTTCATGCT
115859	SLC25A14	CGTTGGTCTCCTAAGGGCCT
115860	APM1	TCACTGCAGCCTCCTTCTCCTG
115861	MAP1B	TCTGAACTTTGTTTCCAGAAA
115862	LDOC1	CCTGCTGCTGCCACCTGCCCTGCTGC
115863	PSD	GCCAAGGCCCCATACCTGGGCC
115864	P4HB	ACCCAGGGAACCTCTCTGAAGTG
115865	ZNF141	CCCTCACCGGTGAATAAACA
115866	TTF2	CAGCCACCCTGCAGCCAGCCAT
115867	SMURF1	GCTGCAGGAGGAAAGTTTA

115868	CPD	TTTATCCTATTTTTAGCAATA
115869	MAP3K14	TCAGTGTCCAGCGTGCTGGTTC
115870	FER	CTCAAGTATCTTCTTTGTCCCT
115871	CYP2B6	CACAGTCACACACTGCTGTAGTCT
115872	B3GALT3	TGTTTTTAAAAAATACAGTTCCTA
115873	GCNT2	GCCTGTAATCCCAGCTATTTGG
115873	LILRB1	GCCTGTAATCCCAGCTATTTGG
115873	SCN2B	GCCTGTAATCCCAGCTATTTGG
115874	CASP7	CCAGGCACTTTGAGTCTCAGTCTG
115875	GNAT1	TGTGTCCTTGGACAGCAGAT
115876	CNGB3	AAGGTAGAATAGGGCTGAAGCATCTGAT
115877	EGFL4	GGCTGGGCTCCCACCTCC
115878	DGKI	AGCGTATCACATCTGCCCTCC
115879	RERE	GCTCCTCTGTGTGTGTCCGTA
115880	DVL3	GTCTCAGGCTGGGCTCAGCAAAGG
115881	MTMR4	TCATCAAATACTCCTTTCAGAG
115882	FBXL4	TTTCCCATGTGTATCCTGTGACCAT
115883	FLG	AAGAATGAAGCAAGTTCACTTTCAA
115884	FLNA	CCCCCAAGCCTGCCCCGCTA
115885	SURF5	ACCTGGGCCTGGCCAGCAGGCAGGGCTGC
115886	BCLG	AGGTCTCGTTCGTCTCCAGCT
115887	ENIGMA	CCTTTCACCTCCAGTGCCACA
115888	CRTAP	AGCCTCCCGAGTACCTGGGATT
115889	GALT	TCATTGCATTCCAGCCTGGGCAACAGA
115890	GP2	CCATTGCACTCCAGCCTGGGCAACAGA
115890	LRRC2	CCATTGCACTCCAGCCTGGGCAACAGA
115891	RIMS1	GCTTGTAATCCCAGCTACTTGGG
115892	MYL1	ATACATCTTCAGTTTTTCTCTG
115893	PPP1R12B	CAGCAGCCAGCAGCTGCATGGT
115894	ARF3	AGATGCCACTCTGCTCTGCCT
115895	GPT	TCCTGCCACCTCCTGAGCTGCCTTC
115896	KLRD1	CACTGCCCAGGCTGGAGCATAGT
115897	DPYSL2	ACCGGGTCATGGTAATTTTTGGT
115898	PPP3CB	AGTTTACAAATCAGATTTCTT
115899	TNR	GTCTCCATTCTCCCTCCTACCC
115900	JRK	GGCAGAGTGGAGAGGGAGAGACGG
115901	GFER	TTGGGGCAGGGGGGCCAGA
115902	PRKCH	TGAGCCAATCAGGCTTCTTAATTC
115903	IRF1	CCTCACTGCAGCCCCTGCGTC
115904	ANK3	CATGAGCCAATTTACAGAGCATGGA
115905	MYLK2	CTGGTGGAGGGGGAGGGGAGA
115906	CD69	AATCCCTTAAACTCAGGGA
115907	CLN2	CACCTTCCCAACCCCAAACAATTC
115908	EPHA3	CGGAAGTGGTGGCTGTGGAAG
115909	FZD1	TTCCGTCCCTGAGGCAAAAGGACA
115910	MLC1	TGTCATGCCCAGCTTGGAGTGCCA
115911	THPO	GAGCTGACTGAATTGCTCCTCG
115912	SLC2A3	AAAATGCAAAAATTAGCCGG
115913	CBFA2T1	TCAGCTTCCAGTGCAGTTGTGCTGCTG
115914	CR2	CTTATGAGATGCCTGAAGCCAGG

115915	EGR3	GTCTCACCTTCTCCCCACCCTACCT
115916	IFITM2	GCCCCCAGAGGCCAGGAGCTC
115917	PRY	TTGCAGATGATCTGGGCTTGTTTCTG
115918	PCDHB16	TGTGTTTGTAGACAAAAGGC
115919	OSR1	ACTGCCCAGGTGGAACAGCACGT
115920	CACNG6	CATCTCCTAGAGAAACTGTGTTCTCCCTGC
115921	CNTFR	TCCGATTTCTCCTCCTGCCCCAG
115922	OSR1	GAGGAGAGAATAATGATGTA
115923	FOLR1	GCCTGGCTGGTGCTCACATA
115924	AQP2	CGCAGGGCTCTGCAGCATGTGG
115925	DHFR	CCCAAAGTGCTGGGATTACCG
115925	LTB4R	CCCAAAGTGCTGGGATTACCG
115926	CHRNB4	CTCTGAATGCCTTGGAGGGATCCCAGG
115927	PART1	CAGACTCCCTGCTTCTCATCTC
115928	TXNRD1	GGGCAGACTTCAAAAGCTACT
115929	STK19	GGTCACCTTGGGAAGGCTTGGGA
115930	DCD	CAGAAGCATGAGGTTCATGA
115931	C11orf8	GGCATGGAAAAGACTTCTTTTCAT
115932	BCL7A	CTCCCATGGACCCCTCGGCAC
115933	FGFR2	TCATGCCATTGCATTCCAGCCT
115933	TBX6	TCATGCCATTGCATTCCAGCCT
115934	FKBP1A	TACATGGTCAAGTATTAACAGCACAA
115935	CSNK2A1	AGTCCACCCTCTCCTTGATGC
115936	PRKCB1	TTTCTTTCCCTTTTTTCTGC
115937	NR2E1	TGAGATTCTCACCAGGACTTCAGGTT
115938	SLC22A3	TGGACTCTCTGACCTTGGAGAGTGTA
115939	CD164	GTGACTTCTTTGGTGAGGCAAGAAG
115940	RAP1GA1	CTGTGTGACTCTGGGCAAGTCACTCTC
115941	FKBP2	CTGGGGAGGGGCAGGGGGAG
115942	TNFRSF9	CTCAAGTGATCCTCCTGCCTCAG
115943	ATF2	CGTTCAGCCTTTTCCTCCAGGG
115944	COX8	AGACCTACAGGAGGCCAGAGTGAGG
115945	FZD4	AGCCTCCTGAGGAGCTGGGACT
115946	COL1A1	TCTAGGGTCTAGACATGTTCA
115947	PLXNA2	TCCTAAACCTCAACAAATGAG
115948	REV3L	GTGCATGGTGCTTTTTAACTTTCATCGAG
115949	SLC39A1	TAAAGTGCCAAACAAATCCCC
115950	EVA1	GAACCTCAGTTCTGAAATTC
115951	CDC23	AGCAAGGAGATAGGATTATAGATA
115952	HM13	GAGGCAGCATAGTGA
115953	ENTPD3	GGCTGCTTAGAGTCAGCCTGGGTG
115954	SHOX	TTCTGCGTTCCCCCAGTTCTTT
115955	UBE2A	TTAAAAGAGGTGTGGGAGCAGAGGAA
115956	ADAM19	CTCAGGGTGGCTGTGATACAGGTTCCC
115957	FOXO1A	CGTCCGCCCCCAGTGCTGCGTTCTCCC
115958	TAF6	ACACGTGCACGTACACACATGCAT
115959	RDX	GGTTTCTAGATCACTGTGCTTA
115960	NR0B2	CAGGTGCCTGTTCCAGCCCAGGCAGAGA
115961	TCEB3	ATGTGAAGCCTCTGTCTCACTGAGGAT
115962	CYP8B1	TCATTCTCTTTAAAATACCATCTCTC

115963	MLLT2	TTGGAAACATTACTTTGAGTGC
115964	CASP6	GCCATGGTGAAAGGGTTTG
115965	PEA15	CCTCCACTCCCCCCATATCTTT
115966	NPTX1	CCGGGGTGGGAGAGCTGTTGA
115967	COG6	GAATCTCCTTTCTGTTCTACTTTAG
115968	KCNJ6	TTGATGAAAGTGCAAAGTGCCCTCATT
115969	LILRA2	CTCTGTCCTGCCAGCACTGAGG
115970	AIM1	GTGCTGAACTGATCTCTTA
115971	ARHGAP6	GGAGAGAGTGCAGGGAGGCGCAGCTCA
115972	FACL4	AAGCTTTGTTTGTTCTTGTTTTTA
115973	DMC1	TGAGCCAAGATGGCACCACTG
115974	ARCN1	TTGCCCAGGCTGGTCGCGAACTCCTGA
115975	ITGA5	ACCTGCAAAGATCTGTCCTCA
115976	CPNE6	CTCCCTCAGCCTCTCAGTGCC
115977	PTCH	CAGGGCTGAAGCCTAAGCTAC
115978	CYP39A1	TCTTCAACAGTAGACCAAG
115979	RRAS2	GCGCAGTCAGGCTGGGCTCTGTAGCG
115980	PVR	CTTGAGACAGGGTCTGGCTCTG
115981	A1BG	GCCCAGGCTGGAGTGCAATGGCGT
115981	NF2	GCCCAGGCTGGAGTGCAATGGCGT
115981	RAB36	GCCCAGGCTGGAGTGCAATGGCGT
115982	MCCC2	CACTGCTGTGCAGCCA
115983	NUFIP1	AAATTTGTAAAAAATTAGTTTG
115984	ABCC3	GTAAAGTGCCTTACAGGGTAACTGTGC
115985	RAB11A	TATGTATGTGTGGGCTTGCT
115986	MPP5	CTGATCTTTTTAAATTATGATT
115987	PSEN1	GTGGAGGCTGGGATGGGTGAG
115988	BLK	GGGTGTCGGGATCTGAAGAG
115989	LHX3	CAGCCTGCCCTCCCTGCCGGAGCC
115990	BCAS1	TTCACATCTCAAGGAGGGAGA
115991	KLRG1	CACTGTACTCCAGCCTGGGAGATAGA
115992	CAPZA1	TTCTCTGGGGAACTTGTTTTTAAATCC
115993	HAP1	GACCCAGGCTGGAGGACAGG
115994	ASB2	GATCTGCCTGGCCAGCAGTGAGCC
115995	CXCL16	CTGCAACCCCCATCTCCCAGGT
115996	BCL11A	TGTTCCTTTTTCCTGCTGCCATA
115997	ADAMTS12	TGAATCATGCCATGTGCCCA
115998	ARVCF	CTTCGGCAGTGGCTGGGGGAC
115999	TAF4	CTGTAAATACTCTGGCTTTCTCC
116000	CENPF	GAGCAAGTTTATTTACAAA
116001	NIPSNAP1	CCTTCCTGCAACCTTTGCGGCTCC
116002	STK4	CACCCAGGCTTTGGGTGAATTCTGG
116003	MECP2	AGCTCTTCCTGGACAGGCCAGGT
116004	EGLN1	TTATTCCTCAAAATAACATCAA
116005	PDYN	AGGCTGGATAGGAGAGGAA
116006	FGF18	CTCTATTTTTGTACATTGTGTTT
116007	PFKFB3	GCACACTGTCTTGGAGCATCTGCCTTGTG
116008	RANBP2L1	GGCCAGGTGTGGTGATTCATGCCTGAA
116009	SCN2B	CGGGAAGCAGAGGTTGCAGTG
116010	RP1	TTGTGGTCTCAGCCAAAATGAG

116011	OSR1	CTGAAGCTGCTCTCAGGCACCCCC
116012	F13A1	ATTATTAATTACAATGTAATA
116013	MGAT1	GGGTCATCGGGGCTCACTGCCT
116014	NR3C2	TCTGTCTTTGCAAAGGACTGTAAG
116015	SERPINE1	AACACCCTTTCATCTCAGAGTCCACTG
116016	MX2	GCATCCCCCAGCTCTGACAG
116017	LOH11CR2A	ACCTACATGTCTTTTCTTCCA
116018	MAPK10	GAAATCACCTGTCCATCGTT
116019	GPR44	CCTGGGGCTAATCAAATCCAATGG
116020	CD3Z	CTCTGTGTCTGAGTGGCTTCACT
116021	AHR	GCCGCCCAAACTGGAGTGCAGT
116022	GGA1	TGACTCTTCCCCCTCCTGCTCCGGCC
116023	ESR1	GGACCTGTTCCAGTGGGCACTGTACTT
116024	PTBP1	GACCTAGCAGACCAGAGATTTTATTTT
116025	POLR2C	GGGGGTGGAAGCAGCCGCAGGAGCAAGGGC
116026	PCDH1	GAGACCTGTGATTTGCCAAGT
116027	DISC1	TACTCAGTTAGGCAGTGCAGTAC
116028	LZTS1	AGTGCTCTGCCTCAGACGTTGCCTG
116029	C10orf2	GGTCCTGTATATACAGCACTG
116030	BRF1	AGTTGCCCGTGGACAGAGCCA
116031	NR4A2	TCCAACATTCCTTGTTTGTA
116032	GPR92	GTTCATCTGCTGACTTCTGTCTAGGCT
116033	TEM6	TGAGAAACGCAGCCTGCCA
116034	KLRD1	CTGCCCAGGCTGGAGCATAGTG
116035	IHPK3	GCCCTGCCTTCCATACACTCC
116036	VCP	GCCCTCCCTTCCCCCTATCCA
116037	SELP	ACCACCCCTTCCTGTCCCA
116038	SLC24A1	CGGCACACCACAACCTTCACCTC
116039	CYP4F3	CGGGTGGCTGGGATTGCAGGCAC
116040	BMP8	CCTTTCTCCTTCATGCCAGGCT
116041	PYGO2	CTGCTCGTTCTCCTTTTCTGTTC
116042	ACK1	GGAGAAAGGGTGCCAGACCATTCTCTG
116043	CD5L	AGGAATGTCAAAAATACATTT
116044	BACH1	CATGCTGGGGTTAGATGTGTTTG
116045	FMR2	TTGTGGAGCAGTGTTTTGACCTTT
116046	SCN4A	CGGACTGTGTGCAGGTTGCAGAGGA
116047	TBX1	CTGAGGCAGGAGGATCACTTGA
116047	ZNF136	CTGAGGCAGGAGGATCACTTGA
116048	MAGEA3	CTCAAATTGGGAAATCCATTCCATT
116049	FANCA	CTCCGACCCTCCCATGCGGGTGCACACG
116050	BCL2L2	GAGGTGGGAGGGATCACGCC
116051	MKL1	CTTCGGGCCCAGCTTCACCCTGC
116052	VIPR2	AGGCTGGAGTGCAGTGGCCTGAT
116053	TNFSF9	AGCCTCCAGCCTCGACCTCCCGAGGC
116054	ANKRD3	TCGTTTCTCGTTGCCTAAGAT
116055	CDSN	GCCAGTGCCCAGGCATAGGGTT
116056	RBP3	GAGCTTTTGTGCAGGAGCCAGG
116057	SH2D2A	CCCTGCTCTGGGATCCCTTGTGAGGCT
116058	BSN	CATCCCCCTAGCCA
116059	BRIP1	TAAGTTGCTGGGATTACAGGTGT

116060	TEM8	CGGGGAGTTGCGAGGGAGCGAG
116061	NPR1	GGTGCCAGGCCTCAGCCTCACCCAC
116062	SOX10	CCCCCAGTCCTCCTCCACTA
116063	NT5C2	CCCAAAGTTCTGGGATTACAAGTAATA
116064	UBE2G2	GTTCGTGCCTGTAATCCCAGCT
116065	IDH3B	TCTAGACCTGGTGATCATTCG
116066	MEF2A	GTGATTCTCGTACCTCAGCCT
116067	SLC20A2	TCACCCAGGCTGCGGAGACTCACCTT
116068	DGKB	TATTGCATTTCAAAAACATGCTA
116069	CDH1	AGTGATGTGATCATAGCTCACT
116070	DGCR6	TCACCCTTCATCTGGGA
116071	MECP2	TCTCTGCCCAGCTTTTCATTGC
116072	ADH1C	CTTCCCTTGTAGCAG
116073	DGKB	ATCTGAAACTTTTTTGTTT
116074	MPP2	CCCAGTCACCAGTTCTCCTCTGGACTG
116075	GRIN2A	TCACAGCCCAGGCTCACCCCAAG
116076	P2RY2	CACATACCAGAGTCTGGAGC
116077	CSPG2	CTGTGCCTTTCCTATCACCTCG
116078	RAB18	GGGTTTTGTTAATTCTTTTC
116079	GAL	CTCCTGGGCATGTTTGTCTGTGTGCT
116080	SULT2A1	CCTGTAATCCCAGCACTATGG
116081	ZNF43	AGATCATGTGACCCTATACTCTTGCCT
116082	SEDL	CGTAACCTCTGCCTCCTGACTT
116083	TAPBP	CCCAAGTAGCTCGGACTACAGG
116084	CALCA	ATGTGGTTTGGTTCCTCTCTG
116085	WNT6	CTGACTTCGCGCAGCGGTGGCT
116086	CUL3	AATACATTTAACATTGCTTTCTTTTTAGCAAG
116087	HOXC10	CCTTGCTGCATTTCCTCCTTAGACTA
116088	NOTCH1	ATAGAGTGTAGTTTACAGAAAAAGACTTTA
116089	MDM4	GAATGTTTGTGTCACCCCAAA
116090	CYP4F3	GTGGGCAGATCATGAGGTCA
116091	ATSV	TTCTTGCAAAGACTTTCCTCTCTTT
116092	MAG	CTGGGGCAGGAGGGGAGTGAGG
116093	MT3	CGTTCACCGCCTCCAGCTGCTGCTC
116094	PTGIR	AGGAAGGGGAGGCTGCTGCATTGTGG
116095	MYCL2	GTCGCCCAGGCTGGAGGTTAATG
116096	DLGAP2	TCTGTGGGCTGGGTCAATGCAG
116097	CBFA2T2	GAGGCTTTCTTCAGAACTGAAC
116098	NUFIP1	TGTTTCAGCATACATAACT
116099	TEK	AGACCCTTGACAACTGCTGAGA
116100	GLRA3	GAAATTCCTTGATTTGTAATTCA
116101	ARHGAP6	AGGAGGTGGCTCCAGCAGAGGAA
116102	HS3ST4	TCCATTCATCAGATCCAGTTTATGAG
116103	MIR16	CTTGAGGCCAGACTGGGCAA
116104	PCDHA9	TTATATTTTTCTTTCTCTTTCAGCTA
116105	NR1I2	TACTGTTGCCAGAGGCTTGTACT
116106	NPTX1	CACAGCCTGGTTTTGTCCTCATG
116107	GAD1	AAGAATATAAATAAATAAAATAT
116108	COL1A1	CTCCTCGGGGTCGGAGCAGGAGGCACG
116109	SYCP1	GCAGGAACTTAAGACAGTTCCTCCTGG

116110	FGF18	GCTCTATTTTTGTACATTGTG
116111	MAP3K8	GGCTCAGACGCCGTGAGTCAGGG
116112	BAZ1B	TCCTCAAGAACCTGAAGATTCCAGTG
116113	SPAP1	CTCACCTTCATCTACTGTGAA
116114	IMPG1	CACAAACCTCAGTATTCA
116115	OSR1	GCCAGGATATGGACATCTTGG
116116	PNOC	TAAACTTCTACTGAGCAAATGGTT
116117	ED1	CCTTCCCCTAAACCCCAAGCTT
116118	KCNJ12	ACGGCCTCAGAAGTTTGGCCGGAG
116119	CHRNB3	ATCCAAATGCATGTGCTTGTTCTA
116120	BTD	TAGGGGGTATTTTCTGTTCA
116121	CARKL	ACCATTGCCGCATCTACTTCT
116122	REN	CTGCTGGTTGGATTCCGGAAACCCACT
116123	MKL1	CAGGAGATGGGTGCAACTCCCT
116124	SCA1	TTTATGGTCCCTTTCTTTG
116125	PCDHB11	TGTCGCCCTGGCTGGAGTGCAAT
116126	MYD88	TTTCAGCCAGGCTGGAGCAA
116127	LMO2	GCTAGTGGAGAGGCAGGAAAAAGGA
116128	HSPA8	TGCAGCTCTTGGGTTTTTTGTGGCTT
116129	FBXW1B	GAATTGTGCCTACTAAATTA
116130	HKE4	GGCAGTCTTACAGAGGCTGGAGCGGTG
116131	TFPI2	TCTACCATTTTTAATTTATGGTTCAA
116132	DYRK2	ACGGCAGCCCTGAAATGCATT
116133	NUMA1	CCTGGCCTGGCCCCTGGTCCTTCACTGG
116134	TGFB1	TGCGGGGAGGAGGGGGAGGAGGA
116135	KCNMB3	CTGGGAGGCGGAGGAGGTTGCAGTG
116136	DNAH11	CTCTAGCCTCTGCTGGAGTGCAGTGAG
116137	SOLH	GGGCGGTGCCTGTCTCAGAAG
116138	GJB1	GTGGGTGGAGAAGGGAGGGTGGCCAG
116139	CX3CR1	CCAGACCTTGTTCACACTCTCACA
116140	HMGA2	ACTGTTGTGAATCACCAAAGGA
116141	OPHN1	TGCCCCCAATAGTAGTCTCTG
116142	ADH1B	AGCAGTCTTCAGCCTCCTCTACC
116143	RAB5B	GAGGTGAGAATGGGGAGGCAAGA
116144	KLHL3	GGAGGTGGAGGAAGGAGCAGGTGCTG
116145	KRT3	AGAGCACGCATCAGCATCGC
116146	MAPK4	ATCTGTCGCACCCCTGTATTTG
116147	PDGFB	CACCCCTTCCTCCCCATACTCC
116148	HTR2C	CCTGCCTTGCCCCTTACCTGCCGA
116149	PCDH1	TCCCCCAGCCGCCGGCCAGCTC
116150	ASTN	CTTGGCCGATGTCTGATTGGGACCAGG
116151	ATP6V1G2	CTATTACCACCACCTGCTCAC
116152	PIGA	ATATCCAACATGCCAAAAAT
116153	FUT1	CCAAAGTGCTGGGATTACTGGC
116154	CD53	TCCCATCTCAGGCAGCAAGACA
116155	GALT	TAGAGATGCTGGGACTGAGGGT
116156	E2F1	ACTGCTCTGCCCCACCCTCCAA
116157	SHC1	GAACTGCATTCTTTTAAAGTTTTA
116158	DIAPH2	GAAATTGAAGAGTTCTAAGGCTTTC
116159	CYP4F3	AGGAGTCAGAGGTTTCAGTGA

116160	ABCB10	GAAGTATTTACGAAATTGCA
116161	HMGCR	GAAGGGGACCTGTTTTCTTCAAGGGA
116162	EHD2	ACCCCACCCTCTCCCAGCCTGCC
116163	SUPT6H	CCTCACCGACCACCTGTCCTGG
116164	MUCDHL	GAGGACATCGGGACGGAGGCAGA
116165	NOLA1	GCACTCTGTGGGTGCTCAA
116166	ADCY1	CTAACAGCAACATCTGCAA
116167	ADCY1	CCCATTCACCTTCCACAATGCTGGTACCATCC
116168	CRP	CACGTCTCTGTCTCTGGGCCTTTGT
116169	NLGN1	ATGAAAGATTATTATACAAA
116170	MN1	CCCTCCAGGTCCTCAGAGTTT
116171	CHN2	TCTGTTAAATGAAACGTGTATCGTA
116172	TP73	CGACGGCTGCAGAGCGAGCTGCCCTCG
116173	AVPR2	CGTCTGTCTGACCATCCCT
116174	G6PT1	GGGAGCAGAAAAAACCCAACTCAGCA
116175	RGS16	AGTTCTGTGCTGTCTCTTGGAG
116176	G1P3	CAGAACCTCTTCTTCCTTCTTG
116177	SLC9A5	TTTAGCCCCTTCCCTTTGCTGCC
116178	KLK8	TCCCCAGGCTCTAGTGCAGG
116179	MCM2	CTGTTTGTTTCTCCAAGCCT
116180	OPRM1	TGCTACCTCTGATCAAAGCACCTTGA
116181	SSA1	GCCAAACCCCCTAAAGGTCTCCA
116182	NDST2	GGAGGTGGGGAGGAATGAGAG
116183	CTSC	GTAGACTTTCAGCAGCAATCTCA
116184	MKI67	CAGGTGACATCATAAATACTTGCTGAA
116185	PCDH1	GGCCAGCCTGAGCCAGCAGTG
116186	PCDHB5	GCTAGATCTTCAGGGTGGGCTT
116187	PFKP	CGGCTCCCCTCGGCCTCCTC
116188	PTK7	AGCAGGGCCTGGCCTTTCCTCCTCT
116189	ZNF138	ACCAAGTCTCAACACTTACT
116190	FCAR	ACCCAGGCTGGAGTGCAGTGGAGCA
116191	ABCD2	ACATTTGCTGGGGATTTCTGTGA
116192	MBD3	AGCCGGCCCCCCTGCCTCGG
116193	FZD1	TTCATTCTCTAGTGTCTAAAACCTGGT
116194	PRKCI	ACCATGTCCCACACGGTCGCAGGCGG
116195	PTPN1	CTGTTATCTGCTAGATCTAGTT
116196	WISP2	CACGGGCGAGCTTTCTCTCCG
116197	SCAP1	CATTACTGGTTGTTCTGGCT
116198	MMP20	AACTGGATCTTAAGGACTAAAGCA
116199	CASP2	TTCAGTGCCATACATGTTAT
116200	C18orf1	TGTTGAAAATATTTACAA
116201	ZNF74	ACCCAGGCGGGAGTGGTGCAATGGC
116202	TRPV3	CCTCCTGCCAGCTTCCCCCGTCAGCC
116203	HSD17B1	AGACCAGCCAGAGCAACACAGT
116204	WHSC1L1	GCCATTGCAGCTTGAAAAAGAA
116205	ATP1A1	TCCCAGAGCCAAAAACAAATA
116206	RRM2B	ACTGAGAAAGGGAGAACATGGT
116207	EDN1	GGGAGTGTTTGTGTCTGACTCAG
116208	GNA15	CTGCTGGCCGCTCTCTTCTCTGCCTCT
116209	ABCA3	CTCTTCTGGGACCCAGCCATG

116210	SLA2	AGGCTGCACACCTAGAACCCCAAT
116211	HIVEP2	GTTTGTGCCTTTTCTTTACTTTGCTTA
116212	ELK4	CTCATAGAACATTTTAATAG
116213	DUOX2	TCAGCAGTTTGTTCCTTTTCATTGC
116214	FLOT1	AAGTTGCCTGAATGATCCTCCT
116215	PAX2	AGGGCCCGGCACCTCCTGCTGC
116216	MAN1A2	CTGTTTGCAGACGTCCGTGGGAGACCC
116217	CNTN2	GCACAACTAGGAAACCCCAAAGCCC
116218	OXCT	AGCCTCCTCTGACTTTTCTTTTGG
116219	MRPL49	GCCCAGGGTGGAGTGCAGT
116220	TP53	GCCCAGGCTGGAGTGGAGT
116221	IL1F5	GTGAACCTAGAAGCAGAGACTCTGTG
116222	KIT	CACTTAAGGCACTCTGTTATTTAGAC
116223	GFAP	GCTGCTGCTGCTGCTGCTAATCTTC
116224	COX10	TGTGGCCAGGTGTGGTCTCGGT
116225	PPP3CB	AGAAACCATTGTGCTTCTG
116226	TCF7	CCGAGATGGCGCTATTGCACTC
116227	PDE6D	AGGGAAACAAACACATACCA
116228	LMO2	GCCCATCCATAGTAACTGACATGATTA
116229	RNPEP	CCAAATTCCTGTTCCCTGATCAACTTC
116230	BVES	CTCTCAATGCCTTTTCACTTA
116231	SELL	ATCTCAGGCCTCCCTCAACCCCACCA
116232	ALS2	CTGTCCCCAAAATGTGGAATGCA
116233	MADH4	CCACAGACACAATATGTATGC
116234	STCH	TTTAAATAATCACACTTGGA
116235	ACCN2	CTTCATTTGCTTCTCTCAAC
116236	WNT3A	CATCCAGCTACAGGA
116237	SCN1B	GGTCGCGATGATGGGCTGGAGCAGT
116238	ATRX	AAAACATCCAAGAGCACTAGGAT
116239	ACK1	GGGCTGTCAGGAAACCTACC
116240	PLDN	CACAACGCCATGGGGCAGAGCCA
116241	ARHGAP6	GGGAGGAGGAGGTGGTCCTCAGGTGCAGCCCC
116242	MEF2A	ACCCCCCAGGCTGAAGTGCAGT
116243	NCAM2	ATCCAGTTTGCTTTATTTGGCT
116244	NOTCH2	CCAACAAAAATAATTACTTCT
116245	GAK	GCACACAGCTCCACAGGTTG
116246	FGR	CTGCTTTCCTACTCTCCTTTTATCTC
116247	RSU1	GGCTCTGGCTTTTCTTGAA
116248	GDI2	CTGCTGCTGCTCAAGAGCT
116249	TUFT1	CACCCAGGCTGGAGTGCAGTA
116250	TRAP100	TCTTCTTTCAAAATTTCCTCTCCATCT
116251	TEM7	TGTCTCCATCTGGTCAT
116252	SACM1L	TTAATCAGCTTGAACTGCC
116253	KCNJ12	GTTTCAGCTTTCTTGACCTTAGCT
116254	G6PC	TATCACCCAGGCTGGAGTGGAG
116255	SLC9A5	TGCTCTGGGGGCTGGGATT
116256	TEAD3	GGTGCCCTCTGCGCCTCCTTA
116257	DNMT2	CTCTGTCTCTCTTCCTCA
116258	KCNS2	CTTTAGAGAATGTTACTTAGTTAAAC
116259	ADARB1	CCTTTCAGGCTGGCATGGAGAGCTTAA

116260	RFX1	GTCTTCTCCCCAGCCCCGTCCTCC
116261	CORO2B	ATGCCACATTTCATTTGATCT
116262	JAG2	CTTTAACCTTGTATAAATTATTC
116263	SH3BP2	TAAACGATCTGCAACCACCATC
116264	ALDH3B1	CCACCTCCTCTTCCTTGGC
116265	TRIM14	CCACCAGGCCATACTGCTCAG
116266	GPLD1	AGATGTACCTCATTTAACATAGAGATG
116267	SOX1	GAAGTCATTTTGATAATTTTGCTTAA
116268	CARKL	CACTTGAACTCGGGAGGCAGAG
116269	DEFA6	TGCTCCTGCTCTCTCTCCTCCA
116270	PAFAH1B3	ACATTAAACTCTCCTTCCTCA
116271	REGL	TCCCCATCTAGAACTGCCATT
116272	PXN	GAAACCCCTTCTTTACTTCC
116273	NRAS	CTTGTTACTCCCTGTTATTTTTCTGCCC
116274	BACH1	ATGACCATCTGTTGCTCAA
116275	ADAMTS9	GTCGTACTGGATGTAACTAGTCTAC
116276	DGKI	AATGGCACTGCTCCATCCTCCC
116277	CDX1	AGACCTTCCAGCTCCTGT
116278	ED1	GGCAGGGAGAGAGTAGCTGCAGC
116279	PDE6B	TCACCCAGGCTGGAGTGCCGT
116280	LDLR	TGGCCTCACGCCTGTAATCCCAG
116281	PLSCR1	GGCCCCGGCTCTCTGGACCTTGTC
116282	MAPK8IP1	TGTCCTGCCTTGATGAAGCCTGTGCCA
116283	CASP3	GCATGGTCAAAGGCTCAA
116284	GAS7	GCAGGGCTGGGACTGCTGT
116285	PRKWNK3	GGCTCACTGCTGCAACCTCCCCCT
116286	GSTA2	CACAAAGGTGACAGCATTTAA
116287	ZNF267	GCGTTCTGAGAATAAACAGAACCTCTGT
116288	CDX2	GGCTGCTGCCTGCTCATGGCCC
116289	GRM6	GCTCAATTTCTTAGGCTGGAGTGCAGT
116290	CHEK2	CCTGCAGCGCTCGGCACTGTGGGCAGA
116291	TIMP4	TACCACCTGACCTCTTGCTGCCA
116292	MUC4	GGTCTCCTGCCCTTGTTCCTGGCAGCA
116293	UBE2I	CTCGGTTCTGCGCCACTTCCTT
116294	EDG4	ACCCTTTACTACCTTGAACTTCAGCG
116295	NEK2	ATCTTGGGAGAAAAAATAATATTAGGAA
116296	ADH7	AGTTAACTTGGATTACATTTTGA
116297	PCMT1	CTCAAAGCTTTTTGAAAACCAA
116298	LSS	GGGGTGAGGGGCAGGCAGCAGTTGTAG
116299	CSNK1G3	TGAATACTTTAAAAAGTGATA
116300	ABCB1	GGTATCTGTTTAACATTTCCTCAGTCA
116301	PAX2	CCGACACAGACTCTCAATCTGCCG
116302	TCN2	CTCAGCAGGGCTGCTCAGTGCCT
116303	GPC1	GGAGGACCCCGAGGGCTGAGGAGCAGC
116304	SMURF1	GATGGTTTGTTTGGTCCTTTT
116305	TXNRD1	TTTGTCATGGAGGCAGACATAC
116306	PRKACG	CTCTTTCTCCTCCCACAGGGTC
116307	FAAH	GCCCCTCTGGCCCTGCCAGCTGCC
116308	ADAM19	TGCCTCCTCGGCTTCCTTGGAA
116309	SNX15	CGCCTCAGTCTCCCAAAGTGCTGAGA

116310	FEN1	GGAGAAGAGAGAGGGAGATAAAAG
116311	PIK3R1	GTGGATTATTTCATTTTGTAAC
116312	ADCY9	ATAAAGTGCCAGTAATCCGCCAAGAGG
116313	PPP2CB	AACAAATTGGGATCTGTCTTG
116314	F2RL3	TGCAGTGAGCTATGATTGTACCACTGC
116315	TRIM14	AGGCTGAGGAAGGAGAATCACT
116316	GALT	TCACCTTGATGACTTCCTATCCATTCT
116317	SOX4	GGAGGAAGAGGGTAGACAG
116318	CRYBB2	ACCATGGCCTCAGATCACCAGACCCAGG
116319	DISC1	ACCCAAGTTGGAGTGCAGTGG
116320	ADRA1A	TCTCGATCTCTTGACCTCATGTC
116321	CTGF	GTCGATTAGACTGGACAGCTTGT
116322	TBX5	AGCAGAACCTTGCGCGGGCACAG
116323	VAMP1	CCTCCCACCACCCATGTGCAT
116324	CISH	CAGGAAGAGCCAGCAAGAGCA
116325	MTERF	GTCTCTATTTCTTCCTTT
116326	MLLT2	ATTTGGCTGTCTGATATTATGAT
116327	REGL	GAGTCCTGCAGCCAGGAGGGT
116328	CD5L	GAATGTCAAAAATACATTTTACTTTA
116329	HLF	GTTTTCCCACTTTTTGGTAATATATAT
116330	SDC1	CTTGGGCAGAGCTGGCTCTGAGCGCCTC
116331	SLC21A3	CACTAAATTTGTTCTTTGATATTGGAA
116332	DCLRE1C	TACCTTGAAAAGAAGGTTGGAGTGCAG
116333	CCR2	GCCACATCCCCCTGTCTAAAAATTCAG
116334	KCNA3	TCTACAACTTTGAATAAAGGGA
116335	PCDHGA1	GGATGGGGCTTCTTCAACAGGGCCCCTGCCCT
116335	PCDHGA10	GGATGGGGCTTCTTCAACAGGGCCCCTGCCCT
116335	PCDHGA11	GGATGGGGCTTCTTCAACAGGGCCCCTGCCCT
116335	PCDHGA12	GGATGGGGCTTCTTCAACAGGGCCCCTGCCCT
116335	PCDHGA2	GGATGGGGCTTCTTCAACAGGGCCCCTGCCCT
116335	PCDHGA3	GGATGGGGCTTCTTCAACAGGGCCCCTGCCCT
116335	PCDHGA4	GGATGGGGCTTCTTCAACAGGGCCCCTGCCCT
116335	PCDHGA5	GGATGGGGCTTCTTCAACAGGGCCCCTGCCCT
116335	PCDHGA6	GGATGGGGCTTCTTCAACAGGGCCCCTGCCCT
116335	PCDHGA7	GGATGGGGCTTCTTCAACAGGGCCCCTGCCCT
116335	PCDHGA8	GGATGGGGCTTCTTCAACAGGGCCCCTGCCCT
116335	PCDHGA9	GGATGGGGCTTCTTCAACAGGGCCCCTGCCCT
116335	PCDHGB1	GGATGGGGCTTCTTCAACAGGGCCCCTGCCCT
116335	PCDHGB2	GGATGGGGCTTCTTCAACAGGGCCCCTGCCCT
116335	PCDHGB3	GGATGGGGCTTCTTCAACAGGGCCCCTGCCCT
116335	PCDHGB4	GGATGGGGCTTCTTCAACAGGGCCCCTGCCCT
116335	PCDHGB5	GGATGGGGCTTCTTCAACAGGGCCCCTGCCCT
116335	PCDHGB6	GGATGGGGCTTCTTCAACAGGGCCCCTGCCCT
116335	PCDHGB7	GGATGGGGCTTCTTCAACAGGGCCCCTGCCCT
116335	PCDHGC3	GGATGGGGCTTCTTCAACAGGGCCCCTGCCCT
116335	PCDHGC4	GGATGGGGCTTCTTCAACAGGGCCCCTGCCCT
116335	PCDHGC5	GGATGGGGCTTCTTCAACAGGGCCCCTGCCCT
116336	PC	GTGGTCCTAGGACCCAGGGGAGG
116337	ADCY2	TCTGACTGCAACTTCTGTCCCTT
116338	DLC1	CTGCTCAGAATAGAGCCATGATCTCA

116339	NXF1	ATTGAGCCTCACTGGTGCCAGG
116340	POU2F2	GCCTGGGAAGAGGGGCAGGAGGCCAGT
116341	WBSCR1	GAGGAGCAGAGGTGGCCGCCGTGG
116342	SRP68	CAGACAAGCAGAGAGCTCTAT
116343	EXTL2	CCCATTGTCTGTGTTTAGTCCTTGTT
116344	ESR1	GGAAGGCAGATCCCCTAGTTGGCCAA
116345	MAP3K10	CGGCCAGGCCCTCTTAGCCCTCT
116346	NOLA1	CTTGGTCATTTTATGACAATGGA
116347	MHC2TA	TGTTGCCCAGGCTGGCGTGCAGT
116348	ETV1	TTTGGGGATTACTTTTTACTTA
116349	TRPV3	GGGGCAGCAGTCTTGAGGAGCAGGGA
116350	ENC1	TGGTCTCACTACTTGACCATTCTCACC
116351	SHOC2	TGGGGGAAGAGAAACTTGCAGTGA
116352	AKR1C4	CATCTAGCAGAAGGCCCTGTGTGTGGA
116353	GA	AATGCTGGTGCCATTGTTGTCA
116354	CORO2A	GGAGGCTGAGGTGGGCGGATTGCTTGA
116355	FASN	CCCTGCACAGGCACACAGGGCC
116356	KMO	GTTGACCAGGCTGGAGTGCAGTG
116357	EDNRA	GAGTGGAAGGTCTGGAGCTTT
116358	IL1A	CTGTTCTCTTCTCTACCCTG
116359	HS2ST1	AAATGAACTTCAGTAAGCTTTCA
116360	DDX11	CTGACTTCCGGCAGCAGCTGCT
116361	RANBP2L1	CTGAGGCTGGAGAATCGCTTGA
116362	NGB	CTGGCCGCGCGCCTTTTCTCTC
116363	CDH1	GTGCCTAAAGTGCTGCAGCCAAA
116364	RFXANK	GCCAGAGCTGGGGAAACCCAGA
116365	KIF3B	TAGCATCCTGAGACATTTTGAA
116366	CTSS	CATCCTTACCTCCAAAAGCACAGGGA
116367	TERT	GACCCTGCACCTGGATGGG
116368	ZFP161	CCAAACCGTTTCACTGTCTTGTC
116369	SLC29A2	CATCCACTTGGAGTGCTGCGGG
116370	KHK	CTGCCTCAATTTCTTCATCTG
116371	UBE3A	AAAAAGATGGCTACTGTGCC
116372	CA11	GAAGGAGGGGACAGAGGAGC
116373	PLA2G4C	ATGAGCCTCAGCTTCCAGGGC
116374	SLC10A2	GCATGAAACATTAACACAGCTCTTT
116375	SOX12	TCTGCATGTCTGTGCTCTTCCTC
116376	IL1RAPL2	GGGAGTGGAAAAAACAGGCGGG
116377	IGF1	AATATTATCTTTCTTAACTTTTTCC
116378	HSPA6	CCAATGCTACTGTCAGCT
116379	SMAP	AGAAATTCTCTGATCATTTAGTTCTAT
116380	ZNF141	AGAAACTTCACATGTGAA
116381	TM4SF2	TGAAGGAAACTGAACTTGAGGTGGCCT
116382	WHSC1	AGCGGCCCTGAGCTTGCAGGGT
116383	CSNK2A1	TGACTAGTTTCACATCTCTTTG
116384	PTEN	TCTCCTGAAAGGGAAGGTGGAAGCCG
116385	LDB2	TCATTACAATTGCAAATCTTTACT
116386	CLECSF12	GTCCCGAACTCCTGACCTCAAGTGAT
116387	SYNGR1	AGATGCCAGGGCATGCAGGGCAG
116388	POLA	CCTCCACTCTGGCCCTAAATGCTCC

116389	MYO1A	ACCAGCACTAATCCCCCTCTGCCCTCC
116390	TAPBP	AGTGGCATGATCTTGGCTTACT
116391	PCSK1	TCATTCTCGGACCCATCTTTGCTCAT
116392	CLN5	TGCCATTGTTTTCTTGACCTAGT
116393	BACH2	CTTCCCTTGGCTCTGGGGGCCG
116394	KCNJ16	GAGCCCAATCTCTGCTGGTCAG
116395	PKD1	CGGTTTCTAGCCTCTGAGAT
116396	PODXL	CTTACAAAAATATATTTTGGA
116397	CBFA2T2	TGTCTCCCAGGCTGGAGTGCAAT
116397	TNFRSF10B	TGTCTCCCAGGCTGGAGTGCAAT
116398	SEPN1	TGTCACCCAGGCTGGAGTGCTAT
116399	TNFRSF6	ATGCAGAAAGCACAGAAAGGA
116400	HAS3	TTTGGGCATCAGAAAACAGGGTCCAG
116401	GLI2	AGAAGAAAAGACACAGGACTGTG
116402	GRM1	CTTGTTACTGCCTTTTGTCA
116403	TTF2	GGAGGTTGAGGCTGCAGTGA
116403	UBE2B	GGAGGTTGAGGCTGCAGTGA
116404	CTF1	GAGGGGAGGGGACGGGCAGGGT
116405	ANXA4	CTTATAAGATATAAATGGAGATT
116406	MLANA	ACCAGAAATTGGTAGAAGGA
116407	CITED4	GGTTGCTGGGCCTCCCACCTCA
116408	MHC2TA	CTGGGCTTCAGTGGCAGCTGCTTTTG
116409	SP3	ATCCAGTCAGCAGATGGTCAGC
116410	SEDL	GCGCAATCTTGGCTCACTGCAACC
116411	PDGFRB	CGCAGCCATAGCAAGTGCCTG
116412	ARNT	ATCGAACACATTCAGTGATAA
116413	APC	AGGGCAAGATCTCAGCAGTGAAGTAT
116414	EFNA4	GCACCTTGCCCTCCCCAGGGGA
116415	DDX9	GCATTTTCACCCATTCTGTGGTTCA
116416	CD86	TTTGGAGCTACAGTGGA
116417	SLC1A4	CCTGGCCTGGCCCTGCAGTAAGAAGC
116418	HCFC1	CGGCACCGCCTCCCAAACAGGG
116419	VCL	ACTCCTGTAATTCCTACCTC
116420	DNMT2	CTGTCTCTCTTCCTCAGCAGACCT
116421	KCNK3	CACCACTGTACTCCAGCCTGGG
116422	ADCY2	TACCACTGCACTCCAGCCTGGG
116422	F2RL3	TACCACTGCACTCCAGCCTGGG
116423	CYP3A4	CACCACTGCACTCCAGTCTGGG
116424	F2R	CGCCACTGTGCTCCAGCCTGGG
116424	TADA2L	CGCCACTGTGCTCCAGCCTGGG
116425	CTMP	TCGTCATGACTGCCAATCTCAACA
116426	XPNPEP1	TTAATGCTCATGAGACTATATTTATG
116427	MSR1	GCTCTGTCCTAAATATCTCA
116428	LZTS1	AGGAGGGGAGAGACAGGCAGCCCAG
116429	TMEPAI	GGTAGTGGCCTCTCAAAGGCTGGG
116430	ADCY1	ACGAAGTTTCAGAATTGGCTG
116431	JAK2	TTTCAACTCAGCTTTTTGAGACC
116432	ACPP	TTTCTATGCTTGTAACTGTCTTCTAGC
116433	HOXB6	CCCCAATCTCCCACAGGGTGCTGGG
116434	ITCH	TGAGAGGGAGAGCTGTGG

116435	GTF2E2	GGCTGAGGAGAGGAGCAGT
116436	IFNAR2	TTTGTATTTTTAGTGGAGACAGGATT
116437	MECP2	GCCACCCTGTGCAGAAGGGAGC
116438	GABRE	GCCCCCAGCCCCAGCCTC
116439	DDX11	GCCAGGCCCATTCCCAGCTGCTGCAGT
116440	OTP	GCACAGACACGGTGCACCTAGGTCAC
116441	APAF1	TATCACCCAGGCTGGAGTGCAGT
116442	GAB2	TGGACTTTTTCATTCCTGTTTTTCTTG
116443	LPIN2	TCTCCTGGCCCTGTGTTGAGGGTAGC
116444	RNF3	CTTGCAGAAAGAGGTTGCTGCA
116445	SERPINB5	TTGTCTCTTCATCTAATATGAT
116446	TGFA	ACTAAAATGGTCAACTTTTCAT
116447	TEM6	TGGCCACAGGGAGCAGAGGTTTGT
116448	CBFA2T2	GCAAGAGCCACCATACCAGTT
116449	CAPS	CCAGGTGGGAGGCTGTGTGTG
116450	PDCL	TTTCCAGTCAATATTTACA
116451	RGS6	TTTCCACCCTCTTTGAGATCAGCGTTC
116452	ADH1B	TACATATATACACATATACAAA
116453	EXTL3	CTGCTCTCCCATTTCTCTCTTGTTTG
116454	FGF5	CACCAGGCTGGAGTGCAGTGGCATG
116455	IQGAP2	CGCAGATCTTCGGGCGGCTA
116456	SERPINB9	AACCTCCTCCTCCTGGATTCAAGCAA
116457	CD244	GACTCTGGCTGAGCCC
116458	KCNS2	GGCGCGGGTTCCTGCCTCTC
116459	EVC	CCACAGTGTATATAACCA
116460	OASL	ACCTGTAATCCCAGAACTTTG
116461	ERBB4	GGGAAACTAAGAGACAGTTCTCTG
116462	MAGEA5	TCCGAGTCCTTGCAGCTGGT
116463	CNTN3	ATTTTCCCATTATAATAGCATT
116464	ADD1	CCAAGCCCCACTGAGGCCCCTACTGAG
116465	COL19A1	GCTATAATCCAAACGTTTTACT
116466	DSC3	CACTGCCCTTCTTCTGAGTGGCATTGG
116467	SYNGR1	AGCCCTGTATCACCCCTGGCAGT
116468	MDK	CGTTAGCTTTAATCAATCATGCCC
116469	ADCY1	CCTGTAAGCCCAGCACTTTGG
116470	LMO4	CCGCAGCCCCCGACGCCTGGGTG
116471	PPEF2	TTGCCCAGGCTGGAGTGCATT
116472	DNASE1L1	AAACCAGCAAACACCGGGA
116473	DRD2	CCTTCCTTGACCTTCCTCTGG
116474	SOX5	TTCAACATTCCATCCTTTCC
116475	CNN2	AGACCTGCCCCGGGGCCAGGT
116476	FSTL1	CTTTTATGTATCCATCCCATC
116477	FCAR	TTTCGCCAAGGCTGGAGTGCAG
116478	MN1	TGCTCCCAGCCTGCAGTCTTTG
116479	UBE2I	TTCTGCTCTGCTGACTGGGGAAGTCAT
116480	DPYSL3	CTGGTGTGTGGGTGTTCAGTTCTGTG
116481	DXS1283E	CAGGACTGGAGGAACAAAGGTTT
116482	TSPY	GCACAGGAACTAAAGGAAAAAG
116483	ADAM11	GCGGGCCTAACATGTTGTGCCTGGACCA
116484	PFKFB3	ACCAATGATATTTTTCTTTGTAATACT

116485	PTHLH	TGTATTTCTTCCCCTTACTCT
116486	ABL1	ACCAGCCTTTGGGTCCTGGGC
116487	SURF4	CCCAGCACTGGAGACCCACGGACTCA
116488	AIM1	CCTCCTTTCATTTCTTGCCT
116489	GRB14	GCTCCTCCCCTCTCCCCACC
116490	HOXA1	GCGAGTCCAGGAGCTCAGGAA
116491	GCNT3	TCTCCACCTGTCTCCCATTCTGTG
116492	IL16	TCTGTTGCCCAGGCTGGAGTTCAGC
116493	RBM8A	GCTCACTGCAGCTTCAAACTCT
116494	HOXA1	TCTCCAGCGCAGACTTTTGCT
116495	CRABP2	CCTAGCCCCAAACCAGCCCAGAGCAG
116496	ZNF9	AGGAATTGCAGAGAAATGCAT
116497	AKAP13	CCTCAAACCACCCAACTTCATCCA
116498	JPH3	AGGGAAAGACCGCAACTCGGAC
116499	BCL10	TTTGTCTTTTTGTTGTAAAACAA
116500	ASH2L	AAATGTTCTCCCAAAGATGCT
116501	DCLRE1C	CACTTGAACCTGGGAGGTGGTGG
116502	SLC7A6	CAGGCAGCCTGGTGGTATGG
116503	HLA-G	GGAGGCTGATCCCTGAGATCCTTGGGA
116504	PAX4	ATTTACTGTAACTTCTTAATCT
116505	SURF4	CAGGCCGCCCTGGCTGAGCAGCACCG
116506	AOC3	GCTTGGGCTCCATTCCCATCACTG
116507	LOH11CR2A	ATGAGAAAGCCATCTCCCAGGGCCACCA
116508	TAF11	TTGAAGCCTGAAGTTGCTAAG
116509	ANK3	ACATAGTACATTCATCACTG
116510	PIK3R3	GCAGGGAGAGAAGATGGCTTA
116511	MAT1A	GGTGAGTTGGCTTACCTGGCCC
116512	CD47	GGAGAGTAGTAAGACGTGAAAGGAA
116513	ZNF80	TCTCCCACACGGACACCTTCTGG
116514	PCTK1	TTACCTCCCCTTCCTCCACCCTAAGCC
116515	SAS	TCTGACTTTTCTTCTGCTCTCTCT
116516	KCNJ3	AACAGTTACGGAGGGAGGAC
116517	A1BG	GTCTCACTATGTTGCCCAGGC
116517	G6PC	GTCTCACTATGTTGCCCAGGC
116517	GRM6	GTCTCACTATGTTGCCCAGGC
116517	MHC2TA	GTCTCACTATGTTGCCCAGGC
116518	CHRNB4	ATCGCCCAGGCTCAAGTGATTC
116519	ATP8B2	GCTCACTGCAACCTCCACCTCC
116519	CDC2L2	GCTCACTGCAACCTCCACCTCC
116519	CSNK2A2	GCTCACTGCAACCTCCACCTCC
116519	DSCR3	GCTCACTGCAACCTCCACCTCC
116519	EHD2	GCTCACTGCAACCTCCACCTCC
116519	FEZ1	GCTCACTGCAACCTCCACCTCC
116519	IGF1	GCTCACTGCAACCTCCACCTCC
116519	LYZ	GCTCACTGCAACCTCCACCTCC
116519	MEFV	GCTCACTGCAACCTCCACCTCC
116519	MPL	GCTCACTGCAACCTCCACCTCC
116519	NUMA1	GCTCACTGCAACCTCCACCTCC
116519	PDCL	GCTCACTGCAACCTCCACCTCC
116519	PDE6B	GCTCACTGCAACCTCCACCTCC

116519	PPP1R12B	GCTCACTGCAACCTCCACCTCC
116519	RPH3AL	GCTCACTGCAACCTCCACCTCC
116519	SEDL	GCTCACTGCAACCTCCACCTCC
116519	SEPN1	GCTCACTGCAACCTCCACCTCC
116519	SLC14A2	GCTCACTGCAACCTCCACCTCC
116519	SNX15	GCTCACTGCAACCTCCACCTCC
116519	STAU	GCTCACTGCAACCTCCACCTCC
116519	TAT	GCTCACTGCAACCTCCACCTCC
116520	SHOX	ACTCACTGCAACCTCCGCCTCC
116521	GPR55	ACCGGACCACCAACAGTTGTGATT
116522	PMM2	AGTAGCACATTAAAGTGATTTTA
116523	TNFRSF6	TTGGGTGAAGAGAAAGGAAGTACAGA
116524	APRT	GGGGCACCGGCTGCCCACAGGGAAC
116525	RAPSN	ACGTGGGACACAGGGCTTGGGGA
116526	MFI2	CTGAGTAGCTGGGATGACAGGC
116527	KCNK6	TGTCTCTCTGGCTCTCTGGCA
116528	PCDH11Y	TCTGCAAACCTTTAGTTTTCTGATGAT
116529	PBX1	CCCCTGTGCCTCTGTCCTAGACTTCCCGG
116530	APOA2	CCTGTCCCTACCCACTCTTTGC
116531	FGFR1	TGGCATGCAGTGCCCTCACAGAGACCC
116532	HDAC4	TGGCCAGCCCTGGATTTTGGA
116533	HDLBP	TGGCAGGCTGACAGAGGCGG
116534	NFATC1	TTTGATGTCTGTGTCAGCTGTC
116535	CORO1C	CTCTCCATCTCTCACCAAGGCTGCGTCAAAG
116536	CD5	CGTACACCTAATCCCATGGGGCCTC
116537	ATP5G2	AGGCAGCCTGGGGAACGTGG
116538	CRTAP	ACAGTGCTGGGATTACAGGCGT
116539	VANGL2	GGTTCTAGGGCAGGGATACTCCT
116540	IDH3B	TTGTGCCTCTAAGCAGTGGACC
116541	GATA2	GGCAGATTTGTGGGGACCTCAGCCTGCACCCT
116542	LIG4	CCAAAGCCAAGAAAGAAAAAT
116543	ENTPD3	GCATTTCGCCAATCAGAATCTCA
116544	DUSP4	AGTCCTCCCTCCCCAACCTCCT
116545	CNTF	CTGACCACCTGCAGCCTGTTG
116546	SLC13A3	CTGTTTCTCTGGGCTCCTGAGCATAC
116547	ENG	CTCACCCTGGGAGCCAGTCCTCCAC
116548	CREBBP	TGTGCAACAGACAAAAAGG
116549	HIRA	AAAGAGACTGTTTTGGGGGA
116550	KIF5C	GTCTTTTTCTCCTCTATGAAT
116551	FHL2	CGCCCCGGAGGGAGGCCGAGGG
116552	BIN3	CACAGGCTGGGGACAGAGGTGGCCCTG
116553	DMPK	TTGTAGCCGGGAATGCTGCTGCTGCTG
116554	KCNK6	TAGCCACGTCTGGCCTGTGTC
116555	RPE	AACTGATTGTGCAGAATATTCTA
116556	COG8	GAGAAAAATCACCCCCAAAGGAG
116557	TRIM14	TGCAGTGAGCTGAGATTGCACCACTGC
116558	AIRE	CTGTAATCCCAGCTACATGGGA
116559	DYRK1A	CAGATTCCTGGGCTTAAGCAGT
116560	NR1H2	TAGGGTGGAAGGGGCCCTGGGCGAG
116561	INHBC	GTCCAGGTGAACTACTAAAGCT

116562	FANCE	ACTGTAACCTCTGCCTCCCAGG
116563	AIRE	CACTGCCCTGTGAGGAAGGGT
116564	SLC2A3	CGGAGATCGCATCATTGCACTC
116565	CYP4F3	CCACTGCGCTCCAGCCTGGGGG
116566	RAD50	TCGGCCTCAGTTAAGCCTTTGTGGA
116567	RANBP3	AGGGCCTCTTTGGGACTTCAGAGGAA
116568	AMFR	CTCCTACGCTCCCTTGCCTTCCTCA
116569	GGT1	CCCCAGGCCTCAGCAAGGCA
116570	FLOT2	TCTTCCCAGCCCTAAACCCTG
116571	ADCY2	CACAGTTGTTTCAGAAAGAGCTCTCCAG
116572	SWAP70	GTATGTATTTATTTACATGAGA
116573	RAP2A	TAAAAATTGAATAACCATGTGAA
116574	ETF1	AAGTTGGCCTGAAACCCTGAAGCTG
116575	ADCY1	TGTGTGCTCCCCTCGCGACC
116576	PRSS8	GCCCTTGTCCTGGGCCATGGCCC
116577	RNASEL	CCCTCACTTCCCATACCCAGTCTAG
116578	CISH	AGGAAGGTGCCTGCACATGAG
116579	SUDD	CCTGTCTCCTCGGCGGAGCCTGCTGC
116580	CALCRL	ACCACAACTTGACAAGGTTGCTA
116581	SOX12	GCCCTGTCCCTGTTGCTGTGGCC
116582	MC1R	CTTTGCTGCCAGCTCTCAGGACCGTGCC
116583	KRT4	GAGGAGGGAGGTGCTGTGAGCCTAGCG
116584	SLC39A4	GGAGGCGGAGGAGGCTAGTGGCAGTA
116585	B4GALT5	ACCACACCTGGCTAATTTTTTGT
116585	MDM2	ACCACACCTGGCTAATTTTTTGT
116586	DAAM2	GCAAGCCTGGCTGACACAGGTG
116587	SCNN1G	TCACCCACACTGCCAGCCTGGGTTGGGGC
116588	COG6	TAGTTCTAAATTAACAGCTTA
116589	WHSC1	CACTGGAGAAAAGGCAGTAAGAA
116590	EMP1	GATCTACCCCAGGGAGAATCTGA
116591	PPP5C	GGGCTCACCCCCCTCCCCAGC
116592	GDF5	GGGAGAGAAGAGGAGAGGGCTTG
116593	CXCL16	ACCACACCCGGCTAATTTTTTGT
116593	MTR	ACCACACCCGGCTAATTTTTTGT
116594	MAGEL2	CACTGCCGCTCCAGCCTTCCTGGCAG
116595	PGAM1	ACTGATTTCTGAATCATGTTCTA
116596	ADRA2B	GGGACCCCTTCTCCACCCTCTCCCTG
116597	TAF5	TGTTTTTAAAAAGGGAGACTA
116598	CSK	CCTCCTCCCCTCTCCTTGCACC
116599	IQGAP1	GATTCAGAGAGACAATTCACTCCA
116600	EDG8	TCACTGCAGCCTGGAACTCCTG
116601	NOTCH3	TGGCCTCTCATTTCCTTACACTCT
116602	G6PC	TGACCTCAAGTGATCCACCTGCCT
116602	IL12RB1	TGACCTCAAGTGATCCACCTGCCT
116603	LDB3	CAAAGAGATGTCTTCTGGGAGCCACTG
116604	MS4A7	GTCTCAGAGGCTGGAGAGCAGAGCACCAAG
116605	NEURL	TCAGCCCAGTCCCAGCTGAGG
116606	SLC30A3	ATGAGTCTGCTCCATCCATGTGTC
116607	PRKCB1	CCTCATCCCCAAACTACTTGAAAAG
116608	HMGA2	AGGGAGAAGACACTGCAGTGA

116609	TRPM2	GGCCCCAGCCAAGGGACACATCTC
116610	MRC1	GTTCCGCCCTCCTGTCCATCA
116611	MYO1D	CAAAAATTGCACTGTGTG
116612	NRIP1	GTCAGCCTACATAACACATTTT
116613	IL8	TTGAGGCCAAGGGCCAAG
116614	ADCY6	GGATTACAGGTGTAAGCCACT
116615	SLC25A15	TTCAATAGAAAGAGTCTGAGGCA
116616	NKTR	TATCTGGCAACTTAGCTTAAG
116617	BCL2L2	GGTGGGCATGGAACAGGATGGGCAGAGAAAG
116618	PTCH	TGTTGCTGCTGCTTAAATATTG
116619	TNFSF9	CTCATCCCCAGCCTCCACCTCC
116620	MAGEA12	AGATACTTAATTCTTGCCT
116621	TNFRSF10B	ATCCTCTCCCACTTCCATCTGGCATCC
116622	FANCC	ATCTCTTGAACCCGGGAGGTGG
116623	CYP1A1	AACCATTGATTTAATGTAATA
116624	B4GALT2	GTTTCAGAACCCACTTTGGG
116625	MADD	ACTCTGTGAGGAGTGAGGGAA
116626	ALDH1A2	CTCTTGGTTCAGTGTGGAGAA
116627	RB1	AGGTAGCTTCAGCTAGCTTTTAGGAA
116628	MUCDHL	TGCCATCTCCCCTCGTCCTGCG
116629	CTF1	TGCAGCCTCAACCTCCTGGGC
116629	MHC2TA	TGCAGCCTCAACCTCCTGGGC
116629	NCOA6	TGCAGCCTCAACCTCCTGGGC
116630	APBA1	CCAGGATAAAAGGGGAAATAACTGCCT
116631	PROK2	TGGAGTAGAAACCAAATGTG
116632	BCAR1	CCCTGGCTCCCATGTCAAGAGTCG
116633	PIGA	TCTTTAAACTATTCAGTCTTA
116634	HUNK	TCATTCAGATCTTCCTTCCTCC
116635	PCTP	GCCAGGTAAAATTTAACTGGT
116636	MADH4	TTATTCCTAGTGGATGACTGTTGATGA
116637	TNFSF11	GTTCTTTTTAAGTTAATAGATTTTTTCA
116638	AKAP13	GCTCTGAAGCTAGGACAGCTGGCT
116639	KCNA7	ACAAACAAAAAGAGCCAGTGG
116640	PIAS3	CGCTGTCCCCCAACACTGAGCAA
116641	LY6E	CCCCTGCCTCTGCCCAAGTGGGCCAGC
116642	DNCI1	TTCTAAATGTGTCCCATCATGCT
116643	IFNAR1	CACTGCACTCCAGCCTGGTGACAGCGT
116644	ZNF179	CTTCCCAAATCTGCTCCAGCA
116645	BAZ2A	TTCAGTGATTTTTCTGCCTCG
116646	NUP62	CTAGCCGTTTGTGCCTCGTC
116647	DBT	TATCATCTGATAGTGTC
116648	COL13A1	AGGGAAAGACTGGGCGGAGAGAA
116649	BRIP1	TTGCCCAGGCTGGAATGC
116650	MGAM	TGTTAATTTTGTTATATGTTTTTTGT
116651	DHFR	GGCTTACTGCAACCTCCGCCTT
116652	RGS2	GTGGCCTTAGGTAGCTGGTT
116653	SSRP1	AGGCCACCACAGGCAGGGGTC
116654	MLLT2	CTTAAACCTGCTTGCTTCCTACCA
116655	CNTFR	GGGAGGTGGGCCATGCAGCTAACCCA
116656	HTR4	CACTCACTGTGTCTGATCTGTCTC

116657	BCL2	AGTTTGCAGTATGCTCCACGTGGT
116658	FLT1	AGTTAGGTTGTCTCCAGGCCATGATG
116659	NR1D1	CCCTCTGATTTGTTCTGTTCCTGT
116660	MYOG	AAGCTGTGCACGTCTCCTGTTCTGGTC
116661	IFNA21	TCAGATCTTTTCAGGAGTGTAAG
116662	RAB18	TATTTGCAAGAAATCCCACT
116663	RPS15	TCATCCCTCTCAAGTATGGCTCAG
116664	MSL3L1	CTTCCCTCAGCCTCGCCTGCTGT
116665	TP53	TGTGAGCCACCACGTGGAGCT
116666	GM2A	TTGCCCAATTAATACTAGGGTGCAGTG
116667	SH3BP2	CAAGTGCTGGGATTACAGGCGC
116668	IL6ST	GATCAAATGTATTCAGATGG
116669	CYP27B1	TGGTCTCTCTGCTTGCTTGGCC
116670	ADAM21	TGAAACTGAGCACATTTCTGACCATT
116671	PSMD9	CCTAAAGTGCTGGGATCACAGG
116672	PFKFB4	AAGCCCTTTAGACCCAGAGCCCAAGGACC
116673	KCNQ1	CTGAGTGAGAGGGGAGGCCAAGA
116674	DGKI	CAGGAGGCGGAGCTGGCAGTG
116675	MDM1	GTGCAGGTGAGGCAAAGTGCTGGGACT
116676	MME	TTTAAGTGTCTGAATCGAGTGAG
116677	KCNH1	CCGCCAGCCCTGCCTGCGGATCCCC
116678	LEF1	CCCAGCACTTGAATTGTTATTACTTTA
116679	ADD1	CTCTCAGAGCCTCAGCTTCTGGGGGAGACAT
116680	NET1	GCTCTGGGAAGAAAAGCCCGT
116681	SMP1	GTACTGAACCACTAGCCTA
116682	KCNN4	GGTGGGGGACCCTGGGCAGG
116683	APOH	TGGTAGTGCCAGTGTGACTC
116684	CD4	GGTTGCAGAGCTCCAAGTCCT
116685	PTGES	TGTTGCCCAAGCTGGAGTGAAGTGGTA
116686	CPA1	CTCTCTGGCCCCATCCAGGCAACCAA
116687	EGLN3	TCTCTGGAGTGTAAGCACAA
116688	CASP2	TCTGTCGCCCAGGCTGGAGGGC
116689	SPG3A	AGTTCCTTAGTTGCTTTAT
116690	ICOS	CCAGTTTTAAGAGGAGCCACTTATC
116691	WWOX	GCACAGCCCACGGACGCCAC
116692	AF1Q	CACCTGAGAGTAGTATAGTAGTGCAAA
116693	GATA2	ACTTTATGTAGAGAAAAGGAGG
116694	MLANA	GGCCATCCAATTTCTCTTTACTTGA
116695	ERN2	CCGGAGGCCACACAAATGGTCTCCA
116696	ALOX15	TTTGACACCCAGGCTGGAGTGC
116697	PPT2	GACATTTTTAGCTTCTCTCCTCCCCA
116698	RBM3	TGGTGTACGCCTGTAATCCCAG
116699	SLC2A3	GCGATGGGGACACAGAAGGTCACCCCAG
116700	CRY2	GGGGAAGAGATGGTTGCAGGCA
116701	ETV5	GCAGGGCCGTATGCATCCTGCC
116702	LUZP1	TGGCACATGCCTGTAATCGCAG
116703	SRRM2	GGTTGGGACTGGAGGTTGTATAAGG
116704	PLA2G2D	CCAACTGCTCCAATCTGCCTCCTTC
116705	ENO2	AAAGGGCCTTGACATCAGTTC
116706	CD80	TCCAATAACAGGTCAACTTCA

116707	SPARC	GTTCATCACCATTTCCTCCTTTACC
116708	TACC1	CATGGTGATATGCACTATATTC
116709	GA	GAGGCAGCAGCTGAGGCCCTGTCCAA
116710	SOX8	GGCGGCACCAGCACCTTCGCTTT
116711	GZMB	TGGAGCCAAGTCCAGATTTACAC
116712	XT3	ATTTTTGTTTTTGGCTGAAG
116713	HPSE	GACTCTGGTAGCATGATGGCT
116714	MEL	CTCCAAATCGGACGTTCTTTCTA
116715	RBM8A	GCTCACTGCAGCTTCAAACTC
116716	USH3A	GAAGAAAAGAAGAAAAAACCAAGCTTA
116717	OPA3	TACACTGGAACACCTTCTTCTTTTTGTCA
116718	IL17BR	GGCTTCCTATCCCACCAAT
116719	DTNB	TTTATATAACATAGTAAGATTTCA
116720	SCA1	CTCCATGGCCCAATTCGGTTTCTTCGGT
116721	C18orf1	GTTGCAGAAACTGTGTCAGA
116722	GDF8	GCAAAAACTGCAACTCTGTGTTT
116723	KLK5	TCAGCACACCGGCATCCCCACCTGCTG
116724	PSME3	TTATTAAAAATACAGGTACTTTGACCT
116725	FZD8	GCCTTAAGTAAACAAACAAGAAATG
116726	EFG2	TTGCCTAGGCTGGCGTCGAGAC
116727	IQGAP1	GGATGGGATGAAGCACAGAGTAA
116728	FGF12	AAATACACCTGTCACTACCAGAACCA
116729	SMG1	AGATTCTCGTGTAACACTTGTTGCT
116730	SLC4A7	TTTCCAAAGACCCCAGTATTTG
116731	CBFA2T2	GGAGCTGGCATGGTGGTACAGA
116732	ICA1	TCCAGTGAGCTCTGGATGAAGCT
116733	EGLN1	TGCGTGACCTTGGGCAAGTTACTT
116734	LGR6	AAGCTTTGGAAGAGATTA
116735	FOXD2	TTAGATGAAACTGCAAAGTGTT
116736	MAK	CTGGCTGTCAGCTGTGGTTCT
116737	CA3	GCTTGGTTCCTTGCCTCCTTCTGG
116738	A1BG	AGCCTCCTGAGTAGCTGGGCTGACA
116739	LAMC1	GGAAAGTTTGCTGAAGAGGATCT
116740	SOX11	ACTTTGAGAGAGGTTTTCT
116741	G2A	GACCAGCCTCGGCAACATGGCAAAATC
116742	RANBP9	TTACCTAAAAGAAACCAAAAAT
116743	BLK	GCACTGCGGGGCTTTTCTGCAAT
116744	PDYN	GCTGATGAAGTTAAGCACAA
116745	PPP2R5D	GGACCCAGGTTCCAGGGGCGCA
116746	NR3C2	ATACAGTCAACTTACGGTGCAC
116747	UTY	ATTTCTGCTCTTCAGGAAATT
116748	SNK	GGGGTGGCAGCGGGCAGTG
116749	DGCR2	TTGCAGAAAACACCGGTCCCTG
116750	IL21R	CGTCGCCCAGGCTGGAATGCAG
116751	GLRX	TATCCAGATAATCCTGAACACTGT
116752	EHD2	CGCACACCCCTGCTCCGGCTCAC
116753	AICDA	GGCTCACTTTCAATCAGTTAA
116754	ATP2A3	ATTCCTGTCTCCTGGACTCTCCTGG
116755	SCP2	CAAATCAAAATAAAAGAAATA
116756	RET	GAGTCGGATTACCAAAACACTGCC

116757	TGFB1	CCAGGCATTTGAGACCAGCCTGGGTAACATA
116758	CTSS	GGAGGTTGAGAATGCAGTGAG
116759	PDCD2	AAAAGTGTCCAGTGACAGGGA
116760	SCD	CAGCCCAGGCTTTTGCTAGATG
116761	IL1F5	CCACAGCCACATTAGTGAACCT
116762	AICDA	CTGAGGCAGGAGAATCGCTTGA
116762	BHMT2	CTGAGGCAGGAGAATCGCTTGA
116762	CEACAM5	CTGAGGCAGGAGAATCGCTTGA
116762	CTMP	CTGAGGCAGGAGAATCGCTTGA
116762	CYP4F3	CTGAGGCAGGAGAATCGCTTGA
116762	DBT	CTGAGGCAGGAGAATCGCTTGA
116762	DNASE2	CTGAGGCAGGAGAATCGCTTGA
116762	DSC1	CTGAGGCAGGAGAATCGCTTGA
116762	GRM6	CTGAGGCAGGAGAATCGCTTGA
116762	IFNAR1	CTGAGGCAGGAGAATCGCTTGA
116762	KCNMB3	CTGAGGCAGGAGAATCGCTTGA
116762	LAMC2	CTGAGGCAGGAGAATCGCTTGA
116762	LILRB1	CTGAGGCAGGAGAATCGCTTGA
116762	LRRC2	CTGAGGCAGGAGAATCGCTTGA
116762	MAP3K9	CTGAGGCAGGAGAATCGCTTGA
116762	MOG	CTGAGGCAGGAGAATCGCTTGA
116762	PCDHB9	CTGAGGCAGGAGAATCGCTTGA
116762	PTAFR	CTGAGGCAGGAGAATCGCTTGA
116762	RBM3	CTGAGGCAGGAGAATCGCTTGA
116762	SCN2B	CTGAGGCAGGAGAATCGCTTGA
116762	SLC25A15	CTGAGGCAGGAGAATCGCTTGA
116762	STAT3	CTGAGGCAGGAGAATCGCTTGA
116762	UBE2G2	CTGAGGCAGGAGAATCGCTTGA
116763	ANKH	CTGAGGCAGGAGGATCGCTTAA
116764	HYAL4	CAGGCTGGAGTGTAGTGGTGTGATCTC
116765	STX1A	TACGGGAAGAGGCAGAGGGA
116766	SLA2	CCAAGCTACAGGTGGGGTGGGA
116767	AANAT	TAGCGGCTTTGTGGAGGGAACACT
116768	PABPC4	GACCGCGGAGAAGTGCAAA
116769	NCALD	AATTGGAGCACAGGAATGTTAACA
116770	ARF3	GCCTCTTCTCCTGCCTCATTCCCTG
116771	ARD1	CTCACCCCACGAGCTTTCACAA
116772	SYN3	CATCCAGGCTGGGAGGGGAAG
116773	XT3	TGTGAGCCAAGATCATGCCA
116774	PHKA2	CTTTCATAGCCTTCCATTTTATTGGC
116775	TACC1	TCTCTTGTGACCACAATTATCTTGCCT
116776	PYGM	CTCCTCTCCTCCCCTTGCCCTCAA
116777	REV3L	CTTTCCTTACCTCTATGTGCCA
116778	RNASE3	AGCCACAGCTCAGAGACTGGGA
116779	FGF2	CTGAGAGGTCAAGGTTGCAGTG
116780	GJB3	ACTCAATAAATGGTGATTGTTATTATC
116781	ALDH3B2	GCAGGGCTGAGGCCTGGGGGTAGGAG
116782	IL2RB	TGCCATAGGGTCCTGAATGTTTCAGACCACAA
116783	ABCA4	TTTCTGCATGTTTGTCTGTGTGTCT
116784	RBM8A	AGTTCATCCATGGTGCCATGTTAAAGA

116785	WNT5B	GGAGGAGGGAGGTTGTGGTTGG
116786	POMZP3	GCGCTGGCCTGGCTGGCCGTGG
116787	C10orf2	TGGTCACTGAAATGAGCCTG
116788	ALEX3	GTGGCCTTGAAGTGGCTGAAG
116789	SEDL	TCGCTCTGTTGTCCAGGCTGGAGTGC
116790	GM2A	ATTGATACAAGGCTGCTGAGGCCT
116791	SIX3	GGACCCGGCACCCCACCTGCAT
116792	LGALS3	TCTAAACCTTACATGTGTA
116793	LRPAP1	GGGTCTGAGATCGGCCCAGCTCTGAC
116794	HMGA1	TCCCCTACTCCCTCTTCACTGTGGC
116795	CEACAM5	CGGGAGGTGGAGATTGCAGTG
116796	B4GALT6	ATAAAGTGAATGTTCAACAACAATGAT
116797	EHHADH	ATAATAGCTAATGAAAGAGGCT
116798	AQP6	TCTCCAGGAGACTCAGGGCCTGCCAG
116799	LAMC2	GCCTGTAATTCTAGCACTTTGG
116800	OPA3	GCCTGTAATCCTAGCACCTTGG
116800	XT3	GCCTGTAATCCTAGCACCTTGG
116801	KCNE3	TGTCACCCAGGCTGTGGTGCAGT
116802	WHSC1L1	GGCAGTCTGTCATTTTTCTAGCATTTT
116803	ROCK2	GACTGTAGATGCATTTTA
116804	CAST	TTCATGAGAAAAAATCCCAAGA
116805	KCNN4	TGTAATAAATGTTAAAGCCA
116806	JRKL	TTGTTCTGCTCATTGTGTTTGTG
116807	HNRPDL	CATACGTGTTCACAGGCAGAG
116808	INPP5B	TCTGGGACTAGAGGCCAGGA
116809	SUDD	CTCTCTGCTCTGTTCTTGTC
116810	PKDREJ	GAGCCCCAAACTCCTCGGCCTCACTGGG
116811	FLNB	CTTGCAGAATCACCACACG
116812	CDK9	GCCCGCTGAGTGGACTGGAGTGGAGCATTG
116813	MSI1	GGAGTGAAGGCGGAGGGAGCCTGCTACA
116814	NUMBL	CCAGCCTGGCTAAGGGAACCATTTCA
116815	PART1	TTTTCACAGTGCCAGCCTCTACCTA
116816	P3	GGAAGGGAGGCGGCCTCTGGCCCCGACC
116817	ZFHX1B	AAGAGATCAGTTCTAACCTGCTC
116818	ANK3	GTGACTTCACCCTAGAAGAGG
116819	C21orf2	TCACGTGAGATGGGGAGTCAGCC
116820	ZNF9	GGTCTTGGATTGTCTGACCTCAG
116821	GPR63	TACCTCCAGGGTTCAATAGAAATC
116822	GPRC5C	GATGGCCATCCACAAAGCCTTGGTGA
116823	DNAI2	TGTGGGAGGGGACGGGCGGGACGAGC
116824	EGLN1	GCTTGGATTTTATTAGTGCAAA
116825	ACTB	ACTCAGGATTTAAAAACTGGAAC
116826	GGT1	GTCATCCAGGCTGGACAGTTCAGT
116826	GGT2	GTCATCCAGGCTGGACAGTTCAGT
116827	RASGRP1	TTCCAAAAGTAGATTTCCT
116828	ILF1	TTCTGGCTATTTTTTGTTGTTTG
116829	NEK6	CCCTGCACCTGGCCAGAGTGTCA
116830	KCNJ13	CACTGGTGATGACCTAGGCAG
116831	PLCG2	CCTTCTCCCTGGAGCGGCCGACAAT
116832	FGF2	ATGGGGGTAGTGAGCAAATCTGCCC

116833	SNX5	GTCATCTGGTGTTTGTACTATAAC
116834	ADRA2A	TTGCCCAAGGTAAACAGTTTGA
116835	RAB18	CACATTCTACTTGATTTACACTTCCTAGTC
116836	SLC38A2	GCTAGGGAAAACAGTGCAAA
116837	SLC16A2	TGGGGGAGGCAGTGGCGGCTGG
116838	SSPN	AGTTAACAGAACACTGA
116839	CTSB	AGCGCTGGGCTGGTGTGCAGTG
116840	HMGN2	AACTTTCCCTGTTCAGAGCA
116841	DEFA5	AAGATTCAGTTCAAGGTCCTGAA
116842	ACTN1	CGGTTTCAGCTCCCAGCCTCCACCC
116843	GABRE	TGCTCAGTGTTCAAAACCACAGC
116844	MUC3B	CATTTCATCTTCTCCCTCCATCC
116845	KCNE3	TCATATACATTAAGTTGAGCC
116846	GM2A	CCTCTTAAGACAACTCCTGTGGCA
116847	BUB1B	TTTAGGACACATTTAGATGCACTACC
116848	CYP1B1	ATGCACATATAGACACATACAC
116849	CENPA	GACTCCAAGGTTGACTTTAG
116850	SLC15A1	GACTTCAGAATTGGGAACTAAACCA
116851	PDE6B	TCACCGCCTCAGCTTCCTGAAGTGCT
116852	PTPRG	ACTTATTCAACAAGTTTACC
116853	UPK1B	TCCTTTAGGATCTCAGGCTTC
116854	HIP1	GCCAGTGCACTCCGGCCTGGG
116855	MUC3B	CCTTGTATCTTCTCCCCTTCTGAGCC
116856	CEP1	AAAGAATGCCTCAGCCAGATGGGAATAC
116857	SLC15A1	CGAGTGGCTGGGATTAGCGGCAT
116858	BRCA1	GACTGTCTCAAAACAAAACA
116859	BDNF	TGTGGGGCCGGCGGGGAGCAGC
116860	MCM4	ACCCAGGCGGCAGAGGTTGCAGTG
116861	KIR2DL1	CCTCAGACTAGCTTTCAGTCTTC
116861	KIR2DL2	CCTCAGACTAGCTTTCAGTCTTC
116862	IPP	ATCATGCCACTGCACTCCACTCT
116863	DDX11	GGCAGAGGTGAAGGACATGGAGCAGC
116864	AQP6	GGAGGGCAGGGAGAGCAAGGGGCAAGGTCC
116865	FZD8	GGGGGCGCCCAGGAGGGGTGGGG
116866	CLECSF12	CAAGTGCTGGGATTACAGGCGT
116867	CNK	AGGCTCTGGCCCTTGCCTTTGT
116868	DSCR3	TAGAGACGGGGCTTCACCATCTT
116869	HUNK	TGCCTGTAGTCCCAGCTACTTCG
116870	SCML2	CTGGTTCAAGCAATTCTCCTGCCTCAG
116871	NEDD4	CCTAGATTTTTGGGAAAAAACTT
116872	GUCY2D	TCCTCGGGCTCTTCTGGACCT
116873	PRNP	CAGTATGGGCTACACAGCAGCT
116874	GABRP	CCTAACAGAGCCTCAACAACTACCTG
116875	MYH11	TTTCCCCCTCTCCTGGTTTCC
116876	MAX	GGTAATCAGCAAAATGGTCCTGTGGC
116877	JAK1	TGGAGAACACTGGACAGCTGAA
116878	LZTS1	GCTCACCCACCTCTTGTGCAAGGT
116879	GSTM1	CCCTGCACTAAAGCCAGCCTGACCTTCCTT
116879	GSTM2	CCCTGCACTAAAGCCAGCCTGACCTTCCTT
116879	GSTM4	CCCTGCACTAAAGCCAGCCTGACCTTCCTT

116880	PIP5K1A	CAAGCCATTTTCAGATCAGAACTCCAG
116881	LNK	GATCAGCTTTACAGATACATCG
116882	UBQLN2	GCCAGCGGCCTACGCCCAG
116883	PTGFR	TCACCCTGGCCATGTGTACTGA
116884	TAF4B	CAAAACAAGACAAATGGGGA
116885	HPS4	CTCTGCCAGGGGTGAGGTTCTT
116886	FMR1	TGAAATGCTATGTCATTTCATG
116887	DPYSL3	TGCCTAGCTTTACGAATATTGCT
116888	MEL	GCTGACTGTGCCTGTTCTGAGTGAGCC
116889	SFN	GGCTACTTCTCCCCTCCTCTTGCCT
116890	TAT	AAACTCCTGACCTCAGGCAATC
116891	CELSR1	GAATTACAAATGAGAAGAGT
116892	VDR	GGATTTCAGAAAGAGCCAAG
116893	ZHX1	ACACTAATTAAAAAACAACTTGTA
116894	NSF	AAGATCTTGCCTCTTTCCTCCTCATG
116895	CDKN2C	GCTACAAAAGAAACTGTCACT
116896	RNASEH2A	CCATGGCAGGTCGCTCCTGCAGTATTA
116897	MTMR4	TCCTGAGATCATTG
116898	SLC21A2	TGCCCAGGCTCACTTCAGTG
116899	ANK3	CCCACATTTTAATTTAGCATG
116900	P4HA1	TACCTTGCCTCTTATTCCTGCTACAG
116901	POLH	GCCTGTAATCCTAACACTTTG
116902	DLGAP2	CGGTCTTCAAAGGAAAAGCCTG
116903	SLC2A3	AGAAATGTTGTTCATTATTGGAG
116904	SORBS1	ATATGTATATTTAACTTTGTATAGC
116905	CDH10	TACAGTGTTGTCCATCTTAGTAAA
116906	CD209L	CTTTTGACTGGGGACTTGCTGGTTGAA
116907	PITPN	CCAGCCCACACTAGCCTGGGTG
116908	KIF3B	CATAGAACTTTTCTAAGAGAAGACA
116909	PLIN	GCCACGAATGAGTAACTCCTGTCACCA
116910	SFRP1	CACACACACGCACTGCCCTGTCA
116911	TACR1	TTCCACCCTCCTGTCTGCT
116912	PPP2R1B	CCGAGATCGCGCCACTGCACTC
116912	WIG1	CCGAGATCGCGCCACTGCACTC
116913	SLN	CCCCACTGCTGTCATTGTCA
116914	TBX2	GGCCTCATCCAGGGCCCAGCGGTC
116915	MOG	TCCGGAGGCTGAGGCAGGAGAATCGC
116916	MAPK10	GCCGCTGCTTCCTCTACCCCTGTAT
116917	IDH2	TGTTTTTAAAAGCATATGTGTGTTTCC
116918	VHL	CCCTCTGTTGCCCAGGCTGG
116919	PRKAR1A	GCCTTATGTGTTACATTATTC
116920	DXS1283E	TGCAAAACACGTTTTAGATAG
116921	SLC16A2	GCCCCTGGCTAGGGGCAGAGGG
116922	RAGE	TGTATATGAATCAAAACAAAC
116923	RPA2	TACTGCTGAAAGATGAGCAG
116924	MAP4	TCTCACTCCCCAGCCTGGGCCCATCTC
116925	MADH7	TCTCCCCTCAGCCTCTCCCCTGCC
116926	ANGPT4	CCAGATGCAAGACACTGTGCC
116927	IL21R	GGCTCTCTGCAACCTCTGTCT
116928	KRTHA4	CCAATAAACTTCATTTCTCTGGCA

116929	PHEMX	GCGGTCTGAGGCCCCTGCCCAGCT
116930	ILF1	GGGCCCTGTGGTTGGACTTCACCTCTC
116931	IGBP1	GCATCATCCTCATCATGTT
116932	AKAP2	CTTGGCTTTCTCATCCAGAAA
116933	HTR1E	AGTCTCAGTCGCCCAGGCTGGAGTGC
116934	PTPRO	AGCAACCTCGGCGCCCAGGGTC
116935	RAB18	TTCACAGTATTCAGTTTTCTCACCTCT
116936	FZD4	GGCCTGGAAGGAACCTCTTAAAATC
116937	WTAP	TGTGCATAGTTACTCAGTTTTT
116938	SLC14A2	TTGCTCTGTCACCCAGGCTGGAGTAC
116939	FETUB	GTGCTGAAATCTCAGCATGAAAGCATT
116940	PLSCR1	TGATTCTCTCCCAAAGAAAGA
116941	EPB49	GGAAGAAAGGGAGAGAGGGCCAG
116942	HD	CTTGGAGCTGTCCTCCAGAGG
116943	CD4	GCGCCTGCCCCACACCCT
116944	MECP2	CAGGAAGGGAAGGGGGGTCAGAAGAGA
116945	THOP1	GCGGCTGTCTTGCCTCTTGTC
116946	ABCB4	AAGAAAGAGAGGAATGCAGG
116947	CBFA2T2	TGTCTCCCAGGCTGGAGTGCAA
116947	TNFRSF10B	TGTCTCCCAGGCTGGAGTGCAA
116948	SEPN1	TGTCACCCAGGCTGGAGTGCTA
116949	JAM3	TCTTCTTATACCCTAAAAC
116950	MDM2	CAACCTGAAATTTATTCAC
116951	DUOX1	TGGCATCTTAGAACCCTCCCTACTCCCATA
116952	MSN	CTACTTCTCCAGCCTAGAGG
116953	FVT1	CTCATTCATGGGGAAAGGCAGC
116954	RAB11A	GTACATTTCCACAAATCTAAGA
116955	LIFR	TTATTCTCCTCTATCCACAG
116956	KCNMB3	CAGGCGGCAGGCGTGGTGCA
116957	CNTN3	GTTTTTAAAAGATAAAGACTG
116958	MAT1A	CTGGCTGCTGATCGCCTTCCCC
116959	COL4A6	GAGGCAGTTCCTTCCAGGTGAT
116960	PAEP	CCTCCAGGAAGACCAGACTCC
116961	CREBL2	AGGAGCAGGGAAGAGCAGTAGA
116962	SLC1A3	TTAATTCTGTTACACAATAT
116963	CSNK1A1	GCTAGAAATAACAGCATCTAAAG
116964	ABCA1	GGGACACCTCAGAAAACTTATTAACA
116965	ABCA1	ATTTTGAAGAAAACACAACAT
116966	KCNA6	TTATTCTCTCGAAGAGCAACTTACG
116967	TFAP2B	GTTACCCTCCCTTCCTCACATTGTTA
116968	GALNT7	ACTCAGGGGTTCTGAAAGGCAGTTTGA
116969	DIAPH2	CGGGGGTGCCTGGGAGCCTGGA
116970	GBE1	GGCCTCGGCTACTTGG
116971	CDH10	AGGACCACTTCTCTTCATCT
116972	C10orf2	AACAACTAGAAGGAGAGAGCCA
116973	WHSC1	GCTGAGGCTCCTGTTAAATT
116974	FOXE1	CAGTTTCAGCCTTCCATGTGCTGCC
116975	AQP6	CGACATCCTTCTCCTCAGGTCTTC
116976	MSF	TGCCCCTCCTGGAGCAGAAAGTGCCTT
116977	PDE4A	ACAGGCAAGGGGGTTGCAGTGGCCGCCT

116978	LARS	TTGCACAGTCGGCTGGGCGGTGCAATG
116979	NR1H2	GGAGAGGGGCGGGACCTGGAGAGAGGC
116980	AMPD2	CCACCATCAGTCACGTCACTCCTGGGACTGAG
116981	FGF6	TTGAAATTTTGCACCAG
116982	RDS	GGCCATCTGCACTTTTCCCAAGGC
116983	CAD	CTCCTACGGGGGCAGCACACT
116984	CCND3	ATACATACACCAGCATTCC
116985	BCL7B	GAGCGTGCCTCAGGTTACTTGAA
116986	OGN	AAATACGAGATAACTGCAAA
116987	IL1R1	TTGCCTTTCCACCTGCTTTCTCCTGGG
116988	HK2	TCCTAAAACATGAAAATTATCTC
116989	EPHA8	CACCTGGAGGCTGGAGCCAGGGGCCACT
116990	JUP	TTGGGATAGTGTTCTGCTCCT
116991	BVES	GGGAGGAAGTGAGGAAGGGTCAAGG
116992	CRSP9	ATAACAAGCATAGACAAATGAGTG
116993	MUC4	CTGCAGCTGTGTGTC
116994	GLS	CATTACCTAGATGGCACCTCC
116995	FLRT2	TACCATGTCGCACACTTTGTTAATGAC
116996	BENE	GGGGCTTGAGGGGTGGGGAAT
116997	MAPK3	CAGTCTCTGGCAGTTCTGGAATGGAAG
116998	RNMT	ACCAAAATGCCTGT
116999	BAP1	CCTGACTATGCTTTCTCTCCTAGG
117000	RBP5	CTCCACTGCCCAATAGTGACCTC
117001	CDH1	TCCCACCAGCCTCCTTTTTA
117002	CXADR	TTCTGTATTCCAGACTTGGG
117003	MUC3B	TCTCCTGCCCTCTCCTGATCTA
117004	TMPRSS2	AACTGTATCACCTTTGCCA
117005	GRIN2A	TGCACCAACAGCCGTATGTGTACTGTG
117006	CNTN2	AACAGGTTGAAGAACTGGAGCGA
117007	SCAMP1	TTCAGTGCCCCTTGCAGAAAAAATATTA
117008	TEM8	AGCTCACAGTTTCTTGCCT
117009	CDH12	CTGTTGGCACCCTGCTGC
117010	GYS1	GGACCAGATCCTACTCTTCC
117011	PFKFB3	TCCTGCTCCCAGGGAGCTCCAGG
117012	ECHS1	GTCCTTGTGTCCCTGCCGCTGAAG
117013	AMPH	ACTTTAATTTCTCTGCATCA
117014	DNAJB9	GCTTTTTCTCTACCTGCCCTTGGGCTC
117015	NDRG3	TTTAGCTGATCAGATCTCTCCA
117016	C18orf1	CTGATTGCTAGTAGAGAGACAC
117017	BIG1	CTGAGATACTGGTAATCATCCTGTGAA
117018	ITGA3	GAGCCTCCCACCAGAGCCGGG
117019	GCNT2	ACTTTCCTCTTCTATGACCCCTCTCTC
117020	SPTLC1	CACCTGAGGTCAGGAGTTCAAAAC
117021	SIGLEC11	CCTGGGCAACAGAGTGAGACTCTGTTT
117022	ABCA1	CTAACATGGTACACTGCATCT
117023	CUGBP1	CTGTCTCTTCAGCTTCTCTGATGCT
117024	ZNF36	AGGACTGTGCTAATCAGTATCA
117025	COL6A2	GCCGAGCCACACACCCGCTCCACCT
117026	MEF2C	GAAAGAGAGAGCAGCTGTTA
117027	SYT1	CACCTGTCTGTACATATTT

117028	TFEB	GCCTGCCTTTTTGGGACTCAGAT
117029	RGL	TATAAAAATATATAAGAG
117030	FBLN1	AGCCTAGAGACCGCCACTGTGATT
117031	MST1R	AGAGTGAGCCAGTGAGGGCAGTCCTG
117032	THBS1	GTGCCCATTCCACTCTGCCT
117033	CLOCK	TGCCATGTCAGGGGTTTGCTTACAGTG
117034	SFRS7	TTGCCAGGCTGGTGCAAAGTAATTA
117035	CABC1	CGGATCCCAGCTTCCTGCAGCC
117036	EGLN2	CTAGGGCTGTGAGGCCACCTCC
117037	OXTR	AAACTATTTGCAGATGACACA
117038	GARS	GCTCGCAACCCTACCTACCTCTCTCCC
117039	ATP1B2	CTTTGAATTTATCTGGCTCCT
117040	MAP4K2	TGGGGAGGGAGGGGAGC
117041	PAX3	CTCCAGCCTCACCAGGCTCCCCGGC
117042	COL6A2	AGCTCCCTGCCAGCTTCCTGTCCCTGTGCTC
117043	TGFA	TTAAAAAAGAACTGCAAAGA
117044	SH3BP2	TCTCTTCCTGTGGTTCCATCCGA
117045	OPCML	AGATGATTGTGCCATCTTCTGTAG
117046	SLC22A2	GATTATCGTTGCCACTGAAGGTT
117047	MMP19	CCCTCCAGGCTGTTGGCAGGCGGTG
117048	PRKWNK3	TCATTTCTAATACACATTTACCTAAT
117049	RLF	ATATATTGTACACTACAGCA
117050	SFRP1	GGAGGGGTTTACCTGGAACAT
117051	UNC119	GGGAGGGAGAGGGACTTGTGGG
117052	PPP2CA	TGTTTTTTCCCCTTCCTGTAA
117053	KMO	TTCTATGAGGGCAGGTACA
117054	PCDHGA1	TCCACGCGCTAAGGCGACCCCCTCCCCCG
117054	PCDHGA10	TCCACGCGCTAAGGCGACCCCCTCCCCCG
117054	PCDHGA11	TCCACGCGCTAAGGCGACCCCCTCCCCCG
117054	PCDHGA12	TCCACGCGCTAAGGCGACCCCCTCCCCCG
117054	PCDHGA2	TCCACGCGCTAAGGCGACCCCCTCCCCCG
117054	PCDHGA3	TCCACGCGCTAAGGCGACCCCCTCCCCCG
117054	PCDHGA4	TCCACGCGCTAAGGCGACCCCCTCCCCCG
117054	PCDHGA5	TCCACGCGCTAAGGCGACCCCCTCCCCCG
117054	PCDHGA6	TCCACGCGCTAAGGCGACCCCCTCCCCCG
117054	PCDHGA7	TCCACGCGCTAAGGCGACCCCCTCCCCCG
117054	PCDHGA8	TCCACGCGCTAAGGCGACCCCCTCCCCCG
117054	PCDHGA9	TCCACGCGCTAAGGCGACCCCCTCCCCCG
117054	PCDHGB1	TCCACGCGCTAAGGCGACCCCCTCCCCCG
117054	PCDHGB2	TCCACGCGCTAAGGCGACCCCCTCCCCCG
117054	PCDHGB3	TCCACGCGCTAAGGCGACCCCCTCCCCCG
117054	PCDHGB4	TCCACGCGCTAAGGCGACCCCCTCCCCCG
117054	PCDHGB5	TCCACGCGCTAAGGCGACCCCCTCCCCCG
117054	PCDHGB6	TCCACGCGCTAAGGCGACCCCCTCCCCCG
117054	PCDHGB7	TCCACGCGCTAAGGCGACCCCCTCCCCCG
117054	PCDHGC3	TCCACGCGCTAAGGCGACCCCCTCCCCCG
117054	PCDHGC4	TCCACGCGCTAAGGCGACCCCCTCCCCCG
117054	PCDHGC5	TCCACGCGCTAAGGCGACCCCCTCCCCCG
117055	TMEPAI	TCAGTGCTTGCTTGATGG
117056	DSG1	GGTGAGAAATCACAATGAGA

117057	TM6SF2	CTGGAGCCTGGCCAGCCCTCACCTCTT
117058	HOXC6	CTGCTCCAGGGCCTCAGGGCCCGG
117059	DUSP6	TTCAGCAGTTTCTCTTGGC
117060	NFATC1	CATCCAGGCTGGGGCACCTT
117061	MYCL2	CGCCCAGGCTGGAGGTTAATGG
117062	PXF	ATTTCTCTAGCCTTCCTTTTCTGC
117063	TFDP2	GTTTCTCTTCCTTGCCTGGACTG
117064	HAS3	GCAGGGCTGCAGGGGATTCTGT
117065	PCLO	TTGCAGAATGGAATGCATGCTACTAA
117066	APLP2	CCAGTGCTTCCACAGAGATTAGCCTG
117067	SIL	GATCACTGCAACCTCTGCCTC
117068	EXO1	ATCTCTGAGATATGTACACAGTCA
117069	SFN	GGCAGGGGCTGGAGATGGGTG
117070	ITGB3	CTGAGCCTTGGTGTGCTGTAT
117071	SURF5	CTGTGCAGAGCCCCATCCACTGGTTCT
117072	ACAA1	GTCACCCAGGCCACAAGGCCAT
117073	TGFBR2	GGACTCCTGTGCAGCTTCCCTCGGCCG
117074	NCOA6IP	CAGGCTGGAGTGCAGTGCCATGATCAC
117075	ELAVL1	ACGGAATAGATAATTAAGAGTGA
117076	PIN1L	GGTCCTGGAGGCAGATGCGAGGGCCCAGA
117077	BAZ2A	GCCCAGGCTTGAGTGCAATGAC
117078	EPHA8	TCCCTCCACGGCCCAGGTCTCCTCACT
117079	SNAP25	TCCTTCCCTCCCTGCTCGGCGGCTCCA
117080	TBX3	GTCCCAGACACGTCTTTTCA
117081	CIT	CATCTGTGAACTGCTTTCTG
117082	MAP2	GCATTTGAGCTGTGGTTGAGGAAGTGGTGT
117083	CALCB	GGTTCTCAATTCTGTCTCAT
117084	GRINL1A	GCATTTATATTCTCAAAAATGA
117085	SNK	GGCTGTAATTGGAGCAGCTTTTGG
117086	BARX2	TTGAGGGAAGAGGGAGACTGG
117087	ZHX1	TTTGCTAGCTTTTAAATATAT
117088	C14orf1	GTCTTACTATGTTGTCCAGGC
117089	TLR9	GTGCCACCTCCACACTCACCTCA
117090	EVC	TGGGCACAGACTCGGGGCTGCC
117091	PPT2	GGCAGGAGAAACTGGGCCAGGCTGC
117092	FDX1	CCGCAGCTGCCGCCCCCGCC
117093	SOX8	TGTGTGCTGAGCATAGAGCATACA
117094	SLA2	CCTTGATTTCCCTGCTGCCTCCA
117095	IMPG1	TTGTTCTTTAAAAGAAACTGAGG
117096	BMP1	GTCGCCTAGACTGGATAGTGGGGGTGG
117097	ARNT2	AGGAAAAGATTTCATAAGC
117098	AXL	ACCCAGGCTGGAGTGCAGTGGTGCA
117098	ICAM1	ACCCAGGCTGGAGTGCAGTGGTGCA
117098	MEFV	ACCCAGGCTGGAGTGCAGTGGTGCA
117098	NEU3	ACCCAGGCTGGAGTGCAGTGGTGCA
117099	PDZK1	GCCCAGGCTGGAGTGCAGTGGTGCG
117099	PON1	GCCCAGGCTGGAGTGCAGTGGTGCG
117099	TMC1	GCCCAGGCTGGAGTGCAGTGGTGCG
117100	UMPS	GCCCAGGATGGAGTGCAGTGGTGAG
117101	CNTF	TGGCTAACTTTTATTATCTTCTATAT

117102	ACCN1	GTGTCCACACTGCTGCCCGTGCAGTG
117103	EFG1	GTCATTAATGGGCAGGCTTTTCTGTTGA
117104	IL16	TGTATATGAGGGTATCAAAT
117105	PUM2	AAACTATTTATTGACTTTATTCATCCA
117106	BRMS1	GCTCAGAAATGGATGATGAAGACTGT
117107	RASSF1	ATCCTTATCAGAGCTAAGGGTGGGT
117108	RAB30	TGAGTATGGAAGATTATGATTTCC
117109	DCK	TCCAGTATCAGCATAGTGACT
117110	DIAPH2	CTGTAACCTCAAACTCCCAGG
117111	BACE	GCTAGTACCTGTAAGCATTTT
117112	XPNPEP2	TGGGTCCACATCCTGCTAAGA
117113	ADAM17	TCTTTTATATTGATAACAGCACTGAC
117114	PPP1R8	CCATAGATCTCAGTTTGATCAAAAAGA
117115	PPP3R1	GCCAAACTTTGGAAATGTTA
117116	CA3	TTCTTCTTCATAAATGTAGTT
117117	PAG	TTCATTTCATGCCTTA
117118	MSI1	TGAAGCCCCAGGCCGCAGGGGG
117119	ANK1	CCTCGATCCTGCACCTTCCTCTC
117120	EIF4G2	TTACAGAAAAATTCTTAACTG
117121	MSX1	ACTGCTCCAGTTTCACCTC
117122	GAK	AGCTGATTCATGCTCCTCC
117123	PCP4	AGCACCAAATTCAACCATCATCT
117124	ADAT1	TTCTGAGCTTTGCATCTC
117125	GPR1	TAAAATGCAACATGTGTACTTAA
117126	DHCR24	CAAGACCTCCCTGGAACCCTTCTG
117127	F13A1	TATTATTAATTACAATGTAATA
117128	COL19A1	TCTTGAGCTTTTAATTTGTTGA
117129	TFF1	TGCCACCTCCACCGGACACCTCA
117130	MSR1	ATGTACACTTTCTGTCTCA
117131	CLTCL1	GAGCCATCCCAGAGCCTGG
117132	PRKACB	GTCTTTCTCCTCTCCTACATCC
117133	SPAG11	GAATGAGAAGTCATCCTGGAGCACA
117134	HDAC6	AGGAAAGGGGGGCAGCTCAGTGGCC
117135	IL13RA1	GACCTTGAGAAGATTCTTCCCA
117136	JRK	ACTCTGTTGACCAGGCTGG
117136	KMO	ACTCTGTTGACCAGGCTGG
117137	PIGR	TCTGTACTTCAACCAGCCTACAAGCTGGCA
117138	SCML2	TTGGGGCTTTATTTTATTTTTA
117139	PMM2	ACTTCCACCTCCAGTGCCAGA
117140	ALMS1	ACAAGTTTATTTTCCTCAGA
117141	NEURL	CAGGGAGGGGGCAGAGGC
117142	GALNT2	ACGTCAATAGTCCCTCTCTCTGC
117143	IL13RA1	CCTGTAATCCCAGCAATTTGG
117144	ADAM12	CACTGCCACCAGTAGGTTAT
117145	BCAS1	GCAGGTGGATCACCTGAGGTCA
117145	GP2	GCAGGTGGATCACCTGAGGTCA
117145	RFC2	GCAGGTGGATCACCTGAGGTCA
117146	FCMD	TGGCTCACACCTGTAATACCAG
117147	POU2F2	GCCTGGTGTGGGCCTGGTCTCAGC
117148	LENG4	CTCGGCCGCCTCCTGCCCGG

117149	SERPINB9	GAACTCCTGGCCTCAAGCAATC
117150	CHST7	TCCAAGTTTCCCCTTGTGGATG
117151	SCNN1G	CTGTCTCTCACCAACAAGCCAACTGC
117152	KIF3B	CATACTAAAAATGCTCTG
117153	ATRN	TGCTTGGAAATTGTGTTTTCCCCA
117154	PKP1	GTAGGGAGCCGCTGAGAGCGAGAAGAG
117155	RAD1	GTCTCCAACACCTGGGCTCAAGTGGCT
117156	HOXC13	AGCGAGGTGTCTCCCTAGCTCG
117157	MEFV	GTTCTCTCTGCTTCTGTCTTGA
117158	SPARC	GCAGCTTCAACTTTTCTCTTTAGTGT
117159	D12S2489E	AAGACTTTAGATTCCTCTCTGCGGT
117160	HPCAL1	GCAGCCCCTCCCCACCAGCT
117161	AP2A1	AGTTCTGGCCCTGGACTCTGC
117162	ARHGEF6	CACTGCACTCCAACCTAGGTAACAGAG
117163	BSN	CCTGCCACCATGGTGTCTTGCCG
117164	BIRC7	GCTGGTGTCCATCCAGCACTGACCAG
117165	MAP3K9	CCACTGTCTGTTCCTTTTGCT
117166	PPP1R12B	TCACATGCACATTTGCTAGCCCA
117167	FGF2	CCACTGCAGTCCAGCCTAGGCAACAGA
117168	LHB	CTTCCAAGTCCATCCCGACT
117169	PCDHB11	TGGCTGGAGTGCAATGGTGTGATCTC
117170	NR2E1	TGTTCTTCCTTCTTCCTCAG
117171	MATN3	TGTTAGTGATCCACCTGCCTCA
117172	MYL2	GCAGAGTGGTCCCTGCCCTCA
117173	ALEX2	TCCACGCCCTGGATCAGTGAAT
117174	PER2	TTGGGGAAAAGTGAGGCCAGTCT
117175	MTR	AAAATGCTGGGATTACAGGCGT
117175	PCDHA9	AAAATGCTGGGATTACAGGCGT
117175	WHSC1	AAAATGCTGGGATTACAGGCGT
117176	HCFC1	GGCAGGAGAGGTGTGAAATCTG
117177	MKLN1	GACAGTAAAGCTGCAGTGATT
117178	APPL	ACCGCGCCCGGCTAATTTTTTGT
117179	PDE7A	GCCAGTGCTTTCCATGTGCCTCGTAGA
117180	SOX11	ACGCTGCATCTTCGCGTGTGCTCAG
117181	LIPA	TCATGTTTTCCTGCAGCAGGTGCATAG
117182	EXTL1	CTGGGAAGAGAAATCTGAAGA
117183	MTA1L1	GAGGAGTGAATTAAGGAAGAG
117184	LAMP2	ACAAGATTTTCTTACCTCTCAGTTG
117185	SLC22A7	ATGCCACTGGAGCTGGAGTGGCTGGATG
117186	ASB1	GAGAAAGTGATCTGCAGGGAGGTGGA
117187	PCDHB13	GACATATCATTTTTCTTTTTTGTAAA
117188	SLC16A2	CCTTTCTCCTCCCAGGATCTGGGAA
117189	DAP	CTGCTGCAGGTCAGCAACTGTG
117190	SGT	CACTCCCTTTTTGTAACTCCCTTACA
117191	LETM1	CAGTGGATTCACTGTGTCAGGGATG
117192	CARD10	CCTGTTCTGCTCCTAGGAGACCTGAGC
117193	YY1	GCTCTATCTTGCTCTGTAATCTCGTT
117194	SLC10A2	AGAGAAACACCAAGACTCTAGTG
117195	APXL	CCTGTTTGCCTCTGAAACGTCTGGTT
117196	EXTL3	GGGGGCAGGCTGCAGAGGAC

117197	EIF2AK3	GTCCAAAATTGCAGACTTG
117198	TRIP12	ATGCAGTGTCTGCCTGTTACAGCAA
117199	IL6R	CTCCACCTCCCACAAAGGAGA
117200	SORBS1	CTAGTGTGCTGAGCAAAAAGA
117201	ORC5L	TTTTCACTTCCTCTCCACAGGAGCC
117202	TNF	GACCTTAGGCCTTCCTCTCTCCA
117203	P2RY6	GGGCAGACAGGCAGAGGGCCAGAG
117204	TNFAIP2	ACTGCAGCCTGGACCTCCTGGTTCAAG
117205	MKI67	CCTGCTGTTTTCCCTGCCTGGAACT
117206	FBXL7	GAGGTTAGTGTGATGAGGTGG
117207	PMX1	TTTCTCATTGTCTCCATCTTTGTT
117208	FCMD	AGCTGATTTCTTTGATTCCCTAGCTG
117209	MEL	TGCCTCTGGGCCTTTGCTTT
117210	ACE	CCATTGCACTCCAGCTGGGAG
117211	BCAS2	TAGGCTTTCAAAATAAGGATGACT
117212	KIF3B	TGAGGGGACAGTGAGTCTCCAG
117213	MRE11A	TTCAGGTCATTTTGTGAATACTAT
117214	WDR3	AGATGATTTGTCATTTAT
117215	DDX15	TGGTATGCATGATCGTTGTAAT
117216	HSPA5	CTGGCGACAAGAGTGAGACTCCACCT
117217	SMAC	TGTGTTCTCTGATCTGCCCCCA
117218	CAPS	GCCGGAGACCTCCCTTCCCTGGGCC
117219	ABCC12	CCTGAACTTGAACATACAAAGTGGGC
117220	BAK1	TCTCCACCCTGCTGAGCC
117221	CENPB	TGGCAGCACCACCCCAGGGCAG
117222	AKAP4	AGTCAAGGCTGTAGGAGGGCATGG
117223	FUT6	TGCAGTGAGCCAAGATCGCGCC
117223	MCM4	TGCAGTGAGCCAAGATCGCGCC
117223	SCAP2	TGCAGTGAGCCAAGATCGCGCC
117224	MAFF	TGTAGTGAGCTGAGATCGCACC
117225	UPK1B	TGCAGTGAGCTGAGATCGTACC
117226	VPS41	TGTGGTGAGCTGAGATCGCGCC
117227	GYG2	CACTTCCTGGTTGAGAAGCAACG
117228	ITGAL	GCGAGACTCCGTCTCAAGGAA
117229	PPARG	GCCATTTTCTCAAACGAGAGTC
117230	CSDA	CAGTTTCAGCAACCGCTAGGTTTCT
117231	TMEPAI	TCAGAAGTGGCTGATTGGAAGGGGA
117232	DUSP5	TGTCTGTTAGTTATTTCTCCAGGGGA
117233	ZNF264	GTTTGGCTGTGATGTGCGTGGC
117234	KRTHA8	TCAGCGGAAATGTTCCTTCCTC
117235	ARHG	GGCTCTCAGCCATCTCTAACCTCTGCCCT
117236	DAP	CCCAGACAGGCTCCACCAGGAG
117237	USH3A	CCCTGCTCAACCTCTTGCAGGAGGGAG
117238	SNX6	ATGTAGATCTTCAAAGTGAT
117239	ADD2	CTCTTCTCTTTCCACTTTGGG
117240	DCN	AGCTTTTCTTTTTTAATTTCCA
117241	SSA1	TTGGCACCGCTTCTCAGCCAC
117242	COL1A1	TCTGCTTCCTGTAACTCCCTCCATCCC
117243	SIGLEC8	TCCTCGTCTCCTCCTCCTTCCCA
117244	LANGERIN	GCTGGCTGTGTTTGCAGTGCA

117245	TGFB2	GTGTTCTGTTTGTTAAAACTGGCATCT
117246	SYT1	TGTATCACACTGTTGTATAT
117247	SLC1A5	AACAGAAACACTCCCAGGGA
117248	ALPI	CCTGCCCTGTTCCCCGTCCTGAGCC
117249	OXTR	CGCTGGGGGCTCTGGGCTTGTGG
117250	FRDA	TGTAATCCCAGCACTTTTGGAGGCCA
117251	CANX	TTAAGATCTTGGCTTAATTTA
117252	MAGEB4	AACCCATGTGGATCTAAGGCAAATTG
117253	CAPON	CCCGCCGCCACCTCCTCCCC
117254	IL1RL1	AGGGAGCCTTTCTTGGCCCTC
117255	SLC14A2	TGTGTGCCACCACACCCTGCTAA
117256	SKIV2L	AAGAGGAAGAACAGAGAAACGG
117257	PDGFRA	CAGCCTCCTTCTTTCACCCCTTA
117258	AMFR	CCCCTGAGCCAGCAGGGCATCT
117259	IFIT4	CGCCCCCTGCACTCCAGCCTGGG
117260	TRPS1	GTACTTGTTTGTAAAGCACTTT
117261	POLH	GAACCCAGGAGGCAGAGGTTGG
117262	SLC25A19	CTTTGCAGGAGTCAGGTCCCT
117263	PAG	TTTTATGTACAATGATTTAT
117264	MAOB	TCCTCACCTTCTGTTTTAGAGTTGAGC
117265	CAPON	CTCTCTCCAGGACTGCCAGG
117266	BCL11B	TGGTTCATATGATGTAGGCACTTGC
117267	CA14	CTGGAAGCCCACAGAGACAG
117268	CAPN1	CCGGCCTGGCCTTGCCTGCAGACTATA
117269	HDAC6	CCACTACTCCAGCCCAGAAGGAAAG
117270	DNASE2	GGGGACGGGTGGGTGCAGTG
117271	SLC9A1	CACTCCTTCTCAGCCTGGGCTCCCAGC
117272	FADD	TAAAACACAGCTTTACAACTTCC
117273	SGT	CCTGCAGCCGCTCATGGCGGTG
117274	ALDH8A1	GCAACATGGTGAAATCCTGTCT
117275	RS1	TTCTGGCCCCAGACACAGGGTAGTCTT
117276	TLX1	TCTTGACTTGTGCCTGCCTTCA
117277	TOP1	TGGTTCAGACACCTGTTCACAG
117278	CTBP1	CGTCCTGGGGACGTGGAGGGTG
117279	HTR6	GCCGCCCGCCCCCTCCAGGGGGCT
117280	DACH	ACCATAAAAAGGTTATA
117281	SLC10A2	CATCTATTGCTCTACCTCAGGGGTCC
117282	MSF	CTGCCCGCCACATGGTGTGGCC
117283	CRP	TTGGGTCCAGAGTGCTCATCAT
117284	CROT	GAGCCCAGGAGGTTGTGGCTG
117285	JRK	AGGGTCCACCCTAGCCTAGAACAAGC
117286	CD8A	AGGCTGAGAGCCCAAACTGC
117287	ADCY3	GTGGATGTGTGAGCTCTGAGGGTGGCCCTGCT
117288	THBS1	ATGTTTGCACACTGAATTGAAGA
117289	STXBP1	ACAGAGGGCTATGGCTGTGGAGA
117290	M6PR	ACTAGTAAAACTGCCTTCCCTTTGTTCCTT
117291	BCAS1	CACCATTGCACTCCACCCTGGG
117292	KRT7	TCCTCCAGCCACCACCCACAATC
117293	DLEC1	TGACCAACACTACAGAGATCCCA
117294	ABCA1	AGAGCCAGAAGTTGATGTG

117295	RDX	ATTACATCTCTAATTTTGGA
117296	SLC2A2	ACTGAACATTTGCTTTGTTTTCTA
117297	CHES1	TCAGCTGTTTTACAAAAGCTTTTCA
117298	GABRE	GTGGTGCATGGCTGTGGAGCTCAG
117299	RARG	CGAGGCAGTGGGCAGGCCAGGC
117300	SALL2	TTTTGGGCTAATAGTGACATA
117301	GNAZ	GCTCTGGCCTAGGGACCTTGCCGCTGAC
117302	CSPG3	CCAGAAGTCCCTGAACCCCAAACT
117303	IGFBP4	TCTGCTTGGTTGGCTGGCAGCTG
117304	HSF2BP	TAGTCAGCATTTTCTTGAG
117305	B4GALT6	GTTTTGAGCTTTAGACCTCAG
117306	PHTF1	TTATAGTCTATAGAACTGGAGATT
117307	TCF12	TAATCAGCTAAACAGAAGTTGTT
117308	ATP1B2	TTTTCCCTCTTTGCTGGCAC
117309	THBD	TTGCTAATCTTCTTATGCAATTTCCT
117310	CYP7A1	AGATGCTATCACAGACTCTG
117311	RAB36	CGTGTGACCATGCCAGGCT
117312	ZNF3	TTCCTCATTCTCTTTTAAAACCC
117313	DUSP4	TGACTCGCTTTTCTGCTTGC
117314	DNMT3B	AAGGACTACTTTGCATGTGAA
117315	NCKAP1	GGAAGGCAGGAGGCTGCCGGGGC
117316	FCGR2B	ATCAAACCACTGTTA
117317	ACCN1	TTCTTCTCTCCCTGTGACAC
117318	BAALC	GATACCCCTCAGGGCTCAGCTA
117319	WWOX	TTTACTGTTATAGAATAGCCTGGG
117320	MIR16	CCCTAGCTGAGGCACACAGGGAGACCCA
117321	BSN	TCACATGCCCTCTGGGTGACA
117322	KRT17	GGCCTCTCCAGCCTCAGCCCCCT
117323	CHML	AGTGCTTCTGGGATAACTGGAA
117324	EYA3	TTTCTATGCTGTTTCTTGTCA
117325	BACH2	TATTCAACTGACGGTGCAAAAA
117326	IL2RA	AATGTCAGGAACAGAAGGATGAA
117327	INHBC	ATGGGAAAACACGCCCCT
117328	ASK	TGAAGGAGAAAAGGATGG
117329	PSMD9	AGATGGTAAAATGGTTCTCAGGGA
117330	UGDH	TCCTCCTGGTTATTGGTTTGTTT
117331	EMR1	TCTCTTCTCAGCTTAACATGGAAATGA
117332	TNFRSF11A	CTCGGCCTCCCAAAGTACTGGG
117333	NT5C2	AATTGTGCTATTACTCCAA
117334	SYT1	AACAATACTGCCATTCCCTTCTA
117335	SIM2	TGCTTTATCAAAATGGTTTATTTTAGG
117336	CLCA1	ACTGCAGCTGTCAATAGCCTAGGCTGAATTT
117337	RPA3	ACGACACTAATTTACCACATTCTTCT
117338	CACNG3	CAGATGTTTTCCTTTCTTCCTT
117339	GPR4	TCCAACAAGTGGATAAAAGTCTGT
117340	GSPT1	GCGGCAGCAGCAGCAGCGA
117341	LEF1	ACTGTCATCCTAACGTTTGTCATTCCA
117342	TMC1	CCACTCTCTCCCCTGCTCC
117343	BAI3	TAGAGACAAAACTTTATTGCACTG
117344	GPC4	TTTTTCTTACCTAGCCC

117345	YWHAG	CGCAGCCGCCGCCTCAGCTGCTCGC
117346	EZH1	GTCTCAACCCCTCCCCACCA
117347	LZTS1	TCTACCTTCCTGTCCCTGAGGTTAAACG
117348	FACL4	TCCCATTTAGAATGGTGATTTTAA
117349	SP3	AGGTTTTGTCAGCCACACCTACA
117350	PIK3CG	AGCCTATACTTTAGGCTAG
117351	MMP19	CAACATAGGGAGACCCTGTCTC
117352	FUT3	CGGCATGGTGCCTGGGCTGCCGG
117353	STIM1	TCTCCCTTACCTGTTTTTGCTA
117354	FGF2	TATTTTAAAATCTATTTCCTA
117355	GRLF1	TGAACAAAACCAAGTCCA
117356	PDE4B	TTTAGAAGAAAAGCAAAATGAGAAAAA
117357	RPL10	TCTACTTCCTGTCCACCTATGTCTTTG
117358	RBBP9	ATTTTTGAGACAGTGTCTT
117359	SIM1	AGAGCTAAGAGCAGTACTCTG
117360	PPP1R12B	CTATTCCAGTTTCAAAGCTCCT
117361	SERPINE2	CTGCCTCTTTCCGGCTGTGACCCTCC
117362	SLC22A2	ATGTGGGAAATCTCTGTACCTTC
117363	MUC3B	TGTGGAATCTTGGGCAAGTC
117364	PKNOX1	CTCAGGTGATCTGCCTGCCTCA
117365	CXADR	CCAGTGCTTTATGTTGTTGTT
117366	SYT5	CACCCTTAAGCTTCCTCTGACGG
117367	GLDC	GCTATCCTGGAGACTTAATAGACATT
117368	SMCY	TTGTACATCCTTTTCTTTTCTCCC
117369	PMCHL1	CAAAATCATAGGCTTTTTCTGTGCATT
117370	DDX3	AGGGAGCTCAAGGTCACAAGA
117371	NR4A1	CAAGCCACATTGTTGCCAAGA
117372	DNMT1	TCCCTGGGCATGGCCGGCT
117373	TEM8	ATCCTCCTCCCTTTCCCACAA
117374	HAS2	TCAAGACGTCTGGAAAGA
117375	MEIS1	CAGGAGACCCAACAATGAGTG
117376	ANKRD3	GGCCAGCTCTTAACCATTCCA
117377	ELMO2	CAGCCATTTCTCAAACCCACC
117378	SLC16A2	GCCTTTCTCCTCCCAGGATCTGGGAAA
117379	AEGL1	TTTCACTGATTTTAATCATGCT
117380	ATP8B2	CCCTAGTGCCTCTGTTCCTGAATTACA
117381	ELMO2	GTTGTGAGCCAAGATTGTAACC
117382	C7orf2	AGTTTAATGACAGTTTATGTAT
117383	DDX6	GCCTCATATTTTCTGTCCAGTCAATG
117384	DISC1	TGGAGTCTCTCTCTGTCACCCA
117384	PRKWNK3	TGGAGTCTCTCTCTGTCACCCA
117385	RABIF	CATCTGAAGTCCCTTCCATTGTT
117386	ICMT	AAATGTTCCTAAACCAGGAAGCT
117387	IL11	AGGCTGGAGTGCAGTGAGGCAATC
117388	CA7	CAGGAAGGAGCAGGAGCTAAGCAGGGT
117389	WDR3	TAAACTAAGCACAGAAGAGTTGGCGTC
117390	RAD51L3	TCGAGGGAGCAGGAGCATCAGGCG
117391	WSX1	GAGGGACGCCATGCGGGGAGGCAGG
117392	GPR63	TTGTAGGTGTTTCGTGTGCTGCT
117393	HDAC6	CCCCTGAGGAGCGGGGCTGGT

117394	FUT1	TGTAGCCCAGGCCAGAGTGCAGTG
117395	CD34	AGAAAAACGTGTTGCCTTGAACCA
117396	NR4A1	CCTTGGCCCTCTCCTGTCTGCC
117397	FZD4	AGAGGAATAGACTCAGGGA
117398	FGF2	GTATTATTTTATACAAAAGCCT
117399	ENAM	CTTGCTTCTTGAGATCTCCCTGGCT
117400	ZFHX1B	GATCTTGTGAAAACACTGT
117401	CYP4F3	GGTGGCTGGGATTGCAGGCACCCACC
117402	BCL10	GCTCACTGCAACTTCTGCCTCC
117403	AHR	GCTCACTGCAACCTCTACCTCC
117403	AQP6	GCTCACTGCAACCTCTACCTCC
117403	DISC1	GCTCACTGCAACCTCTACCTCC
117403	RHD	GCTCACTGCAACCTCTACCTCC
117404	MAPRE1	ACTGTAATCCGAATACTTTGCCA
117405	GCDH	GGGAGGTGGCGGATGGAGTGG
117406	ZNF2	CCACCAGATGCCAGGAATCAGTG
117407	KCNAB1	ATTTTTCTTAGTAAATAGATTAT
117408	GP1BA	AGCATTTTCTAGTTTTCTTA
117409	BLVRB	CAGATGGGGGCAGAGAGCAC
117410	SOX13	TTCCTGACCTCCTCCTGCCCTCCC
117411	VCL	TTAATCCTTCTAGTTTCCCAC
117412	EDG8	CTAGTAGCTGGGACTACAGGCAT
117413	STC1	AATCTCCCAGCCCACCTCA
117414	GCK	GCAGCATTCAGCACACCCCA
117415	PNUTL1	GTCACCCAGCGAGTGCTGAG
117416	ARF3	TATCAGCTTAGAGTGTTCA
117417	B4GALT5	GCCATGTAAAATGCCTTT
117418	USH2A	CACACTGAGGGGACTGGTTG
117419	TRIM39	AGGTATTAGAGGAAAGAGAAGGG
117420	VIL2	TCTGGGCTGGGAACCAGGGAG
117421	HMGA2	GGAGTCTCCCCATCCTCCTTTGCTTTC
117422	ZNF14	CCTGGAGACAGAGGTTGCAGTGA
117423	ALDH1A1	CTTCTTTCCCTTAGTGA
117424	HIP1	CCAGAGGCAGAGGTTGCAGTGA
117425	ADORA2B	TTATCCGCCGCCACCAAGA
117426	RAG1	CCCTTCATCCTGCTTAATCCT
117427	TAL1	AAGTTCTGCTTTCTCCCC
117428	KCNG1	GTGCCTGGCCCTGAGCGAAGC
117429	KCNH5	TACCATGTCAGGATATTTTTAG
117430	TRPV2	ACCGAGCAGCCTCCTCCTCC
117431	EFNB1	GCATCTCCTGCCTCCCTCA
117432	TERF1	CTCTCTGTTGCCCAGGCTGG
117433	SLC7A6	CTCTGGCCTAATGGATCTTACT
117434	GBP1	GCTCGTGAACTAAGGAGAAAAAGAA
117435	CD1D	GCTGCAGCTGCTTGTTGTC
117436	LRRC2	GGGAGGTGGAGTTGCAGTGAG
117437	FCGR3A	GTGGGGCTCCCTTGCCAGACTTCAG
117438	PRKY	TCTTCTTTTTCTCATGCCCTGC
117439	ABCD2	GAGTCTGAGCTCTGCTGCATCT
117440	GABRP	CTGTTCTAATAAATGCACGGCTTTACC

117441	FBXL11	GGAGGGAGGGAGGGAGGGGAGC
117442	FUT1	GGTCTCGATCTCCTGACCTCGTGATCT
117443	DPYSL2	CCAAGTGAACCAACCAAAG
117444	GAN	GGGAGCCGGACCCGTCGGCAGAGGAG
117445	MAF	GAGCCTGAAGCCGCCGGCTCG
117446	FUT9	AGCCTATCATTTGATTTGA
117447	ABCA1	TACTAGTAATAATGTAATA
117448	C8orf1	GGTACAATTACTTCATCTGGAA
117449	B3GALT3	CAGTTTTCTTAGCTCCCTGGACCCG
117450	AGL	AATCTCTTAAGCCAAAATGGGACA
117451	BAALC	GGCACTGGATCCCATCAAAGA
117452	DLG5	AGATTGTAGTTTAGCCATAA
117453	PPIL1	CTAGATGACATAGAATGACATG
117454	TCAP	GGCTACCTCAGAGCTGAGCT
117455	SMAC	GCCCAGGCTGAAGTGCAGT
117456	RNGTT	CATAGCACAGATGAACCAAAAAT
117457	ADAT1	CAGTGGTCCTGCTCTGTGCCTCA
117458	ZNF261	GCAGACTCCTGTTGTGCAGACTCCT
117459	USP1	CTGAGACTGAGGAAAACGCGCCAAGTT
117460	TNFRSF10B	TTTGCCTTTGCTGGGCCTTCTGTGCAG
117461	COX11	ATTCTTCCTGAATAATACATTC
117462	SURF6	GCTGGAGAGAGAGTGAAGTGA
117463	RAD54B	AAGAAATTATAAATAAATAT
117464	SCAMP3	CTGGGTTAGAGGTATCACGTGGGG
117465	PARK2	GTTCTACCTGTATTGTCTGA
117466	EDN3	TAAAATGCATATGTGCTGTT
117467	DUT	GAATCCTCAGTTTATTTTTCCACTAT
117468	COL19A1	GAGGCCTTGATTCCTACATG
117469	HSD17B1	GGGAGGCGGAGGCAGGAG
117470	USP6	TGGAACAAAAGTATAAATATTA
117471	CCND2	AAGTATGGCAAAAATGTTGTATTG
117472	KRTHA7	TCCTGTGCAGCCTCAGCCCTA
117473	PRKCD	GGTTCCTGGACAGATCAGGCTAG
117474	CLASP1	GCGATGGGGGCGCTGCCTCC
117475	ABCA1	CCATTTGTCTGTGTTTTCTTCTTGTG
117476	ITPR2	GGCCTCTCCCCCACAGGAACAA
117477	PPP2R1B	CTGTTGCCCAGTGTTCTCCTGGT
117478	BACH2	GTATTTTCCTACACTCC
117479	HELLS	TCATGGGCTTTAGGTACTTCA
117480	CD1B	CCCATGGCCATCATCATGTCT
117481	OGN	CTGTTCTCTGGCCCTTACTGCGC
117482	RNGTT	TTTGTGAAAGAACTCTGAGA
117483	ZFX	GGTCTCGAACTCCTGGGCTCAAGCCGT
117484	JPH2	CCCCCTCCTGGGGTGCAGTGG
117485	OAS2	TACAAGTGATCCTCAGGCAGG
117486	PXF	CCCTTGAAGACCTTACATGTTTTATG
117487	EYA2	TCTTCTTTTTAATTTATGGA
117488	HOXD8	GAGAGGAAACAGTGGAGGCAGC
117489	PYCR1	GTCATTTCTTCTGCGGAACCTCCACC
117490	RBBP9	TCCCAGGCTGGAGGTCAGTGGC

117491	SHOX	GCCCAGGCTGGAGTATAATG
117492	LRP1	GGGAGACAGGCAGGGAGGGCTT
117493	MAP3K7	CTGGGACCGTTACATTTTGAAA
117494	EFEMP1	TCATATTACTGTCACAGGTATTT
117495	ENTPD6	CCTGGTGCTGCCCTGGCATCAGCCTC
117496	WHSC1	CTTTGTTCTCATGCATTTCA
117497	RASSF1	CTGTCTCTGTGCCCTCCAGCAAGAAG
117498	SPG3A	ATAAAAAATGCACAAAAA
117499	PTPRD	AACCCCTGACCCATTCTGGAT
117500	CARD4	GGAGTCTCACTGTCTGCTGGCA
117501	MASP1	GAACATGCACTAGATGACAGATTG
117502	CR2	TCTAATATCAGCAAGTCTCT
117503	SDPR	CCATCCTGTGCTGTGCTCAA
117504	DCX	CTTCCTTCTGTAGAGGGCTGTTTACA
117505	SLC2A6	CCGGGAGGTGGAGGCTGCA
117506	PCDH8	CTGAGACTGACGCCCGACCTGGAAACC
117507	RARRES1	AAACCTGAAATTAACTTGTGCCAC
117508	APM1	GCCCTGGCTGGAGTTCAGT
117509	LAMC1	CTCCTGAGCTTTCACTCTGCTGGCT
117510	LPIN1	GAATGAGTTTGACACTGCC
117511	NR3C2	TTCCTCGGGATGAAAAGCCATA
117512	HM13	AGGCTGAGAAACACTGATAGAC
117513	PES1	GCTTCCCTTGGATGGAGCTGCCCT
117514	SSTR1	CCCTGCTCCCTCTGGGTTCC
117515	POLR2K	CTTGGATTTGCTCTCTTCCCATTT
117516	CRAT	GCCACTGCCACCTGCCTCC
117517	RPA3	GTCCGTGGGTTTCCCGCCAG
117518	CLCN4	CCATCATGTTTAATTACAACAAGGTGG
117519	ADAM19	GCTGCCCGAGATCACTGGA
117520	AK3	TTTGTCCCAGGCTTTCTGGTGT
117521	DNMT3A	CTTTTATTTTCTACTCTTTTC
117522	DIRC1	TCCAGTCTCAGGTAGATCTTTATAGAGT
117523	SLC1A4	GCTGGGTAGAGCATGTTGCT
117524	CASP8	AAGAGGTCCAAGGCTGCAGTGA
117525	FY	TGCTCCTCCAGCCCCAGCTGCCCT
117526	ATP2B1	CAGTCCTGGATGGGAGAGAGAG
117527	ATRN	GCAGAAAAGAGCACTGAGAGCA
117528	BACH2	GCCATCAAAGAAGAAGAAAAAGAA
117529	SLC22A11	CTCCTCTTCTCCCTGCCCTGA
117530	PPP1R12B	GGTTCACTTGAGTGTGCAAG
117531	TCF2	CCTCCTGCCTGCTCCAAGAAAAGGGCT
117532	TGIF	TGGTAGAAGCTGGCTAACCTCCACTTC
117533	NOTCH3	CAGCCCAGGGCTTCAGTCTTCCTTTA
117534	IGF1	CCCTCTGCCTGTTTTCC
117535	PDHB	ATCCTCTCTCACCACAAGGACAA
117536	TAPBP	GATGGTGCTCGCCAGACCTCCTC
117537	MLLT7	CCCTCATTCCTTCAACTTGTGCCT
117538	ACT	CCACAGCTTGCTAGTTCTG
117539	KCNMB3	GGAAGAAGAGCAGGTAAAGT
117540	ARHGAP6	TTTGCTCTCCACCGCCCTGGGCAA

117541	LAMP1	GGTTAAATATTTTGCTAACTGGT
117542	TBL2	TGGCCCTGCTTCTTCCCATTGAAACTACTCTT
117543	CAPN10	TTCTGGCTGCGGGTCTCAGAACC
117544	AKAP1	GGCTTATCCTGGTTCTCAGCT
117545	BAK1	GTTCTCTCCCTTCCTCTCTCCTT
117546	SIP	CAGACACAATGCATATGAAAGTT
117547	PRPS1	GACTATGTAGCTTGGATTCTCCT
117548	SET	TTTAGTAAATACATCACTGTA
117549	ATP6V1G2	CCCCTAGAAATCCTGGGAGGCAGGA
117550	BTNL3	AGTCACAGCTTCCAGATGAGGGGGG
117551	PAX9	CCGGGTCTCCCTGTCTCAGCACC
117552	XPA	CAGTGGGGAACTACTGCTGGAA
117553	MECP2	CTTGGGCTCTGCTGAGTCCGACCTGGCC
117554	SCAP2	CCAAGGCACGAGAATTGCTTGA
117555	BACH1	TTACTTTTTACCAGGAGTGCAGT
117556	C5	ACTCAGGAATGTTTGCTGGGGC
117557	MEOX1	CAAAATCAAAATCAATTTAGG
117558	GTF2I	GCTGGGAGAGCAGAGAAAAGGGG
117559	TPD52L2	ACTGTCCATTTTCTGAGACCC
117560	SLC6A6	GGTCATAGCAGGTTCTGGTCAT
117561	MLF1	GAATGTTCAGGATGCTGAACAG
117562	MEOX1	CCAAAAAGGGCAAGAGCTGTGGA
117563	TAF7L	TTGCCCAGGCTGAATTCAGACTCCTGG
117564	CYP8B1	CAGTTCTTCCCAGTTCAGACTAGCCAC
117565	PPT1	GCTAGTTCTTCCTATTCCATTCTCGA
117566	RPS6KA1	AGCCCCAGAGAGAGGATGTGGAAAG
117567	FCER1G	CGGTCATATTCTTCTTTGGCTTCTGG
117568	ADCY1	GCCGGGTGTCGCTCACACAAC
117569	IL1RN	TGCCTCCAGAATGGTCTTTCTAA
117570	RNF26	CTCTGGCCCAGTTTCCAATGAATAAAG
117571	CDKN2A	GCGGTCCCTCCAGAGGATTTGAGG
117572	RB1	TTTTGCTACTAAGTTCACATT
117573	BTG1	TAAAAGTCTTTTCCACAAACCACCAT
117574	S100B	GGGGTGAGACAAGGAAGAG
117575	HR	GGAGGAGGAAACCGGCGGAGCAGC
117576	BTEB1	ACTGGCAGGGGGAGAAAGTAAACAGA
117577	RAB36	CAGGCTGGAGTGCAATGGCGTA
117578	TRADD	GGAGGCTGAAGCGGGTTGGGGGATCTG
117579	ABCB11	ACTAGGGTCCATATGAGGGAA
117580	KLF7	CGCTGGATGCCTCTCTCCA
117581	DNAI2	GGCCTCGGGAAGACCTTC
117582	PSG1	AGCAGGAAGAACATTGATT
117583	PTPN1	GTCTCTGTCCCGGTTCACCTTGCCG
117584	CRYZL1	ATTGTCCTAGATGCTGGAGTGAGAT
117585	NEUROD1	TCCTATTTTAAAACCATGCAGCT
117586	CD34	TCTACTTTGAGGAAACCAAAGT
117587	GRM6	TCTCCACTGTGAACTCTGTGAT
117588	RNMT	GAACAACATTCCTAATTC
117589	PPEF2	CAGCCTATTTTATACTTTT
117590	PCDHA1	TTGTGGCCACTGGGTATGTGTG

117590	PCDHA10	TTGTGGCCACTGGGTATGTGTG
117590	PCDHA11	TTGTGGCCACTGGGTATGTGTG
117590	PCDHA12	TTGTGGCCACTGGGTATGTGTG
117590	PCDHA13	TTGTGGCCACTGGGTATGTGTG
117590	PCDHA2	TTGTGGCCACTGGGTATGTGTG
117590	PCDHA3	TTGTGGCCACTGGGTATGTGTG
117590	PCDHA4	TTGTGGCCACTGGGTATGTGTG
117590	PCDHA5	TTGTGGCCACTGGGTATGTGTG
117590	PCDHA6	TTGTGGCCACTGGGTATGTGTG
117590	PCDHA7	TTGTGGCCACTGGGTATGTGTG
117590	PCDHA8	TTGTGGCCACTGGGTATGTGTG
117590	PCDHA9	TTGTGGCCACTGGGTATGTGTG
117590	PCDHAC1	TTGTGGCCACTGGGTATGTGTG
117590	PCDHAC2	TTGTGGCCACTGGGTATGTGTG
117591	DSC1	ATGTTCTTCAAAATCTTGGGGA
117592	CHRNE	ACACTATATACAGATGCAAGCA
117593	CBFB	CATTAAGATCATGAGCCCTTTTTC
117594	C8A	GCTCTGTCCTACTTACAGCACTTTG
117595	ALX3	GACACTGCCCTGCTTCCTCCA
117596	DNMT2	GTCTTCTCAGCTTCTGAGTTGAATTT
117597	PER2	GGTCTCGAACTCCTGACCTCAAGCGAT
117598	IAPP	CCAGCCTGGGTGGCAGAGTGA
117599	PPP2R2B	TTCATTTGATGCATTGACTTTAA
117600	ABCB9	TGGGAGGCGGGGAGGAGCAGCG
117601	EYA1	TGTCATCACCATGGAAACAA
117602	DMGDH	CAGAATAATAGATAAATGATTT
117603	TLL1	GGTGTTTGGAAACTGGGATATTTC
117604	CLCN6	GAGGAAGAGGGTGTCTGCCCTTCACAA
117605	IL1F8	ACTCAGCTGCCATGCCCAGTT
117606	TNFAIP1	GTTTTTAAAAAATAATCTAGGAAATG
117607	DEFA1	CCCAAATAAATGCCTTG
117608	GRM1	ACATTTTTCTTCTAAGATGGAAC
117609	ABR	GCATCCCACCTCCTGCCCTCCATACC
117610	GNAZ	GGACGATCTGTCTCTCTGCTCCA
117611	MGA	TAGAGGGAGCCCTACCCCTTCCACAA
117612	PNOC	GTTTGTAAAAGAGCTGTTC
117613	AKAP13	TTCTCCCGTATTTGTTACCTTCCTG
117614	TNFRSF9	AGATGAGGACAGAGCTGG
117615	CYP4F3	TGCCAAACTGTTTCCAAAGCAT
117616	KPNB1	AACAAGGGGTTAGATGTTGCAT
117617	GFAP	GGCTGCTGGAGGAAAACTGAGACTCA
117618	FZD1	GTGGGCGCTGGCAGTCTCAGC
117619	IL17BR	TCGCTGCAGCCTCCACCGTGCTG
117620	MKL1	TTCTGACCCAGGGCTGAGACAG
117621	SQSTM1	CTTTCTGCTGGAAGCTGTCAGGCTGG
117622	SH3BP4	AGTCATAGTTTAGATGAAACCATT
117623	EPHA3	TTAGAGACTATCAACTCCCT
117624	MMP1	AGGCCAGAGTTGCAAAGATCTTTTCCA
117625	NDUFS2	GTGAAGCCGAGTCACAGGACCCGG
117626	PPP1CC	TGTATACACATGCTGCCTTC

117627	CTNNA2	TAGGTTTTAACAAGAAAGCTTT
117628	RHCG	GCACCTCGGCCAGCATCTCCTA
117629	SYN1	TGTGCTCCTGGGCACCGCGCAGT
117630	SPG3A	TTCTTCAAAAATGCTGTTATA
117631	SLC6A3	TCTGCCTGGCCTTGAGCCGTGACC
117632	MYBL2	ACCTCCTGCAGGGAGCCTTCTGCCACC
117633	CLECSF5	TCTCCATCTGGCCTTCATCCTTCTCCCTT
117634	GPM6B	AAGTGTGTGTTGGGGGGAACAGG
117635	MMP19	ATAGGGAGACCCTGTCTCTGC
117636	ZNF137	TCTGTACTTAATCATATATTCTA
117637	NAP1L3	TCCAGCCCATAAGACTAAGGG
117638	DPP4	AGACTATTCAAACAGTCTCA
117639	NAB2	CGGAGAGAGAAGACGTGGAGGGAGGGA
117640	ACADSB	GCCTTGACCTCCTGGGTTCCGG
117641	PPP1R2	ATGCCTATGAATTCTTCTAATA
117642	UGT2B15	GCTAACCCTTCGTTGTGCACA
117643	TXNRD1	GGCAGGCAGCATCACACTGGGGTC
117644	HOXA10	ATGTCTGCCTGGAGTGCTGTG
117645	CSF1R	AAGTCCCCAGGAGCTACACTGATACTG
117646	PGM1	ACAGATTTCTGCCTTGTTTTGC
117647	MS4A7	AACTGCTTTGGGTAAACTGAGCAG
117648	KLRC1	TCAAACCCATGGAGACAGAA
117648	KLRC2	TCAAACCCATGGAGACAGAA
117649	CHD2	TTGCTACCTCTTCAAGTT
117650	CD4	AGGTGATTGTGCCAGGCTCTGCGC
117651	FBXL7	TTTCAGGATTTGGGTGTCACA
117652	EFNB1	AGTGAGTCCTCCTGGCCGGCCGG
117653	SRGAP1	AAATGATGCTTATTTCTTTGCCA
117654	CCR3	CCTAGTTCTTTCCCTGCTTA
117655	ALOX12B	GGCCTAGTCACCCCACCTCG
117656	ARHGEF12	TTCACAGTGTGGCAGCTGCACTA
117657	ACAT2	TGTGTTCAGAGAGAATGCAATGTGT
117658	AP1B1	GCAGAGCTAGGCTGGGAGGAGCCCAGG
117659	RUNX1	GTATCCAGCAGAGGGGAGAAGA
117660	IDH3A	CCTCTGTCCCCACAACCAAAG
117661	ZNF26	AGCTACAGGTGAGCATTTT
117662	GPM6A	TCATGTTTTCATCAATCTAAGG
117663	DVL3	ATTCATCCTGATGTCCTCA
117664	TMC1	GAGTAGCTGGGATTTCAGGCCATGAAA
117665	GAS7	GACATCCAGTAAAATTCACCCTTTGGAA
117666	TMC2	TTCCTCTCACATACATGCTCTGTCTC
117667	MYOM2	GCTGATAGTTGATCACACATTGTGCT
117668	XK	CTTAATTGCTCTATGCCTCAG
117669	SCA1	TTACAGGAACCACCTACTCTTTCA
117670	GLP1R	CCCCAGCCATGGTGAGGAAGCCCCAAG
117671	SPG4	CGGCTACAGAAACAGCCTAAGTT
117672	HTR4	ACTCACTGTGTCTGATCTGTCTC
117673	PCK1	CTAATAATCATCACCACACCGG
117674	STE	GAAGGTCTTTCTTTACTTA
117675	WBSCR14	GCCAGACCTCACTGGCCTGGCTGGAC

117676	PAX5	AAGCTCCCCTCTTCCTCTCTT
117677	CTSB	AGTTTGCAATGTCACAACCTCTCTGATCT
117678	HMG20A	TACTGCCTGCTGTTTTCTAAGCATTGC
117679	ZNF264	TTCTTTGCTTATTTTTTAACGCC
117680	POU3F1	ATCGCAGTATACTGTATTTA
117681	PCP4	TAGCTTAATCTCTATGTTTCTCTCCA
117682	PPP1R12B	GCAAGCTCAGGAGCAGCCTCGTG
117683	DIPA	GGACCTCGGGACCTGGACGCCGTC
117684	NFIC	GGAGGAAAAGAAAAAACAAAGGCA
117685	RSN	CCTGTTATCAGTAGTGCCTTT
117686	PAX2	GGACTCTCGGCTCTTCACTGCTCCT
117687	DUSP4	TTTTCTTTCTTTTTCCGCGAGGGCTGT
117688	LAMC1	TCCAGCAGAACCTCCTCAGTCTCAGTAC
117689	ATP7B	TGTTGCTGACCAGCTGGAGTGAGGGCCTC
117690	PRCP	ACCACATTCCCATTCACTTTGATTTT
117691	CRTAP	CTCTCCAAAGTGAAAGGGAAG
117692	HOXA11	GCCCAGAATGAGGCTGCTTTCCA
117693	STC1	AGCAGCAGCAGCAGCAGCACAAAC
117694	AF1Q	CCTTCCTAATTTCCTGCTCCA
117695	NUP98	TCCTCAAGATCATTCAGTGTTT
117696	UGDH	ATCCCAGGTCTCATCCTTCAGG
117697	LAPTM5	CTGGGAGGGGTGGAGCTGC
117698	PTPRZ1	AAATTTATATCATTAACAATGTGTG
117699	ST7	CTGATACTGTAGTTCACTGTAGAA
117700	CYP8B1	AGCCTCCCCAGTAGCTGGGATT
117700	DYRK1A	AGCCTCCCCAGTAGCTGGGATT
117701	FLG	CTACCAGGTGAGCACTCA
117702	MN1	GGAGACTCCGGCGAACTCAGACACC
117703	ERBB2	AGACTGTCCCTGAAACCTAGTAC
117704	TRPM2	AAGCTCTCCCTCCCTACTCCCTGG
117705	LHCGR	AACCCTGTCTCAGTGCATTTT
117706	KIF5C	AGTGCACTGTCCCATCTGTACGC
117707	IL6ST	AATACTGAAGGACACAGCAGTGGTAT
117708	SSX1	GCCAACTCGCCACCACTGCTGCC
117709	PML	TGGACTATCACCTGTCCAGGGGA
117710	GRB10	GTCAAGCAACCACAGTCTGTTA
117711	AP1B1	CACCAGGCTGGTGCCCTGCAGCTG
117712	PDE1B	GATCTGGGAATGGGGTGGAGAG
117713	PTPRJ	GTGTCTTGGAATCTAGCCGATG
117714	FCAR	GCCAAGGCTGGAGTGCAGTG
117715	EIF2C1	GCCCAGGCTTGGAGGCCAGCTGGA
117716	PDE6A	GGGCGAGGTGACAGCAGAGGAG
117717	LILRB1	CACTGCTCTCCAGCCTGGCGACAGAGG
117718	D10S170	ACTCTTTATTAAACACACTCC
117719	CTSS	AGGAGGTTGAGAATGCAGTG
117720	PRKAR2B	TTTTAGATGAGAGATCATTA
117721	ERBB2IP	TAGTGTTTTACCACCAACTGCCTTTCTT
117722	CYP1B1	CCCACCAAGGCTGAGACAGTG
117723	ADM	CCTGAGTCCGGGAGGCACCGTCC
117724	AK1	GCCATGAGGGCTGGAGACCAGA

117725	RNF4	CTTGGAGTCAGTCCACTCATA
117726	IRF1	TGGACAGGAGTCAGTGTCTGG
117727	CXCL16	ATGCCTGGCCCTATGTGTGTTTT
117728	TUFT1	CTAAGCTGGGCAGACGGAGCAC
117729	AXIN1	AGCACTGCACCTGCCTCCA
117730	ZNF236	GCCGGACCCTCCACCTGGAG
117731	GABRB3	TTTTCTGCAATGGTTTAGTGGCT
117732	AMT	GTAGGGCTGCTATGCCTGT
117733	ADAM19	CTGTTTGCTGGCTCAGGCTGAGG
117734	KCNB1	AGAGCTGTTCAGCTTACCTGCCA
117735	APBA2	CAACATGAAAACTCCATATT
117736	CYP2B6	TGTTCACTGCAACCTCTGCCT
117737	NT5M	AGTTCTCTGAGGCAGAAGGGG
117738	WT1	TGTGAACTGCTTTCAAGTCTGACT
117739	EPM2A	AAGGTTAGAAGCCTGA
117740	CRKL	GCTGCTTTGTTGTTCTGCCTGTC
117741	HCN4	TCTAGGGACGTTCTCTCTCCAG
117742	PPP1CC	CCACCGCCTCTGCTCGTGGCGTGGGAA
117743	SCA1	TGTTTGACATTTTCAGCACTTCC
117744	HM13	GTGGCTTTCCCTGCAGAGCCGGTGT
117745	FLRT2	GGACAATCGCAGGCAGATACGAGGAA
117746	GRAF	TGAGGAGAATGAATTGGTTATCAG
117747	CIAS1	GCCTAGGCTGGAGTGCAGTGGC
117748	ITGB1	TTCAGTATTTTTAAATTGTAAA
117749	CORO1C	CTCATTTCATGGAGTCTTCTGATCA
117750	CSE1L	ATTACAGTGCCACTGCAATCCAGCCT
117751	CSF1R	CCCACCCCCATACTGGTACTGCTGT
117752	MCL1	AACCATGGTGCTATTATTAGGCTT
117753	TBL2	CCATCCGCATCTGGAGCACCAAGG
117754	RANBP3	GGCCTGGAGAGTGCCTGTCTGGG
117755	PEX14	CTGGTGTCTGCCATCCCCC
117756	TCIRG1	TAGTCCCGGGCTGGCGGGAGTGCAGT
117757	SYP	TCAAGCCAGGAGACCCTGTCTGGGG
117758	TNFAIP2	CACCTCGCTCTACCCCAGGAAAATGTGAG
117759	OXTR	GCAGCCTCAGCCCCAGGCACAG
117760	HK1	TGCCCTGCCACTTTGCATGGT
117761	PIGH	CCAAAACACACAGTTACCTGGTT
117762	HDAC6	CCTCAACTATGACCTCAACCGGCC
117763	WHSC1	TGACTGTCAGTTGCCAAATATCTT
117764	EGR1	ATGGCTTGACATGTGCAATTGTGA
117765	RNF3	GGCTGAATTTCATTTTTTCCA
117766	ADK	AGCGGAGTGGATGGCAGAGGTGGGCTG
117767	SLBP	CGTAATCCCTGTTGTCCTCCAG
117768	CPT1B	TTCGCCCCCCTCTTGCGCCCGC
117769	ERN2	CCGTGCAGCTGCCCAGGCGCTATGGC
117770	PCDH11X	ACTCCCTAATACACATT
117770	PCDH11Y	ACTCCCTAATACACATT
117771	ZAP70	GTCTGGCTGAGCCCTGCTTGGTTGTCT
117772	EXTL3	ACTCACATTCTCTTCCCAGTG
117773	KCNA7	CACTGTTTGAGTCTCATAGGGC

117774	CD37	CAGCTTCCTGTCCCCATCTGTCGG
117775	PYGM	CCACTCCTTGGCTGGAGGCAGTG
117776	ENAM	TTTGAAAAGTGGATATTTCTATATGCC
117777	HSPA5	CCTGAGCAGAATACTGGTCTCAGGCC
117778	CDKN2B	GGAAGGAGAGAGTGCGCCGGAGCAGC
117779	GLTSCR1	CCAAGTAGCTAAGACCACAGGC
117780	IL1R1	CGGGGAGACGGAGGTTGCAGTGA
117781	REGL	TGGCCCTTCCCCATCTAGAACTGCCA
117782	FCMD	ACCCCATCTCTCTCTTATATCAC
117783	PDE6B	TTTGCAGCCACACATGTACATAT
117784	PLXNA1	TCAGGGCTGTGCCTCTGGGAGCCAC
117785	BCL11A	TTGAAGCCCCCAGGGGTGGGG
117786	PIM1	CAGCAGCAACCACTAGCCTCCTGCCC
117787	COL13A1	AATGTCTGCATGATATTTGTGCACA
117788	ATP11A	CATTGTTAATTGCCATCCTTC
117789	PACSIN1	ACATCACAACATCTGCTCTTC
117790	AXUD1	GGCAGGGGGAGAGCCTGGGCTGA
117791	GPR86	TATACTCTTGTATAAATTTCT
117792	SLC12A6	TTTATTCATACCTACTCTGA
117793	PRKAB1	AGGGAGGGGTGGCAGAGGATCTGCA
117794	FLOT2	CCTGCCCCAGCCTGTGTAG
117795	TREM2	GGACTCCTTGTTCTGCTCTGGCAAGAG
117796	PIGR	TCACATGGACCCAAGATAAA
117797	GUK1	CCCTATCTCTCACTCTGGACCC
117798	BAZ1A	TACTTTGTTAGCCATGTGTTTAT
117799	FECH	GAACACAGTTGAGTATTTGA
117800	IL1R1	TGGTCTCCCTCCAGCTGGAATT
117801	ACRC	TGGAAAGAGGACAAGTTTGAGAGG
117802	SLC24A1	TGACTCATGCAGACATCTATTACATGG
117803	FMR2	TCCCCCAAACTCTACTCTTAT
117804	MEOX2	TCAGGAAAGAAATGTTGTG
117805	ATP6IP1	TCATCCCTGGCTGTGGATAG
117806	BCL11B	ATGAAATGCCATAAGACCCAA
117807	HS3ST4	GAGAGTGAGGTAGTGGCGAGA
117808	GFRA2	CACCCCCTCCAGCCAGAGGCGA
117809	HMGA2	CCTCTTGCTACCTCCACCTCCAC
117810	PVR	GGACTGAGAGGGGAGAGAGACTGG
117811	MYLK	CCCGGCTGCCTCTGCTGCAGTTCA
117812	CPSF4	CAGGGAGGGAGGCAGCTGCTG
117813	BLAME	CACAGGCACACGATGCTCTGGGA
117814	RAD51L1	TGGATCACGCCTGTAATCCCAG
117815	NFE2L1	GATCACTGGTGTGATAAACCCCA
117816	WNT5A	CCTTTGTCTCCAACCTCCATTTC
117817	MUC4	ATGCCTGTGAGGAGCCGTGCTT
117818	MGA	ACTAACACAAGAGCTTCCAGTGCC
117819	PAIP2	TTTTGGCTTCTTAAACTTCATATTTG
117820	TSSC4	CAGGTGGCACCGGTGGCCCTG
117821	SOX11	GCAAAATCACCACGACTCTTTCA
117822	CPT2	GGCGGAGAAGTGCCTCAGGAGTCCTGACGC
117823	KIF3B	TGCCTGGTGTGGTGGTGCA

117824	PCDHGA1	CCCAGGCCTCAGAGTTTCAGGGC
117824	PCDHGA10	CCCAGGCCTCAGAGTTTCAGGGC
117824	PCDHGA11	CCCAGGCCTCAGAGTTTCAGGGC
117824	PCDHGA12	CCCAGGCCTCAGAGTTTCAGGGC
117824	PCDHGA2	CCCAGGCCTCAGAGTTTCAGGGC
117824	PCDHGA3	CCCAGGCCTCAGAGTTTCAGGGC
117824	PCDHGA4	CCCAGGCCTCAGAGTTTCAGGGC
117824	PCDHGA5	CCCAGGCCTCAGAGTTTCAGGGC
117824	PCDHGA6	CCCAGGCCTCAGAGTTTCAGGGC
117824	PCDHGA7	CCCAGGCCTCAGAGTTTCAGGGC
117824	PCDHGA8	CCCAGGCCTCAGAGTTTCAGGGC
117824	PCDHGA9	CCCAGGCCTCAGAGTTTCAGGGC
117824	PCDHGB1	CCCAGGCCTCAGAGTTTCAGGGC
117824	PCDHGB2	CCCAGGCCTCAGAGTTTCAGGGC
117824	PCDHGB3	CCCAGGCCTCAGAGTTTCAGGGC
117824	PCDHGB4	CCCAGGCCTCAGAGTTTCAGGGC
117824	PCDHGB5	CCCAGGCCTCAGAGTTTCAGGGC
117824	PCDHGB6	CCCAGGCCTCAGAGTTTCAGGGC
117824	PCDHGB7	CCCAGGCCTCAGAGTTTCAGGGC
117824	PCDHGC3	CCCAGGCCTCAGAGTTTCAGGGC
117824	PCDHGC4	CCCAGGCCTCAGAGTTTCAGGGC
117824	PCDHGC5	CCCAGGCCTCAGAGTTTCAGGGC
117825	BCHE	GTCCAATTTACAGGCTGGAGCAGCAGCTG
117826	ZNF264	CTGGTGCTTGCCCAGCTTTTTGA
117827	CENTD2	TGCAGGAGGTGGGGGAGACACAAA
117828	RAB7L1	CTGGGAGTTAGAGGTTGCAGTGA
117829	TRIP12	AGGTTTCTTTAGCAAGTTCT
117830	LYZ	GGTCTCGATCTCCTGACCTTGTGATCC
117830	TP53BP2	GGTCTCGATCTCCTGACCTTGTGATCC
117831	VTN	CCAGCTCCTGGCCATCTGTAGA
117832	DISC1	CTCAGTTAGGCAGTGCAGT
117833	WBP2	GGGAGGAAGCCCTTCTGCCTTT
117834	DSG2	ATGAGCCTTACAGACACACAGAGACAC
117835	M17S2	TCCATGAAAATGACTTCCAGAAA
117836	ZNF137	CGAGTAGCTGGGATTACAGGTAT
117837	F2RL2	GCCATCACAGAGAACGTCT
117838	GPR61	AGGGAATAACTGCAAACTGGACAG
117839	G2A	GCTCACTGCAGCCTCAAACTC
117839	SHOX	GCTCACTGCAGCCTCAAACTC
117840	TP53	GTGATCTTGGCTTACTGCAGCC
117841	EHD2	CCTGAGTAGCTGGGACTGCAGG
117842	RAD23B	TACTTGGGGTGGGAGGGGAGA
117843	CRSP6	CCAGTCTGGAGTGCAGTGG
117844	SOX12	GTGTCCCAGGGCAAGCCACC
117845	RNTRE	TCCAGTCATGAATTCAGACCAGGA
117846	RANBP3	AGAGAAGGCCTCCTGCAGCTGT
117847	ROR2	TCCATGTCATATATGGAGTG
117848	CLC	AAGTGGTTCAGGTTGGTGCAG
117849	MAGEA4	GAGGAAGAGGGAGTCTGGCA
117850	HTR2A	TGCAGTGAGCCAAGTTCACACC

117851	ZNF236	CTCCATCGGCCATCTCGACTC
117852	ABL1	GAGGCAGGGGACAAGGGAGGCAGT
117853	PTPRB	TAAAAATTATTCACTGTGTG
117854	NFIL3	TCTGATGCAGCTGAGAAAAAT
117855	APOBEC1	AACTATTCAGATTATGAGAGCATCA
117856	GRIK3	CCAGCTGCTTGGGCTTCATCCTCC
117857	ACHE	CTTTGTTGTTTGAATGGAAATGGAAAA
117858	GPR37	TATTGATTATAGCAATGTGAT
117859	CRYBB3	AGGACCCAGACCCACCCTGGG
117860	FGFR2	CCGTGCGTACTGGCTGTGGACC
117861	TRIM34	TTCTGTTGCTCTGAAGCCATC
117862	IL4R	AGGCCCACCTGCCTCTGTCT
117863	SORCS3	AGCAAAGGATGCATCTTCCCACAGC
117864	PPT2	CCTGTGAGGACAACAGCCTGG
117865	PSMD2	GCTGCCAAGGGTGGACACGGC
117866	KPNA4	GTTTAAAAATCAACTGGTA
117867	SH3BP2	CGCTCACTGCCACCTCCGCCT
117868	PPEF2	GCCCAGGCTGGAGTGCATTGGCGC
117869	RBBP5	TTTAAACTTTGATGCTTAGTTA
117870	SH3BP2	ACCCTCCCATGTAGCTGGGATT
117871	GALNT7	GCTGTGGATGAACGATGATGTCA
117872	IGF1	CCCCAGGCTGGAGTGCAGTGGCATG
117872	LZTS1	CCCCAGGCTGGAGTGCAGTGGCATG
117873	KIF3C	ACGGAAGTCCCTCCACT
117874	AICDA	TGCAGTAAGCTGAGATCGTGCC
117875	CX3CR1	TGGAAGCTTCCAGTCCAATC
117876	RNF26	GCTCTTTCCCCTGTCACTCCC
117877	ARNT	GGACTTGAAAACCACTAGGGCA
117878	MAP3K7IP1	GAGACTTGCACCTTGGACAAGCCA
117879	CBFA2T2	ACGGTAACCTCTGCCTCCCAGG
117880	CXCL13	CCCCAGACTTCATAGAATACTC
117881	RNPEPL1	GGGAGAATGGGGAGAGGGACCTCCTTGTG
117882	MEFV	CACCTCCCAGGTTCAAGCGAT
117882	NUMA1	CACCTCCCAGGTTCAAGCGAT
117882	PDE6B	CACCTCCCAGGTTCAAGCGAT
117883	JAK3	GATCTCGAACTCCTAACCTCAA
117884	RHD	GATCTCAAACTCCTGACCTCAA
117884	TRAF5	GATCTCAAACTCCTGACCTCAA
117885	OTX2	CGGGCGCATCAAGATCTTCCAG
117886	DISC1	AAGAACTCATGGCCACTGTGGAAA
117887	MEF2B	GCGTTGGGAGGAGCAGAGCCAG
117888	DTNA	CACTCCTCTCAAGCAAGC
117889	DCX	GAGAGTGAGGCATTGAGGGCCAATAGG
117890	NT5C2	TCTGCTGCCCAGGCTGGAGTAC
117891	CASP2	GCTCACTGCAAGCTCCAACTC
117892	C14orf1	GAAAGGAGGGAGCAGCAACTGG
117893	SF3B3	GCACACACCCTTAATTTTTA
117894	BCL2L2	GGGGGCCAGGAGAGCAGGAACAGAACAGA
117895	TAF1C	TGCTGCCTCCCCTCATCGATCC
117896	CALB1	TGGTGATTTTAGATTTCTTTGA

117897	STS	CCCCAACAACAGGATCACAAGCTGGAG
117898	KCNK10	GCCAGCCAACTCGGGGAAACTTCGTT
117899	POLG	GCTCCAAGGCAGTGGAAATAAAAAGAA
117900	NRAS	TTTTGTCAGAAAAGAGCCACTT
117901	SLC7A5	CCCGCTCTCCCTGTCACGCTC
117902	MAGEA2	TAATCCAGCGCTGCCTCTGCTGCC
117903	CYP4F3	AAAATAGAAAAATTAGCCAGG
117903	POLH	AAAATAGAAAAATTAGCCAGG
117904	SUPT6H	AGGAGGGAGAGGAGGGAAAGT
117905	SEL1L	GTGTTTTGGAAGTATGCATGCAGGC
117906	RGS16	CAGCAGGGGTTTCAGCCTGA
117907	SLC16A2	CAAGTCACCAGAGGGTGGTTCTGTAG
117908	ORC2L	CTTGCTGGAATGAACAGTGTGCT
117909	FHL2	GCTCACTGCAAGCTCTACCTCTTGGTT
117910	TNFSF14	CCGAGATCACACCACTGCACTC
117910	TRIM14	CCGAGATCACACCACTGCACTC
117911	MUC4	CTCCATCTACACGGCCTGGGGCG
117912	TACC1	CCCTGGTATTTGGACACTCCTC
117913	HIP1	AGGTGGGAGAATTGCTTGAGCTTGG
117914	NOTCH4	GAGGAAGAAGAGGGGCAGTGGGAGCA
117915	PLXNA1	ACCCTTGCCCTCAGCAAGAGAGA
117916	BDKRB2	CCCACTCTCCTCTGCCTCA
117917	CHRNA5	ACATTTAGTTAACACACATATAT
117918	GTF2IRD1	CACTCAGAAAGACTAAAGGAA
117919	CDC7L1	CAATGACAGCATATCAAACTTC
117920	LRP1	GGGTGAGGTAGGCGGGAAAG
117921	SNX13	CATCTCAAGCAAGAATGGCGTTGGTT
117922	HNRPH3	TACTATGGAGTATAATTCTCACA
117923	ZNF14	CATGCCTATAGTCCCAGCACTT
117924	MUC4	ATACAGGCCCCCACAGCCCG
117925	MYOM2	GGCAGACAACACACTAGCATTTT
117926	C18orf1	TAATGATACTGGTTCATTTTA
117927	ZAN	CGCAGGAGGGAGACAGACTGGCCAGGC
117928	SAS	TGTTAGTCAGGCTGGTCTCGA
117929	IL7	TTCCAATAACCCAGCTTGCGTCC
117930	ZNF74	TCTGTCACCCAGGCGGGAGTGGTGCAA
117931	PYGM	AGCTCCACTCCTTGGCTGGAGGCAGT
117932	BCL2L2	TGGGACCACAGTGGGCAATT
117933	MNT	TCCCTAGCCCTTCCAGCCTGGG
117934	RPL10	GCTAGAGGCTGACCAGCAGCGTT
117935	SRD5A2	CCTAGGGGCAGCCTGAATGCCTCCCTCA
117936	MFGE8	CAGCCCAGCGTGCCCATTCCAGCGCCC
117937	SLC9A5	CGGGGAGGAGCAGGAGGTGGAA
117938	GPR44	AGCACTGTTCCAGCCTGCCCTCT
117939	POLK	CCACTGTACTCCAGCCTGAAGAGCGAG
117940	SELPLG	TCACTGCAGTATCCCAACTGCAG
117941	CIT	GCTCGACCACATCATCAGGTCT
117942	FACL5	CCCCATTCACTAGAAGCACTGAGAG
117943	EDAR	AGAAGCAGCTCAAACATTTTGATAAAA
117944	ADH6	AGCATGAGTACTACAGGCCAAGT

117945	SULT1A3	GACCAGCCTGGTAAAATAGTG
117946	ADCY1	GTCACAGGGAGGAAGGCAGCTAG
117947	FMR2	AAACTAAGCTCAGTAACAAGAAGGCA
117948	UBE2V1	CTGCTAGGTGTGTGGGGTGTTTCGCCTGCA
117949	PRX	ACTGTCCCACCGCCTCCTGCCTCTCT
117950	DEC1	GGGAGAGAAAGACAAGGAGAAACCTGA
117951	ITPKB	AGGCTCTCTTCCTGTTCTGCACCCCTC
117952	PLA2G2D	TTCCCACATACTAGGTGCTCAATTCAT
117953	DLX4	GGACCCAGGCAGTCCACCTGCAC
117954	MKI67	CAGGCACCTCCAACCACCACA
117955	KIF1B	GACCAGCCTGGCCAATGTGATG
117956	LGMN	TTCTGCAGGTGTTCAAGTCTTA
117957	AGA	AAATGATTTGGGGAACTTGATCTGT
117958	MUCDHL	CGACTGCCCCTCCTTCTGGC
117959	TRPC5	TTCAGGGCACTGGCGAAGGTG
117960	RDX	TAGCAGTCGCGAGCACATGTT
117961	XRCC2	TGCCTGTAGTGCCAGCTACTCAGGAGG
117962	PAX7	TCTCCTGGCTAAGCCTCTGCT
117963	ALDOC	CCAACTTGTCTTCCTTTCTCTCTTCCC
117964	MBD4	TCAGTGAGCCATGATCATGCC
117965	ITGA2	CACTACATATCTAAAGCTTTGA
117966	ADAM19	GGGTCTGGTGGGGAGGAGGGAAGC
117967	ADAM17	TCCAGCCTGGGTGACAGAGTG
117967	DVL3	TCCAGCCTGGGTGACAGAGTG
117967	FGFR1	TCCAGCCTGGGTGACAGAGTG
117967	IRAK4	TCCAGCCTGGGTGACAGAGTG
117967	KIF3B	TCCAGCCTGGGTGACAGAGTG
117967	LRRC2	TCCAGCCTGGGTGACAGAGTG
117967	PRKY	TCCAGCCTGGGTGACAGAGTG
117967	SFRS2IP	TCCAGCCTGGGTGACAGAGTG
117967	TBX1	TCCAGCCTGGGTGACAGAGTG
117967	TEM7	TCCAGCCTGGGTGACAGAGTG
117968	BRCA1	TCCAGCCTGGGCGACAGAGCG
117968	KCNJ5	TCCAGCCTGGGCGACAGAGCG
117968	NPHS1	TCCAGCCTGGGCGACAGAGCG
117968	TNFRSF1B	TCCAGCCTGGGCGACAGAGCG
117969	HSD3B1	CTCCACCCTCCTGGCC
117970	SET	ACGCACTTTTGCAGGATGACCTCAG
117971	PRKCB1	GATGGGATTATGCAGATGGCCTATGG
117972	PIK3C2B	GAAGGGAGAGACTGAGACTGAC
117973	LPIN2	GGCTGAAGCTGCCTGTGCACGTTTC
117974	SLC22A3	CATGTTTAGGAGGAAAACCAGA
117975	PRKCN	GTTGCCCACCGAATTTGAGGTAGC
117976	PCSK2	CCCAACAACATCCATGTCCTA
117977	KLF15	CGCTGGTTGCAGGCAGAGTTTTGGG
117978	FOXE3	TGGACTCAAACTCCTGCTACAT
117979	SLC7A6	GCAGGCTGCACAAGTGGAAGCAACTAAT
117980	GAMT	GACCAGCCTGGGCTACAGAGCAAGACC
117981	FPGS	CGGGTCTCTCACTGTTGCAGTGG
117982	PACE4	GTCTTTCTCCATATTGTCCTGCTCC

117983	PET112L	GCGTTAATGTCACCAGTGTTC
117984	OVOL1	ACCCTCTGTGGCCGAACCCCCT
117985	LAMC2	GTGCACATTTCTTTGCATTCCA
117986	SERPINB9	GTCACCCAGGCTGGAGTGTAGT
117987	CYP1A2	GTCACCCAGGTTGGAGTGCAGT
117987	PRKWNK3	GTCACCCAGGTTGGAGTGCAGT
117988	CYP4F3	GTTGCCCAGGCTGGAGTGCGGT
117988	HMG20A	GTTGCCCAGGCTGGAGTGCGGT
117988	SLC39A1	GTTGCCCAGGCTGGAGTGCGGT
117989	AQP6	GTTACCCAGGCTGGAGTGCAGT
117989	CLECSF12	GTTACCCAGGCTGGAGTGCAGT
117989	FCGR2A	GTTACCCAGGCTGGAGTGCAGT
117989	MDM2	GTTACCCAGGCTGGAGTGCAGT
117989	NQO1	GTTACCCAGGCTGGAGTGCAGT
117990	TSC1	GACCAGCATTACTAAGGCAGGTG
117991	MFAP2	CCCCGTGGGCATGGACCACCTT
117992	PPP1R12B	GTTGCCCAGGCTGGTCTGAAGCTGCTG
117993	SOCS4	CCTTTGCTGCTATCCACTGTGATTTT
117994	LZTS1	GTGCCCCAGGGAGTCCAGGGTTTCT
117995	CYP8B1	CCCCAGTAGCTGGGATTACAGG
117996	EXTL3	TATATGTGTGTGTATA
117997	AMFR	GCTGATGAGAGACAGCGCATGCTG
117998	CDH17	GAACTCCTGACGTCAAGTGATC
117999	ELK3	TCCTGCTCTCACACACACCA
118000	MBD3	TGCTCCACTGCCAGCCGGCCCCC
118001	OA1	GCTCTAGCCTTAGTTGCCA
118002	CD28	AAATGATTTTGTTTTCTGACTG
118003	OPA1	TTACAGGTTAATGCATGTTA
118004	EPB49	GCTGGGCCTTCCGCCTCCCTTGGATGG
118005	CBLB	CTTCTTTGGAAACCATCACTATTGA
118006	MNAT1	TGTGCAGCTGCACAACACAGTC
118007	ALDH1A2	AGGAGCTAGCAGACACATCCAGTATCT
118008	CDH17	CACCCACCACCATGCCCAGCT
118008	SPN	CACCCACCACCATGCCCAGCT
118009	BAP1	CTGTCTTCCTTGTTCTAGCC
118010	B3GNT3	TTCTGGCTGGCGAACTCCTAC
118011	PIK3C2B	TTTAAAAAATGAAATAGTGATG
118012	IGSF4	TTTGGAATTTGCCTGCTGGGAT
118013	AMACR	ATATACATTTATTTACACTCT
118014	SCN3A	AAACTCATCTTCTTTCAATATAATTGA
118015	CCND1	CTGCTCTATTCCAAAAAGGTTG
118016	OGN	AAATGCCCAAATTTGAGATGCATTAT
118017	EMS1	GTTGCCCTCGTGCCCATCAAGTGCAGT
118018	ZIC2	GCACCTTGTGATCATGTTGTTA
118019	DBY	TTACACTCTTTAAGCCATTCCA
118020	TRPM6	TTACCCAGGCTGGAGTGCAAT
118021	DLK1	CACGAGGGAGAGCGCAGC
118022	SIL	ATCTCTGCATTATCCTATATCAT
118023	OGG1	CTTCCCTCCAGCCTCTCCTCCATTCCCTA
118024	FACL2	ACTTTATTGTGAGTCTTTGCCA

118025	ALDH3B2	TGTAGTATTCCAGATGAGCTGCAG
118026	MUC3B	CCTTTCTCTCACCCCTGGAGCC
118027	OXCT	CTGATTCTTCTCAGTTTTCTCATTT
118028	RGL	TGCCACAGGCTGTATGAAAGGCCAC
118029	TNXB	CTGGCTGCTGCCCACCTCTCTC
118030	GAS7	TGGGAGGCGGAGATTGCAGTGA
118031	TPMT	TGGGGGGCGGAGGTTGCAGTGA
118032	MAPRE3	CTGCCCCTCGGGCACCAGCCTGC
118033	A2M	GCTGAAAAGTGCTTTGCTG
118034	TNFRSF6	CTGGCTCAAAACTACCTA
118035	APM1	ACAGTCTCACATCTGGTGGGGGTGGG
118036	NRXN2	GCTGGGGTCACTTCTTTGCCCACGGG
118037	CHRNA7	AACAAAAACTAAAAACCTCTTAGC
118038	NPHP1	GCTCTGTCAAAAGCACAAAAAGAA
118039	AQP4	TGCACTCTGGCTGGGGAAG
118040	ICOS	AGCCCTCCAGACCTGGGTGGAA
118041	IL12A	AGCATCTGAGCTAACTTATATTTATT
118042	DVL3	TGGCACCTGCCTGTAATCTCAG
118043	TK2	TTGCCCAGAGCCAAGCTGGGGCAAGG
118044	SNRPN	AGGCTTTTCTCTCCAGTC
118045	EIF4G2	TAGTCTACCATCAAATATTTTA
118046	SQSTM1	TTTCTGCTGGAAGCTGTCAGGCT
118047	SLC21A3	GTGCCATGTTGGTGTGCTGCA
118048	NR1I2	ACATTCTCGAGAACTGTGCTCAG
118049	VHL	CCAGGAGGCGAAGATTGCAGTGA
118050	CCND2	TTCTTCTTCCAAATGCAGTT
118051	MTP	AGAGTCCACTTCTCAGTGAC
118052	EIF2C1	GAGGAAGAAGGGTCTAAATCCTGGCCT
118053	HSPD1	ACTGAGGCATTTTTACTACTATTCT
118054	ACADS	CTGCGGGAAGGCGCGGGAGCCAGG
118055	POU3F4	GGGATTTCCTTTCTCTCTCA
118056	SEZ6L	CTGCACATCACGACATCCCAGCCCTGT
118057	ALDH3A2	TGCTGGACAGAGCAGGGCAG
118058	NR3C1	GACTTGGCAACAGAAGCAGTT
118059	CTNND2	GCGTAAGGGTTATCGTTAAGCACAA
118060	CLN5	GTTCTGCTGACTGAATTGGATGCACT
118061	WRN	CCCGCCTCCCCCGGCACAGCCTGCTGA
118062	GP1BA	TCCCTGTTTAGCATTTTCTAGT
118063	FZD1	TATCAGAAACTTTAAAATGTAAAAGT
118064	BCL3	CTACCCATACACCCCCTCTT
118065	MTAP	CCTCTGGCACCACCACCAC
118066	WHSC1L1	CAGGCAGAAGCAGTTGGTGGTGTC
118067	RXRB	TGTCACTGTCCAGAGTCTCTTTTT
118068	KIF5C	AGCTGTGTAGAGTTTCTGTGT
118069	NPTX1	ACATGTGTGTGTCTACGTGTGTGC
118070	EIF2B5	CAGCTTTGTGCTCCGGCTTTCC
118071	TR2	CGAGACTGAGCAAAATATCTCATGTA
118072	SYT1	AACAACAATTAGCCATAGTTCT
118073	MICB	TGCCTGGATCTCACCAGCACTTTCCCTCT
118074	DHCR24	AGGGGTGGAGATGGGTGTG

118075	VAMP5	CGGCAGCAGCGATGGCAGGA
118076	SH3BP2	GTGCCTGGCCCCTTCCTGTAAAAT
118077	CSRP1	CTCCACCCTTCTCCAGGGACCC
118078	D12S2489E	GCAGTGCCTTCCCTGCCTGTGGGGGT
118079	SOX9	TTTGCTTGTTCACTGCAGTCT
118080	GBF1	GTCACTCAGAGATCAGGACCAGTGCTT
118081	SPG3A	GAGAAGCAGGCAGCGCAGTGA
118082	B3GALT3	GGGAGCACTCCTTGCCCCCTGTTCCTG
118083	PTCH	AGGACAGCAGTTCATTGTTA
118084	LTBP2	CCTGTGGGCACCAGCAGCAA
118085	F2RL3	AGACCAGCCTGGCTAACATGGT
118085	VHL	AGACCAGCCTGGCTAACATGGT
118086	AICDA	AGACCAGCCTGGCCAACATGGC
118086	ANKH	AGACCAGCCTGGCCAACATGGC
118086	GGCX	AGACCAGCCTGGCCAACATGGC
118086	INPP5B	AGACCAGCCTGGCCAACATGGC
118086	MSH3	AGACCAGCCTGGCCAACATGGC
118086	OPTN	AGACCAGCCTGGCCAACATGGC
118086	POLH	AGACCAGCCTGGCCAACATGGC
118086	PTGIS	AGACCAGCCTGGCCAACATGGC
118086	TRPM8	AGACCAGCCTGGCCAACATGGC
118086	ZNF264	AGACCAGCCTGGCCAACATGGC
118087	GYG2	TGGTCTCTACCCTCACTACCT
118088	DLGAP2	CGGCAACTCATCTCAAGTTTATGT
118089	CDH17	GTCGCCCAGGCTGGAGTACAGTGGTGT
118090	RERE	GTCGGCCCTGCTTCCTGCC
118091	SH3GL3	GGGCTGAAGAAGCAGTTCCAC
118092	FZD10	GGCGCTGTGCGCAGCGCTCGGGC
118093	KCNAB1	TAGAGGAGCTGAGGTGCTGTC
118094	FZD4	CCCAGCCTGGGTCTCTCTACT
118095	MEIS2	TCTCAGGGTGGTCCTATGGGAA
118096	PKHD1	TCCATATTTTGCTTTCAGA
118097	MLPH	CCCTGCACTGTTTTCCCTCCACCACAG
118098	PAX5	GGATGGCAGAGAGCCAGGGCAG
118099	EEF2	CGCTGCGTGCCATCACTCAACCATAACA
118100	CDX2	CTCTGGGCTGAATGTATGTCA
118101	TTID	TTACTGGTACTGCTTTCTAA
118102	PPP1R12B	GCACAGGAAGTTGATCTGGGT
118103	REN	TGAGCCCCAAACCTTACTGGG
118104	GPD1	TCATGCCACCACATTCGCCAGAAATGC
118105	PTGIS	AGGTGGGCGGATCACTTGAGGTCG
118106	ELMO3	CGTGGAGCCTGACGCACTCTGAG
118107	DAAM1	TTTTTCCTTCATCTGTGAGTG
118108	BUB3	ATCATCCTGTGAAAGTGGTTTC
118109	TIMP3	CTGTCTCTTTTTTCAGCT
118110	ABCE1	GCACTATATTACCAGTATATGGTTTCC
118111	MEFV	TTCTGGCCTTGTATCTTGCA
118112	DCLRE1C	GCCTGTAATCCCAGCTACGCAGG
118113	OAS3	CACAGCCTAAACTGAGCCA
118114	RRM2B	AGGAAGGGCTTATGGACTGAGAAA

118115	DSCR3	GTCTCCCTATGTTGCCCAGGC
118115	PRIM2A	GTCTCCCTATGTTGCCCAGGC
118115	RAD1	GTCTCCCTATGTTGCCCAGGC
118116	ITPKB	CTTCCCTTTGTCTCAGTGG
118117	MECP2	CACCTCTGGGAGCTGGAGTCCACTG
118118	CD28	CACAGCTCTCCAGCCTGGGCGA
118119	FTSJ2	CCAACAGCACAGCTAAATTTCCA
118120	MYCL2	GTGCACAAACAATATAAAGGCTTGCAT
118121	JMJ	TGACATTTAATTTATTAGCGCTGC
118122	ADCY2	TCATGCATTTTTAAAGACAGA
118123	EGR3	AGGCTTCAACCAGCCACTCCAGCTTTGT
118124	GABRA3	GAGCTCGGTCTCTCCA
118125	DUT	TAATCAAGAAAATATGCCA
118126	SIL	GGTCTCAAACTCCCGACCTCAGGTGAT
118127	HYAL1	TATGGACACTACACTGGGGCCCTTCA
118128	RALB	CAGAAGAAATAAGCCCATGCA
118129	JMJ	ATCTTTCTAACATTCCATCTCCATCT
118130	TNFSF12	TGCCGGCTCCCCTCGACAGCTCTC
118131	OPHN1	CTTACAAAAAGAAATATTGA
118132	PTPRF	AGGACAGAACATTGCCTTCCTC
118133	SPTBN1	AGCAGCATACTTATTTTTTGT
118134	CTF1	GCGTGAGCCACTTTCCCAGCC
118135	TNFRSF1B	TCCTCCTCCCCCAGAGGGGTGGGT
118136	LOR	TCATGTCTTAACCTACCTGGA
118137	ACADSB	TCTGTCACCCAGGCTAGAGTGC
118137	INMT	TCTGTCACCCAGGCTAGAGTGC
118137	RHD	TCTGTCACCCAGGCTAGAGTGC
118138	S100A5	ACCTCGGCTGCTCCTCTCACAG
118139	TCTA	CGTTGTACTCCAGCCTGGGCAACAGAG
118140	TLL1	GCAGCACTTGTCCTGTGGA
118141	GLP1R	CCAGGAGCCCAGAGGGCCAAG
118142	COL4A5	TTTAGCTCAAAATGTTGA
118143	RNASE4	CTCATTTCTTACTCTTTTTCTCTATAT
118144	ALDH1B1	CGCCCAGGCTGGAGTGCAGTG
118144	BCL10	CGCCCAGGCTGGAGTGCAGTG
118144	CASP8	CGCCCAGGCTGGAGTGCAGTG
118144	EHD2	CGCCCAGGCTGGAGTGCAGTG
118144	FHL2	CGCCCAGGCTGGAGTGCAGTG
118144	GRINL1A	CGCCCAGGCTGGAGTGCAGTG
118144	INMT	CGCCCAGGCTGGAGTGCAGTG
118144	KCNJ11	CGCCCAGGCTGGAGTGCAGTG
118144	LYZ	CGCCCAGGCTGGAGTGCAGTG
118144	NCOA6IP	CGCCCAGGCTGGAGTGCAGTG
118144	ORC1L	CGCCCAGGCTGGAGTGCAGTG
118144	PAICS	CGCCCAGGCTGGAGTGCAGTG
118144	PCDHB9	CGCCCAGGCTGGAGTGCAGTG
118144	PIGR	CGCCCAGGCTGGAGTGCAGTG
118144	PPP1R12B	CGCCCAGGCTGGAGTGCAGTG
118144	SERPINB9	CGCCCAGGCTGGAGTGCAGTG
118144	SLC13A1	CGCCCAGGCTGGAGTGCAGTG

118144	SMAC	CGCCCAGGCTGGAGTGCAGTG
118144	SS18	CGCCCAGGCTGGAGTGCAGTG
118144	STAU	CGCCCAGGCTGGAGTGCAGTG
118144	TAPBP	CGCCCAGGCTGGAGTGCAGTG
118144	VIPR2	CGCCCAGGCTGGAGTGCAGTG
118144	YES1	CGCCCAGGCTGGAGTGCAGTG
118145	PPID	CACCCAGGCTGGAGTGCGGTG
118146	MUC4	CCAGTGCCAGCACCTGCCCA
118147	PROK1	GTCCCCAGGCTGGCCTGAGGA
118148	GLRA3	TTCATTCTGTCTTTCTGGTTCCCCATG
118149	BCKDHA	CACCACTGTCTTCCCCAGTCAGCTCCC
118150	WNT5B	GCCTGGGCTGCAGAAGCCAGG
118151	SIL	TCTTATACAAGAGTGTATTTCCCCTT
118152	SLC22A3	TCCCACAGGTCATTCTCCTG
118153	TNFRSF6B	CCTGTGCACTGTCCTGGCCCCCTCTTA
118154	ID4	GAGAGGGAGGGGGAAGAGCAGAAGTT
118155	TRPC5	GAAAGGAGAGTGAAACTCTTATTTGCA
118156	ATP1B2	TTCTCCTTGTTGGTCAGGCTGG
118156	CBFA2T2	TTCTCCTTGTTGGTCAGGCTGG
118157	HMGA1	CCTCATTGCCTCCTGTTCTGCCC
118158	CRYZ	TTCTGGTGAGGGTCAAATATTTTT
118159	NFIL3	CTCTGCTTCAGACTCTGGGT
118160	STE	GTTGCCTAGGCTGGAGGACAGTG
118161	STIM1	GGGACAGCTTGTCCTTCCCTG
118162	COL6A1	ACGCCTCTCGGGGCCTGTGCCGCAC
118163	ADCY1	TAGTGAAAGCAGATCCTGTACTAGGA
118164	LZTR1	CAGAAGCCTCCTTGAACCAGTC
118165	EPHB6	GCGAGCTCCAGGAGCCCCGGGTC
118166	ENO2	CTCCGCTGCTCCTTGGCTTAC
118167	NESH	GGACTGGGTCTGCCCACCTCT
118168	SPARC	TTGCAGCTTCAACTTTTCTCTT
118169	RAD1	CATTGCACTCCAGCCTAGGCAATAAGA
118170	ICMT	CACTGGAGCAGTCTGTCCTTATGCCGA
118171	GPR61	CCAACAGGATGAACGTGTGCA
118172	CREBL2	ATCTCTAGTCTAGTCTAGTCT
118173	STC1	CATGATGTTTACAAGATGGCGA
118174	AQP6	TGCCACTGCACTTAGCACTTTCAGGCT
118175	TIMP4	CCTCAGCCTGTTGCCCTGCCTCCCAA
118176	SLC21A9	CTGGAATTATAGATACAGCTTATTATT
118177	OCRL	AGCTATTGCTCCTTCCCACAGC
118178	GLP1R	CAAGGAGTTCGTGGCTGCAAA
118179	NKTR	CCTGCAGCTGACTCAAAGCC
118180	IGSF4	TGGAACTACATTACTGTACAG
118181	KRTHB1	TAGAAAGAAGTCCGCTGGCACCC
118182	ADRBK1	TGCTGTCCCCTCTTGCCCC
118183	USP6	GGATGCGCAGAGTTCGGCTGGAAA
118184	SQSTM1	CCGCCTGCCCTGCCTGGGCC
118185	DYRK1A	CCAGTAGCTGGGATTACAGTGTTA
118186	A1BG	TCTTGGCTCACAGCAACCTCTACCT
118187	BSN	GGGAAGAGTGCTGTACAAAGTCA

118188	GRLF1	GTGGCAGCAAAACCAGGA
118189	PRTN3	CCTGGCTCCAAACCCTCGAGGCG
118190	NRIP1	ACTTCTATTGAACATGACTCA
118191	PML	TTCCAGGAGCTAGAACCAGGGA
118192	BTG2	CTTTGGGCCCACAGACCCAAGA
118193	DGKI	GTCAGCCCAGGCTGCTGGGCTGTAGC
118194	MCP	TCACATGCTTTTCAAGAATGTCGCA
118195	SLC28A2	TAGTCCCAGCTACTCGCGAGACTGA
118196	BACH2	TTTAGCTAATTAAAAAGCAC
118197	DNM1	CCGCAGCCATGGGCAACCGCG
118198	MOG	CGCAAAACTGAAAGGCATGTGAA
118199	FSTL1	ACTGTGACTTGGGGAGGTCAGT
118200	CTSF	GGGAGGTACAGCTGGCAGAGGGA
118201	NT5C2	GCAGTGAGCCAGGATTGTGCC
118202	NUMA1	TGAGTGGCCCCACCTGTGTCCCCGAT
118203	HAP1	AGAGAGGCCTTCTGGGACTGCCCAG
118204	TTF2	CCAGGAGGTTGAGGCTGCAGTG
118205	IL6R	CTGGGAGGTCAAGGCTGCAGTG
118205	PDCL	CTGGGAGGTCAAGGCTGCAGTG
118205	TACC1	CTGGGAGGTCAAGGCTGCAGTG
118206	LAMA3	TTCTTCAATTAGGACACAAA
118207	AICDA	TTGGGAGGCTGAGGCAGGAGAATCGC
118207	DBT	TTGGGAGGCTGAGGCAGGAGAATCGC
118207	GRM6	TTGGGAGGCTGAGGCAGGAGAATCGC
118207	LILRB1	TTGGGAGGCTGAGGCAGGAGAATCGC
118207	RBM3	TTGGGAGGCTGAGGCAGGAGAATCGC
118207	SCN2B	TTGGGAGGCTGAGGCAGGAGAATCGC
118208	HNRPK	GCTGCACCGACCTCGACGTCTTGCCT
118209	SGT	TCTGCAGGAACTCTCCCGTCTG
118210	PTP4A2	TGGAATAGAAGCCCTTGTTGCTGTAGA
118211	IGFBP7	GTAGTCATGGATAACTACATTACC
118212	DIAPH2	TGTCACCCAGGCTGCAGTGTAGT
118213	GALGT	CCACAGCCAGTGCCAAGTCCT
118214	ALDH8A1	GGAGGCTGAGGTGGGAGGATCGCTTGA
118214	SFRS2IP	GGAGGCTGAGGTGGGAGGATCGCTTGA
118215	PDE4D	CTGTCATCTGCCAGGACGTTTGTT
118216	PIK3C2B	GAAGGGAGAGACTGAGACTGA
118217	GNAS	TGAGCATGCCAAGGCTCTGTGGGA
118218	B3GNT3	GATCAAATGCTGTAATGGTGG
118219	LPL	GAGGCCTTCTCAAACTTTACTCT
118220	AP1M1	CAGCCTCAGACTTTTTCCCACTG
118221	DXS1283E	GCTGGTTGTCATTCATTCT
118222	KLHL3	TGACCTCATTTTCTGCTATG
118223	CYP8B1	CCAGTAGCTGGGATTACAGGCAC
118224	TNFSF4	GTCAGGAGATCAGAATTTTAA
118225	CBLB	GTTCCATTTCTCTCATTCA
118226	HAP1	CTGGCTACCAGACTCAGCCC
118227	XPR1	GACCAACGCAACCTCTAGTACCTT
118228	PAFAH1B1	GTTATTAGGGCTTTTCCTGAAA
118229	DYT1	GGCGAGGACGTGAAGCCTCCCG

118230	HERC2	TGAGAAGCGTCCGTCCTCGAGCCAGGCG
118231	A1BG	TGAGACAGAATTTTGCTCTTGTTGC
118232	ATP6V1G2	ACAGTTCCTTGCATGTTGTAGCAGTGATT
118233	VGF	CCAGCGTCTCCGGCAGCCTCTTGGTC
118234	APBB2	TGTCTTCTTGGCTGGACCTGTCAC
118235	LZTFL1	TTGATGGCCATCACAATGCAGCT
118236	KCNJ11	GAGTAGCTGGGATTACAGGTGCGCACC
118237	PLA2G4C	CTGTCCTAACAGGGCCAATCA
118238	WWP2	TGCCTGTAATTGAGCCTCTCTG
118239	SH3GL2	TCATCCAGCCCCACCAAGTGACTTTGG
118240	ULBP2	TGCTACCTGATGGAATTCCTGCACT
118241	IL2RB	CACGTATCTTTCCTAGGCAG
118242	PAX5	CTGAGGCTCTCCCTACTCCCT
118243	RGL	CTAGGGAGGCCAGGAGGAGC
118244	HOXA10	TGTCTGCCTGGAGTGCTGT
118245	GPR65	AAATGAACAGCACATGTAT
118246	HDGF	GATGTTCCTTCCAGTGTCATTTCTCAT
118247	THRA	GTTCATGCTTCTACTGTGACA
118248	SLC4A10	ATCATAAAAAACTGTTTCA
118249	ITGB3	AAGAACATGTATATAAACATGC
118250	DSPP	TATGTAAACAAAAACAACTG
118251	GPR92	ACACGGAGCACAGGTCTCTG
118252	CHST6	CCCTCCTCCTCTGGGCACAGGGTGTGCGT
118253	TNFAIP1	AGATGCCAAGCACTAGCCAGGAGG
118254	STK6	GGAGGCAAGGTTCGACTGCAGC
118255	EDARADD	TACATCTCACCTGACTGTCTGGCTGA
118256	KRT4	TGTGGGGTGAGAGGATGGGTGAT
118257	MEF2C	TTTTAAGGCTAACTTCTTTTCA
118258	WBSCR5	CTCGGCCTCCCAACGTGCTGGG
118259	ATP6IP1	TGCAAGCTCCCCTCAGCCC
118260	EYA1	TCCTCAAGTTGCAGGTCTATGGAAATG
118261	MYF5	AGCACAAAATAGTACTTTGTGGATCAT
118262	FBXL7	TGAAGTTTCAGGATTTGGGT
118263	PARN	GTATGGGAGGGGTTGGAAACCAAGT
118264	GABRR1	TTCTACAAATTTCACATTTCCATGGC
118265	EP300	ATGCTCCTGCCTTGCACCTCCA
118266	EN1	GAGAGGGAGAGACAGCGAGATCTATC
118267	ASH2L	ATTTTCTCCCCACTTCCAGTGA
118268	BCL9	AGCTACTTGGCATGAATGCCTGGGCCGT
118269	KLHL3	CTCCCCTCATTTTCAGTGGCA
118270	SSTR1	GACAATGGTAGAAGTGAGAGCTTTG
118271	ATM	CCACTACACTCCAGCCTGGGAGACAGA
118272	SPOCK	TCTGTTTCTCCTCCTTTACGCCCATT
118273	GPC1	CTGGAACCTGACTTTAGATGTTTTGGG
118274	NFIL3	CCTTTCTTTCTCCTCGTCGGCC
118275	SET7	GAGACCTGGAATAGAAACTT
118276	EDG4	CGCGGCAAGCAACAAATCCACAGCCCC
118277	ATP7B	TTGCCCAGGATGACATAGCCAATG
118278	EWSR1	AGGGAAAGCGAGAGGGAGACGGAC
118279	MAML1	CGGCCCGGAGGAAGCAATTCCA

118280	NEF3	ACAATTTCAAAATGCATGTGA
118281	TMPO	GTGGGGAGGGGGCTTCGCAGATCCCCG
118282	T	CCGGGAGCCGTCGCAGGTCTCGGTCCAA
118283	MBP	GGGGCAGCACAGAGAGGGGGCCAC
118284	ESR1	TAATCCAGATGCCTATTGTTGGA
118285	SFRP1	AGTGGAGGGGTTTACCTGGAACA
118286	COPA	CATACCTGTAATCCCAGCACTT
118286	PCDH11Y	CATACCTGTAATCCCAGCACTT
118287	SURF5	GTTGGGAGGGGCTCTGAGCAGT
118288	GCNT2	GCAAGAATGGAGATATGCA
118289	UBE2B	ACTTAGGAGGCTGAGGTGGCAGA
118290	SLC35A1	TCTCAATAATTTGTGAAATTTC
118291	LHX5	CTCTCCAGGAGCCTCAGCCCACCGCCA
118292	FCAR	TGCACACATTCTTATTAGGATT
118293	ROBO1	GCTGCTGCTTCTACTTTGGCT
118294	IQGAP1	TTATTAGCTGTAGCATTCTCTG
118295	CSNK2A2	CACCTCCCTGGTTCAAGCGATT
118296	LIF	AGGGTCTGATGGCTGGACCTGCAGCAG
118297	STX8	TAAAGAGACCACCAGCAGTGA
118298	HLA-DMB	CGGGCAATATAGTATTCTGCTCA
118299	SIAT8E	GGATCCTGGGGTAGGGAGGCAGG
118300	AQP6	GTCAGCTCAGGCTGGAGCAGGTATATGA
118301	NFATC3	CACGCCTGTATCCCAGCACTT
118302	TNFRSF10B	CTCTCCCACTTCCATCTGGCATCC
118303	CYP1B1	GGCTGAGACAGTGAATTTGGGC
118304	KCNMB1	GCCTGAGTTCTCCCTGTTGTCTC
118305	OLR1	TTGCTTTTGTTAAAAGCTTTAT
118306	PTPN1	CATCTTCCCCGGATGTGTGTCTCA
118307	TCTA	ACTCCCCAGACCTCAGGGA
118308	HSPA6	CTGTCAGCTAAAGACCTGCAGTATTG
118309	ATP7A	AGCCCAGGCTGGAGTGCAGTG
118310	XYLB	CTCTCCCTTTTTCTCCCTCA
118311	PDE6D	CTCCATCCTCGGCTCCTGGGC
118312	NLGN3	AGGAAACAGATTTAAGCAAGA
118313	H3F3B	AAGTCTGACCATACATCACTGTGA
118314	FCMD	AGAGGCCATGATTTCACAAAA
118315	NTRK3	CACATCTCCCTTCCACCTCA
118316	SLC9A1	CCTCATCCTCCTCCTCATTCAGACCA
118317	PVR	GACTACAGGTATGTGCCACCAC
118318	PITPNB	GGAGCAAAGTTACAGGCCAGTTT
118319	C14orf1	CCCAGGCTGGGAATTGCAGTGG
118320	KRT9	CCTGACATCAGGAATAGCTG
118321	TGM2	GTAGAGAGGGGACTGGGGGACT
118322	LRRC2	ACCCGTAATCCCAGCTACTCAGG
118323	GFPT2	AAGGCATTGGCCCTCTGGACTCCTTT
118324	ENTPD5	CTTAACCTTGGAGTGAGAGCCCAGGG
118325	ARCN1	CGCCTCCTGGGTTCAAGCAAGT
118326	ADAM11	TTCAAACCAAAGCTGCCT
118327	BDP1	AGCTCACTGCAGCCTCTGCCACCCAGA
118328	TGFBR3	GCCTCGTGTCCAGACTCAGAG

118329	PCDHA9	AATTGAAATTTTCTCCA
118330	DSG1	TGGGGCCTCAGTTAATATCCCT
118331	SCAMP1	TAGGCCAGCAGAGACTTAGGGA
118332	P2RY6	TGGCAGAGGCAGGGTCGCTGG
118333	SOCS5	TTCATTCTTAATGGAAAATCTG
118334	MTMR3	AGTTTGAACGTGGTGAAACAGGGT
118335	SCAMP3	CTTCCCTCTGCTGTGCC
118336	PPP2R1A	CTGTTCTGTCTCTCGCCTGTGCTGGA
118337	GRM6	TTCCACACTCGGTGTGTGCATAC
118338	ARSB	GCTGTTGGCTGGAGCATGTGTCTAGAG
118339	PAFAH1B1	TCTACAACCTGGAATCAGATTTGCAA
118340	PIK3C2B	AGGCTGTGAGGTTGCAGCAAAGTTT
118341	DLEC1	GAAATGAGTGATCCTGCCTCTGGTCCC
118342	SLC26A4	TGGATATCCATGAGCTGCACT
118343	PTK7	CGCCTCGGGACGCCTCG
118344	HSD11B2	TCATGCAAGACTTCACTGCAGCCT
118345	BDKRB1	GTCGGCCCAGACTGAAGTGCAGT
118346	EPHA1	TGCCTCCATCCCACCCA
118347	PFKFB4	TCATCCTTGTGTGCTGCTCTGCTA
118348	OFD1	GGCAGAGAACGTTCAGCACCTTTGTTCCTCC
118349	EN2	GTTTAAGACAGGAAGCTGCCGGGT
118350	PXF	CTCCAAAGCAAATTCACATG
118351	PDE6B	ACCACACATGCTAATTTTTGT
118352	ITCH	GAGTTCAAATCCTGCCTGGGCA
118353	RB1CC1	GACTGATTTTAAGATCAGCCA
118354	B3GALT3	AGATGTTGCAGTATTTCA
118355	HYOU1	GAAAGGAGAGACCATGGTGTGA
118356	CALCR	GAGTCAATTTGCTGAA
118357	IL6	AGTATGAGCGTTAGGACACTA
118358	CTMP	TGGCTCACACCTATAATCCCAG
118358	LRRC2	TGGCTCACACCTATAATCCCAG
118359	IL10RA	TCTGGCAGAGCTGAGAAGGG
118360	TMPRSS3	TTCCTGCCTTCCTCCCTTT
118361	PIN1L	TGACTTCAGCATGGGAGGGAG
118362	MYO1E	GCAATTGCTTCTCCAAGGCCT
118363	RALBP1	TGGAGAGAAGATATTCTGGTGACTGAA
118364	RIG	TGACTTCTACTCTGTCAATCTCTTT
118365	SSR2	TCCCCCTCTCAGAAGAGGGTGGAAGATGA
118366	ASTN	GGCGCTGATGTAAGCACTTT
118367	NCOA6	GTTGCCCAGGCTAGTCTGGAACTCCTG
118368	PLS1	ACTCTCTTGTTTAAGTAGCA
118369	PRND	GCATGATTTTGGCTCACTGCAGCCT
118370	DCX	TGTTGTCCAGCACCAATTCTGGCTGTC
118371	IFNAR2	GGAGAGAAGGGGGGCCCTGC
118372	ALDH1B1	TGCAACCTCCGCCTCCCAGATTC
118373	PCM1	GTGCGGGCTGACTGTCGCTCTGCCT
118374	TFEB	CTCGGCTCTCCCACAGGTGGGCA
118375	CBFB	TTTTCTCCAGTAGTACAGGC
118376	IL1R2	GTGAGCAGCAACAAGGCCACGTGCTG
118377	PEA15	TTCTTTACTAGATATCCTGGCCC

118378	TACSTD2	TGGATGTCTTTGAGGACAGACAT
118379	CAPS	AGGCCAGCTGCCCAGAGCCCAG
118380	PDGFRB	ATTAACTCTGAGTGCCTT
118381	POLH	ATCCAGGCGTGGTGGTGCA
118382	TRIP15	TACCCTTTTGAACATTCCTTTTCTCAT
118383	SORCS2	GGGAGCACCCTGGGCCACAC
118384	SIRT3	GACCAGACAAATAGATGATGG
118385	CDH11	GGGGGTGGGGAAGAAGAC
118386	ZNF264	ACCTGTAATCCTAGCACTTTGA
118387	CEACAM6	TGGTATTACCCTCCTAATAGTCA
118388	TLR5	CAGGCTGGACTGCAGTGACACAATCTC
118389	ZHX1	ACATTTTTCTTCTAATATGATGGAGA
118390	HDAC4	AATTCAGTTGACACGAGGCACAG
118391	COL4A1	TATCAATATTTTCTGCAATCCAA
118392	HIP1	CTTCTGGTCTGTTGTCAA
118393	DRD1	CGCCGCCTCTCTTGGGACCTGGCC
118394	PIP5K1B	AATATACTAGGTCTGCCTTC
118395	EHD1	CCTCACCTGGCTCTGCCTCCC
118396	SCN4A	CAAAACAAGACATGTATGTGTG
118397	OLIG2	TCCTCTATTTTGGTTTATTTTTGCC
118398	ZNF146	TGGGAATGCTGTATCTGTGGAAG
118399	STAU	TGAACAAAGACAACATTGTTCCTGGA
118400	PACSIN1	TCCCCAGGCAGGAGTTGGGGT
118401	CPS1	AGGCTTGCCTATGTGCTTATGT
118402	SS18	ACTGTAATCAAAAGGAGGAATT
118403	OAS2	AGACTTTATCATGTGTCTT
118404	WBSCR14	AGCAGAGAAGCAGAAAAGGAGGT
118405	SLC30A4	GGAACTCCTGCCTTATTTATCCTGCAGT
118406	GDI2	GAAGTTAAACAAACATTGGGA
118407	HNRPH3	TCTAGCCCTAGATTTTGGAGT
118408	SEDL	GGGCTGGTTTCAAACTCCTGACCTCAG
118409	ZNF236	GGCTGGACCAATTCTCTCCA
118410	ZNF135	ATTCTGAGATGGCTTTTGCT
118411	TRPM6	TCATCCCTCTTGTATGCTGGGCCTGG
118412	NEU3	GTATGATTTGTTCCATTTTT
118413	RRAS2	TTTGGAATCATACTGCCTACTG
118414	ASB1	GCCACCCTTTGGGCTCAGAGGA
118415	ARHGAP6	CCCTGCAGGCCACACTCCAAGTCTCAG
118416	PPEF2	CCACAGCTGGTGAACAGCTCA
118417	AKAP2	TTGCCCAGAAGAGGCAGTT
118418	PBX1	CCTGCCCCTGTGCCTCTGTC
118419	SLC15A1	TCTTTTTTCTTTTTCTTTTC
118420	SLC22A7	TGCTGGGCCTGGCATCTGCAG
118421	PC	GGGTGTTACAGGAACAGTGTGGCCTC
118422	GHR	CGGAATCTGTTCACACCCAAC
118423	WNT7A	ATCGGGACTATGAACCGGAAAGCGCGGC
118424	COL11A2	CAGGGAAGAAACGGAATAGTG
118425	MASP1	TCTCCTTCTCCCTGGAGCT
118426	ADCY1	GGGCAGCGGCTTCAAGAGCCAGA
118427	CDH11	CTTGTTACTGCTGATTCTTGTAA

118428	LLGL1	AGAACTATCCGCTGAGGAACCTGG
118429	CAV1	TTTTCAGCAAACTCTTTTCCCA
118430	RAMP3	AGCCCCTCACCGGGACTTGCTGT
118431	TARBP2	GGGCCAGCCCACCGCAAAGAAT
118432	BCL10	ACTGCAACTTCTGCCTCCCATGCTTAC
118433	AMD1	TGTGATCAGTTTGATTCTGTAATG
118434	PHKB	GGTGAACTTCTCTTAGT
118435	DIAPH2	TTCTTTACAAGCTTATTTTACATACCG
118436	PROS1	ATGGAAAGGAGAATGAACAAA
118437	GRF2	CCCTGGAATGGGGGCAAGCAGCTGGGTGGG
118438	FGF5	GGGGAGAAAAGGGAACAAGAT
118439	FTSJ2	GGTAGCTGCATGCACTGGCA
118440	HYOU1	CTTCTGCTGTTCTGCTCCTCCCAGA
118441	CAPN1	CCTCCCAGCCACCATCGTTCATCTG
118442	ASTN	GTTATACAACTTGCCTC
118443	HMOX1	TTGAGCCATGCGTGGGTGGGG
118444	MEST	CTCTCCTCGAATGACGTTATGGGCACA
118445	ITPA	AAACCAGCTATATCTGTTTTG
118446	TCF2	GGGGGCTGACCCAAGTGTTG
118447	GPLD1	TTCACTGCATTTCCCCACTC
118448	ASK	TGACAGAGTGAGACTCCATCTC
118448	BHMT2	TGACAGAGTGAGACTCCATCTC
118448	GALNT7	TGACAGAGTGAGACTCCATCTC
118449	F2R	CAACAGAGCAAGACTCCATCTC
118449	MSH3	CAACAGAGCAAGACTCCATCTC
118450	KCNJ5	CGACAGAGCGAGACTCCATCTC
118451	CLTA	CTACATCTGCAATATCTTAATCCTACT
118452	FACL2	AAACTCATGTTCTTCTCCAGTCCCCTG
118453	CPT1B	AGGCTGAGGCGAGAGGATCACT
118454	MYO1A	TTAAGCCACCTCTCCATCCTGGGGCC
118455	PTGES	AGTCCCTGTGATGGCCAGGCCAGGGGA
118456	RARB	GATCCGAGCAGGGTTTGTCT
118457	KCNMB3	AGCAGGTTTGCAGGCACAGTGGA
118458	MRE11A	TTTCCTGAGCATAACTCC
118459	ITGB3	AGCATAGGAAACCACACAGACTTGGGCAGGG
118460	DMC1	ACCAGCCTGGCCAACATGGAGAAACCC
118461	GCNT2	CTGAGTAGCTTTACACTGCC
118462	B4GALT5	GGTGGCACGATCACAGCTCACT
118463	CLDN14	CCTGCTTCTCCCCTGGGCT
118464	STX1A	GGGAAGAGGCAGAGGGAGGCAG
118465	CXCL6	TAGTATGGCATAATGTCATGAT
118466	CNR1	AGCTTCTGTCCCGAGGACCA
118467	IHPK3	CTCCATTTTTGCCTGTGGAAAGGAGG
118468	MYO1B	AGGGTTCATTTTGGAAACTACAT
118469	AF3P21	GCTAAAGCCCCTCTATACC
118470	COL17A1	CACTTAGGTCCAAGGTCTCCA
118471	KCNE1L	GGGGGAGGAGTGCTCAACGGGGAG
118472	GNE	TTAGATGATCTAAGAAATCATG
118473	SSX1	GAAGCAGAACGTGGTGACCTT
118473	SSX2	GAAGCAGAACGTGGTGACCTT

118473	SSX3	GAAGCAGAACGTGGTGACCTT
118473	SSX4	GAAGCAGAACGTGGTGACCTT
118474	RNF18	GGACTGCACTTAGAACTGCATTTTG
118475	RAD54B	CCCCTGCCTTTTGTTCAACTCTATAAA
118476	IGSF4	CTGTTTGACACCTCTTTTTTCGTTTGTT
118477	GDF2	AGCACAACAGGAAAGCCTG
118478	CPSF4	TGTCCGTTGAACTGGAGTTGCAG
118479	MSF	TGTTTTTGCCAAAACCAAGATT
118480	MNT	TGGGCAGCCTGCTTTGGCCTTT
118481	ZNF42	CCTGTTCACATCCTTTGCCCAT
118482	EIF5A2	TTTCTAAAGCACAAGAAATAGT
118483	MEF2B	TCATTCCACTCAGCCTGGGACGATGG
118484	ZNF133	GGAATGCTTCAAAAGTTCTGCTGCC
118485	CMAR	CCCAAGTAGTTGGGAGGTGTTG
118486	RGS6	TGAGCCCACAGACAGAGCTGTA
118487	IL2RB	GCCACGCTCCCCCTCGGTTC
118488	NDST1	CCTCACGCCACTGCCTGGAGCT
118489	ZFHX1B	TGAAAACACTGTATTTTCGACTG
118490	FEN1	TCATCCCTCCTCTGTGTTGCCATGG
118491	DTNA	TCCCACTCACTAGCATTATTTAAA
118492	HARS	TACAAGGACCCAGCCTGAGATG
118493	ZNF80	GCACTCTGAATTCAGTGGCAGTA
118494	CHST6	GGAACACTGTCTTACACAGCATTTT
118495	SLC7A6	CCTTAGACCTGTGGTGTCCGC
118496	NPTX1	AAGACCTGGCCACATGGGGC
118497	RAP1A	GGCTTCTCCTGTTTTATATA
118498	MPO	AGGGCCCACTTGTATCCTCTG
118499	FLT1	TTCATTTCAGCCTGAATGTCTGCCTAT
118500	SHANK2	AGACCTCCGTCCTCTGCTTTCCGGGCA
118501	APOL1	TGCAGTGAGCCGAGATATCGCC
118502	GABPB1	TTAGTACAAACCTTAATTTCTCAGAAACG
118503	IFNA1	TAACGTCATGTGCACCTTTACACTGTGGTTA
118504	WFS1	AGCAGGTAGTGGGTGAATGTGTGA
118505	MRE11A	CTCTTGGCTGTGAAAAGAGG
118506	MAGEA5	GGTCAATGCAAGAGTTCTCATTTCC
118507	RNMT	GGAGCTGGTTAGAACATTTTAAGTGG
118508	CD28	TCAGTTCCCCTCACACTTCGG
118509	ITPKB	CTGTCTCTCAAGCCATTTTGCC
118510	EIF4G2	GCCTGTATTTCTACCTCTAGTAATGG
118511	MAB21L1	GCTGGGCTCAAAGATAAAAGGA
118512	SH3BP2	GCTCACTGCCACCTCCGCCT
118513	VHL	AGCCTCCCAAAGTGGTGGGATT
118514	ASH1	GGAGAGGGAGAGGAAAGGGTTCTGTCC
118515	DMD	CAGCCTATTTCCTTAATGTACGTGA
118516	GYS1	TCCTGCCTCTCTGCTCCAGAGAGAGGAT
118517	ZNF216	AGAAAGAATGTTTAAAGCTTT
118518	ANGPT1	ATGCAAATAACACAAATGCTC
118519	FPGS	TGCCCCCAGCCCAGAGCCCGG
118520	MAP1B	GAGCGAGACACTTCGCCGAGGC
118521	SYNGR2	TGGCTCCCAGACTCTGTCTGT

118522	PLA2G2D	CCTCCAGGCATTGGCTCAGGGTGAAT
118523	MADH7	CTTCCTGCCAGCCCCTGCCATT
118524	FGF2	GGAGGCCAAAGCAGGAGGATCGCTTGA
118525	RDS	TCACATGCCCTCGGTCACTGAGTCTGG
118526	FAT	TTTCAACTGAATTTTGGTGGTGT
118527	MSL3L1	ATTCACAAATACAGGGTGCTCTG
118528	FGFR2	CTGAGGCAGGAGAGTCACTTGA
118529	PLA2G2D	CTGAGGCAGGAGAATCACTTGG
118530	ADRBK2	GCAGTTTTCAAAAGTCTTTGA
118531	BHLHB3	ATCCCTTTCTTCCCCCCACCA
118532	GSTZ1	TCTGCCTTCCTGCTGAAACTTGTTCC
118533	ADRA1A	CAGGAAAGATGCAGAGGAA
118534	C14orf1	AACACAAAAATAAAGAACTTCA
118535	APBB1	GGGTGTGGGTCAGGGAGGGGTCTAGA
118536	TTC3	GAGCAAATTACTTGATTTAAGTG
118537	SLC17A7	TCCTTTATCTCCAGGGACTCTCAGGCTAAC
118538	PMSCL2	CACAGAGATATCCTGGAAGAC
118539	KCNJ16	CTCTTACAAGATGAAAAGGACA
118540	LAPTM5	CCAGAGGTGGAGGCCACGGAGGCAGG
118541	B3GAT1	CCCTGCTCTTCCCAAAGCTGCC
118542	GALT	TGAATCCTGGCCTGGAATTTG
118543	DDX6	ACTGACTTTCAAAAGTTTTGAAGTTTG
118544	UBL3	ACTTCTGCTCTTTTTTCTTTGTT
118545	SKI	TCGAGTGCTTAGAAACCCC
118546	MAPRE1	ATCTGCCAGGCTGGGGTGTTTTCGGT
118547	RPL10	TACAACACATGCGGACCAAGAG
118548	HIVEP3	CATCTGAAGTCTTTGTGAAG
118549	GDF8	AGATGGTTATATTACAATCA
118550	HOXD3	GGGACTCCAATCTGGTAATGG
118551	PARK2	TTCATTTTGCAACTTGGAGATT
118552	ARHGDIA	CCGGGGTGGAGCTGGGGTG
118553	PLOD	CACCCTGTCCTGGATGCCTCTGA
118554	NME4	AAGCCCACATCCAAACCTGCCT
118555	PTGIS	GTCTCGAACTCCTGACCTCGTGA
118555	SIGLEC8	GTCTCGAACTCCTGACCTCGTGA
118556	GPR56	GTCACACAGGCTGGAGTGCAGTG
118557	APM1	TTTAAGCGATTCTTCTGCCTCA
118557	TUFT1	TTTAAGCGATTCTTCTGCCTCA
118558	AOX1	GTCCCGGGAAGAGTTCCTGGCAAAGAG
118559	BRCA1	AAAGAATGTCCATGGTGGTGT
118560	ACPP	GCTCACACCTGTAATCCTTGCA
118561	SLC13A2	TGTTACCCAGCTCCTGGAGGCAG
118562	FOXF1	CAGCATTTGTGACACGTAT
118563	RXRA	CCTGAGCCCTGTCCCTGCCCT
118564	PEA15	CTTATGGAAGAAATGGGAGAAG
118565	PRPS2	CTATCATTATTTAGCCCCACCT
118566	HRH1	ACATGGAGTGCCTGTACAA
118567	MAGEA5	GCCACTGCGAGGGGGGCTGGGCCAGT
118568	CD44	TTAGCATAAAATTTTCTACTCTTTTT
118569	DNMT2	ATGAAGCGGCCACAGAAACTGTTGGTG

118570	LAD1	TCTCTGGAGGCCTTGCTTTCTA
118571	TEGT	GGCCCTTCCTTCCTCATTGTT
118572	TAL1	ACTCAGGCTGGAGTACAGTGGT
118573	HMGN1	TACCATGTCTTATCAGTGGTCCCTGTC
118574	ELL	GCTGCCCTGGGTCCTGCCTGCA
118575	CALB1	CGCAGCCCTGACTCGCGCACACGCTG
118576	FGF2	AGGTAGTGAATTTTTAATCATCTGGACTTTAA
118577	PEX1	TTATAAAATCACAGATTGGTA
118578	IL17BR	TATGATGGCTACTACCCTTTTCT
118579	EPHB6	TGCGAGGCCTCGGGGGGCGCAG
118580	CD2AP	ACAAAACCCAAAGCTTTTCA
118581	DHFR	CTGTTTTTCTCAACAAGGAGC
118582	MKLN1	CCTTCATGCCTGACCTCAACCC
118583	AGPAT2	GACCACGGCAGGGCATGACCTGG
118584	CLASP2	GTCTTCTGTTAGTGCCATG
118585	MEST	TGTTTTTTGTGCTATTAGGAAATTC
118586	SNX3	GCCGTTTCTCCCCTGGGCT
118587	AKAP13	TCTACTGCCTGCTGGCCAGGCT
118588	PCDHB11	GTGTGAGCCACTGCGCCCGGCC
118589	SNAP23	GCGTGAGCCACTGTGCCTGGCT
118590	TRPM6	GCGTGAGCCACTGCGCCTGGCC
118591	DHFR	CACTGCACTCCAGCCGGGGTGA
118591	TRPM8	CACTGCACTCCAGCCGGGGTGA
118592	PACSIN1	GCCATGCCCACGGCCTCCTCCTGT
118593	LYL1	GCCAGGGGTGAGAGGGAGGAAACCGG
118594	ADAM19	CCAACGCGTCCTCTCACA
118595	IGFBP4	TCCTCCAGGACGGCCAGGCCGT
118596	RP42	CTCTTTCAGACAAACAGTCCATTT
118597	GPR81	GTGTCCCAGGCTGGAGTGC
118598	RERE	TAGAAGGCTGCCTTCTCATGCGCATTG
118599	GYPA	AATTCTTTAATCTGTCCAGT
118600	BAPX1	GGAGAGCGCACACCCAGGCAGCCCT
118601	IRAK1	CATCCCTGGGCGCCACAGACGAGC
118602	MAPRE3	CCCTCCAGCAGCCTGGTTCA
118603	BAZ2A	TGTCTTTGGGAAACCACAGGAACAA
118604	KIFAP3	AACAAACACTGCATTATGTATGTTA
118605	MSN	TCTGTCTCATGTGTGCTCTTCTTC
118606	NOL3	TCTGGCTTCTCTCTGGACTGGGAGCT
118607	CYP8B1	AGCCTCCACTCTCCCAGCTTGCTTT
118608	MSL3L1	AGTGCTGTGCTTCGAGCCTGACC
118609	ZFP37	TGTGAAGTGTGAAAAAGTAGGTTGCTG
118610	UBE2E3	ATCATCTCAAACACAATAAACA
118611	SLN	TGTGACCTGCACTCACAATAT
118612	GAD1	ACCTCTATATGTTGCTGAAAC
118613	PTP4A2	CTCCTCTCCCATCCCAGAAAACAA
118614	GGT2	CCGCTGAACATCAGCCTGGGAGACGCG
118615	CD1D	TGATGTGAGTGTGTGTGATGGGA
118616	NRAS	ATTATTGCTGTTTGGTTT
118617	NPAT	TGTTGTGTCCATCATAAGA
118618	MPL	TTGCCCAGGCTGGTCTTGAACTCCTAA

118619	ADCY2	TCCAGCCTGGGTGACAGAGCG
118619	APOL1	TCCAGCCTGGGTGACAGAGCG
118619	GCNT2	TCCAGCCTGGGTGACAGAGCG
118619	GRM6	TCCAGCCTGGGTGACAGAGCG
118619	SLC28A2	TCCAGCCTGGGTGACAGAGCG
118619	SULT2A1	TCCAGCCTGGGTGACAGAGCG
118619	TEM7	TCCAGCCTGGGTGACAGAGCG
118619	WIG1	TCCAGCCTGGGTGACAGAGCG
118620	CD28	TCCAGCCTGGGCGACAGAGTG
118620	SCAP2	TCCAGCCTGGGCGACAGAGTG
118621	CD244	CCATGATAAGAGCAAGGCTGTT
118622	PVRL2	AGACTTGGTTTTGGCTCCAGCC
118623	DCX	ACATTTTCGGTTCAGGAAAAG
118624	CX3CR1	GGTGCTGTTATCCATGGGGAA
118625	ARHGEF7	GTCCTCTGCGTCAGGGAGCACT
118626	PIM2	TTCAGTGGGCTCAATCTGCGCAGC
118627	CHRNB2	CTGACACCTGCCGCTGCTTGAGT
118628	NF2	GCATGAGCCACCGCGCTTGGCC
118629	MYD88	CCCTCAGGCTGTCCTCTGGGGAG
118630	SPAP1	GGTTTCTGTCTCTTCCTGGTTCAATCTT
118631	PAFAH1B1	ACTTGCGTTGACAAAGGAGG
118632	GBP1	GCTAATGAAGAAAACTTCTCTTA
118633	FVT1	TAGCATCTACTTGTTTTTCCCATCT
118634	PNUTL1	CCTGGGTCTGTTCCCTGCCCCAGTGC
118635	NRG1	TCTCCACCCGTGTCCAGCATGACGGTG
118636	GTF2E2	GAGAAGCAGGAAGAGGGTGCAGTGCC
118637	MAGEA2	ACCTTGTTTTCAGAAGGTGACTCAGGT
118638	SUFU	CCAGCCCAGAGCCCTGGAGGAG
118639	VCAM1	TAGTAAAGTGATAATTTCTGGAATTAG
118640	TAZ	CAGAGCTGGGGCTGAGGGATGGACTG
118641	SCNN1G	CCACCAGCCATGGTCTAAGGACATGGAT
118642	GTF2F1	GGGAGGTGGAGGTTGCTGTGA
118643	HPGD	CTTGCCCTATTTTAATTCTGCTA
118644	KCNJ4	GGGGTTTCAGGGTGGGCAGG
118645	PAX6	GCAGATGTGTGAGGCCT
118646	HHLA1	AAACAGCTTTATTGCTCACACAAAGCC
118647	MECP2	CTGCAGATTCTAGGACCTGTGTC
118648	CD83	AGGACAGCTGTCCTCTTCTG
118649	KRT4	AGGCTGAGGGCTCCAGCACTCAC
118650	TLR3	GCCGTCTATTTGCCACACAC
118651	LTB4R	AGCTAACTTTTGTATTTTTAGT
118652	MAPT	GTCAGGAGACACTGTTCCCAAAG
118653	BHMT2	CCATTGCACTTCAGCCTGGGTG
118654	CRI1	CATTAAAGAAAAAGAAAAAAG
118655	GPRK7	AACATTGCACTCCAGGCTGGG
118656	SLC22A2	TGGCTGCAGCCGCTCTCAGCCTCGC
118657	APOBEC1	GCACCCTGGTGTGACTCTAGTGA
118658	PPP1R12B	CACCTGGCTGGGCCTCCCAAA
118659	TNFAIP1	GCTGCTGCTGCCTGGGTCTCTGCTC
118660	C5R1	GCTCACGCCTGTAATCCCAGAA

118661	CARKL	GCTCCCGCCTGTAATCCCAGCA
118662	TNFSF15	CATTGCACTCCAGCCTGGGTAA
118663	GALNT7	CATTGCACTCCAACCTGGGTGA
118664	BAAT	TTTGTACTCTTTCTCTTTATTTCTCAGA
118665	MCC	TGTAGCTCTGGACCTGTCTC
118666	CLCN7	GCTTAGCCCTCACAGGGCCCCAAG
118667	RABL2A	GGTCTCGATCTCCTCACCTCGTGATCC
118667	RABL2B	GGTCTCGATCTCCTCACCTCGTGATCC
118668	BACH1	ACCTATAAACAGTTTAGCATTAA
118669	TTF2	CACTGTTTTCCAGCCTGGGCAATACAG
118670	PABPC1	TTAATAAAAATTCCTTA
118671	DTNB	TAATTGCTTGAAACAACTTTCA
118672	FSHPRH1	GAACTCCTAGGTTGAAGGGA
118673	CX3CR1	CAAGCCCCTGCCCATCTGGGA
118674	CCND1	TCACATCGCTTCTGTGTATCTCTTTCA
118675	PSEN1	TGTGTCCCTCGGTGCAGAAACTACC
118676	EDN3	GCGCAGGGGAGGGCTGCCCAT
118677	GGT2	TGTGGGGCTCATGAATGCCCACAG
118678	SLC21A9	AGGGAGACTCAGGCCCACACTTGGG
118679	MHC2TA	TGGGGTACCCACTGCTCTGG
118680	ANKTM1	GTTACCTCCACCTTCCTGCACTCA
118681	RTN4	GGCGCGGAGGCAGGAGGAGCAGTCTCATTG
118682	GRIN2B	TTCTTGATAAAGAAGATTCTG
118683	MYO15A	GACAGAGCAGGTCCCTGTGTCTCC
118684	MECP2	AGATACTACTGACCAGACAAGCTG
118685	TBX3	TGTCCCCGGCTGGAGCCCAGC
118686	EPHA2	GAGCTGGGGACTCAGGGACCGGT
118687	BCL10	TTCCCAAGTTTCTCCTTGGTCCTCCT
118688	PKIB	CAGGCAGCTGCGCGCGGCTGG
118689	COPA	CTGCAGCTACTCTTCAGATCTG
118690	MYCL2	CGAGTAGCTGGGATCGCAGGCGC
118691	MN1	GTCCAGCCTGGGCAACCCCACCCCTGG
118692	PET112L	CTGCCTCTCAATCCCTGTCCCAAGCC
118693	CDH18	ACTAAGCTTTTGTAGCTGACAAGGAAA
118694	PTCRA	CACACTGTGTGAGGCTGTGTCTCT
118695	IL11	TCTAGATATCCAACAGTGAGGGT
118696	SIRT6	CCCAGCCTCTGACTTGCTGTGT
118697	HOXA3	GGAAAGAATTGCTCCAAAAATCT
118698	LDHC	TCTGTACTGATTGCGCCA
118699	LDHA	TCCAGTGTATAAATCCAATAT
118700	SAT	ATGAGGAACCACCTCCTCCTACT
118701	KRT13	TGGGCCCTCTGTGCTCTTCTCT
118702	CYB5	TCTCTTTCTTTTTCTTCCGAC
118703	CACNG3	TGAGGGAAGAAAGACCCTTTA
118704	PRNP	GTCACCTAGCAGATATGTATT
118705	PLA2G2D	CCTCCCAGTTGAGGCAGTAGC
118706	COPA	GATCATACCACTTCATTCCAG
118707	CKN1	GGGCTCAATGTCTCCTACTATCCA
118708	COL9A2	CTCCCAGCTCAGTATTTAA
118709	TCF4	TGTGATTTTGCTAAAATGCATCACC

118710	SOX11	GCGGTGGTAGGGTGGAGGGGA
118711	CD2AP	TTGCTTGCACTATAGGAGTCATAAA
118712	MINPP1	AACTGAAGAACATTTTTAATTCTTTA
118713	GALNT7	GCAGTTTGATTTTTATTTTTA
118714	USH2A	ACTCTCTCAGTACATCAAAATCA
118715	FBXW1B	GCACTTAGCCATGGGCTGGGCTCAAGAACC
118716	PRG1	CCACCTTGACACCAGGCAATGTAGTT
118717	FOXE1	TTTCAGCATTAAATATTTCA
118718	ARF3	GATGCCACTCTGCTCTGCCT
118719	GORASP1	GGGGCTTCCCAGGAGGCAG
118720	GAS7	CTTCCCTTCCAGCAT
118721	ARCN1	AGCTCACTGCAACCTCCGCCTC
118721	CDH17	AGCTCACTGCAACCTCCGCCTC
118721	CRTAP	AGCTCACTGCAACCTCCGCCTC
118721	EEF2K	AGCTCACTGCAACCTCCGCCTC
118721	PCDHB9	AGCTCACTGCAACCTCCGCCTC
118721	SLC15A1	AGCTCACTGCAACCTCCGCCTC
118721	SS18	AGCTCACTGCAACCTCCGCCTC
118722	POU2AF1	CAGGCAGCAAAATCTCAAGG
118723	PRCP	CACTGCAGTCTCCAGCCTGAGCC
118724	ABL1	GGCTGCACTCTTGAACTGGGCGA
118725	MICA	CCAGGCAGCTGGGATTCAATT
118726	PSCD4	TCCACTAACAGGAAACACTTCTCACCC
118727	ZNF146	TTTGCACCTCATCATGCC
118728	CCR2	TTTGTATGATCCTAATGAATGCAT
118729	CYB561	TGGGAGGCAGAGGGCACAAACCTTATA
118730	MYLK	GAGCAGGAGGTGGAGCAGC
118731	ACADSB	AACTACAGGTGTGCACCACCAT
118732	ADAM33	GCCTCTCCCCCATTCTGTGTGTGTC
118733	FTSJ2	TTTGGGAAGAGAAAGTTATCAAGA
118734	TRPC6	TAATCCTTTCTTTAGAATGCTGTTTAA
118735	FACL4	CTTCCAACCATTTATCTTGAAG
118736	KRT4	GGGGTGAGAGGATGGGTGATGGGGT
118737	IL10	CTACAAATACTCTTAGGAAGAG
118738	SLC22A11	ATGCCCCAGGCAGCCCGGGCACA
118739	IGF1	GATTACATCATGTATTTTGCCTCATGT
118740	OPRM1	CTAGGAAAGTGCCTACTTTTAGGTCA
118741	BPGM	AAGTCACAGATATATTTCTCCA
118742	POLL	CCGGCTCCCAGTGTCTGCCCGGCTCCC
118743	TXNRD2	GCAGTGAGCCACCATGGAGGACCAAGCA
118744	GAB2	CAACCCAGGGAGTCAAGGACCA
118745	METTL1	CCAGGGATTAGAGAAAAGAGCAGG
118746	TSC1	TTCAAAGCTTTCCTGTTTCCAG
118747	GSK3B	TTCTTCTGTGGGAGAACTTAATG
118748	PIGA	TAACATAGTAAAGACTTTCTA
118749	FGF1	TGCACACCTCATGAGTCTACCTGAGCA
118750	FN1	AAGCTTTACTACTGTGGAAA
118751	NPR1	GGGGAGAAGAGGGGTGGCGCAG
118752	TEP1	TATTCTATGTGTATGTATATGTACAT
118753	WWP2	GCAAAACTCTCCCCTGTCC

118754	SLC22A11	CCCCACCCCCAATCCGGCTGAGGGGCA
118755	CARD4	CCAGCAGAGCATGTTGGACA
118756	EHD2	AAAAGCCCCTTCCATCCTGCT
118757	SLC21A2	GGACCTTGACTCTTCCACACCTGCCT
118758	TAT	TGTCGCCCATGCTGGAGTGCAGTG
118759	CLCN4	GGAAGAGGAAGGGAGAGGCAAGC
118760	USH3A	CGAGTTACAGCCTGGGCAA
118761	EGLN3	GGTGGCTTCCCATCCCCAAAAGG
118762	PCDHB7	TCTGTCTGACTCTGGGTCAGTGACCCT
118763	RCN1	TCAGTATTTACTGGAAAATGGACA
118764	F3	AGCACTGTTGGAGCTACTGCAAA
118765	DGKQ	TGTTTTCAGGTGGTCTGGAGGCA
118766	C1orf1	TCCAGTGAGTTGAGATCATGCC
118767	ATP1A2	CTTACCCTGGGCTGGAGAGTTGGT
118768	SULT1A3	CACTGAGAAAGAAGTAGAAGAC
118769	CTMP	CAGGAGGAAGAGGTTGCAGTG
118770	ESRRG	GCTATTTTTCTTATAGAAGAGAAAATG
118771	POU3F1	GAGCCCCGGGAGAGAGGAGCGAAGA
118772	FGF12	GCAATGTCTCAGGTGTGGA
118773	MLANA	GGGATTACAGGCGTGCGCCACT
118774	MOG	CACTGCACTCTAGCCGGAGTGA
118775	CCND1	ACCGGCATGTTTCCAGCAGAAGA
118776	LSS	ACCCAGTCTGGTCTGGCTTGC
118777	CETP	GCAGAAGGCAAGCACCAGGCT
118778	LAD1	TGCCATGGCCAGGAGCTAAGTGCCTT
118779	PART1	CCTGAGCCACCATAATATGCT
118780	POMZP3	CCTACTGTACCTCGTGCCTGCTGC
118781	LSP1	AGGGATCTGCCAGCACCCTG
118782	BENE	GTCTCTTGGAATTATCTGACCATGAA
118783	CHST2	CCAGCCGCCGCGCCCGCCTCGG
118784	GPX3	TTGGGGCCAGCATCTCCCACTG
118785	PLXNB3	TCTAATTTATAAGGATCCCCC
118786	CYP4F3	TACAAGTCCTTTGTCAGT
118787	IL1A	CAACACCATTGAAGGCTCAT
118788	APP	TCCCTGTTCATTGTAAGCACTTT
118789	MAGOH	CTCTTGGAAGTTCAGGCTCGG
118790	PIK3R3	CTGGGAGTTGTGTTTTGCTTTGGC
118791	FANCC	TGGCTCACACCTGTGATCCCAG
118791	SUV39H2	TGGCTCACACCTGTGATCCCAG
118792	TP53	CTCTTGTATATGATGATCTGG
118793	NCOA4	GAGTTGAGCAGCCTTTC
118794	GPR62	AGGGACAAGAGGAGCAGAGGACAGGTG
118795	MYD88	CCTAGGACCCTAAATCCAATAG
118796	PITPN	CAACCTTGGGGTAAACTGAGGT
118797	XPR1	TACACTCCTATCATCAGCACTT
118798	CLOCK	AGTTCTGACAGTGTTTTAGGTG
118799	WHSC1	GCACTTAAATGATGTAATA
118800	IPP	CCAGGAGGTCAGGGCTGCAGTGA
118801	ADAM12	CCAGGATAGAGACTGGAACAC
118802	IGF1	AACCGGAGCTGAATTACCTTTCAC

118803	FBXL5	TAAAGAATGTTGGTAATGC
118804	CUL5	CTTAAAAAATGTACTTGCACAAGG
118805	GOLGA5	CTAAAATTTCTGAGAACAGTGCA
118806	IL18	CCTGTAATCCCAGCCCTTTGG
118806	MS4A2	CCTGTAATCCCAGCCCTTTGG
118807	TEM7	CCTGTACTCCCAGCACTTTGG
118808	IGF1	GCAAAAACTTCCATCACAACAAGA
118809	DKK1	TTTCTGAAATGTACTATCTTA
118810	SOX18	CTTGCGCCCGTTCCACCTCCC
118811	NGB	GAGAGAAGAGAAGGCAGCAGCA
118812	ANKRD3	ATCAGCTGTTGCTTGAAACCTGTT
118813	MYO7A	GATGTTCTTCCAGTGAGGCATCT
118814	CDH17	TATTCCCTCTTGTCCTTTAATA
118815	MYO6	CTCTAGGAAAAGAGAACTTTTT
118816	XRCC2	GAGGTCAAGACCAGCCTGGGCAA
118817	CD83	CATGATCTTGAGCAAGTTCCTTCTGG
118818	FCRH3	GGCTGCAGGGTATGTGAGGCTGAGCAA
118819	CYP8B1	TGCAACCTCTGCCTCCTGGGTT
118819	FZD4	TGCAACCTCTGCCTCCTGGGTT
118819	SIL	TGCAACCTCTGCCTCCTGGGTT
118820	SAS	CGCAACCTCTGCCTCCCGGGTT
118821	WEE1	CCTCCGCTCTCCTGTCCTCG
118822	CASP10	AGCATTTTTACGTACTTGAGCTTT
118823	GOCAP1	TTTCTTTCTGTTTTTTAATACCTGGT
118824	ZNF268	GTGAACATCTTATGAATGTAC
118825	MPP3	TGCCATGAGATCATAGGGGTTCCCATT
118826	CNR1	CAGTTGCTGTTTACTTGA
118827	NUMB	TTCTCAGATATTAAGAAGTTG
118828	MTERF	AAAGGTGGCTTTGAAGGAGGAAGAC
118829	ADAM12	CCCATCTCAGGCCAGAGCCAAGGGGC
118830	CTSB	TTCACGTAAGATACAAGTTTCA
118831	SLC22A12	ACACAGCCTGGGAGGCGCAG
118832	NAB1	AGATGTTGAGACCTGTTTGGTCTAATA
118833	SIT	TGGGAGTAAGAAGTGCTGTGGAAA
118834	NIPSNAP1	TGGAGGTGGCGGGAGGGGTCAGTGA
118835	DMD	AACCTAACTTGAATCATGCGA
118836	SECTM1	TCCAAGTAGCTCCAAATGCAATTTTTA
118837	FTSJ2	CTGAGACACAGTTTTCATCT
118838	GRB10	GGAAGCAGCAGCTGCAGGCCCAGTG
118839	SHOX2	TTGATGAGAGAGGCGGGCCTCCT
118840	GPLD1	TCTGCACCTGGATTTTGGA
118841	NPTX1	CTACTGCACTGCCTGGCTCAGCTGCAC
118842	RPS10	CCTGCAGCCGCAGAGATGTTGATGCC
118843	ITGAL	GAAGGATTCCTGCATCACTGTGA
118844	TBL1X	TGTTTTTAAAAAATTAAACAAGGCTTT
118845	L1CAM	GGCTGGAGTTGGGGCAGAGGAGA
118846	MYH9	CACCTCTGTGCAGGGCACAG
118847	GM2A	TCGCTTTGTCACCAGGCTGGAGTGC
118848	GJA4	CAGACAGAGCTTGTGCCGGATTTG
118849	AVPR1A	GTGGGAATCAGGCTTTTCCCGCAGAAAAC

118850	SIRT6	CAGGGGTTACACCTGCCCTCCGTGGTCCCTC
118851	IL21R	TCGCCCAGGCTGGAATGCAGT
118852	STAT1	CTGCTGTCTATGTGGCTGTATCTTGT
118853	UBE4A	TTGATGTCATGTGAGGAAATAATGC
118854	NEDD4	TCACAGAAAAACTGTTTACTT
118855	EDNRB	GAAAAGTTTGCTTGACATGGTGCTT
118856	SURF5	CCCCAACAGTCCCTCAGCTTCACCCA
118857	RECQL5	ATACCTGTTATACCAGCACTTT
118858	ADAM28	CTATCTCACCAGTATTTGCTCTC
118859	ATP6V0E	GGGAATCAGTGAAGTGTTTAG
118860	ASNA1	CTCCACCCTCCCCACCCCCTCGGGGCA
118861	RAD51L3	TAAAAATATAAAAAGGCAAT
118862	KIT	AGAGGGAGGTATGGACTGGGG
118863	ZNF184	ACATTGGGCTGAACTAATCCA
118864	ZNF264	GTTCAGAAGTTTGGCTGTGATG
118865	SLC22A7	GAGGAAGAGATGCCCATGAAGCA
118866	EPM2A	CATCCTGGCTCAGCTCTCAA
118867	ELK1	GAACCCAGGCCTGGGGGGCGGTG
118868	ROCK2	CTCTACCAATATACAAAAATTA
118869	SRGAP2	CAGGGAGGGGCAGTCCTTGGCA
118870	MADH3	CGCACGATGCAGACCTCATGCCC
118871	MAB21L1	ACAAGCAGAGGGGGGAGGACAGTC
118872	INMT	TCACTGCAAGCTCTGCGTCCTG
118873	OASL	CACACCTGTAATCCCAGAACTT
118874	KAL1	GGCCCGGACTCTCCTATGTGACTTTAG
118875	PRKWNK3	TAGTATCTTAGATGATTTTAG
118876	DDX11	ATCATCGACGAGGCGCACAACCTG
118877	SLC22A11	CCTCTTCTCCCTGCCCTGATCA
118878	CYP2B6	GTCACCCAGGTTCGAGTTCAGT
118879	ASB1	CCAGCACTTCTGGAACTGTGCTTCTCT
118880	DLGAP2	TTTGTTTCTTCACCTTGATTT
118881	EN2	GCTCCCTCTCCTCACCCTCCTGCACC
118882	DFFB	ACTTTTGTTGCCCAGGCTGG
118883	DMPK	CCCGACATTCCTCGGTATTTATTGTCT
118884	SLC35A2	GGCCAACATGACTAAGCTCTCTCATG
118885	TGFBI	CACTGCCTGACATTCACTTC
118886	ASB1	TTGAGAGAAGGAGAGGAAGATACAG
118887	GAS7	GGGAGGCGGAGATTGCAGTGAACCAAG
118888	IDH1	AAGGCAAAATCAATTTTGTA
118889	KLK1	AGGACACCATAGCGGAGAACTCCTGACGCCCA
118890	SEDL	AGGCTGGAGTGCAATGGCAGTT
118891	SCN7A	TGAAAAGAGTGTGGATCTTCT
118892	PAX7	CTCGTCGTCGCCACCTTCCCTC
118893	UBE2G2	AGCAGATTCTTTTCCTTCTCA
118894	RRM2	CTATGCTCTCCCTCCGTGTCCC
118895	TLR9	CTTACTTCCTCTATTCTCTGAGCCGC
118896	JRK	GCTTATGCGGTAAAACCTCTACCACCCCAA
118897	EIF5A2	GTTTTAGTCCCTTCTTATGGTTGGCA
118898	ARF3	GGGGGTGGGGATGGCAAGTC
118899	KRT6A	GAGCTGGGGATGAATGCTTAGTGCCCTC

118900	VIP	GAAGATAAAAAGACATTCTTCC
118901	CSTA	CACTTTGGTTCCAGCATCCTGTCCA
118902	MRE11A	CTGCACAAGCCATGCTGGCTCAGTCTG
118903	FLT1	GTCACATTCTATTTTGGGTATT
118904	SIAT6	AGGAGCAGCAGCCAGCACCACC
118905	GLI2	TATGGGCATCCTCTCTGGTCT
118906	LPIN2	TAGATGCCATCTGTGTGTCCTC
118907	HIP1	CTAACCTCCCTTAAGCAGCAA
118908	PTGES	TGAGCCAAGGACAGGGCTGGCTC
118909	SH3BP2	ACAGTTGGTTGTCTTGTCTTCCAG
118910	RAI3	CCAGCACTGAGGAGCTCGCCTGCTGC
118911	PTPRF	TAGAGCCCTGGATGGCCCCTGAGCC
118912	KCNB1	TGCAAGTGTCAAATATGCAAA
118913	SNAP23	TCTTGTCCAGGCTGGAGTGCAA
118914	NCOR2	CCAGAGCCGGCATCCTTGCCTGTCT
118915	MTNR1A	TTAATGGCTCATCAACAATCACAACCA
118916	EIF4G1	AGGGGTTTCTGGCACCTACCTACCTGCTTCCC
118917	FABP2	CTCAAGCAATCCTCCTGCCTCA
118917	LZTS1	CTCAAGCAATCCTCCTGCCTCA
118917	PTPN18	CTCAAGCAATCCTCCTGCCTCA
118918	PART1	CCTTCAGGCATCATTCTCAA
118919	MRPL49	TTGCCCAGGGTGGAGTGCAGTGGCATG
118920	HOXA10	ATGTAGTTTTGTTTATGCATTTGG
118921	OPRM1	CCGCCTGACGCTCCTCTCTGTCT
118922	ALDH1A2	AAAGATAACATGTAGGCCAGGC
118923	CELSR2	TGTGTCTCGTCCTGCCCGCA
118924	EYA1	AGCTCTCCTACCACCTCA
118925	KRT17	CCTTCCCCATGCTTCCTTGCC
118926	BCL2	GGCAGTGGCTGTTTTTAGACTTTCTTA
118927	RAB6A	TGCTATCTCCCATGTCATC
118928	GATA1	GGAGTTCCCTGGCCTGGGGTCCC
118929	OCRL	GCATTAGTCTCCCTTTCACTGTTT
118930	BCL6	GAAAATATTTTGTCTAA
118931	APTX	CCAAGTAGCAGGGACTACAGAGT
118932	TRPM2	AGGGCAGCAGGCCTGGTTGCAGCTGG
118933	MHC2TA	ATGCCCACGCTGGAGTGCAGTG
118934	PIN1L	TTCCAGACTGGGGGCCCTGGG
118935	PCDHB16	TCAACAGCATTAAACAGTCA
118936	TEM8	GGCTGAGCTTGTCCTGCCTTC
118937	DCT	TAAAGTGCTTGAGGCTACCTC
118938	CBFB	TAGAGCTGTCTGCCACAGCCT
118939	ADAMTS13	AGAGAATATGTCACATTTCTGA
118940	CLECSF11	ACCATGCTTGGCTAATTTTTTGG
118941	ARHGDIB	GCAAATTATCACTAACAGGTCTTT
118942	LIMD1	TTTCTCTGGTTGTCAGTTTCC
118943	CDH12	TAAAGTGCCTATTGAAACTCT
118944	MMP19	AGAAGCAGAGAAGGCACTTGCATCCTA
118945	MTMR2	CACTCCTGTCCAAACTGTTGTATAA
118946	HS3ST4	CCTCCTCCTTCATGCAGCCAG
118947	CDY1	TTAGCTACTCTCACCTGAGGCTACTGAG

118947	CDY2	TTAGCTACTCTCACCTGAGGCTACTGAG
118948	PLXNA2	AGGCCCCAGAGCTTGCTGTCC
118949	SCAP1	CACATCTGCCTTTTCCACAAGC
118950	MSX1	AAAATTTAAGACAAGTTCAACA
118951	SIL	GCGTGAGCCACCGCCCCTGACATGAGC
118952	EEF2K	CTGTCTCTTAGGGCAGTATTT
118953	INPPL1	CTGGGGTTTATTTAAACTGTTCTG
118954	PSCD3	ACGCATTCACTCGGGGCAGTATTA
118955	GALNT7	GGAAAGGAAACCGGCACTGCCT
118956	DNASE1L1	CAGAACTGAGCCCAGTGAG
118957	SIAT1	CAGGTGTCCATCCCCGTGCTGA
118958	WNT5A	GTAGAAATCTATTCACAATTCAG
118959	MARK3	GGGAGAGAATGAGCCCCGGGACCCGCC
118960	AQP6	CAGGCTGGAGTGCAGTGGCATG
118960	CXCL16	CAGGCTGGAGTGCAGTGGCATG
118960	FGF5	CAGGCTGGAGTGCAGTGGCATG
118960	IGF1	CAGGCTGGAGTGCAGTGGCATG
118960	LZTS1	CAGGCTGGAGTGCAGTGGCATG
118961	CBFA2T2	CAGGCTGGAGCACAGTGGTGTG
118962	F8A	TTACAGCTTCCTTGTAACCACAGCCCT
118963	MEOX1	GGCTTTGGGGCCCCTTAG
118964	CSPG2	AAAATGAAAGAAAATGAGAGCAG
118965	SELENBP1	CTGTGCTGCTTTTCCATGAGCT
118966	PPARBP	GGGGTGAGTCAGACAGGTCTGA
118967	NCOA6IP	CCGCCCAGGCTGGAGTGCAGT
118967	YES1	CCGCCCAGGCTGGAGTGCAGT
118968	CREM	GCAGCGTGATCACACTTACC
118969	PAX5	AGCTCTTTTCCAGATCAAAGA
118970	MS4A8B	TCCAGCCTCTGGGGCCTTGGC
118971	HSPA4	TCATGAACCTGCCAATTTGTA
118972	GGCX	AGGTAAAATAATTTGCCCG
118973	ATM	CTACTTGCCTGGGAAACATAGCAG
118974	FABP5	AGCTATTTCAAAGTGTGTTG
118975	MDM2	CTGCCACCACACCTGGCTAATTTT
118976	IL1RN	GTGCCTCTGCCTGTCTCCCC
118977	CRP	GATGAGAAAACTAACACCCAGAAAGG
118978	COL6A2	CCTACCTGGCCCCTGAGCTCTGGAGC
118979	EVC	CCAGCTCCTCACACCACAGCCAGG
118980	GALT	CCACACTCCGGCTCCTATGTCACCTT
118981	NCALD	CAGAAAGAGAGACATCATGACCAGG
118982	ADRA2A	TGGTACAGCCCTCACAGCTCTTC
118983	HEPH	ACTCATTGATTGGGTTTCTACTTCTT
118984	ADK	TGAAAACACAAGCCCAGGAGTG
118985	CA14	GACCCAGGCTGTCATTCCAGG
118986	NPEPPS	CTGCTAAAAATGGTCTTA
118987	ATP2A3	CCTCCACTCCACTCTGCTTCC
118988	TRPC6	TGTGATGATGTCATTGCCATGTAGTG
118989	CRTAP	ATGGCACGTTCTCAGCTCAC
118990	SLA2	GTTGCCCATGCTGGAGTGCAATGGCAC
118991	SPTB	TCACCATTTACATGAGGGGAAACACT

118992	TGIF	GAAATGTCATGATTGCCGGGG
118993	STK4	CACCCAGGCTTTGGGTGAATT
118994	ADAM20	GCAAGCATTAGCTATCACAGCAAAGGATT
118995	MATN1	TGCCTAGGCTTGGGGTGGAGCTTCAA
118996	CD164	GAGCTAAATTGATTTAATTACACTTTC
118997	HDLBP	TCAGCACTCTGGCCTTCATCACG
118998	PATE	TCTCCCACCCTTACCTCCAT
118999	SNX3	GTCTTGTTTGCTTCTTGCA
119000	VAT1	CCCGTCCCTGCCCCGCCACCTC
119001	C18orf1	TTCTTAGAAAATGTGTTTA
119002	ADAM8	CACCCGGTTCCAGGCAGCACAGAC
119003	LRP4	AGCGATTCTCCCATGCTCATGT
119004	TRAF5	TCTTGTCAGAATTCTGAGTA
119005	EPHB3	TTGCACAGGGATTTGTCCTGGGGGCTG
119006	ZNF10	TGTCATTGTTTTCTTGACTATGTCTCT
119007	RLN1	GGTCTCTTGCTAAATATTGCT
119008	SPN	CGGGAGGTGGTGGAGTGA
119009	CRYZ	GGACTTTGAACATTTTCTGAACTAA
119010	HAL	CCTGAAGAAAGGGGGCCAGCAGCA
119011	HUNK	CTTGCCTGGCAGAGAACCTGTTC
119012	KCNJ1	CTCTTGCTGGTCACCCCAAG
119013	FPRL1	TTTGCACCCACTGCATTTGCAGCCT
119014	DYRK1A	TCGTCCCGGCTGAAGTGCAGT
119015	ADCY2	TTTTCTTTTTATAACTCATGGC
119016	ETS2	GGCCTCCCTGATCGTCTCTGGCC
119017	PIGL	GCTCAAGGAGATCCCCGCTGG
119018	COL19A1	TGGGAGGCTTCACTAAATGAG
119019	ENPP2	TGGAAACACTGATTTTGTAAAGTTGCC
119020	MAGEB3	ACTACAGCCATCATGCCT
119021	HSD17B2	AGCAAGTCACTGAGAATGAGCAC
119022	CHRNB4	TCAGATGACCCACCTGCCTCGG
119023	ARHGEF12	CTAGAAATAATGTCATTCTCAA
119024	CTSC	TGTCTTCAGAATTAAAACTGCC
119025	KCNE1L	TCCCCAGTTTTCATCCCAGT
119026	FLNB	CAAAGCCCTCCAGCCTGTTTGTG
119027	PPP1R12B	TAATGGGTATTGACACTGCT
119028	GPD1	CCAGCAGAAGCCTGGGGTACCTAGTC
119029	SFTPA2	GGAGCCTGAAAAGAAGGAGCAGC
119030	HUNK	CTGGAAGGCATAGAACACGGTT
119031	MAP3K7IP2	CTAGCCATATTTAGGACAACTGAAGAA
119032	DCLRE1C	GGAGATTGAGGCTGCAGTGAG
119033	BCL10	TCATTTGTTTACATTTGA
119034	GNE	ACAGGTGTAAGCCATCACACCTGGCCCT
119035	MADH6	GGCGGTCCGCGGCGGAGGTTCATGTGG
119036	PPP2R4	CTCTTCTCCCTTCACTCCCGTCC
119037	SURF6	GGGGACACAGTGGTGCTCTGCTG
119038	JRKL	TTCATTCTCTTACATTTGTG
119039	MANBA	CTTCACCTCTCAGCTTTAGCAGGACA
119040	MAK	GTGTCCAGGCTGGAGTGCAGT
119041	PCDHA9	GCTCCAGCAAGAGAAACGGGA

119042	CHN2	GTTATTACCCTGTGTACCTTGTCC
119043	WHSC1	AGCTAAATTATAGTCTTTTGCCA
119044	DDEF2	TTCCTGAGTCACACAGAAAGCAACTG
119045	KIR2DL4	GAGCATCACTCTTCCTCACACCA
119046	FMO1	TAGAAAGAAAGCTGTTCTTGA
119047	KCNN2	AGGGAGGAATGAACAACTCCAG
119048	SEPX1	GCTGGGAAGGCAGGCTGATGGGGCACAC
119049	CASP10	AACTGCACTCCAGCTTGGGCAA
119050	F2RL3	GGAGAGGCCAGGCCTGGTGGCTCA
119051	SRD5A2	ACAATATGAAGTACAGCAGA
119052	FGFR2	TCCAGACCCCATGCCTTACGAACC
119053	ACE	GGAGGCTGAGGCAGGAGAATCA
119053	CYP3A4	GGAGGCTGAGGCAGGAGAATCA
119053	EGFL5	GGAGGCTGAGGCAGGAGAATCA
119053	EIF3S2	GGAGGCTGAGGCAGGAGAATCA
119053	FCAR	GGAGGCTGAGGCAGGAGAATCA
119053	FCMD	GGAGGCTGAGGCAGGAGAATCA
119053	LAMP2	GGAGGCTGAGGCAGGAGAATCA
119053	LUZP1	GGAGGCTGAGGCAGGAGAATCA
119053	NUP62	GGAGGCTGAGGCAGGAGAATCA
119053	PDE4C	GGAGGCTGAGGCAGGAGAATCA
119053	PLA2G2D	GGAGGCTGAGGCAGGAGAATCA
119053	RAB7L1	GGAGGCTGAGGCAGGAGAATCA
119053	SRGAP1	GGAGGCTGAGGCAGGAGAATCA
119053	SUV39H2	GGAGGCTGAGGCAGGAGAATCA
119053	SWAP70	GGAGGCTGAGGCAGGAGAATCA
119053	VHL	GGAGGCTGAGGCAGGAGAATCA
119053	VPS41	GGAGGCTGAGGCAGGAGAATCA
119053	ZNF36	GGAGGCTGAGGCAGGAGAATCA
119054	ADAM33	GGAGGCTGAAGCAGGAGGATCA
119054	DBT	GGAGGCTGAAGCAGGAGGATCA
119054	MMP19	GGAGGCTGAAGCAGGAGGATCA
119055	ADRA2A	TACATCTGCATTTCTACATGTTTTAG
119056	GLUL	CTTCCCCCTCTCCCAGTTGTC
119057	MLLT2	TGCTGTTGCTGGGCAGGCGTTGGGCGC
119058	POU2AF1	GAGTAGCTGGGATTACAGGTGCATGCC
119058	SEPN1	GAGTAGCTGGGATTACAGGTGCATGCC
119059	AQP6	CTCCTTCAGACTGGGGGCTTCCTGAGGA
119060	DIAPH2	ATCTGAAAGGACCTTTTTTCCAAAT
119061	MAB21L1	GAACGGCTGGGCTCAAAGATA
119062	FXYD6	AACCGGCCACTTCAGCAACAGCCCT
119063	EFNB1	TCCCACCCTCCCCTCCTGACC
119064	PLCD1	CCTGCTCCCAGCCTCTTGCTC
119065	DTNA	ACTAGCATTATTTAAAAGTTTCACATT
119066	GPC5	TCTGCTCCCATCTCTCTC
119067	SIGLEC11	CACAAGTCAGGAGTTCGAGAC
119068	B4GALT7	TGCCCAGGCCTGTGGGTAGTGGGGA
119069	GNB1	AGTGGCTTCTCCATCCTGTT
119070	KLRG1	CCACTGTACTCCAGCCTGGGAG
119071	ATP8B2	ACTAAGCTGATGCAAAACAGCGGCAGA

119072	PDE6H	AAATGAGTGACAACACTACTCTGCCT
119073	ZNF41	CCAGAAGCGCCGGGGTTCCTCGAAGCA
119074	NEFH	TTTCCCTGGGAAGGCTGGGGG
119075	ENC1	ACACATTTGGCCACAAAACAC
119076	APAF1	GGGCTCCCTCCGGGGTGC
119077	APBB2	TCCTCATCAGCCTTTCATCCTTAGTTT
119078	CHST5	GCACACTCCTGTAATCCCAGCT
119079	COL4A1	GTAAAGTGCCTTATAGGAATTTGCGTA
119080	IMPA1	AGAGACACCCACTTAGAAAGTTAACTG
119081	PLXNA1	CTTCCTGCTGACCCTGAGAGCCTCT
119082	DHCR24	TCATTCTTCTTGGCTCACCA
119083	PMCHL1	CTCATGAATAGCTGGGATTACAGG
119084	EGR4	GGCCTCTCCTTCGCTTCTCTCTGGCAAG
119085	AR	CAGTTCTTATTTGCACCTACTTCA
119086	A1BG	GCTCACTGCAGTTTTGACCTCC
119087	CCND1	TTTTCTCTTAGAACATTGTATT
119088	PTBP1	TTTCTGTGTTTTGCCTGCCTCTG
119089	TERF2	TGAACTGAACAGGCTTTCATTTC
119090	CHEK1	TGGGGAATCCTGGTGAATATAGTGC
119091	PDE7A	TTCTAATTCTCATTTAATTTTAGGA
119092	KCNS2	GCTGCCTCTTGTGCCTCTGGCACAGC
119093	SLC14A2	TGTCACCCAGGCTGGAGTACACTGGCA
119094	SLC17A5	GGGAGATGGAAGTTGCAGTGAACCAAG
119095	SPG7	TTCAGGCCAACATGGCCGTGCTGCTG
119096	ADRA2B	TGCCTCGCTGGGGAGGTCTTGGA
119097	PMSCL1	AGGATCTCATTTGGAACAGATTAC
119098	HNRPA2B1	GTTATCGAAATAACAATGTTAA
119099	SH2D1A	GAAAAGGCTAAGCTTCACTGTAA
119100	UBE3A	AACCTGTTTTTAATCAGTGACTC
119101	DPP4	TAGGGCAGGGACAGGATAAGAGGGAT
119102	TCF1	CTGCTCTGATGCATCAGAAAGG
119103	GRAF	ATCTCGAACTCCTGACCTCAAGTGAT
119104	ATF6	GGTTTTGTGTTTAAACAGTCATCTTC
119105	PFKFB3	ATCCTTCCCCAGCACTTGCATTACGGTCC
119106	CARD15	TGTCTTAAGTTTATACTCTTA
119107	ED1	AAAGGTGCACTCCAGACTCTGGG
119108	PRKACG	ACTAAGAGAGGATGAATGAAA
119109	PPIL1	TGCTGTTTCTGACACTTCAG
119110	KMO	TTCATTCTAAATCTTATTAACCG
119111	BHMT2	AGCTGCTGAGCAGCTGAGGTG
119112	DUOX2	AGTGAGGGTGAAGGCAAGAAGTA
119113	KL	TGGAGAGCAAATTATGGAAATGTGTAT
119114	ATP2A2	TACAGTGTTCTGTTTAATACTC
119115	SHANK2	GATCGTGCCCAGCTTTGCTTAGC
119116	PTX3	TGTTGTCCATTGTTCATTGTTAT
119117	SOST	ATCACAAACTCACAGACCAGCA
119118	IRS2	CCTTCCCCACCGCCTGGGCC
119119	LY9	CTGCCTCTCTCCTGGGACCGTGGGGT
119120	DNMT2	ATATGTGGAATATTCTTTTTAAAAAC
119121	TSN	CACTGCCAGGATCAAGCATGAAAG

119122	PFN2	TTGCTCTTAAACTTTCCTAGCTAT
119123	DUSP2	AGCCTTTCACACCTGTGCTGGCGCTG
119124	MAPRE1	GGACTCCTCTTTGGCTCCT
119125	DDB2	ACCCCTTCACACGGAG
119126	SNRPC	GAAAGAGAATAGTTTTGGA
119127	COL17A1	GGCCAGAGCAAACAGAAAAAGAA
119128	ABCC8	TGCCTGCCAGAGCCCAAGTGCC
119129	FZD3	TTACAACTGAAATATATATAACCTCAG
119130	SORBS1	CCTCCTGCTGCCCCAGCCTTAGA
119131	IPP	CCACTGCACACCGGCCTGGGTG
119132	CDKN2B	CGGCCCCTTGGCCCAGC
119133	AP2B1	GCTATCTGTCCTTACTTGTGGG
119134	BCAS1	ACAGTAAAGATGGTTTAGCAG
119135	CUL3	TGTTTTGTAGTGTTGCTTAGCACTTTG
119136	SAC	GGCCTCCTCTCCTGTCTTCTGCAG
119137	PTPN2	AGATTGCCTCACAGTTGT
119138	PPP1R12B	TTCCAATAAAGATTTACTTGG
119139	ADRA2B	GCTAGATTTGGAAGGGCACCGAGGGA
119140	STXBP1	TTGTGTTGTGTGGGGTCATACA
119141	AKAP2	TGCTATTACTCCTATGCTGCCTTC
119142	LSS	GCCTCTGACCCAGTCTGGTCT
119143	LOH11CR2A	AGGAGTTAGAGGGAAGTTGA
119144	PRKCI	ACCATTTTATATTTGCCACCT
119145	SLC2A3	TCTAGAAAGCCTGTTCCCCTCACTGG
119146	CA2	ACAGCATGTAGGGTGATGAGCAC
119147	HHIP	ATCTGTGGCTGTCCTCTCCTT
119148	OLR1	AACTGTGGTCCATCTCCAGAC
119149	C5R1	GCCTGTAATCCCAGAACTTTGG
119149	HIP1	GCCTGTAATCCCAGAACTTTGG
119150	G2A	GCCTGTCATCCCAGCACTTTGG
119151	BTD	TAACAAATCTCTCAGTATGC
119152	PRex1	GGTGCCTGGCCTTCGGCTCCTGC
119153	CDH1	CAAGTAGCTGGGACCACAGGCAT
119154	UGDH	CAAGTAGCTGGGACTACAGGCAC
119155	RUNX3	TTGAGGTGAGGGATCATTTTGG
119156	HOXA10	CTGATTTAAAAAGTGAGA
119157	HRB	ATACCACATTCATTATGCT
119158	TMOD3	ATCAAATTGTAAAATCAGTAATGTGA
119159	GRM6	GCAGGTGGATCACCTGAGGTCCGGAGT
119160	MX1	GCCAGGAATCCCAGTGTCACGGTGG
119161	PRKY	ATGAGGTCACAGGGCCCAG
119162	DHFR	ATTCCACACCCATCACATGTGG
119163	ABCD1	CTCCAGGGTGCCTCCACCTGCACAACCG
119164	PRKY	GCACCCAGAGTAGGGGTGGAGT
119165	TLL2	ACAGTATTTTTCTCAAACAAA
119166	DIAPH2	TGCTCCACCCCAGTTGAGTT
119167	RNF3	CCAGGAGGCAGCGTCGCGTG
119168	GCS1	GGGAGGGAGAGGAGGGGAGC
119169	PRDM2	TCATGGGACTGGTACCTCAGATCTG
119170	ABCA1	TACAGGGGCAGTGCCTT

119171	SLC26A2	CCAAGAGATGAAGCGGTG
119172	BTEB1	ACTCCCACTCTCAGGTGCA
119173	PAICS	CACACCTACGATCACAGCACTT
119174	PACSIN1	GGCAGACCTCCTTCCTGCCGT
119175	SEMA3F	GGGAGCATAGCAGAGGGGCCAGGC
119176	JRK	ACTGCACTGCCAGGAGCCAAGGCCTA
119177	XRCC2	ATTTTTCTTAAGACAGAGTCTT
119178	NKTR	TTTAGCAGTTTAAAAAACAA
119179	DNASE2	TGCCTGTAGTCCCAGCCACTGAA
119180	HYAL4	GGTGAGCCACCGTGCCTTGCT
119181	SLC19A1	GCTGCCTGGCCATGCTGTCCCTGC
119182	GFI1	GGGCTCGGCGCTCGCCCACCTCT
119183	RPIP8	AGAGGGCCCAGCCGTGATCCAGC
119184	KCNS2	ACTCACTGGTCTTTGCATC
119185	SHC1	GTCACCCTTCTGGGCAAGGGGG
119186	USH2A	TTCCTTCCAGCATTCCTGCTGCTA
119187	TGT	GGGAGAGGGAGGGAGGAAG
119188	USP21	GTCCAGCCTGTGGTGTCCACAATGCCC
119189	MAPK1	TTCATTTCTCAGCTGTCCTTT
119190	GRINL1A	TGGGGTCTTGCTCTGTCGCCCA
119191	NEU3	CAGGGTCTCGCTCTGTCACCCA
119192	PTEN	CTCTCCTCTCGGAAGCTGCAGCC
119193	DSC1	GACTGTAATCCCAGCTACTCAGG
119194	SMURF1	CTGCCCAGATGCTTCAGGGGCCCGGCT
119195	KIF5C	ATGCTCTAAGAGAACAGCCAGA
119196	ANKH	CAGCAGGCTGACAGATGGACAG
119197	MASP1	CTCAAAGCTCTGACGATCTA
119198	STAR	CCTGCAGCCCTCTGCTCCTCCCGGCC
119199	ITK	GGGCTTCCTGCCTGGTTTTTCTCTTCTC
119200	PXN	GGGCTCTCTCTTCTGCCTTCTCA
119201	TRIM	TCCTATTGAAGATGGCTTCTAAG
119202	STAT1	GGTATATAAATTTTCCCAAAACTGATA
119203	ARAF1	GGACTCCTCTCTTTCTTCACCA
119204	BTEB1	TTTTTGGGGAAAAAGGTTTGTT
119205	SORD	TTCATGAAAATCTGCCACTCAGG
119206	HOXB2	AATTCAGGTATTACTGAAT
119207	ICMT	CTCAATGCTTGGTGTTCTAGTTC
119208	FGF13	TAGAAATTGAGTTGTATTGTCA
119209	SLC39A1	TCTCTGGCCTCTCCAGTCCTGCT
119210	TRIM9	TCCTCCATGAATTTTATATATTGTG
119211	IL10RA	ACAGGCATGGAAGCTGTGAGGG
119212	ATM	CGCCCAGGCTGGGTGCAGTCACGG
119213	NOTCH3	TCATTTCCTTACACTCTGAC
119214	F7	CCCAGCTGAGCCTCCTTACCTCC
119215	CDH20	AGCAGAAAGTTCTACTCTCGT
119216	MS4A8B	CCTTCATTCTTCAATTCAGTCTA
119217	XRCC3	CCGAGGTTGAGAGGAAGGAGGGT
119218	IL6	TCTGCCCTCGAGCCCACCGGG
119219	CIAS1	CGCCTAGGCTGGAGTGCAGTG
119220	SFRS7	CCAGATCTCCATCTCCAAAAAG

119221	ATP7A	GCCCAGGCTGGAGTGCAGTGGCACC
119221	CTSS	GCCCAGGCTGGAGTGCAGTGGCACC
119222	PDE6B	ACCCAGGCTGGAGTGCCGTGGCACG
119223	KCNK3	TGGCTCACACCTGTATTCCCAACACTT
119224	GOT1	TTTGAGCCATTCTATTGTGTTCTACTTCAC
119225	CEBPE	AGAGAGGCCACACAGGAGTGGG
119226	PRKY	CCACTGCACTCCAGCCAGGGCG
119227	CACNA2D2	ACAAAGCCTTACACAGGGCGAGG
119228	AOC3	AGGACAGCTGCTTCTGTGCATTTGTGT
119229	TNFRSF1B	GGGAAGCGGAGGTTGCAGGGAG
119230	FDXR	GGCTTGGAGGCTTGGCTGCTCTT
119231	FOXD2	GGGGCTGAGGCCCGCCCAGGTAAGGG
119232	MADH7	TTTCTTCTACAACTCATACACTCGTATGA
119233	GAMT	CAGGGTGTCGCACCAGCCCTGGG
119234	SH2D1A	TTCTCCTCCTCGGCCTGCCCAAGAGTC
119235	TLR9	GTCCTCCTCACTGGGGGCAGGGT
119236	NUFIP1	TTCTACATTCCTATCTTATTGTTCGTT
119237	TIMP3	CCTCTGTGCCTGCTCTCTCCA
119238	ITCH	CTGGGAGGCCGAGGCAGGAGGATCCCT
119239	NUFIP1	GAACACCTGGCATGTGACCCT
119240	GPR34	GGAAGCTTGGGGTTCTGCTCCT
119241	ASPA	TTGCCCTTTTGGTAAAGTCTCATT
119242	APPBP2	CTATTATTTCTGGTTCTAATGAA
119243	ERBB2IP	TTCTTCTGTGGGAGGCCAGTCCACAT
119244	ZNF217	TCAATCTTTGCCTAATCCA
119245	IL19	GCTGGAGTGCAATGGTGAA
119246	IL11	TAGGCTGGAGTGCAGTGA
119247	M17S2	TTTTAGTGCATTGACAAGTGTA
119248	CAPN10	CTCCCAGATCCTCTGCTGACT
119249	ABCD4	GAACCTGAACCACTAACTTCC
119250	PSG2	ATTCATATGTTTATGGTAATAAAG
119250	PSG3	ATTCATATGTTTATGGTAATAAAG
119250	PSG5	ATTCATATGTTTATGGTAATAAAG
119251	XK	CATCAAACATGTTTAGACTTCCT
119252	PDE6C	CAACAAATCATCACGTAAC
119253	AES	GGGGGCCGGGACAGGGAGGTTGGGA
119254	SURF4	GCCAGCCTGGCCAGCTGCTCAGACCA
119255	TGM2	CTGTGAGGAATGCTCTGTGCCA
119256	TEAD3	GGTTATATCATAAATGCAGCT
119257	BCLG	AGGCATCAGGAGAGGTCTCGTTC
119258	EGFL5	TATGTATGTAACTGCTCTGT
119259	KCNH5	ACCATGTCAGGATATTTTTAG
119260	ATF5	GCTGGGAGCTTGGAAACCTGGTCT
119261	SLC23A1	ATGAGGGCAGGTTCCAGGGCCTGAA
119262	SCN4A	CCCTCCTGGGCCCTGGGCTGGCACAGC
119263	MAPK7	GCCTGTGAAATACAAGG
119264	CPD	GTGCCCAACACCCATTCATCTCAAGTGCTT
119265	KRTHB1	CCTGGAGAAGTGCTCAGCTACT
119266	CHI3L1	CCCCTTCCTAATTCCACAGCTGCT
119267	SHANK2	AACTTGTTTCTCAGACTTC

119268	NR1I2	CTCATCTCACACCCTTTCCCTCT
119269	IL1B	GCTGCTCTGGGATTCTCTTCAG
119270	CHEK1	TCTAAGATGAACCAATAAA
119271	KCNQ3	GTGTGCGTGGTGGCCCCACCCAGG
119272	LPXN	GGCTCACTGTCTTACAATCACTGCTGT
119273	SLC6A12	CAATGTGGAGAGCCTGATGGGA
119274	ASB1	TTTCCGCCTAAGCACTTT
119275	BTEB1	GGACTGGGAGCAGTCCATGGGAT
119276	TCF15	GCCAGCTCTGGCTGGTCAGAG
119277	TAF12	GCCATCTCAAAGAGGAGCA
119278	CLCA1	CACATCAGGTCAGGGGGTTAAAGAC
119279	DNMT2	TATGAATAATTTTGAAATAACTCTGAA
119280	TAPBP	TCGGGTTCACGCCATTCTCCTGCCTCA
119281	HRH2	GGGAGCAGAGAAGAAGCAACCAGGGGCCCT
119282	SOLH	CTGCAGCTTCAGACAGGGAGCC
119283	PIR51	TTGGTTGGGAGAATCACAGCT
119284	HIP1	CTCCCTCTCTGTGCATTTT
119285	NEUROD1	CTAATTTAAACCAGCAGAAAAGT
119286	ITGBL1	CCAGCCCCAAATGCCAATAGG
119287	UBTF	GCCCTCTCCCCTGCCCCCTGCAGGAA
119288	CPT2	TGGCCAACATGGTGAAACCTTGTCTCT
119289	RRAS2	CAGTCAGGCTGGGCTCTGTAGCG
119290	WIF1	AACAGCCCTGGCTGAGGGAGCTGCAG
119291	COL6A2	CCAGCACCGCTGCTCACTCGGACGACGCC
119292	ATRN	CTGCCCTTGGCCCTGCAAGCACATCATG
119293	SGCD	CCTACAGTGTATCAACAAAAGGA
119294	ABR	AGAGTGAGTCACGGCCCAGA
119295	ACPP	TCAGCCTGGGCAACATGGTGAA
119296	PLXNA1	GCTGCACTCTGCTTGGGCCTTGAGGT
119297	ANK3	CCAGCATCTTTGCATTGTGAA
119298	HLF	TTCAGTTTTCCCACTTTTTGGTAA
119299	GAD1	TTCAATGATTGTTTAATTGTAGG
119300	CEBPB	GTCCAGCCACCAGCCCCCTCA
119301	C11orf13	GGCCACGACTGCCTGTTGGGGACAGGA
119302	NCOA3	TCAAAATATATCTAAGAAAGA
119303	WTAP	CTTGCTTGAGCCTTAATCAATGTGG
119304	EED	CTAGATGTACAACACTGACTCATCAT
119305	MFAP4	CTCCACCCTGTCCCAACAGCT
119306	IL11	AGGCCTGGGCAGGAACATA
119307	MCM4	TGGCATGCGCCTGTAATCCCAG
119308	MAG	GGAGCTAGCTGAGTATGCTGAA
119309	CEBPB	TCTATGTGTACAGATGAATGATA
119310	MMP10	CTTGCAGATATCTGCATGTGTCATGAA
119311	WNT5A	CCATTCACAGGTTTCTCAGC
119312	SHOC2	TAGATGTCATCCTAAAAAACAC
119313	NFATC1	CCTGCCTGCCCCTCACCCGCCGT
119314	GNE	ATGCTATTCTTTCTGATGTCTTCTTA
119315	EFNA3	ATGGGGAGGGGACTAGATGGGC
119316	TNFRSF9	TCTGTCACCCAGGCTGGAGTGCAGT
119316	TUFT1	TCTGTCACCCAGGCTGGAGTGCAGT

119316	ZNF264	TCTGTCACCCAGGCTGGAGTGCAGT
119317	MYL4	GCAGAGTCTTCCAGGTGCCTGGCCCTTG
119318	SERPINB9	CTCTCTGTCGCCCAGGCTGG
119319	PRIM2A	AGACTCCTGGGCTCAAGCGATC
119320	LDLR	AATAAATCCTCCAGTCTGGAT
119321	CSPG3	ACAGCTCTCCCTTTACCCTGGACT
119322	ZNF3	GTGAGGGAGAGGGTCAGAAGCACTTAGC
119323	TPD52L2	CGGCCCTGAGGACAGTCCTGCC
119324	PRNP	CTCCTCTCCTCACGACCGAGGCAG
119325	ZHX1	TACTACTGTTAACTTTTTTAAAAAAGA
119326	FCRH3	CTCCCCTGTGCCTGATCTGTG
119327	OAS3	CTGCTACTGCTAATGCC
119328	SLN	GGAGGTGAGGACAAGCCAGAGGTCCTTG
119329	ACRC	CTATCTGAGCCATGTAATCAAA
119330	MGST2	CTTCCCTTTAATGCTTGCAG
119331	SMARCA1	CTTTGTTGCTTTCTTTTCTATTGAGTC
119332	ADRA1A	ACCTTTTGATTCCCGGCTCCCG
119333	CASP7	TCTGGAGAAAGCTCATGGCTGTG
119334	PPP2R1B	TGGGAGGTAGAGGTTGCACTGAGCC
119335	EDNRA	TGAGCCAGAAGCCAAGGCCCTGAGTT
119336	RARA	GGGGGACGGGGAGGGAGGAGGC
119337	MAX	TTGTATTGAGGGCCAGTGATG
119338	KCNMB3	TTGCTGGAGCAGGTTTGCAGGCAC
119339	SECTM1	ATATCTGAAATGAAGAAAACAAA
119340	AKAP2	GCACCGAGCTGATGCAGTATTTGT
119341	NUMA1	GCATCACCAAGATGACACTCCACGCC
119342	INHA	TTCCCCACTAGCAGGGCCAGG
119343	CTSS	GAGGTTGAGAATGCAGTGAGCTTGTAATTG
119344	SLC6A2	AGGAGAGGAGCAAACAGGAAAATGACT
119345	EFNB1	CCCCTTGCCAGCTGTGCCCA
119346	RBBP5	TTCATTCTTTCTCACTTTGCCATCATG
119347	MFAP2	CGGACAGCTGTCCTCTCTG
119348	TM6SF2	GGGCGGTCACGGCGGCCTGCCCAGGGCGC
119349	SOX11	TTATTTTTCTCTTCTGGGAC
119350	ZNF264	GTATGTACATTTATTGCTATCCAGTGT
119351	LAMC1	GCTGGAAGGCAGCATCCCTCTGACAGG
119352	RAD21	ATGATGTGCCTGTAAACCAAGGAG
119353	HNRPH2	AGCTTCTCTTTCTTTATCTTT
119354	ATF7	AGCCCCGGAGCCTCATAGATCATCCC
119355	ZNF180	AGGGGAGGGGACCGAACTAGC
119356	CD80	CACAACCTTTGGAGACCCAGGAACACCCTCC
119357	IL1R1	GCCCCCAGCACTCCTCTGTCTC
119358	ESPN	GGCCCCCGGGACCCCACCTCT
119359	IFNA14	ATGGAAATGATTCTCATTGACTAA
119359	IFNA7	ATGGAAATGATTCTCATTGACTAA
119360	NESG1	AGCCCCATTGTGCTGCT
119361	PTPRN	CCACCTCTTGGGCATGCTCAGCCCTTC
119362	CDH16	CTGTCCTGACCATGGTCCCTGCCTGGCTGTG
119363	LIPE	CCTCCTATTCCTAATCCTC
119364	BHLHB3	TGCTGTTGCTACTGTTTGCCT

119365	TJP1	TTACCTTTTTTATACATAAACAA
119366	CDKN2B	ATGTCCTACTATCACTGAACAAACTAAA
119367	KCNK6	GGCATTCTCGCTGCCTCTGTCT
119368	CXCL16	CGGAGTCTCGCTCTGTCATCCA
119369	MYO1D	TGAGGGGAGCCTACGCCTCAGGCATGT
119370	BACE2	AGACCTGGAACCAGAGCCACAG
119371	HAP1	CCCTTTCCCACACCTTTGTTCCTCA
119372	CAPG	GTTCAATAAAGGAGACAAGTGCT
119373	KLK10	GCTGAACTCTCCCCTTGTCTGCACT
119374	PDCD2	AAGGTGAGGAAATTGAGGTTCTGG
119375	HTR4	CTGCCTCTTCTTCGCCCTGTTCTGTG
119376	ADAM20	GCTCTGATGGTCCAGCTCCAC
119377	DRD2	GGCTAGTCCGGACCCACCTCA
119378	TXNIP	GTATCATGTGGAGAAGAGCCAAT
119379	CLCN5	TTCCTGTTACAATATTTAGCATTATTAGTT
119380	RIG	TTCTAAAATATTTTGATGCT
119381	TBL2	GTGACACCACTGTCCTCATCTGGAGCC
119382	AF1Q	GAGGCACTCCCTCCATCTTTGGAACAC
119383	UBE2B	TGCAGTGAGCTGTGATTATGCC
119384	GOT2	ATATTTCAGAAGCTTTAACTGAAGTGT
119385	CCND3	GCTGGTGGCCCAGGACCATCATCC
119386	GATA4	ACGCTGATGGGACTGGAGGGAG
119387	GPR61	GTGGGATCACCTTTTCCCAGCTG
119388	BSN	AGCCAGAGAGGCAGAG
119389	EIF4G1	GCGGCAGCAGCGGCGGTGGCAGTGG
119390	TMPRSS2	TGCTTTGACAAAATGACTGGCTCC
119391	BMP1	AAGTCCGACAACACCGTGTCCAAAAAG
119392	ACOX1	CTTGCTCTCCTTTGCTGATGGATT
119393	DDIT3	AGCCAAAATCAGAGCTGGA
119394	NDUFS1	AGGAGACAAAACAACCAGCTT
119395	ZNF3	AAGGTGGGGATGGAAGCAC
119396	ARHGEF6	CCAGGAGGTCAAGGCTGCAGTGA
119397	WNT1	CCTGATGGTGTCATTCTGCCTGCTCC
119398	OGDH	CCCTCCACCTCCTCTCTTGGACTCCC
119399	ACCN1	GAGGCCCAAGACCCAGGACAAG
119400	NPY	GTGCTGAATTCTGCAATGTTTTC
119401	BACH1	CTTGAGAGTATATGGGGACCA
119402	BACE	GTTTCACTGCCTTCCTACCCTCTCTAA
119403	COL4A3	CAGTTCTGTGATCTGGGTC
119404	EPAC	CCACTGGCACCTTCCGGATCCCCTTA
119405	GCNT2	CTGGAAGAGCTGAGAGGCCAGGCT
119406	RNMT	CCTCATTTCCTGTTTCACCTTGATTTTC
119407	DISC1	TAGGCAGCACTTCCCAAAGTGCACTGA
119408	TGM3	CACAGCCCTGCTCATTCCTCACGCC
119409	NXF5	AGTGAAGATCAAATCCATATTACC
119410	OPA3	TGGCCAACATGGTGAAACTCCGTCTCT
119411	DGKI	GCAGGAGAATGGCGTGAACCCAGGAGG
119411	SMG1	GCAGGAGAATGGCGTGAACCCAGGAGG
119411	UBE2G2	GCAGGAGAATGGCGTGAACCCAGGAGG
119412	D10S170	CCCTTTCGTACTTCATTTGTGTTC

119413	DHFR	CCCAGGGAGTTTCAGATGCCTTT
119414	LAMA5	GCAGCTGCCTCACACCGCCCCTTGTG
119415	CRIM1	TGGTTGCTGCAAAGCTCAGGCC
119416	ZNF261	GCAAAAACTACCTTCTGACTTGGG
119417	SLC7A5	CAGTTTGGGGACTCAGGACCAGA
119418	SHFM3	CCCTCCCAGGAACCTGTTGG
119419	PON1	AGCCTCCCGGATAGCTGCCG
119420	SHOC2	TTGGACTGTTGTTCTGCTTTT
119421	CHST6	CTTCCCTTGGTCCTTCTGGTCC
119422	ZNF265	GGGCATGGAAGAAAGACTGG
119423	MYO5A	CCAAAGAACCTCCTCTGCACTA
119424	FUT3	ATGTCGGCGGTCGGGGACTTTAC
119425	NLGN3	GCTTGGACGACCTGCTCTCTACA
119426	TERF1	GTTCTCCAACTCCTGACTTCA
119427	LMO4	GAGAAGGACGAAGACTGAGACTG
119428	ELK1	TTTCTTTCTTTATTTCTCAGC
119429	EFEMP1	AGAGGAAGAAAATGATGATGG
119430	LIMK1	CTGCAGCAGCAGCTGCC
119431	CNP	GGGAGGCACCATTCAGGAACCTGGA
119432	ATRX	ACTAGCTCTTCAGAAAAATCCA
119433	PDE4C	TGCAGTGAGCCGACATCATGCCA
119434	AR	AAAGAAGGCTCTTAGGAGCCAG
119435	CSRP2	TCACACACTGAGAATCTCTTCA
119436	GM2A	GTGGCAGGGACTGGAGTCAGT
119437	WNT10B	TGCTATCTCTCTCGATCACTCCC
119438	PLAG1	ACACTTCAGAGTAAGAGGGAATTCAGC
119439	DPYD	TACAAATGAAGAAAGTCAAA
119440	MAPK1	GCGTCTTCCTTCCTCCTCCCGGTCAGC
119441	WHSC1	GGCTGGAGTAAGGCTTGCTGT
119442	STARD4	ATGCCTGGCCCCAATTTAAAATGTGGA
119443	TRAP100	CATTGCTGCACTCTGGGGGCTTGGCAT
119444	NR2E1	CGGTTTTGCAAGAGCCGGGAAGAAACT
119445	BCL10	ATCGCCCAGGCTGGAGTGCAGT
119446	MAGEA9	TTGCCTTATACCTCTTTCTCTCT
119447	MYO1D	CAGCCAGGAGCCAGTGGCAGGA
119448	DPH2L1	AATCACTGGGGATGGTGGCACA
119449	XRCC3	TCTTTCCTGGGAAGTTATT
119450	EHD3	CCTCCTGCGTACCAGGAGCT
119451	HD	GGAGCTCGGGACGGATAGTAGAC
119452	DDX11	TGCCAGGAAGAAGATATTCCAGG
119453	BAZ1B	TCCTGAATCTCCCCTTCTTTGTGACAGC
119454	CDR2	TCTGAGCTGGCTGACTTGCCA
119455	JDP1	AGCTCACTGTGCCTCTTGTTT
119456	PYGM	CCTGCAGGGGGTCCTGGTTCCTTTTG
119457	KHK	CAGAGTGTTGCTGTCCTCA
119458	PRCP	TTCACACCACCACATTCCCATTCA
119459	SRPX	ATATTTACTCTTTCTAACTTTCT
119460	ZNF189	TTCTCCTTGGGCCTCAGGCAAATAG
119461	ABCD4	TGGGCTCCAGAGTCCCTCGGTC
119462	TDGF1	GTCACCCAGGCTGGACTGCAATG

119463	BCL7A	TTCTCAGACACTGAAGAACTCTG
119464	ISLR	AGGAGGCACCATGCAGGAGCTGC
119465	PUNC	ATCCTGACTGCCTCTTGGGT
119466	FBXL2	CATCACCCAATCTGTTGATTCTCCA
119467	IGF1	TAAAAGAGTTAATGAAC
119468	INPP5B	GCTATAATCCCAGGTACTTGGG
119469	PPP1R12B	CCAGATCTACTATCTGCAAC
119470	GCA	TGAAGAGACACTGTGA
119471	LRP4	AACCTCCAGCCTCAAGTGTGT
119472	CBFA2T2	GAGCCTGGCCTGCTCTTGTGGGCTGT
119473	COL3A1	TTCTCCTCCTTCATCCTGTAAAGGTCA
119474	CREB1	GGCGCCTGTAATCCCAGCTACTC
119474	F2RL3	GGCGCCTGTAATCCCAGCTACTC
119475	UCHL1	CACCCAGGCACTTAAGCACAAG
119476	EFNB1	GTGCTGTGGGGAAACCCCCA
119477	ENPP1	TCAGCACAGCAGTGGAGAGTGT
119478	STARD5	TTCCTGCCTCCTGCCCCACTCAG
119479	TNXB	CCCTTCTCCTCCCCTGCTCGCT
119480	RLF	CTTGACTTGAATGTGCACCTGAG
119481	NDUFS2	GGAGAGGCAGAGAGTGAGGGA
119482	CA6	GAGGAAGATTCAATAATATTAACTAGC
119483	PIK3R3	GCTGCCTCTGAGCCAATCCTGGG
119484	SLC25A13	CTGGAAGTGCTAATTTTGAAA
119485	MPP2	TGCCATCTTGAAGGCTGGAGGAGTCAGAGTG
119486	CYP8B1	CAGGGTGCTGTCAACCCTCCCTTG
119487	METTL1	CCTGGGTCTTCCCAGTTGAGACT
119488	FLRT2	TCATTCTCATTTATGTATA
119489	GSTM5	AGCTCCCAGGCAGACTGCCTTC
119490	MICB	CCCAAAGTGCTGGGATTACAAGAATGA
119491	WNT10B	TTAACCCTGATTCATACTCCTTTTG
119492	PIGH	CTGTCAACCTAGTGCCTGTGTT
119493	PTK2	TAGCAATGTTATTTCTCTTGGA
119494	GRLF1	TGGCAGCTTATGTCCAAAGGG
119495	EGR1	TTGTGTGATGCGCCTTGCTGAT
119496	CHEK1	TCTCCCACCTCATCATAACAAC
119497	HNF4A	CCTCTGCTGTCACCTTGCTCA
119498	PTGS2	TTCTTTTCTTCTTTTAGCCA
119499	ICAM1	ACTCAGAGTTGCAACCTCAGCCT
119500	ANGPT1	AAGTCTTCTCTGCCTGTA
119501	RELN	GTGGATAAGAAAAATGCTTGA
119502	F8	GAGGAGTTAACCCCAAAGGTG
119503	WBSCR14	AGAGGAGGATGCTGTTTATCTGTCACC
119504	LAMC2	ATTCCTGATCCCATGGCCAGGTGG
119505	GLS	CCCCAAAGATATTACAGGGTA
119506	BAZ2A	CTCTGCCTCTTGGGTTTCAGTGA
119507	ACVR1	GCCATGTGTTGGGGAGACATCAAA
119508	SECTM1	AGGGCACAGACACCGGCTTGCT
119509	IL18R1	GGGAAGGGAAGCAGATCTAGGGAGGA
119510	SPO11	GCTCAGAAAGCGCGGGAAAGGCACGC
119511	CLCN7	GGCCGGGAAGCCCCCACCTCA

119512	FBXO7	GGAATAGTTGGCTGCCAATCTCCCTGCT
119513	SNX6	AGCCGCATGTTGTCTTGCCT
119514	TLL1	TCATTTTTCTCTTCCTGGGAT
119515	IL17E	TTTGGGTGCATTCTAGTGTAG
119516	REN	TGCTAGGAGATAGCTGGGGAAGG
119517	HDAC5	TCCTTTTCCTCCTTGGAGCCTGGGCC
119518	SNRP70	GGTAGGTGTCTCATTTGTTCTGGCC
119519	PAX5	CCCTCCAGGACCCCAGCAAGTGGATT
119520	GAS7	GCTGTGTCTTGTTCATGCCC
119521	DNASE2	TGCCTGTAGTCCCAGCCACTGAAGCCA
119522	PSAP	GTGGCTTGGGACATCAGTGGGGCCAAG
119523	ZNF80	TTCCTCTGTGCTTTCTCAGCT
119524	PAICS	CCACAGACTTCTTTGAAAATATACAT
119525	ITPA	GGAAGTTTTCTGTCACTGGA
119526	AVPR1A	AGCTGTTCAGAGTAACGGATTACTAGG
119527	NSEP1	ATTATCTATGCAGCATGGGGT
119528	PSAP	AGGTCTTTTAGCCTGCCCTTGCATGG
119529	SHOX2	CTGTCCCGCGGCACTCAGCCTGC
119530	PAP	TCTTCTGTTTCTTCCTCCCCGC
119531	CYP1A2	CAAGCACCTGGGATTACAAGCAT
119532	SYN3	ACTCGTCCCCCTCCTGCCTCA
119533	LANCL1	CCAGGAAGATTTCAAGGCAGGG
119534	ATP2A3	GAGAGAAACGCAGTGGGGGAGGCAGG
119535	CDH17	AATATTTGCTAAATATTTCTTTTTTG
119536	ZFP36L1	AGTTCTGTGACAGTACAGAAGGAA
119537	SLC2A3	CTTAGTTCTCACTGTTCCCTCTGC
119538	DISC1	GGTCTCAAACTCCTGACCTCA
119538	MEFV	GGTCTCAAACTCCTGACCTCA
119539	F8	AGTATTTTCTAATAATCCTGC
119540	CA12	GTCCTCTGGATCACAGACACTGC
119541	ADAMTS8	CAGGGGAGGGGAAACGGGAATAGT
119542	BCL7B	CGGCCCTCCGCCTCCTGGCCCTGC
119543	SHB	GCCCCCAGCCACTGTTGCTG
119544	MAP3K9	CCATGCCACTACTCTGAGGCCT
119545	TK2	CCAGGTGAGGAATTTGAAGCTCA
119546	SIRT1	AGATGGCTTTTGTACTTCCTGTGGACAT
119547	HYAL1	GCACAGCCTGGGGGAGAGTGCGGCCCA
119548	RFNG	GCTGCCTGGCTCTGTCCCAGGC
119549	SLC31A1	GGCAGGAGAATCACTTGAACCTA
119550	COX15	TTGCCCAGGCTGGAGTAC
119550	POU2AF1	TTGCCCAGGCTGGAGTAC
119551	SH3BP4	TCAGCATCTGCTGGGATAACTGG
119552	MAN2A2	CCATACAGACATCGACAGCCAGG
119553	EIF2C1	AATCAGAAAAGGACTAGATT
119554	ARAF1	GGATTTTGGGGTTCCCAGCACCCCAT
119555	MEN1	TACAGCCCCGGGGGCACAG
119556	MPL	TGAACTCCTAACCTCGGGTGAT
119557	VENTX2	CACTGCACCCGGCCCTGAGAAT
119558	SWAP70	TGCCGTTGTACTCCAGCTTGGG
119559	TLE1	GAAGCAGCTGGGCCTGGGGCGCCCACT

119560	TTN	TGTTATCTGAACTGTGGAA
119561	SIGLEC11	CGCCTGTGGTCTCAGCACTTTG
119562	HUNK	AGAAGGCAGAGAGGCAGTTCTGAATCA
119563	EGR4	CACGCCCCACGCCTTCCTCTATAA
119564	KCNQ2	TGCCCCCTTCGGGGCTGGAGGTCTCAGTG
119565	Rgr	TCACTGTTTGGAAAAACACATAGA
119566	TCF1	ACTCTGGCAGCCACACTTCTCAGGAC
119567	ABCC3	CACTCAGCAACCACACGGATCTGACA
119568	GGA1	GCTGGGGGAACCTCACCTGGCCC
119569	YWHAH	CAGCACAGCTACTCAGATCTGCACTC
119570	NPR2	CTGTCCCTCTCTGGCTTGGTC
119571	CALM1	GGCTGGGTGGTTGGTAGAGGAGAT
119572	RFC2	TCGGGAGGCTGTGGCAGGAGAATCGC
119573	SHANK2	AACAAAAAGCTGCCCGACTTGCA
119574	CNTN2	TCTCCTCTCATACATCAAGCC
119575	NR3C1	GATTCCAGATAACCAGCTGTAAC
119576	MEIS1	GTAGGAAGGGAGCCAGAGAG
119577	PIK3C2B	TCTTCCTCTGGAGACTGAACTT
119578	CD3Z	GGAAAGGAGCCTAGGCCAGGT
119579	EFG2	ACATGATTTCAAAATAAAGTTG
119580	PAICS	CCACTGCACTCCAACCTGGGCAGCAGA
119581	JPH2	GTTCTGGATGACAGTAGAGGA
119582	LZTR1	TGCCCTGCCTTGCCCCTGCACTATGCT
119583	TIAL1	GATGTGACAGAAGTCCTTATACTTCA
119584	HAS3	CAATTCAAGAAACTAGTAAG
119585	SREBF1	CCATGATGGTGCTGACCTCTGGTGGCC
119586	RAI14	GTTGAGGGAGAGAGACAGAATCCTGG
119587	GNB1	CACACACAGATTGTCCTGGTGTTCA
119588	BAI2	GACTGCCCACTGCATATA
119589	ATP11B	GTTTTTAAAGCAAAATTATCTTG
119590	HOXC10	GCTTTTCTCCCACCCCTCCTAGCA
119591	PPP1R11	ATCCCTCTCTCCTCCAGCA
119592	MOCS1	TCAAGCTCATTAGCAAGACTGG
119593	SSPN	GAAAAGCATCTCTCTTGGCAAC
119594	NDUFV3	TAGGACCTGATGATGGCTACTA
119595	MAOB	CCTTCACTCCCTGTCATAGTTACC
119596	KPNA4	GCAGAAAACTAGCTTGTAAAA
119597	CDH11	CAGAAGCCTTTGATATTGCC
119598	HD	CCTCCTGGGAAGGAGGGAGCTGC
119599	PTGIS	CCACCTCCTGGGTTTAAGCAAT
119600	OPHN1	GTAGAAAATATGTCCCAGAAAT
119601	CASQ1	AGCTAACCTCTTCTGGACC
119602	STK10	GAAAATACCAGTTTTGCTCTCTGTGG
119603	TNFRSF10B	CAGGCTGGGACAGAGGCAGA
119604	TNFAIP1	TGTAGAGGCCCTGGTGCAGAA
119605	ILVBL	CTCTTGGACCCTCCTCTTCACGGACCCA
119606	NAP1L4	TTTCCAGCCGCTGAATCTGCT
119607	P4HA1	AACTTTCAGGAGTTTACA
119608	FKBP6	AAGGGAGGGGAAAGCGCAGC
119609	CYP1A2	CGCCTCCCATGTTCAAGCGATT

119610	LGI1	AATTGTGTAACTGTTCTTTGCAG
119611	ADRA2A	CGGAAGGCAGCTGGCAGCAGGCCCAGG
119612	RAD1	CGCCATTGCACTCCAGCCTAGG
119613	KPNA4	AGACATTGGTTTACTCTGCAGCC
119614	GAS7	AGGACTGGCCCTGCTCTGCGGC
119615	SLC13A3	TTCCCTCCCCTCTCCAGCT
119616	EZH1	CAGGCAAACCTCTGTGGT
119617	PPP2R4	AGAGATACCTGCTGCTTCCATTGCTTT
119618	NCF2	CCTAGTTTCTACCTAATCATGTC
119619	TH1L	GGACACTGACATTTCACTCAT
119620	SRGAP2	AGCCCTCCAGCCCTTCTTTTT
119621	COL11A2	CTCAGTCGGGGCAGGCCAGGGGAGGGG
119622	ADAMTS4	CTCTGCCCTAATGCGCAGGCTGGC
119623	TCERG1	TACTCTTCCATAGGGGCATCT
119624	FGFR1	TGACTGCCACCCACACGCCCTCCCCAG
119625	ARHGEF7	CTGGTGGATGCCTGGTTCGTTCCG
119626	VDR	CCTCTGGCCCTGCTTCTTC
119627	CTMP	TTCAAGATCAGTCTGGGCAACACGAT
119628	CA11	TCCGGGAAAAGAGCAGAGGAAAGAGG
119629	EDAR	AACAGAAAAACTCAGACTTGGCA
119630	GPR17	GCAGGCTGCAAATGACCCAGAA
119631	ADCY8	TGTATTCCGTCGCGCTGGGCTCTCCGA
119632	HIS1	TTGTTAGGTTAGACAACTGACA
119633	HTN1	GAAGAATTATCATAAGGCAATGGAGA
119634	APOL1	TGTCGCCAAGTTGGAGTGCAATG
119635	OSR1	TGGCGGCCGTGGGCTCCGGGAC
119636	TEM8	GAGCTAAAACCAGAAATTTCCA
119637	FCN2	TCCACGCCCTGACCGCCCAGGGAAC
119638	ITPKB	CCAGGCCAGACCCAGGAGCCAAG
119639	LZTS1	GCCAGAGGAGGGCAGAGGGA
119640	DNASE1	GGTCACTCGGGATCCCCTGGGCCTAA
119641	PCDH11Y	AAGAAGAAATACCAATAACAC
119642	FGF1	CCAGGAGACCATTTGTA
119643	AXL	CCTTCTTAGCTATCATTGCTTCCT
119644	PRNP	ATGTGGGAAACCCTTTTGCGTGGTCC
119645	C1orf1	CCCAAAGCCAGACTAGTCCTGAA
119646	JAM3	CATGGGAACCAGGTCTGAA
119647	TGFBR2	GGAGAGGGCGCGGCGCGGAGCGC
119648	PYGO2	CTTACCCAACTCCTTCCCCCTCA
119649	PHKB	CAGGAGACGGAGGTTGCAGTGA
119650	ATP2B3	CTACCTCTTCAGTGTTTTCCTCCAGTC
119651	DIAPH1	GTCAGTCTTGCTGGATTT
119652	C18orf1	AAGTCTCTCTGTGCCTTTTTC
119653	RNF3	TCGTTGGAGGCTGGAGCGCAATG
119654	TYK2	CTGAGGCCCAGAATTGCTAAG
119655	ABCC3	CCTCCACACCACAACCACCTT
119656	TCF15	CACCCGATCCTGGAGAGCTGTGA
119657	DVL3	GGTGTTTTGGCACCTGCCTGTAATCTC
119658	KIF3B	TTCCCAGGGCACATTTCTGGATCA
119659	DAPP1	CATGCCTGTAATCCCAGGACTT

119660	WNT8B	TTTCCTCTTCAGATCCTGGT
119661	FCAR	GTCACCCAGGCTGAAGTGCAGT
119662	PTGES	GGTGGGAGGGGCCCACAGGAAGC
119663	CLTC	CATCATTTTAGAATTTAT
119664	PHB	GTCTGATTCTCTTTAACTGTGT
119665	SLA2	TTCAAACAATTCTCCTGCCTCA
119666	DNASE1	AGTTGAACTGCAGGAAGAGAGGA
119667	C1QG	AGGCCAGAAACCGCCCACCTGCAG
119668	L1CAM	ACCCCTTCCTGGGCACACGCT
119669	ADAM12	AGAAAACAAAACTGCAT
119670	IFNAR2	GATGGTTGACCCAGAGGATCCTGATA
119671	ENDOGL1	GTCATCCAGGCTGGAGTGCGGTG
119672	HLCS	GTCGTCCAGGCTGGAGTGCAGTG
119673	OTOR	CCAGCTCTTTGATTTGCCATATATAAA
119674	LRP1	CTCCAGCCTCCCCTCCCCTGGGGACGC
119675	NDRG1	CTTTAGTTCTGCTTTCTGCCTCT
119676	TNNC1	GAGTCCTGGGGTTGGGGAGGGG
119677	DNASE2	CACCACGGCACTTCAGCCTGGG
119678	PSMB8	CTGCGCCCTCTCCCTGGCGCC
119679	LDOC1	TTTCAATAAATATCAAGCACT
119680	ZIC3	TCATTTTAACACTTGTCCTG
119681	TAL1	GAGACTTGCCTTCCTAAGCCTGTGGCT
119682	ELOVL4	TCTTTCAATGTGTTTAATTTTGGA
119683	PIR51	AAAGTGGAAATATTTTGAAATG
119684	GYPB	TTCCCTGTTCTCCTGCCTCAC
119685	SLC7A5	TTCACACTGCGCAGGTCTCTTCT
119686	MDM4	CCAGGCTGAAGTGCAGTGA
119687	MYF5	GGTGCACCGCCTGCCTCTCAGCAGGAT
119688	TRPV1	GGCTAATTTTTGTATTTTTAAT
119688	XRCC2	GGCTAATTTTTGTATTTTTAAT
119689	TUFT1	GGCTGATTTTTGTATTTTTAGT
119690	COL4A6	GGATGATTGTGTGACTATTCATGGCTA
119691	HAS3	AAGTGCTTCCTACAAAGACGCAAGGTG
119692	NLGN2	AGGACAGACACAGATTTCCTGCTGGG
119693	MEIS2	TCACGCCGTTATGTTGCCTCAAAT
119694	WNT8B	CTGCCCCCTCCTTTTCCCA
119695	RGS5	AGATTTCTCTTTTATACCTTCCTCA
119696	FOXI1	TGAGAAAACAATGGCCTCAAGGGAGG
119697	TOP2A	TCTTCTCTGCTTTGTCTGTGTTTTG
119698	BCL11B	GAATGCCTGGGCATTTTACAAAA
119699	IL12RB1	GTTGCCCAGGCTGGTCTCAAACTCCTG
119699	TP53	GTTGCCCAGGCTGGTCTCAAACTCCTG
119700	PTPN1	AACCTGCCTGTGCATGACCTGA
119701	FPR1	GGCAAAGTGGGAGGGAGCTGG
119702	CASP2	GTGCCCATCATCTCTGCCTTT
119703	POU2AF1	CAGGCTGGAGTACAATGGTGCG
119704	NOLA1	CTCTGTTGTAAATTAGTGGTT
119705	RARA	AACTCACAAGCCATTGCTCCCCA
119706	SLC22A7	CTGGCTGCCGGCACCGCCC
119707	BCAS1	ACCGCTTGTACCCAGGAGGTGG

119708	HSPA4	GTGTTCTCTTCCCTCTCTCCCAA
119709	XT3	TCTCTATACTTTGTCTCTGTGTCTTA
119710	B4GALT5	CGGGCCTTTGTCCCTGCCTTGGCTTTT
119711	APAF1	CCAAGTAGCTGAGACTGCAGGC
119712	FMO4	GCACAGCAAAGATCTGCCA
119713	STE	CCAAAATACTGGGATTACAGGC
119714	CHRNA2	GCTGGGGTTGAAGTTTGGAGTC
119715	PART1	GTCATTCAAGTGGAAGCTTTCACA
119716	SLC2A1	TACCATGAGAAGAGGGCCTGTGG
119717	DCK	CTTACTTCCTGCCTCAGTCTGCTTTCT
119718	ORC4L	AGGTGAAGCCTAGCAGAGGACGCGGCCAGGC
119719	UCP1	CTTTTCCTCTGCATCTCCAGTCT
119720	PTMA	CCAACCCAAACCATGAGAATTTGCA
119721	CNP	CAAGCTGGAGTGCAGTGGTGCG
119722	FACL4	CAGCTTCCAATGCCTCTTGTC
119723	COX15	GAGCTCTTCAGAGATCATAAGA
119724	TFE3	CAGCACAGGTATTTCAGGTGTGAAAG
119725	KCNB1	CAAAGAGACTGTGTGTTACTGAAGAAC
119726	UBTF	CCTTTGTTTCTCCCCCATGTTCTGTCCC
119727	COL4A3	AGAGCAGTATCAGCATCATCT
119728	OAS3	GGAAGACGGATCCCACCTCC
119729	PDCL	TCACCCAGGCTGGAGTACAATA
119730	POLQ	TCACCCTGGTGGTGGTAGGCA
119731	TM7SF3	TCACTGCACTCCAGCTTGGGTG
119732	DVL3	CTCTGGCCCCAGTTCGTTTCCT
119733	PACE4	CCAGTAGAAAGCATAACAAAAAGA
119734	SDC1	TGCCTGGAGTGTATGACTGCA
119735	LIFR	TACCCAGGCAGTGGTG
119736	CRTAP	TCCTTTCTCCCCATCCGGGAA
119737	B3GALT5	GATGCTGTTCTTCAGTGCTGAAA
119738	TOP2A	CTGTCCCCTCTGGCTGCCTC
119739	FACL4	AATAAGGCTTTCAAAAGCCAAA
119740	STK38	GTTTCAGGGGAAAATGCCCACATT
119741	PRX	CGTGGAAATTGAGGAAGGGCGG
119742	CDH1	GGTCTCAAACTCCTGGGCTCAAGTGAT
119743	USP6	ACAGTCCCTCCCTGAGAGACATGGT
119744	CXorf6	GGATGCTGGGGCACTTTAAA
119745	TIMM17A	TTCATGCTCATGTACTTCAA
119746	CTSB	CCGGCAACCGCTCCGGCAACGCCAACCGCTC
119747	GAS7	CTCTGCTCTCCTCTATTCTCCA
119748	PPP2R1B	GCTTGTTCTGTCCTCTTGCCT
119749	RANBP3	CCTTCTGTTCCTAGGTCTGCCAAGCCAG
119750	MHC2TA	CAACAGGCTGGGCTTCAGTG
119751	SSX3	CAGACCACTGCAATAAGAAATA
119752	XKRY	GTAATTTCCTACTTTACACTCT
119753	CBFA2T2	GGCCTTCAGTCCCCTTAACGTGGC
119754	CLASP1	AGTCTTTCATCTTTACTGCTGAGA
119755	MYO5A	AGGAGAATGATGGAAGGAAGGGAGG
119756	TRAF5	AAATGCTAAAGACTCACACTGCAGCAATCA
119757	FGFR1	CCAGAAGGCAGAGGTTGCAGTGA

119758	PRG4	TTAATCCCTCTTTTTGTGA
119759	GSTM4	GGCCCAGAGAGAAGAAAAAGACAGGAA
119760	VHL	CCTGGCTCACCCTCCTGAGCT
119761	TEAD3	GCCCCTTCCCTTCTTCATCCCGACCC
119762	PPP2R4	CCTGCTTCTCTGCTCCCCTGGGTGA
119763	SCA7	TTTGAACCCAGATCTGAACAG
119764	EDARADD	AGAAGCAGGTTGCAGTGA
119765	CHRNA4	CAGTCAGGAAGCCTCCTGCTGAG
119766	PPP1CC	TCCATTCAGAAAGCTTCAAATTATAG
119767	DGCR6	GAGGCTGGGCCAGCCTGCTGC
119768	PRKWNK3	TCACATGCATACTACATTGGTTTTG
119769	PIGR	TCAAGTAGCTGGGACTACAGAT
119770	POLH	CATACCTGTAATGCCAGCACTT
119771	PAWR	TACATGGTTTAAAGTCACAG
119772	DSC3	GAGGAAAATGGTAAAAACTTGAAATG
119773	SH3GL1	GCCTGCCGGCGCCACCTGGGCC
119774	LANCL1	AGGATCAGCTTCCTCCTTCTG
119775	IRS2	GACCAAAAAATTCAATGTCTTAAAAA
119776	FOXO1A	CACTGTTAAAATCTTACTACTTC
119777	PCDHA9	TATCTTTTTCTCCTCTCAGCT
119778	HOXB6	AGGAAGAGACACACCTGACCAGCCCC
119779	HPS4	GCTCTGAACTGCACCCAGGAGG
119780	UCP2	CTCCATCTCCTGGGACGTAGCAGGAAA
119781	MAGEL2	TCCTGGTGTTTGTGTTCCAGTTC
119782	ABL2	TGGGAGGGAGAGACCGGAGCAGC
119783	ASB1	ACAGCCTGTTCTACGTAGTGGCTCG
119784	HYAL1	CCCATCCTGGGGTCAGGAA
119785	HOXB9	AGCTCACAACCACCATTCAGTCA
119786	GCDH	AGGGAGGTGGCGGATGGAGTG
119787	FGF23	AGACAACCACATGGTCAGGCTC
119788	WEE1	GAATTAGACTTGTATATCCCACT
119789	ELL	CTGGGAGGGTCGGGGGAGCAAAAGGCG
119790	TAL1	TGTCACTCAGGCTGGAGTACAGT
119791	PPARBP	ATCCTAAATGGCATGGCTTTG
119792	HSPCB	TGTGGTTTATTTTATTTTCTTCATTTTGTTCT
119793	TRIM34	AGGAATGTCAGGAGAAACTCCAGGCAG
119794	FBXL11	GCAGAAAAGGGAGCCCAGAAAA
119795	HAX1	TTGTCACTCACCCAAACTGACCAATAA
119796	CDS2	TGTGTTGTAAGTAAACTACA
119797	SMURF1	ACACGGCAGCCTTCCCGAAACATAGTA
119798	ALEX3	AAGAGGAGAAGGAAATTGTC
119799	LTB4R	AGATGGCCCTCTTCCCACCAC
119800	AQP6	CCTGCCTGGAGGTTCTCCCTGGGGGT
119801	GLUL	ATAGTATTTTTATATTTAAA
119802	KRAS2	GGTAAAAAGAAGAAAAAGAA
119803	KRT5	CAAGTGCAGCAACCCAGCCCATGG
119804	THBS1	TTTATCAGGAAATACTGCCT
119805	MTMR8	GTGACCAATATGTTCATATTAAGCA
119806	MYO1D	GGGTCCCAGTCCAGCTGCTGCCTC
119807	RPH3AL	GGGAGAGCGGCCTCCTCCTCC

119808	DSCR3	GGTCTTGAACTCCTGACCTCGTGACCC
119809	EIF4EBP2	TTGCAGTTTCTTATGTTTTGAG
119810	AICDA	AACCCTTGCAATGAAGATGAGCAGATCCA
119811	PCYT1A	AAGGAAAGACAACTGGGGAA
119812	DVL3	AAAATACAAAAATTAGATGG
119812	INPP5B	AAAATACAAAAATTAGATGG
119813	HMG20A	TGGAGCTCCAGTTTTCTTACCT
119814	MALT1	CCAATATTCCTTATTAATA
119815	CXADR	TTTTACTTCTAAGTCATTCATA
119816	USH2A	AGCAAATGAGTTTGCAAAATGCCCTCA
119817	EGLN2	TGGGGGCAGCACTGGGC
119818	DDB1	CCCTCCCCCTCCTCTCCACCA
119819	PPP1R14B	GGAGGCGGTGGCGCAGGGAG
119820	EFNB2	AGACCTCCACTCCACATCTGCATCACT
119821	C7	CGCCTCCTGGGTTGAAGCGATT
119822	PCDHGA8	TCACCTACTGGAAGACAAATGCA
119823	COPA	TACCTGTAATCCCAGCACTTT
119823	PCDH11Y	TACCTGTAATCCCAGCACTTT
119824	EGR3	TCTCTCAATTACATAGCAATTTCTCCT
119825	TNFRSF14	AGCTGTCTGCGCGTCTGACT
119826	G2A	CCTCGGGGAGATGCTGGTGAG
119827	RAD1	GAGTGGCGGGACTGGCTTCACTTCCTC
119828	ZNF265	TTGGTCAGAAGTGCTAAATCTGCTA
119829	RNMT	TCAAGAATGAAGCAGAGCA
119830	BMP6	GTTCGTGCTGGAGTTTTGTTGGT
119831	NUP153	GCTCGCAACCTCGCGGTTCCTGGG
119832	GUCY2D	TGGGTCCTGGGAGGGTGGGTGAA
119833	CNTN2	GTCACAGAACGTCAGAGCTGGA
119834	GOT1	TGCGTAGTGCATTCTGATATTTTTG
119835	KPNA3	TTTTAATTCAGTTGAGTGC
119836	IGLL1	TAAATACCCTCTTTGTCAACCAGAAA
119837	APOC1	AGCGCCTGTGCTGAGGACTCCCG
119838	IL1B	CCAATGCCCAACTGCCTGCCTTAGGGT
119839	DCX	CAAGGCTCTTCCTGGGAAC
119840	PHYH	CCGCAGCCATGGAGCAGCTTCG
119841	DDB2	ACACTAAAGAAGGTGTGGGCCAGA
119842	PDE7A	ATTCTACGGGGGCAGTAGCTCA
119843	VIPR2	TGGGACCCTCAGCAGCTCTGGC
119844	SEDL	GTTGTCCAGGCTGGAGTGCAAT
119844	SLC15A1	GTTGTCCAGGCTGGAGTGCAAT
119845	MEST	CTGGCCATCAAACATAATTCTCTCACA
119846	BDKRB2	TCCAATAAGCACATATTGAGC
119847	GRM6	AATTCAGATACACGTGTGTAAT
119848	MTMR4	GAGAGAGACTCTGGGCTCTTGGC
119849	PPP2R2B	AATCTCACATACTGAATACTAGTCA
119850	PTGIS	CCACGGCACTCCAGCCTGGGCG
119851	ATP6V1G2	TCTCTTTTCCCAGAGACCTT
119852	CNTN2	GGTGCTCTGTCTCCCTGGGTGA
119853	TAF15	CTCGGCGGGCTGTGGGG
119854	DCX	CTAGGCTGGAGTGCAGTGGCAC

119855	PCDHB11	CCCGAGTAGCTGGCATTACAGG
119856	GNA15	CCCCCATCCCTTGCAGGCTGG
119857	TADA2L	GGGGAAAGGACAAAGGAAACCTTAAGT
119858	CTNND2	TGACAACTAAACAAGGCATTCAG
119859	COL13A1	TTCGAAATAACTTTTTTCTCA
119860	HR	CGGGGTGGGGACAGGTAGACCAGGT
119861	CD28	TAAGGCCTGACCCTGAAATGAC
119862	ARAF1	CACTCAGAACCTCTCTGGAATTTGTGCCTGA
119863	ELMO2	CAGCCGTGTCTGTGTTTTTGTC
119864	CMRF35	GACTCCCCTGCACCTTTGCCA
119865	DIAPH2	ACATTCATACTACTACCATCT
119866	B3GALT2	CCTGACAGCAGGTGTACACATGCC
119867	SLC22A1L	TCTCCTGGGTCTCCCTGCTGC
119868	TARBP2	CCTGTCTCCCCTCAGCAGTC
119869	IFIT4	CTGGAAGGAAGAGGTTGCAGTG
119870	CASP4	ACAAATGCTTCTTCAAACCT
119871	SERPINA5	GCCTTGGGGAAATGTGGAGAA
119872	MAGEA10	ATCGGCTGAAGAGAGCGGGCCCA
119873	CDH23	CATCAGCTGCTCAGATCCCACT
119874	OPHN1	CAAATAAAGTAGTAAAAGAAGAAATA
119875	G2A	CGGGAGGATCAGTTGAGGTCA
119876	ABCA3	GGGCTGGGTGGCTGTCTCAAGGAC
119877	GALT	GCACAGCCAAGCCCTACCTCTCG
119878	SIAT6	ACCAGCACTCAGCCTCATTCAGC
119879	LZTR1	GCCCCTTGAGCAGCCCATGGCTTA
119880	EPHA8	GAACAGTGTGTGATCAAGTGTG
119881	SERPINB2	TTCTACATATTTCTGCTCTTCTGAACAAC
119882	JAM3	TCCCTCCATCATTGCCACCT
119883	ADD2	CCCTTGGGCTCCCTCCTGCCTCCT
119884	PSCD3	CGGAAGGCGTGGCAGGGAGGCAGTCGC
119885	CACNG6	TACAACTCATCTGCAGCTCCGG
119886	HYAL4	CCCAAAATGTTGGGTACAGGGGT
119887	HNF4A	TCTTAACTACAGTGGCTGAATAGCTTCTCCA
119888	LEP	TTCATGAAAATAGCTCTTTCA
119889	KCND2	ACACCTGCCTCATGTCAGTTTA
119890	SPRR2C	GAGCTTCTCTTTGGGTGCCATCAAAGA
119891	MADH4	GTATTCTTCTGTATTTCTA
119892	CBFA2T3	GCATTCAGTGCACCTGCCTCA
119893	NEDD4	TGGATTCATATTTCTTCATCTG
119894	AKAP2	TCGTCTTTACCTGAGGATTTCTAGCC
119895	XRCC2	ACTGCTCGTGGCCAAAAGTTT
119896	GRAF	AGGTACCCCCTCCCCAGCT
119897	STEAP	GGAGGCGGGGCCTGCAGCTGGCTTGG
119898	GALR1	CACTGCTGCGCGCTGGGCAG
119899	WHN	CCATTCTCTACCCATCCTTAGTACA
119900	FBXL7	CATTCCCCCCTCCACACCATCC
119901	SACM1L	GCCAGTGCACCAGCAGTTTAGGTG
119902	USH3A	GGTGACTCACACCTGTAATTCCAGCACTTC
119903	CLASP1	AACCTCACCTTGCACAGCTCAC
119904	CPNE6	CTTTCTAGCCATTAATA

119905	ZFP36L1	ATTTTATAGCCCACTTACCATGCAT
119906	IRTA1	TGCGGCACCTGGAATGATCAACTCA
119907	NF1	CCTCACCTCAGCCTCCGCTC
119908	CXCL16	ATCCTCCTGTACCCGCAACGA
119909	TYRO3	CAGTTTAGGCCTTGGCTTGATGGAA
119910	DYRK2	ATGACTGCCACGCATTTACAGATTGGT
119911	RGS2	TCCAAAAGCATTTAAAATCAATAG
119912	FANCF	TAGCAATGCTGTGTTATTACTTGA
119913	ACADSB	ACCCAGGCTAGAGTGCAGT
119914	LZTS1	ATACTCCTGGGCTCAAGCAATC
119915	GPM6A	GAATGTTCATTCATATTCATTT
119916	PCP4	CTAGAGAGAAGTCATCCACAC
119917	BHMT2	GAACCCAGGAGGCGGAGCTTGC
119917	SMG1	GAACCCAGGAGGCGGAGCTTGC
119917	UBE2G2	GAACCCAGGAGGCGGAGCTTGC
119918	HR	AGCTCACACCTGTCCTTC
119919	NFIB	GACCAGCAATTGCAGCACTTA
119920	USP14	CCAAATCTTGGCTGGGCACGG
119921	CNR1	GTAACATCGTTGCAACCACTGC
119922	MEN1	GCACGCCTGTGATCACAGCTACTCGGG
119923	ETF1	TTCCAATAATCCTGTTTCA
119924	FPGS	TACATACTAGGTGCCTTTT
119925	DSC3	CTGCCTTTTCCTTTCTCAGGCCAATG
119926	ARF5	TGGAGCCTTGCTCTCTGGGCACAG
119927	PTGS2	TGAATATTTAAATTAGACA
119928	RERE	TGGATCTCCCTGCATGACAGTCC
119929	KERA	GGTTACCATTAATAGGTTTAGG
119930	CBFA2T3	CTGCTACTGCCCCTCTCCGAAA
119931	CTSS	CTGAGAATATTAATTGTGGTA
119932	WHSC1	AGTTCTGCCAGAACCAGTGCT
119933	MOCS1	TGGAGGCCCTGACCTCTGCTGCA
119934	FUT9	AAGGATTTGATAATACAGTGA
119935	IL8	CAGTAAACAATGAATAGTTTT
119936	PDAP1	GTAAGGGGGTGGTTGTCCCAGGAGGCAGC
119937	BGN	TCTCCCCTTATCCTTCTGGTCC
119938	FMR2	GACTATTCAGAAACAATAATCCA
119939	EGLN2	GAGGGTGGGACAGGGACCTTTT
119940	ENG	GCCGCCAGCTGGGAGCACTGGTG
119941	TRPC5	GCATCAAAGGGAGGCTGAAGA
119942	RNPEPL1	AATTGTGCCTTCTGTGGGCCA
119943	P53AIP1	CCTCCTCCTCGGAATCCTGGGTT
119944	MAP3K9	CACTGTCTTTTGTCTTGGAGG
119945	IGF1R	AGAGACACGCTGGCGACACACTCCGTC
119946	FBXL2	CATGCCTCTCGTAAAACTGGG
119947	ADH1B	CTTCATTGACTAAACAGTATTA
119948	VANGL2	GAGCAGTTTCCCCACTGTGTC
119949	SERPINE2	AAGACTCCTTTCCTGCATCTTT
119950	EXTL3	AAGGGGCAGCAGGAGGAGTGGAA
119951	DHFR	GCTTGAGCCACCACACCCGGCACATCT
119952	IL18	TCCCCTGGCGACTGCCTGGAC

119953	SPRR2C	GCTCACCTCGTTCCACAGCTC
119954	CD44	ATCGCCAACCTTTCCCCCACCA
119955	GLRB	TAAACAAAGGGAAACCTATATTTAT
119956	TOP2A	ACTAAGCTAAAACTAGAGCAGTTTGAT
119957	SDC4	GGCCTTCCTCCCTTCCTTTCAC
119958	NOTCH4	GCTGAAAAGTGGCCAAGGGCCA
119959	SORCS1	TGAATAGTGGTGTTCTCTGTTGCT
119960	NCALD	TGCTGCTGCTGCTACTGCTGTTTCCAGGGG
119961	ZNF124	AGAGAAACTGTGAATGTAAGGTG
119962	SPOCK	ACTCAAGCAAGAAATATG
119963	ATP2A3	TCTTAACTCAGCTTTTGCTACTTTGGC
119964	TES	ATGTTAGCCAGGCTGGTC
119965	ECHS1	CAGCCTTCGTCACCCAGCCTGT
119966	BDKRB2	CAAGCTAGAACCTGGAGGGAATG
119967	SLC24A1	ACCAGTATTTTCTAGTTTAAA
119968	MYLK2	GGCCATGGGGCAGCCTCCAGTC
119969	KL	GCCTGAATTTGTTCTCTTTTTG
119970	AR	CCACACCCAGTGAGCATTGGA
119971	SLC6A2	CAATGTCCAGGTCACAGGCAT
119972	PPM1D	AGCAGTTTTATCCTGGCCTTG
119973	PSCDBP	CCAGCTTGGTGGGAAAGTGCAGA
119974	VDAC2	TCCCAGAACATGACAAATTAT
119975	CACNA1S	AGCCTAGTCCCCAAGGCGGGG
119976	STE	ATTGTCCAGGCTGGTCTTGAATT
119977	FH	TCTAAGATGGATTAAACAAGTAT
119978	MAP4K2	CCCACCCCACGCCTTAGCTGCAGGC
119979	PSCD4	TCTGCCCCACTGCCAGCCTGAGTGGGCAA
119980	PRKY	TGGAACTAAACAGTTGAGTGGTTTGGGAT
119981	CD97	CTGCCTCTCTGCTCCACCTTGTGACC
119982	NUMA1	CTACCTTGCCTCCTTTTTTCTTA
119983	NPTX2	CACTGGCTTGTTTGTTCCCT
119984	SERPINB5	AAGTTGGGTGGATAAGCTATC
119985	SLA	AACTTCTCTGGGATGCTGGGATT
119986	FLRT2	GACTCTGGTTTCCATTAGTCT
119987	NOTCH2	CTTTCCTTTCATATCCACAG
119988	LPP	CCAGACCATGCTGATGACCTCAA
119989	NDUFS1	CATTGCACTGCAGCCTGGGTGA
119990	DIAPH2	TAGAAATGCCTTTAACATTCATA
119991	FOXG1B	AACCTGACAAGTCTATCTCTAAGAGCC
119992	VIL2	GTGATGTGGCAGGAGGGCAGT
119993	TEM6	GGTGGCATGACTGTCAGGAGGTG
119994	SVIL	TATCCTGTTCTGAATCATCATCGCT
119995	PLXNA1	CTGAGCACTCCTCTCTCTCCA
119996	LAMC1	GGCGGGATGAGAGGGAGCCATCGGGC
119997	HCK	GTCAGTTTCCCGGCACTGGCA
119998	NR3C1	TCCAGTGACCTGCTGGGTAAACT
119999	SLC25A11	ACGAGGGAGAGCTGGAGGGGC
120000	CYP4F3	TATTGAATTAGACACTTTAGA
120001	DR1	TCTTGCCTCTGCTCCGACGCCGTTCC
120002	RAD51L1	CACCTCAAAGCGGTTTAACCACATTAA

120003	EFNB2	CCAGGGCTGCAGGGTCGGTACTGA
120004	HS3ST3B1	CTGTCTCTTCCTGCCTGTGTACCTCG
120005	NF1	CCCCTTCCCTGTCCTTGCCC
120006	SLC9A1	CCTTCCTTTAGCTCAGGCTCC
120007	SDF2	CACCTTGGGATCCCTGCCACA
120008	TGM4	AGCAGTTTGAAGCCCAATCTGCA
120009	YWHAG	GCCTATGATACTGTCTCTCCAG
120010	TEK	AGAAAGCCTGGGTGACATTTGG
120011	MME	AGCTCTGCATCTCCTGTCTTTT
120012	SYT4	CCTGTCACAAGCCTCAGTGTG
120013	CHST6	CTCTGGTACCACCTCTGAGTCA
120014	PRKY	AAATGACTGGGGAGACACCTGAA
120015	ALDH1A3	TTCAGTATTTTATCTCAAGTAGATA
120016	SORCS3	TGTCAGATGTACACAACTTCCT
120017	KCNH5	AAGAATGAAGAATGGAAATGGAAAAGGG
120018	MCOLN1	GCGAGGGAGCGAGGTCGCAGTG
120019	ZNF264	ATCTCACCACTGCACTCCAGCCT
120020	CR1	GGCTCACTGCAAGCTCCGCCT
120020	SLC13A1	GGCTCACTGCAAGCTCCGCCT
120020	TAPBP	GGCTCACTGCAAGCTCCGCCT
120021	PIK3CD	GCTGGGATCTTTCTCTCTGACTATACTTA
120022	ZNF45	ACAAGTGTTTATCAAACTGAAGG
120023	F9	ACACACGCATACACACATATAA
120024	DACH	TACCATGTAGCGCTGAGTGATAAAGTT
120025	IGJ	AAGAAATTGCCATTTGAAACAA
120026	ITSN1	CCTTAGACTTTAATTAGGGTTAT
120027	BAI3	AGAGACAAAACTTTATTGCACTG
120028	PLA2G2D	GGTGAAGCCTAGACAAAGCCGCCAGG
120029	LALBA	CTGAGCCTTGGGCCCTGTAGTGACAT
120030	DNCI1	ATTCTAAATGTGTCCCATCATGCT
120031	CELSR1	TTGTCCTCTGCTGCCATCTGCC
120032	MGAT5	ATCATTCTCTGCCATATACA
120033	CDH17	CGCCCAGGCTGGAGTACAGTG
120034	SNX15	CGCCCAGACTGGAGTGCAGTG
120035	GABPA	AGCTCTTACCTTTATTACTGAAT
120036	ADAMTS3	TTGAGTATTGCCTTGTTTGACA
120037	ATSV	TTTTAGGGCCCTCCCCACCCACACC
120038	SPOCK	CATATGTTTGTATGGGAGAAA
120039	C1orf1	CGGGCTTATAATTTGCCATTTGTGAA
120040	CELSR1	TGAGGAGCCCTGCTGAGGTCACTGTGG
120041	CCR3	ACTTACATTGTTTACTACTTTACTAAT
120042	PRKCB1	GGAGGCACCAGACCTTGAAAAGA
120043	CACNA2D2	CTGGGGCAGGGGGTGAAGAACCCT
120044	TIMP3	ATCTCTTCTATTTTGTTGTC
120045	PPP1R12B	GGGCCTGGAATGTCAGAAGCAGCA
120046	LRP4	GGCCAGTACCTTTCCTAAGTCTTTGCT
120047	MYH9	CACCTGCACAGGTATTTT
120048	FSHR	AGGAAGAAATCAGGTGGATGGA
120049	LUZP1	TTTCCAAAACAGCAAGCATAGGGAGAG
120050	HDGF	ACACATTTTTTAGGAAATGTTT

120051	ADORA3	TAAGAGCAGCAGCACTTTCAGATTCAGT
120052	ADARB1	GTGGGGAGGGGATGGGGTGC
120053	CX3CR1	TGAGCCAAGCTAGAATTCCCTC
120054	FCGR2A	CCAAAGTGCTGGGATGACCAGC
120055	ZNF36	AAAATTATAAAAATTAGCCGGG
120056	REST	CTGCAGCCCCACTCCTGGGC
120057	PTPRH	CCCAGGAGAGAGTGGTCTGGTG
120058	LNK	TCTTAGCAGCCTCTCTACATACA
120059	MFNG	CCTCTTCCCTCCTTGCCA
120060	C5R1	GACTCTTCTCATCCTTCCTCATTTG
120061	MDM2	GGCTCACTGCAAGCTCTGCCC
120062	PTPRF	GCACAGCCCACGGGGATCACAG
120063	LHX3	CTCCTCTGAGCCTGCCCTGCCTCCT
120064	ABCA3	CAGTCTCTGTTTCCAGCACTG
120065	CBFA2T1	CTCTGATGGCCCTCCTCTCTGC
120066	YWHAH	TGTGTATCCTGACAGCGCCATGT
120067	CDC2L2	TGTTTCTTCTCAGGCTCAGGGA
120068	IFNA21	TGACTTCTGCCATTTCAAAG
120069	TNFAIP2	CTGCTCCTCCCTGGGCCTGAAAG
120070	OPHN1	TCAGCGCTCTGGTGCTGCAGT
120071	EMS1	AGAATTTCGTGAACAGCCTT
120072	BSG	CAGCGGTTGGAGGTTGTAGGA
120073	BHMT2	GGAGGCGGAGCTTGCAGTGA
120073	SMG1	GGAGGCGGAGCTTGCAGTGA
120073	UBE2G2	GGAGGCGGAGCTTGCAGTGA
120074	ALPP	GGCGGCGGAGATTGCAGTGA
120075	BCL7B	GCTCTGCCCATGCCTGAGGTGGTCCT
120076	STARD4	CTAGGATGGTGAAATTCCAAAG
120077	NTSR1	TGTTGAGTTGACGGGTTCCTT
120078	PPP1R2	CTGCTGAACTGTGAGTGCAGT
120079	FOXG1B	ATTTCTGTACGTTTGTTCAGTCTCTA
120080	DLC1	CCGCCTGCCTCGACTTCCCCACA
120081	COG3	CTCCATCTCGCTGCTGCTGAAGGCCG
120082	RBM8A	TCCTCTTGGAGCATTCTCCCAGACCCT
120083	BDKRB2	TGCCCTGCCCAATTTTGCAGGGA
120084	PEX13	CCAATGAAAACATTTGTTATTG
120085	TJP1	GTACACTGTTTCAAACTTT
120086	EHD2	CTCAACCGGCTCCATCACATCC
120087	CD3Z	GCTAGCACATGCCCTAATGTCTG
120088	MASP1	CCTCAGCCCCAGCACCACCAGC
120089	SH3BP2	GCATCAAGCCCCTCGCTGGGCACCTCGCAC
120090	EIF2S3	ACCCAGGCTGGAGTGCAGTGGCGTG
120090	TERF2	ACCCAGGCTGGAGTGCAGTGGCGTG
120091	PCDHA9	ACCCAGGCTGGAGTACAGTGGCATG
120091	TRAF5	ACCCAGGCTGGAGTACAGTGGCATG
120092	ZHX1	GTTTTTCTGAATGACCAGATGTA
120093	DKC1	AAGAGGCAGAGTTTATCCC
120094	SLC1A1	CTGTGCTTTCATGTTTAAGAAATGA
120095	EIF2C1	AGGTGGGAAAGGAGAGCACTG
120096	OSCAR	TGGGAGCTTTGTTCTCTTGCTCT

120097	ICMT	CACTGCATGAACATCTATACA
120098	DUOX2	TTCCTGCAGCCCTCCAGACTTCCTGCCC
120099	SPTBN1	AAGGGAAAGCAAGAAACTAGATGCCT
120100	CXCL6	TCTTCCTATGGTTTTAGATGTTTGAT
120101	PPP3CA	TAAGTGCATTTTCATCACAGAAAAGA
120102	LDHC	AAAGGTTCTCCAAATGTCAACTGT
120103	CLASP1	TGCCGCCACCACCTCA
120104	HTR1E	CCCGGCTAATTTTTTGAATTT
120105	TRHDE	AGTTCTCCTGTGTCAGTCTTGCCT
120106	CSRP1	TGCTTCTCCAGGCCTCTTGCCT
120107	RASSF1	GCGCACACTGACACGCGTACACGCAC
120108	P3	ACTATGCACTCAGAAAAATCCA
120109	F2RL3	ACAGCCCAGAGCAGCCTGAGTGCAGT
120110	CDH12	TTCACTACTCAATGATGTGTCA
120111	TRIM9	CGAGAGCCACCATACAAGGTTCATCT
120112	PKDREJ	TGAAATATGTCTATATGCTGAA
120113	PLCB4	ACTGAGGACTAGTTTGGGAA
120114	GJA1	TGGAGAAGAAAAAAGGTGCTGTA
120115	NCOA4	TTTCTGCTGATTATCACACA
120116	PHGDH	GAAGAAACCCACCCACTGTGA
120117	FUS1	CTGGGGCCTAGCCCTGCTAGA
120118	HTR6	CCTTGGGCCAGCTCTTGGCTAA
120119	FECH	AAGCCCATGGGTTACAGAATGCTAGGG
120120	DPYSL3	TAATAGGTCATCTCAGCTTATA
120121	CNTF	CTGGAAAACAGCTGCTGTTAGATGTC
120122	CD68	CCCACTGCACTCCAGCCTGGG
120122	GCNT2	CCCACTGCACTCCAGCCTGGG
120122	SIGLEC11	CCCACTGCACTCCAGCCTGGG
120123	GGT1	CCAGGCTGGACAGTTCAGTG
120123	GGT2	CCAGGCTGGACAGTTCAGTG
120124	ADAR	CCCAGCCATCCTCCCATCCTGC
120125	DCTN1	GTGGGAGGGGGCTAGGGTACTTGGC
120126	HMG20A	TCTCCATTTTCTGACCTCTGGACTA
120127	EZH1	CACCACTGCTGCTCGAGTCTCCTGCAC
120128	UBE3A	TTAAAAAATATATACCAACAGAACTAC
120129	RECQL	TACAGCTTTGAAGGGTCAAGGGT
120130	TMOD2	GCCTATCTCTGTTTACATGCATAGCTT
120131	RAB36	CCCTGAAGTGTCTCCAGCAG
120132	CNP	CACTCCAGGAAGGGGCTGG
120133	PPP1R12A	TTTATCTGAGTGCTGTCTA
120134	GC	CGGTGCTGCAAGACTCTCTGGTA
120135	NUMB	ATCCTTTAACACTAAGGTAACATG
120136	KCNS3	GTGTGGCATCTCCACCTCAAGGG
120137	PML	CTGCAGCCAGGCTGGGCAGAG
120138	MAP3K7IP2	TCCATCATCAAAACACCAAAGACTCAA
120139	KIF3C	TTGGAACCTGCAGGAAATGGA
120140	OAS2	GTCTTTTCCTTCTGAGCCTGCC
120141	C4BPB	TGAGCTGGGTGAATTCCAGCCTGGG
120142	ZNF236	AGGCTGCCGGCGAGTGGCAGGC
120143	SCN3A	CCCTAACCATCTTGGATGCTGGGCT

120144	SLC6A6	TCTCAGCCTGGGAGACTCCTGCCAAGC
120145	CALU	AGCCTAGAACCTCCCAGTAGAG
120146	SSX4	ACAATCAGGGTGAGACTGCT
120147	WNT3A	TGAAGGAGGCGGGGCTCTAGGA
120148	EGFL5	CAGTTTCAGCAGCTACCATGACAGC
120149	APBA2	ACTGTCCTGTGGACAGACGGGGT
120150	SLBP	CACAGGCATCTTCAGTTATTGCTTGTC
120151	RPE	ACTTCATTCCTGTAAATACTCTT
120152	PLAB	TGGGGACTCGGGGGCTGGTC
120153	LPIN2	CAGCCTATGATGAAGTATTTGA
120154	RAI3	TCACCCAGGCTTGAGTGCAGTG
120155	CASP2	GATGCACGGTTTCTGTTCTGCC
120156	REQ	ATCCCCTTTTTGTTCTTCCTGGACCTG
120157	ANK3	AACACAAACAGAATATTGCA
120158	NPTX1	AACCTATAAATTAACTCAAC
120159	SRD5A2	GGATCTGAACATACAGAGCCCACATTTC
120160	CSE1L	CTAGGAAATCACAGGCTTCTGAGCA
120161	CAV1	CTGCCTACTCCAAAATGTTGGTCA
120162	IGF1	TCTTTTATCTGTGTCTGTGTATC
120163	SPAG6	TCCTCTTTATCACAAGTTTTCCA
120164	CAPON	CTGGAGGACCTGCCCCTACCTGCTGC
120165	IL1A	GGCTTCTGGCTGAGGCCTTACGCAT
120166	GSTM1	TCTGCATCCCAGCACCTGCCTCCT
120166	GSTM2	TCTGCATCCCAGCACCTGCCTCCT
120166	GSTM4	TCTGCATCCCAGCACCTGCCTCCT
120167	SYNGR1	TGGGGGGTGCTGAGTCATCTC
120168	ELF5	CCACTGCACGCTGGTGCTGGGAG
120169	PCSK2	GTGATGTTTTTATGATATCCCT
120170	SRPX	ACTTTCTTTACTCCATCATGGC
120171	HUNK	ATCACAGTCATTCATCCAGGCCA
120172	GNPI	GCTGTTTTTGTGCCTGTTTGAAGCTAC
120173	CYP26A1	CGGCTCCTCGGAGTCCTGGCC
120174	SCAMP1	TAAAAAGTTTGGGGGTGCAATAT
120175	CNGB3	TCTTCCTTCCAGTTTTATTAG
120176	TCF20	GTGCCTGCCCATGCCAGCACTTCCTT
120177	PBX2	GGAGAGGGAGGAGGTTGCAAAAAGCCAG
120178	HLF	CTTCTGAAAAATGAATGTAAA
120179	DVL3	ACCAGCCTGGCCAACATAGCAAAACCC
120180	SOX15	GACGCTTCACGTTGAGGGGAGG
120181	GPR81	TGTTGGCCAGGCTGGTCTCGAGCTCC
120182	AAT1	AATGTATGCTACTCTGAA
120183	PGF	CTCAGCCAGTGGGGATGAGG
120184	GPR19	GTTTTATTTTGTAAAATGCATTC
120185	PUM1	GTTATTCAAGATTGAGTTCTCA
120186	TESK1	CTGCCTGGCTGGCTCCGGGCCGC
120187	IFNW1	TGCCATATAACACTTGCACATG
120188	STAT5B	TCTGAGAGTTTAGTTGTAGCAG
120189	AES	CGACAGTCTGCCTGGGCCACAGCCCT
120190	FUT6	GGGGAAAGGAAGTGGCTTTGAGGCA
120191	MSF	CTGGGGAGGTGGGAGGCCAGGCGAGCCT

120192	STK38	TTCAGAAGAGAAAAATGGAATATCAGA
120193	ITPKB	ACTGTTACAAACCCCTGCACAGTGCCT
120194	RBM10	CACCCAGGCTGGCAGATCATGG
120195	GOCAP1	CAGAACATTTGTCAGGCTCTCTGTCA
120196	GAD2	TGTGTTGTCTCTCTAAACCCAAATAA
120197	LIG4	AACCAGTATTTGATTTAAGCT
120198	HIP1	TACAAGGGAGAAGACAACAGAAA
120199	EIF3S10	AGTAACACCTTTATCTTGGTAT
120200	G2A	GGAGTCGTGGCTGAGCAGAAC
120201	SHOX	CCCCAGCCATGGAAGAGCTCACGGCTT
120202	ZNF266	ATTCAGTCTGTTATTTTGTACA
120203	DBT	CGCCTGTAATCCAGCACTTT
120204	HNRPD	TGCTTTTTAGAACAAATCTGGATA
120205	CYP1A2	CTCCTAAGCTGGAGTGCAGTGGC
120206	COLQ	CCTATCTCCCTGGGTCATATGGAGAC
120207	SNRPN	CAGAAGGCAACATTCCCTGAACATACT
120208	FREB	CTTGAACTTCCAGCCTCCAGA
120209	NPHP1	AAAGTTCTGGGCTATCTTAGCTAACTTA
120210	POU2F2	AGGGTCCAAACCTGAGTGAGG
120211	HIS1	AATTTTAAATTTAACTCTGCCT
120212	PVR	GGGGGAAGGGATGCAGGGGGAGGCAGCGCTGC
120213	CDKN2C	GTTCCTTGAGTCTCCACACAC
120214	B3GALT5	CCAGCTCTGGACAGAGTTCTT
120215	STARD5	CCCATCACTCTCAGAGACCACGTTT
120216	IL18	CGCCTGTAATCCCAGCCCTTTG
120216	MS4A2	CGCCTGTAATCCCAGCCCTTTG
120217	UBE2G2	TGCCTGTAATCCCAGCTCTTTG
120218	SCA1	GCATTGACTTCACTCCCAAG
120219	RAD52	TGTTGCCCTGACTGGAGTTCAG
120220	ADAM12	TCCAGTTGGAGTTTTTTGT
120221	IGF1	ATTCTGCCCCCATCCCAACCCAGC
120222	MPP2	TGTTCTCCCTCCCTGCCATTGTGGACT
120223	ANXA8	ATGAAGCCAGAGTCTCCAGGACTCCT
120224	GCNT3	TTCTGCATGATTTCTCTGGGCTTGCTGT
120225	RXRA	CTTCTCCATAGTCTTTCCCCACCTGGAGC
120226	UBE3A	AAGAGCCTGATTTTAGAATTCACCA
120227	IL1RAP	ACATATATATACACACGTGTAT
120228	JRK	TGGCTTGAGTGATCCTCCC
120229	HDGF	AGCTTATAGTCATATATATCA
120230	ABCE1	CCAGTCAAAGATTCCACTGATTGA
120231	PACE4	GAGCTTTGGTAATCTCTGTGA
120232	MN1	TTTTCATTCCTGCAAACACAGTGCTC
120233	HOXB9	CTGTCTCTCTCTTCTCTCTAGGT
120234	RNASE3	CCTGTATCAGCAGTCCTCATCAT
120235	MAT1A	GGGTCCCACAGCCACGTGTTT
120236	MPP2	AAACCCAGAACCTGAATCCA
120237	KLRG1	GGAAAGTTTACAGAAACAGTTT
120238	ACPP	ACCTGTAATCCTTGCATTTTGGA
120239	A1BG	CAGGCTGGAGTGCAGTGTTGCAGTCC
120240	TRIM14	GGCAGTTTCAGTCCATATCAAT

120241	KCNC4	GGTCCCTTTCTCCACTGCACTGGAG
120242	CAST	CTCTTGGGCTTTTGAACTGTATTTG
120243	PMP2	TAGCACTCAGATCTTCGTGTC
120244	HNRPDL	CTGCTGTTTTGCTATTCTTAAA
120245	RAD52	AAGCTTCCACGCCAGTTGCCTC
120246	DDX19	AGAGAGAAACTACCTACCTCA
120247	UPK1B	GTGGGCAGATCACCTGAGGTCA
120247	VHL	GTGGGCAGATCACCTGAGGTCA
120248	NCOA6IP	CGCCCAGGCTGGAGTGCAGTGC
120249	PCSK1	GTCAGTCTTTCTTAGTGCCTGTGT
120250	SCA1	AGCTCATTCCCTTTTGGCTTTTTCCTTGTTTG
120251	PRKAR1A	GGGAGCAAAGCGCTGAGGGAGCTCGG
120252	PRKY	CAGTGCACTCCAGGCTGGACGA
120253	ZNF278	TTCAATGCTGTTGGGAACCAG
120254	JAM2	GGCCCCCGGCCTCCTGCGCTCCT
120255	SLC2A3	CACATCTCAGACCCTTTAGCCAA
120256	FUT1	CGTCTTGCTCTGTTCACAGTCTCT
120257	MATN3	CGGAGCCCACCATGCCGCGCCCGGCC
120258	ACPP	TGGCTCACACCTGTAATCCTTGCATTT
120259	EIF2B5	CTGAGACTGAAAGGAGCAGAGGCTGGA
120260	HOXC6	TGGACCCCCTCCCTCACCGCACAAC
120261	TRAP100	GCTGCACTCTGGGGGCTTGGCATGGC
120262	WHSC1	CTGAGAGGTGCGGTCCTGGGGGTG
120263	GRM6	CTGGATGGAGGCACTCAGGCCT
120264	ADH5	AACCTGTTTTCTGGATGCTCC
120265	FKBP1B	ATAAATTCTGTTAGCTGC
120266	TMEPAI	TTCATTTACATCTCTCTTA
120267	ART1	GGCTGGTGGAGAAACAGGAGACAATC
120268	KRT15	CTCTATTCCCCCTCTGCCTCT
120269	TOP3A	CTGTTAGCAGAGGATTGGTG
120270	PTPRZ1	TAGGCAGGAAAATCAGTCTA
120271	IFNG	TCAGCTATTAGAAGAGAAA
120272	CALCR	GAGATGTTTTACCATCCTT
120273	PEX14	GCGAAGCCTCGGGGCCCAAG
120274	GAB2	GCACAGGCTGGGCAGAGGC
120275	CDKN1A	CCCACAGGAAGCCTGCAGTCCT
120276	CD34	AGCTCAGTTCTAGTCTCTCTGGG
120277	PKD1	TGTCTGTGGGCTTCAGCACTTTA
120278	OPCML	ATGTCAGGAACCTATGGCTGG
120279	RGS2	ACTGACCTTGAATTCAGCCTGGGTGTTCAGG
120280	PPP1CB	CTCATTACATTAAAAAGGAATTTTAGA
120281	EIF2S3	CTGCAACCTCTGCCCCCCGGGT
120282	MNT	TGTAATAAGCACTTGCCTGG
120283	HERC2	TGAGCCAGGCAGCAGAGCACTCGCTG
120284	EFNB2	TGCTATACTTATCACATTTTATTAAAC
120285	PTGS1	GGGCGTGCTAGAGGTTGCAGCATGA
120286	KLHL3	ACTGTGGCTTCATAACTCTA
120287	RAD51L3	CAGATGCTGGATGTGCTGCAGGAGC
120288	ORC3L	TGCTCACACATTTTACTGTACTTTCC
120289	TARBP2	CGGACCGGGAGAGAGGGGGCGCGG

120290	JRK	CAGGCTGGAGTGAAGTGGTGTGATCCC
120291	MMP25	TTCCTCCACCCCAGGACCAATATG
120292	RFNG	TGGGTCGTGCTCCTGCCCCACTGTGC
120293	RGS9	GCTTGAGCCACCGCACCTGGCC
120294	TRPV1	TGCTTCAGTCTCCCAAGTAGCTTGGA
120295	SNX3	TCTCCCCTGGGCTCGGAGGCGGAAGCT
120296	ADORA1	TGCCCGTCTGCTGATGTGCC
120297	CD4	CCCCACTGCTCATTTGGATCCC
120298	UBE2B	ATGTTTTAATGCCAGGGCCTGCT
120299	MFAP3	ATTAAATTATGCATGCTAAGA
120300	HOXB6	ACACCTAGGTCGGAGCACTGTCGT
120301	ADAM19	AGAAAACTATGGACTGTGCTGCTG
120302	C7	CCCAAGCAGCTGGGATTACAGG
120303	MEST	CCCCCAACAGGAATTCT
120304	NME4	AAACCTGCCTGTCCCAAACCA
120305	COX5B	TGTGCTGTAAAGTTTCTTCTTTCCAGTA
120306	RAI3	TTCTGAGAAAACTGTACAAGAC
120307	MPL	GCCTCTGCCTCCCAAAGTGCTGGGA
120307	PIGR	GCCTCTGCCTCCCAAAGTGCTGGGA
120308	MAPK10	TGGATCTCTACAGTGCCGCGTATGA
120309	AGTR1	GCTCTGAACAAAAGCTTTTC
120310	FCGR2A	ACTGCAAACCCGCCTCCCAGG
120311	COPEB	TACCATGAGATGAGATGACCACCA
120312	PITX2	GGAGAGGAGCAGAAAGAAACTGCCAGT
120313	KNS2	CCGCTCCAGGATGGGACTGCCGAGT
120314	MS4A2	CGTGTCCAGAACACTCTGATTCACA
120315	ZNF267	AATTATTTTAAACTGTGCTCAA
120316	MFAP3	CCAATGTCATAATGCACAGAG
120317	ENIGMA	CCACTCCCTCCACCACCACAGCACAC
120318	PGF	CCCTGCAGGGCCATCTGACTG
120319	SEPN1	GGGATTACAGGCGTGAGCAAT
120320	CHRNA3	GCCCCACCTTCTATCTAAGA
120321	TLX1	ACACTGTGACACACTACA
120322	FGFR1	ACGCCGCTGACTGCCACCCACACGCCCT
120323	CSF1R	GGTCAGAGGATCCCACTTCC
120324	SLC17A5	TGGCCAGCATGGTGAAACCCCA
120325	MKL1	TTCTGACCCAGGGCTGAGACA
120326	GNB3	AGGGTCCTGGCCCTCTTCTTATTCAT
120327	GPR75	ACCCGGCAGGCTTATCTGTCTTGGGC
120328	PDCL	AAGCCAGGCTTTTGAGCTGT
120329	RNMT	GAGCACGTGCATACAATCG
120330	LASS1	GCCACCACCTCCTCCTCCTCC
120331	PSCDBP	TCATTTTTCAACCTAAACAGC
120332	PFKFB2	GCTGCCATGTCTGGGGCATCTTCCTCA
120333	RAG1	TTCCAATAATCCCTTAATCA
120334	EIF4EBP1	TGGGAGGAGTCCCACCAGCC
120335	CD34	GCTACAATTTTCTCCCAGGAAGC
120336	SLC7A8	AGGCAGCTTTTGAGGTTGCAATCCTACTG
120337	GGCX	AGGAAGAGGTTAGACGCA
120338	CD164	TAATAAGCATGCATACTTTAAC

120339	GSTZ1	GAGCAGAAGCTGGGTGGGCTGAAGAGGCCTGG
120340	NUP50	GCTGCTGCTTCCACCGCCCCTT
120341	MGA	TCTGTCTTCATTGACAGGATTT
120342	CFL2	GCTGTTATTAATGCCTTT
120343	RXRA	CTGGATGAAGCGGCTTCCCCGC
120344	SFN	GGAGAGGGACTGGCAGAGCTGAGGC
120345	HNRPDL	GCTTCATCTTCTCCCTGTAACTGAGA
120346	RAI14	CTGTGAAGCTCAGGAAATCCAAA
120347	MAT1A	CAGTGCCCTGAGCCAGGGTC
120348	AMY2B	TGGGCTTTTATGATGTTTTAGG
120349	CAPN10	GCGAGTCTCCCTTAGCGCCA
120350	GAS7	CCCGGGCAGGTCCCGAGAGCTGGG
120351	MFRP	TCTCCACCCTCATCTCTCTGCG
120352	DSCR3	GGCAGCCTCAACCTCCCTGGC
120353	ATP5G3	CGGCGCCTCACTGGGCACGGGGC
120354	IL7	TCCTGCTCCAGTTGCGGTCATC
120355	EGLN3	GCAGTAAGCACAGATCGCACTGCCT
120356	CALU	CTCTAATTAGTACACTTGTGTTT
120357	HM13	CTGGTGCCCGAGCCTCTCAGGGCCAGA
120358	RASAL1	ATTCAGACTGGAGTGGATAGGA
120359	PER2	GCGTGAGCCACCACGCCCAACT
120360	ARHGEF5	AGAGAGGCCTTCTGTGGATGGAG
120361	ABCC3	CCAGCAGACTCTGGAGGCCTGTG
120362	ALPI	AAGACTCCCCTGCCTCCTCAAG
120363	SLC16A2	ACTGGGTGGAGGGGCAGGGAG
120364	ZFP36	CTCCAGTTTTTATAGACCTGA
120365	KCNMB1	GTCTCCAGGCTGTGTGCTCAG
120366	VIPR2	CAGATCAGGAGAGCAAGGT
120367	MECP2	TTCAGTTTTTGTGTTTTGGGA
120368	GBAS	TGTTTTAACTCACTCTCAT
120369	ARHGAP6	GGAAGCCCTGACATGCTGCAGT
120370	CNTNAP2	GGCTAAATATTCTTTCTGTA
120371	AP1B1	GGTCACTGCCTGTGATACATTCC
120372	DDX9	CTACCTGCTTTCCAGAGCCTTT
120373	PIK3CD	AGCCGGGGTACCCTCTAGAT
120374	RNF3	CCCAGCCTTTACCAGCAGCGTA
120375	CHAT	CCAGCGCACAGCCTGGGCAG
120376	LAMA2	TATCAAGTAAAACAAACAAATA
120377	PPP2R4	CCCTTCTCCACTGCCCCCTCCTGTGTC
120378	AP1B1	CTGTGGCTGTGATGTGGGG
120379	TBL2	CTCCAGTGACACCACTGTCCTCA
120380	EGLN1	AGCTGAGTTCATTTCATCTCTCCCTTTTT
120381	GCNT3	CTGCATGATTTCTCTGGGCTTGCTGTC
120382	C11orf8	CTCTCCCCTCTCCCATTTT
120383	BCL9	CAAGTGTCACCGCAGCAAGA
120384	GCN5L2	GTGGCCAGGGATGAACCTTGCCCAGCC
120385	FGF2	ACTTCCCAAAAGCTCCAGGATTT
120386	G2A	GACTACAGGTGTGCACCACCAC
120387	CD81	TTCTGCCCTGGGGTCCCAGGGT
120388	FXYD6	TGAGCCACATGGCCATCTGC

120389	ROBO1	TTCTATGATCCTTTTTTGTCA
120390	IGFBP1	TTGCCCAGAGTTTGGGCCA
120391	LILRA1	TGCTTCTCTGCTGATCTGAGTCTGCC
120392	RARA	CCCACCCCCGTGCCCCCT
120393	RNF18	AGAACTCCAGGAAACATGAATTCTGG
120394	KIF1B	CCAATGTGATGAAACCCCGTCT
120395	PRKRA	TAAGCTCTTTTTAATGGCTTCA
120396	SPON1	GTGTATTTTTCCCTTGCTTTTGG
120397	PNUTL2	GCTGTTTCTGTGTGTGAGGAACTT
120398	TUFT1	TTCCCAAGCCCCTGGCCA
120399	CYP2B6	GTCACCCAGGTTCGAGTTCAGTG
120400	DPH2L2	AAGGAGGGAGAGCAGGCAGC
120401	SLC13A3	GGTGTCACCTTCCCTGAGA
120402	ITGAL	CAGCGAGACTCCGTCTCAAGGA
120403	HR	CCCGCACTGGGGGCAATTGACTT
120404	SCA1	TGTTCACACTTTATTACCAAGC
120405	IL10RA	TCTGCAAATATCTCCCTCTCTC
120406	CNTN2	GCTCTGTCTCCCTGGGTGACACCC
120407	EBP	TAGAACACAGATACAAGAGAAGC
120408	WHSC1	GTCTGTGTCCGCTCAGTCCCT
120409	DPYSL2	CCAGAAGCTTTAGAGGTATGAGGCTGC
120410	EIF4A1	ATGTTGCTGACCTCATCTGG
120411	AKR1C3	AGAAGCAGCAGCAAACATTTGC
120412	PROK1	TGCACACAGGCAGACATACCTCCCATC
120413	GALNT1	GCCTTTATTTTTCTAATTAAAGAAT
120414	SIAT1	CATCAGGCATTAAATGAATG
120415	OXTR	TCCTTGGGGTGGCTTCAGTGGGG
120416	FN1	CTGCAGCCACAACTTCTCTGGTCCT
120417	PRND	GTGTGTGCCATCATGCCT
120418	ATP7A	ATATCAAATTATTCCTTCAAGTTTCCTA
120419	AXIN2	GGAAAATTAAACCAATGA
120420	ADRBK1	GGGGAGGAGAGAGCAGCTTCTGC
120421	NPTX2	GGCTCAGAAAGGAGAAGGGC
120422	PON1	GGCTCACTGCAACTTCTACCT
120423	SMARCA5	CCCCGCCCACCCTCGTCGACGTG
120424	HNRPH2	TCCTCAAGTTAGTTATGTTGTAG
120425	LDLR	CGCCGTGTTACTGTTGCACTGA
120426	SVIL	TTTGTTTTGGTGTCAAAATAACA
120427	C18orf1	TGGACTTTTATTTTGTTTTAA
120428	GPR81	TCATTGTGACTTCCTGGTAGCCC
120429	BDKRB2	CTCCATCTTGAAGGAACTCAAAGACT
120430	HDGF	GGATCAGGGGTAGGAATGGAAGG
120431	APTX	AGTTGAAAGCAGAGTGTAACAAGGGA
120432	NOS1	TTCTACCCTGTTTGTTGTGTCTTGCTA
120433	PTTG1IP	GCTAGATTTGAAAACAACTAAGCGCTC
120434	GALR1	TGACTTCTAAGGGGCGCGGAT
120435	TBX22	CCCTCCAGGGATGGCTCTGAGCTCTCG
120436	MAP2	TTCTGAGTGAGAAGATAAAAA
120437	SLC3A2	GGAGGCTGGTGTCCAGGGTCTCA
120438	BCL2A1	TAGGGAGGAAGGATATTATAAAGT

120439	OPA3	CCAACATGGTGAAACTCCGTCT
120440	IGFBP3	TCAAGACGAAGCTTATTTCTGAGGATA
120441	MICB	GAATAGCTGGGATTACAGACAGGCACC
120442	SCRT1	GCGGCCCAGACGTCCAGGGAGCCGGC
120443	RRM2B	TACTACTGTTAGCACCACTACTAATTA
120444	LY9	GCTGCTGCCTCTCTCCTGGG
120445	BENE	CTCCAAGGCTGGAGTGCAGTGAC
120446	SP1	AGAGACATGGAAGAGAGAGCCATGAAGCAT
120447	ALOX15	ACACATTTTACTCTAGAGGCAT
120448	PLA2R1	CCCGAGTGTCGGTTCACTGTGG
120449	PSMB9	CCCAGGCGGCGAGGAGAGCGGTG
120450	RAB23	GCTCACTGAGAACCCAGCTT
120451	MASP1	CGGCTCATCAAACACACTCCTTT
120452	FGF13	ATAGCATGTACAGGCAGTTT
120453	CYP4F3	CCACAGGCGGAGGTTGCGGTGG
120454	PRKY	CTGGGGCGAGAGGATTGCTTGA
120455	JPH3	TCTCTGTACTGTGCCTGCCTCA
120456	TNFRSF6B	GTGCACAGACCTGACCGGCCGG
120457	YES1	GACATGGGCCAGGTTTTTCAA
120458	C7orf2	GGATGGTTTCTTGGCTTTAAGTCCA
120459	EPHB1	GGGGGACCAGAGGTTGACCACTGTGG
120460	EIF5A2	AGCCAGGCTGGAGTGCAGTG
120461	CPNE6	CCATTAATAAAGAGAACTGCTCCTAGC
120462	RENT1	CTTTCTGCGGGGCATCAGGCTGCTGGGG
120463	ATRN	TGCCCTGCCTACCTTCTGA
120464	SON	ATAGGTATTGTAAATGGAAGCGC
120465	MLANA	TCTCAAACTCCTGACCTCAGGTGATCTG
120466	BMP1	GTATGGGAGCCAGGAGTCCTGG
120467	GABRE	TATTGCCTTTGCAGTGCTTT
120468	DVL3	CCATGCCATCCCTGCCTGTGC
120469	IVD	CTTGCTCTCTAACTTCTGAGCCC
120470	PTK2	AACGGAAGGGAGAATATGACAGA
120471	TMP21	GTCAATGAGGGACTTCTTTTTAA
120472	ABCD4	CAAGGTCGGATTCTGGGG
120473	GPR62	ATCTGGGTTACAGCCACAGCAGGA
120474	AQP6	AAGCTTGGCACTAGAGCCCAG
120475	PPARA	CTGGAGGCTGGGAAGTTCAA
120476	MECP2	CAAGCAGATTCGTGGTCTTTTCCTC
120477	ADORA1	CTGCTGCTTCTGGGCCTGATGGA
120478	BACE	ATAATTTCTACCCATGTTGGGA
120479	CD28	GTTAGCTATTGGTATTATTGCCATATAGA
120480	MADD	CAGGAAGAGAAGAGCCGTGTGGCC
120481	ACVR1	GCCCACTGCAGCCTCCACCTCC
120482	LTB4R	GCTCACTGCAGCCTCCACTTCC
120483	EPHB2	CCTCGAGGACTGATACTGCAGTGA
120484	CYP1B1	TCTGGTATACTTCCTTACTTTTAAG
120485	GALNT7	ACTCAGGGGTTCTGAAAGGCAGTTT
120486	MAFK	CTGCACGCCGGTCCACAGACACA
120487	ATP1B2	TCTCCTCCTCTCCATCCC
120488	FCMD	AGTCTCTCCCCTTCCTGAAGTGA

120489	CTMP	TGACCAACACGGAGAAACCCCGTCTCT
120490	TRAP1	CCTAAATTTAAAGGTATTT
120491	NAB1	TAATGGTAAAACAACATACATCTGCCA
120492	FACL2	TACATGTATTATATACAAGCACAA
120493	CACNA1S	AAGGCTGTGTGCCCACACAGCATCAG
120494	JAM3	TTCCAAGCTACTAGTGTTAA
120495	PSEN2	TTCTCAGACGTCAGGAGAGTGATG
120496	DAAM2	TGGCCTCTCCCTGCATGTCTTAAGT
120497	VHL	CTGGAAGGTGGAGCTTGCAGTG
120498	FNTB	CCTCCAGTGCCCACCTGCCTCAC
120499	SNRPN	CCCCCTGTCTTCCCTCTGGAGCT
120500	VIPR1	GCCCCGGCCCTGGGCTCGGA
120501	PTGIS	GGGAAGGGAAGGAAGCAAGCCGGC
120502	STC1	CCACCCCCAAACACAAAACA
120503	ADAM28	TCACTTTTTAAATGGAGAAAATTTC
120504	GABPB1	TCTGTGCCTTCCATCATGATTTCC
120505	ZNF189	AACCTGTTTTGTTTTTCGCTTT
120506	BCL6	TGGGACCACAGAGAAATGTCAGAG
120507	CNGB3	TAGCTAGTTCCCAAAGTGAT
120508	BACE2	TCTGTTCTGCTCCCAGATGCCTTCTAG
120509	IL10RA	GGGCCTCTGGGGCAGGAAGCTTGTCACT
120510	COL11A1	AGAGGAAGGATCAGAGGGTCGCGG
120511	SLC2A8	CTGCCTCCTGTTCCAGCTCCTGCTGCTGC
120512	EXTL1	GGAGGGTGAACGCTGTGGGCA
120513	GALNT3	GTTCCTTAAAATTAAGTTGAAAAAGGA
120514	CRY1	CTCAAAGTTTGAAGTCAGTGG
120515	ADRBK1	CCCAGCTGACAGTCCTCTCCAC
120516	UBE2L3	AGAAATGTTGCCATTCTTGGAA
120517	EN2	AGTTGGTTTCTGTTTTTTGT
120518	DHFR	ACTGCAACCTCCGCCTTCCCAGATTCA
120519	MAFF	TGCCTGTAGTCCCAGCTACTTGG
120519	NPHS1	TGCCTGTAGTCCCAGCTACTTGG
120520	NPC1	GGTCGGTCGGTTTACCACTGGAC
120521	C14orf1	TCATCAGAAAGTCCTCCCTGA
120522	INPP5B	GCCTTTAATCCCAACACTTTGG
120523	WBP2	TCCCATCGGGGCTGTGCTGGGGCTTGGG
120524	TNFRSF10B	TCCCAGGCTGGAGTGCAATGGT
120525	BRIP1	GGCTCACTGCAACCTTCACCTC
120526	FCAR	GACTCACTGCAACCTTCGCCTC
120527	GART	GCCAGTCTGAAATCCTGGGC
120528	SLC9A1	TCTCAGCCTGGGCTCCCAGC
120529	TPX1	GTAACATCATTGCCATTCC
120530	DLGAP2	GTCTCCTCCTCCCGCTGAACACG
120531	SIAT8E	TTGGTTCCTGTGTTTTATATCGA
120532	CIAS1	TCGAGCCAACAGGAGAACTTTCTG
120533	JMJ	CTTCGAGCTCATCATGAGATGCCAA
120534	ZNF217	CTCAATCTTTGCCTAATCCAATGA
120535	KCNJ12	GAAGTGGCCTCCTGGGGGGCCAG
120536	DAAM2	TCAGCTCTGGTAGGTTCCAG
120537	CKTSF1B1	CCCTCCAGACTCTGGGAGAGGCTGGT

120538	PSD	GGCCTCGGGCCACCCACGAGG
120539	GLRB	ATCTTTTAAATTGGAATGCAGTA
120540	COCH	ATTTGGCTTATATTCTAAGTC
120541	COL1A1	CTTCCCAAATCTGTCTCCCCA
120542	MGST1	CTCTGCCAGCTGGAAGTGCTTG
120543	PDGFRA	AGCCTCCTTCTTTCACCCCTTA
120544	FSTL3	ACTGCCTCTGTGTGCCCCTTTGCGTCC
120545	LRAT	TCACATATACACCAGACTGAGA
120546	MIR16	GCCTGTATTCCCAGCTACTCAGG
120547	ATP5G3	CCCGGCCTGGCCAGGGCGGAGCG
120548	DCLRE1C	CCTACTTCCTGTCCCACTGCCAC
120549	PAX4	CCTCCTTCCTGTGATTGCTCCCTCCTG
120550	HNRPA2B1	TCATCTCGCTCGGCTGCGGGA
120551	TGFB1	CCCACCAGGAACCTGCTTTAGTGGGG
120552	EIF4G1	AGATCCAAACCAAGGAGGAAA
120553	MAFF	GGCTCAGAGCGGAGGGGAGAC
120554	ALPP	CCACTGCACTGCAGCCTGGGCG
120555	MUCDHL	GACCAGCCGGCCAGCGGGAGCCCCCTT
120556	NPTX1	GCCTGAAACCCACTCCTCCATCT
120557	GRP	CTCCAAGGGCTTCCCGTCGG
120558	SFRP5	AGCAAGCCCAGCCCAGCCTCGGC
120559	ICOS	TACATCTTCTGCTGGTGTTTTGTTCA
120560	CD2AP	TTTAAAAAATTGTTTGCTTGA
120561	PRKY	CAACATAGTGAACCCTGTCTG
120562	JAG1	GAGGGGGAGCGTCTCAAAGAAG
120563	IL6R	GCCTGTAATCCTAGCACTTTG
120563	ROCK2	GCCTGTAATCCTAGCACTTTG
120564	ITPR2	AGTACACTTTAAAATATTTTA
120565	OSCAR	CATTTCCTGGGAGGGGAGA
120566	SLC7A5	GTCGCAGCTACCCTCAGCCT
120567	GLUL	CAGTTAATCTTGCTTTCTTTGTTTGGC
120568	EGR2	GAGACTCAGGCTGATACACCAGCT
120569	DDB2	CTCTGGACTTGCCTCCAGAGA
120570	RASGRP1	GTACCCTCCTTCCTCACTACAGTCA
120571	FMO5	TATTGTCACTGCCCTGTTTTT
120572	HS3ST3B1	GCACGACTTTGGCTGGGATTGGCAG
120573	RABL2A	TTGGACCTTGTGCCTCCTGTGG
120573	RABL2B	TTGGACCTTGTGCCTCCTGTGG
120574	NESH	CGAGCGGGCTCCCTGGGGAGCCAG
120575	ADAM12	AGAATGTTGATTACAGTGCAGTGCG
120576	SLC1A4	AGGCCAGAGATGGGCCTCCTTCCCTGG
120577	TAF1	CCCTGTTCTCCAGCCTAGGTG
120578	CALM3	TTCCAATAAAATACAGTGACTACCTGA
120579	CAPON	CGCCCGCATCAGCTCAGCCCGC
120580	FOXF1	CAGCCTCTTCTGTTATGTTTTGTCTTG
120581	CENTD2	CCCCAGCCACAGTCTGAGGAG
120582	CHGB	GACACAATTGGAATTGTCTTTA
120583	GUCY1B3	GCAGACACCATGTACGGATTTGT
120584	TACSTD1	ATGTGTAACATTCAAATGTGTGC
120585	LATS2	AAAAACTGAAGAACATTGATGAG

120586	ITGA6	GGTTTATTCACTGAACTCTAG
120587	FOXE3	ACGTAGACACACCTGGCTGCCTTC
120588	RP2	TGCCCAAGCTGGAGTGCAATGG
120589	AKAP1	AGATGTACCTCTGTTACTCTCA
120590	KCNJ8	TCTCACTTCTTCTTCTAGAATCCCC
120591	SLC3A2	TTACCCAGGCTGGTCTTCAACT
120592	EGFL5	CGCCATTTCACTCCAGCCTGGG
120593	TIMP3	CAGATGGCTTCCCATATCCCAGA
120594	TMEM2	ACTCAGAACATGAACCTCTTT
120595	NEF3	CAAGCTCAGGGTGCTCCCTCCTC
120596	P3	CCCAGCCCCCACACTCCACCA
120597	KRT15	CTCCCCACTCTCATCAGGCCAA
120598	FOSB	CTCTCCAGGAAGGCAGTGAGGGGCTGT
120599	HPS4	TCCCACTTTTGGCTTTCCTGGA
120600	EPHA3	TAGAGCTTCCGAGAATAGCTCCACT
120601	NRXN3	GCAGGTGACAATCTCTGTGGATGGCATT
120602	IER3	GACTCCCCGCACTCCCCAAAAAG
120603	NFE2	CTGAGAACGTAAAACTGAGG
120604	CTNS	TACCCAGCATCTGGAGTACAGGACATA
120605	USP6	ACCCAGGCCAGCTGATTCATCA
120606	MAGEA9	TCGGGACAGGCTAACCAGGAGGA
120607	GA	GCTAGTGCTTTCTATGGGAGTCAAAAT
120608	PCSK2	TCATTTTTTGCATCAGTATTA
120609	IGLL1	CCCTCCAAACAGAGCAACAACA
120610	ERBB4	TTCTGAACTCCATTTTGGA
120611	PTER	ATCAAGCTTTCTGTGTATTGGA
120612	CNGB3	ATCAAGTTCTGTGTAATGAGG
120613	ADAMTS3	CTGACCTTTGGGCTTTCTTTTC
120614	EGR4	AGGTGAGTGCCCGAAGCCAGG
120615	RAD51L3	CCTGCCCTCGGACGCTCCTGGA
120616	CCND2	GATATGAGTTCTTCGTACTGGA
120617	FOXO1A	AATGTGTGCAGGTTATGTGCTGCT
120618	MAPRE1	CTGCCAGGCTGGGGTGTTTTCGGT
120619	KLK3	TCCAAAACCTTCCTCTTCCA
120620	EPHA2	GTTTTTAAATATATATTTTGTA
120621	PTGS1	CTCCTCTTGATTCCTGGTTTGACTCAG
120622	ATRN	CAGCATCTAACCTTTTACTT
120623	EPM2A	TTTCAGGACTTGTTTTTT
120624	MICB	CCAGTTTCAAACTCCTGACCTCA
120625	GJB1	AGGAGCAGAGGGCAGGGGTGCTGTG
120626	FBXL11	GGAAGGCAGCCCTGGAGTGG
120627	CD3Z	CACACACAGACTGTTGTCCCTGCA
120628	C5R1	AAACTCAACACAATTGTAAG
120629	PMP22	GGGAGCCTGGTTGGAAGCTGCAGG
120630	PML	GGCTCTTCCTGCACTGCCCTCA
120631	PPT2	GGTGCTGCTGCTGGAGGAGAGGC
120632	TOB1	GCGTAGCAGCTATGCAGCTTGA
120633	TNFRSF1B	CCCTCCACAGCCGCAGCCTCCCTCTG
120634	IDH3G	GGGGTGGCAGGGCCTGGTGTG
120635	PKNOX1	GGAGTCTGAGGCAGAGGATGGCATGTGCCAG

120636	NAB1	CCTACTTCCTACAGATGCATC
120637	DDX1	TTTCCTTCCATCGGAACCGTTCT
120638	CALCB	GGTTATTTGGAAAGTGTGTATT
120639	ZNF137	AAGAGTTTTCCTGTAAGTA
120640	PFKFB4	AGAGAGGCAGCCTGGGCAGTCTG
120641	NIPSNAP1	TGCTGCCTACACCTCCACCTCCTT
120642	DBP	GAGCCTGGGGGCAGGTGCCA
120643	PEA15	GGTGTCTAGCATTAACTTATT
120644	ARNT2	GTGGCAAAATGGAGGTT
120645	XYLB	GGTCTCACCCCCTAACCTCA
120646	FLT1	AAGATGCACTGAAAACTTAGCCAG
120647	APPL	GTAATCACTTTTAACACTGCTAATAGA
120648	CDH17	TCAGCAACAACCATCTCA
120649	DNMT3A	TTTAAAACAAAAACCACAG
120650	CD3Z	CACCGCTGCCTCAGCCTCTGCCTCC
120651	PITPNB	CAGGCTCCTGTTAGACAAACACATTGA
120652	DDEF2	TCCTACTGAGTGTACCACTGCCTTC
120653	ZNF278	ATGTGGGAGCTTCTTCCGCTCT
120654	MDM2	TGAAGGAAACTGGGGAGTCTTGA
120655	ANGPT1	GTGGTAGAAACAAACTCCATTA
120656	SET	GTTTCTTTTTGTTTCACTGG
120657	FGF1	GAATGTTTGTTCCTGGAAAGGCTGG
120658	CD3E	CCCTGCGACTCCCTGTTTCCTGGGCT
120659	CORO2A	GGCTCACGCCTGTAATTCCAGCATGTT
120660	RNH	TGGGCAGCCTGCCTGGCCCGC
120661	SLC6A6	GACCTGTTTTCCTTTGTCTTATATA
120662	EXTL3	GTGTCCTTCGAGGAACCCACC
120663	FZD4	GGAAACTCCTTAGAGAGCATTTT
120664	TEM1	CCCAGCTGGACAGATGGCTTCC
120665	PCDH7	GCTACCAAAGAGACAAAGCTTT
120666	IRAK4	CAGGGTTAGCAAAAAGAGCCTGG
120667	EVC	GTGACTCCTTCCCAGTGGCCAA
120668	LRRC2	TCAGCGGGTGTAAACAGCCTCTGCGGT
120669	FOLR2	CACAGCCGTGTATGCTCCCAG
120670	DLST	TGCTTCTTCAATGGCACCTTCAT
120671	ADAM11	ATGAAGGGAAGTGCATCTG
120672	PER2	CTCTGCCAGTGTCCCCAGCACTTT
120673	CYP7A1	GCTTTTTATCGCTAAATGACTTGCA
120674	CARS	ACTGACTTTTTAAACCATTGTGGACT
120675	FCRH1	AGGAGAACTAATAGACACAGGAGTGA
120676	SLC25A19	GTTTTTCCAACCTATTTAATAGACATTAAAG
120677	ISGF3G	CTTTCATCTGTAAGGGACTA
120678	GABRE	GGTGCATGGCTGTGGAGCTCAGGG
120679	MBD4	CCAGGAGGTCAAGGCTTCAGTG
120680	IL17BR	TCCCTCTGGATAACAACAAAAGCAAGC
120681	GNAI3	AGTAGTTTGGGCAGTGCCTT
120682	TNFRSF8	CCTGGTGCTGCCCACCTTCCC
120683	TCF7	CTAGATCAAGGAGCCCAGAAAA
120684	CYP1A2	AGCAGCCTGGCCAACATAGTG
120685	C10orf2	CCACGCGTCCGCCAGCCTAGCAG

120686	SLC22A5	GGAGAAACTGAAGAGGAAAGA
120687	MYO1E	AAGTGATCCTAAAAGGTAGCCTCT
120688	TNFRSF10D	ATTGCTTGAGCTCGGGAGTTTG
120689	AVPR1A	AGGACAAACACCGACGTAGGG
120690	CYP4F3	ATGTTACACTGGCTGGTGTTGAA
120691	ADCY8	CGTCCGCCTCCTCGACCCTA
120692	FECH	GTCCTTGCCTGTAGATATTTT
120693	WBSCR14	TCTCTCTGCTCCTTCACTGC
120694	GSPT1	AACTCTGCTTCCTTGGACAG
120695	NCOA3	TTATTTAAAAAGAATGGATAAATGC
120696	ETV5	TTCTCCTCTATTGGAAGCTAATTAGCC
120697	GA	TATGACTCGCGCACAGCTCTGC
120698	SLC2A6	AGGCAGCCCACAGTGCTGCA
120699	FN1	TCTCCAGCTTCAGCTCAACTCACAGC
120700	SLC18A2	GGCACGAGACCCGGGCAGGCATCG
120701	GRIN2B	CACCACCTCTTTGGGCCTGGCT
120702	CKAP1	CCATTGATTTTTGAGACTCATGCAT
120703	SLC9A5	CAGCACCTGCCCTGTGTTTTGT
120704	EGFL4	GTGTGTGCAGTGGCCCCCCGG
120705	VPS41	GAGCAAGCTCATTTCCAGAAAAG
120706	FBXL7	AGCCCAAAGATTAGCTTCAT
120707	CXADR	AGAAAACACTACAGTGGTTT
120708	BRCA1	TGACCTCCTAGGCTCAAGCGAT
120709	CDH1	TAAACTCCTGGCCTCAAGCAAT
120710	L1CAM	CATCTGCTGTCTTTTCTTTGCCA
120711	TRPC5	GCGCTTGAAGGGGCTCAGGTTGGGTT
120712	RPIP8	CTCCATGAGGGCAGGGACCG
120713	FPGS	GGCCTCCTCACCCACCCTGTGG
120714	TNFRSF18	GGGTGAGGACGGGGACGGGGCGTGTC
120715	BDKRB2	CTCACTGATGGACAAGGAGGTCTGTGC
120716	ARF4L	TGGGGTGGGGATGGGAGATGGGAT
120717	SET	TATCTGTCTACTTTCTCTTGTTT
120718	ADAM11	TGTCAGCCAGACTGGACAGGCAA
120719	G6PT1	TCTCCGCACCTCTCCAGCTCCTGCACCC
120720	ADCY1	GAGGCAGGATGGTCTCCAGACACCTTCTTGCA
120721	ACTN4	GTCCTCCGGGGTGGGTGGGT
120722	CA7	CTCTGCCATGCACGCACCTC
120723	MRPL49	GGAGATCTTCTGTTCAAAGTACA
120724	BCL2	TTTGGAATAAAGTCACAGA
120725	TNFSF10	CACTACACTCCAGCCTGGCGACAGAGC
120726	FMR1	TCACATGTTTTCAAATGGAGTTGGAGTT
120727	FBXW7	TTCTCCGTTCTCTCTCATTATTCC
120728	RAB38	TCACCTTGCCCTGGTGTCTTTTTCCA
120729	BCL2	TGGGAACACTGGTGGAGGATGGA
120730	TNFRSF11B	TTTCCCTTATTACTGCTT
120731	NDP	TAGCTCTCAGAAAAGTCTG
120732	CLECSF12	AGCCCCTCAAGTAGCTGGGACT
120733	PAIP2	GATTCACTGCATCATAGCTATGCCTGT
120734	RAMP2	CAGATCCCTGGATTGCTGGGA
120735	BHMT2	ACCTGCAATCCCAGCACTTTGG

120735	F2RL3	ACCTGCAATCCCAGCACTTTGG
120736	PHLDA3	AGCCCCCTCCCTGCTGTGGTCCT
120737	EEF2K	GGCCCCTGCGCCCTTCCTGGGATCACTCCG
120738	SLC7A5	GGGGTCCGTCTTCACACTGCGCA
120739	GRM6	ATGCCTGTGGGCCTCTCTGGCA
120740	IRS2	GGGCGCAAGGGTGGGAGGGAGCCGC
120741	BPAG1	TAGTGCCTCATGAATAAAGTT
120742	CLASP2	GAGCCCCGCAGCATGGAGTAC
120743	PPARA	GGCCCAGGCTGAAGCTCAGGG
120744	SNX5	GGGAGGTGCCAGTTACAGCAGGTGA
120745	H1F0	AGCTGGGAAAAGGGAGGCAGAG
120746	USP7	CCCTGCAGCTAGCAAGTCTTGTGTTTA
120747	CD97	TCCCGTGTGCCACCAGGAG
120748	BCL11A	TGTGGTTTTCCTAACTGTCTGACT
120749	DMN	AAAAAGAGTTTCGCTAGCAGCGC
120750	MAFG	GTCCAGAGTTGGTGCTGTGGG
120751	TLR4	CTGAGTATTTTTCTAATCTGACC
120752	GFAP	TGGAGCCACCATGCCCAGCT
120753	CCNT1	GTGCCTGCAACCTTCGCCGCTGCCTTC
120754	ZNF268	CATCTTGTCATCTTCCAGAAAAC
120755	MHC2TA	TGCCCAGGCTGGCGTGCAGT
120756	GUK1	AGGGCAGCAGCATTGA
120757	CSDA	CAACAAATTTTTCCAGCAAGCTGA
120758	TRPM7	CGGGAAGGGAAATGACTTGTTCTAATT
120759	CREB1	AGGAGGCAGAGGGTTGCAGTGA
120760	HPCA	GAAAGAGACACGGTCCCCCTGGCT
120761	PDE1B	GGTTAGGGTCAAGGGTGCCTGGG
120762	CAPNS1	ACACGAGGGCCGCGGTGCAGTG
120763	ADCY6	GTCTTGAACTCCTGACCTTGTGA
120763	PPID	GTCTTGAACTCCTGACCTTGTGA
120763	WHSC1	GTCTTGAACTCCTGACCTTGTGA
120764	PAX4	TGATATTATATCATGGCATTT
120765	SLC7A8	CACTTCTCCTCTCTGGGCCTTGGCTTGGG
120766	B3GALT2	CTGACCAAGGAGAATGACTACA
120767	TIMP3	GGCAAGGGCTTTGTGTTGCTT
120768	MGAT3	TCTTGAGGGGACCAGGAGTGGGT
120769	SERPINB9	GCAAAGTTCTTCTAGAATTCCA
120770	JRKL	CAATTATACCTTCTGTAACAGTG
120771	ADCY1	GGCCAGGCCACATGACCCCA
120772	LIF	CCAGGGCTTAGCAGGGCCTGG
120773	REQ	TGTCTTTTCTTTTTCTTTCTTT
120774	TR2	ATGATAAAGTTCCATAAATGA
120775	TNFRSF6	CTTTGCCACCTCTCCATTTTTGCC
120776	RAB36	GCACCTTGCAGGCAGCCTTCTGATCAG
120777	GNAL	CAGAGTGACCAGAAACCCT
120778	WHSC1	CTTTGCTCTCCTTGCGGGTGGTTGCC
120779	GATA2	TTCCTCGGGATTGGCGGGTCCACTT
120780	CD1B	AGCCCAAAAATCAATCTTAT
120781	DVL3	GTCTGTAATCCCAGCACTTTG
120782	FUT3	GCCTGTAATTCCAGCACTTTG

120782	LILRB1	GCCTGTAATTCCAGCACTTTG
120782	PCDH11Y	GCCTGTAATTCCAGCACTTTG
120783	CLASP2	GGGCTGTAGCAGAGAGGCTAGTC
120784	NRXN1	GAGCCGGCCGGGGCTGAATGGAG
120785	OAS3	CTAGAGCAAGGCCCACCAGGTC
120786	FREB	CCTTCCACCATATGAGGACG
120787	CACNA1S	GCCTGAGGCAGGGTGGTCAGG
120788	PCTK1	GACACAGCCCCTATTTGGAACCCTGAT
120789	LANCL1	TCAGATTGCTGAAGTGCTGCTG
120790	MAP2K1	GGGCTTCACCAGTCTGTCTA
120791	PRDM2	CGTGTTCTGCAGCCCAGCCT
120792	MYO1D	TTGCCCAAGGTGAGCCAGCCCTG
120793	CPLX2	TAGCCCAGGCAGGAGGGAGCGC
120794	ABCC12	CCCAGCTAATGGATTAAAAAACTG
120795	TIMP3	GACTCCTGTCTTTTACCCTCCCCTCG
120796	EGFL4	ACCTACTCTGTCAGGCACTGTCATAG
120797	COX11	GAGTTTGATACTATTAAAATAAGC
120798	CCR2	AGCCCCATCTGCCACGTGTATTT
120799	CDK5R2	CTGTTTCTCCTCCTGCACCTGTGTC
120800	PKIG	ACCAGGATAAGTGACACCTAGGACCCA
120801	HTR1D	AGCATCCCAAAGTGCTGGGATT
120802	F2RL2	CCAAAGTGCTGGATTACAGGC
120803	DHFR	CTGCTGTAACGAGCGGGCTCG
120804	MGAT5	TTTCCCCTCAGCTTACAGTTCC
120805	NDRG3	AGGCTGGAGTGCAATGGCGCAA
120806	RABL2A	AGGCTGGAGTGCAGTGGCGCAG
120806	RABL2B	AGGCTGGAGTGCAGTGGCGCAG
120807	HARS	AGGAAAGGAAGTGGGACTGGCA
120808	ROS1	GACCGGCCATCTAAAAATCTGCCA
120809	NPM1	TGTGATTCCGTCCTGCGCGGTTGTTCTC
120810	CMAR	GTTGCCAAGGCTGGAGTGCAGGC
120811	GNE	AGGCTGGAGTGCAGTGGCTCAA
120812	SLC2A1	CTGGGCTGCCGGGTTCTAGTCTCCTTT
120813	IGF1	AAACTTAGCAAAATTAGCAATATATT
120814	IL5	TTAACTTCAGAGGGAAAGTAAAT
120815	G6PC	ACATATACAAAAGCAAGACTTCC
120816	TNFRSF6	ATGTCCAAGACACAGCAGAACAGA
120817	SOX9	CTTTGTTGTTTTTGTTGAAAACAAACT
120818	NCOA6IP	TGTTGCCCAGGCTGGTGTCAA
120819	GSTM4	CCTGCAGTCGGCAGATCATGGG
120820	ZNF217	TTGACCCTCTATGATATGTGCT
120821	RARB	AGGGTCTATTCTTTGCCAAAG
120822	ASK	AGAATTACAATGAATAATAATTTGCTTT
120823	FGF12	CCTTTGTACCTTACCACAGTCTT
120824	GJB6	CACTGGCAGTCGTTGGAAACAGGACTC
120825	PSPHL	ACTGATTTTGTAGAGCTG
120826	SNX15	GGACTGCCAGCGGGAGCTCCAGA
120827	TNFAIP1	CCTGGGTCTCTGCTCTAGCACCCAGAG
120828	CRSP6	GCCCAGTCTGGAGTGCAGTGGTGTG
120829	ATM	GCTGGGATTACAGGCATGAGCTA

120830	THBD	CTCCACCCCATCCAGTTCATGAGAAT
120831	CD164	TCTTGAGCCATTAATTTTTGGG
120832	DSCR1	CCCTTGTTCTAATGCTGCACACCAGTT
120833	ELF3	AGGTGTGGGCTTACAGACACAT
120834	CYP11B1	GCCTGGCCACCAGCCTCCCTTTC
120835	PKIB	ATACTAGTTGTTTTACACTCTCT
120836	LHX1	ACAACAGCAATCAACACCAAGA
120837	P3	CCGCGGGGCCCAGGAATGGCGTA
120838	HDC	TTCTCATAGGGGCTCATGACC
120839	NRP2	CTCTTATCAATCCCAACCATCCTCC
120840	TCTE1L	TGCTATCTGCTCTGTTTCTAGTTAAAA
120841	ATP2B4	TCCCTCACTGGGCCCCCAGAG
120842	SPOCK	TCTTCTCCATTGTTGCTCTCTATACCCG
120843	RAB6A	GCAGAATAACAAAAACTTTGCTCAGGA
120844	SLC22A3	GCGGCGGGCGCACCATGCCCTCC
120845	NFYA	GATCACATTCTGCCCTTTACTAC
120846	SEPN1	ACCATGGCTGGCTAATTTTTGT
120847	CRHR1	TGCCCTGCCTTGCTGCCTTCA
120848	PLGL	GGGTATGGAGGTTTCTTGAAGACCT
120849	TCF2	CTCCTCGGGGGAAAGCACA
120850	ENTPD3	GGCAAGATACCCATTAAGCATTTC
120851	PCDHB12	ACACTATTTTCACACTTTT
120852	MHC2TA	CAACAGGCTGGGCTTCAGTGGC
120853	MYCN	TGTGTCTGTCGGTTGCAGTG
120854	NPPB	AGCAGCAGCAGCCTCCGCAGTCCCTCC
120855	TNFRSF10D	TGCTTCTTATATTGCAAGCTCCATCT
120856	CTF1	CGCATCTCAGCCACCTTCCTCAGGCTCA
120857	DTR	TTGGGCATGACTAATTCCCACTG
120858	MYD88	TCAGCCAGGCTGGAGCAAGGT
120859	FAT2	CAAGTGTCTGCTCCACGTCAGG
120860	PIK4CB	CCATGCTGCTGCCCAGCTCTACCCCTC
120861	ADAMTS5	TAGTAATCCTGCCAAATGTGCCTATT
120862	FUT4	GCCATAGTGTCACTTCCACACAAT
120863	CAPN10	TGTGAGCTCTCACCGGGC
120864	PTPN18	TGCCTGTTGCCTCTTGTGAG
120865	BENE	TTCCCGCCATTCTCCTGCCTCAGCCT
120866	MGAT5	CAGCTGACACAGGAGCCAGA
120867	UTF1	CCTCCTGCTGCCTTCCCACCCTC
120868	C11orf13	TGCCCGGACCACAGAAGGAGAGT
120869	TACSTD2	TGTGCTACTGTGAGAACTGGAA
120870	DPH2L2	GAGGGCTGCTCTAGAGGACTCA
120871	GNAL	GGAGGGAGAAGAAACGCCTGCT
120872	GCK	TGCCACCCTCTCCATGCC
120873	KCNK3	AGGCTGAGGTGGGAGGATTGTT
120874	MOCS1	AGCGGGTGGCTGTGGCTTCAGCCGTGG
120875	PBX2	TCTTTCTTACACAGAAACATACACATA
120876	MME	TAAATGATGAGTATTAGTTCCCTGTCT
120877	RBL1	TTTCTATGATAAAAGCACTTTC
120878	GRAF	GAAAGAGAAGACATTTCTATGG
120879	TLR4	AAACCCAGAGCTTTCAGACTCCG

120880	SLC2A3	GAGGGATTGGCCGCTTGGCAC
120881	NRXN2	CCCTCGCTCTCCCCTCCCTGCTTGGCC
120882	PUNC	CCACCGACTTTGTTTTCTCAGG
120883	GABRE	ACCCTGTGGGGCAACCTCTC
120884	RNMT	AACATAGTGTCTTCATTAGTGTGCATC
120885	SHOX	GCCCAGGCTGGAGTATAATGGCATGTCTCGAC
120886	ZNF264	TAATTTTTACTTTATCTCTCACA
120887	EPB49	TCCTGCTCCTCTGACTCTAGT
120888	BCL11B	TGCCTCCAGGGTGGTCTTCCTGTA
120889	SEPX1	CCTGTTTCACAATCTGTGCGGAAGTA
120890	APP	GGCGGATCCCACTCG
120891	SYNGR1	CTACTGGGCATCCGGCCTGTGCT
120892	MAML1	CTGGGGAGCTGGGCAGGTAGAG
120893	ARF3	TTACCCAGGATGCAGCAGGTGTGT
120894	AR	GGACTGACGGCTGCCTTTGTCCTCCT
120895	GNB1	AATCCTTCACCTTTGCTGAAA
120896	NDRG2	TGGGACCCAGCCCTCACCTCCCCCAGA
120897	GATA2	TGGCCCAGGAGGAGGATTGT
120898	SQSTM1	TGTGCTCTGGGGGTCCCTT
120899	SRD5A1	GCCCAGCCCTGGCGATGGCAACGG
120900	ZNF10	GGTCTAACTTGTAATGAAGACAG
120901	MDM4	GTCTCCCAGGCTGAAGTGCAGTG
120902	MYEOV	AGTGGTTTATATGCCCAGCC
120903	CHRNB4	CAAGTAGCTGGGATTACAGAAAG
120904	APOB48R	GCTGGTGGACCACCTACCCCA
120905	DCTN1	CGAGTGAGGCCCATGGACTGGGG
120906	DCK	CACCTCTTACTTCCTGCCTCAG
120907	RAD21	ATTGCCCTGCCTACTACAAGGAC
120908	CD34	TGGCTTCCTCCTCCCTCCTGCCGA
120909	HTR2A	AGACCAACCTGGGTAACAAAGT
120910	HFE	GCTGTGACCTCTCCCCTGGAACTGTC
120911	FACL5	CTGGAGGAACCACGAGCGAG
120912	B4GALT5	CGAACTCCTGGACTCAAGCAAT
120913	LY6E	CCAAGTCCCATGGACATGCTGACAGG
120914	NFIB	TTGAACACAAAGGCTCTATG
120915	BAK1	GGGAGGCAAGAGACTGGGAGCCACTTCTC
120916	RNF3	ACTGCAGCTGCCTGCACCCCC
120917	CYP1A2	AAGCTGGAGTGCAGTGGCATCA
120918	PDE4B	CACTGTGATTTGTTCTCCT
120919	HMGN2	TCCAGTGATGCCACTGAGATGGCACCTGTC
120920	TACR1	GGAAATTCCCTTCATCTGGAA
120921	SOX5	ACGATCATAGGTGGCTGCTGTG
120922	POU2F2	TCCATCTCCAGCAAGTCTCCTGGCC
120923	CYP2B6	TGAACTCCTGATGTCAGGTGAT
120924	TJP1	ACACATTTTTTAAATGCAC
120925	VENTX2	ACCCAGGCTGGAGTGCAATGACGCA
120926	SORBS1	CATTAGCTCACTTTTAAACAACTA
120927	WEE1	GACTCATTACTACTCAGCCT
120928	NUFIP1	AATTGTTCAAACTTTCTGCCTTC
120929	EFNA3	GGGCAAGGGGCAGCACTGCCTGCTGC

120930	M6PR	TGTCCAGCCTCTTCCTCAGTCCCCCAA
120931	PMM2	CCCCTGGCTGGCTTCCTGGAGGCG
120932	TRPM2	CCTGGCCAGGACTCAGGCTGTTCCTG
120933	CD28	TCTGGGAGCCTCTTCCCTTTCT
120934	ATF7	CAGGGGGGAAAGGAGGAGCTG
120935	DSG1	TTTATAACGCACAACTTCGTGCT
120936	FGF1	CCCACAGAGCCTGAATTTGTAAGC
120937	BID	GAGAAGACAGGCTGGAAGAT
120938	CNGB1	TGACCTCAGTGGCTGCAGCTCTG
120939	CA3	TCACTGGAGGCTGGAATGAATG
120940	SLC10A2	GGGGTGAGGGATTCTGCTTT
120941	RERE	CTGAAGCCCAGGCTCACTGT
120942	ASTN	GTTTCACTCTCCTCTCTCC
120943	TAF4B	ATGGGACTCTTACAGACTCAG
120944	P2RY12	AATTAACTAAGGAAATATTTCA
120945	AKR1C2	GGCCAGTGACAGAAATGGATTCG
120946	PCDH11X	GGTTCAGTGTTTTGAAAATATTCA
120947	DAF	AGGAGAAAAAAGGCAGTCCTG
120948	PCDHB14	TTATTTGGCCAAAATGTTATATTAATG
120949	YWHAG	CCACAGACTCAATGTGCTC
120950	ADCY2	CATCATCAGGCCGGGTGCAGTGG
120951	CXCL16	GTTGCCCAGGCTGTTATGGA
120952	CTNS	CCCTGGCACACAGGGCTGGCTC
120953	COL17A1	AAAAGTTGGCTCAGGAGTCT
120954	RFNG	GAAGGCGGGTGCTAGGCTGGCT
120955	MPDU1	ATGGGGCTGGTTGCTGCTGCAGTGA
120956	ITPKB	CTGGGCCCTGGCCCCAGGGAGGAGCAC
120957	ESR1	TCTTCACAGCTGAACTCAGTCTAT
120958	GSTA4	GGACTCCAGAAAGCCTGAAAAGCT
120959	CASP10	AGCACCTGTAATCCCAGCTACTC
120959	SIM2	AGCACCTGTAATCCCAGCTACTC
120960	KCNA3	CTTCATTCTCCCTCTCCCTGCTGCT
120961	MLLT2	GACTTCTCATTACTGTGCTGAA
120962	ITGA3	TTCTTAGCTATCCTTGGCTT
120963	USH3A	CCTGCTGTCCTCCAGAAA
120964	GPRK7	CACTGCTGTGCACATTTGAATGTTA
120965	STS	CTTAAAAACTACCCATGTCTTTCTGG
120966	CBFA2T2	AGCCTCTCTGTGCACTTGCTGTCT
120967	PRLR	AACTTCTGATACATTTCCTGCAGCAAG
120968	CD74	CCAATCTCCATCTGTCAACAGGG
120969	COL4A3	GTGGCAAAGCAGCAACTATTCACAAAA
120970	NDRG3	TGCAACCTCTGCCCCCTGGGTT
120971	ZNF253	TGCAATCTCTGCCTCCTGGGTT
120972	IL9R	CAGGGCCTGGAGACCCAGCAAGGAG
120973	EGLN2	GTGGTGGCGATGAGCTCA
120974	ZFX	GAACTCCTGGGCTCAAGCCGTT
120975	RNMT	TGAGGTGGGGAAAGGAAGTC
120976	JPH3	GTGTGCATGGACGTGCCTGAGGGG
120977	CBFA2T2	CTCCCAGGCTGGAGTGCAAT
120977	TNFRSF10B	CTCCCAGGCTGGAGTGCAAT

120978	SEPN1	CACCCAGGCTGGAGTGCTAT
120979	MAP4	GCCCATCTCCCTGCTTTGGTCT
120980	FRDA	CCCAGCTTCATTATGCAGCT
120981	ZNF267	AGAGAATATAAACTGAAAAA
120982	GAS7	GTCAGTCTAAAGAGTCTAAAGGGG
120983	CD8A	GGGGCCCATGAAAGAGGACAGGCTAC
120984	SLA2	CCTACTTCCTTCCAGTGCCAT
120985	WHSC1L1	TCATGCATTTAAAAAGAAGAGA
120986	HS2ST1	GTAAACAAATGAGCACAGTTATG
120987	IFNG	CTTGATACAAGAACTACTGATTTCA
120988	NMI	ATACAAAACTTATTTCCATGTTTCT
120989	DSC3	TGGAAAAGAAACAATGAAGACTGA
120990	LEP	AGCAGTTAACTTTAAGACTGA
120991	NOTCH3	GCCCAGGGCTTCAGTCTTC
120992	HDAC1	GAGCTCTTCCAGGAGCCAC
120993	SCA1	GAGTCCTGGCTCCAGAGCCATCT
120994	CTSL	AGGTTTTAGAAGCAGAGTCA
120995	IGFBP2	GCTTGGGTGGTGGGTGCTGGAG
120996	CNR1	TTCATGTCCATAAAAGAGACCA
120997	CREBL2	GTGCCTGGCCAGGCCGGCCTGTCTGC
120998	BRIP1	ATCCATTTGTTTTCACACTGATACATA
120999	EHF	GGCTTGCTCCTCTATTCTACCTC
121000	CSNK2A1	CCAAAATGCAGACAGATACTAAAAACTTCTG
121001	DMRT2	GCATGGTGCCTGGACCTGACTACAAT
121002	CYP1A1	TTCCTCTGCCCTTCCTGCAG
121003	NR3C2	TGCAGCTCCTGGAAGGTGTCAT
121004	EN2	GGGCTGCTCCTGTCACCCAGCG
121005	EGLN2	GCCCAGTCTGCTGTGGCGTGCGTGCT
121006	ADAM12	TCCCATGACATGGAGACCGTGA
121007	CARD4	GGGCTTGTGGTGGCTGCTCCA
121008	EIF4EBP2	TCTCCACCTCCCCGTCTTCC
121009	OSR1	GACTGTACTCCTTTCTAGGAATGCTG
121010	HS3ST4	TCACTTGCTGGAGTGCCAAGT
121011	CAST	ACAAGTTAAGGTATCTGGTATCTGCA
121012	CHN2	TATTATCATTGACATACCTCTGT
121013	ID1	TTGTATTGTATATTACAATGATCAC
121014	TEM7R	CAGTACTGGTTTACAGGTGTTA
121015	FZD4	CTGAGGAGCTGGGACTACAGGT
121016	SOX10	GCTCCTTGCCAGCTCCCTCTTCCCT
121017	TEM7	ACCTCCTTGCCTTGCTGGACTG
121018	SCNN1G	ACTCACAACTGTCCAGGCTGAGATAA
121019	CYP4A11	GAGAAAAGCTGAGTGTTGGGAGA
121020	GGPS1	GAATGTCATAATTGCAGTGACAGGACA
121021	SORBS1	GGAAATACTTGGAATATTTTCCA
121022	TBL1X	GGGCAGAAGGGCTGAGGAA
121023	ZNF75	ACAAAATTATGAGGCACCCAATGA
121024	SLC20A2	CTATTTCGATGGCAAATGTTAAGCCTTCT
121025	ANKH	TGGAAAGGCAAAAATGAGAAAGA
121026	OTP	TTCAGGACTGGGGTTTGTTTGCT
121027	SDPR	TGATTCATTCTTTTTTGTCATTCCA

121028	NIPSNAP1	CTGCAACCTTTGCGGCTCCAACATGG
121029	ABCD3	TCAGTTTCTCAAACTGAGCTTCAG
121030	RNF3	CACTCACTGCCCCGTCTGTCCAA
121031	CDC25B	TCCTCCAGGAGCTTCTTGTTTC
121032	ZNF2	GGAAGGCAAAGTCCTCTGTGTCCT
121033	TGFA	TTCACCTAGGTGAGGTGTGTGC
121034	LSS	GCTCTGGGCTGGAGCGAGGGC
121035	TNFRSF9	ACAGACAGATGAGGACAGAGCTGGTG
121036	AKAP13	CAGATGTTTTGGACTTGATCTGT
121037	AKAP13	AGTTTAGAAAGACAGTCCTGGTGAATGG
121038	EIF5A2	ATCAGCCAGGCTGGAGTGCAGT
121039	A1BG	GACATACTCACCTCTACCTC
121040	SH3GL3	GTCGGTGGCCGGGCTGAAGAAGCAGT
121041	AP2B1	CCCTCCTCTGCCTGAGTGTGTC
121042	GALT	GGGCCCAGGAGTTTGAGGCTGCAGTGA
121043	AXL	CCCCTGCCGCTGTGCCAGGCA
121044	PER2	AAGCTCTCAGAGTTTCTGTGAT
121045	CXCL1	TTCTGGCTTAGAACAAAGGGGC
121046	PPEF2	CTGTTATTTTGGGCCTGATGTG
121047	GGT1	CCAGAAAGGTCTGGGCTGCG
121048	CNGB1	GGAAGCCGAAGCAGGAGGATCA
121049	AQP6	CAGCTCAGGCTGGAGCAGGCATATG
121050	HMX1	CCTCAGCCAAGCCCAGC
121051	HOXD9	ACTCTGTATTTGCTCGTTTACGTGTTG
121052	SUDD	ACTGCAGGAATGTCTCGCAGTTTTTC
121053	SLA2	CCCAATTCAGCCTCCTGGGC
121054	PHKG2	TGATCATTCCAGCTCCTCTGGGCTC
121055	ROM1	GGGGTGAGGAAGAGGGAGGGATGG
121056	BCL7A	GGAAGGTACATCAGCAATTAA
121057	PTPN1	TCTCTTGCCAGCATTTTCACA
121058	KRTHA2	CATCACTTCAAAACTGCCTCT
121059	WHSC1	TAAACTTCTTATGGATGAAATGATA
121060	GALNT3	AGATGTAGGGGAAGAGATGTTTACA
121061	CNTFR	GCTGGCCCTCCTTCCTCCCTCAGG
121062	SLC1A4	GGGGAGAAGCGGGGCAGAGGGT
121063	ALB	ATGAGAATAAGAGAAAGAAAATGAAGA
121064	XRCC2	AATTAGTTCAGCCATTGTGGA
121065	TCP11	GAAATGCGAAAAATTAGATTGAGG
121066	PTGES	AGTGGGTGGAGGACCGGGAG
121067	DVL3	AGGCTGAGGCACAAGAATCGCT
121068	TCF3	GGACTGCCTGACTCCCCTCCCCAGACT
121069	RAI14	GCAGAGGTGAAAGTCCCTGTCATCCCT
121070	TEM8	GCTGAATCTGCAGTGCCAACA
121071	IHH	CTGGGAAGGCCACAGGGGTGGGG
121072	CST	GAACTCAGGCTCAAGCAATC
121073	TFRC	GTTCAACTGTTGATTGCAGGA
121074	ADH1B	ATATCATTAATTCAGCTCTTC
121075	MPO	CCCTCAAGGAGGTCTGG
121076	RBMX	AAACTATTCTATCATAACTACC
121077	MAPT	AAACTTCTGATTTCTCTTCA

121078	GNAO1	CCTCGCGCGAGCCCCTGGAGCT
121079	MYO3A	AGGGGCCAAGCAGGCACTCTGGGGCT
121080	RXRB	TCCAGGCCAGAGTCTTTCTCTC
121081	BRCA1	TCAAATACCAGTGAACTTAAAG
121082	SF3B4	CTCAGTAATTCACATTTTCCTTCCTCCTGTTA
121083	MAPK14	CCAGGTGTTGCCATTTCTCTGCTTACCCT
121084	APPL	TGCCCAGGCTGGAGTGCAGTGG
121084	CNN2	TGCCCAGGCTGGAGTGCAGTGG
121084	CTSS	TGCCCAGGCTGGAGTGCAGTGG
121084	CYP2B6	TGCCCAGGCTGGAGTGCAGTGG
121084	EVC	TGCCCAGGCTGGAGTGCAGTGG
121084	F2RL3	TGCCCAGGCTGGAGTGCAGTGG
121084	FUT1	TGCCCAGGCTGGAGTGCAGTGG
121084	PCDHA9	TGCCCAGGCTGGAGTGCAGTGG
121084	PDZK1	TGCCCAGGCTGGAGTGCAGTGG
121084	PER2	TGCCCAGGCTGGAGTGCAGTGG
121084	PIK3CD	TGCCCAGGCTGGAGTGCAGTGG
121084	PON1	TGCCCAGGCTGGAGTGCAGTGG
121084	PRND	TGCCCAGGCTGGAGTGCAGTGG
121084	TAPBP	TGCCCAGGCTGGAGTGCAGTGG
121084	TERF1	TGCCCAGGCTGGAGTGCAGTGG
121084	TMC1	TGCCCAGGCTGGAGTGCAGTGG
121084	TMPRSS3	TGCCCAGGCTGGAGTGCAGTGG
121084	TNFAIP2	TGCCCAGGCTGGAGTGCAGTGG
121084	TRPV1	TGCCCAGGCTGGAGTGCAGTGG
121084	UGDH	TGCCCAGGCTGGAGTGCAGTGG
121085	CAMLG	TGCCCAGGCTAGAGTGCAATGG
121086	NONO	CGCCCAGGCTGGAGTGTAGTGG
121087	PSMD9	CAGGCTGGAGTGCAGTGTCGTGATCAA
121088	HFL1	TTGTTTTACTCCTTTTTATTC
121089	FLG	CAGTCAGGAGACGGCTCCAGGCACTCAGG
121090	DFFB	GCCCAGGCTGGAGTGTAGT
121090	HYAL4	GCCCAGGCTGGAGTGTAGT
121090	NONO	GCCCAGGCTGGAGTGTAGT
121091	TMEM1	CCATACAGAATTAGCAGAGAAA
121092	ARHG	TTAGGGGCTCTCAGCCATCTCTA
121093	ADORA1	GGGGGCGAGGGAGGGGAGGTGGC
121094	CSNK2A1	CATCTCCCAACATGCTGTGCTCCATAGCT
121095	VNN1	GTCACCCAGTCCATGGTACTTT
121096	NPY1R	CAATACGGTCATTAGATTGGGTCATC
121097	BACE2	ACCGGCTAGGCTGGGCGCGCCCCCC
121098	WNT3A	TTCTGCAGGAATCCCGGCTCCA
121099	LAPTM5	GGTGGAGGCCACGGAGGCAGGG
121100	ADAR	TGTGATCTGAATGTCTCCTTTTCCCCC
121101	HERC2	TTGCAGCATCCCCAAAATGAA
121102	C21orf2	ACTGCAGGAGGGCCCTCAGCTG
121103	TMEPAI	TGCCGCCAGCCTAGTAGAA
121104	ADCY6	GGTCTTGAACTCCTGACCTTGTGATCT
121105	GM2A	CTGTTACATCATAACAACTTCTG
121106	PRKAB1	AGACATTTCATACCTGCCCTGG

121107	PAX3	GGGCTCGGGATCCTGGACTCC
121108	TNFSF7	GTGGTGGCAGGACAAGAGAAGGCA
121109	ADAM12	GTGACACCTCCGCCTTGGCAGCCCTGA
121110	OGG1	GGGCCTCCTTGGCAATGCATTTGAT
121111	LMO4	CCTGCAGCTGCTCGCGCGCAGTC
121112	CLCN6	GTCCAGAGTGGCAGTAAAGGAG
121113	PPP1CB	ATGTGATTCTAAAAGCTTTTA
121114	HCFC1	CCTGGCACCCTGGCCTGGGTG
121115	CANX	ACCATTTAAAAATGTTAGG
121116	WARS	GTCTCCTCTGGAGCACTCTGCC
121117	NDST1	TCCTAGGCTGGATGGGAGGGTGGC
121118	PAX5	TCTTTCCTTCCCCTCCTCTCTCCA
121119	GAS7	GCAGGGGGAGAGCACAGGACTGGC
121120	PDE4C	AGGCTGAGGTGGGAGGACTGCT
121121	IL1F5	TAATACAGCTGCTAAAATGA
121122	HIP1	GATTTCCCACTGCACTCCAGCCT
121123	HRH1	GTGATTGACAACTGAAGAGACAC
121124	CLCN3	GATGACAGCAGAGTCCTCGAGCACCTGG
121125	HOXD11	CTGCTCTCCGCAGGCCCACTGTCC
121126	MS4A6A	CCAGAAACATTTCCCAGAAAATGTT
121127	CDH13	AGGAGCAGAGCAGGCAATTTCACCAC
121128	GRLF1	TGGAGCTGTGGCCTGAGGGCCT
121129	SON	TTTGCCAGCCCTAATAAGAAGCAT
121130	CD83	GCCTCGAAAACCATCACATGACCACATA
121131	BAZ2A	CTGGGGAGAGGGCAGGGAGGC
121132	AKAP1	AAGATTCTTCCAGCCACATGTCACC
121133	ASB2	CTCTCCAAAGACTAAGATGAAG
121134	TTF2	TGGCTCATGCCTGTAATCCCGACACTT
121135	DSC1	TTCATTTCTCTTTTACACTTTTGTA
121136	FSTL1	AAATAGAATTCCTTCTAGTTTTT
121137	CYP26A1	CACCGCCGCCTCGGAGCTCAG
121138	KCNJ10	GTCTGAAAATAATATTCCAGAT
121139	CDH1	TGCCCAGCCTCCATGTTTTA
121140	TREM2	CAGCCCAGCCTGCATACTTGCCACTTG
121141	DAZL	ACCATTCTTCTTTTTTGTAA
121142	ME1	ATTGAAATAACCAACATTAAA
121143	DISC1	GCTCAATAAGGCAGTGCAGTGCT
121144	CPNE3	TGCCCAGGATAGATGTAATATTTCTT
121145	ADAMTS4	CTGAAAACTTTGCCTCTGACC
121146	PTPRO	ATTTTTCTAAACAGAGGCCCT
121147	RPA3	TTTACAATCGTCTTAATTTTGTACTCAG
121148	ADCY8	CGCGTGCCTCTGCCTACAAGACCTGGGG
121149	SLC2A6	GTCCAGCCACAGCCCCAGCCCA
121150	ZNF74	TGGACAACATGGTGAGACCTCGTCTCT
121151	SIGLEC7	CCACCATTCTCCTCTGTACTTC
121152	PITX1	TGCGGGCCTGGCGGGAGGTGGGGGAGG
121153	CDK10	GCGGAGCCAGATCTGGAGTGCGA
121154	NDRG2	CATCCAGCCAATAGGAGCCCAGCCAC
121155	BACH2	CTGCCTCCCAGTCCGCACACCT
121156	TGFBR3	GTTTTTAAAATGCTGCTTTGTCCAGG

121157	DUSP7	CCTTTCTGCTGACAGCCCAGCC
121158	RP42	CTCTGTAAGTTCAATTGTGTTT
121159	BCLG	CTCTAAACTACCTGAGTCTTTCCA
121160	CACNG3	TAACCCTTCCTAGAGCGGAGGA
121161	SEMA3F	GGGGGGCAGTTGGGTAGATGGGTGGG
121162	EGFL5	CCATTTCACTCCAGCCTGGGCG
121163	SHANK2	GACACAAAATCTAGGGTGGCT
121164	DNASE2	GGTCCTAGCTCCTCGGGAGGCTGAG
121165	D1S155E	GATCACTGCAGCTTCTAGGACCC
121166	MDS1	GGTGTCCAAACTGACAATGCTGGA
121167	HRH2	AGCCACCGCCAGACAGTGCCTCG
121168	UBE2L3	TCTGCTCTCTTTGTTTTAAAAATC
121169	CA12	CTCCAAGCTTTCAGACAAGAATGTGCACT
121170	TRAF5	GTCTTCCTGAGCAGTGGAAGAT
121171	CENPA	ATGCTGTCTGGACTTTGCTGTC
121172	WASF3	GTTGTCTTCCTGTAGCTGA
121173	CNP	TGCCTCCATGGTGCCTCTGGAG
121174	SLC22A12	TCCCACCCTGCCAGCCTATGAGTT
121175	PCTK3	GCAGAGTCACCCTGACACTGGTG
121176	CBFA2T2	AGCATTTTCAGTCTTACA
121177	OPRM1	GGAGCATTTGGAAGGAAAGGAATATA
121178	VDR	GGGTCTTTGTGAGAGTGAGCTGTAGGTGTG
121179	CAPON	GGACAGCTTGTCTGCTGCTCCA
121180	SLC7A7	CAGAAGCCTGGCCTAGGCAGCTTCAA
121181	GOCAP1	TCCAGCCTTTGATTACAAA
121182	AMPD3	AAGCTCCATTTCATAAAGGGGCT
121183	MGST3	GGTGATCCAGACGCAAGATGGCTGTC
121184	ASTN	CCTTTCCCAAGCATCTGTGGCAT
121185	G6PC	ACTGCAACCTCTTCCTCCTGGTTCAAG
121186	SLC6A4	TCAGTGTCATTTACTAACCA
121187	KCNQ2	GGGCACCCTTTGAGCTGTGGGT
121188	BUB1B	ATACAGTGATATACTTACTCA
121189	JPH2	TAGGGCTGGCACACCTCCCTCC
121190	IL17BR	TTGAGGTGGGGACACAGGAG
121191	GRIA2	TTTCTGCAGCCACTATTG
121192	FZD4	CCGGCCGCTGCCCCCTCGTC
121193	DXYS155E	GCCCGGACCACACCCGGTCCC
121194	DCX	CCGAAGAGTTTATAAAGCAC
121195	ZNF146	GCAGAAAATTCATGCTGGAGAGAA
121196	ITGB3	GCTTCCGGCCTCCTGTCCCTCA
121197	HKR3	AGGGAGGACCTGCCTGGGAGCTTT
121198	GOLGA4	GGCAGTGTCATCTCTGAGAA
121199	OTX2	TTCTAGCCATGTGCAACCAA
121200	GRINL1A	TTCATTCTTTTGAGAATTGCTCATTCA
121201	IGF1	TTCATAACCTTTATATTTGCC
121202	RPN1	GCCAGTGAAAGCTGACATCTGTA
121203	TPM4	CAGCTCTCTTATTTTTTCCTTA
121204	DHCR7	AGGAGCCTCAGTTTCCTCATCT
121205	MCM5	TCCTGCCGCTGCCTGCCATT
121206	PMX1	AAATGTCCTTGAGTTTGGAGCCT

121207	CAMK2A	CTTCTTCCTCCTGTGCTGACCTCA
121208	PPT2	GAGTCTGCACTCTTCAAGGGGCC
121209	RNPEPL1	GCACACACCATGCCTCCTGTCTCA
121210	COPA	CCTGCCTGGCCAACATGGCAACACCCC
121211	SOCS5	TTGTGTATAATATTAATATGCAA
121212	NAPB	GAGCAGGAAGCTCTGTGAT
121213	MADD	CCACGAAATCTGCTACTCCGTATTATGTC
121214	ADAM33	TGCCTATAATCCCAGCACTTTG
121214	ALDH8A1	TGCCTATAATCCCAGCACTTTG
121214	IPP	TGCCTATAATCCCAGCACTTTG
121214	PDE4C	TGCCTATAATCCCAGCACTTTG
121215	ADCY6	CTGCAACCTCCTTGACTCTGGCC
121216	DYRK1A	GCTACAGCTGTGTCCCTTCCTG
121217	ABCA3	GGAAGGACTCCTCTCTGCCT
121218	CSE1L	GCCACTGCAATCCAGCCT
121219	KCNK6	CAGATCTGAATGGCATGGGAGG
121220	FABP2	ATTTTCCAGGGCTCAAAAAGTT
121221	AIPL1	CTTAGAGCTCTCTAGAATCCCACT
121222	FCMD	GAAGGATATACTAGTTGAAAAG
121223	ICMT	GCTGGGAGAGATGGACTCTGT
121224	FCRH3	GCAGCTGATGGAAGATGAGCCCCAACT
121225	TSC1	AGAAAGGGAAGGAAATCCCAT
121226	C1QB	CTCTTCAAGGCCAAGGAACAGTGG
121227	GAS1	GTTTGTTACCAGTTGCTGTACTT
121228	LFNG	GGTCATCTTTGTTTTTAAAGC
121229	PIK3R1	TGAGGCCTCTGGAAAGCAAAGG
121230	ABCC3	AAAACTGGCCCTGCCCTGCCCCTGC
121231	BRIP1	GCTCACTGCAACCTTCACCTCC
121232	FCAR	ACTCACTGCAACCTTCGCCTCC
121233	NT5C2	GACCAGCCTTACCAACATGGAGAAACC
121234	NOTCH2	TGTTACCTCATGATGTCATAATTTGC
121235	MNT	TGAGGTGGGGAAGGAGGGACTTGGC
121236	CNN1	CGGAGCTTCAAAAACATGTGAG
121237	CDC25C	TTGTTTTTCTCCTGGTGAGAAT
121238	HSPA8	AAACTATTTAAAATTGGCACCA
121239	SPARC	GGTTTGCCTGAGGCTGTAAC
121240	F2RL3	GCCTGTAATCCCAGCACTTTAAGAGG
121241	TMEPAI	TGTAAGCTTTCCGTGGCATGCG
121242	SLA2	GAGGGATGGGGTGGGAGGCACCCCCTC
121243	PRODH	GCCAAGGCCAGCCCACACAGCCCG
121244	RSU1	CAATGCTGCGTGTGAGGCCT
121245	GRIA2	GGAATGAATGTCAGTGTGACTGA
121246	IL13	CCTCACTGGGGTCCTGGGGCC
121247	DGKB	TCTTTATTTCTTTTCAACCTATC
121248	HMGA1	CCCTACTCCCTCTTCACTGTGGCC
121249	MAGEB4	TCTGCCTACACTCCTGCCTGCTGT
121250	WNT10B	AACAGCTTTAGGGGTGGTGGG
121251	CABC1	TGCAGCCAGCCCTGAAGGATGG
121252	ZNF2	CTGGCTGCCGTTGTCCTGTCC
121253	XBP1	ACATGTCCTCTCTGCTTGGTGT

121254	HSPA9B	GGTACAGCTATTAAAACAAGGTAGG
121255	PTHLH	ATAGGTTTTTCTCATGTAT
121256	EGFR	CACTCTGTCCCTTCCTGGGCAA
121257	FOSB	GGAAGGCAGTGAGGGGCTGTGA
121258	NSF	TCCTAAGGTGCTTACCTCA
121259	SPN	CCACCTCTTCACTCTGAA
121260	IL17BR	TGCTGACCTTCCAAAGCACTTTT
121261	SNAI1	CCCACCCCACTCAGGGGACCCCACTC
121262	HAP1	ATCATTTGCATAGACACCTCT
121263	HTR1D	TCTCGCCAGGCTGGAGTGTAG
121264	CDC25A	AGACGGAGGGGAGTAGAGAAGT
121265	PMX1	GGCATGCCCACATCTCTTTCG
121266	KAI1	CTGTTCTGTGGTTCCTCTGCTCACCG
121267	HS2ST1	GGGATCTGCATTTAGCAATGTGAT
121268	KCNJ10	AGCTTGATTTCTGCTGGTGAC
121269	KLHL1	TTAAGCCACATGTTTGTAA
121270	KCNS2	GCGCACACACTCGCACCCGC
121271	PIM1	GCTGTGTTTTGAGCAGCAGGTAGCCTG
121272	INSM1	ACTGCCTCAGTGTTTCACGTA
121273	NFKBIL2	TGGAGCAGCACTGGCAGGAGCTGCAGCTT
121274	SLC2A1	GACTCCTGCCCTGTTGTGTATA
121275	HYAL1	TCCTGGAGCCCTGCAGGTCAA
121276	NLGN2	AAATGCTAGAGACCTGGGCCCTGAACCC
121277	ROCK2	CCTGAGCGCGAGGAGCCTGAGT
121278	CEBPE	AGGAGGTAGAGAGAGGGCAGCCGG
121279	IGSF8	TGGACACCCTCTCCCTCTGTC
121280	THBD	CTTATTTTTGACAGTGTTGA
121281	HOXA3	CGAAACAGTTTGAAAGGGACTGA
121282	SCA1	GAACCTTTCACACCTCTTTCTCA
121283	DLD	TAGTCATCCTGGAATATCTCC
121284	GABRA5	TTTCAGAAAGCTTCAAGAA
121285	KCNJ16	CAATCTCTGCTGGTCAGTC
121286	ASB1	GACATGTCGTTGCTCAGTGCCT
121287	SEPN1	CACCTCCCAGGTTCAAGCAATT
121288	LANCL1	TGGCTCTCTTTTCATCTTTG
121289	GALR1	TGCAGGAGCCGCACAGTGCACTG
121290	CR1	AAGAACATCTCGAATACAATT
121291	TPK1	ACTATACAATTCAGTACTGATTATTC
121292	DAAM2	CTGTCTACTAATCCACAGTCCTAGAA
121293	PPEF2	AGGCATGCACCACCACACCAGGCT
121294	CLCN5	AGTCACATTAGTGTGTTGTCTCTTTCC
121295	ERBB3	CTTTCCCAACCCCAGGAAAGG
121296	DYT1	CTAAATTATGTGAATTTTGCCATA
121297	GRLF1	GCTCTAAGTTCTGGAAGGTGTGTGC
121298	ADCY2	CACAGTTGTTTCAGAAAGAGCTC
121299	BTRC	TTTCACCTCTGCACCTAGTTT
121300	POU4F1	AGTCCCTTCTCGCTCTCTTTCC
121301	BAAT	AATTCCTCTCTTTGTACTC
121302	CDH6	GGCAAATTTTTATTTTTTAGT
121303	TSC1	CCACAGGCTGGTGTGTAGGTGGT

121304	POU4F1	TCTCCTCCCTTACTTCTATCA
121305	DLEC1	GTGGTGGCCGTGCCTGAGCTGCA
121306	TBL1X	TGTGATAAACCAAACAGGGAA
121307	ALDH1A3	ACTCTCCTGTTTATTCACCAGACTGGGG
121308	RPH3AL	GTGGTGGGAGGGAGAGCGGCCTCCTCCT
121309	BRIP1	TTGCCCAGGCTGGAATGCAGTG
121310	CAMK4	TAAAAGCATACATTTTCAGCAACCAG
121311	LOX	ACTGTTTTCAATAACAAAGCACA
121312	TAF7L	TTCTAGTGAGGATTATGG
121313	FABP2	TAATCCAGAGATAATTGCCATT
121314	ADAMTS1	CTTTGCTCTCCCGACC
121315	TNFSF14	TTGTCTCTCTGGCTCCACC
121316	GAS41	TGTATATGATGTGTCCAGTAAGTATTC
121317	GABRE	GCCGCTCTGGCTTTTCCTCTCA
121318	SLC7A5	TTTTAAACTTAAATTTTGGG
121319	DAAM2	CCATCCTGTCTACTAATCCA
121320	PFKFB4	GTGCGTGGCTCCTGACCTGCTGC
121321	MYCBP	TCAGGATATGAACACAGGTACAGTCA
121322	SPRR2C	AGCTCCACCTGCATCTTCTCATCA
121323	CYP8B1	AGTCATCTGACAGGCTTATCATTCTCT
121324	ECM2	AATTATGTATCTTTTGGTTCA
121325	SIRT6	ACCTTGAAGTGGGGGATCAGTAGA
121326	SFTPA2	GCCTTCAGTTTCCATCCCCAGGATCC
121327	EP300	TTTTCGCCCCCGCCTCCTTGTGGC
121328	TNFSF12	TGGCCCTGCGGCCAGGGTCCT
121329	TMOD2	CCTGAATAAAACAACAATATT
121330	KPNA4	TCTCAGCCGGCAGCACATTCCGTCGC
121331	IGF1	TACTAGTCCATCATAGCCTAGA
121332	KCNE1L	CACGCTCCAGCCCTCTGGGAA
121333	CDX2	TCTGGGCTGAATGTATGTCA
121334	LAMP2	GAAATACAAAAAATTAGCTGG
121335	COL4A2	GGGCCTGGCCCTGCTTTCTACGC
121336	PPP1R11	CACCCCTCCCCAGCCTCCTGAC
121337	TMPRSS3	GGCATCCACTTCGACTGCTCAGGGA
121338	ARNT2	GGATGCATGGGGCTCTGGGGGA
121339	CD1A	TGGGAAAATATTGAAAAGGACAGAGT
121340	DSCR3	AGCTAATTTTCAAATTTTTTGT
121341	GNE	ACCTCTCAAAACGAAACA
121342	CRYM	GAGGTTAGAAGGCACAGGTGGCGAGA
121343	PEA15	TAGCTCATCTAGTTCCTCTTCTTA
121344	ZNF195	TCTCATAAATGTGGAATAACATTTGT
121345	MID1	TGGAAACACTGGAGTCAGAACTGA
121346	ADCY1	GCAGGGCTCCCAGGGCTGT
121347	ZNF236	TTGCAGAAAGAGCGTCAGTTTCACCT
121348	NRIP1	CCACAGAAAACCATTCTTTA
121349	TSNAX	ATCATTTCTTATATCTTATTCA
121350	CRSP6	GTGCTTTGAAATGCAGAAGTTTAT
121351	CRSP6	GACAAGTGCTTTGAAATGC
121352	CMRF35	CCTTTGCCACCATAATGGCCCAC
121353	HDAC7A	CCTCCATCTGGTCCGTACCCTCGC

121354	EED	TCAGGCTGAGCTGAATGTAG
121355	WDR4	CTGGCATGGTGGATGTTTTCA
121356	KLK4	ATCTGTTCCCAGCCCCTCCTCC
121357	MAPK4	TCTGGTCCCAGGACATTCTACCA
121358	ATP12A	GCATGCACCAGCTCTTTCA
121359	NPHS2	CACAGCCCTTCCTACAAGCAC
121360	SEL1L	AAAACTCAGAGAATCAAAGA
121361	GFRA2	AGAGAGAAACGGTCCTTTG
121362	TOX	GGAGGAGAATGAGCAGCTTTGA
121363	DTNB	GCACAGCCCTGCATGTACTAGCACCT
121364	KCNK4	CGACCACGCTGTCCCAGGCACAG
121365	HTR2A	CCAGAAGCTCAAGGCTGCA
121366	SRP46	CGGGACCTGGCTTCATTTGGA
121367	BRCA1	GAAATGACACAGAAGGCTTTAAGT
121368	SERPINE1	CCAGGACAGAACTTTCCCCAATTACAGG
121369	DLG5	CTGATGTTTTTTAAAAAGGGATA
121370	COL4A1	ACAACATGGTGCTACTTCTTCT
121371	ANKH	GGGGAATAAATGGGTCACTGGA
121372	WHSC1	TTGGCCAGGCTGGAGTGCAGTAAGTGG
121373	MAGEA9	CATGTATACCTGGATTTGCTTGG
121374	STS	CCCAGGTGATGTCTGGTCAACTGGC
121375	TRN2	TTCCTGCGCTGTTCCACCTCA
121376	ABCD1	CTTCCAGCCACCTGCCTCAA
121377	ZAN	AGGAGGGAGACAGACTGGCCAGGC
121378	BCL2	TGTACTCCTCTTTACACTGGC
121379	MGAT5	AGAGTGAGACCAGCAGA
121380	CD68	AGGCTGAGGCAGGTGGATCACT
121380	PHKB	AGGCTGAGGCAGGTGGATCACT
121381	ICA1	AGGCTGAGGCAGGAGGATCACA
121382	TEM7	AGGCTGAGGCAGGCGGATCACC
121383	IL13RA1	TTTTCCTCTGCTTTGAAAGCC
121384	SFRP5	GCTTCCTCTCTCAGGAGCAGGG
121385	PYCR1	TGTGGTCTGCAAGTGCTTC
121386	GJB3	CTCAGGCTGGTGCCAGCCTTTC
121387	KCNA7	TGGGGAGACAGAGACCAAGAGCA
121388	EVA1	TTCTTTCTTCAGCTTTCTGA
121389	HIVEP2	TTGTACAGATGTTTGTGCCTTTTCTTT
121390	PACSIN1	GGCTGGGGTGCTGGGGCTTGGGGTGGCCC
121391	EGLN1	TATTCCTCAAAATAACATCAA
121392	WHSC1	TTTTTCTGTTATCATAATTTT
121393	ZIC3	AGTAAGGCCAGTTGAGCATTG
121394	DBT	CACGCCTGTAATCCAGCACTT
121395	C1orf6	CAGTTTCATTGATTGACTCTACCTC
121396	SIP1	TTTTGTTGTTTTGTTATTTACT
121397	HCK	CCCCGGAACCTCAGGGGCTGCCGA
121398	FCGR2A	TGACATTTTGCCACTGGAACACTAAAC
121399	PPEF1	TCATACAGCACAAGAGAAAAC
121400	ZNF134	AAGGCAGGGTTTGTATTGTCAG
121401	KRTHA8	GGCATAAGGTTGAAAAGCATTTT
121402	RBBP9	CATATTTCAAGTGCTCAA

121403	MME	TTGACCGAGAGCAGGCTGGAGCAGC
121404	NCSTN	CACTTCCTAGAGCATCT
121405	FANCE	TGAACTCCTGAGCTCAAGTGAT
121406	TSC1	GTGACCACAGGCTGGTGTGTAGGTGGTA
121407	POLH	TACAGGTCTTTATCTTTAATATTTT
121408	GPR55	CTTCCCTTTGATGCCC
121409	TOX	ACTTAGGACCATTTGAGCTTGT
121410	CR1	TCCCAGGCTGGAGTGCAGTGGC
121410	GPR81	TCCCAGGCTGGAGTGCAGTGGC
121410	XRCC2	TCCCAGGCTGGAGTGCAGTGGC
121411	LPL	GGATGTGTAAATGGAGCTTG
121412	CASP8	CCTTTCTCTTATGCTTAAGGCT
121413	HS3ST4	TGTCCCTTCCCATCAGTTTGA
121414	CCND2	TCTTTGTTTATCTCTGAGACA
121415	ARF3	GATTCCAGCTTTCTGCTTCCTGAGG
121416	F8	TATTTATGATGTTAACA
121417	EHD2	TTTCTTTCTTTCTTTTTTGAT
121418	CELSR1	GGTTTTTAACAGAACGTGTATTTA
121419	MIR16	GGTCACTGCATTTTTACCTGA
121420	DDX26	TTGTATATACAGTTATTTTGGA
121421	CPS1	TCATTCTCACCCATTTGGCTAATCCA
121422	CREM	TGCAAAAAATGCTTTGTTTGCCC
121423	CD1D	CGGCAAGCCCAGCGAGGAGG
121424	ATP1B1	AGCAACAAAATATTTATTCTACT
121425	CMRF35	TTGCCACCATAATGGCCCACAC
121426	PSME3	TATCACTTAATTGTTAACA
121427	GPR48	AATTTTGTTTAAGCAATT
121428	M6PR	CACTAGTAAAACTGCCTTC
121429	MYO6	AATGTATTTGATGTATTCTGTGAT
121430	OXR1	CTTCATAGACCACTGAGTTCTAG
121431	ALDH2	GGGGCAGCCACGGGCCGGGGGTA
121432	LEP	CACAAGGTCACTAGATGGCGAGC
121433	IL2RA	AGCTCAGTCCCATCAGAG
121434	PRKWNK3	TGGGTGAGACAGAGGGAAAGG
121435	CX3CR1	AATTCCCAGGGAAGTGCTCTGA
121436	SCN2A2	GCTTATCAATCCCAAACTCTG
121437	SLC17A7	CTAACCTTTGAGATCACTCAGCTC
121438	BAT1	CCCACCCCTGACAGCCCCCACCC
121439	FMOD	TGTGAACACCATCATGCCTTTATA
121440	RBBP5	TATGTTTTGCTCATCTAACTTC
121441	CCR3	TCTAAAACAGTCCTTCAAACTTC
121442	CACNG3	GCCCAGCACAGCCTT
121443	SLA2	TGCGAGTGCAGAGAAGGTGGG
121444	PCDHA9	ATGATCTTGGCTCACTGCAACGTC
121445	HOXA3	CAGGGGGAGGGGGAGAGAGCA
121446	SOX12	GCCCCCTCCTGCACAGCCACC
121447	ZNF74	CCAAGTAGTTGGGATTGCAGGC
121448	RANBP3	CTACCCTTGTGAGAGTCAAGGCACAG
121449	A1BG	CAGTCCGGCTCACTGCAGTTT
121450	LPIN2	CTTTGCAGTTCAGTCTAAGTCT

121451	PKD1	CTGTGTACCACTTCTGTGGGCATGGCC
121452	GPR43	AGACCTCCCTGACCCCGCCCTTTT
121453	P53AIP1	GGCCTCGGAGCACCAGT
121454	TNS	GGAACCTACTTTCTGCTCAGTGAG
121455	CD164	GGCTGTCATTTCAAAAGTGGAATA
121456	WBP2	CTGGCACCCACTGCTACACTCAGCCT
121457	CACNG1	GGGAGGCAGAGCCAGCAGGTGG
121458	ATP8B2	TGAGTAGCTGGGATTACAGGCAC
121458	IGF1	TGAGTAGCTGGGATTACAGGCAC
121458	TERF1	TGAGTAGCTGGGATTACAGGCAC
121459	VSX1	ATTTGTGATTGAAAGCACTTTAG
121460	SHANK2	TGGCAGAACTGGGCCGCCTCTCTGGTTGACAA
121461	SEPN1	TTTGCAGCTGCACCTATGGG
121462	SPAG8	TATGGAATCTATTTCTGTCTG
121463	KAL1	TTTCAGTCATTCACTGTTTT
121464	B4GALT1	GTGCTCTCATGGGCTCACCTG
121465	GNB5	ATTTCTCGATGTGCACTGTGA
121466	WNT5A	TGGGTGGATTAATTTGGAAAAAGAA
121467	PRPF18	CTGTGGACTTCTGGAATTACCAACAG
121468	C14orf2	TGCCTGTAAATTTCAGCAAGCCG
121469	KRN1	CTTCTCACCTGCTCCTCTA
121470	REV3L	GCTCCAGTATGTGTACCATCTTGTA
121471	KRT5	TCCAAGTGCAGCAACCCAGC
121472	RASAL1	GGCCAGCCTGGCCCTGAGCTGCTGGAT
121473	HLA-G	TGGGAGCCATGGGGGAGCTC
121474	NBEA	CACTCACTCGCAGTCATTTATTTA
121475	PRDM2	GATACTTGGATGCAGCTCTTGG
121476	EPHB1	GAATCAACCGGACCTGTTGCTAGCA
121477	SH3GL1	CCAAGCCCCGCCCTCAGAAAG
121478	RYR3	GCCATGGCCGAAGGGGGAGAAGG
121479	NFKB1	CTGGCCTGGCCCGGCCCCGCCGC
121480	FOXO1A	GCAGCCGCCACATTCAACAGGCAGCAG
121481	SSX1	GCCATTCTGTTAGATACTATCCT
121482	CALU	ATCACACCCCATTTCCTCCTCT
121483	MCM6	TAAGTATTTTAAAAATAAATGGCA
121484	GPR35	GGAGAGAAGAGCTCAGGAGATGG
121485	BRCA1	TGGTACAGCTGTGTGGTGCTTCTG
121486	SFRP4	GTTTCTTCACTGACAATACTGAATAAACATCT
121487	OGT	CCATTTCCCATTTCCTTTTCTTCC
121488	CIT	TAGCACTGAACAAACAAAAAACAAAAC
121489	PMX1	TCTCCAATTTTCTTGTATTCCCTACAA
121490	PML	TCCCCTGGGAGCTTCTTAG
121491	KCNA6	GGGACCAGGGCTTTAGGGCTCACGGA
121492	ETV5	AGTTGGGGAGGCTCAAACCAT
121493	PTGES	GCATGAATCACTGTGCTCAG
121494	GAS7	AGACCCCCTGACTCCCATGCTGTG
121495	CARD4	CCGCTACAATTCTGCAGAAAAAGAATGT
121496	KRT9	GTGCTCTGGCTTTCCATTGGCTTCC
121497	PPP1R12B	TCTCCTTTTTCTTGTGCTGC
121498	HS2ST1	AGACAAAAGTGGTTTTGCACCAA

121499	PUM2	GCAAAACTATTTATTGACTT
121500	KCNA6	GTGCCCCAGCACAAGAGGCACT
121501	HOXA4	ATTATTTAATTCTTAAGATG
121502	LAPTM5	TTCCCCTTCAGTGTCTCAGAGGA
121503	SULT1A2	GCTTTCACTGGTCTGCACC
121504	EMS1	GTGCCCATCAAGTGCAGTC
121505	SLC1A4	TGGCCCAGTCGCTGGCCTGAG
121506	MUC4	CCTCTTCCCAGGTTCCCTGGCCCCTTCG
121507	TGFB1	CGCTGGGAGCCGGAGGCGCGGGGA
121508	NID	CCGTCCTGTCAGCTCCTTGACCT
121509	GJB1	TCCCCAAGGCCTCTCTCTGC
121510	SUV39H2	ATTTCAGGCAGGTGTAACAG
121511	SIRPB2	TCTCTGCTGCCTCCTTCCTT
121512	SPTBN4	GCAATAACTGAGCTTGATGGGGGTGGG
121513	SLC6A4	CCCTATCATCAGTTAGGATTAG
121514	FACL4	TTGCTTTAATTCCATGAATGTTCCT
121515	NF2	GCCTCAAGGGAGCTGGCTGG
121516	TCFL4	CCATATTCCATCACCTTCCTCCTCTGC
121517	TMEPAI	ATTATCTCCCCTGCAAAGCCC
121518	SIRT1	ATTTCAGGATTATTGTATTTA
121519	CD36	AAAACAATAAAATAGTATGTA
121520	IL1RL1LG	GGGCAGCAGGGTGTGTGCATATGA
121521	ATP5G2	CTCCCCAGGCAGCCTGGGGAAC
121522	SERPINF2	AAGGGAGGGGGAGAGGGCTGC
121523	PXN	TCCCCAGCCAGCATCCCCA
121524	KCNJ10	TTAGGCTGAAGTGGCTTAGAAGGCCT
121525	FGF23	CTGTTTTCATTTCCTGTTGG
121526	APOC4	CTCAGGAGGCTGAGGTAGGA
121526	HM13	CTCAGGAGGCTGAGGTAGGA
121526	SLC17A5	CTCAGGAGGCTGAGGTAGGA
121527	PPAT	TTAGCTTTCAGAAAGCTAATGA
121528	PTK2	TCACCCAGGCTGCCAGGCTGGAGTGG
121529	WNT1	CCTACCCCTTCCTGTCCTGCCTCCTCATCA
121530	8D6A	ACTTGCCACCACCGTCAC
121531	LARGE	GGTCAAGCATCTTCGGCCGAT
121532	SMARCA3	TTAGAAATGAGAAAAATACAGA
121533	C7orf2	CCTCTTTCTTCATAGTCCTCAGGCT
121534	PIK3C2B	GACTCACTGCAAAATCTGCCT
121535	MDM1	AGAAATTCTGAATATCAAAGGCA
121536	GATA4	CAAGTGACTGAGCACTTCCTGGGGAGC
121537	WHSC1	AACTTCTGAGCTCAAGCGATC
121538	CCND3	GGTGGCTGAGCCCCTGTCTAGAGAGG
121539	STIM1	CCCAAAGCTCCCCAAGCATCAA
121540	ABCC12	GACACTTTTATATCTTCTTTAT
121541	MBL2	AGATATGGGACATTTTTGACTCCC
121542	AVPR1A	CTCAACAACAGGAAAGGCAGGTCCTTT
121543	CA14	CTTCCCTTCATGCCTATCA
121544	SLA2	GTGGGACCAGGGCCAGGGTTCCAAA
121545	ZNF141	GTCTTACAAATGTGAAGAAT
121546	IL1RL1	CAGTTCTGCAGGCTGTATGGGA

121547	GALNT7	AAGCTTCAAGAGATCTAGGA
121548	VANGL2	TACTCCTGCCACACAGCCCG
121549	CLCN4	AAAAACAAAAACATCAATGAGTA
121550	Z39IG	AGGCTGGAAGAAAGGACAGAA
121551	NESH	CCATGCAGGACAGGGTCTCCTGCTGC
121552	CDK9	TGGGGTAGGAGGATGGGCTCGCCCAC
121553	CPM	TGGTGGCGGGCACCTGTAGTCGCAG
121554	DLGAP2	CACAGGCAGAATAGCTTTCGA
121555	LHX2	GGCTCCTCCTCCCACTCTGCTCCTCCTCT
121556	XYLB	TCAGAAATTCAAAAACTCAGA
121557	LIF	TGCTCCACCCCCATCCCACTC
121558	GCNT1	ACTGTACTGTGTAGTGTGTCTCCGTA
121559	MNT	CCCTGCAGCCTGGGTCTG
121560	SMAC	CTGAGGAGACGTGGAGAGGAG
121561	JTB	GGCCTGTGGAGTAGGTCCCTCT
121562	SLC15A1	ATGTTAACCAGGATGGTCTC
121563	NBEA	CCCAGCACCTGGACATCTCT
121564	SEDL	AGGCTGTAGTGCAGTGGCACGAT
121565	RAD51L3	GTAGGGGAGGGGCGTCTGGAGAGGA
121566	DLGAP2	AGGGTTTGAGAAGCCCACCCCTCTAATTC
121567	GAGED2	CCTCACTGCGCATGCTCCTT
121568	FCRH1	AACCTATACCACATCCAA
121569	PDZK1	GACCTCCACCTTCAACCCCCGAG
121570	VANGL2	TCAGTCCTTCACCTACCTCGCCAC
121571	CBFB	GAACTCCTGGCATCAAGCGATC
121572	CSF2	GTGGCTGCAGAGCCTGCTGC
121573	DAAM2	CCCTGAGAGGGAATCTGGTGAG
121574	TIMM23	ACCACCCAGGCTTGAGGCAGC
121575	TDG	TAGGCTAAGCAAAAAGATGCTGG
121576	ADAM30	TAACCAGCTAATCATTTATCC
121577	AVPR1A	GTTGTTTCCCCTCCTTCCCA
121578	PDLIM1	GCAGGCCTCTGCTGCAGCTTTTTCTCTC
121579	GAB2	AGAGGCTTGGAAAGCCTTGTGTCTT
121580	CDH18	AAGTGGATATACAACCTCAGCAA
121581	HIRA	TCCCTCCAAGCCCCCGATGCGGAGCTA
121582	FKBP1A	TGTATAGACATCTGCCCTGACT
121583	LZTS1	CAGGCTGGAGTGCAGTGGCATGATCAT
121584	STARD4	CATGCTGGAGGGCAGTGGTATGATCAC
121585	MATN3	CATTGCCATTTTTAATTCATTCT
121586	MAPK9	GACTTGCCCATCTAGCACTTT
121587	KCNH5	CTTGCTTTCAAGATGATGACC
121588	TRPV2	CCATCTGCACAGAGGTCCTGGCT
121589	GLRA3	CATGCAAATGCAAATGGTCAA
121590	MOG	GGAAGAGGAAGAGTGCAAA
121591	SOX10	CATGCCACCTATGCCACAGTGCCT
121592	RGS6	GTGGGGAGACTCGGTGGGTGAA
121593	GGT1	CCAGAGATTGCCTGGAACAC
121594	HKE4	CCTTTCTCCCACCAGTTGGTGGAGGC
121595	LZTR1	GGCTTAGCAGACTTGCGCTGCA
121596	ANGPT1	TCAGAAGAAAGGAGCAAGTTTTGCG

121597	CDK10	CCCTGCTCCCCACACGGAGGACC
121598	EVA1	GACAGTTTTTCCGGCAAAATTTGTA
121599	IL16	TTGCCCAGGTTTCTGGTCTCTAGGC
121600	BMP8	CACCTATAACCCCAGCACTTTG
121601	DLEU1	GGGCTCTCCCTTTGCTTCT
121602	ALDH3B1	AAAATACAAAAATTAGCCTGGCGTG
121603	MVK	CCCTCTGCATCCTCTGGAGCCA
121604	PITX1	CGCGCCGCGGACCTCACACCTGCGCAG
121605	POLL	TGCCCCATCTCCCCGCAGCTGCGGCGCTG
121606	CHRNB4	CTGAACCTCCCAAGTAGCTGGG
121607	XT3	ACCCCCACTCACAGTCACC
121608	EIF2S3	GACGGGGTTTCAGCATGTTGGC
121609	RABL2A	GACGGGGTTTCACCATGTTGCC
121609	RABL2B	GACGGGGTTTCACCATGTTGCC
121610	JAK3	GTTACCCAGGGTGGAGTGCAGTG
121611	TCF3	GTGTCTCTCGCTATTTCTGCTGCTGTT
121612	GRAF	CCCATCTCTGCTCCCACCCTTGCCT
121613	BCL11A	GCCCAGTTAATTTGCACAGAA
121614	SORCS2	GCTGGGAGAGGCTGAGGATGGCAGG
121615	ARNT2	TCTGCCTGCCCTGCCCTTGGGGC
121616	HNMT	TTCCATTTGCTGATTGTCTGA
121617	C1orf6	CAGTTTTCACAGTTTCA
121618	HD	GGGCAGCAGGAGCGGTAGA
121619	SLC2A2	AAGGCTAGTTTATTTTGTTAC
121620	MAPK14	CCATCTCCTGATTTCTCTGAACA
121621	STIM1	AGCCGCGAGGGCATCTTGCCT
121622	B3GNT3	TGTGATGGGGCAGCCTTGGGGA
121623	PTTG1IP	GGGGTCCACCCCAAGAAGAAAGA
121624	GRAF	TGGCCCAGGCTGGAGTGCAGT
121624	MEFV	TGGCCCAGGCTGGAGTGCAGT
121625	WASF3	GGCAGAGCTGCGGCACAGGGCCTGG
121626	MYLK2	TCCTCCTAGCTGGAGTGCCATGGCTG
121627	HD	GGCCTCCCACTCCTGTTCCTTGCTA
121628	IGF1	CAATATTATCTTTCTTAACTTTTTCC
121629	TMP21	AGAGTCACCTATGACAAAAAA
121630	LNK	AACCGGGCTGGAGTGCAGTGGTGCA
121631	LMAN1	GTGGGTGGAAATATTCCTCTGAG
121632	NPAT	GAGATGAGAGAGGTGCCTTCTCTGTAT
121633	FBN2	CCAAGAACCTGTTTCCTGGA
121634	PPP1R12B	ATTCATTTATTGCTATCTGAGGCC
121635	PDE4A	CCCGACCACCTCCTCCTCTGCCTCA
121636	KCNJ6	TGGGCAAACCCTTCTCTTCTCC
121637	ADCY6	ATGACTCTCCCTGTCTGTGG
121638	STAC	TTGGCAGCAGCAGTAGGA
121639	PPP1R11	ATGGACAAGTGACACTGTGGACAATG
121640	LBP	GCATGCCCTCTCTGAGTCTGGACT
121641	RFXAP	GAAGCAGTTACTTTCTGTGGAAG
121642	SLC31A1	CCAAGATGGCGCCATTGCACTC
121643	AHSG	CATGGCAGAGATGAGGAGGTTTGGCAC
121644	ARSB	TCTTAAACCACACCGAGGTGTCTA

121645	SPTBN1	TTTTCCTTTCCTAGCCA
121646	SUFU	GCCAGGCTCCATCTCACTGGCTC
121647	BTG1	ATCTGCCATGGCAACAGGCTTTAA
121648	APM1	GTGAATGTCATTCACAACAGAAAAC
121649	FUT6	GCATTGAAGCCACAGGTGGGGCAAGG
121650	BCL2	TGCCTGTAAACATAGATTCGCTTTCCA
121651	SMG1	GCACTAGGAAGTGAATCCC
121652	TNFRSF9	CCTATGGTCTTCTCCATCCTCA
121653	PLAGL1	GTCTAGCTTAAACCTACTACCTCA
121654	KIF1B	TGAGCCAAGATCGCGCTATTGCACTC
121655	KL	AGCCCCAGATCGCTTTACTCCAG
121656	MID1	TCTATAGTCTAGTATAGTTTACA
121657	ARMET	GCCACAACTGTCTAGGGCTC
121658	CAPN10	TCCAGCACCTGCGGGGCCCTCG
121659	SNAP25	GTATTGAGACACTGTCAAGA
121660	MAP3K12	CCTTCCTGCCCCACCCCATTCCTT
121661	COL4A1	GTATCAGTATTTTCACACGTAA
121662	TSN	GCTTTCTGATGTTGCCTTAAT
121663	FGFR1	CCTGTAATCCCAGCACTTTAGATCAC
121664	SLC14A1	AGACCAGCCTGGGCAGCATGGT
121665	CDK4	GGGGCCTCTCTAGCTTGCGGCCTGTGT
121666	SFRS7	ACAATAAATCTGCAGAGATTGA
121667	CTNS	CCTCAGATAAGTATTTGTACTT
121668	TEM8	CCCTTGTTTGCACAGCATTAA
121669	ICA1	TTAAGACTGAAGATGGAAAAAG
121670	RXRB	TTCTCATCTTGCCTCATTTTGCTTCC
121671	NOTCH2	TCTGCATGGACCTCTGTGGACC
121672	PNUTL2	GAAAGGGAGAGAAGATTGGC
121673	TAGLN2	CACTGATGCTGCCTCTGCCTTC
121674	EHD2	AGCCTCCCCACAGCTGGTAAT
121675	SCG2	TATCCTGTTAACACTGTAATATCTTTAA
121676	PTGIS	CTGAGATACTGAAGTGCAGCTCA
121677	IGF1	GGCAATATAAGGAAAGTGATCCAAA
121678	CMRF35	TGAAGCCAGAAGCTGTGGGCTGTG
121679	TARDBP	TCCTTTTAGGAGATCATGGTGTCA
121680	DAG1	GGTGGAGGCAGGGTAGGGCAGG
121681	MSI1	TACATGGTGTTTCGAAGCCAGCAA
121682	MFNG	GCAAGTGTCTTGTGATAGGCAGTCCC
121683	COL19A1	TTGCTCTTGTTCTTAAATTAT
121684	FGF23	GAGTGTGCAAACCTTGACATTA
121685	CD209	GGGATTACAGGCCTGAGCCACC
121685	RAB36	GGGATTACAGGCCTGAGCCACC
121686	WBSCR5	CCTGGGAAAAGACAGTTACTCACGGG
121687	DISC1	TTCAAGCTATTCTACTGCCTCA
121688	ALEX2	AAAACATATTTGTGACTTTAA
121689	PIN1	CACACAGTATTTATTGTTCCCACA
121690	LTK	GCAGTCTGTGCTGTGTGTCTGGGCCT
121691	BMP8	GGGCTCTGGTGGCTGTCACG
121692	GP9	GAGCACCTGACCAAAGGCTTCA
121693	CLN5	TTTATTGGAGTGTTTTTGTTT

121694	RPLP0	TTTTATTTGCAAAACAAGGAAATAAAGG
121695	APBB2	TCCCAGCCCAGGAGAACTAAGAGC
121696	RFPL1	TTTTCCCCTGGCAGTGGACATGGCTGC
121696	RFPL2	TTTTCCCCTGGCAGTGGACATGGCTGC
121696	RFPL3	TTTTCCCCTGGCAGTGGACATGGCTGC
121697	HDAC5	CTGGGGCCTTTTGTTTTGGATCCTGG
121698	APLP2	GAGGAGTCCGAGTGTGTGAGCTTGA
121699	CLCN4	CTTGCTCCTGTTCTCAGCCT
121700	ZNF215	CCTGCAGTGGAATGGCTCCTAATCAGGG
121701	SRC	CCCTTTTCCAGCCTCAGCCTA
121702	ALEX3	AACCCCCAGAATCAGCTCTT
121703	ICA1	TCTTCAATGCTTCCTCCTTGGAAGAGGGCGA
121704	CSPG2	TTTGCCTCCAGTGCAGT
121705	ZNF239	ACAACTCAGCAATGACACAAGAAGAGA
121706	PEX6	CCGGCTCTAAGAGAAAGGCCCA
121707	FCER2	CGGCCTAAAAGCCTCTTTGTGGCTGA
121708	OASL	CACCTGTAATCCCAGAACTTTG
121709	GPR44	CCCTAGGCATCACATGCTCAATGACTCT
121710	CDSN	CCATCACCTTCTCAACTGGGA
121711	SMARCD1	GCTGTCAGTGCTTCTCTCACTCCTTA
121712	NUMA1	TTCCACCAGGAGTCTGGAGTGCAAT
121713	PAX2	CCTCCTGCCAGTCCTTCGCC
121714	OAS3	GTTCCCATCTCATCTGTCAGCCA
121715	TRHR	AAAGGGAGAACATGGCCAATAGTC
121716	SERPINB9	GAGTGACAGTTTGTTAAAAAGCTTT
121717	GPLD1	TCAGACCTGCTGTACAACCTA
121718	WHN	CTGGTCTGGAAGTCCTGGCC
121719	SLC7A7	TTGCAGATGTGAAGGGCCAGTGAAC
121720	RNF4	AACAGGGGCCCAGATGACAACCTCTC
121721	FBXL11	CATGTGTCTTCATTCTGCCT
121722	SLC6A6	CCTTTCAAATCCCCAGGGCAGACACA
121723	PLCB2	CTACCATGTACCCCTCTCAGGCTGCCT
121724	AMT	TCTCCCACTCTGCCAGGTGCT
121725	SLC21A9	AGGTAGGAATGAACTTGCCAGCC
121726	RARG	TGAGCTCCTTGTTTTTGCCAAAG
121727	SPAG8	GCACTCCTCCAGGGTGTCAG
121728	CDYL	TCTATACAATATACTGAGTTC
121729	DNAJB9	AAAGGTTGAGAAAGGAATGGTT
121730	CHRNB1	GTCAAGCCCTATCCTTCTCTG
121731	PPP1R2	ATCAAAACTAGCTTTTTTCCCCA
121732	ESRRG	ATCCAGGAGTTGCATTATAGCC
121733	NUP62	ACCAAGGCAAAGCAGCACAGTGTG
121734	ZNF216	TACTGGCCTGCACCAGAA
121735	HELLS	TTTGAGACTGAGTAGTATTCTTG
121736	GFAP	TTCTCCTCTCCCCTCTAAGGCC
121737	ASB2	CCTGCCTGAAGCCATGACCCGCTTC
121738	DVL3	GCTCACGTCTGTAATCCCAGCA
121739	PRKCH	AAGAATTGCAGGCCACTCA
121740	DMGDH	GAAACCAGGAATTCATTTCAA
121741	IGHMBP2	CTGGGGGGCACCTCTTTCTGGCCT

121742	JJAZ1	GCTGACTTGAATCATTTTGAGCAATTT
121743	SMPX	ACCTCACAGAACAAATTAGCCCA
121744	SLC19A1	GTTCAGAATGTGAACCAGTGCT
121745	RAD18	CCGATGCACGCCACCACCATGCCTG
121746	GSTM3	TCCAGCTGAGTTTCTCTTGGG
121747	B4GALT2	CACTGCCTCGCAGAGTGGCCTGGGCTA
121748	TNFRSF14	TGGAGGGAGAGGTGGGGCCCCTGC
121749	CHC1	CAAAGAGACACCACTCTGG
121750	GLTSCR1	TCCCATTTCCTGGCACACTCT
121751	MC1R	GGGAAGAGGCAGGGAGGGAGCT
121752	PDE7A	ATTTTTCTTGAAGAGGCAGCTC
121753	GLS	ATTTGATGCTGTTGTCTGTC
121754	ACAT2	TCACGGTACAAGACAATTGCA
121755	PDCD2	TCTTACTCTGTGCCTGACCTTGTG
121756	CD1A	GAAATGAGAGACTGAGTAGGCATCTCA
121757	IRTA2	CATTCTGCTCTTTTTGAGAGC
121758	MICB	TGACTCCTTCTTCCACCCC
121759	GRM6	AGGCATTCTTCCAGTGTGGTTT
121760	GRLF1	CCTGCTGCGACCCAGATTCTTC
121761	TRIM8	GGCACCTTCAGCCTCAGAGTGGA
121762	TMC1	CATCATCAGTCCTACCTGAGCAA
121763	BRIP1	GTGTGAGCCACAGTGCCTGGCC
121764	CHRNB3	TTCGGATTTTGAACCCCTGTAT
121765	PRKCSH	CGCCCCTCTGGGCCTGCCTGTGGCT
121766	PCDHA2	CAGAAATTTGGTGGGTTTTTTGTTGT
121767	HLF	ATCTGCCACAAAAATGTTCACTT
121768	G2A	AGCCTCAAACTCCTGGGCTCAAGCGAT
121768	RGS9	AGCCTCAAACTCCTGGGCTCAAGCGAT
121769	CHI3L1	CTAGGTAGCTGGCACCAGGA
121770	ART1	TTACCCAGGGCTGTAGGAGTGA
121771	RAB33A	AAACTTCCTGTCCTTGTTGA
121772	MCC	GATGCTGGGCTCATCTTCTA
121773	DHPS	GCGGCTGCGGTCCCAGGAAGGTCTTAC
121774	ACPT	GGTCCGCCAGCAGCTGGAGCT
121775	CTGF	GTGCTCACTGACCTGCCTGTA
121776	SLC2A5	CTCCACCTTGATGGGTCAACCTTT
121777	DYT1	TTAGGTGAAGGACAAGTAG
121778	THBD	AGAAATGTAACTTTTGTAAGACAAAGG
121779	CORO2B	CTCCATCTCAGTGGACCAGGAAG
121780	CHST1	CCAGCTGGGCCTGGAGACGCTGGTGG
121781	UBE2L3	CCTCACTGCACTCTGCTC
121782	TRH	GCTGCAGACTCCTGACCTGCCGA
121783	PCTK3	CCTTCTACCTCCTCCTCGGCCA
121784	FOXD2	TGGGCCTCTGTAGCTCCATCT
121785	B4GALT7	GCCCAGGCCTGTGGGTAGTGGG
121786	ADRB3	TGTCTGGAGGCACAGGCACAAAGCAT
121787	TCN2	AGGCTTCTACCCTCCCTCCT
121788	HEXA	CAGGCTGGAGTCAGTGTCTGCCCCTGA
121789	SMAC	CTGTGGTCTCAGGCTTGCGC
121790	TEC	TCCTGGTCAGTCTAG

121791	ARNT2	TGGAGGAACAGCAGCTCTG
121792	MYO15A	TCTTCCAGAACCTAGGAGGATG
121793	TOP3A	TTGAGCCTCATCTCTGGCTT
121794	MUCDHL	CCCTCCAGGAAATGACAGCAGGTGCC
121795	MRC1	TTTTACAGGCTGAGTGTTGC
121796	S100A3	GAATGAGGGGTAGAGCCACTCTGGGGCCCA
121797	IRF6	GCCTGCTCTTCCATATCATGGCCC
121798	CRYZL1	GCTTAGAGGCAGCAGCACTTG
121799	SYNGR1	CTCCACCCACATCCCCCTGGTC
121800	GRM6	AGTGGCACGATCATAGCTCACT
121801	IER5	CTCTTCTGGAATGCACCACTCCTTC
121802	MIPOL1	CATATTTAGAGAAAATTGGAA
121803	TCF3	TCAGCCACCGTGTCACTCTGTGAC
121804	GNAI3	GAAATGAGACCTGGTGGA
121805	MGEA5	AGGGGACATGGCAGAGATG
121806	SOX10	CTCTCTCACAGATAGTGAGGGT
121807	MECP2	ACAAGCACAGTCAGGTTGAAGACCTAA
121808	HYAL3	GCACACACCCCGCTTCCCTTGGAA
121809	PLXNA1	CTGCGCACACAGCTGCTTGCTCAGGGGCC
121810	MLLT3	TGAATCCAGCATTGTTGAGCTGTCATC
121811	GNS	TCTGTACGACCTCACACAGCC
121812	PTBP1	GGGACCCCACGCACATTCCGTTGCCT
121813	HIVEP2	GAGAGGGAGGGGTGCAGC
121814	SERPIND1	CCCTCATTTTGTTTCCATTCCA
121815	DHFR	CCAAAGTGCTGGGATTACCGGC
121816	LRRC2	TTCATATAAATGTGCAGAAAGAT
121817	RAC2	GCCAGTCAGGACTTTTGCTATTGCAAA
121818	TAT	CTACAGGCGTGAGCCACCATGCC
121819	AKAP1	TACCTCTGTTACTCTCAGCCTGGAATCCC
121820	HAS3	AGTGAACTCTCAAATCCAAAATGGT
121821	APM1	TGTTTTTACAGATTGTATCCTG
121822	GPR35	CAGGCCAGAGTCCCAGCTGTC
121823	TGM7	TTTGGGAAGAGACAATAAAGA
121824	IGF1R	AAATCCTGAACTTTCTCCCTCA
121825	EIF4EBP2	ATATGTTTTCAGTACAATTTTGAACAG
121826	FCAR	CCAGGCTGAAGTGCAGTGGAGC
121827	NRXN1	CTTTTCTCCCTGAAATACTC
121828	SH3BP2	GTCTGTGAGGGTGGGCTGGCA
121829	PDZK1	TAGGAAGAGATAAGGCAAGAGCTA
121830	DDX10	GTTCTGGAGCTCTTGTGTCATTG
121831	CCKBR	CCTAGTTTGACCTCACAGTGCCCCT
121832	INPP5B	GCTCCATCTGAGCTTGCTCTTCA
121833	SLC1A5	AGGCTGAGGACAAATACCTGC
121834	ABL1	CCAGCAGAATGGAGGCAGGGGACAAG
121835	SET	AAAACTAAATGTGTACA
121836	PRKCM	CAAATGCATGAACAAGTTTT
121837	RABIF	CACAAGTCAGGAGCAAAAC
121838	ZNF74	TCACCCAGGCGGGAGTGGTGC
121839	ZNF41	ATGGCGGCTCCCGTAGAGACAC
121840	UBE2B	ACCATAAACATTGCCAAA

121841	CASQ2	GGGAGGTTGATTTGCTCTCTAAACTTC
121842	GLI2	GCCACCCAGGACGATGAGCGGC
121843	SET	CTTTTGCAGGATGACCTCAGGGC
121844	HOXD11	CCTGCTCTCCGCAGGCCC
121845	DGCR2	TCACCGCCACTACTGCAGCTCAGTGCCC
121846	PTPN7	CCTACCTCCCTCAAGCCTGGG
121847	PTGIS	TTGCCTTTGCCCCGGCTTGCCTGTA
121848	PFKFB3	GTGAGGGTGGGAGATTTAGACACCTGA
121849	YY1	TAGTATCAAATATTAGATGTGATTTAA
121850	CLCN4	CCTTTCTCTTTAGTCTTTGTC
121851	CREBL2	CCTCTTCTCTCAGGCC
121852	EIF4EL3	GCAGCAGCTACAACAACAGCTGAGA
121853	MAX	ATGATGTTTTGATATTTATTTCCT
121854	DHFR	CAAATAGGATCCAACACAGGCA
121855	AMT	TCCCACTGACCTACTCTTGCCT
121856	RARA	AGCCCTGCCCCCACCTGCCCTCCCGGGC
121857	SORCS2	TGACTTCTCTGGGCTGAGG
121858	SLC9A5	GACATAGTGGCCTCTGGGCTGCCATGT
121859	ADCY1	CAACTCCAAACCCCAGCCACTTCCT
121860	ADRA2A	CCTGAGGACGGGGGTGCCTTCA
121861	ARSB	TTGGACCTCAGGCCTTTTCTCACGA
121862	BBS2	GCGCAGGTAGTGTCCCTGCACT
121863	FMOD	CAGAGTCAGGAGACCCCAAGGC
121864	ELAVL4	TCGGGGGTTTCAGCTCACTGCT
121865	PITX2	TGATGTTTCTGAAACTGCTAT
121866	TNF	CTTGAGACACGGAGCCCAGCC
121867	CARD10	CGGGCACACACAGGACCGTGCCTCA
121868	OSM	CAGGTCACTTTACCTCTGTGGACCTGT
121869	DCT	CATGCCTTACCTAAGAGAAGAGGCTGG
121870	TCEA1	GAAGAATTGGCAAAATATCTGGACC
121871	PRKACB	CAGCTAGACCCAGAAATTTGGAAGGCT
121872	TGFBR1	ACTCCTGGTTAGTACATTCTCAG
121873	TAP2	AGGTGGGATCATGAGTTTGCT
121874	CARD10	TCTGTTCTCACACCTGTGCGCA
121875	CYP1A2	TCTGTCTCCTAAGCTGGAGTGCAGT
121876	CDH12	AGAACAAACAAAATACATTTCA
121877	HIP1	GCTGTCAGATGTCACATAATT
121878	DLGAP2	TGAACTCGACAAGGCTTCCCCTTA
121879	SLC9A1	CCTCCTGCCAGCTCTGTCACCCTGGCC
121880	EPS8	GTCATGTCTTCTCAAAATCTAGCAAAG
121881	HLA-DOB	CTGGGCCCTGGGTGAGGTAAAGGACAT
121882	CACNA1E	CTGTCTGTTTAAACCTCAGGATGG
121883	MS4A8B	TCCTCCTCCCTTTCTGGGCTTCCA
121884	MADD	CATCTGTCTGCAGGCTGTCTCT
121885	INPP5D	CTAGCACCTAAAACCACGT
121886	TMEPAI	CAGGTGAAGGACAGGAAGGGGC
121887	BMPR2	GGGAGAGAAGACGAGCCTCCCGGCTGT
121888	TACR1	TTCAGCTTTCAAAAAGAGTGCTGCCCA
121889	TBL1X	GGGTCTGCTTTGTTCTTGTTGCT
121890	CYP4F3	CAGGCGGAGGTTGCGGTGG

121891	PMX1	TCCTGACTTGAACATAGGGTGACTTT
121892	MYD88	CTCCCAGGAACAGCTAGGTGGG
121893	FCGR2A	CCCAGTAGCTGGGATTAGAGGC
121894	ITPKB	TTTTGCCACTCGCTTCCCT
121895	IL6R	CCTGTTCTCCCCGCTCAGGTGCGGCGC
121896	LRRC2	GCCCAGGCTGGGGTTCAGACCTGC
121897	ADM	GGAGAAACTGAGAAATGAATGCTGAGA
121898	CHS1	ATCTGTAACGCTAGATATTGA
121899	GAP43	ACTAGCCCTCTTTCTCTCTGTGT
121900	SLC25A12	TTCCTTTGACACAGTAAGGCAAAGGCC
121901	APOA4	GTAGGGAGGCATCCAGTGTGGC
121902	KLRG1	GGAGTTTGAGGCTGCAGTGA
121903	NEURL	AAACAGTGTCTATTTTACAGAG
121904	MAPK10	CAGGCCCATCTCAGATCTTCACTAT
121905	ATP11B	CCTATAATGGTGCTTAAAGTGTGATTG
121906	GDF5	TCAGCCCACCATTTCTCCTCACC
121907	ATP7B	GTTGCTGACCAGCTGGAGTGAGGG
121908	ELAVL1	ATTTTTGAAAAATACAATGTCTA
121909	PTER	CCAGCTATTACAACTGTGCCTCT
121910	EP300	AGCGGGGCCTCCTCGGTGGGCTCC
121911	MTMR3	TTCTCCTCTTCTCTTCTTGGGACA
121912	PTPRC	TTCTGAAATGACCTCA
121913	COL4A1	AATTTCTGTCTTTCTGCTATGTGTGG
121914	FGFR3	GGGCCACTGGTCCCCAACAATGTGAG
121915	EZH1	CTCTGCCATGTCCAGAGGGCACAAA
121916	PSEN1	TGGTGAAGACCCAGAGGAA
121917	TCF21	TCCAAACCAGAGGAGATCAATTGT
121918	NAB1	TTCACATTCCTGTGTTAAGTCATTTT
121919	PPP1R12B	GTTCTGAGAGGAGGCAGCAATCCAG
121920	CIT	TTCTTCATTACCTTTTTTATTCA
121921	TOX	CTTGCTGTCTTTTGTGCCTCTGCAA
121922	GSTZ1	TCTAGCCCTGGATCTGCCTTCCTGCT
121923	TNFRSF10D	CTGAGGCAGGTGGATTGCTTGA
121924	TXNRD2	GGCTCAGGGGACTGTCCACCTCA
121925	MAPK4	TCAGCACTCCCTATGCACTTTCCTGAC
121926	SEPN1	CTTAATTTTGTATCATCCAGTCA
121927	SOX11	CTGGGAGGAGGGAGGCTGGGA
121928	PYGB	CCAAGCCCCATGTAGCCCCAGTCATCC
121929	ESR1	GAAAACTTACTCTCAACTGGA
121930	DNASE2	TGGCTCACGTATGTAATCCCAGCACTT
121931	MID1	CCCTGCTTCTCTCAGGGTTAAGGG
121932	MAP1B	GGAGAGGGCGGAGGGGGAGGCGGC
121933	APAF1	CTACAGGTGTGCGCACATGCC
121934	RAB36	CACTCAGGCCTTTCTGGCCCA
121935	RAPSN	ACGGGCTGAACCAGCTTTGTTCCCA
121936	HPS4	GGGCCCAGGAGTTCGAGGTGCA
121937	PLAG1	CATCAGTATTTATAGCAAAAAGA
121938	WBSCR1	GGAGCAGTTTGGGGGCGGCCGGC
121939	CHRNB1	TATGACCCCAGGGGCTCTGCTG
121940	AP2B1	CCTGCTGCTGCTATCTGTCC

121941	DMD	TGTCATTGTTTTCAGGTACTGA
121942	CYP4F3	ACCAGCCTGGCCAATATGGTGA
121942	EGFL4	ACCAGCCTGGCCAATATGGTGA
121943	LRRC2	TGCCTGTAATCCTAGCTACTCAGGAGG
121943	VHL	TGCCTGTAATCCTAGCTACTCAGGAGG
121944	STAU	AAAGACAACATTGTTCCTGGAACGC
121945	CDR2	ACGAAGTCCCTGCCGCT
121946	HDAC8	GGTTTTAAGCGGAAGATGGAG
121947	TNS	CCTGGACTCTGCCTTAGCTC
121948	TRPM6	ATTCTTGTGTCTCAGTCTTCC
121949	ITGB4BP	TGAGACCAGGATGAGCTGTC
121950	DISC1	CTGATCTAACCATTCCCCAGTCA
121951	GPR56	GAGTAGCTGGGATTACAGGTGGTGACT
121952	ZNF74	GCTCACTGCAACCTCTGCTTC
121953	DBY	AGTTTATTCTAACCTAGGCAA
121954	CELSR3	TGTGGAGTCCCTGCCACT
121955	HSD17B2	TGGCCCTGAGCACTTGAAGGTGC
121956	ELMO2	CCTGGTGCTGCAGCACTTGTA
121957	SYN3	CCAGGCTGGGAGGGGAAGA
121958	GALNT2	GTCGGTGCCCTGCTTCCTCCTCC
121959	PSMD9	TTTTGTTTTTGTTTTCTGGAGACAAGGTCT
121960	PRDM1	AAAGTGCTGCCGTGACACTCGGCCC
121961	MGAT5	GCTTCAAGATCCTGCTACCATTTTCT
121962	SURF5	GGCTGAGAGGCTGCGGCGGCTGAC
121963	SEDL	GTTGTCCAGGCTGGAGTGCAATG
121963	SLC15A1	GTTGTCCAGGCTGGAGTGCAATG
121964	SWAP70	AGCTGATAACATGACCTGG
121965	SOD3	CCTTTGAGCTTCTCCTCTGCTCCA
121966	SLC26A4	CGACATCATCCCTTGGTATACTCC
121967	SLC19A2	GGAAAGGGAAGTGATATCAT
121968	PTMS	GGCGTGCGCCTGCCAACAGGCTGG
121969	APM1	GTTGCCAGGCTAGAGTGCAGTG
121970	MUC3B	CCGGACACAAGGGTCTGCATTGCGTCC
121971	ALDH1B1	TCTTGAACTCCTGACCTCAGGTGATCCA
121971	EIF5A2	TCTTGAACTCCTGACCTCAGGTGATCCA
121971	PRND	TCTTGAACTCCTGACCTCAGGTGATCCA
121972	ATP1B2	TCTCGAACTCCCGACCTCAGGTGATCCA
121972	FCAR	TCTCGAACTCCCGACCTCAGGTGATCCA
121973	RBP5	ACTGCCCAATAGTGACCTC
121974	LRRC2	CCGAGATCATGGGACTGCACTCCAGC
121975	LPXN	CTTCTGCTTAATAGTCTTATA
121976	PDGFRB	GTTCCCTGGCCCGAGCTGGTCTGGGGC
121977	RGS16	AGTGGAGAGCCCTGAAAGGAGG
121978	EXTL3	GGATGGGATCTTTCTGGGAGCTGC
121979	KPNA1	GGACTCCTCCTCATTCCCTTTA
121980	APXL	AATAGCTTTAGTCCTTCTCACCT
121981	GM2A	ACCAGGCTGGAGTGCAGTGG
121982	CRAT	GCTGCCTCTACCGGCTGGCGGCTGTA
121983	MAPRE2	GACGCAGCCACCTTCCTCACCA
121984	FGA	GCTATGGAGCAAATCCAGGAAG

121985	IL20RA	CTTATTGTCTCTCAAAACTAACCTAA
121986	GNAS	CACTACTGCTACCCTCATTTCA
121987	CEACAM5	CCAACATCGTGAAACCCCATCT
121988	TDGF1	TGTCACCCAGGCTGGACTGCAAT
121989	APM1	CTCGGCTCACTGCAGCCTCCTTCTCC
121990	SLC22A2	AAGTTGGCCCAGCTTTGGAAACTG
121991	MADD	TCTGGCTCTCCCTTCTCTGTGACCC
121992	SYT1	ACATCTTAAAGGACAACTTAAA
121993	CTSS	TTCTGACCTTCCCCTGAAGTAG
121994	IL10RA	TGACCTGTTCTGTTGACTGGG
121995	FGFR2	ATCATGCCATTGCATTCCAGCCT
121995	TBX6	ATCATGCCATTGCATTCCAGCCT
121996	STXBP1	CCTCAGTGCCTGCTCTCATCCA
121997	REN	AGAGGCCAGAACACTCTGGAACAT
121998	NR2F2	TTAAAAAATATTTTAAGAAAG
121999	MAFF	CCACTGCACTCCAGCCTGGGCAACATA
122000	TPMT	CCACTGCACGCCAGCCTGGGCAACAGA
122001	ACRV1	TCTCTGTCCTGTCTTCCCTGCTCCAACTC
122002	HTR2C	ATCGCGCCGAGCTCCCTCCATTCC
122003	IL11	GGTCACCCAGACAGCTCTGTGGAGGCA
122004	TCF2	GACATTAAGACACACCTCTGG
122005	RNASEL	TTCATTGAATAATGAATGAAC
122006	CTLA4	TCTACTTCCTGAAGACCTGAACACCGC
122007	OPHN1	ATCCACAAATGCAGTTTTAG
122008	GLO1	GATAAATTATGTTCAGTGA
122009	CTSH	CACCATGAGCTCACCCGTGT
122010	COL19A1	CTAGAGAAACAAGGCTGTA
122011	SYNGR1	CTGACCCTCACCCACTGTCC
122012	SSX2	GTCTGATTTTCTCTTTGGA
122012	SSX3	GTCTGATTTTCTCTTTGGA
122013	POLL	GGAGAGGGAAGCAGCCGTGC
122014	NPTX2	TTCTCCTCTGTCCAGGAGGCC
122015	STK11	TCCTGACCCCGCCATGCATGC
122016	DMRT1	CCAGGCGAGAGAGGGGGCCAG
122017	VDR	TCAGAAAGAGCCAAGTCTGGA
122018	ZNF36	TTTCAGAAAAAGGAACGTGG
122019	C18orf1	CTTTATTTCATCTTCATAAGAATGA
122020	DKC1	CACCTAAATCCATCTGACTAC
122021	FCMD	TTCTCCTCTTCTAATATATCAGATC
122022	SFRP2	TGGGCAGCTTCCCCCTGCCTTTTGC
122023	SLC4A4	ACCACAACTGTGATATATCCT
122024	ARNT2	AGCAGCTCTGGGAGGCACAGAG
122025	SH2D2A	CAAGAATCCAATGGCTCAGTCC
122026	NRCAM	TCAGAATCTAAGAAATCAGGCAAGT
122027	HMGCL	ATGATCCTTGAGTCTCCTCTCTG
122028	HTR7	CTTCCCATGCTTCTGAGTCT
122029	BACH1	TCTATTCTTAGAAGCAGGGTGTCAGC
122030	F2RL2	TGCTTCAAAGGTCAAACATTACAAAAG
122031	HOXD1	GGAGAGGGCAGCTCGGGTAGAGAGGGC
122032	RASGRP2	CCTGCAGGAAGACGCCCGGTCCCGGG

122033	GOT2	ACACAGGGCAGAGGCATCCATGGCTGGC
122034	PCDHB3	ATTACCCTTTGGTTTATCTA
122035	MFAP4	AAAAAGACAGTGTAATAATAACAT
122036	MSR1	CTAGTACTATTGCTATTACTAGTACTA
122037	PCDHB12	TTCACTAAGGTCCACTAACTAATAAG
122038	DCTN1	GGGTACTTGGCTTGCTTTGCTA
122039	KCNS2	ACTACCTGCTAATTCTTGCCGCATTT
122040	RAG1	GTTACATCAGGACAACTTTGA
122041	ITCH	TCCTGCTCTGTCTTTTATTATC
122042	NRG1	TCTCCTGCCGCCGCTGCTGCTGCC
122043	LAMC2	ACTGGGTGTGAGAATGATCAAGGATCT
122044	NFIA	ACTACTACTACTACTGTTCA
122045	ATP7A	GCAGCCCAGGCTGGAGTGCAGT
122046	EFNB1	GGAGGTGAGGTGCCCAGGTGG
122047	CAV1	AACTCTGCTTGATTTTTGCC
122048	PDE4C	TCACTGCACTCCAGCCTGGGCAACACA
122049	AIRE	TGCCTGTAATCCCAGCTACATGG
122050	RPA2	GGCCTCTGCCTGTTTTCATTTC
122051	LZTS1	CCCCCAGCAGAGGCAGGCTGG
122052	Z39IG	ATGCCCCATTAGGCCAGGATCTGCT
122053	TAGLN	CCTCTACTGTCTCCTCCCTGGGCT
122054	GABRA1	GCGCTGGCTCCAGTCTCTCC
122055	PIK3C2B	AAAAGGAGGGAGGGACTTTGA
122056	GIP	GGCTCAGAAGGTCCAGAAATCAGGGGAAGGA
122057	CUL3	CCCCAGCCCTGCCCGGGGGTCG
122058	BACH2	AGATTTCTCACAAGTTATTTCA
122059	ZNF35	AGACCTCCAGCATTGGTCATAACCTTC
122060	HTR1D	TGCCCTCTCGCCAGGCTGGAGTGTAGT
122061	CREBL2	AGGCCTTCAGAATTTAAGGGT
122062	CUL3	CCAGTGTTGTCCAAGGTTGCTAGCAGG
122063	DEC1	TGGAATCCCAGAGCTACTCTTGCTA
122064	FZD4	CACCCAGGCTGGGGCGCAATGG
122065	RIMS1	AACTTGTCCTATGAGATGTTTCA
122066	PPP1R11	TAGTCCCAGGGACCTGGGTCTCTGG
122067	SCN4A	CACCAGAGTCTTAAGGGTCA
122068	ID4	AGAGGGAGGGGGAAGAGCAGAAGT
122069	LOR	TAGCCTCTTTGGTTTCTGT
122070	TAL1	GCCATGTACAGACAGAGAATATGTCT
122071	DIAPH1	CCAGCCTGCTTTTTCTCAGCCCTGAC
122072	SCN3A	CACTGCTGAGGAGAAACCCAATGGCTA
122073	NT5E	GCCTCCAAATCTGAACAGTCACT
122074	FGF2	TAAGGAATAGGTAGGAAAATTTGGTT
122075	SCN4A	TGAGCGGGAGTCAGGGACCTGCTGCTC
122076	RAI3	CACCCAGGCTTGAGTGCAGTG
122077	MBD4	CGGCTAGGCGTGGTGGTGCA
122078	MS4A5	ACATGGTCTAGACTGAAGTACCAACT
122079	RNTRE	TCAGCTGTTGCCATTTTCTTTCAAT
122080	RPS6KA2	TGCGGCTGCTCCGGGCTGGGCGCGG
122081	LMO4	ACGCCTGGGTGCGCCTGCCTGCCGGC
122082	RBBP9	TGCCAATTTTCTGATTTTTTGT

122083	MLPH	TCCTTTCTCTCCCAGGTGCTGGACC
122084	ZNF3	AGCTCACTTGGCCTGCTTGCCCTGCCC
122085	PLA2G2D	CTTTCTGGAAGTCTCCCCAGGCTGACT
122086	PPP2CA	TTATTAAAAAAGTTAAATCA
122087	G6PC	AGGGCCAGGATTCCTCTCTCAGG
122088	COL19A1	TTCCAGTTTTGTATGAGTTCTGC
122089	IL1F5	TATGGCAGAAGTGATGGCAT
122090	STIM1	GGGCTCAGGACAAGTGGCTC
122091	GABRE	TCCTCTCTCTATCCTAGACATGGAAT
122092	TAF1A	TACAGAATATAGCTCTACAGCA
122093	CLTB	TGGGCACAGGAGGAGCAGCTGCT
122094	PPP2R4	GATGGCAGAAACTCAGGGAGGGGCTT
122095	PSMD5	ATTATTTTAAAGTGACTGGAATT
122096	PTCRA	TCTGCAGCTGGGTCCTGCC
122097	LSS	CAGGCAGCAGTTGTAGTTACTGCCGCG
122098	VPREB1	TCTCCTGGTCCTGCAGTGTTGCTGTA
122099	PKM2	CATGGCTGTGTTTGCAGCCT
122100	HOXC6	TCACCGCACAACTCTCTTTCA
122101	GRM6	TTCTTAGGCTGGAGTGCAGTGG
122102	CDH13	AGGAGCAGAGCAGGCAATTTC
122103	DSCR5	CGTGTGCCAGCACTAGCCTAG
122104	COLQ	ACTGGCCACAGCCCAGCCCAGC
122105	STMN1	GAAAAGAGTATGTAGTGGCTT
122106	WFS1	CTCCCCCACCTTCAAGCAC
122107	PDE1B	ACACCGGCCTGGCTGGTCCACGCCAGC
122108	RGR	AGGCTGAGAGGCCTCAGGAAA
122109	SUDD	TGGCTCAAACCTGTAATCCCAG
122110	PSME3	GAGAGATGAGAAGCAGAGGGC
122111	GNE	ACCCCAGGCTGGAGTGCAGT
122112	RPP30	GCTCAGGCTGGAGTACAGT
122113	SIAT8E	AAGTGATCTCAAGAGGTCCAGGG
122114	LPO	GGCTTCTCCTTTCTGTCAAGACTTA
122115	RBM8A	TCACTGCAGCTTCAAACTCTT
122116	BMP8	GCGCCTCCATTTTCTATCTGCACT
122117	FGF2	AGGCTGAGAGGTCAAGGTTGCAGTGA
122118	HNRPH1	CCAGTATTTTTGAATACAATACTCAT
122119	PPT2	CGGCTGGGGAGGGAAGCAC
122120	GRIA2	TTTCTTGTGTGTTTATTGTCAA
122121	M11S1	TCGGTGCAGCGGGACAGGGCGAAGC
122122	EGLN2	ATTCCTGGTCTAGGGCTGTGAGGCCA
122123	DNAH9	TTAGTGCTTTAGGATATGG
122124	RNASE1	CTTCCATCTCTCTCAGACACC
122125	VHL	GCAGGCAGATCATCTGAGGTCA
122126	ITGB1	AACTCACAGAACTATGTACTTTA
122127	MKI67	TCCAGGCTGGGGCAGGTTCTTA
122128	LDB2	TCCTTTTTATGCATCAAA
122129	MSX2	AATGCACACAGAAAATATTAG
122130	NFKBIL2	TCCAGCCTGGGCGACAGACCG
122131	SOX11	AGCAGGGGGTGGCAGAGGGC
122132	OTOF	CCCTGCCCCCTTGCCCTTCCAGCCCTTTC

122133	PCDHB4	TGCTACTTACCTAGCACA
122134	ADCY6	ACTGTGAAAAATGCTCAG
122135	P2RX7	ACCAGACTCGCCAACATGGTGA
122136	APM1	TACCATGAGCAATTCTCCTGCCTCAG
122137	EIF4EBP2	CCTCCCCGTCTTCCTCTGGGTGCCA
122138	RIMS1	CCTGATTTTAGAGATGAGGA
122139	ADRA2B	GTGAAGCTTCCCCTTGCCGGCTTAGCT
122140	PCDHB16	CCATGCCTGGCTAATCTTTTGC
122141	IL16	GTCCTCCACAGAGGGCGAGCCAGGG
122142	VCAM1	GCAGACTTCCCTGAATGTATT
122143	IL11	TGTTGGCCAGGCTGGTTTCGA
122144	IFITM2	GACCTGTATTCCACTTACTCCACCTTCC
122145	PDCL	CACCCAGGCTGGAGTACAATAGCGTG
122146	ITPKB	TTCTTCAACTGCTTGCTTTTCCCA
122147	PDZK1	CTCACAGCAACCTCTCTGCCTCC
122148	EVC	CTAGTGAGCCCTCTGGCTCTGGG
122149	FGF5	CGGCCTCCCCAAAGTGCTGGGA
122150	ATOX1	CCTATTCCTTCCTAGCTTCCCTGCAATAAAAT
122151	GJB6	GGATACTTGCTCCA
122152	EZH1	ACCAGAGAAAGATGAAGAGGAGGAGTT
122153	AGPAT2	GGAGGGGCCTCCAGGGCCAGG
122154	POLQ	GCTTGAAATATGCACTTAGCACTTTGG
122155	CACNA1C	TGGAAAGGTAACTGGCAATGCACTTGATGT
122156	NCOA6	CACCGAGGCTGGAGTGCAGTGGCGCG
122157	COL19A1	TGCAGAAGATAATTGAATTTGT
122158	PPP2R1B	CCACAGCTCAGCCACTGTGAT
122159	ADCY6	TCAAGCTGGAAAACAAGGGG
122160	ILF1	GGCATCTGCACATTTCCGTGTTAC
122161	NRAS	ATGCCATTTTGTACATGTAT
122162	CLECSF12	TGCTCTCATAGGAAAGTTTTCTGCTT
122163	SRR	ATCCCATCCTCCTCCTTCATA
122164	CYP2C9	GCCTTTTCTCACCTGTCATCTC
122165	WHSC1	CACTGCGTCTGGGCCTGAGACGTGC
122166	TNFRSF8	AGCTGGCACTGTCTCTGCTGCA
122167	INPP5B	AGATCAGGAGTTCAAGACCAGGCT
122168	MEST	ATATCTGATCAAATGTATAGA
122169	COL10A1	CTTTTTAAAAAAGCCTGTTTCTA
122170	CLASP2	AACAGCATCTGAAGATGGCCGGGTGA
122171	MYO1A	GCAGCAAAAGGGAAAATCAGAAGA
122172	AKAP2	GACAACGAATAACTTCCTTCAACCCAGGAA
122173	DSP	TGTACTTGTTTGGTTTGGTATTAA
122174	WHSC1	CTCACACACCACACCTGATTCC
122175	CSF2RB	AGCAAATCACTTCTCTCCCTGCGCT
122176	EN2	AGCAGGAGGGGCCCACACCTC
122177	PAFAH1B2	GTTCATATCTAGTGTTTGAAG
122178	MCM6	ACTGTGGCACAGCACCTCGTG
122179	FGFR3	CAGGTGCAGAGGTACCCTGGGTGT
122180	FHL2	GGAGAGGGGAGCAGAGCCGGAGTTGGG
122181	VCL	GTCTGTGCTGAGGCCTTATCATTCAT
122182	PTGFR	AAGGCTCTTTCTCAGCACAT

122183	NR2F2	GCCGTACTGCCTTTTTTCCC
122184	ITGA1	TCAAAACAATATAAATTAAGCT
122185	ZIC1	AATCAAAACAACCCCCACACAG
122186	IL1RL1	ACTGTCTGGCCCTGAATTTGC
122187	PIK4CB	GCAAGGAAGGGAATTCCCACAGCCCT
122188	G1P3	CAGGCTAGAGTGCAGTGGCTATTCACA
122189	GJB6	TCTCTGAAAACAAGAGACTGCT
122190	IL6R	GGTAGAGTGTGCCTGAA
122191	PPT2	TGCCTGTGACCACCTCA
122192	CSH2	GCCTCTCCTTCTCTTCCTTCACT
122193	ZNF36	GTATATATGATCACTGGTA
122194	RHD	GGGATTACAAGTGCGCACTACCACA
122195	SMARCC1	TTTTCTTCTCACAGCTCCAAGCAC
122196	TMEM1	TTTTACAGGTGTGAAAGTCACA
122197	LAMP2	TGGTATCTTTAGATATTTGCCTGT
122198	PRKR	GCTGGTGATCTTTCAGCAGGTT
122199	DAB2	ATTTGAGACTTCTCCATCG
122200	EDAR	CAAAGCTGGGACTCCATCCTGCC
122201	ENG	GCGGAGCCCAGCCTGGGAGCCCAG
122202	PKD2L1	CCCTCACCTCCCCTTTCGGCTGGTCC
122203	LAMP2	GCCTGTAATCCCAGTTACTCGG
122204	NR2F2	CAAAAGACTGGTTTGTTTGCT
122205	EDNRB	TCATCCCAATCACTTTTTCAGAGG
122206	SLC22A3	CTGGGCTTTGTCATGGTGTTTTAC
122207	CPD	TAACTGTACATCTCAGTGGCTGG
122208	ZNF43	GATTTGACTCTCCTGCCTGGG
122209	CRYZL1	CGCTTGAACCTGGGAGGCAGAG
122209	F2RL3	CGCTTGAACCTGGGAGGCAGAG
122209	PDE7A	CGCTTGAACCTGGGAGGCAGAG
122209	PTAFR	CGCTTGAACCTGGGAGGCAGAG
122209	TSNAX	CGCTTGAACCTGGGAGGCAGAG
122210	IL17R	TGCTTGAATCTGGGAGGCAGAG
122211	CD209	CTTTCGCTCTTGTTCTTGCCG
122212	KCNC4	CCCCGTCTGACGCTGCCTCCT
122213	KLK3	GGACACAGATAGGATGGGGTG
122214	FZD4	TCAGAATCTGGTCTACTTAGG
122215	ZNF236	GGCCCTACAAGTGTGCCTACTGCGTC
122216	IRF1	AACCAGGCAACCTCTGCCTTC
122217	CYP27A1	AGGGAGCGAGCGGGAAGGGGTC
122218	RASGRP1	TGTCCAATTGCCAAGAATATGTTAACA
122219	TRPC1	AGCTAAAATGTTTTCATAGGCTATT
122220	JPH2	CTCCTGGGGTGCAGTGGTGAG
122221	KCNJ10	GGCTAGACCCATGATCACCACC
122222	HIS1	GCTGGGTTTCACGCACTGGACTT
122223	ASPA	TACATGATACTTGGGTAGCTCAA
122224	ESRRG	TCCAAAACTATTGCTACTTTGTGTG
122225	HS2ST1	GGGGGAGGGGGACTGGAGAGGC
122226	E2F3	AAAATGAAAGGAATACTAATAAG
122227	SYT1	CTTCACAAATATCAAAACAAAATGGAGG
122228	TMEPAI	CCTGCCTGATTCCATGGCTGTTGT

122229	PAX5	ATGCTTGTCTATTTCTAAAAGCCAATCTATG
122230	TNFSF12	GCCAGAATCAACAGCTCCAG
122231	SLC4A7	GGAGTCTATACCAGTGCTGTG
122232	KLRF1	ACATACCTGTATACACACACAT
122233	KCNMB3	TACATACAACATTCT
122234	PVR	TGAGGCGACGGCTTCCATCTGCC
122235	ERBB4	ATTGCAAAGATGTTTACATCAAA
122236	XK	CACAGCCGCCGCCACTGCGTCCGT
122237	E2F3	GGGCTCTCTTACACCGCACTCAGGG
122238	IL16	CTTTGCCTTGGAAGTTGCATGGCAT
122239	CLDN14	TCCTCTTGCACATGGGAGCTGGA
122240	TMPRSS3	AGTCCACTTCGACTGCTCAGGGA
122241	LZTR1	CCTGCCTGCCCTGCCTACTGAGAAGAC
122242	PRKAR1A	CAAAATAATCTATATTAAATGAGGG
122243	RNF12	TAAATGTTAACCCGTAATAATGGGA
122244	TERF1	ACCAGCCAGCTAATTTTTGT
122245	ARHGAP6	CCCCCGCCCTCCAGCCCAGGGG
122246	BRCA1	TCCTAGAGATACTGAAGATGT
122247	ZNF38	TAAGGAAGAAACATTAAGATTGTT
122248	MLH3	CAAAGGGATGTTCACTGTAT
122249	FZD6	AGCTTTTACACTGAATTTCTAA
122250	KCNJ15	GATATTTATTTAACCAATGA
122251	RAB5A	CCGCCGCCACCACCACCGCCAT
122252	GADD45G	CCTAGAGCGCGGCTGGCTCTGTGGAGGGG
122253	CD34	CCTCCTGCCGACTCCTGGGTTGAGCT
122254	GAS7	CTGTCAGGAGGGCTTCCTGGG
122255	ED1	CAGAGAGGGAAAAGGCAGGTGCTTTTG
122256	CSE1L	GCCCAGGCTGGAGTGCAGTGAGC
122257	VSNL1	CTTACCTCATTTGCATCCTATCG
122258	MSL3L1	TGGCATAGTTCCAGGTGCGT
122259	MC1R	GCGCAGCCCTGGCCCAGGAAGGCAG
122260	TRIM14	CCTTAGGCCCAGCTTTCAACCTGC
122261	NELL2	AGAATCAGTTAGGTTCCTCAC
122262	MYO3A	CCGCAGAGGCTGCCTGCTGC
122263	APM1	CCCGAGTAGCTGAGACTTCAGG
122264	WSX1	TGCACTCCAGGCTGGGTAACAGA
122265	GSTM1	GGAGGTGGGAGTGAGGAGCCC
122265	GSTM2	GGAGGTGGGAGTGAGGAGCCC
122265	GSTM4	GGAGGTGGGAGTGAGGAGCCC
122266	RHO	CAGGCCTTTCTCTCAGCCTCTGG
122267	CHAC	TGCTTTTTTCTTTGCTGAACTT
122268	LNK	CTCCCAGAACCTGTCTGGAGG
122269	SNX4	TCTTCATTTTGCTAGCTTTGC
122270	AVPR2	TCTCAATCTTCCCTGCCCAG
122271	MPO	GCTCCCCTTTTTCTTCCTCA
122272	SRR	ACTTAACCTTGTCAATAGGTTC
122273	HIVEP3	CTCTCTCCAACTGCTTCAGCATCTGGC
122274	LOH11CR2A	GTTCTCTGGGTCGTCTAAGGACAGTTG
122275	MEFV	ACTGCAACCTCCGCCTCCCAGG
122275	PCDHB9	ACTGCAACCTCCGCCTCCCAGG

122275	PIGR	ACTGCAACCTCCGCCTCCCAGG
122275	RHD	ACTGCAACCTCCGCCTCCCAGG
122275	SEDL	ACTGCAACCTCCGCCTCCCAGG
122275	SLC15A1	ACTGCAACCTCCGCCTCCCAGG
122275	SS18	ACTGCAACCTCCGCCTCCCAGG
122276	FGFR2	TGCCCGCGCTCCTCCGCAGCCTGGG
122277	HAS3	AAATGGTTATCTTTGAGACCATCCAT
122278	RARB	ACCTTCAGTTCCAGGATTT
122279	ED1	AGGTGCTTTTGGCAGAGACCA
122280	KLK3	TTCCAAAACCTTCCTCTTCCA
122281	RABIF	AAGTTTATAATTTGCCACACCTGG
122282	RNMT	TTGTCTACCTCAGGCCTTGTGCATTTG
122283	EGLN2	AGGAGTGGAACGGACAATCA
122284	TEM6	GTTTGCCATCATCTAAGCCACTG
122285	MASP1	CAAGCTAGCAGAAACTCCAT
122286	STARD5	TGAAGCCAGCTGTTGGAGG
122287	CDH11	TGAAGGCAGGGGCTCAGTGG
122288	BID	ACTTCTATTTTAAAGACAATGTTAA
122289	PSCD4	ACTAGGCCCTGCCTCTGTCACC
122290	PCTP	CCTTTCTCGCTCCCCCCATCCTGG
122291	KLK5	CTCTGTCCCCTCCTTGCCC
122292	PPP2R5A	TATCCCCCTTCCTCTGCAATTCTCCA
122293	TCTA	TTCCATCTGGCTGCCTTTGCTTAAGCC
122294	ANKRD3	GGCTGCTGCTGACCGGAGTGTC
122295	INPP5B	GGAGGCTGAGGCAGGCGGATCA
122295	TEM7	GGAGGCTGAGGCAGGCGGATCA
122296	DDX6	GGGGATTAGAGTGATTATGGGAGCAGC
122297	IL10	CCCCTTTGATGATTAATTCACCTT
122298	CISH	CCAGCCGCCGCCGTCCAG
122299	CTF1	CTCCGCATCTCAGCCACCTTCCTCA
122300	BMPR1A	TATTTTGTGTATAATGTGCTTTAT
122301	SRR	ACTGTAAGCCCACACTTAACCTTGTCA
122302	AP1M1	AGGGGAGGTGGGGTTTGGTG
122303	TEM8	GTTCCCCAGGCTCACAGTGTAGAG
122304	IRTA1	TACCATTCCCTTCTCAAAGGAA
122305	SIGLEC6	GAAATCAAGATACACAAGTGG
122306	FTSJ2	TCTCGAACTCTTGACCTCAGGTG
122306	TRPV1	TCTCGAACTCTTGACCTCAGGTG
122307	BMP1	CATAGGAGGTGGGGGAACTGGA
122308	DAAM2	GAGCTGGGCCTACTCTCAGCTGCC
122309	KMO	TGTTGACCAGGCTGGAGTGCAGT
122310	CLASP2	AACATTTTTGGGGCTCAGCCACTAGT
122311	ACCN2	GGGAGCTGGGGATTGGCGACTCC
122312	MYOM2	AGATGTCCCTTGTGACTGTCCC
122313	NPAT	ACTCAGCTTGAGACTGTACTA
122314	KPNA1	CTTGCGCACCTGCTCTCTTACACACA
122315	PCDHB9	CATTGTACTCCAGCCTGGGCAATAAG
122316	FMO1	TTCACAGTTATAAACTGTATTCA
122317	NR4A2	TGAGGTGTCCGGGTTCCCTTCGCCCAG
122318	KCNA6	CATTTTCTCTGGCCCTCTACC

122319	BAK1	CTGCTCCCATTCCTCCCTC
122320	RAD52	ACCATAAATTGGCTTTT
122321	GOT2	CTATTGCAGTTTCATCCCATT
122322	RPA1	TTGTCTCTTCTGAGGACCG
122323	PMCHL1	GTCTGGAACTCCTGACCTCGTGA
122324	BCL11B	TGAGTGCCTTGAAAACTGATCTTCCT
122325	BACH2	CAATTTCAGTCTTCACAGGGAT
122326	MAX	TCTGAACTGCTCTACTTTGAGA
122327	TAT	ACCATTTCCTCAGACTCTAAG
122328	NDRG2	GGGGCAACAGGAAGGGGCCTG
122329	BSN	TTCACAGTGACAGCCCTCCCCTACAAT
122330	DGAT1	GGCCTGGCTTCTCACTGCCACCTCA
122331	SMPX	CTTCCCTTAGGCAG
122332	PCSK1	TATTCATGCTTCTTCCTTACC
122333	HFL1	GCTGAGACCGGTGGCTCTCT
122334	TLL2	CTCCGAGCGGCTGCTTCCCGGTTGCCTC
122335	BCAS1	CCCAGGAGGTGGAGGTTGCAGTG
122335	CPT2	CCCAGGAGGTGGAGGTTGCAGTG
122335	GGCX	CCCAGGAGGTGGAGGTTGCAGTG
122335	LDLR	CCCAGGAGGTGGAGGTTGCAGTG
122335	PTGIS	CCCAGGAGGTGGAGGTTGCAGTG
122335	RFC2	CCCAGGAGGTGGAGGTTGCAGTG
122335	TBX6	CCCAGGAGGTGGAGGTTGCAGTG
122335	VDR	CCCAGGAGGTGGAGGTTGCAGTG
122335	XRCC2	CCCAGGAGGTGGAGGTTGCAGTG
122336	AVPR1A	GTTTCTTTTATTTTCATTTCTA
122337	TCF12	GCTCTCATTTTTTGATTTATTTTT
122338	FANCA	CTGCCTGCACTGGAACCCACAGA
122339	LZTS1	GCTTTGCTATGACCTCAGTCC
122340	RTN3	CCTCCCTCTCCCCTGCCCACC
122341	MSMB	GCCTCATTCTCCTCTGGCCT
122342	GUCY1A3	GCCTGACAGTGACAATGACATCCCAG
122343	TAF4	AGCAGTTTCTGCATTATTTGT
122344	CHN1	ACCATATCACATGCC
122345	CLNS1A	TCTTCCACTCTGGAGTGAAGT
122346	GRM4	GTGCGTCGGGCCAGGGCCACA
122347	MAPK7	GCAGGATCGGGAGACCCCAACTCCCC
122348	WIF1	TATAATATATTGTAAACAAAAC
122349	RAD50	AGGGTCCAACCAGACCTGGAAGA
122350	KLRG1	CACTGTACTCCAGCCTGGGAGATAGAG
122351	DIAPH2	CACCCAGGCTGCAGTGTAGTG
122352	MN1	GGCGGGGTGGAGGTGCGCGCTGA
122353	ST14	CTTCAGTGTGTGTATTTGTGTAA
122354	TEM7	TAACATAACTAACTCCATTTT
122355	KCNH3	AGGCTGGATCCCTGGGGCAGGC
122356	BPHL	GGCTGGGCACGGTGGCTCACAG
122357	CBFB	TCTGAATAAGGTCATTGCATTTA
122358	SMARCD1	CTTCTCCAAGACTCAGGCC
122359	ESR1	AGAGAACATCAGATGATTGAAATG
122360	CTMP	GCCTATATCCCAGCACTTTGG

122361	BFSP2	GTAAACCCACTGGGCACCACAGAG
122362	FGF2	GGCTGAGAGGTCAAGGTTGCAGTGA
122363	SMARCA1	CTACCTGAAATGTGTAGCTTTA
122364	NFE2L2	ACTGTTCTTATGTCATTTGTTAT
122365	HOXB3	GCTCCTTCCCTTCCCCCTGGCC
122366	PDCL	CACCCAGGCTGGAGTACAATA
122367	IRS2	TCGTGTTCATACTGCAGCTT
122368	CSNK2A1	ACCCTGTGTCACGAACCCCCG
122369	PAICS	ACTGCTGCTTTCCCTCCTGGGCT
122370	PC	GCCCAGACTTGGGTGTTACAGGA
122371	METTL1	TGCTGGAGCTACACGACTGGATGTG
122372	SNX15	CATGCCACCACGCCCAGCTAATATTT
122373	TYRP1	CTGAAAAAGGAACTACCTA
122374	EBAF	AAGAGGAAGGATGAAGGGCTTCAGGCT
122375	CACNA1A	CGGGCAGCCGCCTTCTGAGCCCCC
122376	SCA1	AGAGAAACTGAGAGAAAAGGGATG
122377	FGF2	GCTCCAGGATTTGTGTGCTGTTGCC
122378	SLC16A1	TTCACAGTGGTCCCATTTATATCTGCT
122379	EGFL4	CCACACGCATACACACATGAACAC
122380	FBXL3A	AACTGCATGATGAATAGCACCTTA
122381	LIMK1	GGAGGGCGCACATCAGGGCAG
122382	PEX10	TCACGAGCCAGGTCCTGGGGGTA
122383	TACC1	AAGAACAACAGAAATTATCTG
122384	GAB2	CAGCCTCTTCCTGTCCTTTAGA
122385	CYP3A4	GCTCACGCCTGTAATCCTAGCA
122385	IL6R	GCTCACGCCTGTAATCCTAGCA
122385	OPA3	GCTCACGCCTGTAATCCTAGCA
122385	TGFB1	GCTCACGCCTGTAATCCTAGCA
122385	XT3	GCTCACGCCTGTAATCCTAGCA
122386	ITGAL	GTTCACGCCTGTAATCCCAGCA
122386	VHL	GTTCACGCCTGTAATCCCAGCA
122387	NNMT	ACTCAGGAAGACAACTTCTGCAGGGT
122388	LY64	GAGGGAGGGACTGGGCAGGGACTGC
122389	KRTHB1	GGAAGGGGCCTCAGGAGCAGGAAGGGC
122390	RALBP1	GGGACAGATGAGTTTTCCAGATA
122391	CTF1	TCGCCCAGGCTGGGGTGCAGTG
122392	RAB36	TTCTCCATGTTGGTCAGGCTGC
122393	ADRB3	GCTCTCATGCCTTGCTGTCCCCTCCCC
122394	LARGE	GGTTCCTCTGGTTCTTGCCT
122395	SIRT5	CTGTTTCAGCTGCTACTTCA
122396	CLASP1	TCTCAGTAAAAAAGGATTGCCACAGTCC
122397	PCTK1	GTTACCTCCCCTTCCTCCACCCT
122398	COX11	GGCCTGTGAAACATGACACTGCA
122399	BBS4	ATTCCTTTGGGGAAAATTGT
122400	EIF1AY	CCTACTTCCACCTAATCTGTTTA
122401	EYA4	TACACACCAAATGAGTCCAAACTGGA
122402	TCF2	TCTGTCCCCTCTCCCCTCATGGAGAAA
122403	G2A	GTTGCTCTTCCTTGTTTTTGTTTTGTT
122404	STAT1	CAAATGTTATGCATAAAGTCAGTG
122405	CXorf6	CTGGCGTCTGTTTCAAGCCAG

122406	IL22RA2	TCTTTCTAGTGAGGAGATACATATCAGA
122407	FAT2	GGAACGGGCCCACCTCA
122408	KCNK10	CACACTGAGACATGTGCCTTAAACAGA
122409	VIL2	CCACTCATTCCTTCTCGTGCACTG
122410	SORCS3	CAGTGAATGTCTCTTGGCATGGGAG
122411	CTSL	TGAGGAAGGACTTGACTGGGG
122412	HAL	ACCAGCTGAGGACCTCAGGCT
122413	GNPI	CACCTTCGCCTCTTTCCTTCACA
122414	SIX2	TTTCTAGCTTGCCACCGTTCAT
122415	FABP6	CAGCCAGGCCCGGCCCAGGG
122416	PON2	TCCTTAAAATGTGAGTGACCT
122417	KCNJ6	ACTTCATTCCACCCAGTCTC
122418	PLAG1	AAAAAGAGACTCTGTTAGGTGACAT
122419	UPF3B	AGGAAGAGAAGGAGCACAGGC
122420	SLC2A1	GTTGCTCAAATCTATTCAG
122421	MTA1L1	TGGGGGGTAGGACCCACAGATGTCTTG
122422	CHC1	AGGAGGTGGGGGATTGAGGGA
122423	NT5M	GGGGGTTCCCTGTTCCCAGAGTCTGCA
122424	RAD52	TTCACTACTTTGTATCAATCCA
122425	STAT6	CGCTGAGAAAGGGAGAAGAC
122426	PINX1	GCGGCGGTATCACAGGCTCTCC
122427	EYA1	GGAGACTAACAAAGTTTTCATG
122428	LDB3	AGGCTCTCTTCCAACTCACTCT
122429	PIM1	GAACTTGCCTCTTTTACCTGCTGCTT
122430	BHMT2	AAAATACAAAAATTAGCCGG
122430	BRCA1	AAAATACAAAAATTAGCCGG
122430	C1orf1	AAAATACAAAAATTAGCCGG
122430	HIP1	AAAATACAAAAATTAGCCGG
122430	IFNAR1	AAAATACAAAAATTAGCCGG
122430	IL10	AAAATACAAAAATTAGCCGG
122430	OPA3	AAAATACAAAAATTAGCCGG
122430	PIK3R2	AAAATACAAAAATTAGCCGG
122430	SLC31A1	AAAATACAAAAATTAGCCGG
122430	SUDD	AAAATACAAAAATTAGCCGG
122430	SULT2A1	AAAATACAAAAATTAGCCGG
122430	SUV39H2	AAAATACAAAAATTAGCCGG
122430	TCF7	AAAATACAAAAATTAGCCGG
122430	TCTA	AAAATACAAAAATTAGCCGG
122430	TNFSF14	AAAATACAAAAATTAGCCGG
122430	TRIM14	AAAATACAAAAATTAGCCGG
122430	ZNF264	AAAATACAAAAATTAGCCGG
122431	SEDL	CTGTGCTAATTGGGAGCACTTG
122432	ICA1	AAAGAGTGGGCCGCTGTGTTTGGAGA
122433	HEPH	CGGACTCAGGCTGGGGTCTGCAGT
122434	CNGA3	CTAACTCAAGGAGGAGAGCTATGTACA
122435	ATP7A	ACTGCAACCTCTGCCTACCGGATTCAA
122436	NDRG3	GACTACAGGCACCTGCCACCAT
122437	GPR48	ATTATGTTTTCACTTGCCAT
122438	A1BG	GGCACCCACCACCACACCCAGC
122438	SHOX	GGCACCCACCACCACACCCAGC

122439	KRT6B	TGCCCTCCCGGGTAGAGCTGGGATG
122440	TAF7L	TCAGGAGAGGGAGCAAGAGGAGTTTT
122441	CHEK1	CTGGTGAATATAGTGCTGCT
122442	TEM6	CCTCATTTCTGTGCCAAATGTT
122443	PTPN7	CTCCTCACTGTCTACCTGAGAG
122444	ICA1	AAGAGTGGGCCGCTGTGTTTGGAGA
122445	VANGL2	TTCTTCCAATGTGTCTTCCTAGGCA
122446	PIGN	GCTCAACATCTGTTACCCCATAG
122447	MYCBP	TGTACGGGTTCCCATGAATC
122448	CCND3	GAGAGGGAGGCAAGCCCTGTTGACAC
122449	LAMC2	ATTGCACCACTGCTCTCCAGCCT
122450	EXT1	ACTCCTGGCTCCTGGGACT
122451	DUSP4	CAAGGCTCATCTTGAGAAGCAGGCGGGT
122452	AFG3L2	CTGGTGCATTATTTCAGCTGT
122453	OCLN	TTTGTTTGCATAGGTGATCTCA
122454	TBX5	CAATGTTCACATCTGCACTC
122455	WNT8B	CTCCCAGACCTAGGGATCCTGAAA
122456	KCNJ10	TCAGTTACACCTCCCAGTGCCCTTCT
122457	FAT	CTGGATCCTGCGCCTCTGGACG
122458	UBE3A	AAACAGTGTGATGCAATTACTGCT
122459	BAZ2A	GAGGGTGGAAGAGGAGAGGGTG
122460	DISC1	AGCCTCCCAAGTAGCTGGGGTT
122461	FANCG	GCCTCGGCCACCATGTCCCGCC
122462	TNFAIP1	ATCCTGTGGAACCCGCCCCAT
122463	ARHGAP6	GCCCCCCGCCCTCCAGCCCAGGG
122464	MGAM	TAGCCCTGTGGGATAGGCAGTTAGGG
122465	FACL2	TCTGCAGCTGTCTGCTGCT
122466	LARS	GGTCCTGCATTTTATAAGAC
122467	MCM6	TCAGCACTTCCTTTGGTGT
122468	EHD4	CCTTGGTTTCCCCATCTGTAGA
122469	CYP1A2	AGAGCAAGACCCCATCTCA
122470	PLAG1	CTTTCAAGCTGTGTATTTTTGCC
122471	CD1D	GCAAAGGTGTGCAAA
122472	GALC	CGTGAGCATGTTCATCATGTT
122473	MAPK7	TCAAGACGCTGAGGTGGTGGCTGC
122474	GP6	TGGATCATGTCTGTAATCCTAG
122475	HNRPF	CAGGCAGCCAACAAGCAATTAAGAG
122476	NUMB	TGAACAAATTACGGCAAAGTTTTA
122477	PPP1R12B	GCCAACAACATGGGGCTCAGGTCT
122478	AKAP2	GGGGGAGGAGGGGAAAAAAGCA
122479	NR3C1	TTTGTTATTTTCAGTATTTTGGA
122480	AQP6	GTCCCATTCCCTCTCTGTAGGGCTTC
122481	CPT1A	ACTCGGTACTCTCTGAAGATG
122482	DRD1	ATCTCCTGTCACCACCAGAA
122483	NEURL	CCTTCTCTTTCTTCGTTCCCTGCCCA
122484	DAZL	GCGGGTTCCAGCGGACCTCACAGCAGCCCCAG
122485	ADCY1	TCTCTCAGCTGTGCAGTG
122486	MMP9	TGGGCTGGGCCCTCTCTTCTCA
122487	GUCA2B	CTGGCAGGCTTCCATCCCCGTCC
122488	PRDX3	TCAGTAATCACCCATGTGTATCTGCA

122489	ITGA5	CTTTGGGCCAGACATGCCACAAGGACT
122490	MID1	GGAAAATCTATAGATTATTTATAAGAGAA
122491	TRIM14	ACTATGCTGCAGGAATCCTGAG
122492	PCSK5	GCCCCACTCAGCCTCCTCCTGC
122493	EDNRB	GCCCAAACCTCAGCATTCTGCA
122494	IL20RA	CAGGTGGGTGTACTCTGGCCT
122495	ATF5	AAAGCAGGCTAGGTGACCTT
122496	VIPR2	CCCAAAGTGCTGGGATTAAGGCG
122497	FUT8	CCTCGCGCTCTGCCTCAGTCAGTGGCG
122498	LSS	GGTATGGCACCCTGGGAGCCCG
122499	TMEPAI	GGCCCTCCCCTCCCACCTCC
122500	TNFSF10	GACCATAGTGACCAACATAGTG
122501	NDUFS1	CCTGTAATCCCAACACTTGGG
122502	PLXNA1	AAAGCTGTACATGTATATATA
122503	TNFRSF1A	TGCCTGGACAAGCACATAGCAA
122504	TEAD3	GGTGAGGGCAGGATGGAGACCA
122505	CDH11	GTGGAGTGTGTTACAGAAATTGGCAGCA
122506	AVP	CTCTCCCTGAATCCAGAGCGCTGCAGT
122507	CLECSF5	GCAGCCAAGGGAGCCAAACACA
122508	IL6R	GGGAGCTGAGTGGGGGATCAC
122509	TM4SF6	TTTAGCTGGTACCAGGTTGATATGA
122510	CLDN16	CTAGCTTAATCAAAATGTTTGA
122511	WNT5A	CAGGTTGGGGAGAGGACGGAGGGTGGC
122512	ZNF138	CCTACAAATGTGAAGAAT
122512	ZNF257	CCTACAAATGTGAAGAAT
122513	LIF	CTTGGGAGCTCTGTGCCAGGCCCAC
122514	RNF17	CTGCTGAATTTTTAAATGTTCACT
122515	KLF15	TTGCAGGCAGAGTTTTGGGGACC
122516	RAB4A	TTTTAAAGCCTCTTCATCCAGGT
122517	NTF5	CTGCAGGATGGGTGAAACCACAT
122518	DAP	CCAAAGAATGAGGCTGGAGAC
122519	CRYZL1	TTGAAGCCAGAATTTTCTTTG
122520	OCRL	GGGCTCTACAACCAGCTCCTTCA
122521	IL12RB1	CTCCACCTCCCAAAGTGCTAGG
122522	DPH2L2	CCACATGAGGGGACAGTGCAGCT
122523	ATRN	TTTTCATCTGAAGCCTGCTA
122524	MAPK14	GTTAGGAGGCTGCATGCTCTG
122525	TXNIP	TCACTGCAGCTGCCAGCACTT
122526	OFD1	CGGTCCTGCCTCGCTGCCTTCA
122527	NAP1L4	CTGTTTCCAGCCGCTGAATCTGCTG
122528	USP18	GGGCCAAAGGTCAGTGGCAGGG
122529	FUT1	CCACAGTGCTGGGATTACCGGC
122530	IGFBP5	GCTCACTGCGTGCACCTGGCGCTGCC
122531	EPHB1	CAGTGAAGAATCAACCGGACCT
122532	CCNF	TGACCCACAGATGGCGTCAAT
122533	OXTR	TAGCCAAAAAGTGGAAACAACCCAAATGT
122534	FSTL1	TGTCAGCAGGCTGCAGGGAGTGCACA
122535	BTG2	CCGTGACAACAGGCCACCACATACCTCA
122536	BAK1	GCCCAGACTACAGGGCTTAGGA
122537	ADCY1	TGCTGCACCTGTGCATTCTCCA

122538	RNF12	GCTTAACTCTGTCAGACAAACTGGAAA
122539	FCAR	TTCGCCAAGGCTGGAGTGCAG
122540	PRPF18	CTTGCTTTCATTTTAATTAGTCCA
122541	AMACR	ATTGAATCAGAATGCCTTCA
122542	IL5RA	TAACATCCAGCTTTCCTGCCCC
122543	ADCY1	AGGGAAATTGACTGCAGGTGAT
122544	KIFC3	GGAGCTGCCTCCTGCCGGCGGGCCGG
122545	PTPRB	CTTAACTACTGAGCGCAATGCTGAG
122546	OPA3	AGGAAATGCAGTGTGTTGCAGTGG
122547	PSMC2	CAACTGACCCTGAAGGCTTTCA
122548	PRLR	GAACAAATTGTTTACATA
122549	SERPINB9	GTTTGTGTACCTGTATTTG
122550	TNF	AGGAATGTGTGGCCTGCACAGTGAAGTG
122551	CALM2	CTTCCCTTATCTTACTGTCA
122552	ERBB3	TTGCAACCTCCGCTGCCGTCGCCGCA
122553	CCNC	TGTTGATAATTTCAGGGAAATTA
122554	FZD7	TCAAAGGTACGGGCCAGCTT
122555	MYB	AAATTATTACTGTAAGAAATA
122556	COX6B	CCAGGATGGTGAAGGGGGACCT
122557	MGEA5	GGGAGGGCAGCAGAGGCAGA
122558	TRIM34	CTCATTTCTTCACCTACAACCCTTTGT
122559	SOX3	TGTCTTGTTAGTTTGCAGTTAGCCAA
122560	CD74	TGTCAACAGGGGCGTGAGGT
122561	SLC17A5	CTATTAATGTATTTTTATTTAT
122562	ABCB1	GGAGCAGTCATCTGTGGTGAGGC
122563	APOL1	GGCAGGAGAATGGCGTGAACCTG
122563	IFIT4	GGCAGGAGAATGGCGTGAACCTG
122564	SIX3	TGTGGGGTGTGGGTGTCCCTTA
122565	APAF1	GACTCCTGGGTTCAAGCAATC
122566	SPR	AGGAGTCTGTGCTGTGCACCCTGGG
122567	TRPM7	CTTCTGCTGCTAGCGCCGGAGCT
122568	ALPL	AGGCGAGCCCTCCTTCAGGGG
122569	SEPN1	TTATCTAGAGCCTTCGTTCCTGGCCAT
122570	STAT3	CACACTGCACTCCATCCTGGG
122571	GCK	GCCTGAGCCCCAGGGAAGCAGGCTAG
122572	EIF2S3	TTTTTCTCCCCTTGCTCTTCCTGGCC
122573	SAS	TTCTTAGCTGTTTCCCTTCCTCT
122574	FGFR1	TCCACCTCCTCTCCACCTGC
122575	ADAM10	TCAGGATAACAGAGAATGGTGGT
122576	PODXL	CCTTCATTCTGCAGTGAG
122577	ZNF140	GGACAGAAAGCATGGACAAGGGA
122578	SLC25A13	CCAGATCATTGTGAAATTATTCAT
122579	ZNF45	GATGGGTGCTGAAATATTTTA
122580	RDX	AATTCCACCATCATACAGATCA
122581	BTD	TATTTTCTGTTCACATTTATCT
122582	RAI3	CAGGCTTGAGTGCAGTGGTGCG
122583	LARS2	GCCTGTGTCCCCACCAC
122584	TMPRSS3	CTGGTTCAAGCGATTCTCTTGCCTCAG
122585	MPDZ	GCTGTTAATCATTTCAGAGAAGAAC
122586	IL1F5	GGAGGTGGGGTGGGGGAGTGG

122587	WHSC1	GCTGTGTTTTATCTTTAA
122588	ACPP	AAAGTTGATTTAAGGCCAGG
122589	CD3E	CTCCCGCTGGCCCAGGTCTCCTCT
122590	SH3BP4	TGCTCCCTCCTCGGATTTGATTG
122591	ZNF6	GAAGCTATTTAGGAGATATGA
122592	BSN	CCTTCCTGGCCCTTGCATGGATGC
122593	ADCY1	AGGAGCCCCCCTGGGTGGGG
122594	KRT13	CCTCTGTTACCACCACCTCTAATGCCTC
122595	RERE	CTCCCAGGCTGAGGGCGGGTGTTCTGG
122596	UCP2	GTCCCTTGGAAAGTTCAGCCAGAATC
122597	PDCL	CCACCGCACCCAGTCCTGAGGGG
122598	CLCA1	GTCAAGCATCTGGCACAGC
122599	EIF2B5	CAGGGAACAGCAGAGAGCAGTTG
122600	WHSC1L1	CCAGAAACTCCAGACTTGTA
122601	SH3GL2	TATGTATGTATTTAGGCTATTCT
122602	CASP8	TTCAGGCCATTCTCCTGCCTCAGCCT
122603	CASP10	GCTGGTCTCAAACTCCTGGGC
122603	CDH1	GCTGGTCTCAAACTCCTGGGC
122603	FCRH1	GCTGGTCTCAAACTCCTGGGC
122603	TP53	GCTGGTCTCAAACTCCTGGGC
122604	BMP1	GGTCGCCTAGACTGGATAGTGGGG
122605	PLA2G5	CCCTCCAGCGAGTCCCAGGAGAGTGA
122606	GAD2	GCCCCCTACTGAGAAACTTCCTT
122607	PRKR	TGCCCAGGCTGGAGTGCAATGA
122608	BCR	GGTCTGGGAGCCCCAAGCTGGCCT
122609	SERPINB5	TTTATTAAAATTCTGAATTTTGGG
122610	SYN3	CTGTTCTCTGACTAACGCCAT
122611	GRAF	TGTTTACAATAGGCACTCTC
122612	ENTPD6	TGCACACTGGCTCTGGGACTTGCAGAAGGCCT
122613	BAT1	CCCCCTTCCCTTCTTCCCCTGCCGG
122614	HOXB6	GAGGGGGTCAGAGAAGGGGAA
122615	PDE4B	CCTGGCCCTGCTTCCCATCCTCC
122616	CRAT	AGCAGGAGACTGGCAAGAGCTC
122617	SURF5	CTGTTTGCTGCCTTCCTGGCC
122618	CSRP2	CCTCCAGCCCAGCCTCGCTAGC
122619	ACOX1	CTGTTGTAGCTTTGGAGTGCAGA
122620	SNAP25	ATGAGGGCAGAGCTCACGTTGC
122621	DDEF2	CTTGGAAAGTGAGGCAGCAATGC
122622	DGCR6	CAGGCAGCAGAAGTCTGGGCAGAGT
122623	PPYR1	TAGTTCAAGAGTCCTGGAATCTTT
122624	P2RY2	CTGGGCGCGGGGCAGGGGAG
122625	SLC2A1	GGGAGCACTGGAGTGCAGGGAGGAGA
122626	SLC21A3	ATTCATTCTAGGCATGACTCCTATATA
122627	TNFRSF10B	TCGCCCAGGCTGGAGTGCAACGGTAC
122628	AIPL1	GGGTAGAAGAAAACAGCTGT
122629	AK1	CAGCCTGGGCTCCTCTGCATCTTGCTC
122630	ESRRG	CTTTCTACTTTCTCCATCA
122631	GPX3	CCAGCCTGGCACAAATGGATGCATAC
122632	GPR6	TTCCAATACTGCTTAATTA
122633	SLA	TGCAGTTACACAGTTTCCTGTA

122634	NHLH1	TTCCTGTTTCTGTCCATCTTGTT
122635	GDF2	GTGAGCCAGAGGAGCACAGGCGGGCAG
122636	TNFRSF13C	CCCTGCCCTCCCTCTGGACCC
122637	PRKY	ACAGAGTGCAAGACAGCACTGG
122638	RET	AGAGTCGGATTACCAAAACACTGCCT
122639	S100B	TATCCAGCATTATTTGAAAACACTGCT
122640	AMBP	ACTGAGGTCAACTACAAGCCAC
122641	BMP4	GCCTTGTTTTCTGTCAAGACACCA
122642	SLC22A3	GGGACAGATCTAGGCAGTTTC
122643	IL16	TCCCCACTAGTTTACA
122644	KCNAB1	CTCGCCTACAAAAATGATAAGA
122645	ARHGEF12	TGCCCAGGTGGTGTGGTCAGAGAGTG
122646	FBXL2	AGCTCTGGTGTATGCTACAGCA
122647	HTR7	GTCTGCAGAATGGAATGCAGCT
122648	ST14	GGCTGGAGACTGGACCGCTGACTGCA
122649	KCNMB1	GTGGCCTCTTTTGGGGTGGGG
122650	EIF4E	GTAACATCATAATTACATTCC
122651	SNX15	CACATGCCACCACGCCCAG
122652	DAP3	CAGTACACAGGAAGAGGAGCCAGGC
122653	CTF1	TGTCGCCCAGGCTGGGGTGCAGT
122654	FANCA	AGTCCAGGCTGCTAGAGGTGCTCA
122655	DNASE2	ATCTGTAACCCCAGCACTTTGG
122656	RUNX1	ATGACGGTATAACACATCTACTG
122657	EVC	CCCAGTAGCTGGGACTACAGAC
122658	WHSC1	TGGGGTGTGCCTCAGTTGTT
122659	ATP7B	GTTGCTGACCAGCTGGAGTGAGGGCCTCA
122660	ANKH	GACCAGCCTGGCCAACATGGCG
122660	INPP5B	GACCAGCCTGGCCAACATGGCG
122660	OPTN	GACCAGCCTGGCCAACATGGCG
122660	PTGIS	GACCAGCCTGGCCAACATGGCG
122661	F2RL3	GACCAGCCTGGCTAACATGGTG
122661	VHL	GACCAGCCTGGCTAACATGGTG
122662	MECP2	AGAAGTAGCTTTGCACTTTT
122663	CBFA2T2	CCACAGAATGCATTAGAATCTG
122664	SRGAP2	CCTTCTCTTTAGCTCCTGGATAT
122665	DSCR3	GTGTGAGCCACTGTGCCCAGCAGTTTC
122666	ABCC3	CATCCAGGCTGCCCGTGTGTTG
122667	APAF1	TATCACCCAGGCTGGAGTGCAG
122668	GJB3	AGAGATTAAATGAGGTTCTGCTC
122669	PDAP1	TGGGGGGTGCCTGGGAGATGG
122670	FUT9	CTAAGATGAATGAAGTGTATAA
122671	SPARC	CCCAAGACATGACATTCTTAGCTGTA
122672	ROR1	GACCCAGGGCGACTCACGCCC
122673	MALT1	CACAAAACCCACACAGATTGTCTTATTA
122674	GAK	CATGCTCCTCCCGCAATTGTCA
122675	NF2	GGCTCACCGCAACCTCCGCCTC
122676	PDCD2	GACAGATTGCTTACACAGTGTCTACT
122677	MPP2	CCCTCATTTCTTATAATACCCTGATCC
122678	ABCC11	GCCACTTCTTCACTGAGAT
122679	DDX11	GGCAGCTGTGGCATCCACTGTGGCATCTC

122680	CALML3	TGCGGCACTGGGAGGGAGACCCCACAGTGGC
122681	LAMC1	AACATCCTGAATCGGGA
122682	PHEMX	CAGACAGAGGGGCGGATGCA
122683	CD1D	CTTGAAAAAGTAGAGAACAGTCA
122684	PRKY	TCTCTTCTGCACACATATCACACATCAG
122685	LZTR1	CCTGCCTGCCCTGCCTACTGAGAAGA
122686	GABPA	CTTAAAATGTTTAGAGCAAGTATAGC
122687	CASP10	ACCAGCCTGGCCAATACGGCAAAACCT
122688	TCN2	CGGAGCGGTGACCAGCTGTGGTCAG
122689	SMT3H1	GCTCAGTACCTGGCGTTGGTACACAGG
122690	WASF1	GCAAATGTCCTTTGTGGTGCT
122691	MGA	GTGTTACCTCACTTGTGGTGCTG
122692	TRIM39	GTCAGTCACCTTGCTCCTCTCCAG
122693	LNK	CAACCGGGCTGGAGTGCAGTGG
122694	CASP7	CCCTCCAGGGACTATGCGTGCGGG
122695	WNT11	GCTGGTGTAAGGAGCGGGGCTTGGGATCGGTG
122696	EDAR	CTCCAGCCTCTCCAGTGCTGGGAGAGA
122697	NOX1	ACACCAACAGTGTACATGTTTACTGT
122698	RPL10	GGGCTTGTTCTCACCCATCTGGTTTGGCC
122699	MECP2	TCTGCCTGCCCTTTGTCCTCCTGCTGC
122700	MLLT2	AAACTCATCACCACATGCCTTCA
122701	REN	GAGGTCTGGGGAAAAGGGAGGAC
122702	ATM	AGCCTCCCAGTGTGCTGGGATT
122703	DLEC1	CCCCTGAGGGTGGCTGCCTCCTCT
122704	COL5A3	CCTCCCCAGGCTCACCTTGCCA
122705	NPAT	TCATAGAACTCTTTACATTGTAGTGAC
122706	NOS2A	TCTCAAGGCACAGGTCTCTTCCTGG
122707	LTB4R	TACTTCCTCTCTGGCTGATT
122708	TRAF1	GGGAGCTAGCCAGAGGACTGT
122709	RAB11A	ACTCTTCTCTCAGTGCAGTG
122710	ALDOC	AAGTCAGAACAGGATGGCTGGGTC
122711	GNS	GGCTCCTGCCTCTAGCCCCA
122712	FBXL7	AGGTTACTGGGGAAACAGCTCAGC
122713	ZNF26	GTGGGAACTCATTCATTCTTG
122714	ATSV	GTCGGTCGGCAATGGAGG
122715	QARS	GAAGGAAGACCCAGGAAAGG
122716	CTF1	TCTCTGTTTTTTCCATCCCCACT
122717	TNFRSF11B	AGGATAGAAAAATGACTGA
122718	MYO10	TTAACAGAGCGTGGAAGGGGGGCA
122719	YWHAB	ACAGCAATATGTTCACTATGTTA
122720	COL18A1	GGCTCGATTTCTCCAGGATTT
122721	KEL	TCCCTGGTCACATCCATGGAA
122722	DTNA	TGTTCATGCTTCAGTTTGG
122723	MECP2	GTTGATTCTCTCCATTTTGGTGTC
122724	DSCR3	GGGCTTCACCATCTTGGCCAGGCTG
122725	PPP1R3A	TTAAGCAATGCTTTTCTCTTGTGAG
122726	DLEC1	CCTTCGCCTGAATAACTCC
122727	NLGN2	TGGGCCTTTGAACAACTGGGG
122728	ICA1	TTGGAGCCAGGAGTTTGAGACCA
122729	PARK2	AGAGACCTTCTCTTAGGACAG

122730	HDC	CAACTTTGTGTGCTTATGTGTACA
122731	EIF4EBP1	CTCCACTGATGCAGGAGCTGCC
122732	C7	CCGCCTCCTGGGTTGAAGCGAT
122733	TFAP4	CCCTTCTGGGGGCTGGAGGGAG
122734	RDX	CTACCATAGCTACATCAGTT
122735	SF1	GCGACACCTCCCAGCCCA
122736	GAGED2	AGCCCAGTAATGGAGAGCCCCAAAAAG
122737	CELSR2	CTTCAGGCTGCACCCGGGCAG
122738	C14orf1	CCCAAGTAGCTGGGACTGCAAGTGTGT
122739	ABCD1	GGAGAGGGGAGAGGGACGCACAGC
122740	MADH5	AGTTTTCCCTCCTACTCTCGATCTTC
122741	SCNN1A	TGTCTAGCCCATCATCCTGCTT
122742	PPP1R12B	AGAGAAACAGCAGGATGTTGAATTG
122743	BSN	GTGGCTAGGAGGCTCAAAGGACTGTGA
122744	CDC2L2	TTGCTGTTTCTTCTCAGGCT
122745	NUMB	CACAGCCAAGATTCAGAGCCA
122746	SORCS2	TCCCGCAGGCTTCTCCCACCTG
122747	ENTPD3	ATAAAAAAGGTCTCCCAGAAAA
122748	INSL5	CTATTTTCTCCCTTTGCCAAGG
122749	OSR1	ACCAGCTTGCTAGAAAAATACT
122750	ABCC3	TCCACACCACAACCACCTTCA
122751	PUM1	TCCCCACCTCCTCATTTTA
122752	SRM	GGACTGTCTGTGTGTCTGTC
122753	PRKG2	CGCCTCTGACATGAGTCCAGGGAGA
122754	YWHAB	CCTGTCTTCCTCCAGTTCTCAA
122755	FUT7	GATTTCAGGGGCACCTCTGG
122756	DGKB	TACAATGATCATAATTGCAGA
122757	NOTCH2	GCTTTATTCTCTCCATGTGGC
122758	CSE1L	CAGGCTGGAGTGCAGTGAGCT
122759	RALBP1	GACCCCTGGCATGCATGCTGGC
122760	LAIR1	AGACCCAGCTAAAGTCACCTGCCT
122761	HSPA5	CCACATCTTTACTCAGGCAAGG
122762	PSME3	CTCAGCCCTTTTTGGCATTATTGCAA
122763	SFRP5	CCTGCCAGCTGTGCCTTGCTTGCCCTC
122764	CCND2	TCTGGGACTGAAAGGTTAAGA
122765	CFL2	GCATTCATACACCTCACCTGCCT
122766	RAB26	CTGCTGCCCCCTCCTGGG
122767	BCL9	CCTTTCCTCCCCCTCCCATGCGTAAGA
122768	FANCF	TTTGCAGCTGTATCTCACACTATGATT
122769	LYN	ACATAGCATGACATTTCTTTGTGC
122770	NUCB1	CCACTCCAGGACCTAGGCCCAGCCCCTC
122771	PCDH11X	AACTTTTCAAGAAATGTAATTATAAA
122771	PCDH11Y	AACTTTTCAAGAAATGTAATTATAAA
122772	EDG8	GCTCACTGCAGCCTGGAACTC
122773	SH3GL1	TCTGCTCTGCCCTGCCCTGC
122774	SPOCK	ACACCACACTGTACTTTTTCCCCCTGC
122775	GRIA3	ATGGAACACTCTGAGACTCGCG
122776	KIF3B	GATCCTGGGGCAGGCAGGAGGCAGT
122777	TACC1	AGGAAAGTAGAAGGCAGCTGCTG
122778	BCL9	CCAAGTGTCACCGCAGCAAGA

122779	ATP2A3	CCTCAGACTGATGGTGCCC
122780	MS4A3	ACATCAGCATTATAAAAAGTG
122781	ADAMTS5	TCTGCAGCTATTTCAACTTCC
122782	PCDH12	GGGTCTCCCCTGGCAATTCTTGAT
122783	SLC9A1	CCCATCTGTCCATCCTCCTCTCCA
122784	POLR2H	GAAAATGAATCAGAAGCTTTAT
122785	SH3BP2	CAGACAGCTGCCCTGGCGTTGCCGTC
122786	KPNA3	ACTACCCTATTTTTCCCTGTTCCCTG
122787	CNP	GGCGACGGTGGCGCCCCTCCTCA
122788	MAP3K7IP2	GTAATTCTTGGCTGGGCATGG
122789	ADAM12	ACACTTGGTAATTGTACTAAAGCCAAACA
122790	BHMT2	AGGCGGGCGGATCACCTGAGGTCA
122790	INPP5B	AGGCGGGCGGATCACCTGAGGTCA
122791	MAD1L1	CTTGCAGACGGCCTGTTGTGGGACA
122792	TCF7	CTACATCCCCAGGTCTCTCCA
122793	RP2	ATGTGGAACCAGGACTTGGTATTAAGCC
122794	CD80	CACATCTCATGGCAGCTAAGCCAC
122795	FER	CATCAAGAGAAAACTCACATATGACAGG
122796	PGM1	CCCAACAAAATGCAATTTCTAGTGC
122797	SRC	GTGGGTGGGTGGGATGAG
122798	CYP1A2	AGTCTCAAACTCCTGACCTCA
122799	EXT2	CTGGAGTGCTGGGCTTGTGCACAGG
122800	HUS1	CAGTTTTGGGTTTAGGTTGTAAT
122801	SMARCD2	AGCCCAGCCTTGCTGCTGGTTTTTTC
122802	RAB7L1	CTGGGAGTTAGAGGTTGCAGTG
122803	LZTFL1	CACCCTGTATTTCTTTAGCCCT
122804	CALCR	ACCATAAATCAATTCATGTTTA
122805	EIF5A	CTGGCTCCCAGGATGGCGGTGGTGGCAGC
122806	VBP1	ACCATTTTAGAGGTAGAGAAGACAGAC
122807	AKAP13	GTATCTCATTCTGTCATCAGATCCA
122808	PACSIN1	TCTCTCCAGCCTTTCCCCAGGCAGGAGTTG
122809	B2M	TCTCTTATCCAACATCAACATCTT
122810	TNFAIP2	GCTCACTGCAGCCTGGACCTCC
122811	PAX3	CTCTCTGAGCCCCCTTTTCAG
122812	CACNG2	ACCTTCCAAAAGCAAAAACAAAAAACAAA
122813	CHI3L1	GGGCAAGGGAAGAGGCCACACCCTGCCC
122814	RNF7	GCAGTTTCAGAGAACTTTTTGCATGC
122815	SLC19A1	CCTCAGCTGCTCCCACACTTGTGCC
122816	INHBC	CCTGTTCCCTCTCTGTCTAGGTGT
122817	DISC1	GTACTCAGTAAGACAGTGCAGTG
122818	RGS16	GGGCTACCGCGCCTTTGCTTCC
122819	DSC3	ACAGAGTTTTAGTATTGCTA
122820	GJA1	GCTGTAGAAAGTGCACCAGGTGT
122821	KCNAB2	AGAGGGGAGAGAGGGCAGGACAG
122822	CTSZ	GGTTATGTGTGCCAGGCTGGCTGGCAG
122823	SDC4	TTCATTCTCTCGCACATTTCCA
122824	HNF4A	TCCCGTCTTCTCCAACACCACCTC
122825	CD38	CGGAAGCCTTTTTCCCCAAAGTCTTA
122826	PLIN	ACCCTAGTCTTCGAAATGTTAATA
122827	GGA3	TCTGGGAAAAGCGTGCCTCCAG

122828	SLC2A5	CTGTCTCTCTCCATGTTGGCC
122829	GPT	CCCCAGCTGGGGCCAGGCTGG
122830	ADAMTS9	CTTTGGGCTTGGCTAGA
122831	PES1	CTTCCCTTGGATGGAGCTG
122832	SLC20A1	TACTAAACAACCACTACTCCA
122833	PDE6B	CAGGCTGGAGTGCCGTGGCACG
122834	NT5C3	TTAGAAAAATAACTCCCT
122835	WTAP	GTAGATGTGGGTTTATGA
122836	PER2	GCACAGCCCTCATTCTTTTCATGAGCC
122837	ISLR	CCTCTATCCTGGAACCTGTC
122838	Rgr	TTCTGGCTGGTCTTTCTCCTTG
122839	SIGLEC8	CCACCGCACCCAGCTTGCATTGAA
122840	FZD4	AGGCTCCTTGTAAGATTTCACTGGA
122841	STARD4	TGCCTAACTTGAGTAAGGGATT
122842	HPD	CCCCCCTCTGCTCCAGCCCTCCCGA
122843	TTN	ACATAAGGAGTGCCTGAATAGCTTG
122844	SLC2A6	ACCCGTAGTTCCAGCTACTTGGG
122845	CCNF	CCTGGGTAGCTGGGATTACAAGCACCC
122846	HDGF	GGGATCAGGGGTAGGAATGGAAGGAT
122847	CA11	GGGAAAAGAGCAGAGGAA
122848	VIPR2	CCAGAGACCCCTCAATCCCCAAAGGTCCG
122849	HOXA3	AAACTAAGACCAGAAAAGAGAAGATT
122850	GALNT3	GGGGATAGGAAGAAAGATTTGTTAC
122851	PAX4	GTTGCCTGGCCCTGCCTCGATGC
122852	TPMT	AGATTATGCCTATGTGTCTT
122853	MAP3K14	TCAGTTCCCTCATCTGTAAA
122854	B4GALT3	CGCTGCTGGAGTGCTGGATG
122855	HOXD1	CTCCGCTGCTATCTTTGCCTC
122856	UGDH	GTGTTTTTAAGGAAACAAAACT
122857	AIM1	ACAGGTTGCCTAATTAGCAGCTTTTGG
122858	POLH	CCTGTAATGCCAGCACTTTGG
122859	BAI2	CTCCTGCTGCTGACGGCGCC
122860	CA11	GAGCTGAGAGAGGGGGGCAG
122861	DNASE2	CACGGCACTTCAGCCTGGGTGA
122862	CD209L	TTTATCTCATCCATGCAAACTACCAT
122863	GRF2	GCTTCCTGCCTCCTTCCTCTGTGG
122864	SPOCK	TGCACACACACCCATACCTCTC
122865	TNFAIP1	CTCAGCTGGGGGAAAGGCAGT
122866	BPAG1	TTGTAACATTGATGGAACAGCTGGGAG
122867	GPR1	AAACCCAGTTAACTAATGATGCT
122868	SVIL	CTCCCCAGGCTGAAGTGTCCT
122869	SOX11	GCCCTCTGTCACATTTTTCTTCATCCA
122870	HMG20A	CCAGGTCTGTGCCACCTCCTC
122871	CNN2	AGCCTCCTGAGTAGCTAGGACT
122872	BCL11B	TAGTGCACTCTGTCTTAAAAA
122873	TP73	CTGCCTCCCCTCTCCTTCCTGTGTGTC
122874	FCRH3	GCAAATCTCCCCTGTGCCTGATCTGTG
122875	RPA3	TACGATTGTAAATGAGCTA
122876	PPP1CB	CTGTATAGACAAGCTTTGTAGTGAAG
122877	SYNGR1	CACAGGCTGGGGAGGAGAAAAC

122878	NLGN3	CTGCCTCTCCTGCCAGTCCCCCTGCC
122879	EIF2C1	TCTGACCTGGCTAGGTAGGGA
122880	HTR1D	TCTTGAGACCTTTTCACTGTGG
122881	ELAVL2	AAGTGTTTCAGCTAAGGGAA
122882	CASP6	GGCTATCTAATTCCACACTC
122883	MAP1A	AGGTGCCCAGAGCTGCACC
122884	REN	GGTTCTCTCAGCTTGTTCTTGCCTAAG
122885	NCOA3	TTGCAGTATTGGACAAAGAGCAT
122886	ATP2A2	GCTTTTTCTGACTCCAGTGGGG
122887	CDH5	TTGGGATAGCAAACTCCAGGTTCCT
122888	SURF6	TCTCATTCCTTTCTGTTCCCCAGTGC
122889	FUT6	CCTGTTGCAGCTTCACCTGCC
122890	CIT	GGCCTCAGCTCGGAGGCAGTG
122891	SRGAP1	TATATCTTGCACATACCAGCATAC
122892	KLF8	CCTTGTTCCGAGAGTGGCCCAGCTGG
122893	CRY2	CACTGCCAAAGGCCTGTGT
122894	LMO4	GTGAAGCCACATTGCCAAACTTGCAG
122895	CLASP1	TGGATCCAACAGATTTTGTAA
122896	ZNF146	TTGCAGAATGATACAGATAGTACA
122897	SORBS1	TCATAGAACACCAAAAATGATGTTCAG
122898	NUP62	GCTCACCCCTGTAATCTCAGCA
122899	MGAT2	TCGCTCAGCCTGGAGTGCAGT
122900	PAG	TCAGCACCTGGGGATCTGG
122901	LIMK1	ACCCTCCGCATGCACCTG
122902	STC1	CCCTGCTCCCCTGAGACC
122903	AMPD2	CAGCTTCCTGTGCCTCTGTG
122904	PPP3CA	CTTACCTCAGGTTTCTTTAGTGT
122905	SYNGR1	CCCACTGTGGAGCCAGCCTCCCT
122906	TACC1	TTATTTTTCTTTAAAAATAAAGGAT
122907	KRT6A	CTCTCCTCAGGTTGCCTGTC
122908	ADRA2A	AACTGTACAGTTTCTTCCCCA
122909	SIM2	CCAACAAGCTGAAACCCCATCT
122910	E2F3	CCAGCACTTTAAACTCTTTGTGTGGGT
122911	COX6A1	GGCAGGAGATGGCTTAAATAAA
122912	APP	ATGTGGGAAGAAACAAACCC
122913	MHC2TA	CACAGGCAGGTCCCAGGGTTTGA
122914	JAG2	CCTGCCTGCCGTCTGTGC
122915	SEDL	CTTCAAGCAATTCTCCTGCCTCAG
122916	C14orf2	AGGATCCAGGCACTCACTTG
122917	PRX	GGTTTGGCCTGGTGCGGGCCAAG
122918	PPP2R5A	CAGATGGGTAGAGGCAGCTCAGGTGAA
122919	MBL2	CAGTTTCTCAATTTCTACAAAA
122920	MAPK1	GAGAATGGGTTATATAAAGACTGCCT
122921	LRP1	GGAGAGAAGTAGCAGGACCAG
122922	CD34	CTGTATTTTCTTTCTCTACT
122923	CHRNE	CAGCAGGAGGAAAGGGTTCACATA
122924	BLAME	AGCACGTTTCACACCTCCCCCTTC
122925	LGALS3BP	CCTCACTGCAGGCTCCCCTCC
122926	CDKN2B	GCACAGCCACGGGGGACTGACGCCAG
122927	SRRM1	CTGCAGCTGCTGCAGCTGCT

122928	GAD1	TTTCCCTCCTCTCACCCGACAG
122929	TGFBR3	GGGGTTTTCTATGTGAAACACATGCCA
122930	HPGD	ACACAGACATAAAAATAGCTG
122931	MMP25	TTGCTCATACAAACAGATCAGC
122932	HAP1	CTCTCCCCTCTGTCTTGATC
122933	TAL1	CATTGCTGTCTGCAGCCTTGA
122934	PSEN1	GCACTGACACTCATTACCGTCTGTGAT
122935	MAX	GGGACGCCTGCCCTGCCCAGGT
122936	ITGBL1	CGTGGGTCCGTCTGCCCAGCC
122937	FSHPRH1	AGTAGAGACATTGGTCTCACTG
122938	GCS1	GGAGCCAAGACACTCATGCCACTC
122939	BNC	CCCTCAGTCTTCACCGTTTTA
122940	NOTCH1	TCCAGCAACACAGCCTGGG
122941	LRP1	CCATCCCCTCCCTGCCTGCTCC
122942	MTR	GTCTTCCTGCAGTGCCTGGAAAACAGG
122943	PSG6	ATTAAAACATGACCCACCATGAAACC
122944	APLP2	CCTCATTCACTGTCCTGGCTTTTATT
122945	MKI67	GCAGAAATCAGCGGTACTGACTTGTA
122946	CCNT2	GTACATACATTTTTGTATGTTTA
122947	PPYR1	GTCCCTTGCCAGGCTCTTCCAC
122948	VDR	AAGCGTCTGTCCGTTTACTCCA
122949	PCSK2	AGCTCCGCCTCTGTCCTCGCTCCA
122950	RDBP	CTTACACATCTCCCTCAGCCT
122951	PPP1R2	TGGAAACAGCAGTATTTGAA
122952	RELA	CCCTCCAAAAGCACTTACG
122953	NT5C2	GAGGAAAAGGAAAGAGTCTCAGAGTGGA
122954	PTPN11	GGCTTCTATTTTTGGCCAAATGAGAA
122955	NTF5	TGTGTCCTCCACAGGGGCCCCCCGAA
122956	ITGAL	TAAATGTGGAGAAACTGTAGT
122957	ICMT	ACGCACAGCACACCACTGTCCCTTC
122958	FIGF	TGTCAACTGCTTAGTAATCAGTGG
122959	MOX2	AAGTGATTCCCTGGTCTACTTGAA
122960	SIGLEC11	CTCAACCTGCCAGGTTGAAGTGAG
122961	GAS7	TCCTCTGCTCTCCTCTATTCTCC
122962	EGFL5	CTGGGAGGCAGAGGTTACAGTG
122963	RET	AAATGTTTCTGGTCTGAACAAAACCA
122964	E2F3	TTGCAGTATTTAAAGCTTAAGCTTTCA
122965	IL9R	TGCTGTTGGCCAGGACTGTGCTGGCAC
122966	SMG1	TGAGGTTAGGAGAGCGAGACCA
122967	PIK3R2	CCCTCCAAACCCCGAAGTGAAA
122968	IL22RA2	GTCACACTTGCAACCATGA
122969	PUNC	CTGCCTCTTGGGTTGTC
122970	PPP1R12B	CACCTCCCAGGCTCAAGGGATC
122971	SOX8	GTCTGTCCGCAGACTGGGATGAGT
122972	ZNF36	GCAGTTTCATCAGCATTACTTGG
122973	HMGCS1	TACTCTGTGAGGTGCAAGAC
122974	SH3BP2	ATGTCAGGGAAACCTAAACTGAG
122975	SLC38A2	CCATTAATGAGCAGTCTTCAGTATTA
122976	SOX10	AGCCCCAGACTGGAGGAGAGGT
122977	ASB3	ACCAGTACATTATATGTTGTAATATT

122978	PTGS2	GCCATTTTGCTAAGAGACACAGTCTT
122979	HK1	GTGTGAAGTGTAGTGGCATCC
122980	GPR61	TCCTGGCTCACTGAGCATCAAA
122981	RNMT	CACTGCACCATCAGGCTTGGCCC
122982	ANKH	TAGGAATAGAAGTGCAAGCTGG
122983	RAB30	TGTTTATGCCTGGGGTGGGGAGA
122984	CLN2	CCAGAAACAATGGCCTCCAGTGCATAC
122985	COX15	CCTGTTTTGAGATAGTCACTGGA
122986	ADH6	CATCTCCTTCCCCTCTGCA
122987	BHLHB3	CACATCTCAAGTGCATCTATTCCCAC
122988	SNTB1	GCAATGCCACCAGAGAACGTGATGTCA
122989	PLEK	GGCAGCCTGGAAAGTTGTGTCTT
122990	KIF3B	TCTAAGAGAAGACAGACA
122991	BCAS1	CTCGCCTGTAATCTCAGCACTT
122992	HAO1	TTTGGCCGTTTCCAAGATCTGCAG
122993	CDS2	AATCCCTGCTTGGAGCTGCAGAAGGGT
122994	SOX9	TCACTGCAGTCTTAAGAAAGA
122995	ETF1	ATTCAGTCACTCGTAGCTTTATT
122996	STIM1	CTTCCCTCCCTTCCTTCAAGAT
122997	PRG4	TGAGCAAAGGAGGAGTCAACTAATGAA
122998	EDARADD	CGCCACTGCACACCAGTCTGGAGACAG
122999	RFX2	GTGCTGGAGTTCTGTCCCCAAACCA
123000	TRIM14	GGAGGCTGAGGCAAGAGAGTTGCTTGA
123001	KMO	GGCCCCATCTTTCGTTGCC
123002	ETV5	AGGTTTCTGGGAAGAGATCAAAATGGAGT
123003	KLK2	TCAGCATGTGGGACCTGGTTCTCTCCA
123004	GOCAP1	TTTGTGGAGCATTAGAGTCACAGT
123005	PRCC	CCCTCGCCTCTGCGAGAATGAACATA
123006	GARS	CTTAGCCCGACCCTCGCTCCTCC
123007	TFDP2	TACTTTGCCAGCACTGCCTTTGCCAG
123008	PLN	CTAACAACAGAATCTAATCTTCATTT
123009	PACSIN1	CTGCACACCTGGCCTCCTGGG
123010	GP9	CACAGCCGCCCTCACCGCCCGG
123011	FOXM1	TGAGTGAGGACAGCAGGCAGG
123012	HLF	TGTTCGAGCTTACCTACTCTTCC
123013	GCNT2	TTCCTGAGGTGGATTT
123014	PGAM1	TAGCAGTTCTAGAGCACAGGT
123015	CNN3	TGAAGTAAAAAGGAATACTGTGA
123016	FABP3	ATAGGGTGCTCTGAGGTCAATAAAGCA
123017	CLTC	GCTGAGCCCAGCCTCCCCCCTCC
123018	BHMT2	ATCGCTTGAACCCAGGAGGCGG
123018	CA12	ATCGCTTGAACCCAGGAGGCGG
123018	EGFL4	ATCGCTTGAACCCAGGAGGCGG
123018	IAPP	ATCGCTTGAACCCAGGAGGCGG
123018	LAMC2	ATCGCTTGAACCCAGGAGGCGG
123019	GPR56	GTGCGCCGCCATGCTGCCTA
123020	UBE2H	TCATTTCTCAACCTGAGGTGCA
123021	PCDHA9	GGCTCACTGCAACGTCTGCCT
123022	ATP7B	GCCCAGCCTGTGGTGCTTGAAACGTTT
123023	TXNIP	TTTTGTTCTCCCCTTCTGCC

123024	C1orf1	GAGTGAGACCCTGTCTCAAAAA
123025	CYP2J2	TCAAGAAAGATCAGAGGAATTTGA
123026	APPBP2	TTGCCCAGGCTGGGAGGGC
123027	CDKN1A	GCCCCCTGCCCCCCAGCCTCTGGCATTAGAA
123028	CD74	CCCTCCAGCCTTTGGCCTTGG
123029	PTPN7	TCTACCCCGAGACTGCCTTCTGCCCT
123030	BRMS1	ATGGACCTTGCCCTGCTGTTCACAGC
123031	CR1L	GTTGGCACTTTACTTG
123032	GDA	GGATGACTATCCCTTTCTGTGTCTA
123033	TNFRSF6B	GGGGGCGGGCGGTGAGGATGCAGGT
123034	FGF20	AACCATTCTTTCTTGTCATA
123035	LRP6	TACACAAAGCATGCCTTA
123036	GPR1	TCGGGAGGCTGAAGCAGGAGAATC
123037	KPNA1	CTTCAGCCTTCAGTGAATGTGC
123038	DVL3	AGACCAGCCTGGCCAACATAGC
123039	SERPINE1	AGACCAGCCTGGGCAACATACC
123040	FUT3	TCCCGCCCCAGGAAACCTGCCA
123041	EN2	TTAGCTGAACAGTCACCCC
123042	ADAMTS4	ATGATTTCAGCTCACTGCAACC
123043	PHB	ACTGAGAAGGCAGGCCTCCGTCT
123044	CYP8B1	GTGCAGCTCCTGCGGCACCATT
123045	KLHL1	ACCTGCTGACCAGCCTACTCCTGC
123046	GPR41	CAGGGGAGACAGGGCTCCAGG
123047	MAP3K14	GGGAAACAAAACAGGGATCTTTTTCTG
123048	HYAL2	GGTCTCCTGCCTAGCTGCCTA
123049	CDC25B	GGTGTCCTGCCTGTCTGCCCCA
123050	SSPN	ATGCCCCAAGGTGGGGAGACT
123051	RGL	CAAAGGCAGAGTGGGGCTGA
123052	NFKBIL2	CACGCCTGTAATCCCAACACTT
123052	NPHP1	CACGCCTGTAATCCCAACACTT
123052	RFC2	CACGCCTGTAATCCCAACACTT
123052	TCTA	CACGCCTGTAATCCCAACACTT
123053	PRKY	TGCCTGCAATCCCAGCACTTT
123054	DMPK	GTTGCTACTGGGTCACTCAGCCT
123055	LAMP2	CACTAATTTGGCTTTCACATT
123056	OCRL	GGGTGGGTGTGGGGACGCGGGAGCCAG
123057	OGG1	AAACTCATTTAACTAAAGTTA
123058	KIF3C	AGTCTCTCTGTCTCTCTTTCT
123059	DLG4	AGAGGGATGGAGGTGGACTGAT
123060	HOXA7	GACTCACTGGTTTTACTTACAAAAATG
123061	LZTS1	GTGCAAGGTGGCCTTTGTG
123062	WNT5B	CGGCCTGGAGGAGGGAGGTTGT
123063	ZNF277	AATGGCTGCTTCCAAGACCCAGGGG
123064	RANBP2	TAGAAATTGAATTTTTCCTTGTAGT
123065	SUFU	GGTCTCAAAGACTTGGTGACCCCA
123066	NESH	TGGGCTGTGAGCTGTGTTCTGTCCTTCCTCC
123067	FBXL7	TTCATGTCCATTATAGCATTG
123068	CENPA	TTTACTCTTGTAAATCATAGAA
123069	FAP	GCTTCAGCTTCCAACTACAAAGAC
123070	PDAP1	TCCTGTCTGACTGACCTCAGGGCC

123071	SLC22A12	GCAGCATCTTCACCTCCACAAT
123072	OPHN1	CTACTTCTAAGGTAGCTGCAGAT
123073	ACTA2	GTCTCTAGCACACAACTGTGAATGTCC
123074	PRKCSH	CACCCGCCCCTCTGGGCCTGCCTGT
123075	BCL2	GTACTCCTCTTTACACTGGCC
123076	GCLM	GTTACTGCCTGTAAATGGTGTCATTG
123077	CPM	TGCTCACGCCTTGTAATCCCAG
123078	CD53	CCTCAAGGATAATCACTAAATTCTGC
123079	DAZL	GTGACTTCTTCCCTAAAA
123080	PYCR1	ACTGATTAAAATGTCAATGTAATCT
123081	BRF1	CCCCTGCCTCCTCCAGACCCCCCTCCC
123082	EPS8	AATCTATGGAGCATTCTCAA
123083	FCMD	TCTCTCCTCTGCTGCAGCTACTGATA
123084	NTSR1	CTGAGCCTCGGTTTCCCCATCT
123085	PCDHGB7	CCGGGACTCCTCCTGTCCTGGGCC
123086	RAB11A	TTGCAGTATATTATAGAATAT
123087	PLAG1	CACGTTTCCATCAAGCTTTTCA
123088	MAT1A	GCCTCAGGGCTCCTTGTGGGCC
123089	NLGN1	CATTTATATTGAAAAACAAATG
123090	CNTF	CCTTCTCTCTTCCTTGCT
123091	CHST2	ACATGTTAAGAGTAATTTGGATGTGGG
123092	NOVA1	TTTGCAGAAGTGAAGTTTTTCTGTTAT
123093	VAT1	GGCGGGGAGGGAGGATCCTGTTTCCC
123094	CD68	CTTGGGAGGCTGAGGCAGAGC
123095	PIK3R3	AATCATAAAATGAAGTTGGTG
123096	CHST2	CAGGAGACCTGATTCCCTGTGG
123097	RHBG	GGGGCCGTAACTGGGTACAAT
123098	EIF4E	TACATACAGATTTTACCTATCC
123099	DAP	CGCCCAAATCCTACTCTGCTGGGAA
123100	UBTF	GGTGGGGTGGAAGCTTGGGGAA
123101	EPHB2	GGAAGAAGGTGCTTTCTGCTT
123102	NEDD4	ACAAAATTGTATTACAAATGCAT
123103	TM4SF2	TGAAGGCCATGATATTTTGTTTTT
123104	EIF3S2	GCTCATGCCTGTAATCCCACCA
123105	HUNK	CATTCAGATCTTCCTTCCTCCCAAG
123106	REQ	GCTGGGAGCGAGCAAGCTGA
123107	AP2B1	TGTTGCAAATGCTCTTTATCCCT
123108	SLC26A4	GGGAAAGGGGAAGAATGCA
123109	RCE1	CAGAGCTAGTTGCGTCCCAGGGA
123110	CBLB	CGCTGGGTTGCTCCTTCTTCGGGAG
123111	CDC25C	CTTCTGCTCAGGGAAGACTCTGAGTCC
123112	NPDC1	GGACACCTCCTGGTCCCCTGCACCTC
123113	GRM6	TTTGTTGTGTTCCTAGGGCT
123114	ETV3	TCCTCAGAGAAAAAGATTCTG
123115	SLC4A7	TGTTTTTACAATGCTTCTAAATGTTAC
123116	CLECSF11	GGCTAATTTTTTGGATTTTTAGT
123117	C8orf1	TTTCACATCTTAATGAAATAACA
123118	TCF7	GCAGGTGGATCACCTGACGTCA
123119	SHANK2	GGACACCTGATGCTCACCTGCCC
123120	STAC	CCACAGCTGTCCCCCAGGATCCCACTC

123121	IL19	GGGGAGTTTATTTTTCCTA
123122	ABCB1	AGGTATCTGTTTAACATTTCCTCA
123123	GFRA2	ACAGCCGCCTGACGAAATGGAAACAC
123124	TEM7	ACCCTTGCTGGTGTCCAGATGTCTGCG
123125	SLC38A3	AGAGGCTTCCTGAACTGGGAGCAGGGTA
123126	PCSK5	CCGGAGAGCTGGGAGCACAGGT
123127	FUT3	GGAGGCTGCACCTACTGAGGATGTCGG
123128	EIF3S2	TCATTGCACTCCATCCTGAGCCACAAG
123129	PCLO	AACAAATTTTGCTTCTGAAATATGGT
123130	DKC1	GAGAAAACATGTTATAGATCCTT
123131	PSMD5	ATCTAAAAAATGTTTATAG
123132	INPPL1	GCCCCCACTTTCACCAGTTTCTGCGGCCTT
123133	GPR81	ACAACAACAAAACAATCTG
123134	CD209	TTCTGTCCTTCTTGTCATGCCTCC
123135	ARNT2	CTCGCTCACACCTTGTTTG
123136	EGLN3	AACCTGGATTTTCTGCCTCAG
123137	SPTLC1	TGGGAGGCTGAGGTGGGAGAATTGCT
123138	CHST1	CCTTTCCCCATCCCTGCCTC
123139	SLC10A2	CAATCAGAAAATAGACAGGTA
123140	PRX	CGGGTGCTGAGGTCTCAGGGA
123141	TERF1	TTGTGTTTGTAAAAGCTTGA
123142	ELK1	CAGAAAACACACAGCTTCCACAACTTC
123143	CYP2B6	TTCACTGCAACCTCTGCCTTC
123144	ECT2	GGTACTTGTAATTAGCACTT
123145	GPR86	AACTATTCTTTGGAATTCTCCT
123146	TCTA	AGATTGTGTTCTTCCTCTCTCA
123147	USH2A	AATGCATGATTAACTACTCTCTCA
123148	IFNAR2	AGCCTCGTAAAGTGCTGGGATT
123149	TCF2	CTCGCACCCACCCACCCCCTCA
123150	MAX	AAGAATTGTCTTGCAAGTTA
123151	PPP2CA	TATTCCCTACTCAAATCTCAGCC
123152	CHRNE	TTCAGCCTTGCTGACCTCC
123153	PRKY	TCAAGAGGTTGAGGCTGCAGT
123154	RASGRP1	CTCTGTATCCCAGCATACTTTGT
123155	PXN	TCAGCCCAGCCCCTCCAAAGG
123156	PLAT	ACCAAGGTTACCAACTACCTA
123157	TERF2	CTGTCTCTCCCGGACACCCT
123158	STAC	CACATTTCAGGCCCCAAGCAATC
123159	AHCY	CCTCCAGCTGCTGTCCTTGCC
123160	JJAZ1	CTGCAGCTTTCATTACAGATTCC
123161	TRAF5	CCCTACTGCTCATATGCACGCTGGCT
123162	WT1	CGCTCCGCTCCGGGCCTGGGTG
123163	IPP	AGGAGGTCAGGGCTGCAGTGA
123164	PTK2	AGTTAACTAACCCTTCCTTGTAT
123165	TRIM37	ATCTCATCTGCTGTATTTTA
123166	NT5C2	AAAGTTCTGGGATTACAAGTAA
123167	NRIP1	GCATTTGGCAAAATGTCTTAACA
123168	F13A1	GATGCATTTTATAGAATGTGTCACA
123169	PDE4C	GGAGGCTGAGGTGGGAGGACTGCTTAA
123170	LY64	CTGGGCAGGGACTCACTGTGCT

123171	TACSTD2	AAAGAAGCCTGTTTCAGCTGCCTGAA
123172	ALDH1A3	TGAAATGCTACATTATTTATA
123173	HYAL4	CTCAGCCTCCCAAAATGTTGGG
123174	SEL1L	GTTCTTAATGTCAACCATCTTTAA
123175	A1BG	AGCCTCCCAAAGTGCTGGGATT
123175	ADRA1A	AGCCTCCCAAAGTGCTGGGATT
123175	ALDH1B1	AGCCTCCCAAAGTGCTGGGATT
123175	CYP1A2	AGCCTCCCAAAGTGCTGGGATT
123175	CYP2B6	AGCCTCCCAAAGTGCTGGGATT
123175	DHFR	AGCCTCCCAAAGTGCTGGGATT
123175	DNASE1L1	AGCCTCCCAAAGTGCTGGGATT
123175	EIF5A2	AGCCTCCCAAAGTGCTGGGATT
123175	FZD4	AGCCTCCCAAAGTGCTGGGATT
123175	LTB4R	AGCCTCCCAAAGTGCTGGGATT
123175	MATN3	AGCCTCCCAAAGTGCTGGGATT
123175	MEFV	AGCCTCCCAAAGTGCTGGGATT
123175	MHC2TA	AGCCTCCCAAAGTGCTGGGATT
123175	NDRG3	AGCCTCCCAAAGTGCTGGGATT
123175	NQO1	AGCCTCCCAAAGTGCTGGGATT
123175	PCDHB11	AGCCTCCCAAAGTGCTGGGATT
123175	PIK3CD	AGCCTCCCAAAGTGCTGGGATT
123175	PKNOX1	AGCCTCCCAAAGTGCTGGGATT
123175	PPEF2	AGCCTCCCAAAGTGCTGGGATT
123175	SEDL	AGCCTCCCAAAGTGCTGGGATT
123175	SEPN1	AGCCTCCCAAAGTGCTGGGATT
123175	TAPBP	AGCCTCCCAAAGTGCTGGGATT
123175	WHSC1	AGCCTCCCAAAGTGCTGGGATT
123176	DDX26	CCAGCACTATGCCCATCTTACTG
123177	ARF3	GTTACCCAGGATGCAGCAGG
123178	TBX3	CCAGACACGTCTTTTCATTCCA
123179	FLNA	GGAGCCATTTGGTGGCGCTGCT
123180	ELF3	GGGGAGTTACAGATTTCCTGTAGCAGGT
123181	CDC42	GTGCTAGAAGACAGACATCTGTG
123182	TFCP2	TGGAGGCAGAATCCTGGCC
123183	MAPK1	CCATTGGTGACCTGCGGCAGTATGT
123184	CTSZ	TGTGTGCCAGGCTGGCTGGCAGG
123185	CDC25C	CTCTCCTCTTGTAGCAAGCC
123186	ADAM8	GGTTCCCCTCCGTGCTCTTCG
123187	GCN5L2	CCTGGGCCTGGCCCAGGTGGCTGT
123188	LILRB5	CACCAATGAACCCCAGCCAGCCTGGACCCCT
123189	CALCR	AAGAATTGGTCTTAATGTTGAATGTA
123190	NEDD4	CTAGAAATTACAAGCATATAACTTTA
123191	ZNF289	GATGTGAGAGGCAGAGGCAG
123192	CCND1	CTCTTAGAACATTGTATTACAGATGC
123193	ART3	GGCCTAGCATCACTTAAACTTCCTCCA
123194	GRB10	GCTGATTGCCTCTCCAAACGCCT
123195	PLN	TACTAACAACAGAATCTAATCT
123196	HCN2	CCAGACCAAAGCCATGCCATTGCGCTG
123197	HTR1E	AAAGTGCTGGAATTACAGGCGAACCTT
123198	XDH	AGAGTCTTCTTGTGCTGCCTTT

123199	MCC	TCTCAGTTCTACACTGATACA
123200	KCNAB2	CAGAGGGGAGAGAGGGCAGGACAGGCCAG
123201	FBLN1	CACAGCCGCAGGTGCACCTCCAG
123202	BAZ2A	GCAGTGTAGGTCCTGGGGCAG
123203	LHCGR	AGAGATGCACTGTTCAATTCG
123204	TCF2	TAGCCTCCCTTTGTGCTTGGG
123205	FSTL3	CCTCCATCTGCGTTGATGCTCAG
123206	ADAMTS5	AAAAATTCATAGTAATCCTGCCA
123207	BGLAP	GACACCATGAGAGCCCTCACACTCCTC
123208	PFKFB4	TGCACACACCGAAGTGCTCGAGGGAGA
123209	APXL	TGTCAGCAGCAGTGACCACAGC
123210	ADAM12	CCCAGTGACACCTCCGCCTTGGCAG
123211	TBX6	TGCCAACATGGTGAAACCCTGTCTCT
123212	ARHGDIA	TCAGTGCCACCACCCCCGGCAGGCCTT
123213	CD209	CTCGGCCTCCCAAAATTGCTGGG
123214	GABRA1	TCATAATTCATTTAAGACAAGA
123215	ADAMTS3	GCAGAAAAGGGACTGGAACC
123216	SIAH2	TGTTTGTCTTTCTACTGTTTCA
123217	PGK2	TTCTGTTTTCTGTCCATGGCCC
123218	EXTL3	CTGGAAGTTTTCTAGCAACTGAAC
123219	TLX1	ACACATGGGCATCTATGGGAGAGTG
123220	CA12	GGAGGCGGAGGTTGCAGTAAGCCAA
123221	REGL	GCAGCTTAGAGAAAATGTGGAG
123222	DPYSL3	ATCTCCTGTGATCTGTGCTA
123223	CACNA1G	TCCTAGCTCCTCCTCCTGGGCTA
123224	NCYM	TGCGCGCGGAGCGGTGCAATG
123225	MKL1	GGGAAGGGGCTGGGAGCCAGG
123226	ADCY8	GGATGCTTCTGGCCAGAGCCA
123227	MLANA	CCGCCTCCCAGGTTCAAGCAAT
123227	RHD	CCGCCTCCCAGGTTCAAGCAAT
123228	LMO7	AGAAGAAATTGAAAAGCAGGCACTTGAGAAGT
123229	PDCL	GTATGGTCAGCTAATAATATATCA
123230	BENE	CTTCCTCCAAGGCTGGAGTGCAGT
123231	BMP2	TTCCATGTGGACGCTCTTTCA
123232	PIK3CG	CCAGTGCTAGGATTATTTGCAGGTT
123233	DIAPH1	TCTCTGGCCTGCTGCTCTCTCAA
123234	ITK	GCCTCCTCTTCTGCACAGAATGCT
123235	SPRR3	AGCCCCTGAATTAAGCAGAA
123236	HPS4	GAAAGAGACGCTGCCCAGGGA
123237	MTCP1	AAAGCCCAGAATGGCAGGAGAGG
123238	DSCR3	TCACCCAGGCTGGAGTGATCTCAGCT
123239	CNP	TCCCAAGCTGGAGTGCAGTG
123240	CDYL	AGTGCTTCTTGTTGCTGGGTGA
123241	ACVR1B	GCGCTTTCCCCTCCTCCCTGGGATG
123242	RAD54L	GTTTTAAACTCCTAGGCCCAGG
123243	DFFA	ATGGCATGAACCTGGGAGGCAG
123244	FKBP10	CTGGGCTGCTGGAGGCCAGACTGG
123245	PSEN1	TTTCTTCTTTGACTATAAC
123246	SCNN1G	ACTGTTCTTCATCATTGACAC
123247	COL4A4	ATTCACCAACACGTGGCCAAGA

123248	CCNC	AGATTTTGGTAATGATGTTGA
123249	CX3CR1	TTACGATGGCACCCAGTGAGCACTCC
123250	PPP2R1B	GAGAGGGAGAGTGGGCCCTGGC
123251	WHSC1	ATCTGATTTTGTGTTTTTTGT
123252	UBTF	CAGACTAAGCCAGCACCGGACCAGCCT
123253	WHSC1	TCTCTGCCATGGTCCCCAGGAAGGATGGG
123254	ORC4L	AGCTCACTTCAACCTAACAGCTA
123255	SLC24A1	GATTACAGGCGTCAGCCACCGC
123256	KIF5B	CCGGCCGCCTCCACCCGGG
123257	MPL	GTCACCCAGGCTGCAGTGCAATGGCGC
123258	PCDHA9	CCACCCAGGCTGGAGTACAGTG
123259	SYNGR1	GCCTAGTGCCAGAAATGTCC
123260	HOXC4	GCTGCCTCTACCTGCCTGGTCCAGCTG
123261	COX15	TGAAAGCTCTCAATTAAGT
123262	NT5M	GCTCAGGGCCCAGCAGAGAGTCCGTAG
123263	CARKL	GACCAGCCTGACCAACATGGGG
123264	PHKG2	GGTCAGTGCTGCATGCACTGCA
123265	P2RY2	TTGGCTTCTGTGCCTGACTCTGTG
123266	CNTN2	GAGGCCCTGGAATAAGGAAGAG
123267	SOX4	GTGAGACTTCCCAGACCCCGGAG
123268	DAPK1	ACTGGTATTTTTACTTA
123269	CNGB1	CTGCAGCTCTGACCGTCCCGCC
123270	MYLK2	TGGTGGAGGGGGAGGGGAGAAGCCAAG
123271	NF2	GGCTCCAGGGAGCAGGCTGG
123272	ASPH	AGAACTGATGAATGAGCAAA
123273	B4GALT4	TTATTCATTTATCCTGTACAATCA
123274	UBE2I	CTGCCTCCAGCCCGGGCCTGTGTC
123275	PIP5K1B	ATGACTTGCCATTTCATTTACA
123276	FBLN1	CTGGCAGCCTTTCAGGTCAC
123277	MCM6	CCAACACAGGCTTCAGCACTTC
123278	FUT3	TGCCAAGGGTGGACAGGCGCTG
123279	CASP10	CTACACTTTGCTCCTCTGGCCCA
123280	RPL15	AGAGGTTGTTCAACTGAAGGAA
123281	ATBF1	CCTCCGTACTGGGTGCAATG
123282	CDH13	TTCTAATGGGGACACAGATCATGG
123283	TCF2	CGAGTACCTGCTCCATCATGCT
123284	CGB	CCAGTGAGAGGAGAGGGCTGG
123285	ZNF142	AAGAGGAAGAGAGAGTGG
123286	SLC19A1	GGCTTCTCTGTCTCTGTGGAAA
123287	MUC3B	TCCCTCCTCTCCTCACATCCTGGT
123288	CRP	CTCCACCCTCCTCAGCGCC
123289	MAPK4	CTGTGCACACACCCCCTCA
123290	CYP3A4	GCCTGTAATCTCACTACACAGG
123291	MAP2K2	CTCCACCCACCCTCCTGCCTCAC
123292	E2F1	CCAGGCCAGGTGGGGAGGCTTTGG
123293	ACCN1	GCTGCCCGTGCAGTGGGACCAGATTC
123294	OGN	GTGCACACTACCTTCCCACCCA
123295	CACNB2	ATTGGCCTGGTATGGCTGCAGTCC
123296	CPNE7	CCCACAGTCAGCCTCCTGTCCCTGC
123297	SORD	CTTGTGACTTTGAGACTATTCA

123298	SPG3A	TGTCTCCATGCAAACATTCAAAG
123299	B3GNT3	GCAAGTGTCCTTTGAAAGTTGTGAGA
123300	C8A	AGCTCTGTCCTACTTACAGCACTTTG
123301	MSR1	GCAAAATCTCCAATCCACACATATTGTT
123302	TCTE1L	TCTGGTTACACATATGGAAGTA
123303	RALBP1	TTCAGCACCTGTTTGATGCAGT
123304	ED1	AAACCCAGAGATGCCTGATTTCA
123305	OPHN1	GTATAATTATAATGTTGCCC
123306	IL11	CACCTCCCGGGTTCAAGCAATT
123306	SEDL	CACCTCCCGGGTTCAAGCAATT
123307	CACNG7	GGCGTAGGGAAGGGGGCTGGAAGC
123308	NUCB1	TTCTCCGTCTGTCCCAAGAGGGTCTG
123309	SYNGR3	TCTCTCCCTCTCCTGAAAGACC
123310	DYT1	AAATGATTTTTAACATTATG
123311	NCSTN	ATTGCCTCCCTTCCTCCGCTCC
123312	CHST6	GCCCCTCCTCCTCTGGGCA
123313	APM1	CTGTTGCCAGGCTAGAGTGCAGT
123314	TMC1	CTGCGTGGTGCAGTGGAACA
123315	LRP1	AAGCCTCCTGCCCCCTGCCGG
123316	KLK4	CCTCAAACCAAGGGTACAGA
123317	MTMR1	GGACCCTAGAGGAGACTCTCA
123318	LAMP2	GGGAGGCAGAGGTTGCGGTGAG
123318	TNFSF15	GGGAGGCAGAGGTTGCGGTGAG
123319	MRPS12	CTGGCCTTTGCGCCTCTAGAGG
123320	AIRE	TGTACCCGCTGCTCTCAGCT
123321	HM13	CACAAGGTCAGGAGATTGAGAC
123322	B4GALT5	GCTCACTGCAGCCTCCATCTC
123323	NF2	CGCAACCTCCGCCTCCCGGATT
123324	TRPV1	TGCAACCTCCGCCTCCTGGATT
123325	LDB1	GGCCGAGGCTGTGCGTGCGAG
123326	SMARCC1	ATGAAACTTGGTTAGGATGGCTGGGGGTACA
123327	SIRT7	CGGAAGAGCAGGTCTCCAGGGGA
123328	HUNK	CATTGAAAACAGAGCTTTTAGGCCAGG
123329	GABRR1	TCATTACATTGTTCAGGCTACG
123330	INPP5B	GCCTGTAATCCCATGTACTCTGG
123331	HFE	TAGTATTCCAGACCTGAAGAA
123332	SLC22A3	CTGAGTTTTAAAAATGAAA
123333	PTPN7	GGACTTCTCTCCTGAAG
123334	OSBP	TGACAGGCGCATAAACTGAAATG
123335	MYCL2	GATGTTGGCTGACCCCCTTCCTCCC
123336	HDAC5	GGCGCTGTCCCTTCTCTTTCC
123337	CLDN14	CACATGCTCATCTACAGCTTTCTTGG
123338	SRD5A2	TGAGAAAGTACAAACTTC
123339	SUV39H2	CTAGAAGTCCAAAATGGCTAGCCATT
123340	SIM1	AACACAATTTAAGGGCTCAGCAT
123341	GFPT2	ATGTTCTGCGTGCTCCTGT
123342	DBI	CTGGATTTGGTTACTGTGCCA
123343	SLN	GCCCTGAGACCCCACTGCTGTCAT
123344	ADAMTS1	GGAAAGCAAGAAGGCTGGAGGGA
123345	RALB	TGGTAAAGAGAAGGCTATGGTTGA

123346	COX15	CACTCTGCAACCTCCACTTCCCA
123347	AVPR1A	TCTGGACTTTCTCTTGGA
123348	VDR	ACTCCTGAAATATCAGTTACTCAGCCC
123349	WNT11	CAGGGGCCTGGAGACACTCCA
123350	ITPKB	TAGTTCTCTTCTACACCTACTCTGT
123351	PTGIS	CTGCTTTTCTCCCAGAAGGCTGGGTC
123352	AICDA	GACCAGCCTGGCCAACATGGCAAAACC
123352	GGCX	GACCAGCCTGGCCAACATGGCAAAACC
123352	MSH3	GACCAGCCTGGCCAACATGGCAAAACC
123352	POLH	GACCAGCCTGGCCAACATGGCAAAACC
123352	TRPM8	GACCAGCCTGGCCAACATGGCAAAACC
123352	ZNF264	GACCAGCCTGGCCAACATGGCAAAACC
123353	GCN5L1	CCTACCCCTGTTCCCTCCCCAAACCC
123354	GPR86	TTACAATTACAAACAGCCTCTTTCA
123355	E2F1	CAGCTCTGTTCCCTCCTGCTTTGGTTTTA
123356	SUPT6H	GCTGCCACCGCTTCCTGCCTGTC
123357	PSME3	CCCACAGTTGCCCTGGTGATGACTTA
123358	SCNN1G	GTTCTTGAACTCCTGGCCTCA
123359	ARHGEF1	CTCCACCCCCACCCCCAAGTGCC
123360	LRP8	TACTGCTGACTAACATGATGCACA
123361	SET	TAAATTCTCTCCTAATGATGACT
123362	GNPI	CTTTGGTCAGTAACAAGTGCAA
123363	RGS9	GCATTTTTCTCATGGGGAAGGAT
123364	TRIM9	AGTCCACAGCATTCACATTCTC
123365	MTMR2	GTTTTTAAGAAGTATTTAAAAATCTT
123366	ENTPD3	CCATAAAAACACATTGATCCCTAGCAAGA
123367	NR2F6	CCTTGTTCCTCAGCACCCCT
123368	TCF2	GCCAGAAACGTAACTGTGTG
123369	CDC2L2	GGAGCAGTTAGAAAGGAAGCGGGAGCG
123370	MAP1B	ACCACACAAACCCAGCCTGGG
123371	SMAC	GGAGTGCAGTGGCGAGATCTCAG
123372	USP18	GAGAGCAGTGGCAGTGGGAGGCATC
123373	ABCD4	TGTCTATGTATTACCTTCCTT
123374	KCND2	GCGGCTGCCAGCTCCTGAGCT
123375	NXF2	CGTTCACATCCTCTTTGTTTCCT
123376	KPNB1	TGGAAAAGAGAAAAACAATGGA
123377	RNTRE	ATCTCAGAGCAGGAGAAGTTG
123378	RANBP3	TTCCTGCCTCTGCACGCCACCCCGTGC
123379	HR	ATGGAGAGGACCAGGAGCCAG
123380	PLAG1	CTATTAAGCACTTGTTAACA
123381	HR	CCTTCTGCCCTCCTGCCAAA
123382	KRT8	CCTGCGCTGCCCCAGAGCCTG
123383	GSTM1	CCCTGCTCCTGCAGCATGGTCC
123383	GSTM2	CCCTGCTCCTGCAGCATGGTCC
123384	PODXL	GCTGCAACCCTATGGCCTCTTGGAGAC
123385	TGIF	GAGGGAGGACTCGGGACAGGGAATTGGC
123386	TRIM9	TTCTTATTTGCTGATGCTGCTA
123387	EDN2	GGGCTTGTGGACTCTCTGCCT
123388	DLG5	AGAGCTGCGTGGGCAGGGCTGCAGTGG
123389	OSR1	GGGAGGAAGAGAGGAGATGG

123390	PPP1R3A	AAATGCAAACTTAAACATATTC
123391	ZNF217	TGTATTCCTTTTCTCTAATGCAGCT
123392	DISC1	TGCTCAGTAAGGCAGTGCAATACTCAG
123393	CNN2	TTGCCCAGGCTGGAGTGCAGTGGCGCC
123393	PER2	TTGCCCAGGCTGGAGTGCAGTGGCGCC
123394	BHMT2	CAGGAGGCGGAGCTTGCAGTG
123394	SMG1	CAGGAGGCGGAGCTTGCAGTG
123394	UBE2G2	CAGGAGGCGGAGCTTGCAGTG
123395	DPP4	GCCCCCAGGTGCCAGTTATGGC
123396	GCNT2	TTTAGTATTCCTGTAATACT
123397	LAPTM5	CCCAACAATGCTTGGTTTATTT
123398	KCNAB2	GCCTAGAACCCTTGCCCCTCCTCATAGACC
123399	TMOD2	GAGGAGAAGTGAAGTTTCACTGTGG
123400	TLR1	GATCTGAAGAACAGCTTCTA
123401	CDS2	TGAACTGTTTCTGGGCTCAGTCAGA
123402	CREBL2	TCTAGGGTATATATGTATGTA
123403	FUT4	AGCTAGCAATTGGGCTCCCTTT
123404	WHSC1	CAGAAATTCATTATGCTGCTAA
123405	RUNX1	CTGTCCGTGGCTACAATTCAAAG
123406	WISP1	TGACTTCTCAGAAATTGCCAACTAGCAGGC
123407	GPR25	ACTGCCTCGGCCTCCTGGTATAG
123408	MADH7	TCCTGCCAGCCCCTGCCATT
123409	CNGA3	TGAAACCAGAATCTGCTTCACAGAAAA
123410	LTBP2	TGGGACAGAGGCTACATCTGCC
123411	ICA1	TCTCTTGTCTCACATGCTAG
123412	GOLGA4	ACCTCATTGTTTACTTAGCTTTT
123413	DISC1	CTACAGGTGCACAATCTAAGA
123414	CPD	GCTTTATCTTTGGTAACTTTTACTTGA
123415	NLGN3	GGGAGTCCCCTTTCTGAAGCTGTGGT
123416	SLC24A1	ACCCCAGGATTCTCATTCTTTG
123417	ABCF1	GCTGTTGAAGCTCAGAGCTGGA
123418	KIF3B	CTGGGTGACAGAGTGAGACTCCACCT
123419	IL17R	GCCTGTAATCCCAGCACACTGGGAGG
123420	SERPINB5	TTCCCATAAGACAATGACATAC
123421	AVPR1A	TGAAGGTGAGAGGAAATGTTG
123422	GPR30	AGGGTCCAAAGGCCAGCGGTGA
123423	IGFBP4	GGGCCTGCCAGCAGGCCAGGGACTCA
123424	SPTLC1	CCTGTAATCCCAGCACTTTCA
123425	ZNF264	AAGTGATTCTTCTTTGCTCTTATTTA
123426	CTNS	GCTGTCCTTCCTATGGCAGGAG
123427	RGS3	CTGTCCCTTGCAGACACATGCC
123428	SP100	AAAGTCACTTTATTCCTCCATCA
123429	HSPA4	CTTAGCACATCCTCTGTTCTCTA
123430	F11	ACCATTTTGGAGGAAGAAAAGCACCCT
123431	PSCD3	GGGACGGATTCCACAGACGGGA
123432	COL19A1	CATCTTTATGAAACAGGCACAG
123433	TRIM14	GGCCAGTGCCTGGTGCTCTGGCCCCT
123434	TNFRSF6B	AGCGCTTCTCACAGACGTGCA
123435	LMCD1	GACACAAATGGCGTTCTGCAAGGG
123436	MSN	CCTCCTCCCTTTTTCCTTGTCCCCACA

123437	EIF5A	GGGCTCGGAGGCAGCGGTTGG
123438	LDB1	GTGGCCACCCAGTGCTCTGCCTACC
123439	MORC	TCTAAATCTTCCTTTTCTTTCAGA
123440	PLCB2	TCTGCCTGCCTGTGTCTGCTGA
123441	CACNA2D2	TACAGAAGATCAGTTATTAAA
123442	SYN3	GGGAACTCGCCACCTGCCCACGC
123443	PIK3R2	GGCTGCGCGGCCCCAGCCTGGGCAC
123444	DBP	CTTACGCCCTGTTCCCTTCCTG
123445	ABCA1	GGGTCTACAGGGTCATCCTTA
123446	PMCHL1	GCCTCAGCCTCATGAATAGCTG
123447	SOX4	TTTTGGGGACTTTTCTCTCTTTACCCA
123448	HYAL1	CTGTCCTTGGTCACTGAGGCC
123449	STK10	CAGGGGGAAATGGAATGCCCCTGC
123450	RBBP5	CCATCATGTGGCCTCTGGACACTGTGG
123451	FOLR1	TCTCAGCCCCCATCCCCAGC
123452	ADRA2B	CTTCTCCACCCTCTCCCTGAGCACA
123453	SHC1	ACTGAATTTGGGCCTCTTGTACA
123454	REG1A	TGGACACTCTCTTCTCT
123455	JAK3	GCTCGTTACCCAGGGTGGAGTGCAGT
123456	A1BG	GTTGCCCAGGCTGGTCTTGAACTCT
123456	JRK	GTTGCCCAGGCTGGTCTTGAACTCT
123456	PVR	GTTGCCCAGGCTGGTCTTGAACTCT
123457	LILRA3	TTCAACACCTTTAACAATGTAT
123458	SLC4A1AP	ATCAAATTGAATGGCCAGAGA
123459	TMEM1	CATGAATGCTTCTGCCTCTTT
123460	DIA1	CCCGTGCCCTGGTGAATCACCTGGCTG
123461	SCNN1B	GGCAGGGGTGGTGGAGAGATGGAA
123462	MDM1	GGGAGAGATCAAGTTGAGACAG
123463	GFRA2	AGCCTGGCTGGGCTCTGGTGGGG
123464	PABPN1	GCCAATCGGCATCTGAGACTGGGCCAC
123465	CHS1	TCTCCCATATGATGGCTGTCTGT
123466	ZFP36L1	CCTCCACTGGCGACACAACTGC
123467	FLRT2	CAGAGGCCATCGCAGCTTTTGA
123468	GPR61	GACCACCTTGTGGGATCACCTTT
123469	JAG2	GTTTCTCTGTGGCTCCAGGCC
123470	ATM	GCCACTACACTCCAGCCTGGG
123471	KCNJ10	GAGAATTGGTGATGCTTTGTTAA
123472	PSMD9	CCAACTTGTCTTCTCTCCCTGAAGCAT
123473	DCX	TATCCCTTGGTTTATTGGCTTCAACAT
123474	FOSB	CCTTGTGTTTTGTCCTGCCTCT
123475	SRGAP1	TTCTCCTCTGTGGAAATGAAGGCAGCA
123476	PDE1A	ACATGTGCAGAAGATGAGGTATTTTA
123477	B3GALT2	CAATCGCAGGAGGCAGACTGTTGG
123478	WDR4	GCAGCTGTCTGTGTTTCTCCTGTT
123479	ARRB1	TGCCTCCACGTGGCTCCGGCT
123480	SH3BP2	CTTGCCTAGGGCCTCTGTGAT
123481	PLAT	CGCTGCACATCACAACATTTACTTA
123482	ED1	CTGCTCCCTGCTCCGTCCCGCC
123483	B3GAT1	GGAGGAAAAGGAAAGGGCCCCAGCGTACT
123484	MPP3	TTTCACTGCACCTCTTTGGATC

123485	DBN1	GGCTTCAGATATTTTGCACGA
123486	SOX9	CGCTCTGTCACCTGTGCCTCT
123487	PLN	CAGAAATTGTATTTTTTCTATGCCA
123488	ADAM33	GGACCTCCAGCACCTGCAGGCAGCTTG
123489	TXNIP	CTGACTTCCTAATGTAGGAGGT
123490	RGR	TCAGAAAGACACCAGGCTGCA
123491	P2RX7	CTGAGGCACAAGAATCACTTGA
123492	FCGR1A	CAAAGAGACGCTTCAAGTGGG
123493	CGA	CACGCTTCAAGGATATACTGCAGCTT
123494	KCNE1L	CAGGGGCTGCCAGGGACTGC
123495	PSME3	ACAGAGGGAGGGAGCGAGCGAGC
123496	POLK	GGCTCACACCTGTAATGCCAGCCCTTT
123497	RAD52	TTGCTCTCTTTCCCACTCCTAG
123498	ATP1B3	ACTGCCTCTTATTTTAGGCTGTA
123499	INPP5D	AGGAGCTGAAGAGTCTGGGT
123500	EXTL1	TGGGAAGAGAAATCTGAAGA
123501	SDHA	CTGGGAGCTTGCCAGGAACCCAGTGG
123502	FZD7	CGCTGCACTCGCGGCCGGCGA
123503	KIF5A	CAAAAGGAAAAATGGGAGCTAGA
123504	ALX4	GGGCCTGACCCTCAGCACTTT
123505	PMX1	GATTAATAATACTTACCTACCTCA
123506	BFSP2	CTTTCTCCTGAGCTCCAGTCC
123507	MAGEA2	CCCTGCAGGGGAAGACTTCTCAGGCTC
123508	RAD21	TATTAAAAAACATAACTTTCTA
123509	OAS2	CTGTTGTCTTTTCCTTCTGAGCCTGC
123510	IGF1	TATTCCCTCTCAACAAAACTTTATAG
123511	CEACAM5	TGGCGCGCACCTGTAGTCCCAG
123512	SGPL1	CTGAGGGAGACGCAGGAGGTGGAGC
123513	GAS7	CGGGAGAAGCATGAGCGAGGGG
123514	GLO1	GCTCTTGGGCTGGAGTACCGTGGT
123515	PODXL	TAGCTCATCTCACTCACTCTGA
123516	GATA3	CCTGCTCGATGCTCACAGGGCC
123517	TRIM14	GTCCTGTTTTGTCAATTCCCTA
123518	PRG4	CTAAGGTATACAAATCTGTCT
123519	PIK3C2B	TCCCAGGCTGGTGGCAGGAGC
123520	AP1S1	CCTGGTCCTGGCCCTGGCCTTTCACTCCA
123521	TAF4B	AGGGGAATGTGAAAATGGTAT
123522	GM2A	CCTCACTGCAACCTCCGCCTCC
123523	LAMP2	TTGCAGCTGTTGTTGTACCGCC
123524	DAZL	CCTTTTGCTATACCACAGTCTT
123525	KCNA7	AGTGTGGTCCAGCTGCATTG
123526	ANKTM1	TTGCTTCTTATTTCTCTTATA
123527	EHHADH	ATCTTATGAATCATACATACACTCA
123528	FLRT2	CACTGCATGGGACAATCGCAGG
123529	UVRAG	CCTAAAATGAAGTGAAAGCTGC
123530	PNUTL2	CCTCTTCCTCACTGATCTGTACCG
123531	C20orf1	CTTCTCTGCATACCGTGAATTTAT
123532	JAK2	CCGATCTGTGTAGCCGGTTTC
123533	COG5	TTCCAAATTTGGCTGCACATTCATA
123534	IL16	TGGGCAGCTCATCTCTGTCCCAC

123535	EEF2K	CCGCCTCCTGGGTTCAAGTGAT
123536	LIF	CACTCCACTCTGGGCTGGGCTGTGAT
123537	FBXW1B	CTAAGGTTTAACACCAAAATGTTTTATT
123538	SPG4	CTAGTCTGTTGATCTGCCTTTTGTTCT
123539	CRABP2	GCTCACCGCCCTGCTTCACTGC
123540	ZNF76	GCTGGAGAAAAGGTGCCCAGCC
123541	TCF7	GCTTGTCACTAGCAGCTGCAGT
123542	MTCP1	TCCCAAAACAGTTAAGGTTTTATTTT
123543	PRKAR2B	CCAACCCACAATCTCATTGAT
123544	WBSCR1	AACTCTCTCTCCTTCCTTCCACCTG
123545	MGEA5	AAACTCACCCATCACACTTTG
123546	PRIM2A	ACTATATTTTGCTTTGACAGA
123547	GALT	GCTGCACGCTCATTACTACCCT
123548	WARS	TTCTTCCTGTGAGTTCCAT
123549	FOSB	TCTGTCTTTTCTCCTCCGCCTGTGT
123550	PTER	ATGATAAAAATATTTTG
123551	GDF2	TCTGCATGCCAGCCTGGAGGA
123552	VHL	ACCCAGGCTGGAGTGCAGTGGCGCC
123553	KCNK4	CTACAGTTGCCTCTCCGCCT
123554	MX1	ACTGGACTGACGACTTGAGTGCT
123555	APPBP2	TGTTGCCCAGGCTGGGAGGGCAA
123556	FGFR1	GTAACCCTCACCCACAGCCCC
123557	JAK3	TGCTTCCCAGGTTCAAGCGATT
123558	CLCN5	TGCCTACACCACAGAAACCTC
123559	STAT5B	CCCCGCGACCTCTCCATCTTCAGCT
123560	HDAC4	AAGTCTGAGGAACAATGCCT
123561	XRCC3	GGGGTTGCGTCTGAGGCCTGCCCCCTGGG
123562	DBY	TTGTTGAATGCAGCCAGTGAAG
123563	ACADSB	GATGAGCCACCATGCCTGGCT
123564	SLA2	GCCCATGCTGGAGTGCAATGG
123565	SLC22A3	CACGTTCCAGCCTCTAGGTGA
123566	LMAN1	AACGTAAACACACTTGCCCTCA
123567	CD244	GCAGAGAGTCTGGTGGGGTGGAG
123568	HAS2	CACACACAACACCTTAGTTCCTCT
123569	BAALC	GATCCTGCAAGTTCAAGGG
123570	PSA	TAGCAAGAGTTGTACCCCCTCC
123571	MUT	CCAAAACAGGCCTACCAGTC
123572	GJB3	TGGCTCGGGGTGGAGCTAGGGT
123573	KIF3B	TTTTGGGTTCTGCATTGAGCCAAA
123574	MSF	TGCACACATCACCAGGTGCATCTG
123575	ALDH1B1	GCCCAGGCTGGAGTGCAGTGGT
123575	APPL	GCCCAGGCTGGAGTGCAGTGGT
123575	EHD2	GCCCAGGCTGGAGTGCAGTGGT
123575	PCDHA9	GCCCAGGCTGGAGTGCAGTGGT
123575	PDZK1	GCCCAGGCTGGAGTGCAGTGGT
123575	PIK3CD	GCCCAGGCTGGAGTGCAGTGGT
123575	PON1	GCCCAGGCTGGAGTGCAGTGGT
123575	PPP1R12B	GCCCAGGCTGGAGTGCAGTGGT
123575	TMC1	GCCCAGGCTGGAGTGCAGTGGT
123575	TRPV1	GCCCAGGCTGGAGTGCAGTGGT

123575	UGDH	GCCCAGGCTGGAGTGCAGTGGT
123576	LHB	CTCTCAGGCCTCCTCTTCCTCTAAGACCCT
123577	HIF1A	TTTAAAAAATGCACCTTT
123578	ADORA2B	CACGAGGTCAGGAGTTCAAAAC
123579	FANCD2	CACAAGGTCAGGAGTTCAAGAC
123579	LUZP1	CACAAGGTCAGGAGTTCAAGAC
123579	NFATC3	CACAAGGTCAGGAGTTCAAGAC
123580	PAX2	CTCCGACCACCGCCTCTCGGAT
123581	PI3	CCTGCTGCCCTTCCCCTTCCC
123582	A1BG	TCACCCAGGCTGGAGTGCAGTG
123582	AASS	TCACCCAGGCTGGAGTGCAGTG
123582	APAF1	TCACCCAGGCTGGAGTGCAGTG
123582	AXL	TCACCCAGGCTGGAGTGCAGTG
123582	CMAR	TCACCCAGGCTGGAGTGCAGTG
123582	CSNK2A2	TCACCCAGGCTGGAGTGCAGTG
123582	EEF2K	TCACCCAGGCTGGAGTGCAGTG
123582	EIF2S3	TCACCCAGGCTGGAGTGCAGTG
123582	FCAR	TCACCCAGGCTGGAGTGCAGTG
123582	FSHPRH1	TCACCCAGGCTGGAGTGCAGTG
123582	HUNK	TCACCCAGGCTGGAGTGCAGTG
123582	ICAM1	TCACCCAGGCTGGAGTGCAGTG
123582	MEFV	TCACCCAGGCTGGAGTGCAGTG
123582	NEU3	TCACCCAGGCTGGAGTGCAGTG
123582	PCDHB16	TCACCCAGGCTGGAGTGCAGTG
123582	PSMD9	TCACCCAGGCTGGAGTGCAGTG
123582	TERF2	TCACCCAGGCTGGAGTGCAGTG
123582	TNFRSF9	TCACCCAGGCTGGAGTGCAGTG
123582	VHL	TCACCCAGGCTGGAGTGCAGTG
123582	ZNF264	TCACCCAGGCTGGAGTGCAGTG
123583	INMT	TCACCCAGGCTAGAGTGCAATG
123583	RHD	TCACCCAGGCTAGAGTGCAATG
123584	TUFT1	AAAGTGCTAGGATTATAGGCTT
123585	MEF2C	AGGATGCTAGCCTGCCTTGT
123586	MADH6	CGGGGCCACCGGGAGGCACTTTT
123587	PTK2	AGAACAATTTATGTTCACATT
123588	KLHL1	CTGCCTCTGCTCCTGCCTGGTGGTGT
123589	ACO1	CTCTTCTCTCCCCTTTTCC
123590	SLC6A6	AGCAGGTTCTGGTCATTCCCCAAGC
123591	CTSS	AGTGCAGTGGCACCATCTCA
123592	PCDHA2	GGGTCCCCACATAGTGAAAGTACTCTG
123593	MRPL49	GCCCAGGGTGGAGTGCAGTGGC
123594	TP53	GCCCAGGCTGGAGTGGAGTGGC
123595	AKAP1	AGCTGTGGAGTGTGGTTGGAGAT
123596	WBP2	GGACTCTCTGGCCACCTCCTCCACCGC
123597	GFER	AAGGGTGGAACAGGAGGGGTGGG
123598	CXCL6	TCACTGGTTATTAGTCTTTC
123599	SMG1	TGGCTAACACGGTGAAACCCCGTCTTT
123600	ATP1A2	TGGCCAACATGGTGAAACCCTGTCTCT
123600	FGFR2	TGGCCAACATGGTGAAACCCTGTCTCT
123600	LAMC2	TGGCCAACATGGTGAAACCCTGTCTCT

123600	LILRB1	TGGCCAACATGGTGAAACCCTGTCTCT
123600	PAICS	TGGCCAACATGGTGAAACCCTGTCTCT
123601	GAS7	TGGCTAACATGGTGAAACCCCGTCTCT
123601	KAI1	TGGCTAACATGGTGAAACCCCGTCTCT
123601	NFKBIL2	TGGCTAACATGGTGAAACCCCGTCTCT
123602	PTGIS	TGGCCAACATGGCGAAACCCCGTCTCT
123603	FBXL5	TGAAATGAGTTATTCAGTAG
123604	IGF1	AGAGTCTGGCCAAAACGGTAA
123605	GPR56	CCCTCATTGCTGGGGGCCA
123606	HDAC4	CAGAAGCCAGCGGACGCCTCTG
123607	GPR84	ACTGTCCACCAGAAAGGACTG
123608	ATP8B2	CACCTCCTGGGTTCAAGCGATT
123608	TAT	CACCTCCTGGGTTCAAGCGATT
123609	SEDL	TGTTGTGCAGGCTGTAGTGCAGT
123610	MYCL2	TCTCAACTCTTGTCGCCCAG
123611	STAT6	CCCACAGACCTGCTC
123612	HYAL4	TGCCCAGCTGATTTTTGTATTTTT
123613	TNFRSF14	CACAGCCGCAGCAATGGCGCTGAG
123614	PTX3	AGAACTTTGCGTCTCTCCA
123615	SLC26A4	ATTTCACACTGGAGTGAATG
123616	TIMP3	TCTTTAACTGCCTTCCTGGCTTA
123617	NFATC3	CTTTGAGTGTGAATGCAGCAG
123618	IL13	CCTTAGCTTAGACCTCAGCC
123619	AMPH	CAGAAGGCTACATATACATAGTT
123620	ITGA6	CAACAGCAAACAGGTGCTA
123621	RHCE	TTTTAAGCAAAAGCATCCAAGA
123621	RHD	TTTTAAGCAAAAGCATCCAAGA
123622	ATP5J	TACACAGTCTCACTTTCCCTGC
123623	TNP1	TCTCAATAAAACTTTGAAAGCA
123624	HPCAL1	ATGCTCTCTTTGTCTGCCTGTTTCTAA
123625	BCL2	TCATCCAGTACCTTAAGCCCTGA
123626	SCD	CTCTCTCTGGGTCAGAACCAGA
123627	RGL	GCTGGGACTTGGCTGTGGGTGGGA
123628	MS4A4A	AAGAGCCTCACATGAGAAATTACCA
123629	PWP2H	GCCAGCAAAGAGGAGGGGTC
123630	MAOB	TGTCTGTAATCACACTCTCTT
123631	RNMT	GGATTCTCTTCCCACCCTCACCAT
123632	SLC25A5	GAGTCAAACGGTTCCCGGCCCAGTCC
123633	TRPM6	TGACCTCTGTCCAGGGCACTTTG
123634	ZYX	CCCAGACCTGGTGAGGACAGGCCCTC
123635	ABCC3	AATTCTGCAAGGGTTCTTGGTGATGC
123636	GALT	TGCTGGGACTGAGGGTGGAGCAGCAAA
123637	ENO2	CCGAGATCCCAGCCATCATGTC
123638	FUT6	GCAGTGTCCAGGAGCGGCA
123639	DMC1	TGGCCAACATGGAGAAACCCCA
123640	ADAT1	CCGCTGCACTCCAGCCTGGGTG
123641	HIP1	CCACTGCACTCCAGCCTGAGTG
123642	FGR	ACAGATGGGGCAAAAGGAGGCCC
123643	FECH	GGTTTCTTGAGGATTGGACTCTTGAT
123644	PPAT	CAGTTCTGGCTGTAGTTATGACC

123645	ATP6V0E	GCCATCTCAACAGAATCGCA
123646	C18orf2	TTTGGGAAAAACAGACAGT
123647	NRXN1	ACATTTCTAAAAGACAGTGAT
123648	MLC1	CTGCCTCTCTCATGGCTTGGGCTGGA
123649	KIT	AGAGATTGTTGTTTGCCATA
123650	BHMT2	TCTCCAGCTGCTGAGCAGCT
123651	TPM4	CAGGGACCATCACATGGGTAGG
123652	SALL1	TGCCCTGCTAGGCAGTTGTAATCTGG
123653	TBX6	AGTATTTTTGTTAATAAAACTC
123654	RNPEPL1	TTGTAGCTTCCTGGGGTGGGAGGCAC
123655	LUZP1	CTGAGTATTGTGTGCCTGTA
123656	HPS4	CAGGAAGGAGAACGGATGCTTGTCTG
123657	WNT6	GGTGGCTCGCACCTGTGGGA
123658	NRD1	GCGGGATGTCCATCGCTCCAGCTTGGT
123659	COG7	AAGACTTGGTTCAGCTGGTCACGGT
123660	TGFB2	TTCGCATCAAAAACAAACAACA
123661	AMPD2	GGAGGTGGCTGTGGATGGAGGCACCG
123662	CLCN6	GCCTTTTCAGCATCTCACCCA
123663	SERPINE2	CTGCCTCTTTCCGGCTGTGAC
123664	MBD1	ACTCGGGAAGGGAAGATGGATGTAA
123665	GABRE	CAGCCCTGGCCCTCTGCCTGCTCC
123666	LRP4	CTGACCAAGCCTTGTGGCACCA
123667	ED1	GGGAATGTTCTTTCTGCTCTA
123668	DUSP4	GCTCAGAAAAATGAGGGAGAGAGAA
123669	JAK2	GGCCAGCATTATAAGCAGGTG
123670	SLC4A4	GTCTCAGTTTTTGGTCACA
123671	RASA1	GGATATTTGCACTATTTCCACATGG
123672	RNF26	CCTACCCCTGTGGCCATCCTGCC
123673	TAF4	GTCTACAGCCGATGACCTCA
123674	FSHR	CTGAGTATTGAATGATA
123675	HTR4	TCCACATCTGTGCACTCAAGCTT
123676	CLASP1	GATCCTTGGGAACACTGT
123677	ALDH3B2	GGGAGTGGAGGTGCAGCGA
123678	EGR3	TACTTGGTTATCCAGTGCAGTG
123679	ALDH3A1	ACTCCTCTGCTGACCTGCT
123680	OPHN1	AGGAGTAAAAGAGTCAAGTGA
123681	HK1	TGGCTGGAGATGGAAAATCACA
123682	GYG2	CCTCACTGCAAATTTCCTC
123683	SLC14A1	AGCCAGAATCTGTATCACAGAGGTGCA
123684	PSMD7	CCCAACAAGAGCTCTCTGCCTCCGGTC
123685	TOP1	CGCTGTACCCTTTAAGATATCCA
123686	GRINL1A	TTGTGCATCACCTGGCTTGAGTTCCTTGC
123687	CTSS	GCTCACGCCTGTAATCCCAGTA
123688	KCNK3	GACAGGTGAAGTGACCAGAG
123689	DFFB	TCAGGCTGGAGTGCAGTGATGCAA
123690	TDRD1	TGTTATCCCAGCAGAAGGGAAT
123691	CENTD2	AGGGAGCTCTTGGCTGAGCTT
123692	POV1	TGTGCACACATGCATGTGTCTG
123693	SUV39H2	ACTCACTGTACTTGTATTTGAGACAA
123694	MYBL1	TCTCTCCCTCTCCACTCCTGAAGTAT

123695	PPP1R12B	AGCCTATCTGTCATCGCCTGA
123696	LIMK1	CCCACCCCGTGGACCGCTT
123697	CDC42	ATTTAATAACATACTCCTTT
123698	CRYZL1	CTGGGAGGCAGAGGTTTCAGTG
123698	PLA2G2D	CTGGGAGGCAGAGGTTTCAGTG
123699	PDGFRA	AATGCCTCAGTAGCATCTCA
123700	TAL1	AGATCTGTAATTTTTATTTTC
123701	PODXL	AGCTTTATCTTTTTTGACAATATACTG
123702	RPS6KA5	GCCGCCGCACCCCGACTCCTGGGGCC
123703	PYGM	CCACTCCTTGGCTGGAGGCAGT
123704	GEM	GTGACTATTATTGCTCCATCA
123705	APTX	AGCAACTCTGGCCAATGCTCTG
123706	ZNF143	AGATCACAAACTCCTAGAGTCTACAT
123707	CCNF	TCCCCGGCTGGAGTGCAGT
123708	ALDH1A2	GTCACACTGTACATCTATCATAATGTGCC
123709	FSTL3	GCGTCTCCCCTGCTGCTGT
123710	MYO15A	GCGAGATCACCCTGCTCTGCCCAGCC
123711	AIM2	TTACCTGAAAGCTGCAGTTCAC
123712	MSL3L1	TGATAGATAACTAACAAAATAGTT
123713	RPP30	AACTACAGGTGTGCACTACCAC
123714	BTG2	TGGGCACTGTTTTTTCTCC
123715	ITGA6	GCTAGATTGCTAAGGAGCTG
123716	SP3	GCTACCTGCAGCAAGATAG
123717	AQP4	GCTGCACTCTGGCTGGGGAA
123718	F8A	CTTTCGTCTCCTTCCTCCGCTGC
123719	ANXA9	ATGCTGGGCAGGAAGGTGTCT
123720	STAT1	CTTCCCTTTTACATACTGCTG
123721	FUT6	TAGAAGAAAGGCCTGTCTCCAGGTCCCCGAG
123722	PIK3C2B	TTTTGAGGAAAAACTACAGTTTG
123723	CCND1	CTGGTGGCAAGTGCACGGGGCACA
123724	CBFA2T2	TTCCTGGTTTGTTCCTCTCTCC
123725	GALR1	TGACCTGGGATGCAGTAGTAG
123726	SP3	CTTCTGCTAACATCCAGAATCTCATA
123727	CASP2	CCAAGTAGCTGGGACTACAGGT
123727	EIF5A2	CCAAGTAGCTGGGACTACAGGT
123727	FHL2	CCAAGTAGCTGGGACTACAGGT
123727	RGS9	CCAAGTAGCTGGGACTACAGGT
123728	CSNK1G2	GGAGGCTGCCGGGCAGAGTGGAGCAGC
123729	PITX1	CCCGCCGTGCAAGAGTCG
123730	IL8	ATCTGGCAACCCTAGTCTGCTAGCCA
123731	SEPX1	GGGCGTCGAGACAGGAAGGCAGG
123732	AEGL1	GTTCTTATCAGGACACAAA
123733	PML	TCCTGAGTGAGGAAGGCATGACCTCT
123734	APBB1	GGCCCCAGGGAACTAAAGGG
123735	PPP1R3A	TCAAACCAGTCTGCTG
123736	ALDH3B1	ATCAGCCTGGCTAACATGGCGA
123737	BACH2	CTGTCTCTTTTCCCTGGGATCCCT
123738	USP6	TACACACACGCAGTGGTATTCA
123739	MAN1A1	GGCTGCTGAGCGGCGCGGCGCCG
123740	EGFL3	GCTGGAAGCTGCCTGTCATCTC

123741	ATSV	ACACGACCAGCTGTGCTCCCAGCAG
123742	UPK1B	CCGGGAGACAGAGGTTGCAGTGA
123743	TNFRSF14	GCTGTCTGCGCGTCTGACT
123744	ABCA3	CTGTAGCGAGGCCCCCAGG
123745	ADORA1	TGAACATGAGTGTCAACTCCAG
123746	ABCA3	GCCGGGCACCGTCCCACAGCATCTCCT
123747	PIGA	AGAAGTTAGGGGTTTTGTTGGA
123748	SLC26A4	TGCAGTGAGCCGAGGTCGTGCC
123749	CD1A	AATCAGAAATGTGAATGTAGTA
123750	DCX	TTTCTTTATAAGTTATCCAAAA
123751	IGFBP3	GGGGTCTCAAGACATTCTGCCT
123752	CAST	TTTGAACTCTTCTTTGCCA
123753	SFTPA2	ATTCACTCCTTTGAGTCTTTGGA
123754	GNE	TCTCCTGCCTCAGCCTCTTGAGTG
123755	GALR1	GGGAGGTGGCGCTGGGCGCGCGGGA
123756	LMAN1	TTGTAACTAAGAATTTATTTCT
123757	ITGA1	ACTCGTTTAAAAACAAGTA
123758	AMBP	CCACAGGCCCCTTCCCCAGCCTCA
123759	COL16A1	TCTGCTTCCTCCGCCTGCTGC
123760	TNFRSF11A	CGGAGTAGCTGGGATCACAGCTGC
123761	ZNF253	CACTGCAATCTCTGCCTCC
123762	RRAD	CGCAGCCGCCGGGCAGGCCTGC
123763	DYRK1A	CAGTTGGTTTCTTTCTTTCTCTTA
123764	RPS3	GCAGCTGTATTCTGGAGTCTGGATGTTGCT
123765	IL17F	TATTTGATATCTAAAATGTTAGGA
123766	HSPA5	GCTAGTGCTGTAATATT
123767	PRKWNK3	AACCAATACAGAACATGAGCCCTTTTTA
123768	C14orf1	ATTTGTTGAGTACTTCTCCATGC
123769	FMR2	ATTAATTCTCTTTCCATCCTCC
123770	GPRK7	GACTAGCCTGGCCAACATGTTG
123771	KCNA7	GACCAGCCTGGGCAACATGGTG
123772	TM6SF2	TTTCCCTTATGGTGACCTGAGT
123773	CTNNA1	GAAGCAGTCCTTGAGAAGGCAT
123774	LPL	TGAACAACTATTTATAAACTAG
123775	XRCC5	TCCTCATTCTTGCCTTGAGTTCCA
123776	TPK1	CTGTGCAGAGGAAACTTAAG
123777	ADCY6	ACCCAGGCTGGAGTGCAATGGCGC
123777	NDRG3	ACCCAGGCTGGAGTGCAATGGCGC
123778	APOL1	GCCAAGTTGGAGTGCAATGGT
123779	EIF2C1	CATGGCAGGGATATGCAGGGCAC
123780	PPARGC1	CCTTAGGTGAGCTTCAATCTAAGCATC
123781	RNMT	CCCCTGCCTATCCTCTCCGATCACCAA
123782	RGS6	TCTCTCTTGGGAGCATATAAACA
123783	AICDA	GGCAGGAGAATCGCTTGAACCC
123783	BHMT2	GGCAGGAGAATCGCTTGAACCC
123783	CYP4F3	GGCAGGAGAATCGCTTGAACCC
123783	IAPP	GGCAGGAGAATCGCTTGAACCC
123783	LAMC2	GGCAGGAGAATCGCTTGAACCC
123783	MOG	GGCAGGAGAATCGCTTGAACCC
123783	PCDHB9	GGCAGGAGAATCGCTTGAACCC

123783	RFC2	GGCAGGAGAATCGCTTGAACCC
123784	FGF2	GGAGACACCCATCCGTGAACCCCA
123785	PTGIS	GTGTGGCGGTGCGTGCCTGTA
123786	MBL2	AACTTACTACTGAATCTCTAA
123787	HLCS	AGGCTGGAGTGCAGTGGTGTGG
123788	DLST	CTCTGCAGGACACAGATCTG
123789	CPE	GGAAGGCACGGCCGGCGGCGGCGG
123790	EDARADD	CCTCCACTTCTCTCC
123791	GAS7	GGGAGGCCCCTGCCCCCAC
123792	MYH11	CCAGCCTGGGCAACGTAGTAA
123793	SLC2A2	CTGCTCCCATTTTCTTTC
123794	ALOX15	TGCAGTGGTGCCATCACCACGGCTC
123795	ATRX	TGAGGAATGTACTTTTA
123796	WDR1	TCAAGAGCAAAGGTTAATTTAAGGAC
123797	DGCR2	GGGTCCTCCTCCTCTAGGACCA
123798	GRLF1	CAGGCCAGCTGCAGTGA
123799	FLRT2	AACTGTGATGTGTCTTCTTTGTAAAAGTT
123800	GABRP	ATCATTCCAAGAGGAGCATTC
123801	AF3P21	CCTTCCCTGCACCTGCCCTG
123802	GRAF	ACACCCTAGTAACCTCTTGAG
123803	SRP	GCATACAGTGTCTGGACACTGCC
123804	CD80	CAGAAGCAAGGGGCTGAAAAGA
123805	IL18R1	GAAGGCTGGTTAGAACATGTGGG
123806	KRAS2	TGGGCTTCCTGATGATGATT
123807	BAP1	CCTGGGCTCTGGGCCCTGCTGC
123808	MAX	CACTCCTGCTTCTCTCAGCCA
123809	HLCS	CTGGGGAGGTACTGAACTGTA
123810	LUZP1	AGACCAGCCTGGACAATATAGT
123811	ED1	AGCTGTTCCATTACACCACAGCATTGTG
123812	FUT1	ACAAGCCCCACAGCCCCTCAAAG
123813	CHRNA4	CGCCCGCATCTAGAGCCCGC
123814	TNFRSF11A	TAACTCCTGGGCTCAAGCAATC
123815	ATOX1	CCTATTCCTTCCTAGCTTCCCTGCAAT
123816	CD5	CTTTCATCTATAGTTTGGCCA
123817	SMARCC2	CTGTGGACATCACGGTTCCAG
123818	TFRC	TCTGAATCCTAAGGGCTGGTC
123819	HOXC4	CGCTGCCTCTACCTGCCTGGTC
123820	ZNF36	TAGATGGTTCTGTCCTCATCCCT
123821	MADH4	GTGGATGACTGTTGATGAAGTA
123822	CPT1B	TCGTCATTACCTGGCAGAGGCAAAGAA
123823	PSG2	TTCATTCTCCAGATTTATGAACATTTT
123824	TNFSF12	TCCCTCGGGCCCCAGCTCCGCCTCTGC
123825	SHANK2	CAAGGGTGAGCATCTCTGCTGAGACA
123826	ZNF42	CTGCCTCTTTGGTCAGTTTCAGGTC
123827	ADAM28	TTTTTTGTCTCAGCATCAGTA
123828	PAK1	GCACTCCTCAAGACTTTGATCCTTGG
123829	DNAH11	AGCCTCTGCTGGAGTGCAGTGA
123830	PIM1	GCATAGCCTTCGGCACAGCCCC
123831	F2RL2	TGCAACCTCTGCCTCCCAGGTCA
123832	PDGFRB	CACCCTCTCTGGGCCTCAGT

123833	SMARCD1	GAGCCCCAGGGATCTCATCTGG
123834	HD	ACAGAGGCCTCCCCCAGCCAG
123835	GP2	CGAACTCAGGGGGTGGAGGT
123836	SUV39H2	GTCATTCCTGTTTAATACTCACTGTAC
123837	EHD4	GGCCTGGTAAGTCCCAGGAACCA
123838	IAPP	TGTGCCTGTAATCCCAGCTACTC
123839	DBCCR1	TTGCCATGGACTTTTCCTGTTG
123840	ATP6IP1	GGAGGCTGAGGCTATGATGGCGGCCAT
123841	DIAPH2	AGTTAATGCCTAACCTCTTCAGCACT
123842	PITPN	CTTGGGGTAAACTGAGGTATT
123843	AMD1	TTAAGAAAAATGAAGAAAAAACGCA
123844	ABCC12	GGAGTGAGCTGGGGCTGAAGTTGTCCCC
123845	NDRG3	CCCGAGTAGCTGAGACTACAGG
123846	TSC1	GTGACCACAGGCTGGTGTGTAGG
123847	KCNA10	AACAAGGGCCAGTTGTATTCT
123848	SCGB2A2	TGCAAGACCTTTGGCTCACAG
123849	MAN1A1	TATATACTAGTTAATTTCTTCCATTCC
123850	DEC1	GGGAGAGAAAGACAAGGAGAAACCTG
123851	MMP14	AGACAGTGTGAGGGGGTGGGGA
123852	MPHOSPH9	AATAAATCAGTTAGCTATGAA
123853	STK38	CTGAGTGTTGATGGGGGTTACCA
123854	SNAP23	GGACTCCTGACGTCGTGATCCA
123855	CLECSF11	AAAGTGCTGAGATTATAGGCAC
123856	KRTHA2	CAGCCTGGTATTCAGTGGCCACCAGAA
123857	MFAP4	GCTGGGAGTGGGTAGGGACTGA
123858	MPO	TTTATCCATAGACAGGGCCC
123859	AGT	GAGAATGGGGGTGGGGAGGCAAGA
123860	AKAP13	AGGCAGGCCCTGGGAGGGAG
123861	IL16	AGGAGCAGTGCAGGCACAGTA
123862	ZNF14	ACAGGACTCGTGCTGCAGT
123863	VHL	TTTGGGAAGCCAAGGTAAGAGGA
123864	TRPV4	CAGCCCAGCCCCAGCTTCTCTGCCCAC
123865	DIAPH2	AAACTCCCAGGCTCAAGGGATC
123866	SIGLEC11	GGTTGAACCCGGGAGGTGGAG
123867	SIRPB2	CTACAGATGATTCAGCCTGA
123868	PGF	CTGCTACCTGTTCTTGGGCCTCAGGCT
123869	SMARCA1	AAAGCAGAGTCAGCTACTGAGAGCTC
123870	KCNE3	GTGACAGAGCAAGGCTCTGTCTCA
123871	ABCC1	CCTGCCTGGAACTGGCTGTGAA
123872	GTF2E2	GCAATATTTGTTTATTCCAAA
123873	PML	GCTTGCTTCCTTCCTCCTGGCTGCACA
123874	GAS7	GCCAGGTGAAGATTAGGGCCAGG
123875	EZH1	CCTGGGAGAGGCAGACGAGTGA
123876	ASGR2	ACCCTGCGTTCCATCCCACCATCA
123877	CD209	CTTCTGCTCTCTCAGCAACCACT
123878	CD2AP	CAGATTTCAGGCTGTTCTTAA
123879	RAP2A	TAAACTATTGAAAGGTGCTTTGATGATT
123880	DLG1	CACTGCTGAGTGAGGTTGAGGGG
123881	F2RL2	ATTGCAACCTCTGCCTCCCAGG
123882	SALL2	GAGCGTTGCCCCTCCCTCTCCCAACT

123883	ADRA1A	CAGGCAGCGGGTAGGGCACAGGGA
123884	PPID	TGTGAGCCACCGTGCCCGGCCA
123885	DIAPH1	GCTCTCTCAACATCACATACAGCTTC
123886	ADAMTS13	GGGTGCCTGTCCAGGAAGAGCTGTGT
123887	GNRHR	GTGACTATCCTTCTTCACTTA
123888	WHSC1	GTCCGCTGCGTCTGCACTGA
123889	TSN	CACACCTGTAATCCCAGCACAC
123890	TRIM14	ATCACTTACCTTCTTCTCTTTCA
123891	NOTCH1	GGCGGCCCCAGCACCTCAGCCTGCA
123892	COG3	CTCTAGCCCAGCTACAGCAGA
123893	TRIM14	GCCTGTAATCCCTGCTACTCAGG
123894	SMAC	TTGCCCAGGCTGAAGTGCAGTG
123895	EHD4	ACCAAAGAGAAGGCGACAGA
123896	GRIK3	TCTGTGGGTTTCTAAAGCTGCCAGCCG
123897	DMRT2	ACACATTTACAATAGATAGATGTGC
123898	LGI1	TCCAGTGATGTGGGAAGTTACC
123899	ETV3	CCTCAATGTTCTTACTCAAGTCATCTC
123900	CACNA1F	GTGCAGATGGCCCTTCAATCTCGA
123901	CPO	GAGAAACTTGGAGGCATTTCA
123902	DGAT1	GCCTGGCTGCACAGCATCCTCCTCT
123903	LNK	GCGCGAGCCACCGCGCCCAGCC
123904	PSMD9	GCGTGAGCCACTGCGCCCAGCC
123905	ITSN2	GCTGTCTCTGCCTGCCGGATAATGC
123906	ADAMTS5	TATATTTTCACAACTACTTTCTCTCTC
123907	SS18	AAGAAGAGTCAACATTGATCCA
123908	PHKB	ATAGTAATCCTCACTGAGTGAT
123909	NDUFS1	TGGGCAACATGGTGAAACCCCA
123910	SPK	TTGCAAACCTCAACATGCT
123911	MASP2	GCTGTCATTTCTCCACTTGCCA
123912	SPS2	AAGCAGTCTTTATATGCATTCCG
123913	C8orf1	CAGATGTTGAAAGACCGTTTACAA
123914	KLHL3	TGCCTGTAGCTCTCTTCCTTTTG
123915	SMARCA3	TCAACTCTTAAAGACATCTTA
123916	KCNMB3	CAGCAAACCACGCAGGTCCTTCT
123917	ARHGEF6	TTAGCACAGCCATTTAGATATAACATC
123918	TCL1B	GTGAAGGTGACCTCACAGTACTGGTTAATT
123919	ZNF18	CTGTTAATCTCCTTTTTTCTT
123920	G6PT1	AGGGAAAGAGAGGAG
123921	FGL1	CTTTTAGCTTTCTTTCAGTTAA
123922	ACK1	CGGGATGTGTTGGCCACAGGGAGAG
123923	NR1I2	CTTACTCTAGGTCCTCCCTGCCTA
123924	ATP2C1	GCCATCAACCCGAGTGCAGT
123925	DDOST	CAGGAGGCAGAGCTTGCAGTG
123926	CNTN2	GAGAGTGTGCTTATTTTCACTGC
123927	SON	GCAAACATTTTCTCTTTAGGGTAT
123928	GRAF	CTGTGCTCTTTACTTCTTTTTCTCCA
123929	PPP1R11	CTTACTTCCTAGACTTTGATTTCTCCG
123930	EGR4	CCCCCAGAGACAGGCTGG
123931	HS2ST1	CAGGAATTTTAGAGATTGAAATG
123932	BAALC	TGCTGGACCTGAATTCTACTGAG

123933	TEAD3	CCTGCCAGGCCTCAGGCCCAGG
123934	NRAP	GCCTATCTTTGTCCTCTCTCTTCC
123935	NRXN2	TCGCTCTCCCCTCCCTGCTT
123936	GRM6	CTTAGGCTGGAGTGCAGTGGCAC
123937	XYLB	CAGCAAGCCCAAGATTCCGAAGAAG
123938	NR4A1	GGGGGTGGACTTGGGAACAGGCTGT
123939	MRE11A	GAATTCTTCTGTTACTTACCA
123940	XPR1	ATTTCAGAGGCTCTGTGTGCCCT
123941	EIF2C1	CAGGCTGGGGAATTTTGCTGCT
123942	SPS2	GGTGATTGGAATCAGCCCATCTA
123943	C8orf1	ATATTGCAGTGTTTCAAAGGTGTCACT
123944	TCL1A	GCCCTGTGGATGAGCCCTCA
123945	CYBB	AATGTCAGTGGAAGTTAGGGAA
123946	SRRM1	TTTATTTAATGAAATGTCATGGCTC
123947	HOXA3	TCCCCATCCGTTCGTAT
123948	HS3ST4	GATGGCCACCAGAACCCACTGTTCAT
123949	FSTL3	GAGGAAGAGAACTTCGTGTGGCCTGCA
123950	HUS1	TGTCACCCAGACTGGAGTGCAGT
123951	APM1	TGTCACCCAGGCTGGAGTACAGT
123951	TRAF5	TGTCACCCAGGCTGGAGTACAGT
123952	G1P3	CTCAACCTCCCAAGTAGGATTA
123953	ITGAL	GCCGTGATGCCTCCCTGTTGAAGCTC
123954	GARS	TCGCCACCCTCTCTGGACAGCC
123955	VAV1	GGAGCCAGGGGCTGTGACAGCTCC
123956	PDK4	TCCTGAAGAAATAAGCCTCAGTTTTCCATC
123957	INMT	GTCACCCAGGCTAGAGTGCAATGGCAC
123957	RHD	GTCACCCAGGCTAGAGTGCAATGGCAC
123958	LEF1	TCTGCCCAGATCCCCTCTCTTTTCTC
123959	GALGT	CTCTACTGGCTGTCCCTGAGCC
123960	NCOA6	GATGGGGTTTCATCATGTTGGCC
123960	PCDHA9	GATGGGGTTTCATCATGTTGGCC
123961	HCFC1	AAGGCTGTGCGTTCCTGAGGGCCAGGT
123962	IFITM2	TTTGTTCTGCCCTCATCTGGCCC
123963	PPGB	GGAGGTGGTGGACGGACTGTAAT
123964	OXR1	TATTACAGTTATAATTTTGGA
123965	FEZ1	GGAGAGGGGAAGGCAGCCGC
123966	ING1	GAACCATTCCTTTCATA
123967	HMG20A	AGGAATGCATGAGATTTCAAGAGA
123968	NCAM1	GGGTGAAGAGAACCGAGCA
123969	ANXA6	AGCTTCCTCCCCTTGCTACAGCCT
123970	EFNA3	GTGGGCCTAGACCCCTCCTCC
123971	RFNG	CCAGCACTTGCGCACCTGGGAGGGAGC
123972	PTGIS	CACACTGGCATCTCCCTGACC
123973	MRPL49	TGGGCACTTTGTTTCCTTGGCCCTCC
123974	HD	TAAAGTATCCATGCATGTGCAT
123975	NID	CCCCACTGCTGGCACTGATGTCC
123976	SIRPB2	CCTCATCTCTGCTGCCTCCT
123977	TLR5	AGGCTGGACTGCAGTGACACAA
123978	TPST1	GGGATCTGCCTCCTGAGCAAAGA
123979	ADRA2B	GGCATCGTCTCTGGGCCCTCCTT

123980	IDH1	CTTCTGCTGGCCTGTTTTATT
123981	ABCB9	GAGCTACAACCTGGCCTTC
123982	SLC19A1	GGGGTGAGTGCGGGGCGCGGGCCGAG
123983	NUDT2	CTTCTGCTTCGGTTCTACA
123984	GPR44	AGCCTCCCTCTCCCACCTCT
123985	MASP1	CCCTGCTCTGCCCCCAACTGGCT
123986	DMD	TCAGTTGGAAATTTATAACCAACCAA
123987	PIK3CA	AACAGCATGCATTGAACTGA
123988	CLECSF5	CTGAGCTTGGAGCAGCAC
123989	SMURF1	TGAGGGGAAAGGGTTGTCTCTCTCCTT
123990	C1orf1	TGCCCCTGCATTCCAGCCTAGG
123991	CALML3	CCTGTTCCTATTCATCTGGAA
123992	NOS1	GAAAGAGACAAGAAATCCTAGTGG
123993	CNTN2	TGGAATGACCTTCCTCATTCCA
123994	GFAP	GCTGCCTGGCCCCCAGCTGT
123995	TEGT	GTGGGAAGACTTCAGCACAAAGGAA
123996	IQGAP1	GCCTCTATTTTCTTTCTTTG
123997	CAMK2A	CTTGGGCAAGTTCCTTTCCCTCTTTGGA
123998	RPP30	GCTCAGGCTGGAGTACAGTGGCATA
123999	UBE2V1	CTCCACAGCAATCCTATGAGGT
124000	SLC22A3	ACAGAGTTTATTTTTAACAAAT
124001	EGFL4	CCACAGAAGATGGCATGGCTG
124002	MAGEA9	GACCCAGGCAGTGTCAGCAGTG
124003	MAPK1	CTTTATGATAGGGAAGGCTACTACCTA
124004	STS	TGTCCAGGAGAAACCTCA
124005	NKTR	AGCCCTCAGTTGGAGGGAG
124006	TCL1A	TGCAGCTCAAGGAAAGGCCTG
124007	HRH1	ACTAGGTTTATCTCATTTAAGC
124008	MXI1	CTGCCACCTCTCCATCCTGCT
124009	SIAT1	CTAATCCTTCCACCAATCAAATAAGCT
124010	MAPT	AGGGTGATCAGTGCTGGCAGA
124011	LEF1	AAATGTTCTGTATTTGTATCT
124012	PPP2R1B	AAGCACAAATCTTTTTCTATATTCTCA
124013	GJB1	TCTCTGCCTGAAATGTTACACA
124014	HMG20A	CCTGTCTTCCTTCCTCCTCA
124015	ENC1	AGAGAAAAGCTGGACCTTTTCCCTTGCTG
124016	HSPA1A	CCCAAGGCTTCCCAGAGCGAA
124017	KLRD1	TGCCCAGGCTGGAGCATAGTG
124018	FSTL1	TTTTTTCTGGACCTCAGTTTCCTC
124019	ALS2	ACAAGCTTTGGCTTTTTCCATCTCAAAAGTAT
124020	RB1CC1	TGTTAAATGTTATTATTACCA
124021	PPIH	GCTTCCCTGCCTGCTGC
124022	FPRL1	ATGGATTTGCACCCACTGCATTTGC
124023	PCDHGA8	TTTTATTTGAAAATATTATCG
124024	PTTG1IP	TTCCAATAAAACGGTTTACTACCTGA
124025	BRCA1	TGGTGGACACCTGTAATCCCAG
124026	HOXC4	AGGAGCAGGAGTTGAGCTTGG
124026	HOXC6	AGGAGCAGGAGTTGAGCTTGG
124027	SH3BP2	CCCTGTCGCCCAGGCTGG
124028	TAF15	TATTTGGGTGGGAGGGCTGGGA

124029	TRPM6	AAGTTATGTGATTTCCTCCTCTGT
124030	B3GALT5	GCTGCAGGCTCTCTGGCCTTTGGACCCGA
124031	IF	TCTTCATTCTATTCTTTTTCTCTC
124032	FOXO1A	TGCCCTGCAGATTAGATTACTTAGCAC
124033	FYN	GGAGCTGAGAAGGGAGGCTTACGTGA
124034	P4HA1	GGGCTGAGGGTAGGAAGTAGCCGCT
124035	GJB5	AGAGGATTCAGACGCTCTGGGAGCCAG
124036	HDAC4	CACGTCAGGGAGGGTTCCTTC
124037	MGAT5	CTCTGCCATATACAAACAGGCTGTTG
124038	NR5A2	ACACATTTTGCTAGGATGTCA
124039	ATP5J	GGTTTCAAGGAGGGGAAAAAGAA
124040	NOTCH2	CCTTTCTGCCCTCCTGCTCCA
124041	F2RL3	CATCCTCAGTGCCCAATGCTGTG
124042	CLCA3	TTTCATGTTTATATAAGCTGTA
124043	RUNX3	GCTGCATGGGACCCATGTCTCCTGGG
124044	NOTCH1	GCCCCAGGTAGAAACTTTTATCTATTC
124045	CDH13	GGAGGTGAGGAGCAGAGCAGG
124046	IL1RAPL2	TGTCCGCTGTTTGGGGAGACG
124047	LIF	CTGTGTCCCCATGCTGCCTC
124048	PAICS	CTCAGCCTCCCAAAGTGCTAGGG
124049	MT1H	TGCAGCTGCTGTGCCTGTGTC
124050	RBM8A	AAATGATTTTCCTGGTATGTCTGTTA
124051	HADHB	GCCTTCTATTAAATAGTTTGCACTTAAGCCT
124052	SH3BP2	GCACACACCCCCTGCCTTATCTCTG
124053	MME	GACTGTGACAACTGTCTAAC
124054	NFIA	GTCTGTTTTGACAGAAACTGA
124055	PCTK3	GGCCCCCTGCCCTGCCCACCTCA
124056	NCF2	ACATTTGGTGCACTTTTCTGTGT
124057	PTPRB	CTCTGGATCTTAACTACTGAGCG
124058	HTLF	AGGAGCTGAAAAGATTGCAGGA
124059	TXK	TATTTCCAGGAAAATCCGGAACCTGA
124060	MAP1A	CCGTGCTGCTGTGTTCTGCTCCTC
124061	KLK10	ATGTTGTGAGGAGACTATGATA
124062	RPS28	CGAGAAGCCCGGAGGTTGCGCTGG
124063	CAPN10	AGATAAAACTCTGTGGTTTTAATCTTCT
124064	SULT2A1	GCTCATGTCTGTAATCCCAGCA
124065	SHOX	CTTCAGATGAAAACAAATCACA
124066	NTRK2	CTATGGATTCACTTCTATTTAT
124067	DHFR	CCAAGTAGCTAGGACCAGGT
124068	ETF1	GGGAAGGGATGGGACACAGCTTCTG
124069	CHD4	CCCAGCTTCTCCCCTGGGGGCC
124070	AGTR2	AACATTGTAAGAGAGATGAGCAC
124071	CDH1	GGTCTTAAACTCCTGGCCTCAAGCAAT
124072	G6PC	GCTGCTCTTGAATTCCTGGGCT
124073	DYRK1A	CCCGGCTGAAGTGCAGTGGCAC
124074	CASR	GGAGAGTGGAAGGAGGGAGCTGTTTGCC
124075	WNT1	TGCCCCCATTCTCCCAGTCTCTG
124076	TM6SF2	GGGCGAGCACCCCCATCTGCCA
124077	CALR	TCTGCTCTCCTTCCTGGAGCC
124078	COL18A1	GCTGAGGCTGGCACAGGACATGCGGT

124079	MKI67	CAGCCTCTCTTGGGCTTTCTTACA
124080	MSL3L1	ACACAGGTTGATTTGCTGTAATATAAAACT
124081	ERCC3	GAGACAATATTTTTTCAAACTTT
124082	APM1	GGGATTACAGGCATGAGCCATCACA
124083	PSME3	ACCCAGGGTGAGTTGGTGGAGAA
124084	FGFR3	CAACGGTCTCCTGACTGGTGCTG
124085	DAAM2	AGCCAGACAGTGACCTCA
124086	UMPS	GTCTCAACTCCTGGGCTCAAGCGATC
124087	HOXA3	ACAGCATCTTGGCTGTCTGCTAAAAA
124088	KLK5	CAGGCCAACTCCTGGTCAT
124089	COL3A1	CTGCTTGTAAAGGTGCTCCTCTTTTT
124090	HIRA	CAGGCCTGCCGTCTCCAGCACGG
124091	SIGLECL1	GAAACTGCAGAGACTCAGGCCT
124092	HLF	TACTTACTGCTATCTACTAAGTTT
124093	SPHK2	GGTAGTGCCTGATCAATGAG
124094	ZNF45	AGTTCATGGCTTTCTGAA
124095	JJAZ1	CTTAATGCTTAAAAGAAGGCTAG
124096	ADRA2B	GGGAGGAAGAAACGAAGACTGA
124097	KIF5C	AAAGGCAGAGGGTGGAGGGA
124098	KCNS2	CTGCCTCTCTGGGTGGGTGAG
124099	HAP1	GCTGACCCAGGCTGGAGGACAGG
124100	CANX	CCAAATGTATTGATTACAAA
124101	MCL1	AGGGAAAGGGAGGAT
124102	PAFAH1B1	TGTCTAGCTTGTGTCTTTTTG
124103	RPE	GACTACCAAATCACAATGCAATTG
124104	ITPR1	TCTCCTGGGTAAATTTTGATGTCGCAT
124105	PCDHB4	TCTTTCAAAAGAATCACG
124106	TR2	TTTGTGAGCAGGCCCGGCCGGG
124107	KLHL3	GCATATGCTTTGCAGGTGCTC
124108	STK10	CCTCATTCCTCCTGTTCTCCCAGTTTGCTT
124109	MPHOSPH1	TGCTGTTTTATACATAGTA
124110	PPP3CA	TCCTCAAGGAGCCAGTTAAA
124111	PCDHA11	CAACTGAATTCTCTTTCTCTCTCA
124112	PIK3R1	GTTCCTAAGCTGGAGTGCTTATCCC
124113	RAB7L1	GAGAATCGCTTGAGACTGGGAGGCAGA
124114	CLCN6	AGATGGCCTATTTGAGGAAGAGGGTG
124115	CACNG7	GGAGCTCCCCCTGCCTCCTCCTCC
124116	CRTL1	CATCCAGCGCCACAAAGA
124117	TRH	AGATGGTCCTTCTGTGTCTT
124118	VHL	CATTGCACTCCAGCCTGGGAAACAAGA
124119	CYP11B1	GCAATGCCAGGGCACAGCTGGGGAAGA
124120	RTN3	TTTTCTCCCATCCTTTCCCTTTA
124121	MFGE8	TCTCAGCCCCTTTAAATCACCATAGG
124122	RPS19	GCTGGGTTAATAAATTGCCTCA
124123	POU3F2	GGGGGAGGGGCAGAGCGCGGGGC
124124	PACSIN1	TGGCCTCCTGGGCCTCCAGGTAAA
124125	TCTEL1	TATTTCATTTCAAAGGTGCTA
124126	PARN	CCTGCCTGATGGGGAGTGTCGGCTGT
124127	SRC	AGACCAGCACGGTGACTCTGT
124128	MAP3K8	GTGGTTGGTCAAATCAACTGAAT

124129	USH2A	GCCTTACCCTCCTCCTGGCC
124130	HK2	CGCATCTCAGCGGGGCGCACATGTTA
124131	DDX10	CTTGTCATTGGAAACACTGCCT
124132	STS	CAGAGTCTTGGACTCATGGAA
124133	ITPR2	CAGCCATCTTTAAAATCCAGGA
124134	PKNOX1	CCACCTCTTATGTTCAAGCAAT
124135	BDP1	ATGATCTCAGCTCACTGCAGCC
124136	TIRAP	CAGGGACATCCTCTGTCACTACGGTGG
124137	VCL	TATTACTGCTAAGTATTTCC
124138	CDH17	TCGCCCAGGCTGGAGTACAGTG
124139	SNX15	TCGCCCAGACTGGAGTGCAGTG
124140	HS2ST1	TAGCACTTACAGCTGTGTGAT
124141	PMM2	CCTGGACCCTCCCTCTTGGTGGGTCTGT
124142	RARA	CTCAACCTCCCCCCTGCCTCGG
124143	NF2	GGCTCACCGCAACCTCCGCCT
124144	PKNOX1	GTTGCCCAGGCTGGAGGGCAATG
124145	SLA2	GTTGCCCATGCTGGAGTGCAATG
124146	TNFRSF10B	GACAGGCTGGGACAGAGGCAGAT
124147	TBCD	TCTTGTTCCTGAGGGAGGCCGG
124148	ACVR1	CAGCCTGGAGCATTGGTAAGCG
124149	BCL2	GCAAAGCACATCCAATAAAATAGC
124150	ADAM30	AGCAAACTGAGGCTGAGTAGGGA
124151	PCDHGA12	AGGAACTGCTCCTGACTTCAGTGGTT
124152	GLTSCR1	TGCCAGGAGGGAATGTTCTTTCT
124153	SPAG6	AGCTATCAACCACTTATAACTGA
124154	FUT8	CGCCTGGGGTTGCTGCTTTTGCT
124155	MECP2	GGGAGCTGGAGTCCACTGGGGTGGCCTGACT
124156	PODXL	GTCATGAGAGTGGGGAGACAGGCAGC
124157	DBY	ACTCTATCCTGGATAGGCACTTGG
124158	CDK10	GACCCCAGGTGGGCCTGGCA
124159	JPH2	GGGGAAGGACGTGGCATCCAAG
124160	AP1B1	ACATGGTCAAGACCAGGCAGAA
124161	MGAT2	CATGGCCGTGGTGTCTTCCAGT
124162	DMD	GCTATTTATTTTTCTCCTTCACA
124163	BCL11B	GATCTTCCTATTTGAGTCTCT
124164	ZFP36	CTGGGGCAGGTCCCCAAGTGTG
124165	ADRA2B	CTTCCCTTGGAGAGGGCCTGGC
124166	KCNK4	GCATCTCGCGTGGAGGGCTGTC
124167	MINPP1	TCACTGGAGCAGCTCTCTTAAGGAG
124168	B4GALT5	TTTGAATTTGTGCCTCTTTGTT
124169	CR1	CCAAAGTGCTGCGATTACAGGC
124170	FGD1	ACTCTAGTTGCCCATGTCTGATTGGGG
124171	JRK	AAGTAGTGGCAGCAGCCCAGGCCAGGC
124172	DGAT2	TCACTTTTTTGCTCTGTAAA
124173	CNN2	CAGCTTATACTGCTCCATCTT
124174	SLC22A3	TAATACTGTATAAAGACCTCAA
124175	RAI3	CTGTCACCCAGGCTTGAGTGCAGT
124176	TIRAP	AGGTTCCAGGAAAAAGCCTGTTAGTA
124177	GRPR	TGTAGGTGGGGGTGGGGAGGCCCAAA
124178	CDH11	GGTGGGGAAGAAGACACAGAAGCCTTT

124179	CDH10	TGCTGTCTCCACTTCACAATAT
124180	FMO1	AGCCTCTCCCAGCTCCACTTCTAA
124181	ME1	ATGAGACAATTTTGCTTCACTT
124182	EGR3	TCTATGTATGGATATGTGTGTATA
124183	PPP1R12B	CCAGGAGGCAGGCTGCGGGGTAGGAGA
124184	XRCC2	CAGCTTACAGAATGGGAGAAA
124185	ATP7B	GGGACCCCTCGCAACCCTGC
124186	NEU1	GGCGTCCTCTCCCACAAAAAAGTCCTGC
124187	GPR4	CTCAAGAGATCCTCCTGCCTTGG
124188	CYP1A2	TAAAGTGTCGAATGACTTCTAGTGTAG
124189	MCM6	CTTTCCCTTTTTGCTTAACCT
124190	SYK	GTTTTGAGGCTTTAAAAAGAA
124191	CYP4B1	TCCCCAGGCTGGGTGTGGAG
124192	PXR1	TGGTCCCAGGATTCCATCCTGA
124193	ENTPD1	AAGCTTCCTTGGCTTTTACTGAA
124194	CDX2	ACCAGGCCTTCATCCTCCTCC
124195	HS3ST4	ATTGTTCTAGTAAAACTGGAAA
124196	FOXO1A	TGTGCAGGTTATGTGCTGCT
124197	CDH1	GACGGGGTCTCCCTGTGTTACC
124198	P29	GGCTGTTTAATCTTTGAAGCATTTT
124199	ITGAV	TCTCTAAAACATTTGAAATACT
124200	OAS2	GGTCCCTATTCCTCCTTCCCTTGC
124201	GPR81	GGTCTTGATCTCCTGACTTGTGATCCG
124202	CDS2	TTGTGTTGTAAGTAAACTACAGCTTT
124203	MGAT1	TGGGAGAAGGGGACATATTTGT
124204	IRF2	TTCATTTCCATTTCACACACCCTAG
124205	PRAME	CCTGCAGCGCCTCAGCACCGCT
124206	VCL	TAGGTGTTTGTTCATCTGTAACTCTAA
124207	SNAP23	CTGCAACCTCCGCCTCCCTGGT
124208	TBL2	CTCAACAACACAACTTCACCCACCGCC
124209	SLC9A1	CCCACCCCAGCACAGCTCCTCCC
124210	C18orf1	TTAGGCTGCATAGTTTATGA
124211	DHCR7	GCACAGCTGCCAGGAGTGCTCT
124212	XRCC5	AAAATCTCAAGAAATTCCCAG
124213	MRPL49	CAGGTGATGGAGAACACAGATGACTC
124214	KIF5C	CAAACATATCATCTCTTCA
124215	JJAZ1	TCAGAAATTTATAAAATGTAAA
124216	PFKFB3	TGAGAGAGAAGAAAAACTGTTTG
124217	DAZL	CGCCTCAGTCCGCCTGCGCTCCT
124218	DGKI	TTCCACTGCCAGATTTATGGGATGCC
124219	NOS1	TGACTCACCTTGCTCTGCCATC
124220	TACC1	TACGTATGTTTTCCTACTTCT
124221	ITGB3	CAGGCCTGACTCTCAGCAGCTA
124222	BTEB1	GCTGTCTCTCAGAATTGTTTTCTTACCT
124223	PCDHB16	GGGCTCAACGGATCCTTCCACCTCA
124224	ADAMTS12	TCTTCTCCTCAACATCTGAATCATGCC
124225	F7	CTTACCTCCCTTCAGCCAAGCCCCACC
124226	NRCAM	GGTCACTTCTGTAATAGTG
124227	RANBP17	GAAGAATTAAGCTGTGCAAT
124228	PCDHA1	TCACAGCTTTACTCTTTCA

124228	PCDHA10	TCACAGCTTTACTCTTTCA
124228	PCDHA11	TCACAGCTTTACTCTTTCA
124228	PCDHA12	TCACAGCTTTACTCTTTCA
124228	PCDHA13	TCACAGCTTTACTCTTTCA
124228	PCDHA2	TCACAGCTTTACTCTTTCA
124228	PCDHA3	TCACAGCTTTACTCTTTCA
124228	PCDHA4	TCACAGCTTTACTCTTTCA
124228	PCDHA5	TCACAGCTTTACTCTTTCA
124228	PCDHA6	TCACAGCTTTACTCTTTCA
124228	PCDHA7	TCACAGCTTTACTCTTTCA
124228	PCDHA8	TCACAGCTTTACTCTTTCA
124228	PCDHA9	TCACAGCTTTACTCTTTCA
124228	PCDHAC1	TCACAGCTTTACTCTTTCA
124228	PCDHAC2	TCACAGCTTTACTCTTTCA
124229	PTGER2	AATAGAAATGTCTCAAGGCAG
124230	RAF1	TTTTCTGCTCCCTTTCTCCAG
124231	NEUROD1	CTTTCCCATGCTGAATTATTTTGTT
124232	MAP3K9	GCAGAGCTGTCATAGGGTCCCT
124233	CYP3A4	TGAAGTGAGCTGAGATTGCA
124234	SCN2B	GGGAGAGGAGAGAAAGGGCTCC
124235	MTM1	AATATGTGCCTTCTAGAATAC
124236	GABRA5	TGTGGCGCTCGGGCGAGTGCCTT
124237	MLC1	GTTTTCTCTTCACCGCCGT
124238	EPHB1	GCTCCCACTCTCAGTGGGCTGCA
124239	TMOD2	TAGCACAAATTCTCTCTTAGTTCCA
124240	IL12B	CACTGCATACCAGCCTAGGTGA
124241	NDN	TTCAGGATTTACAGTGCAGTA
124242	C18orf1	TCATTAAAAATAATCAGCGGCAT
124243	SUOX	GGAGCCACCTCCACCCCTTTCCG
124244	PTS	GGAGGCACCGGCCGCGCGGCGGGA
124245	TEM7	TGCAGAGAGCTATGATCATCCC
124246	PTGS1	TGCACTGAGAGGGCAAGGAAGTGG
124247	ADRBK1	GGCTGAGAGAGTGGCATTGGC
124248	CALB2	CTGCCCAGGCAGTCTTTGCTCAGTG
124249	CCNK	TCTTTCCGGATTCTGCCTCCCTCC
124250	SLA	AAAGCCACTCTCACAAGAAA
124251	DHCR24	GTGAAGCCTCCAACCCTAAG
124252	CSRP1	CCCAGAGGAGCAGCAGCAACAGGCTGG
124253	COLQ	GCTTTGAACCTGCCAAAGGA
124254	DAAM1	TTAGCAGCCCTCTAAAGTGACTA
124255	HSPA5	CCTGCTGCTGCCCAACTGGCTG
124256	GPM6A	CCCTGGTTCATGTTTTCATCAA
124257	GRLF1	ATCCTGGCTCTGACGGCTGAAG
124258	IL1R1	TTACAGAGCTTGAAAACTCACT
124259	POU2F2	CCATCTCCAGCAAGTCTCCTGGCC
124260	NUP98	TGGCATCTACCCTCCCTCCCT
124261	DSC3	ACGCACAGGCTGGAGTGCAGT
124262	INMT	GGCAAGGGAGAGCAGGCTGCACAGC
124263	ZNF179	ACCCTCTCCCCATCCCAGCCT
124264	ADAM19	GTAGGGAGGGGAGAGTATGAGGAGGGT

124265	VAMP1	GGTTTCTGTCCCTCTGAGGCTC
124266	DNASE1L1	CGCTTGCATCAAACACCCCTA
124267	DDX9	GAATGGGTGGAGAAGAAGCAGAG
124268	XT3	TGCTGTGAGCCAAGATCATGCCA
124269	ANXA9	CTGCCTCACTCATCCCTCCTGT
124270	HOXA13	TTTTAGGACACTGCGTTAGA
124271	ACCN2	GAGGTGGGTTTGGGAGGAAAGAGAGGC
124272	DCN	TTAGTGTAATTACATCTCAGCTTTGA
124273	DISC1	TTCCATGCTGTGCAGCACTTCTGTCC
124274	CYP1A2	AAGTAGCTGAGACTACAGGCACACACC
124275	SLC22A5	TGATTCTTACCTTTTCTCAGTT
124276	CPD	TGCATTTCTTCAGTGTTTCTCC
124277	PTPRG	TGCACTATATGATCAGTGTTACTGC
124278	LDLR	CACCCAGGTGTGGCTGTCAGG
124279	MRE11A	CTTCATAGGTAGAAACAAATA
124280	TRIM37	CATCTCATCTGCTGTATTTTA
124281	CNN2	GCCCAGGCTGGAGTGCAGTGGCGCC
124281	PER2	GCCCAGGCTGGAGTGCAGTGGCGCC
124282	MLANA	CCATAACCTCCGCCTCCCAGG
124283	TAGLN2	ATCCTCTCCCCCATGCTTACTA
124284	ING1	TTCTGTTTGCCTTTTGTTTTCA
124285	TEM7	ACTCTGATTGTCACTTGCATCTTCACAA
124286	CNN2	GCTCACTGCACCTCCACCTTCC
124287	CTMP	ATGTTACCTGCTCCACTGCAG
124288	RBM3	CACTGTACTCCAGCCTGGACAACAGC
124289	MSX1	CCACCTGACATAAGGGTCCC
124290	PDXK	GTGAAAACATGTAACGTCTGCCT
124291	ACE	TTGGAAGAGGCTGAGACATTCTTCAC
124292	GNAQ	GGCTGCAGCGGAGGCACTTTG
124293	TAF1C	GCCTCAGCTGTGGGGGCCTCAGGCAGG
124294	SLC1A1	TCCTCTGCTTGTCATTCTGCT
124295	PCTK1	CCTGCCTGAGCCATGTTCACCTGC
124296	C7	TACAGGTGCCCGCCACCACGCCCAG
124297	CREB1	GAACCCAGGAGGCAGAGGGTTGC
124298	TCF7	CAGCTCTTCTAAGGAAATGGAGAAGCT
124299	PTHLH	TTCATTTCTTACGTTCTTTCACTTCAA
124300	MAPT	AGCAGCAGGCTGGGTGTCTTGGT
124301	NDUFS1	ACCTGTAATCCCAACACTTGGG
124302	TMPRSS4	GACTACCGTTACCTACTGTTGTC
124303	PPP1R12B	AAAGTGTTGCCAGTTATTCA
124304	ZNF264	CACCATCTTGGCCAGGTTGGTCTTGA
124305	APAF1	GCCAGGCTAATTTTTGT
124306	ABL2	GGGAGTACGCGAGAGCAGGGATGGGGCAGC
124307	EGF	TCTTCCTTTCTTTTTCCTCTCTAAGCCTT
124308	EXTL1	TGAGAGCAGGGGGGCCAGGC
124309	DLGAP2	ATGTGCGGTTGGCCCCCAGCGCGCC
124310	S100A3	GAATGAGGGGTAGAGCCACTCTGG
124311	NR1I2	GCAGTGAGCTGTGTAAGCACCT
124312	HPCAL1	CCAGGCACCTCCCGGCTCACGGGGA
124313	BSN	GGTGAGAACAGTTGACAGTGGT

124314	BRCA2	GCGGACTTATTTACCAAGCATTGGAG
124315	CDH1	CCAACTCCCTGCCATTTTTTAAGAG
124316	ABCD4	TCTGACATTCCTGGCTGTCATG
124317	GALNT7	GACCAGCCTGGTCAACATTGCAAAACC
124318	HIVEP2	ACACTCCTGGCTATCTCAG
124319	SIGLEC8	GAGGCAGAATCTTGCTCTGTCA
124320	SCTR	CGGGCAGAGGGCACGGGCAGGCGGACGTC
124321	MME	ATTTCCATAGTTCCCTGCGGCC
124322	SLC6A3	CTAAGTTTCGAGAGAAAGGAGGG
124323	SLC4A8	CTCAGCACTTGGCATCTTGTCA
124324	RXRB	GCCCTGACAGGCCTTCCTCCTCTCA
124325	UBE2B	TGATTAATGTACTTTTTATTGCAT
124326	MICB	ACTGGTGTGATCTCAGCTCACT
124327	MDFI	TCTACCTCTCCCTGCTCCTGGTGCC
124328	MGST1	AACCTATATTTCAATACTGCTGA
124329	RP42	GGTACTAAACATTTATAATTACTGTGTAA
124330	DSCR3	CTCCACCCCTACTCTATTCTGTAGTT
124331	GNA14	GATTAAAATTATGTAAGCAAGGA
124332	GCNT2	CACACCTGTAATCCCAACACTT
124332	GTF2H2	CACACCTGTAATCCCAACACTT
124332	TNFSF15	CACACCTGTAATCCCAACACTT
124333	CFL2	CTTTTTGTTTTCCATTGAGTGTACAC
124334	GALNT2	GCCCCCAGCACCCAGGTTCTT
124335	PITPN	CTAATGGGAGACCAAATCTTTGTCCGGG
124336	KLK3	GGAGGCACAACGCACCAGACACTCACA
124337	F2RL3	CCCAGGAGGCTGAGGGCACCC
124338	ATF5	AAAGGCGGCCAGGTTTGCAGTGCG
124339	RCE1	GGGCAGGTCCCAGGAGCCACA
124340	IRS2	TCTTCTTCTTTTCCTTTTGGC
124341	ADM	TGAGTGTGTTTGTGTGCA
124342	ELF3	AGGGTGAGGGCAAAGGCTGA
124343	EMP1	CCAAGCCCCTGCCCTGGGGAG
124344	TNFRSF9	GTCTCCTGAGTAGCTGGAAC
124345	ARHGDIA	TCTATCTCCCCGTCACACCC
124346	AUP1	CAGGCTGGATGGGTGGGTGGT
124347	PIK4CB	CACCTCTTCCCTGAGAAGGGCGGG
124348	TSN	TAACCAAAAGACACCAGCCACTCAGAG
124349	SIP1	TTTTGTTGTTTTGTTATTTACTTA
124350	TIMP3	TTCAATGCTGTTAAATATGCCAA
124351	LIFR	TGTGGTTCTTGGAAAAGCAGAAGGAA
124352	TAL1	GTAGGGAGGACCACAGGTGTGAGC
124353	GZMM	CCAGCACCCACACTGGGTCTCCA
124354	PIK3R3	TTTGTTGCCAGACCAATGTTTGATGG
124355	GPRK6	CCTGTGCCAAAGTGGCCAGAGATTGGG
124356	BRCA1	GCCAGCCACAGGTACAAGCCAC
124357	SERPINB13	ATTTTCATCTTCCATTCTA
124358	ZNF216	CCAACAACAGGGTCTTGAGATAACCT
124359	EYA3	TACTGTGGGTCTGGACT
124360	ANXA11	GTCAGCCAGCTCTGGAATGGTCTGG
124361	PRKAR2A	CCCAGAGCCTTCTTAGTGTGACA

124362	TMPRSS2	AAACGTCTTCCTTCTTTATTGCC
124363	IL18	CCGGAGGTAGAGGTTGTGGTGA
124364	A1BG	CCAAAGTGCTGGGATTACAGGG
124364	ACADSB	CCAAAGTGCTGGGATTACAGGG
124364	PRKR	CCAAAGTGCTGGGATTACAGGG
124365	CREBBP	CAACTCATTTCTTATATCATATTGTTA
124366	PLCB2	GCTTGGCTCCCCCTCCTGGCTGGCC
124367	GAS41	CACAGTTTTTAAAAATGTTTATTGTA
124368	CD209	GGGCGCAGCCATCTTGCCG
124369	SLC21A2	GGAGTTGGTGAGAGCAGGAGGAGAGGTGG
124370	CRK	CTTACAGATGTCAAAAGCAGT
124371	ABCD4	TGATGAAGCCACCAGTGCCCTGACAGA
124372	RASSF1	AGGCCTCTCTGCCTGTGGC
124373	RLF	CAACACTGCAACATGGGGA
124374	PRX	CCACAGCTCAGCCTGGATG
124375	LILRA2	GTCATTTCTAGAGACAGCAATCAA
124376	MASP2	AGGTGAGGCTGCTGTCATTTCTCCA
124377	MLPH	GGCTGCACTGCCTTTGTCA
124378	HHLA1	CTTATCTCCCTTCACTGACTC
124379	PITPN	CCTCCGTCTCTCTCCATTGTGTT
124380	MALT1	CCTGCCATTTCCACCCTCCAGTCA
124381	CAMK2A	TCTTCTTCCTCCTGTGCTGACCTCAG
124382	MYCN	ACTGTACTAATTCTTACACTGCCTGTA
124383	PTGES	GGCTCACTGCAGCCTCCGCCTC
124384	ESRRG	TTGCAAAGTCACAGACCATTGCCTCA
124385	PPP1R12B	TTTTCCTCTCTTCGCCCTGACAC
124386	XBP1	AGAAATTTACTATGTAAAT
124387	MEST	GGGTCCTCCCTGGGAACAGGGT
124388	RNGTT	GCCCTTTAACCTAGACCTG
124389	ZNF165	CCACATGTCTCAGATCTGCCA
124390	HOXB2	TCTCCCACCCTCAGTCGCAT
124391	TSC1	GCCTTTTCCTGAATTGGAAAGGA
124392	EGR4	CACAGCCGGCGCCGCGCCATGCTCCAC
124393	APPL	CAGGCTGGAGTGCAGTGGTGTGATCTT
124393	GPR56	CAGGCTGGAGTGCAGTGGTGTGATCTT
124393	TRPV1	CAGGCTGGAGTGCAGTGGTGTGATCTT
124394	CASP8	CAGGCTGGAGTGCAGTGGCGTGATCTC
124394	CYP2B6	CAGGCTGGAGTGCAGTGGCGTGATCTC
124394	EVC	CAGGCTGGAGTGCAGTGGCGTGATCTC
124394	F2RL3	CAGGCTGGAGTGCAGTGGCGTGATCTC
124394	PAICS	CAGGCTGGAGTGCAGTGGCGTGATCTC
124394	STAU	CAGGCTGGAGTGCAGTGGCGTGATCTC
124394	TERF2	CAGGCTGGAGTGCAGTGGCGTGATCTC
124395	TRAF5	CAGGCTGGAGTACAGTGGCATGATCTC
124396	BCAS1	CCAGGAGGTGGAGGTTGCAGTGA
124396	CPT2	CCAGGAGGTGGAGGTTGCAGTGA
124396	GGCX	CCAGGAGGTGGAGGTTGCAGTGA
124396	LDLR	CCAGGAGGTGGAGGTTGCAGTGA
124396	PTGIS	CCAGGAGGTGGAGGTTGCAGTGA
124396	RFC2	CCAGGAGGTGGAGGTTGCAGTGA

124396	TBX6	CCAGGAGGTGGAGGTTGCAGTGA
124396	VDR	CCAGGAGGTGGAGGTTGCAGTGA
124396	XRCC2	CCAGGAGGTGGAGGTTGCAGTGA
124397	RDBP	GCCTCTGGTTTTTCAGCACTTGGG
124398	PIK3CD	CCACACGCCTGTTCCCAGCAAGTGCTG
124399	SHOX	GCGATGCTCCTGCCTCAGCCT
124400	TCAP	TGTGGAGGGGAGCTGCTGGCCATGGCT
124401	S100A10	GATAAGCTTTTGATTTTTGTAT
124402	LTA4H	AGTCTGGTAGCTGAGCGTTG
124403	ADRA2A	CCCACACATCCCCAGTTGTTGGTTT
124404	GNGT1	GCTGTGTGATTTCATATACAAA
124405	LCT	GTAAAATGGAAATATCTCCATCTTGCT
124406	G6PT1	GGGTAGCGTGAGGACCCACGGGGCTGA
124407	BRIP1	ACTGCAACCTTCACCTCCAGGTTCAAG
124408	GOCAP1	GGCAGAAGATGACATTTAA
124409	PSAP	GGCCATCTGCCTGAATGTAACCTGCTA
124410	EHD4	TTGTCCTCATGAACAACTCTGGAGC
124411	ADRA1A	TTGACCTCATGTCTGCCTGCCTCAGCCTCC
124412	SETDB1	AGTCTGGGGTCTGGTTGGTGAA
124413	KRAS2	AACACAAATTTATGGGCTTCCT
124414	NR2E3	CAGAGAGACAGAGGTTCATGG
124415	SEL1L	ACACATCACCTTCCTGAATTCTTTA
124416	PCSK2	TTGGGGAGCGATGTTTTGAATTTAGT
124417	CD4	CCTCCCTTACCCTCCTCCA
124418	SLC22A2	TGGGGACTCTCTTGACCTCCCTGC
124419	LTBR	GACTCTCCCTACTGCCTGAGCAA
124420	RPS3	GCGCGGCGGCAAGATGGCAGTGCAAA
124421	PTPN7	CATGAACATAAGTGCTTAGCTG
124422	CD86	TGTAAGTTCCTGGGCAACCTT
124423	GBA	CAGGGCTGAGGGTAAGGAAAAG
124424	PIGR	TTCCCAGGCCGCACCATTTCTGTCA
124425	HK2	AGGCAGACGTGGGGAGGGTGGAGGG
124426	RARB	TTTTTACTGCTGCTTAGTTT
124427	RAB7L1	AGACTGGGAGGCAGAGGTTG
124428	PCDH9	CTTTGTTGTTATTTTTGTTGCT
124429	GPR86	GAAGACTCTTATCCATCTGTGAA
124430	CAV1	AACCTGTTACCTACTTTGACTTT
124431	OGT	AGGCTGAGACATTGCGCCTGC
124432	ALPL	GGCCTCCTCAGCCTCTGCAA
124433	A1BG	TCACCCAGGCTGGAGTGC
124433	AASS	TCACCCAGGCTGGAGTGC
124433	ADCY6	TCACCCAGGCTGGAGTGC
124433	AXL	TCACCCAGGCTGGAGTGC
124433	CDC2L2	TCACCCAGGCTGGAGTGC
124433	CMAR	TCACCCAGGCTGGAGTGC
124433	CSNK2A2	TCACCCAGGCTGGAGTGC
124433	EDG8	TCACCCAGGCTGGAGTGC
124433	EEF2K	TCACCCAGGCTGGAGTGC
124433	EIF2S3	TCACCCAGGCTGGAGTGC
124433	FCAR	TCACCCAGGCTGGAGTGC

124433	FSHPRH1	TCACCCAGGCTGGAGTGC
124433	HUNK	TCACCCAGGCTGGAGTGC
124433	ICAM1	TCACCCAGGCTGGAGTGC
124433	MEFV	TCACCCAGGCTGGAGTGC
124433	NEU3	TCACCCAGGCTGGAGTGC
124433	PCDHB16	TCACCCAGGCTGGAGTGC
124433	PPID	TCACCCAGGCTGGAGTGC
124433	PSMD9	TCACCCAGGCTGGAGTGC
124433	RAB36	TCACCCAGGCTGGAGTGC
124433	SEPN1	TCACCCAGGCTGGAGTGC
124433	TERF2	TCACCCAGGCTGGAGTGC
124433	TNFRSF9	TCACCCAGGCTGGAGTGC
124433	TUFT1	TCACCCAGGCTGGAGTGC
124433	VENTX2	TCACCCAGGCTGGAGTGC
124433	VHL	TCACCCAGGCTGGAGTGC
124433	ZNF264	TCACCCAGGCTGGAGTGC
124434	TM4SF6	CAGGTTTCAGCACACAACTTA
124435	TRPS1	TGTTTGTAAAGCACTTTG
124436	FUT8	AACCATTTCAGCCAAACTGTAGATGA
124437	ATP7A	TTTGCAGCCCAGGCTGGAGTGC
124438	MGST2	GACCGGCAGCCCCAGACCTGCCT
124439	GAS1	GGGAAGGTGCTGACCAGTGGGG
124440	TPMT	GCCCAACCTGGAGTGCAGTGGT
124441	F2RL3	TGAGCAACATGGTAAAACCCCA
124442	FLNB	TTTTCTCAAATCCTGGAGAGAG
124443	GDF5	TGCTGCTGCCGCTGCTTTT
124444	CLK2	CATCACGGACTTCCTGTGGGACAAGCG
124445	KLRC4	TTCCAGTTTTGCTTTTCATGG
124446	PPP4C	GACTCTGCCATCTTCCTCAGACGG
124447	MTCP1	AAGTTTTAGCCTAGCTGTTCTCAA
124448	GABRB3	AATGGCATCTCGTTGTAAGTA
124449	DUSP7	GCTCGGCTCTCCACAGGGCTAGG
124450	ANKRD3	AAATGTTCATAACATTGGATAGTCTAG
124451	GCK	CAGCATTCAGCACACCCCAAGGGAC
124452	DIAPH1	GCTAGATCCCTCCTTTCATTGCT
124453	MAP3K14	AGGATGAGTATGTGTGGCAGAG
124454	PATE	AGCAGGAGAAGTCTATGGGATTC
124455	MAK	GTCCAGGCTGGAGTGCAGTGGCACT
124456	LMO7	AAAAGGAGAAGACAACAGTGAGC
124457	DUSP5	TTTGGGAAAAGAGTTCTTCAGA
124458	FIGF	GGTCATGGAATGGCAGGTGT
124459	FLOT2	GGTCTGGGCAGCCATGACCTGCA
124460	RANBP2	TCATAGAAAATTTCATCTGTATAAGCA
124461	ED1	GGGGTGAGGATAGGACAGAGGG
124462	TGFBR1	TGTTTTTTAAAAAGATGATTGCTG
124463	DIAPH2	GTGTTCCATTTTAGTGTAAAGATGTGT
124464	NEU3	TCAAGAAAATAAATGTAGCT
124465	KCNK2	CAGAACCTCTCTAGCTAATGTGT
124466	GLRA2	ACACTTTGTCCTAGCATCTTTCTG
124467	FEN1	CCAGTCATCCCTCCTCTGTGTTGCCA

124468	IQGAP1	GGAGGCACTTAATAAAGGGA
124469	RRM2B	GCAGATGGGCTAAATAAAAGCC
124470	VAT1	GCCCTACTGCCTTCTCAAAGCA
124471	FACL4	TGCAACAAAATACATTCTTTT
124472	MAP1A	TTCTACTGCTTCCCTCAGTATCTGAA
124473	KRT6B	CTGAGTCTGCCATAATTCTG
124474	GPR81	TATCATGCCTGAATTCCCCCGC
124475	DDX11	CATCAGGTCTGCAGAGCTGCAGG
124476	DNASE1L1	AGTCCACCCCTGCCTGCCTTGTTTGA
124477	CD209	CTCCGGCCGTTCTCACTGCGGC
124478	RIG	TCAGTGAAGATTAAATGAATGAAT
124479	IL2	TGGATCTTTTATGATTCTTTTT
124480	FGF23	CCAGAATGGCCCCACTCTGTTCC
124481	RAB18	GCTTTTGCTATTCTTTTTG
124482	RHCE	ATTTGGCTGTTGGATTTTAAGC
124482	RHD	ATTTGGCTGTTGGATTTTAAGC
124483	HOXC13	CCGTGCTGCTGGGCCATCCCCAACTCCC
124484	CAPON	CTCTCCAGGACTGCCAGGCTGCTGGAG
124485	P3	CCTGTTCCCAGTTCCCTGGGCCTCT
124486	PDYN	CCAGAAGCAGCAGCTAGAAAGAGA
124487	MFRP	ATTCATGTGGCAGGCCCCTGTCCTAGGCCCT
124488	DAF	AGGAATATAGAATGAAAGACTGA
124489	DFFB	TGTCTGTGAGTACCTGGTCAT
124490	FGF23	GTCATGGGGTTTCACCGCCTTCCTCA
124491	PSME3	CATGCACACACAGACTCCTACTCC
124492	KIF5C	TAGGTTCTAAAATGAAGATGT
124493	ATM	CAAACTCCTGGGCTCAAGCGAA
124494	TAP2	TCTCCAGGACCCAGAGCTGTTCCTGC
124495	TP53BP1	CTTACTGGTTTTATTCCCTGCTAT
124496	ADRA1D	CCGCGGAGTGTGCTGGGCTTGGGGG
124497	TOX	AGCTAGCAGATTTACTCCTTT
124498	PRKRA	GAGCACGTCGCTCCGCACCGC
124499	SH3BP2	AGTGGCCAATCATAGCTTACT
124500	MRE11A	ATCCCATTCTTTATAATCCTCT
124501	ELMO1	AACAGGAGAGAGGAATGAAA
124502	CPT1B	TCAGACCACAGAGGTGGCAAGA
124503	BCL11B	GGAGACTCCATCACAGCCAGG
124504	INPPL1	GGCCGGCGCTGCAGGCAGCGGCGG
124505	FGF2	ATTTAAAATATTTTGCTGCT
124506	CUL5	TCTTTGACAGCATGCTGT
124507	ACTR1B	ACCCCTGGGTGGGTGGCACA
124508	AXL	TGAGATTACAGGCATGAGCCAC
124509	GSTM3	GGCTAAAAGGGAAAAAGGA
124510	ABCD1	GGAGAGGGACGCACAGCACTGCCT
124511	SLC1A4	CCCGCACTCTGCGCCTCTCCTCGCC
124512	Rgr	CACTCATTCAACACATACATTCA
124513	CD34	GCTCCCAGGAACAACTGATGGCCT
124514	ABCG5	GAAATGAGAGTGCCATGTATTTCTTTC
124515	SLC24A1	GTTGCCCAGGCTGGTGTGCAAT
124516	KLF7	TCTCTCCCTCTCCTGCATTGATTTTT

124517	TNFAIP1	CATTCCCCTGCCTTGCCCCTGAG
124518	MAPK7	GCCCCCAGCCTGTGCCTTGCTGCCACA
124519	PCDH7	AGCATCTATCGCTGCCCTCCCACCC
124520	GNA14	GTGGGGACAGAGATGGGTGATGGAAC
124521	PCDHA9	CACCCAGGCTGGAGTACAGTGG
124521	TRAF5	CACCCAGGCTGGAGTACAGTGG
124522	FOXF1	CAGGCAGGCGGGTCACAGGGA
124523	GLRA1	GGAGAGGGGAACGTGGGAATAGC
124524	GFI1	AAGTCACAACCCCTGACTGCTCCTCA
124525	HSD17B8	GTGTATGGTTCAGGAATGCTGAAT
124526	PPP2R2C	AGGACAGCTGCAGAGGTGGCAGTGTGTGGA
124527	GTF2H2	TGGCCAACATGGTGAAACCCCGTCACT
124528	TRHDE	ACTGTTATGAATTTTTCATCTACTTCT
124529	MLANA	AGACATGCTGAAATTATTTCTCTCACA
124530	TBX3	TCCACTTCAAATTCCTTAAAATATA
124531	CCKAR	AGGAAGAGAAGGAGCAGAGCA
124532	DAP	CCCTAGGGACATGAGACACCACATTCCATT
124533	IL6R	CTCCAGCCGCCATGCTCCTGGCCCACT
124534	ICA1	GAGGCCAAGGCAGGAGGATCA
124535	PTPRO	GGGGAAGAGGAGCCAATGACAGG
124536	P2RX4	TGGAGCTGGCTTTGCTCAG
124537	NEUROD1	ACCTTTCCCATGCTGAATTATTTTGTTGTGA
124538	TRRAP	TTGATGAACCCATCATGCTGGTT
124539	FOXF2	GGCAGATAGAAACTGGGACGGAT
124540	CYP7A1	TCTGTCATTGTTAAATACACATTAT
124541	BCLG	ATAAAATGTAGCAGCATC
124542	SLC1A3	CCCTTTCTCTTCTGACTGGTATACC
124543	HLCS	GATATTTTCTTAGTAGTGCAG
124544	CIAS1	CTGTGTCGCCTAGGCTGGAGTGCAGT
124545	PIK3C2B	GGGTGGGTGGGTGGA
124546	MAP3K9	GGGGAACTGCCTCAGTGAGAACGGG
124547	THBD	CCTAGTTTTCTCCTCCCAG
124548	WHSC1	CCAAAAATGTTCCCCCAAAT
124549	LAMC2	TACCCAGGCTCTTGAGCAACAGTG
124550	EIF2C1	TCTTGGCTTCTTTTCTCCCTTG
124551	CLECSF6	GAGGCCCCCATTGTGCACA
124552	SLC22A2	AATGCCAGCTATAGATTTGGGG
124553	NRL	GGGAGGTGGAGGAGGGTTGCAGCTCCCACCT
124554	QPCT	GGTAGCCTTTCGAATTTTATG
124555	PLGL	TCTCTCATCTTTTTCAAGTCTTTTCCA
124556	HUS1	TGTCACCCAGACTGGAGTGCAGTG
124557	IL19	TCATGAAGTTCAACAAAATGA
124558	ANK1	CCTGGTGACGCTCCTCCCAG
124559	FANCD2	AAGGTCAGGAGTTCAAGACCA
124559	LUZP1	AAGGTCAGGAGTTCAAGACCA
124559	NFATC3	AAGGTCAGGAGTTCAAGACCA
124560	ADAM19	GAAAGAGAGCTCTGAGCAGGTGA
124561	ITPKB	AGTGTGAGTGACACTTGCTGGG
124562	ADAM12	ATGGGTATAGTTCATGTCTGCTATC
124563	KCNAB1	GAAAATGCAATGTATCTGCA

124564	GALNT1	CAGTATATTAAATATTGATAGAAAAAT
124565	AQP6	TACAGGCGCCTGCCACCACGCCCAG
124566	DAP3	CAGTGGACATCTGCTTTAT
124567	UGT2B11	TCCAGCAAGAAAGAAAAGATTGTTATGC
124567	UGT2B28	TCCAGCAAGAAAGAAAAGATTGTTATGC
124568	MEF2A	CAGGCTGAAGTGCAGTGGTGTG
124569	CCNDBP1	AAAGGGAGTGCCTATCTATATTTAGC
124570	UVRAG	ACTGCAGTCAGATGCCATCTCA
124571	SP3	CCAGATTCCAAGTGCTGCTA
124572	BMP8	GGAGGCTGGGGCCACACTGCGGGACA
124573	HDAC7A	TCCCTCTACCACCGGGCACTGAGAC
124574	TBX6	ATGAAGCCTCCCGGGGTGGGG
124575	TSC1	GTGACTGATTCCCAGCCTGTGGCAGG
124576	SEL1L	TTCCCAGGATTTATTTTACTTTGCA
124577	B4GALT1	GTCAAACAGACTATCCATTCC
124578	SSTR1	CCGCCCGCCACCACCACTCTCAC
124579	EXTL3	TAGCGGGACTCAGTGAGCTGGG
124580	SUDD	CACTTCTCTGTAATCTCAGCT
124581	CCNF	GGTCTCCCAAAGTGCTGGGATT
124581	DFFB	GGTCTCCCAAAGTGCTGGGATT
124582	POLL	GAGGCTGAGACCAGGACAGCA
124583	G6PT1	CTTCTGCTGGGTCCTAAGTCCTCTC
124584	GPR81	GTGTAATTTTCGTTGTTTGTTTTTGT
124585	KCNJ12	TGCTGGTTTTTAACTTGGGGA
124586	ACTR1B	GTTGGGAGAGGGGGAGGGAGGG
124587	MYH11	CAGGACTTCGAGGCTGCAATGA
124588	MORC	AATATGTATACATATTACACA
124589	ALDH3A2	AAACATACTAATCCTCTTTCA
124590	HTR1D	GCCACTGTGCCTGGCCAACATAATGTTTTC
124591	SLC16A7	CACCTGTCGCCAGGTTACTTGA
124592	DRP2	AACACCCTGCTGGCCTCTTGTGGA
124593	DMRT1	ACAGAAGCCATCCTGAAATG
124594	LYZ	CTAATACTGGTGAAAATTTA
124595	MPP3	CTGGAAGGCTGAGGCACACTTCACCA
124596	ACADSB	TAATCAGAAAATATTCA
124597	IL18R1	CCAGTCCTGAGTTTGCTACTTA
124598	PTGFR	TTTCCATGTATTTTGACTGGGG
124599	CHD2	GCCGTACTGAGAGCCCAGGTCGTTG
124600	RFXANK	CCAGGCAGGAGAGGGGGAAGA
124601	KCNF1	ACAGATGGGTAGATGTGGCAGGCAT
124602	SH3BP2	AGCCAAAAGATTGGACATGCCTGCTGT
124603	ACPP	TCTGTTTTTATATTTCTGTTAA
124604	SLC4A4	CTGGGAACCCAGGGAAGTTTTT
124605	MTP	TCTTGATAGGACTTCCTTAAGCAT
124606	FOXG1B	GTTTTCTCCTTTTCTTTAAAGA
124607	TDGF1	CACCCAGGCTGGACTGCAAT
124608	NRXN2	GCAGGGCACGTGCTCACAGCCCT
124609	GM2A	TACTGGCAATACTCCAGCCTGGTG
124610	SLC13A1	GTATTACAAAACAGAAAAAT
124611	GAD1	GTCAATGAAATATTTGCTTATT

124612	SOD3	ACCCCATAAGCCCTGAGACTCCCGCCTT
124613	OXTR	ATTCCATTTATAATACCATC
124614	ADCY1	TTTGCAGGGCGGCCAGTGCAGTG
124615	ETV5	AGGACAGCGGCATCACGGTTGCA
124616	HNF4A	TGCCGCTTTGGGCAAGTTGCTTACCTGTCT
124617	HIVEP2	TTTGTGCCTTTTCTTTACTTTGCTTA
124618	ACOX1	TGTATGGCTTTGTTTTCAGTCT
124619	STC1	TTTCTCTCTTTCTTCAGTTCA
124620	ZNF165	ACTGGGGTAAGGGGATGAATCA
124621	GALNT3	CAGAAGCATTGCTTGA
124622	NOL3	GGGGAGGGTGACTTCTCTCCA
124623	ALOX15	GCCTCAGCGTCCTGGGCTCAAATGATC
124624	KHK	GATGCAAGCTGTGGGGAGGAC
124625	HAP1	GCAGCCCAGGGGGCAGGAGAAG
124626	A1BG	CTGTTCCCAGCCTCCCACAGCAGAGCT
124627	KCNJ13	GTGGTATTTTGCATTGCAAG
124628	MARK3	CCATGGTCGGCGCCCACAGCCCG
124629	RYR1	CCAAGCCCCTCCCCCTAAGGCA
124630	GYS1	CTCCAGTTTCCAAGTTCCTGC
124631	RERE	TTGAGTGAGAAATTCAGAAGACTGA
124632	LZTFL1	TGAGAATTCTTTACAGCAAAGA
124633	SALL2	GGTAAAGGTTTTGGCTGGTC
124634	MERTK	CCATGGCCCCAAAGCACCAGATGA
124635	PITPN	TGCCTCTTAGTGGGAGAATCAGAGAG
124636	PLCB2	CTACCTCCCCCTCCATCTCTAGATAA
124637	TBX1	AGGCCGGGCCATGGGCACATGGA
124638	ACE	TTCTGCAGGTACTTCCTCAGTCTG
124639	PRIM2A	TTCTCTCTTCACTGCATCCCA
124640	ROBO1	GCAAGATATTGATCAAATATAGAAA
124641	AMPH	GGGCCTGATTTATCTAGCTGTCCAGCC
124642	T	CGGGGAGGGGAGCCGGACGGGAGGAT
124643	ACE	TGCTTCAGTCCACTTCTGC
124644	RAD1	AGTGCTCACGGCTCACTGCAGTTT
124645	CPD	GATGGGGAATGCATTTCTTCAG
124646	XPC	GCCACTTACCTTCCCCTGAGTCA
124647	SH3GL2	CACATCCCAAGTGCAGGCCG
124648	PACE4	TCCAGTCTTCCGACAAACTA
124649	TSC1	AGGAGGGAAGGAGCAGT
124650	GFAP	GGGGCAGTCTGGAGGGGCATGGC
124651	SPAP1	TTTTCCACTGTGTCTCT
124652	VHL	CCCAAAGTGGTGGGATTACAGG
124653	LPL	TCTCTGAGAGAGATGATCGTGCCTATA
124654	FKBP1A	TGAGGTGGGGATGGGGAGAGC
124655	HSPA2	AGCGTAAACCTCTTTGCCTTTCTCT
124656	ZNF32	TCCAGTTCTATGGAATGAATGGAG
124657	NUP62	AGGAGGTGTTGCAGTGA
124658	BDNF	TGCCTAGACATCACATAGCT
124659	PDE1B	GTAAAGTGCTTTGAGGATCTCCCC
124660	IQGAP1	TTTGACCTTCTCCTCGACCAG
124661	ARHI	ATGGGTAACGCCAGCTTTGG

124662	APM1	GTCTCGAACTCCTGACCTTGTGA
124662	PCDHA9	GTCTCGAACTCCTGACCTTGTGA
124662	POU2AF1	GTCTCGAACTCCTGACCTTGTGA
124663	HLCS	GTTTCGAACTCCTGACCTCGTGA
124664	PRKWNK3	GTCTCAAACTCCTAACCTTGTGA
124665	AK2	TAAGCCTGCAACCTCTTGACCTT
124666	GJB1	TGTGGGTGGAGAAGGGAGGGTGGCCAG
124667	ARHI	TGAAGAGGAGAACAAAATGTAGCA
124668	EGR2	TGACCCTGGATGTCAGAGTTG
124669	TCF2	CTGCCTCTGGGAGGTTACTGTC
124670	AUP1	ACAGGCTGGATGGGTGGGTG
124671	NGFB	TGGACCCAAGCTCAGCTCAGCGTC
124672	LTB4R	CCTAAATGGAACCAGTCCCTT
124673	CDKN2D	GGGAGCACGTTGGCTCCGCCCCCTGGC
124674	ATF5	GCAGGGCTGTAGTTGGTGACTGG
124675	PARG	AGGTTGTGCTCAGCTGTCG
124676	GPR85	AATCTATTGACTGAATTATCTTTTG
124677	CXCL13	AGACTTCATAGAATACTCAGGGA
124678	HYAL1	TCCTCCAGGAGTCTCTGGTGCAGCTGG
124679	MAPT	CTGGGCCACTGGCATCTCTGGAGTGTG
124680	HMGCS2	AACTTCTGTGCTGTTCCTGTGAATCTC
124681	BTC	GCAAAGTGCCTTGCTCATTTGAA
124682	TMPRSS2	CCCTGCTCCTAGCACCCTGG
124683	NCOA6	GTTGTAGAAATGGACCA
124684	HTR2B	CAGTTGTCATCAAACATAA
124685	SURF4	TGGCTTCAGGACATGGGTTC
124686	SALL2	ATCATGGGGGATTTCCTAGCA
124687	TLX1	TAGGTCCACACACAGGT
124688	CAPON	CAGCACTTTACCTCTCTGAAAGCCCC
124689	XRCC2	ACTGGGCGTGGTGGCTCATGCCTGTG
124690	ADCY1	AGAAATGGTGGCACCTCCAGACACCC
124691	NCOA6IP	GTTGCCCAGGCTGGTGTCAAA
124692	CRB1	TCTCTGAGACAGACAGGGATCAGGAG
124693	TCFL4	CATATTCCATCACCTTCCTCCTCTGCTCT
124694	COL5A3	GGGGTTCCCTGGCCCAAGGGTCCAGCC
124695	LRRC2	TTTGGGAGGCCGAGATGGGTGAA
124696	CLN5	TTGGACCCAGGGTCCTACA
124697	AKAP2	CCATTTTTCACAAGAGGAAACCATCC
124698	TOP2A	TGAGTCTGAATCTCCCAAAGAGAGA
124699	SOX3	CGGGTGAGGCCAGCTGG
124700	COIL	TCTCCACCTTATAGTTTATGAATGTC
124701	DLC1	CCGCTTCCACCACCATGGTGTTTG
124702	IFNAR1	TTGAGACAAACGTTTCCTACAT
124703	CLOCK	GCTGCCTCTTTGCTGCTTTGTT
124704	GRB10	GACCACACTCTAGTTGTTTTCCAT
124705	COL9A3	CTCGAAGCTCATAAATTCAACGTGAGG
124706	GPLD1	ACTAGTAAACTCCACCTTTTGCCTGTAG
124707	NR4A1	TCTGCTCCTCTGCCTGTCCTCTCCC
124708	ASTN	GGCGCTGATGTAAGCACTTTAGG
124709	KCNE3	GGACTCCTGAAACTGACTGAG

124710	GA	CCCCTGGATGATGCTGTGCAGTTCAA
124711	ILF1	ACAGAAGTCACACTTGAACAAAACCC
124712	RAB23	CAGCATTGCAAAATCTGTAAA
124713	MAGEA9	GAGTCTGGCACCAGCCGCAGCCGGGG
124714	LEP	CACCCAGGGGTGGGGAATGTTTG
124715	DDX11	AGCATAGTGCTCCTGGACCAG
124716	TIAM1	ACTGAACACTGAGATCTGCTGCGTCA
124717	PGD	CACTGCCACCTGGGCCTTTGG
124718	KLF8	TGCAGGGGGGAGGATTCTTTTT
124719	SIAT4C	GCCAGCACCAAGAGATTATTTA
124720	ZNF264	TAGCTCAAAATGTCAGTGGTAA
124721	IGFBP3	CATTGTATACAACATAGCCCC
124722	MMP12	CTCTGTAAGTTGCTTCCTAAC
124723	NR1D1	CCTCTCTTCCTCTGGGACTTTTGC
124724	SFRS2	GTATATGTTATTTACCTTCA
124725	LZTS1	TTTTTTGCTTTCTTGTCTTTTC
124726	SOX11	CAGTTTTCAGCATGACACTGT
124727	EDNRB	TTCACACACCATATGGATTCTATTT
124728	APM1	TTGAGATGGAGTCTCACTCTGTCACC
124729	EEF2K	TTGAGACAGAGTCTTGCTCTGTCACC
124729	FGF5	TTGAGACAGAGTCTTGCTCTGTCACC
124730	FCAR	TTGAGACAGAGTCTCACTCTGTTGCC
124731	COG5	CATACTCCAAAAGACTGCTAC
124732	YWHAZ	TCTATTTGTCAGGTGCACAAGATT
124733	USP14	CCACATGGTGAAACCCTGTCT
124734	C21orf2	AGAGGGTGGACAGTTCAGGC
124735	EDNRA	GTCTTTTTTGATCATTCCCTT
124736	TSSC3	CGCCCGCATTGCCGCTCCCAG
124737	MYO15A	CCCTGCCCCTAACTCCTGCCTAT
124738	F2RL3	TCATCACCTCTGTCTAGTTACAGGACG
124739	MGST1	CTACAGTTTTGAATACTACTGA
124740	CLN5	TAAGTATTTGATGATCAACTGA
124741	ARHGEF7	GCTTTTCTTAGATGTTTTCTTGCTGT
124742	VPREB1	AGGCTGAGCCACTCAGCATCT
124743	TMEPAI	GCCCCAGGTATTCGCAATCTGACC
124744	SMAC	CATGTTGCCAGCCATGTTGCCCA
124745	PDE5A	TTTGCCACTGCTGTATTTTTAT
124746	AQP6	AGCTCAGGCTGGAGCAGGCATATG
124747	ZNF74	TCACCCAGGAGGAGTGGGGT
124748	MAPK1	CGACCTACTAGCACTGTTCTG
124749	SCA1	GTGACTACTAAGGAAACCTATT
124750	SPTAN1	GACTTCAGAAAATCGAAGCA
124751	SIAH2	GCCAGGCATGCTCACTGGCGC
124752	ADAM8	CAGGCTGGGATGAGCTGTGTGCTTGCG
124753	SMURF1	GGGACGACTTCACACTCAC
124754	TLL2	CAATTGTCACCATATGGCCAATT
124755	TRAF5	AACAACAAAAATGCCAAGTTGTCC
124756	NR2E3	TCTCCCACACTCTCCCAGAGCTCACTG
124757	SMAC	GGCTAATTTTTGTGTTTTAAGT
124758	SIRT3	CTGCCTGCCTGTTTGCTGT

124759	ATP7A	ATGCCTTTTGTAGCCAAAACCAGGCG
124760	C8orf1	TGTTCATTTTATTGCAGTATTA
124761	IGSF4	GCAGAAAATTCTGTGCCTTGT
124762	PTGS2	CCTGCATGCTGTTCCTTTTCTTT
124763	ATM	AGGGATTGTGGCATGCACCTGT
124764	GJB3	AGGCTCCATGCACCCCCCACCT
124765	GRAF	CCACATCTTCTGAGGCTTTAGA
124766	TRAF1	ACAGGACCGGGTGGAAGGGATGG
124767	TTYH1	CCCCCTGCTGCCCCTGCCACATCCC
124768	PCDHA1	TCTCCCATATGTATGCTGTATGCT
124768	PCDHA10	TCTCCCATATGTATGCTGTATGCT
124768	PCDHA11	TCTCCCATATGTATGCTGTATGCT
124768	PCDHA12	TCTCCCATATGTATGCTGTATGCT
124768	PCDHA13	TCTCCCATATGTATGCTGTATGCT
124768	PCDHA2	TCTCCCATATGTATGCTGTATGCT
124768	PCDHA3	TCTCCCATATGTATGCTGTATGCT
124768	PCDHA4	TCTCCCATATGTATGCTGTATGCT
124768	PCDHA5	TCTCCCATATGTATGCTGTATGCT
124768	PCDHA6	TCTCCCATATGTATGCTGTATGCT
124768	PCDHA7	TCTCCCATATGTATGCTGTATGCT
124768	PCDHA8	TCTCCCATATGTATGCTGTATGCT
124768	PCDHA9	TCTCCCATATGTATGCTGTATGCT
124768	PCDHAC1	TCTCCCATATGTATGCTGTATGCT
124768	PCDHAC2	TCTCCCATATGTATGCTGTATGCT
124769	GJB3	TCCTCCCCACAACTGTGCTCAG
124770	CHST6	CTGCACGTTTCTTTCTCTCTTGATTC
124771	CREBL1	TCCCTGATCCCCAGGCTTGGGGCA
124772	FSTL3	TCGCCTACCTGTGCCTGCGTGTA
124773	KDR	CGGCGCCCGGGCTCCCTAGCCCTGT
124774	APLP1	GGGCAGCAGGGAGTCTTGAAGTGA
124775	CLNS1A	GGTGCCTCTTCCACTCTGGAG
124776	PITPNB	ATCATGAGAGTGCTGGTCAGA
124777	KCNH5	TACAGATATTTTATTATCAT
124778	SMG1	GCTGATCCAAAATAAAAACCCAGAC
124779	FCN2	GAGGCTGGGAGAGGTTGGGTG
124780	CLCN1	CCTTTGCCCCCTCCCACGACC
124781	ASB2	CTTGCTTCCTATCTGCCTCTTTC
124782	HS3ST3B1	CTGTCTCTTCCTGCCTGTGTA
124783	CST5	TCTAGGGTCTGTGCAAGGCCTGTCACA
124784	CYP1B1	TCAACTGTCCATCAGGTGAGG
124785	PGAM1	AACTGTACTAAATCCTTTTTCCA
124786	CDK10	CGCCCGGGATCCAGCTCA
124787	ZRF1	CGTGAGCCGCTGCGCCCACC
124788	SLC22A12	GCACTGCCACTTGTCCCCCCAC
124789	PAX2	ACTGCTCCTCCTGGCCTGCCTAGTTCCCC
124790	CRHR2	ACCAGCTCTCCAGCCTGGCAGGAA
124791	SART2	TCCATATAGTACTACTTTT
124792	ST7	TGTTTCTGATTGTTTTCATCCT
124793	PPP2R4	GGGGTGGGGTGGCGAGATGGGC
124794	AVPR2	AGGAGTGGCAGGAAAGAGGGAGCAG

124795	CREB1	AAAAAGAGTAGTTATTAGTTCTGC
124796	ADAMTS1	GCTCTTCTGTGAGAATATG
124797	NFIA	TCTTAGCAGACTGCAGTCAATCCA
124798	ADCY1	CAGGGAGGAAGGCAGCTAGAAATGG
124799	RBM3	CTGCCATGTCCTCTGAAGAAGGA
124800	IRTA2	ATCTTTGTTTCCCCACCTCAGGCC
124801	MC1R	CTGAGGACCAGGCTTGGTTGT
124802	NPY1R	ACAGGAATGAAGAGAGAAAGCA
124803	RNGTT	TGTGCTCCTTCTCAGCTCAC
124804	NINJ1	CCTGCACAGCCAGAACTGCCTTT
124805	KCNS2	ACTTGCATTCCCACTGCCTTT
124806	LHX3	CAGGGCTGGCCCGCCAGGTGGCC
124807	CSF3R	GGGAGAGAAGCTGGACTGCAGCT
124808	LILRB5	TTTTGTGTCCTGCCAGGCAC
124809	UPF3B	AGCAGGAATCTGATCAGAGGTT
124810	ADRBK2	AGTGAGGACCTTAGGGCATGA
124811	ITK	GATTCTTCTGTAGAAGTATGA
124812	TNFAIP2	CCAGGAGGGAGAGTGCAGCCAGGCTCA
124813	SULT2A1	ATCGTTTGAACTCAGGAGGCAG
124814	SIAT6	CACTGTTTGGCCTTTCTTGGG
124815	CNR1	AGTCTTTAGCTATTACTGGAT
124816	SOCS5	AGGTACTGTACAACCATTA
124817	PDE6B	GGTTCTGCCTGTGGCTATTTG
124818	ALDH1A3	GGAAAGACTGCTGTAATAACAC
124819	GNPI	CCTCAAGGGGCCCAGCCACGTCAAAC
124820	TAZ	CTGATTGCTGAGTGTCATCTCA
124821	SUV39H1	TACAGTGCTGGGTAGTGTTGG
124822	ADM	GTACATACAGAGGTAACTATCA
124823	ZNF26	GCTACAGGTGAGCATTTT
124824	RFP	TTCACTTTCTCTCATGCTACCTTTTGTGG
124825	LILRA3	TGGGCACAGAGGGTCAGGTCCTGTC
124826	CARKL	GCTCCCCGCCGGTCAGTCACTTAGTCG
124826	TRPV1	GCTCCCCGCCGGTCAGTCACTTAGTCG
124827	ACTA2	CCTGTGGAATTATGCCTTCA
124828	ADAM8	CCTTCTCCCCGCCTTGGCC
124829	IL6R	CCCCTCGGTCGGCCGGTGCG
124830	DRPLA	GGGTCTCCACAGCCTGAAGAATGAAGA
124831	CAPN10	TTTGCCTCATACCCCACCAACCCCTGC
124832	CPM	CATTGTACTCCAGCTTGGGCAACAGAG
124833	EGR3	ACATAACATACACACAATAT
124834	THBD	TTGGGAGCTTGGGAATGGATCCTGGA
124835	RAB23	ATGCCTAAATATATTGTTA
124836	PRKY	TCATCTAGGCTAGGTGCAGTG
124837	SRGAP2	TTCCTGGTCTAGTTTCCTGGGC
124838	PSEN2	GCTTTGTCCATGATGTCC
124839	CELSR3	CAGCCCAGCGGCCCTCTTTCCTGTCTG
124840	PITPN	TGTTGCTGCTGGGCAACAGTGTTGG
124841	SDC1	GCTCCTGTGGCCCCACCCTGGG
124842	SORCS1	CTTATTCTAGCACAGTGCCTTGCCT
124843	NEDD4L	GCATTTGCCTAACAGACTTTTG

124844	TMEPAI	CTTCCCTTCTGGTGT
124845	SPP1	AGAATATAACATTTTATGTCACTA
124846	PRSS16	TTCTGTCTCTGATGCTCTTCTTC
124847	DBH	CCGCTTAAACATTTCCCTGCTGA
124848	SLC8A2	AGGGATCTGGGTGGGCATTTTT
124849	SPAG11	CCAGGAGGCAGCTCTCTGCAGCCGAAG
124850	SLC1A4	GCCCTTGTTCTGTGTGTAGTTACTTGA
124851	POLE2	TCATCAGTTTTCTGCTTAACTC
124852	ARSA	AACACCAGTGGAGACTTGCA
124853	NT5E	GGGAAGAACAGGACTCCAGGACTGT
124854	CXorf6	TGAGGTAGATTTCATTGAAGCTCTCT
124855	PTPN1	AGCATTTTCACATTTTGCCTTTC
124856	PCDH11X	ATGGGATTAGAAAAATGAAAGC
124857	YWHAG	TGCCAAAATACCACTAGTGGAA
124858	GAS7	ATGGCTCTGTCTTCTTGTGT
124859	PSMD9	TTTGTCACCCAGGCTGGAGTGCAGT
124860	STIM1	CCCCAAGAGTGGGGCATGGG
124861	PAM	ACTTTCATTGCCAGTGTCTT
124862	CLOCK	TGACAGTGTTTTAGGTGCCTGGA
124863	CLK2	TCCATCCACACAGTTTCCACCC
124864	C14orf1	ATGCCCAGGAGTTAAATG
124865	SPI1	GGCCCTGCAATGTCAAGGGAGGG
124866	MYH11	TCCAGCCTGGGCAACGTAGTAAAACC
124867	MYCL1	CAGCCTCCCTTTGATGATTATTGGA
124868	MIR16	TAGCCCAGGCCCTGGGGAATCAGGTG
124869	ABCA1	AAACACAACATTTTAATACA
124870	NOTCH4	GGGGATGAAGCGCTTCTTCTA
124871	TOP3A	GCCAGCAGGCTGGTGGGGA
124872	SFTPA2	CCCAGCACGGTGGTGCCCA
124873	VNN1	AGAGGAAGGACAACTCTTTACA
124874	RAP1GA1	CACATGACAGACAAGTAACCCCCTCA
124875	CCR3	CCTAGTTCTTTCCCTGCTTAATGAA
124876	LYN	ACGCGCTGCAGCCTCCAGCCCGCGG
124877	NUP98	AGAAGCAGCATCCTCCACTTGT
124878	ATRN	CAGCCTCTTGGTGCTCTGGGTA
124879	DUSP1	GCCGGCCATGGTCATGGAAGTGG
124880	SCD	ACAACTTAGCTCAGGTGCCTTA
124881	KLK4	TCCAGACCCCCCAGCCCCTCCTCC
124882	RNPEP	TCTCTAGCTTAGGTATCTG
124883	PCDHA9	TAAATGATGCATAGTATTTTAGTCTA
124884	OGG1	CAGCTGGCAGAGAGCCCAGTG
124885	ALDH3B1	CCTGGGTCTTCCCTCTCCCTGCCTC
124886	UNC5C	TCACAGACTTTTGCTACAAA
124887	HR	CGGCCCCTCCCGCCCTTTGCTCCA
124888	GATA2	AAAGAGCTGGGATCCCACAGCCCT
124889	HTR1D	GGGAAGAGAGAGCCACCTAGCA
124890	AANAT	GCCTGCGGACAGGCCCCCAGG
124891	TNFRSF6	GACGCTTCTGGGGAGTGAGGGAA
124892	ADCY6	CTGTCACCCAGGCTGGAGTGCAAT
124892	CDC2L2	CTGTCACCCAGGCTGGAGTGCAAT

124892	EDG8	CTGTCACCCAGGCTGGAGTGCAAT
124892	RAB36	CTGTCACCCAGGCTGGAGTGCAAT
124892	VENTX2	CTGTCACCCAGGCTGGAGTGCAAT
124893	ACADSB	CTGTCACCCAGGCTAGAGTGCAGT
124894	CYP2B6	CTGTCTCCCAGGCTGGAGTGCTAT
124895	SLC14A1	CAGCCACTGCCTTCTGCTGCCA
124896	MYH7	CCCTTTCCTCATCTGTAGACACACTTG
124897	CLDN5	TCACTCCAGCATCTCCCCA
124898	FBXL11	CCTTCATCTGCACTGGGCCCTG
124899	CENPA	TGTGGTATGGGAGAAAAGGTTAT
124900	ATP11A	CATCCCAAGTCACAGCTGCC
124901	EGFL5	CTGCTTGCCCTGCCAATGC
124902	ATP8B2	GGAGAGGGGAAGTCTTGGCAGGGAAAT
124903	MUS81	CGCGCTTCGTATTTCAGAAGGCGCTG
124904	PKHD1	CATCTATCAGTCTTACTCCAA
124905	MTCP1	CACCTGCCTTTCCTTCTCCCAT
124906	FANCF	TCTGTCACCCAGTCTGGAGTGCAGTG
124907	TNFSF8	TCTGGCCAGAGGTGTGGTATAGA
124908	NOTCH4	GAAGAGGGACAGGGACTGGGG
124909	PDC	AAAACAGAGCTGTCTTCAGCA
124910	WRN	GAAGAAGACCTGTTGGACTGGA
124911	ELL	CCCAGCCTCTCCTCCTTGGGC
124912	PSEN1	CTCAGGTTCCAAATTCAGTAA
124913	OAS3	GTTGCGTGGATGAGGGAG
124914	NEBL	AGCAATGGAAGCTGGAGTGTGACT
124915	FGR	ACCCTCTATTCTCTTGTGTCTGTAAGT
124916	ATP1A2	CAAACTCAGATCTCATCAGGGT
124917	CCNT2	ACATCTCAGTATATTTCTGTTG
124918	PDGFRA	ACGTTTGTGTTTCTAGAATC
124919	CAPZA1	TACCACACTATCTTCTGTATCA
124920	GATA2	CTCCCAGATCGCTCCCTTGGCTTTGAG
124921	CNTN2	TCACATGCCTTTTCCCTGCCACA
124922	DMC1	CTAAGAGTTCAGAAATGTCCCA
124923	GAS7	ACCCCTTCACAGACACGAGCA
124924	IL2RB	CGGTTCAAAACCTTGCACAG
124925	ACOX1	TTAAATACATCTTAATTAATTTTTT
124926	CDH1	CAGGCCTGGGATGCAGTGA
124927	PMM2	GCTCTGTGTTCACTACACTCA
124928	RIMS1	GCTTGTAATCCCAGCTACTTGGGA
124929	IL21R	CACGTGCCTGTGGGCCTGGGATAATG
124930	SORCS1	AACTATACAATGTCTGTTTAT
124931	GPR48	ATAGAAGAAGAAAGAATAAAGCTTA
124932	MMP26	GAACTGAAAGCACTAGAGCAGCCTTG
124933	MYOZ1	GATCTCAGGCTCTAGGTGCAATG
124934	PPM1B	TATGCATGTATCTACTGCATCCT
124935	SH2D1A	GTCAAAGCTGAAATGGACTTTTG
124936	MYCL2	CAGGCTGGAGGTTAATGGCA
124937	HHIP	CCAGCGCTGGCCCTGCCTCCGC
124938	ST7	CCCACCACCAAAACTGCTCCTCCTCC
124939	HMGB3	GTGAACAAACCCCCACTCCG

124940	HMGCR	CTTGCTTGCCGAGCCTAATGAAAGGGA
124941	WDR3	GCATTGCAGATGATATCAGGATG
124942	NCOA1	CTCCTTCAGCAGCTACTGA
124943	LIMD1	TGAAGAGGTAAAATTTGCACTGCAAGTC
124944	CYP1B1	TTATTATATACATACTGCATCT
124945	KTN1	ACAGAGTTTTGTCTTTTCTAATCCTT
124946	WARS	CCTGCAGAGTCAGGGTGGCTTT
124947	CDX2	AGCTCTTCTCTTCCTAGATCT
124948	SH3BP2	ATGACCTCCCGAGACTTGCCAT
124949	GPR37	TGGCTGAGAAATGCACAAGATGC
124950	DYT1	GCCCACACGTGCTCTCTGCTG
124951	CHST5	CAAAGGTGGAGGTTGCAGTAAGCTGA
124952	PRNP	GGGCTACACAGCAGCTGTTC
124953	PRDM2	AGGGATCTCCTGCGCCCTT
124954	FGR	TCTCTGGCGGTGGCCACCAGTCCTT
124955	APOL1	ACAGGGCAGGGCAGCCACCAGGAG
124956	GRB2	AAGAAGAGTTTTTATTACAA
124957	SCA7	GCCACTCTTCAAGTTAGATTGGCTG
124958	TCF7	CAGCCTTGAAAAACAAGTCTTT
124959	SCGB1A1	CCCACCAGCCTTGCTCTCTTCA
124960	PMM1	CTGCCCTGCCTGCCTGCCC
124961	ARMET	ATGTGAAGCCTGGAGCTTTCCTGATGA
124962	PAFAH1B1	TCTGCTGTCTAACCCTGTGCCTTGCCT
124963	MKL1	GTGGTCCTAGGACAGGAGGAGC
124964	SLC25A15	TTGAGGACTACAGTTCATCTCA
124965	LPP	GGAGTATTTTAAGTCTACAAA
124966	CLCA2	AGCTCTTTACCTCTTGCTATTTTG
124967	CTF1	GCCTCAACCTCCTGGGCTCAAGCCATC
124968	ENDOGL1	GCCTCAAACTTCTGGGCTTAAGCAATC
124969	SHOX	GCCTCAAACTCCTGGGCTCAAGCAATC
124970	PRODH	AGAGGCTTTGAGAAGCCAGTGGGCC
124971	BCL11A	TTTCTTTTCCATACACTGTGTGCT
124972	PSG4	TGTAAACCAGGATAAGAAGTTGATGA
124973	KCNK7	CCAGGCGCTGCCCCAGCACCTTCTC
124974	SNCAIP	TGGAAAGAGAACCATGAAAACAATGC
124975	AHSG	CTGCACGCCTGCCTGCCAGGGC
124976	KIFC3	TCGCAGGACGTGGAACCTGGGAG
124977	ALK	TCCTCTGGAGATCAGGT
124978	DISC1	TCAATAAGGCAGTGCAGTG
124979	RLN2	ACAACAACATGTACCTG
124980	RAC2	GCGCCTGGCCCTGAGCTGT
124981	BACH2	ATATTTTTATATTTCACCTCC
124982	LMO1	TCCAGGCCCGTCTGTCCA
124983	KCNJ8	AGCCTGAGGCAAAAACTGCT
124984	POLH	AGGCTGAGGCAGAAGAATTGCT
124985	RBBP9	CTCCCAGGCTGGAGGTCAGTGG
124986	NRXN3	TGAGGTTGTGCTTTCTCAGGGA
124987	SS18	AGCATTTTATAAATGATATCA
124988	BCL10	AGCAGCAAATTTTCAGCATTAAGCTGTTCCTG
124989	NRXN1	TTGAAAACTTTCTTTCTAATA

124990	SLC21A9	CTTCCTGGCCCTGTGCTGGGGG
124991	SOX13	TTGTGCCTCTGGCTGCTGTATGT
124992	NET1	CTGGTGAATCTTTTATTACAAA
124993	SMT3H1	CGCATTGCTGTTGAATGGTGA
124994	DOCK1	TCTCCATGCCCTCTCCTTCTGTGTC
124995	RCE1	TGAGTGAGGGGACAAGGGGCAGGT
124996	ERBB3	GATTGCAATTTGCAACCTCCGCTGCCGTC
124997	GDI2	GACTTTATATTTTGTATTATGTCAA
124998	NPDC1	GGGCCTGGAGCTTCCCACTAAA
124999	UBL3	ACTAAAGCATGAGCTACTTTC
125000	NIPSNAP1	ACCATCCAGGAAAACTTGTGCTGG
125001	MC1R	GCAGCAGTCGCCCAAGCAGACAGCCCT
125002	FOXF1	TTTAGAAGAAAAGCAACATGTGAGACC
125003	HTR6	CCGGACGCCCCTCCCCTATCTTGCCG
125004	F13A1	CCTGGCATTTGGCCTCTTGTAGTCTT
125005	CROT	CCAGGAGGTTGTGGCTGCAGTGA
125006	DYRK1A	CATCTTGAGTATAGCAATA
125007	RBBP9	CTCCCAGGCTGGAGGTCAGTG
125008	SERPINB5	GTCCCATCTGGTCATGTGGTTGGCAC
125009	ATRX	ACCATAAAATTGTCATA
125010	LAMC2	CTCAGCTTTCCTTAAGGATATCA
125011	C8orf1	ACATCCAAGAACTCACCAAGA
125012	CUBN	ACTAGCCTGGCCAGCATGGTGA
125013	GPR61	GTCTCTATTTGAACAAATTCCTGG
125014	NFIA	AAGACACTTTGCTCCTCATC
125015	ANPEP	CTCCCTGAGCCGCCTCCCCACCA
125016	HSF2BP	TTTTGGTGAACCTGCTATTTCGG
125017	CALM3	CCCTCCCCAGATCCCCTTGGAGCCTCTG
125018	WBSCR1	TCTTTTCTGCTGGGCCA
125019	CELSR1	TGTCCTCTGCTGCCATCTGCC
125020	CXCL16	CCAGTACACCAGTTGTTCCTCCCCCACCTC
125021	WBSCR5	GACCCAGGCTTTGTGGGGCAGG
125022	MGAT1	TTCCTGGGCCCCTCCTTGCCA
125023	HPRT1	AGTGAAACATTGAACTCATATCTG
125024	APBA1	GGCTTAAAGCATCCTCCTCCTGGAC
125025	GDI1	GCCCTTGCCCAGCCTGGGGGA
125026	CRHR1	CCTGCAGGCCAGGCCAGCTT
125027	SLC2A1	GGGAGTGAGACAGAAGTAAGTGGGGTT
125028	PIGR	TTTCTCAAAGGCCCTCAGTGAGA
125029	GTF2I	TGGGAAATGACAGGGAAAATGACAGG
125030	PDCL	GTCACCCAGGCTGGAGTACAATAGCGT
125031	IREB2	ATCATTAACCAAAATTTCACACTCATA
125032	AHCY	ACTGGTTTGTCAGTGTCCCCCATCGA
125033	DYRK2	TGTTTTTGTGGGAATGACACTTTATCTG
125034	GCNT3	CTGCTGCCCTCTACTTTGCAGATATT
125035	IL1RN	GCCACTGCCTCTTCCTCCCTCATTCCA
125036	EPHA2	CCTTCGGACAGACATATA
125037	FANCC	CGGCAGCGAAGGTAGAGGATGTGT
125038	IKBKG	GCTGGGTGGCCACAACTGGGATGC
125039	NKTR	CGCTCAGGCTGGAGGCCAGCCAGCTC

125040	GRM7	AGGTAATTTTTGTATTTTTAGT
125040	TRAF5	AGGTAATTTTTGTATTTTTAGT
125041	DAG1	CTCCCACAGGGCCCAGCCCCTCTCCCC
125042	ALDH1A3	CGGCGGAATGTGGCAGATGAA
125043	DDX3	GTATTGGCATAATCAGTGACTT
125044	GCNT2	ACCAGGCCCAGGAGATCAGTAATTA
125045	TRIM39	CCAGAAAGGAAAAAAGGTTATG
125046	PCDHB16	CAAAGAGACATTTACATGGTTTGGCTT
125047	OAT	CTTCATCTTATAAAGTGAAATCAT
125048	DUSP2	TGCCCAGGGCCTGGAGCCCAAGCCCT
125049	LZTS1	GCTGGGTGCTGGGAAGGGAGG
125050	NCOA6	TGTCACCGAGGCTGGAGTGCAGTG
125051	AMACR	TACTAAATTATGGTAGTTATTCTGCCT
125052	ASTN	GCCCTTAGCCTTTGGAGCTAGA
125053	GAGED2	CCAGAAGCAGGTGAAGAGCA
125054	CCND2	CCCTGACAGCATCACGCTGCA
125055	GABRR1	TTCTACAAATTTCACATTTCCATGGCA
125056	GPR81	AAAGTGCTTGGATTACAGGTGT
125057	TNFAIP2	TCATTCTGTTGCCTAGGCTTGTCT
125058	ARF5	GGCCTCTGCTCCTGCTCCTGCCTGCA
125059	COL6A1	AGGGCCCTCTGAGGCTCAGCCCTGAGCTGG
125060	GAB2	GTTCAGTCACAGCCCTCAGCT
125061	GLUD1	CCCTTCCTCCCTAGTCGCGGGGAGTC
125062	PSMC4	TCCCAAAACCTCATTCCCTT
125063	APOBEC3B	TCTCCAGCTGCTCACAGACACC
125064	DLEC1	TTGCCTCACCAGCCCTGAGGCTCCGC
125065	ZFP161	TTATTTTTCAAAATGTAGA
125066	IGSF4	ACTGCTTTCTGTTCCAAATTCAG
125067	ATP2A3	TGGCAAAAACTAGCGAGGGGTAGCAG
125068	B3GALT5	TCAGCTCCCAGTCCTTGTGCTT
125069	NOC4	TAGACTTCCCGAGTTGTGCAGA
125070	IL1RAP	GCCCGACGGCATCTAACCCATAGTAA
125071	ZNF189	CACTGGCCAGACCCAGCCAGGG
125072	DPH2L2	GGAAGGAGGGAGAGCAGGCAGCCCTT
125073	MECP2	GGTGTGAGGCAGGAGAGACAGTTGGAT
125074	LSS	ACTGCTCTCCCCTGGCTACT
125075	GJA4	GCACTACGGCTTCCTCTCCA
125076	ZNF215	TGCATATAGTACACAGGTGCTTAGCTCAA
125077	ATP8B2	AACGGGAATTGGCCTCTCTG
125078	SEPN1	ACCCAGGCTGGAGTGCTATGGCTCG
125079	TGFBR1	GAAATGAGTAGAATTGCTGAAAGTCTC
125080	HMGA1	TAACATCCCACTTAGCCGCACCC
125081	AKAP13	AAGATTCTGAATGGAAGAGTGG
125082	IL5RA	TCCTGTCATGTTCACTCATCTTTAA
125083	DHCR7	CTCAGGGGCCTCTCCACACCTTCTCCA
125084	RNF3	ATCATATTTTCCCATCCAATTGTTTGG
125085	KCNE3	GAACGGAGAAGAAGTTGTA
125086	PRKAA1	CACAGCCAAATGCTTCCATTTGTAATC
125087	MST1R	GGTCCCTCACTCCACAGAGTGAG
125088	PTMA	CGGACTCCGGCAGCTTTATCGCCAG

125089	IL17E	TGAGAGGGAGAGGAGCAGA
125090	PITPN	CCGTGATCCCAGCCCACACTAGCCTGG
125091	SLC7A6	GCCCCCAGACACTGTCATCCT
125092	TNFAIP1	GGTGATCTACCTGCAGCGGGAGATGTC
125093	PRY	CCAGGATGAAGGGATGCAGTGA
125094	FLRT2	AAGCACGTGATGGAATCTGTGAT
125095	C14orf1	CCAGGCTGGGAATTGCAGTG
125096	WNT3A	GCCCACCAGCCACCTCATCCC
125097	RNASE4	CAGATCCTATCCTGTGGAATTTAGTT
125098	MUC3B	CCCTTCGTCTGTGGGCACCAGCACT
125099	UPF3A	TCCACTGGACAGTAGAAAAAT
125100	PACSIN1	CTGGGGCAAGGAGCTGAG
125101	BACE	CCTCTCCTGAGAAGCCACCAGCACC
125102	PMP2	AATGTTAGGTCAACTGGCAAATTGGAA
125103	KAL1	GTAGAATTCATGTCCCTTACAGTGGTCA
125104	SLC7A5	ATTGCTGTGTGAATCCAGGAGGCAG
125105	PRex1	TCCCTCGGGATGGCTCCGCCTGCA
125106	PTCH	ACCCACAGCATAGTGACCTCA
125107	SYNGR1	GTCTTCTGCCTTCTGAGTTGGCTCAT
125108	CAMLG	GTTGCCCAGGCTAGAGTGCAATG
125109	NONO	GTCGCCCAGGCTGGAGTGTAGTG
125110	APPL	GTTGCCCAGGCTGGAGTGCAGTG
125110	CNN2	GTTGCCCAGGCTGGAGTGCAGTG
125110	CTSS	GTTGCCCAGGCTGGAGTGCAGTG
125110	CYP2B6	GTTGCCCAGGCTGGAGTGCAGTG
125110	F2RL3	GTTGCCCAGGCTGGAGTGCAGTG
125110	FUT1	GTTGCCCAGGCTGGAGTGCAGTG
125110	PCDHA9	GTTGCCCAGGCTGGAGTGCAGTG
125110	PDZK1	GTTGCCCAGGCTGGAGTGCAGTG
125110	PIK3CD	GTTGCCCAGGCTGGAGTGCAGTG
125110	PON1	GTTGCCCAGGCTGGAGTGCAGTG
125110	PRND	GTTGCCCAGGCTGGAGTGCAGTG
125110	TAPBP	GTTGCCCAGGCTGGAGTGCAGTG
125110	TERF1	GTTGCCCAGGCTGGAGTGCAGTG
125110	TMC1	GTTGCCCAGGCTGGAGTGCAGTG
125110	TMPRSS3	GTTGCCCAGGCTGGAGTGCAGTG
125110	TNFAIP2	GTTGCCCAGGCTGGAGTGCAGTG
125110	TRPV1	GTTGCCCAGGCTGGAGTGCAGTG
125110	UGDH	GTTGCCCAGGCTGGAGTGCAGTG
125111	HRH1	CAAGATCACGCCACTGCACTCC
125111	KCNE3	CAAGATCACGCCACTGCACTCC
125111	SLC14A2	CAAGATCACGCCACTGCACTCC
125111	SLC17A5	CAAGATCACGCCACTGCACTCC
125112	F2RL3	CTGGGAGGTTGTGGTTGCAGT
125113	SMP1	TACTGAACCACTAGCCTA
125114	HTR1D	ACTGCAACCTCCGCATCCCGGG
125115	CD209	GGTTCAAGCGATTCTCCTGCCTCAG
125115	EIF2S3	GGTTCAAGCGATTCTCCTGCCTCAG
125115	JAK3	GGTTCAAGCGATTCTCCTGCCTCAG
125115	KCNJ11	GGTTCAAGCGATTCTCCTGCCTCAG

125115	MEFV	GGTTCAAGCGATTCTCCTGCCTCAG
125115	NUMA1	GGTTCAAGCGATTCTCCTGCCTCAG
125115	PCDHB9	GGTTCAAGCGATTCTCCTGCCTCAG
125115	PER2	GGTTCAAGCGATTCTCCTGCCTCAG
125115	SMAC	GGTTCAAGCGATTCTCCTGCCTCAG
125116	BSG	GATTTTTTCCTTCTGAAGTG
125117	GPR1	GGCTGACACCTGTAATCCCAGCACTTT
125118	GYS1	GCTTGGTTTGCAGTTGAGAGG
125119	FOXD2	CAGGTAAGGGAAAGCCTCAGCTCCTTCC
125120	ADRBK1	GTTTTTATAAAAAATGGTGCCTG
125121	KCNQ3	AGTGCTTCCTTTTCAGCATGGTTTGC
125122	DMRT1	GAAGCCATTTGTGTGCCTCT
125123	RFX1	AACCTTTTCTGTGCCCCTATCTTCCCG
125124	LIMK1	ACACCCCAACGTGCTCAA
125125	LANGERIN	CATGAATTCACCTTCCAGCTTCCTCA
125126	IGF2	GTGGCAAAACTGCCGCAAGTCTGCAGC
125127	CBFA2T2	GTGGATCATCTCTTGGAAATGCAG
125128	ARF3	CTGTCATCTGCCCCTTCCGTGTT
125129	SYN2	CCAACAACAGTCAGCCAGCTTG
125130	PHEMX	GCAGCTGAGCCTGTCTCTCACG
125131	FTSJ2	TCCCTCACTGTGGCATCAAGGT
125132	CHRNA3	ATAAACAACAGAAACTTCT
125133	SYNGR1	CCCTGCCCTTGTGACC
125134	ATP6V1E1	CATGGGCTTCCTGGGTCTCCA
125135	SLC8A2	CCCACCCTCCCTGGGGGACCCTCGAA
125136	SGCB	ATTGAGCATCTTCTACATCCTAGGC
125137	DCX	AGAGAAAATAACCTGGTCTCACTGTGG
125138	WHN	CACACTTAAGCCCTCGTGCACACAC
125139	NEDD4	TCTAGAAATTACAAGCATATAACTTTA
125140	AKAP2	GACTACAGCGTGTGTTTTTTC
125141	ASB1	CAGCCCAGGGCCTGTTTTGGA
125142	IDS	TGGAATTTAGTGCATTTCAAAA
125143	LPIN1	CCCTGCAGGCGGAGTTTTCAGAGGATG
125144	DBN1	ACTCCCTTACCGCCG
125145	HDGF	CCAAGCCCAGCCCATGGAG
125146	NRCAM	ATGGGATTGGAAAGCATCTACTT
125147	SMCX	GTGCTCACAGTTTTTTATTTTAA
125148	TCF7	GTGCACCCCTCCCCATTCAC
125149	ALX4	TCCTCTTAGGAACCTGGCCTGG
125150	MECP2	TTCCAGAGACAAATATTTCTA
125151	ED1	TTTCATTCCTCGATGGTAATACCCGT
125152	TMP21	GGCATATTCTCCTCCCACCTTG
125153	ZNF205	GGGGTGAGGCATGGCGATGGGGGAG
125154	EGR3	AGGAGGAATCAGATACCCTTT
125155	CLCN4	CTTCATTTATTTATTGCTTTTGC
125156	ARNT2	ATACACAGACCCAGGTGAACAC
125157	BCL7A	GTCCTCTGGTGAACTCAGCGAA
125158	XPO1	GAGTGTTGCTCATTTGTGAGCC
125159	USH3A	TCAGAAAACTGAGCTGCAAT
125160	HAO2	TGTCCTTCCTGGACCCCATTCT

125161	CHD2	CAGTCAAGGGCTAATGATTGCC
125162	HAP1	GGAGAGGCCCACTGGCTACCAG
125163	SET	GGTTTCTGAAAAGTATTCA
125164	LNK	TCTTGTCAACCGGGCTGGAGTGCAGT
125165	EMP1	CACCACCTGGAGTGATCACCTCT
125166	TES	AGTCCACAGAAGAGGTATTCTA
125167	ZNF45	ACTGATACAACAGTAGCTTCTTCA
125168	PBX3	CAAAACACAGCTTTATTACC
125169	KLHL3	AAGAAACATTTCCTCAAAT
125170	DIAPH2	TAACTTCTCTGGAGTGCAAT
125171	SLC7A6	CTGCAACCTCCGACTCCCTGGT
125172	PTK2B	GCCAGTGAGATGAGGGATGGGCC
125173	XRCC3	CTCAGCCTTGGGACCGTGCCCAC
125174	PLXNA1	CTCTAGCCTCAGGCTCCAGCCCCAGTG
125175	SIGLEC11	CAGGAAACCAGGCAGAGGAG
125176	ITPR3	GGGTGCTGTGCTCAGCCCTGCCCATG
125177	SLC7A5	CCTTTCTCCTGCCCCAAGGGCC
125178	GPR4	TTGCCCAGGCTGGAGTGCAGTAGTGCA
125179	PACE4	CAATCTATCCTGTGCTTGA
125180	FBXL11	AGGACCAGAACCCCTGCCTCCATCT
125181	NCOA3	TGCTGTTGCCTCTCTTTGACACCTGTT
125182	GPC1	CCTGGTGACCTCCTGTCACTCA
125183	BBOX1	CTTTCTGCTCTGTTGCATGCC
125184	CDA	CTTCCCAAGGTTCTATCCTGTTCCG
125185	ECHS1	CCCAGCCTGTGAGGGTCCTGACT
125186	FOSB	TTTCTTCATTTTCTTTTGGAGGACCGAC
125187	F2RL3	TGTTGGCCAGGCTGGTCTCCAA
125188	TLL1	GTGCTTTATATTTGCCAAAG
125189	CKTSF1B1	TTTCCCATAATGCTTCTGAGAGCC
125190	ARCN1	TTCACATTCCTCAGTTTCACCACCTC
125191	PODXL	AGGGCAGCCTGGGGGACAGACTGT
125192	CCNT2	GATGAATGGCTGGCTGCTTCTAGGAAT
125193	CA7	GGGGACAGGAAGGAGCAGGAGCTAAGC
125194	MECP2	CCAAAAGAAAAACAGCCATAGGCC
125195	IL19	GTCTTCAACTCCTGACCTCAAGCAAT
125196	STAT6	TCTCTGAGGGTGATGGGGCTGAGCAG
125197	AF3P21	TCTGGGAGCTGTTCTGGGGCAGGGGGA
125198	RPL7A	CCTTTCTCTCTCCTCCCGCC
125199	RAB26	AGCCTTGTCCCTTCCTCCTCCCAG
125200	CCND2	AGCCAGAGGAGAAGACAACCCT
125201	GABPB1	AACTGTACTCTGGCCTACTTTTCTA
125202	C1orf1	CACCTGTAATCCCAACACTTTG
125202	GCNT2	CACCTGTAATCCCAACACTTTG
125202	GTF2H2	CACCTGTAATCCCAACACTTTG
125202	TNFSF15	CACCTGTAATCCCAACACTTTG
125203	DUSP2	CCAAGCCCTGTGTTCCTGGGGAAG
125204	XCL1	TCATGGACTGAGTTTATACTCACCTTT
125205	CABC1	GCAAACCCCAGAGACTCATTC
125206	GZMM	GACCCTTCCCCTCCAGGGGTGCAGTGG
125207	COG6	TCCTGCTGTTAAGTTTCTCATGGTT

125208	MPG	GTGATCATTTCCTGAGGCCTCGA
125209	SLC2A6	GAGGTGGAGGCTGCAATGAGCTGA
125210	HS3ST3B1	ATTCACTAAGCTGCCTAGCCA
125211	FXYD6	GCTGAGCCACATGGCCATCTGCT
125212	PCDHB16	TCATTGAATTTTATTTAATCAT
125213	ASTN	TGAGGCTGAGATAAAGCACAGG
125214	GNPAT	GCCGCCGCCCTAGGCGAAGTAGGGC
125215	CCND2	GCCTTGTGTGATGATGGGTGTGGGGCTGC
125216	RAP2A	TGTGACCCGTGGCTAACCTGCTT
125217	PIGR	TCTTCTTCTTTCCTTCCATCAAAAGATGTA
125218	MAPT	AGAAGGAGAAGGAAATGTGGGGTA
125219	ARHGEF7	TTGTGATCTGGTTAAGAAGTATTA
125220	TMEM2	AAAGGCTGATGGCCTCTACCTT
125221	RAB38	CCTGGTGTCTTTTTCCAGATTTC
125222	GFPT2	TCTGGACTCCTTTCTCCTTTT
125223	DTR	CCCACAATCTGGCTTAGTGCCACCC
125224	LIMD1	TGGAAGTGGGGTAGGGGAAGA
125225	PCDH1	GGCAGATGGTGGAGTCAAGGGTGGG
125226	SLC22A3	ACCTTCAATATTTGCTTGTTGTTCATTTA
125227	RB1CC1	TCCTGCAGTGCTCATTCATCAC
125228	EIF2AK3	TGGGAGGAAAAAAGCCGTAGTA
125229	RP2	TTTCATGTTTAAAATGTTT
125230	CHRNB2	GCTGCTCTCCATCTCTTGTACC
125231	GPR6	TGCTTAATTATAGCACTTTATTTTT
125232	PTPRG	GTCTGTTAATGTCATGGCCT
125233	ASB1	GTGCGGTTTTAGGAAGTGCCAACACC
125234	IL12RB2	CTCAGATGCCTCATCTTGCCTTTCC
125235	ARNT2	CTTCTGCCTGGCTGACCTCTGAGCC
125236	SYNGR1	CCTGCCTCGGCACAGCCGTAGC
125237	CSPG3	TCCCATGCCTCCTCTGGAGCCTTCGC
125238	PCDH9	CTGTTTGTTATCATAGTTGG
125239	MECP2	CAGAGCTGCCAGTGGGGCCT
125240	ADCY2	CAGGCCGGGTGCAGTGGCTCCTATAA
125241	MADH3	TATGGTAGGGGAGGGCAGGCTTGGGGA
125242	GPR65	GATGTTCAAAACAAACTACA
125243	TACC3	CTCCAAGATGGAGAAGATCTGCCTCCA
125244	SELE	CTCCAGTTTTCAGTTGATCACTGG
125245	TMPRSS3	CTTTCTGCTCTTCCTTTTTCT
125246	TCF20	AGACTTGATTTTATTTGTACC
125247	GRIN2B	CATGTGCCAAGCAGAGGTTGG
125248	NGFR	CACAGCCCTGTCAGTGCAG
125249	APG5L	TGGAAATTGTAAAGCTTAATCAAAAAGAAT
125250	MTMR2	GCGTCTGAGCTGCGCAGTGGGG
125251	WDR1	GCATAACTAAAACCCACAGCCCA
125252	BIG1	AGCCGCAGCCTCCTTCTCTGC
125253	MCC	CTTCAATCTTAAAACAAATTCAT
125254	TNFRSF5	GTCACCCAGGAGGATGGCAAA
125255	WHSC1	TGCAACCTCCGCCTCCTTGGTT
125256	EVC	TGACCTCATCGTCCACCTGCCT
125257	PCDHGA1	AGCCGTCTGTCCTTGATCTGCCC

125257	PCDHGA10	AGCCGTCTGTCCTTGATCTGCCC
125257	PCDHGA11	AGCCGTCTGTCCTTGATCTGCCC
125257	PCDHGA12	AGCCGTCTGTCCTTGATCTGCCC
125257	PCDHGA2	AGCCGTCTGTCCTTGATCTGCCC
125257	PCDHGA3	AGCCGTCTGTCCTTGATCTGCCC
125257	PCDHGA4	AGCCGTCTGTCCTTGATCTGCCC
125257	PCDHGA5	AGCCGTCTGTCCTTGATCTGCCC
125257	PCDHGA6	AGCCGTCTGTCCTTGATCTGCCC
125257	PCDHGA7	AGCCGTCTGTCCTTGATCTGCCC
125257	PCDHGA8	AGCCGTCTGTCCTTGATCTGCCC
125257	PCDHGA9	AGCCGTCTGTCCTTGATCTGCCC
125257	PCDHGB1	AGCCGTCTGTCCTTGATCTGCCC
125257	PCDHGB2	AGCCGTCTGTCCTTGATCTGCCC
125257	PCDHGB3	AGCCGTCTGTCCTTGATCTGCCC
125257	PCDHGB4	AGCCGTCTGTCCTTGATCTGCCC
125257	PCDHGB5	AGCCGTCTGTCCTTGATCTGCCC
125257	PCDHGB6	AGCCGTCTGTCCTTGATCTGCCC
125257	PCDHGB7	AGCCGTCTGTCCTTGATCTGCCC
125257	PCDHGC3	AGCCGTCTGTCCTTGATCTGCCC
125257	PCDHGC4	AGCCGTCTGTCCTTGATCTGCCC
125257	PCDHGC5	AGCCGTCTGTCCTTGATCTGCCC
125258	INHBC	TCATCTAAAGCAAGTCACTGTG
125259	BAZ2A	GTGTTCCTCTCCCAGCTCCATCT
125260	MS4A1	CCTACTAACCTGTTCCTTGGATAGGCTT
125261	C14orf1	AGACCTTCTGGTCAGCTGTAT
125262	FZD1	ATGCTAAAGGGAAAATGTGTGC
125263	NRAP	GTCAGCAAAGGAAAGTGGAA
125264	EZH1	GGGCACACTGGCAGAGGGTATCTGAA
125265	EIF2B2	CCAGCACTGTGTCTTGCCT
125266	BVES	AGACTGGTGGAGTCGGAGGGAGGA
125267	CCND2	AGACTTGCACCTTATGTCATGT
125268	DAG1	GCTGTTGCCAGGGGCTGGAAGCTGGA
125269	DLEC1	GCCTTTGCTTCTTGCACCCAGGCCC
125270	KCNK5	AGCTCCGTTCACTCTCTGCCTTC
125271	CMAR	GCGCTGTCACCCAGGCTGGAGTGCAGT
125272	IL2RB	TGCCCTCAGCCCCACTTCT
125273	NOL3	TTTGCCCAGGAACTTAGGGTGGGT
125274	NR0B2	GGGACATGCTTTTGCTCAG
125275	PPARBP	AGCTGGGTGAATTAGAAAGGCATATCC
125276	ACE2	CTCATTTCTACTGTTCTCTAACTGTGG
125277	RAB3A	TGTTCTGACCTCATGAGTGTCAAACGTGC
125278	HSD17B1	CACATTCTGTCAGCCTCCACAC
125279	PPYR1	AGCATTCCTGGCTTTCTGGGGTCC
125280	RIG	CTCCACTGAGGCTTCCGTAACACC
125281	ARSD	TCATTAGAAGTTACAGAAACTAAAGCA
125282	IL8	AGCATCAAATATTTGTGCAAGAA
125283	OCLN	CCGGTCTAGGACGCAGCAGAT
125284	NCAM2	ACTTCTAGCTTGGAATAGCTTGTACA
125285	DTNA	GGCTCACCAAAATGTGCTCAA
125286	HFE	GTGGGTAGTATGATGGGTGTTTTTAG

125287	ATP5J	AAGCACTTACCCTCCACTTCCTCC
125288	PTPRA	CAGTTCTGTAAGCATCAGGAGCT
125289	EGFL5	TCCTCTTGACAGCTTTGATTGGA
125290	CDH2	CAGCTTTGCCTCTGTATTGT
125291	DTNA	GAGGAGGAAGACAGCAGCCTGGCA
125292	DTX1	AGGGTCTGGGACGCAGTTGGG
125293	ACAD8	CCACAGCTACAGATGCAGAAGGTTTCTCT
125294	TNFRSF11B	TCAGCTATGCTAGAGGCTTTTATTAGAA
125295	FMR2	ATCCCTGCAGCTGAACCCAGCACTTT
125296	PDAP1	CGCAGCCGCCGGAGCCGCAATGCCTAA
125297	GUCY1A2	AAAGACTCCTCCAAAAAG
125298	PCMT1	TCTTCTGCTCTTTCTTCTTCCA
125299	RPA3	TCCACCCCTTTCAGAGACAGCGCGATTG
125300	PMM2	ACAGATGGCTGGCCAAGTGGGAGCAGA
125301	SMP1	ATTAACTTATAAAATGTTAG
125302	CSNK2A2	ACTGCAACCTCCACCTCCCTGGTTCAA
125303	BENE	ACTGCAGGCTCCGCCTCCCGGG
125304	CYP2B6	CAGGTTCGAGTTCAGTGGTGCC
125305	SEL1L	GTCAGAGCCTTAACACCAGCAGGTG
125306	KCNJ8	TTTGTCCCTCCGGCCTGGGCGG
125307	GATA2	AGAACAACAAGGACAACTTT
125308	FGFR2	GTCACTTGAACCGGGGAGGCGG
125309	DSC3	TGCATAAAGTAATATTTACAG
125310	DGUOK	CCCTGGAGCACTCTGCCGCTCAA
125311	RNTRE	AGCAGGAGAAGTTGCAGCTTACTGATC
125312	TR2	TAGCAGGAAGCTGTACACACTGTGTA
125313	RET	CTGTTGGAGTCCCAGAATTGCTGA
125314	FCN2	CCAGACAACTTACATACAC
125315	GNGT2	GCTCTTCTGTGGCAGGATCAGGTCTGT
125316	KMO	AGCTGATTTAAGTTGTTTTTTGT
125317	IL18RAP	CCCTCCAGTCCAGTCCCTGGGATAGA
125318	NEK6	ATGACAGTCTGGCCCTCCAGACA
125319	BGN	CTCCTCCTCATGCATTTCCAGCCTTTC
125320	CBFA2T2	GTAATGCTCTTCCACCCTGC
125321	GLTSCR1	TGCTGTGTCAGTTCCTGTTTCTTCCCA
125322	MAGEA12	AAATGTTCCTTTTAACGGATGGTT
125322	MAGEA3	AAATGTTCCTTTTAACGGATGGTT
125323	FOXM1	CCAGGGAGACTGGCATTGACGAGAAC
125324	BHMT2	TGCAGTGAGCCGAGATCAGGCC
125325	CDKN1A	GCAGGGACCACACCCTGTACTGTTCT
125326	ARHGAP6	TCAGATACAAAAAGAAAAAT
125327	PPP1R3A	CTTGAGAGTATATATTTTCCC
125328	DDX11	GCTGGAGACAGTGTTTGTCGTG
125329	COL18A1	GCACTTGTCCAGCTGAGCGCCA
125330	PIGR	AGTGACACAATCTCGGCTCACT
125331	PLA2G2D	CCTGTCACTCATGGCCAGGAGA
125332	CTGF	ACATTCTGATTCGAATGACACTGTT
125333	ASB1	GTTTTGACGGTGGGAGGGTGAGA
125334	RASGRP1	TTGTGAATTTCTGTCTCAAAAT
125335	LSS	CCTGCCTGCTCAGAGCCCTGCAGGGCT

125336	DSCR3	AGAAAACACATTTCTGGTT
125337	MAZ	CCTATTTCCCTACCAACCAAGG
125338	PHKB	GCCACTGCACACCAGCCTGGG
125338	PSMD5	GCCACTGCACACCAGCCTGGG
125339	B3GALT2	ACGAAAGAGAGAATATGAAAGA
125340	NGB	CCAAGCTTCCCTGCATCTTGGTCCT
125341	TCF12	GGGAAAAAGTTAATGTGGAAA
125342	FCRH1	TGAGTAGCTGGGACTACAGGCAC
125342	GHR	TGAGTAGCTGGGACTACAGGCAC
125342	PTGIS	TGAGTAGCTGGGACTACAGGCAC
125342	SHOX	TGAGTAGCTGGGACTACAGGCAC
125343	IL15RA	TCTCCAGCTGCTCTGCACACATGGA
125344	CLOCK	GCCTTTCTTGACCTTATGCC
125345	PTPN7	AGCTGCTCCTTCCTTACAGCCTTG
125346	APLP2	CCTCTACTTTGTCCCCTCACCTCC
125347	ZNF264	GTTCATTCTTCTTTCTTGAA
125348	ANKH	TCTCTTCCCTCTCCCATCGTATT
125349	LHX1	AAGCCCCGGAGAACTCAGCGG
125350	ZNF137	TTGGGCCAGGTGGGATTACAGGC
125351	CD209	TTGCTCTGTCGCCAGGCTGGAGTGC
125352	INHBC	CTCTGTCTAGGTGTCATGGTTC
125353	HR	CCTCCTGCTGCTCACTCCCGCT
125354	IGSF4	AAGACTCCAGACTCCAGCTAACAGTCCCT
125355	RFP	ATGTTCTCTACCATCCTTTTCCTTCCC
125356	GRM6	TAGGCTGGAGTGCAGTGGCACGATCAT
125357	MLANA	TTATTTCTCTCACACTTTTGCTTGAAT
125358	EPHB2	CCCTCCTGTGAACCAACACAGACAC
125359	KLK5	TCTTTCTCTGTCCCCTCCTTGCC
125360	SOX15	TCATGGACGCAGACCTCACGG
125361	VAPB	TGGAGTCAGGACAAATGGATC
125362	SEDL	GTGCAGGCTGGAGTGCAGTGGC
125363	ADCY1	GGGGTCCACAGAGCCGGGAGG
125364	KPNA4	AGTATTTTTGCAGCATTCCTT
125365	ARAF1	GCACCTGCCCAGCCCCACCTCA
125366	DCX	CGATTCTCCTGCCTCAGTCTCCCGA
125367	COG4	CAGCCCAGGCCAGCTTTCTGCA
125368	TCF2	GAGCTGGAGTGCAGTGGTGCA
125369	PLXNB2	GCAGCCGCCTCCATGCCCTAG
125370	SHOX	TGTCGCCCAGGCTGGAGCGCAG
125371	AK2	TCTTGAGCCCAGAGACAAGGCAGC
125372	INPP5B	CATTGCATTCCAGCCTGGGAGA
125373	COL14A1	GGAAAGATGGTGGTGCAATGGC
125374	CTSS	GAGCCCAGGAGGTTGAGAATGC
125375	MADD	TCAGGGAGGGGGCAGGAAAGA
125376	COL4A3	AGCCCATTTCTAGAATGTCATGGAAG
125377	DUSP1	TTTTGTGTAGGTGTCTGCCTTCA
125378	MAT1A	GGCAACAAAAGAAGCCCGGCTCC
125379	KLF15	ACAGGTTTATTTCACATCCTA
125380	SNX9	GGAGAGAAAGAACAGACCAG
125381	STAC	GGAGGCAGCACTTTTCCCTCATGCTG

125382	SMAC	AGGCTGGAGTGCAGTGGCGAGAT
125383	SCN4A	ACTCCTGAAACCTCTTCCT
125384	PTGS1	CAGTGGCTCGTATCCCAAATCTGTCA
125385	TRPV1	CCCAAGTAGCTTGGATTACAGG
125386	SLC22A11	GCTGAAGGCAGCTTCCACAGCT
125387	MTR	GTCGCCCAGGCTGGAGTGCAGGG
125388	HAS3	GTTCTTGCTTTCTCTCTCATGCCTCC
125389	MEST	CTAACAGCAAATAACAGTCTGAGA
125390	HMGCR	CTTCATTTGGTGCTGGTCTAT
125391	CACNA2D2	AGAGCCTCGTCCCTCCCTCACTGAAGG
125392	EPM2A	TTTATTTTTCTGCACCTTCCTTT
125393	FECH	TTCTGGTCTCCAGGGACAGTGCTGCT
125394	AIRE	CCACTGCACTCCAGTCTGGTCG
125395	ZNF141	ATTCATACTTGGAGAAATCCTA
125396	EGLN1	CGCTCCCCAGCCTCGGGCGA
125397	VCL	CATGAACACACTGTGTCCTGGTGCTCT
125398	ATP1B3	GTGTTGGAACTGCCTCTTATTTT
125399	ABCA1	AGCTTGAAAACTTGCTGAAAAAC
125400	P53AIP1	GGTTTCCATGGGAACCTGA
125401	ADAM11	ATGTAGCTTCCACCTCATGGATTGCC
125402	NPAT	CTGAGTGTAGGGAATGGGATATTGACA
125403	MVK	GGCCTCTCCCTCCTCCAGGAAGCC
125404	NEBL	TACATGGTATCCAGTTTGCATAG
125405	AXL	GGCATGAGCCACTGCACTCAACCT
125406	POLG	GCCATTTTTCAGTAGCAGGAC
125407	CHST6	AAACCTGAACTTTTCCTGCAC
125408	PSME3	GGCTTCCGGGGAAAGCAATC
125409	ITGA11	GGAGCCTCCCCTCCCTGTATCACCC
125410	APG5L	TCCTCATTCATTATTGTACCA
125411	GGT1	GACCCGGACTCCCAGCTGGGAC
125412	DISC1	TAAGGCAGTGCAGTACTCAGTA
125413	ZNF261	TGTACTCAGGGGCTGGTC
125414	ASH1	AGCTTTCGAAAGTGCCCTCA
125415	PDE6C	TACCTTTGAAGAAAACCAGA
125416	TRAF5	GAGTAGCTGGGATTACAGGCGCCCGTC
125417	ADCY1	CCCCGATCAGGTCATTGTCACCAC
125418	FKBP1B	CCTCATGGCATCATCCATTCTCTCTGC
125419	LUM	TTATGGTTATGTTTTTCTGTGT
125420	TRPC6	CTGAGGGCTGGAGAGTCTCTGTTGAC
125421	ITGB3BP	AACTTCTGCATCTGCCTGATC
125422	IER5	TTAGCCAAGAGCACAGACTT
125423	IL17C	GTCCTGCTCCCGGCTTCCCTT
125424	CLN2	CCTGACATCCAGAAACAATGGCCTC
125425	ZNF266	CTCCACCTTGATATTGCACTTCC
125426	RAD1	TGGTATGACAATTCACTGATAT
125427	ADPRT	CGGCAGCTAGGGGAGGATGGCGGAGT
125428	SOX4	GGAAGAGGCCTGTTTCGCTGTC
125429	SLC2A1	TTAATCTTTCTTTACCTGAGACCA
125430	ENC1	AGCAAGTTCTAGAAGGTCTCCA
125431	EDNRA	GGCAGTTCTGGTGAATGTTCA

125432	MYO1D	AGGATGAGGGGGAGGGAGCCAA
125433	NGFRAP1	TGGGAAAGAATCCCGGGAA
125434	ARVCF	AGGCAGCTAGGCAGGGAGGGG
125435	SMAC	TCGGCCTTTATTTACTTA
125436	ANXA8	CCATCTACTGAAACAGGGTCTCCA
125437	KIF3C	CAGCCCCACTCTCCACTTTCTG
125438	HLA-DRA	ATTCTTGTCTGTTCTGCCTCA
125439	PCOLN3	AGACGTGGTTCCCTCCAGCC
125440	RET	CTAAGTGGATAAATATACAAA
125441	HAGH	CGGTGTTTTGCAGTCCTGGGCAG
125442	TYRO3	CCTGGTTGTCTGAACCCAGGCAG
125443	POLK	CACTGTACTCCAGCCTGAAGAGCGAGA
125444	ARSF	AAGTTGGCAAGGAGTGCATTT
125445	C5R1	GCCTGTAATCCCAGAACTTTG
125446	G2A	GCCTGTCATCCCAGCACTTTG
125447	TCF7	CACTTGAACCCGGGAGGCGGAG
125448	AKT1	GCTGGCCAGCACCCTCTCCTGGG
125449	POLK	CTTTTGTGCTATCAATGAGTTC
125450	CTSW	GGCTTCCTGCCTCCATGCCACTCCA
125451	PROCR	AGATATAACCAAATAAACAAGTCA
125452	PPT2	CCCCTTCCTCTGCTCCTCCATGAATGA
125453	SH3BP2	TCGCCCAGGCTAGAGTGGATTGGCGTG
125454	ALPI	CCAGCGAACACACACAGGTGTCCTGCCGT
125455	SACM1L	GCCAGTGCACCAGCAGTTTAGGTGTGA
125456	TAL1	AGCCTCCCGAGTAGGGAGGACC
125457	ITGA4	CTCAGCTTTTAAATGGGTAGA
125458	PRLR	ACAGAGTACGTGAAATGC
125459	XRCC4	AGAGTATTAAGAAATGGAGAGAA
125460	BUB3	TCAGTTTTGACCTTGATGATTTTTTGT
125461	EPHB6	GCAGCCCCACCCAGGAGCAG
125462	DUSP4	GGGAGCTGGAAAGGGGGCGGA
125463	SLC9A6	GGAAGAAAAAACAAACTCTGCTC
125464	SLC2A5	TTCTCTCTCCATTCAGTGCACGCGTTACTTT
125465	PTPN2	TTGCCCAGCAAGCTTCTGCACTA
125466	MAP1A	GGGGGAGGGGAGGGAGATGT
125467	OFD1	CTAGACGACTCTTGGTACC
125468	PRKACG	GAGGGCCCCAGAGTTCCTTGTAT
125469	RAB6A	CTTCCTCAAAACAAACAAGAGATGG
125470	CDK2	TCTGTCACCCTTGTCCTTGAGTGC
125471	AMN	TCTCCACCCCCTCTGGCC
125472	COG3	TTCTGTACACTGCCTTTGGTTTTA
125473	SUFU	CCACTGTCATTCAGGGCCTGGGTCTCCAG
125474	BBS2	CCGCGCAGCCGCAAAAAGA
125475	MERTK	CTTCAGCTGCTCCTTGATATTAACC
125476	RORB	GGAGCGGGAGAGCGGCCACACCATGC
125477	SUFU	GGCCACAGGCCCTCCACCTCA
125478	EEF1B2	TTTCTGCTGCTCCCCAGCT
125479	SLA2	GCCCATGCTGGAGTGCAATGGC
125480	HPS1	GCCAGGAGGCCGGTGCTGGGC
125481	FRK	ATCAGGTTGCAAAACGGATGA

125482	SLC6A3	ATGGCTGTCCCCTGCAAGTGG
125483	ALDH1B1	AAAGTGCTGGGATTACAGGTGG
125484	CML66	AACCAAAACAGTGATATTTCCAG
125485	TNFRSF10B	GCCCAGGCTGGAGTGCAACGGT
125486	NTS	TGGTTTATTGAATGTGAT
125487	LEP	CCACTGCACTCCGGCCTGATGACAGAG
125488	SSA1	CTGAAAGTGAAATAGGGAGCTGGCTACC
125489	LOH11CR2A	ACCTGGAGCACTTACCGCATTAG
125490	MS4A3	CTCTCTGATCTATTTTTCC
125491	PRKACB	GCGTTTCAGTGACCTACCTTA
125492	IL2RG	AAGCCTGAAACCTGACCCCAATCCTC
125493	DISC1	TCAGAGTCTGGAGTTAACAGCTTTTCA
125494	ZNF236	AGCGCTCCTCACGGATCCCTCTC
125495	IL1RAP	TTCAGTAATATTTTGCTGTTTTTAAG
125496	FBXW1B	CTGAGTACAAGTGGTCACCTCC
125497	ATP11A	ACTCTTCTTTGTCATTACTGTG
125498	ORC2L	TCTTATTGTTTCTAAAACAA
125499	AIPL1	GCTCACGCCTATAATCCCAGCA
125499	GRAF	GCTCACGCCTATAATCCCAGCA
125499	IL1R1	GCTCACGCCTATAATCCCAGCA
125500	HBA1	GGTCCCCACAGACTCAGAGAGAACCC
125500	HBA2	GGTCCCCACAGACTCAGAGAGAACCC
125501	AR	TGGGGAGCGGCTTCAGCACTGCAGCC
125502	MFNG	TGGGTGGAATGATGGCAGAA
125503	RIG	TTCCCACATCGGGTTGACTGTCTTTGT
125504	NCOA6	CTCTAATTTGCCTCCAATGTCTATATG
125505	P2RY1	TTCACAGTCTCTCTTCCTTCTG
125506	ALCAM	TTCATTCTACCAAGCTGTCACA
125507	ITGB1BP2	TTGATGTCTAGATAGGACCTCAA
125508	EEF2K	AGGCTGGAGTGCAGTGACATGAT
125509	PTPN18	CCAACCTGGACAGACAGCCAAA
125510	PLXNA1	GGCCGCTGTTTTGGTTTGACATGACAA
125511	PTTG1IP	AACAAGCTTCACACGCAACA
125512	NT5C2	TGGAGAAATGTATTATTTCCA
125513	ELMO1	TCAGTATTTGTGGTTGGGAA
125514	GFER	TTCTCCACTCTGCTCAGTCC
125515	C5R1	CCTGTAATCCCAGAACTTTGG
125515	HIP1	CCTGTAATCCCAGAACTTTGG
125515	OASL	CCTGTAATCCCAGAACTTTGG
125516	G2A	CCTGTCATCCCAGCACTTTGG
125517	PTEN	CTAGAAAAGGCAGCTAAAGGAAG
125518	EGLN2	CTCACTGTTTCTAAGCCTCCTGGACCA
125519	IL15	GAATCCTCTTCTTTATACTGT
125520	INMT	ACTGCAAGCTCCGCCTCCCGGG
125520	SERPINB9	ACTGCAAGCTCCGCCTCCCGGG
125521	PLSCR1	TGGCCCCGGCTCTCTGGACCTTGTC
125522	TRIM39	TCTTTCCCCTCTCCAATGCC
125523	WHSC1	TGGCAGCAGGATGCTCAGTGA
125524	MASP1	TGCCCTGCTGTTTATTCTGT
125525	LDLR	TGCCACTGCTTTCCAGCCTGGG

125526	CSNK1G2	CCTGCTCGGCCCTCAGCCCTGCCGC
125527	PAFAH1B1	GAAATCCTAGCTGCGCTCTTG
125528	RUNX1	ATTCAAAGGTATCCAATGTCGC
125529	ACVR1B	GCAGCTCTGAGCCGCGCTTT
125530	NR0B2	GCCTGTATAGACAGCACTTGG
125531	SQSTM1	GGCTCACTGCAGCGCGCTCCTGACCC
125532	KLK13	AAAATGCTCAATCTCAGCTAA
125533	GOT2	ATTTTTCTGCTGATGCC
125534	RHCE	GGTGCTGGTGGAACCCCTGCACA
125535	MMP14	AGGCCCAAAGGCAGAACAGCCAGA
125536	LSS	CAGGCAGCAGTTGTAGTTACTGCCG
125537	JRK	ACCATCCTCTGTTACCCGCAGATCCT
125538	ZNF14	TGGCTCTAGCGCATCCTTTG
125539	TIMM17A	TCTGCCTGGTTTTGTGTGTTCTGT
125540	CXorf6	CCTTCTGGCCAGGCCTGCCTTCA
125541	CLCN6	CAGCCTTTTCAGCATCTCACCCA
125542	MITF	GTTATGCTGGAAATGCTAGAATATAAT
125543	RPS6KA2	GGTGCCTCTCGGAGGAGCCTGTGT
125544	ABCD1	GATGCCATAAAAGCCGCC
125545	PDGFRA	TAGAAGCCTGACAACTCATTTTC
125546	SLC9A5	GCACCTGCCCTGTGTTTTG
125547	CDC27	TAGCTGCTAACAAGACTGGCT
125548	CDH5	CAAAGCAAAACAGACTGTGTT
125549	FUS1	GCACCCCACTCTCCCAAGCCACC
125550	PTPN13	CCTCCAGCAGACTCCTGCTCTCT
125551	CORO2A	CCTGCAGGCCCAGCCTGGACAA
125552	C8orf1	TTTCCTGAGTTCTTCCTCAATCC
125553	JJAZ1	TTGATGTCATTAAAACAT
125554	C21orf33	CTGCAGTGCATGGGGGATGTTTCTT
125555	GNAT1	CCAGCTGCTCACCCTGCCACCTC
125556	NT5M	CAGGGAGGAGTTGAGGCCACTGTTC
125557	VHL	AAAACCTGCAGGCCGAGCACA
125558	FBLN5	AGCCAGTTGGTGAGCGCTGTAATCT
125559	WDR10	GAGGCGGGTAGGAGGAGCCCGAG
125560	TMP21	ATCTCTTAAAATGGTGATGGA
125561	LPIN1	GTCCCAAGCAGCCTCTTGCCAGCA
125562	GTF2E2	TGGATCCAAGCCTGTTGAGAGAAA
125563	TEAD2	CAGGGATTGTGGGGACAGGAGTGAGACAAC
125564	ATP11A	TCTTCTTTGTCATTACTGTGAC
125565	ICAM1	TCTTGTCCTGTTTGCATTTCA
125566	APOC2	TTTACTGACCAAGTTCTTTCTGTGCT
125567	HUNK	AAGCTCCTCAAACAGGGTTCAG
125568	ADAT1	TCGGGAGGCTGAGGCAGGAGAATTGC
125568	OPA3	TCGGGAGGCTGAGGCAGGAGAATTGC
125568	RPN1	TCGGGAGGCTGAGGCAGGAGAATTGC
125569	EPHB2	CCACTTCCCACTCTCCTGCCCCA
125570	CALM3	CCCACCCCACCCCCCACCC
125571	CLNS1A	TGGTGCCTCTTCCACTCTGGA
125572	OTX1	GCTGCTGCTGCACCGCCCGCCTT
125573	CNN2	GGCTCACTGCACCTCCACCTT

125574	NF2	GCTCCAGGGAGCAGGCTGG
125575	NDRG1	TTTATTTCCAGACCAATAA
125576	B4GALT5	ATCTTCAAGGCTACTGATGG
125577	MAGEA4	GGAAGAGGGAGTCTGGCATGAGTTGC
125578	FBLN1	GCCCTTGCCACTGTCTCCTG
125579	DPH2L1	GGGGAAGGCAGAGGCTGGCAC
125580	HIS1	CCGGGACTTTAACCCCTTGTGGGCT
125581	SLC22A12	CCACCCTGCCAGCCTATGAG
125582	MTMR4	CTGTGCTCTGTGTCTGCATG
125583	SORBS1	AGCTCACTTTTAAACAACTAGGGTGCT
125584	CTNNB1	ACTTTTTGTTCTGGTCCTTTT
125585	GPR48	GTTTATTTCTCAAACCAGTCATTT
125586	SIGLEC11	CAAGTCCAAGTGGTTCCCATT
125587	MSN	TGGGATCTGCCCCTCCCTGCTT
125588	TTC1	GCTGACTTGGAATTGTGTGCTGCTTGC
125589	EPB49	ATCCTGGCCCTCCACCTGCCTCCAG
125590	CDH12	AACAGACACCGTCTTTATGTCAA
125591	PKDREJ	GGATTAAGGGGATTAGGGAGTGT
125592	VSNL1	AATGGCTGATGTCAATGCTATGGACTG
125593	RAMP3	CATCTCTGGTTCCTGCCCTGG
125594	SERPINB9	AGTAGCTGAGACTACAAGCAC
125595	SIAT1	GGGGTTCTGTCTTCTTTGATAGCCA
125596	SIRT6	GGGTTACACCTGCCCTCCGTGG
125597	PML	CTCCTCCATGGCTTCCCAGCTTG
125598	MB	TCTGAATTAATTGTCCTTTCTTCTAAA
125599	IMPDH1	GGCCGCCTGCCTGTCATTCC
125600	ABP1	AAAGGCTGGAAGCAGAGCGAACTGGG
125601	DBY	CTCTTCCCCTCCTGCTTTAG
125602	DIAPH2	CTGCAGCTCTGCTCTCGGGA
125603	BIRC7	TCCAGAAGGGCCAGCTGGGCA
125604	CHAD	CCAGAAAGGGTTTTAAAGCCCATGCC
125605	NR4A2	ACTGCACTTCGGCAGAGTTGA
125606	CYP8B1	TCTGAGCTTTCTCCTGGTTACCTCCTC
125607	WBSCR14	CAACTCCGGGGGCTCAACGGTG
125608	INSL4	TCATGGACTGGACATCTCATCCATTCT
125609	SEDL	CAGGCTGTAGTGCAGTGGCACG
125610	CD79A	CTCTAAACTGCCCCACCTCCTA
125611	PCDHA9	CTCCTCCTATGTCTCTTTTCA
125612	CLDN3	AGCCCCATCGGGCCGCTGCC
125613	APOL1	TGGCTAACACAGTGAAACCCCGTCTCT
125614	MYO1B	TCAGAAAGGTTTTACAATCCAA
125615	GGA3	CACCTGACAGATGCACGGCCCA
125616	NDRG3	TTACCCAGGCTGGAGTGCAATG
125616	TRPM6	TTACCCAGGCTGGAGTGCAATG
125617	AOAH	AGGGTCCAACAAGAGCAAGC
125618	LHX4	GCTCAGTGCTTTGGTAGCACAAGGTGAC
125619	ST7	AGGTCCTTGTTGTTTCTTGCCT
125620	KIF3C	TCCCTCCACTGGATTCCTTTGTTT
125621	SERPINE1	CTTAAGGTCTCCAAACCAGA
125622	FECH	AGGGTACGGAGAGTCCCCTCTGTG

125623	STX1A	GCCACTCCAAGGAGGCCCTGGCTGC
125624	ENAM	TTCTACCAGTATGTGCTACTA
125625	PCBP1	GTTTTGGGTTTTTTGGCTCAT
125626	GP1BA	CCTGCCTGTCCTCATGCCTCTCC
125627	PRKCM	GCCTAAATGCCTTA
125628	CCND1	TTTGTTGTGTGTGCAGGGAGGG
125629	PCSK1	TCAGAAGCAGAAACTGGCAGGCCATGG
125630	PTGIS	AGGCTCTGAGATTTCACAGGT
125631	MGAT5	GCTAATTCTTCTCCTCCTTC
125632	KCNJ11	CTCAGCCTCCCAACGTACTGGG
125633	ATP7A	GGTCTGTAGGGTTCCCTGCCTCCC
125634	MATK	TGGCACCCCCCTCCCGTCTCAGC
125635	SMARCAL1	GCATTTTAAAATCATGGAATT
125636	CEACAM5	TGCAGTGAGCCCAGATCGCACCACTGC
125637	COG4	CTGCCTGGATGAGCACACC
125638	POLE2	CTGTGTCTTTCGCTTTGTTTGCCTCTCC
125639	MAP3K5	TGCTGTTGCTCAATCTAATCTTCGATG
125640	GABRB1	ATTCTTTTAATCAGAGTTAGTAATGT
125641	CDH1	TATCGGCCAGGCTGGAGTGCAGT
125642	TLR1	GTCTTCATGAACACTAATAGGGGTAC
125643	PPP1R12B	AGAACCTCAATCTTTAGTTCC
125644	ZNF80	CCACACTGAGGAGAAGCACTCTGAA
125645	SORCS2	CCCAGACCCCACACACGGCCGCCC
125646	ICA1	GAGGGCGAGTTCAGCAAAGA
125647	BTG2	TTCTAAACTGCTCAATTTTGACTCA
125648	RARG	CTCTGCCCTCTCCCCACCCC
125649	RAB36	AATGGACAAAATGTCTCTTAGA
125650	KRTHA1	CCTGGCTCTGGTTCAACAAAAGGG
125651	GHR	GTCCCCACAGATAACTGAAAAT
125652	SLC9A6	CATTCAGGTTGGGGAGTGAAGTG
125653	WHSC1	CTGTCTCATCCAAAAAGTCT
125654	CKTSF1B1	AGGTCCAGCAAAAGTCAGTAGGG
125655	FEZ1	ATCGCCCAGGCTGGAGTGCAATG
125656	MLANA	TTTGTTGCCCAGGCTGGAGTGC
125657	DVL3	CCCCTGCCTGCTGCCTCAGTCTGCA
125658	LPIN2	GTACATAGGCTAATTAATGTGAGT
125659	MYLK	CTTCTGACACACTGACAGTG
125660	FGFR3	GGCCTCTGCCTTTGCACCA
125661	TM6SF2	CTCAGACTGACACACAGCCAG
125662	TGFB2	TCTGACTTTTAAAAACAACTT
125663	NR3C2	CTCTTAAAAATCTTGGTTTG
125664	ABCC12	AATGACACAGATTTGTAGCGTGAAA
125665	MAFF	GTCCTACTACAGTCTGGAGTGGGGT
125666	SCN7A	TGGCCAGGTCATTAGAGCTGAG
125667	MAP4	GCGGCGGCGGGCAGTTGCAGTG
125668	MAPRE3	CAGCACTGAATCCCAGCGCTGC
125669	RAB5B	GCCTCCTGACAGCTCCGTCATGGCACTTTTT
125670	ZNF74	TGTCACCCAGGCGGGAGTGGTGCAATG
125671	KLF8	GGGCGGGTGTGAGGGGAACAGC
125672	DHCR7	GACGGATTTTCTCTAATCAGTGT

125673	RNF3	TTCCCATCCAATTGTTTGGTTTCAGTG
125674	ABCC3	GGAGAGGGTCAAGGAGTACTCCAAGAC
125675	PAM	ACCATTCACAGTGCAAG
125676	CCNDBP1	ATTGGCACCTGCCTCCTCTTCG
125677	GFAP	GCCACTGCCACACGTCTGACCCTCTC
125678	SCN4A	CTCAGAGATCTCCCTTCTCA
125679	PROS1	GAAAGGAGAATGAACAAATGTG
125680	RFC1	ACATTTAAACTGTATTTACCAGTGTGA
125681	LTB4R	GGGAGGCGGGAGTGGAGTGGAAGAAGA
125682	XT3	GGCCAGCCTGGCCAACATGGCG
125683	THPO	AGGGTAGGTTCTCAGACACTGCCG
125684	GFER	TCCTCCAGGAGTCTCAGCCTTT
125685	STIM1	GGCACTGTACATACCTGCCCCCTCA
125686	PXF	GACCTTGGCTGACATATGTTG
125687	TRPS1	ACCAGTAGTTTATTTTTTGC
125688	PTGIS	GTGCCGATTTCATGCATTCTA
125689	SOX11	GTTTTTAAACATTTTTCCTG
125690	AVPR2	CCACAGCCCCTGCCTGGGTCTCCA
125691	RUNX3	CTCCATCTCCTCAAAATAGTTGCTGAC
125692	SIRT3	CTCTTCACTCTGCTGAAGCTCC
125693	GPR56	CACAGGCTGGAGTGCAGTGGTGTG
125694	PTHLH	TGGGTTTTGGAGCCTCCCTTC
125695	CALCR	TCTATGTCATATTTTGCCACTGCCTTT
125696	TGFA	AGTTTGGCCAGGTGGACTGTGGCA
125697	NFATC3	TGGTGTGTGACTATAATCCCAG
125698	ETF1	GGTCCAAATACTGTCTGTCAA
125699	DACH	GAACAGCAAATCAAAACACCA
125700	CD68	CTGGAAGTGGAGGTTGCAGTGA
125701	C10orf2	GTCTCTGAGCCGAGGGCATGTGAGCTG
125702	MATN2	GGGCCTGCAGCTCCTGGAGTT
125703	ITPKB	TTCCCAGGCTTGCCTTTAGTG
125704	GAB2	GTGGGTGGGACAGGAGTGTG
125705	SH2D2A	GAGTTGCTGAGTGTGCACACCTTT
125706	KIF3B	TTTCTGCTGGTTACACGTGTCTCTCAC
125707	NFIA	CCTCTCTCACCCACACTCA
125708	HLA-F	GGACAGCTTCCTTGTGTGGG
125709	CNP	TTTCCCAAGCTGGAGTGCAGTG
125710	PCDHA9	TCTGCCACCCAGGCTGGAGTAC
125711	SELENBP1	CCCACACTCCCTATTTTGGGCCCTCA
125712	FGF14	TGAGGGGAAAAAACTGGGA
125713	BDKRB1	GCCCAGACTGAAGTGCAGTGGCACA
125714	RHAG	AGCAAGAATAGATGTGAGA
125715	KIP2	CAGGAGGTGGTGGGGTCTGACGTGTCC
125716	SH3BP2	GCCAGCACCCAAGTGCCCTCCCCTCA
125717	BAP1	CAGATCAGCCCCATAGTGCTCAG
125718	ZNF255	TGTAATAAATATAGGCATGCAG
125719	HTR4	CTTTTCTCCCTGTGTCTGGGTC
125720	SH2D1A	TTCAGTTATTATATTTACA
125721	SNX13	AGCAGTTTTCGCTGCTGCTACG
125722	FBXL11	TTTTCCATGTGTCTTCATTCT

125723	KNS2	CGTGGGTGGCCGAGGATGCTGCGGGGC
125724	VAPB	GCCTGACCTCCCCTTGGGGACC
125725	RNGTT	GGGAGTGATATCAAATACAAA
125726	DLEC1	CCCCGACAAGGAGACTGCCTT
125727	ERCC6	GGAAGTTGGCTGCACTTGATGTTT
125728	PPP2R1B	AGCCTGTCCTTCCTGACCCG
125729	SCD	CCGGATTTCTAACAGTCCCTGC
125730	SELENBP1	TGAGACTGTGGCAATGTGTTGAG
125731	COG3	CTTATAAAAATATTTA
125732	SERPINB9	CAGGCTGGAGTGTAGTGGCATGATCTG
125733	DAPK1	TGTGAGTGCCTTTTGCAG
125734	APM1	GGTGTCTGTTTCCCACCTCA
125735	HS2ST1	ATGCCTCTGCTGCTTTTGCTTTGTA
125736	GPC6	TCGGGCCAAACCCCAAGACAGCTAC
125737	PIGA	CTTATTTCTCACTGCGGCCCA
125738	MAPK8IP1	GATTAGATTCATCTATGGAGGGCA
125739	LOH11CR2A	GACAGAGACTGCAGGGGTCCACTGTGA
125740	PPP1R8	GATGGGTGGAGAGGATGATGAA
125741	ED1	GGGAGAGAGTAGCTGCAGCC
125742	AMD1	TCAAGTGGTTGGAACAC
125743	FBXL7	TCTCTAGCCAAGCCCCACCTTTGTTA
125744	LIMD1	CCAGAAGTAGCTGGGATTTGTTTGCAAA
125745	ITCH	ATGTTTGTCCTTCTCTGCCT
125746	WBSCR14	GCAAGCCACACGGGCAGTCAC
125747	APP	CATGTAAATAAATACATTCTTG
125748	ED1	ACCTCCAGAAGTCCCTTCAATTT
125749	THBS1	TGCTCTGCCCCTTGTGCTCAG
125750	SEPN1	CTCCCCAGCCCCCAGTTCTCTC
125751	CREB1	GAAAGCCTTCAAGATGTCAAATA
125752	PRDM4	GGTCCTGTGACTTGGTAACATTCTA
125753	PTPRK	TGAGCCAGCAGCTGTTGTA
125754	KCNJ10	CTGTGTCCTGTGAATGGAAGG
125755	NBEA	TAGCACTGAATTCCTTCTTCACTGT
125756	ITGB3	AGGGAGAGAGTGCTATTGTAGAGCCAG
125757	COL6A1	CGGCCTGGACCTTGGCCCTACAGCCCT
125758	AGL	TATTAGTTTTCTAAAACTCAACT
125759	DSG1	TCCAGCTCTTTATTACATAGC
125760	CRYBA2	GCTGGGGTGGGGAAGGGAGG
125761	IGSF4	CATAAAAGGAGAACCAGCAC
125762	P2RY1	TTCACAGTCTCTCTTCCTTCTGACTAG
125763	PRKY	ATCACACCATTGCCCTCCAGCCT
125764	HLA-DRA	ATTTTTCTGAACACAATAAACTAT
125765	MFAP3	CAGCTCGCTCTCAGAAAAGGAACCTG
125766	ZNF264	AAGAGACAGAGTCTCACTCTGTC
125767	PKNOX1	GCCACTGCACTCCATCTTGGG
125768	RTN3	AAAATGAAAGAACACCTCTGG
125769	AP3S1	CTCCCAGGTAAAATCCAGGG
125770	AKAP13	CTCCATCTCACTAAGGGTTA
125771	MECP2	TTAGAAAAGGCATAGTCTACTTGTT
125772	NQO1	CCTAGTAGCTGGGATGACAGGC

125773	UCN	GGGACAGAGACTGGAGCTCAATC
125774	CEBPA	CCTTGTTTGTACTGTATGCCTTCA
125775	BCL2L2	GCACTTGCTGCTGCCTCCTGGGCT
125776	CEBPA	CGCCCTGGGCCAGCCTCCGGCGG
125777	ABCA2	GGCCCCCTGCCCGCCCACCTCC
125778	CTPS	CTTGCAGTTCTTGAGTTGCGGC
125779	OPCML	TCATCCAGCAAAGTTGCCTGGGA
125780	MAPK7	GATCCATGGGAGCATTCTCAA
125781	SS18	CTATCTGTTTTTAAAGCACCGAG
125782	PTGS2	AGTGCCTCAGAGAGAACTGTACGGGGT
125783	HD	GGTTGTTGCCAGGTTGCAGCTGCTCTTGC
125784	CASP6	GCAGGGTTACACAAAAATCTAGCT
125785	HOXC13	GTGTCTCCCTAGCTCGCTGCCTC
125786	SIAT7D	TCGGCTCGTGCTCATCATCCTGTGC
125787	AVPR1A	TCCCCCACTGCAAGGTTGTT
125788	HIVEP2	CTTTTCTTTACTTTGCTTATATTC
125789	RNF3	GGCGTCAGAAAATGGAAAAAGAG
125790	ADAM17	GACCATCCGGTCACCAGAA
125791	GRB10	CCTGGTGGCAGGCTTCACTG
125792	CTSH	CTCAAACCACATGGACCA
125793	PKHD1	CATCACTGCACTCAGACCAGAAATCTA
125794	AP1M1	AAAAAGCTTGGCCAACGCTT
125795	TOP3B	TGGCACTTCAAACTATTAAAATGCA
125796	NFYC	GGGCCGAGATTCTCCAGCAGAAAGA
125797	GNAT1	TCCATGTGACAAGTTTGACA
125798	EGLN3	TGCACGCTGGGGATCCCGGACCTCGAT
125799	EPHB3	CAGGCTGGGGTAAGCCGGGGTTCCACA
125800	CAPZA1	GCTATGCTACAGTCTCTAGCTAAATGGAA
125801	APOL1	CTTGGCCTCCCAAGTAGCTGGG
125801	AXL	CTTGGCCTCCCAAGTAGCTGGG
125802	MAP3K7	CCGCTGCCTCTACCCCCGCCACG
125803	TRH	GCAGAGCCCTGACCCACAGCTGT
125804	SIP	GGAGTTTAAGGCTGCAGTGA
125805	FUT1	GAGCGGGACTCTGTCCAACAA
125806	IFNA8	TTTTGCCATGTTTATTAAATTTT
125807	FLRT2	AAGGATGAAGAGGTTCCTGTCAT
125808	IGSF3	GCTGGGAGAAGAGGAAGCGCCTTG
125809	ABL1	CTGCCTCTGTGTAGCCGCCCTGAGAG
125810	PHKG1	ACCCAGAGTTCCCTCACTGAAGAT
125811	EYA1	ATCCAAATTGTTTAAATTCACAAT
125812	BTNL3	TCATCTGTTTTCATAGTGTGAG
125813	GAS2	TTTCATGTTATTTCAAAGCATT
125814	FCGR2A	GGCTCACTGCAAACCCGCCTC
125815	TEM6	ATGACTGTCAGGAGGTGCTGGC
125816	ESR1	CAGGGGTGAACTGTTCACTGTGG
125817	LMAN1	TCATCTTAATGCAACTTCCTTTG
125818	FDX1	ACTTTAGCAAAATGTTTTCA
125819	CHST2	TGAGTATTAATAAAGAAGATA
125820	TNFRSF1B	CTCAGCCTAGACCCTCCTCCTCC
125821	ETV5	TGTACATTTTTGAAGTGTGCAGG

125822	DMN	GAGTGAGTGTGCCCTTCACACTGTGA
125823	ETV5	CAGAAATTACTCAATGCTGAA
125824	ADRBK2	ATGAATGATACTTTGCACTGGG
125825	CARD15	ACTGAGTGCCTTTTGGTGGAG
125826	ZNF10	GGGCATTTGAACATATCAGG
125827	DNMT2	AATCCCTTACCAATTTGTCA
125828	GRAF	TGTGGCCCAGGCTGGAGTGCAG
125828	MEFV	TGTGGCCCAGGCTGGAGTGCAG
125829	ZNF74	TGTCACCCAGGCGGGAGTGGTG
125830	BCL2	AGTCATGTGCATTTCCACGTCAA
125831	FLRT2	GGCTGTGTAGATAAAATTGTGC
125832	CENTD2	ACAAACTCCAGAACAGCAGA
125833	VDR	TGACCAACATGGAGAAACCCTGTCTCT
125834	KCNK5	GGTCAGGTCGGGCACCTACTACA
125835	SLC22A2	CCTAGCTTTGATGGCAGCAA
125836	AKAP2	GCACACAAGCTTGTTAACCCCACCTC
125837	MMP3	GGGCTGCTGCTTAGCTTGCACCTTG
125838	AMD1	GTTTTTCGTTCCTTGTATTTA
125839	PTGFR	AATTGGTCTTAAAAATGATGTTA
125840	SLC20A2	CTGAAACTATGGAAATGCTGCTA
125841	BCL11B	TGCAGCTCTCCGGGCGATGCCAGAATA
125842	RAP1B	TGCAGCTGTAGATTCTCACTGTGAA
125843	NCOR2	CGGGGAGGGGGCACGGCAGGC
125844	PHKB	CAGGAGACGGAGGTTGCAGTG
125845	ITGB4	GGAGAGGGAGGAAGAGGATGGCAGGGC
125846	PTGS1	GAGTGGTTCTCATTTGGTCTG
125847	RHD	CCCGAGTAGCTGGGATTACAAGTGCGC
125848	GNPAT	GACACATCCTCTCATACTCC
125849	ZNF205	CGAGGGAGGAGAGAGGGGCTCGG
125850	CD28	GTGGAAAGAGCGTCCATAGGAGAAGT
125851	TNFRSF11A	TGGTCTCAAACTCCCCAGCTAAAGCA
125852	HTR2C	TCAGTGAGTCAGAGGCAGA
125853	DIRC1	CCCTTTATTCGTTTGTACTC
125854	RASAL1	CCGGAAGGAGGAGCAAGAGCCAGGGG
125855	CNTN2	GTACTTTACCCCACAGCTTA
125856	MYO1D	GCCTCAGGTGGAGTGGGCAGAGG
125857	HK1	TGGCATCCCAGGTTCCTGCCC
125858	ZFP36L1	GGCGGGGTGGAGACCCGGAA
125859	KLK10	TGTGACTTTGGGCAAGCCAAGTGCCCT
125860	IL1R1	AAACACCTCCCAGGGGCTCCA
125861	CELSR1	CTTCTGTGACTCCAGTGACTCAGA
125862	GABRA1	GGGTGTGAAATCTTCAGCAAAGG
125863	IL1R1	ATTATCTTATTTAATTTTT
125864	PKIA	CCTTTTTTAAAACACAGTCTT
125865	CLCN4	AGGAAGAGTGTTGGTCTTCA
125866	HM13	AAATGATGCAGCTGGTGCCCG
125867	DACH	TCACCCTGTTGGTCAGAAAGA
125868	LPIN2	ATCACACCCTGTAATCGGGCCC
125869	CST2	CATAGCCCTGGTACATGGTACACACA
125870	MAPK1	GGTGTTCTTCTTCCCAGTT

125871	PLD2	TTAACTCCCTCCACCAGCCTGC
125872	ERBB4	GTGGAAATGCCAAACCAA
125873	ASTN	GGGAGTTGACAGGCCAGGGAGAGG
125874	HLF	AAGGATGAGGGGTTAATTTATCAG
125875	ADAM19	GTCATTGACTTCGGGCTGGACCGTTGC
125876	BAALC	CTTTCTCACTTACAGGGGAGAAGGAA
125877	EGR3	CTTTTGCCCTTTGTCATCACCAACACA
125878	GRINL1A	TTTAGTGCTTAAAACGAATAG
125879	APG5L	TCATAGAATTTCTTGCTGCCA
125880	TFAP2C	TTCCCCAAATAATTGTTGTGT
125881	PPP2R5B	TCTACTCCTCTTTCCGTGGC
125882	AK2	CTGGACCTGGCTGGAAGGAAAAGAAG
125883	TIRAP	CAGTTCCTCAGCTGGTCAT
125884	MSL3L1	TTCTCACCTCCTCTTAGCCC
125885	CHAC	AAACAGCTATGTGATTAAAATATTTTA
125886	MBL2	TTCCCAATTGCTTTACCTTTTTTCTTA
125887	CAMLG	CACTGCACCTGGCCTTATAAA
125888	GABRG3	GTTGCTCAGAGTGAAGAGTGAAGA
125889	NEU1	GGGAGAGATGACTGGGGAGCGACCCAG
125890	SELENBP1	TTGGGGACCTGGCTTCATTCTGCTCTC
125891	ID3	TCTGGTCTCCTTGGAGAAAGGTT
125892	ZNF74	GACCCTGTGTGAAATTAAAAG
125893	SHANK2	GGCATTGTGGCCAGCTCTGCCTCT
125894	EYA1	TGCTATCTGCCGCTGCT
125895	GJA5	CTCAGCTTTACAAATGCCTTGGTATGT
125896	DRD2	CTGGGCTAGGGGACATCAGAGGT
125897	ABCA1	ATTTTGAAGAAAACACAACATT
125898	KCNJ13	ACTTTTGCTGTTTGAAAATC
125899	WNT5A	AAACCTCCCTTCCCCAGCA
125900	ATP1A2	GAACCTGTGAGGAAGAGGTTGC
125901	GYS1	CCTCCATCCGGCTCCTGTCATCCC
125902	MPP3	GTCAAGAATAAAAGTATGTA
125903	P53AIP1	TCATCCCAGCACAGGCAGCGCATGG
125904	BCAS1	GGAATAGAGGAATGTGTTCGGG
125905	PDE4B	GGAGTCAGAAAGCAAGACCAGGAA
125906	TRPV1	CAGCAGTGCCTTCTTCATCCTT
125907	IL17E	GGCCCAGCACAGGCACTTTCTAGAT
125908	GEM	AGATGTCCCTTTGATGGCC
125909	TACC1	TTCCTGGTCACATCATTAACTGCTAA
125910	SURF5	GCCTTCCTGGCCAGCCAGGTG
125911	PRKCG	CCCCTCTCCTGCCCACCTCG
125912	ARHGEF7	CCCTGGTTGTGTGGACTCCTTA
125913	PSEN1	CGGAACTCTTCATCTTAAACTACA
125914	AKAP13	TATTGACTGTGTTTTCTTCTTA
125915	RFX5	GAATAAATTATGAAGCATACTAATGA
125916	EHD1	CAAGGAGCAGCCCTGCCCAGGG
125917	DUSP6	CCCACACCCCTCCTTGCTGGAATGTG
125918	RARRES3	TGATCCACAAACAAGAGGAGCACCA
125919	ZNF9	TTCTCTGAATCCTCTTCACTGGC
125920	BAALC	TTCAGTTTGTCTCTTTGCAA

125921	EN2	TGGTGAGGACAGCAGGAGGG
125922	SIRT2	TGGGACCCACTTCCCATGCTGGAT
125923	ALDH3B1	GCGGGGCCGCCTCCCTCTTCTCTCCAG
125924	TDG	AAATGATGTACTGTACTGCTGTTTA
125925	C14orf1	GCCTCAACTTCCTGGGCTCAAGTGACC
125926	THBD	CACCCTACCTGTGCCTGACCCTACTT
125927	HSPA9B	GCAGAAATTTTGAAGCCAGA
125928	HK1	GGCTGGAGTCTGGCTCAAAACTC
125929	TNS	AGCCCCACCTCCAGCCCATC
125930	GALNT7	TCATGCCATTGCACTCCAACCT
125931	AIRE	CTGAGGCATGAGAATCACTTGA
125932	BAZ2A	GTGCAGCTGTAGAAAAGTGCT
125933	PITX1	TGAGTTGCAATTTCTCTCGGG
125934	OXTR	TCGCCTGCGGACTCGGTGCAGTG
125935	NFIA	ACTACTACTACTACTGTTCAGTT
125936	TUFT1	CTACAGTGACTATTTTTCTC
125937	AK2	GGTTCCAGACCAAGAGTACAGGAAA
125938	TM6SF2	GGGCTGGACTTCTGGAGCTGCTA
125939	GALNT2	CCCTGCTTCCTCCTCCACTCCTGGCCG
125940	PKIA	GGAGAACTTCTCCCACATAATATATA
125941	SDC4	GCTGGCTGGGTCCTCTTCTGCCCCCA
125942	RNPEP	TGTCCTTTTTCTTGCTGAT
125943	HYAL1	CACTGAGTGCCTACTCTTTGCCA
125944	PLAG1	CAACCCTCTGAGGATGGAAGGCAGT
125945	RP42	ACATTTATAATTACTGTGTAA
125946	RNH	GCTGCTCTCCCTGGACGACC
125947	GALNT7	TTGGGAGGCAGAGTTGGGAGG
125948	HAL	CCTTAAGCTGCTTTTTTCTTCTA
125949	EXTL3	AATAGGGTCAGAGACCATTTCAG
125950	WBSCR14	CACTGCTGACCCAGAGGGGCTG
125951	HMG20A	ACACCTGTAGATATTACTGTAC
125952	HOXB6	GGGAGCCAGGAGACCTGCTC
125953	HEPH	CCTGCCTGGTTGGGCTTCCTGG
125954	SUV39H1	CCTGCCTCCACCTGCCCCCACCTGCTC
125955	COL19A1	TCCTACTTATGCAGAAAAAT
125956	DLGAP2	GCACAGCCGAGCTTTTACTCCCT
125957	KCNK6	GTGTCTCTCTGGCTCTCTGGCA
125958	BCL7B	GACCCTGGCACCTGTGTCTACT
125959	CLCN6	AGCCCACCCTCTCCTGGTGCT
125960	CARD15	CAGAATATTAGTGACCTCAG
125961	CLNS1A	AACTCCCTCAGGGCCTGTGT
125962	NAP1L4	ACAGTGGCAACTGAAATGCATTTCA
125963	CYP8B1	GCCCAGGCTGCAGTGCAGT
125963	TAPBP	GCCCAGGCTGCAGTGCAGT
125964	MOX2	ATGTGGTTGAAAGGGCACTGGAC
125965	HLA-DQA1	CTCCATCTAAAATCTCCAAGGAAGCAA
125966	PSME1	CTACCGCTTTCGCTTTCCCTTCG
125967	ALDH3B1	TGGGAGGCATGGGAAACAGTGCAGTGA
125968	ABCC3	CCCATCCTGTTCTCGGGG
125969	DPH2L1	GCCTTTTGACGGCCTTCTTGGTTTCA

125970	G1P3	CAGGCTAGAGTGCAGTGGCTAT
125971	TNFSF9	GAACTCCTGGACTTAGACGATC
125972	ADH7	AGATATAGTAAATGCATCTC
125973	ZNF26	TGAAACCGTATGAATGCAGCGAATGT
125974	SLC21A3	GCTGCTGCCTTGCAGTTTGATCTCA
125975	CXCL16	ATCCAGGCTGGAGTGCAGTGGCATG
125976	PSMB8	GCCCTCTCCCTGGCGCCGCCT
125977	UTF1	CCTGACCCTCCTGCTGCCTTC
125978	RAD54B	ACTCATGATCTGCTTGACTGTGA
125979	XT3	TGAGCCAAGATCATGCCACTC
125980	NUFIP1	ATCAAACCAGCTCTG
125981	DES	CTCTGGAGAGAAACAATAAAGA
125982	CXorf6	CTGCTTCTGCCGTTGCTGCCAG
125983	DDAH2	AGAGCTCCCAGTCCCCGAGGCTT
125984	ASH2L	TTTTGTTTTTGAACTGTCTCA
125985	PPP1CB	TGCTTAACTGTCTAATATTGCC
125986	TNFSF14	GTGGCTCTCGCCTGTAATCCCAG
125987	CD69	AGCTCCAGCAAAGACTTTCACTGT
125988	PTGFRN	CTTCTGCTGCTGCTTTAAAAGCT
125989	APOB48R	CAAGGTGGGAGGATCGCTTGA
125990	SPR	GGAAAAGAAGCTGGAACACAGAA
125991	AP1G1	GGAGCCCTGCCTTTTTCTACTGGTTCC
125992	HAP1	CCCCTGCCTCCTCTATACCCCAGGCTC
125993	SLC2A3	TGCCTGTAATGGTGAGACTTTG
125994	TAF4	AGAGGCCGAGCCCAGCAAAGG
125995	TRPS1	GCCACATGCCTTA
125996	TNFRSF18	GTCCGTGGGTGTGCAGTGCCCAGCACG
125997	ANXA8	GATGCCATTAACATTCATC
125998	PLCB2	ACTCTAGCCCCGAACCCTCCTGCCCC
125999	NTRK2	ATGTCGTCCTGGATAAGGTGGCA
126000	ATP7A	TTCTTTTCTCCCCTTGAGGTC
126001	ZFP36	GTGGGGACTTGGGGGACAGTAATCAAGT
126002	EFNB1	ATGGGGGGTGGAGGGAGGTGA
126003	CACNA1A	GCCCCTCCTTCTCCGGGGT
126004	MRE11A	TGGAAGGCATTGTCCTGTGA
126005	FEZ1	GGTCTCGAACTCCTGACCTGGTGATTT
126006	PPP2CB	GTTGATCTGCATATTTCTGTATAT
126007	BECN1	TGCTTGAAATTTAACACTTTTCACTTG
126008	PLAG1	AGATAGACGTGAAGCACATGGTTA
126009	HMG20A	GCCCTGTGGAGCAAGGCTGTGTTTCCT
126010	SERPINB2	TCAGAATTGCTATTTCAAA
126011	ALDH1A3	GGCGGAATGTGGCAGATGAA
126012	ZNF10	ACTAGTATCTACCTCA
126013	TBX1	TTGAGCCTATTAGTTGGAGGCTGCAGT
126014	AAT1	TATTCCATGACTCAGGATTT
126015	B4GALT1	TGCCCCCAACTTGGCTCGG
126016	ID1	CGCCCTTAACTGCATCCAGCCTGGG
126017	MNT	GGGCTGCTGCTTCTGCTCCA
126018	EPHA3	AGGTACTAGAATGCTTACGGCCA
126019	TBL2	CCTGCAGCGAGAGCACCGCAGCAT

126020	CENTD1	AGCAGGTAAAGCAGTCACTGTGAA
126021	NEU3	GGGCTAGAAGAGCGAGAA
126022	SLC8A2	GTCACCCAGCCTGGCTTTGCCCC
126023	RUNX1	CCCAGAACCCTCTCTCCA
126024	SLC25A11	GCTTGCCCTGCTCGTCCTGATCC
126025	ST5	CTGCCAGTGCTCTCTGGGCCTGGCTC
126026	SOX1	ACTGAACTTCGGTGTTTTCTTGAGA
126027	GGA3	TGCTGCTGTGATAACCTCTCCTTT
126028	PIK3C2B	CCTTGGAGGCTGTGAGGTTGCAGCAAAGTT
126029	GFER	TTAAAGTGCATCACAGCCAGA
126030	PCTK1	CTCTCCTCGAAAAGTCATCT
126031	NOVA1	CAACAAATTATTGATAGCTGA
126032	PCDHB11	TGTCGCCCTGGCTGGAGTGCAATG
126033	FCGR2A	AGCCTCCCAGTAGCTGGGATT
126034	SLC21A3	TCCAAGAAAAACTACCTC
126035	WHSC1	GAGCGCAAGCCCCCACCATACAAGCAC
126036	OAS3	GCCACTGAACATCCCTTCTCTGCTCCA
126037	MAP3K14	ATCAGTGACCATTTGTTGGCAG
126038	PTGFR	CTTCTGCTCCTCAGAGAGCCCGGCT
126039	SUFU	CCTGTATCCATTCATGCCC
126040	SOX13	CTTGCAGATACATTCATG
126041	LRP1	TGCCTTCAGGGAGACAGGCAGG
126042	RECK	AGCTATTTGATGTAATA
126043	LPP	AATGCAGTAACATTCTACTTG
126044	HPS1	GCCATCCTGAGGATAGGGCAGAG
126045	SOX8	TCAGGTTGGGGTGCCCCAGCA
126046	REGL	ATCTACTGCTGGCAATTGGGAACC
126047	NONO	TGAACTCCTGACCTCGTGAT
126047	SEDL	TGAACTCCTGACCTCGTGAT
126047	WHSC1	TGAACTCCTGACCTCGTGAT
126048	ATP8B2	GGCCTCGGCCCCTCA
126049	KIR2DS1	ACCATGTCGCTCACGGTCGTCAGCAT
126050	LTB4R	TCTGCTCCCCTCAGCCTCCCAAAGTGC
126051	PAX2	GCTTCAGCCCTGGCTGCAGCTGCAG
126052	PPID	GGCTCACTGCATCCTCTGCCTCC
126053	EIF1AY	CCTCTTCTGCGCACCCACCTGCTGC
126054	CNTN2	ATAGAACGACAACAAAATAAATG
126055	RBBP8	CAAAGACGACTTGATAC
126056	MAP1A	ACTGCTTCCCTCAGTAT
126057	GPR62	TCCAGGACCTCAGCTGCA
126058	PPP2CA	GCAGGGCCGACGGCCGAGTACTGC
126059	GAS7	CCTGTAATCCCAGCTCTTTGG
126059	UBE2G2	CCTGTAATCCCAGCTCTTTGG
126060	TUBB	TTCTACTTGTAAACTATGGTGCT
126061	SEC13L1	CCAGGACTGCCCCTTCCTGGGCC
126062	ELAVL2	ATATATGAAAACTATACAACAAA
126063	CDC34	CTGCTTTGGTTTGTTTGA
126064	PGF	CGGGGCCTCGGGGCAGCAGTGAG
126065	RALB	CCCCGACTTCATTCACTC
126066	KCNJ4	CCGCCCAGCGGCCCTGCGTCTTCCCA

126067	GLRA3	AATGGGAAAATAATTAGTTACAGT
126068	RAX	AGCCTCCAGGCCCAAACAGGCTGAAGC
126069	CLTC	TATTGAAAAATGTTACAGACAA
126070	DTNA	GGAAGAATGAACACAGCTTT
126071	TEM6	CAAGTCAGGCCCTTCTGGAACAC
126072	DMRT1	TCCAGGCGAGAGAGGGGGCCAG
126073	PDE4B	CTTGCACTGCCTTCTGCGCTA
126074	SLC4A7	CTGAATTTAAAAAGTTATACA
126075	GABRA5	GGCCCTGGAGAAACTTCA
126076	MYO1C	CTGCAATTTCCCACCTCCTGCCCATCC
126077	GCH1	GCTGTTGCCTTATTAATGATT
126078	CACNA2D2	TCTCCTGCTCACCACCTGCCTCTA
126079	TCF3	GGGCTGTGGCTCCGACCCTGCTGC
126080	PODXL	TCGCCATGGTCTCCATCGTTCT
126081	SMURF1	GCTCTGAGGTGGTGGAGGCGGCGG
126082	ABCC3	CCTTGCTAGCTGACCTGGAGATGCT
126083	CDC6	GCGTGAGCCACCATGCTCAGCC
126084	TRPS1	TCTTCCTTAGGAATTTTGATGG
126085	ADAM11	CAACTTCAGCACCTGCCCCG
126086	ATRN	CCTGCACACAGCCTGGGGAG
126087	SLC14A2	GTCACCCAGGCTGGAGTACACTGG
126088	PRIM2A	GGGATTACAGTTGTGAGCCACT
126089	PGR	CACTTTCTCCTCCCTCTGCC
126090	CNGB1	GCTCATGCCTATAATCCCAGTG
126091	SLC26A4	GATTAAAATGAGTTTATATTTTTTC
126092	IER5	GACCCGCTTCAGGGCCAGGAG
126093	HSPA5	GAGAGGGAAGCGCCGCGGC
126094	ADRA1A	ATTCTTCTGTGGCAGTTATCTTACCTT
126095	GLRX	AGCTAAAATCATTTTGCTGCT
126096	TMEM1	AGAATTAGCAGAGAAAATACAC
126097	NAB2	GCTCGGAGAGAGAAGACGTGGA
126098	CHRNA4	TCCTTGAGGACCTCCACCTGGGAG
126099	SOST	TCACAAACTCACAGACCAGCA
126100	OPHN1	TATTCCCCTTCCTGTGTCCATGT
126101	USP5	GGTTGGTCAAGGAGGGATGTGAGGGAA
126102	ST3GALVI	AGAAATGTAAAGATAACAGGA
126103	SCML1	GAGGCCGGCGTGACAGGCTCTGTCACT
126104	CD4	GGCCAGGCAGATCCCACTTGCA
126105	PIK3R3	AAGAGGAAGTGGGAAGAGAGGTGG
126106	MASP1	CTGTATGACCCTATGCAAGTCCTCCTC
126107	TLX1	ACCCCTTCTCTGTGACCCACTTC
126108	HK2	ATTATCTCCCTTAGTAATC
126109	ZNF289	GTTCCCAGGCTGGGGATGCTTT
126110	TRIM9	ATATTTTTCAGTGAGCCAAG
126111	DCLRE1C	ACCTTGAAAAGAAGGTTGGAGTGCAGC
126112	CHRNA3	GCATTTCTCGTTCTTTACTGGGTCTA
126113	FGFRL1	GGGAGGATGGAGGACGGAGCTGCAGAC
126114	MAGEA5	TGCTCCTCAAGTATTAGTCAA
126115	ADCY6	TTGGTGCCTCAGTTTCTCTGTC
126116	CTSB	TGCAATGTCACAACCTCTCTGATCTT

126117	FTSJ2	GCGGCGCGCTGCAGGCGCGGGGA
126118	GRB10	CTTCGCCTTTGCTGATTGCCTCT
126119	DAP	ACCAGCCTGCCCCATGGCCCCGGCTC
126120	B3GALT5	CTCTCAGTTCAAACTGAAGGACA
126121	NRXN1	TTACCTTTCTGTCTCTCGGGACCC
126122	FRAT2	GGTGGTGGGTGGCTTGGCATTGCCC
126123	LY64	GGGAGGAAGCAGAGGGAGGGACTGG
126124	CHRNA2	CCAGGTGAGGTGGGAGGTTGGAGAGCCAGG
126125	SEPN1	TGGTCAGGCTGATCTGGAAC
126126	FNTA	CCATCCAGAAGAAC
126127	KIP2	GAATCCTCACTGGTGTGC
126128	WISP2	TGTCCACCATCCCCAGCTGGTGGCCC
126129	DAF	AGGGGTGTTGATGGTGATAAGGGAGG
126130	CBL	TGCCCAGGCCATGGCCGGCAACGTGA
126131	SLC25A1	AGAGAGGCCGCAAGGGGACCGCCCC
126132	SRP68	AGTCCACACCAGGCACAGATGGG
126133	CD8A	GGGATACTGTGCCCAGAGCCTCG
126134	RGS3	CCTCAGACCACACAGTAGCCA
126135	GAS7	TCTCATCTGCACAATCGTGC
126136	RUNX3	TCTGTAACCTGTTTTGTGC
126137	WNT6	GAGGAACGCCCACCCACGAAGGCC
126138	RP42	AATGTCTGCATAATGTTAG
126139	DIO3	TGAGACTCCTGGGGAATGACG
126140	M17S2	CAGGAAGAGGCAGCTGGTGTTCT
126141	PIGC	TCGGGAACTTGGCTGTGTTGT
126142	STIP1	TGCCTCTGGGCCCTCCCAGCACA
126143	SIAH2	CATTGACAAAAGCACAGTGA
126144	PPP1R2	TCCTACTCCTTTCCACACATACGCAC
126145	CHI3L1	CTCCCTTGGGGCCTATGCAGAG
126146	MTMR2	TTCTGTATAAATAGCTTATAG
126147	SMARCD2	CGTAGGCTGGGGTGAGGAGTG
126148	TRIM14	AATCCCTGCTACTCAGGAGGC
126149	STX7	GGGAGCCGTGGAGGTCCAGGTGA
126150	SNAI1	CCTCCTGAGTGCCCCACTTCTGG
126151	DHCR7	CCCTGCCTGCTCTGCAGTCGTGGGTGGGGCC
126152	GALNT7	TTTGTATTTTGCTACTGATCTGTGATCA
126153	IER5	AGCCAAGAGCACAGACTTGGATTCCT
126154	CNTN2	GCATTAGGTGGGCATTTTTCTGTGT
126155	DUOX2	CCTACTTCTACCCCTTCCCGTCCCCAA
126156	MLPH	ATTGCTTGAGGCCAGGAGTTTG
126157	THBD	TAGCAATTGACTGTCACTGTTC
126158	RENBP	GGCGGGGCAAGGGTCTCCCAGC
126159	LDLR	GACACCTCCATTTCTCTCCA
126160	DIAPH2	TTTAAGTAAAAACAAAATGATGCATT
126161	MAP3K7IP1	CCCCTGGACCTGCCTTGGTTGTGTCAT
126162	LENG4	GCGGGCTGGGACTGCTCGGCCGCCTC
126163	FOXP2	GGCAGCAAGACAACTTCTTTTACAG
126164	DMC1	TTTAAAAAATGTATTTATGGCTGG
126165	FGF18	GCCTCCTGCACAGCGGCTGCC
126166	KIP2	GGGTCATGAGTACCACCCTGCCTGCCT

126167 ADCY7 GTGAGGCCTGGTGCCAGAGCTGTG
126168 TMC1 TCAGCTCTACTGTTTACTAG
126169 GPR61 CGCCTCACCCCGGCTGGAGTCATGTG
126170 FAAH CTTCTTCCTGGAGCGTCCCTGCCTAGAGCT
126171 CLASP2 ATGTGGGAGAAAAAGTGAGGA
126172 ATP7B CCTGGAGAGGACGGCCCTGCCTGCCTCTTGGC
126173 ATP7B GTTGTTTTCTGACTAGGCTGA
126174 JMJ TGTTGCAGAAGACTGAACTGTTTTGGAAT
126175 CTMP GGGAGGCGGAGGTTGCGACCCAAAGCT
126176 HLCS AATTGCTCTCCCCTCTGTGGCT
126177 SIRT5 GGGTACCCAGAGCTCTTAGCG
126178 BSN GCTTGACCCTCTTGCTT
126179 SPON1 CAAACCTGTCAGTGCTCCACA
126180 AGC1 GTGTCCTCTTCTTGTCGCTTTTTG
126181 GPR48 CTCATTAATGAATACTTCCTA
126182 EDG8 GGAACTCCTGGGATCAAGCCTG
126183 LZTR1 CCTGCCTGCCCTGCCTACTGA
126184 OPHN1 CAGTATGTTGCCAAGAGCCCGTCTGCT
126185 HDAC8 AAATTTGAAAGAAATTACTTCCTG
126186 SHOC2 TTGTTTTGATTTGCTCTGTTTTATTC
126187 PIGR AGCTTCTCAAAGTACTGGGATT
126188 BMP8 GACCATCCTGGCCAACACAGTG
126189 TRPC5 AGGTTGGGTTAGAGAGCTGGGA
126190 KCNA7 TGGCCCATGCCTGTAATCTCAG
126191 RANBP9 CCCCGCCTCCCCCTGCCTCAG
126192 COL5A3 ACTCCTCCGTCGCTGCCCTTCACA
126193 DDOST GGCAGGAGAAAGGCATGAATCC
126194 CLTC GTCTTTACCCACTTCTCAGTTT
126195 RALB TGGAGGAGGGAGTGGAGTAAGATGCC
126196 KCNAB1 GTAAAATACCCAGGAAGGCAAATGTTCAT
126197 FANCE ATCCAGGCTGGAGTGCAGTGAT
126198 MAFF CTTTGATTGTCATTCTCCTGGG
126199 COPA TAACAGCACCTTCCCCCTGCA
126200 ADORA2B ACTTGTTGCCAGGAAGGTGACCTCA
126201 EGFL5 GGCTGATGGTCCTCCTCAGGGTCTCA
126202 NEUROD2 CACCCAGCTGCCGAGGCAAAAAGGAGC
126203 IRTA1 CTCTCCAAAACTAAATTTGAAC
126204 MEF2A ATTGGGTCAAGAAGTGATCTTTAG
126205 GPR48 AGGGAGACCGGTGCGATGGCAGAGCGC
126206 TAT TTGTTTCTTTCTTTCTTTATTTTG
126207 APAF1 CACGAGCCACCACACCCAGCT
126208 PTGS1 GATCCTTGGGCCCATCACTGTAT
126209 CALML3 AGTTTATTGAGTGGGAGACAGGCGG
126210 SLIT2 TGCCTGAGTGGGCTCTACTGCCTT
126211 VHL CTAACACGGGTGAAACCCCGTCT
126212 IRTA2 CCATTCTAACATGTTCCCAGGGGA
126213 KRT6A ATCTGAGCACCCATTGCTCACCATCA
126214 CSNK1G2 GTCTTGCCCAGGCCCTCCTGGGAGGGGGA
126215 DUSP2 GAGCCCAAGCCCTGTGTTCCT
126216 APXL GGTGTTGTTGGGTGGCAGCTG

126217	RBP5	GCCCCCAGGCCAAAGTCCTTTCTC
126218	MDM2	CCTGGCTAATTTTTTGTACTT
126219	SNAPAP	GCTTCCTTTCACAAATGAGCTG
126220	TMEM1	CTATGATTGGGAAAAATTATAA
126221	CEBPA	CCGGCGGGGACCCAGGGAGTGGTTTGGGG
126222	COL17A1	TCAAGACGTCACCCTCCATTCTGCAC
126223	EFNB2	GCATACCGGACTTGTCACACGGAC
126224	ARNT2	ATAGCAGGGTAGGACGCCCAG
126225	CPM	GACCTTGACTGGAGAAACTCCA
126226	VAT1	CCTTTCCCCGGGCCTGCTGTGCTGC
126227	MTMR4	ATCCTCTCCTGGCATGAAAATAA
126228	PDE5A	GGGGTGAGGGACGAGTCCACGGGACAC
126229	SCA1	CCCTCCTTCTCCCCTAAAGGGACT
126230	ATSV	CATCGGGTCTGGTGCTCCAGAC
126231	CNTN1	TCCAATATGCCTTA
126232	ZFP37	ATGTAAAAAATGTTAACAG
126233	YWHAB	GCACCTGTGAATAACTGCACTCCAGCCT
126234	LAD1	GGCCTGGACCCACCCATCTTTG
126235	TMPRSS3	ATAAGCAGTTATGTGACCTC
126236	DEDD	CTCTGCCGCCTTTCCTCCATTCC
126237	GALC	ACTCTCGGCTTCCTGGCAACGC
126238	CDH12	TTAGAAAATAAATTGCCT
126239	SALL2	GCCTCAAATTCTTGTGAATGTGGA
126240	ALX3	GACCAGCCCAGAGCTATGCCA
126241	KCNMB3	AGGTGGCGGCAAGCACAG
126242	BAZ2A	CCCTACAGCAGTTCAGGCTGTGTGGT
126243	TACSTD2	CCGGAGGAGGCGGGAGCAGC
126244	SCN4A	TCTCGCCCCTTCCCTCTCTC
126245	PMP2	ACATGTTGATGTTGATGGGA
126246	HCN2	GGCAGGCCTGGCTGCGCAGGGCGCGG
126247	IFNGR2	AAAGGCATGTAATTGCTTGTTAGCAA
126248	TNFAIP2	GAGGCAGAGTCAGAGGCCTC
126249	ARHGEF6	GGCCCCTCTAGTAGCTGTGTGCTGGAT
126250	CACNB1	CCTGCCTGCCCCTTCCTCCCAGCTTCC
126251	HPS4	CCAGGTGGTGGTAGGCGGTG
126252	F2RL3	GGGAGGCGGAGGTTGCGGTCAGCTGA
126253	CHEK1	CCAAACATCTTCCAATTT
126254	ATP1B1	AAGAGCTGTCACAAGCAC
126255	TCF1	TGGCCTTGTTCTGTCACCAATGTACCC
126256	SPAM1	TTTTCATAGTCATTACTCTTTAC
126257	CREBL2	GAATTTCTTTAAAAAGTTTTC
126258	SMARCD1	GGCCTCTCCCACAGCCCT
126259	MPO	GGAGAAGAGAGATGGGGGTTCC
126260	ZNF264	CTTTCATCTTACCTGTAATCCTAG
126261	CACNA2D3	GGTGAAGCTCTGGGCCTCGGCTTTTGG
126262	HD	CATGACAACTGAAGGCAACCTGG
126263	PFKFB3	TGACCTCCTTTTGAAGGGGACA
126264	COL19A1	CTGTATCCACATGGTACAAGCCT
126265	DDC	TTTCATGTTCTTGCAGTCATCA
126266	GPR4	GCTGGGTGGGGCTGGGGACACAACAA

126267	MMP19	TCAGGTCAGCTGGATGATGCCA
126268	CDH12	TTTGGGAAATATAGACAAGCTGGA
126269	SLC4A4	GTGCTTCTCCCTTCTCCATGA
126270	NR1D1	CCATCACCGAACTTCCCCTCCTCC
126271	DTR	CCATTCTTCTGGTGCTACTCCA
126272	NCALD	CAGCAGAAATCCAAATTTGTA
126273	CTF1	GTTGCCCAGGCTGGTCTTGAACTCCGG
126274	ATP8B2	ACCTAGGCAAGAGTGCAATGGC
126275	PLA2G5	CCTAAGTCACAGACCTCAGTC
126276	RABGGTB	GGAACTGACCCTGCTCTCTCCTTTCC
126277	HPS1	TCAAGCCCCTGGCCCTGGCCCAGAG
126278	ACP1	TCTGTGTATTTTGAGATAATGTCAAA
126279	SLC22A2	TCTCTGTACCTTCCTCTCCA
126280	ZNF192	GTAATTTGGGCCCAGTGCCTT
126281	NSF	TGCTCAGTCCCTCTGGGTGGG
126282	IL21R	GTTTTTAAAAATTCCCTTTATGCACC
126283	GGA3	TACTGGATATCCCAGCTCTGCT
126284	PTPRO	ATCAGCCCCATAACCCAGGAAG
126285	MAPT	CCCTACTTCCCCTTGGGGCT
126286	ITGAL	CCAAGATTGCGCCATTGCACTC
126286	MAP3K9	CCAAGATTGCGCCATTGCACTC
126287	DCX	AGATTCTTCTTTGAATCCTCTAGTCC
126288	IGFBP4	CACTCACTCATTCCTTCACTC
126289	TAZ	CCTCAGCTGCTTCTCCCACTTGGCC
126290	NCOA6IP	GTTGCCCAGGCTGGTGTCAA
126291	PRKAB1	GCAGAGGATCTGCAGCCCTGG
126292	PIK3CG	AGTGTTCTATGGTTTAAATTAGCA
126293	EIF5A2	CTGCAACCTCTGCCTCCCGAGT
126294	IL20RA	TCTAATGGTTTAATTTAGGG
126295	TNFRSF18	GGGCTCTGCGTTCTGCTCTGGGCCG
126296	CEP2	GATCCTTAGCAAAAGTAGGAAGG
126297	CD28	GGCAGGCACCTGTAATCCCAGC
126298	ARL4	AATGCTTTCTCATTTGGACCC
126299	HTR2C	CCGCCGAGGCGCGAGGTTGCGGCGCGCAG
126300	HDAC7A	CCCACCCCACATAGGAATAGCCT
126301	LSP1	TTAGGAGGTTGAGGCACAGC
126302	ATP8B2	CTGTTCCCAGCTGTAGGCCCTTCCACC
126303	EGFL5	TGCCTGTAGTCTCAGCTACTTGGGAGG
126304	PCDH11Y	CGCAATAACAGAGTACTCTCA
126305	CLN5	CTAACAGCAAAGCATGCCA
126306	p100	TCAACTCCAAACCCCAGAGAG
126307	SNCA	TTCCTTAAGTGGCTGTGATTAA
126308	MSL3L1	CTCATTGGGCCACTGCAGTCGAGCCT
126309	LZTFL1	CCCTAAATTGACACTCTCTCCA
126310	EGFL3	CCCGCTCTCCCCGCGGCT
126311	UTX	CCTACTCCAGGACTCTCACA
126312	M17S2	CTGCCTGCTGCTCAGAGATGATC
126313	GPRK7	TGCACTCCAGGCTGGGCAGC
126314	ATP1A2	CCATTACACTCCAGCCTGGGCG
126315	VHL	CCACTGCACTCTAACCTGGGCG

126316	PRX	GCAGCTGCCGAAAGTGTCAGA
126317	GABRE	GTTTTGGTTTGCTTCTGTCCCA
126318	FANCF	TGATAGTGATTGCCTTGAATAA
126319	RDS	GGGCCATCTGCACTTTTCCCA
126320	APTX	GAGAGTGATGATGCGGGTGTGCTGG
126321	APOL1	AACTGGAGAGTGTGGGGAATGGG
126322	ALOX15	GTTGCCTAGGCTGGAAATAGG
126323	ACCN2	CCATAGAGTCCTCTCTCTGCCT
126324	IL16	AGAGCTGACACAAACCTGCCT
126325	NR1I2	TCCAGTGGGATTTGTAATCCAATGC
126326	VHL	GGGATTACAGGTGTGTGGGCCACC
126327	SLC22A11	CAGATGGCCATGCCCAACCAATAACGAG
126328	CNTN2	GGCAGGAGATGGTCCAAGTGTC
126329	HAS3	CGCAGGCAGGCAGGGGGG
126330	ADAR	GTCAGTGCTTGAAGCTGTT
126331	BCL7A	GGAGGCTGGGAGCCGGCGGCAGGATTA
126332	HIP1	TGGCTGTAAAGGAAAAACAC
126333	SUDD	CTCTGTAATCTCAGCTTCTCAGG
126334	SIX6	AGCTTGGGGAACTTGCTGT
126335	PIP5K1B	TGGACTTTTGCATTATTTCATTGTGCA
126336	PROK2	GAAAAGAGTGTATATGTGAAC
126337	LAMP1	CTGACATGCTCACACATTAC
126338	MEST	ACATGCCTTTTAAAAGTTCTTT
126339	IFITM2	TAATCAGGAGGCATCATTGAGGCCAG
126340	REN	CTCTCTGGCTGCCCTCTGCTC
126341	CAV3	GTCCCCGGGGGACTTCTTCAC
126342	RBBP5	TCATTGTCATCAATCATGG
126343	SHOX	CCCTCATTCTCCTTTCGTTCA
126344	KAL1	TGTCATCAAATACAGGTGGTTA
126345	TFE3	GAGTTCAGGTTACCAGAACCAG
126346	PRAME	TTGGAGGTCCTGAGGCCAGCCT
126347	CAPNS1	CCTCTCCCCTGTACCTGTGCCA
126348	LZTS1	AGAGAGGCACTCAGTGAGCCTC
126349	EFG2	AGAACAATTTTTATTGCTTT
126350	SOX11	CAGATTTGAATTTTTTCTGTTCT
126351	IRTA1	CACCTGGCTTCTATAACAAATA
126352	TSC1	CAGCTCTTGTCAAAAGGTCTA
126353	NOV	TTAATGCCACCACACGTGTTCCGC
126354	ADCY7	GAAGATCATTAACCACTGTATACTTT
126355	PSCD3	TGGGAGGTGGTCGCCCTGCAGTGCAAG
126356	FANCG	GGCCAGCTTCACCCTTCCTAAGTCCG
126357	SLC4A4	TCATTACTTTCAAAGGAACA
126358	MEPE	TAGGTGTCATTTAAAAATAG
126359	LPIN2	CTCTCATCTGTGACAACTCCA
126360	CHRNB4	AACCTCGGGGGCCAGGACCGGCGCT
126361	NAB1	GCTCACTGAAGAAGCTTCT
126362	LU	GCTGTCCCTGGACCTGGAGCTGCAGGCATCA
126363	DSCR4	AACTCGCACCCACTGTGGA
126364	RIMS1	ACACTCCTCTTGATGTGACTAAAGCTT
126365	MGAT2	TCTAGACTGGGAAACATACAC

126366	WNT8B	AGCCTGTTTCCCCAATTCCTCTGTGCT
126367	PODXL	TGGCATCTCAGGGGAACACA
126368	IGSF4	TTTCCCCCTTTGTGCACATT
126369	TEM7	TGGTGGTTTATGGCTCCAGAGC
126370	AGA	TCATCATCTAGTGTTCCTCATGTGTTC
126371	FACL2	TTTCCAAAATGAGCCTTA
126372	KAL1	TTGACTGTTTAAAAAATTGAGC
126373	FANCD2	TGCTTGTAATCCTAGCACTTT
126374	RGL	ATTCCACAAGAAGCACCAGGG
126375	ATP7B	CCACAAGCTGAGCAGGACAG
126376	WNT5B	CCGACCATGCCCAGCCTGCTGC
126377	SLC22A7	TTGGGGCAGTGGTGACGAGCTGTG
126378	BSND	CACCCAAGGCTGGATGTTTGTGCTCCG
126379	ACTR1B	TATCCTTTTCAGAGCACTTC
126380	CD44	GGGTGTACTAGTTACACATCTTC
126381	LPIN2	CCTCTTTGCAGTTCAGTCTAAGTCTC
126382	RPA2	GTGGTGCCAGAGAAAAGTAGCCAGA
126383	PIK3C2B	AACTCCATTTCTGTCACCCTTT
126384	ZNF26	TAAGGAAGCATTTTCCCATTG
126385	CLK2	TGTTTGACTGGTTTGACTACCATG
126386	TGFB1	GCTGGGAGCCGGAGGCGCGGGGA
126387	CACNB1	TGCTCAAAGCTTGGGGTTTCTT
126388	ATF7	TTACCTTTTTGTTCCTTACCA
126389	PIK3R2	TCCCAGCACCCCAAGCCAACCCAGC
126390	TNFRSF10B	GGACAAAGTTAGAATTGCCTGAA
126391	HBA2	GGCCCTCCTCCCCTCCTTGCAC
126392	DKK1	CATTTTCTCCTTCTTTCTCCC
126393	SLC4A7	ATTAAGAATTACCTTTCATTTT
126394	LARS2	GGAAGGAGCAGTGCCCCTCGAGCAGCCAG
126395	MFAP3	GTGGCTTGGGGTCGGGAGTGCAGGAGGCG
126396	ANGPT4	CAAGCCTGGCCACTGTTGGCTGC
126397	CLECSF5	TAGGAGAAGCATTTTGTGGAGG
126398	ITGAM	TTCATTCTTTTATACCGCTGCA
126399	NRXN3	TCATCCAGTTGGGAAACCCAGGA
126400	PPP1R8	AACCCTGATTTGTGTGACTTTACCATTG
126401	C7	TGCACAGGCTGGCTGCGTGTTCTTGAA
126402	BACE	ATCTTAAGATTACAAGATAAAAA
126403	MLPH	AAGGAAGAGGCTTGGTTCTAGCCTGGC
126404	CRTAP	CTCTTTCTCACCTTTACACCTGTCTT
126405	SORD	CTCTTCTACAGCTTCTGAGAATTGTGT
126406	B3GNT3	GGCAGAGGAGGGAGGCAAGTGTCCTT
126407	GAA	GTGCGGGCCTGGGGGTTGCATGTG
126408	HMGA2	ATGGATATCACACATATCA
126409	HDAC7A	GTGGGGAGCCAAGAGGTCCC
126410	SLC30A4	TATTTTGGGAACTCCTGCCTTA
126411	NCOA4	GTGACTGCAGCTTGCCAAATCTTTG
126412	GCA	TAAACATAGTATTTCTCTCTGC
126413	ARHH	GGTGCTTGGATGGGCAGG
126414	EEF2K	CCAAGTAGCTGGGATTACTGGT
126415	AKR1A1	CAGAAATGTGAAGTGCTAGCTGA

126416	SLC17A5	TTTTAGGGCCATACTAAAGGG
126417	STAT5B	TCACTCTTGTGGATGTTTTAATTCCA
126418	NCSTN	CACTGGAACCTCCCTGGGCCTGTCTCAGAT
126419	GPC4	TGCTTTTTAAATGAATGGA
126420	BCL11A	CCTGCAGAGTCCTTCCAGCCTAGGCCTGCAGC
126421	CELSR3	CCCTCCTGGTGGATGTGTGTGTTTATT
126422	RAB5C	AAGTGCCTCTTTGCATAGCACCA
126423	CALML3	CAGGCTGAAAGGTGACCTC
126424	AQP6	TTCAGTGGCCTCATCAGCAGCTCT
126425	EIF4G1	AGAGCAGCCAGATGGGCTGAAAGTGGAA
126426	LPIN1	GGCATATTAACACCTGCCTTCTGGCTT
126427	GPR35	GCTGCCTCTGAGCCCTCCCTGCT
126428	MGAT1	CATCATGAGCTGAGGTGGGACCACAG
126429	PRX	CTGGGCCTCAGTTTCCCCATCT
126430	CROT	GAGCCCAGGAGGTTGTGGCTGC
126431	B4GALT1	CTCAGGTTCCAAGACTCAGCTG
126432	APAF1	TCATACCTCATTGCAGCCT
126433	AQP6	GCTGGGAGGTGGACAAGGTGA
126434	PTK7	CTGATGTGGGAAGTGTTTACA
126435	APPBP2	TAGTGCAGACAGAAAACTGCAGTGA
126436	KIT	TTTTGCCCTGAGTCCAAGAGGGT
126437	HPN	TTCTGCTGTCTGGGACTCCTGTCTAGGT
126438	CX3CR1	GACTTCTGCTTTCCACACCTGCACTGC
126439	MAPK4	TCTGTGGGTAAAATCAGCCCTT
126440	PKNOX1	AGCTTTACTGAAAGACTTGGTTA
126441	SLC6A4	CAGTTCTGATGAGGCACGCCTGCC
126442	TCL1A	CACAGCCGATTCACCTGAGCAG
126443	L1CAM	TTGGGTGCTGTTTTGCCAGC
126444	RDX	AGGATAATGGTGAACATTTTAATGG
126445	LGI1	AGATACAGAGGCAGAGGAAA
126446	KCNK3	ACCTGTATTCCCAACACTTTTGG
126447	DISC1	TACTCAGGCAGTGCAATA
126448	CBFA2T2	CAGGCTGGAGTGCAATCGCGCA
126449	ATF6	TTTCTAAACCTCTCTTCCCTCT
126450	CSNK2A1	AAGCACCGTGTCTGAACCGTTGCT
126451	TSN	AATGGTGACTTAATCCGTAG
126452	FLNB	CAAAGCCCTCCAGCCTGTTTGTGG
126453	COL4A6	TGGGCCAGAAGTAGAGGGGTG
126454	ADCY1	AGAGGGGTCTCTGGAGGCAGA
126455	GABRR1	CAGTGTTGTGGGCACATTTAGTT
126456	PSMD9	GAGGCCTTGCTGCTGTGGATACGGAA
126457	PPAT	AGAAGTTAGGGTTAAGGAGA
126458	DFFB	CAAGTAGCTGGGATTACAGGCAC
126458	PPID	CAAGTAGCTGGGATTACAGGCAC
126458	TRPV1	CAAGTAGCTGGGATTACAGGCAC
126459	ACPP	GGAGTTTCTCCAGAAGCTCC
126460	PTGFRN	TTCCTTTCATACTGATGCTG
126461	IGFBP5	CTTTTCATTACCCCTCCTCC
126462	LCP2	GGTGTTCCACAGGGTAGCTGGGAGT
126463	RPA3	GATCAAGATCACTGATGACCCCGC

126464	HEM1	ACTATCCTGAATGATCGCGGTCAGGG
126465	CTNND2	ACAAAGTGCTTTTTCACTGCCTA
126466	RP2	AAGAGCTGGGATTACAGGTGT
126467	ASB1	GTTGTGCCCCTAAAAGTGTTTGA
126468	PRSS16	TGCTCTATTTCTGACTCTCAT
126469	NUP98	TCTTACCATGGCCGTTTTATATT
126470	ABCA3	CCTGCTGTGTGGAGCCTCTTCTGGGAC
126471	BAZ2A	CCAGGTGAGGTGGAGCATTCCTTGTATTC
126472	AGER	CTCTCCTGTATAACCCCACCTTGCCA
126473	ZNF146	TAATCCTTCTGAAGCAAAGCA
126474	TERT	GAGCAGACACCAGCAGCCCTGT
126475	MALT1	GCTTTTAGGAGAAAGTGTATT
126476	IL17C	CTGCAGAAAAGGTGTCACA
126477	VAT1	CCTTGTTCTGGTGGAGCTGG
126478	PRKAR1A	TTGGTTAGTATTTAACTACATCTGCC
126479	NEUROD1	AGCATTTTACTACTTGTTACCTTTCCC
126480	TNS	CGAGTCCCCTAGAGAGAGGCATT
126481	CELSR3	TGGGCTGGGAGGGGGAGGGAG
126482	SLC14A2	TGGTGGCGGGCACCTGTATTCCCAG
126483	HPCA	ACAGATGGGCAGATGCAC
126484	CYP4F3	TAACGTATGAGAATTCTAGG
126485	NEU1	GCCTCCCGGGACATTGATT
126486	CD164	GTGCCTTAGAAGACAGTGAAAGGTA
126487	SON	GGACCTCATGGCTAATGCCACT
126488	LIMK1	CTGTCCCCTCTTGCTTCTCCTTGCA
126489	HNRPF	CTCTCCTCCGTGGACATTTC
126490	GPC1	GCACACAGACGGCCTAGGGGTG
126491	OGDH	CCCACCCTCCTGGGCCCAGG
126492	GAGED2	AATACCTAAGAGGAACACTGTAAA
126493	RAP1B	CTTTAAAACATGATAGTCCTT
126494	AMPD2	CTCGGTTCTTCCCCCTCCTCC
126495	GRM4	TTCTCCTCTGCTTCATTCTCGTCC
126496	CD209	TCAGGCTGGAGTGCCATGGCGC
126497	FNTB	AAACCTGGCCATTTGCTGCCTC
126498	STK38	TTTGGATTTTAACCTCTTAGA
126499	NUP98	CATTTCCCACCCTCCATCT
126500	DEF6	GCTGAGGTCCTGGTGCCAGGGGCCCA
126501	MALT1	CCAACTTACTCTAGGTCAGTATTA
126502	BRCA1	TGGGACTATTTTGCATGCTGAA
126503	LHX4	ATTTCTGAATCGAGCTAGA
126504	CPD	TGTGAATTTCACTGGCAGTT
126505	COL3A1	GCTCCTCTTTTTTCTTGTC
126506	CAPN10	CTCTGGAGAGAGGGGGGTGAG
126507	APOBEC3B	ACTGAGGATGGGCCTCAGTCTCTAAGG
126508	SLC18A1	TCTGAACCTCTTAGACTCTTAGA
126509	COL18A1	GTTCACGTTTCATGTAATCCTCAAGAA
126510	CTPS	AGAGACAAAATCTCTATACTG
126511	PAPPA	ATTGATTTCACAGTCAGCTG
126512	IL10RA	TGGCCCAGGGAATCCAGCCA
126513	BIG1	AAATGCACTAAACATTTGGGTGG

126514	PDGFRA	ATAATGATCAGCAAAAAGA
126515	PTGS1	AGGAAGCAGCCTCAGAGTGGTCGAG
126516	ALDH3B1	CTGAGTCTCAGTTTTTCCATTT
126517	SCA1	ACGGAGCATCTTCTCAGAAT
126518	CYP8B1	CACCCAGGGAACAGTGTGCGTG
126519	MUCDHL	ACAGCAGGTGCCAGTGACTACTTCT
126520	CD164	AACTCACAGCCTTTTTACTTT
126521	MECP2	GGTTGAAGACCTAACCAGGGCCAGA
126522	COL4A1	TTTTGCAGAAATCACAATTTTCCT
126523	SCD	CTCTCAGCTGGCAGTGCAATGC
126524	FBLN1	AGTTGGCAGGAGTGGAGACCA
126525	SYNGR2	ACTTAGGAAGCCTGGGGA
126526	SLC1A5	GGCCCGCATCCCACCCTCC
126527	KCNMB1	TCACCTCTGTGCCTGAGTTCTCCCTG
126528	TEM7	CTAGTTCCTGGAACAGACTCAC
126529	PHKB	GATCAAATAGTTCATCAAAATGA
126530	ICMT	CAATTTTAAAAATACTTCCTCA
126531	ANGPT2	GAAAGAGAAGACTTTCATTGACG
126532	PIM1	TCCTCCTTTCCTCCTCTGACTTGGGGAC
126533	HUNK	GACTACAGTTGTGCACCAC
126534	PAX2	CCCTGCATCCTCCTCCCTGACTCGCAG
126535	SLC1A1	CATCTCAAACACTGCTTAAGG
126536	SYNGR1	TCAGGCTGGGCTCTGGCAG
126537	SMN1	CTCACATTCCTTAAATTAGGAGAAAT
126538	CR1	GGTTGACACCATTTTCCTGCCTCA
126539	TCEA1	CTTAAGGATTGTATAATTCATT
126540	STS	AGGTTTCTCATGGGAATATGCT
126541	GPD1	CAGGGAGCAGAGTCTTCTCATC
126542	EPHA8	TTATCCGTTAAGGCTGGAGGCACATG
126543	PER2	CCACTGCACCCTGGGTTGGGTG
126544	ADK	AAGCCCAGGAGTGCAGAC
126545	LAMC2	GATACAGATCTCAGGGCTCGGGAGCCATG
126546	GNE	ACCCCAGGCTGGAGTGCAGTG
126547	NAT2	CTTATGTGCTATCAGATATCC
126548	TIMM17B	CCCTTTTTCTCTCTCAGGGC
126549	PITPNB	ACTGTGGAGATTTGAGGGAA
126550	MPL	CCCGGGTTCAAGCCATTCTGCCTCA
126551	APBB2	CACATCCCAACAGGAACGACTCA
126552	TCF2	GGAGGGACAGGGAGCAGGGCAGA
126553	CACNG6	TGCTCAGATCTCTCAGGAAAACCAGT
126554	KCNA6	TTTCTCTGGCCCTCTACCTT
126555	GFAP	CCTTTGAGTTTCCTCAGGCTGCTGGAG
126556	MAP3K9	TGGAAGAGATTATTGGCA
126557	CAMK2A	CCCCACCCTCTCCCCTGCC
126558	BDKRB2	GAGGAGGCCTGGGGGCAGGGAGAG
126559	LSS	GGGCCAGGCTGGAGGCAGGG
126560	COL1A2	AATCCTTCCATTTCTTCTGCACATCT
126561	INMT	CTGAGTCTACCTAATATGTTAAGG
126562	LTB4R	ATCTCTGCTCTGGCTTTTCTCC
126563	HD	AAAATGTGAAGCTGAACCCCCT

126564	PIWIL1	GGGTTTCAGCTCATATCTTA
126565	VMD2	CCTGCTGCAGCCCACTGCCTG
126566	SLC38A2	GGGCCGCTGCACCCACCGCCA
126567	CEBPD	GGAGCGCGCCCTGCCCTGGCGC
126568	TEM6	TGACTTCTTTTCTGATGGAG
126569	WHSC1	AACTACAACCTCGATTGTCTGGGCAA
126570	TMEM1	ACTTCCCAGCTAGGAGTGCACT
126571	FEZ1	CAGGAGAGGGGAAGGCAGCCGCTTTCAC
126572	TCFL4	GCGTCTGCTCTGGGACACCCCAAA
126573	DDEF2	GCTCTGAGAGGACGCGGCGGCAG
126574	CENTD2	AGACCCAGCAGGCGTCTGAGGCC
126575	PTTG1IP	GCTGTCATTCTCCCAGGGCAGAAC
126576	LRP4	CCCAGTACCCTCAGTGCCT
126577	AQP3	AGGGAAGAGAATGGGCAGCA
126578	CAPN10	CCAGAGGGTGGAAGGAGCCAG
126579	LTB4R	CCACACCCCTCTTTCCTCTCTC
126580	ADAM19	CTCAAAGCCCAGGCAGAAAA
126581	ITPR2	GAAGCAGCATGAAGCAGCATGACTGA
126582	ADH1B	TCTAAATACAGGAAATTTCTTA
126583	PDGFRA	GTGTGGCAGCCAGGATGACTAGATCCTGG
126584	IMMP2L	AGGTTGAGAAACCGGCGCCAC
126585	POU2AF1	TCTCAAGGCCTGGGGCTCAGA
126586	MNT	CCTGCAGTTTGGGAGACATGGA
126587	PDE4B	TCATCCAGGCGGGGGGTTGGGG
126588	EMP3	CTTCCACTGCAGCCATGTCACTCC
126589	NEU3	TCTGGTGGCATTACCCTG
126590	MAGEA4	TGTGGGTCCCCATTGCCCAGCT
126591	BMP8	CACACCTATAACCCCAGCACTT
126592	TEAD3	CACCCACCCTTGGGGGAGCATGATGG
126593	ZNF239	CTGCTCCCAGGAAGCTGTGCGGA
126594	MLC1	GACTCTGGCTGCCAAGATACCT
126595	KCNK5	GGTGGGAGTGAGGAGATGAGGG
126596	MSF	CGCTCCCCTCCATCCCCATCG
126597	SH3BP2	CCTGCTGAGGGGGCAGTGCCAGG
126598	MLPH	CTGCTCACCTGGGTTTACTGATGA
126599	TCF3	GAGATTCACCCAGCGCGAGGAG
126600	BMP1	GTGGAGGTGCGCAGTGGACTCACAGCT
126601	SUV39H2	TACCAAGCAAGGGGAATGGAGCACTTT
126602	TMPRSS3	GAGGTTAATCTAGGAATGACTCGTTTAA
126603	TEM8	GGGGCTGAGCTTGTCCTGCCTTCGT
126604	SCP2	CTCATTTCAATTTATAACGTTCTCA
126605	LYN	AGTTGCAACTTGGACTTGTCCTCA
126606	PBX2	CTACTATTTGAAAATTGGAGGGGGAAG
126607	CSDA	TAGCCTCTCCAGTTTCAGCAACCGC
126608	ADCY1	TTTCTTCTTTTCCCTGTGGC
126609	ECT2	GAAAGATTGAGAAACATTGTA
126610	FLT1	TACTCAGCTCCTTCAAACTCAG
126611	OGG1	GGTTCTGTGACCACTGCTGGAC
126612	GRLF1	CCCTCCCTCTGTTCCCTGGACCA
126613	TXNRD2	TCCTGGAGCGCCTGTGAGATGGTCAG

126614 BGN GGCTTCGCCTGTCCCTTTCACTCCACACCCTC
126615 TRIM9 CTCAGGATAAACATGCTTGTCTCCA
126616 DMD GCTCTGAACTAAAAGCATCCGT
126617 MTAP CAGCTTTCTGAGAAAAGCTAG
126618 WHSC1 GGAGTGTAGGCCTTCCAGTGCAGGA
126619 ALDH3B2 GAGTTGGTTTGGGAGCTGCCAG
126620 DPP6 TGCTTGGGAAACAAGCTCCT
126621 BTK CAGGACTGAGCACACAGGTGAA
126622 ELK1 TTTCTTTATTTCTCAGCCTGC
126623 SLC21A2 CTCATTTCCAAACATCTCACTCA
126624 MDFI GACCTGACAGGACAACCTAG
126625 WDR1 TGGTCACCGTTTCACCATCATGCT
126626 GOT2 TTTCTGCTGATGCCGTACCCTCA
126627 MYEOV ACCCTGTTTCTCTCTTTGCTTT
126628 HYOU1 GTCTGCAGAGCCTCAGTTAC
126629 LALBA TTGGGGGTAGCCAAAATGAG
126630 GPM6A TGCAGTATTACAGATATTCAGCAAAA
126631 ARHGEF1 CTGAGGAGAGGGAGCTGTGGGCCACGC
126632 N33 CGGATGCTCTGTCAGTCTCCTCC
126633 SIL CAGGCTGGAGTGCAATGGCAGGATCTC
126634 DAAM2 GAAGGTGCCAAGGAGGAAGGC
126635 BAAT CGGGACCTTCTCTCAATTTTCA
126636 PRLR GCGAAACAGCTTTCCACACAAT
126637 CR1 GCAGTGGCGTAATCTCGGCTCACT
126638 AGTRL1 AGGAGGAGACAGGGACGCAGG
126639 KCNA6 CCACCTCCCCTTTTGTTTCTCAGTAACATT
126640 ROBO1 AACCTGTTTTGTTAATGCTCT
126641 AXUD1 CACTGCACTTCAGCGTGGCCCACCTGC
126642 COG7 GGAGGCCAAGCCAGATGGATCA
126643 GNMT CTAGAGCAGACTACAGCTGGGGT
126644 PTPN11 TCAGCACAGAAATAGATGTGGACTTTC
126645 GNAL GAGCCCAATTATTCATTCTCCCTTTAT
126646 MSN CCCTGCCTCTGTTTGACAAACCTCTA
126647 TGFA AAACAGAGTAATGAAGAAATA
126648 ATP1A2 GGCGAGCCTGGCCAACATGGTG
126649 TAX1BP1 GACTACTAAATATTATGTAATA
126650 ADAR TCTTTGTCCAGTCTTTTGTTTT
126651 CASP10 ACCCAGACTGGAGTGCAGGGGG
126652 ALDH3A2 TTTATCATCCTGTGTTCTGTTT
126653 DGKB TGCATGCAATTAGCTCCCTCCTCC
126654 SNCA TTTAATTGAGCCTTTTATTAA
126655 PRKACB TCATCCCATGCCTCATCA
126656 DRG2 TGGTTAGTGGCTTCAAAGGCCCAGCT
126657 CDH1 AGCTCACTGCAGCCTTGTCCT
126658 EXO1 GGAGTTGAGAGTCTAAGAACCTCTGAAATTT
126659 TRH CCATGTGTAAACTTCACCCCCAGG
126660 PPT2 ATGTGGACGTGGATGAATGTAGGACC
126661 PAIP2 AATTGTAAAAGCACTCTTGTC
126662 MRPS12 TTTAAGCCAGAAAGTCCTGAG
126663 ZNF268 TCTGGAGGTGGAGGCAGTA

126664	TNS	CAGAAGCCTGGAGCTTTGGTTTGA
126665	SPHK2	TCTGGGAGCGAGATGCGTGTAGCTAGC
126666	SPARC	TCTCTTGCCATTTGTAGCTTTGCCCA
126667	MTR	CTGCTTCTGGTTTTCGAAGACTATTTA
126668	SIGLEC11	CCGAGATCGTCCCACTGCACTC
126669	ARHG	CCTAACCTGCTCCTCTGTGCCTAGGCC
126670	SLC1A1	CGATCGTTTCACATCTGTATATCAG
126671	TARDBP	GCTTCGGTGTCCCTGTCGGGCTT
126672	CDH19	TAAACAATCAGCTCACAGGCA
126673	TRIM14	GAATTGTGACAGGCAGAGGGTG
126674	LGALS3	ACATGTGTAAAGGTTTCATGTTC
126675	RXRG	CCTGCACTTTCCTCCACCTCCC
126676	CYP2B6	ACCCCATTCTCTTTTTCATCTCG
126677	ANKRD3	GGGGACTGAGGCGAGCCCCCTCAG
126678	CYP1A2	CAACATAGTGGGACCCTGTCTC
126679	FLNB	CCCCAGCCAACTTCATGGGTCACTTTT
126680	UBC	AGGGCACTGGTTTTCTTTCCA
126681	GNB5	CTTCTAGAGGAGCTTAGAGTTTATTGCA
126682	IRAK1	CCCAGGCACTGATTGTGGCAGAGGGG
126683	COX6A1	TGGTCTCCCATCCCTTTGCTTGT
126684	GCNT2	ACAGTCACCACTGTGCTCAA
126685	DBT	GAGGTTAGAAGTTTGA
126686	RNF3	GTGGATGAAGAGCATTTTTTAT
126687	STAM	CCCTGCAGAGGAATGAAACTA
126688	SPN	TCGGGAGGTGGTGGAGTG
126689	SHANK2	GCTGCTCTCCACCTCGCAGACT
126690	GLB1	TTACCTTTTTGTTAAATAAAATTT
126691	BCL11A	TACAGGTCTATACTTAAGGGAA
126692	ENC1	TCACAGCACAGTACACACAAAAAC
126693	FACL4	GCTCTGCCACACCACCGCGCGCCCC
126694	TTYH1	CTGGAGCCTGGCTCCCCTCTT
126695	JPH2	AGCCTCCTTCCTCATGCCTCCA
126696	STIM1	CCCTGCCTCCGTCCCAACCA
126697	ASTN	CTTCTGTTCATCCCCACCTTGCTA
126698	GRB2	GAAGAGTTTTTATTACAAA
126699	CISH	GGCATCCTGGTGCCTGCA
126700	BNC	GCATTTGCAGCATTCTAAAAGCCT
126701	FGFR2	GAATGTGCTTCTCTCTGGCAGCT
126702	DAG1	TTTGCTCTCCCGCTGTTGCC
126703	PER2	CTCTGCCTCCCAGGTTCAAGCGATTC
126703	SMAC	CTCTGCCTCCCAGGTTCAAGCGATTC
126704	SLC14A1	GAACCCAGGAGTTCAAGACCA
126705	AMACR	TATACATTTATTTACACTCT
126706	FMR2	TGTGCTGGTAAAATGTTTAACA
126707	RGS1	ACTGACATCTATGCTACATAT
126708	IRTA2	GTCTCAAACTCTAAGGTCGGCACTTGA
126709	WNT11	TGCCCACAGGCTGGTGTAAGGAGCGGGG
126710	IRAK4	CCAGGGAGGTAGAGGTTGCAGTG
126711	VPS41	AACTCCGTCTCAAAAAAGAAAAGA
126712	SIAH1	GAGTCAATACATAGTGCTGCT

126713	HMGA1	TTTCCTATTTGCAGTTACTTGA
126714	CDH17	CAGTCGTAGCAAGAGTCTCGACC
126715	DNAH11	CTAGCCTCTGCTGGAGTGCAGT
126716	ZAN	GCTTCTCTGTTCATTCTTCA
126717	TRIM39	GAGGAAGAGGAAGGACTAACGCA
126718	IFNAR1	TTCCTCGGGAGATATTTCA
126719	PLD2	ACTCCCTCCACCAGCCTGCTGACAG
126720	PCSK1	CCTGGAGACCGAAGCGCTTCACT
126721	EED	ATTAGAGTGTGTTTGTTGTCT
126722	SRP46	TTGCCCAGGTACAAGGCCA
126723	EN2	TTGGTGAGGACAGCAGGAGGG
126724	EDAR	TGTCACCCAGAACTGGATGGTAC
126725	BMPR1A	AGTACAGTTTTATCTAGCCACA
126726	PPP2R2B	ATTTATAACTTCTAGAAAGCCATT
126727	CDH13	CATTTTGACAGCATCTTCCTCCCTCC
126728	ITGA4	GGGGTAGTGGCCGCTTAGTGTTGA
126729	Z39IG	GCCTTCTTCCCTGCTACCTCTCTTCCT
126730	DCX	CTGCAACCTTCACCCTTCACCT
126731	TAF1C	CCTCAGCTGTGGGGGCCTCAGGCA
126732	ARHGEF5	AAGGAACTTTCCTTCTACTGCCT
126733	IMPG1	TCTTACTTTTCTTGTTACTAC
126734	NOTCH2	AGTTTGTTCATTCTCTGCTTTAT
126735	NOS1	AGGCGGATGCAGGAAATCATG
126736	CPSF4	GTCCCAGGTGGCAGCGG
126737	PLAGL1	TCTCCCCTAAAGCATCTCAGTTTCC
126738	MKL1	TCCTACTCTCACAGAAGGG
126739	B3GALT3	GGATACTTTGTGGAAAGTGTTAAA
126740	MHC2TA	GCCCACGCTGGAGTGCAGTGAGCCG
126741	ZNF147	CAAGTAGCAGGCTGTAGGCACTTGGGCTGA
126742	GNPI	TTCTAGTATTGTTTCCCCACTT
126743	CTNNB1	GGAACCTTGTTTTGGACAGTTTACCAG
126744	CD5L	GAATCCTCAAACCTGTCACTTT
126745	CYR61	AGTGTCAGAATCAGAATCATGGAGAAAA
126746	GPRK6	GTGGCCAGAGATTGGGCTGCCTGTG
126747	ABCC11	GCAAATGCTGTACTGACTTTGT
126748	FRDA	ACCTGTAATCCCAGCACTTTTGG
126749	MSH2	CAGGAGGTGAGGAGGTTTCGACATGGC
126750	SRGAP1	CTCTATCTCAAAAATAAATAAAT
126751	SPAG9	ATTTACCCTTTTTTATCTATTACTCTA
126752	APC	TCTATGTTAATTACAACTGCTATATAGA
126753	MYCL2	TCGCCCAGGCTGGAGGTTAATG
126754	NUP98	TGGCCAAACGTGTAGCCAACCTGCTGC
126755	ARHGEF7	GAACGTTTCCCCCACTGTGTT
126756	KCNK7	GTGGGAGGGGTAGTCGAAGAGC
126757	ASTN	CTCCTCCCCACCCTCATGACT
126758	OPHN1	GAGTTGGCATGACTCTTGACTC
126759	EDG6	GGGAAGTCCCGGCCCCTCTCTG
126760	CRTAP	TCTCTTGCCCAGGCTGGAGTGC
126761	EP300	GCTGGTTACCACCAGCCTTTCTTCC
126762	GNAO1	CCTGCCTGTGTTCTGTGCCCTGTGTC

126763	OXTR	TGTTTTTTCTCCTGGACTTG
126764	NEK6	GCCTTACAGCAGATGCTGAAGGCAGAG
126765	GCA	GCTCGTCCCGCTCGTCATGGCCT
126766	P2RX7	CAGTGGCTTCAAGAGTCCTTACT
126767	ADCY9	AACAAGTGCCTTCAGGGCTG
126768	CCND1	AGCTCCATTTTCTTATTGCGCTGCT
126769	PRKY	CACTCCAGGCTGGACGACAGAGCAAGA
126770	WSX1	CACTCCAGGCTGGGTAACAGAATGAGA
126771	CACNA1S	CTGGGGTGGGGGAGCAGGAGAAAGC
126772	MICB	ATACTCTTTTGTCTTTCTCTTTA
126773	CD209	GGCTCACTGCAACCTCTGCCTCC
126773	EIF5A2	GGCTCACTGCAACCTCTGCCTCC
126773	FZD4	GGCTCACTGCAACCTCTGCCTCC
126773	GPR81	GGCTCACTGCAACCTCTGCCTCC
126773	MPL	GGCTCACTGCAACCTCTGCCTCC
126773	MYCL2	GGCTCACTGCAACCTCTGCCTCC
126773	NQO1	GGCTCACTGCAACCTCTGCCTCC
126773	PCDHB16	GGCTCACTGCAACCTCTGCCTCC
126773	PER2	GGCTCACTGCAACCTCTGCCTCC
126773	SIGLEC8	GGCTCACTGCAACCTCTGCCTCC
126773	SMAC	GGCTCACTGCAACCTCTGCCTCC
126773	TPMT	GGCTCACTGCAACCTCTGCCTCC
126773	TRPV1	GGCTCACTGCAACCTCTGCCTCC
126773	VHL	GGCTCACTGCAACCTCTGCCTCC
126774	ABR	TTGAGTCTAAAGATGCAGTGCCTG
126775	OXCT	TTCTGCCAAGGCTACTTCCTT
126776	CHES1	CAGGTTGTCCATCCCATTGGG
126777	RNH	GCCAGTGCTTGGCAGGTG
126778	EDG8	GCTCACTGCAGCCTGGAACTCC
126779	CPSF6	GGGCTGATGTGTAAAGCTGTTC
126780	NCOA6IP	ACCGCCCAGGCTGGAGTGCAGT
126781	NDUFS1	TTGCCCAAGGCCACACAGCAAAA
126782	HLA-DMA	CACAACCACATCCCTTCCCCCCA
126783	HMGB1	GGTTCTTGTTGGTGCACAGCA
126784	ESRRBL1	TTTTCATAGCATTCCTTGTGT
126785	CNN2	GGCTGAGCCACTGGGCTGTGGGG
126786	FANCC	GGCCTGGCTGGGTGCAGTGG
126787	COL15A1	CAGACCCGCGAGATGGCACCAAGG
126788	MCC	TCCACATGGGTGCATTTGTAGCTC
126789	PTGIS	GACTAGATTCTCACCTGCCTTC
126790	CPS1	TACTGGTTTGCAGTTTTGTTTTCTGGA
126791	MCM3	GCCCTACTTCCCATCCCACACA
126792	NFKB1	TGGATCACAGCTGCTTTCTG
126793	PAX5	GCCCAGGTTCAGGTCACTTCGGAC
126794	BACE	GCGTGTGTCCCTGTGGTACCCTGG
126795	CRYZL1	TTGAGTCTCTGAGAGTGCA
126796	ATP11A	GACAGATACTTGGCTGTGATG
126797	GPR56	TCTTGACCTTGAAGATGGGAAG
126798	ESRRG	CAGGTATTTGTTAGTTTAGCTAC
126799	TCN2	TGAAGCATCTCAGACTCCTTGGC

126800	MTMR2	GGCTGAAGAGATCAAGA
126801	MKKS	TGAAGCAGAAGAATAAGCCAT
126802	ATM	AAACTCCTGGGCTCAAGCGAAC
126803	ALMS1	CTATTTTATGAACCTAGAGAAG
126804	SYK	AGGAAAATGTATCCAGAGGAA
126805	RTKN	GCACTTGGCTCCAGTCACC
126806	MEIS2	GGCGGGCAGAGGAGAGGGAGGCCGCGGAA
126807	SLC24A1	TACATCTCAGCCTTCCTGACCTC
126808	ATP1A2	TACTTAATAACACTTCACCTTCTGTAA
126809	FOLR1	TGGAGGCCTGGCTGGTGCTCAC
126810	CUGBP1	GTATTTTTATTATGTTTGTTTCTT
126811	OCRL	TCACCTAGGGATGTGTTTGT
126812	PCTK1	CTGCTTACTCTCTGCCT
126813	PIGH	TTTGTTGATGTTTGTGAAGCAA
126814	PKHD1	CTCAGTTTACCTGCACATGCTT
126815	TOX	TTACTTCTTGGTTCTCAGCT
126816	INPP1	ACTGAACTGTGAAACTGTTTC
126817	COL5A3	TTCCTGCCTCAGCCCAGCTCTGCA
126818	NF2	GGCTTTGTTTCCTTCTTTAGCTGCCG
126819	TMC2	TCTCCTCTCTTGGAATGCATGAACTT
126820	CRKL	TTCTTTGGACAACAGGAAG
126821	BCL7B	AGCGTGCCTCAGGTTACTTGA
126822	MGST1	GTAGGAGGGGAGCAGAGGAATT
126823	BACH2	CTACATACTTTTTACACAGATTCT
126824	SLC13A3	CTCTCTCCCAAGTATATGTCTGGT
126825	IREB2	TGGACCCAGGAATCCTTACCA
126826	LPIN2	TCACCAGAAGAACAGGTCTCACA
126827	GABPA	AACTGTTTCCCCTCTCTGCTGCT
126828	PPP1R12A	CGGCTTTTTCATTACAGAAAAGAACA
126829	MHC2TA	ACTCTGTGCCCCCAGTCTGGAATCC
126830	CHN2	TCATAGACATGCGCCACCTCCACGTGAG
126831	ZNF174	CGGAGCCACTGGGCCTGCGCGCC
126832	ACE	CCATTGCACTCCAGCTGGGAGACACAG
126833	COL1A1	CTGTTCTGTTCTGTTCCTTGTGTAACTGTGT
126834	GNAZ	TGTTTTATAAATCAAAACCTGGT
126835	IL13RA1	GAGGCAGCTTCTTTGCCAAGA
126836	GPR1	TGTGGATATGAAACTTAGGAAG
126837	MPP2	TCTCTTCTCGGTCTTTCCTCTCTGA
126838	TMEM1	TCCCAGCTAGGAGTGCACTTTATGGG
126839	IL16	AAGTAATCCTAGGGAAGGGTGGT
126840	VWF	GCTGCAGCTGCATGGGTGCC
126841	AHR	TCTCCGCCCCTCGCCCAC
126842	TRIM	TGGCAGCAGGGTGATGACCTGA
126843	DEC1	GAGGAAGAGCTGATAAGAAACATGCCC
126844	CASP10	GTCACCCAGACTGGAGTGCAGGG
126845	STAT3	TGTTGTTCTTAGACAAGTGCCTC
126846	CD209	GCTCACTGCAACTTCCGCCTCC
126846	FUT1	GCTCACTGCAACTTCCGCCTCC
126847	HOXC8	AGCATGAGCTCCTACTTCGTCAACCC
126848	HUNK	TAGGGGTTAGTGTAGGAGACCA

126849	NOV	AAGCTCAGGATATGGCTTAG
126850	ADAM21	CAGAAAGCTGCAAAGATCTTCCCTT
126851	TNFRSF10B	CTCGCCCAGGCTGGAGTGCAA
126852	ALDH1B1	TGTCGCCCAGGCTGGAGTGCAGTG
126852	CASP8	TGTCGCCCAGGCTGGAGTGCAGTG
126852	EHD2	TGTCGCCCAGGCTGGAGTGCAGTG
126852	GRINL1A	TGTCGCCCAGGCTGGAGTGCAGTG
126852	INMT	TGTCGCCCAGGCTGGAGTGCAGTG
126852	KCNJ11	TGTCGCCCAGGCTGGAGTGCAGTG
126852	LYZ	TGTCGCCCAGGCTGGAGTGCAGTG
126852	ORC1L	TGTCGCCCAGGCTGGAGTGCAGTG
126852	PAICS	TGTCGCCCAGGCTGGAGTGCAGTG
126852	PCDHB9	TGTCGCCCAGGCTGGAGTGCAGTG
126852	PIGR	TGTCGCCCAGGCTGGAGTGCAGTG
126852	SERPINB9	TGTCGCCCAGGCTGGAGTGCAGTG
126852	SLC13A1	TGTCGCCCAGGCTGGAGTGCAGTG
126852	SMAC	TGTCGCCCAGGCTGGAGTGCAGTG
126852	TAPBP	TGTCGCCCAGGCTGGAGTGCAGTG
126852	VIPR2	TGTCGCCCAGGCTGGAGTGCAGTG
126853	PPID	TGTCACCCAGGCTGGAGTGCGGTG
126854	PHKA2	GATGTATGTTAAAGCCACAGAGATAGAGCT
126855	SLC4A4	TTCATTGCAGCCTGAAATTTTAA
126856	CORO2B	CGGAAGCCTGCCTCACCCGAC
126857	GFAP	CTGTGGGCAGGTGGGAGCTTGAT
126858	COG4	GCTGAGCGAGGCTGTCTGGCTTGGGGG
126859	VAV1	GGCGGGTGGAGACTTTGGGAT
126860	FBXL7	ACATGTGTAATCAAGGCTCTGTGC
126861	ADAM12	CTGTAGTAGGCATTTTTACCATCACTG
126862	CHST5	CTCTGGCTTTCCTGGAACACAGATGTC
126863	FANCC	TCTGACCTTACTCTAGCAG
126864	BCL7A	CGGGGCTGACAGCTCAGGAGTGT
126865	GORASP1	TCAAGTCCCAAACACTGAGT
126866	DBT	TGAGCAGAGATCACACCACTG
126866	IL13RA1	TGAGCAGAGATCACACCACTG
126867	TBX6	TCTGTTAGGAAGCCATTCTA
126868	MYOZ1	CACTCCACGCATCCTTCCTCACCAA
126869	DPYSL3	CTCTCACTCTTCTGTCTTTGCA
126870	TNFRSF1B	CACTACACTCCAGCCTGAGCAACAGAG
126871	CBFA2T2	AAGGCTCCGCTCACAAAAGA
126872	EGFL5	TCATCATTGTTGTGGTGCTGCTA
126873	SNAP23	GCCACTGTGCCTGGCTGAG
126874	PVR	GCCAGACCTCAAAACGACGGGGGCA
126875	SIAT1	AGCTGGGTTTACATACCAGTCCCATTC
126876	TRADD	TGGGGCGTGAGAGCGGGGGTTAGGTG
126877	SOX12	TGGGGAGGAGGGGGCTGGTC
126878	CORO2B	AGGGTCTGATGGCTTCTAGGGA
126879	SLC4A7	ACGGTGCTTATTATTGTTTATGA
126880	BRCA1	TCAACAAAAGAATGTCC
126881	AIPL1	ACCAGCCTGGCCAACATGGTGA
126881	BRCA1	ACCAGCCTGGCCAACATGGTGA

126881 CRACC ACCAGCCTGGCCAACATGGTGA
126881 DBT ACCAGCCTGGCCAACATGGTGA
126881 DNASE2 ACCAGCCTGGCCAACATGGTGA
126881 FGFR2 ACCAGCCTGGCCAACATGGTGA
126881 GTF2H2 ACCAGCCTGGCCAACATGGTGA
126881 KIF3B ACCAGCCTGGCCAACATGGTGA
126881 LAMC2 ACCAGCCTGGCCAACATGGTGA
126881 LAMP2 ACCAGCCTGGCCAACATGGTGA
126881 MOG ACCAGCCTGGCCAACATGGTGA
126881 NUP62 ACCAGCCTGGCCAACATGGTGA
126881 OPA3 ACCAGCCTGGCCAACATGGTGA
126881 PAICS ACCAGCCTGGCCAACATGGTGA
126881 PDE4C ACCAGCCTGGCCAACATGGTGA
126881 SLC2A6 ACCAGCCTGGCCAACATGGTGA
126881 TCF7 ACCAGCCTGGCCAACATGGTGA
126881 UPK1B ACCAGCCTGGCCAACATGGTGA
126881 VHL ACCAGCCTGGCCAACATGGTGA
126882 LMO2 GTCTTCACTCTTAGGCACTTTG
126883 MTNR1B TGCTTTCTCCCCTTCCCCCCAGCAT
126884 PEA15 CTTCCCAAGTCTCCCTTTCCCTGTCTG
126885 PDE7A GCGGGCTGATCGCTTGAGGTCA
126886 SLC4A4 GTTTTTAAAAATGTCATTACTTTCAA
126887 LU GCCCTCCCTTCCTTCCTCTGCC
126888 NME4 CATTATCATAACCTCTCCTCT
126889 CTF1 ACTGCAGCCTCAACCTCCTGGGCTCA
126889 NCOA6 ACTGCAGCCTCAACCTCCTGGGCTCA
126890 PKD2 GGGCTTCTGAGTTTCATTTCCAGTCA
126891 HIS1 GTGGCCAAATCTGAGAACAAT
126892 POU2AF1 GCTTTCATTTCTGTCACATTTCA
126893 PKHD1 TACTATACATTGAAATGCCTGC
126894 DMPK TCTCCGCCCAGCTCCAGTCCTGT
126895 TCAP TTGCCCAGAGTTGGGGGCTAG
126896 ARHGEF7 AGCTTGTCTCCACCTCA
126897 DNMT3L CTTTTCCTAGAACAAAGGCA
126898 CELSR2 ACTCATGCCCTGCTCCTGTCTTGTGCTTT
126899 P2RY6 AGAGGCAGGGGGCGAAGTGCAGTG
126900 CCR9 GCCTTGGCCCTGTTGTAGGCT
126901 TRIM14 GAACCCAGGAGGCGGAGATTGC
126902 DAPP1 CGCTGCACTCTAGCCTGGGTGA
126903 FGR TTGATTTATTGATTCTGTAAA
126904 PCDHB16 GGCAAAGGTATTATGTAAA
126905 EXTL1 GACCAGCCCAGCTCCCTCCAGC
126906 FMR2 CTGGGGGTCTATCCTTTCATGGT
126907 COL18A1 GCTGAGCGCCAGGATGGAACACGGCCA
126908 DCTN1 TCGACCCTCAGCCCTCTGGTGCC
126909 TAF1C ATGCTCACTTGAGATTTTGCAG
126910 A1BG TTGCCCAGGCTGGTCTTGAACTCTTGG
126910 JRK TTGCCCAGGCTGGTCTTGAACTCTTGG
126910 PVR TTGCCCAGGCTGGTCTTGAACTCTTGG
126911 TOX AGCTAAATTACAACTTTTACATATGG

126912	SORCS1	AACTATACAATGTCTGTTTATTAAATT
126913	MAFF	GGGGGAGAAGAGGGCACCCCTCATCTT
126914	KCNA7	GCCTGTGATCCCAGCTACTCAGG
126915	SLC31A1	GCCTGTAATCCCAGCTACTCAGA
126916	CDKN2D	ACCTCCAGGGAGCCTAGAAGCTGG
126917	FKBP10	TCTCCCCAAACTTTCTCTTTCT
126918	ZNF265	CTTAAGAGTTTATCTTTTCTCTG
126919	DYRK2	GGAATGGAAACGTGTGTGTTCCTCCAAAT
126920	SLC1A1	AGAAAACAGACCAGCATAGTTCTGCAA
126921	APBB2	CTACAGCTGTTTGTGGGATGTTG
126922	DSCR3	GCAGGCTGAGTGCACTGGCAG
126923	CNTN2	CCCCAGACTCTGCTCTCCCAGCACTGA
126924	PIK3C2B	GCATCCCAGGCTGGTGGCAGG
126925	PCDHB7	AAAGCTGTATGAGTGTACCTA
126926	HSPA2	TTTGCACACCTGTTCTGTAG
126927	DSG2	ACACAGAGACACATACAC
126928	COX15	AAAGGAAGAACATCTGGATTTCA
126929	PPIC	ACCCTTTAGTTTGCTTGAACTTTAGT
126930	RNASEH2A	CTTGCAGCTGGTGGCGGCGGCT
126931	IQGAP1	TGAGCAGAGTTTACAGCTCC
126932	SRRM1	GAGCTAGTCCCAGAAAGGATCCTT
126933	KIP2	TGTGAAGCTGTGGGTGCAGTGG
126934	RPH3AL	CTGAGTAGGTGGGATTACAGATGC
126935	EN1	TCCAAGGAGGGAGGGAGCGCAG
126936	APM1	CCCGAGTAGCTGGGACCACAGG
126936	APPL	CCCGAGTAGCTGGGACCACAGG
126937	ARCN1	TCCGAGTAGCTGGGACTACAGG
126938	NLGN2	GGGGTGGGTGGGGAGGCCCTCCTC
126939	ADCY6	TCACCCAGTTGGTAGAGGAGTCAGGA
126940	LMNA	AGGGAAAGGGGTGCTTTTATAGAGGCT
126941	GPR61	CACCCCGGCTGGAGTCATGTG
126942	MYL2	AGGACTAGAGGGGGCTCGCTCGTGGA
126943	GAC1	AGACCCACAGCTTGAGGGGGCA
126944	COL1A1	TCTCCCCTTCGTTTTTGAGGGGGTCAT
126945	KCNQ2	GACGTGAGAGGGACGGTTCA
126946	PTCH	CACGTTAATCCTGGTGGCTTCTCT
126947	BDKRB2	AAATTTACATGGCAAAGAGCCCATAAATC
126948	SCN8A	AGATCCATACACCACAGGACACTACTA
126949	AVPR1A	CTTTCCTCTCTTTGAGATTGCCTC
126950	STXBP1	AAAAAGAGTATCTTATACAT
126951	C21orf5	AGACCAGCCTGACCAACATGGTGAGAC
126952	HMGA1	CTCCTTCACTGTTCCCTCTGG
126953	HUNK	TGGAAGAGAAGGTGAGGAGCA
126954	ZNF3	GCCGGTCCACCAAGTGTGTTC
126955	IL2RB	TCAGTGTCCAGTTGCAGCTGGA
126956	F3	GGGATTACAGGTGCGCACT
126957	TEM7	AGACCAGCCTGGCCAACATAAT
126958	BIN3	TCTCAAAGCAGGAACAGTGG
126959	ACVR2B	GAGTCAAGCATCTAGCCCAGGACATGA
126960	AK2	GAGGGAGGGCTGGTGAGGGGC

126961	FXR2	CCTCCAGGAGCTAGTGGAGGG
126962	SON	CTAATGCCACCATCTCCCCTC
126963	FMN2	GATCGCTATGTGCAATACTGTATTTA
126964	DXS1283E	TAAATTGAGGAACATGGAAAATGG
126965	MAN1A1	TGGTAATCAGGCACATGATGAA
126966	APBB2	ATGTTCTCTCGTCTTGCCACCAT
126967	ZFX	GGGAAAACTGGCAACATGCTAGTTAC
126968	EFNB1	CCCTCGGGGGCCGAAGCCCA
126969	MSF	CCTCCTGGCCCAGGCCTTGCTGA
126970	FKRP	TGGCTGCCCGGGCGACAGTACGCCCAG
126971	STARD5	AGAACCTCCACTCCCTCCGCTGCCATGA
126972	SLC22A5	TGTCTTTTCTCTCAAAGCTGTAAT
126973	PARK2	GGAGAGACCTTCTCTTAGGA
126974	EGFL5	TCTAAGGGAGGAAGGCAGCATTGGGG
126975	FSTL3	GCTTCCCCACTGCCTCTGT
126976	SMURF1	GGGTAGCAGATCAATTTCCA
126977	MYBL2	AACAACAAAGTTCCACTTCC
126978	EHD4	GCGTGCCTCCATCCCAGTGCCCCG
126979	SEPN1	TGCTGGGATTACAGGCGTGAGCAATCG
126980	CLC	AGGGCAGGGGTTGAGGGGCCA
126981	GRM7	GTTTGTGAGGACCTTTGCACTTTG
126982	MASP1	CTGGGTTCTAGTCCCTGCTCTGC
126983	SLC9A5	GCCTTTCTCACCACCTCCCTGCTCC
126984	LTB4R	AGCTCCAACCTACACTTC
126985	MAP3K14	TTTGCTGCTGGCTACCACTCTTC
126986	B4GALT3	GCCTTTCTCTGCCCTCTGTGACA
126987	TTC3	CTCCTTCCCCACCCCACCACAA
126988	GRB10	TCCACAGCCTTCAGCCTGTTCTA
126989	WNT6	CAGCCTCTCCCTGCCAAAG
126990	TMEM2	TCTTTACGTGTGTTTTTTAGAGCTTGGTT
126991	PTPRF	GTGTGTGTTTAACATTCACAGCCCA
126992	TDG	TTATTTGCATCCTCTCAGTTACTCCTG
126993	TCF2	CACTGCCTCTTTCCAGGGGCCTCTGG
126994	IL17	TCAAGGCACCACACAAC
126995	CAV1	ACCAACAACCTCAACTGCCTA
126996	CBS	TCGACTTTGTGTCTCTGTTGTC
126997	MAFG	CATGAAGAGATGGGCTCTGCTCTGAGA
126998	CDK10	AACACCCTTCTCGGAGGCTCAGGTCAA
126999	PLCB2	CCAGGAGAGCCGCCTCTGTG
127000	KCNK4	GGAGGGTGTGGGTGTCAGGCCAGCT
127001	MSH3	CAACCAGTTTATCCACCAAGA
127002	LTB4R	GTACTTCCTCTCTGGCTGA
127003	AUP1	CCGGGCGCTCCTGAAGCAGCAGT
127004	USP11	GCCCTTCCCTCTCCTCAGCC
127005	GALNT7	ACTACTGCCAGAGGAAGTTTGTTTT
127006	NR1I2	TAAGAACTAGTTTTGGGAAATGTAGCC
127007	ABCB9	GGCAGAGGACCCGGTGCCTGCCTGGCA
127008	GDF8	AATGGTTTACTGTCATTGTGTTT
127009	FOXE3	CCCAGGTTTCCTGGTGAGTTCCA
127010	FBXL11	AGAGGGTGGTGGACACCAGGC

127011	FOLR2	ACACAGCCGTGTATGCTCCCAGCAG
127012	MAP2	CCATTTGGGATACTTCCTCA
127013	TCF8	AATAAATCCGGGTGTGCCTGAA
127014	BASP1	CTCTCATCCTACTTAGCCTACCT
127015	FMO5	CTGGGAGCTCAGGTACTCTTTTAGTC
127016	SGCB	AGAAACTTGCTCAA
127017	PCDHB16	GGTTTCTCTTGAGATGAAAATGTTCTA
127018	WNT10B	CCCCTCTTCTGCTCCTTAGACACCTG
127019	SLC16A2	GGGAAGGGAGCTGGGGGAGGCAGT
127020	MCM5	GGCACCCTCCTTTCTGCCCCA
127021	VPS26	TGGTCAGGAACCAACTTTACTGGCAA
127022	SYP	TCTGTCTGAGCCCTGCCCTCACT
127023	FGFR2	CTTCCCTTCTTTCA
127024	ATF7	GGCTAGATTTGATGACATATTACCCGC
127025	ATSV	GGGTGAGGGGTGACACTCGGCTCTGG
127026	PIGR	AAGAAGCCACAGCTCTTCTTGGC
127027	RPP30	TGCTCACTGCAAGCTCCGCCT
127027	SERPINB9	TGCTCACTGCAAGCTCCGCCT
127028	LRP4	ATTGGAAAGGGGGAAGGATCTT
127029	GNAS	ACTCCTGAGGATGCTACTC
127030	HOXA11	GCGGGCTGGGTGTGGTCTCCACTGGGG
127031	CCKBR	ACACTGGGCCCTGGCTGGGAGTAG
127032	MAT2A	AGCACCAAATCAAAATCTCTCCA
127033	WHSC1	CGTCCGCTGCGTCTGCACTGA
127034	CBFA2T2	AAAGTGCCAGGATTACAGGCAT
127035	TGIF	AGGCCTGACGGAAGAGCCCAG
127036	CXorf6	CACAGCCCAGAATTCTGGGCAAG
127037	RECQL5	GGGGTCTGAGGCACATGGGA
127038	TRPC6	CAAATGCAAATCTTTAACTTCATCT
127039	SLC7A6	CTGAGTGGGGATTACAGGC
127040	DUSP4	AAATGACTCGCTTTTCTGCTTGCA
127041	AP1S1	CCCTGGCCTTTCACTCCAGTTCTGGGTG
127042	CXCL13	TTTCTTTATAAAATTTACTGTC
127043	MAPK8IP1	GGCCTAGGACCTCAGGCGGG
127044	SLC16A1	GCGCCACCACGTCACGCAC
127045	PCDHGA1	GCATGTTCCAAGACAGTATGGG
127045	PCDHGA10	GCATGTTCCAAGACAGTATGGG
127045	PCDHGA11	GCATGTTCCAAGACAGTATGGG
127045	PCDHGA12	GCATGTTCCAAGACAGTATGGG
127045	PCDHGA2	GCATGTTCCAAGACAGTATGGG
127045	PCDHGA3	GCATGTTCCAAGACAGTATGGG
127045	PCDHGA4	GCATGTTCCAAGACAGTATGGG
127045	PCDHGA5	GCATGTTCCAAGACAGTATGGG
127045	PCDHGA6	GCATGTTCCAAGACAGTATGGG
127045	PCDHGA7	GCATGTTCCAAGACAGTATGGG
127045	PCDHGA8	GCATGTTCCAAGACAGTATGGG
127045	PCDHGA9	GCATGTTCCAAGACAGTATGGG
127045	PCDHGB1	GCATGTTCCAAGACAGTATGGG
127045	PCDHGB2	GCATGTTCCAAGACAGTATGGG
127045	PCDHGB3	GCATGTTCCAAGACAGTATGGG

127045	PCDHGB4	GCATGTTCCAAGACAGTATGGG
127045	PCDHGB5	GCATGTTCCAAGACAGTATGGG
127045	PCDHGB6	GCATGTTCCAAGACAGTATGGG
127045	PCDHGB7	GCATGTTCCAAGACAGTATGGG
127045	PCDHGC3	GCATGTTCCAAGACAGTATGGG
127045	PCDHGC4	GCATGTTCCAAGACAGTATGGG
127045	PCDHGC5	GCATGTTCCAAGACAGTATGGG
127046	MLPH	AGGCTGGGACTCAGAGTTATT
127047	TIAL1	GTTTCTTATGTGTTCCCTAAAAC
127048	SYK	TCGCCTCACCTGGCGCAGGTGGA
127049	SYT1	CTACTGCACTGCCCAAGGTG
127050	DTNA	AGGAAGAGAACAGGACGTCTGAGTGT
127051	HOXD8	AGAGGTGGCGGCGGGCAGAGGGTG
127052	VIL2	GGGCAGTGGTGGAGCTGGAC
127053	ST5	TGTGCAGCTGACTGTCTCAGCCAAACCAC
127054	ID1	CATCCAGCCTGGGGCTGAGG
127055	DAB2	TTTGCTCCTGGGTTCAAGTAGT
127056	OLR1	TACCACTTCCTGAATCAGTTATTATTTCT
127057	RAD9	CCCAGCCAGTGGCAGAACTGGG
127058	TYROBP	AGCCCACCCTGCACCTCATTCCA
127059	STS	CTCCTGAACTGCTTTCCATTCC
127060	RAP2A	CCTCAATTATGAACCACCTT
127061	AEGL1	CCTACTTGTATATTTCTTTAC
127062	APCS	ACATCTGCAGTCTTTCTTCTTTGAATTTCC
127063	SPAG6	AATCCTTCTAAATATTTGA
127064	STIM1	CCTGCCTGCCCTGCCTCCGTCCCAACC
127065	GNPI	TCGCCTCTTTCCTTCACACTCCCA
127066	MAPK10	AGCTCTCTAAATTGACTCAGCTCCA
127067	LDHA	TTGAGCCAGGTGGATGTTTACCGTGTG
127068	SLC1A4	TCAGCTCTGCATCAGGTGTTTTCTGA
127069	PRKCL1	CCCCTGCCCCTGCCCGAGAGC
127070	RPH3AL	ACTTGTACGTGCACTTTGG
127071	CRABP2	CTCCCCTTACCCCAGTCA
127072	NFIC	CACAGCCGGCCCCCGGCCCAC
127073	RPP30	ATTACATCTGGTCTCTTCCTTCACTGC
127074	GOCAP1	TTTTATAGCTTTAATTTGTGT
127075	RSN	GTGCAGACTTCAGGAGAACTC
127076	GNAI2	CGGGATGGGCCACCGCCGAATTTGTA
127077	GASC1	ATCTGAAATCATCTCTAGTCT
127078	APOL1	TGGAGGTGGGATCCACACAGC
127079	E2F2	GAGACCCCCCTCCCCATCCCAGC
127080	RS1	GCTCATTTTTTGTCTCAGTGATA
127081	ASB2	CAGTCTCTCCCTGGCTCTCCCTCCATC
127082	RXRA	AGGTTGGACCGGGAGGCAGTGGCTTGGAG
127083	ACADS	AGGACTGCGGGAAGGCGCGGGAGCCAG
127084	LPIN1	GTCCTGCCTGAGGTTGCAGTGA
127085	FGF23	GGCATTTGAGTGTGCAAA
127086	PSCD3	GGCTGCGCATGTCCAGAAGCATTTC
127087	ADAT1	CAGGCCTGTAATCCCAGCACTT
127088	CNR1	TATCTGTGCTTTGCCCACATGC

127089	TNFAIP1	GCTTTGGTTTTCATTCCTTT
127090	GPX3	CAGGGACCTGACTTCCACCTCTC
127091	CTMP	GTGTATTGAACCTTTTACTGCAA
127092	RAB7L1	ATTAGTGCCAGTTAGTGCCT
127093	TRPC1	GATGGGATTATGCACTTCCCAATTGG
127094	GLRA1	TGAAAGGTTGGGGGAGGCTGGGAGAG
127095	OPA3	CCTCACCTTCTAAGGTCAGCTC
127096	SQSTM1	GTTCTTACAGAGTATCTTTAA
127097	KLHL3	AGAAGCAGCCGAGACGCCACTTGGATA
127098	CBFA2T2	TGCAGCTCCAGGGCTGGTGCTCTAGCA
127099	COX6C	TCCTCTTGATAAATAAACAAT
127100	KL	GCTACTTCTGTGGAAGTAGCTTTG
127101	RGR	CCACGTGTATGTATTCTTTTTG
127102	UMPS	GCTGGTCTCAACTCCTGGGC
127103	RFC3	GTGGGTAAATTAACTGAAC
127104	UBE2I	TGCCACCCAGAACCTGAGTGCGG
127105	SH3BP2	CTCACCAGTTCTGCTGCCTCA
127106	ITGB1	CTTCTTTCTTTAAAACAAACAAACA
127107	RAD23A	GGCCCCTCTTGGCCTCTGTCC
127108	PCTK1	CTTGGTCTGTCTGTCTCTGTC
127109	EYA2	CCTCAAACCACAATAGGAACCA
127110	ENAM	AGGGGCAGATTTCATAACA
127111	FZD3	ACTGCAGATAAGAATCACTTGGG
127112	SCN7A	ATGCCAACATGGCCAGGTCA
127113	CROT	GGCGGTGAGGACGGACAGTCACC
127114	RAB5C	CCCGCACGCTCTCTGGACCA
127115	GBF1	CTCTACTGCCCGTCCCGGACG
127116	KRT4	TCTGCCTCTTGGAGTTTGGT
127117	APPL	ACCAATCTCTGTGGCTTCACTCATGA
127118	GALNT2	TCAGTCTCAGAGAGGCTGGCA
127119	SARDH	GGCCACACTCCTTCCTTGCCC
127120	APPBP2	TTTGAACTTCCCAACCTTGTTTGA
127121	PSD	GGATGACATGGCCCTGCCTGAGC
127122	SLC22A12	CTGCCTCTCTGGGGAGATGCTGGAGG
127123	BIN2	ACACAGACACTTGCCTATACAG
127124	KCNK6	TGTGTGCTGGCCCTGTGCTAG
127125	GPR24	GGCCTGGAGTCAGGTTTGGG
127126	CCRL1	TAAAACTGCTCTGCCTTT
127127	PDE4C	CCTGTAATCCCGGTACTTTGG
127128	OPTN	CGGGCACAGTGGCTCATGCC
127129	SMG1	TGGGCACAGTGGCTCACGCC
127130	MFRP	CTCCACCCTCATCTCTCTGCGTA
127131	CA11	ACCAAGAGGTAGCCCTGGGGG
127132	SORCS2	CCTCCTCCCCCTCCTCTCTGGCAGG
127133	CHST5	TGGCCAACATAGTGAAACCCCCTCTCT
127134	FANCA	TTCATCAGCTGTGTGCATTTCAGGA
127135	GYG2	GGATCTAGAGATGCTCTCTGCTT
127136	B4GALT5	CCCTCTTACTTTTTCTCTTGTGGAAC
127137	MGAT1	CTGGTGCATGGCTGCCTC
127138	SRRM1	AGGCCCTGAGATCAATGA

127139	ACAT1	AACAACCTCTGCTATTTAAGGA
127140	FGFR1	GCTGTAACCCTCACCCACAGCCTGCTG
127141	LRP8	TTCCAGATCAGCCCAAGTTTACTATAGA
127142	SLC17A4	CTCACAGACATTTCTCTTTCA
127143	INHBB	TGCGGCCTGAGATATTTTTCTACAG
127144	ITK	GAGCAGCTGCTCACACAGGAGGCC
127145	SERPINB9	ACTATTTTAAAGTGAGAAGTT
127146	PTER	GAAGAGTCTGTTTTTAATCAT
127147	FBXO7	AGTGTTATTTTCTGATTGTGGTG
127148	ANGPT4	CACCCTGGGCTTCCTGAGCCA
127149	PPP2R5D	TCAAGCCCCATTGGTCCCAGAGTA
127150	MDM2	GGCTCACTGCAAGCTCTGCCCTC
127151	FACL3	CATATTGGGGAAGCAGTGATTTTA
127152	MGAT2	GAAGGGATTGCTTCACTGGTTTAAT
127153	SIGLEC9	AAGCACACAGGCTTTAGAGTC
127154	CSRP1	AGACCTCCAGGATTATTTCTCT
127155	IHPK3	TACATGGTGGGCACTGAGAGACAA
127156	SSA1	CCCTGCCTCTTTTCCCCATGAACTCT
127157	FZD4	CGTGGAGGTCCTGCCTAGAT
127158	NP	GGCCCCTTGCTGGAGTCATGTG
127159	IRAK4	TGATAACCACAGCCTGGGCTG
127160	KCNJ15	TTTTGAATCCACTATCTCTTTCCA
127161	NR4A1	GGGGGTGGACTTGGGAACAGGCTGTGTGTT
127162	DMD	AGTCTCTTCTATTTCTTTCTTT
127163	SLC6A6	TTACCACCTGGGGACCCAA
127164	FGF23	CCTTTCCCAATAGGAAACCCCAACAGG
127165	ALOX5	AGATGGACTCCAGCCTGCCTGGCAG
127166	GEM	ATTGATACCCTGTAGTGCAAA
127167	ST7	ATTTCTCCAGTGGATTCCCAGGGAC
127168	VENTX2	CAGGTAAGAGGGGAACAGCTGC
127169	GPR55	GAAGAACCCACAGACCAG
127170	RPH3AL	CACCTCCCGGGCTCAAGCGATT
127171	DTR	GAAGGTTGGAGGTGGGGAAGG
127172	HAS1	GTGATCAGGATGTAATA
127173	ADAM12	CCATTAACCAGATCTAGT
127174	NR0B2	CAAGCCTGTATAGACAGCACTT
127175	NRAP	CTGTTGCCTATCTTTGTCCTCTCTC
127176	PPP1R12B	GGAATACATCTTGACCCTTTTCC
127177	IMMP2L	ACATTGTGATTTGTACTATCTAC
127178	CRMP1	GCCCCTGCGTGGCCTGAGTCCTGGTC
127179	NCAM2	TAAATTGAAATGGGAACAATAT
127180	DGUOK	GGCTTCATCTACCTCCAGGCT
127181	DAB1	CAGGCTCTCTTGTATTCTTTCACCTC
127182	PIK3C2B	GTTTTGCTGACTCATTCCATA
127183	PKM2	GTCCCCACCCTCCACTCAGCTG
127184	LPP	ACATTTTCAATACTGTCCCA
127185	CHST7	TCCAAGTTTCCCCTTGTGGATGCGCGG
127186	DIAPH2	ATAGATAAACTTTTTGCCACTATATG
127187	MFRP	AGCATCAGCAGGGTCTCTACCCAT
127188	SNAI1	TCTGGTCTGACCGATGTGTCTCC

127189	HOXC4	GCTGCCTCTACCTGCCTGGT
127190	PROCR	AGTGAATGTTTATCTATCTT
127191	PTBP1	GGCGACAACTTCCATCATTCCA
127192	AIPL1	CCAGCCTGGTCAACAAGAGTAA
127193	CDC2L2	AGATCACTGCATGGAGATCA
127194	MS4A8B	AGTCCTCCTCCCTTTCTGGGCTT
127195	TCTA	CATATTCCTCTCAGTCCTTCTTGGG
127196	PTGIS	GGGCTTTCTCAGTGTCAGCACTCAGGTA
127197	INHBC	TAAAGCAAGTCACTGTGCC
127198	DES	CATCCCTCGTGGTCCCCAACAG
127199	FLRT2	TCTTGGCTGCACAAGATATCCAT
127200	RNF26	AGCTTCGTGAGGGGTCTCTGGCC
127201	GPRK5	AAATCCAATTGGATACGACAACTTGCA
127202	PATE	CCTGCATCCAGCTTCCCTGCCAAACTCA
127203	PIK3C2B	AGAGGAAGACTATTTGGACTTTTT
127204	TAF7L	GCTTCTAAAGGCAGTCTAG
127205	DDX38	TAATCCTTGTGTAAAGCAGCA
127206	DISC1	TCTCAAACTCCTGACCTCAGGCGATCCA
127207	FAU	TTCTCTAATAAAAAAGCCACTT
127208	SOX13	GTGCCTCTGGCTGCTGTA
127209	KRT2A	AGTGACGCCTCTGTGTTCTGGGG
127210	DSCR4	TCCAGTGGGAAAGAAAGAGCTTTATTTACAGA
127211	PRSS16	CCCTGCATGGTCACCTCAGTCCT
127212	MSI1	CCGCCTCCCTCCAGCCCTGGAG
127213	STAT1	TGTTACTGCCTATCAGCATTTT
127214	IFIT4	AGGTGGGCGGATCACGAGGTCT
127215	SFTPA2	AGCCTTGACACTCCCCTTGCAA
127216	RET	AGCACAGCCAGGTTCCCCCA
127217	SMP1	GCTGGGAGAAAAGCATGATTCC
127218	PTPN2	TGGAAAGAAAATGACATTTAAAT
127219	SCD	CACTACCCTGATTCTTGATTCCTGGCT
127220	STK38	CCCATACCTCAGCCTCAGGCGAGTGG
127221	HMOX2	CATATTCCGCACTGGGCACAG
127222	PTGER3	CTGCCTTTCTGCCAGGATCA
127223	ARCN1	GTGTTGCCCAGGCTGGTCGC
127224	FES	TTCACAGTCCTGGACTCCTGCCACCA
127225	RGS9	GACGGGGTTTTGTCATGTTGCT
127226	FOXD1	GCCCCGCCACCCCCTCCTCAGCT
127227	KCNE1L	TCTGGGCCGTCTAACTGGCAGCT
127228	KCNJ11	GTCTCGAACTCCTGACCTAGTGA
127229	APPBP2	GCCCAGGCTGGGAGGGCAATGGC
127230	CARD4	GCACCACGGGCTTTTAATTTTAATCCT
127231	RALBP1	GCACAGCCAACCATAATCAGCATG
127232	WHN	GTACACCCACCCACATATCT
127233	ARHGEF6	TGCCTTCAGGGCATCTTGAAATGTCC
127234	CASQ2	TTAGCACATGTGTAAGACACTG
127235	NUDT2	GGATAGAGGCCACATTGACTGAGGG
127236	SLC20A2	TCTCCCACCCTCACTGATCACGCC
127237	LTF	ATTCACTGCCCCCAGCTCTTC
127238	XYLB	TTCTCTCCCACACCCTGCCC

127239	CORO1C	AGACAAGGCCAGAGGGTG
127240	SLC12A7	AGGGGCCCCCAGCTGTGGCTCT
127241	GNAZ	CAGCTGCTCAGCACCATTTCA
127242	JJAZ1	CTCTGATTTTTGCCTCTGGATAGTAGAT
127243	FOS	TTCCTGGCAATAGTGTGTTCTGA
127244	KRT6B	GCAGTGTCCCTGAATGGCAAGTGATGTACCTT
127245	HIP1	GATCAAATTAAGATTCTCTGCCCAGCC
127246	CSNK1A1	TTCAGAAGAACGGCATGAACA
127247	SIAH2	CTGTTCTGTGATCTAAAACA
127248	PGF	TCCCTTCAAGACGAGGGGCA
127249	ASPH	ACCACCTTCCCTCCTCTCCAG
127250	PTGFRN	AGGCTGGCCCGGGAGGGGAG
127251	EVA1	GGATAGCTCCTCCTTGAGTGT
127252	GADD45G	CCCTCCGCGCTCTCCGCTTGTGGATA
127253	HLCS	CTGTCCGTGCCCATGCATCTGGAA
127254	HS2ST1	AGTGGAGCTTTCTGATTTCTTG
127255	TRPM5	GCACCCACCCCTGCCCTGACTTGT
127256	EIF4EBP2	TGGCTGAGGCCGGAGGATCGAG
127257	PACSIN1	TCACATGTTTTTCTTCCTTGTC
127258	SLC22A5	ACTTGTTTACATCTGATCAAAGCACT
127259	CNTN3	AAATGTTCTTAAACTATGAGTT
127260	DMC1	GTGATTCCCTCCCTTTCACT
127261	KCNK5	TACCCTGGCTGTGGGGGCATC
127262	OGDH	GGAGCAGGAGGAGGAAAGGT
127263	HUNK	CTAGGAGGTCGAGGCTGCA
127264	TTF2	CCAGGAGGTTGAGGCTGCA
127265	MYCL2	TCTGCAGCTCCACGTGGA
127266	AVPR1A	GGTCCTTTCATTTCCATTTAT
127267	AK1	CCCAGCCTGGGCTCCTCTGCATCTTG
127268	ADH4	TTCATTATACTTTTCTCTCCA
127269	CASP10	GGTCTCAAACTCCTGGGCTCAAGCGAT
127270	CYP1B1	CACATATAGACACATACAC
127271	GPR35	CGGGAGGTGCTGCCTGCCAGGGGA
127272	NEBL	ACTGAAGCTGCATCTATATGTCAC
127273	PTK2	TCACCCAGGCTGCCAGGCTGG
127274	TSC1	CAGGCTGGAGGAGGGTTTGGGCA
127275	IL1RAPL2	AGGAAGAGTCTGGGAGGCAGGCG
127276	ADAM33	GCTCATGCCTATAATCCCAGCA
127276	IL4R	GCTCATGCCTATAATCCCAGCA
127277	TEAD2	ACTTTCTCCCTCGCAGCGCC
127278	OSR1	CAGAGGGGCTGGGCCCAGGCAA
127279	MKI67	CCTGGAATTGTTCTGTACCTCTT
127280	RUNX3	TCCCAGGGTGGTCCCAGCTGGTGGGAG
127281	PIGK	GGAGGACTGCAAACTTGGATA
127282	LPIN2	CTAAGTCATTATTCTCTCAGTTACTCCAT
127283	PPP1R12B	GGGCCATTCTCATTTGATGTTCC
127284	AMPD2	CAGGCGGCAGAGGTGCTGGA
127285	CR1L	TGGAATAGCAGTGTTCCAGTGTGTGA
127286	MYLK2	CTGGTGGAGGGGGAGGGGAGAAGC
127287	TCIRG1	CCTCCTGCCTTCCCCTGTGGGCA

127288	CHES1	CTGCCCAAGTGAAAAGCAACCAAG
127289	PLGL	GTCCAAAACAAAAAATGGCATCACCTG
127290	GAN	GAAAGGGAGAGCAGAGATGGCAGC
127291	POU2AF1	CAGAGTGCTGGGATCACAGGC
127292	IL6ST	GAGCAAATGCTATTTGATAACAGT
127293	ZNF267	GTCACCTAGGGGTTCATAGAA
127294	ELK4	AGGCTGAGGGCGGAGAGGCGCA
127295	CLC	CCCTGCTCCCACTTTGTGAGAGCC
127296	HCN4	TGGTCTCAAAGCCAGTCCCAGCCTGAC
127297	PKHD1	TCACTGCACTCAGACCAGAAATCTAGA
127298	C21orf5	GCCTGTAATCCCAGCTACTTGG
127299	RB1	CAGGACCTTGGTGGACACTGTGTACAC
127300	ATP7A	GCAGCCCAGGCTGGAGTGCAGTG
127301	TRIM14	TCTCCCTCGTACAGCACAG
127302	NYX	TCAGGAAGAAGTGTGGAGGCATGG
127303	GUK1	TGGCAGGCGATACGGCAGCTCTG
127304	KL	CCTTTGTCATTATTAGTCTTC
127305	IL17C	CCTTGGCTCCCTGTCCTGCTCCC
127306	GJB5	TCTGGGAGCCAGTTCCTAGTCCTCAAC
127307	DEC1	AACAGCCTTGGGGTAGTGGCAA
127308	PAX4	GATGCAGTCTCCCAGGAGAGG
127309	MYBBP1A	TTCTCTCTTAAGACTCTGAGATTCA
127310	AP1S1	GCTGCTTCTCCTCTGCCCAG
127311	CLTB	CAGCAGCTGCTACCCACAGCC
127312	LAD1	CTGGCCAGGGGAGAAGGAGCTGC
127313	MCM6	TTTCATGTGTAAGAAAAGGCCCATT
127314	IL10RA	CCTGCTCCTCTGCCTGGACCA
127315	FOXE1	CCTCTGTCTGCACCGCGCCAGCCCCA
127316	PTGIS	GAGTAAGTTTCTCATCCCA
127317	DPP4	TACATACTATGGAATTTCT
127318	ITK	GGTGACTATGCCTCCTCTTCTGC
127319	IRTA2	ACACTCCTCCACCTGTCTCAA
127320	MPL	CCCAAGTAGCTGGGAGTACAGCG
127321	GPR45	GCATGTTGGTCATAGTCTGCACTTTG
127322	CARD15	AGACCCCTTACCACTGCTCTG
127323	KRT3	GCGCTGGAAGGCTGTGGCCTCTTGCTC
127324	DLEC1	GTCTACCTGATGAACCTGAGCGGGTGC
127325	PDE7A	AGGCTGAGATAGGAGAATCGCT
127326	STIM1	AATACTCCTAGGGCTCAGGACAAGTG
127327	FXR2	TCCCCATCAGACTGGATGTGCCTTTATC
127328	SCA1	CTGGGGCAGAGGGGGGAGGGAGGGA
127329	PC	GCTTACATGTTCATCTCTTGCCAAATAA
127330	IL1RAP	GAGGGAGGTAACAGAAAGACTCTTT
127331	PITX3	CCGGCCCCTGGCCCCTGCCTGCCCT
127332	EN2	TGCTATAGAGAACATTCTTCC
127333	FXYD1	TCCTCCAGGGACAATGGCGTCTCTTGG
127334	CASP2	CACCGGTGCAAGGAGATGTCTGA
127335	PAIP2	CTTTAAAATCAGTACATTTA
127336	MAGEB3	ACACTCCTGCCTGCTGTTCCT
127337	PCNA	GCCTGCCTGTAGCGGCGTTGTTGC

127338	DISC1	GGGTCTCAAACTCCTGACCTCAGGCGAT
127339	SIX6	GAAGAAGATGAGAGACCTGCAAA
127340	EGFL5	ATCATGGTTATAATTTTTCTC
127341	ALDH3B2	CTTTGCTCTCCCCTCTAGGCACA
127342	ZNF135	AATAGCAAATTCATGTTAGAAAAACTT
127343	DFFB	TCTCGAACTCCTGACCTCAGG
127344	MAK	CTTACTGCAACCTCCACCTCCTG
127345	PTGS2	GTGTATGCGAATGTTTCAGTGCCTCAGAC
127346	MAGEA5	ACAGGCTGACCAGGATCACCAGGAAG
127347	BDP1	CCCAGGCAAGAGTGCAGTG
127348	HDAC5	GGGCTGTCTTGCCTCACACTCCTCA
127349	FY	CCCTCATTTCCCCTGCTGTTTGCCCCT
127350	A1BG	AAAGTGTTGGGATTACAGGTGT
127351	WASF1	TGGAGTAAAGTTGCAGTGG
127352	MYD88	CTCATCTGCATCTTTCACACCTCCCA
127353	ICA1	CTGAGGCAGGAGGATCACAGTGA
127354	HOXB6	ATGGAAAGGGAGGGAAAGACAAGA
127355	DLGAP2	TGCATGTCTGTTTACACTTCT
127356	SIAH1	GGTGCTCTCTTTCTGTCTTCTACA
127357	HTR1E	TTCTTGAACATACTTGGTTCA
127358	B4GALT6	CATGTTTGCATGAGTGTCAGGGCT
127359	ANKTM1	CTCCACCTTCCTGCACTCATTCTCA
127360	PKM2	TCTGGCCCTGGCCCTTACTTGCTTC
127361	PPP2R5C	TTCTTGTGGTAAGAGCAAGTGCA
127362	GLTSCR1	GTCTCAAACTCTTTGGCTCAAGCCATC
127363	MMP12	TGGACTGAGAAATTATACTTAC
127364	RAD50	GGCCTCTCCATTTGCTCTTCA
127365	ELK1	CTCCAGCCAGTACTCCAGGT
127366	SF3A2	GCCTTGGGCTCTGGTGTCTCCCAGTCTGCT
127367	CDH1	CTCAAAGCCCAGAATCCCCAA
127368	F9	ATCTTCTTTGCTTCTCCAACC
127369	LIMD1	GGTTAGTGCTCGAGTGAAAACCTCTTT
127370	CHRNA3	CAGTTTTGGAGGTTGGGAGG
127371	TNFRSF10B	TGTCATTGTTTTCACAGCACTTTT
127372	HAX1	AGCTTCTCTTGCCACCTCA
127373	TEGT	ACTTACTAAAGGCACTTCCTT
127374	FLT1	TCTGACCCTTCTACATTTGAGGGCC
127375	APM1	AGGCTGGAGTACAGTGACACGAC
127376	ARCN1	TGTAACCCAGGCTGGAATGCAAT
127377	SLC10A2	GGCATGGTTCATTATCATGCCA
127378	SCN2B	GGCTACGCCTGTAATCCCAGCACTTT
127379	MECP2	GGAGTGGGTCTGGAGGACCTGC
127380	HS2ST1	CGTTGGTGCCATCAGTGATTTACAAAC
127381	WHSC1	CCACTGCACCTGGCGGGGTCTTGCTTA
127382	HYOU1	ACTGTGAGTCCCTATCCCAAGA
127383	PAX5	TGAGGGAGGGGCAGGAGAGCAGTGA
127384	SLC5A1	GGTTTATAATCCTTGAATATTGTT
127385	STCH	TGTTGATGTCAGGTATTTACAG
127386	MASP1	GTGGTATAGGGAAAAGGCTCCA
127387	MCL1	CTGTACTTTTGATAGCTGTGCCA

127388	ABCC1	ATGGTACCTGCTCATGGTTATGAAGCT
127389	CPSF6	AGGAAGAGGATCACCTTCCA
127390	VIPR1	GCCCCTGGGTCAGTCTGGTGGGAGGA
127391	FOXF2	AAAAGGCAGTGCTAAGCACAA
127392	SIL	TGAGTGTGTTTTATAAACTTTCTG
127393	UGDH	GTGTGAGCCACCACGCCTGGGCC
127394	FLRT3	GTCTTCCTGGGTTCTGAAGTAACG
127395	STAT1	TTACCTTTTTCCTTCCTTATCA
127396	GLRA1	AGGGTCTGAAAGGTTGGGGGA
127397	PACSIN1	GTTTCCCCTCAGTCCTCCTTTGCT
127398	PPP3CB	CCACTACTTCCCAGGGACTCTCACA
127399	TAL1	TGTCACTCAGGCTGGAGTACAG
127400	CKTSF1B1	GTGTTTTTGTGCCCTCCTGGGGACC
127401	RANBP2	TATTAAAATGGAATAATACTA
127402	ZNF18	GGAGAGGAGAGAATCTGGACATGGCTTTGGA
127403	KCNH5	AGAGCACAGTCCCATCCAGGC
127404	GPRK7	TCTTCATAAAGATGAGTAAAGTCTCA
127405	BCL2	CCAATCCTGTGCTGCTATCCTGCC
127406	GPR81	AGACCAGCCTGACCGACATGGA
127407	MECP2	CCTGCAGCTCTCATGCTGCC
127408	RARRES3	AGGAGCACCAGACCTCCTCTTGG
127409	CHD2	CACCCTTCTCTATTGTCTGGACC
127410	NCKAP1	AAATACTGTAACACTGTATAACATTTA
127411	HLF	AAGGTGTTCATTTTGTCAC
127412	CTSS	CTGGTTCTATCACAATGAAACGGCTG
127413	PTPRF	TTTGCAGCTGTTTTCAAAGCC
127414	VEGF	GCCCCCAGCCCCAGCTACCACCTC
127415	NOTCH2	TGGAATTCTGCCTGAATTGACC
127416	FOXE3	GGCCTGAGCCCTCTCCCCCGG
127417	FBN2	ATAGATGTTTATTTATTTTTA
127418	SORBS1	TAGCTGGAAATACTTGGAATATTTTCC
127419	ZNF36	GCCATCGTCATAGTGCACAGTGACTT
127420	TLR9	GCCGGAATCCTGCACGGTGCCA
127421	SFRS1	AAAGCGAGGACCTGGAGATAAACGCTG
127422	BBS4	ACAAGTCCCTCCCTGTATTTTGTTCT
127423	SHANK2	CCTGCTGAGGCTGCCCCATATTTTA
127424	PCTP	AGAAATTCAGGATGTAAAGCCA
127425	STS	AGTATATCTCTAGATGCAAATAC
127426	MPP2	TGGGGAGGGCAGTTTTGTAAAATAG
127427	RIMS1	TGAGTATTCAGCGAGGCAGA
127428	SORCS3	ATATAGAGAAATCTGGCTGGCTACAG
127429	SORCS1	GGAAGGTAAGATTCAGGGCAA
127430	CAPNS1	CACGAGGGCCGCGGTGCAGTGT
127431	G2A	CCCACCAGCCACAGTGCCCATG
127432	KDR	TGACCCAAGAATGTGTCTGTGTCTTC
127433	MCM6	GCAATCCCCAAATTTTATGG
127434	TNFSF9	GGGCTTGGCAGGGGTCCCTGCTGC
127435	MGST1	CTCTGCCAGCTGGAAGTGCTTGG
127436	SFRS7	AGATCAAGATCAGCTTCACTC
127437	LAMC1	GGCAGTTGTGAGGCCACAGAGTGCCTT

127438	CALB2	CCGCAAGGACCTGGAGATTGTG
127439	RGS9	GGTGCACGCTACCATGCCTGGCT
127440	SURF5	CTGGGCTCAGTGGCACTGCTGAGCTGC
127441	PKP2	GCTATGATTAAAACCATTCATA
127442	KIF5C	CCTGCAGCAACTAGTCTTAGCC
127443	PPP1R12B	CTCAGGAACTGACTTTTATTTT
127444	XPR1	CTCATTTCTTCCCTTTGTTCCTTA
127445	GPC1	TGGGGAGGGGTGGTGTGGT
127446	ZNF179	GGCTCTTGGAACCTGGGAGGCAGCA
127447	SCN4A	TCTGACCTCCTCTGGGCCCTGTCG
127448	CDKN1A	GGAAGGTGGGGTACTGGAGCAGAC
127449	IREB2	AGCAGTTTGCCACTGTGACTGTCT
127450	HK1	ACCAGTCCTAGCCGCGTGTGACA
127451	HPSE	TTTATCTTTCAAAATGTATTA
127452	SIAT7D	AAATGCTGGGCTCAGGCCTGGGTGCT
127453	GHR	ATTTTTAAACAAGTATTTGTTA
127454	FGFR1	TGAAGGAGGGTCACCGCATGGA
127455	EIF2B5	CATCCTGACTGTGGAGTTGGG
127456	B3GNT3	GGCAGAAGTGCCTGTGCTAGAG
127457	ADCY1	TGCCTGTAAGCCCAGCACTTTG
127458	PCDHB9	TTCCTGTAATCCCAGCACTTTG
127459	MEL	CCACCTCTTCTCTCAGTT
127460	DMC1	AAAATACAAAAATTAGCCAAGTGCA
127461	101F6	GGGGACACCTCAGGCACTGGGACAGTT
127462	PPP2R1B	ATCAGCCTGACCAACATGGTGA
127463	HS2ST1	AGTATTTCTCATTCCTGCCTCCTCA
127464	DSCR5	CCGTCGCCATTGCCAGAAAGAGCG
127465	FUT7	CGGGAGGGGAAAGGCTGCCGAGGACCC
127466	SLC24A1	AACAGCTTAATATCACTGGC
127467	EVC	CCAGCCCCTCACACCACAGCCAAG
127468	JJAZ1	TTGTTTTTAATCATATGTTCCAAAC
127469	WNT4	CAGTCTCCCACCACCTACCCCA
127470	PPARGC1	TGTTACAGCTATGCACTGTAAAT
127471	CRIM1	GCCTTGAGCAGTCAGCATTGCACCTG
127472	LDB3	ATGAGTGTCCAGTCGTGTGCATGA
127473	BAX	ATCTACCCTGCTGACCTCCC
127474	BIN2	TTAATGGAGGCGGAGGAGCAGC
127475	C18orf1	AAGCAGGAGATGCACCCCACAGCTCT
127476	APOA4	AGCTCTCCTGAGGACCTCTCTGTCA
127477	COL1A1	CAGCCCAGCCCGCTGCTCACTTTCCAC
127478	MS4A6A	AACAACCAGCCAATCACGAGA
127479	STK24	AGCAGAGAGGGGTGAATGGAAGA
127480	SLC2A2	CAATGCATAACTAGGCCTAGGCAG
127481	NR2F2	CGGCAGCAGCGGCAGCAGCGA
127482	ADCY1	GCAGGCCAGGATGGAGCCCAGGGTA
127483	ZNF195	TCATGAAATATAAGTCTCCA
127484	BACH2	CATCAAAGAAGAAGAAAAAGA
127485	CNGB3	TTTGATAGAGTCACCGTTT
127486	CD3Z	TCTGTTGTCACCTTCACCTCCTT
127487	TBL2	CGCCGTGCCGCCTGGCCCTCTCCCCCA

127488	FACL5	ATGCTTTTTATCTTTAACTTTTT
127489	DLST	GCAGCCTCTGTCCTGGCTGTG
127490	PHKA2	TAGAGCTGAGGAGTCCTGTGTT
127491	STX7	GCATATGCCTTTCATTTATA
127492	GPR1	GCTGACACCTGTAATCCCAGCA
127493	TCF7L2	CTGCTTTGTTTATGGTTTTGT
127494	TCEB3	CCCTGCCTGGAGCACACTTT
127495	KLHL1	CGCGCATCTCCAGCCTAAGGGTTGTCC
127496	SMAP	TCCCAAACGCTTAGTCTTTGTA
127497	SOX11	AAATGAGTAGTTTTTAAACATTTTT
127498	TEM7	TTGAGCCCGGGAGGTTGAGGCTGCAGT
127499	HEXA	CAGCCAGGCTGGAGTCAGTGT
127500	TNFSF15	CCTCCAGGAGCAGCAGGAGCATGG
127501	RGS16	GACCCTGCGTTGCAGCAGGG
127502	IL12B	GCAGGTGGCTTCTTAACAGCCCT
127503	C1orf1	ACGGGCTTATAATTTGCCATTTGTGAA
127504	CSRP1	CTGCGCTTTTCATCGCCATTCCA
127505	FGFR1	TCTTCCTTTTTCCTCTCACTCC
127506	VPS41	GTTAAGAATTCTCTAGCAAACAACAGA
127507	RB1	TGGGTCTTTTGCTACTAAGTTCACATT
127508	C7	CCCTGCAACCTCCGCCTCCTGGGTT
127509	VENTX2	GCGTGAGCCGGGACTGTACCCACAGCT
127510	MAP3K7	AGCAGAAACGACAAGGCACTTCA
127511	ALK	GACTCCTGCTCGCCTCCGTGCAGTTG
127512	RAD1	TGGCACATGCCTGTAATGCCAG
127513	MAN2A2	GGAGCTGGCCCTGCACATCCATAC
127514	IL6R	GGGAGGTCAAGGCTGCAGTGAG
127514	TACC1	GGGAGGTCAAGGCTGCAGTGAG
127515	EPHB3	CAGTGCTGGAGGTCCTGGCA
127516	NDRG1	TGTCTGACCCGGTCACGTTCTT
127517	KCNJ15	GTTAGGTGCTTCGTCTGAAAGTG
127518	DPP6	TACTTCCTGTAATGAGGACGTTCAACA
127519	MYL5	CGGGGAGGAGAAGGAGGAGT
127520	MYO6	ACAGATTTTATTAATCAC
127521	POMC	CCTGCTGCCGCCTCCCAGCCTGGG
127522	ID1	GGAGGCCAGAGAGGGCGTGGG
127523	KRTHB6	CTGCCTGCACTCTAAGCGCTCT
127524	TCF2	CCTGTGTGCTGGCCCTGGCCTGGATTAGAA
127525	CNR1	TTTACCTCTCTGTCATGTGCAGATGA
127526	HUNK	CAGGCTTCAAGAACAGCTGC
127527	KRTHA8	AGAGGCCAAACCCAGTCAAGGTCT
127528	CTMP	TACTTCCTGCGAGCATAT
127529	FABP2	CACATACATTGCCAATTTTCC
127530	CAPN1	TGGAGCCGCCTCCCGGCTCGG
127531	EXT2	TGTTTTCAGTTCCATGTAACAA
127532	JAK3	CTCATGGCACCTCCAAGTGAAGAGA
127533	CLTCL1	CTACCTGCAGAGTTACTAACTTCTCCA
127534	TAGLN2	GGCTGCAGGAACTTAATTTA
127535	EDARADD	GCTGGCCATGCAGGAGTTCAT
127536	DCX	AGTGAGGCATTGAGGGCCAAT

127537	KCNH5	TTGTTCCATAGTCAAAAGTATAA
127538	C7	AGATGGGTTTCACCATGTTGGCC
127538	SH3GL3	AGATGGGTTTCACCATGTTGGCC
127539	FMR2	CCATAAATATTACAAATGAGATT
127540	MSL3L1	GCAACTCTGTCCAAAAAGGTTT
127541	NBEA	CCCAGCACCTGGACATCTCTTCCAGAG
127542	NR4A2	AAGAGGGGGCAAGTCACATGGG
127543	NAPB	CAGAGGGAGGGTTAAGGCGCCTGGGC
127544	CRY1	AGCTCCTGGAACTTGCTCAGGCTCCGG
127545	IL17F	TTTGGCACCTTGATACCTTTAGGTGT
127546	MLLT2	GCCACAGCACATGGGGTGCCACCT
127547	IMPG1	ATCCAGACATACAGTCAACAC
127548	EGLN3	ATAAGTGTCCCATGGGGCAGA
127549	ADAM33	GCCGCAATCCAGCCTGGG
127550	PTK7	ACTACCACTTCCGCCAGGCCTGGGTGCCGCTG
127551	RAB7L1	AGTGTTTGGCTTATTTTCCA
127552	CLTCL1	CTGTGGGCCCTCCTGCTGGAGCCAG
127553	RNASEL	TTCCATATGTCTATAACAAAAGCAATA
127554	HIVEP2	TACAAGTGCATCACTGGTACAATTTTA
127555	IPP	AAAATATATAAAAATTAGCCGG
127556	AF3P21	GCCCTAAGAATGTTTTGCACTGA
127557	GAS7	GCCCCCACTCTCCCGGGCCGCC
127558	HMG20A	TAAACAGAGGAGAAAGGGAAAGAGT
127559	PODXL	CTATGTCAACAGGCCAAACAGCCA
127560	CD83	GCAGCCGCGCCGGCGCCCCACAGCTCT
127561	RAB5A	GGAAGTTCATTGAAGAGTCTGAAATTAGGGA
127562	PROL4	CCAGGAGCAACCACTCTGGTA
127563	VASP	GGGCATCCCCTTTCTGCTGCA
127564	STC1	CCCAGCCCACCTCAACCCAGAG
127565	GHR	GCGATCTTGACTCACTGCAATC
127566	UTY	TCCTCATCTTGTATAGTTCCA
127567	ADAR	CTTTAACTGGGAACACAGGCTC
127568	CCNF	TCCCCGGCTGGAGTGCAGTGGC
127569	HDAC5	AGGGGAGGGGCAGGAGTCCCAGC
127570	NCOA6IP	TTTTCATGTCTTTGCTTCATC
127571	IL17BR	TTGTAGCCCACCCATGAGAAG
127572	ARHH	CAAGAGACTTCACACAAC
127573	RORA	CACTGCACATCTTTTGGTGA
127574	STAC	GTCCCTGCTTGAAGGCAATGGA
127575	NR1D1	TGCCCCGTTTCTCCCCATCA
127576	SCML2	TGCCAATAAAATATTCACCAGGG
127577	HADHA	AAGCCACCTCTCTGCCT
127578	CSPG3	CTCCATCTCTCAGGGAGACAAAGAACC
127579	NHLH1	GTCAGCAGTGGAATGAAGGG
127580	EHF	CTGCCTCCCCTCCATCAGCC
127581	TIAL1	ACTTAGTTTTTCTCTTCCTTGTC
127582	NVL	TCATCCAGTATAGACTATGG
127583	TAP2	GTTGGGAGAGACGGAGCGGACCT
127584	MMP15	ACTAGCCTCAGGGGTCTGAGC
127585	PSMC5	AGCCTTTGTGTGTATCTCTCCA

127586	EGLN1	TGATATGGACATCTATTCTTTTA
127587	PDE4C	CAGGAGTTGGAGGCTGAAGAGAG
127588	HK2	CAGACCCCTTGGCTTTTGCTTGGCAGA
127589	KCNMB3	AGGAAGAGCAGAGAAATCTTA
127590	SCRT1	AGCCCCCTCCCCTCCCCTCCAG
127591	AKR1A1	TTCTCCAAACCCGCGCTGCGGAGT
127592	ESR1	TAGAGAAGAAAGAACAACA
127593	CYB561	GGGGGGCACCTTGCAGCCCCTTCCTGC
127594	ITGA3	CGCCGTGTCTCAGCCTCTGCCAG
127595	AQP1	CCAAAGTCACTTCCCCAAGATCTGCCA
127596	ADRBK1	TGGCCAGCCCCACAGCCCAC
127597	DSCR1	TGCTTTGGAAATTTGGAAGA
127598	GABRP	TCAGCCAACAGTACCAAAAGT
127599	CR1	TGTCTCCCAGGCTGGAGTGCAGTG
127599	XRCC2	TGTCTCCCAGGCTGGAGTGCAGTG
127600	EGLN2	TGCAGGACTTGGGGTTGAGGTGA
127601	IL12RB2	GCCCCTGCTCCAGCAGCTGTCATCTC
127602	AMD1	GGGCTTAATATTCTTTAAAG
127603	RELA	CAAGTGTCTTCCATCATGGATTCAT
127604	CELSR2	CTTCCCTTCCCCAGCCG
127605	RBM15	TTGATTTGTGCTGTGTACA
127606	PCTP	GCTGGGCTGCCTTCTTCTACA
127607	DYT1	CCAACTTGTCACTTGCCAGTCACTCCG
127608	COL5A1	GCTCTGTCCACACCCATGCGCCCC
127609	SPTB	GTATAAATATATCACCATTT
127610	ERBB2IP	GGATGGGGAGAGCTACGTGGTAGT
127611	GRB10	TCCTCACCTGGGTCCTCTC
127612	GFER	GGGGAGGGAAGGAGGAGCAGC
127613	GPRK7	ACTAGCCTGGCCAACATGTTGTAA
127614	WNT7A	GAGCTTGTCTTTTCTGCTGAGG
127615	CELSR3	CCAGCTCTACCTGGTGTGGCAG
127616	WSX1	ACCCCAGTCCTGGATTAGCCCTCTTGA
127617	STC1	GCCTGCATCTTCTTGCATCTAATGA
127618	EGR3	CTTTTGCCCTTTGTCATCACCAACACAA
127619	PART1	GCAAACGCCTGAGTGCTGCTG
127620	G2A	CCCATGTCCCCTCTGGAAGACAAAC
127621	CXCR6	CAAGTGCTGGCACCACCAGGCAC
127622	ABR	GACAGCCGCCTCTAGGGGCTGGG
127623	SLC21A3	ACCTGCGCCCATTGTCTGGCACTCCCT
127624	CPT1B	CTGTTCCTGAGTTTGAGTGC
127625	PTPRO	TTCTACCCACAGATCAACTGT
127626	FECH	CTCCCACTGCTTCTGGTCTCC
127627	PTPN7	CCTTCCTTACAGCCTTGGGG
127628	NRL	GACTTCTGCTCCCTTTCCAGTT
127629	MYLK2	GCAGGCTTTGTGAGAGAGGACCT
127630	AP1G1	CCTAAAGTTACTGCTGACCTTGAAGCATTGT
127631	AUP1	ACAGAGAGACGAGCCCAGGAGG
127632	TP53	TGTTGCCCAGGCTGGAGTGGAG
127633	MRPL49	TGTTGCCCAGGGTGGAGTGCAG
127634	ASB1	ATCTGGGGAGAGAATGAGCTGGAG

127635	TYRO3	AGCTGCCTCCAGCCTGGTGG
127636	SORBS1	CGGCAGCATTTCACCGATTG
127637	GPR35	GGATGGGGCCTCACACTTGCCACCCCCA
127638	CACNG3	AGCCTGCACCCTTCCGAGGGCCA
127639	HOXC11	CACTCCATTCCGGAACCTCCTGG
127640	ADAM28	TGGGTGTCTTTTTCTTTTCATCTG
127641	MADH9	GGAAACACTTGAGAGGCGATATTGTC
127642	CUL3	TCCTTAATTTGGAAAGCAGTT
127643	GTF2F1	CTGGGAGGTGGAGGTTGCTGTG
127644	KCNH2	ACTTCCTTTCTACCCTGCCTGTG
127645	NR2E3	AGAGGGGGCTCATGGGAGCCCT
127646	WHSC1	CTGTGGCTAGTTGTCTGTCCGGTGG
127647	ITGA5	TGGGTTCTGCCTGCCAGCTGC
127648	UNC119	TTCTCCCCACCCTGGGGCTCTTCTGT
127649	LASS2	TTCACATTCCTTTATTCTGAGAATTT
127650	SDPR	GTTTTAAGAAGAAAACATCTAC
127651	DAPP1	AGCTACAAGAAATATGTAATA
127652	KCNJ11	GGGATTACAGGTGCGCACCACC
127653	PPP1R3D	TGCCTCCTCAGGAATATTCTC
127654	GAS7	CTTGAAACATTGCAACCAA
127655	EPHA8	CACAAGGTCATGGGATCTCATG
127656	HNRPK	GGGGGTGGGACAGGGAGGAAAA
127657	RCN2	GCCCCCGCCAGCCTCCCTCCTCG
127658	PSMD5	CACTGCACACCAGCCTGGGCAACACAG
127659	MS4A2	TTCTCAATTACCTGTATTTG
127660	TAT	GCTGCTTTCTCCTTTACTTG
127661	DPYD	TGATCCTTGTGTTCAGCTCTT
127662	DSCR1	AGCAGTTTCACTGCCAACTTTT
127663	DACH	GCTAGAGCGAGACCCACACAAC
127664	USF2	CCTCTGCTGCCCCCTTCCCC
127665	DNASE2	CCAACATGGTGAAACCCCATAT
127666	CSNK2A2	CTAGCTGACCACAGACTCCACAGTG
127667	ATP7A	GCTCAGTTTCAGTTCACTCCTG
127668	ATP6V0E	AAGACTCCAGTGGGGTGGTCA
127669	DDC	CAGCTGTCTGTGGCTTCCCATGTC
127670	GMFG	TTTCTTTCGTTGTCTCTGGGC
127671	EPB41L2	GTCAGAATCTCTGGACTGGAGAATAAT
127672	BIN1	CCCCTGCCTGTGCCCGCATGTGTGCCT
127673	KCNMA1	GCTTGCTGTGTGAATTGACAAGCAC
127674	TACSTD2	TGGGAAAGAACGAAAAGGGAG
127675	PGAM1	CCCACTCCCTTCATACA
127676	EBAF	CCAGAAACCACATGTATTTGCA
127677	MTX1	ACTGGTTTTTCTACTCTCATGCATTC
127678	LHX4	CTGCGACTCGCTGGCTTTCGCTCC
127679	RAF1	CATGTTGCCTTCTTTTCTA
127680	ERBB2IP	CAGGTAACATTAAATGTGAAC
127681	IFNGR2	GCTGCCTCTAAAAGGCCTGTCC
127682	ARHGEF1	ACTCAGGGCTCCATTCTGGAGGGCACC
127683	SLC18A1	TGTTGCCTGATTTTCTCTGGCA
127684	POLL	CCTGCTGCGGCCGTGCCCCATCTCCCC

127685	LAMC2	CCCAGGAGGCGGAGGTTACAGTG
127686	SELPLG	AAGTGACCCCCAGCTATCGCC
127687	KMO	TGTTGACCAGGCTGGAGTGCAG
127688	COPA	TCAGAAATTTGAAGAAGTTATTTG
127689	RPE65	ATCTTTTTTGTTTAATTGTATTTA
127690	SRGAP1	CTTTGGGCCTAGTAGTTCGAGTCCAGC
127691	PTPN7	GGGGATGGACTTGCCCACAC
127692	LNK	CAAGTAGCTGGGATTACAAGCAC
127693	XRCC2	CAGGTAGCTGGGATTACAGGCAC
127694	SUDD	GGCCAGGCACGATGGCTCAAACCTG
127695	PIGA	AACTGTCATTGTTGTTGCCCAG
127696	HAS2	CCTGGGTTCTGCTGAGTCTTCCA
127697	SLC6A8	CGACACCCAGACAGAGGCTGCAG
127698	XBP1	GATACCCTCTGAGACAGAGAGCCA
127699	HTR7	GGTGAAGCCCCGGGGCCGGCAGCCGGA
127700	PLCB2	GGTTGGACCCACTCAC
127701	TRPV3	GTGGGTGGGCGGGTGCTGCAGCTGTG
127702	ITGA5	CAAGGATAGATGCTGGCCCAGGG
127703	CLCN6	TCTCTCTCCCCTGCACTAGCTGTCCC
127704	CIT	ACTGGCCACCACAAGCTGCAGT
127705	MLLT2	GGAGGCTGGCCCCAGAGATGATCTTGC
127706	BMP1	CCTTGTTACTCAGGAACCTCACCTTGG
127707	PCMT1	TCTTCTGCTCTTTCTTCTTCC
127708	CALD1	TTTCTACTGATCATCATAACTCT
127709	DEFA4	TCTGCTCGCCCTGCCTAGCTTG
127710	COX15	TCAAGAATGCATTAAGTGTGGTT
127711	PTPRN	CAGCCCAGCCTCTGTCCCTCTTTG
127712	KLK13	AACGTTCTGTCTGTGGCACATT
127713	PLA2G2D	TGCCTGTAATCCCAACACTTAG
127714	PSCD4	CACATTTGCACACCTTCCACA
127715	RPS6KA1	GGGCTCTCTGAGACTCTTTA
127716	MAT1A	CCCTCCCTCCCCTTGCCTGTGCC
127717	ATRX	TGTTTCAGTCCATCATCCAGC
127718	FGF23	ATATCCCTCGTCATGTGGCAGTA
127719	TRADD	TCTCTCCTCTTTTCCTCTCTTA
127720	SIGLEC8	TGCCTCCCAGGTTCAAGCAATT
127721	TAF11	TCACCTAGGCTGGAGTGCAGCG
127722	KCNK4	CCCTCCTCTCTTTCCTCACCCG
127723	PPP2R5B	CCGTCGCCCTCCCTACGGGCAGCCCCCG
127724	GRAF	CTGAACTTCGGCAACAGAATGAT
127725	MAG	GGCAGGAGGGGAGTGAGGCAGG
127726	ARHI	CAGCTTATTGACTTAATAAAGCTTT
127727	PLXNA1	TTGGGCCTTGAGGTCTGTGGCAG
127728	ETV3	CAGTCTCTCAAAAGACTTTGTTGT
127729	ESRRG	ATTTCTTAACATGAGCTCCAGTTT
127730	RNF28	GGTGGTAACTGAGTTTGTGTTATA
127731	CNTNAP2	GTTTTATCTGAAACATACTGGATTTA
127732	ALPPL2	CCCTGCTCCCCACCTCCAGTTCTGCC
127733	PIK3C2B	TCCAGGAGGGGGAAGAGGAGTG
127734	DNASE2	TGCCATCAGGATTGTTGAGGAGT

127735	MXI1	TAAGTTCAGCACTTGTCTCA
127736	GAS7	ATTAATCTCTAATTTTTTGG
127737	CR1	TCCCAGGCTGGAGTGCAGT
127737	XRCC2	TCCCAGGCTGGAGTGCAGT
127738	OGT	CTCCTATTAATTGTCACCCCACCA
127739	LILRB1	TTGGGAGGCCGAGGCGGGCAGATCACG
127740	ADRA2B	TCCCTGCCCAGATCCTGTAGGCCTCATCT
127741	SQSTM1	TGGCTTTCACTTTCTCTTTTGT
127742	RAMP3	CCCTCCTGGTGGGAAGACAGCTGGAAA
127743	AKT1	AAGGACTTCTACAGCTATGCGCA
127744	MFI2	ACCCCCAGCCTCAACTGATCCTC
127745	KLK3	CCAGCTCTCTGATTCCCCAAAT
127746	OSCAR	ACACAGTCACCCACAGGCCCC
127747	PPP2R1B	AGGCATTCAGGTTGCTTGCGTAGACT
127748	PPL	GGGTACTGGTGGCACACCAGAC
127749	F7	CTGAGCCTCCTTACCT
127750	PAPPA	TATTGATTTCACAGTCAGCTG
127751	CTH	AAAGAACATTAAAAGCAATG
127752	RECQL5	TACCTGTTATACCAGCACTTT
127753	CREB1	CAGCTCTTCCATAGGGCAGTTGT
127754	HTR1E	ACCATGCCCGGCTAATTTTTTGA
127755	HOXB6	ATCTCCACTCTGCGTAACAGGTTCC
127756	PPIC	TCCCCTTCCTCAAGTGGTGCT
127757	NR3C1	GGGGAAGAGGGAGATGGAGACT
127758	XRCC3	CAGCCACCTGGGAACACAG
127759	RTN4	GGCGCGGAGGCAGGAGGAGCAGT
127760	SOX10	TGAAGACACTAGAATCCTGACCT
127761	FPRL2	CTGGGCACAGGAAAAGGATCTA
127762	SEPN1	GCCAGGCTCCCTGTGTCC
127763	ADAMTS4	TGGGATTACAGGCTCCTGCCA
127763	APPBP2	TGGGATTACAGGCTCCTGCCA
127764	ROR2	GTGGAGCCCTGCTCCTCTCTG
127765	CD36	TGAGACAAGGGAAGAGAGATGAGG
127766	FMR2	GAGAACCAAACTGGATCACTGGG
127767	MYO1B	TTTCTTTCTTTTTCTTCAAATTTACA
127768	ANKH	CAGATCTTTGTTGTGTGGGAG
127769	MYO3A	GAAGATGTATTTCATCTCA
127770	PRKCG	CTCTGGGACTCTCCTCCTCCCCTCCTCTT
127771	EVC	GCCTCAGTGTTACTTCCCAGGATTT
127772	CD209	GTCGCCAGGCTGGAGTGCAGTG
127772	RABL2A	GTCGCCAGGCTGGAGTGCAGTG
127772	RABL2B	GTCGCCAGGCTGGAGTGCAGTG
127773	FLG	CTGCAGACCGCTCCAGACA
127774	MKI67	TGAGGGCTTCACAGGGCTGCA
127775	ZNF8	CCTCAGGCGCTGTCCTTCACTGGG
127776	ALS2	CTAACAACTGGGAAATAAGCAA
127777	RBMX	CTATCTGATTTTTCCCAGCAAA
127778	LMO2	AGGAAATACCCCCACCTGCCC
127779	LPP	GGCTCAGAGACAGAGCAGAAGACAGAA
127780	SMAP	TTCTATCTATTTAGAAATATGTAA

127781	KLRG1	TCTTTTCCATTATGTGACTGTTTGACC
127782	CDH12	ATGAGTCTTCTGAGAGCTAAGGAG
127783	LGI1	AGAAGCCCTGTTCATGGTTGGGGAT
127784	PPP2R1B	ATCGCGCCACTGCACTCTAGCCT
127785	CDH17	GCTATTTCAGCAACAACCATCTCA
127786	DGCR6	CAGGCAGCAGAAGTCTGGGCAGAGTTC
127787	FAT2	TCAGGGCCTGCCAGGAGTCTAC
127788	ADCY6	CAGCACTTGAACTGTCTGGGGT
127789	CHRNA2	GTGCCAGGGAGAACAGCCAGG
127790	SLC21A2	CCCTCCAGAAGCATACTGG
127791	PPP1R8	GCCATCGGCTGTGAAAGGAGATG
127792	OPA1	ACCATATTTATTTACTTCT
127793	HOXD10	GCATTTTGAATACATCCAGTACTTT
127794	ZNF41	AGCAGTTTTCAGGACTTAAGGCTCTGG
127795	COL4A4	TGCAGAACACATTTCAAATGA
127796	LBP	ACCCTCCTCCTCTTCACCAGGTGCATG
127797	SOD3	CCCGCGTCTTCAGCTGTTTCG
127798	HOXB7	TTCCCAGCAGCGGCACCAAGG
127799	PER2	TGATGATTTGTTGAGCCTTG
127800	XRCC5	AGTTACCACATTACTCTGCCTCT
127801	CDC2L2	ACCCAGGCTGGAGTGCAATGGTGAG
127802	CAV3	GCTGCATTTTGTTCGTGCCTGTA
127803	KCND3	CTGGAAGGAAAAAGAGGTAGCA
127804	TEM6	ATTTATTCTCAGCATCAAATACCTTGTA
127805	HTR2A	GGTGACTTTCCTATGACACTC
127806	CLECSF12	GACTCACTGCAGCTATCTCTCGCCTC
127807	SPHK2	GCTGGAAGGTGGGCGTCGTCACGGTT
127808	GATA6	AACAGCATTTTTTATAATGA
127809	SYNGR1	GAGATGGAGGGCGAGATTTGGATGGG
127810	COG3	GAGAGCTAGGGCAGACATGCAGTGA
127811	RAI3	GTCACCCAGGCTTGAGTGCAGT
127812	ACADSB	TATTATCATTCTAGTTTCAG
127813	FCMD	CATTGCACTTCAGCCTGGGCGA
127814	MLPH	GACAGGCTGGGACTCAGAG
127815	ZNF134	ATCATGAAATGCCTGA
127816	SLC22A11	TTTACACCTTCACTCAGCCA
127817	NDRG3	CCTCTACTCTCGTTATCTGACCTCATG
127818	PPT2	CTCTCCCACCTCATCCTCTG
127819	TNFRSF10B	ACCTCAGCCATCCAAATAGCTG
127820	ZNF253	CCGAGGCTGGAGTGCAATGA
127821	TJP1	GAATTCCCTCCCCCTGGGCC
127822	UBE2B	AGACCAGCCAGGGCAACATAAT
127823	TAF6	CGGGTGGCGGGGGCGGGTCTGAGTG
127824	IL21R	CTCTCGTCGCCCAGGCTGG
127825	PAEP	GGGGCAGAGTCTCTGGCAGAGGTT
127826	FLOT2	CCTGCTGCTCCTCAGAATCCTG
127827	WHSC1	GGCCAGGCTGGAGTGCAGTAAGTGG
127828	ITGB1	ACAGTTCTTCTTCTTGCCAGTGTGG
127829	COX5B	GGACGCAATGGCTTCAAGGTTACTTC
127830	SLC13A2	ACACCAAGCCCCTAGCTGGGGCACAG

127831	EPHB4	GAGGGAACCTGTTTCACTATGGCCTC
127832	DEFB103	ATAAAGTGACCAAGCACACCTT
127833	SPINT2	GGGAAGGGAGGGGAGACTATG
127834	DNASE1L1	GTGAACAATGCAGTCAGGCCTG
127835	RRM2	ATTTTATTTCTCACTGTATTTTCCTCA
127836	DNM1	AATCTGTTGTAGTGGTGAGCTGA
127837	PMX1	GAGGAAGAGAAATTTCTCTAGTA
127838	HHLA1	TATCTCCCTTCACTGACTCTCTT
127839	SPON1	CAGCTCAGCTCAGCTCAGCGCAGC
127840	ZNF192	GCACCTCACTCGTTATTCTCCA
127841	MRC1	CATGTGCAGAAGAATAAGGCAG
127842	F2RL3	GGTTGCAGTGAGCTATGATTGTAC
127843	B3GAT1	CTGTTCTTGGCCTTCCATCCTCTCCCCAC
127844	SNX6	TTGCCTCATTCATGAGCTGGTCAGC
127845	PML	AGCTTGCTTCCTTCCTCCTGG
127846	APBB2	TGTGGTCGGATCTGCCCAGCC
127847	ADRA1A	TCCCTCCAGCCGAGACCTTTT
127848	CAPNS1	TCTGGGAGGATGACTCCAGTCC
127849	EXT2	AGCTATGCAACCTCTGTTC
127850	TNFAIP2	CCTCCTGGGTCCTCTCAGGCTCC
127851	CENTD2	GGTCTCTGTGTGGTCTCCGCTGGCA
127852	GJB2	GCTGATTTAAAGAGGTGAGCTTGGGAA
127853	ADCY1	TGCACACCCCCCGCTCAAAC
127854	ART3	ACCACAACTGAGAGTGGGGAGTC
127855	IQGAP1	GCCAACAACAGCACCTCAATCTG
127856	MSL3L1	TTGTTACTTTGCAGGCCATCTGTGAT
127857	APM1	GTCTCGAACTCCTGGCCTAGG
127858	GFAP	GAACTCCTGGGCTCAAGCAGTC
127858	PSMD9	GAACTCCTGGGCTCAAGCAGTC
127859	EHD2	GCCCGGCTTCACACCCATTTCTTT
127860	SERPINB2	GTGCCTCAGAATTGCTATTTC
127861	HOXA1	CAGAACCTAAAAGTATTATTCA
127862	FMR2	GACCCATCACTCTACCTCTACCA
127863	LIMK1	GGCCAGGAGGCAGCCTCCGAAC
127864	EIF4G1	TTGGGGCAGGGTGGAGAGGTGGG
127865	TNFRSF1B	GGGAAGCGGAGGTTGCAGGGAGCCGAGATCA
127866	RGS16	AGCCCAGGCTGGGGAAGTG
127867	GPM6A	ATAGCTTTGCTTGCAGCCT
127868	TIMM23	CACCCAGGCTTGAGGCAGCG
127869	PCDH1	GCTGAGTGAAGATTAAGGGAGG
127870	FADD	GATTATGGGTCCTGCAATTCTACAGTT
127871	SCML2	CTGCAACCTCGCCTCCCTGGT
127872	MAPT	GCAGAGGGGAGGAGGAAGCACAA
127873	PIGR	TCCCAGGTTGACACCATTCTCCTGC
127874	MN1	CTCCAGCCCCCGGCGCCTGCCGC
127875	ABCF1	TTCTGCTTCTCTTCATATAACTGAGC
127876	WHSC1	GGGCGGCCGGCCCTGCCTGCGGGAGAG
127877	GRLF1	TGTGGAGGGGGTGGTGAGGAGG
127878	SSRP1	TGGGGAGAGATAGGGTGGGAGGCAGG
127879	PDGFB	TGTGCCCCTGATGCAGCCT

127880	SACS	TGGTGAGCTGCAAAATAGCT
127881	RERE	CCAGTTCACACCCTTCACTGTGCG
127882	TRPM6	ATGGAAAGAGGCAGA
127883	HOXB6	ACGCATGAAGTGGAAAAAGGA
127884	ARF3	CGGGGAGGGGGTGGAGTGAAGC
127885	UNC13	TGCTATTCCCCTCTGATATT
127886	MCOLN1	GACTGGGTGGGGAGGGTG
127887	CHRNA1	CCAGAGCAGAGAAGGGCA
127888	TNFSF10	CGGGAGGCAGAGGTTGCAGTGT
127889	MX1	CCTTGCAGCTCTCCCCTTCTCTGTATTCC
127890	CYLN2	ACCAGCACTCACCCTTGTCCACC
127891	ATP11B	TGGTCTCAAATCGATTTGCCTCC
127892	DPYSL2	GTGTCTGTTAGCATCTTCCTT
127893	SHMT1	TGGCGCGCAGAGTGCACCTTC
127894	CCNF	GGGGGGCAATGATACCTACCTCA
127895	CTNS	CCAGATTGGTTCTGAATTGGA
127896	TM4SF2	GCATCTTTGCCTCTCAGTTG
127897	DVL3	CAACCCAGTCCATGGCTTCTAGC
127898	GALNS	TGAGGGAGGCGTGTAGCTTCTTA
127899	TTYH1	GGCCTTGGGAGTAGCTGAGGGGG
127900	SLC22A12	CCACACAGAGACTTGCA
127901	TM4SF2	TAAGAGACCTGTTTTAAAAAGGA
127902	NPY2R	ATTTCTCCAGGGAGCCACAGGC
127903	HNF4A	AGAGCACCTGGTGATCACGTGGTCA
127904	SRR	GACAGGCTGACATAGAAAATA
127905	EEF2K	GTCTCGAACTCCTGGACTTAAGTGAGC
127906	TRHDE	CATCACTTATTTCAGCACTT
127907	EGLN1	TACTACCAATAACTTTTA
127908	SLA2	GGGAGGCACCCCCTCCAGTGCTCCTAC
127909	PGAM1	ACATCTGTAGACATCTTGAGTTGTAGC
127910	RBBP9	GAGTCAGGCAGGAAGGAGAAGC
127911	BDNF	AATTGATAATAAACTGTCCTCT
127912	KLRC3	CTTTTTCTGCCCTCCCTATTT
127913	EPHA3	CTGGCTCACTGGCTTTGAAAAGTC
127914	MECP2	TGTCTGTCTGGTCCATAGCT
127915	BDKRB2	TTGGCTCCCTTCCACCTGTCA
127916	PDLIM1	GCCGCTCTTTCTCCGACAGCTGCC
127917	LTB4R	GGTGCGATCTCAGCTCACTGCAGCCT
127918	EPHA8	TCTTACCCAATTTCTGGGCTCTGGA
127919	AXL	TATCTGAAGCCCTCCCAGGTG
127920	PTHR2	CTGCAAATTGATTTTGTTTGTAAT
127921	NR2E1	GTGGCCTTCAGAACTGAGT
127922	NT5C2	AATCATTACTGTGTATGTTA
127923	TMEPAI	CCCCTCCCTTCCCATGGGAGTG
127924	CASP10	AGGCTGAGACAGGAGAATCTCT
127925	WISP1	CCTTTCGTTCTGCTGACCAAATGGCC
127926	UBE2A	GCAAGCTGCTGACTGGGCACACTCATG
127927	ACPP	GATCAGCCTGGGCAACATGGTG
127928	PEX6	CCCTCCAGGAGATCCCAGGGTGCAAAG
127929	USP6	GGTCACATGCCATCTCTTCCT

127930	ADCY1	ACACCCTTGCTTGGATGAGGA
127931	PITPNB	GACAGTTTTCAGGCTCCTGTT
127932	PON1	AATGGATAAATCAGTTATGTCAA
127933	RAI14	ATATCTGAACTCCTAAATAAG
127934	PLS1	TTCTCCATCTTCCACTGTTAGTGC
127935	GPRK7	TTGCACTCCAGGCTGGGCAGCAAGAGCAA
127936	CLASP2	CAACAGCCCTGTCCACTGTGAG
127937	RBM3	TGTGCTGTGTCCTCTCAGAATT
127938	FGF8	AAAACTCAAGCAAGATGAGCTGTGCGC
127939	CDH1	TCGCCCAGGCCTGGGATGCAGT
127940	C1QB	TTGCCCAGCCAATGGACACAGTA
127941	NAPB	GACCTGCCTGCTGTGGTATGAGCTA
127942	TCF12	AAACCATCTGCCCCTGTCCCA
127943	NUP62	AAAATACAAAAATTAGTCAG
127944	ATRX	TTCCTTTTTCTTCTTTAGTCCT
127945	APLP2	TACTACTGTAGAACTGCAATTTCCATT
127946	GNPI	TCTGGCTTCCTTTCATTGTCTTAGG
127947	WWP2	AAGGGTCTTTGCCAGCAAAGG
127948	DBT	CTTCAGCTAAAAAATAGGATAA
127949	LILRB4	ATGCTCTCCCTCCCTTCATCA
127950	DAB2	ACTGAGGTTTGCTGCCTGCCTTC
127951	LTB4R	GGTTCACATGATTCTCCTGCCTCAGCC
127952	CMRF35	AGCCTCGGGCCGTCAGCAATACCTC
127953	ADARB1	GCCAGTGCAGTGCCCAGCTCCAAGGCT
127954	SIAT1	TCCTCAAGTTGCTACGGTTCAG
127955	NT5C3	CTGGGAAAGTTTGTAGAAA
127956	CYP7A1	TGCCTGTGTACAACAATGCTTT
127957	DAZ	AAAACATTGAAGTATTAGTTACTTGCT
127958	KCNAB2	CTCTCCCATCCTTTTCTGCTCCA
127959	ALDOA	TAGGAGGTCCCTGGCCAAAGATTTATT
127960	MCM3	AGTTTGTTCTGTGTTTCCCA
127961	SHANK2	GCTTCTTTGAGGACCCAGTGGGT
127962	HRH1	GGTTTCAGAAGCTGCAGCTGGT
127963	FSTL1	AACTCACAGCAGCACGCCTTA
127964	GA	CCATGGTCAATGCTGGTGCCAT
127965	DEC1	ATCATTTACTAGAAAGGCTTTTTC
127966	MYH8	ATTTTTGGTCACTTGCTTTAT
127967	GPR37	TGAAAGTTTTTAATTCATATTTTTCCT
127968	DSCR3	GCGATCCCTCCCCTCAGCCTCC
127969	C14orf1	CAGGCTGGGAATTGCAGTGG
127970	SCP2	TTCTGCTGAAGATTCAGTTTAAG
127971	GSTM5	TCCCCACTGTCCTCCATCAAAGTC
127972	ATP7A	ATTTAAACTGAATTTCCAG
127973	BMX	AGATGCTGGCCAGCATTTT
127974	SLC2A5	ACAGGTTCCTGTGGAGACA
127975	DES	GGACACCACACCCAGCCTCAGTCCT
127976	KRT14	CTGCTTCACCCTCACCCCCTCCTGGCAATCA
127977	TLR6	GCCCAGTCTCTTCTGGTTTAA
127978	TNFAIP2	CAGGCTGGAGTGCAGTGGCCTGGTCAT
127979	RORB	GCTGCTGCCCTTCCTCCTCCTCCTCAGT

127980	P2RX4	CCCAGGAGGTCAGCAGTC
127981	MEFV	GGCTCGAGCCTCTCCTGCTCAGCACC
127982	ZNF134	GGCTTGGACAGGCCCTGGTTGTT
127983	AMD1	AATCAAGTGGTTGGAACACTGT
127984	ZFP36	CCCTCTCCCCCACCTCTTC
127985	ZFP161	GAACATTGTACTCACTGGACTTA
127986	MAPRE1	CTCCTCTTTGGCTCCTTGAAGTTTGC
127987	MAPK10	AGACCCTTGAAGATGTAGCT
127988	MYCN	AGCCTCCTCCACCTCACCTCCATGACA
127989	RBBP9	TGTCTCCCAGGCTGGAGGTCAGT
127990	NCKAP1	TGCACATTCACTGAATTCACTGAGATTATT
127991	AIM1	GACAGGATCTCAGGCTGGAGTGCAGTG
127992	CTSL2	GTCTGTAATCTCAGAGGCTTGTT
127993	DLEU2	GGTACACATTTATTTACTGTTT
127994	TNFRSF10B	GGCTAATTTTTTGTATTTTGTCT
127995	HPCA	CACAGGCTGGGTTGGTCTGCCCCTCAG
127996	MMP13	TATTCAGATGTATGTGCCCT
127997	LILRB1	CACTGCTCTCCAGCCTGGCGA
127998	TCIRG1	GGCCTGGTGGGGGAGGCAGGG
127999	SOX11	CTGTTTTAATCATAGATGA
128000	GNRHR	TCACCAGCAAAGGCTAAGA
128001	p100	GCTGCGGGGTGGGGACCCCAAG
128002	C14orf1	CCCTCACTGCTGCCTCAACTTC
128003	FZD4	CCAGGCAATTTGTAGAGGA
128004	IL10RA	AGGCCATTTGGACTCTGCCTTCAAACA
128005	DBT	CAAGAGGTGGAGGTTACAGTGA
128006	PAICS	ATCCACCCTTTTCCAAGTTGATTGCC
128007	BRS3	TCTCCTAATACCATCTCGTT
128008	ABCA2	GGCCTCGGAACCAGCTTT
128009	KCNQ2	GCACAGACCACACACAGCACTA
128010	GRHPR	TGGATCCACAGGCAGAGCCA
128011	PCSK2	TTCTTTATTTCTGTCATTCAAATGGG
128012	ICA1	CCCTTCTCCCCAAATCATCAACAA
128013	DCK	GCTAGAAAGCATCCATTAATT
128014	HOXD11	ACAATTTTACCGCCAGTGTGC
128015	FLT1	ACCATGTGCAAGTCTGTGTCTTGTCA
128016	KCNF1	GGAGGGAGGGGTGTGCAGGAGCCGC
128017	CRSP8	ATGGGACTAATTATTCCCACTA
128018	TAGLN2	TGTCTCTGAGCTCTGTGTCCTCC
128019	PTPRO	TGGGCCCTGATGGTCAT
128020	RAD50	CCACTTCTAAGAAAAGCCTAA
128021	RARG	TGCTGTCCCCTCCCCTCTGTTTACA
128022	SLC7A1	CACCCTCCCCACCAGTGCAACAG
128023	SHANK2	TCCAAGCCACATGCCACTAACCA
128024	IRAK4	GCAGGCAGATCACCTGAGGTCA
128024	PRKY	GCAGGCAGATCACCTGAGGTCA
128024	SPTLC1	GCAGGCAGATCACCTGAGGTCA
128025	ACY1	TGCCCTGCCCAGTGACAGCTGG
128026	SVIL	CGGCGTTAAGATTTCAACAAGA
128027	GLTSCR1	ATCTCGGAGACAAAACTAGTACTG

128028	TMOD3	CTGGGTAGAAGGGAAAAGACTGG
128029	ANXA11	AAAGGGAGGCGTGCCTGAGAAGGTAGC
128030	AF3P21	GGGAGGGGATAAGGTGGCAGAA
128031	OTP	CTCATCTGAGGGCCCAACTG
128032	SFRS7	TTGTCCATTTTATGCATTTCA
128033	CASP10	AACTGCACTCCAGCTTGGGCAACAGG
128034	PHF1	GGAGGGGGCATCTTCTGAACAGC
128035	MTL5	AGCTCACTCTGGTCGACTCTTCCT
128036	ADAM12	GCCAGAACTTGACCCTGAGCTGA
128037	FOXE3	ATCCCAAGCCGCCTCCTCCACCG
128038	NCOA6	CTGCCCTTTGGGCTGGATTACC
128039	RABL2A	GCTCGCTGCAACCTCTGACTCC
128039	RABL2B	GCTCGCTGCAACCTCTGACTCC
128040	CD244	AGGTTGCAAGGCAGTTCTGCTC
128041	FADD	CAGCACTCTCTAAATCTTCCTTGTGA
128042	RPP30	TCAGCACTCCCTTCTTCCCTTTTATAG
128043	ARSE	GAGCCCAGGAGCAGAGGAAGT
128044	KIF3C	TGTCCCCCTGTCAGCTGCCTC
128045	SMARCA2	TGTACTTAATCTTTGCTTTCTTTGCACA
128046	GLUL	AAAGAAGAAAAGGTTCTTACTGCT
128047	PHEMX	CTGCCACCTGGCTGCCCACAG
128048	CCR9	CTTTTGGCCCTCTTCTTTCTGA
128049	MTAP	AAAGAATGTGAGGAAGAAATGGGACT
128050	BRF2	TGTCCCCTCCTACTTCTTGCTGC
128051	SOX10	GTTGGTGGCATCGGAGGCCTTACCACT
128052	DPH2L2	CCTGGCCTCTGCCCACTAGACA
128053	GPR4	CTCCTGTCATAATTCCATCCCTCC
128054	CACNA1A	TCGCCCAGGATGGAGAGGCGGGT
128055	FMO1	GCAATATTGCCTTCACAGTTAT
128056	FRK	GACTAAGGGGAGAGGGAGAAGC
128057	CHRNE	TTACTTGCTGCTCACACTATA
128058	PRX	AGCCTGGATGCCCACCTGCCCTCA
128059	TNFRSF1B	TAGCTCAGGAGGCTTGGAA
128060	NR3C2	AGCTTTGGGAAAGCCTGCCTCGT
128061	CYP4F3	ACAGACACTGACTGTTTTTGT
128062	NCAM2	AATTTCTTGGGAAACTTCTAGC
128063	TNFRSF11B	TAGATGCTCTGAGAAATTGAATGTA
128064	ITGB3	GCCTGACTCTCAGCAGCTATG
128065	BCL2L2	CAGTTCTGCAGCTGGCC
128066	EPHA8	GCCCAGCCCTGACACCTGCCCT
128067	SOX10	TTCTCTCTCACAGATAGTGAGGGTCTG
128068	INMT	TTCCATCTTCTGAAATTCTGAGATT
128069	MTNR1B	AGCAAGGATGAAAGAGAGAGGTC
128070	A1BG	CAGCAACCTCTACCTCCTGGGT
128071	KMO	TAATATCACAATGGAAGGAA
128072	PPP1R3A	CCTGCACTCTGTCTCTCCAA
128073	FGFR2	GGGGAGGCGGAGGTTACAGTG
128074	CDK10	GCAGCTGCTGGGCACGCCCAG
128075	EPHB2	CAGCCTGGCCCTCCTGGTGC
128076	NGB	TCTGCTGGGAACTCCCTGACT

128077	SIAT6	TTGGCAGTGTGGCAGTGACCATGGC
128078	FHL2	AGCTCACTGCAAGCTCTACCTCTTGGT
128079	A2M	AGCTCCTTCTTTCTGCAACA
128080	ERBB3	CACAGGCACTCCTGGAGATATGA
128081	SRM	CCAGGCGCCACCACTGATGCCAC
128082	CXorf6	TACCATTCAGACCGAGAGAA
128083	SLC6A6	CCCACTCCCCACTCTCAGCCTGGG
128084	TERF1	AATAAACAAGGTCATACATACCTT
128085	A1BG	CCTGAGTAGCTGGGACTACAGG
128085	ALOX15	CCTGAGTAGCTGGGACTACAGG
128085	DSC3	CCTGAGTAGCTGGGACTACAGG
128085	FEZ1	CCTGAGTAGCTGGGACTACAGG
128085	FUT1	CCTGAGTAGCTGGGACTACAGG
128085	G2A	CCTGAGTAGCTGGGACTACAGG
128085	GHR	CCTGAGTAGCTGGGACTACAGG
128085	INMT	CCTGAGTAGCTGGGACTACAGG
128085	PDE6B	CCTGAGTAGCTGGGACTACAGG
128085	PRKWNK3	CCTGAGTAGCTGGGACTACAGG
128085	PTGIS	CCTGAGTAGCTGGGACTACAGG
128085	RPP30	CCTGAGTAGCTGGGACTACAGG
128085	SHOX	CCTGAGTAGCTGGGACTACAGG
128086	ABCC3	TGTCCTACTCCTTGCAGGTGAC
128087	FOXF1	TTGTATTTTGGCTGCTAGAGTGCAGCATTTG
128088	HMGCR	ATTCCAGGAAACCATGGCAGCATGG
128089	PCMT1	TGTAAATATTAAACCTTAAGATGGCA
128090	MEOX2	GTGATGTTTAATATTATTAAATCCAGG
128091	D10S170	CTGCTGCTCCTCCTCCTT
128092	PYGO2	ACCCCCACTTCTCTCAGTTCC
128093	MASP1	GCTGCTGCTGCTGCTCCTG
128094	ELMO2	AGGTCACTAGATTCTACTGCTCTT
128095	ZNF278	ACATGCTGTTGGGTTTTAATTCTCTA
128096	KLHL3	TCACGGGGACCAGAACACTGGTA
128097	SMAC	CCAAGTGCTAGGATTACAGGC
128098	IL5RA	CAGAGATAAGGTTCGTTCTCAA
128099	FGF23	TGGCAAAGCCAAAATAGCT
128100	TMPRSS2	TTGCTACCTCAGTGCTCCT
128101	ARHGEF12	TAAGGCTGTATGTTTCTGGAACAAAATAT
128102	SCN1B	CTGCTTCTGCTGCCTGTTTGGGG
128103	ATP2B4	GAGGCAAGAGCACAGACTTACA
128104	SLC29A1	CCTCCTGCCCCTTCCTTCTGCC
128105	NR1I2	GGGAAGTGCAAATTGGATAGAGAA
128106	P4HB	GCACAGGCCTGGGCCTTCCCCTTCCCTCAA
128107	KIF3B	CATGCCTGTAATCCTAGCACTT
128107	TRPM1	CATGCCTGTAATCCTAGCACTT
128108	MYL4	CTGGGTGAGCTGAGATGGAGTC
128109	ITPR1	ATAGAGTTTATTTTTTCTTCAT
128110	HSPA5	CCACTGTACTCCAGCCCGGCACT
128111	AMT	GGCGTGCCTGGCAGTGTGGTGGCC
128112	TSGA10	GCACCTGAAATGATTCTTCAC
128113	DHH	CCCTTGCCCAGCTTGCCAAGGTGA

128114	GJB6	GGAAAAGATATTTTTATAGGCTTGG
128115	PDGFRB	GTGCCAGTATATGGCCCTGGCTCTGC
128116	TNFAIP1	CCACTGGCCTATTTTCTCAGC
128117	UBE2V1	ACAGCCCTCTAGCCTGGGGGG
128118	PGK2	TCTGTTTTCTGTCCATGGCCC
128119	SSR2	GGCTCCTCTCCCAAGAAATCCAGGT
128120	ELK1	AGACTCCTGGGCTCACCTGTTAGCGCT
128121	CD5	GTCAGAGGCTGCTCATCTGAGCA
128122	KMO	AGTGGTTTTTTCATTATGTAA
128123	NDST2	CCCTAATGTCATTCACATT
128124	CRYAA	GCGGCGGGCCCTGCCCACAC
128125	TCEB3	GCCCCTGGGAACCTGCGTGCCACA
128126	PTPRF	GGTGGAGGCGGCGGCGGCAGAGGAG
128127	EGLN1	TTAGGGGCAGAAAAACATTTGTA
128128	PRDM2	CCTCACATGGGCAGAAAAAT
128129	ZNF200	TTCCTCTAGTAAGAGGTGGCTC
128130	A1BG	GCCACGTCTGGCTAATTATTATT
128131	CBFA2T2	AAGCAACAGGCGGCATTCAGGACTC
128132	RUNX3	CCCAGCACTTTGTAGTCTCA
128133	GJB6	GCTTCTAGGCACTCCAGTGGGG
128134	RAD52	ACAGCTGCAGCAGGTGACCTC
128135	ABCA4	CCGGGCCATCCCACTAGCAGCTTTGG
128136	PXR1	TGTGTCATCACTGCAGCGGTCCTC
128137	PSMD5	CCCCAAGAATTATCATGGAATGTCAGA
128138	ARHGAP6	TAGGAAGGGGGAGTGGCGCTG
128139	UNC5C	ACAGAGAAATCACAGACTTTTG
128140	VNN1	CCGATAACAGCCATGCACTGTGCA
128141	RPS6KA1	AGCTTTGGGATCCCACCCTGGG
128142	HIF1A	TGAGTAATTTTAGAAGCATTATTTTAG
128143	JAK2	CCTTGTTCATTTATATCGCTGGCCAG
128144	TLR5	TTGCCCAGCTTTCCTGGCAATT
128145	IL2RA	ACAGAAGTCATGAAGCCCAAGTGAAA
128146	NAPB	TTTGTGACTTCCTTTGGAGGACTTGGC
128147	MYO7A	GCCTGCTCTCGAGGCAGCAGTG
128148	TIAL1	TGTATTTCAAAATTGATT
128149	TTID	GAACAATATTCTTCAAGAG
128150	TOP3A	CCATTTGAGCCTCATCTCTGG
128151	CML66	TTCAGTGGTACCTGGAGGTCTG
128152	TNFRSF10B	CGCCCAGGCTGGAGTGCAACGG
128153	PFKL	CTCTACCTGGCCGGTAGGCTGCTGGCGCC
128154	NCOA6	CGCCCAGGCTGGAGTGCAGTCG
128155	MCC	GCTTTCAGCACTCACTCTCCCCCT
128156	C20orf1	GTGGGAGACAATGTCACAAGTT
128157	FZD3	CAGCTTTTGCCCCACACCCT
128158	EGFL4	CCAATATGGTGAAACCCCATGT
128159	NID	GGACTTCTCTAATAGAAAAG
128160	ATP7B	TGCTTGTCAGTGGGGACCCCTCGC
128161	SLC22A12	GCCAGCCACAGTGGCAGCTCT
128162	RAB5B	ATTTGAAAACATTGCGGTATCCATGA
128163	MDK	TCTGGGAAGCTTGAGCCTCCCCCAAAGC

128164	MS4A6A	GGCTGTAAATTACCATTTACTAGATTA
128165	MYCBP	TTTTCCTTCTATGCAATCATGCC
128166	S100B	TGTAGCTAATTAGGAAGCTT
128167	BMP8	ACCATCCTGGCCAACACAGTGA
128168	TGM1	GGGACTGGAGTCAGATGAGCAAGGA
128169	KCNA7	AGCTTTCTAGGTCACATTGGGTT
128170	NUDT2	GATCTTTGTTCACCAGTTCT
128171	CRHBP	CAGGACCTCCGGAGCAGACAGCACAG
128172	ARHGEF6	AGGAGGTCAAGGCTGCAGTGA
128172	ZNF74	AGGAGGTCAAGGCTGCAGTGA
128173	IRAK1	GGGAGGTCGAGGCTGCAGTGA
128174	CRKL	TCTGTCGTGTTCACCAGAGAAAG
128175	IGFBP4	CTCACTCATTCCTTCACTCATCCAGCCA
128176	EPHB2	TCTCCCACCTCCTTCCCCCCACCAG
128177	DNTT	TAGCTGAAATACTGTCTATCTCTA
128178	CASP10	TACAGGTGTGTGTCCATGCACAGCTAA
128179	DAP	AGCTAGATGTGGCATGCATCTG
128180	MTMR4	CCTGGTGCAAAGTGCCCCAAACAGCAAT
128181	TDG	CCATCGGGCCCAGGTCTCTGGGGTT
128182	GHR	CCAACTTGGTTTTGCTACATA
128183	RENT1	GATACCTGTTTTCCACTGCTAAAA
128184	ARF3	GTCTGCAGGGGGCACTTGTTCCTGA
128185	UPF3B	TAGAGAGAAAGGGAGCCGC
128186	POLR2A	GGAAGGGGGAGAGACAAACTGCCGTA
128187	D8S2298E	GAAGAAGCTTCAAAGCTC
128188	SIGLEC8	TAGGCTGGAGTGCAGTGGGGCA
128189	F2R	CCTAAAACAACAGATGTACGACTTG
128190	RAB7L1	TGGGAGTTAGAGGTTGCAGTGA
128191	CRACC	GAAATTGGCTCCAAATGAATGAACT
128192	GPRK7	TGCCTGCAATTCCAGCACTTT
128193	LHX2	CGGCTCCTCCTCCCACTCTGCTCCT
128194	CA3	TATGAGTTGTCCATCTTAAAGA
128195	MYCN	AGCCTCCTCCACCTCA
128196	CD164	TCCCTGACACACATTCATG
128197	AKAP13	GAGGTGACCCCAGACACTGCA
128198	SMAP	TTTCTGCTGCCAGTCACA
128199	EXTL3	TCCACCCCACCCCTTTTCGTCACGA
128200	CNTF	TTTTCTTTCTTTTTTCTCTGAC
128201	PCBD	CCAGGGAGGGAGCTGAGGAGC
128202	AQP6	AAGTAGCTGGGATTACAGGCGCCTGCC
128202	IFNAR2	AAGTAGCTGGGATTACAGGCGCCTGCC
128203	PSEN1	GGCAGGGGTTCCAGCTTCCCTT
128204	GGCX	CTGAGGCATGAGAATCGCTTGG
128205	PCDH11Y	GGTGTGGTGGCTCATACCTGTAA
128206	NAPB	TTGCATTTTCTCTGTGCTTTGGCATCTGAAT
128207	FBLN1	GCCAGGTTTGCACCAGCCTCGAGTCTCC
128208	CDC7L1	TAAAACAATGAGGAAATGTTGGTC
128209	IGFBP3	ATTTCGGGCCCTCCTCTTCAG
128210	C18orf1	TGCCTCTCCCCCTTTCCTCGACAG
128211	SLC7A6	TGAGTGGGGATTACAGGCCA

128212	SACS	CTGCAGCTTCTAAATCCAGA
128213	CASP8AP2	TAAAGAAATGACTTTCTA
128214	PPP1R8	AGTCACTGATTGCCACTGCCATCT
128215	MTMR7	TTCCCCACTTTTAGAAATTATGTTA
128216	ATP8B2	CAGACTCCCTTTTGACCTC
128217	KRT17	TCTCCAGCCCTTCTCCTGTGTGCC
128218	NPHP1	AGACCAGCCTGGCCAACACTAT
128219	ZNF76	ATTCCTCAGGGGCCTGTGGCTGGA
128220	GAP43	CTCCTGAGCCTGTCTCTCCCTACCCTC
128221	TNFRSF1B	CACGCCTATGATCCCAGCACTT
128222	DLEC1	CCGGCTGGTGGAGCTGCTGGTG
128223	HOXB9	TTCTGGGTGGGAGTGGGGAG
128224	MATN1	TGAGTCTTGCCAGAATGTGA
128225	LMO2	GTTTGAGGGTGGGGTAAGGGAT
128226	ABCB9	CCGGTGGGGCAGAGGACCCGGTG
128227	CCNF	TGGAAAGGGAGCCTGGGAGCCAG
128228	NDRG1	TGCAGCAAAAGCAGGCAACAAAAT
128229	CHAT	GTCCGACCTCTGGAAATGT
128230	DMRT2	CCTACAAAAGTGCCTACAGCCC
128231	EIF3S2	AGGCAGGCGGATCACCTGAGGTCA
128231	TNFSF14	AGGCAGGCGGATCACCTGAGGTCA
128232	HCFC1	CCCTCTGCCCTTTTGCC
128233	TAF7L	GTTGCCCAGGCTGAATTCAGA
128234	CRKL	TGTTTGCTGTTCCACAAAGCA
128235	ARHA	CCGTCTGGCCCACCAGGGTCCTT
128236	TAF12	CCTTGGTCCTCACAGCTCCAAAAAG
128237	RGS3	GCAGCACTTTGGGGCCAGCTT
128238	STAT3	TCTGCCACCCCTCACACAGCC
128239	ZNF289	AACTCCACAGTTCCCAGGCTGG
128240	PIGL	GCAAAAGGGAGCCCATGTAG
128241	HSPCB	CCACTGCAGCCTCGAGTGCCCCTG
128242	ADCY2	GCCATCCGTCACCAGAA
128243	VEGF	CCAGCAGAAAGAGGAAAGAGGTAGCA
128244	GPR61	CCAACAGGATGAACGTGTGCAAA
128245	VPS41	CTGAGGGTGCCTCAGGAGCAGTGGGAC
128246	PRex1	CTTGGAAAAGACTTGGCTCT
128247	PLAGL1	TGTTCATGCTTTGTACCAAAT
128248	SOCS5	CTGTCGGTGACTGCGCCGTCCGGGCC
128249	PPP2CB	TACTAATGATGAGCATTTAG
128250	NR3C2	TCTGGCTTCTGCTTCATCCTGCT
128251	GLI	GAAATTTGATAATGACACTGTT
128252	ANXA9	GGCTGGAACTGTTTCTTTAAA
128253	UBE2G2	TGGGCCCAGGCTGGGGACAGA
128254	MGAT5	GCTAATTCTTCTCCTCCTTCACA
128255	HK1	GGAGGAAAGCAAAATCCAACT
128256	PCDHB16	TCTGTATTTCTTGCTTATTAT
128257	DDB2	GGGGTGCTGGGACCTGGGGCAC
128258	ODF2	GCTGTGCATTCCAGCAGGTT
128259	MUC3B	CCTGGTCTCTGGCCCTGGTTCTTA
128260	VDR	CTGACTGATGTTGAGGGAACAGACAGGA

128261	TOB1	AATAAAACATGCATCATTTT
128262	NFIB	GCAATTTATTAAATTTATATTCTT
128263	IKBKG	ACTCCTCCCTCCTCCTCCACT
128264	SNX6	TCTTTTTTCTCATTTCTTTT
128265	PIGC	TTGTCCAGGTTCCTCAGTTAA
128266	PSMB9	TGTAATAAACTCTCTAGGGCCA
128267	GJB6	CTGAAACACTGGCAGTCGTTGGA
128268	AGTR1	CTGAACAAAAGCTTTTCTTTC
128269	PRKCN	AAGCAGTTTGAGGGGATGTGTAGGAG
128270	AKAP2	TCTCATACTTTACATTCATG
128271	WNT5A	ACCTTCCTCTTCACACTGAG
128272	EXT2	GCTCCAGATTTAAATCCAGCT
128273	GNAI2	TTGAAGCCTGCCCTTGTCTG
128274	PLA2G10	CGGGGGAGGGGCTGGGGGAGT
128275	EPAC	GCCCCAGGAGTGGGTGGAGAG
128276	FAT2	GGACTGGACTTGGCTTATTTCTTCCTGTCT
128277	AHR	CAAGTGATTCTCTTGCCTCAG
128277	NCOA6	CAAGTGATTCTCTTGCCTCAG
128278	CBFA2T2	CTCCCAGGCTGGAGTGCAATCGCGCA
128279	PPP5C	CTGCAGCTAGGAATGATGTGGGTGACG
128280	RSN	TTTTGTTTTCTTGATTTTTAC
128281	TMPRSS3	TCATGGCACTCCAAGTCAGGTTCTGGG
128282	ATM	AGAATGTTGCTTTCTGAATTTTG
128283	PPP5C	GGGGCAGAGTCAGGGGCTGGCCAGAG
128284	TBL1X	AGCTTTGTGTGATTCATGTTTTAAAA
128285	ARNT2	CAGGACCTAGAAGAGTGGCATTG
128286	GJB2	AGATAAATATTGAGCAGATC
128287	CACNA1C	ATGTGCCCGTGCACACCAGTG
128288	FMR2	TGCCAAGTCTGCAGCACAGTGACCAAAT
128289	XK	TTCTGGTGGCAAATGAATTTAT
128290	NR3C1	TTACTAAGCCACAAGAAATTTGATTT
128291	ENDOGL1	GTGTCATCCAGGCTGGAGTGCGGTG
128292	SLC5A5	AGCCCATAGATTCCTAACCCA
128293	XPR1	TGCCCTTTAATACACTCCTATCATCAG
128294	ZNF289	TCCCAGGCTGGGGATGCTTTGCC
128295	H3F3B	GCATCATCTTAACTAACATTCTGAA
128296	ENTPD5	CCCTTATCTGCACCCACCTCCC
128297	MAP2	TTACCTTTCATGTGCCTGAAGGCTA
128298	IL6R	TTTGAGATCAGCCTGGGCAA
128299	ORC1L	AGCTCTCGAAGTGGAGGCGG
128300	BACE	TTCTACAAGTAATTTTGCACAGAC
128301	CLCN5	TCTGGAAATTAATTTTCTCTTTAGG
128302	CD28	TAGGGTAGAAAACAAAAAGGGAGTGG
128303	PCOLN3	CTCCCTGAGGCCTCTCCGCACCA
128304	SLC25A6	GAGCTCAAGAAGGTGATCTAG
128305	RS1	GGAGAGGGATATGGAGAGCAGGTGGTG
128306	PCTK3	GGAGAGGAACGTGGAACAGGAGCAGG
128307	GPR85	GGGTTCTAAATATACAACTTGT
128308	SIP	AGAGCATCTGACCCCTTATTACCACCT
128309	NPTX1	TGCTTTGGGGTTGGTGCAACCTCAG

128310	TRIM9	CAATGCCTTTTCAGCTGCACTA
128311	TFE3	CCCACCCCTCATACCTACACCC
128312	CD164	TGGGCTTTTGCTTTTCTAGGTCATTAA
128313	GLI3	TTTCAGTTTTGAATCAGTATTGT
128314	OSM	GCCCCCACTGCCTGTCGGTTGCT
128315	RP42	CAGAGGCAATAAAAGCTGCAGT
128316	ZNF26	TTTAGAACCTGCTTCTCTGATCTGT
128317	AP2A1	CGACACCACCGCCATCATGCC
128318	TADA2L	TGGGATCAGAAGTCAGAAGTTTGGA
128319	UPK1B	GCCTGTAATCCTAGCTACTTGG
128320	SCN4A	CCATGCTGGGTCTGAGGCCCCTGCCT
128321	GP2	GCCTGTAATCCCAGCTACTCGG
128321	MCM4	GCCTGTAATCCCAGCTACTCGG
128322	PSG1	CCCAGCCTGTGTCCCATGGGCACAAG
128323	PBP	TCGCCCGCGCCTGGCCTACCGCG
128324	GAK	GCCCTGGTGTTTGCACCGCACTTT
128325	DTX1	CGGAGAAGGCTCTACAGGGAAGGGGTC
128326	RAD50	ATATATTTGTACTGGAGATT
128327	VANGL2	CCTTTTCTCCCTGCCT
128328	MEL	CCTCACTGCAACACAAAGCTCC
128329	LOXL2	CGGTCCCAGCCCGGCCACTG
128330	CNN1	GTTTGTAATGAGAGCACTTTCTTTTT
128331	ZNF137	TTCCCATCACATTCTGGTCT
128332	CMAR	TCATCCAGCTCACTCATCAATGGGGCC
128332	SPG7	TCATCCAGCTCACTCATCAATGGGGCC
128333	TAF1C	GTGAGGCCCCTGCAGAGCTGCTGATGA
128334	MGAT2	GGGTACATTTCAGAGCTGTTC
128335	VCY	GAGAGGGGTATACACAGGGAGGCCAGG
128336	CORT	ATAAAATGTATTAAGCAGCAGT
128337	DISC1	AGCATTTAGGAAAGCAGTGCAGT
128338	MAP3K14	GCCTCTTCTCCCAGGGGAGC
128339	DAP	GGCGCTCACACCTGAGCTCA
128340	B4GALT1	ATCTCCAGATTGTCTGATTT
128341	CLECSF12	GTCTCTAACTCCTGGGCTTAAGTGATC
128342	TCF2	TGGGATGGAGCACTTCTTCTG
128343	CNTN1	GACACCCTTCAACCCTGGGA
128344	BRS3	TTCAGAAGAAATGGCTCAAAGGCA
128345	GPR81	AACAACAACAAAACAATCTG
128346	SLC2A3	TGGGCATTGTAGTTAATGATGGTT
128347	F2RL3	AGTGTGTGCTGGGGGGTTCGGG
128348	ANGPT1	ATACATACATGTAACTTCA
128349	FHIT	TTCTTCATCTCACCATCCTGT
128350	TGFA	CTGCCTGTTATCTTCAAGCCAG
128351	ZNF26	TGTCAAAAATCAGAGAGGAGA
128352	CAST	AGTATTTTTAAATGGCATACC
128353	ENO2	GGTTCCCTGTTCTTCCTCCAGCT
128354	PMP2	GTGTGCATTTGCATGTGCAACAGTA
128355	MAML1	GGGAAAGGAAGAGTCTTAGAATTCCT
128356	ZNF134	CCGGCGCAGATCCTCTGTGGT
128357	PKIG	ACACCTAGGACCCAGGAAATAAATGC

128358	IDH3B	CCCATACCCTTCAGTGCAGTG
128359	MEF2A	CCAGGCTGAAGTGCAGTGGTGT
128360	TAC1	TTCATTTGTGTCAATGGGCAATGA
128361	TOX	GGATGTGAGGGAAGGAAGGT
128362	ABL1	GCCCTGTGGAGTCCAGCTCTAC
128363	HOXC6	ACATGCTCTCAAACTGCAGACAA
128364	MAGEB4	GATGAGGGAGAGAGAGCCAG
128365	SLC2A1	GAGACTCCTGCCCTGTTGTGT
128366	DISC1	TGCTCAGTAAGGCAGTGCAATA
128367	SLC2A6	CAGCCCAGGCAGCCCACAGTGC
128368	CRYZL1	TTTAATTCTCCTTTACATTGCCACCT
128369	SLC22A3	ATATGATTCTGTGTTCCTG
128370	COPEB	GCATGCCGTTCTGCACCTACCCA
128371	SLC4A7	AACTATTTATTAACTAATGTAATG
128372	DNAH9	AAGGCTGTACAAGGGCAAA
128373	TBL1X	TGCTTTGTTCTTGTTGCTTTTC
128374	PCTK1	GGGTCCAGAGCTAGCCCAGGCTGGGG
128375	MC1R	TCCCTGCAAAACTCCAGGCAGGA
128376	CYBB	AGCATACTCCAGTTTACT
128377	NT5C3	GCTGATGGTATCACCATCTCTT
128378	ATP8B2	GGAAAAGGAGGCTGGCACAC
128379	ABCA7	GTAGAGTGCCTAGGAGCCCT
128380	EPAC	TGGAGGATAGCCCAGCTCTG
128381	ATM	TGAGTCTAGTACTTAATGATCTG
128382	RAD18	AACTGTTTGTTTCATGACAA
128383	SMT3H1	CTGGAATGCTTCTTCAAAGGTTAAAAA
128384	ADCY1	AGTGTTTGCACTATACTTTCTG
128385	RNF3	AAACAGATGGAGTTACTGTGAA
128386	FUT7	GTGGGTGGAAGGGCTGGGTGTC
128387	ACE	ACCAGCCTGTCCAACAGAGGGGCAGCC
128388	B4GALT6	GTGTGGAAGAAGTCACAGCTTTCT
128389	EXT2	GAGGAAGAGGCTGTCTGTGTCATTATG
128390	ACE	CTGAGGCAGGAGAATCACTGGA
128391	TLR4	TTGCCCAGCTGGGTCCAACA
128392	TRIM14	CTGGGCCCAGGCTGTGAGTTCCAGGTC
128393	VCP	CTGCCACCTCGCGGATCAGGAGC
128394	BPI	ATCCTCTCCAGATCTTAACCA
128395	GLTSCR2	AGATGGCGGCAGGAGGCAGTGGCGT
128396	CRSP6	AGCCTTCCACCTGGGATT
128397	CKTSF1B1	TTCACACATAAAGTCCTTTTA
128398	CLASP1	ACTCTGAAGAAATCTATAGTTCTCT
128399	EXO1	ATATCATCTGAGAGGTAGTTA
128400	PEX10	ACACTTTATTCGTTTATATTGTG
128401	SURF5	CTTCTGCTTTTTCAAATTCTTGCT
128402	FABP3	GAGGTAGCTTCTCTCAGCCTAG
128403	EBAF	GATGAAGGGCTTCAGGCTGG
128404	CBFB	CATTGTATATAGGTCTTATTT
128405	A1BG	CCTTTTAATGTCTGCACAGTCTG
128406	AXIN1	GCCCAGGCCCGGATGCAGAGGC
128407	KCND2	GCTGTGACCGCATCTCCTG

128408	MTCP1	CAGGGAGGCGGCGCTCTGGGG
128409	ZNF274	GGACATTCCCAAAACCAAAGGACA
128410	NAP1L4	GCCACTGCCGCAGGAGGCGTGAGG
128411	SLC10A2	GCAGGGATATCGTACATCTATTGCTCT
128412	DDX3	GGCCAGAATGCGGTGATCAA
128413	GJB5	TCTGGGAGCCAGTTCCTAGTCC
128414	PPP1R12B	TGGAGCTCATGGAGAAATGGATAG
128415	ULBP2	GGCCTCCAGCAGATCATGATGA
128416	CDH17	GGTCTTGAACTCCTGACGTCAAGTGAT
128417	SLC7A4	AGGCTGGGGAGTCCTCAGGAC
128418	FCAR	TGGAGGTGAAGGCAGAGAGGAGCCAG
128419	DLG5	AGACGGGTTCAGCACCCACCTTT
128420	DYRK1A	CCTCTTCTGCTGATTATCAGTT
128421	TGFBI	AATTTCTCTCAGATTTCCACAG
128422	KCNMB1	TCTAATAAGAGCAACAGCA
128423	TRPM6	TTTACCCAGGCTGGAGTGCAA
128424	PCDHA11	CTGAATTCTCTTTCTCTCTCA
128425	ST7	TTTCTTGCCTGAACTCCTGCCATA
128426	BRCA1	GGAGAAAGGGTTTTGCAAACTGAAAGA
128427	APPBP2	GTTACCTCAATTCTTACTGTAGTA
128428	CDH17	GCCCAGGCTGGAGTACAGT
128428	NT5C2	GCCCAGGCTGGAGTACAGT
128429	SNX15	GCCCAGACTGGAGTGCAGT
128430	MFI2	CTGAGTAGCTGGGATGACAGGCG
128431	TNF	TTCCTTGAGACACGGAGCCCAG
128432	PKNOX1	TGCCCAGGCTGGAGGGCAATGG
128433	SLA2	TGCCCATGCTGGAGTGCAATGG
128434	HSPCB	CATGGGCTCCCACTGCAGCCT
128435	TRHDE	AGTCTTGCCTATAGATTTTGCCATCG
128436	WBSCR5	TTGCCTAGGCTGGTCTGGAGCTCTTGA
128437	EGFL4	GAGGGAGAAGCACTGTGA
128438	SLC1A4	CCAGTCATGGACACAGGGC
128439	FLRT2	TCAGTAGAGCTGAACTTAGCT
128440	PLOD2	GGAAAACAAAGTTGTTGAGCCTTGCTT
128441	MAP2	TGAGTGAGAAGATAAAAACTGCCCAT
128442	RASA1	CTCGAACTTTCAAAATATATTT
128443	FUT8	AAATAAAATATTCACTCTCCA
128444	MADH3	CTGCTGAGGCCCAGTGCATATGCAA
128445	RFNG	CCCATAAACAACAGGAGCCTTTT
128446	MAP2K2	TGGTCTCAGAGGCTCTGCTTCCTTA
128447	KRN1	TCTGAAAAGAGCCCTTGGCTCA
128448	HUNK	GGGGGATGTCAACAACAGATCA
128449	MAFF	TGCTGAGAAATTGCACTGAAGAGAT
128450	HADHA	CCCTGATTAAAGTGCCTTCA
128451	KCNS2	TGTATATGATGCTGTGATTGC
128452	GPR62	GGCCGACCCTTCCTTAGGCCT
128453	XT3	TGCACATCTGGGCACAGTACCTT
128454	GTF2IRD1	CGCTGGCAGGAGCGCTTGGGGA
128455	GPC1	CGCTGCACACAGACGGCCTAGGGGT
128456	SPN	GCCCAGGCTGGAGTGCAATGCACG

128457	PRX	CCAGGTGGCAGAGGGGGAGGGAGAGGC
128458	SNRPN	CAGAACAGCACGTACCAGAG
128459	MAGEB4	CATTGGAATATGGAATTTGTG
128460	PPP3R1	TGTTGCCAAACTTTGGAAATGT
128461	DDX26	GGGGGTGGGGTGGGGAGCCAGGC
128462	SCAP1	TGTCCACACAACCACATCTGCC
128463	F3	CCGTCTCTCGGGTTCAAGCAAT
128464	CXCL16	CATCCAGGCTGGAGTGCAGT
128464	FANCE	CATCCAGGCTGGAGTGCAGT
128465	MKL1	TGTGTGCCACAGTCTGGTGCCCA
128466	SDPR	AGAAACTGAGCAGTTGAA
128467	TIMP3	GATCAATTTCATTACCGTGTACCTT
128468	MHC2TA	ACTCTTATGCCCACGCTGGAGTGCAGT
128469	PIK4CB	CAGGGACCTACCCCTCCCAGGG
128470	EGLN2	CAGCCCAGGGCGCACGGCCTGAG
128471	ACP5	CAGGAAGGGGAAACACAGCTGATG
128472	CBFA2T3	AGGGACAGAGGCCCAACTCCAGGA
128473	ENG	GGGCCTGCCCCTGTGTATTCA
128474	GAC1	CCTCCTGGGCAAGGGCTGAAGGAGGC
128475	SCML2	TTGTGCCCAGGCTGGAGTGCAAT
128476	NRXN1	CCCCTCGGCGGGCGCCCCGCCATGTAC
128477	ATP7A	GGCTCACTGCAACCTCTGCCTACCGGA
128478	SLC7A5	TCACACTGCGCAGGTCTCTT
128479	WHSC1	TGTGCTATTCACAGTACCATG
128480	DDX11	TGGCTGTGCTAGGGGGGAACATT
128481	HFE	AGAGACATACACCTATGTCA
128482	PLGL	GCAATCCCTAATATAATGTAA
128483	CCNK	TCAGTGCCTATTTTTCCTGGAAAC
128484	GJB6	TGAAAACAAGAGACTGCTT
128485	TOP3A	GGACAGTGTTGGCCTTTGGAGTCGGGC
128486	EFG2	CATTGCCTTTTGCCTAGGCTGGCGTC
128487	ADCY1	TTATCATCTACTACATCAGCAC
128488	PCOLN3	ACCACACCCCAATGCCTTC
128489	EIF2AK3	CGGGCTGAGACGTGGCCAGGGGAA
128490	PITPN	AGCTGCTTCCATCAGAATTCCAGGGT
128491	CACNB1	CCATCTGTCTGTCTATATTTGTC
128492	PDCD2	AGGACAGTACATCTCTAGTAGAA
128493	TRPS1	GTACAAGGACTGACTTTAAT
128494	ESRRBL1	AACATGCTCACATACACA
128495	CANX	TTCTCCTCTGCTATGCA
128496	TNFRSF6	CTGCCCTTAGAAATTCTAGCC
128497	PTGS1	CCCATCATTCCTTCTGGCCT
128498	MSN	CAGTCATTTTTGTTTCTACCTC
128499	TRPV1	CTTCTGCTTCAGTCTCCCAA
128500	MMP19	GGAGGCGGAGGTGGGGGTGG
128501	LIMK1	AGGAGGTGAAGGTCATGCGATGCCTG
128502	APOB48R	GAGCCCTGCTCCCTCTGCCACTGTGGA
128503	PLAUR	TTTATCCTCATTTTACAGCAGTG
128504	ELF3	CCCCACCCTCCTCTTGGAATTACAAGC
128505	DGKG	CTGAGACTGAAGGGAAATCCCCCTTTC

128506	HSD3B1	GGTCCTGCTGCCTCCCTTTC
128507	ATP11A	ACACACATATACACACATGTGC
128508	PTPRO	CAGGGTAGGGAGATGACAGTGGTGCA
128509	ABCB4	AAAGAAAGAGAGGAATGCAGG
128510	CTNNA1	AAGAAAACTGATTCTCTATGACA
128511	SET7	GCTCCTCCTCTTCCTCCTCCTCC
128512	TIE	GCCAGAACGTGGCTCTGCTGG
128513	ATP1A1	TGGGGAAGGGGGTTGGACGTG
128514	CLECSF12	GGCTAATTTTTGGTGTTTTTTGT
128515	APTX	AGCAAGTTGAAAGCAGAGTGTAACAAGGGA
128516	SNX4	TAACATCCTTCTTTTCTATTGC
128517	MGAT5	ATCCACTTTCTTGCTCACCTCA
128518	ADRBK1	GCATTGGCAGCAGGTGCTGCTA
128519	PPT2	AACTTCAGAGAGCTGAAGAAAGGGGG
128520	SRRM2	CGGCCCAGGCGGGGTGCGAGTG
128521	ITGA2	CAATGTAAAGTAAAACACTCTC
128522	GFER	GGAGCAGCCTGGGCTGCCCCTTGACAT
128523	KRT7	CCAGCCGCCCGCTCCCGCGG
128524	CNTNAP2	GTCTCAACACTTTCCCTTTTTTCCCA
128525	HSD11B2	CACTCCGCGCCCCGGCCTAGAA
128526	DOK1	TTAGAACCAGCAGAAGCCAGAGGGTG
128527	ADAM11	GCCTAGTGCCACCCTCCTCCC
128528	BAIAP3	TGGTCTCCAGGGACTCAGTGA
128529	PIGA	CTTTTTAAAAAATAACATGCCTA
128530	INSM1	TTTCTTAATTGTTAGCTATTTA
128531	GPM6B	ACACTCCAGACTAAAGCA
128532	TUBA3	ACCTCTCCTCTTCGTCTCCGC
128533	SLA2	GAGGGATGGGGTGGGAGGCACC
128534	MDM4	TCAATCCTTTATTTAATTTTATTTCCA
128535	CAMK2A	AGTCCCAAGCCTCACCTGCCT
128536	XPNPEP2	GACGCCAGCCCCCACCCTCT
128537	POU4F1	TGAAAAGAGAGGGTCAGGGGGAG
128538	RPS6KA1	TCTGGGGTTGGCAACAGGACAG
128539	CYLN2	GGGTCCTTATGTACACACCACGTT
128540	PTPRO	TCTGCACATCATGATGACTTTA
128541	BMP1	TCTCAGCCCACATCTCAGCCCTTC
128542	ICMT	TTCTACTCTTCTTTTTACATA
128543	GCNT2	GGAGACAGAGGGAGGACCTGTTGT
128544	PRG4	TTCCTCCTCTCCCTCCCA
128545	HSPA4	TGTTACAGGCTCTAAAGTGCAAT
128546	HRH1	CCGAGGCACGAGAATCGCTTGA
128547	NPEPPS	GCCGCCTCCACAGCCTGGGCC
128548	HLCS	CATGCCTTTGTTTCCATCTCGA
128549	CYBB	CCTGCCCAAAGTGGTCTTCTCCAGCTA
128550	GPR81	TCAATGCTTTATTTCAGGCCGA
128551	NOX4	CAATCAGCTGTGTTATGCC
128552	RNMT	GAGGTGGGGAAAGGAAGTCTTCCTGT
128553	BACE2	CCGCTCAGTCTTTGAGCGAGCCCA
128554	MUC4	GCTGAGGAGAGAAAAGGGTGA
128555	B3GAT1	TGAACAACAAAATGGGGACTTC

128556	GAD2	GCTGGCGACCTGCTCCAGTCTCCA
128557	SHC1	CAAATCACACCTCTGG
128558	ZNF74	CAGCACTGCACTGCAGCCTGGG
128559	IHPK2	CGACTCTGTGTCCCAGGCACAG
128560	XT3	CACTTGAGGTCAGGAGTTTGAGGC
128561	PRSS16	TCTGCCACTCCAGCTCCTGGGTTAGGG
128562	LRRC2	CCAGGAAGCAGAGGTTGCAGTAAGCTGA
128563	CREB1	TTCATTTGTGCTTTTGCATTAA
128564	LIG1	ATCTGCTGTGGCAGGCTGTG
128565	SPF30	TGGCAAAGTTTGTTTTGAGG
128566	EGFL5	GCAAAGCACTTTTCCATATGTGTGTC
128567	AQP6	AGTGTCTCAACTGGCCAGGCGGTG
128568	SLC6A4	ACCCTATCATCAGTTAGGATTAG
128569	DMP1	TTGAAATTATGGCACAGTGA
128570	ARNT2	AGCCATCACAAATAGCCACATTCTGCT
128571	USP5	TGGTTGGTCAAGGAGGGATG
128572	SLC24A1	TTGCCCAGGCTGGTGTGCAATG
128573	VWF	CATGTTCTGCTCTTGTGCCC
128574	COLQ	TGTGGCTGCCCAGGAAAAG
128575	RARA	AGGGCCCCCAGACACCACA
128576	PAX3	ATTCATAGTGATAGAGTGCAGT
128577	BCR	TCCATCTCCTGGAGGCAGACA
128578	AK1	ACAGACTCAATGTCCCCCTCA
128579	FOXO1A	CCCGAGTTTAGTAACAGTGCAGA
128580	MAPT	GCAGAGGGGAGGAGGAAGCAC
128581	RNF4	TCAGTTCCAGGCTTTTGCCCAGGTCAC
128582	VDR	CTGAGTCACCAGGAATGTTAAA
128583	CNN2	TTGCCCAGGCTGGAGTGCAGT
128583	CSE1L	TTGCCCAGGCTGGAGTGCAGT
128583	EVC	TTGCCCAGGCTGGAGTGCAGT
128583	PER2	TTGCCCAGGCTGGAGTGCAGT
128583	TRPV1	TTGCCCAGGCTGGAGTGCAGT
128584	NONO	TCGCCCAGGCTGGAGTGTAGT
128585	PITPNB	ATCGGCGGCAGCTGTGAGGGGG
128586	GRF2	GGTTTGGTTTTGTTTTCTGCTT
128587	CRYZL1	TTGTCCTAGATGCTGGAGTGAGATT
128588	CD44	TAGAAATTTTTCAGATGCT
128589	HMOX1	TGGAGCCACTCTGTTCCTGGCTC
128590	PDE6D	ACACAGGGAAACAAACACATACCAC
128591	AP3S1	CCCGGCACAGCCATGATCAAGGCG
128592	FRDA	CTGGCGCGGTGGCTCACACCT
128593	DPYSL3	TGGGAGCCTGGAGCAAGGTGGAG
128594	PCDHGA1	CAGGATGGGGCTTCTTCAA
128594	PCDHGA10	CAGGATGGGGCTTCTTCAA
128594	PCDHGA11	CAGGATGGGGCTTCTTCAA
128594	PCDHGA12	CAGGATGGGGCTTCTTCAA
128594	PCDHGA2	CAGGATGGGGCTTCTTCAA
128594	PCDHGA3	CAGGATGGGGCTTCTTCAA
128594	PCDHGA4	CAGGATGGGGCTTCTTCAA
128594	PCDHGA5	CAGGATGGGGCTTCTTCAA

128594	PCDHGA6	CAGGATGGGGCTTCTTCAA
128594	PCDHGA7	CAGGATGGGGCTTCTTCAA
128594	PCDHGA8	CAGGATGGGGCTTCTTCAA
128594	PCDHGA9	CAGGATGGGGCTTCTTCAA
128594	PCDHGB1	CAGGATGGGGCTTCTTCAA
128594	PCDHGB2	CAGGATGGGGCTTCTTCAA
128594	PCDHGB3	CAGGATGGGGCTTCTTCAA
128594	PCDHGB4	CAGGATGGGGCTTCTTCAA
128594	PCDHGB5	CAGGATGGGGCTTCTTCAA
128594	PCDHGB6	CAGGATGGGGCTTCTTCAA
128594	PCDHGB7	CAGGATGGGGCTTCTTCAA
128594	PCDHGC3	CAGGATGGGGCTTCTTCAA
128594	PCDHGC4	CAGGATGGGGCTTCTTCAA
128594	PCDHGC5	CAGGATGGGGCTTCTTCAA
128595	CDH12	CAGCTTTGTTACCTAACAGCTTGGC
128596	FOXM1	AGGCTGAGGTACCTGGATCTTG
128597	PPT2	ATTGAACCTTGGCTCTCCTGGG
128598	JRK	GTAAAACAGGCTGCTTAGATTTC
128599	ADAM19	GGGCTTCTCCCTTTCCTTGAG
128600	SOX10	CCCCAGGAGAACAGGCTGG
128601	WBSCR5	ATCAGTGGCGCGAGTCCAGGAAG
128602	ROR2	CCCCACAGGGACCTCAGTCAC
128603	RABL2A	TGTTTTTAAACAATCGTTTTTG
128603	RABL2B	TGTTTTTAAACAATCGTTTTTG
128604	TRPM2	CTGCCTGGCCACTGAGCACTGGCCGA
128605	IRTA2	GCAGTGTCCTGACTGTAAGATCA
128606	NHLH1	GAAGGGCCTTAGAACCTGCATAGAA
128607	PGK1	TCAGTTACACATGATCATAATTTAAA
128608	CD59	AGACCAGCTTTGCAGTGACAGCTTGA
128609	EXT2	AGGGATCTGATTCCTCCCAGG
128610	TCF8	CATTGTTTTATCTTATCAGTATTA
128611	PPGB	TAAAGAATGCCCTTTATGATGC
128612	HEPH	GGGGGATGTCATTCTTATTCA
128613	MOG	GGGCTGTTTCTGCGGGCACAGCTGC
128614	ZNF9	ATCAAGTAACATCTGTATCA
128615	BTG2	GAGCAAGCAAGGTTAGCAACTGTGAA
128616	CARD4	TACAGTGTCTGGCCTTGGGAA
128617	PSEN1	TAAAGAAGAGTAAAATGGCTGTT
128618	DYRK1B	GCTGCTACCCAGCTGGGGTGGGTGAGG
128619	DTNB	TGTCCTTTAACAAAATTACTG
128620	OTP	TTCTGGATCCTTCAGGACTGGGGTT
128621	KLHL3	GGGACTCAGTGACTCATGGATATA
128622	PSME3	GTTGGGTGCTTCATTTGTGTTC
128623	CTF1	AGCTTCCCCAGCAGCTGGGACT
128624	EVC	AGCCTCCCCAGTAGCTGGGACT
128625	HSD17B1	GGAAGGGTCCAGAGCAGGAGCTTC
128626	ERBB2IP	GGTGCTGGTGGGTTCACTTTCCA
128627	SQSTM1	GCTCACTGTCCACATGTGAACTTTTT
128628	F9	CAATCAGCCAACTAAGTTGTC
128629	PPIL1	GTGAGTTAGAGATGGAAGTAC

128630	MAGEA9	AGGCAGTGTCAGCAGTGAAGG
128631	ACVR1B	GCTATTTTACATATCCCAAGC
128632	FGF2	CACTGCAGTCCAGCCTAGGCAA
128633	PDE4A	GGGCCTTTTCTTTCTTTTTGTT
128634	CELSR2	GTGTTTGCTCAGTTGCTGACCC
128635	PRKACG	CAGAAACACCAGCTGCTCCCTCAC
128636	TMC1	CTGCAACCTCCGCCTCCCAGG
128637	SHOX	CGCCTCCCGAGTTCAAGCGATT
128638	PDZK1	TGTTATCATTTGTCTTACAG
128639	PML	GACTGGGTGGCCCCTGAGGTCT
128640	SIAT1	GATCAAATTAATTTAAATATGA
128641	TEGT	CCCTCACTCCCTTTTTTGTCA
128642	SLC4A1	TCATGGACTCAGGATCCTCCTGG
128643	DSC3	CCTAAAATCTATGTGTTTTAG
128644	PTGIS	GCCCCAACTGTGATCACGATCC
128645	PRKAB1	GAGGGAGGAGTGAGCTCCCTGGGT
128646	GSTZ1	CTGCCCCGTTGGCACAGGGCCACA
128647	FBLN5	GGGAGCTGGCGGGGAACCCTGG
128648	IGFBP3	CTCTCATCTTTTGTCCTCCTTAGCAC
128649	TYRO3	GCCTTGGCTTGATGGAAGTGGGCCAGT
128650	ACP1	GGTCCCCAGACCCAAGAGCTGTGGCTGCCT
128651	HLCS	TTCCAGTGATTCTCCTGCCTCAG
128652	MPP2	GGGTAGAGGCAGGGGAAGATCT
128653	HELLS	GTGAGTGTCCAGGCATGCCAGCGGA
128654	PCSK2	TGCTCTCACCAGCTGCTGCTC
128655	CRI1	TCCGCTATCTTTTGGGTTCATTCCA
128656	MECP2	GGTTGAAGACCTAACCAGGGCCAGAAGTAG
128657	RRM2B	CCAAGTGTTTTTACATCATCTC
128658	PYGO2	GTCCTTGTTTCCACTGGCTTTCC
128659	WHSC1L1	TCTCTTTCCCTTCAAAATGCTTTTCA
128660	DDEF2	AACTCCAGTCCCAAACTAATCTG
128661	MCM6	ATTATTACTTCCATCTACTTCT
128662	FGFR1	CGCATGGACAAGCCCAGTAA
128663	SDC1	CCCTCTGTGTATTTGCTTTTTTGTTTTGGC
128664	BCL10	ATCGCCCAGGCTGGAGTGCAGTG
128665	CACNG1	CAGCGTCCCCTCCTTGGCTTCC
128666	EP300	GGACCCCGGGCCGAAGAAGAGATTTC
128667	TRIM9	GAGAGCCACCATACAAGGTTCATCTCTAGAGA
128668	BTC	TTGGTGGCAAGCTGCAAAGTGCCTTGCT
128669	FBXL7	TTTTGCCAGGCTGGATGCTGT
128670	INPP5B	GCCTGTAATCCCAGCACTGTGG
128670	RBBP9	GCCTGTAATCCCAGCACTGTGG
128671	NBS1	ATGACTTCCCTTGTAAACAGAAG
128672	KCNAB1	CGATTTTTCTGTCATTAGTTCTA
128673	RAD52	CCATCTTACTGGGCTCAGGCC
128674	TIRAP	TCATTGGACTTACATGGAATTTGTA
128675	KCNS2	TTACCCAGGATGGAAACACTGCAGTT
128676	SULT1C1	CCTTTGAGCTGCTGACTTTCAGCT
128677	GRIK2	CCAGAATGTTTCCTGTGGAAA
128678	SPN	TGCAACCTCTGCCTCCTAAGTT

128679	ALB	TTCTCTCTTATTCCACTTCGGTAGAGG
128680	ABR	GTTCTTTCATTTCCTCCAGC
128681	GRB7	CTACCACCTGTAGAGAAGCGGGA
128682	ADAMTS4	CAGGCTGGAGTGCAATGGCACA
128682	FEZ1	CAGGCTGGAGTGCAATGGCACA
128683	GRB10	CAGCCCTTCCCAGTATACTTGAA
128684	ACRV1	TGGAAGCTTTTGCTCGCAGTTT
128685	RAB36	CTGCAGCTGCCCTGTAAATGTT
128686	NDRG2	GCGGGCAGTGAACGAGTGTGGGGAAGG
128687	RECQL5	ACTCCACCCTCTTCTGGGATGGCT
128688	SNX3	TGATTAACTAGAATATTTCT
128689	FRK	GCAACCCAGCTGCTGGACTGATCTGA
128690	DMD	TGGAGTGACAGGAAAAACAGCTGGCA
128691	KCNQ2	GGCCTCGGAAGCCACTGTC
128692	ANG	TCCATTTCCCCTCTGCACC
128693	LTA	AGAGTGAGAGGGCATGCGCACAAGGC
128694	DBCCR1	GAGCCAGGCTGCTAGGAGCCAGG
128695	TPI1	GCCCGTGCCTCTGTGCTGTGTAT
128696	PFKM	CCACATCTTCTCAGTGTTTTAGCTGT
128697	RYR3	CAGTTCTGCAACATATCTGAAA
128698	TRPM6	TTTCCCTTCCTTAAAGCTCAGGGG
128699	ESR1	GGGAGCCCAGGAGCTGGCG
128700	EXTL2	GCATTTCTCTGCTTTTTCA
128701	NTSR1	GGCGATGGTGCCTGGTCTCTGAG
128702	FCMD	TAGAATCTGAAGGCCAGGC
128703	PPP2R1B	CACAGCTCAGCCACTGTGATGCAGA
128704	VHL	GCCCAGGCTGGAGTGCAGAGGT
128705	RAD54B	AGCCTAGTTAAATATTTCAGTGTTGTT
128706	STCH	CAGTCTCTTAATCCGTTAA
128707	TNFAIP2	AGGCTCTGCTCCTCCCTGGGCC
128708	MYBL1	CTACAGGTTACAACAGTTG
128709	TEM7	CCGGGAGGTTGAGGCTGCAGT
128710	WAS	GGTGGCTGAGTTACTTGCTGCCCTGT
128711	EBF	ATTGACAAAAGCAAATCCACTTTTTCT
128712	NT5M	CTGCCCAACCTGCTCACCCCA
128713	SIX6	TACATATGTATAACTTTCGCTTTA
128714	CLU	CCCAGCCTCTCCCCGCTCTGGATC
128715	ENDOGL1	AACTTCTGGGCTTAAGCAATC
128716	CNP	AACTCCTGGGCTCAAGCAATC
128716	SHOX	AACTCCTGGGCTCAAGCAATC
128716	TNFRSF11A	AACTCCTGGGCTCAAGCAATC
128717	FKBP1A	CCTTTCTCCTCGTATGTGTGTTT
128718	CCND2	GAGCGAGACCAGTTTTAAGGG
128719	GNAT1	CCCAAATACTAGGCTCAGA
128720	C7orf2	TTCTTCATAGTCCTCAGGCTTTGG
128721	CDK9	GGGCACTGGAGCTGTCTTGTCC
128722	SLC21A9	TGGAGGCAGAGCACTGA
128723	DMD	GGGAGGCAATTACCTTCGGAGA
128724	CPT1B	AGGAAGGGACCTGTGGCAGCTCACAG
128725	SGK	TCTTTATTTTCCCTTGTGGATA

128726	ACADS	CCCAGGACTGCGGGAAGGCGCGGGA
128727	APCS	TGTTGTCTGCTACCCTCATCCTGGTC
128728	ARMET	GCTGTAGTGCCTTCTGCGCCAG
128729	ABCB1	ATAAAGTGTCTATAATAAAACTAAACT
128730	KCNE1L	CCCTGCTCTGTAACCCTG
128731	POLR2E	GGGTCCCCTCTGTTGGGGGTTT
128732	CMAR	ACTCACTGCGGCCTCAACCTT
128733	CD8A	TAAAGAAAATCTCTGTGAAACCCC
128734	SCA1	CATGCATCTGCTATTGTGTT
128735	FUS2	GCAAGGAACTGTCTTTCTGGTTCA
128736	JTV1	CCTCAAGCTCCTTAAGTGATTGCCGT
128737	PUM2	TCGAACTTTTGTTCTCAGTAT
128738	COX15	TACAGGCATGGGCCACCACGCCCAG
128739	NID	GTGTCCTCTGGCTGAGTGGCC
128740	NCOA6	AAGCAGGACTGCGACTTGATACTTGGA
128741	ARHGAP6	CTATTCCCAGCTGATTCTTTTTCCCTC
128742	SCA1	GGAGGAAGGGCACAGCAGGAGCGGT
128743	CHAC	TATTCAAATGAGAGTCACGCTTTTAA
128744	MCM5	GCTGCCTCTGGGCGCCCGCCTCTA
128745	CPNE3	CCTTAACCAGCTTCTCAGC
128746	SOX2	GTATAGATCTGGAGGAAAGAAAGC
128747	CPM	CCATTGTACTCCAGCTTGGGCA
128748	PRKACA	CCCTTTAGGAAGCCTCCGCTCTCTTTT
128749	USP14	TCTCATTGTGTGACTCAGTGC
128750	AP2B1	GTTGCAAATGCTCTTTATCCCTTCAGC
128751	AOAH	GTGTGCTTTTATTCACTTCAC
128752	GPR44	ATCACTTCCACTGCACCCCGTCT
128753	OTOF	AGGCCCAGGCTCCAGAGGAA
128754	HR	TCCCTCCGGGGGCACCCGCTCC
128755	CHAT	GCACAGCCTGGGCAGCTCAGCCTG
128756	CRIM1	ATTATTTTAAAGATATGATTTATC
128757	GHR	GAGTAGCTGGGACTACAGGCACGCACC
128758	MCL1	TGGACTCCAAGCTGTAACTTC
128759	SALL2	TCCTCATTCTTTGTACCTGAGGAACA
128760	PCDHB11	CTGCACCCTCCGCCTCTCGGGT
128761	HTR2C	CTCACAGCACATTTGTTAAT
128762	CLASP1	GCCTGTATTGCAGTCTTCATACA
128763	BCL10	CAGGCTGGAGTGCAGTGGCGCA
128763	CSNK2A2	CAGGCTGGAGTGCAGTGGCGCA
128763	FSHPRH1	CAGGCTGGAGTGCAGTGGCGCA
128763	LYZ	CAGGCTGGAGTGCAGTGGCGCA
128763	PIGR	CAGGCTGGAGTGCAGTGGCGCA
128763	RABL2A	CAGGCTGGAGTGCAGTGGCGCA
128763	RABL2B	CAGGCTGGAGTGCAGTGGCGCA
128763	SEDL	CAGGCTGGAGTGCAGTGGCGCA
128763	SS18	CAGGCTGGAGTGCAGTGGCGCA
128763	TERF1	CAGGCTGGAGTGCAGTGGCGCA
128764	GPX3	CCCCTCACTGGTCCACTGGCTTGAG
128765	BCL11A	GTTGTCTGCATTAACCTGTTCATACA
128766	GPR56	GGAGAGGCCCTTTGCCAGGAGCACAG

128767	TNFSF5	TTCAGTTTTGTTTCTTTGCGT
128768	KIR2DL4	AGCATCACTCTTCCTCAC
128769	SVIL	CCTGTTCTGGTGGGGAGACGCCA
128770	OPCML	TGTAATTGTCTAACACTCCTTT
128771	RAI3	GTGCTGCCTCACATTGGGCCTCAGCA
128772	MAT1A	TTGTGGGCCTGGGCTCCTGGAC
128773	AXUD1	TCTCTCTGTGTCTGTGCCAA
128774	ATF5	CCGCCGCCTCTCCTTGCTGC
128775	FCN2	GCCGTGTCCCTGTCCAGGCCT
128776	XRCC4	TGGTTGCAAAACCTTGATCTG
128777	SIGLEC11	CCAGAAGCCAGATGGTCCCGGGA
128778	APPL	CTGTTGCCCAGGCTGGAGTGCAGT
128778	CTSS	CTGTTGCCCAGGCTGGAGTGCAGT
128778	CYP2B6	CTGTTGCCCAGGCTGGAGTGCAGT
128778	F2RL3	CTGTTGCCCAGGCTGGAGTGCAGT
128778	F3	CTGTTGCCCAGGCTGGAGTGCAGT
128778	FUT1	CTGTTGCCCAGGCTGGAGTGCAGT
128778	PCDHA9	CTGTTGCCCAGGCTGGAGTGCAGT
128778	PDZK1	CTGTTGCCCAGGCTGGAGTGCAGT
128778	PIK3CD	CTGTTGCCCAGGCTGGAGTGCAGT
128778	PON1	CTGTTGCCCAGGCTGGAGTGCAGT
128778	PRND	CTGTTGCCCAGGCTGGAGTGCAGT
128778	TAPBP	CTGTTGCCCAGGCTGGAGTGCAGT
128778	TERF1	CTGTTGCCCAGGCTGGAGTGCAGT
128778	TMC1	CTGTTGCCCAGGCTGGAGTGCAGT
128778	TMPRSS3	CTGTTGCCCAGGCTGGAGTGCAGT
128778	UGDH	CTGTTGCCCAGGCTGGAGTGCAGT
128779	PIK3C2B	CTGTCGCCAGGCTGGAGTGTAGTG
128780	MAN2A2	CTGTGACACACTGGGCTCTGCCCTCATT
128781	GALNT7	TCAAGAGCTTGTGATGAAATCTATAGG
128782	IRTA2	GGACATAAGTTTTTCTGCTTTC
128783	SMP1	ACTCCTGATGTTTTTTCTACAAAAG
128784	GSTM5	GGACCTGCCTTCTTCCTTTTTCCTT
128785	KCNS2	CTGCCTCTCTGGGTGGGTGAGGGGCG
128786	SUFU	CCTGCTGCAGTTCGCCGTACTTCCAT
128787	P2RX7	CCACTGCTCTCCAGCCTGGGAG
128788	SMARCD1	CGCCTAGGGCTGGAGAATAGCGCTG
128789	TNFRSF1B	CACTACACTCCAGCCTGAGCAA
128790	C9orf19	TACCCCGATGGTTACCTAGACCA
128791	IL1RN	CTCCCCATGGCTTTAGCT
128792	C18orf1	GCATACCGCTGACTTTTG
128793	CRTL1	AGGTGAGGAGAAAGAGCGCTAG
128794	ZNF264	TGGCCAACATGGCAAAACCCTGTCTAC
128795	ADAM19	TCTGGGCTTAGGGAAGGAGAGA
128796	EIF2S3	TGTCAAAATTATACATCATGCA
128797	CD34	CTTTTGCACCTGCTCTCTTGTAATGA
128798	ZIC3	CATGCAAATCAAATATTACTGATCAA
128799	GHR	TGGTGGCCACATAAGCCAT
128800	CX3CR1	TCTCATGGAGAAGCAGAAATACA
128801	TH1L	AGCTCACTGCAAATCTAACTT

128802	ACPP	CAGGCAATTCCTACCTCTTCACCTG
128803	CNTNAP2	TACCATGGTGACCAGCTGTTAC
128804	SLC4A8	TGGGTTATCCCTGTAATTCCAGGGCTT
128805	CENTD2	CTGTCCTTGTGGGGCTGGAGAGATG
128806	CNR1	GGGCTAAGGAACAAATCTCTCCT
128807	PVR	TCTGGCCTTGAGCTTCTAAATCTCTGTAT
128808	XPR1	CCGGACATTGGTTTTTAAATTTTTTGT
128809	CDC2L2	CCTCCACCTCCTGGGTTCAGG
128810	TNFRSF1B	CAGGGAGCCGAGATCACGCC
128811	SEZ6L	TTCTCCTCTTCCAAGATGCT
128812	EFNA3	TGGGGAGGGGACTAGATGGGC
128813	CHRNA3	TACTTTCTGTTATCAAGCTACC
128814	NDRG2	CCTCCATCAGACTCTCCC
128815	MAGEA12	CACACTCCTACCTGCTGCCCTG
128816	ALDH1B1	TAAAGCCAAGAACACCCTTTCTTT
128817	NPTX1	CTGCCTGGCTCAGCTGCACGCTGC
128818	APM1	GAGTCCTGGGTGTGAGGAACAC
128819	POU2F2	TGAGGGCCAGCCATGCCTCCCCTCCCA
128820	SCT	TGGGAAGGAACCCCCTCACCACCTGCCCGGC
128821	TMPRSS3	AAGGGCGGCCTTTCCCACTG
128822	DSP	AGCATTTTGGAATGAGTCTCCTTTA
128823	PIK3R3	GCTGCCTCTGAGCCAATCCTGGGACCT
128824	SIRT6	AGCTGCCAGGGTGCTTGGGGA
128825	PIK3C2B	GTGGGCGGTGAAACTTTTCCAGATG
128826	SMS	GAAAATGTATATTTTGATGAGCTTAG
128827	BAPX1	CTCCACCCCTCCTGTGTGTC
128828	TNFRSF10B	CAGGCTGGAGTGCAACGGTACG
128829	NDRG1	GCAACATTCCACAGCTGCC
128830	FSTL3	GCCTCAGACCAGCTATGGGGAGA
128831	C4BPB	GGTGTCTGAGCTGGGTGA
128832	PTPRO	GTCTGAAAATACCTTGGTCT
128833	ACVRL1	TGGTGGAGCTGGGCCAGGCAGG
128834	PSG11	CTCCATTTCATTGGACTAAATAACA
128835	HUS1	CTGGTAGATGTGCTCATTCTCCC
128836	GSTM5	GTATGCCCTGCTCCCTTTGCT
128837	RORA	ATCGGGGTCAGGCAAAGGAGG
128838	APPBP2	CTGGGACGGAACCCGGGTTCCTCTCG
128839	PSMD5	ACCTATAATTCCCAGCACTTTG
128840	ITSN1	CCAGCAGAAAACATGGTTAAAATACTT
128841	KCND2	TATCGTTTAACTTTGCACCTAGATAC
128842	PPIL1	TTCCCTCTCAAAACCAGAACA
128843	PDZK1	TCTCATTCTGTTGCCCAGGCTGG
128843	PRND	TCTCATTCTGTTGCCCAGGCTGG
128844	CHD2	TCTGCTCCCTGCCTTTGC
128845	B4GALT1	TTTAGCTGGCAGGCCAGGTT
128846	CIAS1	TAGGCTGGAGTGCAGTGGCGTG
128847	IRS2	ACTACCCTTGTTTTATGTTTTCAGTA
128848	NRG1	TACCTCTTCGCCTTTCTGTGGTT
128849	SLC18A3	CTGAGGCACAGGGGAGTCTGCTCGG
128850	F2R	CAGGCAGCAGACACATGCCAGGGC

128851	TIAL1	GACACGTGTCTTCTAGTTCTGCCTTT
128852	SHOX	GCTGGCATGGGCTGGACAGTTGCTTGA
128853	FBXW1B	CAGTGTTTTTATTTTGTTGTT
128854	CASP3	TAACTGCATTTTAGACCATTTAT
128855	HSD17B1	GCCTGTAATGCCAGCGCTTTGG
128856	KL	GGATACTTTGCTTATTCGTTTA
128857	RAB7L1	GCACGTGTCTGTAATCCCAGCT
128858	ENTPD3	GCTCCTGGAGTCCAATGGCTGCTT
128859	LU	CCAGCCCTGCTCACGCCATGCC
128860	IFNAR2	AGAAGGGGGGCCCTGCACAAGGA
128861	IL1F8	CCTCATTCTTACTATCCAAAAGCCA
128862	FGF2	TCCAATACTCGTTTTGCCTCTATTTTT
128863	NR1D1	ACATGGTACCTGCTCCAGTGCCGCGTG
128864	TNFSF14	GAAAGAAAACTCACGAAGCAGAGGCT
128865	MNT	CCACCTGCCAGACCCGTGGCT
128866	MVK	GTGCCTTCTCTCTCCCTTTTCAGGG
128867	SULT2A1	CAGGAGGCAGAGGTTGCAATGA
128868	ASB1	TCCCAAAGTCACGGAACCGCAGTCTAG
128869	PYGO2	CCCTGTCGTCGCACTTTG
128870	MKL1	GTCATTGCTGTGAATGGGCTGG
128871	SCD	ATGCTGGTGGTTAAGGCCAGGGCCTCT
128872	KCNJ15	GAGGAAGAAGAGGAGCTGAAGGTA
128873	BRCA1	CCAAGTAGCTGGGACTATTTTGC
128874	SLC29A1	AGGGAGCTGTCAGCCAGGGAAAA
128875	NDUFS1	CAAGGCGGAGGTCGCGGTAAG
128876	PARG	TGAAATCCCAGGAATCTCTTTA
128877	PHF1	CTCCTTCATGATTCCTGACCCCTCCCAT
128878	APM1	GAACTCCTGGCCTAGGTGATC
128879	NCALD	CTGCTTGTGTTCCCTTTTGA
128880	LAT	CGTGCGTCTGTGTGTGCCTGTG
128881	KIF2	CCAAGAACTGGGATTAATG
128882	DLGAP2	AGCCAAGCCTCCTGTGGTCCTGA
128883	WBP2	GGAAGCCCTTCTGCCTTTTGCTGGTGTTTCT
128884	SOX1	CCTGGCTTCTTTCTCTTG
128885	STX1A	CCAGCTGACCTGCCCTGTCCTCTCCAG
128886	GABPB1	GATTTCCACATGAAAGCACTTT
128887	SFRS7	GATCAAGATCAGCTTCACTC
128888	ELOVL4	CCGCTTGGCCCTGCCTTCTGC
128889	NOX1	TCCTGAAGGACCTCTCCAGAATCCGGA
128890	JUP	AACCTCCAGCCTCCCTGTCT
128891	CARKL	TCATTAGGGCCCCAAAGCACCAGA
128892	MCL1	GGATTATGGCTAACAAGAATAAATACA
128893	CCND1	GTCATCTGATTGGACAGGCAT
128894	QPCT	AGAGGCACCGTGTAAAGA
128895	FBXL7	GGCCACACCCTCCCTCCCT
128896	CFL2	CAATGAATGAAGGAAATATC
128897	C4BPB	TCATTTTCTCCAGGGAGGGT
128898	ITPR1	TAATGAGTTCTGATTCACCCACG
128899	UCP3	CCCACCCCCATGCAGCCTCTT
128900	NPAT	ATTGCTGAACCTTACTGCAAA

128901	HLCS	GCATCTGGGGAGGTACTGAA
128902	TEM7	CTCCACCCTCAGCTCTTCCTTGCC
128903	LZTFL1	ACTTAGCTTCCTCAGTCTCTCCA
128904	MCC	CTTCTGGTCTGGCGGCTGTGCATCAG
128905	PCDHA1	TCTGGTGTTAACTCTTTCTCTCCA
128905	PCDHA10	TCTGGTGTTAACTCTTTCTCTCCA
128905	PCDHA11	TCTGGTGTTAACTCTTTCTCTCCA
128905	PCDHA12	TCTGGTGTTAACTCTTTCTCTCCA
128905	PCDHA13	TCTGGTGTTAACTCTTTCTCTCCA
128905	PCDHA2	TCTGGTGTTAACTCTTTCTCTCCA
128905	PCDHA3	TCTGGTGTTAACTCTTTCTCTCCA
128905	PCDHA4	TCTGGTGTTAACTCTTTCTCTCCA
128905	PCDHA5	TCTGGTGTTAACTCTTTCTCTCCA
128905	PCDHA6	TCTGGTGTTAACTCTTTCTCTCCA
128905	PCDHA7	TCTGGTGTTAACTCTTTCTCTCCA
128905	PCDHA8	TCTGGTGTTAACTCTTTCTCTCCA
128905	PCDHA9	TCTGGTGTTAACTCTTTCTCTCCA
128905	PCDHAC1	TCTGGTGTTAACTCTTTCTCTCCA
128905	PCDHAC2	TCTGGTGTTAACTCTTTCTCTCCA
128906	KLK4	CCCTCCTCCCTCAGACTCAGAG
128907	COPA	GGATTTACAGGGTGGGGGGACA
128908	CAPN10	CCGGGAGGTCCACCTGCGTTGTG
128909	ACVR1	TCTGGGCATTAAGTCAGT
128910	ZNF41	GTCATCTCTTATGCTTCACTTTTTGG
128911	CLCN6	CCCTGCAGGAGGACCCCGGCCTCTCGA
128912	ARHGEF6	CTATTTTTGCAGTCCAACATCA
128913	CCND1	CTGTCTGAACCACGCGGGGGC
128914	MAP2K1	CATCAGAGAGTGTACATCATGTT
128915	AQP4	GCCTGACAGAACTCAAAGACACGTCT
128916	CALM3	GGCTTTCTGAGGTTTAGCTGGGTGG
128917	ZFHX1B	AGATCAGTTCTAACCTGCTCTG
128918	VAT1	TTCTCTGGATTTGTTCTCAGTGCC
128919	ELK4	TCATAGAACATTTTAATAGATTTTTCA
128920	PCDHGA1	CTTCTCCTTACCTGCAC
128920	PCDHGA10	CTTCTCCTTACCTGCAC
128920	PCDHGA11	CTTCTCCTTACCTGCAC
128920	PCDHGA12	CTTCTCCTTACCTGCAC
128920	PCDHGA2	CTTCTCCTTACCTGCAC
128920	PCDHGA3	CTTCTCCTTACCTGCAC
128920	PCDHGA4	CTTCTCCTTACCTGCAC
128920	PCDHGA5	CTTCTCCTTACCTGCAC
128920	PCDHGA6	CTTCTCCTTACCTGCAC
128920	PCDHGA7	CTTCTCCTTACCTGCAC
128920	PCDHGA8	CTTCTCCTTACCTGCAC
128920	PCDHGA9	CTTCTCCTTACCTGCAC
128920	PCDHGB1	CTTCTCCTTACCTGCAC
128920	PCDHGB2	CTTCTCCTTACCTGCAC
128920	PCDHGB3	CTTCTCCTTACCTGCAC
128920	PCDHGB4	CTTCTCCTTACCTGCAC
128920	PCDHGB5	CTTCTCCTTACCTGCAC

128920	PCDHGB6	CTTCTCCTTACCTGCAC
128920	PCDHGB7	CTTCTCCTTACCTGCAC
128920	PCDHGC3	CTTCTCCTTACCTGCAC
128920	PCDHGC4	CTTCTCCTTACCTGCAC
128920	PCDHGC5	CTTCTCCTTACCTGCAC
128921	PXF	CTGAGTCCCAGCTATGGGGA
128922	PPP1R12B	CCAAAGCGATAGGATTACAGGC
128923	RECQL5	CTGTGGACTCAAGGAGTCCAG
128924	VHL	ACCAAAACTTATCCAGGTGTGGCG
128925	GJB1	TGCCTGCTGGGGATTACTCGATCAAAA
128926	ZNF80	AGGGAGACCTGTTGGTTATTGTGCAC
128927	RNF14	TTCTGGGTTTTGTTGGCTTTT
128928	INHBB	TGGCGGGGAGGTGGCATTCTTGAA
128929	PLCG2	CGTGCCCTATTCACACTCTGGGAAG
128930	BHLHB3	AGAATTGAATTTACTCTTCAGTA
128931	GJA5	CCCTTTCTCCCTTGGCTGTTCACCC
128932	LZTS1	CTGGACCTGGGAACGACTGGACT
128933	MSR1	TCTGCTCCCATGCTCATACCTCTTCTT
128934	MTRR	TTTAGGATAATTGCCTACAGAGGGA
128935	SRD5A1	ACTGCTGATATTTTTTCTAATTTC
128936	SS18	TTTAAAATGTGAGGCAATAAGAATTAC
128937	DDX11	CAGACAACATCCTGCCCCTTGT
128938	CRYBB2	GCCCTCCCCACCATGCCTCCTTCCCA
128939	NPHP1	CCTCTAGCCCTCAGCTTCCCA
128940	CALD1	GTTAGAAGGAGTTGAAATTTTCTAAA
128941	PCMT1	TGTCCTGTAAACACTCAGCTGTT
128942	DHCR7	AGAAGGATCAAGCAGGCATTTGGAGCAC
128943	EDAR	CTTGCAGACAGGGCAGGGAGCGGTCAA
128944	SCO1	AGGAAACTGTCTCGCATAGGAGCCT
128945	FUT1	CTAATGAATGTGCAACCTAATTGT
128946	CDYL	AATGTTCTTGGCCTCTGCT
128947	CTSK	TCTATTCATAAGTCTTTGGTACAAG
128948	SERPINE1	CAAAACTGGAGATGCATCGGGAA
128949	TRIM39	GGATGAGAGAGCACAGCTGTGA
128950	PLAGL1	TAGCTTAAACTACTACTCA
128951	SNX13	TCTATGACAGTGTACATATA
128952	HIP1	CCCATTCTCTAGACAAAATCAA
128953	AF3P21	CTTGCTGTCCTCCCTTCCCTGCAGC
128954	TNFRSF9	TCTCCATCCTCACACCTTCTGCCTTTG
128955	MAPK10	CTGCCCTTTTAAATGGCATGACAAGGT
128956	SRGAP2	CCTGGATATGAAAGGCCAT
128957	NCALD	CACATACATTCTTGGAACTTCCC
128958	STX1A	GCATGATCTCTGTGAG
128959	ZNF264	GCCTATGGCGCTTTGTCATGGATT
128960	KLHL3	TTTGAGACTTGTTTCGGTGTGTCTG
128961	EMP1	CCTGCAGCCACCAGACTTGGCC
128962	CYP2B6	CCAAAGTGCTGATATTACAGGC
128963	CBFA2T2	CCTTGGCTGCTGCCCGCTCTCTGC
128964	CBFA2T1	GGGTTGTGATACTTTGCACACACAT
128965	CML66	TTGAATTGAAAGCTCTCAGGA

128966	ASB1	GGGAGAGAATGAGCTGGAGGAGGGGGC
128967	AOC3	TGGGTGAGGTGGGGGTCTGG
128968	AP1G1	CTCTCCTCCACTGTTGAGGCTGGCT
128969	STAT3	GGCCCAATGGAATCAGCTACAGC
128970	PLAGL1	TGTGCCTCAAACCCCAAGGAG
128971	CNTN2	TCAAGCCCCTCACTTTACAGATGAG
128972	WHN	TGGTCTGGAAGTCCTGGCC
128973	GRAF	ATAGAGTGATTTGAAATACTATATGGC
128974	AK1	CCCTGCTCCGAGGGGCTCATG
128975	SLC4A4	AACTACATTGTAACCTGTTTGTCTTT
128976	KCNJ10	CCCAAGAAACATAAACATATA
128977	MUC3B	CGTCCTTCACCTGGTCTCTGGCC
128978	SNRPN	CCAAGAGTGTCAGTTGTACCCGAG
128979	SUFU	GCAGGAGGACTGCAGACTCAG
128980	EXTL3	CAGGGCTCTGCAGGCCACTGTGAG
128981	PVR	GCAGGAAATAACCCACAAAAG
128982	XRCC2	GGCTGCTGGAGTGCAGTGG
128983	SC5DL	CCCTACTTCCTCTGCAAAAAGA
128984	DHCR24	CGGTGGCCAGAGATGCCAGCAG
128985	HOXB5	ATAAATCGTGAAGCACAGGGTT
128986	STAU	GCAGCTGCCTGTGGGGAAGA
128987	CELSR2	GTCTGGGTTCTGGTGTCCACTCACC
128988	NKTR	CAGGGCTTTCCTTTCAAGTCTTT
128989	DEC1	AATGTCAGTAGAAGACTTGACAGCTTG
128990	CXorf6	CCAGTGTCCCATCCTCTCACA
128991	MTMR3	CTGCTGGGGAGGCTGGAAGCAT
128992	DIAPH2	ATTCCCTTATTCCA
128993	RNMT	GATTCTCTTCCCACCCTCACCAT
128994	MAGEA10	CAGGTTCTCAGGGGACAGGGAGAGC
128995	TGFBR3	CAAAACCAATGCTGATGACCTTAT
128996	DISC1	ACATATGTCTTTTCAAAAAGCCT
128997	DSCR1	ATGCAGTGCCTTTCCCCATTCA
128998	HYOU1	GAGGAGGGTCAGGGCTGGCCTTCCTC
128999	CORO2B	CCAGCTTCTGGAGACCCCCTGCCGG
129000	HSPG2	GGGCTGGACTGGAGGTGGGC
129001	PRPF18	CTTCATTTCATATCTGACTGC
129002	CCR3	GGTCATTACCACAGGCCAGGGGCTG
129003	HTR2C	TGTGTGCAGAGTATACAAGTGT
129004	ABCC3	GGCTTTGGAGCTGTCCCACCTGCA
129005	SOCS5	GTCTTAAAATATTAGTGGCTTA
129006	LTB4R	TAGCAAACAGCACCTAGACCTGG
129007	TGIF	TTCTCATTCCCATGTGGAACA
129008	ZNF193	ACTAGAAAATGCCTCT
129009	SNRPN	TCAATGACACCTTCCTGGTAACAT
129010	FBXW1B	GCTGCTGCTGTGGCCCCAGCAGGTT
129011	F3	TCTTGAATTCCTGACCTCAGTGATCC
129012	SNX6	TCCATCATCGTGCACTCGTCA
129013	GOLGA5	TCATATATTTAACTTTGCAAAAAGA
129014	PCSK2	TGTCTTCTCTAACACCTTGTGAC
129015	CEBPA	CAGCCTCCGGCGGGGACCCAGGGAGTGGTTTG

129016	PRND	AGAGACAGTGTTTTGCCATG
129017	MAGEA5	GTCTTGGGCATGATTGCAATGGA
129018	FGFR2	CTCTCTTCCCTTCTTTCAGGAATACT
129019	PTCH	ACCCCCACCTCTTTCCAGAACTGCT
129020	WDR1	TCCCCTGTCTTTCCCTCTTCTGCTCTCA
129021	PRND	GGGATTACAGGTGTGTGCCATCATG
129022	IGF1	GGAACAATGCTTTTGTTTTTTA
129023	SYT4	ACATGTTTGAAGAACTGTGTA
129024	MSL3L1	TGGGCAGCAGAAGATCATGTGC
129025	GRB10	GGAGGGTGGGCGCCCAGGC
129026	RAB7L1	GAACCTGGGAGTTAGAGGTTGC
129027	ZNF8	TCTCTGGTCTGGGGATCACCTCAGGCGCTGTC
129028	CD34	TACGCCCAACCCTTCCCCACTGCA
129029	IKBKAP	TTGTCCTACCACCCCTTGCTCTTTGAGGGC
129030	NDUFS1	ATAAGTTATACATGTATGCA
129031	PTK2	ACGGAAGGGAGAATATGACAGA
129032	IMMP2L	AAAGGGAAAAACTTCTGACAATATG
129033	COL5A3	GACTTCCCTTGACTGGGTTGTGTTT
129034	SOX13	CTTGTGTGCATTTCTGTCTCTCTCT
129035	HARS	TCCAATAAAATGCCTCAACCACGGAA
129036	KAL1	TTTCCCTTATTTTCCT
129037	BCL11A	GAGCTTACTTACTTGGACGC
129038	VHL	AGGAGGCGAAGATTGCAGTGA
129039	GAS7	GGGAGGCGGAGATTGCAGTGA
129040	TPMT	GGGGGGCGGAGGTTGCAGTGA
129041	SOX4	CTGTATTATAATAAGCAAAAAGA
129042	MCM2	TGGCTGCACCTGGCATGAC
129043	APAF1	CTTGGCCTCCCAAAGTGCTGAG
129043	DSCR3	CTTGGCCTCCCAAAGTGCTGAG
129043	FCAR	CTTGGCCTCCCAAAGTGCTGAG
129043	HUNK	CTTGGCCTCCCAAAGTGCTGAG
129043	LZTS1	CTTGGCCTCCCAAAGTGCTGAG
129044	PRKY	CCCTTGCTTTTTCTCTGGACCA
129045	EDG8	ACCCAGGCTGGAGTGCAATGGG
129046	HPS4	TCCAGCAGGACTCCAGGATGGTTCAGC
129047	SLC6A3	ACTACCCCAGGATGCATGCAGG
129048	DISC1	TGTCACCCAAGTTGGAGTGCAG
129049	SLIT2	GTGTGTGTCCTAACACAC
129050	CCND2	CCTTCTCCCTCCTCTGTCTCA
129051	PRSS15	TAGAAGCTATTTAATGATTAAAGTCA
129052	LIF	GGTTTCCCTCCTTCCTTTCCACTG
129053	PDCL	CCAGGCTTTTGAGCTGTTTACTTA
129054	FGF5	ACTAATGCTTACAACTTTC
129055	TGFB1	CGCCTGTAATCCTAGCACTTTT
129056	ZNF253	TCACTCTTGTCACCGAGGCTGGAGTGC
129057	IFNAR1	AGGCTGAGGCAGGCAGATCATG
129058	MASP2	CTTGCCAGTTTAATTCCAGCCTTAC
129059	IL17	GCACTATTATCAGTTCTGCCTAGGTA
129060	GLUL	GGGAACACCTTCCACCATGA
129061	PVR	GAAGTACTGCCAATACTGCCA

129062	NR2E1	CATCTGTCTGTCCATGTGT
129063	CDC7L1	GGCTTCTCAATTTTCTTCCTTCTCTGCC
129064	PDGFB	GCCGTGGATGCTGCACTCGGGCTCGGG
129065	ANK3	TGGAATGATCAAATCACAGA
129066	PITPN	ACTGTAGCTAATTCTAGATGCCCTTCAGTATT
129067	SHANK2	TTGCTACCTCTTTGAAAACCTGCATGC
129068	PTGS2	TTAGAAGTAACTAATGTTTGAA
129069	ARNT	CAATTTACGAAACCAAAAAGTTGAG
129070	ESRRA	TTTGCTGCTGCTTAATCCTACCCCCTC
129071	ZNF179	TTGACCATGGTGTTCAGGAGCG
129072	SGNE1	ATGTGAATCTGCAATGATCAT
129073	FGF23	TCATGGGGTTTCACCGCCTTCCTCA
129074	DPH2L2	ATTGCCCTCAATTGAGAACC
129075	LDLR	GCCTTTGCCCTGTCACCCCC
129076	FUT1	CAGGCCAGAGTGCAGTGGCGCG
129077	TMEM1	TGTTACATGAATGCTTCT
129078	PCDH11Y	CCAACTTGATTTTCTTCCATA
129079	AVPR1A	CAGAACATTGTCTTACTTGA
129080	PRND	CTCCAGAGAGAGCCAAGGTTCT
129081	HAS1	GGAGAGAAGAGAGAGCCCGGCCAG
129082	IPF1	CCTACAGCACTCCACCTTGGG
129083	JUNB	CCGCAAACCACACTGGACTCCG
129084	RAMP3	GCCTTAGCCGCAGTCTAG
129085	ZNF217	ACAAGCTGAGCCATATGTACA
129086	SOX11	CTGCATCTTCGCGTGTGCTCAGAGGTG
129087	GCH1	CTCTGCCACTTTGATGCTATTTG
129088	CYP8B1	TTTAGTTTTTTCAGCAA
129089	DMD	CAGGTGCAAAAAGATTGT
129090	GABRP	TGCTGCTACTCTAACACTGAGCAA
129091	TAL1	ACAGCATCTGTAGTCAGCCGA
129092	SOX12	TAGGAGCCAGGGCTGAGTGTGGAA
129093	BDKRB2	AGGCTAGAACCTGGCAAGCT
129094	TPT	TCATGTGCAGATAACCAAAAAT
129095	ATM	ACTGCATCCTCAACCTCCTGGG
129096	CPM	GAACCCTAGAGGCGGAGTTTGCA
129097	DLEC1	AGAATTCTGCATGGTGACAGTCTC
129098	BCAT2	CCAGCCCCTCGTCGCGGGTTCAG
129099	PPP2R2C	TGGCCTCTCCACTTCTGT
129100	CPT1B	TGGCAGCTCACAGGCATGAGGGGTG
129101	FGF2	TCCAACAACAATATTAGTCGTA
129102	CYLN2	TGGAGTTTGTCAGTGGAGGCAGA
129103	OSCAR	GGCCCCCACCTCG
129104	CREBL1	GGGGGGAGGGGGTACCAGGTGGC
129105	PPAT	AGTTTTGTTTAAGGATCAAAGA
129106	PTPRF	GACAGAACATTGCCTTCCTCGTGCA
129107	FOXM1	CCTGCCTGGCTTCCTTAGCTTGCCCC
129108	SLC16A1	CACTGCCCTTTTTGAAATCACCT
129109	DSP	AGTAAAGGCTGTTCTGGCT
129110	NHP2L1	GATCTGGTTCCAGCTTTCAGCC
129111	CORO2B	CTTTATGAACCTCCATCCTCCCAG

129112	RTN1	GAGCCCAAGTTATCTTTCCCTCTTCG
129113	NDRG3	TCAGGAGAGAGCAGCTTTGA
129114	MCM5	CTGAGCGTGGAGGTTCTTGTC
129115	CAST	TCCAGAAAGAAAATGAATTTGA
129116	NUP62	CCCAGGAGGTGTTGCAGTG
129117	KRT2A	CTGGCAGTGCTGGGGGGAAATGTGTTTC
129118	BSND	GTCTTCTCTCCCTGTGTAAGCCT
129119	TFPI2	CATAAGATATAAAAGCAA
129120	PGF	TCTGGAGAACAGTGGTTGCCTGG
129121	GALNT1	GAAAGCTTAACAGCAATGTGAT
129122	TCF3	CTGCATCTTGGCCCTGTTGCCTGGGC
129123	SH3BP2	CCAGTTCTGCTGCCTCAGGTCAGGCCA
129124	DCTN1	CCTCCTGGGCAGGGCCTGCCTCCTCT
129125	WBSCR14	CCCTGCTCTGCCACTGTGCTCC
129126	PTPRG	TCCTCTCCTTTTTATTTTAGG
129127	PLAGL1	GGAAGGTGTGAGAAGCAAAGCCC
129128	FGF12	CTTGCTTGTTGCAATGTGGTAG
129129	ATF7	CACTTCTAGGTTTGGGGTTTCTCAGTT
129130	MEL	ACAGCTCCCAAACCCTGAGCAAG
129131	EPB49	CTCTCTCTTCTGTGGCCCCCA
129132	CTNNA1	CCTGGCATCTTAGGAAGCAGTCCTTG
129133	PCDH12	CAGTGAGACAAAAACGGGTGA
129134	CTNNA1	TCAGTTGAGAGGGTGCAGTCCAG
129135	DGKE	TTCAGTTATTTACAAATGTTTGTC
129136	PSEN2	GGAGCAGGCATTTCCAGCAGTGA
129137	RP42	TTTTCTCATCAAAGCAGAATGCT
129138	OGG1	CCTCCAGCCCAGACCCAGT
129139	TRIM39	TCCTCCTAACTGTCAGGGTGGGGAGCTG
129140	NEURL	ACAGGGAGACCTTGTGATGGC
129141	TXNRD1	AAAAGGAGAGAGCAATTGAG
129142	PIK3C2B	TGCCTGTAGCTCATTTTATTATG
129143	BAPX1	TGCAAGCCGGGGGTCTCCA
129144	ACADSB	TGTCACCCAGGCTAGAGTGCAGTG
129145	ADCY6	TGTCACCCAGGCTGGAGTGCAATG
129145	CDC2L2	TGTCACCCAGGCTGGAGTGCAATG
129145	EDG8	TGTCACCCAGGCTGGAGTGCAATG
129145	RAB36	TGTCACCCAGGCTGGAGTGCAATG
129145	VENTX2	TGTCACCCAGGCTGGAGTGCAATG
129146	CYP2B6	TGTCTCCCAGGCTGGAGTGCTATG
129147	NUDT2	ATCAGCTACCTGTTTCTGCCTCA
129148	MTR	AGGCTGGAGTGCAGGGGCGCAA
129149	STARD4	ACCTCAGCCTCCTGAATAGCTG
129150	KPNA1	CTTAACCCAAATAAGAACAGTGA
129151	FGF23	TCTCACTGCCATCACATACTAACCTTA
129152	SLC9A6	GGGGAGGGAGAGTGAGGAGGGAGT
129153	ZHX1	GCCTCTATTCTTTGAGATGTGATTA
129154	FOLR2	CTCCCACAAATGACAGCCCCTTA
129155	PSMB8	CTACAGGTTAGGAGACCGTTG
129156	LRRC2	CCAGCCTGGGCAACAGAGTGA
129156	PLA2G2D	CCAGCCTGGGCAACAGAGTGA

129156	RABIF	CCAGCCTGGGCAACAGAGTGA
129156	SIGLEC11	CCAGCCTGGGCAACAGAGTGA
129156	UBE2G2	CCAGCCTGGGCAACAGAGTGA
129157	ARSA	GCCCTCTGGAGCTTCAGGAGGCG
129158	HBE1	CCATCACTGCTGACCCTCTCCGGACC
129159	DHCR24	CATTGTCCTCTGAGCTGCAGT
129160	GALNT2	GCTCAGATGATGGTATCTGTGA
129161	NR2F6	TTAAATGATCATGAAACCAAA
129162	COX15	TTATGATCTTAACTTCACTTCCAT
129163	APOB48R	CCCCAGCCTGAGTCAGCTGTCTGGACT
129164	EPB49	ACATTTTGGAGTGTCCTGGCT
129165	PXF	AACCTTGTGCCTTCTGTCCTACCAG
129166	LGALS3BP	GAGGCCCTCGAGGTTGCTCTGGA
129167	TLX1	ACTCCGAGTCTTGGTCTCCGTCCCTCT
129168	PTTG1IP	GGCTGAAATTTCCACAAAGA
129169	CREBL2	GGGTCCGCTCTGCCATTCCTG
129170	CFL1	GGCAGCCCCACACCTGCCCTTGGGGGT
129171	NCOA6IP	AGTGCCATGATCACAGCTCACT
129172	SSPN	GCACATGGAGTAGCTGAGGTTAA
129173	SLC4A4	TCTGCTTCTCTCTTGCATAGATACA
129174	ATP8B2	GCAACCTCCACCTCCTGGGTT
129174	CDC2L2	GCAACCTCCACCTCCTGGGTT
129174	EHD2	GCAACCTCCACCTCCTGGGTT
129174	IGF1	GCAACCTCCACCTCCTGGGTT
129174	MAK	GCAACCTCCACCTCCTGGGTT
129174	PDCL	GCAACCTCCACCTCCTGGGTT
129174	SEDL	GCAACCTCCACCTCCTGGGTT
129174	TAT	GCAACCTCCACCTCCTGGGTT
129175	BLMH	CCTTGTTCCTAGAGTAGAGTGG
129176	TMP21	GGTGATATCTTTTCATGATTTTATA
129177	RAB3A	GCCCCTACCAGCCACGGGCACAAGAC
129178	AP2B1	GGTGATCTTCTTGAATGATGTTTCAG
129179	LTBP2	TCTGTTCTGGGCCCTGATTTTGCCA
129180	CNP	CCAAGCTGGAGTGCAGT
129181	CYP3A43	TTAAGAGATGGGATTACAAGT
129182	CASQ1	ATTTGATGAGCAAATGAGCTA
129183	FHL1	AAAGTTCTCCTTCCGTCTTTTCTCCC
129184	SERPINB9	CATAAGCCACTGAGCCCAGCC
129185	SIM2	TGAGACAAACGGCCTATTG
129186	MCM5	AGGAGCTGTAGTGTCCTGCTGCCTCT
129187	RHD	TCATCCAGTAAGCTAAGG
129188	RASGRP1	TCACTACCTCAGATCTAATCA
129189	EPHA2	GGGACAGAGGGTGTCAAACATTCGTGA
129190	PPIL1	TCTTGAGCCCAGCTTCTTCTCGT
129191	SHOX	TACAAATACATCTACAGATATTTTCAGG
129192	MYOC	TACAGTTGGCTTCTAATGCT
129193	GSTA4	CTCCTGAGCGTCTTTCTGCTCTCCT
129194	EXTL1	CGAGGAAAGCGGGATGGGAACAAGTGG
129195	SDC1	GGGGGTGGGGAAAGGGGTCGGC
129196	IRTA2	TCCTCATTCTCAGTCTGACCA

129197	TRDN	TGATAATTAGGACATTCAG
129198	B4GALT6	TCTTCATTGTATTAATTATTAC
129199	HDAC5	AGACAGTACTCTCCAGTTCTG
129200	KCNA5	GAGAGGCAGAGAGCAGGGCAGC
129201	EHF	GGTGGTGTGGAAATGGCTGAAGAG
129202	DPP6	TCCCTTTCCTTTCTCCAGTCCACGTG
129203	KIF3B	GTCACATGTCTCTCAGACCCCTGGA
129204	DNASE2	GTATGTAATCCCAGCACTTTGG
129205	DNAH9	AAAAGGTCCAGGGGGCCAAG
129206	MYO1D	GCTGCTGAGAAGGCCTTGAGGGAA
129207	PSMD5	AGGGTTTTGCTTTGGATTTT
129208	NOVA1	AACTGTGATCTTTGTCCTCA
129209	MMP15	CGAGTGGTTTCTTGTGCACTGG
129210	IFNAR2	TAAAGTGCTGGGATTACAGG
129210	JRK	TAAAGTGCTGGGATTACAGG
129211	CENTD2	ACACAGACACACAGAGTCACACACAC
129212	SULT2A1	GGAGGCTGAGGTAGGAGAATCGTTTGA
129213	HYOU1	GTTCCTGTAACTCCCTGCCTCC
129214	FPGS	AACCTGACAGAGGTGTCATCC
129215	KCNAB1	TCAACCTCTCGTGACTGCCTGTG
129216	ATP8B2	TGTGGCGGCGGATCTCCTCCTCC
129217	ADAM33	CTGCAGGCAGCTTGGAAGTTTCT
129218	PRNP	CGGATAGGCTAATCAATACCCT
129219	VANGL2	AGAGCCGGCAGCTCCTCCTCA
129220	DDX26	GAGGGAGTCCCTGAAACTTCT
129221	PXF	TTCTGAGTGAGGAGTGTGG
129222	SNX6	GCCAGTAGTTATATTACAAA
129223	PSEN1	CTATAGAAAACGATTTTGAACATACTT
129224	CAST	TGGTTTGTTATTCTTTTCCAGAAA
129225	DLX2	TCTCTCCTCATCCATCACCAG
129226	COL4A3	TGCTCCATCCGTGCCTCT
129227	PMX1	CTGAGACTGAAGGCCAAGGAATATAGT
129228	PLAG1	GTCAACCCTCTGAGGATGGAAGGCAGT
129229	DECR1	ACAGAAAAGGGAATAGAAAT
129230	RAD51L1	GCAAACCTGTTCATCTTGCCA
129231	MOG	AGGAGAGCCTGGTTGCCCAGGGA
129232	CHST6	GATGCTGGTGGTCACTAGCTT
129233	C1orf1	GAGGATAGGCATCTCAGGGA
129234	CST	GTCATCCAGAGCTGGAGTGCAGCGGCAC
129235	GNB3	TAATCTCAGCTCCTGCCTGTA
129236	SCML2	TGTGCCCAGGCTGGAGTGCAA
129237	MYCL2	GTCGCCCAGGCTGGAGGTTAA
129238	PON1	TTATAGAAGCTGATATATAAGG
129239	PYCR1	CTTTCTTCTCTGCTCCCAAACCA
129240	RAD54B	TCTGACATTCCATTGCTCTTC
129241	PDAP1	CTTCATCTTGGCACAGAAATTGT
129242	ARHGEF12	GTGACCTGCTGTGACACTGTGCTCTCTT
129243	POLH	TAATATTTTATCTTTACAGATTTCC
129244	EGFR	CAGCTCTGGCCACAACAGGGC
129245	PPP2R4	TCTCAACACGCTGGACAGGTGG

129246	RPH3AL	CTCCCATCCTTCCTGCCTCCT
129247	ATM	ACCTTCCGAGTGCAGTGAGGCATA
129248	DSC3	AGAGACGGGGTTTCACTGTGTT
129248	FZD4	AGAGACGGGGTTTCACTGTGTT
129249	MAN2A2	TACTATGAGCACATTCACCAGGCGGTCC
129250	PDGFRA	GCAAATGATTAGTTTTAGAAG
129251	COX4I1	TTCCGCTCCACGGTGACCTC
129252	FLRT2	TCTCTGATAAGGGGCTGAAAGATTCTG
129253	SPP1	TGGCTTCATGGAAACTCCCT
129254	TAF11	ACCTAGGCTGGAGTGCAGCGGC
129255	AES	AGACACCTCCACGCCCACCTGGTCCT
129256	CDC42	ACTGTTTTCTCCTTCCCTTCTTTGCTGCTGCT
129257	ZNF8	GTAAAGGATCATTAAAATGAA
129258	MKI67	GGGCTCCTGGACTGAGAATAG
129259	KCNK3	TTAGAATCTGGAACAGAAGA
129260	DDX19	TCCCTCGAATCCACCAGCACG
129261	JAM3	TCCAACAGGGTGTCAGGATTT
129262	NPTX1	CCTTTAGCTCCCTCCTGCC
129263	MOCS1	CATTGCAGAGCCCAAACATGTGGA
129264	NFE2	GTAAAACTGAGGACAGAGGAG
129265	PFKP	GGAGTGTGTCTCATGCTTTCA
129266	GNPI	AGCTACTGCTGCCTCCATTTCT
129267	EPHB1	GCACACCCACACCCACGCGCGCCCG
129268	SP110	TATCACACCCTCCATCTTTATTCTT
129269	GNAO1	CCTCCCCACCCCTGCCTGTGTTCTGT
129270	SERPINB9	TCACCCAGGCTGGAGTGTAGTG
129271	ATP8A2	TCGCAAACCTGGAGTGCAGACCACA
129272	CYP4F3	TTGCCCAGGCTGGAGTGCGGTG
129272	HMG20A	TTGCCCAGGCTGGAGTGCGGTG
129272	SLC39A1	TTGCCCAGGCTGGAGTGCGGTG
129273	AQP6	TTACCCAGGCTGGAGTGCAGTG
129273	CLECSF12	TTACCCAGGCTGGAGTGCAGTG
129273	FCGR2A	TTACCCAGGCTGGAGTGCAGTG
129273	MDM2	TTACCCAGGCTGGAGTGCAGTG
129273	NQO1	TTACCCAGGCTGGAGTGCAGTG
129274	CYP1A2	TCACCCAGGTTGGAGTGCAGTG
129274	PRKWNK3	TCACCCAGGTTGGAGTGCAGTG
129275	IL10	CCAGGAGATGGAAGTTGCAGTGA
129276	CHRNB4	AAGTAGCTGGGATTACAGAAAGCCGCC
129277	EIF2C1	TTCACAGTCTCCGGGCCGCCT
129278	ATP8B2	GAGGCTGAGGCACGGGGAGCCA
129279	KCNQ2	GGCAGACGTGTGAGAGGGACGG
129280	RRM2B	AATCTTCCCCAGCAGAATCTGG
129281	SIM2	CAGGCCTCAGTTTCTTCACCTG
129282	E2F3	TCCCTCGGGCAGGTGGCAGCGGCCA
129283	BMP7	TCTCAGCCATGCACGGACTCG
129284	PPP1R3D	GTGGCCAGAAGGCCGAGTTGTG
129285	TFAP2B	CATGTTACCCTCCCTTCCTCACATTG
129286	GNAO1	CCTGCCTGTGTTCTGTGCCCTGTGT
129287	PTK7	GCAAGATCCCTGTCCTCCTGGGCC

129288	PRKCN	TTAATCCTTCACTTTAATACAA
129289	FBN2	CAAGAACCTGTTTCCTGGA
129290	GATA2	TGCCCAGGTGGGGTTTCCTGCATG
129291	FCRH1	AGGACTTCACAGAGAGAGCTGTGCCCATC
129292	FOXF1	TCGCTTCAGCCTCTTCTGTTA
129293	IL26	TTAATTATGCCCAGTGTGA
129294	ASB1	CAGTGGCTGTGGAACAGTCCTGGGCC
129295	TAC3	TCCCTGTCCCAATCCCCAGGTGCGCACGC
129296	SEMA3F	GCCCCTTCTCCCCTCCCCGCCTGGCC
129297	RFC2	GGTAGCTCACGCCTGTAATCCCAACACTT
129298	MME	GTGAGACAAAATTTTAGTCCAAAT
129299	DNAH5	GCTGACTCCAGCCTGTCCATGCACG
129300	IL1A	AGAAAACTAAGAAATATGCACA
129301	HPS1	GAGATGGGGAGGAAGCCCCATCTCTG
129302	ADAM19	TTGTCCACCTATTAATTGTTTAC
129303	DRD4	GCAAGGCCCTGCGTGCCTGCTGC
129304	HMGA2	CAGCTCATAAAATGGAAGCAATTGCT
129305	BGN	CCAGGGCCCAGCTGCGTCCAACCCAGC
129306	RANBP2L1	GCTTGAGGCTAGTGAGCTGT
129307	SORBS1	CCCACAGACATTTGTTTTTAAGTATGA
129308	BCL7A	TTTTCTGGCACTTCCTCTCTATTGC
129309	PIGR	GGCTCACTGAAACCTCTGCCTTC
129310	E2F3	GACAGGGGAAAGGGCTCTC
129311	FCMD	AGAATATAAGGAAAATTAGAAG
129312	SCA1	TCCTGCATCTTGTGGATT
129313	GCK	CTCTCCTCTGAACTCGGGCC
129314	GUCY1B2	ATCATCCCTGTGGGGAGTGCAGG
129315	F8A	GTGACTTCTTTTTGCCCAGG
129316	KCND2	AATAAAACCACCAAATGGCA
129317	PFKFB3	AAGGCCTCACACGCAGCCACTTCTTCAA
129318	FCAR	GGCTCATTGAACCTCTTGGGTTCAAG
129319	PTGS1	GGTGGAAGGATGGGATGGGTTCC
129320	PRODH	CACAGCCCGAGCCCCTTGGGGAGCAG
129321	COPA	CTAGGAGGTGGAGGTTGCATTC
129322	ENAM	GGAACTGAAGAAACTGCCGCT
129323	CMKLR1	AGATTCAAGGGGAGGAGAAATAGAGT
129324	EPB41L2	GATCAAATGACAGTGA
129325	PTER	GAGAAACCGCATTCACAAAAAA
129326	HNRPH1	CTCATCTAGGATGTAACAGTGA
129327	APOL1	TCGCCAAGTTGGAGTGCAATG
129328	TRIM39	AGCACAGCTGTGACTTCCTCCT
129329	CELSR2	TACTACTGAATAAACTAGTTCT
129330	TAF9	TCATGTTGCAGAACCAGCAGGTGGATAG
129331	DAXX	TCTCAGACTCTGATTACTGCCTCC
129332	TNFSF12	GCCAAGATTTGAACCCAGCTAG
129333	FMO4	TGGCCAAGAAAGTTGCAGTGA
129334	CLN2	ATCCAATAATGATTGATACCTCA
129335	UTY	GCCTCAGCTTTTTTCCTTGCAGCCGC
129336	SELP	GCAGGTGGCATCTCTAATTG
129337	PDE6A	GGGAAGAGATGACTCAAGCCAGTGGA

129338	STAM	TAACTGCATTAGTGGCCATTTTGAATC
129339	ATP2B1	GAGTGTTTGGTTTAAGAAAGAT
129340	COX15	CTGGAGCAGAGAACATCTGGAGA
129341	PAICS	GCAAGCAGATCACTTGAGGTCA
129342	CGB	GGACCCCACCATAGGCAGAGGCAG
129343	XT3	GGAGAAAGCGCGGCCGCTGTGGG
129344	PRKY	CATCTAGGCTAGGTGCAGTG
129345	IGF1	TCCCCCAGGCTGGAGTGCAGTG
129345	LZTS1	TCCCCCAGGCTGGAGTGCAGTG
129345	RPP30	TCCCCCAGGCTGGAGTGCAGTG
129346	PDE6B	TCACCCAGGCTGGAGTGCCGTG
129347	ZAN	TTCATTCTTCATGGCATCCTTGGAAGG
129348	G2A	CTGCAGCCTCAAACTCCTGGGC
129348	GLTSCR1	CTGCAGCCTCAAACTCCTGGGC
129348	SHOX	CTGCAGCCTCAAACTCCTGGGC
129349	CHRND	GCGCTTCATCTAGGTGGGCCTGTTGGGGAG
129350	SNX6	GACGACGGCCCGGACTTCCTCTCA
129351	EDN1	GGAAGGAGATTCCACACAGG
129352	TST	CCCTCTCTCTGTCAACACTGGAATA
129353	PRY	ACCCACCTCTAAGGACTCAGAG
129354	CRTAP	CCTATCTTCACACCTGCCACCT
129355	BRCA1	ACAAAACAAAAAACACCGGCT
129356	FOXD1	GAGAGGAGAAGGTCAAGTCCTC
129357	RET	TCCAGTCTTGTGGGGGCAGCTT
129358	TSC1	AAATCACTATGGGTGAGCATA
129359	COL4A4	GGAGGGAAGACGTGGCTCAGGTC
129360	TIMP3	TGGGGGCCTTTCTTTAACTGC
129361	AMH	GCCACTCTGCCTGGAGTGGGGG
129362	STIM1	AATACTCCTAGGGCTCAGGAC
129363	RASAL1	CGGGGGGCGCGGAGGTTGGAGAGA
129364	PCDHA11	AATAAGCACGTTGGAAATATTTGG
129365	ITK	TTGCAGAATCAGGACTTTATA
129366	SRC	CTTGCCCCACTCTGCCTGCCTGC
129367	CRH	GGGAGAGAGGGAGAGAGCCTAT
129368	SUFU	CTCCACAAATAAAAGGACA
129369	S100A6	CTCTGGGGGTCCTCTCTGAGTCA
129370	MCM7	TGCCTTTGAGGGGAAGGAGGA
129371	CDK4	CACACAAGCGAATCTCTGCCTTT
129372	EZH1	CTGCCTCTTACGGTTTGGTATGGGAC
129373	WARS	TTCCAGTTTACTGAACTCCAG
129374	ARHGAP6	GCCTCAAGAAGAGCATGGCCTGGGACC
129375	CMKLR1	CCCTGGGAAGCCTCCGGGTGAT
129376	SIL	AGATCACTGCAACCTCTGCCT
129377	HD	GGTGGGTGGAGTCAGGCTTCTCTTGC
129378	IER5	CGTTCTCCGGGGAGGGAGGGACT
129379	SLC10A2	CTGAGCTTTCTAAAATGATAGCTCTCTA
129380	IL8	GGGTTTGCTAGAATGTGAT
129381	TRPS1	GGCTATAATAGTTCTGTTCTTACA
129382	GDA	TTCTGCATCTCCCTTGTGCCC
129383	LIF	TGTGCAGTGAACAAACTACACAAGTCA

129384	TNFRSF8	GCATCTGCTTTACTCTGGACC
129385	XBP1	TCTCATAGATGACCCCCAGGTATT
129386	PMCHL1	CAGTGTCCTAATGCATATTGTGACTG
129387	DNMT3B	CAGCAGCTGCTCCCGGCTCCGCGGCC
129388	UBE2L3	CCCTCACTGCACTCTGCTCATCACG
129389	LY9	CTGCCTCTCTCCTGGGACCGTGGG
129390	RAI14	CATATTTATTACGAGTACTCTG
129391	GORASP1	CTTGGTCCTGCTCTGGTCA
129392	NRG1	GTCACCTGTAGATTTCCACACGC
129393	FAAH	TTCCTGCCCCTTCCTCCTCG
129394	ADAMTS1	ATAGAAATTGTTAATTTTAACAAT
129395	DYRK2	AAAAGAGACATTTCAGCTGTGA
129396	CCRL1	ACACAGAACTATATACACACATTGTAC
129397	ASPH	ACACATTTCTAAAAATGTCAT
129398	PUM1	TTCTAAAAAATGCCTTTTTTGGAG
129399	MGAT1	CCCTTCTCCCTGACCTGGCTC
129400	MAP3K9	CTGCACTTCCAGGTGCCCCA
129401	CLCA1	CAGCTGAAGGCAGATGGAAATATTTACA
129402	SELPLG	ACAGATTCTCTCCTTTTTCCTGTCCC
129403	GRAF	AGGTTAGATCTGTGAACCTGA
129404	PROK1	TGGGCACAGGCTCTTGGGTGCA
129405	CSPG2	AATGGCGAACATGTGTTTTCA
129406	ITGA3	GCTGTGTCCTAAGGCCCATTTGA
129407	HDAC4	TCCAACAAATTTTAAACGAATCCAA
129408	EVC	GGCCGTTCCCACCTGG
129409	SIGLEC11	TTGTGAGCCACCATGCCAGG
129410	GATM	AGTCACCTGAGTAACTTGGCCACTA
129411	MAGEA5	AGAGAGGAGGAAGAGGGAGTCTGAGCAT
129412	FRDA	ATCATGGAGCTGAGGAGGTGCC
129413	DIAPH2	CACCCAGGCTGCAGTGTAGTGGTGCA
129414	SLC7A5	CCTGCCTGGTGCATTGCTGT
129415	KCNK5	GTGGTAGGAGGGAGAGTAGCAGA
129416	EGLN2	GCGGCCTGCTGCAGATCTTCCCTGAGGG
129417	ARL2	CGGGGAGGAGCTGCTACTGCTG
129418	KLHL1	CAGTCCTGCCTCTGCTCCTGCCTGGT
129419	CIT	GCGCGAGTCACAGTTGACAGCCCT
129420	ZNF192	GAGTTTGAGCATTATTCAGC
129421	HNF4G	TCGCCCAGCCTGCGCTGGAGGGAAGAA
129422	UMPS	GCCCAGGATGGAGTGCAGT
129423	ADCY1	GGGAGGCGGAGGTTGCAGTGAG
129423	AIPL1	GGGAGGCGGAGGTTGCAGTGAG
129423	BRCA1	GGGAGGCGGAGGTTGCAGTGAG
129423	HM13	GGGAGGCGGAGGTTGCAGTGAG
129423	KIF3B	GGGAGGCGGAGGTTGCAGTGAG
129423	MAP3K9	GGGAGGCGGAGGTTGCAGTGAG
129423	MS4A2	GGGAGGCGGAGGTTGCAGTGAG
129423	PAICS	GGGAGGCGGAGGTTGCAGTGAG
129423	RBM3	GGGAGGCGGAGGTTGCAGTGAG
129423	TNFSF14	GGGAGGCGGAGGTTGCAGTGAG
129423	VHL	GGGAGGCGGAGGTTGCAGTGAG

129423	ZNF264	GGGAGGCGGAGGTTGCAGTGAG
129424	DIAPH2	TCTTCGTGGTATGGCTTTTTTAATTCT
129425	TPK1	CTGAAAAACTGTTGGTTCATCCA
129426	PIK3C2B	TTGTTTCGTTTTCTAGCT
129427	FACL2	TGTCCCTTCTCACAGGCATTC
129428	KCNA4	CCAGGGTCTTTGCCTCTATCTGTGGTTT
129429	ARNT2	CCTTGTTCTGCCAGCTGGAGCCAA
129430	DDX11	CCCTCCAGACAACATCCTGC
129431	HS2ST1	TCATTTCATAAATGATATTTTTATA
129432	JPH3	CCTTCCAGATGCCTCAGTGCTA
129433	RAB11A	TCTGGAGAATTCTCTTAGT
129434	RDX	TAAGCTGAACCACCAACAGA
129435	CD209	CACACTGAAGCTGTCGT
129436	ACLY	ATGTTCTCTGTATTTATGCAGC
129437	GGT2	GGAGCAGTCCCAGAAGGGAGGGC
129438	ATP7A	GTCTTAAACTCCTAACCTC
129439	HEXA	AGGCTGGAGTCAGTGTCTGCCCCT
129440	SYP	AACTCTGGCCTTGGTTCCTCCA
129441	SGT	CCTGCTGTCCTTCTGTC
129442	NF2	ACAGATGGAGAAGGTGGAGAGGAGGAT
129443	FABP2	GCAGCTGCAACTCTATAGACTTTTG
129444	PRex1	TCTCCTCCTCCTCATCTTAGC
129445	CYP7A1	TACTCGAGAGGCCAAAGAAGGAGGATG
129446	TEM1	CCCTTAAGACCTCAGGGGG
129447	ARHGDIB	TTCAGCACCCTGTCCCTCCTCC
129448	BTNL3	CCCTGCAGCAGCGGCAGTCACAGCTTC
129449	DSG2	GCAGTCAGCCACAAACTGACCCAGAGTTT
129450	SARDH	ATCCCATGCTGTCCATCCATTCT
129451	SFRS2IP	CCAGTGATCACGCCATTGCACTC
129452	ADRB3	GAGGCACAGGCACAAAGCATTGCTTGG
129453	CEACAM5	GAGCAAGACTCCATCTCAAAAA
129453	MSH3	GAGCAAGACTCCATCTCAAAAA
129454	RIMS1	GAGTGAGACTCTGTCTCAAAAA
129455	OPHN1	TTCCCTTTGCCACACTGTGGT
129456	KRT5	TCGCCCAGCCCAGTTCTGGA
129457	RABL2A	GCATCATTAACACCTTCCCCACCCCCTCC
129457	RABL2B	GCATCATTAACACCTTCCCCACCCCCTCC
129458	FZD4	ATTTCCCTTTCTTCTTTCC
129459	TRIM14	GCAGTTTCAGTCCATATCAATTGTGT
129460	ASS	TGTCCAGCAAAGGCTCCGTGG
129461	SLC17A4	GATGCCAGCTTTGGAATCAGAG
129462	TAF12	CCAAAGCTCGGCAGATTATGAACCAG
129463	CPSF6	AAATGATTTTTTAAAGCATTTTG
129464	ATP4A	TTCTGTAGCCCACGGCACCCCA
129465	CPO	TCATTTATACTTCTAGTGTCA
129466	HS3ST4	CCTCTAAATGGGGTTGGGTCTCA
129467	NPEPPS	AAGCAAAAAACAAAAACCTACCCT
129468	FUT4	GACCAAGGTGAAGCAAATTTGTGGT
129469	CDH6	CGCTGTCCTGGTGTTTTACTACACTCC
129470	AMACR	AATTATGGTAGTTATTCTGCCTTC

129471	XT3	TGTTGCCCTGCTACACTCCCC
129472	GTF2F1	ATGGTGCCACTGCATTCCAGCCT
129473	TGFBI	AGGAGCTTCAGTATTGTGGG
129474	TUFT1	TCTTAGCAACAAACTGTTTGTTTTTCT
129475	DEDD	GGGAAGGGGGAGTGTGACACTTTCTT
129476	DNAI2	GTGGGAGGGGACGGGCGGGACGAGC
129477	SPR	CCCCAGGCTGGGAGAAGGGGC
129478	SLC12A7	TGGAGGAGAGCAGGCTAGAGGC
129479	PRKY	CCTCACCTGTTCCTAATTTCTC
129480	NEK6	GAGACTTGCAGGAGACCGTGT
129481	IRTA2	CTCACACTTTCATGTGCTTGTGGATC
129482	NFE2L1	TGCCTTGCCACTCCATCTCCCTCCGT
129483	DAPP1	CAAGCAGATCACTTGAGGTCA
129484	SPN	ACGATCTCAGTTCACTGCAACC
129485	GCNT2	TGTCAATCATATTTAAAGGGAAT
129486	B3GNT3	CCCTGCAGCCCCCAGCTTCAGGCCTCA
129487	ACE	TGGGAACACTGGTGGGCAGCTGAG
129488	RAD54B	TTGCAAACCACGCCATGACCCA
129489	FANCF	TGGTCTCAAACACCTGACCTTGTGATC
129490	EPHA8	AGCAGGAACCCCACCGTGTGC
129491	PSAP	CCACTTCTGGTTGCCAGGAGACAGCAA
129492	JAG2	TCTCCACTGTGCTTTCAGAAGTGCCC
129493	STARD4	TTCCACGTCCTTGCTTCACCTCA
129494	TRIM37	GCAGTTTGTCTACTACAGCAGA
129495	GLRB	TTCAGTTAGTGTAAACTGCA
129496	UMPS	CAGGATGGAGTGCAGTGGTGAGATCAC
129497	SRRM1	ACAAGTTGATTTGGAACACTGGACT
129498	PTPRO	CTCTCCAAAGGGCAGGAAG
129499	MAPK10	TGTCATATATTGCCAAACA
129500	p100	CCTCAAATCAGGAAGAAACATCAAAGA
129501	TACSTD2	AGGTTTAATAGATCCTGGCC
129502	ART1	GGCTGGTGGAGAAACAGGAGAC
129503	RRM2B	TGACTTGGCCAAGATCTGCTCAT
129504	NRIP1	TTCTTCTCCTCCTCCTTGC
129505	XRCC4	ACACATTTATCATATTCATTCAC
129506	CCND2	GGGCTGGCCATGGAGCTGCTGTGCCA
129507	PAM	AGCCCCAGCCCCGCGCTGCGCTGCC
129508	DLEC1	CCCTTCAGTTTGGTCTGCTCCGCCTGG
129509	SLC30A3	CTGGCCATGGCCCTGCCCTCAC
129510	HS3ST2	CAGAGCCTATGGTCTCAACTGTGC
129511	HDAC7A	GTCCCATATTCCTGAGTGCAGGGGTAG
129512	FZD4	GCAGTCGGGCTGGATGCTCTGTG
129513	HD	TTGCCCAGGTCTCACTGCTTTGCACCG
129514	SUV39H1	CCAGATCTATGTGTCTGTCTGTGTG
129515	SUDD	GTTTCAGGCTTAAACATCACAGCAG
129516	KCNMB3	TGACCGCTCCGCCTTGCCAGGAGTCTG
129517	GPRK7	TCATCTTTCTTCGCTTCTATAC
129518	MYC	TTGAGACTGAAAGATTTAGCCATAATG
129519	CAV1	CCCTGCTCAGTAAAGCACTTG
129520	ADAM17	ACTCCAGCCTGGGTGACAGAGT

129520	DVL3	ACTCCAGCCTGGGTGACAGAGT
129520	FGFR1	ACTCCAGCCTGGGTGACAGAGT
129520	IRAK4	ACTCCAGCCTGGGTGACAGAGT
129520	LPIN1	ACTCCAGCCTGGGTGACAGAGT
129520	SFRS2IP	ACTCCAGCCTGGGTGACAGAGT
129520	TBX1	ACTCCAGCCTGGGTGACAGAGT
129520	TEM7	ACTCCAGCCTGGGTGACAGAGT
129521	CASQ2	CTAAGCTGGGATCTGAATAC
129522	RNMT	AAGACTTGAATTTCAGTTTGGT
129523	ABCC12	TTTATATCTTCTTTATTCGTCGT
129524	CYP4F3	ACCTGTAATCCCAGCACTTTAGG
129525	BICD1	TGTGGTTTCTCTGAGTCACAGA
129526	CDH1	GGCCAGGCTGGAGTGCAGTGGTGCA
129527	PPEF2	GGAGAGAAAGAGGAGCCCTCCCGCTC
129528	PAX5	GGGCTAGGGTGGTCAGAGGAA
129529	NUP98	TCACATGCCCATTCACACCACA
129530	PRND	AGGCTGGAGTGCAACGGCATGAT
129531	DNASE1L1	CGCTTCCAGAGCCAGAACTGAGCCCAG
129532	ENTPD6	GGACAGAACCACAGGCACACACTGAGGGG
129533	BBS4	TTTAGAATAAAGATTACATATC
129534	HPCA	CAGTTCTGGAGGAGCCAGGTT
129535	SMARCB1	CCCAGCGCCATCCTGAGGATCGGGGTG
129536	NCAM1	CTCAGCCGCCGTCCACACTCGCTGCAG
129537	ISG20	GAGCAGTGGCAGCAGAGAGGCAGA
129538	CNTF	GAGAAAACAGGCTCACAG
129539	CPD	TCTCTAGTTGTTAAATAGCTG
129540	ZNF8	GATCATTAAAATGAAAGTAATT
129541	CRP	AAGCACACTGGAAAGGCCAT
129542	PFN2	CTGATTTGTCCATTTCTTTCCCTGCA
129543	RDX	AATTACATCTCTAATTTTGGA
129544	GNB3	GGCTCTGGCACCACTAGGGTCCTGGCC
129545	NDUFA6	ATATTCCTACTGTCTTTGGA
129546	RNASE4	TAGATCATTAAGACTTATGTGCT
129547	HTR2C	TCTTCTGTCTGTACATCGTTGTC
129548	GYS1	TCCTGCCTCTCTGCTCCAGAGAGAGG
129549	AIM1	CCCAAAATGCTGGGATTACAGG
129549	MTR	CCCAAAATGCTGGGATTACAGG
129549	NONO	CCCAAAATGCTGGGATTACAGG
129549	PCDHA9	CCCAAAATGCTGGGATTACAGG
129549	WHSC1	CCCAAAATGCTGGGATTACAGG
129550	NPR1	GGTGAAGAGAGGGCAGGGGAGCCC
129551	GPRC5B	GATGCAGAGATGACCTCTCGCTGCCTCAC
129552	PLEK	GCATTGCGCAGCATCTTCAGTTCTCC
129553	PPP2R5A	ATTGTAACCTTTGTCTAATCATTGGAT
129554	UCP2	CGAGAGGCTCCCTTCTGGCCT
129555	TRPM6	TTTTACCCAGGCTGGAGTGCAA
129556	KIF3C	CTGTCTCTCTTTCTCTCCT
129557	SKIV2L	TCCGGGCTGCCAGGCAGCTGCTGT
129558	MYF5	TTCTTCTTCTTTATTATTCTT
129559	CRSP6	TAGCCCAGTCTGGAGTGCAGTG

129560	BMPR1A	GCACAGGAAGATATTGGTG
129561	PPP1R3D	CCTGGCAGTGGCCCATCCTGTC
129562	ASPH	TCTTTGGGAAGGAACACTAA
129563	PHF1	CCTCTGCCCAGCTCCCCATTCA
129564	RGN	GGCCTCTCTGTCGCTGTCGCCGTC
129565	PPP2R2B	AAGCAGCTGTGACATGAAGTGAA
129566	GABRE	CCCCTCTCCCCTACCTGGCCC
129567	CFL2	CTCTGGATAAATTAGCATAGTT
129568	TCF3	GAGTCTGCTCAGGAGCCAGC
129569	UBQLN3	GACTGCTGTGTCCCCACAGATCTG
129570	GP1BB	TCCAGACCCTGCTGCGTCTC
129571	PPP3CA	CTAGAGTGATGATGTGAAAGAA
129572	KCNK3	GGGTGGGGGCTGGGTGCAGTG
129573	LSS	CCCTGTCTTGGGCTCCAACCCCTCAAC
129574	MCP	ACCCGTTTCACATGCTTTTCA
129575	FCMD	GCCATAAAAAGACCACA
129576	CALR	CCACTTCTGGGTGGGGCAGTGGGT
129577	PSCD4	GAGGGGAAGGCAGAGCTCA
129578	CLNS1A	AAGAGAGAGCTCCTTTCGCCATGTT
129579	HAS3	TATACTCTTGAATTCCTCTCA
129580	GYPA	AAAGAAATTTATTTTCTTCCTA
129581	ENTPD6	TGCTGGCACTTTCTGCACACTGGCTCT
129582	MSMB	AATGTTCTCCTGGGCAG
129583	EDAR	TAGGGGCAGCAATGCTGAA
129584	Rgr	GCCTGGGCCCCTCCTGGGACTTTAT
129585	CYP1A1	TTCTAGCCTGCATTGAGCTTGC
129586	IL12B	ATATTAAGCAAAATGTTTAAAGACA
129587	CSNK2A1	GAGGGGAGAGCGGCCGCCGC
129588	HYAL4	GAAACCAGATCTGGGGTAAAGTCAA
129589	ITGB3BP	CTGTGGACTTTTAGCATTTGTGG
129590	BMPR2	ATGCAGAATGAACGTAGGTGGTCAACA
129591	LAMP1	GGGAGGCACACTTTCTGCAAACGTTTC
129592	PPP3CB	AAGAAACCATTGTGCTTCTG
129593	RFNG	CCCTCTCTGCCGCAGGCTGG
129594	VPREB1	CTGTCATGGAAGAGGGTGGAGCCGC
129595	GBF1	TGCAGCCTCTGCCTCCAGCCCGGCA
129596	SRM	CTGTCTGTGTGTCTGTCTCTCT
129597	IL1F5	GATAAATTCTGAGATTTGGAGC
129598	TFAP4	TTCTCCTTTAAGCACTTA
129599	HSD11B1	ACTGTTCTGTCTCATGTTTAT
129600	CHST6	GTGGATTACAGGCATGAGCCAC
129601	ZNF278	AAGGGAGGGGGCGGGCAGGTGC
129602	CYB561	GTGGTGAAAGCAAGGTTCCCCA
129603	TCF3	CAGGAGATCCTGGACTGCCTGA
129604	SLC22A12	CGCCAGGAGAAAAACTTAGGCCTC
129605	MT1G	AATCTAGGATTTTTTGTTTTTTG
129606	DDEF2	CTGCTCTGTTTTAAAAACTCAGAGGCA
129607	ALS2	CTGCCTTCCTGAGTCCCTTCCAGTCA
129608	DDX6	CTTCCCCCTTTCTAAAAGTTT
129609	VDR	CCACCTGGCCCCATGTCTCTCAGAATT

129610	SUV39H1	AAGGTACCTAGGGCTCTTGGGAG
129611	NEK6	CAGCACCACTTTGCCTTACTTGA
129612	NR1I2	CTGTGTACACATCTATTCTCAA
129613	RHO	CTGAGTGGCTGAGCTCAGGCCT
129614	CDK7	GAACACTGGACAACATTTTACTACTG
129615	B4GALT7	TGGGCTGCCTCGTGCAGAGACAC
129616	CRYAA	AGGAGAGCTTAGGGTCTCAGGGT
129617	BCL6	TCCATGAAGGAAGAGAGGAAA
129618	KIP2	TCCTGCCCTGCAGTCACATGGGT
129619	MEN1	CACTGCATTCCAGCCTGGGCGA
129620	MRPL49	TGGGCACATCTTCCTAATCTGTT
129621	FHIT	GAAAGAGAAAGAAGGTATCCTAGGA
129622	PDE5A	GCTATGTTGCCCTTTGGAGACA
129623	NQO1	TCTCATTCCACTGTTGGTATTA
129624	DAG1	GTGCTCCGGGATGGAGCAGGTGTGCAG
129625	EGFR	TAAGCCACTCTGTCCCTTCCTGGGCAA
129626	TNFSF14	GCCTGTAATCCAGCTACTCAGG
129627	BTEB1	TCATCTTTCCCTCACAGAAAGA
129628	ALPP	CCGGGCGGCGGAGATTGCAGTG
129629	NFKBIL2	CCGGGAGGCGGAGCTTGCAGTG
129629	OGG1	CCGGGAGGCGGAGCTTGCAGTG
129629	PCDH11X	CCGGGAGGCGGAGCTTGCAGTG
129629	PCDH11Y	CCGGGAGGCGGAGCTTGCAGTG
129629	PPP1R12B	CCGGGAGGCGGAGCTTGCAGTG
129629	SLC26A4	CCGGGAGGCGGAGCTTGCAGTG
129629	WIG1	CCGGGAGGCGGAGCTTGCAGTG
129629	ZNF91	CCGGGAGGCGGAGCTTGCAGTG
129630	TSC1	TCAGAAATCTGGAGCTGGCACT
129631	NOTCH1	CGGGCAGGGGCTGGAGGGAGGCGGG
129632	LZTS1	GACGGGGTCTCGTTTTGTTGCCAAAG
129633	ZNF161	ACTCTTCTCCCTATACAAGG
129634	KCNJ16	CTTGCCCAGGTAGTGATCAGT
129635	ATP2A2	TAAAGTGTCCATTGACATGTACAGA
129636	AOC3	AGTGATTTGGGGGTGCAATGA
129637	HOXB3	GGCAGAAAAGCACATTTTAAAAACCA
129638	SULT1C1	GTGGGAGGAGGGAGGGGCCAGGC
129639	SFPQ	GGCATATAGGAAGCACGCTG
129640	PIK3C2B	TAACTGGAGAAAGAAGCTCCAT
129641	FBXL11	CTCCATCTTTCCAAGCACCGGGGCG
129642	CTF1	CCTCCTTCCTTGGGCCTGCCTCAG
129643	TCF2	TGTTGAGGGGACCAAAGCCACCAAGA
129644	TBR1	CTTCCCCAGCTCCGCCTCCCCACACTCCTC
129645	UPK1B	GGCTAGCAATCTGCCTGTATCTCTCAC
129646	ITPKB	CAGCCCTCGTCACCACAG
129647	ADORA2A	GACTGGCCTGGCCCTGAGACTGGGG
129648	FUT8	GCCGGTTCCCTCCTCTCCAG
129649	KIF5A	CTTCCTCCCTCCTCTTTCACA
129650	CSF3	GGCAGGTGCCTGGACATTTGCCTTGC
129651	GPR92	AGGCTTACAGGGTGTACACACA
129652	EGLN2	TCTTTGTAGTCCAGGGCAGCAG

129653	RNF3	ACCGTGTGTTATCACAGTGCAGTTTTAA
129654	FNTB	CACCAGCTCTCCAGCCAGGACGA
129655	LAD1	TCCCCCTTCTCTGAGGCC
129656	OGT	AGCTTAAAATAATTTTATTTACAA
129657	ZNF133	TCTGAGGCAAAGATGGGGA
129658	GPR45	GAGAAACCCTGAGAAACCCCA
129659	EGFR	TGCCCGCATTAGCTCTTAGACCCACAG
129660	SH3BP4	ATCATGCGCCGCCCTCCTCCATCG
129661	PFKFB1	GCCTGTGTCCTCATCGCCTTCCAC
129662	NUP62	GAACCCAGGAGGTGTTGC
129663	SERPINB5	TAATATGCTGCAACAAAATGTAGA
129664	B4GALT4	AGAGAATACATTCTCTAT
129665	HSD3B1	CCAGCATCTTCTGTTTCCTGG
129665	HSD3B2	CCAGCATCTTCTGTTTCCTGG
129666	ACVR1	CTGCAGCCTCCACCTCCCAGGCT
129667	XPNPEP2	CCAGCTAGTCTCTTCTCTTCTGTGAT
129668	PRX	CCTAAAATGCCTGAGATGGCTGT
129669	SLC1A4	CCAGCCGCCAGTCATGGACACAG
129670	CCR3	ACACTGAAATATACACACAGCAG
129671	SFPQ	TTCTTTATTTTTTCTTTTTTAC
129672	NOTCH2	CCACAGAAGACACTGTCTCAAAT
129673	SORCS1	TCCTCATTGATCCTCTTCAGTTGG
129674	HHEX	AACCTACATGGAGACCTTA
129675	IGF1	TTATTTTAAAACAGAAGAATT
129676	EIF2C1	ACCTAGCCCAGGCTTGGAGGC
129677	DSC3	ACGCACAGGCTGGAGTGCAGTGGCTCC
129678	TGM4	CCAGACCCACAAGGCCAGGT
129679	SNTB2	CAAGGAAGTCTCTCTAGGCTGCA
129680	ADAM33	AGCCTCTCCCCCATTCTGT
129681	SOX4	TTTGCTCCCCTTTGCTTGAAGAGACCC
129682	BAIAP3	GCTCACTGTGGCCAGCTTTG
129683	HUNK	GCTGGTGGTGTTCCAATAATG
129684	MGAT1	CCTCAGCCCATGCCCAGCT
129685	MS4A1	AACCTGTTCCTTGGATAGGCTTT
129686	LNK	TCAGGACTAATTCCCTTACTGCAA
129687	NR1I2	TCCCACCCTCTTTGGCTTTAGCC
129688	CLCA3	ATTGGAGCTCTGCGACAATGGC
129689	DAAM2	GTCCAGAGTTCCTGTGTAGCACGGGG
129690	ENTPD6	CACTGAGGGGGCAGTGTGGCTC
129691	OXR1	ACTTGCCAAAATAATACATACTTC
129692	INPPL1	CTGGTCTGTGCTGCCCTGCTCTGG
129693	DAPP1	CACTTGAGGTCAGGAGTTCAACAT
129694	UBL3	GCCAAAAATATAGCTCACTTATCTA
129695	CYP2F1	TCATCCCTCTGGCAGTCACGC
129696	SP3	CGTGGGCTGGCGGCGGGACCAG
129697	FUS1	GTGCAGGCTGGGGTCAGGACAG
129698	LPXN	GATACTTGTTTCTTTTCA
129699	NRGN	GCGTCACCCAAGCACACTCAC
129700	HFE	GCAAAGTTTAATGGTGCCTTCATTTGG
129701	SLC14A2	GTCACCCAGGCTGGAGTACACTGGCAC

129702	G6PC	AGGATTACAGGCATGAGCCACC
129702	PTGIS	AGGATTACAGGCATGAGCCACC
129703	FCN1	CCTCCACATGCACCTGCTAGTG
129704	PSMB10	CCTAATCCCCTCTGCCTGCC
129705	VIPR2	TGTCATTGACTCGATTTAAACTCCAGC
129706	INPP5B	TGCCTGTAATCCCATGTACTCTG
129707	ITGA2	GGAAAACAAAACACAGGTTTTTTCA
129708	DNMT2	CCGTGTGCTTTACCAAAGGATATGGAA
129709	PDGFB	GTAAAGTCGGTGATTATATTTTT
129710	PPP1R14B	CCCCTGCCCCCTCAGTTTTCCAC
129711	PSME1	CCCTGCAGGCTAGGGGTTAGGGTG
129712	PIGR	GTCTCGAACTCCTGGCCTCAAGTGATC
129712	PTGES	GTCTCGAACTCCTGGCCTCAAGTGATC
129712	RBBP9	GTCTCGAACTCCTGGCCTCAAGTGATC
129713	SIGLEC8	GGCAGAATCTTGCTCTGTCA
129714	STXBP1	CTAATCTGCTATCTTCATTCC
129715	ABCB4	TGCAGAGGCACAGCACAAGTA
129716	TNFRSF10B	TGTCAGCCTTATCAGTGTTTA
129717	GJB6	GGTAGGAGAAGGAGGTCTGAAACCCT
129718	FAT2	TCATCCCAAGTTTCCCAGG
129719	PTPRM	GGCTTTCTAGAGCAGCGTAGAC
129720	DNAH9	CTGGGCTTGGAGGCTGCCTAGA
129721	PDK4	CCAGCTCCTTATTTTTTAATGTAGAAT
129722	CD36	GAAATGAGATAAAAGATGTACTTGTGA
129723	B4GALT1	AGCTGTTTAATGTTAAGTCATGACAA
129724	ARNTL	CTAATTGTATCATAAAGCC
129725	C1orf1	CTTAGGAGGCTGAGGTGGGAG
129725	CHST5	CTTAGGAGGCTGAGGTGGGAG
129726	RAB36	GCTCCCTTCCCTTGCCCCTTCGGG
129727	TEX15	AACTGGTATTCAAAAATGAATAACAGCC
129728	KERA	TTCTTTATATTTGATTGTGTTT
129729	GRIA1	ACTAATGAGGAAACTGCACTG
129730	B4GALT3	GAGAAGAGTGATCTGGCTTCT
129731	POLK	CTGAGGTAACGGATAAGTTTATACCA
129732	PEX14	GAGAGTGAGCGGGACTAGGCTGCGCCT
129733	CENPB	CTGCTTCTGCCTGCTTTCCACCTCCCC
129734	HRMT1L1	TAAATATTTTAAATGAGTG
129735	SYN3	GTCCCCCTCCTGCCTCAT
129736	DSC3	GCTGAAAACCACCTGGTCTGCA
129737	COG6	CCTAAAGATTCATTTGCTTTC
129738	CLK1	CAGTAATTGTAAAGTGAT
129739	GPC6	TTTCAACAAAAAAGCAAACAGAGA
129740	EHHADH	CTGAGGCAGGAGGATTGTTTGA
129741	NEURL	CCCTTCCTCCTGGGCCA
129742	CEBPA	GGAGAGGGAGACCTAGAGATCTGGC
129743	NUP153	TCTCCTATCACCTGTCTTGCCT
129744	DSC3	CCACAAACTTGACACCTGATCAGGTCT
129745	MGEA5	AAGTGCTATGCTATTTCCTGGTTAT
129746	PPT2	GGCCTACTCAATCTCTCCCACCTCA
129747	FGFR3	TGTCACCCAAACCGGCAGGTGCGA

129748	TRN2	CCCTAACCTTGGAGGCCCGGGAG
129749	MIA	CCTGCCGTTTCCCCTCCTTGGGTT
129750	TPD52L2	CTGCCTTTGCATGGGCCTGGCCCGGCTC
129751	BRF1	TCTGCCTCTGGCCGCGGCCTGTG
129752	PF4V1	TCCTGCTGGAACCTCAGCTGCAACATG
129753	NUP98	TGACTGAGGCAGGCATGGAGTTGGGC
129754	S100B	ATTTGAAAACACTGCTGTTCTTTAAAT
129755	IRF1	CCTTTGCATTTATTTATACAGTGCCT
129756	KPNB2	TCCTTCGGGGCACCTCAGGCAGC
129757	MMP8	AGGTACCCATGAATGTGAGCT
129758	DLEC1	GCATGCTGGGGCCCTACCAGCAGCTG
129759	SCD	CTATATGGTTCTCCAAGAAACT
129760	EXTL3	AGGTGTAATGCTACACAAGTCA
129761	ALX3	TGCCTGCACTCCCAGCATGCCATGCA
129762	ITGA9	TAAGCCTTTTATACTGAT
129763	AQP2	TGAGCTGGGGAGGGAGGCAGG
129764	NFE2L1	TCGGGCTTAGGGCCTGCTGTGGAGG
129765	DES	TCCCAGGACACCACACCCAGCC
129766	EZH1	GAGAGTTACAGAAATGGGAGAC
129767	P2RX7	TGGCCGCTGTGTTCATCGACTTCCTCA
129768	MSH4	CTTAACAAATGAGAACTACTTAAAGG
129769	GLP1R	CCACTTGCCAGGCCTCCTGCA
129770	SPARC	GGGTCTTGGCTGCCTGTG
129771	MNT	CTCGCCCCTCCCCTCAGCCT
129772	DAG1	ACTTGGACCTGGGATGAGGA
129773	TLR9	CACTCACCTCACCTCTGCCTGC
129774	CBFA2T2	AGAGCAGCCCTGCCCAGAT
129775	FCGR3A	GCAGGAAACATAGAACTCAGAGCCAGA
129776	SLC6A4	AAGCACCCAGAGATCAATTGGGA
129777	TNFRSF14	CCAGCTGTCTGCGCGTCTGACTCTTGT
129778	MYF5	TTCTTCTTCTTTATTATTCTTTG
129779	EIF4E	CTTTGTATTACTTAGGTTATTT
129780	TGFBR1	CCATGTGGGTCCTTTCTGTGC
129781	PTCRA	CAGGCTGGAGCTGCCTGGGGCA
129782	COL4A3	TTTCTCTCTGGAAAGGATTTTCATTCA
129783	GRAF	TTTCTCCACATCTTCTGAGGCT
129784	CASP2	GGGTCTTGGTCCACCTTCCAGCACAAGG
129785	ITGA3	CAGCAGGCTCAGGCACATACAC
129786	FZD5	ATTTTGCGTTTCTTACTGCCTTC
129787	CAMK2A	CAGGCCCAGAGGGCTTCCCAGTAA
129788	KCNB1	AGGTCCAAAGAGGAGAGCTGTTC
129789	NPTX1	TGACACCTGAGCAGTGTCCAGAACCT
129790	CNTNAP2	CTGCTACTAAAATGTTCTCA
129791	FCGR2A	ATCTTCTGTTCCACATCCACA
129792	NCOA6	CCGAGGCTGGAGTGCAGTGGCGC
129793	NFIA	ATTTTTCTTAGCAGACTGC
129794	MCM2	CGGAATCATCGGAATCCTTCA
129795	DTNA	TCTCCACCCTACTGCGTGCT
129796	CLK2	TCCAGTCCAGGACACTGGTG
129797	TRAF5	TTGTCACCCAGGCTGGAGTAC

129798	TRPM1	CTGTGCCCTCTCCATTCCACTGCT
129799	RAG2	TTATTTTGCAAAAGCCTTTCAGA
129800	P2RY2	GTTCCCTTCTGCCACCTGCCTTCT
129801	PCBD	CAGGGAGGGAGCTGAGGAGC
129802	PDGFRB	GTGCCTTGCCAGCACTAACATTCTA
129803	DSG1	GCTCTGAAGTTAAAATGATTTACAT
129804	PLA2G2D	TGGCCATGTGACCCTCTCCCCA
129805	TCTA	CTGGCTTCTACACTGGGTTCTGCTACT
129806	PKD2L1	TGCTCCCTCTTCCTCTAGCTGAGAGTGG
129807	ANXA4	TTCTAAAATCACTTTTTTCCCT
129808	MFRP	TCTGCCACTGCCCTGCCTCTCCTCTGGC
129809	CASP2	TGTCGCCCAGGCTGGAGGGCAGT
129810	TAT	TGTCGCCCATGCTGGAGTGCAGT
129811	GCN1L1	ATAGACCACAGCCAAAGCCTT
129812	TAF1	ACGGAAAAGAGCAAGCTCA
129813	SLC16A7	AAATGCCACCAATGCCAAGTGCC
129814	CXorf6	ATATGCAGAGCCCCAAGGCCAC
129815	LOXL2	CGGATCCCTGAAACCAAAAAG
129816	CABC1	TAGGCTGCGGGCCACGCCCAG
129817	CUL5	TTTAGAACCCAAATTTTGGA
129818	B3GALT5	CCACACTGCTGACCTGCC
129819	CDX2	CAGGCAGCATGGTGAGGTCTGCTCCCG
129820	APOL1	CGCCAAGTTGGAGTGCAATG
129821	ADAM29	TGCGTGGAATCAGACCTCTTT
129822	SOCS5	CATCTTAATTAAAAATAAATG
129823	ERBB2	TGGGGCCGGAGCCGCAGTGAG
129824	FOXE1	GCAAAAACTTTCAGCATTAAATA
129825	IL18	GCACTCCGGAGGTAGAGGTTGT
129826	CISH	GCAGCTGGCCCAGGAAGAG
129827	RUNX3	GAGCTGGGTGGAAACTGCTTTGCACTA
129828	SPAG11	ACTGCCTCTCGGCTGTGCTCCGTG
129829	MTA1L1	CGAGCCGAGCCCTGCCCCCGC
129830	MASP1	ATCTGTATATTTTCCTGCTCTGCCTTC
129831	ABL1	AGACTGAGCTCTCCAGGCCAGGT
129832	RAD52	TGCTGCCCGGAAGGATCAGTGG
129833	MYBL1	TTATGAAGTACCACAACAAAAAGG
129834	PITPNB	TCCCCTGTAGGGTCAGAGACA
129835	GPR81	CTGCACATAGCAGGTGCTCAGTAAAT
129836	IL1R1	GGGGAGACGGAGGTTGCAGTG
129837	M11S1	TTATCTATTTGTTCTCCCTT
129838	IRF2	TCTTTTCCTACTTTTCCTTCCCTC
129839	OPHN1	GGGAATAGAAATGTTTGCTGA
129840	HTR7	GCTGAGTCTGCAGAATGGAATGCAGCT
129841	SGT	GAAGAGAGAGACCTCGGA
129842	AKAP2	CAGTCACAAAGCTGTTTTCACTGTGGCC
129843	CLCN4	CTTGCTCCTGTTCTCAGCCTG
129844	RBBP5	CATACCACGTTTTGCTCAA
129845	KIFC3	CCTCACTGGCCTGTCCCTGCTGC
129846	EVC	AGAGGCAGCGAGGACGGAGAGGAC
129847	IQGAP1	AAGAGCCTCTTATAAACTCCA

129848	ATP2A3	GGCAGGGAGTCTGGTGCCTGCA
129849	CLCN6	CCCAGTAACACGTTTCTACCC
129850	IDH3B	GAGCCCAGGCCACATGGATGATGATG
129851	FVT1	CGAGGGGGACGGGAGAGGGC
129852	HHLA1	TCACCTATCATTCTATACAACA
129853	PUM1	AAATGTTCTTTATACAGCCTA
129854	DNASE2	CGGGAGGCAGAGGTTGTCATGA
129855	MTNR1A	CCAGAGGCAGAGGTTGTGGTGA
129856	TM7SF1	ACATTAAAAATGTAGCTGACTT
129857	SFRS7	AGAATTGAAAGGTGTTGGTTAAG
129858	BACE	AGCCCGGACCCGGGGGCTGGC
129859	BACH2	GGCTCAATTTCAGTCTTC
129860	PRSS7	CCATTAAATACATTTGTATTT
129861	TAC1	GATTTTGGTATTACACTGTATTTG
129862	ABCC2	CCAGGTACTTGAGAAACCCC
129863	PLA2G10	TCCAAAGTGCTGGGATTACAGG
129864	FCAR	ACCCAGGCTGAAGTGCAGTGGAGCA
129865	NUMA1	CCACCAGGAGTCTGGAGTGCAATG
129866	CYP1A2	GACCTCAAGTGATCTGCCCGCCTC
129866	RHD	GACCTCAAGTGATCTGCCCGCCTC
129866	TRAF5	GACCTCAAGTGATCTGCCCGCCTC
129867	UBE2B	AATTCATGCCCCAGTATTA
129868	ABCA3	ACCAGCACCAGGGGCTCTCTAGA
129869	ELAVL3	GGAGCCCCCCTCAACACGGACCGC
129870	FOSL1	AGATGCCACCCTAGCCAATGTCTCCT
129871	BMP8	CACCTGAAGTCAGGAGTTCAAGAC
129872	KIF3B	TGCCTGTAATCCTAGCACTTTG
129872	TRPM1	TGCCTGTAATCCTAGCACTTTG
129873	FANCF	GCTCAGTGCAACCTCTGCCTCC
129873	RAB36	GCTCAGTGCAACCTCTGCCTCC
129874	ST5	AGCTTTCTTAACTGTTTTTTGT
129875	WNT10B	GGGAAAGAGACAGAGTGCTGA
129876	HTR1D	TCTCGCCAGGCTGGAGTGTAGT
129877	FGFR4	CGGCCGGCTGGAGCTGGGAGTG
129878	CD4	TCTGCGCCTGCCCCACACCCTC
129879	PTK2	TCAGGAAGAATATAATGAACTGTA
129880	P2RX7	ACTCCAGTAACTGCTGTCGCTC
129881	SCA1	TACATTTAGGGTTCACCAGGA
129882	BACE2	TAATTGCCTTTGAGGTTAT
129883	SLC2A3	CCAACATCGTGAAACCCTGTCT
129884	ITPR2	TCAATGCTATTAACAGTATCAG
129885	WNT3A	TGAGGCTTCTTCCTGGATGGGGC
129886	HMG20A	ATTGTAAGTGAAAACTGAGGGAA
129887	C4BPB	TTAGGTTGGTCTTAAGCAGTGTTAGAA
129888	PDL2	TCACTGATCTGGACTCACCTCTGGA
129889	PSME3	CCCCTCTCTCCCTCCTGTGTC
129890	PTGS2	AATTTGAAATTTCTAAATT
129891	WNT5B	CAGAAGGTTGACAGCTTCAGTA
129892	IGHMBP2	CCCCACAGCCTCAGCATCTTCAGCA
129893	PPARGC1	GCTTTTCCTGGAGTCTCTTGGTGA

129894	HDAC5	CTCTCAGCTGGAGCTTCCATACCTTCTGG
129895	SIL	GGGATTACAGGCATGTGCCACA
129896	MFAP3	TTCCTCTTAAGACCTCTGTCA
129897	COL4A6	TCCTGGGCCAGAAGTAGAGGGGG
129898	RNF7	AGAAATTCTCTGTGATTAAGAAGATAA
129899	TAPBP	CCAAAGTATTGGGATTACCCGC
129900	ZNF146	AATCCTTCTGAAGCAAAGCACCACGA
129901	CALM3	GGAGAGGGAAGATGGGCCCCACCAGC
129902	SMP1	ACACCTAAACAACAACCAAAAAT
129903	MDM4	TCCCAGGCTGAAGTGCAGTGAGT
129904	TRIM39	TGTCTGGAACTATTGGTTCTAAG
129905	CTMP	TCCAGGGCTAGAGCAAGCGCG
129906	TPM1	AGCTCTGCATTTGTCTATTCTCCAGCT
129907	NRF1	ACACATTTACATATATATAAAGTAT
129908	RAI3	ATCTCCATCTCCCAAAGTGCTGGGA
129909	MALT1	AGAGCATCATCTTGTTCAGCCT
129910	GRAP2	ATACATACATCTATCTACATCTGCCT
129911	AMACR	TGTTTCCCCGTGGGTCTCTGGGC
129912	HAS3	AGTCACTGCATTTGCCT
129913	SCAP2	ACTAAAAATTAGCCAAGTGTGGTA
129914	RP1	TATCCTTTTTAAAAAATGTTGT
129915	MAB21L1	CCTATCTCCCTTGAAAAGTACACC
129916	UMPS	AATGGCGGTCGCTCGTGCAGCTTTGG
129917	EIF2C1	GGGGAATGGGGTGGGGGTGGGAGAGG
129918	PUM1	AGAAATGTTCTAGTGTAGAG
129919	METTL1	GGAGGGGAAGAAAGTTCTACGTA
129920	WHSC1	GAGCTCAAGCGATCTACCTGCCT
129921	PML	GGGATCTGAATAGAGTGAAAGGTTGGA
129922	SDPR	AGCGGGCCTCATCCTACACCCTCA
129923	SNCA	TTAAGAACTGACACAAAGGACAAA
129924	TCF3	CCCACCCCACCATGTCCCCA
129925	FUT6	GAGGTGGAGCTTGCAGTGA
129926	PPP1R14B	GTGTTTTTATATTGACTCTGC
129927	PPP1R12B	GTCCAGAATTTTTTGTTTTCT
129928	NR3C2	AAGGTGTCATTTGACAACAC
129929	BRF1	TCACCCTGTGTCCTTAGGAG
129930	ESPN	GTTGACTATCAAAGAGTGCAGA
129931	CDKN1A	GGCTGAGCTGGGGACCTGGTACC
129932	PUM1	GACTAATTGCCCTGCTGTTTTACT
129933	ZNF268	CCTTGTTCCTCAGATAGCGTTCAT
129934	BAT3	CTCTTTGCTCTATGGCCCTTCCTCA
129935	AP1M1	CCAGCTGCAGGTGGCATCTGCCA
129936	PRKACB	ATCATTCTATTTGCTTTATTATCGGTG
129937	APBA2	ACTCATTTTAGTGGCTGCCTCC
129938	KMO	GTTCACTGCAACCTCTGCCTCC
129938	SPN	GTTCACTGCAACCTCTGCCTCC
129939	DDB1	AGAAGAAGGTGGGAGGATGTGA
129940	PPP2R2B	CCAGCTAACAGTAATTCTTCC
129941	SLC4A4	ATCACACAGAATTGGAGTGCTGT
129942	MEF2C	TTAAGAAAGGAAAATATCCCAAGGA

129943	ENTPD6	CCTGCCTGTCCCATCCCCATGC
129944	GOT1	ACAAACCTACATGTACATA
129945	VSNL1	TGATATGTGTAATATCATTTCA
129946	LTBP2	TCCAGCGTGCCGACCACAAAGCTCTTC
129947	SLC17A5	GGTTTTGAACTCCTGGCTTCAAGCGAT
129948	LGR6	GCTTAAGGGAAATGAGGGAA
129949	SOX9	CTTTGCTTGTTCACTGCAGTCT
129950	ZNF10	CTTCCCTTACAGTCA
129951	GJA1	GTTCACTGGGGGTGTATGGGGT
129952	G2A	GGGCCTCTTCATCAGCAGCCTGC
129953	JUNB	CTGGCTGCTACCCGCCCGC
129954	ASB1	TGAGAGAAGGAGAGGAAGATACAG
129955	MC1R	GCAGTTCCTTACCTCCCTGGT
129956	ALDH8A1	ATCTCTAGCTTATCCTCAGTTC
129957	NOTCH3	TTCTCTTCCTGGTAATCCTCTGGCCCA
129958	ELK1	CACCGCCGCCTCGGAACCCAGGCCTGG
129959	MSL3L1	GAAGAAAGAAGAAGCGCTGCA
129960	ADORA2B	ACCTGTAATTCCAGCACTTTG
129961	MAFF	ATCTGTAATCCCAGCACTTTG
129962	LAMC1	TGGGCAGCTGATAATTTAA
129963	CTPS	AGGGTCCATTTTTCTTCCAGGA
129964	PON1	TCACCCAGGGACTCCAGTTCACA
129965	NFYA	AAAGCGAGCATTTTCATTCTTCC
129966	LDB3	ATGAGGGAGAAGGAAGCAGC
129967	ENO2	CCTGTTCTTCCTCCAGCTGCAC
129968	FANCC	CCCTTCCTTCCTTCTCCTGGGACT
129969	LZTR1	CACCACTGCTGGCTTCAGCCCCTTGAG
129970	HCK	TGCCCAGGTGGTGGCTGCAAGGTG
129971	KIF3C	CCTGCAGCTGCCTAGACCCC
129972	SFRP5	CAGCCACACCCCCTGCCTTCC
129973	MLLT3	TTGCTGTCTAGCCTTAGTC
129974	C14orf1	CCAGGCTGGGAATTGCAGTGG
129975	FOXO1A	CAATCTTTGCTATAATTGTATAAAG
129976	SLC2A3	TAAATGATGTGGTGCCTGAGGTCTGTA
129977	PCDHB9	GCTCATTCCTGTAATCCCAGCA
129978	CDX1	GACCAAGCAGAGCTCACAG
129979	ENAM	GTCTCTTCTTTATGTCTACCTCCTCC
129980	HERC2	AATCGTATTATAAATATTTCA
129981	CARKL	ATAAATACAAAGCCCATTCTTCC
129982	PROK1	CTCCCCAGGTGACCTGCTCTCTTT
129983	C7	CAGGCAGCTGGGGCTGAGTGA
129984	BRCA1	CCAACGTGGTGAAACTCCGTCT
129985	SMARCB1	CAGCCCAGCGCCATCCTGAG
129986	RPP30	AAAGTGCTGGGATTACATGAGCCACCA
129987	A1BG	CACCCAGGCTGGAGTGCAGT
129987	AASS	CACCCAGGCTGGAGTGCAGT
129987	ALOX15	CACCCAGGCTGGAGTGCAGT
129987	APAF1	CACCCAGGCTGGAGTGCAGT
129987	AXL	CACCCAGGCTGGAGTGCAGT
129987	CMAR	CACCCAGGCTGGAGTGCAGT

129987	CSNK2A2	CACCCAGGCTGGAGTGCAGT
129987	EEF2K	CACCCAGGCTGGAGTGCAGT
129987	EIF2S3	CACCCAGGCTGGAGTGCAGT
129987	FCAR	CACCCAGGCTGGAGTGCAGT
129987	FSHPRH1	CACCCAGGCTGGAGTGCAGT
129987	HUNK	CACCCAGGCTGGAGTGCAGT
129987	ICAM1	CACCCAGGCTGGAGTGCAGT
129987	MEFV	CACCCAGGCTGGAGTGCAGT
129987	NEU3	CACCCAGGCTGGAGTGCAGT
129987	PCDHB16	CACCCAGGCTGGAGTGCAGT
129987	PSMD9	CACCCAGGCTGGAGTGCAGT
129987	TERF2	CACCCAGGCTGGAGTGCAGT
129987	TNFRSF9	CACCCAGGCTGGAGTGCAGT
129987	TUFT1	CACCCAGGCTGGAGTGCAGT
129987	VHL	CACCCAGGCTGGAGTGCAGT
129987	ZNF264	CACCCAGGCTGGAGTGCAGT
129988	INMT	CACCCAGGCTAGAGTGCAAT
129988	RHD	CACCCAGGCTAGAGTGCAAT
129989	PKHD1	TCATTTCTCCCTTGAGTCACAAGG
129990	MPP2	ATACACATGGGGTGGAAAGGCCAGGC
129991	HS2ST1	TATAAAAATATTAAAAGAA
129992	PPYR1	AGCACAGATTCCAGAGGTCACAG
129993	ASGR2	CCCGGACCAGCCCCTCCTCC
129994	MSH3	GTAGGCAGATCACCTGAGGTCA
129995	VDAC1	CCGAGCCCGCCGCCACATCCTCTG
129996	PCDHB11	AGTCACCCAGACTAGAGGTCAG
129997	KCNJ16	AGCTGAAAGCACCTAGCTCA
129998	IL13RA1	CTTCAAACTAGGGGACAAAGCA
129999	WHSC1	GCACTTAGAATGATGTAATA
130000	CRABP2	AGGGCCTGAGCAGGAAAGACTGG
130001	GAB2	TGAACCCTTCCCCTGGGAGGTGAGGGC
130002	CRTL1	GGCTGTAATTAGGGGATTTGGG
130003	FZD6	TGCTATTGTGATATTTTAGCACTTTG
130004	RARB	CATTCAGTGCAAGGGAGATCATGT
130005	OPA1	ATAATCAGCTCTGCATACATCTGAAGA
130006	ITGA6	TGGTATTTATTTTTTCTTTTCTTTAC
130007	AOX1	TCATTTGTCCTTTTCTGCTA
130008	C10orf2	CCTAGCATGAGGTGGCATGTA
130009	CXCL16	TGCCTCCTCCTAAGTAGCTGGGACT
130010	CA12	AGGGACACTTTCACAGTCCTG
130011	BDNF	ACTGCTGTTCCTGTCACACATT
130012	MMP19	CCTCCTTCCTGTTCACCTTTGCCTT
130013	KRTHA7	TCCCTGCCTATGCCTCTAAGCTGTATT
130014	ADAM29	CTGTGACGCCCTCCTAAGCCAGCCTCAG
130015	RAD1	GAGGCAGGAAAATTGCTTGAA
130016	IGF1	TCTTTATTCTGCCCCCATCCCAACCCAG
130017	UNC13	CCTCTGTAGCAGCCTCCTGGACT
130018	GALR1	GCCTCCCAAAAGAGCTCTCGCC
130019	CDX1	TCCAGGCCCCACCTCCTCCTCC
130020	NPTX1	CCCTGAGGAAGCCCCACTTCTCTG

130021	CEACAM1	TCTATACTCAGGTACCTCTTTCA
130022	MECP2	AGTTCTCAACAATTTAGAAGGAA
130023	DBT	GGAAGCTGAGACAAGAGGATCA
130024	GATA3	CTGAATCTGGACCCCATCTGTGAA
130025	PRKCH	AATGGATCTTGTAAACAGGGC
130026	C18orf1	CCTGCAGTTTTGGTGAAGCAGGA
130027	TAPBP	ACTCTTCCGCCCAGGCTGCAGTGCAGT
130028	KPNB1	TTATCTCTTCCCAGGAGAGGCTA
130029	SLC19A2	TGGGGATAAGAATAGGTCAT
130030	RAB5C	GCTACCCTTTCTTTCCTCTCGGACAG
130031	SYNGR3	TGCATTGCTCAAAGCTGGCTTTTCA
130032	LSS	CACTGCTCTCCCCTGGCTACT
130033	MKI67	GGGGAGGGAGAGATCTGACAAATACTG
130034	ZNF74	AAACTATTCTCCCGCCTCAACCTC
130035	LIF	CATCTCTAGTTCCCCACCTCA
130036	EXTL1	TCCTCCAGGGACTTGCCTGGCCCTCCT
130037	HS3ST2	GCGATGATGGTTCTGTTGCT
130038	CACNB1	GCTTCCACTTACTGATTAGAAGAC
130039	ZNF205	CCGAGGGAGGAGAGAGGGGCTCGG
130040	SHANK2	GTGGGCGGCAGGATCAGAGTGAA
130041	NAPB	TCTAGGAAGAAAGAGAAAGTAGCA
130042	GYPA	ACACACACATTTATCATTTA
130043	CYP4A11	GATCCAGCAGGTGCTGCACCATGA
130044	FLRT1	CTGTGGACACCTCATGCTCTGTTC
130045	UNC119	GGGGTGGGGTCGTAGGGAGGCTGTTTGCC
130046	FKBP6	GTGTTTTCACAGGTGCTGTTTTCTGT
130047	SEDL	CTTTGTTCCTATAAGTAGATCTT
130048	CPE	CTTGCTTGTACATATAGGAGCAA
130049	TEM7	TCCAATAAACGCTTATTTGGCCAAGC
130050	PDGFB	CCATACTCCACTCTGAT
130051	DHFR	AAAGTGCTGGGATTACCGGCTTGAGCC
130052	IL1F5	CTAGAAGCAGAGACTCTGTGA
130053	CTNS	TCCGGGTTTTCACACTGGG
130054	AVP	CCTGTCCTCACCACTCTGGGCTTGTGC
130055	B3GAT1	CCTCTGTGGCTCTCCTCTGGTTCA
130056	PLA2G2D	CCTCCACTGTCCTAAGATAAAGCC
130057	HSPA6	TTGCCTCTAAAGTTGCTGCTTT
130058	TLL1	GTTCAGAAAGTGAGGCTCAAAGAA
130059	ILK	ACTCCACAGTCCTCAGGCTTC
130060	KRN1	ACCTCAGGTAGCTCCTGAAGATCTG
130061	AIRE	CTGTACCCGCTGCTCTCAGCT
130062	STXBP1	ATATCTCAGGAGGTCCAAGGT
130063	OAS3	GACCCCAAACTCCACCTCTTGG
130064	ADORA1	TAATAAAAAACTGTGAACCCT
130065	GNA15	AGACCGCTGGAAAACACTGT
130066	PEX7	TGCCTAACAGCAA
130067	CROT	CCAAGGTAGGAGGATTGCTTGA
130067	FANCD2	CCAAGGTAGGAGGATTGCTTGA
130068	NEDD4	AGTATTAAAGCCTTTCTCTTGCCT
130069	SERPINB13	TTTGGGAATACAGTAGCAAA

130070	TAPBP	CTGCAAGCTCCGCCTCTCGGGT
130071	CUBN	AGGCCGAGGCAGGTTGATCACC
130072	APPBP2	GTCTCATCCTTCTCTGACTCTTC
130073	TRPS1	TAGTTTCTTAATGGCTACC
130074	RNGTT	TTGTATATGTAAATGCATATC
130075	KRT18	GTCCTGTCCTTTCTCTCTCC
130076	DMP1	TTTCCTCTTTGAGAACATCA
130077	SLC9A1	CCCTCTCTCCTTTTCCTGGACTG
130078	MEN1	ATCGAGCCACTGCATTCCAGCCT
130079	NOTCH2	CCACTTCTGAAAGTATCAGCTACT
130080	EN1	GAGGGAGGGAGCGCAGGGAAAAGAGC
130081	SNX9	TTCTGATGTGCTGCTCTTATGT
130082	CDKN1B	TTGGGGAAGGGAGGGCAGGGTGGGGC
130083	EGFL4	CTGGGTGACAGAGCGAGACTCCACCT
130084	ZNF253	CACCGAGGCTGGAGTGCAAT
130085	DGCR2	CCTGTCCCTGAGCTTGGCCTGCTGG
130086	MUC4	CTCGAGTGCCTGCAGTGGCTGAA
130087	BCL7B	CCAGCATCCCTGCCTCTTGTC
130088	ATP11B	CCTGAGCCACACCCAGGCCCT
130089	MTCP1	GGATCTGATGAATCCCACAAA
130090	CCNF	GTCTCCCCGGCTGGAGTGCAGT
130091	TEGT	TTGGGGCAGCAGGGAGCAAAAT
130092	CCND2	ACATGATGGGGAAGGAGTAC
130093	RASGRP1	CAGCCTCTTTTTAGTTCTCTTAAAA
130094	ABCA1	TACTAGTAATAATGTAATACT
130095	PX19	CCAGTCTACCACCACCAC
130096	TITF1	AAGGGCATAAAACAGCTTTGG
130097	SELL	TCATCTCAGGCCTCCCTCA
130098	TNNT2	CTGCCCCCACACCCACTCCAC
130099	SIGLEC11	CCAGCTCCTGGAGTTGTTTGCTGCAAC
130100	CCNF	GTGAGCCTCAGTTTCCTCATCT
130101	ITPKB	CAGAAGGCACACTCTGCCATGCTGAG
130102	ALOX12	ACAGACAACATGGAAATGAGTG
130103	GA	ACTCAGGCTGAGGCAGCAG
130104	WNT3	GCTTATCTTTGCACATGTTAA
130105	MAK	AACTTCTGCTGCATTATTTTTCCAAGA
130106	POLH	CACGAGGTCAGGAGTTTCAGAC
130107	APXL	GTGCTCATCTTCTCTTGTCATTCAT
130108	PODXL	GGAGTTAGAGGGATGCGAGGCTAACAA
130109	OCRL	GGTGATCAAGGGTGTGGTTAGT
130110	PSG3	GTTGCTTTCATTCTTCCTCAAA
130111	ADAMTS4	TGTTGGCCAGGCTGGTCTCGA
130111	APM1	TGTTGGCCAGGCTGGTCTCGA
130111	BRIP1	TGTTGGCCAGGCTGGTCTCGA
130111	CNN2	TGTTGGCCAGGCTGGTCTCGA
130111	CRTAP	TGTTGGCCAGGCTGGTCTCGA
130111	EEF2K	TGTTGGCCAGGCTGGTCTCGA
130111	EHD2	TGTTGGCCAGGCTGGTCTCGA
130111	FCAR	TGTTGGCCAGGCTGGTCTCGA
130111	FEZ1	TGTTGGCCAGGCTGGTCTCGA

130111	FZD4	TGTTGGCCAGGCTGGTCTCGA
130111	G6PC	TGTTGGCCAGGCTGGTCTCGA
130111	IFNAR2	TGTTGGCCAGGCTGGTCTCGA
130111	LNK	TGTTGGCCAGGCTGGTCTCGA
130111	MEF2A	TGTTGGCCAGGCTGGTCTCGA
130111	PER2	TGTTGGCCAGGCTGGTCTCGA
130111	POU2AF1	TGTTGGCCAGGCTGGTCTCGA
130111	PRND	TGTTGGCCAGGCTGGTCTCGA
130111	RBBP9	TGTTGGCCAGGCTGGTCTCGA
130111	SH3BP2	TGTTGGCCAGGCTGGTCTCGA
130111	SHOX	TGTTGGCCAGGCTGGTCTCGA
130111	SNX15	TGTTGGCCAGGCTGGTCTCGA
130111	TRPV1	TGTTGGCCAGGCTGGTCTCGA
130111	XRCC2	TGTTGGCCAGGCTGGTCTCGA
130112	HPSE	CTTCCCTTAGGATAACAGCCC
130113	NQO1	ACCCAGGCTGGAGTGCAGTGGTGTG
130114	CAMK2A	TGGTTGGAGCAGAACTGGTGAG
130115	SLIT3	GGAGCGGGGCCCTGCACACC
130116	IRAK1	ATTGTATGACTGCACTCCAGCCT
130117	DAP	GCAGACCCCTGCCCTGCCGCTGCAGAA
130118	FHL2	CCATTCTCCTGCCCCAGCCTCCC
130119	CHST1	CCTTTCCCCATCCCTGCCTCC
130120	ABCC12	CTGACACCCTGGTTCAGAACA
130121	MYEOV	CTTAGGACAGCGTCTGGCTCCT
130122	MAGEA3	AGTGGGTCTCCATTGCCCAGCT
130122	MAGEA5	AGTGGGTCTCCATTGCCCAGCT
130123	CTSC	TGTAGACTTTCAGCAGCAATCTCA
130124	LRP1	TCAAGCCCCCTCCAAAGGCTCCCCTAC
130125	SORBS1	CCTGCTGTGCAGCAGTGCCATT
130126	RHD	ACTGCAATCATGTGCTTCA
130127	ZNF9	TAGAACATACAGTTGAGTGGGAGTAAAC
130128	MDH1	CCCCGCAGTTTTCAATCATGTCTG
130129	CYP2B6	TCTCCTGCCTCAGCCTCTGGAGGA
130130	AQP2	GCCAGTGCTGTGAGCAGGCGGGGA
130131	CYP4F3	CCAGGAGTCAGAGGTTTCAGTG
130132	BMP1	TCAACGGCTCCATCACCAGCCCGGGCTG
130133	JRK	ATGTGGTTATTTTCTCCATGTC
130134	BAZ2A	GTGAGGTGGATGGGGGAGTGA
130135	CA1	CAGAGGTAGTGAAAAGAACTGGA
130136	TNFRSF8	TTCAACAAAATAATGCACTTCC
130137	CDC42	TTGGACTTGTTTTAACGTTCTGCTGCT
130138	PTER	ACAGGGGAGACTAAAAAGGCCAGGGAA
130139	DCX	TATTTTAAATGAAATGTTACAGCA
130140	SPR	GAGGCGGAGAACAGGAGCATGGAGGGC
130141	SLC17A5	CTTGATACATCCTCAAACTTTCC
130142	MKKS	ACAGAATCAAAAGCAGCCCTGTTTTCC
130143	GLS	GAACTTTGCCATTTGTCTACA
130144	PSCD4	CCTCTGCCCCACTGCCAGCCTGAGTG
130145	EPS15	TAAAGTGCATTTTTAAATTTC
130146	APOB48R	AATGCCACTGAGCCCTGCTCCCT

130147	RIMS1	CATTCTATGTTGATCCCA
130148	NFIA	AGCTGACCCTGCTTCAAGCAATT
130149	GRIK1	GCTGGTCTCTGGGCTCCGGGAGCCAGA
130150	EDNRA	CATGACAACCTGCCTCAGTCCA
130151	GP2	TGCAGTGAGTTGAGATTGTGCC
130152	RIG	CTGCCCCAGAGCCAAATGTCGCT
130153	ALDH1A3	AACACAGCCTTGTTATTTTTAAGTCCT
130154	IL17BR	GTCTTCCTTCTTTCCAATGAC
130155	CCND1	CCCTGCAGCCAGCTCACGTCCAGGTTC
130156	AQP6	GACCTGAGGCGATCTGCCCACCTCG
130157	LNK	GGGGTGAGGGCCAGAGCTGG
130158	LASS1	CCTCCTCCTCCTCCTGGCCCTGCTG
130159	NR3C2	ATCAACACTTTTCTCCAGGGTT
130160	DVL3	CTGAGCCTCAGTTCCCTCGTAT
130161	NUFIP1	GATCAAATTAATACAATCAGAAGGTTT
130162	RFP2	GCTGCTTGAAGAAGATCTCA
130163	PEA15	GGGCAGAGAGAGGGGAGCCCCCTCT
130164	PRKCN	TCTGTCGGCAGTTCCTCAGTCTG
130165	KIF5C	TGTCTAGCCCAGAATCTTGAGCA
130166	SSTR2	AATTCAGAGAACGGTGTTTG
130167	TMC2	GTTCTCTCCCCTCTTTCC
130168	MYH9	ACCAGCGCCCCCACTCCTCCTCC
130169	GPR45	ATTTCTGTCCCAGCTCCAAGGGT
130170	HPS4	AAACACTGAAACCTACCACGTCCAGAT
130171	DAD1	GTTGGCTGATCATTCTCATTTACTTA
130172	NFRKB	CGTGAAAGACCATGCCTGGTC
130173	SLC17A4	GCCCAGTGTCTCTTCTAGCCCCT
130174	CAPON	GCTGGAGGACCTGCCCCTACCTGCTGC
130175	TFEB	CTCCCACAGGTGGGCACCCCCCACTTT
130176	ATP8B2	GGAGAGGGGAAGTCTTGGCAGG
130177	MATN4	CTGGCGGGCTTCCGGCATTGAGCTG
130178	CD1D	CCTCTGGACCTCAGGTT
130179	SHOC2	GTGAGTCTTTGGGTAGGGGAAGGGT
130180	PAG	CTGTTCTCCCAGTTGTTCAGTTT
130181	TACSTD2	CCTTTCGGTCCAACAACAGGAAA
130182	XK	TACAGGTATCCCAGCTTTGG
130183	UBTF	GGTGGGGTGGAAGCTTGGGGA
130184	GRIK3	ACCCCCTGAATTTCTCACAAAGGA
130185	ERBB4	TGTTCTTTTTCTGAACTCCATTT
130186	POLR2K	TGAACTCCTGAAACCTCAAACAGT
130187	AIPL1	GGGAGGCGGAGGTTGCAGTGA
130187	HM13	GGGAGGCGGAGGTTGCAGTGA
130187	KIF3B	GGGAGGCGGAGGTTGCAGTGA
130187	MAP3K9	GGGAGGCGGAGGTTGCAGTGA
130187	MS4A2	GGGAGGCGGAGGTTGCAGTGA
130187	TRPM8	GGGAGGCGGAGGTTGCAGTGA
130187	ZNF264	GGGAGGCGGAGGTTGCAGTGA
130188	SPAG4	CCGCGGCGCGCAGCGGCTGAAGGAG
130189	HAS1	TGGGACTTCTGGGTCTCCAGGGAG
130190	ADAMTS9	GTCTACCAGTGACCTCAGGGCACTTTG

130191	GNAL	CTGCAGGCTGACGAGAGATGG
130192	KCNS3	GCTTTATAAACCTCAGTGG
130193	MASP1	ATCTCCATCAGAGCAAGGCAGCCAG
130194	RAB23	GCTCACTGAGAACCCAGCTTTG
130195	IHPK1	TTGCCGTGAGGACACACAGACTTG
130196	PPP3CA	TTAATGCCTTTGAAATTTTGTAA
130197	PTGS2	TTCACACATTAATTTTATCTCAGTCTT
130198	HOXA3	ACGGGTGTCAAACCCCTGTCA
130199	WBSCR5	AGAGAGAAGCATCCCCTGGCCCGG
130200	DCX	AGCCCTTGGAAATGT
130201	EFNA1	GGCTGACCCAGCATCTCCCA
130202	ATP6IP1	TAGATGCTAGACCAACCAG
130203	HDAC5	GGTGCCCAAGCTGTGGCCTGCAGT
130204	TEGT	GTGGCTTCAAGTGTGGG
130205	SLC18A3	CAACAGCATGTCCCTCGGCCA
130206	AHR	GTTAACTGCAACCTTGTTTAT
130207	KCNK5	CCTGCAGGGTCTTTGTCTCACCATTT
130208	GRAF	GGCCCAGGCTGGAGTGCAGTG
130208	MEFV	GGCCCAGGCTGGAGTGCAGTG
130209	SFRP4	GGAAAGTTGAGTTCCACCTCT
130210	LRP4	CAAAGAAAAACCAGAAGTTGTC
130211	LTB4R	CATTCAGGCTGGAGTGCAGTGG
130212	COL4A3	TTGGTGCATACCTTATGTAAG
130213	IGF1	CACTGTCCCCCAGGCTGGAGTGCAGTG
130214	MX2	GGGGCCAAACTCTTCTGTCAC
130215	ARHGEF12	TGGTTATTTTTAATAAGCCTCT
130216	GLUL	TCCACGAAGAAAGCAACGAATGAAA
130217	PEX10	TTAGAAAACAGAAATCTGCATCTCAGC
130218	RPL15	CATAGCAAGTTCATAAAAGTT
130219	IPP	AGGCTGGGCGCAGTGGCCTCA
130220	NOTCH2	TTTCTTTTTCTTGGACTAC
130221	PLOD3	GGCTGGCTCAGCCCAGAGTCCCTGTCT
130222	ASTN	TTCCACTGCACATGGCCC
130223	UBL3	CTCTATTTTGTAAAACAAACTACT
130224	HDAC8	AGTGGTGCCTATAATGAAGACA
130225	PHKA1	AACCCTGCCCCTTTCTGTCCCA
130226	GNB3	GGGAGGCAGCATCAGGGACACAGGGG
130227	CLECSF12	GCCCAGGCTGGAGTGCAACGGCAC
130228	RPS6KA2	GGCTTCCCACCCAAACCTTCT
130229	CLASP1	CTTCATACAAAACAAAAGGAAT
130230	MTMR3	GGCATCCATGTTTTGTGCCTGCCCTCCCTCTT
130231	ARF3	CCTGTTTGCCTTTCCTTTGCCA
130232	TACSTD2	CACAGCGTTATGTGTAAAAAACAAGTA
130233	NDUFA10	GACGGGCCGCCTTCTGCTCCA
130234	MKLN1	CTTCATGCCTGACCTCAACCCCGC
130235	FBLN1	AGAAGTCACCTCCTCAGTGCA
130236	TNFRSF1B	TCTGGAGAGGAGGGATGCTGCC
130237	SCA1	CAATCAGGTTATTGCATTGACTT
130238	PSEN1	TCAGACCTTCTTCCACAGCAA
130239	PPARA	GACTCAACAGTTTGTGGCAAGAC

130240	IHPK3	TGAGACACGGCTTGCAGTG
130241	SIX3	TCCTCTTCCTTCTCCTCCTCCA
130242	BPHL	GCATCACTGCACTCCAACCTGGGCAAC
130243	KLK10	CTGAACCTCAGTTTCCTCATCT
130244	XK	AGAGGTTTCATTTTCATCTCA
130245	IER3	TAGGTGATGGAGATGTGTAC
130246	B3GAT1	TGGGAAAGAGGGGGCAGGGGCT
130247	DLGAP2	ATTGGTCTATCTACTGGCAGCT
130248	IGJ	CTGGGCGGTGGAGCAGGAGCTGGCGT
130249	IL1R1	TGACTCTTGCCTTTCCACCTGCTTTC
130250	CDH23	AAAATGTTAAGCATCTAAGGA
130251	BRCA1	CTTGTTTTCTTCACAGTGCAGT
130252	ABCE1	ACACAGAAAATGCCACTT
130253	GABRE	ACCCACAAAGGCTGCTCTTTAG
130254	PIK4CB	GTTTTCTGGGGGAGTGCAGG
130255	ZNF289	TTTGAGGCGCTCACTCCTGTGA
130256	ADCY7	GGCTGTGCATGTTGGCTTCTTTGGACCTGCA
130257	LZTS1	TGGTCTCAAACTTGTGGCCTCA
130258	MOCS1	GAGCTGGGATGCAATGTAGGCT
130259	PDCL	TGTCACCCAGGCTGGAGTACAA
130260	FXYD7	CACCCCAAGGCTGGAGCCGCTGCACCCT
130261	MUC3B	TCCCCCAGCCCTAAATCCTC
130262	MECP2	GAAGGGGGGTCAGAAGAGAGGGTG
130263	FMR2	AGCAGGAAGCCAGCTGTCATA
130264	MNT	CCCTTCCTGTTCCCTCCTGGTCC
130265	CLASP1	AACAGCAACAGCAGCTCCTCCTCC
130266	IGSF4	CCCCTATCCCTAGGCACTTAA
130267	PNUTL2	CCCAGCACCAGCTCTGCTCA
130268	EIF2B5	GCTTCCTTGCGGAAGTGGTGACCGTGA
130269	TPMT	TGAAATTTAGAATTGTTGAA
130270	ANXA6	TCCAATAAACATCCTGAACCTCTGTC
130271	IL16	GGCTCACTGCAGCCTTGACTCCGTGAG
130272	ACADS	TCAGAGGTCAGGAGCAGGGC
130273	PRKACA	GAATCCTCTCTGCCAATCCTGC
130274	FCN2	TGGGAGGTGGGAGGGCCAGGC
130275	PTHR2	CTATCACTGCATTTATTTTGCCT
130276	TNFAIP1	GCCAGCCTGGCCAGCAGCTCAGAGTG
130277	PAX5	CTGGGAAGGAGAGCTTGCTTTT
130278	ICOS	TGTTCTGTTTTCAGCTGACTT
130279	MEFV	CCCTCATTTTCCCTCAGAACCC
130280	GNAO1	GCATGGTCCGAGGAGTGTGCTCAG
130281	EYA1	TCTCCACCTGCATTATGTACTACATGA
130282	ZNF136	GACCAGTGTGCAAAACATAGCAAGACC
130283	BMP1	CCCCCATTCCACCACAGTTTC
130284	UQCRB	AACCTTATACTGAATAACTACTGA
130285	ANKTM1	ATTCTCAAACATACTGATGTTCA
130286	LDB2	CCCAGTAAGCTTCCATGAC
130287	LIFR	TTTCGTTCCTCCTGAGGAGACCA
130288	AOX1	AGGTGCCCGCTACTTCCCAGAA
130289	BPAG1	CACAGCCTTCAAGCTGCAGT

130290	TMEPAI	CAGAGGAGAGCATGAGGGGT
130291	LIF	GGGTGAGACAGCAGGGCCCAGGG
130292	XRCC3	TCTGGGCGTCCAGCTCAGCCCTGGC
130293	CTNND2	TGTCAACAAAGTGCTTTTTCACTGC
130294	SH3BP2	CTGTCTGACCTGAACTTGCTTAGGGA
130295	NBEA	TTCCCAGCACCTGGACATCTCTTCCA
130296	ZIC1	GTCGAGGGGGAGGAGGCCACCT
130297	DKC1	GAAGCTGGAGGAGAAACTAAAGC
130298	CPM	CCTAGAGGCGGAGTTTGCAGTG
130299	CBFA2T3	ATGCCTGGCCTGCCAGACACTGC
130300	TRIM14	TAGCTGGGCGTGGTGGTGCA
130300	UBE2G2	TAGCTGGGCGTGGTGGTGCA
130301	C7	TCCAGCAGGCAGCTGGGGCTGAGTG
130302	ARF3	ACCACCCTTCTGATCTTAGGGG
130303	ALDH8A1	GCAATCAGGCACAGTGCCTCATGCCT
130304	CTSH	GCCCAGCCTGGAAACCTACAGACAAGG
130305	THY1	CCTCACCCTCTCCGCACACC
130306	CD209	CTCCTGCCTCAGCCTCACG
130307	GNAT1	CCCTGTGTCCTTGGACAGCAGA
130308	CSHL1	TCCTTCTGCTTCTCAGACTC
130309	SNX4	CTTGGTAAGATCCACTAATCT
130310	B4GALT4	GCAGTGGCACTTTGTGGCTTCATGAAGGA
130311	CASP10	GCATTTATAATTATTTATGTGA
130312	XPNPEP2	CGCCTCGGGCAGCCCAAAGCTCCTC
130313	AVPR2	TGGGAGCCACTGGGAGGGGGAC
130314	MNDA	TTCATTTCTCAGCCCTTTACAA
130315	CNN2	AGATCAACAGACTTCAGACCCTCA
130316	CPT1B	CCTCAGCAACCTGCTCTTCCG
130317	SIAH1	GTCAATACATAGTGCTGCTG
130318	BYSL	GGGCCATCATGCAGAGGTGGT
130319	ITSN1	GACTATGTGCCAAGCTGTTTGGT
130320	GALNS	GGCCCTGCAAGTGCCTGGA
130321	HD	GGGGCAGCAGGAGCGGTAGA
130322	LTA	CTGGCTGAGGATTTCAAGCCTG
130323	OLFM1	AGCTGCATTTCATGAATAGTT
130324	SNAI2	TGCCTTTTTAAATTGTATAGTTGATG
130325	SDC1	GCTCACACACCTGTAGCACTTA
130326	LDB3	CCGGAGCTGCTCCTGCTGCT
130327	KCNK3	GCCTCCAGCCACATTCTC
130328	POLQ	TCCTTCCCTAATTCATACA
130329	PCDHB16	ACTCCTCCCTGTACAACATCACA
130330	MX1	CATCCAGCCACCATTCCAAGG
130331	MGAT2	GCTCAGCCTGGAGTGCAGTGAG
130332	TTN	CCTCAGTAATTATTAGCATTGA
130333	ALDH3B1	GGGAGGTGGAGGTTGCCGTGAG
130333	HRH1	GGGAGGTGGAGGTTGCCGTGAG
130334	CD86	ACCTCCTCAGTCTGGGTGGGACTTAT
130335	PRKY	CATCTGGAAGAAACAGGAAGATTGGAA
130336	HS2ST1	TCTATTGAGAGTCAGGTATGTGAG
130337	SLC35A2	CCTCAGCTCAGCCCCCCAGC

130338	POLS	GGGCCCCAGGCCGTTGTCCTGCTCTGA
130339	DFFB	TGGGTCTCCCTTTCCATGG
130340	ZNF215	AGATGAAGCCATAAGGCT
130341	PIK3C2B	CACTCCTGCCACTGTTCCA
130342	HOXA1	AGGCGGCTCCAGCCCCAGACAACAGCCCA
130343	ZNF205	CGGGAAGGGAGCTGGGGCGGTGAGG
130344	RPL36AL	AAGGCGAGAGCTGCGAAGGGCCAGGT
130345	ATM	CACAAGGTCAGGAGTTCGAGAC
130345	EGFL5	CACAAGGTCAGGAGTTCGAGAC
130345	IAPP	CACAAGGTCAGGAGTTCGAGAC
130346	CA3	TAGTATTTTTCTTTACCTGAAGGAGG
130347	CD1A	CAGTCTCTTCCTGGTCTGAACTC
130348	EBAF	GGCTTCAGGCTGGGGGCAGTG
130349	ADORA2B	AGGCAGGCGGATCACGAGGTCA
130350	WNT11	TTCCTTTGGGATGTGGAAGCT
130351	NOTCH3	TGGGACTACAAGAAGAGGAGCTGC
130352	RARA	TGAAGGAATTTGTGCTGTGTATTGG
130353	CAMK2A	TCTTCCTCCTGTGCTGACCTC
130354	DHFR	GTTGCCCAGGCTAGCATGCAAT
130355	POU2AF1	CAGGGAGGAGGAAGGCTGAGGA
130356	ENTPD3	CGAACATCCTACTCT
130357	CD164	AAGCATAATATAAAATTAGTTAG
130358	PTGFRN	ATCATAAAAATAGCCCCA
130359	TACC1	CACTCCATCCTGGGTGACAGCAAGA
130360	GCK	ATGCCACCCTCTCCATGCC
130361	SCD	GGCAGTGATGACTTGCTGT
130362	ZNF267	TACTAAATAAGAGTATTTTTTGT
130363	ORC2L	GCTTTCTCCTTTTGGATTGAGGCT
130364	RORB	CCCTTCCTCCTCCTCCTCAGTCCA
130365	FGF2	AGGAATAGGTAGGAAAATTTGG
130366	PCDH1	TGGTGGAGTCAAGGGTGGGCAGCGTAC
130367	CD5L	GGATATATCCTGGTGTTGCTTGA
130368	AP1S1	CTTTCACTCCAGTTCTGGGTGA
130369	GNAL	AGCCTCTGGCTACCTCTGTCC
130370	HYAL4	GGTTTGCATTCCTGACCTCAAGTGAT
130371	DLGAP2	CCTGTCTGTCTCGGACAGA
130372	ZNF42	CCTGTAGTTCACACTGTG
130373	LARS2	AGGCCAGCCTGAGGAACTGCAGG
130374	SLC20A2	GCAGGAGGAGACATCACAGCTTTCC
130375	HOXC4	TCACACACAAATTGACTCTTA
130376	CHST6	CTTTCTGCTTCTTAATTGCC
130377	PXR1	TTGGCCTGCCCCAGTGCAGTGG
130378	TCF12	CCTAGCTAGCATTTTAAAAGGGGAA
130379	SALL2	GCCTGTTTTTCTGTACCTGCTGC
130380	FMR2	ACTAAGCTCAGTAACAAGAAGGCAT
130381	CTF1	CCCAGCAGCTGGGACTACAGGC
130382	MIPOL1	TCACTGCATCTGACTATGG
130383	TNFRSF7	TGTACACGTGACAGAGTGCCTT
130384	ZNF217	TGCAGCTCATCACTTGGAGCAGTTTCT
130385	101F6	ATGAAGCTGGGGCTGCAAGACTGCCT

130386	COL18A1	GCACAGCCAACACGCACCTGCCTC
130387	SP3	AGATGGTCAGCAGGTTCAA
130388	SDPR	AGAGAAACAGGAAACAAAGAATG
130389	GNB1	TTTCCTTCACTTATTGCTGAAA
130390	ENC1	TCCATGCCATGAATGAGTGGGC
130391	SIM2	CATCACTGCACTCCAGCCT
130392	TRPM6	TCTGCCTCCCGGGCTTGAGCGATTCTT
130393	PLSCR1	AAATGTTTAGCTCTTACACTCT
130394	GRM6	ATGAAGCCCTGGGCTTTGCCTG
130395	PFKFB3	CCGAAGAGAACCATGCTTGGCA
130396	XK	CACACATTTATAAGGACAGAGATT
130397	ATP2B4	CTGGTTGTTGCTAAGGTTGCTG
130398	SLC6A3	TGGGCTCCAGGGACTGGAGTGTAAT
130399	HPGD	ACAGAAAGTAACTGATTGACACTGTT
130400	DNAJB1	ACCTTTCTACCAGTTGTGGACC
130401	SLC17A7	CCCTGCTCCTCTCTGTCCTGCC
130402	IL16	CTCCACCATACTCCATCAGTT
130403	CAPON	TTGTAGAGATTGAGTGCTCT
130404	GCA	CCTGCAGCTGCGCCTCCTTGCACCTGC
130405	GAGED2	AGGTGAAGAGCAACCACAAGTT
130406	LIFR	GCCTTTTCATTATTTTTTAGCTTTT
130407	GPR17	GGCAGGGAGAGAGGAGGCCGG
130408	ITGB1	AAGTGACCGAAAGGTTATGTTAGCA
130409	DFFB	GATCTGCCCGCCTCGGTCTCCCAA
130410	BACH2	AACTCAGACCTCACCTTCCTCCC
130411	NEBL	GCATTTACCCTGTTGCATGTCA
130412	CYP4A11	CCTCCCAAACTCCTGCCTGC
130413	MOG	TCCAAGATCTTCCCTTGGGCTTTTCAGC
130414	FANCE	TTTTCATTTCTTTTGTTTTTGAGAGAAG
130415	EHD2	AGCTAATTTTTGTATTTGAGT
130416	NDUFA10	TTGGAACCCTTTAGCTTTGTTTTGGAA
130417	WSX1	CTGTGGACCCCAGAGAAGGTGGCAG
130418	DNMT2	TTCCTCCAGAGTTCGGATTT
130419	APM1	AGCTAATTTTTGTATTTTTCGT
130420	ADCY1	CCTGTTTACTCGTACCAAAAAT
130421	PPP1R12B	GCTTGAGGGGAGCCCTGAGAA
130422	CDX1	CCTCTTCTGCAGCCTCACCTC
130423	ARSB	CCCTGTCGGTGAAGGATCATGT
130424	IL19	TGAGGGGAAAAAGTGTTCCTCATGAAG
130425	RSN	TCAAGATTATCAACTGTGTG
130426	ACPT	CCCTGCTGGCCCTCCAGGGG
130427	P53AIP1	CACCGTTGAGGTTGCAGTGAG
130428	CDC25A	GGGGCGGTCGCGGCGGAGGCAGAGGAA
130429	SORCS1	TCTTCTTCTCTCTCTTTTTTC
130430	HUNK	TGTGTTTTCACACCTTTCTCC
130431	PTGIR	GGCTCTGGGAAGAGAGTGAGGG
130432	GCH1	AACACAAACACAGTTATTCCA
130433	AK2	GGAGCTTTGATTACTGACTCCG
130434	ATP11A	GTGTCTTCACCCACCTGCCATCA
130435	CYP8B1	CTCTCCTACTGTCATTCTTATACC

130436	DFFB	AGCCTCCCAAAGTGCTGGGATG
130436	SHOX	AGCCTCCCAAAGTGCTGGGATG
130437	FES	CCTCTCTGTGTCCCTGCTGCTGC
130438	NGB	CAGGCAGCTGGAGAGAAGAGAAGGCAG
130439	MGA	TGATGCAGTGGATAATGATGGGA
130440	ADORA2A	CGTCTGTGGCCATGCCCATC
130441	LAMC1	CATATGCATTGGTCAAGGTT
130442	VTN	AGAGCCCACATGGCCGGGCCCTC
130443	RASA1	CTGAGCCTTGGTGTACAGACCAC
130444	PTPRO	AACCAGTTGCTGTTTCTTCCCATGTC
130445	IHPK1	TCCACTGCAGGCAGGG
130446	TMSB4Y	CCCGATTTTAACCACTTGAA
130447	PTK2B	GGGGGCTCCTGGGGGTGGGG
130448	ARSD	CAGGAGGCTGAGGCTGCAATGA
130449	MPP2	ATGGTCAGTAGGCACACTGCC
130450	FKRP	GCAGGGCCCAGCACAGCCCC
130451	FGF13	GACAGGAACTGTGGAACTGTGATG
130452	SCML2	CCATCGTTGCTATCACCAGTACCTCT
130453	FLII	CCTCATCCACTGTCTGCTAGCAAAGA
130454	RAG1	CAGGAATAGAAACTGATGAGCTGA
130455	CRKL	TGCCATCTTGCTTTTCTTTGGA
130456	SUFU	TCTCCTTTCTGGCATCCTGGC
130457	TRRAP	TGGGAAATGGCAGAGCTGAA
130458	FOLR2	GACACAGCCGTGTATGCTCCCA
130459	TNFAIP6	ATTTGCATTTGAAATTTTGGA
130460	RTN4	ACACCCAGAAGACGTCAGGTGACTTC
130461	DRG2	GGCTCTCCATGATGGGAACC
130462	TNFRSF1B	ACCTCAGGCCAGGTGCAGTG
130463	SELE	GAGGGTTACTATGCACAATTTAATCAC
130464	RNF3	GCTGGTGGTGGCTTCGGGCTCATGCCC
130465	IGF1	GCATGAGCCACCACACCCTGCC
130466	NR2F6	AACCAAAAAGAGACTGATCATCCAGG
130467	ORC2L	GCATACAAGATTTAAATTTGGGA
130468	KIFC3	GCTGCTCTTCCTGGCAGGCCTGGGCC
130469	PPP2R4	GGCATGTCTTTCCAGAACTTTCC
130470	SALL1	TTTCAAAACAGATTTAAGGAAAGGACT
130471	ADCY7	CGGGGGTGGCGGTGGAGGGA
130472	TRIM37	GGAGTATGTATCTTCTCTCACT
130473	CTNNA1	TTTAGGCTACAGTGTCTCGATGCCATA
130474	UBE2E3	AATTTGTATGCAGTGTGAAGGA
130475	GABRP	CAGAATTATCCCCAATTTCCAA
130476	MAP3K12	AGACTGCACTTTTCTGTTCCGTTTACT
130477	PDYN	TGTTATTTCTCTGGGGTCTGTGATGGGG
130478	CHRNA2	GGTGAGAGGAAGCCTCGCAGAATCCAGCAGAA
130479	MNT	ATTTTGTACATACTGTATTTTTACTA
130480	ATP11B	TTCAGCAGGCGTAGGCTCACCCTGGGC
130481	COX10	CGGGTCTGCAGAGTCCCATCTGCC
130482	PTPRG	ATCCCTTAAGAAGTTAGA
130483	SRD5A1	ATCCTGTTTGTTCTTTGTT
130484	HS3ST2	TCTGGGTGGTGGGATGGGAGACCA

130485	CD69	GGAACTCAAGGAAATCTGTGTCAG
130486	PIP5K1A	CTACCTTAGTTCTTTCTCTCTG
130487	CUTL1	ATCGCCATAGGCCAAGGTGCATATAGAA
130488	PRX	TCTGCCTGGAGCCCAGGTTGC
130489	ATM	CTGCATCCTCAACCTCCTGGGT
130490	GFAP	CAGTCCACCTGAGCTGCCATC
130491	TLX1	GCACAGACAGGTTTTCACATAAATGC
130492	PRKY	GCTTTGAAGAAAAAGCAAAAG
130493	MTMR3	AAGCCTGCCCTGAGCCCAG
130494	SH3BP2	AGTGCTGCTGCAGAGCTAGAA
130495	COX10	CTACACAGCACGGCTTTTT
130496	ABCC12	CCTCCATCAGTACTTCATCCA
130497	ZNF200	GATGAATCTGGAGTCTGCTTACT
130498	BGN	GCCCCTGCCCACAAAACCCCAGGG
130499	GPR24	CAAGAGGTGGAAGGGTACTGA
130500	ZNF132	ATACTCCTCATGTTTAA
130501	LIF	GCCTGGGACTCAGACCAGGAAG
130502	ARVCF	GCTGCTGGGGCAGGGCCCAGG
130503	NR2E3	TCTGGGTGGTGGGGGATTGATACAGA
130504	LZTFL1	ATTTTTAAAAATGAAATCTTA
130505	ADCY7	CTTTTTCTGAATGGACTTC
130506	EPM2A	GGAGCCGCGTGATGCATCCCAAAGAAG
130507	MATN2	CTTCTGCCTCATCCTGCCTTAG
130508	VPS26	TATGCAAATATTATTTTCTTCAT
130509	FXYD7	CCTGCTTCCAGCTGCTGCAGCGCGCC
130510	CHST6	TAAGAGTGGATTACAGGCAT
130511	AIRE	ATTGCGCCACTGCACTCCAGTCT
130512	CYP4F3	ATTGTGCCACTGCACTCCAGCCT
130512	DNASE1	ATTGTGCCACTGCACTCCAGCCT
130512	SMG1	ATTGTGCCACTGCACTCCAGCCT
130513	ALPPL2	GCCAAGGAGGCTGCTGTGGTG
130514	BCL2	TTAATATTGTGAAGAAAAAT
130515	NR1I2	TATTCTGGCTTTTCTCACCAG
130516	PRKAR1A	TGGGAGTGACTGCAAGCATTTTTCCATC
130517	CROT	TTGGGCTGGGTGCAGTGGCTC
130518	GNPI	GGAGAATGTTTGTAACTTAATCAG
130519	DLG4	TCCTGAACGCCAGGAACCTGGGGTCTGG
130520	TRPS1	TGTAAGCTTCACTCTGTCCTACA
130521	DRD2	GGAAGGAGGGGAAGCTGCAGCTTGG
130522	CASK	GCCTTGTGTCAGCAGGTCATGGT
130523	EEF2K	GTGCACACCACCACACTCAGCTAAT
130524	PPEF2	ACTATCTCCCTTATTCTCCA
130525	FUT3	CCTCCAGAAGACTTGCCTGCT
130526	AMPD2	CTCCTGGGACTGAGGAGGCAGGG
130527	PFKFB2	CTTTCATGTCCCCTCTGGATTGTCCAG
130528	GJB3	CTGTCACCCAGTCACTGCCA
130529	AXIN1	TTTGGAGCTGTAAGTACTGATGTA
130530	CDH7	AGCTACTAAGCCAACTGGAAC
130531	GNB5	CCATGGCTCACAGGTCACTA
130532	ADM	TCTTAGCAGGGTCTGCGCTTCGCA

130533	GPR56	GCTGCCTGGTGTCTGCTGT
130534	SLC13A3	TGCTCTTCCCTCCCCTCTCCAGCTACA
130535	GNA14	TCCTCCTCCCCAGAGCGAGAGTGGGG
130536	STXBP1	AGCAGGAGAAATTTCTGGACTGT
130537	MEIS2	TGGAGGGAGTGTGCTCTGAGT
130538	IFNGR2	CTGGAGGCGGAGGTTGCAGTGA
130539	BPAG1	ATCTGACAGAGAACTCA
130540	GRLF1	GGGCTCTCTACCCCTCTCCTCA
130541	NGB	CCAAGCTTCCCTGCATCTTGGTCCTTGT
130542	PPP1R3C	CCTTGCCTATTTTCATCTTGCTG
130543	MN1	CGCCTGCCGCCTCGCAGCCCCTCTGCGT
130544	TULP3	CCTCCCCTTCCCCTCCCTGCCCC
130545	FEZ1	CCCCTGAGGAGAACTTTCT
130546	MKI67	CCTGCTGTTTTCCCTGCCTG
130547	UBE2A	TTCCAAATCTAACTTTGCACA
130548	PHEMX	CCAGCCTGACCAGCATCGGCCTGGCC
130549	IL8	TTATTTGAATCTACAAAAAA
130550	SUDD	TCAGGCTTAAACATCACAGCAGA
130551	TLL2	AGAGAAGTGTAGAGGATGATGTTTACA
130552	PTPN6	CCTCCCTACAGAGAGATGCTGTCC
130553	PSEN1	CAGCCAGTAAGGCAGCTCTG
130554	MAP2K2	CTCCACCCACCCTCCTGCC
130555	RTN4	ACCTTGACGTTGCAGTGCAGTTTCACA
130556	ARHGEF12	GCTCACATCTTTCATTGGTG
130557	PPM1D	CAGTTTTATCCTGGCCTTGTACTTGC
130558	AP1M1	ACTCAGGAAGCACTTGGTGAGGA
130559	RGS6	CAGGAGGTGGCTGGATTGCAGGGCTGG
130560	COL1A1	CTGTAACTCCCTCCATCCCAACCTGG
130561	DLG4	TGGGGTGAGAGGAGGCCCAG
130562	NCOA6	TTGCCCAGGCTAGTCTGGAA
130563	HSF4	GGTGCAGGAAGCGCCAGCTG
130564	ARHGAP6	ACGCGCCCTGGGCGCACGCCCAG
130565	SDC1	CTCTGAGCGCCTCCATCCAAG
130566	SMURF1	GGTGGTATCCAAAATCTTCAG
130567	FZD6	TCTTATCCTTGTATCTTTTTA
130568	SFRP5	CAGCCTCTGCTTCTCCCTTTTA
130569	G2A	AGACCAGCCTCGGCAACATGGC
130570	WHSC1	CTGACATCAGTCACTGCGTCT
130571	PIGN	TTTTCTCAGTCAACCAGCTAGATGC
130572	MFAP3	CAAGAGGAAGAAAAATGATGGA
130573	CHST5	CTGCACGTTTCTTTCTCTCCTGATTC
130574	MAP3K14	GCTAGCCTCAACCTCCTGGGGCAGGG
130575	C18orf1	TTCAACCACCCTAGAGAACTGCCT
130576	SFRS7	CAGCCCAGATACTCTTCATCTATTCAA
130577	PSMD7	TCCTCAGGGGTTGTGATCCAGCT
130578	RHD	CTACCTCCTGGGTTCAAGCAAA
130579	MS4A6A	TCATGACATCACAACCTG
130580	CLASP1	AGCCCACTGCAACTGCTA
130581	MCM5	CGCGCCGCCTCACTGGACTCATGGAC
130582	KCNA3	CGAGCAGCGGCGGTGCCCACAC

130583	CD28	AGAAGAAATGTTATACAGGGAA
130584	KCNA3	CGCTGCCGCCTCTTCCCCGCCGCATGG
130585	GCNT2	GGCAGTATTCACATGCTTTAAACTGAAG
130586	RFC2	TGAGCCAAGATCACACCATTGCACTC
130586	RIMS1	TGAGCCAAGATCACACCATTGCACTC
130586	VHL	TGAGCCAAGATCACACCATTGCACTC
130587	KCNA7	ATGCCTGTAACCCCAGCACTTT
130588	ARNT2	GAAGTGTCCTTTATATTACCAGA
130589	PTPN12	TGTATGTTTCAGGATATTTGACCTGT
130590	GNS	CTCCTGAGGTCTTTGTTCTCAC
130591	SOX11	GACAGGGGAAGGGTGTTCTTTC
130592	LTB4R	CTGTCATTCAGGCTGGAGTGCAGT
130593	ETV5	TCATGGAGCACTCCATAGTCTCAA
130594	DAZL	CTGTGTTGAAATATAGTTGA
130595	CLK1	TCTTACAGACTGTATCAGTCTA
130596	TGFB3	TCTTCAGAACACACAGACTT
130597	CD59	CTAACTCCTAGCTGACTCAGCAT
130598	EPHX1	CCCAAGGAGTAATCAGAGGGTGAGA
130599	PAM	ATTGTATACTGCCTTTTTGTAATCCTGT
130600	MAN1A1	TCAATCAAGGAAAATCTAATAAA
130601	DSC1	TGGTGGCGAATGACTGTAATCCCAG
130602	RCV1	TGCACACAAGCCCACAGCACAGCTCCC
130603	DUOX2	CCCAACACCACCCTAAACC
130604	AFG3L2	GCTGGAAAGGTTGAGCCCAGAGTG
130605	RAB36	TCTCCATCCCTCTCTCAT
130606	TRPC6	TTTAAACACCATTTACCCTACTTATC
130607	CAMK2A	TCTTCTTCCTCCTGTGCTGACCT
130608	GM2A	CGTGATCCGTCCACCTTGGCCTTGCAA
130609	TLR4	AAGTACACTCTGTCACTTTGTC
130610	MUCDHL	CCTCCACCCTCTCCCCCAGCC
130611	NAPB	TCCTGCTCCATGGAGTCCTGAGTTGCT
130612	MIR16	GGTTCAGAAACTGCCAGGGGC
130613	DISC1	ATCATCCTGATCTAACCATTCCCCAG
130614	MUC4	CCGCACGGAGGGGCTCCTGGGGGTC
130615	TEK	TCACAAACCGCTGGGTTTTTGAAAGGA
130616	SNAI2	GGAGGAGGGAAAGATTAGCTTTG
130617	GABRP	GAGAACCCTGGGGACCCAGAA
130618	IGSF4	GTGAACAAACAATGAAAACTCTT
130619	PPM1D	CTGCCTGGCTCTGCTCGCTCCGGC
130620	LARGE	GGTTCTTGCCTGCTTCACTGT
130621	YWHAH	CACAGCTACTCAGATCTG
130622	ADCY1	TGGTCAACATGGTGAAACCCCGTCTCT
130622	IL10	TGGTCAACATGGTGAAACCCCGTCTCT
130623	CARKL	GTGATGGAGAGTCTCTGCCGTGCC
130623	TRPV1	GTGATGGAGAGTCTCTGCCGTGCC
130624	MYB	GGCGGCAGCGCCCTGCCGACGC
130625	FBXL5	TTAGGTCTTTTCAAAAGGGTGAGA
130626	RECQL5	GGTTGCCAGGGGCTGGGGTCCAGG
130627	MCL1	AGCTTCAGTCTCGGAACATGACCTTT
130628	MPL	CCCAGCACCTAGAGTAGTGCTTGGTGC

130629	STE	GAATTCCTGGGCTCAAGCTTCC
130630	SLC9A1	CACACACACTCCTTCCCCTTGT
130631	INPP5B	TGGCTAACACGGTGAAACCCCATC
130631	PCDH11X	TGGCTAACACGGTGAAACCCCATC
130631	SULT2A1	TGGCTAACACGGTGAAACCCCATC
130632	ONECUT1	ACACTTCAGCAGGGCGGCGACTTGGCA
130633	PIGR	TCTCACTGTGTCACCCAGACTGGA
130634	PSCD4	GGGTCAGGGGTCAGAGATTCTG
130635	PITPN	TTGTCCAGTGTGGCCCCTAGAATTGA
130636	GALNT1	GCTTGCACATCAGTAGTTTCTG
130637	PACSIN3	CTGCTTTGGGGTTCCTGGGGTGG
130638	DMC1	GCTTGTAATCCCAGCTACTCTGG
130639	EXTL1	GCTGGGAGGGAAAAGGCTGG
130640	FLRT1	TGGCTTTGCCCAGCCTGCTGC
130641	BSN	TTTGCACGATTTCATCCATTTT
130642	CALB1	TGTGTCCATGTGAAATTTACAG
130643	FGR	TCCTTGAGTGAGGCATGC
130644	GABRE	TCCAAGCCCCTTGCCAAGGGAGT
130645	OGDH	CCCACAGAGTCTGTGTGTAGCC
130646	SHANK2	GGAGTATGAGCTCAGCAGATGTACTT
130647	OTOF	CCCAGGCCCTGTGAGCTCACCA
130648	TFAP2A	TCAGCAACCCTTCCTGCTGCTGCTA
130649	KLF8	ATAGTGTCCTAAACGACTTTTTTA
130650	SLC9A1	GAGTGTCTCTGCCTGGAGCAGG
130651	BCL11B	GGAGCTCGTAATTTTTTAACTGTAAGCTT
130652	KLF15	GCATGATCACCAGAGGGTG
130653	GARP	GCCTGATCTTTACCACTGCAGGGG
130654	WNT3A	CGCCCCTCAGCCTCTGCC
130655	TGM3	TCCCAAGGCTGCCAGACATGGACTCCG
130656	MYO15A	TGAGAGTGGTACAAGGGAGA
130657	TJP1	CTACCTTTGTATTCTCTCCT
130658	EGLN2	GGGTGAGGATTGAAGCAGCCCAGTCT
130659	FANCD2	CCATGAATTCATATCTGAAACCATT
130660	CYP4F3	GGCCTCCCGGGTGGCTGGGATT
130661	B3GAT1	TGCCTCCCCACCGCCCACCTCG
130662	MAP2K1	TGTGCCAAGATTCTACTCTTGTC
130663	RASGRP2	GAGCAGGGAGCCTGGGGGTG
130664	GABPB1	CCCAAGTAGATTTACATG
130665	SLC16A1	ACAAACCTAAAAATTTTGTGA
130666	TEAD3	GCTCTGCCCAGCCTCGCGTGACCTCA
130667	ITPR2	TCTAACATAGCTTAAGCTATTG
130668	NFYC	GGGCACAGCCTTCCTCCCCA
130669	DMC1	CACCACTGCACTCCAGCCTAGG
130669	NUP62	CACCACTGCACTCCAGCCTAGG
130670	RING1	CCTTTCTACTCACTGATGCCTTCA
130671	CLASP2	GCAGGTCGGCCAGGAGCTCCTGC
130672	CAST	GTTTGAACTCTTCTTTGCCA
130673	LPIN1	CCAGCCTGGGTGACAGAGTAA
130674	SIM2	CCAGCCTGGGTAACAGAGTGA
130675	TRIM14	CAGCGTGTCCACATCACAGCTCCCTCCA

130676	GALNT2	TGCACCATTGGGTGGAGTCTGGTG
130677	ABCD2	GTCTGAGCTCTGCTGCATCTGTC
130678	SOX4	GGAACTCCTGCCATTACCAGCTCCCTTC
130679	ACADL	ACCAGGGAATGCCTTG
130680	ZNF236	TGACCAACAGGCGTTTCAGCGAGCTTT
130681	TRIP15	ACAACATCATAGTAATTT
130682	AES	CTGGGAGGAGCAGGGTGAGGGTG
130683	CELSR2	GAGGAAGAGTAAACACAGTGCTGGCTC
130684	SLA	AGGTTCCCTGATCCCTGGGAG
130685	CASP7	AGGCAGGAGAAGAACAAGAAATG
130686	CYP1B1	TTAAAAAAGTCTACAACATAGCAGATC
130687	CNTNAP2	ATTCTTTTTCAAGATTCTCAGTGTG
130688	IL18R1	ATGTATACATTAGATGTGT
130689	SPOCK	TGCACACATATCTCCTGTTCTCTGAGA
130690	PRX2	TCCAGCCTGGACTCCCGAGC
130691	CSRP1	TTCTCCTCTGTGGGAAAGAGGTT
130692	AHR	CTCTGCCGCCCAAACTGGAGTGCAGT
130693	ADAMTS4	TGTCGCCCAGGCTGGAGTGCAAT
130693	NF2	TGTCGCCCAGGCTGGAGTGCAAT
130693	SH3BP2	TGTCGCCCAGGCTGGAGTGCAAT
130693	SPN	TGTCGCCCAGGCTGGAGTGCAAT
130694	TAPBP	CACTGCTGTAACCCCGCGCCGGC
130695	LCT	GAGAAGCAAGTAGCTCTTGC
130696	FOXP2	TTTGCAGTGCCTGTGT
130697	LIMK1	AGGCTCCCTGCCCCTCCTCATG
130698	NEU3	CTGAACTCTCTGGACCTCAGGTT
130699	ITGA2	GGAGAAACTTAGATTAAAATT
130700	TNFRSF11A	GGCCCAGGCTAGAGTGCAGTG
130701	PSCD4	ACATTTGCACACCTTCCACA
130702	CTMP	GTGCATATGCATATACATTGTA
130703	BCL7B	CCTCCTGGCCCTGCCTCTA
130704	OSCAR	CCCAGCACTGCCGTCTACTCA
130705	BSN	CCTGCCTGACCCTTCAAGGCCTGACCT
130706	SERPINB9	TTTTGGCTATTGGGAATAGTGCTGCTA
130707	PDE4A	GGGAGCGCGGAGGGGAAGGGAGCCCC
130708	MGAT1	GGCTCACTGCCTCCTGCCCTTC
130709	SYNGR1	GTTAGTTCCCTACTCCATCCTTCC
130710	RABIF	GTGGTATAACTGTTCCGCTGCCTTC
130711	LGI1	TGTTCTTTGCAGTG
130712	RBBP2	CTGAAGGTGCTAATTGCTTGG
130713	RAP1GA1	GCAGGGCAGAGCCGTCCAGAC
130714	PAFAH1B1	TGGGCTGGCATTGGTCACACCAGGC
130715	CAPON	CCATGGCTTCAGGAGAGGGTCTCT
130716	CNP	ATTTCCCAAGCTGGAGTGCAGT
130717	SLC25A1	CCTGGTCTGTGCATTGTGGCTGTC
130718	TPMT	GACCTCAGGTGATCTACCCACCTCG
130719	DDEF2	CATAATCAAGATCCTGCCTCTACGG
130720	INPP5B	TTTGAGGGTGATGTGCACTATGA
130721	BARX2	TCAGCACTTATTTCTGTAGT
130722	DIRC1	GAATTTCTCTCCACAAGTGTGA

130723	CDX1	AGCCTCACCTCTACCTGCCCCCAT
130724	NUMB	GCACATTTACTGAAATGTAA
130725	GARP	GGAGAGTCAATGGGCAGAGCCA
130726	MLLT2	ATTGTTCATCTTTAAATTCTTTCC
130727	NOX5	CCTCACCTCTCCAAGCTCTGCC
130728	ZNF132	TTCATACCTGGTGGAGCCTTA
130729	RPN1	CGCCATCACACTCCAGCCTGCTCTTCC
130730	PIK3R1	ACAAATGAACGATATGTAGCAGA
130731	TMPRSS3	GGCATCAGTTGATTATCTTTTCTCAT
130732	UCP3	TTGTCTAGAGGTGAGACCAAA
130733	PXN	TCTTTTTATCCTTATTCCTCCCCCGAC
130734	KIFC3	TGCGGCGACGCCTGGATCCTGCC
130735	B3GAT1	CACGACCACACAGGACACCCA
130736	RPN1	TCCTCCAGGGGGCCCAGGGTGCCTGCA
130737	HDAC5	TCCCTGCCCCTCTGCTGGCACA
130738	COL15A1	TTCTGCAGGAAACCCCAGCAGTGTG
130739	FANCE	GTTTTTGAGAGAAGGTATTGCTCTGTC
130740	BCL7A	GAGGCGGCGTTACCTCCAGATTCCGTAGAGTT
130741	GAN	CTCATTTCATGCAGGTTTGTGTTT
130742	IHPK2	GCCGCTGGACTCCGCTGCCTCC
130743	B3GALT5	AGCTTTCTGGGAATTCAGTTGGAGT
130744	INPP5D	GGCAGGTTGCAGTGGAGGGGCC
130745	ADAM19	CATTCCCCACCTTTCCTGTGG
130746	GABRE	GGGACCTCAGACTGAATCAAAGA
130747	TNS	AGCAGAGGGCAGAAGGCTTGCACTTG
130748	C1QA	GGGAAGGACCCCCTCCCCCACCCACCTCTC
130749	S100A7	CACATCTCACTCATCCTTCTACTCGT
130750	PLD2	CCCTGCCCCTTAACCCCAAGGACTGAGG
130751	NLGN3	TGCACAAACATAGACAGATG
130752	SLC1A5	GAGCCCAAGCGCTCCCAGCCAGCTTCC
130753	RPS6KA2	GGAGAAGGAGGCGGAGGGAGCGATTGTGG
130754	GPR37	GCCTATTCCCTCTAGGAACC
130755	RUNX1	AATCCCCAGATATTTATGTAT
130756	RORB	GATCCGCTAACAGGCACAG
130757	MPP2	TGAGGGTAGAGGCAGGGGAAGA
130758	DUSP7	GGACGCTCCTTTCTGCTGACA
130759	IL21R	TGCCTCCAGGAGCTGCAAGAAGTC
130760	MKI67	GATTATACTCAACTTACTGTTTAG
130761	ATP5A1	TTCAGTTTTGTCATTGTTCTAGTAA
130762	BTEB1	AGTAAATCTAAATGTGGCTTTTGTCAAGC
130763	SGPL1	CTTGTTCTTCCTCTTATCTTCC
130764	GAK	CTGATTGTTGTTTCCTTTTTCTCCTCCC
130765	LMNA	GAAGGGAGAAGAAAGGTGAGTT
130766	FANCG	TTCCTAAGTCCGCTTCTGGT
130767	MX1	CCGTTCCCGGGTAGCCACTG
130768	CALB1	ATTCTTTAACATACATCTAAGTCAGT
130769	ENG	AGGGGAGACAGGAGCCTAGCG
130770	DDAH2	GTAGGGAAAAGGATCCACTG
130771	OSR1	GTTCCCCCACACCTGCCA
130772	CRYBA2	TGGGGTGGGGAAGGGAGGGGAGC

130773	SLC22A3	GCTCCTAGCTGACCATTCATTCT
130774	NDUFA10	GGTCTCACAAAAAGCAATCCATC
130775	EYA3	CAGGGAGGTGTGGACTGGAT
130776	NTSR1	CCAGACCCCAGCCTCCCCTCC
130777	BRMS1	AAAATATTCAATTAAACATTCATA
130778	IL1R1	GCACTCCTCTGTCTCTGCTCTTGCCTC
130779	GPRK5	CAGCCCAGACCCTTCTCCTTAGAAGTG
130780	CEACAM6	GCAGCATCTTTAACACAGC
130781	TFCP2	AGTCCAGGCCATGGAGGCAGAA
130782	LFNG	TGGCCTGGACGCTGTGGCTTAAG
130783	RPP30	GCTCACTGCAACCTCAATCC
130784	FSHPRH1	ATCTTCCAGCCTCTGCCTCC
130785	G6PT1	CCTCTCCAGCTCCTGCACCC
130786	LZTR1	CCATGCTGTCAACTCCTGCCTCC
130787	FEN1	CTGAGAAGGGAGAGCGAGCTTA
130788	LRP6	TATTTTCTTAAAACAGCAGAT
130789	HMG20A	ATCTCCATTTTCTGACCTCTGGACTA
130790	HNMT	TCCTGCTCTGTCTTTCTCAGAAAACC
130791	ZNF36	TGCTTATTTCTCAAAAAAGA
130792	CRY2	CACGTCAGGCTGTGGAGCAGG
130793	AP1S1	TGGCGATGGGGTCCTGGCAGCGTG
130794	PPARG	GCCACTGCCAACATTTCCCTTCTTCCA
130795	CORO1C	CCCAGCCAAGCTCAGAGTAGGCGCCC
130796	OLFM1	GTGTTTCTCCCTTTCGAGCCGGCGG
130797	KISS1	GAGGCAAGCCTCAAGGCACTTCTAGGAC
130798	DNMT3A	AGCCGCTGTTACCTCTTGTTT
130799	PTPRK	TAAGAACCAGATTGAAATG
130800	EHD2	AAAGTGATGGGATTACAGGCAT
130801	KCNA5	TCAGGCAGACTGGTGGCAGT
130802	PCDH11X	AAACTATTTTGAATGCTTCC
130803	TBX3	GACACGTCTTTTCATTCCA
130804	CYP27B1	TGCTGCTGGCTAAGCATTTA
130805	MAPT	CTAAGCCCACAATCATGCC
130806	TNNT2	TTTTTCTCCTTTTGGAGGGAGA
130807	LRRC2	GGGAGGTGGAGTTGCAGTGA
130808	ROR2	TTGCAGACTGGGTGAGGTGGA
130809	CCNT2	CAGAATTGTTTTGAGATGTGT
130810	COL4A3	AACTATTCACAAAATATCACCA
130811	PGAM1	AGCACAGGTTCTCAGTCTA
130812	GCLM	CCGGAGCCGCAGCCACCGGTGCC
130813	TAL1	TCAGGCAATTCTCCTGCCTTTGCCTC
130814	KCNS3	ATTGCTGAATTCTGAAATG
130815	RGS5	TAGCAAATTTTACTTACAGT
130816	SLC31A1	TGCAGTGAGCCAAGATGGCGCC
130817	DMC1	TGCGGTGAGCCAAGATGGCACC
130817	OPA3	TGCGGTGAGCCAAGATGGCACC
130818	RIMS1	AGGTGCTTGTAATCCCAGCTACTT
130819	FACL6	ATGAATAAGCATCTGATTTTATG
130820	PCDH1	GCCAGCCTGAGCCAGCAGT
130821	CSPG3	CACCTTGCCTTCCTCCCCCAAATGTG

130822	SYNGR2	CACCCAGCTTTATGTAAATA
130823	TAF7L	CTGAGTAGCTGGGACTACAGTTGTGC
130824	NSF	CTTACTTAGAATTTATCCTTT
130825	MSN	GATTTCTGCCTTCCTTGCT
130826	GALK2	ACTACTTAGGGCACTTAGGA
130827	RELA	AAGTTGTTAAGAGTGGGGGAGA
130828	DISC1	GTACTCAGTTAGGCAGTGCAGT
130829	BDKRB1	GTCGGCCCAGACTGAAGTGCAGTG
130830	PCTK3	GGTGCCAGGCTGACCTCAGCTCCCGAAGG
130831	GNE	TCTCCAGAGCTCCTGAGTGGAATCAAGT
130832	FGFR1	AACCCTCACCCACAGCCTGC
130833	POLK	TCAGCACTTAACTACTTTGTTGGC
130834	IL1R1	ACACAGACTACAGCCAGAAGC
130835	KAL1	CACCAGTTCCCTACAAGCATGGAGA
130836	ANXA8	ATTCCTGACCCAAGGACACTGTGT
130837	SULT2A1	GACCATCCTGGCCAACATGATG
130838	MGAT5	CACTCTGAAGTACAGCCTGGG
130839	LEPR	GGGTGGGAGAGAGAAAAGAAACCAG
130840	RASGRP1	CTAATAATAGAAAACTACCCATATTC
130841	NESG1	GAGAGCCTCTTTGGAGATATCA
130842	MYD88	CTTTACCCTCAGGCT
130843	ADAT1	GGCAGGAGAATTGCTTGAACCC
130843	CTMP	GGCAGGAGAATTGCTTGAACCC
130843	CUBN	GGCAGGAGAATTGCTTGAACCC
130843	DMC1	GGCAGGAGAATTGCTTGAACCC
130843	GPRK7	GGCAGGAGAATTGCTTGAACCC
130843	LRRC2	GGCAGGAGAATTGCTTGAACCC
130843	NT5C2	GGCAGGAGAATTGCTTGAACCC
130843	OPA3	GGCAGGAGAATTGCTTGAACCC
130843	OPTN	GGCAGGAGAATTGCTTGAACCC
130844	DSC1	GGCAGGAGAATCGCTTGAATCC
130845	CDS2	TGTTTTAAAAGTCACTTATTTCTTA
130846	NOS1	AAAGACAGAGAGGGCTGAAGCCTTGTCA
130847	DIO3	GTGCTGAGCCACCATTTCAGACT
130848	FRK	TGAAGGAATTTGATTGCTTTG
130849	IRS2	ATACACAGATGATAATATGCTAA
130850	LEP	GCATCCTGGCCAACATGGTGA
130851	JUNB	CTGGGAGCTGGGGGAAACGACGCCAG
130852	TFDP1	GGCTTGGAATGGTTTATTGCTT
130853	CARD15	CTTACCACTGCTCTGATGAAGA
130854	SLC1A4	GGGAGGTGTGATGTAGTTATCACATT
130855	FGF4	CCCAGGCTGTGCCCTCCAGAGG
130856	BARX2	GCGAAGAGATCTACCCGTCTCCC
130857	EGLN2	GGTGCTGCCAGAGAGAAGGTTGTCA
130858	PDE7A	CAGAAACTAAGAAGGTAGCACA
130859	PSME3	TCAGGAGGTGACAGTTGTCTTAGTTGT
130860	RANBP2L1	ATTGTACCACTGCACTCCAGCTC
130861	APAF1	AGGCTGAGACAGGAGGATTCCT
130862	PIP5K1A	TGTTGAATTCCTGTTCTATC
130863	EFG1	ATTCAGGCTGCTGAAACAAGAAATTCT

130864	NEBL	CCATACACCACACAGGCATTTG
130865	NAP1L3	GACCACATTTGATTCAACTGA
130866	CCR9	CAGAAACAGTTTCCCCACTGATGGGA
130867	SIAT6	CTCCAGCTCATGACACTGTTTGGCCTT
130868	DIAPH2	TGCTATGTTGTCCAGGCTGCT
130869	SPINK2	CTGCCCAGGTGACTTGTGCATTG
130870	SLC25A6	TATGTTGGGCCTCCTGCTGC
130871	MMP14	CACCATCTCAGTGAGGGGCA
130872	FUT1	AGGCCAGAGTGCAGTGGCGCGAT
130873	CASP7	CTTGGTCTCACCTATCCTGCC
130874	FRDA	GATTGTCGGATTTCCTCCCTCA
130875	BCL2	TCCATTTATATGTGATCTTTGTTTTAT
130876	MYBL1	ATTTTTATTTGCTTTTGTG
130877	PLP2	CTCATTTCTCTCTGCAATCTGCA
130878	CACNA1S	TTGGGGACACAGGGAAGGGAAA
130879	TBL1X	AGAACCGAAGAAGCCACAGGCA
130880	FCRH1	CAGGGTCTCACTCTGTCACTCA
130881	SLC25A14	GCCTTTCTACTCCTTTGCC
130882	ENG	GTGAAGCCTCTGAGGGATTGAG
130883	ITPKB	TGGATGCCAGGGCGTGCTCCA
130884	CRHR2	GCCAGGCAATGGTGTGGCCCTGCACT
130885	FGF5	CAAGTAGCTGGGATTACAGACTC
130886	VCL	TGGCCTGGCACATCAGAAAGG
130887	ANKRD3	CAGCTCTTAACCATTCCAGTCTAT
130888	ABCC1	GTGTCCCAGGGCCCTGGATGGTCCTCT
130889	PIP5K1B	AAGAGTTTTCAAGATGTCA
130890	HEM1	TAAAGGAGAGCAAGGAACATGTA
130891	FZD1	GATATTTCAGTGTCATGGACTTCC
130892	GLUD1	TATTAAAAGTCTACGTTTTCCA
130893	MSN	TATTATTCCAGATCTGCAGTCAC
130894	IKBKG	GCTGCTCTTTTTGTTCCCTTCTG
130895	TEM8	CCTGCCTCTACTCCACCTCCAT
130896	GJB3	CCCTCAGAAAGGGAAAGAGTT
130897	BAK1	GGGAGACTGATAACTTGGGGAGGCAAGA
130898	JPH2	TCCCTGCTTAAAGGGAACTGA
130899	HUNK	ATCATGCTACTGCACTCCAGCTT
130900	CHES1	TTACCATTGCTTCCTCCAGCTTGTCAG
130901	LILRA1	CAGATCTGATGATGCCAGGAGG
130902	MMP13	AGAGCATCTGATTCTTGTTGCTGTACA
130903	SUV39H2	AAACTATTCTTTCATGTCTGATTCTGA
130904	KCNAB1	CTTGCTTGGAAGAATAAGCAG
130905	MYB	AAGCATTATGGTTTTCAGAACA
130906	DLEC1	TGTGAGCCAGCAGCGAGTCCG
130907	ODF2	GCAGAAGGTGAAGCAGGAAGCAC
130908	SIP	AGTAAAGCATACAAATACTAGA
130909	IGF1	CCCCCAGGCTGGAGTGCAGTGG
130909	LZTS1	CCCCCAGGCTGGAGTGCAGTGG
130909	RPP30	CCCCCAGGCTGGAGTGCAGTGG
130910	PDE6B	CACCCAGGCTGGAGTGCCGTGG
130911	AIRE	GGGAGGTGGAGGTTGCAGTGA

130911	BMP8	GGGAGGTGGAGGTTGCAGTGA
130911	CRACC	GGGAGGTGGAGGTTGCAGTGA
130911	DBT	GGGAGGTGGAGGTTGCAGTGA
130911	GRM6	GGGAGGTGGAGGTTGCAGTGA
130911	IL13RA1	GGGAGGTGGAGGTTGCAGTGA
130911	ITGAL	GGGAGGTGGAGGTTGCAGTGA
130911	KCNJ5	GGGAGGTGGAGGTTGCAGTGA
130911	NPHP1	GGGAGGTGGAGGTTGCAGTGA
130912	A1BG	TTGCCCAGGCTGGAGTGC
130912	APPL	TTGCCCAGGCTGGAGTGC
130912	ATP1B2	TTGCCCAGGCTGGAGTGC
130912	CLECSF12	TTGCCCAGGCTGGAGTGC
130912	CNN2	TTGCCCAGGCTGGAGTGC
130912	CRTAP	TTGCCCAGGCTGGAGTGC
130912	CSE1L	TTGCCCAGGCTGGAGTGC
130912	CTSS	TTGCCCAGGCTGGAGTGC
130912	CYP2B6	TTGCCCAGGCTGGAGTGC
130912	CYP4F3	TTGCCCAGGCTGGAGTGC
130912	EVC	TTGCCCAGGCTGGAGTGC
130912	F2RL3	TTGCCCAGGCTGGAGTGC
130912	F3	TTGCCCAGGCTGGAGTGC
130912	FUT1	TTGCCCAGGCTGGAGTGC
130912	GPR4	TTGCCCAGGCTGGAGTGC
130912	HMG20A	TTGCCCAGGCTGGAGTGC
130912	MLANA	TTGCCCAGGCTGGAGTGC
130912	PCDHA9	TTGCCCAGGCTGGAGTGC
130912	PDZK1	TTGCCCAGGCTGGAGTGC
130912	PER2	TTGCCCAGGCTGGAGTGC
130912	PIK3CD	TTGCCCAGGCTGGAGTGC
130912	PMCHL1	TTGCCCAGGCTGGAGTGC
130912	PON1	TTGCCCAGGCTGGAGTGC
130912	PPEF2	TTGCCCAGGCTGGAGTGC
130912	PRKR	TTGCCCAGGCTGGAGTGC
130912	PRND	TTGCCCAGGCTGGAGTGC
130912	PTGIS	TTGCCCAGGCTGGAGTGC
130912	SAS	TTGCCCAGGCTGGAGTGC
130912	SLC39A1	TTGCCCAGGCTGGAGTGC
130912	TAPBP	TTGCCCAGGCTGGAGTGC
130912	TERF1	TTGCCCAGGCTGGAGTGC
130912	TMC1	TTGCCCAGGCTGGAGTGC
130912	TMPRSS3	TTGCCCAGGCTGGAGTGC
130912	TNFAIP2	TTGCCCAGGCTGGAGTGC
130912	TRPV1	TTGCCCAGGCTGGAGTGC
130912	UGDH	TTGCCCAGGCTGGAGTGC
130912	VHL	TTGCCCAGGCTGGAGTGC
130913	MPL	CAGCACTGTGATGCTTTAT
130914	SCN1B	GGAGCAGTTTGGGGCAGGGGGTTCTGG
130915	MAPK8IP1	CACGGCCCTGCCCCATCCTGGGCC
130916	GAGEC1	CTCTCTGCTGACTCAAGTTC
130917	CRHBP	CCACACACATACACACACGCAT

130918	TMEPAI	GGAGAGCATGAGGGGTGGGG
130919	ZNF146	GCTAGATGACAATCTCATTGAGAAGCA
130920	UBTF	CTCCCCCATGTTCTGTCCCTTG
130921	RAMP3	GCTGTGACCTCCGAGCCCTCCTGGTGGGAA
130922	ADAR	CAGAGGGCAAAGAGGTGAACATA
130923	SLC6A5	ACCTTGCTTTGCACTGA
130924	B3GALT3	TGAAAGTATGTAGTCAGCTCTTGT
130925	ESRRBL1	ATCTTCTAGGATCTAAGCCACTA
130926	ALDOC	TTGCCTGCCCTGTCTCCTGGG
130927	ZNF253	GTTCACTGCAATCTCTGCCTC
130928	COL18A1	GTGAACAAAGCAGCCACGAGGTGCA
130929	RASA1	CTGAGCCTTGGTGTACAGACCACCT
130930	TTC3	TTGCCCAAGACAGAAACACACT
130931	ENAM	TCTTCTTTATGTCTACCTCCTCCATTA
130932	CDYL	TGTGTAAATCTGCCTTTATCTTGGATTG
130933	ZNF216	TTGGATAGATACAGCCCTACAAAT
130934	NRCAM	TTCTCTCTCAGCATTCTTTATCCCCTG
130935	CHAC	ATTAAAATATTTTAATTCTTCA
130936	CD2	CTCTAATTAAAAAGATAGAAA
130937	ALX3	GAAGCAGCCAGGACTCTTCCTACCAC
130938	KPNA4	AAGTCAAAGGAAAATGAGCCCA
130939	FGF5	TCACCAGGCTGGAGTGCAGTGG
130939	GM2A	TCACCAGGCTGGAGTGCAGTGG
130940	DRD1	GCCCTGCTCTGTAGGGCTGA
130941	RABIF	ACAGCCTAGAAGGTGAGAAGCA
130942	FACL5	GGCAAGCAAGATGCCCACACAAC
130943	EPB49	GGGGTGGAAATAGGGTGGG
130944	PCDHB15	TTTGTCTTCCTCACTTTTCAC
130945	IHPK2	CTGAGTGTATATGTTCGTA
130946	FCAR	TCTGTCATCCTGCTAATGTGCAT
130947	ICAM2	CTGGTCCCTGCGAGCCCGTGGAG
130948	GRAF	ATCTCAGCCAACATGCATCAGTACTGC
130949	BRCA1	CTGCTCAGGGCTATCCTCTCAGAGTGACATT
130950	FSTL3	CCTTAGCCCAGCAAGCCAGGC
130951	IGF2	GGAAGCACAGCAGCATCTTCA
130952	CALM1	GCTCCCTCTGCTCTTCCTCCCTTCGCT
130953	CPD	CATCTCAGTGGCTGGAGGCCATG
130954	BACH2	TCATTCCAGTTTATTGACCT
130955	RASGRP2	CAGGAGGCTGGGGATGGGGGTG
130956	NID	AGGTACCCACCGTCCTGTCAGCT
130957	C1QB	TCTAATTCAACTCTGTGTCCCAG
130958	SLC21A2	GGACTGGGGGTGTGGGAGTTGGTGAG
130959	GPR35	TGGGAAGAGAGAGGGACAG
130960	INPP5D	CTATCTCTGTGGCTTTCAGCT
130961	SLC4A4	TTTGTGTATGTGCTCTGTGCCA
130962	MECP2	TGGGATAGGGGCAGAGGAG
130963	PRND	GGGGTGGAATAAAGGCTGAG
130964	IL11RA	TCTCCACCCTTCATGACTGCC
130965	IL13RA1	ACTCGGGAAGCTGAGGCAGGTG
130966	APBB2	GCCCAGCCACACCACCAAACACCCT

130967	DSCR3	AGGGGAAAACATGTATGTTTG
130968	KCNA7	CTAACACGGTGAAACCCCGTCT
130968	KCNJ5	CTAACACGGTGAAACCCCGTCT
130968	SLC28A2	CTAACACGGTGAAACCCCGTCT
130968	SMG1	CTAACACGGTGAAACCCCGTCT
130968	STAT3	CTAACACGGTGAAACCCCGTCT
130969	MAP3K7IP2	AAAACAAAAGATATTTTTAACCC
130970	MICB	GTTTCAAACTCCTGACCTCAG
130971	PCDH15	AACATGTGAATGAATCGTCTTGGA
130972	ELAC2	TGCACACCAGAGACAAGCAGAGT
130973	EDAR	CAGGTATTATTTCAGGTTTAGTAC
130974	MFI2	GCGGGAGTGGCTGATGGAAGCAC
130975	HRH2	GCCTTGCTTTTCTCTCTTCTTCATTCA
130976	RORB	TGAAATGACCATAAATATACAAA
130977	RP1	GGTCTCAGCCAAAATGAGTGATA
130978	DNMT3A	CCAGGTTCTCCCTGCCAAAAAG
130979	PNUTL2	ATCCAGAAACTGAGAAGCTTA
130980	PLA2G4C	CTTCAGCCACACGCTTCATGGCCTT
130981	JRK	TGACCAGGCTGGAGTGAAGTG
130982	ZFHX1B	AAAAAGAGGGACTGTTAAATAC
130983	ITGAM	TGTGGTTCCTCAGTGGTGCCTGCA
130984	ATP6V0D1	AGCCTCCTCTCCCTTCTGTGGGT
130985	REQ	GTGATCACAGGGTTCAAACAGT
130986	FLOT2	AAGCTGAAGATGTTTATTACAATCA
130987	NRG1	GGGACAAACTTTTCCCAAAC
130988	PCDHGA1	ACTTCCCCCACCTCCTCCTCA
130988	PCDHGA10	ACTTCCCCCACCTCCTCCTCA
130988	PCDHGA11	ACTTCCCCCACCTCCTCCTCA
130988	PCDHGA12	ACTTCCCCCACCTCCTCCTCA
130988	PCDHGA2	ACTTCCCCCACCTCCTCCTCA
130988	PCDHGA3	ACTTCCCCCACCTCCTCCTCA
130988	PCDHGA4	ACTTCCCCCACCTCCTCCTCA
130988	PCDHGA5	ACTTCCCCCACCTCCTCCTCA
130988	PCDHGA6	ACTTCCCCCACCTCCTCCTCA
130988	PCDHGA7	ACTTCCCCCACCTCCTCCTCA
130988	PCDHGA8	ACTTCCCCCACCTCCTCCTCA
130988	PCDHGA9	ACTTCCCCCACCTCCTCCTCA
130988	PCDHGB1	ACTTCCCCCACCTCCTCCTCA
130988	PCDHGB2	ACTTCCCCCACCTCCTCCTCA
130988	PCDHGB3	ACTTCCCCCACCTCCTCCTCA
130988	PCDHGB4	ACTTCCCCCACCTCCTCCTCA
130988	PCDHGB5	ACTTCCCCCACCTCCTCCTCA
130988	PCDHGB6	ACTTCCCCCACCTCCTCCTCA
130988	PCDHGB7	ACTTCCCCCACCTCCTCCTCA
130988	PCDHGC3	ACTTCCCCCACCTCCTCCTCA
130988	PCDHGC4	ACTTCCCCCACCTCCTCCTCA
130988	PCDHGC5	ACTTCCCCCACCTCCTCCTCA
130989	CPT1B	AAGGTGAGACCCTCTCCCAAGA
130990	IL16	TCCATGATGCTGGGATTTACACTTGAG
130991	RPS6KA5	TCTCATTGGAATCTGCCTCC

130992	ED1	GTGGGCAAGCAGATGACAGA
130993	LAMC1	CCTTTTATATGTGCCTTCA
130994	DDOST	TCCAGGAGGCAGAGCTTGCAGTG
130995	PTK2B	CTCTGGGCTATGGACACAGGGTG
130996	MYO15A	GCCAGTCGGGTCTGCTCACAGCCCG
130997	KCNJ13	TTCCCTTATTCAGGTTTCTGTGGGA
130998	GPR41	GCCGCATTCTGCTCCCACAGTGCCT
130999	SCN2B	TTCTTTGGGGCTTCAGTGAG
131000	LAMP2	ATTTAAAACTGTTATTTTTACAG
131001	NDUFC1	GTTATATGTGAATATATATCA
131002	E2F3	CAGCCTCTGCAAGGAGCTTTGTC
131003	CD209	CTGTCGCCAGGCTGGAGTGCAGT
131003	RABL2A	CTGTCGCCAGGCTGGAGTGCAGT
131003	RABL2B	CTGTCGCCAGGCTGGAGTGCAGT
131004	GCH1	TATTTAGTGCGGTATTGCTCTGTGA
131005	KPNA3	ACACATGCCTCTTTGTTTTG
131006	PCDHB2	AGCTTTGAATTCACTTAGTGT
131007	PRKY	CCAACATGATGAAACCCTTGTCT
131008	ABR	CCTCGTGGTACTCTTGCCT
131009	GJB6	GTGGACTCTCTGACAAAGTGGGTACTT
131010	HEM1	GTGAAGGAGCTGGAGACTGTGTTG
131011	NOTCH2	TCTAATAAGACAAGTTTGTGGAAAT
131012	PHKG2	ACGCCTGGCCCGGTCAGTGCTGC
131013	FY	CCCTGCTGTTTGCCCCTCAGTCTTTATAT
131014	PVR	CTTCCATCTGCCCTCTCCCA
131015	UBE4A	ACAGGATTTGTTTATTTTCTA
131016	TRIM39	TGTTAGGCCAAAATAAACA
131017	PCTK3	GGAGAGGAACGTGGAACAGGAGCAGGCTCTG
131018	SPARC	GGTTTGTTGTTCTGCCTGGAGAC
131019	CALM1	CCTACTTTCAACTCCTTTTTCCCCCCTCT
131020	RGS6	GTTACAGCCACTACATCCCCA
131021	NPM1	GGTGGTCAGACATGGAAATGGTGG
131022	MGAT3	GTGGGTGGGGAGTGGGGGTGGG
131023	PDGFRL	TTAGTGCTTTGCCAGAGGCTGATGTC
131024	CARD15	GAGGCTGAAATTCAGAATATTA
131025	MLLT2	TTCTCAGCCAGCTCTAAAACAG
131026	TP53	TGTGAAATGCTGGCATTTGCACCTACCTCA
131027	THY1	GGCAGGCATGGCTGGTGCCTGAA
131028	UCHL1	CACAGCTGTTCTTCTGTTCTG
131029	PTEN	GAGGAATTGGCCGCTGTCACTG
131030	SSRP1	CTGCTGCTTCCCAAGGATGGCTG
131031	RFC1	TTCTCAGACATTCTTATCC
131032	ADRA1B	TCCCCCAGGCTATGGAGGGCGGACTC
131033	LPL	AGCTTCTACAGATTTTAGACAAGG
131034	HIP1	ACACCCCATATGTCAGTGTAA
131035	DDB2	CCTGCAAGCAGAGGTGGTGA
131036	IL17B	GGGCTGCACCTGCATCTTCTGATCACCTG
131037	EGFL5	ATCAGGGGCTTCACTGTGA
131038	PLA2G2D	CCTGTAATCCCAACACTTAGG
131039	RARG	AGAGGAAGACCCTGCCATTCCAC

131040	VIL2	ATACTATTTATATACAAGTGATAATACAGAT
131041	NPM3	GGGCCTCCCTTCCCACCTGCCTGTG
131042	EPB42	CCAGGGCTGCCAGGCGTATTCC
131043	FZD4	AGCAATCTATAAACACTGGAAA
131044	DRD2	GCCTGGGTGGATCGGCCTCCTCTTCA
131045	MGEA5	ATGTAAACCAGTGAAAAGTGGATTTTC
131046	ECHS1	AGCAAGTAAATCATCCTCTTTTCA
131047	CPT1B	GCCTGTATTCCCAGAGCTTTGG
131048	FGF7	TGGAAACAATTATGATTCTGCTGGA
131049	LARS2	TGTAGTGTGGCCTGGTGCTGGGGTGAA
131050	ZNF192	ACTCAGCCCAGCTGCTCTTGAGC
131051	B3GALT5	CCTTCCATCCCTGTCGAGTCC
131052	RXRA	CTTTGTCAGTGGCAGGTGCCT
131053	CDX2	TCAGAGGAAAAATGGGAGCCAG
131054	CACNG6	TGTTCTCAAACTCTGAGCCCA
131055	TSC1	CAACAGCACACATAGTTTCTGGTA
131056	TRIM14	CAGCTTTCAACCTGCTTACTCATTT
131057	SLC16A2	CTCTTTTTCTCCTCTCTGAG
131058	SLC17A5	CTGGGAGATGGAAGTTGCAGTG
131059	RFNG	CTGCCGCAGGCTGGGTGCACGG
131060	HTR1E	GTCGCCCAGGCTGGAGTGCAG
131061	PER2	GAACTCCTGACCTCAAGCGATC
131062	NR3C2	CACAGGAACGCACAGATCATGG
131063	SFRP1	TTTTACATTCCATTTCAT
131064	DUOX1	CAGGCCGGAGACAAGTTGCAGTCC
131065	CLCN3	CTGATAGTGCAGGCTTGCGC
131066	F2RL3	GGGCTGGAGCTGGGGCTGGG
131067	DEFA1	GGCTTGCAGAAAAAGAA
131068	KCNH5	AAGATTCACACTTGAAACAGATTAATC
131069	CSRP1	CACTCCTGCGCTTTTCATCGCCA
131070	F2RL2	GCTCATTGCAACCTCTGCCTCC
131071	EGR3	GGACCTGCAAGGGACTGAAGGCG
131072	KCNE3	CAGTTCTGACATTCTAGGCT
131073	AKAP13	GGCCAGGCTTTAAAATGAAAAGTGTTTTA
131074	PIK3C2B	GGCTTTGTGCCTGTAGCTCATTTT
131075	IMPA1	ACTATTTCTATAATAAAAAGCACT
131076	ITK	AGGGAGCATGGCGAGACCCAT
131077	DHCR24	GTGGAAAGTCAGAGGAAAAATGATCCAGTGGA
131078	F7	TCTGCTGGCCCTCAGGCTGCTGC
131079	SFRS1	GGAGGATTGAGGAGGATCA
131080	MNT	CTATCCATGTAATAAGCACTTGC
131081	WHSC1	ATGTAATATTCCAGGATGCTGCTGCAGGTG
131082	CDC2L2	GTCACCCAGGCTGGAGTGCAATGGT
131083	PTP4A2	GGGCTGTAACCGTCGTCTGTCC
131084	SOX11	CGAGCGGGAGGGAGGCGGG
131085	HAX1	CTTTCCACCTCTCACCCATTG
131086	CMKLR1	CACAGCCAGAGGAGCCTGTGA
131087	MYB	GGTCATGTGGACATTTCCAGAAAAGC
131088	PIK3C2B	AGGGATGCCCTATCTGAAGGAA
131089	FGD1	CCTACCACAGATCCTGCCTCCA

131090	DVL3	AGGCTGAGACAGGTGGATCACT
131091	WAS	CTCCAATGCTGTTATCCCTGCCTGGT
131092	COL19A1	TCTTAAAGCTTCAGTGGCCTAG
131093	DRD2	CTGGGAGACCCATGTA
131094	KRAS2	CTTACCAAGTGTGAATGTTGG
131095	HRMT1L1	TGTTGGTGCCATCGCACATGCTC
131096	ADAM17	CCAGAGAGGTGGAGTCGGTAGCGGGGCC
131097	MLLT2	TCTGTTTACACTCTTTGCCA
131098	F2R	AGGCTGAGGCGGGTGGATCACG
131099	CASP10	CCTGTAATCCCAGTACTCTGG
131100	TH1L	ACTTTTCCTCCCCATCCTGGAGAATG
131101	UTX	GACTTGAAGACAACCTCTTTTATATTTC
131102	RAD52	CTGGGACACCCACAGCTGCAG
131103	CDH17	CAGGCTGGAGTACAGTGGTGTGATCCC
131104	POLRMT	GCGTGCGTAATGTCGGCACTTTG
131105	EMX2	GAATCAGGACTTGTACTGGG
131106	STAM	AAATGCCACTGACAATGTTAT
131107	ITK	TCTGCCCTTCCTCTAGCCTCTTGTC
131108	DIAPH2	ACACATACACAAATGCAC
131109	TFE3	CAGGTATTTCAGAAGGAGAAGGCTG
131110	SPTLC1	TGCCTGTAATCCCAGCACTTTC
131111	RP2	GGGATTACAGGTGTGAGCTACC
131112	GPC3	TTCTCTCTTTGCATGGATTTC
131113	GRIA1	GGAATATGCAGCACATTTTTGCC
131114	TAZ	GGAGCTGCTCACTACCTCCTC
131115	COX10	CCTGCAGCTTTTTAGTCCTTTGTGCT
131116	ALS2	TTCCATCTCAAAAGTATTGTGGCA
131117	CXCR4	AAGTTTTCACTCCAGCTACACAGATGT
131118	FANCF	CAGTCTGGAGTGCAGTGGTGTGATCAC
131119	TLR9	CCTCACTGGGGGCAGGGTGGAGT
131120	GPR63	GCATCTCTGCTTGCATCTTCCAT
131121	CIT	CTTTCAAAGCATTCACAAACT
131122	NONO	GAGGTTAGAGGGAACTGGGAGGCA
131123	BMPR1B	AGGAAACAAAAAGTTAAACTT
131124	BMPR1B	CCTTGATAACATGCTTTTGCGAAGTGC
131125	KIF5A	TTACTTACTCTGTATCTCTTTGTACTC
131126	GRINL1A	CAGGCTGGAGTGCAGTGGCAGGATCTC
131127	LMO2	GCTCTGAAAAGAAGATATTTTTCAA
131128	CD5	TGCTCAGCTTTCTGCCCCCACCA
131129	DCX	GAGTAGCTGGGATTACAGGCGT
131129	MLANA	GAGTAGCTGGGATTACAGGCGT
131129	SNAP23	GAGTAGCTGGGATTACAGGCGT
131130	MTAP	GCAAATGACTAGTAAACATGTGGG
131131	DLG4	GGTAGATGGCAGAGGCAGAGA
131132	XT3	GACACACCATATCTATGATATC
131133	RRM2B	ATGGAAAGAATGAGGCTCAGG
131134	PAK1	GGGTTTATATAAATAAATGT
131135	KCND3	GGAGGTGGGGGACGGGAAGGGAC
131136	FGF5	CTTCAGCTATACTTACACTGTATT
131137	EXT1	GAGTTTGAAGTCTTTACAGGCGGGAAG

131138	RHD	CTCATGATCAGCCTGCCTCGG
131139	TNFRSF11A	GATTACAGGCGTGAGCCCCCAC
131140	PPP2R5C	GCTCTTTATTGAAGACAAACACTCACCAAA
131141	IL11	CCTAGGCTGGAGTGCAGTGAGGCAA
131142	IGFBP3	CATAGCCCCAAATATAGTAAG
131143	WRN	AATTGTTTTTACTGTCTTT
131144	ALDH3B1	CTGCAGCTGCACACTGCTCTGGCC
131145	OSR1	TCATTCTTGCCTTACTCCA
131146	STK38	ACTCTTAAAGCATCATTTGCACCTATGTGG
131147	GORASP1	GCTGTTCTCCCCACCCCAGGTGCC
131148	RIMS1	TTTCCCTTATTTTGTAC
131149	LETM1	CCCATGTGTGTGGCCTCAGTCTC
131150	STAU2	GACAGCTATATTGTATTACAAA
131151	OA1	CAGACCCCATATTCCTCAGA
131152	IGF1	CACTTCACCTCTCTGTGCCTCA
131153	IGF1	AGTTTTTCTCCCACTGGGTC
131154	RAD54L	TTTCTCCAGACTCGCCCTCCCCACCCGGGCC
131155	EGLN2	CTGTCTGCCCTGCCTCACCCTGC
131156	TMOD2	TTCAACATAAATTGAATCTTTAA
131157	101F6	TCCTCATGCTGGAGTGCCTCCCATT
131158	SLC22A12	TTTGCCCTGGGCCAGCCTTTG
131159	LETM1	GGAACAGGAGATATTTCTCAA
131160	SRGAP2	AGTCTTTCTATTCCTAACTTTTC
131161	SLC7A6	GCCCTAATGGCCATTACTATCCA
131162	GAS7	AGGGACAGACATTCAAAGGGA
131163	STC1	GACCACTTACAGTGTGATAAGGCCTA
131164	PTPRO	TCAAGAAACCACATCTGGTTCA
131165	OPTN	ACCAGCCTGGCCAACATGGCGG
131166	SLC22A1	TTCACTTCTCTGTATTCTTCCTCA
131167	MGAT5	CAAATATCCTTCTGTCTCCTCC
131168	SLC6A12	GATCCTTCCTTAGGCTTAACGACAGA
131169	RFC2	TGGCCAACATGGGGAAACCCTGTCTTT
131170	ADAM33	GCCGCAATCCAGCCTGGGCGG
131171	RNMT	AGACTTGCCCAAAGGAGAGCCAGGAT
131172	APPL	CTATACTTGGGAAAAGGTCAG
131173	B4GALT2	CTCCACCTCTCTGTGCCTCA
131174	FUT6	CATTGCACTCCAACCTGGACGACAGAG
131175	PRPS2	GAGGTTGCCAAAGGTGACT
131176	WHSC1	CTTTAGGTCATGTTGTAGTTTAA
131177	PAX4	TGCTCCCTCCTGTGTGGACGT
131178	HYAL4	TCTGGGGTAAAGTCAATGTA
131179	GCK	AGCCCTGGGCTGCCAGCCTCAGGCAG
131180	IL1RAPL2	TAGGGTTCCCGGGAAAGACTGG
131181	SCML2	GACACAGCCGCCACTCCCCCA
131182	ITGA1	GCAAAACTCTTTTATACTGAAA
131183	VAT1	TAGTGTCCCTTCAGCCTGGGCTGA
131184	TLX1	GCACAGCCAATGGAGAGACCCAGTCGA
131185	YES1	GCCGCCCAGGCTGGAGTGCAGTG
131186	UGDH	TGGTCTCAATCTCCTGACCTTG
131187	MAX	AGAGCCCCAAAGCAGGAAG

131188	B3GAT1	CCACCTTGCAGGACGTTTTCCCC
131189	SFRP2	TGAGATAAAGCTGGCTGTTATCTCAAC
131190	PPP1R12B	AGGAAGTGGAAGCAGGCTGGAAAGAC
131191	GPR81	GTCCCAGGCTGGAGTGCAGTG
131192	MECP2	ATCTAAAAATACTTAGCACTT
131193	FXYD2	AGAGGGGAGTGGAGGCAGCCCATTCA
131194	CMKLR1	GAGAGGGAGACCGGCATGC
131195	ADAM11	CGGGGCTGACATCTACATTTTT
131196	EHF	GGGAGGTGAACATTGTTGCTGA
131197	PSD	CTGGGGCCTGGCTTGGACAGAGACCAG
131198	ESRRG	TTCCCATTCTCCTTTATTTTCT
131199	KRTHA7	ATCTTCCATGAAAGCAATT
131200	HSF2BP	AGTTCTATATTTTTTGTGCCTCT
131201	GPR4	GGCTAATTTTTGTACTTTTTGT
131202	DUSP6	TTTGATCTTGAATCACTTGA
131203	ZNF10	CACTGCAAAAGCTCCTGAGA
131204	GRM6	TGGAAGAACGTGTAGACCCCA
131205	HDGF	TGTCTTCTCCCTGGAATGAG
131206	PDGFB	CTCGTGGGCTGGGAATGGGGGA
131207	FGF5	GTCACCAGGCTGGAGTGCAGT
131207	GM2A	GTCACCAGGCTGGAGTGCAGT
131207	RHD	GTCACCAGGCTGGAGTGCAGT
131208	FZD4	CAAATTGACTATGTCACAGGTT
131209	ESRRB	TGCTGCGAGTGACCTCA
131210	WHSC1	TTGACAGAGTCTGTGTCCGCT
131211	ADRA2A	AGCACCCTTCGGCTGCCTCCCGGGGTG
131212	ENTPD3	CCTGTGTGTTTGTCATCATC
131213	LARS2	TTGCCTTCAGGCTGGATGAGGAAGTCATT
131214	ILF1	ACTCAGATCCCAGGTCTCTCCGTGGTA
131215	SLC13A1	CTCATTTAAAAAATCCAATTGG
131216	SMARCD1	GCGCCTAGGGCTGGAGAATAGCGCTG
131217	TMEPAI	CGGGCGCAGAATTCTTCACCTT
131218	IL2RB	ATGGAAATTGTATTTGCCTTCTCCACT
131219	LPIN1	TCACCCATTAAAGGATAGGTCTCCCCGGAG
131220	VAT1	GGGGAGATGGAGCAGGGAAGTAC
131221	C14orf1	CACCCAGGCTGGGAATTGCAGT
131222	HD	CCAGAGACATGGGCCTCCCA
131223	SERPINB13	ATGCTCTTAATTATTGGCTTG
131224	F7	TGTCAACAGGCAGGGGCAGCACTGCAG
131225	CCND2	CTGCCTTTTAAGAGGTCTTATC
131226	ZNF179	GGCCTCTCTTGGGTCTGTGTC
131227	CPE	TACATGTTTACAAAGAGGTT
131228	SHFM3	TTTAGAGTGCGGCTGAACCCGGGCC
131229	COL11A1	TTGGTGCCACCAACCCATTTTGTGCCA
131230	LOX	AGGGTCTGAATCCCACCCTTGGCATTG
131231	PCTP	ACACACTACCACATCCTTTCTAAGCAT
131232	KLHL1	CTGAGCTGCAAGGACAAGAAC
131233	COX15	TCACTGGATCAAGAATGCATTAAGTG
131234	KCNG1	ACGTTCCTAATCCTTTGCATCA
131235	DSCR3	GACTACAGGTGAGTGCCACCAC

131236	EYA4	GAAGAATTCAGATTGCTGAATGGAGT
131237	SEZ6L	TCCGCAGCCACTGTCCAAAGGG
131238	HIP1	CATCCAGGCTGGCCAGTGCTGCCCAT
131239	C20orf1	GAAAGAGAAGATTGCAACTTTGA
131240	D10S170	AATACGTGCAACATCTTAATTTTTG
131241	POLR2G	TTCTTGTAGCTTAACTACTG
131242	DAZL	GCCAAGCACAGCCTCTGCTCCTCC
131243	USP6	CATTACCCTTTCTTCCTCA
131244	EGR4	GCGCCCGCCGCACACGCCCTATTCAG
131245	APG5L	GTGATGAAGAAAGTGTGGTAAA
131246	ITCH	GACTGTCAAGGTGGCTGTTATA
131247	RB1	TGAGGATTATTGATAGTACTCTTGGTTT
131248	PLEK	GGGCTCTCTTCTTTCTTCCTCA
131249	SURF5	GATGTCACCAAACCCCAGTGTGGAG
131250	SLIT3	TCCTCCAGGAGCGGGGCCCTGCACACC
131251	EFNB2	GTGCCCCAGGATGCCACGCCTGG
131252	CPA1	CAGCATGCGGGGGTTGCTGGTG
131253	TAL1	CAGGCTGGAGTACAGTGGTGCC
131254	SLA2	CCATGATCCCACCTGCG
131255	IRS1	TCAGTAGATGGTACGATGCATCC
131256	RPL26	ATAAGTAATCTTATATACAAG
131257	SPG4	AACCTGCAGAACATTTTACTTA
131258	RGR	ACAAGTGCAGGTTTCTTTTTG
131259	ABCA1	TTCAATCACTAGTCAAGAAAAAT
131260	EDNRB	ACTGATAAGTAAGAAACAATTATA
131261	CNGB1	GGAAGCCGAAGCAGGAGGATCACTGGA
131262	DNAJB1	TGGACTTGATCCCTCTGTGTCTT
131263	CRY1	CATTCCCCTCCGGTTCTCCTCG
131264	CD69	TACAGTGTCTTACAGAGAAAA
131265	RHD	GCTAGGATAGTTTCACCAGGA
131266	TRIM	ATTTGATTATAATATGCCAAGG
131267	COL5A3	GGGAGGGACCGTGAGGGAGCCCC
131268	CHRNE	GGGGTCAGCAGGAGGAAAGGGTTCAC
131269	KIF3B	GGCACGGTGCCTCAGGAAGGTGGCGACTC
131270	GPR55	TGCCTGGTGGAGTTGAGTGATG
131271	ZNF264	CAGTCTAGAGCCTTATTCTCCATC
131272	HSF2BP	GAGTTGGCAAAATGTGATTGACTA
131273	IL5RA	GCATTTTGCATCAGCCTGGAGTGAA
131274	BRCA1	GGAGGCCAAGGTGGGCAGATCACTGGA
131275	CD209	CGCCAGGCTGGAGTGCAGTG
131275	RABL2A	CGCCAGGCTGGAGTGCAGTG
131275	RABL2B	CGCCAGGCTGGAGTGCAGTG
131276	SLC21A9	CACTGCACTCCAGCAGTCATGGGACCC
131277	BACH2	CCTACTTCTCTACATTATGCCCC
131278	FBXL7	AGACCTCCTCTCTAAACTGCTTCATTG
131279	FGF2	ACTTCCCAAAAGCTCCAGGAT
131280	ATP2B4	AAGAAGTTGAGACAGGGAGGCAGG
131281	IVD	AACACTTGTGGTTCCAAGCATTT
131282	LIF	CATCTGTCCATCCCAACAGCAAGA
131283	SLC7A5	CTGGGCGTCTGAGCTGGGGTGGGAGCTCC

131284	RECK	TCAAAGCATCTTGCATTATGCAAT
131285	CEACAM5	CAAAACGTTCCTGGAACTC
131286	EMP1	TGAACTTTGTCATTATGATTTCATTAT
131287	PIK3CG	TGTCTGCAGGTGTTAGTGGTGTG
131288	FUT3	TCCAGATCTTCAGTTGCTTCAGGCCA
131289	TP53	CTCGAGCAGTCCTGCCTCA
131290	FLT3	ATTGTGTACCTGAAGTACAGT
131291	APTX	ACCTCAGTCTCCCAAGTAGCAGGGA
131292	ZNF215	AGTTTGTGAGGAAGTGTGCCCT
131293	IGFBP3	GGGGTAGGAGGGACAGAGAGA
131294	ADORA2A	CTCTGCCCGGGGAGCCTCAGGCAGTCCTC
131295	SUFU	ACCCTGTCCAGCACAGCTTCTGGCA
131296	APPL	TCTGGGATTGCTCACATTTCTC
131297	KCNN3	TTGCCATCAAGAAACATTCAG
131298	NTSR1	CCTTCTCTGGGGCTCCTGGACCT
131299	GFRA2	GTTTTGCCCTCCCTCTCTGC
131300	CKM	GCTGGAACCCAGCCAGTGGGA
131301	SLC22A2	AAGAAATTTTTAAAAATACATTG
131302	CDKN2A	CGGGAGGGCTTCCTGGACAC
131302	CDKN2B	CGGGAGGGCTTCCTGGACAC
131303	MGAT3	GGACGGGGTGGAAGTGGGGGTG
131304	PDHA1	TCCTGGGTTGTGAGGAGTCGCCGCTGCCG
131305	CAPN2	TTTCCTGGCTTTACCTTGG
131306	DIAPH2	TTGGGGAGGGGGCACCATGCAGC
131307	MMP10	CACTTGCTTTTGAATTGCACTGA
131308	TCF7	CACCTGGCCGCCTCCAGGAGCCTACCCCC
131309	PTPRK	ATGTGCAATGATGGCTGGATC
131310	SLC14A1	CTTTATCAGCCACTGCCTTC
131311	HPS4	CCTGGAGAGGAGCTTGAAGAGGTG
131312	KRT15	TTTGCATGCGCTCTATTCCCCCTCT
131313	SOS2	TTATTTTGTCAAAATGTAAACA
131314	AMT	GAGGCTGATTCTAATTGTCTGG
131315	GATA4	GGGTGTTGGATTTTCTCAGATGCCTTTAC
131316	SUFU	CATGCCCTATCTTTCATTCTCCA
131317	GUCA2B	GCTGCCTCTGGATAGCCCTGGGTACCC
131318	EGFL5	AAGACAGAGTCAGCCCCTGGGCCA
131319	PPP2R4	AGAGGCTGTTTACTGGGGTGGGG
131320	HOXD11	CTTTTAGTCTGTCATATCA
131321	PPP2R4	GGCAGGGAGGGGATGGCAGA
131322	EPM2A	GCCTGCTTCTGCCCCCTCCTGATTTCCCTA
131323	DISC1	GGTGGGCCACCATGTTTGGACC
131324	FLT3	TCCCTCCACCTATCCCTAACAGGCTGT
131325	MAPT	AACTTCTGATTTCTCTTCAGCT
131326	CTSK	CCTTCCTACTTTGCTTCTCTC
131327	APLP1	ATTCACCCTCTCATGTTTCCC
131328	RAG2	ATGTTCTCCACTGACACAAA
131329	TOP3B	CTCACCCAGGCTGCAGTGCCATG
131330	KCNJ4	AAGAGCCTCTGCCGGGGGTGGGATGCC
131331	SLC2A8	GAGCAAGCCTGTGACTCCAAGCTGG
131332	GABPB1	AGCTGTTTATTGAAATGAACA

131333	GALNT3	TGTTTCAAAGCACAATAACT
131334	CYP8B1	CGGGTTCAAGTAATTCTCCTGCCTCAG
131335	G6PD	CGCCCGCACGAGGGGTGGTGGCCGAG
131336	TFAP2C	GATTTGGAATTGAACTCTCTGCCT
131337	XRCC2	ACCAGCCTGGGCAACACGGTGA
131338	FANCD2	ACCATTTTAGAAGGGAGAAGTC
131339	ACADL	TGCCTAACCCTGACCAGGGAAT
131340	DISC1	TCAATGCCAGGCAGTGCAGC
131341	TNFSF15	TGCTTGAACTGGGGAGGCAGAG
131342	ZNF141	ATACTTCAGAAGTGGGGAAATGGAACT
131343	CD68	CACTCCAGCCTGGGCGACAGAGCCA
131344	FGF2	AATTCCACATGACTGAGGC
131345	CLECSF5	CCAGTAGCGGTCCTTGCCCAT
131346	DGKI	TGGTGCACACCTGTAGTCCCAG
131347	CNN2	CCCTGCTGGCACATTCAGGCTGT
131348	USP9Y	GCAGAGAGCTTGGAGATAATTCTGG
131349	EHD2	TATTGAGCACCTACTATGTGCC
131350	GTF2H1	GTTTTTTAATGCAGAATTTTGTCAGAAG
131351	MYLK2	GGCCCCCACCCACCTTCCTTGCGA
131352	PIP5K1A	TTCGTAGAGTTCCCTCAGAAGAG
131353	SPAG8	GCCACACCTGGTGAATACTCA
131354	SCA1	CAAGTGGGCAGGCCCCTCCTC
131355	CPE	TCTAGCTTTCAAAAATTAGTGA
131356	TSNAX	GAGCTAAATTATAATATTTTTGTTGGT
131357	SLC4A7	ATACCCTGGCCACAGAGCC
131358	SLC4A7	AATAGTTGATTTTGATGCCTTT
131359	CHRNA2	CGAGTTTGCAGGGTGCTGAGCTGTA
131360	VPS41	AATCACATGTTCTGTGTGCTGT
131361	PFKFB2	CCATGTCTGGGGCATCTTCCTCA
131362	FZD4	TCTGTCACCCAGGCTGGGGCGC
131363	HOXB9	GGTGTCAGGAGAAAGTTTTGTTGATTT
131364	TPK1	ATAGGTGGAAAGAGAAATGATGTGAA
131365	SEMA3F	CTTTGGGTTCCATCTTGCT
131366	STIM1	ATGAGTGGATGCCAGAACTGTA
131367	NESG1	CATCCAGCTCATCACCCGGG
131368	MYL1	CTCTTCAGCTTCCCTGCTGTGTTGC
131369	ACADSB	GATGGGGTTTTACCATATTGCC
131370	PRX	GCAGCTGGTGGCTTTGCCCTCCA
131371	PTPRG	TTTTTTGAGGCCTTTTTTGCCA
131372	FTSJ2	ATTGGTGAGAAAACAGGCTCAGGGTT
131373	CEACAM1	GACAGGGCCAGCAGGAGACACC
131374	GPR81	TGTCCCAGGCTGGAGTGCAGTG
131375	TAF7L	GACTACAGTTGTGCACCACCAC
131376	SALL2	TGGTTCTTAAGAGTCCCAGCT
131377	IRTA2	TCTGAGTACTGCTCTCATCA
131378	IL12B	CTAAATGCTCATTGAAACAATCAG
131379	FGF2	ATACACACCAATATCTTCTTCA
131380	CKN1	CCAGTGCTCCAGCCGGTGTG
131381	PTK2	TCAGAAAAAACTACAGCCCT
131382	MITF	TTTAGAATTTTGTGAAACAGACTTGTA

131383	HTR2A	GCCGTGGCAACTGTGGAAGGCACAC
131384	KCNQ4	GGCCTCCGGACTCCTCTCGTACTTGAA
131385	MAN1A1	ATATATGATTCTTTTAAAC
131386	SSPN	GGCTAGATAACTAACAACACCT
131387	SLC25A15	TTCATTCTGTTTGCTTAATTCA
131388	SLC22A7	GGAGAGAAAGAGTGCCCCAACCAGTC
131389	CASP10	GACTACAGGTGTGTGTCCAT
131390	HEM1	CAGAGTTGATGAGCAGATCTGTGGAAG
131391	SFRP1	TCACACACACGCACTGCCCTGTCA
131392	MYB	TAATACCATGTGACATTTAATCCA
131393	WNT8B	TGGTTCCTAGAGGCAGAGGTTGAA
131394	RPA3	CCAAGGTGGAGAAAGTGGAG
131395	PCDHGA1	TGGGGAGGCAGGGAGCTAGGGCAGG
131395	PCDHGA10	TGGGGAGGCAGGGAGCTAGGGCAGG
131395	PCDHGA11	TGGGGAGGCAGGGAGCTAGGGCAGG
131395	PCDHGA12	TGGGGAGGCAGGGAGCTAGGGCAGG
131395	PCDHGA2	TGGGGAGGCAGGGAGCTAGGGCAGG
131395	PCDHGA3	TGGGGAGGCAGGGAGCTAGGGCAGG
131395	PCDHGA4	TGGGGAGGCAGGGAGCTAGGGCAGG
131395	PCDHGA5	TGGGGAGGCAGGGAGCTAGGGCAGG
131395	PCDHGA6	TGGGGAGGCAGGGAGCTAGGGCAGG
131395	PCDHGA7	TGGGGAGGCAGGGAGCTAGGGCAGG
131395	PCDHGA8	TGGGGAGGCAGGGAGCTAGGGCAGG
131395	PCDHGA9	TGGGGAGGCAGGGAGCTAGGGCAGG
131395	PCDHGB1	TGGGGAGGCAGGGAGCTAGGGCAGG
131395	PCDHGB2	TGGGGAGGCAGGGAGCTAGGGCAGG
131395	PCDHGB3	TGGGGAGGCAGGGAGCTAGGGCAGG
131395	PCDHGB4	TGGGGAGGCAGGGAGCTAGGGCAGG
131395	PCDHGB5	TGGGGAGGCAGGGAGCTAGGGCAGG
131395	PCDHGB6	TGGGGAGGCAGGGAGCTAGGGCAGG
131395	PCDHGB7	TGGGGAGGCAGGGAGCTAGGGCAGG
131395	PCDHGC3	TGGGGAGGCAGGGAGCTAGGGCAGG
131395	PCDHGC4	TGGGGAGGCAGGGAGCTAGGGCAGG
131395	PCDHGC5	TGGGGAGGCAGGGAGCTAGGGCAGG
131396	WHN	TCTGTCCAGCTTTCCCCAGGGTGACATAC
131397	KCNC3	CCCTGCAGGCAGCCCCAGGCTT
131398	CA12	TTTCACAGTCCTGTCCTCTGGATC
131399	TGM4	TGAGGGCAGATTCAAGAGCCAG
131400	PTPRA	CTCCACCCTCCCCTGGTG
131401	COL18A1	CTTCTGCTCAGCTCTGGGCCATT
131402	PMM2	CCCAGCCCAGGACGAAGTTTACA
131403	DAPP1	ATCGCGGCGCTGCACTCTAGCCT
131404	CRABP2	TCCAGTGCTCCAGCCTAGG
131405	PLN	CCAGCTTTTTATCTTTCTCTCGAC
131406	MSX2	AAATTATTTGCAAAATGTGCTAA
131407	ABCG5	ATGAAAGCCATGGCTGGGAAAATG
131408	RGS19IP1	TCCCTGTGGAGCCTGTTACCTCCG
131409	NRBP	ACTCGGGCCAGGCCCTGATCTGCGCT
131410	MCL1	GGGGGAGGAGGAGGCAGG
131411	C7	TCTCCCTGCAACCTCCGCCTC

131412	MYO1E	CACCCTGCTTGCTCACCAG
131413	PCDHB16	GAGATGGAGTCTCGTAAAGT
131414	ITGAL	GCACTGGAGTCCAGTCTCTTCT
131415	ENC1	TGAGCTCACTCCATCACTCGATGAG
131416	PPEF2	AGCTCACTGTCCTCTGGATCTGCTGCG
131417	BACE	CCTTCAGTATCAAGGCTGCCTGGAGA
131418	ZHX1	GTAGGCTTAGCCAGTTTATTTTCTCT
131419	PTGIS	CGTGCTCGCCTCTGCCCAGCC
131420	A1BG	GTTGCCCAGGCTGGAGTGCAAT
131420	ATP1B2	GTTGCCCAGGCTGGAGTGCAAT
131420	CDC6	GTTGCCCAGGCTGGAGTGCAAT
131420	MLANA	GTTGCCCAGGCTGGAGTGCAAT
131420	PMCHL1	GTTGCCCAGGCTGGAGTGCAAT
131420	PRKR	GTTGCCCAGGCTGGAGTGCAAT
131420	RAB36	GTTGCCCAGGCTGGAGTGCAAT
131420	SAS	GTTGCCCAGGCTGGAGTGCAAT
131421	NDRG1	CGGAAACAAAATCCTTTTCTT
131422	DOCK1	CGTTCTTTTCTGAAAAAAGA
131423	LZTS1	GGGCTGAGGCCAGAGTCACC
131424	CTNS	CGAGAGCGCCGGTTGACGTGCGGA
131425	VAV1	GGGTGCACGGCCGGCCCTGGGC
131426	GPR23	TGCCCAGGTCAGGAGCAAATTGAAAA
131427	PSMD5	TTCCCTCTTTTCCCCAGCCTCTGGCAA
131428	RANBP2L1	CCAGAATAAAACCACCAGGAA
131429	CD244	TTCCTACCCTGTATCTAACATAGGAG
131430	EXTL2	TAGCTTCTCCATGCTATGT
131431	IFNA21	TTCTGCCATTTCAAAGACTCA
131432	C4orf1	AAAAGCTGCAGCTGTCATCAT
131433	HAP1	CCCAGCCTGGCTCTACCTGCT
131434	BAI3	GAGCTACATTCTTCATTGCTTTA
131435	FGF7	CTTGGGAGAGAGCATGAATGG
131436	EN1	CCTCTTCTCCCCCACCTCCC
131437	PSG3	CCATCAGCTACAGTCCAAAATTGCTT
131438	ARCN1	TTCACCGTGTTGCCCAGGCTGG
131439	ZNF193	TTCTCTTTTGTTCATTTTACCTC
131440	PDE4A	CAGGCAAGGGGGTTGCAGTGG
131441	WBP2	GCTGGTGTTTCTGGAATT
131442	SHB	CACCACTGCATGTCTCTAGAATGCTGT
131443	BUB1B	ATGTTCTCTTATGATCACCAT
131444	MYEOV	CTGAAATGCATCCAGACA
131445	MLPH	GTGTTTCCTTCCCTCTCTC
131446	ASNS	GCGGCAGTTTGAGCCCCTGTAAATGTTAT
131447	GNE	GAACCCCAGGCTGGAGTGC
131448	RAB7L1	GCCTGTAATCCCAGCACTTGGG
131449	RAD21	TGTAGGGGACACAGAACCCTTT
131450	DES	ACCACACCCAGCCTCAGTCCTCC
131451	FCMD	CGGGAAGCAGAGTCTGCAGTGA
131452	ACE	ATGAGGTCAATTTCCTGATGCAT
131453	EMP1	TGGAACAGATATTTAGCTCTGTGGAA
131454	GJA1	ATTCTTGGGTTTTCCTACTTAAT

131455	KCNS2	TCGGGTTTGTGAGTGAGGAAGGGCAT
131456	MECP2	TGCACTATTGAGTCTTCATGTTCCCACT
131457	SOX9	CACTGACAGACCTTAATCTTA
131458	SGT	GGGACACCTCAGGTGCCACCCA
131459	NPEPPS	TTCTCGTCTTCAGCCGCTCCT
131460	ADAMTS9	AATAAGAGAATTAGACCCCAGGGA
131461	BRCA1	CCACGGCACTCCAGCCTGGGTG
131462	GLTSCR1	GCTCAAGCCATCCATCCTCCTACCTCA
131463	HTR6	ACCTGCAGGGATCATAGCTGACT
131464	MAP3K7IP1	CTCCAGCCTCTCAGCCCTGTGC
131465	CDKN2C	GGCAAAGTGGCACCGGGCGCCGAG
131466	LUZP1	GTTATTCTTTGATCTGCATT
131467	PKDREJ	CATGTCCTTCACAAGG
131468	VPS41	CAGCATTTGTTGATTGAAT
131469	FANCG	CTGTCTCTCTGTGGGGAGGGCTT
131470	FGFR3	CCCCAACAATGTGAGGGGTCCCTAGCA
131471	POLK	GGAGAGGGCGGGGTAGGGATGCAGC
131472	CLASP2	AAATGCTGGTTAAACAGGAATGCTTA
131473	SLC9A1	CCTTCCTCATCTGTGCCTGTCTGTC
131474	SOX4	GAAGAGGCCTGTTTCGCTGTCGGGTC
131475	AP2B1	ACCAGCCTGTTTAGCAGTG
131476	HDAC4	GGACTGCTCAGTGGCCAGGT
131477	COX7A1	TGCCCCCGGCGGAAATCTCCAAAAATC
131478	TSLP	CTACATGTAATGACACTTCT
131479	ATP7B	CGCCTGTCTGTGTGCATCATGTT
131480	TCF3	CACTCACTGGCCTCGCTCCCC
131481	NFATC1	CGCAGTTTGACCCCACGCCCAG
131482	NUMB	TGTCCAAAATCACACAACTTGTA
131483	WASF1	CTGATTTAATAAATGGTTCATTTTA
131484	PPP2R1B	TGGGATCATTTGAGGTCA
131485	RAB36	CCCAAAGTGCTGGGATTACAAGGGTGA
131486	NLGN1	TCCCCCAGGGCTCACTGGAGTGGCAGATATAG
131487	MEF2C	TAGGACTGTTGAACAATCCCG
131488	RANBP3	GGCAGTCTCACAAGCACGCAGCA
131489	APOL1	TGTCGCCAAGTTGGAGTGCAAT
131490	ATP4A	CTGCTTCTGTAGCCCACGGCACCCCAA
131491	TP53	TACATTCTGCAAGCACATCTGCA
131492	DDX11	GTTGGAGGAAAGATGAGTGAA
131493	MHC2TA	GTTTGCCTCTGCCTCTGACACA
131494	GRM6	TTCCACAGTTTTACATTCATG
131495	FUT8	TAGAGTGCTTTTTGTTTAAA
131496	SFRP5	ACTTTTTAATTAAATCAAAGGTCGACGCG
131497	INPP5B	ATCGTGCCACTGCACTCCAGCCT
131497	IRAK4	ATCGTGCCACTGCACTCCAGCCT
131497	ZNF264	ATCGTGCCACTGCACTCCAGCCT
131498	PAICS	ATCATGCCACTGCACTCCAACCT
131499	YWHAG	CCTCACACTGGCGTCTGGAC
131500	FGF12	TCTGTCACTACACCTGCAGCACCACG
131501	SWAP70	CACTTGAACGTGGGAGGCGGA
131502	UBE2B	CACTATATAATTCGCACACATTAA

131503	IGLL1	GGGCACCACTCTCTAGGGAGCCCACAC
131504	RBBP9	GGCCTCAAGTGATCCACCCACCTCA
131505	FUT1	GGATCACTGCCAAAATGGTACA
131506	KCNJ10	AGCTCTGCTCCTAACTCCTGCCCGCCC
131507	OPCML	TTTCAACTTCTGTGAAAGCCAAC
131508	MAD2L1	TGTTTAATGTTCTGTGATA
131509	PLA2G2D	CCCAGATCGCGACACTGCACTC
131510	ATP7A	GGCTAATTTTCATATTTTTCAG
131511	EBAG9	CGGGTCAGGGTGACCTCTGG
131512	NLGN3	AGGTCTCTCTGGCTCTAGGA
131513	ALOX5AP	GTTTTCTTAAAATAAAATGCAGAG
131514	ASTN	ACTTTCTTCCTCCTGTTTCTCGT
131515	PLA2G5	CCCTCCAGCGAGTCCCAGGAGAG
131516	AVPR2	CTGGGAGCCACTGGGAGGGGG
131517	IL18RAP	AATCTCAAAACACTCTACTCTGG
131518	CARD4	AAAGATAGAGAATGCCCTCA
131519	RUNX1	GCCTTTCTGCTGCCTTGGGTT
131520	FGF1	GCCCCGAACCTCACCTGACCTCA
131521	EIF5A2	TATGGCCCCTCTTAACCATGCTGGTGTTAT
131522	MTF1	CCAGGGCTTGCAGATCGCAGTG
131523	COL4A2	CAACAGCACACAGGCAGCCA
131524	GA	CAGTACAGCTATCCAGAGAGA
131525	SIAT8E	CTTGGATCCTGGGGTAGGGAGGCAGGG
131526	UBE2E3	GCATCTTCTCACTGTGCTGCAA
131527	ZNF137	AGTCCACACCTGTGGTCCCAG
131528	SH3BP4	CATGCGCCGCCCTCCTCCATCG
131529	DCX	TTTGAGGCCCAATAACTCTTGCC
131530	DIAPH2	TCTGCCTCTGTGCCTATGGGTT
131531	DISC1	CCTTCCATGCTGTGCAGCACTTCT
131532	H3F3B	TACCTTGCATAAGTCCTCATTCTA
131533	BCL10	TATTGCCTTTTAATTTTTAA
131534	XPO1	CTCTGGCTTTTGAGATGACTTA
131535	KCNK3	GAGGGACAGGCAGGCAGCAGGAGGGGC
131536	ZFX	CGAACTCCTGGGCTCAAGCCGT
131537	ARCN1	CACTGGCAGTGGGAAGAGGCAGA
131538	DYRK2	ATCTTTTCAGCACTTAATTTTA
131539	CXCL1	CCAGCTCTTCCGCTCCTCTCACA
131540	ALDH1B1	TGAAATATACATACTAGGCA
131541	MAP3K14	GCCTTTCTCCCCCAACCCAAGGCT
131542	SIGLEC11	CGCCTGTGGTCTCAGCACTTT
131543	AMD1	AGCGCTCGCTCTACTCTCTCT
131544	CD28	GACCAGCCTGGTCAAGATGGTG
131545	TRIM14	GACTAGCCTGGCCAAGATGGTG
131546	ID4	TTCATTCTTTCTTTGCACGTTCA
131547	USP11	TTTATGGTCGTGCCCTTCCCTC
131548	GSTM1	CCCAGCACCTGCCTCCTCGTTCC
131548	GSTM2	CCCAGCACCTGCCTCCTCGTTCC
131548	GSTM4	CCCAGCACCTGCCTCCTCGTTCC
131549	UBE2G2	CAAACAAGGCAGACTTGCA
131550	MECP2	GGGTGAGTCCTCCAGAAC

131551	APPBP2	CCCAGGCTGGGAGGGCAATG
131552	ATP2A3	GGGGAGGTCTTAGCAGGAGCGGGCCCTG
131553	SLC2A4	GAGACTCCAGGATCGGTTCTTTCATCT
131554	BDKRB2	TATCTGGAGGAAGAAAACAGGTGAAAG
131555	TCF3	CTGCTCAGGAGCCAGCACA
131556	DNAH9	CTTCTCTCTCGCCTCTCCTCCGCCTCTGG
131557	RRP22	GCTCCTGGAGCTTCACTGG
131558	MGAT4A	CTCAAACATTTTTCAATTATG
131559	BMP6	GTAGACTGATTACACTGAGGTGA
131560	HELZ	ACTTTGACAGCTTTTATGT
131561	APOL1	CAGAGTCTTGCTCTGTCGCCA
131562	ASGR1	GGCCTCTTCTGCTTTCTCGGGAATTTT
131563	SOX12	CAAAACAATGTGTGTTGTGAGCC
131564	CACNA1E	CTTGTCTGGATGCGGCTCTGAGT
131565	TAPBP	CTCATTTCGTCCTCTTTCCCCA
131566	RGS2	TCAATAGATCTGGGATTATGTG
131567	HNMT	TTTGTACGTTCTTCTATTGTGCTTT
131568	TBX22	AGCTTCAAAATGAGATATGCAATA
131569	PTPRJ	AGCCCCTGCGCGCTCAGGGA
131570	VCAM1	TGTTAAAATAACTAGTGTTGC
131571	MOCS1	AACCAGGTTCCGACAGTCCAGCCCAGA
131572	IGSF4	TTCCAAAATCTCCCATTTTGGA
131573	MPDU1	CCAGCTGTTTAACACTATCCTGGGCA
131574	NR1I2	AAAGGACAGAGACCCTCAGACTGATGAA
131575	BRF1	ACTGCTGGTCCAAGTGTGTGG
131576	HEPH	TGTTGCAGGCTGAAGTGGGGGAT
131577	ADCY9	GCGCACACACACTTGCATTCAT
131578	PPP2R5C	CAAACACTCACCAAAAAGA
131579	HCN4	TGGTCTCAAAGCCAGTCCCAGCCTGA
131580	RNASE4	GTAGGGATTATCGCGAGTGGTTG
131581	TNFRSF1B	CTGCGGGATGGTCCTGGGGCTCTGTG
131582	KIF5C	TCACATCTTTGGATCTGTAAA
131583	EGF	ATGCCCCAGGGCTGAGGCCTCC
131584	RAI3	AGTGCTGCCTCACATTGGGCC
131585	PRPF18	ACATTTGAGGATGGACTTAA
131586	RGS1	GAAGAACAAATGACTCAGAATG
131587	NTN2L	TCCCCGCTGCTGTGCTGGGCCCGGGG
131588	CRY2	CAGTGCACTCCTGGAGCCAAGAGGGAA
131589	SIT	TCAGGCACAGGAAGTGGGC
131590	FLT1	CTGGGTGGAATGGGGCTGAA
131591	PDE7A	ATTTTTGCAGAACAGGCAGCAG
131592	ADD1	AGAGCTGCTGAGCAGGAACCGGA
131593	LIMD1	GCTGAGCCTCCTGAAAACCCATGAA
131594	PRIM2A	CTATATTTTGCTTTGACAGA
131595	EZH1	GGGGGAAGAAGAGAGGGTGGGAGA
131596	CNTF	GCAGTGTAACCCAAGCATTTGT
131597	LDLR	GGTGCCTCACGCCTGTAATCCCAG
131598	SLC3A2	TGTTGCCCAGACTGGTCTCGA
131599	ENO1	GGGGTGGCCACAGGCTAG
131600	PML	GCCCGCTGAGCAGGCTGCCA

131601	PCDH11X	ACATCACATTAAAGCTTTTC
131602	PCOLN3	CCCAGCACTGTGGGGGCCTTCA
131603	DUSP2	CTTTCCCTCCCCATCCTCTG
131604	SALL2	GTCCCTGAGCTTGGAAATTA
131605	ACADL	GTGGTTTTTACCACTGTAC
131606	GFER	TCACCGAGTGACCACCAAGA
131607	PKHD1	GCCTGCAGGAAGCTGAACTTTG
131608	IHPK3	ATCTAAAAATGTTTAC
131609	ESRRA	TCTTCAAAGCAGAGTGGGACT
131610	CHRNB1	CTATCCTTCTCTGCCTCTTAACTC
131611	DACH	CCTTCTCTTTGTTTTTTGCA
131612	MPL	CTCTCCTCTTTGATGTCAAACGCC
131613	STK10	CCTCATTCCTCCTGTTCTCCCA
131614	GNS	TTCAAAACATGTCACCCAAGCTCTGT
131615	TRPM6	TTTACCCAGGCTGGAGTGCAAT
131616	ASTN	TTTCTCGTTGAGTTCTCCCCACTGAATGT
131617	GLI2	TCAAGAATACATGTGCTGCTTTACCG
131618	NT5C2	GTTTTGTGTATCTGTACTCTCTGC
131619	UBE2L6	TCCCACACCCTTTACATTCCC
131620	TEAD3	CCAGAGCCCAGAGCAACCAG
131621	NFRKB	GGCCTGGATTCGTGGCCTGGA
131622	PAX5	TGGGCTAGGGTGGTCAGAGGAA
131623	SOX11	CAATATGACAAAAAGTTTAA
131624	PIK3R1	GTTCCTAAGCTGGAGTGCTTATCCCT
131625	ZNF42	CCCAGCGTCTGACGCTGGAGTGCTCACAGTG
131626	BDKRB1	CGTCGGCCCAGACTGAAGTGCAG
131627	ZNF42	AGACAATGCCCCCACGCTTG
131628	GGA3	ATGCTTCCCCCGCCAACCAGCTCCTGC
131629	CXorf6	GCCCCCAGTGTCCCATCCTCTC
131630	EYA2	GTCTTGTCTTCTTTTTAATTTA
131631	ADAM12	AGGCTGTGTTTGGCTTTCAGGGA
131632	GAB2	CATTCTGAAGTTACTGGAGCATGG
131633	MSR1	AGGGCTGGATAGGTATGCAGAGGAG
131634	TMOD3	GTGATTTTTCTTTATCAAGAGAAC
131635	EDG8	GCAGGGGAAATGTATTTATGCA
131636	FBXL3A	GATCAAATTAAAAGACAATAAATGG
131637	HDAC1	ACCATAAAGGGTGCCAGG
131638	RAP1GA1	AGAGCTTAGCCCCTGGAGGCAG
131639	SOST	GGGCCGCCTACCTTTGCTGGT
131640	IL18	TTGTCTCCCAGTGCATTTT
131641	CDH1	TCGGCCAGGCTGGAGTGCAGT
131642	RNH	GCTGGGGTTGCATCATTTCCCC
131643	ACPP	TACTGTACTCCAGCCAGGGCAAGAGAG
131644	PIM1	TGTCCTCCCTCACCCCCTCCTTCATA
131645	RFNG	GTGGGCTGCGGTGATGGGTGTTTTGGG
131646	CHRNB1	GAGAGTTTGGTGATACTGTC
131647	DAAM2	GGATGGCCTCAGGCCAGGT
131648	IGSF8	TATTTGACCTCCCACTACCCAGA
131649	EFNB2	GGTACTGATGGAGCCTGCAGCGCCCG
131650	CPM	TCGGGAGGCTGAGACAGGAGAATCGC

131650	LEP	TCGGGAGGCTGAGACAGGAGAATCGC
131651	CPNE3	CAATTTTAAGACCAGAAA
131652	MSL3L1	CTGTTTTTAAAAAGGTGCTACA
131653	GPC4	TCTCCCTCCAGCTCCACTCGCT
131654	PLA2G2D	GCACCTGCAGTCACCCACACTCT
131655	LAMC2	GCCTGTAATTCTAGCACTTTG
131656	OPA3	GCCTGTAATCCTAGCACCTTG
131656	XT3	GCCTGTAATCCTAGCACCTTG
131657	CCND2	CCATGTTATTCTCTCACA
131658	KNG	AGAATCTTCACTCCAGGCACATAGCCCC
131659	ABCB4	GTGTCCTGGAATCTATATGAAAAAGAT
131660	GAB2	AAGCAAAGCTCTGGCTCACAG
131661	SYBL1	ATCCAAAGAAAAAGGTTTAAA
131662	ADCY7	CCTGCAGGTATTTTCTTTTTA
131663	M6PR	GGTGACTGTATAGCTGGGATT
131664	TCTA	TCACCCAGGCACTGGGCAAGTGAAGAG
131665	PEA15	CTAAGATCAAACCCCATGGAG
131666	SYNGR1	GTCCCTGCTTCGATGGCCCCAAAGCTG
131667	SREBF1	AGCCAACTTGGCTTTCCCGGACTGCA
131668	DDX16	GAAGAGCTAGGGTAGAGAAGGACGCA
131669	ARHGDIA	CTGCTTCTTTTCTGACCG
131670	SIL	TGTAGCCCAGGCTGGAGTGCAA
131671	STAC	GAGGGCCCACTGCACAGCATATC
131672	SFRP5	CTCCAGCCACACCCCCTGCCTT
131673	CBFA2T2	GGTGGAGCTTCCCTCACAGACCCCATCTGGT
131674	SLC21A3	GCTTGAAAGGGTAGAAGTAAGACAT
131675	DLEC1	GGCTGCTAGAAGCACGATCC
131676	PDGFRA	AGCATTGTAATTATGTAAATAACTCTA
131677	JJAZ1	ATAAAGCATTTGAATGGTACAGTAG
131678	OPHN1	ATGCAGATGCCTGGGCCGTAGCTTGT
131679	DCX	ATCAGAGGTGATTTTTTCTTA
131680	ADCY1	CCTCCAGGCCCTGCCTTGTCCCTGC
131681	OXTR	TTTCAACAAATGGCACCGAGACAATGA
131682	PTH	TTTCTATTGTTTATTCTTTTTA
131683	NP	GGGGCTCAGTTCTGCCTTATCTAA
131684	TNFRSF1B	CGCCTATGATCCCAGCACTTTG
131685	IL1RL1	CAAAATCAAAGTTTCAGCAATGG
131686	HUNK	TCACTGCAGCCTCAACCTCTC
131687	RASGRP1	CTACCTCAGATCTAATCAATTAG
131688	PMCHL1	TTCAGAAGAAAAGCATTTAA
131689	DNASE2	GCTCACGTATGTAATCCCAGCA
131690	TRPM6	ACTCTTTTTACCCAGGCTGG
131691	APPBP2	CTCATTTCTGTATATTCCTTT
131692	ARHA	AGCTGTGGCAGAGTTACAGTTC
131693	SLC14A2	CAGAACCTCTCTTTTCTAAGA
131694	ADCY6	CTCCTATGCACAGAGCAGAGGAGGGAG
131695	PSG4	AGTCTCCTTTAAATGCACATT
131696	MAZ	GGAGAGGGGAGAATGGAGTAGA
131697	IRS1	CTGATGTGCCCACCACCGTGTCAT
131698	POMZP3	CTGCCTCCCACCCTGTGTC

131699	TFDP2	TTCCAATACCAACTCACCTACA
131700	PCDH1	GCCTCTATTGTTCCATG
131701	TMPRSS3	AGCATTCTTATGTGGCTGCTTTAT
131702	ADAT1	GCCTGTAATCCCAGCACTTTGG
131702	AICDA	GCCTGTAATCCCAGCACTTTGG
131702	AK1	GCCTGTAATCCCAGCACTTTGG
131702	ALDH3A2	GCCTGTAATCCCAGCACTTTGG
131702	ATM	GCCTGTAATCCCAGCACTTTGG
131702	ATP1A2	GCCTGTAATCCCAGCACTTTGG
131702	BRCA1	GCCTGTAATCCCAGCACTTTGG
131702	CARKL	GCCTGTAATCCCAGCACTTTGG
131702	CD68	GCCTGTAATCCCAGCACTTTGG
131702	COG7	GCCTGTAATCCCAGCACTTTGG
131702	CREB1	GCCTGTAATCCCAGCACTTTGG
131702	DBT	GCCTGTAATCCCAGCACTTTGG
131702	DDOST	GCCTGTAATCCCAGCACTTTGG
131702	EGFL5	GCCTGTAATCCCAGCACTTTGG
131702	F2R	GCCTGTAATCCCAGCACTTTGG
131702	FGFR2	GCCTGTAATCCCAGCACTTTGG
131702	FKRP	GCCTGTAATCCCAGCACTTTGG
131702	GNE	GCCTGTAATCCCAGCACTTTGG
131702	HM13	GCCTGTAATCCCAGCACTTTGG
131702	IFIT4	GCCTGTAATCCCAGCACTTTGG
131702	IL10	GCCTGTAATCCCAGCACTTTGG
131702	IL12RB2	GCCTGTAATCCCAGCACTTTGG
131702	INPP5B	GCCTGTAATCCCAGCACTTTGG
131702	IRAK1	GCCTGTAATCCCAGCACTTTGG
131702	ITGAL	GCCTGTAATCCCAGCACTTTGG
131702	KAI1	GCCTGTAATCCCAGCACTTTGG
131702	LAMP2	GCCTGTAATCCCAGCACTTTGG
131702	LDLR	GCCTGTAATCCCAGCACTTTGG
131702	LEP	GCCTGTAATCCCAGCACTTTGG
131702	MGAT3	GCCTGTAATCCCAGCACTTTGG
131702	MOG	GCCTGTAATCCCAGCACTTTGG
131702	MSH3	GCCTGTAATCCCAGCACTTTGG
131702	NT5C2	GCCTGTAATCCCAGCACTTTGG
131702	OPTN	GCCTGTAATCCCAGCACTTTGG
131702	PCDH11X	GCCTGTAATCCCAGCACTTTGG
131702	PIK3R2	GCCTGTAATCCCAGCACTTTGG
131702	PTGIS	GCCTGTAATCCCAGCACTTTGG
131702	RAB3B	GCCTGTAATCCCAGCACTTTGG
131702	RBBP5	GCCTGTAATCCCAGCACTTTGG
131702	SCN2B	GCCTGTAATCCCAGCACTTTGG
131702	SLC14A1	GCCTGTAATCCCAGCACTTTGG
131702	SLC14A2	GCCTGTAATCCCAGCACTTTGG
131702	SLC26A4	GCCTGTAATCCCAGCACTTTGG
131702	SLC2A3	GCCTGTAATCCCAGCACTTTGG
131702	SLC2A6	GCCTGTAATCCCAGCACTTTGG
131702	SLC31A1	GCCTGTAATCCCAGCACTTTGG
131702	SMG1	GCCTGTAATCCCAGCACTTTGG

131702	STAT3	GCCTGTAATCCCAGCACTTTGG
131702	SWAP70	GCCTGTAATCCCAGCACTTTGG
131702	TCF7	GCCTGTAATCCCAGCACTTTGG
131702	TEM7	GCCTGTAATCCCAGCACTTTGG
131702	TNFRSF10A	GCCTGTAATCCCAGCACTTTGG
131702	TNFSF14	GCCTGTAATCCCAGCACTTTGG
131702	TSNAX	GCCTGTAATCCCAGCACTTTGG
131702	UPK1B	GCCTGTAATCCCAGCACTTTGG
131702	USP14	GCCTGTAATCCCAGCACTTTGG
131702	VHL	GCCTGTAATCCCAGCACTTTGG
131702	WIG1	GCCTGTAATCCCAGCACTTTGG
131702	WSX1	GCCTGTAATCCCAGCACTTTGG
131702	ZNF36	GCCTGTAATCCCAGCACTTTGG
131703	BRCA2	GCCTGTAATCCCAACACTTTGA
131704	KCNA7	GCCTGTAATCTCAGCACTCTGG
131705	ARHA	AGGCTGTAACTACTTTA
131706	SLC17A5	TGCAGTGAACCAAGATCACGCC
131707	CDK5R2	CTCTGCAGGATGGGCACAGTGCTG
131708	IL1A	ACTATGGCTACCAAAAAGA
131709	PTPRC	TATTAAAATGAATATTTTTGT
131710	PDHB	TTTTTGTACAGGGAAGTTTAA
131711	CYP8B1	TTCAAGTAATTCTCCTGCCTCA
131711	SLC15A1	TTCAAGTAATTCTCCTGCCTCA
131712	RAB7L1	CTTCCCTTTGGTTGCCC
131713	EVC	TCCTTTGATGGAGGTTAGGGACTGTC
131714	HSPA4	TTGGCCTATGTTGTTAGAAAT
131715	TNFSF15	GGAGTCAGAGGTGCCTCCAGGAGCAGC
131716	B3GALT3	TATAGGAGTCACGTTCTTTAA
131717	MGAT3	TCTAGCCTGGCCGCGGCCTTTCGCTGAG
131718	WNT5A	GAGTTGAGTTTAACAATCCTA
131719	AKT1	ACTATCCTGCGGGTTTTAATTTATTTCA
131720	SLC16A2	TTCCACACATGTGGTTGTGCACAT
131721	SULT1A2	GTGAGACAAAGGGCGCTGGCTG
131722	MATP	CAGGAGGTGGTGGGCTCGCAGGA
131723	CDKN2B	CAGATAGCAGAGGGGTAAGAGA
131724	HOXB13	CCTGGGTGGGAGGAGCGAA
131725	DMD	AGCCCCATCACATTTGTGATACTGAC
131726	MPP5	GGCTTTAGCGGTTCTTGCCT
131727	SFRS7	AATAAATCTGCAGAGATTGAA
131728	BCL10	GGGATTACAGACACGAGCCACC
131729	CDH1	GGGATTACAGACATGAGCCACT
131730	LIMK1	TCATGCGATGCCTGGAACAC
131731	SCTR	GGAGGCTGGAGCAGGGTCA
131732	IAPP	TCCAGCCTGGGTGGCAGAGTG
131733	MSN	TTCAGGTCCTGAGATTACACG
131734	CRTAP	TGCCACCTCATGTTCACACCT
131735	RBBP9	TCAACAGCAATCATCTTTGGGGAATGG
131736	KLK10	CCTTCCTATCGGCGACTCCCAGGATCC
131737	COL19A1	AAGGAGAATTGTATTTCTCCA
131738	ATP1B2	CCTTTTCCTTGACTTCTCAACCCAGC

131739	EGFL4	AGCCGCTTCTACCTGCTGCTGCT
131740	EVC	AGCAGGAGCATGATGGGGACTTCCAT
131741	TEM7	TGCCACTGTACTCCAGCCTGGG
131742	AGPAT2	GGCTGGAGGATGGGCAGAGGGG
131743	AK1	CGCCACTGCACTCCAGCCTGGG
131743	APOL1	CGCCACTGCACTCCAGCCTGGG
131743	DFFA	CGCCACTGCACTCCAGCCTGGG
131743	FGFR1	CGCCACTGCACTCCAGCCTGGG
131743	GTF2F1	CGCCACTGCACTCCAGCCTGGG
131743	HRH1	CGCCACTGCACTCCAGCCTGGG
131743	KCNA7	CGCCACTGCACTCCAGCCTGGG
131743	KCNE3	CGCCACTGCACTCCAGCCTGGG
131743	MGAT2	CGCCACTGCACTCCAGCCTGGG
131743	NPHS1	CGCCACTGCACTCCAGCCTGGG
131743	P53AIP1	CGCCACTGCACTCCAGCCTGGG
131743	PCDH11X	CGCCACTGCACTCCAGCCTGGG
131743	PCDH11Y	CGCCACTGCACTCCAGCCTGGG
131743	PPP1R12B	CGCCACTGCACTCCAGCCTGGG
131743	RBL1	CGCCACTGCACTCCAGCCTGGG
131743	SCAP2	CGCCACTGCACTCCAGCCTGGG
131743	SLC14A2	CGCCACTGCACTCCAGCCTGGG
131743	SLC17A5	CGCCACTGCACTCCAGCCTGGG
131743	SRGAP1	CGCCACTGCACTCCAGCCTGGG
131743	SULT2A1	CGCCACTGCACTCCAGCCTGGG
131743	TNFRSF1B	CGCCACTGCACTCCAGCCTGGG
131743	TSNAX	CGCCACTGCACTCCAGCCTGGG
131743	UBE2G2	CGCCACTGCACTCCAGCCTGGG
131743	WIG1	CGCCACTGCACTCCAGCCTGGG
131744	IL18	CACCATTGCGCTCTAGCCTGGG
131745	RABL2A	GTGGCTGGCATCACCACGCCCAG
131745	RABL2B	GTGGCTGGCATCACCACGCCCAG
131746	GUCY1A3	GGAGCCAAGTCACAATCTTTCTC
131747	RAD17	CACAACAGTTTGTTAATTCTTCA
131748	PPP1R12B	GAGGGTTCTGAGAGGAGGCAGCAATCC
131749	IL2RA	CAGGAGTTCGAGGCTGCAGTCA
131750	MBD4	CACTGCACTCCAGTCTGGATGA
131751	CTSS	CACTGTACTCCAGCCTGGATGA
131752	ALDH3A2	GGGAAGGGAGGGGTTACTCCTCCTCC
131753	ERBB2	GGGAGAATGGGTGTTGTATGGGGAGG
131754	IGF1	ACCACTATGCCCGGCTAATTTTTTGG
131755	RPL17	TGAAAACAACTACTCTCTGAGCAGCTG
131756	CNN2	GAGGGTCCCTGCTGGCACATT
131757	VPS41	CAGCTTTCTGCTTCTTTCTTTTTGGG
131758	NPY1R	GGTACCTGACAACAAGAGCATTTT
131759	CDYL	CAGAAAAGTCTGGAATAATGTT
131760	CNGB3	CAGAACATATTTTCTGTTCA
131761	SURF6	AAAGAAGTCTTAAGATATTTCA
131762	LMAN1	GGTCAATATTATGAAAATAATTTTTA
131763	SF1	GAAGTGATTCTGTTGACAATAAT
131764	OGDH	GCTGTCGTCCCCCTCCAGTGCTTGGCT

131765	RBBP9	GAACCCAGGTTTCTTGATTCCC
131766	ZNF42	TCTGTTGGCTCCACCTCCAG
131767	MC1R	CCTCAGTGGGAGGGGCTCTGAGAACGAC
131768	RPN1	AGTGGGAGGTTGTGCATGGA
131769	IL12A	TTCATTCACTTTAATAGAAGG
131770	PUM2	TCTGGGTCATCAGCATGTCCC
131771	ZNF202	TGGCAAGACCATCAAGACTGTTC
131772	TRAP240	CCTAGAAGGTTTATACTGCCTTC
131773	KCNH2	GGACTTTTCTGCTATTTACTGCTCTT
131774	RAB6A	CCTCAGCAGAATAACAAAAACTT
131775	FABP2	TCCTGGTGATTCTGATGCAG
131776	CLTB	TCCAGCCCCTCACGCCTCCTCTCAGTCT
131777	RPS6KA2	CTTTGCAGGGAGTCGTGGGTTCT
131778	ARHGDIB	CTCCCTCTGATCCTCCATCAGGGCC
131779	SCA2	GGCCCCGGGGCCACCTCA
131780	CPNE3	TTCTAATTCTCTTTGTATGCTTGG
131781	ZNF184	GATTATTTCAAAGGTAGTTT
131782	PFC	GGCAGTACTCAACATGATCACAGAGG
131783	SPAP1	ATTAACTTATTTATGTGCTGCTG
131784	HRG	ATGGAAAGGAGAGGAAAGAACTCAGT
131785	DCX	GGGCTTGCTAACTGTTGAGCTGTTT
131786	MYLK	TGAGAGCCATTGGAAGACTGTCCTC
131787	CHRNB4	TCTTTGCTCCAATGTCACCTCCTC
131788	OTOF	TGTGGGCTGGGGAGCCTTGGA
131789	DUSP4	GGGAGAGAGAAAGGGTGGCCAC
131790	MAP1B	CCACCCACTTAGTCCACTCTGAG
131791	GPR24	GCTCTAGCCCTTCCTCTCCA
131792	ATP11A	CAATGCCATGAACCAGTGTCCTGTTC
131793	GPR18	GGAAGACTTGGCTTTACGTACTCCCA
131794	SMARCD2	GTGCAGCCCAGACTCTTCCTAGC
131795	ZNF264	TTGCTCAGGCTGGTCTCAAACTCCTGA
131796	SCN3A	CTGGGCTTTGTTATGCTGTAA
131797	AIM1	GACCAGACTGGAAAGTGGA
131798	GFI1	AACTGATTCAGAAACTGACTTGGGGAA
131799	IHH	GCGACTCCCAACTCAGCCT
131800	DHCR7	CTTTTTAAACTCTATGCTCCGA
131801	SIP	TGCAGTGAGCTATGATGATGCC
131802	CLASP2	GATCTTAGATCCCAGGTGGTTA
131803	BTG1	TAGCAAGTGACCAGAATCTGCCA
131804	GPR4	GGGCTCTCCAGCGATCTTCCCA
131805	GNB2	TGGCGGCGGGGCTGGGGCCACT
131806	SLC17A5	GCCTGTAATCCCAGATACTCAGGAGG
131807	STIM1	ACAACTCTCTCCCTTACCTGTTT
131808	SLC7A6	TGACTTCTGTCTGAGCTAAGCTGGC
131809	SLC14A1	AGGCTGAGGTGGGAAAATGACT
131810	DDX10	CCCAAAGGGCACATTTCTGGAT
131811	ADCY9	GGCCTCGGGGGTCTCAGAGCCGCCT
131812	SLC7A6	GGGAGCGAAGCCAGAGGATCCCTACA
131813	MMP19	AGCAAGAAGCCAGCTTTTGGGG
131814	BDNF	TGTGGACCCCGAGTTCCACCAG

131815	PMM2	CACTCCTGCCTCCCAGCCCA
131816	FANCD2	CCAACATAGTGAAACCCCATCT
131816	TNFSF10	CCAACATAGTGAAACCCCATCT
131817	NDRG1	TCCTCTTAATGTGCAGCAAAAGCAGGC
131818	ZNF74	GTCACCCAGGCGGGAGTGGTGCAAT
131819	GYPA	ACTCACTGAAGCTTCGATTTC
131820	AGL	ATATGTTCCTAAATGGAGCACAG
131821	BCL10	TTAAGACTGATTTTAATAGGGAATAT
131822	MMP19	TGCCGACATCCCAGAGCTGGGC
131823	NDRG2	TCCTGGTGCCTCCATCAGACTC
131824	TCF12	AATGAACACACCACTCTGAG
131825	SKI	AGATGAGCTCGAACACTGCC
131826	CPNE3	TCAAATTTGTTCCTGTAACTC
131827	AICDA	GGTGTTCAAGGCCAGCCTGGGCAA
131828	CDK2	AAGTTTCAGTATTAGATGCACTTA
131829	JUP	GATGCCAGCTTCTCTCTCCA
131830	ELMO2	GTCTTTAGAGCCACCAGATCTCTC
131831	ULBP2	GCCCTTCTGTCTGGCCAGCTGCC
131832	STK24	TTCCAATACGATTTTCTGTTGCACCTT
131833	CXorf6	CTCTCTCTACCTGTGACAAAATGGAAAGCTG
131834	PPP1R12B	ATCAGAGTCATCAGCAAACTGTCCAA
131835	SH3BP4	TCCCCTCCTGCTGCTCTGGAGTGCAAG
131836	P2RX7	GGGCAGTACAGTGGCTTCAAGAGTC
131837	SPAG1	CCTCCCTCAGCACCTGCAGTGCAGCCA
131838	SLC6A8	TGGGTGACCCCTCACCCCAGAAGCAGC
131839	MAD2L1	TAACTCATAATCTATAAACA
131840	IL12RB2	AAATGTTCTACCTCTGCACT
131841	GPR62	TCCTCCAGGACCTCAGCTGCACCCATT
131842	APBA2	CAAAGGAGAGTCACAGA
131843	SEZ6L	CAGGGCCTAGATCTCCTCTCCTCCTCC
131844	DUSP4	AAGGCTCATCTTGAGAAGCAGGCGGGTT
131845	SLC1A3	AAGTGCAGGTTATGCAAGTCGCCAG
131846	CHD2	ATAGTTTCTATTGCTACCTCTT
131847	GARP	CATTGCACAGATGGGGAAACTGAGGCTT
131848	TOP3A	GCTCCAAAGGCCAGCAGGCTGG
131849	GPR4	CCTGGCTAATTTTTGTACTT
131850	DRD1	GAGCTGCTGAGGAGCCAGG
131851	MN1	CCCTCCAGGTCCTCAGAGTTTG
131852	FLRT2	ACCCATGAAAAACAAGTCAGAGA
131853	JPH3	TGGTCCCAGGACAGGAATGCGGT
131854	ELOVL4	ATTCTCCAGACCAAAGCAATC
131855	SMG1	TCCAGCCTGGGCAACAGAGCT
131856	CYP8B1	GCAAACATCAGCCTCCACTCTCC
131857	FANCE	GTCTTGAGCCCTAGCCTGAG
131858	KLHL3	GTCAGACTTGATCACTGACACCCCGT
131859	APPBP2	TCCGAGTAGCTGGGATTACAGG
131859	PRND	TCCGAGTAGCTGGGATTACAGG
131860	CYP8B1	TCTGAGTAGCTGGGATTATAGG
131861	HOXA10	CCAAGAGAAGGGCTTACAGGC
131862	GLP1R	TTGTTTGGGAGAGTGCAGTAGTAAT

131863	PDGFB	TGGGTATCCCCTGCCTCCTGCCA
131864	NIPSNAP1	GGGTGGGAAGAGAGGAGGCCAG
131865	NUP214	TGATTACTTGTTTTATATTTCA
131866	CBFA2T2	GGTAACCTCTGCCTCCCAGGTT
131867	FCMD	CCCCAGTTTTTCAGTCTGTTGA
131868	FXYD2	CAAGCATGGCCCTGCCTCTGGCGC
131869	PTMA	CCCACCGTGGGCAGTGCCACCC
131870	MAN2A2	GCGTACTATGAGCACATTCACC
131871	ENTPD6	CAGCTGAGCCACAGTCCCAGAA
131872	ARMET	GGCTCGCGGCTCCTGACCAATGGGGAA
131873	P4HA1	GAATGCAAACAGGCTTCCCTTTTTC
131874	PIGR	GTCACCCAGACTGGAATGCAGTG
131875	SURF4	AATCAGCTTGGATTGGTGCCA
131876	FMO5	TGCCTTCAGAATCTGACGAGA
131877	TACC1	GAGAAGTGGCTTGACAATCA
131878	SHMT2	CCGCTCCCACCACCGCTACCAC
131879	EDNRB	TCTTCCTTCCTCTGCTTGTCTC
131880	FMR2	CTACTTTTAAAAGACTTAAGGT
131881	EPHB4	TACTGCCTGCAGGAACTCCCCACCCCA
131882	NME4	CACAGCAGCATCCACCCAGCCTGGG
131883	CAPN5	GCCCCTCTCTCAGCCTCAGTG
131884	CAPN3	CCTCATCAGTCATGCTCCTCCTCC
131885	IRTA2	TTGGAGCTGGTGTGCAGTGTCCTGA
131886	TFCP2	CTGAGAGCTGGGCAGGGGGGA
131887	OCRL	ACCCCTTCCTGGATCACTCC
131888	ADD2	AGAGGAAATCCTCAGCAAAGG
131889	MAP4K5	AACTGCACTATGATTTGCTTTA
131890	KCNAB1	TTTTAAAATGCGATTTTTCTG
131891	RASGRP1	AATTTGTGCTTAACTGTCTTCACTAT
131892	BCL7B	GGGAAGGGAAGGGCTTTTCTCCAC
131893	SUDD	TCATGCCACTGCACTCCGGCCT
131894	DISC1	TCAGTAATGCAAGGGCATTTCA
131895	XK	CTTCAGAAACTTTTTCTAAATT
131896	DLEC1	CCTGCACAGCTAAGTGTGGAGCTGGAC
131897	NT5M	GCTGGTGGCCGTCTCCACTCCCTA
131898	PDE4C	ACTGCATCACTGCACTCCAGCCT
131899	IL18RAP	TGACCAACTGAAAGGGAAATCTTCATC
131900	PGF	GTGATCTCCCCTCACACTTTGCC
131901	CSE1L	CACTGCAATCCAGCCTGGGCAA
131902	CHST6	CCTCCTCCTCTGGGCACAGGGTGT
131903	ADAMTS13	ACACAGCCAAGGGGATGCTCT
131904	GATM	CAGATACACCTAAGAAGCTTAGGGGCA
131905	DBY	AAATTAAGTTCTGACTTGCTCACT
131906	PPARA	CAGGAGTTCTGAAGCTGACAGC
131907	LZTR1	ACCCCCTCCCTGTCATCACCC
131908	SPTA1	CACATACTTAACGTTTCTATATTTCT
131909	PRX	GTTGCCCACACTGGGGGCCAGA
131910	MS4A3	TGTAACTTCTATGATCAT
131911	TNFSF12	ACCTGTACTGTCAGGTGCACTTTGA
131912	TCAP	AGGAGTGATCATGGCTACCTCA

131913	ERBB2IP	AGCAGCAAATGAAACAAAAATG
131914	PSCD4	TCTGCCCCACTGCCAGCCTGAGTGG
131915	RS1	CATCGCCAAAGAGGACTTCACAGCCCT
131916	TJP1	ACCAGCAGAAATGCCTTA
131917	RRAS	GCCAACGCCTCCTGTCCCCA
131918	BSN	AGAACCTCTCCTTCAGGAG
131919	APG5L	TACAGTATCAGACACGATCAT
131920	RAD1	TGCCTGTAATGCCAGCTACTCGG
131921	PIK3C2B	AAGACCTGTGGCTGAAGGAA
131922	GABRB3	GGCTTCTTGGCTTCTCTGGTGATGG
131923	ARSA	TCTCCGCTCGAGAATCTGAAGGT
131924	FMNL	GCAAGCCCCAGCCCCGAGGAC
131925	PPP1R2	TTCTGACCTACTATTTTTAAAATTCCT
131926	IDH3G	GATTCCCCTTCCCACTCCAGCA
131927	PMX1	TCCTGACTTGAACATAGGGTG
131928	POP4	GGTTAACACTGGTTGACTTGAA
131929	NEB	CTTCCCTCAGACCATAACTCA
131930	GPM6A	AAAAAACAAAACGAAAGTGCTT
131931	FBXW7	TGGTCATTGGGCAGTGTTAATGCTGAA
131932	DSCR3	CCCTATGTTGCCCAGGCTGG
131932	RAD1	CCCTATGTTGCCCAGGCTGG
131933	ANGPT4	CAGAAGTCCAGAAGGGTCAT
131934	TAF6	GCTTCTCTGCTGGGATCTCGCT
131935	PGK2	CAGCCTATGTCTTTATATTGT
131936	CACNG7	CCCAAATGACTCCTCCCCTTCGTTGGCC
131937	CANX	TAGGGAGATGAGTTGCAGTT
131938	SORCS1	CCTGCCTTTTTCAAATATCCCTGCCTTTTCCC
131939	CCR2	GTGGGGTCAGGGCTGAGAGGAGAAGGAGGGA
131940	ALDH3B1	CACCTGTAATCCCAGCACTTT
131940	CASP6	CACCTGTAATCCCAGCACTTT
131940	CRACC	CACCTGTAATCCCAGCACTTT
131940	CYP4F3	CACCTGTAATCCCAGCACTTT
131940	DMC1	CACCTGTAATCCCAGCACTTT
131940	EHHADH	CACCTGTAATCCCAGCACTTT
131940	FANCD2	CACCTGTAATCCCAGCACTTT
131940	FRDA	CACCTGTAATCCCAGCACTTT
131940	FUT6	CACCTGTAATCCCAGCACTTT
131940	GPR1	CACCTGTAATCCCAGCACTTT
131940	GRM6	CACCTGTAATCCCAGCACTTT
131940	HUNK	CACCTGTAATCCCAGCACTTT
131940	IFNAR1	CACCTGTAATCCCAGCACTTT
131940	LRRC2	CACCTGTAATCCCAGCACTTT
131940	LUZP1	CACCTGTAATCCCAGCACTTT
131940	MCM4	CACCTGTAATCCCAGCACTTT
131940	P2RX7	CACCTGTAATCCCAGCACTTT
131940	PCDH11X	CACCTGTAATCCCAGCACTTT
131940	PTAFR	CACCTGTAATCCCAGCACTTT
131940	RAB7L1	CACCTGTAATCCCAGCACTTT
131940	SIM2	CACCTGTAATCCCAGCACTTT
131940	ZNF136	CACCTGTAATCCCAGCACTTT

131940	ZNF137	CACCTGTAATCCCAGCACTTT
131941	APAF1	TGTTGCCAGGCTGGAGTGCAGT
131941	CYP1A2	TGTTGCCAGGCTGGAGTGCAGT
131941	SEDL	TGTTGCCAGGCTGGAGTGCAGT
131942	XYLB	GATCTGACTCCTGCAGACTCTTCC
131943	RS1	ATCCCTGGCCTTAGGACACAGG
131944	BTG1	GGAGCTGGAGGCGGAGGCAGCTGGGG
131945	CD68	CTGAGGCAGGTGGATCACTGGA
131946	CAV1	AACCTCAACTGCCTACTCCAA
131947	MIR16	TGGCTCATGCCGATAATCCCAG
131948	IL6R	TTGAGATCAGCCTGGGCAATGTGAT
131949	EGLN2	CCAGGAGTTGGGGCTCCAGAAC
131950	HIP1	CCAAGTGCTGGCCCACCCAGTCCATGCTCCA
131951	PVR	TGCCAGACCTCAAAACGACGGGGGCAG
131952	GPRK6	ACTCAAGGCTCCTCTGGCCCA
131953	GNAS	TTCTCCTCACAAGGAGGTGAGGCTGG
131954	CHS1	GCCAGGTGTGAATCCTGAGGTCCATGGA
131955	KCNJ15	AGGAAATGTTCTCAGATGCT
131956	UBE2B	ACTGGTTTGACTCTGTCCAACT
131957	PRPS2	ATTTGGTCTTTAAGTGAACTGTCTTAAATGA
131958	GPC1	CCAGGCCTGGCCTCGCCTGCCTTTCTGC
131959	KIF3C	CAGGATTCAGATCAGAGGTTCGACTGTGG
131960	CNN2	CACTGCACCTCCACCTTCCGGGCTCAA
131961	SNX3	CCCCGAGTCCCATGACACCGCTTCTCCTC
131962	CALR	TGCCTCCAGGGCTGGACTGAGGCC
131963	OAS2	CCCCTTGGTTCTCATAACTCT
131964	PUM2	CCCTGCCCTCTTTGACCTGG
131965	SLC7A6	AACTAATTCTGGTGCTCAGGCTGGGC
131966	TFAP4	GCAGAGCTGTGGGAGCATCGGCACCCC
131967	MS4A3	TCCTACTTGCGACAAGGTGGACTT
131968	PXN	CTTTTATACCTGCTCTTGTTCTA
131969	AMPD2	GCCTTTCCGGTCCTTCCTGGGCAAATCT
131970	GNLY	TCCTCAGATCCCGGGAACGTCAGCA
131971	CNGB1	GAGTTGGAGAGCAGACTGGGCAAC
131972	IGF1R	GGATCTTCAGTTCTGCCCTTGCTGC
131973	VIPR1	CTCAGTCATTAGACTCCTCCTCC
131974	PIK3CD	ACGGGGGTTTCACCATGTTGGC
131975	NDUFV3	TCTGATGGAGTGCACTTCGCACG
131976	GBF1	GAACAACAGTGGACTTT
131977	HOXD3	AGTGGTGGGGTAGAGGGTG
131978	EIF4EBP2	CTGTCTTTGGTATTATAGTTCATCTTCC
131979	VIPR2	GACAGATGCCTGGTGAGC
131980	OCRL	GTCTCTGAGACCCATCTCCTGCC
131981	CFTR	CTGTGGGTAGACACACATGAAGTCC
131982	REQ	CTCTCCTCCACTTCATATTTCATACC
131983	IL8	GCCACCATCTTACCTCA
131984	BCKDHB	AAAGAGAGTTTTTATTAAATGAACC
131985	GJA1	GGAGAAGAAAAAAGGTGCTGT
131986	IGSF4	CTTTCATTCCTTCAGATTTGGCTT
131987	C3	CCCTCTGTCCCTCTGACCCTGCACT

131988	FMOD	CTCATTAGTGAAGGTGGCTTTTGCT
131989	COL4A4	TCCACACACATAATGGCAGCTC
131990	GRIN2B	GCAACTGTTTCAACTTGTT
131991	CA11	GAAGGCTGAGAGGAGTAGGAAG
131992	KRTHB6	TTTCATGTATGCATTGGTCTTGCCT
131993	CD74	TTACCTGCAGGCTGAGCCACTCT
131994	TYRO3	ACCACTCTGTGGCCAGCCTGGC
131995	HMOX2	CTCAGCCCCAGCTTATCTCCTCCTCC
131996	SNX1	TGCCATGAAAAGGTTATGTAATA
131997	SUFU	AGCTCTGTAACCAGTCCTGTCCCA
131998	SLC3A2	CTCAGCTTCCCAGAATGCCGAGATGA
131999	BACE	GCCAGTGCGAGCCCAGAGGGCCCGAAG
132000	RENT1	TCCTTCTGGCAGGGACTCTTATT
132001	FUT3	TGCCAGGAGCCTCTCCCCTCCA
132002	CTSD	GGCCTCGGCGACCCTCTCC
132003	SCML1	TGTACTTTAGACATGAATGCAACT
132003	SCML2	TGTACTTTAGACATGAATGCAACT
132004	LAMC2	TCTGCCCTCATAGAGTTGATTGTC
132005	PKDREJ	CTGGCCAGGGTGGAGCATTG
132006	MASP1	CGGCCTATCCATTACTGGG
132007	BMP1	ACCTTCAGTCTGACCCCTGC
132008	ANXA11	AGTCATTCCTTCCATCTTCCTTGCAG
132009	CA3	ACTGCCTCTGTTGTGT
132010	GLB1	GCATTTTCACCTGAGGTTTCCCTGCA
132011	MATN3	TGTGATCAATAGATTGTAATA
132012	EDNRB	CCTATTTTCTCCCTTATTATCC
132013	CSPG3	TTAAAAAAGCACCGTGGAGA
132014	PPP2R5C	TTTGAACTTCCGTCTTTAGCT
132015	TRAF5	GCTCACTGCAAACTCTGCCTC
132016	D1S155E	TCTTTTCCTTTTTCTTCCTG
132017	KCNS2	CTGCCTCTTGTGCCTCTGGC
132018	AMPD2	TGGACTTTGGCTTCTTTGC
132019	JUP	TCGAGACCCAAACCCCCAAAATCCAAA
132020	KPNA4	ATCTATATCTACTTTGTGTTT
132021	SLC38A2	TGAGACCAAGAATTGGCAAAT
132022	ANKH	TGCTTGATCCTGGGAGGCAGAG
132023	BUB3	CCCTTTGCATTCTTTCTGGACCT
132024	SIAT4C	TAAGGGGTAGGAAGGTGCTGTGGG
132025	AMD1	GATGCTGGGGGCAGTGCTTTCCA
132026	CLECSF12	GGGATTACAGATGTGAGCCACC
132027	TAT	TTTCTTTCTTTATTTTGAGAT
132028	GA	AGGTCCAGCGCTCCCTCACAGAA
132029	BCAS1	GTGGCTCTCGCCTGTAATCTCAG
132030	FANCF	TGCTCAGTGCAACCTCTGCCTC
132031	USP6	GGATGGATCCACTGTGGGTGGGG
132032	TJP1	AACCATGGTCGGAAAACATGCTACAC
132033	MGEA5	ACTGATTTTATTAAATCAGAGTCTTT
132034	NBEA	TACATTCCATCACACCCAGC
132035	MSR1	AATACTGGTCTCTTTCCAAAGCATTTT
132036	ACADSB	TGGGTTCCGGTGATTCTCAT

132037	PAIP2	CACAATTTCCACACTGTGAA
132038	GAS2	AGCACTATTTATTTTTAATGCTTC
132039	TGFB3	GGCATCCTGGATGATTTC
132040	DPYSL3	AGTTTTCTAGAAGTGGAAG
132041	NEBL	TTTTTGTAGACTTTAATAGAGA
132042	DSC2	CCCCGAGCCCTCTCCATGGAGGCAGCC
132043	PDGFRB	CTGCACCAGTCCTGCCTGTCCTTCT
132044	BMP3	ACACGCCGCGACCTACAGCTCTTT
132045	SCAMP1	TTTTTGGGGGATGACATTCAGT
132046	HS3ST3B1	CTGTCTCTTCCTGCCTGTG
132047	CHST6	TTAAGAGTGGATTACAGGC
132048	EGR3	AACAGCATTTTTAAAAACCGA
132049	GYG2	ATTTCAGGTGAGTCAGGGTTG
132050	HMGA2	TCAAATACCACCCCAACCCACTCCCTG
132051	MYBL2	TCAGGTGGAGGCAACAGGGC
132052	HPS1	TTTGCATCCTGTCCTCCAGCCA
132053	CTSS	TCCATAAAGCACATTTTAAGGAAC
132054	SYN2	GCCGGGGTCTGAGTCTCTGCTGG
132055	TAF7L	AGACTCCTGGGCTTAAGGGATC
132056	DRD5	GGGCCTCTTTACCATAGCTTAAG
132057	EIF4G2	ATTGCCTGTATTTCTACCTC
132058	EFNB1	GCTTTTGTGTTCATTTTTTA
132059	MT1G	TGCAGCTGCTGCGCCTGTGTC
132060	IL6R	TGGGAGGTCAAGGCTGCAGTGA
132060	PDCL	TGGGAGGTCAAGGCTGCAGTGA
132060	TACC1	TGGGAGGTCAAGGCTGCAGTGA
132061	HUNK	TAGGAGGTCGAGGCTGCAGTGA
132062	TTF2	CAGGAGGTTGAGGCTGCAGTGA
132063	TCP11	CTCAGAGGGCAGGTCCT
132064	CXCL6	TTGCCCAGTCTTCAGCGGAGCAGTT
132065	CNP	ACTGCAGCCTCGAACTCCTGGG
132066	SPAG8	AACAACTGAGGCTCAGGGA
132067	LAMC1	ACTTAGGGCATCAGGAACAGTG
132068	EXTL1	CCCTGCTCTTCCTGCTTGCTGGCA
132069	PTP4A2	TTTACACCCTGTAGAATTGTGG
132070	PMSCL1	TGTGGAACTTGGAAAAACAAGAGTTCT
132071	ZNF261	GACTCCTGTCCCCTTGGTTTCTGTGT
132072	ADH1B	AAATGCCCCACATTTTACTACA
132073	ITSN1	CTCAAAGCTCCTAGGAATCATTCTCGA
132074	SEPX1	CCCACATCTCCCAGGCTGCTT
132075	SSTR1	CTCTCCTCTCCACGGTCGCCTGTGCC
132076	ARCN1	CCGCCTCCTGGGTTCAAGCAAG
132077	ATRN	CTCCTGTTTTTATTATCAAAAAGGACA
132078	DSC1	GGAAAGCCTCTTTGCATTTAGA
132079	PPIL1	GACATCCCACGCAAAGCCACA
132080	KL	GCTGTTAACCATTTGCACCTCTAAGT
132081	CRYGS	GACATGAATGGGGCCATATTCTTCC
132082	GYG2	TTGGGGAATGTGGGTGGCTTAGA
132083	STAU2	TGAGTTTCTTTTTATGATGATT
132084	VNN2	AAGCTAAACACCAGTTTCTCAGGAGG

132085	A1BG	AGCCTCCCAAAGTGTTGGGATT
132085	APAF1	AGCCTCCCAAAGTGTTGGGATT
132085	ARCN1	AGCCTCCCAAAGTGTTGGGATT
132085	CASP2	AGCCTCCCAAAGTGTTGGGATT
132085	STARD4	AGCCTCCCAAAGTGTTGGGATT
132086	IL12RB1	AGCCTCTCAAAGTGCTGGGATT
132087	IFNGR2	TGCAGTGAGCCGAGATCGCC
132088	SRRM1	TAATTCATTGAGTGAAATATTTTA
132089	EZH1	GCCTGCTGTTTGGAAAGGGTGA
132090	LIPA	ATTTGTCTGCTTTTCTTGCAGCATCAT
132091	ZNF264	CTGAGGCAGGAGGATCAGTTGA
132092	PKNOX1	TTTGGAGTTTGCACAGCAAACATTTTA
132093	PPT1	GATGAATTAGTTGCTGTCACAAAAGGAGGGA
132094	GPR56	GGAGCTACAGGGACAGGGAGCCATCA
132095	EIF4G2	GAGGAAGAAGCTGACTAAGAACCAGCC
132096	CYP27A1	CCAGCTCTGGCACAGTGGTTCCTGGC
132097	ZNF26	ATGTGGGAAAGCTTT
132098	FBLN1	CAGTGCAGTTAGCCTGAGCTC
132099	GBA	GACTGTTTGTCTTTCCTAGAGA
132100	MAGP2	TCAGCGGAGGCCAAATCTGAAG
132101	APOL1	CGCCAAGTTGGAGCTTGCAGTGA
132102	EXTL2	ACTAAGCTGCAGGGAAATAAATCGGCT
132103	CALM1	TCAGGATGACGTGCAGAAAAAT
132104	XRCC3	TTGTCTCTAGTAGTGTGGCCTGTGCCA
132105	MHC2TA	GCCCAGGCTGGCGTGCAGTGGTGCG
132106	NCOA6	ATAAAGTGCAATGGGGAAAGCAG
132107	BGN	AGCCCCCCACCTCG
132108	GPLD1	ACACACTGGGGCCTATGAGAG
132109	CREBL2	CTTCCCTTTCCAGTGA
132110	VIPR2	TGGAGCGAGAGGGAGGCAGG
132111	RASGRP2	GGAGGCTGGGGATGGGGGTGG
132112	TK1	TGCTGCCCAGCCACTCCAGG
132113	PRM1	CCCTGCTCTGAGCATTCAGGCC
132114	SLC1A4	CCAGGGGGAAAGCCCAGCTCTCT
132115	SLC9A6	CCTTTGTCCTGATCGTTTT
132116	SIM2	TTCAAAACCAGCTCCCATGTGCTGAGA
132117	SCD	CAGATCTGATCAAGAGTCCGGATTTCTAA
132118	MAPRE1	TTGTATCCCATTTTACTGTCTTTT
132119	MECP2	GCTGGCTCCAGCCTGGAAACCTGTC
132120	EFNB1	ATGGAAAAATGTAAAAGGCAG
132121	CORO2A	CGCCTGTAATTCCAGCATGTTG
132122	FOXD2	TGGGAGCCAGGAAGGTGGGGGGTG
132123	TACC1	AAGCCAGAAGTCACATTTTACCAATAT
132124	AP2B1	CTCAAAGCAAACTATCATTCCAG
132125	ACVR1B	CTTTGGGCCTGGTGTGGTGGCATAGG
132126	KRT8	CCGCCTGCCTCCACTCCTGCCTCC
132127	B4GALT5	CCAGGTAAGACCGGATTGAAGCTTTGA
132128	CKN1	GTACCTTTTTGTCTCTGCTGAAA
132129	AQP6	CCAGAAGAGACAGGAGATCAGAGACC
132130	COX15	AGCTCACTCTGCAACCTCCACTTCCCAGG

132131	CDC6	CTACAGTCTTCATTTTAGTGCTT
132132	KLHL3	AGAGAAGCCTCGGGTAACACTGA
132133	ATP5J	GGAGCTTGAACTAGGGGAAAGGC
132134	ATP1A2	TCCTGCAGGACTCTATCCCTGGCTT
132135	TCF7	TGGGGAGGGGAGGGTGTATCTAGC
132136	EFNB1	GTTCATTTTTTAGCTGTCAAC
132137	HAT1	CAATTGCTTCCCTTCTTAAACAGTA
132138	EHD4	GGTGGGCTGCAGAACGGGGTGGGAACTGG
132139	MTR	GAAGTGGAAGGGACAGGAGCACATAGGT
132140	TRPV1	TCAAGCGATTCTTCTGCTTCAGTCTCC
132141	LCT	GAGTAAAATGGAAATATCTCCA
132142	HIS1	GCTCCCCAGATTGCAGTTGGAGT
132143	GADD45B	TGCCGCCTTCCCCATCACGGAG
132144	LGALS3	AAAGGTTTCATGTTCACTGTGAG
132145	CASP10	GTCCTGCAGAAGCAGAAGTGCAAT
132146	BAALC	ATGAGACAGATCGGATCCAGTTTCCCA
132147	CDKN1A	AGAAGTAAACAGATGGCACTTTGAAGGG
132148	FKBP1A	GTTCACTGCAATGCTGGACAC
132149	CD244	TGCATCTCATACCTTTACCTCTGGCCA
132150	TR2	CACTAATCAGAAAACTGTGCCCAA
132151	ZNF256	GGAAGGAATGGGGTCTTCTTGA
132152	TEAD3	GGTGAGGGCAGGATGGAGACCAAGG
132153	CA7	CCATCTGAGGCTTCCTCCCTGG
132154	HMGA2	GAACGCGGTGTGTAACACTGT
132155	KCNAB1	TCCTCTGACGGCATCCCCAGGAAGGGGGAG
132156	NLGN2	GTGAACAAACCCCGAGGGAGGCCCG
132157	AF1Q	ACCTGAGAGTAGTATAGTAGTGCAAA
132158	FAAH	GCATGGGGCAGAGGCTTCCGTGTCCTCT
132159	IGF1	TGGGTTTAAGCGATTCTCCTGCCTCAG
132160	STAT1	GGGAGAATTCTTACATGTTTTC
132161	PXF	CCAGTCCTTCACTTATCAATATGC
132162	IGFBP1	CAAAACTGAACCAGATGAA
132163	FEN1	GAGAAGGGAGAGCGAGCTTAGGACCGC
132164	LIFR	TGCTTCTTACAGGAACAGTTACCCA
132165	SLC28A2	GTGATTGCAAAGGTGTTTATGTACT
132166	EBAF	CATGTGGCCCCTGTGGCTCTGCTG
132167	MAG	CCTGCCTGGTCTCCTGCCCCCACACCT
132168	PLDN	TGTCCGGCCAGCCGCTGGAGTCGTTAGGTG
132169	LDB2	TGGAGGCCTTCACAGGTAATACA
132170	SLC35A1	TAATGTAGACCTGTTTGGG
132171	SIAT7D	CTGCCGTCTACATCCTCCTGTGCTGCT
132172	CDC2L2	CTCGGCCTCCCAAAGCACTGGG
132173	SNX5	GGGGTGAGGGCGGTGTGTTGT
132174	PTPRK	GTGGCATTTTTCTCCCTTTCTAAAATGAAA
132175	VSX1	CACTGCTGGGCATCATTTGAGATG
132176	SPG4	GTCTTCATGTGACCTGCAGT
132177	IPF1	ACGATGGAGGCAGGAGCTGC
132178	MAPK14	GGTCTTCTTGGCAGCTTAAC
132179	LAMC2	GGGCATGACATCCTTTCTTTT
132180	IL1R1	CCGGGGAGACGGAGGTTGCAGTGA

132181	POMZP3	CACTGCCTCCCACCCTGTGT
132182	TCL1B	GCTGGCCTGGATGGGCTTCACT
132183	TRIM34	TAACATCCTTGCCTTCCCATTTATCC
132184	DNAJB9	CTGTGCAACCTTACTATGTGCAATATTT
132185	XKRY	AGTTATTTTATTTTAAGGGAAT
132186	BRCA1	GAGCGAGACTGTCTCAAAAC
132187	PTK2B	CCGCCCCTGCCTGCCATGTA
132188	TNFRSF1B	GCCTATGATCCCAGCACTTTGG
132189	KCNQ2	TCACAGTCCGTGAGTCTTCCA
132190	KCNK5	CCAGAGCCCACCTCCCCAACATGTGAA
132191	TRA1	GACTATTCTTGATGTAAAATCTTGTCA
132192	ADAT1	AACTATACTGCCTTGTGATGCCTCC
132193	NPHP1	TGGGCTATCTTAGCTAACTTA
132194	F2RL3	CCACTGGACTCCAGCCTGCGTG
132195	FBN2	GCAACAGAAGTTGAAGCACAA
132196	KL	TCTTCCTTATTTCACTGA
132197	FMR2	GCCTCATGGATGAAAGACTTGTAGT
132198	NPY2R	CCCTCCCTCTTGGTGAATTATTACA
132199	G2A	GCCTCAAACTCCTGGGCTCAAGCGATC
132199	RGS9	GCCTCAAACTCCTGGGCTCAAGCGATC
132200	DLG2	TGCCCAGGATCGTGTGTGTG
132201	MPL	CCTCCATCCCCCTCTGTCTGCCCTCA
132202	HHIP	TAGGAGAGAATGTTTCAGAACTCCCT
132203	SURF5	CAGGGCGCAAACCCAGGACATCTGTG
132204	DGKI	CACGCGGTAAAACATCATCT
132205	MAK	TTCTGTGTCCCTACCAGACAC
132206	GRM1	GGGAAGGGAAGGGCCAGGCCAGACCC
132207	NAPB	GTCTTAGGGTCAAGTGATCTTTATGGGAT
132208	PRKDC	TTGTATTTGGAGGCTCTTCTGT
132209	EIF4EBP2	TTAAGTCCAGTGAGCATTGTGGTA
132210	COL6A3	CACACGCCTTCAGGTTTGCTCAGGGG
132211	PCDH7	CCCCCGTGGGCGAAAGGCTGCTGCGGTT
132212	TMEPAI	GTTCCAGGTAGTGGTTTTGCCTTTCC
132213	TGIF	GTTTTCTTTTTTAAATGTTTCTTG
132214	MINPP1	AAAGTATTTGCTATAATAAA
132215	KCNK6	TGTCCCCAGACAGTGATGGCCCAAAAT
132216	RANBP17	AGCTGTGCAATTACTGCCTGC
132217	FGF5	AAAGTTAAATAACAGGGA
132218	PTPN7	CTTAGTGGTGCTTGCAGTCACA
132219	FDXR	TTTTAGCTTTCAGCAACTGA
132220	MAP3K7IP2	AGGCCAGAATGGAACGACTTCAAAGAG
132221	HTR1D	TGCAACCTCCGCATCCCGGGTT
132222	PPP1CB	TGATTAATCTCAGTATTAAACCACA
132223	EGR4	CTTCTTCCAACTCCTCCTCG
132224	TAZ	CCAGGAGGTGGCGTCCAGCAGTCCAGG
132225	PAX5	CAGGGAAGATCTGGGGGACAGAGGAA
132226	PIAS1	TTCAGTTTTACTTTTGTAT
132227	WHSC1	AGTGGGTGGAGTGGTGCTTAGAG
132228	NFYA	CAATAAATTCCTGAGATACATTCTTCC
132229	SPTLC1	AGAGCAAGAACATGTGGATCTTTGA

132230	RBBP5	CCACTGCCCTCCAGCCTAGGTG
132231	GCSH	AAAATGCCCTTTAACTTTCT
132232	C21orf33	ACCTGCTGAGACTGCTGA
132233	MGAT1	GGCTATGATCCTAGCTGG
132234	CTMP	ATCGCTTGAACCCGGGAGGCGG
132234	OGG1	ATCGCTTGAACCCGGGAGGCGG
132234	RBM3	ATCGCTTGAACCCGGGAGGCGG
132235	ZNF253	ATGATCTCCGTTCACTGCAATC
132236	MSN	TGTAAACCAGAGAGCTGCTGGGGGAT
132237	TBX6	TGCATTCCAGCCTAGGCA
132238	ADAT1	TGGCTCAGGCCTGTAATCCCAG
132239	GOSR1	ATGGACTCTGTGACATGGTCAGGT
132240	MDM1	TCCTTTGATAGAAAGGAATTTTAAAT
132241	FES	GACTCCTGCCACCAGCATCC
132242	CMKLR1	ACTAGCACAGCATCACTTCTA
132243	RAD50	CCTTGCTTCGGCCTCAGTTAAGCCTT
132244	AES	ACCTCTAGCTTTCTTCCTACCCC
132245	DVL3	GGAGGCTGAGACAGGTGGATCA
132246	AQP6	CTAAGCTGACATTGGAACAT
132247	TGIF	GGGCTCCCTCCTTACCGCAGGAGC
132248	CSNK1D	GGACCGGTAGGGGCCGGAGCAGC
132249	LANGERIN	GCACCTCCTCCTCCTTCTGCA
132250	MYLK2	GGCCACACCCCAGACTCCAGG
132251	GAB2	GCAGTGGTGGTAGCTACACTGGG
132252	SOX11	TTATTACAGTTTCAGGGAAGAT
132253	NCOA3	TTTAAGATATTGTATTATGTAA
132254	SLC38A3	GCCCTTTTCAGACTCCTGGGCCCTTGGA
132255	FCRH1	GCCTCACTGCAACGCCTGCCTC
132256	CARKL	CAGAGCTTGGTTTGGGAGGTTGAAGTG
132257	SLC25A1	TAGCCTGGTCTGTGCATTGT
132258	RAD9	TGGGACCCCCGTGGAGCTGAC
132259	RAMP2	GCCGCCGCTCCTCGCCTCCTTGCTGCAC
132260	SLC17A4	AAGAGGAATGAACGTGTCTGCA
132261	SCN1B	CCTCCTCCAGCTCCTGCCCCG
132262	STK38	TCCCGGATTATGTGGAAAACCCTCACT
132263	ARHGDIA	CACCAGTGCCTGGCCAGCCTGCCCCCTT
132264	ZHX1	ACTCTTCTCTGACGTTTGCTAGCTTTT
132265	APC	TTGCTTTACTGCATGAATGAAACT
132266	NR3C2	GTTGTAAATAACCACACTGAAA
132267	CASP8	TTCAAAGCTAAATTCCACACTAC
132268	RHO	TGTGTGTGTTTCAGCACTTTG
132269	NXF5	AACTTCTGCCTTCACGCTGCC
132270	NEURL	CTAACACCTCCAGGTTCTCTA
132271	SLC31A1	TGGCCCATGCCTGTAATCCCAG
132272	IL17	TAGGAATAGAGCAAATAAGATAAT
132273	CASP7	GGCCTATCTGGAAGCCACCTCA
132274	CHD1	GAATCAAAGGAGAGTCCCAGAAAA
132275	EIF2C1	AGTTGGTTTTCAGCTGGGGCTT
132276	CTPS	GCTCCTCTGTGGTGTCTGCC
132277	P2RY6	CTCTGGAGAGGAGTGATATT

132278	TRPM4	GGGCTGCAGGAGGTTGCGGCGG
132279	NKTR	CCCTCTCTCACCTCAAGGCTGCCTGCATT
132280	EDG8	CCACAGGAACAATGATGGAGATT
132281	PRDM16	GCTGCTTCTGGACTCAAGGAGGAGGA
132282	LIMK1	CCCTGCAGTCATCTCAGAGCCCCTTC
132283	PCDHB16	TTCATTTCTTGAATTTCTTAT
132284	NEB	CAAACCAGCAACTAATAAA
132285	HM13	TATATGGGTTGCTTTTGCT
132286	FBXL11	GGAGGGAGGGAGGGAGGGGA
132287	MAK	AGGCTGGAGTGCAGTGGCACTA
132288	TPS1	CCTGCACTGGGCCCTCCGGCCCTCCC
132289	ABCF1	CCGGGATCCCACTCTGAT
132290	VHL	CCCTCCTGAGCTGGGATTACAGG
132291	SMARCA5	CGTTTTCCCAGCCTCAGTCTCTCTT
132292	RPS6KA2	GTCACCAGGATGGAAGGGGGTGCCTC
132293	AVPR1A	CCTGAAAACAGCTCCCCCTTGCTG
132294	CARD15	GGACTCCTGCACACGCTCCTTCCTCTG
132295	AQP6	GCATTACAGGATCCCCAGAAAG
132296	STCH	ATATCTAAAAAAGAATTCTTAGCAATG
132297	GRB10	AGCAGCTAGAGGCTCCTCCTCT
132298	SRRM1	AGGGCCCAGACTTTGGAATAG
132299	NEU1	CTATCAATCAAAATGTTTGTAACT
132300	RAPSN	CACTGCATGCCAGAGGCCCATTTACTC
132301	ERBB3	AGACCAGCTTAGCCAACATAGT
132302	MYC	TTAGCCATAATGTAAACTGCCT
132303	VPS26	GACTTAGCTTGGCATTTTAG
132304	JAG2	ATGTGGCCCTGGCTGCCGGCACGG
132305	SNTB2	AGAGGTGAGGCTTACTATTCAC
132306	SHOX	TTCTTTCTCCCCTACTCC
132307	SMARCA3	TTGTTATTCAGCTTTTCA
132308	HOXD8	TCCCTCCAGAGCCGGGGTTT
132309	IL5RA	ATTCTTTCGTTTGACAGCAGTTTGGTT
132310	PXF	CTACCTGCAAGGTGAAGGAAGGCATCC
132311	SLC10A1	ATATATATGTTTAACCCATTACTCAAAT
132312	CYP4B1	CATAGACGACTCCTAGAGGAC
132313	NELL1	ATGGATCAAATTCTAAAATAA
132314	ADCY1	CCTCTTGCATACAACTGTCCA
132315	CTSS	TGTGCATGCTTTTCTCTTGCT
132316	ROBO1	GCGCGGAGTCACCCAGTCACACTCCC
132317	ARR3	AGAAAAGGCTCAACATCAACT
132318	TRIM9	TGATGGCCAGATATAACCTCTGAGGCT
132319	XPC	GCAAACTGAGGCAGCATGCACGGAGG
132320	MME	CCAGAAGAAGAGTAGGTGACACTATA
132321	CRYZL1	TGCACTACTACACTCCAGCCT
132322	PAFAH1B1	ATACATACAGTAGGTGAATTTTCAGGA
132323	FRAT2	TCTCTTTCTTGTCCTCCCAGC
132324	HBA2	GCCCTCCTCCCCTCCTTGCACCGGCC
132325	HOXD9	GCTATATTTTGTGAGTGCAAGCTGGCTTG
132326	MGAT2	TGTCGCTCAGCCTGGAGTGCAG
132327	SDC1	CCCAGCACAGCTTGACCTGAGGCT

132328	TBX5	AACGTGGCCTATAGCTTCCCTT
132329	ITGA3	TGGACTGTGCTGGTGCATCA
132330	CLECSF12	GCTGGTCTCTAACTCCTGGGCT
132331	ITGA4	GCCGACTTCCCCTCCTCTTCC
132332	HOXD1	GGCCTGCAGAAGTCCCAGGCGACCC
132333	NR4A1	CCTCTTCCTCCTCCTGTGGGACTGC
132334	DNASE1L1	GGTCAAGGCAACATCTCCACACAGA
132335	ACOX1	CGATATGACTTCCTTTTGTAATGC
132336	AGR2	TGAAACCAGAAGAAGTGTGAGA
132337	ANK1	GACTCTCCCACATGCTCTG
132338	TTF2	TCCAGGAGGTTGAGGCTGCAGTG
132339	PHKB	CCTGAAATCTTAGCACTTCGG
132340	M17S2	GGAAATGCTGATGACTTCTTTA
132341	PSCD3	GCGGAAGGCGTGGCAGGGAG
132342	SLC22A1LS	ACCCCCACTCTCTGCGACGGCCC
132343	TNFSF14	GGGGAAAGAAAACTCACGAAGCAGAGG
132344	DMRT2	GGGCCTGGGAAGAATATTAAA
132345	CENPF	GGACTTCTCTTTAGTCAGGG
132346	MEIS1	GCATACGTACATTCCTGGACAC
132347	GLUL	TAACCCACCAACCTGCCTGT
132348	PODXL	TGCTGCTGGATGATGAGGGAG
132349	GM2A	TACATGGCATCTGCCACAGCAGA
132350	CRSP6	CCCAAAGTGCTAGGATTACAGG
132350	IL12RB1	CCCAAAGTGCTAGGATTACAGG
132350	PTGIS	CCCAAAGTGCTAGGATTACAGG
132350	SEDL	CCCAAAGTGCTAGGATTACAGG
132350	SERPINB9	CCCAAAGTGCTAGGATTACAGG
132350	TPMT	CCCAAAGTGCTAGGATTACAGG
132350	XRCC2	CCCAAAGTGCTAGGATTACAGG
132351	VENTX2	CCCAAAGTGCTGGGATTACGGG
132352	NBS1	CTCATTTCTTATGAATCTTTCCAGGGA
132353	ACP5	AGGGAGGGAGGGAAAGCTTCC
132354	EMP1	TCAAATCCCAAACCATTACTGAGGGG
132355	HYAL3	GGAAGCAGTTCCAGGGAGAGTC
132356	TMC1	CTGAGTAGCTGGGATTTCAGGC
132357	BAT3	TGCTCTATGGCCCTTCCTCATCAG
132358	PTPRM	AGATAAATGTGTAATGAACAAAGATATGTTGT
132359	MLN	GGGCTTGGAAGGAAAACACCTTTCCA
132360	RPP30	ACAGTGGCATAATCACAGCTCACT
132361	AKAP13	CCTCTCTGCTGAGGCAGCTGCCTCC
132362	NEDD4L	TGAGAAGCCATGGAAGGTTGTGG
132363	GPR81	TTGAGACAGAGTCTCACTCTGTGTCCC
132364	KCNJ10	CCTATTCCTTGTTCCCTGGTGG
132365	FCMD	TACTTTTAAGATTGTGGAGTCTGAG
132366	ANXA8	TTCATCTAAAAATGTTAG
132367	FXYD6	TGGGACCCTACCCCTTCCAACCTTCC
132368	UNC13	CACTTCCTGGGAGGTCAGAGACAAAC
132369	TRPS1	AAATCAGGACTAAGTCCTCTGCTT
132370	FRK	GCTGCAACCCAGCTGCTGGACTGATCT
132371	WSX1	CACATGCCTATGATCCAGCTTTGG

132372	BAZ2A	CACTCACGGATAAGACACCAAGA
132373	EDAR	AGAGTAAATATCTACTCACTC
132374	SLC6A12	ATCTCCTTGTGCTCAG
132375	INMT	TAACATCCTTGTTTTAGAATTCT
132376	SERPINB2	TGTTATGTGCATTTCTAGAAATACAT
132377	DCK	TCATTCCCCTCTTTTGTCTTCCTCA
132378	EFNB2	CTACTTCTGGGAAAAACAACAT
132379	TEM6	GGCCTACAACGAGGGGCCTT
132380	LRRC2	CCATAGCAAAGATGCTTCAGTCCAG
132381	KCNN2	CACGGCGAAGGTCTGCAGCTTCAC
132382	IL20RA	CATGACCTTTCGTGATTATCCGCAAATG
132383	IL21R	TGCAACCTCTGTCTCCCGGGTT
132384	WSX1	AGACCAGCCTGGGCAATATAGC
132385	MAN2A1	TCGCGCAGCCCGGGAGAAGGGAGC
132386	BMP2	GGCCGGCACCCGGGAGAAGGAG
132387	MTF1	CTTCCTATGTGTCTTTTGAATCT
132388	CDC25B	TACGAGCACCTCCAGCCTGAACAG
132389	C18orf2	TTTCCTCCCTTCACCTTCCCA
132390	B3GALT5	TCCCACCTCAGCCTCCTAGCA
132391	SEL1L	AGCAGCCACACTTCCTT
132392	TBL1X	CCCAGCCATCGGGGAAGGGTCAGGGC
132393	TACC1	TGAGGTGGGAGCCTGGGAGGTCAAGGC
132394	SLA	ACAGAAGTTCCAACTATT
132395	CAMK2A	AAAGGGAGACCCTTTTGGGGGATGAG
132396	DSCR3	TCACAGAAAACATTGACTG
132397	USP7	GGGGGAGAAGAGGTTAGTGGATCGG
132398	MASP1	ACCCATGGCAGGCAGTGAAAAG
132399	GPC5	TCTTTGGTATTGTGCCTCTGCTC
132400	ADARB1	GAGTTCTGCTTACTTCAGTCCTGCT
132401	TNFRSF8	GATCCCAGCAGTGATGTTGGTT
132402	DVL3	GTGTTTTGGCACCTGCCTGTA
132403	SLC25A15	TTCTACTTTGCTTTTCTCTCCA
132404	SDHC	TGTCATTCTTATCTCCAGCCTGGG
132405	PLXNA2	GCCTGGAGGTGTGTGGGCCAGG
132406	F2RL3	CCCACCCCGTTCGGCCCCGCCC
132407	CYP2B6	AGCTCCCAAGTAGCTGGGATT
132408	PER2	GCGCCATCTTGGCTCACTGCAACC
132409	PER2	CGAACTCCTGACCTCAAGCGAT
132410	FCAR	CAAGTAGCTGGAATTACAGGCAC
132411	M6PR	TGCATTGTCTCTTGACATCAGA
132412	ADCY1	TTATGCACCACCTCCCTTCAG
132413	MAP3K9	CCCTGCAGGGCCTTTCTA
132414	ZNF207	TTCTCCTCCCTTTTACTTTGCCGGT
132415	HADHSC	ACTAAAATAACAATGTTTCAG
132416	ZNF192	CCTCACTCGTTATTCTCCATCTGTT
132417	KCNS3	CCAGCACTCTGCCTTCTGTATCCACCA
132418	SERPINB9	CTCCTCCTGGATTCAAGCAATT
132419	FUT1	CGCCTCCTGTGTTCAAGCGATT
132420	PRDM2	TTCTTGAGGGCCTCCCCACCGCAGCA
132421	EVC	CCAGCCCCTCACACCACCGCCAGG

132422	SH3BP2	CCTCACCCTCCCATGTAGCTGGGATTA
132423	ARNT	CAAAGGAATGTCCATTTGCTGA
132424	TCN1	GCCAGCCAATTCATCAACATT
132425	PNOC	TTGACTTGCCACTGCCATA
132426	PLAGL1	GGGAGGCACATCCAGGCTTGGG
132427	HYAL1	AGAGGCACCAGTCCAGCAAATAAAGCA
132428	ALX3	CTGGGCTGGAGGCAGGGAGAC
132429	SSTR1	CCTCTAGCTTTTCTATTTTTG
132430	PDAP1	GTCCTCGAGGGTCATGGCTTG
132431	MBL2	CTACATGATCTAGAGCCAGTTA
132432	WHSC1	ATAATACTTCCAAATTTTATGA
132433	MSI1	GGACCCGCTACTGCCTGCCCCCAAC
132434	KIF3B	ATTTCCCGTCCAATGCCTGCATGCTG
132435	SLC13A1	GCCCAGGCTGGAGTGCAGTGGCGGG
132436	PACSIN1	CCTCCAGGGCCCTGTTTGG
132437	CNP	GCCCAACCTCAGCAACCTGTA
132438	EGFL4	ACTGCTTCCATGGCCC
132439	RBM3	GCCTGTAATCCCAGTGACTTGG
132440	PCLO	AAAAATTTAGTGGATTTTGAAAA
132441	PRPS2	TCAGGAGTATATCATTTGCAGTGCTTGTA
132442	ED1	TACCATTCTATTCTCCAGAC
132443	SMAC	CACCCAGGCCAGGGGTCCAGAGCTAA
132444	PREB	CTCCCCTCAGCCTTGTGGCC
132445	FBLN1	CAGCCAGCATCCTTATCTGCCA
132446	IGF2R	GGAGGAGGAGGGAGGCCAGG
132447	PAFAH1B1	ATCAAATTGGCCACTTAAGA
132448	HTR4	AACACTCCCTCTTCCCAGATTCTCTG
132449	TGIF	GGCAGTGAGACTGAGGATGAGGACAGC
132450	GPRK7	GGAGGCGGAGGTTGTAGTGA
132451	TARBP2	CAGTGACCCAGGAGTCTGGGCCA
132452	NDUFV3	ACAGACTATGCTCCAGGAAG
132453	C14orf1	TTTCTTTTCTATTCCATCATCTGCC
132454	VGF	CAGCCCAGGAGGGCGGGTGGTTTGT
132455	LRRC2	TGGTGGGCACCCGTAATCCCAG
132456	GNG5	AACTCCCACAAGCTCTGCCTTC
132457	RGS6	GGGTCCCCAGCCCAGGAGGTGGCTGGA
132458	ESRRG	TACACATCAAAATCATAATAATA
132459	NCOA6	CCTCATTGCGCCTCAGTCTTTAAGG
132460	ZNF236	CTTTAGTATCGTCAATGGTGCCAC
132461	PDGFRA	GGAGGTTGAGAGGAGGACTTGGTT
132462	EMX2	CCAAGAAATGTGCAGTCTGTAAA
132463	ITGB1	GCTGCTTCTTTCTTTAAAACAA
132464	MYO1A	TCGTGGCGCATGGCTTGGGGA
132465	PXN	GATAGGATTTGGGGCAGAGGGA
132466	BBOX1	AAAGCTGACAGTTTCTTTACT
132467	MAN1A1	TGCTCTACTCGCTGCCATT
132468	IMMT	TAACACCTGTTGCATTTATATTCTT
132469	EGFL5	AGCACTTCTGAAAACAGCACTT
132470	MLPH	GCTGTTTCTCTGACTCCTTGTGGCATC
132471	CACNG7	GGGCTGGAAGCCACGGGTACGGT

132472	ZNF277	TAGAAAAATGCAC
132473	MAP2	TTTCATGTGCCTGAAGGCTATC
132474	GPR68	GGCCTGAGCCTTCAGCCCACGG
132475	MKL1	CTGGGACAAAGATGGGGAA
132476	CBLB	CCAGTTCCATTTCTCTCATTCACAA
132477	NKTR	CACACAGTCTGTATTACTTCAGG
132478	ANKRA2	ACTCGTGTATTAAGTCATTCACTTT
132479	PKD1	TCAGCACTTTAAAGAGGCTGTGTGGC
132480	PTPRC	CACACAACAGGTTTCTACTCTC
132481	ACVR1	CATTTTCATAGTGTCAAGAAGGAA
132482	GJB2	AGGAAGAGATTTAAGCATGCTTGCTT
132483	NEB	ATCTCCTGCTGCCTTCAGCTGCC
132484	RAB38	ACCATCATCACAGTGTTT
132485	SIRT6	GAGAGCTGTGCTCCAGGCCAGGGGTTAC
132486	PIGN	CCATGTTCCGTTTGATCTTGGCAATTT
132487	BMPR2	TTTCTTTTCTTTGCCCTCCTGAT
132488	SPAG11	AGTCATCCTGGAGCACAGCT
132489	CR1	CTATACAGCTGAAGAACATCTCGA
132490	MTMR2	GTGTGAAATATAAGCTTTTTA
132491	CAST	TAGTAAACTGTGCTTTCTATTATCTA
132492	HTR1E	GTCGCCCAGGCTGGAGTGCAGCAGCAC
132493	DLEU1	AAAAGGAGACAGAAGATTGAA
132494	BMP8	GCAGGCAGATCACCTGAAGTCA
132495	ZNF179	CTCCACCCTCCCCACCTGGCT
132496	WHSC1	GAGGACATGGGGTTCATTGTACA
132497	PDE1A	TTTACTTCCTTGCACTGTCTT
132498	ANK3	CAGTAGCTGCATCTCCAGGTTTTGAGT
132499	ATM	CACCTATAATCCCAGCACTTTG
132500	CYP4F3	CACCTGTAATCCCAGCACTTTA
132501	CHST6	GGCGCTAGGCCCGGGAGGAGAG
132502	RPLP0	GCCTGAGCTCCCTGTCTCTCCTC
132503	JAM3	CAAAACAAACCATGATGGAGTG
132504	GJB6	AACAAATTCTGATACAGGC
132505	TCL1A	GGAGAGAAGTGAGAATAGGCAGCCCC
132506	BCL6	TCTCGGAGAGCTGACACCAAGTCCTCCC
132507	ZNF83	GCATTTATAATAATTATATGTGA
132508	TNFRSF6	GTGAAAAACAACAAATTCAGTTCTGA
132509	ADAM17	CAGCACTTGGAGAGGCTGAGGT
132510	HNRPDL	TCCCTGTAACTGAGATTTCTA
132511	CST	CAGAGCTGGAGTGCAGCGGCA
132512	BTG2	TGTTGTGGGTTGGAGAAAAGTG
132513	IGFBP7	ACAGAAGAAAAGCATGCA
132514	TIMP3	TTGTCCACTTCTCAGCGAGGATGGC
132515	ADCY6	CTGCAACCTCTGCCACCCGGGT
132516	CPT1B	CAGGAAGGTAGGAGAAGGCATCTG
132517	RECQL5	GTGAGTGCCTGCAGGAGAGACAC
132518	NHP2L1	AGAGCAGACAGAAGCAGGGTGGTG
132519	PAH	ACTCTCTTCTCCTCCCTAGTGCGA
132520	NFATC1	CAGGGAGGGGGCGCGGGAGCCGC
132521	COL1A1	CCTCTCTCCACCTGCCTCTG

132522	APAF1	CTCAAGTAATCCTCCTGCCTCA
132523	CHST5	CACTCCTGTAATCCCAGCTACTT
132524	KCND2	GCCCTGGCTGTGAAAAGAATCTC
132525	G6PC	TCATTCAAAACAACCATCCTGC
132526	CNTFR	GAGTTGGTCTGGAGGAGGAGGAGGAC
132527	CDH5	TGCAAAGCAAAACAGACTGTGTT
132528	ATF5	TCCTGTTGCCATCAGTGCCC
132529	POU4F1	ATAGAAGAGAAAAAAGAGCA
132530	PTGIS	TTGCCTGTAATCCCAGCACTTT
132531	OGDH	GCCCCTTGCTTCTCAACTAAAGA
132532	CACNA1S	CTCAGCAGGGCAGCTCAGCCGACAGCC
132533	BAZ2A	TTGCCCAGGCTTGAGTGCAATG
132534	GPR92	AGAGCTTTGCTTATATTTTGTTCTT
132535	PLXNA1	CTTCCAGTGTGGCATCTCAGCA
132536	CLECSF11	GTCTTGAACTCCTGGCCTGAAGCAAT
132537	DSC1	CCAGGAGGCGGAGGTTGCAGTG
132537	EGFL4	CCAGGAGGCGGAGGTTGCAGTG
132537	IAPP	CCAGGAGGCGGAGGTTGCAGTG
132537	LUZP1	CCAGGAGGCGGAGGTTGCAGTG
132537	NPHS1	CCAGGAGGCGGAGGTTGCAGTG
132537	NT5C2	CCAGGAGGCGGAGGTTGCAGTG
132538	PDE4C	TCAGGAGGTGGAGGTTGCAGTG
132539	PRDM4	AGTCACCCATGCACCTGGTCAT
132540	PLA2G2A	CCTTCTATACCCACCCAGAATGAG
132541	ISLR	CCTGCCGCCTCCTCTCAG
132542	ANKRD3	TGTCAATAAAGCAAAGTACT
132543	RFX5	ACTTAGGACTGCGGGGTTTAGGTTAGA
132544	APPBP2	AGTTTGCCCCCGGAGGAGGCAGGG
132545	GAS7	AGCTGGGTTTATTCAAAGTGGGCG
132546	ACPP	AGGAAGGAAAGATGTGAA
132547	TMEPAI	GTTGTTGTTTTTCTGGAAACT
132548	RGS3	GGCCCCACCCTCACCACCCAGGAAAGG
132549	DNAH9	AGAGAGGAAAAGATGAGATCCAC
132550	FANCA	GCTGCTTGAAGGTTTGTCCA
132551	PAWR	TTCAGTTATTAAATGATAGA
132552	MYO1F	TCTGCCTGCCGGCCTGG
132553	RNH	CCCCTGCCATGCTCTCACCCTGCATA
132554	JRK	AGCAGAGCAGGCAGGCAGAG
132555	MUC12	AGAGCTGCAAACACAGAGCCCACCACAA
132556	GPM6B	CTAAAGCAGAGTCTAGGTTT
132557	RPN1	AGATGGCGCCATCACACTCCA
132558	SNCG	CCTGTGCTGCTGCACCAACCTC
132559	AGTRL1	GAGGCTCAAGCCAGAAATTCA
132560	FCRH1	AAACTCCTGGGCTCAAGCAATG
132561	PIM1	GCTGTGTTTTGAGCAGCAGGTA
132562	CHRNB4	ATTTCGAACTCCTGACCTCAG
132563	PIM1	CTTGCCTCTTTTACCTGCTGC
132564	PYCR1	CTGCGGAACCTCCACCCCTCCAGTGGGT
132565	SLC1A5	ACCAGAACCTAGCCTCCTGCAGACCTCC
132566	ADCY1	AGAGGTGGGCAGGGTGGATGGC

132567	CA12	CACTGCACAGACCTTAGGGAA
132568	RB1CC1	TGTCCTTTTGTGAAATCAGTATCAGAA
132569	SPRR1B	TCAGCTCCCTTATACCCCCAT
132570	POU4F1	GTGGAATCCAACTTTTCCCGTG
132571	ZNF257	GCCCAGCCTCTGTGGCCCTGTGACCTG
132572	MAPK3	GGGCTAGCATCCCTGAGGAGCCAGG
132573	MEOX2	TCATAGGCAAATCAGTTACCT
132574	STMN1	CAGTGCTGTTGGTGGCAGTGAC
132575	DBN1	AGTGAGGTGGAAGGATGTTTGCT
132576	MMP7	TTGAATGTCTTTCACTCCTTT
132577	GABRP	GTCAATGTTAAATTTCTTGCATGCCA
132578	ALDH3B2	CCCAACTGCACCAGCACTGCCTCC
132579	AGXT	ACTGACCCAGCCCGGGAGGCAG
132580	AMPD3	TCATTTCAGCCTCTGGATGGCTG
132581	MGAT3	GACCTCCACCCACTGTGGA
132582	TRPS1	AAGGTAATGAAGCAACTATTTCTA
132583	ZNF202	ATGTCTGCCACAAAAGATAG
132584	MAPT	TGGTGGCACCAGGATGGAAGG
132585	CEACAM5	AGCCAACATCGTGAAACCCCA
132586	EIF5A2	AATACCTTAATTCTCTA
132587	JRK	ATTCATATCATTTGGCCGAGT
132588	EPHA3	CACATCAGTGGCATGCTTCAT
132589	INPP5D	AGGCAACGGGCGGCAGGTTGCAGTG
132590	ATRN	CAGCACACCAACATGGCATATGTATA
132591	JAK2	TTTTGAGATTAAGAATGCCAGGA
132592	PRKDC	GCTGATTTTCCTGAAACACT
132593	PTGIS	CTCAGCTTCCCAAGTAGCTGAG
132594	WHSC1	GCTCCTCTGATGGCTGACATCAGTC
132595	PRX	GCCAAGGTGGAGGCTGAGGTGGC
132596	IL17BR	ATTTTCTGTCACAGACACTCAGGG
132597	TERF1	TGTGCTCACTACCTGGGTGA
132598	DPP6	TTCCCTTTCCTTTCTCCAGTCC
132599	HTR2C	GAAGTAGTGTGAGTGTTAGA
132600	IMPDH1	AGTGGTCTTACTGGCAGGTGTTGG
132601	RUNX1	GGGGTGAGGCTGAAACAGTGACC
132602	BCL10	AAAGTGCTGGGATTACAGACACGAGCC
132603	APTX	TGGCTGTGAGGAAACAGCCACATGTT
132604	ACK1	TCCTAGGACTGGGCCTTCTTCCA
132605	IL6R	GTGAACTTGGGCCACTGTGAA
132606	ADAMTS3	TTGCCCAGTAGTTGGAAAGTGAACTCGAC
132607	MLF2	GGTGGCAGCTGTGGGAGGAG
132608	HTR2C	GGCAGAACCTAGTCTTGTTGTTCAT
132609	IHPK3	CCAGGAGCCCTTCAAGGTCTCCA
132610	IL17BR	TCATGGGGGCTCTTTCGCTGCAGCCT
132611	GALC	AGTCAAGCTTCAGAATATTTCCATCAC
132612	NRG1	TCTGAACTCTTCTTGATTTTAAT
132613	ABCE1	CTGCCCTTATTTTAAAAGCCAGT
132614	TNFRSF5	GGGGCAGGGGAGTCAGCAGAGGCCTCG
132615	ASB1	AGGGGCTTCAGCCCGGGAG
132616	TGFA	TAGGGGTTCAGAAATGGTGC

132617	NAT2	ATTGCATTCAGCCTAGTTCCTGGTT
132618	MFAP4	CCCAGCACTCCTCTGGGCTGCTCTC
132619	PAX5	GGAGAGGGAGCTTGGAGAACTCACTGT
132620	CALD1	TCATAACTCTGTATCTGAGCA
132621	BCL7A	CCTCTGCAAAGTGCCCTCTTGG
132622	GALGT	CCCATGAGGACCCTCAGGCCCGG
132623	SLC2A3	AACTTTGCCAGCTTTTCCTCCCTTGG
132624	MIR16	CAGAAGTTCAAGGCTGCAATGA
132625	EGFL4	TTATCGAGTACCTACTCTGTCA
132626	GPR92	TTCCCCTGCTCACCACTGAGGC
132627	RAMP3	AGAGGCTGGAGTGGGGGTGTGT
132628	B2M	GGCAACTTAGAGGTGGGGAGCAGA
132629	ABCD2	CGCTTGGAAATCTCCCTTTCTGCTT
132630	HOXB6	GGAAAGGCCTGTGGGGAGCCAC
132631	GPRK7	GAGTCTCGGCTGACATAATCCTC
132632	CLECSF5	AAGCAAGCCTAGCCTTCCAGGGAG
132633	CAPN7	CTGCCCCGGCGCGGGGCCACT
132634	CYP1B1	TATGCAGAAATAGACAAAAAGTATATT
132635	FAAH	ACGTGGGAGAGCTCCGCGGGGAGCAGC
132636	MCCC1	TGTACTGGGGAGTCACGGA
132637	SLC16A2	TGGGTGGAGGGGCAGGGAGGCAAAATGAG
132638	GPRC5B	TGTCTATGGTGAGAACACAGG
132639	ENO2	GGCTTACCTGACCTCTTGCTGTCTCT
132640	WDR10	AAGGCGCCCTCGCACTCAGCTT
132641	MSF	GTCTTCATCTCCCTGCCATCCCCC
132642	TAPBP	TCTTCCGCCCAGGCTGCAGTGC
132643	PITX1	AGCGCGGAGCGCTGAGCCA
132644	PLA2G2A	GGGAGCATTCACCTGCCCTGTCTCC
132645	SPN	AGGCTGGAGTGCAATGCACGAT
132646	MGAT1	GGCTCACTGCCTCCTGCCC
132647	MAT1A	AGCTTTATTTGTTAATAGTTCCTG
132648	FOXF1	TCCATTGTAAATTTGAAACAAAGACCG
132649	SEL1L	CCAGAAGCCAGAGGATGGACTAAGTGG
132650	PGF	GCCAGCCACAGACCCCTGGGAGCTTC
132651	AOC3	GATGCCAGCTGTACTGAGTTCTCA
132652	ATP11B	ACAGTATTTAAATATTGCAAA
132653	RAD50	TCACGAGTAAGATTAAGAGCA
132654	KCNJ5	CCCTGCACCTCCCACCAAGGGG
132655	SCN2B	CGGGAAGCAGAGGTTGCAGTGA
132656	GLS	GAGCAGCATTATCCCCAAAGATA
132657	EPB41	AACTCTGCCCTTCTCCCATCCAA
132658	CD209L	CCTGGGTCTTATTCTGTCCTTCT
132659	B4GALT5	CATCTCCTAGGCTCAAGCCATT
132660	EPB41L2	GTTTTGGTTTTGTTTTCTGTTT
132661	SLC38A2	TTTCTGTGGGAAATAAAATAACTAATTT
132662	HSD11B1	AATGTCATGCACCGCTGCAGCC
132663	SHOX	AGGGTTCTGCCCCCAGATTTCGGGAGA
132664	DMN	TGCACACAAGAGAAATCAACTTC
132665	FKBP10	GAGGCCAGACTGGGCTGTAGT
132666	PPP3CA	CTAAGTGCATTTTCATCACAGAAAAGA

132667	RARG	CTCCATCTCAGCCATTGGGGCA
132668	BACH1	TTGCATATTCACATGATCAT
132669	BAG1	CTGCTGGGGGCAACTGGCCA
132670	ALDH3A2	CCGAGGTGGGAGGATTGCTTGA
132671	APOBEC1	CAAAAACACCACCAATCAC
132672	CLASP1	CCCAGTGTACTTAGAAAGGATCTC
132673	FES	GCTTCCTCTTCCGGGCAGAAA
132674	EPS8	AGCTCACTGTAGGCTAGCCTCTGCTT
132675	SPS2	TCTGTTTTCTCTTGCCAAAG
132676	SCN4A	TGCTTCCCAGTCCTGCCTGAACA
132677	NUP62	GTTGGAGAAGAGGTAAGCGGTT
132678	MLC1	TGCAGGGACAGTTGGGTGTGAGA
132679	PPP1R8	TGGGGTGGAAGGGTGATGGGGAG
132680	MECP2	AGTTCACACCTGCAGATTCTAG
132681	TEGT	TCCTCTATTTTGAATTTTTTG
132682	TNFSF10	CACCTGTAATCCCAACATTTTG
132683	RPL15	TGCTAGGGTGGGAAGCTGGTGAG
132684	G2A	CAGGCAGCTATGCAGTTG
132685	SLC18A1	CCCTCCCCTCTTCCATAAAGGCTGCAGGAGAC
132686	IRAK1	CTCTTGCGTGTCCAAAAGTAGCCC
132687	HTR2C	AGTCAAGTCTACCTGCCTTGCC
132688	WHSC1	GGTTCTGCAATGACTGCAGGGCT
132689	NPTX1	CCAGAGACCTCACGTGTGGAGCCAG
132690	AQP5	CGAGCCCCGTCTCCCAGGGAGTCCGGGG
132691	PFKFB2	TCTGGAGGAGGAGGAAAAAG
132692	DLEC1	AGCACAAAGACACAGACTTGGG
132693	CBFB	TCTATTTCTCAACCTTAGGCA
132694	JPH2	TTGGAAGGCAGACTTGGGACGCT
132695	CDC2L2	GGCTCACTGCAACCTCCACCTC
132695	FEZ1	GGCTCACTGCAACCTCCACCTC
132695	IGF1	GGCTCACTGCAACCTCCACCTC
132695	LYZ	GGCTCACTGCAACCTCCACCTC
132695	NUMA1	GGCTCACTGCAACCTCCACCTC
132695	PDCL	GGCTCACTGCAACCTCCACCTC
132695	RPH3AL	GGCTCACTGCAACCTCCACCTC
132695	SEDL	GGCTCACTGCAACCTCCACCTC
132695	SEPN1	GGCTCACTGCAACCTCCACCTC
132695	SLC14A2	GGCTCACTGCAACCTCCACCTC
132695	SNX15	GGCTCACTGCAACCTCCACCTC
132695	STAU	GGCTCACTGCAACCTCCACCTC
132695	TAT	GGCTCACTGCAACCTCCACCTC
132696	SHOX	GACTCACTGCAACCTCCGCCTC
132697	DCLRE1C	TGCAGTGAGCTGAGATTGTGTC
132698	PPARGC1	TATCTGTATTTTTTACAGTTAT
132699	TAF1C	CCTCAGCTGTGGGGGCCTCAGGCAGG
132700	GRIA1	AAACTGCACTGTTTTATTTTA
132701	EGFL4	TGCCTATAATCCTAGCACTTTG
132702	PPP1R12B	TGCCTGTAATCCCAGCACTTCA
132703	CHIC2	CTCCCCTCAGCCTCCGCCGCC
132704	LILRB4	GCTCTCCCTCCCTTCATCATC

132705	CACNG3	CAGCGCCCAGGAGCCAGGGCGCT
132706	MDM2	ACCCAGGCTGGAGTGCAGTGGGTGA
132707	BAK1	CCCTGCTGAGCCACCCGGGTTGGGCCA
132708	TAF11	CACCTAGGCTGGAGTGCAGC
132709	FADD	ATATTTCCATTTCTTCCTCA
132710	HOXC9	CCCAGCCTGCTGCCTCAGCACAGCCA
132711	GALNT7	ACCAGCCTGGTCAACATTGCAAAACCT
132712	MYCL2	CTGAGCCTTCCGAGTAGCTGGGAT
132713	BID	CATGGACTGTGAGGTCAACAACGG
132714	ETV3	CAGTTTTAACACCCAGCCCAGTGG
132715	CX3CR1	CTCCACCCATCCTATCAGCC
132716	INHBB	GCATCCTGCCACCCACACAGCAGCCT
132717	TRRAP	ACCTCACAGCAGCTTCGTG
132718	C4orf1	ATGTTCAGGTAGCAGTGAGCATTGTTC
132719	DVL3	AGGGCTGTTTCATGTACTTCTCTCT
132720	C21orf33	CAGGAAGAAAGGGAAATTGCAGCTCCTCAGC
132721	HSPA1B	TTTTCCTATGTCATTTCTGCTTCA
132722	PSCD3	CTGGGAGGTGGTCGCCCTGCAGTG
132723	SLC17A7	CTCCTCTCTGTCCTGCCTCAG
132724	GPR56	GTCTACTGCACAAGCCTCGGCC
132725	NCOA6	AGCCTCCCAAGTGGCTGGGACT
132725	SIGLEC11	AGCCTCCCAAGTGGCTGGGACT
132726	SMCY	GCGTTTATCTCAGGTGCGGA
132727	DDX11	CGCTGCCAGGACCCAGGCACAG
132728	TEM7	CTGGTCCTTGGCCAGGTGCAGTGGCTC
132729	RAB6A	GCTATCTCCCATGTCATCTTCAACC
132730	GUK1	TCTTTCTCCCTGATGGACAGACCC
132731	SNX9	GAAGAATTGAGGGACTTTGTAGAGA
132732	ALDH8A1	TGCCTATAATCCCAGCACTTT
132732	IPP	TGCCTATAATCCCAGCACTTT
132733	ETV5	AGAAATTACTCAATGCTGAA
132734	IFNAR2	GACACAGCCAACCTTTCCCA
132735	CAPN2	AAAGATTTGCATATCATTATACTAA
132736	FOXD2	TTTGCAGGAGCCTGGGTGA
132737	COL18A1	GCTGGGAGATTCAAGGGACCCATGA
132738	PART1	TTCACAGTGCCAGCCTCTAC
132739	MAGEA12	GGATATCCTTGGCTTCTTTGAGAATTTAA
132740	BRCA1	GAAGGAAGAAAAAGTGTTTTTCA
132741	NQO1	AAATGTTCTTTAAAGGCATCT
132742	HDGF	TCATTTCTCATCCACATACCCTGACC
132743	TESK1	GCGGGTCCAGGATCTTCGGCG
132744	GTF2I	CTGGGAAATGACAGGGAAAATGACAGG
132745	FPGS	CCCGGGTCTCTCACTGTTGCA
132746	NCOA6	GCTGAAACTTTTAGGTCCTGGGAGGA
132747	SCA1	ACATGCATCTGCTATTGTGTTGG
132748	CYP1A2	GTATGAACCACCGCGCCCAGCC
132749	DISC1	GTGTGAGCCACCGCACCCGGCC
132750	CTF1	GACGAGGTTTCGCCATGTTGCC
132751	MTRR	TTTCTGCTGCTTGGCACA
132752	HTR2C	ACAAGTGTTTCTAGTAACAGTATTTC

132753	IL18	AGTGTAGTGACGCATGCCCTCA
132754	KCNJ11	ACTGCAACCTCCGCCTCTCGGG
132755	HTR1E	ATTGCAACCTCCGCCTCCCGGG
132756	INPP5B	TCCAGCCTAGGCAACATAGTG
132757	PRKDC	TCTAGGTTTTTTCCTTTCATTTT
132758	MS4A3	ACTGCTGGAACTCACACATGCC
132759	MPL	GGCCTCCCTAGTAGCTGGGATT
132760	CD3Z	AGCGGGAGCCTCCCTGCCTCAG
132761	DAZ	CCCCGCAGTCCATGCCTCAGTCGGCCTGC
132762	PCSK2	CTACACTCGCTCTTTCTCTCCG
132763	TEAD2	CACTCCTCTGCATGTCTTGG
132764	FOXE1	TTCATTTGTCCACTGTTTCTTGTCA
132765	KIF5C	GCCGGAGGGGCCGGAGCGGAGAAGC
132766	PACSIN3	GTCCTTGAAGTGATCTCTAG
132767	MAK	TCACTCTTGTGTCCAGGCTGGAGTGC
132768	SYT4	AAAGAAACAACAAAGGAATTGAAACA
132769	SAS	ACGTGCTGGGATTATAGGCGT
132769	WBSCR5	ACGTGCTGGGATTATAGGCGT
132770	CCND2	GGAGAGGGAAGTGGAGCAGC
132771	SLC13A1	TCTGGAAGACATTAATGATTGA
132772	CDC7L1	ACATGATCTTCTTTGAG
132773	CTSS	CCAGGAGGTTGAGAATGCAGTGA
132774	ALPL	GCTCACACTCCTGGGCTCTGA
132775	PRIM2A	GAACAGCTGGCTGCCACCGTTTGTGTT
132776	HHIP	TTTTTTAAAATATATACTTCCTTATGCA
132777	GPR85	TGGAAAGCCTTACAAGACTGA
132778	EIF2C1	CACTCTGCTTGCTTGCTGGCCGG
132779	DTR	GAGGGGAAAGACTTCCATCTAGTCAC
132780	CSE1L	GCCACTGCAATCCAGCCTGGG
132781	FANCC	GACACTGCACTCCAGCCTGGG
132781	PLA2G2D	GACACTGCACTCCAGCCTGGG
132782	LAMC2	CTGGACCCTGTTTTACCGTTGCT
132783	CRIM1	TCTACCTGCAGTTTAATTGG
132784	CXorf6	GTCACCCAGGATGCTGGGGCACTTT
132785	AXL	CCCACCCCACGCCTTATCCCCACTT
132786	ADAT1	CGCTGCACTCCAGCCTGGGTGA
132787	HIP1	CACTGCACTCCAGCCTGAGTGA
132788	AIRE	GGGTGCCTGTAATCCCAGCTACAT
132789	CLN2	CCCTCCCCAAACCCCAAGGAACTCTC
132790	INHBC	CTGAGCTCTATCACCTGAGCTCCCCTGC
132791	CSRP2	CAGCATTTTGGGGGAACATT
132792	SHOX	TTGCTCTGTCACCCAGGCTGGAGCAC
132793	MYD88	AGAACAGGACCAGCTGAGACTA
132794	p100	CACATCTTCGCTCTGGCCA
132795	PRX	CCAAGGTGGAGGCTGAGGTG
132796	KCNAB2	CAGTCCTGCTGCCTGCTTC
132797	CCT3	GAGTGCCAGGAACACTGTGGA
132798	ATP11A	CCTCGGCTCAGCCCTATACCAGGC
132799	ADAR	TTGAAAACTGCAGTTCCCAGTGCC
132800	MMP25	ACGCTGGTGGAAAGACAGGGA

132801	RAB26	CCGGCCTGGCCACAGGTGA
132802	SH2D1A	AATCCAATGAAATGAGTTTTTCT
132803	PCBP2	CCATGATCCATCTGTGTAGTTTCTGAA
132804	GOT2	TAGTGCAAGTTTCTCCA
132805	CSNK2A1	GGCCGAGGTAAATACAGTGAAGT
132806	PIR51	TCACATGCTGTTCTTTTCTAGTTACA
132807	GAS7	CCCCTTCTACCTGCCTCCA
132808	AXUD1	CCTACACCTTGCCCTGCCTGGGC
132809	CDH5	CCTGACCTTGGGTCCTGAAGTGACCTC
132810	DNMT3A	GGAGAGAAGTATCAGCACCCAG
132811	GPR81	GCTTCTCCAGTGGGATGTGCTGA
132812	ZNF261	GTCATGCAGGATGGGATCTGTGGT
132813	RNF6	AATAAGAAAGCCAGGAATCTCAGGATG
132814	HPSE	TCCAAATACTGCTTAGCATTTTGCA
132815	LMO2	TCTGAAAAGAAGATATTTTTCA
132816	BENE	AAGGCTGGAGTGCAGTGA
132817	MUC12	CCTGCCTGTGCTCCTGCTGG
132818	KIT	GTCACCCAAGAGATTGTTGT
132819	B4GALT1	AGAGAGGCAGAGGTGGCACAGGACAG
132820	ELK1	TCCCAAGAGTAACTCTCATTA
132821	WTAP	TCTGTCTGTTTAGAATCTGTGCTGTGTAA
132822	FGF23	TTGGTGCATTAAATGAAGCCTT
132823	RAI2	TTTTCTTTTTTAATTTTTGAC
132824	PHKB	ATTGCTTGAACCAGGAGACGG
132825	RGS3	CTGATCTCTCTGGGTAGGTGCCCTCTG
132826	FRAP1	ATACTCAACTAAATGCAC
132827	GNB1	GAGAGATGCCTGTCCTGTGCTTGG
132828	LTB4R	GGGGAAAGGGGAAGTAATTGGCA
132829	CLECSF12	ATGGGAAAAAATCTTCACCA
132830	MADH1	GCTCCAGGAGAAAGCAGGCGGG
132831	ZNF289	CTGTGACATTCTTTATCCCT
132832	GPX3	TGGGTGCAATGTGGGTGTTTACA
132833	ITPKB	CTGAACTGCACTACAAGACAC
132834	CALB2	ACGAGAGATAGAGGATGGGCAGCTG
132835	RAB18	CACCCGGGCGGCCAGCTGGGCT
132836	PKHD1	CAGGAATGTGGAGAGCTTCCAAAAAGAG
132837	CAPN9	CAGCTGAATCTTGGCTTCTGGACCTTGAC
132838	MYCL1	CCAATGCTCCATCCCAACCAG
132839	NOLA1	GTGCGCAAGGCCAGGGCCAGA
132840	DTNA	CAGCAGCCTGGCAGCAGCCTCAC
132841	CD209	CCACCGCGCCTGGCCTATTATT
132842	LAMP2	TTGCTTCTAAAACAATAAAGAT
132843	COL7A1	AGGGACAGAGGCGGGGGTCCTAGCTG
132844	BUB3	ACTCTAAACCTGTTATTTCT
132845	EHD2	CTCGGCCTCCCAAAGTGATGGG
132846	DISC1	CAGTGGTTGTTCTGTTTGTGCTT
132847	VENTX2	GGAAGTGCCCAGAATGGGAGGCACGG
132848	CLASP2	CCAAATTCAAGAAGAAGCAGTATTA
132849	PIGR	GGCTCACTGAAACCTCTGCCT
132849	PMCHL1	GGCTCACTGAAACCTCTGCCT

132850	IRS1	TTCAGTTTGTTTACTTTATCCAA
132851	B4GALT4	AGCTCAACTTGAAGCTTTCTTGCCT
132852	WNT3A	AAGCGACCGAGGCCCTCCCAAAGAGG
132853	MTCP1	TCTTACCTCCCAGCTACCTCTCATGTGGC
132854	ITCH	TTGCCTCATCAAGCAGCTCAGTGT
132855	CNTNAP2	ACCATCAATTAAGACATATA
132856	TMEPAI	ATCTGTGTTTTCATTTACATCTCTCT
132857	PTPRO	GAGATAATTTATCTCACAGAAGCACCGG
132858	JTB	CCCTGACCTGGAACCTCTGGGAGGGCTGC
132859	TMPRSS2	GGGTCCCTTTTGCATTGCCAAGT
132860	LAMC2	ATGAGGCAGATAGCACTGGGTGTGAG
132861	KCNJ16	ATCTAGTTTCATTTCATCTTGCT
132862	DCI	TGCCCCTGTGGGTCCCAGGGAG
132863	LAD1	CCTCATGCCAGGCCCCTGCCTCT
132864	CEP1	CTCATTCAGGAGAATGAAGT
132865	FZD3	TTCAGATGCCTAACACCTTCCTCT
132866	ALOX12B	CTCTCCTCTCCCCATTCTGTGCC
132867	MMP19	GCATTTTCACTCCTGAGAAGTGCTCC
132868	PYGM	TGAGTCTGTCACACTCTCTT
132869	IL12RB1	GTTGGCCAGGCTGGTCTCGA
132870	PKD2	TTCTCTTGAATATGCTACACAAA
132871	ETV1	GAGAGTGTAAATAAATACATCGC
132872	HNRPD	ATCAAGTCCCTGAATGGAAGT
132873	KRTHA4	AGTCCTGACTTTTCTGGAGCT
132874	SLC6A8	CCCTCCAGGGGGCCTGCCTTTCCCTGA
132875	COL3A1	ACATGTCTCCCATCAGAAAGA
132876	ATRN	ATAGTCAAGACAACACTGACCT
132877	EN2	CAGTTCTGAAACATGTGGCTACCT
132878	MCL1	AAATTCTTTCACTTCATTATATGC
132879	SLC31A1	TAGGAGGCGGAGGTTGCAGTGA
132880	RAD1	CGGGAGGCGGAGGTTGTGGTGA
132881	GPRK7	CAGGAGGCGGAGGTTGTAGTGA
132882	TRHDE	AAAAAGAGTTTATTTTCCAT
132883	BSN	ACAGGCAGGGAAATGTTAGGAGGTCA
132884	AICDA	TGGTAGCAGGCACCTGTAATCCCAG
132885	PIK3C2B	GCGTGAGCCACCATGCCCCGCC
132886	ZNF14	CACTGCATTCCAGCCTGTGCGACAGAA
132887	SKP2	CGGGAATCTGGGAGGCGAGCAGCTCTG
132888	HUNK	TACATGTGTGCCTCTCACAGCAGTTGGCC
132889	ASS	CGACGCTATGTCCAGCAAAGG
132890	C21orf33	CCCAAAAACAAATCGCAG
132891	ROR2	TGGGCTTGTTTGCAGACTGGGTGA
132892	EPHA2	CAGGGCTGGGGACAGAGGGTG
132893	TCF12	ATTTGGCTTATTTTTCACTGTA
132894	KCNC4	TATATTCATACATATTATACTCT
132895	B3GAT1	GGACTGCAGCCTTCATCTTTATTG
132896	AK2	GCAAGTGTCCTAAGCTATGTCA
132897	SULT2A1	TGAACTCAGGAGGCAGAGG
132898	DUSP4	ATGGACTGCTCAGAAAAATGAGGGA
132899	GPR4	GCTGGGACCACAAATGTGAGCCCACC

132900	MTMR4	TGCCCTACTCTTTGCACCTG
132901	HMGA1	CGCCCTACTCCACTGCCCTG
132902	TEP1	AAAATACAAAAAGTTAGCCAG
132903	SLC6A8	ACCCTGTGCGGGGCACACCCCCA
132904	CADPS	CGCCAGGTTCAAACCTACCGGCTTCCT
132905	CHD2	TTTTAGTATTAATTATTGCTT
132906	GUCA2B	GCGCAGGGGGAACCCAGGGAG
132907	KAL1	GAATTCATGCAGATGCCTGGC
132908	CARD10	CCACTCCCCTCTACTTGCTGCTC
132909	PLAG1	TACTGAGATCCATGTGACATT
132910	RNF3	TATGCTTGTAATAAAAGCAAAG
132911	GRM6	GCTCAATTTCTTAGGCTGGAGTGCAG
132912	CUBN	CCCCCTGTATTCTCAGCACTTT
132913	BMPR2	CATGCCTTCCGTTTGGAGGGCCGCGG
132914	TLL2	GGGCAGGAAAAAATCTGGAATTAAC
132915	SLC7A6	GCGATTCTCCTGCCTCAGCCTCCTGAGTGGG
132916	EIF4G1	GCTGGTGGGGTAGGGATGAGGGAG
132917	DIO3	GTGGGGGGAGAGCCTGAGGTCCCCAAG
132918	NONO	GGAGAGGCCGTGTAGCGTCGCCGTTAC
132919	S100A12	TCCACATTCCTGTGCATTGAGGGGTT
132920	GDF5	CCATTTCTCCTCACCTGGGCC
132921	RALBP1	CAGCAGAATCAGGATCTCTTT
132922	EBI3	GATCGCACCTGTAATCCCAGTC
132923	WWP2	GCAAACTCCCTCCAGACTTTGTCC
132924	SQLE	ATGAAGTATATGGTTCATTAG
132925	PLN	AACTTCAGACTTCCTGTCCTGC
132926	NBEA	TCTTTGGTTCTTGAATAGCTTAGTTT
132927	CACNA2D2	ACAAAACAATCCCCATCAGGTA
132928	OLFM1	CAAAGAGATGGCTGATTCTGGG
132929	RS1	TCACAACAGGGTGTTGGGGGTG
132930	PLA2G4C	GGAGGAAACACCTCCAGCCCGCGACCTCCT
132931	DISC1	AAACTCCTGACCTCAGGCGATC
132932	TCF2	ATGGCCATTGTGTTGGGACCTGTG
132933	MJD	GCTCACATCATGTAATAGTG
132934	SLC7A6	TACAGATATTTACTTGGTAAAGTGCAG
132935	LAD1	AGGGGAGGGGCGCCAGGTGAGGC
132936	SACS	TTTGTGTGTACATATTTTCCA
132937	GOT2	CCACCATCTGCTCTAACCATGTAGACT
132938	TNFRSF6B	GGCGGTGAGGATGCAGGTCCC
132939	VIL2	TTTGTCAGATTCACACATGCC
132940	LASS2	TCTGGGGAAAAAGGAGAAAGTGA
132941	CCNB1	AGTTGGAGTACTATATTTACAA
132942	CYP8B1	CCCTCCTCCTCTTTCACCTTCATACA
132943	OFD1	CACCGCCCGGGCTGGGCACTAAACTC
132944	IQGAP1	TTTTCTTTCTTTGATGTTTTGAT
132945	RPL18	TTATTAAAAAGATTTTTGCTGACAA
132946	ZFP37	TGAGTGTGGCCATCTGTATA
132947	SHANK2	ACCAACAAATAAACACATG
132948	TSC1	GGGGAGGGGGATAGGAAGAC
132949	GPC1	GGGCAGTGGCCAAGCCTGCTGT

132950	FLT1	AGCAATGCCATTTCAGTGGCTTCCCAGCTCT
132951	DBN1	AAACCTGGGCTGGAGTGAGGT
132952	GPR81	GTCCCAGGCTGGAGTGCAGTGG
132953	IL2RA	TTTGGAAGCTCTGAAGTCACATC
132954	ACAD8	CAGACTCTTAGCTGAACGCG
132955	RBM8A	TGATCATAGCTCACTGCAGCTTCAAAC
132956	FOXE1	AGCCGGAGACCAGAGTCCAG
132957	USP5	AGCAGGACGGGGACGGGAGGGG
132958	PLS3	TTTTGCCCTCTTAGAATGTCCCTC
132959	PYGO2	TATACCTCATTTCCTCCATGA
132960	CRTAP	CCTGTCTTCCTCATGTTCACACTTG
132961	NR3C2	AAAGCCATATCTAGTCAATAACTCTG
132962	PIGR	ACCCTCCCAAGTAGCTGGGACT
132963	GPR81	GATCACAGGCGTGAGCCACCGT
132964	REQ	CTAGAAAGAGTGGGAGAGCAGCT
132965	DBH	CTGACCCTCACTTTTCTCATCT
132966	TRIM14	TTGCCAAGGAAACCCAGAGTGCC
132967	FOXD2	GGGGCCCAGAACCCTGGGAGCCAG
132968	TACC1	TGGCTTATTCCTGTAATCCCAACACTG
132969	MN1	GCAAAACTAGAGCCATGTCCCAAGCAT
132970	ANXA11	AGGCGTGCCTGAGAAGGTAGCC
132971	WIG1	CCTGCCTGTTGTTTGCCTTTTGT
132972	ATRX	TGCTAGCCATGTAATCAGATTTAT
132973	PKHD1	GGAAAGACTTGTTAAGACACTG
132974	ATRN	TCATTCTCAGGCTGGGGTGGACTC
132975	B3GALT2	GCAGAACGGGCAACTACAGCTCTTT
132976	OXTR	TAATCAGCTCAGTGTGTTACTG
132977	CDK10	GCAGGACTCCAGATGAGGA
132978	PCDHB16	CAACATCACAGAGCTCCATCTG
132979	PXMP3	GCTCCTTCATTTTACTACTTCTT
132980	NR4A1	CCCCCCAGCCCCTTGGCCCTCTC
132981	PCDHB13	CCAGCATTTCTTCATTTG
132982	LU	TCTGTGGACACTGGAGTCTGGA
132983	PIP5K1A	GAGCTGGTCCAGGAGCCGGC
132984	GPD1	CCTCATGCCACCACATTCGCCAG
132985	PRKY	TTCAGCCTGTGCTTCTCACT
132986	SEC22L1	AACAGCACTGGCTGGGGCATTC
132987	ACVR1	ATGTTTTTAACACTATACTCT
132988	ATP6V0D1	CGTCCTGGCCCAAGGCTCTCAA
132989	KCNS2	CTGAGCCTGGTATCCATGGCCGC
132990	CLCN3	GCTGAGGATGTGCCTGATAGTG
132991	ACPT	TCCACTACCAGCCTGGGCCTCCCC
132992	GDI2	TCAGTGTAGCTATGTGCTGCTG
132993	IL11	CCCTCGGGGCTCCCCCGGCAGCGGAC
132994	LDLR	GGATGACACCTCCATTTCTCTCCA
132995	SLC25A15	TGCAGTGAACTGAAATTGTGCC
132996	CA1	GTTCACTTTGCAAGAGAAAAAGAA
132997	SRGAP2	CTCCCCAAATTGTGACAGGAAA
132998	COL4A3	TAGTTTCTCTTAGAAAAGCTAA
132999	MTR	TCGTTTGATTTCAAAGCAAG

133000	KCNA7	CTGGGAGGCGGAGCTTGCAGTG
133001	SIAT6	AGAGTCCTGGACGCACAATAT
133002	PCDH1	GGGCCAGCCTGAGCCAGCAGTGG
133003	NID	TGCCCATCCCAGTGTCCTAGGA
133004	TXNRD2	ACCTTGAGGTAAAGGGCCAGT
133005	NHLH1	AGGGGTGAGGCCCTGGGGAGGCAGG
133006	ATM	GGCTTGCGCTCAGGAGGCAGAG
133007	JRK	CAGGATCAGCAGAGCAGGCAGGCA
133008	B4GALT2	CCCCTCGGGGCTGCACTAATGGACAGA
133009	DACH	TACCTTTTAGGTCTTCCTTGCAA
133010	FOXO1A	GAAGTCCAGGGAAAGGCATCTGGTC
133011	Z39IG	TGGCATCTTGCCACCAGAA
133012	SOX15	GGAGAGGGACCGGGGGTCCCCCAGT
133013	RBBP5	CACTTGAACGTGGGAGGCAGAGG
133014	CDS1	GATGTTTTAAGATTGCACCTG
133015	IL1RAPL2	ACAGAGGCAGCATCTGCCA
133016	KCNMB3	CCTAAGCTGAGGCAGGCGGC
133017	LDLR	CCAGCACTTTGGGAGGCTGAGCTG
133018	PTPRZ1	AGGATTCTGCCGCCAA
133019	RIMS2	AGTCAGGAGAAAGCCGAAAGCTGC
133020	CAPZA2	GGAAGATGGCGGATCTGGAGGAGCAGT
133021	NHP2L1	TTGCTTTTGGTAATGTGATGTTGA
133022	NRXN2	GGCATCCCTCCCTGCTCTTCTGT
133023	ASB2	TGGCCAGCAGTGAGCCTGAGC
133024	MUCDHL	CCCAGCCTCCGACCCGAGGC
133025	KCNJ15	ATGGTAGCCAGGTGGGTGAA
133026	PRKACB	AGGTATTCATATTTAAATGAGGG
133027	MAP3K7IP2	GTCTTTGTCTTCCCTGAAC
133028	IGF1	CTCTCAGTCCAACATTATTT
133029	APPL	TGTTGCCCAGGCTGGAGTGCAG
133029	CNN2	TGTTGCCCAGGCTGGAGTGCAG
133029	CTSS	TGTTGCCCAGGCTGGAGTGCAG
133029	CYP2B6	TGTTGCCCAGGCTGGAGTGCAG
133029	F2RL3	TGTTGCCCAGGCTGGAGTGCAG
133029	F3	TGTTGCCCAGGCTGGAGTGCAG
133029	FUT1	TGTTGCCCAGGCTGGAGTGCAG
133029	GPR4	TGTTGCCCAGGCTGGAGTGCAG
133029	PCDHA9	TGTTGCCCAGGCTGGAGTGCAG
133029	PDZK1	TGTTGCCCAGGCTGGAGTGCAG
133029	PIK3CD	TGTTGCCCAGGCTGGAGTGCAG
133029	PON1	TGTTGCCCAGGCTGGAGTGCAG
133029	PRND	TGTTGCCCAGGCTGGAGTGCAG
133029	TAPBP	TGTTGCCCAGGCTGGAGTGCAG
133029	TERF1	TGTTGCCCAGGCTGGAGTGCAG
133029	TMC1	TGTTGCCCAGGCTGGAGTGCAG
133029	TMPRSS3	TGTTGCCCAGGCTGGAGTGCAG
133029	TNFAIP2	TGTTGCCCAGGCTGGAGTGCAG
133029	TRPV1	TGTTGCCCAGGCTGGAGTGCAG
133029	UGDH	TGTTGCCCAGGCTGGAGTGCAG
133029	VHL	TGTTGCCCAGGCTGGAGTGCAG

133030	CAMLG	TGTTGCCCAGGCTAGAGTGCAA
133031	NONO	TGTCGCCCAGGCTGGAGTGTAG
133032	CDC23	CCTCCCATCTGCAACAGAATACA
133033	MAFF	ACAGGGACTCAGAAATGTGGTGGGA
133034	TNFAIP2	TGTGCTCTGATGCTACTTCT
133035	CREB1	AGGTTGAGGCAGCAGAATTGCT
133036	CDK4	TTTGCCTTTATCTCTGAGGCT
133037	EIF2C1	GGCTTTTCTGAGATTGTCTTAGGGT
133038	EIF3S10	ATAACACAAAAAGCATGAACTT
133039	FKBP6	GGGGAGTGGAAGGGAGCTCCCAGCGCAGCCGT
133040	GLTSCR1	AAAACGTCTCCCCTGCCAAAG
133041	GABRP	CTCTCCAAATCCAGCCAGAGATG
133042	AADAC	AAGTACACTATTCAGGCATATC
133043	KRT6A	CTCATCTCCTGGAACCATGGCCAG
133044	ARNT	GCACATCTGGATGCCTTCCCCCAGTATGTC
133045	CYP7A1	TATCATAAAGGATATTTCA
133046	HMOX1	TTGAGCCATGCGTGGGTGGGGAGGG
133047	MS4A6A	CAGAAACATTTCCCAGAAAATGTTTC
133048	KCNQ2	GAGGCTTGGACCTGCTGTGGAGG
133049	MAOB	ACCTTGCCCATGCACAAGGA
133050	UBE2H	ACATGCAGAGTCACATCCTC
133051	SYNGR1	CCTGCCTGCCACCCTAGGCAG
133052	RUNX1	TATCCAGCAGAGGGGAGAAGA
133053	ARCN1	AACCCAGGCTGGAATGCAAT
133054	CLCA3	ATACATACTTGGTAAACATTTATTTAA
133055	EIF5A2	GAACATTTTATTTATACTGTGAA
133056	SLC4A4	ACATTTGCTCTTCACAGCATGA
133057	DBN1	TGCTTGGGTTCCTTTTTCAC
133058	CAPS	AGAGGCACCTTCCACTAGCAACAGTC
133059	HEPH	GGTAGGCTGAGTATTGGGAATCCAAA
133060	ACADSB	TCTGTCACCCAGGCTAGAGTGCAGT
133061	CDH6	AGGAAGGCGAGCAGAGATATCCTC
133062	SLC1A4	GAGCTGGGACTCAGGTGTTTAAAGA
133063	PPP2R1B	TGCTTGTTCTGTCCTCTTGCCT
133064	ANGPT4	CACAGGAGAAGCTCGGACTTG
133065	LY9	ATGCTCACGCCTGGAGTGTTATTTAAA
133066	RUNX3	TCTCTTCCAGAGAGAGGCAGCATTGGCC
133067	UPK1B	GCCAAGTCAGATGGTACGGACTTCCTT
133068	ACCN2	CCTCAGGCTGCCCCTCTCTCCTC
133069	MCF2	TGAAACCACAGCTTTTGTGCC
133070	FUT3	CTGTCCCTGAGGGCCTGTGTT
133071	SGCG	AAATTTTCAAGTTTTGAAGGGA
133072	POLR2C	GGGGTGGGGGTGGGGGTGGAAGCAGCCGCA
133073	CDR2	CTATCTACTTTATTAAGCAGTATTG
133074	TXNIP	CTCCACCCTTTTCTGAGAGTT
133075	ATP2B2	TCCGGGCACCCATCCATCCA
133076	CD28	CGTGTGCCACTTGCCCAGCT
133077	ALDH3A2	TGTGATGTCTTCATCATAGTATGA
133078	HLCS	TGGGGGTTATTTAATGAAAAACAT
133079	RAD54B	TTCTAACTGGTACTCCAA

133080	CAPN5	TGGGAGCCAGGATACTGGGGTC
133081	SNX4	ACTAGAAAATGCCTTC
133082	INPPL1	TTGCAAGCAGCCTCCTGGG
133083	GPR92	TGGGGCAAGGCAAAACTAACTT
133084	UMPS	TCTTGCCATGTTACCCAGGCTGG
133085	SIP	ACATAGCCTTCTAAGTAAAGGCAA
133086	MSI1	GGGCGTGGGAAGAGCAGGGCTTGC
133087	PBP	CTAACCTCCAACACAGTGCATCT
133088	CDKN2C	CTCAGTTTTGCTGAATAATCACGTGTG
133089	ALDH3B1	CCGGGAGGTGGAGGTTGCCGTG
133089	HRH1	CCGGGAGGTGGAGGTTGCCGTG
133090	SELP	GACACTGAGGGGAGGCAGTGA
133091	IL2RA	CACTGCCCCGGCTGGTCCCAAGGGT
133092	TCF2	CTCACACACCAGGGCATTCC
133093	CPD	CCTCCATTTCCATTTATTCTCAA
133094	CAPNS1	TGCCCTGCCTGGAGTTCCCCCTGG
133095	CA3	CACAAGTGTCCAGAGATCGTAGCCAGA
133096	FUT1	TCATGCCATTCTGCCTCAGCCT
133097	PLAG1	GATTCCACTCTCTTCCACGA
133098	RFXANK	CCCAGAACTGACTTCAAAGGCAGCTT
133099	SH3BP2	TCAGCACTTGGGCCCACTGACAG
133100	GHR	GCTATGGTTTTCTCCAAGAGCTAC
133101	JPH2	GGAAGAGGGGTTAAGGTGCAGTG
133102	EGF	TCTTCCTTTCTTTTTCCTCTCTAAGCCT
133103	GADD45B	CCCCACCCTCCTTGAGACTGGAGCTGA
133104	SIL	CTTCAGGTGATCCACCCGCCTC
133105	MEOX1	TGGGTGAGGGCCTGGAGATGTG
133106	GA	TCCCAGCCACAGCTAGAGGTCCCGGGC
133107	CD59	CCCTCAGATTATTTTTCCTCTGGCTCCT
133108	CPS1	TCACACTCTCCAGGCTGGAGTGCAGTG
133109	PKNOX1	TTGCCCAGGCTGGAGGGCAATGGTGCA
133110	MUCDHL	CCTGGACTGAGGCGCGCTGGG
133111	OVOL1	AGAGGCACACATGTGCTGCA
133112	NLGN2	CCTGGAGACCCTGGAAGTGGTGTG
133113	GPRK6	CCTTGGCTCCTGGGGGCAGCCAG
133114	CASQ2	CACAAGGTGGCAGCAAGCAATT
133115	BRF1	TCTGCCTCTGGCCGCGGCCTGTGGGA
133116	TK2	CCGGTGTTCAGTGGTTTCCCTGCCCGA
133117	PXF	ACCATTCTGAATTCTCTAAAGGGAAA
133118	ST7	CATAGCTTTTGGCTGGGGGCGG
133119	GPR55	GCCTGGCTGCCCCAAACCCCA
133120	WEE1	CAGCGGCCGAAGGCCATTCGG
133121	HSPB1	TAGCCTGGATGCCCACCCCTGCTGC
133122	NBS1	TGGAACAGTGAGGAATGGAGGC
133123	CLN6	TCAAGAATGAAGTAAATACAGTC
133124	LNPEP	GGCAGTATGTAGTTATTTATTACAAA
133125	RBBP2	TCTTGGGTCTACATTTTAGGGAA
133126	EBAG9	TACTGCCCTCCGTCTACAGGCCT
133127	ZNF42	GTCTGCCTCTTTGGTCAGTTTCAG
133128	LEF1	GCTTCTCTGTGAATTGCCTGTA

133129	PRX	CCTCTCTCACTCTGCCTTCA
133130	TNFRSF11A	GTGCAGCCTCTAACTCCTGGG
133131	AVPR1A	CTTGCATTTCAAAATGGTAACT
133132	LIFR	GTATTTTCCCTGCCCTCA
133133	CYB561	GATTGCACTCCAGCCTGGGCGA
133134	DVL3	GATCGCACTCCAGCCTGGGTGA
133135	EIF5A2	TCAGCCAGGCTGGAGTGCAGTG
133136	HS2ST1	CATTCTGCCAGCTTTCTGATGTT
133137	DVL3	GCACAGAGATGCATACACAGGTGCCT
133138	GSTP1	GGACTCTGAGCGGGAGGCAGAGTTTGC
133139	PITPNB	CCACAGAAAATTTCTTCAAAA
133140	PLAUR	CCTACAGACTTGCTGTGTGACCTC
133141	KLHL2	GGCCTCAGATACTGAAGATTATTTTTG
133142	APPBP2	GTTGCCCAGGCTGGGAGGGCAAT
133143	HS3ST3A1	CCCCTCGACTGGAGGCAGGG
133144	ITGA11	CCCACTCCCTTCCCCATAGATAGGC
133145	NCOA6	AGGCTGGAGTGCAGTGGCGCG
133146	CDC2L2	GGCCTCCCAAAGCACTGGGATT
133147	KMO	GACCAGGCTGGAGTGCAGTGGT
133148	NF1	ACCCCTTCCCTGTCCTTGCCCTTT
133149	AOC2	GTGTTTTTATCACACCTGCTCCCCA
133150	VPS41	TGTGCTTTCTGCTACACTGCTAGTTT
133151	MAPK4	ACAGAAGTCCAGCCAGTTTCCAGGTA
133152	SUDD	AACCTGTAATCCCAGCACTTT
133153	DNASE1	TGCTGCCCTGCCCTTGTGACC
133154	RPH3AL	CTGCACCCCTTCTCTCCTGGG
133155	GLRA2	CACTTTGTCCTAGCATCTTTCTGGAATC
133156	NGFRAP1	AGTGTAAGTTTCTGTCAG
133157	ZHX1	AGGTGTCAGATCAGAATTTTTA
133158	NPTX1	TGGCATCCTTGATCTCAGGGATCTTCT
133159	S100A7	CGGGGGCAGCCAGTGCCCAGCC
133160	CST	TCATCCAGAGCTGGAGTGCAGCGGCACA
133161	IRF1	CCTGCAGCAGAGCCAACATGCC
133162	MADD	CCTGGCCCCTTGCTGTTCCCAAGTGCACGA
133163	EDG6	CAGTCTTGCGTGTGGATGGTGCAGCCACC
133164	SH3BP2	GTCGCCCAGGCTGGAGTGCAATGCCGT
133165	IGFBP1	CTACTTTTTATACTCCATACAT
133166	DLST	ATATTCCTGCCTTTCTTCCA
133167	F8	TATATACATCTCTATTTCTC
133168	ADCY1	GTGGCACCTCCAGACACCCTGAAACTA
133169	IDH3B	CAAGGAGGTGTTCAAGGCTGCC
133170	SNX1	TGCATCCTGCCTAGGCTGGACT
133171	RPE	AAACCCAGGGGTTCTA
133172	IL2RB	GCTGGGGCCCAAGTAAGGGCA
133173	RTN4	GGCAAGTTGCAGAGATGGTGG
133174	ALDH3A2	ACCAGCCTGGACAACACAGTGA
133175	BMP1	GAGATGGCTTCTGGAGGAAGGC
133176	GMDS	AAGCCTCCTCTGAATGGCTTTGTGAA
133177	VMD2	AGACAGCCACACCTTAGTATACTGCCC
133178	ADAMTS4	CTCTTGAACTCCTGACCTCAG

133179	SMN1	AATAACCAAATGCAATGTGA
133180	SLC30A3	CCCCAGACTCTCAGCATCTGCT
133181	CYP1A2	GAGCCTGAGTGACAGAGCAAGACCCCA
133182	SLC6A4	GCCTCCAGCCACTTATTTC
133183	NDRG1	GTTGTTGTGTTGAGATCCAGTGCAGTT
133184	ADK	AGCGGAGTGGATGGCAGAGGTGG
133185	SOD3	CCACCCACCACCGCTCCCGC
133186	HDAC4	AGGGCAGATGGCAGAGGATCTGCC
133187	PELO	ATGATCCCTTTTCTCCC
133188	ABCC3	TGACTCAGGCCAGTGTGTCTCT
133189	RPL15	AACTAGTCTGCAGATGTTTCTT
133190	STXBP1	ATCTTCAGTCAGATTATCCTC
133191	CSRP1	AGTGGGCCACCATCACCCACC
133192	F2R	AACAACAGATGTACGACTTGCA
133193	MEIS2	TTGACAGCTGGAGTGGCAAAA
133194	PTK2	ATCATGATATTCAGAAAAATCCA
133195	EGFL4	GGCTGGTCATCACCTACCCA
133196	GART	TGAAATCCTGGGCTCAAGTGAT
133197	PTBP1	TGCTGGGACCCGGAAGGCGGGCGCTCC
133198	KLHL3	ACAGAGACCTCTCTTCTGGA
133199	PLAGL1	AGCAGCACCAGCTGCTCTCTTTC
133200	ABCA1	AATGAATTCTTCAACAGGGAAAACAGCT
133201	PAICS	TCCATTTCTCCCTGTCTGTCCC
133202	UVRAG	GACACAAAATGAATATTAATG
133203	DUOX2	CATCCATGCTGTTGTGTGTAT
133204	SH3BP5	TAGTAGTTAAGTGTTAAGACTGCTT
133205	MFAP4	CTTCTGCTGATTCCCGAGCACCAAC
133206	DDX3	AAAAACACTGGCACTTGAATGTTGAA
133207	NTRK2	TGTTATATCAGCAGACACTCCA
133208	SYNGR1	CAGCCTCAGTCCACTTACCTGAA
133209	SMAC	TACCTCACACCCAAAGCATTTTG
133210	LAMP1	CTGTTCCTTTCTCTGGGCTTAGGGTC
133211	STS	AAATCACTCACAAGCAATCCA
133212	RET	TTTCCCTTACCCACCT
133213	PSMD9	GACTTTTTATAATTGAACCTCC
133214	SREBF2	ACTGCCATTGCCGCCTCCTGCCACCAG
133215	DLGAP2	CCTACCAATACATTGCACAGGGTT
133216	GALT	CCAAGCCCTGTGTCCCCAAGGAG
133217	BZRP	GCAGGTGCCATCACGCTT
133218	PHEMX	TTGCTCTTCAGCTCCTTCCTGT
133219	HMOX2	ACTTCTGGGCCCTAGGCTGCTT
133220	CRACC	GTGGGTGGGTCATCTGAGGTCA
133221	PTGS1	TTGGTGATTCAAAGTGTTGTGTTCCTG
133222	FGF5	CACAGCTTCAGCTATACTTACACTGT
133223	SCD	ACCTACCTCAAAGGGCAGTT
133224	SLC4A4	ACCCTTTAATGAACTTATCTG
133225	EN2	TCATTTCTTATCATCACTTTTTGTCT
133226	TAF9	ACTGAAATACATTAATGTGGGTGAT
133227	IKBKG	CCATGCACACGGGTGCTCTCCTTTT
133228	ZNF10	GACGGGATCGCTTTCTCCCA

133229	RAP1A	CCAGCTGAGAGGTGGTAGAGCAGG
133230	MMP19	GGATACCACTCTCTCAGCCACAGA
133231	CDC2L2	CGGGAGCGCAAGATGCGGGAGCAGC
133232	PFKFB1	CAACCAAGGAGCTATCTAGCTCTGG
133233	XPNPEP2	ACACAAATTTGGTTGGGAG
133234	ITGB1	CTTTTTCTTTGAAGTTTTAGC
133235	ARHGEF7	TTGTGCTCTGTATTGCAGGTCTACCCCG
133236	IFNGR2	CTGCCTCTAAAAGGCCT
133237	STK38	CTCTCAGTCTTTCATTCATA
133238	WSX1	ATGACTGCATGGATAGAACCAC
133239	NCOA3	TTCCAGGCATCCATCTTGGAAGAAA
133240	GHR	TTGAGACAGAGTCTCGCTCTGTC
133241	CRACC	AGATTCCCAGAGGGCCAGGT
133242	WWOX	AAATGTCCCTCCAACACAGATCC
133243	PRPH	GCCTCTCCCTGCCC
133244	IL21R	TAAGAAGCTAAGAAAATATTTCTTAGCA
133245	SLC18A1	CGTTCAGAGAACAGTGTCCCT
133246	ADAM15	GCAACACTCTGCGGACCTGCC
133247	ARF3	TTTAAAACAAAAAGTTGTTACGG
133248	SH3BP2	TTTCCTCTTCAGCCTGCCTGGGG
133249	SLC9A1	TTGCTACCTATGTGCCCGGTT
133250	REQ	TTAGTAAAAATAAATGTTTTTA
133251	MAP7	CTCCACCCGTTTTCTAGAGTTCT
133252	H3F3B	GTGGGGGAGGAGCACAAAACTCCAGCCC
133253	PML	TGTGTACCCATACTGCAGCCCCATCC
133254	PDE6B	GCCCAGCCTGTTTTTATAAACT
133255	NDUFS1	AACCTACTTCTTATTTACTCCAA
133256	TGM2	CCCTGCTCCCAGCCTGCTGAGAGCC
133257	SCML2	TTTCATTGTACAGTTTACA
133258	SERPINB3	TAATGCAATTAGTCTGTCACTCCATTTGG
133259	ENC1	CCATCTGATTTACTTAATTCAGTC
133260	DPYSL2	AGAACTCCTGTGGGGAGGAAACCTTA
133261	TNFSF11	TGAGACTACTAAGAGGCATGGCCCC
133262	CENTD1	ATACGGATCATTTGTATTT
133263	CYP8B1	CCTACCTCTGTTCTGCCTGTC
133264	SYNGR1	TGGTCTCATGTTGACCTTA
133265	KCNMB3	CCCTCCAGTCCCCATGGATTGG
133266	TARDBP	AAGTATATTGTAAAATACATAT
133267	SIP	TTCCAATAATTAAGAATACTTCA
133268	LTK	GCTTTTGTTGCCGGGTGGACCC
133269	TDGF1	CTCGAGTGCTGAGATTACACACGTGA
133270	CSNK1D	CATCGGAAGGCAGCACTGGAT
133271	HYAL3	CCTCTTCTTTTCCCTGCTGC
133272	DIO1	CTGGCTTTTACCCTTGACCTGTGTC
133273	PCDH15	GCTTTCCCTTCCCTTCTTTATA
133274	U2AF1	GCGGGTGGGAAATGGCGGAGTAT
133275	MME	TTGGGCCTCTGCTTCTCTCACCT
133276	DVL3	CACACACAACCTCCCCTGTTTTCACAT
133277	MRPL49	AGGGTGGAGTGCAGTGGCATGAT
133278	ESRRG	TTTGCAAAGTCACAGACCATTGCC

133279	CNTN2	CCATTCTCCCTGACAGGGAGTCC
133280	QDPR	GCCTGCCAGAAAAGTCACTA
133281	VANGL2	CATGCTAGAGAGGAGCTCATTGG
133282	FCMD	TCTTTCCTTCCTAAGGGACCTT
133283	SIL	TCTCAAACTCCCGACCTCAGGTG
133284	NRXN2	CGCTCCCCTCCCTCTCCACTCG
133285	HEXA	AGCCAGGCTGGAGTCAGTG
133286	TAF7L	GCGTTTTCTGAAGAAGTGGGAG
133287	ESR2	GCGGGAAAAGCACGTGTCC
133288	MFI2	AGCCTCCTGAGTAGCTGGGATG
133289	CSPG4	CTGGGAGATAGTCCCAGGGG
133290	GAS7	CAGCTCGTCCAAAGGCTTCA
133291	KCNJ6	TCTCCTCCCAAAATACTACACATC
133292	NKTR	CTGTTGGTAACCAGGAGTATAAG
133293	CEACAM1	CTGTAGGATCAGGGTCTAAG
133294	TEX14	AGTCTCACTTTGTTCAGCTGCC
133295	IGHMBP2	CTCCAATGTCTGGGACTTGCCAGCTC
133296	ADAMTS5	ACTGTCTCCCCCTTGTC
133297	INMT	CGGAGTTTCGCTCTGTCGCCCA
133298	TFPI2	TCTACCATTTTTAATTTATGGTTCA
133299	LIMD1	TTTGAAATAGGTGAGGCAGGGT
133300	GPR41	GGTCTCAAAGAAGCAGTGGCCA
133301	GPR1	TGACCAACATGGAGAAACCCCGTCTCT
133302	OCA2	TTTGAAGAAGAAAAGGTGCTTA
133303	USH3A	TCTAGCTATAGTGTCTCGAGTA
133304	ARSB	GGCCTTTTCTCACGACTCTTGTCTC
133305	SLC22A3	GCATTTCAGCTACATCATGCC
133306	SERPINB9	GCCCCCAGCAACCACCAATCTG
133307	ADAM28	AGGAAAATCATTTCAGATGCAGTGTT
133308	PCDH11X	AGGATTCCACAGATCACATAC
133308	PCDH11Y	AGGATTCCACAGATCACATAC
133309	GNRHR	TATCCAGCACTCACCATGA
133310	TRIM9	CCTCTGCAGTCTTTACACCCACAG
133311	PEPD	GGGCCTGGCCTTGCAACCTCTTT
133312	PLP2	AACTCCTCCCCACCCCAACAA
133313	LAD1	CCCCTGCCTCTCACAGCAGCACCCTTT
133314	TNFRSF6B	CCTGTGCACTGTCCTGGCCCCCTCTTATTT
133315	IL13RA1	CTCTGTCTAAAAAACAAAACAAAACA
133316	CBFA2T3	GGTGGCTTATATTTTCAGCAAAGA
133317	SYP	GGGCAGCCCCTCCCCATGGTGCAGTGA
133318	FCMD	TTTCTAGTTCCATGTTTCTTTTCT
133319	INHBC	GAGGTCAGGGCATTTCTTATCCC
133320	RGS9	TTTTCTCATGGGGAAGGAT
133321	AOC3	GAAACAACAGAAACTTT
133322	CARKL	TGGCTGCAGACTGGAGCTGCGC
133323	TMPRSS3	AGCTTCCCCAGTAGCTGGGACC
133324	SRGAP1	GAACCCGGGACGCAGAGGTTAC
133325	ROCK2	TGCAGTGAGCGAAGATCGAGCC
133326	SUSP1	ACACAAATATTTAAGAGGAAAGAG
133327	FOS	AGGCAGCCGGCACCCACAAGTGCCACT

133328	HEM1	TGAGCAGATCTGTGGAAGAACAATCC
133329	KIF5B	TTCCCTGCAAGACTGAGCGGCGGGG
133330	DIAPH2	CTCTCGAACTCCTAGCCTCAAGCAAT
133331	CXCL13	TCTGAACTCTACCTCCAGA
133332	PML	AACTGATGTTCCATGCATGTT
133333	BFSP1	ATGCCCAGGCTTGATGGGATA
133334	SLC21A3	TTACCTTTCTCTCCAAGTTCTCCCA
133335	ADH7	CAGGAGGTCTGTGTTGTCATGG
133336	LAD1	AACCATCAGAGAATCTAGAA
133337	ANKH	TGGTTGAATGATAGCATTTCA
133338	GNA15	GGAACGCCTTCCAGGAACCTGTGGACT
133339	LRP4	CTGGGTCCCCTATCACAAGGCTACTG
133340	KCNAB1	AAATGTTCATTGTTTAATTAGCACTG
133341	CREBBP	AGAGCATCACCTTTTCCCTTTCATGTT
133342	ADH7	ATCATACTTATCATAATGTTC
133343	MASP2	CAGGTCAGAAGCCAGAGCCAG
133344	VAPB	ATCATGGGATTTAAATTTATCA
133345	MUCDHL	GGACATCGGGACGGAGGCAGACGTGGTCGT
133346	PDGFB	CCTGCATTTTCCTCTTGTC
133347	PIK3C2B	TGTTGTTTCGTTTTCTAGCTATA
133348	ADCY1	TATCAGACTATATTCTAAAACTATAT
133349	TPM4	GGAAGTGGAGACTGCAGTGAG
133350	APBA2	CTGTCTTCTCCCTGCACAAGCCAGGG
133351	SLC21A2	TTCAGACATGCTCATACCATTCCCATTTTC
133352	PSCD4	CTGCCTCTGACTCGCTGTGTACCCTC
133353	CCR2	TTGCCCAGTGTGTTTCTGATCTG
133354	COL19A1	TTTTAAATAACATTTAGGGTGTGTTTT
133355	STAM	AGAAATTTTTAAACTGGAAAG
133356	HOXD11	TTGGGCCGGGTTGGGGGTTGCTAGAAGGCG
133357	ESR1	CAGGACCTGTTCCAGTGGGCACTG
133358	DPP6	GCTGCTGCTGCCTCCCCACCGCCTT
133359	CPNE3	CAGTTTTGAATAAAAGCATTTACA
133360	DNAJB1	TCTGTTCCCTGGAGGCCAGTCC
133361	USP1	TCCTGGCTCTCCCGGGGCGGGCGCAGAT
133362	ENAM	TCTTCTTTATGTCTACCTCCTC
133363	IRAK4	CTGAGGCAGGAGACTAGCTGGA
133364	NGB	CCAGCCATCTGCACTTGTACCA
133365	FCMD	CAACTATTCACCCTACCTCA
133366	TRAF5	GCAGCCAGGAGCAGCAGCCGCG
133367	SORCS3	GCCTTGTGCATGTCCATAGTGA
133368	SMARCD1	GCTGAGCCCTGGCCGCCTCCTGGCTGGAA
133369	EXO1	ACAAACCTGAATGTGGCCGTGTTCA
133370	GOT2	GTGGTGAGTGGATCATTTC
133371	PTGIS	TCTGCTGCCCAGGCTAGAGTGC
133372	BMP8	GTAATTAGGCTGAGTTGGGTG
133373	IHPK3	TCTACTTCAAACCTTCCTCTAGCA
133374	AP2B1	TCATTCCTCTGTTCTTATTGGG
133375	FUT7	GACCCTCCCCACCCTGAACAA
133376	TCF7	CGGGAGGCGGAGGTTCCAGTG
133377	LARS2	AGCTGGGCAAAGGAGAAATATG

133378	HDAC1	CACCTTGCCACCCATTCTTCCCGTTC
133379	NQO1	AAATGTTCTTTAAAGGCATCTA
133380	PSME3	CCTCCATGGACACCTAGCCA
133381	YWHAB	CAGGAGTTTAAAGCTGCAGTGC
133382	SORBS1	GATTTTTCTGTTCATTTATTT
133383	TNFAIP2	GGCTCTGCTCCTCCCTGGGCCTG
133384	TCF20	GTGCCTGCCCATGCCAGCACTTCCTTAAGTTC
133385	PTPRG	AAGAACTGCTTCATGTGAA
133386	JPH2	AAACCCGCATCTGCTCAC
133387	ACAT1	GACCAGAAGGCCTGCTGTAATCAGTGTGA
133388	CYB561	CGGGAGATGGCGCTTGCAGTGA
133389	HSPA1A	CCAAGGCTTCCCAGAGCGAA
133390	EGFL5	TGCCTAACTTCCCTAGAGAAA
133391	DCX	AGGCCTGATTTTAAACTTCAGGCC
133392	RDX	CTGGTATACTATCATCCTGGAGGGG
133393	TFCP2	ATCATACTGAAGTAGAGTGCGGCGTTTC
133394	WBSCR14	TGCTCACTCAGCTGCCCTG
133395	NTSR1	GGACCCTTCGGCTCACCAAGA
133396	PDE1B	CCCAGATCTTAGCTGGCAGGTC
133397	AP1M1	CTGGCACCTGGCGCGCTCG
133398	GPR17	CCAGAAGAGGGACCTGGGAGTCCTGG
133399	LZTR1	CCCTGCCTTGCCCCTGCACTATGCTC
133400	NDN	AGATTCTTGTGATACAATCA
133401	GRM1	TGGTGGAGCCAGACAGAGCAGG
133402	DISC1	ATAGGCAATGTAGTACTCAGTA
133403	GGCX	GGGCCCAGGAGGTGGAGGTTGC
133404	EPHB3	ATGCCTGGCCTTAGGCTGT
133405	RASA1	CAGTAAATATTATTGGTTGTTG
133406	MMP19	GATACCACTCTCTCAGCCACAG
133407	LTB4R	TGTCATTCAGGCTGGAGTGCAGT
133408	DEC1	TGTGGAATCCCAGAGCTACTC
133409	GPR1	TCTCCCACTCTCTCTGTTTTTTATAG
133410	RNF3	CAGAAAGAGGTTGCTGCAGTT
133411	FCAR	TTGCTCTTTCGCCAAGGCTGGAGTGC
133412	EFNA1	TGTATGCCACACCTGGCCTTA
133413	ALDH3B1	GGTCTTCCCTCTCCCTGCCTCA
133414	ADSL	TCAGTCTCACATTTCTCAACA
133415	PPP2R1B	TTATTTTTCTCCACTGCTTGGA
133416	CHRNE	AGCAAGGACATGCGGCCTGCATGGTG
133417	TEM6	CCTCTCACAGCCTAGGTGCTCTG
133418	ABCB11	ACAGGCAATCAACAAACGTTTCTTGA
133419	UBE2V1	GGACCACTAAATGCTGAA
133420	SORBS1	TTTGCATATGATGCCAGCCTCAC
133421	PPP2R5B	GGGGGAGGGGGAGGGCACAGGC
133422	MAP3K7IP1	GGCCTGACAGCTCTGTGGCCTGG
133423	EPB42	AAGCAAGAGGCTTCAAGGTTT
133424	DTNB	CTCCGTCTCCAAAAACAAACAAACA
133425	DDX16	GAAGAGCTAGGGTAGAGAAGG
133426	NDRG3	CTGCAACCTCTGCCCCCTGGGT
133427	ZNF253	CTGCAATCTCTGCCTCCTGGGT

133428	ARSD	GCCATGGTGGTGTGCACCTG
133429	PDE6B	GGTTCTGCCTGTGGCTATTTGCTACA
133430	CXorf6	GTCACCCAGGATGCTGGGGCACT
133431	IRAK4	ACCTGTAAATCCCAGCACTTTGG
133432	PRND	GGAGTTGTTGAACTATATTTGGA
133433	RBM3	CTGCCTATTTAAAGACA
133434	EPHA3	TTTAGACTTACTATTACATAAA
133435	DBN1	TTGCTGCCACATGGCGACCGC
133436	GABPA	CACACTTCTAGTCGCGGGAGCTGCAGGTCTTA
133437	RAD52	TTGGACTCTGTCACAAAGGGA
133438	MHC2TA	CTGCGGAATGAACCACA
133439	ZNF135	TCTAGATTTGACCCAATCATA
133440	OASL	GCTCACACCTGTAATCCCAGAA
133441	PAM	GTTGGTGTGTTTTTGGGATGTC
133442	SFRP4	AACTCACTGCAGTGCTCTTC
133443	EBAG9	GGGGTGAGGAAACTGCGACTGG
133444	ARHGEF7	ACTTGCTGGCTGACAGACTCAGTC
133445	CRADD	TACAGGCAGGTGTCTCATATG
133446	PDL2	TTTTGCATCTTTACTTGTGGAGC
133447	IL10RA	TCTGGCAGAGCTGAGAAGGGCAG
133448	MLC1	GGACAGTGAGAGCAGGGCTTGGC
133449	GYG2	TCCTGGTTGAGAAGCAACGAGGGC
133450	BRCA1	ATGACATTAAGGAAAGTTCTGCT
133451	ORC3L	TCCAACAAATAATAATGTAA
133452	PREB	GAATCAGGAGCCTGGACACTGCCATC
133453	HSD3B1	GTTTTGACTACTAGAGCTCCAT
133454	PTPRC	AGCTTATCATGCTGTCTTT
133455	SNCB	CCGGGGCATGGACAGGGCCAGG
133456	TCL1A	CTGCAAACGCTGCCTGCCGGTA
133457	PTK7	TGCCCAGAGACAAGTGAAGGTGTCTG
133458	RGL	CCCCACTGGTCTAGCCATCATGACACC
133459	ATP7A	AGCCCAGGCTGGAGTGCAGTGG
133460	SIGLEC11	GTAAAGCACAGGAAACCAGGC
133461	GM2A	CACCAGGCTGGAGTGCAGTGGTGCA
133462	CD97	CTCCTGCCGGCAGCTCCAACCA
133463	ECEL1	CAGGCTGGATTGTACGGGCC
133464	NPHP1	GGTAGTGCGTGCCTGTGA
133465	RAB5B	TCCTCCCTAGTGTTCCTCCCCG
133466	M17S2	ATGAGTGTGTGTGAGGTATA
133467	LAMC1	TGAGGCCACAGAGTGCCTTG
133468	FMR2	TCTGGCTTTTGCTTTCCTGCTAGTGT
133469	DISC1	ATATCTGCTTGGAGAACCACAA
133470	DRD1	GCCAGTGCTTTATTTGGGGAA
133471	CALR	GTTTTGTTCCCCTCCTCC
133472	JRK	CAGGAGGTGCAGCGTGTGGAGTG
133473	VPS41	TCCATGACAAGTTTTTGG
133474	CSNK2A2	GTATGCAGAATGTTGTTGGTT
133475	SLC5A5	CCCTGGGATGGAACCTCAGGATGG
133476	KCNMB1	GGCGGGGGTCCAGGCAGAAAGA
133477	CHRNA10	GCTGTTACCTTTCCCTGCTGA

133478	PAICS	GAGCAAGACTCTGTCTCAAAAG
133478	TPMT	GAGCAAGACTCTGTCTCAAAAG
133479	NUFIP1	GGCTTATGGGTTAATAAATGAATTCATGGA
133480	TRIM9	AGTTGCAGTCCACAGCATTCACATT
133481	CDKN1A	CAGGCAGCTCAAGCAGCGA
133482	ZNF85	GCCCAGCCTCTGTGGCCCTGTGGCCTG
133483	NXF3	CAGGGCTGACTCTCATCCTTC
133484	PDE1A	AATGGACTGAGGAATGCTTGTTCTAG
133485	OCLN	TTCATACCTACATGTATTTGTT
133486	NLGN2	TCTAGCTCCTCTCCAAACAGCCATGCC
133487	NCOA3	CAAGAGAGATTAGAATATCTGGTTTCT
133488	BCL2	GGCCTGGTCCTGGAACTGAGCC
133489	LZTS1	CATGCCTGCGCCTGCTGCCTGCT
133490	BRF1	GGCTTCTCGAGGGCTTGGGGG
133491	VIL2	CGCACACACAGTGATTCCCTCCTCC
133492	ZNF264	CAGGCTGGAGTGCAGTGGCACGATCTT
133493	VCL	GTTCCCTAGGGGACACTTCCCT
133494	SORCS1	ACTCACAAGTTTCTGAGCCCTTTGTC
133495	HOXA1	GGGGAAAGGGAGAAGGGTGGTA
133496	MECP2	ACGTTGGGACAGGGAGGTGTGA
133497	CYP1A2	GTCTCCTAAGCTGGAGTGCAGTG
133498	CTMP	CGCTTGAACCCGGGAGGCGGAG
133498	OGG1	CGCTTGAACCCGGGAGGCGGAG
133498	RBM3	CGCTTGAACCCGGGAGGCGGAG
133499	PTPRO	TAAAGAGCCTACAGTGTCCTT
133500	PTPRCAP	CCCCGTGCCTCTGCTTCCCAAGATGCCA
133501	PPP2R5B	CCTCGCCTGCCCCTGCCTTGGC
133502	GALNT7	ATTGCTTTCTCTCTGGCCTGGACATTCTC
133503	PRX	CTAAGCCCCAAGGCCCGGAGTG
133504	GRB10	GCTTCATTCTGTACATAGCTCTT
133505	ZNF268	TGCCCCTTCAGGGTTTGGAGGA
133506	TLL1	TGAGCCTTTTAGTAGAGCTGAT
133507	BAZ2A	GGCCTCCTGAGTAGCTAAGGGAGG
133508	EFNB2	CCCCAGGTTCCTCCTTCCCCTCCCGAT
133509	USH2A	ATTCAGCCCTTTGATAGCTTTT
133510	ELMO2	AGCTGGATCCCCACGTGAG
133511	LDLR	CACTGCACTCCAGCCTGGGCAACAGAT
133512	WHSC1	GTGACTGCCAAAAAGGAGTAT
133513	TTF2	CGTCAAGCCTTTCACCTTCCTC
133514	PPP1R3A	TCCAGTATTTTGATAGTTAATTA
133515	EXTL2	CGGGTAGTGCATTTTGTCAC
133516	PCDHB9	GTGTATGCCCACCACAAAGAAG
133517	B4GALT5	CTGGAGTGTGGTGGCACGATCACAGCT
133518	AICDA	CCCAGGAGGTGGAGGTTGCAGTA
133519	MEN1	GCTGAACACATTTACTCTCTGGCA
133520	SLC14A1	CTGTATTTATGAAATACTCA
133521	GCNT2	GAAAACCTGTCACTTGCACAGAG
133522	CTNNB1	TCTGAGGAGCAGCTTCAGTCCCCGCCGA
133523	MOCS1	GGCCCAGCTGGCTGGAGTCCAGGCAGCCA
133524	PTPN12	CTACCTGCCTTATACTACACTTA

133525	LDB1	GGATGCCTACTTGGAACCTGG
133526	ATP7A	TGGTGTGTCATTTGTGAAAATAG
133527	PTPRN	CTCACGCCCAGCCTCCTCCCACC
133528	WHSC1	TCAGCACTCTGCAGTGAG
133529	BDP1	CCGGGTAGCTGGGACTACAGGC
133530	NDRG3	CCGAGTAGCTGAGACTACAGGC
133531	MYO9A	CAGAAGCAGAAAGCCTGCTGGGGA
133532	AHR	AAACTGGAGTGCAGTGGCACA
133533	ZIC3	TTACAGTGTCAGTTTCCA
133534	HNRPA2B1	ATAGGAGAGGATGAGAGCCCAGAGGT
133535	IDH3G	TGTGTGCCGAGCCTGCCTGTGTCCT
133536	CARD15	CTTCAAAATGAGCCCTGTCCTGCCTAAG
133537	EGLN3	CGCTGGGGATCCCGGACCTCG
133538	ZNF239	AGGAAGCTGTGCGGAGCTGTG
133539	SLC17A5	AATCATCAAAATAAACCTTTGTGAATT
133540	NRIP1	GTGAAGCCACATGGGGTTTCAGTTGC
133541	AQP3	GTGTGCATGTGTGTGCAGGGGT
133542	JPH2	CAGGCAGCCTTGCTCTGGCTGGTGG
133543	ITGA3	CCTCTCCTGACCCCTGCCTGTTGG
133544	TBX5	GTCTGTCCCTGTCTTGGTGTT
133545	EIF5A2	CAGCCAGGCTGGAGTGCAGTG
133546	ABL1	GGGCCTGCGCAGTCCTGGTCCTGGCT
133547	CNTN3	GAATTGTTTCCTTCACAGCTAT
133548	POLR2A	CTCCCCGGAAGGGGGAGAGA
133549	GRB10	TTCCTTTCGCAGCCAGTC
133550	EXT2	GTGCAAAAGCCAAACATCTTG
133551	HGF	TGCTTACCCAAAAAAGGGAACACTGTGGT
133552	VAT1	CTTGCAGATATGTGTGGCA
133553	EGLN2	TCTCCAGGAGTTGGGGCTCC
133554	SIRT1	GTTTAAATACCTATCACTGTGG
133555	CASP4	TGTTCTGCAATATCCTGCAGCT
133556	ZNF202	CCCAACAATCTCTGTTGCCAG
133557	RFX5	GGGTCACATGTCCACCCTGACCAATC
133558	CASP8AP2	TATGCACACACATAAACGG
133559	RFNG	GAGGGAAATGGGACAGGGGCCGT
133560	HDAC7A	GGAGGCTGAGGGGGGATCA
133561	SUFU	GCCCTGCCTGTGAAGCTCTTGTTTCT
133562	TOP1	TGGATTCTCTTAGCTACTGT
133563	PAP	GGCATGAGACCAGTGTGAGG
133564	UNG	TACCCTTTGACCAAATGTCTTTCTCTG
133565	VPS41	GTGTGCTTTCTGCTACACTGCTAGTTT
133566	IQGAP1	CTACCCAGACCTTGTTTTTTGTTG
133567	PSMD9	TAAAGTGCTGGGATCACAGGC
133568	SCN4A	GTATGCTTTTATAGGCCTGTGT
133569	IVD	CAGTTTCAGCGCTGGCTCTTCGTGC
133570	CENPA	GTGAGGCTCGCGGCACAGCGTT
133571	MAK	GATTAGAGGCGTGTGCCACCAT
133572	CSH2	GCTGCTCTACTGCTTCAG
133572	GH1	GCTGCTCTACTGCTTCAG
133572	GH2	GCTGCTCTACTGCTTCAG

133573	OAS3	ACATGTGTGCATGTGTGTGCACA
133574	NPY1R	ATCTTGATTAGATTAGATTAGA
133575	CORO1C	GTGCCAGGCTGGAGGCGGCA
133576	AK1	CGGGAGTGGAGCTTGCAATGA
133577	SOX1	CTTCTGCTCCGGCTGTTTCACT
133578	DEC1	GGGAGCTGGGAACAGGAATGA
133579	ATP11A	GCACACGTGCACATTCATGTGTACA
133580	TLR4	GCCATGGCCTTCCTCTCCTG
133581	PRKCQ	CTTCTCCCTGGGAACTGGTT
133582	THBD	TGACAGTGTTGAAAATGTTCA
133583	MAP3K9	TGGTGGCACGTGCCTGTAATCCCAG
133584	OXTR	GCGTATGTTTGTGTATAAGGTA
133585	CDX2	GTGTAACATCCAAGCCAGAG
133586	CAMK2A	CCCAGCCTCAGCTGCTGTCC
133587	PRSS11	TTTCTTGCCAGCTTGGGCCATT
133588	CACNA1E	TCTTCTCTCACATGGAGAAAACCA
133589	TR2	CACATGCTCACTGGTGAACA
133590	NR2E3	GCAAAGGGAGAGAGGGGCAAGC
133591	HUNK	CCACTGTGCCTGGCCTTATGTA
133592	BCL2	TGTAGCTCTGGCCCAGTGGGAA
133593	MLLT2	GTGAACAAGAAACATGAAATCTGCTTC
133594	HTN1	GGCAAATTCACTTTTTACTCA
133595	ADAMTS5	CCTGGTTCTATTAAAATATCCAT
133596	POLE2	CATCTGAAGAAAATTCATCAGT
133597	UBE2I	GCTCCTCTGCATCATGTGAGGAGGGC
133598	SORBS1	AGCCTTTCCCCTCCCCTCCACTTCTTGGGT
133599	SNX15	CTTGATGTGTGAGCAGCAGC
133600	AQP6	ACCCTTGAGAAGAACTGACACA
133601	SWAP70	TGGGCAGCTTTTCTGCTTTTTCCCTT
133602	NOTCH3	CTGTGTACCTAGTACACAGGCAT
133603	DSC1	AGGAGGCGGAGGTTGCAGTGA
133603	EGFL4	AGGAGGCGGAGGTTGCAGTGA
133603	IAPP	AGGAGGCGGAGGTTGCAGTGA
133603	LUZP1	AGGAGGCGGAGGTTGCAGTGA
133603	NPHS1	AGGAGGCGGAGGTTGCAGTGA
133603	NT5C2	AGGAGGCGGAGGTTGCAGTGA
133603	SLC31A1	AGGAGGCGGAGGTTGCAGTGA
133603	SUV39H2	AGGAGGCGGAGGTTGCAGTGA
133604	PIK3CG	CCAGGAGGTGGAAACTGCAGAG
133605	STAU2	TAGGAAGGGGAAATATCTG
133606	BFSP1	AGGGTGAGGGTTCCTGTTTGGATTAG
133607	ATP7A	GCTCACTGCAACCTCTGCCTACC
133608	MTF1	CTGCTGTCTGTTGATGACGTGTGTGC
133609	PITX3	CCGGCCCCTGGCCCCTGCCTGCCCTCTAGA
133610	AGA	ACTTGGATTTCTGATCAGTGTTGC
133611	C8A	TCTGAAACAATGAGAAAAAT
133612	FAT2	GGAGAGGGGCATTTCTAGAGCAGT
133613	ULBP2	CATTTTCTTTCTTCTCTTTTTG
133614	ARNT2	CTGCCCCTCAGCTCCGCTGGTC
133615	KIF5C	GCTTTTCTCATGACTGTGTG

133616	ZNF10	GAGAATTGGTCCTGGAAGGGAA
133617	RNF28	CTCTCATTCCTTCCCACAGAATGGATT
133618	VENTX2	CGGAGTGTTGCTCTGTCACCCA
133619	STIM1	GCACCGCCAGCCGCCTGGGCACGG
133620	SIRT5	CCTGTTTCAGCTGCTACTTCA
133621	PTPRO	AACAAATTTGCTGGGAGAGGGAAAGAC
133622	KIF5C	TAGCAAAGCAAACCTGCTTTGA
133623	GATA6	TGCTCCACTTCCAGAAGCCAGG
133624	PTPRO	AGTTGAATTGTTTTCTGCCT
133625	ABCG5	GTTATCATGCAGAATTGGGT
133626	CORO2A	GCCTGTAATTCCAGCATGTTGG
133627	JRK	TTGACCAGGCTGGAGTGAAGT
133628	UGP2	GATCCCAAAGTTAGTTACTCTTA
133629	MAFK	GGCCCTCGGGAAGTTCCGCGTCC
133630	BAK1	AGCCCATAGGCCACCCCCTA
133631	EN2	GCATGGAGGAGAATGACCCCAAG
133632	PCDH1	CCTGCCTGCCACATGCC
133633	HRH2	ACATTAAAATTCTCAGAGGACTT
133634	ATM	ACTCTGTCCGCCCAGGCTGG
133635	CDC2L1	TTCTGAGGTCAGAGTGGACCC
133635	CDC2L2	TTCTGAGGTCAGAGTGGACCC
133636	CD209	TTCTCCGTGTTGGTCAGGCTGG
133637	PRSS16	CTCCTAGTCACTTTCTTTCTC
133638	OPRD1	GGCGAGGCAGAGGACAGATCAATG
133639	FGF5	TCACTGCAACCTCCAACTCCCTG
133640	CNTF	AGTCCCTTCTCTCTTCCTTGCTT
133641	PMM2	CTGCTTCTCTGTCTCCGAGACCG
133642	MCC	GGCTGTGCATCAGTGGGATCCCAG
133643	ASCL1	GCTCCCACTCTAAGAAGTCTCCC
133644	LPIN2	CTAAACACAGTTCTCAGTGGCA
133645	ASB3	GGCCTCGGACCAGCCATTTCG
133646	AK1	CTTGACGCGAGAGGCTCTGAGGGTCTG
133647	AKAP13	CGTGCCTGGTGAGTCTGCCTGTG
133648	DAAM2	GCAGTGTCTGTTTCCCATGTCA
133649	PRKAR1A	GCCTGTAATTAAACTAGTTTAAGGG
133650	ITPKB	GGTCCCTGGCTGCTGAGGG
133651	PROK1	GGTAGTTCATCTTCCCTCGAT
133652	MCL1	GACTTAACCTTTTATTTCCTGTCCTTCCTTGA
133653	PTEN	TTTTATGCTGGACTCTGGACCA
133654	B3GAT1	GTGGGTGGTGGGCAAGGTGGGACCTC
133655	PAG	CTAGTTGAAGTGCTATTATGAG
133656	ZNF26	TATCCCCCAGTATTTTCCAT
133657	ADARB1	GGACGGCCCCACGACAGAGGGAGTCAG
133658	BENE	CTCTTCCTCCAAGGCTGGAGTGCAGT
133659	PLEK	GGCTCTCTTCTTTCTTCCTCATCCT
133660	MAPRE3	CGCAGCCCTGGCTGACTGCACGG
133661	AEGL1	TCTGTTGGATTCATGTCTTTTGCT
133662	CD1A	TTCTGACCTGGGTTCTGGGACTTTTAA
133663	BCL2	GACAAATGTGGTTACACACTTT
133664	ADPRT	ACCACCTCAGAAAGGATTTT

133665	KCNK6	CTTCAAAAGGATTTCAGGCTGA
133666	CRY1	TCGTGGCGACTCGAGCTCCTGGAACTT
133667	NLGN1	GCCATGTCACTGGTCATTGTGTG
133668	FOXD2	AGTGAAGGCAGGATTGGAACCCCAGG
133669	STK10	CTGACTTCTTGCTGGCCTGTGGAGGGTG
133670	PTCH	GCTGCTGTCTTGGTGCCTGTC
133671	EIF2C1	TTGTGTTCTCTCCTTTTCTCTC
133672	NEDD4	CCAGACTCAACTGCCACCAGTCC
133673	C7	CTAAAATGTTAGAGCAGAATTCATTA
133674	NR2E3	CCCAGCAATTCCTCGTAGGTGTGTGT
133675	BMP8	CACAGCACAGATGCCATC
133676	TDG	ACCTGACAGAGCCCTGGCTTTGACCT
133677	MMP19	TTGGGGAAGGCAGGTCCTGAG
133678	PXMP3	TGGAGCAAAAATTCCCACTG
133679	GRB10	AGTCAAGCAACCACAGTCTGTTA
133680	ATF7	CACCAAAAAGAAAGAAACCCT
133681	WNT11	GACCAGCCTCCGGGAAGGGGTC
133682	SLC13A4	TTCAATACAACCATAGGCTCACAG
133683	CHST1	GTTGGGTCTCTGTGCGGACG
133684	CASP6	CCCAGGAGGTGGAGGCTGCGGTG
133685	BCAS1	AGGAGGTGGAGGTTGCAGTGA
133685	CPT2	AGGAGGTGGAGGTTGCAGTGA
133685	GGCX	AGGAGGTGGAGGTTGCAGTGA
133685	IFNAR1	AGGAGGTGGAGGTTGCAGTGA
133685	LDLR	AGGAGGTGGAGGTTGCAGTGA
133685	PDE4C	AGGAGGTGGAGGTTGCAGTGA
133685	PTGIS	AGGAGGTGGAGGTTGCAGTGA
133685	RFC2	AGGAGGTGGAGGTTGCAGTGA
133685	TBX6	AGGAGGTGGAGGTTGCAGTGA
133685	VDR	AGGAGGTGGAGGTTGCAGTGA
133685	XRCC2	AGGAGGTGGAGGTTGCAGTGA
133686	PRKCG	CTTCCCTTAGCCTCTCCCACCCG
133687	CASP10	GTCTCAAACTCCTGGGCTCAAGCGATC
133688	MUCDHL	CTCCCAGGGACCCTCCACGACCA
133689	ACOX1	AAACTATTCATGCTAGCATTTTTCCA
133690	SPAG9	GCTGCTGCAGGATGGAGTGGAAA
133691	GNS	AACTCTGCCCATGTGTCAG
133692	WBSCR1	TGGCCTCTCTGGCTGGGTGCAGTG
133693	GRAF	CCAAGTAGCTGGGACTGCAGGC
133694	FUS1	GCCTATGGGGAGTTACTCCAA
133695	ZNF143	CAGATCACAAACTCCTAGAGTCTACAT
133696	HNRPDL	GACTGAGTCATTACAGTGGACC
133697	CLCN5	CCTAAGCTGCTCCAACCTCC
133698	TLR4	TCCCAGCCATGGCCTTCCTCTCCTG
133699	NOTCH2	CCCTTTCTGCCCTCCTGCTCC
133700	FGF1	AAAGAAAGTAATGCCACACATT
133701	TRIM9	CAGAGAGAAATTTGTA
133702	FKBP1B	CAATCTACACTGCCT
133703	JPH2	GAGGCTGGACAGCTGCATGCAGCCT
133704	SLC22A3	CCCTCCCGTCCACCTCCTCTGTAACA

133705	NP	CCGGCAGCCTTGCTCAGTTCAG
133706	CISH	AGCCTCAGTCCCCAGCAGAGCCTGTGTC
133707	MAGEB3	TGCCTGCTGTTCCTGACTACAG
133708	SLC26A2	TTTGTATATACACACTGCAGCA
133709	DDX6	TTATTACAGTTTCTCTACT
133710	ABCD4	GTCTCTTGTAGTTTCATTCCTTG
133711	DMD	TTCTCATGCTATTTCTACCTC
133712	RBBP5	GTGACTTCTTATCTGAAATTTTGCTA
133713	TGFB3	ATCAACCCTCTCCTGTCTGCC
133714	GPR44	TCTCCCACCTCTGTCTGCCCGCTG
133715	EDARADD	CCTCCACTTCTCTCCTAGGCAA
133716	MTR	AGAACAATGGCTATTCATGTG
133717	CYR61	GAGGGAGGGGAAATGTAATACTGGAA
133718	LHX4	TCCATTATTTTCAATGGAAGTCC
133719	CYP1B1	CAACTGTCCATCAGGTGAGG
133720	RS1	CCAATACACACAGCTCCATTATGCA
133721	NCALD	GTTGCTGTTTGGTCTGGTGA
133722	S100A5	GGACCCTTCCATGGGAGGA
133723	EDNRA	CATCAGGTTCCAGTTGCTTGAA
133724	PRAME	GAATCTGAATTTCTAAAGGG
133725	DSCAM	GGGTGAGGGCTGGCGCACGGGAGGCC
133726	UGCG	GCCCCTTCCGTCCCCACCCCCCTCC
133727	TIAM1	TCACCTAGTATGTGAGCAGT
133728	ADAM19	GCTCCTCCCACCCTCCTCCAGG
133729	SCML1	AGCAGTTTTACCGCGACCTCC
133730	ABCC12	TGTCATTGTCATACATCATCCAGCTGA
133731	JAK2	GGCTGGATGAAGAAATGACCTTCA
133732	ELL	TTCCTGAGCAGTCCCTGCTTATG
133733	IRTA2	ATCCAGTCTGTTGAAGGCCTGA
133734	ADCY7	GGGGTGTTTTACATCTGTAAA
133735	TFDP2	ACTTTGCCAGCACTGCCTTT
133736	GAD1	CGGATCGCTGGGCGCTGTGCAGAGGAA
133737	NRBP	AGGTGGTGCTGCAGTGGTGGCCCTGG
133738	ZIC2	TCCCTGTCCCCACCCCAGCGCAGCAG
133739	PPEF2	GTTGCCCAGGCTGGAGTGCATT
133740	SGPL1	TTGAGCCTCAGGATTCTTGTTC
133741	NCOA6	TTCATTTCTGATTCCTCA
133742	GPRK6	AGCCCTAGGAGGGGGTGGGGCA
133743	LIG4	GCCTCCTGATGCTGTGCTCTT
133744	EBAF	TCAGGCTGGGGGCAGTGGACAG
133745	C8orf1	TATGTAATATATTTCTGTGGC
133746	WTAP	GGACGGGGAGTGTTACCGGGGAGCAGC
133747	CD28	AACCTGGCAGGCGGAGGTTGCAGTG
133748	IL1RAPL2	AGGAGGGAGAGAGGTGGACAGGCAGA
133749	SMP1	GCTGTGAATATTGCCTGGTGAT
133750	SGCG	AAAAAATTATGTGCCAGTGA
133751	EPHB2	CAGGGAGAACGCGGGGACCCCAGAAAG
133752	TIMM23	CACCCAGGCTTGAGGCAGCGGCGGGA
133753	SEL1L	CAGATCTCAAGATCTCAAATT
133754	PIP5K1A	CAGCAAATATTTTCTTAAACTCA

133755	CBR1	AACAGTGGTGGCTGGGCTCACAG
133756	RAG1	GGTTTCATAGAGTCCTCTCC
133757	HEPH	CTGAGTATTGGGAATCCAAATTGAATT
133758	PRDM2	TCTCAGATTCTTATCTGGCA
133759	TLX1	GCACCCTGGCAGCAGACCCCAAA
133760	TMEPAI	GTGTGTCTGTTGATCTGTGTTTTCATT
133761	SGT	CCACTTCCTCCTGTTGGACTGCCTG
133762	PLAG1	AACACAAAGCATCAGTATTTATAGCA
133763	NBEA	CCCAGCACCTGGACATCTCTTCC
133764	GALNT7	TCCTTTTCACACCTTATTTCA
133765	RBM8A	CCCTAGTAGTTGGGATTACAGG
133766	SS18	ATGAGGTTTATTCTATCTGTT
133767	MTBP	GGTGATCTCTGAGGAGATGGATCGG
133768	TUBA3	TGTTTTAAACATTGAAAAGTTGT
133769	GAN	CTCTTTTGTAAATTACAGTTATTTCAG
133770	MYO15A	GCCCCCAGCCCTCCAGTACCTTCTG
133771	C11orf13	CTCAGGAGCTGGGGGTGCAGTG
133772	GPRC5C	CACTCCTCAGTGTTTGTGGAGTCGA
133773	PIK3CG	GACATTTCTTCCCTTCCTTTTTC
133774	PML	CAGCCAGGCTGGGCAGAGCACTCCGG
133775	RDS	AGCTCCCTACAGCTTGGGCC
133776	TXNRD1	GTTTCTTCTCTCATATATTCC
133777	SEL1L	CTTCCTGAATTCTTTAAATA
133778	BCL11A	TTGCTGAGCAAACATGTTG
133779	NSD1	CCGGGAGGGGGCGCGGGGCACGGT
133780	PPARGC1	TCTGCTAAATTTAATAAAAACTT
133781	XPR1	CTTTCCAGCCGAAAACAGGAGA
133782	WASF3	TTCTTTACTAAGGATACTATTC
133783	ATP2A3	CTGCTTCTGTTTATATGTGCA
133784	GOLGA4	TTGAGAATGAAGTTGTCATTCAGGGCCCC
133785	TNFAIP1	CCCAGCTGAGAGGAGAGGCGCCC
133786	PLA2G4B	CTACCTTGAGTAGTTGGAGCACTTGATACA
133787	DAPK1	GGGGCCTACGGAGGCGCAGGAGCGGT
133788	ABCC3	TGAGCCAAGAGGAACTTGACCC
133789	TRIM9	TTGTCATAAAGTTTTAGGAAAG
133790	GLO1	GGCTCTTGGGCTGGAGTACCGT
133791	SERPINB9	CTGTCTCTATGGTTTTATCTATTC
133792	SSTR3	AGGTTCTGGGGTTAAGAAATAA
133793	ZNF274	CTCTGCCCACTTCCACCAGAGACACAT
133794	GDF8	TTTCCCCTCAACAATTTTGAAGCT
133795	COMT	CTCCTGCTGACCTTCTGCGGCT
133796	RAD54L	CACTCCGCCCAGTCTGGGACTCC
133797	MSH3	CGTCACTGCACTCCAGCTT
133798	ZNF16	CTGCCACTGCTCTTGCCTCT
133799	FBXL11	CACTCTGCTCCCCCTCTGTAAG
133800	CSRP1	AAACACCTTTCCCTTTGCCCT
133801	TRAF5	TCTTTAGCCCACAAGTCCA
133802	RAB5A	TTTCTCTCTCCCCCTTTGACAG
133803	CYB561	CCAGCCTGGGCGACAGGCTCAAAAAA
133804	RRM2B	TGAACACTTCATTCTTCT

133805	SOCS5	TCAAGCTTTGGAAGTCCAAAAAG
133806	ADM	CACAGCCGTGCTCGCCCACAAACTGAT
133807	ACK1	TGGCGGGGGAGGGGCGCCTGGGGGTG
133808	TCAP	CACTAAGGGTGGAGAGTTGGGGGCC
133809	TAL1	CCTTCCTCTCCTTCCTTGTTACCCATG
133810	RANBP3	CATCTGTCACGTGGTTCACCATCATCA
133811	HOXA3	TCACTAGCCTCAGAGCACTCTC
133812	UPF3B	ATTAGTTTTAGTTTTTTGT
133813	LZTS1	TGTCTTCCCTGGGCTGCCAC
133814	MAG	GCCCCTCCCTGCCAGCACCCCCA
133815	PFKFB4	TTTGTTGACTTCTGCCTGTGGGTCT
133816	RUNX3	CCTATTCCATTCCCTCCTGCTGC
133817	ITGB1	TTCAGAGAGTTAGGAAGGAAAAACCAA
133818	TRHDE	GCATTATGCAAAAGCACAAAGA
133819	XT3	CCTTTGCTCACATGTTTCC
133820	STXBP1	CTTGGAGTATTTCACACTGAG
133821	TRADD	GCTTCCCAGCTGGGTACTCTG
133822	IL7	TTTGATAAAATAAATGAGCTA
133823	DES	ACCCTCTGCCACCAGAGACCGTCCTC
133824	DUSP4	GGGAGGCAGTTCCTGGCTAACGAAGA
133825	FAT2	TCTGAACTCCTATTTAGG
133826	SIAT8E	GAGAAGCACCACATCCTTTCA
133827	ENAM	ATTACAGAATATATTTTGGA
133828	ARRB1	GGGCCGGCCCTGCCTCCACGTGGC
133829	SNX13	TAGGGTACTCAATTTTATGTTTCCTTT
133830	MADH4	TTTGTTCTGCTTTATCTTTTCA
133831	AP1B1	GGGCCTGGGGCTCAAGGAGCTGTAGGT
133832	GORASP1	ACGGTTCCCAACCCCAAGGGG
133833	SYP	CACACACACCCTTCCCCACTCCCGTGA
133834	ARR3	TCTCTCTCCCCAGAAAAGGCTCA
133835	PTGFRN	TTAGTAGGAAGAAAGGGTGCTTA
133836	FUT6	TATGGGACCTGTGCCCAGCC
133837	NAPB	GTGGCTCTCAACTGGAATTGGT
133838	LCT	ACCGTTAGAGATGACTTTAA
133839	SIGLEC7	CCCTCCAGCAAAGGAGTCTGAGGCTGA
133840	PRKCH	AAACAACAGGTTTGCATTC
133841	MGAT5	CTTCTTGTTGCCTAGCCA
133842	RBBP9	CAGAGTGTTAGCTTAGAGCTCA
133843	SIAT1	CAGGAAAGCACCTGTCCTGGCT
133844	RPN1	TGCAGCCGGCTGAGATGGCGCC
133845	STAT1	AGATGCTTGTATTTTACTTTTCCA
133846	MYCL2	GTCTTAAAGCCCTCTGGGCTC
133847	PCDH11Y	TACCAGAGCGGTTTTGCCTCAG
133848	MVK	TCCTCCAGGAAGCCTTCCCCTA
133849	FADD	TCTCCTCTCTGAGACTGCT
133850	ICMT	GCCTCGGCCTCTCTGTCATGCTG
133851	PIGN	TTCCTTTGGCTGGCAGCTCTTCCCA
133852	RS1	GGAAAGGGAATTAACTTTGGTCACG
133853	MAGEA2	AGACAGTGCCAACACTGAAGG
133854	RAP1GA1	GGTAGGATTTTCTTCCCAGGGA

133855	APPBP2	GACGTACTTGCAGTTTATGA
133856	RABIF	ACTAGCCTGGGCAACATGGTGA
133857	RASA1	TCAGCATGTCCAACATGGTAA
133858	ZNF41	ACTGCAGGATCTTCCTTCTG
133859	PPP2R5B	ATCATGGTCTACTCCTCTTTCCGT
133860	LASS1	AACTCTGCTCCTCTAGGGCCGCCGCCA
133861	DNASE1L1	GACTGTGGCCAGATCATGTGTG
133862	PTPN7	ACAAGGACTCTGGTTACCCTTG
133863	ALDH8A1	GAGCCCAGGCGGTTGAGGCTGCAGTG
133864	DACH	AAATGATTTGTAGAAACTTGGTTTTC
133865	ETF1	TAGGGAGGAGGAGGCGAGAAGATGGC
133866	UBTF	AACTGGAGGCAGGGAACATGGG
133867	PROS1	CAAATTTTAACAAAAGGACA
133868	ALEX2	ACATTCCGTCCTGTTTTGAGAGGAGG
133869	P2RY1	TTTGCTTTCACAGTCTCTCTTCCT
133870	KCNJ16	GGTAGATAGAGTGCCTT
133871	FPGS	CCTGCTTCTGGCGCCCCACCCACCCC
133872	GSTA4	CTCTCCTGAGCGTCTTTCTGCTCTCCTTAT
133873	HAS3	TCTGGGAGGCTGGAGATCCTTTCT
133874	LARS2	TCTCGGGAATTTGAGGCCAGCCT
133875	CHAD	TCCCAGGATCATCCTTCCTC
133876	DNM1	GACAGTTTCTACCAGTCCTGCTGTC
133877	CNP	TTCCCAAGCTGGAGTGCAGTG
133878	MEN1	AATCCCAGCCGGCCAATGGAA
133879	MXI1	CTCCTCTTTAAAACAAAACA
133880	G1P3	CCAAGTAGGATTACAAGC
133881	MFI2	GAATCAGCTCTTTCAAACTTGGGGTT
133882	SDC1	AATGCCACTGCCTTCGCTTCTTGCCT
133883	SET7	ATCCTCTCACCATGCGTTAGCAA
133884	IRTA2	GGCTCTGGCTGCCCAGGGCCC
133885	CDH6	GGAGTTCAGTGGAGAGGTTAGAGCCAG
133886	SSX2	TTCCAAAATCAGAGTCAGACTGCTCC
133887	OPHN1	AGAGAATCTGGCAATGGATGAA
133888	LIG1	GAAGGGAGAATTCTGACGCCAAC
133889	HLA-G	AAAGTGTCACCCCTCACTGTGA
133890	MAP3K11	TCTGCAGCTGCCTCAGTTTCCCC
133891	MPP5	TCTCAACTGATTTACTCACTTA
133892	MPP2	TTCACCTGGTCCTTGGCTCAC
133893	MAD2L2	GCAACCTCGACTTCTCAGCCTCCTGGG
133894	HTR1D	AGCTCACTGCAACCTCCGCATCCCGGG
133895	RIMS1	CAATTTAAAAATAAATGAGTA
133896	GJB3	TGTGCTCAGGCTGGTGCCAGC
133897	EGLN2	CTGCTCCCCTCCTACCACTGTC
133898	SPRR2C	CTTAGCCTGTGATCTGCCCATGATGA
133899	CREB1	GGAGGCAGAGGGTTGCAGTGA
133900	APM1	ACTGCAACCTTTGCCTCCCAGG
133901	HMGCS2	CTTCATTCCTCTCCATGCTGCAATCAC
133902	TCF2	GAACTCCTGGTCTCTTGCGGTC
133903	MGST2	CCTGCCTGCCTTCCTGACTTCTGT
133904	ZNF24	ATAAACATCAAAAAGTGAATG

133905	PER2	ACCACACCCAGCTAATTTTTTGT
133906	TCF12	GAAAGCCGCCTCCCCCTCCCAG
133907	IL6R	CCATGATTAACCACTTCAGCTGACT
133908	IGFBP3	AGACATTCTGCCTACCTATTAGCTTT
133909	RARA	CCCCCGGCCTCAGCCACCAGCACCCCCAT
133910	CASP10	GACCAGCCTGGCCAATACGGCAAAACC
133911	PRex1	GCGTCCTCCCTGCCTCCTTCCG
133912	NDP	GGAAAGACTGGCAAGAAAAGAG
133913	PGK2	AATATAGTGTTACTTCCTTCT
133914	ROM1	TGAGGAAGAGGGAGGGATGG
133915	SH3BP2	TGAACCAGGCGCCAGGCTCCA
133916	BAK1	TCTGGGACCTCCTTAGCCCTGT
133917	ATP11A	CTGCAGGCGTGAATACACACATGCAC
133918	ADAM17	GCTCATGCCTGTAATCCCAGCA
133918	AK1	GCTCATGCCTGTAATCCCAGCA
133918	ALDH3A2	GCTCATGCCTGTAATCCCAGCA
133918	ATP1A2	GCTCATGCCTGTAATCCCAGCA
133918	CD68	GCTCATGCCTGTAATCCCAGCA
133918	CHST5	GCTCATGCCTGTAATCCCAGCA
133918	CORO2A	GCTCATGCCTGTAATCCCAGCA
133918	CPT2	GCTCATGCCTGTAATCCCAGCA
133918	DDOST	GCTCATGCCTGTAATCCCAGCA
133918	FGFR2	GCTCATGCCTGTAATCCCAGCA
133918	GP2	GCTCATGCCTGTAATCCCAGCA
133918	HM13	GCTCATGCCTGTAATCCCAGCA
133918	IFIT4	GCTCATGCCTGTAATCCCAGCA
133918	IL12RB2	GCTCATGCCTGTAATCCCAGCA
133918	MSH3	GCTCATGCCTGTAATCCCAGCA
133918	OPTN	GCTCATGCCTGTAATCCCAGCA
133918	PIK3R2	GCTCATGCCTGTAATCCCAGCA
133918	PPP1R12B	GCTCATGCCTGTAATCCCAGCA
133918	RAB7L1	GCTCATGCCTGTAATCCCAGCA
133918	RBBP9	GCTCATGCCTGTAATCCCAGCA
133918	SLC26A4	GCTCATGCCTGTAATCCCAGCA
133918	SPTLC1	GCTCATGCCTGTAATCCCAGCA
133918	TNFRSF10A	GCTCATGCCTGTAATCCCAGCA
133918	TNFRSF10D	GCTCATGCCTGTAATCCCAGCA
133918	UPK1B	GCTCATGCCTGTAATCCCAGCA
133918	VHL	GCTCATGCCTGTAATCCCAGCA
133919	PHTF1	AAACCAGTGAGATACCCACCTGCTT
133920	GJB3	GGCCTGAACAAAGCACATCTT
133921	AICDA	GCTCACGCCTGTAATCCCAGCA
133921	ATM	GCTCACGCCTGTAATCCCAGCA
133921	BRCA1	GCTCACGCCTGTAATCCCAGCA
133921	COG7	GCTCACGCCTGTAATCCCAGCA
133921	CREB1	GCTCACGCCTGTAATCCCAGCA
133921	DBT	GCTCACGCCTGTAATCCCAGCA
133921	DFFA	GCTCACGCCTGTAATCCCAGCA
133921	EGFL5	GCTCACGCCTGTAATCCCAGCA
133921	F2R	GCTCACGCCTGTAATCCCAGCA

133921	F2RL3	GCTCACGCCTGTAATCCCAGCA
133921	FKRP	GCTCACGCCTGTAATCCCAGCA
133921	GGCX	GCTCACGCCTGTAATCCCAGCA
133921	GNE	GCTCACGCCTGTAATCCCAGCA
133921	HIP1	GCTCACGCCTGTAATCCCAGCA
133921	IL10	GCTCACGCCTGTAATCCCAGCA
133921	IL13RA1	GCTCACGCCTGTAATCCCAGCA
133921	IL17R	GCTCACGCCTGTAATCCCAGCA
133921	IRAK1	GCTCACGCCTGTAATCCCAGCA
133921	KAI1	GCTCACGCCTGTAATCCCAGCA
133921	LAMP2	GCTCACGCCTGTAATCCCAGCA
133921	LEP	GCTCACGCCTGTAATCCCAGCA
133921	MOG	GCTCACGCCTGTAATCCCAGCA
133921	NT5C2	GCTCACGCCTGTAATCCCAGCA
133921	PCDH11X	GCTCACGCCTGTAATCCCAGCA
133921	RAB3B	GCTCACGCCTGTAATCCCAGCA
133921	SLC14A1	GCTCACGCCTGTAATCCCAGCA
133921	SLC14A2	GCTCACGCCTGTAATCCCAGCA
133921	SLC2A3	GCTCACGCCTGTAATCCCAGCA
133921	SLC2A6	GCTCACGCCTGTAATCCCAGCA
133921	SMG1	GCTCACGCCTGTAATCCCAGCA
133921	STAT3	GCTCACGCCTGTAATCCCAGCA
133921	SWAP70	GCTCACGCCTGTAATCCCAGCA
133921	TEM7	GCTCACGCCTGTAATCCCAGCA
133921	TSNAX	GCTCACGCCTGTAATCCCAGCA
133921	USP14	GCTCACGCCTGTAATCCCAGCA
133921	VDR	GCTCACGCCTGTAATCCCAGCA
133921	WIG1	GCTCACGCCTGTAATCCCAGCA
133921	WSX1	GCTCACGCCTGTAATCCCAGCA
133921	ZNF36	GCTCACGCCTGTAATCCCAGCA
133922	FANCD2	GGCAAAGCTGCACAACATAAC
133923	CYP2B6	CCCTAGTAGCTGGGATTACAGG
133923	MPL	CCCTAGTAGCTGGGATTACAGG
133924	HIF1A	CTCACGAGGGGTTTCCCGCCTC
133925	AOC3	CCTGACACAGGGGACACTGAACC
133926	VDR	CCCACCCCACCCCCTTCAGTGCCCACC
133927	SLC6A8	ACGGAGAGTATATATAGATCTCTA
133928	SORCS2	TCACGCCCCAAACAGTGCCCGGTGGG
133929	PAFAH1B1	ACCCTGCTTACATTGA
133930	STAT6	CATTCCCCTGCCCACCTCCTTCC
133931	ZNF134	CGGCGCAGATCCTCTGTGGT
133932	NEK6	TCACTGACCAGGCCTTTCCTGGAGGAAACAC
133933	EVC	GTAAATGCAGGCCCTCTGGCAG
133934	SMAC	TCCAAGTGCTAGGATTACAGG
133935	PKHD1	TCTCTCAGGGCCTTCCCCTTTCA
133936	CKN1	CTACTATCCAAAATGTGCA
133937	EIF1A	CCCCTCGGAGCAGCAGCCGCCGCG
133938	STK10	GGGACCGGGGAAAGAGGGAGGCTGA
133939	CDH1	GCTCACTGCAGCCTTGTCCTC
133940	GPR35	TTGGGCTGACAGGTGCTGCTG

133941	KLRD1	CAGGCTGGAGCATAGTGGCA
133942	CEBPA	TGCGAGCCAGGACTAGGAGATTCCG
133943	CARD15	TATGGGACTGGCCTCTGCTG
133944	ZIC3	ATTGCAAAATATGTATTTTTAAA
133945	CR1	GTCACTTATAATTATGCTACCTACTGA
133946	SIAH1	TAAATTGATTTTTATAAATACTGCAAA
133947	MYH11	AGGCGAGGAAACGAGACCTCTTT
133948	ASB2	CAGCTTTGCTCCCCTATCCTCTGCTTT
133949	TRPM1	GTCATCTTGGCCATCTAAACAT
133950	AHR	CTGCCGCCCAAACTGGAGTGCAGT
133951	NPY2R	TTCAAACCAGTTTCACATAAGTTA
133952	ACO1	CTGGGAGGGGTGCTGCCTTGTAGATG
133953	TIMP3	TCATGTGTAGGCTGTAATATGTGT
133954	CXorf6	GAGCCTCAGGCAGAGCCCGG
133955	BENE	GGCTAATTTAGTTGTATTTTTAGT
133956	GPR61	GGATCACGGCAGGGCCAGAGGGTG
133957	TRIM39	TCTAAGATATAAGTGGAATGAGCCT
133958	ALDH8A1	ATCAGCCTAGGCAACATGGTGA
133959	SH3BGR	AAACTCAACAGAATACTTTGGCTTG
133960	EIF4G1	GGGGTTTCTGGCACCTACCTAC
133961	CDH5	AGGGCCACCTCCACACCCA
133962	BARX2	CCGGCTCACCATGCACTGCCA
133963	SMAC	GCGTGAGCCACCAACACCCTGCC
133964	CSNK2A2	TGGCCGCCTGTTTTTCCAGCA
133965	CDH12	TCAAAGCATTCTACAATGAAC
133966	CHAC	GGTGGTGGTTTCTTCAGAATC
133967	MERTK	TATCATGAAAAAGACAAGGA
133968	IDH3G	CCTGCCTGTGTCCTACAGATGC
133969	MME	CTCCTGACAGGGTGACCTTG
133970	HLCS	CCAGTTTCAGATTTACTCTGA
133971	PHTF1	TTTAGCTTCAGTACTGTGACAGTTAT
133972	ZNF202	TCCCCATGTGAGGAGATCTGC
133973	PAK1	CTCTGTGAGATAAATGCACATT
133974	TACC1	CTAGCTTCTTCAGACTCAGCCC
133975	CBFA2T2	GGAGCACAGTGGTGTGATCAC
133976	ICA1	TCAGGAGGCTGAGGCAGGAGGATCACA
133977	PTGER2	TCAATATGTGGAAGCAACCAA
133978	C1D	AAGCTAAATACTTTCCTCTCCA
133979	SDHC	CACTGCCTGTGGGTTTGCTGGCTTAAA
133980	PRKWNK3	GTGTGGTATTTGATACAGCTCA
133981	DNMT3B	CCCTTGCCTAAATACAAGGGCTGGAG
133982	HAP1	CTTCCCAACAATGTGCCCCTCACCCCT
133983	PHF1	CACACACCGGCACTTTCATACCCTG
133984	TGM2	CCAGCCTGCTGAGAGCCCCCACCT
133985	DPH2L1	GCTCCTACATCCAGCTCCTCTAGGGGCA
133986	EPB41L2	CAGCTCCTGGGCATAAGCTGTG
133987	GLI3	GATTAAACTGACTTTGTTTTGGCT
133988	CD59	CCCTCAGATTATTTTTCCTCTGGCTCCTTGGA
133989	TTF2	CTGTGATTGTGCCACTGTTTTCCA
133990	EN1	AATACGACCCCACAGACTGCG

133991	CD209	CTGTCGCCAGGCTGGAGTGCAGTG
133991	RABL2A	CTGTCGCCAGGCTGGAGTGCAGTG
133991	RABL2B	CTGTCGCCAGGCTGGAGTGCAGTG
133992	SON	CTGAGTTTTAAAGCCAAACTGACTGAGGA
133993	NUDT1	GCGGGGATTCCAGGAGTCGTGG
133994	SLA	AGGAAGAGAGTGGGCTGCA
133995	SIL	GCCCAGGCTGGAGTGCAATGGCAG
133996	ICMT	AAATAATCTTAAATACTGCAAA
133997	NUP98	ATATGGCCACACCTGGGTCTT
133998	KCNQ2	GCTCCTGGTCCGCAGTGGCAGA
133999	HTR6	CCCTCCAGGGGGCTCTGCTCC
134000	SLC15A1	GACCTGGTGATCTGCCCACCTCG
134001	LGALS1	GGCAGCTGCCTCTGCTCCCCTG
134002	CYP27A1	ACTCGAGAGGTGGGAGGAACTCCTTG
134003	NIPSNAP1	AGAGGTGGGGTGGGAAGAGAGGAGGC
134004	FY	CTCCAGCCCCAGCTGCCCTGGC
134005	TEX15	AGACTTTTCTTTTTAACCTTCT
134006	PLA2G4A	ATGAGACAACACTATTTTTATTT
134007	PRY	TTCACTGTCTCAACCTTATCTGCA
134008	TRAF5	TCAGAATTCTGAGTACTCTGTGAA
134009	WAS	CTCGCCAGAGAAGACAAGGGCA
134010	SCNN1G	GTCAAGGCTGGACAGCTACTGC
134011	ELAVL4	ACTGTGTTTTGTGGATCTTTAA
134012	CFTR	GATGCAGTTCTGAAGAAGATGGT
134013	KAL1	GCAGTTACATGCA
134013	YY1	GCAGTTACATGCA
134014	CPT1B	GGTAGGAGAAGGCATCTGAGTCTC
134015	FZD8	GCCCTCTCCCCCGCCTCTTCTGAGCT
134016	AF1Q	TTCATCGTCTCTCCTTCCCTC
134017	IGSF1	TCTCCTCTCTCTTGCTCTCAG
134018	DNM1	CCCACTCCAAAGTGTGCCACCT
134019	MEF2A	CCCCCAGGCTGAAGTGCAGT
134020	TJP1	TTACCACAGACATACTAACCAGCA
134021	SH3BP2	GCCGAGGCTGGAGCACAGGGA
134022	MYCBP	AGTAGGTGGGACAAGTATAAG
134023	GNAO1	TATAGCAACCTATTTTGACTGCTTCA
134024	ALDOB	CAACCAAAAAAGAAATAAATATTCT
134025	ANXA11	GCCAGTTCCCTGTCAGTGACAGGGCT
134026	FUT6	GGTGTGGGGCCTGGGCTGCCAG
134027	APOA4	GTGGACACCTGCCCTGCCCTGCCACCT
134028	VASP	CAGGGGCGCCCCGGGAGCAGC
134029	HNRPK	CTGCTTCTGTTTAAAAAGCCAACA
134030	RAD9	ATTCTAAGAGCCTTGGACCCG
134031	PMCHL1	ATGCCTGGCTAGTTTTTGTATTTT
134032	SMG1	GGCCCTGGAAGAGACGTCGCCTCGCC
134033	SIAT1	TTCATTATGATTCACACCAACCTGAAGAA
134034	SLC4A4	CCATGAGTTTTCAGATGATTT
134035	CD209	GGGACTGTTCTTTGTCAGATT
134036	GPR24	AGCTCTGGTGACATTCTCTCCA
134037	SCNN1G	TGGAGAAAGGTGTCCTCCATGCCCTCA

134038	TPMT	CTCTGTCTCAAAAGAAAG
134039	PHKB	CCACTGCACACCAGCCTGGGTG
134040	XRCC3	GCCTGTGCCAGCACCACAGCCGGTC
134041	PAP	GTGACTCCTGATTGCCTCCTCAAG
134042	IDH3B	GGGGGAGCTAGCCTCCTA
134043	OSR1	GTTGCCCTTTACAGAATCACTCGA
134044	LAPTM5	ATAGAATACACAGAATAGTGAT
134045	LRRC2	GCAGGAGAATTGCTTGAACCCAGGAAG
134045	OPTN	GCAGGAGAATTGCTTGAACCCAGGAAG
134046	CLASP1	AGGAACGGAAGGGAGCCCTG
134047	SCG3	GCCACATCTCAGTTATCTAAACTAGAT
134048	PTPN1	AGCTACTCTCTTGCCAGCATTTT
134049	GAC1	TGCTGCCATTCTGAGGAACATCTCCAA
134050	CLNS1A	AAATGCACAGGAGCTTGGTAG
134051	MYCL2	CTCATGAACTCAATCCCTGCCCAG
134052	CLCN4	GCGCACACCTCCCTGCCTCGCCCCGA
134053	SPG4	CTTCTGCTTGCTTTATTAACT
134054	CDYL	CAAACCAGACATATGCTTAG
134055	MAK	GGTACTTGGAAGGGCAAA
134056	MAML1	AGCAGCTCCTCCTCCTCCCTCCCAA
134057	GAMT	GCCCGGCCACACCCATGCCCT
134058	VIPR2	GCAGAGGATCCATCACAGACGGA
134059	SERPINB9	CCAATTTCTGTCCACTTCCTCA
134060	RABL2A	GCTCTGAATGGAGAAACTCTCTAG
134060	RABL2B	GCTCTGAATGGAGAAACTCTCTAG
134061	DGCR2	CTGAGCTGCCTCCTGTCTCTCCA
134062	TNFSF15	GATCACTAAATGAATGGA
134063	PIN4	TTCAGTGTTAACTCCTTT
134064	HRMT1L1	GCTTTATTTGGAAAGCAGTGTGCATATC
134065	MAFF	ACAACATGGTGAAACCCCGTCT
134066	TPM4	CCAACATGGCGAAACCATGTCT
134067	NID	CCCCAACAACAACTTTTCCCTC
134068	KL	TGTGTTGACTTTGCTGCCATC
134069	RAG1	TCATTTTTCCTTACAAC
134070	MDM4	CAGGCTGAAGTGCAGTGA
134071	PLAG1	AACTAGATATGATTAAAAATAAGTA
134072	CDC27	CAAGAATTTTAATTTATTCAT
134073	ADAT1	AGCCAAGAGAATCAAAGA
134074	MTR	TGAAACTGAGTTGAATAGAGAA
134075	MELK	GATGGATTCTTCCATCCTGCC
134076	PPEF2	GGAGGAGAAGAGAAGAGCCAACCAGAAGAGCT
134077	IL17B	GCACCTGCATCTTCTGATCACCT
134078	ADCY1	CTGAGATTGCACCATTGCACTC
134079	HOXB3	GAGGATGAGAGGGGCGAGCTTTATTTC
134080	PVR	GTCAGATCTCTGTGGTTACAAGAAACA
134081	USP5	GAATGGCTGGGCAGAGCAGAGGGG
134082	UNC119	GACAGCTTCTACTTCGTGGA
134083	INPP5A	CTGCAGCTGCTTTCCATTTTTATATA
134084	IL18R1	CACCATGGATCTGGTTGTGCATAG
134085	ST7	ACCAAAACTGCTCCTCCTCC

134086	CCNF	GTCTCGAACTCATGACCTCAAGTGAT
134087	CTF1	CCTCCTTCCTTGGGCCTGCCTCA
134088	PCDH11X	TGCTTTGGAAGTAAGAAGGTTGA
134088	PCDH11Y	TGCTTTGGAAGTAAGAAGGTTGA
134089	JAK2	GAGCATACATCTTAAATCTTTTC
134090	SON	GGAGAGAAGGAGAAGGATTAG
134091	DHFR	GCCTTTGAGAAATGAATGAAG
134092	LTBR	TACTGCCTGAGCAAACCTGAGGCCT
134093	WDR4	CTGAGTCTGTGTAGTAAATTTTTG
134094	CNTN2	TGTACTCTGGGCAAGAGCCCAAAATG
134095	NR5A2	GTTCAGCCACACCCAGTGGTAGCTCCA
134096	FMO5	TGGTAGGGAGAGTAAGTCAGC
134097	PCDH15	CTGTCTTATTCTCTTTATTTCT
134098	RRM2	AACAGCATCTTTAAAACTGTGTAGCTA
134099	SIGLEC8	GCATGAGCCACCGCACCCAGCT
134100	PDGFB	GCTCAAAGAAGAAAAAGAA
134101	PPP3CA	CCTACTTCCACTGTAAG
134102	STAU2	ACCAAGGCTCAGAAGTTTTTG
134103	NLGN2	ACGGCCCCTCTCTTCCCAGCACTT
134104	B4GALT5	CCCAAAGTGCTGGGATTATGGGCG
134105	IARS	TAGACACCTATGCAGTCATGT
134106	EHD2	ACACACCTACTGCTTCCTCA
134107	TMPRSS2	GTGACGTGGTAGTCACTTGTAAG
134108	MOG	ACTCACTGGCATCTTTGCTATGGGGA
134109	CUBN	CCACTACACTCCAGCCTGGGCG
134110	SIP	CCAGGAGTTTAAGGCTGCAGTGA
134111	ATM	TTGTGCCACTACACTCCAGCCT
134112	NR5A2	AATACTTAATAGCAAATAAAT
134113	ARHGEF12	ATCAAGGCAAATCAGCAAGCCCCCAA
134114	MUC4	ACTCACCTCATCCTTACCGCACATTT
134115	LBR	TGGCATCAGAAAGTGGTGGCGT
134116	CDH13	TTCAGTTAGCCTTCTGTA
134117	ARVCF	GCCTGCTGTTCGTGACTCAGAA
134118	LNK	TTGTTCTCTTTTTCACTGACACTGT
134119	ATP8B2	ACCCTAAACGAGGAGCTGGGCCAGG
134120	XRCC2	GGCGATGTGTAGTGCCTTCCATA
134121	SH3BP2	GGTCTTGAACTCCTGACCTCAACTGAT
134122	APM1	GCCCTGGCTGGAGTTCAGTGGT
134123	ERBB3	CATTCCTCAGCTTCTTCACAGGCACTC
134124	TCTA	TGACCAACATGGTGAAAACCCCA
134125	GPR84	AGCCTCCCAAATCAAGTCTCTCCA
134126	OXTR	AATGAAGTACTCACACATGCC
134127	TCF1	TTGGGGCAGGAGTAGCTGAG
134128	RHCG	CTGCCTCTGCCTGGGGTC
134129	FTSJ2	TTCCTTTGTAAAACCTGGGCTGGAAGT
134130	SLC1A4	AGAAATCATGGACTCACAGGGTC
134131	ORM1	TAGTTTATTATAAAGGTGACTGCACCC
134132	GAS7	ATGGATGCAGAAAAATCTGGGCTGA
134133	DDX11	GATCACATTTCTCACTGC
134134	PXF	TCTCTAGCCTTCCTTTTCTGCTGCTC

134135	PTGIS	TTTCTTTCTTTCTTTCTTTTTAAGCT
134136	CEACAM6	TCACACTCTCACCTAGGTGAGCGCA
134137	TNP2	GGGGTGAGGGTAAGGGGTAG
134138	BCL11B	TTAAAAAAGTAAAACAAGAA
134139	ZNF134	GCTTTACAGTTTAAGCCACA
134140	EPS15	GTCCTGTTTAGTTCTTAGTGGG
134141	PYGO2	CTTTTCTGTTCATGCACACA
134142	GJA5	TGGGAGAACACAGACAGGCAGAGGAT
134143	ATP1A2	GCCTGTAATCTCAGCTACTCAGG
134143	DVL3	GCCTGTAATCTCAGCTACTCAGG
134144	RHD	CACTACCACACCCAGCTAATTT
134145	GNAT1	CCCACCCACACACAGTACCCTG
134146	SERPINA3	GCCCATGGACTCTTCAGTCTGG
134147	MCF2	AACATTGCTGCCACTGTGCTAATGG
134148	RRM1	TCCTTCAGAGCCTCAGCCACTA
134149	BCL7A	CGCAAGAAACTTGCACGACTGCACC
134150	PAICS	TCACGTTTCACATCTCACTCA
134151	FUT7	TGGTCCCCGAGACACAGGCACGG
134152	ARF3	TGGAGCTTGACTGGGGGGTGGGG
134153	TGFA	GTCTGTATATGTTGCACTGAAAAGGTT
134154	PIP5K1B	CTTGCAGACTGTGGCGCA
134155	HAS1	CAGGGAGGGTATTTATTGGTC
134156	CRIM1	ACAACTACTGGAATATTGTC
134157	PIK3C2B	GAAGAGAGAGGTTCACTGTAGTCCTG
134158	CLCN6	TGCAGAATTATGCACTGACAT
134159	SPG4	GGGTTATGGCGGCGGCGGCAGTGAG
134160	ZNF18	GAAGGGGAGAAGCATAGAGGGCC
134161	SCG3	AATATAGCTTAAAACACTTCT
134162	PTPN23	CCTGCCTGGCCCAGCCTGCACC
134163	PDE6H	GCTGTAATTTTGGTTGCTTTTGCCCT
134164	VENTX2	TCCCCACCCTCCAACACGTGCT
134165	RYR2	CTCCAGCCCCCGGCTCCCGGC
134166	UBL3	GAAATAAACTGGTTCACTAGTAGA
134167	ENTPD6	GCTCTCGGTGTCTCGGGCCACC
134168	CHC1	GGAGGTGGGGGATTGAGGGAGGG
134169	RNASEL	CTTCATACTGCTGCTCTGTTGCC
134170	PTGS1	CTGCCTGAGTTTCCAGCCTGC
134171	ENDOG	GGGTTCCGAGGCCCAAGCCCTTGGCAG
134172	RERE	TTTGCACAGGGAGTGCAGG
134173	PRDM2	CCTTCATTGCCACACTTGGTGGG
134174	STAC	AGTAGGCAAGCTCTGCTGCG
134175	PTGFRN	TGTGGCACATAAGGATCTGCAG
134176	PTGFRN	TGACCTCCACCCACCTGCCC
134177	RNTRE	CTGGGCTGTTGATGCAGGTCAGGTGGA
134178	POLH	CACCGCACTCCAGCCTGGGCAACAGAG
134179	SIM2	CACTGCACTCCAGCCTGGGTAACAGAG
134179	TSNAX	CACTGCACTCCAGCCTGGGTAACAGAG
134180	GPC4	CCATTTCTCCCTGTTATTTTAGTTGCC
134181	PRKDC	TTCTAGTTTTGACATTTTATGA
134182	CASP10	TACTGCTACTACACTTTGCTCCT

134183	NEU3	CCTGGCCCAGCTACTCCTTTACCTGT
134184	PTPRN	CGCTCTGCCCTCCCTGGCCTCACGCCC
134185	EDNRA	GGCTTCATCCATCCCACCCG
134186	TCAP	GTGGCCCTGATCCAGGAAAATGTGAG
134187	HCFC1	GCCCCGCGGCGGCCTGGGCAG
134188	CRMP1	AGTGCGTCTGAGGGGACA
134189	JAK3	GCTGCCCCTCTCTGGGCCTCAGAGGCCT
134190	INPPL1	CCCAGCTATGGCCCCAGGGTT
134191	MAGEA12	GGAGCAGCACTAGCTCCTGCCCACAC
134192	DYRK1A	GTCTGAGTGGTGGTCTTTGGG
134193	KCNQ2	ACACAGACCACATAGCACACATGTGC
134194	G22P1	AGAACAGATCTCACAAGAACCTAGA
134195	PPP1R8	GGGGCTCAAAGGCGCTCACTTA
134196	TYRO3	CCAGTTCTTCCTGCAACCACTCTGTG
134197	ABCA1	ACTAGTAATAATGTAATACT
134198	FLI1	AGCGGATGGCAACTGGAACAT
134199	EDNRB	GTTTGGTTTTGTCATCTGTAAA
134200	GJB3	CTCAATAAAGTCACCTATTCATTCATA
134201	GP2	CAGGGGGTGGAGGTTGCAGTG
134202	SCA1	AACACCCACGCTGGTTTCTGTGCAGTG
134203	MTMR3	CTGGAAGCATATTCCCCAAGAGCACT
134204	ABCD4	AAAGAGAAATCTGGAAGTGTGAGA
134205	GFRA2	GGGACCCGCTGGGGGGCTGGCAGAGGGC
134206	FANCC	CCTTCCTTCCTTCTCCTGGGACT
134207	TTN	AGGAGAAAGTTTCTTATGGA
134208	GJB3	GCTCACAGCCTGCTCCCAGTG
134209	BAZ1B	GCAGTGCTGTGTCTGCTGCCTCC
134210	FGF2	GTCCAGCCTAGGCAACAGAGTGAGACTTT
134211	DSCR1	ATCAGTGAGCTCAGGAGAGAGCT
134212	UNC13	GTAGACACCTCTCCACTCCT
134213	ACTR1B	TTAATAAGGAGTCAGACCTA
134214	PRELP	AAAGCCATCTATTCTTCTGCAGCCT
134215	JPH3	TCTCCACCAGGGTCGCTCCATCACCC
134216	IL22RA2	TCTTGCTTGTGGCGCCTTCCTCA
134217	CISH	CATAGAGCTGGTCTCACTGTGG
134218	TAGLN2	GCTGCCTCTGCCTTCTGATGCTGGACT
134219	CD69	TACTTTGTTATTTTTCCCCAAAAAGA
134220	NT5C2	CGAGGAAAAGGAAAGAGTCTCAGAGTGGA
134221	JUP	CCCCAAAATCCAAAACTTCTCTT
134222	CPD	CAGTGTGATTGATTGCTTTAT
134223	WASF3	GTCTGTTCTCTCCTCTGTCCCA
134224	SRC	CCTGGGCTGGGTGGCCCCTGTCTCGGG
134225	RNF3	CCGCAGGAACGCGCCGAGGTCTCCCTCACC
134226	TFRC	CTGCCTCTTTCCTGTTGTT
134227	MAPK14	GGAGCAAGAAGGAAGGAGGCAGA
134228	KCNAB1	CATGGTTAAAATAGCGGCCTGTGCCCA
134229	ACO1	AGGGTCTGGTGCCAATCCTGTAGGCAC
134230	RIMS1	CAGGAGTTTGAGACCAGTGT
134230	ZNF136	CAGGAGTTTGAGACCAGTGT
134231	COG8	AGGTGAATGACTAAAGCTTT

134232	PES1	CATGAGGTGCAGAGGCCCACCCAG
134233	GLRA3	GACTCTCCACTTCTGCTCAATGCTG
134234	CTSS	GTCCCTGCTATGCAGATGTCTAA
134235	MIPOL1	TGGGAGAAGAGAAGGCTAAAGGAGCT
134236	BRCA1	TCCTTAAAGAAACAAAGTCCA
134237	M17S2	ACAGTATTTTGGGGAGCAAA
134238	MSR1	TACTTTCTGAATAACGGAAGGGATC
134239	TCOF1	AGTGAGCCTGCGGGGAGGCTGGTC
134240	EXTL1	GTGCCTGGCCCTATGAGGGCGGC
134241	GA	TCTACTTCCAGCTGTGTTCTGTGGA
134242	PRX	CTAAAGCCTCTCGGGGGCAGG
134243	SH2D1A	ATTTCTGAGCATTTAATATGGATG
134244	PTTG1IP	CTTCTGAGTGGGCTTCTCTGGGAGCTC
134245	NEDD4	ATCTGCCAGGCAGTTTTTTCTT
134246	GJB1	GGTGTGAATGAGGCAGGATGAACTGGACAGG
134247	NEURL	GCTGCTGCTTCCCTTGTGCACT
134248	EIF4G2	TTCATTTCTCCTGTCCCCTCC
134249	CACNG6	CCTTATCCTTTCTCCCTCTGTAAA
134250	CRY1	CCTCCAGGCGGTTGCGGCGGGCGCGG
134251	HSPA1L	GGAGAGTTCATGGAGAGAGCATGTG
134252	LDB3	GGGGAGAGAGAGGAAGCGACTGAGCCCT
134253	PC	CAGGCAGCAGGCCTCAGGCCCAGACT
134254	POU1F1	TTCATTCCTTTCTCTTCCTCA
134255	BMP8	AGGCTGAGGCAGAATTGCT
134255	RBL1	AGGCTGAGGCAGAATTGCT
134256	EHD2	CCTGCCTGCCCTCCCTGCCCAGCTGT
134257	SPAG8	AGAGGAGGAAAGCAGGCATTTGATTTTG
134258	NOS1	AACTCAGATCAAAAATGGGCAG
134259	VHL	CCATTGTACTCCAGCCTGTGTGACAGA
134260	LMO1	TAATTCTAGCTGAGTGCAAT
134261	SEDL	TGTGCAGGCTGTAGTGCAGTGG
134262	C21orf5	TGGCTCACACCTGTAATCTCAG
134263	DCLRE1C	TGGCTCACACTTGTAATCCCAG
134264	SOX8	GAACACATCTCTCTTTTA
134265	PFKP	CGTGCTGTCTGTGGAGTGTGTC
134266	DLGAP2	TTCACAGTTCAGACCGGTCTTCAAAGG
134267	FOXE1	TGAGCTTTAGAAAGAAACTGGAA
134268	ARHGAP6	CTAGGAGGTGGCTCCAGCAGAGGAAGT
134269	IL2RB	CGCTCCTCTCCAGCCCTGCAG
134270	CASP8	GTCTATAATCCCAGCACTTTGG
134271	TAPBP	AGCAATTCTGTGGCTTCAGCCTCCG
134272	CDH13	GGAGGTGAGGAGCAGAGCAGGCAAT
134273	SLC35A1	TTATGTGGAAACAACAACAAA
134274	GLS	CCCACTGCTGCCCGACACTGCCCTT
134275	DCLRE1C	AGGAGATTGAGGCTGCAGTGA
134276	EXTL1	GACCCCATCAAAGGTCTCAG
134277	RABIF	CCACTGGCACTCCAGCCTGGGCAACAGA
134278	SIM2	TGTATTTAGTAAAAATAAAT
134279	HOXB3	CCTGTTCTCCCCTCGTCGGTGGCTA
134280	MPL	CACCCAGGCTGCAGTGCAATGG

134281	NDST2	GTCCAGGCAGGGTGTAGGGGA
134282	DES	AGACCTCCCCAGCCCCTAGCCCAGGAG
134283	PCTK1	GCTAGCCCAGGCTGGGGATCTCG
134284	SFRP1	AGGCTGCTTCCCAGAGGAGCAGC
134285	GLRX	TTGCTCTTAATCACAGGGCAAG
134286	SH3BP2	CACTGTCAGTCAAGCTTGTCCA
134287	CACNA1S	TGGGGTGGGGGAGCAGGAGAAAGC
134288	DTNA	CCTTCATTCCCATGGTCTG
134289	PCDHB11	CTGTCGCCCTGGCTGGAGTGCAAT
134290	NDST1	GAGCACCCAGGCGGATCTGCAA
134291	RPL9	CCAGATGACACTTAAGACCTACTTGTGAT
134292	HTR1D	CTTGAGACCTTTTCACTGTGG
134293	TACC1	AGCTTTGAAAGCAGTCACTGTGGTGT
134294	BTEB1	TGTGCGGCTGCCCCTTCCCTGCCTC
134295	ECEL1	GGGGTCCCCAGATTCTGCTCTA
134296	GCN5L2	CAGCCCTGACCTGGAATGTCTCC
134297	ADARB1	ATCTGTGTATACACCACACGTTACAA
134298	PA2G4	CTCCTGCCTCATCCCCTTCCCACCA
134299	GCNT2	CAAAACAAAATAGGTGAGGGGATAGCG
134300	RNH	TCCAGAGACAAAGGTGGGGAG
134301	ROCK2	CCAGGAGACGGTGGTTGCAGTGA
134302	DLGAP2	CACATCCCACTGAGCATGGGACCA
134303	WASF3	ACAGCTTCTATATTTTGTAA
134304	MAPT	GAGTGTGTGGGGGTCTGGGAGGCAGG
134305	FACL2	TTTTCATATCAAAAGATCATG
134306	PCDH11X	TAAGGCTGTCTTGGTGTATACA
134306	PCDH11Y	TAAGGCTGTCTTGGTGTATACA
134307	OAS3	CTAATGCCACCACTACCCCTGCCAT
134308	RAMP2	GCGCCCCCACACCCGGGCCCG
134309	WNT5B	AGATGATCTTGTCTGGA
134310	EYA4	ACGTGAAGTTGTCGCTGCCTT
134311	FLT3	AAGCATTTTGCTAAGGAGAAGCTAAT
134312	GRAF	CACGAGGTCAGGAGATTGAGAC
134312	PCDH11X	CACGAGGTCAGGAGATTGAGAC
134313	CPT1B	CACACAAAAGCAGACCTGCG
134314	HLCS	GTGTCTCCTTTTATACTTGAA
134315	DTR	ACTCCTGCCATTCTTCTGGTGCT
134316	CHEK1	AAAGCATTTGTCTCCCACCTC
134317	SPTBN2	AGAGCGGAGCACAGGAGCAGGAAGCCGCCTAC
134318	CAMK2A	GGCTGACACACCTCCTGTCCACT
134319	CDC6	TCACCCTGTTGCCCAGGCTGGAGTGC
134320	SOX8	CCTGTCCCCGACTGTGCCA
134321	RP42	TTTGAGTCTGTGTCTGTGAGAGAGCCAG
134322	CLDN14	TGTTTTTAAAAGGCTCTTCCATGGCAG
134323	CPSF4	TCACGCCTGCTTCCTCCCTCC
134324	STK38	AGGAACTGCGGTGTTGGGAGA
134325	SLC10A2	CACCATGGTCAGGGAGGTGGCAG
134326	PIK3C2B	TGTTATCCTTCCATCATGACT
134327	RPS6KA1	CTTTTTTCATTTCTTCCTCA
134328	TDRD1	GCTTCTGCTGTTTTTGTAGGTTTATC

134329	RAP1B	TCTGCAGCTGTAGATTCTCACTGTGAA
134330	HOXB9	ATGCAGATCTGCGTGGCTGGTG
134331	OPA3	CATGAGGTGGAGGTTGCGGTGA
134332	ZNF79	TGGAGAGAGTCCCGGACATGC
134333	ADAMTS13	GAGAAGGCTCCCTCCCCATGGG
134334	MECP2	AGCCTGCTCCTTCCCTTGCTAC
134335	CDK10	TGCACTTCCTGTTCATGTACGA
134336	BCL11B	AATTTCTTTTCTTCCTGTC
134337	RAD54B	AGGCAGCAGATTGTTGATGGCTTTAA
134338	INMT	GGCTCACTGCAAGCTCTGCGTC
134339	RTN4	GGGTATTTCATGTCTCAGGGAGTAGGT
134340	TNFSF14	CACTGCACTTGCCACCTGAGTCA
134341	GARP	CCTGTTCTCTCTGTGCTCTTGCATTCT
134342	SLC13A3	GCAAGCAAGGGTGACCTCCAGT
134343	PPP1R3C	TTTCACTCTCCTCTAGCTATC
134344	CD80	TCAGGCAAAGTGCTGCTGGAAG
134345	CPS1	TCACACTCTCCAGGCTGGA
134346	MYL2	CCATCTTCTTTGCAGCCTGGGTG
134347	SOX10	CCCAGGAATGACCCTCTATCCCAGGA
134348	NDUFS1	ACCAGTCTGGGCAACATGGTGA
134349	DHH	GGAGGGGGAGGGAGAAAATGGGGCTATGC
134350	DYRK2	CTCACGTCCCCTGATGCTGGTAACCTGA
134351	DFFB	GACGGGGTTTCACCATGTTGGTC
134351	FGF5	GACGGGGTTTCACCATGTTGGTC
134351	SIL	GACGGGGTTTCACCATGTTGGTC
134351	TNFRSF10B	GACGGGGTTTCACCATGTTGGTC
134352	SAS	GACAGGGTTTCACCATGTTAGTC
134353	MVP	TCCCCCACCTACCAGTCATCTT
134354	EGFL4	CACACTTGTAGTCCGAGCTACTC
134355	SCNN1G	TCCTCCATGCCCTCAGGCAGCAGAGA
134356	DNASE2	AGACCAGCCTGGGCTACATAGT
134357	SLC18A1	GAAATCCCTCCTGATTGTAGATTTCCT
134358	PPP2R5E	GCTAAGCTGTTAAATGTAT
134359	GRIK2	CAGAATGTTTCCTGTGGAAA
134360	SOX4	TCACTGAAGGGCTAGAGTTTTAAC
134361	OGT	AATTGATTTCAATCTTAGCTG
134362	SUDD	ATGTGTTTACAAGGGAGGATTTTA
134363	MYO1C	TTCTCCTCCTCCCCTTCCCAGT
134364	ARL2	CTCCCCCTCCTCCACCCCAG
134365	BARHL1	CCCCTCGGCGTCCTCTCTCG
134366	KIF3C	AACTCTGCTTTCTGCCCACCTTGGAT
134367	ARNTL	AGCCGTTTATTCTTCCTTGTAA
134368	TGM1	GAGTCAGATGAGCAAGGACATTGCCC
134369	PROK2	GCATTTTAAAGTGGAGGGTTTGTC
134370	M11S1	ATCTTTTGAAAGGCACCAG
134371	EHF	TCCTTTCTCCCCTTTGGATGGTTGGT
134372	FOXI1	ACTGGCCACACTTACTATTGAC
134373	F13A1	AATAGCACATGATTTGGGCTCTA
134374	EPHA8	GGGGCCTTTGGTGGCCACCCTGGTGAGGA
134375	EGLN2	AGAGAACCAGGAGGCAGAGCGGGA

134376	DUOX1	GCTGGCAAATGCCTTG
134377	ORC4L	TCTAGTTCAGAAGACTAACCA
134378	GPR85	GTAAGTCAGGCTGAACTGCAGTG
134379	HCFC1	TTTCCAGCTCTCCCCATGCCCCCT
134380	GFRA2	CCTGGTGTTTTTCTCTCTGGACCC
134381	DAAM1	CTTCATCTGTGAGTGAATGTGT
134382	XRCC2	CCATTGCACTCCCGCCTGGGCG
134383	IL18	TGACCAACATGGTGAAACCTCA
134384	TBX3	GCATTAGTTGTGATTTCTGCCTCC
134385	UNRIP	TTGCCCAGCCCAGCCCTAGTGTCAGGG
134386	F2RL3	TGGGAGGTTGTGGTTGCAGTG
134387	MAB21L1	CTCACATTGTCTTTGAAAGTG
134388	STMN1	GCCATAAAAGCTATG
134389	TEM8	CCTCTCCCCAACCCTGCCGC
134390	ADCY6	CATGCCCCTTCTGACACCAGCT
134391	AIM1	CCTGCATCCACACATGGCC
134392	ADCY6	GTCACCCAGGCTGGAGTGCAATGGC
134392	RAB36	GTCACCCAGGCTGGAGTGCAATGGC
134393	SURF4	AGATCCCTACCTGCCTGGCT
134394	MAP7	GGGAGGCGGGGGCCGGCGGGAGCCAA
134395	ID4	AACAGTTATAGCTAGTGGTCTTGCAT
134396	P4HB	CCCCTCGGGGGCTGCACACCCAGCAGC
134397	LRRC2	ACAGCCGCGGCGGGCAGGCCAGG
134398	PATE	GGGTTGGAGAATAAAAGCAGGAGAAGT
134399	DSCR1	TGCTTTGGAAATTTGGAAGATGGT
134400	CALB1	ACACAGACACACGCATATTCAC
134401	HDAC5	CCCTGCAGAGGGGCTCCAGGCTGG
134402	MAP2	CTGTTTGATACAGTATTATA
134403	TAF11	TGAACTCCTGGGCTTAAGTGAC
134404	FHL2	GCTCACTGCAAGCTCTACCTC
134405	RNF28	TCAGAAAGAGGGGAAGGAAGCC
134406	CDC2L2	CCCAATCCTAGTAGCTGGGAGTATCAGG
134407	LETM1	CTCCATCCTCCTGCCCAG
134408	CFTR	GCAAATGACATCACAGCAGG
134409	FCMD	CCTACTTCTTTTATTCCTCCTT
134410	ATRN	GCAGAAAAGAGCACTGAGAG
134411	NAP1L3	TCATACAGCCTTGAAAAAAGT
134412	GPR6	ATACATGTGTACATATATATACA
134413	SCML2	TGCCCAGGCTGGAGTGCAATAGCTCG
134414	EGLN1	TCCCAAAGGACAAGCTAATTGGAA
134415	PRX	TGGCAGCAGGGGTCAGGGAAGTGG
134416	REGL	AAATACTGGAGGCAATTGTAAA
134417	LAPTM5	GGTGGAGGCCACGGAGGCAGG
134418	DLX2	AGGCTGCGACCTGCAGTGGCCCGT
134419	LUZP1	ACAATATAGTGAAACCCCGTCT
134420	MGEA5	GGAGGACCCGCAGAGGTGGCAGCGG
134421	MX2	CCATCTCTACTGTACTCCCTCA
134422	ENPP3	TGAAACCACTATTTACTTAA
134423	GABRA2	TTTTTTAAAGATTTACCCTA
134424	CSNK1G2	CAGTCTCTTCCCAGCCTGGCCCT

134425	MAN1A1	CTCCCCATCCCCCACAGTCCTGGA
134426	IHPK3	AAGATTCCTGGGCCCTGCCTTCC
134427	PPEF2	CCCACTCAGGAGGAGTGGAGG
134428	CCND2	CTAGGGGGAAGAAATCCTAGTA
134429	POU2F2	TCTCCTCCTCATCCTCTTCATCCTCA
134430	TNFRSF1A	GGAGTGAGAGGCCATAGCTGTCTGGC
134431	GABRA6	CAGTATTTTTAATTATCACTGTAA
134432	PML	CCCACCCCAAGCCTCTCCACTA
134433	CRHR1	CACGATGACGCCTCTGGACC
134434	UBE2I	GCCTTGTCTCCCTGGCGAGTGCCA
134435	LGMN	GGGCCGCAAGCCCCAAATGG
134436	VAT1	AGCCTCCTGGGGAGGCAGGG
134437	MOG	AGGAAGAGGAAGAGTGCA
134438	MKI67	CCTTAACTGTGACACTTGCCA
134439	CDC42	GCCTCATTTAATAACATACTCC
134440	GPR24	TGCTCAGTCACTAATCCAGCT
134441	ADCY1	CTGTAGTCCCAGCTACACGGGA
134442	LAMC1	TTCCTAGTGGGCTTCTCAACTT
134443	CRSP6	AATTATTGATAACCTCTTCCT
134444	ACE	CATTGCACTCCAGCTGGGAGA
134445	ZNF133	TTCTGTAAGTGGTCAAAGGACA
134446	ALEX1	TCTTGGGGCCGGAGGCCAGTCCAACCC
134447	BAZ2A	GGAGGTGTCTTGAGGCTCAGGGA
134448	SURF5	TGCGAAGCTAATGACCTGCC
134449	GRIK3	ACCTGCCCCTCAACTCTCCTCCAGAGTCA
134450	ITGA11	CCCTCCAGAATGGAACTCAAGCTGG
134451	CHRM5	GCCAGTGAGAACCAGCAGGAGAATGT
134452	GNAO1	GCCACTGCAAACCCTGCTGCTGCC
134453	TACC1	GGGAGTGTAAACTGCCCCCAGATGTT
134454	FMR2	CCCTGGAGGAGATCCATGT
134455	ANK1	GCCAGCCCCAGCTGCTCCTCCTCA
134456	HUS1	GTAATTCCTTATATTTCTTTCTT
134457	PSCD4	TCCACTAACAGGAAACACTTC
134458	SERPINB9	TTCAGCCTCCCAAGTAGCTGAG
134459	HPSE	CATCTCTACAGGCACCCATCAG
134460	GCS1	GGAGGGAGAGGAGGGGAGCCAAGACAC
134461	MSF	GAGGGAGGGCGACGGGGGTGAGAAAG
134462	SLC21A2	GGGACTGAGAAACCCCAAGGAT
134463	B3GAT1	CCCTGCTCTTCCCGAGAGCTGCC
134464	PML	TCTTGGTTAAGGAATGAATCA
134465	TAL1	GGTCTCTGCATTTTTCTGCAG
134466	HYOU1	CCTGTAACTCCCTGCCTCCTCC
134467	AVPR1A	TTGAAGGATTTTTTCCAGACA
134468	TRPM8	TGTAAGCTTTTTCACTTAGTAT
134469	PRNP	GTAATTAAAAAATGGTCAGTGTGCAAA
134470	PNUTL2	TCAAGCGTTTCCTGGAGGAC
134471	C4orf1	TTTAAAATGTTCAGGTAGCAGT
134472	TBX6	GCGGGCAGATCACCTGAGGCCA
134473	CBFA2T2	CCTCTGCTGACAGCACCTCAGCT
134474	VTN	CCCAGTGTTCCAGGAATGTGACCTTTGCTGCA

134475	RB1CC1	TCATTTTCTCAAAGGGCATA
134476	SOCS5	TAGTTAATGCAGAGTTAATGA
134477	JAK2	AATGTGTTTTTTAAATGGAACT
134478	PPP2R4	CTTTCCTCTGCTGTCTCTGCAAGATTG
134479	CPNE3	TTACTTTCATATGATGAAAATGCTGTG
134480	RARG	CTCCCAGGCTGGGGCAGTGG
134481	FGFRL1	GCATGTATGCACACACATGCGC
134482	XYLB	ACTTCTCTCCCTTTTTCTCCC
134483	KL	CCGTTCCCGTTTGTTAGACTAGTTTC
134484	RPS18	GTCTGTAGGCCTTGTCTGTTAATAAATAGT
134485	TAF7L	CAGACTCCTGGGCTTAAGGGAT
134486	CD4	GCCAGCCCTGGCTGGCATGG
134487	DUSP5	CTGTGGACTTCTGGGATTTGCAG
134488	NESH	CAGGAGGGATTGAAAGGCATCCCAGTTCTA
134489	TAL1	TTTGTAGAATGAACCACTGCCCCTTCA
134490	LIF	GCTGGGCCAGACCCCAGGAAGGTGGGG
134491	BSN	TGGCTGGAGCAGGCCTCTGGTC
134492	OAT	ATTCTATGGATGTCATTATTTT
134493	SQSTM1	AGCAAGACAAAGCAAATAAATGCCTTC
134494	PSMC6	TTTGCTGCGTGAGCATTTT
134495	FRAT2	GCATGAGAGACCCTGGA
134496	RAMP2	TGGATTGCTGGGAATGGAAGCC
134497	IDH3A	TAGCACAAAATGACACTCTTCT
134498	XT3	AGGCCAGCCTGGCCAACATGGC
134499	EGFL5	ACCAGCCTGGTCAACATGGCGA
134500	IL15	ATAGAGTGCTTATTAAAAGGTA
134501	AHR	ACTGCAACCTCTACCTCCTGGG
134501	AQP6	ACTGCAACCTCTACCTCCTGGG
134501	RHD	ACTGCAACCTCTACCTCCTGGG
134502	COL4A6	ACAAAGCATAATCAATATAAT
134503	SPOCK	TTCTACAAGTGGGTGGTTTTGGT
134504	GYS1	CGGTGGTGCCAGAGGTTTTAGGA
134505	APAF1	TGGGATTGCAGATATGAGCCAC
134506	AIRE	TGGTGGGTGCCTGTAATCCCAG
134506	GRM6	TGGTGGGTGCCTGTAATCCCAG
134506	PLA2G2D	TGGTGGGTGCCTGTAATCCCAG
134507	DNAH9	ACTGGAAGACAGATTCTGCT
134508	FGF5	CACCAGGCTGGAGTGCAGTGGC
134509	DNMT3A	TTGCCCACTTTTCTCTTTCA
134510	SMAC	TTGGGGCTGCTCCGCCTCCTGACCAGCC
134511	IRF6	CTGCAGCTTTGCTTCCAATGTGACC
134512	SLC20A2	TGTTCACCCAGGCTGCGGAGACTCACCT
134513	OPHN1	CTCATGTGCAAACCCACTCAGA
134514	PCDHB7	ATTTTTAAAAAATGCTTTTAATGCAT
134515	SLA	TTGCCTGTATGAATGCATCAAGTATTC
134516	MGST2	GGAAGGTCAGCATTCAAAGTCA
134517	RNF18	GACAAGCTCAGTTTTCTCTGAAGGAGA
134518	IFNA21	ATGGAAATGATCTGTATTGA
134519	GBP1	CAGCAGTAGACAAATGGATACTGA
134520	CHST5	CCCAGGAGGCGACTGCATGGTGGAGAG

134521	ATF5	AAGGCGGCCAGGTTTGCAGTGC
134522	IL2RB	GGGCAGCTCCACAGGGCAGGG
134523	DYRK1A	TCCGTGGTAATAGGCACATTTTGAAAC
134524	CSNK1G2	CCAGCCTGGCCCTGGCAAGGGGC
134525	ARNT	TTGGTGCTCTCACCTTATCTGGA
134526	ATP11A	GCCTGGACCCAGCACTGTGG
134527	LANGERIN	CTGCATTTCCTATCTTCCTGTGTC
134528	RAI2	CAGCTTTAATGGAATATTGGG
134529	F8A	TTGCCCAGGCCTGGACTTTTTGCATC
134530	EFG1	GTCATTAATGGGCAGGCTTTTCT
134531	GADD45B	CCGCTGCCGCCTTCCCCATCA
134532	MLC1	TGGGTGCTGTCATGCCCAGCT
134533	GAA	CCTCCATCTGTTCCCAGCACCG
134534	GART	TTTTCCTTTGGAATTTCTGCTTTA
134535	ADRA2B	GTTGGAAGTGTGGAAAGGAGG
134536	SPAP1	GTGTCCTTGGTTTCACTGG
134537	BCL7A	TGGGGAGGCAGGCGGGGCTGACAGCT
134538	SHOX	CTCCACCTCCCAAAGTGTTAGAA
134539	B3GALT5	TCAGCTCCCAGTCCTTGTGCTTTTTGG
134540	GRAF	TGGCCCAGGCTGGAGTGCAGTG
134540	MEFV	TGGCCCAGGCTGGAGTGCAGTG
134541	GAA	CGGGCAGCAGCTGTGTGCGGGCCTGGG
134542	ZFP36L1	CCTCCTGCCTACTCCAGCC
134543	MEA	GCTGCCTTATATTCCTACATTCC
134544	ADAM19	AGCCAGCCACTGCTGTGGCCCTGCCC
134545	FBXL7	ACCATGAAAGAAGTTGAAG
134546	DNMT2	TTCTTATTGCAAAGCTTCAGTCAGA
134547	PAX4	AAAGCAGCTTGCGTTGACAGCCTGGGG
134548	PCDHA9	CAGAAATTGGAGAAAATGCTTT
134549	CHS1	CCACAAACAAGAATACAGGTATCTT
134550	MS4A2	TATCTGTGTTTGTGTTGGCATGC
134551	SORCS1	CTCTTATTCTAGCACAGTGCCT
134552	ALS2	ATCATGGTTTTTGCTCTACTTT
134553	TAP2	TCTCACCCTCTCCTGTTGTATCC
134554	IL6R	CACGCCTGTAATCCTAGCACTT
134554	TGFB1	CACGCCTGTAATCCTAGCACTT
134555	SMAC	TGAGGAGACGTGGAGAGGAG
134556	NRIP1	TCAACATCTCAGGAAAATCTGTGAT
134557	GPR86	TGGTATCTCCCATAATACGACC
134558	LANCL1	ACTCACTGCATGACCCTTTCTGTATA
134559	GALNT3	GCTGGACATGGTGGCTCAGCT
134560	TMPRSS3	GGTGCCCGCCACCACACCCAAC
134561	FOXO1A	TGTCAGGCTGGGGTTAGTG
134562	HCFC1	GGGTCGAGCCTAGGGGAGCTTGA
134563	NCKAP1	CCAGCACCACCATGTCGC
134564	DUOX1	CCTCACCTCTGTTCTTCCTATTTCTG
134565	KRT17	CCAGGAGGCAGGGAGCAGCCGCCCCAT
134566	GRIK5	GCTTCTGGAGGTGGGGAGGG
134567	MN1	ATGCCCAGGCCCTGCATTTT
134568	PPP2R5E	ACAGGCACTGGGACATCACAGGCTTCAG

134569	ADCY1	GGGCTTTGCAGGGCGGCCAGTGCAGTG
134570	PYGB	TTAGTGTTGAGCCTCTGGAT
134571	CBFA2T2	CAGGCAGCTCTAGTCAGTGA
134572	DISC1	AACCTGTTTCACTCAATGCCAG
134573	EGLN2	TTGCCTCTGTCCTGCCTGGTGTGGA
134574	MSF	CCCTGCCCTGCTCCTAAGGGT
134575	FGFRL1	AAATGCACGCACACGCACAG
134576	ZNF9	TTGTCGCCCCTCCTTTTTCTG
134577	BAZ2A	CTGACTCCCAGCTATAGCCA
134578	RAD50	TAGACAGCTTTTCTCAACTGGGT
134579	EGFL3	GCAGGCTTTTTGGTGCTAGGCCCTGG
134580	NOTCH2	TTCTCATTCCTTCTATGGCTGCAAGTA
134581	CIAO1	TCTGGCTACCACGTCTTTGGA
134582	NTSR1	AGGCTGAGGTCTGGAGCCAGG
134583	SRD5A2	TGAGAAAGTACAAACTTCTCCTATGTCTTTC
134584	PCDHB9	TTTGAGGCAGGGCTCAGTGG
134585	SH3BP2	CGAGTAGCTGGGATTCCAGGCGC
134586	DDX20	AGATTGTTTTGATTTAGGCCAGGT
134587	PDGFRA	TGAAAGCTTTGGCAACCCCAAT
134588	KRT3	CCTTCTGCTGCCCCGGAGTCCCCTC
134589	SEL1L	CCTTGATATGTAGTAAGCGTGATTCA
134590	TIMP3	AAGGACACAGACAAGGAACTTGCTGAA
134591	HMOX2	TATCTCCTCCTCCGCCTGTGTAA
134592	REGL	ACCCAGGCTGAGGGTGCCTTTGTGGC
134593	HIP1	GAGGCTGAGGTGGTAGGATCA
134594	HSPA1A	AATTTTTTGGTGAAGTACTGA
134595	ETV6	CAGCGGGCCAGCAGCCCAGGG
134596	MAGEL2	GCTGGCTTTGTGAAATGAATTGAGAAG
134597	COPS3	ACAAGTGTTCGGAGGGCAGCAGA
134598	ST3GALVI	GGTGTTTTCACACGTCTTTT
134599	CHAD	CGGAGAGACTACTGACCTTCTCA
134600	ALAD	GAATGTGGAGGACAGTGCCAGGC
134601	CHRNB2	GGAAGGGGACAGGATTGTCTGCTGCC
134602	AIM1	AGGATCTCAGGCTGGAGTGCAGT
134603	SACM1L	TTCAGTTAAACACTGCTGCA
134604	DDX19	GTAGAGAGAAACTACCTACCTCA
134605	KCNK4	GGGCTTCGTTTCTGCTCTCCCCGG
134606	FKBP1B	GGTTGCAGATTGAAGCATTTC
134607	LY64	CACCACACACCCCGCCCCTGAA
134608	INSRR	CAGGGCTGGGACAATGGCAGTG
134609	LBX1	GCAGCCGCCTCTTCCCTCTCGAAGCA
134610	PDGFB	GAAGAAAAAGAAGGACTGAACT
134611	PCTK1	GCATGCCACAGCCACTCGCCTT
134612	POP4	GTGTGACTCCCATGGGGAGGAA
134613	TPK1	CTGTAAAATGGAAGCGGTTGGAC
134614	PPP2R5C	AACATAGGTGGTTCTGTGAT
134615	PTGFR	CCTCTACTTGGCCTATTTGCC
134616	LHX4	CACTGCTCTCACCAGAACTGAGA
134617	BDKRB2	CTGGAGGGCTAGAACCTGGAGGG
134618	MUC12	GCATGACAAGCTCCAGCATC

134619	CDH1	TACTGTTTCTCAAGTGTTTTGGAG
134620	HPS3	ACTTCTTAATTTATGACCTCA
134621	CEACAM1	GCATTTTCTGTTTGCCCCCA
134622	ZNF137	TATAGAAGATCATAAAGCTTTAA
134623	APBB2	CTGTAAAAATAGGATGGCGAGTT
134624	GCK	CACTTCAGAAGCCTACTGGGGAAGGC
134625	LTBP1	CCAAATGGACATTTCTCTAAA
134626	ZNF147	TGACTGCCTGCAGAAGTCCCAAG
134627	PCBD	CTTGCTGTGGGATGTGCCAGT
134628	CDKN1B	AGGGAGGGCAGGGTGGGGCTG
134629	DHFR	GGAGAAACTGAACTGAGAAG
134630	CD34	CTCCTCCCTCCTGCCGACTCCTGGGT
134631	TIRAP	TGGTCTCACGGGGCTAGTTTTGACCCC
134632	PSEN1	GTGAGGAAGAGCAGGCACCAGCAGC
134633	ADCY2	TCTGGGCAGCTAAAAGCATCCCT
134634	BCL7B	TTGTGATTTTATTTTTTGT
134635	RBL2	CACCCAGGTTTGGAGGTCCT
134636	EIF2C1	GTAGGGAGGGGGTGGTTATCGC
134637	KMO	CAGGCTGGAGTGCAGTGGTGAGATCTG
134638	SCO1	AGGAGCCTATATAAATATAAAC
134639	PRIM2A	TGTCACCAAGGCTTAGTGCAGT
134640	EGLN1	GGAACAAGAAAGCTAATAAA
134641	IFNGR1	AAATTCTCGAAGCTTTTCA
134642	FLNB	CAGTGTCCGTGTTAATGTATTTGGCT
134643	CA12	GTCATGCCACTGCACTCTAGCCT
134644	ZNF74	ATCCTGGAGGCTACACAGCTGCC
134645	DAG1	TTCAAGTGTTCACCAACCAC
134646	PXN	CCCGCACTCCCCTTTTATACC
134647	COG6	AGGAATTAGGAATCCTGCTG
134648	PTPRH	CACCCCACCATCCACATGTAT
134649	UBE2G2	CCCTTTCTGGGTCCCTCCTGGTTC
134650	TCF2	CCCGAGCTGGAGTGCAGTG
134651	SLC18A3	TGCTCTGCAAGCCCACTGGCC
134652	EPO	ACCTGTTTTCGCACCTACCATCA
134653	PTPRC	TCCCATGTTAAATCCCATTCATA
134654	IL1RAPL2	CGGGAAAGACTGGAGCAGCGAACAGGA
134655	GYS1	CGGCTCCTGTCATCCCCT
134656	STK6	CTGGAGGCAAGGTTCGACTGCAGCC
134657	EGLN2	CAGGGCAGAGAGGTCAGGGCAGAGAG
134658	FGF2	AGAGGTCAAGGTTGCAGTGAG
134659	PLD2	GGTCAAGCCTCTTATTCCAGG
134660	RET	AAAAAGAGTTAAGCAGTTCGACAA
134661	B4GALT5	CCAAAGTGCTGGGATTATGGGC
134662	CBFA2T2	CCAAAGTGCCAGGATTACAGGC
134663	DOK1	CCTGCATTGTTCTTTGCCA
134664	DDX3	GTGTCCTTAAACTTCCAATCTTA
134665	NPM3	GGGGCCTCCCTTCCCACCTGCCTGTG
134666	ABCC11	CTGGGATAAAGCAAGAAGACTGA
134667	CACNB1	TGCTGTTGCTGCTCTGTATTTGCCTCT
134668	SIL	CAGGCTGGAGTGCAATGGCAGG

134669	POMZP3	TCCTACTGTACCTCGTGCCTGCT
134670	CHAC	GGTTTCTTCAGAATCATGAAGTTCTTT
134671	CLCN5	TGTGAAGATTCAGTTCAAAT
134672	ADAM19	CCAGCACTTCGCTTGCAGAAGCCA
134673	ATP1A2	TGCATGGGCTAATTATCATCA
134674	BARD1	TCACATTTTTACAAATAGGTAGAGTCAT
134675	RAB36	CCCCACTGGCTGCCTGGGAGCC
134676	LILRB1	ATCGCACCACTGCTCTCCAGCCT
134677	BCL7A	TGGAAGGTACATCAGCAATTAA
134678	EFNB2	TGTTACCCAGGGCTCTGCAG
134679	SULT2B1	AAAGTGCTGGGATTACAGGAGTGTGCC
134680	D12S2489E	GTGAAGGAAGAGAAGGCCAGC
134681	HUNK	CAAGATCATGCTACTGCACTCC
134682	KCNMB3	CTAGGGAGGCTGAGGCAGGAGAATC
134683	MAT1A	AAGACCCTGGCTTTCATTTTCTCTC
134684	CTSS	CTGTCATGTAAGAGGTGC
134685	CRHBP	CACACACGCATTATTTTTGTTA
134686	SLC9A1	AAGGGAGGGAGCTGAGGC
134687	PSEN1	TTTGCTGCTGCTTCCCTCTC
134688	PML	TTTTGCCCTCCCCTTCTCCTCC
134689	LIPA	TTCATTTCTGTAAAACACTTGTTTT
134690	D1S155E	AAACATTTTTGCTTTCTCCA
134691	ELAVL3	CCCACCCCAGGCTGGGCTGTTCA
134692	BCL11B	GGCGGTCACCACCACCAC
134693	RGS16	GGAAGAGAGGTTGAGTCACCCATC
134694	GGT1	ATTGCTGGCCCAGCTCCTGAGGCT
134695	CHST6	TGGTGAAATGGCTCCAGAGG
134696	VENTX2	GTGCCCAGGAGGCAGGCAGTGCGGGGTGC
134697	CNTFR	TCCCCTCCCCTCTGCCCTGTT
134698	VHL	CAGAAAAATATTAAGAAGAAA
134699	KCNAB1	GATATCAAGAAATTTTCTTTTTG
134700	MEIS2	CGGCGGGCAGAGGAGAGGGA
134701	PPP1R12B	TGTCTGGAAGCCCCATGAGA
134702	CLCA3	GCCTCAAGAAGCTGATGGTGGCAC
134703	AFG3L2	CAGTCTCTCCACTGTGGTTTC
134704	AKT1	AGCACCCTCCCCCGCAGCGGGGTA
134705	PARG	AGGCTGCAATCTCTGCACTTTG
134706	PODXL	TTCCCAGGAGTTAGAGGGATGCGA
134707	CDK10	AACACCCTTCTCGGAGGCTCAGGTCAAGTG
134708	PODXL	CTCAGGGCAGCTGATGAGGGGTCAGC
134709	MTNR1A	GAGCCCCAGAGGCAGAGGTTGT
134710	TCF12	AAATGAACACACCACTCTGAG
134711	EGFR	GTCTCTGCCTTGAGTCATCTA
134712	MUC4	GCTGCTGGCCGCGGTGGTGGAGGCGTTCT
134713	BRCA1	CTAAGGCAGGAGAATCACTTCAGCCCG
134714	MAX	CACCCTACCAGCTCCTCCAG
134715	TRIM34	ACTCAAGGAGGTCAAGTTGAG
134716	PRex1	GAGCTGATGGGAGCAGCTGGT
134717	UBB	GCATTACTCTGCACTATAGCC
134718	GJB2	CTCCCTGTTCTGTCCTAGCTAT

134719	GPR61	GATTCACAGAGTTAGTAATACCCAGAA
134720	GAS1	TTCATTCTTTCACTGTTTGTATCTGCG
134721	IAPP	TAAGGACAATGTAACTCTA
134722	MUC4	TCTCCTGCCCTTGTTCCTGGCAGCA
134723	TNFRSF4	CAGGCTGGAGCCCGGAGGGTCTGCTGG
134724	RENT1	TGCTAAAACTGAAGCACCACTGTGTG
134725	HSPA5	TGCTAGTGCTGTAATATT
134726	HOXB7	TTTACATTCTGTGTGTATCTAAA
134727	IFRD2	CCTTCCTGTCCTGTCTCAGGCC
134728	PKHD1	ACTATACATTGAAATGCCTGC
134729	SDHC	GCTCCCAGCATCATCTTCCTA
134730	CYP1A2	ATTGGAAAGCAGCCTGGCCAA
134731	DLEC1	TGGGTTTCATGAGCTTGG
134732	MYEOV	GAGTGAGGCGCCTGTACTGTCTTTCT
134733	TNFSF7	AGTTTCCTTCCTTCCTTCTCG
134734	MYOZ1	AGGGGAGTCCCTGGGCAGACT
134735	XRCC2	GCCTGTGATCCTAGCACTTTGC
134736	ENTPD3	AGATCCCGAAGCACAGAGACA
134737	SQSTM1	CCTTGGCTGCTCACTGTCCACATGTG
134738	ZNF136	GAAAAGCTCTTGAATATAAGCAA
134739	DVL3	TCTACTTTAATTCATTGGA
134740	MAGEA4	AGAGGAGGAAGAGGGAGTCTGG
134741	MS4A1	CTGACTTTCATTTCTTGAGGTACTCTG
134742	SOX11	CCGTGCCTGGCTCTTCTTGCCTCGC
134743	RNH	AGCCTCCTCTCCAGGTTCCTGCCCTGC
134744	HPCA	GGAGAGAAGGATTCTAGGGG
134745	GAS	CACCACACACCTCCCAGCTCTGCAGA
134746	PRKAG1	CACTGCCTGCTGGAAGCTCTGTGGGAA
134747	PTPRE	CCATAAAATATATATTTCTGCT
134748	OPTN	GGAAGTGGCAGTTGCAGTGA
134749	SEDL	CCACCTCCTGGGTTCAAGCAAT
134750	MAGEA5	TTCTCTCTTTGAAGAGAGCA
134751	ACP1	TCTGCTCCCCAGTGCTACCTCTCTC
134752	TBX6	CCATTGCATTCCAGCCTAGGCAACACG
134753	CA14	CCAGGCTGTCATTCCAGGAAG
134754	COLQ	GCACTGTTAGACACACATAGAC
134755	MYCBP	TATTCCCTATAGGCAGCTGGAGA
134756	DLG5	GGGTTCAGCACCCACCTTTCT
134757	P4HA1	ACCCCCTCTCTTTTCTTTTAGCTC
134758	CYP1A2	CTCCTAAGCTGGAGTGCAGTG
134759	TLR4	GAGCCTAAGCCACCTCTCTACCT
134760	ESRRA	CCTTCGCTCCTCCTCTCATCA
134761	TUFT1	ACTATAGGAATCAGAAAAATTCAA
134762	PAK1	CAGTTACCACCTCCTGCCTCA
134763	SNAP23	TCTTGTCCAGGCTGGAGTGCAAT
134764	PTPN18	TGAACTCCCAACCTCAAGCAAT
134765	PKHD1	ATTGCTGAATTCTAAATAATG
134766	EMX2	CAGGTTGGGCGCGTTTGGTGCA
134767	ATP7B	GCCCAAATAGGAGGAAAACACA
134768	FUT1	GGTTACTTCTCCCCTGGGTC

134769	IFNA13	GCAAGCCCAGAAGCATCTGCA
134770	PRKAG1	CCTCACTTGCCTCTGCCTCC
134771	FBXL7	GCACCCCCTCCCACTGGAGTGCGGGGACCT
134772	SUFU	CCATCTCACTGGCTCTGAGGG
134773	DMC1	AGACCAGCCTGGCCAACATGGA
134774	PRKY	CATCTAGGCTAGGTGCAGTGG
134775	VAMP8	CCATAAATGTGTGCCAAGAGGGTCTCC
134776	SOX5	GATCCTTGCCACTGCTCTTCCCT
134777	IRS1	CTGGAGCGAGGGGCAGGGATGAG
134778	DDX6	CCTTGGCCCTCTTTCCTCT
134779	HEXA	AGGGCTCCAGACCCAACCTGGTCACAA
134780	KCNS3	GCGTGTGGCATCTCCACCTCAAGG
134781	ALDH1A2	TGTCTTTGTCACAAAGAACTTTCCTCT
134782	RAD23B	AATATTGCTTTCAAAAAGA
134783	ACADVL	TGCCTGCTCTCAAGAGCACTTACTGCC
134784	DSC3	CGCACAGGCTGGAGTGCAGTG
134785	CYP2B6	GTTGGCCAGGCTGGTGGTGAGC
134786	HDAC1	CCTGCCCTCTGTCTGTCTTCTCCTA
134787	GYG	TTGCCCAGTGCTGCCAGAGTGAGT
134788	PLA2G4A	ATGAGACAACACTATTTTTATTTATAT
134789	HLF	TGTTTCCTGTCTGATAGCACCACACG
134790	SFRS2IP	CCTGGGAGGTTGAGGCTTCTGTGC
134791	NQO1	GATACCTTGAAAGGAAGAGCTAATAAA
134792	COCH	TGAGGCTTCATAATCATGGCTCTTAGA
134793	ABL1	TCTGTGGGGGTCATCAGGGAGG
134794	RNF3	GGCCACGCTGTGGGGCCACCTCA
134795	PLCG1	TTTGGGCCTCCATGCCCCAGCT
134796	C8orf1	ATTTGGTATCCTGATTTAT
134797	SET7	CTCAGCCGCCGGGAGCACCCAG
134798	SYNGR3	CCACTCTCCACTTTCTCTCACA
134799	PACSIN3	GCGGCAGAGTCACGGTGGCAGC
134800	KCNA4	CCCCTCGGGCCAGGCAACAGAACTTGT
134801	CACNA1C	CTGCTTGTAGAAACCATTTGCA
134802	RELN	ATATCAGTTACAGTGGCAGTATTG
134803	SNX15	CCCTTCTCCTCTCCCCAGGGCC
134804	PRND	GGTTTTCTGCTCTGTCCA
134805	DLGAP2	CTGTGGAATGAGCTCTGTT
134806	NCOA6	CTCAGCCTCCCAAGTGGCTGGG
134807	LANCL1	GCCATAAAATATTTTCCTTC
134808	LMNB1	AGACTAGCAATCTCTTCATTATTCTCTG
134809	KLF7	CACATACACACTGTCATGCACTC
134810	B4GALT1	GGGAAAGATCAGAGAGGCAGAGGTGG
134811	MX2	CCTAAGATACTGCTATCATTCTTC
134812	SDC4	GCTGGGTGGTTGAGTGAGTGAA
134813	INHBB	AGCCTCCAGGATACCAGCAAAT
134814	PIK3R3	GACAACCAAAGGAAAATGGG
134815	PDE7A	TTGAGTGTGTTGGGCTTTGGGTATA
134816	EHF	CCCTGTCTGCTCACTTCTAGCTATT
134817	TAF7	TTTGCTTTCCTGTTCCCTAGCTAGCTAG
134818	ADM	TGCCATTGCCAGTGGGACGTCTGAGACTTTC

134819	KCNE3	TCACCCAGGCTGTGGTGCAGT
134820	A1BG	CCCTCATTCCTCCCAGGAATTAATAAA
134821	AR	AACTCTGCACTACTCCTCTGCAG
134822	KRT16	GCTCCTAAACTGAGCTGCCTCTACCACAGCCT
134823	RAB7	TCTCGCTTCTGTCCTCCGTTTA
134824	ZFP37	TATAAATGATCTACATGTTCAGA
134825	RABL2A	TCGCTCTGTCGCCAGGCTGGAGTGC
134825	RABL2B	TCGCTCTGTCGCCAGGCTGGAGTGC
134826	PRKAR1A	TTCTCCTCTCCCCAATCCATGCT
134827	CCND2	GGCTTCATCTGCAAAGGGCCCTTTCAT
134828	XRCC2	TGTCTCCCAGGCTGCTGGAGTGCAGT
134829	APTX	GCAGCTGCTGCCTTCCATTCCTC
134830	PSME3	AGGCTGCTATCGTTCCATGTGTA
134831	HRMT1L1	CGTCCACCCCTCCGCGCTGGC
134832	ACOX1	GGTATTTTTGAAGTGGTGTAGAACCC
134833	PHKG2	CACGCCTGGCCCGGTCAGTGCTGC
134834	COL4A6	GTGACTATTCATGGCTACCTCA
134835	CNN2	GGGCTCAAGCGATTCTCCAGCC
134836	GAMT	CAGGGTCCCTGAGGTGAAGT
134837	DMPK	CTGCAGGCCTGGGAAGGCAGCAA
134838	SPOCK	CAAAACTGAGATAATTTAGAA
134839	B4GALT5	TCAGCACTGGCTTTCTGTTTTCACAAG
134840	OSCAR	GTGGTTAAGACTTCCAAGCCAG
134841	OTOF	CCCATCTCCCCTGGGGAGCC
134842	PNMT	CCTGGTGCCCTGTGGCCCCCACCCACCT
134843	DMPK	AGGACCCCCAACAACCCCAAT
134844	SOCS5	GCTTTGGAAGTCCAAAAAGAA
134845	DDX1	TTTACATTTACTGAATAAGATT
134846	TPP2	GATTATTAAAATGACATGTATTTA
134847	GAN	CAGTACTTCATTTTTAATTGTTTTCTA
134848	ARHGEF12	TTTAATAAGCCTCTTCCTACTA
134849	ALX4	GGCCTGACCCTCAGCACTTTC
134850	PLGL	TGGGAATGGAAAGAACTACAGA
134851	PCDHGA1	CAGCCCAGGCAGCCAGCTTTG
134851	PCDHGA10	CAGCCCAGGCAGCCAGCTTTG
134851	PCDHGA11	CAGCCCAGGCAGCCAGCTTTG
134851	PCDHGA12	CAGCCCAGGCAGCCAGCTTTG
134851	PCDHGA2	CAGCCCAGGCAGCCAGCTTTG
134851	PCDHGA3	CAGCCCAGGCAGCCAGCTTTG
134851	PCDHGA4	CAGCCCAGGCAGCCAGCTTTG
134851	PCDHGA5	CAGCCCAGGCAGCCAGCTTTG
134851	PCDHGA6	CAGCCCAGGCAGCCAGCTTTG
134851	PCDHGA7	CAGCCCAGGCAGCCAGCTTTG
134851	PCDHGA8	CAGCCCAGGCAGCCAGCTTTG
134851	PCDHGA9	CAGCCCAGGCAGCCAGCTTTG
134851	PCDHGB1	CAGCCCAGGCAGCCAGCTTTG
134851	PCDHGB2	CAGCCCAGGCAGCCAGCTTTG
134851	PCDHGB3	CAGCCCAGGCAGCCAGCTTTG
134851	PCDHGB4	CAGCCCAGGCAGCCAGCTTTG
134851	PCDHGB5	CAGCCCAGGCAGCCAGCTTTG

134851	PCDHGB6	CAGCCCAGGCAGCCAGCTTTG
134851	PCDHGB7	CAGCCCAGGCAGCCAGCTTTG
134851	PCDHGC3	CAGCCCAGGCAGCCAGCTTTG
134851	PCDHGC4	CAGCCCAGGCAGCCAGCTTTG
134851	PCDHGC5	CAGCCCAGGCAGCCAGCTTTG
134852	GHR	TCTGTCGCCAGGCTAGAGTGCGGT
134853	KLF15	GAGTCATGCTGGAGGAGAAGGAAGTA
134854	NLGN1	CAAACTAACTGCAGTAACAGAAACCTT
134855	RPL21	CATCTTCCAGTAATTCGCCA
134856	MYH11	TTTACACCCTGACTGTGC
134857	P2RY12	CCAGATGCCACTCTGCA
134858	PAG	TCTCATAAGCACTGCTTTGCT
134859	CASP10	AGACCAGCCTGGCCAATACGGC
134860	IL16	TTGCCCAGGCTGGAGTTCAGCGGTG
134861	CLECSF6	AGATGTTTTAAGAAAGA
134862	FBXL7	TTTCTTCTTTTCTCCCAGTCTCCTG
134863	LZTS1	CTCTGTCCCCAAAGGACGCCTGC
134864	CDR2	TACTGTGAATTCATTACGAA
134865	AVP	ACCCTGTGAGAACAAGCCCCTC
134866	PMCHL1	GGCTTCCCAAAGTGCTGGGATT
134866	TRPM6	GGCTTCCCAAAGTGCTGGGATT
134867	FOXD2	GGGGAGGGAGAAATTAAGCGGATTCCC
134868	GRB10	CCCCTCGGGTGGCCCCCTTTGCCACGT
134869	RPS6KA1	GCACACACCTCCGAGACAGTCCA
134870	SLC14A2	GCTAGGACTACAAGTGTGTGCC
134871	TACSTD1	AACTGATTTGTGATTGAAAGCTG
134872	KLHL2	ACCAAAACATGTCTTTCTT
134873	MFRP	TCCTTTCTCCCCCTAAACTTTGGCC
134874	TNR	GGGTAATAGCAATGTGTT
134875	LRRC2	GGGGCACAGACCCACAGTTCC
134876	GRB10	ATTCCTTTGGAAAATTCACTGT
134877	LAMC1	TGAGTGTAGGACACTGAGCCAT
134878	ATP1B2	GATTACAGGCGTGAGCCAC
134878	CAMLG	GATTACAGGCGTGAGCCAC
134878	CASP2	GATTACAGGCGTGAGCCAC
134878	CASP8	GATTACAGGCGTGAGCCAC
134878	CDC2L2	GATTACAGGCGTGAGCCAC
134878	CIAS1	GATTACAGGCGTGAGCCAC
134878	CLECSF12	GATTACAGGCGTGAGCCAC
134878	CTSS	GATTACAGGCGTGAGCCAC
134878	EIF2S3	GATTACAGGCGTGAGCCAC
134878	F2RL2	GATTACAGGCGTGAGCCAC
134878	FANCF	GATTACAGGCGTGAGCCAC
134878	FCAR	GATTACAGGCGTGAGCCAC
134878	HUNK	GATTACAGGCGTGAGCCAC
134878	INMT	GATTACAGGCGTGAGCCAC
134878	KCNJ11	GATTACAGGCGTGAGCCAC
134878	LYZ	GATTACAGGCGTGAGCCAC
134878	PCDHA9	GATTACAGGCGTGAGCCAC
134878	PIGR	GATTACAGGCGTGAGCCAC

134878	SIL	GATTACAGGCGTGAGCCAC
134878	SNAP23	GATTACAGGCGTGAGCCAC
134878	TAPBP	GATTACAGGCGTGAGCCAC
134878	TAT	GATTACAGGCGTGAGCCAC
134878	TPMT	GATTACAGGCGTGAGCCAC
134878	TRPM6	GATTACAGGCGTGAGCCAC
134878	XRCC2	GATTACAGGCGTGAGCCAC
134878	YES1	GATTACAGGCGTGAGCCAC
134879	MCL1	TGTCTATATTGGAACTAGGGT
134880	KCNK7	CCACCCACACAGCACCTCCTCCTG
134881	ARHI	TTCGTGCCTCCGAGAAAGGGGTC
134882	JUNB	GCTTTTGCGCACAGCTGCC
134883	TEX15	AGGATAAGCCTCTTTATACTCACTTA
134884	MAP4K5	AAACTGCACTATGATTTGCTTTA
134885	CTSC	AGCTGCCCTCCTGAACACTCCCT
134886	IMMT	TTCCATTTGCTATCATGTC
134887	MYH13	CTCTGCAGTCATGAGCTCTG
134888	ADCY1	CCACGGTGGCTCCAGCCAGGACCAGCCA
134889	DBP	CACATCCCCACCTGGCGGAGCTC
134890	HNRPDL	CTGGGCTATCACATTATAATGCTCTT
134891	ENC1	GTGTTCTAAGCAATGCAAATGTCTAA
134892	BAZ2A	CCTCTGCCTCTTGGGTTTCAGTGATTT
134893	GRB7	GGGGGTTCCTAGACGGAGCCAG
134894	MYLK	TCCCTGCAGCCCCTCGCACTA
134895	DIAPH1	CCTGTCTTTCTCTCTGGCCTGCTGC
134896	XDH	CACAGAGCAGTGATAACTACCTG
134897	LPP	AAAACCAAATTAGCCAG
134898	ALX3	TCCTGCCATGTGCCTGCACT
134899	VAT1	CAGCTCAGGATATGGGGCCAA
134900	GPRK5	GAGGGTGTATATTTTCTGTGC
134901	AKAP1	CTCTGATTCAGCTGTGGAGTGTGGTTGG
134902	RAD17	TTGTAATAACATGTTCA
134903	CBFA2T2	CTGCCACCACTTGGCTATTTGCAC
134904	SPAG9	ACCATGCCAGCACAGCGCCATGAG
134905	IFNAR2	AGCCTCCCTCGCAAGTAGCTGGGATT
134906	FLT1	TGGTCTCAAAAAATTGCTAAATATT
134907	SBF1	CATTCCTGAGTGTGTGCACA
134908	PAICS	CCTAGTAATTCTCCTATCTCAG
134909	SELPLG	AGCTATCGCCTCTTGCCT
134910	ROBO1	TGGAATATTTGAATAATGACAGA
134911	DIAPH2	CTCCACCCTAAACACCGCC
134912	ZHX1	GGTAATTTGGATAGGGTGAAGCTTTGA
134913	DIAPH2	ACTTGCAGTAGAACTGTGGAT
134914	ATP1B2	AGCTCACTGCAACTTCCGCAT
134915	RREB1	AAAGCCAGCAGAGCAAAGCG
134916	CPD	AAAAACCCACAGGTGCTGCTG
134917	MAP3K12	GTGGGAGGGGCAGGAGAGAAAACCAC
134918	STAT6	GCTCTGAGACACGCCCCAACA
134919	EBAF	TTGGGATACCTGGATTCTGGTTCTGAC
134920	ICAM5	GGCTTATTTATTGCTTTAT

134921	F2RL2	ACCCAGACTGGCGTGCAGTGGC
134922	ANXA11	CTGAGAAGATCGTGAGGCTGCA
134923	APOC4	AGGCTGAGGTAGGATGATGGCT
134924	FMNL	GTGGAGGAGCTGGAGGAGAAGGGGTTA
134925	FOXO1A	GTTCTGCTTTGACAAACTGACA
134926	PACSIN3	ATCTCTAGGCCCCAGCCCCA
134927	FCMD	TACCATTCTATTTCCCAAGGGAA
134928	VHL	CCAAAGTGGTGGGATTACAGGT
134929	ATP7A	AGCCCAGGCTGGAGTGCAGT
134930	NOVA1	GCATTTTTATGTCACCAACCA
134931	IL10RA	TCCAGAGTCATCTCAGCCCTGC
134932	PPARGC1	AAAATGCTGAGGTAATAATTATAGTAT
134933	RASA1	GTATAGTTTTATTTACTTCT
134934	LEF1	TTCGTTATCTTCTGATCCTTGCA
134935	NOS1	TTTACAGTGGGGGCACCAAGA
134936	CLN5	AAGGTGATGCAGAAACTTCTTTCC
134937	B3GALT5	CTTCCCAAGCCTGAGCCAAGCTCATCT
134938	ST5	CCTGCCTGCCTGCCTGCCTGA
134939	DDX6	AGCCAGTACCAGCTTTGGTAATGTT
134940	CDH6	CAAAGAGATAAACTACATAGGG
134941	SLC7A8	CCCGCCGCAGGAAGGAGCAGTCCC
134942	SFRP1	AGAGCTGCACTATCACGAGCCTTT
134943	FEZ1	GTCCTTGTCTCCTTGACATAGTGCTGG
134944	ERH	TCTCACACCATTTTGCTGGTAC
134945	NR2F2	GAGGGGAAGAATTTAATGGACTGTGAA
134946	ASPH	TCAGCATTTGTTTAAATTTT
134947	CNTN3	TCCCATTATAATAGCATTATTTGGA
134948	ZNF9	TTTGGAGCTATTCAGGA
134949	ADK	GAGAAGCCAGACTTCCACTGTGGAAG
134950	NDUFV3	CTGGCCTCCAGAACTCAGCCTCCTGGCCGGGG
134951	TNFRSF8	TCAACAAAATAATGCACTTCC
134952	AMBP	GGGCTGTAATTGGCCCCAGCTGAGCAG
134953	SLC22A7	GCTGCCGGCACCGCCCTCCTGCTGC
134954	TBX22	TGAGCTTCAAAATGAGATATGC
134955	SNTB1	AAGAAAAATATTTCAAATAGAA
134956	TTF2	CCTGTAATCCCGACACTTTGG
134957	HCFC1	GGCCTCCTTGTCCTGGATTTCCAGCTCTCC
134958	SIRT5	CTTTTAACCTGATTTTCTTTGT
134959	SLC17A5	TATTAGATTTTTAAGGCCTA
134960	ATP1A2	ATTGCTTGAACCTGTGAGGAAG
134961	CLN2	GCCCTTCCTCCCTTGCACTGCGCCCC
134962	KCNQ2	AGGGACGGTTCACAAGG
134963	SCA1	CTGTCACAAAAAGCCAGGTCTT
134964	SERPINA3	TGAAGCTCTCACACGCACAG
134965	FOXO1A	GTGTCAGGCTGGGGTTAGTG
134966	MEFV	AGCCTCCCAAAGTGCAGGGATT
134966	SCNN1G	AGCCTCCCAAAGTGCAGGGATT
134967	ADH5	TAATCAGGACCCAAGTCTGCTT
134968	PUM2	TTTTAATACAATTACTGCCCTAAAATG
134969	MALT1	AAAATCAAATAAGCTAATAAA

134970	KCNJ3	TAGAGCATACCAGTACTCAGTA
134971	MRC1	GTCTTAGTTCCGCCCTCCTGTCC
134972	HMGA2	GACTGGACATTTAACTTTTC
134973	AHR	TAGATATAATGAACAAAATTATTTGTA
134974	ANXA11	CCTCACAGCCTCTTGCTGCTAAA
134975	EIF5A2	ATAAGTTTTTATGTGAGGACTT
134976	POU2F2	CAGAGGGTCCTCAGAGCAGGAGTGAC
134977	SLA	CAGATGTTTGCACAGTATCTTA
134978	MGAT1	GGACTGCGGGCAAGGGAGCCGG
134979	NDUFA2	AATGGTGCAACCACTGAGGCA
134980	TARBP2	ATGAGGTGGAGCCTGATGATGA
134981	ADORA2B	GGCAGGCGGAGGCGCGGTCCGGG
134982	NFATC4	GGCTGGGGGAAGGAGTGTGTG
134983	DSC1	AAACCAAGCTCAGCTGCATC
134984	GNRHR	GTGACTATCCTTCTTCACTTAGGAAGAG
134985	DMN	GGTGGTGAGGAGTCTAAGTGGGCTCAG
134986	TAPBP	AAAGTATTGGGATTACCCGCGT
134987	RPA2	TGGAGCATGGGCAGAGGAG
134988	GPR24	AGGATGCATGTTTATTTGAGGGGATGTGGCA
134989	SMARCA3	ATCTTCCAAGTACTCAGCTTTT
134990	CDH13	GCGAGGCAGAGCCTCTCCTCAAAGCC
134991	GCG	GTCTTAAAAATACTCAGCTTT
134992	KCNB1	TTCCATCTCAGCCTCGGAGGGCA
134993	IMPA1	AGACGAGTGCGGTAACACCGT
134994	TSC1	TACGACCCAGGACAATTAG
134995	TPTE	ATCAGGAGTGAACCCAGAGG
134996	AQP6	CCCAAGTAGCTGGGATTACAGG
134996	AXL	CCCAAGTAGCTGGGATTACAGG
134996	CAMLG	CCCAAGTAGCTGGGATTACAGG
134996	CYP2B6	CCCAAGTAGCTGGGATTACAGG
134996	DFFB	CCCAAGTAGCTGGGATTACAGG
134996	FANCF	CCCAAGTAGCTGGGATTACAGG
134996	NUMA1	CCCAAGTAGCTGGGATTACAGG
134996	PPID	CCCAAGTAGCTGGGATTACAGG
134996	RAB36	CCCAAGTAGCTGGGATTACAGG
134996	SAS	CCCAAGTAGCTGGGATTACAGG
134996	TRPV1	CCCAAGTAGCTGGGATTACAGG
134996	ZNF253	CCCAAGTAGCTGGGATTACAGG
134997	CAMK4	ACTACTGCTTAGCTAATACTAGGTAG
134998	PATE	CACCAGCAGCAAAACAAATA
134999	NCSTN	AGCTTCTTGCTCCTGT
135000	TCF2	CAGGTCTACCTCTGTCACCCG
135001	KIF5C	GCCCTAATGTGCCATTCCCTA
135002	NXF5	TCCAATGCAACAGGAAGCTAGTGA
135003	TNS	CTGCCCCCTGCGTTCCTCCATCCA
135004	HEBP1	CCTGCCGCCCTGCCGCCCTGCCGC
135005	CROT	ACCAGCCTGGGCAACAGGGTAA
135006	PER2	TGATGCCAAGCATCAAGTCA
135007	AASS	TTGAGATGGAGTCTCGCTCTGTCACC
135007	FANCF	TTGAGATGGAGTCTCGCTCTGTCACC

135007	PDCL	TTGAGATGGAGTCTCGCTCTGTCACC
135008	CYP8B1	TTGAGACAGAGTCTTGCTCTGTCGCC
135009	SEPN1	TTGAGACGGAGTCTTGCTCTGTCACC
135010	NEK6	CACTGACTTCATGACAGTCTGGCCC
135011	PGF	GACTCCTGCTGGTACCTGCCCTCTAT
135012	ZNF76	CTGCCCCCCAACCTCTCTATGGCA
135013	RP2	AAATGTTCTTTCAAATCTCTA
135014	PAX9	CAAGCCTCTTTCATCGGGGCACA
135015	PYCR1	TCCTGCCTGACCACCATCCTGC
135016	RBM3	TACGCCTGTAATCCCAGTGACTT
135017	CA1	TTCAAGTTCACTTTGCAAGAGA
135018	DDX3	TTACTTTGTCTCTTGGAGATT
135019	RPP20	GGACCTCGGACCAGAGCCATGTAAGA
135020	PARG	TACCAGTTTTGGAGACTGCCTGA
135021	APXL	CGTCTGGTTAGTGGGGACCCAA
135022	COG2	GTTGGACTTCCAGGCTGAAGGGGAGAAAGT
135023	SIAH2	GCCCCTTCCTGCCTGCCTTCCCA
135024	TMPRSS3	TGTGAGCCAGGAAAGGGCTG
135025	BIN1	GTGGCCCTTTAAAAGGCAGCTTATT
135026	PRKY	AGAGAAAACTGAAGCCTCCCA
135027	CTMP	CGGGAGGCGGAGGTTGCGACCCAAAGC
135028	FNTB	ACAGGCAAGACTTGCTTCAGC
135029	SLC2A5	GTCTGCCAGGGGCTTCCCACTT
135030	MAP1B	TGTTTTCATTTACAGGAAATTG
135031	DCX	GCTCTCAAGCTCTGTTCTTCATCGCA
135032	MAPK7	GGACCCAGCAGGTGAGGCTCGGCT
135033	DDX11	CCAGGAGGAGAGTGTGGAGTCCAGAGT
135034	RNMT	AGAGTTACTAAGGCCTTCAGTGAA
135035	AGL	TTTAGGATATTGTGTTGCACTAGA
135036	COL9A2	GGGAGGCCCGGGCCCTGCCCAGCTAC
135037	PUNC	GTTTTCTCAGGATGGATTTTTGCTGT
135038	SURF6	ATGAGACAAAGACTGTAACTG
135039	CLCN6	CTTCCCTTATTTGGGAC
135040	OPHN1	TTTTTGAGCCCTTGTTTCAG
135041	OLFM1	CCCAGCCCTGCCCAGCCCTGCC
135042	T	GAGGGACGTGTGGGGACAGGTGC
135043	HTR2A	TTTTGAAATATTCACAAGGTTGCTG
135044	FTSJ2	TGGTCTGAATTTATCCAGGCAG
135045	ARHGEF6	CTCAGGAGGCTGAGGTGGGAG
135045	ZNF74	CTCAGGAGGCTGAGGTGGGAG
135046	B3GALT2	TGCACTCTTAAACAGCACCACCAT
135047	HMG20A	ATGCTATCATAGCACACTACAGCCTCCAA
135048	MS4A3	GGGATTTTATTTCAGTGAA
135049	PRIM2A	CCCAAGTAGTTAGGACACACAGGTGTG
135050	CAMK2A	GGACTCCTGTTTACTTCTAGACCTGGT
135051	TCF7	CCTCCAGGAGCCTACCCCCTGAAAAT
135052	SLC17A7	CCATCTCCTTTCAGAAAAAT
135053	NRIP1	TAATTTGCCATTTTTATTAGA
135054	ELAVL4	CAACCATGGACTTTATAAGCCA
135055	ADAM17	TATTTAGTTCTCAGCTCTTC

135056	NEK2	ACTGTTCTTCAGCAACTATTGTAC
135057	ELMO2	TCTCCAGGAACGCTGCAGGGAAAACC
135058	FZD7	CCTGGGTGGAAAGCGGTTTGGATGAA
135059	SLC12A4	GCCTGCAGGAAGATCTGGCTCAGTCTA
135060	APP	ACGGGGCGGGTGGGGAGGG
135061	SLC7A5	TGTCTGTGTCCCAGCCACGCAGGGCCA
135062	DLX4	ATCGCCACTACAGCCTGGG
135063	A1BG	CACTGCACCGGAGTGAGCGCGA
135064	LIPA	GTTGCCCATGAGAAGTGTCCT
135065	KRT5	ACCTGCTGCAAGTCACTGCCTTC
135066	PCSK1	TAGCTCTTCGCAGAGCAACCAGGAGCC
135067	MAGEA10	GCTACCCTGATCAGAGTCATCATGCCT
135068	SPG3A	ACAGCGCCTCACCGCCACCAG
135069	GA	CTCTCTGAAACTCAGGCTGAGGCAG
135070	SLC22A7	TTCTGCTTCTTCTAGAGATGGTGCT
135071	BIN1	GTTTCTGGCGCCCCTGCCTGTGC
135072	ZFP36L1	GGGACCTTCGCGACACACCAGATCCTCG
135073	CUL3	AGTACACTGGCATCATCT
135074	POU3F1	CCCGGGCATCCTGCCCGCCGCCT
135075	LETM1	AGCTCTTTCTCGGCTTTCTATTTCC
135076	MS4A2	AATAGTTACAGTTGGGCAT
135077	GGT2	CCCGCTGAACATCAGCCTGGG
135078	AKT1	GCCCCTCCACGCCTCCTGGCC
135079	PYGO2	TTCCCTCTGCTGATGATGGATGCC
135080	SMARCC1	TGCTCAGGCTGGGAGGGTAGAATGCC
135081	ADAMTS13	TGGGAGCCGGCGGGAGGTC
135082	IL1F5	CTGCAGCTTCTACTTGAGCC
135083	GATA2	CTGCCCAGGTGGGGTTTCCTGCATG
135084	FMR2	CTCAGCAACAACACTTA
135085	KIFC3	CGCTGCGGGGCCTGTGGAGAGTGGG
135086	SDC1	CAGGAATATTTTCCAAAGAGTGA
135087	TNFRSF6	GCGTATGACACATTGA
135088	TNFRSF10B	GTCTCGAATTCCTGGACTCAAGCAG
135089	IRS1	TGGACATCACAGCAGA
135090	TSN	ACCTCTGCTTTCTGATGTTGCC
135091	HMG20A	CTGTCTTCCTTCCTCCTCATA
135092	EGLN2	TACTGCACTGGGCACTGGGGAG
135093	IL20RA	CTTAAAACATGCACATATACCAGGTT
135094	TRRAP	CCTTCCTAATTTAAAAAGACAA
135095	GGA3	TGGAATTACTATGTGGAAA
135096	PITPN	CCCTGCTCCTCCTCTTCCCTTTGGGGC
135097	PML	CCATCCATCCCACCTGCCACTA
135098	PYGO2	TCCCTGTCGTCGCACTTTG
135099	BENE	TTCCTCCAAGGCTGGAGTGCAG
135100	IL11	TGGCTCACGCCTGTAATCCTGG
135101	SLC22A11	ATCGGTTCCAAACAGCAGTT
135102	CACNG3	TTAAGACGACGGAGGCGGGGCAA
135103	ABR	CCTGGGTTGTCGCGGCAGCAGT
135104	SLC5A2	GGGGTGAGGAGCCTGCGGTGCTCC
135105	AXL	AGCCTCCCAAAGTGCTGAGATT

135105	CLECSF11	AGCCTCCCAAAGTGCTGAGATT
135105	GLTSCR1	AGCCTCCCAAAGTGCTGAGATT
135105	PTPN18	AGCCTCCCAAAGTGCTGAGATT
135105	SPN	AGCCTCCCAAAGTGCTGAGATT
135106	TP53	AGCCTCCCAGAGTGCTGGGATT
135107	MTMR7	GCCCAAACCTAGGCATTTAATGCA
135108	BENE	GCGCCCACCACCATGCCCGGCT
135109	ALDH1B1	ATCTTGAACTCCTGACCTCAG
135110	SPAG8	CATGGACAAATAGGCTCTGCCATCAGG
135111	HIP1	CCACTGCACTCCAGCCTGAG
135112	F7	GGGGAATGTCAACAGGCAGGGG
135113	HOXA11	GATGCATGGAGATAGCCCCA
135114	B4GALT5	TTGCCCAGGCTGGTCTCGAAC
135114	CBFB	TTGCCCAGGCTGGTCTCGAAC
135114	GRM6	TTGCCCAGGCTGGTCTCGAAC
135114	IL12RB1	TTGCCCAGGCTGGTCTCGAAC
135114	WHSC1	TTGCCCAGGCTGGTCTCGAAC
135115	SLC5A1	TGGTTTATAATCCTTGAATATTGTT
135116	ANKTM1	GTCTGATTTTCTCCATCATCC
135117	JRKL	ATTGTTCTGCTCATTGTGTTT
135118	BLAME	CTCCCATCTTCTCATATCCTGGCTCT
135119	PNOC	CCCGCAGGCTTCGTTTGCCTCCAGAACCTTCC
135120	S100B	CTGTTCTTTAAATGCGTTCC
135121	TEAD3	CTCCTTGCATGGCTTGTGTGGTCCT
135122	AP1B1	CTGGGTGTGCAGGGAGGG
135123	TBL2	TGCACTCGTTTGCTTTCTCCA
135124	EPHA2	TTGGCCCAGCGCCAAGTAAACAGGGT
135125	TRPV1	CCTTCCTCTCTGTGCCGTGCTT
135126	TPST1	AGCTTGGTGGAGCGTCTGCACC
135127	SCA1	CTAGTAACAGCAGGCCTTTT
135128	IGLL1	TCCAAACAGAGCAACAACAAGTACGCG
135129	NEDD4	CACCAGTCCCCAGCTGCAGA
135130	TMPRSS3	AGGGGAGGGGGAAAGGATAGT
135131	ARHGEF7	AGGGAGCTCCTGGCAGTAGCAC
135132	CADPS	ATATGGAGCACCATTCTTTAA
135133	PRKWNK3	GGGAAAGGGAAAAAACAGAATTGTAAC
135134	SSR2	CCAGGTGCTTTCCAGACTCCAAAGGG
135135	FANCC	AAGAATTGGCCTGGCTGGGTGCAGTG
135136	ZFX	TCATTTTAAAGCCAATCAGTC
135137	SWAP70	TGGGAGGCGGAGGTTGCAGCGA
135138	M11S1	ACCAAATGCCTGC
135139	MGEA5	TCTTTACTTTTGTCTTTGGG
135140	HCFC1	TCCTCCAGGGCCTCTGGTTTG
135141	LARGE	ATCTTCAATATTAATATTGTG
135142	ZNF80	ACAAAACAAAACACAGCTT
135143	APPL	TTGCCCAGGCTGGAGTGCAGTGGTGTG
135143	TRPV1	TTGCCCAGGCTGGAGTGCAGTGGTGTG
135144	HOXA5	CCTGAATGGCTTTGTCTTGAAA
135145	LILRB1	CGACAGAGGGAGACTCCATCTC
135146	CDA	GCTCCTGTTTCCGCTGCTCTG

135147	STX1A	GGCAAAGTCCATCGGGTCCTGGGCCTC
135148	IFNA21	CTCATTTCTCCTATAACCACCGCA
135149	GAS7	AAATGTCCAATATGGAGAACAGCTTTG
135150	CDK2	AATTTTAAAAAAGCCTTCCTA
135151	KCNQ2	CATGCACACAGACCACATAG
135152	MUC4	ACTGGAAAAGGGAAGGTGACTGAAG
135153	AGPAT2	GCCCACAAGCTGCATCAGGGTC
135154	IL17E	CTGCTCCAGTCAGCCTGC
135155	GAS7	CCATCTGTAAAGTCTCCTCTGGAAATGCCA
135156	BCAR1	GGGCTGGAGTGTGAGGGTCCTGCA
135157	FMR2	GTTAGGGGACACTGAACTGCTTTT
135158	EGLN2	TTCCCAGACACTTGTTATCTTGTTC
135159	ADAM33	CCTTCCTTCCTGTTTCTTCCCAC
135160	CDH1	CTATCGGCCAGGCTGGAGTGC
135161	GJB1	CTGCCTCTAGTCCCCAAGGCCTCTCTC
135162	PRX	GGAGGCTGAGGTGGCTGCAGG
135163	MTMR3	GCATCATCTCCCTCCTGCGAGGAGCT
135164	SOX9	TGCATTTCCTCCTGCCTTTGCTTGTTC
135165	FABP2	ACTGTAACCTCAAACTCCTGGACTCAT
135166	WHSC1	TTCCTTTTTCCTTTCTTTCTTG
135167	WNT1	GCTGGGTCCCAGCCTGGTTTGCAA
135168	B3GAT1	TGATGGCCAGGGTGGGGTGT
135169	IGJ	GACATAACAGACTTGGAAGCAG
135170	FZD4	CCATTTGGATTAGTAGCCTTAGCAATG
135171	FMN2	ACCAAAACAGCATGTGTAAGAGGCA
135172	PCDHA9	CCACCCAGGCTGGAGTACAGT
135173	KLRD1	CTCAGCCTCCCAAGTAGCTAGG
135173	STE	CTCAGCCTCCCAAGTAGCTAGG
135173	VENTX2	CTCAGCCTCCCAAGTAGCTAGG
135174	WBSCR1	TGGTGGAGGCTGGCCTCTCTGGCTGGGTG
135175	BLAME	CTGATGCTTCCTGAGGGCCAAG
135176	CSNK1D	CAGCACTGGATTCCTGGTCGG
135177	FZD10	ATGTTCTTTAGTTTGCTGCTA
135178	NXF2	AACAACAAAATGTGCTCTACTCT
135179	VASP	CCCCTGAACCTCCAGCCAGGGG
135180	DIAPH1	GGCAGGTTACAGAGTTCTGGGATT
135181	TBL1X	CAAGAAATGGCCTGTGGAAT
135182	MPP2	CAGCCATCCAATTCTTGAGTTTTCTCA
135183	IGFBP4	CGCTCCCTGTAGCTCTGCCTCC
135184	TLR5	GGCTGACTGCAACCACTGCCT
135185	P2RY1	GACAGTATTTCAGAAAAGGAGA
135186	AP2M1	AGCCACCCTCCTCCACAGGTC
135187	POU2F2	CCTCCTCCTCCTCCACTTGCAGC
135188	PITX2	CCGGCTCCTGTTCGACCGCCCGA
135189	PPP2R5C	CGCTGCCTTCACTGAAGGCTGCAGT
135190	PABPN1	TCTCAACTGCGCAAGCTGCTTGCCCAT
135191	OTOA	ATGTTCAGGCTGGGGCTGCTGGT
135192	APBB2	ATGCAGATCTGGAAACCTCAGCCAGAGAACT
135193	CYP1A2	GTCTCAAACTCCTGACCTCAAGTGAT
135194	LTB4R	GGGGTTTCAGCCCCACCCTCA

135195	NRL	CCTGTGGCCTTCAGGGCTCAGA
135196	PACE4	GGCCCCGGAGCCCGGTCGCAGGA
135197	PXR1	GGCTGGGTGGGAGCGGGGAGGGACTAG
135198	NBEA	AGACACAGCAGAAAGGGGGC
135199	CHI3L1	TTGCTTTGGTCTATCTTTGA
135200	PDE6B	AGGCTGGAGTGCCGTGGCACGAT
135201	JPH2	GTCACACATGGAGGCTGGACAGCTGC
135202	EIF4EBP1	CCTTTCTCCCTCACTCAGGGCACCTG
135203	ALDH3B1	GAGAGCCGAGGTGGGAGGCATGGGAAA
135204	NKTR	TCCAGTTATGCAGAAGAAATTCAT
135205	PSMA1	CAAGGCTGGGAAAAGACAATG
135206	KAI1	CCCGCAGAGTCCTCCCTGCTGC
135207	SDS	AGACCTGAATCACAGCAGTG
135208	MMP2	GACCCCTGGCTTTTCACTGCTGGCTGC
135209	AQP2	GGCAGGTTCCCCTGCCCTGA
135210	CRIM1	AAATAGATTGACATCAGCCTGA
135211	DDX20	CAGCGACTCACCAGTTGCCTC
135212	LASS2	GCTAGCACCTAGCATTTCAG
135213	DNASE1L1	TGTAAGCTAAAAAGCTGTGTGA
135214	KCNMB1	TGTCTCCAGGCTGTGTGCTCA
135215	PLS3	AAGCTGTTTGCTATAGTTTCCAAGGT
135216	SLC18A1	CCCTCCTGATTGTAGATTTCCTAAT
135217	STAC	CTTCAGAAAGTAGAGGAACTAGGG
135218	KLHL3	GGATACTGATTTGAACAATGTAGA
135219	RBBP2	AGCCACAGTGATGCATGCTTTTCG
135220	COPG2	TTGGGACGATAGTGCAGCTTTGG
135221	SLC14A2	CCACTGCACTCCAGCCTGGGCAACGGA
135222	DPP6	CCACACTAGCCTCTGTGTT
135223	SLC9A1	CTGCCTAGCTCTTGGGCCTGACCTCCAGT
135224	ADCY6	GGGATTACAGGTGTAAGCCACT
135225	MICA	TGCCTGGATCTCACGAGCACTTTCCCTCT
135226	GARP	TAAGGGAGAGTCAATGGGCAGAGCCAG
135227	CEACAM5	GCTTCTTCCTTAAAGCATTTGCA
135228	JAG1	GCTTGTAGTTCTTTAAACTGTCGTGTC
135229	EIF4G2	TTCATTTCTCCTGTCCCCTCCCCTCCC
135230	AGA	ATCTGAAATTGTATTATCTATTT
135231	NDRG2	AACCTGGGAGGTGCTGAAGGGG
135232	GRHPR	ACACATTTGCGCCAAAAGTAT
135233	CENTD2	TGGGGCTGGAGAGATGGGCATAA
135234	MAP4	TGGGCAGCCCGCTAGGCTCGC
135235	ELL	ATGGGCAGGTGGCCTCTGCTG
135236	AGER	GGCAGGCGAGAGTAGTACTGG
135237	HOXC13	TTGACGCAGCCCCTACACTCCA
135238	UBE2V1	GTTTCCATTAATCTTTTTCT
135239	PTGFR	CATTCTCCATCCTTCCTTATCA
135240	SOST	AGCATTTTCACCGCCCTGG
135241	CDH13	GGAGGTGAGGAGCAGAGCAGGCAATTTCACCA
135242	DDX11	CCAGGAGGAGAGTGTGGAGTCCAGAGC
135243	D12S2489E	AGAATCAAGATCTTCCCTCTCTGAGC
135244	IGHMBP2	CGTGCCGGCCGCATCCTTGCACGCC

135245	RNF26	TCCAATGAATAAAGTTCTCTTGAC
135246	TERF1	ACCTACTGGGGACTGTGCTCAC
135247	NR2E1	AGCTGCTGTACTTTTCACATT
135248	ZNF278	GGCTAGCAGGGTGGTTCCTGC
135249	SAS	GCTGTTTCCCTTCCTCTGTCCATA
135250	EGFL4	AGGGACGATGGGGTGAAGTCAGCT
135251	BCL11B	CAGAAAGGAAGAAACTAGCG
135252	IL12RB2	ACTCAGATGCCTCATCTTGCCT
135253	RBBP9	CCACTGTACTCCATCCTGGGTG
135254	PCDHA9	GCTGTGAGCCACTGTGCCAAGGCT
135255	IFNW1	AGGAGGGTAAAAATGGAGGC
135256	FBXL11	TCCTCCAGGCCTCTGGTTTAGCGG
135257	BRCA1	AGGCCTTCACCCTCTGCTCTG
135258	ADCY1	CAGACCAGCAGAGCAGGGA
135259	ARNTL	TTACTATATGTAACTTCAGACA
135260	GNPI	GCTGTTTTTGTGCCTGTTTGAA
135261	PML	CTGGTGCATGCTCAAGTTTG
135262	GAMT	AGACCAGCCTGGGCTACAGAGC
135263	PDC	CTCTCAGGAGCCTTCTCCGCA
135264	ALEX3	TTGTAAACTATTCATTTTCTCCA
135265	ITPR2	ACAATGGATTTACAGCTCT
135266	SCML1	GGCTTGTTAAAAAGCTTAAA
135267	FGF2	TGCTGCTAATTATATCAGCTCTG
135268	DIAPH2	TCACTAGAAATGCCTTTAACATTCATA
135269	DRG2	GGCTGTGGCTGCTGTCATGGCACCTCA
135270	ATP6V1G2	TCTCTAATTCCACTTGTTCATTCTGTG
135271	IL1F5	GGCAGTTTCAGGGCCCCTCCCTAGGCC
135272	MGAT1	GCTGCATCGGCCTGCCTGTGT
135273	ARHGEF12	GCTTTTAAAAAATATCTGGAACTA
135274	INMT	CTAACATCCTTGTTTTAGAATTCT
135275	CA3	GGGGAAGAGAAAGCAGG
135276	IPP	CCTGTAGTCCCAGCACTTTGAGAGGC
135277	C18orf1	CTTCAAATATGTCCTCAGGCC
135278	SDC2	CAAAGATGAAAGCTGTTTCATTTGT
135279	TAT	TGCTTTCTCCTTTACTTGGAAGGCT
135280	SRGAP2	AGTAAAGCCCTTCCGGG
135281	TSPY	CATATGCAGGACGGCAGTACT
135282	SLC6A6	GCTGGGGTCTCAGGGCTCAGA
135283	CD81	CGCCATGGGAGTGGAGGGCTGCACC
135284	HPS4	CCTCTGCTCCTGAGATGCTG
135285	GGA3	CCCTGCCTCTGGTGGACAGCATCGTC
135286	KCNA4	TTTTGGCTGAAGAATGCTCTGCA
135287	LPIN2	CGCCCCCAACAACTCTGCTTTT
135288	MLLT3	GTTTTTCCAGTTCCAGGAC
135289	ABCA7	TGGAGAGAAGCCGTGGTGGTGAAA
135290	FTL	CTGCCTAAGCCTCTCCCTCCAGCCAAT
135291	ISG20	GATGCCGATGCCGGCTTGGAG
135292	CYP8B1	CCATGATCATTGCTGAACTCAGAG
135293	NT5C3	GTTCATCTTGCTGAGAGACTTA
135294	PSD	CCGGGGCAGGGCAGGGCTGGG

135295	PCSK2	TAAGCAGTCCCTGAGACCATT
135296	KCNAB2	GGGACAGGCTGGGCAGAGGGG
135297	POLH	CTAAGGCAGGAGAATCACTTGA
135297	ZNF14	CTAAGGCAGGAGAATCACTTGA
135298	PCTK1	ACCTTTAAAATGCCTTC
135299	SLC10A2	AGGTACACTAAAGGGACCTG
135300	SOCS5	AAGTGCATTTAAATACAAAC
135301	SGT	TGCCCTCCTCCACTCCCTTTTTGTAA
135302	F8	AAAGTTCCTTAAAATGCTCTG
135303	ENO2	TGTATTTCATGTGGCTGTAGAT
135304	MHC2TA	CTCTGTGCCCCCAGTCTGGAATCC
135305	STATH	GCTTCACTTCAACTTCACTACTTCT
135306	EDNRA	GTTACCATTACAAATGGGATA
135307	NIF3L1	TGATTGTTATCTTGGTGCTG
135308	CRHR2	TTGTACCCCACCCTGTTCCTGT
135309	TXK	CAGTTTCAGAGGCCTTA
135310	LEP	AGACAGGAGAATCGCTTAAACCTG
135311	PTTG1IP	GGGGCAGATGGCGAGGGAGCGGG
135312	TLL1	TTTAAAAAACCCTATAGTTTGG
135313	FACL5	TAACTTGCCAACAGTCTCTATGCTTA
135314	CD244	GTAATCTAGAAAGTGTTATGTAAG
135315	LPL	TGGTCTCACAGAGCCAACTCACTCTTA
135316	DFFA	CCTGTAATCCCAGCACTGGG
135317	BMP8	GGGGCCATCAAAAACAGGCTGA
135318	SEPX1	TGGTTCATGCCTTCTGCTGGGACA
135319	IL1RAP	AGTCAATTCCTGATTATCCACAG
135320	PPP3CA	ATCATGGTGTTTATTTTCTTTC
135321	TRPM6	GACTACAGGTGTGCACCAC
135322	WHSC1	GCACTGGTCTAGGCCAGGTATGA
135323	ADCY6	CACTGGGTGGAGCTGTGGCAGGGGG
135324	HLF	ACCTACTCTTCCAGGACTCTCTG
135325	EVPL	CTCAGTTCTTCCTCCACCTCCACCCAG
135326	LETM1	TTTTAATTTTCATCATTCCA
135327	DLX2	CCCGCTGCCGCCACCCACCTCTCC
135328	LEP	CTCGGGAGGCTGAGACAGGAGAATCGC
135329	WARS	CTTCCCTTGGCACACCAGTGT
135330	MPO	GGAGCACAGCTCAGGAACTAGA
135331	TCIRG1	ATTGCCAGCTTCAGGGAGCTGGAG
135332	ABCC11	CTGATCTGTGTTAGAAGTGTTG
135333	SMG1	CTGCCCTGCGGGCTCAGGCGG
135334	GCKR	CAGGGCATCCGCAGCCCAGGG
135335	SUDD	ATCATGCCACTGCACTCCGGCCT
135336	ABCA2	CCCCCTGCCCGCCCACCTCCCT
135337	BCL10	GGCTCACTGCAACTTCTGCCTCC
135338	CBFA2T2	GTCTCCCAGGCTGGAGTGCAATC
135339	EFG2	GGAGAGAAATTCAGGAGCACCTAGC
135340	NEDD4L	GGGGGGACCTGGAGGCAGAGGGG
135341	AGT	GTGCCTGGCAAGGCCTCTGC
135342	C14orf1	TAAGAACTCTAACAAACACAAGG
135343	C18orf1	TCAACTTGCTTTATAATCTCCTGCA

135344	COL9A1	CCCTTCCAACCCCTTCTTCATAGG
135345	PRKWNK3	GAGGATGGGGTTTCACTATGTTGGCCA
135346	RFX5	AACCTAATTCAAACTGGCTTAA
135347	PCSK2	TCATCCCAGCCCCAATTTTCTG
135348	HS2ST1	ATCCACTGCCAATTCAGCTCC
135349	PRX	GGAGGAAGGGAGGGCAGAGGGGG
135350	CXorf6	CCAGCAGGGTATGGCCAGCTT
135351	INPP5B	CAACATAGTGAGACTGTCTC
135352	SPK	TCACTCAAGAGGAGGGGCCGG
135353	AGTRL1	TAGAAGGGAAGAAATTGTCCCT
135354	FRK	CCTCTTGCTAACTTTTTATTGG
135355	C21orf33	TCAGGTGTGGCAGAAGCTTGCAGATGCGT
135356	KLHL3	GGTGGAGGAAGGAGCAGG
135357	TRPM6	CCAAGTATACTGGTGAAATCTCG
135358	IGF1	TTTTGTGCACTCTGCTCTAAAACAG
135359	IL2RB	TGCCATAGGGTCCTGAATGTTTCAGAC
135360	ASH2L	TTTCACCATTTTCTCCCCACTTCCAGT
135361	MADH9	CCAGCTGCTCCCAGAAGAAC
135362	RP42	TGTCTTCATCAGAAAACAGT
135363	RP2	GCCACTACACCTGGCTAATTTTTGT
135364	GPR85	ATTCAGTCTGTGACTGTGGA
135365	ZNF264	ACAAGTGTCTTCACTGTGGA
135366	FBXL3A	TGTTTTTCCTTGAACAACTTTGGAAA
135367	ITGB1	TTTGGTAACTTTTATGCCTTCA
135368	FANCA	CACCATGGACATGTGTACATTGA
135369	HOXA5	CACACATATCAAAAAACAAATG
135370	E2F3	GTGTGCATGACAACTCGTGTGTATGAG
135371	TIF1	GAAAACAAAGACATTCTTCC
135372	PAX5	TTCCTTCCCCTCCTCTCTC
135373	SORCS3	TCCTGCTTTTTTGTTTCAAGGGT
135374	DVL3	CCCTGCCTGCTGCCTCAGTCTG
135375	PLA2R1	TTACCTGCACTCGTACCAT
135376	ATP1A2	TTACCCTGGGCTGGAGAGTTGGTTTCAG
135377	KCNK4	AGGCTCTCTTTCGGCCTCCCA
135378	C18orf1	CTGCTGCTGCTGCTGCTGCTTCTC
135379	INPP5B	GGTCATCTCTGTTTCCAGAG
135380	LAMC2	GCAGTGTTGGAGTGAGGACCT
135381	SHOX	AGGAGGCAAAAGCCCCTGCTTCT
135382	CYP8B1	AGCCTTCCTGGATTTCACGCATCCC
135383	IMPG2	CCTGTTCTGAAACTGATTAGAAGCCTG
135384	LRRC2	AGGACAGAGACAAAAATGAGGA
135385	PART1	TTATCCAGGCTGAGATGGAAAA
135386	BACH1	CTTACTTTTTACCAGGAGTGCAGT
135387	SMURF1	TTTGAAGTATTGCTGCTA
135388	LILRB2	GGAACTTTGGGACTCACTTG
135389	AIM1	ACAATCACGGCTCACTGCAGCCT
135390	RAB5A	CACTCTCATCCTACGGGCCAC
135391	SOX13	AGACTCCTGGGCTTCAGCCTCT
135392	CPS1	ATTTCATTTAATTTTAGCCACA
135393	SLC25A14	TCTTCAGGCGCCTCCCTTCTCTCCA

135394	GRM4	GTTTCACCTTTTCCCTCTCTGG
135395	AQP8	ACAGCAGGTGCAGGTTTCCCAGCAGC
135396	IFNGR2	CCACTGCACTCCAGCCTGGTGACTCCG
135397	RRM2	AGTCCTTTAACCAGCACAGCCAGTTA
135398	PAICS	ATATTTCTCCAGACTTGCA
135399	BLK	GAGTACTAAGCCCCAGTAAG
135400	CDA	CCAGAGAATGCCCACTGCCT
135401	ITPR2	TTGCCCAAAAGGCTGGAGAGGGCAGGG
135402	RAC2	AGCCCCTCATGCTCCTGCCTTCC
135403	MECP2	AGACAGCAGTCTTATGCTTCC
135404	MAPRE2	GGTACGGGTCTTCCTGCCTCAT
135405	PTEN	CAGGGAGGGGGTCTGAGTCGC
135406	ADAMTS4	GGGATTACAGGTGTGAGCCACC
135406	CD209	GGGATTACAGGTGTGAGCCACC
135406	CYP1A2	GGGATTACAGGTGTGAGCCACC
135406	DSCR3	GGGATTACAGGTGTGAGCCACC
135406	HLCS	GGGATTACAGGTGTGAGCCACC
135406	IL11	GGGATTACAGGTGTGAGCCACC
135406	PKNOX1	GGGATTACAGGTGTGAGCCACC
135406	PPID	GGGATTACAGGTGTGAGCCACC
135406	PRND	GGGATTACAGGTGTGAGCCACC
135406	PTGIS	GGGATTACAGGTGTGAGCCACC
135406	RHD	GGGATTACAGGTGTGAGCCACC
135406	RPH3AL	GGGATTACAGGTGTGAGCCACC
135406	SEDL	GGGATTACAGGTGTGAGCCACC
135406	UGDH	GGGATTACAGGTGTGAGCCACC
135406	VHL	GGGATTACAGGTGTGAGCCACC
135407	TEAD3	CCCAGAGCCCAGAGCAACCAG
135408	PIP5K1A	ATGGGGAAGCAACATTTTTAT
135409	TBX1	GAAGCAGTTCACTTAAAGGCCAT
135410	JAG2	CCAGCGATCTCTCCACTGTGCT
135411	NMBR	ACTACCTGGAGAGAACTTAG
135412	NBEA	TCACCAGGCTGTAAGCAATA
135413	STAM	GTTCAAATATTCAAGAAGGT
135414	SHANK2	CCAGCAAGGCCCTGCCAGCCCAC
135415	NBS1	AGATTTCAGATATTCTGCTCTA
135416	PYGB	TGTGCCGCCGCTTTCCTCCTCCA
135417	OGG1	CACCAGCAAAGCGCAGAAAGG
135418	TMEPAI	AGTAATCATTAGTGGCAATGATGACATTC
135419	RAB6A	TGGCTCTTTCACATGTGCTTTA
135420	SCAMP2	ATGTGGTGGTGGTTGTGCCCAGCACAG
135421	CLASP1	TACAGAAGCCATTGAAAA
135422	EIF4EBP2	TAACTCTGTACATCAGAAGAGA
135423	DDB1	GTAGGGAGTTGTGGGTAGTGGGGAAGA
135424	TXK	CCCCAGGAACCCTTGAGGTTCTTCT
135425	FLII	CCCTGACAGGTGCCCTCA
135426	PCDHGA1	GCCCAGCTTCTCCTTACCTGCACCCAGGC
135426	PCDHGA10	GCCCAGCTTCTCCTTACCTGCACCCAGGC
135426	PCDHGA11	GCCCAGCTTCTCCTTACCTGCACCCAGGC
135426	PCDHGA12	GCCCAGCTTCTCCTTACCTGCACCCAGGC

135426	PCDHGA2	GCCCAGCTTCTCCTTACCTGCACCCAGGC
135426	PCDHGA3	GCCCAGCTTCTCCTTACCTGCACCCAGGC
135426	PCDHGA4	GCCCAGCTTCTCCTTACCTGCACCCAGGC
135426	PCDHGA5	GCCCAGCTTCTCCTTACCTGCACCCAGGC
135426	PCDHGA6	GCCCAGCTTCTCCTTACCTGCACCCAGGC
135426	PCDHGA7	GCCCAGCTTCTCCTTACCTGCACCCAGGC
135426	PCDHGA8	GCCCAGCTTCTCCTTACCTGCACCCAGGC
135426	PCDHGA9	GCCCAGCTTCTCCTTACCTGCACCCAGGC
135426	PCDHGB1	GCCCAGCTTCTCCTTACCTGCACCCAGGC
135426	PCDHGB2	GCCCAGCTTCTCCTTACCTGCACCCAGGC
135426	PCDHGB3	GCCCAGCTTCTCCTTACCTGCACCCAGGC
135426	PCDHGB4	GCCCAGCTTCTCCTTACCTGCACCCAGGC
135426	PCDHGB5	GCCCAGCTTCTCCTTACCTGCACCCAGGC
135426	PCDHGB6	GCCCAGCTTCTCCTTACCTGCACCCAGGC
135426	PCDHGB7	GCCCAGCTTCTCCTTACCTGCACCCAGGC
135426	PCDHGC3	GCCCAGCTTCTCCTTACCTGCACCCAGGC
135426	PCDHGC4	GCCCAGCTTCTCCTTACCTGCACCCAGGC
135426	PCDHGC5	GCCCAGCTTCTCCTTACCTGCACCCAGGC
135427	MICB	GTTTCAAACTCCTGACCTCAGG
135427	VHL	GTTTCAAACTCCTGACCTCAGG
135428	AIRE	AGCCATCATGTGCCTGGAAATTA
135429	CLECSF11	GCTAGTCTTGAACTCCTGGCC
135430	PRPSAP2	TCATGCTTGTTCCTCCCTC
135431	TCL1B	CGGCAGGCAGTGGTTCGGTTTAAGAGA
135432	PTGFR	ATTTGACAAATAGGACTGCCTA
135433	PPP1R12B	CTCATGGAGAAATGGATAGAAA
135434	CHST5	ACCCTAGCTTGGGTGGCAAAGCAA
135435	FUT9	AGACAGTTCTTTCTGCTACTGA
135436	MSX1	GCCAGCCAGGAAGATGAATCCTA
135437	ZNF146	CTGCAGCAGAGATAATGGTGA
135438	UBE2G2	GTAGTGAGCTGAAGTCCCGCC
135439	OXTR	GGTAATCAGCTCAGTGTGTTACTGGT
135440	IKBKG	CAGGCCTGACTCGCTGCTCTT
135441	HUNK	CTCAGGCTGATCTCAAACTCCTGGGC
135442	SDPR	TCCTGGAATAACATGTCATCTTCA
135443	EN2	AGCCTGGACCAGCCACCTCA
135444	RPE	TTGAAGCCGTACTGCTTTTTTG
135445	C8orf1	ATAGCTTAAGCAAGTTTACA
135446	SEL1L	AAACTCAGAGAATCAAAGA
135447	ALPP	GAGCGAGATTCTGCCTCAAAAA
135448	GPC1	TCCTCGGCCGCCGCCGCCTCTGGACCGCGAGC
135449	RECQL5	TACCTGTTATACCAGCACTTTG
135450	PFKFB3	GGATCTCGGCCCCGGGAGGCGGGC
135451	SERPINE2	GAAGAAATTTAATCAGTGTGACA
135452	HTR2A	GGAGGCTGAGACGCAAGGATCA
135453	HK1	ATCTGCCAGCGAGAATCGGCTACAG
135454	COL4A3	TCTGGGTCTCTAATCTGTGCT
135455	NFIA	TTTCTCCTCTCTCACCCACAC
135456	HAS3	TTCTTAGCTTGTCTGTGATCTCTGCT
135457	GGPS1	CTCATAGCTTATTTTAGTT

135458	DNAH9	TGAAGGAATGTGGGCCCAG
135459	CTSL	GCTGGTGGACGGTGATGAGGA
135460	CALB2	ACCAAAGAAGAGTTTACA
135461	CREB1	TCAGGAGGTTGAGGCAGCAGAATTGCT
135462	ATBF1	CACCTTCAGATTGTAGCTTTGA
135463	ACTN1	GGGCAGCAGCCGTTGCTCAGA
135464	EIF1AY	AGTTCTCTGAGGATGGTTCTACAGTTG
135465	MITF	CCGTCTCTCACTGGATTGGTGCCACCT
135466	HRH1	GCAGCTCAAAATGATATGTTTGAG
135467	HOXA3	GGACTCCTGGTCTCCTCCGGGGATG
135468	DGCR2	TCCACTCCTTACATCACCGCCACT
135469	BACE2	CCTGCTGCTGCTGCCGTTCCGG
135470	MDM2	TCGGAAAGATGGAGCAAGAAGCCGAGC
135471	ADCY1	GCACCACCTCCCTTCAGTCA
135472	LCP1	AGGGTTCTGCCTCTCCAGGCATTAGCC
135473	PXN	TGGTGACAGTCCAAACCACTC
135474	XK	ATGAGTGTATGTGCCAGT
135475	ZNF219	ATTAGCAGCTTTTCCTCCTCTTCC
135476	OLFM1	AAAAAGATACCAATAACAC
135477	SPAG6	ATCTTTGAAGGAGGAAACTGATGA
135478	PPARGC1	CTTGCGCAGGTACATGTTCCCTAGCTGA
135479	CRP	CGTCTCTGTCTCTGGGCCTTTGTT
135480	CACNG7	TCCCTCGTTCTCCACCTGCTCTG
135481	EGLN2	CTTTGAGGCTGTGGTTGGGAATTTGTA
135482	TEM8	AATGTCATCCCTAATGACACATGCC
135483	NPHS2	CAGGGACTGCGCTCCCTTG
135484	YWHAH	TCTTCCTTGCCACAATCACTAA
135485	ABCF1	GCTTCTCTTCATATAACTGAGCTG
135486	GALNT1	TATTCCATATTAATAGGCTTGC
135487	FLNB	GGGCTGAGAAGATCCTGAGTAC
135488	MMP14	GAGAGTGAGACCCAGTGGAGGGAGC
135489	IL1RL1	GAGGAAGAAAGAACTCAAGTA
135490	SORCS1	GCTGATCAGGAAAGAATTTCGCTCTT
135491	SCN2B	TGGCTACGCCTGTAATCCCAG
135492	TNFSF10	CAATGGTTAACATCTTC
135493	DIAPH2	AAAGGTTTGTTTCCCAGATTTG
135494	ITGA11	TGCCCTACTGGGAGACTGGGA
135495	SOST	GTGCCCAGAGCACAAGACTGGGGGCA
135496	SPG4	CGGGAGGCGGGTTATGGCGGCGGCG
135497	PLCB2	GCTGCCTTGGCCCTGCTTGGCTGA
135498	HTR2A	TTTCAGCTGTGAGCTTTCTG
135499	NDUFB10	GGAGGTAGAGGCCAGGGCAG
135500	LTA	GGCCTCGGTCCCTCCTGCACCTGCTGC
135501	PCTP	CCCAGAATATTTAGAAATGTAGAA
135502	MUC3B	CCCTGAAATCCTCAGTCTCCTTGG
135503	IL6R	ACGGTTTTACTGCAGCTTTGTTTGTT
135504	GPR4	TCATCCCACAGTCCCTTCTCTCC
135505	HNF4A	TCCTAGCCCCTGTCATGGTGTCC
135506	PCTK1	GGAGCCATAATGTGCATATGTGCACA
135507	AGTRL1	TGGGACCCTCTGCCCGTCTTCTCTCCA

135508	PODXL	CACCTCCAGGGTCTTAAGAGTC
135509	GRM6	AAGCAGTTCTTAGTAGAGGC
135510	MMP15	GGGGAGCAGAGGGGCAGAGGCCCACAT
135511	KRTHB1	CCAGGCCCCAGGCATCTTTGCCT
135512	TSC1	CTCAGCTTTATAACAAATGTGG
135513	ZNF261	AGGAGCTGTGGGCGCAGGGCCT
135514	IGFBP4	CCTTTCTCTTCTTCCCCAGGTC
135515	PPYR1	TCAAGAGTCCTGGAATCT
135516	CBL	GTGGTGAAATGAAAATGGAGC
135517	GPRK7	GGAGGCGGAGGTTGTAGTGAG
135518	SIP	CCCAGGAGTTTAAGGCTGCAGTGAGCT
135519	SPOCK	ATATCTCCTGTTCTCTGAGA
135520	RABIF	TCTCATTCAAGAAGGCATACA
135521	ZNF202	GGGAGTCTCCCTGACCTGCTC
135522	GTF2F1	CACTGCATTCCAGCCTGGGTGA
135522	PDE7A	CACTGCATTCCAGCCTGGGTGA
135523	MIPOL1	CCAAAGTGATGGAATTACAGGT
135524	PSEN1	ATCCTTTTTAAATGAGACTTGTTTTCC
135525	NPY1R	ATTCACTTTACCTAGCAG
135526	HMGB3	GTGAACAAACCCCCACTCCGTTGTATT
135527	COX7C	AGCATTTTAAGAGGTGCAGCCTCTGGA
135528	SELL	CCACCTCTCTTTTTCAGTT
135529	YWHAG	CCTTATGGTTTAGGCCTTGCCA
135530	CMAR	CGCAGAGGTGGATCGACGCCCAG
135531	XT3	CTGCTGAGGCACAAGAATCATT
135532	PTK2	TGCCAGGCTGGAGTGGAGTG
135533	GABRB3	ATATATACATTTTGCAGCT
135534	TNFAIP2	GAGGGAGAGTGCAGCCAGGCTCAGGGA
135535	AP1S1	GGTGAGGCAGGAGCTGGGAGGG
135536	SDC1	CCTCTGGTCGCTCCTGCCCA
135537	EIF5A2	CGAGTTCAAGCAATTCTCCTGCCTCAG
135538	PEA15	ATTGCCCCTATCTTGTGCTCTTCTGT
135539	SYNGR1	CCCCGCAGGGGCCTAGAGGG
135540	P2RY12	ATGACTCTAAAGAAACAGAAGAT
135541	CHRNA4	GCAGGAAGTCCCTGAGAAGCCTCATGG
135542	PPP2R1B	GGGAGGTAGAGGTTGCACTGAG
135543	PITPN	CTGACTTGGAAAGTTGGAGA
135544	SLC25A15	AGCTCCAGAGAGCTGCCTTC
135545	AMFR	GCAATGGCTCATCAGATTCAA
135546	AEGL1	CCATATTTTCAACCACTCTGAT
135547	PPP1R12B	CCAACAACATGGGGCTCAGGTCTG
135548	ANK1	AGCCCCTGTGGCCTCTTGGAGAG
135549	ARHGAP6	ACCGAGTACCTGCTGAACGCCTACTCT
135550	AIRE	TGCAGTGAGCTGAGATTGCGCC
135550	DFFA	TGCAGTGAGCTGAGATTGCGCC
135550	MGAT2	TGCAGTGAGCTGAGATTGCGCC
135551	IL17R	TGCAGTGAGCCGAGATTGTGCC
135551	IPP	TGCAGTGAGCCGAGATTGTGCC
135551	SMG1	TGCAGTGAGCCGAGATTGTGCC
135552	IL18	TGTGGTGAGCCGAGATTGCACC

135553	CEBPA	CGCCTCTCCCACCTCC
135554	KDR	AACTTTGTACTATTCACATT
135555	HAS3	CTGCTTTTAAAAGTGCACATT
135556	SLC7A8	GGATGGAAGAAGGAGCCAG
135557	ADRA2B	TTGAGGACCTTGTGTTCCTG
135558	PRKY	AAGGCTCCACTCTGTAGCCAGGTGCAA
135559	ELF3	GAAGCAGCTGAGACTGTTGGAG
135560	NCOR2	AATGATGTGTTGGTTTACAGGGTA
135561	CALU	CTCTGGTTGGGAGTATGATATGA
135562	GLTSCR1	AGCCCCTTGCTAACCTCAGCTCTT
135563	RAPSN	GGTGGCGCCTGCTCTCCATCCA
135564	GSTT1	CAGCAGTCCACAAAGCATTTTCATTTC
135565	LPIN2	AGAGGAAGAATGAGAGCTTTGTGTGT
135566	PPIL1	CGTCCTCTTCCTTGTCTTGGC
135567	CHRNA10	CTGTACTGCTGCATTTCCTGTC
135568	SHANK2	CAACAAATAAACACATGTTGC
135569	VDR	TCTCTGCAGGTCGAGCCCAG
135570	NCKAP1	CAACATTGGATGTGCATTTCTGTGAT
135571	HLCS	CTACCTGCTATAGCACACT
135572	DGCR2	CTGGGGCAGGGCAGCCAGGTTCCA
135573	TYK2	TGAGTTGACACAGGGAGCTCCAGG
135574	FACL4	AGCTTTGTTTGTTCTTGTTTTTA
135575	ATM	GCGCTCAGGAGGCAGAGGTTAC
135576	TRPS1	TCTCTCGCCTTCCTATTTCT
135577	SMAC	TTTGTTTTGTTTGAGACTC
135578	SHANK2	CCCCACCCTGCCCTGCTCAGGGTG
135579	GDF8	ACTGCCTTTGCAACACTGCAGTTT
135580	CD164	TAATGTTTTCAAGTGCCTT
135581	PHLDA3	TGGGACCCCCACCCATCCAGGCCCTTT
135582	AXUD1	CACTGCACTTCAGCGTGGCCC
135583	KCNQ1	CTGCCTCTCCGCCCCTGAGCCCACTG
135584	CHC1L	GAACAGCTTTAGTCATGGAA
135585	TUFT1	CACCCAGGCTGGAGTGCAGTAG
135586	SF1	GCAAATGGTTTTGGGCAAGGGCTTT
135587	RFX1	CTCGCTGGCTTTGCACAGCCTGTC
135588	PRKCABP	TGAGGTTGGGGTCAATGCCTCCTGGGCAC
135589	LTA	CCTTCTCCCCATTCTGCCTCC
135590	RAB11A	TGTAAATTGCTACTTTGTATTTTATG
135591	FOSB	GGGGGCCTGGGCACCGCAGGAAGAC
135592	PEX6	TCCCTCCAGGAGATCCCAGGGTGCAAA
135593	A1BG	GCAACCTCTACCTCCTGGGTT
135593	AHR	GCAACCTCTACCTCCTGGGTT
135593	AQP6	GCAACCTCTACCTCCTGGGTT
135593	RHD	GCAACCTCTACCTCCTGGGTT
135594	GCNT2	TGGGAAATGAAAGAAAGAGATA
135595	WHSC1	TCAGCACTCTGTGGGTCTGGTGAT
135596	MMP3	GAGCGTGAATCTGTATCTTGCCG
135597	PCDHA9	GATGGGGTTTCACCGTGTTAGTC
135598	C21orf2	GCCTTCCTTTCTCTCTCCTGTGAA
135599	TNFRSF7	GCCTGCCTGCTCCCCCTGGCC

135600 HRMT1L2 GTTTTAGGGGCCTGGGCTGGGG
135601 TAZ CCACCTCCAGCCTGGGAG
135602 HDAC5 TTCCACCTCAGCTCTAGAAGCC
135603 BCL7A AAAGTGCTGGCACTTACACCCAC
135604 BAALC CCTTATCTGCTAACTCTGTT
135605 DNASE1L3 TCTCATCTTATTAACCATTTCTTGCCT
135606 DDX6 GCTTCAAAACATTGATAATT
135607 RERE TCCTCGAGGTTGAGCTTCACTCCACTGCGG
135608 IFNGR1 AACCAAATGGAGTGACTTAGT
135609 HPS4 TGCTTTTCAACCTTTCTCTCCCGAACA
135610 HIP1 TCCATGCTCCAGGGTCAGGCGGAGCTGC
135611 GPC4 CCTTCTCCCTCCAGCTCCACTC
135612 IL21R TCTTAGCAACATTTTCTTTTTCTTTTT
135613 CLASP1 AACACAAAAGAGCAGAGCA
135614 FGFR2 TCTTAAAAGATGCCTTA
135615 MIPOL1 GTCACTGAGAGTTTGGCTTAGA
135616 NRF1 TTTTCTAGTCTACTTCAAA
135617 CXCL13 CTTCCCTTATCCCTGCTC
135618 HPS4 GTGCTGGCCCCTCTGCAGATG
135619 PRND TCCAGTTTTTTGCCACTGCAA
135620 TCF1 CCCCACTCTGCTCTGATGCA
135621 ST5 TGCTTTCCTGTCCTGCCAGAGCA
135622 SNX15 TCTGGCCCACCTCCTTTTTAATGTAA
135623 APBB2 GTTCTGCTGGAATTCTGCATCCAGCT
135624 SMURF1 CCTTAGCAGCTGCACCGCCATCCC
135625 AIPL1 CACCCAGGCAGGGAGCAAG
135626 RALBP1 ATTTGGGAAAAAGAAAAGCTTC
135627 RNGTT TTTAAAACAAATTTTCATGG
135628 APOB48R AGACCAGCCTGGGCAGCATAGC
135628 IL2RA AGACCAGCCTGGGCAGCATAGC
135629 FANCF AGTGTCAGGAATATTGGTTTGAA
135630 ADCY1 CAGACTTTAAAGCCACCAGGG
135631 PMM2 GTGCTCACCCACCCGCAGCCTAGGCAG
135632 SLC17A5 TGGTGACGGGCGCCTGTAATCCCAG
135633 CD44 TATCTGTGTTTTTGAAATATTA
135634 DBN1 GTTGACTGGCTTTCCTCTCGTT
135635 ACP2 AGTGCTGTTTCCTATTGGACTGA
135636 MDM1 ACATTTCTTTCTCCATTCTGTTCCAC
135637 EIF4G1 AGGGATGAGGGAGGGAGGGGC
135638 AHR TGTTAACTGCAACCTTGTTT
135639 AP3B1 GAGCATATATTTTACTGTCA
135640 IL4 TTTTTTAAAAAGGTTTCATTTTCCTA
135641 IKBKG GGGGCCTGGGGCTCTCAGGGA
135642 ARHGEF7 GCTAAGCTGCCTTTGCCTTCT
135643 ASB3 CACCAGTACATTATATGTTGTAATATT
135644 SHOX ACCCTGGAGAAGGGTAAACCCCCG
135645 KRT4 TGGGGTGAGAGGATGGGTGAT
135646 CCKBR ATGGGAAAGGAGGCATGCCT
135647 PCDHB9 AATTGCTGGGATTTACAGGCAT
135648 CORO2A TTCCAGTGGGACATGGTGCC

135649	TNFRSF10B	CTGTCTCCCAGGCTGGAGTGCAATG
135650	PRX	AGGCTCCTGAGGTCAAGCTTCCA
135651	SGCB	TTCTCAGAGAGCCTAAATTCTA
135652	TADA2L	CCAAGAATGGCCACTGTGCC
135653	CD74	TTCCCTCTGCTCAGCC
135654	AGA	TGTTGAATTGGCACTTTCTA
135655	PUM2	TTTTTGAATAGCCTACTCCCAAG
135656	ATP8B2	CTGGAGCCTAGGAAAGTGGCCCCCAAATCCTT
135657	BRIP1	CCTAAGTTGCTGGGATTACAGG
135658	B3GAT1	AACAACAAAATGGGGACTTCTTTG
135659	DAB2	CAAGTGTCCACTGGTACTGAGGTTT
135660	PKHD1	TATTATTCAACCAAGCTTCTA
135661	NUP153	TGCCCTGCTTTCAGATACTGG
135662	PLSCR1	TAGAAGCTAATCTATACCA
135663	CD244	CAAGGCAGTTCTGCTCCCCATCGTCCTCTT
135664	SPN	TCTCCTGCCTCAGCTTCCCGAGTA
135664	TAPBP	TCTCCTGCCTCAGCTTCCCGAGTA
135665	TLE1	GGGAGCGGGAGCCGGAGCAGC
135666	KLHL3	TAGCTCTTCAGAGAAGCCTC
135667	SCN4A	TGCTTTTATAGGCCTGTGTGTATAG
135668	PTPRH	TATTAAATCACTGTTCTCCCCA
135669	CD28	GGAGAGTTTTTTGAAATGGCAG
135670	WHSC1	GTTTTTCTGTTATCATAATTTT
135671	AMELX	TTTTTGCTTATAATCACTTTACTTA
135672	ALDH3B2	CTGCATCCTGCCTGCCAGGGC
135673	CLASP2	AGCTCGAAGAAGATATGAATCA
135674	SH3BP2	CCATTTTACAGGTGAGAGAACC
135675	ZIC1	TCTGCCTGGCGGGCGCTGGAGCCTGC
135676	SLC3A2	GCCTCACGGCGATCCTGGACTG
135677	PARN	CTGAGATTTTGAGGCAGTTGC
135678	SF3B3	CAGCTCTTCTCCTGGAATGACTGGCT
135679	IDH3G	GCCTGTGTCCTACAGATGCACAC
135680	PCLO	AAGAACGATATAAATACATTA
135681	TIF1	TCGTCGGGGGCGGCGGGCGGA
135682	EDNRA	TTCTCCGGCTTCCTCTGGCCCA
135683	IGF1	AGTAAACATTCCAACATTGTCT
135684	ADAM17	TTGCGCCACTACACTCCAGCCT
135685	ZNF35	ATGACTGCAGAATTGAGAGAAGC
135686	DLEC1	ACACAGACTTGGGGACCTGGGGA
135687	WBSCR1	CATTTTTCCTTTGCTTTCTC
135688	EDAR	GCCTTGTCTTTTCCTCTCTCTGCCTCA
135689	WBSCR1	ACTGTGCTTCCCACCTCCCC
135690	TAP2	CCCAAATTCTAACTATTTCTTT
135691	DAPK1	CGCTACCTCTCTGTCCCTTGCTGT
135692	ADCY6	TGCTCACTGCAACCTCTGCCAC
135693	MRPL49	GGACTTTGGGGTCAGGCCTTGC
135694	DEK	CTCAGACACTAGGGAAAGGTAAA
135695	SLC18A3	CACTCCTCAACCTTGACTTCTGCCCA
135696	MCCC2	TTCTGTAATCTGTATTATTG
135697	KLK13	CCCAGACAATGGCCCAGGTCTCTCA

135698	PDE7A	TTTTCTTGAAGAGGCAGCTCAAA
135699	GPR92	TGGACAGAACTACATTCTTTC
135700	FLII	CACAGCCCCAGGCTTGGTGAGGAAGAG
135701	ADH5	GGGAAAGGGAAAGGAAGCAGGGCA
135702	HTR4	CTCCAAATACGCCTTCTT
135703	PLOD	AAGACACCTGGATCAGACTCCA
135704	MYEOV	ACCCAGCTCCTTCTGGTCATT
135705	DNMT3B	CCCTCATTTCTCATCTTTTTACTA
135706	CALM1	AGACCTACTTTCAACTCCTTTT
135707	SEPP1	TCAAAACAATATTACTTTGTC
135708	HLF	GCAAGAGATGGGGGTGTATTG
135709	RAG2	ACAAACCTTAAACACCCAGAA
135710	CANX	ATTACGTTTAAAGTGCAGT
135711	PUM1	TGTGATCTTTATTTTGAAA
135712	CUBN	CACCTGAGGTCAGGAGTTTGAGAC
135712	NPHP1	CACCTGAGGTCAGGAGTTTGAGAC
135712	POLH	CACCTGAGGTCAGGAGTTTGAGAC
135712	PRKY	CACCTGAGGTCAGGAGTTTGAGAC
135713	LHX3	GGGCTGAGGGACCCACCTGGCCC
135714	MTR	TAGCAAGCTCCGCCTCCTGGG
135715	MBTPS1	GCCTCTCTTCAGGCTGAACCA
135716	ATP11A	GTGAATGACGTTGCAGGGTCTTCATG
135717	PRKY	TGCCTGTAGTCTCAGCTACTCAG
135717	SRGAP1	TGCCTGTAGTCTCAGCTACTCAG
135718	HMOX1	CGTGGGCACTGAAGGCTTTCAG
135719	INHBB	CCACCCACACAGCAGCCTCCA
135720	EIF5A2	ATAAAGTGGTATTGAAGTACC
135721	GARP	CTCCTCCTTCTCTGCCTGTTTCCCT
135722	BAZ2A	GGGAACAACAGGGGCTCCTG
135723	TEM7	ACCAGCCTGGCCAACATAATTAAAATG
135724	ZNF236	TGAAGCTGCACATGAAGCGGGCGC
135725	SELE	TGAATGTCTTTGTTGGAAAAGAATAC
135726	ITGA4	GGAGCCCGGCCCTGCGCCTCCGCAC
135727	LGI1	TTCTACAGTACATGACCCG
135728	ID4	GGAGCACTAGAGAGGGAGGGGG
135729	B3GAT1	CTGGGCCCCTGCTCTTCCCG
135730	SFRP1	CCAGTGAGGATGCTGCAGTGA
135731	PITX1	CCCACCCCACCCAGCACCCCT
135732	EGLN3	ACTTCCTGATTTGAAAGGAGGAGG
135733	GRB7	TTTGTACAGACCGAGAGGCCAG
135734	CLECSF12	GTTGCCCAGGCTGGAGTGCAACG
135734	PRND	GTTGCCCAGGCTGGAGTGCAACG
135735	SLC21A9	TACAGAAGTTCCAATTCCCT
135736	TIRAP	AGGAAGCCTGGCACCCACTTCTG
135737	GPR3	ACCCCAGCTCCACTCCAGCCTGGCGTCCA
135738	EPB42	GGTCTTCCCCGATCCCACCCCC
135739	TAPBP	GAGGAAGAGGAGGCTTCATGGCTGAGG
135740	EDN2	TCCAGGTGGAGGAAGAGATATG
135741	PSMA1	GCAGCACCTCCTTGATTCTCA
135742	MBL2	TTGAGTCTATCAATCAACTTATGCAGA

135743	CTSH	CTGCCCTCACCTCTGTGCCCAGCCTGGAAACC
135744	PKDREJ	CCTGCAGTTTAGAGAAGGCAGA
135745	ARF3	TGTCCCCAGAAAGCAGCTGCTGT
135746	PRDM16	CCATCAACCACCTCTGCGG
135747	CMKLR1	AGATCAAGGCAAGAACCTCTTT
135748	ARNT	CTCCAGACATACAAACATAAGGCAC
135749	HIS1	GGGCAATTGCGTTGCTCAAATCA
135750	ADAM28	TTCATTCTCTAATGAAAACAAAACA
135751	VHL	GTTTCATAGTTTTCTAAATGT
135752	CCND2	CTATTTACAGTCTGTAACTTTCC
135753	PAWR	GGAAAAAATATTTTAAACTACT
135754	MYCL2	TGAAAACAAGCTCAGAGACTTGATC
135755	ADAM28	GAGACTAAAGAAAATTTTCAAG
135756	VHL	TGCCCAGGCTGGAGTGCAGAGG
135757	PRKCABP	CTCCACCCTCCCTCCCCTCCCGGCT
135758	ANKH	TCAGGAGGCTGAGGCAGGAGAATTTGC
135759	AKAP13	GCTCTCATCGGTTGGCTTCATTTTC
135760	EIF1AY	CTTTATTGTTTTGATGTAATGGAACT
135761	SFRS2IP	GAAGAAAAGAAGCAAACTTC
135762	PRKCB1	CATTATCAAAGTCCTCTTA
135763	BMP5	TTGCTTTTGGACAAAAATGCA
135764	TACC1	ACTTTTTTGTAGTTTTTTGT
135765	A1BG	GTCTTGAACTCTTGGGCTCAAGTGATC
135766	TPMT	TTGCCCAACCTGGAGTGCAGT
135767	EIF2C1	AAGGGAGGGGAAGGAATGAGC
135768	ALDH1A2	CAGTTATTCTGGAATAAGGCA
135769	PIGR	TGAGACAAAGTCTCACTGTGTC
135770	RPP30	TGAAGATATTCAAACTTA
135771	CCND2	GCCCCCTCCCTTCCTGCCCCCAGTCT
135772	BCL7A	ACTAAGGTCGAGAGTCTCTGTGG
135773	BIN3	ATCCTTGCCCTTCTCAGGGCT
135774	SNTB1	TGTCATCTGATATACACAT
135775	RRM2B	TAAGTGAAGATGGAAGGCTGG
135776	KCNJ5	GAAAGGAGAGCCAGGAGCATTTAA
135777	NCOA6IP	GTGTCAAACTCCTGGGCTCAGTCAGTC
135778	BRCA1	TGAGGGGGACACTATGTCTTT
135779	MSF	TGGTGGAGGAGCTGAGGGAGGG
135780	PRKACB	AGCAAACTAAAAAGAACATT
135781	CDH17	TTCACATGATTCTCCTGCCTCA
135781	LTB4R	TTCACATGATTCTCCTGCCTCA
135782	CALM1	CCCTACACCCTCCCCCTCCAGGGA
135783	PCDH7	CCGGGGGGACCCTGACACTGAC
135784	ZNF266	AAGCTTTAGATCAAGCTTGTCCA
135785	TCF7	CCAGAAGCCTCTGCCTCCCTAGCTTTT
135786	B4GALT5	AGCTCACTGCAGCCTCCATCTCCT
135787	NEB	CACTTAGGGCATCTCCTGCTGCCTTC
135788	CCND2	ATTCTCTCACAGTGTACTCTATAAGA
135789	KAL1	CATCTGGAGACAAGTGAGAA
135790	EPRS	CTTTTCTGTAAACAACTCCAGT
135791	CYP1B1	TTGGTAGCTGGGAAAGCATAA

135792	AGTR1	TAGGATCTGTGTGCCCAGCACCA
135793	NR2F2	ACTGGTTTGTTTGCTTAATTTCCTTC
135794	SH3BP2	TGAACTCCTGACCTCAACTGAT
135795	TFG	GTAGAGCCCTTTGAGAATACA
135796	PTGER4	CCATTCTTCACTGACCCA
135797	ZNF202	TGCCTCTACCTCATGGGTATAAAGTAGGA
135798	REN	CAGCTCTGCTTCAGGAGCTATGA
135799	EMS1	GCAGGAAGGACTGTCCCAGACGAGGG
135800	GRM7	ATAGTACCACTGCACATCATGTTT
135801	HNF4A	GAGAGCACCTGGTGATCACGTGGTCA
135802	EIF3S10	CTTGCTGCTGTGTTTTTTCTTC
135803	APOL1	AGGCGGGCGGATCACGAGGTCA
135803	GNE	AGGCGGGCGGATCACGAGGTCA
135803	GRAF	AGGCGGGCGGATCACGAGGTCA
135803	NFKBIL2	AGGCGGGCGGATCACGAGGTCA
135804	EN2	TTGCCTTAAACCTCTTTATTTCATTGCA
135805	CUTL1	CAGCCAGGCTGGGCCGCAAGGG
135806	DSC3	GACGGGGTTTCACTGTGTTAGCC
135807	FCER1A	TTGAAGCCTTAGATCTCTCCAGC
135808	VHL	CACTGTTTCATCTCAGCTTTTG
135809	WDR3	CTCCATTTCTTGGACTTAAAATGCA
135810	IDH3B	TCCATGAAGGAGAACAAAGTGGCC
135811	ECEL1	CTCGGCTGCGCTGCGGCTCAGGCC
135812	DCX	ACCAATTCTGGCTGTCAATGGGGAGA
135813	NYX	GGCAACAGTGCCTGCAAGGCCTGAA
135814	AFG3L2	CCCAGAGGGAGGCCATCTCAGTCTCTCCAC
135815	GBP1	ACTAAGGAGAAAAAGAACAGA
135816	TMEPAI	CAGTTGAGCAAACACCAACCC
135817	FAT2	CCTGCAGCGACTCAACCCTATGCATGG
135818	EIF2AK3	GTCACTCAGGTGGCAGCGGCAGA
135819	NT5C2	TGCAGTGAGCCAGGATTGTGCC
135820	ACHE	ATACTATTTATTTCAGGGCTGGGCTATAACA
135821	RAP1GDS1	CCCTCGGGGAGCAACATGGCAGATAA
135822	XPNPEP2	GGAGCCCTCCCTCTCTCCCT
135823	TEM7	CCAAGTCTCCCCTTTGAAGACT
135824	PITX2	TAACAGTTGCAAGGACACATACAC
135825	TCF20	TTAGCCTGTCTCACACCAGTT
135826	F3	TTTTTTAAAAAGGTTTTTCTA
135827	SVIL	TCCCCAGGCTGAAGTGTCCTCAGGT
135828	ZNF79	GGGTGAGGATCTGAGAAATGCTAAAG
135829	EPHA2	ACACCCTGGCCTGAACTGAGGA
135830	HHEX	AGATGAACTAGAAGTCACAGGTTA
135831	PABPN1	TATTTGGAGGGAATGGGAGGAAGTGG
135832	AOC3	GGTTGAGGACAGGAGAGGGAAG
135833	FUT1	ATTGCCCAGGCTGTTCTTCAAC
135834	NEUROD1	TATTATTTTCTATAGCTCTTC
135835	GATA2	CCAGGGAGGGTGAGCTGGTGCC
135836	PSMC4	CCTCTGTCCCAAAACCTCATTC
135837	FLNB	GGGTAAAAGCCCACCCTACAGAAA
135838	EGLN3	TTTCATGTTTTAAAAATCCCT

135839	ST3GALVI	TTAGATAAGTAAATAACTAAAGAA
135840	PSMD5	TAAGATTATGTTCCTTATACTCA
135841	LEP	CCAAGATCGCGCCACTGCACTC
135841	MCM4	CCAAGATCGCGCCACTGCACTC
135841	SCAP2	CCAAGATCGCGCCACTGCACTC
135841	SULT2A1	CCAAGATCGCGCCACTGCACTC
135842	NFKBIL2	CCGAGATCGCACCACTGCACTC
135843	RBM3	CTAAGATCGCGCCACTGTACTC
135844	CROT	TATGCTATAGCCTGGGCAA
135845	CELSR3	TGACCTAGGACTGATGCTGTG
135846	RP42	TATCATCTGCATATCTCTGTAAGTTC
135847	ATP6V0E	CATAACCTGAACTGTGCCGA
135848	DAB2	CCATCAGTTACAGAGAATTTCCT
135849	STARD4	CGCTCAAGGGGTTATTCTACCTCA
135850	DBP	GCAGACACTCGTCCAAACCACT
135851	LMNA	GGCTCACTGCCAGGCCAGCCT
135852	TRIM39	TCTCCTCCTCTTACCTTTGTGC
135853	VDR	TCTGGAGAAGCAGTGAGCCGCA
135854	ETF1	CACAGCTTCTGGCACCATGGA
135855	DHFR	ATTGTGCCACTGCACTCCAGCCG
135856	C10orf2	ACTGATGCCATTGTGTGCTGCC
135857	LZTR1	TGGGGCCACACACCCATCTACCC
135858	ID4	CTTGGAAATGAACACTTTCTG
135859	SNX15	CAGACTGGAGTGCAGTGGTGGG
135860	PFKFB4	AACACTGTGTCCAGCATTCTTTGCAATAAA
135861	CHS1	CTAGTTTATGAGTCCAAATGATATAGA
135862	MSR1	ATGTATTACCTGGTCATTTCA
135863	GCNT3	CTTTCTCACTAAGTGAGAATGAG
135864	PTBP1	GCGACAACTTCCATCATTCCA
135865	SACM1L	ATTTTAAAAACCTAGCTCCTT
135866	TRPS1	TGGGCAATATGACAAGTATTACTTTTTGGG
135867	ATP1A2	CCAGGCATGGAAAGATGGGGAG
135868	METTL1	TTAGAGAAAAGAGCAGGAGTCCTGGG
135869	POU4F1	TTGAAGGTGGTTAGGTAAAATGCCTG
135870	PTK2B	GCCCGAGGAGTAGTCGCTGGAG
135871	PIM2	ACCGGACACCACCAGACAATAGGAT
135872	CCNF	CCTGCCTCAGCCTCCTGGGTAGCTGG
135873	SLC25A1	CACCACTGTGTCCCAGTGTCTGGCCCA
135874	GRB10	CGTAGCCTAGAGCAGTGTCAC
135875	GDI1	CCTGCAGCCTTCCCGTGTGGCC
135876	JDP1	GTACAGTGTATTTAAATATTTCA
135877	PPP2R2C	GGTAAACTCTGACATGCACTAGTA
135878	KCND3	TTACCTGGACTCAACTAAA
135879	FZD4	GGCAAAGTGTATTTGATCAGAA
135880	GNPI	TTCCCCCAGAGCCCTGTGT
135881	IL12RB1	TGTTGGCAGACTGGAGTGCAA
135882	PLEK	GACCCGGGGAGGCCAGGAG
135883	EFNB1	CCAGCTCCTGCTGCTGTCCCAGTCTTG
135884	NOG	ACTTATTAAAAGGTCAGTATTA
135885	PYGO2	CTCCAGCCTTAGTTTTTGGAGT

135886	P2RX7	GGCCAAGAAGTCCCAAGACCT
135887	ADORA1	GAGAGGTTGAGGATGCACTGGCC
135888	RFXAP	ATGTTACCTGTTAGTGCTGATC
135889	DUSP4	CCAGCCGCCTCGGTTCCCGG
135890	EGLN2	TGTTTCTAAGCCTCCTGGACC
135891	HPS3	TCCTTCCCTCATACCTTGCCCATTCC
135892	ADRBK2	TTCTGCACTTGGGCCCTCCTCTGGGAG
135893	HS2ST1	GGGACTGAGGCAGTAGAGGGAGGCGAGA
135894	MICB	CTCTACAGCCAGGCGGCCAGGATTCAACTC
135895	RBBP2	GCTTGTTTGTGCTAGAAGAAC
135896	ICMT	TCGGCCGCCTCGCTACCAG
135897	PTPRC	GTAAATCACACAACAGGTTTCTA
135898	OAS3	GGATGAAGAGAAGATGGACACCAG
135899	DISC1	CATTTAGGAAAGCAGTGCAGTACTCAG
135900	KCNAB2	CCAACTTCCTGTTGGGTGCTGT
135901	DLEC1	GTAGAACCTTTCCAGGTTCTCTTAGA
135902	CASP10	CACCCAGACTGGAGTGCAGGGG
135903	IL2RB	CTGCTGCTCCCGGGTCCTGCTGC
135904	TNFSF14	TGCCTGTAATCCAGCTACTCAG
135905	ZFP36L1	TTAATCTTAAAATTTTGTGA
135906	KCNMB3	AGGCGGAGGAGGTTGCAGTGA
135907	BCL2L11	CCCAAGTACTGGGATTACAGCTTCCAT
135908	HSPA4	CAGAGTTGGTACCTGCTTTAA
135909	COX10	TATTCTGTTTCTTCCTCCTCA
135910	CACNB1	GCTGTCGGTTTTTACCTGCCTGTTGTGGA
135911	AMHR2	CTTCTGCTGCTGCCATCCTCCAGCA
135912	ADAM19	GCAGATCTTAAGGTCTGAG
135913	APLP2	CTGGATACCTGTGTGTCTCCATAAAA
135914	ETV1	CTGCAAGATACAGAGAATTGCT
135915	RP1	ATATCAGCACACTCATTCTTTG
135916	F9	TTCTCCAACCAAAACATCAAT
135917	ENTPD6	TGGCCAGAGGGCTGTCTGGACCTGGGC
135918	PPT2	CCCTCCTGTCCTGGGTCTGTGTTGCGG
135919	CD81	GACTCAGCTTGGCCAACTTGGGG
135920	MAGEA4	GCCCATTCTTCACTCTGTTTGA
135921	CA6	CTGCTCCCCTGGGCAGCTGTT
135922	IDH3A	GTGGTATATTTCTAAATGATATGG
135923	PER2	GAGCAGCTTCAGGCCTCTGCCAG
135924	AP3B1	CTACTGCTGCCTTTCATTTATA
135925	ALDH3A2	TCCTGACTGCAGGGACTCTGTC
135926	SH3BP4	GCGTCTCCCTTCTCTCCTGGACA
135927	ZNF85	CCAGCCTCTGTGGCCCTGTGGCCTGCAGG
135928	GAD2	GCGACCTGCTCCAGTCTCCAAAGCC
135929	TCTE1L	TGCCTTACAATTCACTCATTCCA
135930	SMARCD2	CCCTGCAGGCAGGCCCAAGTAGG
135931	LETM1	AGCCTGGCTTGGGGGTTGGTGGG
135932	TNFRSF8	GGGGGCAGAGGCCCATCTGGCCT
135933	TCF3	GCAAGGATGCTGCCTTTGGTCTCT
135934	HNF4A	GATGCGTGGATATCTGTGTATA
135935	101F6	TCAGCTGAGTCAGGGGACACCTC

135936	HMGA2	ATCATCTGCAGTTCTTTTTGTACAC
135937	PCDHAC1	TAAGAACAATAAAAGTAATATG
135938	GPR85	ACAGTCTTGTTTATACTTTCTG
135939	CELSR3	GCTCCCCAGTGGTGGGTGCCCC
135940	LARS2	GGTTGGACATCCTGCCCCTCAC
135941	ALDH3B2	GGAGCCCTCCAGGCCTTTGCTCTCC
135942	AKAP13	ACTCAGGATTACACTGAAAGTAATGGC
135943	HDAC4	TTTCAGAAAGTGAGAGGAGGGA
135944	PLOD3	ATGTTCCGCAGTCTCACTCTGA
135945	APG5L	GGAACACTAAGCTGTGATGAA
135946	KIR2DL1	GGGCGTGCCTGTCTGCTCCG
135947	KCNQ2	CACTCCTCGCACTTCCAGCCTTGG
135948	F7	CCCTTCAGCCAAGCCCCACCTGC
135949	PTHR2	GCTGGTTGTGTGAGAGGGCTT
135950	TNFRSF1B	CTGAGGCTCTTTCTGGGCCAAG
135951	BGN	AGACATCCTGATGGGGAGGCAGA
135952	PPP1R11	TGGCCGAGGCAGGGGCTGGGCTGA
135953	B4GALT5	CCCCCTCTTACTTTTTCTCTTG
135954	GPRK6	CTCTGGCCCAGCTTGGATGGCT
135955	LAMP2	CATCAAATATTTCTTGCTGCT
135956	PCDH1	TGGGAGCTCCCAGAGGAA
135957	SOX4	CTTGCAGAAGGGAGGGGGAAACA
135958	MAPRE2	TCTTCATTCCTTTCCAGAACA
135959	EEF2K	TGGACTTAAGTGAGCCTCCCGCCTCA
135960	CA12	ATCTGGAGGAAATAGGCAGAAA
135961	SCA1	GGAGTGTGGAGAGGAAGGAGGCAGA
135962	MCC	GTTTCTCCTCTTTCCTCCTGC
135963	ST7	GATTTTCTAATGTTGACTTTAA
135964	SHOX2	CGCAGCCCTGGGTCTGTGCGCCAACG
135965	MECP2	GGGATTTGTTGATTCTCTCCA
135966	TACC1	GGCCAGGCTCAGAGCTGAGATG
135967	MUC4	TGCGGCTCTGGGGAGCTCTTT
135968	PAX8	TTATTACAGTTCCACATCAAGGCCGAG
135969	CRB1	AACACACCAGAGGATGTTCTCT
135970	HNF4A	TCTGCTGCTGCCCCCACCTCTGC
135971	ESR1	TTCTGTCTCCTGCATACACTCC
135972	DEK	CAGATCACTTTTTAAACTCA
135973	PBX3	CTTACTACCTCTGAACAATACTCA
135974	PEX7	AGCTGATAAAGACTTTAGCTGA
135975	LNK	GGCTCACTGCAACCTCCACCTT
135976	MRPL49	GGCTCACTGCAACTTCCACCTC
135977	CSRP1	TCCCTTTAACCCAAGACCCTG
135978	CTNNB1	ATAGTGAATACTGCTACAGCA
135979	DIRC1	ACTATTGAATTTCTCTCCA
135980	RP2	GGGGTGCTGGGCCTGGCGGGCAA
135981	DNASE1	GCTGTCAGCCACCAGGGGGCTC
135982	DNCI1	ACGTATTTATTTGAAAGCATTAA
135983	ADCY8	ACCGTGACCCCCTCCTCCTCC
135984	CYFIP2	AACCAGCCACTACCTCTCTG
135985	MGAT4A	GTCATCTGAGAAACCAACACAT

135986	BTG3	GGATACGAGAACACTGTAGA
135987	HS3ST4	CTTCCAATTTGCCCCACCA
135988	PYGO2	AGCCTGAGGAAGCAGGAGAGTTCCT
135989	EED	GAAGGGAGACATACTTAATACT
135990	CYP1A2	TGGGGGCCAGCCACGGGGAC
135991	MMP14	TTGCCCAAACTCAGGCAGCTGGG
135992	ARMET	GAGGGAGGGCACGTGGAGCCGC
135993	GLS	AGCATCCTCCCCTGTTGAGCGG
135994	SIGLEC11	CGGACTCCTGGGCTCAAGCAAT
135995	KCNH5	CCTACTTCACCCATTCATCTATCCGA
135996	FSTL1	GGAACAGACCCAAATCTGAACCTCTTT
135997	ZNF137	GTCACCTCCATTACCAAGTAGAG
135998	EPHB4	CTTGCTGCTGTCACCACCAAACTC
135999	GNB3	GCTGGAGAAAGGGAAGTGGAAGGCAG
136000	LRP4	GTCCCCTCAGCTAAGGGGCT
136001	ITGA3	GTTCTTAGCTATCCTTGGCTTTC
136002	HBE1	GGCCAGACAGAGAGGCAGCAG
136003	C18orf1	CTAGACGCTTCTTATTTTAATCAT
136004	ESRRBL1	TGCTCCACCTCTGCAGTGATC
136005	SLC7A5	GTCCAGTTTTGGAGGCTGAGTTCTGG
136006	MPO	AAGGCAGCAGAGCGGACTGGTGA
136007	ARG2	GCCTCCCAGGATGGCGAGCTCCAGT
136008	RPS6KA1	TCTGTTCTGCTGGGAGTTCTA
136009	PIK3C2B	ACAGGGCAGCATGGAAGTTTAA
136010	ASGR2	CCCATACCCCACACCTGCCCAGCTC
136011	GNRHR	AGGAACTTATTATAGCTAAT
136012	INPP5A	AGACGGCCAGCCCCACACTTCGCTTCA
136013	CHST5	CCTGGACGGTGGCCCCCAGCCGCCC
136014	WNT7A	AACTATTCTGTTCCACACCCA
136015	PDE1B	ACCTTTCTAGGATCTGGGAA
136016	SCA1	TCTAGGCGTTTTACACTGAGATT
136017	ASNA1	TACCTCTCCCACCTCT
136018	INPP5B	ATCGTGCCATTGCATTCCAGCCT
136019	KAL1	CTTGTAAAAATGTTTTG
136020	DHCR24	CCAGCTGTAGTTAATTTCAGTGCCTTA
136021	p100	TGGGGACCCCAAGGCTTTCTGGGG
136022	SOX12	CTCTTCTTCCTCTTCTTT
136023	SORBS1	ATGCCTCACCAATTTGCCCGT
136024	TCL1A	CAGCCTCTTTCTGTCCCTTCTGT
136025	CHST6	TGTGAGCCACACCTCCTAGCT
136026	GAS7	TTTCATGTTAAAGAGCCGTG
136027	PCTK3	AGGTCTCCTCAACACTGGGCTG
136028	MHC2TA	GCCCACGCTGGAGTGCAGTGAG
136029	MYBL2	GCCTTCTGCCACCAGCCCCTC
136030	ITPR2	CCCAGCACCACCTCATACTAAGAATTC
136031	ICMT	CAGCCTATCCCATTGCAAGG
136032	STARD5	AGAACCTCCACTCCCTCCGCTGC
136033	GJB3	GAGCTAGGGTGGGGGCTGTG
136034	JPH2	TCTGCTCCTGTCCCCCGCTCTC
136035	FCAR	CCAAGTAGCTGGAATTACAGGC

136036	FGF5	CCAAGTAGCTGGGATTACAGAC
136037	RPA1	TGAGCACCTGGGGATTTTA
136038	BRCA1	CATGAGGTCAGGAGTTCCAGAC
136038	FGFR2	CATGAGGTCAGGAGTTCCAGAC
136039	TEK	TCATGTGACCACTCTGTC
136040	RGL	ACATATATATGCACATGTAT
136041	CD68	GAGCCAGACTGTCTCAAATA
136042	RRM2B	GAAGAGTCTGATGAAAGGCCGGG
136043	CYP11B1	CCCTTGCCTTCCTGCCTAG
136044	RHCE	ATTTTAAGCAAAAGCATCCAAGA
136044	RHD	ATTTTAAGCAAAAGCATCCAAGA
136045	GABRE	TCAGCCCTGGCCCTCTGCCTGCTCC
136046	TM6SF2	CCTCCTCCCCCTCCTCCTCACC
136047	RBM8A	CTCAAGCCATCCTTCTGCCTCA
136048	ZNF141	TGAGAAGCCACCAAAAATATTGAAA
136049	TYR	AGCTCTATTCCTGACACTACC
136050	CA7	GGCACCCTGGCTATAGCTTATACAGTA
136051	CLPS	TGTCTCCCGCCACCCACACCAGCT
136052	HDAC5	CCTACTTCCCCTTCCCCGGGGCTGA
136053	KRT4	CATTCCCTCTTATCCATCT
136054	TDGF1	AGCCTCCCAAGTAACTGGGATT
136055	PPP1R12B	TTTGCTGCCCCCACCCCTC
136056	SYT1	TACACAAAATTACTTTGTGGTA
136057	DGKE	AGAGAAACAGATAAGTGAATTG
136058	MVK	TCTGCCCTCTGCATCCTCTG
136059	MID1	CATTTTGCCCTGCTTCTCTCAGG
136060	INPP5B	AGGCTGAGGTAGGAGAATTGCT
136061	DPH2L2	GGCCAGATAATTCTTTGTTGTGGGGCT
136062	PTPRM	CCCAGTAATGCTGCTGCCTGAC
136063	PCDHA9	GCTCACTGCAACGTCTGCCTCC
136064	FEZ1	ATCGCCCAGGCTGGAGTGCAA
136065	CHRNB1	CAGTTGAAGTGAGAGAGTTTGGTGA
136066	CD244	CTTTTCTCCCCTCTCTGGGTT
136067	CYP8B1	GTACTTTTGCAGTTCTTCCCA
136068	KIF3C	CTGCTTGGTGTTCCCTGAGGA
136069	VRK2	CAGCTCTTCACCGAAATGTTGT
136070	CSN2	CTTTGTCCCTTTATTTATTTT
136071	LPIN1	TTTGGAATTTCTGAGTCATTTA
136072	TGFB2	GGCGGTACTAGTTCAGACACTTTGG
136073	PTGER2	AACTCAGCATCAAAATATTTCA
136074	GNE	GAACCCCAGGCTGGAGTGCAGT
136075	ABCC1	CAAATTCAGCCTACTGCCTC
136076	TBX5	CATGCCTTATGCAAGAGACCTCAGTCCCCCGG
136077	POMZP3	ACTGTACCTCGTGCCTGCTGCGGCTGCG
136078	TCF3	CAAGGGGGATGCTGTGGAAA
136079	HOXB6	CATCCCGGTACTGGCTGGAGTCTGTG
136080	ITSN2	TTCCTGCACACTAAATAGCTAGCA
136081	FANCC	CACTGCACTCCAGCCTGGGCAACAGA
136081	PLA2G2D	CACTGCACTCCAGCCTGGGCAACAGA
136082	TAC3	CCTTTCTCTTCCCTGTTCTTGTAACA

136083	LPIN2	CTCTTCTGCTGACCTCAGATACCA
136084	FBXL7	CCCTATTTGAAGTTTCAGGATTT
136085	FKRP	ACTGCGACCTCCTTCCCTCCTGGG
136086	GARP	TTCTCTCTGTGCTCTTGCATTCTCTCA
136087	PYGB	CTCTGCACCTGGTATATGGGTCA
136088	ARF4L	ACCCTGTTTCTTATTTTTCTTC
136089	VDR	AGCCCATTCTCTCTCCTGTCC
136090	SPINT2	TTGCTTTGGAAATCCTCTAGGAGG
136091	MNT	CCAGTGGGGACAGGGAGGGGGA
136092	MRPL23	AGGTGGGCAGCTGTGGCAGAG
136093	DDIT3	AGAGCCAAAATCAGAGCTGGAACCTGA
136094	CD5L	CAAACCTGTCACTTTGGTCA
136095	DAP3	AGCGGCACTGTGCCTACCTCTAGCCAAGA
136096	TM4SF2	CAAACAATTTAAAAATGAGTG
136097	NR2E3	GCAGAATTGGGAGGGACTTTGTGGAGA
136098	FZD8	CCCACCCCTTCACAGTGTTGATTGCTA
136099	HOXD8	AGTGGAGGCAGCGGGGCAGG
136100	ARHGEF12	CATACACTGGACACTGCAGG
136101	GPR61	GGCAGCGACCCACCTCC
136102	LIG3	TTGCCATCTTTTTGTTTTCTTTGAA
136103	RGL	ACTGCTTCATTGCCTTCTCTGATTGCCTT
136104	CASP8	TGTCTATAATCCCAGCACTTTG
136105	SIRT2	CCTCAAGGGCTTCAGCACCGCGCCCA
136106	CELSR1	TTTTAAGTCTTCGAACAGTCTCCTTT
136107	SUFU	CGCCTCGGGGAGTCTCACCCA
136108	NOX1	ATCCCAGGTGATTTTATCAATTCCAGT
136109	ANK2	CCAGAAACCACACATTCACTCAATATG
136110	SCAMP3	CCCATCAGGCCACACTGCTGCCACCT
136111	SEPN1	CTCCAGCCCTAAGTGCCTGGACGGGAT
136112	ITGA4	TGTTTTTAATCTGTGGCTCTTG
136113	NFE2L1	CTGGGTTAGGAACAGTTGTACTTTCA
136114	SH3BP4	TCAGTAGAGTGAGGTGATCCTTAGCA
136115	AQP6	GGAAGGCAGGGGATTTAGGA
136116	ABCA1	CAACAGAGCCGGTTCTCAGGGC
136117	AKAP2	CCATATTTGCCCAGAAGAGGCAGTT
136118	SFRP4	ACCCTCTTAAGCAGCACCAGAA
136119	ZNF161	GAATTGTCTGTGTTTATTGTT
136120	TM4SF2	TACCCCTTACCCCA
136121	PABPN1	CATTCACAACCTCCATTTTCA
136122	TEGT	GTGGTCCCATTGTTAACTCAGCCT
136123	AP1G1	ACCTCCCTTTTTATTTCTTGA
136124	PRX	GTGCAGCTGCCGAAAGTGTC
136125	LAMC2	ATTGAAGAGAGAAATGACAGG
136126	CDKN1A	TTTGGAGTCCCCTCACCTCCTC
136127	STXBP1	CCCAGCCTGTGTCCACAGTGCT
136128	MAN2B1	CCTACCTTCCTGTAACGACCCCCGG
136129	CYBB	TCTAGTCCTGCTCCTTGTGCT
136130	MC1R	CGCAGCCCTGGCCCAGGAAGGCAGGAG
136131	ARHGAP6	TGGCATCTTCGCTTCTCCT
136132	ZNF214	GTATTTTCACTGTCTTCA

136133	TEM6	TGACATTCCAGGCCCATGAGGGGA
136134	PIR51	AGCGTATTCTGTTTTTCT
136135	PCDHA9	TTTATATTTTTCTTTCTCTTTCA
136136	CRAT	CCCTGCCACTGCCACAACCCCCGAT
136137	SLC6A6	GGAGGCCACAGTCCTTCCTGGGGCAT
136138	MAFF	GGGGGAGAAGAGGGCACCCCTC
136139	HTN1	ATCATGGGGCATGATTATAGAGGT
136140	PAIP2	TACACTTATGCATTGCCAAAG
136141	SEPX1	CCCACCCCAGACGGCCACCA
136142	SCA1	TTAGATTTTGAAGATGAGCAT
136143	AQP4	GCTGCACTCTGGCTGGGGA
136144	SSPN	AACATTTTCCTGCTTGTCTTAGAAGA
136145	CD28	CATGCTTGTAATCCCAGCACTT
136146	CORO2A	CATGCCTGTAATCCCAGCACTC
136147	ERBB3	CATGCCTGTAATCTCAGCACTT
136148	CBFA2T2	GTCACTCAGGCTGGAGCACAGT
136149	KCNAB2	CCAAGAGAAAACACCACACTG
136150	IFIT4	ATTGCGCCCCCTGCACTCCAGCCT
136151	IER3	GTAAATGCAGGTCTCTTGGTAT
136152	DDX11	ACCATCAACGACTTTCTCTTCCA
136153	MRE11A	TGTCAATGCCAGGATTTCTCA
136154	PAP	TGACCAAGATCACTTTAGTC
136155	PRX	GAGGCCAAAGGGGCTGGGGAGGCAGG
136156	RECQL5	AGCCTTTGCGACCAGAGCCCTTTTCAA
136157	NUP62	GATACTTGTTTGTTTCTTTCTTTCTT
136158	BSG	TGGCTTTCAGCCTCTGGGT
136159	HIS1	AACTTCTTAGCGCAAGCAATG
136160	RPS23	TATTAATGGTGAAAACACTGT
136161	SOX10	GTCCCCTCTCCTAGCCA
136162	VIPR2	CCAAAGTGCTGGGATTAAGGC
136163	PCMT1	ATAGAATAGCATGTTGTAGATACA
136164	OSR1	GAGCCAGCTGATAATATTTAA
136165	CNN2	CATTCAGGCTGTGCTGGGAAGAAGAG
136166	OGT	AGCACAGCCAGACTTGCTTCCTG
136167	CTH	CGCCGTCGGCTCTACCTGCGTGCT
136168	NPPB	TCCCTCCAGAGACATGGATCCCCAGAC
136169	SLC6A8	CTCCAGGGGGCCTGCCTTTCC
136170	KCNJ6	ACTCTTATCTTTCCCCACTTCATTCCA
136171	LZTS1	CAAGGGTTGAGAGCCAGTGGCGGGT
136172	SCN2B	CTGGCAGTGGCTTCAGAGAGGA
136173	UCP2	CACAGCCGCACGCACTGCCGTGTTCTC
136174	NEU3	CAACTCCTGGGCTCAAGGCATCC
136175	LRP4	GAGTTATTTAACCACTATGTTCA
136176	STXBP1	CGCTGCTTGTTCTGTCCCCT
136177	GSS	GCCCCGCCCCCTGAGCCTGGGTAG
136178	AHR	CGCCGCCGTCGGCTGGGCACCATGAAC
136179	FUT6	CCTGCGGAAGCCTGGCCTGCTGGGGATG
136180	CEACAM1	TCTTATAATAAAAAGGAAGGACAGGA
136181	FGF7	ATCAAATTACATAGCAATGCTGA
136182	KLHL3	TCACATGCTTGATCAGTTACA

136183	KLF7	AGAAGAAAGCTCTCACTTA
136184	TRPS1	ACTTGTTTGTAAAGCACTTTGA
136185	PPP2R4	GCTGTCTCTCCCCTGTCCCC
136186	EED	AATCAGGCTGAGCTGAATGTAGTG
136187	MYCL1	AAAGTGGCGTGGGAGCCAG
136188	CSH2	GGGAGAGAGAACTGGCCAG
136189	TEX13A	CTCTCTCTTCGGGCGTGTTAAGACA
136190	RSU1	TAGGAAGGGATTGGCATCGGCTG
136191	EFNB2	TTAGGTAGCACAGCACTTTGG
136192	MAFF	CCTCCCCACTGTTTATTTAT
136193	PPP1CB	ATTTTTTCATAATCAAAGGTCA
136194	NFKBIL2	CGGGAGGCGGAGCTTGCAGTGA
136194	OGG1	CGGGAGGCGGAGCTTGCAGTGA
136194	PCDH11X	CGGGAGGCGGAGCTTGCAGTGA
136194	PCDH11Y	CGGGAGGCGGAGCTTGCAGTGA
136194	PPP1R12B	CGGGAGGCGGAGCTTGCAGTGA
136194	SLC26A4	CGGGAGGCGGAGCTTGCAGTGA
136194	WIG1	CGGGAGGCGGAGCTTGCAGTGA
136194	ZNF91	CGGGAGGCGGAGCTTGCAGTGA
136195	ALPP	CGGGCGGCGGAGATTGCAGTGA
136196	TUBB	TGTTGTCCTCAAGCATGGT
136197	ZNF141	CACATCCTCAAACTTTGTTAAACATAA
136198	PEA15	CTACATAGTCCAAACAAAAAAGA
136199	STK4	CAAAACTTCTGGCAAGGCCAGGC
136200	CYP26A1	AAATCTTAGCTGTTTTTTATGTTAACA
136201	RAB5B	GCGGAGGTGGAGGTGCAGGGTCAACT
136202	ZNF140	CGCCCACCTGGCGGAAAGCACCACGG
136203	MMP25	CTGGAGCTGAGGCTGTGGGCGGCTG
136204	PIK3CD	CTTGCTCTCCACTTTTCAAGTGGGTC
136205	CHI3L1	GCTCAGCCCTGGTGGGCAGAG
136206	CACNA2D2	TCTGAGCTGCAGCCTGGCTGGTC
136207	PRKWNK3	GGTCTCAAACTCCTAACCTTGT
136208	GPR41	GGCAGGAGAGGGGAGAACCCC
136209	BIN3	TTCCTGAGCCTGGCACCAGGAG
136210	PYGB	GCTGGCAACCTGCCTCCCA
136211	TACR1	TCACACAACTCAGCCTGGCTG
136212	TNF	ACCTTAGGCCTTCCTCTCTCC
136213	ST7	CTTACCTCTCAGCCTTAGCTCTCCCAA
136214	EGLN1	AGGCCCGCGCGCCTGAGCCCAG
136215	AQP6	GTCTCAAACTCCTGACCTGAGG
136216	CENTD1	CCACAGGGTCCTGTTGTTTTGT
136217	INPP1	TCCTGCTCTGTCCTCATCCCC
136218	BAZ2A	CTTCCCTTCTACACACCTGAGG
136219	ATP11A	AGAGACACGGTCACTGATTCACACCCA
136220	SRD5A1	CGTGAGCCATCAATGTGCTCTGGTC
136221	SIAT6	ATGCCAGAGGGCCAGCAGGCTCCT
136222	SIM2	GTGTTTAAAAAATGAGCTTCCATTAA
136223	FUT8	TACATCTTCTGTGTGATCTTGG
136224	PACSIN1	AACCTGGGTCAGAGTGAAAGGA
136225	VAT1	TGGGAGGTGGAGGGACAGGCTCAGCCT

136226	SLC25A13	ACTAGGGAAATGCCTTT
136227	P2RY2	CGTGGGTCTCTGCGGCTGCGGCG
136228	PRSS16	CTCAGCTTTTTGTATGTCTTTGTATGC
136229	TACC1	GAATGGTATGGAATCTGAGGGAA
136230	HUNK	GAGCTTCGGACCAAGATCAAACCAAACA
136231	FGF2	TTCATTTAAAGGCTACTATTCATCC
136232	FLRT2	TTTCTACTAGCACCTATCATAATGGTC
136233	EDG8	TCACCCAGGCTGGAGTGCAATGGGCA
136234	CTSS	AAAATACAAAAAATTAGCCGAGCACG
136235	PCDH11X	AGGTTTTGCCTCAGCTGCT
136236	AP1S1	GGCCTTTCACTCCAGTTCTG
136237	MLH3	CTGAGCAGAGAGCAGCAGCAGC
136238	NOVA1	GCCCTGTGCACTCAGCACTCATAGGAT
136239	SLC14A1	CCAGGAGGAGGAGGCTGCA
136240	SNX9	AGAACAATGTTTATGCTAT
136241	CX3CR1	GACTTCTGCTTTCCACACCTGC
136242	HLCS	CAGATGGAAAAGGGAGGCAGG
136243	GSPT1	TGTGGAGTCGGGACTGGAGCTGCT
136244	RPA1	TTCCTTCAGGGTTTAATAGA
136245	HYAL1	GGGCAGCTGGAGTGGTGCTCTGG
136246	LAMC3	CTGCCGATTCTGTCTGTGGCTTCTTCCCTGCC
136247	CD74	GGAAGGCACAGGGAGAAGGGA
136248	LIG3	TCCACAAACCCTCCGTGCACTCAGCCG
136249	IL18R1	ATGGATCTGGTTGTGCATA
136250	FUT1	CAACAAGCCCCACAGCCCC
136251	RAD50	AAAGCAGCTGGTGTGGGAGGAA
136252	SLC12A7	GCTGCACTTGTGCCCCCAGATGTTTC
136253	TCTA	CCTGGGCAACAGAGCAAGACCCATCT
136254	DAZL	AAGTGGTGCGCCAAGCACAG
136255	SHOX2	CATCCCTCGTCCCCTATCGCATCTTG
136256	CDH3	GGGCAGTTTGACTTCAGCACTG
136257	GYPA	TCCTATCATTCATTCCTTCATTCTGAACAGGC
136258	SALL2	CATAGATTCTCTGCAGCTTTCT
136259	APAF1	GCCAGGCTGGAGTGCAGTGG
136259	EIF5A2	GCCAGGCTGGAGTGCAGTGG
136260	MAPK1	TGCAGCCTGCAGCAAGTGCTTCCGTCT
136261	GPR30	GCCGAGTTAAAGAGGAGAAGGAAAACA
136262	TRIM9	CCGATACACATCATGTGCCAGT
136263	TNFSF9	CTCCAGCCTCGACCTCCCGAGGC
136264	ZNF165	CACAAGTCCCTGTGGACGGA
136265	ALDH8A1	AGTACATAGTTTGATCCATTCC
136266	G2A	TCACTGCAGCCTCAAACTCCTG
136266	SHOX	TCACTGCAGCCTCAAACTCCTG
136267	IL12RB1	TCACTGCAGCCTTGAACTCCCA
136268	EIF5A2	CTCAGGTGATCCACCTGCCTCA
136268	NDRG3	CTCAGGTGATCCACCTGCCTCA
136268	SEPN1	CTCAGGTGATCCACCTGCCTCA
136269	PEA15	ACTGTGTGTACATATATATTCTA
136270	LMNB1	AATAACTGTGTACTGTTCGGAA
136271	GUCA2A	TCCCAGCAGCTCAACCTACC

136272	GPC1	GAGGACTGTCCTCCCACAGACCCTGCA
136273	PTGS1	AGGGTGGAAGGATGGGATGGG
136274	MECP2	GGGGGTCAGAAGAGAGGGTGAGTCCT
136275	PSEN1	CACGTTGAAAATCAACCCAATA
136276	SIGLECL1	CCCTGCAGCAAAGAAGCCCGAGACTG
136277	APPBP2	GTGTACTTCACCTCTTGGCT
136278	PDE4A	GGCGATCGGAGTGGGCCTTTTCTTTCTTTTTG
136279	ENTPD2	GGGGCAGCTGCCCCATCCCTC
136280	ADCY6	GCCTGGCCCAGGCTAATTTTTTGA
136281	MADH2	CGCTGCTTCTTGATCTAGGCAA
136282	CRAT	TCTCACCAGCTCAGCCCCGGC
136283	EGFL5	AGAAAACAAAACTGCCAGTTTGTGCTT
136284	TBP	TATTTCTGTGCCAGACACA
136285	ATP7A	GGTCTTAAACTCCTAACCTCAGGTGAT
136286	EIF3S2	CTGAGATCACGTCATTGCACTC
136287	FGFR2	CCGAGATCATGCCATTGCATTC
136288	NDUFA1	GGTCACCTTTCAAGGACCCAGAA
136289	ABCA1	TGCTGTGAGCTCTGGCCGCTGCCTTC
136290	SP1	GCTGGGAGGAGGAAGACCAT
136291	PHKB	ACCTGAAATCTTAGCACTTCGG
136292	NRP2	TGAAGACAAGCCACCAGGACT
136293	PPP1R3A	GGTCTATCTTTAATTTGTTATC
136294	ESR1	TTGTTTTCTAAGTAATTGCTGCCTC
136295	BBS2	GCGCAGCCACAGAAGGCGCCGAGGCTC
136296	HAS3	CACTTCACTTTCTTCAAAGCCACA
136297	CXCL16	CCAAAGTGCTGGGATTAAAGGT
136298	FCAR	ACCTGCCTGGCCGGGCGTGGTG
136299	RORB	CAGATGTCATGTGAAAACGC
136300	TRADD	GGGATTCTGCCTCAGGTACT
136301	TPD52L2	CTTCCAGTTGAGGTGTTTTAT
136302	RAD1	CCAAAGCGCTGGGATTATAGGT
136303	PDGFRB	CTCCTGAGCCTTCAGGAGCCTGCAC
136304	PCM1	TACTAAATAAACATCTGATC
136305	GALT	GGAGGTCAAGATGGGAGGATTGCTTGA
136306	LEF1	CTTGCACCTTCTTTTGGGGAAACGG
136307	MDM2	AGTGGGTGATCTTGGCTCACT
136308	CASP10	ACTGCACTCCAGCTTGGGCAACAGGG
136309	C4orf1	AGAGCAACTCAGCAGGAC
136310	EPB41	ATTATTCTAAATCACCAGAA
136311	ANKRA2	AATGTTTTAGTTATTGAAACTACA
136312	RET	GAGGGGAAGAGGGGCCCCGA
136313	CYP2B6	GGTCTCGAACTCCTGAACTCAAGTGAT
136314	RTN1	CGGTGTTCTTCTTCTCTTCTCT
136315	MYCL1	AGGGATTGAAGGGGGTACCTTA
136316	TCN2	CCTGAGCTCCCTCATCCCAG
136317	GJA1	CTGGAGATCTAATACAGGCTTGAAAGC
136318	ARNT2	CTGGTGCAGATTCAAGCTCC
136319	YWHAG	TGTGAGTCATTATGTAGCTGTC
136320	CYLN2	TGGAGACAAAACAGTGTTTGTAA
136321	DNMT3A	TTGCCTCCCTGAGTGCAGAG

136322	KCNA7	GAGACCAAGAGCAGGGGATAGAAGCC
136323	MAP3K7IP1	GGATGGCCACAGAAGGGGCAG
136324	IL1R1	GGAGGCTGAAGTGGGTGGATCA
136324	SIGLEC11	GGAGGCTGAAGTGGGTGGATCA
136325	KCNAB2	CCTCTCCCATCCTTTTCTGCTCCA
136326	DIRC1	TAGATCTTTATAGAGTGTGAA
136327	CAPN7	CTTCAGTGTGGAGAAATCTCA
136328	GH1	GACAGCTCACCTAGCTGCA
136329	COG6	GCTGCCTCCGTGGTCCCTGCCTGGC
136330	KCNJ1	TGAAACTGGTGTATGGAAGAC
136331	TAX1BP1	TGACATCCTTTCAAGAAGTCC
136332	OXR1	TTCATTTTCACATGTTACTCA
136333	ANGPT1	TCCTTCAGTCCATTCCCTTAGGC
136334	CD244	CTGGCCTGGCCCCTCTGTCCTGTGGAA
136335	CPSF4	TCTGGGCTTAATTTTCTCTTGGG
136336	MELK	CCGTACCAGCCGCGTCTCTCAGGACA
136337	ASTN	GGGAGCCTTGGCCCTGCTCACAGAGAGA
136338	TCTE1L	ACTCATTCCATGTGGAACA
136339	FKBP1A	CCCAGCACCATTTATGAGTCTCA
136340	VANGL2	CCTGTTCTGGGGGTCTGTCTCTTTTCT
136341	CTMP	CCGGGAGGCGGAGGTTGCGACCCAAAG
136342	PVR	AGAGAAGTGTGGGGAAGAGATA
136343	RABGGTA	CTTCTCTCCTCAGACTTCAAGGGC
136344	KIF5A	ATCAAAAGCTGCTGCTA
136345	SWAP70	TGCAGCGAGCTGAGATCATGCC
136346	ARHGEF7	AAGGCATTTTGATGATGCTTTT
136347	ZNF143	TGGAGAACATTTTATTCTTGACA
136348	SLC22A11	AGGCAGCTCTGTTCATGGCGTT
136349	CTF1	TCTGTCTGCTCTTAGCTGTCTCC
136350	FGF2	TTCTTGCTGCTCTTTTTCCCA
136351	LNK	TCTCAGCCCGGCCGCACCACCTGGG
136352	FPRL1	GCACCCACTGCATTTGCAGCCT
136353	PPP1R11	CCCACCCTTCTCTCTCGAGGGATCTA
136354	SLC22A2	ACCTTCCTCTCCATTTTGCTGTGA
136355	EYA3	GAGAACATCTATAGTGCTAC
136356	TNC	AATAATTCTTTCAAGAAGATCA
136357	CSPG2	TAAAATGGCGAACATGTGTTTTCAT
136358	MTCP1	TTCTTCTGAAGTGCTGCTCCA
136359	RBM8A	CTCCCAGACCCTTCTTTAGAAG
136360	DIAPH1	ACTGGGCACCAGGAGTGCCTTCA
136361	KCNK6	AAAGTCAGGGAGGACTTCCTA
136362	LPIN2	GCCTCCTTCCATTGCATCATTTT
136363	PLAGL1	TATTAAAACAAGAATTTTCCT
136364	GORASP1	GTTAGGCCCTGCACTCCACCT
136365	ABCB7	TGTTTTGGACTACATATTTGCACTGA
136366	DDIT3	GACTACCCTCTCACTAGTGCC
136367	APPL	TGCCCAGGCTGGAGTGCAGT
136367	CNN2	TGCCCAGGCTGGAGTGCAGT
136367	CSE1L	TGCCCAGGCTGGAGTGCAGT
136367	CTSS	TGCCCAGGCTGGAGTGCAGT

136367	CYP2B6	TGCCCAGGCTGGAGTGCAGT
136367	EVC	TGCCCAGGCTGGAGTGCAGT
136367	F2RL3	TGCCCAGGCTGGAGTGCAGT
136367	F3	TGCCCAGGCTGGAGTGCAGT
136367	FUT1	TGCCCAGGCTGGAGTGCAGT
136367	GPR4	TGCCCAGGCTGGAGTGCAGT
136367	PCDHA9	TGCCCAGGCTGGAGTGCAGT
136367	PDZK1	TGCCCAGGCTGGAGTGCAGT
136367	PER2	TGCCCAGGCTGGAGTGCAGT
136367	PIK3CD	TGCCCAGGCTGGAGTGCAGT
136367	PON1	TGCCCAGGCTGGAGTGCAGT
136367	PRND	TGCCCAGGCTGGAGTGCAGT
136367	TAPBP	TGCCCAGGCTGGAGTGCAGT
136367	TERF1	TGCCCAGGCTGGAGTGCAGT
136367	TMC1	TGCCCAGGCTGGAGTGCAGT
136367	TMPRSS3	TGCCCAGGCTGGAGTGCAGT
136367	TNFAIP2	TGCCCAGGCTGGAGTGCAGT
136367	TRPV1	TGCCCAGGCTGGAGTGCAGT
136367	UGDH	TGCCCAGGCTGGAGTGCAGT
136368	CAMLG	TGCCCAGGCTAGAGTGCAAT
136369	NONO	CGCCCAGGCTGGAGTGTAGT
136370	DCK	GAGACACACTTAACTACTTAT
136371	RECQL5	GGTTTGAAGCAACCTCCAGCTT
136372	KIF3C	GCTTGTCCCCCTGTCAGCTGCCT
136373	CD79B	CCACAGGAACATCATTCCTC
136374	NRGN	CCACCTCTTCCCGCACCCAGCATGCAG
136375	FRZB	TTCTGCTTCTCTCTTCTCTCAACCCC
136376	TPM1	CCTGCTGCAGCCCCAGGGCCCCTC
136377	EMR1	AAATGATTTGTCGCCTGTCTGA
136378	HDAC4	TTCAGTTTTTCTTTACTTCTTTTGAAAA
136379	GCS1	CTTGTGACGCGGACCTCAGTGCCA
136380	GPR1	GCCTTTATTGGTTGCAATGGG
136381	VANGL2	CTGGGTTCTAGGGCAGGGATAC
136382	MNT	GCGGAGTGCGCTGCGCCGCCCAGCC
136383	ADCY6	GAGTAGCTGGGATTACAGGCGCCCGCC
136383	CIAS1	GAGTAGCTGGGATTACAGGCGCCCGCC
136384	DDX26	AGGGCCAATCTTCCCTCAGCCCAC
136385	SH3BP2	AGTGTCACTTCCGGCCTCTCTG
136386	RTN4	GAATCTAATGCTTCCAAAAAT
136387	OAS3	CCAGGTGGCAGGTCGCAGTTGGGTACC
136388	TACC1	CCTAGTGCCAGAGCTTGCATCCT
136389	LMNA	CACTGGAGGTTGAAGCCAAGTGGG
136390	HEM1	GGGTATGGCAAGAGAGTGGCAGACATAAAGGA
136391	GCNT2	CACAGGTTGCAGGTTAGCAGGAGA
136392	CTSS	TTCTGGTGATGGGGTTTAG
136393	ADAM11	GGGCTGTGGCCCTGCCCTTGGC
136394	GPR41	TGCGGCAGAGCATTTGG
136395	F9	AAGGTGCCTGAAAAGTTTGGGGGA
136396	ATP1A2	CTGTGAGGAAGAGGTTGCAGTG
136397	GLS	TCAGAACTTTGCCATTTGTCTA

136398	ADAMTS8	TTCTTCCCTCTCCTGCGCGCAGCC
136399	KRTHA8	GACTTCACTGTCTGAG
136400	OLR1	TGCTTCACTCTCTCATTCTTAG
136401	HYAL1	CTTTGCAACCTGTTCTCAGCTCTGCC
136402	ZNF10	CTATCAGAAATGGTTTTCATTAAGGGA
136403	DVL3	CACACACAACCTCCCCTGTT
136404	APPL	GCCTCCCAGGTTCACGCCATTC
136404	SLC13A1	GCCTCCCAGGTTCACGCCATTC
136405	CSNK2A1	GCATTTAGGTGGAGACTTCTTCCCA
136406	ATM	AAAATTGAAGAATTGGATTAAGG
136407	IGF1R	TTCTCTCTCCTCTCTGCTTCA
136408	PIGR	GTATTTGAATTCATACTAGAAT
136409	HOXA10	TCTGCCTGGAGTGCTGTGCTGT
136410	HTR7	CTAACTCCCATTGACATTGCTT
136411	ART3	AAGTCACTGGATAAAATGAGAATT
136412	PTK2	GTCACCCAGGCTGCCAGGCTGG
136413	GRAF	GGCAGCTGGATCTGTTTGCATGCAGGA
136414	SLC6A12	ATTCTTTCCCACCTCA
136415	TIMM8A	TTATCTAGTGTTTGATTGTCA
136416	MAP3K14	ACTGACACTCACCCTGCCCTGCCCCTGGCCAG
136417	PLN	ACCATAAACCTTA
136418	GRB10	TTTGCAGAAGGAAATTTCTGATGCA
136419	APM1	ACCATGCCAGGCTAATTTTTGT
136420	KRTHA4	CATCAAGAAACCTCATCTTGCCT
136421	CSPG3	CCCTGGGTCCCACTCCTGCCCCA
136422	CNN2	GGCAAGGACAGTGGAGAGAGT
136423	TNFSF6	GAACTCTGGGCTGCCATGTGAA
136424	SHANK2	CAGAGTGAAAGCAGAGGCGTGA
136425	E2F3	AACTCATATGTTTAATTGAATTGAAA
136426	G2A	CGCTCTCGTTTTGTCAGGCAGCTA
136427	CDH15	CTCCGGCCCGGCTCCCGCCTC
136428	ALPP	GGAGGCTGAAGCAGGATAATCGCTTGA
136429	NFE2	AGGTTTCTAGAGCCATCTGGGCTTTCC
136430	SLC16A2	GCCTTTCTCCTCCCAGGATCTGGGAA
136431	FZD8	AGGGGAGGGGGCGCCCAGGAGGGGT
136432	ADAR	TCTCCAGCAGAGCTCTGGCCAGCTGCC
136433	SEDL	TTCAGATAGGTTGATCTTTGG
136434	CAV2	GCACTGTTCTGATTATGTAAGCATTTG
136435	FCAR	CCTCCCAGGAGAATCACTTGA
136436	FOXO1A	GTCATGCCTCCTGCATTTCGCTAC
136437	CHRNB2	ATCCAGAGACCTGCTCCAGAT
136438	SLC24A1	TAGGAGAGCTGGGGGCAGGAGAATGGGGTG
136439	CTNND2	TTAACTTGGAAATCAGTAGA
136440	PITPNB	TAGCCTTTTATTATTTTTCTCTTCTTT
136441	ABCD3	CTGAGTATAATCAATAAGCTAGATA
136442	PML	ATCTCTGAGTCCCAAAAAGA
136443	NEU3	GGCAGTTACAGACAGGTTAAC
136444	TOX	TTCACGCTTGGTGTGAATACTTTATTAT
136445	CHST5	CCAAAGGTGGAGGTTGCAGTAAGCTG
136446	SH2D1A	ACTAAACAAAGAGTGAAGGATT

136447	SH3BP2	AAGTGTGTGTGAGTGGTGAACCCT
136448	CBFA2T2	CAGGCAGCAGGCTGTGGAGGA
136449	RECQL5	ACCTGTTATACCAGCACTTTG
136450	ABCC12	ACCTCCTCTACTTTAACTGTGCTCTC
136451	MASP1	TTCTCCGTCAGCAACAGGCTGG
136452	DIAPH2	ACACAAATGCACACACATGCAC
136453	SIRT6	CCTCCATGGGCCCTGCAGGAGGGGA
136454	TRADD	GGCCTTAGGGTTCCTTCTGC
136455	EN2	GTGTGTTACACATATGTCTGTA
136456	JAM3	GCTCACTGTTGCCTCGCTGTCTGCC
136457	CDK3	TGCCTTCTGTTTCCCAGGCAGCTCTGT
136458	FZD6	TTACCTTTTTGATATAAAATCA
136459	TYK2	GGAGCCTCCTGCTCCCTGCTCCA
136460	SOX12	CCAGCAGGCCCAGGCCAGCCAGGGCT
136461	PIK3R3	AGGGGCATGGCTCTGCTG
136462	SPTBN4	CATGGCCGCCTGGAGAAGCCGCT
136463	PCDHGA1	TAGTTCTGAAAAGTTGGAAGG
136463	PCDHGA10	TAGTTCTGAAAAGTTGGAAGG
136463	PCDHGA11	TAGTTCTGAAAAGTTGGAAGG
136463	PCDHGA12	TAGTTCTGAAAAGTTGGAAGG
136463	PCDHGA2	TAGTTCTGAAAAGTTGGAAGG
136463	PCDHGA3	TAGTTCTGAAAAGTTGGAAGG
136463	PCDHGA4	TAGTTCTGAAAAGTTGGAAGG
136463	PCDHGA5	TAGTTCTGAAAAGTTGGAAGG
136463	PCDHGA6	TAGTTCTGAAAAGTTGGAAGG
136463	PCDHGA7	TAGTTCTGAAAAGTTGGAAGG
136463	PCDHGA8	TAGTTCTGAAAAGTTGGAAGG
136463	PCDHGA9	TAGTTCTGAAAAGTTGGAAGG
136463	PCDHGB1	TAGTTCTGAAAAGTTGGAAGG
136463	PCDHGB2	TAGTTCTGAAAAGTTGGAAGG
136463	PCDHGB3	TAGTTCTGAAAAGTTGGAAGG
136463	PCDHGB4	TAGTTCTGAAAAGTTGGAAGG
136463	PCDHGB5	TAGTTCTGAAAAGTTGGAAGG
136463	PCDHGB6	TAGTTCTGAAAAGTTGGAAGG
136463	PCDHGB7	TAGTTCTGAAAAGTTGGAAGG
136463	PCDHGC3	TAGTTCTGAAAAGTTGGAAGG
136463	PCDHGC4	TAGTTCTGAAAAGTTGGAAGG
136463	PCDHGC5	TAGTTCTGAAAAGTTGGAAGG
136464	ROS1	GGAGATGGGTCTGATTATAGC
136465	AUP1	GAAGCAGCAGTTATGGAGCTTCC
136466	RAD1	CTGAGTACAGTACTCTTTGTCA
136467	RNF18	ACTGCATTTTGGTGACCTC
136468	TEGT	TCCCACCAGGCTTCATTCACCCA
136469	PRKCM	TTGCCAAGACAAATCAACAGA
136470	SHOC2	GCTGTGGCTTTTCAGTTAAAATTTTG
136471	CDK4	TCCCTTCTGGACACTGAGAG
136472	OPA1	TTCAGCTGTATTTCCACAGAT
136473	PRB3	TGCCATGACATTGGAAGAAGGTGGT
136474	UBE2G2	TTAGCTCAGAGCACAGAGGAGTGCCTT
136475	PPM1D	TTTCCTTTGAGCATCATGCC

136476	ANXA8	CTTGTGGATCATTCCTTCCTC
136477	ADD2	AGGATTAATCCTCTTGCACCAGCT
136478	CNTN2	TCCTTTCTCAGCCTCCAGCTGGGCT
136479	SRGAP1	TTCCAAAACACACGTTTCTT
136480	CACNA1D	GAGGCCAGACCTGCCCTGCCCCATTGT
136481	MARK1	TCCCCCTCCTCTTACTCCGC
136482	ACTG2	AGGTTCTCCAAGGATCCCCTC
136483	ST7	GCCCTTCCAAACTCTTCCCTCTCTCA
136484	SURF5	GCCCTGGGCCTTTCCCACAGTGCAATG
136485	SLC25A11	CACTGCGCCCTGGGGGCCTGGGCTCTGCTG
136486	ALK	GTGAGCCCAGTGTGCTTGAGTGT
136487	HDLBP	AGGCTGACAGAGGCGGCCTCA
136488	MGST1	TAGGAGGGGAGCAGAGGAA
136489	REN	GCACACTATATTCCACCACTTTGG
136490	PTGER2	GACTGTACTTTCTATTTTAATCTTGCT
136491	HD	GTGAGCAGGCTTTGGGAACACTGGCCT
136492	THOP1	CGGCTGTCTTGCCTCTTGTC
136493	ITCH	AGGAGTTAAAGACCAGCCTGGGCAACA
136494	DYRK1A	GCACCAAAAAACTAAAGCA
136495	RAB36	GGCTAATTTTTTATATTTTTAGT
136496	BRIP1	GTTGCCCAGGCTGGAATGCAGT
136497	AQP7	AGGCTGAGAATCAGAGACATTTCAGCAG
136498	SLC31A1	TTTTCCCCTGGGTCAGTGATGGAAAGG
136499	CYP4F3	TTTGTAGTTTTCACCATGACAG
136500	LASS2	CAAAAAGTGGGGGCTGTACTGG
136501	CDKN1A	AGGGTGACCCTGAAGTGA
136502	COX10	GACTGCCAGCCCCTGTCCTCC
136503	MAN1A1	TCCTCTAAGAGGAGATGATGT
136504	GFER	CCAGAGTAGCTGATGTAGGAG
136505	METTL1	CTCTCCTCAGCTGGAATGAGGAATGTA
136506	SRGAP2	ACAGTGAGTGTGGGGGAAATGTAGTA
136507	CTSS	TAAGCAGGCAGCAGGAACTTTAAATTT
136508	CA3	TCGTGGCCAAGCACAA
136509	GPR61	TGCACACAGCTTTTGCTTAGT
136510	ADORA2B	AAGAAACAAAGAGGACACGGCTGGTT
136511	GRIK2	ATCATGGGTTCCTCCCTTCTTC
136512	TRPM7	ATACTATATACGTTTTGTATATCA
136513	JJAZ1	TTTTATTCCAACTCCGAGCACTGTG
136514	ZNF147	GTCCCCAAGGATTGGGAGCATGGGAG
136515	FGF5	GCTCTGTCACCAGGCTGGAGTGCAGT
136516	SRC	CCTTCCCCACTTCTGTGCCACCC
136517	REGL	AATGGCCATCTAATGCTAT
136518	CYFIP2	TGTTACCTGCCTGTCATCATGAAAGCCT
136519	SACM2L	TCCCATACACCCAAGGCTTGTTTC
136520	TPMT	TCCTTTGGAGAGGAGATTATGATGTGA
136521	FGF2	TAGGCCGGGTGCAGTGGCTCATGCCT
136522	TRPV1	TCACCCAGGCTGGAATGCAGTG
136523	IMPA2	TCTCTCTCACCAGGATTT
136524	ATRN	AGCTAAAACTGCAGCATTTT
136525	SLC25A14	GGCATAGGCCAGGGTGGTTATTGC

136526	USP6	GAGCTGGTCACTCCTCAGGAC
136527	NDN	CTCTCCAGGAATCCGCGGAGGG
136528	CHRNA4	CTCTGCGTCCCACTGAGTCT
136529	CAMK4	AAGAAATTGAAGTATCCTTA
136530	MTMR2	TACTAGCCCTTTTTATATATTTA
136531	NFATC3	CATTGCACTCCAGCCTGGGCGG
136532	TNS	CCATGAATCCTGACCACTCTTGAA
136533	UBE3A	GTTTTTCTGAATATTTATTTT
136534	IL2RB	ACACTCAGTGTCCAGTTGCAGCTGGA
136535	CDH5	TGCAAAGCAAAACAGACTGTGTTTAACT
136536	GPD2	CCAGAGATGACTGAAACCACT
136537	PIK3CD	GCCCAGCCCTGTCAGCTGCGCCGGGAC
136538	MMP10	GCAGATATCTGCATGTGTCATGAAGAATG
136539	CASP10	TGAGCCAAGATGACACAACTGCACTC
136540	RPP30	ATGTTAAGTAGAAGTAGCTTTTT
136541	CHRNA2	GAATCCAGCAGAATCCTCACAGA
136542	TAZ	TCGAGCGGTCGAGGTCGCAGAC
136543	POU2F2	CCCCAAAGGAACCAGAGGTGAA
136544	AHR	GACGGCCCAGGCTCCTCCTCC
136545	XPA	CGATGGTGGAAACAGTGGGGAA
136546	KCNA6	TACTCTTTGTGCAAGTGCCTT
136547	LIF	GGTCCAGGCTGCAGGGGCTGG
136548	UBE3A	TTCTCATCCACTGTGCTTCTTAATGTG
136549	TCEA1	GTAGGGAGACCATATAATAAT
136550	NPEPPS	GGTTCTGCAAGGAGCCTATAAAGCC
136551	ZFX	GTCTCGAACTCCTGGGCTCAAGCCGTT
136552	SLC7A8	TAGAAAGGGAGGCAGCTTTTGAGGT
136553	EPHX2	GCACGAGGCCCTGGCCTTCGCGCATCTCCCA
136554	SPARC	GTCCCATTTTTCTCTTGCC
136555	HTR2C	CAGCATCCTGGAAATTTGTGTGCTT
136556	MAGEA8	GAGCATGTTGGGTGTGAGGGAACACA
136557	SNX15	AGCCTCCCCAGTAGCTGAGATT
136558	EEF1B2	CTGCTCCCCAGCTCTCGGATACAGCC
136559	PRKR	CAGGCTGGAGTGCAATGACACAGTCTT
136560	PCDHB11	AGACTAGAGGTCAGTGGCAGGA
136561	EIF2B2	CCTTGATACTGTTGCCTGCCTTTTTAG
136562	NEK6	GTTAGTACCGGGTTCAGTTTA
136563	ACE2	ACTGGTGTAGCTGCAAGGAT
136564	SLC25A15	CTGCACTCCAGACTGGG
136565	GHR	CTTAAAACTTTGAAGTTA
136566	FBLN5	CTGAGTCTATGTTCAAAGACTGTG
136567	MAK	CAGGCTGGAGTGCAGTGGCACT
136568	RXRA	GGACTGTTTCGTTTCTGCTTCT
136569	AQP6	CCAAGAGAGGGTCCCAGTC
136570	ADAMTS4	CTGGGAGAAAGAGAGAGCTTCTGTTG
136571	NYX	TTCCCCTCATCTTCCAGGCAACAGTG
136572	MSL3L1	CTCCTGAGAGAAAGGTCTGAC
136573	RP2	TGTTGCCCAAGCTGGAGTGCAAT
136574	PTGIS	TATTGCCCAGGCTGGAGTGCAAT
136575	LRP8	CACTACACTCCGGATGGTGTAT

136576 MAP3K1 AGTGCGGAGTGTGGAGCTGGAC
136577 PC CCAAACACTAAGGATGCTGAA
136578 CDH5 GTTTCACTGCAAACACACCTT
136579 EDARADD CACTGCACACCAGTCTGGAGACAG
136580 PSMC2 TTCAAAATTGTATGCTTTTTTCCAT
136581 TULP2 TTCTTCTCCTCCCTATTTCGC
136582 TH1L ACGGAGTTTATAGCTCACTGCAAAT
136583 MIPOL1 TCCTTCTATCTTGTGATGCCA
136584 TLL1 CTGCTGCTGCTATTGTCTTTC
136585 TNFRSF1B CCTGCCAGCCTGGCTTCTGGAGCC
136586 SUFU GGAGTATTTGGGAGAGACTGGCTGCA
136587 PTHLH CACACACACCCCTGTCCTCCAGC
136588 TCF20 GCAGCCACACCCTGCCCTGCCCCGCCCCGC
136589 RECQL5 TTTATTTCCACCTCCTCC
136590 HTR1D TCGCCAGGCTGGAGTGTAGT
136591 COL16A1 CTGCTTCCTCCGCCTGCTGCCTGGAC
136592 UBE2A TGCTTTAATTTCTTCCCTTTCAGCA
136593 ENG GGGCAGCCAGCAGAGGGGG
136594 IRAK4 GGAGATGAGACCTACCTTCC
136595 KMO AGTCTCAAACTCCTGGCCTCAT
136596 NPTX2 CAGGGCTGGGGCAGTGTCTGT
136597 PRKDC GAGTCTGCAGATAGAAAGCATTACATTGT
136598 BENE TTCCTCCAAGGCTGGAGTGCAGT
136599 LTB4R GCATCTTGAGGCCACACCCAGCCTT
136600 ABCD3 CAGTTTCTCAAACTGAGCTTCAG
136601 CUL3 TTCCTATGTCAAATTAGCCAGAA
136602 PPP1R12A GTATTAGGCTAATGCTGTGTT
136603 APOB48R TCTCCACCCTCTGGGCCTCAGTGTC
136604 CA12 TCTGCTGCTTCTCCAAGCTTTCAG
136605 MCSP GGGGGATTACTGAGAGTCAGGCTAG
136606 MPO CTGAGTATGTGGAAGGCAGCAGAGCGGA
136607 SOX1 CCTGGCTTCTTTCTCTTGGG
136608 RNMT GTAGATTGCCAGCACAGTGAGTTTCCC
136609 CYP1B1 AGACACATACACCCAAACACTT
136610 USF1 AGTGCCCAGCAGAGGTTTGCTGACAGGTG
136611 NHLH1 CATGGAACCCTGAAGTGGCAGT
136612 LY6E TGTGTGCCTGGCTGTGTACG
136613 TXNRD1 GTCTTGTTCAGATTCTGTATTTA
136614 SLC31A1 TGGCCAACATGGGGAAACCCCGTCTCT
136615 F2RL3 GGAGGCTGAGTCAGGAGAATCGCTTGA
136616 PXF TCTCTAGCCTTCCTTTTCTGC
136617 FASN GCACAGCCACCCGTGGGGTGCTGCCCT
136618 IL6ST GCTGTTTTAACTATCCCTGCCTGTG
136619 KLK4 CTGTTCCCAGCCCCTCCTCCCTCAGGC
136620 HOXC9 GGGCTGTACATAGTGTTC
136621 PSCD4 TCCTGCTCCTGGGATGCACTG
136622 SRD5A2 TGCCTCCCTCAAAGGACCTGCAG
136623 DFFB CTCAGGCTGGAGTGCAGTGA
136624 DUSP6 GAGGGAGGGATTAGAAGC
136625 T CCGGGAGCCGTCGCAGGTCTCGG

136626	EVC	CCTCATCGTCCACCTGCCTCGG
136627	KIF3C	TTCTCCCTGCAGCTGCC
136628	ANKH	TGGGCTGTGGCTGTCAGCCCAT
136629	HFE	AGGTGTCATACAGATTTGCAAAG
136630	CHRNA4	CCCGAGCCGAGCTCTCCTGGGC
136631	IQGAP1	ACAGGAGCTAATGGAAGTGACAGTC
136632	AIPL1	CTCTCATTCCTTCCGTGCCATG
136633	POLH	TCGGGAGGCTAAGGCAGGAGAATC
136634	GGA1	CACTGTCCAGCCTGGAGGGAGGCA
136635	JPH2	AGAGCACAGCAGACCCTTAGCAGAAC
136636	MHC2TA	TCCCATGAGCCTCAGCATCCTGGC
136637	KIFC3	TCTGCTGCTCGCTCACCTGCCTG
136638	SCAMP1	GTGAAGAGCCTATGTGCATTTT
136639	PACSIN1	AGCCCTACCTGCCAGTGCTGGT
136640	ABR	ACCGGCCCGGCGTGGGCACACAGACA
136641	IL22RA2	GAAGAGAGATGTGTGGAAA
136642	LAMB3	AGTGTGCTACAGCTTCCAGCCCGTT
136643	CASQ1	AGGGAGACTAGGTTATTCTCTG
136644	PNUTL2	GGAGAGAAGATTGGCGCTGGGTGCCG
136645	PTGFRN	CCTCCACTGTTTGACCAAATTCT
136646	SMP1	GGGGTGAGTGGACGTGTTGG
136647	STAM	ACAGGTTCAAATATTCAAG
136648	EPM2A	TTCCAAGGCATCACCTTCCTT
136649	PSPHL	CACTGATTTTGTAGAGCTG
136650	LMO7	ACCATGGTTTGTATACTAGAAGTCTT
136651	ISLR	CCTCAGCCTGCAACCTCTATCCT
136652	CKMT1	TTCCGGCTCCAGCCTCCAATCCGAC
136653	B3GAT1	TGGATGTCACTTTGGAAACCAAGC
136654	F5	TGCCCAGGTCCTGGGGTGGTG
136655	GALC	TCTAATATTTTTTAAAACAA
136656	FCMD	CCCAAATTCTAAATAGCTG
136657	TSC1	ATAAACCTGCCAAGAGTCAACA
136658	KCNJ3	TCAAACTGAGTAAATTGGAA
136659	CREBL1	TTTTCATTTTGGAGCTAGTTAC
136660	PEX7	TTACCCTGGAATCAGTTTTGA
136661	VANGL2	GGATTACTGCCTTTTGTAGGTACTTCA
136662	AGL	TCTGTAATACAGCATTTTTAT
136663	HERC2	AGGCCTTTCTGTGAACAGCATCA
136664	LNK	AAAGTGCTGGGATTACAGGCGCGAGCC
136665	TRIM8	CCTCTTCCTCATTCCATTGCCCCA
136666	SOX1	TCTTCTGCTCCGGCTGTTTCACTGCG
136667	XPC	TTAGAGTCTTCATCTGTCCG
136668	SIAT6	CATGGAAGCAATAAAGCTCTTC
136669	CBFA2T2	GTGAGCTCTTCAAAATGAA
136670	LGI1	TCACAGTACCTCACAGGTCTCTTCCCCC
136671	EFNB2	CATGTGCTGCGGTCACTCAGGCC
136672	PRKCH	TGCCTCGACTCCTGCACCTG
136673	GRM6	CTGTTTTCCTCCCCTCTGTGTACTC
136674	CDK10	TGTAAACCCTGACGGTGGGCCTGGC
136675	SH3GL1	CCTGCAGGGCCCTGCCTCCCAAGC

136676	PRG1	ATCTATCTTATTGTTCTTGAA
136677	B3GAT1	TCTATTCTGGGGGCTTCTGAGAG
136678	MASP1	GTCTCTTTCCCTGTCTGGGCCT
136679	CAMK2A	CCCCCACCCTCTCCCCTGCC
136680	KIF5A	TTCTCATCTACTCGTCTCACA
136681	COL4A1	GATAAGCTTCAATAGTGGCATACC
136682	ING1	TTTCCAAATGAACTTGCACTTG
136683	CD5L	GCAACTTGGGGGAAAGTTTAGA
136684	DPH2L2	CTCAGGGAGATCACAGCAACCTAAATAA
136685	CPN1	AAGGAGGTGGGGCGCGTTTCAGTG
136686	DGCR2	TGAGAGCTCAGAGGATTCCTGCCA
136687	IL6R	GTCCGGTCCCTGTCCCAGTGCC
136688	GPR6	TGCTTAATTATAGCACTTTA
136689	ST14	AGAAGGGGAGGACACTGGTG
136690	ANGPT1	GGGAAAAATAAACACACAAAAA
136691	DHFR	TGTTGCCCAGGCTAGCATGCAA
136692	TGM7	GACCCGCCCTCCAGCTGCCCTC
136693	ADD1	AGCTCAGTTTCTTTTTCACTTGGG
136694	PAX5	CAGGCAGCTGGGCATGGAGGTGCTGGG
136695	RPL9	CAGATGACACTTAAGACCTACTTGTGAT
136696	CXX1	CCTCTTGTGTTCTTGCCT
136697	CD68	CTAACCTGTAATCCCAGCTACTT
136698	ALDOB	CCAAACTACCTGTCACCATGGCCC
136699	APPBP2	GCTGCAGCCATCCCCCTCA
136700	CIT	AAAGACTGTACATATTTACAAG
136701	NUDT2	GTAAAAATTAAAAAGGCCAGGC
136702	FLRT2	TAGGACTAGTGTATATTCAC
136703	PCDHAC1	TATTTCTTAGACAAGCCTTTCACA
136704	CNN1	GTGAGGAGGGAAGAGTGTGCAGA
136705	PLA2G2D	TGGAGACCATGTCTGTGCCATCTCTG
136706	GSPT1	TCTCAAGAGGAACAGTCATTGTG
136707	A1BG	ATGCCTGGCCAACTCACATTTT
136708	FLRT3	GTCTTCCTGGGTTCTGAAGTAACGGAA
136709	RBBP9	AGCACAGCAATATACATTCATA
136710	NKTR	CGTCTTTAAGCATTACTCTTA
136711	HNRPF	AAAACTCAAAGGTGCTAGCTCC
136712	ITGAL	GGTGCAGAGTGCCCAGAACTGGAC
136713	GRM3	ACTTTCTAGGCTGAGTCTAGTG
136714	HOXA3	GAATTTGTTCTTACATTATGGCTCCC
136715	IKBKG	GCCCTTGCCCTGTTGGATGAATAGGCA
136716	SMG1	GAGCTAGACTCTGTGTCAAAAA
136717	TRAF1	GGGCCTGGCAGCTCAGCTTCCCCAACA
136718	PLEK	CTCAGGGCCTCTTCTGGAAAATGAAG
136719	SRGAP1	ATTGGCTTCTCTTCTCTCCTTA
136720	TCTA	GCTCCTCCCCACTAGCATCTTCTCT
136721	PIK3C2B	TGGTAGGAGGCAGGGAGAGTAAGACATG
136722	F2RL3	GGGAGGTTGTGGTTGCAGTG
136723	KAL1	GTTCACTGCAGCTCCTGTCACA
136724	GNA15	GGTACTCCTGCCCTTGCTTGACTCAGTT
136725	UBE2A	CTTCCTTGCCAAGTTTTCCTA

136726	DSCR3	AACCTCCCTGGCTCAAGCGATC
136727	ANXA9	CCCACCCCACATGACATCC
136728	SDHC	GCAAAAACTCCCCTTTTTTG
136729	PER2	GCCAGTGTCCCCAGCACTTTTAGG
136730	SLC1A1	CAGCGGCCGGCTCTCACCTCTC
136731	EPO	TCCTCCAGGCCCGTGGGGCTGG
136732	SALL2	GCTTCTCCTCAAGCTGTAGGCTCCA
136733	GPR81	TCCCAGGCTGGAGTGCAGTGGCACA
136733	XRCC2	TCCCAGGCTGGAGTGCAGTGGCACA
136734	RP2	CTACAAAATCAACATGATTTCA
136735	ADK	TAACATAGTAATCTTTAGCTT
136736	ZNF74	GGGCCTGCCCTGGATCCTGGAG
136737	THBD	TATGAAAAGAAAGAAAGGAGG
136738	ADCY2	TGATTATACCACTGCACTCCAG
136739	HIP1	GTCTTCCTTCTTTATCTATAGC
136740	HSD17B4	GAACTATATATAAGCTAGCA
136741	CACNG6	TCTGGGCCCCGTCTTCTTTGCCA
136742	ADAMTS5	CAGCAAGTTTTCTATCATGTC
136743	LY64	GTCATCTGCTGGTGACCAGACC
136744	ZNF180	TGTTCCTTACAGCACTTGC
136745	BHMT2	CAGGAGGCGGAGCTTGCAGTGA
136745	SMG1	CAGGAGGCGGAGCTTGCAGTGA
136745	UBE2G2	CAGGAGGCGGAGCTTGCAGTGA
136746	BMX	AGCATTTTCATTCATTTTA
136747	PRKCD	CCCTGCCCCCAGAGCGTCCTTG
136748	KIF5C	GGATCTGTAAAATATACCTTT
136749	MYCL1	CTTTTAAAAACCTAGGTCTC
136750	IHH	CATTGAGACTTGACTGGGCAA
136751	G1P3	AGCTCCCAGAACCTCTTCTTCCT
136752	GPRK6	CTGGTCCCAGTGTTAGGGTAGCA
136753	CTF1	GGAGAGGGGAGGGGACGGGCAGG
136754	MEFV	TGTTAGCCAGGCTGGTCTCGA
136755	CLCN6	CTTCACAAACACCTCTCTCTCCCCTGCA
136756	ACVRL1	GGGCCAGGCAGGAAGACGCT
136757	SLC9A2	GTTGAGCGCTCGGAGGGCCAACCGCCG
136758	ACCN2	GTTGGACTCTCTCCCCTGGTGTCTGTACT
136759	SOX4	TTTTAAAATAGTGTAGGATAA
136760	STK19	CCAGAAATGGTGCCAAGGCTGTG
136761	GNB3	CTCCCATGGCCTTCCCTCCCCACAGTCCTC
136762	SURF4	CCCTTCAGTGCAGGCCAGCCTGG
136763	SH3BP2	TGGCTCCCAGGGCTAGGGTTAGG
136764	CLASP1	AAACTCAAACTCCAAACCTCA
136765	IRAK4	CAGGAATAGAAGATGA
136766	SMT3H1	TCAGATTTCTTCTAGTATTTGCTTCTGATGA
136767	MAPK10	GTGGATGTGTCATATATTGCCAAAC
136768	KCNH2	AACTCGAAAGCACAGCTCCTCC
136769	CARKL	CTGAGGCAGGAAAATCACTTGA
136770	FLRT1	TGCCCTGGAGATATGGTCC
136771	GNPI	AATCTAGTATGGTTACTCCAG
136772	PSMD9	TTCTGCCAGGCAAGCCCTG

136773	GRIN2C	GCTGGGCTTTTGCTGTCCTCTT
136774	POLQ	TACCCTTTCACCTACCTCAGCAAAACA
136775	TOP1	CCGTGGTAGCAGCCTCAGCCGTTTCTG
136776	NUCB1	CCTCCTCCTGGACCTCTTGGC
136777	DDIT3	CACTAGTGCCAATGATGTGACCC
136778	CYP1A2	CCAAAGTCCTGGGATTACAGGT
136779	RBM6	GGTGGCGGAGGCTGAGGAG
136780	NCALD	AGCGAATTAACCTAAGACACA
136781	HUNK	AGGAGGTCGAGGCTGCAGTGA
136782	IL6R	GGGAGGTCAAGGCTGCAGTGA
136782	PDCL	GGGAGGTCAAGGCTGCAGTGA
136782	TACC1	GGGAGGTCAAGGCTGCAGTGA
136783	KPNA4	CTTTGTGTTTAAAAATCAACTGGTA
136784	TCF7	GGTCGTCACGCCTGTAATCCCAG
136785	ARF3	AAGCTCAGGGCTTGCAGCCAG
136786	FBXL2	TGCTACAGCACATAACACATTTT
136787	ESRRG	GATCAGATTGTTGTATTTA
136788	C1QBP	TGCTGCCTCTGCTGCGCTGCGTGC
136789	IL17BR	TGAGGTGGGGACACAGGAGGTC
136790	MRPS12	GCTGGGACAAGACACTG
136791	SOX9	CCGAAGAAAGAGAGGACCA
136792	ZNF267	GGAAGTTTAATGCCAAATGTAAAACAC
136793	TIA1	TGGTCAGCCGAGAAACCCCA
136794	SIGLEC11	ACCAGCCTGGGCAAGATGGTGA
136795	SLC15A1	AAAGTGCTGGGATTACAGGCTTGAGCT
136796	PTGIS	CCTCGTGATTTGCCTGCCTGGGCC
136797	PAIP2	ACACTTATGCATTGCCAAAG
136798	WHSC1	CAGTTGGGGGAAAATAGCATT
136799	SMARCC1	GCCAGCCTCAGCTGCTCCTTACCTGGAA
136800	HSPA4	CGAGGCACCACAACAAGGCCAGGT
136801	TAP2	CTGTTCCAGCCCATCTGTCTCAC
136802	NFATC1	ATGTGCAAAGATTGGCTCTCCAACAA
136803	LCP1	CAAAGCAAAACCAGAACAGTA
136804	ZNF74	ACAGGTACAGCTTCACTCTTGTAGTC
136805	CHRNA4	CTCCACGGGGGCCTAGTGGCTT
136806	CACNG3	ACCTCTGCCCCACGCCCAG
136807	ESR1	AGCACAGCCAGACTTGCTCAG
136808	GJB3	CAGCCTGCTCCCAGTGCTGTGTCAT
136809	DSC3	CCATCCCAAGATTATGTCCTCACTTA
136810	MDM1	CAGAGATCTTGCATTTCTGCTCT
136811	RGN	ACTGATCTCCCCTGCGACC
136812	SLC14A1	GAGAAGTTCCTGGCTTAACCTGTTC
136813	PRKACA	CCGCTGCTAATCTCCCCTGGGCC
136814	ZNF42	TCTTCCTCCTTGTGCTGGGTTC
136815	ADAM11	TCGGGGGCACCTGGAGGGATG
136816	GJB3	CAACAGCAGCACAGAGGTCTGGAGGC
136817	NUMA1	TCCCCAGACTTGCACTGGGGTGGGA
136818	DLX4	TCTCTGGAGGACAAGCAGTT
136819	ALDH6A1	TGAAACCAGATTTCTCACTTGCTCTT
136820	RAB18	GTTATGGTAAGCATGCACAG

136821	FGR	TCTTCCAAAGCCCCCAGGCTGG
136822	NEU3	ACAGCCTCCAACTCCTGGGCT
136823	ANK1	GACCTCCAGGCTTCAATCCTGCCTCT
136824	DNASE1L1	CCCTTCCATCCTCCTCTCCA
136825	HPS1	GAACAGCTTTGGGGCTGGGGGA
136826	PDE4A	CTCCTCCACTCTCCATCCCC
136827	RFC1	ACCAGTAGGAACCAGGCTGG
136828	MAGEC1	GGGCCTGGTTGAGGCTGGAGAGAACACAGTG
136829	SLC21A2	CCTCTTCTCTGCCTCCAGAGA
136830	TEM7	GACTCACAAGCTGGTCCTTG
136831	SWAP70	GCAGCCTGGCCAACCTGGTGA
136832	HMG20A	GCTCTTTCCTTCCTCACTGGTACT
136833	EML1	TGAACCACGATGGCTGTTGAG
136834	CDH20	ACACGAGCAATACTGTGCTGGA
136835	POR	TGATCAACATGGGAGACTCCCA
136836	MXI1	GGTCTGAGCCACAGCAGCATTTT
136837	GRM6	GTGTGAATTCTCTGGCTTCTAGCT
136838	FGFR2	GACGTGCGTTCTGCCTTC
136839	XK	GGCCATTCTTTAGTCATTCCA
136840	TAF1A	GAAGAATTAAAAGGGCCTGTGACAG
136841	RCV1	TCTCGGTCTTCAGCTCACACCA
136842	CDC25B	GCTGCCCTATGGGCCTGCCGGGCTG
136843	MAB21L1	CACTCAGCACACTTTTCCTCCA
136844	BRCA2	TACTTATGTTGCACAATGAGAA
136845	MAFF	AAAATACAAAAATTAGCCATGCATG
136846	SCAP2	CTGTCACCTGCAACAGAAGTG
136847	LTB4R	ACATGCCACTACACCCAGCTA
136848	PPP3CA	AGCAGTTGGATGTTCTTGCCT
136849	DFFB	CGCTCAGGCTGGAGTGCAGTGA
136850	NXF5	TCCAATGCAACAGGAAGCTAGTGAAATGA
136851	SH3BP2	CAGGTGAGAGAACCAAGTCTCA
136852	ADCY1	CTGCCTTCTCTGGGCTCACGACTGTTC
136853	MAP1B	CTGTCCCAGGAGCAGGCAGGGCAGT
136854	RANBP17	CTAAGTGTGTACTAGTTTATGG
136855	STK19	CTGTTTGCCTGGTTTCTGACCCAGT
136856	COL19A1	AGTGATGTGGTACAACTGGAGG
136857	PRKR	CAAACTCCTGACCTCAAGTAAT
136858	MAG	GCAGGTGACAGTGAGGTCCTGGGGGCC
136859	MYBL1	TAAAGAAGAAGATCAGAGGGTT
136860	SMURF1	AAACTACAGACCTCCCCCGG
136861	RPS6KA5	CCTTTTGCTTTGCCTTGTGGACAATGTG
136862	PTPRF	GTATCCAGCAAGAGTGACCGGGG
136863	EYA1	CATCAGCGCCGGCCTCCAGAA
136864	TAL1	GGAGGGGGTAGAGGAAAGGC
136865	ELMO2	CTCCTGAGCCTGCTCTCTGATCAG
136866	FOXD2	GGAGCACAGGGTGCAGGAGCGGC
136867	ARF3	GGGGAGCCAGAGGGAGCGGAGCGGA
136868	VHL	GACCTTGTGATCCACCCACCTCA
136869	PPP2R2B	CTGTAGTATTTAAGGAGAAAAGAGATA
136870	MAT2A	CAATGCCACAGCCCTGTCAGCATGAA

136871	FZD4	AGATAAAATGTGACTTCCCCTGCTCTG
136872	NKTR	CTTCTGCTCACGGGGACCCGCT
136873	ANGPT2	AGTTTATCAGTAAATAACTGGAAA
136874	ABCA1	CTTTGCAGATATTGGATACCCCA
136875	RAB11A	GTCTTTTGATTTTAGCTTTAT
136876	ADRA2A	GGTATTTTCACCCTCTTCGCCTGGTAC
136877	ALS2	GTCTTCCTGTAGTGGCAAAAAAGAAC
136878	ENSA	GCTCCTGCCCCTTCCTGCTTTTGCA
136879	PDZK1	GCCTCCAGAAATGACCTCCACCTT
136880	GGCX	ACATACAGCTAGTGACGAATGGA
136881	ABCC11	TTGCCCAGGATCAAGGGTGCGGTG
136882	FOXF2	AGAGTCATTTTCCCCAGACACTACA
136883	PRKWNK3	TTCAAATTACTTACCTTCCACTC
136884	PX19	GACCGAGGCACAGAGGTGCGGT
136885	PDGFB	TGTATGCAGGGAGCACTGTTC
136886	CCNF	ACTCCTGCCTCAGCCTCCTGGG
136887	B4GALT5	AATTGTATTTGAATTTGTGCCTCT
136888	RAP1A	AGCTAAAATATATAATATACT
136889	HIP1	CCAGCACTTTGAGAGGCTGAGGTGGT
136890	IDH3A	GGCTCTTGGGTTCAAAGTAATA
136891	XRCC2	GACCAGCCTGGGCAACACGGTG
136892	ICMT	AAGCCTTTCGTGAGGGCTTGCAGGCC
136893	TCF15	GGAGAAGGAGGCCAGGAGCCAG
136894	AR	ACTACTCCTCTGCAGTGCCTTG
136895	SIGLEC8	CTGCCTCCCAGGTTCAAGCAAT
136896	BTNL3	GGCTGCCCTGAAGTGGGGAC
136897	EIF1A	GTATTTTTATACTGATTTTGATATCA
136898	BLAME	CTCCAGCCTGAGTCCTAGGC
136899	YWHAG	AGGTCTGTGGTGCAGTGTGTGAAAATT
136900	VAMP5	TTTGCTCTCCCTTGACC
136901	IL19	GACTACAGGTGTGCATGAGGACTAC
136902	MFRP	TTTTCAGCTTCTCCATCGCCTGCC
136903	TEM6	TGCTTTGTGAACTCTGCTTTAAAGTGA
136904	CASP2	GCGTGAGCCACTGCGCCCGGGC
136905	CR2	TTGCCCTTTTTAAGGAAGGCACT
136906	AK1	CAGCCTGGGCTCCTCTGCATCTTGCTCTGTGC
136907	ADORA1	TCCTGGGGAGGCTGAGACTG
136908	PIK3CG	GTCCCTGATATTTTGACTATCTT
136909	IL1F7	AAATGTCCTTTGTGGGGGAGAACTC
136910	SLC2A3	CCGGGACGCAGGGGTTGCAGTGA
136911	GARP	TTCTCTCTGTGCTCTTGCATTCT
136912	KCNJ11	TGAGTAGCTGGGATTACAGGTGC
136912	VHL	TGAGTAGCTGGGATTACAGGTGC
136913	TDGF1	GGTTCACTGCAACCTCCGCATCCGGGG
136914	NFIL3	GGTTGTTTCTGATGCAGCT
136915	BYSL	GAGTGGCCCACCCTGGAGAAG
136916	PTX3	TCTGCTCCAGCCTCTCACTCTCACTCT
136917	PTPN6	AGGGTTCCCTCAAGAGGAA
136918	KLK13	CCTGAAAAATGCTCAATCTCAGCTA
136919	FBXL11	AGCAGTGCCTGGTTCTGAG

136920	RARG	TGCTGTCCCCTCCCCTCTGTTTACATCTCC
136921	FGFRL1	GGCTATTTTTGCCACCTGCCTTGG
136922	ATP5G2	TGTTTCTTGAGTCTCCTGT
136923	PKD2L1	CGCTCCCTCCCCAGCAGGCACAG
136924	FPGS	CGCTGACCCTGGGCCTGGAGGGGGA
136925	SERPINE1	GAAAGAGAACTACTAAGGA
136926	HUNK	GAAGTGAGGGGACGAAGCCTTAGAGG
136927	TP53	GCTGTCCCTCATGTTGAATTTTCTC
136928	CDKN2B	AACTGATACTTCACTACTTTA
136929	MAPK1	TGACTCCTTTGAGCCGTTTGG
136930	CYP3A4	AGCAACACAGAGCTGAAAGGAAGAC
136931	MMP11	TTTGGCATGACTTAAGAGGAAGGGCAG
136932	TP53	GGGATTACAATTGTGAGCCACC
136933	PLAG1	CCATGTCTACAACACAGA
136934	TLR5	GCGTCCCAGAGTCTCACTCTGC
136935	IL6ST	CCAGGTACTGAGGGACAAGTAG
136936	SLC2A6	CAGCTCCTATCTGCAAACTGTGTTCAC
136937	ESR2	TGCAGGGCGAAGAGCAGGCGGCGAGC
136938	DSC3	ATGAGCCTGAACTGGTTGTGCAGA
136939	ATM	ACAGTGAGCAAAGATTGTGCC
136940	CSF3R	GGCCAGAGGTGCCAACATGGGGAA
136941	HMGA2	GGGCCTTTTAGAAACCTCATTG
136942	RUNX1	GTTCTTTCTTTTTCTCACTATCTGAA
136943	LZTFL1	GATTTTTAGAGTGGGAAGAAG
136944	PUM2	CATGTCCCAGTCACTGCAGCAACGCCT
136945	EDNRB	TGCAGCCGCCTCCAAGTCTGTGCG
136946	INHBA	TACCCTTTATTTCTTCTG
136947	GABRE	TTGCTTCTGTCCCAAGAGGCACTAGCT
136948	SIX3	CTCTTCCTTCTCCTCCTCCATCCCCAG
136949	HNRPH3	TCAGCACTTGACCGAAATACCAAAAAT
136950	PYGB	GCAGCTTCAGCACCTGCCCCA
136951	STK4	CATGTTTGTTAGCCAGCACTT
136952	RIG	TGTTCATCTGTGAAATGAAG
136953	DRIL1	GCCATGAAACTACAGGCCGTGATG
136954	RAD18	GGTGCATTAAGGAAACTAAAAGCACC
136955	F8	CCGTCACCTCTCCCTCCTCAGCTC
136956	PPP1R3A	AGCTGCCTGCACTCTGTCTCTCCA
136957	CD2	CTCCTGAGGCTGTGGGCCACAG
136958	PDE4A	CCCTCATTCTCATTCCTGGGCAGCCCT
136959	PTPRF	CGCATTTCTCATGCTTCTTCTCA
136960	KCNA4	CCTTTCCCAGGCAATCCCTCCTGTGCT
136961	AQP6	AGCTCAGGCTGGAGCAGGTA
136962	MUS81	GTTTTTAAACAAAGCTGCTTA
136963	FGF2	GTATGCGGGAGACCCTTCCACCTCA
136964	KIF5C	CTAAGAGAACAGCCAGATGGTT
136965	TRPS1	GGAATTTCATGATGATT
136966	SIGLEC8	ACAGGACTCCCCCATCTTGCTG
136967	HD	CCCACCCCCAAAGACCTGCCT
136968	FKBP10	GTTTGGATTTGCAAAGCCAAT
136969	LDLR	CAGAGGCAGAGCCTGAGTCACC

136970	PC	GGCCTCTCTGGAACTCTGC
136971	PRX	GGAGGCTGAGGTGGCTGCAGGAGCTCG
136972	HMGCL	AATAGGGGCACACACAGATGATTC
136973	PBX2	GTTTCTGCTACTTTAGGGAATT
136974	IL4R	CACATCCCATGAGAGTAGAGGGC
136975	SSX4	CCCCTCGGGGATATGACACATGCCCA
136976	PRDM16	GGATTGGTCTTGAGAACACTGT
136977	TBL2	AACTGTGGGACACAGATGTGGAA
136978	MLLT2	AATATTTTGTAACAAAAAGA
136979	CETP	GCTCCAGGCTGAACGGCTCGGGCCACT
136980	LRRC2	AGAATTGAAAAATTGGTTTGT
136981	EGLN3	GTGTCATCTGAACAATTTCCA
136982	MAPT	GCAATTCCTTTTGATTCTTTTT
136983	TBX5	CCTTATGCAAGAGACCTCAGTCC
136984	CLC	CCATAGCCACACCACAGGATTTCCT
136985	SHC1	CTTCCTCCTGAAGCCTCTGCCCTGCCTCCCT
136986	LYZ	GACCTTGTGATCCACCCACCTCG
136987	SLC13A1	GCTGACGTATTACAAAACAGA
136988	OGG1	AACAGGTTCTTAAAAAGGATCA
136989	CNTFR	GGGCCATGCAGCTAACCCACC
136990	EBAF	GGATTCTGGTTCTGACAGGGC
136991	TRPM7	GATACTGGCAGATTGCAGTG
136992	RAB5A	AAATGTTCATTTCTCCTGGTACCT
136993	UBE2L3	TTGCCCAGTGTGGGAGTTGGTT
136994	RAF1	AGGGGAGGAGGAGAAGC
136995	HUNK	CAAAACTGTGCAGCTTCCTGAA
136996	CLK2	CCGGGACTCCGGCCGCAGTGTCG
136997	NCOA6IP	GAAGACCAGCCTCTGAAACCTACT
136998	C21orf5	GCTCACACCTGTAATCTCAGCA
136998	MTNR1A	GCTCACACCTGTAATCTCAGCA
136999	DCLRE1C	GCTCACACTTGTAATCCCAGCA
137000	COL19A1	CAGTCTCTCATTTGGTAAACAGAAAGC
137001	ELMO2	GTGCCAAGACGTTGCTGCTTC
137002	SHOX2	CCGCAAAGCTACAACGATGGA
137003	CNTN2	TCCAAGTGTCCATCCAGAGA
137004	SPTLC1	CCTGAAAGAGAGCAAGAACA
137005	CSRP1	CCTCCAGGATTATTTCTCTGTCAGCC
137006	FBXL2	CAGTGTTAGCACAAACTGAGCAG
137007	GSTT1	TTAAGACTTGCCCAAGTCCCAG
137008	PTGS1	CCCAACAATTGTGTGAATTAATTTCTA
137009	AF3P21	TGGGAGGGGATAAGGTGGCAGAAGGAA
137010	EFEMP1	CCATCATAACCATTGAATAGCA
137011	SORBS1	CTGACACAGGAAAATGAACTTA
137012	PXMP3	AGGCAAGGATTTCACAGA
137013	RAC2	GAGGCCTCCTGAGGCCAGGAACGTG
137014	CDH10	TTCAAACAAGAGAAAGTAAC
137015	HAS3	TCCTCTCAAATTCAGCTCTG
137016	PTPN12	GACTATCAAAATACATGTATGT
137017	XRCC3	AGGGCCACCTGCAGGACCCTGTCC
137018	TSC1	ACCACAGGCTGGTGTGTAGGT

137019	FACL4	CACTACCCCTTGATTTTCCA
137020	MS4A2	TGGTGGCAGTCACCTGTAGTCCCAG
137021	ADCY1	ATCCTGCCTCAGCTGTGTGGCC
137022	SLC9A6	TCAGAAAAGAAGGCTGCAAA
137023	PDGFB	AGGAGGGAGACTGTGGTAGGGGCAGG
137024	PTPN18	CAAAGTTAAAGTTTCTCAGGGT
137025	LAMC2	GGGCTGGTGGGACAGTGGTGACA
137026	HOXA1	TACTTCCTGGGTCAAGTGCTA
137027	SFRS2IP	GGTCTGCACTGCAACTTCTGTATCCT
137028	STXBP1	TGTCCTTGTTGAGAATCATAGAG
137029	PAICS	CCATTTCTCCCTGTCTGTCCCATGGGC
137030	MEN1	CTGCATTCCAGCCTGGGCGAA
137031	LILRA1	CTGATCTGAGTCTGCCTGCAGC
137031	LILRB1	CTGATCTGAGTCTGCCTGCAGC
137031	LILRB2	CTGATCTGAGTCTGCCTGCAGC
137032	ITGAL	CTGCCTCTGCCTGCATTCTGCCGTGT
137033	ATP1A1	GCTCCTGATCTTCCTGAAGATCTC
137034	PTPN7	GCCGCCCCTGACAGCTGCC
137035	SON	ACTGTGGTTCTTCAAGCAATGGG
137036	IL12RB1	GCCTGTAAAGCTCTCAGCATTGG
137037	TOX	GTGGGTCACCCACTCTGGA
137038	PRKY	ATCTTTAGGAAATGGAAATGT
137039	PDC	CTTGACTACAAAACAGAGCTGT
137040	RAD54B	AGATTACTTCTGACATTCCATT
137041	B3GAT1	GTTTTCCCCAACCTCTTACACCCT
137042	EVPL	AGCCCAGCCTGAGCCAGCACTTG
137043	SI	TCCAAGTCTGGTACAACATAGCAAAGAG
137044	SRR	CTTAACCTTGTCAATAGGTTC
137045	GOT1	ACATATTTAACTGAAACAAGTTTTAC
137046	EGR2	AAAACAGCAACTTGTTTGCTA
137047	GNAS	TGCTGGAGAATCTGGTAAAAG
137048	REGL	CACCCAGGCTGAGGGTGCCTTTGTG
137049	RABL2A	TTTTTTCCTCTTCAGTCTCCCAGT
137049	RABL2B	TTTTTTCCTCTTCAGTCTCCCAGT
137050	FACL4	GCAACAAAATACATTCTTTT
137051	EMP1	GCCACAACACCAGCCCCACTTCT
137052	DNAJB9	GTTTATTATGCAACTCTGGA
137053	TPMT	GGCCTCCTGAGTGGCTGGGATT
137054	UTX	AAAAGTTAGGTAAGACACTTTTTT
137055	EGLN1	ATAATTCCTTATATCCTGCTTTTG
137056	GABRP	ATAAATGCACGGCTTTACCT
137057	SCN3A	TGCCAGAGAGATAAAATTTTTGCTCAA
137058	NDUFA2	TCTCAGGGTGTTCTTGTCCTCA
137059	PEX10	CAGCCTATTTCCCGCCTCCATTTGA
137060	ELOVL4	TTTTTGTGATGAAAAGGCAGCATTTGAA
137061	EDG8	GTCACCCAGGCTGGAGTGCAATGGGCA
137062	STCH	TTCTACAAATCGGCATTTGGA
137063	AKAP13	CAGGTTCTGGTTGGACAAGTTTA
137064	CLNS1A	CCAGCAGAAGATAGATAATATGACCT
137065	SCD	CCTTTCTCTCCTGGCTCGGGGTAAAA

137066	CRY2	GTGGGAGGGGAGCAGGGCACAGGGGA
137067	CDC2L1	CTTCAGCCTCAAGTTCTGAGGT
137067	CDC2L2	CTTCAGCCTCAAGTTCTGAGGT
137068	CREBL2	TGTGATGACAAGATGGCTGACAGTC
137069	OPHN1	TTTGGGGTCAAATGCTAGAAAAAT
137070	EHD1	TGGGAGGTGGTGGTGGGTGGCGGTGG
137071	ESPN	CGTCCTGGGGAAGGCGCTGAG
137072	ACVR1B	TTTGAGAGGCTGAGGCAGGAAGATAGC
137073	EGLN1	CCTTGACTGGAGCGAGCCTCGCACA
137074	SH3GL3	CATTTTCCCAATGAGCAGTGTCA
137075	H1F0	TTGGAAGGCGCCTTCAACAGCCGGAC
137076	ELAVL4	AATTGATTTGCTTTACAATCA
137077	MEA	ACTCTGTGGAGAATAAAGCACCTA
137078	SLC17A7	TGCCTCAGGCCTAAGAAGCACTCTC
137079	CYP4F3	GAACCCAGGAGTCAGAGGTTTC
137080	PCDHB9	CCATTGTACTCCAGCCTGGGCAATAAG
137081	NGB	CGCAGGAGAGAGTCTTACCTC
137082	CAPN10	CATACTTCGTGGAGCCCAGCGA
137083	PCDHGA11	TTACTTTGCCTTTCATGAGATTACG
137084	COPEB	AGCATGCCGTTCTGCACCTACCCA
137085	SYNGR1	CTGCTGGTGATCCTCAGCCGGA
137086	SLC7A6	TTCTCAGTTGCGCTAATCACA
137087	EVPL	TCAGTTCTTCCTCCACCTCCAC
137088	GNE	CCATCACACCTGGCCCTAGTGAC
137089	SREBF2	CAGGCCTGTGCCCAGCATGC
137090	SLC14A2	ACTGGCACTATCTTGGCTCACT
137091	ARHGAP6	TAGGAGGTGGCTCCAGCAGAGGAA
137092	TNFRSF11A	CTCAACCTTCGGAGTAGCTGGG
137093	EGFR	GAATACCTAAGGATAACACCGCTTT
137094	LPXN	CTTCTCCAATCAAGCACTTGG
137095	CORO2B	GCGTGTGTCTCAGCACCGCTATCTCA
137096	SCA1	GGTGAAAACAGGGCCAGCAGACT
137097	PIGR	GGGAGAGAAGGAAGTGGCTAAAACATT
137098	FANCC	ACCTGTGATCCCAGCACTTTGG
137098	SUV39H2	ACCTGTGATCCCAGCACTTTGG
137099	ATF6	CCCAGACTGAAGAGCAGGTGAGCAAAA
137100	NTF5	TGCTCCCTCTCCCCTCATGCTCC
137101	PXR1	TCTCTCTGCTCATCATGCC
137102	ZIC1	GAGAGTGAAGGAGCGAGGAGGCGAG
137103	ESR1	TCCAGCACCTTTGTAATGCATA
137104	CD5	GGTAGTTTCAGTCCATCACA
137105	RRM2	AAGTTAAATCACTAGAAATTTA
137106	NEF3	TATGAATAATTATGTTTACCTCA
137107	SORBS1	CCTCAGCTGCTGTCACAAATACCC
137108	ADARB1	AAGCTGTTTGCTTTTTCAGGCT
137109	NBS1	TATCCAGTCATTGTAACACTGT
137110	STK24	ACACAGTCTTCACTGTGCTGCAGCCA
137111	ALDH3A2	CGGGCGTGGAGGTCGCGGCGG
137112	LRRC2	GGAAGCAGAGGTTGCAGTAAGCTGA
137113	ARHGEF7	CCGTCGGGGGCCGCTCGCCAGCGTCG

137114	MAPK4	GATGTTCTTCCCCTGTCCATTACCAT
137115	BAK1	CCAGAAAGTGTTTAACGGTTTTAGCT
137116	MSH4	CAGAAACCTCATACTTCTCGGGT
137117	RGS16	TGCCCTCTCTGAGTTCTGTGCTGTCT
137118	VNN1	TTCAGCTCTGCTGAAAATTTCC
137119	EIF4E	CTCCATCTTTATAGAAGGAAT
137120	FGF5	TGCAGATAAAATATTTTGTTAACT
137121	PHTF1	CCTGGACTCTCCCCTGGCTGGTATC
137122	GPR4	TCCCAGCCCAGCCCAGCCTACC
137123	MATN2	CTCTTCTTGTGTTGTGTTT
137124	SLC17A4	AAAGCCCCAAACAACAGAAAG
137125	PLS1	GTCCAAAAACACTTTTCTGTAA
137126	SDC1	CCTGCAGCCCTCGCCTGGGACAGCGGC
137127	GJB3	CTTAGGGCACTGCTAGCAGGGCTTCAACCAG
137128	DVL3	GACTCAATCTTGCCTGCCTTC
137129	CLK2	ACCCATGACAACAGAGAGCATCT
137130	GALNT3	GACCAGCCTGGGCAACATAGCAAAATC
137131	CRY2	AAGTACACACAGATACCTGACTGG
137132	GFRA2	GCTGTGCCTGAGGCTGGCTGGGGGCAG
137133	CROT	TTGGGCTGGGTGCAGTGG
137134	CD68	TGCAGTGAGCCTGTCATCGCTCC
137135	GRIN2A	CTTTCTCAGATCAGGATTT
137136	BACH2	TCTTGATAAAGCTCTGTGTTGG
137137	NOS2A	TCTGAGGTCACAGGGCCTGG
137138	CRY1	CGCCTCCAGGCGGTTGCGGCG
137139	FGF1	GTCCTAGCCCAGTGCTTCTCCA
137140	FLRT2	ATGGGAAAGCAAAGCAGAAAAC
137141	CDH13	TTTGCACTTGTGCTTTCAGTTAGCCT
137142	PART1	GAGTGCTGCTGCCTTCGGTGACTA
137143	ZNF74	TGGGAGGCCAAGGCAAGGGGATC
137144	BPHL	TTGGGAGGCTGAGGTGGGAGAATTGCC
137145	CHST1	TCTCGTGGCCGCCCCTGGACCA
137146	NEURL	TAACACCTCCAGGTTCTCTA
137147	KIF3B	CTCTCACACCACATTTCCTCA
137148	NRXN3	TAGTCCAGCACGCCCAGGG
137149	CNN2	GGGAAGAAGAGACCTGGGCTTG
137150	TNFRSF4	GCCTGCCCCGCCACGCTCCTGGGCC
137151	LARS2	CAATGCCACCATTGTTGATGTGAC
137152	MAP4	TAGTTCTGCAGGTTGAAGCC
137153	SRGAP2	GTGTGTAGAGACGGGGGAT
137154	EIF2B5	TGGCTCCTGGGCTGGGACAAGTGAGG
137155	CBFA2T2	CAGGATTACAGGCATGAGCCAC
137156	TRPC5	AGCAAAGAGTTTCAGGGCACTGGCGA
137157	CTSK	TCCTCAAGGTAGAAATGTCTAT
137158	MAGEA4	TTTGCCTGCACTCTTGCCTGCTGC
137159	LHX1	GACTTCTGACAGCTCTACCTC
137160	ICMT	AATTTTAAAAATACTTCCTCATAGG
137161	NID	CCCCAAAACATGCACCCTGGACTTCTC
137162	CYP1A2	TCAAAATGCTGGCATTACAGGT
137163	MLLT3	TAGTTGCTTGCTAATATTTCC

137164	PLXNB2	ATGGGAGGAGGAGAAAAAGCGGT
137165	IRAK4	TAAATATTCTTCTTTACCTTT
137166	TRPC5	AGACCCATTTGGCAAGAGGTTGT
137167	MS4A12	TACTCAGCTAATGCC
137168	LUZP1	CACCATTGTACTCCAGCCTGGG
137168	PCDHB9	CACCATTGTACTCCAGCCTGGG
137169	PTCH	GGTCTCTCAACCAGGCAT
137170	HOXA6	GGCCAGCGCTGCAACCTCCTTCGGCTT
137171	TRPM2	CGGTGAGCTTCCTGCAGCCTGTGG
137172	DAAM1	CCTGATTTCATCAAGTTA
137173	LTB4R	CCATTCTCTCACATCCCGTGCG
137174	KPNA4	AAGATCTTTGCATGAGGTAAA
137175	PDK1	TCATCCAGGAACATTGGCGCGGGA
137176	XYLB	CCTGTTGCCCCTGCCTGCCCA
137177	LTF	TGTGGAGTCCTGTCCTGCCTCAGGGCTTTT
137178	CYP2B6	CTGGAGTGCTATGGTGCAATTTTTGTT
137179	PVR	AAACTACTAGATGTGAACTTG
137180	ATP11B	GGAATTTTGGTCCCTCAGTGAC
137181	CORT	TTCTTCTGATGTTCATTATGGTGCT
137182	ADAMTS4	CAGAGGGAGAGGCCAGAGAAGCTGC
137183	CRTAP	CCACAGTGCTGGGATTACAGGC
137183	TMPRSS3	CCACAGTGCTGGGATTACAGGC
137184	TYRO3	GCAGCTGGCAGGAGTGGGGT
137185	PRCC	GCTAGCCCTAGAGTACGGAGC
137186	PEX14	CTTGCCCAGGGTGTGTTTG
137187	BCAS2	CTGAACTTTTAATGAACTGTGA
137188	CARS	TCCCAGCCATGGCAGATTCCTCCGGGC
137189	DYT1	TCAGTCCTTCCACACTTCCACCCCC
137190	WHSC1	GATAATACTTCCAAATTTTATG
137191	CROT	GAACAAACAGACAAATTAGCTAG
137192	ASB1	TGTCCCTCTTCTTAGTGGAAA
137193	CACNA2D2	CCCACCCCACCTCCACTCCCACCT
137194	TRIM	AAAAATACTGCTTCACTGTCT
137195	TNFRSF14	CCTGCTGCCCACTCTCCTGCTGC
137196	FAAH	TAGGCAGCAGCAGGCTGAAGGGA
137197	METTL1	TACTCTCTTAAAGAAGGTGGG
137198	KCNJ8	CTGAGGCAAAAACTGCTTAA
137199	DPP6	CCCCGCAGCAGCGCCTCCTCC
137200	ERBB2	TCCTTCCAGATCCTGGGTACTGAAAGC
137201	USF2	CCGTCTGTCTGTCGCCCTTCTC
137202	LETM1	ATTTTAATTTTCATCATTCCA
137203	GRM6	TCAATTTCTTAGGCTGGAGTGCAGT
137204	PRKCSH	CCAGCCCTGTCCCTGCCAC
137205	DAAM1	GTATGTGCTCCAAAACCT
137206	MAPRE3	AGGGAAAGGGAGGGGGGCATGTGAGGG
137207	NIPSNAP1	CCTTCCTGCAACCTTTGCGGCTC
137208	SLC25A17	TTTAATAACATGTAATTCTGCTCA
137209	SOX13	GGAGCTGTTGGCCTGGGTGGGCAGG
137210	OAS3	GCTCAGCCTGTTTCTCTCTGCCCT
137211	ABCD1	CTGGGCCCTGTCCAGGGCAGTGAGTCC

137212	ZNF264	GAGTAGGCCTCTTAATTTATAAT
137213	SEPX1	TGCCTCCAGGAGGTGAGCCCTGGGT
137214	SCA1	ACTAGTAACAGCAGGCCTTTT
137215	GAL	AGCCTCCTGGGCATGTTTGTCT
137216	PPP1R3D	TCACCACCCTCCAAGTCCTCTGACC
137217	PLAGL1	CCTTTGCCTCTGTCTAGCTTAAACCTA
137218	TAPBP	AGGACAGCGTAGGCCTTTTCCTG
137219	PIGA	ATTTTTCTGAATACCTC
137220	FCGR2B	TGCTGTGCTCTGGGCGCCAG
137221	IL12RB1	GATGGAGTTTCACCATGTTGCC
137222	GFER	CCCAAGGAGCTGCAGCTGAACTGCA
137223	ACE	TGGGCCATTCCAGTACTTCCTGCAG
137224	ABR	AGGCCCTTTTTGAGCCTGTTT
137225	DACH	CGTTTACTGTTATTGTATTTA
137226	ITGAL	AACTGTGAGGGTAAAGGCTA
137227	GSTA4	TCCAGTCTCTGCCTAATTTTTAGT
137228	KCNN3	TGAGCCTGGCCTCACACGCTCCTAGAGG
137229	TRPC1	AGGTTCTTGAGCTTATCTCCCA
137230	SOX13	CTGGATTCTCTGGGTCTATGTAGGCCC
137231	GRIK1	GGAGTGTGTGATGTGTTTCCA
137232	GAMT	AGGTCGGGTCGCCGTCCAGCCTGC
137233	TPS1	CTTCTGAGCCCCTTCCCCTGTCCTGAG
137233	TPSB1	CTTCTGAGCCCCTTCCCCTGTCCTGAG
137234	PTPN13	GACTCCTGCTCTCTATCCA
137235	FZD7	TGGGGAAGGCAGGAGGCAGA
137236	DLGAP2	TTCTGCACTTCGCACTTGAGAGA
137237	C2orf3	GCGGGCACTGAAGCTGCGGCTTGCGGTTCA
137238	PDE7A	AGAAGCTGCTCTCCACTTGCTTTA
137239	SCGB2A1	GCAGCCGCCTCGCCATGAAGCTGCTG
137240	MAX	CTGTGGCTGGGGAGGCCCTGGCAGCAG
137241	RAD52	TCAACTTGCTCTCTTTCCCA
137242	RXRA	TCTGCCTGGCCTGTTTGGACTTTGGGG
137243	HIP1	TCTTGGGAAAACAGCGTCTTCC
137244	Rgr	ACAGACAGAAGAGGGGTCC
137245	TBX6	GCCTGTAATCCCAACTACTTGGGAGG
137246	PCTP	CCTTTCTCGCTCCCCCCATCCTGGGCT
137247	RAP2A	TTTTTAAGTTCATTAAAGCAGCAAATT
137248	NR4A2	CTTTATGGACAACTACAGCA
137249	PTGS1	CCCAGAAACAACAGGGGAAACTAGAGTTC
137250	ADD2	CGGGAGGGAGGAGGAGCAGA
137251	CALU	GAGAGATGTGGAAAGAGC
137252	IL16	GGAAAGGAAGAAAGGCAGCTTC
137253	TAL1	GGTAGGAAAGGGCAAGTCTTT
137254	SOX11	AAAAGGTATTGAAACATTTTTG
137255	CD2AP	AAGTGATCCCTGGTCATCCTAA
137256	TPI1	GCATATGCTTCTGATGGTGTCA
137257	TGFBR3	TGATGCCACTTTGCAGCTA
137258	RAI14	ATCCTGTGGATTTAAAAACTCT
137259	SMAC	AGTGGCGAGATCTCAGCTCACT
137260	LDB1	CCCCTCACAGCCCCAGGGAG

137261	SECTM1	GCCCCAGGTGTGGGGTCCGCT
137262	MAK	TGCTGACCACTGACTCAGCTCTG
137263	CYBB	AACTGCTCCCATTTCTGGGAA
137264	NESG1	GCTACCTCTGTGAACTGAGGG
137265	GART	ATTTGCTGTTTGCATGGTGG
137266	CTF1	CGCCCAGGCTGGGGTGCAGT
137267	ADAM30	CTGCCTCTCCCTCTGCCTCCCTCAAC
137268	LAMA3	ATTCTTCAATTAGGACACAAACCAGA
137269	TNFSF14	CACTGCACTTGCCACCTGAGTCACATT
137270	CCND2	CAGAATGGAGTCTTTTCTGTTA
137271	VPS26	TTCAGCAGGTTAAAGATGGTTGCAGCT
137272	MAPRE3	GGAGAGGGAGAGGGGGCTGAGGAGGTA
137273	PIK3CG	ATCAGCCTGGGCAACACAGTGA
137274	INPP5B	CTCTGGGCCTGTTGCTCCATCT
137275	P2RX7	CTGTCACCATGCCGGCCTGCTGC
137276	RAD52	AACGCAACTGTTTCTACTTCCCCA
137277	CIAS1	GCGTGAGCCACTGTGCCCGGCC
137278	FUT1	GCATGAGCCACTGTGCCCAGCC
137278	SLC17A5	GCATGAGCCACTGTGCCCAGCC
137279	KCNQ2	CTGCAGCTTCCCCATTTGCGCC
137280	PCDHB5	CAGGGTGGGCTTCGTTCTTGTGGAAA
137281	CBFA2T2	CCCCGACCCCATCTGCCTCCT
137282	SNAP23	GTCCAGGCTGGAGTGCAATA
137283	LPIN2	CAGATACCAGCCTTCCCCAGCG
137284	CD80	GATCGTTGTTTACAGTGTATG
137285	SOX10	ACTACAACCTCCATGACCTTGAGAC
137286	CCS	CTTTGCCTGCCCAGTCTTTGGA
137287	ODF2	TTTCCCAAGGCTCCCTTCCCA
137288	ABCD2	TGCACTTGTAAAACAGGATTT
137289	MYOZ1	TACCTTTCCATCCTTTACTCCAA
137290	TDGF1	CAAGTAACTGGGATTACAGGCAT
137291	CCNT2	TGCTGTTGCTGCCACTGCT
137292	GHR	TTCTAAAATGCCTTTTCCCA
137293	CTSS	GTTCACTGCAACTTCTGCCTCC
137294	CYP2B6	GTTCACTGCAACCTCTGCCTTC
137295	PRSS16	AACCTGTCCTTGCTTCTCAGTTTC
137296	PTX3	AGGACTCTCTGCTCCAGCCTCTCA
137297	CNTN2	CCTCAAACCTGTGGCCACTGGCATGA
137298	MTBP	TTCACTACTTCTTTTCTTAGTTT
137299	ESR2	AGAAGGCAAGGCCGGTGTGTTTAT
137300	DDX1	GGGGCTGAGTCCCTGCCCGGAC
137301	NDN	TATTCAGGATTTACAGTGCAGTATTCAC
137302	RPS6KA1	CCTGTAGCCATCTGCACACACCTCCG
137303	RP2	TTTCCCTTAGTTAAGCTA
137304	ITPR1	TGCTGGCCAATCAGTGTCAT
137305	LSS	CCCTGGCCTCTCCCCCTGGCTGATC
137306	HPS4	TGCAGCCTGCTGCTCCAGGGAG
137307	SGT	CCACCTTGGCCCTAAAACAGCCA
137308	MMP15	GCTGTAACTGCCAGGCTCTCTTTGCCCAGTTG
137309	TUBG1	ACATGGACTCTCTGTTGGCCTGCA

137310	DPH2L1	GGAAGGCAGAGGCTGGCACCATGGTG
137311	EGFL5	CCCACCCCACCTGCCACCG
137312	HOXA3	CTTGCAAATAATGTGGTCTCAGG
137313	PPT1	GTGATTTAACCAGTGCTTGG
137314	DYRK2	AAAGAGACATTTCAGCTGTGA
137315	SCD	GTCCCTGTAGCTCAGTCATCA
137316	PAX2	ATTCGGCCCAGCTCGTCCCGGC
137317	TFE3	GGGGGATGACTCACAGCCCATCCCA
137318	ATSV	GGCACCCAGGCTGTGATCTGTCCTGG
137319	COIL	TGTAAAACATGACATTCCCT
137320	P4HB	GGCTCCTCCTCCTGTCGTGGGCTCA
137321	MGAT4B	AGGCCTGGAGCGTCCTGCTGC
137322	PRKCM	TTAAACCTGTCTCCACTGTGCC
137323	DLEC1	TGCCCTCATCATCCCAGGGGA
137324	SH3BP2	GGCCTGGGTTCAAGTCCCACCTCT
137325	MALT1	ACTGAGACCTCCAGAAATCTATTCCA
137326	DEFB1	CCAGAAGAAATGACGCAGAAGTGAAA
137327	PRKACB	CTGTTGAGAGATAAGGTAGAGCTGAG
137328	ITGB3	ATACCTGGCCCTGAGCCTTGGTGT
137329	SERPINE1	CCCTCTTTTTCCCCTTGATGGAAA
137330	NFATC3	AGCCTTCAGGTCTGGGGCCAGG
137331	FZD4	TGTGAGCCACCACACCCAGC
137332	ADAMTS1	GCTGCTACGAGCGGTGTCTCCTGGG
137333	AKAP13	GGAGAATACTCACCCTTCAG
137334	KCNA4	AGATGTTAACAGTAAAGATGGAGA
137335	ITSN2	GCTGTCTCTGCCTGCCGGAT
137336	TCL1A	GGGCCTGCAGGACCTGCCTGTA
137337	DCX	GAGAGTGAGGCATTGAGGGCCA
137338	SERPINE1	TGGATGTAATGCACTTTG
137339	STS	CTCTTGGTAATCTTCCATCCACTGCC
137340	INPP5D	GAACGGCGTGAAGCCACTGGACCCTCTC
137341	TCP10	CTCGAGATTTCTTAAATCCAATAT
137342	MTMR4	GTTGTCTTTCCCTTGGCTGAT
137343	KPNA4	TTATCCAAGTAGAGTGCAGGC
137344	MMP8	TTCCCATCACTGTATCCATTCT
137345	RIMS1	TGGATGTAGAAACAGGCTTGGAGACTTA
137346	CDH10	CAGAAGCTGATAAAAAAGCTTT
137347	POR	AGGCCTCTGGCCCTCGGTGGCTGC
137348	RXRA	GTTTCTGCTTCTAGAGATTGAGGTGA
137349	SDC4	TGGTTCTACCCTTTCTGCCT
137350	CLCN6	TCTGGGCATTGGGCATTCAT
137351	MEOX1	CCAGAAACACATCCCTGTCTCCAAAT
137352	CSE1L	GCACCAAGATCTCCAACAGCCA
137353	FMO4	TCCCTCCTCTGCTCTCCATCATA
137354	PBX2	TGCTACTTTAGGGAATTATTGACTGGG
137355	IFIT4	TGAGCCAAGATTGCGCCCCCTGCACTC
137356	IL13RA1	AAATGATTAATTAAATAGCTTT
137357	PCDH7	AGAGGCGGTTAGCACCTATTA
137358	MLLT2	GAGATCAGCAGGCACTGTACTGGG
137359	TAF11	GCTCTATCACCTAGGCTGGAGTGCAGC

137360	ESRRA	CAGGGAGGGAAGGGGATGGAGGC
137361	TEM8	CCCCAACATGGAAAGAAACATCA
137362	C1QBP	TGAACAAATCCTACTCTGA
137363	TBX5	GGCTCTAGAAAGTCTTGCCT
137364	RNF4	CTTTAGACGGGGCTGAAGGAG
137365	SGCB	TCTGCCTTTTAGCTTCTAAAAGGA
137366	PKHD1	TGGAACAGTGTGCCATTCTTGT
137367	FRAT2	GGTGGAGGAGCTTAGTAAGTGGTGCTA
137368	CDH1	ATCGGCCAGGCTGGAGTGCAG
137369	MATK	GACACCAGGCTGCAGGGGGCTGG
137370	IL1RL1	CAGGAATATTAAAGGGATTCAGGCCTC
137371	SUOX	GCCCCCAGAATCTGGGCTTCTT
137372	ABCA1	TCAGTACACTTCCTGTGCCAT
137373	RAC2	GCAGAGCTTCGTTGATGGTCT
137374	RAD1	CAACACCTGGGCTCAAGTGGCT
137375	BCS1L	ATTTGGGGAGAATGAGGGAG
137376	PDE4C	CACTTGAATTCAGGAGGTGGA
137377	HK2	TTAACCTCATCTACAAGCAT
137378	FCAR	CAGGCTGGAGTGCAGTGGAGCA
137379	CSPG3	TGGGTCTGTGGTATCTGACACTGTGGACATTA
137380	FUT9	GAGATGCAACATACTACTTTT
137381	TRIM9	ATTGTCATTTCTGATGTGCCA
137382	SUDD	TCTTGTTCCGGGACTGCAGGA
137383	SFRS7	TTGCCAGGCTGGTGCAAAGTAATTAA
137384	MEOX1	TTGAAAACCTGTCCAGATGCT
137385	AQP6	GTGGTAGGAACCCAGGAGGGACCCAG
137386	FMOD	ACCAGCTCTGGCTGGGGTCCGTGAAG
137387	GAB2	GGAGGAAGAAGGAAGGAGAGG
137388	FPRL1	TAATGCCAGTTCCAGCTTCAT
137389	NET1	GTGAAAGGAGATAGGAGAAGC
137390	MHC2TA	TTGCAACAGGCTGGGCTTC
137391	MCL1	GGAACCTGTTTCTTACAGCTTT
137392	YWHAB	CCCAGGAGTTTAAAGCTGCAGTGCCCT
137393	MANBA	AATCTAGGTTGTATTTTCAGT
137394	IL2RB	TTGAGCCTTGGAAAGGTAGACAAGC
137395	FACL4	TAGAATTTTAAGCCTTTGTTGAACTGT
137396	GFAP	TGCCACCTGCTGCTGCTGCTG
137397	B4GALT1	TCATGGGCTCACCTGGGCCCA
137398	EHF	TATGCATTTATCTTCACTCTGATGAGGG
137399	OGN	AGTGCACACTACCTTCCCACCCA
137400	TSN	TCCATCTCTATATAAAAACA
137401	M11S1	TCGGTCACATGTTTTTCCTTCAGCTT
137402	MAP2K1	TGACATTTGACATTTGGTGG
137403	MCL1	AAGTGGTTTGGGAAAGGAGG
137404	LCP2	AGCTTCTTCCCGGGAGAGCAGCC
137405	NOS2A	GTGGGTGAAAGATGGAACTTGCTGC
137406	NPHP1	CATTGCACTCCAGCCTAGGCAA
137406	RAD1	CATTGCACTCCAGCCTAGGCAA
137407	MGAT2	CTTGTCGCTCAGCCTGGAGTGCAGTG
137408	GBA	TGAGGGGATGGAGTTTTCAA

137409	MALT1	TTTCATTGTGACCACTCTGAA
137410	ADRA1A	ATGGGAAACAGAATTTCATGC
137411	IKBKG	GAGCTGGCCGCGGCACCTTA
137412	GCNT3	TTCGTGGCATCCTTTAGGATAA
137413	PAX2	CTGCTCCCGCTCCTCTGCCTCCCCAT
137414	ITGA3	CTGAACTCGCAGGGAGTGCAGC
137415	MCM6	AGCCAGAAATCTATTAGTAGAA
137416	MFAP2	AGGCTACATCCCCCCACCCCAGCTGGT
137417	VASP	CATCGTTCCCACTCCCCATCCCACT
137418	MLF2	AGGCTGAGAGGCTGAGAAATCATC
137419	ZNF80	TCTAAGATACAGTATTTAGTAA
137420	NOS1	AGCAATAGCATCCAAGGGGCC
137421	HHLA1	AACATCGCCCATTCTCTCTCCA
137422	CTSH	CCTCACCTCTGTGCCCAGCCTGGAAA
137423	CNTN3	AATTCCATTAAGGGACCCTCT
137424	NOS1	CCTCGGCCCTCCTGGGTTTACTCCTTG
137425	PCOLN3	CACCCTGCAGTCTTCATCCTCACTCAGC
137426	ECT2	ATCAGCTGATATTAGTAGCTTTG
137427	REV3L	GCTGCTGCTGCCGCTGCCGGGTC
137428	IGF1	TTTAAGCGATTCTCCTGCCTCA
137429	SAS	TTCAAGCGATCCTCCTGCCTCA
137430	LTB4R	TAGACCTGCATCTTGAGGCCACA
137431	BCL9	CCGCTGGTGACCCTCTGCTTCCCTC
137432	CDR2	CAGTATTGATCTGACTGTGGAAA
137433	DKK1	GCAATGAAACTTTTAATTATTTTTCT
137434	NR1I2	CAAGGGCACAAACTGCAGCTGTGA
137435	ROR2	CTCTGAGGGCTTCCCGGCCCC
137436	SOX18	CAGGACCTGTTGGCAGAGTTGCCAGGGTTACA
137437	PYGB	CCCAGTCATCCTGCCCAGCCCTGCCT
137438	PRDM4	ACTCACCTGAGGAAGGGAAGGAAGGGAATA
137439	RAD50	TCCTCAGAAAGTGTATAATAAGAA
137440	PTBP1	CATGCCTTGGTGGGGCCTGTGT
137441	UCHL1	GCTGTTCTTCTGTTCTGCAGACAC
137442	HMG20A	TCCTGTCTTCCTTCCTCCTCA
137443	ATP11B	AGGCGTAGGCTCACCCTGGG
137444	CPNE3	TTCAGGATATTGTAGATGCACAG
137445	TFDP1	GTTTCATAAGCATCTTCCTGT
137446	TRPM6	CAGGCTGGAGTGCAATGATGCG
137447	ACPT	CCGCCCACCTGCCCCTGCCTCTCA
137448	IL1A	AGAAGACCAGGCTTCTCTCTGGTCCTTGGT
137449	LETM1	GGGGGCTGCAGTGGATTCACTGTGTC
137450	F2RL3	GCCACTTCCCTTCCGCACTTACCACT
137451	DBH	ACAGCCCTGCACGCCCAG
137452	NT5E	CTCAGGGTCAGCAACCTAGTGAG
137453	SFRP2	CACTCCTAGCTGCTCCA
137454	HDAC5	GCCTTGCCCCTCCTGCTCC
137455	NT5C2	CCAGGATTGTGCCATTGCACTC
137456	HGD	CTTCAGAATCTCATGCTTTCTG
137457	PRDM2	CTTCAGTACCACCCCTCTCTCCCCACCT
137458	DSP	TTACAGAAAATATAGCCATGA

137459	KCNK4	TAGAAGGCTGGCCCCTGCTGCAA
137460	EGFR	CCTGTCTTGCTGTCATGAAATCAGCA
137461	NXF5	TCCCTCGGGCAGGCCCAGAGAGCCAGA
137462	GPRK5	GCTCCGTTGCTGACCGCC
137463	NR5A2	ACCTTTTTAAGTCATAGACCAAA
137464	HTR1E	TACCTCTGGTCTTATCTGTGATAC
137465	HYOU1	AGCTCACTGGTTCCTTCTGCAG
137466	TMOD2	TGACTGCAGCCTTTGGCTCAAGCTC
137467	RAD50	TTTGCTGCTCTTCATCCCATTCCA
137468	PLXNA1	GTACCTGCCACACCACAGCTGC
137469	AP1G1	AAGCAGCTGGTCTGGAAGAA
137470	WHSC1	TGTAATATGACTCCTGTGTTCTGGACT
137471	ARCN1	CTGGCCGTCCCTGCAAAGAGTGT
137472	TLR2	TGTGGGTTGAAGCACTGGAC
137473	MNT	TCCCCCACTCTCTCACCCACCAG
137474	DHFR	GGCAAAGCCCCATCTCTACAAAAAAC
137475	PCSK5	AGCCTCCTCCTGCGTCCGAGCCG
137476	CETN1	CCAGCATAATGAGATGGAATCTGCCA
137477	PODXL	TGGGGAAGGGAAAGACTGGGG
137478	AIRE	CCACCTCTTGTCAGTGCTCGGCT
137479	PTPRF	AAGTGGGGGCGGGGAAGGGTGCATAGC
137480	PTMA	CCAGAGTCCCTGAACTCTCGCT
137481	HSD17B1	TGCAGCATTCCTTTCTCCAGGGTA
137482	CDK10	CTGGAAGGGCAGGTCTGGCGGCT
137483	OPTN	ACGACACCACTGCACTCCAGCCT
137484	CMAR	GCGATCTCGGCTCACTGCAACC
137484	TAT	GCGATCTCGGCTCACTGCAACC
137485	MEFV	ACGATCTCAGCTCACTGCAACC
137485	PDE6B	ACGATCTCAGCTCACTGCAACC
137485	SLA2	ACGATCTCAGCTCACTGCAACC
137485	SLC15A1	ACGATCTCAGCTCACTGCAACC
137486	WNT3A	GCCCAGCCCCTCCTCCCTGCC
137487	SEZ6L	GGCCTAGATCTCCTCTCCTCCTCC
137488	MMP19	GTCTGCCTTTAATTTTCTCTTT
137489	SLC9A1	GGCTCCCTACCCCTTCCTTTAGCCC
137490	GAS7	GGGATGGGAGGGGAAGGGACGGA
137491	IRTA2	TTAAGCCCCACGGCCCTGAAATA
137492	VIPR2	TCCCATAGCTGGGACTACAGGCGCCC
137493	POLH	CGCCACCGCACTCCAGCCTGGG
137494	SNX9	AAGAAAGAGTTGCAAAAAACTGCATTT
137495	OGT	GTGATTCCATGGATTGATTC
137496	MEN1	AGCCCCTAGGAGTATATTTCCGCACTTC
137497	TGM2	AGGAGTGATTGAACCTGCTC
137498	DISC1	TGGACTTCATTTTCAATGATGAAC
137499	CD209	TACAGGCAGGCGCCACCAGGCC
137500	LSS	GTGAGCTCGCCTGAGTATGGGGTGGT
137501	ASB1	GTCCTCTGGGTGGTTATGAG
137502	BTG1	GGTAAAAGTCTTTTCCACAAACCAC
137503	CLECSF12	CGAACTCCTGACCTCAAGTGAT
137503	G6PC	CGAACTCCTGACCTCAAGTGAT

137503	GRAF	CGAACTCCTGACCTCAAGTGAT
137503	IFNAR2	CGAACTCCTGACCTCAAGTGAT
137503	IL12RB1	CGAACTCCTGACCTCAAGTGAT
137503	SNX15	CGAACTCCTGACCTCAAGTGAT
137503	XRCC2	CGAACTCCTGACCTCAAGTGAT
137504	PYCS	TGCTGTGTCCCCCGTGATGCAGCT
137505	IL22RA2	AAAAGGAACACTGGTTGCCTGA
137506	OXCT	CCGCAGCCTCCTCCTGCCTCA
137507	CDH15	CGCTGTCACTCAGCCTGGACGCGCTTC
137508	PPARGC1	GCAAGCTTTCTCTCATAACGTAAT
137509	NOTCH1	GCCTGCACAGTGTCCCCCAGG
137510	EDARADD	CAGTGGTGCTTCAACTGGTATCT
137511	KCNH2	AGAGGAAGAAATGCTAGCCTGGAAGC
137512	LBP	AGAAAGATGAAGCTTGGAGGTC
137513	FMO3	CTCTAGGATTTCTGAAAGTTACTGA
137514	SRD5A1	AGTTTTTGCTTTCTGTTTTGCTG
137515	EMP3	GCCCAGACAGTGAGGGCAGGAGGG
137516	SERPINE1	AGGTCTCCAAACCAGACGGTGA
137517	ARVCF	AAGGAAGCTTTGGAAGCAGCAAG
137518	ALDH3B1	GATTGCGTCACTGAACTCCGG
137519	MTM1	ATACTATATATACAATATATAT
137520	ITGB3	TTCAGATTTGCCTTATTGGCAGCTC
137521	CMAR	CCTATCTCCAGCGGCC
137521	SPG7	CCTATCTCCAGCGGCC
137522	PODXL	TGGAGGTGGGCAGGATGGAGAACAGTGC
137523	AKAP13	CTCCGAATGCCTTTTATTTGGGGG
137524	SCAP1	GTAAATGTGTCCACACAAC
137525	GLS	CTTTCCTCTTCTGTCATCTCA
137526	ATF2	GCCGTTCAGCCTTTTCCTCCA
137527	AMFR	GTGGGCCTTGCAAGATGGGAGAG
137528	F3	TTCAAGCAATTGTCTGCCTCA
137529	FUT6	CCCAGCCTGCTGAGACTCCTCCTGCA
137530	PAX5	GGACTTGGGATCAGCAGGCCAGGCAGGTC
137531	CAPON	CTTACCTCTCAACCTGTCCCCTCCACT
137532	POLA	AAAGAGAGCTTCTCAGAGCCT
137533	HEPH	GGACTCAGGCTGGGGTCTGCAGT
137534	EIF2B1	TAGTTGAGGCAGGGTGAGTAGCT
137535	CACNG6	TCTCTAAACCTCAGGGTGG
137536	CCNF	GGGTAGCTGGGATTACAAGCAC
137537	ESRRG	ATACAAATTGACTGAGTGCAGT
137538	AF1Q	ATGGAGTACTGGGTCACAGGGATTCCTC
137539	SLC2A5	GCTGGGCTGTCTCTCTCCATGTT
137540	CSPG2	TTGCCTCCAGTGCAGTC
137541	SFRP1	ATTTCAGAACCAAAAGGGAGG
137542	OXR1	ATTACAGTTATAATTTTGGA
137543	ATP1B2	TCTCTCTCCTGTGGATGCTCCTGGAA
137544	AICDA	CAGGAGGTGGAGGTTGCAGTAAGCTGA
137545	ST5	CCTGCCTGAGGTCCCCGCTGC
137546	STAU2	GCAAAGTGTCCCCGGCAAGAA
137547	CTSL	CGGTGATGAGGAAGGACTTGACTGGGG

137548	ABR	CCAGTCACTGTGCCAGCAGGGTGGCTG
137549	HS2ST1	TCCTGTAATTTCATGCAGCTTTG
137550	PRKG2	AAAACAATGGTGAATTTTGGA
137551	SCML2	CTCCTGCCTCAGCGATTACAGG
137552	PKLR	GTCTGTGTCCAATTATGCAC
137553	ZNF214	TGAGCCAGAAGCGGACAGGGCAAGAC
137554	INSL5	TTTAATTACAGTGTTTTACTGCCTGG
137555	RNH	CTGGTCCCTGCCCCCTGCCC
137556	PTGS1	GGCTATAGCACACAGTTATTT
137557	ADAMTS8	AGGGGAGGGGAAACGGGAATAGT
137558	CARKL	ATAAATACAAAGCCCATTCTTCCA
137559	TGFBR3	GGGTTAATAGCCAGATAGTAGAA
137560	GDI2	CCAAGCTGCAATGCAGTATTG
137561	IFI27	TCTCCAGAGGAAAATAAGAAATAAA
137562	NUMA1	CCACCAGGAGTCTGGAGTGCAATGG
137563	TRAF5	TCAGAATTCTGAGTACTCTGTGAAGAACA
137564	ATRX	TTAGAAGCAGAAGTAAAATGA
137565	DLG5	CTTCCACAGCCTCTCGTTTCTCCTCCA
137566	NCOA3	TAGCCTTGGTATCATTTTCTAGCAATA
137567	ITGA9	CACCACTTCGCTTTAAAGACT
137568	FUT5	CATGAGCCACCTCGCCCAGCC
137569	DSC1	GCTCCTCCTACTGTTTATCACTTGC
137570	PTPRK	GTTCTTTTTAGAAAATAACA
137571	PER2	GCTCACTGATTGTTAACTGTAGCTT
137572	EIF4EL3	TGAACAACAAGTTCGACGCTTT
137573	NRGN	GTGTGCATGTGACTGTGCTGGGT
137574	FZD1	TCCCTTCTCCCACCTTA
137575	DDX9	GTTATCTCCCTCCTGGCCT
137576	GABRE	CAAGGCGACCAACACTAGGCAA
137577	RNF3	GGTTTCCTATGTTTTCTTTCC
137578	CCR2	GGAGGTGAAGAAGAGAATGTGACAG
137579	SORCS1	ATAGGCCAAGGAAATCTGCATGTATTTTTGG
137580	IL17BR	CCTCCTGCTGTCTCTGCTGGTGGCC
137581	TAPBP	CTGTCGAATTCACCATCCCAGCCTGC
137582	CLECSF12	GCACCACCACACCCGGCTAA
137583	REGL	TTGCCCAAGGCCCAGATCAGCTGCC
137584	GTF2H1	TCCTAAGTTTATGGCACAGGGTA
137585	SMURF1	CCCCTGCCCCTCTGCCCAGATGCTTCA
137586	GFAP	CTCCGCCTCTGCTGGCACATTTCC
137587	CPE	CTCCGCCGGCCCCCTGCCTCGC
137588	NCOA6	AGGCTGGAGTGCAGTCGTGCCA
137589	ZNF137	CACCTGTGGTCCCAGCTGCCTCAG
137590	MKI67	CGCCTCCCAGGGCCTGTGC
137591	MPP5	CTTCCCTTCCCTCATCAGCAT
137592	GNB3	GAGTCTGAGGCCCCAGGCCCTAGGA
137593	EPHB6	GCCGGCATGGTCAGTTCCTGGCG
137594	HPGD	ACTTTTAACAGTTACAGC
137595	TADA2L	TGTCTACTTTCTTCTCCATCCTGCT
137596	BACE2	TCAATGATGAGTCCTCTCTGGTCAGA
137597	ANKH	TGCCTGTAATCCCAACACTTTG

137597	BRCA2	TGCCTGTAATCCCAACACTTTG
137597	CTSS	TGCCTGTAATCCCAACACTTTG
137598	BCL7A	CTGGTGGTTCTTACATCCCCC
137599	OGN	GATCCCAAAAGCATTTAAGG
137600	FKBP1A	CACTGCCTTTGCTCCTCCCATGT
137601	PTGS1	CAGGACCTCTGTAGGCAGCAGAG
137602	GALNT7	GTATTTTTATTAGTATTTTTCC
137603	SMG1	TCAAATTTTCCCTCTTCTGTGAT
137604	HAP1	GGCTCTACCTGCTGTGCTTAT
137605	CCR3	TTTAGTCAGATGCAGAAAATTGCCTA
137606	CELSR3	CAGACACCTCCTCACCCA
137607	NRG1	ACCAGCTTCAGATGCTCGAGGTGAG
137608	WBSCR5	AGAAAACCACAGAGACAGGTG
137609	KCNAB3	CGCAGCCGCCTCTCCCGCTCCGG
137610	SPAP1	AAAACAATCAGATGAGAACAACAGAT
137611	SLC7A9	CCTCCTTGCAGTCTCCTGGAACCAGCA
137612	FGR	ATGTGCATGCGCGTGTGTGCACAGGG
137613	RAD23B	GCATTCACTCTCCCTGTCT
137614	MN1	GCATTTTCACGCTGTGCTAAGCA
137615	STE	CTCAAGCTTCCCAAGTAGCTGCA
137616	FXR1	CAGATGTGCCTTGAGAATAGTA
137617	PNOC	CCTGCTCACCCGCCTCTTGCCCCTTC
137618	DDX9	TGTTATCTCCCTCCTGGCCTTT
137619	MADH7	GCTTTGAGAGAGAAAGGACTCC
137620	HM13	CACCACTGCATTCCAGCCTGGCGAC
137621	OPCML	ACCCAGCATACAAACAAGAGCTGAGC
137622	ABCC3	CCCAGACAGACTTCATCATTGTGCTAGCT
137623	CTNNB1	AGACGGAGGAAGGTCTGAGGAGCA
137624	EGF	GATCTGGACAGAACATTTATATCA
137625	ADORA1	AGCCTCCTCTCCCTCTGTGA
137626	LAMC2	TGAGGAAGACAAGCATTTTTA
137627	TCL1B	CGGAGCCTCAGTGAGCCCATCT
137628	ZNF16	ACGGACTGCACGTTTGTTACA
137629	TNFSF11	ACAATGGTTTTTAAATTTTGTAA
137630	ECT2	TAGCCTTTTTATAGTCAGT
137631	CHST6	CAAAGTGATGGCTTGGAACAC
137632	MTMR3	AACAGGGTGTAGTTCTTTTCCA
137633	CLECSF5	TTAAGATCAGGAAATGTAGACA
137634	PUNC	GCTGTAGCTGGGCCCTGACACTGTC
137635	NEBL	TGTTTTTACTAATAATTCTTG
137636	HYAL4	TGCAGCCACTGCCTCCTGGGTT
137637	GPR44	CTGACCTATCACTTCCACTGCAC
137638	CORO2B	TCTCAGCCACTTTCAGCCTTATGC
137639	PPARGC1	CTAGTCCCCTAAAGGTATT
137640	SLC7A6	CAACCAGCAAAATCCTGATAACAAGA
137641	CDK8	GCACAGTTTGTGTTGTGGATTTGCT
137642	IL10	CCACAAGACAGACTTGCA
137643	PDE4B	CTGCCCTTTCCCTGCCTGAGTTGCT
137644	HTR7	CGAGGTCACCTGGACCACTCTTGGG
137645	SDPR	CGTATATCCTGGAATAACATGTC

137646	WDR4	TTAGCAGCAACCGAATATACCA
137647	BCL2L2	CTTGCTGCTGCCTCCTGGGCTC
137648	MAFK	CGTCCTCTGTGGGGGCTGCCGG
137649	TNFSF12	TTATTGTGACAAAATGTTGATA
137650	SUFU	TCCTCTACACATCCCCAGGGCTATCTGG
137651	FGF12	TTTGGGCATCTGGAATTGACACACCAT
137652	POLH	CTTGGAGGCGGAGGTTGCATTG
137653	RARA	CCCTTTCTCCCTCTGCCTGACC
137654	BMP2	CACTCCTCGGCCTTGCCCGA
137655	PTGS1	GAGTTCGGTCTGACAGTCCTTGGG
137656	SLC25A17	GAAGTTTTGTGTCCATTCTTAC
137657	LHX4	CCTTTGGGAACTTTGCTCCAACTGGTGTGT
137658	SF3B1	TGGTCATAGAGGAAGAGCTAGA
137659	CCR2	TATGGCACCCATGCACCTTA
137660	NPHS2	AATGTGACTGTAAAGGGGCC
137661	IGHMBP2	GCATCTTCAGCACTTACCGAT
137662	CBFA2T2	AAAGTGCTGGGATTACAGGCAA
137663	CD209	GCCTGAGCCACCGCGCCCAGTC
137664	WHSC1	GGTAATCCTTGATGGCTGGATC
137665	PRX	TGGAATGCAGCTGTCAGGCCT
137666	SLC21A9	TGTTTAATAAATATCTGAGCAT
137667	HRH2	TTCTCTCTTCTTCATTCATATTCA
137668	GNB3	GCGGGCGTCGCAGCTGAGGGAGTAAGG
137669	ELOVL4	AGCATTTGAATACTCCTGTTAGTAG
137670	BCL10	TGCTTCTTACACAGCGCCATAGT
137671	LDOC1	TACTACCTGGAAAAAGCATTGG
137672	DIAPH2	CCTCTGCCTCTGTTTAATAAG
137673	DSPP	TGAAAATATTTTGTTAAA
137674	SLA2	GGTGTCGAACTCCTGACCTCAG
137675	MYBL2	AGTCATTCAGGTGACCTCCTG
137676	BACH2	CTTGCCCAGGCAAGGAAAGACAGCAGT
137677	FGF23	TGCCTCTCCTCTTTATCACTTTTAA
137678	IL15RA	ATTCCCATGGGCACCACCTGCCT
137679	D12S2489E	TGGCTGTAAGTTGCCATTTGAACTAA
137680	COL4A6	CATCCAGATGTGTGCAATG
137681	PTGS1	CTGCTCCCATCATTCCTTCTGGCCTC
137682	VCL	ACTCCCCGTCCCATATCCTGCCTCA
137683	XT3	TGTTTGCAGGCTGTATGCTTGGT
137684	LPP	TAAGGCATCAGGTTGTTAGA
137685	SMARCD1	AAAGCGCCTAGGGCTGGAGAATAGCGC
137686	STAT1	GGGAAAGGAGAAGTTAAGCA
137687	RFXAP	GACCTTTGAGTTAGCTGATTTCTTTAT
137688	PDE7A	TGCAGTGAGCCAATATCGTGCC
137689	VHL	TGCAGTGAGCTGATATCGCACC
137690	DRD2	GCAGGCGGTGGGGAGAGA
137691	MYO15A	GCAGTGGAGCAGAAGGCAGGAC
137692	MLLT2	AACTTCTAATGGCCATCTGTAAAC
137693	KCNA3	CTGTGAAGTTCTGTGCATATGTCC
137694	TOP3A	GCTTCCCCAGGATGCGCCGGCAGC
137695	IGF1	AATTCAGAGCAGATTAGAGCCTG

137696	ATSV	TGTTTGTTCCCACATGTGTCTCCCAA
137697	ATF5	CAACATAGTAAGACCCTGTCTC
137698	SORCS3	GCAAAGGATGCATCTTCCCACAGC
137699	IL12RB1	GCTGGTCTCGAACTCCTGGGC
137699	ZFX	GCTGGTCTCGAACTCCTGGGC
137700	CLN6	CCTTGACAGAGTGGCCCAGGG
137701	PTGS1	ACAGGGCAGAGCAGGAAGGACA
137702	STK24	GGCATTTGGGGTTTTGTTTTTC
137703	EXTL1	GAGGGCGGCGGCGGGACAGGGTGAGC
137704	HDAC2	AAGCAAAATTTCTTTTCTCCA
137705	GJB3	AGTGAGTGACTTGACCTCTCTA
137706	CORO2A	GTCATCAAGATGTCATGGCACC
137707	C1orf6	CTGCTACTGCTATTCCATGGATCC
137708	SCG3	CTGCTCTTTTTAGCTGGCTTTTTATTAGGCT
137709	DMXL1	CATCTCAAACTCTTCTCTTA
137710	DYRK1A	TTTGCCTCACAATTATGCTGT
137711	CDC25A	CAGAGGAAGAGGGAGCGGGAGCTCTGC
137712	KAI1	CTACTGCACTCCAGCCTGGGGG
137713	TMPRSS2	GGAGAGGGGTGGAGGCTGC
137714	PTPRO	GTCATTTTTCTAAACAGAGGCCC
137715	RFX2	AGGGCATCTACAGCCCCGGCCGGCGCC
137716	HDLBP	CTTCCTGTGTCATGACCTCAGGAAATAAA
137717	ATP2A3	CTCTCTCTTCGTGCCTGGTCTG
137718	MID1	AGGGGAGGAAACAGGCTTT
137719	GART	AAATAGCTGGGACTACAGGCACAGGCC
137720	NR4A1	CATGCGCACTCTCATATGCCACC
137721	CENPC1	TTCCACCTCAGACAGTTGCGCTGGC
137722	ATM	TCTGTCCGCCCAGGCTGGGTGC
137723	TRPS1	TTGGTTAGAGTGCAGCAAGCA
137724	UTY	TGTTTTTAAAGTAAATGTCTTTTAGTG
137725	SLC20A2	TCTTCCAGCTGCAAACAGCTAAA
137726	EIF2C1	CCAGCTGCCACCCCCCACCTTACCCTT
137727	LRRC2	GGTTGTGGCTGATGGTGTTGAAGATAA
137728	TAF11	ATCACCTAGGCTGGAGTGCAGCGGCAT
137729	SIGLEC7	GAAAATGCAGAGGCTCGGGCTT
137730	SLC6A12	AACTCAGAAAACTAAGGCTTTGGCCCT
137731	TBL2	GGTGGAGGAGATGCAGGGCCACCTGAAG
137732	AKAP13	CACTCACCCCCCACACCTTCCCCGGCC
137733	HUS1	GTCTCATTCTGTCACCCA
137734	BMP1	TGTCCCCAAGTATGAGGTGAACGGGGT
137735	STE	TAGGCTGGAGGACAGTGGCACA
137736	CLASP2	GGAGCAGTTGGCTTCTGGTTT
137737	FTSJ2	AGGGTGAGACAGTCCACCCAGA
137738	CARKL	GCGGGGCTGTGTGCCGGCCT
137739	ZNF253	CACCGAGGCTGGAGTGCAATGA
137740	ST7	GTCCTTGTTGTTTCTTGCCTGAAC
137741	FGF23	TCCTCACACCAGCTACTTGCAA
137742	TXNRD1	TGTGGAATTTTTGCAGAAGTGTT
137743	GNA15	TGGGAGGTGGGAGTGGCTGCAGGGA
137744	CASP8	GGTCTTGATCTCCTGACCTCGTGATCC

137745	MTERF	CTGACCCACAGAACCATAAGAT
137746	YWHAB	GGCACCAGAACCCTGTCTTCCTCCA
137747	KAL1	CTGTATACAGAGGTTCATCTCA
137748	AKAP13	GCTGTCTGGCCCTTGCTGG
137749	APM1	CCCTCTGTTGCCAGGCTAGAGTGCAGT
137750	FCMD	CTCTCCTCTGCTGCAGCT
137751	PTGER1	GCCACTTCTAGCACAACCAGA
137752	ADH7	GGTGAACTGGAGTTTCTCTTGTGA
137753	HUNK	CACCTCTGTGGCCACCTCA
137754	CARKL	GCCCGTCCTGGTATCACAGTGCTTCTG
137754	TRPV1	GCCCGTCCTGGTATCACAGTGCTTCTG
137755	ADAM10	CGGCCCCTGAAGTGGAGCGAG
137756	PLS1	TTTTCATAAGTGGTATGTTTAATT
137757	TLR5	GTTGCCCAGCTTTCCTGGCAAT
137758	JAK3	GAGTAGCTGGGATTACAGGTGT
137758	PIK3CD	GAGTAGCTGGGATTACAGGTGT
137758	PRND	GAGTAGCTGGGATTACAGGTGT
137758	ZNF264	GAGTAGCTGGGATTACAGGTGT
137759	CREBL2	GGAGGATAACTTTCACAGGGTAA
137760	MASP2	ACTCCCATTCACCCACCA
137761	SRC	CGCCTCTCCCTGCACTCCCTCCTGGAGCTCT
137762	GNL1	ATGTCCAAGGAGCAACTAATGAG
137763	RXRB	TCCAGGACCTTGCTTCCTTCTCA
137764	CLASP2	CAGGCAGCAGCAAAGCCAGTTCCCTTC
137765	ZNF175	ACTCCTTTATTATACATACACATG
137766	DISC1	AGTACTCAGGCAGTGCAGT
137767	MASP1	AAGCTAGCAGAAACTCCATTTT
137768	TNFAIP1	ACTGTTCTGCCAGCCTAACAAAGCAA
137769	LETM1	AAGCAGCTGCACTCAGACAATGCC
137770	ZNF215	CATTGCCCTGAGCTGCTAGGAT
137771	NPTX1	ACATGGGGCACTGGGACTTCA
137772	VCX	CCAGCCGCCAGACCTCAG
137773	PTPRF	GGTCCCCAGCATTGCAGTAT
137774	SORCS1	ATTTATCAGCTATTTTAGCATTAA
137775	PFKFB4	GCGGCCTCTCCCCTGTTGCTGCC
137776	IGF2	CTTCCCTTCGCTCCCT
137777	PPP2CA	CTCTTGTCATCAACAGCCGTGA
137778	DFFB	CCACTGCGCCCAGCCTGAATCATTTC
137779	TACR1	GGGCAGTGCATCCAGAAGCGTTTA
137780	PRND	GTCTCGAACTCCTGACATCAGG
137781	IL18R1	GATTTTGCTTTTCTCTTTTATTAT
137782	TBX6	AACTCCAGGGCCCCAAAGAG
137783	GPR85	AATCTATTGACTGAATTATCTTTTGCAGA
137784	DDB1	CAAGGGCAGGGGGCCCCTTTGC
137785	PHB	ACCAGCGGAAACAGGTGTGTGT
137786	WTAP	ACAGAAGTCTTAAGTCTGTGGCACAC
137787	BAIAP3	CGTGGCCACCTGAGACCTGCTC
137788	ALX4	TGCCCCGTCCCCACCTCG
137789	MGAT2	TGTCGCTCAGCCTGGAGTGCAGT
137790	DMGDH	GAGTTGCTAATGACTGTC

137791	DLEC1	GCATCAGGAAGGCCTTTGCTT
137792	RFXAP	CAGTGGTTCTCATCAAGGGTCAAT
137793	IL16	AAAGAGAGCTTAATGATAATAT
137794	STAM	TAAATGCCACTGACAATGTTAT
137795	PRND	AGGCTCCACCTTAACTGTGCTCAG
137796	RFX2	GAACTCCAGACCTGA
137797	GPC1	GCAGTGAGGGGCCCTCCATGCGCAGA
137798	CENPF	CTTTCTCTTACAATCTGTTTTA
137799	RXRB	CTTTACAGCTCTCCTCCAGCCCTGG
137800	AGTPBP1	AAGACTGTTCTTCAGAATCATGTT
137801	FMR2	CTCCAACAACAGAAGTGGCATCT
137802	BARX2	TGAGGGAAGAGGGAGACTGG
137803	LRRC2	TGGCCAGCATGGCGAAACCCCA
137804	PCDH11Y	CACGAGGTCAGGATATTGAGAC
137805	MGAT4B	GTGCTGCCCCATCCACCTACAGCCCT
137806	CD2	TTGTCCCCTTCCTCTAATTA
137807	LAG3	CCCACCCCCCACCACTGCCCCCT
137808	ATP11A	ACATGGACACACCCCAAACACGCACA
137809	TRPS1	CCTGCCTGTACATACACATGCA
137810	DUT	GTTACTTTAGGTTTGTTCCCTTGA
137811	ADAM8	GTGGAAATTTGGAGAAGTTGCGGC
137812	IDE	AAGAAAATCATCTTGGCCACTTT
137813	P53AIP1	GGCCTCGGAGCACCAGTCACTT
137814	ARHGEF12	CTGTGGGTTGCTA
137815	LAD1	ATTCCTCTCTGGAGGCCTTGCTTTC
137816	FUT3	GGCACGGTTTCCAGATGTAATACT
137817	NPAT	TTTGGGAAAAACGTTTGCAGA
137818	CAPS	CTGGGCCCCTTCTCTCCTGGG
137819	SPON2	CCCCTTCTCCTCCTTTCTCCC
137820	CASP6	TGAAATCCAGGAATTAAATCA
137821	ALEX1	CGCGCTTCTCTGGGCCAGAGCGAGCC
137822	PLXNA1	TCTGCTGCACTCTGCTTGGG
137823	SYNGR1	CATGATCTTCCCCATCAGGCTGGG
137824	ARHGAP6	TCAGGGTGATTTCACCTGGAACAG
137825	SUFU	GGGCTGTATCTCTCCC
137826	PROX1	CACTGTCTTGTTCTTGAA
137827	F2RL3	CTGCCTGGCATGTGGCACTTT
137828	F13A1	TCTCCACCTTCCAAAGAGTGCT
137829	ANXA9	TCTGGGAGGGGCCAGAGTCAGACAACT
137830	NUP153	TCTTCAGCAAAAATATTTTA
137831	LY9	GCTGCCTCTCTCCTGGGACCGTGGGG
137832	DEDD	TCCATGAAATAAACAATGACT
137833	ASTN	GGTCTCCAGGGCACAGGATC
137834	NEDD4L	TACCCTGCCCTGGCTGGCATGTGAGAAG
137835	DLGAP2	TTTCTGTCTCCTCCTCCCGC
137836	NDST1	TCTGGCCTGCTGCCCTGCACCCCC
137837	IL17	ATGGGGCAGAACGAACTTTAA
137838	WHSC1L1	TTGTTGCTTTGTAACTTTTTGCACTA
137839	PMX1	GCACAGGGCATCAACATGGCCAACAG
137840	IL1RL1	GGGGACACCTCAGGAGCTTTACTCAT

137841	HTR1E	AGTCGCCCAGGCTGGAGTGCAGC
137842	BAPX1	GTAAGGAGGGGAGCCTCCAAGT
137843	DAAM2	AGGAGAAAATTCTCCAGGTGA
137844	PMM1	CTGCCCTGCCTGCCTGCCCTGGG
137845	ADAM2	CAAACCTGCATATTGTGATTTTAATT
137846	RBM8A	CCTAGTAGTTGGGATTACAGGC
137847	PXF	TTCTTCCTACAATGCTGTGTGATA
137848	PAFAH1B1	TATGTGTGTATCATACACATCA
137849	CLCN6	CTCTCTCTCCCCTGCACTAGCTGTCC
137850	OXT	GCGCGCCACTCGCTTCCCCCATAGCCAC
137851	SREBF2	TATTACACAGGACAGCCAGGGGAGGA
137852	PTGFRN	TATCTTGCCACCTTAGCCTTA
137853	SERPINB9	TTCCTTAACCCGCTGCCTCAG
137854	BRCA1	AGGAAACAAAATGTTCTGCTA
137855	TAF5	CCAGGTGAAGAAATTTAGCT
137856	B4GALT1	TGGGAAAGATCAGAGAGGCAGA
137857	ARHGAP6	GACGCGCCCTGGGCGCACGCCCAG
137858	C9orf19	TGCTGAGTGTCCCTGAAACCATGGCAGC
137859	CUL3	TATTCTACCACTTGCACTTACTCAT
137860	TRIM9	AAATATCCGCTACACAGGTT
137861	CTSD	CCTCTGCAGCTGACCTCTGTTGTC
137862	GAA	AGGCAGCAGGTAGGACAGTGA
137863	UNG	ATCTTTGAAGGAGTCCTCAGGCC
137864	KCNK5	GCGCACACTGTATGTACATACTGGC
137865	IL18R1	GCCCTACAAAAAGGGCGCATCTT
137866	LIMK1	GACGAGAAGACTCAGCCTGA
137867	OTOR	CTTCCCTTTAGACA
137868	UBE4A	GCACAACCTTGTCCACAGCCATTTTA
137869	CRTAP	CCCCATCCGGGAAAGATGGTGGAAGACATAG
137870	PRDM2	CGGGTGAGCTGAGCTTGG
137871	P2RY1	TCAGAAAAGGAGAGGTTGACAGTCATCCA
137872	AP1B1	CCCTGCCAACCTGGCCTGGGTG
137873	NFKBIL2	GCCTGTAATCCCAACACTTTG
137873	NPHP1	GCCTGTAATCCCAACACTTTG
137873	RFC2	GCCTGTAATCCCAACACTTTG
137873	TCTA	GCCTGTAATCCCAACACTTTG
137873	TPM4	GCCTGTAATCCCAACACTTTG
137874	ELK3	AACAAATTTGTCCCCACGGGC
137875	EFNA3	CCCATTGCTCTCCTCCAGGGGCAGAACAT
137876	ESRRB	CCCTTCTAGTCCAACCCCCCTC
137877	PAX9	GCCCTCTCGCCTCCTCCTCC
137878	MBD4	GCCTGTAATCTCGGAAGGCTGAGG
137879	RANBP17	GGGTCTCAGGACAGTGATGTTGGCTA
137880	REQ	GGAGAGGGGAAGGATCAGGGGGCCAGG
137881	SERPINA5	ACTTTTTGAATTCTATGTTGGCATTA
137882	CALB2	CTTCTGCTGCCCTGATGCGTCTACCCA
137883	ARHGEF6	TCCTTCAAAACAATCTGCA
137884	ADCY1	TTCATTCTCTCTCAGCTGTGCA
137885	BACH2	TCTCCACCCTAACTCAGACC
137886	ZNF165	AGGAAGGTTTTGCAGAGGAG

137887	SLC15A1	GGAGCACGTCCCGCCGGCAGTCGCAG
137888	TRPC5	TATCAGATAAGGCAAACTACC
137889	PTGFRN	GGCCCGGGAGGGGAGTGACAGAGGG
137890	PLCB4	TTACTATTCCAGTAAGGCAGAG
137891	ELAVL1	CGCCCGCATCCAGATTTTTG
137892	PIK3R2	TCGGGAGTTGGAGGCCAGCCT
137893	BRCA1	TCGCTGAGACTTCCTGGACCCCGCAC
137894	HEPH	GCCAAATTGGAATCCTGGACTTA
137895	NRAS	GCCCTGGGTTCTTCCACAGCAC
137896	CLCN3	AGGTATTTCCCGTCTAACAGAA
137897	ZNF24	CTAAGAATTGAAATGTATCA
137898	IRTA1	TACAACCATTGTCTCACTGGA
137899	RFX5	TTGGTTCTTCCCAAGAAACACT
137900	APBB2	AGCCCCACTGCAGTCATCA
137901	SOX4	TTTTACGTCTCCTTCACTGA
137902	RNF4	GAGCAGGGACTCAGCACAGA
137903	SERPINB9	ACAAACTGTTTTCCACAGCAG
137904	PCDHB13	GGAAGCTGAATCCAGCAAGA
137905	NCOA6	TGGAACATAGCCACACTCATTT
137906	ZFP36L1	ACAAGTCCCATATTTTGTCAGT
137907	GALNT2	CTCACAGTCCTGCACACCTGCTGGCCT
137908	HSD17B1	GGTCCAGAGCAGGAGCTTCT
137909	ATP1B2	TTGCCCAGGCTGGAGTGCAATGGT
137910	SCNN1A	ATGTCTAGCCCATCATCCTGCTT
137911	SDC2	CCTTTGGCCACTGTATTTG
137912	DMD	AAAGATAAGACTTCCTCTACCAC
137913	PRX	CTGTCTCTCTGGCAGGAGTGCC
137914	LDB1	CCCTGCCAGGACTCCTCTGGGCTTGCAGT
137915	HCFC1	CATGGAGGGGAGGAAAGGC
137916	CYP2B6	TGTCACCCAGGTTCGAGTTCAG
137917	ENTPD3	GGGGAAAGAAAAGGAAGCTGCA
137918	EFNA1	CGACAGTGCCATCCCC
137919	B3GAT1	TACCTCAGGCTGTGGCGGGAGCAGA
137920	KCNS2	CTTACCCAGGATGGAAACACTGCAGT
137921	TBL1X	ATTTCTCCAAGAGCAGGCTTGGC
137922	IL6R	AGCAAATTCTGTTTTTCTAGGC
137923	TOX	ATTGATTTCACAATAGGGGTTA
137924	PHEMX	GCGGATGCAGCCTACCTCCTGGGC
137925	HTR2C	CAGCATCCTGGAAATTTGT
137926	CDKN2C	CTCCCACGGCCTCTGAGGCT
137927	FGF23	TGCTCTGGGTTAGGTTTTCTGTGG
137928	TNFAIP2	GCCTAGCCCTGGCGGAGGTGCAG
137929	SDPR	ACGTTCCCACCTGCCTAGCCA
137930	DTNA	CCAGGTGGCAGGTTGCTGCTCTCTCCT
137931	TARBP2	CCCTGTCTCCCCTCAGCAGTC
137932	MAPT	CACAGCCACCTTCTCCTCCTCC
137933	ANKH	TGGGCACAGTGGTGTGCATCTGTA
137934	CDX2	CCACAGCCATAGACCTACAGACCTG
137935	PIP5K1A	GGAGGTGGCCCACAGAACGCGG
137936	LILRB1	CAGGGAGTCAGAGGTTTCAGTGA

137937	MAPK3	AATGGACACTGTGCCCAGCC
137938	KL	ATCAGCTGTTAACCATTTGCACCTCTA
137939	GPR92	TCTCAAACTTTTTGGTCTCAGA
137940	DSC2	GGGTCTGTAGGTTGTTGCAGTGA
137941	AP2M1	ACAAACCCAATAAACTCTGTAGAG
137942	PRKR	GCTCACTGCAACTTCTGCCTCT
137943	LNK	CTCCACCTTCCTGGTTCAAGCG
137944	SCML2	TCGCCTCCCTGGTTCAAGCAAT
137945	GSTM1	GCTGCCCAGGCTGTGCAGCGCAG
137945	GSTM2	GCTGCCCAGGCTGTGCAGCGCAG
137945	GSTM4	GCTGCCCAGGCTGTGCAGCGCAG
137946	LRRC2	GGGACTGCACTCCAGCCTGGG
137947	PCDHB11	CGCCCTGGCTGGAGTGCAAT
137948	GPRC5B	TTGGAAGGCAGGCACCACGGCAGGTT
137949	SLC22A2	ACTGTTCTTTTCCCTCTTAG
137950	NLGN1	GGGCTCACTGGAGTGGCAGAT
137951	BDNF	GGAAGTTAAGAGTTTTGACTTTCGGGG
137952	NCOA4	GCATACCTGTACCTCCAAAAGTGA
137953	PDGFRA	AAAGTCTCCAGAAGAAAATTTGCCAATCTTT
137954	WHSC1	GCTCAGTGATCGCCTCCAACAGCATCATCT
137955	TCF2	CGAACTCCTGGTCTCTTGCGGT
137956	HSD11B1	TTCTGTCTCATGTTTATCTGAG
137957	ZNF2	TGTATCTCACACAGTGCCTTGCTA
137958	AKAP13	CCCCCACCCCGCCTCATTCTTTA
137959	YWHAG	TCCCGAGACGTGTAATGACACCACACTT
137960	PKHD1	TTGATATTCTCATGGGCTTTGCTG
137961	CDX1	TCAAGCCCCAAATGGTTGGGGGAG
137962	KLRD1	AAGAACATCATTTAAATACACAA
137963	LBP	GCCTCCACCCTCCTCCTCTTCACCA
137964	ADCY6	GGAGCATCTCTTCCTCTTCTGTTGCCA
137965	RFC1	GACTGCTTGGGTCCTCCACTGTCCTCT
137966	BTAF1	TGCTGGCTCTTGTTTCACTGGGGG
137967	EGFL4	GGGAGGGGGCTGCTGCCCACC
137968	PLAGL1	AGCTTCCGTGTTCCTTGCC
137969	C8G	GAAGTGAGGAGGTGGGCCGG
137970	GAA	CCTGCTTCGCGCCTGCTGC
137971	SLC13A4	ACCTAAAGCAGGAGGCCAGGAGCCCAG
137972	AMACR	TCCAAACTTTAGCAACAGTTA
137973	FHL1	TATTCTACATTATTATATGACA
137974	SPAG11	CATCCTGGAGCACAGCTCTTC
137975	KCNJ6	CGGCCGCACCTGGCTGGAGAG
137976	ATP1A1	CCATATTTTCACAAGACAGTCATCA
137977	MAT2A	CTCCCTGGTGCTTATGCTCTTAA
137978	CYP2F1	CTGCATGCTGTGCCTGCCGCGTG
137979	GNAI1	CGCACTCGGGCGCGGAGGGAG
137980	LAMP2	TCTTAGCAATAAATGCTTTTCTA
137981	TAT	ACTCCCTTGCTCTGCGCTGCT
137982	MYLK2	TCCTAGCTGGAGTGCCATGGC
137983	KCNK7	CCTCCTGGCCCCGCCCTGC
137984	ASB1	TCCCTGTAGGGAAGACTCCCAGCACTT

137985	HR	CTGGGCTCACTGCAGGCAT
137986	BMP1	GTCGCCTAGACTGGATAGTGGGGG
137987	NDRG3	GTTACCCAGGCTGGAGTGCAAT
137988	DHFR	CACCTGTAATCCCAGCGCTTTG
137989	UBE2B	CACCTGTAGTCCCAGCACTTTG
137990	ATP2B4	GCTACATCTTCTCTGGTTGAGG
137991	ZNF278	GGAGGTTGGTGCCTTCCTGGGAACTAGCCAC
137992	MDFI	GGGAACAGTATGGAAAAGACTGG
137993	TIMP3	TTCTTGTTCTGTGTCACTCGG
137994	PPP2R1B	CCAAGAATTAAGTATTTTCCTAAGCA
137995	SNX6	TTCATTCTTCTTTAAAGTAGCCTCTAT
137996	TMEPAI	AGTGGCTGATTGGAAGGGG
137997	PABPN1	GGAAGCTGGGGTTTGCAGTGG
137998	LIFR	GCTACCCAGGCAGTGGTGATCT
137999	TBX6	CGGGGTGGGGAGGGAGGGGAGGA
138000	CPT1A	TCAGTTCTAATTCCAAAAAG
138001	EYA4	TCAATGCCTCTGGCTCTACACA
138002	NLGN2	CTCAGCTGACCACCCTCCTCTGACCCA
138003	NDUFS2	GTGGAGCCTGTTCCTCACTGGA
138004	ANXA4	TCATGGCCATGGCAACCAA
138005	ATRX	TATCTGTGTTTTCACCATTCA
138006	PDGFRB	TTTGCCCCTCACCCACCAGCT
138007	CYLN2	TGGAAGGACGAAGGTGAGTGAAGA
138008	CXCL16	TCTGTCATCCAGGCTGGAGTGCAGT
138008	FANCE	TCTGTCATCCAGGCTGGAGTGCAGT
138009	PML	CCTCCATGGCTGATGACCTCAGCT
138010	TCL1B	GGCCTGGTGTCTCCTCATGCCC
138011	FACL2	AAATGTGCTAAGTTATTTGAGACTTCC
138012	HOXB6	AGAGACCCGGGAAGGAAGGC
138013	CALM2	CATTGTCCTAAAACCTTATTTTA
138014	DDX20	CCCCGCCTCCCCTTAAGCACC
138015	SOX12	CCTGCTGCACCTTCCCCACCCCCTC
138016	LARS2	TGGTGGGAGCAGGAAGGAGCAGT
138017	DLGAP2	GTCTGTTTACACTTCTCTGTAG
138018	CDKN1A	GTCCAGCGACCTTCCTCATCCA
138019	ADAM30	ATCATTTATCCAAAGGCTTTCCA
138020	HIP1	TGTCAGATGTCACATAATTACT
138021	SH3GL3	CCCAATAAACATGACACACTGTGTTGGC
138022	PIGA	TCTATAAATGCCTTC
138023	CDH5	CAGGAGTGACAGATCACAGGGTG
138024	DDX10	ATACTTCCTGCGCCTGCCTTC
138025	ACADSB	GCTCACTGCAGCCTTGACCTCC
138026	GYS1	AGATCCTACTCTTCCTTTCTA
138027	PFKFB2	CACACTCCTTACTTGACTGCTTTC
138028	PPARA	GAGATCTACAGGGACATGTACTGGTTCCTT
138029	DRP2	CTGTCTCAGGGACTTCTTCGCTGA
138030	FXYD6	ATGGATGGAGGGAGAGCAGAGGCCTTTG
138031	PKNOX1	GCAAGCTGTTTCAGTTTGCAAAATCAC
138032	GRINL1A	GCTCTAAAAATGAAATTG
138033	LTF	CTCAGGGCTTTTCGGAGCCTG

138034	ENO2	TCTGTCTCATCCTCCTGGAACC
138035	RET	TGCTGTTTTCACATCCTTTCCCTTA
138036	HARS	CCAGTCTGTGCTCCTGGGCT
138037	MECP2	TAAAAACAAAAGGCAAT
138038	SDC1	GCATAGGACCTTTCCACCACAGCCAG
138039	SMURF1	GGCTTTTCAGGCTTGCCCTCA
138040	INPP5A	TTCAGTTTTTAATGATTGCCA
138041	PDCL	CATGATTGCACTCCAACCTGGG
138042	BAZ2B	CTACGCACACAGTATTTTTTCAT
138043	WHSC1L1	CTACAGTGCATACAGCCTTTGCCA
138044	M6PR	AGGGAAGTGTCTTCTTGCCCAC
138045	CLK2	TCTCCTTTGAGCTTCTGGGCC
138046	PIR51	GTCACTTTTTGTTAAGTTCTTT
138047	LTC4S	CGCTGCTGCCGTGGGCCTGAGACCAAG
138048	WBSCR5	CCTCTGCAGAGGGGACCTCAGCC
138049	ADRB3	GCCCAGGCTGAGAGCAGCAGGGT
138050	FKBP10	ATACCTCCCCTCCACATCA
138051	TAP2	CAAGTTCAAGACTTAACTCAGG
138052	PLDN	TGGGGCAGAGCCAACTCTCGAGCG
138053	DFFB	TGCCCAGGCTGGAGTGTAGTGGCGCG
138054	GRAF	GCGTTTCTCCCTCCCAGGCT
138055	TESK1	GCTCTTCTCCCCGTGTAGGGGAGCC
138056	XYLB	CTGCGTCTCTGGGCGCTGGAGC
138057	CLASP1	GTGACTGCCCTCTAGCTTTTGCT
138058	ABCC3	GAATTCTGCAAGGGTTCTTGGTG
138059	NT5C2	TACCAACATGGAGAAACCCCA
138060	ZNF289	CCCTTGCCCCTCCCCCAGAGGG
138061	ADAMTS4	ACTGCATCCTCCGCCTCCCGGG
138062	SUFU	GCCTCATCTTCTAGGCCTTTTCCA
138063	TRPM6	GGGCTGTAAAAGGCAGCGTGTGGAGGT
138064	HAP1	ACCTTTGTTCCTCAATAGCTG
138065	RCN2	CTTGAAAACATGGAGGATTTT
138066	DNASE1L1	GGCAAAATAAAATAAAGGTAAT
138067	IL12RB1	CCAGCCTGGTCCCATATCATAGTGA
138068	KCNS2	TGACTTCTTACAGAGCTGTAAT
138069	C21orf33	CATGAAAGGTTGGTTCTTGACTCTGAA
138070	AGT	CCTGCAGCGGCACAAATGCACCTCCCA
138071	SLC13A3	CATAGCAAGTGTTCAGTA
138072	ARF3	CATTCCTGCCTTCCAGTGCCCCA
138073	EVC	AGGCCTTTCCCATCTGGAGAGA
138074	CR1	CTGTCTCCCAGGCTGGAGTGCAGTG
138074	XRCC2	CTGTCTCCCAGGCTGGAGTGCAGTG
138075	SLC26A4	CCCTGCATTTACCAAAATTTGTGCACA
138076	DNAH11	CTAGCCTCTGCTGGAGTGCAGTG
138077	UBE2L3	AAACAGCCACACCCCTCCTCCAGTCCT
138078	ALDH3B1	TGGGAGGCATGGGAAACAGTGCAGTG
138079	FBN1	TATCTCAGTTATGAGTATAAT
138080	PML	CTGTGTACCCATACTGCAG
138081	CELSR1	GTCTTGGTTCTCCCAGGAGCTC
138082	DAAM2	CCTCTCCCTACTCCCATCCCATT

138083	MYD88	CATTCCACTTCCTCCTTCCCCACA
138084	HEM1	GGAGAGAGGGTCAGGAGCCAG
138085	ATP8B2	CCTGCTGGTCCCACCACACATGGC
138086	TNXB	ACACTCCTCAAGCTCAGTGAATGTATC
138087	FRDA	TCAGGCTTCTTTCAAAGTGTAAG
138088	TFEB	CAGGCTGTTGTGAGGACTAAGGGT
138089	KL	GAAACATTACAGGAAAATTATTGACAG
138090	LPL	TCTCTGAGAGAGATGATCGTGCCTAT
138091	SCN2B	CAGCCATCAGGCTGGAGGTGACGATG
138092	RNMT	CCCAGCCAGGTTCTCTGGGTC
138093	SPTLC1	CTGAGGTGGGAGAATTGCTTCA
138094	CHD2	GCAAACACAGATTCCCCCTCCCCCTT
138095	GFI1	ATTAGAGGTCCTCCCTTCAGT
138096	HS3ST4	TAGGAATAATCCTTAGCCATGT
138097	CASP7	TCCATGCTCACCAAGGAACTCTACTT
138098	HD	TTCCAGCTGACATCTTGCACGGTG
138099	HMMR	TAGTTTCAAGAGTCTAAACC
138100	MSL3L1	GGTGCCTCGCGGGCTCAGTGAG
138101	ARHGEF7	TCTGTGAACATCTCAGTTACCTCA
138102	NT5E	CTGCCTCTGTCCTCTTTCTTCTAACA
138103	SOX4	AGCAGTTTTTAAAATAGTGTA
138104	FZD4	GACTACAGGTGCGTGCTACCAC
138105	RBBP6	AGGTCCACCACCTCCATCT
138106	CNN1	GGCGTTTGTAATGAGAGCACTTTCTTTTTT
138107	PMP2	AGGTAGGAACAAGATGAGCTTGA
138108	KCNH2	GAGGAAGAAATGCTAGCCTGGAA
138109	CPNE3	GCAGGTTGCTGTGCCTGATTCACA
138110	GPRC5C	GGGCAGGTACGAGTCGGCTCAGCCTGG
138111	BMP8	CATTGCACTTCAGCCTGGTG
138112	STAT3	TGAGCCAAAATTGCACCACTG
138113	DSC2	AATCTCTTTGGTCAAATGCACATT
138114	NOC4	CGTCTGACTGTCCCTGTGGACTCTCTC
138115	CDKN1A	GTGTTCTCCTTTTCCTCTCTC
138116	NR2F6	CGTGTGCCAGGCAGATCCTCTG
138117	LASS1	CCTCCTCCTCCTCCTGGCCC
138118	CD209	TCTCCATCCTTCGACCTTCACA
138119	SLC7A5	CGCAAGCTCTCAGCAAGT
138120	FOXM1	AGGGTCCACACTTGTGATTCTCAATG
138121	LZTFL1	ATTCTGTCTGGTCATCCCACA
138122	PTPRD	ATAAAGTGAATTTTAAAAAAGTT
138123	BSCL2	CTCCTCACATTCCAGCACTTT
138124	B4GALT5	GACTTCCCAAAGTGCTGGGATT
138125	EXT2	GGGAGAGAACAAGGCCTCCCAG
138126	FGF2	AAAGGTTTTCACATTTTATAAGG
138127	FANCC	TCTGTAACCCAGCTATTCAAGAGGC
138128	RFNG	CCCATAAACAACAGGAGCCTT
138129	HAS3	GGCTCACAACGTTTGACCTCG
138130	CCBL1	GGTCTTGTGTTGCTTCTGGTCTCTCCA
138131	G6PC	GTTGCCCAGGCTGCTCTTGAATTCC
138132	MAP3K7IP2	TAGCCTTTTGTTAACTAAT

138133	TEM6	GGGAGCTGGGGTTTGGGAATGT
138134	ZFP36L1	GCCCTCCCTCTCCCCCTCATAACCCC
138135	MRPL49	AGCTCACTAGCCTTCATATATGCCT
138136	BFSP2	GGAGGAGAGCGGCTGTGGAGA
138137	RNH	TTCTGCCAGTATATTTTGGA
138138	SLC25A15	CCACTGCACTCCAGACTGGGTG
138139	HAL	TATTGTAACCTTCCTCATTTCA
138140	SLC22A2	GAACAAATACCTGGATAAGAG
138141	GCNT2	CATGTACTGAGACAAAAAGG
138142	CD28	AGCCTCTTCCCTTTCTCACT
138143	WEE1	TGTCTTCTGTAGGATGTGTCAC
138144	CLCA1	TCCTATTGAAGACAAGAGCAATAGTA
138145	CDC6	TCTTCATTTTAGTGCTTTAC
138146	COG3	AGCTCCAGCATCTGTGCCCCT
138147	XPC	CTCTGCTGAGAAGGCAAACTGAGGCA
138148	MAP3K9	TTGCTACCCGCCCATTCAGTT
138149	CYP1A2	CTGCCTCACCAGCCCTGGCAACTGC
138150	ELAVL2	GAACTGCACCGTTACTTTA
138151	GUCY1A3	TTTCTATTATATAACCAGCACTTA
138152	MEF2B	GCCAGTGCCCAGGGCCACAGCCCG
138153	CYP1A2	GCATTGTCCCAGTCTGTTCC
138154	AR	AGCAAGGAAAGTGCCTGGTAGGACTGA
138155	TCFL4	TCTCAGCCCTTTATTCAAGCCTCAGA
138156	TP53	AGAGTGCTGGGATTACAATTGT
138157	MRPL49	GTACAGCCACAGCAAGGAGCCCG
138158	APPBP2	AGAAAACATTGCCATTTTGGTT
138159	CDY1	GTCTGTCTGCTCAGGACACAAG
138160	MCM4	AAACCCAGGCGGCAGAGGTTGC
138161	NLGN2	CCAGCACTTCCCTGCCTCCCCCAGGCC
138162	CD5L	TGTCTGCAAACATTAAAGGAATGAAAC
138163	TNFSF8	AAAGAGAGTTTTTAGTGAAGT
138164	MAPK1	CTGATACTGCTGAGTCAGACTGTC
138165	GCKR	CGCAGCCCAGGGTAGGGAGAAATATTC
138166	PAICS	CAAACTCCTGAACCCTAGTAAT
138167	ALCAM	AAGGGAGGGGAGGCCGAGAGTC
138168	TTC3	ATGAGTGTGTTTTGTACA
138169	CTSK	GCACCCTAGAGGACTAGGGTA
138170	FKRP	CCACCTCCCCTTCTTTTGGACT
138171	FTL	TCCAGCCAATAGGCAGCTTTCTT
138172	COX10	TAACCAGCCCACAGAGCTCAC
138173	HD	TAGCTTTTTCCTGGAAAAGCCCG
138174	CTSH	GGACCACGAATATTCTTTCTGT
138175	EXTL3	AGGCAGCAAGGTGGCCACAGTGTCAC
138176	ALOX15	GGCTCACTGCAGCCTCAGCGTCCT
138177	TCF20	GCCTGCCCATGCCAGCACTTCCT
138178	THBD	AGAGAGGCCTTTTGGAATGTGGCCCC
138179	ANKTM1	GGTGGCGTCCGGGGTGGGG
138180	LTB4R	CACTTCCTGGGTTCACATGATT
138181	GPRK7	GAACAGCTTGACCATTTAGAA
138182	P2RY1	AAACTCATCAGTTCATCCGGCATCA

138183	FBXW1B	ATAGCCGCCTCCGCCTCTGCCCGCCT
138184	HS2ST1	TTTCCAGGTGGGCATGGTTTATTTCCCAGT
138185	ANKH	GGAATAGAAGTGCAAGCTGGA
138186	RABIF	GTTGAAATCTGCCTTTTTCTCA
138187	MYO1D	GCAGAGTCACCCACAGGGCCAG
138188	PRSS16	ATTTTTGGTCTCTGTGTGTCT
138189	COX7A2L	TCTGTGCTGAGGACCTCAGGGA
138190	PVALB	GATGTCGATGACAGACTTGCTGAA
138191	EEF1A2	CGCCATCAAGGTCCAGTGGAA
138192	ALPP	CAATTTCAGCACCCAACTGA
138193	TIAM1	CCTAACTCTGCCCACCCTCCTGTACC
138194	C18orf1	GCCTCTCCCCCTTTCCTCGACAGCT
138195	IGF1	CTCCTGACCTTGTGATTTGCCCGCCTC
138196	RNMT	CGATATTGAGGAAGCACAGGACATCCA
138197	LZTR1	CCATAGCTGCTCGGACAGTGTC
138198	EYA2	AGTTCTCTCTTCCTTCCCCTGCATAGA
138199	MAGP2	CTGCTTCTCAATATCATAGACACA
138200	PMM2	AGAGTAGCACATTAAAGTGAT
138201	PCSK2	CCCAGAGGAACCTGAGGCCTGA
138202	EPHB3	ACCATCCTGAAGCCAGCTTGCACCTC
138203	RANBP3	CAGAAAAGTGGGCAGTGGTGGCA
138204	PLAG1	CAAGAATTTCTAAAAATGAGTG
138205	SH3GL3	GGATGCATACACCTGCCTGCAG
138206	GNPI	TGAAAGGCCTCACTGTGG
138207	AKAP13	ACGTGCCTGAAACTGTGCTTAA
138208	B3GALT2	CACCATTTAATTTCATGTAATA
138209	HTR6	GCTTGGGGCTGGCCAATGGGGA
138210	RUNX3	GGCCTCTCCATGCCTTCTTA
138211	A1BG	GTAGACATATCTAATAGTGGT
138212	REN	TTCGGCCTCCATCTCCTGGGACCCGC
138213	ADCY1	GGTTACTTATTTTTTCTTTTTG
138214	BDKRB2	TGAGACCCCCCACCACCAGC
138215	C1orf6	GAATTTCTTGCTCTGAAGGAG
138216	ZNF75	GCATTGCATCTTCTGTGCCTAGC
138217	DNMT3L	CCCCTCACTCCACCCTGAGGG
138218	CEACAM5	CCACTGCACTCCAGTCTGGCAACAGAG
138219	CD36	ACTAAGTTGCTGAGACAAGGGAA
138220	RASSF1	GCAGGCATTGAGGAAGAGTCTTGG
138221	NFATC4	AACCCCAGCCCCAGCCTCAGCCCTG
138222	CYP4F3	GGTAGCTCACACCTGTAATCCCAG
138223	DLEC1	ACCAGGCCCAGAAGGAACCAGCCA
138224	PRDM2	TACCAGGTTTTACACTTGCATCTC
138225	KCNQ2	GGGCTCCTCCCATGCCTCCTGCAC
138226	MAB21L1	CCATGCGGTTCTCTCACA
138227	EN1	GGTTGCAGAAAGAAAAAAGAA
138228	DIAPH2	AGCATTTCAGCATGATATTGCA
138229	RHD	GTACCACATAACAACATCT
138230	C5R1	CACGCCTGTAATCCCAGAACTT
138231	CARKL	CCCGCCTGTAATCCCAGCACTT
138232	G2A	CACGCCTGTCATCCCAGCACTT

138233	CFTR	AGAAGCTCCAGGTAGAGGGTG
138234	HUNK	TTGTGTCTGTGCCCCTGTGTGTGTT
138235	TFDP1	TTGTACACTCTTTTCTCTCCC
138236	FZD1	CCTGACATCTCGAGGTTTCCTC
138237	ZNF261	CCCAAGGCAAAAACTACCTT
138238	TAPBP	CCGGAGTAGCTGGGATTACAGG
138239	RALB	CTCTTCAGTGGGTCATCTGTGTGTCAC
138240	NDRG1	AGTTCTGCTTTCTGCCTCTCC
138241	IL12RB2	TGGAGAGAGAATTATCTTGCTCAA
138242	WBSCR5	AATCCTCCTCTGCTCCAGGGC
138243	NAPB	CTGGAGATAGTTTTCACTTTTA
138244	ABCC5	CCTTTCTCACCGCAGTCGTC
138245	CD86	AGACCTCTCAATTTCTGGAA
138246	EFNA4	TCCTCCCAAGATCCCCTGGAGGAGGAGG
138247	CTSL	CGAGGTTTTAGAAGCAGAGTCAGGCG
138248	UBE2G2	CCTGGAGTGTTGAGGGGGTTGT
138249	HELZ	TGTTTTAATTTCTGTTTGTATCAGTA
138250	MS4A6A	TAGAACCTGGCTTGCCTCCC
138251	HTR2C	AATATAAATCACAGATTTCCA
138252	DGCR6	AGAGAGTGAGGCTGGGGGTT
138253	KRT4	GGGCAGAGAAGAAAATGACCAG
138254	KRT10	GAAACCAAGAAACACTACTATTAAA
138255	TLL2	AAACAGTGTACAGTATTTTTCTCA
138256	CXorf6	GGAGGAAGAAGATTTATCTTTTC
138257	B4GALT4	CGGAAGGCAGTGGGTGTGA
138258	TRIM14	GCAGTTTCAGTCCATATCAAT
138259	CSNK1G2	CCAGGCCTCCCCGAAACCAAAG
138260	RAD9	GGCTATACTCCAGCTGGCC
138261	JDP1	GAGGAAGAGCAAGACTGTCCCCTATGC
138262	CD69	CCAAGAATGAGAAGAATGACTATGCA
138263	ALDH1A2	CCCATAAATAACATGAATGAAA
138264	RIG	TACAGAAGAGCAGTTGAAGTGATT
138265	COX15	CTGGCTCCCCTTCACCTTCTGCCATGA
138266	BRCA1	TTTCAGCTTGACACAGGTTTGG
138267	ADAMTS6	TTGTTTTCAACCTCATGTAATTTGTGCAGAT
138268	SLC20A2	CAGTGCCACCGCCACCAC
138269	WBP2	CCTTCCCTTCCCTGTCCTGGGTC
138270	LDLR	TGTCGTGAGCTATGATTATGCC
138271	PCTP	GGAATTCTGCCTAAGTTGTCTGCCTT
138272	SEPN1	CCACGGACTCCCCTTGGCC
138273	CLDN16	GACCTGCCTTCTGATTGGAGGC
138274	FOXF1	AAAGAATGTCTTGGAATGC
138275	SHANK2	CTCGAATTTCCAAAAGAGG
138276	TNFAIP2	TCATGGCATCAAGGCTCACTGCAGCCT
138277	DNAJB9	CTACCTGCCCTTGGGCTCACTAATATC
138278	SET	GGGAAAAAAGAAAAACCTGCT
138279	MICB	GCTATCTCCTATACCAATAA
138280	KIF3C	TTTCTGCTTCATTACTGGACTAG
138281	JRK	GAACTCTTGGCCTCAAGCGATC
138282	LOH11CR2A	TATTAAAATGACTATTTCTA

138283	SMARCA3	CAAATCTTAAATGAGACCAAAGT
138284	NR3C1	ATCATGACATGTTATATATTT
138285	SMAC	CCAGCCATGTTGCCCAGGCTGG
138286	HAS3	GACTGCTGGTTGACATCAGACCC
138287	TNFRSF11A	GCAGCCTCTAACTCCTGGGCT
138288	EGLN2	TGCTACCTCATCTTGCCACTGCAGTG
138289	NOTCH4	AAGAGGGGCAGTGGGAGCAGAGGAG
138290	ACPP	TACTGTACTCCAGCCAGGGCAAGAGA
138291	KCNK3	GACCAGCCTAGGTGACATAGTG
138292	ATP7A	AGCTAAATATATACTCTTCTCTAGTT
138293	RFX2	GAGCACCCCACCCCCAGCGAG
138294	KNS2	ACCATGTCCACAATGGTGTA
138295	RBBP5	ATTGACTTTAATTTAAAACAA
138296	SIP	TGGTTTTATTAGTACCCTGGTCAT
138297	RHCG	CAGGTGAGGAGCAGGCTCC
138298	WBP2	GGGGCTGTGCTGGGGCTTGGGG
138299	ZNF8	GGCTGGGGGTAGAAATGTCA
138300	CORO1C	CTTGCCCAGCTCTTGAGTACAGT
138301	AQP6	CTGTTACCCAGGCTGGAGTGCAGT
138301	FCGR2A	CTGTTACCCAGGCTGGAGTGCAGT
138301	MDM2	CTGTTACCCAGGCTGGAGTGCAGT
138301	NQO1	CTGTTACCCAGGCTGGAGTGCAGT
138302	CYP1A2	CTGTCACCCAGGTTGGAGTGCAGT
138302	PRKWNK3	CTGTCACCCAGGTTGGAGTGCAGT
138303	CYP4F3	CTGTTGCCCAGGCTGGAGTGCGGT
138303	SLC39A1	CTGTTGCCCAGGCTGGAGTGCGGT
138304	ATP11A	ACTCATAGCCATGTCCACATGGGGG
138305	MIPOL1	AAAGTGATGGAATTACAGGTGT
138306	ZNF217	GACTATACACTTTCTTTTGAACTTTT
138307	ENG	AGTGAAGCCTCTGAGGGATTGAGG
138308	PGK2	TTACTTCCTTCTGTTTTCTGTCCATG
138309	SH3GL3	AGAAATGCTAAATATTTTGTTTCTCG
138310	CRSP9	TCCCTGCACTAAGAAGAATCACTTT
138311	EXTL3	TCATCTCAGCAAGAATGTGGCACCTT
138312	HMGA2	GGCAGCGCCTCCTCCTCTCCTCCTCCTCC
138313	LMO4	GCTAGCACCAGTGCCAGCTCC
138314	MLANA	TGAATTTAATACAGACATCTAATG
138315	GCSH	TACAGTGTCAGATGAGGA
138316	CD34	AGGGAAAGGCCAGTGTGAACCGAGGGG
138317	SFRS2IP	ATAAAAAATATTCCAACTAGAA
138318	APPBP2	TCTTCCATGTGGAGGTATTCAA
138319	MICA	CTCCACTGAGGGCGCCTAACTCT
138320	NCOA4	TGAGCAGCCTTTCTGCTGAT
138321	XPNPEP2	TTTCCAAAGTGCAGCCACAGCTACAAT
138322	TCF20	GATTCATCTTTATTCCCTCCATCA
138323	CLN6	GGTGCAGCTTTGGGACAGATGAGTGGC
138324	CBFA2T2	TCTCCCAGGCTGGAGTGCAATCGCGCA
138325	GCNT2	TGTGCCTGTAATCCCAGCTATTT
138325	SCN2B	TGTGCCTGTAATCCCAGCTATTT
138326	TFRC	CTCAGTGTCATTTATGAAAA

138327	SRC	CAGTTGAGAGCGGGGATGTGA
138328	WRN	TGGGCGGGGCTGGATGGGCTGTGG
138329	ARHGDIA	AAGTGCACACATTGCTGAGAGCCGTCT
138330	BRCA1	TCATGCCAGCTCATTACAGCAT
138331	PIGH	GAGGGGAGACCTTAAGAATTTTGAC
138332	ERBB3	CTGAGGCAGAAGGATTACCTGA
138333	BSN	CACAGCCGCCTTTTTGCGGCCTGG
138334	MXI1	CAGTCTCTCTCTTCCTCACAGTCCC
138335	FMR2	GGAGAATAGCACAATCCAG
138336	ICAM1	GGACTTCTCATTGGCCAACCTGCCT
138337	PTGES	TTGCCCAAGCTGGAGTGAAGTG
138338	CMAR	GCTCACTGCAACCACCATCTCC
138339	STK10	GCCTCATTCCTCCTGTTCTCCCA
138340	ISGF3G	CCAAATGGTGTGAACCCAGGGGG
138341	BAZ2A	TCGTCCCTACTTCCTCCTCCG
138342	CKTSF1B1	CTGCCTCTGCTGAGTGTACCTGACAG
138343	SEDL	GGTCTTGAACTCCTGACCTCGTGATCC
138343	WHSC1	GGTCTTGAACTCCTGACCTCGTGATCC
138344	INHBB	GAGGGAAAGAGACCCAGAAAG
138345	EFNB2	GGCTAGTTAAGGTGTGCAAA
138346	SERPINE2	TTTGTATTTTGTACAAA
138347	ACADS	TGAAGGCAGGGGTGGTGA
138348	ARCN1	CCAAATTTTCATTTCTCCACA
138349	MOG	TGCCATGAACTGGAGGCCAGGAATCTC
138350	CLCN3	GGCGAACTAGAACACTGGGAA
138351	SIX2	GCCCTCGCTTTACCGGAGTAGGGGGTG
138352	GRLF1	CCACCGTCCCACTCCACAGCCTT
138353	ORC3L	CATTGCTAACCCCAAACAGGCAT
138354	UBQLN3	AGATCTGGGCCTCCTGCTGC
138355	EDNRA	TGATATATGCCTATAATATAAGCCAT
138356	MAGEB4	CCAACCCATGTGGATCTAAGGCAAATT
138357	MYCL1	ACCAGGCACCTCTTCCTTGATGT
138358	CEACAM1	ACTCATTCCTTCCCACCCCCA
138359	WBSCR1	GCTGGCCTCTCTGGCTGGGTGCAGTGA
138360	ANK1	CTGTCGGAACCAGGACACAAA
138361	DVL3	TTTCCTCTGCCCACTAATCCCTGCGC
138362	SHANK2	AGATGCATTTGTCCAGTGCCCCA
138363	DIAPH2	ACTAAGCTATATCTCTAACAC
138364	PTP4A2	ATTTTGAAATCTCCTGTCTTTTTAAAC
138365	AF3P21	CTTTGCAGTGAGTGCTGCTCA
138366	HDAC5	TCTTCCTTCCTCCTCCTCCCCA
138367	FCAR	CACCCAGGCTGAAGTGCAGTG
138368	FCN2	TTTCCTCCTTCATCCTGTGGAGTC
138369	DSCR3	CCGAGTAGTTGGGATTACAGGT
138370	MECP2	TGCAGCTCTCATGCTGCCCCTGCCTT
138371	ADH7	ATCTGAAATCATGTATCTGTCT
138372	LZTS1	TTGCTCTTAGTCCCAAGCTAGGCTTA
138373	SRGAP1	AGTCCAGCCTGGGCAGCATAGT
138374	SUOX	TTCTCTATGGTGGACAAAGTTCA
138375	IGF1	CACCTCCTGGGTTTAAGCGATT

138376	PFKFB4	TCCTGAGCCAGAGGCCAGGTCT
138377	PSEN2	GCTCTGGCTGGAGAGGAAAAGCC
138378	BMP5	TTTCAAGTAAATTCAGGGAA
138379	GCK	AGGTGCAAGAGACAGAGCCC
138380	MAML1	GTAACACCAGTGAAACCCCACACT
138381	CD209	CTGCCTTGCAATAAATTTTTCTCTCTA
138382	AGL	TCGCGGGTCCTGCAGTGCCCCA
138383	GDF8	TGTAATTTTGTCTTTGGA
138384	GRLF1	CTCTCTCTGACGGGGTGGCA
138385	COX15	TCTGAACTAGGTGATCTCAGTT
138386	TCFL4	CATATTCCATCACCTTCCTCCTCT
138387	TCL1B	TAAGAGATGGCATTAGAGGGAGCCCAG
138388	NGFR	GAGCCATGGACTCTACACTGTGA
138389	HIF1A	GTCTGAGGGGACAGGAGGATC
138390	TLE1	CATTCTTTCTTTCTGGGTGA
138391	PRSS16	GAAAGAAGAAACTCCCAGGAATTGGA
138392	CASP3	AAAGCAATAAATGAATGGGCTG
138393	PPIL1	TATGTATAAAAATAACTTTCT
138394	DMC1	GGAGGTCGGGCGGGGCAGAGGGGC
138395	CLN6	CGGTCTCTTCCTCGGAAAGGCAG
138396	ZHX1	CTAAATCAGATGACTGAATCTGCCTAAAAC
138397	PPP2R5D	TATCTCCCCTCCTCTCTCTC
138398	KCNS2	GACTGGGTAGAGGCCAGGAGAAAGGAA
138399	RAD18	TTGTTTGTTAGACCTGTGTC
138400	VGF	CCAGCGTCTCCGGCAGCCTCTTGGTCAT
138401	BENE	AGGCTGGAGTGCAGTGACGCGATC
138402	CDK10	GAGCCAGATCTGGAGTGCGAG
138403	BACH1	CCATGCTGGGGTTAGATGTGT
138404	BTEB1	CTCTGCAAAATCGTCCCTTGTGGAGAATGCA
138405	GCNT2	CTTTAGTATTCCTGTAATACT
138406	TFE3	CTTCTAGGAATGGAGGAGCCAGG
138407	CRYBB3	CAGCAGCTGAAGGCACCCAG
138408	P2RX7	AGACTCAGAATCCACAGTGTCCCA
138409	D12S2489E	CACAGCATGGGCAGTGCCTT
138410	TP53BP2	TGGCTGAAGTGTGGTGTGGCTC
138411	GALNT1	TATAGTTTTAATTTCTCTCTA
138412	PTPN18	CTCAGCACCTGAGCCTCCCTCA
138413	ALDH1A3	TTCTGACCTTCCCGGGACACATTCTTC
138414	ZNF35	TGGACACCACACACCAGCT
138415	ARHG	CTCATGAGCTCATCCAAGCCAA
138416	APXL	GCATGGGCTGCCAGGTTTTGT
138417	HLA-G	TGCTGTTTTTGTTCTACT
138418	HR	GCTCAGCCCAGGCACAACTTCAGC
138419	NINJ1	TCATCTGCACCATGTCCCCGG
138420	KCNS2	CGATGTACACTGATGTTCATCTCA
138421	NCOA6	GCCCAGGCTGGAGTGCAGTCGT
138422	TBX5	CCCTTCAAGTAAACCATCCCTGA
138423	EP300	AAAGACAATTTTCCTTGGAACAC
138424	SCML2	GGACATTTAACTAGGCAT
138425	CYP1A2	CCCAAGCACCTGGGATTACAAGCATGA

138426	RGN	CCAAGGAGTGGAGGTCAGAGTG
138427	PCSK1	TCTCGCGCCTCCTAGCTCTTC
138428	FLT1	ACTTTAAGCTCCTTGAGTAAAAAGGTG
138429	KRTHA5	ACAGGTCCCTTTGAAGAACTGACA
138430	HIVEP1	AGACAGTAACTTTACACTTC
138431	TRIM14	ATCCAGTTCCTTCAAAGTGAT
138432	ECHS1	CGCTGGTCCCTCTGGGCATGCTGTGCTC
138433	CUBN	GGAGGCAGAGGTTGCAGTGA
138433	EIF3S2	GGAGGCAGAGGTTGCAGTGA
138433	GALNT7	GGAGGCAGAGGTTGCAGTGA
138433	INPP5B	GGAGGCAGAGGTTGCAGTGA
138433	KIF1B	GGAGGCAGAGGTTGCAGTGA
138433	MOG	GGAGGCAGAGGTTGCAGTGA
138433	RIMS1	GGAGGCAGAGGTTGCAGTGA
138433	ZNF36	GGAGGCAGAGGTTGCAGTGA
138434	CHST6	CTGGAAGGCAGGTGTGCCCGTCAGCG
138435	ERBB3	AGGCTGAGGCAGAAGGATTACC
138436	ACVR1B	TGTGTGGAGAACTCAGTGCCACAC
138437	TIMELESS	TAGTTCTCTTCTTCTAGGAACCAT
138438	GP2	GGGGGTGGAGGTTGCAGTGAG
138439	AICDA	GGAGGTGGAGGTTGCAGTAAG
138440	OPTN	GGAAGTGGCAGTTGCAGTGAG
138441	CNTN2	TCATCCCAGCGTATGCTGCCTCTTTAG
138442	MYO1C	CCTGCAATTTCCCACCTCCTG
138443	KRTHB1	CAGGCATCTTTGCCTGCCCTGCCTTGCTTGGC
138444	DAZ	GTGTTTAAAGTGGCTTTCTGGCC
138445	ATP8B2	CATGTCGGCTCTGCCTGCAGTGA
138446	DLGAP2	CCCCAAAACACTACCAT
138447	IL17BR	GCACTTTTTATTTTCATTTTCTG
138448	AOC2	TAGAATCTGATTTCACCTCTCA
138449	CSPG2	AGTTTAGGCTGGAAATG
138450	CALB2	CCTGCACACACCTGCCTGCAGAGC
138451	PDLIM1	CTCTCCTCTCTTGAAAGTTCTCTGCT
138452	MAP3K7IP2	AGACCAGCTGGGGCAACATATGG
138453	SLC25A15	CCGGGAGGCAGAAGTTGCAGTGA
138454	MSR1	ACATCTTCAGTGCAGAAGGAA
138455	JAM3	GCGGCCAGTCCAGCCTTTTAAA
138456	ROR2	AGGGAAAGTGTTTCTTGGGTTTGGAA
138457	ZNF192	TTGAGGCTTTTGTTATACCAAGGAA
138458	CDH1	CTTCTGCTCATTACTACACT
138459	ATP6V1G2	CGCAGCTTTGGGCCTGGTC
138460	PTK2B	TTCTCCTTCTTCTGATCCAG
138461	MECP2	GGCCCAGTTTTGGGGTGTGACCTCA
138462	SAS	GCCCAGGCTGGAGTGCAATGGCAT
138463	FOXG1B	AGTGACTGCTTTGCCA
138464	CSF2	CCATATTTATTCAAGATGTTTTA
138465	NRF1	TGATCTCATGACTATTAAAATGTTGCT
138466	FZD4	AAATGCTTATTGTATTGAGAACC
138467	COL4A3	AGCATTGTGTATAGAACTGGAT
138468	CYP8B1	GGCTAGTTTCTGTATTTTTAGT

138469	SART2	GTGTGAGCTTCCTTGGGG
138470	PRKAB1	ACACTCTTCAGAAGACATTTCATACCTGC
138471	NR5A2	TTGCCATTTTAAATATGTTCT
138472	ADCY1	ACCGAGCAGGCACAGCACAGCAGTG
138473	GNA15	ACACCCTGGGATGGGGCTAGTAG
138474	KRT4	CCAATGCCATCTCCCACTAGATCCTGT
138475	FGF9	GCTCCACTGTTGCCAAACTTT
138476	TGFA	TACTGGGGAAGAAAGTGAAGGA
138477	ADAM20	CAGCTCAGAGGGAGGAGCCAGA
138478	B4GALT5	CGGGTGTGAGCCATTGCGCCCAGCCT
138479	GAS7	ACAGCAAACACATTCTCC
138480	KCNQ2	GCACATGCACACAGGTGCACAGACCAC
138481	GABRP	TTACCTTTCCTGTCAGAAATAAACCA
138482	SCN4A	TCCAGCCTCAGAGATCTCCCTTCTCA
138483	MTR	GCCCAGGCTGGAGTGCAGGGGCGC
138484	YWHAZ	TGGTCTGTCATTGTCTGCCTTT
138485	CRTAP	TCTTGCCCAGGCTGGAGTGCAA
138486	TPMT	TAGGATTACAGGTATGAGCCAT
138487	CSH2	GAGGGAGGGAACAGTGCCCAAGC
138488	APG5L	TGCTTTCCTCCACTGCCATC
138489	MST1R	AGTGAGCCAGTGAGGGCAGTC
138490	COG1	CTGTCTCTCCCTAAATAAATACT
138491	LIG3	GACTCACTCAGCTGCTGGCCCC
138492	TRIM39	GGAGAGGCTGAAAAGAAAGCAGAGGAG
138493	ZNF264	CATGTAGGTTTGCCAAGTCTTTGTGG
138494	BAX	CCTTCTGCCCTCCCTGGAGCC
138495	CRHR2	GGGAGGCGTGGGATGGGAATAGCA
138496	LMCD1	GGCTGGGATCCCAACTATCG
138497	CHC1L	GAGGGACTTGCCTCTGTAAA
138498	NAV2	CCAGCCCCCAGCCACAGCCTT
138499	STS	CTGTAGTGAGGTTGCAGTGATT
138500	MAP3K8	GGTGACTAGAACAACTTGAAG
138501	CLOCK	AAAACATTTTACAGATTTTATGG
138502	DNAI1	CCTGGGGGCTGGCCTCAGTCTCTGTCC
138503	RPA3	AATGCACAGGGAATACAATAG
138504	TNS	GCTGCTGCCTCCGCCACTGGCCACCGC
138505	KIR2DL4	CTGTCTCTTGCTTACCAATGTCT
138506	RFC1	ATGAGACAAAGTTCTTGAGACATTTAA
138507	CSF2RB	CAGCAAATCACTTCTCTCCC
138508	PPP2R1B	TGGGAGGTAGAGGTTGCACTGA
138509	HDGF	CTTATAGTCATATATATCA
138510	IGF1	AAAGAACAGTAAACATTGGTAAGAATG
138511	GGA3	TAATGTGCTGCCCAGAAACCTC
138512	PRDM2	GGCCACTATGTTTTCTACCTC
138513	AP1M1	GGACCCCTGCCTTCCCCAGGCCA
138514	RBBP9	GCCAATTTTCTGATTTTTTGT
138515	ASB1	AGGGGGATTTCTGTTGCCTTGACA
138516	ACLY	CAGCTGGCAGTGGAGCCTGCTTTAT
138517	RGR	CATTGTGGTTTTAATTTCCA
138518	PDE6C	TTACCTTTGAAGAAAACCAGAA

138519	COL4A4	TTCATTCTTGGGTTAACAGTATCTCA
138520	MAGEL2	TCTGTTCTGTATTTTGGCATCTGTGTT
138521	SORBS1	TTCAGCCTGCTGTGCAGCAGTG
138522	GOCAP1	CCTTGGGTGCTGACCAGCAGAGTC
138523	KCNA6	TCTGGCCCTCTACCTTGCTT
138524	A1BG	CGCCTCAGCCTCCCAAAGTGTTGGGA
138525	MRPL49	CCTGCCTGGGCAGGCAGCTCGC
138526	SEPN1	CCTCTCTCCCTGCCTGTTTTCCCC
138527	GNB3	CTCACCAAACCCTCTTCCCCACCA
138528	TBR1	TTCTTCTGTGGAGTTATCCTCCT
138529	HSPA1L	GGCCCCTCTTTAAACCGTGTGA
138530	CELSR2	TCTCGTCCTGCCCGCACTGCCTCT
138531	MUC4	AGGCCAGTGCCAGCACCTGCCC
138532	COL6A2	CATGCTGGTGGCCACCGTGTCC
138533	ADORA2A	CCTCTGCCCGGGGAGCCTCAGGCAGTCCTCT
138534	SLC16A7	TTGCAGCCCAGTTTAATTCAGC
138535	HOXD8	ATATTTTTATAATGGTTTTTAATGTC
138536	MC1R	GCGGCTTTAAGTGTGCTGGGCAGA
138537	BARHL1	CAGGAAGGGGCCGAGGGGGCTTGCCCA
138538	KLK5	ATCTTTCTCTGTCCCCTCCTTGCC
138539	CGA	TCCTTTTCCTTACCATA
138540	RAB26	GGGAGGACGCCTGCCCACGC
138541	UBQLN1	CCAAAGTGCATTTGCCTAGGACTTCTC
138542	OPHN1	GTTGCCCAGTGTGAGGGAAAGA
138543	HTR1E	AGTATGTGTGGTCTTGTTTCCTT
138544	HEPH	GCACCCAGCCCTTCCCCCTCCCTCAT
138545	TDG	CTAGATATACCATTATCC
138546	UPK1B	GGAGAGAAGCAAGCCAGCCAATAGAA
138547	TIMP3	GGAGTCGATAAATTAGCAGAAC
138548	TCF1	TGGACAGCTGTGCCTCGCTCCC
138549	DDOST	GCAGGCGGCTCACGAGGTCAGGAGA
138550	CRYZL1	TATACAAACAATTTCAAAAAGA
138551	ATF5	AGGCTAAAGGCGGCCAGGTTTGCAGTG
138552	BPHL	AAGTCTTCTCTTTGCTTGCTGATCTC
138553	EIF5A	TACAGCCCTGGTGGGGGAGAAG
138554	RGR	CCACCAACAGTGTATAGGTGT
138555	CDKN1B	AGATAAATATTTGACTTGCA
138556	RAD1	GCCGCCTCGCTCCTCTTCAG
138557	P2RX4	AAGTGCTGGGATGACAGGTGT
138558	CD14	TGGACTCAAACTGCCTTGGCTTCA
138559	NCALD	AGAAGGCAGACTGGGTGA
138560	LZTS1	AGCACCTTCAGGGCTGAGTTCTGGG
138561	UBE4A	CTGCCTCTCCCACTAGGTCTGGATGG
138562	GHR	GTCGCCAGGCTAGAGTGCGGT
138563	GLO1	GAATTCTCCTTTGAGATTTCAGAAGA
138564	YWHAB	TGCCCTGTGGTTGCACCTG
138565	NINJ1	CCTCATCTGCACCATGTCCCCG
138566	SMARCD2	GGAGCACAGAGCACGGAGTGGACT
138567	ITCH	TGCACATCTTGTAAAATTGGAC
138568	PACE4	GACAGATTTAAAGCACATGCCTTCT

138569	IKBKAP	TCAGCAGACAACAAGCAATTCTA
138570	CEP2	CTACCCAAGCCGCCTCCAGGTACAGCCA
138571	PER2	TGACCAACACATGTGAGACCCAGTCCT
138572	LDLR	CAACATAGTAAGACCCCATCTC
138572	TTF2	CAACATAGTAAGACCCCATCTC
138573	CDH16	CTCTCTTCTTGCTTGGCAGCTGGACCA
138574	LGI1	AATCAGAAAGAAGCAAAAGGA
138575	FGA	GACTGTAAGTTCCTTGGGGGCAGG
138576	SET7	GCCAGCCCCGACTGCTCCTCCTCTTCC
138577	GJA5	TTGCAACCTTTCCTTCTGCTAGGGT
138578	RAG2	GATTCAGAGAGGCGTGAGCAGCCCC
138579	DGAT2	CACATGCTTACTGGTGGCCTCA
138580	TBX6	CCGTGCTGGACATCAGAAATGCAGTGG
138581	SLC24A1	CCACCGCGCCTGGCCTATACCA
138582	G6PC	CCGCGTAGCTGGCATACAGGT
138583	ATP7B	CTCTCCTGTGTGCTTGTCAGTGGGG
138584	GNE	TACAGGTGTAAGCCATCACACCTGGCCCT
138585	LTBR	CAAACCTGAGGCCTCCCGGCAGACCCA
138586	DMN	AGTCTTCTCTCCACTTCTGGA
138587	FABP2	ACTCAGGCTGGAATGTAGTGGA
138588	CAMK2A	CCAGCTGTCTGCTGGGTTCTTTTCTC
138589	CROT	TTCCCTGTGATCTCAAAACAATTGTTGCA
138590	TNXB	GGGACAGAGCAGGTGCAGAGGCA
138591	LANCL1	TGGAACTCTTTATTTAAATATGT
138592	CDH1	ATTCTATCGGCCAGGCTGGAGTGCAGT
138593	GPR17	TGAGTGCCAAGTCAGAGCTGTG
138594	SLC22A3	GCTGGGGTTCCAGGCATGGTTTAGGCC
138595	LTB4R	TCCCCTCTTGGCAGGGTGGGCATGAG
138596	PDYN	CACCTTTTCAGGTTGGAGTGCATTCATTCA
138597	ADH4	AGCTCACTGGGAGCAATGGGGTTGCAG
138598	AQP6	CCCTTGGGCTTCCTGCCTTGCAG
138599	RPIP8	ACTTTGTGTTGACCTCATCCCTGGCT
138600	SRGAP2	TCCCACGCTTCCTCTCTCT
138601	ACTB	GGTGGAGGCAGCCAGGGCTTACCTGT
138602	ATP6V1C1	CCTGTGCAAAGGTGTATTGTGG
138603	FOXE1	AGGAGGACAAATTTGCAAAA
138604	ZNF41	CAGGCTTCTTAGTGGAAACTGCA
138605	FZD4	CTGCCTCCTGGGTTCAAGTGAT
138606	ATP2A2	TGAGCAGAGTCTTGCTACCTC
138607	CDX2	AGACCTACAGACCTGGCTCTCA
138608	DDX15	ACCATGGTATGCATGATCGTTGTAAT
138609	NEO1	TTGTACAGAGTACGAGAGGACAGCA
138610	RRAS	CTTACTTCCTGGCCTCTTCTGG
138611	GPR85	ATAGAAATTTGGGGTTCTAAA
138612	ZNF165	CCGAAGAGACCCAGGAAGGATTCTT
138613	MAP2K1	CTTGTGAGATCCTTCACAGG
138614	TCF2	CAGCCTCCTGCCTGCTCC
138615	CACNG3	TGTTTTCCTTTCTTCCTTCT
138616	TNFRSF10B	GCGTGAGCCACCAGCCAGGCC
138617	MADH9	ACCTGATGCCAGTACAGTGCAATTGGAA

138618	KIT	GATGCTCTTCTGTGGACC
138619	RAB38	TCCTGCAGGGCCACAGTCGGCACTGTT
138620	BAZ2B	GCTATAAAAGCACCAAAAAGAA
138621	ABCE1	TCTTGAGTTCCTGAATTTTG
138622	EGR1	CAGAGCCCTGCCCTGCACCCTTGT
138623	SVIL	CCTCCCCAGGCTGAAGTGTCCTCAGG
138624	NOTCH2	CCTTTCTGCCCTCCTGCTCC
138625	TNFSF14	CCACTGCACTTGCCACCTGAGTCACA
138626	ITGB1BP2	GAGCAGCAGGAGGCTGAAGGAG
138627	DDX6	TGGTGAAGAGAAAAAGGCTGA
138628	HOXB2	TTCTTCTTCTTCTAAAATATTG
138629	EML1	TTCAAGGCAAGTAAATGAATGGAA
138630	GP2	TGCTTTCCACTCCAATTCACACAGGC
138631	KNG	TCCTAGAGGGAGATTGTTAGATCATGAAACTA
138632	MMP14	TCACCCTGACCGCCTCCCTCC
138633	MAT1A	GAAATGAGGCCATGGACTCTGTCCTGA
138634	CACNA2D2	CCCCCAGTGGGACCACATGCC
138635	BAP1	TCAGTATTACCATGTCTCCCTC
138636	VAT1	TATGGGGCCAATCTCTGTGA
138637	PAM	GAGTTTCCTAAAAGTTCA
138638	HDAC5	CTCTTTCCCAGGAGCCCTGCCA
138639	CDK2	GAGATGTTTGAATTTTTCTCT
138640	TCF2	GGCACTCTTCCCACCTCA
138641	FMOD	CCTCTTGCCCAGCTGCCTCT
138642	NIPSNAP1	TTCAGAACTTGGGTTTCAATTGT
138643	CRHR2	GAGGAGCAGAGGCATGGAGGA
138644	G1P3	TATTGTCCAGGCTAGAGTGCAGT
138645	CDS2	TGTAGGTCGGAGGAATGGAGGC
138646	C8orf1	CCATTTCCTGAGTTCTTCCTCA
138647	GRINL1A	TCATCATCTTACATCAGACTTTCTAAC
138648	LAMC2	TGTGTGCCAGGGGCTGGTGGG
138649	MYH13	TCTCTAGGAAGACGCTTTATTCCT
138650	TRRAP	CTCCGGTCTGGAATTTCTGAGTG
138651	FLG	GACAAGCTTCATCTGCAGTCA
138652	NFATC1	CTCCAGGGGTAACTTCATCTCC
138653	WISP1	TCGAAATTGGACTGTCTTTA
138654	BCL2	AGGTGTTCATTCACTTGCATTT
138655	IL10RA	CTGTAGGAATGGAAGCTTCAGG
138656	CAPNS1	CCTGCCTGGAGTTCCCCCTGGCTCTAG
138657	VDR	CATTCCCTGAGTCACCAGGAA
138658	KLK5	CCCTCATTCCTTCCCAGAGATGTTGAG
138659	GPR44	ACTCGGGAAACCTGGGGC
138660	ARHI	CTCTTCCTATCCTGTAGCGTGTAG
138661	MYBL2	CTCCTGCAGGGAGCCTTCT
138662	LAMC2	ACGCCTGTAATTCTAGCACTTT
138663	MDM1	TCTTTCTCCATTCTGTTCC
138664	MTMR2	TTCTAGTCTTAACATACTTGCATCCACTTC
138665	XPA	ATGGTGGAAACAGTGGGGAA
138666	NPHS1	GACCAGCCTGGCCAACATGGTAAAACT
138667	BCL9	ACCAAGTGTCACCGCAGCAAGA

138668	SIL	GTAGCCCAGGCTGGAGTGCAAT
138669	PPP2R5B	GGGAGGGCACAGGCAAGAAGAGATTCA
138670	HSD17B1	TGGGAGACACAACAAGGGGTG
138671	BRF1	CGCAGTGCCATGCGCAGGTGCTT
138672	SLC26A3	AGCTCCTCACAGAGTATGTGT
138673	ELMO1	CGTCCTTTGGTAAAGGGAAGCTGT
138674	ADAR	AGTCACACAGGACAGAGGAGGCAGAG
138675	SPG4	ATGGCCTTTTAAATATTGTAAT
138676	CNP	TTTCCCAAGCTGGAGTGCAGT
138677	ALOX15	CCATCACCACGGCTCACTGCAGCCT
138678	PDE1B	AAAGTCCAGGTGACTGCCCTCCTT
138679	SP110	GGCATGGCATCTTCAAAACAAT
138680	HPSE	CTTCCCTTCTGAGTCT
138681	EHD1	CTAGTTTCTGTTCTGTAAA
138682	LIF	GCACCTTTCCCTGTCGCTC
138683	CLCN3	AGTTAAGCATTACCTTTCTA
138684	PPEF2	CAGGCTGGAGTGCATTGGCGCG
138685	KCND2	GTTTCTGCTTTGTAGACAATT
138686	ARF5	TCTGGGCACAGAGGGGTCCAC
138687	AIRE	AGCCTCTCCTTGCCTGGTGACCTA
138688	ZNF76	CCCTCGGGGGCTGTCAGATTTGTGAC
138689	NRCAM	TTTTTTCCTCTTCCATACTGGT
138690	IL12RB2	GTCCTCTCCGCCCTGCGGCCA
138691	SP3	TAACTGCAGCAGTTCACCTAT
138692	NEUROD1	TATTGTCATTACTGCCTTT
138693	ITGB1	ACCACTGTATGTTTACTTCTC
138694	HUNK	GGTCTTCTGTGAGCTACAGGCACAG
138695	FSTL1	GGTGCTCTGGGGCTGGAGGCTAGT
138696	DTNB	AGGGTGCTGGGGTGACCTCAT
138697	AMPD3	GTTCATTTCAGCCTCTGGAT
138698	CASQ1	TTTGATGAGCAAATGAGCTA
138699	FRDA	TCTTCCTTGGCCTATTCCGG
138700	CRKL	CAGGCCGGGAGTCACTGGA
138701	TCF21	GTCCTCGGGGTTCCTTCTCAC
138702	CDSN	CACAAACAAGCACATACAC
138703	DCX	CAGTCTTCCTTCTGTAGAGGGCTGT
138704	TADA2L	GCTTGGGATCAGAAGTCAGAAGT
138705	OAS3	AACTTACCTGCTAGGAATGCT
138706	PSMD9	CGAACTCCTGGGCTCAAGCAGT
138707	PTPRN	ATGCGCTGCTCAACCTCTCTC
138708	MINPP1	TTCATTCTGTCACTTGGCTTCG
138709	ATP6V1E1	TCAGGAGGTGGAGCTCGTCGTCAGCTC
138710	LMNA	GCATAGAGGCTTCTCCGCCAGCCT
138711	ST3GALVI	ATCTAAGTTCATACTGGT
138712	BAZ2A	CGGAGGGTGGAAGAGGAGAGGGTGGA
138713	SLC14A1	CATTTCTGCCTGACTGCTCCA
138714	FMR1	AACTCAACCAAATGGTACTTTTCCACAGT
138715	B4GALT1	TGCACCTCCCCAGGCAGAGGGA
138716	SCN4A	ATGCTTTTATAGGCCTGTGTG
138717	EHD1	CCCAGCCTCCAGGGCCCGGGC

138718	ARMET	TGCTCAATCTCTGTTGCACCTG
138719	MYEOV	GCTCCTTCCCTCGGCTCATGGCCC
138720	DSC3	GGTATTTGAGTGTGCAAG
138721	SLC2A6	CTTCCTCCTGCCCCAGCCCAACCTC
138722	KCNA7	GGGAAAGAGAACCACAATAGA
138723	GIPR	ACAAAACATCAAGTTCCACACACGC
138724	NCAM2	ATGGTTACTCATTTTATCAGGG
138725	LARGE	TTCCTCTGGTTCTTGCCTGCTTCA
138726	CLK2	ATGTGGAGAAGTACAAGGAAGCAG
138727	SRGAP2	GGATTCTATGAAAAATTCTTGCCT
138728	GPR4	GCAGTCGTGGCTCACTGCAGCC
138729	G6PT1	TCTCCGCACCTCTCCAGCTCCTGCA
138730	MCL1	GCTGTACTTTTGATAGCTGTGCCA
138731	SYNGR1	CTGTCCCCTCTCTCCACACCCAGC
138732	CACNB2	GCCACCCAGGTGATGTTAGTG
138733	SCML1	CCTCCAGCAAGTTTAAAAATAATTA
138734	PIK3CA	ACTGCACTGTTAATAACTCTCAGCAG
138735	EGLN1	GGAAAGCGGGCGACCCACCTCC
138736	TCEA1	ATTTTATGCTGAATCTGCATTCTGTC
138737	TAL1	TTGCCCAGGCTGGTCTTGAAGT
138738	TNNT2	TGGAGGGAGAGCAGAGACCATGT
138739	KCNE1L	ATGAAGAGACCTCAGACATCTT
138740	CLTC	AGAAAATGCTAGTATGTTTTGCTCAC
138741	EXTL3	CCTCCGTGTGGACTGTGCCTCAGGCC
138742	DHCR24	TCATACCTGGCTTGCAGGGA
138743	MYO1D	TTCTCCAAGCCTGGTCAGCTGCC
138744	SHOX	ACTTCTGATTTAGATACTTCTC
138745	SCNN1B	ACTGTTGCCCGAGGACT
138746	TRIM34	CTGCCGAGCCTGCATCACTGTGA
138747	ADH5	CAAGTTCTCAGCACCTACTTTT
138748	KRT1	AGCTCTTTCTTTTCTGCTGTTTCCCA
138749	CR1	CTTCCCTGGTACCTAGCAA
138750	AMD1	AGTCAGCTTGGATCATTCA
138751	RNF14	TGGCTTCATACTCTTTCTTTG
138752	GPC3	GAGGAAGATACATTTTAGTGGTAGCA
138753	MADH7	TTGTTTTGTGTCTCTTATGGATG
138754	WASF1	GGATGATGAACTGGAATAACGAT
138755	CD5L	GGATATATCCTGGTGTTGCT
138756	PAX5	GATTACATTGTGGACTTTGA
138757	PLGL	CTCTCATCTTTTTCAAGTCTTTTCCA
138758	RANBP2L1	AGGCTGAGGCTGGAGAATCGCT
138759	RAP1GA1	CACTCTCCCTCTCTGGGCATGTCT
138760	SDPR	CACTCCTGCGTTCCTGTCCA
138761	KL	AGCTCGGCCATCACGTCAA
138762	UBL3	AATGTGGGAGGGTAGTTTCAG
138763	ALDH3A2	TTGGAGCTCCTGACTGCAGGGACTC
138764	GYS1	TGGCTTATTCCCAACTGCTCTG
138765	COX10	TCATGATCTGCTGTCTGTA
138766	AK1	GCAGCCTGGCCAACATGGCAAAACCC
138767	FBN1	TTCCAATACTTCATTAATTTCA

138768	PCDHA9	CTTGAGAATAGAGCCACAAAAA
138769	CA1	ACACAGCCCTGCTTCTGACATAATCCA
138770	COPA	TACCTGTAATCCCAGCACTTTG
138770	PCDH11Y	TACCTGTAATCCCAGCACTTTG
138771	CDC42	AAAGTTGCCTTTTCTCTCCA
138772	ADD1	GCGGACCCTGGCAGCGATGGGTCTCCA
138773	KIF3B	TTCAGAATTCCCATTTACATATT
138774	ADH6	TGAGACCAAGAGAAAGGGTGTAT
138775	SLC1A5	GAGCTAGGGCTCTGGGGGTCTGC
138776	TNFRSF14	AGCAGGCCTGAGCCCCTCTCTG
138777	SMARCAL1	GACTATGTTAGCAAGTGTCACG
138778	PKNOX1	GATTTTTGTGAAGCAATT
138779	GRAF	TCTGTGGCCCAGGCTGGAGTGC
138779	MEFV	TCTGTGGCCCAGGCTGGAGTGC
138780	SIX2	CTGCCAGTCTCTTGTACTCTG
138781	CALCRL	CATGAAGGGAAAATTAGCTTTTAGTTT
138782	SIAT1	AACCAATGCTCTATATTGCT
138783	SLC25A15	TTCACTGACCAACCAACCAA
138784	NEDD4L	GAAACCAGATCTGTTTAG
138785	LPIN1	CTTGCACTACTGCACTCCAGCCT
138786	VAPB	CTGTTGGTGCTGGCCCTTGGGGA
138787	ITGBL1	GGTAGAATATCAGAGTGGGGC
138788	MRE11A	TAGTCATACCTGGAATGTGTC
138789	BCL11B	ACATTCCACATCGTCCTCCCTTT
138790	HIP1	GGAAAGGGAAGATCTTATGCCTTT
138791	CTSF	GCACTGGGCTGGGGCACAGCCCC
138792	BAT5	TTTCCCCTCATTCATGTGGCT
138793	HAP1	ACTCAGCCCTGAGCAGGGAACAG
138794	LDB2	AATTAAAATGAGAGAAAACTCTA
138795	UGT2B7	TCCAGCAAGAAAGATTGTGATGCAAGAT
138796	DNAH11	GCCTCTGCTGGAGTGCAGTGAG
138797	GNAI2	GCGTGAGACGCCACCATTCCTGGAAACC
138798	FRDA	TCTCCCACATATTCACATACG
138799	OGN	CTCATTCTTCTTTTATTATTCA
138800	ADAM29	TTAGAGTACAAAACATGTTCTCCCT
138801	BECN1	TCTCTCTCAACTTCCTGCACTTA
138802	SLC22A2	CCTCCTGCCTGCAGGATCATGCC
138803	WBP2	CCTCCTGCCTCCCTGCCTCC
138804	COL11A2	CTGTCTCTTCCACTTGGTCT
138805	UBC	GGCCGTTTTTGGCTTTTTTGT
138806	ICA1	CCTCTTCGCTGACCTCGACCC
138807	TLR4	ATCCAGAGTTTAGCCCTGGGAG
138808	G22P1	GACCACGCTCCTTCCTCGGGAAG
138809	SLC16A2	CCCAGTGCCCCTGGCTAGGGGCAGAG
138810	ID3	CTCTCCAAACTATGCCAAGGCGGCGGC
138811	CHST5	CCAAAGGTGGAGGTTGCAGTAAGCTGA
138812	CCND2	CCCTGGGTCCTTCTAGCTTTT
138813	SCA2	CCTCCTCCCTTCTACTGCTTCTACC
138814	ATP11B	AAAATTGACAGTTAAGAGCCAAA
138815	TGFB3	TCTCTTCCTCTCCAGGCCTTGCC

138816	ADRA1A	CCATGGTGTTTCTCTCGGG
138817	PAX3	AGCTGTAAAGGACCTCCTAAAT
138818	TNFAIP1	AGCTTATCTGAATTATTTTCCAA
138819	COL17A1	ATATATACTTATAGAATTCA
138820	HTR4	GCTTTCCGTCCGCCAGTGCA
138821	MME	CTTATTTTATTTCCATCATGTC
138822	GPRC5C	GCCAGCAACATGTGCCCCAGATCTG
138823	KLHL1	TCGCGCATCTCCAGCCTAAGGGTTGTC
138824	DEDD	TGAGCCAGGAGGTCTAGAACTGGAGC
138825	ED1	AAGCAGATGACAGAGGTTTGA
138826	BRCA1	GGTTTTGCAACCTGAGGTCT
138827	DHCR24	GCAGCCCAGTGGAATGGAAAGAATGT
138828	CRAT	GCCCGACCTGGGGCTGAGTGCAGA
138829	TRPC5	CCTGCGTCGCTAAGACTGTCAT
138830	NGB	ATGGGGCAGGGCTGGG
138831	HSPA4	CACATCCTCTGTTCTCTACCTG
138832	WFDC1	AAGACCCCAGAGATGCTTAGA
138833	IKBKG	ACTGTTTCTACTCCTCCCTCCTCC
138834	DNMT3A	TGAAGGAGGAGAACTTGGGAGCCAG
138835	DGKI	TTCTCTTTACATTCAGTCTTGG
138836	LRRC2	CCAGGAGGTCGAGGCTGCAGTG
138837	DHFR	GCTCACACCTGTAATCCCAGCG
138838	DLST	ACACCCTACAAGTTGATCATGCA
138839	TRPS1	ATGTACAAGGACTGACTTTAA
138840	OAS3	GTTCTCTGCCGTCTTTGGCTCAG
138841	WNT5A	TATCTCAAAGTCTTTTGTACATAAC
138842	MAP3K14	CCCTGCTCCAGTCGAGTTGGCC
138843	DRD1	CACATGCTCATCCCAAAAGCTA
138844	C1D	TCTTTATTGATTAGCACTGA
138845	MSN	CCACAGCCATCCCAGCCTT
138846	TSNAX	TTAGTGGAAGCAATTTGTA
138847	SHC1	ACCCCTGAATTCTTCAATG
138848	ALDH1B1	AGATTAAAAACCAGTGATCT
138849	UBL1	GTTGTGCTGTGGGGAAGGGAGA
138850	RAP1B	ACATGTGTAACGTTTTGGTTG
138851	CNTF	TGGAGATCTTAAGATTCCATTTTGGA
138852	VDAC1	TTGTAATCACATGGTGACAACAC
138853	DRIL1	CGCGGCCCCCACGCTGCAGT
138854	ABCB9	TCAATAAAGTGTACTACCTCTT
138855	IDH1	TTGCCAGGCTGTGGTTGTGAGTC
138856	GAS7	CTGAGGCAGTAGAATCGCTTGA
138857	PKDREJ	CCAGATTTGAGAGAGGGACCTGGCCAG
138858	FOXM1	ATTCCTCTGCTGTCCCTGCC
138859	CDH19	ATGTAAACAATCAGCTCACAG
138860	ENTPD3	GTTTGTCATCATCCTCATCTCA
138861	SRD5A1	GGAGTTTTTAAATGCCATTTGTTTCAG
138862	GCN1L1	TATATCCCGAGTGGGGCACAG
138863	CACNG6	GCCTCCTCCCCCTTCCCGACC
138864	ABCF1	CTTGATGTGACCGGGATCCCACT
138865	AVPR2	CCTGGGGCTGGTCCTGGGAGCCAC

138866	CDKN1A	GACCACACCCTGTACTGTTCTG
138867	LBP	GGAGGGACCACCCTCCCTGACTGGCCT
138868	FGF12	AGCTCCTGCCTGCAGCTTCCA
138869	OTX2	TTCATAAGGAGTCAATATG
138870	MECP2	GGGCTGGGCCCACCCAAGCAGGAG
138871	XPNPEP2	TCCCTGAGCCCACCTCCCAG
138872	CHRNB4	GTAGCAGCACCTACTATGCTTCA
138873	GYPE	GGCCTGCATGCTGCCTGATCTTGCCT
138874	ZNF165	GCAGTTAAACCAACACTGACCCCCTG
138875	NCOA3	ATCCCTTGACTTTTGTGGCCTG
138876	ATRN	ACACAAACACATACACACAACAC
138877	ATP11B	TAGTCCTTCTTTAACTTAGATATTTCA
138878	KRT17	CTCCTGTGTGCCTGCCTCCTGCCGC
138879	EED	GGTGGAGGTGGCGGCGGCAGCG
138880	RDS	CTTGAAAAACACTATTTCTGG
138881	PTP4A2	CCAGAAACTTGTCTTCTAAAAGGGAGG
138882	JRK	CCTGGCCACTGGCCCTGTTTCTCCCCACAC
138883	TCTA	AGGCACCAAACACCCACATACCTGGCCC
138884	CLECSF12	TTTTGCCATGTTGACCAAGCTGGTC
138885	SORCS2	CTCTGTAAATGCCTCTCTAGGTAGCTGCT
138886	CAPN5	CTCTCAGCCTCAGTGTCCCGAGGGC
138887	UTX	CTGAAAACTGTGTCTATGCA
138888	LNK	GCACCAGCCACCATGCCTGGCT
138889	ACT	TCCAGAGAGCAGGGAACTACCTT
138890	ZNF74	TCCCCACCTGGCCTTGCTGGC
138891	CARKL	CGGGAGGCAGAGGTTGCAGTGA
138891	HSPA5	CGGGAGGCAGAGGTTGCAGTGA
138891	SUDD	CGGGAGGCAGAGGTTGCAGTGA
138892	ANKH	TGGGAGGCAGAGGTTGTAGTGA
138893	STAT3	GCTGTCTCTCCCCCTCGGCT
138894	CAV3	CCTCCCGGAACCTCCCCTTTGGCTAA
138895	THBS1	ACAGAGCAGGGTGCTATTGTGAGG
138896	PPP2CA	GCACTCAGTTTATTCCCTA
138897	TSC1	TGCACCTTCACTCTCCAGGGTA
138898	RNMT	AGCCTCCTACCTAAGTCA
138899	PRKR	GTTGCCCAGGCTGGAGTGCAATGACAC
138900	ADAM19	GACAGAGGGTATGGAAGACTTGCA
138901	DHFR	GCTACAGTGAGCTGCCATTCCA
138902	PLAG1	GCTCCTGATATTTTATCATGCTC
138903	BMP1	TGTCCAAAAAGGGCTTCAAGGCCCACTTC
138904	ENTPD6	ATCCCTGTCCCCGTCAGCAGTG
138905	CRP	CACTTTCTCAAAGCACACTGGAAA
138906	INPP5B	CAGGAGTTTGAGGGTGATGTGC
138907	SURF4	AGCACCCTGCAAGCCAGCCTGGC
138908	EXTL3	CACACCGTTCGTACGCCCAG
138909	CBFA2T2	AGCTGTTTGCAGAAAACTGGGTGG
138910	WBSCR1	ATCAGAGGCACCTTGTTTTCA
138911	GALNT7	ATACAGAAAACTATTATCAGTTG
138912	ASPH	GTTAAGACACAAGGAAAAAGAA
138913	PCSK1	TTGTGGCACCTTTTCTTTTTCTCC

138914	PPP2R1B	GCTCCTGCATCCTCACTGTGG
138915	SOX12	CTTCCTCTTCTTCCTCTTCTTTTCACAGGT
138916	MLF1	TAACAGTTAGTAATGGTGCTG
138917	FGFR4	AGCAGGAGGTTCTGGGCCTC
138918	ADAMTS5	ACTGATCACTATATTACATCAT
138919	BSN	GAAGAGAGGTATCATTGCTGTGGAAA
138920	STAU2	TGGTATTGATGTAAAATAC
138921	HOXC10	CTCTCTCTGAAAATGACA
138922	SWAP70	TTCAAAACATCATAAAGATGA
138923	COL6A1	GCTGCATCCCACCAGCCTGAGCAA
138924	SRGAP2	GCCTTTCACTGAATTTTCTGA
138925	CDH12	TTCATCAAAAGGATTAATG
138926	RAB23	ATTATTTGTACTAAACAATGTTTT
138927	CALM3	CCTCACATCTGTGCTCCGTG
138928	MAP2K2	CCTCAGCCCCAGCGCCCCTCGGC
138929	EOMES	CTCTAAAAGAAGGTGCCA
138930	TNFRSF1B	GGGGCTTTCTGGAGAGGAGGGATGCT
138931	MAT2A	CAAGGTGTCCTACAGAAAAACC
138932	FANCD2	ATTGCTTGAGTCCGGGAGCTCAAGGCA
138933	GAD1	GTTGATGACCAATCTCTGTGA
138934	SLC22A2	AAGGTCTTACTCCAGCCCTTCCTGGGT
138935	SALL2	CTTCTAGTTTTAGATAACTCC
138936	LETM1	AGATGCCTCCATTCGCCTGTGGACC
138937	CNTN2	TTCTGCACAGTCCCTCCAGGGTTTGGG
138938	SSA1	GCCCTGTAAAGCCAAACCCCCT
138939	LHX3	CAGTTCTGCCCAGGCCCGGCT
138940	SOX12	CCTCTTCTTCCTCTTCTTTTCAC
138941	ADCY1	GAGGAACTCACATACCCCAAAT
138942	COL19A1	TTCCAAAACATGTGTTTATTTCCACAT
138943	PRDM4	ACATGTGGACTCACCTGAG
138944	CYLN2	GCTCAGGCCACACAGAGACAC
138945	ZNF10	TGAGATCAAGTGAATTGGCCC
138946	SDC4	CTTCCTCCCTTCCTTTCACA
138947	PDE6B	GAAGCCCAAGAAAATGACTGAAG
138948	SNK	AAGACTTGCTTCCCGGCCACGCGCGCT
138949	CALB1	AATCTGTCTGATTCTATGCCTGTATTT
138950	ADCY1	CATTCCCCATCCTGCACCGGCA
138951	COL9A2	TCTCCACTGGCCATCTTGTC
138952	NCOR2	CCTGGTGCTCGGGAAGGGAGG
138953	NGFR	CCCCTGTGGAGCCCGCACCCCCA
138954	TEAD3	CCCCACCCACCCTTGGGGGAGCATGAT
138955	GPR56	TCTGTCACACAGGCTGGAGTGCAGTG
138956	TSC1	TCATGCTGCAGTGGGTAGTTCTAAGGA
138957	RAD51L3	GGACACCATCGAGGGAGCAGG
138958	IL20RA	TTCTCATAGCACGTGTGTGATT
138959	ESRRB	CTGGACACACCTGCCCTAGCCCTCA
138960	CDH1	AGCTCACTGTAACCTCAAACTCT
138961	SLC7A6	TTTCACTGTGGTGGGATGGTGCC
138962	GBF1	CCCTGGGCCACCTCCTCCAG
138963	IL1R1	CCCTGGCATGACCATCCTGT

138964	MAP4	GGGCAGCAGCAGCCCTGCCCCACAC
138965	WASF3	CTGTTCTCAGGATGGAGAGAACA
138966	CNP	AGCTGGAGTGCAGTGGTGCG
138967	TM6SF2	GAGAGCTGTGGACTCAGGACCCAGGA
138968	RBM15	ATAGACAAATAATTTTCCCAATG
138969	XPR1	CCAAACAAGCTCACTGTGTT
138970	GLI2	TTCAAAGGATATGCAGAAAGAT
138971	FABP3	AGTTCCAGTTCCCATGGTGTATGTGGTTTTT
138972	RALBP1	AGCTCACTTTGTACCCCTCACCTCTGC
138973	OPA1	AGTCAGAAATGATTCTAATTTAAACA
138974	ITIH1	CAAGGCAGAGGAGGAGGA
138975	GNE	ACAGGTGTAAGCCATCACACCTGGCCCTA
138976	TAF11	GGCCATAAGCATCTTCTGGACAGG
138977	PTGFRN	TTTCTGAGGCTCGCTGGTGAC
138978	MBD4	TAAGTCTATCTTAACTCTG
138979	APM1	AGTGGCATGATCTCGGCTTACT
138980	ZNF148	GCCTAACGTATTTAATGGAGGAATC
138981	AUP1	TCACAACAGGCTGGATGGGTGGGTG
138982	ITPR2	AAACATGGAGTGAAAGCCATT
138983	NT5C2	GCTGCCCAGGCTGGAGTACAG
138984	SURF4	CCTATCTGGGGACAGGCTGG
138985	SLC29A2	TCATCCACTTGGAGTGCTGCG
138986	AP1B1	TCCTCCTGGCCTCCCAGGTTTCAGTTG
138987	MNT	CTGCCTCTGGGCAGCCTGCTTTGGCC
138988	NLGN2	GGGACCCCATGATTCAGCCACGGA
138989	LFNG	ACCTCCCATCCCTGCCCTCCTCC
138990	RAB6A	AGCTCACTGCTTTGGCCCCCTTACTCT
138991	ACCN2	TGGAGCTGGAGAGTAAGGCTGT
138992	IL19	GGCCTCAAGGGATCCTCCCACCTCG
138993	FAH	CTCTTCTGGAAACAAAGGGCTCAAGC
138994	CHD2	CGCTCTGCTCCCTGCCTTTGCC
138995	BDKRB2	ACAACCACCTGTCCCTGCCTCAGTTCCC
138996	GART	AATACTGGTCATCTAACTTTG
138997	PPP2R2B	CGCTGGGAACTGGAGCTGGAGTGA
138998	DMC1	GTCCCATTCTCCTAAGGACTTT
138999	PML	TGCAGCCAGGCTGGGCAGA
139000	GCNT2	CCCTCTCTCCCCAGTATTA
139001	PCDH15	ACTGGTTCTTTTTAAAGGGATG
139002	CD209	CGAGTAGCTGGAATTACAGGCAG
139003	PDGFRB	TGCCTGTCCTTCTACTCAGCTGTT
139004	ATP1B1	GTGCATACTCTGGTCATTTTTCAAGCCAT
139005	GLTSCR1	GTCTCAGCCTCTCCCCGCCGCCCCC
139006	ENC1	TGGGCCTAAATAAATGAGCTGT
139007	SOST	CCCACATTTCTGTCCTCTGCGCGTG
139008	GPR55	TTTCCAACTCTCCCCATTTTCCTG
139009	ADORA1	AGCATGTGGGGGAAGGCCTTGCTGT
139010	CXCL1	GAGGAGGAAGCTCACTGGTG
139011	BCL2	GCTCCGTTTGGCAGTGCAATGGT
139012	TACSTD2	TGAAACTCTTTAGACTTTCTG
139013	TNFAIP2	AGGCCTCCCCTCTCCTGCCTCCCTC

139014	CHD1	CACCTTGCCGCTTTTCATCA
139015	DSC3	CTTCTGCAGCCCTCCTTCTGGG
139016	PFN2	TGTTAAAATGAACTGTTGCTA
139017	ADH1B	TTTTGGGCAATAGAGATGCCTTCCCCTGT
139018	ASB1	CCCAGCACTTCTGGAACTGTGCTTCTC
139019	FGD1	TTAAAAAATATATTCCTACAGTGATGT
139020	FKBP2	ACTCAGAGACCTCAGCTCCAGCA
139021	VIPR2	TTCTCCTGGTAGAGGGCCGGCTGTATC
139022	ZFHX1B	AACCTTTTAATCTGTGTTTCT
139023	PCTK1	CCTCCTCCTCCTCAGCCGGC
139024	SIAT1	AAGAGCCTGTGGTCAGGAAATCA
139025	MECP2	TTTGGTGTCTTTCTCTTTTAGA
139026	LTB4R	TGTGATACCAAGGAGACCA
139027	ZNF157	AGGACCCTCTACACACAGACAGCT
139028	ARF3	ATCCTTCCCCACCATCTTCAG
139029	ADAM17	GTTTTTAAAATATCTTTTGACCTG
139030	PCDH11X	TCAAGTTGACAACAGCAGA
139030	PCDH11Y	TCAAGTTGACAACAGCAGA
139031	RAD50	TGCTTCTTCTCAAAGCACT
139032	APOC4	TGCCTGTAGTCCCAGCTACTCAG
139032	DHFR	TGCCTGTAGTCCCAGCTACTCAG
139032	HM13	TGCCTGTAGTCCCAGCTACTCAG
139032	SLC25A15	TGCCTGTAGTCCCAGCTACTCAG
139033	EMR1	TTCTTGCTTTCAAATATGCTATGG
139034	KLF7	CACTCACTCGCTCCTCTCTCACCTC
139035	ZIC3	TTCATTTTAACACTTGTCCTG
139036	C7	TGATCTCCTGATTAGAGAGGGTGG
139037	NUMB	TGCAACAACAATCATGCTTA
139038	SPHK2	AGAAAGGGATCTGGGAGCGAG
139039	CNTN2	CAGGTCCTTTCTCAGCCTCC
139040	SGCB	TATTGAGCATCTTCTACATCCTAGGC
139041	G6PC	TCCAGCTAGCCAACTCCTCC
139042	PCLO	TTCTCTCTTGATCCTACAAACAGACA
139043	LALBA	GAGCTCTAGACCCTTACTCAGTGCCTT
139044	SERPINB8	TGACCTAGTTGGTGCAGTG
139045	KPNA1	TACCTGGTGGCTTTTTCT
139046	MTMR3	GGGAAAGAAGAGAGCCTTGTTGG
139047	CRACC	TTCATGAGCAGTTGTAGCAG
139048	TCL1A	TCAGGACTCAGAAGCCTCTGGGT
139049	ABR	GAGCACACCTGCTTTGCCTTGCTGCCT
139050	TMEM4	GACAGCCCTGCTCCCTGCA
139051	PSEN1	CTTCCCTTTGATTTTTTGCTG
139052	MMP19	CTGCTCACCCACAGACACA
139053	SLC7A7	ACCTGTCCAGAAGCCTGGCCTAGGCAG
139054	SNRPN	CCCTGTCTTCCCTCTGGAGCTG
139055	HMGA1	CCTCAGTTCCCAGCTCCCCCCGC
139056	IGHMBP2	CACTTACCGATCCAGAGCCTCC
139057	CROT	TGCCTATAATCTTAGCACTTTG
139058	CHST1	TCTCAAGCTTTTGAATGGGTG
139059	REV3L	TACCACTAAACTGTTGTGCATGG

139060	KLK8	TCCCCAGGCTCTAGTGCAGGAGG
139061	PTK2B	TATTCCTTTCCCTTCCTCTTCG
139062	CDC2	GGCTCTTGGAAATTGAGCGGA
139063	SOS2	GTCTTTAGCTAATGAATTGCC
139064	TSC1	AGGAAGCTGCCTGGTGTGGAG
139065	CCNT2	GTATTTTTGTTACAAAGCCACT
139066	GBAS	AAACGATCATTTGTGACCTCAG
139067	RNMT	AAGATTGTGATTAGACACATTTAC
139068	ABCC3	TAGTAGCTGAATTTGATTCTCCA
139069	HTR1E	CCTCATTGCAACCTCCGCCT
139070	FBXL3A	GCAGCCGCCGCCGTCCCCGG
139071	RET	TTATTTGTAAATGTCTGACT
139072	DXS1283E	AGTCCATTTTCACACTGCTGAGA
139073	ITPKB	ACCCATGAGTTCAGAAGGCACACTCT
139074	FUS1	TGCCTATGGGGAGTTACTCCAA
139075	PAX5	TCTTCCTCCAGGGACTCTGGGGCCCTT
139076	CCND1	ACCATTTTTAAAGTAGAAGAGGGTTTTA
139077	DVL3	CAGGCCTGAAACATTTCTTTTC
139078	GABRA6	GCTTCTCAGAACATGAAATCA
139079	GCG	ATACTATATCACTATTCA
139080	ENPP2	CTTGTAATAAATACTGCAGCTT
139081	BACE	ATGGGAAAGGGTGAGGACTTCACAA
139082	NGFR	GGTGACCTTCTGGGAAATGGCTTGAAGC
139083	ADORA2B	GTGTCAGTAGTAGGCTCCA
139084	ACP5	GCTGAGTTCCGGGGTGCAATGGG
139085	CNGB1	GCCTATAATCCCAGTGCTTTGG
139086	KCNH2	CCTCAAGGACTTTTCTGCTATTTACT
139087	WHSC1	AAGCGCCAGTACCCAGAGACCA
139088	GLO1	TGTGATTCAAGATATTTACA
139089	GPR48	AAGAGCCTATTCAATAGCTCA
139090	AHR	TATCTAAGGATTTAGACCAGAGGTCTAG
139091	SUV39H1	GGGATGACGAGGCGAGAGGGAAGCCCTTGCT
139092	B3GALT5	TACCAGACTTTACTTTGTACTC
139093	NRBP	GCAGCCGCCTTCTAGTTGGG
139094	ALEX2	CTGTTTTGAGAGGAGGAGGGAAGAG
139095	EPM2A	GGATAATTGCTTCACAGCCTT
139096	STAC	AGAACAATGGTTTTTAAAAGACTTA
139097	ABCC12	CTACAAATGTGGAAAGCTCATT
139098	BCL11A	TATGGGAGTCACTATTTATTATTGCTT
139099	AOC3	GTGGCCAAGGGCTCCAGGGCCAGG
139100	COL6A2	GCTCACTGCCCCCACGCCTCC
139101	TP53	CAGGCTGGAGTGGAGTGGCGTG
139102	BARD1	GTTTGTGAGAGCCCAGTCATTGTACTG
139103	CLCA3	AATTATACTGAACCCATCCAA
139104	APG5L	ACCTCTGCTTTCCTCCACTGCC
139105	SLC7A6	GGGGCTCAGGGCCAGTGCTCACT
139106	CAPON	TTGAAAGTCCTGCCCTGCCTTCC
139107	PTK2	CAGGCTGGAGTGGAGTGGCATGATCTC
139108	MECP2	TGAGATGAGAGGGGAGAGCTGAACAGA
139109	SMT3H1	ATGGTGAGCACGTGACCATGCC

139110	PCTK1	ATGGTGACAATGCCTTG
139111	LHX2	CCCGCTTGTCCCGTGCCCTTGTGACC
139112	VCL	AGTGAACACTAGCCAGACACTCTG
139113	GRIN2A	TTTATCTATAGGGAAATACACGTAAT
139114	LPP	ACAGAGCAGAAGACAGAACCTGGTCT
139115	WBSCR1	GGGAGTCCACGGAGAAGATGCAGTGA
139116	ADRA2B	GTCTCCCCAGTGGGGGATAAGTC
139117	HIP2	GGGCGGAGACATGGCCAACATCGCG
139118	CBS	ACGGCACAGAGCATCCGTCTCCC
139119	PXF	CTGTCTCTCTAGGAATAGGGTCTGT
139120	BCL2	GTCCGAGATCGGGGGTTGGAGTGCGGGTGGGC
139121	PODXL	ACTTGCCCAAGGTCAGAGCCACTT
139122	NR2F2	CGCCCGCAGCCAGGGGAGCAG
139123	PTK2	AACTGTACAGTTACTTTGACCT
139124	ATRX	CTCTCATCATCATGTTCTTTTA
139125	SH3BP2	TGCTGAGCTAGTGAGTGGTGCA
139126	P53AIP1	TCTCTCCCTCCCTACTGAGGCC
139127	GALNT7	TGGGAGGATCACCTGATGTCA
139128	HGF	CAAAACAATTTATACCTTGTGTCCTTA
139129	PTTG1IP	ACCATAAAGCTTGGAGTGCCTT
139130	CEP1	CTTCCCTTCGTTTGCAT
139131	KRTHA8	AAAATCTGGCTTCTAACTTTCTG
139132	PCDHB11	TCACCCAGACTAGAGGTCAGTG
139133	PRKY	CCATACAGAACAAATGAGA
139134	ALS2	CTCATCTCATCTCCTACACCGT
139135	CMKLR1	GGGAAGCCTCCGGGTGATAGG
139136	TNS	GTGGGGAGGGGACCCATGAATCCTGAC
139137	PAK4	GAGAGCTGAGGGAGGCGCGA
139138	SLC14A2	ACCATCCTGGCGAACATGGTGA
139139	STK10	CGTCTGTGCCAGCTCAAATCCAGC
139140	ZNF3	TCTCTTGTCCTCTTCCCA
139141	CNGB3	CTGGGACTGAAGGGAAGCAGAGATCAT
139142	WDR4	GCACGGGCCTGGCTGGCACCCGGTTTA
139143	DLGAP2	CCAGTTTCAGAGTTCTCA
139144	COLQ	TTGTGGTTTCAAAATCTCTGGCACCA
139145	TEM6	GGCATTTTGTCTCCAGGGCT
139146	LZTR1	TGTCAGCACCTGGAAGTGGAGTGCAGG
139147	SPAG8	ATCTATTTCTGTCTGCACTAGA
139148	TDGF1	GCCTCCCAAGTAACTGGGATTA
139149	PHKA2	TCCAGGGTTTTTATCCTGGCTGTCTATG
139150	DISC1	AGTACTCAGTAAGGCAGTGCAGT
139151	KCNK5	TGTGTTCCCTGTCTCAGGTCA
139152	MAP3K9	CCAGCGGGTGGGCATCTTCCCC
139153	HAS2	ACTTTTCTCCCAATTCTGCGCT
139154	PPIL1	TTATGTATAAAAATAACTTTCT
139155	NCOA6	GTCTGGAACTCCTGAGCTCAAGCAGTC
139156	PCLO	TACAGAAATTATAAGCACAA
139157	EXT2	GACTCAGAAACCTCCAGAGGAA
139158	LIF	GGAGAGGGAGGCTGCAGACGCCTGGGA
139159	PTPN22	TAGCTTTTAAAAGAAAAGCAAA

139160	GNAL	AAGAGAGGAGCCGTCGCAGGAGCCGC
139161	ABCC3	GGGGCACTGACCCAGGAGGAG
139162	BCL2L2	CTGCCTGTGGTCCTGAGCACTGA
139163	MYLK	CAGTGCTGAGCAGAGCAAGGTTGGGTT
139164	PTP4A2	TGCCCTGCTTCTAGGGCTCTGA
139165	COL6A1	CACCAATCCTCACCTAACAGTTACTTTA
139166	GOLGA5	TTCATATATTTAACTTTGC
139167	CDH5	GTGACAGATCACAGGGTGAGG
139168	ROCK2	AGACTGTAGATGCATTTTA
139169	LAMB1	GGCTCGGGGGCTCCCGGAGCA
139170	IL1R1	CTTCTTAATGCTTTCCTCCCTGGC
139171	BGLAP	CCCAGTTCTGCTCCTCTCCAG
139172	PDGFB	GGGAGGCACCTCCAGGCAGGCCAGGCT
139173	PHKA1	CTGGTCCCTGCCTCGGTTGATTGTGC
139174	CASP6	CTGCAATCCCAGCTACTTGGA
139175	SLC7A8	GGGCCACACCCTCAGCTGCCTC
139176	C7	TTGCCCAGGCTGGAGCGCA
139177	TMEPAI	CCCCTGCCTGCCTGATTCCATGGCTGT
139178	COPE	GGACAGAGGCCAGGAGCCAG
139179	RGS5	GTTTTGAAGTTTTCAAAGACTGGCTCTGCTGT
139180	HLCS	CCTGTCCCCACCCCCACCCCAGCAGTG
139181	KIF3B	GCCATACTAAAAATGCTCTG
139182	ITGB4	GGGGCTAGGTGTCTCCTGGGAGGCAT
139183	EGLN2	CAGTCTCTGGGTTGTCAT
139184	TCF2	AAGACTTGTGTCCCCGCCTCAGGCTGC
139185	FMR2	GCCAAGTCTGCAGCACAGTGACCA
139186	LTK	AGGACTGAGGCACTGAGGGTCCCT
139187	XRCC3	CTGCCTCTCCCTGGGTCTGGGGACAG
139188	PRKAR2B	TGTCTTTAAAAATTTGATCTTG
139189	ALDOB	TGCTATACCTACTAGGTCCAA
139190	GAC1	CGTGCTTGAGGCCTGGCAGCTG
139191	ETS2	GTGGCCAAGAAGCAGTGGCCTTA
139192	SLC31A1	AAACCCAGAACTCAAACTTA
139193	BASP1	TTTTTGGGAGTGACAAACATT
139194	NESH	ATCCAGAGGCCTGCTGCAGAT
139195	HPCAL1	CGCCTGGTCTCTGGGTTGGCTGTT
139196	CD4	GGGACTGTTCTTTTACAAGACAGGAC
139197	C6	CAACAAATAATTTCTGAGTGTGT
139198	DTX1	CCAGAGTTAGAAAGGAGG
139199	APAF1	ATTGCAGCCTCAGACTCCTGGG
139200	PCDHB12	TCAGAATAATTTGGGTTTCTGTAAA
139200	PCDHB7	TCAGAATAATTTGGGTTTCTGTAAA
139201	RAX	TCCAGGCCCAAACAGGCTGAAGC
139202	BRCA1	ATGGGAAATGAGAACATTCCAAGT
139203	TNFRSF7	TGCCCAGGGGGTGCAAAGAAGAGACA
139204	MVK	CTGTCTCTCAGGGCCAGGCCTCT
139205	SIM2	ACCTGTAATCCCAGCTACTCTG
139206	PCDHGA1	GGCTGGACCCTTCCCACTACA
139206	PCDHGA10	GGCTGGACCCTTCCCACTACA
139206	PCDHGA11	GGCTGGACCCTTCCCACTACA

139206	PCDHGA12	GGCTGGACCCTTCCCACTACA
139206	PCDHGA2	GGCTGGACCCTTCCCACTACA
139206	PCDHGA3	GGCTGGACCCTTCCCACTACA
139206	PCDHGA4	GGCTGGACCCTTCCCACTACA
139206	PCDHGA5	GGCTGGACCCTTCCCACTACA
139206	PCDHGA6	GGCTGGACCCTTCCCACTACA
139206	PCDHGA7	GGCTGGACCCTTCCCACTACA
139206	PCDHGA8	GGCTGGACCCTTCCCACTACA
139206	PCDHGA9	GGCTGGACCCTTCCCACTACA
139206	PCDHGB1	GGCTGGACCCTTCCCACTACA
139206	PCDHGB2	GGCTGGACCCTTCCCACTACA
139206	PCDHGB3	GGCTGGACCCTTCCCACTACA
139206	PCDHGB4	GGCTGGACCCTTCCCACTACA
139206	PCDHGB5	GGCTGGACCCTTCCCACTACA
139206	PCDHGB6	GGCTGGACCCTTCCCACTACA
139206	PCDHGB7	GGCTGGACCCTTCCCACTACA
139206	PCDHGC3	GGCTGGACCCTTCCCACTACA
139206	PCDHGC4	GGCTGGACCCTTCCCACTACA
139206	PCDHGC5	GGCTGGACCCTTCCCACTACA
139207	FAT2	AAACCAGGAACAATTGACTCCT
139208	PTMS	GGAGGTGGGGGTGGGGGCAGCC
139209	FGF23	TGCCCTGCTAGAATTTGCTTTTC
139210	MINPP1	TGCTATAATAAAGAAAATTCTTGTG
139211	SAS	GTTGCCCAGGCTGGAGTGCAATGGCAT
139212	COX15	GTTGCCCAGGCTGGAGTACAATGGCGT
139213	ADAMTS4	GTCGCCCAGGCTGGAGTGCAATGGCAC
139214	CDC25B	TCGCCCGCTGCCTCCCTCG
139215	NPY2R	CGCGGGCTGTCCTGGACCCTAGGAG
139216	SEDL	AAGCAATTCTCCTTCTTCAGCCTCC
139217	SLC2A3	AGTTTTATTTATTTTATCCTCT
139218	ATP2A2	AGCAGAGTCTTGCTACCTCA
139219	SERPINF2	CCAGCATTTCCCTTCCTTCCTCTC
139220	BACE	TTCTACAAGTAATTTTGCA
139221	DSG1	TCCTAGGAGGAAAATTCCATT
139222	RNF12	GAGAGCGGCGGCCAGGGAGGTGCGGA
139223	ZNF24	TCCTTTGGTACAAAAGGGTTGA
139224	MSL3L1	TAGTCTCTCCATTCTAAAGTTTA
139225	SPRR2C	CACTGTCCAGGTGGAGACTGAGCAAAGGAA
139226	ADCY1	GCCCATGGAGGGAGGTATT
139227	IL21R	CGCCCAGGCTGGAATGCAGT
139228	USP21	GCCCCTGCCCATGTACAGCCCCCAGAC
139229	TMPRSS3	GGGATTACAGGCATGGGCCACC
139230	CBFB	TATCCTTTTAAATGCTAGTAATC
139231	ADAM12	TGGAGACCGTGACCAGTGCTGCTG
139232	EYA1	TTTCATGTGCTCAGAATTATT
139233	RAD51C	GCAAATGATCAGCCTTGCAAA
139234	AMPH	GTTTTCAGTGCTGTGTCATTCCA
139235	NFATC3	CCTCCACCTCAGGCC
139236	COL1A1	CCCTTGTGCCGCAGGCTGG
139237	RBL1	ATATTTATCCAAAATGTAGTTGACA

139238	TAF7L	ACTTCTTTAACAATCTTGTTTG
139239	SLC22A7	TTGAAGAAGCCACAGAGGCT
139240	GPR37	AAACAATAAAGAAAGAAATATT
139241	JAM3	CCCCACCCTCAGCGTTGGGGATTCACG
139242	PREP	CAGGCTACAGTTGAACAGAACTG
139243	ALDH1B1	ATGAAATATACATACTAGGCA
139244	MAPT	CCCCTGAGAAGGCCTGGCCCCTTCC
139245	PCDH15	CAAGAGGTGGAACATGTGAATGA
139246	PCDH9	TAGTCTGTCTTGACACACATT
139247	ATP7A	GGCTCACTGCAACCTCTGCCT
139247	CD209	GGCTCACTGCAACCTCTGCCT
139247	EIF5A2	GGCTCACTGCAACCTCTGCCT
139247	FZD4	GGCTCACTGCAACCTCTGCCT
139247	GPR81	GGCTCACTGCAACCTCTGCCT
139247	MPL	GGCTCACTGCAACCTCTGCCT
139247	MYCL2	GGCTCACTGCAACCTCTGCCT
139247	NQO1	GGCTCACTGCAACCTCTGCCT
139247	PCDHB16	GGCTCACTGCAACCTCTGCCT
139247	PER2	GGCTCACTGCAACCTCTGCCT
139247	SIGLEC8	GGCTCACTGCAACCTCTGCCT
139247	SMAC	GGCTCACTGCAACCTCTGCCT
139247	TPMT	GGCTCACTGCAACCTCTGCCT
139247	TRPV1	GGCTCACTGCAACCTCTGCCT
139247	VHL	GGCTCACTGCAACCTCTGCCT
139248	TRPM6	CCAGTGCTTGCCCTGCCTGCCAGGAA
139249	DPYSL3	ACCCTGTGTACTAAGTGCTTT
139250	P2RX7	GTCAGTTTCAGATCCTGATCTTA
139251	PFKFB4	TGTGCGTGGCTCCTGACCTGCTGC
139252	CYP2B6	GTCACATTGCAAGTGAGTGCAGG
139253	TNFRSF1B	CCACTACACTCCAGCCTGAGCAACAGA
139254	CRIM1	GTTCTAGCTGTTTGCATCAAA
139255	COL4A4	TTTTAGGAAACTCACCTTCCTC
139256	EIF5A2	AACAGAAGATCCCAAGTTTTAG
139257	IGF1	TTTGAAAAACACAATGATTCCTTC
139258	GLI2	GCCCATGGCCCTCACCTCCATCAATGCC
139259	IL4R	CATGCCCAGCTGTATGGCTGGGG
139260	COG4	CTCTGCCCTCAGACCTGGCC
139261	TADA2L	GGGTCAAAGGACAATATGGGTG
139262	DLG4	TGAGAGAAGAGAGAGATGTCCCAG
139263	FCMD	ACTGAGGAATTTTCATGTGCCA
139264	EIF2C1	GTTTCAATATTTCTTAACTGGGGTGTC
139265	CPD	TTCTCTCTTGGATCAAATATGTCTTTA
139266	FEN1	GCAATCAGCTGAGTTGAGACTTTG
139267	MMP15	GTGGTTTCTTGTGCACTGGCA
139268	TGM4	CCTCTCCTGGTGCTCCAAGCA
139269	FCN2	ACTGGGCCACGTACAAGCAGGGCTT
139270	C20orf1	GGGAAGAAAAGAGGGAGCAGC
139271	PTPN7	CCCATCTCAGAGCTCAGAGGGTACA
139272	MYD88	TCTTCCTATATCCTGGAAT
139273	FADD	GGAAAGTTGGAACCGTGTCCAGCACAG

139274	GAN	TTTCCTCCTTCCCTCCTTT
139275	SIT	GAAGTGCTGTGGAAACCGTCAGGCC
139276	EPO	GCCATGCTGGGAAGACGCCTGAG
139277	SLC26A4	GTCACATTTAGTAAATGCTGAAATAAA
139278	HUNK	GTGTCTGTGCCCCTGTGTGTGTT
139279	LAT	CTGGGGGTGAGGACACATTGC
139280	SSR2	TCTCTTCCTGTCTTTGTGGCTCCGG
139281	RAD51L1	AGATAAATGTGCAAACCTGTTC
139282	IL16	AAGAGGAAGCTTTCTGTCTCCTTA
139283	PTGER4	CCAAAAATCGACAGCCACTGAGACCGGCT
139284	OSBP	GCTCTCACTGGGCGCTGTAGAA
139285	WDR8	AGGAGGTTCTCCACTGTGGTGGTCTGG
139286	PCDHB2	GCCAGAGCTGGAGCACGTTTGGTG
139287	BAI2	GCCCAGGAAATCCACAGCAGTG
139288	MLPH	ACAGGCTGGGACTCAGAGTTATTTCC
139289	B4GALT7	CCATGCAGCTGGCGTAGGTGGC
139290	CNGB1	GGGTGAGGGATAAAATGAGGCTCC
139291	ISL1	TTTCAGGAAGGTGGAGCTGC
139292	EGR1	TGCTCACCTCTAGCCTTAAGGG
139293	AP2S1	GAGTCCCCAATAAACCTGTGGTCCTGC
139294	KPNB2	TCCTTCGGGGCACCTCAGGCAGCAAACC
139295	CDK5R2	TCTCCTCCTGCACCTGTGTCCC
139296	ZIC2	AAAAACCCACAAAAATGTTGAA
139297	MSF	CGCTGGGATCTGATTGAGGA
139298	AVPR1A	GGCTTCCTTTCTTCCTTGTAA
139299	KIF3B	CACTACTGCATTCCAGCCTGGG
139300	PSMC6	ATTGCAGCAAGTTACAAAGGG
139301	RBM8A	AGCTAAATTTTTAATATTTTTGTA
139302	KRTHA8	TTCTAATTCCCTTCTCCTATCCTCCTG
139303	ACLY	TCCTTTGGAGGAAGGGAATGAAA
139304	CNGB3	AGTTGTCCTCATGAATTAGCT
139305	DEF6	TTCCCAATGTCATATCCACCAGGACCTGGC
139306	EDNRB	AAGTAAGAAACAATTATAATTTCTTTA
139307	CLASP1	AACATCATTTCCACAGAC
139308	CA6	AGCATTAGATGTAATA
139309	CACNA2D2	GGGCTCCTGCCCCTTTCAGGCCTA
139310	PODXL	GACTAAAATCTGCTGTAGCT
139311	NF2	TCCTTGAGGCAGGAATACTGAGGTGC
139312	DIAPH2	CTTGGTTTGTGACTGCATCTCC
139313	PGF	TGCTTGTACTGGGACATTGTTC
139314	ITPR1	CATTTCATTTGTGCCAAAAAT
139315	CDC25A	GCCCGGCTTCTCTTGCCGAC
139316	PMM1	CCTCCTCTGGCCCAGGACGCCTGCTGC
139317	EZH1	GGTGGTGGGGACTAGGGGAGCC
139318	ABL1	GCTGCACTCTTGAACTGGGCGA
139319	FMR2	TAGTTTCAGTGACTTGTTATATCTA
139320	SOLH	CAGCCCCGCTCACCTGCCA
139321	LPIN2	CCATTGCCATTTGGTACA
139322	XPNPEP1	TGCTAGTACATCATTCATGATCACCTTAA
139323	CLNS1A	GTGCCTCTTCCACTCTGGAGTGAAGT

139324	ARHGEF12	AGTCTAATTCTGAAAATATCTCA
139325	ADD2	TTGCAGGACCCCTGTCCTCA
139326	DCLRE1C	GGTTTTGGGGTCCCGGACTCTG
139327	ITGA7	ACCTTAGTTTGCTGCCATCAGTCTAG
139328	LPIN2	CTCTTCTGCTGACCTCAGATACC
139329	BTK	TGAGCACACAGGTGAACTCCAG
139330	EIF5A2	ACCAAGCTCTTGACTCTGTTT
139331	GCK	TCAAACCCCAAACCAGCCCGAGGAG
139332	PRDM2	TGGAGAGGAAACCAGATTGGA
139333	DCC	CATCACAGGCTCAGCCTTT
139334	VAPB	AGCTAAATTTGTATTGGTTCA
139335	RNGTT	ATAAATGCAGAGGCAAAGTGTAG
139336	KLRA1	ATTGAGACAGGCTGGAGTCCAG
139337	BRF1	CCCTGCCTCTGTGGCTCTGCCTGTGG
139338	ADAM33	CAGGTCCACACCAGCCTGGGCAACAC
139339	CHRM5	ATGAAGCTGTCTTGTGCCAGT
139340	MAN2A2	CTGCTTTGGGTTGTGAGTGG
139341	CISH	CCCTGGTTTTTCAATCCCCAGGGTCG
139342	ADD1	TGTGGGCTCAGATCCTGGGC
139343	ACADM	CAGCTACAAGAACTTTCTTGAA
139344	NUP62	TCATCCCTTCTGTGGCAGTTAG
139345	APBB2	GGAATTCTGCATCCAGCTCTA
139346	MEOX1	GGAAATGCTAGGTTTTTGTG
139347	NGB	TGGTGGCAGAGGTGGGATGA
139348	BACH2	TTGGAATTTCTTGGCCTACTA
139349	FMOD	GTGAAGCCCAGGCCAGG
139350	CDC2L2	TGGAAAGAAAAAGTTCATCACAGA
139351	PRSS8	CTGGACTCCGGAGGACTGAGCC
139352	EP300	GGGCCGAAGAAGAGATTTCCT
139353	ASB1	GCCTCACTCCCCTCCTCCCGCT
139354	PART1	TCTCTTCCCGGCTTGGCAATCTCAGCT
139355	LECT2	GAGGAAGAAACTAAAGGAAGTA
139356	MYO5A	AAATGTGTCTTCAGCTGGCAGCA
139357	ASCL2	CCTCTGCCTGCACCTTCCTGCG
139358	LTB4R	TGGGAGGCGGGAGTGGAGTG
139359	FANCF	TTGCAGCTGTATCTCACACTATGATTT
139360	SDPR	CAGGGCTGAAGAACAAACTCTTG
139361	DIAPH2	AGGTGCTTTCTCAGTTGAGGAGAGGTG
139362	SLC6A3	TGGGGAGGGGCTCCGTGTAGC
139363	TLL2	TGATACTTCTTTTTATCTCTTTA
139364	PPP4R1	TCATGCTGGTCATGACCTGAAG
139365	AIPL1	AGACCAGCCTGGCCAACATGGT
139365	CRACC	AGACCAGCCTGGCCAACATGGT
139365	DBT	AGACCAGCCTGGCCAACATGGT
139365	DNASE2	AGACCAGCCTGGCCAACATGGT
139365	FGFR2	AGACCAGCCTGGCCAACATGGT
139365	GTF2H2	AGACCAGCCTGGCCAACATGGT
139365	KIF3B	AGACCAGCCTGGCCAACATGGT
139365	LAMC2	AGACCAGCCTGGCCAACATGGT
139365	LAMP2	AGACCAGCCTGGCCAACATGGT

139365	MOG	AGACCAGCCTGGCCAACATGGT
139365	NFATC3	AGACCAGCCTGGCCAACATGGT
139365	NPHS1	AGACCAGCCTGGCCAACATGGT
139365	NUP62	AGACCAGCCTGGCCAACATGGT
139365	OPA3	AGACCAGCCTGGCCAACATGGT
139365	PAICS	AGACCAGCCTGGCCAACATGGT
139365	PDE4C	AGACCAGCCTGGCCAACATGGT
139365	SLC2A6	AGACCAGCCTGGCCAACATGGT
139365	TCF7	AGACCAGCCTGGCCAACATGGT
139365	TNFRSF1B	AGACCAGCCTGGCCAACATGGT
139365	UPK1B	AGACCAGCCTGGCCAACATGGT
139365	VHL	AGACCAGCCTGGCCAACATGGT
139365	ZNF36	AGACCAGCCTGGCCAACATGGT
139366	TNFSF14	AGACCAGCCTGGCTAACATGGC
139367	ID4	CTTTCTGCTTTCCTTCCTCC
139368	ZNF192	CAGGTTCTTAACAGCCTGTGC
139369	CHD1	GAAAGAGAGTTCTTTCTTAATAAAGAA
139370	DTR	ACTTCAGTCTTGCCTAGGCGA
139371	CORO1C	TAGGGAGGGCGGAAAGGGAGGC
139372	CCND2	GTTACTAAGTCAGGAGTGTAGT
139373	SERPINB13	TGTTAGATGCATAAGCATTTT
139374	RAD21	TGGCTATACTGAAATCTGTTATTTTAG
139375	LZTR1	ACTTGAGGTGAATTTTGGAGTGAAGGG
139376	AOC3	GTAGGTTGAGGACAGGAGAGGG
139377	ROBO1	GGAGCTGCCTCTTTACAGCTTC
139378	CREB1	GCTGGCGCCTGTAATCCCAGCT
139378	F2RL3	GCTGGCGCCTGTAATCCCAGCT
139379	EGR1	GTACTCTCACATGTGGCA
139380	PITPN	AGAATTCCAGGGTCACAGCCCCA
139381	CTMP	AGACCAGCCTGACCAACACGGA
139382	ACK1	TGCCAGACCATTCTCTGGCGGGGACCA
139383	BPHL	GCACACTCCAGTCTTGGTGGTTCC
139384	PRPSAP1	GGTCTCGACCCTGGACCTCCTGAGGGA
139385	UBL3	TTGCAGGCTGACATTACATTCTG
139386	TBR1	AGCGAATAAGTGCAGGTCTCCG
139387	PTGIS	TCTCCTGAGCTCGTGATCT
139388	ADORA1	CTGTCCCAGGGGTCTCCCTGA
139389	ELMO1	TGGCTTTGAACATTTTGGGG
139390	COL19A1	GGTTATTTTATTTATTGTAAGCATTTT
139391	GHR	ATTCAGAAGAAAAAGAA
139392	CLTCL1	AGCCATCCCAGAGCCTGGGG
139393	YES1	TGCTGGCACTCAGAGCTCCTC
139394	PLA2G2D	TCTGCCGCTGTCCCCCACCTGCTG
139395	GALGT	CCTGCACTCCACATGATGAGGTCAG
139396	ATP2A2	CTTCTTCTTTAGGATTGTGAT
139397	JPH2	CAGGCAGCTCTGGGACCTAGGA
139398	F2RL3	CCATGTTGGCCAGGCTGGTCTCCA
139399	CCND3	CGCAGTGTGCACTAAGGGGCC
139400	SOX1	CTTTTTCAATGAAAGAGAAGGAA
139401	PSCD4	CCACAGACATCATTGCTGTTC

139402	FGF2	AGGCTACTATTCATCCTCTGTGAT
139403	ARHGEF6	TTTTTGGTACTGAGAGTCTCAA
139404	XRCC5	TCATCTTTGTGGATGGTGTCTCCTTT
139405	SLC21A3	CATTTTCAGCACTTACTTCA
139406	YWHAZ	TGTCATTGTCTGCCTTTAAAATCCTTC
139407	DDOST	CAGGGAGGGGGGTTATTAGGAT
139408	PRPF31	GGCTTCCCACTGAAGGGA
139409	CELSR2	GTGGGCAGGAAAGAAAGGCTCCT
139410	CCBL1	AACCAAGTGCCTCCTGTCTGAA
139411	EXTL3	AATCCCTGGGAGCGCCTGACCCTGGT
139412	UMPK	GGACCCCAGCCCCTATCTCCAAGAGA
139413	NF2	CAGGCTGGAGTGCAATGGCGTGATCTC
139414	PTGIS	CAGGCTAGAGTGCAGTGGCGTGATCTC
139415	BAZ1A	GGCTGCAGGTATTAAGTCCAAG
139416	FGF2	CTCTGCTCTCACGTGGCACC
139417	GCLC	TACTGTTTTCTGGGCCAGTGAGCCAG
139418	KCNJ16	GCCCAATCTCTGCTGGTCAGTCACG
139419	DGKG	CTGGTCTCCGCGGCACCCACTGGGGC
139420	PIM1	GCTCCTGCGGCAGCTCCTCTGGGCA
139421	ATP1A2	GCTTTCTTTCCCTTACTCCCT
139422	HPS4	GTGACAACAGGACCAACCTG
139423	PRSS16	GCTCTTCTTCTGTGTCTCTATTTCT
139424	PFKFB2	ATCTTAACACAGAACATGAGGTTA
139425	BARD1	TACTGTTTTTAATGTTCACATT
139426	VDR	CTCTCCACCTCAGGCCTTGG
139427	ALEX3	ACCCTCCACAGGCTTGAGCCCAG
139428	TTF2	TGGTAGTGCACACCTGTAGTCCTAG
139429	MCM6	CTGACCAGAGCTGAGGAACTGTG
139430	SLC9A3R1	GACTTTAGGGAAGGTGAA
139431	EIF2C1	CCTACATTCCTTACACAAGTGCCTAA
139432	NMB	CGCGGCCCGGGCACAG
139433	RAI2	CAGCTTTAATGGAATATTGGGTGAAT
139434	FGA	TGTCTTCTTTGCTAGAGAAGTGGA
139435	EHD2	CCTGCTCCGGCTCACACACGCC
139436	RCP	TTGCCTTGCCTGATAACCAGCCAGC
139437	XK	CTTACCATCTTACTCCTGCCTCCC
139438	CYP4A11	TCCCCTTCCTGTCTGCCCA
139439	RARA	ACTAACTTTCCAAGGCCTGCCTTC
139440	NRF1	GTGAATATATGTATATGTGTAC
139441	PCDHB16	CCAAAATTCTGGGATTACAGGC
139442	KDR	GCAGAGCAAGGTGCTGCTG
139443	PTGFR	TCATTAAAAATGGGATTC
139444	IL6R	ACGCCTGTAATCCTAGCACTTT
139444	ROCK2	ACGCCTGTAATCCTAGCACTTT
139444	TGFB1	ACGCCTGTAATCCTAGCACTTT
139445	BAZ2A	CAGTGCATCCAGGTCCTGCCTTGT
139446	PRV1	TCCGGACTTGCCCTATGGGAGA
139447	PRKAB1	CTCGGCTCCAGGGAGGTGTCATT
139448	ANXA11	GGCAAGGGCCTTCTTGCTGCTTCAT
139449	S100A9	AGTGCAAGACGATGACTTGCA

139450	BAZ2B	ATAAAATGTTGTGGAAAAGGTAGC
139451	MTA1L1	CCCACAGATGTCTTGGACAGT
139452	CRTAP	CTGCCACCTCATGTTCACAC
139453	PPARGC1	GAGTATGACGATGGTATTTATCTGTA
139454	TACR1	CTTATCATCACACAACTCAGCCT
139455	BPHL	AAGAGTTTTTCAAAATTAGCCAG
139456	BCL11B	GATTGCCAGGACTAAGCCAT
139457	PTBP1	ATGCCTTGGTGGGGCCTGTGTC
139458	PLAGL1	GGCACTTGCTCCCTGGGCAACTCCTT
139459	RASGRP2	CGGAGCGCAGCCTGGGCCCAGCCCAC
139460	IL24	TTGTACAGCTAGAAAAGG
139461	PAICS	TGACCCATGAAGGGAACTCATTTTCCT
139462	BBS4	CCCCAAAATAGGGTTTTCTT
139463	WHSC1	CCCAAAGGAAACTACTCT
139464	IL13RA1	AGACCAGCCTGACCAAAATGGTGAAAC
139465	TIMP3	CTCCAGCCTCCTCCCTATTGGAATCCCAAT
139466	NEBL	AAAGTTGAAAAAATAAATGCAGG
139467	CDH6	TCATATCCTTCTTACACGAC
139468	BACH2	GCTATTTATCTTCTGAGTTCCCAGCAAT
139469	NRXN3	CCTTCTTATTCTCTTCCTCTGGCTG
139470	ARHGAP6	ACACTCCAAGTCTCAGATATCTGGGAA
139471	GRM6	GAGGAGACCTGGGGCTGTGCATCTGG
139472	UBE2B	CTGTGATTATGCCATTGCACTC
139473	LMO1	CTGCCCGCCTGCCCACCTGCCT
139474	PUM1	GTAGAGTCTGAGACGGGCAAGTGGTT
139475	DDX11	CCTCTTCCTGATGGGCAACCACACCACTGCC
139476	GHR	GACTCACTGCAATCTCCACCTC
139477	TAPBP	GGCTTACTGCAACCTCCGCCTC
139478	PHF1	GCCTCATCTTCCTCAGTTTCA
139479	ICMT	TCAGAAATATGACTTATTTCT
139480	FXR2	GGGAGGCACGGGGAAGGTTTTGG
139481	BCL2L2	TCCCCAGGTATGGAGCACACTCT
139482	PBX2	CCCACCCCACTTGTATGCTCTG
139483	MTMR3	CCTCCTAATCTGGGCCTCTTGTC
139484	ALDOA	CCCAACAACTCCAGGCCCTGCCCC
139485	DIAPH2	GGCCTGTAGCTCTTCTTTCTTGGA
139486	PYGL	AGCTTCTTACTGAAC
139487	CALB1	CTGGATTTTCTTTCTAT
139488	RAD23A	CAGCCAGACGGAAAGGCGGCTGCTTGCCT
139489	MEIS2	CATCACTCGAACTCCAGCTTCAAGAATG
139490	GNAZ	GGGGAAAGAGAAGCTGGGGAT
139491	RGS16	ACCATGAAAATGAGAGGAGGAAAGACATC
139492	CAPN1	ACTGTGTGGCCCCTGCCTGTGC
139493	FOXE1	CCCATCATCTTGGATGCTGCCC
139494	RGL	CCTGAAACAAGCTCATTTCAG
139495	TSC1	GGGCTGACTCTCCAGGGAGCTG
139496	YY1	TGCTATCTTAATTTTGGTTGTA
139497	TCTEL1	GCCTGCGTTGCCACTTGTCTTAACT
139498	VDR	GTCATGGTCCGGTGTCCTTT
139499	TKTL1	GAGAGGCTGTCAGGCAGCAGC

139500	NEDD4L	TTTACTTTTTAAAATGATTTAGA
139501	PTGDS	TCCTGCACACCTTCCGCACACCTCCCTC
139502	MKL1	GACCCGGGAAGAACTGGTGAG
139503	RFXANK	CCAGAGCTGGGGAAACCCAGAA
139504	RXRB	TGTAGGAACCGATCTGCTA
139505	PLCB4	GCAAACCCACAAAGCATCAAAAG
139506	BAT3	TTTCCCCCCTCTTCCTTCACA
139507	SFRP1	GAGCAGCAGCCACTGCACAGGAGG
139508	PPP2R1B	AACTGGGTGGAGAAAGAATGGAAA
139509	ESRRB	CACTTCAGAGCCCCTCTAGCA
139510	RNF4	GGCTTGGATGCTTCGGGCTTCT
139511	TBL1X	CTACTCACCCTCTCTGCTG
139512	GADD45G	GACTCTGCAAGTGTCTGGAGCGG
139513	BRF1	CCAGATACCTGCCTCGTCCG
139514	PDE1B	GCTCCTCCTTGCCCCCACC
139515	ZNF215	CCAGTTTCAAACCCCAAAGATGTATA
139516	ARAF1	CAGAACCTCTCTGGAATTTGTGC
139517	LANCL1	ATCCAGAGTTCATGCTTAGAA
139518	PHF1	TGCCCAGGCTGGAATCCAAGAGTGG
139519	FUT4	GGAGTGCTGGCATTACCCTCTGCAG
139520	ARVCF	CCCAGCCCTGGGCAAGGAAGCTTT
139521	HPSE	CCAACAACAACGAGGTTCCTA
139522	MAPK4	TTGCCTTTCTCCTAGTCACCAAGCAT
139523	ZNF192	GTGGTGGCAAAGTTAGGATAGCTCT
139524	TAPBP	TTTTTTAAAAAACACACATCTTA
139525	GRAP2	ATACATACATCTATCTACATCTGCC
139526	MICB	TGACCAGCCCAGTTTCAAACTCC
139527	CAMK2A	GGGGTGAGTAGGCTTC
139528	IL16	TTCTCTACCAAGCTATCCTGGC
139529	ARAF1	TCCAATGGCTGGGATTTGTGGCAGG
139530	COX11	CTAGAGATTTTCACTCCTC
139531	BRCA1	CCCAAGTAGCTGGGACTATTTTGCATG
139532	RGS14	TGCAAGCTCTGGCCGGCGCTGCCCA
139533	ENO2	GTGTTGGGCATGTGATCACGCC
139534	WT1	CCTGGGTGCCTACAGCAGCCAG
139535	ARHGEF7	GCTCGTTCCTTCACACTCAG
139536	PHKG2	TCCCAGGAAGCAGAACTCTCC
139537	SRGAP2	CAAGGAGGCTTTGAGTCACATC
139538	FMR2	ACTACCCCCTTATGATCCTTCACATT
139539	CDH16	GGCAGCTGGACCAAGGGAGCCAG
139540	SLC4A1	CTACCTTGAGACCCTCTTCTCTGGGCCC
139541	FOLR1	CCAGGAACTGAACCCAAAGGATCACC
139542	LGI1	CGTTTAATGGTATCTGTTACTCCAA
139543	MAN2A2	GCGCAACCCACAAACCCAGTG
139544	MTF1	CAGGAGGCATGAGGTACAATGCCTGC
139545	PLAGL1	AGTTTGAATATTTTCCACAAGATGC
139546	ANXA4	ATTTCTATTTGCACTGTGCCTT
139547	ANGPT1	TTCCAGTATCATACTTACTAGT
139548	SLC38A2	AATGCAGATATTTCTGTGGG
139549	AMT	TCCGAGCAGAGGCCTGGACT

139550	IFNA14	CATCATCTCACACTTTCATGTT
139551	SGPL1	GGGAAGGAGACTGGAAGCTGGTTC
139552	PPP1R12B	TCTCCCACTCTACTGAAACCCGGAA
139553	DMD	CAGCAGCCAACTTATTGGCATGATGG
139554	UBE2L6	TCCCACACCCTTTACATTCCCCAGAGC
139555	RNASEL	GGCCCAGGACTGTGGAGTGTGTG
139556	NKTR	TCAGTTCTTTGCTGGCTCTCAGCT
139557	SLC39A1	GCCCCCGACCTCCCGGGCTCAGG
139558	EHD4	TGAACAACTCTGGAGCAGCTGTC
139559	ARHG	GGGTCCAGAAGAGAGAGGAGGCAC
139560	CD86	GAGAAAAGTCTACCCCTGCTAAGGAG
139561	PROC	CCTGCTGTTCTGTCCTTCCATC
139562	RAB7L1	CACCATTGCGCTTCAGCCTGGG
139563	LIF	CAGGTGCAGAGGTTCTGAGGGA
139564	ADAM19	TCTCTCTGGTCACTGCCCTTA
139565	EYA1	GGACAAGAGAATAGCTGTGGTTTG
139566	SELP	AAGGTTTTCTCCACTTTGTTGGA
139567	LENG4	TATTGTCCAGACAAGAGTCACTG
139568	GNAO1	CCTGCCTGTGTTCTGTGCCCTGTGTCC
139569	TMEM2	CCTTGCAGGAATGAGTCAC
139570	TNFRSF1B	AGCCACTGAAGCTGGGATT
139571	ARVCF	GGCTACAGGTGCCCCACCTCC
139572	SET7	TCCTCTTCCTCCTCCTCCTCC
139573	OSCAR	CTGGGAGGGGAGAGGGTGCGACCAAGC
139574	CDH17	CGCCCAGGCTGGAGTACAGTGG
139575	SNX15	CGCCCAGACTGGAGTGCAGTGG
139576	SIX2	CAGTCTCTTGTACTCTGTGTCCTGGTC
139577	RLBP1	GGAAGAGAAGAACTTGAACCCAG
139578	PDGFRA	AAAACATTTTAAGTTTTACTGATAATT
139579	PML	TGCATGGACCTCTGGGCAGGGAGACCTG
139580	IL2RA	CATCCTCCGGCGCGATGCCAAAAAG
139581	ARF3	GCAGCCAGGACACTGCCCACTGG
139582	TACC1	ACTGATTTCCTTTTTAGTCCTCTA
139583	ENDOGL1	CAGGCTGGAGTGCGGTGGTGGA
139584	PPARGC1	TACTATACAACAATGTTCTTT
139585	PAH	GACAGAATGTGGTCTGTCAGCTGT
139586	IL1R1	ATCCCCAGCCAGAAGTTAGTGTC
139587	TDGF1	GCGATCTTGGTTCACTGCAACC
139588	CASP3	CTACCTCAAACTTCCAGTCA
139589	CHEK2	TCTGGGTGGACAAGACGCTG
139590	SREBF2	TCTGGGCCACTCAGGCCAGTGCACCCC
139591	TCF4	AGGGACGACTTTCTTTAACAT
139592	NDRG3	CACATAGCAAGAGCCCAGCTCTTGGGAGC
139593	WNT8B	CCTCTCTTCTGCACAGCTCCT
139594	PCDHGA1	CCCCACCCTCTTCCTGTGTC
139594	PCDHGA10	CCCCACCCTCTTCCTGTGTC
139594	PCDHGA11	CCCCACCCTCTTCCTGTGTC
139594	PCDHGA12	CCCCACCCTCTTCCTGTGTC
139594	PCDHGA2	CCCCACCCTCTTCCTGTGTC
139594	PCDHGA3	CCCCACCCTCTTCCTGTGTC

139594	PCDHGA4	CCCCACCCTCTTCCTGTGTC
139594	PCDHGA5	CCCCACCCTCTTCCTGTGTC
139594	PCDHGA6	CCCCACCCTCTTCCTGTGTC
139594	PCDHGA7	CCCCACCCTCTTCCTGTGTC
139594	PCDHGA8	CCCCACCCTCTTCCTGTGTC
139594	PCDHGA9	CCCCACCCTCTTCCTGTGTC
139594	PCDHGB1	CCCCACCCTCTTCCTGTGTC
139594	PCDHGB2	CCCCACCCTCTTCCTGTGTC
139594	PCDHGB3	CCCCACCCTCTTCCTGTGTC
139594	PCDHGB4	CCCCACCCTCTTCCTGTGTC
139594	PCDHGB5	CCCCACCCTCTTCCTGTGTC
139594	PCDHGB6	CCCCACCCTCTTCCTGTGTC
139594	PCDHGB7	CCCCACCCTCTTCCTGTGTC
139594	PCDHGC3	CCCCACCCTCTTCCTGTGTC
139594	PCDHGC4	CCCCACCCTCTTCCTGTGTC
139594	PCDHGC5	CCCCACCCTCTTCCTGTGTC
139595	ZNF192	TATACCAAGGAATACTATATAAA
139596	JPH2	GGAAGAGGGGTTAAGGTGCAGTGA
139597	ARSD	GAGGAGAGGAAGAGCCGCA
139598	CTMP	CCAGGAGGAAGAGGTTGCAGTGA
139599	NPY2R	TCTGTTAGACTAGGCAA
139600	ADCY6	TTGAGACGGAGTCTCACTCTGTCACC
139600	TDGF1	TTGAGACGGAGTCTCACTCTGTCACC
139601	CYP1A2	TTGAGACAGAGTCTTACTCTGTTGCC
139602	TERF2	TTGAGACAGAGTCTCGCTCTGTCACC
139603	B4GALT7	GACTTCAGAAACCAGAGCA
139604	PSEN2	TACTGATGAAGAAACTGAGGCCA
139605	SNX3	TTCTGTATAAAAACAAAAGCA
139606	HIF1A	CTGGGGCAATCAATGGATGAA
139607	PTGIS	AATGGCCTGCAAACCTTTTTTA
139608	TMEM1	TGTTTTTACAGGTGTGAAAGTCACAG
139609	AKR1C2	TGGAGGGCATTGCATGAGGTCTGCCA
139610	M17S2	GTTTATTTACAGTATAACTCC
139611	GHR	TCATTTTTTACTTCCTCTCTGA
139612	LIMK1	TTTGTCACTTTGCCTCAGTTGAGCA
139613	CYP4F3	ATATGTTGTGAGCATCTTTCCA
139614	NOS2A	TGAGGGGACTGGGCAGTTCTAG
139615	RIMS1	AAACAAACTAACACAAAATA
139616	MDM4	TCTGTCTCCCAGGCTGAAGTGC
139617	DPYSL3	GTAGCTCTTAGTTTACACTTC
139618	PCDHB16	GTTGCCCAGGCTGATCTTGAACT
139619	MSL3L1	AGGCCCAGAGTCTAAGACTGCAGTGAG
139620	TOB1	TTGAGTCAGTGTCTTACATG
139621	PACSIN1	CCTGCAGCTGAGTTCAGCAGAAAGGAG
139622	MAGEA5	GAGAGAGGAGGAAGAGGGAGTCTG
139623	ADORA1	CCCGTCTGCTGATGTGCCCAGCCTGT
139624	MCC	CAGCAGGCCACTGGGGACAGAAG
139625	RECQL	ATTTGGAAAGAAAAAGAA
139626	DDEF2	TCAGAAATATATAGGTCCCAGG
139627	RS1	ACAGGCTGCACATCTCAGTA

139628	COL2A1	TCTCCCCTCTCTTTCTAAGAGACC
139629	HGF	ACATATCTCCTGAAGATACTTGAA
139630	KCNA3	TAAACAACAGACTTACGTTAAACTTC
139631	KPNA1	TGGGAATATACACATATTA
139632	KCNJ13	GTGAAGTTTAACACAACTGAAC
139633	PTCH	TCTGTACTGGTTCTCTTCTTT
139634	CCRL1	AGTACTTGAATAAGTATGCAGCAGAAC
139635	PPP3R1	ACCTGAAGTGATCATGT
139636	SOD3	AAGCAGGCTGCCTGGTTTTTCCCA
139637	EHHADH	TTATGGAGAAATAATAGAAA
139638	GPR3	GAAAACTGCAGCCCGGCCAGGC
139639	CASQ1	TCCTCCAGGGAGACTAGGTTATTCTCT
139640	IL18	CCATTGCGCTCTAGCCTGGGCAACAAC
139641	DISC1	GTGCTCTTCCTAAAGTTCCTT
139642	ITPR2	TTGCCCAAAAGGCTGGAGAGGGCAGGGAG
139643	TFAP2B	GCTCTGGAAGCTTGTGGAGAA
139644	LOXL2	CCTGCGTGGTCAACTCCTGTCTTC
139645	MN1	CCCTTCCTCTCCCCCTGTCTGTTTCC
139646	MAPT	CCCCGTCTGCGCCGCTGTGCTGTTGT
139647	RAG1	TTTTACATTTTCTTATTTTAACTAC
139648	ADH7	CTGTCTCACAAATACAAGCAT
139649	PUNC	GGCTCTCAGCACCTACCTC
139650	MBD1	AAAAACAATGTGCTGCTG
139651	POLA	GCTCCTCCAGCATCTGTTTCTCCCT
139652	BMP8	ATTGCTTGAACCTGGGAGGTGG
139652	ITGAL	ATTGCTTGAACCTGGGAGGTGG
139653	ZFHX1B	TTGTAATTTCTTTTGAAAATGACCA
139654	EHD2	CTCCAGCCTCACGTTCACTTAGGC
139655	MFNG	CTGTGGGTCCCTGGCAAGTGTCTTGT
139656	MTR	AGCCTCCCAAAATGCTGGGATT
139656	PCDHA9	AGCCTCCCAAAATGCTGGGATT
139657	CBFA2T2	AGGCTTTCTTCAGAACTGAACTAGAA
139658	GLUL	TTCCATTTAATGGGGTGCACCTG
139659	THY1	CAGTGCAGAGATCCTACTTCTCT
139660	SLC7A6	TGCAGGGGACTTCATTTCCTTC
139661	KCNMB3	GAGAAGGGCAAAAGCAAAGAAG
139662	ATP1A2	GGCAGGAGAATTGCTTGAACCTG
139662	PPP2R1B	GGCAGGAGAATTGCTTGAACCTG
139663	AP1G1	TTTGGCATGAAGGATATGGTGCT
139664	SLC20A1	TTCAATTCCATTATGTTTTAATGTTGTC
139665	ITPR2	CACAGAACTTTGAACCTAGGAG
139666	IGF1	AATTGCTGGGATTACAGGCAT
139667	CENPF	TTTATTCTTCTAATTAACAGCTCCTAG
139668	EGF	GCCATGCTCCAGCAAAATCAA
139669	PPP1R11	TTCCAGAACCCAGCCTCCTGGGT
139670	DIO3	TGGGAGGTGGAGGGCCCCTGA
139671	SI	TTTTCCCTCTTCACTTGGT
139672	SOX11	CTGGAAGTCTGTATCTTGAC
139673	LZTS1	CCAGGAGATGGGTCCAGGGGTCTGTCT
139674	ANKH	CACACTGAGGAACGGAGACCTGTGA

139675	CRSP6	GTGGGTTATCTTTTCCAAGGAA
139676	RB1CC1	CAGCATTTGTCCTTTTGTGA
139677	PYGB	GCCCCAGTCATCCTGCCCAGCC
139678	SOX4	AGTTTGCTCCCCTTTGCTTGAAG
139679	TIMELESS	TCTGTTCCTTTGGCTTTCTCTTGGA
139680	MHC2TA	ACAGGCAATGCTGGCTGTTGG
139681	SOX5	AGCCTGTTTTTAACTTCCTTGCTA
139682	OAS2	GATATACTTGGTTCTCTCCA
139683	ADAMTS4	GCTCTTGAACTCCTGACCTCA
139684	GLTSCR1	CTGCAGCCTCAAACTCCTGGG
139685	OAS2	TGTGCATCTTATTTCTGTCAA
139686	CDH11	TCTCACAAAAAGGCAAATATTGA
139687	MBD4	TGGTGCATGCCTGTAATCTCGG
139688	ROBO1	AACATGATTTCAAAATCAGTTTTTCATA
139689	HEM1	CAACACCATTGATGCCTGCC
139690	NUCB1	ATGGGCGCTGGATGAAGTGGCAC
139691	PPT1	TTAGACAAATCCCACTG
139692	SACM2L	TCATTGTGTTTTTCAAAGTGATT
139693	HK2	TCCTAAAACATGAAAATTATCTCCCTT
139694	FY	TGCTCCTCCAGCCCCAGCTGCCCTG
139695	ZNF184	GGTTTACTATACATCAGCATTTT
139696	SLC21A2	ACATTTGGAAGGCACTGCCT
139697	TDE1	CCACTGGAACTCACAAAGGTCTCCT
139698	GPX2	TGCCTTTCCCCTCTGCCTGTTTCC
139699	EHD2	AGCCTCCTGAGTAGCTGGGACTGCA
139700	SERPINB9	CCAATCTGCTTTCTGTCTCTATG
139701	PRELP	CTTCTAGCTGGCTCTCTGCTGCCAC
139702	BCL2	GCTGGCTGGCTGCCTTTTGCTGTGGG
139703	AKAP2	TGTACAGCTAAGAGAAAAGCTTAAGA
139704	NESG1	GAGTTTGAGCGAATCAAATGGGC
139705	SNX5	AACAACAGCAAGAAAATCT
139706	PGM1	GGAGGTGGGCTGGCGCGGAGGGAGGG
139707	MBD1	GACCGAGGACACAGTGGAGCCCACGAG
139708	MBP	CCTGTCCTTCTCTCACCTCCTA
139709	CPM	AGCCTTTCGGGAGGCTGAG
139710	OSM	CCCCTGCCTTGCTCCCCGAGGCCTGCC
139711	MAP3K8	ATCCTCACGACCACCTCA
139712	SMCX	GTCCTCACAACCACCTCA
139713	GNE	TCAGGTGATCCGCCCGCCTCTGCCTCC
139714	MEF2A	GTTCACTGCAACCTCCGCCTCC
139715	KLK3	GGGACTCTGAGAACTCCTCATT
139716	ELAVL3	GGGAGGGGAAGAAAAACTCTAT
139717	CLCN4	AAAACAAAAACATCAATGAGTA
139718	NOC4	TCCCTGTGGACTCTCTCA
139719	VHL	GGCATGCATCTTTAATTCC
139720	ORM1	GCACCCTGCAGCCACCAGCACTGCCT
139721	SLC22A3	GTCCCCTGGGCTCAAGTCAAGCAGTC
139722	HADHSC	ACATTCCCTCACACAGTACAG
139723	GPRK7	ATTGCACTCCAGGCTGGGCAGC
139724	NEDD4	CATAAAGACCATGTACATGTAT

139725	NUP62	TGCAGTGAACCAAGATCACACC
139726	ACPP	GGAAGGCTGAGGCAGGAGGATCA
139726	MBD4	GGAAGGCTGAGGCAGGAGGATCA
139727	CDH13	GGAAGTAGAAGTCATATGTTGTCTTTG
139728	CCR9	GGGTCCACCGTCTGTCTGCTCCCT
139729	NTSR1	GGCGATGGTGCCTGGTCTCTG
139730	ADRB3	GTGGCCCAGGCTGAGAGCAGCAGG
139731	RANBP2	TTAAGATATTTGGACTTCCTGCATGGATAT
139732	PPEF2	GCCCAGGCTGGAGTGCATTGGCGCG
139733	ZNF236	GACCAATTCTCTCCATGACATGTT
139734	MECP2	CTTCCCTTGCTACCACGGCCT
139735	TRPV2	TGCGGGGCTCCAGTCAGGCC
139736	SIRPB2	CCCAGCCTTGTTGAGGTTCTCTATTG
139737	DLEC1	TTCACTCTCTGGGGGAGTGCAGG
139738	GPLD1	GCATCTAAACCTTTCTTCTTTCCC
139739	DIAPH2	AGCTGGTCAAGGTAGAAATA
139740	USH3A	AAGAGAAAGAAAACCTGGAGCAGC
139741	GORASP1	TTTACTTTCCCTTCCCCCATAAGTTGGA
139742	FANCC	CATGCCCCTTCCTTCCTTCTCC
139743	MGAT4B	CTTGCTCACTGGTCCCTGCCAG
139744	EPAC	GGAGCTGGAGCAGGCACTTGCAGCCG
139745	PRIM1	AGTGATTTACAAAAAGATTTCTGA
139746	LPL	AATGAGCCAGATGGAGTACCA
139747	ICA1	TTTTTGGGAGAAAACTTCTCACACT
139748	CML66	TGGCTCTCTTTATTTTTCT
139749	KCNJ16	CCATGCCACCAATTCCACTGCTAC
139750	SLC6A12	TCCGAATGTGCTCCAGGCGACACCATTTGCCA
139751	ANKH	GCCTCGGTCACCCTGCACAGCAGGCC
139752	NRXN3	TCATGAACTTCATTACTC
139753	PKHD1	AGTTCAAAGAATCTCTTCTTGCCT
139754	TEM7	TGCCTGTACTCCCAGCACTTT
139755	JRK	TGTTGACCAGGCTGGAGTGAAG
139756	POLK	CACTGTACTCCAGCCTGAAGAGCGA
139757	CTBP2	TAAAGAATGGCCCTTGTGGATAAGC
139758	FGF2	AATCTAGGCCGGGTGCAGTGG
139759	ESR1	TGCCTCTGGCTTTCCGGTCAT
139760	ADCY1	GGTGGAGGGGCCACCTCA
139761	MYOG	GACTATCCCCTTCCTCATCCA
139762	ZNF80	GCACTTAAAAGAACCACCCACACCTCT
139763	BFSP1	TGCCCAGGCTTGATGGGATA
139764	ICA1	GCTTTAAATGCCTTCCTTCTCTGC
139765	DYRK1B	GTAAAGAGCTTTCTCACAAAAA
139766	HPD	GACGACTTACAGTGACAAA
139767	HTR7	GAGAGGGGAGTGGGATGCCTTC
139768	CDH20	TTTTATCTTATCTTATTCTCCA
139769	NPHP1	TGCAGTGAGCCAAGATCGTGCC
139770	MTNR1A	TGTGGTGAGCCGAGATCGCGCC
139771	RBM3	TGCAGTGAGCTAAGATCGCGCC
139772	PDE4C	GGGGTCCACTCTGACCCTAGA
139773	ZHX1	ATGTTTTTCAGCCATTGAAAA

139774	PRODH	CTCACACAGATTCACCTTTTTTC
139775	SUV39H2	TGAGCCAAGATCATACCACTG
139776	XT3	AGGGCACATTGCAAACTGAAATA
139777	RPS6KA5	CCTTTTGCTTTGCCTTGTGGACA
139778	PPP1R12B	TGCAACCTCCACCTCCCAGGCTC
139779	COL5A3	ACCTCCCCAGGCTCACCTTGCCA
139780	HTR2A	TGCATGTAATCCTAGCACTTTG
139781	CBFB	AATAGAGACAGGGTCTCGCAGTG
139782	GPR35	CCGGGAGGTGCTGCCTGCCAGGG
139783	SYNGR1	CCTGTTCTGCCCCAGCTGTTCCTC
139784	MAFG	CAGCCTGGGCGCAGTGGTGCT
139785	ADCY1	ATGAGCCTCAGTACTGGCCT
139786	ZNF256	GGAGGCACCTTATCAGCAGAGCACTT
139787	FGF4	AAACAAAAAACCAACTCT
139788	ADORA3	AGGATGTGCGGTGCATAAAGGGGCT
139789	GNB3	TGGCAGCAGAGCCTGGGCAGGTGA
139790	VIM	ACAGCTTTCAAGTGCCTT
139791	ARHGEF6	GTTGACCGCCTTTTCCCATTG
139792	GAN	AGAAGCAGCATTTTGTCTTAT
139793	HMGA2	TCTCCTAGTGAGTGTGCTGACTT
139794	TP53BP2	GGCTCACTGAAGGCTCGAAGGCACT
139795	NRXN2	GAGGGAGGGGAAAGGCAAATGC
139796	TGFA	AAGAAATAATATATAAACTCCTT
139797	SLC2A1	TCCAGAAGAATATTCAGGACTTAACGG
139798	NF1	AAGTGTTCAGAACAACTGCAAAG
139799	CPSF4	TGGCCAGCTCACGCCTGCTTCC
139800	HOXA11	AAGCCACATGGTGACTTTTGAAAAG
139801	ATP6V0E	TGTTTAGAAACTGCTGCAAGAC
139802	PIK3C2B	TGGGGGTGGGTGGGTGGA
139803	p100	GCCTCGACTCCCTTTCACCAACA
139804	FGA	AGGTAAAGCAGTTGAGATTC
139805	RNF3	TGTATGTTTTTATGTGGATGAAGAGCA
139806	LARGE	CCCTACTCTCCAGAATCCAGGG
139807	SLC12A7	GCAGGCTGCGGGCAGTGGCAC
139808	VDR	AAACTGACAGAGGAGGGCGTGACTCA
139809	LZTFL1	AGCATTTTGTCATATCCCCTCT
139810	LPP	AACCATCAGAATTCAGAATCTATAGTG
139811	GABRB3	ATACAGTGGTATTGCTAGTTTAA
139812	KCNS2	CACAAGGAATGTAGACTGAATGGTG
139813	CD244	GGTTGACTGCATTTCTAGACTC
139814	MAP3K14	GGATCTTTTTCTGCCCCTGCTCCA
139815	NRL	TGGGAGGTGGAGGAGGGTTGCAGCTCCCAC
139816	ITGA4	AGAGGAAGTGTGGGGAGGAAGG
139817	AKT1	GGCAGGTCCTGCCCATGTGT
139818	CRYZL1	TGCCTGTAATCCCAGCTACTCAT
139819	NPHS2	CGCTCCCGCGCTGCTGCTCCA
139820	SOX4	AAGGGAGGGGGAAACATACATT
139821	MLLT2	ACAATCAGAAATCCCATGTGCC
139822	PTPRC	GAGAGAGAATTCTTTCAAGTGA
139823	PNUTL2	GCTGACTGCCCAGAGACTCAG

139824	CDK5R2	TCTTCATTTTTCCTCCTGTCTGC
139825	EVA1	TCTTTTAGCAGCACTTCTGC
139826	SEMA3F	AGGGGAGGGGGTCCGTGGTAGAGGC
139827	PSMD9	GTGGATACGGAAATGGTTAAGTAC
139828	RNGTT	CCCAGCACCTGGTGTTTGCCA
139829	VPS41	TCTTCATGCCTTGAAATTTTGGG
139830	BSN	TCATCGCCCCTCTGTGAA
139831	ADAM19	TGACTCAGACAGGTACTATTCGTAGGC
139832	MUS81	CTCTCCTCTCGTTAGTGCC
139833	HMGA1	CCTGCTGCGTCCCCACTCCCTT
139834	NDRG1	CCTTTCTCCCTCGCGTTAGGCAGGTG
139835	HLCS	GCGCCTGGCCCTGTATTTT
139836	DLST	CCAGGCTCTCCCTCTCTGCACC
139837	EGFL5	TAGGAGACCCCTAAGTTGTTCTCAGG
139838	DRD2	CCTGGGCTAGGGGACATCAGAGGT
139839	COL6A3	CCAACTTTTTCATTCCCTGCCCC
139840	ADCY1	GCCTGTAAGCCCAGCACTTTGG
139841	PCDHB9	TCCTGTAATCCCAGCACTTTGG
139842	MAN2A1	CGCTGTCTCCTTTGGCTGAGGAGA
139843	DBY	GCCTAAAAATGATTCTTTG
139844	WHSC1	GTAAGATGCTTAGGGTGCCTGGCCAGGA
139845	AIM1	ACAAAGGCTTAAGTTTGAAAG
139846	GALNT7	GGAGGCTGAGGCAAGAGAATCGCTTGA
139847	PPP2R1B	TCTCAGCAACAGTGGAATTCACCTT
139848	ADAMTS5	TCTCCACCTTTTTCTTATGAG
139849	LHX3	CCCAATCCCCAGGTCTCTA
139850	HOXD1	CCGGCTCCGTACTCCGGCCCCGGCCTGCGCCC
139851	HNRPA2B1	TCTTCCTATTTGCCATGGGC
139852	KCNE3	AGTGCTGTGCTGCCCATTTGGGC
139853	SCN2B	GCCACTGCAATTCAGCCTGGG
139854	NFATC1	CCAAGTCCCACCACCGAGCCCAC
139855	ZNF3	TGCTAGGGAGGGTAAAGGGAGA
139856	TPMT	CAACCTGGAGTGCAGTGGTGCG
139857	DBCCR1	AGAGCCGGGAGGCAGAGGGAGT
139858	RNF4	CTCTTCCACTGTCGTCCTTCCTCA
139859	PDCD2	TAGCATACAATTTTCAGATATTGCC
139860	PBX3	CTGGGTGCTGCACAGACTTGTCAAGG
139861	PLA2G2D	CTGTAATCCCAGCTATTCAGGAGG
139861	PTGIS	CTGTAATCCCAGCTATTCAGGAGG
139862	SCD	GGTCACTGAACCACTGCTTCT
139863	DLST	TTCAGTTAAGTTGCTGTAAGCA
139864	ELK4	TGCTTAGAATCTATTATTTA
139865	SORBS1	CTTCCCCCACAGATACACATC
139866	NTS	AAGGAAAGAGGAAGTGCTAGA
139867	TLR5	CACTGCCTCCAGGGTTCAAGCGATT
139868	FUS1	TGGTCTGCTTTCTTCCAAGTTTGCC
139869	USP6	GTGGAGTCCACAGTCCCTCCCTG
139870	MAFF	CAGAAGGCAGAGGTTGTAGTGA
139871	MCOLN1	GACTGGGTGGGGAGGGTGTTGAATAAA
139872	TCF3	TTTCTGCTGCTGTTCCTAGA

139873	FHL2	CAGGCTGGAGTGCAGTGGCACG
139873	MEFV	CAGGCTGGAGTGCAGTGGCACG
139873	ORC1L	CAGGCTGGAGTGCAGTGGCACG
139873	TAPBP	CAGGCTGGAGTGCAGTGGCACG
139873	ZNF264	CAGGCTGGAGTGCAGTGGCACG
139874	NONO	CAGGCTGGAGTGTAGTGGCATG
139874	PIK3C2B	CAGGCTGGAGTGTAGTGGCATG
139874	SERPINB9	CAGGCTGGAGTGTAGTGGCATG
139875	CHRNA2	CGTCATTCCTCTCCTTCCTTGCTG
139876	TAGLN2	CTCCCACAGCTGTGGCTGCAGG
139877	AOC3	TAGGCCACCTCCAAGGACTCTA
139878	ESR1	CTCTTGCCTCTGCTTTCCCCCACTCTG
139879	DPP4	TCAGGAAATCAAATATGCAAA
139880	TAF12	TGCCATCTCAAAGAGGAGCA
139881	CYP4B1	TCCCCAGGCTGGGTGTGGAGG
139882	IPP	TCATGCCACTGCACTCCACTCTGGG
139883	RANBP3	CTGCCTCTGCACGCCACCCCGTG
139884	CD209	TGCAACCTCTGCCTCCCGGGTT
139884	GPR81	TGCAACCTCTGCCTCCCGGGTT
139884	MPL	TGCAACCTCTGCCTCCCGGGTT
139884	MYCL2	TGCAACCTCTGCCTCCCGGGTT
139884	TPMT	TGCAACCTCTGCCTCCCGGGTT
139884	TRPV1	TGCAACCTCTGCCTCCCGGGTT
139884	ZNF264	TGCAACCTCTGCCTCCCGGGTT
139885	KCNJ1	TCCCTGACAGCCCATCTTCCTA
139886	SMURF1	CACAGCCCTGAGCTCTTTACGGGA
139887	WNT10B	ACTCCTTTACTGCAGCCTGGG
139888	PTGIR	GAGCCAGCCCCTTTCTGCTCCA
139889	HIP1	CCATTGTACTCCAGCCTGGGCA
139889	LUZP1	CCATTGTACTCCAGCCTGGGCA
139889	PCDHB9	CCATTGTACTCCAGCCTGGGCA
139890	HPS1	ACCACCCTCCATGTCAGGTA
139891	SYT1	TCATGTTCAGTCTTCAGGATATCACACCA
139892	MYCL2	GCGTGAGCAAGCAAGCC
139893	AFG3L2	TTTCAGCCTCAGAGGTCACAGTGGGT
139894	MECP2	GCTTTGTCTCCTCTATCCTGGGCT
139895	FGF12	CTGGGGCAAAAATATAACTCTA
139896	SLC7A6	GCTGCCTCTTTCCTCCTCACT
139897	MMP16	CTTTCCTCTGCACGCTCAATGCC
139898	IL7	TGCTCCAGTTGCGGTCATCATGACTA
139899	RAB13	CTGAGGGAGACAACGGCAGAGGGA
139900	PXF	CTGGCTGTCCTGGTTCACTCA
139901	FUT8	AAGGTCTAGGAAAGCCTCCCTC
139902	BTEB1	TGAAGGAGAAGGAGGGTAGTGTTTTG
139903	GPX1	GGAGCACGCGTCCCGCTCGGGC
139904	INSM1	TACATACATTATTTTCT
139905	ATP11A	CCACACGTACACACAGATGCAC
139906	DSC1	CAGAAATTGAATTACCATCTGTATT
139907	MYOZ1	GCTCTGCCACCAGTAACAGTCAA
139908	SHFM3	CTCCTCACTGCCCCACTGTGCT

139909	CALU	GCTAATTTTGTCAAGCACAG
139910	FCGR1A	GACAACAAAAATGCTGCCAGTCC
139911	NT5C2	GGGATTACAAGTAATACAAAATACA
139912	NCF1	CGTCTGGGCTGGAGCGCAGTCCCCAG
139913	RUNX1	CTTCACATAAAGGAACATGG
139914	GJA5	TCTGTTCCCTGGCTGTGCCA
139915	CX3CR1	AAATGCCACACATCACCCTTACCAT
139916	NPTX2	GTGGATATCTGCCTTCCTGCTGCAA
139917	MAP3K9	GTTACTCCCTTCCTTTGGTCTTCACT
139918	IL10	GGAGGCTGAGGCAAGAGAATTGCTTGA
139919	HOXB6	AATTTTCTATGTGTTGTGTTT
139920	SLC9A1	CTTCCTCATCTGTGCCTGTCTGTCCAACC
139921	BCL2L2	TCCAAATTGGAGTCTGTGCTTCCTTC
139922	HOXB2	TGGGCACTCGGTTATCTTTTAA
139923	MYO10	CTCTGGCCTAGGCTGGCTCCAGT
139924	CARD10	GGGCCTTTTTCACTTAGAAGCTG
139925	COG3	AGGCTGAGAAGTCTTGCAGTCTGC
139926	NFE2L1	ACTGGGCTTATCACTGGGAA
139927	FSTL1	TGTCAGCAGGCTGCAGGGAGTGCACAC
139928	AKAP2	TTCTCCAGGATGGCAGAGGCGG
139929	CD2AP	ACTGTGATCACAGAAAAATTAA
139930	EHF	CCTTTCTCCCCTTTGGATGGTT
139931	AK3	GGCTCTAGCCCAGGCTTTGTCC
139932	WHSC1	TAGAACTTCACTTATTTGAGGGGTAATTTTT
139933	ADCY1	AGCCTCCACCCCTTCCTGAAGA
139934	XRCC5	GTACAGACTTCTTGGTACCC
139935	UBB	TGTGGGTGGACGTGGTTGGTGATTGGC
139936	DAPK1	CTGTCACCAAGGAAACGCTACC
139937	GORASP1	GTCAAGTCTGCTGGAATGCAGGA
139938	ZNF261	GCCTACATCTTCTCTCTTCCC
139939	SLC16A7	AGTACCTGGTGCTAGAGAATAG
139940	TRIM9	CACAGCCGCCGCCGCTGGCCAG
139941	CYP4F3	GATTGTTTGCCTTCTTATTGTTGGAT
139942	PFN2	TCAGTGTCTTTTCAGCACTTTG
139943	ABCD2	CTGGGAGGGAGGAGCTTGGTGCAGCT
139944	CLCN6	TCTTAACATTGCAGCTTTCTCTCCA
139945	TBX5	AGGAGCAGCAGAGGATGTGGTGA
139946	ABCD1	GACCTCTCAAGGCCCTGACCTCA
139947	CAMK2A	TCTCTACCGAACTTCCCAGGATTT
139948	ADH7	TCTTTTAAGAAAACATACACTTGGATTT
139949	KCND3	CTCTGCGAGGTGTTTACACTGGAGGTGG
139950	CMAR	GTTGCCAAGGCTGGAGTGCAGGCCGCG
139951	HMGA2	CTTCATTTTCAGGAAATCTAC
139952	ATP1B2	CCGAGTAGCTGGGACTACAGGC
139952	COX15	CCGAGTAGCTGGGACTACAGGC
139952	MHC2TA	CCGAGTAGCTGGGACTACAGGC
139952	PCDHA9	CCGAGTAGCTGGGACTACAGGC
139952	RAB36	CCGAGTAGCTGGGACTACAGGC
139952	SERPINB9	CCGAGTAGCTGGGACTACAGGC
139952	SHOX	CCGAGTAGCTGGGACTACAGGC

139952	TERF2	CCGAGTAGCTGGGACTACAGGC
139953	MTM1	CTCTAGTCAGTCCAGCTCATCTGC
139954	SLC14A1	TGCCTGTAGTTCCAGCTACTTGGGAGG
139955	LATS2	GGTGCCCTCACAGGCCAATAGGGAA
139956	ZAN	CCTCGAGATGCGCCACCTCCC
139957	CASP10	TCTAGAAACAGGAAACACCGT
139958	TNFSF10	AGTTTGCCTGGTGCAGTGGCTCA
139959	NHLH1	CTCAGATCTTACTTGGTAGTGA
139960	DHCR7	CCTGGAGTCTGCAGACCTCAGAGAGGTC
139961	DOK1	TCCTGCATTGTTCTTTGCCA
139962	FGFR1	GGCTTTGGGGTCAGCTACAC
139963	TNP2	TGCTGGGAGAGGATGAGGA
139964	CKN1	CCAGTGCTCCAGCCGGTGTGAGGACA
139965	JDP1	AAGCTCACTGTGCCTCTTGTT
139966	HSPA4	TTTCATGGAGGCCAGGACAG
139967	ZNF161	CCAATTTGGCTGGGATTATTCAA
139968	ADAMTS1	AGGGAAAGCAAGAAGGCTGGAGGGA
139969	PPP1R12B	TACATCTTGACCCTTTTCCA
139970	SDC4	CACAGCCGGTCTCTCTGCCAGG
139971	TRPS1	TGTGGTTAGGCTTGGTTAGAGTGCAGC
139972	PLAGL1	CTGGCAGCAGCATTGTGA
139973	GLP1R	GTTGTTTGGGAGAGTGCAGT
139974	CIAS1	CCAGGCCAAGACCACAGCTCTGTGAT
139975	HSPA6	TCTTCCCAGGATAACTGAAGT
139976	FOSB	GCCACTGCGCCACTGCCATCG
139977	LRP4	TTGGGCAGAGGAAGCTGTGCAACGGG
139978	GFER	GCCTCAGGAAGCAGCTGGGCCC
139979	B4GALT5	GCCTAAGCTGGAGTGTGGTGGC
139980	RAI3	CTGAGTATGCAATAAAGATGTGGTGGC
139981	PARK2	GCAACTTGGAGATTTTGCTAATACAT
139982	HS3ST2	TGGACAAAAGCACATAATTCT
139983	ABCA2	TCTCCTGCCCGGCCTCGGAACCAGCT
139984	PTGIS	GTCCAACCCAGCCTGAGTGCACCA
139985	CASK	GTTCTCCTAAACTTTAATAAAATGTATCT
139986	H1F0	CTGTAAATAATTTTCTCCTTTTTTCTC
139987	WISP2	GTGACCTCACAGCTGCCGGAACAT
139988	P53AIP1	GAGCAGTCTTCCATTCCA
139989	MEF2C	AAATAAATAAATAAATCTGGGTC
139990	RB1	ATCTATCTTCCAAATGCAAT
139991	MUC4	GGGGCAGCTGTGGCCTAGGCTACCTCA
139992	DUSP11	AACCTGTCCTGGAATTCTACC
139993	PDGFRA	CAAAACAATGGTGTGGTGAATGTGTG
139994	CDC25C	CTGGCTGCTAACAAGTCACC
139995	MC1R	GGAGAGGGTGTGAGGGCAGAT
139996	CYBB	GACTCTGGCTCATCTAGTCC
139997	SLC7A5	GGGACCCCCTCACCATCCAGTGGGC
139998	PDAP1	AGGTTTGCTACACACAGCCCCGGAC
139999	GAS1	CCCAACTCGTCTGCCGTCCAGAAA
140000	MASP1	CTGCTTTGGAAAGTCATGGAGGT
140001	BACE	TAACACATGAATTTCTGCCATA

140002	ZNF74	GGCAGGTTCTGCCTCCTCTCTG
140003	GHR	AAACAAAGAGTTCAAGAAATA
140004	YY1	CTAAGATGCTCTATCTTGCT
140005	PCDHA1	ATAATTATAATGTATCTGTA
140005	PCDHA10	ATAATTATAATGTATCTGTA
140005	PCDHA11	ATAATTATAATGTATCTGTA
140005	PCDHA12	ATAATTATAATGTATCTGTA
140005	PCDHA13	ATAATTATAATGTATCTGTA
140005	PCDHA2	ATAATTATAATGTATCTGTA
140005	PCDHA3	ATAATTATAATGTATCTGTA
140005	PCDHA4	ATAATTATAATGTATCTGTA
140005	PCDHA5	ATAATTATAATGTATCTGTA
140005	PCDHA6	ATAATTATAATGTATCTGTA
140005	PCDHA7	ATAATTATAATGTATCTGTA
140005	PCDHA8	ATAATTATAATGTATCTGTA
140005	PCDHA9	ATAATTATAATGTATCTGTA
140005	PCDHAC1	ATAATTATAATGTATCTGTA
140005	PCDHAC2	ATAATTATAATGTATCTGTA
140006	ANGPT1	TACTAGTTGATTTCTGCTTA
140007	PTGS1	TTCCCACCATCTGATTAAAACAA
140008	KCNH5	AGGCCTTACAGACCACACTGCAGG
140009	BCLG	AATTCCTTGAGTCTAAGGCACAG
140010	RFX1	GCACAGCCTGTCCTGGGCCCAGCCCT
140011	FOXI1	TGGAGGCCAGGATGGAGAATT
140012	MFGE8	CCCCAGGTCTTCCTGCTTTCCA
140013	HLA-DRA	TGGTTATGCCTCCTCGATTGCTCC
140014	AMT	AGACTTGCCTTACCCTGGGCTGATCT
140015	NPTX1	CTCCAGGAGTCTCATCAGCAAACCGCTGAC
140016	VCY	GTATACACAGGGAGGCCAG
140017	DLX2	TCTTTCTCCTCGCCCGCTCCCCTGGG
140018	PA2G4	CTGTGGCTGGGAAGGGA
140019	IRTA2	TGTAACAAAAGGGCTTATTCTTCC
140020	PTGFR	GGGGAGAGGCATGGAGAAGAAACT
140021	RBBP5	ACCTCCTATATTTCCATATTGTG
140022	SLC22A2	GCAGAATAAATGAGAAAAAT
140023	CYP2B6	CTCCCAGGCTGGAGTGCTATG
140024	ADCY6	CACCCAGGCTGGAGTGCAATG
140024	CDC2L2	CACCCAGGCTGGAGTGCAATG
140024	EDG8	CACCCAGGCTGGAGTGCAATG
140024	RAB36	CACCCAGGCTGGAGTGCAATG
140024	VENTX2	CACCCAGGCTGGAGTGCAATG
140025	ACADSB	CACCCAGGCTAGAGTGCAGTG
140026	SGT	GAGAAGCCTCTTTCCGAGTCGACCTCCC
140027	LIPA	CAGGTGCATAGTCAAATCCAG
140028	HIRA	TGCAGCAAGGGCAGGGCCACA
140029	BNC	AAATGTATCTTTCAACTGTTTAGTT
140030	ITGAL	CTCCACACCCTCTCCCAGGACCC
140031	PBX2	CCCAGCCGGTATCCCAGGTCTCCCTTC
140032	FACL4	GGCTGTACTGCTATTCTTACTGCTGCT
140033	FGA	AAGGCAAGAGAAACATTCTTTC

140034	HUNK	ACAGAGCGGGACAGAATGGATA
140035	KCNAB2	CTCCACCCTGCCGTCCTGCGGGAGCC
140036	HS3ST4	CTTCACTTGCTGGAGTGCCA
140037	MLLT3	TCTTCTTTGTGGTCTTTTTCCTGAAAG
140038	ASB3	TTTTCTGCTTTATTTTGCT
140039	IQGAP1	AGGGAGGCATGGAGTGCCATGGA
140040	KLRC3	GCATTAGTCATTTACAACAAATA
140041	GM2A	ACGTCACAACCTCTGATCTCA
140042	BMP8	CATGCCTATAATCCCAGCTACTC
140043	NUP98	CTCTGTGAGCGGCGGGTGGCA
140044	L1CAM	GGGAGGCTGGAGTTGGGGCAGAGGAG
140045	GRF2	GCAGAGACCTCATCAGCAGACCAA
140046	GNAT1	GGACAAGGAGCTTCCGTCTGG
140047	GSTZ1	GGCGTGCTCACCGTAACACCACG
140048	FOXE3	CTGGGTCTGGAAAAAACTGATC
140049	FBXW1B	GGAGTTCTGACTTTCTGGGATT
140050	TOX	GAGAGTGAAATGGACGTAAGA
140051	TBX6	CATTGCATTCCAGCCTAGGCAA
140052	SUFU	ACACTACCTGGGCTGGGCCCTGCAG
140053	MAPK4	GCTTGAAATCCCAGTCTCCTGG
140054	LMO2	GGGCCTTGAGCAGAATTGAGAA
140055	FABP2	AGAACAATGGAGATATCAGTTA
140056	TNFRSF1B	CCAACTTGTCCTTTTGTA
140057	SCA1	GAGTTGGCAGAGAAACTGAGA
140058	EDG8	GACTACAGGCATGCACCACCAT
140059	DTR	AACTGTTACAACTTGTATTTCC
140060	PIGR	TGTCACCCAGACTGGAATGCAG
140061	P2RX4	ATTGAGTCTCCACTCCACAAGCAC
140062	ITPKB	CTTTTCCTTCACTTACAC
140063	MEL	TTCCTGTAACATCTGCTGAACGGGCC
140064	EIF2S3	TGCAACCTCTGCCCCCCGGGTT
140064	GNE	TGCAACCTCTGCCCCCCGGGTT
140065	NONO	TGCAATCTCTGCCTCCCGGGTT
140066	BICD1	CTCTCCAAGCCTCCTCACCCCTATCTTCAT
140067	MAPK10	ACCCCTGTATTTCACGCAGCTCT
140068	CCND2	AAATCCTAGTATGCCAAAAAT
140069	CCR2	AGGCTGAGAGGAGAGAGACT
140070	EPHA8	CCTGCCTCTGTGTGCGTGCATGTG
140071	ARHGAP6	GGAGGGCAGTGCGCGGGGAGCCACGGCGG
140072	PTGFRN	TTGTATTGTTTTATACTGTGAC
140073	GPR43	CCCTTTTTTGTTCCCCTCCAGGATGCTGC
140074	KIT	ATTTGGAAAAAGAGAGGGAGG
140075	IMPA2	CGCTCTGCTCCTGGCTACCCCAG
140076	BTD	GGAAAAAGTAGGAGAGGCAGA
140077	CHRNA3	CCTTTAGAACAGGGTTTCTCAGC
140078	WASF3	AAGTAACATCTAAATAAAATTAC
140079	GIPR	TTTCATTTCAGGTGCATTGGA
140080	TGFA	CAATGCCACACCTGAAGCAC
140081	GPR81	CGCGCTTGTGATCCCAGCACTT
140082	TEP1	CACGCTTGTAATCCCAGCACTT

140083	VHL	CACGCCTGTAATCTCAGCACTT
140084	SLC6A8	CCCAGAAGCAGCAGTGGCAGCTT
140085	RPS12	CGGAGGCGGAGGCTTGGGTGCGTTCA
140086	PHLDA3	CAGCTTCGTTGTTCCCTCTGG
140087	IGSF4	AAGTCAAACTTGGATACTTGGA
140088	KCNQ2	CCTGCTCTTTCCTCCCATGGGGCC
140089	ANK3	GTTAGTGCTTAAAAGGGGGTA
140090	AXL	CAGGCTGGAGTGCAGTGGTGCA
140090	CDH1	CAGGCTGGAGTGCAGTGGTGCA
140090	EIF5A2	CAGGCTGGAGTGCAGTGGTGCA
140090	GM2A	CAGGCTGGAGTGCAGTGGTGCA
140090	ICAM1	CAGGCTGGAGTGCAGTGGTGCA
140090	MEFV	CAGGCTGGAGTGCAGTGGTGCA
140090	NEU3	CAGGCTGGAGTGCAGTGGTGCA
140090	PIK3CD	CAGGCTGGAGTGCAGTGGTGCA
140090	UGDH	CAGGCTGGAGTGCAGTGGTGCA
140091	SLC39A1	CAGGCTGGAGTGCGGTGGTGCG
140092	MAP3K7IP2	TACAGAAGGTTTTGAAATTATGCAGGC
140093	GNAO1	GACCAGTCACAGCCATTTCA
140094	PTGIS	GCTGCCCAGGCTAGAGTGCAGT
140095	RPL36AL	TGGTGAAGCCATAGAAAAGTT
140096	EDNRA	GCCAAAGTGCATAGTCTGAG
140097	CDH6	CGCATCCCAAGAGCTGCAGT
140098	CAPN10	AAACCTACAGGGTGGCCCCCTGTGCCA
140099	ELK1	CCTGTCTCTCCCCCGCTGCC
140100	NOTCH1	CCCAGCACCTCAGCCTGCACA
140101	HFE	TACTGGGCATCTCCTGAGCCTAGGCAA
140102	KCNK6	CTACCTCTCTGATTTTGTTTC
140103	TIMP3	TTTCCACCTGGGAATTTCTGGTGCCAT
140104	TAZ	CCTGCAGCTGCAGACATCTGCT
140105	RBM8A	CAGGGGCTAGGAATTTAGAAAATA
140106	LRP4	GCTGGCAGTGGACATTATTC
140107	RAB33A	GCCTCCGAGCTGCAAGGAGGGTGCGC
140108	HESX1	CCTGTAGGTGGCCCCCCTGG
140109	PTK2B	ATGGGAAAAGGAGCCTCTACCT
140110	MYOM2	GTTTTCCACAAGACTGAACAACG
140111	TNXB	CTGCTGCCCACCTCTCTC
140112	B4GALT1	TAGAAAGAAGTTCAGCCGCACCC
140113	RNF3	ACTCACTGCCCCGTCTGTCCAAGGCC
140114	DRPLA	AGAGGTGGGGAGGTGGCGAGGAT
140115	TNFRSF1B	TGTGGCCTGGGCAAGATAACGCACTT
140116	BACH2	ATTTCTCATTTAGAAACAGGTTCC
140117	MAT1A	ATGTGGGCTTCCTGGAGCAGAAGCA
140118	THY1	TAGCACGGACATGGTCTGTCCTGA
140119	TLL2	TAAGTTTGGCCAACAAGGTGG
140120	SLC21A9	GACTCACTCTCCATCTC
140121	BRF1	GCCTGGGCCGCACAGCTGGT
140122	IL8	AAAATTGAGGCCAAGGGCCAAG
140123	MECP2	GGAGGAGAAGAAAATGTTCT
140124	P2RY4	AGTGCAGGGCAGAGGTGAG

140125	ZNF278	CACGAGTGAGTCGGCCTCCAGAG
140126	PRKAG1	TCTGTTCCCTGTTCAGGGTCCCCTGC
140127	ENC1	AACATATAACAAAGGGCA
140128	PREP	AGTTTTCTGTGAGAATAAAGCATTTCA
140129	MLH3	AGCAGCAGCAGCAGGTACCAGCACGGCCCT
140130	RECQL5	CGGGGAGCTGGGACTTCTTAGTG
140131	EPHB1	GCGCACACACTCCTGCCCACGCCCAC
140132	SLC25A1	GGTGCCTTCCACCCTGCCCTGG
140133	NUMA1	GGGCCCTGTGTCTCAGGAGTGGGG
140134	DHCR24	TTGGCTCACCAACCCTGCAGGC
140135	MMP19	CTGCTGCTCACCCACAGACACA
140136	SUFU	ATGGAGCCCGGGGCAGGGGGAG
140137	GPR37	CCCTCTAGGAACCTTGGAGGGCATACC
140138	SOX12	ACTCAAAGCCCAGCTCCACCACTGAGC
140139	NTSR1	AGAGCCAGACAGGGCAGCCTCAGA
140140	DIRC1	GACATGGGCAGAGTTTCTC
140141	ADCY1	CTGTAACCCTTTCCTGAGGGC
140142	TCL1A	AATCAGCTTCTATCCTTGACTT
140143	TBX3	GTCCCCGGCTGGAGCCCAGC
140144	APPL	ACTGCAAACTCCGCCTCCCAGG
140145	RXRA	TTCCTGTGTGGCCCTCCTGTCTGGA
140146	SIRT1	TTTAGCATGTCAAAATGAATGT
140147	SOS2	GCCTTGTCTTGGATCCTCAGTGCT
140148	IQGAP1	CTGGTTTCTTCATTTTCTTCC
140149	PTK7	GGATGGCCTGGGCAGGGGAG
140150	TEX15	GTTTGCATAATCTCAGTGTTTCC
140151	ABCB11	TGCTGGGATTGTTTTTTCTT
140152	OPA3	GGAAATGCAGTGTGTTGCAGTGG
140153	SORBS1	GCAAAACTGAGGCACCTGATGCATTCA
140154	G6PT1	GGGTAGCGTGAGGACCCACGGGGCTGAGCAG
140155	TYRO3	TTGCCCAGGAGCAAGTGAGGC
140156	CD22	ATGCACACCTCCCCTGCCCCA
140157	MPL	GGGATTACAGGTGTGACCCACT
140158	KCNE3	AGCTCTATGGTTCATATGCTTC
140159	HUNK	TATCATTCAGATCTTCCTTCCTC
140160	RANBP3	GGGAGCCCGGCTGCACACCAGGCT
140161	SLC22A12	CTGCCTCTCTGGGGAGATGCTGGA
140162	MAFF	ATGGGGCAGAGGTCTGGATCTGGG
140163	ADCY2	AGGCTGAGGTGGGAGGATCACT
140164	TCP1	ATTCTCTCCAGTGTGTGTAA
140165	DRIL1	GTTCTCTTTTATTTTCTATTCAC
140166	CTSS	GCATAAAAGACAAGCACTTTGG
140167	GK	GCAATGACACTATTCATAGA
140168	GALT	TTGCCCAGCGTGAGGAGCGATCTCAGC
140169	PDE4B	AAAATTGAACAAATTAGGGGG
140170	MAP3K1	ACCGGCTTCCAGCCTGTGGCGG
140171	PFKL	CCCTGCCTCTATCCCTGGCC
140172	TCFL4	GTTTTCAGATGGGCAAGGCACTGCCT
140173	GSPT1	TGAGTGTGCGAGTGTGTGTGCA
140174	DMD	GAATCAGGAGAAAGATGCTGTTT

140175	FACL3	TGTTTTTCATAGTTTGCACTGA
140176	MCM6	TGTCTGAGCTTTCCAGTGCAATG
140177	PPP2R2B	CCAAGGAGGGGAACCTGTTGG
140178	SNRPN	GGCTCCATCTACTCTTTGAAGCT
140179	RAD51L3	AGCGGGAGGCTCAAACCTGCCCTCG
140180	ATRN	ACCCATGGCGCCTGCAGTGGACT
140181	BRS3	ACAGTCTTCAGAAGAAATGGCTCAAAGGC
140182	IL1RAP	CTATACCACCCTTGTCCTCA
140183	GLRA2	GGACTGGCACTTTTTCTTTTTTC
140184	BMP3	GCGCAGCTGCTGGGGAAGA
140185	PRKG1	ATACCCTCAAACTGAGGCTTAA
140186	PRKWNK3	CCCCCTCCTGGGTTCAAGCGAT
140187	TEM8	CCACAAATCCTAAAATTCCTGTCCCA
140188	PCDH11X	TTACAAAATCTATTGACTTCA
140189	PRKY	CATTGCCCTCCAGCCTGGGTGA
140190	ZNF36	TTAATCCTTCATTGTTTCATGTAT
140191	MGAT1	GGGAGTCAGATCAGGGGAACTATTCTA
140192	DIRC1	TTTCCTGAGGCCTCCCAGTCATGC
140193	KCNJ8	GTGTTACTAATGATCACTCT
140194	HMGA2	AATCGCTTGCTTGTTGAAAATATTTCT
140195	BZRP	CAGCAGCTGCAGCAGCCATGGCC
140196	SEMG1	TAACCTGAAGCGCCTTCAAACTTCCA
140197	BDNF	TACAAGTCCGAAGCCAATGTAGCTTGG
140198	MAPK4	GCCCCCAACTAGCACAGCTCAGCG
140199	CD4	AGCCAGTACCTCCTGCCCCATGCT
140200	MDS1	ACAGAGAGTGAGTGTGTGGAAGAG
140201	SLC26A3	TTTTTGACAGAATATGTTTCA
140202	LRP4	CCTCCTAGAATGTCTGGAGCTGTTT
140203	QDPR	TTTTCTCTCACATAATATGCATTTG
140204	DCX	CTCCTGAGAGTTATTTCTCAGG
140205	ACADS	GGGCCTGGGACTGTGTCTGTCG
140206	FABP2	TTTCACTCAGGCTGGAATGTAGT
140207	FOLR1	TCCCTGAGAGTACAGATTTCT
140208	DLG4	TGTAAGGTAGATGGCAGAGGCAG
140209	ST7	CCGCTGCCACCATCTCCTCTGTGCCAA
140210	RAD21	TTCTTCATTACTGCATTGAAAAG
140211	SYP	TCCCAAACCCTTCGGTATTGTTCA
140212	USP11	AGCAGTGACCCTCCCTTCTAG
140213	IL4	TCAGCATTGCATCGTTAGCTTC
140214	TM6SF2	CTGGGGAAGCGGGGGTTGGGTG
140215	LU	CCCTCCCTTCCTTCCTCTGCCGG
140216	BLAME	CACAGCTGGCCTCCAGATCCACATCA
140217	INPP5D	GGCAACGGGCGGCAGGTTGCAGTGG
140218	SLC17A5	TCTCTGTGGAGCTGCCATCCA
140219	G6PC	ATCACCCAGGCTGGAGTGGAGTG
140220	EDN3	GCCGGCCTCGAACCCCCACAGCTGG
140221	LSS	CTCCCCCTGGCTGATCACTCTCC
140222	ISLR	TGCACATCGAAGGTGGGGTGGG
140223	PPP3R1	CTTTTATTTCACACAGTTTT
140224	MX2	GATACCTGAGGCTATTGCTCAA

140225	BDKRB2	AGGGCTAGAACCTGGAGAATG
140226	SLC22A3	GGCTGTGTTATTTACAA
140227	EFG2	GCCTTCAGAAGAGTGGTA
140228	DVL3	CACGTCTGTAATCCCAGCACTT
140229	FUT3	CACGCCTGTAATTCCAGCACTT
140229	LILRB1	CACGCCTGTAATTCCAGCACTT
140229	PCDH11Y	CACGCCTGTAATTCCAGCACTT
140230	SLC16A7	CCTCTACTGATGAGACTTCCTGCT
140231	TPM4	GAAGAGTCTTGTTCCAACAGAAACTCT
140232	ZNF91	CCAGGAGGCCCAGCCTGTGTG
140233	ECHS1	ATTCTGCTGAGGAGCCCCCGCT
140234	ENTPD3	GAGGAAGAGTAAGTTGAGAA
140235	HOXC9	AACAGCCCTGTGTTAATATATT
140236	MYBL1	ATTACAGCTAACACAGTAAAGA
140237	PPP1R3C	GATAGCTCTTTGCAAGTGCCTT
140238	DUT	GTGATGAGGGTGAGAAAAAGAA
140239	RPS6KA1	AGAGGATGTGGAAAGCACTTTT
140240	C1QB	TGCTGCTGAGTGAATGAGTAA
140241	MALT1	TCCAGTATTTTTTCCACTACACA
140242	RNF28	AGAGGAGGCAGCTAGGC
140243	PYGB	GCTCTTTTTCTCCCTGGCC
140244	MYOC	TTACATGGTTACCACAAGCCACA
140245	PTP4A2	ACAAACCTTTTTCCTTTGACATA
140246	PXN	TCTGTTCTGTTTCTGTGGGAGGAGAAG
140247	CYP4F3	GACACTCCTATATTTTCTTTG
140248	NPY	CCCCTCGGAGACGCTCGCCCGACAGCA
140249	SGPL1	GCTGAGGGAGACGCAGGAGGTGGAGC
140250	SNCG	TGCGAGCTCCGTCCTGCCTGCAGCA
140251	ATP7A	GCTTTCTTTCCCCCATTCTCCC
140252	BSG	CGGCAGCGGTTGGAGGTTGTAGGA
140253	MECP2	GGCTTAGAGGCATGGGCTTGCTGT
140254	DCLRE1C	TGCCTGTAATCCCAGCTACGCAG
140255	JAM3	CTGCTGATCGGTGTTGCAGTG
140256	TMC2	GCCTACATTTCTCAATCCAGAGG
140257	FEZ1	ACTGAGCAAGAGTCATTCC
140258	TAP2	CCTTGTTCCTACCAGTGTCTGCTAT
140259	PTK2B	TGCTGTTGGTCATGTGGG
140260	MME	AAACTCATTTTTGCCATACATCA
140261	USP18	GTTTTCAAACTATATAACTGACCTTA
140262	COX15	TTATGATCTTAACTTCACTTCCATTAG
140263	BHMT2	GGAGGCGGAGCTTGCAGTGAG
140263	SMG1	GGAGGCGGAGCTTGCAGTGAG
140263	UBE2G2	GGAGGCGGAGCTTGCAGTGAG
140264	XPC	TTTGCAGTAGGGGAGAGAGCAG
140265	CA14	GAAATGAGGAAATCGCTGTGTTGTTAA
140266	CYP4F3	ACAGGCGGAGGTTGCGGTGGG
140267	NRXN2	CTTCCCAAGCCCTCCAATCCCCATCCC
140268	PACE4	AGTATCACTCCCACTTCCTTGGAA
140269	COL6A2	CCCACCCCGTCCATGGTGCTAAGC
140270	FLRT2	CCAATGCCAAGGCAAAAAGA

140271	HSD17B1	AGGGTCCAGAGCAGGA
140272	RFPL3	TTCCAAATGCTTTACTTTTTCA
140273	RFC1	CTCCAAGTCTTGATCATCAGCCAG
140274	ENAM	TCTGAAGTACCTAGCACAGTGTCT
140275	SIAT8E	GGCTTCCTCTTTTGTCTTCCTAT
140276	LPIN2	TCGTGTCTGAAGAGATGGCACCA
140277	FSTL3	TGTGTACGGAGGGTCTAGCCTGGGTGA
140278	ADARB1	GGCAGGTGCATACCTTGGGGA
140279	IL6R	CCTGGGAGGTCAAGGCTGCA
140279	PDCL	CCTGGGAGGTCAAGGCTGCA
140280	RENT1	GACGCACAGGCCACCTTCCTTCTGG
140281	TCTE1L	ACCCTGAAAACAAAATCAGTT
140282	TXNRD1	TCGGAATTGGCCGCGGAAA
140283	PTGIS	CACGGCACTCCAGCCTGGGCGA
140284	WHSC1	AGGCCCCAGGGCCCCGCTGTCACT
140285	CSNK1G2	CATTTACGTTTCTCTGATGCT
140286	CD244	GGACTTACTCAGAGACCCCAAC
140287	GLI	CCTCCTCTGAGACGCCATGTT
140288	KCNJ5	TCATGCCACTGCACTCCAGCCT
140288	PDE4C	TCATGCCACTGCACTCCAGCCT
140288	SPTLC1	TCATGCCACTGCACTCCAGCCT
140288	TBX1	TCATGCCACTGCACTCCAGCCT
140289	GGT1	GAGGAGGCAGGGCCTGTTCTGCAGTT
140290	LOXL2	TCACAGACACTTACACATACTT
140291	BAT4	CCTCCTGAGGGCCTTTCCTAAC
140292	MAB21L1	TATCTGTCTTTGAAAGTGTCT
140293	KAI1	CCCATCAGGGTTCTCTTATC
140294	PINX1	GTCACCCAGGTCCAGAGGCGGCGGTAT
140295	OSR1	TGCCCAGGTGGAACAGCACGTAACCT
140296	MAGEC1	GGGCCTGGTTGAGGCTGGAGAGAACACAGT
140297	ACADVL	GGGGCCTAGTGTTCCCAGCACTG
140298	LAMC2	CATTCCAGCTGTCACTCTGTGCCTTT
140299	IFNA16	TATATGTTCTTCATATTTAGT
140300	IL10RA	CTGGGGCAGAAGTTAGGCACGAG
140301	PTGFRN	CGCTGGTGACTCATGCCC
140302	PRKY	GAGCACCGCCCAGCCATTGTCTCTGTGT
140303	NPEPPS	TGATCAGGAAGATATATTCCT
140304	PPP1R3C	CACAAAGGGCTCTGAAGCTCAAGTCAGAG
140305	DVL3	CCAGGAAGCAAGCGGAGGTTGCAGTG
140306	OAS3	TCTCAGAGGAAGGAACAGGA
140307	EHD1	CCTCCCGCGCCCCACCGGCTC
140308	H1F0	TATTATAAGTAGTTGTAGCT
140309	SLC21A2	GGGTTGAGAGACACAGCTGC
140310	NEO1	GGGGAAGAGATGGCGGCGGAGCG
140311	RBP4	AGCTCTCAGTCTTCAGCTCTA
140312	ABCA3	GCCCCCAGGCCGCCAGGAATGGA
140313	ENDOGL1	TCGCCGTGTCATCCAGGCTGGAGTGC
140314	MASP2	GCTCAGAGCAGAGCCTCTACCTC
140315	FRK	CTTTTTCATTTTGCAGAAGGAA
140316	TEP1	GGAATGAGAGTGATGTTGGCCAACATT

140317	SIX2	ACTTGACACTGGGGACGTGGA
140318	MBL2	ATACATACCTATATACTCACTTTC
140319	ATP1B2	AGGCTGGAGTGCAATGGTGCAA
140319	TNFRSF10B	AGGCTGGAGTGCAATGGTGCAA
140320	RFC1	CAGCTGGTCTAGAGAAAGCCTT
140321	EZH1	GGCTGGACACCTGTTCTGCTGTTGTGT
140322	NCF4	TCTCCACCTGCTCCCTGGGACC
140323	HPS1	ACCTAGACCACCCTCCATGTCAG
140324	PTPN12	CTACCTGCCTTATACTACACTTAGGAA
140325	BCLG	CCATCATCCTGCCTTTGTT
140326	NLGN1	GTCATTGTGTGAAATAAAG
140327	PPP1R12B	CACGAGGTCAGGAGTTCGAGAC
140327	TCTA	CACGAGGTCAGGAGTTCGAGAC
140328	BAIAP3	ACTCAGTGAGTGGCTGTGCTC
140329	PCDH11X	GATCAAAACAATCATATTCTACAG
140330	TBX3	CACTTCCTGCACCAACACCAATA
140331	CAMK2A	GACCCAAGGCCTCCTGTCTCCCTTCA
140332	PBX1	TGAAGGATATTTTCAACAA
140333	CTPS	CGTGTACTGGCTCCTCTGTGGT
140334	MLC1	CAGCTCCTCTTCCTGCCTCTCTC
140335	CORO1C	TGAGCTTTTTATCAGAAAGCTTTTT
140336	FRDA	GACCAGCCTGGCCAACATGATG
140336	PRKY	GACCAGCCTGGCCAACATGATG
140337	COLQ	CCTCTACTGCGAGGCCTGGGGAGATGT
140338	PLAG1	CAAAAACAACAGTCCTACTCC
140339	DAP3	CCTTGTTCCTAAAACTTTATATCAG
140340	EPHA8	CATGGAGGCACCGTGGGCCTGG
140341	VSNL1	GACTACCTATAAATGGACTTG
140342	NLGN2	ATCTCAGTGTCAGACCAGCCTTC
140343	KRT8	AGCCTACCCCTCCTGCGCTGCC
140344	IL22RA2	AAAATTGAAATGTAAAGATGAGGCAGA
140345	A1BG	GTTGCCCAGGCTGGTCTTGAACTCTTG
140345	JRK	GTTGCCCAGGCTGGTCTTGAACTCTTG
140345	PVR	GTTGCCCAGGCTGGTCTTGAACTCTTG
140346	SKI	CTGTGCCTTCCAGCATCTTGTAC
140347	SLBP	ACAATCAGTTAATTTACCATGTA
140348	DLG5	CTCCAGGTGCTCAGACTGCCTGTGGC
140349	CBFA2T2	TGTCACTCAGGCTGGAGCACAGTG
140350	SERPINB9	CAGTTTGTTAAAAAGCTTTAG
140351	UBE2V1	ACTCAACTGTGAAAAGACACATC
140352	CPT1B	GGCCCCAGCTGTACGGAGTCTTCCCA
140353	CBFA2T3	GCCAGCCCGTCCTCCTCTACC
140354	TRADD	AGTAAAACAGGAATCAATCTTGCCT
140355	HMGB3	GCTGCCATCTTAGCTGTGGACAAAGGG
140356	DMXL1	GTGATCATTCTCTATGCCAC
140357	LZTS1	AACTTGTGGCCTCAAGCAATC
140358	HYAL4	GCCATTCAACCTCTGATTTGCACA
140359	APM1	GCTTACTGCAACCTTTGCCTCC
140360	GRB10	CAGCCCTTCCCAGTATACTTGAAAAGC
140361	CPD	TGCCTGATTCTTTAATATTGCC

140362	CRYBA4	AGGGGTGCGGCACGGAGGAGCGC
140363	PSMD5	TCAGAATTATTTTCATCTTA
140364	ERBB3	CAGGCACTCCTGGAGATATG
140365	CSPG3	TCCCATGCCTCCTCTGGAGCCT
140366	EHF	AAATGAGATCATGATTCTGGA
140367	CKTSF1B1	TCTGCTTTGTCCCTCAGGTGGAAA
140368	UTX	ACCATGATGGTTACACTTTT
140369	PSAP	TGTCCCTGGCTGTTGAGGC
140370	FGF1	ACACCTCATGAGTCTACCTGAGCATTC
140371	ENO2	TCAGCATCTGTGAT
140372	SCN1B	TTGGGGAGGGGGGCGGTGAGGT
140373	SLC26A2	TATTATTCCTCCTTTGAAGCTA
140374	KIF1B	ACACAGACAAAAACACAAAAAC
140375	GOLGA5	CTACAAGCTTTTAACTTTTT
140376	PGM1	ATCCTTAGGATGTGGCAATGAAATGA
140377	ATP1B1	TGTATCTGTTTTCTACTTTATG
140378	TEM8	GCTGGGTTTCTAAAATGCTGCCTTC
140379	E2F2	CCCAGGTGCCGAGGCCTTGGGGA
140380	MAP1B	GTTTTCATTTACAGGAAATT
140381	PAFAH1B1	CCATTTGAAAGGAGTGGGAGGAATACAGCA
140382	FOSB	CTGTCTTTTCTCCTCCGCCTGTGTC
140383	HPGD	CTACAGTGTAAACATATCCCA
140384	SPO11	CGCTCAGAAAGCGCGGGAAAGGC
140385	DES	GCCCAGGCGGGAGCGGTGGC
140386	SLC21A9	AAAGAAAAGGGAGGTACAGAAGT
140387	CDKN1A	TCATGCCAGCTACTTCCTCCTCCC
140388	SIM2	GAGAGTGAGAAATGGCAGT
140389	IVD	TAGGGTGATTGGCTGCTGCAGCC
140390	PLA2G2D	CACTTGGACCTGGGAGGCAGAG
140391	TXNRD2	TGGTCGGCGGGGGATCTGGTG
140392	IFNAR2	GCGCCTGCCACCATGCCTAGCAAATTT
140393	NKTR	ACTGTCTCTGAGGACTTACTATTTTATGTTC
140394	PSEN1	GGGAAATGCTGTTTGCTCGA
140395	SCN2B	TACGCCTGTAATCCCAGCACTT
140396	UBE2G2	CACGCCTGCAATCCCAGCACTT
140397	P4HA1	TTGCCCTTTCATATGATCTTC
140398	SOX3	GCCCCCAGTCGTGTCGCGTCTG
140399	SLC13A1	TTTCATCTTACAGTTGGAGTTCAA
140400	P2RX7	CTGCAACCTAGACCGTTGGTT
140401	MYO3A	AACTCCCGCACCCTCCTTTCTCACCAG
140402	IL10RA	CCCTGCCTTTCTCTGGAGCA
140403	ADRA1D	CGCGGAGTGTGCTGGGCTTGGGGG
140404	HTR1D	GCCACTGTGCCTGGCCAACATAATGTTTTCA
140405	HIP1	TTTCAGCCACATGCCCCAGGCTCT
140406	KRT4	CTCCAACACCCGGCAGCACTTG
140407	UBB	AACCTGTTCAAAATGTTAATA
140408	FANCC	GGTGAAGCTAGGCATCTGGAA
140409	SLC10A2	TGATCAGGAAATGAGTATTAAA
140410	EGFL5	AGACCTTAAAAGGTATTGAAAA
140411	CLECSF11	CATCTTTGGAGAAAGTGATACAAGA

140412	MME	ACTATCCTGACTTCTAATAT
140413	GGA1	GAGAGGAAGGGGCAGAGGGA
140414	CTF1	TCTGTCGCCCAGGCTGGGGTGC
140415	COL4A3	ATATGTATAACTTTAACTTCT
140416	UCP3	CTGCTGCCACCTCCTGGG
140417	B3GALT5	TTCAAACTGAAGGACAGTTGAACTCA
140418	MDFI	CCTCTGTCGGGGGCTAAGCCAGCCTG
140419	WHSC1	TCAGCTTCCTTCTTTACAAAACCA
140420	FZD7	CCTCGTCGCACTCCTCAGGCT
140421	CACNG3	CAGCACAGCCTTGGGGGAAGTGT
140422	DSC3	CTGCAGCTGGGGTTCCCTGCT
140423	CLECSF12	CGTGAGCCACTGCACCCAGCCT
140424	RHD	CACTTCTTAACAGACAATTG
140425	DPYSL3	TGTGGGTGCTTCGATCTACCTT
140426	GABRE	CCTGGTTGGTGCTGGTCAGGCT
140427	CHD2	TTTTAAAAAATTATGCTTTCTG
140428	PTHLH	GTTAGCCCTGTTCCACGAACCC
140429	ALPP	TGTTTGTAATCCCAGCACTTT
140430	HNRPK	GGTTTGGAAGTCTATTGCTGGG
140431	SHOC2	TACAGTCAGAGTAAATCACTGGA
140432	B3GAT1	GCCATTCCCTAACTCCCTCCTGCCCC
140433	GGT1	TCCAGGCTGGACAGTTCAGTG
140433	GGT2	TCCAGGCTGGACAGTTCAGTG
140434	IL17R	CCGAGATTGTGCCATTGCACTG
140435	NR3C1	AAATAAAATGAGGACATGTTTTTG
140436	BRIP1	TAGGTGGTTCTCTTCATCCAT
140437	PDE1B	TGGCTCCCCCATCTGCTCCA
140438	UGDH	TCTTCATTCCTCCTGGTTATTGGTTTG
140439	THBD	TCCCCATTCTTCCTAGTTTT
140440	C18orf1	TTCCAGCTTAGTTTTTAGTGTCTGA
140441	HOXC11	TGGTGGAGGCAGTAGGGAGATGGGATT
140442	HLA-DOB	CAGTCTCCACAGTCTTCAGAA
140443	TACC1	AAAGAACAACAGAAATTATCT
140444	TNXB	GGAGTCCAGAGCAGGAGCCAG
140445	SRGAP1	AGGAATAGCAAGAAATTTAGAGACAT
140446	B7H2	ACGGCCTCTGTGCTGCTGGGG
140447	TEM7	CTGAGACACGAGAATCACTTGA
140448	JRK	TGACCAGGCTGGAGTGAAGTGG
140449	DVL3	ATTTAAGCCTCAGGGCTGGTC
140450	PDGFB	CCTCTTGCCCGCACCCCTCCCTGCTTG
140451	FMR2	GAAAGAGAAATGTCTGAGA
140452	F2RL3	GCTCACACCTGCAATCCCAGCA
140453	NR3C1	CCAGCAATATGTAAATAGTGCAGAATC
140454	PIM2	GATTTTTGCAACCTCCTCCTGAGCCG
140455	PPP1R3A	AACAAGAATGAAACACTTATA
140456	SYNGR1	TCTGGGAGGCCTTGGGGCCCTCAGCCC
140457	RASA1	AGCCTGGGGAGCTGAAGGGG
140458	ZNF137	ATTCGAAATCAGCCTAGGCAA
140459	OAS3	AGGGAAAGAAGAGTTCTGAGCAGGGCC
140460	JRKL	ATTCCCTTAATTTTCTAGTGA

140461	ZNF192	TTGTCATGGCTTGAAGAGCTTA
140462	DLG4	GGCAGGAAGTCCCAAACAATTTCT
140463	BACH2	ACCTGCCTCTGGGTTTTTGT
140464	DSCR3	GGTCTTGAACTCCTAGACTCAAG
140465	BTK	CTTCTTGGTTCTACTTCTC
140466	PFKFB4	GGCGGCCTCTCCCCTGTTGCTGCC
140467	HOXB4	GCCTGGGCCCCGGAAAAATCTA
140468	FMR2	TGTTCACTGAGTTATGACCAGATA
140469	GNB2	GGCCAGGAGGGGCCCTGCCCAT
140470	OXTR	ATGAAGTACTCACACATGCC
140471	B7H2	TGAGCATGGACTCCCAGACTGCAG
140472	CDC25C	TTCATTCTGCTCAAGTCTTCGCCTGTG
140473	LANCL1	TGATTTTTCACACAAAAAA
140474	BHLHB3	TTCAGCTTTCTAAAAGGCATATATTTT

GR NAME GR DESCRIPTION

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GR7401 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7401(GR7401) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7401 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7401 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7401 precursor DNA encodes GR7401 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7401 is located from position 40374392 to position 40374501 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GR7401 precursor RNA folds spatially, forming GR7401 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7401 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7401 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7401 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336725 precursor RNA and GAM336726 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336725 RNA and GAM336726 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336725 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336725 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336725 target RNA into GAM336725 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336726 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336726 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336726 target RNA into GAM336726 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7401 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7401 polynucleotide: GAM336725 target protein and GAM336726 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336725 and GAM336726

GR7402 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7402(GR7402) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7402 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7402 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7402 precursor DNA encodes GR7402 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7402 is located from position 79828330 to position 79828455 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GR7402 precursor RNA folds spatially, forming GR7402 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7402 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7402 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7402 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM2807 precursor RNA and GAM4147 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM2807 RNA and GAM4147 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM2807 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM2807 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM2807 target RNA into GAM2807 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM4147 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM4147 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM4147 target RNA into GAM4147 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7402 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7402 polynucleotide: GAM2807 target protein and GAM4147 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM2807 and GAM4147

GR7403 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7403(GR7403) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7403 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7403 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7403 precursor DNA encodes GR7403 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7403 is located from position 25868146 to position 25868249 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GR7403 precursor RNA folds spatially, forming GR7403 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7403 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7403 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7403 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM2543 precursor RNA and GAM4738 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM2543 RNA and GAM4738 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM2543 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM2543 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM2543 target RNA into GAM2543 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM4738 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM4738 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM4738 target RNA into GAM4738 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7403 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7403 polynucleotide: GAM2543 target protein and GAM4738 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM2543 and GAM4738

GR7404 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7404(GR7404) polynucleotide, which encodes an `operon-like` cluster of novel

micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7404 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7404 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7404 precursor DNA encodes GR7404 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7404 is located from position 3260143 to position 3260219 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GR7404 precursor RNA folds spatially, forming GR7404 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7404 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7404 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7404 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM7530 precursor RNA and GAM7933 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM7530 RNA and GAM7933 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM7530 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM7530 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM7530 target RNA into GAM7530 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM7933 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM7933 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig.

8, thereby inhibiting translation of GAM7933 target RNA into GAM7933 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7404 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7404 polynucleotide: GAM7530 target protein and GAM7933 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM7530 and GAM7933

GR7405 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7405(GR7405) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7405 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7405 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7405 precursor DNA encodes GR7405 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7405 is located from position 131248823 to position 131249168 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GR7405 precursor RNA folds spatially, forming GR7405 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7405 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7405 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7405 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM2608 precursor RNA and GAM3298 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM2608 RNA and GAM3298 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig.

8.

GAM2608 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM2608 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM2608 target RNA into GAM2608 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM3298 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM3298 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM3298 target RNA into GAM3298 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7405 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7405 polynucleotide: GAM2608 target protein and GAM3298 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM2608 and GAM3298

GR7407 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7407(GR7407) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7407 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7407 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7407 precursor DNA encodes GR7407 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7407 is located from position 39394031 to position 39394119 relative to chromosome chr1 on the `+` strand (chr is an abbreviation for chromosome).

GR7407 precursor RNA folds spatially, forming GR7407 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7407 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7407 precursor RNA comprises a plurality of segments,

the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7407 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336704 precursor RNA and GAM336705 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336704 RNA and GAM336705 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336704 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336704 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336704 target RNA into GAM336704 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336705 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336705 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336705 target RNA into GAM336705 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7407 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7407 polynucleotide: GAM336704 target protein and GAM336705 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336704 and GAM336705

GR7408 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7408(GR7408) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7408 precursor DNA, herein designated GR PRECURSOR DNA, is a novel

bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7408 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7408 precursor DNA encodes GR7408 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7408 is located from position 158626687 to position 158626807 relative to chromosome chr1 on the `+` strand (chr is an abbreviation for chromosome).

GR7408 precursor RNA folds spatially, forming GR7408 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7408 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7408 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7408 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM4561 precursor RNA and GAM8285 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM4561 RNA and GAM8285 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM4561 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM4561 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM4561 target RNA into GAM4561 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM8285 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM8285 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM8285 target RNA into GAM8285 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities,

of GR7408 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7408 polynucleotide: GAM4561 target protein and GAM8285 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM4561 and GAM8285

GR7409 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7409(GR7409) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7409 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7409 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7409 precursor DNA encodes GR7409 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7409 is located from position 12778141 to position 12778255 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GR7409 precursor RNA folds spatially, forming GR7409 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7409 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7409 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7409 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336388 precursor RNA and GAM336389 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336388 RNA and GAM336389 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336388 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336388 target RNA, herein schematically represented by

GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336388 target RNA into GAM336388 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336389 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336389 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336389 target RNA into GAM336389 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7409 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7409 polynucleotide: GAM336388 target protein and GAM336389 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336388 and GAM336389

GR7410 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7410(GR7410) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7410 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7410 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7410 precursor DNA encodes GR7410 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7410 is located from position 70411479 to position 70411571 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GR7410 precursor RNA folds spatially, forming GR7410 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7410 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7410 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7410 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA,

is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337083 precursor RNA and GAM337084 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337083 RNA and GAM337084 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337083 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337083 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337083 target RNA into GAM337083 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337084 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337084 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337084 target RNA into GAM337084 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7410 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7410 polynucleotide: GAM337083 target protein and GAM337084 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337083 and GAM337084

GR7411 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7411(GR7411) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7411 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7411 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7411 precursor DNA encodes GR7411 precursor RNA, herein designated GR

PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7411 is located from position 101743922 to position 101744005 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GR7411 precursor RNA folds spatially, forming GR7411 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7411 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7411 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7411 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM892 precursor RNA and GAM5886 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM892 RNA and GAM5886 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM892 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM892 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM892 target RNA into GAM892 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM5886 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM5886 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM5886 target RNA into GAM5886 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7411 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7411 polynucleotide: GAM892 target protein and GAM5886 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with

references to GAM892 and GAM5886

GR7412 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7412(GR7412) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7412 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7412 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7412 precursor DNA encodes GR7412 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7412 is located from position 121833616 to position 121833747 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GR7412 precursor RNA folds spatially, forming GR7412 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7412 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7412 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7412 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM367 precursor RNA and GAM6807 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM367 RNA and GAM6807 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM367 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM367 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM367 target RNA into GAM367 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM6807 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM6807 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM6807 target RNA into GAM6807 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7412 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7412 polynucleotide: GAM367 target protein and GAM6807 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM367 and GAM6807

GR7413 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7413(GR7413) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7413 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7413 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7413 precursor DNA encodes GR7413 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7413 is located from position 15010865 to position 15010960 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GR7413 precursor RNA folds spatially, forming GR7413 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7413 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7413 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7413 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM336407 precursor RNA, GAM336408 precursor RNA and GAM336409 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of

Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336407 RNA, GAM336408 RNA and GAM336409 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336407 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336407 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336407 target RNA into GAM336407 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336408 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336408 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336408 target RNA into GAM336408 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336409 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336409 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336409 target RNA into GAM336409 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7413 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7413 polynucleotide: GAM336407 target protein, GAM336408 target protein and GAM336409 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336407, GAM336408 and GAM336409

GR7414 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7414(GR7414) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7414 precursor DNA, herein designated GR PRECURSOR DNA, is a novel

bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7414 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7414 precursor DNA encodes GR7414 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7414 is located from position 22440215 to position 22440312 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GR7414 precursor RNA folds spatially, forming GR7414 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7414 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7414 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7414 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336507 precursor RNA and GAM336508 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336507 RNA and GAM336508 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336507 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336507 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336507 target RNA into GAM336507 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336508 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336508 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336508 target RNA into GAM336508 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities,

of GR7414 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7414 polynucleotide: GAM336507 target protein and GAM336508 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336507 and GAM336508

GR7415 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7415(GR7415) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7415 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7415 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7415 precursor DNA encodes GR7415 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7415 is located from position 93938738 to position 93938849 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GR7415 precursor RNA folds spatially, forming GR7415 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7415 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7415 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7415 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM1914 precursor RNA and GAM3271 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM1914 RNA and GAM3271 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM1914 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM1914 target RNA, herein schematically represented by GAM1 TARGET RNA

through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM1914 target RNA into GAM1914 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM3271 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM3271 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM3271 target RNA into GAM3271 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7415 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7415 polynucleotide: GAM1914 target protein and GAM3271 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM1914 and GAM3271

GR7416 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7416(GR7416) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7416 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7416 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7416 precursor DNA encodes GR7416 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7416 is located from position 94365822 to position 94365930 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GR7416 precursor RNA folds spatially, forming GR7416 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7416 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7416 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7416 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA,

is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337270 precursor RNA and GAM337271 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337270 RNA and GAM337271 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337270 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337270 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337270 target RNA into GAM337270 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337271 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337271 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337271 target RNA into GAM337271 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7416 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7416 polynucleotide: GAM337270 target protein and GAM337271 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337270 and GAM337271

GR7417 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7417(GR7417) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7417 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7417 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7417 precursor DNA encodes GR7417 precursor RNA, herein designated GR

PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7417 is located from position 102859212 to position 102859318 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GR7417 precursor RNA folds spatially, forming GR7417 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7417 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7417 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7417 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM1523 precursor RNA and GAM7654 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM1523 RNA and GAM7654 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM1523 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM1523 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM1523 target RNA into GAM1523 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM7654 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM7654 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM7654 target RNA into GAM7654 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7417 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7417 polynucleotide: GAM1523 target protein and GAM7654 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with

references to GAM1523 and GAM7654

GR7418 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7418(GR7418) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7418 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7418 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7418 precursor DNA encodes GR7418 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7418 is located from position 105033873 to position 105033967 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GR7418 precursor RNA folds spatially, forming GR7418 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7418 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7418 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7418 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337377 precursor RNA and GAM337378 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337377 RNA and GAM337378 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337377 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337377 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337377 target RNA into GAM337377 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337378 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337378 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337378 target RNA into GAM337378 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7418 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7418 polynucleotide: GAM337377 target protein and GAM337378 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337377 and GAM337378

GR7419 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7419(GR7419) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7419 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7419 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7419 precursor DNA encodes GR7419 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7419 is located from position 105533378 to position 105533458 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GR7419 precursor RNA folds spatially, forming GR7419 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7419 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7419 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7419 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM1087 precursor RNA and GAM8693 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM1087 RNA and GAM8693 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM1087 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM1087 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM1087 target RNA into GAM1087 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM8693 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM8693 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM8693 target RNA into GAM8693 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7419 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7419 polynucleotide: GAM1087 target protein and GAM8693 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM1087 and GAM8693

GR7420 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7420(GR7420) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7420 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7420 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7420 precursor DNA encodes GR7420 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7420 is located from position 48222373 to position 48222452 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GR7420 precursor RNA folds spatially, forming GR7420 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7420 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7420 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7420 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM44 precursor RNA and GAM83 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM44 RNA and GAM83 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM44 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM44 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM44 target RNA into GAM44 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM83 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM83 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM83 target RNA into GAM83 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7420 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7420 polynucleotide: GAM44 target protein and GAM83 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM44 and GAM83

GR7421 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7421(GR7421) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at

least one target gene, the function and utility of which at least one target gene is known in the art.

GR7421 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7421 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7421 precursor DNA encodes GR7421 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7421 is located from position 65732677 to position 65732778 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GR7421 precursor RNA folds spatially, forming GR7421 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7421 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7421 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7421 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337020 precursor RNA and GAM337021 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337020 RNA and GAM337021 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337020 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337020 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337020 target RNA into GAM337020 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337021 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337021 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337021 target RNA into GAM337021

target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7421 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7421 polynucleotide: GAM337020 target protein and GAM337021 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337020 and GAM337021

GR7422 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7422(GR7422) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7422 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7422 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7422 precursor DNA encodes GR7422 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7422 is located from position 92812990 to position 92813083 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GR7422 precursor RNA folds spatially, forming GR7422 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7422 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7422 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7422 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM1860 precursor RNA and GAM7601 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM1860 RNA and GAM7601 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM1860 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM1860 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM1860 target RNA into GAM1860 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM7601 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM7601 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM7601 target RNA into GAM7601 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7422 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7422 polynucleotide: GAM1860 target protein and GAM7601 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM1860 and GAM7601

GR7423 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7423(GR7423) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7423 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7423 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7423 precursor DNA encodes GR7423 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7423 is located from position 113128395 to position 113128479 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GR7423 precursor RNA folds spatially, forming GR7423 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7423 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7423 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at

least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7423 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM337441 precursor RNA, GAM337442 precursor RNA and GAM337443 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337441 RNA, GAM337442 RNA and GAM337443 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337441 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337441 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337441 target RNA into GAM337441 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337442 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337442 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337442 target RNA into GAM337442 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337443 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337443 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337443 target RNA into GAM337443 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7423 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7423 polynucleotide: GAM337441 target protein, GAM337442 target protein and GAM337443 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337441, GAM337442 and GAM337443

GR7424 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7424(GR7424) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7424 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7424 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7424 precursor DNA encodes GR7424 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7424 is located from position 2928734 to position 2928845 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GR7424 precursor RNA folds spatially, forming GR7424 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7424 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7424 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7424 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336265 precursor RNA and GAM336266 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336265 RNA and GAM336266 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336265 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336265 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336265 target RNA into GAM336265 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336266 RNA, herein schematically represented by GAM1 RNA through

GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336266 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336266 target RNA into GAM336266 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7424 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7424 polynucleotide: GAM336265 target protein and GAM336266 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336265 and GAM336266

GR7425 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7425(GR7425) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7425 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7425 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7425 precursor DNA encodes GR7425 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7425 is located from position 45420363 to position 45420459 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GR7425 precursor RNA folds spatially, forming GR7425 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7425 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7425 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7425 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM588 precursor RNA and GAM1440 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM588 RNA and GAM1440 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM588 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM588 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM588 target RNA into GAM588 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM1440 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM1440 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM1440 target RNA into GAM1440 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7425 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7425 polynucleotide: GAM588 target protein and GAM1440 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM588 and GAM1440

GR7426 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7426(GR7426) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7426 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7426 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7426 precursor DNA encodes GR7426 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7426 is located from position 46157389 to position 46157488 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GR7426 precursor RNA folds spatially, forming GR7426 folded precursor

RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7426 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7426 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7426 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336802 precursor RNA and GAM336803 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336802 RNA and GAM336803 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336802 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336802 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336802 target RNA into GAM336802 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336803 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336803 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336803 target RNA into GAM336803 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7426 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7426 polynucleotide: GAM336802 target protein and GAM336803 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336802 and GAM336803

GR7427 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7427(GR7427) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at

least one target gene, the function and utility of which at least one target gene is known in the art.

GR7427 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7427 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7427 precursor DNA encodes GR7427 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7427 is located from position 62724055 to position 62725651 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GR7427 precursor RNA folds spatially, forming GR7427 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7427 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7427 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7427 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336973 precursor RNA and GAM336974 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336973 RNA and GAM336974 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336973 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336973 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336973 target RNA into GAM336973 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336974 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336974 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336974 target RNA into GAM336974

target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7427 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7427 polynucleotide: GAM336973 target protein and GAM336974 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336973 and GAM336974

GR7428 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7428(GR7428) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7428 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7428 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7428 precursor DNA encodes GR7428 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7428 is located from position 69517026 to position 69517124 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GR7428 precursor RNA folds spatially, forming GR7428 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7428 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7428 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7428 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM2887 precursor RNA and GAM6083 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM2887 RNA and GAM6083 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM2887 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM2887 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM2887 target RNA into GAM2887 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM6083 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM6083 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM6083 target RNA into GAM6083 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7428 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7428 polynucleotide: GAM2887 target protein and GAM6083 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM2887 and GAM6083

GR7429 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7429(GR7429) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7429 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7429 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7429 precursor DNA encodes GR7429 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7429 is located from position 72624650 to position 72624756 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GR7429 precursor RNA folds spatially, forming GR7429 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7429 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7429 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at

least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7429 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337116 precursor RNA and GAM337117 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337116 RNA and GAM337117 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337116 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337116 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337116 target RNA into GAM337116 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337117 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337117 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337117 target RNA into GAM337117 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7429 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7429 polynucleotide: GAM337116 target protein and GAM337117 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337116 and GAM337117

GR7430 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7430(GR7430) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7430 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The

method by which GR7430 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7430 precursor DNA encodes GR7430 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7430 is located from position 78654885 to position 78654989 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GR7430 precursor RNA folds spatially, forming GR7430 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7430 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7430 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7430 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM3630 precursor RNA and GAM7264 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM3630 RNA and GAM7264 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM3630 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM3630 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM3630 target RNA into GAM3630 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM7264 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM7264 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM7264 target RNA into GAM7264 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7430 polynucleotide correlate with, and may be deduced from, the identity of

the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7430 polynucleotide: GAM3630 target protein and GAM7264 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM3630 and GAM7264

GR7431 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7431(GR7431) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7431 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7431 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7431 precursor DNA encodes GR7431 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7431 is located from position 96304357 to position 96304458 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GR7431 precursor RNA folds spatially, forming GR7431 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7431 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7431 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7431 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM5292 precursor RNA and GAM7777 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM5292 RNA and GAM7777 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM5292 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM5292 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target

binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM5292 target RNA into GAM5292 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM7777 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM7777 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM7777 target RNA into GAM7777 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7431 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7431 polynucleotide: GAM5292 target protein and GAM7777 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM5292 and GAM7777

GR7432 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7432(GR7432) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7432 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7432 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7432 precursor DNA encodes GR7432 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7432 is located from position 116689623 to position 116689733 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GR7432 precursor RNA folds spatially, forming GR7432 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7432 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7432 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7432 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate

GAM precursor RNAs, GAM337458 precursor RNA and GAM337459 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337458 RNA and GAM337459 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337458 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337458 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337458 target RNA into GAM337458 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337459 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337459 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337459 target RNA into GAM337459 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7432 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7432 polynucleotide: GAM337458 target protein and GAM337459 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337458 and GAM337459

GR7433 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7433(GR7433) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7433 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7433 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7433 precursor DNA encodes GR7433 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand

nucleotides long. Nucleotide sequence of GR7433 is located from position 129765258 to position 129765349 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GR7433 precursor RNA folds spatially, forming GR7433 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7433 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7433 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7433 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM2767 precursor RNA and GAM3712 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM2767 RNA and GAM3712 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM2767 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM2767 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM2767 target RNA into GAM2767 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM3712 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM3712 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM3712 target RNA into GAM3712 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7433 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7433 polynucleotide: GAM2767 target protein and GAM3712 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM2767 and GAM3712

GR7434 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7434(GR7434) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7434 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7434 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7434 precursor DNA encodes GR7434 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7434 is located from position 46553863 to position 46553950 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GR7434 precursor RNA folds spatially, forming GR7434 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7434 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7434 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7434 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM270 precursor RNA and GAM965 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM270 RNA and GAM965 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM270 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM270 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM270 target RNA into GAM270 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM965 RNA, herein schematically represented by GAM1 RNA through GAM3

RNA, binds complementarily to a target binding site located in an untranslated region of GAM965 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM965 target RNA into GAM965 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7434 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7434 polynucleotide: GAM270 target protein and GAM965 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM270 and GAM965

GR7435 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7435(GR7435) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7435 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7435 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7435 precursor DNA encodes GR7435 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7435 is located from position 53823632 to position 53823727 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GR7435 precursor RNA folds spatially, forming GR7435 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7435 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7435 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7435 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336892 precursor RNA and GAM336893 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336892 RNA and GAM336893 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336892 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336892 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336892 target RNA into GAM336892 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336893 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336893 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336893 target RNA into GAM336893 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7435 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7435 polynucleotide: GAM336892 target protein and GAM336893 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336892 and GAM336893

GR7436 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7436(GR7436) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7436 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7436 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7436 precursor DNA encodes GR7436 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7436 is located from position 56320934 to position 56321065 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GR7436 precursor RNA folds spatially, forming GR7436 folded precursor

RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7436 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7436 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7436 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM5868 precursor RNA and GAM6799 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM5868 RNA and GAM6799 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM5868 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM5868 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM5868 target RNA into GAM5868 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM6799 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM6799 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM6799 target RNA into GAM6799 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7436 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7436 polynucleotide: GAM5868 target protein and GAM6799 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM5868 and GAM6799

GR7437 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7437(GR7437) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at

least one target gene, the function and utility of which at least one target gene is known in the art.

GR7437 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7437 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7437 precursor DNA encodes GR7437 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7437 is located from position 56423119 to position 56423221 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GR7437 precursor RNA folds spatially, forming GR7437 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7437 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7437 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7437 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336906 precursor RNA and GAM336907 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336906 RNA and GAM336907 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336906 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336906 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336906 target RNA into GAM336906 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336907 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336907 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336907 target RNA into GAM336907

target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7437 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7437 polynucleotide: GAM336906 target protein and GAM336907 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336906 and GAM336907

GR7438 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7438(GR7438) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7438 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7438 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7438 precursor DNA encodes GR7438 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7438 is located from position 56453734 to position 56453831 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GR7438 precursor RNA folds spatially, forming GR7438 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7438 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7438 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7438 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM1293 precursor RNA and GAM6306 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM1293 RNA and GAM6306 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM1293 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM1293 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM1293 target RNA into GAM1293 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM6306 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM6306 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM6306 target RNA into GAM6306 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7438 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7438 polynucleotide: GAM1293 target protein and GAM6306 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM1293 and GAM6306

GR7439 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7439(GR7439) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7439 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7439 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7439 precursor DNA encodes GR7439 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7439 is located from position 56716065 to position 56716147 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GR7439 precursor RNA folds spatially, forming GR7439 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7439 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7439 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at

least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7439 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336913 precursor RNA and GAM336914 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336913 RNA and GAM336914 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336913 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336913 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336913 target RNA into GAM336913 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336914 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336914 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336914 target RNA into GAM336914 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7439 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7439 polynucleotide: GAM336913 target protein and GAM336914 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336913 and GAM336914

GR7440 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7440(GR7440) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7440 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The

method by which GR7440 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7440 precursor DNA encodes GR7440 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7440 is located from position 70649160 to position 70649248 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GR7440 precursor RNA folds spatially, forming GR7440 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7440 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7440 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7440 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337088 precursor RNA and GAM337089 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337088 RNA and GAM337089 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337088 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337088 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337088 target RNA into GAM337088 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337089 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337089 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337089 target RNA into GAM337089 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7440 polynucleotide correlate with, and may be deduced from, the identity of

the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7440 polynucleotide: GAM337088 target protein and GAM337089 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337088 and GAM337089

GR7441 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7441(GR7441) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7441 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7441 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7441 precursor DNA encodes GR7441 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7441 is located from position 96681277 to position 96681380 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GR7441 precursor RNA folds spatially, forming GR7441 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7441 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7441 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7441 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337288 precursor RNA and GAM337289 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337288 RNA and GAM337289 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337288 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337288 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to

a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337288 target RNA into GAM337288 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337289 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337289 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337289 target RNA into GAM337289 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7441 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7441 polynucleotide: GAM337288 target protein and GAM337289 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337288 and GAM337289

GR7442 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7442(GR7442) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7442 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7442 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7442 precursor DNA encodes GR7442 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7442 is located from position 24214818 to position 24214925 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GR7442 precursor RNA folds spatially, forming GR7442 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7442 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7442 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7442 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate

GAM precursor RNAs, GAM336530 precursor RNA and GAM336531 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336530 RNA and GAM336531 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336530 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336530 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336530 target RNA into GAM336530 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336531 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336531 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336531 target RNA into GAM336531 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7442 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7442 polynucleotide: GAM336530 target protein and GAM336531 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336530 and GAM336531

GR7443 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7443(GR7443) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7443 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7443 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7443 precursor DNA encodes GR7443 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand

nucleotides long. Nucleotide sequence of GR7443 is located from position 26088279 to position 26088406 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GR7443 precursor RNA folds spatially, forming GR7443 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7443 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7443 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7443 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM1144 precursor RNA and GAM7369 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM1144 RNA and GAM7369 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM1144 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM1144 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM1144 target RNA into GAM1144 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM7369 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM7369 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM7369 target RNA into GAM7369 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7443 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7443 polynucleotide: GAM1144 target protein and GAM7369 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM1144 and GAM7369

GR7444 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7444(GR7444) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7444 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7444 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7444 precursor DNA encodes GR7444 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7444 is located from position 97963174 to position 97963274 relative to chromosome chr13 on the `-` strand (chr is an abbreviation for chromosome).

GR7444 precursor RNA folds spatially, forming GR7444 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7444 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7444 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7444 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337296 precursor RNA and GAM337297 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337296 RNA and GAM337297 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337296 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337296 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337296 target RNA into GAM337296 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337297 RNA, herein schematically represented by GAM1 RNA through

GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337297 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337297 target RNA into GAM337297 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7444 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7444 polynucleotide: GAM337296 target protein and GAM337297 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337296 and GAM337297

GR7445 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7445(GR7445) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7445 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7445 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7445 precursor DNA encodes GR7445 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7445 is located from position 110102077 to position 110102191 relative to chromosome chr13 on the `-` strand (chr is an abbreviation for chromosome).

GR7445 precursor RNA folds spatially, forming GR7445 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7445 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7445 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7445 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM4205 precursor RNA and GAM6811 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM4205 RNA and GAM6811 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM4205 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM4205 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM4205 target RNA into GAM4205 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM6811 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM6811 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM6811 target RNA into GAM6811 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7445 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7445 polynucleotide: GAM4205 target protein and GAM6811 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM4205 and GAM6811

GR7446 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7446(GR7446) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7446 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7446 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7446 precursor DNA encodes GR7446 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7446 is located from position 62330677 to position 62330789 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GR7446 precursor RNA folds spatially, forming GR7446 folded precursor

RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7446 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7446 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7446 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336965 precursor RNA and GAM336966 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336965 RNA and GAM336966 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336965 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336965 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336965 target RNA into GAM336965 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336966 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336966 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336966 target RNA into GAM336966 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7446 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7446 polynucleotide: GAM336965 target protein and GAM336966 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336965 and GAM336966

GR7447 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7447(GR7447) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at

least one target gene, the function and utility of which at least one target gene is known in the art.

GR7447 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7447 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7447 precursor DNA encodes GR7447 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7447 is located from position 86637061 to position 86637148 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GR7447 precursor RNA folds spatially, forming GR7447 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7447 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7447 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7447 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM933 precursor RNA and GAM4008 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM933 RNA and GAM4008 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM933 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM933 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM933 target RNA into GAM933 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM4008 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM4008 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM4008 target RNA into GAM4008 target

protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7447 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7447 polynucleotide: GAM933 target protein and GAM4008 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM933 and GAM4008

GR7448 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7448(GR7448) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7448 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7448 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7448 precursor DNA encodes GR7448 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7448 is located from position 89578295 to position 89578403 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GR7448 precursor RNA folds spatially, forming GR7448 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7448 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7448 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7448 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337240 precursor RNA and GAM337241 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337240 RNA and GAM337241 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337240 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337240 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337240 target RNA into GAM337240 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337241 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337241 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337241 target RNA into GAM337241 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7448 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7448 polynucleotide: GAM337240 target protein and GAM337241 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337240 and GAM337241

GR7449 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7449(GR7449) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7449 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7449 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7449 precursor DNA encodes GR7449 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7449 is located from position 92455725 to position 92455812 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GR7449 precursor RNA folds spatially, forming GR7449 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7449 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7449 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at

least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7449 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337255 precursor RNA and GAM337256 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337255 RNA and GAM337256 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337255 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337255 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337255 target RNA into GAM337255 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337256 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337256 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337256 target RNA into GAM337256 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7449 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7449 polynucleotide: GAM337255 target protein and GAM337256 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337255 and GAM337256

GR7450 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7450(GR7450) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7450 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The

method by which GR7450 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7450 precursor DNA encodes GR7450 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7450 is located from position 93614973 to position 93615067 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GR7450 precursor RNA folds spatially, forming GR7450 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7450 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7450 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7450 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM1332 precursor RNA and GAM8636 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM1332 RNA and GAM8636 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM1332 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM1332 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM1332 target RNA into GAM1332 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM8636 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM8636 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM8636 target RNA into GAM8636 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7450 polynucleotide correlate with, and may be deduced from, the identity of

the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7450 polynucleotide: GAM1332 target protein and GAM8636 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM1332 and GAM8636

GR7451 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7451(GR7451) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7451 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7451 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7451 precursor DNA encodes GR7451 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7451 is located from position 62113790 to position 62113885 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GR7451 precursor RNA folds spatially, forming GR7451 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7451 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7451 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7451 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM408 precursor RNA and GAM1431 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM408 RNA and GAM1431 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM408 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM408 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target

binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM408 target RNA into GAM408 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM1431 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM1431 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM1431 target RNA into GAM1431 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7451 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7451 polynucleotide: GAM408 target protein and GAM1431 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM408 and GAM1431

GR7452 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7452(GR7452) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7452 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7452 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7452 precursor DNA encodes GR7452 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7452 is located from position 89325453 to position 89325536 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GR7452 precursor RNA folds spatially, forming GR7452 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7452 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7452 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7452 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate

GAM precursor RNAs, GAM337233 precursor RNA, GAM337234 precursor RNA and GAM337235 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337233 RNA, GAM337234 RNA and GAM337235 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337233 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337233 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337233 target RNA into GAM337233 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337234 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337234 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337234 target RNA into GAM337234 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337235 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337235 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337235 target RNA into GAM337235 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7452 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7452 polynucleotide: GAM337233 target protein, GAM337234 target protein and GAM337235 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337233, GAM337234 and GAM337235

GR7453 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7453(GR7453) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at

least one target gene, the function and utility of which at least one target gene is known in the art.

GR7453 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7453 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7453 precursor DNA encodes GR7453 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7453 is located from position 94797902 to position 94798012 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GR7453 precursor RNA folds spatially, forming GR7453 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7453 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7453 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7453 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM3564 precursor RNA and GAM7664 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM3564 RNA and GAM7664 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM3564 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM3564 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM3564 target RNA into GAM3564 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM7664 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM7664 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM7664 target RNA into GAM7664 target

protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7453 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7453 polynucleotide: GAM3564 target protein and GAM7664 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM3564 and GAM7664

GR7454 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7454(GR7454) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7454 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7454 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7454 precursor DNA encodes GR7454 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7454 is located from position 40608762 to position 40608869 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GR7454 precursor RNA folds spatially, forming GR7454 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7454 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7454 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7454 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM507 precursor RNA and GAM1295 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM507 RNA and GAM1295 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM507 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM507 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM507 target RNA into GAM507 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM1295 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM1295 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM1295 target RNA into GAM1295 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7454 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7454 polynucleotide: GAM507 target protein and GAM1295 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM507 and GAM1295

GR7455 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7455(GR7455) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7455 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7455 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7455 precursor DNA encodes GR7455 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7455 is located from position 24278760 to position 24278861 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GR7455 precursor RNA folds spatially, forming GR7455 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7455 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7455 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at

least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7455 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336532 precursor RNA and GAM336533 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336532 RNA and GAM336533 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336532 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336532 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336532 target RNA into GAM336532 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336533 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336533 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336533 target RNA into GAM336533 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7455 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7455 polynucleotide: GAM336532 target protein and GAM336533 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336532 and GAM336533

GR7456 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7456(GR7456) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7456 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The

method by which GR7456 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7456 precursor DNA encodes GR7456 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7456 is located from position 32850069 to position 32850178 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GR7456 precursor RNA folds spatially, forming GR7456 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7456 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7456 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7456 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM4996 precursor RNA and GAM5913 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM4996 RNA and GAM5913 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM4996 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM4996 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM4996 target RNA into GAM4996 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM5913 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM5913 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM5913 target RNA into GAM5913 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7456 polynucleotide correlate with, and may be deduced from, the identity of

the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7456 polynucleotide: GAM4996 target protein and GAM5913 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM4996 and GAM5913

GR7457 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7457(GR7457) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7457 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7457 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7457 precursor DNA encodes GR7457 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7457 is located from position 53161338 to position 53161431 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GR7457 precursor RNA folds spatially, forming GR7457 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7457 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7457 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7457 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM4538 precursor RNA and GAM7302 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM4538 RNA and GAM7302 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM4538 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM4538 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target

binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM4538 target RNA into GAM4538 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM7302 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM7302 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM7302 target RNA into GAM7302 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7457 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7457 polynucleotide: GAM4538 target protein and GAM7302 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM4538 and GAM7302

GR7458 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7458(GR7458) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7458 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7458 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7458 precursor DNA encodes GR7458 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7458 is located from position 53974892 to position 53975006 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GR7458 precursor RNA folds spatially, forming GR7458 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7458 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7458 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7458 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate

GAM precursor RNAs, GAM807 precursor RNA, GAM2808 precursor RNA and GAM3132 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM807 RNA, GAM2808 RNA and GAM3132 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM807 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM807 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM807 target RNA into GAM807 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM2808 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM2808 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM2808 target RNA into GAM2808 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM3132 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM3132 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM3132 target RNA into GAM3132 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7458 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7458 polynucleotide: GAM807 target protein, GAM2808 target protein and GAM3132 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM807, GAM2808 and GAM3132

GR7459 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7459(GR7459) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene

is known in the art.

GR7459 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7459 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7459 precursor DNA encodes GR7459 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7459 is located from position 90601712 to position 90601949 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GR7459 precursor RNA folds spatially, forming GR7459 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7459 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7459 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7459 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM4800 precursor RNA and GAM5958 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM4800 RNA and GAM5958 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM4800 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM4800 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM4800 target RNA into GAM4800 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM5958 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM5958 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM5958 target RNA into GAM5958 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3

TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7459 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7459 polynucleotide: GAM4800 target protein and GAM5958 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM4800 and GAM5958

GR7460 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7460(GR7460) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7460 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7460 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7460 precursor DNA encodes GR7460 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7460 is located from position 94819576 to position 94819679 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GR7460 precursor RNA folds spatially, forming GR7460 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7460 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7460 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7460 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337274 precursor RNA and GAM337275 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337274 RNA and GAM337275 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337274 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337274 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337274 target RNA into GAM337274 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337275 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337275 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337275 target RNA into GAM337275 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7460 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7460 polynucleotide: GAM337274 target protein and GAM337275 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337274 and GAM337275

GR7461 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7461(GR7461) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7461 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7461 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7461 precursor DNA encodes GR7461 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7461 is located from position 20421189 to position 20421286 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GR7461 precursor RNA folds spatially, forming GR7461 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7461 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7461 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half

thereof, as is well known in the art.

GR7461 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336477 precursor RNA and GAM336478 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336477 RNA and GAM336478 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336477 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336477 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336477 target RNA into GAM336477 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336478 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336478 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336478 target RNA into GAM336478 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7461 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7461 polynucleotide: GAM336477 target protein and GAM336478 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336477 and GAM336478

GR7462 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7462(GR7462) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7462 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7462 precursor DNA was detected is described hereinabove with

additional reference to Figs. 8-18.

GR7462 precursor DNA encodes GR7462 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7462 is located from position 24755757 to position 24755840 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GR7462 precursor RNA folds spatially, forming GR7462 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7462 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7462 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7462 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336537 precursor RNA and GAM336538 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336537 RNA and GAM336538 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336537 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336537 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336537 target RNA into GAM336537 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336538 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336538 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336538 target RNA into GAM336538 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7462 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like`

cluster of GR7462 polynucleotide: GAM336537 target protein and GAM336538 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336537 and GAM336538

GR7463 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7463(GR7463) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7463 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7463 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7463 precursor DNA encodes GR7463 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7463 is located from position 69459978 to position 69460084 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GR7463 precursor RNA folds spatially, forming GR7463 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7463 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7463 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7463 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM3064 precursor RNA and GAM337065 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM3064 RNA and GAM337065 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM3064 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM3064 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig.

8, thereby inhibiting translation of GAM3064 target RNA into GAM3064 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337065 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337065 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337065 target RNA into GAM337065 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7463 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7463 polynucleotide: GAM3064 target protein and GAM337065 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM3064 and GAM337065

GR7464 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7464(GR7464) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7464 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7464 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7464 precursor DNA encodes GR7464 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7464 is located from position 78245362 to position 78245462 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GR7464 precursor RNA folds spatially, forming GR7464 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7464 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7464 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7464 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337185 precursor RNA and GAM337186 precursor RNA,herein

schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337185 RNA and GAM337186 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337185 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337185 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337185 target RNA into GAM337185 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337186 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337186 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337186 target RNA into GAM337186 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7464 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7464 polynucleotide: GAM337185 target protein and GAM337186 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337185 and GAM337186

GR7465 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7465(GR7465) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7465 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7465 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7465 precursor DNA encodes GR7465 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7465 is located from position 15101510

to position 15101597 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GR7465 precursor RNA folds spatially, forming GR7465 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7465 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7465 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7465 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM2817 precursor RNA and GAM4844 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM2817 RNA and GAM4844 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM2817 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM2817 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM2817 target RNA into GAM2817 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM4844 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM4844 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM4844 target RNA into GAM4844 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7465 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7465 polynucleotide: GAM2817 target protein and GAM4844 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM2817 and GAM4844

GR7466 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7466(GR7466) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7466 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7466 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7466 precursor DNA encodes GR7466 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7466 is located from position 20480066 to position 20480163 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GR7466 precursor RNA folds spatially, forming GR7466 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7466 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7466 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7466 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336479 precursor RNA and GAM336480 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336479 RNA and GAM336480 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336479 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336479 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336479 target RNA into GAM336479 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336480 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an

untranslated region of GAM336480 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336480 target RNA into GAM336480 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7466 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7466 polynucleotide: GAM336479 target protein and GAM336480 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336479 and GAM336480

GR7467 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7467(GR7467) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7467 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7467 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7467 precursor DNA encodes GR7467 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7467 is located from position 34577774 to position 34577883 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GR7467 precursor RNA folds spatially, forming GR7467 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7467 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7467 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7467 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM5086 precursor RNA and GAM7416 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER

COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM5086 RNA and GAM7416 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM5086 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM5086 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM5086 target RNA into GAM5086 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM7416 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM7416 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM7416 target RNA into GAM7416 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7467 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7467 polynucleotide: GAM5086 target protein and GAM7416 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM5086 and GAM7416

GR7468 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7468(GR7468) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7468 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7468 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7468 precursor DNA encodes GR7468 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7468 is located from position 30319063 to position 30319173 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GR7468 precursor RNA folds spatially, forming GR7468 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7468

folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7468 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7468 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM785 precursor RNA and GAM8631 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM785 RNA and GAM8631 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM785 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM785 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM785 target RNA into GAM785 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM8631 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM8631 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM8631 target RNA into GAM8631 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7468 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7468 polynucleotide: GAM785 target protein and GAM8631 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM785 and GAM8631

GR7469 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7469(GR7469) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene

is known in the art.

GR7469 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7469 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7469 precursor DNA encodes GR7469 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7469 is located from position 40086542 to position 40086976 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GR7469 precursor RNA folds spatially, forming GR7469 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7469 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7469 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7469 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM4423 precursor RNA and GAM336720 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM4423 RNA and GAM336720 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM4423 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM4423 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM4423 target RNA into GAM4423 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336720 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336720 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336720 target RNA into GAM336720 target protein, herein schematically represented by GAM1 TARGET PROTEIN through

GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7469 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7469 polynucleotide: GAM4423 target protein and GAM336720 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM4423 and GAM336720

GR7470 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7470(GR7470) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7470 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7470 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7470 precursor DNA encodes GR7470 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7470 is located from position 43395837 to position 43395938 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GR7470 precursor RNA folds spatially, forming GR7470 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7470 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7470 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7470 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM674 precursor RNA and GAM3126 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM674 RNA and GAM3126 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM674 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM674 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM674 target RNA into GAM674 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM3126 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM3126 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM3126 target RNA into GAM3126 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7470 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7470 polynucleotide: GAM674 target protein and GAM3126 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM674 and GAM3126

GR7471 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7471(GR7471) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7471 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7471 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7471 precursor DNA encodes GR7471 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7471 is located from position 78873540 to position 78873673 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GR7471 precursor RNA folds spatially, forming GR7471 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7471 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7471 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half

thereof, as is well known in the art.

GR7471 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM2868 precursor RNA, GAM6466 precursor RNA and GAM6564 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM2868 RNA, GAM6466 RNA and GAM6564 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM2868 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM2868 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM2868 target RNA into GAM2868 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM6466 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM6466 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM6466 target RNA into GAM6466 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM6564 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM6564 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM6564 target RNA into GAM6564 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7471 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7471 polynucleotide: GAM2868 target protein, GAM6466 target protein and GAM6564 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM2868, GAM6466 and GAM6564

 Fig. 16 further provides a conceptual description of novel bioinformatically

detected regulatory polynucleotide, referred to here as Genomic Record 7472(GR7472) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7472 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7472 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7472 precursor DNA encodes GR7472 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7472 is located from position 1319182 to position 1319275 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GR7472 precursor RNA folds spatially, forming GR7472 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7472 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7472 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7472 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM842 precursor RNA and GAM2920 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM842 RNA and GAM2920 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM842 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM842 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM842 target RNA into GAM842 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM2920 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM2920 target RNA, herein schematically represented by GAM1 TARGET RNA

through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM2920 target RNA into GAM2920 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7472 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7472 polynucleotide: GAM842 target protein and GAM2920 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM842 and GAM2920

GR7473 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7473(GR7473) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7473 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7473 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7473 precursor DNA encodes GR7473 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7473 is located from position 2260318 to position 2260393 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GR7473 precursor RNA folds spatially, forming GR7473 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7473 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7473 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7473 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM1313 precursor RNA and GAM3487 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides

in length, GAM1313 RNA and GAM3487 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM1313 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM1313 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM1313 target RNA into GAM1313 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM3487 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM3487 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM3487 target RNA into GAM3487 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7473 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7473 polynucleotide: GAM1313 target protein and GAM3487 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM1313 and GAM3487

GR7474 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7474(GR7474) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7474 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7474 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7474 precursor DNA encodes GR7474 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7474 is located from position 6197075 to position 6197181 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GR7474 precursor RNA folds spatially, forming GR7474 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7474 folded precursor RNA comprises a plurality of what is known in the art as

`hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7474 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7474 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM4027 precursor RNA and GAM6996 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM4027 RNA and GAM6996 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM4027 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM4027 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM4027 target RNA into GAM4027 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM6996 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM6996 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM6996 target RNA into GAM6996 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7474 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7474 polynucleotide: GAM4027 target protein and GAM6996 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM4027 and GAM6996

GR7475 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7475(GR7475) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7475 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7475 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7475 precursor DNA encodes GR7475 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7475 is located from position 15083193 to position 15083304 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GR7475 precursor RNA folds spatially, forming GR7475 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7475 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7475 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7475 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336410 precursor RNA and GAM336411 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336410 RNA and GAM336411 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336410 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336410 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336410 target RNA into GAM336410 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336411 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336411 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336411 target RNA into GAM336411 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7475 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7475 polynucleotide: GAM336410 target protein and GAM336411 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336410 and GAM336411

GR7476 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7476(GR7476) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7476 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7476 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7476 precursor DNA encodes GR7476 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7476 is located from position 40762540 to position 40762622 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GR7476 precursor RNA folds spatially, forming GR7476 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7476 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7476 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7476 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336731 precursor RNA and GAM336732 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336731 RNA and GAM336732 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336731 RNA, herein schematically represented by GAM1 RNA through

GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336731 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336731 target RNA into GAM336731 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336732 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336732 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336732 target RNA into GAM336732 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7476 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7476 polynucleotide: GAM336731 target protein and GAM336732 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336731 and GAM336732

GR7477 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7477(GR7477) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7477 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7477 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7477 precursor DNA encodes GR7477 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7477 is located from position 42527933 to position 42528035 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GR7477 precursor RNA folds spatially, forming GR7477 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7477 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7477 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7477 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336755 precursor RNA and GAM336756 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336755 RNA and GAM336756 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336755 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336755 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336755 target RNA into GAM336755 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336756 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336756 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336756 target RNA into GAM336756 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7477 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7477 polynucleotide: GAM336755 target protein and GAM336756 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336755 and GAM336756

GR7478 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7478(GR7478) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7478 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7478 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7478 precursor DNA encodes GR7478 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7478 is located from position 76816688 to position 76816818 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GR7478 precursor RNA folds spatially, forming GR7478 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7478 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7478 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7478 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM2014 precursor RNA and GAM8164 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM2014 RNA and GAM8164 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM2014 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM2014 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM2014 target RNA into GAM2014 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM8164 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM8164 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM8164 target RNA into GAM8164 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7478 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7478 polynucleotide: GAM2014 target protein and GAM8164 target

protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM2014 and GAM8164

GR7479 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7479(GR7479) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7479 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7479 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7479 precursor DNA encodes GR7479 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7479 is located from position 182463 to position 182568 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GR7479 precursor RNA folds spatially, forming GR7479 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7479 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7479 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7479 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM4376 precursor RNA and GAM6121 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM4376 RNA and GAM6121 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM4376 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM4376 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM4376 target RNA into GAM4376 target

protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM6121 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM6121 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM6121 target RNA into GAM6121 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7479 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7479 polynucleotide: GAM4376 target protein and GAM6121 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM4376 and GAM6121

GR7480 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7480(GR7480) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7480 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7480 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7480 precursor DNA encodes GR7480 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7480 is located from position 9906418 to position 9906526 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GR7480 precursor RNA folds spatially, forming GR7480 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7480 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7480 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7480 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336345 precursor RNA and GAM336346 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED

PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336345 RNA and GAM336346 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336345 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336345 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336345 target RNA into GAM336345 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336346 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336346 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336346 target RNA into GAM336346 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7480 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7480 polynucleotide: GAM336345 target protein and GAM336346 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336345 and GAM336346

GR7481 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7481(GR7481) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7481 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7481 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7481 precursor DNA encodes GR7481 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7481 is located from position 44470838 to position 44470931 relative to chromosome chr18 on the `-` strand (chr is an

abbreviation for chromosome).

GR7481 precursor RNA folds spatially, forming GR7481 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7481 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7481 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7481 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM5074 precursor RNA and GAM6105 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM5074 RNA and GAM6105 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM5074 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM5074 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM5074 target RNA into GAM5074 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM6105 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM6105 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM6105 target RNA into GAM6105 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7481 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7481 polynucleotide: GAM5074 target protein and GAM6105 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM5074 and GAM6105

GR7482 Fig. 16 further provides a conceptual description of novel bioinformatically

detected regulatory polynucleotide, referred to here as Genomic Record 7482(GR7482) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7482 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7482 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7482 precursor DNA encodes GR7482 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7482 is located from position 37551253 to position 37551384 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GR7482 precursor RNA folds spatially, forming GR7482 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7482 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7482 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7482 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM4796 precursor RNA and GAM5374 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM4796 RNA and GAM5374 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM4796 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM4796 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM4796 target RNA into GAM4796 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM5374 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM5374 target RNA, herein schematically represented by GAM1 TARGET RNA

through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM5374 target RNA into GAM5374 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7482 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7482 polynucleotide: GAM4796 target protein and GAM5374 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM4796 and GAM5374

GR7483 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7483(GR7483) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7483 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7483 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7483 precursor DNA encodes GR7483 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7483 is located from position 43546115 to position 43546218 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GR7483 precursor RNA folds spatially, forming GR7483 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7483 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7483 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7483 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM6055 precursor RNA and GAM7954 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides

in length, GAM6055 RNA and GAM7954 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM6055 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM6055 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM6055 target RNA into GAM6055 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM7954 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM7954 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM7954 target RNA into GAM7954 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7483 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7483 polynucleotide: GAM6055 target protein and GAM7954 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM6055 and GAM7954

GR7484 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7484(GR7484) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7484 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7484 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7484 precursor DNA encodes GR7484 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7484 is located from position 54394158 to position 54394244 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GR7484 precursor RNA folds spatially, forming GR7484 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7484 folded precursor RNA comprises a plurality of what is known in the art as

`hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7484 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7484 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM4571 precursor RNA and GAM5008 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM4571 RNA and GAM5008 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM4571 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM4571 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM4571 target RNA into GAM4571 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM5008 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM5008 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM5008 target RNA into GAM5008 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7484 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7484 polynucleotide: GAM4571 target protein and GAM5008 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM4571 and GAM5008

GR7485 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7485(GR7485) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7485 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7485 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7485 precursor DNA encodes GR7485 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7485 is located from position 16837776 to position 16838154 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GR7485 precursor RNA folds spatially, forming GR7485 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7485 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7485 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7485 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM556 precursor RNA and GAM5640 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM556 RNA and GAM5640 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM556 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM556 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM556 target RNA into GAM556 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM5640 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM5640 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM5640 target RNA into GAM5640 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7485 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7485 polynucleotide: GAM556 target protein and GAM5640 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM556 and GAM5640

GR7486 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7486(GR7486) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7486 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7486 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7486 precursor DNA encodes GR7486 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7486 is located from position 32944216 to position 32944302 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GR7486 precursor RNA folds spatially, forming GR7486 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7486 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7486 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7486 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM4189 precursor RNA and GAM5703 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM4189 RNA and GAM5703 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM4189 RNA, herein schematically represented by GAM1 RNA through GAM3

RNA, binds complementarily to a target binding site located in an untranslated region of GAM4189 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM4189 target RNA into GAM4189 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM5703 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM5703 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM5703 target RNA into GAM5703 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7486 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7486 polynucleotide: GAM4189 target protein and GAM5703 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM4189 and GAM5703

GR7487 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7487(GR7487) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7487 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7487 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7487 precursor DNA encodes GR7487 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7487 is located from position 45455573 to position 45455685 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GR7487 precursor RNA folds spatially, forming GR7487 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7487 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7487 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7487 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336792 precursor RNA and GAM336793 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336792 RNA and GAM336793 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336792 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336792 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336792 target RNA into GAM336792 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336793 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336793 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336793 target RNA into GAM336793 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7487 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7487 polynucleotide: GAM336792 target protein and GAM336793 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336792 and GAM336793

GR7488 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7488(GR7488) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7488 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7488 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7488 precursor DNA encodes GR7488 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7488 is located from position 74273377 to position 74273476 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GR7488 precursor RNA folds spatially, forming GR7488 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7488 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7488 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7488 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM337146 precursor RNA, GAM337147 precursor RNA and GAM337148 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337146 RNA, GAM337147 RNA and GAM337148 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337146 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337146 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337146 target RNA into GAM337146 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337147 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337147 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337147 target RNA into GAM337147 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337148 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337148 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to

a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337148 target RNA into GAM337148 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7488 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7488 polynucleotide: GAM337146 target protein, GAM337147 target protein and GAM337148 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337146, GAM337147 and GAM337148

GR7489 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7489(GR7489) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7489 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7489 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7489 precursor DNA encodes GR7489 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7489 is located from position 108115430 to position 108115533 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GR7489 precursor RNA folds spatially, forming GR7489 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7489 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7489 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7489 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM337395 precursor RNA, GAM337396 precursor RNA and GAM337397 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER

COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337395 RNA, GAM337396 RNA and GAM337397 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337395 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337395 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337395 target RNA into GAM337395 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337396 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337396 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337396 target RNA into GAM337396 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337397 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337397 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337397 target RNA into GAM337397 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7489 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7489 polynucleotide: GAM337395 target protein, GAM337396 target protein and GAM337397 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337395, GAM337396 and GAM337397

GR7490 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7490(GR7490) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7490 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7490 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7490 precursor DNA encodes GR7490 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7490 is located from position 110164979 to position 110165082 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GR7490 precursor RNA folds spatially, forming GR7490 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7490 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7490 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7490 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM337409 precursor RNA, GAM337410 precursor RNA and GAM337411 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337409 RNA, GAM337410 RNA and GAM337411 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337409 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337409 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337409 target RNA into GAM337409 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337410 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337410 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337410 target RNA into GAM337410 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337411 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337411 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to

a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337411 target RNA into GAM337411 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7490 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7490 polynucleotide: GAM337409 target protein, GAM337410 target protein and GAM337411 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337409, GAM337410 and GAM337411

GR7491 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7491(GR7491) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7491 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7491 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7491 precursor DNA encodes GR7491 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7491 is located from position 222613184 to position 222613280 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GR7491 precursor RNA folds spatially, forming GR7491 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7491 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7491 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7491 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337632 precursor RNA and GAM337633 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides

in length, GAM337632 RNA and GAM337633 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337632 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337632 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337632 target RNA into GAM337632 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337633 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337633 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337633 target RNA into GAM337633 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7491 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7491 polynucleotide: GAM337632 target protein and GAM337633 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337632 and GAM337633

GR7492 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7492(GR7492) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7492 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7492 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7492 precursor DNA encodes GR7492 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7492 is located from position 9554905 to position 9555007 relative to chromosome chr2 on the `-` strand (chr is an abbreviation for chromosome).

GR7492 precursor RNA folds spatially, forming GR7492 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7492 folded precursor RNA comprises a plurality of what is known in the art as

`hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7492 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7492 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336336 precursor RNA and GAM336337 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336336 RNA and GAM336337 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336336 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336336 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336336 target RNA into GAM336336 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336337 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336337 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336337 target RNA into GAM336337 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7492 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7492 polynucleotide: GAM336336 target protein and GAM336337 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336336 and GAM336337

GR7493 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7493(GR7493) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7493 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7493 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7493 precursor DNA encodes GR7493 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7493 is located from position 106622467 to position 106622570 relative to chromosome chr2 on the `-` strand (chr is an abbreviation for chromosome).

GR7493 precursor RNA folds spatially, forming GR7493 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7493 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7493 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7493 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM337385 precursor RNA, GAM337386 precursor RNA and GAM337387 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337385 RNA, GAM337386 RNA and GAM337387 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337385 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337385 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337385 target RNA into GAM337385 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337386 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337386 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337386 target RNA into GAM337386 target protein, herein schematically represented by GAM1 TARGET PROTEIN through

GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337387 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337387 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337387 target RNA into GAM337387 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7493 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7493 polynucleotide: GAM337385 target protein, GAM337386 target protein and GAM337387 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337385, GAM337386 and GAM337387

GR7494 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7494(GR7494) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7494 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7494 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7494 precursor DNA encodes GR7494 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7494 is located from position 110894746 to position 110894849 relative to chromosome chr2 on the `-` strand (chr is an abbreviation for chromosome).

GR7494 precursor RNA folds spatially, forming GR7494 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7494 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7494 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7494 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM337415 precursor RNA, GAM337416 precursor RNA and GAM337417 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR

RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337415 RNA, GAM337416 RNA and GAM337417 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337415 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337415 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337415 target RNA into GAM337415 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337416 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337416 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337416 target RNA into GAM337416 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337417 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337417 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337417 target RNA into GAM337417 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7494 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7494 polynucleotide: GAM337415 target protein, GAM337416 target protein and GAM337417 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337415, GAM337416 and GAM337417

GR7495 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7495(GR7495) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7495 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7495 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7495 precursor DNA encodes GR7495 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7495 is located from position 113030916 to position 113031019 relative to chromosome chr2 on the `-` strand (chr is an abbreviation for chromosome).

GR7495 precursor RNA folds spatially, forming GR7495 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7495 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7495 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7495 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM337438 precursor RNA, GAM337439 precursor RNA and GAM337440 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337438 RNA, GAM337439 RNA and GAM337440 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337438 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337438 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337438 target RNA into GAM337438 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337439 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337439 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337439 target RNA into GAM337439 target protein, herein schematically represented by GAM1 TARGET PROTEIN through

GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337440 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337440 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337440 target RNA into GAM337440 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7495 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7495 polynucleotide: GAM337438 target protein, GAM337439 target protein and GAM337440 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337438, GAM337439 and GAM337440

GR7496 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7496(GR7496) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7496 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7496 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7496 precursor DNA encodes GR7496 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7496 is located from position 3852982 to position 3853068 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GR7496 precursor RNA folds spatially, forming GR7496 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7496 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7496 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7496 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM3266 precursor RNA and GAM5916 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED

PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM3266 RNA and GAM5916 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM3266 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM3266 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM3266 target RNA into GAM3266 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM5916 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM5916 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM5916 target RNA into GAM5916 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7496 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7496 polynucleotide: GAM3266 target protein and GAM5916 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM3266 and GAM5916

GR7497 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7497(GR7497) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7497 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7497 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7497 precursor DNA encodes GR7497 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7497 is located from position 19890625 to position 19890731 relative to chromosome chr20 on the `+` strand (chr is an

abbreviation for chromosome).

GR7497 precursor RNA folds spatially, forming GR7497 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7497 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7497 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7497 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336466 precursor RNA and GAM336467 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336466 RNA and GAM336467 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336466 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336466 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336466 target RNA into GAM336466 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336467 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336467 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336467 target RNA into GAM336467 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7497 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7497 polynucleotide: GAM336466 target protein and GAM336467 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336466 and GAM336467

GR7498 Fig. 16 further provides a conceptual description of novel bioinformatically

detected regulatory polynucleotide, referred to here as Genomic Record 7498(GR7498) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7498 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7498 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7498 precursor DNA encodes GR7498 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7498 is located from position 35736486 to position 35736585 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GR7498 precursor RNA folds spatially, forming GR7498 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7498 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7498 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7498 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 4 separate GAM precursor RNAs, GAM336661 precursor RNA, GAM336662 precursor RNA, GAM336663 precursor RNA and GAM336664 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336661 RNA, GAM336662 RNA, GAM336663 RNA and GAM336664 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336661 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336661 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336661 target RNA into GAM336661 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336662 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an

untranslated region of GAM336662 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336662 target RNA into GAM336662 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336663 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336663 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336663 target RNA into GAM336663 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336664 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336664 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336664 target RNA into GAM336664 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7498 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7498 polynucleotide: GAM336661 target protein, GAM336662 target protein, GAM336663 target protein and GAM336664 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336661, GAM336662, GAM336663 and GAM336664

GR7499 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7499(GR7499) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7499 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7499 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7499 precursor DNA encodes GR7499 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7499 is located from position 34777096 to position 34777191 relative to chromosome chr20 on the `-` strand (chr is an abbreviation for chromosome).

GR7499 precursor RNA folds spatially, forming GR7499 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7499 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7499 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7499 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM336648 precursor RNA, GAM336649 precursor RNA and GAM336650 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336648 RNA, GAM336649 RNA and GAM336650 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336648 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336648 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336648 target RNA into GAM336648 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336649 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336649 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336649 target RNA into GAM336649 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336650 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336650 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336650 target RNA into GAM336650 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7499 polynucleotide correlate with, and may be deduced from, the identity of

the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7499 polynucleotide: GAM336648 target protein, GAM336649 target protein and GAM336650 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336648, GAM336649 and GAM336650

GR7500 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7500(GR7500) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7500 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7500 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7500 precursor DNA encodes GR7500 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7500 is located from position 46615364 to position 46615468 relative to chromosome chr20 on the `-` strand (chr is an abbreviation for chromosome).

GR7500 precursor RNA folds spatially, forming GR7500 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7500 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7500 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7500 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM750 precursor RNA and GAM1887 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM750 RNA and GAM1887 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM750 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM750 target RNA, herein schematically represented by GAM1 TARGET RNA

through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM750 target RNA into GAM750 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM1887 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM1887 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM1887 target RNA into GAM1887 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7500 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7500 polynucleotide: GAM750 target protein and GAM1887 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM750 and GAM1887

GR7501 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7501(GR7501) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7501 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7501 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7501 precursor DNA encodes GR7501 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7501 is located from position 50175599 to position 50175688 relative to chromosome chr20 on the `-` strand (chr is an abbreviation for chromosome).

GR7501 precursor RNA folds spatially, forming GR7501 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7501 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7501 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7501 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA,

is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM2223 precursor RNA and GAM7889 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM2223 RNA and GAM7889 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM2223 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM2223 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM2223 target RNA into GAM2223 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM7889 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM7889 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM7889 target RNA into GAM7889 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7501 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7501 polynucleotide: GAM2223 target protein and GAM7889 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM2223 and GAM7889

GR7502 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7502(GR7502) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7502 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7502 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7502 precursor DNA encodes GR7502 precursor RNA, herein designated GR

PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7502 is located from position 34257285 to position 34257380 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GR7502 precursor RNA folds spatially, forming GR7502 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7502 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7502 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7502 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336642 precursor RNA and GAM336643 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336642 RNA and GAM336643 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336642 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336642 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336642 target RNA into GAM336642 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336643 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336643 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336643 target RNA into GAM336643 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7502 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7502 polynucleotide: GAM336642 target protein and GAM336643 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with

references to GAM336642 and GAM336643

GR7503 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7503(GR7503) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7503 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7503 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7503 precursor DNA encodes GR7503 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7503 is located from position 37187787 to position 37187892 relative to chromosome chr21 on the `-` strand (chr is an abbreviation for chromosome).

GR7503 precursor RNA folds spatially, forming GR7503 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7503 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7503 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7503 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336678 precursor RNA and GAM336679 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336678 RNA and GAM336679 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336678 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336678 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336678 target RNA into GAM336678 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336679 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336679 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336679 target RNA into GAM336679 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7503 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7503 polynucleotide: GAM336678 target protein and GAM336679 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336678 and GAM336679

GR7504 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7504(GR7504) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7504 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7504 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7504 precursor DNA encodes GR7504 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7504 is located from position 48973458 to position 48973552 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GR7504 precursor RNA folds spatially, forming GR7504 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7504 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7504 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7504 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336844 precursor RNA and GAM336845 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336844 RNA and GAM336845 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336844 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336844 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336844 target RNA into GAM336844 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336845 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336845 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336845 target RNA into GAM336845 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7504 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7504 polynucleotide: GAM336844 target protein and GAM336845 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336844 and GAM336845

GR7505 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7505(GR7505) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7505 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7505 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7505 precursor DNA encodes GR7505 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7505 is located from position 22354493 to position 22354606 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GR7505 precursor RNA folds spatially, forming GR7505 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7505 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7505 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7505 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM2300 precursor RNA and GAM2391 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM2300 RNA and GAM2391 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM2300 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM2300 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM2300 target RNA into GAM2300 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM2391 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM2391 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM2391 target RNA into GAM2391 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7505 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7505 polynucleotide: GAM2300 target protein and GAM2391 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM2300 and GAM2391

GR7506 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7506(GR7506) polynucleotide, which encodes an `operon-like` cluster of novel

micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7506 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7506 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7506 precursor DNA encodes GR7506 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7506 is located from position 32141176 to position 32141267 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GR7506 precursor RNA folds spatially, forming GR7506 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7506 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7506 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7506 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336612 precursor RNA and GAM336613 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336612 RNA and GAM336613 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336612 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336612 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336612 target RNA into GAM336612 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336613 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336613 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III

of Fig. 8, thereby inhibiting translation of GAM336613 target RNA into GAM336613 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7506 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7506 polynucleotide: GAM336612 target protein and GAM336613 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336612 and GAM336613

GR7507 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7507(GR7507) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7507 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7507 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7507 precursor DNA encodes GR7507 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7507 is located from position 43677889 to position 43677981 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GR7507 precursor RNA folds spatially, forming GR7507 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7507 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7507 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7507 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM1786 precursor RNA and GAM8611 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM1786 RNA and GAM8611 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig.

8.

GAM1786 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM1786 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM1786 target RNA into GAM1786 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM8611 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM8611 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM8611 target RNA into GAM8611 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7507 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7507 polynucleotide: GAM1786 target protein and GAM8611 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM1786 and GAM8611

GR7508 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7508(GR7508) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7508 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7508 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7508 precursor DNA encodes GR7508 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7508 is located from position 44721785 to position 44721915 relative to chromosome chr22 on the `-` strand (chr is an abbreviation for chromosome).

GR7508 precursor RNA folds spatially, forming GR7508 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7508 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7508 precursor RNA comprises a plurality of segments,

the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7508 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM1479 precursor RNA and GAM6982 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM1479 RNA and GAM6982 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM1479 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM1479 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM1479 target RNA into GAM1479 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM6982 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM6982 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM6982 target RNA into GAM6982 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7508 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7508 polynucleotide: GAM1479 target protein and GAM6982 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM1479 and GAM6982

GR7509 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7509(GR7509) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7509 precursor DNA, herein designated GR PRECURSOR DNA, is a novel

bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7509 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7509 precursor DNA encodes GR7509 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7509 is located from position 89368234 to position 89368332 relative to chromosome chr4 on the `+` strand (chr is an abbreviation for chromosome).

GR7509 precursor RNA folds spatially, forming GR7509 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7509 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7509 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7509 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337237 precursor RNA and GAM337238 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337237 RNA and GAM337238 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337237 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337237 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337237 target RNA into GAM337237 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337238 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337238 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337238 target RNA into GAM337238 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities,

of GR7509 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7509 polynucleotide: GAM337237 target protein and GAM337238 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337237 and GAM337238

GR7510 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7510(GR7510) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7510 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7510 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7510 precursor DNA encodes GR7510 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7510 is located from position 1018984 to position 1019121 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GR7510 precursor RNA folds spatially, forming GR7510 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7510 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7510 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7510 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM100 precursor RNA, GAM6307 precursor RNA and GAM7179 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM100 RNA, GAM6307 RNA and GAM7179 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM100 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated

region of GAM100 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM100 target RNA into GAM100 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM6307 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM6307 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM6307 target RNA into GAM6307 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM7179 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM7179 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM7179 target RNA into GAM7179 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7510 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7510 polynucleotide: GAM100 target protein, GAM6307 target protein and GAM7179 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM100, GAM6307 and GAM7179

GR7511 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7511(GR7511) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7511 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7511 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7511 precursor DNA encodes GR7511 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7511 is located from position 17062066 to position 17062152 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GR7511 precursor RNA folds spatially, forming GR7511 folded precursor

RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7511 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7511 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7511 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336432 precursor RNA and GAM336433 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336432 RNA and GAM336433 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336432 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336432 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336432 target RNA into GAM336432 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336433 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336433 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336433 target RNA into GAM336433 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7511 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7511 polynucleotide: GAM336432 target protein and GAM336433 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336432 and GAM336433

GR7512 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7512(GR7512) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at

least one target gene, the function and utility of which at least one target gene is known in the art.

GR7512 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7512 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7512 precursor DNA encodes GR7512 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7512 is located from position 82178126 to position 82179721 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GR7512 precursor RNA folds spatially, forming GR7512 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7512 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7512 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7512 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM1088 precursor RNA, GAM2578 precursor RNA and GAM7250 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM1088 RNA, GAM2578 RNA and GAM7250 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM1088 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM1088 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM1088 target RNA into GAM1088 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM2578 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM2578 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig.

8, thereby inhibiting translation of GAM2578 target RNA into GAM2578 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM7250 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM7250 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM7250 target RNA into GAM7250 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7512 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7512 polynucleotide: GAM1088 target protein, GAM2578 target protein and GAM7250 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM1088, GAM2578 and GAM7250

GR7513 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7513(GR7513) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7513 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7513 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7513 precursor DNA encodes GR7513 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7513 is located from position 137087025 to position 137087139 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GR7513 precursor RNA folds spatially, forming GR7513 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7513 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7513 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7513 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM337570 precursor RNA, GAM337571 precursor RNA and

GAM337572 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337570 RNA, GAM337571 RNA and GAM337572 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337570 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337570 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337570 target RNA into GAM337570 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337571 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337571 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337571 target RNA into GAM337571 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337572 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337572 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337572 target RNA into GAM337572 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7513 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7513 polynucleotide: GAM337570 target protein, GAM337571 target protein and GAM337572 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337570, GAM337571 and GAM337572

GR7514 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7514(GR7514) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene

is known in the art.

GR7514 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7514 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7514 precursor DNA encodes GR7514 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7514 is located from position 140693627 to position 140693723 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GR7514 precursor RNA folds spatially, forming GR7514 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7514 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7514 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7514 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM6618 precursor RNA and GAM6978 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM6618 RNA and GAM6978 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM6618 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM6618 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM6618 target RNA into GAM6618 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM6978 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM6978 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM6978 target RNA into GAM6978 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3

TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7514 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7514 polynucleotide: GAM6618 target protein and GAM6978 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM6618 and GAM6978

GR7515 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7515(GR7515) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7515 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7515 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7515 precursor DNA encodes GR7515 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7515 is located from position 148136535 to position 148136637 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GR7515 precursor RNA folds spatially, forming GR7515 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7515 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7515 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7515 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337597 precursor RNA and GAM337598 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337597 RNA and GAM337598 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337597 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337597 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337597 target RNA into GAM337597 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337598 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337598 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337598 target RNA into GAM337598 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7515 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7515 polynucleotide: GAM337597 target protein and GAM337598 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337597 and GAM337598

GR7516 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7516(GR7516) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7516 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7516 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7516 precursor DNA encodes GR7516 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7516 is located from position 150223532 to position 150223641 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GR7516 precursor RNA folds spatially, forming GR7516 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7516 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7516 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half

thereof, as is well known in the art.

GR7516 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM193 precursor RNA and GAM973 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM193 RNA and GAM973 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM193 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM193 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM193 target RNA into GAM193 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM973 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM973 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM973 target RNA into GAM973 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7516 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7516 polynucleotide: GAM193 target protein and GAM973 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM193 and GAM973

GR7517 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7517(GR7517) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7517 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7517 precursor DNA was detected is described hereinabove with

additional reference to Figs. 8-18.

GR7517 precursor DNA encodes GR7517 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7517 is located from position 30119301 to position 30119415 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GR7517 precursor RNA folds spatially, forming GR7517 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7517 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7517 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7517 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336595 precursor RNA and GAM336596 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336595 RNA and GAM336596 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336595 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336595 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336595 target RNA into GAM336595 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336596 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336596 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336596 target RNA into GAM336596 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7517 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like`

cluster of GR7517 polynucleotide: GAM336595 target protein and GAM336596 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336595 and GAM336596

GR7518 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7518(GR7518) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7518 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7518 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7518 precursor DNA encodes GR7518 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7518 is located from position 33338251 to position 33338352 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GR7518 precursor RNA folds spatially, forming GR7518 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7518 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7518 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7518 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336630 precursor RNA and GAM336631 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336630 RNA and GAM336631 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336630 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336630 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III

of Fig. 8, thereby inhibiting translation of GAM336630 target RNA into GAM336630 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336631 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336631 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336631 target RNA into GAM336631 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7518 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7518 polynucleotide: GAM336630 target protein and GAM336631 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336630 and GAM336631

GR7519 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7519(GR7519) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7519 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7519 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7519 precursor DNA encodes GR7519 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7519 is located from position 35798279 to position 35798393 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GR7519 precursor RNA folds spatially, forming GR7519 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7519 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7519 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7519 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM1550 precursor RNA and GAM1937 precursor RNA,herein

schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM1550 RNA and GAM1937 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM1550 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM1550 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM1550 target RNA into GAM1550 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM1937 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM1937 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM1937 target RNA into GAM1937 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7519 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7519 polynucleotide: GAM1550 target protein and GAM1937 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM1550 and GAM1937

GR7520 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7520(GR7520) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7520 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7520 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7520 precursor DNA encodes GR7520 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7520 is located from position 61973580

to position 61973685 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GR7520 precursor RNA folds spatially, forming GR7520 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7520 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7520 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7520 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM353 precursor RNA and GAM1445 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM353 RNA and GAM1445 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM353 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM353 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM353 target RNA into GAM353 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM1445 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM1445 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM1445 target RNA into GAM1445 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7520 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7520 polynucleotide: GAM353 target protein and GAM1445 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM353 and GAM1445

GR7521 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7521(GR7521) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7521 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7521 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7521 precursor DNA encodes GR7521 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7521 is located from position 68096932 to position 68097040 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GR7521 precursor RNA folds spatially, forming GR7521 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7521 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7521 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7521 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337051 precursor RNA and GAM337052 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337051 RNA and GAM337052 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337051 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337051 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337051 target RNA into GAM337051 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337052 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an

untranslated region of GAM337052 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337052 target RNA into GAM337052 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7521 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7521 polynucleotide: GAM337051 target protein and GAM337052 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337051 and GAM337052

GR7522 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7522(GR7522) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7522 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7522 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7522 precursor DNA encodes GR7522 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7522 is located from position 96671073 to position 96675767 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GR7522 precursor RNA folds spatially, forming GR7522 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7522 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7522 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7522 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM3091 precursor RNA and GAM337287 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER

COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM3091 RNA and GAM337287 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM3091 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM3091 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM3091 target RNA into GAM3091 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337287 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337287 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337287 target RNA into GAM337287 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7522 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7522 polynucleotide: GAM3091 target protein and GAM337287 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM3091 and GAM337287

GR7523 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7523(GR7523) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7523 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7523 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7523 precursor DNA encodes GR7523 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7523 is located from position 97689214 to position 97691182 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GR7523 precursor RNA folds spatially, forming GR7523 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7523

folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7523 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7523 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 4 separate GAM precursor RNAs, GAM259 precursor RNA, GAM1423 precursor RNA, GAM4709 precursor RNA and GAM7363 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM259 RNA, GAM1423 RNA, GAM4709 RNA and GAM7363 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM259 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM259 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM259 target RNA into GAM259 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM1423 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM1423 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM1423 target RNA into GAM1423 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM4709 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM4709 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM4709 target RNA into GAM4709 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM7363 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM7363 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig.

8, thereby inhibiting translation of GAM7363 target RNA into GAM7363 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7523 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7523 polynucleotide: GAM259 target protein, GAM1423 target protein, GAM4709 target protein and GAM7363 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM259, GAM1423, GAM4709 and GAM7363

GR7524 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7524(GR7524) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7524 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7524 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7524 precursor DNA encodes GR7524 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7524 is located from position 128399235 to position 128399347 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GR7524 precursor RNA folds spatially, forming GR7524 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7524 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7524 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7524 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM337521 precursor RNA, GAM337522 precursor RNA and GAM337523 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides

in length, GAM337521 RNA, GAM337522 RNA and GAM337523 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337521 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337521 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337521 target RNA into GAM337521 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337522 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337522 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337522 target RNA into GAM337522 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337523 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337523 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337523 target RNA into GAM337523 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7524 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7524 polynucleotide: GAM337521 target protein, GAM337522 target protein and GAM337523 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337521, GAM337522 and GAM337523

GR7525 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7525(GR7525) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7525 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7525 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7525 precursor DNA encodes GR7525 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7525 is located from position 43025631 to position 43025765 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GR7525 precursor RNA folds spatially, forming GR7525 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7525 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7525 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7525 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM4986 precursor RNA, GAM5085 precursor RNA and GAM7017 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM4986 RNA, GAM5085 RNA and GAM7017 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM4986 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM4986 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM4986 target RNA into GAM4986 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM5085 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM5085 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM5085 target RNA into GAM5085 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM7017 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM7017 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig.

8, thereby inhibiting translation of GAM7017 target RNA into GAM7017 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7525 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7525 polynucleotide: GAM4986 target protein, GAM5085 target protein and GAM7017 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM4986, GAM5085 and GAM7017

GR7526 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7526(GR7526) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7526 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7526 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7526 precursor DNA encodes GR7526 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7526 is located from position 62131098 to position 62131226 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GR7526 precursor RNA folds spatially, forming GR7526 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7526 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7526 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7526 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM2272 precursor RNA, GAM5764 precursor RNA and GAM7345 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM2272 RNA, GAM5764 RNA and GAM7345 RNA, herein schematically

represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM2272 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM2272 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM2272 target RNA into GAM2272 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM5764 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM5764 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM5764 target RNA into GAM5764 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM7345 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM7345 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM7345 target RNA into GAM7345 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7526 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7526 polynucleotide: GAM2272 target protein, GAM5764 target protein and GAM7345 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM2272, GAM5764 and GAM7345

GR7527 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7527(GR7527) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7527 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7527 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7527 precursor DNA encodes GR7527 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand

nucleotides long. Nucleotide sequence of GR7527 is located from position 62875338 to position 62875466 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GR7527 precursor RNA folds spatially, forming GR7527 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7527 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7527 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7527 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM336978 precursor RNA, GAM336980 precursor RNA and GAM336981 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336978 RNA, GAM336980 RNA and GAM336981 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336978 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336978 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336978 target RNA into GAM336978 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336980 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336980 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336980 target RNA into GAM336980 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336981 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336981 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336981 target RNA into GAM336981 target protein, herein schematically represented by GAM1 TARGET PROTEIN through

GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7527 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7527 polynucleotide: GAM336978 target protein, GAM336980 target protein and GAM336981 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336978, GAM336980 and GAM336981

GR7528 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7528(GR7528) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7528 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7528 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7528 precursor DNA encodes GR7528 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7528 is located from position 63063288 to position 63063393 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GR7528 precursor RNA folds spatially, forming GR7528 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7528 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7528 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7528 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336986 precursor RNA and GAM336987 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336986 RNA and GAM336987 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336986 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336986 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336986 target RNA into GAM336986 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336987 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336987 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336987 target RNA into GAM336987 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7528 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7528 polynucleotide: GAM336986 target protein and GAM336987 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336986 and GAM336987

GR7529 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7529(GR7529) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7529 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7529 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7529 precursor DNA encodes GR7529 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7529 is located from position 116757828 to position 116757946 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GR7529 precursor RNA folds spatially, forming GR7529 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7529 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7529 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at

least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7529 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM4932 precursor RNA, GAM6024 precursor RNA and GAM6417 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM4932 RNA, GAM6024 RNA and GAM6417 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM4932 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM4932 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM4932 target RNA into GAM4932 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM6024 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM6024 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM6024 target RNA into GAM6024 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM6417 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM6417 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM6417 target RNA into GAM6417 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7529 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7529 polynucleotide: GAM4932 target protein, GAM6024 target protein and GAM6417 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM4932, GAM6024 and GAM6417

GR7530 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7530(GR7530) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7530 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7530 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7530 precursor DNA encodes GR7530 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7530 is located from position 124608557 to position 124608671 relative to chromosome chr9 on the `-` strand (chr is an abbreviation for chromosome).

GR7530 precursor RNA folds spatially, forming GR7530 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7530 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7530 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7530 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 4 separate GAM precursor RNAs, GAM337498 precursor RNA, GAM337499 precursor RNA, GAM337500 precursor RNA and GAM337501 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337498 RNA, GAM337499 RNA, GAM337500 RNA and GAM337501 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337498 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337498 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337498 target RNA into GAM337498 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337499 RNA, herein schematically represented by GAM1 RNA through

GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337499 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337499 target RNA into GAM337499 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337500 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337500 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337500 target RNA into GAM337500 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337501 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337501 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337501 target RNA into GAM337501 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7530 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7530 polynucleotide: GAM337498 target protein, GAM337499 target protein, GAM337500 target protein and GAM337501 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337498, GAM337499, GAM337500 and GAM337501

GR7531 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7531(GR7531) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7531 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7531 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7531 precursor DNA encodes GR7531 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7531 is located from position 120997503 to position 120997605 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GR7531 precursor RNA folds spatially, forming GR7531 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7531 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7531 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7531 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM7776 precursor RNA and GAM337476 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM7776 RNA and GAM337476 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM7776 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM7776 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM7776 target RNA into GAM7776 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337476 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337476 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337476 target RNA into GAM337476 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7531 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7531 polynucleotide: GAM7776 target protein and GAM337476 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM7776 and GAM337476

GR7532 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record

7532(GR7532) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7532 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7532 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7532 precursor DNA encodes GR7532 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7532 is located from position 136594068 to position 136594193 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GR7532 precursor RNA folds spatially, forming GR7532 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7532 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7532 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7532 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM1782 precursor RNA, GAM8047 precursor RNA and GAM8349 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM1782 RNA, GAM8047 RNA and GAM8349 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM1782 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM1782 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM1782 target RNA into GAM1782 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM8047 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM8047 target RNA, herein schematically represented by GAM1 TARGET RNA

through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM8047 target RNA into GAM8047 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM8349 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM8349 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM8349 target RNA into GAM8349 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7532 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7532 polynucleotide: GAM1782 target protein, GAM8047 target protein and GAM8349 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM1782, GAM8047 and GAM8349

GR7533 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7533(GR7533) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7533 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7533 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7533 precursor DNA encodes GR7533 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7533 is located from position 7772009 to position 7772133 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GR7533 precursor RNA folds spatially, forming GR7533 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7533 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7533 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7533 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA,

is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM5673 precursor RNA and GAM5823 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM5673 RNA and GAM5823 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM5673 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM5673 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM5673 target RNA into GAM5673 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM5823 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM5823 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM5823 target RNA into GAM5823 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7533 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7533 polynucleotide: GAM5673 target protein and GAM5823 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM5673 and GAM5823

GR7534 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7534(GR7534) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7534 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7534 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7534 precursor DNA encodes GR7534 precursor RNA, herein designated GR

PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7534 is located from position 23528432 to position 23528526 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GR7534 precursor RNA folds spatially, forming GR7534 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7534 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7534 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7534 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336526 precursor RNA and GAM336527 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336526 RNA and GAM336527 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336526 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336526 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336526 target RNA into GAM336526 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336527 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336527 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336527 target RNA into GAM336527 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7534 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7534 polynucleotide: GAM336526 target protein and GAM336527 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with

references to GAM336526 and GAM336527

GR7535 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7535(GR7535) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7535 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7535 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7535 precursor DNA encodes GR7535 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7535 is located from position 47741101 to position 47741216 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GR7535 precursor RNA folds spatially, forming GR7535 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7535 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7535 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7535 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM7022 precursor RNA and GAM7135 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM7022 RNA and GAM7135 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM7022 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM7022 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM7022 target RNA into GAM7022 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM7135 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM7135 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM7135 target RNA into GAM7135 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7535 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7535 polynucleotide: GAM7022 target protein and GAM7135 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM7022 and GAM7135

GR7536 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7536(GR7536) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7536 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7536 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7536 precursor DNA encodes GR7536 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7536 is located from position 47783494 to position 47783586 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GR7536 precursor RNA folds spatially, forming GR7536 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7536 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7536 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7536 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336825 precursor RNA and GAM336826 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336825 RNA and GAM336826 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336825 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336825 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336825 target RNA into GAM336825 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336826 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336826 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336826 target RNA into GAM336826 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7536 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7536 polynucleotide: GAM336825 target protein and GAM336826 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336825 and GAM336826

GR7537 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7537(GR7537) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7537 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7537 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7537 precursor DNA encodes GR7537 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7537 is located from position 126882804 to position 126883120 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GR7537 precursor RNA folds spatially, forming GR7537 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7537 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7537 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7537 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM1033 precursor RNA and GAM5963 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM1033 RNA and GAM5963 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM1033 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM1033 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM1033 target RNA into GAM1033 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM5963 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM5963 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM5963 target RNA into GAM5963 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7537 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7537 polynucleotide: GAM1033 target protein and GAM5963 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM1033 and GAM5963

GR7540 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7540(GR7540) polynucleotide, which encodes an `operon-like` cluster of novel

micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7540 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7540 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7540 precursor DNA encodes GR7540 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7540 is located from position 11686899 to position 11687001 relative to chromosome chr1 on the `-` strand (chr is an abbreviation for chromosome).

GR7540 precursor RNA folds spatially, forming GR7540 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7540 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7540 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7540 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336373 precursor RNA and GAM336374 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336373 RNA and GAM336374 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336373 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336373 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336373 target RNA into GAM336373 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336374 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336374 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III

of Fig. 8, thereby inhibiting translation of GAM336374 target RNA into GAM336374 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7540 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7540 polynucleotide: GAM336373 target protein and GAM336374 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336373 and GAM336374

GR7541 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7541(GR7541) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7541 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7541 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7541 precursor DNA encodes GR7541 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7541 is located from position 116189890 to position 116189992 relative to chromosome chr1 on the `-` strand (chr is an abbreviation for chromosome).

GR7541 precursor RNA folds spatially, forming GR7541 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7541 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7541 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7541 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337453 precursor RNA and GAM337454 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337453 RNA and GAM337454 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of

Fig. 8.

GAM337453 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337453 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337453 target RNA into GAM337453 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337454 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337454 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337454 target RNA into GAM337454 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7541 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7541 polynucleotide: GAM337453 target protein and GAM337454 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337453 and GAM337454

GR7542 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7542(GR7542) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7542 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7542 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7542 precursor DNA encodes GR7542 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7542 is located from position 43586567 to position 43586676 relative to chromosome chr13 on the `+` strand (chr is an abbreviation for chromosome).

GR7542 precursor RNA folds spatially, forming GR7542 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7542 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7542 precursor RNA comprises a plurality of segments,

the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7542 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336770 precursor RNA and GAM336771 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336770 RNA and GAM336771 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336770 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336770 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336770 target RNA into GAM336770 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336771 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336771 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336771 target RNA into GAM336771 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7542 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7542 polynucleotide: GAM336770 target protein and GAM336771 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336770 and GAM336771

GR7543 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7543(GR7543) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7543 precursor DNA, herein designated GR PRECURSOR DNA, is a novel

bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7543 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7543 precursor DNA encodes GR7543 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7543 is located from position 30643328 to position 30643430 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GR7543 precursor RNA folds spatially, forming GR7543 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7543 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7543 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7543 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336599 precursor RNA and GAM336600 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336599 RNA and GAM336600 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336599 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336599 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336599 target RNA into GAM336599 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336600 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336600 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336600 target RNA into GAM336600 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities,

of GR7543 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7543 polynucleotide: GAM336599 target protein and GAM336600 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336599 and GAM336600

GR7544 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7544(GR7544) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7544 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7544 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7544 precursor DNA encodes GR7544 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7544 is located from position 47935242 to position 47935318 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GR7544 precursor RNA folds spatially, forming GR7544 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7544 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7544 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7544 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336827 precursor RNA and GAM336828 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336827 RNA and GAM336828 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336827 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336827 target RNA, herein schematically represented by

GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336827 target RNA into GAM336827 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336828 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336828 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336828 target RNA into GAM336828 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7544 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7544 polynucleotide: GAM336827 target protein and GAM336828 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336827 and GAM336828

GR7545 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7545(GR7545) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7545 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7545 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7545 precursor DNA encodes GR7545 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7545 is located from position 53596776 to position 53596878 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GR7545 precursor RNA folds spatially, forming GR7545 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7545 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7545 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7545 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA,

is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336890 precursor RNA and GAM336891 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336890 RNA and GAM336891 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336890 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336890 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336890 target RNA into GAM336890 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336891 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336891 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336891 target RNA into GAM336891 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7545 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7545 polynucleotide: GAM336890 target protein and GAM336891 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336890 and GAM336891

GR7546 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7546(GR7546) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7546 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7546 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7546 precursor DNA encodes GR7546 precursor RNA, herein designated GR

PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7546 is located from position 63490699 to position 63490788 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GR7546 precursor RNA folds spatially, forming GR7546 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7546 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7546 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7546 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336995 precursor RNA and GAM336996 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336995 RNA and GAM336996 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336995 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336995 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336995 target RNA into GAM336995 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336996 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336996 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336996 target RNA into GAM336996 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7546 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7546 polynucleotide: GAM336995 target protein and GAM336996 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with

references to GAM336995 and GAM336996

GR7547 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7547(GR7547) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7547 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7547 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7547 precursor DNA encodes GR7547 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7547 is located from position 8936622 to position 8936713 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GR7547 precursor RNA folds spatially, forming GR7547 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7547 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7547 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7547 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336327 precursor RNA and GAM336328 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336327 RNA and GAM336328 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336327 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336327 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336327 target RNA into GAM336327 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336328 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336328 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336328 target RNA into GAM336328 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7547 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7547 polynucleotide: GAM336327 target protein and GAM336328 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336327 and GAM336328

GR7548 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7548(GR7548) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7548 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7548 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7548 precursor DNA encodes GR7548 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7548 is located from position 12791804 to position 12791905 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GR7548 precursor RNA folds spatially, forming GR7548 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7548 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7548 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7548 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM336390 precursor RNA, GAM336391 precursor RNA and GAM336392 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of

Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336390 RNA, GAM336391 RNA and GAM336392 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336390 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336390 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336390 target RNA into GAM336390 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336391 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336391 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336391 target RNA into GAM336391 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336392 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336392 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336392 target RNA into GAM336392 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7548 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7548 polynucleotide: GAM336390 target protein, GAM336391 target protein and GAM336392 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336390, GAM336391 and GAM336392

GR7549 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7549(GR7549) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7549 precursor DNA, herein designated GR PRECURSOR DNA, is a novel

bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7549 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7549 precursor DNA encodes GR7549 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7549 is located from position 101642187 to position 101642300 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GR7549 precursor RNA folds spatially, forming GR7549 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7549 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7549 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7549 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM337350 precursor RNA, GAM337351 precursor RNA and GAM337352 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337350 RNA, GAM337351 RNA and GAM337352 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337350 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337350 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337350 target RNA into GAM337350 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337351 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337351 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337351 target RNA into GAM337351 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337352 RNA, herein schematically represented by GAM1 RNA through

GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337352 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337352 target RNA into GAM337352 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7549 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7549 polynucleotide: GAM337350 target protein, GAM337351 target protein and GAM337352 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337350, GAM337351 and GAM337352

GR7550 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7550(GR7550) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7550 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7550 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7550 precursor DNA encodes GR7550 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7550 is located from position 130018501 to position 130018614 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GR7550 precursor RNA folds spatially, forming GR7550 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7550 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7550 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7550 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM337535 precursor RNA, GAM337536 precursor RNA and GAM337537 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of

Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337535 RNA, GAM337536 RNA and GAM337537 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337535 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337535 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337535 target RNA into GAM337535 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337536 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337536 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337536 target RNA into GAM337536 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337537 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337537 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337537 target RNA into GAM337537 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7550 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7550 polynucleotide: GAM337535 target protein, GAM337536 target protein and GAM337537 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337535, GAM337536 and GAM337537

GR7551 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7551(GR7551) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7551 precursor DNA, herein designated GR PRECURSOR DNA, is a novel

bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7551 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7551 precursor DNA encodes GR7551 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7551 is located from position 65582433 to position 65582810 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GR7551 precursor RNA folds spatially, forming GR7551 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7551 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7551 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7551 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337016 precursor RNA and GAM337017 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337016 RNA and GAM337017 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337016 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337016 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337016 target RNA into GAM337016 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337017 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337017 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337017 target RNA into GAM337017 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities,

of GR7551 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7551 polynucleotide: GAM337016 target protein and GAM337017 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337016 and GAM337017

GR7552 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7552(GR7552) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7552 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7552 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7552 precursor DNA encodes GR7552 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7552 is located from position 92941110 to position 92941222 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GR7552 precursor RNA folds spatially, forming GR7552 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7552 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7552 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7552 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 4 separate GAM precursor RNAs, GAM337259 precursor RNA, GAM337260 precursor RNA, GAM337261 precursor RNA and GAM337262 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337259 RNA, GAM337260 RNA, GAM337261 RNA and GAM337262 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337259 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an

untranslated region of GAM337259 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337259 target RNA into GAM337259 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337260 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337260 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337260 target RNA into GAM337260 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337261 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337261 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337261 target RNA into GAM337261 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337262 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337262 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337262 target RNA into GAM337262 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7552 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7552 polynucleotide: GAM337259 target protein, GAM337260 target protein, GAM337261 target protein and GAM337262 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337259, GAM337260, GAM337261 and GAM337262

GR7556 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7556(GR7556) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7556 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7556 precursor DNA was detected is described hereinabove with

additional reference to Figs. 8-18.

GR7556 precursor DNA encodes GR7556 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7556 is located from position 151095622 to position 151095721 relative to chromosome chr1 on the `+` strand (chr is an abbreviation for chromosome).

GR7556 precursor RNA folds spatially, forming GR7556 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7556 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7556 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7556 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337607 precursor RNA and GAM337608 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337607 RNA and GAM337608 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337607 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337607 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337607 target RNA into GAM337607 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337608 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337608 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337608 target RNA into GAM337608 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7556 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like`

cluster of GR7556 polynucleotide: GAM337607 target protein and GAM337608 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337607 and GAM337608

GR7557 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7557(GR7557) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7557 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7557 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7557 precursor DNA encodes GR7557 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7557 is located from position 6079591 to position 6079695 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GR7557 precursor RNA folds spatially, forming GR7557 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7557 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7557 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7557 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336297 precursor RNA and GAM336298 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336297 RNA and GAM336298 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336297 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336297 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III

of Fig. 8, thereby inhibiting translation of GAM336297 target RNA into GAM336297 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336298 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336298 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336298 target RNA into GAM336298 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7557 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7557 polynucleotide: GAM336297 target protein and GAM336298 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336297 and GAM336298

GR7558 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7558(GR7558) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7558 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7558 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7558 precursor DNA encodes GR7558 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7558 is located from position 33721930 to position 33722030 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GR7558 precursor RNA folds spatially, forming GR7558 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7558 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7558 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7558 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336635 precursor RNA and GAM336636 precursor RNA,herein

schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336635 RNA and GAM336636 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336635 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336635 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336635 target RNA into GAM336635 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336636 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336636 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336636 target RNA into GAM336636 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7558 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7558 polynucleotide: GAM336635 target protein and GAM336636 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336635 and GAM336636

GR7559 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7559(GR7559) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7559 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7559 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7559 precursor DNA encodes GR7559 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7559 is located from position 34587696

to position 34587808 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GR7559 precursor RNA folds spatially, forming GR7559 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7559 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7559 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7559 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336644 precursor RNA and GAM336645 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336644 RNA and GAM336645 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336644 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336644 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336644 target RNA into GAM336644 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336645 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336645 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336645 target RNA into GAM336645 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7559 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7559 polynucleotide: GAM336644 target protein and GAM336645 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336644 and GAM336645

GR7560 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7560(GR7560) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7560 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7560 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7560 precursor DNA encodes GR7560 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7560 is located from position 69991881 to position 69992195 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GR7560 precursor RNA folds spatially, forming GR7560 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7560 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7560 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7560 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM337071 precursor RNA, GAM337072 precursor RNA and GAM337073 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337071 RNA, GAM337072 RNA and GAM337073 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337071 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337071 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337071 target RNA into GAM337071 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337072 RNA, herein schematically represented by GAM1 RNA through

GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337072 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337072 target RNA into GAM337072 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337073 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337073 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337073 target RNA into GAM337073 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7560 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7560 polynucleotide: GAM337071 target protein, GAM337072 target protein and GAM337073 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337071, GAM337072 and GAM337073

GR7561 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7561(GR7561) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7561 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7561 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7561 precursor DNA encodes GR7561 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7561 is located from position 74733011 to position 74733112 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GR7561 precursor RNA folds spatially, forming GR7561 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7561 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7561 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half

thereof, as is well known in the art.

GR7561 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM337154 precursor RNA, GAM337155 precursor RNA and GAM337156 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337154 RNA, GAM337155 RNA and GAM337156 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337154 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337154 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337154 target RNA into GAM337154 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337155 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337155 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337155 target RNA into GAM337155 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337156 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337156 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337156 target RNA into GAM337156 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7561 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7561 polynucleotide: GAM337154 target protein, GAM337155 target protein and GAM337156 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337154, GAM337155 and GAM337156

GR7562 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7562(GR7562) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7562 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7562 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7562 precursor DNA encodes GR7562 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7562 is located from position 79169031 to position 79169147 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GR7562 precursor RNA folds spatially, forming GR7562 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7562 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7562 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7562 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM1443 precursor RNA and GAM5728 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM1443 RNA and GAM5728 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM1443 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM1443 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM1443 target RNA into GAM1443 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM5728 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated

region of GAM5728 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM5728 target RNA into GAM5728 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7562 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7562 polynucleotide: GAM1443 target protein and GAM5728 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM1443 and GAM5728

GR7563 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7563(GR7563) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7563 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7563 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7563 precursor DNA encodes GR7563 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7563 is located from position 92938874 to position 92938984 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GR7563 precursor RNA folds spatially, forming GR7563 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7563 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7563 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7563 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337257 precursor RNA and GAM337258 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER

COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337257 RNA and GAM337258 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337257 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337257 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337257 target RNA into GAM337257 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337258 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337258 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337258 target RNA into GAM337258 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7563 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7563 polynucleotide: GAM337257 target protein and GAM337258 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337257 and GAM337258

GR7564 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7564(GR7564) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7564 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7564 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7564 precursor DNA encodes GR7564 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7564 is located from position 95469300 to position 95469401 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GR7564 precursor RNA folds spatially, forming GR7564 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7564

folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7564 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7564 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337281 precursor RNA and GAM337282 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337281 RNA and GAM337282 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337281 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337281 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337281 target RNA into GAM337281 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337282 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337282 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337282 target RNA into GAM337282 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7564 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7564 polynucleotide: GAM337281 target protein and GAM337282 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337281 and GAM337282

GR7565 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7565(GR7565) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene

is known in the art.

GR7565 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7565 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7565 precursor DNA encodes GR7565 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7565 is located from position 98645765 to position 98645837 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GR7565 precursor RNA folds spatially, forming GR7565 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7565 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7565 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7565 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337305 precursor RNA and GAM337306 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337305 RNA and GAM337306 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337305 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337305 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337305 target RNA into GAM337305 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337306 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337306 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337306 target RNA into GAM337306 target protein, herein schematically represented by GAM1 TARGET PROTEIN through

GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7565 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7565 polynucleotide: GAM337305 target protein and GAM337306 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337305 and GAM337306

GR7566 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7566(GR7566) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7566 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7566 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7566 precursor DNA encodes GR7566 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7566 is located from position 130940694 to position 130940793 relative to chromosome chr10 on the `+` strand (chr is an abbreviation for chromosome).

GR7566 precursor RNA folds spatially, forming GR7566 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7566 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7566 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7566 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337541 precursor RNA and GAM337542 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337541 RNA and GAM337542 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337541 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337541 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337541 target RNA into GAM337541 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337542 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337542 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337542 target RNA into GAM337542 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7566 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7566 polynucleotide: GAM337541 target protein and GAM337542 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337541 and GAM337542

GR7567 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7567(GR7567) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7567 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7567 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7567 precursor DNA encodes GR7567 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7567 is located from position 36386596 to position 36386704 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GR7567 precursor RNA folds spatially, forming GR7567 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7567 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7567 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half

thereof, as is well known in the art.

GR7567 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM336670 precursor RNA, GAM336671 precursor RNA and GAM336672 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336670 RNA, GAM336671 RNA and GAM336672 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336670 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336670 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336670 target RNA into GAM336670 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336671 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336671 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336671 target RNA into GAM336671 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336672 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336672 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336672 target RNA into GAM336672 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7567 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7567 polynucleotide: GAM336670 target protein, GAM336671 target protein and GAM336672 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336670, GAM336671 and GAM336672

GR7568 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7568(GR7568) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7568 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7568 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7568 precursor DNA encodes GR7568 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7568 is located from position 75306320 to position 75306426 relative to chromosome chr10 on the `-` strand (chr is an abbreviation for chromosome).

GR7568 precursor RNA folds spatially, forming GR7568 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7568 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7568 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7568 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337163 precursor RNA and GAM337164 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337163 RNA and GAM337164 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337163 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337163 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337163 target RNA into GAM337163 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337164 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an

untranslated region of GAM337164 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337164 target RNA into GAM337164 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7568 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7568 polynucleotide: GAM337163 target protein and GAM337164 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337163 and GAM337164

GR7569 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7569(GR7569) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7569 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7569 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7569 precursor DNA encodes GR7569 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7569 is located from position 5537268 to position 5537355 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GR7569 precursor RNA folds spatially, forming GR7569 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7569 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7569 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7569 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336289 precursor RNA and GAM336290 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER

COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336289 RNA and GAM336290 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336289 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336289 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336289 target RNA into GAM336289 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336290 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336290 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336290 target RNA into GAM336290 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7569 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7569 polynucleotide: GAM336289 target protein and GAM336290 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336289 and GAM336290

GR7570 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7570(GR7570) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7570 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7570 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7570 precursor DNA encodes GR7570 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7570 is located from position 9504192 to position 9504294 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GR7570 precursor RNA folds spatially, forming GR7570 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7570

folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7570 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7570 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336334 precursor RNA and GAM336335 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336334 RNA and GAM336335 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336334 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336334 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336334 target RNA into GAM336334 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336335 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336335 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336335 target RNA into GAM336335 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7570 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7570 polynucleotide: GAM336334 target protein and GAM336335 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336334 and GAM336335

GR7571 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7571(GR7571) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene

is known in the art.

GR7571 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7571 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7571 precursor DNA encodes GR7571 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7571 is located from position 18148992 to position 18149072 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GR7571 precursor RNA folds spatially, forming GR7571 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7571 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7571 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7571 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336439 precursor RNA and GAM336440 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336439 RNA and GAM336440 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336439 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336439 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336439 target RNA into GAM336439 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336440 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336440 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336440 target RNA into GAM336440 target protein, herein schematically represented by GAM1 TARGET PROTEIN through

GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7571 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7571 polynucleotide: GAM336439 target protein and GAM336440 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336439 and GAM336440

GR7572 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7572(GR7572) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7572 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7572 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7572 precursor DNA encodes GR7572 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7572 is located from position 68013714 to position 68013821 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GR7572 precursor RNA folds spatially, forming GR7572 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7572 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7572 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7572 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM3195 precursor RNA and GAM7845 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM3195 RNA and GAM7845 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM3195 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM3195 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM3195 target RNA into GAM3195 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM7845 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM7845 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM7845 target RNA into GAM7845 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7572 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7572 polynucleotide: GAM3195 target protein and GAM7845 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM3195 and GAM7845

GR7573 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7573(GR7573) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7573 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7573 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7573 precursor DNA encodes GR7573 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7573 is located from position 88200943 to position 88201073 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GR7573 precursor RNA folds spatially, forming GR7573 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7573 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7573 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half

thereof, as is well known in the art.

GR7573 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM6567 precursor RNA and GAM8539 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM6567 RNA and GAM8539 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM6567 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM6567 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM6567 target RNA into GAM6567 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM8539 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM8539 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM8539 target RNA into GAM8539 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7573 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7573 polynucleotide: GAM6567 target protein and GAM8539 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM6567 and GAM8539

GR7574 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7574(GR7574) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7574 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7574 precursor DNA was detected is described hereinabove with

additional reference to Figs. 8-18.

GR7574 precursor DNA encodes GR7574 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7574 is located from position 90083877 to position 90083973 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GR7574 precursor RNA folds spatially, forming GR7574 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7574 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7574 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7574 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337245 precursor RNA and GAM337246 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337245 RNA and GAM337246 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337245 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337245 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337245 target RNA into GAM337245 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337246 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337246 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337246 target RNA into GAM337246 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7574 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like`

cluster of GR7574 polynucleotide: GAM337245 target protein and GAM337246 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337245 and GAM337246

GR7575 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7575(GR7575) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7575 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7575 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7575 precursor DNA encodes GR7575 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7575 is located from position 99654607 to position 99654738 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GR7575 precursor RNA folds spatially, forming GR7575 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7575 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7575 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7575 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM337326 precursor RNA, GAM337327 precursor RNA and GAM337328 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337326 RNA, GAM337327 RNA and GAM337328 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337326 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337326 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to

a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337326 target RNA into GAM337326 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337327 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337327 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337327 target RNA into GAM337327 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337328 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337328 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337328 target RNA into GAM337328 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7575 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7575 polynucleotide: GAM337326 target protein, GAM337327 target protein and GAM337328 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337326, GAM337327 and GAM337328

GR7576 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7576(GR7576) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7576 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7576 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7576 precursor DNA encodes GR7576 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7576 is located from position 101025636 to position 101025731 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GR7576 precursor RNA folds spatially, forming GR7576 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7576

folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7576 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7576 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM337338 precursor RNA, GAM337339 precursor RNA and GAM337340 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337338 RNA, GAM337339 RNA and GAM337340 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337338 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337338 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337338 target RNA into GAM337338 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337339 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337339 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337339 target RNA into GAM337339 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337340 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337340 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337340 target RNA into GAM337340 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7576 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7576 polynucleotide: GAM337338 target protein, GAM337339 target

protein and GAM337340 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337338, GAM337339 and GAM337340

GR7577 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7577(GR7577) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7577 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7577 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7577 precursor DNA encodes GR7577 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7577 is located from position 111418113 to position 111418192 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GR7577 precursor RNA folds spatially, forming GR7577 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7577 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7577 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7577 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337422 precursor RNA and GAM337423 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337422 RNA and GAM337423 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337422 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337422 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III

of Fig. 8, thereby inhibiting translation of GAM337422 target RNA into GAM337422 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337423 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337423 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337423 target RNA into GAM337423 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7577 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7577 polynucleotide: GAM337422 target protein and GAM337423 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337422 and GAM337423

GR7578 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7578(GR7578) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7578 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7578 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7578 precursor DNA encodes GR7578 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7578 is located from position 111702787 to position 111702870 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GR7578 precursor RNA folds spatially, forming GR7578 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7578 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7578 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7578 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337424 precursor RNA and GAM337425 precursor RNA,herein

schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337424 RNA and GAM337425 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337424 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337424 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337424 target RNA into GAM337424 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337425 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337425 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337425 target RNA into GAM337425 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7578 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7578 polynucleotide: GAM337424 target protein and GAM337425 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337424 and GAM337425

GR7579 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7579(GR7579) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7579 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7579 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7579 precursor DNA encodes GR7579 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7579 is located from position

113971966 to position 113972054 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GR7579 precursor RNA folds spatially, forming GR7579 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7579 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7579 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7579 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM4188 precursor RNA and GAM5623 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM4188 RNA and GAM5623 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM4188 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM4188 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM4188 target RNA into GAM4188 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM5623 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM5623 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM5623 target RNA into GAM5623 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7579 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7579 polynucleotide: GAM4188 target protein and GAM5623 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM4188 and GAM5623

GR7580 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7580(GR7580) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7580 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7580 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7580 precursor DNA encodes GR7580 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7580 is located from position 126234545 to position 126234647 relative to chromosome chr11 on the `+` strand (chr is an abbreviation for chromosome).

GR7580 precursor RNA folds spatially, forming GR7580 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7580 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7580 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7580 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337507 precursor RNA and GAM337508 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337507 RNA and GAM337508 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337507 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337507 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337507 target RNA into GAM337507 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337508 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an

untranslated region of GAM337508 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337508 target RNA into GAM337508 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7580 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7580 polynucleotide: GAM337507 target protein and GAM337508 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337507 and GAM337508

GR7581 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7581(GR7581) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7581 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7581 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7581 precursor DNA encodes GR7581 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7581 is located from position 18338801 to position 18338899 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GR7581 precursor RNA folds spatially, forming GR7581 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7581 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7581 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7581 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336443 precursor RNA and GAM336444 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER

COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336443 RNA and GAM336444 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336443 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336443 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336443 target RNA into GAM336443 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336444 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336444 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336444 target RNA into GAM336444 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7581 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7581 polynucleotide: GAM336443 target protein and GAM336444 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336443 and GAM336444

GR7582 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7582(GR7582) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7582 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7582 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7582 precursor DNA encodes GR7582 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7582 is located from position 46654581 to position 46654675 relative to chromosome chr11 on the `-` strand (chr is an abbreviation for chromosome).

GR7582 precursor RNA folds spatially, forming GR7582 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7582

folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7582 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7582 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336810 precursor RNA and GAM336811 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336810 RNA and GAM336811 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336810 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336810 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336810 target RNA into GAM336810 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336811 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336811 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336811 target RNA into GAM336811 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7582 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7582 polynucleotide: GAM336810 target protein and GAM336811 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336810 and GAM336811

GR7583 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7583(GR7583) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene

is known in the art.

GR7583 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7583 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7583 precursor DNA encodes GR7583 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7583 is located from position 3259659 to position 3259772 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GR7583 precursor RNA folds spatially, forming GR7583 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7583 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7583 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7583 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336268 precursor RNA and GAM336269 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336268 RNA and GAM336269 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336268 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336268 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336268 target RNA into GAM336268 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336269 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336269 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336269 target RNA into GAM336269 target protein, herein schematically represented by GAM1 TARGET PROTEIN through

GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7583 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7583 polynucleotide: GAM336268 target protein and GAM336269 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336268 and GAM336269

GR7584 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7584(GR7584) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7584 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7584 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7584 precursor DNA encodes GR7584 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7584 is located from position 50911119 to position 50911225 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GR7584 precursor RNA folds spatially, forming GR7584 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7584 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7584 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7584 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336876 precursor RNA and GAM336877 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336876 RNA and GAM336877 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336876 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336876 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336876 target RNA into GAM336876 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336877 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336877 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336877 target RNA into GAM336877 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7584 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7584 polynucleotide: GAM336876 target protein and GAM336877 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336876 and GAM336877

GR7585 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7585(GR7585) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7585 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7585 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7585 precursor DNA encodes GR7585 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7585 is located from position 57533860 to position 57533948 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GR7585 precursor RNA folds spatially, forming GR7585 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7585 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7585 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half

thereof, as is well known in the art.

GR7585 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336925 precursor RNA and GAM336926 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336925 RNA and GAM336926 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336925 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336925 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336925 target RNA into GAM336925 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336926 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336926 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336926 target RNA into GAM336926 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7585 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7585 polynucleotide: GAM336925 target protein and GAM336926 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336925 and GAM336926

GR7586 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7586(GR7586) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7586 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7586 precursor DNA was detected is described hereinabove with

additional reference to Figs. 8-18.

GR7586 precursor DNA encodes GR7586 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7586 is located from position 62689480 to position 62689572 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GR7586 precursor RNA folds spatially, forming GR7586 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7586 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7586 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7586 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336970 precursor RNA and GAM336971 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336970 RNA and GAM336971 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336970 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336970 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336970 target RNA into GAM336970 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336971 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336971 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336971 target RNA into GAM336971 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7586 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like`

cluster of GR7586 polynucleotide: GAM336970 target protein and GAM336971 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336970 and GAM336971

GR7587 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7587(GR7587) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7587 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7587 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7587 precursor DNA encodes GR7587 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7587 is located from position 66457769 to position 66457886 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GR7587 precursor RNA folds spatially, forming GR7587 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7587 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7587 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7587 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337032 precursor RNA and GAM337033 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337032 RNA and GAM337033 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337032 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337032 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III

of Fig. 8, thereby inhibiting translation of GAM337032 target RNA into GAM337032 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337033 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337033 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337033 target RNA into GAM337033 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7587 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7587 polynucleotide: GAM337032 target protein and GAM337033 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337032 and GAM337033

GR7588 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7588(GR7588) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7588 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7588 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7588 precursor DNA encodes GR7588 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7588 is located from position 85256084 to position 85256183 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GR7588 precursor RNA folds spatially, forming GR7588 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7588 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7588 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7588 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM337213 precursor RNA, GAM337214 precursor RNA and

GAM337215 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337213 RNA, GAM337214 RNA and GAM337215 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337213 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337213 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337213 target RNA into GAM337213 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337214 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337214 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337214 target RNA into GAM337214 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337215 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337215 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337215 target RNA into GAM337215 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7588 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7588 polynucleotide: GAM337213 target protein, GAM337214 target protein and GAM337215 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337213, GAM337214 and GAM337215

GR7589 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7589(GR7589) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene

is known in the art.

GR7589 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7589 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7589 precursor DNA encodes GR7589 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7589 is located from position 98930881 to position 98930977 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GR7589 precursor RNA folds spatially, forming GR7589 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7589 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7589 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7589 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337312 precursor RNA and GAM337313 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337312 RNA and GAM337313 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337312 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337312 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337312 target RNA into GAM337312 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337313 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337313 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337313 target RNA into GAM337313 target protein, herein schematically represented by GAM1 TARGET PROTEIN through

GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7589 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7589 polynucleotide: GAM337312 target protein and GAM337313 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337312 and GAM337313

GR7590 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7590(GR7590) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7590 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7590 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7590 precursor DNA encodes GR7590 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7590 is located from position 99096789 to position 99096892 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GR7590 precursor RNA folds spatially, forming GR7590 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7590 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7590 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7590 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM337317 precursor RNA, GAM337318 precursor RNA and GAM337319 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337317 RNA, GAM337318 RNA and GAM337319 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337317 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337317 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337317 target RNA into GAM337317 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337318 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337318 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337318 target RNA into GAM337318 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337319 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337319 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337319 target RNA into GAM337319 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7590 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7590 polynucleotide: GAM337317 target protein, GAM337318 target protein and GAM337319 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337317, GAM337318 and GAM337319

GR7591 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7591(GR7591) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7591 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7591 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7591 precursor DNA encodes GR7591 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7591 is located from position

118768041 to position 118768122 relative to chromosome chr12 on the `+` strand (chr is an abbreviation for chromosome).

GR7591 precursor RNA folds spatially, forming GR7591 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7591 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7591 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7591 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM3978 precursor RNA and GAM5048 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM3978 RNA and GAM5048 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM3978 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM3978 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM3978 target RNA into GAM3978 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM5048 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM5048 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM5048 target RNA into GAM5048 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7591 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7591 polynucleotide: GAM3978 target protein and GAM5048 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM3978 and GAM5048

GR7592 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7592(GR7592) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7592 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7592 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7592 precursor DNA encodes GR7592 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7592 is located from position 49044659 to position 49044769 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GR7592 precursor RNA folds spatially, forming GR7592 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7592 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7592 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7592 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336848 precursor RNA and GAM336849 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336848 RNA and GAM336849 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336848 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336848 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336848 target RNA into GAM336848 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336849 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an

untranslated region of GAM336849 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336849 target RNA into GAM336849 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7592 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7592 polynucleotide: GAM336848 target protein and GAM336849 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336848 and GAM336849

GR7593 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7593(GR7593) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7593 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7593 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7593 precursor DNA encodes GR7593 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7593 is located from position 68796420 to position 68796544 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GR7593 precursor RNA folds spatially, forming GR7593 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7593 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7593 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7593 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 4 separate GAM precursor RNAs, GAM337055 precursor RNA, GAM337056 precursor RNA, GAM337057 precursor RNA and GAM337058 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337055 RNA, GAM337056 RNA, GAM337057 RNA and GAM337058 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337055 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337055 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337055 target RNA into GAM337055 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337056 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337056 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337056 target RNA into GAM337056 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337057 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337057 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337057 target RNA into GAM337057 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337058 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337058 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337058 target RNA into GAM337058 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7593 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7593 polynucleotide: GAM337055 target protein, GAM337056 target protein, GAM337057 target protein and GAM337058 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337055, GAM337056, GAM337057 and GAM337058

GR7594 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record

7594(GR7594) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7594 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7594 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7594 precursor DNA encodes GR7594 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7594 is located from position 112469045 to position 112469166 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GR7594 precursor RNA folds spatially, forming GR7594 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7594 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7594 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7594 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 4 separate GAM precursor RNAs, GAM337430 precursor RNA, GAM337431 precursor RNA, GAM337432 precursor RNA and GAM337433 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337430 RNA, GAM337431 RNA, GAM337432 RNA and GAM337433 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337430 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337430 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337430 target RNA into GAM337430 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337431 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337431 target RNA, herein schematically represented by

GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337431 target RNA into GAM337431 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337432 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337432 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337432 target RNA into GAM337432 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337433 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337433 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337433 target RNA into GAM337433 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7594 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7594 polynucleotide: GAM337430 target protein, GAM337431 target protein, GAM337432 target protein and GAM337433 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337430, GAM337431, GAM337432 and GAM337433

GR7595 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7595(GR7595) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7595 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7595 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7595 precursor DNA encodes GR7595 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7595 is located from position 116582532 to position 116582633 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GR7595 precursor RNA folds spatially, forming GR7595 folded precursor

RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7595 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7595 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7595 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337456 precursor RNA and GAM337457 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337456 RNA and GAM337457 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337456 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337456 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337456 target RNA into GAM337456 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337457 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337457 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337457 target RNA into GAM337457 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7595 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7595 polynucleotide: GAM337456 target protein and GAM337457 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337456 and GAM337457

GR7596 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7596(GR7596) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at

least one target gene, the function and utility of which at least one target gene is known in the art.

GR7596 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7596 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7596 precursor DNA encodes GR7596 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7596 is located from position 123732628 to position 123734295 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GR7596 precursor RNA folds spatially, forming GR7596 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7596 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7596 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7596 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337494 precursor RNA and GAM337495 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337494 RNA and GAM337495 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337494 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337494 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337494 target RNA into GAM337494 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337495 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337495 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337495 target RNA into GAM337495

target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7596 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7596 polynucleotide: GAM337494 target protein and GAM337495 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337494 and GAM337495

GR7597 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7597(GR7597) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7597 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7597 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7597 precursor DNA encodes GR7597 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7597 is located from position 132911257 to position 132911356 relative to chromosome chr12 on the `-` strand (chr is an abbreviation for chromosome).

GR7597 precursor RNA folds spatially, forming GR7597 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7597 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7597 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7597 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337555 precursor RNA and GAM337556 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337555 RNA and GAM337556 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337555 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337555 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337555 target RNA into GAM337555 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337556 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337556 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337556 target RNA into GAM337556 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7597 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7597 polynucleotide: GAM337555 target protein and GAM337556 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337555 and GAM337556

GR7598 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7598(GR7598) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7598 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7598 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7598 precursor DNA encodes GR7598 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7598 is located from position 96668219 to position 96668344 relative to chromosome chr13 on the `-` strand (chr is an abbreviation for chromosome).

GR7598 precursor RNA folds spatially, forming GR7598 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7598 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7598 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at

least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7598 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337285 precursor RNA and GAM337286 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337285 RNA and GAM337286 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337285 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337285 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337285 target RNA into GAM337285 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337286 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337286 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337286 target RNA into GAM337286 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7598 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7598 polynucleotide: GAM337285 target protein and GAM337286 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337285 and GAM337286

GR7599 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7599(GR7599) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7599 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The

method by which GR7599 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7599 precursor DNA encodes GR7599 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7599 is located from position 101658818 to position 101658892 relative to chromosome chr13 on the `-` strand (chr is an abbreviation for chromosome).

GR7599 precursor RNA folds spatially, forming GR7599 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7599 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7599 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7599 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337353 precursor RNA and GAM337354 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337353 RNA and GAM337354 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337353 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337353 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337353 target RNA into GAM337353 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337354 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337354 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337354 target RNA into GAM337354 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7599 polynucleotide correlate with, and may be deduced from, the identity of

the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7599 polynucleotide: GAM337353 target protein and GAM337354 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337353 and GAM337354

GR7600 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7600(GR7600) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7600 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7600 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7600 precursor DNA encodes GR7600 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7600 is located from position 79670251 to position 79670337 relative to chromosome chr14 on the `+` strand (chr is an abbreviation for chromosome).

GR7600 precursor RNA folds spatially, forming GR7600 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7600 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7600 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7600 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM1820 precursor RNA and GAM3595 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM1820 RNA and GAM3595 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM1820 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM1820 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target

binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM1820 target RNA into GAM1820 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM3595 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM3595 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM3595 target RNA into GAM3595 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7600 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7600 polynucleotide: GAM1820 target protein and GAM3595 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM1820 and GAM3595

GR7601 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7601(GR7601) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7601 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7601 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7601 precursor DNA encodes GR7601 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7601 is located from position 66268768 to position 66268872 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GR7601 precursor RNA folds spatially, forming GR7601 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7601 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7601 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7601 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate

GAM precursor RNAs, GAM337029 precursor RNA and GAM337030 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337029 RNA and GAM337030 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337029 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337029 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337029 target RNA into GAM337029 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337030 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337030 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337030 target RNA into GAM337030 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7601 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7601 polynucleotide: GAM337029 target protein and GAM337030 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337029 and GAM337030

GR7602 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7602(GR7602) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7602 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7602 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7602 precursor DNA encodes GR7602 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand

nucleotides long. Nucleotide sequence of GR7602 is located from position 101964516 to position 101964622 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GR7602 precursor RNA folds spatially, forming GR7602 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7602 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7602 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7602 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337358 precursor RNA and GAM337359 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337358 RNA and GAM337359 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337358 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337358 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337358 target RNA into GAM337358 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337359 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337359 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337359 target RNA into GAM337359 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7602 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7602 polynucleotide: GAM337358 target protein and GAM337359 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337358 and GAM337359

GR7603 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7603(GR7603) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7603 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7603 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7603 precursor DNA encodes GR7603 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7603 is located from position 104342178 to position 104342289 relative to chromosome chr14 on the `-` strand (chr is an abbreviation for chromosome).

GR7603 precursor RNA folds spatially, forming GR7603 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7603 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7603 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7603 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337367 precursor RNA and GAM337368 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337367 RNA and GAM337368 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337367 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337367 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337367 target RNA into GAM337367 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337368 RNA, herein schematically represented by GAM1 RNA through

GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337368 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337368 target RNA into GAM337368 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7603 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7603 polynucleotide: GAM337367 target protein and GAM337368 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337367 and GAM337368

GR7604 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7604(GR7604) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7604 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7604 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7604 precursor DNA encodes GR7604 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7604 is located from position 30068447 to position 30068569 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GR7604 precursor RNA folds spatially, forming GR7604 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7604 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7604 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7604 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336593 precursor RNA and GAM336594 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336593 RNA and GAM336594 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336593 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336593 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336593 target RNA into GAM336593 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336594 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336594 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336594 target RNA into GAM336594 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7604 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7604 polynucleotide: GAM336593 target protein and GAM336594 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336593 and GAM336594

GR7605 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7605(GR7605) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7605 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7605 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7605 precursor DNA encodes GR7605 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7605 is located from position 33981295 to position 33981407 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GR7605 precursor RNA folds spatially, forming GR7605 folded precursor

RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7605 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7605 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7605 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM3138 precursor RNA and GAM7255 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM3138 RNA and GAM7255 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM3138 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM3138 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM3138 target RNA into GAM3138 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM7255 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM7255 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM7255 target RNA into GAM7255 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7605 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7605 polynucleotide: GAM3138 target protein and GAM7255 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM3138 and GAM7255

GR7606 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7606(GR7606) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at

least one target gene, the function and utility of which at least one target gene is known in the art.

GR7606 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7606 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7606 precursor DNA encodes GR7606 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7606 is located from position 43562097 to position 43562227 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GR7606 precursor RNA folds spatially, forming GR7606 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7606 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7606 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7606 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM593 precursor RNA and GAM8362 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM593 RNA and GAM8362 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM593 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM593 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM593 target RNA into GAM593 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM8362 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM8362 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM8362 target RNA into GAM8362 target

protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7606 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7606 polynucleotide: GAM593 target protein and GAM8362 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM593 and GAM8362

GR7607 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7607(GR7607) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7607 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7607 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7607 precursor DNA encodes GR7607 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7607 is located from position 56876889 to position 56877003 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GR7607 precursor RNA folds spatially, forming GR7607 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7607 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7607 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7607 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336917 precursor RNA and GAM336918 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336917 RNA and GAM336918 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336917 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336917 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336917 target RNA into GAM336917 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336918 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336918 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336918 target RNA into GAM336918 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7607 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7607 polynucleotide: GAM336917 target protein and GAM336918 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336917 and GAM336918

GR7608 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7608(GR7608) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7608 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7608 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7608 precursor DNA encodes GR7608 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7608 is located from position 71953198 to position 71953292 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GR7608 precursor RNA folds spatially, forming GR7608 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7608 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7608 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at

least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7608 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337103 precursor RNA and GAM337104 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337103 RNA and GAM337104 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337103 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337103 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337103 target RNA into GAM337103 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337104 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337104 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337104 target RNA into GAM337104 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7608 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7608 polynucleotide: GAM337103 target protein and GAM337104 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337103 and GAM337104

GR7609 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7609(GR7609) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7609 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The

method by which GR7609 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7609 precursor DNA encodes GR7609 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7609 is located from position 87034877 to position 87035504 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GR7609 precursor RNA folds spatially, forming GR7609 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7609 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7609 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7609 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337219 precursor RNA and GAM337220 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337219 RNA and GAM337220 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337219 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337219 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337219 target RNA into GAM337219 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337220 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337220 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337220 target RNA into GAM337220 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7609 polynucleotide correlate with, and may be deduced from, the identity of

the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7609 polynucleotide: GAM337219 target protein and GAM337220 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337219 and GAM337220

GR7610 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7610(GR7610) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7610 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7610 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7610 precursor DNA encodes GR7610 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7610 is located from position 97153223 to position 97153320 relative to chromosome chr15 on the `+` strand (chr is an abbreviation for chromosome).

GR7610 precursor RNA folds spatially, forming GR7610 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7610 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7610 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7610 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337293 precursor RNA and GAM337294 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337293 RNA and GAM337294 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337293 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337293 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to

a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337293 target RNA into GAM337293 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337294 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337294 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337294 target RNA into GAM337294 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7610 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7610 polynucleotide: GAM337293 target protein and GAM337294 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337293 and GAM337294

GR7611 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7611(GR7611) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7611 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7611 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7611 precursor DNA encodes GR7611 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7611 is located from position 28205837 to position 28205959 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GR7611 precursor RNA folds spatially, forming GR7611 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7611 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7611 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7611 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate

GAM precursor RNAs, GAM550 precursor RNA and GAM6161 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM550 RNA and GAM6161 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM550 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM550 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM550 target RNA into GAM550 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM6161 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM6161 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM6161 target RNA into GAM6161 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7611 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7611 polynucleotide: GAM550 target protein and GAM6161 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM550 and GAM6161

GR7612 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7612(GR7612) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7612 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7612 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7612 precursor DNA encodes GR7612 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand

nucleotides long. Nucleotide sequence of GR7612 is located from position 70520489 to position 70520583 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GR7612 precursor RNA folds spatially, forming GR7612 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7612 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7612 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7612 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337085 precursor RNA and GAM337086 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337085 RNA and GAM337086 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337085 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337085 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337085 target RNA into GAM337085 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337086 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337086 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337086 target RNA into GAM337086 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7612 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7612 polynucleotide: GAM337085 target protein and GAM337086 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337085 and GAM337086

GR7613 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7613(GR7613) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7613 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7613 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7613 precursor DNA encodes GR7613 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7613 is located from position 73124349 to position 73124443 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GR7613 precursor RNA folds spatially, forming GR7613 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7613 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7613 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7613 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337121 precursor RNA and GAM337122 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337121 RNA and GAM337122 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337121 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337121 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337121 target RNA into GAM337121 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337122 RNA, herein schematically represented by GAM1 RNA through

GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337122 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337122 target RNA into GAM337122 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7613 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7613 polynucleotide: GAM337121 target protein and GAM337122 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337121 and GAM337122

GR7614 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7614(GR7614) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7614 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7614 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7614 precursor DNA encodes GR7614 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7614 is located from position 73148626 to position 73148720 relative to chromosome chr15 on the `-` strand (chr is an abbreviation for chromosome).

GR7614 precursor RNA folds spatially, forming GR7614 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7614 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7614 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7614 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337124 precursor RNA and GAM337125 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337124 RNA and GAM337125 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337124 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337124 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337124 target RNA into GAM337124 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337125 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337125 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337125 target RNA into GAM337125 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7614 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7614 polynucleotide: GAM337124 target protein and GAM337125 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337124 and GAM337125

GR7615 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7615(GR7615) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7615 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7615 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7615 precursor DNA encodes GR7615 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7615 is located from position 12103390 to position 12103474 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GR7615 precursor RNA folds spatially, forming GR7615 folded precursor

RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7615 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7615 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7615 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336380 precursor RNA and GAM336381 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336380 RNA and GAM336381 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336380 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336380 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336380 target RNA into GAM336380 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336381 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336381 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336381 target RNA into GAM336381 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7615 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7615 polynucleotide: GAM336380 target protein and GAM336381 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336380 and GAM336381

GR7616 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7616(GR7616) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at

least one target gene, the function and utility of which at least one target gene is known in the art.

GR7616 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7616 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7616 precursor DNA encodes GR7616 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7616 is located from position 13863781 to position 13863883 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GR7616 precursor RNA folds spatially, forming GR7616 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7616 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7616 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7616 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336401 precursor RNA and GAM336402 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336401 RNA and GAM336402 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336401 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336401 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336401 target RNA into GAM336401 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336402 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336402 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336402 target RNA into GAM336402

target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7616 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7616 polynucleotide: GAM336401 target protein and GAM336402 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336401 and GAM336402

GR7617 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7617(GR7617) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7617 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7617 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7617 precursor DNA encodes GR7617 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7617 is located from position 15740561 to position 15740653 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GR7617 precursor RNA folds spatially, forming GR7617 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7617 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7617 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7617 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336415 precursor RNA and GAM336416 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336415 RNA and GAM336416 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336415 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336415 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336415 target RNA into GAM336415 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336416 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336416 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336416 target RNA into GAM336416 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7617 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7617 polynucleotide: GAM336415 target protein and GAM336416 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336415 and GAM336416

GR7618 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7618(GR7618) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7618 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7618 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7618 precursor DNA encodes GR7618 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7618 is located from position 30012807 to position 30012916 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GR7618 precursor RNA folds spatially, forming GR7618 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7618 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7618 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at

least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7618 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM1698 precursor RNA and GAM5998 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM1698 RNA and GAM5998 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM1698 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM1698 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM1698 target RNA into GAM1698 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM5998 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM5998 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM5998 target RNA into GAM5998 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7618 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7618 polynucleotide: GAM1698 target protein and GAM5998 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM1698 and GAM5998

GR7619 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7619(GR7619) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7619 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The

method by which GR7619 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7619 precursor DNA encodes GR7619 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7619 is located from position 47073422 to position 47073513 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GR7619 precursor RNA folds spatially, forming GR7619 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7619 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7619 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7619 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336816 precursor RNA and GAM336817 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336816 RNA and GAM336817 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336816 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336816 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336816 target RNA into GAM336816 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336817 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336817 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336817 target RNA into GAM336817 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7619 polynucleotide correlate with, and may be deduced from, the identity of

the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7619 polynucleotide: GAM336816 target protein and GAM336817 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336816 and GAM336817

GR7620 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7620(GR7620) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7620 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7620 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7620 precursor DNA encodes GR7620 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7620 is located from position 69762447 to position 69762558 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GR7620 precursor RNA folds spatially, forming GR7620 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7620 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7620 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7620 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 4 separate GAM precursor RNAs, GAM1216 precursor RNA, GAM3479 precursor RNA, GAM7140 precursor RNA and GAM7415 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM1216 RNA, GAM3479 RNA, GAM7140 RNA and GAM7415 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM1216 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM1216 target RNA, herein schematically represented by GAM1 TARGET RNA

through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM1216 target RNA into GAM1216 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM3479 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM3479 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM3479 target RNA into GAM3479 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM7140 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM7140 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM7140 target RNA into GAM7140 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM7415 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM7415 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM7415 target RNA into GAM7415 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7620 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7620 polynucleotide: GAM1216 target protein, GAM3479 target protein, GAM7140 target protein and GAM7415 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM1216, GAM3479, GAM7140 and GAM7415

GR7621 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7621(GR7621) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7621 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7621 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7621 precursor DNA encodes GR7621 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7621 is located from position 70140212 to position 70140313 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GR7621 precursor RNA folds spatially, forming GR7621 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7621 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7621 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7621 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM337074 precursor RNA, GAM337075 precursor RNA and GAM337076 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337074 RNA, GAM337075 RNA and GAM337076 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337074 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337074 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337074 target RNA into GAM337074 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337075 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337075 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337075 target RNA into GAM337075 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337076 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337076 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to

a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337076 target RNA into GAM337076 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7621 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7621 polynucleotide: GAM337074 target protein, GAM337075 target protein and GAM337076 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337074, GAM337075 and GAM337076

GR7622 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7622(GR7622) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7622 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7622 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7622 precursor DNA encodes GR7622 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7622 is located from position 75288695 to position 75288820 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GR7622 precursor RNA folds spatially, forming GR7622 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7622 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7622 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7622 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM4315 precursor RNA and GAM7124 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides

in length, GAM4315 RNA and GAM7124 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM4315 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM4315 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM4315 target RNA into GAM4315 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM7124 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM7124 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM7124 target RNA into GAM7124 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7622 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7622 polynucleotide: GAM4315 target protein and GAM7124 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM4315 and GAM7124

GR7623 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7623(GR7623) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7623 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7623 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7623 precursor DNA encodes GR7623 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7623 is located from position 77109458 to position 77109568 relative to chromosome chr16 on the `+` strand (chr is an abbreviation for chromosome).

GR7623 precursor RNA folds spatially, forming GR7623 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7623 folded precursor RNA comprises a plurality of what is known in the art as

`hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7623 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7623 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337180 precursor RNA and GAM337181 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337180 RNA and GAM337181 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337180 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337180 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337180 target RNA into GAM337180 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337181 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337181 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337181 target RNA into GAM337181 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7623 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7623 polynucleotide: GAM337180 target protein and GAM337181 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337180 and GAM337181

GR7624 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7624(GR7624) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7624 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7624 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7624 precursor DNA encodes GR7624 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7624 is located from position 11968201 to position 11968286 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GR7624 precursor RNA folds spatially, forming GR7624 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7624 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7624 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7624 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336376 precursor RNA and GAM336377 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336376 RNA and GAM336377 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336376 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336376 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336376 target RNA into GAM336376 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336377 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336377 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336377 target RNA into GAM336377 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7624 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7624 polynucleotide: GAM336376 target protein and GAM336377 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336376 and GAM336377

GR7625 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7625(GR7625) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7625 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7625 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7625 precursor DNA encodes GR7625 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7625 is located from position 34908023 to position 34908122 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GR7625 precursor RNA folds spatially, forming GR7625 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7625 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7625 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7625 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336654 precursor RNA and GAM336655 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336654 RNA and GAM336655 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336654 RNA, herein schematically represented by GAM1 RNA through

GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336654 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336654 target RNA into GAM336654 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336655 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336655 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336655 target RNA into GAM336655 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7625 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7625 polynucleotide: GAM336654 target protein and GAM336655 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336654 and GAM336655

GR7626 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7626(GR7626) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7626 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7626 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7626 precursor DNA encodes GR7626 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7626 is located from position 48164886 to position 48165017 relative to chromosome chr16 on the `-` strand (chr is an abbreviation for chromosome).

GR7626 precursor RNA folds spatially, forming GR7626 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7626 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7626 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7626 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336833 precursor RNA and GAM336834 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336833 RNA and GAM336834 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336833 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336833 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336833 target RNA into GAM336833 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336834 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336834 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336834 target RNA into GAM336834 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7626 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7626 polynucleotide: GAM336833 target protein and GAM336834 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336833 and GAM336834

GR7627 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7627(GR7627) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7627 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7627 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7627 precursor DNA encodes GR7627 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7627 is located from position 1228075 to position 1228162 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GR7627 precursor RNA folds spatially, forming GR7627 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7627 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7627 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7627 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336255 precursor RNA and GAM336256 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336255 RNA and GAM336256 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336255 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336255 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336255 target RNA into GAM336255 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336256 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336256 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336256 target RNA into GAM336256 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7627 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7627 polynucleotide: GAM336255 target protein and GAM336256 target

protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336255 and GAM336256

GR7628 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7628(GR7628) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7628 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7628 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7628 precursor DNA encodes GR7628 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7628 is located from position 4444093 to position 4444184 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GR7628 precursor RNA folds spatially, forming GR7628 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7628 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7628 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7628 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336282 precursor RNA and GAM336283 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336282 RNA and GAM336283 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336282 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336282 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336282 target RNA into GAM336282

target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336283 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336283 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336283 target RNA into GAM336283 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7628 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7628 polynucleotide: GAM336282 target protein and GAM336283 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336282 and GAM336283

GR7629 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7629(GR7629) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7629 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7629 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7629 precursor DNA encodes GR7629 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7629 is located from position 8370724 to position 8370825 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GR7629 precursor RNA folds spatially, forming GR7629 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7629 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7629 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7629 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336320 precursor RNA and GAM336321 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED

PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336320 RNA and GAM336321 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336320 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336320 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336320 target RNA into GAM336320 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336321 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336321 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336321 target RNA into GAM336321 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7629 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7629 polynucleotide: GAM336320 target protein and GAM336321 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336320 and GAM336321

GR7630 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7630(GR7630) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7630 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7630 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7630 precursor DNA encodes GR7630 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7630 is located from position 11236576 to position 11236663 relative to chromosome chr17 on the `+` strand (chr is an

abbreviation for chromosome).

GR7630 precursor RNA folds spatially, forming GR7630 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7630 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7630 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7630 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336366 precursor RNA and GAM336367 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336366 RNA and GAM336367 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336366 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336366 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336366 target RNA into GAM336366 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336367 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336367 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336367 target RNA into GAM336367 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7630 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7630 polynucleotide: GAM336366 target protein and GAM336367 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336366 and GAM336367

GR7631 Fig. 16 further provides a conceptual description of novel bioinformatically

detected regulatory polynucleotide, referred to here as Genomic Record 7631(GR7631) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7631 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7631 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7631 precursor DNA encodes GR7631 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7631 is located from position 28064331 to position 28064436 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GR7631 precursor RNA folds spatially, forming GR7631 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7631 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7631 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7631 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM336567 precursor RNA, GAM336568 precursor RNA and GAM336569 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336567 RNA, GAM336568 RNA and GAM336569 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336567 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336567 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336567 target RNA into GAM336567 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336568 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an

untranslated region of GAM336568 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336568 target RNA into GAM336568 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336569 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336569 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336569 target RNA into GAM336569 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7631 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7631 polynucleotide: GAM336567 target protein, GAM336568 target protein and GAM336569 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336567, GAM336568 and GAM336569

GR7632 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7632(GR7632) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7632 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7632 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7632 precursor DNA encodes GR7632 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7632 is located from position 29086596 to position 29086708 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GR7632 precursor RNA folds spatially, forming GR7632 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7632 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7632 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7632 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336583 precursor RNA and GAM336584 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336583 RNA and GAM336584 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336583 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336583 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336583 target RNA into GAM336583 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336584 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336584 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336584 target RNA into GAM336584 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7632 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7632 polynucleotide: GAM336583 target protein and GAM336584 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336583 and GAM336584

GR7633 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7633(GR7633) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7633 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7633 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7633 precursor DNA encodes GR7633 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7633 is located from position 33138955 to position 33139064 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GR7633 precursor RNA folds spatially, forming GR7633 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7633 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7633 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7633 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336628 precursor RNA and GAM336629 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336628 RNA and GAM336629 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336628 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336628 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336628 target RNA into GAM336628 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336629 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336629 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336629 target RNA into GAM336629 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7633 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7633 polynucleotide: GAM336628 target protein and GAM336629 target

protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336628 and GAM336629

GR7634 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7634(GR7634) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7634 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7634 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7634 precursor DNA encodes GR7634 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7634 is located from position 38591279 to position 38591402 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GR7634 precursor RNA folds spatially, forming GR7634 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7634 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7634 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7634 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM1653 precursor RNA, GAM1770 precursor RNA and GAM3140 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM1653 RNA, GAM1770 RNA and GAM3140 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM1653 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM1653 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig.

8, thereby inhibiting translation of GAM1653 target RNA into GAM1653 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM1770 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM1770 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM1770 target RNA into GAM1770 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM3140 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM3140 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM3140 target RNA into GAM3140 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7634 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7634 polynucleotide: GAM1653 target protein, GAM1770 target protein and GAM3140 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM1653, GAM1770 and GAM3140

GR7635 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7635(GR7635) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7635 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7635 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7635 precursor DNA encodes GR7635 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7635 is located from position 57181803 to position 57181904 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GR7635 precursor RNA folds spatially, forming GR7635 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7635 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the

nucleotide sequence of GR7635 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7635 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336921 precursor RNA and GAM336922 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336921 RNA and GAM336922 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336921 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336921 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336921 target RNA into GAM336921 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336922 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336922 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336922 target RNA into GAM336922 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7635 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7635 polynucleotide: GAM336921 target protein and GAM336922 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336921 and GAM336922

GR7636 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7636(GR7636) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7636 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7636 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7636 precursor DNA encodes GR7636 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7636 is located from position 58596055 to position 58596161 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GR7636 precursor RNA folds spatially, forming GR7636 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7636 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7636 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7636 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336937 precursor RNA and GAM336938 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336937 RNA and GAM336938 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336937 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336937 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336937 target RNA into GAM336937 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336938 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336938 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336938 target RNA into GAM336938 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7636 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7636 polynucleotide: GAM336937 target protein and GAM336938 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336937 and GAM336938

GR7637 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7637(GR7637) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7637 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7637 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7637 precursor DNA encodes GR7637 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7637 is located from position 80018909 to position 80019009 relative to chromosome chr17 on the `+` strand (chr is an abbreviation for chromosome).

GR7637 precursor RNA folds spatially, forming GR7637 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7637 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7637 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7637 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337194 precursor RNA and GAM337195 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337194 RNA and GAM337195 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337194 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an

untranslated region of GAM337194 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337194 target RNA into GAM337194 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337195 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337195 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337195 target RNA into GAM337195 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7637 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7637 polynucleotide: GAM337194 target protein and GAM337195 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337194 and GAM337195

GR7638 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7638(GR7638) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7638 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7638 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7638 precursor DNA encodes GR7638 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7638 is located from position 28958697 to position 28958797 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GR7638 precursor RNA folds spatially, forming GR7638 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7638 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7638 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7638 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336578 precursor RNA and GAM336579 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336578 RNA and GAM336579 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336578 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336578 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336578 target RNA into GAM336578 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336579 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336579 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336579 target RNA into GAM336579 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7638 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7638 polynucleotide: GAM336578 target protein and GAM336579 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336578 and GAM336579

GR7639 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7639(GR7639) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7639 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7639 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7639 precursor DNA encodes GR7639 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7639 is located from position 39774112 to position 39774222 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GR7639 precursor RNA folds spatially, forming GR7639 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7639 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7639 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7639 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336711 precursor RNA and GAM336712 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336711 RNA and GAM336712 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336711 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336711 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336711 target RNA into GAM336711 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336712 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336712 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336712 target RNA into GAM336712 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7639 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7639 polynucleotide: GAM336711 target protein and GAM336712 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3

TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336711 and GAM336712

GR7640 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7640(GR7640) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7640 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7640 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7640 precursor DNA encodes GR7640 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7640 is located from position 76740959 to position 76741503 relative to chromosome chr17 on the `-` strand (chr is an abbreviation for chromosome).

GR7640 precursor RNA folds spatially, forming GR7640 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7640 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7640 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7640 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337176 precursor RNA and GAM337177 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337176 RNA and GAM337177 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337176 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337176 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337176 target RNA into GAM337176 target protein, herein schematically represented by GAM1 TARGET PROTEIN through

GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337177 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337177 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337177 target RNA into GAM337177 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7640 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7640 polynucleotide: GAM337176 target protein and GAM337177 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337176 and GAM337177

GR7641 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7641(GR7641) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7641 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7641 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7641 precursor DNA encodes GR7641 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7641 is located from position 18960647 to position 18960761 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GR7641 precursor RNA folds spatially, forming GR7641 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7641 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7641 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7641 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336451 precursor RNA and GAM336452 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA

segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336451 RNA and GAM336452 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336451 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336451 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336451 target RNA into GAM336451 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336452 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336452 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336452 target RNA into GAM336452 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7641 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7641 polynucleotide: GAM336451 target protein and GAM336452 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336451 and GAM336452

GR7642 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7642(GR7642) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7642 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7642 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7642 precursor DNA encodes GR7642 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7642 is located from position 61092534 to position 61092629 relative to chromosome chr18 on the `+` strand (chr is an abbreviation for chromosome).

GR7642 precursor RNA folds spatially, forming GR7642 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7642 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7642 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7642 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336952 precursor RNA and GAM336953 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336952 RNA and GAM336953 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336952 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336952 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336952 target RNA into GAM336952 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336953 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336953 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336953 target RNA into GAM336953 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7642 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7642 polynucleotide: GAM336952 target protein and GAM336953 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336952 and GAM336953

GR7643 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record

7643(GR7643) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7643 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7643 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7643 precursor DNA encodes GR7643 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7643 is located from position 6790508 to position 6790611 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GR7643 precursor RNA folds spatially, forming GR7643 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7643 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7643 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7643 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336306 precursor RNA and GAM336307 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336306 RNA and GAM336307 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336306 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336306 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336306 target RNA into GAM336306 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336307 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336307 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to

a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336307 target RNA into GAM336307 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7643 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7643 polynucleotide: GAM336306 target protein and GAM336307 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336306 and GAM336307

GR7644 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7644(GR7644) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7644 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7644 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7644 precursor DNA encodes GR7644 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7644 is located from position 44650568 to position 44650652 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GR7644 precursor RNA folds spatially, forming GR7644 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7644 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7644 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7644 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM3990 precursor RNA and GAM6994 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM3990 RNA and GAM6994 RNA, herein schematically represented by GAM1

RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM3990 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM3990 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM3990 target RNA into GAM3990 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM6994 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM6994 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM6994 target RNA into GAM6994 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7644 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7644 polynucleotide: GAM3990 target protein and GAM6994 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM3990 and GAM6994

GR7645 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7645(GR7645) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7645 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7645 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7645 precursor DNA encodes GR7645 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7645 is located from position 50818294 to position 50818398 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GR7645 precursor RNA folds spatially, forming GR7645 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7645 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the

nucleotide sequence of GR7645 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7645 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 4 separate GAM precursor RNAs, GAM354 precursor RNA, GAM569 precursor RNA, GAM821 precursor RNA and GAM2911 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM354 RNA, GAM569 RNA, GAM821 RNA and GAM2911 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM354 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM354 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM354 target RNA into GAM354 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM569 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM569 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM569 target RNA into GAM569 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM821 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM821 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM821 target RNA into GAM821 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM2911 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM2911 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM2911 target RNA into GAM2911 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3

TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7645 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7645 polynucleotide: GAM354 target protein, GAM569 target protein, GAM821 target protein and GAM2911 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM354, GAM569, GAM821 and GAM2911

GR7646 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7646(GR7646) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7646 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7646 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7646 precursor DNA encodes GR7646 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7646 is located from position 54100819 to position 54100905 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GR7646 precursor RNA folds spatially, forming GR7646 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7646 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7646 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7646 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM5512 precursor RNA and GAM5691 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM5512 RNA and GAM5691 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM5512 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM5512 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM5512 target RNA into GAM5512 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM5691 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM5691 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM5691 target RNA into GAM5691 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7646 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7646 polynucleotide: GAM5512 target protein and GAM5691 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM5512 and GAM5691

GR7647 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7647(GR7647) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7647 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7647 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7647 precursor DNA encodes GR7647 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7647 is located from position 57778075 to position 57778156 relative to chromosome chr19 on the `+` strand (chr is an abbreviation for chromosome).

GR7647 precursor RNA folds spatially, forming GR7647 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7647 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7647 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at

least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7647 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336929 precursor RNA and GAM336930 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336929 RNA and GAM336930 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336929 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336929 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336929 target RNA into GAM336929 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336930 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336930 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336930 target RNA into GAM336930 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7647 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7647 polynucleotide: GAM336929 target protein and GAM336930 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336929 and GAM336930

GR7648 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7648(GR7648) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7648 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The

method by which GR7648 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7648 precursor DNA encodes GR7648 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7648 is located from position 23264637 to position 23265347 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GR7648 precursor RNA folds spatially, forming GR7648 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7648 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7648 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7648 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336520 precursor RNA and GAM336521 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336520 RNA and GAM336521 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336520 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336520 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336520 target RNA into GAM336520 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336521 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336521 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336521 target RNA into GAM336521 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7648 polynucleotide correlate with, and may be deduced from, the identity of

the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7648 polynucleotide: GAM336520 target protein and GAM336521 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336520 and GAM336521

GR7649 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7649(GR7649) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7649 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7649 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7649 precursor DNA encodes GR7649 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7649 is located from position 41616369 to position 41616499 relative to chromosome chr19 on the `-` strand (chr is an abbreviation for chromosome).

GR7649 precursor RNA folds spatially, forming GR7649 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7649 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7649 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7649 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336744 precursor RNA and GAM336745 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336744 RNA and GAM336745 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336744 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336744 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to

a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336744 target RNA into GAM336744 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336745 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336745 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336745 target RNA into GAM336745 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7649 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7649 polynucleotide: GAM336744 target protein and GAM336745 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336744 and GAM336745

GR7650 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7650(GR7650) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7650 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7650 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7650 precursor DNA encodes GR7650 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7650 is located from position 108732269 to position 108732372 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GR7650 precursor RNA folds spatially, forming GR7650 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7650 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7650 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7650 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 4 separate

GAM precursor RNAs, GAM337399 precursor RNA, GAM337400 precursor RNA, GAM337401 precursor RNA and GAM337402 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337399 RNA, GAM337400 RNA, GAM337401 RNA and GAM337402 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337399 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337399 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337399 target RNA into GAM337399 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337400 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337400 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337400 target RNA into GAM337400 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337401 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337401 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337401 target RNA into GAM337401 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337402 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337402 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337402 target RNA into GAM337402 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7650 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7650 polynucleotide: GAM337399 target protein, GAM337400 target protein, GAM337401 target protein and GAM337402 target protein, herein

schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337399, GAM337400, GAM337401 and GAM337402

GR7651 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7651(GR7651) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7651 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7651 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7651 precursor DNA encodes GR7651 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7651 is located from position 131845700 to position 131845801 relative to chromosome chr2 on the `+` strand (chr is an abbreviation for chromosome).

GR7651 precursor RNA folds spatially, forming GR7651 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7651 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7651 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7651 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337548 precursor RNA and GAM337549 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337548 RNA and GAM337549 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337548 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337548 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337548 target RNA into GAM337548

target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337549 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337549 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337549 target RNA into GAM337549 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7651 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7651 polynucleotide: GAM337548 target protein and GAM337549 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337548 and GAM337549

GR7652 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7652(GR7652) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7652 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7652 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7652 precursor DNA encodes GR7652 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7652 is located from position 20036295 to position 20036386 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GR7652 precursor RNA folds spatially, forming GR7652 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7652 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7652 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7652 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336469 precursor RNA and GAM336470 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED

PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336469 RNA and GAM336470 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336469 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336469 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336469 target RNA into GAM336469 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336470 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336470 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336470 target RNA into GAM336470 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7652 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7652 polynucleotide: GAM336469 target protein and GAM336470 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336469 and GAM336470

GR7653 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7653(GR7653) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7653 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7653 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7653 precursor DNA encodes GR7653 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7653 is located from position 31005522 to position 31005621 relative to chromosome chr20 on the `+` strand (chr is an

abbreviation for chromosome).

GR7653 precursor RNA folds spatially, forming GR7653 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7653 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7653 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7653 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336603 precursor RNA and GAM336604 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336603 RNA and GAM336604 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336603 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336603 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336603 target RNA into GAM336603 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336604 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336604 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336604 target RNA into GAM336604 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7653 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7653 polynucleotide: GAM336603 target protein and GAM336604 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336603 and GAM336604

GR7654 Fig. 16 further provides a conceptual description of novel bioinformatically

detected regulatory polynucleotide, referred to here as Genomic Record 7654(GR7654) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7654 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7654 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7654 precursor DNA encodes GR7654 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7654 is located from position 42908008 to position 42908095 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GR7654 precursor RNA folds spatially, forming GR7654 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7654 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7654 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7654 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336764 precursor RNA and GAM336765 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336764 RNA and GAM336765 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336764 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336764 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336764 target RNA into GAM336764 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336765 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336765 target RNA, herein schematically represented by

GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336765 target RNA into GAM336765 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7654 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7654 polynucleotide: GAM336764 target protein and GAM336765 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336764 and GAM336765

GR7655 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7655(GR7655) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7655 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7655 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7655 precursor DNA encodes GR7655 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7655 is located from position 49549736 to position 49549822 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GR7655 precursor RNA folds spatially, forming GR7655 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7655 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7655 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7655 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336861 precursor RNA and GAM336862 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides

in length, GAM336861 RNA and GAM336862 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336861 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336861 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336861 target RNA into GAM336861 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336862 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336862 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336862 target RNA into GAM336862 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7655 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7655 polynucleotide: GAM336861 target protein and GAM336862 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336861 and GAM336862

GR7656 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7656(GR7656) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7656 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7656 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7656 precursor DNA encodes GR7656 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7656 is located from position 63567534 to position 63572564 relative to chromosome chr20 on the `+` strand (chr is an abbreviation for chromosome).

GR7656 precursor RNA folds spatially, forming GR7656 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7656 folded precursor RNA comprises a plurality of what is known in the art as

`hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7656 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7656 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336997 precursor RNA and GAM336998 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336997 RNA and GAM336998 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336997 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336997 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336997 target RNA into GAM336997 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336998 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336998 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336998 target RNA into GAM336998 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7656 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7656 polynucleotide: GAM336997 target protein and GAM336998 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336997 and GAM336998

GR7657 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7657(GR7657) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7657 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7657 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7657 precursor DNA encodes GR7657 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7657 is located from position 12348835 to position 12348934 relative to chromosome chr20 on the `-` strand (chr is an abbreviation for chromosome).

GR7657 precursor RNA folds spatially, forming GR7657 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7657 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7657 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7657 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336384 precursor RNA and GAM336385 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336384 RNA and GAM336385 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336384 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336384 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336384 target RNA into GAM336384 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336385 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336385 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336385 target RNA into GAM336385 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7657 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7657 polynucleotide: GAM336384 target protein and GAM336385 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336384 and GAM336385

GR7658 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7658(GR7658) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7658 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7658 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7658 precursor DNA encodes GR7658 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7658 is located from position 32615342 to position 32615450 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GR7658 precursor RNA folds spatially, forming GR7658 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7658 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7658 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7658 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM336618 precursor RNA, GAM336619 precursor RNA and GAM336620 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336618 RNA, GAM336619 RNA and GAM336620 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336618 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336618 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336618 target RNA into GAM336618 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336619 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336619 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336619 target RNA into GAM336619 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336620 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336620 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336620 target RNA into GAM336620 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7658 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7658 polynucleotide: GAM336618 target protein, GAM336619 target protein and GAM336620 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336618, GAM336619 and GAM336620

GR7659 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7659(GR7659) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7659 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7659 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7659 precursor DNA encodes GR7659 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7659 is located from position 33064923 to position 33065013 relative to chromosome chr21 on the `+` strand (chr is an

abbreviation for chromosome).

GR7659 precursor RNA folds spatially, forming GR7659 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7659 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7659 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7659 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336624 precursor RNA and GAM336625 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336624 RNA and GAM336625 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336624 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336624 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336624 target RNA into GAM336624 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336625 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336625 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336625 target RNA into GAM336625 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7659 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7659 polynucleotide: GAM336624 target protein and GAM336625 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336624 and GAM336625

GR7660 Fig. 16 further provides a conceptual description of novel bioinformatically

detected regulatory polynucleotide, referred to here as Genomic Record 7660(GR7660) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7660 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7660 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7660 precursor DNA encodes GR7660 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7660 is located from position 42749659 to position 42749770 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GR7660 precursor RNA folds spatially, forming GR7660 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7660 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7660 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7660 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336758 precursor RNA and GAM336759 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336758 RNA and GAM336759 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336758 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336758 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336758 target RNA into GAM336758 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336759 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336759 target RNA, herein schematically represented by

GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336759 target RNA into GAM336759 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7660 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7660 polynucleotide: GAM336758 target protein and GAM336759 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336758 and GAM336759

GR7661 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7661(GR7661) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7661 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7661 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7661 precursor DNA encodes GR7661 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7661 is located from position 44376402 to position 44376497 relative to chromosome chr21 on the `+` strand (chr is an abbreviation for chromosome).

GR7661 precursor RNA folds spatially, forming GR7661 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7661 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7661 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7661 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336781 precursor RNA and GAM336782 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides

in length, GAM336781 RNA and GAM336782 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336781 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336781 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336781 target RNA into GAM336781 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336782 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336782 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336782 target RNA into GAM336782 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7661 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7661 polynucleotide: GAM336781 target protein and GAM336782 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336781 and GAM336782

GR7662 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7662(GR7662) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7662 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7662 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7662 precursor DNA encodes GR7662 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7662 is located from position 17740558 to position 17740658 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GR7662 precursor RNA folds spatially, forming GR7662 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7662 folded precursor RNA comprises a plurality of what is known in the art as

`hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7662 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7662 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336436 precursor RNA and GAM336437 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336436 RNA and GAM336437 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336436 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336436 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336436 target RNA into GAM336436 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336437 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336437 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336437 target RNA into GAM336437 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7662 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7662 polynucleotide: GAM336436 target protein and GAM336437 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336436 and GAM336437

GR7663 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7663(GR7663) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7663 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7663 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7663 precursor DNA encodes GR7663 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7663 is located from position 24199772 to position 24199866 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GR7663 precursor RNA folds spatially, forming GR7663 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7663 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7663 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7663 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336528 precursor RNA and GAM336529 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336528 RNA and GAM336529 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336528 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336528 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336528 target RNA into GAM336528 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336529 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336529 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336529 target RNA into GAM336529 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7663 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7663 polynucleotide: GAM336528 target protein and GAM336529 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336528 and GAM336529

GR7664 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7664(GR7664) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7664 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7664 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7664 precursor DNA encodes GR7664 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7664 is located from position 49370569 to position 49370681 relative to chromosome chr22 on the `+` strand (chr is an abbreviation for chromosome).

GR7664 precursor RNA folds spatially, forming GR7664 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7664 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7664 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7664 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336858 precursor RNA and GAM336859 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336858 RNA and GAM336859 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336858 RNA, herein schematically represented by GAM1 RNA through

GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336858 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336858 target RNA into GAM336858 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336859 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336859 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336859 target RNA into GAM336859 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7664 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7664 polynucleotide: GAM336858 target protein and GAM336859 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336858 and GAM336859

GR7665 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7665(GR7665) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7665 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7665 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7665 precursor DNA encodes GR7665 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7665 is located from position 9793682 to position 9793766 relative to chromosome chr3 on the `+` strand (chr is an abbreviation for chromosome).

GR7665 precursor RNA folds spatially, forming GR7665 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7665 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7665 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7665 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM336341 precursor RNA, GAM336342 precursor RNA and GAM336343 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336341 RNA, GAM336342 RNA and GAM336343 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336341 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336341 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336341 target RNA into GAM336341 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336342 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336342 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336342 target RNA into GAM336342 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336343 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336343 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336343 target RNA into GAM336343 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7665 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7665 polynucleotide: GAM336341 target protein, GAM336342 target protein and GAM336343 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336341, GAM336342 and GAM336343

 Fig. 16 further provides a conceptual description of novel bioinformatically

detected regulatory polynucleotide, referred to here as Genomic Record 7666(GR7666) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7666 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7666 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7666 precursor DNA encodes GR7666 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7666 is located from position 40002861 to position 40002950 relative to chromosome chr4 on the `+` strand (chr is an abbreviation for chromosome).

GR7666 precursor RNA folds spatially, forming GR7666 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7666 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7666 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7666 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336716 precursor RNA and GAM336717 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336716 RNA and GAM336717 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336716 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336716 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336716 target RNA into GAM336716 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336717 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336717 target RNA, herein schematically represented by

GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336717 target RNA into GAM336717 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7666 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7666 polynucleotide: GAM336716 target protein and GAM336717 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336716 and GAM336717

GR7667 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7667(GR7667) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7667 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7667 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7667 precursor DNA encodes GR7667 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7667 is located from position 95449990 to position 95450088 relative to chromosome chr4 on the `+` strand (chr is an abbreviation for chromosome).

GR7667 precursor RNA folds spatially, forming GR7667 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7667 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7667 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7667 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM189 precursor RNA and GAM3190 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides

in length, GAM189 RNA and GAM3190 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM189 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM189 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM189 target RNA into GAM189 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM3190 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM3190 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM3190 target RNA into GAM3190 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7667 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7667 polynucleotide: GAM189 target protein and GAM3190 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM189 and GAM3190

GR7668 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7668(GR7668) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7668 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7668 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7668 precursor DNA encodes GR7668 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7668 is located from position 7755711 to position 7755813 relative to chromosome chr5 on the `+` strand (chr is an abbreviation for chromosome).

GR7668 precursor RNA folds spatially, forming GR7668 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7668 folded precursor RNA comprises a plurality of what is known in the art as

`hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7668 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7668 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM336315 precursor RNA, GAM336316 precursor RNA and GAM336317 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336315 RNA, GAM336316 RNA and GAM336317 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336315 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336315 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336315 target RNA into GAM336315 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336316 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336316 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336316 target RNA into GAM336316 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336317 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336317 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336317 target RNA into GAM336317 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7668 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7668 polynucleotide: GAM336315 target protein, GAM336316 target protein and GAM336317 target protein, herein schematically represented by GAM1

TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336315, GAM336316 and GAM336317

GR7669 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7669(GR7669) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7669 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7669 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7669 precursor DNA encodes GR7669 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7669 is located from position 69818313 to position 69818412 relative to chromosome chr5 on the `+` strand (chr is an abbreviation for chromosome).

GR7669 precursor RNA folds spatially, forming GR7669 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7669 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7669 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7669 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337069 precursor RNA and GAM337070 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337069 RNA and GAM337070 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337069 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337069 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337069 target RNA into GAM337069

target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337070 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337070 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337070 target RNA into GAM337070 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7669 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7669 polynucleotide: GAM337069 target protein and GAM337070 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337069 and GAM337070

GR7670 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7670(GR7670) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7670 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7670 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7670 precursor DNA encodes GR7670 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7670 is located from position 70361144 to position 70361243 relative to chromosome chr5 on the `+` strand (chr is an abbreviation for chromosome).

GR7670 precursor RNA folds spatially, forming GR7670 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7670 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7670 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7670 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337081 precursor RNA and GAM337082 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED

PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337081 RNA and GAM337082 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337081 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337081 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337081 target RNA into GAM337081 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337082 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337082 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337082 target RNA into GAM337082 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7670 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7670 polynucleotide: GAM337081 target protein and GAM337082 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337081 and GAM337082

GR7671 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7671(GR7671) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7671 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7671 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7671 precursor DNA encodes GR7671 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7671 is located from position 69076604 to position 69076703 relative to chromosome chr5 on the `-` strand (chr is an

abbreviation for chromosome).

GR7671 precursor RNA folds spatially, forming GR7671 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7671 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7671 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7671 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM689 precursor RNA and GAM337060 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM689 RNA and GAM337060 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM689 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM689 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM689 target RNA into GAM689 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337060 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337060 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337060 target RNA into GAM337060 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7671 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7671 polynucleotide: GAM689 target protein and GAM337060 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM689 and GAM337060

GR7672 Fig. 16 further provides a conceptual description of novel bioinformatically

detected regulatory polynucleotide, referred to here as Genomic Record 7672(GR7672) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7672 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7672 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7672 precursor DNA encodes GR7672 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7672 is located from position 30850314 to position 30850405 relative to chromosome chr6 on the `+` strand (chr is an abbreviation for chromosome).

GR7672 precursor RNA folds spatially, forming GR7672 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7672 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7672 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7672 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM5990 precursor RNA and GAM6459 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM5990 RNA and GAM6459 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM5990 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM5990 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM5990 target RNA into GAM5990 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM6459 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM6459 target RNA, herein schematically represented by GAM1 TARGET RNA

through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM6459 target RNA into GAM6459 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7672 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7672 polynucleotide: GAM5990 target protein and GAM6459 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM5990 and GAM6459

GR7673 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7673(GR7673) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7673 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7673 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7673 precursor DNA encodes GR7673 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7673 is located from position 31554609 to position 31554710 relative to chromosome chr6 on the `+` strand (chr is an abbreviation for chromosome).

GR7673 precursor RNA folds spatially, forming GR7673 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7673 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7673 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7673 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336607 precursor RNA and GAM336608 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides

in length, GAM336607 RNA and GAM336608 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336607 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336607 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336607 target RNA into GAM336607 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336608 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336608 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336608 target RNA into GAM336608 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7673 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7673 polynucleotide: GAM336607 target protein and GAM336608 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336607 and GAM336608

GR7674 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7674(GR7674) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7674 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7674 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7674 precursor DNA encodes GR7674 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7674 is located from position 17062054 to position 17062168 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GR7674 precursor RNA folds spatially, forming GR7674 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7674 folded precursor RNA comprises a plurality of what is known in the art as

`hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7674 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7674 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336430 precursor RNA and GAM336431 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336430 RNA and GAM336431 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336430 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336430 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336430 target RNA into GAM336430 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336431 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336431 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336431 target RNA into GAM336431 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7674 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7674 polynucleotide: GAM336430 target protein and GAM336431 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336430 and GAM336431

GR7675 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7675(GR7675) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7675 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7675 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7675 precursor DNA encodes GR7675 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7675 is located from position 29435833 to position 29435938 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GR7675 precursor RNA folds spatially, forming GR7675 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7675 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7675 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7675 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336587 precursor RNA and GAM336588 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336587 RNA and GAM336588 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336587 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336587 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336587 target RNA into GAM336587 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336588 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336588 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336588 target RNA into GAM336588 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7675 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7675 polynucleotide: GAM336587 target protein and GAM336588 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336587 and GAM336588

GR7676 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7676(GR7676) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7676 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7676 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7676 precursor DNA encodes GR7676 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7676 is located from position 36291960 to position 36292084 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GR7676 precursor RNA folds spatially, forming GR7676 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7676 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7676 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7676 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336667 precursor RNA and GAM336668 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336667 RNA and GAM336668 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336667 RNA, herein schematically represented by GAM1 RNA through

GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336667 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336667 target RNA into GAM336667 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336668 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336668 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336668 target RNA into GAM336668 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7676 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7676 polynucleotide: GAM336667 target protein and GAM336668 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336667 and GAM336668

GR7677 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7677(GR7677) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7677 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7677 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7677 precursor DNA encodes GR7677 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7677 is located from position 55877656 to position 55877772 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GR7677 precursor RNA folds spatially, forming GR7677 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7677 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7677 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7677 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM3001 precursor RNA and GAM3160 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM3001 RNA and GAM3160 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM3001 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM3001 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM3001 target RNA into GAM3001 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM3160 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM3160 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM3160 target RNA into GAM3160 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7677 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7677 polynucleotide: GAM3001 target protein and GAM3160 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM3001 and GAM3160

GR7678 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7678(GR7678) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7678 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7678 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7678 precursor DNA encodes GR7678 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7678 is located from position 65815377 to position 65815469 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GR7678 precursor RNA folds spatially, forming GR7678 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7678 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7678 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7678 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337023 precursor RNA and GAM337024 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337023 RNA and GAM337024 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337023 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337023 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337023 target RNA into GAM337023 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337024 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337024 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337024 target RNA into GAM337024 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7678 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7678 polynucleotide: GAM337023 target protein and GAM337024 target

protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337023 and GAM337024

GR7679 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7679(GR7679) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7679 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7679 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7679 precursor DNA encodes GR7679 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7679 is located from position 72274763 to position 72274861 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GR7679 precursor RNA folds spatially, forming GR7679 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7679 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7679 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7679 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM337111 precursor RNA, GAM337112 precursor RNA and GAM337113 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337111 RNA, GAM337112 RNA and GAM337113 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337111 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337111 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III

of Fig. 8, thereby inhibiting translation of GAM337111 target RNA into GAM337111 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337112 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337112 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337112 target RNA into GAM337112 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337113 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337113 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337113 target RNA into GAM337113 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7679 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7679 polynucleotide: GAM337111 target protein, GAM337112 target protein and GAM337113 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337111, GAM337112 and GAM337113

GR7680 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7680(GR7680) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7680 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7680 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7680 precursor DNA encodes GR7680 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7680 is located from position 73215042 to position 73215142 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GR7680 precursor RNA folds spatially, forming GR7680 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7680 folded precursor RNA comprises a plurality of what is known in the art as

`hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7680 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7680 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337127 precursor RNA and GAM337128 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337127 RNA and GAM337128 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337127 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337127 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337127 target RNA into GAM337127 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337128 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337128 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337128 target RNA into GAM337128 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7680 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7680 polynucleotide: GAM337127 target protein and GAM337128 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337127 and GAM337128

GR7681 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7681(GR7681) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7681 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7681 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7681 precursor DNA encodes GR7681 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7681 is located from position 78652714 to position 78652815 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GR7681 precursor RNA folds spatially, forming GR7681 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7681 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7681 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7681 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337188 precursor RNA and GAM337189 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337188 RNA and GAM337189 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337188 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337188 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337188 target RNA into GAM337188 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337189 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337189 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337189 target RNA into GAM337189 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7681 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7681 polynucleotide: GAM337188 target protein and GAM337189 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337188 and GAM337189

GR7682 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7682(GR7682) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7682 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7682 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7682 precursor DNA encodes GR7682 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7682 is located from position 84223987 to position 84224087 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GR7682 precursor RNA folds spatially, forming GR7682 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7682 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7682 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7682 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337207 precursor RNA and GAM337208 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337207 RNA and GAM337208 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337207 RNA, herein schematically represented by GAM1 RNA through

GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337207 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337207 target RNA into GAM337207 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337208 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337208 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337208 target RNA into GAM337208 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7682 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7682 polynucleotide: GAM337207 target protein and GAM337208 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337207 and GAM337208

GR7683 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7683(GR7683) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7683 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7683 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7683 precursor DNA encodes GR7683 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7683 is located from position 98227794 to position 98227886 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GR7683 precursor RNA folds spatially, forming GR7683 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7683 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7683 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7683 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337299 precursor RNA and GAM337300 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337299 RNA and GAM337300 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337299 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337299 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337299 target RNA into GAM337299 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337300 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337300 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337300 target RNA into GAM337300 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7683 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7683 polynucleotide: GAM337299 target protein and GAM337300 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337299 and GAM337300

GR7684 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7684(GR7684) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7684 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7684 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7684 precursor DNA encodes GR7684 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7684 is located from position 104082522 to position 104082645 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GR7684 precursor RNA folds spatially, forming GR7684 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7684 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7684 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7684 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM6440 precursor RNA and GAM7095 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM6440 RNA and GAM7095 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM6440 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM6440 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM6440 target RNA into GAM6440 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM7095 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM7095 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM7095 target RNA into GAM7095 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7684 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7684 polynucleotide: GAM6440 target protein and GAM7095 target

protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM6440 and GAM7095

GR7685 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7685(GR7685) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7685 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7685 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7685 precursor DNA encodes GR7685 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7685 is located from position 113861407 to position 113861497 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GR7685 precursor RNA folds spatially, forming GR7685 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7685 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7685 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7685 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM337446 precursor RNA, GAM337447 precursor RNA and GAM337448 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337446 RNA, GAM337447 RNA and GAM337448 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337446 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337446 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III

of Fig. 8, thereby inhibiting translation of GAM337446 target RNA into GAM337446 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337447 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337447 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337447 target RNA into GAM337447 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337448 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337448 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337448 target RNA into GAM337448 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7685 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7685 polynucleotide: GAM337446 target protein, GAM337447 target protein and GAM337448 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337446, GAM337447 and GAM337448

GR7686 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7686(GR7686) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7686 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7686 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7686 precursor DNA encodes GR7686 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7686 is located from position 133099401 to position 133099515 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GR7686 precursor RNA folds spatially, forming GR7686 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7686 folded precursor RNA comprises a plurality of what is known in the art as

`hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7686 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7686 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM1942 precursor RNA, GAM5329 precursor RNA and GAM6271 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM1942 RNA, GAM5329 RNA and GAM6271 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM1942 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM1942 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM1942 target RNA into GAM1942 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM5329 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM5329 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM5329 target RNA into GAM5329 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM6271 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM6271 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM6271 target RNA into GAM6271 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7686 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7686 polynucleotide: GAM1942 target protein, GAM5329 target protein and GAM6271 target protein, herein schematically represented by GAM1 TARGET

PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM1942, GAM5329 and GAM6271

GR7687 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7687(GR7687) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7687 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7687 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7687 precursor DNA encodes GR7687 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7687 is located from position 151157892 to position 151157998 relative to chromosome chr7 on the `+` strand (chr is an abbreviation for chromosome).

GR7687 precursor RNA folds spatially, forming GR7687 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7687 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7687 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7687 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337609 precursor RNA and GAM337610 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337609 RNA and GAM337610 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337609 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337609 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337609 target RNA into GAM337609 target protein, herein schematically represented by GAM1 TARGET PROTEIN through

GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337610 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337610 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337610 target RNA into GAM337610 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7687 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7687 polynucleotide: GAM337609 target protein and GAM337610 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337609 and GAM337610

GR7688 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7688(GR7688) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7688 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7688 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7688 precursor DNA encodes GR7688 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7688 is located from position 55787167 to position 55787245 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GR7688 precursor RNA folds spatially, forming GR7688 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7688 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7688 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7688 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336904 precursor RNA and GAM336905 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA

segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336904 RNA and GAM336905 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336904 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336904 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336904 target RNA into GAM336904 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336905 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336905 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336905 target RNA into GAM336905 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7688 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7688 polynucleotide: GAM336904 target protein and GAM336905 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336904 and GAM336905

GR7689 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7689(GR7689) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7689 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7689 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7689 precursor DNA encodes GR7689 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7689 is located from position 66122717 to position 66122818 relative to chromosome chr7 on the `-` strand (chr is an abbreviation for chromosome).

GR7689 precursor RNA folds spatially, forming GR7689 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7689 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7689 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7689 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337027 precursor RNA and GAM337028 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337027 RNA and GAM337028 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337027 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337027 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337027 target RNA into GAM337027 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337028 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337028 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337028 target RNA into GAM337028 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7689 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7689 polynucleotide: GAM337027 target protein and GAM337028 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337027 and GAM337028

GR7690 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record

7690(GR7690) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7690 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7690 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7690 precursor DNA encodes GR7690 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7690 is located from position 12908963 to position 12909066 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GR7690 precursor RNA folds spatially, forming GR7690 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7690 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7690 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7690 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336394 precursor RNA and GAM336395 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336394 RNA and GAM336395 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336394 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336394 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336394 target RNA into GAM336394 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336395 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336395 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to

a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336395 target RNA into GAM336395 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7690 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7690 polynucleotide: GAM336394 target protein and GAM336395 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336394 and GAM336395

GR7691 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7691(GR7691) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7691 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7691 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7691 precursor DNA encodes GR7691 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7691 is located from position 21935927 to position 21936034 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GR7691 precursor RNA folds spatially, forming GR7691 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7691 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7691 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7691 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336497 precursor RNA and GAM336498 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336497 RNA and GAM336498 RNA, herein schematically represented by

GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336497 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336497 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336497 target RNA into GAM336497 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336498 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336498 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336498 target RNA into GAM336498 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7691 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7691 polynucleotide: GAM336497 target protein and GAM336498 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336497 and GAM336498

GR7692 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7692(GR7692) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7692 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7692 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7692 precursor DNA encodes GR7692 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7692 is located from position 41616885 to position 41616976 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GR7692 precursor RNA folds spatially, forming GR7692 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7692 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the

nucleotide sequence of GR7692 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7692 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336746 precursor RNA and GAM336747 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336746 RNA and GAM336747 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336746 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336746 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336746 target RNA into GAM336746 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336747 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336747 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336747 target RNA into GAM336747 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7692 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7692 polynucleotide: GAM336746 target protein and GAM336747 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336746 and GAM336747

GR7693 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7693(GR7693) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7693 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7693 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7693 precursor DNA encodes GR7693 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7693 is located from position 54026269 to position 54026340 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GR7693 precursor RNA folds spatially, forming GR7693 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7693 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7693 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7693 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM2171 precursor RNA and GAM6531 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM2171 RNA and GAM6531 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM2171 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM2171 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM2171 target RNA into GAM2171 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM6531 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM6531 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM6531 target RNA into GAM6531 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7693 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7693 polynucleotide: GAM2171 target protein and GAM6531 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM2171 and GAM6531

GR7694 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7694(GR7694) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7694 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7694 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7694 precursor DNA encodes GR7694 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7694 is located from position 101882283 to position 101882352 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GR7694 precursor RNA folds spatially, forming GR7694 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7694 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7694 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7694 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM5082 precursor RNA and GAM7700 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM5082 RNA and GAM7700 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM5082 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated

region of GAM5082 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM5082 target RNA into GAM5082 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM7700 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM7700 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM7700 target RNA into GAM7700 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7694 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7694 polynucleotide: GAM5082 target protein and GAM7700 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM5082 and GAM7700

GR7695 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7695(GR7695) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7695 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7695 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7695 precursor DNA encodes GR7695 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7695 is located from position 141572888 to position 141572989 relative to chromosome chr8 on the `+` strand (chr is an abbreviation for chromosome).

GR7695 precursor RNA folds spatially, forming GR7695 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7695 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7695 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7695 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337586 precursor RNA and GAM337587 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337586 RNA and GAM337587 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337586 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337586 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337586 target RNA into GAM337586 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337587 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337587 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337587 target RNA into GAM337587 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7695 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7695 polynucleotide: GAM337586 target protein and GAM337587 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337586 and GAM337587

GR7696 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7696(GR7696) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7696 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7696 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7696 precursor DNA encodes GR7696 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7696 is located from position 10822733 to position 10822834 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GR7696 precursor RNA folds spatially, forming GR7696 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7696 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7696 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7696 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336359 precursor RNA and GAM336360 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336359 RNA and GAM336360 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336359 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336359 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336359 target RNA into GAM336359 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336360 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336360 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336360 target RNA into GAM336360 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7696 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7696 polynucleotide: GAM336359 target protein and GAM336360 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3

TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336359 and GAM336360

GR7697 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7697(GR7697) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7697 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7697 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7697 precursor DNA encodes GR7697 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7697 is located from position 53863297 to position 53863389 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GR7697 precursor RNA folds spatially, forming GR7697 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7697 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7697 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7697 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336894 precursor RNA and GAM336895 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336894 RNA and GAM336895 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336894 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336894 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336894 target RNA into GAM336894 target protein, herein schematically represented by GAM1 TARGET PROTEIN through

GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336895 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336895 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336895 target RNA into GAM336895 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7697 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7697 polynucleotide: GAM336894 target protein and GAM336895 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336894 and GAM336895

GR7698 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7698(GR7698) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7698 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7698 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7698 precursor DNA encodes GR7698 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7698 is located from position 106717983 to position 106718084 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GR7698 precursor RNA folds spatially, forming GR7698 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7698 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7698 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7698 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337388 precursor RNA and GAM337389 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA

segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337388 RNA and GAM337389 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337388 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337388 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337388 target RNA into GAM337388 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337389 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337389 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337389 target RNA into GAM337389 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7698 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7698 polynucleotide: GAM337388 target protein and GAM337389 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337388 and GAM337389

GR7699 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7699(GR7699) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7699 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7699 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7699 precursor DNA encodes GR7699 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7699 is located from position 132744616 to position 132744727 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GR7699 precursor RNA folds spatially, forming GR7699 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7699 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7699 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7699 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337553 precursor RNA and GAM337554 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337553 RNA and GAM337554 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337553 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337553 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337553 target RNA into GAM337553 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337554 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337554 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337554 target RNA into GAM337554 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7699 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7699 polynucleotide: GAM337553 target protein and GAM337554 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337553 and GAM337554

GR7700 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record

7700(GR7700) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7700 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7700 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7700 precursor DNA encodes GR7700 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7700 is located from position 135501500 to position 135501600 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GR7700 precursor RNA folds spatially, forming GR7700 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7700 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7700 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7700 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM337567 precursor RNA, GAM337568 precursor RNA and GAM337569 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337567 RNA, GAM337568 RNA and GAM337569 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337567 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337567 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337567 target RNA into GAM337567 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337568 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337568 target RNA, herein schematically represented by

GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337568 target RNA into GAM337568 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337569 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337569 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337569 target RNA into GAM337569 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7700 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7700 polynucleotide: GAM337567 target protein, GAM337568 target protein and GAM337569 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337567, GAM337568 and GAM337569

GR7701 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7701(GR7701) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7701 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7701 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7701 precursor DNA encodes GR7701 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7701 is located from position 141088822 to position 141088915 relative to chromosome chr8 on the `-` strand (chr is an abbreviation for chromosome).

GR7701 precursor RNA folds spatially, forming GR7701 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7701 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7701 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7701 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337584 precursor RNA and GAM337585 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337584 RNA and GAM337585 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337584 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337584 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337584 target RNA into GAM337584 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337585 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337585 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337585 target RNA into GAM337585 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7701 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7701 polynucleotide: GAM337584 target protein and GAM337585 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337584 and GAM337585

GR7702 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7702(GR7702) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7702 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7702 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7702 precursor DNA encodes GR7702 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7702 is located from position 6225060 to position 6225156 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GR7702 precursor RNA folds spatially, forming GR7702 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7702 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7702 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7702 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336299 precursor RNA and GAM336300 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336299 RNA and GAM336300 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336299 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336299 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336299 target RNA into GAM336299 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336300 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336300 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336300 target RNA into GAM336300 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7702 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7702 polynucleotide: GAM336299 target protein and GAM336300 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3

TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336299 and GAM336300

GR7703 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7703(GR7703) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7703 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7703 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7703 precursor DNA encodes GR7703 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7703 is located from position 37420113 to position 37422669 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GR7703 precursor RNA folds spatially, forming GR7703 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7703 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7703 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7703 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM329 precursor RNA and GAM336681 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM329 RNA and GAM336681 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM329 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM329 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM329 target RNA into GAM329 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3

TARGET PROTEIN, both of Fig. 8.

GAM336681 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336681 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336681 target RNA into GAM336681 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7703 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7703 polynucleotide: GAM329 target protein and GAM336681 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM329 and GAM336681

GR7704 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7704(GR7704) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7704 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7704 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7704 precursor DNA encodes GR7704 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7704 is located from position 66974964 to position 66975069 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GR7704 precursor RNA folds spatially, forming GR7704 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7704 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7704 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7704 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM337037 precursor RNA, GAM337038 precursor RNA and GAM337039 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs

being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337037 RNA, GAM337038 RNA and GAM337039 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337037 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337037 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337037 target RNA into GAM337037 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337038 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337038 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337038 target RNA into GAM337038 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337039 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337039 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337039 target RNA into GAM337039 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7704 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7704 polynucleotide: GAM337037 target protein, GAM337038 target protein and GAM337039 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337037, GAM337038 and GAM337039

GR7705 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7705(GR7705) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7705 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7705 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7705 precursor DNA encodes GR7705 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7705 is located from position 78004551 to position 78004659 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GR7705 precursor RNA folds spatially, forming GR7705 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7705 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7705 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7705 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM2306 precursor RNA and GAM6265 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM2306 RNA and GAM6265 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM2306 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM2306 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM2306 target RNA into GAM2306 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM6265 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM6265 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM6265 target RNA into GAM6265 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7705 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7705 polynucleotide: GAM2306 target protein and GAM6265 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM2306 and GAM6265

GR7706 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7706(GR7706) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7706 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7706 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7706 precursor DNA encodes GR7706 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7706 is located from position 88520248 to position 88520363 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GR7706 precursor RNA folds spatially, forming GR7706 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7706 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7706 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7706 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 4 separate GAM precursor RNAs, GAM1217 precursor RNA, GAM3461 precursor RNA, GAM4557 precursor RNA and GAM7636 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM1217 RNA, GAM3461 RNA, GAM4557 RNA and GAM7636 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM1217 RNA, herein schematically represented by GAM1 RNA through GAM3

RNA, binds complementarily to a target binding site located in an untranslated region of GAM1217 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM1217 target RNA into GAM1217 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM3461 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM3461 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM3461 target RNA into GAM3461 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM4557 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM4557 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM4557 target RNA into GAM4557 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM7636 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM7636 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM7636 target RNA into GAM7636 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7706 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7706 polynucleotide: GAM1217 target protein, GAM3461 target protein, GAM4557 target protein and GAM7636 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM1217, GAM3461, GAM4557 and GAM7636

GR7707 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7707(GR7707) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7707 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The

method by which GR7707 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7707 precursor DNA encodes GR7707 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7707 is located from position 93648456 to position 93648553 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GR7707 precursor RNA folds spatially, forming GR7707 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7707 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7707 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7707 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM337264 precursor RNA, GAM337265 precursor RNA and GAM337266 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337264 RNA, GAM337265 RNA and GAM337266 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337264 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337264 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337264 target RNA into GAM337264 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337265 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337265 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337265 target RNA into GAM337265 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337266 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an

untranslated region of GAM337266 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337266 target RNA into GAM337266 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7707 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7707 polynucleotide: GAM337264 target protein, GAM337265 target protein and GAM337266 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337264, GAM337265 and GAM337266

GR7708 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7708(GR7708) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7708 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7708 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7708 precursor DNA encodes GR7708 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7708 is located from position 106800362 to position 106800470 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GR7708 precursor RNA folds spatially, forming GR7708 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7708 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7708 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7708 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337390 precursor RNA and GAM337391 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337390 RNA and GAM337391 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337390 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337390 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337390 target RNA into GAM337390 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337391 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337391 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337391 target RNA into GAM337391 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7708 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7708 polynucleotide: GAM337390 target protein and GAM337391 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337390 and GAM337391

GR7709 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7709(GR7709) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7709 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7709 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7709 precursor DNA encodes GR7709 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7709 is located from position 117327121 to position 117327213 relative to chromosome chr9 on the `+` strand (chr is an abbreviation for chromosome).

GR7709 precursor RNA folds spatially, forming GR7709 folded precursor

RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7709 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7709 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7709 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337463 precursor RNA and GAM337464 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337463 RNA and GAM337464 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337463 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337463 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337463 target RNA into GAM337463 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337464 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337464 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337464 target RNA into GAM337464 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7709 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7709 polynucleotide: GAM337463 target protein and GAM337464 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337463 and GAM337464

GR7710 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7710(GR7710) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at

least one target gene, the function and utility of which at least one target gene is known in the art.

GR7710 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7710 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7710 precursor DNA encodes GR7710 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7710 is located from position 1124872 to position 1124968 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GR7710 precursor RNA folds spatially, forming GR7710 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7710 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7710 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7710 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336253 precursor RNA and GAM336254 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336253 RNA and GAM336254 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336253 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336253 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336253 target RNA into GAM336253 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336254 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336254 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336254 target RNA into GAM336254

target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7710 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7710 polynucleotide: GAM336253 target protein and GAM336254 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336253 and GAM336254

GR7711 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7711(GR7711) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7711 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7711 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7711 precursor DNA encodes GR7711 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7711 is located from position 47243042 to position 47243138 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GR7711 precursor RNA folds spatially, forming GR7711 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7711 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7711 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7711 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM3768 precursor RNA and GAM5422 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM3768 RNA and GAM5422 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM3768 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM3768 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM3768 target RNA into GAM3768 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM5422 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM5422 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM5422 target RNA into GAM5422 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7711 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7711 polynucleotide: GAM3768 target protein and GAM5422 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM3768 and GAM5422

GR7712 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7712(GR7712) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7712 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7712 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7712 precursor DNA encodes GR7712 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7712 is located from position 77528890 to position 77528959 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GR7712 precursor RNA folds spatially, forming GR7712 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7712 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7712 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at

least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7712 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM4130 precursor RNA and GAM8439 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM4130 RNA and GAM8439 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM4130 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM4130 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM4130 target RNA into GAM4130 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM8439 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM8439 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM8439 target RNA into GAM8439 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7712 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7712 polynucleotide: GAM4130 target protein and GAM8439 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM4130 and GAM8439

GR7713 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7713(GR7713) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7713 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The

method by which GR7713 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7713 precursor DNA encodes GR7713 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7713 is located from position 94524959 to position 94525061 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GR7713 precursor RNA folds spatially, forming GR7713 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7713 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7713 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7713 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM361 precursor RNA and GAM4707 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM361 RNA and GAM4707 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM361 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM361 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM361 target RNA into GAM361 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM4707 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM4707 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM4707 target RNA into GAM4707 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7713 polynucleotide correlate with, and may be deduced from, the identity of

the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7713 polynucleotide: GAM361 target protein and GAM4707 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM361 and GAM4707

GR7714 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7714(GR7714) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7714 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7714 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7714 precursor DNA encodes GR7714 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7714 is located from position 98459191 to position 98459278 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GR7714 precursor RNA folds spatially, forming GR7714 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7714 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7714 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7714 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337303 precursor RNA and GAM337304 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337303 RNA and GAM337304 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337303 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337303 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to

a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337303 target RNA into GAM337303 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337304 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337304 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337304 target RNA into GAM337304 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7714 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7714 polynucleotide: GAM337303 target protein and GAM337304 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337303 and GAM337304

GR7715 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7715(GR7715) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7715 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7715 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7715 precursor DNA encodes GR7715 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7715 is located from position 107483900 to position 107487923 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GR7715 precursor RNA folds spatially, forming GR7715 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7715 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7715 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7715 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate

GAM precursor RNAs, GAM5254 precursor RNA and GAM8339 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM5254 RNA and GAM8339 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM5254 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM5254 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM5254 target RNA into GAM5254 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM8339 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM8339 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM8339 target RNA into GAM8339 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7715 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7715 polynucleotide: GAM5254 target protein and GAM8339 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM5254 and GAM8339

GR7716 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7716(GR7716) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7716 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7716 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7716 precursor DNA encodes GR7716 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand

nucleotides long. Nucleotide sequence of GR7716 is located from position 148875142 to position 148876293 relative to chromosome chrX on the `+` strand (chr is an abbreviation for chromosome).

GR7716 precursor RNA folds spatially, forming GR7716 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7716 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7716 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7716 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 3 separate GAM precursor RNAs, GAM337600 precursor RNA, GAM337601 precursor RNA and GAM337602 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337600 RNA, GAM337601 RNA and GAM337602 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337600 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337600 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337600 target RNA into GAM337600 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337601 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337601 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337601 target RNA into GAM337601 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337602 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337602 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337602 target RNA into GAM337602 target protein, herein schematically represented by GAM1 TARGET PROTEIN through

GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7716 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7716 polynucleotide: GAM337600 target protein, GAM337601 target protein and GAM337602 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337600, GAM337601 and GAM337602

GR7717 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7717(GR7717) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7717 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7717 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7717 precursor DNA encodes GR7717 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7717 is located from position 10653601 to position 10653697 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GR7717 precursor RNA folds spatially, forming GR7717 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7717 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7717 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7717 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336355 precursor RNA and GAM336356 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336355 RNA and GAM336356 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336355 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336355 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336355 target RNA into GAM336355 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336356 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336356 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336356 target RNA into GAM336356 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7717 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7717 polynucleotide: GAM336355 target protein and GAM336356 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336355 and GAM336356

GR7718 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7718(GR7718) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7718 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The method by which GR7718 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7718 precursor DNA encodes GR7718 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7718 is located from position 44431916 to position 44432023 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GR7718 precursor RNA folds spatially, forming GR7718 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7718 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7718 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at

least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7718 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM336783 precursor RNA and GAM336784 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM336783 RNA and GAM336784 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM336783 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336783 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336783 target RNA into GAM336783 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM336784 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM336784 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM336784 target RNA into GAM336784 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7718 polynucleotide correlate with, and may be deduced from, the identity of the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7718 polynucleotide: GAM336783 target protein and GAM336784 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM336783 and GAM336784

GR7719 Fig. 16 further provides a conceptual description of novel bioinformatically detected regulatory polynucleotide, referred to here as Genomic Record 7719(GR7719) polynucleotide, which encodes an `operon-like` cluster of novel micro RNA-like oligonucleotides, each of which in turn modulates expression of at least one target gene, the function and utility of which at least one target gene is known in the art.

GR7719 precursor DNA, herein designated GR PRECURSOR DNA, is a novel bioinformatically detected regulatory, non protein coding polynucleotide. The

method by which GR7719 precursor DNA was detected is described hereinabove with additional reference to Figs. 8-18.

GR7719 precursor DNA encodes GR7719 precursor RNA, herein designated GR PRECURSOR RNA, an RNA molecule, typically several hundred to several thousand nucleotides long. Nucleotide sequence of GR7719 is located from position 122223589 to position 122223699 relative to chromosome chrX on the `-` strand (chr is an abbreviation for chromosome).

GR7719 precursor RNA folds spatially, forming GR7719 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA. It is appreciated that GR7719 folded precursor RNA comprises a plurality of what is known in the art as `hairpin` structures. These `hairpin` structures are due to the fact that the nucleotide sequence of GR7719 precursor RNA comprises a plurality of segments, the first half of each such segment having a nucleotide sequence which is at least a partial or accueate reverse-complement sequence of the second half thereof, as is well known in the art.

GR7719 folded precursor RNA, herein designated GR FOLDED PRECURSOR RNA, is naturally processed by cellular enzymatic activity into at least 2 separate GAM precursor RNAs, GAM337483 precursor RNA and GAM337484 precursor RNA,herein schematically represented by GAM1 FOLDED PRECURSOR RNA through GAM3 FOLDED PRECURSOR RNA, each of which GAM folded precursor RNAs being a hairpin shaped RNA segment, corresponding to GAM FOLDED PRECURSOR RNA of Fig.8.

The above mentioned GAM folded precursor RNAs are diced by DICER COMPLEX of Fig.8, yielding respective short RNA segments of about 22 nucleotides in length, GAM337483 RNA and GAM337484 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, each of which GAM RNAs corresponding to GAM RNA of Fig. 8.

GAM337483 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337483 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337483 target RNA into GAM337483 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

GAM337484 RNA, herein schematically represented by GAM1 RNA through GAM3 RNA, binds complementarily to a target binding site located in an untranslated region of GAM337484 target RNA, herein schematically represented by GAM1 TARGET RNA through GAM3 TARGET RNA, which target binding site corresponds to a target binding site such as BINDING SITE I, BINDING SITE II or BINDING SITE III of Fig. 8, thereby inhibiting translation of GAM337484 target RNA into GAM337484 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN, both of Fig. 8.

It is appreciated that specific functions, and accordingly utilities, of GR7719 polynucleotide correlate with, and may be deduced from, the identity of

the target genes, which are inhibited by GAM RNAs comprised in the `operon-like` cluster of GR7719 polynucleotide: GAM337483 target protein and GAM337484 target protein, herein schematically represented by GAM1 TARGET PROTEIN through GAM3 TARGET PROTEIN. The function of these target genes is elaborated in Table 8, with references to GAM337483 and GAM337484

ROW#	DISEASE NAME	TARGET-GENES ASSOCIATED WITH DISEASE
1	ALL	IL10RA, AHSG, CSN2, STIP1, HSPB1, RAB5C, PCDHAC1, MYBL2, CUBN, DHCR24, ANGPT2, GGT1, TCF12, ADRA2A, RAD54L, CST4, PCDH11X, ETS2, SIRT6, ATP5E, TNFRSF7, GLP1R, CLDN14, ONECUT1, GDF2, ZNF216, PSCD4, SLC22A3, HDC, MAOB, CALR, CCT2, MIA, SLC2A2, NDUFA6, UBE2I, RTN4R, NOLA1, TFAP4, C1QB, MFAP3, EVPL, BST1, ADRA1B, HMGCS2, KIF1B, NR4A1, COPS3, XPNPEP2, CRSP8, DMGDH, PPP2R5A, KLK5, G6PC, RAI14, PSMD7, RPL7A, PF4V1, BTG4, SH3BP2, RYR1, SORCS2, CSNK1G2, ZNF42, DPYSL2, HMGA1, PKNOX1, LRAT, ZNF239, BPI, IFIT1, NCKAP1, BCAS1, TNA, CNGB3, NEURL, CAPN11, PIP5K1B, KRTHA4, IHH, GK, SIGLEC6, ABP1, MYH3, SLC35A1, ORC1L, ABCE1, ANKRD3, PRM1, PPP6C, PCDHGA5, EFNB2, TCFL4, CCNF, SRRM1, CAT, QDPR, HAO1, MCM3, LIG3, MSH4, SERPINB9, PPP2R1A, TARBP1, VANGL2, TNFAIP6, PGAM1, DUOX2, TZFP, APOC4, MPP3, CDC5L, CSRP2, MYB, IL13, NFATC1, PPIC, CDH2, DDX9, NDUFS6, C21ORF33, PSMA1, INHBA, SPO11, SLC16A7, AFG3L1, KRT4, TNR, LDOC1, MIPOL1, DLL3, F11, RUNX3, POU2F2, ZRF1, SLC25A13, CACNA1B, BAALC, CHD4, PCDHGB1, PKD1, TRIM34, SIX2, UBC, BNIP3L, GEM, TGM1, DELGEF, TLR1, FBXL3A, GNAI3, AP1G1, ARF1, GPR91, IL15RA, TESK1, KCNMA1, CHAD, PLDN, EDG6, ADAM28, MYOC, FKRP, TMEM4, ZNF161, ERBB3, LTBP2, APP, AXL, CRYBA1, FGF1, SLC7A9, CTH, DTNA, CDH12, VCAM1, IL22RA2, AP3B1, HSD11B2, TRIM14, CEACAM5, DACH, AVP, GPC6, PLA2G10, ZNF179, BMP4, EHD3, MET, BAZ2A, SOX1, ADCY8, CDC34, SDPR, LGTN, CDSN, CITED4, CD9, NESG1, SSX1, JPH1, TR2, SCGB2A1, TEM1, RAPSN, ABCG5, KRT10, ALP, CTMP, NFYB, AQP7, MPHOSPH9, CNTN3, ADRBK2, PTPN18, ID4, EVI2A, MVK, IGFBP7, DEFA5, CDH20, MS4A5, PTH, PLG, SWAP70, AR, HOXB3, DNAI1, IHPK2, ITGB4, EPOR, FSHPRH1, TGFB1, ZNF35, ATP4A, TM4SF6, TFAP2B, PSG3, GABRP, PTGER3, RBBP5, CASP4, LPO, GLRX2, RLN2, CKM, CRP, CD1A, EGFR, DNASE2, DRD4, COL9A1, TRAP1, PMCHL1, NQO1, DOM3Z, PDK1, OBP2A, MGST3, ICAM1, PYCS, RGL, SERPINI1, HIVEP3, CHRNB3, FEZ1, ADAMTS7, LMCD1, POMZP3, DLG3, CUL3, BCAS2, ROM1, SGCB, SPAP1, ASNS, ACTN3, DYT1, RTKN, OPA3, CA7, PARN, LHCGR, GRP58, PAFAH1B2, CUL4B, COL1A2, MSH3, CTNNB1, CLCN4, GTF3A, G1P3, FMOD, DEFA6, BCHE, FABP2, CDK2, ATP8A2, TIMM44, TEX13B, OTOR, SIT, SPR, SDC2, MEOX1, ZNF9, ZNF24, ISL1, PIWIL1, CTSK, PSMC2, CTSG, TRO, MASP1, RAC2, RPS6KA6, MDS1, PLS1, DUT, ALDH7A1, KCNJ4, GPX2, NOS2A, GMFG, HYAL4, TK1, ACOX1, UPF3B, GCN1L1, SNCG, DSS1, CKAP1, PRDX5, STXBP2, APOH, HLCS, SFRS1, LOXL2, PREP, GPRK7, NDUFA10, PPP2R2C, MSN, CCNDBP1, CNP, BBS2, NEUROD2, PCDHA9, HBQ1, ELAVL3, MLPH, ARHGDIA, MFAP4, PLEK, FZD5, ATF5, GSTM2, HKR3, HSPA8, SNTB1, ERN2, ZAN, SGT, DSG3, LMAN1, SIGLEC5, B3GALT5, FOLR1, RARA, VCL, CDH10, CDC27, PLA2R1, RAB36, SELL, CDC6, CD4, CPM, DISC1, F3, COL2A1, RALB, PHLDA3, DIAPH1, DAAM1, GABRA2, PTHR2, DIPA, DOK1, TLL2, TNFSF15, CACNG6, PTMS, INSL4, CNN3, CDKN2B, RECK, ACP5, TAGLN2, PML, ARIH1, TRHDE, TOP3B, CD58, NAT8, PLOD2, CENPB, RPGR, ATP7A, CBLB, TSPY, JAK3, RPLP0, LIF, ADH6, TBCD, MTMR8, IARS, DLK1, MASP2, AIRE, KLHL3, PA2G4, Z39IG, RENT1, BCL6, PMP22, COG1, NTS, SPAG1, PFN1, SEC13L1, FOS, PSG4, GFPT2, GPR37, SFRP1, REV3L, RPH3AL, NMI, NCYM, HLA-F, BAAT, ENDOG, SOLH, EXT1, SMARCAL1, FOXE1, TAT, VWF, TAF11, USP9Y, RAD23A, ARHC, IFNAR1, SLC9A1, SLC7A4, WISP2, WRB, CALD1, NAB1, C8B, ATP6V1G2, ZNF133, ERBB4, HEPH, PGLS, ADAMTS12, PFKFB2, PIGL, TCFL1, SRY, EXTL1, PPM1D, AGC1, ANXA2, AKR1C3, NDUFA9, TIMM17B, ARRB2, ACAA1, PAIP2, TRAP240, APOBEC1, ENPP2, TRPV1, GOT2, IFRD2, EBAF, PCK1, B4GALT3, BAT5, ABCB4, HSD17B4, RGS19IP1, GP9, ADAMTS8, VIL1, SRP19, AQP3, TRIM37, DUSP4, KLRB1, DSCR3, RIG, MAP4K5, GATA3, MTR, CML66, SIM2, CYR61, SLC2A3, CPSF4, TPSB1, MYH2, ACTG2, STAC, SLC28A2, ARF5, PAFAH1B3, ZNF236, SLC29A2, TCF20, FLT3, LGALS3, ITGB1BP2, ZNF192, RHAG, IL5RA, TEX15, CHRNA1, NMB,

ZNF91, LAMR1, GRIK5, CAPZA1, SIAT7D, NOTCH1, LILRB3, FSTL1, BDKRB1, ATP1A2, MERTK, PAX4, GJB1, GSTA3, TPI1, ZNF268, MMP9, HMG20A, ADRA1D, COG7, ZNF189, USP4, GPR50, COX15, SEMG2, VCP, TMOD4, WNT2, NRL, TM4SF2, TNS, GIP, PHKA1, GP6, APOC1, ZNF143, TEK, PFKM, CACNB2, WARS, PNOC, GAS2, ASMT, RNF17, ENC1, ADAM33, GPR23, ABCA3, GPR43, SLC3A1, PTPN13, CASP2, FLI1, PPARA, PSMD5, SPS2, TAC1, DYRK1B, NEUROD1, SUV39H2, FUT1, SLC39A4, C7ORF2, TRDN, TCF7, RNASE6, CALM2, KLRG1, ZNF264, JRKL, PSG2, GYPE, SNCAIP, SLC25A1, HCN2, ITGA3, BAZ1B, CAPN10, XDH, PCDHGB5, RABL2A, KRTHB1, PLOD3, UCP2, CRYBB3, LDB1, FBN2, TBX3, MUC4, CPLX2, SIRT7, GJA4, PRKY, TTF1, IL19, ANXA9, PAP, NXF3, SMS, POU3F4, ADH5, GUCY1B3, MAP3K12, PCDHB5, FTSJ2, SRM, OPHN1, RPA1, COPEB, BLM, TBL1X, HK2, AAAS, NOG, TPM1, ACAT1, NOLA3, ADAM2, AGA, GATA1, SYNGR2, SLC22A12, BASP1, FCAR, TMEFF1, SLC1A4, DEC1, MAGEA10, PCDHA2, MAFK, PPP4R1, MICB, HSPG2, BAZ2B, ZNF7, KCNE2, LTB, PCDH1, SF3B1, DGCR6, DAZL, PCSK5, POLL, USP18, P2RX7, LZTR1, RPS19, FOXG1B, QPCT, OSR1, PLN, PPP1R3C, SFN, RFNG, INS, TF, TCF3, KCNJ5, SIRT5, RRBP1, GNL1, PODXL, CENPC1, FEN1, ICMT, YWHAH, DNM2, CDH18, SLC17A4, IMPA2, MMP10, SIP1, ELK3, RLF, LOXL1, RBBP9, PDE6C, PAPSS1, SIAT6, FZD10, REPS2, NCAM1, SH2D2A, ATP11B, PON1, EFG1, RIMS1, LRP6, ITGB3, MAPRE2, PPP1CC, HAKAI, ZNF193, RGS14, CRMP1, NDUFV3, TKT, STAU2, LBP, IL11RA, CEBPB, MCM7, TIAL1, EIF4G2, FZD6, ATF6, DAAM2, POLR2I, EPIM, LRP1, TG737, ZNF274, GSTT2, KIF3B, KIF5A, RPE65, DSG2, WAS, TCERG1, HTR3B, MPDU1, GCNT3, BMP2, PIAS1, POLR2E, CST, TDG, WTAP, F2, PUM1, GPR81, AGL, MID2, PTHR1, ADAM15, NAP1L3, SLC7A7, FN1, RFX2, TAF5, GUCA2A, NDUFS7, PLCD1, MUTYH, TSC, ALEX1, RUNX1, SIX3, PCDH8, ICA1, CXCR4, PGK2, TMEM5, PHKA2, HAP1, PYGB, UQCRC2, NF2, D1S155E, HEXA, MYBL1, NOX4, RFC1, CSPG6, GRAF, RFP, GPC1, GPRC5C, NOLA2, FANCG, GP2, CAPNS1, EZH1, SLC22A5, OTOA, EBI2, PPARGC1, CPN1, PC, SGCD, KCNJ11, TERT, STAR, NME2, PMM2, MIPEP, PRKCD, MUS81, ID3, NPR2, POMC, TSFM, ZNF134, CTSF, CASP8AP2, SKI, AKAP2, ZNF256, UTX, MT1H, FGF18, SFRP2, MYOZ1, GPM6A, CYP21A2, IMPG1, ZNF180, NFE2L3, CDC25B, AKR1C4, BMX, ARHGEF1, MAN1A1, PSCDBP, DIO1, POLD2, MCM5, TARDBP, CCNB1, OXR1, PGD, DMXL1, CRI1, TITF1, TKTL1, ZNF217, DMRT2, ALDOC, NPC1, LNK, RAD9, PRB3, KCNJ3, CACNA1S, IL15, FKBP1A, DGKG, PPFIA3, MAFG, GRM7, NACA, TRADD, PSEN2, ZNF278, DKC1, PLAC1, RDBP, IFRD1, EPB49, UCHL1, FXYD7, TDE1, PDE6D, SIAH2, IFNG, VGF, EFNA1, GLI, NXF2, BGLAP, DGUOK, ZNF124, POLR2F, TXNRD1, ISLR, CLTA, GRM3, PVR, SPP1, TCTEL1, CDH11, ZNF257, TGFBR3, HIPK2, MSF, BAZ1A, GLI4, GNS, DSCR1L2, CETP, EIF4EL3, CPNE7, DES, SPRR1B, CHRNA4, VHL, SPTBN1, GPR92, SNX1, GCN5L1, MST1R, CXCL6, COL4A3, HDAC6, HNRPD, FLOT1, ARRB1, MAP3K5, BMP3, HAS1, SLC9A3R2, CD36, PTGFR, CDK8, ACR, ARNT, CST2, TULP2, IL9R, CD2AP, ERBB2, TNXB, CYP11B1, NCL, HNRPH3, HDAC1, CD44, RCV1, APBA1, AMPD2, IL20, IL9, EEF2, MPV17, MTAP, VAV1, MTMR4, FADD, ULBP2, RHBG, CHC1, NLGN2, PRPF31, RNF26, CKMT2, HK3, RPN1, PAICS, CASR, HOXB7, CLASP2, ACCN2, XT3, MT1L, SELENBP1, CAST, YWHAG, MVP, RHBDL, KIR2DS4, CPB2, PPEF1, SLC28A1, CTF1, DPYSL3, GAN, CTBP2, TEX11, GSTP1, PCDHB8, IGF2R, PLAT, RPS27, GLUD1, DGCR2, NTF5, JAK2, SLC21A9, CASP8, NCOA3, ARHH, TM7SF3, GPR48, LOH11CR2A, KCNK5, KRTHA7, IHPK1, ITIH1, WDR1, ZFP36L1, AOX1, LMO2, NOV, WISP3, BTG1, SNRPA1, ADAT1, HNRPF, ANXA4, GPR17, PMP2, MSH2, AMH, FOXD1, CARD12, MYO1A, C1ORF6, NRF1, STAT4, PKP1, SERPINE2, ZFP161, TCN2, SP100, IGLL1, PPP3CC, CR1, ZNF175, NXF5, ZNF219, IFNA13, MBD1, ATP1B3, SH3BP5, DBN1, LIFR, NRXN3, GPR87, IRS2, EDAR, CORT, CALM1, BID, TNFRSF6, IL17C, RHEB2, CLCN5, SMARCD3, MTF1, MIC1, NPM1, GPR30, PLA2G2A, HPCA, TFCP2, COPG2, HAMP, MEF2B, FOXE3, ADRB3, PTTG1, HNRPA1, LUM, VAMP8, CKN1, TCP10, OAS1, GGA3, RRM2, TRA1, DAB1, MAFF, ADH1C, RASA1, PRKAR1A, SUPT6H, TTYH1, IL1B, KHK, CSPG4, PIR51, FANCC, MDH1, NLGN3, SLC16A1, SDHC, EXO1, ARHGEF6, F5, DPH2L1, CDC2L1, PROS1, FGB, NFRKB,

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		SERPINB13, HPCAL1, KCNJ10, GPR18, GPR85, ARHGEF7, RANBP9, CDH1, B4GALT7, PSMB1, LYPLA1, CA1, RORA, CHRNA7, B2M, RAB3A, RAB5B, STEAP, CD83, NCALD, CYB561, TEP1, DRG2, KCNJ6, CAPON, LATS2, GPI, 101F6, MCL1, FST, HAT1, SSA1, SOX11, MLN, EIF2B1, FIGF, KL, MYO6, SIP, UROS, HMGA2, HIVEP2, CTPS, EMR1, HBG1, RHO, AKR1A1, TNFSF9, CHN2, PEA15, HCK, ARSA, GARP, MRPS22, FCN1, NCSTN, BMP8, TGM4, IL12A, MDFI, SLC1A5, PCDHB11, CARS, GNRH2, P3, TNFRSF11A, PPAT, GNB3, CBFB, IL6, ETF1, GALR1, TFDP2, HMGN2, HNRPM, NFIA, HLA-DMA, IL1A, BAG1, GABRQ, UROD, CLECSF12, FMO3, DSC2, ZNF83, ITGAM, ETFA, HOXC11, SIX6, FUT3, SULT1A3, KCNN4, MYH9, AMMECR1, PSG1, SLC7A2, CDK10, KLRF1, ZNF10, RPS3A, PWP2H, COL6A3, SLC22A2, AADAC, S100P, T, ABCC11, CLDN5, RAX, FGF13, SULT1A2, ACCN1, GLRA2, CCR9, UBL3, IL11, TNFRSF8, SPON1, ETV5, LPL, GJB5, EDARADD, MLANA, NESH, AGPS, HSPA1A, SSTR1, JDP1, DPYD, CHML, RRAD, FANCD2, CNGA3, SCT, SNRPC and SH3BGR.
2	Alzheimer	ACE, ACT, ADAMTS5, APBA1, APBA2, APBB2, APLP1, APLP2, APOC1, APP, APPBP2, ARHA, AVP, BACE, BACE2, BCHE, BLMH, CASP3, CAV1, CAV2, CHAT, CNTF, CRH, CRYAB, CTNND2, CTSB, CTSK, DHCR24, DLST, DSCR1, FHL2, FLNB, FOS, GFAP, GLUL, GSK3B, GYPA, HADH2, HD, HTR2A, HTR2C, IAPP, IGF1, IL1A, LRP1, MAPK10, MAPT, MME, MPO, MT3, MTNR1A, NCKAP1, NCSTN, NGB, OGDH, OLR1, PLAU, PRND, PSEN1, PSEN2, RAGE, S100B, SERPINA3, SLC17A7, SLC6A4, SNCA, SNCAIP, TGFB1, TNF, TNFRSF5, TNFRSF6, TRPM2 and UBB.
3	Duchenne	CASQ1, DMD, ITGA7, LAMA2, NOS1 and SPARC.
4	Multiple Sclerosis	CBLB, CNP, CTLA4, HLA-DRA, ICOS, IL12B, IL1RN, ITGA4, MCP, NCF1, NOTCH3, NRG1, PTPRC, PTPRZ1, SPP1 and TNFSF10.
5	Tay sachs	HEXA.